

**TECHNICAL SPECIFICATIONS FOR
RENOVATIONS AT PARKRIDGE**

TABLE OF CONTENTS

SECTION 01010.....	GENERAL
SECTION 01500.....	CONSTRUCTION FACILITIES
SECTION 01545.....	CONTRACTOR'S USE OF PREMISIS
SECTION 01620.....	STORAGE AND PROTECTION
SECTION 01700.....	PROJECT CLOSE-OUT
SECTION 01710.....	CLEANING
SECTION 02210.....	SELECTIVE DEMOLITION
SECTION 02900.....	LANDSCAPING
SECTION 05500.....	METAL FABRICATIONS
SECTION 06100.....	ROUGH CARPENTRY
SECTION 06200.....	FINISH CARPENTRY
SECTION 06240.....	PLASTIC LAMINATE
SECTION 06650.....	SOLID POLYMER FABRICATION
SECTION 07920.....	SEALANTS & CAULKING
SECTION 08100.....	METAL DOORS & FRAMES
SECTION 08110.....	STORM DOORS
SECTION 08200.....	FLUSH WOOD DOORS & FRAMES
SECTION 08541.....	VINYL WINDOWS
SECTION 09260.....	GYPSUM WALLBOARD SYSTEM
SECTION 09650.....	RESILIENT SHEET FLOORING
SECTION 09670.....	VINYL COMPOSITION TILE

(TABLE OF CONTENTS – CONT.)

SECTION 09900.....	PAINTING
SECTION 10260.....	FIBERGLASS WALL PANELS
SECTION 10300.....	VINYL COATED SHELVES
SECTION 12390.....	KITCHEN CABINETRY
SECTION 15400.....	PLUMBING
SECTION 16000.....	BASIC ELECTRICAL REQUIREMENTS
SECTION 16200.....	ELECTRICAL

DRAWING INDEX

S-1.....	SITE PLAN, NOTES AND DRAWING LIST
A-1, A-4, A-7, A-10.....	ARCHITECTURAL DRAWINGS
H-1, P-1.....	PLUMBING AND HEATING PLANS
E-1.....	ELECTRICAL PLANS

SECTION 01010 GENERAL WORK REQUIREMENTS

These specifications shall explain and define the contractor's responsibility for the renovation of 20 apartment units in the Bethlehem Housing Authority's Parkridge Housing Development. Parkridge is located in West Bethlehem, PA.

SCOPE OF WORK:

The scope of work includes, but may not be limited to the following:

- Complete demolition and remodeling of the interior of the dwelling units and, limited exterior renovations, as shown on the drawings and as specified in this manual.

GENERAL:

Work shall take place Monday through Friday between 8:00AM and 4:30 PM.

The contractor shall comply with all laws, ordinances or regulations of all authorities having jurisdiction, either borough, city, county, state or public utility.

Nothing contained in these specifications or shown on the drawings shall be construed to be in conflict with any state or local codes, ordinances or regulations governing the installation of the class of work specified herein.

All laws, ordinances, codes and regulations, including those of the Department of Environmental resources, Department of Public Welfare, Department of Labor and Industry, the National Fire Protection Association, ASME, OSHA, NEC, 2002 BOCA Standards (or latest edition), and all public bodies bearing conduct on this work are hereby incorporated into these specifications.

All work shall be performed by skilled mechanics in each individual trade involved with this contract.

The Contractor is responsible to pay all applicable sales tax on material and equipment.

**GENERAL
01010-1**

The drawings and specifications are intended to provide a complete and perfectly operating system. Therefore, it is specifically agreed upon and understood by the contractor that anything, be it labor, material or equipment, which is not described in the specifications or specifically shown on the drawings, but is necessary for the operation and completion of a perfectly operating system, according to the true intent of the drawings and specifications and as interpreted by the Owner, shall be furnished by the contractor as part of the contract, at no extra charge, as though it were specifically detailed and described.

This contract includes, all associated architectural, civil, structural, electrical, plumbing and mechanical drawings listed in the "Table of Contents", these technical specifications, general conditions, supplementary conditions, all other related provisions and contract documents in this booklet and all local, federal and state codes, rules and regulations, of all governmental agencies having jurisdiction, are hereby incorporated into these contract documents. The contractor shall be responsible to field verify all dimensions and existing conditions prior to submitting the bid.

The contractor shall repair any damage which occurs to the existing landscaping during the performance of this contract.

The contractor shall be responsible for all material and labor necessary to complete all work included in the contract documents.

The contractor shall be responsible to obtain and pay for all permits. The authority shall reimburse the contractor for the cost of the permit and reasonable administrative time to prepare the permit applications. The Authority will not pay for any pass through costs a subcontractor charges a general contractor for obtaining a permit.

The contractor shall pay all deposits and fees necessary for the installation, tests and inspections of all work provided under these specifications. These tests shall be conducted as required by the Owner and regulations of the local and/or state authorities having jurisdiction.

The contractor shall be responsible for all cutting, patching, and finishing of existing construction for the proper installation of equipment and materials to be installed during the performance of this contract.

All patching shall be performed utilizing materials of the same quality and texture of the adjacent undisturbed areas. All finishing shall match the undisturbed adjacent areas perfectly and to the approval of the Owner.

No cutting shall be done which may affect the building structurally or architecturally without first securing approval from the Owner.

Cutting shall be accomplished in such a manner as not to cause damage to the building or leave unsightly surfaces. Where such unsightly conditions occur, the contractor shall repair the damaged areas at his expense and to the Owner's approval.

The contractor shall confine operations at the site to the specific areas designated on the contract drawings. Portions of the site beyond the areas of which work is indicated to be performed at shall not be disturbed.

Keep the driveways and entrances to BHA property clear and available at all times. Do not use for parking or storage of material.

Do not encumber the site with material, equipment or construction debris. Confine stockpiling of material to the areas previously authorized by the Owner.

Lock automotive type vehicles and other motorized construction equipment when parked and unattended. Do not leave vehicles or equipment unattended with motor running, or with key left in ignition.

Maintain the buildings in a safe and weather tight condition throughout the construction period. Repair any damage caused by construction operations to the approval of the Owner. Take all precautions necessary to properly protect, the buildings, building occupants, neighboring occupants, and the general public from damage or harm during the construction period.

Do not interrupt utility services serving occupied or in-use buildings, except as authorized by the Owner.

The contractor shall properly cover and secure all floor openings to provide pedestrian safety.

Provide protective devices, such as barricades, construction fencing, shoring, planking, guards, warning signs and lights, and similar devices necessary or required for the protection of life, limb, and property. **CAUTION TAPE WILL NOT BE ACCEPTED AS A METHOD TO SECURE CONSTRUCTION AREAS OR OPEN EXCAVATED AREAS. USE ONLY SECURELY PLACED CONSTRUCTION FENCING AS APPROVED BY THE OWNER.**

**GENERAL
01010-3**

Where protection devices occur in exterior walls, they shall be waterproof and insulated against heat loss in cold weather.

Maintain protection devices in good condition and working order during the progression of work.

The contractor shall be responsible for removing excess material and construction debris resulting from renovation work from the job site. The contractor shall properly and legally dispose of all debris and excess building material off of BHA property on a daily basis.

Burning of trash, excess material, debris or any other material will not be permitted on the site.

PROGRESSION OF WORK:

The BHA shall release a maximum of 2 apartments, at any one time, to the possession of the contractor.

Once the contract is executed the owner has 90 days to vacate the first 2 apartments. The Contractor shall receive 2 vacant apartments at the start of the contract to work in. Once the apartments are completed and ready to be occupied, residents shall be moved from host apartments to the renovated apartments. Once the host apartments are vacated, 2 more residents will be moved to the host apartments and the contractor can then start renovating the 2 vacated apartments. This sequence shall be followed until all apartments are renovated. The contractor shall allow 15 business days for moves and cleaning of the host apartments to be completed. The owner shall be responsible for all moves and cleaning of the host apartments. The contractor shall be responsible for cleaning of the renovated apartments.

Each apartment released to the contractor shall become the complete responsibility of the contractor until the time the apartment is turned back to the owner for occupancy. Any property damage which may occur during the time the apartment is in the possession of the contractor as a result of the renovation work, such as fire, vandalism, theft, or by any other means shall be the responsibility of the contractor.

The contractor shall be responsible for apartment security, all snow and ice removal from the property, and all required maintenance and upkeep of the structures during all times buildings are in their possession.

**GENERAL
01010-4**

CONSTRUCTION KEYING:

Once vacated the contractor shall be given a key for each of the existing apartment door locks. Certain BHA personnel also have a master key that will operate the existing locks.

It is the contractor's option to utilize a "construction keying" system for the apartments while under the contractors possession. The contractor shall supply all material and labor required for the keying system if a construction keying system is utilized. Provide and deliver to the BHA four copies of each temporary key, properly labeled with its corresponding address.

Remove construction keying system, and provide keying system as specified on the drawings and specifications, when renovation work is complete and just prior to turning building back over to the possession of the BHA.

END OF SECTION

**GENERAL
01010-5**

SECTION 01500
CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

SUMMARY:

This section describes construction facilities and temporary controls which may be required for this work.

Documents affecting this work include, but are not necessarily limited to, General Conditions, Supplementary Conditions, Drawings, and these complete Technical Specifications.

REQUIREMENTS:

Provide construction facilities and temporary controls needed for the work including, but not necessarily limited to:

1. Temporary utilities, such as heat, water, electricity and telephone.
2. Sanitary facilities
3. Enclosures such as tarpaulins, barricades and canopies.
4. Temporary fencing of the construction site or staging areas.

DELIVERY, STORAGE AND HANDLING:

Maintain temporary facilities and controls in proper and safe condition throughout the progress of work.

UTILITIES:

WATER: Where required, the contractor shall provide necessary temporary piping and water supply and, upon completion of the work, remove such temporary facilities. The Owner shall provide and pay for the water used in construction.

ELECTRICITY: Where existing electric service is not available or sufficient, the contractor shall supply necessary temporary wiring and, upon completion, remove such temporary facility.

Contractor shall provide area distribution boxes so located that the individual trades may furnish and use 100-ft. maximum length extension cords to obtain power and lighting needed for work, inspection and safety.

Where existing electric service is not available or sufficient, the Contractor shall provide and pay for electricity used in construction. The Contractor shall provide wiring, connections, outlets and fixtures for 110/220V, single phase, 3-wire power; and/or any additional power or current characteristics required.

HEATING: The Contractor shall provide and maintain heat necessary for proper conduct of operations needed for work. If the existing heating system cannot provide sufficient heat while the building is under construction the contractor shall provide temporary heat as necessary.

All temporary heating following enclosure of building or work area shall be provided by space heaters until the permanent heating system is installed and operational (where applicable).

The Contractor shall pay for all fuel required for operation of all temporary space heaters required to provide adequate temporary heat for work and protection of already in-place work.

The Contractor shall be responsible for operation and maintenance of permanent heating system until completion and final acceptance of the project.

The building will be considered enclosed when it is roofed and has protection at all doorways, windows and any other openings necessary for heat retention.

A minimum of 50 degrees F. and a maximum of 70 degrees F. shall define the range of temperatures to prevail at all times. The permanent system cannot be installed until the completion of finished walls in each room. Therefore the contractor must utilize space heaters until that time.

Prior to final acceptance, the contractor shall clean the system and replace all filters and do all necessary work to the permanent heating system to assure that such system is turned over to the owner in acceptable working order and in the same condition as originally installed.

The contractor shall be solely responsible for damage to any and all BHA property and/or material and equipment resulting from the lack of proper heat of fire during the performance of this contract.

TEMPORARY FIRE PROTECTION: The contractor and all subcontractors shall observe all provisions of the specifications relative to fire protection throughout the construction period, in accordance with provisions with this section. The contractor shall provide fire extinguishers on site as required by pertinent codes.

Tarpaulins used for temporary enclosures or for night or weather protection of masonry walls shall be flame-proofed by an approved process prior to delivery to job site and shall be reprocessed during the progression of this work as required.

Storage of flammable materials at the site shall be avoided. Materials to roofs shall be raised to roofs only in such quantities as needed for immediate use. Limited storage for flammable material inside the building and mixing of the same shall be permitted only in masonry and concrete enclosed rooms. Empty containers for such materials and oily or paint soaked rags shall be removed from the building at the close of each workday.

Welding and flame cutting equipment shall be of an approved type and shall be used only in such spaces and at such times as approved by the owner. Each contractor shall provide special fire-watchers while welding or cutting and have water and fire extinguishers available for immediate use.

Burners or torches using gasoline shall not be used on the premises.

SANITARY FACILITIES: The contractor shall provide temporary sanitary facilities in the quantity required for use and proper proportions for use by all personnel.

Maintain facilities in a sanitary condition at all times. Lock and secure facilities during non-work hours.

ENCLOSURES: The contractor shall provide and maintain, for the duration of the construction, all scaffolds, tarpaulins, canopies, warning signs, steps, platforms, bridges and other temporary construction necessary for proper completion of the work in compliance with pertinent safety regulations and to the satisfaction of the owner.

Provide pedestrian safety at all times. All safety barricades and other necessary safety provisions must be approved by the owner and be acceptable to all agencies having jurisdiction.

The contractor shall provide and maintain, for the duration of the project, temporary walls, plastic, ventilation, and dust control measures to protect existing spaces, dividing construction and provide safe temporary egress from the building.

TEMPORARY FENCING: For projects involving excavation, the contractor shall provide and maintain, for the duration of the project, fencing of design and type needed to prevent entry to the work area by the general public.

Properly protect all excavations whether on the main building on site or off site where trenching for utilities occur. The contractor shall properly protect all excavation performed.

MAINTENANCE AND REMOVAL: Maintain temporary facilities and controls as long as needed for safe and proper completion of work. Remove such temporary facilities and controls as rapidly as progress of the work will permit, or as directed by the owner.

END OF SECTION

**CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS
01500-4**

SECTION 01545 CONTRACTOR'S USE OF THE PREMISES

This section applies to all situations in which the contractor or his representatives, including but not limited to, suppliers, subcontractors, employees and field engineers enter upon the owner's property.

Documents affecting work in this section include, but are not limited to, General Conditions, Supplementary conditions, Drawings, and these complete Technical specifications.

IDENTIFICATION OF PERSONNEL:

Maintain an accurate record of the names and identification of all persons entering the owner's property in connection with the work of this contract, including entry and exit times, and submit a copy of the record to the owner daily.

Promptly upon award of this contract, notify all pertinent personnel regarding the requirements of this section.

Require that all personnel who enter upon the owner's property certify their awareness of and the familiarity with the requirements of this section.

TRANSPORTATION FACILITIES:

To avoid traffic conflict with vehicles of the owner's employees, customers, and residents, and to avoid overloading streets and driveways on the owner's property, limit access of trucks and equipment.

Provide designated parking area for employees acceptable to the owner so as not to conflict with resident parking. Do not permit construction or employee vehicles to park on any street or other area of the owner's property unless otherwise approved by the owner.

Provide adequate protection for curbs and sidewalks over which trucks and equipment pass to reach the job site.

Require contractor's vehicles, vehicles belonging to employees of the contractor, and all other vehicles entering upon the owner's property in performance of the work of this contract, to use only an access route approved by the owner.

All contractor and employee vehicles must be properly state registered and fully insured, in amounts approved by the owner, in order to be used on the owner's property.

All heavy equipment must be equipped with OSHA approved back up warning signals. Heavy equipment must be operated by proven experienced operators.

SECURITY:

Restrict the access of all persons entering upon the owner's property in connection with the work to the access route and to the actual site of the work.

END OF SECTION

**CONTRACTOR'S USE OF THE PREMISES
01545-2**

SECTION 01620 STORAGE AND PROTECTION

SUMMARY:

Protect products scheduled for use in the work by means including, but not limited to those described in this section.

Additional procedures also may be detailed in other sections of these specifications.

Include with the contractor's quality assurance program such procedures as are required to assure full protection of work and materials.

MANUFACTURER'S RECOMMENDATIONS:

Except as otherwise approved by the owner, determine and comply with manufacturer's recommendations on product handling, storage and protection.

PACKAGING:

Deliver products to the job site in their manufacturer's original container, with labels intact and legible.

Maintain packaged material with seals unbroken and labels intact until the time of use.

Promptly remove damaged material and unsuitable items from the job site, and promptly replace with materials meeting the specified requirements, at no additional cost to the owner.

The owner may reject as non-complying such material and products that do not bear the identification satisfactory with the owner as to the manufacturer, grade, quality, and all other pertinent characteristics.

PROTECTION:

Protect all finished surfaces, including jambs and soffits used as passageways, through which equipment and materials are handled.

Provide protection for finished floor surfaces in traffic areas prior to allowing equipment or materials to be moved over such surfaces.

Maintain finished surfaces cleaned, unmarred, and suitably protected until final acceptance by the owner.

Provide protection for in-place equipment and materials as may be specified in other sections of these specifications.

REPAIRS AND REPLACEMENTS:

In the event of damage, promptly make replacements and/or repairs to the approval of the owner and at no additional cost to the owner.

Additional time to secure replacements and/or make repairs will not be considered by the owner as reasons to justify an extension in the Contract Time of Completion.

END OF SECTION

**STORAGE AND PROTECTION
01620-2**

SECTION 01700 PROJECT CLOSE-OUT

SUMMARY:

This section describes an orderly and efficient transfer of the completed work back to the owner.

Documents affecting work of this section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, Contract Drawings, and these complete Technical Specifications.

QUALITY ASSURANCE:

Prior to requesting an inspection by the owner, of completed work; use adequate means to assure work is complete in accordance with the specified requirements and is ready for the requested inspection.

PROCEDURES:

Once the Owner concurs that the work is substantially complete, the work will be inspected and a list of deficiencies (Punch List) shall be generated and given to the Contractor.

The Contractor shall notify the Owner once the punch list items are completed. Within a reasonable time following notification the Owner will re-inspect the work to determine the status of completion.

Once the punch list items are completed the Owner shall accept the building or project back from the Contractor.

Until the building or project is completed and turned back to the Owner, the Contractor is responsible for the building or project.

FINAL COMPLETION:

Prepare and submit the notice required by the General Conditions.

Verify all work is complete including, but not necessarily limited to, the items shown on Contract Drawings, and listed in General Conditions and Technical Specifications.

Ensure all final cleaning is performed.

Certify that:

- 1.) Contract Documents have been reviewed.
- 2.) Work has been inspected for compliance with Contract Documents.
- 3.) Work has been completed in accordance with Contract Documents
- 4.) Equipment and systems have been tested as required, and are properly operating.
- 5.) All work is complete and ready for final inspection.

The owner will make an inspection to verify the state of completion.

When the Owner determines all work to all buildings included in the contract is acceptable and in accordance with the Contract Documents, he will request the contractor to make close-out submittals.

Close-out submittals include, but are not necessarily limited to:

- 1.) Project record documents.
- 2.) Operation and maintenance data for the items so listed in pertinent other sections of these specifications, and other items when so directed by the Owner.
- 3.) Warranties and Bonds.
- 4.) Keys and keying schedule.
- 5.) Spare parts and material extra stock.
- 6.) Evidence of compliance with the requirements of governmental agencies having jurisdiction, including but not necessarily limited to:
 - a.) Certificates of Inspection
 - b.) Certificates of Occupancy.

**PROJECT CLOSE -OUT
01700-2**

7.) Certificates of Insurance for products and completed operations.

8.) Evidence of payment and release of liens.

9.) List of Sub-Contractors, Service Organizations, and Principle Vendors, including names, addresses and telephone numbers for emergency service at all times, including nights, weekends, and holidays.

FINAL ADJUSTMENT OF ACCOUNTS:

Submit a final statement of accounting to the Owner. Show all adjustments to the original contract sum, which were previously approved by the Owner.

Provide credit adjustments to Owner for portions of contract which may have been deleted or material substitutions approved for use which are of a lesser value than originally specified.

INSTRUCTION:

Instruct the Owner's personnel in proper operation and maintenance of systems, equipment, and similar items which were provided as part of the work.

END OF SECTION

**PROJECT CLOSE -OUT
01700-3**

SECTION 01710 CLEANING

SUMMARY:

Throughout the construction period, maintain the buildings and site in a standard of cleanliness as described in this Section.

Documents affecting work of this section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, Contract Drawings, and these complete Technical Specifications.

QUALITY ASSURANCE:

Conduct daily inspections, and more often if necessary or directed by the Owner, to verify that the requirements for cleanliness are being met.

In addition to the standards described in this Section, comply with the pertinent requirements of all governmental agencies having jurisdiction.

CLEANING MATERIALS AND EQUIPMENT:

Provide required personnel, equipment and materials needed to maintain the specified standard of cleanliness.

COMPATIBILITY:

Use only the cleaning materials and equipment which are compatible with the surface being cleaned; and as recommended by the manufacturer of the individual item being cleaned.

EXECUTION:

Retain stored items in an orderly arrangement allowing maximum access, not impeding traffic or drainage, and providing required protection for all materials.

Do not allow scrap, debris, waste material, and/or other items to accumulate on the job site.

Completely remove all scrap, debris, and waste material, from the job site on a daily basis.

**CLEANING
01710-1**

Provide adequate storage for all materials temporarily awaiting removal from the job site, observing requirements for fire protection and protection of the ecology.

Inspect all arrangements of material stored on site on a daily basis. Re-stack, tidy or otherwise service arrangements to meet the requirements of this Section.

Maintain the site in a neat and orderly condition at all times.

Sweep interior spaces clean on a daily basis, and more often if needed or directed by the Owner.

As required, preparatory to installation of succeeding materials, clean structures or pertinent portions thereof, to the degree of cleanliness recommended by the manufacturer of the succeeding material being installed. Use equipment and materials required to achieve the necessary cleanliness. Do not bury dirt, dust, or other debris in walls or behind newly installed equipment or material.

Following the installation of new finish floor material, clean finished floor daily, or more often if necessary or directed by Owner. Protect all new finished floor coverings following installation and at all times work is being performed in the work space new materials were installed to.

Properly protect all newly installed material from damage during the progression of work and until the building is returned to the possession of the Bethlehem Housing Authority.

FINAL CLEANING:

Broom clean all paved areas on site and public paved areas adjacent to the site and remove all swept debris from the site. Following broom cleaning, where required, power wash all paved surfaces clean. Clean grass areas free of debris, construction material or waste material. Perform final cleaning operations as follows:

EXTERIOR:

- 1.) Visually inspect exterior surfaces and remove all traces of soil, waste material, smudges, concrete or mortar splatter, and all other foreign materials.
- 2.) Remove all traces of splashed material from adjacent surfaces.
- 3.) In the event of stubborn stains not removable with water, the Owner may require light sandblasting, or other necessary cleaning methods, at no additional cost to the Owner.

**CLEANING
01710-2**

INTERIOR:

- 1.) Visually inspect interior surfaces and remove all traces of soil, waste materials, smudges, pencil marks, dust, dirt, paint droppings, and all other foreign material.
- 2.) Completely clean and wipe all walls, ceilings, shelves, cabinets, drawers, countertops, doors, and all other surfaces and newly installed equipment or material free from dust or other foreign matter. Use only the cleaning material and equipment as so recommended by the manufacturer of the material being cleaned.
- 3.) Clean all window glass and frames on the inside and outside of the building.
- 4.) Apply a minimum of four (4) thin coats of polish/wax. Use a commercial polish/wax compatible with the flooring material being polished. Polish/wax shall be applied with the proper equipment at a rate specified by the wax manufacturer. Polish/wax shall be sufficiently dry (minimum 30 minutes) prior to applying additional coat(s). Finish shall be smooth and even when looking at 30 degree angle from floor. Polish/wax shall be ZEP High Traffic Floor Polish (20% solid formula), or approved
- 5.) Schedule final cleaning as approved by the Owner, and only at completion of all work to the building to enable the Owner to accept a clean and newly renovated structure.

The Owner will inspect final cleaning for final approval. If in the Owner's opinion, cleaning operations were less than satisfactory, the contractor shall be directed to re-clean all or part of any apartment at no additional expense to the Owner.

END OF SECTION

**CLEANING
01710-3**

SECTION 02210 SELECTIVE DEMOLITION

SUMMARY:

Provide all material, labor and equipment necessary to perform the complete and proper demolition of existing areas scheduled for demolition as noted on the drawings and specifications.

Documents affecting work of this section include, but are not limited to, General Conditions, Supplementary Conditions, Drawings, and these Technical Specifications.

DEMOLITION:

The contractor shall use an adequate number of workmen skilled in each individual trade.

Demolition work shall be confined to the areas as depicted on the drawings. Extreme care is to be taken during demolition to avoid damage to existing structures or equipment at adjacent areas. In the event of damage, promptly make replacements or repairs to the owner's approval at no additional cost to the owner.

Examine all areas and conditions under which demolition work will be performed. Correct all conditions detrimental to the timely and proper completion of the work. Do not proceed until all unsatisfactory conditions are corrected.

All contractors shall visit the site to verify the extent and locations of demolition work as a part of the bidding process.

Prepare and follow an organized plan for demolition and removal of material, equipment, miscellaneous items and debris.

Shut off, cap and otherwise protect existing utilities in accordance with the requirements of the City of Bethlehem and the utility company having jurisdiction.

Completely remove items scheduled to be demolished and removed, leaving surfaces clean, solid, and ready to receive new material. Patch all areas, be it walls, floors or ceilings in a professional manner and matching the existing plane to the owner's approval.

All demolition work shall be performed keeping dust and debris from becoming a nuisance or hazardous to the building's occupants. The contractor shall provide protection, barricades or tarpaulins as necessary to the owner's satisfaction.

SELECTIVE DEMOLITION 02210-1

Demolition work is to be complete leaving the existing apartment and/or building in a structurally sound condition.

No cutting shall be done which may affect the building structurally or architecturally without first securing approval from the Owner.

Cutting shall be accomplished in such a manner as not to cause damage to the building or leave unsightly surfaces. Where such unsightly conditions occur, the contractor shall repair the damaged areas at his expense and to the Owner's approval. Items/areas to be demolished shall be cut out with an appropriate tool as opposed to being removed by banging with a hammer.

The contractor shall confine operations at the site to the specific areas designated on the contract drawings. Portions of the site beyond the areas of which work is indicated to be performed at shall not be disturbed.

The contractor shall properly brace and support all bearing structures during demolition, until the new support walls are erected and in place.

Demolished materials shall be considered the property of the contractor and be disposed of off BHA property promptly and properly. However, the owner has the right of first refusal to all existing fixtures, trim and equipment slated for demolition. If the owner requests any demolished material the contractor shall remove the item from the construction area and transport the material to the BHA warehouse, located at 1411 Pembroke Road, in Bethlehem.

END OF SECTION

**SELECTIVE DEMOLITION
02210-2**

SECTION 02900 LANDSCAPING

SUMMARY:

This Section of these specifications will describe the contractor's responsibility for landscape work required under this contract.

Documents affecting work of this section include, but are not limited to, General Conditions, Supplementary Conditions, Drawings, and these Technical Specifications.

QUALITY ASSURANCE:

Use an adequate number of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and methods needed for proper performance of the work of this section.

LOCATION:

All existing areas disturbed due directly to renovation work, vehicular or foot traffic, used for lay-down areas or staging areas, and all other grass areas which may be damaged or disturbed during this contract period.

Fill: The Contractor shall supply sufficient clean fill to achieve finished grade. Finished grade shall be the elevation of the top of the new slab, as shown on the drawings, or as directed by the Owner. Fill shall consist of good, clean excavated soil, free of organic matter.

Placement: Soil shall be moist fill material and shall be placed in uniform successive horizontal layers not exceeding 12" in uncompacted thickness. Each layer shall be machine rolled prior to laying the next layer. Ensure optimum moisture levels for compaction of new fill.

Final Grading: Consists of supplying and grading all topsoil used following backfill operations. The Contractor shall provide and install a minimum of 6" of pure clean topsoil on top of fill to all locations designated to be landscaped or restored.

Raking and Tilling: After the areas to be seeded have been approved for material quality, elevation and slope, the top surface shall be thoroughly loosened to a depth of at least three inches (3") by disking and harrowing. All topsoil shall then be raked and cross-raked and receive equivalent machine operations to remove all roots, coarse materials and stone, etc., larger than 1-1/2" in any dimension, in the top 3" thickness of the topsoil. All such removed materials shall become the sole property of the Contractor, removed from the premises and disposed in a prompt and proper manner.

Fertilizing: After all grass areas have been fined to remove coarse materials, the topsoil shall receive fertilizer, uniformly mixed throughout the entire thickness of the topsoil. Fertilizer shall be a super phosphate fertilizer in a chemical ratio of 0:20:0.

After the above-specified fertilizer has been mixed throughout the topsoil, a starter-type fertilizer shall be applied to the top surface or the topsoil at the same time as the seed. The starter-type fertilizer shall be composed of nitrogen, phosphoric acid and potash in a chemical formula ratio of 5:10:5.

Surface Preparation: After all topsoil has been surface limed and fertilized, the topsoil shall be smoothed with a drag or smoothing harrow to prepare the surface to receive seeding. Topsoil shall be hand raked to prepare the surface in an equivalent manner.

Seeding: Seeding shall all be completed between September 1st to October 15th or between April 1st to May 31st. The actual seeding, however, shall be done only during periods within these periods which are suitable, as judged from the standpoint of weather conditions which are approved by the BHA. Hydronic seeding will be acceptable.

Grass seed shall be of fine quality with proportions and germination as hereinafter specified.

Seeding for all grass areas, except as hereinafter specified, shall be of the following proportions and germination, and shall be applied at the rate of 80 pounds per acre:

<u>Germination</u>	<u>Percentage</u>	<u>Purity</u>
Kentucky Bluegrass 40%	99%	85%
Perennial Ryegrass 20%	99%	97%
Red Top 10%	92%	85%
Chewing Fescue 15%	98%	90%
Creeping Fed Fescue 15%	98%	90%

All bills of purchase and a certificate substantiating the above seed mixture shall be submitted for approval, prior to sowing. Seed shall be uniformly batch mixed by machine operations, and be sown at the indicated rate.

LANDSCAPING
02900-2

All seeding performed by manually operated push-type spreaders or by the broadcasting method, either by hand or approved sowing equipment, shall be applied seeding one-half of the rate each way to insure a uniform distribution. All seed applied shall be lightly raked into the topsoil to a coverage not exceeding one-fourth inch (1/4"). At the Contractor's option, raked seeded areas may be rolled and cross-rolled.

All grass areas may be seeded with precision-metered seeders, power drawn seeders or approved type power drawn hydraulic seeders. All seeders shall be specifically designed and approved for grass seeding purposes, and be of the type to deposit and cover seeds at the indicated rate simultaneously. Starter type fertilizer as heretofore specified, may also be applied during the seeding operations. All seeding applied with metered or hydraulic seeders will not require raking or rolling operations.

Mulching: All straw mulching shall be either clean wheat or oat straw, (SALT, HAY OR OTHER SALINE MARSH GRASSES ARE NOT ACCEPTABLE), applied in a thickness not to restrict soil aeration or prevent proper growth and be kept in place by either continuous watering procedures or be anchored by the use of twine or tape lines. Straw mulching on slopes greater than 10% shall be placed at the rate of one (1) ton per acre. Burlap cloth mulching shall be applied in a continuous blanket and be held in place with stakes, wire staples or nails placed into the ground.

All straw mulching shall be removed from the premises when directed, except on banks or grades exceeding a 10% slope where mulching shall remain. All burlap mulching shall be removed from the grass area, remain the property of the Contractor and be completely removed from the premises as directed by the Owner.

Maintenance: The Contractor shall be responsible for producing a satisfactory even turf acceptable to the Owners at the time of completion and final acceptance of the project. All procedures deemed necessary by the Contractor, in order to provide the satisfactory turf will be performed by the Contractor at his expense. All newly seeded grass areas will be mowed by the Contractor to a clipping height of not less than two inches (2") when the growth exceeds three inches (3") in height during the construction period as hereinafter specified. Damaged grass areas not progressing well, shall be refertilized and reseeded as originally specified, without any additional expense to the Owner.

Mowing: The Contractor shall include within his proposal, all costs, labor, material, equipment and services, necessary to mow all newly planted grass areas a total of two times during the construction period when directed by BHA, in addition to the hereinafter specified mowing performed immediately before the final acceptance of the project. In the event the two mowings are not required during the construction period, the Contractor shall mow all new grass areas after final acceptance of the project, when directed by the Owner.

All grass areas shall be mowed to a height of 2", and be reasonably free of weeds, objectionable coarse native grasses and foreign matter, and provide a satisfactory even turf, placed in first-class condition immediately before the final acceptance of the site work. Scattered bare spots, smaller than one square foot will be allowed up to one percent (1%) of the lawn area at the time of final acceptance of the project.

Warranty: The Contractor shall provide a one-year warranty following final acceptance of landscape work, as hereinafter specified.

The Contractor is hereby alerted to the fact that the correction of bare spots and eroded areas will be reviewed just prior to the termination of the one year warranty period following the acceptance of the project, and he will be held responsible to correct these items to the complete satisfaction of BHA.

All fungicidal spraying, fertilizing, watering, cutting, weeding and general maintenance, etc., excluding bare spots and erosion during the one-year warranty period, which is required to maintain the accepted turf in first-class condition, will be performed by the Owner.

Damaged and eroded areas will be repaired by the placement of new topsoil by this Contractor, and the application of seed and fertilizer same as originally specified for this area.

END OF SECTION

**LANDSCAPING
02900-5**

SECTION 05500 METAL FABRICATION

SUMMARY:

Provide miscellaneous metal work shown on the drawings, as specified herein, and as needed for complete and proper installation.

Documents affecting work of this section include, but are not limited to, General Conditions, Supplementary Conditions, Drawings, and these Technical Specifications.

SUBMITTALS:

Comply with the pertinent provisions of the General requirements.

Submit product data within 15 days of award of contract to the contractor.

Submit product data and material list of items to be provided under this Section. Supply sufficient technical data to demonstrate compliance with the specified requirements.

Submit shop drawings in sufficient detail to show fabrication, installation, anchorage, and interface of work of this Section with the work of other trades.

Manufacturers recommended installation procedures which, when approved by the Owner, will become the basis for accepting or rejecting actual installation procedures used on the work.

Submittals required for work under this Section include, but may not be limited to:

- 1.) Stainless steel backsplash behind all kitchen ranges. Provide one full size sample to the Owner for approval. Back splash shall be 20 GA. stainless steel with number 4 brush finish. Finish all edges with matching trim caps and J-channel where required. Extend backsplash a minimum of 2 inches past the bottom edge of range hood and a minimum of 4 inches below the top of the range.

QUALITY ASSURANCE:

Use an adequate number of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and methods needed for proper performance of the work of this Section.

Provide shop and/or field welding required in connection with the work of this Section in strict accordance with pertinent recommendations of the "American Welding Society".

DELIVERY, STORAGE, AND HANDLING:

Comply with the pertinent provisions of the General Requirements.

MATERIALS:

In fabricating items which will be exposed to view, limit material to those which are free from surface blemishes, pitting, rolled trade names, roughness and any other imperfections visible to the naked eye.

Comply with the following standards as pertinent:

- 1.) Steel plates, shapes, and bars, as pertinent.
- 2.) Steel plates to bent or cold-formed: ASTM A283, Grade-C.
- 3.) Steel tubing (hot formed, welded or seamless): ASTM A501.
- 4.) Steel bars and bar-size shapes: ASTN A306, Grade 60.
- 5.) Cold-finished steel bars: ASTM A108.
- 6.) Cold-rolled carbon sheets: ASTM A336.

Stainless steel sheets: AISI Type 302 or 304, gauge and finish as specified on drawings or herein.

- 7.) Galvanized carbon steel sheets: ASTM A526, with G90 zinc coating
In accordance with ASTM A525.

- 8.) Gray iron castings: ASTM A48, Class 10.
- 9.) Malleable iron castings: ASTM A47.
- 10.) Steel pipe: ASTM A53, Grade A, Schedule 40, black finish unless otherwise noted.
- 11.) Concrete inserts:
 - a.) Threaded or sledge type, galvanized ferrous castings of malleable iron complying with ASTM A27.
 - b.) Provide required bolts, shims, and washers, hot-dipped Galvanized in accordance with ASTM A153.

FASTENERS:

For exterior use and where built into exterior walls, provide zinc-coated fasteners.

Provide fasteners of type, grade, and class required for the particular use.

Comply with the following standards as pertinent:

- 1.) Bolts and nuts: Provide hexagon-head regular type complying with ASTM A307, Grade A.
- 2.) Lag bolts: Provide square-head type complying with Fed Spec. FF-B-561.
- 3.) Machine Screws: Provide cadmium plated steel type complying with Fed Spec. FF-S-11
- 4.) Washers:
 - a.) Plain washers: Comply with Fed Spec. FF-W-92, round, carbon steel.
 - b.) Lock washers: Comply with Fed Spec. FF-W-84, helical spring type carbon steel.

METAL FABRICATION 05500-3

5.) Toggle bolts: Provide type, class, and style needed and comply with Fed Spec. FF-B-588.

6.) Anchorage devices: Provide expansion shield complying with Fed Spec. FF-S-325.

OTHER MATERIALS:

Provide other materials, not specifically described but required for complete and proper installation, as selected by the contractor and subject to approval of the Owner.

SHOP PAINT:

Primer: Use "10-99 Tnemec Primer" or "Rustoleum Number 5769 Primer".

For repair of galvanizing, use a high zinc-dust content paint complying with MIL-P-21035.

FABRICATION:

Except as otherwise shown on the contract drawings, approved shop drawings, or noted in technical specifications; use material of size, thickness, and type required to produce reasonable strength and durability in the work of this Section.

Fabricate with accurate angles and surfaces which are true to the required lines and levels, grinding exposed welds smooth and flush, forming exposed connections with hair-line joints, and using concealed fasteners wherever possible.

Prior to shop painting or priming, properly clean metal surface as required for the applied finish and for the proposed use of the item.

On surfaces inaccessible after assembly of erection, apply two coats of the specified primer. Change color of second coat to distinguish from the first coat.

EXECUTION:

Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper condition of the work. Do not proceed until unsatisfactory conditions are corrected.

COORDINATION:

Coordinate as required with other trades to ensure proper and adequate provision of work of those trades for interface with work of this Section.

INSTALLATION:

Set work accurately into position, plumb, level, true, and free from rack.

Anchor material or equipment firmly into place.

Where field welding is required, comply with AWS recommended procedures of manual shielded metal-arc welding for appearance and quality of weld and for methods to be used in correcting welding work.

Grind exposed welds smooth and touch-up shop prime coats.

Do not cut, weld, or abrade surfaces which have been hot-dipped galvanized after fabrication and which are intended bolting or screwed connections.

Immediately after erection, clean the field welds, bolted connections and abraded areas of shop priming. Paint the exposed areas with the same material used for shop priming.

END OF SECTION

**METAL FABRICATION
05500-5**

SECTION 06100 ROUGH CARPENTRY

SUMMARY:

Provide labor, wood, nails, bolts, screws, framing anchors, all other rough hardware, and all other accessories required, and perform rough carpentry for the construction shown on the drawings, as specified herein, and as needed for complete and proper installation.

Documents affecting work of this section include, but are not limited to, General Conditions, Supplementary Conditions, Drawings, and these Technical Specifications.

Provide wood treatment data, including the treatment plant certification of compliance with the indicated requirements.

QUALITY CONTROL:

Comply with all applicable laws, codes and regulations.

Use an adequate number of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this section.

In addition to complying with the pertinent codes and regulations of governmental bodies having jurisdiction, unless otherwise specifically directed or permitted by the Owner, comply with:

- 1) "Product Use Manual" of the Western Wood Products Association for selection and use of products.
- 2) "Plywood Specifications and Grade Guide" of the American Plywood Association.
- 3) "Standard Specifications for Grades of California Redwood Lumber" of the Redwood Inspection Bureau for Redwood, when used.

ROUGH CARPENTRY 06100-1

SUBMITTALS:

Provide submittals and product data for underlayment, standard sheathing, framing lumber, roofing felt, treated lumber, and all fasteners and anchors within 15 days of the contractor receiving the executed contract from the BHA.

QUALITY CONTROL:

Comply with all applicable laws, codes and regulations.

Use an adequate number of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this section.

DELIVERY, STORAGE AND HANDLING:

Comply with the pertinent provisions of the General Requirements.

Deliver the material to the job site or storage area and store, in a safe and secure area, out of the way of traffic, and shored up of the ground.

Identify framing lumber as to grades, and store each separately from other grades.

Use extreme care when off loading lumber to prevent damage, splitting and, breaking of materials.

GRADE STAMPS:

Identify framing lumber by the grade stamp of the West Coast Lumber Inspection Bureau, or such other grade stamp as approved in advance by the Owner. Identify plywood as to species, grade, number of plies, and glue type by the stamp of the American Plywood Association.

Identify other materials of this Section by the appropriate stamp of the agency approved in advance by the Owner.

**ROUGH CARPENTRY
06100-2**

MATERIALS:

Provide manufactured lumber, S4S and grade stamped, to comply with PS20 and applicable grading rules if inspection agencies certified by ALSC's board of review.

Provide lumber with a maximum of 15 percent moisture content at the time of dressing and shipment, for sizes 2" or less in thickness.

Provide lumber of the following product classification in grades and species indicated.

Light Framing: 2" to 4" thick, & 2" to 10" wide.

Studs: Hem-Fir 2" to 4" thick & 4" to 6" wide, and graded under WWPA, WCLIB, SPIB, OR NLGA rules.

Unless otherwise indicated, provide standard grade lumber for nailers, blocking, furring, and similar members.

For types of concealed application listed below, provide wood panel products complying with PS1 where applicable, and with "APA Performance Standard Policies for Structural Use Panels" (Form E445) for requirements indicated.

For the following types of application where exposure durability classification or span rating is not given, provide Exposure1 and rating required to suit the existing or indicated support spacing.

Subflooring: APA Rated Sheathing

Wall Sheathing: APA Rated Sheathing

Plywood Underlayment for VCT & Sheet Vinyl: APA Luan Underlayment., in thickness as indicated on the drawings.

Secure new luan with hardware spaced a maximum of three (3) inches at the outer perimeter of the plywood sheet, and a maximum of 6" spacing in both directions of the rest of the plywood field.

All underlayment and VCT shall be installed prior to installing wood or vinyl base material.

ROUGH CARPENTRY
06100-3

Plywood Subfloor Material: APA, CDX Ext., exterior glue type, in thickness as indicated on the drawings. Install subfloor and underlayment using a staggered joint pattern in both directions.

Fasteners and anchors shall be of the size, type, strength, material and finish best suited for the application shown, or as otherwise noted on the drawings. Hot-dipped galvanized fasteners and anchors complying with ASTM A 153 shall be used for work exposed to the weather, in ground contact, and high relative humidity areas.

When using lag bolts comply with Fed. Spec FF-B-561 and for machine bolts comply with ASTM A 307.

Use common nails except as otherwise shown on the drawings and comply with Fed. Spec FF-N-1. Use galvanized nails for exterior locations.

Joist hangers shall be Simpson, Teco, or Owner approved equal.

Pressure treated lumber and plywood shall be coated with water-borne preservatives to comply with AWPA C2 and C9 respectively.

Use exterior type treated lumber for exposed applications including nailers, blocking and similar items.

Felt paper shall be heavy duty, asphalt saturated felt, non-perforated, complying with ASTM D 226.

Use Heavy Duty Resin Type felt paper beneath all metal roofs or type of paper otherwise recommended by metal roof manufacturer and approved by the Owner.

OTHER MATERIALS:

Provide other material, not specifically described but required for a complete and proper installation, as selected by the contractor subject to approval by the Owner.

**ROUGH CARPENTRY
06100-4**

Deliveries:

Stockpile materials sufficiently in advance of need to assure availability for performing work in a timely manner.

Execution:

Install rough carpentry to comply with “Manual of House Framing” by National Forest Products Association (NFPA) and with the recommendations of the American Plywood Association (APA), unless otherwise indicated. For sheathing, underlayment and other products not covered in above standards, comply with the recommendations of the manufacturer of each individual product involved.

Produce joints that are tight, true, and well nailed, with members assembled in accordance with the drawings and pertinent codes and regulations.

Carefully select the members. Select individual pieces so that knots and obvious defects will not interfere with the placing bolts or proper nailing of members which will not allow making of proper connections.

Cut out and discard defects which render any piece of lumber unable to serve its intended purpose.

Lumber may be rejected by the Owner, whether or not it has been installed, for excessive warp, twist, bow, crook, mildew, fungus, or mold, as well as for improper cutting and/or fitting.

Flooring shall be secured from the center working to the perimeter or from one end to the other. Perimeter shall not be secured first.

Set carpentry work to the required level and lines, with members true, level and plumb, square, and for proper fit. Do not shim any framing component.

Securely attach carpentry work to substrates and supporting members using fasteners of size that properly support work but will not penetrate members where opposite side of wall will be exposed to view or receive finish material.

Install fasteners without splitting wood – drill pilot holes if necessary. Fasten products to allow for expansion at joints where necessary.

Provide wood framing members of size and spacing indicated.

**ROUGH CARPENTRY
06100-5**

Do not splice members together to form full length members or studs. Use full length framing members and studs, un-spliced and platform framed, unless otherwise shown on the drawings.

Use common nails except as otherwise shown on the drawings and comply with Fed. Spec FF-N-1. Use galvanized nails for exterior locations.

Provide nails where penetration into the piece of wood receiving the point of not less than $\frac{1}{2}$ the length of the nail or spike used, however, that 16d nails may be used to connect two pieces of 2" (nominal) thickness.

When bolting lumber in place, pre-bore holes $\frac{1}{16}$ " in diameter larger than diameter of bolts being used. Drill straight and true from one side only. Do not bear bolt heads on wood. Use washers under head and nut where both bear on wood, and use washers under all nuts.

When using lag bolts comply with Fed. Spec FF-B-561 and for machine bolts comply with ASTM A 307. For lag bolts, pre-bore holes same diameter as root of threads, enlarging holes to shank diameter for length of shank.

In addition to framing operations normal to fabrication and erection indicated on the drawings, install wood blocking and backing required for the work of the other trades. Blocking shall be 2x6's of appropriate length necessary to span stud to stud or floor joist to floor joist. Blocking or bridging shall be installed by either the general contractor or subcontractors for any existing material or fixtures they are replacing or for any new material or fixtures they are installing on all walls and ceilings. Properly coordinate this portion of work with all other trades involved with this project.

Install blocking to cut off concealed draft openings, both horizontal and vertical, between ceiling and floor areas and as follows:

- 1) Fire block wall in all stud walls at ceiling and floor levels.
- 2) Fire block in all stud walls, including furred spaces, so that the maximum dimension of each concealed space is not greater than 8 feet (8').
- 3) All other locations where openings could afford passage for rodents, flames or smoke shall be fire-blocked.

ROUGH CARPENTRY

06100-6

Install wood cross-bridging (not less than 2 x 3 nominal), or metal cross-bridging of equal strength, between new joists.

Provide bridging at a maximum distance 4'- 0" between a line of bridging and bearing. Install solid wood blocking between the mid-point of spans exceeding 8'- 0" or as otherwise shown on the drawings.

Install solid wood blocking between joists at points of support and wherever sheathing is discontinuous. Blocking may be omitted where joists are supported with metal hangers, upon approval of the Owner.

On framing members to receive a finished surface, align finished surfaces to vary not more than 1/8" from the plane of surfaces of adjacent furring and framing members. Framing shall be packed out, where required, so new finish surfaces align with existing finish surfaces.

Set horizontal and sloped member with crown up.

Unless otherwise shown on the drawings, frame all corners and intersections with three or more studs and all required bearing for wall finish.

Unless otherwise shown on the drawings, all studs and joist shall be placed at a maximum if 16" on centers.

Do not notch, cut, or bore members for pipe, duct work, or conduits, of for any other reason except as shown on the drawings and/or as specifically approved in advance by the Owner.

Make bearings full unless otherwise indicated on the drawings.

Finish bearing surfaces on which structural members are to rest so as to give sure and even support.

When framing members slope, cut and/or notch the ends as required to give uniform bearing surface.

Properly brace and support all ceilings, floors, joists, and all other bearing surfaces until new walls and support headers are in place.

Install double 2 x12 wood headers where required for proper support & construction

END OF SECTION

**ROUGH CARPENTRY
06100-7**

**SECTION 06200
FINISH CARPENTRY**

SUMMARY:

Provide wood, nails, screws, and other items as needed, and perform finish carpentry work for the construction shown on the contract drawings, as specified herein, and as required for a complete and proper installation.

Documents affecting work of this section include, but are not limited to, General Conditions, Supplementary Conditions, Drawings, and these Technical Specifications.

QUALITY ASSURANCE:

Use an adequate number of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and methods needed for proper performance of the work of this Section.

DELIVERY, STORAGE AND HANDLING:

Comply with the pertinent provisions of the General Requirements.

GRADE STAMPS:

Identify lumber by grade stamp of the applicable lumber inspection bureau, or such grade stamp as approved in advance by the Owner.

Identify plywood as to species, grade, number of plies, and glue type by stamp of the "American Plywood Association".

MATERIALS:

Provide materials in the quantities needed for the for the work as shown on the contract drawings, and meeting or exceeding the following standard of quality:

- 1.) Wood Baseboard: pine, 9/16" x 4 1/4" (actual) with rounded top edge, primed and painted.
- 2.) Door Trim & Window Trim Number 1 clear pine clamshell trim, 2-1/2" wide (actual), primed and painted.
- 3.) Window Shade Number 1 clear pine, 1" x 4", primed and painted.
- 4.) Window Head & Jamb Extenders Number 1 clear pine 1" thick by necessary width, primed and painted.

OTHER MATERIALS:

Provide other materials, not specifically described, but required for complete and proper installation, as selected by the contractor and subject to approval by the Owner.

EXECUTION:

Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper condition of the work. Do not proceed until unsatisfactory conditions are corrected.

Produce joints which are true, tight and well nailed with all members assembled in accordance with the contract drawings and specifications. Scribe materials to properly fit new or existing conditions. Provide a 1/4" reveal for all window and door trim or casing.

Create joints to conceal shrinkage, miter exterior joints, cope interior joints, and miter or scarf end to end joints.

Install trim in as long continuous lengths as possible, jointing only where absolutely necessary and where solid support and backing is obtained.

Install all items straight, true, level, plumb, and firmly anchored into place.

Where blocking or backing is required, coordinate as necessary with other trades to ensure placement of required backing and blocking in a timely manner.

Nail trim work secure with finishing nails of proper dimension to hold member firmly in place without splitting the wood. Set finish nails using "nail set tool" and fill holes with non-shrink wood filler. Sand wood filler smooth and flush following proper curing period.

Nail all exterior trim using galvanized nails, making joints waterproof. In addition to nailing, attach material being nailed using waterproof glue or sealant.

Screw, do not drive, wood screws; except when using screws which are designed to be started by driving and then screwed "home".

INSTALLATION OF OTHER ITEMS:

Install items in strict accordance with the drawings and the recommended methods of the manufacturer, and as approved by the Owner.

FINISHING:

Sandpaper exposed finished surfaces thoroughly as required to produce a uniform smooth surface, always sanding in the same direction the grain is running in. Do not sand wood which is designed to remain rough or rustic in appearance.

At no time will any coarse sandpaper marks, hammer marks, or other imperfections in finish wood be accepted.

Paint all newly installed finish items as designated in the Painting Section of these Specifications.

CLEAN-UP:

Keep the premises in a neat, safe and orderly condition at all times during the execution of work of this Section. Keep area free from accumulation of saw-dust, cut-ends and other debris.

At the end of each work day, and more often if necessary or directed by the Owner, thoroughly sweep surfaces where refuse from this portion of work has settled.

Remove the cleaned-up debris from the job site on a daily basis.

At completion of this portion of work, thoroughly broom clean and wipe down all surfaces. Following clean-up, properly protect all in-place finish work from damage until possession of the building is signed back over to the Owner.

END OF SECTION

FINISH CARPENTRY
06200-3

SECTION 06240 PLASTIC LAMINATE

SUMMARY:

Provide laminate plastic where shown on the contract drawings, as specified herein, and as required for complete and proper installation.

Documents affecting work of this section include, but are not limited to, General Conditions, Supplementary Conditions, Drawings, and these Technical Specifications.

QUALITY ASSURANCE:

Use an adequate number of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and methods needed for proper performance of the work of this Section.

SUBMITTALS:

Comply with the pertinent provisions of the General requirements.

Submit product data within 15 days of award of contract to the contractor.

Submit product data and material list of items to be provided under this Section. Supply sufficient technical data to demonstrate compliance with the specified requirements.

Manufacturers recommended installation procedures which, when approved by the Owner, will become the basis for accepting or rejecting actual installation procedures used on the work.

Provide 2' x 2' sample of material for Owner approval.

DELIVERY, STORAGE AND HANDLING:

Comply with the pertinent provisions of the General Requirements.

PRODUCTS:

Acceptable Manufacturers:

- 1.) Panolam/Nevarmar, 2 Corporate Drive, Suite 946, Shelton, CT 06484
- 2.) Wilsonart, 2501 Wilsonart Drive, P.O. Box 6110, Temple, Texas 76503
- 3.) Owner Approved Equal.

Provide solid colors, smooth finish, as selected by the Owner from list of standard colors and finishes of the approved manufacturer.

Provide general purpose type plastic laminate, 0.050" thick, complying with NEMA LD-3.

For installation use only, "rigid set" (urea-resin) or "semi rigid set" (PVC acetate) adhesives. Do not use so-called "contact adhesives".

EXECUTION:

Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper condition of the work. Do not proceed until unsatisfactory conditions are corrected.

Following installation of new gypsum wallboard, properly prepare substrate for installation of new plastic laminate at kitchen counter-top backsplash and side splashes.

Install approved plastic laminate material in strict accordance with the manufacturer's recommendations as approved by the Owner.

Provide matching stainless J-channel, T-channel, corner and end trim, and all other material and accessories necessary for a complete and proper installation. Corners shall be miter cut and outside edge filed to eliminate any sharp edges.

Install laminate material prior to kitchen cabinet and counter-top installation. Extend plastic laminate material a minimum of 4 inches beyond the bottom of kitchen cabinets and top of kitchen counter-top backsplash.

To avoid stress cracking, light switch and outlet cut outs shall have radiused corners.

Properly clean all newly installed material following installation. Clean exposed areas of material free from pencil marks, adhesive material, dust, dirt and all other foreign material. Use only cleaning agents as recommended by the manufacturer of the material installed.

Following clean-up, properly protect all in-place finish work from damage until possession of the building is signed back over to the Owner.

END OF SECTION

**PLASTIC LAMINATE
06240-3**

SECTION 06650 SOLID POLYMER FABRICATION

SUMMARY:

Provide solid polymer kitchen countertops where shown on the contract drawings, as specified herein, and as needed for a complete and proper installation.

Documents affecting work of this section include, but are not limited to, General Conditions, Supplementary Conditions, Drawings, and these Technical Specifications.

QUALITY ASSURANCE:

Use an adequate number of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and methods needed for proper performance of the work of this Section.

Provide a minimum 10 year material and labor warranty from, contractor and supplier/manufacturer, for all solid surface countertops.

SUBMITTALS:

Comply with the pertinent provisions of the General requirements.

Submit product data within 15 days of award of contract to the contractor.

Submit product data and material list of items to be provided under this Section. Supply sufficient technical data to demonstrate compliance with the specified requirements.

Manufacturers recommended installation procedures which, when approved by the Owner, will become the basis for accepting or rejecting actual installation procedures used on the work.

Provide 2' x 2' sample countertop for Owner approval.

DELIVERY, STORAGE AND HANDLING:

Comply with the pertinent provisions of the General Requirements.

ACCEPTABLE PRODUCTS:

CORIAN SURFACES: As manufactured by the Dupont Co.:
Wilmington, DE 19898; Ph # (800) 426-7426

WILSONART SOLID SURFACING: As manufactured by Wilsonart International:
11 Twosome Dr., Moorestown, NJ 08057;
Ph. # (609) 866-9400

Countertop colors for Corian shall be from the Essential series.

Countertop colors for Wilsonart solid surface material shall be chosen from price group 3.

Colors from other manufacturers (that are made in the U.S.) shall be chosen from a price group that provides the same or similar color selections as Wilsonart price group 3 or Corian Essential series..

MATERIAL:

Provide homogeneous filled acrylic; not coated, laminated, or of composite construction; meeting ANSI Z 124.3 & 124.6. Type 6, and Fed Spec.
WW-P-541E/GEN.

Material shall have minimum physical and performance properties specified in the manufacturer's literature.

Superficial damage to the depth of 0.010" (.25mm) shall be repairable by sanding and polishing.

Countertops shall be fabricated to receive drop-in stainless steel sinks.

Countertop design shall consist of ½" thick counter top with built-up No-Drip edge at front and exposed sides (next to the range and refrigerator). Provide edge details as indicated on the contract drawings.

Provide countertop complete with backsplash of size shown on the contract drawings.

SOLID POLYMER FABRICATION
06650-2

Countertop, Backsplash, and Special Edge shall be Corian – “Essential” Series; countertop color: “Sandstone”.

Colors from other manufacturers shall be equivalent, and chosen by the owner.

JOINT ADHESIVE:

Manufacturers standard two-part adhesive kit to create inconspicuous, non-porous joints, using a chemical bond process.

FABRICATION:

Fabrication shall be performed by a **CERTIFIED FABRICATOR/INSTALLER**, as approved by the Owner.

Fabricate components in shop to the greatest extent possible and practical. Fabricate in accordance with size and shape indicated on the contract drawings, approved shop drawings and manufacturers requirements.

Form joints between components using manufacturer’s standard joint adhesive. Joints shall be inconspicuous in appearance and without voids. Secure 2” (50mm) wide reinforcing strips beneath each joint. No joints shall be made in the sink cut-out section of the countertop.

Provide all necessary holes and cut-outs for plumbing fixtures and accessories as indicated on the contract drawings, plumbing fixture schedule, and contractor submittals.

Rout and finish component edges to a smooth uniform finish. Rout all cut-outs and sand all edges smooth. Repair or reject all inaccurate or defective material or workmanship, as directed by the Owner.

All surfaces shall have a uniform finish, acceptable to the Owner. **Finish shall be Matte, with a gloss rating of 5/20.**

Form backsplashes and special edges using the same material and finish as countertop material.

Backsplash and special edge thickness shall be ½” (13mm), fabricated in shop or field. Provide backsplash height as shown on the contract drawings.

EXECUTION:

Install components plumb and level, in accordance with contract drawings, approved shop drawings, product installation details and manufacturer requirements.

Form field joints using manufacturers recommended adhesive, with joints inconspicuous in finished work. Keep components and hands clean when making joints.

Secure drop-in sink bowls using manufacturers recommended adhesives and color-matched silicon sealant.

Provide backsplashes and ends splashes as indicated on the contract drawings. Adhere to countertop and wall using standard color-matched sealant.

Keep hands and components clean during installation. Promptly and properly remove excess adhesive, sealants, or other stains. Components shall be clean by date of substantial completion.

Make plumbing connections to sinks in accordance with standard plumbing practices.

Completely and properly protect all surfaces from damage until final acceptance and possession the structure is turned back over to the Owner. Repair or replace all surface material damaged or unacceptable to the Owner. Repair or replacement of work shall be at the contractor's expense and to complete satisfaction of the Owner.

Provide countertop care information and maintenance video, or equivalent data, to the Owner. Review maintenance procedures and warranty documents with Maintenance Supervisor at completion of renovation work.

END OF SECTION

**SOLID POLYMER FABRICATION
06650-4**

SECTION 07920 SEALANTS AND CAULKING

SUMMARY:

Throughout the work, seal and caulk joints where shown on the drawings and elsewhere to provide a positive barrier against the passage of moisture and air.

Documents affecting the work of this section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, Drawings, and these specifications.

SUBMITTALS:

Comply with pertinent provisions of the General Requirements.

Submit product data within 15 days of award of contract to the contractor.

Submit product data and material list of items to be produced under this section. Supply sufficient technical data to demonstrate compliance with the specified requirements.

Provide manufacturer's recommended installation procedures which, when approved by the owner, will be incorporated into these specifications and contract documents.

Submit samples of each sealant, backing material, primer, and bond breaker proposed for use.

QUALITY ASSURANCE:

Use adequate number of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and methods needed for the proper performance of work covered under this section.

DELIVERY, STORAGE AND HANDLING:

Comply with pertinent provisions of the General Requirements.

Do not retain at the job site material which has exceeded the shelf life recommended by its manufacturer.

SEALANT:

Provide the following sealant, or owner approved equals, where called for on the drawings or otherwise required for a complete and proper installation.

Sealant Type:

Shall meet ASTM C-920, Class 25.

Acceptable products; GE Sealants and Adhesives:

GE7000 – white

M90033 – clear

Or owner approved equal. Colors to be chosen by owner.

For other applications, provide products especially formulated for the proposed use and approved in advance by the owner.

COLORS:

Colors for each sealant installation shall be selected by the owner from standard colors normally available from the specified manufacturer.

Should such standard color not be available from an approved substitute manufacturer except at additional charge, provide such color at no additional cost to the owner.

PRIMERS:

Use only those primers which have been tested for durability on the surface to be sealed and are specifically recommended for this installation by the manufacturer of the sealant used.

Use only the primer approved by the owner for the particular installation, applying in strict accordance with the manufacturer's recommendations as approved by the owner.

BACKUP MATERIALS:

Use only those backup materials which are non-absorbent, non-staining, and specifically recommended for this installation by the manufacturer of the sealant being used.

MASKING:

For masking around joints, provide an appropriate masking tape which will effectively prevent application of sealant on surfaces not scheduled to receive it, and which is removable without damage to the substrate.

OTHER MATERIALS:

Provide all additional material, equipment and labor not specifically described, in these specifications or on the drawings, but necessary to provide a complete and proper installation acceptable to the owner.

SURFACE CONDITIONS:

Examine the areas and conditions under which work of this section will be performed. Correct all conditions detrimental to timely and proper completion of the work. Do not proceed until unsatisfactory conditions are corrected.

PREPARATION:**Concrete and masonry surfaces:**

1. Unless shown otherwise on the drawings, new sealant shall be applied over existing sealant. Install only on surfaces which are dry, sound, and well brushed, wiped free from dust.
2. At open joints, remove dust by mechanically blown compressed air, if so required.
3. Remove oil and grease, use sandblasting or wire brushing.
4. Where surfaces have been treated, remove the surface treatment by sandblasting or wire brushing.
5. Remove laitance and mortar from joint cavities.

Steel surfaces in contact with sealant:

1. Sandblast as required to achieve acceptable surface for bond.

2. If, in the opinion of the owner, sandblasting is not practicable, or would damage adjacent finish, scrape or wire brush the metal to remove all mill, scale and rust.
3. Remove protective coatings on steel by sandblasting or using a solvent which leaves no residue.

Aluminum surfaces in contact with sealant:

1. Remove all temporary protective coatings, dirt, oil and grease.
2. Use only such solvents to remove protective coatings as are recommended for that purpose by the manufacturer of the material being cleaned, and which are non-staining.

BOND BREAKER INSTALLATION:

Provide an approved bond-breaker where recommended by the manufacturer of the sealant, and approved by the owner, adhering strictly to the manufacturer's installation recommendations.

INSTALLATION OF SEALANTS:

Prior to the start of installation in each joint, verify the joint type according to details on the drawings, or as otherwise directed by the owner, and verify that the required proportion of width of joint to depth of joint has been secured.

Apply sealant under pressure with power actuated hand gun, manually operated hand gun, or by other appropriate means. Application method shall be approved by the owner.

Use guns with nozzles of proper size, and providing sufficient pressure to completely fill the joints as designed.

Thoroughly and completely mask joints where the appearance of the primer or sealant on adjacent surfaces would not be acceptable to the owner.

Install sealant in strict accordance with the manufacturer's recommendations, thoroughly filling joints to the recommended depth.

Tool joints to the profile shown on the drawing, or as otherwise directed by the owner if such profile is not shown on the drawings. Tool all joints to provide uniformly smooth joints with a slightly concave surface.

Prior to full scale mobilization and installation, the contractor shall provide a sample of the sealant installation and method. Once the sample is approved by the Owner, it shall be used as the standard of quality and workmanship throughout the duration of the project.

Clean adjacent surfaces free from sealant as the installation progresses, using solvent or cleaning agent recommended by the manufacturer of the sealant being used, and approved by the owner.

Upon completion of the work of this Section, promptly remove from the job site all debris, empty containers, and surplus material derived from this portion of the work.

END OF SECTION

**SEALANTS AND CAULKING
07920-4**

SECTION 08100 METAL DOORS AND FRAMES

SUMMARY:

Provide 16-gauge, 6 panel hollow metal doors and frames as shown on contract drawings, specified herein, and as needed for a complete and proper installation to the front and rear entrances of each apartment unit.

Documents affecting work of this section include, but are not necessarily limited to General Conditions, Supplementary Conditions, Drawings, and these specifications.

SUBMITTALS:

Comply with pertinent provisions of the General Requirements.

Submit product data within 15 days of award of the contract to the contractor.

Provide material list of items proposed to be incorporated into the project which are included under this section of the specifications. Include manufacturer's specifications and other data needed to prove compliance with the specified requirements; shop drawings showing details of each frame type, elevations of door designs, details of openings, and details of construction, installation and anchorage.

Provide manufacturer's recommended installation procedures which, when approved by the owner, will become the basis for accepting or rejecting actual installation procedures used on the work.

QUALITY ASSURANCE:

Use adequate number of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and methods needed for the proper performance of work covered under this section.

Unless specifically otherwise approved by the owner, provide all products of this section from a single manufacturer.

METAL DOORS AND FRAMES 08100-1

DELIVERY, STORAGE AND HANDLING:

Comply with the pertinent provisions of the General Requirements.

METAL DOORS:

Provide metal doors of the type and style indicated on the drawings and/or herein. Contractor shall field verify exact dimensions of each door prior to placing any orders.

Doors shall be 6 panel embossed construction and conform to the Steel Door Institute Standard SDI-100. Doors and frames shall be manufactured to accept the specified new knob set and deadbolt.

Doors, frames and components shall be manufactured from cold rolled steel conforming to ASTM A-366. All doors, frames and frame components shall be thoroughly cleaned, phosphatized and finished as standard with one coat of baked on rust inhibiting prime paint, capable of passing a 120-hour salt spray test in accordance with ANSI A224.1-1990 or ASTM Spec B117 and a 240 hour humidity test in accordance with ASTM Spec D1735.

Doors shall be fabricated from 16-gauge cold rolled steel and have the face sheets embossed. Both vertical edges shall be beveled 1/8" in 2" and shall have a continuous mechanical interlock seam incorporating a bead of structural epoxy applied to the door prior to assembly. The top and bottom steel reinforcing channels shall be 14 gauge and shall be spot-welded within the door. Doors shall be mortised and adequately reinforced for all hardware. Mortised hardware reinforcements shall be drilled and tapped at the factory. Doors shall be stiffened, sound deadened and insulated with a rigid polystyrene core bonded to the inside face of both panels with contact adhesive. Voids around the perimeter of the door shall be filled with honeycomb. Polystyrene core to provide a U factor of .23 when tested in accordance with the ASTM C-236 Insulation Test.

Doors and frames shall be as manufactured by Curries Inc; series "C", Drywall KD, 16 Gauge, Unequal Rabbet, depth as required for existing opening depth, or owner approved equal.

The contractor shall field verify existing conditions, door and frame dimensions prior to ordering any doors or frames.

METAL DOORS AND FRAMES 08100-2

METAL FRAMES:

Frames shall be formed from 16-gauge cold rolled steel. Frames shall be formed with double return back bends. Frames shall be knock-down type, designed to be securely installed in the rough opening. Mitered corners shall be reinforced with a corner clip to provide a firm interlock of jamb to head. Frame shall have 7-gauge steel hinge reinforcement and preparation for 4 ½" x 4 ½" standard weight template hinges. Strike jamb shall have 16-gauge strike reinforcement and preparation for ANSI-A 115.1-2 strike. Frame shall have a welded base anchor attaching plate in each jamb for field installation of loose base anchors. Jambs shall be drilled and dimpled at 8 locations per side.

HARDWARE:

Provide and install new 4 ½" x 4 ½" hinges. Hinges shall be steel, five knuckle, two ball bearing, with non-rising removable steel pins, including button tip and plug. Hager no. BB1279 or approved equal.

Knobset/locks: Provide new Schlage "A" series #A10S, passage, w/ stainless steel Plymouth knob with #626 satin finish. Provide new B560P deadbolt set up for 6 pin "EVEREST SYSTEM" D135 keyway. Locks to be keyed per BHA direction. Contractor to provide 6 keys per apartment.

Storage shed lock cylinders shall be replaced w/ 6 pin style Everest cylinder and keyed to match new house locks.

Mechanical room cylinder shall have a Schlage "E" cylinder, keyed to BHA direction.

Peep-Sight:

As manufactured by McKinney Inc.; Model # DV1 or Owner approved equal; installed to all and front and rear steel entry doors.

Door Stops:

"Dome Type": as manufactured by; McKinney Inc., model # FS01; installed to all front and rear steel entry doors.

Solid Cast Wall Stops: as manufactured by; McKinney Inc., model # WS02; installed to all other locations.

Weatherstrip:

Provide and install frame mounted, screw-on aluminum channel with slide-in silicon ¼" loop weather strip. As manufactured by McKinney Inc., model # MCK303AV, or Owner approved equal. Weatherstripping to be installed after the doors and frames are painted.

Threshold:

Provide and install a mill finished aluminum threshold; as manufactured by McKinney Inc., model # MCK177AT, or Owner approved equal.

Door Sweep:

As manufactured by McKinney Inc.; Model # MCK 315CN or Owner approved equal; installed to all and front and rear steel entry doors.

SURFACE CONDITIONS:

Examine the areas and conditions under which work of this type will be performed. Correct all conditions detrimental to the timely and proper condition of the work. Do not proceed until all unsatisfactory conditions are corrected.

DEMOLITION:

The contractor shall remove the existing door, jamb, brick molding, threshold, and clamshell. All trash and debris shall be properly disposed of off B.H.A. property by the contractor.

INSTALLATION:

Prior to full scale ordering and mobilization, the Contractor shall fully complete one sample front and rear door and frame installation at a unit provided by the owner. Once sample installation is approved, it shall be used as the standard for material and workmanship throughout the duration of the project.

Install door, frame, thresholds and accessories in accordance with BHA, approved shop drawings, manufacturer's data, and as herein specified. Set frames accurately in position, plumbed, aligned and braced securely until permanent anchors are set. Provide permanent wood fillers or bracing as required by the owner to insure the frame is securely anchored in place.

Comply with provisions of SDI 105 "Recommended Erection Instructions for Steel Frames", unless otherwise indicated. Fit hollow metal doors accurately in frames, within clearances specified in SDI-100.

Immediately following installation, sand smooth any damaged areas of prime coat, and apply touch up of compatible air drying primer.

Field paint doors and frames in accordance with the Painting section of these specifications and as directed by the owner. Caulk jamb and base of frame, perimeter of face board and oak threshold.

Check and readjust doors and operating finish hardware items, leaving doors and frames undamaged and in complete and proper operating condition. Doors shall operate smoothly, including swing, latching and locking without binding or sticking. Weatherstripping shall be adjusted to provide an air tight seal.

END OF SECTION

METAL DOORS AND FRAMES
08100-5

SECTION 08110 STORM DOORS

SUMMARY:

Provide aluminum storm doors and frames as specified herein, and as needed for a complete and proper installation to the front and rear entrances of each apartment.

SUBMITTALS:

Comply with pertinent provisions of the General Requirements.

Submit product data within 15 days of award of the contract to the contractor.

Provide material list of items proposed to be incorporated into the project which are included under this section of the specifications. Include manufacturer's specifications and other data needed to prove compliance with the specified requirements; shop drawings showing details of each frame type, elevations of door designs, details of openings, and details of construction, installation and anchorage.

Provide manufacturer's recommended installation procedures which, when approved by the owner, will become the basis for accepting or rejecting actual installation procedures used on the work.

QUALITY ASSURANCE:

Use adequate number of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and methods needed for the proper performance of work covered under this section.

Unless specifically otherwise approved by the owner, provide all products of this section from a single manufacturer.

DELIVERY, STORAGE AND HANDLING:

Comply with the pertinent provisions of the General Requirements.

GENERAL:

Provide Provia DuraGuard Model 079 aluminum storm door, flush half-lite with removable sash and screen. No substitutions or alternate doors will be accepted.

DESCRIPTION:

An aluminum storm self-storing storm door manufactured by Provia. It is a double hollow 1¼" thick aluminum door frame with a reinforced aluminum kick panel lower section, two Acrylic inserts that store within the door and one outside fixed screen. One acrylic insert shall be fixed and the other shall be moveable.

MATERIALS:

Door master frame, mullions and insert sections shall be extruded from 6063-T6 aluminum alloy having a tensile strength of 30,000 p.s.i. and a yield strength of at least 25,000 p.s.i., with a minimum wall thickness of .065" for main frame members. The door sweep spline shall be manufactured from polyvinyl chloride plastic or it's equal.

All fastening devices incorporated in the product shall be of aluminum, stainless steel or other non-corrosive materials compatible with aluminum. Cadmium or zinc-plated steel, where used, shall be in accordance with ASTM B766-86 or ASTM B633-85. Screws, door hardware, etc., shall be supplied to make a complete installation.

Glazing material to meet 16 CFR 1201 Chapter 11 (01-01-2006 Edition) "Safety Standard for Architectural Glazing Material" of the Consumer Product Safety Commission. Tempered glass to be "float" conforming to ASTM C1036-2006 "Specification for Flat Glass."

CONSTRUCTION:

The main frame shall be made of double hollow extrusions with a minimum 3 ⅝" face and 1 ¼" thickness as standard with the manufacturer. The main frame and mullions shall be provided with grooves which accept a snap-in extruded channel which holds the kick panel in place. Mullions shall have a channel which the kick panel slides into. Main frame members shall be accurately machine cut to form rigidly mitered corner joints. Main frame corners shall have (1) each Molded Corner Gusset with 10-16 x ⅝" #8 Steel Hex Head Screws. Frame corners shall be of double corner key construction with 4 screws in each corner. Mullions to be machined to fit tightly. The bottom of the door shall have an exterior expander channel with grooves to accept 1 to 3 extruded vinyl door sweep depending upon hardware options. Expanders shall be adjustable to extend 1".

STORM DOORS
08110-2

SCREEN:

Screen shall be 12 x 12 x .023" carbon steel, black powder coated. Screen to be held in place by extruded aluminum retainer with screws placed on 3" centers. All screws to be concealed by a snap cover.

A horizontal stabilizer bar shall be installed at the midpoint of the screen opening.

DOOR LITE INSERT:

Door insert frame track to be .040" wall thickness with a 45° degree miter joint at the head and a butt joint at the sill. Top miter joint to have a screw and corner key in each corner. Sill butt joint to be of telescope design with a screw at the sill. Insert frame track to be attached to the door frame with screws on 12" centers. Screws to be concealed by an aluminum snap channel.

Door inserts to be of extruded aluminum featuring butt joint construction with a nylon swivel at the top of each insert. The bottom of each insert to feature a spring loaded zinc die cast slide bolt. Glazing shall be of the wrap around marine type glazing (no metal to Lexan contact); using 1/8" Lexan. Vinyl glazing channel shall be on one piece and shall tightly hug Lexan panel in such a way that no measurable air infiltration will occur at edges of Lexan panel. Material shall be of sufficient quality for re-use when re-glazing becomes necessary.

KICK PANEL:

Kick panel to be of .025" thick aluminum stucco with Schnee-Morehead™ glazing compound and held in place with an extruded aluminum bead that snaps into grooves in the door frame. Kick panel consists of 3-ply construction: one (1) .025" thick aluminum stucco embossed outer skin, one (1) .025" thick aluminum stucco embossed inside skin and one (1) .025" thick tempered Masonite hardboard core with an overall thickness of 5/16".

"Z"-BAR:

"Z"-Bar shall be of extruded aluminum of .045" thickness with a weather-strip groove to receive woolpile weather-stripping to seal against weather, dust infiltration and noise. The head frame shall be designed and extruded to function as a drip cap over the top of the door. Hinges to be attached to the "Z" –Bar. Exterior installation screws are hidden by the snap-on screw cover on the "Z" –Bar.

HINGES

Each door is to be supported by no less than four (4) integral leaf hinges of not less than 4" in length utilizing the raised knuckle of the extruded "Z" –Bar to receive an extruded aluminum hinge leaf. They will be joined to the knuckle by two plated steel pins pivoting in four Oilite™ brass bushings. The two (2) pins are held securely in place by a plated steel compression spring.

HARWARE:

Door hardware shall include: black, non-locking handle set with bottom securing screw, heavy duty door closer, and safety chain. Locking handles that are modified so they do not lock are not acceptable.

FINISH:

Finish to be Provia's factory applied baked enamel, meeting AAMA standard 2603-02 for organic finishes on aluminum. Provia uses a baked on enamel, Polycron III finish. Color to be chosen by owner from manufacturer's standard color chart.

DIMENSIONS:

Main frame shall have a width across the flat surface of 3 $\frac{5}{8}$ " with a thickness of 1 $\frac{1}{4}$ " and wall thickness of .065". Insert frame and inserts to have wall thickness of .040".

Expanders have a wall thickness of .050" with a depth of 1 $\frac{1}{2}$ ". "Z" –Bar

Wall thickness is .045" with a side flange width for bearing against the door buck with a 1" return for Western Style "Z" –Bar or $\frac{3}{4}$ " for Eastern style "Z" –Bar.

END OF SECTION

STORM DOORS

08110-4

SECTION 08200 WOOD DOORS

SUMMARY:

Provide pre-hung flush luan doors; complete in place, painted and with hardware installed; where shown on the drawings; as specified herein, and as needed for a complete and proper installation.

Documents affecting work of this section include, but are not necessarily limited to General Conditions, Supplementary Conditions, Drawings, and these specifications.

SUBMITTALS:

Comply with pertinent provisions of the General Requirements.

Submit product data within 15 days of award of the contract to the contractor.

Provide material list of items proposed to be incorporated into the project which are included under this section of the specifications. Include manufacturer's specifications and other data needed to prove compliance with the specified requirements; shop drawings showing details of each frame type, elevations of door designs, details of openings, and details of construction, installation and anchorage.

Provide manufacturer's recommended installation procedures which, when approved by the owner, will become the basis for accepting or rejecting actual installation procedures used on the work.

Provide technical information on doors for owner approval.

QUALITY ASSURANCE:

Use adequate number of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and methods needed for the proper performance of work covered under this section.

In addition to complying with pertinent codes and regulations of governmental agencies having jurisdiction, comply with:

1. Architectural Woodwork Quality Standards of the Architectural Woodwork Institute, for the grade or grades specified.

DELIVERY, STORAGE AND HANDLING:

Deliver doors to the job site after plaster and cement are dry, and after the building has reached average prevailing humidity of its locality.

Deliver doors in manufacturer's original containers, clearly marked with manufacturer's name, brand name, size, thickness and identifying symbol on the covering.

Seal all four edges of unfinished doors when delivered to the job site.

STORAGE:

Stack flat on 2' X 4' lumber, laid 12" from the ends and across the center. Under the bottom door and over the top of the stack provide corrugated cardboard or plywood to protect the door surfaces.

Store doors in areas where there will be no great variations in humidity.

Do not drag doors across one another; lift doors and carry them into position.

PRODUCTS:

Provide hollow core wood doors of the type and style indicated on the drawings and/or herein.

1. Warp tolerance shall be in accordance with NWMA I.S.-1
2. Face skins: Luan wood – unfinished. As manufactured by Jeld-Wen Inc., or owner approved equal.
3. Stiles and rails: Stiles shall be 7/8" hardwood. Top and bottom rails shall be 2" MDF.
4. Hinges: Provide three raised hinges, 3 1/2" x 3 1/2 "; stainless steel; with light brush satin finish.
5. Finish: Doors shall be supplied unfinished. Doors shall be finished in the field by the Contractor with one primer coat and two finish coats per section 09900.

PRE-HUNG FRAMES:

Provide adjustable "Split Jamb" wood pre-hung frames for all interior swing doors.

EXECUTION:

Examine the areas and conditions under which work of this section will be performed. Correct all conditions detrimental to timely and proper completion of the work. Do not proceed until all unsatisfactory conditions are corrected.

Installation:

1. Fitting and Machining: Unless doors are completely fitted and machined at the mill, fit them for width by planing and fit for height by sawing.
 - a. Bottom – $\frac{3}{4}$ " clearance maximum.
 - b. Top – $\frac{1}{8}$ " clearance maximum.
 - c. Lock edge and hinge edge – Bevel $\frac{1}{8}$ " in 2" maximum.
2. Machine doors for hardware in accordance with recommendations of the hardware manufacturers, as those recommendations have been approved by the owner.

Replace or re-hang doors which are hinge bound and do not swing or operate properly.

HARDWARE:

Locks:

1. Bathrooms: Schlage "A" series # A40S. Privacy. Stainless steel Plymouth knob with #630 satin finish. Include latch, strike and all necessary accessories.
2. All other locations: Schlage "A" series # A10S. Passage. Stainless Steel Plymouth knob with #630 satin finish. Include latch, strike and all necessary accessories.

Door Stops:

5" dia. self-adhesive plastic disc, Prime Line U-9244 or
1 7/8" dia. self-adhesive with raised rubber center, Ives 411RW'
depending on application.

ACCESS PANEL DOORS:

Provide access panel door and frame for each apartment. Door shall be located in kitchen ceiling below upstairs tub trap for trap access. Refer to contract drawings for size and specifications of door and frame. Properly fire-proof void inside of access panel as directed by the City of Bethlehem's Inspections Department, Fire Department, and Owner.

COMPLIANCE:

The owner reserves the right to request and pay for an inspection by a representative of the referenced organization to determine that the work of this section has been performed in accordance with the specified standard.

END OF SECTION

**WOOD DOORS
08200-4**

SECTION 08541
VINYL DOUBLE HUNG WINDOWS

PART 1 - GENERAL

1.1 SUMMARY

- A. This section include removal of existing windows and replacement with vinyl windows, including hardware, glazing, and miscellaneous trim to install windows indicated.

1.2 SUBMITTALS

- A. Comply with pertinent provisions of Section 01340.
- B. Product data: Provide:
 - 1. Manufacturer's data, catalog cuts, dimensioned drawings, and other data needed to prove compliance with the specified requirements and to enable proper preparation of the roof opening.

1.3 QUALITY ASSURANCE

- A. Manufacturer's Qualifications: Minimum ten (10) years producing vinyl (PVC) windows.
- B. Installer Qualifications: Utilize an installer having a minimum of five (5) years experience on projects of similar size.
- C. Source Limitations: Obtain window units from one manufacturer through a single source.
- D. Provide Vinyl Windows Compliance with requirements indicted in AAMA/WDMA/CSA/1.S.2/A440-11 for operating force, air infiltration, water penetration, and structural performance grade of window units required.
- E. Energy Performance: all units will comply with the current "Energy Star" requirements.

1.4 DELIVERY, STORAGE AND HANDLING

- A. Windows are to be fully plastic wrap packaged to provide protection from normal shipping and handling practices.
- B. Windows are to be stored inside a clean, well-drained, well ventilated area free of dust and corrosive fumes. Windows must not be stored above 120°F.
- C. Windows are to be stacked vertically on edge so that water cannot accumulate on or within materials.
- D. Windows may not be stored in direct sunlight when covered with plastic wrapping.

1.5 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

1.6 WARRANTY

- A. All frames, sashes, hardware, screens, balances and glass are warranted from manufacturing defects in material and workmanship for 20 years from date of manufacturing.
- B. The warranty period for commercial project work such as apartments, housing authorities and other buildings not used by individual home owners is 10 years, covering all vinyl and component parts. Consult window manufacturer warranty for complete details.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Provide Vinyl Double Hung Window with a solid White color finish on interior & exterior.
- B. Acceptable products:
 - 1. This specification is based on the 440 Series Sloped Sill, Tilt Double Hung Window as manufactured by Interstate Building Materials, Inc., (570) 655-2811, (800)338-9997, Fax: (570)655-3422, sales@interstatebldg.com or owner approved equal.

A. Products:

1. Vinyl replacement/new construction windows shall be INTERSTATE 440/6800 double hung window as manufactured by INTERSTATE Building Materials, Inc., Pittston Twp., PA.

B. Testing:

1. Windows shall be structurally tested and certified by independent testing laboratories and meet or surpass AAMA/NWWDA 101/I.S.2 grade HC-55 performance requirements. Test results shall be from a window with a minimum size of 56"W x 91"H. Air infiltration shall not exceed 0.05 cfm/ft at 25 mph.
1. The window shall have a U value not greater than 0.26 and an R-value not less than 3.85, SHGC (Solar Heat Gain Coefficient) not to exceed .30 and VT (Visible Light Transmittance) not to exceed 0.54, tested in accordance with NFRC 100-97 & 200.
2. Windows have been thermally tested to National Fenestration Rating Council NFRC 100-97 & 200 test methods based on the window unit (not center of glass), and residential values, and are certified by independent testing laboratories to meet or exceed the architect's choice of the glass options shown below:

Series	Glass Options		U-Value	SHGC	SHGC Grids	VT	VT Grids
Double Hung							
	Low E/Argon		.26	.30	.27	.54	.48

3. Window manufacturer shall certify that windows are US Department of Energy; Energy Star qualified with optional RLE 70/36 Low E/argon gas filled insulated glass.

Materials:

4. Vinyl Extrusions: Window extrusions shall be extruded from high quality, weatherable, high impact PVC extrusions and shall confirm to AAMA/NWWDA 101/I.S.2-97. Extrusions for all window styles utilized on the project shall have a similar beveled exterior profile and or integral J-channel brickmold on new construction. White and Clay colors are integral to the resin and uniform throughout the extrusion. All external wall thicknesses are to be minimum .062+/- .010 for the main frame and .062+/- .010 for the sash.
5. Fasteners are to be stainless; cadmium plated or zinc plated steel.
6. Hardware:
 - a. Tilt latches are to be acetal, nylon, PVC, or polycarbonate with stainless steel springs. Tilt latches are to be completely housed within the window sash members; only the thumb latch mechanism is to be raised externally above the sash to allow for easy operation of the tilt-latch mechanism.
 - b. Sash Lift Rail: Sash is to have extruded integral finger lift rail of .070+/- .010 thickness traveling the approximate glass width of the sash. Lift rail is to project at least 1/2" from the sash frame main body for easy raising and lowering of the sash.
7. Window locks: are to be cam action positive locks, made of Composite material, with solid color finish to match the window color and shall be fastened to sash with stainless fasteners penetrating non-conductive re-enforcement. Keepers are to be face mounted on the top sash rail with fasteners penetrating an internal aluminum re-enforcement and attached in such a way as not to eliminate continuous interlock.
8. Balances are to be INTERSTATE "Light Lift®" SP type coil balance, 301 high yield stainless type with no tensioning required and allow for a uniform load throughout sash travel. Balance cases are to be molded from acetal for its superior lubricous qualities. The coil balance system is to be comprised of the following: i) one or more 2-piece acetal housings which encase the stainless steel coils; ii) 301 high yield stainless steel coil springs with sufficient strength to hold the sash stationary in any position; iii) stamped aluminum mounting bracket to affix the coils to the window jamb frame; iv) balances are to be mounted in such a way that the fabricated end of the coil is attached to the balance shoe which travels with the sash. The sash is engaged into the shoe with a cast pivot bar designed to interlock into the shoe when in the vertical position to aid in structural support.

VINYL DOUBLE HUNG WINDOWS

9. Balance shoes are to be constructed of molded nylon 6/6 type 6601-L lubricating nylon type with zinc plated, cadmium plated or stainless steel balance hooks and tilt pins.
 10. Jamb adjuster screws, shall be cadmium, zinc plated, or stainless steel.
 11. Balance plugs are to be installed in the bottom sash tracks, above each balance housing and are to be designed to tightly fit within the window jamb balance track frame. Balance plugs are to be made of a 1" thick high density felt and are to move vertically within the window jamb frame together with the window sash movement. Balance plugs are to be long lasting and prevent the excessive passage of air from the window jamb balance track into the building.
 12. Weatherstrip - All windows are to be double weatherstripped at all areas finseal/pile construction of polypropylene and conforming to AAMA 701.2 standards. Meeting rail is to be double weatherstripped.
 13. Insect screens shall be standard charcoal colored fiberglass.
- B. Construction:
1. Structural Members:
 - a. Reinforcing members, made of super thermal efficient non-conductive material with variable wall thickness (depending on profiles), which range from .0125" to 0.184" for the lock rail, keeper rail, lift handle and sash styles shall be used. Reinforcements shall have no adverse effect on overall thermal performance.
 - b. Frames of multiple units are to incorporate a continuous head and sill with a structural Tee Mullion. Optional structural mull system utilizes a snap-in rigid PVC extrusions, which mounts flush and locks into integral mulling grooves on main frame. A super thermal efficient non-conductive material will be anchored between the mulled units to achieve higher design pressure rating without sacrificing thermal values. Main frame jamb width is to be 3 1/4".
 - c. Sill is a slope design with triple weather seals and no weep hole requirements which aid in maintaining air infiltration values 80% lower than industry standards. A patented Storm Interlock design, engages the sash

VINYL DOUBLE HUNG WINDOWS

handle rail with the sill. This, along with the Telescoping Dam leg design which penetrates into the jamb profiles, were designed to increase design pressure performance both from a wind load and water penetration testing.

C. Fabrication:

1. All frame and sash members are to be mitered and thermal fusion welded for strength and durability. All welds are to be mechanically de-flashed for a consistent smooth attractive appearance. Frames and sashes are to have elongated integral weep holes.
2. All mechanical fasteners are to be installed in a structurally sound fashion so as to present a smooth clean appearance and are concealed wherever possible.
3. Glass is to be held in place by PVC snap-in glazing beads which are to be located on exterior of sash, and is to be wet glazed to the vinyl sash with Novaflex brand or equal silicone sealant.

D. Glass and Glazing:

1. Glass and glazing: Windows are all factory glazed with sealed insulated glass. Both upper and lower sashes for the kitchen window and the 2 living room windows shall be tempered glass.
2. Glass installed in the window units meet Federal Specification - FS-DD-G-451D and is of glazing quality.
3. Safety glazings meet requirements of CPSC-16CFR-1201 and ANSI Z97.1.

Insulating glass units are to be assembled with TruSeal's Duralite®," an insulating glass edge seal system constructed using a unique Composite Laminating Technology. Duralite is preassembled with proven components, sealant, spacer and desiccant to create a high-performance durable spacer system.

Certification Standards

- > EN-1279:2002 Parts 2, 3, 4, Part 6 B & C
- > ASTM E2190
- > ASTM E774 level CBA
- > CGSB 12.8-97
- > GOST 24866-99

PART 3 - EXECUTION

3.1 EXAMINATION

VINYL DOUBLE HUNG WINDOWS

08541 - 6

- A. Contractor to verify rough opening size is of sufficient size to receive window unit and complies with manufacturer's requirements for opening clearances.
- B. Vinyl Windows:
 - a. Verify that sill plate is level.
 - b. Notify the Owner of unacceptable conditions before proceeding with installation.

3.2 INSTALLATION

- A. Preparation: All rough openings shall be dimensionally square, plumb, level, clean and provide a solid anchoring surface in accordance with INTERSTATE installation instructions, Installation Masters install procedures and drawing details.
- B. Windows shall be installed only by skilled tradesmen in accordance with the manufacturer's instructions and shop drawings.
- C. Windows shall be sealed around the head, sill and side frame members in a weathertight fashion in accordance with the manufacturer's instructions. Sealant shall have a dynamic movement capability of at least +/-50% and an outdoor weathering life of 10 years or more. Sealant is to be NovaFlex M100 brand, or equal, that is compatible with and adheres to vinyl framing and existing materials.

3.3 ADJUSTING

- A. Adjust operating sashes, screen, hardware and accessories for a tight fit at contact points and weather stripping for smooth operation and weathertight closure. Lubricate moving parts.
- B. Adjust sash locks and screens for smooth operation.

3.4 CLEANING

- A. Clean exposed surfaces and glass immediately after installing windows. Remove nonpermanent labels and clean surfaces.

END OF SECTION

VINYL DOUBLE HUNG WINDOWS
08541 - 7

**SECTION 09260
GYPSUM WALLBOARD SYSTEM**

SUMMARY:

Provide gypsum drywall and accessories where shown on the drawings, as specified herein, and as needed for a complete and proper installation.

Documents affecting work of this section include, but are not limited to, General Conditions, Supplementary Conditions, Drawings, and these Technical Specifications.

SUBMITTALS:

Comply with the pertinent provisions of the General Requirements.

Within 15 calendar days after the executed contract has been received by the contractor, submit the following:

Material list of items proposed to be used under this section.

Manufacturer's specifications and other data needed to prove compliance with the specified requirements.

Manufacturers recommend installation procedures which, when approved by the Owner, will become the basis for accepting or rejecting actual installation procedures used on the work.

QUALITY ASSURANCE:

Use an adequate number of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this section.

DELIVERY, STORAGE AND HANDLING:

Comply with the pertinent provisions of the General Requirements.

**GYPSUM WALLBOARD SYSTEM
09260-1**

GYPSUM WALLBOARD:

GENERAL MATERIAL:

Provide gypsum wallboard complying with Fed Spec SS-L-30D, in 48" widths and in such lengths as will result in a minimum of joints. Provide regular wallboard, type III, grade R, class 1, 1/2" or 5/8" thick, or as may be shown otherwise on the drawings.

Provide type III fire retardant wallboard, grade X, class 1, 5/8" thick as shown on the drawings or, at all common apartment partition walls dividing apartments within one building structure, all second floor ceilings, and all walls where kitchens of one apartment share walls with an adjacent apartment. Patch all voids in existing masonry walls dividing apartments prior to installing new gypsum wallboard.

EXECUTION:

Install gypsum wallboard with the separate boards in moderate contact but not forced into place.

At internal and external corners, conceal the cut edges of the boards by overlapping covered edges of the abutting boards.

Stagger the boards so that the corners of any four boards will not meet at a common point except in vertical corners.

Install wallboard to studs at right angles to the furring or framing members.

Make end joints, where required, over framing or furring members.

Corner bead is to be installed at all outside corner locations. Provide angle shapes with wings not less than 7/8" wide and perforated for nailing and joint treatment.

For fastening wallboard in place on metal studs and metal channels, use flat-head screws, shouldered, specially designed for use with power driven tools, not less than 1" long, with self-taping threads and self-drilling points.

For fastening wallboard in place to wood studs, use 1-1/4" type "W" bulge-head screws, complying with ASTM C514 and of the length required by governmental agencies having jurisdiction.

Drive the specified type screws using a clutch-controlled power screwdriver or drill, spacing screws at 16" on center.

Where a double layer of wallboard is specified stagger all joints of varying layers.

DRYWALL FINISHWORK:

Inspect all areas to be joint treated, verifying that the gypsum wallboard fits snugly against supporting framework.

In areas where joint treatment and compound finishing will be performed, maintain a temperature of not less than 55 degrees for 24 hours prior to commencing treatment, and until joint and finishing compounds have completely dried.

Apply joint treatment and finishing compound by machine or hand tool, using thin uniform layers.

Spread the compound not less than 3" wide at the joints, center the reinforcing tape in the joint, and embed the tape into the compound. Then spread a thin layer of the compound over the tape and fastener heads.

Following proper drying of the taping process, apply a second coat of embedding compound to the joints and fastener heads, spreading in a thin uniform coat, not less than 6" wide at joints and feather edge.

Always allow a minimum drying time of 24 hours between coats and sand compound to a smooth finish prior to applying the next coat.

After embedding compound is thoroughly dry and has been completely sanded, apply a coat of finishing compound to the joints and fastener heads.

Feather the finishing compound to not less than 12" wide.

GYPSUM WALLBOARD SYSTEM 09260-3

When thoroughly dry, sand to obtain a uniformly smooth surface. Avoid scuffing the paper surfaces of the wallboard. Repeat the three coat method of finish work at all corner bead locations.

FINISHING MATERIAL: Tape and compound to be as recommended for use by the manufacturer to the gypsum wallboard approved for use on this project.

“Trim Tex” #9010 tear away “L” bead, or approved equal, shall be used at the drywall edge at the heating convectors.

END OF SECTION

**GYPSUM WALLBOARD SYSTEM
09260-4**

**SECTION 09650
RESILIENT SHEET FLOORING**

SUMMARY:

Provide resilient sheet flooring where shown on the drawings, as specified herein, and as needed for a complete and proper installation. Include all necessary manufacturer recommended accessories and adhesives.

Documents affecting work of this section include, but are not necessarily limited to, General Conditions Supplementary Conditions, Drawings, and these specifications.

SUBMITTALS:

Comply with the pertinent provisions of the General Requirements.

Submit product data within 15 days of award of contract to the contractor.

Submit product data and materials list of items to be provided under this section. Supply sufficient technical data to demonstrate compliance with the specified requirements.

Provide manufacturer's recommended installation procedures which, when approved by the owner, will be incorporated into these Specifications and contract documents.

Provide samples of each item proposed for use under this section. Provide samples for color, pattern and specified grade.

QUALITY ASSURANCE:

Use adequate number of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and methods needed for the proper performance of work covered under this section.

DELIVERY, STORAGE, AND HANDLING:

Comply with pertinent provisions of the General Requirements.

MATERIALS:

Provide colors and patterns as selected by the Owner from standard colors and patterns of the approved manufacturer or as otherwise shown on the drawings or further specified in this section of the specifications.

ADHESIVES:

Sheet Vinyl: Armstrong S-599 or Henry 356 adhesive

ASPHALT EMULSIONS AND OTHER NON-WATERPROOF ADHESIVES WILL NOT BE ACCEPTED.

Underlayment Primer: Apply Armstrong S-185 primer on all luan underlayment.

Vinyl Sheet Flooring: Shall be AHF Contract, 2.0 mm Inlaid Heterogeneous vinyl sheet flooring. Color: As selected by Owner.

Vinyl Wall Base: FS SS-W-40, Type II, 4" high, 0.080" thick. Use standard top-set cove unless otherwise noted. Provide in continuous rolls. Color: as selected by the Owner.

Resilient Edge Strips: Not less than 1" width, 1/8" gauge, tapered bull-nose edge, color to match flooring edge or as selected by the Owner.

OTHER MATERIALS:

Provide all other material, not specifically described but required for a complete and proper installation, subject to Owner approval.

Sub-floor: 3/4" CDX plywood, as shown on the drawings.

Underlayment: 1/4" luan plywood.

EXECUTION:

Examine all areas and conditions under which work of this section will be performed. Promptly correct all conditions detrimental to timely and proper completion of the work. Do not proceed until all unsatisfactory conditions are corrected.

Install new floor joists, sub-floor and underlayment as shown on the contract drawings. Stagger joints of differing layers of plywood in both directions.

Prepare and verify that substrate is smooth, level, at required finish elevation, and without 1/8" in 10'- 0" variation for entire substrate area.

Patch and level all joints and nails or staples using leveling material recommended by the manufacturer of flooring material approved for use, subject to Owner approval.

Patch and seal all gaps in plywood floor including the perimeter of pipe and any other material protruding through plywood flooring material.

Prior to laying material, broom clean and vacuum the surface to be covered, and inspect the sub-floor.

Apply concrete primer, for installation upon concrete slabs, in accordance with manufacturer's recommendations and as approved by the Owner.

INSTALLATION:

Install material only after all other finishing operation, (including painting), have been completed and after permanent heating system is fully operational.

Verify that the moisture content of all concrete slab areas, building air temperature, and relative humidity are within the limit recommended by the manufacturer of material being used.

Maintain reference markers, holes, and openings that are in place or plainly marked for future cutting by repeating on the finish surface as marked in the sub-floor. Use chalk or other nonpermanent marking devices. Ensure all cut in material are accurate and neat in appearance with smooth distinct edges.

Sub-floors/underlayment shall be dry, clean, and smooth. They shall be free from paint, varnish, solvents, wax, oil, dust, dirt, and all other foreign matter.

For more detailed requirements of concrete sub-floors, and for trowelable, metal, and wood sub-floor and underlayment requirements, refer to Armstrong Engineered Installation System manual, F-5061, or equal.

RESILIENT SHEET FLOORING 09650-3

A successful Bond and Moisture Test must be completed before starting installation. The Calcium Chloride Test for moisture may also be conducted.

Temperatures shall be maintained at a minimum of 65 degrees F. (18C) for a minimum of 48 hours prior to, during installation, and for a minimum of 48 hours following installation of flooring material. A minimum temperature of 55 degrees F. shall be maintained thereafter. Condition all flooring materials and adhesives to room temperature prior to starting the installation. Protect all material from the direct flow of heat from hot air registers, radiators, or other heating fixture or appliances.

Use adhesive, welded seams and under cuts in accordance with the floor manufacturer's requirements. Fill and seal all joints or seams at the top of flooring material following installation. Use Armstrong S-585 seam cleaner & Armstrong S-570 seam coating or, seam cleaner and coating as recommended by the manufacturer and approved by the Owner. Follow the manufacturer's recommended procedure for seam filling and coating. Armstrong S-591 seam coating accelerator may be used when approved in advance by the manufacturer and the Owner.

Cut sheet vinyl into required lengths and sizes.

Layout material in a manner to achieve a minimum number of seams, and to allow for pattern match where abutting edges meet. Double cut if necessary.

Lay cut sheets flat and allow to come to room temperature prior to installation.

Install the sheets, and roll the floor surface to work wrinkles and air pockets out pat the outermost edges.

Fit the sheet vinyl neatly and tightly into breaks, recesses, against bases, around pipes and penetrations, under saddles and thresholds, and around permanent cabinets and equipment.

Where integral base is called for: Provide cove strip to ease transition at intersection between floor and wall. Cut fit and miter-weld at internal and external corners. Cap exposed edge with metal trim securely fastened in place, with top edge of trim level, and with all trim joints mitered.

RESILIENT SHEET FLOORING

09650-4

Install vinyl cove base or wood baseboard as shown on the drawings.

Install cove base in strict accordance with the manufacturer's recommended installation procedures as approved by the Owner.

Caulk perimeter of floor where floor material meets wood baseboard. Maximum width of sealant joint shall be 1/8". Provide type and color of sealant as directed by Owner.

CLEANING AND PROTECTING:

Protect all newly installed flooring material by whatever means necessary. Repair or replace material damaged during or following installation and prior to final acceptance, as directed by the Owner.

Remove all excess adhesive and other blemishes from exposed surfaces, using neutral cleaner recommended by the manufacturer of the resilient material.

The contractor shall strip all floors, damp mop and apply two coats of floor wax prior to returning possession of the apartment back over to the Owner. Use stripping and waxing material as recommended by the manufacturer of the approved flooring material being used. Polish and buff floors using an Owner approved commercial electric buffing machine.

END OF SECTION

**RESILIENT SHEET FLOORING
09650-5**

VINYL COMPOSITION TILE FLOORING SECTION 09670

SUMMARY:

Provide vinyl composition tile flooring where shown on the drawings, as specified herein, and as needed for a complete and proper installation. Include all necessary manufacturer recommended accessories and adhesives.

Documents affecting work of this section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, Drawings, and these specifications.

SUBMITTALS:

Comply with the pertinent provisions of the General Requirements.

Submit product data within 15 days of award of contract to the contractor.

Submit product data and material list of items to be provided under this section. Supply sufficient technical data to demonstrate compliance with the specified requirements.

Provide manufacturer's recommended installation procedures which, when approved by the Owner, will be incorporated into these Specifications and contract documents.

Provide samples of each item proposed for use under this section. Provide samples for color, pattern and specified grade.

QUALITY ASSURANCE:

Use adequate number of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and methods needed for the proper performance of work covered under this section.

DELIVERY, STORAGE, AND HANDLING:

Comply with pertinent provision of the General Requirements.

VINYL COMPOSITION TILE FLOORING 09670-1

MATERIALS:

Provide colors and patterns as selected by the Owner from standard colors and patterns of the approved manufacturer and as further specified in this section of the specifications.

Adhesives: Provide Armstrong S-515 or Henry 430 adhesive.

ASPHALT EMULSIONS AND OTHER NON-WATERPROOF ADHESIVES WILL NOT BE ACCEPTED.

Underlayment Primer: Apply Armstrong S-185 primer on all luan underlayment.

Vinyl Composition Tile: Flooring shall be (1/8") gauge, 12" x 12", "Imperial Series" by AHF/Armstrong Excelon Tile. Tile shall be asbestos free composition; Colors to be selected by Owner.

Resilient Edge Strips: Not less than 1" width, 1/8" gauge, tapered bull-nose edge, color to match flooring edge or as selected by the Owner.

OTHER MATERIALS:

Provide all other materials, not specifically described but required for a complete and proper installation, subject to Owner approval.

EXECUTION:

Examine all areas and conditions under which work of this section will be performed. Promptly correct all conditions detrimental to timely and proper completion of the work. Do not proceed until all unsatisfactory conditions are corrected.

Install new floor sub-floor and underlayment as shown on the contract drawings. Stagger joints of differing layers of plywood in both directions.

Prepare and verify that substrate is smooth, level, at required finish elevation, and without 1/8" in 10'- 0" variation for entire substrate area.

**VINYL COMPOSITION TILE FLOORING
09670-2**

Patch and level all joints and nails or staples using leveling material recommended by the manufacturer of flooring material approved for use, subject to Owner approval.

Patch and seal all gaps in plywood floor including the perimeter of pipe and any other material protruding through plywood flooring material.

Prior to laying material, broom clean and vacuum the surface to be covered, and inspect sub-floor.

Apply concrete primer, for installation upon concrete slabs, in accordance with manufacturer's recommendations and as approved by the Owner. Prepare concrete floor per manufacturer's instructions prior to installing VCT.

INSTALLATION:

Install material only after all other finishing operations, (including painting), have been completed and after permanent heating system is fully operational.

Verify that the moisture content of all concrete slab areas, building air temperature, and relative humidity are within the limit recommended by the manufacturer of material being used.

Maintain reference markers, holes, and openings that are in place or plainly marked for future cutting by repeating on the finish surface as marked in the sub-floor. Use chalk or other non-permanent marking devices. Ensure all cuts in material are accurate and neat in appearance with smooth, distinct edges.

Place units with adhesive cement in strict compliance with the manufacturer's recommendation and as approved by the owner.

Butt units tightly to vertical surfaces, nosing, edging, and thresholds.

Scribe as necessary around obstructions and at perimeter to produce tight, neat joints.

Place tiles tightly laid, even, and with joints in straight parallel lines.

Extend units into tow spaces, door revels, and closets and similar spaces.

Lay units from center marks established with principal walls, discounting minor offsets, so that units at opposite edges of the room are of equal width.

Adjust as necessary to avoid use of cut widths less than 3" wide at the room perimeter.

Lay units square to axis of the room or space and parallel to one another forming tight, straight, true joints the entire width and length of the area being covered.

Match units for color and pattern by using material from cartons in the same sequence as manufactured and packaged. Ensure all material used in any single apartment originated from the same material lot number.

Floor tile shall be installed with the pattern in all units running in alternate directions staggered from course to course.

Place resilient edge strips tightly butted to units and secured with adhesive, providing at all unprotected edges unless otherwise shown.

Caulk perimeter of floor where tile meets wood baseboard. Maximum width of sealant joint shall be 1/8". Provide type and color of sealant as directed by Owner.

Provide 1" wide, continuous aluminum threshold strip at all locations Sheet Vinyl meets VCT. Provide aluminum, "L" shaped angle where V.C.T. terminates at top of stairways.

All flooring material shall be installed to the full width of each room prior to installation of vinyl or wood base material.

CLEANING AND PROTECTING:

Protect all newly installed flooring material by whatever means necessary. Repair or replace material damaged during or following installation and prior to final acceptance, as directed by the Owner.

Remove all excess adhesive and other blemishes from exposed surfaces, using neutral cleaner recommended by the manufacturer of the resilient material.

The contractor shall strip all floors, damp mop and apply three coats of floor wax prior to returning possession of the apartment back over to the Owner. Use stripping and waxing material as recommended by the manufacturer of the approved flooring material being used. See section 01710, Cleaning.

END OF SECTION

**VINYL COMPOSITION TILE FLOORING
09670-4**

SECTION 09900 PAINTING

SUMMARY:

Provide labor and equipment required to clean and prepare surfaces, and paint all areas as shown on the drawings, as specified herein, and as needed for a complete and proper application.

QUALITY CONTROL:

Comply with all applicable laws, codes and regulations.

Use an adequate number of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this section.

DELIVERY, STORAGE AND HANDLING:

Factory mix each paint material to color, gloss, and consistency for application directly from the container to the maximum extent possible.

Identify each container with the manufacturer's name, brand name, material type, stock number, type of paint, color, batch number and instructions, including thinning instructions.

When not in actual use, store paint materials and equipment in a location or locations specifically designed for that purpose.

Such storage space shall be well ventilated and adequately fire protected.

Perform all paint mixing and handling in such assigned storage locations.

Remove all painting materials, including rags, tarpaulins, mixers, empty containers and fillers, and partially filled containers from the work areas at the close of each day's work, and store in the assigned storage locations.

Prior to painting, remove all loose and peeling areas of existing paint. Patch and point existing surfaces to match the adjacent areas. Provide a relatively new surface to receive new coatings.

Follow the manufacturer's recommendations regarding thinning and thin only as necessary. Maintain paint storage and mixing area neat and clean at all times. Hang out soiled oily rags to dry. Store used rags in covered metal containers.

EXECUTION:

Clean all surfaces scheduled to receive new paint coatings free from all dirt, dust, oxidized paint film, loose and unsound paint coatings, and other foreign matter.

Contractor shall be responsible to properly repair any holes (less than 3 inches x 3 inches square) and/or cracks prior to painting.

Where wall covering has been removed, the contractor shall sand and/or wash walls as required to remove dried adhesive and provide a smooth substrate for painting. Painting over top of dried adhesive is not acceptable.

For application of approved paint, use only such equipment as is recommended for application of the particular paint by the manufacturer of that paint, and as approved by the Owner.

Prior to use of application equipment, verify that the proposed equipment is actually compatible with the material to be applied, and that the integrity of the finish will not be jeopardized by use of the proposed equipment.

Provide all other materials, not specifically described in this section, but may be required for a complete and proper installation, as selected by the Contractor and subject to the Owner's approval.

Patch and prepare any damage or blemish to the existing walls. Provide a smooth substrate to receive new coatings.

For metallic surfaces to receive paint, clean free from loose and unsound paint coatings and other surface contaminants which may impair the adhesion of new paint coatings.

Evenly spread or flow on the proper thickness to a smooth substrate.

PAINTING 09900-2

Apply all material in accordance with the manufacturer's recommendations and these specifications.

Provide finished painted surfaces which are free from sags, skips, and other defects.

Protect adjacent areas and surfaces from damage due to misplaced paint or preparatory work.

Provide continuous dust control, as required, to protect adjacent areas.

Follow the manufacturer's recommendations regarding thinning and thin only as necessary. Maintain paint storage and mixing area neat and clean at all times. Hang out soiled oily rags to dry. Store used rags in covered metal containers.

Apply coatings by roller or hand brush, as best suited to the material and the coating being applied.

Paint all surfaces completely and mask areas as necessary.

Provide and spread clean drop cloths when and where required and protect all adjacent areas and surfaces completely.

Immediately clean up all accidental splatter, spillage, misplaced paint, and restore the affected area to its original undamaged condition.

At the completion of work, promptly remove from the job site all materials, supplies, equipment, debris, and rubbish arising by virtue of work performed under this section, and return the area to clean and acceptable condition.

MATERIALS:

Interior Primer: Compatible to coating surface and finish product being applied.

Primer: Sherwin Williams PrepRite ProBlock.

Apply one coat to all interior unprimed wood surfaces, luan doors, new gypsum wallboard, and gypsum wallboard patches prior to applying finish coats.

Interior Finish Paint: Shall be Sherman Williams Property Solution, Interior Latex, Eg-Shel finish. Color: to be chosen by owner.

Apply two finish coats to all interior wood surfaces, luan wood doors, gypsum wallboard surfaces and interior side of steel entry doors.

Stairs primer: Zinsser Cover Stain Oil-based primer.

Stairs Paint: Shall be Sherman Williams Armorseal Tread-Plex Acrylic Floor coating. Color to be chosen by owner.

Apply two coats to all stair tread, risers, exposed surfaces of stringers and interior handrails. Allow a minimum of 6 hours between coats.

Kitchen Ceiling Primer: Kilz interior oil based primer and stain blocker.

Exterior Paint: (Metal Surfaces):

Entry Doors, Mechanical room doors: Shall be Sherman Williams Exterior Industrial Enamel HS Alkyd Gloss Enamel. Color to be chosen by Owner.

Crawl Space doors & Elec. Box: Shall be Sherman Williams Exterior Industrial Enamel HS Alkyd Gloss Enamel. Color to be chosen by owner..

Apply two coats to exterior surfaces of all steel entry doors, door frames, electrical meter enclosures, crawl space access doors and frames.

END OF SECTION

**PAINTING
09900-4**

SECTION 10260 FIBERGLASS WALL PANELS

SUMMARY:

Provide semi-rigid fiberglass wall panels where shown on the drawings, as specified herein, and as needed for a complete and proper installation.

Documents affecting work of this section include, but are not necessarily limited to, General Conditions Supplementary Conditions, Drawings, and these specifications.

SUBMITTALS:

Comply with the pertinent provisions of the General Requirements.

Submit product data within 15 days of award of contract to the contractor.

Submit product data and material list of items to be provided under this section. Supply sufficient technical data to demonstrate compliance with the specified requirements.

Provide manufacturer's recommended installation procedures which, when approved by the Owner, will be incorporated into these Specifications and contract documents.

Provide samples of each item proposed for use under this section. Provide 18" X 18" sample for color, pattern and specified grade.

QUALITY ASSURANCE:

Use adequate number of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and methods needed for the proper performance of work covered under this section.

DELIVERY, STORAGE, AND HANDLING:

Comply with pertinent provision of the General Requirements.

MATERIAL:

Fiberglass Wall Panel: Where indicated on the drawings, provide Glassboard-P Fiberglass Panel with Surfaseal as manufactured by Kemlite Company, or Owner approved equal. Color: as selected by the Owner.

OTHER MATERIALS:

Provide non-flammable construction adhesive No. 265 recommended by the manufacturer of the approved wall panel.

Place matching vinyl molding, divider strips, corner trim and end caps on all joints and visible edges as recommended by the manufacturer.

Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor subject to approval of the Owner.

EXECUTION:

Surface Conditions: Examine all areas and conditions under which work of this section will be performed. Promptly correct all conditions detrimental to timely and proper completion of the work. Do not proceed until all unsatisfactory conditions are corrected.

Walls must be dry and free from dust, dirt, and grease. Wall surface shall be flat.

Remove high spots and fill in low spots. Concrete block may require a leveling plaster coat.

PREPARATION:**Wood:**

Make the surface completely smooth; set nail heads and fill with water-proof filler, sanding smooth with the adjacent surfaces; and verify proper moisture content.

Gypsum Wallboard and Plaster:

Over gypsum wallboard, apply a uniform release coat of material recommended by the manufacturer of the approved adhesive.

Dust the surface thoroughly and remove all loose material.

Verify proper moisture content.

INSTALLATION:

Spread adhesive material over the entire back of panel using notched trowel (1/4" X 1/4" X 3/4"). Be sure panel is well covered all the way to the edge.

As soon as adhesive is spread over the entire panel and before it "skins over", set panel into position and press against wall. Apply adequate pressure to make full contact between wall and panel.

Apply fasteners as recommended by the manufacturer.

Ensure all gaps at joints and edges of cutouts are 1/8" or less.

Verify material grain pattern runs in same direction for all panels installed in one space, room, or area.

To achieve moisture-resistant application, apply "Kemlite Silicone Sealant 255" during installation of the panels. Follow manufacturer's recommended steps for installation.

Install the approved molding at all joints, corners and ends of wall panels; using adhesive recommended for the purpose by the manufacturer of the molding. Install molding true to line, using full-length stock to the maximum practicable, cutting horizontal joints to form tight hairline cracks and mitering corners.

ADJUSTMENTS AND CLEANING:

As the work progresses, clean the surplus adhesive from the wall panel surfaces and adjacent surfaces.

Visually inspect to verify that installed wall panel is secure, smooth, clean, without bulges, and with no gaps or overlaps.

Inspect all seams, verifying that precise match has been achieved, and correcting mismatch of color and/or pattern as necessary to secure approval of installation by the Owner.

END OF SECTION

SECTION 10300
VINYL COATED WIRE SHELVES

SUMMARY:

Provide vinyl coated wire shelves where shown on the drawings, as specified herein, and as required for complete and proper installation.

Documents affecting work of this section include, but are not limited to, General Conditions, Supplementary Conditions, Drawings, and these Technical Specifications.

QUALITY ASSURANCE:

Use an adequate number of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and methods needed for proper performance of the work of this Section.

SUBMITTALS:

Submit product data within 15 days of award of contract to the contractor.

Submit product data and material list of items to be provided under this Section. Supply sufficient technical data to demonstrate compliance with the specified requirements.

Manufacturers recommended installation procedures which, when approved by the Owner, will become the basis for accepting or rejecting actual installation procedures used on the work.

Provide 2' length sample shelf showing color, pattern, and specified grade for Owner approval.

DELIVERY, STORAGE, AND HANDLING:

Comply with pertinent provision of the General Requirements.

VINYL COATED SHELVES
10300-1

MATERIAL:

Provide vinyl-coated, steel rod, ventilated shelving system, fabricated from heavy gage, cold-drawn steel rod, resistance welded at intersections and coated with polyvinylfluoride coating. Space rods on 1" increments and trim cross-deck rods to longitudinal rods.

ACCEPTABLE MANUFACTURERS:

Shelving system shall be manufactured by:

- 1.) Organized Living Corp., Cincinnati, OH. 800-669-3225
Model: Shelf Tech 0.243" dia. steel rod (not including coating)
- 2.) Owner approved equal.

OTHER MATERIALS:

Provide Organized Living support, brackets, pole supports, clips, end caps, and all other items which may be necessary for complete and proper installation. Installation shall be in accordance with Organized Living guidelines.

EXECUTION:

Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper condition of the work. Do not proceed until unsatisfactory conditions are corrected.

Install wall mounted shelving system in accordance the manufacturers recommended installation procedures.

Use fasteners which are appropriate to substrate as recommended by the manufacturer of the approved shelving system.

Install units plumb, level, and anchored to wall studs and interior wall blocking.

In addition to complying with the manufacturers recommended installation procedure, install interior wood 2 x 4 ledger on top of wallboard at back and at both ends of shelf, as shown on the drawings. Paint ledger to match wall. Ledger shall be secured to studs.

VINYL COATED SHELVES
10300-2

A 1x4 shall be mounted vertically to match location of center support. Bottom of center support shall be mounted on top of vertical 1x4. Install shelf support brackets as shown on the drawings. Firmly attach brackets to wall ledger. Ledger shall be secured to studs. Shelf shall rest upon ledger at rear and sides of shelf.

At completion of installation, visually inspect to verify that installed unit is secure, level, plumb, undamaged and all accessories are installed.

Promptly remove and replace, or re-install any unit improperly installed, damaged during transit, or installation to the approval of the Owner.

END OF SECTION

**VINYL COATED SHELVES
10300-3**

SECTION 12390 KITCHEN CABINETS

SUMMARY:

Provide kitchen wall and base cabinets and all necessary accessories, where shown on the drawings, as specified herein, and as needed for a complete and proper installation.

Documents affecting work of this section include, but are not necessarily limited to, General Condition, Supplementary Conditions, Drawings, and these specifications.

SUBMITTALS:

Comply with the pertinent provisions of the General Requirements.

Submit product data within 15 days of award of contract to the contractor.

Submit product data and material list of items to be provided under this section. Supply sufficient technical data to demonstrate compliance with the specified requirements.

Provide manufacturer's recommended installation procedures which, when approved by the Owner, will be incorporated into these Specifications and contact documents.

Provide technical data to enable interface with the Work of this Section and work of Plumbing and Electrical Trades.

Provide sample of each item proposed for use under this section. Provide cabinet sample (with drawer system), for color, and specified grade.

QUALITY ASSURANCE:

Use adequate number of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and methods needed for the proper performance of work covered under this section.

Provide "Certified Cabinet" seal of the National Kitchen Cabinet Association (NKCA) affixed to each unit in a semi-concealed location. Comply with ANSI A161.1 for Kitchen Cabinet Standards.

KITCHEN CABINETS 12390-1

DELIVERY, STORAGE, AND HANDLING:

Comply with pertinent provisions of the General Requirements.

MATERIALS:

Comply with ANSI A156.9 as applicable to the work indicated.

Provide style and finish of cabinet hardware with is cabinet manufacturer's standard for the required cabinet style and finish.

All kitchen cabinets shall be tested, certified and display the label of the seal of the National Kitchen Cabinet Association (NKCA) or the Southern California Association of Cabinet Manufacturer's Association in accordance with 25 CFR 200.935. Label shall indicate that the product meets the HUD CSP severe specifications.

SIZES, SHAPES, AND TYPES:

Provide the sizes and types of units shown, complete with drawers, door shelves, compartments for appliances, fixtures, hardware, and special features as indicated.

Except as otherwise indicated, base cabinets shall be nominal 24" depth X 36" height of finished countertop.

Except as otherwise indicated, wall units shall be nominal 12" depth.

All cabinets shall be shipped pre-assembled and with "side skins" already installed on cabinets.

MANUFACTURER:

Cretone Kitchens – Metro HUD

Arbor Creek Cabinetry – Framed All Wood

Smart Cabinetry – Chateau series with Ultimate Construction option

Kitchen cabinets shall contain materials that comply with the following:

- 1.) Pressure treated lumber shall comply with AWPB standard LP-2.
- 2.) Plywood shall comply with ANSI/HPMA HP 1983 and PSI I-83.
- 3.) Plastic Laminate shall comply with NEMA LD-3.

**KITCHEN CABINETS
12390-2**

FABRICATION:

CABINET HARDWARE: Comply with the finishing requirement of ANSI/BHMA A156.9-1982.

WALL AND BASE CABINETS: Shall be of the same construction, outside appearance shall be the same and must have face frames. Cabinets shall be constructed of solid lumber with wood veneer core. All part in contact with the floor must be of pressure treated solid lumber. Base cabinets as necessary to product sturdy and rigid construction. Only first quality methods, materials, and workmanship will be accepted.

DOORS AND DOOR FRONTS: $\frac{3}{4}$ " thick solid grooved door of plantation hardwood or maple. Double step rolled edge on inner and outer door profile. Doors shall be half overlay style.

FACE FRAMES: Members shall be $\frac{3}{4}$ " kiln dried solid hardwood. Frames are to be drilled, sufficiently glued, and stapled under pressure. Stiles and rails shall be $1\frac{3}{4}$ " wide, mullions shall be $3\frac{1}{2}$ " wide, and blind corners are to have $6\frac{1}{2}$ " mullions. All end panels are to be dadoed to receive end panels, tops and/or bottoms.

NOTE: CENTER STILES AND FLOORS SHALL BE DELETED ON ALL SINK BASE CABINETS.

END PANELS: End panels shall be $\frac{1}{2}$ " thick, exterior grade veneer core plywood, with poplar veneer on exterior and exterior sides of the cabinet. End panels shall be dadoed to receive shelves. All end panels are to be dadoed $\frac{1}{4}$ " deep for tops and bottoms, or floors. End panels must be attached to with an adequate amount of glue and mechanical fasteners. Base and end panels are to be supported with $\frac{3}{4}$ " thick X $4\frac{1}{2}$ " pressure treated solid pine.

SHELVES: Shelves shall be $\frac{1}{2}$ " thick, exterior grade, veneer pine plywood. All shelves are to be edge banded, with wood veneer bonding.

TOPS AND BOTTOMS: Wall cabinet tops and bottoms and base cabinet floors shall be $\frac{1}{2}$ " exterior grade, veneer core pine plywood, dadoed into the end panels. Base cabinets are to be supported with solid lumber, at 24inches on center, running from front to rear of the cabinet. **NOTE: CENTER STILE AND FLOOR SHALL BE DELETED ON ALL SINK BASE CABINETS.**

BACKS: Backs are to be 1/4", exterior grade, veneer core pine plywood, glued and stapled to the end panels and the 3 1/2" cleats. Back shall be inset into the end panels to provide a "flush" fit.

INSTALLATION CLEATS: Cleats shall be 3/4" X 3 1/2" SAS, kiln dried solid lumber, running the entire length of the cabinet at the top, bottom, and floor location of each cabinet. All cleats are to be paper laminated to match the natural color of the interior.

DRAWERS: Drawer fronts shall be 3/4" thick solid hardwood, to match door fronts. The four-sided drawer box shall be made with minimum 5/8" solid wood. The drawer box sides shall be mortised and tenoned into the front and back, sufficiently glued, and stapled at all four corners. The drawer front shall be attached to the box using concealed mechanical fasteners. The drawer bottom is to be constructed with 1/4" thick exterior grade pine plywood. The drawer shall be mounted on 75 lb. Steel, slide mounted, flip lock, drawer guides.

HINGES: Concealed hinges shall be used.

CABINET FINISH: All doors, frames, and drawer fronts shall be finished using a factory applied finish. All cabinets shall be fully assembled and stained at the factory. The finish shall consist of stain; two sealer coats and one finish coat. Each sealer coat is to be oven dried and hand sanded. The finish coat shall also be oven dried to provide a durable finish that protects the wood from most house-hold stains, scuffs and acids typically exposed to kitchen areas. All interior parts of the cabinet; floors, shelves, tops, bottoms, end panels, backs, and drawer parts; shall be finished "Natural" to match the interior. Exposed end panels shall be finished to match the face frame, door, and drawer front, using three coats of clean ultraviolet cured material.

CONFIGURATION: The contractor shall remove all existing wall and base cabinets, plastic laminate backsplash, countertop, sink and plumbing fixtures, and replace with new material designated on the Drawings and in accordance with these Specifications. Match the kitchen cabinet and countertop configuration in each apartment for layout and dimensions as shown on the drawings. Field verify all dimension, layout and conditions, for each individual apartment, prior to fabrication of cabinets. Submit shop drawings for kitchen layout for Owner approval, prior to commencement of work or purchase of material. Do not proceed until Owner approval is granted. Opposite hand layouts exist.

KITCHEN CABINETS

12390-4

OTHER MATERIALS:

Provide all other material, not specifically described but required for a complete and proper installation, subject to Owner approval.

INSTALLATION:

Examine all areas and conditions under which work of this section will be performed. Promptly correct all conditions detrimental to timely and proper completion of the work. Do not proceed until all unsatisfactory conditions are corrected.

Coordinate as required with other trades to ensure proper and adequate provision in work of these trades for interface of the Work of this section.

Install the work of this Section in strict accordance with original design, the approved Shop Drawings, pertinent requirement of governmental agencies having jurisdiction, these Specifications, and the manufacturer's recommended installation procedures as approved by the Owner, anchoring all components firmly into position for long life under hard use.

Install cabinets plumb, level and true to line.

Visually inspect all exposed surfaces and touch-up minor scratches and/or abrasions to be visible to the unaided eye from a distance of two feet.

Promptly remove and replace any material which the owner may have determined to be installed incorrectly, is damaged or contains obvious scratches, dents, dings, or abrasions that the Owner has determined is beyond repair.

Promptly remove from the job site all cartons and packing material associated with the Work of this Section.

Clean cabinets and drawers on inside and outside, and top of wall cabinets, free from dirt, dust, saw dust and all other debris following installation.

END OF SECTION

**KITCHEN CABINETS
12390-5**

SECTION 15400 PLUMBING

SUMMARY:

Work included under this Section includes removal and proper replacement of the plumbing system for hot and cold water distribution, vents, waste lines and main sewer lines, plumbing fixtures and trim, all other associated existing plumbing items; and gas line alterations indicated on the drawings or described in these specifications, plus all other plumbing items required for a complete and proper installation.

QUALITY ASSURANCE:

Use sufficient journeyman plumbers and competent supervisor in execution of this portion of the Work to ensure proper and adequate installation throughout. In the acceptance or rejection of the installed plumbing, no allowance will be made for lack of skill on part of the workmen.

All plumbing installation and materials shall be in strict compliance with the Latest Edition of BOCA Plumbing Code and all Local, State and Federal agencies having jurisdiction.

SUBMITTALS:

Comply with the pertinent provisions of the General Requirements.

Submit product data with 15 days of award of the contract to the contractor.

Upon completion of this portion of work, and as a condition of its acceptance, compile and submit manuals of operation and maintenance procedures for all products being used.

Submit product data and material list of items to be provided under this section. Supply sufficient technical data to demonstrate compliance with the specified requirements.

PRODUCT HANDLING:

Protection: Use all means necessary to protect the materials of this Section before, during, and after installation and protect the work and materials of all other trades.

Replacements: In the event of damage, immediately make all repairs and replacements necessary to the approval of the Owner and at no additional cost to the Owner.

PIPE:

Soil, Waste, and Vents in Building: Except for fixture connections, all pipe and fittings shall be schedule 40 ABS/PVC, DWV piping, ASTM-D2661-73/D2265-72. Exterior underground lines shall be SDR-35.

Domestic Water Distribution Piping: all hot and cold water piping, unless otherwise shown on the Drawings, shall be copper type and fittings capable of operating at 100 psi at a temperature of 180 degrees F.: with soldered watertight fittings, of wrought copper hard-drawn tubing shall be used throughout. No PEX, Pro-press, shark bites, crimp or compression fittings, etc. shall be accepted.

Underground water supply piping shall have a minimum working pressure of 160 psi at 73.4 degrees F.

All copper piping shall be Type "L". ASTM-B-76.

Gas Piping: Shall be standard weight steel with malleable iron fittings in accordance with Gas Company Specification of the Gas Company having jurisdiction. Provide capped drip pockets at all low points.

PIPE SLEEVES AND ESCUTCHEONS:

Provide chrome-plated escutcheons on all water and waste line penetrations in walls, floors, ceilings, and cabinets, sized to suit pipe diameter. Seal voids around pip using specified sealant prior to installing escutcheons.

FIXTURES AND EQUIPMENT:

Provide fixtures and equipment equal or exceeding the quality of the manufacturer and model numbers shown on the Drawings, or specified herein. Provide fixtures and equipment complete with all required stops, supplies backing, drain, trim and all other items or accessories required for a complete and proper installation. Fixture and equipment colors shall be as selected by the Owner.

PIPE INSULATION:

Use ½" walled closed cell foam type pipe insulation as required. Install to all new above grade and crawl space hot and cold water copper lines.

CLEANOUTS:

Zurn #2-1400-2 or Owner approved equal.

UNIONS:

Install adjacent to all equipment, special valves or wherever their presence will facilitate the removal of equipment or fixtures.

VALVES:

Provide an assembly located ball valve in each hot and cold water branch connection, and at all other points as specified or required for proper installation, operation or maintenance. Include ball valves at each plumbing fixture.

Working pressure and manufacturer's name shall be cast on each valve body.

Except as noted all valves shall be Crane, Jenkins, Fairbanks, Kennedy, Nibco-Scott, Lunkenheimer, or Stockham.

Valves in copper tubing lines shall be bronze, screwed bonnet, ball valves.

DIELECTRIC COUPLINGS:

Furnish and install insulating couplings at all interconnections between piping systems of dissimilar materials, and all connections of piping systems to equipment where piping and equipment are of dissimilar metals. Couplings shall be specifically designed for the purpose of electrically isolating pipe lines from other piping systems and/or equipment. Couplings shall be manufactured by Epco Sales, Inc. or Owner approved equal.

EXECUTION:

Surface Conditions: Examine all areas and conditions under which work of this Section will be performed. Promptly correct all conditions detrimental to timely and proper completion of the work. Do not proceed until all unsatisfactory conditions are corrected.

Inspection: All plumbing work installed underground within the contract limits on site and inside all buildings, shall be inspected and approved in writing (at final completion and prior to covering pipe), by a certified "BOCA" Plumbing Inspector and the City of Bethlehem Plumbing Inspector.

Contractor must provide proof of certification of inspector being used for inspection at the pre-construction conference.

All costs for the services by the inspector shall be the responsibility of the General Contractor.

Plumbing System Layout: Lay out the plumbing system in careful coordination with the Drawings and Specifications, determining the proper elevations for all components of system and using only a minimum number of bends to produce a satisfactorily functioning system. Follow the general layout shown on the Drawings in all cases except where other work may interfere or, otherwise directed by the Owner or governmental agencies having jurisdiction. Lay all pipe to call within partition, walls, or roof cavities, and to not require furring other than shown on the Drawings.

Consult with Owner in field for exact location of fixtures and lines.

Installation: Do not cut into or reduce the size of any load-carrying member without the prior approval of the Owner. Install all pipes to clear all beams and obstructions and in accordance with the following:

- 1.) Install all piping promptly, capping or plugging open ends.
- 2.) Provide traps and cleanouts on all waste lines, at each plumbing fixture, at each washer drain line and each floor drain.
- 3.) Install all piping generally level and plumb, free from traps, and in a manner to conserve space for other work.
- 4.) Cushion all traps and bearings to minimize transfer of sound.
- 5.) Provide complete isolation of all dissimilar metals, and firmly anchor all pipes into position.

PLUMBING
15400-4

- 6.) Provide uniform pitch of at least $\frac{1}{4}$ " per foot for all horizontal waste and soil piping within the building.
- 7.) Pitch all vents for proper drainage. Install vent piping with each bend 45 degrees minimum from the horizontal wherever structural conditions permit.
- 8.) Provide air chambers at all fixtures; 16" minimum length and same diameter as the branch.
- 9.) Conceal all piping unless otherwise shown on the Drawings.
- 10.) Inspect each piece of pipe, couplings, fittings, and equipment for defects and obstructions. Promptly remove all defective materials from the site.
- 11.) Where holes for piping are bored in wood framing members, the edge of the hole shall be a minimum of $1\frac{1}{4}$ " from the nearest edge of the framing member. Where this is not possible, steel "nail plates" shall be installed to protect the piping from penetration by nails or screws. Steel nail plates shall be a minimum of $\frac{1}{16}$ " thick and of adequate length and width to totally cover and protect the pipe.
- 12.) Where a recess is provided in concrete slab for connection of an underground trap, such as at tub/shower units, recessed area shall have sides and bottom of corrosion resistant, insect and vermin proof.

JOINTS AND CONNECTIONS:

Properly cut and ream all pipes. Cut all threads straight and true. Apply best quality

Teflon tape to male pipe threads but not to inside of fittings. Use graphite on all cleanout plugs.

Make all joints in copper tubing with 95-5 tin antimony solder, applied in strict accordance with the manufacturer's recommendations.

SUPPORTING:

Use a separate hanger for each branch. Support vertical risers at the floor with extension pipe clamps approved by the Owner. Wherever insulated pipe is supported by ring hangers, the rings shall pass freely around the insulation. Protect the insulation at point of contact with saddles approved by the Owner.

SPACING:

Do not exceed the following spacing, on centers:

<u>TYPE OF PIPE</u>	<u>SPACING</u>
1.) PVC	Four Feet (4')
2.) Copper	Six Feet (6')

CLOSING IN UNFINISHED WORK:

Do not cover up or enclose work until it has been properly and completely inspected and approved. Should any work be covered up or enclosed prior to all required inspections and approvals, uncover work as required and, after it has been completely inspected and approved, make all repairs and replacements with such materials and workmanship as necessary to the approval of the Owner and at no additional cost to the Owner.

TESTING:

Furnish all test pumps, gauges, equipment and personnel required to test as necessary to demonstrate the integrity of the finished installation to the approval of the Owner and all other pertinent authorities have jurisdiction.

Soil and Waste: Plug all openings and air test at gauge pressure of 5 psi. Retain pressure for one (1) hour; repair all faulty joints and retest.

Water Lines: Air test and make tight at 150 psi water gauge. Retain pressure for four (4) hours; repair all leaking joints as directed; and retest.

Valves: Test all valve bonnets for tightness. Test operate all valves at least once from closed-to-open to closed-positions while valve is under pressure. Test all automatic valves for proper operation at the settings indicated. Test pressure relief valves at least three (3) times.

Other Tests: Test all piping specialties for proper operation. Test all air vent points to ensure that air has been vented.

END OF SECTION

PLUMBING
15400-7

SECTION 16000 BASIC ELECTRICAL REQUIREMENTS

SUMMARY:

This Section includes general administrative and procedural requirements for electrical installations. The following administrative and procedural requirements are included in this Section to expand the General Requirements already specified:

1. Submittals.
2. Maintenance manuals.
3. Rough-ins.
4. Electrical installations.
5. Cutting and patching.

Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, Drawings, and these specifications.

SUBMITTALS:

Follow the procedures set forth in the General Requirements.

Submit two (2) copies of related electrical shop drawings, product data, and technical information.

MAINTENANCE MANUALS:

Prepare maintenance manuals in accordance with the General Requirements. In addition include 3 copies of the following information for equipment items:

1. Description of function, normal operating characteristics and limitations, performance curves, engineering data and tests, and complete nomenclature and commercial numbers of replacement parts for all electrical equipment scheduled to be installed.
1. Manufacturer's printed operating procedures to include start-up, break-in, and routine and normal operating instructions: regulation, control, stopping, shutdown, and emergency instructions; and summer and winter operating instructions.
2. Maintenance procedures for routine preventative maintenance and trouble-shooting; disassembly, repair and reassemble; aligning and adjusting instruction.

DELIVERY, STORAGE AND HANDLING:

Deliver product to the project properly identified with names, model numbers, types, grades, compliance labels, and other information needed for identification.

Store products and material in a secure, dry location; and protect from damage or weather.

ROUGH-IN:

Verify final locations for rough-ins with field measurements and the requirements of the actual equipment or material being connected.

Refer to any and all equipment specifications, which may be contained in other Sections of these specifications or on the Drawings, for additional rough-in requirements.

ELECTRICAL INSTALLATIONS:

Sequence, coordinate, and integrate the various elements of electrical systems, materials and equipment. Comply with the following requirements:

1. Coordinate electrical systems, equipment, and materials installation with other building components.
2. Sequence, coordinate, and integrate installations of electrical materials and equipment for efficient flow of the work.
3. Verify all dimensions by field measurements.
4. Where mounting heights of exact rough-in dimensions are not detailed, install system, material, and equipment as directed by the Owner and to provide the maximum head room possible.
5. Install system, material and equipment to conform with approved submittal data and drawing to the greatest extent possible. Conform to arrangements indicated by the contract documents, recognizing that portions of the work are shown only in diagrammatic form. If coordination requirements would conflict with individual system requirements, refer conflicts to the Owner.

6. Install systems, material, and equipment level and plumb, parallel and perpendicular to other building systems and components, where installed in exposed finished spaces.
7. Install electrical equipment to facilitate servicing, maintenance, and repair or replacement of equipment or equipment components. As much as practical, connect equipment for ease of disconnecting, with minimum of interference with other installations. Consult with Owner in field for exact fixture locations.
8. Install systems, material, and equipment giving right-of-way priority to systems required to be installed at a specific slope.
9. Electrical Contractor shall seal all penetrations in fire-rated assemblies, and crawl space walls with approved fire-rated foam or sealant.

CUTTING AND PATCHING:

Perform cutting and patching in accordance with the following requirements:

1. Uncover work to provide for installation of ill-timed work.
2. Remove and replace defective work.
3. Remove and replace work not conforming to the requirements of the contract documents.
4. Install equipment and materials in existing and/or new structures.
5. Upon written instructions from the Owner, uncover and restore work to provide for Owner observation of concealed work.
6. Remove samples of installed work as specified for testing.

Cut, remove and legally dispose of selected electrical equipment, components, and materials as indicated, including but not limited to removal of electrical items indicated to be removed and items made obsolete by new work.

Protect the structure, furnishings, finishes, and adjacent materials not indicated or scheduled to be removed.

BASIC ELECTRICAL REQUIREMENTS

16000-3

Provide temporary partitions or dust barriers adequate to prevent the spread of dust and dirt to the adjacent areas.

Protect adjacent installations of equipment and materials during cutting and patching operations.

Patch existing finished surfaces and building components using the materials matching existing materials using experienced workmen qualified in using the methods and material for the type of surface or building component being patched.

Patch finished surfaces and building components using new material specified for the original installation and using experienced workmen.

PROJECT CONDITIONS:

In addition to Section 02210, the following project conditions apply in conditions affecting Selective Demolition in existing buildings:

1. Protect adjacent materials indicated to remain. Install and maintain dust and noise barriers to keep dirt dust, and noise from being transmitted to adjacent occupied areas. Remove protection and barriers when demolition is complete, or as otherwise directed by the Owner.

END OF SECTION

**BASIC ELECTRIC REQUIREMENTS
16000-4**

SECTION 16200 ELECTRICAL

SUMMARY:

Work of this Section includes, but may not be limited to, all electrical work necessary to properly complete the work as indicated on the Drawings and in these specifications.

1. Removal and replacement of all existing switches, outlets and light fixtures.
2. Provide new branch circuits and light fixtures in the living room and bedrooms so the light switches operate the new fixtures. Currently the switches control switched outlets. See Electrical drawings.
3. Installation of new coax cable and CAT5 cable as shown on the Electrical drawings.

Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, Drawings, and these specifications.

QUALITY ASSURANCE:

For actual fabrication, installation and testing of the work of this Section, use only thoroughly trained and experienced workmen completely familiar with the items required and with the manufacturer's recommended methods of installation. In acceptance or rejection of installed work, no allowance will be made for lack of skill on the part of the workmen.

In addition to complying with all pertinent codes and regulations also comply with:

1. National Electrical Code, latest edition.
2. Local utility company regulations.
3. All Local, State and Federal Agencies having jurisdiction.

SUBMITTALS:

Comply with pertinent provisions of the General Requirements.

Submit the following information and product data within 15 days of award of contract to the Contractor.

1. Complete materials list of all items proposed to be furnished and installed under this Section.
2. Manufacturer's Specifications and catalog cuts as required to demonstrate compliance with specified requirements.
3. Manufacturer's recommended installation procedures which, when approved by the Owner, will become one of the means for inspecting and accepting or rejecting mutual installation procedures used on the work.

RECORD OF DRAWINGS:

During progress of work and as a condition of acceptance, compile a manual of all work completed. Upon completion of the project, deliver to the Owner, maintenance manuals and operating instructions for all equipment installed. Provide as-built drawings for any field changes authorized during the performance of work under this section.

PRODUCT HANDLING:

Protection: Use all means necessary to properly protect the materials of this Section before, during, and after installation and to protect the work and materials of other trades.

Replacement: In the event of damage, immediately make all repairs and replacements at no additional cost to the Owner and to the approval of the Owner.

UTILITY COSTS:

Any additional charges for installation of the new electrical service by the local utility company shall be the responsibility of the Contractor.

Identification of components: Identify all components by means of a neatly stenciled label or etched micra labels.

Properly identify all circuits on inside of new panel box door.

Wiring devices: All duplex receptacles shall be 3-pole grounding type, with the third pole wired to the grounding system and shall be as follows:

20 amp – Bryant No. 5362-I or approved equal.

Cover plates shall be metal plates: color: ivory, or as approved by the owner in advance.

All tumbler switches shall be 15 amp, Type 120/277VAC, and shall be the following:

	<u>Single Pole:</u>	<u>3-way</u>
Bryant or approved equal	841-I	843-I

All ground fault receptacles shall be duplex type, 20 amp, 125 Volt AC, Bryant #GRF53, FTI or approved equal. Cover plate color: as approved by the Owner in advance.

RACEWAYS AND FITTINGS:

All outlets, junction boxes and switch boxes shall be galvanized, code-gauge metal or plastic boxes or as required by local codes.

Pull boxes shall be plastic, of sizes and shape to accommodate wires without crowding and to suit the location.

Provide sleeves and chases where conduits pass through floors and walls.

CONDUCTORS:

Wire and cable shall be 600V insulated NEC standard TW, RHW or XHHW or as local codes otherwise require. Use 12 gauge wire.

Branch circuit conductors within 3" of a ballast within the ballast compartment shall have 90 degree C. (194 degrees F.) insulation or better.

ELECTRICAL
16200-3

LIGHTING FIXTURES:

General: All lighting fixtures shall be complete with all required accessories, canopies, casing, sockets, holders, reflector and other items required for complete and proper installation and shall be complete wired and assembled.

Ballasts: Ballasts for all fluorescent light fixtures (if required), unless otherwise specified, shall be one of the high-power-factor class P type and their design and construction shall conform to CBM-ETL label. Ballasts shall be equipped with a dual protection system consisting of non-resetting protector in the power capacitor and a UL approved protector adjacent to the coil.

Lighting fixtures shall be installed as shown on the Drawings and be of the type and quality listed on the Electrical Fixture Schedule or Owner approved equal.

EXECUTION:

Examine the areas and conditions under which work of this Section will be installed. Correct detrimental conditions to ensure the proper and timely completion of the work involved. Do not proceed with work until all unsatisfactory conditions have been corrected.

All electrical work installed underground within the contract limits on site and inside all buildings shall be inspected and approved in writing, prior to cover-up, and at its final completion by an "I.A.E.I." certified electric inspector. Inspectors must provide proof of certification.

All costs for the service provided by the electrical inspector shall be the responsibility of the General Contractor.

Coordinate installation of all electrical work with all other ongoing or proposed work for this contract.

Where lighting fixtures, and/or other electrical system components or equipment, are shown in conflict with locations of structural members and mechanical or other equipment, provide all required supports and wiring to clear the encroachment.

The data indicated on the drawings are for diagrammatic purposed only, the absolute accuracy is not guaranteed. Exact locations, distances, levels and other conditions will be governed by the building and Owner direction. Use the drawings and these specifications for guidance and secure the Owner's approval of all changes in location.

Field verify all measurements, locations, and/or elevations at the site. No extra compensation will be made to the contractor because of the differences between locations shown on the drawings and measurements at the building.

Run branch circuits and/or home runs for maximum economy consistent with the sizes for voltage drop and other considerations.

Install conduit, if required, for all wiring and where indicated on the drawings. Keep conduit at least 6' away from the covering on hot water pipes.

Keep ends of conduit closed with approved conduit seals during the construction of the building. Use conduit unions where union joints are required. Do not use running threads.

Where conduit is installed in concrete slabs, on the ground, underground, or exposed to the weather, make all joints liquid tight and gas tight. Bury all underground conduit to a depth of 2' – 0" below finish grade unless otherwise shown on the drawings.

Provide all final connections to power equipment, kitchen equipment, motors, HVAC equipment, light fixtures, switches, equipment control wiring, and/or all other equipment involved with this contract or being provided by others.

Unless otherwise indicated on the drawings, all wires for branch circuits shall be number 12, TW, protected by 20 amp circuit breakers. Install larger wires, as indicated on the drawings, or as necessary to limit voltage drop.

Where size of wire is not indicated on the drawing, install No. 12 wire unless individual circumstances require different size wiring and upon approval of the Electrical Inspector of the City of Bethlehem and the Owner.

ELECTRICAL
16200-5

Where holes for wiring or conduit are bored into wood framing members, the edge of the hole shall be a minimum of 1 ¼" from the nearest edge of the framing member. Where this is not possible, steel plates shall be installed to protect the wiring or conduit from penetration by nails or screws. Steel plates shall be a minimum of 1/16" thick and of adequate length and width to totally cover the wiring or conduit.

Use identified (white) neutrals and color-coded insulated phase wires for all branch circuit wiring.

Make all splices electrically and mechanically secure with pressure type connectors or soldering. Insulate and tape all splices in accordance with governing codes.

The drawings indicate the general direction of home runs. Continue all such home runs to the panel box as though the routes were completely indicated.

Install all lighting fixtures complete and ready for services, in accordance with the drawings and Owner direction.

Wire all fixtures with fixture wiring at least 150 degrees C-rating. Conductors in wiring channels of fixtures mounted in rows shall be the same size as circuit wiring supplying the rows.

Install all fluorescent fixtures straight, square, and true with reference to adjacent walls.

Install all lighting fixtures, including those mounted in continuous rows, so that the weight of the fixture is supported either directly or indirectly by a sound and safe structural member of the building, using adequate number and type of fasteners to ensure safe installation. Screwed fastenings and toggles through ceiling or wall material are not acceptable.

Provide all lamps as required for each lighting fixture installed.

Label panel directory with permanent ink on the inside of each panel door. On the director, show the circuit number and a complete description of all outlets on each circuit.

TESTING:

Upon completion of work of this Section, test all parts of the electrical system in the presence of the Owner. Demonstrate that all equipment furnished, installed, and/or connected under this Section of these Specifications functions electrically and as required by the National Electrical Code.

All systems shall test free from short circuits and grounds, shall be free from mechanical and electric defects, and shall show an insulation resistance between phase conductors and ground of not less than that required by the National Electric Code.

Test all circuits for proper neutral connections.

END OF SECTION

**ELECTRICAL
16200-7**