NOTES TO OAR: This Section must be included in Division 01 whenever any earthwork, including related sections 02310, 02315, 02317, 02318 and 02319, is included in the scope of work of the project. All imported and exported fill materials are required to be tested at site of origin. In the event that site is balanced and does not require either export or import, then requirements of this section shall not apply; however, this section is still required to be included in bidding documents. Clean gravel from a pre-evaluated commercial source may also be eligible for a variance to this section (10440) with prior written approval from LAUSD-OEHS. While OWNER Consultant (soils engineer) provides testing for compaction, grading, etc., CONTRACTOR retains the services of a licensed environmental professional and an independent State of California certified laboratory to sample and test for the requirements of this section. A request for variance to the Specification must be submitted in writing to OEHS two weeks in advance of need and be accompanied by a memo explaining the rationale for the variance and a project funding code to cover OEHS review. ***DELETE THIS TEXT BOX PRIOR TO ISSUING THIS SPECIFICATION.***

SECTION 01440

ENVIRONMENTAL IMPORT/EXPORT MATERIALS TESTING

PART 1 - GENERAL

This Section specifies the requirements for the sampling, testing, transportation and certification of imported fill materials or exported fill materials from school sites.

1.01 SUMMARY

A. This Specification defines:

1. CONTRACTOR requirements for use of existing, imported or generated materials on school sites.
2. CONTRACTOR requirements for stockpiling materials for use on schools sites.
3. CONTRACTOR requirements for exporting materials from a school site including transportation.
4. Testing requirements for all materials imported, exported, stockpiled or generated for use on a school site.
5. CONTRACTOR testing and reporting requirements.
6. CONTRACTOR submittal requirements

B. Provisions of the General Conditions and Division 01 apply to this section. Sections that are referenced or related may include:

1. Section 01005: Summary of the Work
2. Section 01100: Coordination
3. Section 01300: Submittals
4. Section 01360: Construction Schedule
5. Section 01700: Contract Closeout
6. Section 02310: Grading
7. Section 02315: Excavation Backfilling and Compacting
8. Section 02317: Excavation Backfilling and Compacting for Structures
9. Section 02318: Excavation Backfilling and Compacting for Utilities

10. Section 02319: Base Course

1.02 OBJECTIVES

A. Ensure that fill materials imported to school sites are safe for students, staff and visitors.

B. Ensure that materials exported from school sites for use at school and non-school sites or offsite disposal/recycling are adequately characterized for lawful disposition.

C. Ensure that representative data be collected so that analytical determinations can be made in regard to the first two objectives.

D. Require CONTRACTOR to contract with and pay for the services of a licensed environmental professional (licensed State of California Professional Engineer [PE Civil], Professional Geologist [PG] or Registered Environmental Assessor II [REA II]) familiar with environmental site assessment and waste classification and disposal requirements.

E. Require CONTRACTOR to contract with and pay for an independent, approved California Department of Health Services certified testing laboratory to perform sampling and testing of imported, exported and site generated fill materials.

F. Require CONTRACTOR to pay all fees required by authorities having jurisdiction over area.

G. Require CONTRACTOR to post bonds required by authorities having jurisdiction over area.

1.03 SUBMITTALS

CONTRACTOR shall submit to OWNER'S Authorized Representative (OAR) for transmittal to the LAUSD-OEHS:

A. A qualifications statement for CONTRACTOR's independent California certified testing laboratory and required licensed environmental professional (California Professional Engineer [PE civil]), Professional Geologist [PG] or Registered Environmental Assessor II [REA II]) prior to the start of Work. CONTRACTOR's licensed environmental professional must possess recent demonstrated environmental experience in soil sampling and waste classification.

B. A draft import/export Sampling Strategy Plan (SSP) prepared by CONTRACTOR's licensed environmental professional for review and concurrence by LAUSD-OEHS. The objective of the SSP is to obtain representative sample data. The Draft SSP must be submitted at least 72 hours prior to all proposed import/export sampling activities.

At a minimum, the Draft SSP shall include a site map which shows the location of the proposed import/export and the location and number of the proposed stockpile samples. The draft SSP shall also contain information pertaining to the total volume of the stockpile proposed for sampling and the rationale in support of the proposed sampling approach. Existing environmental documentation specific to the import/export site shall be utilized by the CONTRACTOR's environmental professional to support the proposed sampling approach and analytical method suite. For new school sites, this information would include a DTSC approved site investigation report, e.g., Preliminary Environmental Assessment (PEA). It is the responsibility of the CONTRACTOR to request this information in advance from the OAR if they do not already have access to a copy at the jobsite.

Lacking this information or rationale, samples shall be analyzed for all analytical methods described in Section 3.01. Guidance for the minimum number of samples per stockpile volume is provided in Table 1 (supplemental samples may be required by LAUSD-OEHS if pothole stockpile sampling is utilized.). In addition, the draft SSP shall contain all necessary contact information for the import/export site and a proposed schedule for the sampling activities.

To expedite the review process, the Draft SSP shall be submitted electronically to LAUSD in MS WORD format.

Upon revision of the draft SSP by the CONTRACTOR's licensed environmental professional and acceptance by the LAUSD-OEHS, four revised copies of the final SSP will be provided to the OAR for distribution to OEHS and the project file.

C. A draft Certification/Sample Data Report prepared by CONTRACTOR's licensed environmental professional for review and concurrence. At a minimum the draft Certification/Sample Data Report shall contain:

1. a site map showing the location of the stockpile and stockpile sample locations;
2. a detailed discussion and evaluation of the laboratory results;
3. a summary of findings and recommendations that provide a determination on the waste classification of the subject materials, based on the representative sample results;
4. recommendations for additional steps, if any.
5. a chain-of-custody forms and all laboratory data with respective QA/QC sheets.

To expedite the review process, the Draft SSP shall be submitted electronically to LAUSD in MS WORD format.

Upon revision of the draft Certification Report by the CONTRACTOR'S licensed environmental professional and acceptance by the LAUSD-OEHS, three copies of the final report will be submitted to the OAR for distribution to OEHS and the project file and one copy to the . LAUSD-OEHS Environmental Compliance Manager

D. The Environmental Compliance Manager shall confirm that the proposed waste classification for the proposed import/export material is appropriate. For materials designated unacceptable for export except to a licensed facility, or for those materials sent electively by CONTRACTOR to a licensed facility, the Environmental Compliance Manager shall provide information on the necessary waste manifest documentation.

E. Written documentation (e-mail is acceptable) verifying that all export soil data for any soils exported for use at a non-school site, including the final Certification Report prepared by CONTRACTOR's licensed environmental professional, were provided to the proposed recipient prior to export and delivery.

F. Written documentation, in the form of a memo or e-mail from CONTRACTOR to OAR, prior to import/export, verifying that the hauling contract specifies "clean" trucks and that the actual haul trucks utilized for import/export activities will be clean of visible contamination or deleterious materials.

G. Written documentation that the trucks went directly from the source location to the recipient location with no detours or stops at other locations and that short loads were not augmented by other materials that were not tested as part of the final import/export SSP. It is the CONTRACTOR's responsibility to document that no other trips or short-load augmentation occurred and submit to the documentation within five (5) business days of the completion of the import/export activities. All import/export transportation activities

shall be conducted in accordance with all applicable (local, State, Federal) rules and regulations.

H. Certification, in the form of haul tickets or completed waste manifests, documenting the volume and recipient of all import/export materials and activities. This documentation shall be coordinated through the LAUSD-OEHS Environmental Compliance Manager.

1. For approved import/export to new school sites, unregulated facilities (landfill) or non-school sites, haul tickets may be utilized, but shall contain the following minimum information:
   - date of haul activity
   - address of source
   - address of recipient
   - load volume
   - time of departure from source
   - time of arrival at recipient site
   - signature of recipient or recipient's agent
2. For export to regulated facilities (landfills, recyclers, etc.), the appropriate waste manifest must be completed and a copy of the executed manifest, signed by the receiving site, must be provided to the OAR. The waste manifest copy, signed by the receiving facility and based on the manifest address, will be sent directly to LAUSD-OEHS and the LAUSD Environmental Compliance Manager.

1.04 APPROVALS

NO import or export of earth or geotechnical grading or fill materials can occur at LAUSD sites without PRIOR approval by LAUSD-OEHS.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Imported

1. Soils. Soils proposed for import shall be tested pursuant to the requirements of this Section (01440), unless a variance has been requested by CONTRACTOR and approved by LAUSD-OEHS prior to the import of the subject materials.
2. Gravels. Clean gravel, consisting of native rock from a commercial source, may be granted a variance from the testing requirements of this Section provided a request for variance is submitted by CONTRACTOR for review and approval at least two weeks prior to import. CONTRACTOR shall provide written documentation, which identifies the source, volume and proposed transport date of the material for review and a letter signed and stamped from either a California Professional Engineer or Geologist stating the quarry does not mine ultra mafic (i.e. natural asbestos containing) materials. The request for variance requires approval by LAUSD-OEHS prior to CONTRACTOR importing the materials.. A list of quarries sources frequently used by LAUSD contractors can be found at http://www.lausd-oehs.org.
3. Miscellaneous Material. No miscellaneous material containing crushed concrete, asphalt, construction debris, or other potential deleterious materials may be utilized or imported to a LAUSD project site for use as fill or grading material of any sort without prior testing by CONTRACTOR pursuant to the subject Section (01440) and approval by LAUSD-OEHS.

B. Exported

1. Soils. Soils proposed for export shall be tested pursuant to the requirements of the subject section, unless a variance has been requested by CONTRACTOR and approved by LAUSD-OEHS prior to the import of the subject materials. (Note: Once soils or other materials for export have been tested, they can not be disturbed or reused for any purpose without prior approval by LAUSD-OEHS.)
2. Gravels. Gravels or other natural rock materials shall not be exported from a LAUSD project without prior testing by CONTRACTOR pursuant to this Section (01440) and/or approval by LAUSD-OEHS.
3. Miscellaneous Material. No miscellaneous material or other natural rock materials shall not be exported from a LAUSD project without prior testing by CONTRACTOR pursuant to this Section (01440) and/or approval by LAUSD-OEHS.

C Site Generated.

1. Soils. Soils proposed for export shall be tested pursuant to the requirements of this Section (01440), unless a variance has been requested by CONTRACTOR and approved by LAUSD-OEHS prior to the export of the subject materials. (Note: Once soils or other materials for export have been tested, they can not be disturbed or reused for any purpose without prior approval by LAUSD-OEHS.)

2. Gravels. Gravels or other natural rock materials shall not be exported from a LAUSD project site without prior testing by CONTRACTOR pursuant to this Section (01440) and/or approval by LAUSD-OEHS

3. Miscellaneous Material. No crushed miscellaneous material containing concrete, asphalt, construction debris, or other potential deleterious materials that is generated onsite may be used as fill or grading material of any sort at a LAUSD project site without prior testing and approval by LAUSD-OEHS. The onsite use of crushing equipment requires prior concurrence by LAUSD-OEHS. Crushed asphalt shall be segregated and stockpiled separately.

B. Import and Export of fill Materials:

1. Fees: CONTRACTOR shall pay as required by authorities having jurisdiction over area.

2. Bonds: CONTRACTOR shall post as required by authorities having jurisdiction over area.

PART 3 - EXECUTION

3.01 SAMPLING AND TESTING

A. CONTRACTOR shall contract with, and pay for, the services of a licensed environmental professional (licensed State of California Professional Engineer [PE Civil], Professional Geologist [PG] or Registered Environmental Assessor II [REA II]).

B. CONTRACTOR shall contract with, and pay for, an independent, approved California Department of Health Services certified testing laboratory to perform sampling and testing of imported, exported and site generated fill materials. [Note: Utilization of portable, onsite crushing equipment on LAUSD sites also requires prior notification and approval by LAUSD-OEHS]

C. All fill/grading material, unless otherwise specified in writing by LAUSD-OEHS, whether imported or exported, must be tested at the site of origin. Import/export testing and certification process shall include the following steps:

1. Stockpile all materials for sampling (standard stockpile or backhoe pothole stockpile). Crushed fill materials generated by CONTRACTOR at a school site must be segregated by material (e.g., separate stockpiles for concrete, asphalt, etc.).

2. Submit Draft SSP for review and concurrence by LAUSD-OEHS.

3. Collect and analyze samples (see Table 1 for number of samples per volume) per SSP. Once fill materials for export have been stockpiled and tested, they may not be used onsite for any purpose without prior approval by OEHS.

4. Submit draft import/export sample data report for review and concurrence by LAUSD-OEHS.

5. Submit final import/export sample data report (Certification Report) to the LAUSD-OEHS Environmental Compliance Manager for concurrence of proposed waste classification. All certified material not utilized or exported within a period of 90 days will be subject to retesting unless a variance is requested by CONTRACTOR and is approved by LAUSD-OEHS prior to use or import/export of the subject materials.

6. Submit required pre import/export documentation/record to the OAR (e-mail).

7. Submit post import/export certifications to the OAR and LAUSD OEHS.
8. In addition to the preceding, requirements, certifications and submittals as indicated in previous subsections above.

OWNER retains the right to refuse any fill material proposed for use at a school site.

D. Import/export fill materials shall be stockpiled by CONTRACTOR (or at export site) and are deemed acceptable for import/export or reuse only when it is demonstrated to the satisfaction of LAUSD OEHS Environmental Compliance Manager that the subject materials meet the requirements of this Section (01440).

E. As described in Section 1.03B, lacking site-specific data or sample rationale to support a more focused analytical approach; the CONTRACTOR shall analyze all samples for the following substances according to the methods indicated below. Table 3 is a waste classification flowchart for use by CONTRACTOR's environmental professional. In all cases, detection levels and quality assurance/quality control methods shall be in accordance with standard Method reporting limits and best laboratory practices and the following USEPA (EPA) methods:

1. Total Petroleum Hydrocarbons, utilizing EPA Method 8015M, for gasoline and diesel.
2. Volatile Organic Compounds, utilizing EPA Method 8260B/5035.
3. Polychlorinated biphenyls, utilizing EPA Method 8082.
4. Semi-Volatile Compounds, utilizing EPA Method 8270C.
5. Organochlorine Pesticides, utilizing EPA Method 8081A.
6. Organophosphorous Pesticides, utilizing EPA Method 8141A.
7. Chlorinated Herbicides, utilizing EPA Method 8151A.
8. California Code of Regulations Title 22 (CAM 17) Metals, utilizing EPA Method 6010B/7470A.
9. Hexavalent Chromium, utilizing EPA Method 7199.
10. Arsenic/Thallium, utilizing EPA Method 6020.

F. Import/export fill material may be deemed defective for use by LAUSD-OEHS at a school site if any of the following results are obtained:

1. Total Petroleum Hydrocarbons are present at concentrations exceeding 100 milligrams per kilogram (mg/kg) for gasoline and 1,000 mg/kg for oil/diesel and long chain hydrocarbons.
2. Solvents and other volatile organic compounds are present at concentrations exceeding the laboratory reporting limit.
3. Polychlorinated biphenyls are present at concentrations exceeding the laboratory reporting limit.
4. Semi-volatile compounds are present at concentrations exceeding the laboratory reporting limit.
5. Organochlorine pesticides are present at concentrations exceeding the laboratory reporting limit.
6. Organophosphorous pesticides are present at concentrations exceeding the laboratory reporting limit.

7. Chlorinated herbicides are present at concentrations exceeding the laboratory reporting limit.
8. California Code of Regulations Title 22 (CAM 17) Metals at concentrations exceeding site-specific background.
9. Hexavalent chromium is present at concentrations exceeding 15 mg/kg.

G. Evaluate concentrations of metals in import fill by conducting the analysis set forth below.

1. Compare the maximum detected metal concentrations in import/export fill samples to the site-specific background levels provided in the site Preliminary Environmental Assessment (PEA) Report. The PEA Report shall be available from the OAR. If any metal concentration exceeds its listed background value, the fill material fails and shall be deemed defective and unacceptable for use unless supported by a site specific health risk assessment.
2. In addition to section 3.01.G.1, import/export fill shall be deemed environmentally defective and unacceptable for use if any of the following results are obtained:
   a. Arsenic concentrations exceed 12.0 mg/kg.
   b. Lead concentration exceeds 255 mg/kg or fails TTLC/STLC.
   c. Import/Export materials at new school sites with total lead concentrations greater than 50 mg/kg shall be analyzed for leachability (STLC/TTLC) prior to export. Materials exceeding STLC limits identified in Table 2 are deemed defective and unacceptable for use at school sites.
   d. Import/Export materials at new school sites with total chromium concentrations greater than or equal to 100 mg/kg shall be tested for hexavalent chromium.

H. All export/import fill material shall be characterized, handled, and documented in accordance with applicable US EPA and State of California hazardous waste and hazardous materials regulations (See Table 2). For the purpose of this specification, "contaminated" shall mean any soil or geotechnical material at a concentration, which would require disposal at a regulated facility (i.e., California hazardous or RCRA hazardous). OAR must be notified at least 72 hours prior to the disposal of any hazardous waste or hazardous material. No material disposal or reuse can take place without prior written approval of LAUSD-OEHS.

I. Specification test results and LAUSD-OEHS approvals shall be valid for a period of 90 days from the date of the subject testing unless a variance is requested by CONTRACTOR and approved by LAUSD-OEHS. Previously approved materials shall not be utilized or disposed offsite after the 90 day limit without prior review and approval by LAUSD-OEHS.

J. Requests for variances to this Specification shall be submitted in writing to LAUSD-OEHS a minimum of two weeks in advance of need for review and approval. The request for variance must provide all available testing data, a rationale to support the request and have an active funding line (provided by OAR) to facilitate review by LAUSD-OEHS. LAUSD-OEHS will review the request for variance and will provide its preliminary determination within two weeks. Certain requests may require final approval by the Department of Toxic Substances Control (DTSC).

K. Soils with concentrations above Section 01440 screening levels may, upon prior approval by LAUSD-OEHS, be reused at other school sites if supported by a site-specific human health risk assessment.

3.02 TRANSPORTATION

A. Details of the samples and testing must be submitted to and approved by LAUSD-OEHS Environmental Compliance Manager before transportation.

B. Haul Routes and Regulations/Restrictions: CONTRACTOR must comply with requirements of project EIR (CEQA) and authorities having jurisdiction over the project area and the proposed activities (e.g. Regional Water Quality Control Board, Department of Toxic Substances Control, etc.).

3.03 TRANSPORTATION

A. CONTRACTOR shall pay all fees required by authorities having jurisdiction over area.

B. Contractor shall pay all fees for disposal and/or processing of contaminated and/or hazardous fill materials at a regulated facility.

C. CONTRACTOR shall post and pay for all bonds required by authorities having jurisdiction over area.

TABLE 1: MINIMUM SAMPLING FREQUENCY	
Volume (Cubic Yards)*	Sampling Frequency*
0 - 500	1 per 100 CY
501 - 1,000	1 per 250 CY
1,001 - 5,000	1 per 250 CY for first 1000 CY 1 per 500 CY thereafter
5,001 - 20,000	12 samples for first 5000 CY 1 per 1000 CY thereafter
> 20,000	MINIMUM 2 per 2000 CY for first 20,000 CY, 1 per 500 CY thereafter

All samples are to be collected, analyzed and accepted before import/export: materials going to licensed facilities must meet sampling criteria from that facility. Pothole stockpile sampling may require discrete depth supplemental sampling in order to achieve representative results. The rationale for sample approach should be discussed in the draft SSP. In situ (in place) sampling by boring or hand auger is not acceptable.

*Discuss alternative screening & sampling approaches with LAUSD-OEHS representative for project.

Chemicals of Potential Concern	TABLE 2 WASTE CHARACTERIZATION				
	Hazardous Waste if Exceed Criteria - TTLC Level* (mg/kg)	Additional WET Leaching Tests if Exceed Hazardous Waste Criteria - 10 times STLC Level** (mg/kg)	California-Regulated Hazardous Waste - Soluble Threshold Limit Concentration - STLC Level (mg/l)	Additional TCLP Leaching Tests if Exceed Hazardous Waste Criteria - 20 times TCLP Level** (mg/kg)	Federally-Regulated (RCRA) Hazardous Waste - Toxicity Characteristic Leaching Procedure - TCLP Level (mg/l)
CAM 17 Metals					
Antimony	500	150	15	NA	NA
Arsenic	500	50	5	100	5
Barium	10,000	1,000	100	2,000	100
Beryllium	75	7.5	0.75	NA	NA
Cadmium	100	10	1	20	1
Chromium	2,500	50	5	100	5
Cobalt	8,000	800	80	NA	NA
Copper	2,500	250	25	NA	NA
Lead	1,000	50	5	100	5
Mercury	20	2	0.2	4	0.2
Molybdenum	3,500	3,500	350	NA	NA
Nickel	2,000	200	20	NA	NA
Selenium	100	10	1	20	1
Silver	500	50	5	100	5
Thallium	700	70	7	NA	NA
Vanadium	2,400	240	24	NA	NA
Zinc	5,000	2,500	250	NA	NA
Chromium (VI)	500	50	5	NA	NA

TABLE 3 – WASTE CLASSIFICATION FLOWCHART