SECTION VIII: PROJECT SPECIFICATIONS - EXHIBIT B

ORANGE COUNTY TRANSPORTATION AUTHORITY

Standby Power Generator Replacements

AT

Anaheim Bus Base
Irvine Construction Circle Bus Base

PROJECT SPECIFICATIONS

C-0-2074

February 14, 2020

ORANGE COUNTY TRANSPORTATION AUTHORITY

STANDBY POWER GENERATOR REPLACEMENTS
ANAHEIM AND IRVINE BUS BASES

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SUMMARY OF WORK

PART 1 - GENERAL

1.01 DESCRIPTION

A. Contract documents: The Contractor shall obtain all copies of the Contract Drawings and Specifications including all addenda through the OCTA CAMMNET website, as required to perform the work. The cost for obtaining any additional documents required for the contractor shall be included in the bid price and no additional compensation will be allowed.

B. All drawings, specifications, and other contract documents, and copies furnished by the Authority are its property. They are not to be used on other work and with the exception of signed contract sets are to be returned to the Authority upon request at the completion of the work. The location of the work, its general nature and extent, and the form and general dimensions of the project and appurtenant works are shown on the contract drawings which are hereby made a part of these specifications as listed herein.

C. The general intent of the contract, specifications, drawings, and other contract documents is that the Contractor shall:

1. Furnish tools, qualified labor, material, equipment, qualified superintendence, and services, assurances and guarantees, and assumptions of risk and responsibility, necessary for the performance of the Work as set forth in the contract documents unless otherwise specifically provided.

2. Begin work promptly and proceed expeditiously and continuously without cessation or shutdown of Work unless otherwise specifically approved in writing by the OCTA Engineer, or directed by the contract documents.

3. Perform, complete, and make ready for its intended purpose, within the times specified, including additional times provided for certain conditions, the work or parts thereof covered by the contract, all in accordance with drawings, specifications, and modifications thereto and directions or instructions the OCTA Engineer may give to supplement the drawings and specifications. The Contractor shall retain sole responsibility and expense for quality control of the work.

D. Words and abbreviations which have well-known technical or trade meanings are used in the contract documents in accordance with such recognized meanings.

E. The organization of the specifications into divisions, sections, parts, and paragraphs, and the arrangement of the drawings, shall not control the Contractor in dividing the work among subcontractors or in establishing the extent of work to be performed by

any trade. Study and compare the contract documents and immediately report to the OCTA Engineer any error, inconsistency, or omission that may be discovered. Contractor shall be liable to OCTA for damage resulting from unreported errors, inconsistencies, or omissions in the contract documents.

F. It will be the responsibility of the Contractor to stage the construction activities at the project site, using the Site Specific Work Plan process (SSWP)

G. Ownership of Materials:

1. Materials furnished by the Contractor under this contract shall become the property of the OCTA.

H. General Summary of Work:

This project is classified as “Facility Modification Project” and Contractor is required to meet all Facility Modification Project safety requirements specified in OCTA’s Level 3 Health Safety and Environmental Specifications.

1. Work to be performed by Contractor shall consist of the construction of the work shown on the drawings and detailed in the specifications.

2. The descriptions provided in this section are general in nature and are not meant to detail all work required by the contract documents.

3. The work in OCTA Anaheim Bus Base at 1717 E. Via Burton, Anaheim, California under this contract consist of:

   a. Relocation of an existing emergency material storage steel container.

   b. Construction of concrete duct-banks for interconnection of a new standby power system to the existing electrical distribution system.

   c. Construction of a concrete foundation and containment for a new 1000 KW standby power generator and 10” concrete-filled steel pipe protective bollards.

   d. Construction of a concrete mounting pad for a NEMA 3R 2000A, 480V, 3 phase, 4 pole automatic transfer switch (ATS) and an NEMA 3R integrated transformer and panelboard unit.

   e. Installation of a 1000 KW standby power generator, a NEMA 3R 2000A, 480V, 3 phase, 4 pole automatic transfer switch (ATS), an NEMA 3R integrated transformer and panelboard unit, controls, and wiring.

   f. Disconnection of the existing standby power generator, automatic transfer switch (ATS), and wiring.

   g. Installation of a new wiring lug connection enclosure, wiring and reconnection of the existing switchboard “HPF” in the existing generator room.

h. Removal of an abandoned standby power generator, automatic transfer switch, wiring, diesel day-tank, and piping.

i. Removal of an abandoned outdoor mounted automatic transfer switch enclosure and conduits. Installation of caps on exposed conduits.

j. CMU patch on the existing CMU wall opening of the generator room.

4. The work in OCTA Irvine Bus Base at 16281 Construction Circle West, Irvine, California under this contract consist of:

a. Coordination with Southern California Edison (SCE) for the electrical service connection to a new Metered Main Switchboard.

b. Relocation of an existing 150 KW standby power generator to temporarily provide the standby power while a new 400 KW standby power generator is being installed.

c. Removal of the existing concrete mounting pad and wiring.

d. Construction of a concrete mounting slab for a 400 KW standby power generator, a NEMA 3R main switchboard, a NEMA 3R automatic transfer switch (ATS), interception to the existing duct-banks, and 6” concrete-filled steel pipe protective bollards.

e. Installation of a 400 KW standby power generator, a NEMA 3R 1200A, 480V, 3 phase, 4 pole automatic transfer switch (ATS), controls, and wiring.

f. Installation of new Main Switchboard and wiring to the existing switchboard and SCE utility transformer.

g. Cut-over connections to the SCE utility transformer and the existing switchboard.

h. Test and commission operations of the new standby power system.

i. Disconnection of the existing standby power generator, automatic transfer switch (ATS), and wiring.

I. Other features of the work include, but are not limited to, the following:

1. Complete mobilization and demobilization.

2. Obtaining of necessary construction and related permits from various jurisdictional agencies. Contractor shall be responsible for all related fees from various jurisdictional agencies.

3. Obtain and pay for all licenses required by all jurisdictions associated with the approval and requirements of the project.

1.02 INTENT OF DRAWINGS AND SPECIFICATIONS

A. The intent of the drawings and specifications is to prescribe the details for construction and completion of the work that the Contractor undertakes to perform in accordance with the terms of the Contract. Where the drawings or specifications describe portions of the work in general terms, but not complete detail, it is understood that only the best industry practice is to prevail and that only materials and workmanship of the first quality are to be used. Unless otherwise specified, the Contractor shall furnish all labor, materials, tools, equipment, and incidentals, and perform all the work involved in executing the contract in a satisfactory and workmanlike manner.

B. Drawings and specifications are essential parts of the Contract, and a requirement indicated in one is binding as though indicated in all. They are intended to be complementary and to describe and provide for the complete work.

C. Summaries or introductory descriptions of the work of individual sections do not limit requirements. The Contractor's responsibilities include all requirements for proper execution of the work.

D. Division 01 of the specifications governs all divisions. Comply with Division 01 requirements whether or not referenced in individual sections in Divisions 02-49.

E. References to the singular include the plural and do not imply that only one unit of a product is required.

F. Unless an object or activity is specified to be less than the total, the quantity or amount is all of the object or activity.

G. Unless a requirement is specified to apply for a limited time, it applies for the duration of the work.

H. "Including," "such as," "as follows," and similar terms do not limit the meaning to only items listed. The phrase "but not limited to" is understood to follow these expressions.

I. All items in a list apply unless the items are specified as choices.

1.03 REFERENCE MATERIAL

A. Reference specifications or standards referred to in the plans or specifications shall be the most recent version developed as of Contract award. Where referenced standards refer to the "specifications" or the "special conditions," this shall be understood by Contractor to mean the drawings and specifications of this contract. Contractor is responsible to obtain all reference material at its own expense and to make itself familiar with the requirements therein.

1.05 PROJECT ACCESS AND CONTRACT LIMITS

A. Contractor shall submit a Traffic Management Plan as required on Section 01 14 43 Environment Resource Protection, outlining access to the job site and maintaining the facility operational at all times.

B. Construction activity shall be within the normal work hours between 7:00 am to 3:30 pm Monday through Friday. Construction area shall be cordoned off using temporary barriers and chain link fencing unless otherwise noted on Contract Drawings. See project plans for additional information on phasing and work windows.

PART 2 – PRODUCTS

Not Used

PART 3 – EXECUTION

Not Used

PART 4 – MEASUREMENT AND PAYMENT

No separate measurement or payment shall be made under this section.

END OF SECTION

SECTION 01 14 22

RULES AND HOURS OF OPERATION

PART 1 – GENERAL

1.01 SUMMARY

A. This section outlines rules and hours of operation to which Contractor shall conform during the execution of the work under this contract. It is Contractor's responsibility to ensure that these rules are acceptable to OCTA.

1.02 REFERENCE STANDARDS

A. Comply with the provisions of applicable local, State, and Federal codes, standard plans and specifications, and recommended practices, and with OCTA policy, including:

1. SSPWC: Public Works Standards, Inc., Standard Specifications for Public Works Construction.

2. Caltrans: California Department of Transportation, Trenching and Shoring Manual.

3. Cal/OSHA: California Department of Industrial Relations, Division of Occupational Safety and Health (Cal/OSHA) regulations.

4. OSHA: Federal Occupational Safety and Health Administration regulations.

1.03 SUBMITTALS

A. Site Specific Work Plan (SSWP) containing the information specified herein.

1.04 PROJECT COORDINATION

A. Cooperate with the OCTA Project Manager in all matters requiring coordination.

B. Coordinate execution of the work with the OCTA Project Manager to eliminate or minimize to the greatest extent possible interference with bus operations.

C. Keep OCTA Project Manager fully informed regarding all work.

1.05 CONTRACTOR'S RESPONSIBILITY

A. Perform work in accordance with the contract and all applicable codes, ordinances, rules, regulations, orders, and other legal requirements of governmental bodies and public agencies having jurisdiction, including the OCTA.

B. Damage caused by Contractor to third-party property, signal and communications equipment, or other facilities shall be repaired at Contractor's expense to a condition equal or better than the condition prior to Contractor entry and as accepted by the OCTA Project Manager. At the sole discretion of the OCTA Project Manager, the OCTA Project Manager may direct repairs to be performed by other contractors. Charges for those repairs shall be deducted from Contractor's payment due under this Contract.

C. Items shown on the drawings to be protected in place, or not identified as part of demolitions, removals, or modifications, shall be protected in place in accordance with SSPWC Section 7-9, Protection and Restoration of Existing Improvements, at no additional cost to the OCTA.

D. Perform work within the operating envelope or which affects the operating system only after submitting a Site Specific Work Plan (SSWP) and receiving written approval of the SSWP from the OCTA Project Manager.

E. Furnish all labor, materials, and equipment as required to perform and complete the work within the work windows in accordance with the approved schedule in the SSWP.

1.06 SSWP – GENERAL CONTRACTOR REQUIREMENTS

A. SSWPs with potential to impact normal functioning of any part of the operating system shall include a detailed schedule of events indicating the expected hourly progress of each activity that has duration of one hour or longer. The schedule shall include a time at which each activity planned under the SSWP and the requested work window will be completed. The total duration of the construction activities shall be less than the approved work window. Contractor's failure to complete scheduled activities by the planned time or to put in place an approved contingency plan may adversely impact the operations of the bus base.

B. The SSWP shall be prepared by the Contractor and shall include the following information:

1. All activities necessary to perform construction activities.

2. Conformance with all other requirements applicable under the contract documents.

3. A schedule for the work showing each activity and where and how it affects normal operation. Each activity in the plan shall include all labor, materials, and equipment required to complete the activity within the OCTA allotted time period.

4. List of approved proposed work plans to be performed under the SSWP, with names and phone numbers of Contractor's supervisors in charge of SSWP tasks.

C. SSWPs must be of sufficient details, clarity, and organization to permit easy review and approval by the OCTA Project Manager before the proposed work is performed. SSWPs shall be submitted to the OCTA Project Manager as follows:

1. At least 14 calendar days prior to start of work.

D. The OCTA Project Manager may request explanations and changes to the SSWP to conform the SSWP to the requirements of the contract documents. If the SSWP is not acceptable, Contractor shall revise the SSWP to make it acceptable. Contractor is responsible for submitting a revised SSWP that can be reviewed and approved by the OCTA at least seven days in advance of any work.

E. Contractor will be informed if the SSWP is acceptable not less than seven calendar days prior to the scheduled start of work within the operating envelope. Once the SSWP is accepted, Contractor shall assemble the resources necessary to perform the work represented by the SSWP, so that necessary resources are available one day before the work is to be accomplished. At that time, the OCTA Project Manager will make a final decision as to whether or not the work is to proceed as planned or will be canceled. The prime consideration will be the stage of readiness of Contractor, which Contractor shall demonstrate to the OCTA Project Manager.

1.07 SSWP – SPECIAL CONTRACTOR REQUIREMENTS

A. Contractor shall provide sufficient personnel, equipment, materials, and all other resources necessary to return impacted facilities to full service upon the conclusion of the approved work window.

B. Contractor shall perform the work expeditiously and continuously with no gaps or breaks in work activities or substantive reductions in the labor force, equipment, and materials necessary to construct, reconstruct, or repair the impacted facility to full service upon conclusion of the approved work window.

C. In general, open excavation areas shall be protected per OSHA regulations.

1.08 WORK WINDOWS - GENERAL

A. Site-specific available work windows shall be as approved by the OCTA Project Manager under established procedures.

B. Construction hours shall be limited to 7:00 am to 3:30 pm Monday through Friday unless approved in writing in advance by OCTA and appropriate regulatory agencies.

PART 2 – PRODUCTS

Not Used

PART 3 – EXECUTION

Not Used

PART 4 – MEASUREMENT AND PAYMENT

No payment will be made to Contractor for work of this section.

END OF SECTION

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SECTION 01 14 23

COORDINATION WITH OCTA AND LOCAL AGENCIES

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:

1. Requirements for coordination with OCTA and Local Agencies.

1.02 REGULATIONS

A. If additional work is being performed by others, on or adjacent to the work site for this Contract, coordinate work with other activities in order to avoid conflicts.

1.03 COORDINATION

A. Coordination: Contractor shall coordinate the Work as stated in the Conditions of the Contract.

B. Relationship of Contract Documents: Drawings, Specifications and other Contract Documents are intended to be complementary. What is required by one shall be as if required by all. What is shown or required, or may be reasonably inferred to be required, or which is usually and customarily provided for similar work, shall be included in the Work.

C. Discrepancies in Contract Documents: In the event of error, omission, ambiguity or conflict in the Drawings or Specifications, Contractor shall bring the matter to the OCTA's attention in timely manner, for the OCTA's determination and direction in accordance with provisions of the Conditions of the Contract.

D. Construction Interfacing and Coordination: Layout, Phasing, and Sequencing of Work shall be solely the Contractor's responsibility. Contractor shall bring together the various parts, components, systems and assemblies as required for the correct interfacing and integration of all elements of Work. Contractor shall coordinate Work to correctly and accurately connect abutting, adjoining, overlapping and related elements, including utilities, for a complete operational system to the satisfaction of the OCTA, agencies, and companies. Provide adequate access for OCTA buses to pass through all areas at all times. Do not block non-construction areas.

E. Contractor shall notify OCTA a minimum of three (3) working days before excavation begin. The work shall be construction in phases where indicated on the contract drawings or specifications. A phase shall be completed and operational before proceeding to the next phase.

F. The Contractor shall cooperate fully with all forces of the Authority. Contractor should note that additional work is being conducted on site with other construction contracts and work of this contract must be coordinated amounts the trades and not additional compensation will be allowed for this coordination work.

G. Unless otherwise directed, provide five (5) day notice of all utility outages and shutdowns. Duration of outages and shutdowns shall not hinder normal operations and maintenance of the facility. In case of accidental damage to power or utility lines, repair power or utility line immediately, provide alternate source of power to keep facility operation during the repair period.

1.04 GENERAL REQUIREMENTS

A. Adhere to work window rules detailed in the approved SSWP under Section 01 14 22, Rules and Hours of Operation and the specifications.

B. See Section 01 14 22, Rules and Hours of Operation

PART 2 – PRODUCTS

Not Used

PART 3 – EXECUTION

Not Used

PART 4 – MEASUREMENT AND PAYMENT

No separate measurement or payment shall be made under this section.

END OF SECTION

SECTION 01 14 25

PROCEDURES IN CONSTRUCTION

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:

1. Procedures used in performance of work of a general nature, including work by Contractor, Contractor use of work site, work zone limitations of site, and pollution controls.

B. Related Sections:

1. Section 01 14 23, Rules and Hour of Operation.

2. Section 01 14 27, Legal Relations and Responsibility.

1.02 WORK BY CONTRACTOR

A. Provide work reasonably inferred from the drawings and specifications as being required to produce the intended result whether or not specifically called for.

B. Work, materials, or equipment described in words which have known technical or trade meaning shall be deemed to carry the accepted meaning of recognized standards.

C. Complete all work enumerated under the contract including but not limited to the following:

1. Perform work set forth in the contract documents, including the drawings and specifications.

2. Obtain required permits, inspections, and certifications for material compliance.

1.03 SUBMITTALS

A. All required submittals per OCTA Level 3 Health, Safety and Environmental Specification.

B. Material Safety Data Sheets (MSDSs).

1.04 STORM WATER MANAGEMENT

A. Contractor is responsible for preventing and/or mitigating potential chemical releases erosion and sedimentation impacts associated with storm water runoff. Contractor shall comply with OCTA's bus base industrial SWPPP and implement BMP's during work. See Section 01 57 13, Temporary Erosion and Sedimentation Control, for additional requirements.

B. Use best management practices (BMPs) Contractor proposes in connection with the execution of construction activity at the project site. Use applicable BMPs included in the Construction Site Best Management Practices (BMPs) Manual prepared by the California Stormwater Quality Association, *www.cabmphandbooks.com* .

C. Provide copies of the approved

D. SWPPP and BMP to subcontractors and keep a copy available onsite at the project office. Provide amendments to the plan when there is a change in construction or operations, or where storm water runoff conditions may affect the discharge of significant quantities of pollutants to surface waters, groundwater, or separate municipal storm sewer systems. Submit the amended plan to the OCTA for review and approval as soon as practicable, and retain the amended plan on site.

E. Preparation and implementation of an OCTA-approved plan does not relieve the Contractor or subcontractors of their responsibilities to comply with state, county, and local governmental requirements, including those for storm water management and non-point source runoff controls.

1.05 MATERIAL SAFETY DATA SHEETS (MSDS)

A. Material Safety Data Sheets (MSDSs) are prepared by manufacturers and suppliers of products that contain hazardous materials. Hazardous material is defined as any substance which is a physical or health hazard, or is included in the Cal/OSHA Director's List of Hazardous Substances, or is listed by the California EPA Office of Environmental Health Hazard Assessment under Title 27 of the California Code of Regulations, Section 27001, Chemicals Known to the State to Cause Cancer or Reproductive Toxicity.

B. No hazardous materials shall be delivered, stored, or used at any work site or facility unless they are properly labeled, tagged, or marked and a copy of the MSDS has been provided to the OCTA. Provide a copy of any updated MSDS to the Engineer immediately.

C. Maintain a file of MSDSs at the work site. Keep MSDS files current; add new or updated MSDSs immediately and provide a copy to the OCTA.

D. See Contract Documents for OCTA Level 3 Health, Safety, and Environmental Specifications for additional requirements.

1.06 CONTRACTOR USE OF WORK SITE

A. Coordinate access, use, and preparation of facilities adjacent to project areas with owners and agencies. Coordination shall include but not be limited to the following:

1. Staging and laydown areas for use under this Contract are as specified or shown on the Drawings. Staging and laydown areas not covered in the Contract Documents shall be requested in writing and approved by the OCTA. The OCTA may or may not grant approval. No equipment may be operated or materials stored or placed for any period of time in unfenced areas. Provide a fence to enclose each laydown or staging area within the right-of-way. Furnish the OCTA with photographs of all staging and laydown areas to document their condition prior to start of work.

2. Contractor shall submit construction staging plan as a part of SSWP for review and approval by OCTA. The staging plan must be accepted by the OCTA prior to undertaking work in accordance with the staging plan.

3. Prior to demobilization, restore to full serviceability fences, walls, signs, and gates affected by Contractor's access to the right-of-way.

B. Confine work site operations to areas permitted by law, ordinances, permits, and the contract.

C. Consider the safety of the work, OCTA patrons and property on and adjacent to the work site when determining amount, location, movement, and use of materials and equipment on work site.

D. Do not load work site with excessive amounts of material, equipment, or other items which have the potential to interfere with the work or with bus base operations.

E. Protect products, equipment, and materials stored on work site.

F. Coordinate operations and secure from property owners at no cost to OCTA additional storage or work areas as needed for proper execution of the work. Adhere to the noise levels and work hours of local ordinances.

G. Protect the general public from work-related activities, and do not unnecessarily inconvenience those persons by work activities.

H. Submit proposed locations of staging areas for OCTA’s approval.

I. Preserve drainage facilities throughout the duration of the work so that there is no ponding or accumulation of water in any work site area, there is no flow of water

diverted out of normal drainage channels. Maintain culvert inlets and outlets free of debris.

J. Preserve existing right-of-way fences and walls, and replace any fences or walls damaged during the work to the satisfaction of the owner(s) of the fences or walls.

K. Provide and maintain barriers and chain link fence around the work area as shown on the contract drawings.

1.07 WORK ZONE LIMITATIONS OF SITE

A. In addition to site utilization limitations and requirements indicated in contract documents, divide available space equitably among subcontractors and other entities needing access and space so as to provide best overall efficiency in performance of total work of the project.

B. Schedule deliveries so as to minimize space and time requirements for storage of materials and equipment on site, with minimal disruption to adjoining property owners and operations. Pick-up and delivery shall be conducted only during normal working hours and as approved by OCTA. Contractor shall give OCTA 48 hours notice prior to delivery of equipment or materials to the project site.

1.08 POLLUTION CONTROLS

A. Conduct operations for the execution of the project in compliance with applicable Federal, State, and local regulations controlling pollution and noise levels related to construction work, in accordance with Section 01 14 27, Legal Relations and Responsibility.

PART 2 – PRODUCTS

Not Used

PART 3 – EXECUTION

Not Used

PART 4 – MEASUREMENT AND PAYMENT

No separate measurement or payment shall be made under this section.

END OF SECTION

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SECTION 01 14 27

LEGAL RELATIONS AND RESPONSIBILITY

PART 1 – GENERAL

1.01 SUMMARY

A. Section Includes:

1. Laws to be observed, fire prevention, protection of premises, use of explosives, access roads, construction roads, waste control, public relations, and pollution controls.

2. This section complements requirements in other sections.

1.02 LAWS TO BE OBSERVED

A. Keep fully informed of State and Federal laws; county, municipal, and other local ordinances; regulations; and orders of authorities having jurisdiction that affect those engaged in the work, materials used in the work, or conduct of the work.

B. Observe and comply with laws, ordinances, regulations, and orders of authorities having jurisdiction over the work. Contractor's responsibilities include causing Contractor's agents, employees, subcontractors, and visitors to observe and comply with these laws, ordinances, regulations, and orders.

C. Protect and indemnify OCTA and its officers and employees against claims and liabilities arising from or based on Contractor's violation of a law, ordinance, regulation, or order.

D. Report to the OCTA, in writing within two days of discovery, discrepancies or inconsistencies discovered in the drawings, specifications, or contract documents in relation to laws, ordinances, regulations, or orders.

1.03 COORDINATION WITH UTILITIES

A. Coordinate with utility companies to ensure that utility locations are clearly marked for the duration of construction activities.

1.04 FIRE PROTECTION

A. Comply with Federal, State, county, municipal, and other laws and regulations pertaining to the prevention, control, and fighting of fire and to the conduct of welding and burning operations. Procure all related permits and licenses.

B. Supply fire-fighting equipment, supplies, and personnel and perform work required by laws and regulations pertaining to fire protection. If loss or damage results from fire or other cause, promptly repair loss or damage at no expense to OCTA.

1.05 PROTECTION OF PREMISES

A. Take precautions necessary and be responsible for maintaining lights, guards, signs, temporary passages, or other protection.

B. Restore loss or damage to materials, tools, or other articles used or held for use in connection with the work at no expense to OCTA.

C. Restore loss or damage as a result of fire or other cause attributable to Contractor or subcontractors at no expense to OCTA. Promptly repair damage and restore loss to materials, tools, or other articles used or held for use in connection with the work. Carry the work to completion without damage to or interference with other work or contiguous property.

1.06 USE OF EXPLOSIVES

A. Use of explosives is not permitted unless specifically detailed in the specifications or approved in advance in writing by OCTA.

1.07 WORK SITES AND WASTE MATERIAL

A. Obtain required approvals and bear costs of location, construction, maintenance, operation, removal, and transportation of sanitation facilities and waste material from work sites. Sanitation shall conform to local, State, and Federal requirements. Maintain work sites in a neat and orderly condition.

B. Before starting work, submit to OCTA a contingency plan for cleanup of accidental spillage of toxic or detrimental materials and for restoration of soil damaged thereby to near-natural conditions. Conduct the handling, storage, and disposal of waste material so as to avoid pollution of rivers, streams, ponds, or wells, and in compliance with local, State, and Federal environmental laws and regulations

C. OCTA shall acquire all applicable permits. These permits include, but would not be limited to, a Section 404 Wetlands Fill Permit from the USACE, or a Report of Waste Discharge from the Regional Water Quality Control Board (RWQCB), and a Section 401 Water Quality Certification from the RWCQB. Additionally, a Section 1602 Streambed Alteration Agreement from the California Department of Fish and Wildlife (CDFW) would be required for development that would cross or affect any stream course.

1.08 PUBLIC RELATIONS, CONVENIENCE, AND NOTICE OF DAMAGE

A. Conduct operations so as to offer the least possible obstruction and inconvenience to the public. Have under construction no greater length or amount of work than can be prosecuted properly with due regard to the rights of the public. Control temporary noise from construction equipment by using work hour controls and maintenance of muffler systems on machinery as necessary.

B. Provide, at Contractor's expense, adequate safeguards, safety devices, and protective equipment, and take other needed action, both at Contractor's own volition and as the OCTA may determine reasonably necessary, to protect property, life, health, and public safety in connection with the performance of the work covered by the contract.

C. Notify the OCTA in writing within 24 hours after causing injury to persons or damage to public or private property, including above and below ground structures. Contractor shall be responsible and liable for all damages and injuries.

1.09 ENVIRONMENTAL AND ANTI-POLLUTION

A. Comply with Federal, State, county, municipal, and other local laws and regulations pertaining to the environment, including noise, aesthetics, air quality, water quality, and resources of archaeological significance. Refer also to Section 01 14 43 Environmental Resource Protection for additional requirements. Expense of compliance with these laws and regulations is included in the lump sum and unit prices. Provide water used for dust control, or for pre-wetting areas to be paved, as required; no payment will be made by OCTA for this water.

B. Carry out grading and other work in a manner which will not create a pollution problem. Temporary construction roads, haul roads, and work areas shall be maintained free from excessive dust by an approved program of sprinkling, graveling, chemical treatment, temporary asphalt pavement, or combination thereof for the duration of the work.

C. Give attention to the effect of work operations upon the landscape, and take care to maintain natural surroundings undamaged. Disturbances of land or waters outside the limits of construction shall be rehabilitated by Contractor at its expense, when and as directed by the OCTA.

D. Prevent pollution of storm drains, rivers, streams, irrigation ditches, and reservoirs with sediment or other harmful materials. Fuels, oils, bitumen, calcium chloride, cement, or other contaminants that would contribute to water pollution shall not be dumped into or placed where they will leach into storm drains, rivers, streams, irrigation ditches, or reservoirs. If operating equipment in streambeds or in and around open waters, protect the quality of ground water, wetlands, and surface waters.

E. Protect adjacent properties and water resources from erosion and sediment damage throughout the duration of the contract. Comply with applicable NPDES permits and Storm Water Pollution Prevention Plan (SWPPP) requirements. See

Section 01 14 25, Procedures in Construction, and Section 01 57 13, Temporary Erosion and Sedimentation Control.

F. Do not conduct construction activities outside the right-of-way during muddy or wet ground conditions.

G. If archaeological remains are uncovered during construction, stop grading operations in the vicinity of the find and immediately notify the OCTA. Refer to Section 01 14 43, Environmental and Resource protection for additional requirements.

H. Costs associated with environmental and pollution control measures are considered incidental to the contract work, at no additional cost to OCTA.

I. Take the following actions and others as necessary to control environmental pollution:

1. Reduce air pollution by minimizing dust, containing chemical vapors, and controlling engine exhaust gases. Limit idling of machinery as directed by the OCTA.

2. Reduce water pollution by control of sanitary facilities and proper storage of fuel and other contaminants.

3. Reduce turbidity and siltation by controlling erosion and sedimentation.

4. Minimize noise levels.

5. Dispose of waste and spoil properly.

6. Prevent landscape defacement and damage.

J. Comply with South Coast Air Quality Management District (SCAQMD) Rule 403 to control fugitive dust emissions. In addition to the requirements contained therein, comply with the following:

1. Water all land clearing/earth moving activity areas to control dust as required by the OCTA. Areas shall remain visibly moist during active operations.

2. Visually inspect construction equipment prior to leaving work sites. Wash off any loose dirt with wheel washers as necessary.

3. Properly tune and maintain all construction equipment in accordance with manufacturer’s specifications.

4. Maintain and operate construction equipment so as to minimize exhaust emissions. During construction activities, trucks and vehicles in loading and unloading queues shall have their engines turned off when not in use to reduce noise and exhaust emissions.

5. Establish on-site construction equipment staging areas and construction worker parking lots on either paved surfaces or unpaved surfaces treated with soil stabilization materials.

6. Use electricity from power poles where feasible, rather than temporary diesel or gasoline powered generators. Muffle noise from generators to the extent practical.

7. Use on-site mobile equipment powered by alternative fuel sources, such as ultra-low sulfur diesel, methanol, natural gas, propane or butane.

8. Construction grading or earth moving on days when wind gusts exceed or are forecast to exceed 25 mph is prohibited.

PART 2 – PRODUCTS

Not Used

PART 3 – EXECUTION

Not Used

PART 4 – MEASUREMENT AND PAYMENT

A. There will be no separate measurement for work of this section.

B. Full compensation for all work involved shall be included in the various items of work, and no separate payment shall be allowed therefor.

END OF SECTION

SECTION 01 14 43

ENVIRONMENTAL RESOURCE PROTECTION

PART 1 – GENERAL

1.01 SUMMARY

A. Section Includes:

1. Protection of species habitat.
2. Protection of archaeological resources.
3. Protection of paleontological resources (fossils).
4. Protection of human remains.
5. Protection from previously existing contamination.
6. Prevention of fuel spills and hazardous material spills.
7. Prevention of stored fuel leaks.
8. Protection of stormwater quality and control of stormwater quantity.
9. Prevention of traffic impacts.
10. Prevention of road damage.
11. Prevention of fugitive dust.
12. SCAQMD requirements.
13. Disposal of refuse.

B. Related Sections:

1. Section 01 14 25, Procedures in Construction.
2. Section 01 14 27, Legal Relations and Responsibility.

1.02 SUBMITTALS

A. Submit under Section 01 33 00, Submittal Procedures.

B. Written commitment to clean up leaks of fuel or hazardous materials.

C. Traffic Management plan.

1.03 GENERAL

A. Provisions of this section are required to reduce or avoid potential environmental impacts of the project, in accordance with environmental mitigation measures imposed by the OCTA and other responsible agencies.

B. This section summarizes required mitigation. Proceed with mitigation only after consultation with OCTA and Contractor's biological, archaeological, and geological consultants.

PART 2 – PRODUCTS

Not Used

PART 3 – EXECUTION

3.01 PROTECTION OF SPECIES HABITAT

A. Avoid placement of construction equipment and personnel within environmentally sensitive habitat areas used by target species of concern. Activities that cannot be conducted without placement of construction equipment and personnel within sensitive habitats shall be timed to avoid the breeding season of the target species of concern. Coordinate such activities and their timing with the OCTA.

B. Locate equipment storage, fueling and staging areas to minimize risks of direct drainage or runoff into riparian areas or other environmentally sensitive habitats. Take every precaution to prevent the release of toxic substances into surface waters. Report immediately all project spills of hazardous materials to the OCTA, OCTA, US Fish and Wildlife Service (USFWS), California Department of Fish and Wildlife (CDFW), and Regional Water Quality Control Board (RWQCB). Immediately clean up hazardous materials and remove all contaminated soils; dispose of only at approved disposal sites.

C. Stockpiling and staging of materials shall be limited to disturbed areas without native vegetation, areas to be impacted by the project or in non-sensitive habitats.

D. Establish No-Fueling zones within a minimum of 33 feet from all drainages and fire-sensitive areas.

E. Maintain project areas clean of debris to avoid attracting predators of the target species of concern. Enclose all food related trash in sealed containers and regularly remove from site. Pets of construction personnel shall not be allowed on site where they may come into contact with any listed species.

F. If dead or injured listed species are located, biologist, in consultation with the OCTA, will notify the USFWS and the CDFG according to required protocols. Obtain instructions form the OCTA on how to proceed following such discovery.

G. Nesting avian species protected by the Migratory Bird Treaty Act (MBTA):

1. For any construction activities or vegetation removal between February 15 and August 31, a nesting bird survey shall be conducted by contractor's qualified biologist of all habitats within 250 feet of the construction area. Surveys shall be conducted no less than 14 days and no more than 30 days prior to commencement of construction activities and vegetation removal. The nesting bird surveys will be conducted in accordance with CDFG protocol as applicable. If no active nests are identified on or within 250 feet of the construction site, no further mitigation is necessary. A copy of the pre-construction survey shall be submitted to the local agencies jurisdiction. If an active nest of a MBTA protected species is identified onsite (per established thresholds) a 100-foot no-work buffer shall be maintained between the nest and construction activity. This buffer can be reduced in consultation with CDFW and/or USFWS.

2. Completion of the nesting cycle shall be determined by qualified ornithologist or biologist.

3.02 PROTECTION OF ARCHAEOLOGICAL RESOURCES

A. If evidence of an archaeological site or other suspected historical resource as defined by CEQA Guidelines Section 15064.5, including darkened soil representing past human activity, that could conceal material remains (e.g., worked stone, fired clay vessels, faunal bone, hearths, storage pits, or burials) are discovered during any project-related earth-disturbing activities (including projects that would not encounter undisturbed soils), all earth-disturbing activity within 100 feet of the find shall be halted and OCTA shall be notified.

3.03 PROTECTION OF PALEONTOLOGICAL RESOURCES (FOSSILS)

A. Should paleontological resources (i.e., fossil remains) be identified at a particular site during project construction, the construction foreman shall cease construction within 100 feet of the find until a qualified professional can provide an evaluation.

3.04 PROTECTION OF HUMAN REMAINS

A. In the event of the discovery of human remains during construction, procedures outlined in Section 15064.5(e) of the CEQA Guidelines shall be strictly followed. Upon discovery all excavation at the site or any nearby area reasonably suspected to overlie human remains shall cease immediately. Notify OCTA immediately. OCTA will notify County Coroner who will determine if remains are Native American. If the remains are determined to be Native American, the coroner will contact the Native American Heritage OCTA (NAHC). The NAHC will identify the Most Likely Descendent (MLD). The MLD will make recommendations for the appropriate treatment and disposition of the remains and any associated artifacts in accordance with Public Resources Code (PRC), Section 5097.98. Do not commence construction in the area until notified to do so by the OCTA.

3.05 PROTECTION FROM PREVIOUSLY EXISTING CONTAMINATION

A. In the event that previously unknown or unidentified soil and/or groundwater contamination that could present a threat to human health or the environment is encountered during construction of the proposed project, construction activities in the immediate vicinity of the contamination shall cease immediately. If contamination is encountered, a Risk Management Plan shall be prepared and implemented that (1) identifies the contaminants of concern and the potential risk each contaminant would pose to human health and the environment during construction and post development and (2) describes measures to be taken to protect workers, and the public from exposure to potential site hazards. Such measures could include a range of options, including, but not limited to, physical site controls during construction, remediation, long-term monitoring, post development maintenance or access limitations, or some combination thereof. Depending on the nature of contamination, if any, appropriate agencies shall be notified. If needed, a Site Health and Safety Plan that meets Occupational Safety and Health Administration requirements shall be prepared and in place prior to commencement of work in any contaminated area.

3.06 PREVENTION OF FUEL SPILLS AND HAZARDOUS MATERIAL SPILLS

A. Store fuel, hazardous materials, and chemicals of all types in a contained staging area.

B. Conduct equipment refueling and maintenance in the contained staging area.

C. Check vehicles daily for leaks.

3.07 PREVENTION OF STORED FUEL LEAKS

A. Provide berms or other secondary containment at fuel/chemical storage areas.

B. Test storage tanks, valves, etc., for leaks.

C. Submit a written commitment to provide labor, equipment, and materials to promptly clean up any leakage.

3.08 PROTECTION OF STORMWATER QUALITY AND CONTROL OF QUANTITY

A. Comply with the storm water quality plan prepared before issuance of construction permits. The plan will incorporate the state's industrial best management practices and other techniques if more effective. Refer to Section 01 14 25 Procedures in Construction for additional requirements.

B. Runoff from impervious areas is to be detained, treated to industrial standards, and released under control.

3.09 PREVENTION OF TRAFFIC IMPACTS

A. The Contractor shall prepare and submit a Traffic Management Plan in conjunction with local jurisdictions addressing the following:

1. Detours.

2. Coordination with any other construction projects.

3. Length and timing of street closures.

4. Coordination with police and fire departments regarding changes in emergency access routes.

5. Temporary access routes and signage for any affected commercial property.

6. Contact information for OCTA, contractors and their personnel.

B. Conform to all conditions required therein. Notify Resident Inspector in advance of any constructions activities that could potentially violate the requirements and conditions set forth in the plan.

C. Construction parking shall be configured to minimize traffic interference during the construction period and, therefore, reduce idling of traffic.

D. Temporary traffic controls are provided, such as a flag person, during all phases of construction to facilitate smooth traffic flow.

E. Construction activities that affect traffic flow on the arterial system be scheduled to off-peak hours (10:00 A.M. to 4:00 P.M.).

F. Dedicated on-site and off-site left-turn lanes on truck hauling routes be utilized for movement of construction trucks and equipment on site and off site to the extent feasible during construction activities.

G. To ensure adequate access for emergency vehicles when construction activities would result in temporary lane or roadway closures, the contractor shall consult with the local agencies, Police and Fire Departments to disclose temporary lane or roadway closures and alternative travel routes. The contractor shall be required to keep a minimum of one lane in each direction free from encumbrances at all times on perimeter streets accessing the project site. If construction activities require the complete closure of a roadway segment, the Contractor shall coordinate with the local agencies, Police and Fire Departments to designate proper detour routes and signage indicating alternative routes.

3.10 PREVENTION OF ROAD DAMAGE

A. Before and after offsite road and utility construction, videotape the affected roadway and its access roads.

B. Temporarily repair roadway damage caused during construction.

C. Permanently restore damaged roadway to its original condition immediately after offsite improvements are completed.

D. Establish construction truck routes with local jurisdictions before beginning offsite work. Refer to Section 01 14 27 Legal Relations and Responsibility for additional requirements.

E. Consult with local jurisdictions to coordinate offsite work with other projects in the vicinity.

3.11 SCAQMD REQUIREMENTS

A. Refer to Section 01 14 27 Legal Relations and Responsibility for these requirements.

B. All diesel-powered equipment used will be retrofitted with after-treatment products (e.g., engine catalysts).

C. All heavy-duty diesel-powered equipment operating and refueling at the project site use low-NOX diesel fuel to the extent that it is readily available and cost effective (up to 125 percent of the cost of California Air Resources Board diesel) in the South Coast Air Basin (this does not apply to diesel powered trucks traveling to and from the project site).

D. Construction equipment engines be maintained in good condition and in proper tune per manufacturer’s specification for the duration of construction.

E. Construction operations rely on the electricity infrastructure surrounding the construction site rather than electrical generators powered by internal combustion engines.

F. As required by South Coast Air Quality Management District Rule 403—Fugitive Dust, all construction activities that are capable of generating fugitive dust are required to implement dust control measures during each phase of project development to reduce the amount of particulate matter entrained in the ambient air. These measures include the following:

1. Application of soil stabilizers to inactive construction areas.

2. Quick replacement of ground cover in disturbed areas.

3. Watering of exposed surfaces three times daily.

4. Watering of all unpaved haul roads three times daily.

5. Covering all stock piles with tarp.

6. Reduction of vehicle speed on unpaved roads.

7. Post signs on-site limiting traffic to 15 miles per hour or less.

8. Sweep streets adjacent to the project site at the end of the day or hourly per Section 01 14 27, 1.10 J if visible soil material is carried over to adjacent roads.

9. Cover or have water applied to the exposed surface of all trucks hauling dirt, sand, soil, or other loose materials prior to leaving the site to prevent dust from impacting the surrounding areas.

3.12 PREVENTION OF NOISE IMPACTS

A. Limit noise-producing activities to hours required by the local jurisdictions for construction activities.

B. Construction-related equipment, including heavy-duty equipment, motor vehicles, and portable equipment, shall be turned off when not in use for more than 30 minutes. Diesel-fueled commercial motor vehicles with gross vehicular weight ratings of greater than 10,000 pounds shall be turned off when not in use for more than 5 minutes.

C. Contractor shall require by contract specifications that the following construction best management practices (BMPs) be implemented by contractors to reduce construction noise levels:

1. As requested by the OCTA's Project Manager and/or specified in Contract Document, two weeks prior to the commencement of construction, the Contractor

shall provide notification to surrounding land uses within 300 feet of the project site disclosing the construction schedule, including the various types of activities that would be occurring throughout the duration of the construction period.

2. Ensure that construction equipment is properly muffled according to industry standards and be in good working condition.

3. Place noise-generating construction equipment and locate construction staging areas away from sensitive uses, where feasible.

4. Schedule high noise-producing activities between the hours of 8:00 A.M. and 3:30 P.M. to minimize disruption on sensitive uses, Monday through Friday.

5. Implement noise attenuation measures, which may include, but are not limited to, temporary noise barriers or noise blankets around stationary construction noise sources.

6. Use electric air compressors and similar power tools rather than diesel equipment, where feasible.

7. Construction-related equipment, including heavy-duty equipment, motor vehicles, and portable equipment, shall be turned off when not in use for more than 10 minutes.

8. Construction hours, allowable workdays, and the phone number of the job superintendent shall be clearly posted at all construction entrances to allow for surrounding owners and residents to contact the job superintendent. If the City or the job superintendent receives a complaint, the superintendent shall investigate, take appropriate corrective action, and report the action taken to the reporting party.

D. Construction staging areas along with the operation of earthmoving equipment within the project area would be located as far away from vibration and noise sensitive sites as possible.

E. Heavily loaded trucks used during construction would be routed away from residential streets.

3.13 DISPOSAL OF REFUSE

The Contractor shall establish a construction management plan with Disposal Company to divert a target of 50 percent of construction, demolition, and site clearing waste.

PART 4 – MEASUREMENT AND PAYMENT

No separate measurement or payment will be made for the work of this section.

END OF SECTION

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SECTION 01 25 00

SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.02 SUMMARY

A. Section Includes:

1. Administrative and procedural requirements for requesting substitutions.

B. Definitions:

1. Substitutions: Requests by the Contractor to deviate from specified requirements for products, material, equipment, and methods, or to provide products other than those specified, shall be considered requests for substitutions, limited to the following conditions:

a. Substitutions requested during the bidding period and accepted prior to the execution of the Contract.

b. Substitutions requested after execution of the Contract.

C. Substitution Provisions: Refer to substitution provisions of the Instructions to Bidders, in addition to the following specific requirements.

D. Substitution Request Submittal Period:

1. Time Limit:

a. Substitutions requested during Bidding Period: OCTA will consider requests for substitutions if received during bidding. Request permission for substitutions from the OCTA per provisions of the Instructions to Bidders. If approved, OCTA will issue an addendum allowing all bidders to incorporate the request substitution.

b. Substitutions requested after execution of Contract: Only within 14 calendar days of the Notice to Proceed will the Authority and the Engineer consider requests for substitutions, requests submitted after this will be denied.

2. Product Availability Waiver: Substitutions will be considered 21 calendar days of execution of the Agreement only when a product becomes unavailable due to no fault of the Contractor. Failure to place orders for specified products sufficiently in advance of required date for incorporation into the Work will not be considered as

a valid reason for which Contractor may request a substitution or deviation from requirements of the Drawings and Specifications.

1.02 SUBMITTAL REQUIREMENTS

A. Substitution Requests: Submit three copies of each request for consideration to the OCTA. Identify product or fabrication or installation method proposed for substitution. Include specification section number and title and drawing numbers and titles.

1. Substitution Request Form: Use form acceptable to OCTA Project Manager.

2. Documentation: Substitutions will not be considered when they are indicated or implied on shop drawings, product data or sample submittals without a separate written request, or when acceptance will required substantial revision of the Contract Documents. Show compliance with requirements and the following, as applicable:

a. Statement indicating why specified material or product cannot be provided.

b. Coordination information, including a list of changes or modifications needed to other parts of the work and to construction performed by OCTA and separate contractors, which will be necessary to accommodate proposed substitution.

c. Detailed comparison of significant qualities of proposed substitution with those of the work specified. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated or specified.

d. Product data, including drawings and descriptions of products and fabrication and installation procedures.

e. Samples, where applicable or requested.

f. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.

g. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated or specified.

h. Research/evaluation reports evidencing compliance with building code in effect for project, from a model code organization acceptable to Inspector and authorities having jurisdiction.

i. Detailed comparison of Contractor's Construction Schedule using proposed substitution with products specified for the work, including effect on the overall contract time. If specified product or method of construction cannot be provided within the contract time, include letter from manufacturer, on manufacturer's letterhead, stating lack of availability or delays in delivery.

j. Cost information, including a proposal of change, if any, in the contract sum.

k. Contractor's certification that Contractor has investigated proposed substitution and that it complies with requirements in the contract documents and is appropriate for applications indicated. Contractor further certifies that Contractor will provide the same or better guarantee or warranty as for specified product or method of construction. Contractor shall also certify that Contractor will coordinate installation of accepted substitution into work, making any changes as may be required for work to be complete in all respects as specified.

l. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.

m. Only one request for substitution will be considered for each product.

n. If the proposed substitution is not accepted, provide the specified product.

3. OCTA Project Manager's Action: If necessary, OCTA Project Manager will request additional information or documentation for evaluation within 7 days of receipt of a request for substitution. OCTA Project Manager will notify Contractor of acceptance or rejection of proposed substitution within 15 days of receipt of request, or 7 days of receipt of additional information or documentation, whichever is later.

   a. Form of Acceptance: Change Order, if costs involved; otherwise written approval.

   b. Use product specified if OCTA Project Manager is unable to make a decision on proposed substitution within time allocated.

1.03 COMPARABLE PRODUCTS

A. See Section 01 60 00, Product Requirements, for discussion of comparable products.

1.04 PRODUCT SUBSTITUTIONS

A. OCTA Project Manager will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, OCTA Project Manager will return requests without action, except to record noncompliance with these requirements:

1. Requested substitution is submitted within the time frame stated herein above.

2. Requested substitution offers OCTA a substantial advantage in cost, time, energy conservation, or other considerations, after deducting additional responsibilities OCTA must assume. OCTA's additional responsibilities may include compensation to consultants for redesign and evaluation services, increased cost of other construction by OCTA, and similar considerations.

3. Requested substitution does not require extensive redesign of the project or revisions to the contract documents.

4. Requested substitution is consistent with the contract documents and will produce indicated results.

5. Substitution request is fully documented and properly submitted.

6. Requested substitution will not adversely affect Contractor's Construction Schedule.

7. Requested substitution has received necessary approvals of authorities having jurisdiction.

8. Requested substitution is compatible with other portions of the work.

9. Requested substitution has been coordinated with other portions of the work.

10. Requested substitution provides specified warranty.

11. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

B. Substitutions will not be considered if they are indicated or implied on shop drawings or project data submittals or Requests for Information without formal submittal request detailed in this section.

1.05 AVAILABILITY OF SPECIFIED ITEMS

A. Prior to execution of Contract, Contractor shall verify that all specified items will be available as required by the schedule for orderly and timely progress of the work. Notify OCTA Project Manager if specified items will not be available.

B. Costs of delays because of non-availability of specified items, when such delays could have been avoided by the Contractor, will deducted from amounts due or to become due the contractor, and will not be borne by OCTA.

C. Substitutions during construction for prior approved items will only be considered under the following circumstances:

1. Substitution is required for compliance with subsequent interpretation of code.

2. Specified item cannot be provided within the contract time or becomes unavailable through no fault of contractor.

3. Subsequent information discloses that specified item or system will not perform properly or fit in designated space, or manufacturer or supplier refuses to certify or warrant performance as required.

PART 2 – PRODUCTS

Not Used.

PART 3 – EXECUTION

Not Used

PART 4 – MEASUREMENT AND PAYMENT

A. No separate measurement will be made for the work of this section.

B. No separate payment will be made for the work of this section.

END OF SECTION

SECTION 01 26 00

CONTRACT MODIFICATION PROCEDURES

PART 1 – GENERAL

1.01 SUMMARY

A. Section Includes:

1. Administrative and procedural requirements for handling and processing contract modifications.

B. Related Sections:

1. Section 01 60 00, Product Requirements, for procedures to approve comparable products.

2. Section 01 25 00, Substitution Procedures, for procedures to propose substitutions.

3. Section 01 26 13 Requests for Information, for procedures to clarify and interpret the contract documents.

1.02 MINOR CHANGES IN THE WORK / FIELD ORDERS

A. OCTA will issue supplemental instructions authorizing minor changes in the work, not involving adjustment to the Contract Price or the Contract Time, in written form.

1.03 DOCUMENTATION OF CHANGES IN AGREEMENT PRICE AND AGREEMENT TIME

A. Documentation of Changes in Contract Sum and Contract Time: Contractor shall provide full information required for evaluation of proposed changes and to substantiate costs of changes in the Work.

1. Maintain detailed records of Work completed on time and material basis. Contractor shall use “Daily Extra Work Report” provided by the Authority. All extra work reports shall be signed by the Authority and the Contractor verifying all extra materials and labor incorporated into the project at the end of each work day.

2. Document each quotation for a change in Contract Sum and Contract Time, with sufficient cost breakdown data for labor, materials, and equipment to allow evaluation of the quotation.

3. Provide details of cost of all material used for change in work. Provide detail of labor hours expended in change of work, and wage rate of worker. Provide total of hours equipment was used in the work, and hourly rate of the equipment.

B. Additional Data: Upon request by the Engineer, provide additional data to support computations:

1. Quantity of product, material, labor, and equipment.

2. Overhead and profit (20% includes all superintendence, taxes, insurance, bonds, overhead and profit, etc.). 20 percent overhead and profit shall be divided between Contractor and sub-contractor(s).

3. Justification for change in Contract Time, if claimed.

4. Credit for deletions from Contract, similarly documented.

1.04 CHANGE PROCEDURES

A. Change Procedure – General: The following describe administrative procedures to be followed in complying with provisions of the Conditions of the Contract for changes in the Work.

B. The Engineer's Supplemental Instructions: Minor changes in the Work, not involving an adjustment in either the Contract Sum or Contract Time, as authorized by the Conditions of the Contract. The Contractor shall take prompt action on such instructions.

C. OCTA-Initiated Proposal Requests: OCTA will issue a detailed description of proposed changes in the work that may require adjustment to the Contract Price or the Contract Time. If necessary, the description will include supplemental or revised drawings and specifications.

1. Proposal Requests issued by OCTA are not instructions either to stop work in progress or to execute the proposed change.

2. Proposal Request may include an estimate of additional or deductions in Contract Sum or Contract Time for executing the change and may include stipulations regarding overtime work and period of time the requested response from the Contractor shall be considered valid.

a. Within time specified in Proposal Request or five (5) calendar days, when not otherwise specified, after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Price and the Contract Time necessary to execute the change. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.

b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.

c. Include costs of labor and supervision directly attributable to the change.

d. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.

e. Submit name of individual authorized to receive construction change documents and who is responsible for informing others in Contractor's employ or subcontractors of changes in the Work.

f. Quotation Form: Use forms acceptable to OCTA.

D. Upon OCTA's approval of a Proposal Request, OCTA will issue a Change Order for signatures of OCTA and Contractor. The OCTA and Contractor will sign the Change Order indicating acceptance and approval of the change.

1.05 WORK CHANGE DIRECTIVE

A. Work Change Directive: In accordance with provisions of the Conditions of the Contract, OCTA may issue a Work Change Directive. A Work Change Directive instructs Contractor to proceed with a change in the work, for subsequent inclusion in a Change Order.

B. Work Change Directive contains a complete description of change in the work. It also designates method to be followed to determine change in the Contract Price or the Contract Time. Contractor shall promptly execute the change in the Work.

C. Changes Based on Stipulated Sum or Time: Construction Change Directive shall be based on stipulated adjustment in Contract Sum and Contract Time as mutually-acceptable to the Authority and Contractor and the change shall be performed immediately. A Change Order for this amount shall be executed at the earliest convenience of all parties. Contractor shall provide a cost estimate based on section 1.03 of this section.

D. Changes Based on Unit Costs or Quantities: When scope of change cannot be accurately determined in advance, a Construction Change Directive shall be executed based on mutually-acceptable quantities and pre-determined unit prices. Actual costs shall be determined after completion of the Work and a Change Order for this amount shall be executed.

E. Changes Based on Time and Material Costs: If directed for changes for which amounts are not defined or are disputed, a Construction Change Directive will be issued by the Authority and Contractor shall execute the Work, keeping accurate records of time, both labor and calendar days, and cost of materials. See Section 1.03. A. 1.

F. Cost and Time Resolution: If amounts for changes in Agreement price and Agreement time cannot be agreed upon by the Authority and Contractor, amounts shall be resolved in accordance with requirements of the Conditions of the Contract for resolution of disputes.

G. Documentation: Maintain detailed records on a time and material basis of work required by the Work Change Directive. The total construction cost of the change shall not exceed the mutually agreed adjustment in Contract Sum and Contract time of the Change Order.

H. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the contract.

1.06 CHANGE ORDER

A. Change Orders, General:

1. In accordance with provisions of the Conditions of the Contract, the Engineer and Authority will review Contractor's response to a Proposal Request or a Construction Change Directive and determine with the Contractor the acceptable amount, if any, of the change in Contract Sum and Contract Time.

2. When agreement is reached on the change in Contract Time and Sum, the Engineer will prepare a Change Order, with supplementary documents (Contractor's cost estimate) as necessary to describe the change and the associated costs and schedule impacts, if any.

3. The Authority and Contractor will sign the Change Order indicating acceptance and approval of the change.

1.07 RECONCILIATION OF CHANGE ORDER

A. Schedule of Values: Promptly revise the Schedule of Values and Application for Payment forms to record each authorized Change Order as a separate line item and adjustment to the Contract Sum.

B. Schedules: Promptly revise progress schedules to reflect changes in Contract Time, revising sub-schedules to adjust time for other items of Work as may be affected by the change. Submit revised schedules at the next Application for Payment following approval and acceptance of the Change Order.

C. Change in work due to request for information, or any other reason shall not be reason for claims of delays by the contractor. Contractor shall allow the Consultant seven (7) days to respond to request for information, and additional fourteen (14) days to the Authority to make necessary changes to resolve changes in work and change orders. Allow the Authority 30 calendar days for final Change Order approval.

PART 2 – PRODUCTS

Not Used.

PART 3 – EXECUTION

Not Used.

PART 4 - MEASUREMENT AND PAYMENT

Not Used.

END OF SECTION

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SECTION 01 26 13

REQUESTS FOR INFORMATION

PART 1 - GENERAL

1.01 DESCRIPTION

A. Section Includes:

1. The general requirements for Contractor's requests for information and pertains to all portions of the contract documents.

1.02 DEFINITION

A. A "Request for Information" is defined as a document submitted by the Contractor requesting clarification of a portion of the contract documents, hereinafter referred to as RFI.

B. All questions and requests for clarification of the Contract Documents from the contractor and subcontractors shall be submitted in writing as a "Request for Information".

1.03 CONTRACTOR'S REQUESTS FOR INFORMATION (RFI)

A. When the Contractor is unable to determine from the contract documents, the exact material, process or system to be installed, the Contractor shall request the OCTA to make a clarification of the indeterminate item. Wherever possible, such clarification shall be requested at the next appropriate project meeting, with the response entered into the meeting minutes. When clarification at the meeting is not possible, either because of the urgency of the need or the complexity of the item, the Contractor shall prepare and submit an RFI to the OCTA.

B. RFI's shall be submitted on a form provided by the OCTA. The Contractor will be given the form electronically upon Notice To Proceed.

C. RFI forms shall be completely filled in, and if prepared by hand, shall be fully legible after photocopying. Each page of attachments to RFI's shall bear the contract number, project name, RFI number. Each RFI shall reference a drawing number and/or Specification Section. The Contractor shall include sketches, mark ups on the contract drawings, and/or photographs to clearly demonstrate its requests or questions in each RFI. Contractor shall indicate on the RFI the date by which response is required.

D. RFI's from Subcontractors or Material suppliers shall be submitted through, reviewed by, and signed by the Contractor prior to submittal to the OCTA.

E. Prior to submitting an RFI, the Contractor shall carefully study the Contract Documents to assure that the requested information is not available therein. Contractor shall be responsible for insuring that RFI's are not frivolous or excessive.

F. Frivolous RFIs: Frivolous RFIs include requests for information shown in the contract documents or resulting from Contractor's failure to study and compare contract documents or to coordinate its own work; and RFIs that are incomplete, contain errors, or include unrelated items. The cost in time and materials on the part of OCTA and related design professionals to review unnecessary or frivolous RFIs will be assessed and deducted from the Contractor's final payment.

G. RFI's shall not be used for the following purposes:

1. To request approval of submittals.

2. To request approval of substitutions.

3. To request changes which entail additional cost or credit or changes in the contract time.

4. To request different methods of performing work than those shown or specified.

H. In the event the Contractor believes that a clarification by the OCTA results in additional cost, the Contractor shall not proceed with the Work indicated by the RFI until a Change Order is prepared and approved. Answered RFI's shall not be construed as approval to perform extra work.

I. RFIs submitted to request clarification of issues related to means, methods, techniques and sequencing of construction, or to establish scope of subcontractors' work will be returned without response.

J. Unanswered RFI's will be returned with a stamp or notation indicating: "Not Reviewed."

K. Assign each RFI a sequential number. Contractor shall prepare and maintain a log of RFI's and, at any time requested by the OCTA, Contractor shall furnish copies of the log showing all outstanding RFI's. Contractor shall also note all unanswered RFI's in the log.

L. Contractor shall allow for 14 calendar days review and response time for RFI's.

1.04 RESPONSE TO RFI'S

A. OCTA's response to RFIs will be in writing. RFIs received after 12:00 noon will be considered as received on the following working day for purposes of establishing the start of the 14 day response time. OCTA's response may include a request for additional information, in which case OCTA's time for response will date from time of receipt of additional information.

B. No extension of time will be granted because of Contractor's failure to submit RFIs in a timely manner or to allow a sufficient amount of time for review.

C. OCTA's response will confirm a stated interpretation or solution or otherwise interpret the design intent; this may include an alternative solution, consistent with the design intent of the Contract Documents. Where such a solution would result, in the contractor's opinion, in an extra cost or time extension to the project, contractor shall notify the OCTA prior to implementing the response.

D. Each RFI and the OCTA's response shall become a part of the Contract Documents. To the extent that OCTA's response changes, modifies or amends any portion of the Contract Documents, the response shall be deemed sufficient. No revised Contract Documents will be issued unless the RFI response is insufficient in providing direction to the Contractor. Whenever possible, revised contract documents will be issued in 8-1/2x11 inch or 11x17 inch size, suitable for inclusion with the RFI response. Re-issuance of full size drawings or sets of drawings will be kept to an absolute minimum.

1.05 SPOKEN COMMUNICATIONS

A. Any spoken instructions given to the Contractor on the job site by any person other than the OCTA's personnel is subject to nullification by the OCTA. Contractor shall obtain written documentation of any and all spoken instructions (especially if instructions may reflect an addition to or deduction from the contract sum) from the OCTA prior to commencement of the work resulting from the verbal instructions.

PART 2 – PRODUCTS

Not Used

PART 3 – EXECUTION

Not Used.

PART 4 – MEASUREMENT AND PAYMENT

No separate measurement or payment shall be made under this Section.

END OF SECTION

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SECTION 01 29 00

PAYMENT PROCEDURES

PART 1 – GENERAL

1.01 SUMMARY

A. Section Includes:

1. Administrative and procedural requirements necessary to prepare and process Applications for Payment.

2. Administrative and procedural requirements for preparing and submitting a Schedule of Values.

B. Related Sections:

1. Section 01 26 00, Contract Modification Procedures, for administrative procedures for handling changes to the contract.

2. Section 01 32 00, Construction Progress Documentation, for administrative requirements governing the preparation and submittal of the Contractor's construction schedule.

3. Section 01 33 00, Submittal Procedures, for administrative requirements governing the preparation and submittal of the Schedule of Values.

1.02 DEFINITIONS

A. Schedule of Values (Cost Breakdown): A document furnished by Contractor allocating portions of the Contract Price to various portions of the work and used as the basis for reviewing Contractor's Applications for Payment. The Contract Scope of Work including any and all required deliverables are considered by OCTA to be part of the Schedule of Values upon which progress payments will be made to the Contractor, and if not clearly identified in the Contractor's Schedule of Values, 100% of progress payment will not be made until all required Scope of Work items are completed and received by OCTA.

1.03 SCHEDULE OF VALUES

A. Prepare and submit within 15 calendar days after the effective date in the Notice to Proceed, but in any event prior to the Contractor's first Application for Payment, for approval by OCTA, a Schedule of Values. If the schedules are affected by Change Orders, prepare and submit updated copies of the schedules under this Section.

B. Submit, under the provisions of Section 01 33 00, Submittals, and a Schedule of Values including the following information:

1. Identify items in the Schedule of Values with the title of Project and location, agreement number, name and address of the Contractor, date of submission, Specification Section/Subsection number, Specification Section/Sub-section title, and Bid item number as contained in the Schedule of Quantities and Prices submitted with the Contractor's bid.

2. Schedule shall list the installed value of the component parts of the Work in sufficient detail to serve as a basis for computing values as itemized in the Cost Breakdown for progress payments during construction. Percentage of completed items installed will be paid.

3. Provide a line item to identify each of the following:

   a. Bonds;

   b. Insurance premiums;

   c. Field supervision;

   d. Mobilization cost (not to exceed 10% of the total contract amount).

4. Upon request by OCTA, support values given with data, which will substantiate the correctness of the values.

5. In addition to the requirements stated in the General Conditions, the Schedule of Values shall be in the form of an Excel hardcopy spreadsheet along with the electronic file on a read-only compact disk (CD-ROM).

C. Each item shall include a directly proportional amount of Contractor's overhead and profit, which will not be paid separately.

D. Lump Sum bid payment based on Schedule of Values approved by OCTA based on percentage of work completed.

E. The sum of all values listed in the schedule shall equal the total contract Sum.

F. Cost loading of Schedule of Values is for fund management purposes only and will not be constructed to establish unit cost.

G. OCTA's Review: OCTA will review the Schedule of Values to assure that they are reasonable and balanced. When approved, they will be used in reviewing and approving the monthly partial payment requests. If review by OCTA indicates that changes to the schedules are required, upon five (5) calendar days from receipt of notice from the OCTA, the Contractor shall revise and resubmit schedules in the same manner as the original schedules were prepared and submitted.

1.04 APPLICATION FOR PAYMENT – GENERAL

A. Progress Payment Application: The Authority, no later than 25th day of each month, shall prepare a progress payment estimate based on the estimated percentage of completion of work in the approved Schedule of Values and on the Contractor's actually incurred allowable expenses on such work. Fabricated materials, materials on site but not installed in construction and work items not completed shall not be included in progress payment and will not be paid by the Authority. The Authority will issue the progress payment, in the amount it deems appropriate, by approximately the 15th days of the following month.

B. Application for progress payments and partial progress payments shall be in accordance with Contract General Provision and the approved Schedule of Values.

C. The Contractor shall submit the progress payment application prepared by the Authority and signed by the Contractor's authorized representative and furnish an invoice for further process based on a schedule to be established at the pre-construction meeting. Submit other documentation such as certified payroll, monthly labor utilization form, and waivers as required by contract.

D. For the final payment, OCTA shall determine if all Work of the Contract has been performed by the Contractor according to the provisions of the Contract. OCTA shall make a final estimate and determine the amount remaining due the Contractor. This amount shall include any amounts withheld from previous estimates, but exclude any and all deductions that have been or should be made at the time under other sections of these Specifications.

1.05 WORK AUTHORIZATION CHANGE NOTICE WORK

A. Measurement and payment of Work associated with a Work Authorization Change Notice (WACN) shall be as detailed in the OCTA's Exhibit A.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

PART 4 - MEASUREMENT AND PAYMENT

Not Used.

END OF SECTION

SECTION 01 31 00

PROJECT MANAGEMENT AND COORDINATION

PART 1 – GENERAL

1.01 SUMMARY

A. Section Includes:

1. Administrative provisions for coordinating construction operations on project including, but not limited to, the following:

   a. General project coordination procedures.

   b. Administrative and supervisory personnel.

   c. Project meetings.

B. Contractor is responsible for coordination with OCTA selected material suppliers and contractors involved in the project.

C. Related Sections:

1. Section 01 32 00, Construction Progress Documentation, for preparing and submitting Contractor's construction schedule.

2. Section 01 43 01, Contractor Qualifications and Requirements, for required staff and qualifications.

3. Section 01 71 23, Field Engineering, for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.

4. Section 01 77 00, Closeout Procedures, for coordinating closeout of the contract.

5. Individual specification sections for normal startup, testing, and adjusting procedures required.

1.02 COORDINATION

A. Coordination: Coordinate construction operations with those of other OCTA selected material suppliers and contractors. Coordinate construction operations included in different sections of the specifications to ensure efficient and orderly installation of each part of the work. Coordinate construction operations, included in different

sections, which depend on each other for proper installation, connection, and operation. Contractor is responsible for progress and performance of the work, and shall provide direction to others as required to properly coordinate trades and processes.

1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the work depends on installation of other components, before or after its own installation.

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

3. Make adequate provisions to accommodate items scheduled for later installation.

4. Coordinate equipment installation requirements with equipment contractors to prevent delays and facilitate proper installation. Acknowledge, accommodate, and respect equipment contractors' needs for access to the work for the periods required to complete equipment installation. Incorporate these periods into the construction progress schedule and work plan before commencing work.

B. Prepare memoranda for distribution to each party involved (including OCTA and separate contractors and suppliers) outlining special procedures required for coordination. Include such items as required notices, actions, reports, and list of attendees at meetings.

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

1. Preparation of Contractor's construction schedule.

2. Preparation of the schedule of values.

3. Installation and removal of temporary facilities and controls.

4. Delivery and processing of submittals.

5. Progress meetings.

6. Pre-installation conferences.

7. Commissioning, Startup and adjustment of systems.

8. Training activities.

9. Project closeout activities.

D. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials. Coordinate use of temporary utilities to minimize waste.

1.03 KEY PERSONNEL

A. Key Personnel Names: Within 5 days of date of Notice to Proceed, submit a list of key personnel assignments, including superintendent and other personnel in attendance at project site. Conform to requirement of Section 01 43 01 Contractor Qualifications and Requirements. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home, office, and cellular telephone numbers and email addresses. Provide names, addresses, and telephone numbers of individuals assigned as standbys in the absence of individuals assigned to project.

1. Post copies of list in project meeting room and in temporary field office. Keep list current at all times.

1.04 INITIAL CONSTRUCTION MEETING

A. The OCTA will schedule the Initial Construction Meeting (Pre-construction meeting) after the Contractor has been provided the written Notice to Proceed.

B. OCTA will distribute a notice of this meeting, along with an agenda of the subjects to be addressed at least one (1) work day prior to the meeting.

C. Contractor's Construction Project Manager and key staff, as defined in Section 01 43 01, and as identified per the requirements of 1.03, shall attend the meeting.

D. The following is a minimum agenda for the Initial Construction Meeting:

1. OCTA will explain and discuss:

a. Insurance, laws, codes, maintenance of traffic, permits, quality control, inspection, and related items.

b. Preparation, submittal, and review of Site Specific Work Plans (SSWP)

c. Procedures for processing RFI's and Submittals

d. Monthly estimate cutoff dates, and procedures for processing Applications for Payment.

e. Distribution of the contract documents.

f. Preparation of record documents.

g. Use of the premises.

h. Work restrictions and permitted working hours.

i. Owner's occupancy requirements.

j. Responsibility for temporary facilities and controls.

k. Procedures for disruptions and shutdowns.

l. Construction waste management and recycling.

m. Parking availability.

n. Areas available for Contractor's Office, work, and storage areas.

o. First aid.

p. Security.

q. Progress cleaning.

r. Level 3 Health, Safety and Environmental Specifications.

2. The Contractor shall introduce, explain, and discuss the following:

   a. Contractor's representatives and personnel, briefly describing each person's responsibilities, and furnishing complete contact information for the Contractor's staff.

   b. Arrangements for safety, first aid, emergency actions, and security.

   c. A list of Subcontractors and suppliers.

   d. Sequence of critical Work, the construction schedule and the submittal schedule.

   e. Plan for construction sequencing of entire Contract, general worksite layout, temporary facilities, erosion and sedimentation control plans, haul routes, noise, air and water pollution control and temporary closure plans.

   f. Breakdown of lump sum items and Schedule of Values.

g. Status of coordination and notification for utility Work.

h. Locations and use of office, storage, parking and construction areas.

i. Method of providing security to the Worksite.

j. Construction methods and coordination of Work within the provisions of the Contract Documents.

k. Coordination with the Work of Subcontractors and procedures for sharing access to the Worksite.

l. Plan for deliveries of major construction equipment and deliveries of long lead-time materials and products needed in the construction of this Contract.

1.05 PROGRESS MEETINGS

A. Progress meetings will be scheduled by OCTA on a weekly basis and more often as necessary. OCTA will make every effort to accommodate the Contractor's availability in establishing the meeting schedule.

B. Attendees: In addition to OCTA and representatives of the Contractor, subcontractors, suppliers, and other entities concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with project and authorized to conclude matters relating to the work.

C. Meetings will focus on the competent and timely execution of the Work under the Contract. The OCTA will chair these meetings. Weekly site meetings will start when Contract Work commences. At the weekly meetings the Contractor shall present a review of the following topics:

1. Safety and accidents.

2. Contractor's Schedule status.

3. Progress according to the current approved schedule.

4. Presentation of new 28-day schedule.

5. Critical activities on the 28-day schedule.

6. OCTA's needs and requests

7. Specific late items of Work.
8. Overall Project schedule status.
9. Contract time.
10. Public impacts, notifications, and contacts.
11. RFI, submittal and change order logs and status.
12. Contract Issues including:
    a. Status of proposal requests.
    b. Pending changes.
    c. Status of Change Orders.
    d. Pending claims and disputes.
    e. Documentation of information for payment requests.

1.06 PRE-INSTALLATION CONFERENCES:

A. Contractor shall conduct a pre-installation conference at Project site before each construction activity that requires coordination with other construction, as required in individual specification sections.

B. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advice OCTA of scheduled meeting dates.

C. Suggested Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:

1. Contract Documents.
2. Options.
3. Related RFIs.
4. Purchases.

5. Deliveries.
6. Submittals.
7. Review of any required mockups.
8. Possible conflicts.
9. Compatibility problems.
10. Time schedules.
11. Weather limitations.
12. Manufacturer's written recommendations.
13. Warranty requirements.
14. Compatibility of materials.
15. Acceptability of substrates.
16. Installation procedures.
17. Coordination with other work.
18. Required performance results.
19. Protection of adjacent work.

D. Contractor shall record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.

E. Reporting: Distribute minutes of the meeting to OCTA, each party present and to other parties requiring information.

F. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the work and reconvene the conference at earliest feasible date.

1.07 PROJECT CLOSEOUT MEETING:

A. OCTA will schedule and conduct a project closeout conference, at a time convenient to Contractor, but no later than 15 calendar days prior to the scheduled date of

Substantial Completion. The conference will review requirements and responsibilities related to project closeout.

B. Attendees: OCTA, Contractor's key personnel, major subcontractors and other concerned parties shall attend the meeting. Participants at the meeting shall be familiar with project and authorized to conclude matters relating to the work.

C. Agenda: OCTA will introduce and discuss items of significance that could affect or delay Project closeout, including the following:

1. Preparation of record documents.
2. Procedures required prior to inspection for Substantial Completion and for final inspection for acceptance.
3. Submittal of written warranties.
4. Requirements for preparing operations and maintenance data.
5. Requirements for demonstration and training.
6. Preparation of Contractor's punch list.
7. Procedures for processing Applications for Payment at Substantial Completion and for final payment.
8. Final Submittal procedures.
9. Coordination of separate contracts.
10. Owner's partial occupancy requirements.
11. Installation of Owner's fixtures, and equipment.
12. Responsibility for removing temporary facilities and controls.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

3.01 REPORTING

A. Minutes: OCTA Project Manager will record significant discussions and agreements achieved at all conference chaired by OCTA Project Manager, including initial construction meeting, progress meetings and project closeout meeting. OCTA Project Manager will distribute the meeting minutes to everyone concerned within five (5) working days of the meeting.

PART 4 - MEASUREMENT AND PAYMENT

No separate measurement or payment shall be made under this section.

END OF SECTION

SECTION 01 32 00

CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.01 DESCRIPTION

A. This Section specifies the requirements for preparation of a preliminary schedule, a Contractor's Progress Schedule, related narratives, and progress reporting.

B. The reports and schedules shall be designed to:

1. Assure adequate planning and execution of the Work so that the Work is completed within the number of calendar days allowed in the Contract

2. Assist the Contractor and OCTA Project Manager in appraising:

a. The attainability of the proposed schedule.

b. Conformance to contract requirements.

c. The progress of Work.

C. For all schedules and scheduling requirements/activities related to this Contract, the Contractor shall utilize Primavera Project Planner version 7 or later, or Microsoft Project software as directed by the OCTA Project Manager.

1.02 SUBMITTALS

A. Submit the following information under the provisions of 01 33 00, Submittal Procedures. All electronic file submittals shall include the entire schedule, which is typically provided by utilizing the file backup routine in the software. Electronic submittals shall be on read-only compact disc (CD-ROM) media.

1. Construction Schedule (with narrative) in print and electronic format.

2. Contractor's Progress Schedule in print and electronic format.

3. Weekly Progress Reports (28 day schedule) in print and electronic format.

B. Milestones, as specified in the Contract Documents, shall be incorporated into all areas of the scheduling process.

1.03 CONTRACTOR’S CONSTRUCTION SCHEDULE (BASE SCHEDULE)

A. Within five (5) calendar days of the Notice to Proceed, the Contractor shall prepare and submit to the Engineer for approval a detailed schedule of work. This schedule shall indicate the areas in which the Contractor anticipates working and the dates during which construction operations will be performed. All submittals by the Contractor shall be listed as separate activities in the schedule. The Contractor shall submit three (3) hard copies and a PDF file of the schedule to the Engineer for approval.

B. The detailed schedules shall be of the bar chart or network diagram method, at the Contractor's option. The schedule shall be comprehensive, covering activities at the site of the work, procurement, and construction.

C. The schedule shall identify work items or Milestones that affect or are affected by OCTA Project Manager, other utilities, and other third parties including Subcontractors.

D. The work activities making up the schedule shall be of sufficient detail to assure that adequate planning has been done for proper execution of the Work and such that, in the judgment of the OCTA Project Manager, it provides an appropriate basis for monitoring and evaluating the progress of the Work. A work activity is defined as any activity requiring time and resources (manpower, equipment and/or material) to accomplish. Activity durations will be in workdays. Typical construction activity durations should be between 3 and 14 workdays. Exceptions may be reviewed by the OCTA Project Manager where sub-schedules will be used to define critical portions of prime schedules, materials delivery, key submittals, etc. Activities shall include but not necessarily be limited to the following:

    1. Project mobilization.

    2. Submittal and review of plans and procedures.

    3. Procurement of Materials.

    4. Each item of Work.

    5. Final cleanup.

    6. Final inspection.

    7. All activities by Contractor, OCTA Project Manager, and others, which affect progress or required dates for completion, or both, for each part of the Work.

    8. Release of areas to OCTA Project Manager according to Milestone Dates.

E. Other requirements that shall be incorporated into the Contractor's schedule include

    1. Division of Work into major work areas (i.e. Areas 1, 2, etc.).

    2. Manpower required to perform the Work in total man-hours by craft for each activity.

3. All activities that require unusual shift work, such as two shifts, 6-day workweek, etc. shall be clearly identified in the schedule.

F. Each activity shall be labeled with an alphanumeric work breakdown structure/sorting/selection code.

G. The sequence, duration in workdays, and interdependence of activities required for the complete performance of all work shall be shown.

H. The schedule shall begin with the date of the Notice to Proceed and conclude with the date of Final Completion shown in the Contract.

I. The network diagram shall include the following:

1. Time scaled network diagrams based on calendar days and shall be critical path method (CPM) precedence format showing the sequence/interdependence of activities required for complete accomplishment of all items of work.

2. Each activity shall be plotted so that the start/finish dates can be determined graphically (by comparison) with the calendar scale.

3. All network diagrams shall be drawn legibly and accurately on 22” x 34” size media, or other size acceptable to the OCTA Project Manager.

4. Each activity shall be labeled with complete description, planned duration in workdays, and total float time.

5. The schedules shall accurately indicate the sequence and interdependency of all work activities.

1.04 CONTRACTOR’S PROGRESS SCHEDULE

A. The Contractor shall update the Progress Schedule monthly (the “Schedule Update”) and submit to the OCTA Project Manager for review concurrent by the 5th of the month following month for which the progress reflected on schedule.

B. Progress Payment to Contractor will not be made until a schedule conforming to the requirements stated herein is submitted each month to the OCTA Project Manager. A continued failure to supply such schedule data shall be grounds for declaring Contractor in default of the Contract.

C. Contractor’s progress schedule shall:

1. Become an integral part of the Contract and will establish interim completion dates for the various activities under the Contract and shall reflect and be consistent with the Milestone Dates established by the Contract.

2. Be used to determine if any activity is not completed by the Milestone date.

3. Be combined with the Schedule of Values for use in the Contractor's submittal/application for and the OCTA Project Manager's review and approval of monthly partial payments.

1.05 PROGRESS REPORTING

A. Contractor shall provide regular progress reports monthly along with progress schedule submittal to include as described herein.

B. A statement that the approved Contractor's Progress Schedule has not changed or has been revised. Only the revisions described in this statement shall be made to the progress schedule.

C. A 28-day schedule covering the past week, current week and two weeks ahead at each scheduled weekly meeting. The schedule shall be a bar chart schedule, divided into 28 calendar days, listing all activities for the four-week period. Scheduled and actual start and finish dates shall be shown. Each activity shall be identified by its approved activity number and a brief description. The bar chart schedule shall have in the heading the Project Title, Contract Number, Contractor's Name, Date, Contract Day Number and Remaining Contract Days.

1.06 PROGRESS EVALUATION

A. If at any time during the Project, the Contractor fails to complete any activity by its latest scheduled completion date and which late completion of such activity will impact the end date of the work past the Contract Completion Date, Contractor shall within five (5) working days, submit to the OCTA Project Manager a written statement as to how and when Contractor will reorganize his work force to return to the current Contractor's construction schedule. Whenever it becomes apparent from progress evaluation and updated construction schedule data that any Milestone Date(s) or the Contract Completion Date will not be met, Contractor, at his sole cost, shall take some or all of the following actions:

1. Increase construction manpower in such quantities and crafts as shall substantially eliminate the backlog of work and meet the current Contract Completion Date.

2. Increase the number of working hours per shift, the number of shifts per day, the number of work days per week, the amount of construction equipment, or any combination of the foregoing sufficient to substantially eliminate the backlog of work.

3. Reschedule work items to achieve concurrent accomplishment of work activities.

B. Under no circumstances will the addition of equipment or construction forces, increasing work hours, or any other method, manner, or procedure required to return

to the contractually required completion date be considered justification for a change order or treated as an acceleration.

C. The Contractor's Progress Schedule shall begin with the date of issuance of the Notice to Proceed (NTP) and conclude with the date of final completion of the project. Float or slack time within the Progress Schedule is not for the exclusive use or benefit of either the OCTA Project Manager or the Contractor but is a jointly owned expiring project resource available to both parties as needed to meet contract milestones and the Contract completion date.

1.07 SUBMITTAL OF SCHEDULES

A. The Contractor shall submit to the OCTA Project Manager for review, two (2) copies of the construction schedule (base schedule) within time frame specified herein. Allow OCTA a minimum of 2 weeks to review the construction schedule. Contractor shall address OCTA's comments on schedule and resubmit within five (5) workdays from receipt of OCTA' comments.

B. The Contractor shall submit to the OCTA Project Manager for review two (2) hard copies of the Contractor's Progress Schedule, one (1) copy of all schedule data, along with one electronic copy within the time frames specified herein. Updates of the Contractor's schedule shall be submitted monthly as part of the payment application submittal.

C. OCTA Project Manager will have five (5) workdays after receipt of the Contractor's Progress Schedule to respond. Upon receipt of OCTA Project Manager's comments, the Contractor shall confer with the OCTA Project Manager on the appraisal and evaluation of the proposed Contractor's Progress Schedule. The Contractor shall make necessary changes resulting from this review, and the Contractor's Progress Schedule shall be resubmitted for review within three (3) workdays after the receipt of comments.

D. The Contractor's construction schedule (base schedule) when reviewed and recognized by the OCTA Project Manager shall stand until updated schedules are submitted to reflect actual completed work, reviewed changes, or recognized delays.

E. All updated or revised schedules submitted after the base schedule shall be in the same detail as the base submittal unless modified in writing by the OCTA Project Manager.

1.08 REVISIONS TO REVIEWED SCHEDULE

A. The Contractor shall accomplish the Work in accordance with Contractor's construction schedule recognized by the OCTA Project Manager. Changes made to Contractor's construction schedule for accomplishing the Work shall in all cases require prior approval by the OCTA Project Manager.

B. The Contractor shall reflect processed Change Orders that affect the schedule, and issuance of emergency change authorizations in the next schedule submittal.

C. If Contractor desires to make a major change to Contractor's construction schedule, the Contractor shall submit to the OCTA Project Manager a schedule change request in writing stating the reasons and justification for the change, for OCTA's review and acceptance. Major changes are defined as follows:

1. Those that affect the time estimate for the accomplishment of an activity.

2. Those that affect the sequence when varied from the original schedule to a degree that there is doubt that the agreed Contract Completion Date will be met.

3. Changes to activities having adequate float to absorb the change shall be considered as minor changes, except that an accumulation of minor changes may be considered a major change when the effect of such changes impact the Project Milestones or the Contract Completion date.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not Used

PART 4 – MEASUREMENT AND PAYMENT

A. No separate measurement or payment shall be made under this section. Contractor's Progress Schedule will be reviewed each month. The monthly progress payment will not be made until the Contractor's Progress Schedule is found by the OCTA Project Manager to be in conformance with the requirements of this Section.

END OF SECTION

SECTION 01 33 00

SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.01 DESCRIPTION

A. This Section consists of requirements for Contractor submittals to the OCTA Project Manager including plans, procedures, certificates, shop drawings, product data, samples, and miscellaneous Work-related submittals. Individual submittal requirements are specified in the applicable specification section for each unit of Work. No construction work shall be commenced prior to submittals and acceptance of all submittals and shop drawings required per contract documents.

1.02 DEFINITIONS

A. Submittals are categorized for convenience as follows:

1. Plans and Procedures: Include narrative descriptions, diagrams, equipment, procedures for excavation, demolition, site clearing, maintenance of traffic, etc.

2. Certificates: Include certified material test reports, certification of proper disposal of demolition materials, or tickets demonstrating compliance with materials, tests or specifications indicated.

3. Equipment: Include equipment specifications, manufacturer information and demonstration of suitability of equipment for intended use.

4. Product Data: Standard published information ("catalog cuts") and specially prepared data for the Work of the Contract, including standard illustrations, schedules, brochures, diagrams, performance charts, instructions and other information to illustrate a portion of the Work. Include standard printed information on materials, products and systems to be furnished by the Contractor for this Contract.

5. Shop Drawings: Include detailed manufacturing and layout information, drawings, diagrams, schedules, and illustrations, demonstrating the contractor's understanding and approach to meeting the intent of the plans and specifications. Shop drawings shall be submitted to the Engineer for review and comment on the conformance of the submitted information to the general intent of the design.

6. Samples: Include physical examples of materials either for limited visual inspection or selection, or (where indicated) for confirmation, testing, and analysis by the OCTA Project Manager.

7. Miscellaneous Submittals: Such submittals shall be related directly to the Work, not administration related. Include but not be limited to asphalt concrete mix design, work schedule, phasing plans, warranties, guarantees, maintenance agreements, workmanship bonds, survey data and reports, physical work records, quality testing and certifying reports, copies of industry standards, record drawings, field measurement data, operating and maintenance materials, overrun stock (and similar information) and, devices and materials applicable to the Work but not processed as shop drawings, product data or samples. Beside the shop drawings required in the project plans or specifications, the OCTA Project Manager may require additional shop drawings demonstrating the contractor's approach to meeting the intent of the plans and specifications as a part of Quality Control/Quality Assurance.

B. Product data, shop drawings, samples, and any other submittals are not contract documents.

1.03 SCHEDULE OF SUBMITTALS

A. It is the Contractor's responsibility to identify the submittals that will be required in each section of specifications and on the contract drawings and determine the date on which each submittal will be made. The submittal schedule, the timeline for which Contractor plans to deliver required submittals to OCTA shall be submitted by the Contractor at time of initial construction meeting to the OCTA Project Manager for review and acceptance. Allow OCTA a minimum of 14 calendar days to review Schedule of Submittal. After review and return by the Engineer, resubmit Schedule of Submittal within 7 calendar days.

B. Throughout the duration of the Contract, Contractor shall, at the OCTA Project Manager's request, submit all product or procedure documentation for any activity in the Contract.

1.04 GENERAL SUBMITTAL REQUIREMENTS

A. Administrative Requirements for Submittal: Submittals shall be made in accordance with requirements specified herein and in Product Sections of the Specifications.

B. Transmission of Submittals: Transmit all submittals through the Project Engineer, unless otherwise directed. Include all information specified below for identification of submittals and for monitoring of review process.

C. Make submittal at time required per the contract documents and per the Submittal Schedule accepted by the OCTA. Allow three (3) weeks for the OCTA's Consultant to review and accept submittals.

D. OCTA Project Manager and Contractor shall discuss at the initial construction meeting, the exact procedure to be adopted for the processing of submittals. Generally, submittals shall be made at the time indicated in Contractor's approved submittal schedule. OCTA Project Manager will process submittals within 21 calendar

days after receipt of each of submittals and resubmittals from Contractor. After review and return by the Engineer, resubmit the submittals within 7 calendar days.

E. Contractor shall be responsible for on time delivery and processing of submittals so as not to impede the progress of the Work. Contractor shall provide, unless otherwise indicated, five (5) hard copies of each submittal.

F. Contractor shall, before making submittals, ensure that products will be available in the quantities and in the time required by the Contract.

G. Contractor shall coordinate and sequence different categories of submittals for same work, and interface units of work, so that one will not be delayed for coordination with another.

H. Contractor shall maintain a file of all approved submittal documents on work site.

I. Where required by California law, or as specified in the Contract Documents, submittals shall be signed and sealed by a Professional Engineer licensed in the State of California, or Land Surveyor licensed in the State of California as applicable.

J. Submittals shall be consecutively and uniquely numbered using a document identifier including Contract number and the appropriate suffix, which will include specification section number and submittal number. Submittals under each specification section shall be in a separate package.

K. Submittals Identification: Identify each submittal by Specification Section number followed by a number indicating sequential submittal for that Section. Re-submittals shall use same number as original submittal, followed by a letter R and a number indicating sequential re-submittal. For example:

3300-1	First submittal for Section 3300 – Asphalt Concrete Mix Design
3300-2	Second submittal for Section 3300 – Asphalt Concrete Mix Design.
3300-2-R1	Re-submittal of second submittal for Section 3300 – Asphalt Concrete Mix Design.
3300-2-R2	Second re-submittal of second submittal for Section 3300 – Asphalt Concrete Mix Design.

1. Title each submittal with Project name, the Authority's Project number, Submittal number, Sequence number of Submittal, Contractor's Project number and submission date.

2. Identify each element on submittal by reference to Drawing sheet number, detail, schedule, number, assembly or equipment number, Specifications article and paragraph, and other pertinent information to clearly correlate submittal with Contract Drawings. Identify field dimensions clearly and relationships to adjacent or critical features of Work, any deviations from the contract documents and applicable standards, ASTM, ACI, OSHA, ect.

L. Contractor's review of submittals: Prior to submission to the Engineer for review, Contractor shall review each submittal for completeness and conformance to specified requirements. Contractor shall stamp each submittal with a review action stamp and sign each copy certifying that:

1. Field measurements have been determined and verified.

2. Field construction criteria have been verified.

3. Catalog numbers and similar data are correct.

4. Conformance with requirements of Contract Drawings and Specifications is confirmed.

5. All deviations from requirements of Drawings and Specifications have been identified and noted, and product is available.

M. Submittals which are received from sources other than through Contractor's office or which have not undergone Contractor's review, will be returned marked "Without Action".

N. Contractor shall be responsible for timely delivery of submittals in the proper specified format for each submittal category.

O. Except as otherwise indicated in individual work sections, the Contractor shall comply with requirements specified herein for each indicated category of submittal.

P. The Contractor shall include an up-to-date log of submittals in each submittal package.

Q. Grouping of Submittals: Unless otherwise specifically permitted by the Engineer, make all submittals in groups containing all associated items. The Engineer may reject partial submittals as incomplete or hold them until related submittals are made. Submittals under a specification section shall be in one submittal package.

R. Unsolicited Submittals: Unsolicited submittals will be returned un-reviewed.

S. Record Submittals: When record submittals are specified, submit three hard copies or sets only. Record submittals will not be reviewed but will be retained for historical and maintenance purposes.

1.05 SHOP DRAWINGS

A. Shop drawings shall be prepared using AutoCAD. Unless otherwise approved by the OCTA Project Manager or indicated in specific sections of the project specific specifications, shop drawings shall be scaled sufficiently large to accurately show all

pertinent aspects of the item and its relationship to the work. Acceptable shop drawings hard copy sizes are 22" x 34", 11" x 17" and 8½" x 11" and are scalable. The Contractor shall additionally submit the shop drawing on electronic media in PDF format and in AutoCAD format compatible with AutoCAD version 2012.

B. Shop drawings shall be original drawings prepared for submittal review, fabrication and execution of Work. Direct copies and modified reproductions of Contract Drawings will not be accepted for review. Provide space for review action stamps. Contractor shall field verify all existing conditions and all measurements on site before preparing and submitting shop drawings.

C. Shop drawings shall show, at a minimum, the following:

1. General project information:

    a. The original date of issue;

    b. The dates of all applicable revisions;

    c. The project title, project number, and address;

    d. The names of contractor, subcontractors, suppliers, manufacturers, separate detailers, etc…

2. Detailed manufacturing and layout information.

3. Drawings, diagrams, schedule and illustrations.

4. Bill of materials including materials types, dimensions and weights, quantities, origin of the materials, material certifications.

5. Welding procedure specifications.

6. Erection or installation plans.

7. Any other important items related to specific work of the Project and as requested by the OCTA's Project Manager.

D. Detailed work drawings shall be submitted by Contractor for temporary structures and for such other temporary work as may be required for construction, but which does not become an integral part of the completed project. Submittals shall include back-up calculations or any information needed to explain the structure or system or its intended use.

E. Where a submittal involves engineering computations or original design work is depicted, the submittal shall show the name, the State of California registration number, seal, and signature of the Professional Engineer certifying that such computations or design work are correct and in conformance with standards, codes, and acceptable engineering practice.

F. Contractor shall submit 5 hard copies and a PDF file of each shop drawing submittal. Distribution of submitted shop and working drawings by Contractor for OCTA Project Manager's use will be performed by OCTA Project Manager. Review comments of OCTA Project Manager, and other parties as may be required will be shown on the reproducible set when it is returned to Contractor. Contractor shall make and distribute all copies required for his purposes.

1.06 PRODUCT DATA

A. Contractor shall collect required data into one submittal for each unit of work or system, and mark each copy to show which choices and options are applicable to the Project.

B. Contractor shall include the manufacturer's standard printed recommendations for application and use, certification of compliance with standards, notation of field measurements, which have been checked, and special coordination requirements. A Material Safety Data Sheet (MSDS) shall be submitted for each product.

1.07 CERTIFICATES OF COMPLIANCE

A. Certificates of Compliance shall be submitted by Contractor to OCTA Project Manager for those materials and products for which no samples and test results are specified. The certificates shall:

1. State that the product complies with the respective contract specification and contract drawing requirements.

2. Be accompanied by a certified copy of test results pertaining to the product. All test equipment used shall be verified to be in calibration at the time of each test and test reports shall so indicate. No test shall be made without such verification. When required by the Contract Documents or by law, certified test results shall be sealed by a Professional Engineer licensed to practice in the State of California.

3. Show product represented and its location in the Contract, producer's name, product trade name and catalog number as applicable, place of product origin, test date, testing organization's name and address, quantity of the product to be furnished, and the related Contract Drawing and specification section numbers.

1.08 SAMPLES

A. Provide samples of each color, texture and pattern identical with final condition of proposed materials or products for the work. Include range of samples (not less than three units) where unavoidable variations may be expected. Submit one item only of

actual assembly or product. Full-size and complete samples may be returned or may be incorporated into field mock-up and the Work.

B. Submit actual samples. Photographic or printed reproductions will not be accepted. For manufacturer's products, the Contractor shall submit samples from manufacturer, with manufacturer's finish.

C. Include information with each sample showing generic description, source or product name, manufacturer and compliance with standards and specifications.

D. Samples are submitted for review and confirmation by OCTA Project Manager. The Engineer will review and select material for Project only after all samples are received, so that materials may be probably coordinated. OCTA Project Manager will not test samples (except as otherwise indicated) for compliance with specifications. Contractor shall have the exclusive responsibility of demonstrating material compliance.

1.09 SURVEY DATA

A. As required per contract documents and/or by OCTA Project Manager, Contractor shall submit survey data, signed and sealed by a Land Surveyor licensed to practice in the State of California. Refer to Section 01 71 23, Field Engineering for requirements.

1.10 GENERAL DISTRIBUTION

A. Contractor shall provide distribution of OCTA Project Manager's reviewed submittals (not included in foregoing copy submittal requirements) to subcontractors, suppliers, fabricators and installers, governing authorities, and others as necessary for proper performance of the Work.

B. Contractor shall include such additional copies of transmittal to OCTA Project Manager, where required, to receive status marking before final distribution.

1.11 REVIEW OF SUBMITTALS

A. Submittals shall be a communication aid between Contractor and the Engineer by which interpretation of Contract Documents requirements may be confirmed in advance of construction. OCTA Project Manager will review submittals for general conformance with the design concept only. Such review by OCTA Project Manager shall not relieve Contractor or any subcontractor of responsibility for full compliance with contract requirements, for proper design of details, for proper fabrication and construction techniques, for proper coordination with other trades, or for providing all devices required for safe and satisfactory construction and operation.

B. Changes shall only be authorized by separate written Change Order or Construction Change Authorization, in accordance with the Conditions of the Contract and Section 01 26 00 - Contract Modification Procedures.

1.12 SUBMITTAL STATUS

A. Submittals reviewed by OCTA Project Manager and returned to Contractor will be marked with one of the following designations:

1. Conforms.

2. Conforms with Corrections as Noted

3. Revise as Noted and Resubmit.

4. Rejected. Resubmit

5. No Action Taken

B. Contractor shall not proceed with procurement, manufacture or fabrication of items submitted for review, until such submittals have been designated by OCTA Project Manager as "Conforms" or “Conforms with Corrections as Noted". Until submittal items receive a conforming designation by OCTA Project Manager, any costs associated with procurement for these items shall be at the Contractor’s risk.

1.13 SUBMITTALS DESIGNATED AS "CONFORMS" OR "CONFORMS WITH CORRECTIONS AS NOTED"

A. Each copy of the submittal so designated by OCTA Project Manager will be identified accordingly by being so stamped and dated.

B. One reproducible copy will be returned to Contractor.

C. When a submittal has been designated as "Conforms" by OCTA Project Manager, Contractor shall carry out construction in accordance therewith and no further changes shall be made therein except upon written approval and instructions from OCTA Project Manager.

D. Contractor shall take responsibility for and bear all cost of damages, which may result from the ordering of any material or from proceeding with any part of the Work prior to submittal being marked "Conforms" or "Conforms with Corrections as Noted" by OCTA Project Manager.

E. Where drawings are stamped " Conforms with Corrections as Noted” OCTA Project Manager shall indicate the corrected detail or information as required.

F. Submittals stamped “Conforms” do not relieve the contractor from the responsibility of performance of Work as intended in the plans and specifications. Refer to 1.11 of this Section.

1.14 SUBMITTALS DESIGNATED AS “REVISE AND RESUBMIT,” OR “REJECTED. RESUBMIT”

A. Each copy of the submittal so designated by OCTA Project Manager will be identified accordingly by being so stamped and dated.

B. One copy will be returned to Contractor.

C. If corrections to the submittals are required, copies returned to Contractor will be marked "Rejected. Resubmit”, or "Revise and Resubmit“, and the required corrections shall be made on the re-submittal copies.

D. Re-submittals will be handled in the same manner as first submittals. Direct specific attention in writing on re-submittals to revisions other than the corrections requested by OCTA Project Manager on previous submittals. Re-submittals shall use the same number as original submittal but will be modified by R and number of re-submittal in the suffix.

E. Contractor shall notify OCTA Project Manager prior to execution of any correction, which constitutes a change of the contract requirements indicated on the submittals.

1.15 SUBMITTALS DESIGNATED AS “NO ACTION TAKEN”

A. Each copy of the submittal so designated by OCTA Project Manager will be identified accordingly by being so stamped and dated.

B. One reproducible copy will be returned to Contractor.

C. Submittals made by the Contractor that are not required by the contract documents or were not otherwise requested shall be designated “No Action Taken”

PART 2 – PRODUCTS

Not Used.

PART 3 – EXECUTION

Not Used.

PART 4 – MEASUREMENT AND PAYMENT

No separate measurement or payment shall be made under this Section.

END OF SECTION

SECTION 01 35 13

SPECIAL PROJECT PROCEDURES

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Products and installation for patching and extending Work.

B. Transitions and adjustments.

C. Repair of damaged surfaces, finishes, and cleaning.

1.02 RELATED SECTIONS

A. Section 01 35 13 - Coordination with OCTA and Local Agencies: Authority occupancy and maintenance of utility services.

B. Section 01 73 29 - Cutting and Patching: General requirements for cutting and patching requirements.

C. Section 01 50 00 - Temporary Facilities and Controls: Temporary enclosures, protection installed Work, and cleaning during construction.

PART 2 - PRODUCTS

2.01 PRODUCTS FOR PATCHING AND EXTENDING WORK

A. New Materials: As specified in PART 2 - PRODUCTS of applicable product Specification Sections, provide suitable products and construction procedures for patching and extending Work.

B. Type and Quality of Existing Products: Determine by inspection and testing of Products where necessary, referring to existing construction as a standard.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verify that demolition is complete, and areas are ready for execution of Work.

B. Beginning of alteration Work will be interpreted to mean that Contractor has

examined existing conditions and determined that they are acceptable.

3.02 PREPARATION

A. Coverings:

1. Provide weather- and dust-protection coverings as necessary to contain dust and debris. Protect OCTA Property, buses, equipment, utilities, landscaping, and accessories from dust. Provide appropriate covers over all buses parked adjacent to the work area or protect by sprinkling water over work area to control dust.

2. Close area of work with barricades to protect existing construction and new Work from traffic, weather, and extremes of temperature and humidity. At end of work day, provide enclosure around work area with flashing lights so that traffic is aware of construction excavations and new work.

3. Coordinate construction delineation with barricades, but provide OCTA staff cars buses adequate passage to enable the Authority to continue to pass through to parking areas. Provide Bus passage through construction areas if required. OCTA Facility will remain operational during construction.

4. Adjacent bus parking stalls will be used during construction. Provide adequate passage for OCTA buses and staff cars to park in adjacent parking stalls during construction. Do not allow contractor's cars or equipment to park in bus parking stalls adjacent to construction

5. See Section 01 50 00 - Temporary Facilities and Control for additional requirements.

B. Protective Devices and Directional Signage: Provide barricades, directional signage and other protective devices to enable the Authority to continue bus operations, bus traffic through construction areas, occupancy and operation in the existing buildings and adjacent parking stalls. See Section 01 50 00 - Temporary Facilities and Control for additional requirements.

C. Access for Work: Demolish, Cut, move or remove items as necessary for access for alterations, renovation and extension Work. Replace and restore at completion.

D. Disposal of Materials: Immediately remove unsuitable material not marked for salvage, such as decayed wood, insulation, asphalt concrete, corroded rebar, accessories and other materials as required to complete the work. Replace materials as specified for finished Work.

1. Do not allow debris to accumulate in work areas. Dispose debris daily off-site in a legal manner. Dispose all existing asphalt concrete and accessories that are to be removed, and legally dispose off-site.

2. Remove debris and abandoned items from work area and from parking spaces.

E. Surface Preparation: Remove surface finishes and prepare surfaces to provide for proper installation of new materials and finishes.

F. Protection: Protect buses and equipment parked adjacent to construction area from damage.

3.03 INSTALLATION

A. Coordinate Work for alterations and renovations to expedite completion and to accommodate the Authority's concurrent occupancy and use of the facility.

B. Coordinate Work for alterations and renovations in a timely manner to expedite completion and minimize disruption to the Authority's continued use occupied areas and spaces. Park all construction equipment and materials inside areas of construction and barricade construction area on all sides at end of work day. Provide flashing lights around work area from dusk to dawn.

C. Remove, cut, and patch Work in a manner to minimize damage and to provide a means of restoring products and finishes to original or specified new condition. Refer to Section 01 73 29 - Cutting and Patching.

D. Refinish visible existing surfaces to condition before start of construction. Match adjacent finish surface in color and material. Finish to specified condition for each material, with a near transition to adjacent finishes.

E. In addition to specified work, in case of breakdown of under or above ground utilities, plumbing, electrical power, signal systems, and lighting, restore to fully operational condition immediately as before construction commenced. All power, and other systems should be operational at end of work day. The plans are diagrammatic and do not show all utilities, ducting, equipment, and accessories on the site. Contractor will be required to repair immediately utilities, ducting, plumbing lines, power lines, signal and communication system, data lines, equipment, and accessories in case of breakdown or disruption due to construction work and as required to complete the work. Review OCTA record drawings of construction area before excavation.

F. Install products as specified in applicable product specification Sections.

3.04 TRANSITIONS

A. Where Work abuts or aligns with existing construction, perform a smooth and even transition. Patches shall match existing adjacent construction in texture and appearance.

B. When finished surfaces are cut so that a smooth transition is not possible, terminate existing surface along a straight line at a natural line of division. Refer to Section 01 73 29 - Cutting and Patching.

3.05 ADJUSTMENTS

A. Where removal of materials results in adjacent spaces becoming one, rework to a smooth plane without breaks, steps or bulkheads.

B. Where a change of plane of 1/4-inch or more occurs, submit recommendation for providing a smooth transition for the Engineer's review.

C. Fit Work at penetrations of surfaces as specified in Section 01 73 29 - Cutting and Patching.

3.06 REPAIR OF DAMAGED SURFACES

A. Replace portions of adjacent existing surfaces which are damaged, lifted, discolored, or showing other imperfections or require replacement or repairs during replacement work. Extent of replacement will be required to nearest construction joint, expansion joint, break line, natural break, or in a straight line. Provide a smooth transition between existing and new surface.

B. Repair substrate prior to patching finish.

C. Unless noted otherwise or directed by the OCTA Project Manager, all pavement striping, markings, and markers affected by the construction activities shall be reinstalled to match the existing conditions.

3.07 FINISHES

A. Finish surfaces as specified in applicable Sections.

B. Finish patches with material and paint to produce uniform finish and texture over entire area. When finish cannot be matched, refinish entire surface to nearest intersections or joints.

3.08 CLEANING

A. In addition to cleaning specified in Section 01 74 23 - Cleaning, clean the Authority-occupied areas affected by construction activities. Clean areas around the site where asphalt concrete material has fallen during work day. Clean site of work daily before leaving site at end of each work day. Haul debris off-site daily. Clean adjacent bus parking areas daily before leaving site

PART 4 – MEASUREMENT AND PAYMENT

No separate measurement or payment shall be made under this section.

END OF SECTION

SECTION 01 35 23

OWNER SAFETY REQUIREMENTS

PART 1 - GENERAL

1.01 DESCRIPTION

A. The Contractor shall comply with OCTA Level 3 Health, Safety and Environmental Specifications in the contract documents.

B. Work specified in this section consists of furnishing, operating, maintaining, and utilizing safety equipment; providing safety aids on construction equipment; and assuring safe operation. Compliance with requirements of this section shall not relieve Contractor from other obligations imposed elsewhere in contract, by law and by regulation.

1.02 OTHER SECTIONS WITH SAFETY REQUIREMENTS

A. OCTA Level 3 Health, Safety and Environmental Specifications

B. Section 01 14 22, Rules and Hours of Operation

C. Section 01 14 23, Coordination with OCTA and Local Agencies

D. Section 01 14 25, Procedures in Construction

E. Section 01 43 01, Contractor Qualifications and Requirements

1.03 REFERENCE STANDARDS

A. Comply with the provisions of all local, State and Federal codes, specifications, standards and recommended practices, and OCTA Project Manager Policy, in particular:

1. Cal/OSHA: California State Occupational Safety and Health Administration

2. OSHA: Federal Occupational Safety and Health Administration

1.04 QUALITY CONTROL AND QUALITY ASSURANCE

A. Contractor's selection and operation of construction equipment and tools shall meet requirements of California State and Federal Occupational Safety and Health Administration (Cal/OSHA, OSHA).

B. If there is a conflict between the above, the most stringent requirement will apply.

1.05 SUBMITTALS

A. Contractor shall submit, under provisions of Section 01 33 00, Submittals, the following information:

1. Information required by OCTA Level 3 Health, Safety and Environmental Specifications.

2. Material Safety Data Sheet, per Section 01 14 25, Procedures in Construction.

3. Notification to OCTA Project Manager as soon as reasonably possible of any injury to Contractor's employee, subcontractor of any tier, supplier or other entity engaged in any portion of the work while on OCTA Project Manager property. Contractor shall submit an injury report to OCTA Project Manager within 24 hours of said injury.

4. Other records as required by agencies listed in Part 1.03.

1.06 SAFETY AND HEALTH PERSONNEL

A. Provide a Site Safety Representative, as described in Sections 01 43 01 Contractor Qualifications and Requirements, OCTA Level 3 Health, Safety and Environmental Specifications, and the General Provisions, who shall coordinate and supervise onsite safety and health, including training and testing Contractor's personnel.

1.07 CONSTRUCTION AND SAFETY EQUIPMENT

A. Contractor shall conform to requirements of the OCTA Project Manager, Cal/OSHA, and to applicable codes and regulations of Federal, State, and local authorities having jurisdiction over jobsite safety.

1.08 TESTING EQUIPMENT

A. Testing equipment as applicable to work site safety shall conform to requirements of California Code of Regulations, Title 8, Division of Industrial Safety, unless indicated otherwise.

1.09 IDENTIFICATION OF CONTRACTOR/SUBCONTRACTOR PERSONNEL

A. While performing work at worksite, Contractor personnel of any tier shall be identified with employee's company name or logo affixed to employee's hardhat, identification badge, or other identification acceptable to OCTA Project Manager.

B. Contractor personnel shall wear hard hats, orange safety vests or orange T-shirts with reflective strips, safety glasses, and safety shoes at all times while on the project.

PART 2 – PRODUCTS

Not Used.

PART 3 – EXECUTION

Not Used.

PART 4 – MEASUREMENT AND PAYMENT

No separate measurement or payment shall be made under this Section.

END OF SECTION

SECTION 01 41 00

REGULATORY REQUIREMENTS

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:

1. Requirements associated with regulations, standards, and requirements of authorities having jurisdiction.

B. Related Sections:

1. Section 01 14 25, Procedures in Construction.

2. Section 01 14 27, Legal Relations and Responsibility.

1.02 SUBMITTALS

A. Submit in accordance with Section 01 33 00, Submittal Procedures.

B. Before starting the work, submit to OCTA Project Manager copies of permit applications, permits, licenses, receipts for fee payments, judgments, and other similar documents, correspondence, and records obtained for performance of the work.

C. At completion, submit certifications, releases, jurisdictional settlements, notices and other similar documents under Section 01 77 00, Closeout Procedures.

1.03 APPLICABILITY OF INDUSTRY STANDARDS

A. Construction Industry Standards referenced in the contract documents have the same force and effect as if published herein and are made a part of the contract documents. Refer to Section 01 42 00 References.

B. Reference standards (referenced in the contract documents or by governing regulations) have precedence over non-referenced standards that are recognized in the industry for applicability to the work.

1. Building Codes: Performance of the Work shall meet or exceed the minimum requirements of California Code of Regulations (CCR), Title 24, including the following:

a. CCR Title 24, Part 2: Uniform Building Code (UBC), latest edition, with State of California amendments; referenced as California Building Code (CBC).

b. CCR Title 24, Part 3: National Fire Protection Association (NFPA) 13 - National Electrical Code (NEC), latest edition, with State of California Amendments, referenced as California Electrical Code (CEC).

c. CCR Title 24, Part 9: Uniform Fire Code (UFC), latest edition, with State of California Amendments, referenced as California Fire Code (CFC).

d. CCR Title 24, Part 12: Uniform Building Code Standards (UBC Standards), latest edition, with State of California Amendments; referenced as California Building Standards Code (CBSC).

2. Performance of the Work shall also comply with applicable requirements of California Code of Regulations (CCR), as follows:

a. Title 19 - Public Safety.

b. Title 22 - Social Security.

c. Title 24 - Building Standards, Parts 2 through 7, and Title 25 as applicable.

3. References on the Drawings or in the Specifications to "code", "Code" or "building code" similar terms, not otherwise identified, shall mean the codes specified above, together with all additions, amendments, changes, and interpretations adopted by code authorities of the jurisdiction having authority over the Project.

4. The applicable edition of all codes shall be that adopted at the time of issuance of permits by the jurisdiction having authority and shall include all modifications and additions adopted by that jurisdiction(s).

C. Recognized industry standards shall be used where no specific standard is referenced in the contract documents. Obtain OCTA Project Manager's approval before using any non-referenced standards.

1.04 GOVERNING REGULATIONS AND AUTHORITIES

A. Contact authorities having jurisdiction directly for necessary information and decisions having a bearing on performance of the work.

B. Utility location and protection shall conform to Section 5, Utilities, of the Standard Specifications for Public Works Construction (SSPWC). At each OCTA’s property, the contractor shall utilize an independent underground utility locating service, which uses standard locating techniques other than excavating, to identify the location of underground utilities in the areas of the work prior to excavating. The contractor shall determine the exact location of utilities identified in the work area by potholing

using hand tools before using any power operated excavating equipment. Utilities now shown on the plans which are in direct conflict with the work will be dealt with by change orders.

C. Comply with requirements under the National Pollutant Discharge Elimination System (NPDES).

1.05 OTHER APPLICABLE LAWS, ORDINANCES AND REGULATIONS

A. Work shall be accomplished in conformance with all applicable laws, ordinances, rules and regulations of Federal, State and local governmental agencies and jurisdictions, County of Orange, AQMD, CAL-OSHA, and all other agencies having authority over the Project.

B. Work shall be accomplished in conformance with all rules and regulations of public utilities, utility districts, and public agencies providing utility services.

C. Where such laws, ordinances, rules and regulations require more care or greater time to accomplish Work, or require better quality, higher standards or greater size of products, Work shall be accomplished in conformance to such requirements with no change to the Contract Sum And Contract Time, except where changes in laws, ordinances, rules and regulations occur subsequent to the execution date of the Agreement.

D. Contractor shall pay for and obtain all permits required by all agencies having jurisdiction over the work. Contractor shall be required to pay for all temporary utility connections and use to the respective utility company during construction.

1.05 PERMITS

A. Obtain required permits from regulating agencies. Do not start work in areas requiring permits before issuance of permits from authorities having jurisdiction.

1. Coordinate with regulating agencies to obtain required permits.

2. Submit copies of permit applications and permits to OCTA Project Manager.

3. Comply with permit requirements and assume responsibility for any violations.

B. Prepare permit applications and obtain permits as necessary for performance of the work, including but not limited to:

1. Maintenance and protection of vehicle traffic.

2. Excavation, dewatering and discharge of surface water and runoff into existing drainage systems or surface waters.

3. Disposal of debris and soils.

4. All other activities with potential to adversely affect the environment.

5. Written permission from property owner for right of entry onto private property where necessary.

PART 2 – PRODUCTS

Not Used.

PART 3 – EXECUTION

Not Used.

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

No separate measurement will be made for work of this section.

4.02 PAYMENT

Work of this section is considered incidental to work under other payment item(s) listed in the Schedule of Quantities and Prices and no separate payment will be made.

END OF SECTION

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SECTION 01 42 00

REFERENCES

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:

1. Use of references in Drawings and Specifications, including requirements for copies of reference standards at Project site.

2. Abbreviations and acronyms.

3. General provisions regarding references.

1.02 USE OF REFERENCES

A. References: The Drawings and Specifications contain references to various standards, standard specifications, codes, practices and requirements for products, execution, tests and inspections. These reference standards are published and issued by the agencies, associations, organizations and societies listed in this Section or identified in individual product specification Sections.

B. Relationship to Drawings and Specifications: Such references are incorporated into and made a part of the Drawings and Specifications to the extent applicable.

C. Referenced Grades Classes and Types: Where an alternative or optional grade, class or type of product or execution is included in a reference but is not identified on the Drawings or in the Specifications, provide the highest, best, and greatest of the alternatives or options for the intended use and prevailing conditions.

D. Copies of Reference Standards:

1. Reference standards are not furnished with the Drawings and Specifications because it is presumed that the Contractor, subcontractors, manufacturers, suppliers, trades and crafts are familiar with these generally-recognized standards of the construction industry.

2. Copies of reference standards may be obtained from publishing sources.

E. Jobsite Copies:

1. Contractor shall obtain and maintain at the Project site copies of reference standards identified on the Drawings and/or in the Specifications in order to properly execute the Work.

2. At a minimum, the following shall be readily available at the site:

   a. Local and State Building Codes: As referenced in Section 01060 - Regulatory Requirements.

   b. Safety Codes: State of California, California Code of Regulations (CCR), Title 8 - Industrial Relations, Chapter 4, Subchapter 7, General Industry Safety Orders.

   c. General Standards: UBC Standards, other model Code standards, UL Building Products Listing, FM Approval Guide and ASTM Standards in Building Codes.

   d. Fire and Life Safety Standards: All referenced standards pertaining to fire rated construction and exiting.

   e. Common Materials Standards: American Concrete Institute (ACI), American Institute of Steel Construction (AISC), American Welding Society (AWS), Gypsum Association (GA), National Fire Protection Association (NFPA), Tile Council of America (TCA) and Woodwork Institute of California (WIC) standards to the extent referenced within the Contract Specifications.

   f. Research Reports: ICBO Evaluation Service (ICBO ES) Research Reports and CABO National Evaluation Service Reports (NER), for products not in conformance to prescribed requirements stated in Building Code.

   g. Product Listings: Approval documentation, indicating approval of authorities having jurisdiction for use of product with City of Laguna Beach.

F. Edition Date of References:

   1. When an edition or effective date of a reference is not given, it shall be understood to be the current edition or latest revision published as of the date indicated on the Drawings and Specifications.

   2. All amendments, changes, errata and supplements as of the effective date shall be included.

G. ASTM and ANSI References: Specifications and Standards of the American Society for Testing and Materials (ASTM) and the American National Standards Institute (ANSI) are identified in the Drawings and Specifications by abbreviation and number only and may not be further identified by title, date, revision or amendment. It is presumed that the Contractor is familiar with and has access to these nationally- and industry-recognized specifications and standards.

1.03 DEFINITIONS OF TERMS

A. Words and Terms Used on Drawings and in Specifications: Additional words and terms may be used in the Drawings and Specifications and are defined as follows:

1. Applicable: As appropriate for the particular condition, circumstance or situation.

2. Approved: Limited to duties and responsibilities of the Authority and the Engineer as stated in the Conditions of the Contract, for actions performed in the professional judgment of the Engineer or the Engineer's responsible design consultant, in conjunction with submittals, applications, and requests. Approvals shall be valid only if obtained in writing and shall not apply to matters regarding the means, methods, techniques, sequences and procedures of construction. Approval action shall not relieve the Contractor from responsibility to fulfill Contract requirements.

3. And/or: If used, shall mean that either or both of the items so joined are required.

4. Authority or Owner: The Orange County Transportation Authority, a legal entity organized and existing in the County of Orange under and by virtue of the laws of the State of California. All necessary action by the Authority pertaining to the contract will be taken by legally constituted authorities empowered to on behalf of the Orange County Transportation Authority.

5. Contractor: shall mean the individual, partnership, corporation, or other legal entity entering into contract with the Authority to perform the work covered by the contract documents, and these specifications.

6. Directed: Limited to duties and responsibilities of the Engineer as stated in the Conditions of the Contract, and meaning as instructed by the Engineer, in writing, regarding matters other than the means, methods, techniques, sequences and procedures of construction. Terms such as "directed", "requested", "authorized", "selected", "approved", "required", and "permitted" mean "directed by the Engineer", "requested by the Engineer", and similar phrases. No implied meaning shall be interpreted to extend the Engineer's responsibilities into the Contractor's supervision of construction.

7. Equal or Equivalent: As determined by the Engineer as being equivalent, considering such attributes as durability, finish, function, suitability, quality, utility, performance, and aesthetic features.

8. Engineer: shall mean the Project Manager of the Orange County Transportation Authority, acting either directly or through properly authorized agents or representatives acting within the scope of the particular duties entrusted to them.

9. Furnish: Means "supply and deliver, to the Project site, ready for unloading, unpacking, assembly, installation, and similar operations."

10. Indicated: The term "indicated" refers to graphic representations, notes, or schedules on the Drawings, or other Paragraphs or Schedules in the

Specifications, and similar requirements in the Contract Documents. Terms such as "shown", "noted", "scheduled", and "specified" are used to help the reader locate the reference. There shall be no limitation on location.

11. Install: Describes operations at the Project site including the actual unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning and similar operations.

12. Installer:

    a. "Installer" refers to the Contractor or an entity engaged by the Contractor, such as an employee, subcontractor, or sub-subcontractor, for performance of a particular construction activity, including installation, erection, application and similar operations. Installers shall be adequately skilled and experienced in the operations they are engaged to perform.

    b. Experienced Installer: The term "experienced," when used with "installer" shall mean having a minimum of 5 previous projects similar in size to this Project, knowing the precautions necessary to perform the Work, and being familiar with requirements of authorities having jurisdiction over the Work.

13. Jobsite: Same as "Site."

14. Necessary: With due consideration of the conditions of the Project and, as determined in the professional judgment of the Engineer as being necessary for performance of the Work in conformance with the requirements of the Contract Documents, but excluding matters regarding the means, methods, techniques, sequences and procedures of construction.

15. Noted: Same as "Indicated."

16. Per: In accordance with or in compliance with.

17. Products: Material, system or equipment.

18. Project Site: Same as "Site."

19. Proper: As determined by the Engineer as being proper for the Work, excluding matters regarding the means, methods, techniques, sequences and procedures of construction, which are solely the Contractor's responsibility to determine.

20. Provide: "Furnish and install, complete, and ready for the intended use."

21. Regulation: Includes laws, ordinances, statutes and lawful orders issued by authorities having jurisdiction, as well as and rules, conventions and agreements within the construction industry that control performance of the Work.

22. Required: Necessary for performance of the Work in conformance with the requirements of the Contract Documents, excluding matters regarding the

means, methods, techniques, sequences and procedures of construction, such as:

a. Regulatory requirements of authorities having jurisdiction.
b. Requirements of referenced standards.
c. Requirements generally recognized as accepted construction practices of the locale.
d. Notes, schedules and graphic representations on the Drawings.
e. Requirements specified or referenced in the Specifications.
f. Duties and responsibilities stated in the Bidding and Contract Requirements.

23. Scheduled: Same as "Indicated."

24. Selected: As selected by the Engineer or Authority from the full selection of the manufacturer's products, unless specifically limited in the Contract Documents to a particular quality, color, texture, or price range.

25. Shown: Same as "Indicated."

26. Site: Same as "Jobsite", "Site of the Work" or "Project Site;" the area or areas or spaces occupied by the Project and including adjacent areas and other related areas occupied or used by the Contractor for construction activities, either exclusively or with others performing other construction on the Project. The extent of the Project Site is shown on the Drawings, and may or may not be identical with the description of the land upon which the Project is to be built.

27. Subcontractor: The individual, partnership, corporation or other legal entity entering into a contract with the Contractor to perform a portion of the work.

28. Testing Laboratory or Laboratories: Same as "Testing and Inspection Agency."

29. Testing and Inspection Agency: An independent entity engaged to perform specific inspections or tests, at the Project Site or elsewhere, and to report on, and, if required, to interpret, results of those inspections or tests.

1.03 ABBREVIATIONS, ACRONYMS, NAMES AND TERMS, GENERAL

A. Abbreviations, Acronyms, Names and Terms: Where acronyms, abbreviations names and terms are used in the Drawings, Specifications or other Contract Documents, they shall mean the recognized name of the trade association, standards generating organization, authority having jurisdiction or other entity applicable.

B. Abbreviations: The following are commonly-used abbreviations which may be found on the Drawings or in the Specifications:

AC or ac	Alternating current or air conditioning

	(depending upon context)
AMP or amp	Ampere
C	Celsius
CFM or cfm	Cubic feet per minute
CM or cm	Centimeter
CY or cy	Cubic yard
DC or dc	Direct current
DEG or deg	Degrees
F	Fahrenheit
FPM or fpm	Feet per minute
FPS or fps	Feet per second
FT or ft	Foot or feet
Gal or gal	Gallons
GPM or gpm	Gallons per minute
IN or in	Inch or inches
Kip or kip	Thousand pounds
KSI or ksi	Thousand pounds per square inch
KSF or ksf	Thousand pounds per square foot
KV or kv	Kilovolt
KVA or kva	Kilovolt amperes
KW or kw	Kilowatt
KWH or kwh	Kilowatt hour
LBF or lbf	Pounds force
LF or lf	Lineal foot
M or m	Meter
MPH or mph	Miles per hour
MM or mm	Millimeter
PCF or pcf	Pounds per cubic foot
PSF or psf	Pounds per square foot
PSI or psi	Pounds per square inch
PSY or psy	Per square yard
SF or sf	Square foot
SY or sy	Square yard
V or v	Volts

C. Undefined Abbreviations, Acronyms, Names and Terms: Words and terms not otherwise specifically defined in this Section, in the Instructions to Bidders, in the Conditions of the Contract, on the Drawings or elsewhere in the Specifications, shall be as customarily defined by trade or industry practice, by reference standard and by specialty dictionaries such as the following:

1. The American Institute of Architects (AIA) Document M101, "Glossary of Construction Industry Terms".

2. The Construction Specifications Institute (CSI) Technical Document TD 2-4, "Abbreviations".

3. Dictionary of Architecture and Construction, (Cyril M. Harris, McGraw-Hill Book Company, 1975).

4. Encyclopedia of Associations, published by Gale Research Co., available in most libraries.

1.04 ABBREVIATIONS FOR AGENCIES, ASSOCIATIONS, CODES AND STANDARDS

A. Abbreviations for Agencies, Associations, Codes and Standards: The following abbreviations and acronyms may be used in the Drawings and Specifications. When used, the abbreviation or acronym shall mean the full name of the applicable agency, association, organization, society or standard.

AAMA	American Architectural Manufacturers Association
AAR	Association of American Railroads
AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
ADA	Americans with Disabilities Act
ADAAG	Americans with Disabilities Act Accessibility Guidelines
AGA	American Galvanizers Association
AGA	American Gas Association
AHRI	Air-Conditioning, Heating, and Refrigeration Institute
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
AITC	American Institute of Timber Construction
ALSC	American Lumber Standard Committee
AMCA	Air Movement and Control Association International, Inc.
ANSI	American National Standards Institute
APA	APA – The Engineered Wood Association (formerly American Plywood Association)
AREMA	American Railway Engineering and Maintenance-of-Way Association
ASCE	American Society of Civil Engineers
ASHRAE	American Society of Heating, Refrigerating, and Air-Conditioning Engineers
ASME	ASME International (formerly American Society of Mechanical Engineers)
ASSE	American Society of Safety Engineers
ASSE	American Society of Sanitary Engineering
ASTM	ASTM International (formerly American Society for Testing and Materials)
AWI	Architectural Woodwork Institute
AWPA	American Wood Protection Association (formerly American Wood-Preservers' Association)
AWS	American Welding Society
BHMA	Building Hardware Manufacturers Association
Cal/EPA	California Environmental Protection Agency
Cal/OSHA	California Department of Industrial Relations, Division of Occupational Safety and Health
Caltrans	California Department of Transportation, Standard Plans & Specifications 2010 Edition
CBC	California Building Code
CEC	California Electrical Code

CFR	Code of Federal Regulations
CMC	California Mechanical Code
CPA	Composite Panel Association
CPC	California Plumbing Code
CPUC	California Public Utilities Authority
CRI	Carpet and Rug Institute
CRSI	Concrete Reinforcing Steel Institute
DHI	Door and Hardware Institute
DOC	U.S. Department of Commerce
DOT	U.S. Department of Transportation
EPA	U.S. Environmental Protection Agency
FM	FM Approvals
FM	FM Global (formerly Factory Mutual)
FRA	Federal Railroad Administration
FS	Federal Specification
FSC	Forest Stewardship Council
FTA	Federal Transit Administration
GA	Gypsum Association
GANA	Glass Association of North America
HI	Hydraulics Institute
HMMA	Hollow Metal Manufacturers Association
ICC	International Code Council
IEEE	Institute of Electrical and Electronics Engineers
IGCC	Insulating Glass Certification Council
IGMA	Insulating Glass Manufacturers Alliance
ISO	International Organization for Standardization
LBTC	Laguna Beach Transportation Center
LEED	Leadership in Energy and Environmental Design
MPI	Master Painters Institute
MSS	Manufacturers Standardization Society of the Valve and Fittings Industry
NAAMM	National Association of Architectural Metal Manufacturers
NACE	NACE International (formerly National Association of Corrosion Engineers)
NEMA	National Electrical Manufacturers Association
NETA	InterNational Electrical Testing Association
NFPA	National Fire Protection Association
NFPA	National Forest Products Association
NFRC	National Fenestration Rating Council
NHLA	National Hardwood Lumber Association
NSF	NSF International (formerly National Sanitation Foundation)
OSHA	Occupational Safety and Health Administration
PCI	Precast/Prestressed Concrete Institute
PDI	Plumbing and Drainage Institute
PS	Product Standard (US Department of Commerce)
RCSC	Research Council on Structural Connections
RIS	Redwood Inspection Service
RTA	Railway Tie Association
SDI	Steel Deck Institute
SDI	Steel Door Institute

SCRRA	Southern California Regional Rail Authority
SCAQMD	South Coast Air Quality Management District
SMACNA	Sheet Metal and Air Conditioning Contractors' National Association
SPPWC	Standard Plans for Public Works Construction, 2015 Edition
SSPC	Society for Protective Coatings (formerly Steel Structures Painting Council)
SSPWC	Standard Specifications for Public Works Construction, 2015 Edition
TCNA	Tile Council of North America
UL	Underwriters Laboratories Inc.
USDOJ	U.S. Department of Justice
USDOT	U.S. Department of Transportation
USGBC	U.S. Green Building Council
WCLIB	West Coast Lumber Inspection Bureau (stamped WCLB)
WI	Woodwork Institute
WWPA	Western Wood Products Association

1.03 REFERENCE STANDARDS

A. General

1. Specifications, standards, and guidelines referenced in the text are incorporated by reference as if fully set forth. Where a referenced standard includes both administrative and technical provisions, and the administrative provisions conflict with the contract documents, only the technical provisions shall apply. If a referenced standard appears to conflict with the drawings and specifications, consult OCTA Project Manager for resolution.

2. The governing versions of reference standards and codes are those current at the time of contract execution, including errata, amendments, updates, etc., unless noted otherwise.

3. Contractor shall maintain the latest copy of applicable standards at jobsite during submittals, planning and progress of the work. Make standards available for use by OCTA Project Manager upon request.

4. Caltrans: Standard Plans and Specifications 2010 Edition.

5. Standard Plans for Public Works Construction (SPPWC) 2012 Edition, Standard Specifications for Public Works Construction (SSPWC) 2015 Edition.

B. ADA Standards

1. References to ADAAG or the ADA Accessibility Guidelines refer to the ADA [Americans with Disabilities Act] Accessibility Guidelines for Buildings and Facilities, adopted 7/23/04 by the U.S. Access Board, amended 8/5/05, supplemented 3/23/07 reflecting amendments by the U.S. Department of Transportation, available at www.access-board.gov .

2. References to USDOT ADA Standards refer to the U.S. Department of Transportation ADA Standards for Transportation Facilities, effective 11/29/06, available at www.access-board.gov .

3. References to USDOJ ADA Standards are to the U.S. Department of Justice ADA Standards for Accessible Design, 1994, available at www.access-board.gov, or to new standards (currently pending) if in effect at the time of execution of the contract documents.

PART 2 – PRODUCTS

Not Used.

PART 3 – EXECUTION

Not Used.

PART 4 - MEASUREMENT AND PAYMENT

Not Used.

END OF SECTION

SECTION 01 42 16

DEFINITIONS

PART 1 - GENERAL

1.01 GENERAL

This Section provides definition of terms cited in the Contract Documents.

1.02 DEFINITION OF TERMS

A. Wherever in the specifications and other Contract Documents, the following terms and abbreviations or pronouns in place of them, are used, the intent and meaning shall be interpreted as provided in this section unless the context otherwise requires.

1. Quality Assurance (QA): The process by which the OCTA Project Manager elects to monitor and assure that it receives proper construction related documentation from the Contractor. QA procedures measure the setting of schedules for the receipt and review of documentation and the quality of the information contained within the documentation.

2. Quality Control (QC): The process by which the OCTA Project Manager receives documentation from the Contractor that proves that the Contractor is providing the contractually mandated services, such as training, testing and inspection. Contractor must show evidence of internal procedures demonstrating how he will perform these mandated functions and submit documentation that QC verifications have been completed. QC is the responsibility of the Contractor.

3. Roadway Worker: Any OCTA Project Manager or Contractor employee whose duties include inspection, construction, roadway facilities or roadway machinery within the OCTA and/or City right of way.

4. Salvage: To save any removed item. The salvaged item shall be reused in the contract or delivered and stockpiled for the OCTA Project Manager as specified in the Contract Documents.

5. Site Specific Work Plan (SSWP): A program, plan, and schedule prepared and submitted by the Contractor and approved by the OCTA Project Manager that accurately describes and illustrates the manner in which work within the operating envelope will be accomplished, the impacts on any elements of the Operating System and the manner in which work will be accomplished with the OCTA Project Manager allotted work windows.

6. Project Applicant: all references made by City, local agencies, or other agencies to Project Applicant means the Contractor and not OCTA.

PART 2 – PRODUCTS

Not Used.

PART 3 – EXECUTION

Not Used.

PART 4 – MEASUREMENT AND PAYMENT

No separate measurement or payment shall be made under this Section.

END OF SECTION

SECTION 01 43 00

QUALITY ASSURANCE

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes: Administrative and procedural requirements for quality assurance.

1. Specific quality assurance requirements for individual construction activities are specified in the sections that specify those activities. Requirements in those sections may also cover production of standard products.

2. Requirements for Contractor to provide quality assurance services required by OCTA, or authorities having jurisdiction are not limited by provisions of this section.

B. Related Sections:

1. Section 01 43 01, Contractor Qualifications and Requirements.

2. Section 01 45 00, Quality Control.

1.02 DEFINITIONS

A. Quality Assurance Services: Activities, actions, and procedures performed before and during execution of the work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.

B. Quality Control Services: Tests, inspections, procedures, and related actions during and after execution of the work to evaluate that actual products incorporated into the work and completed construction comply with requirements. Refer to Section 01 45 00, Quality Control.

C. Mockups: Full-size, physical assemblies that are constructed on-site. Mockups are used to verify selections made under sample submittals, to demonstrate aesthetic effects and, where indicated, qualities of materials and execution, and to review construction, coordination, testing, or operation; they are not samples. Approved mockups establish the standard by which the work will be judged.

D. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, subcontractor, or sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.

1. Using a term such as "carpentry" does not imply that certain construction activities must be performed by accredited or unionized individuals of a

corresponding generic name, such as "carpenter." It also does not imply that requirements specified apply exclusively to trades people of the corresponding generic name.

E. Experienced: When used with an entity, "experienced" means having successfully completed a minimum of five previous projects similar in size and scope to this project; having a minimum of five years' experience in work similar to that required for this project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

1.03 CONFLICTING REQUIREMENTS

A. General: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer uncertainties and requirements that are different, but apparently equal, to OCTA for a decision before proceeding.

B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to OCTA for a decision before proceeding.

1.04 QUALITY ASSURANCE

A. General: Qualifications paragraphs in this article establish the minimum qualification levels required; individual specification sections specify additional requirements.

B. Installer Qualifications: A firm or individual experienced (as defined above) in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this project, whose work has resulted in construction with a record of successful in-service performance.

C. Manufacturer Qualifications: A firm experienced (as defined above) in manufacturing products or systems similar to those indicated for this project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

D. Fabricator Qualifications: A firm experienced (as defined above) in producing products similar to those indicated for this project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where project is located and who is experienced (as defined above) in providing engineering services of the kind indicated. Engineering services

are defined as those performed for installations of the system, assembly, or product which are similar to those indicated for this project in material, design, and extent.

F. Specialists: Certain sections of the specifications require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.

1. Requirement for specialists shall not supersede building codes and regulations governing the work.

G. Testing Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspecting indicated, as documented by a recognized OCTA; and with additional qualifications specified in individual sections; and where required by authorities having jurisdiction, that is acceptable to authorities.

1. NRTL: A nationally recognized testing laboratory according to 29 CFR 1910.7.

2. NVLAP: A testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program.

H. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this project.

I. Preconstruction Testing: Where testing agency is indicated to perform preconstruction testing for compliance with specified requirements for performance and test methods, comply with the following:

1. Contractor responsibilities include the following:

a. Provide test specimens representative of proposed products and construction.

b. Submit specimens in a timely manner with sufficient time for testing and analyzing results to prevent delaying the work.

c. Provide sizes and configurations of test assemblies, mockups, and laboratory mockups to adequately demonstrate capability of products to comply with performance requirements.

d. Build site-assembled test assemblies and mockups, where indicated, using installers who will perform same tasks for Project.

e. Build laboratory mockups at testing facility using personnel, products, and methods of construction indicated for the completed work.

f. When testing is complete, remove test specimens, assemblies, mockups, and laboratory mockups; do not reuse products on project.

2. Testing Agency Responsibilities: Submit a certified written report of each test, inspection, and similar quality-assurance service to OCTA, with copy to Contractor. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from the contract documents.

J. Mockups: Before installing portions of the work requiring mockups, build mockups for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed work:

1. Build mockups in location and of size indicated or, if not indicated, as directed by OCTA.

2. Notify OCTA seven days in advance of dates and times when mockups will be constructed.

3. Demonstrate the proposed range of aesthetic effects and workmanship.

4. Obtain OCTA's approval of mockups before starting work, fabrication, or construction.

5. Allow seven days for initial review and each re-review of each mockup.

6. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed work.

7. Demolish and remove mockups when directed, unless otherwise indicated.

PART 2 - PRODUCTS

Not Used

PART 3 – EXECUTION

Not Used

PART 4 - MEASUREMENT AND PAYMENT

No separate measurement will be made for the work of this section.

END OF SECTION

SECTION 01 43 01

CONTRACTOR QUALIFICATIONS AND REQUIREMENTS

PART 1 – GENERAL

1.01 CONTRACTOR DUTIES

A. Except as specifically noted otherwise, provide:

1. A Construction Project Manager, who shall serve as the Contractor's Representative for the Contract, at or beyond the requirements described in this section.

2. Other labor, supervision, and materials required for the work.

3. Other tools, equipment, and machinery required for the work.

4. Water, heat, and utilities required for the work.

5. Support facilities and services, including fully furnished field office facilities, necessary for the proper execution and completion of the work.

B. Pay legally required sales, consumer, and use taxes.

C. Secure and pay for fees, surcharges, taxes, permits, and licenses necessary for the proper execution of the work.

1.02 REFERENCE STANDARDS

A. OSHA: Occupational Safety and Health Administration regulations.

1.03 CONSTRUCTION PROJECT MANAGER

A. Provide for the work a Construction Project Manager who will manage and coordinate the overall aspects of the work. The Construction Project Manager's qualifications and experience shall include:

1. A minimum of five years of progressing work responsible experience on public works construction projects that include coordination, and scopes, types, and characters of work directly related to the scope of work of this contract.

2. Demonstrated ability to work safely and supervise individuals in safe work.

3. Previous positions and experience supervising and planning work activities of construction superintendents, project engineers, and support personnel foreman and crews.

4. Ability to read and understand survey, grading, paving, striping, utility, and structural plans.

5. Ability to develop and work from construction schedules.

B. The Construction Project Manager must:

1. Visit the site daily during the work to verify the work is proceeding per contract documents.

2. Be on the job during the work week to manage and coordinate all aspects of work for the full duration of the project.

3. Be able to respond immediately to emergency or problem calls, 24 hours a day, 7 days a week.

C. The Construction Project Manager shall have the necessary authority to provide instructions and orders to his authorized representatives. The Construction Project Manager shall not be replaced without advance approval by the OCTA Project Manager; OCTA Project Manager will have sole approval of the replacement. The Contractor may propose a supervisory personnel such as superintendent to serve as Construction Project Manager.

1.04 SITE SAFETY REPRESENTATIVE

A. Provide Site Safety Representative.

B. Site Safety Representative qualifications and experience must include:

1. Meeting qualifications set forth in the General Provision. Pass OCTA Level 3 Health, Safety and Environmental Requirements.

C. The Site Safety Representative must be headquartered for the duration of the project at Contractor's construction field office. .

D. The Site Safety Representative will be required to train and test Contractor's employees as described in Section 01 35 23, Owner Safety Requirements.

1.05 SUBMITTALS

A. Contractor shall submit for OCTA Project Manager's approval the name and professional history of each of the key positions identified in this specification section.

PART 2 – PRODUCTS

Not Used

PART 3 – EXECUTION

3.01 PERSONNEL QUALIFICATION

A. Within five calendar days after Notice to Proceed, submit to OCTA Project Manager resumes of personnel listed above in Part 1 above. Each resume shall provide sufficient detail to demonstrate compliance with requirements. Submit a schedule showing, for each employee classification, number of personnel to be assigned to the work and duration of their assignments.

B. The OCTA Project Manager will review resumes to determine acceptability of qualifications and experience. The OCTA Project Manager's decision is final. Do not resubmit resumes of personnel deemed unacceptable by the OCTA Project Manager.

C. Substitutions: To replace any personnel identified in Part 1, follow this section's procedures for obtaining approval of the original personnel. This qualification process, shall be completed before the vacancy occurs. Provision for substitutions does not relieve Contractor of the responsibility to provide personnel as provided in Part 1.

PART 4 – MEASUREMENT AND PAYMENT

No separate measurement or payment will be made for work of this section.

END OF SECTION

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SECTION 01 45 00

QUALITY CONTROL

PART 1 – GENERAL

1.01 SUMMARY

A. Section Includes:

1. Authority of OCTA Project Manager.
2. Responsibilities of the Contractor.
3. Inspection and testing by OCTA Project Manager.

B. Related Sections:

1. Section 01 14 23, Coordination with OCTA and Local Agencies.
2. Section 01 33 00, Submittal Procedures.
3. Section 01 41 00, Regulatory Requirements.
4. Section 01 43 00, Quality Assurance.
5. Section 01 60 00, Product Requirements.

1.02 AUTHORITY OF OCTA PROJECT MANAGER

A. OCTA Project Manager will determine whether the work is completed in accordance with the contract documents. OCTA Project Manager will decide all questions that may arise as to the quality or acceptability of materials furnished and work performed, and interpretations of the contract documents.

B. OCTA Project Manager may require the Contractor to finish a section on which work is in progress before work is started on any additional section. Refer to Section 01 14 22, Rules and Hours of Operation for requirements.

C. OCTA Project Manager may require the Contractor to submit additional shop drawings or documents to demonstrate the Contractor's understanding the intents of contract plans and specifications as part of quality control.

1.03 REFERENCES

A. ASTM D3740 - Practice for Evaluation of Agencies Engaged in Testing and/or Inspection Used in Engineering Design and Construction.

1.04 REGULATORY REQUIREMENTS FOR TESTING AND INSPECTION

A. Regulatory Requirements for Testing and Inspection: Inspections, testing and approvals as required by authorities having jurisdiction. Refer to Section 01060 - Regulatory Requirements.

1. California Code of Regulations (CCR) - Title 24, State Building Code (Uniform Building Code with State of California Amendments), latest edition, as adopted and interpreted by authorities having jurisdiction.

2. California Code of Regulations (CCR) - Title 22, Sections 94065, 94067 and 94069.

1.03 RESPONSIBILITIES OF THE CONTRACTOR

A. Cooperate with OCTA Project Manager and with other contractors as detailed in Section 01 14 24, Coordination with OCTA and Local Agencies.

B. Ensure that products, services, workmanship and site conditions comply with requirements of the Drawings and Specifications by coordinating, supervising, testing and inspecting the Work and by utilizing only suitably qualified personnel.

C. Perform the work to achieve the level of quality prescribed in the contract documents, including by reference, all Codes, laws, rules, regulations and standards. The no quality basic is prescribed, the quality shall be in accordance with the best accepted practices of the construction industry for the locale of the Project, for projects of this type.

D. Perform the work in the proper sequence in relation to the requirements of the OCTA and other contractors, all as may be directed by OCTA Project Manager.

E. Employ and assign knowledgeable and skilled personnel as necessary to perform quality control functions to ensure that the Work is provided as required.

F. Be responsible for any damage done by it or its agents to the work performed by the OCTA or another contractor.

1.04 SUPERVISION AND CONSTRUCTION PROCEDURES

A. Give the work the constant attention necessary to facilitate the progress of the work.

B. Be solely responsible for all construction means, methods, techniques, and procedures and for coordinating all portions of the work under the contract. Permission given by OCTA Project Manager to use any particular methods, equipment, or appliances shall not be construed to relieve the Contractor from furnishing other equipment or other appliances or adopting other methods when those in use prove unsatisfactory, or as to bind OCTA Project Manager to accept work which does not comply with the contract.

C. Immediately remove from the work, when so ordered by OCTA Project Manager, and do not re-employ on any of the work, without written permission from OCTA Project Manager, any contractor or subcontractor employee doing unsafe, improper, or defective work; who, in OCTA Project Manager's judgment, refuses or neglects the direction of OCTA Project Manager given to the Contractor; who is deemed incompetent or disorderly; or who commits trespassing on public or private property in the vicinity of the work.

D. Be responsible for securing all work areas by barricade in accordance with local and State requirements as applicable at the end of each day.

1.05 QUALITY OF THE WORK

A. Quality of Products: Unless otherwise indicated or specified, all products shall be new, free of defects and fit for the intended use.

B. Quality of Installation: All Work shall be produced plumb, level, square and true, or true to indicated angle, and with proper alignment and relationship between the various elements. New material shall be installed so that drainage merges with existing flow patterns on the site towards the drains.

C. Protection of Existing and Completed Work: Take all measures necessary to preserve and protect existing and completed Work free from damage, deterioration, soiling and staining, until Acceptance by the Authority.

D. Standards and Code Compliance and Manufacturer's Instructions and Recommendations: Unless more stringent requirements are indicated or specified, comply with manufacturer's instructions and recommendations, reference standards and building code research report requirements in preparing, fabricating, erecting, installing, applying, connecting and finishing Work.

E. Deviations from Standards and Code Compliance and Manufacturer's Instructions and Recommendations: Document and explain all deviations from reference standards and building code research report requirements and manufacturer's product installation instructions and recommendations, including acknowledgement by the manufacturer that such deviations are acceptable and appropriate for the Project.

F. Verification of Quality: Work shall be subject to verification of quality by the Authority or Engineer in accordance with provisions of the Conditions of the Contract.

1. Contractor shall cooperate by making Work available for inspection by the Authority or Engineer or their designated representative.

2. Such verification may include mill, plant, shop, or field inspection as required. OCTA designated Inspector shall access to material inspection.

3. Provide access to all parts of the Work, including plants where materials or equipment are manufactured or fabricated.

4. Provide all information and assistance as required, including that by and from subcontractors, fabricators, materials suppliers and manufacturers, for verification of quality by the Authority or Engineer.

5. Contract modifications, if any, resulting from such verification activities shall be governed by applicable provisions in the Conditions of the Contract.

G. Observations by the Engineer and Engineer's Consultants: Periodic and occasional observations of Work in progress may be made by the Engineer and Engineer's consultants as deemed necessary to review progress of Work and general conformance with design intent.

H. Limitations on Inspection, Test and Observations: Neither employment of an Inspector of Record, independent testing and inspection agency, or observations by the Engineer and Engineer's consultants shall in no way relieve Contractor of obligation to perform Work in full conformance to all requirements of Contract Documents and applicable Building Code and other regulatory requirements.

I. The Engineer's Acceptance and Rejection of Work: The Engineer reserves the right to reject all Work not in conformance to the requirements of the Drawings and Specifications.

J. Correction of Non-Conforming Work: Non-conforming Work shall be modified, replaced, repaired or redone by the Contractor at no change in Contract Sum or Contract Time.

K. Acceptance of Non-Conforming Work: Acceptance of non-conforming Work, without specific written acknowledgement and approval of the Authority, shall not relieve the Contractor of the obligation to correct such Work.

L. Contract Adjustment for Non-conforming Work: Should the Authority or Engineer determine that it is not feasible or in Authority's interest to require non-conforming

Work to be repaired or replaced, an equitable reduction in Contract Sum shall be made by agreement between the Authority and Contractor. If equitable amount cannot be agreed upon, a Construction Change Directive will be issued and the amount in dispute resolved in accordance with the Conditions of the Contract.

M. Non-Responsibility for Non-Conforming Work: The Engineer and the Engineer's consultants disclaim any and all responsibility for Work produced not in conformance with the Drawings and Specifications.

1.05 INSPECTION AND TESTING

A. The work is to be completed in accordance with the specifications, the drawings, and such instructions or directions as OCTA Project Manager may give to supplement drawings and specifications. Wherever the words "directed," "permitted," "approved," "acceptable," "satisfactory to," or similar words or phrases occur in the contract documents, they shall be understood to be functions of OCTA Project Manager to be exercised at his discretion.

B. The OCTA shall not be responsible for and shall not have control or charge over the acts or omissions of the Contractor, subcontractors, or any of their agents or employees, or any other persons performing any of the work.

C. Inspections and Tests by Authorities Having Jurisdiction: Contractor shall cause all tests and inspections required by authorities having jurisdiction to be made for Work under this Contract, Public Works Department, Fire Department, Health Department, AQMD, SCE and similar agencies. Except as specifically noted, scheduling, conducting and paying for such inspections shall be solely the Contractor's responsibility.

D. Inspections and Tests by Serving Utilities: Contractor shall cause all tests and inspections required by serving utilities to be made for Work under this Contract. Scheduling, conducting and paying for such inspections shall be solely the Contractor's responsibility.

E. Inspections and Tests by Manufacturer's Representatives: Contractor shall cause all tests and inspections specified to be conducted by materials or systems manufacturers to be made. Additionally, all tests and inspections required by materials or systems manufacturers as conditions of warranty or certification of Work shall be made, the cost of which shall be included in the Contract Sum.

F. Inspections by Independent Testing and Inspection Agency or Agencies: The following applies to tests and inspections:

1. The Authority will select and pay for an independent testing and inspection laboratory or agency, to conduct tests and inspections as indicated on Drawings or Specifications, and as required by authorities having jurisdiction.

2. Costs for additional tests, inspections and related services, due to the following, shall be reimbursed to the Authority by the Contractor and no change in Contract Time shall result.

   a. Failure to properly schedule or notify testing and inspection agency or authorities having jurisdiction.

   b. Changes in sources, lots or suppliers of products after original tests or inspections.

   c. Changes in means methods, techniques, sequences and procedures of construction which necessitate additional testing, inspection and related services.

   d. Changes in material after review and acceptance of submittal.

3. Test and Inspection Reports: After each inspection and test, one copy of report shall be promptly submitted to the Engineer, Engineer's consultant (as applicable), Authority, Contractor, City Inspector, and to agency having jurisdiction (if required by Code).

   a. Reports shall clearly identify the following:

      Date issued.
      Project name and number.
      Identification of product and Specifications Section in which Work is specified.
      Name of inspector.
      Date and time of sampling or inspection.
      Location in Project where sampling or inspection was conducted.
      Type of inspection or test.
      Date of test.
      Results of tests.
      Comments concerning conformance with Contract Documents and other requirements.

b. Test reports shall indicate specified or required values and shall include statement whether test results indicate satisfactory performance of products.

c. Samples taken, but not tested, shall be reported.

d. Test reports shall confirm that methods used for sampling and testing conform to specified test procedures.

G. Contractor shall provide OCTA Project Manager, independent testing and inspection agency personnel, inspector of record and OCTA's consultant with full access to the work and reasonable time for inspection for ascertaining whether or not the work is performed in accordance with the requirements and intent of the contract. No work shall be covered or materials used without making the work or materials available for inspection by OCTA Project Manager. If OCTA Project Manager so requests, the Contractor shall, at any time before acceptance of the work, remove or uncover such portions of the finished work as may be directed.

H. After examination, Contractor shall restore the work to the standard required by the contract documents. If the work examined proves acceptable, uncovering, removal, and replacement of the work in question will be paid for by OCTA by change order to the Contractor; but if the work proves unacceptable, the uncovering or removal and replacement of the work in question shall be at the Contractor's expense. Inspection will not relieve the Contractor from the responsibility for the quality of this work and to perform the work in accordance with the requirements of the contract documents.

I. All materials and every process of manufacture and construction shall be subject to inspection at all times. OCTA Project Manager and his designated representatives shall have free access to all operations. Contractor shall provide necessary materials and OCTA Project Manager shall have the right to select suitable samples of materials for testing or examination which the contractor shall supply without charge. In case such samples must be shipped to some other point for inspection or testing, Contractor shall box or crate samples as necessary and shall deliver them at points designated for shipment without charge. Omission of inspection shall not relieve the Contractor of its obligations to produce the work required by the contract documents. Materials not in compliance with contract requirements shall be removed promptly from the vicinity of the work, and the Contractor, at its expense, shall promptly remove, reconstruct, replace, and make good any defective work as directed in writing by OCTA Project Manager. Oversight or error in judgment of inspectors, or previous acceptance of the work, shall not relieve Contractor from the obligation to correct defects whenever discovered.

J. If the Contractor does not correct nonconforming work or remove rejected materials within a reasonable time fixed by written notice, OCTA Project Manager may direct that removals and corrections be performed by other contractors. Charges for such removals and corrections shall be deducted from the Contractor's payment due under this contract or may be paid for by the Contractor's bonds held for this contract.

K. All inspection by OCTA Project Manager is for the protection of the OCTA and its interest and shall not relieve the Contractor of responsibility for providing work in accordance with the contract documents. After completion of the work, a final

inspection will be made and any previous inspection or acceptance will not preclude rejection at the final inspection of any item that is not satisfactory to OCTA Project Manager or is not in accordance with the contract documents.

L. If, within the period of time prescribed by law or by the terms of any applicable special warranty required by the contract documents, whichever is longer, any of the work is found to be defective or not in accordance with the contract documents, the Contractor shall correct it promptly after receipt of a written notice from OCTA Project Manager. This obligation shall survive acceptance of the work or termination of the contract. In the event the OCTA prefers to accept or not require correction of defective or nonconforming work, the OCTA may do so instead of requiring its removal and correction, in which case OCTA Project Manager shall determine an appropriate sum to be deducted from the contract price or otherwise charged against the Contractor, which determination shall be final and binding upon the parties. Such adjustment shall be effected whether or not final payment has been made.

M. All defective work which has been rejected shall be remedied or removed and replaced by the Contractor at its own expense, in a manner acceptable to OCTA Project Manager.

N. Whenever all of the work provided for in the contract or authorized as force account work has been completed and the final cleaning-up performed, OCTA Project Manager will make the final inspection, and, if the work is found to be satisfactory, Contractor will be notified in writing of the acceptance. All portions of the work shall be maintained by the Contractor at the standards required by the contract documents until final acceptance.

O. At OCTA Project Manager's discretion, portions of the work that are determined to be substantially complete may be accepted before all the project work is completed. After acceptance of substantially completed work, Contractor shall not use the finished product for any purpose without permission of OCTA Project Manager.

PART 2 – PRODUCTS

Not Used

PART 3 – EXECUTION

3.01 FIELD QUALITY CONTROL/QUALITY ASSURANCE

A. Give minimum of 48 hour advance notice of each test and inspection to OCTA Project Manager when ready for testing, observation and inspection.

B. Should any compaction density/strength test or inspection fail to meet specification requirements, necessary corrective work shall be performed by the Contractor. Additional testing shall be required to determine that corrective work provides compaction in the failed area meeting requirements of these Specifications.

C. Contractor shall provide a record of testing results including corrective actions taken if necessary on the approved form to the OCTA Project Manager.

D. Contractor's corrective work to meet requirements and retesting resulting from failing tests shall be at no additional cost to OCTA.

E. Obtain all inspections required by the local regulatory agencies and provide the Authority with the final sign-off cards for the project from the local regulatory agencies.

PART 4 – MEASUREMENT AND PAYMENT

No separate measurement or payment shall be made under this section.

END OF SECTION

SECTION 01 50 00

TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:

1. Temporary facilities and controls used during construction.

B. Related Sections:

1. Section 01 14 25, Procedures in Construction.
2. Section 01 14 27, Legal Relations and Responsibility.
3. Section 01 14 43, Environmental Resource Protection.
4. Section 01 71 13, Mobilization and Demobilization
5. Section 01 74 19, Construction Waste Management and Disposal.

1.02 SUBMITTALS

A. Submit in accordance with Section 01 33 00, Submittal Procedures.

B. Site Plans: Show temporary facilities, utility hookups, staging areas, and parking areas for construction personnel.

C. Moisture Protection Plan: Describe procedures and controls for: protecting materials and construction from water absorption and damage, including delivery, handling, and storage; discarding water-damage materials; protocols for mitigation of water into completed work; and replacing water-damaged work.

1.03 QUALITY ASSURANCE

A. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

PART 2 - PRODUCTS

2.01 TEMPORARY FACILITIES, PRODUCTS, AND CONTROL

A. Common-Use Field Office: not required.

B. Storage and Fabrication Sheds: No equipment or tools are allowed to be stored at the jobsite without the OCTA Project Manager's written permission. If on-site storage is permitted, provide access and orderly provision for maintenance and for inspection of products.

C. Telephone Service: Provide mobile telephone service for project superintendent.

D. Temporary Electricity:

1. Connect to existing power service at location as directed. Power consumption shall not disrupt Owner's need for continuous service. Exercise measures to conserve energy.

2. Provide power outlets for construction operations, with branch wiring and distribution boxes. Provide flexible power cords as required.

3. Provide main service disconnect and over current protection at convenient location.

4. Comply with NECA, NEMA, and UL standards and regulations for temporary electric service.

5. Permanent convenience receptacles may be utilized during construction.

E. Temporary Fire Protection:

1. Maintain temporary fire protection facilities of the types needed until permanent facilities are installed. Fire Extinguishers shall be portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.

2. Comply with NFPA 10 "Standard for Portable Fire Extinguishers" and NFPA 241 "Standard for Safeguarding Construction, Alterations, and Demolition Operations".

3. Fire safety during construction shall comply with CFC - California Fire Code (CCR) California Code of Regulations, Title 24, Part 9, Article 87.

4. Store combustible materials in containers in fire-safe locations.

5. Maintain unobstructed access to fire extinguishers, fire hydrants, temporary fire-protection facilities, stairways, and other access routes.

6. Provide supervision of welding operations, combustion-type temporary heating units, and similar sources of fire ignition.

F. Barriers, enclosures and fencing:

1. Provide traffic cones to prevent unauthorized entry to construction areas and to protect existing facilities and adjacent properties from damage from construction operations.

2. Provide protection for plant life and trees designated to remain and for soft and hardscape areas adjacent to work, replace damaged materials in kind.

3. Protect non-owned vehicular traffic, stored materials, if allowed, site and structures from damage.

G. Noise Control: Provide methods, means, and facilities to minimize noise produced by construction operations.

H. Pollution Control:

1. Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations.

2. Conform to Best Management Practices for waste management and material controls as defined in Section 4 of the Construction Activity Handbook published by the Storm Water Quality Association.

3. Coordinate construction activities with control procedures established in the Storm Water Pollution Prevention Plan (SWPPP).

I. Security:

1. Provide security and facilities to protect Work, from unauthorized entry, vandalism, or theft.

2. Coordinate with Owner’s security program.

J. Parking: No Contractor’s employees’ parking is allowed on site.

K. Traffic Control:

1. Comply with requirements of authorities having jurisdiction.

2. Obtain all required permits, provide all materials and maintain controls as required of authorities having jurisdiction.

3. Maintain access for fire-fighting equipment and access to hydrants.

L. Progress Cleaning:

1. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.

2. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.

3. Provide walk-off mats at each building entry affected by construction activities.

M. Waste Disposal:

1. Waste Management: In compliance with City regulations.

2. Maintain work areas free of waste materials, debris, and rubbish.

3. Remove waste materials, debris, and rubbish from site periodically during a work day and legally dispose of off-site at the end of each work day at 3:30 pm.

4. Maintain site area in a clean and orderly condition.

PART 3 - EXECUTION

3.01 INSTALLATION, GENERAL

A. Locate facilities where they will serve project adequately and result in minimum interference with performance of the work. Relocate and modify facilities as required by progress of the work.

1. Locate facilities to avoid protected areas as specified in Section 01 14 43, Environmental Resource Protection.

3.02 TEMPORARY UTILITIES

A. Provide and pay for temporary utility services and facilities such as sanitary facilities, telephone service and internet service adequate for construction and related activities.

3.03 TEMPORARY ROADS, PAVING, PARKING, AND SIMILAR IMPROVEMENTS, AND USE OF SITE

A. See Section 01 14 25, Procedures in Construction.

B. See Section 01 14 27, Legal Relations and Responsibility

3.04 PROTECTION OF AIR AND WATER RESOURCES AND OTHER ENVIRONMENTAL RESOURCES

A. See Section 01 14 25, Procedures in Construction.

B. See Section 01 14 27, Legal Relations and Responsibility.

C. See Section 01 14 43, Environmental Resource Protection.

3.05 CONSTRUCTION WASTE

A. See Section 01 74 19, Construction Waste Management and Disposal.

3.06 SECURITY AND FIRE PROTECTION

A. See Section 01 14 27, Legal Relations and Responsibility.

PART 4 - MEASUREMENT AND PAYMENT

Work of this section is incidental to other work and no separate measurement or payment will be made.

END OF SECTION

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SECTION 01 57 13

TEMPORARY EROSION AND SEDIMENTATION CONTROL

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:

1. Temporary erosion and sedimentation control.

2. Accessories required for a complete installation.

B. Related Sections:

1. Section 01 14 25, Procedures in Construction.

2. Section 01 50 00, Temporary Facilities and Controls.

3. Section 01 14 43, Environmental Resource Protection

1.02 REFERENCE STANDARDS

A. Caltrans: State of California Department of Transportation, Standard Specifications.

B. Standard Specifications for Public Works Construction (SSPWC).

1.03 SUBMITTALS

A. Submit in accordance with Section 01 33 00, Submittal Procedures.

B. Working drawings and data on proposed straw bales and fiber rolls, including physical properties of various products.

1.04 DELIVERY, STORAGE, AND HANDLING

A. Deliver, handle, and store materials in accordance with recommendations of manufacturer.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Miscellaneous Materials:

1. Plastic sheeting: Clear polyethylene plastic sheeting at least 10 mils thick, secured with anchor restrainers (gravel filled bags) per Caltrans standard plans, 2010 edition.

2. Temporary Fiber Rolls and Straw Bales: Provide fiber rolls and straw bales with staking per Caltrans standard plans, 2010 edition. If staking is not feasible, contractor shall develop other suitable methods of anchoring that will be acceptable to OCFCD.

3. Temporary concrete washout facility, per Caltrans standard plans, 2010 edition.

4. Gravel bags per Caltrans standard plans, 2010 edition.

PART 3 - EXECUTION

3.01 GENERAL

A. Conform to all applicable local, state and Federal Regulations and laws pertaining to water pollution control and as specified in SSPWC section 7-8.6.

B. Accomplish erosion and sediment control through use of berms, dikes, swales, dams, fiber mats, plastic sheeting, netting, gravel, storm drain inlet protection, slope drains, sediment fences, and other sediment barriers; gravel construction entrances; and other erosion control devices or methods.

C. Coordinate temporary pollution control provisions with permanent erosion control features specified elsewhere in the contract documents to the extent practicable to assure economical, effective, and continuous erosion control throughout the construction and post-construction period.

D. OCTA Project Manager may limit surface area of erodible earth material exposed by clearing, grubbing, excavation, borrow, embankment, and fill operations

1. Provide immediate, permanent or temporary pollution control measures to prevent contamination of adjacent streams or other watercourses, lakes, ponds, or other areas of water impoundment.

2. Work may involve construction of temporary berms, dikes, dams, sediment basins, and slope drains; use of temporary mats; or other control devices or methods as necessary to control erosion.

E. Construct facilities required for clearing, grading, and land alteration activities, to ensure that sediment-laden water does not enter drainage systems or violate applicable water standards. Conform to requirements of Section 01 14 43, Environmental Resource Protection.

F. Permanent Features:

1. Incorporate permanent erosion control features at earliest practicable time. Use temporary pollution control measures to correct unforeseen conditions that develop during construction, to provide measures that are needed prior to installation of permanent pollution control features, or to temporarily control erosion that develops during normal construction.

2. Where erosion interferes with clearing and grubbing operations, schedule and perform work so that grading operations and permanent erosion control features can follow immediately; otherwise, provide temporary erosion control measures between successive construction stages.

G. Areas of Work:

1. Limit the area of clearing, grubbing, excavation, borrow, and embankment operations in progress commensurate with progress. Should seasonal limitations result in unrealistic coordination of operations, take temporary erosion control measures immediately.

2. Flag boundaries of clearing limits prior to construction.

   a. Do not disturb or permit disturbance of ground beyond flagged boundary. Conform to requirements of Section 01 14 43, Environmental Resource Protection

   b. Maintain flagging for duration of work.

3. Temporary soil erosion and sediment control may include construction work outside right of way where work is necessary as a result of project construction such as borrow pit operations, haul roads, and equipment storage sites.

H. Maintenance:

1. Maintain erosion control features installed, including replacement and upgrading of facilities when needed, until work is completed and notice of Final Acceptance issued.

2. Maintain catch basins (inlets with sumps or inverted siphons) so that not more than one foot depth of sediment is allowed to accumulate within a trap (or sump).

   a. Clean catch basins and storm drains prior to paving and prior to Substantial Completion.

   b. Remove sediment. Do not flush sediment-laden water into downstream system.

3. Keep paved areas clean for the duration of the project.

4. Measures in addition to those indicated may be required.

5. Do not permit more than a one-foot depth of sediment to accumulate behind a silt fence.

a. Remove sediment or regrade it into slopes, and repair and reestablish silt fences as needed.

6. Remove silt fences in entirety when no longer required. Fences are required until uphill area has been permanently stabilized.

7. Remove pipes, end sections, drainage curbs, silt fences, and other materials from temporary erosion control devices; those not incorporated into permanent work become property of Contractor.

3.02 STORM DRAIN INLET PROTECTION

A. Storm drain inlet protection must prevent sediment from entering storm drain systems prior to permanent stabilization of disturbed areas.

B. Use storm drain inlet protection per Caltrans standards plans, 2010 edition:

1. Where storm drain inlets are operational before permanent stabilization of disturbed drainage area.

2. Adjacent to and immediately downhill of utility type construction in existing paved areas with catch basin drainage.

3. When cleaning streets.

C. Use berms when required to direct drainage to flow through filters and prevent bypassing of inlets.

D. Do not permit more than one-foot depth of sediment to accumulate against storm drain inlet protection.

1. Remove sediment and restore inlet protection as needed to maintain sediment trapping and filtering capability.

PART 4 - MEASUREMENT AND PAYMENT

No separate measurement or payment will be made for the work of this section.

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SECTION 01 60 00

PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.01 SUMMARY

A. This section includes administrative and procedural requirements for selection of products for use in the project; product delivery, storage, and handling.

1.02 SOURCE OF SUPPLY AND QUALITY OF MATERIALS

A. OCTA Project Manager shall approve the source of supply of each of the materials supplied by the Contractor before the purchase or delivery of materials to the work site. Promptly after receiving the Contract award, the Contractor shall notify OCTA Project Manager of all proposed material sources. If it is found after trial that sources of supply previously approved do not produce uniform and satisfactory products, or if the product from any source proves unacceptable at any time, the Contractor shall furnish materials from other sources as approved by OCTA Project Manager.

B. Only materials conforming to Specifications and approved in advance by OCTA Project Manager shall be used in the work. All material being used shall be subject to inspection or test at any time during their preparation or use. No material that after approval has in any way become unfit for use shall be used in the Work.

1.03 UNLOADING, HAULING AND STORING MATERIALS

A. The Contractor shall, at its expense, deliver, unload, store, handle, and be responsible for all materials whether furnished by the OCTA or by the Contractor.

B. Store and protect products in accordance with manufacturer's instructions, with seals and labels intact and legible.

1. Periodically inspect to ensure products are undamaged, and are maintained under required conditions.

2. Products damaged by improper storage or protection shall be removed and replaced with new products at no change in Contract Sum or Contract Time.

C. Store products to facilitate inspection and measurement of quantity or counting of units.

D. The unloading, storing and hauling of all the OCTA’s or Contractor's material shall be considered as incidental to contract pricing.

E. When permission to do so is given in writing by OCTA Project Manager, the Contractor may store materials and erect temporary buildings on OCTA property provided such property is not required for the OCTA's use or is not under lease to other parties.

F. Store moisture-sensitive products in a weathertight enclosure or covered with an impervious sheet covering. Provide adequate ventilation to avoid condensation. Maintain product storage within temperature and humidity ranges required by manufacturer's instructions.

1. For exterior storage of fabricated products, place on sloped supports above ground.

2. Store loose granular materials on solid surfaces in a well-drained area. Prevent mixing with foreign matter. Prevent material from flowing or blowing away to other areas of the site. Provide covers for sand, aggregate base, and debris so that wind does not cause it to blow away.

3. Arrange storage to provide access for inspection. Periodically inspect to assure products are undamaged, and are maintained under required conditions.

G. All electrical and mechanical equipment shall be stored so as to be protected from rain, sun, wind, sand, dust, moisture, etc. The equipment shall be stored on supports off the ground or on concrete slabs with all factory provided dust and moisture protection left in place until equipment is installed.

H. Electrical and mechanical equipment shall be maintained in accordance with the manufacturer's operation and maintenance instructions until the Contractor is relieved of the responsibility by OCTA Project Manager.

I. Store heavy materials away from the structure in a manner that will not endanger supporting construction.

J. Building materials shall be stored in a protected environment safe from sun, rain and excessive dust. Store cementitious products and materials on elevated platforms. Damaged or excessively dirty materials will not be permitted to be installed.

K. Protection:

1. Provide barriers, flashing lights, substantial coverings and notices to protect installed Work from traffic and subsequent construction operations.

2. Remove protective measures when no longer required and prior to Acceptance of the Work.

L. Delivery Requirements:

1. Schedule delivery to minimize long-term storage at project site and to prevent overcrowding of construction spaces.

2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.

3. Comply with manufacturer's instructions and recommendations for transportation, delivery and handling. Provide equipment and personnel to handle products by methods to prevent soiling, marring or other damage.

4. Deliver products to project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with manufacturer's labels and instructions for handling, storing, unpacking, protecting, and installing.

5. Contractor is responsible and shall be present at work side for receiving his material delivery at the work site. Promptly inspect products on delivery to ensure compliance with the contract documents and to ensure that products are undamaged and properly protected.

6. Contractor shall give OCTA a 48 hours notice prior to delivery of any products and materials.

1.04 PRODUCT SELECTION PROCEDURES

A. Products: Items purchased for incorporation in the Work, whether purchased for the Project or taken from previously purchase stock, and include material, equipment, assemblies, fabrications and systems.

B. General Product Requirements: Provide products that comply with the contract documents, that are undamaged and, unless otherwise indicated, that are new at time of installation.

1. It is OCTA policy that all manufactured products and supplies be provided by United States manufacturing industries in agreement with related Union organizations. Therefore in the performance of the contract, Contractor shall give United States made products preference.

2. Named Product: Items identified by manufacturer's product name, including make or model designations indicated in the manufacturer's published product data.

3. Specific Product Requirements: Refer to requirements of Section 01 45 00 - Quality Control and individual product Specifications Sections in the project specifications for specific requirements for products.

4. Materials: Products that are shaped, cut, worked, mixed, finished, refined or otherwise fabricated, processed or installed to form a part of the Work.

5. Product Completeness: Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.

6. Minimum Requirements: Specified requirements for products are minimum requirements.

7. Standard Products: Where specific products are not specified, provide standard products of types that are suitable for the intended use in similar conditions and that have been produced and used successfully in similar situations on similar projects. Products shall be selected by the Contractor and subject to review and acceptance by the Engineer.

8. Code Compliance: All products, other than commodity products prescribed by Code, shall have a current ICBO Evaluation Service (ICBO ES) Research Report or CABO National Evaluation Report (NER).

9. Interchangeability: To the fullest extent possible, provide products of the same kind from a single source. Products required to be supplied in quantity shall be the same product and interchangeable throughout the Work. When options are specified for the selection of any of two or more products, the product selected shall be compatible with products previously selected.

10. Nameplates:

    a. Except for require labels and operating and safety instructions, do not attach manufacturer's identifying nameplates or trademarks on surfaces exposed to view in occupied spaces or to the exterior.

    b. Provide a permanent nameplate on each item of service-connected or power-operated equipment. Nameplates shall contain identifying information and essential operating data such as the following example:

        Name of manufacturer
        Name of product
        Model and serial number
        Capacity
        Power Characteristics
        Speed

11. OCTA reserves the right to limit selection to products with warranties not in conflict with requirements of the contract documents.

12. Where products are accompanied by the term "as selected" or similar, OCTA Engineer will make selection.

13. Where products are accompanied by the term "match sample" or similar, sample to be matched is OCTA Project Manager's.

14. Descriptive, performance, and reference standard requirements in the specifications establish salient characteristics of products.

C. General Product Selection Requirements:

1. Where products or manufacturers are identified in the specifications, the intent is not to limit competition or to restrict the work to only those products or manufacturers named. Rather, the intent is to establish the level of quality required and the product characteristics important to the success of the work. Subject to compliance with requirements, products of any manufacturer may be incorporated into the work, if shown to be equal to those listed to the satisfaction of OCTA Project Manager.

2. "Or Equal" Provision: Where "or equal" is included after named manufacturer(s) and product(s), equivalent products of unnamed manufacturers will be considered in accordance with requirements specified in Section 01 25 00 Substitution Procedures.

    a. Prior to submitting "Or Equal" product(s) for consideration, Contractor shall review and determine that product(s) meet or exceed the minimum quality and warranty provisions of the specified product.

    b. Cost and time considerations will be waived for products and manufacturers submitted under the "Or Equal" provision, except no increase in Contract Sum or Contract Time shall result.

    c. Contractor's attention is called to the substitution provisions of the Conditions of the Contract.

3. Products Specified by Description: Where Specifications describe a product, listing characteristics required, with or without use of a brand name, provide a product that provides the characteristics and otherwise complies with the specified requirements.

4. Products Specified by Performance Requirements: Where Specifications require compliance with performance requirements, provide product(s) that comply with performance requirements and are recommended by the manufacturer for the intended application. Verification of manufacturer's recommendations may be by product literature or by certification of performance from manufacturer.

5. Products Specified by Reference to Standards Only: Where Specifications require compliance with a standard, provided product shall fully comply with the standard specified.

6. Products Specified by Combination of Methods: Where products are specified by a combination of described characteristics, performance characteristics, reference standards and manufacturer identification, provide products conforming to all such characteristics.

7. Use of products or manufacturers, whether listed or not, is subject to demonstrated compliance with requirements of the contract documents.

D. Product Selection Procedures:

1. Basis of Design: Where products or manufacturers are identified as "basis of design" or where sizes, profiles, and dimensional requirements on drawings are based on a specific product or system, comply with provisions for comparable products to obtain approval for listed alternate products or manufacturers. Comply with provisions for substitutions to obtain approval for use of an equal unnamed product or manufacturer.

2. Specified Products: Where the specifications indicate that a product or manufacturer is to be selected from those listed, comply with the provisions for substitutions to obtain approval for use of an equal unnamed product.

3. Other Named Products: Where products or manufacturers are indicated without qualification, or with the words "or approved equal" or similar terms, comply with provisions for comparable products to obtain approval for use of an equal unnamed product.

4. Visual Matching Specification: Where specifications require matching an established sample, select a product that complies with requirements and matches Engineer's sample. OCTA Project Manager's decision will be final on whether a proposed product matches.

5. Visual Selection Specification: Where specifications include the phrase "as selected from manufacturer's colors, patterns, textures" or a similar phrase, Contractor shall select a product that complies with other specified requirements.

6. Full Range: Where specifications include the phrase "to match existing colors, patterns, textures" or similar phrase, OCTA Project Manager will select color, pattern, density, or texture from manufacturer's product line submitted by the Contractor, that includes both standard and premium items.

PART 2 - PRODUCTS

Not used.

PART 3 – EXECUTION

Not Used.

PART 4 - MEASURMENT AND PAYMENT

No separate measurement or payment will be made for the work of this section.

END OF SECTION

SECTION 01 71 13

MOBILIZATION AND DEMOBILIZATION

PART 1 - GENERAL

1.01 DESCRIPTION

A. This section consists of the Contractor furnishing all transportation, labor, materials and equipment necessary and incidental to mobilization and demobilization to perform the work of this contract. Work for mobilization and demobilization as specified in this section consists of preparatory work and operations at the start of the Contract Work and removal of those items at Contract completion. Contractor shall provide written construction notices to residents and tenants adjacent to the project site per City requirements.

1.02 DEFINITIONS

A. Mobilization is operations necessary for the movement and arrival at the worksite of personnel, equipment, supplies, and appurtenances, all in ready and satisfactory working and operational order, which the Contractor intends to use for the work; for the establishment of all temporary offices and Contractor-owned structures and other temporary facilities necessary to perform the work; proper safety training of project personnel; and for incidental work and operations which must be performed prior to beginning work on the various contract items.

B. Demobilization is operations necessary for the removal of all personnel, equipment, supplies, appurtenances, Contractor-owned structures, temporary facilities, materials, and debris from the worksite and restoration of site and surrounding properties, affected by the Contractor's activities, to pre-construction conditions, as approved by OCTA Project Manager.

1.03 SUBMITTALS

A. Shop Drawing showing the installation of any pollution control/SWPPP features required for the Project to be established on the site prior to initiating construction, maintained for the duration of construction and removed upon completion of construction.

B. Copies of all required permits obtained prior to starting Work covered by the permit.

C. List of tenants that need to get the construction notice.

D. Proof from the post office that all letters (construction notices) got sent.

PART 2 - PRODUCTS

Not Used

PART 3 – EXECUTION

3.01 GENERAL

A. The Contractor shall provide personnel, equipment, temporary facilities, construction materials, tools, and supplies at the worksite at the time they are scheduled to be required.

B. The Contractor shall locate plant or equipment appropriately close to the portion of the work for which it will be used.

C. The Contractor shall obtain all necessary permits required by the local jurisdictions to perform the work of this Contract. The Contractor shall provide OCTA Project Manager copies of all permits obtained prior to starting work covered by the permit.

D. The Contractor shall install pollution control features required by permits for the construction. These features shall be maintained throughout the duration of construction and removed at the completion of construction.

E. Upon completion of the work, the Contractor shall remove all equipment, temporary facilities, construction tools, apparatus, equipment, unused materials and supplies, plant, and personnel from the worksite and shall leave the worksite in a clean and satisfactory condition as approved by OCTA Project Manager.

PART 4 – MEASUREMENT AND PAYMENT

Work is considered incidental to work under other payment items and no separate payment will be made.

END OF SECTION

SECTION 01 71 23

FIELD ENGINEERING

PART 1 – GENERAL

1.01 DESCRIPTION

A. Work Includes:

1. Employ land surveyors and professional engineers, licensed in the State of California, to perform surveying and field engineering as required per Contract Documents.

2. Establish and maintain baselines and field control points as required for construction layout survey.

3. Perform survey and measurement to establish design lines and grades.

4. Layout of the Work.

5. Other engineering services, as necessary, to accomplish the Work.

1.02 GENERAL

A. Contractor shall locate and protect all adjacent areas, utilities, equipment, buses, cars, and appurtenances.

B. Control area of work, so that it does not interrupt bus maintenance and operations activities, or bus or car traffic flow on the site. Provide barricade and traffic signs around work area, excavations, and contractor's equipment. Provide flashing lights from dusk to dawn on all sides of construction work.

C. Promptly report and repair to the Engineer's satisfaction disruption in utilities caused by construction work. Repair disruption of utilities immediately.

D. Make no changes without prior written notice to the Engineer.

1.03 SUBMITTALS

A. Submit for OCTA's approval the name and professional history of the land surveying firm designated by the Contractor as its project surveyor.

1. At a minimum the project surveyor must have five to ten years of verifiable experience performing field survey.

B. On request, submit to OCTA Project Manager documentation that verifies accuracy of field engineering work and surveying work. Submit data certifying the all dimensions, elevations, and locations of improvement are in conformance, or non-conformance, with Contract Documents at end of Project.

C. Prior to completion of project and when requested by OCTA Project Manager, submit a copy of site drawing prepared by California registered engineer and signed by land surveyor verifying that the elevations and locations of the work are in conformance with contract documents.

D. Contractor shall submit a complete copy of the baseline survey field notes and final layout.

E. Contractor shall provide As-built redline drawings to the Authority at the completion of the Project.

1.04 REQUIREMENTS

A. Field Engineering: Provide field engineering services, as necessary. Utilize recognized engineering practices.

B. Verification: Verify all existing dimensions before starting work. Record all existing pavement striping and markings and submit this record to OCTA before commencing any demolition work.

C. Layout and Control of the Work: Establish elevations, lines, and grade for all Work under this Contract. Locate and lay out by instrumentation and similar appropriate means. Contractor is responsible for all construction field survey and setting of grades and slopes. New asphalt or concrete paving flow patterns should merge with existing flow patterns on the site so that flow of water is directed towards existing gutters, swales, and storm drains on site. Protect in place existing storm drain system, swales, gutters, concrete walk, storm drain inlets, channel wall, fencing, on-site storage, OCTA equipment, and property during construction.

D. Verification of Work: Periodically verify layout and completed conditions of the Work by same means.

E. Project area shall be cordoned off using traffic cones during each construction phase on all sides at end of work day. Traffic cones shall be removed by the end of each work day.

1.05 QUALITY CONTROL

A. Contractor shall maintain a complete and accurate log of control and survey work as it progresses.

B. OCTA Project Manager reserves the option to check Contractor's survey measurements and calculations. Whether OCTA Project Manager exercises this option or not, the requirement for accuracy will not be waived.

C. On completion of construction and major site improvements, Contractor shall prepare a final certified survey illustrating dimensions, locations, angles, and elevations of construction and work site.

PART 2 – PRODUCTS

Not Used

PART 3 – EXECUTION

3.01 EXAMINATION

A. Verify locations of survey control points prior to starting any work on the project site. Contractor shall field verify all existing dimensions, conditions, layout, grading that will affect the project before commencing any work.

B. Review OCTA record drawings for underground utilities and field verify all utilities that may affect construction activities before begin of demolition work. Contractor shall utilize an independent utility locator company to survey and map any and all utilities that may affect construction activities and determine if there are any utility lines in conflict with construction of this project.

C. Contractor shall conduct survey (line and grade) of existing improvements such as top of curb, finished surface, flow lines etc. before any demolition or removal is undertaken. Areas where pavement has failed or settled shall be documented.

D. Immediately notify OCTA Project Manager of any discrepancies discovered.

E. Finished grade shall match existing grade and ensure positive drainage is provided.

3.02 SURVEYS AND RECORDS

A. Working from lines and grades established by baseline survey as shown in relation to work, establish and maintain bench marks and other dependable markers to set lines and levels for work on site as needed to locate each element of the project.

B. Contractor shall inform tradesmen performing the work of marked lines and grades provided for their use in layout work.

C. Contractor shall provide a complete copy of baseline survey field notes and final layout to OCTA Project Manager prior to starting construction.

D. Certify all lines and grades to OCTA.

3.03 SURVEY REFERENCE POINTS

A. Contractor shall locate and protect survey control and reference points. Preserve permanent reference points during construction.

B. Contractor shall establish appropriate control datum for construction survey.

C. Contractor shall report to OCTA Project Manager the loss or destruction of any reference points or relocation required because of changes in grades or other reasons.

D. Contractor shall replace dislocated survey control points based on original survey control and shall make no changes without prior written notice to and approval by OCTA Project Manager.

PART 4 - MEASUREMENT AND PAYMENT

No separate measurement or payment will be made under this section.

END OF SECTION

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SECTION 01 73 29

CUTTING AND PATCHING

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Requirements and limitations for cutting and patching of Work.

1.02 RELATED SECTIONS

A. Section 01 11 00 - Summary of Work.

B. Individual Product Specification Sections:

1. Cutting and patching incidental to Work specified in the Section.

2. Coordination with Work specified in other Sections for openings required to accommodate Work specified in those other Sections.

C. Include:

1. Identification of Project.

2. Location and description of affected Work.

3. Explanation of necessity for irregular cutting and patching procedures.

4. Description of proposed special work and alternate products to be used.

5. Alternatives to cutting and patching.

6. Effect on existing construction and, if applicable, work being performed for the Authority under separate contracts.

7. Date and time Work will be executed.

8. Written permission of affected separate contractor.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Primary Products: As required for original installation and to match surrounding

construction.

B. Product Substitution: For each proposed change in materials, submit request for substitution under provisions of Section 01 60 00 - Product Requirements.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examination, General: Inspect existing conditions prior to commencing Work, including elements subject to damage or movement during cutting and patching.

B. After uncovering existing Work, inspect conditions affecting proper accomplishment of Work.

C. Beginning of cutting or patching shall be interpreted to mean that existing conditions were found by Contractor to be acceptable.

3.02 PREPARATION

A. Temporary Supports: Provide devices and methods to protect other portions of Project from damage by providing temporary supports.

3.03 CUTTING AND PATCHING

A. Cutting and Patching:

1. Execute cutting, fitting, patching, excavation, and fill, to complete Work.

2. Coordinate installation or application of products for integrated Work.

B. Remedial Work: Remove and replace defective or non-conforming Work.

3.04 PERFORMANCE

A. Cutting and Patching:

1. Execute demolition, cutting and patching by methods to avoid damage to adjoining Work, and which will provide appropriate surfaces to receive final finishing.

2. Saw cut asphalt concrete or Portland cement concrete paving for smooth edges. Do not overcut corners.

3. Contractor is required to take all precautions during construction to prevent

damage to OCTA buses, property, equipment, utilities, and OCTA personnel. All precautions are to taken per CAL-OSHA code to prevent accidents, and damage to adjacent OCTA property and appurtenances.

B. Restoration:

1. Restore Work with new products as specified in individual Sections.

2. Where affected or uncovered by construction work, finish adjacent surfaces and background to condition before construction. Match material, paint, and finish to nearest joint. Re-paint all curbs, traffic striping, legends, parking stalls, numbers, and paving as existed before construction. Damage to adjacent or OCTA property shall be repaired, at the Contractor's expense, to a condition as existed before construction and to OCTA's Project Manager's satisfaction.

C. Finishing: Refinish (material and paint) surfaces to match adjacent and similar finishes as used for the Project. (match material and paint finish). For continuous surfaces, refinish with material and paint to nearest intersection or natural break or joint. Replace equipment or appurtenances damaged due to demolition, cutting or patching work during construction. Provide material quality to level equal to or better than that which existed before construction started.

PART 4 - MEASUREMENT AND PAYMENT

No separate measurement or payment will be made under this section.

END OF SECTION

SECTION 01 74 19

CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.01 DESCRIPTION

A. Work Includes: Procedures for ensuring optimal diversion of construction and demolition waste generated by the Project, and documentation procedures for tracking waste generation and diversion.

1.02 DEFINITIONS

A. Certified Mixed Debris Processing Facility: A solid waste processing facility that accepts loads of mixed debris for the purpose of recovering re-usable and recyclable materials and disposing of the non-recyclable residual material.

B. Class III Landfill: A landfill that accepts non-hazardous solid waste such as household, commercial, and industrial solid waste. A Class III landfill shall have a California Integrated Waste Management Board (CIWMB) solid waste facilities permit and is regulated by the Local Enforcement Agency.

C. Construction and Demolition (C&D) Debris: Solid waste and recyclable materials that result directly from construction and demolition of buildings and other structures, do not contain hazardous waste (as defined in CCR Title 22, Section 66621.3, *et seq*.), and contain no more than 1 percent putrescible wastes by volume, calculated on a monthly basis. C&D debris includes, but is not limited to: asphalt, concrete, portland cement, brick, lumber, wallboard, roofing material, ceramic tile, pipe, glass and associated packaging.

D. Disposal: Acceptance of solid waste at a legally operating facility for the purpose of landfilling.

E. Diversion: Activities that result in reducing the amount of waste disposed at a landfill. This can include source reduction activities, composting, recycling, and reuse.

F. Inert Backfill Site: A location, other than inert fill or other disposal facility, to which inert waste is taken for the purpose of filling an excavation, shoring, or another soils engineering operation.

G. Inert Fill: A facility that can legally accept inert waste such as asphalt and concrete exclusively for the purpose of disposal.

H. Inert Debris/Inert Waste: Solid waste and recyclable materials that are source separated or separated for reuse, do not contain hazardous waste (as defined in CCR, Title 22, section 66261.3 et. seq.) or soluble pollutants at concentrations in

excess of applicable water quality objectives, and do not contain significant quantities of decomposable waste. Inert debris may not contain more than 1 percent putrescible wastes by volume calculated on a monthly basis. Gravel, rock, soil, sand and similar materials, whether processed or not, that have never been used in connection with any structure, development, or other human purpose are not inert debris.

I. Mixed Debris: Material that includes commingled recyclable and non-recyclable construction and demolition debris.

J. Mixed Debris Processing Facility: A solid waste processing facility that accepts loads of mixed debris for the purpose of recovering re-usable and recyclable materials and disposing of the non-recyclable residual materials. Refer also to Certified Mixed Debris Processing Facility.

K. Permitted Waste Hauler: A company that possesses a valid and current permit from the County of Riverside to collect and transport solid waste from individuals or businesses in the County of Riverside.

L. Recycling: The process of sorting, cleaning, treating, and reconstituting materials for the purpose of using the altered form in the manufacture of a new product. Recycling does not include burning, incinerating, or thermally destroying solid waste.

1. On-site recycling materials that are sorted and processed for use in an altered form in the Project, (e.g. concrete is crushed for use as base for a parking lot on the site).

2. Off-site recycling source-separated materials hauled to another location and used in an altered form in the manufacture of a new product.

M. Recycling Facility: An operation that can legally accept materials for the purpose of processing the materials into an altered form for the manufacture of a new product. Depending on the types of materials accepted and operating procedures, a recycling facility may or may not be required to have a Solid Waste Facilities permit from the CIWMB or be regulated by the Local Enforcement Agency.

N. Reuse: Materials that are recovered for use in the same form. This includes materials that are reused on-site or off-site.

O. Salvage: Materials recovered for reuse or sale or donation to a third party.

P. Source Reduction: Any action causing a net reduction in the generation of solid waste. Source reduction includes, but is not limited to, reducing the use of non-recyclable materials, replacing disposable materials and products with reusable materials and products, reducing packaging, and reducing the amount of yard waste generated.

Q. Source-Separated Materials (Construction and Demolition Debris): Material that is sorted at the site of generation by individual material type for the purpose of reuse or recycling, i.e., loads of concrete that are source-separated for delivery to a base course recycling facility to be crushed into road base material.

R. Solid Waste: Shall mean waste that the CIWMB has deemed acceptable for disposal at a Class III landfill and shall not include source-separated material.

S. Transfer Station: A facility that can legally accept solid waste for the purpose of temporarily storing the materials for re-loading onto other trucks and transporting materials to a landfill for disposal, or recovering some materials for reuse or recycling. Transfer stations must be permitted by the CIWMB and regulated by the Local Enforcement Agency.

1.03 SUBMITTALS

A. Waste Management Plan (WMP): Conduct a site assessment and estimate the types and quantities of materials, under the Project, that are anticipated for on-site or off-site processing, recycling, reuse, or disposal.

1. Not more than 10 working days after Notice to Proceed, submit to OCTA Project Manager a written WMP. The plan shall show the percentage of recycling for inert debris expected from the Project and the percentage recycling for the remaining C&D debris expected from the Project. While no minimum amounts of recycling have been established for this project, Contractor shall make every reasonable effort to achieve a minimum of 50% by weight of material that is recycled, re-used, salvaged or otherwise diverted from landfill.

2. OCTA Project Manager's approval of the Contractor's WMP will not otherwise relieve the Contractor of responsibility for adequate and continuing control of pollutants and other environmental protection measures.

3. Dirt and excavation spoils, whether reused as fill or not, will not be counted in the calculation of diverted and disposed materials.

B. Solid Waste Diversion and Disposal Report (SWDD Report): One week prior to the first of every month, and prior to Contractor's monthly progress estimate for payment, Contractor shall prepare and submit to OCTA Project Manager a written SWDD report quantifying all material generated in the Project which was either disposed or diverted from disposal through reuse or recycling during the time period covered by the SWDD report and progress payment. Include in the Report a cumulative history of the diversion and disposal for the Project. Attach supporting documentation including manifests, weigh tickets, receipts, reports, invoices, and other supporting documents specifically identifying the project, the recyclables and solid waste generated by the Project, and where the material was sent. The final SWDD report shall cover the complete time period of the Project and shall contain a list of the total waste disposed and/or diverted for each reporting period. The final SWDD report and supporting documentation shall be submitted within 30 Calendar Days of Project completion.

1.04 WASTE MANAGEMENT PLAN SUBMITTAL MEETING

A. On or about 5 working days after Notice to Proceed, OCTA Project Manager will

schedule and attend a meeting with the Contractor to discuss the proposed WMP submittal. This meeting shall be held to allow the OCTA and the Contractor an opportunity to develop a mutual understanding regarding the recycling and reuse requirements and programs.

1.05 REUSE, SALVAGE, AND RECYCLING OPTIONS

A. Contractor shall make use of as many reuse and salvage options as is feasible. One option is the California Materials Exchange (CalMAX), a free program sponsored by the CIWMB.

B. Recycling shall include both on-site and off-site recycling of source-separated materials, as well as mixed debris recycling efforts.

C. On-site recycling program shall produce a quality product to meet the specifications identified in the Contract Documents, subject to approval. Estimate the amount of material to be used in the Project and include a program for off-site recycling of any excess material that cannot be used in the Project.

D. Develop and implement a program to include source separation of solid waste, to the greatest extent feasible, of the following types:

1. Asphalt
2. Concrete and concrete block
3. Rock
4. Wood (lumber)
5. Green material (i.e. tree trimmings)
6. Metals

E. Mixed Debris Recycling: Develop and implement a program to transport loads of commingled construction and demolition materials that cannot be feasibly source separated to a mixed debris recycling facility.

1.06 HAULING AND DISPOSAL OPERATIONS

A. Hauling: Arrange the collection and hauling of C&D debris by a waste hauler that is permitted by the County of Orange Waste Management Department and Agencies as applicable.

B. Recycling And Processing Facilities: Transport C&D debris to recycling or processing facilities. Contractor shall be familiar with the requirements for acceptance of C&D materials at the recycling and processing facilities before the material is delivered. Always call facilities in advance to verify requirements.

C. Disposal Facilities: Transport C&D debris that cannot be delivered to a recycling or processing facility, to a transfer station or disposal facility that can legally accept the materials for the purpose of disposal.

D. Site Disposal: Do not burn, bury, or otherwise dispose of solid waste on the Project job-site. All trash, debris, and removed materials shall be hauled away and legally disposed off-site on the same day they are removed.

PART 2 – PRODUCTS

Not Used

PART 3 – EXECUTION

Not Used

PART 4 – MEASUREMENT AND PAYMENT

No separate measurement or payment will be made under this section.

END OF SECTION

SECTION 01 74 23

CLEANING

PART 1 - GENERAL

1.01 DESCRIPTION.

A. Work Included:

1. Execute cleaning, during progress of the work, and at completion of the work.

B. Related Work Specified Elsewhere:

1. Cleaning for specific products or work; the respective specification section for that work.

2. Refer to Section 01 14 25, Procedures in Construction for requirements for restoration of project site(s), including but not limited to photographic documentation.

3. Refer to Section 01 71 13, Mobilization and Demobilization for requirements for removal of all of Contractors facilities, equipment and tools.

1.02 DISPOSAL REQUIREMENTS.

A. Conduct cleaning and disposal operations to comply with all applicable codes, local codes, ordinances, regulations and laws, rules and practices.

B. Conform to requirements of 01 74 19, Construction Waste Management and Disposal.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Use only those cleaning materials which will not create hazards to health or property and which will not damage surfaces.

B. Use only those cleaning materials and methods recommended by manufacturer of the surface material to be cleaned.

C. Use cleaning materials only on surfaces recommended by cleaning material manufacturer.

PART 3 - EXECUTION

3.01 CLEANING DURING CONSTRUCTION

A. Provide all labor and equipment required to remove trash and broom clean project sites as required, including surrounding areas affected by construction activities.

B. Provide all labor and equipment required to load, haul, and legally dispose of all construction trash and debris at the end of each work day throughout the duration of the project.

C. Pay all dump fees required to legally dispose of materials.

D. Clean streets adjacent to the project site as required to meet the requirements of all local, City, County and State authorities.

E. Clean and wash parking lots and driveways.

F. Provide labor to clean the office trailer once a week.

G. Clean up all excess concrete from site concrete work.

H. Wet down dry materials and rubbish to prevent blowing dust.

I. At reasonable intervals during progress of work and at the end of each work day, remove waste materials, debris and rubbish from site and dispose of legally away from site.

J. Handle waste materials and debris in a controlled manner with as few handlings as possible; do not drop or throw materials from heights.

K. Schedule cleaning operations so that dust and other contaminants resulting from cleaning process will not fall on wet or newly painted surfaces.

L. Do not place in fills or backfills or burry at site any waste material, rubbish or debris. Remove such material from project to a lawful disposal area by the end of each work day; pay all associated hauling and dumping charges.

M. Perform any additional cleaning or cleaning at shorter intervals when instructed to do so by OCTA Project Manager.

3.02 FINAL CLEANING

A. SUBSTANTIAL COMPLETION REVIEW CLEANING, GENERAL

1. Substantial Completion Review Cleaning, General: Execute a thorough cleaning prior to Substantial Completion review by the Engineer.

    a. Clean surrounding areas affected by construction. Clean and repair all surrounding areas and appurtenances such as curbs, gutters, swales, storm drain, platforms, equipment, vents, buses, fences, Apex boxes, light concrete pedestal, landscaping, and driveways. Repair equipment, curbs, surrounding driveways, landscaping, and site affected by the construction work by thorough brooming and washdown. Remove all oil, concrete, debris, and paint from the surfaces mentioned.

    b. Remove waste and surplus materials, rubbish and temporary construction facilities, utilities and controls from site.

2. Employ experienced workmen, or professional cleaners, for final cleaning.

3. In preparation for occupancy, conduct final inspection of sight-exposed surfaces, and of concealed spaces.

4. Remove grease, dust, dirt, stains, labels, fingerprints, and other foreign materials, from sight-exposed finished surfaces; polish surfaces so designated to shine finish.

5. Wash and shine glazing and mirrors.

6. Repair, patch and touch up marred surfaces to specified finish, to match adjacent surfaces.

7. Water-jet clean paved surfaces; rake clean other surfaces of grounds. Comply with SWPPP BMP measures.

8. Remove all protective construction coverings and coatings.

9. Contaminated Earth: Final clean-up operations shall include removal and lawful disposal of earth that is contaminated or unsuitable for support of plant life in planting areas, as well as filling of resulting excavations with suitable soil. Contaminated areas include those used for disposal of waste concrete, mortar, plaster, masonry and similar materials; areas in which washing out of concrete and plaster mixes or washing of tools and other similar cleaning operations have been performed; and areas that have been oiled, paved or chemically treated. Do not dispose of waste oil, solvents, paints, solvents and similar material of a penetrating nature by depositing or burying on OCTA's property.

10. Maintain cleaning until project is occupied.

11. Final cleaning shall be done to the satisfaction of OCTA Project Manager.

B. FINAL COMPLETION INTERIOR CLEANING

1. Final Completion Cleaning, General: Complete final cleaning before submitting final Application for Payment.

    a. Remove asphalt, oil, grease, mastic, adhesives, dust, dirt, stains, fingerprints, labels, concrete material, and other foreign materials from all visible exterior surfaces.

    b. Remove dust from all horizontal surfaces not exposed to view, including equipment, light standards, ledges, utilities, buses, apex boxes, and plumbing fixtures on site affected by construction.

    c. Repair all disrupted or broken appurtenances which were damaged during construction to a new condition to the OCTA's Project Manager's satisfaction.

2. Clean all adjacent walls, equipment, and other appurtenances mentioned in article 3.1.A.1 above affected by construction work including areas adjacent to construction and on site.

3. Clean construction area in which phase has been completed and re-stripe before begin of next phase of work

C. FINAL COMPLETION SITE CLEANING

1. Site Cleaning: Broom clean exterior paved surfaces. Rake clean other surfaces of the grounds affected by construction material.

    a. Wash down and scrub where necessary all paving soiled as a result of construction activities. Thoroughly remove material droppings, asphalt splatters, stains, oil, and adhered soil.

    b. Remove from the site all construction waste, unused materials, excess soil and other debris resulting from the Work.

PART 2 – PRODUCTS

Not Used

PART 3 – EXECUTION

Not Used

PART 4 – MEASUREMENT AND PAYMENT

No separate measurement or payment will be made under this section.

END OF SECTION

SECTION 01 77 00

CLOSEOUT PROCEDURES

PART 1 – GENERAL

1.01 SUMMARY

A. Section Includes:

1. Administrative and procedural requirements for contract closeout, including, but not limited to, the following:

   a. Substantial Completion procedures.

   b. Final Acceptance procedures.

B. Related Sections:

1. Section 01 74 23, Cleaning, for final cleaning of project site(s).

2. Section 01 78 00, Closeout Submittals, for operation and maintenance manual requirements.

3. Section 01 78 00, Closeout Submittals, for submitting record drawings, record specifications, and record product data.

4. Section 01 78 36, Warranties and Guarantees and Bonds, for submitting Warranties.

5. Divisions 02 through 49 sections for any specific closeout requirements for the work in those sections.

1.02 SUBSTANTIAL COMPLETION

A. Preliminary punch list review: At Contractor's request, the Engineer will attend a preliminary Contract closeout review, not earlier than 14 days prior to anticipated Substantial Completion review day. The Engineer and Contractor shall conduct a brief walk-though of Project to review scope, adequacy and completeness of the Work. The Engineer will prepare a typewritten list of items to be completed and corrected (preliminary punch list).

B. Before requesting review/inspection for determining date of Substantial Completion, the Contractor shall complete the following:

1. Execute cleaning and clear site of temporary facilities and controls, as specified in Section 01 50 00 Temporary Facilities and Controls and in Section 01 74 23 Cleaning.

2. Prior to Substantial Completion review, complete all testing, inspection, balancing, sterilization and cleaning of the Work. Obtain final City Inspection and City sign-off required for the Project. Provide original of final sign-off cards to the Authority.

3. Advise OCTA of pending insurance changeover requirements.

4. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents. Refer to Section 01 78 00, Closeout Submittals for requirements.

5. Obtain and submit releases permitting OCTA unrestricted use of the work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.

6. Prepare and submit project record documents, operation and maintenance manuals, final completion construction photographic documentation, damage or settlement surveys, property surveys, and similar final record information. Refer to Section 01 78 00, Closeout Submittals for requirements.

7. Deliver tools, spare parts, extra materials, and similar items to location designated by Owner. Label with manufacturer's name and model number where applicable.

8. Make final changeover of permanent locks and deliver keys to OCTA Project Manager. Advise OCTA’s personnel of changeover in security provisions.

9. Complete startup testing of systems.

10. Submit test/adjust/balance records.

11. Terminate and remove temporary facilities from project site, along with mockups, construction tools, and similar elements. Refer to Section 01 71 13, Mobilization and Demobilization for requirements.

12. Advise OCTA Project Manager of changeover in utilities.

13. Submit changeover information related to OCTA's occupancy, use, operation, and maintenance.

14. Complete final cleaning requirements, including touchup painting. Refer to Section 01 74 23, Cleaning for requirements.

15. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.

C. Contractor's Certification: The Contractor shall submit to the Engineer written certification that Contract Documents have been reviewed, Work has been inspected, and that Work is complete in accordance with Contract Documents and ready for Substantial Completion review by the Engineer. Provide five working days notice to the Engineer that Work is substantially complete.

D. Punch List Review: The Authority's Engineer, and the responsible design consultants, as may be necessary, will attend a Contract closeout review and conduct a walk-thorough of Project to review the updated list of items to be completed and corrected (Punch List).

1. Contractor shall prepare a list and record additions, deletions, and revisions as noted by the Engineer for completion or correction.

2. The Contractor shall complete all items on the punch list and notify the Engineer the completed items. The Engineer will update and distribute the revised Punch List after his next walk-through.

3. Costs of additional visits caused by incomplete scope of work or punch list items after the second visit to the site by the Engineer and the design consultants, to review completion and correction of Work, shall be reimbursed to the Authority by the Contractor.

E. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, OCTA Project Manager will either proceed with inspection or notify Contractor of unfulfilled requirements. OCTA Project Manager will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by OCTA Project Manager, that must be completed or corrected before certificate will be issued.

1. Re-inspection: Request re-inspection when the work identified in previous inspections as incomplete is completed or corrected.

2. Results of completed inspection will form the basis of requirements for final completion.

1.03 FINAL ACCEPTANCE

A. Preliminary Procedures: Before requesting final inspection for determining final acceptance, complete the following:

1. A final Application for Payment according to Section 01 29 00, Payment Procedures and the General Provisions of the Contract.

2. Submit certified copy of OCTA Project Manager's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by OCTA Project Manager. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.

3. Submit evidence of final, continuing insurance coverage complying with insurance requirements.

4. Instruct OCTA's personnel in operation, adjustment, and maintenance of products, equipment, and systems.

B. Inspection: Submit a written request for final inspection for final acceptance. On receipt of request, OCTA Project Manager will either proceed with inspection or notify Contractor of unfulfilled requirements. OCTA Project Manager will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.

1. Re-inspection: Request re-inspection when the work identified in previous inspections as incomplete is completed or corrected.

C. Engineer's Certification: The Engineer determines that the list of items to be completed and corrected (Punch List) is sufficiently complete for the Authority to occupy the Project area for the use to which it is intended.

D. Notice of Completion: The Authority, after receipt of the Engineer's certification, will record a Notice of Completion with the county.

PART 2 – PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

PART 4 - MEASUREMENT AND PAYMENT

No separate measurement or payment shall be made under this section.

END OF SECTION

SECTION 01 78 00

CLOSEOUT SUBMITTALS

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:

1. Maintain at the site for OCTA Representative one record copy of Project record documents, including:

   a. Record drawings.

   b. Record specifications.

   c. Addenda.

   d. Change Orders and other Modifications to the Contract.

   e. OCTA's field orders and written instructions.

   f. Reviewed and Accepted Shop Drawings, Product Data and Samples.

   g. Field Test Reports.

   h. Referenced Documents.

B. Related Sections:

1. Section 01 77 00, Closeout Procedures.

2. Section 01 78 36, Warranties and Guarantees and Bonds.

3. Section 01 33 00, Submittal Procedures.

4. Sections in Division 02-49 for specific requirements related to work of those sections.

5. General Conditions for all financial and payment requirements.

1.02 SUBMITTALS

A. At Contract close-out, deliver Record Documents to the OCTA’s representative.

B. Accompany submittal with transmittal letter in duplicate, containing:

1. Date;

2. Project title and contract number;

3. Contractor's name and address;

4. Title and number of each Record Document; and

5. Signature of Contractor or his authorized representative.

C. Submit in accordance with Section 01 33 00, Submittal Procedures.

D. Record Drawings: Submit one set of full size marked-up record prints. Submit also as pdf electronic file on electronic media acceptable to OCTA Project Manager.

E. Record Specifications: Submit one set of contract specifications, including addenda and contract modifications. Submit also as pdf electronic file on electronic media acceptable to OCTA Project Manager.

F. Record Product Data: Submit one marked-up copy of each product data submittal. Submit also as pdf electronic file on electronic media acceptable to OCTA Project Manager.

1. Product data need not be submitted separately if included in operation and maintenance manuals.

G. Shop Drawings: Submit one hard copy of reviewed and accepted shop drawings. Also submit as PDF files and AutoCAD files on a CD ROM.

H. Operations and Maintenance Manual:

1. Manual content is specified in individual specification sections to be reviewed at the time of section submittals. Submit review manual content formatted and organized as required by the section. Where applicable, clarify and update reviewed manual content to correspond to modifications and field conditions.

2. Submit three paper copies of each Operations and Maintenance Manual. Include a complete operation and maintenance directory. Enclose tile pages and directories in clear plastic sleeves.

3. Submit PDF electronic file on digital media acceptable to OCTA Project Manager. Assemble each manual into a composite electronically-indexed file.

4. Initial Manual Submittal: Submit draft copy of each manual at least 30 calendar days before commencing demonstration and training. OCTA Project Manager will comment on whether general scope and content of manual are acceptable.

a. Correct or modify each manual to comply with OCTA Project Manager's comments. Submit copies of corrected manual within 15 calendar days of receipt of comments and prior to commencing demonstration and training.

5. Final Manual Submittal: Submit each manual in final form before requesting inspection for Substantial Completion and at least 15 calendar days before commencing demonstration and training.

I. Other Documents: Unless otherwise specified, submit one (1) hard copy and a PDF electronic file of each document required herein.

1.03 FINAL COMPLETION SUBMITTALS:

A. Final Submittals: Submit to the Engineer all documents and products required by Specifications to be submitted, including the following which apply:

1. Project record drawings and specifications.

2. Operations and Maintenance data.

3. Guarantees, warranties and bonds.

4. Test reports and certificates of compliance.

5. Local Regulatory Jurisdiction(s) final Sign-off, including any and all documents required by governing authorities, utilities and other agencies, building permit cards, inspection cards signed-off as final by the inspectors, and certifications of inspections and tests.

B. Certificates of Compliance and Test Report Submittals: Submit to the Engineer certificates and reports as specified, as required by manufacturers for warranty and guarantee purposes, and as required by authorities having jurisdiction.

C. Subcontractor List: Submit to the Engineer five copies of updated Subcontractor and Materials Supplier List.

D. Warranty Documents: Prepare and submit to the Engineer warranties and bonds as specified in Section 01 78 36 Warranties and Guarantees and Bonds.

E. Final Payment: A final Application for Payment will be furnished by the Authority. The Authority will process the final payment per the General Provisions of the Contract.

1.04 PROJECT RECORD DOCUMENTS - GENERAL

A. Maintain on site, one set of the following record documents and record actual construction and all revisions to the Work:

1. Contract Drawings.

2. Project Manual, with Specifications, Addenda, Change Orders and other instruments modifying the Contract.

3. Reviewed shop drawings, product data and samples.

4. Store Record Documents separate from documents used for construction.

1.05 RECORD DRAWINGS:

A. Record Prints: Maintain one set of black-line white prints of the contract drawings and shop drawings for the sole purpose of recording all as-built changes to the work.

B. Preparation: Record information continuously as Work progresses. Do not conceal Work permanently until all required information is recorded. Require individual or entity who obtained record data, where individual or entity is installer, subcontractor, or similar entity, to prepare the marked-up record prints. Legibly and to scale, mark a reproducible set of Contract Drawings to record actual construction where installation varies from that shown on contract drawings, including:

1. Measured dimensions and cross section of work.

2. Measured horizontal and vertical locations of underground utilities, ducts, and vents from specific wall locations, including all new utilities installed and utilities found, abandoned or left in place, referenced to permanent surface improvements and to visible and accessible features of the structure.

3. Field changes of dimensions and details.

4. Details not on original Contract Drawings and any other changes to the original Contract Drawings (Changes of location of utilities, equipment, and other accessories).

5. As-Built information shall be shown along with RFIs, Submittals, Change Orders, or other indicating source of changes. References to written changes such as RFI's of Field Directives should be clouded on the drawings with a copy of the written direction attached to the set of drawings.

6. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.

7. Accurately record information in an understandable drawing technique.

8. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.

C. Mark record sets in red ink. Use other colors as required to distinguish between changes for different categories of the work at same location.

1. Mark important additional information that was either shown schematically, such as conduit runs, or omitted from original drawings.

2. Note work change RFI numbers, directive numbers, alternate numbers, change order numbers, and similar identification, where applicable.

1.06 RECORD SPECIFICATIONS

A. Preparation: In PART 2 – PRODUCTS in each specification section, legibly mark in red ink and record actual products installed or used

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.

2. Mark copy with the proprietary name and model number or catalog number of products, materials, and equipment furnished, including substitutions or alternates utilized and product options selected.

3. Record the name of manufacturer, supplier, installer, and other information necessary to provide a record of selections made.

4. For each principal product, indicate whether record product data has been submitted in operation and maintenance manuals instead of submitted as record product data.

5. Note related addenda, change orders, record product data, and record drawings, and other instruments modifying the Contract, where applicable.

1.07 SHOP DRAWINGS

A. Maintain as record documents.

1. Legibly annotate drawings to record changes made after review.

2. Record Shop Drawings:

a. Revise the shop drawings CAD files to reflect annotations made on record copy.

b. Submit hard copies, PDF files and CAD files compatible with AutoCAD 2012 and in accordance with paragraph 1.02.

1.08 OPERATIONS AND MAINTENANCE DOCUMENT DIRECTORY

A. Organization: Include a section in the directory for each of the following:

1. List of documents.

2. List of systems.

3. List of equipment.

4. Tables of contents.

B. List of systems and subsystems: List systems alphabetically. Include references to operation and maintenance manuals that contain information about each system.

C. List of Equipment: List equipment for each system, organized alphabetically by system. For pieces of equipment not part of system, list alphabetically in separate list.

D. Tables of Contents: Include a table of contents for each emergency, operation, and maintenance manual.

E. Identification: In the document directory and in each operation and maintenance manual, identify each system, subsystem, and piece of equipment with same designation used in the contract documents. If no designation exists, assign a designation according to ASHRAE Guideline 4, Preparation of Operating and Maintenance Documentation for Building Systems.

1.09 REQUIREMENTS FOR OPERATION AND MAINTENANCE MANUALS

A. Organization: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain the following materials, in the order listed:

1. Title page.

2. Table of contents.

3. Manual contents.

B. Title Page: Include the following information:

1. Subject matter included in manual.

2. Name and address of project.

3. Name and address of OCTA.

4. Date of submittal.

5. Name and contact information for Contractor.

6. Name and contact information for OCTA Project Manager.

7. Names and contact information for major consultants to OCTA Project Manager that designed the systems contained in the manuals.

8. Cross-reference to related systems described elsewhere in the operation and maintenance manuals.

C. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to specification section number in project manual.

1. If operation or maintenance documentation requires more than one volume to accommodate data, include comprehensive table of contents for all volumes in each volume of the set.

D. Manual Contents: Provide manuals for each piece of equipment including individual components and subsystems of complete assembly. Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder. Line out non-applicable text and illustration. The section of the manual on operation shall describe the functions and limitations of each component and its relationship to the system of which it is a part. Where several models, options, or styles are described, the manual shall identify the items actually provided.

E. Manuals, Electronic Files: Submit manuals in the form of a multiple file composite electronic PDF file for each manual.

1. Electronic Files: Use electronic files prepared by manufacturer where available. Where scanning of paper documents is required, configure scanned file for minimum readable file size.

2. File Names and Bookmarks: Enable bookmarking of individual documents based upon file names. Name document files to correspond to system, subsystem, and equipment names used in manual directory table of contents. Group documents for each system and subsystem into individual composite bookmarked files, then create composite manual, so that resulting bookmarks reflect the system, subsystem, and equipment names in a readily navigated file tree. Configure electronic manual to display bookmark panel upon opening file.

F. Manuals, Paper Copy: Submit manuals in the form of hard copy, bound and labeled volumes.

1. Binders: Heavy-duty, three-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, sized to hold 8-1/2 by 11 inch paper; with

clear plastic sleeve on cover to hold label and cover sheet describing contents and with pockets inside covers to hold folded oversize sheets.

a. If two or more binders are necessary to accommodate data of a system, organize data in each binder into groupings by subsystem and related components. Cross-reference other binders if necessary to provide essential information for proper operation or maintenance of equipment or system.

b. Identify each binder on front and spine, with printed title "Operation and Maintenance Manual," project name, subject matter of contents, and specification section number (on bottom of spine). Indicate volume number for multiple-volume sets.

2. Dividers: Heavy paper dividers with plastic covered tabs for each section of manual. Mark each tab to indicate contents. Include typed list of products and major components of equipment included in the section on each divider, cross-referenced to specification section number and title of project manual.

3. Protective Plastic Sleeves: Transparent plastic sleeves designed to enclose diagnostic software storage media for computerized electronic equipment.

4. Supplementary Text: Prepared on 8-1/2 by 11 inch white bond paper.

5. Drawings: Attach reinforced, punched binder tabs on drawings and bind with text.

a. If oversize drawings are necessary, fold drawings to same size as text pages and use as foldouts.

b. If drawings are too large to be used as foldouts, fold and place drawings in labeled enveloped and bind envelopes in rear of manual. At appropriate locations in manual, insert typewritten pages indicating drawing titles, descriptions of contents, and drawing locations.

G. Manuals shall contain the following minimum information for each product or system:

1. List of equipment furnished for project with name, address, and telephone number of each vendor.

2. Name, address and telephone number for nearest manufacturer’s service representative.

3. Catalog, model and serial number for the installed equipment.

4. Description of the normal and emergency operations of the equipment.

5. Statement of warranty and date warranty begins and ends.

6. Standard starting, stopping and operating instructions.

7. Emergency and special operating instructions and a list of service organizations (including addresses and telephone numbers) capable of rendering emergency service to the various parts of the system.

8. Copy of each wiring and control diagram.

9. Routine maintenance procedures.

10. Servicing and lubrication schedule.

11. Manufacturer’s printed operating and maintenance instructions and part lists. Operating and maintenance instructions for each and every item of equipment, setting forth in detail and step-by-step the procedure of starting, stopping, operating, and maintaining the entire system as installed. Include a schedule of recommended maintenance intervals.

12. Manufacturer’s recommended special maintenance tools.

13. List of spare parts to include recommended stock quantities for one year of routine maintenance.

14. Tabulation of motor nameplate horsepower, nameplate current, field-measured current, overlay relay setting, and catalog number for polyphase motors.

15. List of fuses, lamps, seals, and other expendable equipment and devices. Specify size, type, and ordering description. List name, address, email address, fax number, and telephone number of vendor.

16. A copy of shop drawings for mechanical, electrical, and instrument equipment in final form.

17. Certified equipment drawings or reviewed shop drawing data clearly marked for equipment furnished.

H. Brochures shall be loose leaf with durable plastic or fiberboard covers. Each sheet shall be reinforced to prevent tearing from continued use, and each brochure shall have the following information clearly printed on its cover:

1. Project name, name of Owner, and address.

2. Name and address of Owner's Representative.

3. Name and addresses of contractors and subcontractors and department to contact.

4. Telephone number of contractors, including night and emergency numbers.

5. Major equipment vendors' names and telephone numbers.

I. Equipment Data Sheet: Provide six sets of equipment data sheets, bound in three-ring binders, summarizing the equipment manufacturer's maintenance instructions and recommendations. A blank data sheet and a sample data sheet are attached at the end of this specification section.

1.10 PHOTOGRAPHS

A. Prior to performing any work on the site, the Contractor shall take a minimum of twenty (20) photographs of each project site. Each major area of work shall be the subject of at least one photograph.

B. After construction operations have been started at the site, the Contractor shall periodically take color photographs to show general site condition and progress of work. A minimum of twenty (20) photos shall be taken throughout each month and submitted to the OCTA Project Manager by the 5th of the following month. Each major area of work shall be the subject of at least one photograph.

C. The photo submittals shall be a read-only compact disk (CD-ROM) containing high-resolution electronic files of the color photographs. Each photograph will be captioned with date taken, location, and general description. In addition to the electronic file, the Contractor shall submit two (2) (8”X10”) prints of each photograph

PART 2 – PRODUCTS

Not Used

PART 3 - EXECUTION

3.01 RECORDING AND MAINTENANCE OF PROJECT RECORD DOCUMENTS

A. Recording: Post changes and modifications to project record documents as they occur; do not wait until the end of project.

B. Maintenance of Record Documents: Store record documents in the field office apart from the contract documents used for construction. Do not use project record documents for construction purposes. Maintain one copy of each submittal during the construction period for project record document purposes. Maintain record documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to project record documents for OCTA Project Manager's reference during normal working hours.

C. Label each document “PROJECT RECORD” in two-inch high printed letters, or a height appropriate to document size.

PART 4 - MEASUREMENT AND PAYMENT

No separate measurement or payment will be made for the work of this section. As-Built drawings and photographs will be reviewed each month by the OCTA Project Manager. The monthly payment will be reduced by 5% if, in the opinion of the OCTA Project Manager, the Contractor is not in conformance with the requirements of this section.

SAMPLE

Preventive Maintenance and Operating Requirement Sheets

<table>
<tr><td colspan="2">Preventive Maintenance Program</td><td colspan="2">Equipment Record Number</td></tr>
<tr><td colspan="2">EQUIPMENT DESCRIPTION</td><td colspan="2">ELECTRICAL OR MECHANICAL DATA</td></tr>
<tr><td colspan="2">Name:</td><td colspan="2">Size:</td></tr>
<tr><td colspan="2">Serial No.:</td><td colspan="2" rowspan="2">Model:</td></tr>
<tr><td colspan="2">Vendor:</td></tr>
<tr><td colspan="2" rowspan="2">Vendor Address:</td><td colspan="2">Type:</td></tr>
<tr><td colspan="2">Mfr.:</td></tr>
<tr><td colspan="2">Vendor Rep:</td><td>Voltage:</td><td>Amps:</td></tr>
<tr><td colspan="2">Phone:</td><td>Phase:</td><td>rpm:</td></tr>
<tr><td colspan="3">Maintenance Work to be Done</td><td>Frequency*</td></tr>
<tr><td colspan="3"></td><td></td></tr>
<tr><td colspan="4">OPERATING REQUIREMENTS AND REFERENCE</td></tr>
</table>

*D - Daily; W - Weekly; B - Biweekly; M - Monthly; Q - Quarterly;
S - Semiannually; A - Annually.

SAMPLE

Preventive Maintenance and Operating Requirement Sheets

<table>
<tr><td colspan="2">Preventive Maintenance Program</td><td colspan="2">Equipment Record Number</td></tr>
<tr><td colspan="2">EQUIPMENT DESCRIPTION</td><td colspan="2">ELECTRICAL OR MECHANICAL DATA</td></tr>
<tr><td colspan="2">Name: Pump No. 1
Tag No.: P01-1</td><td colspan="2">Size: 15 hp</td></tr>
<tr><td colspan="2">Serial No.: 123456ABC
Vendor: ABC Pump Co.</td><td colspan="2">Model: 140T Frame
Serial No. 987654ZY
Class F Insulation
W/Space Heater</td></tr>
<tr><td colspan="2" rowspan="2">Vendor Address:
1111 Pump Circle
Newport Beach, CA 92663</td><td colspan="2">Type:</td></tr>
<tr><td colspan="2">Mfr.: DEF Motors, Inc.</td></tr>
<tr><td>Vendor Rep: XYZ Equipment, Inc.</td><td>Voltage: 460</td><td>Amps: 20</td></tr>
<tr><td>Phone: 714/752-0505</td><td>Phase: 3</td><td>RPM: 1,800</td></tr>
<tr><td>Maintenance Work to be Done</td><td></td><td>Frequency*</td></tr>
<tr><td>1. Operate all valves and check such things as a) bearing temperature, b) changes in running sound, c) suction and discharge gauge readings, d) pump discharge rate, and e) general condition of the drive equipment.
2. Check packing.
3. Checking pumping unit for any dust, dirt, or debris.
(Continued on attached sheet)</td><td></td><td>D

D
W</td></tr>
<tr><td colspan="3">OPERATING REQUIREMENTS AND REFERENCE</td></tr>
<tr><td colspan="3">For manufacturer's instructions regarding installation, operation, maintenance, and trouble shooting of this equipment, see Volume ____, Section _____.</td></tr>
</table>

*D - Daily; W - Weekly; B - Biweekly; M - Monthly; Q - Quarterly;
S - Semiannually; A - Annually.

SAMPLE

Preventive Maintenance and Operating Requirement Sheets

Preventive Maintenance Program	Equipment Record Number	
EQUIPMENT DESCRIPTION	ELECTRICAL OR MECHANICAL DATA	
Name:	Size:	
Serial No.:	Model:	
Vendor:		
Vendor Address:	Type:	
	Mfr.:	
Vendor Rep:	Voltage:	Amps:
Phone:	Phase:	RPM:
Maintenance Work to be Done		Frequency*
4. Lubricate bearing frame and motor bearings (consult manufacturer's instructions for type of grease or oil).		Q
5. Disassemble and change or repair the following a) impeller, b) shafts, c) shaft sleeve, d) rotary seals, and e) sleeve bearings.		A
OPERATING REQUIREMENTS AND REFERENCE		

*D - Daily; W - Weekly; B - Biweekly; M - Monthly; Q - Quarterly;
S - Semiannually; A - Annually.

END OF SECTION

SECTION 01 78 36

WARRANTIES, GUARANTEES, AND BONDS

PART 1 - GENERAL

1.01 DESCRIPTION

A. Work Included:

1. General administrative and procedural requirements for preparation and submission of warranties and bonds required by the Contract Documents, including manufacturer's standard warranties on products and special Project warranties. This section specifies the general requirements for written warranties and guarantees required by the Contract Documents.

   a. Refer to the Conditions of the Contract for terms of Contractor's special warranty of workmanship and materials.

   b. Certifications and other commitments and agreements for continuing services to the Authority are specified elsewhere in the Contract Documents.

1.02 RELATED DOCUMENTS AND SECTIONS

A. Section 01 33 00 – Submittal Procedures: General administrative requirements for submittals, applicable to warranties and bonds.

B. Section 01 77 00 – Closeout Procedures: General requirements for closeout of the Contract.

C. Section 01 78 00 – Closeout Submittals: Operating and Maintenance data binders to include copies of warranties and bonds documents.

D. Individual Product Specifications Sections: Special Project warranty requirements for specific products or elements of the Work; commitments and agreements for continuing services to Authority.

1.02 WARRANTIES AND GUARANTEES

A. General: Provide all warranties and manufacturer's guarantees with OCTA named as the beneficiary. For equipment, products, or components bearing a manufacturer's warranty of guarantee that extends for a period of time beyond the Contractor's warranty and guarantee, so state in the warranty or guarantee.

B. Warranty: Assurance to the Authority by the Contractor, installer, supplier, manufacturer or other party responsible as warrantor, for the quantity, quality, performance and other representations of a product, system service of the Work, in whole or in part, for the duration of the specified period of time. Warranty shall be an agreement to repair to repair or replace, without cost and undue hardship to the Authority, work performed under the Contract which is found to be defective during the warranty or guaranty period (correction period).

C. Guaranty: Assurance to the Authority by the Contractor or product manufacturer or other specified party, as guarantor, that the specified warranty will be fulfilled by the guarantor in the event of default by the warrantor.

D. Standard Product Warranty: Preprinted, written warranty published by product manufacturer for particular products and specifically endorsed by the manufacturer to the Authority.

E. Special Project Warranty: Written warranty required by or incorporated into Contract Documents, to extend time limits provided by standard warranty or to provide greater rights for the Authority. For provisions for special warranties, refer to the Conditions of the Contract for terms of the Contractor's special warranty of the workmanship and materials.

F. Specific Warranty and Guarantee Requirements: Refer to Divisions 02 and higher.

G. Disclaimers and Limitations: Manufacturer's disclaimers and limitations on product warranties shall not relieve the Contractor of warranty on the work that incorporates the products, nor shall they relieve suppliers, manufacturers and installers required to countersign special warranties with Contractor.

H. Related Damages and Losses: When correcting warranted work that has been found defective, remove and replace other work that has been damaged as a result of such defect or that must be removed and replaced to provide access for correction of warranted work.

I. Correction Period: The Correction Period shall be synonymous with warranty period and guaranty period used in the Contract Specifications. All defective work shall be initiated with 12 hours for critical system operations, as determined solely by the Authority, and within 3 calendar days for all other warranty work.

J. Reinstatement of Warranty: When work covered by a warranty has been found defective and has been corrected by replacement or rebuilding, reinstate the warranty by written endorsement. The reinstated warranty shall be equal to the original warranty with an equitable adjustment for depreciation.

K. Replacement Cost: Upon determination that work covered by a warranty has been found to be defective, replace or reconstruct the work to a condition acceptable to the OCTA, complying with applicable requirements of the Contract Documents. Contractor shall be responsible for all costs for replacing or reconstructing defective work regardless of whether the OCTA has benefited from use of the work through a portion of its anticipated useful service life.

L. The OCTA's Recourse: Written warranties made to the OCTA are in addition to implied warranties and shall not limit the duties, obligations, rights, and remedies otherwise available under law nor shall warranty periods be interpreted as limitations on time in which the OCTA can enforce such other duties, obligation, rights, or remedies.

M. Rejection of Warranties: The OCTA reserves the right to reject warranties and disallow the use of products with warranties in conflict with contract document requirements.

N. Warranty as Condition of Acceptance: The OCTA reserves the right to refuse to accept work for the project where a special warranty, certification or similar commitment is required until evidence is presented that those required to countersign such commitments are willing to do so.

1.04 PREPARATION OF WARRANTY AND GUARANTEE SUBMITTALS

A. Number of Copies: Two, unless otherwise specified or directed.

B. Special Project Warranty and Manufacturer's Guarantee Forms: Forms for Special Project Warranties and for Manufacturer's Guarantees are included in the Conditions of the Contract at the end of this Section. Prepare a written document utilizing the appropriate form, ready for execution by the Contractor or the Contractor and subcontractor, supplier or manufacturer. Submit a draft to the OCTA though OCTA Project Manager for approval prior to final execution.

1. Refer to Division 02 and higher for specific content requirements and particular requirements for submittal of special project warranties.

2. Prepare standard product warranties and product guarantees, excepting manufacturer's standard printed warranties and guarantees, on Contractor's, subcontractor's, material supplier, or manufacturer's own letterhead, addressed to the OCTA

3. Warranty and guarantee letters shall be signed by all responsible parties and by Contractor in every case, with modifications only as approved by OCTA Project Manager to suit the conditions pertaining to the warranty or guarantee.

C. Manufacturer's Guarantee Forms: Manufacturer's guarantee forms may be used in lieu of special project forms included at the end of the Section. Manufacturer's guarantee forms shall contain appropriate terms and identification, ready for execution by the required parties.

   1. If proposed terms and conditions restrict guarantee coverage or require actions by the OCTA beyond those specified, submit draft of guarantee to the OCTA through Engineer for review and acceptance before performance of the work.

   2. In other cases, submit draft of guarantee to OCTA Project Manager for approval prior to final execution of guarantee.

D. Signatures: By persons authorized to sign warranties, guarantees, and bonds on behalf of entity provided the warranty, guarantee, and bonds. All signatures shall be notarized.

E. Co-Signature: the Contractor shall cosign all installer's warranties and bonds Manufacturer's printed guarantees will not require co signatures.

1.04 FORM OF WARRANTY SUBMITTALS

A. Form of warranty and bond submittals: At final completion, compile 2 copies of each required warranty and guaranty and bond, properly executed by the Contractor, or by the Contractor and subcontractor, supplier or manufacturer. Collect and assemble all written warranties and guarantees into binders and deliver binders to OCTA Project Manager for final review and acceptance.

B. Prior to submission, verify that documents are in proper form, contain all required information and are properly signed.

C. Organize the warranty documents into an orderly sequence based on the table of contents of the Specifications.

D. Include a table of contents for the binder, neatly typed, following order, section names, and numbers of the Specifications.

E. Bind warranties and guarantees in heavy-duty, commercial quality, 3-ring vinyl covered loose-leaf binders, thickness as necessary to accommodate contents, with clear front and spine to receive inserts, and sized for 8 ½" by 11" paper.

F. Provide heavy paper dividers with celluloid or plastic covered tabs for each separate warranty. Mark tabs to identify products or installation, and the name, address, telephone number and responsible person for applicable installer, supplier and manufacturer.

G. Include on a separate typed sheet, if information is not contained in warranty or guarantee form, a description of the product or installation, and the name, address, telephone number, and responsible person for applicable installer, supplier, and manufacturer.

H. Identify each binder on front and spine with typed or printed inserts with title, "WARRANTIES, GUARANTEES, AND BONDS", the project title, and the name of the Contractor. If more than one volume of warranties and guarantees is produced, identify volume number of binder.

I. When operating and maintenance data manuals are required for warranted construction, include additional copies of each required warranty in each required manual. Coordinate with requirements specified in Section 01 78 00 Closeout Submittals.

1.05 TIME OF WARRANTY AND GUARANTEE SUBMITTALS

A. Preliminary Submittal: Unless otherwise specified, obtain preliminary copies of warranties and guarantees within ten (10) calendar days of completion of applicable item or work. Prepare and submit preliminary copies for review as specified herein.

B. Final Submittal: Submit fully executed copies of warranties and guarantees within ten (10) days of date of substantial completion but not later than three (3) days prior to date of application for final payment.

C. Date of Warranties and Guarantees: Unless otherwise directed, the commencement date for warranty and guarantee periods shall be the date of established in Certificate of Completion.

D. For warranties for work such as designated systems, equipment, component part or other portion of the Work is completed, accepted, and occupied or put to beneficial use by the Authority, by a separate agreement with Contractor, prior to Final Completion, submit properly executed warranties to the Engineer within ten (10) calendar days of completion of that designated portion of the Work. List date of commencement of warranty, guaranty, or bond period as date of Acceptance.

E. For warranties for Work not accepted as of the date of substantial completion, submit documents within ten (10) calendar days after acceptance. List the commencement date as the date of acceptance of such Work and as beginning of warranty, guaranty, and bond period.

F. Duration of Warranties and Guarantees: Unless otherwise specified or prescribed by law, warranty and guaranty periods (Correction Period) for all work shall not be less than one year from the filing date of notice of completion. See product specifications Sections in contract specifications for extended warranty and guaranty beyond the minimum duration.

PARTS 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

PART 4 – MEASUREMENT AND PAYMENT

No separate measurement or payment shall be made under this Section.

END OF SECTION

WARRANTY/GUARANTEE

FOR WORK

We, the undersigned, do hereby warranty and guarantee that the parts of the Work described above which we have furnished and/or installed for the OCTA is in accordance with the Contract Documents and that all said Work as installed will fulfill or exceed all of the Warranty and Guarantee requirements. We agree to repair or replace Work installed by us, together with any adjacent Work, which is displaced or damaged by doing so, that proves to be defective in Workmanship, material, or operation within a period of one (1) year from the date of final acceptance by the OCTA or from the date of Certificate of Substantial Completion, whichever is the earlier. Ordinary wear and tear and unusual neglect or abuse is accepted.

In the event of our failure to comply with the above-mentioned conditions within a reasonable time period determined by the OCTA, after notification in writing, we, the undersigned, all collectively and separately, hereby authorize the OCTA to have said defective Work repaired and/or replaced and made good, and agree to pay to the OCTA upon demand all moneys that the OCTA may expend in making good said defective Work, including all collection cost and reasonable attorney fees.

_____
(Subcontractor, Sub subcontractor, Manufacturer, or Supplier)

By_____

Title_____

State License No._____Date_____

_____
(Contractor)

By_____

State License No._____Date_____

Local Representative. For maintenance, repair, or replacement service, contact:

Name:_____

Address:_____

Phone Number:_____

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SECTION 01 79 00

DEMONSTRATION AND TRAINING

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:

1. Administrative and procedural requirements for instructing OCTA's personnel, including the following:

a. Demonstration of operation of systems, subsystems, and equipment.

b. Training in operation and maintenance of systems, subsystems, and equipment.

c. Demonstration and training video recordings.

B. Related Sections:

1. Divisions 02 through 49 sections for specific requirements for demonstration and training for products in those sections.

1.02 INFORMATIONAL SUBMITTALS

A. Instruction Program: Submit outline of instructional program for demonstration and training, including a list of training modules and a schedule of proposed dates, times, length of instruction time, and instructors' names for each training module. Include learning objective and outline for each training module.

1. Indicate proposed training modules utilizing manufacturer-produced demonstration and training video recordings for systems, equipment, and products in lieu of video recording of live instructional module.

B. Qualification Data: For instructor.

C. Attendance Record: For each training module, submit list of participants and length of instruction time.

D. Evaluations: For each participant and for each training module, submit results and documentation of performance-based test.

1.03 CLOSEOUT SUBMITTALS

A. Demonstration and Training Video Recordings: Submit two copies on CD within seven days of end of each training module.

1. Identification: On each copy, provide an applied label with the following information:

a. Name of Project.

b. Name and address of videographer.

c. Name of OCTA Project Manager.

d. Name of Contractor.

e. Date of video recording.

2. Transcript: Prepared on 8-1/2-by-11-inch paper, punched and bound in heavy-duty, three-ring, vinyl-covered binders. Mark appropriate identification on front and spine of each binder. Include a cover sheet with same label information as the corresponding video recording. Include name of project and date of video recording on each page.

3. At completion of training, submit complete training manual(s) for OCTA's use.

1.04 QUALITY ASSURANCE

A. Instructor Qualifications: A factory-authorized service representative, complying with requirements in Section 01 43 00, Quality Assurance, experienced in operation and maintenance procedures and training.

B. Videographer Qualifications: A professional videographer who is experienced photographing demonstration and training events similar to those required.

C. Pre-Instruction Conference: Conduct conference at project site to comply with requirements in Section 01 31 00, Project Management and Coordination. Review methods and procedures related to demonstration and training including, but not limited to, the following:

1. Inspect and discuss locations and other facilities required for instruction.

2. Review and finalize instruction schedule and verify availability of educational materials, instructors' personnel, audiovisual equipment, and facilities needed to avoid delays.

3. Review required content of instruction.

4. For instruction that must occur outside, review weather and forecasted weather conditions and procedures to follow if conditions are unfavorable.

1.05 COORDINATION

A. Coordinate instruction schedule with OCTA's operations. Adjust schedule as required to minimize disrupting OCTA's operations.

B. Coordinate instructors, including providing notification of dates, times, length of instruction time, and course content.

C. Coordinate content of training modules with content of approved emergency, operation, and maintenance manuals. Do not submit instruction program until operation and maintenance data has been reviewed and approved by OCTA Project Manager.

PART 2 - PRODUCTS

2.01 INSTRUCTION PROGRAM

A. Program Structure: Develop an instruction program that includes individual training modules for each system and for equipment not part of a system, as required by individual specification sections.

B. Training Modules: Develop a learning objective and teaching outline for each module. Include a description of specific skills and knowledge that participant is expected to master. For each module, include instruction for the following as applicable to the system, equipment, or component:

1. Basis of System Design, Operational Requirements, and Criteria: Include the following:

    a. System, subsystem, and equipment descriptions.
    b. Performance and design criteria if Contractor is delegated design responsibility.
    c. Operating standards.
    d. Regulatory requirements.
    e. Equipment function.
    f. Operating characteristics.
    g. Limiting conditions.
    h. Performance curves.

2. Documentation: Review the following items in detail:

    a. Emergency manuals.
    b. Operations manuals.
    c. Maintenance manuals.
    d. Project record documents.
    e. Identification systems.
    f. Warranties and bonds.
    g. Maintenance service agreements and similar continuing commitments.

3. Emergencies: Include the following, as applicable:

    a. Instructions on meaning of warnings, trouble indications, and error messages.
    b. Instructions on stopping.
    c. Shutdown instructions for each type of emergency.
    d. Operating instructions for conditions outside of normal operating limits.
    e. Sequences for electric or electronic systems.
    f. Special operating instructions and procedures.

4. Operations: Include the following, as applicable:

    a. Startup procedures.
    b. Equipment or system break-in procedures.
    c. Routine and normal operating instructions.
    d. Regulation and control procedures.
    e. Control sequences.
    f. Safety procedures.
    g. Instructions on stopping.
    h. Normal shutdown instructions.
    i. Operating procedures for emergencies.
    j. Operating procedures for system, subsystem, or equipment failure.
    k. Seasonal and weekend operating instructions.
    l. Required sequences for electric or electronic systems.
    m. Special operating instructions and procedures.

5. Adjustments: Include the following:

    a. Alignments.
    b. Checking adjustments.
    c. Noise and vibration adjustments.
    d. Economy and efficiency adjustments.

6. Troubleshooting: Include the following:

    a. Diagnostic instructions.
    b. Test and inspection procedures.

7. Maintenance: Include the following:

    a. Inspection procedures.
    b. Types of cleaning agents to be used and methods of cleaning.
    c. List of cleaning agents and methods of cleaning detrimental to product.
    d. Procedures for routine cleaning
    e. Procedures for preventive maintenance.
    f. Procedures for routine maintenance.
    g. Instruction on use of special tools.

8. Repairs: Include the following:

a. Diagnosis instructions.
b. Repair instructions.
c. Disassembly; component removal, repair, and replacement; and reassembly instructions.
d. Instructions for identifying parts and components.
e. Review of spare parts needed for operation and maintenance.

PART 3 – EXECUTION

3.01 PREPARATION

A. Assemble educational materials necessary for instruction, including documentation and training module. Assemble training modules into a training manual organized in coordination with requirements in Section 01 78 00, Closeout Submittals.

B. Set up instructional equipment at instruction location.

3.02 INSTRUCTIONS

A. Engage qualified instructors to instruct OCTA's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.

B. OCTA Project Manager will furnish Contractor with names and positions of participants.

C. Scheduling: Provide instruction at mutually agreed on times. For equipment that requires seasonal operation, provide similar instruction at start of each season.

1. Schedule training with OCTA personnel, through OCTA Project Manager, with at least seven days' advance notice.

D. Evaluation: At conclusion of each training module, assess and document each participant's mastery of module by use of a demonstration/performance-based review.

E. Cleanup: Collect used and leftover educational materials and remove from project site. Remove instructional equipment. Restore systems and equipment to condition existing before initial training use.

3.03 DEMONSTRATION AND TRAINING VIDEO RECORDINGS

A. General: Engage a qualified commercial videographer to record demonstration and training video recordings. Record each training module separately. Include classroom instructions and demonstrations, board diagrams, and other visual aids, but not student practice.

1. At beginning of each training module, record each chart containing learning objective and lesson outline.

B. Video Recording Format: Provide high-quality color video recordings with menu navigation in format acceptable to OCTA Project Manager.

C. Recording: Mount camera on tripod before starting recording, unless otherwise necessary to show area of demonstration and training. Display continuous running time.

D. Narration: Describe scenes on video recording by audio narration by microphone while video recording is recorded. Include description of items being viewed.

E. Transcript: Provide a transcript of the narration. Display images and running time captured from videotape opposite the corresponding narration segment.

F. Pre-Produced Video Recordings: Provide video recordings used as a component of training modules in same format as recordings of live training.

PART 4 - MEASUREMENT AND PAYMENT

No separate measurement or payment will be made for this section.

END OF SECTION

SECTION 02 41 00

DEMOLITION

PART 1 – GENERAL

1.1 RELATED SECTIONS

A. Section 31 20 00 “Earthwork”

1.2 REFERENCE STANDARDS

A. The following is a list of standards which may be referenced in this Section:

1. American National Standards Institute (ANSI): A10.6, Safety Requirements for Demolition Operations.
2. Standard Specifications for Public Works Construction (“Standard Specifications”), 2018 Edition.

1.3 SUBMITTALS

A. Existing Conditions: Contractor shall provide documentation of existing items, adjoining construction and site improvements, actual locations of capped conduits and equipment abandoned in place that establishes preconstruction conditions that might be misconstrued as damage caused by site clearing.

1. Use sufficiently detailed photographs or video, which shall be submitted digitally.
2. Include plans and notations to indicate damage.

C. Weight Tickets: Submit weight tickets provided by the receiving Landfill.

1.4 QUALTITY ASSURANCE

A. Regulatory Requirements: Contractor shall comply with hauling and disposal regulations of authorities having jurisdiction.

1.5 PROJECT CONDITIONS

A. Contractor shall not commence demolition or earth moving operations until temporary erosion and sedimentation control measures, specified in

Section 312000 “Earthwork”, Subsection 3.1 "Temporary Erosion and Sedimentation Control" are in place.

B. Contractor shall maintain dust control at all times by watering.

C. Contractor shall accurately locate all existing utilities to identify any conflicts with the proposed work.

D. Contractor shall scan the work area using a metal detector of adequate strength prior to any excavation. Contractor shall be responsible for locating, protecting, and documenting on Record Drawings, all manholes, water valves, utility access frames and covers or other metal appurtenances buried below the existing pavement surface whether shown on the plans or not. Contractor shall notify Engineer immediately of any existing utility found that is not shown on the plans.

E. Contractor shall protect in place existing improvements and utilities if specified to be protected in place in the plans.

F. Any existing site improvements (not indicated on the plans to be removed) that are damaged during demolition operations shall be restored (at the expense of the contractor) to their original conditions, as acceptable to Engineer.

G. Contractor shall remove all existing site improvements indicated on plans and as required for installation of new improvements.

H. Contractor shall remove or abandon all existing utilities indicated on plans.

I. Contractor shall comply with federal, state, and local hauling and disposal regulations. In addition to the requirements of the General Conditions, Contractor’s safety requirements shall conform to ANSI A10.6.

J. Contractor shall conduct demolition to minimize interference with adjacent building and parking lot areas.

K. Contractor shall restore and clean-up site once site clearing operations are completed.

L. If any material found within the Contractor’s work area appears to be contaminated, it shall be handled per the contract documents.

1.6 DEFINITIONS

A. ACM: Asbestos-containing material.

B. ACP: Asbestos Cement Pipe

C. Demolition: Dismantling, razing, destroying, or wrecking of any fixed building, structure, surface or subsurface feature, site element, or any part thereof.

D. Remove: Detach items from existing construction and legally dispose of them to land fill off-site unless indicated to be removed and salvaged or removed and reinstalled.

E. Modify: Provide all necessary material and labor to modify an existing item to the condition indicated or specified.

F. Relocate: Remove, protect, clean and reinstall equipment, including electrical, instrumentation, and all ancillary components required to make the equipment fully functional, to the new location identified on the Drawings.

G. Salvage/Salvageable: Remove and deliver, to the specified location(s), the equipment, building materials, or other items so identified to be saved from destruction, damage, or waste; such property to remain that of Engineer. Unless otherwise specified, title to items identified for demolition shall revert to Contractor.

PART 2 - PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 PROTECTION

A Protection of Existing Site Improvements:

1. Survey the site and examine the Drawings and Specifications to determine the extent of the Work before beginning construction operations.

2. Take necessary precautions to avoid damage to existing items scheduled to remain in place, to be reused, or to remain the property of Engineer; any Contractor-damaged items shall be repaired or replaced as directed by Engineer.

3. Do not overload pavements to remain. Pavement outside work area damaged by Contractor due to Contractor operations shall be restored to preconstruction conditions at no cost to OCTA. Contractor shall ensure that condition of existing pavement outside of work area is documented and included as part of the existing conditions submittal (1.3.A) to the Engineer.

4. Do not overload already stabilized areas until Engineer agrees it is acceptable to do so.

B. Protection of Personnel:

1. During demolition, continuously evaluate the condition of the existing improvement being demolished and take immediate action to protect all personnel working in and around the demolition site.

2. Provide temporary barricades and other forms of protection to protect OCTA personnel, subcontractor personnel, and any other people who may be present from injury due to demolition Work.

3. Provide protective measures as required to provide free and safe passage of OCTA personnel, subcontractor personnel, and any other people who may be present to occupied portions of the structure.

3.2 RELOCATION OF EMERGENCY MATERIAL STORAGE CONTAINER

A. Survey the site for existing improvements and utilities necessary for demolition, relocation and new work.

B. Relocate the existing emergency material storage container as shown on plans prior to surveying and scanning for the existing underground utilities.

C.

3.3 SAWCUT AND REMOVAL OF EXISTING PCC CURB, PAVEMENT AND SLAB

A. Sawcut existing PCC curb, pavement and slab as required for new improvements.

B. Legally remove, dispose, and recycle PCC waste materials as required.

3.4 BACKFILLING VOIDS LEFT BY REMOVALS

A. All voids left by removals of shall be backfilled with properly compacted engineering fill per Section 312000 “Earthwork”. The cost to place this fill material shall be incidental to the removal items of work.

3.5 CLEAN UP

A. Debris and rubbish shall be removed from excavations, and shall be removed and transported in a manner that prevents spillage on streets or adjacent areas. Local regulations regarding hauling and disposal shall apply.

3.6 HAUL ROUTE AND DISPOSAL OF MATERIALS

A. The Contractor shall make every effort to recycle demolished materials. Items required to be removed shall become the property of the contractor and shall be removed from Project site and be lawfully hauled and disposed of. The cost to haul and dispose removed items shall be included in the cost of the items of work.