Date: May 22, 2019

DSA Appl. No. 03-118726
DSA File No. 19-H13

ADDENDUM NO. 2
To Project Bidding Documents for:

GLENDALE HIGH SCHOOL
AQUATICS CENTER
GLENDALE UNIFIED SCHOOL DISTRICT

tBP/ARCHITECTURE
4611 Teller Avenue
Newport Beach, CA 92660
949/673-0300

TO: PROSPECTIVE BIDDERS

This Addendum forms a part of the Contract Documents and modifies the original Bidding Drawings and Specifications dated March 20, 2019. Acknowledge receipt of this Addendum in space provided on the Bid Form. Failure to acknowledge may subject Bidder to disqualification.

CHANGES TO SPECIFICATIONS

1. SECTION 00 01 10 – TABLE OF CONTENTS
   a. Replace section 00 01 10 with new section 00 01 10 (Addendum 2), issued with this addendum.
2. SECTION 02 08 00 ASBESTOS & LEAD MATERIALS REMOVALS
   a. Add section 02 08 00 and Asbestos & Lead Inspection Report issued with this addendum.
3. SECTION 13 15 40 – SWIMMING POOL TIMING SYSTEM
   a. Add section 13 15 40 issued with this addendum.

CHANGES TO DRAWINGS

1. SHEET S-0.1 – GENERAL NOTES
   Replace sheet S-0.1 with new sheet **S-0.1,** dated 5/7/19, issued with this addendum. Changes include:
   a. Revised Reinforcing Steel Notes to add item 1E

2. SHEET S-1.2 – TYPICAL DETAILS
   Replace sheet S-1.2 with new sheet **S-1.2,** dated 5/7/19, issued with this addendum. Changes include:
   a. Added Note no. 9 on detail 5.

3. SHEET S-1.3 – TYPICAL DETAILS
   Replace sheet S-1.3 with new sheet **S-1.3,** dated 5/7/19, issued with this addendum. Changes include:
   a. Added Note no. 4 on detail 1.

4. SHEET SPT1-1 – POOL TIMING PLAN
Replace sheet SPT1-1 with nee sheet **SPT1-1** issued with this addendum.

5. SHEET SPS-1 – STRUCTURAL NOTES & TYPICAL DETAILS
Revise detail 3/SPS-1 per attached sheet **Revision to SPS-1.**

6. SHEET SPS-2 – 38M POOL FOUNDATION PLAN
Revise foundation plan per attached sheet **Revision to SPS-2.**

ATTACHMENTS
The following attachments are a part of Addendum No. 2:

1. Specification Sections:

00 01 10	Table of Contents
02 08 00	Asbestos & Lead Materials Removals
	Asbestos & Lead Inspection Report
13 15 40	Swimming Pool Timing System

2. Full Size 30"x42" Drawings (Total 4)

S-0.1	General Notes
S-1.2	Typical Details
S-1.3	Typical Details
SPT1-1	Pool Timing Plan

3. Small Documents (8.5" x 11"): (Total 2)
Revision to SPS-1
Revision to SPS-2

4. Pre-Bid RFI (Total 7)

PB-RFI-001	PB-RFI-002
PB-RFI-003	PB-RFI-004
PB-RFI 005	PB-RFI 006
RB-RFI 007	

Hung L. Cheng, **tBP**/Architecture

SECTION 00 01 10

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VOLUME 1 OF 2

DIVISION 33 -- UTILITIES

END OF SECTION

ASBESTOS ABATEMENT SPECIFICATIONS

For The Asbestos and Lead Related Work At The

AQUATIC CENTER
GLENDALE HIGH SCHOOL
1440 E. Broadway
Glendale, California 91205

Prepared For

GLENDALE UNIFIED SCHOOL DISTRICT
333 West Magnolia Avenue
Glendale, California 91204

Prepared by

ENCORP
Engineering our Environment

16700 Valley View Avenue, Suite 100, La Mirada, California 90638
(714) 523- 9811 • Fax (714) 523-9810
www.encorp.net

May 14, 2019

PREPARED BY: _____
Alexander E. Blankevoort
CAC # 04-3555
DHS # 11092

REVIEWED BY: _____
William F. Bohning
CAC # 18-6403
DHS # 2935

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SECTION 02080 - ASBESTOS & LEAD MATERIALS REMOVALS

PART 1 - GENERAL

1.1 PROJECT SITE

A. The project site is identified as the Glendale High School ï Aquatic Center, 1440 E. Broadway, Glendale, California. Work areas shall include areas of impact where hazardous materials are to be impacted by demolition, renovations and new construction. Hazardous Materials are outlined in the Table located in Article 1.2.G, below.

1.2 SCOPE OF WORK

A. The main project goal for this project is perform the necessary project abatement, preparation of lead-based painted components for the purpose of demolition and including lead abatement, and/or paint film stabilization for repainting. All hazardous materials identified within the subject buildings as impacted based on the Asbestos and lead materials reports, project bid documents, specifications, and otherwise noted for demolition or impact in contract documents, are to be removed and prepared for demolition. The abatement contractor has the sole responsibility for confirming the location, scope of impact, quantity and degree of difficulty in prepping or removing the materials as identified in the Hazardous Materials Inspection Reports, based on the demolition and modernization plans, demolition specifications, upgrades and provided project specification & drawings.

B. All removal and disturbance of asbestos-containing materials shall be performed by an asbestos abatement contractor, using 32-hour asbestos certified workers (Asbestos Worker trained as outlined in 40 CFR 763). Abatement contractorôs workforce shall be supervised by experienced persons trained, knowledgeable and qualified in the techniques of asbestos abatement, handling and disposal of asbestos-containing and/or asbestos-contaminated materials, and the subsequent cleaning of contaminated areas, including, at a minimum, Competent Person/Contractor Supervisor training as outlined in 40 CFR 763.

C. All removal and disturbance (Stabilization, preparation for demolition, and/or repainting as applicable) of lead-based materials shall be performed by a state-licensed contractor, using CDPH-certified workers with at least one CDPH-certified Supervisor.

Where contractors performing renovation repair and painting and are to disturb lead based paint the contractor shall be a Certified Renovator in accordance with 40 CFR Part 745.82 Lead: Renovation, Repair and Painting Program. All disturbance of lead-containing materials as defined in 8 CCR 1532.1, shall be performed by a state-licensed contractor, using lead-trained workers with certification of training meeting the requirements of 8 CCR 1532.1 and 40 CFR Part 745.82 Lead: Renovation, Repair and Painting Program. Abatement contractorôs workforce shall be supervised by experienced persons trained, knowledgeable and qualified in the techniques of lead abatement, handling and disposal of lead-containing and/or lead-contaminated materials, and the subsequent cleaning of contaminated areas.

D. When exposure monitoring of a particular lead-related task indicates that the permissible exposure limit is or will be exceeded, the contractor shall use CDPH-certified lead workers to complete the task. Contractors performing work that disturbs any LCM must submit proof of negative exposure assessment (NEA) if personal protective equipment is not to be used.

E. For Cal/OSHA compliance purposes, all other painted, varnished, and glazed surfaces identified in the Hazardous Materials Survey Report (see Attachment A) as lead-containing surface coatings (LCSCs) require that contractors performing activities that will disturb these surfaces/materials comply with the requirements of 8 CCR 1532.1. These surfaces were identified in the above-referenced report to have detectable levels of lead, at concentrations less than 1.0 mg/cm2 lead (the LBP standard) by X-Ray fluorescence.

F. Contractor shall utilize employees with HAZWOPER training, as outlined in 29 CFR 1910.120 and 8 CCR 5192, when handling all õotherò hazardous materials, including fluorescent light ballasts and tubes, mercury switches, refrigerants, batteries, and the like. As part of the abatement procedures abatement contractors shall also be responsible for the disposal/recycling and/or removal of universal waste materials such as fluorescents light tubes, PCB ballasts, Mercury thermostat switches, refrigerants, assumed present throughout the facilities and scheduled for demolition based on project demolition & specification plans/drawings.

G. The Abatement Contractor shall be responsible for all disturbance, spot removal or impact, removal and proper disposal of asbestos/lead containing materials, demolition/ removal/impact or lead stabilization of lead containing materials, Removal/disposal of Universal Waste Miscellaneous Hazardous Materials and preparations of painted surfaces as they may apply for demolition and deemed necessary in conformity with the Project Building Plans, Project Specifications & The Asbestos & Lead Inspection Report provided as Attachment A to this Section 02080, including equipment which is specified, shown or reasonably implied for the removal, transport, and disposal of the Asbestos and Lead materials identified in the Tables below.

POSITIVE ASBESTOS CONTAINING MATERIALS		
MATERIAL	**LOCATION OF MATERIAL**	**ESTIMATED TOTAL QUANTITY**
Texture Wall Stucco	NE Perimeter Wall	80 sq ft
Penetration Mastic	Pool House Roof	60 sq ft
24òTransite Pipe	Pool House Boiler	20 sq ft
Plaster Walls & Ceilings	Pool House, Shower, Restroom, Offices, Storage	1800 sq ft
Penetration Mastic	Pool House Pump Room	20 sq ft
Roofing	SE Chemical Shed	200 sq ft
Flashing Mastic	SE Chemical Shed	12 sq ft
Underground Transite Pipe	Below Concrete & Pool	300 sq ft
POSITIVE LEAD-BASED CONTAINING MATERIALS		
MATERIAL	**LOCATION OF MATERIAL**	**ESTIMATED TOTAL QUANTITY**
White Porcelain Drinking Fountain	Pool	1 each
Black Metal Door Frame	NW Door	3 each
Black Metal Water Line	SE adjacent to shed	6 ln ft
4òTan Metal Conduit	Pool Perimeter Exterior Wall	200 ln ft
Blue/Gray Square Metal Water Container	NW Pool House Pump	50 sq ft
Brown Metal Water Line	Pool Pump House	50 ln ft
Blue/Green Metal Electrical Panel	Pool Pump House	1 each

POSITIVE ASBESTOS CONTAINING MATERIALS		
MATERIAL	**LOCATION OF MATERIAL**	**ESTIMATED TOTAL QUANTITY**
Gray Tank attached to the ceiling	Pool Pump House	1 each
White Metal Door Frame	Pool House ï SE	3 each
Yellow 4ò x4ò Ceramic Tile	Shower Tile	400 sq ft
Metal Windows	Pool House	8 each
Blue Ceramic Wall Tile	Restroom	250 sq ft
Black Metal Door Frame	Restroom	8 each
Tan Ceramic Wall Tile	Pool House Exterior	30 sq ft
White Metal Door Frame	Pool House Exterior	8 each
White Ceramic Water Fountain	Pool House Exterior	2 each
Tan 4ò x4ò Ceramic Wall Tile	Boyôs Restroom	200 sq ft
Blue Ceramic Floor Tile	Storage	25 sq ft

*The listed quantities, materials, and locations are for budgetary information and are not to be used for bidding purposes. The abatement contractor has the sole responsibility for confirming the location, scope of impact, quantity and degree of difficulty in removing the materials as identified in the asbestos and lead Materials Inspection Report and based on the demolition- modernization plans, and provided project specification & Drawings.

H. The Work includes the removal, transport, and disposal of the following contaminated materials.

1. All hazardous materials identified in the table in Article 1.2.G, above.
2. All Universal waste components including but not limited to:
   - PCB light Ballast, as found on site
   - Fluorescent Light Bulbs as found on site
   - Mercury Switches/thermostats as found on site
   - Freon/refrigerant from HVAC units as found onsite
3. All materials used for work area preparation.
4. All discarded personnel protective equipment.
5. All other potentially contaminated materials.

I. Other items of work shall include:

1. As per agreement between Contractor and Owner.

J. Replacement of removed materials:

1. As per agreement between Contractor and Owner.

K. Furnishings, cabinets, moveable objects, and equipment temporarily removed to gain access to hazardous materials shall be reinstalled to original location upon completion of work, unless other arrangements and approval have been provided by the Owner.

L. Damages caused during the performance of abatement activities shall be repaired by Contractor (e.g. paint peeled off by barrier tape, nail holes, water damage, etc.) at no additional expense to Owner, unless other arrangements and approval have been provided by the Owner.

M. Listed quantities are for budgetary information and are not to be used for bidding purposes. The abatement contractor has the sole responsibility for confirming the location, quantity and degree of difficulty in removing the identified materials.

N. Contractor to review specifications and coordinate all demolition, disturbance, and/or spot abatement of asbestos and lead containing items as necessary to complete demolition/modernization activities, including removal and disposal of miscellaneous hazardous materials according to all federal, state, and local regulations.

O. Contractor is responsible to provide adequate lead-based paint stabilization procedures, including but not limited to pain chip removal, feathering of surfaces, wet sanding surface, and otherwise preparing a smooth surface for repainting.

P. Contractor shall be responsible to provide an adequate paint encapsulant and primer for repainting once surfaces have been prepared for repainting. Contractor to coordinate with painting contractor to provide and acceptable surface which the paint contractor will approve.

Q. Contractor is responsible for characterization of lead waste prior to waste being transported off site. All waste characterization samples must be taken under the supervision of the onsite consultant. Characterization sample results must be submitted to the District for review prior to waste being transported off site.

R. Contractor to provide submittal for paint encapsulant for approval by paint contractor and/or provide encapsulant suitable as approved by the painting contractor for use. Submittal must be provided 14 days prior to commencement of work to allow for chemical approval.

1.3 WORK TO BE PERFORMED BY OTHERS

A. As per Project Specifications.

1.4 RESPONSIBILITIES OF OWNER

A. The Owner will provide daily oversight of and environmental monitoring surrounding the abatement/removal operations.

B. The Owner will provide existing water, at no cost to the Contractor, for construction purposes.

C. The Owner will provide existing electrical power, at no cost to the Contractor, for construction purposes.

D. The abatement contractor shall coordinate with the Owner and/or school representatives for the location of equipment storage, staging and waste storage locations.

1.5 REQUIRED LICENSURE

A. Contractor shall be licensed by the State of California, Contractors State License Board and be registered to perform asbestos related work with the Division of Occupational Safety and Health, Department of Industrial Relations. At a minimum contractor shall hold the following license classifications:

1. License with ASB - Asbestos Certification and Haz-Mat Certification

B. Transportation of Friable and Non-Friable Asbestos Containing Materials: Contractor shall itself be or have a subcontractor who is a registered hazardous waste transporter with the State of California, Department of Toxic Substances Control.

C. Subcontractors shall hold all licenses applicable to specified trade work.

1.6 PERMITS

A. As required by Cal/OSHA.
B. As required by the South Coast Air Quality Management District.
C. As required by local agencies for specific tasks (i.e., electrical permit for temporary power, etc.).

1.7 NOTIFICATIONS

A. Contractor shall make all required written notifications to regulatory agencies including the following:

1. California Division of Occupational Safety and Health (Cal/OSHA)
2. South Coast Air Quality Management District (SCAQMD)
3. Department of Health Services (Cal/CDPH)
4. LA County Fire Department Permit

B. Notifications dates for SCAQMD shall include dates of containment set up and include all time until all asbestos waste is removed from the project site.

1.8 INSURANCE REQUIREMENTS

A. As per Project Specifications.

1.9 BONDING REQUIREMENTS

A. Please refer to District General Conditions and Requirements from Purchasing.

1.10 PROJECT SCHEDULE

A. Project Start Date: TBD Project Completion Date: TBD

B. All work shall be performed as per agreement between Contractor and Owner.

C. For the purposes of this Work Plan "submittal due date" shall mean the day on which submittals required by Article 1.12 shall be received by the Construction Manager, "start work" shall mean the day Contractor arrives on the project site, and "completion date" shall mean the day Contractor leaves the project site including final clearance testing and demobilization.

D. Contractor to indicate the number and duration of shifts required to perform abatement monitoring as part of the bid document. Costs associated with hazardous materials abatement monitoring, beyond those pertaining to the project duration indicated in the Contractorôs Bid, shall be deducted from Contractorôs Contract Amount.

1.11 APPLICABLE REGULATIONS

A. Contractor shall perform all Work in compliance with the most recent edition of all applicable federal, state, and local regulations, standards and codes governing asbestos abatement, transport, and disposal of asbestos containing/contaminated materials, lead-based/containing surface coatings and contaminated materials, and all other hazardous materials.

1. Requirements include obtaining permits, licenses, inspections, releases and similar documentation, as well as payments, statements and similar requirements associated with codes, regulations, and standards.

B. Regulations, Standards, and Codes (General):

1. General applicability of federal, state, and local regulations, standards and codes governing hazardous materials abatement, demolition, transport, and disposal, except to the extent that more explicit or more stringent requirements are written directly into the contract documents, all applicable regulations, standards, and codes have the same force and effect and are made a part of the contract documents as if copied directly into the contract documents, or as if published copies are bound herewith.

C. Contractor Responsibility: The Contractor shall assume full responsibility and liability for the compliance with all applicable federal, state, and local regulations pertaining to work practices, transport, disposal, and protection of workers, visitors to the site, and persons occupying areas adjacent to the site.

1. The contractor is responsible for providing training, medical examinations and maintaining training/medical records of personnel as required by the applicable federal, state, and local regulations, including personal air monitoring for all work practices.

2. The Contractor shall hold the Owner and ENCORP harmless for failure to comply with any applicable hazardous materials abatement, transport, disposal, safety, health or other regulation on the part of himself, his employees, or his subcontractors.

1.12 SUBMITTALS

A. No later than five days prior to commencement of work, Contractor shall submit (six copies) to ENCORP, the District Environmental Consultant, documentation that includes, without limitation, the following:

1. Current Copies of licenses and registrations required by Article 1.5 Required Licensure (include copies of subcontractorsø licenses).

2. Copies of written notification to the following regulatory agencies:

   a. California Division of Occupational Safety and Health (Cal/OSHA)
   b. South Coast Air Quality Management District (SCAQMD)
   c. Department of Health Services (Cal/CDPH)

3. Current Proof of insurance coverage required by Article 1.8 Insurance Requirements (include proof of insurance for subcontractors).

4. Current Proof that required permits, site location and arrangements for transport and disposal of asbestos containing waste materials have been made.

5. Current Proof of legal right to use patented equipment or processes.

6. Current Manufacturer's certification that HEPA vacuums, differential pressure air filtration devices and other local exhaust ventilation equipment conform to ANSI Z9.2-79 and have been permitted by the SCAQMD.

7. Current Documentation showing that Contractor's employees, including foreman, supervisor, and any other company personnel or agents who may be exposed to airborne asbestos fibers or who may be responsible for any aspects of asbestos abatement activities, have received training as required by 29 CFR 1926.1101 and 8 CCR 1529.

8. Current Documentation showing that Contractor's employees, including foreman, supervisor, and any other company personnel or agents who may be exposed to airborne lead dust or who may be responsible for any aspects of lead abatement activities, have received training as required by 29 CFR 1926.62 and 8 CCR 1532.1.

9. Current Documentation from Physician (signed by an M.D.) showing that all employees or agents who may be exposed to airborne asbestos fibers in excess of background levels have received medical monitoring to determine whether they are physically capable of working while wearing the respirator required without suffering adverse health effects. The Contractor must be aware of and provide information to the examining physician about unusual conditions in the workplace environment (e.g. high temperatures, humidity, chemical contaminants) that may impact on the employee's ability to perform work activities.

10. Current Documentation of respirator fit-testing for all Contractor employees and agents who must enter the work area. This fit-testing shall be conducted annually and in accordance with procedures as required by 29 CFR 1910.134 and 8 CCR 5144.

11. An emergency preparedness plan as required by Article 1.15 - Emergency Planning.

12. Master schedule, showing phasing, number of shifts, time for air clearances, tear down and manpower loading to be utilized for the duration of the project.

13. A site specific work plan based on scope of work. Include a diagram showing containment set-up, decontamination unit(s), location of negative air machine and exhaust placement.

14. WORK SHALL NOT COMMENCE WITHOUT REVIEW AND APPROVAL OF SUBMITTALS FROM DISTRICT REPRESENTATIVES,

B. Following abatement activities and completion, Contractor shall submit to ENCORP documentation that includes, without limitation, the following (within 15 calendar days):

1. Copies of the work area entry/exit log book. Log book must record name, affiliation, time in, and time out for each entry into the work area.

2. Copies of logs documenting filter changes on respirators, HEPA vacuums, differential pressure air filtration devices, water filtration device, and other engineering controls.

3. Copies of Material Safety Data Sheets (MSDS) for solvents, encapsulants, wetting agents, replacement materials, and other substances brought by Contractor to the Project Site. MSDSs shall be available the first day that subject materials/substances are present on the project site.

4. Results of all required OSHA compliance air monitoring. Results shall be available prior to the start of the following shift and within 24 hours of completion of the last shift.

5. Copies of all accident/incident reports where injury or damage has occurred on or to the Owner's property.

6. Copies of daily logs indicating location(s) worked, type of materials removed, quantity of materials removed and number of personnel conducting the aforementioned activities.

7. Copies of all transport manifests, trip tickets and disposal receipts for all asbestos waste materials removed from the work area within 48 hours of the transport, to:

A. ENCORP
16700 Valley View Ave, Suite 100
La Mirada, California 90638
Attn: Alexander Blankevoort

8. Abatement contractor is responsible for profiling all waste streams at the start of the project. Results must be submitted to the ENCORP for verification of proper disposal.

1.13 NOTICES

A. Post in the clean room area of the worker decontamination enclosure a list containing the names, and telephone numbers of Owner, Construction Manager, Abatement Contractor, and ENCORP.

B. Post in the clean room area of the worker decontamination enclosure a list of all persons authorized to enter the work area.

C. Additional postings shall include:

1. Visitor Entry and Exit Log.
2. Employee Daily Sign in Log.
3. Entry and Exit Procedures.
4. Emergency Procedures.
5. Copies of permits required in Article 1.6 of this document and copies of notifications required in Article 1.7 of this document.
6. As required by the Department of Labor.

1.14 SITE USE AND SECURITY

A. Confine operations at the site to the areas permitted under the Contract. Portions of the site beyond which areas on which work is indicated are not to be disturbed.

B. The work area shall be restricted only to authorized, trained and protected personnel, including Contractor, Contractor's employees, Owner employees, Owner, Construction Manager, ENCORP, State and Local Inspectors.

C. Entry into the work area by unauthorized individuals shall be reported immediately to the ENCORP.

D. Contractor shall be responsible for Project site security during abatement operations in order to protect work efforts and equipment.

1.15 EMERGENCY PLANNING

A. Emergency planning and procedures shall be developed by Contractor prior to abatement initiation.

B. Emergency procedures shall be in written form and prominently posted. Contractor shall ensure that all persons entering the work area read these procedures and understand the Project site layout, location of emergency exits and emergency procedures.

C. Emergency planning shall include considerations of fire, explosion, electrical hazards, slips, trips and falls, confined spaces, school emergencies and heat related injury. Written procedures shall be developed and employee training in procedures shall be provided by Contractor.

D. Employees shall be trained in evacuation procedures in the event of work place emergencies.

1. For non-life-threatening situations, employees injured or otherwise incapacitated shall decontaminate following normal procedures with assistance from fellow workers, if necessary, before exiting the work place to obtain proper medical treatment.

2. For life-threatening injury or illness, worker decontamination shall take least priority. After measures to stabilize the injured worker, remove him from the work place and secure proper medical treatment.

3. Telephone numbers of all emergency response personnel and map to closest hospital shall be prominently posted in the clean and equipment rooms.

1.16 FIRE PROTECTION

A. All plastic, spray-on strippable coatings, and structural materials used in the asbestos abatement process shall be UL-approved and certified as fire retardant or noncombustible.

B. Wood shall be pressure impregnable and certified as fire retardant.

C. Material Safety Data Sheets (MSDS) for fire retardant materials shall be made available upon request.

D. All combustible rubbish and debris, including properly bagged asbestos shall be properly disposed of at the end of each working day.

E. A minimum of one (1) 4A/60BC dry-chemical extinguisher shall be maintained at each of the following locations:

1. At each corner of the work area. Where no clear corners exist, four (4) extinguishers shall be placed around the exterior wall of the work area so that they are approximately 25 percent of the total distance apart.

a. Exception: Where total contained work area is less than 1,000 square feet, two (2) 4A/60BC extinguishers shall be provided. All extinguishers shall be clearly identified with red tape.

2. Contractor shall ensure that on site personnel are aware of the location and proper use of all extinguishers and other fire/life safety equipment.

F. All existing fire detection, alarm systems, connections and standpipes shall remain in place, active and unobstructed. Any alteration to this equipment must be approved by ENCORP.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Generally, Contractor shall carefully adhere to the following:

1. All plastic, spray-on strippable coatings and structural materials used shall be UL-certified as fire retardant or non-combustible.

2. Deliver all materials in the original packages, containers, or bundles bearing the name of the manufacturer and brand name (where applicable).

3. Fire-retardant polyethylene sheeting utilized for worker decontamination and construction/containment barriers shall be a minimum of six-mil in thickness.

4. Disposal bags shall be of six-mil polyethylene, pre-printed with labels as required by EPA regulation 40 CFR 61.152 (b) (I) (iv) or applicable Cal/OSHA requirements.

5. Stick-on labels as per EPA or Cal/OSHA requirements for disposal drums.

6. Warning signs as required by Cal/OSHA shall be utilized.

7. Disposal drums shall be 55-gallon DOT A1A (DOT 17H) with locking ring tops and will meet the requirements of 49 CFR 172-178.

B. Removal and Encapsulation:

1. Surfactant (wetting agent) shall be a 50/50 mixture of polyoxyethylene ether and polyoxyethylene ester, or equivalent, mixed in proportion of 1 fluid once to 5 gallons.

2. The encapsulating agent to be applied shall adhere to the substrate surfaces from which asbestos-containing material has been stripped.

3. The encapsulating agent shall not be flammable and should not be solvent-based or utilize a vehicle (the liquid in which the solid parts of the encapsulant are suspended) consisting of hydrocarbon.

4. If utilized, mastic removal solvents shall ***NOT*** be or create a RCRA waste, and shall be of the low odor variety.

C. Replacement:

1. Submit manufacturers certification indicating that replacement materials (if used) do not contain asbestos or more than 600 parts per million (dry weight) of lead.

2.2 EQUIPMENT

A. General:

1. A sufficient quantity of HEPA vacuums and/or differential pressure air filtration devices equipped with HEPA filtration and operated in accordance with ANSI Z9.2-79 (local exhaust ventilation requirements) and EPA guidance document EPA 560/5-83-002 Guidance for Controlling Friable Asbestos Containing Materials in Buildings. To calculate total air flow requirement:

$$\text{Total ft}^3\text{/min} = \frac{\text{Vol. of work area (in ft}^3\text{)}}{\text{15 min}}$$

To calculate the number of units needed for the abatement:

$$\text{Number of units needed} = \frac{\text{[total ft}^3\text{/min]}}{\text{[capacity of unit in ft}^3\text{/min]}}$$

2. At a minimum, full-face powered air-purifying respirators (PAPRs) with P-100 cartridges shall be utilized during all friable/Class I asbestos removal and for all removal of lead-containing paints/substances involving abrasive removal techniques.

3. At a minimum, half-face air-purifying respirators with P-100 cartridges shall be utilized during all ceramic tile or lead-containing paint removal/impact except abrasive removal, or for the removal of all non-friable/Class II asbestos removal.

4. Respirators shall be furnished to the abatement workers by Contractor. The respirators shall have been tested and approved by National Institute of Occupational Safety and Health (NIOSH) for use in asbestos atmospheres.

5. Full body disposable protective clothing, including head, body, and foot coverings shall be furnished to visitors in sizes adequate to accommodate movement without tearing.

6. Additional safety equipment as supplied in accordance with 8 CCR 1514, (e.g. hard hats meeting the requirements of 8 CCR 1515, eye protection meeting the requirements of 8 CCR 1516, safety shoes meeting the requirements of 8 CCR 1517, hand protection meeting the requirements of 8 CCR 1520, hearing protection meeting the requirements of 8 CCR 1521 and body protection meeting the requirements of 8 CCR 1522), as necessary, shall be furnished to all workers and authorized visitors.

7. Non-skid foot wear shall be furnished to all abatement workers. Disposable clothing shall be adequately sealed to the footwear to prevent body contamination.

8. Furnish a sufficient supply of disposable mops, rags, and sponges for work area decontamination.

B. Removal:

1. A sufficient supply of scaffolds, ladders, lifts and hand tools (e.g., scrapers, wire cutters, brushes, utility knives, wire saws, etc.) shall be furnished as needed.

2. Rubber dustpans and rubber squeegees shall be furnished for cleanup.

3. Brushes utilized for removing loose asbestos-containing material shall have nylon or fiber bristles, not metal.

4. A sufficient supply of HEPA filtered vacuum systems shall be furnished during cleanup.

C. Encapsulation: Encapsulants shall be sprayed using airless spray equipment or hand pressurized sprayer.

D. Enclosure: Hand tools equipped with HEPA filtered local exhaust ventilation shall be utilized during the installation of enclosures and supports if there is any need to disturb asbestos containing materials during this process. As an alternative asbestos material may be partially removed following controlled removal procedures approved by the ENCORP.

PART 3 - EXECUTION

3.1 CLASS I ASBESTOS REMOVAL WORK

The following procedures shall be utilized for all removal of friable and/or Class I ACM, and from non-friable ACM utilizing mechanical removal methods from all impacted buildings.

A. Contractor shall coordinate all items of work with the ENCORP.

B. Contractor shall shut down and lock out all heating, cooling, and air conditioning system (HVAC) components that are in supply or pass through the work area. In the event that there is any impact to the HVAC system (such as an air intake), the HVAC system shall remain off during the project.

C. Contractor shall shut down and lock out electric power to all Work Areas. Contractor shall provide temporary power and lighting sources, insure safe installation of temporary power sources and equipment by compliance with all applicable electrical code requirements and Cal/OSHA requirements for temporary electrical systems. Protect each circuit with a Ground Fault Circuit Interrupter (GFCI) of proper size located in the temporary panel.

D. Install worker decontamination unit described in Article 3.7 or as agreed upon with ENCORP.

E. Post warning signs meeting the specifications of 8 CCR 1529, 8 CCR 5208, and 29 CFR 1926.1101, at any location and approaches to a location where airborne concentration of asbestos fibers may exceed ambient background levels. Signs shall be posted at a distance sufficiently far enough away from a work area to permit a person to read the sign and take necessary protective measures to avoid exposure.

F. Asbestos Handlers shall don personnel protective equipment as required in Article 2.2 - Equipment.

G. Pre-clean all vertical and horizontal surfaces within the work area using a HEPA-filtered vacuum and/or wet cleaning techniques, as appropriate. Contractor shall not use any methods that would raise dust, such as dry sweeping or vacuuming with equipment not equipped with HEPA filters, and shall not disturb asbestos-containing materials during the pre-cleaning phase.

H. Seal off all windows, doorways, elevator openings, corridor entrances, drains, ducts, grills, grates, diffusers, skylights and any other openings between the Work Area and uncontaminated areas outside of the Work Area with two layers six-mil fire retardant polyethylene sheeting and tape.

I. Cover floors in the area, as follows (cover floors where flooring finishes, such as floor tile and/or mastic, are to be removed, during Class I activities).

1. Two layers of six-mil (minimum) sheeting. Additional layers of sheeting may be utilized as a drop cloth to aid in cleanup of bulk materials, and/or to ensure protection from water leaks.

2. Containment plastic shall be sized to minimize seams. If the floor area necessitates seams, those on successive layers of sheeting shall be staggered to reduce the potential for water to penetrate to the flooring material. A distance of at least 6 feet between seams is sufficient. Do not locate any seams at wall/floor joints.

3. Floor sheeting shall extend at least 12" up the side walls of the Work Area.

4. Sheeting shall be installed in a fashion so as to prevent slippage between successive layers of material.

J. Cover all immovable items (plumbing, etc.) and/or construct walls in the Work Area with fire retardant polyethylene sheeting and seal with duct tape. Walls that will be demolished do not necessarily need protection (check with ENCORP). Walls shall be decontaminated using HEPA vacuums and wet cleaning techniques. Walls with mortar joints (e.g., tile) are considered porous. Openings through these walls, including louvers in Mechanical Rooms, must be sealed by critical barriers.

1. Walls shall be covered with two layers six-mil fire-retardant polyethylene sheeting (sealed airtight with duct tape).

2. Plastic shall be sized to minimize seams. Seams shall be staggered and separated by a distance of at least six feet.

3. Wall sheeting shall overlap floor sheeting by at least 12 inches beyond the wall/floor joint to provide a better seal against water damage and for negative pressure.

4. Wall sheeting shall be secured adequately to prevent it from falling away from the walls. This will require additional support/attachment when Negative Pressure Ventilation Systems area utilized.

5. Where necessary for structural support, plywood sheeting and/or 2x4 lumber shall be utilized to ensure the structural integrity of the containment and critical barriers.

6. Fire exits shall be clearly labeled as required by Regulations.

K. Install the minimum number of 2' x 3' clear view windows that will provide visual access to ALL areas of each enclosure.

L. Install and initiate operation of negative pressure air filtration differential as required in Article 2.2 - Equipment. Negative pressure differential shall be at a minimum of -0.02" of water column at all times during asbestos removal operations.

M. Install and maintain a manometer equipped with a strip chart recorder. Manometer shall be capable of detecting at least 0.02" of water column.

N. The Contractor shall carry out all asbestos removal activities in a manner that will minimize pulverizing, breaking or creation of dust. Generally, manual removal methods will be preferred, although larger systems, such as power washers, are acceptable, as long as they are equipped with proper HEPA-filtration equipment and do not create an undue hazard.

O. Keep the ACMs being removed wet throughout removal operations by the use of an airless sprayer. In the event that visible dust is generated during the abatement process, also mist the air within containment periodically with water or an amended water solution with an airless sprayer to reduce airborne asbestos fiber concentrations.

P. Once all removal activities have been completed, clean-up of the work areas shall be conducted in accordance with Article 3.6 - Clean-Up.

Q. Encapsulate entire work area with a penetrating and/or lock-down type encapsulant following acceptance of clean-up activities.

R. Dispose of all asbestos containing/contaminated waste in accordance with Article 3.8 - Disposal Procedures.

3.2 CLASS II ASBESTOS REMOVAL WORK - GENERAL

The following procedure shall be utilized for all removal of non-friable/Class II ACM from all impacted buildings. This type of work shall include, but not be limited to asbestos-containing mastics, vinyl flooring finishes, asbestos cement pipes and panels, and joint compound associated with wallboard systems. Class II removal of roofing products is addressed in Article 3.2.1, below.

A. Contractor shall coordinate all items of work with the ENCORP.

B. Contractor shall shut down and lock out all heating, cooling, and air conditioning system (HVAC) components that are in supply or pass through the work area. In the event that there is any impact to the HVAC system (such as an air intake), the HVAC system shall remain off during the project.

C. Contractor shall shut down and lock out electric power to all Work Areas. Contractor shall provide temporary power and lighting sources, insure safe installation of temporary power sources and equipment by compliance with all applicable electrical code requirements and Cal/OSHA requirements for temporary electrical systems. Protect each circuit with a Ground Fault Circuit Interrupter (GFCI) of proper size located in the temporary panel.

D. Install worker decontamination unit described in Article 3.7 or as agreed upon with ENCORP.

E. Post warning signs meeting the specifications of 8 CCR 1529, 8 CCR 5208, and 29 CFR 1926.1101, at any location and approaches to a location where airborne concentration of asbestos fibers may exceed ambient background levels. Signs shall be posted at a distance sufficiently far enough away from a work area to permit a person to read the sign and take necessary protective measures to avoid exposure.

F. Asbestos Handlers shall don personnel protective equipment as required in Article 2.2 - Equipment.

G. Pre-clean all vertical and horizontal surfaces within the work area using a HEPA-filtered vacuum and/or wet cleaning techniques, as appropriate. Contractor shall not use any methods that would raise dust, such as dry sweeping or vacuuming with equipment not equipped with HEPA filters, and shall not disturb asbestos-containing materials during the pre-cleaning phase.

H. Seal off all windows, doorways, elevator openings, corridor entrances, drains, ducts, grills, grates, diffusers, skylights and any other openings between the Work Area and uncontaminated areas outside of the Work Area with two layers six-mil fire retardant polyethylene sheeting and tape.

I. Cover floors in the area of vapor barrier removal with fire retardant polyethylene sheeting (do not cover floors where flooring finishes, such as floor tile and/or mastic, are to be removed).

1. A single layer of six-mil (minimum) sheeting. Additional layers of sheeting shall be utilized as a drop cloth to aid in cleanup of bulk materials.

2. Containment plastic shall be sized to minimize seams. If the floor area necessitates seams, those on successive layers of sheeting shall be staggered to reduce the potential for water to penetrate to the flooring material. A distance of at least 6 feet between seams is sufficient. Do not locate any seams at wall/floor joints.

3. Floor sheeting shall extend at least 12" up the side walls of the Work Area.

4. Sheeting shall be installed in a fashion so as to prevent slippage between successive layers of material.

J. Cover all immovable items (plumbing, etc.) and/or construct walls in the Work Area with fire retardant polyethylene sheeting. Walls that will be demolished do not necessarily need protection (check with ENCORP). Walls shall be decontaminated using HEPA vacuums and wet cleaning techniques. Walls with mortar joints (e.g., tile) are considered porous. Openings through these walls must be sealed by critical barriers.

1. Walls shall be covered with two layers six-mil fire-retardant polyethylene sheeting (sealed airtight with duct tape).

2. Plastic shall be sized to minimize seams. Seams shall be staggered and separated by a distance of at least six feet.

3. Wall sheeting shall overlap floor sheeting by at least 12 inches beyond the wall/floor joint to provide a better seal against water damage and for negative pressure.

4. Wall sheeting shall be secured adequately to prevent it from falling away from the walls. This will require additional support/attachment when Negative Pressure Ventilation Systems area utilized.

5. Fire exits shall be clearly labeled as required by Regulations.

K. Install the minimum number of 2' x 3' clear view windows that will provide visual access to ALL areas of the enclosure.

L. Install and initiate operation of negative pressure air filtration differential as required in Article 2.2 - Equipment. Negative pressure differential shall be at a minimum of -0.02" of water column at all times during asbestos removal operations.

M. Install and maintain a manometer equipped with a strip chart recorder. Manometer shall be capable of detecting at least 0.02" of water column.

N. The Contractor shall carry out all asbestos removal activities in a manner that will minimize pulverizing, breaking or creation of dust. Generally, manual removal methods will be preferred, although larger systems, such as bead-blasters for mastic removal activities, are acceptable, as long as they are equipped with proper HEPA-filtration equipment.

O. Keep the ACMs being removed wet throughout removal operations. In the event that visible dust is generated during the abatement process, also mist the air within containment periodically to reduce airborne asbestos fiber concentrations.

P. Once all removal activities have been completed, clean-up of the work areas shall be conducted in accordance with Article 3.6 - Clean-Up.

Q. Encapsulate entire work area with a penetrating and/or lock-down type encapsulant following acceptance of clean-up activities.

R. Dispose of all asbestos containing/contaminated waste; debris shall be kept wet at all times and be bagged while wet in accordance with Article 3.8 - Disposal Procedures.

3.2.1 CLASS II ASBESTOS REMOVAL WORK – ROOFING PRODUCTS

The following procedure shall be utilized for all removal of non-friable/Class II asbestos-containing roofing products, including asphaltic roof membranes, flashings, and related mastics.

A. Contractor shall coordinate all items of work with the Project Environmental Consultant.

B. Contractor shall shut down and lock out all heating, cooling, and air conditioning system (HVAC) components that are in supply or pass through the work area. In the event that there is any impact to the HVAC system (such as a fresh air intake), the HVAC system shall remain off during the project.

C. Contractor shall shut down and lock out electric power to all Work Areas. Contractor shall provide temporary power and lighting sources, ensure safe installation of temporary power sources and equipment by compliance with all applicable electrical code requirements and Cal/OSHA requirements for temporary electrical systems. Protect each circuit with a Ground Fault Circuit Interrupter (GFCI) of proper size located in the temporary panel.

D. Install worker decontamination unit described in Article 3.7 or as agreed upon with Project Environmental Consultant. If installation cannot occur on the roof, installation shall occur as close to the roof access as possible, with polyethylene sheeting laid-down between the decontamination unit and the roof access.

E. Post warning signs meeting the specifications of 8 CCR 1529, 8 CCR 5208, and 29 CFR 1926.1101, at any location and approaches to a location where airborne concentration of asbestos fibers may exceed ambient background levels. Signs shall be posted at a distance sufficiently far enough away from a work area to permit a person to read the sign and take necessary protective measures to avoid exposure (generally, at roof accesses, or at least twenty feet from removal, if on roof).

F. Asbestos Handlers shall don personnel protective equipment as required in Article 2.2.A. Double-suiting is recommended if decontamination unit is not on roof.

G. Pre-clean all vertical and horizontal surfaces within the work area using a HEPA-filtered vacuum and/or wet cleaning techniques, as appropriate. Generally, this will include roof-mounted duct work and equipment only; there is no need to pre-

clean surfaces to be removed. Contractor shall not use methods that would raise dust, such as dry sweeping or vacuuming with equipment not equipped with HEPA filters, and shall not disturb asbestos-containing materials during the pre-cleaning phase.

H. Seal off all windows, doorways, drains, ducts, skylights, roof penetrations, and any other openings between the Work Area and uncontaminated areas outside of the Work Area with six-mil fire retardant polyethylene sheeting and tape.

I. Cover all immovable items (plumbing, etc.) and/or construct walls around immovable objects with fire-retardant polyethylene sheeting. Walls, where present, shall be decontaminated using HEPA vacuums and wet cleaning techniques. Walls with mortar joints (e.g., tile) are considered porous. Openings through these walls must be sealed by critical barriers.

1. Walls shall be covered with six-mil fire-retardant polyethylene sheeting (sealed airtight with duct tape).

2. Plastic shall be sized to minimize seams. Seams shall be staggered and separated by a distance of at least six feet.

3. Wall sheeting shall overlap floor sheeting by at least 12 inches beyond the wall/floor joint to provide a better seal against water damage and for negative pressure.

4. Wall sheeting shall be secured adequately to prevent it from falling away from the walls. This will require additional support/attachment when Negative Pressure Ventilation Systems area utilized.

5. Fire exits shall be clearly labeled as required by Regulations.

J. The Contractor shall carry out all asbestos removal activities in a manner that will minimize pulverizing, breaking or creation of dust. Generally, manual removal methods will be preferred, although larger systems, such as mechanical shears for cutting membranes into strips, are acceptable, as long as they are equipped with proper shrouding and HEPA-filtration equipment.

K. Keep the ACMs being removed wet throughout removal operations. In the event that visible dust is generated during the abatement process, also mist the air within regulated area periodically to reduce airborne asbestos fiber concentrations.

1. Bags of asbestos waste shall not be dropped or thrown from the roof, but carefully lowered to the ground.

L. Once all removal activities have been completed, clean-up of the work areas shall be conducted in accordance with Article 3.6 - Clean-Up.

M. Encapsulate entire work area with a penetrating and/or lock-down type encapsulant following acceptance of clean-up activities.

N. Dispose of all asbestos containing/contaminated waste in accordance with Article 3.8 - Disposal Procedures.

3.3 CLASS III ASBESTOS DISTURBANCE

Asbestos-related disturbance is the drilling, coring, removal or similar disturbance of asbestos-containing construction materials (ACCM) or asbestos-containing materials (ACM) not to exceed three (3) square feet in any one opening and not to disturb 100 square feet or greater cumulatively on any one project (contract). Asbestos-related disturbance work is considered to be Class III work in accordance with Title 8, Section 1529 (Asbestos) of the California Code of Regulations. In the event that disturbance greater than 3 square feet or 100 square feet total is required, the asbestos-related work shall be considered Class I or Class II asbestos abatement and require the use of an asbestos abatement contractor using 40-hour asbestos-trained workers and notification to the South Coast Air Quality Management District (SCAQMD) per Rule 1403, as required, (See Sections 3.1, 3.2, and 3.3 of this specification).

A. Minor disturbance activities must be performed, at a minimum, by personnel possessing current 16-hour asbestos operations and maintenance (O & M) training. ACM waste must be disposed of as hazardous asbestos-containing waste. ACCM waste generated during minor disturbances can be disposed of as non-regulated construction waste.

B. The buildings will have ACM or ACCM impacted by drilling and coring during the planned Modernization Project.

C. Shut off air handling equipment to rooms where work will occur.

D. Demarcate the work area with plastic ñCautionò tape. Provide and post signs at the entrance to the work area affected. The signs shall comply with Cal/OSHA regulations.

E. Clean the area immediately under the location to be disturbed.

F. Move any moveable furniture or objects from immediately beneath the area to be disturbed.

G. At a minimum, 6-mil plastic sheeting shall be placed on the floor below the work area. The plastic sheeting will be secured to the closest wall and floor surface with tape. The plastic sheeting shall extend away from the work area a sufficient distance so that debris is confined to the plastic and that debris is not tracked onto adjoining flooring or carpeted surfaces.

H. For Class III disturbances requiring the cutting of an opening of 1 square foot or greater, but less than 3 square feet, through ACM or ACCM, or into an asbestos-contaminated space, provide an enclosure around the area of disturbance. This may include, but is not limited to:

1. Mini-enclosure where not more than two persons may occupy for the purpose cutting holes in walls or ceilings.

2. For drilling, coring, sawing or similar disturbance, an enclosure shall be placed over the area of disturbance of sufficient size to cover that area and contain the tools used. This can include drilling with a shroud, through a wet sponge, through a plastic enclosure, or similar designs which will ensure control of Asbestos fibers and other dust. Drilling or coring with the use of a vacuum collection device shall be equipped with a HEPA filter.

I. A HEPA-equipped vacuum shall be used for all disturbance, decontamination, and debris clean-up work.

3.4 LBP/LCP IMPACTS – LEAD MATERIAL IMPACTS

This section applies to the removal, stabilization, preparation for painting, and lead-related construction of lead-based paints and/or the demolition of components coated with lead-based or lead-containing surface coatings, including lead-based paints, ceramic tiles with leaded glazing, and other such materials.

A. Post warning signs meeting the specifications of 8 CCR 1532.1 and 29 CFR 1926.62 at any location and approaches to a location where airborne concentrations of lead dust may exceed ambient background levels. Signs shall be posted at a distance sufficiently far enough away from a work area to permit a person to read the sign and take necessary protective measures to avoid exposure. Barrier tape shall be utilized in conjunction with signs for exterior removal activities, to delineate the extent of regulated work areas.

For Exterior work: Place lead caution tape around perimeter of work area. A minimum twenty (20) foot diameter perimeter should be established.

Place a 4-mil poly drop cloth directly below work area to be impacted. Drop cloth should extend out at least 10 feet in each direction. Protect vegetation and childôs play areas with additional covers as necessary.

Vertical enclosure shall be built should drop cloths and work areas overlap into the property lines.

B. Prepare appropriate fall protection systems in accordance with the requirements of Title 8 California Code of Regulations, Sections 1669, 1670, 1724 and anchoring guidance from Title 8 California Code of Regulations, Section 3283 (where applicable).

C. Install worker decontamination unit described in Article 3.7 or as agreed upon with ENCORP.

D. Lead-containing materials (LCM) handlers involved in removal procedures shall wear disposable Tyvek suits, including gloves, hood and footwear. Minimum respiratory protective equipment shall be half-face air-purifying respirators equipped with P100 filters. Upon exiting the work area the handlers shall HEPA vacuum all visible debris from the outer suit, dispose of it as lead-contaminated waste, and proceed through the decontamination unit for full decontamination.

E. Isolate work area by installing critical barriers or curtained doorways across all openings where airborne lead dust migration may cause secondary lead contamination (for work where components will be removed relatively intact, such as doors, downspouts, and wood trim, drop cloths will suffice).

F. Cover floors in each work with fire retardant polyethylene sheeting (do not cover floors where flooring finishes, such as ceramic flooring, for example, are to be removed).

1. A single layer of six-mil (minimum) sheeting.

2. Containment plastic shall be sized to minimize seams.

3. Where multiple layers of floor poly are utilized, sheeting shall be installed in a fashion so as to prevent slippage between successive layers of material.

G. Cover all immovable items and/or construct walls in the Work Area with fire retardant polyethylene sheeting. Walls that will be demolished do not necessarily need protection (check with ENCORP).

1. Walls shall be covered with six-mil fire-retardant polyethylene sheeting (sealed airtight with duct tape).

2. Plastic shall be sized to minimize seams.

3. Wall sheeting shall overlap floor sheeting by at least 12 inches beyond the wall/floor joint to provide a better seal for negative pressure.

4. Wall sheeting shall be secured adequately to prevent it from falling away from the walls. This may require additional support/attachment when Negative Pressure Ventilation Systems area utilized.

5. Fire exits shall be clearly labeled with red tape or equivalent.

H. Where manual impact is employed for lead removal, such as removal of loose and flaky paint (for example), periodically mist the work area and materials to be impacted to maintain a wet condition and avoid the creation of airborne dust, which may carry lead. Wet the area to be impacted with amended water utilizing a mist sprayer. (Amended water is water that has a surfactant, such as, dish soap added to increase penetration into the material).

I. The Contractor shall carry out all impacts to lead-based surface coatings in a manner that will minimize pulverizing, breaking, abrading, or in any other way impacting lead-containing paints and generating airborne lead-containing dust.

HEPA vacuum and wet wipe all poly drop cloths and dispose of all poly in a lined disposal container.

Wet wipe and HEPA vacuum visible dust and debris in work area plus an additional 2 foot buffer beyond the 10 foot perimeter work area.

Perform visual confirmations that no visible debris, dust, paint chips, or suspected debris is visible. Re-clean as necessary.

Remove, fold, and bagged dropped cloth for disposal.

Remove warning signs and critical barriers after removal of poly drop cloths.

The District environmental consultant may inspect the work area for visible residual debris. If any accumulation of residue is observed, it will be assumed to be lead, as appropriate to the work area.

J. A final visual inspection by the District environmental consultant may be performed. Unsatisfactory conditions may require additional cleaning and wipe sampling.

K. Once all removal activities have been completed, clean-up of the work areas shall be conducted in accordance with Article 3.6 - Clean-Up.

L. Dispose of all lead-containing/contaminated waste in accordance with Article 3.8 - Disposal Procedures.

3.5 UNIVERSAL WASTE RULE IMPACTS (REFRIGERANTS, PCBs, Etc.)

This section applies to the removal of all Universal Waste Rule items, such as fluorescent light fixture ballasts, non-incandescent lamps (fluorescent light tubes), mercury switches, as well as other commonly encountered items, such as refrigerants.

A. All fluorescent light fixtures to be disposed of shall be disassembled in a non-destructive manner. All fluorescent light tubes shall be removed intact, packaged, and disposed of in accordance with Title 22 of the California Code of Regulations, Sections 66243, et seq., and Sections 25157.8, et al, of the California Health and Safety Code.

B. Once fluorescent light tubes have been removed from light fixtures to be disposed of, ballasts shall be visually inspected. All ballasts and/or transformers which are not clearly marked ñNo PCBsò or ñPCB Freeò shall be assumed to contain PCBs, and shall be removed intact, packaged, and disposed of in accordance with Title 22 of the California Code of Regulations, Sections 66243, et seq., and Sections 25157.8, et al, of the California Health and Safety Code. Any ballast which are observed to be leaking shall be containerized, and shall be disposed via incineration as per 40 CFR 761. All other ballasts may be incinerated or recycled, in accordance with 40 CFR 761. In spite of the small capacitor variance, land disposal of PCB-containing ballasts shall not be considered an acceptable disposal method, under any circumstances.

C. Mercury switches identified in thermostat controls and/or any other electrical switching equipment to be demolished shall be removed intact, packaged, and disposed of in accordance with Title 22 of the California Code of Regulations, Sections 66243, et seq., and Sections 25157.8, et al, of the California Health and Safety Code.

D. All identified refrigerants shall be collected and disposed of in accordance with all applicable SCAQMD and federal EPA guidelines.

E. All other Universal Waste Rule wastes shall be removed intact, where feasible, and shall be packaged and disposed of in accordance with Title 22 of the California Code of Regulations, Sections 66243, et seq., and Sections 25157.8, et al, of the California Health and Safety Code.

3.6 CLEAN-UP PROCEDURES

A. Remove and containerize all visible accumulations of asbestos-containing material, LCM, and asbestos/lead-contaminated debris utilizing rubber dust pans and rubber squeegees to move material around. Do not use metal shovels to pick up or move accumulated waste within contained work areas.

Asbestos-containing/contaminated waste shall be placed in leak tight disposal bags. Disposal bags shall be doubled six-mil polyethylene, pre-printed with labels as required by EPA regulation 40 CFR 61.152 (b) (l) (iv), Cal/OSHA (Title 8 CCR Sections 1529 and 5208), SCAQMD Rule 1403, and if applicable Title 22 CCR Section 66504.

Lead-containing wastes shall be containerized in 55-gallon steel drums with labels as required by 8 CCR 1532.1 and 22 CCR 66504.

All other hazardous wastes shall be containerized as appropriate and disposed of in a manner that satisfies the requirements for waste characterization and disposal in accordance with the requirements of Title 22 of the California Code of Regulations, Sections 66243, et seq., and Sections 25157.8, et al, of the California Health and Safety Code.

B. Whether cleaning an asbestos work area or a lead work area (or both), wet clean all surfaces in the work area utilizing rags, mops and sponges, and clean all horizontal surfaces within each work area with a HEPA-vacuum, as appropriate.

C. Remove the cleaned layer of polyethylene sheeting from floors and walls, as applicable. Windows, doors, HVAC system vents and all other openings (critical barriers, if employed) shall remain sealed. Dispose of as asbestos-contaminated or lead-contaminated as appropriate to the work area in question.

D. After gross cleaning of the work area, HEPA-vacuum and wet clean all objects and surfaces in the work area are completed, remove all containerized waste from the work area.

E. Decontaminate all tools and equipment and remove at the appropriate time in the cleaning sequence.

F. ENCORP will inspect the work area for visible residue. If any accumulation of residue is observed, it will be assumed to be asbestos and/or lead, as appropriate to the work area, and a second settling period and cleaning cycle repeated at no additional cost to Owner.

G. Following the satisfactory completion of clearance air monitoring or clearance wipe testing, the remaining barriers may be removed and prepared for proper disposal. A final visual inspection by ENCORP will be performed. Unsatisfactory conditions may require additional cleaning and air monitoring/wipe sampling, at no additional cost to Owner.

3.7 WORKER DECONTAMINATION SYSTEMS

A. Worker decontamination enclosure systems shall be provided at all locations where workers will enter or exit the work area. At a minimum, one three-stage system at a single location is required. Each work area where negative pressure enclosure is the selected method of engineering controls shall have a worker decontamination unit.

B. Worker decontamination enclosure systems constructed at the Project site shall utilize six-mil, fire-retardant polyethylene sheeting, or other approved materials for privacy.

C. Personnel Decontamination Units shall not be located inside the work area(s) unless specifically authorized by the ENCORP.

D. Alternate methods of providing Decontamination facilities may be submitted to the ENCORP for approval. Do not proceed with any such method(s) without the written authorization.

E. The worker decontamination enclosure system shall consist of at least a cleansing station in accordance with the requirements of 8 CCR 1527 and 8 CCR 1529, equipped with adequate water, towels and cleansing agents to accommodate the entire crew and visitors.

3.8 DISPOSAL PROCEDURES

A. All friable asbestos waste shall be disposed of as Hazardous, Friable Asbestos Waste. All non-friable asbestos waste shall be disposed of as Non-Hazardous, Non-Friable Asbestos Waste.

Contractor is responsible for characterization of lead waste prior to waste being transported off site. All waste characterization samples must be taken under the supervision of the ENCORP. Characterization sample results must be submitted to the District for review prior to waste being transported off site.

All lead waste shall be either disposed of as construction debris (if STLC/TCLP results allow) or lead-containing waste (with attendant RCRA codes, if STLC/TCLP results so require).

All asbestos-containing waste shall be placed and stored in clear, sealed, leak-tight and appropriately labeled containers, in accordance with 8 CCR 1529 and SCAQMD Rule 1403, and transported to an appropriate landfill for disposal.

B. All lead wastes shall be either disposed of as construction debris (if STLC/TCLP results allow) or lead-containing waste (with attendant RCRA codes, if STLC/TCLP results so require).

C. All hazardous wastes (including non-hazardous asbestos wastes) must be disposed of by a certified waste hauler approved by the Owner.

D. Arrange for proper disposal of any generated hazardous waste stream through an Owner-approved waste disposal facility.

E. Obtain the EPA Hazardous Waste Generator Identification Number and State of California Hazardous Waste Tax Identification Number from the Owner.

F. All hazardous waste manifests or non-hazardous material data forms shall be delivered to the ENCORP. Record keeping format shall utilize a chain of custody form which includes the names and addresses of the Generator (Owner), Contractor, Waste Hauler, pickup site, disposal site, the estimated quantity of the asbestos waste and the type of containers used. The form shall be signed by the Generator, Contractor, Waste Hauler and the Disposal Site Operator, as the responsibility for the material changes hands.

3.9 REESTABLISHMENT OF THE WORK AREAS

A. Reestablishment of the work area shall only occur following the completion of clean-up procedures and after clearance air monitoring has been performed and documented to the satisfaction of ENCORP.

B. Contractor and ENCORP shall visually inspect the work area for any remaining visible residue. Evidence of contamination will necessitate additional cleaning and air monitoring requirements at no additional cost to Owner, until approved by PEC.

C. Upon approval by ENCORP, the Contractor shall remove remaining fire retardant polyethylene sheeting, critical barriers, and decontamination unit.

D. Repair all areas of damage that occurred as a result of abatement activities at no additional cost to Owner, unless other arrangements and approval have been provided by the Owner.

3.10 ENVIRONMENTAL MONITORING

Stop work order due to deficiencies:

If, at any time, DISTRICT Representative or ENCORP decides work practices are violating Specifications, or, Federal or local regulations to extent of potential endangerment of building users, workers, DISTRICT Representative, employees or public, he will immediately notify Contractor (followed up in writing) that operations shall cease until corrective action is taken by Contractor. Contractor shall take such corrective action before proceeding with work. Loss or damage due to Stop Work Order(s) shall be Contractor's responsibility. A Stop Work Order, issued by DISTRICTôs Representative or ENCORP shall become effective immediately.

A. Air monitoring will be carried out by the ENCORP on behalf of the Owner to verify that the building beyond the contamination area and the outside environment remains uncontaminated.

B. Background Air Monitoring:

1. The ENCORP will conduct pre-abatement air monitoring to determine ambient fiber levels prior to abatement. The analytical method shall utilize Phase Contrast Microscopy (PCM) using the NIOSH 7400 Method.

C. Area Air Monitoring: The ENCORP will conduct in-progress air monitoring daily to determine area airborne contaminant concentrations within the confines of the work area.

1. Environmental Air Sampling: Ambient air samples are taken and analyzed to indicate fiber migration from containment to the environment. Should any environmental sample outside work areas exceed the base line of 0.01 f/cc of air, or established background concentrations as determined by PCM analysis, all work will immediately halt except for corrective work. The PEC shall determine the source of the high fiber count and notify the contractor with directions for the corrective action.

D. Clearance Air/Wipe Monitoring:

1. Following the completion of final clean-up operations, notify the ENCORP that work areas are ready for final inspection and clearance air monitoring.

2. ENCORP will then sample the air in the work area for airborne fiber concentrations.

3. Phase Contrast Microscopy (PCM): In each homogeneous work area after completion of all cleaning work, a minimum number of samples will be collected and analyzed in accordance with the NIOSH 7400 Methodology as follows:

For work areas less than 160 square feet or 260 linear feet:

a. 5 interior aggressive air samples, 5 exterior air samples, 2 field blank samples and 1 lab blank sample for areas that had asbestos-containing materials removed.

b. Release Criteria: Decontamination of the work site is complete when each sample analyzed reveals airborne asbestos fiber concentrations are at or below 0.010 f/cc, or established background concentrations.

c. If these conditions are not met then the decontamination is incomplete and the cleaning procedures noted in Article 3.3 above shall be repeated. The area shall be re-tested at no additional cost to Owner until satisfactory levels are obtained.

4. Transmission Electron Microscopy (TEM): In each homogeneous work area after completion of all cleaning work, a minimum number of samples MAY be collected and analyzed by TEM in accordance with the requirements of 40 CFR Part 763, Subpart E (AHERA) as follows:

For work areas equal to or greater than 160 square feet or 260 linear feet:

a. 5 interior aggressive air samples, 5 exterior air samples, 2 field blank samples and 1 lab blank sample for areas that had asbestos-containing materials removed.

b. Release Criteria: Decontamination of the work site is complete when the average of the interior samples reveals that airborne asbestos fiber concentrations are at or below 70 structures/mm^2, or established background concentrations.

c. If these conditions are not met, decontamination shall be deemed incomplete, and the cleaning procedures noted in Article 3.3 above shall be repeated. The area shall be re-cleaned and re-tested at no additional cost to Owner until satisfactory levels are obtained.

5. For work associated with LCM, wipe sampling shall be performed within the controlled work areas following completion of all lead-related impact and decontamination efforts.

a. Release Criteria: Decontamination of the work site is complete when each of at least two samples per work area are analyzed and reveal lead concentrations below those set forth by Cal/CDPH in 17 CCR 35001, et. seq. Generally, this shall be 40 micrograms of lead per square foot of area on interior floors.

b. If these conditions are not met then the decontamination is incomplete and the cleaning procedures noted in Article 3.3 above shall be repeated. The area shall be re-tested at no additional cost to Owner until satisfactory levels are obtained.

3.11 OSHA PERSONNEL AIR MONITORING:

A. Air monitoring required by OSHA is work of the contractor. The contractor is responsible for providing daily OSHA compliance monitoring as per 29 CFR 1926.1101, 8 CCR 1529 for asbestos and 29 CFR 1926.62 and 8 CCR 1532.1 for lead.

1. At minimum, Contractor shall conduct representative (25% of crew) breathing zone personal air monitoring of its employees twice each shift (asbestos only) and repeated daily or until a "negative exposure assessment", as derived in accordance with 29 CFR 1926.1101 (f)(2)(iii) and 8 CCR 1529 for asbestos, and 8 CCR 1532.1 for lead.

2. Monitoring shall be conducted by a qualified air professional experienced and knowledgeable about the methods of air monitoring and in accordance with 29 CFR 1926.1101, 8 CCR 1529 and 8 CCR 1532.1.

3. Monitoring results and appropriate laboratory analysis work shall be submitted to ENCORP within forty-eight (48) hours of the monitoring work.

3.12 ALTERNATIVE PROCEDURES

A. If specified procedures cannot be utilized, a request shall be made in writing to ENCORP providing details of the problem encountered and recommended alternatives.

B. The removal of all õotherò hazardous materials shall be handled as an alternative procedure. Contractor shall submit a work plan for the removal, handling, and disposal of all õotherò hazardous materials, including but not limited to fluorescent light ballasts and tubes, mercury switches, refrigerants, batteries, and radioactive smoke detector sources. Work described in said work plan(s) shall not commence until the work plan has been accepted and approved, in writing, by ENCORP.

C. Alternative procedures shall provide equivalent or greater protection than procedures that are replaced.

D. Any alternative procedure must be approved in writing by the ENCORP prior to the implementation of the procedure.

End of Section 02080

ATTACHMENT A:

Asbestos & Lead Inspection Report

ASBESTOS & LEAD-BASED PAINT INSPECTION REPORT

AQUATIC CENTER
GLENDALE HIGH SCHOOL
1440 E. Broadway
Glendale, California 91205

Prepared For

GLENDALE UNIFIED SCHOOL DISTRICT
333 West Magnolia Avenue
Glendale, California 91204

Prepared By

ENCORP
Engineering our Environment
16700 Valley View Avenue, Suite 100, La Mirada, California 90638
(714) 523-9811 • Fax (714) 523-9810
main@encorp.net • www.encorp.net

May 9, 2019
ENCORP PROJECT P19169.G01

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I. ASBESTOS & LEAD-BASED PAINT INSPECTION REPORT

ASBESTOS & LEAD-BASED PAINT INSPECTION REPORT

FACILITY: ..... **GLENDALE HIGH SCHOOL – AQUATIC CENTER**
1440 E. Broadway
Glendale, California 91205

INSPECTION DATE: ..... May 10, 2019

INTRODUCTION

GLENDALE UNIFIED SCHOOL DISTRICT retained **ENCORP** conduct an asbestos and lead-based paint inspection of the **AQUATIC CENTER** at **GLENDALE HIGH SCHOOL**, located at 1440 E. Broadway, Glendale, California. The inspection scope of work included asbestos bulk sampling, and Lead Paint sampling of the interior and exterior of the above mentioned building. The purpose of this inspection was to identify suspect Asbestos Containing Materials (ACMøs) and Lead-Based Painted Materials (LBPMøs) that may be impacted in upcoming demolition/renovation project. The inspection results that follow summarize the components tested, and the results. Where applicable, **ENCORP** used previous sample data collected from previous inspections.

Asbestos is a general term applied to a group of naturally occurring minerals which separate into fibers. This fibrous material (e.g., Amosite, Chrysotile, Crocidolite, Tremolite, Anthophyllite, and Actinolite) are composed of silicates of aluminum, magnesium and other metals which are incombustible and very difficult to destroy or degrade. Asbestos has a tendency to break into a dust of tiny fibers which can float in the air and be inhaled or swallowed. Asbestos inhalation exposure has been shown to increase the risk of developing lung cancer, mesothelioma (cancer of the lining of the lung and/or abdomen.) and asbestosis (chronic lung disease), as well as other damage to the lungs. Exposure occurs by breathing asbestos fibers produced as a fine dust when asbestos is handled during fabrication, installation or removal. By definition Asbestos Containing Materials (ACM) are any material or product which contains 1 percent (1%) or more asbestos. CAL/OSHA further regulates the content of asbestos in materials or products that contain 1 tenth of a percent (0.1%) or more asbestos for the purpose of worker and occupant protection.

ENCORPøs Site Surveillance Technician and Lead-based paint sampling technician Mr. Angel Jimenez, performed the site inspections. Prior to sample collection, **ENCORP**øs representatives conducted a visual investigation of the property to identify and quantify all suspect asbestos containing, and lead painted building materials. Upon completion of the visual investigation, building materials were grouped into homogeneous categories and samples were collected from the suspect ACMøs previously identified.

SAMPLING METHODOLOGY -- ASBESTOS

ENCORP used a modified random sampling protocol to collect the samples of the suspect asbestos containing materials. Each of the suspect samples collected for this report were given a unique sample identification number and sealed inside leak proof containers for shipment to the laboratory for analysis.

All of the bulk samples collected by **ENCORP** during this inspection were analyzed by ENCORP Environmental Laboratory**,** La Mirada, California. ENCORP Environmental Laboratory is accredited by NIST/NVLAP for analysis of asbestos fibers in bulk samples. These samples were analyzed by Polarized Light Microscopy/Dispersion Staining (EPA/600/R-93/116). This method is designed as an inexpensive screening method to examine bulk samples; it is not an absolute method. Any visible light method (including PLM) is limited by the resolution possible with visible light.

Because fibers with a diameter less than one micron will not be seen using PLM, a possibility exists that the asbestos content of materials with low asbestos percentages (such as floor tiles and soils) could actually be higher when analyzed by TEM, SEM, or X-ray diffraction.

INSPECTION RESULTS – ASBESTOS

The following contains the summary of the suspect asbestos containing materials sampled during this inspection, including the location and laboratory analysis. Positive ACMôs are distinguished in ñ**bold**ò Samples collected and found not to contain asbestos are classified as being None Detected ñNDò The complete sampling results can be found in the attachment section.

SUMMARY OF SUSPECT MATERIALS TESTED

AQUATIC CENTER

Sample No.	Building Component	Location Of Material	Condition	Friability	Estimated Quantity	% and type of Asbestos
051738 1 2 3	**Texture Wall Stucco**	**NE Perimeter Wall**	**D**	**F**	**80 sq ft**	**<1% Chrysotile Assumed ACM**
051738 4 5 6	**Penetration Mastic**	**Pool House Roof**	**D**	**NF**	**60 sq ft**	**5% Chrysotile**
051738 7 8 9	Roofing	Pool House Roof	D	NF	--	ND
N/A	**24" Transite Pipe**	**Pool House Boiler**	**G**	**NF**	**20 sq ft**	**Assumed**
051738 10 11 12	Boiler Insulation	Pool Pump Room	D	F	--	ND
051738 13 14 15	Window Putty	Pool House Windows	D	NF	--	ND
051738 16 17 18 19 20	**Plaster Walls & Ceilings**	**Pool House, Shower, Restroom, Offices, Storage**	**D**	**F**	**1800 sq ft**	**Skim Coat = <1% Chrysotile Assumed ACM Plaster = ND**
051738 21 22 23	Roofing	Pool House Pump Room	D	NF	--	ND
051738 24 25 26	**Penetration Mastic**	**Pool House Pump Room**	**D**	**NF**	**20 sq ft**	**5% Chrysotile**
051738 27 28 29	**Roofing**	**SE Chemical Shed**	**D**	**NF**	**200 sq ft**	**3% Chrysotile**
051738 30 31 32	**Flashing Mastic**	**SE Chemical Shed**	**D**	**NF**	**12 sq ft**	**5% Chrysotile**

SUMMARY OF SUSPECT MATERIALS TESTED

AQUATIC CENTER

Sample No.	Building Component	Location Of Material	Condition	Friability	Estimated Quantity	% and type of Asbestos
N/A	**Underground Transite Pipe**	**Below Concrete & Pool**	**--**	**NF**	**300 sq ft**	**Assumed***
057155 1 2 3	Interior window sealant	Interior office, restrooms, interiors	G	NF	8 bays	ND
057155 4 5 6	Ceramic tile plaster backing	Interior restrooms and shower areas	G	NF	890 sq ft	Ceramic tile = ND Grout = ND Skim coat = ND Plaster = ND
057155 7 8 9	Storm drain pipe	Pool perimeter below concrete	G	NF	20 ea	Pipe = ND Insulation = ND
057155 10 11 12	Brown caulking	Pool perimeter below concrete bellow metal peg	G	NF	4 ea	ND
057122 13 14 15	White caulking	Pool perimeter on concrete	G	NF	8 ln ft	ND

Conditions of materials are identified as follows: Good (G), Damaged (D), or Significantly Damaged (SD), Friable (F), Non-friable (NF). The quantities listed are for budgetary purposes only. Contractors completing proposals for the removal of asbestos containing materials are responsible for verifying the location, quantity, degree of difficulty and necessity for removing the identified materials. Materials identified by PLM analysis as less than 1% content, are assumed to be asbestos containing unless materials are pointed counted.

*Underground transite pipe drains are assumed below pool structure and may be encountered during structural demolition. Asbestos cement pipes are presumed asbestos by Certified Asbestos Consultant Mr. Alexander Blankevoort.

DISCUSSION AND RECOMMENDATIONS – ASBESTOS

Asbestos containing materials (ACM) should be removed by a California trained and licensed abatement contractor in accordance with all governing regulations. ENCORP also recommends that a California Certified Asbestos Consultant/Site Surveillance Technician oversee the project to ensure that proper methods are being utilized.

Additional asbestos-containing materials may be present at this site. Care should be taken when demolishing materials that will open wall cavities or sealed ceiling areas. If any additional known, assumed, or suspected asbestos-containing materials are discovered during renovation, remodeling or demolition activities, contact an environmental consultant to determine the proper course of action.

INSPECTION RESULTS -- LEAD (XRF Analysis)

The Niton Spectrum Analyzer was utilized for the analysis of suspect lead-based painted materials. In this method of analysis, the material is exposed to X-Rays or other high-energy radiation (such as gamma rays), which causes lead to emit X-Rays with a characteristic frequency. The intensity of this radiation is measured by the instrument's detector and is then converted into a number that represents the amount of lead in the material per unit area, usually milligrams per square centimeter (mg/cm^2).

The HUD and OSHA have set a lead level of 1.0 mg/cm^2 as being a regulated lead-containing material. Los Angeles County Department of Health Services has set a lead level of 0.7 mg/cm^2 as being a regulated lead-containing material. Analytical sensitivity of the of the XRF measurement methodology reports positive lead-based content results at or above 0.7 mg/cm^2, presence of lead content result between 0.1 and 0.6 mg/cm^2, and negative results at less than 0.1 mg/cm^2. CAL/OSHA considers all lead surface levels to be of concern.

Listed below is a summary of the materials sampled at the subject building. Surfaces found at or **above 0.7 mg/cm^2** for lead content are highlighted in **BOLD**, along with the location and estimated quantity. A complete listing of all components tested can be found in Section IIb of this report. Estimated quantities are listed for lead-based paint containing materials. CAL/OSHA considers all lead surface levels to be of concern.

SUMMARY OF XRF - LEAD COMPONENTS TESTED

Building Component	Location Of Material	Quantity	Results (mg/cm^2)
Tan Concrete Wall	Pool	--	-0.89
Black Metal Door Jamb	Pool	--	0.68
Black Metal Door	Pool	--	0.32
Black Metal Security Gate	Pool	--	0.06
Tan Concrete Wall	Pool	--	0.25 0.12 0.57
White Porcelain Drinking Fountain	**Pool**	**1 each**	**24.75**
Black Metal Door	NW Exterior Wall	--	0.60
Black Metal Door Frame	**NW Door**	**3 each**	**0.80**
Black Metal Security Window	NW	--	0.43
Black Wood Door	Exterior West	--	0.20
Black Metal Water Line	Security Protection	--	0.61
Black Metal Gate	SW Exterior Wall	--	0.41
Black Concrete Wall	South Pool Wall (adjacent to field)	--	-0.15

SUMMARY OF XRF - LEAD COMPONENTS TESTED			
Building Component	**Location Of Material**	**Quantity**	**Results (mg/cm^2)**
Black Metal Wall	Anchor Plates	--	0.52
Black Metal Door	Mechanical Room	--	0.37
Black Metal Door Frame	Mechanical Room	--	0.61
Tan Metal Flashing	SE Mechanical Shed Pad	--	0.01
Tan Wood Fascia	SE Mechanical Shed	--	-0.02
Tan Wood Eaves	SE Mechanical Shed	--	0.11
Black Metal Water Line	**SE adjacent to shed**	**6 lin ft**	**1.95**
Black Metal Conduit	SE adjacent to shed	--	0.03
Black Metal Scoreboard	SE adjacent to shed	--	-0.53
4" Tan Metal Conduit	**Pool Perimeter Exterior Wall**	**200 lin ft**	**1.01**
2òTan Metal Conduit	Pool Perimeter Exterior Wall	--	0.65
Black Metal Door	Pump Room	--	0.27
Green Metal Furnace	Boiler	--	0.03
Blue Metal Door Frame	Pool Pump House	--	0.67
Gray/Blue Vent Pipe	Pool Pump House	--	0.65
Gray Concrete Wall	Pool Pump House	--	0.54 0.08 0.55 -1.14
Blue/Gray Square Metal Water Container	**NW Pool House Pump**	**50 sq ft**	**2.21**
Gray Metal Pump	NW Pool House Pump	--	0.53
Blue Metal Pump Valve	NW Pool House Pump	--	0.06
Gray Metal Pump Valve	NW Pool House Pump	--	0.32
Blue/Green Metal Pump Valve	NW Pool House Pump	--	0.49
Blue Concrete Wall	Pump House	--	0.06
Brown Metal Water Line	**Pool Pump House**	**50 lin ft**	**1.83**
Blue Metal Electrical Panel	Pool Pump House	--	0.38
Blue/Green Metal Electrical Panel	**Pool Pump House**	**1 each**	**0.77**

SUMMARY OF XRF - LEAD COMPONENTS TESTED			
Building Component	**Location Of Material**	**Quantity**	**Results (mg/cm^2)**
Gray Tank attached to the ceiling	**Pool Pump House**	**1 each**	**0.95**
Gray ½ò Conduit	Pool Pump House	--	0.66
Gray 1ò Conduit	Pool Pump House	--	0.56
Gray Metal Boiler Tank Frame	Pool Pump House	--	0.42
White 4ò Water Line (east wall)	Pool Pump House	--	0.64
Gray Concrete Ceiling	Pool Pump House ï Boiler Room D	--	0.44
White Metal Flashing	Pool Pump House	--	0.65
White Concrete Ceiling	Pool House Overhang	--	-0.02
White Concrete Wall	Pool House	--	0.48 0.26 0.16 0.62
White Metal Pipe	Pool House ï SE	--	0.14
White Metal Door	Pool House ï SE	--	0.51
White Metal Door Frame	**Pool House – SE**	**3 each**	**0.80**
White Metal Light	Pool	--	0.15
Green Metal Light	Pool	--	0.55
Black Numbers	Pool	--	0.52
Blue 2ò x 2ò Ceramic Tile	Pool Perimeter	--	-0.06
White 2ò x 2ò Ceramic Tile	Pool Numbers	--	0.22
Blue 2ò x 2ò Ceramic Tile	Pool Perimeter Tile adjacent to Water	--	0.62 0.45
Black 2ò x 2ò Ceramic Tile	Pool	--	0.23
Yellow 4"x4" Ceramic Tile	**Shower Tile**	**400 sq ft**	**19.71** **20.46**
Blue/Green Ceramic Tile	Shower Floor Tile	--	0.39
White Concrete Ceiling	Pool House	--	0.43
White Drywall Walls	Shower	--	0.24 0.48 0.17 0.47
Metal Windows	**Pool House**	**8 each**	**0.91**
Blue Ceramic Wall Tile	**Restroom**	**250 sq ft**	**20.80**

SUMMARY OF XRF - LEAD COMPONENTS TESTED			
Building Component	**Location Of Material**	**Quantity**	**Results (mg/cm^2)**
White Ceramic Sink	Restroom	--	-0.28
White Ceramic Toilet	Restroom	--	-0.38
Black Plastic Partition	Restroom	--	0.64
Blue Ceramic Floor Tile	Restroom	--	0.39
Black Metal Door	Restroom	--	0.37
Black Metal Door Frame	**Restroom**	**8 each**	**1.13**
Tan Ceramic Wall Tile	**Pool House Exterior**	**30 sq ft**	**20.02**
Gray Wood Clothes Hanger	Pool House Exterior	--	0.10
White Metal Drain Pipe	Pool House Exterior	--	0.61
White 1/4òConduit	Pool House Exterior	--	-0.40
White Wood Door	Pool House Exterior	--	0.62
White Metal Door Frame	**Pool House Exterior**	**8 each**	**1.32**
White Ceramic Water Fountain	**Pool House Exterior**	**2 each**	**6.50**
White Ceramic Urinal	Boyôs Restroom	--	0.01
Tan 4"x4" Ceramic Wall Tile	**Boy's Restroom**	**200 sq ft**	**18.28**
Gray Electrical Panel	Boyôs Restroom	--	0.24
White Brick Wall	Office Interior	--	0.02
White Window Security Bars	Pool House	--	0.56
Black Metal Awning Poles	Pool House Exterior	--	0.48
Red Ceramic Tile	Pool	--	0.09
Black Metal Scoreboard	Pool	--	0.46
Blue Ceramic Tile	Pool Perimeter	--	0.63
Blue Ceramic Floor Tile	**Storage**	**25 sq ft**	**21.72**

Note: The quantities listed are for budgetary purposes only. Contractors completing proposals for the removal of lead containing materials are responsible for verifying the location, quantity, degree of difficulty and necessity for removing the identified materials.

DISCUSSIONS AND RECOMMENDATIONS (LEAD)

All components with results of >0.7 mg/cm^2 are considered lead-bearing painted according to the County of Los Angeles. **ENCORP** recommends that a trained, licensed Lead Abatement Contractor perform any abatement activity, which will disturb the lead containing building materials. Further, a Lead Inspector Risk Assessor/Project Monitor should oversee any abatement procedures.

Minor disturbance to lead-based painted components such as coring or drilling can be performed by a certified trained contractor with a minimum of 8-hour OSHA Lead Awareness Operations and Maintenance Training, and EPA Lead Renovators (EPA Renovate, Repair and Painting Rule training). This work classification is used as an adequate alternative for trade work involving electrical, lighting, plumbing, painting and miscellaneous disturbances where work is likely to disturb lead containing components as part of construction activities other than lead abatement purposes.

Any material containing any detectable level of lead is subject to the OSHA's Lead Exposure in Construction Rule, 29 Code of Federal Regulation (CFR) 1926. All removal of lead-based painted (LBP) should be performed by a state-licensed contractor, using CDPH-certified workers with at least one CDPH-certified Supervisor.

Where contractors performing renovation, repair and painting and are to disturb lead based paint in a child occupied facility the contractor shall be a Certified Renovator as applicable with 40 CFR Part 745.82 Lead: Renovation, Repair and Painting Program. All disturbance of lead-containing materials as defined in 8 CCR 1532.1, shall be performed by a state-licensed contractor, using lead-trained workers with certification of training meeting the requirements of 8 CCR 1532.1 and 40 CFR Part 745.82 Lead: Renovation, Repair and Painting Program.

CONCLUSION

ENCORP recommends that the above listed asbestos containing materials (ACMs) and Lead-Based containing materials which will be impacted by renovation/demolition activities, be removed by a California trained and licensed abatement contractor in accordance with all governing regulations. **ENCORP** also recommends that a California Certified Asbestos Consultant/Site Surveillance Technician oversee the project to ensure that proper methods are being utilized.

ENCORP recommends that a properly certified and licensed Lead Trained Contractor perform any demolition or preparation for demolition activities, which will disturb the lead containing building materials.

Additional asbestos-containing and lead-based painted materials may be present at this site. Care should be taken when demolishing materials that will open wall cavities or sealed ceiling areas. If any additional known, assumed, or suspected asbestos-containing materials or lead-based painted components are discovered during renovation, remodeling or demolition activities, contact an environmental consultant to determine the proper course of action.

Should you have any questions concerning this report, please contact me at (714) 523-9811. Thank you.

Respectfully submitted,

Alexander Blankevoort
Vice President of Operations, ENCORP
Certified Asbestos Consultant No. 04-3555
California DPH Inspector/Assessor No. 11092

II. SAMPLE ANALYSIS

A. ASBESTOS LABORATORY ANALYSIS

ENCORP ENVIRONMENTAL MANAGEMENT AND SERVICES
16700 VALLEY VIEW AVE. STE. 100 LA MIRADA, CALIFORNIA 90638
(714) 523-9811 · FAX (714) 523-9810 · MAIN@ENCORP.NET · WWW.ENCORP.NET

Client Name: Glendale USD
Client Address: 333 West Magnolia Avenue
Glendale, CA 91204
Facility Name: Glendale HS : Aquatic - Center
Facility Address: 1440 E. Broadway
Glendale, California 91205

Reference Batch Number: 057155
Sampled Date: 5/9/2019
Sampled By: ANGEL JIMENEZ
Analyzed By: RONNIE KENESON

Project Number: P19169 . G01
Date Received: 5/10/2019
Date Analyzed: 5/10/2019

LABORATORY TEST REPORT

BULK ASBESTOS FIBER ANALYSIS (PLM) EPA-600/R-93/116: Interim Method for the Determination of Asbestos In Bulk Insulation Samples

Sample Number	Field/ Client Number	SAMPLE DESCRIPTION			Friable or Non- Friable	CVE Asbestos Type(%)	Non Asbestos (%)
		Sample Location/Activity	Color	Material			
762320	1	AQUATIC CENTER - OFFICE	CLEAR	INTERIOR WINDOW SEALANT		NONE DETECTED	100% MATRIX
762321	2	AQUATIC CENTER - BOYS RESTROOM	CLEAR	INTERIOR WINDOW SEALANT		NONE DETECTED	100% MATRIX
762322	3	AQUATIC CENTER - GIRLS RESTROOM	CLEAR	INTERIOR WINDOW SEALANT		NONE DETECTED	100% MATRIX
762323A	4A	AQUATIC CENTER - BOYS RESTROOM	BLUE / WHITE	CERAMIC TILE BACKING		NONE DETECTED	100% MATRIX
762323B	4B	AQUATIC CENTER - BOYS RESTROOM	GRAY	GROUT BACKING		NONE DETECTED	100% MATRIX
762323C	4C	AQUATIC CENTER - BOYS RESTROOM	OFF WHITE	SKIMCOAT BACKING		NONE DETECTED	100% MATRIX
762323D	4D	AQUATIC CENTER - BOYS RESTROOM	TAN	PLASTER BACKING		NONE DETECTED	100% MATRIX
762324A	5A	AQUATIC CENTER - GIRLS RESTROOM	BLUE / WHITE	CERAMIC TILE BACKING		NONE DETECTED	100% MATRIX
762324B	5B	AQUATIC CENTER - GIRLS RESTROOM	GRAY	GROUT BACKING		NONE DETECTED	100% MATRIX

-NOTES: ND=None Detected Asbestos is not quantifiable below the method detection limit of one (1) percent. Amphibole asbestos includes amosite, crocidolite, anthophyllite, tremolite and actinolite. (FR) = Friable, (NF) = Non-Friable. Condition of sample is as received by the laboratory. Our policy is to retain all samples for a period of thirty days. Accredited by the National Voluntary Laboratory Accreditation Program and Environmental Laboratory Certification for the specific scope of accreditation under NVLAP Lab Code 200878-0. Results reported pertain to sample(s) as submitted and does not necessarily apply to other apparently identical or similar materials.

 Where applicable, layers or "sub-samples" are reported and the Total Asbestos % represents the composite percentage of all sample layers. These samples were quanitified using a calibrated visual estimate.

ENCORP ENVIRONMENTAL MANAGEMENT AND SERVICES
16700 VALLEY VIEW AVE. STE. 100 LA MIRADA, CALIFORNIA 90638
(714) 523-9811 · FAX (714) 523-9810 · MAIN@ENCORP.NET · WWW.ENCORP.NET

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		Sample Location/Activity	Color	Material			
762324C	5C	AQUATIC CENTER - GIRLS RESTROOM	OFF WHITE	SKIMCOAT BACKING		NONE DETECTED	100% MATRIX
762324D	5D	AQUATIC CENTER - GIRLS RESTROOM	TAN	PLASTER BACKING		NONE DETECTED	100% MATRIX
762325A	6A	AQUATIC CENTER - SHOWER AREA	BLUE / WHITE	CERAMIC TILE BACKING		NONE DETECTED	100% MATRIX
762325B	6B	AQUATIC CENTER - SHOWER AREA	GRAY	GROUT BACKING		NONE DETECTED	100% MATRIX
762325C	6C	AQUATIC CENTER - SHOWER AREA	OFF WHITE	SKIMCOAT BACKING		NONE DETECTED	100% MATRIX
762325D	6D	AQUATIC CENTER - SHOWER AREA	TAN	PLASTER BACKING		NONE DETECTED	100% MATRIX
762326A	7A	AQUATIC CENTER - POOL PERIMETER BENEATH CONCRETE	BLACK	STORM DRAIN PIPE		NONE DETECTED	100% MATRIX
762326B	7B	AQUATIC CENTER - POOL PERIMETER BENEATH CONCRETE	BLACK	STORM DRAIN INSULATION		NONE DETECTED	10% CELLULOSE 90% MATRIX
762327A	8A	AQUATIC CENTER - POOL PERIMETER BENEATH CONCRETE	BLACK	STORM DRAIN PIPE		NONE DETECTED	100% MATRIX

-NOTES: ND=None Detected Asbestos is not quantifiable below the method detection limit of one (1) percent. Amphibole asbestos includes amosite, crocidolite, anthophyllite, tremolite and actinolite. (FR) = Friable, (NF) = Non-Friable. Condition of sample is as received by the laboratory. Our policy is to retain all samples for a period of thirty days. Accredited by the National Voluntary Laboratory Accreditation Program and Environmental Laboratory Certification for the specific scope of accreditation under NVLAP Lab Code 200878-0. Results reported pertain to sample(s) as submitted and does not necessarily apply to other apparently identical or similar materials.

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Sample Number	Field/ Client Number	SAMPLE DESCRIPTION			Friable or Non- Friable	CVE Asbestos Type(%)	Non Asbestos (%)
		Sample Location/Activity	Color	Material			
762327B	8B	AQUATIC CENTER - POOL PERIMETER BENEATH CONCRETE	BLACK	STORM DRAIN INSULATION		NONE DETECTED	10% CELLULOSE 90% MATRIX
762328A	9A	AQUATIC CENTER - POOL PERIMETER BENEATH CONCRETE	BLACK	STORM DRAIN PIPE		NONE DETECTED	100% MATRIX
762328B	9B	AQUATIC CENTER - POOL PERIMETER BENEATH CONCRETE	BLACK	STORM DRAIN INSULATION		NONE DETECTED	10% CELLULOSE 90% MATRIX
762329	10	AQUATIC CENTER - POOL PERIMETER BENEATH CONCRETE - UNDER METAL PEG	BROWN	CAULKING		NONE DETECTED	100% MATRIX
762330	11	AQUATIC CENTER - POOL PERIMETER BENEATH CONCRETE - UNDER METAL PEG	BROWN	CAULKING		NONE DETECTED	100% MATRIX
762331	12	AQUATIC CENTER - POOL PERIMETER BENEATH CONCRETE - UNDER METAL PEG	BROWN	CAULKING		NONE DETECTED	100% MATRIX
762332	13	AQUATIC CENTER - POOL PERIMETER BENEATH CONCRETE - ON CONCRETE FLOOR	WHITE	CAULKING		NONE DETECTED	100% MATRIX
762333	14	AQUATIC CENTER - POOL PERIMETER BENEATH CONCRETE - ON CONCRETE FLOOR	WHITE	CAULKING		NONE DETECTED	100% MATRIX
762334	15	AQUATIC CENTER - POOL PERIMETER BENEATH CONCRETE - ON CONCRETE FLOOR	WHITE	CAULKING		NONE DETECTED	100% MATRIX

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Client Name: Glendale USD
Client Address: 333 West Magnolia Avenue
Glendale, CA 91204
Facility Name: Glendale HS : Aquatic - Center
Facility Address: 1440 E. Broadway
Glendale, California 91205

Reference Batch Number: 057155
Sampled Date: 5/9/2019
Sampled By: ANGEL JIMENEZ
Analyzed By: RONNIE KENESON

Project Number: P19169 . G01
Date Received: 5/10/2019
Date Analyzed: 5/10/2019

LABORATORY TEST REPORT

BULK ASBESTOS FIBER ANALYSIS (PLM) EPA-600/R-93/116: Interim Method for the Determination of Asbestos In Bulk Insulation Samples

Sample Number	Field/ Client Number	SAMPLE DESCRIPTION			Friable or Non- Friable	CVE Asbestos Type(%)	Non Asbestos (%)
		Sample Location/Activity	Color	Material			

Notes:

APPROVED SIGNATURE: RK
Ronnie Keneson , Lab Manager

-NOTES: ND=None Detected Asbestos is not quantifiable below the method detection limit of one (1) percent. Amphibole asbestos includes amosite, crocidolite, anthophyllite, tremolite and actinolite. (FR) = Friable, (NF) = Non-Friable. Condition of sample is as received by the laboratory. Our policy is to retain all samples for a period of thirty days. Accredited by the National Voluntary Laboratory Accreditation Program and Environmental Laboratory Certification for the specific scope of accreditation under NVLAP Lab Code 200878-0. Results reported pertain to sample(s) as submitted and does not necessarily apply to other apparently identical or similar materials.

 Where applicable, layers or "sub-samples" are reported and the Total Asbestos % represents the composite percentage of all sample layers. These samples were quanitified using a calibrated visual estimate.

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CLIENT: Glendale USD
DATE: 5/9/19
PAGE: 1 OF 2
JOB NO: 819169.601
INSPECTORS: Angel Chavez
LOCATION: Glendale HS - Aquatic Center

SAMPLE NO.	LAB ID #	SAMPLE LOCATION	MATERIAL DESCRIPTION	CONDITION	QUANTITY	% ASBESTOS
1.	1102320	Aquatic Center - Office	Interior window Sealant	G	8 bays	clear 100 materia
2.	321	- Boys Restroom				
3.	322	- Girls Restroom				
4.	323	- Boys Restroom	Ceramic Tile Plaster Backing		890 ft A B C D	Ceramic tile Blue/white 100% grout gray Skimcoat d/w plaster tan
5.	324	- Girls Restroom				
6.	325	- Shower Area				
7.	326	Pool Perimeter - Beneath Concrete	Storm Drain Pipe		20 ea A B	Pipe insulation 100% 10 cf B
8.	327					
9.	328					
10.	329	Under metal peg	Brown Caulking		4 ea	BROWN 100% asbestos

ABBREVIATIONS:

TYPES OF MATERIALS:
S = Surface Material
TSI = Thermal Systems Insulation
M = Miscellaneous Material

CONDITION:
G = Good
D = Damaged
SD = Significantly Damaged

OTHER:
SF = Square Feet
LF = Linear Feet

CHAIN OF CUSTODY

Sampled by: [signature] Date/Time: 5/9/19
Relinquished/Received By: [signature] Date/Time: 5/10/19 1030
Relinquished/Received By: [signature] Date/Time: 5-10-19 1000

Comments/Special Instructions:

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CLIENT: Glendale USD DATE: 5/9/19 PAGE: 2 OF 2

JOB NO: P19169.601 INSPECTORS: Angel Simpner

LOCATION: Glendale HS - Aquatic Center

SAMPLE NO.	LAB ID #	SAMPLE LOCATION	MATERIAL DESCRIPTION	CONDITION	QUANTITY	% ASBESTOS
1.	762330			G		Brown 100 matrix
2.	331					"
3.	332	- on Concrete Floor	White Caulking		8 LF	white 100 matrix
4.	333					"
5.	334					"
6.						
7.						
8.						
9.						
0.						

ABBREVIATIONS:

TYPES OF MATERIALS:	CONDITION:	OTHER:
S = Surface Material TSI = Thermal Systems Insulation M = Miscellaneous Material	G = Good D = Damaged SD = Significantly Damaged	S.F. = Square Feet L.F. = Linear Feet

CHAIN OF CUSTODY

Sampled by: Date/Time: 5/9/19

Relinquished/Received By: Date/Time: 5/10/19 1030

Relinquished/Received By: Date/Time:

Comments/special Instructions:

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Client Name: Glendale USD
Client Address: 333 West Magnolia Avenue, Glendale, CA 91204
Facility Name: Glendale High School - Aquatic Center
Facility Address: 1440 E. Broadway, Glendale, CA

Reference Batch Number: 051738
Sampled Date: 11/27/2013
Sampled By: FRANCISCO BARRAZA
Analyzed By: MIGUEL OROZCO

Project Number: P13384 . G01
Date Received: 12/3/2013
Date Analyzed: 12/3/2013

LABORATORY TEST REPORT

BULK ASBESTOS FIBER ANALYSIS (PLM) EPA-600/R-93/116: Interim Method for the Determination of Asbestos In Bulk Insulation Samples

Sample Number	Field/ Client Number	SAMPLE DESCRIPTION			Friable or Non- Friable	Asbestos Type(%)	Non Asbestos (%)
		Sample Location/Activity	Color	Material			
395567	1	PERIMETER WALL N/E	YELLOW	(HOMOGENEOUS) TEXTURE WALL STUCCO	NF	<1% CHRYSOTILE	100% MATRIX
395568	2	PERIMETER WALL N/E	YELLOW	(HOMOGENEOUS) TEXTURE WALL STUCCO	NF	<1% CHRYSOTILE	100% MATRIX
395569	3	PERIMETER WALL N/E	YELLOW	(HOMOGENEOUS) TEXTURE WALL STUCCO	NF	<1% CHRYSOTILE	100% MATRIX
395570	4	POOL HOUSE ROOF	GREY/BLACK	(HOMOGENEOUS) PENETRATION MASTIC	NF	5% CHRYSOTILE	95% MATRIX
395571	5	POOL HOUSE ROOF	GREY/BLACK	(HOMOGENEOUS) PENETRATION MASTIC	NF	5% CHRYSOTILE	95% MATRIX
395572	6	POOL HOUSE ROOF	GREY/BLACK	(HOMOGENEOUS) PENETRATION MASTIC	NF	5% CHRYSOTILE	95% MATRIX
395573	7	POOL HOUSE ROOF	GREY/BLACK	(FIBROUS) ROOFING	NF	NONE DETECTED	10% CELLULOSE 5% FIBROUS GLASS 85% MATRIX
395574	8	POOL HOUSE ROOF	GREY/BLACK	(FIBROUS) ROOFING	NF	NONE DETECTED	10% CELLULOSE 5% FIBROUS GLASS 85% MATRIX
395575	9	POOL HOUSE ROOF	GREY/BLACK	(FIBROUS) ROOFING	NF	NONE DETECTED	10% CELLULOSE 5% FIBROUS GLASS 85% MATRIX

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Facility Name: Glendale High School - Aquatic Center
Facility Address: 1440 E. Broadway, Glendale, CA

Reference Batch Number: 051738
Sampled Date: 11/27/2013
Sampled By: FRANCISCO BARRAZA
Analyzed By: MIGUEL OROZCO

Project Number: P13384 . G01
Date Received: 12/3/2013
Date Analyzed: 12/3/2013

LABORATORY TEST REPORT

BULK ASBESTOS FIBER ANALYSIS (PLM) EPA-600/R-93/116: Interim Method for the Determination of Asbestos In Bulk Insulation Samples

Sample Number	Field/ Client Number	SAMPLE DESCRIPTION			Friable or Non- Friable	Asbestos Type(%)	Non Asbestos (%)
		Sample Location/Activity	Color	Material			
395576	10	POOL PUMP HOUSE	BEIGE/BLUE	(FIBROUS) BOILER INSULATION	NF	NONE DETECTED	95% CELLULOSE 5% MATRIX
395577	11	POOL PUMP HOUSE	BEIGE/BLUE	(FIBROUS) BOILER INSULATION	NF	NONE DETECTED	95% CELLULOSE 5% MATRIX
395578	12	POOL PUMP HOUSE	BEIGE/BLUE	(FIBROUS) BOILER INSULATION	NF	NONE DETECTED	95% CELLULOSE 5% MATRIX
395579	13	WINSOWS- POOL HOUSE	BEIGE	(HOMOGENEOUS) WINDOW PUTTY	NF	NONE DETECTED	100% MATRIX
395580	14	WINSOWS- POOL HOUSE	GREY	(HOMOGENEOUS) WINDOW PUTTY	NF	NONE DETECTED	100% MATRIX
395581	15	WINSOWS- POOL HOUSE	BEIGE	(HOMOGENEOUS) WINDOW PUTTY	NF	NONE DETECTED	100% MATRIX
395582	16	POOL HOUSE INTERIOR	BEIGE	(CEMENTICIOUS) PLASTER	NF	NONE DETECTED	100% MATRIX
395583	17	POOL HOUSE INTERIOR	BEIGE	(CEMENTICIOUS) PLASTER	NF	NONE DETECTED	100% MATRIX
395584A	18	POOL HOUSE INTERIOR	WHITE	(CEMENTICIOUS) SKIM COAT	NF	NONE DETECTED	100% MATRIX

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Project Number: P13384 . G01
Date Received: 12/3/2013
Date Analyzed: 12/3/2013

LABORATORY TEST REPORT

BULK ASBESTOS FIBER ANALYSIS (PLM) EPA-600/R-93/116: Interim Method for the Determination of Asbestos In Bulk Insulation Samples

Sample Number	Field/ Client Number	SAMPLE DESCRIPTION			Friable or Non- Friable	Asbestos Type(%)	Non Asbestos (%)
		Sample Location/Activity	Color	Material			
395584B	18	POOL HOUSE INTERIOR	GREY	(CEMENTICIOUS) PLASTER	NF	NONE DETECTED	100% MATRIX
395585A	19	POOL HOUSE INTERIOR	BEIGE	(CEMENTICIOUS) SKIM COAT	NF	<1% CHRYSOTILE	100% MATRIX
395585B	19	POOL HOUSE INTERIOR	GREY	(CEMENTICIOUS) PLASTER	NF	NONE DETECTED	100% MATRIX
395586A	20	POOL HOUSE INTERIOR	BEIGE	(CEMENTICIOUS) SKIM COAT	NF	<1% CHRYSOTILE	100% MATRIX
395586B	20	POOL HOUSE INTERIOR	GREY	(CEMENTICIOUS) PLASTER	NF	NONE DETECTED	100% MATRIX
395587	21	POOL HOUSE PUMP HOUSE	BLACK	(FIBROUS) ROOFING	NF	NONE DETECTED	10% CELLULOSE 90% MATRIX
395588	22	POOL HOUSE PUMP HOUSE	BLACK	(FIBROUS) ROOFING	NF	NONE DETECTED	10% CELLULOSE 90% MATRIX
395589	23	POOL HOUSE PUMP HOUSE	BLACK	(FIBROUS) ROOFING	NF	NONE DETECTED	10% CELLULOSE 90% MATRIX
395590	24	POOL HOUSE PUMP HOUSE	GREY/BLACK	(HOMOGENEOUS) PENETRATION MASTIC	NF	5% CHRYSOTILE	95% MATRIX

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Reference Batch Number: 051738
Sampled Date: 11/27/2013
Sampled By: FRANCISCO BARRAZA
Analyzed By: MIGUEL OROZCO

Project Number: P13384 . G01
Date Received: 12/3/2013
Date Analyzed: 12/3/2013

LABORATORY TEST REPORT

BULK ASBESTOS FIBER ANALYSIS (PLM) EPA-600/R-93/116: Interim Method for the Determination of Asbestos In Bulk Insulation Samples

Sample Number	Field/ Client Number	SAMPLE DESCRIPTION			Friable or Non- Friable	Asbestos Type(%)	Non Asbestos (%)
		Sample Location/Activity	Color	Material			
395591	25	POOL HOUSE PUMP HOUSE	GREY/BLACK	(HOMOGENEOUS) PENETRATION MASTIC	NF	5% CHRYSOTILE	95% MATRIX
395592	26	POOL HOUSE PUMP HOUSE	GREY/BLACK	(HOMOGENEOUS) PENETRATION MASTIC	NF	5% CHRYSOTILE	95% MATRIX
395593	27	CHEMICAL SHED ROOF	BLACK	(FIBROUS) ROOFING	NF	3% CHRYSOTILE	10% SYNTHETIC FIBERS 87% MATRIX
395594	28	CHEMICAL SHED ROOF	BLACK	(FIBROUS) ROOFING	NF	3% CHRYSOTILE	10% SYNTHETIC FIBERS 87% MATRIX
395595	29	CHEMICAL SHED ROOF	BLACK	(FIBROUS) ROOFING	NF	3% CHRYSOTILE	10% SYNTHETIC FIBERS 87% MATRIX
395596	30	CHEMICAL SHED ROOF	BLACK	(HOMOGENEOUS) FLASHING	NF	5% CHRYSOTILE	95% MATRIX
395597	31	CHEMICAL SHED ROOF	BLACK	(HOMOGENEOUS) FLASHING MASTIC	NF	5% CHRYSOTILE	95% MATRIX
395598	32	CHEMICAL SHED ROOF	BLACK	(HOMOGENEOUS) FLASHING MASTIC	NF	5% CHRYSOTILE	95% MATRIX

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Facility Name: Glendale High School - Aquatic Center
Facility Address: 1440 E. Broadway
Glendale, CA

Reference Batch Number: 051738
Sampled Date: 11/27/2013
Sampled By: FRANCISCO BARRAZA
Analyzed By: MIGUEL OROZCO

Project Number: P13384 . G01
Date Received: 12/3/2013
Date Analyzed: 12/3/2013

LABORATORY TEST REPORT

BULK ASBESTOS FIBER ANALYSIS (PLM) EPA-600/R-93/116: Interim Method for the Determination of Asbestos In Bulk Insulation Samples

Sample Number	Field/ Client Number	SAMPLE DESCRIPTION			Friable or Non- Friable	Asbestos Type(%)	Non Asbestos (%)
		Sample Location/Activity	Color	Material			

APPROVED SIGNATURE: Miguel Orozco, Lab Manager

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CLIENT: Glendale USD DATE: 11-27-13 PAGE: 1 OF 4

JOB NO: P133814 607 INSPECTORS: Francisco Barraza

LOCATION: Glendale HS/ Aquatic center

SAMPLE NO.	LAB ID #	SAMPLE LOCATION	MATERIAL DESCRIPTION	CONDITION	QUANTITY	% ASBESTOS
1.	395567	Perimeter wall NE	texture wall stucco	D yellow	80 SF	trace chry
2.	395568	↓	↓	↓	↓	↓
3.	395569	↓	↓	↓	↓	↓
4.	395570	Pool house roof	Penetration mastic	D grey/black	60 SF	5% chry
5.	395571	↓	↓	↓	↓	↓
6.	395572	↓	↓	↓	↓	↓
7.	395573	↓	Roofing	D	920 SF	10% cell 5% FIBERGLASS
8.	395574	↓	↓	↓	↓	↓
9.	395575	↓	↓	↓	↓	↓
10.	395576	Pool pump house	Boiler insulation	D beige/blue	80 SF	95% cell

ABBREVIATIONS

TYPES OF MATERIALS:	CONDITION:	OTHER:
S = Surface Material TSI = Thermal Systems Insulation M = Miscellaneous Material	G = Good D = Damaged SD = Significantly Damaged	S.F. = Square Feet L.F. = Linear Feet

CHAIN OF CUSTODY

Sampled by: Francisco Barraza Date/Time: 11-27-13

Relinquished/Received By: Francisco Barraza Date/Time: 11-27-13

Relinquished/Received By: [signature] Date/Time: 12/1/13

12/3/13

Comments/special Instructions:

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CLIENT: Glendale USD DATE: 11-27-13 PAGE: 2 OF 4

JOB NO: P13384.607 INSPECTORS: Francisco Barraza

LOCATION: Glendale HS/ Aquatic center

SAMPLE NO.	LAB ID #	SAMPLE LOCATION	MATERIAL DESCRIPTION	CONDITION	QUANTITY	% ASBESTOS
1 1.	395577	↓	↓	↓ beige/blue	↓	↓
2.	395578	↓	↓	↓	↓	↓
3.	395579	windows - pool house	window putty	D beige	100 SF	ND
4.	395580	↓	↓	grey	↓	↓
5.	395581	↓	↓	beige	↓	↓
6.	395582	Pool house interior	plaster	D beige	1800 SF	ND
7.	395583	↓	↓	↓	↓	↓
8.	395584	↓	↓	white grey	↓	A) ND B) ND
9.	395585	↓	↓	beige grey	↓	A) trace Chry B) ND
20.	395586	↓	↓	↓	↓	↓

ABBREVIATIONS			CHAIN OF CUSTODY	
TYPES OF MATERIALS:	CONDITION:	OTHER:	Sampled by: Francisco Barraza	Date/Time: 11-27-13
S = Surface Material TSI = Thermal Systems Insulation M = Miscellaneous Material	G = Good D = Damaged SD = Significantly Damaged	S.F. = Square Feet L.F. = Linear Feet	Relinquished/Received By: Francisco Barraza	Date/Time: 11-27-13
			Relinquished/Received By:	Date/Time: 12/1/13 12/3/13

Comments/special Instructions:

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CLIENT: Glendale USD DATE: 11-27-13 PAGE: 3 OF 4

JOB NO: P1338 4 GOJ INSPECTORS: Francisco Barraza

LOCATION: Glendale HS/ Aquatic center

SAMPLE NO.	LAB ID #	SAMPLE LOCATION	MATERIAL DESCRIPTION	CONDITION	QUANTITY	% ASBESTOS
2 1.	395587	Pool house pump house	Roofing	D black	900 sf	10% cell
2.	395588	↓	↓	↓	↓	↓
3.	395589	↓	↓	↓	↓	↓
4.	395590	↓	Penetration mastic	D grey/black	20 sf	5% chry
5.	395591	↓	↓	↓	↓	↓
6.	395592	↓	↓	↓	↓	↓
7.	395593	chemical shed Roof	Roofing	D black	300 sf	10% synth. 3% chry
8.	395594	↓	↓	↓	↓	↓
9.	395595	↓	↓	↓	↓	↓
3 0.	395596	↓	Penetration + flashing	D black	12 sf	5% chry

ABBREVIATIONS

TYPES OF MATERIALS:	CONDITION:	OTHER:
S = Surface Material TSI = Thermal Systems Insulation M = Miscellaneous Material	G = Good D = Damaged SD = Significantly Damaged	S.F. = Square Feet L.F. = Linear Feet

CHAIN OF CUSTODY

Sampled by: Francisco Barraza Date/Time: 11-27-13

Relinquished/Received By: Francisco Barraza Date/Time: 11-27-13

Relinquished/Received By: Date/Time: 12/1/13 12/3/13

Comments/Special Instructions:

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La Mirada, California 90638
Tel: (714) 523-9811
Fax: (714) 523-9810
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CLIENT: Glendale USD DATE: 11-27-13 PAGE: 4 OF 4

JOB NO: P1338 4.607 INSPECTORS: Francisco Barraza

LOCATION: Glendale HS/ Aquatic center

SAMPLE NO.	LAB ID #	SAMPLE LOCATION	MATERIAL DESCRIPTION	CONDITION	QUANTITY	% ASBESTOS
3 1.	395597	chemical shed	Flashing Mastic	D	12 ☐	
2.	395598					
3.		No sample				
4.						
5.						
6.						
7.						
8.						
9.						
4 0.						

ABBREVIATIONS

TYPES OF MATERIALS:	CONDITION:	OTHER:
S = Surface Material TSI = Thermal Systems Insulation M = Miscellaneous Material	G = Good D = Damaged SD = Significantly Damaged	S.F. = Square Feet L.F. = Linear Feet

CHAIN OF CUSTODY

Sampled by: Francisco Barraza Date/Time: 11-27-13

Relinquished/Received by: Francisco Barraza Date/Time: 11-27-13

Relinquished/Received by: Date/Time: 12/1/13 12/3/13

Comments/Special Instructions:

B. SAMPLE ANALYSIS - LEAD

ENCORP LEAD BASED PAINT INSPECTION WORKSHEET

CLIENT: Glendale USD	ADDRESS: 233 West Magnolia Ave Glendale Ca	
SCOPE OF PROJECT: Glendale HS/Aquatic center	DATE: 11-22-13	
INSPECTOR: Francisco Barraza	XRF SERIAL #: 1483	PROJECT NUMBER: P13364 Gall

	SAMPLE NUMBER	K-SHELL READING	PAINT COLOR	SUBSTRATE	COMPONENT	CONDITION	LOCATION	QUANTITY	COMMENTS
	1.	1.41	Red	wood	block		confirmation		
	2.	1.29	1	1	1		1		
	3.	1.41	1	1	1		1		
	4.	-0.89	tan	concrete	wall		perimeter E ext (Pool-)		
	5.	0.68	black	metal	door jamb				
	6.	0.32	1	1	door				
	7.	0.06	1	1	security gate.				
	8.	0.25	tan	concrete	wall		pool perimeter wall.		
	9.	0.12	1	1	1		west.		
	10.	0.57	1	1	1		south		
X	11.	84.75	white	porcelin	drinking fountain.			1 each	
	12.	0.60	black	metal	door		NW exterior wall	1	
X	13.	0.80	1	1	door frame		NW - door	3-each	
	14.	0.43	1	1	security window		NW		
	15.	0.20	1	wood	door		ext. west		
	16.	0.61	1	metal	water line.		security protection		
	17.	0.41	1	1	Gate		SW ext. wall		
	18.	-0.15	black	concrete	wall, pool-wall - south adjacent to field.				
	19.	Retest	1						
	20.	0.52	1	Metal	wall- anchor plates.				
	21.	0.37	1	1	Mechanical room door				
	22.	0.61	1	1	1 door frame.				
	23.	0.01	tan	1	flashing - pool chemical shed		SE		
	24.	-0.02	1	wood	facia				
	25.	0.11	1	1	eaves				
X	26.	1.95	black	metal	water line		- SE adjacent to shed	6 Lf.	
	27.	0.03	1	1	conduit.				
	28.	-0.53	1	1	scoreboard				
X	29.	1.01	tan	1	4" conduit		perimeter pool-wall- exterior SW	200 Lf.	
	30.	0.65	1	1	2" conduit		1		

By: Francisco Barraza Title: Sampling tech

ENCORP LEAD BASED PAINT INSPECTION WORKSHEET

CLIENT: Glendale USD	ADDRESS: 333 west Magnolia Ave Glendale CA
SCOPE OF PROJECT: Glendale HS/ Aquatic Center	DATE: 11-27-13
INSPECTOR: Francisco Barraza / XRF SERIAL #:	PROJECT NUMBER: P338461

SAMPLE NUMBER	K-SHELL READING	PAINT COLOR	SUBSTRATE	COMPONENT	CONDITION	LOCATION	QUANTITY	COMMENTS
3 1.	Retest							
2.	1.							
3.	0.27	black	metal	door	g	Pump room		
4.	0.03	green	"	furnace	"	boiler		
5.	0.67	blue	"	door frame	"	pool-pump house		
6.	0.65	Gray/blue	"	vent pipe	"	"		
7.	0.54	Grey	concrete	wall	"	S		
8.	0.08	"	"	"	"	E		
9.	0.55	"	"	"	"	W		
4 0.	-1.41					N		
X 1.	2.21	blue/grey	metal	square water container - NW-pool house pump				50 sf
2.	0.53	Grey	metal	pump	"	"		
3.	0.06	blue	"	valve	"	"		
4.	0.32	Grey	"	"	"	"		
5.	0.49	blue/green	"	"	"	"		
6.	0.06	"	concrete	wall	"	interior		Pump house
X 7.	1.83	brown	metal	water line	"	pool pump house		50 sf.
8.	0.38	blue	"	electrical panel.	"	"		
X 9.	0.77	blue/green	metal	electrical panel.	"	"		1 each
X 5 0.	0.95	Grey	metal	tank attach to the ceiling	"	"		1 each
1.	0.66	Grey	"	½ inch conduit.	"	"		
2.	0.56	"	"	1" conduit metal.	"	"		
3.	0.42	"	"	boiler tank frame.	"	"		
4.	0.61	white	"	water line 4" - east well	"	"		
5.	0.44	Grey	concret	ceiling, boiler room D.	"	"		
6.	0.65	white	metal	flashing.	"	"		
7.	-0.62		concrete	ceiling - overhang - Pool house	"	"		
8.	0.48		"	well - interior - perimeter w	"	"		
9.	0.26		"	"	"	south.		
6 0.	0.16		"	"	"	East		

By: Francisco Barraza Title: Sampling tech

ENCORP LEAD BASED PAINT INSPECTION WORKSHEET

CLIENT: Glendale USD	ADDRESS: 333 west Magnolia Ave Glendale CA	
SCOPE OF PROJECT: Glendale HS/ Aquatic center	DATE: 11-27-13	
INSPECTOR: Francisco Barraza	XRF SERIAL #:	PROJECT NUMBER: P13384.607

	SAMPLE NUMBER	K-SHELL READING	PAINT COLOR	SUBSTRATE	COMPONENT	CONDITION	LOCATION	QUANTITY	COMMENTS
	1.	0.62	White	concrete	wall-		North pool perimeter wall.		
	2.	0.14	|	Metal	pipe		Pool NS SE		
	3.	0.51	|	|	door	| - SE		
X	4.	0.80	|	|	| frame	| SE		3 each.
	5.	0.15	white	|	light pool				
	6.	0.55	Green	|	|			
	7.	0.52	black	concrete	black numbers				
	8.	0.20	blue	2"x2" ceramic	pool perimeter pool tile.				
	9.	0.22	white	|	| numbers				
Retest	10.	~~0.85~~	blue	|	| perimeter tile, adjacent to water.				
	1.	0.62	|	|	|				
	2.	0.45	|	|	|				
	3.	0.23	black	|	4"x4" black	ceramic tile.			
X	4.	19.71	Yelow	ceramic	4x4 - shower tile.			400 SF	
X	5.	20.46	|	|	|			↓	
	6.	0.39	blue, Green	ceramic	shower floor tile				
	7.	0.43	White	concrete	ceilings.				
	8.	0.24	|	|	drywall- walls - shower interior		East		
	9.	0.98	|	|	|		South		
8	0.	0.17	|	|	|		West		
	1.	0.47	|	|	|		North		
X	2.	0.91	|	Metal	windows				8 each.
X	3.	20.80	blue	ceramic	wall tile.		RR	250 SF	
	4.	0.28	White	|	sink				
	5.	0.38	|	|	toilet				
	6.	0.61	black	plastic	partition				
	7.	0.39	blue	ceramic	1"x1" floor tile.				
	8.	0.37	black	metal	door.		RR		
	9.	Rtest	|	|	|				
X 9	0.	1.13	|	|	door frame.			8 each.	

By: Francisco Barraza Title: Sampling tech

ENCORP LEAD BASED PAINT INSPECTION WORKSHEET

CLIENT: Glendale USD	ADDRESS: 333 West Magnolia Ave Glendale CA
SCOPE OF PROJECT: Aquatic center	DATE: 11-27-13
INSPECTOR: Francisco Barraza / XRF SERIAL #: 1483	PROJECT NUMBER: P13284.001

SAMPLE NUMBER	K-SHELL READING	PAINT COLOR	SUBSTRATE	COMPONENT	CONDITION	LOCATION	QUANTITY	COMMENTS
X 1.	20.02	tan	ceramic	wall tile		pool house ext.	30	☑
2.	0.10	Grey	wood	cloths hanger				
3.	0.61	white	metal	drain pipe				
4.	0.40	"	"	conduit	1/4	conduit.		
5.	0.62	"	wood	door				
X 6.	1.32	"	metal	door frame				8 each.
X 7.	6.50	"	ceramic	water fountain		exterior-pool house	2	each
8.	0.0	"	"	urinal				
X 9.	18.2%	tan	"	4"x4" ceramic wall tile		RR	Boys 2005	☑
10 0.	0.24	Grey	metal	elec panel				
1.	0.02	white	brick	wall		office interior		
2.	0.56	"	metal	window		security bars.		
3.	0.48	black	"	AWNING		poles.		
4.	0.09	Red	ceramic	pool tile				
5.	0.46	black	metal	pool scoreboard				
6.	0.63	blue	ceramic	pool perimeter tile				
7.	1.31	Red	wood	back		confirmation		
X 8.	2.09	"	"	"		"		
9.	1.41	"	"	"		"		
X 11 0.	21.72	blue	ceramic	floor		4"x4" tile - storage	25	☑
1.	.							
2.	.							
3.	.							
4.	.							
5.	.							
6.	.							
7.	.							
8.	.							
9.	.							
12 0.	.							

By: Francisco Barraza Title: Sampling tech

III. CERTIFICATIONS

ENCORP
Engineering our Environment

16700 Valley View Avenue
Suite 100
La Mirada, California 90638
p: 714.523.9811
f: 714.523.9810

State of California
Division of Occupational Safety and Health
Certified Site Surveillance Technician

Angel Jimenez
Name

Certification No. **15-5431**

Expires on **05/12/19**

This certification was issued by the Division of Occupational Safety and Health as authorized by Sections 7180 et seq. of the Business and Professions Code.

State of California Department of Public Health

Lead-Related Construction Certificate

Certificate Type: **Sampling Technician**

Expiration Date: **09/15/2018**

Angel Jimenez

ID #: 26944

ENCORP
Engineering our Environment

16700 Valley View Avenue
Suite 100
La Mirada, California 90638
p: 714.523.9811
f: 714.523.9810


State of California
Division of Occupational Safety and Health
Certified Asbestos Consultant

Alexander E Blankevoort
Name

Certification No. 04-3555

Expires on 03/18/20

This certification was issued by the Division of Occupational Safety and Health as authorized by Sections 7180 et seq. of the Business and Professions Code.


State of California Department of Public Health

Lead-Related Construction Certificate

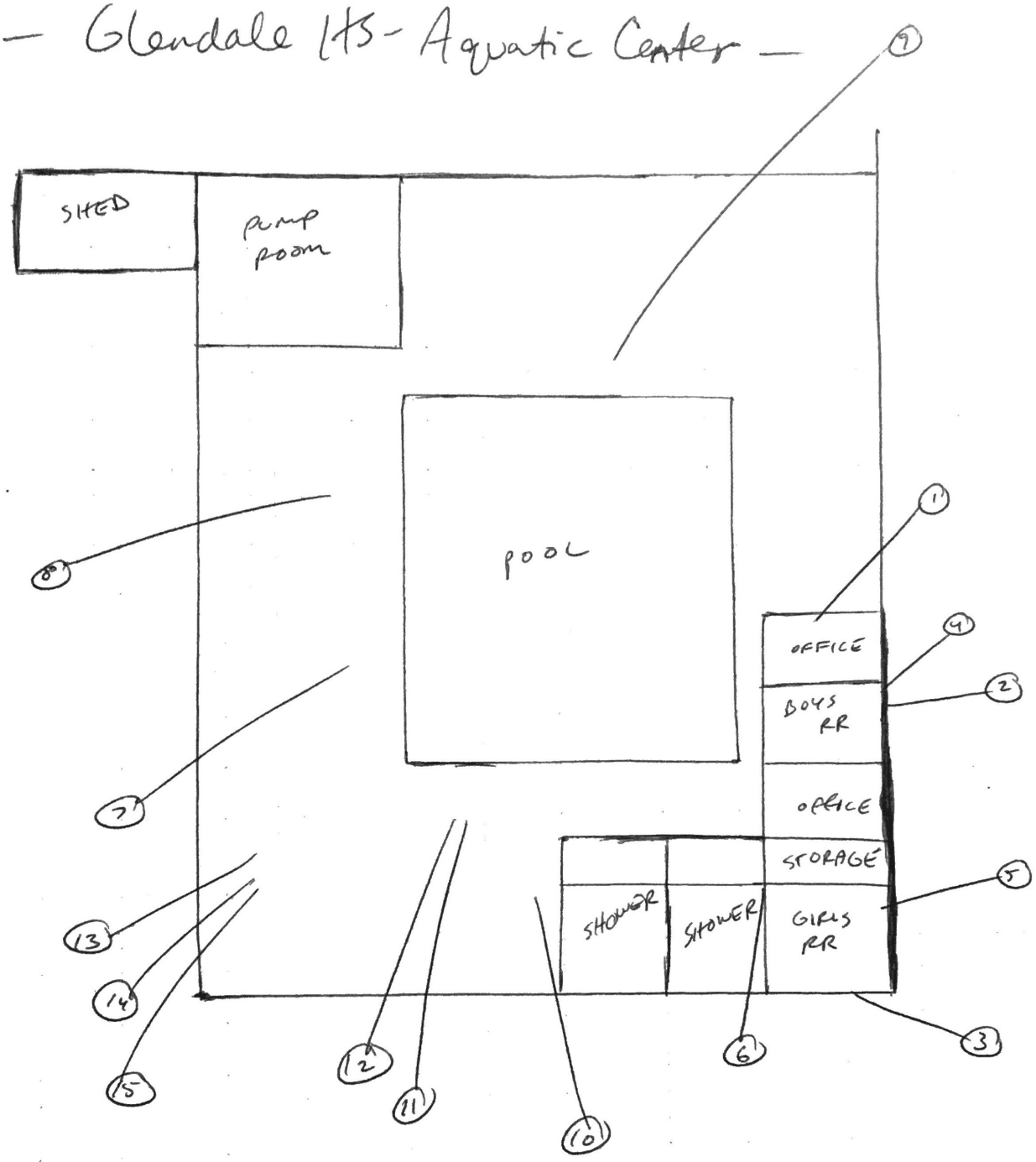
Certificate Type: Inspector/Assessor

Expiration Date: 02/21/2020

Alexander E. Blankevoort ID #: 11092

IV. FIELD INSPECTION DATA

— Glendale HS - Aquatic Center —



DESCRIPTION:	Glendale HS Aquatic Center
JOB NAME:	Acm
JOB NUMBER:	P19169.G01
DRAWN BY:	Angel Jimenez
DATE:	5/9/19

ENCORP
Engineering our Environment
16700 Valley View Ave., Suite 100
La Mirada, CA 90638
(714) 523-9811 FAX(714) 523-9810

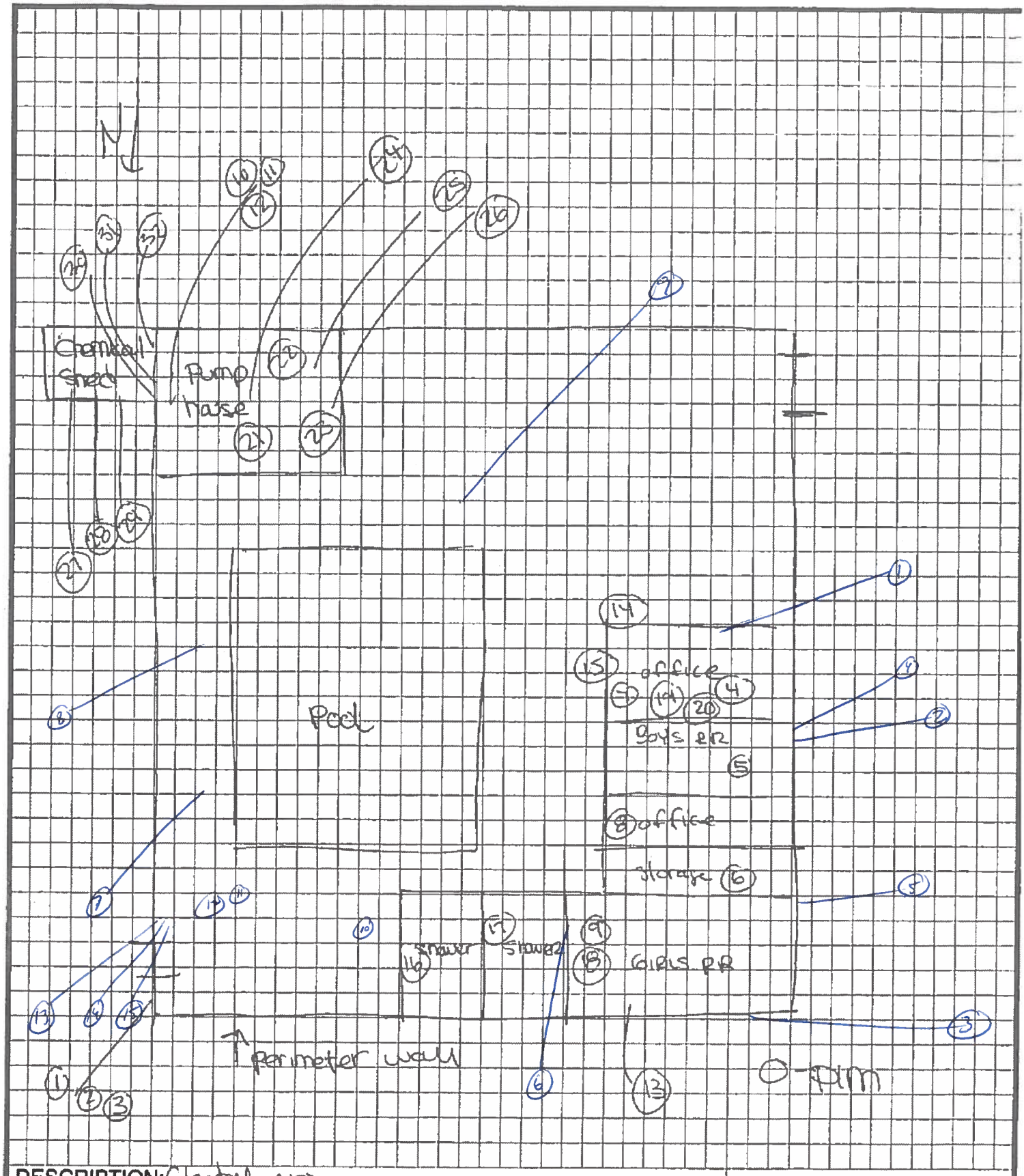
HOMOGENEOUS MATERIALS INSPECTION FORM

Date: 5/9/19 Job Name: Acm Pool Project # P19169.601

Project Address: Glendale HS - Aquatic Center

Inspector(s): Angel Jimenez Page: 1 of 1

Material Description	Locations	Individual Sq Ft	Total Sq Ft	Condition	Qty of Samples	Sample #'s
Interior window Sealant	Aquatic Center office/BTG Restrooms		8 bays	6	3	1-3
Ceramic Tile Plaster Backing	Aquatic Center BTG Restrooms/ Shower		890ft		3	4-6
Storm Drain Pipe	Aquatic Center Pool Perimeter		20ea		3	7-9
Brown Caulking	Under metal peg		4ea		3	10-12
White Caulking	Aquatic Center on concrete floor		8LF		3	13-15



DESCRIPTION: Glendale HS
JOB NAME: Glendale HS
JOB NUMBER: P13364.601
DRAWN BY: Francisco Zamora DATE: 11-27-13

ENCORP
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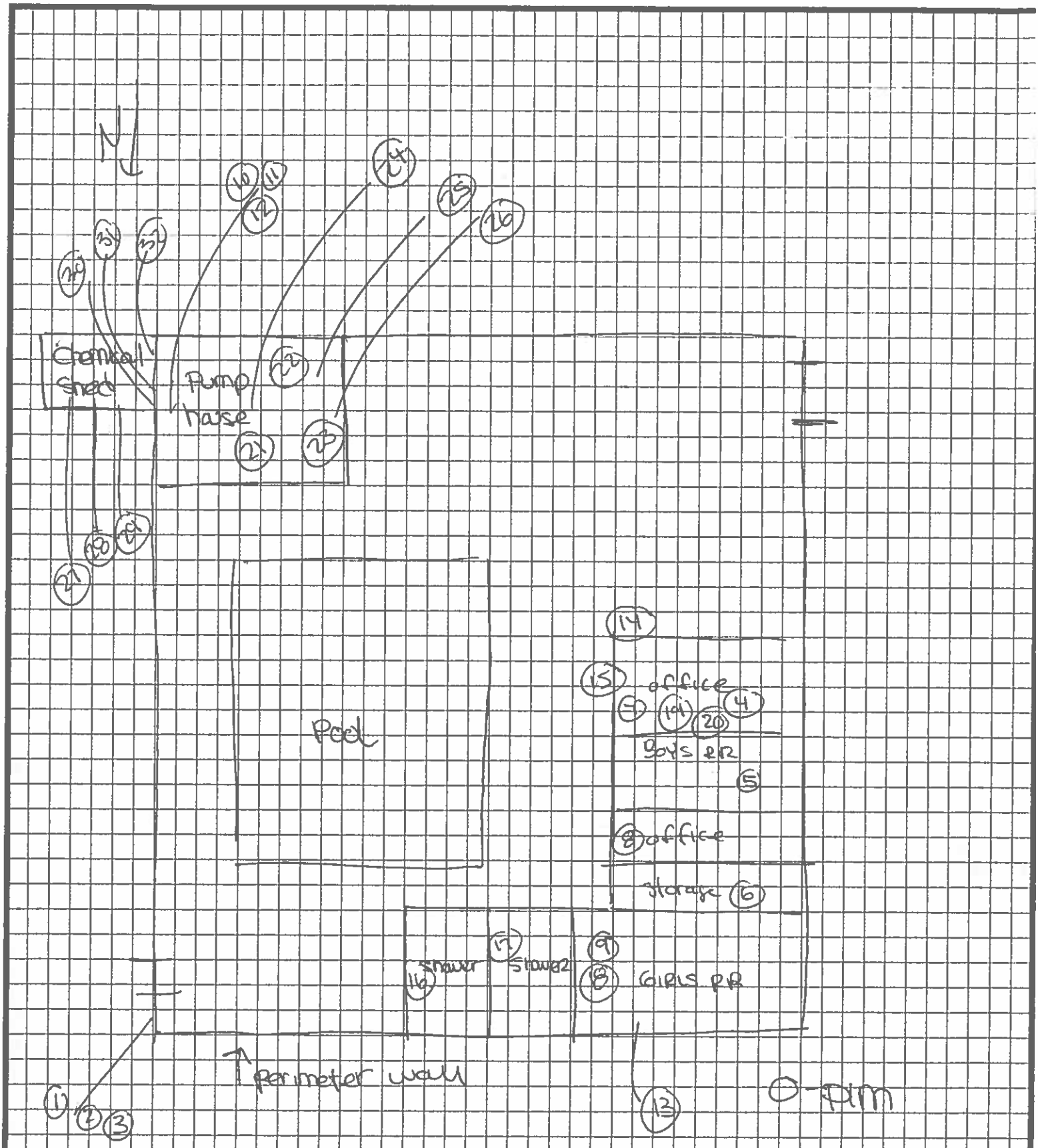
Updated 5/9/19
(#) = Rm

Angel Jimenez
P1916 9.601



DESCRIPTION: Glendale USD
JOB NAME: Glendale HS
JOB NUMBER: P13364.001
DRAWN BY: FrancisKamoto DATE: 11-27-13

ENCORP
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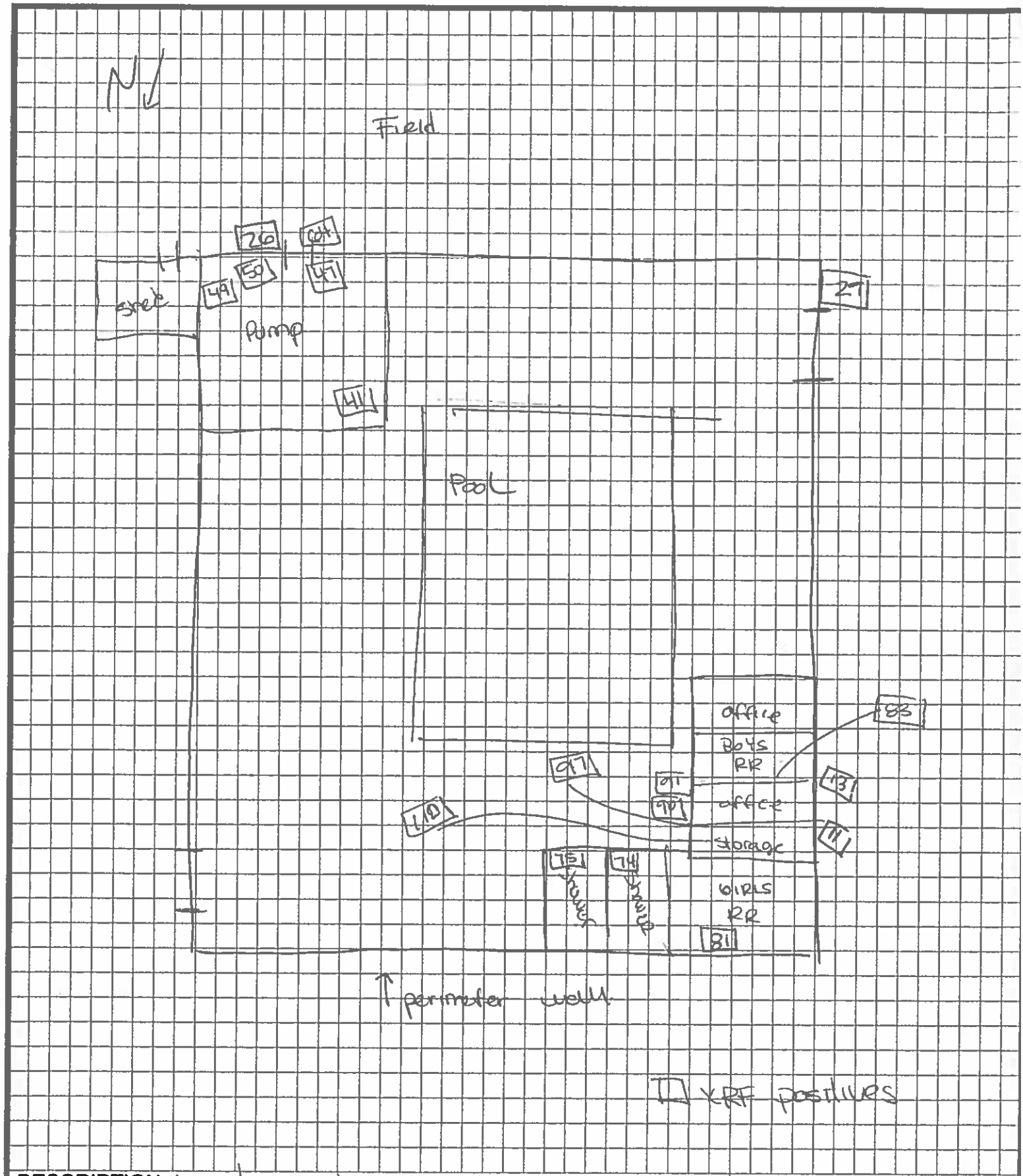

DESCRIPTION: Aquatic center area
JOB NAME: Glendale HS
JOB NUMBER: P13364.001
DRAWN BY: Francisco Barrera DATE: 11-27-13

ENCORP
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HOMOGENEOUS MATERIALS INSPECTION FORM

Date: 11-27-13 Job Name: Glendale USD/ Glendale HS Project # P133384.601

Project Address: 1440 E Broadway Glendale CA

Inspector(s): Francisco Barraza Page: 1 of 2

Material Description	Locations	Individual Sq Ft	Total Sq Ft	Condition	Qty of Samples	Sample #'s
texture wall stucco	Perimeter wall. NE		80 ☑	D	3	1-3
Penetration mastic	Pool house roof		60 ~~920~~ ☑	D	3	4-6
Roofing			920 ☑	D	3	7-9
Transite	Pool house boiler, Material not sampled was not able to remove hood 24"		20 ☑	G		
Flashing mastic Boiler insulation	Pool pump room		80 ☑	D	3	10-12
window putty	Windows, pool house 8 each		100 ☑	D	3	13-15
Plaster	walls/ ceiling pool house Shower RR office's storage		1800 ☑	D	5	16-20

HOMOGENEOUS MATERIALS INSPECTION FORM

Date: 11-27-13 Job Name: Glendale USD/Glendale HS Project # P133[illegible]4.601

Project Address: 1440 E Broadway, Glendale CA

Inspector(s): Francisco Barraza Page: 2 of 2

Material Description	Locations	Individual Sq Ft	Total Sq Ft	Condition	Qty of Samples	Sample #'s
Roofing	Pool house pump Room		900 SF	D	3	21-23
Penetration mastic			20 SF	D	3	24-26
~~Che~~ Roofing	Chemical shed SE		200 SF	D	3	27-~~30~~ 29
Flashing mastic			12 LF	D	3	30-32 ~~31-33~~

V. LIMITATIONS

LIMITATIONS

Conditions described in this report are as found at the time of investigation, unless otherwise stated. Materials were homogenized where applicable. All additional materials not listed in this report that are discovered during demolition not visually inspected should be considered assumed asbestos containing until the materials can be properly identified and analyzed for the presence of asbestos.

ENCORP analyzed only the substances, conditions, and locations described in this report at the time indicated. No inferences regarding other substances, conditions, location or time can be made unless specifically stated in this report. This report does not constitute a complete asbestos inspection of the property. Samples were taken at the direction of the client and limited to materials that will be impacted by the demolition procedures.

This report is intended for the use listed in the section of this report titled ñINTRODUCTIONò The use of this report in any manner other than that listed in the Introduction requires the written consent of **ENCORP**. This report must be presented in its entirety.

The conclusions and recommendations presented are based on the agreed upon scope of work outlined in this report. **ENCORP** makes no warranties or guarantees as to the accuracy or completeness of information obtained from information provided or compiled by others. Note that information exists beyond the scope of this investigation. Additional information, which was outside this scope of work, not found, or available to **ENCORP** at the time of writing this report, may result in a modification of the conclusions and recommendations presented. This report is not a legal opinion. The services performed by **ENCORP** have been conducted in a manner consistent with a level of care ordinarily exercised by members of our profession currently practicing under similar conditions. No other warranty, expressed or implied, is made.

DIVISION 13: SPECIALTIES
SECTION 13154 - SWIMMING POOL TIMING SYSTEM
PART 1- GENERAL

1.01 DESCRIPTION

A. Electronic timing and scoreboard system with multi-sport capability used for practice pacing and instruction, competitive swimming events, diving, water polo and synchronized swimming.
B. Starting system integrated with electronic timing, relay judging platforms and scoreboard system.
C. All in-deck plates shall be furnished and installed by C-53 Contractor.
D. All in-deck junction boxes and conduit shall be furnished and installed under the work of Division 16 – Electrical.

1.02 ACCEPTABLE MANUFACTURERS

A. Colorado Time Systems, Inc., 1551 E. 11th St., Loveland, CO 80537, 800-279-0111.
B. Equivalent per specifications

1.03 SUBMITTALS

A. Submittals shall include the following:
1 Product data
2 Shop drawings detailing scoreboard, conduit and junction boxes.
3. Operations and maintenance manuals.
4. Warranty information

1.04 JOB CONDITIONS

A. Manufacturers proposing to submit a quotation for the electronic timing and scoreboard system must confirm that all embedded items are compatible with the installation of their respective systems. Proposed system must integrate with existing CTS equipment that is compatible with new Gen 7.
B. Manufacturers shall review the construction documents and shall notify the architect 10 days prior to the bid date of conflicts or additions to the work of other subcontractors for the proper installation of their system.

1.06 WARRANTIES

A. Contractor shall warrant the completed installation of all systems in this section for one year.
B. Manufacturer shall warrant the scoreboard, computer console, touchpads and starting system for two years.

PART 2 - PRODUCTS

2.01 TITANIUM SERIAL DECK PLATES –QUANTITY (12).

A. Domed deck plate node with contacts mounted on integrated slopes that cause corrosive pool water which creates water bridges to flow off through gravity, overcoming water surface tension and therefore reducing electrolytic currents and corrosion. No maintenance for corrosion shall be needed

B. Titanium contacts as exposed connectors

C. Inputs for button A, B, C, touchpad, start system, speaker, RJP and Speedlight (RJP as separate input, not piggy backed on another input)

D. Speedlight shall be controlled in synchronicity and individually per lane (requires RJPs)

E. Diagnostic capabilities to detect anomalies with connectors (corrosion, shorts) and anomalies with the timing components push buttons, touchpad, RJP, Speedlight, speaker or start system

F. Ability to detect presence or absence of push buttons, touchpad, RJP, Speedlight, speaker or start system.

G. Plate shall have self-test capabilities to detect compromised timing bus wire terminations

H. In deck system components shall fit into a 4” x 4” x 6” PVC junction box

2.03 TITANIUM SERIAL WALL PLATE(S) Quantity (2) , Wall plates must allow for any, or all, of the following connections depending on location and usage:

A. Connection to timer (qty 2) and shall provide the following:

1. connectivity to all timing courses and one scoreboard bus with one cable connection
2. Detection of presence or absence of connected timer
3. Diagnostic capabilities to detect anomalies with connectors (corrosion, shorts)

B. Connection to a scoreboard (qty2) and shall provide the following:

1. Detection of presence or absence of connected scoreboard
2. Self-test capabilities to detect compromised timing bus wire terminations

C. Wall plate timing system components shall fit into a 8” x 8” x 7” PVC junction box. Acceptable manufacturer, Cantex (P/N 5133708) or similar box that will fit wall plate assembly of the following dimensions: 7.5” x 7.5” x 6” +-0.05”, cover plate width shall be 9.8” +-0.02” square

2.04 TITANIUM SERIAL TIMER DECK PLATE CONNECTION (QTY 1)

Connection to timer which shall allow for a pool setup without a wall plate, and shall provide the following:

a. Connectivity to all timing courses and one scoreboard bus with one cable connection
b. Detection of presence or absence of connected timer

c. Diagnostic capabilities to detect anomalies with connectors (corrosion, shorts)
d. In deck system components shall fit into a 4" x 4" x 6" PVC junction box

2.04 TITANIUM SERIAL START SYSTEM DECK PLATE CONNECTION - Quantity (1)

A. Connection to start system that shall provide the following:

1. Inputs/outputs for start system and speaker
2. Detection of presence or absence of speaker input or start system
3. Diagnostic capabilities to detect anomalies with connectors (corrosion, shorts) and anomalies with the speaker or start system
4. In deck system components shall fit into a 4" x 4" x 6" PVC junction box (PVC J-Box to be provided and installed by Contractor)

2.05 CHAMPIONSHIP START SYSTEM- WIRELESS (SS)

A. A single cable from wall plate to start system shall carry signal for driving up to 20 individual block speakers, 20 individual Colorado Time Systems Relay Judging Platforms with Speed lights and external strobe(s).
B. Connecting cable ((qty 1) from starter to serial wall plate/ serial deck plate shall be included
C. System shall have the capability to use wired microphones and shall have a volume control on each microphone input.
D. Start system shall have a sturdy all metal, non-corrosive enclosure, legs and tripod mount (TR-3) (qty1)
E. System shall have external connections for additional strobe light(s), speaker output, start output and Speed lights.
F. The System shall run from external 12-volt/AC power adaptor and have (2) internal Gel cell batteries. The internal batteries will automatically be recharged while the starter is plugged in to the external power supply.
G. There will be an LED warning light on the system showing when the internal batteries are starting to get low on power.
H. Provide (**12**) SP-6/45 (6 watt, 45ohm) reflex corrosion-resistant speakers with cable. (one for under each starting block)
I. Extra 6-watt, 45ohm, reflex corrosion resistant speakers (SP-6/45) are available for under each starting block.

2.06 AUXILIARY SPEAKERS (SP-125) (QTY 1)

A. Auxiliary speakers shall be 40-watt 8ohm. Auxiliary speakers' output level shall be fully adjustable.

2.07 TIMING SYSTEM (SYSTEM GEN 7) (QTY 1)

A. Timer shall be a standalone unit with physical connections to timing inputs. Timer shall be controlled by user interface device (e.g., computer, tablet, etc.) via USB or TCP/IP

B. Timer PC or tablet interface device shall be supplied with all necessary software to time and score swimming in compliance with the appropriate governing organization(s) - FINA, NCAA, YMCA, and National Federation of High Schools, and USA Swimming

C. Timer shall accept inputs for up to 4 courses of up to 32 lanes each for a serial in-deck wiring installation and shall be able to time them simultaneously

D. Up to 8 timers shall be supported to accept inputs of the same in-deck wiring installation for parallel race timing and backup

E. Timer shall accept on-deck cable harness inputs for up to 20 lanes near end and/or far end

F. Timer connect cable shall be included for connection to serial wall plate/serial deck plate (qty1)

G. Configuration of race courses shall be through graphical user interface. It is unacceptable that race configurations need specific cable connections to system connections such as wall plates defining a specific end of a course

H. Timer shall time to a user-selectable resolution from 1 second to .001 second. It shall take starts and finishes from the near end and/or far end of the pool. It shall accept inputs from the start system; touch pads, up to three manual button backup times per lane, and relay judging platforms

I. Timer shall be able to evaluate and report multiple states of timing component input condition, ranging from excellent to failure. It is unacceptable that only two states such as on or off are reported

J. Timer shall be capable of detecting timing components such as pushbuttons, touchpads, RJPs, speakers, Speedlight and start systems connected to an in-deck system and capable of detecting touchpads and RJPs connected to an on-deck system

K. Timer shall be capable of reporting corrosion in the in-deck wiring installation

L. The timer shall run off of a 12 Volt power supply connected to a standard 110/240 VAC outlet and will automatically switch to (and display on screen of connected interface device) internal battery power source, in case of line power failure without affecting the continuity and accuracy of the timing system

M. Timer shall interface to single-line and multi-line scoreboard and shall post immediate results to scoreboard in “Lane” or “Place” order (user selectable). The timer shall also have the capability to pull race results from memory and post those results to the scoreboard in “Lane” or “Place” order (user selectable)

N. Timer to include internal clock calendar with self-sustaining battery to time/date stamp all results

O. Timer shall meet acceptable safety standards. Shall be ETL approved, or equivalent

P. User interface shall display complete race status. The interface shall be capable of functioning as miniature scoreboard displaying information simultaneously for all active lanes including lane number, current length in race or final place, split or finish time, relay judging status indicator, and backup time and backup button status

Q. System shall store each and every timing input state change. It is not acceptable that state changes get discarded and are not available for later re-evaluation of a race

R. All race data, including near and far end splits, shall be stored to internal memory for later recall to facilitate meet management connectivity and printing. Printed reports shall include cumulative and subtractive splits as well as relay judging times (when required)

S. Backup timing provides backup time via push button provided on a per lane basis should swimmer fail to trigger touch pad or touch pad fail to register. Timer to be capable of accepting up to three backup button times per lane

T. Meet memory shall be capable of being transferred to external storage (via USB) or cloud data backup services (e.g., DropBox, Google Drive)

U. Relay judging automatically compares the touch pad hit of an incoming swimmer with the starting swimmer's time of departure from the optional relay-judging platform. Results display both "plus" and "minus" takeoff times and can be printed and stored in race memory

V. The timer shall communicate with meet management peripheral software on a two-way "handshake" basis, enabling the meet manager's resident computer to query the timer's memory via the USB port or via the network at any time for any race results

W. The system's Automatic Event Sequencer shall be capable of holding both standard and user defined event sequences. The event order will be able to be downloaded from meet management software. The desired order is user selectable. EVENT SEQUENCES with appropriate race distance and race description for high school, college meets, and two "User Defined" meets to permit construction of custom meets, USA Swimming, YMCA and FINA. When recalled from memory, race distance and descriptions are automatically selected for the operator

X. Timer shall automatically flag timing discrepancies (in the user interface, on the results printouts and in stored memory) greater than a user defined interval between touch pad and backup times

Y. Timer shall have touch pad delay feature with ability to program delays from 1 to 99 seconds

1. The user interface software shall permit operation of essential functions including Lane Off/On, Finish Arm, Split Arm, & Print Results directly from the main screen to ensure speed and simplicity of operation during critical race times. The interface shall permit the operator to edit a time when required or to disqualify a lane (DQ), automatically posting it to the scoreboard, and provide automatic re-ranking of results. Any corrections generated by the operator (edit or disqualification) shall be clearly identified on the results printouts

2. The user interface shall permit the operator to correct for an erroneous touch by adding/subtracting a touch pad hit to correct the lengths completed. The interface shall not permit the operator to finish a race in any lane; timers including such a function are unacceptable because they permit the possibility of cheating. Later recall of stored race data shall allow for a re-run of a given race including changes in user decisions

3. Timer shall include electronic beeper and LED signaling to indicate touchpad, backup button and RJP inputs. Timers which do not allow the user to configure (enable/disable) this feature are unacceptable
4. Timer connectivity shall include:

   i. USB (Type A) port for external storage
   ii. USB (Type B) port for meet management connectivity
   iii. Ethernet port for network connectivity
   iv. 3 independent scoreboard output ports
   v. Wireless 2.4GHz scoreboard connectivity
   vi. connection for in-deck wiring and two connections for on-deck (near and far end) wiring
   vii. Start system connection directly to timer
   viii. External DC power port

5. The timer shall be capable of updating internal software/firmware via Internet connection
6. Timer software shall have the ability to adjust the intensity of LED numeric scoreboard
7. Provide (1) laptop

2.08 WTTC-2 WIRELESS WATER POLO TABLE TOP CONTROLLER – Qty (1) required

A. Wireless water polo controller with operating distance up to 1,000ft

B. Battery life up to 15 hours

C. Large transflective LCD screen for easy viewing in bright sunlight

2.09 WATER POLO SHOT CLOCKS - MODEL DC-1500 QYT (4) Required

A. Deck Clock

1. Multi-colored LED digits, 10” for shot time and 5” for game time
2. Water & Sun resistant, corrosion free, Polyethylene enclosure
3. Can be utilized as game/shot clock for water polo or set to pace in time of day,
4. Time of day or game time displays on top line with 5” digits, bottom line to display seconds for pacing or shot time,
5. Bright LED Digits,
6. Integrated weatherproof horn for game or shot tones,
7. Provide (1) wireless adapter

B. WHC-1- wireless hand held controller QTY (1) Required

1. To be used in with Deck Clocks for Water Polo Practice

2.10 WIRELESS PACE CLOCK PRO (PC-PRO)

A. Provide (2) portable pace clocks with (4) 10” (Red or Amber) LED digits.

B. Unit with digits less than 10” will not be accepted due to inadequate viewing distance.

C. Pace Clock shall have a minimum of 15 LED intensity settings, and the capability to adjust the LED intensity using a System 6 Console or via the control panel.

D. Wireless pace clock shall have a minimum of 8 channels of wireless communication in the 900MHz or 2.4GHz spectrum, with a minimum indoor line of sight communication range of 500ft.

E. Wireless Pace Clocks shall have the capability to be set up as either Master or Slave.

F. Wireless Pace Clock set as Master must re-transmit Pace Clock data to Slave Pace Clocks set to receive data on the same frequency.

G. Pace Clock Pro electronic training device shall be provided, enabling swimmers to perfect their starts, relay exchanges, and turn speeds.

H. Pace clock shall operate on AC power or two internal rechargeable 12 volt Gel cell batteries. The internal battery will automatically be recharged while the clock is plugged in to the external power supply.

I. Pace clock shall have a battery life of 6 hours/internal rechargeable battery.

J. Portable pace clock shall have the capability of being located anywhere on the deck, mounted on a wall, or recessed within the wall.

K. Pace Clock shall have 5 ports to operate in conjunction with the following CTS equipment: push button(s), relay judging platform, start system, and two touch pads.

L. Pace Clock shall be capable of the following 15 training modes: (Additional equipment may be required for some functions.)

1. Lap Counter
2. Simple Pace Clock
3. Pace Clock with Cumulative Splits
4. Pace Clocks with Lap Splits
5. Relay Exchanges
6. Start Reaction
7. Turn Speed
8. Breakout Time
9. Start Reaction & Breakout Time
10. Five Single Lane Timing modes
11. Mid-race Timing

2.11 AQUAGRIP TOUCHPAD TOUCH PADS (TP-78G)

A. Touchpad shall be 78 inches wide x 22 inches tall x .3 inches thick. See Plan for quantity, **(12 plus 2 spare).** For on-deck system see (B) below, for in-deck systems see (C).

B. Touchpads shall be integrated to the timing system using on-deck cabling. Touchpad connection and maintenance system for the System 6 shall be: TP-GEN 7-SYS-12. (Includes 1 push button per lane)

C. Touchpads shall be integrated to the timing system using in-deck wiring to a wall plate connection. Provide (3) push buttons per lane for backup timing.

D. Touchpad shall be constructed of an all-plastic exterior with only the electrical connector metal exposed. Stainless steel will not be acceptable in pool environment.

E. Touchpad shall have a uniform fine grit, non-abrasive surface that prevents swimmer slippage in any direction.

F. Touchpad markings shall have contrasting colors with a 2” black border and black end-wall cross pattern for portion covered by touchpads.

G. Touchpad brackets shall be custom made to fit the pool gutter system. Diagram required upon order.

H. Touchpad caddy for storing touch pads supplied shall be (**1**) CAD-TP.

I. Maximum of 10 touchpads per caddy.

2.12 SCOREBOARD SYSTEM Outdoor

A. Display shall include: Full matrix LED scoreboard with computer controller, flat-wall mounting hardware and data/fiber cable up to 500'.
B. Display shall be a full color LED matrix display. Display shall be comprised of red, blue and green LEDs to form pixels. Display shall be capable of 281 Trillion shades of color.
C. Display Pixel Configuration shall be 224x384
D. Display should be capable of 16-bit video processing, refresh rate of 2000Hz, 100 levels of dimming capability and allow for Gamma correction. Display intensity shall be adjustable between 812-7500 nits for outdoors.
E. Display shall have viewing angles of 140° horizontal and 70° vertical.
F. Display will allow for one of the following access points for service: (Front)
G. Display shall include at least 2% critical spare parts.
H. Exact cabinet dimension, detailed drawings and weight will be provided with submittals.
I. Operating temperature shall be -10˚C - 40˚C for indoor boards, and -10˚C - 60˚C for outdoor boards.
J. Humidity tolerance shall be 0%-95%.
K. Each pixel shall be comprised of 3 LEDs- SMD
L. Overall display dimensions – H: 9.07" W: 15.78'
M. Display shall have 12 mm pixel spacing center to center.
N. Must be compatible with CTS competitive timing system.

2.13
SOFTWARE TO CONTROL MATRIX/VIDEO DISPLAY

A. Operates Full or Single-Color LED Matrix boards
B. Receives data from CTS Sports Timers
C. Receives data from 3rd Party Meet Management software
D. Displays standard graphics formats (JPG, GIF, BMP, PNG)
E. Playback of standard digital video (AVI, MPG, WMV)
F. Allows creation of custom data templates with sport specific information
G. Creates and plays sequences of templates and graphics, with transition effects
H. Runs on Windows 7,8 or 10
I. Stores Name and Team information for up to 12 lanes for an infinite number of events and heats
J. Stores multiple Diving event orders, with name and team information
K. Supports any Windows font as well as custom CTS Bitmap (pixel-mapped) fonts
L. Graphics and Templates can be used to provide in-venue advertising
M. Multiple options for displaying Team Scores and Full Event Results (standalone or in conjunction with Meet Management Software)
N. Quick message feature allows user-driven dynamic messaging
O. Provides user ability to schedule automatic display of templates and graphics, with recurrences.

2.14 Meet Management Software to be purchased for meets by District

PART 3 - EXECUTION

3.01 EXISTING CONDITIONS

A. Verify that all work by others, related to this section, is installed.
B. Carefully examine all of the construction documents that affect the work of this section.
C. Prior to starting work, notify the Architect and General Contractor of any defects requiring correction.
D. Protect other materials and installed work against damage while completing work in this section.

3.02 INSTALLATION

A. Furnish and install all custom cables, connecters, scoreboard mounting brackets, and fasteners.
B. Owner or Contractor will provide lift and (2) laborers for mounting scoreboard and pulling cables.

C. Furnish and install equipment in accordance with the manufacturer's drawings and instructions.
D. Provide scoreboard mounting, all timing system cable terminations, system checkout, and local operator training at time of installation. Training shall consist of one 4-hour session.
E. Furnish as-built drawings precisely locating all items.
F. Wiring and grounding shall be installed in strict accordance with the latest edition of the National Electric Code.

END OF SECTION

GENERAL NOTES:

1. DETAILS OF CONSTRUCTION NOT SHOWN SHALL BE OF SAME NATURE AS THOSE SHOWN FOR SIMILAR CONDITIONS. REFER TO THE TYPICAL DETAIL SHEETS FOR TYPICAL DETAILS OF CONSTRUCTION. TYPICAL DETAILS APPLY TO ALL CONSTRUCTION UNLESS SPECIFICALLY NOTED OR SHOWN OTHERWISE. WHERE CONDITIONS REQUIRE MODIFICATIONS OF A TYPICAL DETAIL, THE CONTRACTOR SHALL SUBMIT MODIFIED DETAIL FOR APPROVAL BY THE ENGINEER OF RECORD PRIOR TO FABRICATION AND INSTALLATION. DETAILS OF CONSTRUCTION NOT SHOWN SHALL BE OF SAME NATURE AS THOSE SHOWN FOR SIMILAR CONSTRUCTION.
2. CONTRACTOR SHALL CONSIDER THE PROJECT SPECIFICATIONS A PART OF THE CONTRACT DOCUMENTS. WHERE INFORMATION IS CONFLICTING, SPECIFIC DETAILS SHALL GOVERN OVER TYPICAL DETAILS WHICH SHALL GOVERN OVER THESE NOTES WHICH SHALL GOVERN OVER SPECIFICATIONS.
3. ALL DIMENSIONS ON STRUCTURAL DRAWINGS SHALL BE CHECKED AGAINST ARCHITECTURAL DIMENSIONS. DO NOT SCALE DRAWINGS. IF DIMENSIONS ARE OMITTED OR NOT CLEAR, CONTACT THE ARCHITECT (ARCH) OR STRUCTURAL ENGINEER OF RECORD (SEOR). ALL DIMENSIONS RELATED TO EXISTING CONDITIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR. DIMENSIONS ARE TO THE FACE OF STUDS, AND TO CENTERLINE OF COLUMNS UNO.
4. IT IS THE CONTRACTOR'S RESPONSIBILITY TO IMMEDIATELY NOTIFY THE SEOR OF ANY CONFLICTS BETWEEN THE STRUCTURAL DRAWINGS AND OTHER DRAWINGS; OR EXISTING CONDITIONS NOT SHOWN OR DIFFERENT FROM THOSE SHOWN ON DRAWINGS PRIOR TO COMMENCEMENT OF WORK. THE CONTRACTOR IS NOT TO ORDER MATERIAL OR CONSTRUCT ANY PORTION OF THE BUILDING THAT IS IN CONFLICT UNTIL THE CONFLICT IS RESOLVED WITH THE AFFECTED PARTIES.
5. THE STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. UNLESS OTHERWISE SHOWN THEY DO NOT INDICATE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE CONSTRUCTION AND ALL ADJACENT PROPERTIES DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE BUT ARE NOT LIMITED TO BRACING, SHORING OF LOADS DUE TO CONSTRUCTION EQUIPMENT, ETC. OBSERVATION VISITS TO THE SITE BY THE ARCHITECT OR SEOR SHALL NOT INCLUDE OBSERVATION OF THE ABOVE ITEMS.
6. SUBSTITUTION REQUESTS FOR MATERIALS SPECIFIED ON THE STRUCTURAL DRAWINGS MAY BE CONSIDERED WITH MATERIALS HAVING EQUIVALENT OR GREATER CAPACITY AND PERFORMANCE. CURRENT EVALUATION REPORTS AND PRODUCT INFORMATION SHALL BE PROVIDED TO THE STRUCTURAL ENGINEER DEMONSTRATING THE REQUIRED CAPACITY AND PERFORMANCE OF THE MATERIAL TO BE SUBSTITUTED. WRITTEN APPROVAL FROM THE SEOR SHALL BE OBTAINED PRIOR TO THE SUBSTITUTION OF ANY MATERIAL SPECIFIED ON THE STRUCTURAL DOCUMENTS.
7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COMPLY WITH THE PERTINENT SECTIONS OF THE "CONSTRUCTION SAFETY ORDERS" ISSUED BY THE STATE OF CALIFORNIA, LATEST EDITION, AND ALL OSHA REQUIREMENTS AS THEY APPLY TO THIS PROJECT. THE ARCHITECT, SEOR, AND THE OWNER DO NOT ACCEPT ANY RESPONSIBILITY FOR THE CONTRACTOR'S FAILURE TO COMPLY WITH THESE REQUIREMENTS.
8. ALL WORK IS NEW (N) UNLESS INDICATED AS EXISTING (E).
9. CONSTRUCTION MATERIALS SHALL BE DISTRIBUTED WHEN PLACED ON THE STRUCTURE SUCH THAT LOADS DO NOT EXCEED DESIGN LIVE LOADS OR RESULT IN AN UNBALANCED CONDITION.
10. REFER TO THE PROJECT SPECIFICATIONS FOR SHOP DRAWING REQUIREMENTS AND SUBMITTALS.
11. CORE DRILLS REQUIRED SHALL NOT CUT ANY REINFORCING. THE CONTRACTOR IS TO COORDINATE WORK OF ALL TRADES TO ENSURE COMPLIANCE. ALL CORE DRILLS ARE TO BE PRESENTED TO THE IOR FOR VERIFICATION. THE IOR IS TO DOCUMENT CORES EXAMINED INDICATING AN ABSENCE OF REINFORCING.

STRUCTURAL DESIGN CRITERIA:

1. CODES:
   ALL WORK SHALL BE IN CONFORMANCE WITH THE CALIFORNIA BUILDING CODE (CBC) 2016 EDITION, INCLUDING ALL AMENDMENTS. ALL STANDARDS USED SHALL BE THE LATEST VERSION APPROVED BY THE CODE ENFORCEMENT AGENCY ON THE DATE OF THE PERMIT ISSUANCE UNLESS SPECIFICALLY NOTED OTHERWISE.
2. SEISMIC DESIGN INFORMATION:

I = 1.25	OCCUPANCY CAT. III		SITE CLASS D	DESIGN PROCEDURE: EQUIVALENT LATERAL FORCE PROCEDURE
S_s = 2.747	S_1 = 0.992	S_{MS} = 2.212	S_{M1} = 1.697	S_{DS} = 1.475 / S_{D1} = 1.131
SEISMIC DESIGN CATERGORY = E				
LFRS: SPECIAL MASONRY SHEAR WALL (BLDG A&B)				
	R = 5.0	C_d = 3.5	Ω = 2.5	C_s = 0.37
BASE SHEAR :				
	BLDG A	V = 52^K		
	BLDG B	V = 20^K		
IRREGULARITY :				
	BLDG A	N/A		
	BLDG B	N/A		

3. WIND DESIGN INFORMATION:

OCCUPANCY CAT. II	
BASIC WIND SPEED V_{ult} = 110 MPH (3 SEC GUST)	EXPOSURE C
INTERNAL PRESSURE COEFF. = +/- 0.18	
COMPONENTS AND CLADDING PRESSURE = 22 PSF (UNFACTORED)	
MWFRS = 19 PSF (W.W.) / -16 PSF (L.W.) (UNFACTORED)	

4. GRAVITY DESIGN LOAD.

   LIVE LOAD
   ROOF: 20 SPF

   DEAD LOAD
   BLDG A: 20 PSF
   BLDG B: 25 PSF

FOUNDATION AND SLAB ON GRADE NOTES:

1. SEE SOIL REPORT BY: SALEM ENGINEERING GROUP, INC.
   PROJECT NO.: 3-213-0258 DATED: APRIL 26, 2013
   REPORT UPDATE LETTER DATED: FEBRUARY 15, 2016
   REPORT UPDATE LETTER DATED: JUNE 17, 2016
   REPORT UPDATE LETTER DATED: JUNE 27, 2016
   REPORT UPDATE LETTER DATED: MAY 11, 2018
2. ALLOWABLE SOIL PRESSURES FOR FOOTINGS:
   DEAD LOAD + LIVE LOAD = ... 2ϕ00 PSF
   DEAD LOAD + LIVE LOAD + LATERAL LOAD = ... 2400 PSF
3. ALLOWABLE LATERAL BEARING PRESSURE IS 375 PSF PER FT OF DEPTH.
4. SOIL ACTIVE PRESSURE = 38 PSF
   SOIL AT REST ACTIVE PRESSURE = 58 PSF
5. DESIGN COEFFICIENT OF FRICTION FOR SLIDING: 0.40
6. NOT USED.
7. THE CONTRACTOR SHALL CONFORM TO ALL RECOMMENDATIONS AND CONDITIONS INDICATED IN THE SOIL REPORT. THE GEOTECHNICAL ENGINEER SHALL OBSERVE ALL FOOTING EXCAVATIONS PRIOR TO PLACING CONCRETE.
8. SUBSURFACE SOIL PREPARATION:
   A. ALL EXISTING UNDOCUMENTED FILL SHALL BE REMOVED AND RECOMPACTED, ALL TOPSOILS SHALL BE REMOVED AS REQUIRED BY THE GEOTECHNICAL ENGINEER.
   B. GEOTECHNICAL ENGINEER SHALL BE RETAINED DURING THE OVEREXCAVATION PROCESS. THE ACTUAL DEPTH OF REMOVAL WILL BE DETERMINED DURING GRADING OPERATIONS.
   C. OFFSITE FILL MATERIAL SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT.
7. SPREAD FOOTINGS ARE CENTERED UNDER WALLS AND COLUMNS, UNO.
8. FOOTING ELEVATIONS ARE NOTED ON THE PLANS AND DETAILS AND SHALL BE USED FOR BIDDING. IN ANY CASE, FOOTINGS SHALL BEAR ON FIRM UNDISTURBED SOIL OR ENGINEERED FILL, IN ACCORDANCE WITH THE SOIL REPORT AND DETAILS SHOWN.
9. CONTRACTOR SHALL PROTECT ALL UTILITY LINES, ETC. ENCOUNTERED DURING EXCAVATION AND BACKFILLING.
10. FOOTING BACKFILL AND UTILITY TRENCH BACKFILL WITHIN BUILDING AREA SHALL BE MECHANICALLY COMPACTED IN LAYERS WITH THE APPROVAL OF THE GEOTECHNICAL ENGINEER. FLOODING IS NOT PERMITTED.
11. ALL TRENCHES SHALL COMPLY WITH APPLICABLE OSHA REQUIREMENTS.
12. ALL EXCAVATIONS SHALL BE PROPERLY BACKFILLED BUT NOT BEHIND RETAINING WALLS BEFORE CONCRETE OR MASONRY ATTAINS ITS FULL DESIGN STRENGTH.
13. THE DESIGN OF ALL RETAINING WALLS AND SUBTERRANEAN BUILDING WALLS INDICATED ON THESE DRAWINGS IS BASED ON DRAINED SOILS.
14. CONSTRUCTION JOINTS (CJ) AND SAWCUT (SC) JOINTS IN SLABS SHALL OCCUR WHERE LOCATED ON PLANS AND DETAILS. CJ'S SHALL HAVE FORMED POUR STOPS. CONSTRUCTION JOINTS IN WALLS AND FOOTINGS NEED NOT OCCUR AT THE SAME LOCATION, UNO.
15. SEE ARCHITECT'S PLANS FOR LOCATIONS OF SLAB SLOPES, DEPRESSIONS, CURBS, DRAINS, NON-STRUCTURAL PARTITIONS AND OTHER EMBEDDED ITEMS NOT SHOWN ON THE STRUCTURAL PLANS.
16. PRIOR TO THE CONTRACTOR REQUESTING A BUILDING DEPARTMENT FOUNDATION INSPECTION, THE SOILS ENGINEER SHALL ADVISE THE BUILDING OFFICIAL IN WRITING THAT:
   A. THE BUILDING PAD WAS PREPARED IN ACCORDANCE WITH THE SOILS REPORT.
   B. THE UTILITY TRENCHES HAVE BEEN PROPERLY BACKFILLED AND COMPACTED.
   C. THE FOUNDATION EXCAVATIONS COMPLY WITH THE INTENT OF THE SOILS REPORT.

STRUCTURAL CONCRETE NOTES:

1. CONCRETE SHALL BE MIXED, PLACED AND CURED IN ACCORDANCE WITH ACI 318, 2011 EDITION, AND PROJECT SPECIFICATIONS.
2. CONCRETE SHALL NOT BE DROPPED THROUGH REINFORCING STEEL (AS IN WALLS) SO AS TO CAUSE SEGREGATION OF AGGREGATES. IN SUCH CASES, HOPPERS AND VERTICAL CHUTES OR TRUNKS SHALL BE USED. CHUTES OR TRUNKS SHALL BE OF VARIABLE LENGTHS SO THAT FREE UNCONFINED FALL OF CONCRETE SHALL NOT EXCEED SIX FEET. A SUFFICIENT NUMBER OF CHUTES OR TRUNKS SHALL BE USED TO ENSURE THE CONCRETE IS KEPT LEVEL AT ALL TIMES.
3. CONSTRUCTION JOINTS SHALL BE CLEANED AND ROUGHENED BY REMOVING THE ENTIRE SURFACE TO EXPOSE CLEAN AGGREGATE SOLIDLY EMBEDDED IN THE MORTAR MATRIX. SLUSH WITH A COAT OF NEAT CEMENT BEFORE PLACING CONCRETE. SEE PLANS AND DETAILS FOR LOCATION AND TYPE OF CONSTRUCTION JOINT. LOCATIONS OF ADDITIONAL CONSTRUCTION JOINTS NOT SHOWN ON THESE PLANS SHALL BE SUBMITTED FOR APPROVAL BY THE EOR PRIOR TO PLACING ANY CONCRETE.
4. STRUCTURAL CONCRETE SHALL MEET THE FOLLOWING DESIGN CRITERIA:

LOCATION	MIN 28-DAY COMP STRENGTH	CONC TYPE[1]	MAX AGGR. SIZE	MAX W/C RATIO	MAX SLUMP[2]
FOUNDATIONS & PIT	4000 PSI	NWC	1 1/2"	0.45	4"
SLAB ON GRADE	4000 PSI	NWC	1"	0.45	4"
FILL OVER METAL DECK	3000 PSI	LWC[3]	3/4"	0.45	6"
ALL OTHER STRUCTURAL CONCRETE NOT NOTED ABOVE	4000 PSI	NWC	1"	0.45	6"

   a. MAXIMUM DRY WEIGHT OF LIGHTWEIGHT CONCRETE SHALL BE 115 PCF, UNLESS APPROVED BY SEOR.
   b. SLUMP MEASURED PRIOR TO SUPERPLASTICIZER, WHERE OCCURS.
   c. USE TYPE II CEMENT.
5. CONCRETE MIX DESIGN AND TESTING SHALL MEET THE REQUIREMENTS OF THE BUILDING CODE AND SPECIFICATIONS. ALL CONCRETE MIXES SHALL BE DESIGNED BY A RECOGNIZED TESTING LAB STAMPED AND SEALED BY A LICENSED CALIFORNIA CIVIL ENGINEER AND SUBMITTED TO THE SEOR FOR REVIEW PRIOR TO CONCRETE PLACEMENT. STRUCTURAL CONCRETE MIXES SHALL CONSIST OF 5 SACK MINIMUM UNO.
6. AGGREGATES IN NORMAL WEIGHT CONCRETE SHALL CONFORM TO ASTM C-33 (HARDROCK). AGGREGATES IN LIGHT WEIGHT CONCRETE SHALL CONFORM TO ASTM C-330.
7. COMPRESSIVE STRENGTH TEST REPORTS SHALL BE SUBMITTED TO THE BUILDING DEPARTMENT AND THE SEOR.
8. PORTLAND CEMENT SHALL BE TYPE II FOR ALL CONCRETE CONFORMING TO ASTM C150, LOW ALKALI. MILL TESTS WITH CERTIFICATES OF COMPLIANCE SHALL BE SUBMITTED.
9. FLY ASH OR OTHER POZZOLANS CONFORMING TO ASTM C618 CLASS N OR F MAY BE USED AS A PARTIAL SUBSTITUTION FOR PORTLAND CEMENT UP TO A MAXIMUM OF 15% TOTAL CEMENTITIOUS MATERIALS BY WEIGHT IF THE MIX DESIGN IS PROPORTIONED PER ACI 318, SECTION 5.3.
10. CONCRETE MIXING OPERATIONS, ETC. SHALL CONFORM TO ASTM C94.
11. LEAN CONCRETE, WHERE SPECIFICALLY INDICATED, SHALL CONTAIN 2 SACKS OF CEMENT PER CUBIC YARD OF CONCRETE.
12. DRYPACK OR NONSHRINK GROUT SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 5000 PSI, AND CONSIST OF MASTERFLOW 713, FIVE STAR GROUT, SIKA GROUT 212, EMBECO 636, OR APPROVED EQUAL. FOR THICK GROUT LAYERS FOLLOW MANUFACTURER'S GUIDELINES TO ATTAIN THE REQUIRED STRENGTH, WHICH MAY INCLUDE THE ADDITION OF PEA GRAVEL.
13. DO NOT USE ANY CONCRETE OR GROUT CONTAINING CHLORIDES. WATER USED IN MIX SHALL BE CLEAN AND POTABLE.
14. PRIOR TO ERECTING ANY ELEMENTS THAT LOAD THE FOUNDATION, CONCRETE MUST REACH AN UNCONFINED COMPRESSION STRENGTH OF 2000 PSI MINIMUM AS DETERMINED BY TESTING OR PREVIOUSLY DOCUMENTED DATA FOR THE MIX DESIGN USED UNDER SIMILAR CONDITIONS, AND MUST BE ALLOWED TO CURE FOR A MINIMUM OF 3 DAYS.
15. FOR INTERIOR SLABS-ON-GRADE AND ALL OTHER SLABS RECEIVING ADHERED FLOORING FINISHES (I.E., GLUED, ETC.), THE MAXIMUM W/C RATIO SHALL NOT EXCEED 0.46. CURING COMPOUNDS USED ON CONCRETE THAT IS TO RECIEVE FINISHES SHALL BE COMPATIBLE WITH TILE AND ADHESIVES OR GROUTS IN ACCORDANCE WITH MANUFACTURER'S DATA AND BE APPROVED BEFORE USE.
16. MAINTAIN CONCRETE ABOVE 50 DEGREES FAHRENHEIT AND IN A MOIST CONDITION FOR A MINIMUM OF 7 DAYS AFTER PLACEMENT UNLESS OTHERWISE ACCEPTED BY SEOR.
17. SEE ARCHITECTURAL DRAWINGS FOR WALL OPENINGS, WALL OFFSETS, CHAMFERS, KERFS, DRIPS AND FOR EXTENT OF DEPRESSIONS, RAMPS, ETC. PROVIDE SLEEVES FOR ALL PIPES THROUGH CONCRETE WALLS AND FOOTINGS WHERE SHOWN ON THESE DRAWINGS. CORING IS NOT PERMITTED WITHOUT PRIOR APPROVAL BY THE SEOR.
18. EXPOSED CORNERS OF SLABS, BEAMS, WALLS, COLUMNS, ETC. SHALL BE FORMED WITH 3/4" CHAMFER, UNO.

REINFORCING STEEL NOTES:

1. REINFORCING GRADES FOR CONCRETE OR MASONRY:
   A. ALL BARS EXCEPT THOSE TO BE WELDED..... ASTM A615, GRADE 60
   B. TIES AND STIRRUPS ..... ASTM A615, GRADE 60
   C. WELDED WIRE FABRIC ..... ASTM A185
   D. ALL BARS TO BE WELDED ..... ASTM A706, GRADE 60
   E. EPOXY COATED REBARS ..... ASTM A775/A775M
2. MAINTAIN MINIMUM CONCRETE COVER FROM FACE OF CONCRETE TO EDGE OF ALL REINFORCEMENT AS FOLLOWS (UNO): 1

CONDITION	COVER
CONCRETE POURED AGAINST EARTH	3"
CONCRETE POURED IN FORMS AND EXPOSED TO WEATHER OR EARTH	
- #6 BARS AND LARGER	2"
- #5 BARS AND SMALLER	1 1/2"
INTERIOR COLUMNS AND BEAMS	1 1/2"
INTERIOR WALL FACES AND RAISED SLABS	1 1/2"
STRUCTURAL SLABS ON GRADE	
- FROM BOTTOM OF SLAB	2"
- FROM TOP OF SLAB	1 1/2"
OTHER CONCRETE NOT EXPOSED TO WEATHER OR EARTH FOR #11 BARS AND SMALLER	3/4"

   PROVIDE THE LARGEST COVER REQUIRED FOR ALL APPLICABLE CONDITIONS. WHERE #3 STIRRUPS OR TIES ARE USED, ENSURE THAT THE COVER FOR LONGITUDINAL BARS IS ADEQUATE.
3. REINFORCEMENT SHALL BE PLACED IN ACCORDANCE WITH THE CONCRETE REINFORCING STEEL INSTITUTE (CRSI) "MANUAL OF STANDARD PRACTICE". EACH REINFORCING BAR SHALL BE WIRED TO A CROSS BAR AT A MAXIMUM SPACING OF 24" OC. PROVIDE ALL ACCESSORIES NECESSARY TO SUPPORT REINFORCING IN POSITIONS SHOWN ON THE PLANS.
4. SPLICES IN CONTINUOUS REINFORCEMENT AS USED IN WALLS, WALL FOOTINGS, ETC., SHALL HAVE A CLASS "B" LAP (1'-6" MIN) AND THE SPLICES IN ADJACENT BARS SHALL BE NOT LESS THAN 6'-0" APART. VERTICAL WALL BARS SHALL BE SPLICED AT OR NEAR FLOOR LINES. BARS MAY BE WIRED TOGETHER AT SPLICES OR LAPS EXCEPT FOR TOP REINFORCING OF BEAMS AND SLABS OR WHERE SPECIFICALLY DETAILED TO BE SEPARATED. WELDED WIRE FABRIC SHALL BE LAPPED 12" MINIMUM.
5. ALL DOWELS, ANCHOR BOLTS AND OTHER HARDWARE TO BE SET IN CONCRETE SHALL BE TIED IN PLACE PRIOR TO PLACEMENT OF CONCRETE. NO WET SETTING, STABBING, RODDING OR OTHER MOVEMENT OF EMBEDDED ITEMS SHALL BE PERFORMED DURING PLACEMENT OF CONCRETE.
6. BEND REINFORCING BARS COLD.
7. STEEL SHALL BE KEPT CLEAN AND FREE OF RUST.
8. DOWELS BETWEEN FOOTING AND WALLS OR COLUMNS SHALL BE THE SAME GRADE, SIZE AND SPACING AS THE MAIN REINFORCING UNO.
9. ALL BARS SHALL BE MARKED SO THEIR IDENTIFICATION CAN BE MADE WHEN THE FINAL IN PLACE INSPECTION IS MADE.
10. CHAIRS OR SPACERS FOR REINFORCING SHALL BE NON-FERROUS OR PLASTIC COATED WHEN RESTING ON EXPOSED SURFACES.

STRUCTURAL STEEL NOTES:

1. DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE SPECIFICATIONS AND STANDARD OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), AS CONTAINED IN THE 14TH EDITION OF "AISC MANUAL OF STEEL CONSTRUCTION".
2. ALL STRUCTURAL STEEL SHALL BE ERECTED PLUMB AND TRUE TO LINE. TEMPORARY BRACING SHALL BE INSTALLED AND SHALL BE LEFT IN PLACE UNTIL OTHER MEANS IS PROVIDED TO ADEQUATELY BRACE THE STRUCTURE.
3. PROVIDE THE FOLLOWING MATERIALS FOR STRUCTURAL STEEL UNO:

STRUCTURAL STEEL GRADES:		
A.	ALL WIDE FLANGE SECTIONS	ASTM A992
B.	SQUARE OR RECTANGULAR HOLLOW STRUCTURAL SECTIONS (HSS)	ASTM A500, GRADE B (F_y=46 KSI)
C.	ROUND HOLLOW STRUCTURAL SECTIONS (HSS)	ASTM A500, GRADE B (F_y=42 KSI)
D.	PIPES	ASTM A53 TYPE E OR S, GRADE B, (F_y=35 KSI)
E.	PLATES, ANGLES, CHANNELS & TEES	ASTM A36
F.	N/A.	N/A.
G.	MACHINE BOLTS (MB)	ASTM A307
H.	HIGH STRENGTH BOLTS (HSB)	ASTM A325 TYPE N
I.	WELDED HEADED STUDS	ASTM A108
J.	THREADED RODS FOR ANCHOR BOLTS	ASTM F1554, GRADE 36

4. EXCEPT AS OTHERWISE NOTED, ALL BOLTS SHALL BE HIGH STRENGTH BOLTS.
5. ALL CONNECTIONS NOT SHOWN SHALL CONFORM TO THE "AISC MANUAL OF STEEL CONSTRUCTION" AND SHALL BE SUBMITTED ON SHOP DRAWINGS FOR REVIEW BY SEOR PRIOR TO FABRICATION.
6. ALL WELDED HEADED STUDS, THREADED STUDS, AND DEFORMED BARS SHALL BE NELSON, OR EQUIVALENT, AND WELDED (IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS BY CERTIFIED WELDERS) SO AS TO FULLY DEVELOP THE TENSILE CAPACITY OF THE CONNECTOR.
7. HIGH STRENGTH BOLTS SHALL BE INSTALLED IN ACCORDANCE WITH THE CURRENT EDITION OF THE "AISC SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS". SLIP CRITICAL BOLTS (SC) SHALL BE USED FOR ALL "LATERAL FORCE RESISTING SYSTEM" (LFRS) MEMBER STEEL-TO-STEEL CONNECTIONS. TIGHTEN SLIP CRITICAL BOLTS USING ONE OF THE FOLLOWING: TWIST-OFF BOLTS, TENSION CONTROL CALIBRATED WRENCH OR DIRECT TENSION INDICATORS. HIGH STRENGTH BOLTS NOT IN THE LFRS MAY BE INSTALLED HAND TIGHT.
8. BOLTS WITH UPSET THREADS ARE NOT ALLOWED. USE THE APPROPRIATE NUT AND WASHER TYPE FOR THE SPECIFIED BOLT.
9. ALL STEEL FABRICATION SHALL BE PERFORMED BY A LICENSED FABRICATOR.
10. ALL STRUCTURAL STEEL AND MISCELLANEOUS STEEL PERMANENTLY EXPOSED TO THE ELEMENTS SHALL BE HOT DIP GALVANIZED AFTER FABRICATION UNLESS A WEATHER PROOF COATING IS SPECIFIED BY THE ARCHITECT UNO. STAINLESS AND WEATHERING STEELS ARE EXCEPTED WHERE SPECIFIED.
11. SEE ARCHITECTURAL DRAWINGS FOR NAILER HOLES, WELDED STUDS OR OTHER ITEMS NOT SHOWN IN THESE DRAWINGS. WHERE STEEL IS EMBEDDED IN CONCRETE OR MASONRY, PROVIDE HOLES AS REQUIRED FOR PASSAGE OF CONTINUOUS REINFORCING BARS WHERE INDICATED ON DRAWINGS. DO NOT CUT HOLES IN STRUCTURAL STEEL WITHOUT PRIOR APPROVAL OF SEOR.
12. ALL ARCHITECTURALLY EXPOSED STRUCTURAL STEEL (AESS) SHALL COMPLY WITH AISC CODE OF STANDARD PRACTICE, SECTION 10.
13. PLACE NON-SHRINK OR DRYPACK GROUT (MIN. 8000PSI) UNDER ALL BASE PLATES AND ALLOW TO CURE BEFORE APPLYING LOADS.

COLD-FORMED STEEL FRAMING NOTES:

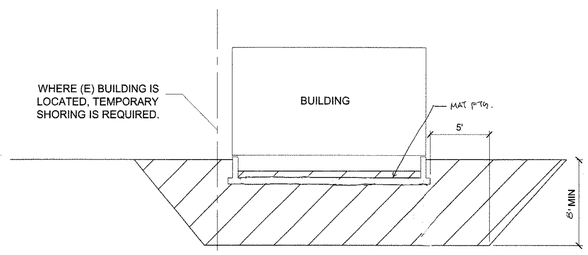
1. DESIGN, FABRICATION AND ERECTION OF COLD-FORMED STEEL FRAMING SHALL CONFORM TO THE SPECIFICATIONS AND STANDARD OF THE AMERICAN IRON AND STEEL INSTITUTE (AISI), AS CONTAINED IN THE "SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS", LATEST EDITION, INCLUDING ALL APPLICABLE AMENDMENTS.
2. ALL COLD-FORMED STEEL FRAMING SHALL BE ERECTED PLUMB AND TRUE TO LINE. TEMPORARY BRACING SHALL BE INSTALLED AND LEFT IN PLACE UNTIL OTHER MEANS IS PROVIDED TO ADEQUATELY BRACE THE STRUCTURE.
3. COLD-FORMED STEEL GRADES:
   A. 18 GA (43 MILS) OR THINNER .....ASTM A1003 GRADE 33 (FY = 33 KSI)
   B. 16 GA (54 MILS) AND THICKER .....ASTM A1003 GRADE 50 (FY = 50 KSI)
4. ALL COLD-FORMED STEEL FRAMING SHALL BE BRACED AS REQUIRED BY SECTION D3 OF THE AISI SPECIFICATION.
5. SUBMIT COLD-FORMED STEEL FRAMING SHOP DRAWINGS AND SPECIFICATIONS TO THE SEOR FOR REVIEW PRIOR TO FABRICATION.
6. COLD-FORMED STEEL STUDS AND TRACKS ARE TO BE ATTACHED WITH SHEET METAL SCREWS (SMS) WITH SIZES CALLED OUT ON THE DETAILS. PENETRATION OF SCREWS THROUGH JOINED MATERIAL SHOULD NOT BE LESS THAN 3 EXPOSED THREADS. SCREWS ARE TO BE INSTALLED AND TIGHTENED IN ACCORDANCE WITH SCREW MANUFACTURER'S RECOMMENDATIONS.

CONCRETE MASONRY NOTES:

1. CONCRETE MASONRY UNITS (CMU) SHALL DEVELOP THE FOLLOWING MINIMUM 28 DAY PRISM COMPRESSIVE STRENGTHS IN ACCORDANCE WITH THE BUILDING CODE:

MINIMUM 28 DAY COMPRESSIVE STRENGTHS			
LOCATION	f'm	TYPE S MORTAR	GROUT
ALL CMU UNO	2000 psi	1900 psi	2000 psi
-	2000 psi	2800 psi	2000 psi
-	2500 psi	3750 psi	2500 psi

2. CONCRETE BLOCK SHALL BE GRADE N, TYPE 1, OR CONFORM TO ASTM C90 NORMAL WEIGHT.
3. VERTICAL REINFORCING SHALL BE FULL HEIGHT OF WALL AND SHALL BE BRACED AT 6'-8" MAXIMUM TO PREVENT MOVEMENT WHILE GROUTING.
4. HORIZONTAL REINFORCING SHALL BE IN BOND BEAM UNITS AND TIED SECURELY TO VERTICAL REINFORCING.
5. DOWELS, ANCHORS, AND OTHER EMBEDDED ITEMS SHALL BE TIED SECURELY IN PLACE TO PREVENT MOVEMENT WHILE GROUTING. WET SETTING OR STABBING IS NOT ALLOWED.
6. MAXIMUM GROUT LIFTS SHALL NOT EXCEED 8'-0" AND CLEANOUTS AT THE BOTTOM OF ALL CELLS SHALL BE USED UNLESS THE LIFT IS 4'-0" OR LESS. GROUT FOR EACH POUR SHALL BE STOPPED 1 1/2" BELOW THE TOP OF A BLOCK COURSE EXCEPT AT THE FINAL COURSE. ALL GROUT SHALL BE THOROUGHLY CONSOLIDATED BY VIBRATING IMMEDIATELY AFTER PLACING. SHAKING OR RODDING REBAR IS NOT ALLOWED. FILL ALL CELLS WITH GROUT.
7. BLOCK SHALL BE PLACED IN RUNNING BOND AND SHALL BE 8x8x16 NOMINAL UNITS (UNO). WHERE BLOCK IS REQUIRED TO BE PLACED IN STACK BOND (SEE ARCH), OPEN-ENDED UNITS (I.E., "SPEED BLOCK") SHALL BE USED.
8. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE SAFETY OF LIFT HEIGHT FOR OPEN ENDED OR FIELD MODIFIED BLOCKS.
9. LAYOUT OF MASONRY BLOCK UNITS SHALL BE PER ARCHITECTURAL DRAWINGS. BLOCK MODULES/MORTAR JOINTS SHOWN ON THESE DRAWINGS ARE FOR PRESENTATION PURPOSES ONLY, AND NOT INTENDED TO SUPERCEDE ARCHITECTURAL DESIGN REQUIREMENTS.
10. REINFORCING 8" BLOCK
    TYPICAL VERTICAL REINFORCING SHALL BE.....#5 @ 16"OC, CENTERED UNO.
    TYPICAL HORIZONTAL REINFORCING SHALL BE.....#4 @ 16"OC, UNO.
11. PROVIDE VERTICAL CONTROL JOINTS IN CMU WALLS AS SHOWN ON PLAN. UNLESS NOTED OTHERWISE VERTICAL CONTROL JOINTS SHALL OCCUR AT 25'-0" OC MAXIMUM ALONG WALL LENGTH, AT FOUNDATION STEPS, FLOOR OR ROOF JOINTS, WALL HEIGHT CHANGES, AND 24" MINIMUM PAST ONE SIDE OF OPENINGS > 6'-0" WIDE, UNO ON PLANS.



OVEREXCAVATION AND RECOMPACTION

NOTES:
1. THE GRADING CONTRACTOR SHALL NOTIFY THE PROJECT GEOTECHNICAL ENGINEER NOT LESS THAN 72 HOURS IN ADVANCE OF THE LOCATION OF ANY SOILS PROPOSED FOR IMPORT. EACH PROPOSED IMPORT SOURCE SHALL BE SAMPLED, TESTED AND APPROVED PRIOR TO DELIVERY OF SOILS USE ON THE SITE.
2. LOCAL AREAS MAY REQUIRE DEEPER EXCAVATION W/ THE EXACT DEPTH DETERMINED BY GEOTECHNICAL ENGINEER.
3. ANY FILL MATERIALS ENCOUNTERED DURING GRADING SHOULD BE REMOVED AND REPLACED WITH ENGINEERED FILL.
4. FILL SOIL SHALL REACH MIN. 95% COMPACTION.

tBP architecture planning interiors
tBP/Architecture
4611 Teller Avenue
Newport Beach, CA 92660
ph: 949.673.0300 fx: 949.732.3695
architect

MCA ENGINEERS INC
CIVIL & STRUCTURAL
2151 Michelson Dr. #240
Irvine, CA 92612
Tel. 949.679.0870
Fax. 949.679.9370
Project No. C159-1370
consultant

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IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
DEPARTMENT OF GENERAL SERVICES
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DATE ____

DEPARTMENT OF GENERAL SERVICES
DSA Los Angeles Regional Office
700 N. Alameda Street, Suite 5-500
Los Angeles, California 90012
ph: (213)897-3995 fx: (213)897-3159/0726

GLENDALE HIGH SCHOOL AQUATIC CENTER

GLENDALE UNIFIED SCHOOL DISTRICT
1440 EAST BROADWAY AVE.
GLENDALE, CALIFORNIA 91205

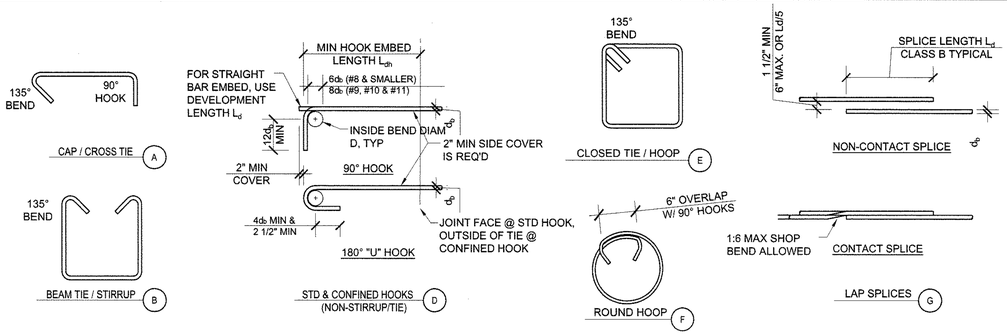
owner

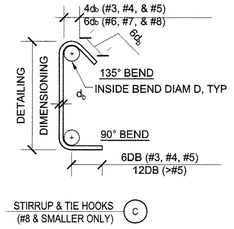
tBP project number : 2016.00
file name:
drawn by: checked by:
date: MARCH 07, 2018

Rev:	date:	description:
1	5/7/2019	ADDENDUM 2

drawing title:
GENERAL NOTES

drawing no.:
S-0.1
drawing of





BAR SIZE	FINISHED BEND DIAMETER D IN INCHES
#9	9 1/2"
#10	10 3/4"
#11	12"
#14	18 1/4"
#18	24"

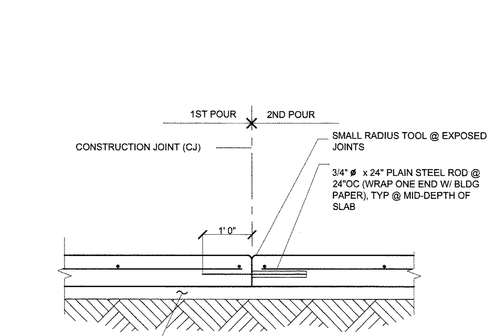
STANDARD HOOKS

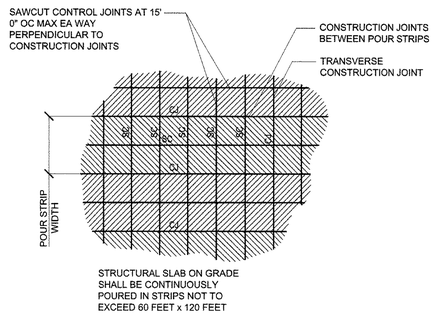
	BAR SIZE	STD HOOK L_{dh} (in)	CONFINED HOOK L_{dh} (in)	CLASS B LAP SPLICE L_d (in)		DEVELOPMENT LENGTH L_d (in)	
				BOT	TOP	BOT	TOP
3000 PSI NWC	#3	6	6	22	28	I7	22
	#4	8	6	29	37	22	29
	#5	10	8	36	47	28	36
	#6	12	10	43	56	33	43
	#7	14	11	63	81	48	63
	#8	16	13	72	93	55	72
	#9	18	14	81	105	62	81
	#10	20	16	91	118	70	91
	#11	22	18	101	131	78	101
4000 PSI NWC	#3	6	6	19	24	15	19
	#4	7	6	25	32	19	25
	#5	9	7	31	40	24	31
	#6	10	8	37	48	29	37
	#7	12	10	54	70	42	54
	#8	14	11	62	80	48	62
	#9	15	12	70	91	54	70
	#10	17	14	79	102	61	79
	#11	19	15	87	113	67	87
5000 PSI NWC	#3	6	6	17	22	13	17
	#4	6	6	22	29	17	22
	#5	8	6	28	36	22	28
	#6	9	7	33	43	26	33
	#7	11	9	49	63	37	49
	#8	12	10	55	72	43	55
	#9	14	11	63	81	48	63
	#10	15	12	70	91	54	70
	#11	17	14	78	101	60	78

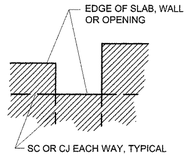
1

NOTES:
1. L_{dh} - HOOK DEVELOPMENT LENGTH.
2. L_d - DEVELOPMENT LENGTH.
3. SEE BUILDING CODE AND ACI LATEST VERSION FOR ALL REQUIREMENTS NOT NOTED.
4. FOR LIGHTWEIGHT CONCRETE MULTIPLY L_{dh} AND L_d VALUES SHOWN BY 1.3.
5. "TOP" BARS ARE HORIZONTAL WITH MORE THAN 12" OF FRESH CONCRETE CAST BELOW BARS. ALL OTHER BARS ARE "BOT" BARS.
6. STD HOOK L_{dh} DOES NOT ACCOUNT FOR THE EFFECT OF TIES. CONFINED HOOK L_{dh} MAY BE USED WHERE ACI 318-11 12.5.3b-c APPLIES.
7. VALUES SHOWN ABOVE ARE FOR GRADE 60 (FY=60 KSI) REINFORCEMENT.
8. SPLICE LENGTHS SHOWN ARE FOR CLEAR SPACING NOT LESS THAN $2d_b$, CONCRETE COVER NOT LESS THAN D_b.
9. ALL BARS IN THE PROJECT SHALL BE EPOXY COATED. FOR EPOXY COATED, MULTIPLY L_d, AND L_t VALUES SHOWN BY 1.5

5 TYPICAL REINFORCEMENT DETAILS AND DEVELOPMENT LENGTHS
NTS

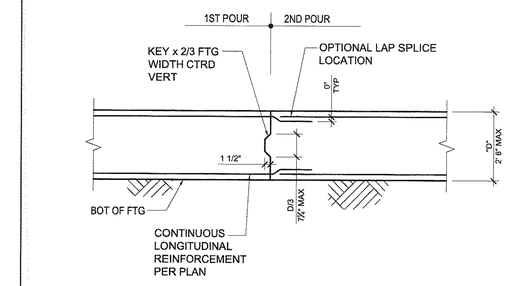






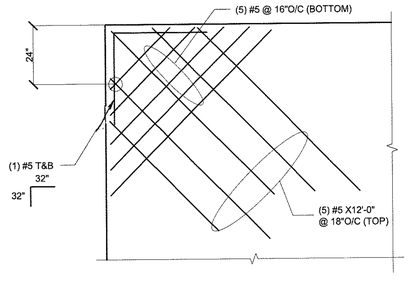
NOTES:
1. SEE ARCHITECTURAL PLANS FOR LOCATIONS OF VISUALLY EXPOSED CONTROL JOINTS.
2. FOR POURING SEQUENCE OTHER THAN THAT SHOWN ON THESE PLANS, SUBMIT SHOP DRAWINGS TO SEOR FOR REVIEW 7 DAYS PRIOR TO POUR.

7 TYPICAL SLAB ON GRADE CONTROL JOIST
NTS

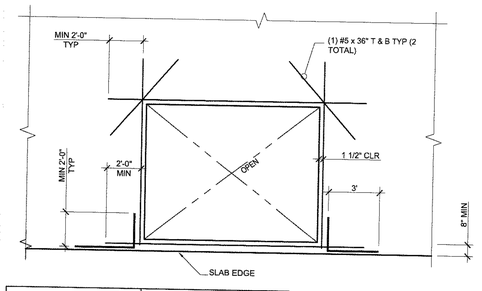


NOTES:
1. PROVIDE ADEQUATE SUPPORT FOR LONGITUDINAL REINF WITHIN 6" OF JT USING FTG TIES, VERT DOWELS OR OTHER MEANS.
2. SECTIONS SHOWN ARE AT CENTER OF FTG IN LONGITUDINAL DIRECTION.

9 CONSTRUCTION JOINT @ MAT SLAB
NTS



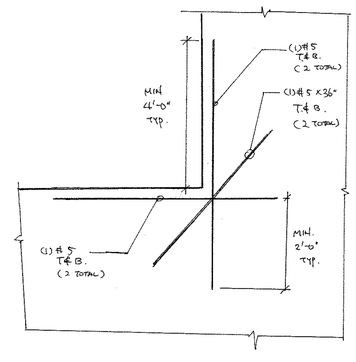
10 TRIM BARS AT MAT SLAB EDGES
NTS



MAX. DIMENSION	REINFORCING
12" TO 42" MAX	2 #5 T & B, EA SIDE

NOTES:
1. ALL OPENINGS LARGER THAN 12" SHALL BE TRIMMED AS SHOWN
2. THESE BARS ARE IN ADDITION TO REBAR SHOWN ON PLANS

11 TRIM BARS AT SLAB OPENING
NTS



12 TRIM BARS @ MAT SLAB INTERIOR EDGES
NTS

13 DETAIL
NTS

14 DETAIL
NTS

15 DETAIL
NTS

16 DETAIL
NTS

tBP architecture planning interiors
(tBP)Architecture
4611 Teller Avenue
Newport Beach, CA 92660
ph: 949.673.0300 fx: 949.732.3695
architect

MCA ENGINEERS INC
CIVIL • STRUCTURAL
2151 Michelson Dr. #240
Irvine, CA 92612
Tel. 949.679.0870
Fax. 949.679.9370
Project No. C159-1370
consultant

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DEPARTMENT OF GENERAL SERVICES
DSA Los Angeles Regional Office
700 N. Alameda Street, Suite 5-500
Los Angeles, California 90012
ph: (213)897-3995 fx: (213)897-3159/0726

GLENDALE HIGH SCHOOL AQUATIC CENTER

GLENDALE UNIFIED SCHOOL DISTRICT
1440 EAST BROADWAY AVE.
GLENDALE, CALIFORNIA 91205

owner

tBP project number : 20916.00
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drawing title:
TYPICAL DETAILS

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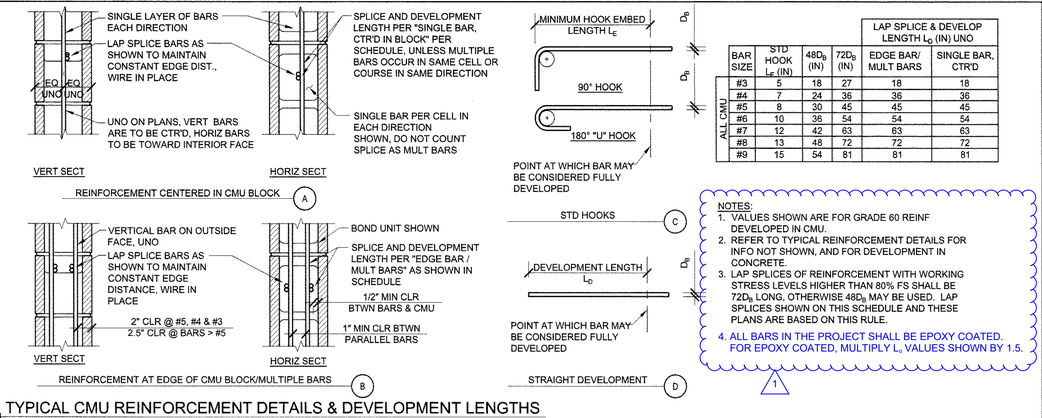


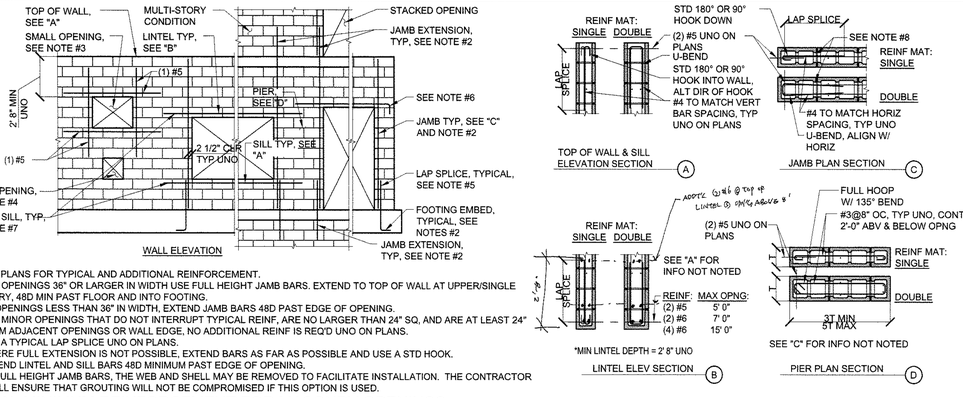
BAR SIZE	STD HOOK L_E (IN)	$48D_B$ (IN)	$72D_B$ (IN)	LAP SPLICE & DEVELOP LENGTH L_D (IN) UNO: EDGE BAR/ MULT BARS	LAP SPLICE & DEVELOP LENGTH L_D (IN) UNO: SINGLE BAR, CTR'D
#3	5	18	27	18	18
#4	7	24	36	36	36
#5	8	30	45	45	45
#6	10	36	54	54	54
#7	12	42	63	63	63
#8	13	48	72	72	72
#9	15	54	81	81	81

ALL CMU

NOTES:
1. VALUES SHOWN ARE FOR GRADE 60 REINF DEVELOPED IN CMU.
2. REFER TO TYPICAL REINFORCEMENT DETAILS FOR INFO NOT SHOWN, AND FOR DEVELOPMENT IN CONCRETE.
3. LAP SPLICES OF REINFORCEMENT WITH WORKING STRESS LEVELS HIGHER THAN 80% FS SHALL BE $72D_B$ LONG, OTHERWISE $48D_B$ MAY BE USED. LAP SPLICES SHOWN ON THIS SCHEDULE AND THESE PLANS ARE BASED ON THIS RULE.
4. ALL BARS IN THE PROJECT SHALL BE EPOXY COATED. FOR EPOXY COATED, MULTIPLY L_d VALUES SHOWN BY 1.5.

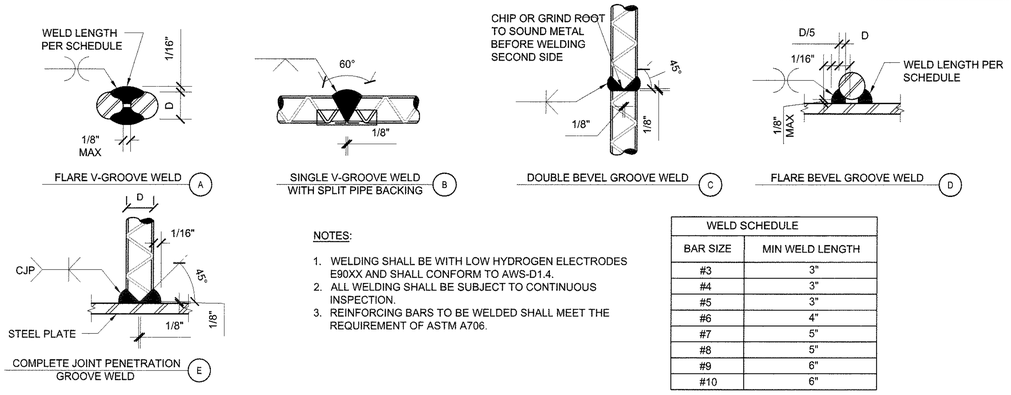
1

1 TYPICAL CMU REINFORCEMENT DETAILS & DEVELOPMENT LENGTHS
NTS



NOTES:
1. SEE PLANS FOR TYPICAL AND ADDITIONAL REINFORCEMENT.
2. FOR OPENINGS 36" OR LARGER IN WIDTH USE FULL HEIGHT JAMB BARS. EXTEND TO TOP OF WALL AT UPPER/SINGLE STORY, 48D MIN PAST FLOOR AND INTO FOOTING.
3. AT OPENINGS LESS THAN 36" IN WIDTH, EXTEND JAMB BARS 48D PAST EDGE OF OPENING.
4. FOR MINOR OPENINGS THAT DO NOT INTERRUPT TYPICAL REINF, ARE NO LARGER THAN 24" SQ, AND ARE AT LEAST 24" FROM ADJACENT OPENINGS OR WALL EDGE, NO ADDITIONAL REINF IS REQ'D UNO ON PLANS.
5. USE A TYPICAL LAP SPLICE UNO ON PLANS.
6. WHERE FULL EXTENSION IS NOT POSSIBLE, EXTEND BARS AS FAR AS POSSIBLE AND USE A STD HOOK.
7. EXTEND LINTEL AND SILL BARS 48D MINIMUM PAST EDGE OF OPENING.
8. AT FULL HEIGHT JAMB BARS, THE WEB AND SHELL MAY BE REMOVED TO FACILITATE INSTALLATION. THE CONTRACTOR SHALL ENSURE THAT GROUTING WILL NOT BE COMPROMISED IF THIS OPTION IS USED.

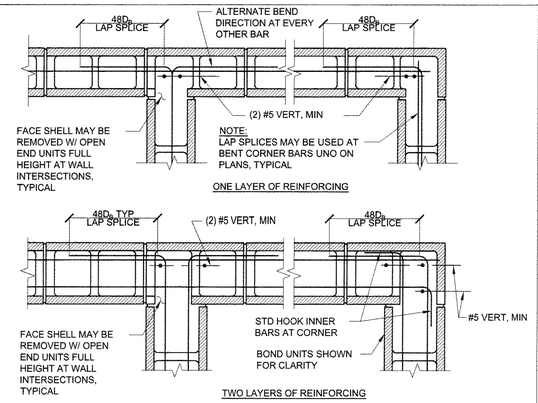
3 TYPICAL MINIMUM REINFORCEMENT FOR MASONRY OPENINGS
NTS



NOTES:
1. WELDING SHALL BE WITH LOW HYDROGEN ELECTRODES E90XX AND SHALL CONFORM TO AWS-D1.4.
2. ALL WELDING SHALL BE SUBJECT TO CONTINUOUS INSPECTION.
3. REINFORCING BARS TO BE WELDED SHALL MEET THE REQUIREMENT OF ASTM A706.

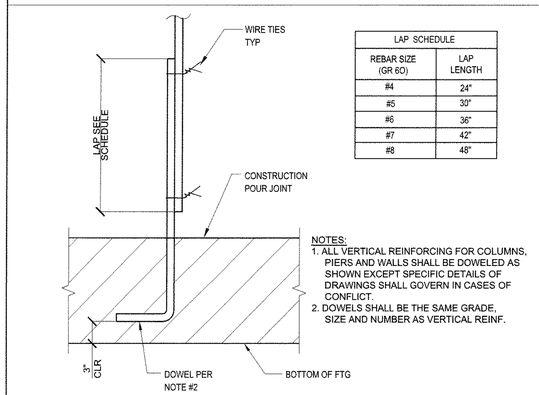
WELD SCHEDULE	
BAR SIZE	MIN WELD LENGTH
#3	3"
#4	3"
#5	3"
#6	4"
#7	5"
#8	5"
#9	6"
#10	6"

5 TYPICAL REINFORCING BAR WELDING
NTS



7 CONCRETE MASONRY WALL INTERSECTION
NTS

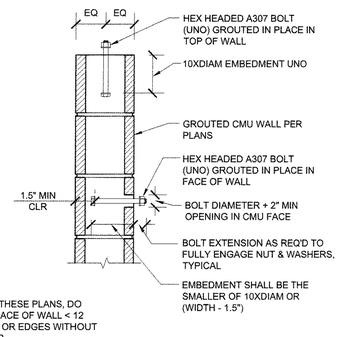
8 DETAIL
NTS



LAP SCHEDULE	
REBAR SIZE (GR 60)	LAP LENGTH
#4	24"
#5	30"
#6	36"
#7	42"
#8	48"

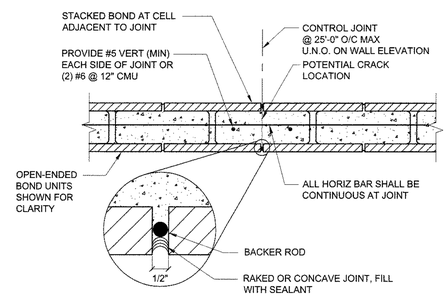
NOTES:
1. ALL VERTICAL REINFORCING FOR COLUMNS, PIERS AND WALLS SHALL BE DOWELED AS SHOWN EXCEPT SPECIFIC DETAILS OF DRAWINGS SHALL GOVERN IN CASES OF CONFLICT.
2. DOWELS SHALL BE THE SAME GRADE, SIZE AND NUMBER AS VERTICAL REINF.

9 TYPICAL DOWELS AT CMU WALL
NTS



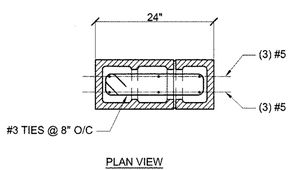
NOTE:
UNLESS DETAILED ON THESE PLANS, DO NOT PLACE BOLTS IN FACE OF WALL < 12 DIAM FROM OPENINGS OR EDGES WITHOUT APPROVAL FROM SEOR

10 TYP HEADED BOLT GROUTED IN CMU WALL
NTS



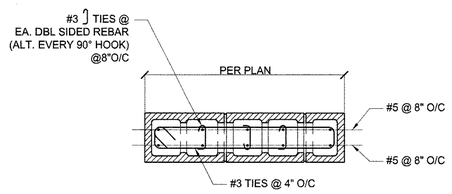
11 TYP CMU WALL CONTROL JOINT (C.J.) (OPTIONAL)
NTS

12 DETAIL
NTS



PLAN VIEW

13 DETAIL
NTS



PLAN VIEW

14 DETAIL
NTS

15 DETAIL
NTS

16 DETAIL
NTS

tBP architecture planning interiors
tBP/Architecture
4611 Teller Avenue
Newport Beach, CA 92660
ph: 949.673.0300 fx: 949.732.3895
architect

MCA ENGINEERS INC
CIVIL • STRUCTURAL
2151 Michelson Dr. #240
Irvine, CA 92612
Tel. 949.679.0870
Fax. 949.679.9370
Project No. C159-1370
consultant

FILE NO.: 19-H13
IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
DEPARTMENT OF GENERAL SERVICES
A# 03 -118726
AC.____ FLS.____ SS.____
DATE ____

DEPARTMENT OF GENERAL SERVICES
DSA Los Angeles Regional Office
700 N. Alameda Street, Suite 5-500
Los Angeles, California 90012
ph: (213)897-3995 fx: (213)897-3159/0726

GLENDALE HIGH SCHOOL AQUATIC CENTER

GLENDALE UNIFIED SCHOOL DISTRICT
1440 EAST BROADWAY AVE.
GLENDALE, CALIFORNIA 91205

owner

tBP project number : 20916.00
file name:
drawn by: checked by:
date: MARCH 07, 2018

Rev:	date:	description:
1	5/7/2019	ADDENDUM 2

drawing title:
TYPICAL DETAILS

drawing no.:
S-1.3
drawing of

POOL MECHANICAL ROOM
SEE SPM2-1 AND
ARCHITECTURAL A1-1.

STORAGE
CHLORINE ROOM
ACID ROOM
PUMP PIT
UNISEX
SURGE TANK

38M X 25YD SWIMMING POOL
SEE SP2-1

POOL BUILDING
SEE ARCHITECTURAL
A1-1

VISITOR LOCKER
HOME LOCKER
MEN
WOMEN
HOME LOCKER
VISITOR LOCKER
STORAGE
OFFICE
OUTDOOR STORAGE

1" PVC CONDUIT

(1) 4" X 4" X 6" PVC BOX CARLON E989NNR FLUSH WITH SURFACE FOR TITANIUM SERIES TDPI-S2 START DECK NODE.

(1) 4" X 4" X 6" PVC BOX CARLON E989NNR FLUSH WITH SURFACE FOR TITANIUM SERIES TDPI-TI TIMER INTERFACE DECK NODE.

6"x6"x4" PVC 'J-BOX' MTD TO BACK OF SCOREBOARD FOR DATA. SEE SHEET SP9-12

SCOREBOARD. SEE SHEET SP9-12

(4) DEDICATED CIRCUITS, 120V 20AMP EA. (1) DUPLEX OUTLET PER CIRCUIT.

8X8X1 PVC J-BOX @ 18" AFF WITH TITANIUM SERIES WALL PLATES WPI-SC5 AND WPI-TI.

TOMBSTONE SEE 1/SP9-10

120 VAC 4-PLEX OUTLET - SEE ELECTRICAL SHEETS

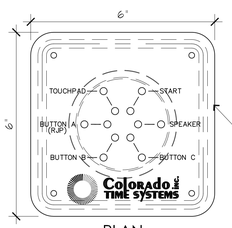
(1) 8" X 8" X 1" PVC 'J-BOX' CANTEX 5133708 @ 18" AFF WITH TITANIUM SERIES WALL PLATES WPI-F4, WPI-SC5 AND WPI-TI.

12'-0"
3'-0"
2'-2"
3'-0"
21-1/4"
8'-2-1/2" TYP.

(12) 4" X 4" X 6" PVC BOX CARLON E989NNR CENTERED AT EACH STARTING BLOCK FLUSH WITH SURFACE FOR TITANIUM SERIES TDPI TIMING DECK NODE, TYP

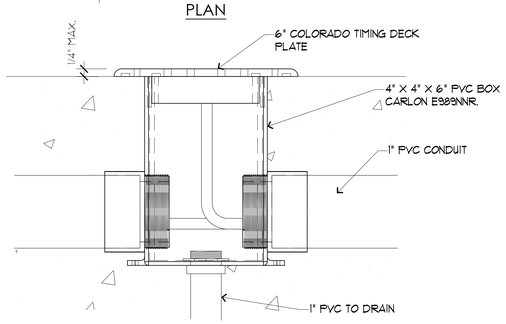
(1) 1" PVC CONDUIT

(1) 1" PVC CONDUIT



6" COLORADO TIMING DECK PLATE

PLAN



7 TIMING
3"=1'-0"

LEGEND

- DP - TITANIUM DECK PLATE (TDPI)
- ST - START DECK PLATE (TDPI-S2)
- TP - TIMING DECK PLATE (TDPI-TI)
- WP - WALL PLATE
- F4 - WPI-F4
- 1 - WPI-TI
- 5 - WPI-SC5

POOL TIMING PLAN
1/8"=1'-0"
NORTH

EQUIPMENT LIST & SYMBOLS

ITEM	DESCRIPTION DETAIL	MAKE AND CATALOG #	REMARKS	REF.
HB GFCI JB	TOMBSTONE	SEE DETAIL	JB = JUNCTION BOX HB = HOSE BIBB W/ VACUUM BREAKER GFCI = OUTLET	1 SP9-10
SB	STARTING BLOCK	SEE DETAIL	W/ ANCHOR & CAP	2 SP9-2
T	TIMING SYSTEM DECK PLATE	SEE DETAIL	TIMING PLAN SEE SHEET SPT-1	7 SPT1-1

drawing title:
POOL TIMING PLAN

drawing no.:
SPT1-1
drawing of

tBP
architecture
planning
interiors

LICENSED ARCHITECT KENNETH PAUL MOSELEY No. C15,022 RENEWAL 08/31/2019 STATE OF CALIFORNIA

tBP/Architecture
4611 Teller Avenue
Newport Beach, CA 92660
ph: 949.673.0300 fx: 949.732.3895

architect

ARCH-PAC
1241 DISTRIBUTION WAY - SUITE 11,
VISTA - CA 92081
PH. 760 - 734-1200
FX. 760 - 734-1511

LICENSED ARCHITECT KENNETH PAUL MOSELEY No. C15,022 RENEWAL 08/31/2019 STATE OF CALIFORNIA

consultant

FILE NO.: 19H-13
IDENTIFICATION STAMP
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DEPARTMENT OF GENERAL SERVICES
A# 03-118726
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DATE ____

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DSA Los Angeles Regional Office
700 N. Alameda Street, Suite 5-500
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ph: (213)897-3995 fx: (213)897-3159/0726

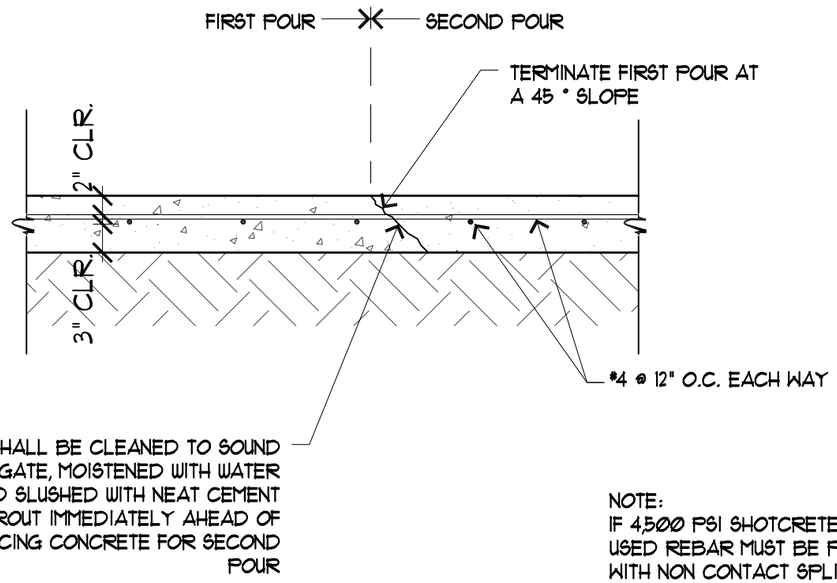
GLENDALE HIGH SCHOOL AQUATIC CENTER

GLENDALE UNIFIED SCHOOL DISTRICT
1440 EAST BROADWAY AVE.
GLENDALE, CALIFORNIA 91205

owner

tBP project number : 20916.00
file name:
drawn by: RT checked by: KM
date: DECEMBER 13, 2018

Rev:	date:	description:



NOTE:
IF 4,500 PSI SHOTCRETE IS USED REBAR MUST BE PLACED WITH NON CONTACT SPLICES PER ACI 506.

DETAIL

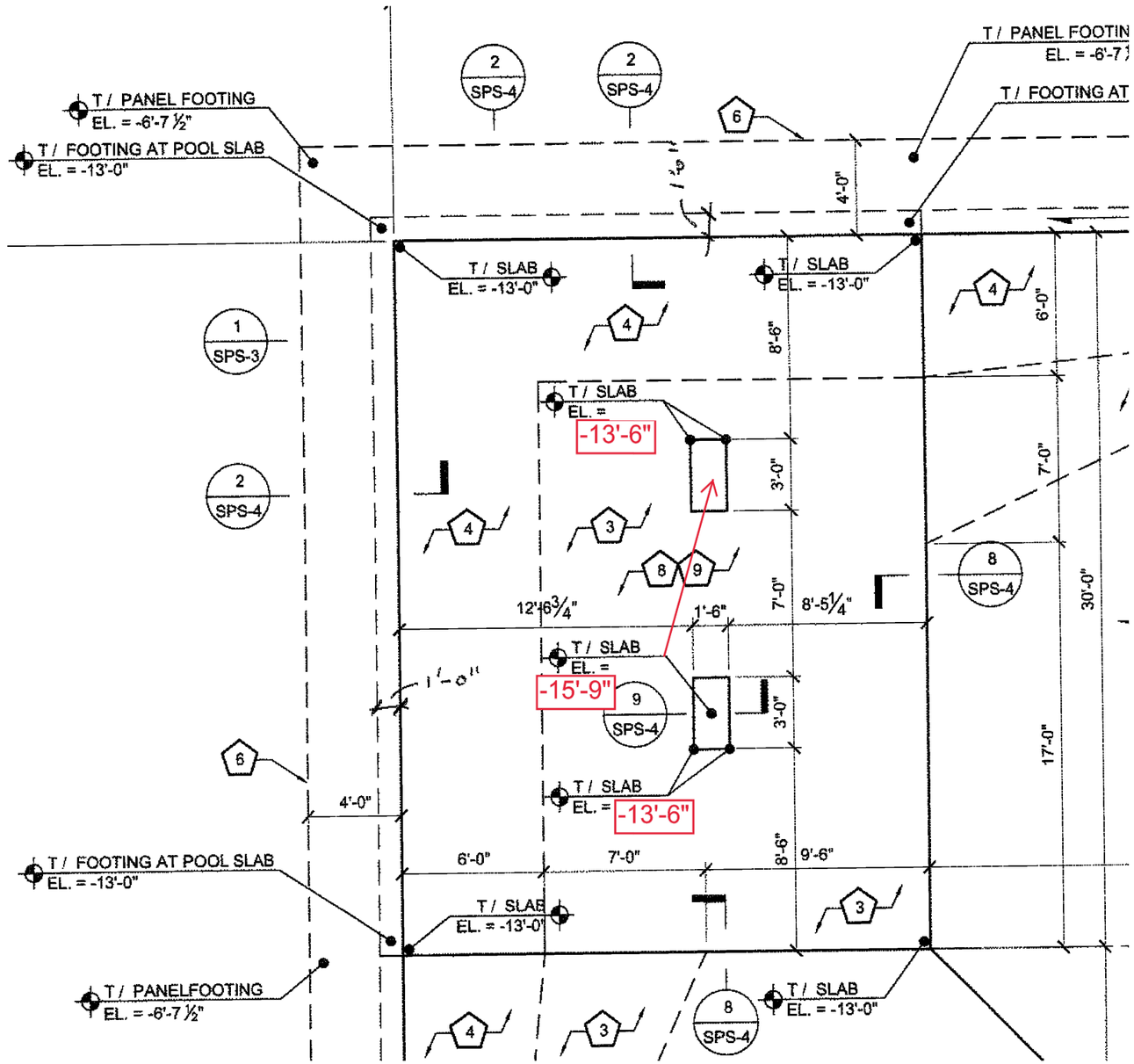
SCALE: NONE

3
SPS-1

ARCH • PAC
1341 - SUITE 11,
DISTRIBUTION WAY, VISTA - CA 92081
PH: 760 - 734-1600
FX: 760 - 734-1611

LICENSED ARCHITECT
KENNETH PAUL MOELLER
No. C15,022
Exp.12/31/2019
STATE OF CALIFORNIA

REVISION TO
SPS-1



6"

12" O.C.

FOUNDATION PLAN NOTES:

1. 5" CONCRETE POOL SLAB REINFORCED WITH #4 @ 18" O.C. EACH WAY AT 2" BELOW TOP OF SLAB. SEE PLAN FOR TOP OF SLAB ELEVATIONS.

ARCH • PAC

1341 - SUITE 11,
DISTRIBUTION WAY, VISTA - CA 92081
PH: 760 - 734-1600
FX: 760 - 734-1611

LICENSED ARCHITECT
KENNETH PAUL MOELLER
No. C15,022
Exp.12/31/2019
STATE OF CALIFORNIA

REVISION TO

SPS-2

Date: May 22, 2019

GLENDALE HIGH SCHOOL
AQUATICS CENTER
GLENDALE UNIFIED SCHOOL DISTRICT

tBP Proj. No. 20916.00

tBP/ARCHITECTURE
4611 Teller Avenue
Newport Beach, CA 92660
949-673-0300

TO: PROSPECTIVE BIDDERS

RESPONSES TO PRE-BID RFI'S

1. Reference Sheet T-2
   Drawing sheet T-2 notes for Asbestos and Lead Abatement reference that the contractor is responsible for abatement of all asbestos and lead containing material in building. Refer to specifications for scope of work. Is there a Haz-Mat report for the project?
   Response – Hazmat report is issued with Addendum No. 2

2. Reference Sheet A7-1 and A7-2
   Details on A7-1 and A7-2 reference note 14 for the base. Note 14 calls for 4" high resilient base. Please confirm that resilient base is to be installed over the ceramic tile.
   Response – Use a slim foot ceramic tile coved base in lieu of the resilient base specified in keynote 14 for walls specified to receive ceramic tile (keynote 34A). Ceramic tile base color to match wall tile field color.

3. Reference Sheet L-1.01
   Landscape drawings are provided for the project. There are no landscape specifications in the Project Manual. Will landscape specifications be provided?
   Response – The Planting and Irrigation specifications are included in the specifications but are not listed in the index. Refer to sections 32 84 23 and 32 93 00. We have updated the index to include these sections in Addendum No. 2.

4. Reference Section 05 50 00 & 01 51 00
   Specification section 05 50 00.1.04 state the following:
   A. District will provide the following:
      1. Electrical power and metering, consisting of connection to existing facilities.
      2. Water supply, consisting of connection to existing facilities.

   Specification section 01 51 00 calls for the contractor to provide the temporary electricity and temporary water for this project. Will the contractor be providing all temporary electrical and water service and just connecting to the school's source for each?

Response – Section 05 50 00 Part 1.04A.1 & 2 does not exist in the specification. Are you sure you were not referring to 01 50 00, Temporary Facilities and Controls? If the latter, yes, the district will provide the source and the contractor shall provide all temporary electrical and water service.

5. Reference Sheet C1.1, L1.01, L2.01, AS-3
   C1.1 calls to protect the existing baseball field in place. L1.01 shows new suggested sprinkler layout for a portion of the existing baseball field. L2.01 does not call for any new planting (turf) for the existing baseball field. AS-3 note 26 calls for repairing the existing turf due to new construction. Is the contractor to assume repair of the existing irrigation and turf at the baseball field is limited to any area disturbed for the new construction?
   Response – Yes, sod shall match the existing turf at the baseball field. You may re-use the existing turf assuming it is kept in good growing condition while the irrigation work is ongoing at the baseball field.

6. Reference Sheet C1.1, C1.7, AS-2
   C1.1 References to remove fencing in several locations on the east side of the existing South Gym. There is no existing fencing shown on the plan. C1.7 reference note 15 and point to a gate. Note 15 is to construct new fence per detail 5 on sheet 2.06. AS-2 Site Demo Plan does no extend to the area show on C1.1 or C1.7. Please clarify the fencing/gate demolition and reconstruction in this area.
   Response – Refer to 2/AS-4. The partial demolition plan shows that we are removing portion of the existing fencing to accommodate the gate reference in note 15 on sheet C1.7. Refer to 3/AS-4. There is a new 20'-0" wide double swing chain link gate to be installed in the existing fencing. This is the only fencing work in this area. Disregard remove fencing keynote on sheet C1.1 that is not pointing to existing fencing on the plan in the area in question only.

7. Reference Section T-2
   The Project Description includes verbiage regarding re-surfacing the existing tennis courts and providing new sports lighting to be included. Please provide tennis court re-surfacing specifications and lighting information.
   Response – Tennis courts are not a part of scope of work.