SECTION  – project coordination

1. General
   1. DESCRIPTION
      1. Coordination of the work of all Sections of the Specification is the responsibility of the Contractor.
      2. The Contractor will be deemed to possess the necessary technical skills to carefully evaluate all requirements of the Contract, and to have included in the Price all costs for the proper implementation of these requirements.
      3. The Contractor's responsibility includes, but is not restricted to, co-ordination specified in this Section, except where otherwise specified.
   2. RELATED MECHANICAL AND ELECTRICAL WORK
      1. Coordination of the installation of systems specified by Mechanical and Electrical Engineers, including the interrelating operation and functioning between components of a system and between systems, is the responsibility of those performing the work, with final coordination the responsibility of the Contractor.
      2. Provide interference drawings as herein specified to ensure proper co-ordination of subtrade work. No extras will be considered for work not properly coordinated prior to installation.
      3. Ensure that service poles, pipes, conduit, wires, fill-pipes, vents, regulators, meters, and similar Project service work is located in inconspicuous locations. If not indicated on Drawings, verify location of service work with Consultant before commencing installation.
   3. QUALITY ASSURANCE
      1. Requirements of Regulatory Agencies:
         1. Coordinate requirements of authorities having jurisdiction.
      2. Quality Control:
         1. Ensure that work meets specified requirements.
         2. Schedule, supervise and coordinate inspection and testing as specified in Section 01 45 00 – Quality Control.
      3. Job Records:
         1. Maintain job records and ensure that such records are maintained by Subcontractors.
   4. SUPERINTENDENCE
      1. Provide superintendent and necessary supporting staff personnel who shall be in attendance at the Place of the Work while Work is being performed, with proven experience in erecting, supervising, testing, and adjusting projects of comparable nature and complexity.
      2. The Contractor shall appoint a superintendent at the Place of the Work who shall have overall authority at the Place of the Work and shall speak for the Contractor and represent the Contractor’s interest and responsibilities at meetings at the Place of the Work and in dealings with the Consultant and the Owner.
      3. Supervise, direct, manage and control the work of all forces carrying out the Work, including subcontractors and suppliers. Carry out daily inspections to ensure compliance with the Contract Documents and the maintenance of quality standards. Ensure that the supervisory staff includes personnel competent in supervising all Sections of Work required.
      4. Arrange for sufficient number of qualified assistants to the supervisor as required for the proper and efficient execution of the Work.
   5. SUBMITTALS
      1. Provide a complete set of all required Contract Documents, together with instructions for changes to the work which are issued, to each firm preparing shop drawings.
      2. Schedule and expedite submission of specified submittals.
      3. Review submittals and make comments as specified in Section 01 33 00 – Submittal Procedures.
      4. Ensure that each original submission, and their subsequent revisions and resubmissions are made on schedule.
   6. PRODUCT DELIVERY, STORAGE AND HANDLING
      1. It is the responsibility of the Contractor to ensure that the supplier or distributor of materials specified or accepted alternatives, which have been bid, has materials on the site when required. The Contractor shall obtain confirmed delivery dates from the supplier and ensure no delay in the progress of the work.
      2. Provide equipment delivery schedule, coordinated with construction and submittals schedule, showing delivery dates for major and/or critical equipment. Provide delivery access and unloading areas.
      3. Make available areas for storage of products and construction equipment to meet specified requirements, and to ensure a minimum of interference with progress of the work and relocation.
      4. Make access available for transference of stored products and construction equipment to work areas.
      5. The Contractor shall contact the Consultant immediately upon receipt of information indicating that any material or item, will not be available on time, in accordance with the original schedule, and similarly it shall be the responsibility of all subcontractors and suppliers to so inform the Contractor.
      6. The Consultant reserves the right to receive from the Contractor at any time, upon request, copies of actual purchase or work orders of any material or products to be supplied for the work.
      7. If materials and products have not been placed on order, the Consultant may instruct such items to be placed on order, if direct communication in writing from the manufacturer or prime suppliers is not available indicating that delivery of said material will be made in sufficient time for the orderly completion of the Work.
      8. The Consultant's review of purchase orders or other related documentation shall in no way release the Contractor, or his subcontractors and suppliers from their responsibility for ensuring the timely ordering of all materials and items required, including the necessary expediting, to complete the work as scheduled in accordance with the Contract Documents.
   7. JOB CONDITIONS
      1. Ensure that conditions within the building are maintained and that work proceeds under conditions meeting specified environmental requirements.
      2. Ensure that protection of adjacent property and the work is adequately provided and maintained to meet specified requirements.
   8. WARRANTIES
      1. Ensure that warranties are provided, as indicated in Section 01 78 36 – Warranties.
      2. Coordinate warranty conditions of interconnected work to ensure that full coverage is obtained.
   9. CO-ORDINATION
      1. Review Contract Documents and advise the Consultant of possible conflicts between parts of the work before preparation of shop drawings, ordering of products or commencement of affected work.
      2. Coordinate and be responsible for layout of all work in each area and work on which subsequent work depends to facilitate mutual progress, and to prevent conflict between parts of the work.
      3. No addition to the Total Price will be allowed because of interference between the parts of the work of a trade or between the work of different trades unless such interference was brought to the attention of the consultant in writing prior to the start of construction.
      4. Ensure that each Section makes known, for the information of the Contractor and other Sections, the environmental and surface conditions required for the execution of its work; and that each Section makes known the sequences of others' work required for installation of its work.
      5. Ensure that each Section, before commencing work, knows requirements for subsequent work and that each Section is assisted in the execution of its preparatory work by Sections whose work depends upon it.
      6. Ensure that work to be enclosed within ceiling and/or wall spaces can be so accommodating without interference and with other parts of the work.
      7. Ensure that setting drawings, templates, and all other information necessary for the location and installation of materials, holes, sleeves, inserts, anchors, accessories, fastenings, connections, and access panels are provided by each Section whose work requires cooperative location and installation by other Sections, and that such information is communicated to the applicable installer.
      8. Deliver materials supplied by one Section to be installed by another well before the installation begins, as per Construction Progress Schedule.
      9. Sections giving installation information in error, or too late to incorporate in the work, shall be responsible for having additional work done which is thereby made necessary.
      10. Remove and replace work installed in error which is unsatisfactory for subsequent work.
      11. Prepare interference and equipment placing drawings to ensure that all components will be properly accommodated within the spaces provided.
      12. Prepare drawings to indicate coordination and methods of installation of a system with other systems where their relationship is critical. Ensure that all details of equipment apparatus, and connections are coordinated.
      13. Ensure that clearance required by authorities having jurisdiction and for proper maintenance are indicated on Drawings.
      14. Distribute coordination drawings well in advance of fabrication and installation of work affected. Place no orders for affected equipment without submission of coordination drawings to the supplier.
   10. COOPERATION
       1. Provide forms, templates, anchors, sleeves, inserts and accessories required to be fixed to or inserted in the Work and set in place or instruct separate Subcontractors as to their location.
       2. Supply items to be built in, as and when required together with templates, measurements, shop drawings and other related information and assistance.
       3. Pay the cost of extra work and make up time lost as a result of failure to provide necessary information and items to be built in.
   11. STRUCTURE ALIGNMENT REPORTS
       1. Have a qualified instrument technician check alignment of perimeter slab edge, and alignment of concrete cores as work progresses.
       2. Check alignment at each floor and submit a written report, under signature of instrument technician and Contractor, stating conditions at that floor, prior to concrete pour of next floor.
       3. State in reports variations from plumb, from horizontal alignment, and from elevations (level) shown in Contract Documents. Report on variations affecting structural steel connections and connections of components in building envelope.
       4. Include a listing of data submitted in previous reports.
       5. Make particular mention in each report to alignment and dimensions of elevator hoist ways, and to exterior faces of core wall construction which will provide substrate for applied finishes in public areas.
       6. Correct deviations from allowable tolerances as directed by Consultant.
       7. Submit reports to Consultant and to Subcontractors affected by concrete work, including but not limited to Subcontractors for following trades as applicable, structural steel, architectural precast concrete cladding, curtain wall, elevator, plastering and/or gypsum board.
   12. INTERFERENCE DRAWINGS
       1. Installation shall proceed in accordance with final approved interference Drawings. Work carried out without final approved interference Drawings, and which does not meet design requirements and specified ceiling heights shall be removed, re-coordinated and re-installed at no cost to Owner.
       2. Prepare Drawings indicating relationship of new and existing and/or unforeseen conditions at all areas in new construction as well as existing work prior to commencement of work in the area. For construction in existing areas, survey existing conditions. Take into consideration and coordinate these conditions with new work on interference Drawings.
       3. For all locations, before commencing installation, prepare Drawings showing relationship of, but not limited to structure, electrical, cable trays, communication system, duct work, conduit, piping, sprinklers, ceiling supports and framing, and communication and specialized equipment located within ceiling and shaft spaces.
       4. Indicate locations of visible items such as air handling outlets, light fixtures, smoke detectors, sprinkler heads, communication grilles and access panels occurring at these locations. Do not proceed with work until interferences in area are resolved. Do not lower ceiling heights in area without reviewing and receiving approval of Consultant.
       5. Ensure interference Drawings are initialed by a responsible person of each Subcontractor involved along with Contractor's signature. Submit to Consultant for review and record purposes.
       6. Be responsible for preparation of interference Drawings and coordinate. Obtain input from all Subcontractors. Assign mechanical and electrical coordinator to lead process of interference Drawings.
   13. PROJECT RECORD DRAWINGS
       1. Record, as the work progresses, work constructed differently than shown on Contract Documents. Record all changes in the work caused by site conditions; by Owner, Consultant, sub-consultants, Contractor, and Subcontractor originated changes; and by site instructions, supplementary instructions, field orders, change orders, addendums, correspondence, and directions of authorities having jurisdiction. Accurately record location of concealed structure, and mechanical and electrical services, piping, valves, conduits, pull boxes, junction boxes and similar work not clearly in view, the position of which is required for maintenance, alteration work, and future additions. Do not conceal critical work until its location has been recorded.
       2. Dimension location of concealed work in reference to building walls, and elevation in reference to floor elevation. Indicate at which point dimension is taken to concealed work. Dimension all terminations and offsets of runs of concealed work.
       3. Make records in a neat and legibly printed manner with a non-smudging medium.
       4. Identify each record drawing as "Project Record Copy". Maintain drawings in good condition and do not use them for construction purposes.
       5. After completion of the work, purchase a complete set of white prints from the Consultant and transfer the information recorded on the white prints accurately, neatly in red ink with dimensions, as applicable. Return these marked-up as-built white prints plus two additional sets of white prints to the Consultant for his review. Any subsequent changes found by the Consultant shall remain the responsibility of the contractor and new white prints will be issued for these changes and re-submitted back to the Consultant at no charge to the Owner.
       6. Maintain Project record drawings in a state current to Project. Such state will be considered a condition precedent for validation of applications for payment. The Consultant's visual inspection will constitute proof that record drawings are current.
       7. Provide Consultant with accurate, red-marked record drawings for their transfer to latest version of AutoCad with application for Certificate of Substantial Performance. Final acceptance of the Work will be predicated on receipt and approval of record drawings.
   14. DETAIL FINISHING DRAWINGS
       1. During the course of the work, the Owner will provide the Contractor with detail drawings showing the interior finishes and furnishings of the building. The Contractor shall read these drawings in conjunction with the Contract Documents. The Contractor shall check the detail drawings against the Contract Documents and shall report any discrepancies to the Consultant.
   15. CUTTING AND PATCHING
       1. Before cutting, drilling, or sleeve of structural load-bearing elements, obtain approval of location and methods from the Structural Engineer and the General Contractor.
       2. Do not endanger work or property by cutting, digging, or similar activities. No Section shall cut or alter the work of another Section unless such cutting or alteration is approved by the latter Section and the General Contractor.
       3. Cut and drill with true smooth edges and to minimum suitable tolerances.
       4. Fit construction tightly to ducts, pipes and conduits to stop air movement completely. The Section performing work that penetrates a fire, air, vapour, moisture, thermal or acoustic separation of the building shall pack voids tightly with rock wool, fibreglass or fire stop material as may be required; seal air, vapour, and moisture barriers; and caulk joints as may be required to ensure that no air movement through the penetration is possible.
       5. Cutting, drilling and sleeve of work shall be done only by the Section who has installed it. The Section requiring drilling and sleeve shall inform the Section performing the work of the location and other requirements for drilling and sleeve.
       6. Replace, and otherwise make good, all damaged work, as identified by the Consultant or Contractor.
       7. Cutting and Patching for Holes Required by Mechanical and Electrical work:
          1. Include under work of the Mechanical and Electrical Engineer, cutting or provision of holes up to and including 50 square inches and related patching, except as otherwise indicated.
          2. Include under work of this Division holes and other openings larger than 50 square inches, and chases, bulkheads, furring and required patching. This Section shall be responsible for determination of work required for holes in excess of 50 square inches.
       8. This Section shall be responsible for all cutting and patching in addition to that specified for mechanical and electrical work and shall directly supervise performance of cutting and patching by other Sections.
       9. Patching or replacement of damaged work shall be done by the Subcontractor under whose work it was originally executed, and at the expense of the Subcontractor who caused the damage.
       10. Make patches as invisible as possible in final assembly to the approval of the Consultant/Owner. Unacceptable work will be replaced at no charge to the Owner.
2. Products

Not Used

1. Execution

Not Used

END OF SECTION