

B. Test/Inspection

1. Project name and number.
2. Project location.
3. Product and specification section applicable.
4. Type of test/inspection.
5. Name of testing agency.
6. Name of testing/inspecting personnel.
7. Date of test/inspection.
8. Record of field conditions encountered (temperature, weather).
9. Observations regarding compliance.
10. Test method used.
11. Results of test.
12. Date of report.
13. Signature of testing/inspecting personnel.

- C. Invoices for testing shall be submitted to the Architect along with a copy of each test performed. The Architect shall review and approve the tests and invoices prior to distributing them to the Owner for payment.

3.03 INDEPENDENT TESTING AGENCY DUTIES AND LIMITATIONS OF AUTHORITY

- A. Cooperation with Architect, General Contractor, AHJ inspector, and subcontractors. Provide qualified personnel promptly on notice.
- B. Promptly notify Architect and Contractor of irregularities, or deficiencies of work which are observed during performance of services.
- C. Testing agency is not authorized to:
1. Release, revoke, alter, or expand on requirements of Contract Documents.
 2. Approve or accept any portion of the work.
 3. Perform any duties of the Contractor.

3.04 CONTRACTOR'S DUTIES WHEN INDEPENDENT TESTING AGENCIES ARE USED.

- A. Cooperate with testing agency personnel; provide access to the work and to manufacturer's operations, schedule and coordinate testing with the testing agency.
- B. Provide preliminary representative samples of materials to be tested, in required quantities.
- C. Furnish copies of mill test reports.
- D. Furnish labor and facilities:
 - 1. To provide access to work to be tested.
 - 2. To obtain and handle samples at site.
 - 3. To facilitate inspections and tests.
 - 4. Storage and curing facilities for testing agency's exclusive use.

END OF SECTION

SECTION 01 5000 - TEMPORARY FACILITIES

PART 1 - GENERAL

1.01 DESCRIPTION

A. General:

1. Furnish all labor, materials, tools, equipment, and services for all temporary facilities and their subsequent removal as indicated, in accord with provisions of Contract Documents.
2. Completely coordinate with work of all other trades.
3. Although such work is not specifically indicated, furnish and install all supplementary or miscellaneous items, appurtenances and devices incidental to or necessary for a sound, secure and complete installation.
4. See Division 1 for General Requirements.

1.02 COLD WEATHER PROTECTION

- A. Provide all heating during construction period, prior to enclosure of building as required to perform work.

1.03 TEMPORARY HEATING OR COOLING

- A. Have heating or air conditioning system in readiness for furnishing temporary heat or cooling at time building is enclosed.
1. Building is considered enclosed when it has protection at doorways, windows, and other openings which will provide reasonable retention of heat or cooling.
 2. Make all temporary electrical connections and disconnect temporary connections at completion of temporary heating or cooling period.
 3. Operate system, furnishing necessary labor and supervision.
 4. Maintain temperature of spaces where concrete is being placed or cured at not less than 50 degF or more than 95 degF.
 5. Maintain interior temperature of not less than 70 degF nor more than 85 degF for at least 7 days prior to and during placement of interior finishes, and after finishing until substantial completion.
- B. General Contractor shall pay for all fuel or energy used for temporary heat or air conditioning.

- C. Extend warranty or guarantee period on permanent systems used during construction period to commence on date of substantial completion.
- D. Use heating and air conditioning devices complying with codes and ordinances.

1.04 TEMPORARY ELECTRICITY

- A. Contractor shall establish temporary power source at the existing building. Arrangements shall be made with San Bernardino County to be able to use the existing power for site power.
- B. Each contractor shall provide his own extension cords.
- C. Each contractor shall provide heavy duty electrical power, exceeding available power, required for his operations, and at his own expense.

1.05 TEMPORARY WATER

- A. Make all arrangements with San Bernardino County, install equipment, piping and outlets for an adequate supply of clean water for construction purposes.
 - 1. Contractor shall establish temporary water source at the existing building. Arrangements shall be made with San Bernardino County to be able to use the existing water for construction and domestic use.
- B. Contractor shall furnish potable drinking water for all those connected with the work.

1.06 TEMPORARY TOILETS

- A. Provide temporary toilet facilities for use of all workmen.
 - 1. Provide facilities complying with local, State, and Federal sanitary laws and regulations.
 - 2. Maintain in clean, sanitary condition.
 - 3. Provide adequate supplies of toilet paper.
 - 4. Contractor shall not utilize any of the toilet facilities located within the overall building or within the construction area at any time during construction.
 - 5. Contractor shall be responsible for replacement of any damaged fixtures, fittings, finishes, etc., due to misuse of the building facilities by any workmen, at no extra cost to the Owner.

1.07 FIELD OFFICES

- A. General Contractor, at his option, may provide a field office located in a space within the construction area. Telephone and computer service shall be established for use during construction. Provide layout table to allow for review of project drawings.
 - 1. Contractor shall provide mobile cellular phones as required.

1.08 TEMPORARY ENCLOSURES

- A. Furnish and install temporary enclosures, doors and transparent plastic windows required to protect building from damage due to vandalism, or the elements, or to maintain suitable temperature during installation or finish work.
- B. Provide all items required in connection with safety program.

1.09 TEMPORARY STORAGE AND WORKING AREAS

- A. Prior to start of work, General Contractor shall meet with all subcontractors to arrange and define working and storage areas.
 - 1. Except as specifically provided, working and storage areas shall be entirely within the property boundaries.
- B. Within area designated for his use, each contractor shall provide suitable and sufficient enclosed and covered spaces, with raised flooring, to protect materials and equipment from damage by weather or construction work.
 - 1. Maintain storage and working areas in clean and orderly condition.
 - 2. Upon completion of work, or sooner, if directed by Owner or Architect, remove temporary structures and leave area in clean and orderly condition.

1.10 PARKING

- A. Construction personnel may only park within the designated areas allocated by the Owner.
- B. Any personnel parking on other property, do so at their own risk and should be aware that their vehicles may be ticketed and/or towed at their own expense.

1.11 PROJECT SIGNS

- A. Post no other signs on site except those required by law.

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1.12 SECURITY

- A. Contractor shall be responsible for security of construction area.

END OF SECTION

NOT FOR BID

SECTION 01 6000 - MATERIAL & EQUIPMENT: DELIVERY, HANDLING & STORAGE

PART 1 - GENERAL

1.01 DESCRIPTION

A. General:

1. Furnish all labor, materials, tools, equipment, work, and services for delivery, receiving, storage and protection of material and equipment.
2. See technical sections for additional requirements.
3. Completely coordinate with work of other trades.
4. Although such work is not specifically indicated, furnish all supplementary or miscellaneous items, appurtenances and devices incidental to or necessary for a sound, secure and complete installation.

1.02 CODES AND CONSTRUCTION REQUIREMENTS

- A. Comply with applicable codes.
- B. Accomplish work to avoid damage to property.
- C. Clean debris from streets and walks.
- D. Provide fire protection.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION

3.01 PRODUCT DELIVERY

- A. By manufacturer's normal means.
- B. In original labeled containers.
- C. Where applicable, with U/L labeling on packages.
- D. Subcontractor responsible for acceptance at site.
- E. Schedule deliveries to avoid delaying work.
- F. Inspect items for damage upon delivery, reorder as required to avoid delays.

3.02 PRODUCT HANDLING AND STORAGE

- A. Use methods to avoid damage to item or structure.
- B. Protect weather fragile items from weather damage.
- C. Handle and store bulk aggregates to avoid contamination.
- D. Store to allow air circulation.
- E. Store only in authorized areas on site.
- F. When offsite storage is authorized, perform rehandling to move items to site at no added cost.
- G. Replace or repair damaged items.
- H. Protect installed items as required until acceptance of building.
- I. Uncrate, assemble, if required, and remove debris.

3.03 CLEANUP

- A. Remove excess materials from site.
- B. Turn over to Owner, excess materials scheduled to remain.
- C. Restore site storage areas as directed by Architect.

END OF SECTION

SECTION 01 7300 - CUTTING AND PATCHING

PART 1 - GENERAL

1.1 DESCRIPTION

A. General:

1. Furnish all labor, materials, tools, equipment and services for all cutting and patching as indicated, in accord with provisions of Contract Documents.
2. Completely coordinate with work of all other trades.
3. Although such work is not specifically indicated, furnish and install all supplementary or miscellaneous items, appurtenances and devices incidental to or necessary for a sound, secure and complete installation.
4. See other Division 1 sections for additional General Requirements.

1.2 DESCRIPTION

- A. Install work in such a manner and sequence as to preclude or minimize cutting and patching of new work.
- B. Execute cutting (including excavation) fitting or patching of work, required to:
1. Make several parts fit properly.
 2. Uncover work to provide for installation of ill-timed work
 3. Remove and replace defective work.
 4. Remove and replace non-conforming work.
 5. Remove samples of installed work for testing.
 6. Install specified work in existing construction.
- C. In addition to contract requirements, upon written instructions of Architect:
1. Uncover work to provide for Architect's observation of covered work in accord with Contract Documents.
 2. Remove samples of installed materials for testing in accord with Contract Document.
 3. Remove work to provide for alteration of work in place.

- D. Do not endanger any work or any work of other contractors, by cutting, excavating, or otherwise altering any work except with written consent of Architect.
- E. Unless indicated on drawings, do not cut into or cut away any structural concrete or other structural members, nor dig under any foundation or into walls or other parts, or in any case allow same to be done without full knowledge and written consent of Architect. Contractor shall be responsible for damage resulting from violation of these provisions.
- F. Use only firms or individual trades qualified to perform work required under this section.

1.3 JOB CONDITIONS

- A. Perform preliminary investigations as required to ascertain extent of work. Conditions which would be apparent by such investigation will not be allowed as cause for claims for extra costs.
- B. Before start of work, obtain and pay for all permits required by all authorities having jurisdiction and notify all interested utility companies.
- C. Obtain approval of authorities having jurisdiction for work which affects existing exitways, exit stairs, means of egress, or access to, or exit from, areas.
 - 1. Review with and obtain approval of authorities for any temporary construction which affects such areas.
 - 2. Obtain approval of fire authorities.

1.4 PAYMENT FOR COSTS

- A. Payment of costs caused by ill-timed or defective work, or work not conforming to Contract Documents, shall be by contractor responsible for ill-timed, rejected or non-conforming work.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. For patching of work provide matching items. Where applicable, comply with specifications for type of work to be done.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Inspect existing conditions of work, including elements subject to movement or damage during:
 - 1. Cutting and patching.
 - 2. Excavating and backfilling.
- B. After uncovering work, inspect conditions affecting installation of new products.

3.2 PREPARATION PRIOR TO CUTTING

- A. Provide shoring, bracing and support as required to maintain structural integrity of project.
- B. Provide protection for other portions of project which may be affected.
- C. Provide protection from elements when required.

3.3 CUTTING AND REMOVAL - GENERAL

- A. Execute fitting and adjustment to provide finished installation to comply with specified tolerances and finishes.
- B. Execute cutting by methods which will prevent damage to other work and will provide proper surfaces to receive installation of repairs to new work.
- C. Perform backfilling as specified in applicable sections.
- D. Neatly cut and remove materials, and prepare all openings to receive new work.
- E. Remove masonry or concrete in small sections.
- F. Provide shoring, bracing, and other supports to prevent movement, settlement or collapse of remaining or adjacent wall areas, structure, or facilities. Arrange shoring, bracing, and supports to prevent overloading of structure.
- G. Take all precautions necessary to prevent damage to existing remaining work or to adjacent facilities. Execute work using methods which will prevent interference with use of remaining and adjacent facilities by Owner.
- H. Remove existing work indicated to be removed, or as necessary for installation of new work.

3.4 CUTTING IN CONCRETE CONSTRUCTION

- A. Do not cut into nor core drill any beams, joists and/or columns.
- B. Do not install sleeves in beams, joists and columns without prior written approval of Architect. When written approval is obtained, comply with additional requirements and instructions of Architect.
- C. Where an opening larger than 10 in. in any dimension is required and is not shown on architectural or structural drawings, obtain prior written approval of Architect.
 - 1. When written approval is obtained, comply with additional requirements and instructions of Architect.
 - 2. At no additional cost to Owner, arrange for, provide, and pay for any additional reinforcing required around such openings.

3.5 MATCHING AND PATCHING

- A. Use methods and materials similar in appearance, and equal in quality to areas or surfaces being repaired.
- B. Methods, materials, and finished work are subject to review of Architect.
- C. Remove and replace areas, surfaces or items which cannot be satisfactorily matched and patched.
- D. Restore work which has been cut or removed; install new products to provide completed work in accord with requirements of Contract Documents. Patch work shall in every way possible match existing work and/or adjacent surfaces.
- E. Refinish entire continuous surfaces to nearest intersections or entire assemblies to provide an even finish.

3.6 CLEAN UP

- A. Remove all debris, rubbish, and materials resulting from cutting, demolition or patching operations.
- B. Transport materials and legally dispose of off site.

END OF SECTION

SECTION 01 7700 - PROJECT CLOSEOUT

PART 1 - GENERAL

1.01 DESCRIPTION

A. General

1. Furnish all labor, materials, tools, equipment, and services for project closeout as indicated, in accord with provisions of Contract Documents.
2. Completely coordinate with work of all other trades.
3. Although such work is not specifically indicated, furnish and install all supplementary or miscellaneous items, appurtenances and devices incidental to or necessary for a sound, secure and complete installation.
4. See General Conditions and Supplementary Conditions for additional general requirements.
5. See technical sections for specific submittal items.

1.02 SUBMITTALS

A. Project data:

1. For substantial completion:
 - a. List of all items to be completed or corrected.
 - b. Written notice of substantial completion.
 - c. Certificates of governing authorities.
 - d. Initialed punch list.
2. For final completion:
 - a. Written certification that work is complete.
 - b. Evidence of payments and release or waiver of liens. See Sect. 01 2900.
 - (1) Contractor's Affidavit of Payments of Debts and Claims: AIA G706.
 - (2) Contractor's Affidavit of Release of Liens, AIA G706A.

- (a) Contractor's release or waiver of liens.
 - (b) Separate releases or waivers of liens for subcontractors, suppliers, and others with lien rights against Owner, together with list of all such parties.
- c. Final application for payment (AIA G702 and G703). See Sect. 01 2900.
- d. Record drawings completed.
- e. Warranties and guarantees.
- f. All equipment operation manuals.
- g. All required reports and certifications that satisfy all required tests and inspections.
- h. Consent of Surety to Final Payment, AIA G707. See Sect. 01 2900.

1.03 FOR SUBSTANTIAL COMPLETION

- A. Obtain evidence of compliance with requirements of governing authorities.
 - 1. Certificates of inspection of:
 - a. Mechanical
 - b. Electrical
 - c. Plumbing
 - 2. Certificate of occupancy from AHJ.
- B. Submit written notice, including list of all items to be completed or corrected, which states that Project, or designated portion thereof, is substantially complete.
- C. Architect will, within reasonable period after notification, review the work and list of items to be completed or corrected, and revise or add to list if necessary.
- D. If Architect does not agree that work is substantially complete:
 - 1. He shall immediately notify Contractor in writing, stating reasons.

2. Contractor must substantially complete work and submit second written notice, including list of items to be completed or corrected, that Project, or designated portion thereof, is substantially complete.
 3. Architect will again review the work and list of items to be completed or corrected.
- E. If Architect agrees that work is substantially complete:
1. Architect will prepare punch list for project, or designated portion thereof, and will provide one copy each to Contractor and Owner.
 2. Architect will return revised list of items to be completed or corrected, and punch list to Contractor.
 3. Owner may occupy Project, or designated portion thereof, at this time, under provisions stated in Certificate of Substantial Completion.
- F. If Owner is going to occupy project, or designated portion thereof, Contractor must perform final cleaning of designated portion, prior to occupancy.
- G. Contractor shall complete work listed for completion or correction and all punch list items, within designated time, and return both lists with each item initialed and dated to indicate completion.

1.04 FOR FINAL COMPLETION

- A. Submit written certification that:
1. Contract Documents have been reviewed.
 2. Project 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 and are operational.
 5. Project is complete in every respect.
- B. Architect will make final "walk through" within thirty (30) days after receipt of certification.
- C. Contractor shall remedy any remaining deficiencies, and submit final closeout submittals.
- D. Should final completion be materially delayed through no fault of Contractor, Contractor may submit application for payment for portion of work on punch list which has been completed.

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- E. Provide all written warranties and guarantees per Section 01 7720, prior to Final Payment.
- F. Provide Record Drawings per Section 01 7839, prior to Final Payment.
- G. Provide all operational manuals for all equipment and/or systems. Such information is to be prepared and presented in an organized neat binder, prior to Final Payment.

END OF SECTION

SECTION 01 7710 - CLEANUP

PART 1 - GENERAL

1.01 DESCRIPTION:

A. General:

1. Furnish all labor, materials, tools, equipment, and services for cleaning up required in conjunction with work performed, as indicated or required, in conjunction with work performed, as indicated or required, in accord with provisions of Contract Documents.
2. Completely coordinate with work of all other trades.
3. Although such work is not specifically indicated, furnish and install all supplementary or miscellaneous items, appurtenances and devices incidental to or necessary for a sound, secure and complete installation.

1.02 FIRE PROTECTION

- A. Store volatile waste in covered metal containers.
- B. Remove from premises daily.

1.03 POLLUTION CONTROL

- A. Conduct clean-up and disposal operations to comply with local ordinances and anti-pollution laws.
- B. Do not bury or burn rubbish and waste on site.

PART 2 - PRODUCTS

2.01 CLEANING MATERIALS

- A. Use materials recommended by manufacturers of surfaces to be cleaned.
- B. Use cleaning materials only on surfaces recommended by cleaning material manufacturer.

PART 3 - EXECUTION

3.01 GENERAL

- A. Clean all items installed under this Contract.
 1. Leave free of stains, damage, or other defects prior to final acceptance.

2. Include washing, sweeping, polishing of all finished wall surfaces, floors, windows, hardware, mirrors, lighting fixtures and items of equipment.
3. See technical sections for additional cleaning requirements.

3.02 DURING CONSTRUCTION

- A. Clean up all waste materials, rubbish, and debris resulting from the work on a daily basis.
- B. Ensure that building and grounds are maintained free from accumulations of debris.
- C. Daily clean-up site and access and dispose of debris off site.
- D. Remove grease, dust, dirt, stains, labels, fingerprints, and other foreign materials from interior and exterior surfaces of fixtures, hardware, and equipment.
- E. Repair, patch, and touch-up marred surfaces to match adjacent finishes damaged by his own operations.
- F. Comply with additional requirements defined in specifications.
- G. Vacuum interior areas when ready for painting.
- H. Schedule cleaning operations so that contaminants resulting from cleaning do not fall on wet painted surfaces.
- I. Clean all glass and aluminum surfaces.
- J. Leave the work "vacuum clean".

3.03 FINAL CLEANING

- A. Use experienced workmen or professional cleaners for final cleaning.
- B. At completion of construction, just prior to acceptance or occupancy, perform final cleaning.
- C. Remove dirt, stains, labels, and foreign materials.
- D. Repair and touch-up marred areas.
- E. Replace air conditioning filters if units were operated during construction.

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F. Vacuum, polish and mop floors.

END OF SECTION

NOT FOR BID

SECTION 01 7720 - WARRANTIES AND GUARANTEES

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Provide written guarantees for products and installations indicated.
- B. Provide guarantees for period(s) indicated.
 - 1. All portions of the work shall be guaranteed against defects in workmanship and materials for a minimum period of one (1) year from date of acceptance of the structure, unless a longer guarantee is specifically called for herein.
- C. For guarantees required and guarantee periods, see General Provisions.
- D. Provide manufacturer's guarantees for products.
 - 1. Where manufacturer's standard guarantees expire before expiration date required by Contract Documents, obtain and pay for guarantee extensions, at no additional cost to Owner.
- E. Provide all guarantees prior to final acceptance.
- F. Submit to Architect, all guarantees bound together, indexed and identified by specification section and equipment identification used in operating and maintenance data.
- G. Neither the final payment, nor occupancy by the Owner, nor Notice of Completion, shall be considered to relieve the Contractor of his responsibility for any materials or workmanship found to be defective, and he shall remedy any such defects and pay for damage to other work resulting from such defects, which may appear within the guarantee period.

END OF SECTION

SECTION 01 7823 - SPARE PARTS AND MAINTENANCE MATERIALS

PART 1 - GENERAL

1.01 DESCRIPTION

A. General:

1. Furnish all labor, material, tools, equipment, and services for all spare parts and maintenance materials as indicated, in accord with provisions of Contract Documents.
2. Completely coordinate with work of all other trades.
3. Although such work is not specifically indicated, furnish and install all supplementary or miscellaneous items, appurtenances and devices incidental to or necessary for a sound, secure and complete installation.
4. See Division 1 for General Requirements.
5. See specification sections for items required.

PART 2 - PRODUCTS

2.01 SPARE PARTS AND TOOLS

A. Package in clearly identified boxes.

1. Indicate manufacturers name, part name and stock number.
2. Indicate what piece of equipment part or tool is for.
3. Indicate name, address and phone number of closest supplier.

2.02 MAINTENANCE MATERIALS

A. Package in clearly identified boxes.

1. Indicate trade name and stock number.
2. Indicate which item material is to be used with.
3. Indicate name, address and phone number of closest supplier.

2.03 EXTRA MATERIALS

- A. Package in clearly identified containers, or install where indicated.
 - 1. Indicate trade name, stock number, size, color, etc.
 - 2. Indicate where product is to be used.
 - 3. Indicate name, address and phone number of closest supplier.

PART 3 - EXECUTION

3.01 DELIVERY

- A. Deliver to Owner at time of final completion, unless Owner requests earlier delivery.

END OF SECTION

SECTION 01 7839 - PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.01 DESCRIPTION

- A. General:
1. Furnish all labor, materials, tools, equipment, and services to provide project record documents as specified, in accord with provisions of Contract Documents.
 2. Completely coordinate with work of all other trades.
 3. See Division 1 for additional General Requirements.
- B. Project Record Documents: Complete set of all documents required for construction with exception of samples and mock-ups.
1. Do not use for construction of project.
 2. Provide contract drawings in form of "white bond" prints.
 3. Project Record Documents include but are not limited to:
 - a. Contract drawings.
 - b. Project specifications.
 - c. Addenda.
 - d. Shop drawings.
 - e. Project data.
 - f. Product data.
 - g. Change orders.
 - h. Modifications.
 - i. Field test records.

1.02 SUBMITTALS (SEE SECTION 01 3300)

A. Project Data:

1. Provide Project Record Documents, at completion of project, to Architect with letter of transmittal.
2. Provide transmittal letter containing:
 - a. Date.
 - b. Project title.
 - c. Contractor's name and address.
 - d. Title and number of each Project Record Document.
 - e. Certification that Project Record Documents submitted are complete and accurate.
3. Copy of transmittal letter to Owner.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION

3.01 POSTING PRIOR TO CONSTRUCTION

- A. After Contract is executed, but prior to start of construction, obtain Contract Drawings and Project Specifications which will be used for Field Documents and Periodic Update Documents.
- B. Obtain copies of all addenda and post above documents.

3.02 MAINTENANCE OF FIELD DOCUMENTS

- A. Maintain minimum of one copy of each document required for Project Record Documents at project site. Also, maintain one set of all samples and mock-ups.
- B. Label each document "FIELD".
- C. These documents will be used for construction of projects.
- D. Make documents available at all times for review by Architect, Owner, and authorities having jurisdiction.

3.03 MAINTENANCE OF PERIODIC UPDATE DOCUMENTS

- A. Maintain a separate set of all Field Documents at project site.

- B. Label each document "PERIODIC UPDATE".
- C. Do not use these documents for construction purposes.
- D. Make documents available at all time for review by Architect, Owner and authorities having jurisdiction.
- E. Maintain in clean, dry, legible condition.
- F. Maintain contract drawings in stackable, enclosed file drawers designed to hold drawings horizontally.
- G. Maintain all other Periodic Update Documents in stackable, enclosed file boxes designed to hold specific type of document.
 - 1. Provide index of contents of each box on outside of box.

3.04 POSTING AND UPDATING OF PERIODIC UPDATE DOCUMENTS

- A. Post and update on weekly basis.
- B. Contract drawings: Mark legibly to record actual construction including but not limited to:
 - 1. Location of internal utilities and appurtenances concealed in construction referenced to visible and accessible features of structure.
 - 2. Field changes of dimension and detail.
 - 3. Changes made by change order or field order.
- C. Project Specifications: Type on each section to record all changes including but not limited to:
 - 1. Addenda
 - 2. Change order or field order
 - 3. Modifications to contract
 - 4. Bind added sections into Project Specification
 - 5. Indicate manufacturer
- D. Do not conceal work for which information must be recorded until all required information is recorded on Periodic Update Documents.

- E. Any work concealed prior to recording of required information will be exposed. Once all required information is recorded on Periodic Update Documents, work will be restored at contractor's expense.

3.05 PRODUCTION OF PROJECT RECORD DOCUMENTS

- A. At substantial completion, provide complete set of "white bond" for each contract drawing.
- B. Label each document "PROJECT RECORD".
- C. All other Periodic Update Documents may be used for Project Record Documents provided they are in satisfactory condition.
- D. Replace any Periodic Update Document found to be in unsatisfactory condition. Transfer all recorded changes from original to replacement copy.
- E. Final payment or a minimum of 10% will be withheld from the Contractor until all record drawings have been completed and delivered to the Architect.

END OF SECTION

SECTION 055000 - METAL FABRICATIONS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Metal perforated panel guard rail.
2. Metal panel risers.
3. 1-1/2" steel channel.
4. 6" bracket.
5. 3"X6"x1/4" steel plate.

B. Products furnished, but not installed, under this Section include the following:

1. Loose steel lintels.
2. Anchor bolts, steel pipe sleeves, slotted-channel inserts, and wedge-type inserts indicated to be cast into concrete or built into unit masonry.
3. Steel weld plates and angles for casting into concrete for applications where they are not specified in other Sections.

1.2 ACTION SUBMITTALS

A. Product Data: For the following:

1. Metal perforated panel guard rail.
2. Metal panel risers.
3. 1-1/2" steel channel.
4. 6" bracket.
5. 3"X6"x1/4" steel plate.

B. Shop Drawings: Show fabrication and installation details. Include plans, elevations, sections, and details of metal fabrications and their connections. Show anchorage and accessory items.

C. Samples for Verification: For each type and finish of metal items.

PART 2 - PRODUCTS

2.1 METALS

- A. Metal Surfaces, General: Provide materials with smooth, flat surfaces unless otherwise indicated. For metal fabrications exposed to view in the completed Work, provide materials without seam marks, roller marks, rolled trade names, or blemishes.
- B. Steel Plates and Shapes: ASTM A 36/A 36M.

2.2 FABRICATION, GENERAL

- A. Shop Assembly: Preassemble items in the shop to greatest extent possible. Use connections that maintain structural value of joined pieces.
- B. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges. Remove sharp or rough areas on exposed surfaces.
- C. Weld corners and seams continuously to comply with the following:
 - 1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 - 2. Obtain fusion without undercut or overlap.
 - 3. Remove welding flux immediately.
 - 4. At exposed connections, finish exposed welds and surfaces smooth and blended.

2.3 FINISHES, GENERAL

- A. Finish metal fabrications after assembly.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Cutting, Fitting, and Placement: Perform cutting, drilling, and fitting required for installing metal fabrications. Set metal fabrications accurately in location, alignment, and elevation; with edges and surfaces level, plumb, true, and free of rack; and measured from established lines and levels.
- B. Fit exposed connections accurately together to form hairline joints. Weld connections that are not to be left as exposed joints but cannot be shop welded because of shipping size limitations. Do not weld, cut, or abrade surfaces of exterior units that have been hot-dip galvanized after fabrication and are for bolted or screwed field connections.

C. Field Welding: Comply with the following requirements:

1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
2. Obtain fusion without undercut or overlap.
3. Remove welding flux immediately.
4. At exposed connections, finish exposed welds and surfaces smooth and blended so no roughness shows after finishing and contour of welded surface matches that of adjacent surface.

3.2 ADJUSTING AND CLEANING

- A. Touchup Painting: Immediately after erection, clean field welds, bolted connections, and abraded areas. Paint uncoated and abraded areas with the same material as used for shop painting to comply with SSPC-PA 1 for touching up shop-painted surfaces.
- B. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing to comply with ASTM A 780/A 780M.

END OF SECTION

SECTION 055213 - PIPE AND TUBE RAILINGS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Steel pipe railings.

1.2 ACTION SUBMITTALS

- A. Product Data: For the following:
 - 1. Railing brackets.
- B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.
- C. Samples: For each type of exposed finish required.

1.3 INFORMATIONAL SUBMITTALS

- A. Product Test Reports: For pipe railings, for tests performed by a qualified testing agency, according to ASTM E 894 and ASTM E 935.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Structural Performance: Railings, including attachment to building construction, shall withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:
 - 1. Handrails and Top Rails of Guards:
 - a. Uniform load of 50 lbf/ ft. (0.73 kN/m) applied in any direction.
 - b. Concentrated load of 200 lbf (0.89 kN) applied in any direction.
 - c. Uniform and concentrated loads need not be assumed to act concurrently.

2. Infill of Guards:

- a. Concentrated load of 50 lbf (0.22 kN) applied horizontally on an area of 1 sq. ft. (0.093 sq. m).
- b. Infill load and other loads need not be assumed to act concurrently.

2.2 METALS, GENERAL

- A. Brackets, Flanges, and Anchors: Cast or formed metal of same type of material and finish as supported rails unless otherwise indicated.

1. Provide type of bracket with flange tapped for concealed anchorage to threaded hanger bolt and that provides 1-1/2-inch (38-mm) clearance from inside face of handrail to finished wall surface.

2.3 STEEL

- A. Pipe: ASTM A 53/A 53M, Type F or Type S, Grade A, Standard Weight (Schedule 40), unless another grade and weight are required by structural loads.

- B. Plates, Shapes, and Bars: ASTM A 36/A 36M.

- C. Perforated Metal: Cold-rolled steel sheet, ASTM A 1008/A 1008M, or hot-rolled steel sheet, ASTM A 1011/A 1011M, commercial steel, 1/4" thick, with 1-inch (25.4-mm) holes 1-1/4 inch (31.75 mm) O.C in staggered rows, 48" X 120"

1. Basis-of-Design Product: Provide product with perforations matching McNichols (Item 1601929941 – 48" X 120").

2.4 MISCELLANEOUS MATERIALS

- A. Welding Rods and Bare Electrodes: Select according to AWS specifications for metal alloy welded.

- B. Shop Primers: Provide primers that comply with Section 099113 "Exterior Painting" and Section 099123 "Interior Painting."

2.5 FABRICATION

- A. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges to a radius of approximately 1/32 inch (1 mm) unless otherwise indicated. Remove sharp or rough areas on exposed surfaces.

- B. Form work true to line and level with accurate angles and surfaces.

- C. Welded Connections: Cope components at connections to provide close fit, or use fittings designed for this purpose. Weld all around at connections, including at fittings.
 - 1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 - 2. Obtain fusion without undercut or overlap.
 - 3. Remove flux immediately.
 - 4. At exposed connections, finish exposed surfaces smooth and blended so no roughness shows after finishing and welded surface matches contours of adjoining surfaces.
- D. Form changes in direction by bending.
- E. For changes in direction made by bending, use jigs to produce uniform curvature for each repetitive configuration required. Maintain cross section of member throughout entire bend without buckling, twisting, cracking, or otherwise deforming exposed surfaces of components.
- F. Close exposed ends of railing members with prefabricated end fittings.
- G. Provide wall returns at ends of wall-mounted handrails unless otherwise indicated.
- H. Brackets, Flanges, Fittings, and Anchors: Provide wall brackets, flanges, miscellaneous fittings, and anchors to interconnect railing members to other work unless otherwise indicated.
 - 1. At brackets and fittings fastened to plaster or gypsum board partitions, provide crush-resistant fillers or other means to transfer loads through wall finishes to structural supports and prevent bracket or fitting rotation and crushing of substrate.
- I. Perforated-Metal Infill Panels: Fabricate infill panels from perforated metal made from Cold-rolled steel sheet to match McNichols (Item 1601929941 – 48" X 120").
 - 1. Orient perforated metal with pattern parallel to top rail.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Set railings accurately in location, alignment, and elevation; measured from established lines and levels and free of rack.
 - 1. Do not weld, cut, or abrade surfaces of railing components that are coated or finished after fabrication and that are intended for field connection by mechanical or other means without further cutting or fitting.
 - 2. Set posts plumb within a tolerance of 1/16 inch in 3 feet (2 mm in 1 m).

3. Align rails so variations from level for horizontal members and variations from parallel with rake of steps and ramps for sloping members do not exceed 1/4 inch in 12 feet (6 mm in 3.5 m).
- B. Control of Corrosion: Prevent galvanic action and other forms of corrosion by insulating metals and other materials from direct contact with incompatible materials.
 1. Coat, with a heavy coat of bituminous paint, concealed surfaces of aluminum that are in contact with grout, concrete, masonry, wood, or dissimilar metals.

3.2 ANCHORING POSTS

- A. Weld 3"X5"X1/4" steel plate centered to the bottom part of steel post. Steel plate shall include (2) 1/2" diameter holes to host (2) 3/8" diameter "Hilti" Kwik Bolts TZ2 to be installed per manufacturer's recommendations and with a minimum embedment of 2 inches.

3.3 ATTACHING RAILINGS

- A. Attach railings to wall with wall brackets, except where end flanges are used. Locate brackets as indicated or, if not indicated, at spacing required to support structural loads.
- B. Secure wall brackets and railing end flanges to building construction as follows:
 1. For wood stud partitions, use hanger or lag bolts set into studs or wood backing between studs. Coordinate with carpentry work to locate backing members.

3.4 ADJUSTING AND CLEANING

- A. Touchup Painting: Immediately after erection, clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with the same material as used for shop painting to comply with SSPC-PA 1 requirements for touching up shop-painted surfaces.

END OF SECTION

SECTION 06 1000 - ROUGH CARPENTRY

PART 1 - GENERAL

1.01 DESCRIPTION

A. General:

1. Furnish all labor, materials, tools, equipment and services for rough carpentry as indicated, in accord with provisions of Contract Documents.
2. Completely coordinate with work of all other trades.
3. Although such work is not specifically indicated, furnish and install all supplementary or miscellaneous items, appurtenances and devices incidental to or necessary for a sound, secure and complete installation.
4. See General Conditions and Supplementary Conditions for additional general requirements.

1.02 MEASUREMENTS

- A. Verify all dimensions shown on Drawings by taking field measurements; proper fit and attachment of all parts is required. Before commencing work, check all lines and levels indicated on other work that has been completed. Should there be any discrepancies, immediately report in writing to Architect. In event of failure to do so, Contractor shall be responsible for correction of any errors.

1.03 COORDINATION

- A. Coordinate work with other trades (Electrical, Mechanical, Plumbing, etc.) and do all cutting and patching required to accommodate their work. Protect adjacent work from damage.

1.04 DELIVERY AND STORAGE

- A. Deliver and store lumber off ground and cover for protection.

1.05 GENERAL REQUIREMENTS

- A. Provide each piece of lumber used for structural framing, graded and marked with grade and trade mark of an accepted lumber grading organization, except that a certificate of grade for such a grading organization may be accepted in lieu of grade and trade marks when approved by Architect. Trade Mark of manufacturer shall also appear on each piece.

- B. Grading Rules: Conform with all applicable requirements of American Lumber Standards "Simplified Practice Recommendation R-16" and to grading rules of manufacturer's Association under whose rules the lumber is produced.
- C. Reference Standards: Conform with all requirements of U.S. Department of Commerce "Commercial Standards", and American Wood Preserver's" Association Standards" as they apply.

1.06 ROUGH CARPENTRY WORK SHALL INCLUDE, BUT NOT BE LIMITED TO:

- A. Rough Carpentry
 - 1. Structural and non-structural framing.
 - 2. Wall and roof sheathing.
 - 3. Preservative treatment of wood members where required.
 - 4. Miscellaneous furring and stripping for wall finishes.
 - 5. Miscellaneous blocking and canting for roofing systems and related metal flashings.
 - 6. Blocking and canting for roof mounted items.
 - 7. Behind wall wood blocking for support of bathroom accessories and other built-in items.

PART 2 - PRODUCTS

2.01 LUMBER SPECIES AND MATERIALS

- A. Framing Lumber: Douglas Fir-Larch, graded as per standard Grading and Dressing Rules #16 of West Coast Lumber Inspection Bureau or Western Wood Products Association and Grade Market. All lumber shall be air dried to a maximum moisture content of 19% before use. All framing lumber: Stress-Grade. All sides surfaced. Grades as indicated on plans.

2.02 WOOD PRESERVATIVE TREATMENT

- A. All wood sill-plates and ledgers in direct contact with concrete or masonry which is within 2-feet of grade shall be pressure treated with Pentachlorophenol oil in accord with the CBC, latest edition in force. All cut surfaces shall be treated with two coats of the original preservative. All sill plates shall be set in a continuous mastic bed.

2.03 CONNECTING HARDWARE

- A. Furnish and install all connecting hardware indicated on Drawings, specified herein or required to complete the work.
- B. Materials
 - 1. Nails: Common wire, galvanized for exterior work. Predrill where necessary to avoid splitting of wood.
 - 2. Screws: Standard domestic manufacturer. Bright steel and galvanized for exterior use. Brass, bronze, aluminum or stainless when used to fasten items made of those metals. For attaching interior trim and finish to drywall partitions, use Type "S", self-drilling, selftapping anodized steel drywall screws of appropriate lengths.
 - 3. Bolts: Machine bolts (or carriage bolts if indicated on Drawings) of structural grade steel with hexagonal nuts and sizes indicated. Install washers with all bolts.
 - 4. Lag Screws, Shear Plates, Split Ring Connectors: As per National Forest Products Association, "National Design Spec. for Stress-Grade Lumber and its Fastenings". All lags shall be turned into place and not driven. Holes for threads shall be 3/4 of shank diameter. Install washers w/lags.
 - 5. Framing Anchors, Joist Hangers, Etc.: As made by Simpson Company, or acceptable substitute. Sizes and types as indicated on drawings.
 - 6. Power-Driven Inserts: "Hilti," or acceptable substitute. Install as per manufacturer's directions.
 - 7. Miscellaneous Clips, Steel Assemblies: As per ASTM A-36.

PART 3 - EXECUTION

3.01 EXECUTION

- A. Erect wood framing, furring, stripping and nailing members true to lines and levels. Do not deviate from true alignment more than 1/4 inch.
- B. Space members at 16 or 24 inches on center per plans.
- C. Construct members of continuous pieces of longest possible lengths.
- D. Construct and erect required built-up beams, lintels, diaphragm beams as required per plans.

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- E. Provide double joist headers at joist ends and around ceiling openings.
- F. Coordinate installation of joists and beams to miss recessed lights and HVAC registers located on reflected ceiling plans.

3.03 STRUCTURAL MEMBERS

- A. Structural members shall not be cut, notched or drilled except as shown or noted on drawings.

END OF SECTION

SECTION 06 1600 - SHEATHING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Roof sheathing.

1.2 INFORMATIONAL SUBMITTALS

- A. Evaluation Reports: For the following, from ICC-ES:
 - 1. Fire-retardant-treated plywood.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Fire-Resistance Ratings: As tested according to ASTM E 119; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
 - 1. Fire-Resistance Ratings: Indicated by design designations from UL's "Fire Resistance Directory" or from the listings of another qualified testing agency.

2.2 FIRE-RETARDANT-TREATED PLYWOOD

- A. General: Where fire-retardant-treated materials are indicated, use materials complying with requirements in this article that are acceptable to authorities having jurisdiction and with fire-test-response characteristics specified as determined by testing identical products per test method indicated by a qualified testing agency.
- B. Fire-Retardant-Treated Plywood by Pressure Process: Products with a flame-spread index of 25 or less when tested according to ASTM E 84, and with no evidence of significant progressive combustion when the test is extended an additional 20 minutes, and with the flame front not extending more than 10.5 feet (3.2 m) beyond the centerline of the burners at any time during the test.
 - 1. Exterior Type: Treated materials shall comply with requirements specified above for fire-retardant-treated plywood by pressure process after being subjected to

accelerated weathering according to ASTM D 2898. Use for exterior locations and where indicated.

2. Design Value Adjustment Factors: Treated lumber plywood shall be tested according to ASTM D 5516 and design value adjustment factors shall be calculated according to ASTM D 6305. Span ratings after treatment shall be not less than span ratings specified. For roof sheathing and where high-temperature fire-retardant treatment is indicated, span ratings for temperatures up to 170 deg F (76 deg C) shall be not less than span ratings specified.

- C. Kiln-dry material after treatment to a maximum moisture content of 15 percent.
- D. Identify fire-retardant-treated plywood with appropriate classification marking of qualified testing agency.
- E. Application: Treat all plywood unless otherwise indicated.

2.3 ROOF SHEATHING

- A. Plywood Sheathing: To match existing (Verify in field).

2.4 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.
 1. For roof sheathing, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Do not use materials with defects that impair quality of sheathing or pieces that are too small to use with minimum number of joints or optimum joint arrangement. Arrange joints so that pieces do not span between fewer than three support members.
- B. Cut panels at penetrations, edges, and other obstructions of work; fit tightly against abutting construction unless otherwise indicated.
- C. Securely attach to substrate by fastening as indicated, complying with the following:
 1. Table 2304.9.1, "Fastening Schedule," in the ICC's International Building Code.

2. Table R602.3(1), "Fastener Schedule for Structural Members," and Table R602.3(2), "Alternate Attachments," in the ICC's International Residential Code for One- and Two-Family Dwellings.
 3. ICC-ES evaluation report for fastener.
- D. Coordinate **roof** sheathing installation with flashing and joint-sealant installation so these materials are installed in sequence and manner that prevent exterior moisture from passing through completed assembly.
- E. Do not bridge building expansion joints; cut and space edges of panels to match spacing of structural support elements.

3.2 WOOD STRUCTURAL PANEL INSTALLATION

- A. General: Comply with applicable recommendations in APA Form No. E30, "Engineered Wood Construction Guide," for types of structural-use panels and applications indicated.
- B. Fastening Methods: Fasten panels as indicated below:
1. Roof Sheathing:
 - a. Nail to wood framing. Apply a continuous bead of glue to framing members at edges of wall sheathing panels.
 - b. Space panels 1/8 inch (3 mm) apart at edges and ends.

END OF SECTION

SECTION 06 6510 - SOLID SURFACE FABRICATIONS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the contract, including general and supplementary conditions and Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. This Section includes the following horizontal and trim solid surface product types:

1. Countertops with sinks
2. Vanity tops

- B. Related Sections include the following:

1. Division 9 Section "Non-load Bearing Metal Framing" for Blocking.
2. Division 23 Section "Plumbing Fixtures."

- C. Alternates:

1. Refer to Division 1 Section "Alternates" for description of work in this Section affected by alternates.

1.03 DEFINITION

- A. Solid surface is defined as nonporous, homogeneous material maintaining the same composition throughout the part with a composition of acrylic polymer, aluminum trihydrate filler and pigment.

1.04 SUBMITTALS

- A. Product data:

1. For each type of product indicated.

- B. Shop drawings:

1. Show location of each item, dimensioned plans and elevations, large-scale details, attachment devices and other components.

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- a. Show full-size details, edge details, thermoforming requirements, attachments, etc.
- b. Show locations and sizes of furring, blocking, including concealed blocking and reinforcement specified in other Sections.
- c. Show locations and sizes of cutouts and holes for plumbing fixtures, faucets, soap dispensers, waste receptacle and other items installed in solid surface.

C. Samples:

1. For each type of product indicated.
 - a. Submit minimum 6-inch by 6-inch sample in specified gloss.
 - b. Cut sample and seam together for representation of inconspicuous seam.
 - c. Indicate full range of color and pattern variation.
2. Approved samples will be retained as a standard for work.

D. Product data:

1. Indicate product description, fabrication information and compliance with specified performance requirements.

E. Maintenance data:

1. Submit manufacturer's care and maintenance data, including repair and cleaning instructions.
 - a. Maintenance kit for finishes shall be submitted.
2. Include in project closeout documents.

1.05 QUALITY ASSURANCE

A. Qualifications:

1. Shop that employs skilled workers who custom fabricate products similar to those required for this project and whose products have a record of successful in-service performance.

B. Fabricator/installer qualifications:

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1. Work of this section shall be by a certified fabricator/installer, certified in writing by the manufacturer.

C. Applicable standards:

1. Standards of the following, as referenced herein:

- a. American National Standards Institute (ANSI)
- b. American Society for Testing and Materials (ASTM)
- c. National Electrical Manufacturers Association (NEMA)
- d. NSF International

2. Fire test response characteristics:

- a. Provide with the following Class A (Class I) surface burning characteristics as determined by testing identical products per UL 723 (ASTM E84) or another testing and inspecting agency acceptable to authorities having jurisdiction:

- 1) Flame Spread Index: 25 or less.

- 2) Smoke Developed Index: 450 or less.

D. Drawings shall:

1. Be produced in 1/2-inch scale for all fabricated items.

E. Job mock-up:

1. Prior to fabrication of architectural millwork, erect sample unit to further verify selections made under sample submittals and to demonstrate the quality of materials and execution.
2. Build the mock-up to comply with the contract documents and install in a location as directed by the architect.
3. Notify the architect two weeks in advance of the date of when the mock-up will be delivered.
4. Should mock-up not be approved, re-fabricate and reinstall until approval is secured.
 - a. Remove rejected units from project site.
5. After approval, the mock-up may become a part of the project.

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6. This mock-up, once approved, shall serve as a standard for judging quality of all completed units of work.

1.06 DELIVERY, STORAGE AND HANDLING

- A. Deliver no components to project site until areas are ready for installation.
- B. Store components indoors prior to installation.
- C. Handle materials to prevent damage to finished surfaces.
 1. Provide protective coverings to prevent physical damage or staining following installation for duration of project.

1.07 WARRANTY

- A. Provide manufacturer's warranty against defects in materials.
 1. Warranty shall provide material and labor to repair or replace defective materials.
 2. Damage caused by physical or chemical abuse or damage from excessive heat will not be warranted.
 3. Warranty shall be transferable to subsequent owner for remainder of warranty period.
- B. Manufacturer's warranty period:
 1. Ten years from date of substantial completion.

1.08 MAINTENANCE

- A. Provide maintenance requirements as specified by the manufacturer.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Manufacturers:
 1. Subject to compliance with requirements, provide products by one of the following:
 - a. One Quartz Surfaces by Daltile (basis of design).

2.02 MATERIALS

- A. Solid polymer components

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1. Cast, nonporous, filled polymer, not coated, laminated or of composite construction with through body colors meeting ANSI Z124.3 or ANSI
2. Superficial damage to a depth of 0.010 inch (.25 mm) shall be repairable by sanding and/or polishing.

B. Thickness:

1. 3/4 inch

C. Edge treatment:

1. As indicated on drawings.
2. Mounting:
 - a. Seamed undermount.

D. Backsplash:

1. Applied.

E. Side-splash:

1. Applied.

2.03 ACCESSORIES

A. Joint adhesive:

1. Manufacturer's standard one- or two-part adhesive kit to create inconspicuous, nonporous joints.

B. Sealant:

1. Manufacturer's standard mildew-resistant, FDA-compliant, NSF 51-compliant (food zone — any type), UL-listed silicone sealant in colors matching components.

C. Sink/lavatory mounting hardware:

1. Manufacturer's standard bowl clips, panel inserts and fasteners for attachment of under-mount sinks/lavatories.

D. Conductive tape:

1. Manufacturer's standard aluminum foil tape, with required thickness, for use with cutouts near heat sources.

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E. Insulating felt tape:

1. Manufacturer's standard for use with conductive tape in insulating solid surface material from adjacent heat source.

2.04 FACTORY FABRICATION

A. Shop assembly

1. Fabricate components to greatest extent practical to sizes and shapes indicated, in accordance with approved shop drawings and manufacturer's printed instructions and technical bulletins.
2. Form joints between components using manufacturer's standard joint adhesive without conspicuous joints.
 - a. Reinforce with strip of solid polymer material, 2" wide.
3. Provide factory cutouts for plumbing fittings and bath accessories as indicated on the drawings.
4. Rout and finish component edges with clean, sharp returns.
 - a. Rout cutouts, radii and contours to template.
 - b. Smooth edges.
 - c. Repair or reject defective and inaccurate work.

2.05 FINISHES

A. Select from the manufacturer's standard color chart.

1. Color:
 - a. Chipped Ice.

B. Finish:

1. Provide surfaces with a uniform finish.
 - a. Matte; gloss range of 5–20.

PART 3 - EXECUTION

3.01 EXAMINATION

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A. Examine substrates and conditions, with fabricator present for compliance with requirements for installation tolerances and other conditions affecting performance of work.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 INSTALLATION

A. Install components plumb, level and rigid, scribed to adjacent finishes, in accordance with approved shop drawings and product data.

1. Provide product in the largest pieces available.
2. Form field joints using manufacturer's recommended adhesive, with joints inconspicuous in finished work.
 - a. Exposed joints/seams shall not be allowed.
3. Reinforce field joints with solid surface strips extending a minimum of 1 inch on either side of the seam with the strip being the same thickness as the top.
4. Cut and finish component edges with clean, sharp returns.
5. Rout radii and contours to template.
6. Anchor securely to base cabinets or other supports.
7. Align adjacent countertops and form seams to comply with manufacturer's written recommendations using adhesive in color to match countertop.
8. Carefully dress joints smooth, remove surface scratches and clean entire surface.
9. Install countertops with no more than 1/8-inch (3 mm) sag, bow or other variation from a straight line.

B. Applied backsplashes and side-splashes (where noted on plans):

1. Install applied backsplashes and side-splashes (where noted on plans) using manufacturer's standard color-matched silicone sealant.
2. Adhere applied backsplashes and side-splashes (where noted on plans) to countertops using manufacturer's standard color-matched silicone sealant.

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3.03 REPAIR

A. Repair or replace damaged work which cannot be repaired to architect's satisfaction.

3.04 CLEANING AND PROTECTION

A. Keep components clean during installation.

B. Remove adhesives, sealants and other stains.

END OF SECTION

SECTION 07 5423 - THERMOPLASTIC POLYOLEFIN (TPO) ROOFING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Fully adhered thermoplastic polyolefin (TPO) roofing system.
 - 2. Rigid roof insulation.
 - 3. Roof insulation cover board.

1.2 DEFINITIONS

- A. Roofing Terminology: Definitions in ASTM D 1079 and glossary in NRCA's "The NRCA Roofing and Waterproofing Manual" apply to work of this Section.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples for Verification: For the following products:
 - 1. Sheet roofing, of color required.
 - 2. Walkway pads or rolls, of color required.

1.4 INFORMATIONAL SUBMITTALS

- A. Research/Evaluation Reports: For components of roofing system, from ICC-ES.
- B. Sample Warranties: For manufacturer's special warranties.

1.5 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For roofing system to include in maintenance manuals.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified firm that is approved, authorized, or licensed by roofing system manufacturer to install manufacturer's product and that is eligible to receive manufacturer's special warranty.

1.7 WARRANTY

- A. Special Warranty: Manufacturer agrees to repair or replace components of roofing system that fail in materials or workmanship within specified warranty period.
 - 1. Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. GAF EverGuard Extreme Advanced Protection TPO 60Mil, white color.
- B. Source Limitations: Adhered — can be installed with EverGuard 1121 Bonding Adhesive (solvent-based), EverGuard Low VOC TPO Bonding Adhesive, or EverGuard WB181 Bonding Adhesive (water-based) for the smoothest appearance. Provides superior wind uplift performance.

2.2 PERFORMANCE REQUIREMENTS

- A. Accelerated Weathering: Roofing system shall withstand 2000 hours of exposure when tested according to ASTM G 152, ASTM G 154, or ASTM G 155.
- B. Impact Resistance: Roofing system shall resist impact damage when tested according to ASTM D 3746 or ASTM D 4272.
- C. Roofing System Design: Tested by a qualified testing agency to resist uplift pressures in accordance with ASCE-7, ANSI/SPRI, and ANSI/FM 4474.
- D. Energy Star Listing: Roofing system shall be listed on the DOE's ENERGY STAR "Roof Products Qualified Product List" for low-slope roof products.
- E. Energy Performance: Roofing system shall have an initial solar reflectance of not less than 0.70 and an emissivity of not less than 0.75 when tested according to CRR-1.
- F. Exterior Fire-Test Exposure: ASTM E 108 or UL 790, Class A; for application and roof slopes indicated; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
- G. Fire-Resistance Ratings: Comply with fire-resistance-rated assembly designs indicated. Identify products with appropriate markings of applicable testing agency.

2.3 TPO ROOFING

- A. Single-Ply membrane TPO Sheet: ASTM D 6878, internally fabric- or scrim-reinforced, uniform, flexible TPO sheet.