**PART 1 – GENERAL**

* 1. **SECTION INCLUDES**
1. This section specifies administrative and procedural requirements necessary for coordinating Work operations including, but not limited to, the following:
2. General coordination procedures.
3. Coordination drawings.
	1. **RELATED SECTIONS**
4. Section 01 11 25: Phasing of the Work
5. Section 01 33 00: Submittals
6. Section 01 32 13: Construction Project Schedule
7. Section 01 43 00: Testing Laboratory Services
8. Section 01 77 00: Contract Closeout

**PART 2 – PRODUCTS (Not Used)**

**PART 3 – EXECUTION**

**3.01 COORDINATION**

A. CONTRACTOR shall coordinate operations included in various sections of Contract Documents to assure efficient and orderly installation of each part of Work. Coordinate Work operations included under related sections of Contract Documents that depend on each other for proper installation, connection, and operation of Work, including but not limited to:

1. Schedule construction operations in sequence required where installation of one part of Work depends on installation of other components, before or after its own installation.

2. Coordinate installation of different components to assure maximum accessibility for required maintenance, service and repair.

3. Provide provisions to accommodate items scheduled for later installation.

4. Prepare and administer provisions for coordination drawings.

B. Where necessary, prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required in notices, reports, attendance at meetings, and:

1. Prepare similar memoranda for OAR and Separate Work Contract where coordination of their Work is required.

C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and assure orderly progress of Work. Such administrative activities include, but are not limited to the following:

1. Preparation of schedules.

2. Installation, relocation and removal of temporary facilities.

3. Delivery and processing of submittals.

4. Progress meetings.

5. Project closeout activities.

D. Conservation: Coordinate Work operations to assure operations are carried out with consideration given to conservation of energy, water, materials, and:

1. Salvage materials and equipment involved in performance of, but not actually incorporated into Work.

**3.02** **SUBMITTALS**

1. Coordination Drawings: CONTRACTOR shall prepare coordination drawings to coordinate the installation of products and materials fabricated, furnished and installed by separate entities, under different parts of the Contract. CONTRACTOR shall notify OAR and ARCHITECT of all major conflicts in writing in a timely manner so that the design team can respond without construction delays. Coordination drawings shall address the following at a minimum:
2. Limitations in available space for installation or service. CONTRACTOR shall overlay plans of each trade and verify space requirements and conflicts between trades. Minor changes and adjustments that do not affect design intent shall be made by CONTRACTOR and shall by highlighted for ARCHITECT’S review.
3. Incompatibility between items provided under different trades (such as difference in voltage between equipment specified under Division 15 and electrical power provided under Division 16.)
4. Inconsistencies between drawings, specifications and codes (between trades and within each trade.)
5. Additional items required for existing facilities construction projects shall be designed and prepared from available as-built drawings that are verified through non-invasive and non-destructive, visual observation only. CONTRACTOR shall field verify actual existing conditions during and upon completion of demolition work and incorporate findings into preparation of co-ordination drawings. Minor changes and adjustments that do not affect design intent shall be made by Sub-Contractor and shall be highlighted for OAR and FUSD and ARCHITECT’S reviews.
6. Prepare coordination drawings in CAD with each trade on a separate layer, in specified color and scale. CONTRACTOR and each Subcontractor shall provide and forward reproducible copies and CAD drawing files in the order described here:
7. Structural shop drawings shall indicate location and sizes of columns, beams and other structural members, as well as wall, roof and slab penetrations, and will be provided to mechanical, electrical, low voltage and plumbing Sub-contractors for co-ordination. Structural items shall be indicated using black lines.
8. HVAC Subcontractor will indicate all ductwork, piping and equipment complete with installation and dimensioned service clearances, duct and pipe sizes, fitting types and sizes, top or bottom of duct and pipe elevations, distances of ducts, pipes and equipment from building reference points and hanger and support locations. Minor changes and adjustments that do not affect design intent shall be made by Subcontractor and shall be highlighted for OAR and FUSD and ARCHITECT’S reviews. Forward drawings to plumbing Subcontractor for further co-ordination. HVAC items hall be indicated using orange lines.
9. Plumbing Subcontractor will indicate all plumbing lines, and equipment complete with installation and dimensioned service clearances, pipe sizes, fitting types and sizes, top or bottom pipe elevations, distances or pipes and equipment from building reference points and hanger/support locations co-ordinate with HVAC Subcontractor. Minor changes and adjustments that do not affect design intent shall be made by Subcontractor and shall be highlighted for OAR and FUSD and ARCHITECT’S reviews. Upon completion drawings shall be forwarded to Fire Sprinkler Subcontractor for further co-ordination. All plumbing items shall be indicated using blue lines.
10. Fire sprinkler Subcontractor will indicate fire sprinkler piping and equipment complete with installation and dimensioned service clearances, pipe sizes, fitting types and sizes, top or bottom of pipe elevations, distances of pipes and equipment from building reference points and hanger or support locations. Co-ordinate with Plumbing and HVAC Subcontractors. Minor changes and adjustments that do not affect design intent shall be made by sub-contractors and shall be highlighted for OAR and FUSD and ARCHITECT’S reviews. Upon completion drawings shall be forwarded to Electrical CONTRACTOR for further co-ordination. Fire sprinkler equipment shall be indicated using red lines.
11. Electrical and Low Voltage Subcontractors will indicate service and feeder conduit runs and other electrical equipment complete, including low voltage with installation and dimensioned service clearances, sizes, top or bottom of conduit and rack elevations, distances of conduits and equipment from building reference points and hanger and support locations. Co-ordinate with Fire Sprinkler, Plumbing and HVAC Subcontractors. Minor changes and adjustments that do not affect design intent shall be made by sub-contractors and shall be highlighted for OAR and ARCHITECT’S review. Upon completion drawings shall be forwarded to CONTRACTOR for further co-ordination. Electrical work shall be indicated in dark green lines. Low voltage work shall be indicated in light green lines.
12. CONTRACTOR will be responsible for the overall coordination review. As each coordination drawing is completed, CONTRACTOR will meet with OAR and FUSD to review and resolve all conflicts on coordination drawings.
13. All coordination meetings will be held in Project field office of CONTRACTOR. CONTRACTOR is required to distribute Shop Drawings, cut sheets and submittals to Subcontractors where appropriate. Reviewed coordination drawings will be maintained in Project field office of CONTRACTOR. Meeting minutes shall be developed by CONTRACTOR and submitted to OAR and FUSD within 5 days.

**END OF SECTION**