

SECTION 06100

ROUGH CARPENTRY

PART 1 GENERAL

1.01 SUMMARY

- A. Section Includes:
 - 1. Wood framing.
 - 2. Wood treatment.

- B. Related Documents: The Contract Documents, as defined in Summary of Work, apply to the Work of this Section. Additional requirements and information necessary to complete the Work of this Section may be found in other documents.

1.02 REFERENCES

- A. American Lumber Standards Committee (ALSC):
 - 1. Softwood Lumber Standards.

- B. American Plywood Association (APA):
 - 1. Grades and Standards.

- C. American Society for Testing and Materials (ASTM):
 - 1. ASTM A307 - Specification for Carbon Steel Bolts and Studs, 60,000 psi Tensile Strength.
 - 2. ASTM E84 - Test Method for Surface Burning Characteristics of Building Materials.

- D. American Wood Preservers Association(AWPA):
 - 1. AWPA - C1 - All Timber Products - Preservative Treatment by Pressure Process.
 - 2. AWPA - C15 - Wood for Commercial-Residential Construction Preservative Treatment by Pressure Processes.
 - 3. AWPA - C20 - Structural Lumber - Fire-Retardant Treatment by Pressure Processes.
 - 4. AWPA - P5 - Water Borne Preservatives.

1.03 SUBMITTALS

- A. Procedures for submittals.
 - 1. Assurance/Control Submittals:
 - a. Certificates:
 - 1) Pressure Treated Wood: Certification from treating plant stating chemicals and process used and net amount of salts retained are in conformance with specified standards.

- 2) Preservative Treated Wood: Certification for water-borne preservative that moisture content was reduced to 19 percent maximum, after treatment.
2. See Section 01330 – Submittal Procedures

1.04 QUALITY ASSURANCE

- A. Perform Work in accordance with the following agencies:
 1. Lumber Grading Agency: Certified by ALSC.
 2. Plywood Grading Agency: Certified by APA.
- B. Regulatory Requirements: Conform to applicable codes for fire-retardant treatment of wood surfaces for flame/smoke ratings.

1.05 DELIVERY, STORAGE AND HANDLING

- A. Material and Equipment: Transport, handle, store, and protect products.
 1. Inspect wood materials for conformance to specified grades, species, and treatment at time of delivery to Project Site.
 2. Reject and return unsatisfactory wood materials.
- B. Provide facilities for handling and storage of materials to prevent damage to edges, ends and surfaces.
- C. Keep materials dry. Stack materials off ground minimum 12 inches or, if on concrete slab-on-grade, minimum 1-1/2 inches, fully protected from weather. Provide for air circulation within and around stacks and under temporary coverings.
- D. For materials pressure treated with waterborne chemicals, place spacers between each bundle to provide air circulation.

PART 2 PRODUCTS

2.01 LUMBER MATERIALS

- A. Lumber, finished 4 sides, 15 percent maximum moisture content. Each piece of lumber to be factory marked with type, grade, mill and grading agency.
 1. Light framing: Construction grade southern pine, appearance grade where exposed.
 2. Boards: Construction grade.

2.02 PLYWOOD

- A. Plywood, APA rated for use and exposure:
 1. Flooring substrate: APA CDX rated 4' x 8' x 15/32 Plywood Sheathing.
 2. Backing panels: APA C-D plugged interior with exterior glue, 3/4 inch thick.
 3. Telephone/Computer and other Exposed backer boards: APA A-B plugged interior with exterior glue, 3/4 inch thick.

2.03 NAILERS, BLOCKING AND FURRING

- A. Wood for nailers, blocking and furring: Construction grade, finished 4 sides, 15 percent maximum moisture content. Pressure preservative treated items in contact with roofing, flashing, waterproofing, masonry, concrete or the ground.

2.04 FASTENERS

- A. Fasteners: Provide manufacturers recommended power tools for each type of fastener.
 - 1. Bolts, Nuts, Washers, Lag Screws, and Wood Screws: ASTM A307, Medium carbon steel; size and type to suit application; galvanized for treated wood; plain finish for other interior locations, of size and type to suit application, unless otherwise noted.
 - 2. Expansion Shield Fasteners: For anchorage of non-structural items to solid masonry and concrete.
 - 3. Powder or Pneumatically Activated Fasteners: For anchorage of non-structural items to steel.
 - 4. Fasteners for Wood and Plywood (over 1/2 inch) to Light Gage Metal Framing and Metal Deck (up to 1/8 inch thick):
 - a. Hilti PWH #3 with wings.
 - b. ITW TEKS/4 with wings.
 - c. Substitutions: Permitted
 - 5. Fasteners for Wood and Plywood (up to 2 inches thick) to Metal (from 1/8 inch to 1/4 inch thick):
 - a. Hilti PFH #4 with wings.
 - b. ITW TEKS/4 with wings.
 - c. Substitutions: Permitted
 - 6. Fasteners for Non-Structural Wood Members to Masonry: 1/4 inch diameter x 3-1/4 inch with phillips flat head.
 - a. Tapcon masonry anchors, by ITW Buildex.
 - b. Kwik-Con II fastener, by Hilti.
 - c. Substitutions: Permitted

2.04 WOOD TREATMENT

- A. Preservative Pressure Treated Lumber:
 - 1. Impregnate lumber with preservative treatment conforming to AWPA Standards for waterborne preservatives.
 - 2. Apply the preservative in a closed cylinder by pressure process in accordance with AWPA Standard C15.
 - 3. Retention of dry salts:
 - a. Moderate service conditions (weather exposure): 0.25 pounds per cubic foot (oxide basis).
 - b. Severe conditions (constant contact with ground or water): 0.40 pounds per cubic foot (oxide basis).

4. Remove excess moisture where shrinkage is a serious fault or where treated lumber will be in contact with plaster, or stucco, and where water-borne treated lumber is to be painted or stained.
 5. Lumber shall be dried to 15-19 percent moisture content after treatment, and material to be painted or stained shall have knots and pitch streaks sealed as with untreated wood.
 6. Liberally brush freshly cut surfaces, bolt holes and machined areas with the same preservative in accordance with AWPA Standard M4.
- B. Wood Requiring Treatment:
1. Lumber, Preservative Treated: Nailers, blocking, stripping, and similar items in conjunction with roofing, flashing, and other construction. Sills, blocking, furring, stripping, and similar items in contact with masonry or concrete.
 2. Interior Plywood, Fire Retardant Treated: Plywood backing for electrical and telephone equipment.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Execution Requirements: Verification of existing conditions before starting work.
- B. Verification of Conditions: Verify that field measurements, surfaces, substrates and conditions are as required, and ready to receive Work.
 1. Verify that spacing, direction and details of supports are correct to accommodate installation of blocking, backing, stripping, furring and nailing strips.
- C. Report in writing to the Architect prevailing conditions that will adversely affect satisfactory execution of the Work of this Section. Do not proceed with Work until unsatisfactory conditions have been corrected.
- D. By beginning Work, Contractor accepts conditions and assumes responsibility for correcting unsuitable conditions encountered at no additional cost to the Owner.

3.02 INSTALLATION - FRAMING

- A. Set structural members level and plumb, in correct position.
- B. Make provisions for erection loads, and for sufficient temporary bracing to maintain structure safe, plumb, and in true alignment until completion of erection and installation of permanent bracing.
- C. Place horizontal members, crown side up.

- D. Construct load bearing framing and curb members full length without splices.
 - E. Install miscellaneous blocking, nailing strips and framing where required as backing for attachment of wall mounted counters, shelving and other items, and as detailed on Drawings. Coordinate to allow proper attachment of work of other Sections.
 - 1. Secure in place using fasteners specified. Use only recommended power tools for placement of fasteners.
 - 2. Recess heads of fasteners below surface of wood members.
 - F. Secure in place with appropriate fasteners. Use fasteners of correct size that will not penetrate members where opposite side will be exposed to view or require finishing. Do not split wood with fasteners; set panel products to allow expansion at joints.
 - G. Construct members of continuous pieces of longest possible lengths.
- 3.03 INSTALLATION – PLYWOOD AND OSB
- A. Install shelving boards with plywood sheathing material where required.
- 3.04 SITE TREATMENT OF WOOD MATERIALS
- A. Apply preservative treatment in accordance with manufacturer's published instructions.
 - B. Brush apply two coats of preservative treatment on wood in contact with cementitious materials and roofing and related metal flashings. Treat site-sawn cuts.
 - C. Allow preservative to dry prior to erecting members.
- 3.05 CONSTRUCTION
- A. Site Tolerances:
 - 1. Framing Members: 1/4 inch from true position, maximum as measured from end of material.
- 3.06 FIELD QUALITY CONTROL
- A. Quality Control: Field inspection.
 - B. Framing Inspection:
 - 1. Inspect wood framing installation and connections at completion of each phase of wood construction for correct installation, nailing, connections, and fasteners.
 - 2. Inspect and verify that types and spacing of fasteners are installed in locations specified or indicated on Drawings.
 - 3. Inspect types, locations, and fasteners for structural metal framing connectors.

4. Inspect types, locations, and connections of hold-down anchors.
5. Inspect wood to steel beam connections.

END OF SECTION

SECTION 06200

FINISH CARPENTRY

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Includes: Counter tops, installation of GEE items, exterior siding, interior and exterior running trim, installation of finish hardware, door and window frames, and items furnished in other sections.

1.02 QUALITY ASSURANCE

- A. Quality Standards of the Architectural Woodwork Institute (AWI) current edition shall apply.

1.03 SUBMITTALS

- A. Submit shop drawings for approval of millwork, showing dimensions, grades, and construction.
- B. Samples: Submit for approval samples of wood to receive clear transparent finish.

PART 2 - PRODUCTS (WHERE OCCURS)

2.01 MATERIALS

- A. Interior Running Trim: Clear Pine, vertical grain, kiln dry, "Custom" grade; opaque finish.
- B. Shelving: Ponderosa Pine, Custom grade for opaque finish.
- C. Countertops: Plastic laminate, 0.05" general purpose type, matte or velvet finish, self-edged, "Custom" grade construction, colored-core on all horizontal surfaces.
- D. Plastic Laminate Surfacing: 0.050" thickness, general purpose type, matter for velvet finish. Acceptable manufacturers: Formica, Nevamar, Wilsonart, or approved equal.
- E. Plastic Laminate Adhesive: Conform to Federal Specification MMM-A-125, Type II.

- F. Shelf Standards and Brackets: Knappe & Vogt #87ANO heavy duty standards with 10" #1867 and chrome finish brackets. Acceptable manufacturers: Garco, Bradley or equal.
- G. Exterior Nails: Double hot dipped galvanized, splitless siding nails, ring shank with blunt tip as manufactured by Maze. Blind nail when possible.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Exterior running trim, corner boards, closure pieces, and grillework shall be fit tightly at joints.
- B. Pre-drill members where necessary to avoid splitting.
- C. Ease edges of trim pieces, exposed beams and outriggers with a hand router, 1/8" radius.
- D. Exterior nails to be flush with finish and not set. Set interior nailing for finishing with wood putty.
- E. Scribe countertops and backsplashes tightly to wall.
- F. Fit and install casework and Postal Furnished Equipment (PFE) items after the PFE items are at the job site. Verify dimensions of all PFE items before cutting openings.
- G. All running trim joints to be mitered.

END OF SECTION

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SECTION 06410

ARCHITECTURAL MILLWORK

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:

1. Countertops.
2. Wall shelves and wall standards.
3. All primer, touch-up and finish coating as required ensuring a consistent seamless finish.
4. Coordination of electrical and plumbing connections.

B. Related Documents: The Contract Documents, as defined in Summary of Work, apply to the Work of this Section. Additional requirements and information necessary to complete the Work of this Section may be found in other documents.

C. Related Sections:

1. **Section 06100 – Rough Carpentry:** Blocking for finish carpentry
2. **Section 06200 – Finished Carpentry:** Adjacent trimwork.

1.02 REFERENCES

A. American Woodworking Institute (AWI):

1. AWI AWQS - Architectural Woodwork Quality Standards, latest Edition.

B. American Plywood Association (APA):

1. Grades and Specifications

C. ANSI/BHMA A156.9 – Cabinet Hardware.

D. NEMA LD3 – High pressure decorative laminate.

1.03 SUBMITTALS

A. Procedures for submittals.

1. Submit shop drawings. Indicate materials, components, profiles, fastening methods, jointing details, finishes and accessories. Details shall be at a minimum scale of 1-1/2 inch per foot.
2. Samples;
 - a. Plastic Laminates: Provide 3" by 4" sample of each type of laminate.
3. See Section 01330 – Submittal Procedures

1.04 QUALITY ASSURANCE

- A. Perform work in accordance with AWI Custom Grade quality.
- B. Woodwork/Millwork manufacturers shall be certified by the AWI Quality Certification Program as competent to perform the work specified.

1.05 CONTRACTOR DUTIES

- A. Millwork contractor shall confirm orientation of all fixtures with floor plan.
- B. Millwork contractor shall provide level fixtures using appropriate methods for individual application (i.e., shimming)
- C. Millwork contractor shall ensure that all edges and surfaces of all materials and finishes are smooth, free of sharp edges, structurally stable and conforming to all life safety requirements.
- D. Except as specifically noted, provide and pay for the following:
 - 1. Labor, tools, equipment, adhesives, fasteners, common blocking, furring and hanging devices, installation and equipment as required to produce, supply and install all architectural cabinetry and fixtures as described in drawings, contract, and with these specifications.
 - 2. Full responsibility for protection and safekeeping for products stored on premises.
 - 3. Protection as needed to assure that the work of this section remains undamaged during installation and actual project completion.
 - 4. All cutting, fitting or patching of the work that may be required to make its several parts fit together properly, and do not endanger the work or any part of it by such operation.
 - 5. Field verification of all dimensions prior to fabrication of fixtures and casework.
 - 6. Coordination with electric, plumbing and mechanical contractors regarding exact requirements of plumbing and electric located within fixtures and casework. Electric boxes within fixtures to be provided by electrical contractor with final hookup completed by electrical contractor. Fixture contractor to provide all cutouts of woodwork necessary to accommodate electrical, telephone, mechanical or plumbing equipment.
 - 7. Review of architectural drawings and coordination of such with all shop drawings and site conditions.
 - 8. Inspection of all prep work done by others, and shall accept or reject conditions prior to installation of fixtures.
 - 9. Factory finishing of all fixture work, and field touch up as required.
 - 10. Delivery of all fixture work.

1.06 DELIVERY, STORAGE AND HANDLING

- A. Protect units from moisture damage according to AWI Quality Standards.

- B. Protect countertops during transit, delivery, storage and handling to prevent damage, soiling and deterioration.
- C. Do not deliver countertops until painting, wet work, grinding and similar operations which could damage, soil or deteriorate plastic laminate countertops have been completed installation areas. If, due to unforeseen circumstances, plastic laminate countertops must be stored in other than installation areas, store only in areas meeting requirements specified for installation areas.

1.07 COORDINATION

- A. Coordinate work with general contractor, applicable mechanical trade, electrical trade and rough-in.
- B. Coordinate sizes and locations of framing, blocking, furring, reinforcements, and other related units of Work specified in other Sections to ensure that interior architectural woodwork can be supported and installed as indicated.

PART 2 PRODUCTS

2.01 MATERIALS

- A. General: Provide materials that comply with requirements of the AWI quality standard for each type of cabinetry, fixture and millwork and quality grade specified, unless otherwise indicated.
- B. Wood Products: Comply with the following:
 - 1. Hardboard: AHA A135.4.
 - 2. Medium-Density Fiberboard: ANSI A208.2, Grade MD.
 - 3. Particleboard: ANSI A208.1, Grade M-2 , M-2-Exterior Glue for wet locations.
 - 4. Hardwood Plywood and Face Veneers: HPVA HP-1.
- C. High-Pressure Decorative Laminate: NEMA LD 3, grades as indicated, or if not indicated, as required by woodwork quality standard.
 - 1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering high-pressure decorative laminates that may be incorporated into the Work include, but are not limited to, the following:
 - a. Wilsonart International; Div. of Premark International, Inc.
 - b. Formica Corporation.
 - c. Nevamar.
 - d. See Section 01630 – Product Substitution Procedures
- D. Adhesive for Bonding Plastic Laminate: Contact cement, PVA, resorcinol, as appropriate to fabrication shops methods and machinery.

- E. Furring, Blocking, Shims, and Hanging Strips: Softwood or hardwood lumber, kiln-dried to less than 15 percent moisture content (fire-retardant-treated where required.)
- F. Anchors: Select material, type, size, and finish required for each substrate for secure anchorage. Provide nonferrous-metal or hot-dip galvanized anchors and inserts on inside face of exterior walls and elsewhere as required for corrosion resistance. Provide toothed-steel or lead expansion sleeves for drilled-in-place anchors.
- G. Metal Fixtures/Components:
 - 1. All welds, corners and edges to be polished smooth.

2.02 CABINET HARDWARE AND ACCESSORIES

- A. General: Provide cabinet hardware and accessory materials associated with architectural countertops, as specified in drawings.

2.03 FABRICATION, GENERAL

- A. Interior Woodwork Grade: Provide custom grade interior woodwork complying with the referenced quality standard.
- B. Wood Moisture Content: Comply with requirements of referenced quality standard for wood moisture content in relation to ambient relative humidity during fabrication and in installation areas.
- C. Fabricate woodwork to dimensions, profiles, and details indicated. Ease edges to radius indicated for the following:
 - 1. Corners of Counters and Edges 3/4 Inch Thick or Less: 1/16 inch.
- D. Complete fabrication, including assembly, finishing, and hardware application, to maximum extent possible, before shipment to Project site. Disassemble components only as necessary for shipment and installation. Where necessary for fitting at site, provide ample allowance for scribing, trimming, and fitting.
 - 1. Trial fit assemblies at fabrication shop that cannot be shipped completely assembled. Install dowels, screws, bolted connectors, and other fastening devices that can be removed after trial fitting. Verify that various parts fit as intended and check measurements of assemblies against field measurements indicated on Shop Drawings before disassembling for shipment.
- E. Shop cut openings, to maximum extent possible, to receive hardware, appliances, plumbing fixtures, electrical work, and similar items. Locate openings accurately and use templates or roughing-in diagrams to produce accurately sized and shaped openings. Sand edges of cutouts to remove splinters and burrs.
 - 1. Seal edges of openings in countertops with a coat of varnish.

2.04 PLASTIC-LAMINATE COUNTERTOPS

- A. Quality Standard: Comply with AWI Section 400 requirements for high-pressure decorative laminate countertops.
 - 1. Grade: Custom.
- B. High-Pressure Decorative Laminate Grade: HGL.
- C. Colors, Patterns, and Finishes: Provide materials and products that result in colors and textures of exposed laminate surfaces as indicated:
- D. Grain Direction: As indicated.
- E. Edge Treatment: As indicated.
- F. Core Material: Particleboard.
- G. Core Material at Sinks or areas where moisture is an issue: Particleboard made with exterior glue.

2.05 SHELVING

- A. Plywood for Shelves: Softwood plywood; PS 1, graded in accordance with AWI, veneer core covered each side and each edge with hardwood nosing.
 - 1. Dimensions: 3/4 inch thick x 12 inches deep x maximum possible length as shown on drawings..

2.06 SHOP FINISHING

- A. Quality Standard: Comply with AWI Section 1500, unless otherwise indicated.
- B. General: Finish architectural woodwork at fabrication shop as specified in this Section. Defer only final touchup, cleaning, and polishing until after installation.
- D. General: The entire finish of interior architectural woodwork is specified in this Section, regardless of whether shop applied or applied after installation. The extent to which the final finish is applied at fabrication shop is Contractor's option, except shop apply at least the prime coat before delivery.
- E. General: Priming and finishing of interior architectural woodwork required to be performed at fabrication shop are specified in this Section. Refer to Division 9 Section "Painting" for final finishing of installed architectural woodwork and for material and application requirements for woodwork not specified to receive final finish in this Section.

- F. Preparations for Finishing: Comply with referenced quality standard for sanding, filling countersunk fasteners, sealing concealed surfaces, and similar preparations for finishing architectural woodwork, as applicable to each unit of work.
 - 1. Backpriming: Apply one coat of sealer or primer, compatible with finish coats, to concealed surfaces of woodwork. Apply two coats to back of paneling and to end-grain surfaces. Concealed surfaces of plastic-laminate-clad woodwork do not require backpriming when surfaced with plastic laminate, backing paper, or thermoset decorative overlay.

2.07 ELECTRICAL/PLUMBING COMPONENTS

- A. General: Provide materials complying with the National Electric Code, National Board of Fire Underwriter's requirements, and bearing the UL label when standards for such materials have been established by the Underwriter's Laboratories, Inc.
- B. Wiring of store fixtures and lighting units shall be done in accordance with the requirements of the electrical codes and regulations in which the store is located.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Site Verification of Conditions:
 - 1. Examine areas in which Work of this Section is to be performed.
 - 2. Verify that surfaces and site conditions are ready to receive Work.
 - 3. The environmental conditions have been met.
- B. Report in writing to the Architect prevailing conditions that will adversely affect satisfactory execution of Work of this Section. Do not proceed with Work until unsatisfactory conditions have been corrected.
- C. By beginning Work, Contractor accepts conditions and assumes responsibility for correcting unsuitable conditions encountered at no additional cost to the Owner.

3.02 PREPARATION

- A. Condition countertops & shelving to average prevailing humidity conditions in installation areas prior to installing.
- B. General Contractors will be required to supply and install all concealed wood blocking shown on shop drawings. If not shown on shop drawings, but required by plastic laminate cabinetry installer, then the cabinetry supplier will be responsible for all work required to provide such concealed blocking. All attachment blocking shall be concealed where possible.

- C. Deliver concrete inserts and similar anchoring devices to be built into substrates, well in advance of time substrates are to be built.
- D. Visit project site to coordinate installation of blocking required for attachment of cabinetry.
- E. Prior to installation of plastic laminate cabinetry and wood fixtures, examine shop fabricated work for completion, and complete work as required, including removal of packing.

3.03 INSTALLATION

- A. Install work in accordance with AWI Custom Quality Standards.
- B. Set and secure materials and components in place, plumb and level.
- C. Scribe work abutting other components, with maximum gaps of 1/32 inch. Refinish cut surfaces or repair damaged finish and cuts.
- D. Install hardware in accordance with manufacturer's instructions.
- E. Use fixture attachments in concealed locations for wall mounted components.
- F. Use concealed joint fasteners to align and secure adjoining counter tops.
- G. Secure counter bases to walls using appropriate angles and anchorages.
- H. Countersink anchorage device at exposed locations. Conceal with solid wood plugs of species to match surrounding wood; finish flush with surrounding surfaces.
- I. Install countertops plumb, level, true and straight with no distortions. Shim as required using concealed shims. Install to a tolerance of 1/8" in 8'-0" for plumb and level; and with no variations in flush of adjoining surfaces.
- J. Anchor countertops to blocking built-in or directly attached to substrates. Secure to grounds and blocking with countersunk, concealed fasteners as required for a complete installation.

3.04 ADJUSTMENT, CLEANING, FINISHING AND PROTECTION

- A. Clean installed work.
- B. Repair damaged and defective plastic laminate cabinetry where possible to eliminate defects functionally and visually; where not possible to repair replace plastic laminate cabinetry. Adjust joinery for uniform appearance.

- C. Clean countertops and woodwork on exposed and semi-exposed surfaces. Touch-up shop-applied finishes to restore damaged or soiled areas. Remove all protective surface material.
- E. Complete the finishing work specified as work of this section, to whatever extent not completed at shop or prior to installation.
- F. Provide final protection and maintain conditions, in a manner acceptable to Installer, which ensures architectural countertops and woodwork being without damage or deterioration at time of substantial completion.
- G. Clean work and remove all trash, debris, packing, etc. resulting from that work on a regular basis.
- H. Final cleaning shall be done by a professional cleaner. All surfaces and finishes shall be left free of marks, blemishes, dust, overspray, paint spills, etc.
 - 1. Clean all plastic laminates, countertops, and metal trim with non-abrasive cleaner.
 - 2. Damp wipe all fixtures, including light fixtures.
 - 3. Remove labels, except those required to demonstrate compliance with building codes, fire ratings, and testing. Also remove all glue and residue remaining on the surface.
 - 4. Remove protective coverings and tags.
 - 5. Remove and dispose of all trash, scrapes, packing, etc. Disposal shall be in accordance with the landlord's requirements.

END OF SECTION