EL CENTRO AQUATIC CENTER PROJECT
IN THE CITY OF EL CENTRO

ADDENDUM NO. 01

Date: February 16, 2018
To: Prospective Bidders/Plan Holders
From: Abraham Campos, P.E.
City of El Centro
1275 W. Main St. El Centro, CA 92243
Telephone: 760/337-5182   Fax: 760/337-3856

This addendum forms a part of the contract documents and modifies the original bidding documents. Addenda shall be noted as received and acknowledged on Bid Proposal form when submitted as outlined in the Bid Package referenced above.

Failure to properly acknowledge all Addenda on the Bid Form may be cause for rejection of bid.

Item 1.1: Revised Bid Date March 29, 2018 @ 2:00pm.

The bid date is being extended to allow ample time for General Contractors to review scope/clarification responses to the submitted RFI questions.

New Bid Date shall be Thursday, March 29, 2018 @ 2:00pm. Location to submit completed bid proposal documents has not changed.

Item 1.2: Additional Job Walk March 15, 2018 @ 10:00am.

The City will conduct an additional Mandatory Job Walk on March 15, 2018 at 10:00am. Interested General Contractors (IGC) are required to attend the March 15, 2018 job walk, unless the IGC attended the previous February 1, 2018 job walk, in order to be considered a responsive bidder.

Item 1.3: RFI Submissions

The advertisement to bid inadvertently left out contact information to submit RFI’s. Pre-Bid RFI submissions are to be sent to eaponte@ericksonhall.com. The RFI submission deadline has been extended to March 20, 2018 at 5:00pm as a result of the revised bid date.

Item 1.4: Prevailing Wage Rates

Included in this Addendum is the governing Prevailing Wage Rates for this project. The City has retained the services of Labor Compliance Consultants of Southern California to oversee the labor compliance on this project.
Item 1.5: Geotechnical Report

Included in this Addendum is the Geotechnical Report, dated November 9, 2016, for this project.

Item 1.6: Pre-Qualified Specialty Pool and Deck Contractors

<table>
<thead>
<tr>
<th>Contractor</th>
<th>Contact Name</th>
<th>Phone Number</th>
<th>Fax Number</th>
<th>E-mail</th>
</tr>
</thead>
<tbody>
<tr>
<td>CA Commercial Pools</td>
<td>Brett Smith</td>
<td>909-394-1280</td>
<td>909-394-4579</td>
<td><a href="mailto:bids@calcommpools.com">bids@calcommpools.com</a></td>
</tr>
<tr>
<td>Condor, Inc.</td>
<td>Earl Weiss</td>
<td>626-455-0050</td>
<td>626-455-0070</td>
<td><a href="mailto:earl@condor-inc.com">earl@condor-inc.com</a></td>
</tr>
<tr>
<td>Mission Pools</td>
<td>Mike Roudebush</td>
<td>760-743-2605</td>
<td>760-743-2978</td>
<td><a href="mailto:miker@missionpools.com">miker@missionpools.com</a></td>
</tr>
</tbody>
</table>

END OF ADDENDUM No. 01
October 30, 2017

IMPORTANT NOTICE TO AWARDING BODIES AND ALL INTERESTED PARTIES REGARDING THE LANDSCAPE MAINTENANCE LABORER GENERAL PREVAILING WAGE DETERMINATIONS

CRAFT: Landscape Maintenance Laborer:
DETERMINATIONS: NC-LML-2017-1 and SC-LML-2017-1
LOCALITY: All localities within the State of California

This Important Notice is to provide clarification regarding the work performed under the Landscape Maintenance Laborer determinations referenced above and applies to subsequent Landscape Maintenance Laborer determinations.

The Landscape Maintenance Laborer determinations exclude the following work:

Tree maintenance, such as tree trimming, tree pruning, tree topping, tree/stump removal, grinding of tree stumps, tree root pruning and tree root barrier installation; handling, piling, hauling and chipping of tree brush and tree limbs; removal and replacement of trees.

With the exception of the above clarification, all of the wage rates and other conditions found in the above referenced determinations remain unchanged.
IMPORTANT NOTICE TO AWARDING BODIES AND OTHER INTERESTED PARTIES REGARDING A CORRECTION TO THE DIRECTOR’S GENERAL PREVAILING WAGE DETERMINATIONS

CRAFT: DRIVER (ON/OFF-HAULING TO/FROM CONSTRUCTION SITE)
CLASSIFICATION: MIXER DRIVER
DETERMINATION: C-MT-261-36-95-2017-2
LOCALITY: All localities within Imperial and San Diego Counties.


The modified predetermined increase page last updated on June 2, 2017 that accompanied the above mentioned important notice is incorrect. The amounts allocated to Vacation and Holiday were higher than what was predetermined. Under the listed predetermined increase effective October 29, 2018, the effective dates for the years of service should be October 29, 2018, not October 30, 2017.

Please refer to attached interim determination issued May 22, 2017 and corrected predetermined increase page, last updated November 29, 2017.
IMPORTANT NOTICE TO AWARDING BODIES & ALL INTERESTED PARTIES
REGARDING CORRECTIONS TO THE
IMPORTANT NOTICE ISSUED MAY 22, 2017

INTERIM DETERMINATION FOR THE CRAFT OF DRIVER (ON/OFF-HAULING TO/FROM CONSTRUCTION SITE)

Determination: C-MT-261-36-95-2017-2
Issue Date: May 22, 2017
Expiration date of determination: October 29, 2017** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director – Research Unit for specific rates at (415) 703-4774.

Localities: All localities within Imperial and San Diego Counties.

<table>
<thead>
<tr>
<th>Classification</th>
<th>Employer Payments</th>
<th>Straight-Time</th>
<th>Overtime Hourly Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Basic Rate</td>
<td>Health</td>
<td>Vacation</td>
</tr>
<tr>
<td>Mixer Driver</td>
<td>$27.10</td>
<td>$7.41a</td>
<td>$4.28</td>
</tr>
</tbody>
</table>

a The contribution applies to all hours until $1,284.00 is paid for the month.
b $1.98 after one year of service
  $2.50 after 7 years of service.
  $3.02 after 14 years of service.
c Rate applies to work in excess of eight (8) hours daily and forty (40) hours weekly. All work in excess of 12 hours daily shall be paid the Sunday/Holiday (2X) rate.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at http://www.dir.ca.gov/oprl/DPreWageDetermination.htm. Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director - Research Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence requirements for the current determinations on the Internet at http://www.dir.ca.gov/oprl/DPreWageDetermination.htm. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director - Research Unit at (415) 703-4774.
MODIFIED PREDETERMINED INCREASE FOR

DRIVER (ON/OFF-HAULING TO/FROM CONSTRUCTION SITE)
(Determination C-MT-261-36-95-2017-2)

IN ALL LOCALITIES WITHIN IMPERIAL AND SAN DIEGO COUNTIES

This predetermined increase for the above named craft applies only to the above referenced determination for work being performed on public works projects with bid advertisement dates on or after June 1, 2017 until this determination is superseded by a new determination or a predetermined increase modification notice becomes effective.

When referencing our prevailing wage determinations, please note that if the prevailing wage rate determination which was in effect on the bid advertisement date of a project has a single asterisk (*) after the expiration date, the rate will be good for the life of the project. However, if a prevailing wage rate determination has double asterisks (**) after the expiration date, the rate must be updated on the following date to reflect the predetermined rate change(s).

**Ready Mix Driver**
Determination C-MT-261-36-95-2017-2 is currently in effect and expires on October 29, 2017**.

**Effective October 30, 2017,** there will be an increase of $0.51 as follows: $0.50 to the Basic Hourly Rate and $0.01 to Vacation and Holiday.
After 1 year of service: Effective October 30, 2017, there will be an increase of $0.52 as follows: $0.50 to the Basic and $0.02 to Vacation and Holiday.
After 7 years of service: Effective October 30, 2017, there will be an increase of $0.53 as follows: $0.50 to the Basic Hourly Rate and $0.03 to Vacation and Holiday.
After 14 years of service: Effective October 30, 2017, there will be an increase of $0.54 as follows: $0.50 to the Basic Hourly Rate and $0.04 to Vacation and Holiday.

**Effective November 1, 2017** there will be an increase of $0.33 to Pension.

**Effective January 1, 2018,** there will be an increase of $0.48 to Health and Welfare.

**Effective October 29, 2018,** there will be an increase of $0.51 as follows: $0.50 to the Basic Hourly Rate and $0.01 to Vacation and Holiday.
After 1 year of service: Effective October 29, 2018, there will be an increase of $0.52 as follows: $0.50 to the Basic and $0.02 to Vacation and Holiday.
After 7 years of service: Effective October 29, 2018, there will be an increase of $0.53 as follows: $0.50 to the Basic Hourly Rate and $0.03 to Vacation and Holiday.
After 14 years of service: Effective October 29, 2018, there will be an increase of $0.54 as follows: $0.50 to the Basic Hourly Rate and $0.04 to Vacation and Holiday.

**Effective November 1, 2018,** there will be an increase of $0.45 to Pension.

**Effective January 1, 2019,** there will be an increase of $0.48 to Health and Welfare.

Issued 5/22/2017, Effective 6/1/2017 until superseded.

This page will be updated when wage rate breakdown information becomes available.

**Last Updated:** November 29, 2017
December 20, 2017

IMPORTANT NOTICE TO AWARDING BODIES AND OTHER INTERESTED PARTIES REGARDING CORRECTIONS TO THE DIRECTOR'S GENERAL PREVAILING WAGE DETERMINATIONS

Dear Public Official/Other Interested Parties:

CRAFT:  Carpet Layer: Resilient Tile Layer (Second Shift)
LOCALITY:  Imperial and San Diego

The predetermined increase effective on January 1, 2019 is incorrect. The correct increase should be $0.78 instead of $0.08. The following is the allocation: $0.78 to Pension.

With the exception of the above correction, all of the wage rates and other conditions found in the above referenced determination remain unchanged.
CRAFT: ASBESTOS AND LEAD ABATEMENT (LABORER)

DETERMINATION: SC-102-882-1-2017-1
ISSUE DATE: February 22, 2017
EXPIRATION DATE OF DETERMINATION: December 31, 2017** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director – Research Unit for specific rates at (415) 703-4774.

LOCALITY: All localities within Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Diego, San Luis Obispo, Santa Barbara and Ventura Counties

<table>
<thead>
<tr>
<th>Classification (Journeyworker)</th>
<th>Employer Payments</th>
<th>Straight-Time</th>
<th>Overtime Hourly Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asbestos and Lead Abatement Worker</td>
<td>$31.88 7.00 6.50 4.45 0.75 0.39</td>
<td>$50.97 $66.91 $66.91 $82.85</td>
<td></td>
</tr>
</tbody>
</table>

*: Includes an amount for supplemental dues.


*: Saturdays in the same work week may be worked at straight-time if the job is shut down during the normal work week due to inclement weather, or reasons beyond the control of the employer.

NOTE: Asbestos Abatement must be trained and the work conducted according to the Code of Federal Regulations 29 CFR 1926.58, the California Labor Code 6501.5 and the California Code of Regulations Title 8, Section 5208. Contractors must be certified by the Contractors' State License Board and registered with the Division of Occupational Safety and Health (DOSH). For further information, contact the Asbestos Contractors Abatement Registration Unit, DOSH at (916) 574-2993.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at [http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director - Research Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the Travel and/or subsistence provisions for the current determinations on the Internet at [http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm). Travel and/or Subsistence provisions for current or superseded determinations may be obtained by contacting the Office of the Director - Research Unit at (415) 703-4774.
PREDETERMINED INCREASE FOR

ASBESTOS AND LEAD ABATEMENT (LABORER)
(SC-102-882-1-2017-1)

IN ALL LOCALITIES WITHIN IMPERIAL, INYO, KERN, LOS ANGELES, MONO, ORANGE, RIVERSIDE, SAN BERNARDINO, SAN DIEGO, SAN LUIS OBISPO, SANTA BARBARA, AND VENTURA COUNTIES

This predetermined increase for the above named craft applies only to the above referenced determination for work being performed on public works projects with bid advertisement dates on or after March 4, 2017 until this determination is superseded by a new determination or a predetermined increase modification notice becomes effective.

When referencing our prevailing wage determinations, please note that if the prevailing wage rate determination that was in effect on the bid advertisement date of a project has a single asterisk (*) after the expiration date, the rate will be good for the life of the project. However, if a prevailing wage rate determination has double asterisks (**) after the expiration date, the rate must be updated on the following date to reflect the predetermined rate change(s).

ASBESTOS AND LEAD ABATEMENT WORKER (LABORER)
Determination SC-102-882-1-2017-1 is currently in effect and expires on December 31, 2017**.

Effective January 1, 2018, there will be an increase of $2.27 to be allocated as follows: $1.31 to Basic Hourly Rate and $0.96 to Pension.

There will be no further increases applicable to this determination.


This page will be updated when wage rate breakdown becomes available
Last Updated: December 7, 2017
**Determination:** C-14-X-2-2017-1  
**Issue Date:** February 22, 2017  
**Expiration Date of Determination:** September 30, 2017*  

**Locality:** All localities within the State of California

### Employer Payments

<table>
<thead>
<tr>
<th>Classification (Journeyperson)</th>
<th>Basic Hourly Rate</th>
<th>Health and Welfare</th>
<th>Pensiond</th>
<th>Vacation/Holiday</th>
<th>Training</th>
<th>Other Payments</th>
<th>Total Hourly Rate</th>
<th>Overtime Hourly Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Boilermaker-Blacksmith</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td><strong>AREA 1</strong></td>
<td>$42.16</td>
<td>$8.57</td>
<td>$17.26</td>
<td>$3.50</td>
<td>$3.90</td>
<td>$0.44</td>
<td>$75.83</td>
<td>$107.29</td>
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<tr>
<td><strong>AREA 2</strong></td>
<td>$43.28</td>
<td>$8.57</td>
<td>$20.94</td>
<td>$4.00</td>
<td>$4.40</td>
<td>$0.44</td>
<td>$81.63</td>
<td>$115.74</td>
</tr>
<tr>
<td><strong>AREA 3</strong></td>
<td>$39.68</td>
<td>$8.57</td>
<td>$19.24</td>
<td>$3.50</td>
<td>$4.40</td>
<td>$0.44</td>
<td>$75.83</td>
<td>$107.29</td>
</tr>
</tbody>
</table>

* Indicates an apprenticeable craft. The current apprentice wage rates are available on the Internet @ [http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp](http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp). To obtain any apprentice wage rates as of July 1, 2008 and prior to September 27, 2012, please contact the Division of Apprenticeship Standards or refer to the Division of Apprenticeship Standards’ website at [http://www.dir.ca.gov/das/das.html](http://www.dir.ca.gov/das/das.html).

### RECOGNIZED HOLIDAYS:

Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at [http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

### TRAVEL AND/OR SUBSISTENCE PAYMENT:

In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at [http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.
GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: #BUILDING/CONSTRUCTION INSPECTOR AND FIELD SOILS AND MATERIAL TESTER

DETERMINATION: SC-23-63-2-2017-1D
ISSUE DATE: August 22, 2017
EXPIRATION DATE OF DETERMINATION: June 30, 2018** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

LOCALITY: All localities within Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Luis Obispo, Santa Barbara, and Ventura counties.

<table>
<thead>
<tr>
<th>CLASSIFICATION (Journeyperson)</th>
<th>Employer Payments</th>
<th>Straight – Time Hours</th>
<th>Total Hourly Rate</th>
<th>Overtime Hourly Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Basic Hourly Rate</td>
<td>Health and Welfare</td>
<td>Pension</td>
<td>Vacation/ Holiday (a)</td>
</tr>
<tr>
<td>Group I</td>
<td>$44.78</td>
<td>$11.45</td>
<td>$9.65</td>
<td>$3.55</td>
</tr>
<tr>
<td>Group II</td>
<td>$46.56</td>
<td>$11.45</td>
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</tr>
<tr>
<td>Group III</td>
<td>$48.56</td>
<td>$11.45</td>
<td>$9.65</td>
<td>$3.55</td>
</tr>
</tbody>
</table>

1 1/2X 1 1/2X 2X

# Indicates an apprenticeable craft. The current apprentice wage rates are available on the Internet @ http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp. To obtain any apprentice wage rates as of July 1, 2008 and prior to September 27, 2012, please contact the Division of Apprenticeship Standards or refer to the Division of Apprenticeship Standards' website at http://www.dir.ca.gov/das/das.html.

* Includes an amount withheld for supplemental dues.

b Rate applies to the first 4 overtime hours. All other daily overtime is paid at the Sunday rate.

c Rate applies to the first 12 hours worked. All other time is paid at the Sunday rate.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm. Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

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CLASSIFICATIONS:

**GROUP I**
- Field Soils and Materials Tester
- Field Asphaltic Concrete (Soils and Materials Tester)
- Field Earthwork (Grading Excavation and Filling)
- Roof Inspector
- Water Proofer

**GROUP II**
- AWS-CWI Welding Inspector
- Building / Construction Inspector
- Licensed Grading Inspector
- Reinforcing Steel
- Reinforced Concrete
- Pre-Tension Concrete
- Post-Tension Concrete
- Structural Steel and Welding Inspector
- Glue-Lam and truss Joints
- Truss-Type Joint Construction
- Shear Wall and Floor System used as diaphragms
- Concrete batch Plant
- Spray-Applied Fireproofing
- Structural masonry

**GROUP III**
- Nondestructive Testing (NDT)
GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: #BUILDING/CONSTRUCTION INSPECTOR AND FIELD SOILS AND MATERIAL TESTER (SPECIAL SHIFT)

DETERMINATION: SC-23-63-2-2017-1D1

ISSUE DATE: August 22, 2017

EXPIRATION DATE OF DETERMINATION: June 30, 2018** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

LOCALITY: All localities within Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Luis Obispo, Santa Barbara, and Ventura counties.

<table>
<thead>
<tr>
<th>Classification Groups</th>
<th>Basic Hourly Rate</th>
<th>Health and Welfare</th>
<th>Pension</th>
<th>Vacation/ Holiday (a)</th>
<th>Training</th>
<th>Other Payments</th>
<th>Hours</th>
<th>Total Hourly Rate</th>
<th>Daily (b)</th>
<th>Saturday (c)</th>
<th>Sunday/ Holiday (d)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 1</td>
<td>$45.28</td>
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<td>$3.55</td>
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<td>Group 2</td>
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<td>Group 3</td>
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<td>$75.10</td>
<td>$99.630</td>
<td>$99.630</td>
<td>$124.16</td>
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</tbody>
</table>

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* Includes an amount withheld for supplemental dues.

† Rate applies to the first 4 overtime hours. All other daily overtime is paid at the Sunday rate.

‡ Rate applies to the first 12 hours worked. All other time is paid at the Sunday rate.

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CLASSIFICATIONS:

**GROUP I**
- Field Soils and Materials Tester
- Field Asphaltic Concrete (Soils and Materials Tester)
- Field Earthwork (Grading Excavation and Filling)
- Roof Inspector
- Water Proofer

**GROUP II**
- AWS-CWI Welding Inspector
- Building / Construction Inspector
- Licensed Grading Inspector
- Reinforcing Steel
- Reinforced Concrete
- Pre-Tension Concrete
- Post-Tension Concrete
- Structural Steel and Welding Inspector
- Glue-Lam and truss Joints
- Truss-Type Joint Construction
- Shear Wall and Floor System used as diaphragms
- Concrete batch Plant
- Spray-Applied Fireproofing
- Structural masonry

**Group III**
- Nondestructive Testing (NDT)
GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: #BUILDING/CONSTRUCTION INSPECTOR AND FIELD SOILS AND MATERIAL TESTER (MULTI-SHIFT)

DETERMINATION: SC-23-63-2-2017-1D2
Issue Date: August 22, 2017
EXPIRATION DATE OF DETERMINATION: June 30, 2018** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

LOCALITY: All localities within Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Luis Obispo, Santa Barbara, and Ventura counties.

<table>
<thead>
<tr>
<th>CLASSIFICATION (Journeyperson)</th>
<th>Employer Payments</th>
<th>Straight – Time</th>
<th>Overtime Hourly Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Basic Hourly Rate</td>
<td>Health and Welfare</td>
<td>Vacation/ Holiday (a)</td>
</tr>
<tr>
<td>Classification Groups</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group 1</td>
<td>$45.78</td>
<td>$11.45</td>
<td>$9.65</td>
</tr>
<tr>
<td>Group 2</td>
<td>$47.56</td>
<td>$11.45</td>
<td>$9.65</td>
</tr>
<tr>
<td>Group 3</td>
<td>$49.56</td>
<td>$11.45</td>
<td>$9.65</td>
</tr>
</tbody>
</table>

# Indicates an apprenticeable craft. The current apprentice wage rates are available on the Internet @ http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp. To obtain any apprentice wage rates as of July 1, 2008 and prior to September 27, 2012, please contact the Division of Apprenticeship Standards or refer to the Division of Apprenticeship Standards' website at http://www.dir.ca.gov/das/das.html.

a Includes an amount withheld for supplemental dues.
b Rate applies to the first 4 overtime hours. All other daily overtime is paid at the Sunday rate.
c Rate applies to the first 12 hours worked. All other time is paid at the Sunday rate.
d The Third Shift shall work 6.5 hours, exclusive of meal period, for which 8 hours straight-time shall be paid at the non-shift rate, Monday thurough Friday.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm. Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

CLASSIFICATIONS:

GROUP I
Field Soils and Materials Tester
Field Asphalitic Concrete (Soils and Materials Tester)
Field Earthwork (Grading Excavation and Filling)
Roof Inspector
Water Proofer

GROUP II
AWS-CW1 Welding Inspector
Building / Construction Inspector
Licensed Grading Inspector
Reinforcing Steel
Reinforced Concrete
Pre-Tension Concrete
Post-Tension Concrete
Structural Steel and Welding Inspector
Glue-Lam and truss Joints
Truss-Type Joint Construction
Shear Wall and Floor System used as diaphragms
Concrete batch Plant
Spray-Applied Fireproofing
Structural masonry

GROUP III
Nondestructive Testing (NDT)

10H
PREDETERMINED INCREASES FOR

OPERATING ENGINEER (SC-23-63-2-2017-1)
OPERATING ENGINEER (MULTI-SHIFT) (SC-23-63-2-2017-1)
OPERATING ENGINEER (SPECIAL SHIFT) (SC-23-63-2-2017-1)

CRANES, PILE DRIVER AND HOISTING EQUIPMENT
(OPERATING ENGINEER) (SC-23-63-2-2017-1B)

CRANES, PILE DRIVER AND HOISTING EQUIPMENT
(OPERATING ENGINEER, MULTI-SHIFT) (SC-23-63-2-2017-1B1)

CRANES, PILE DRIVER AND HOISTING EQUIPMENT
(OPERATING ENGINEER, SPECIAL SHIFT) (SC-23-63-2-2017-1B2)

TUNNEL (OPERATING ENGINEER) (SC-23-63-2-2017-1C)

TUNNEL (OPERATING ENGINEER) (SC-23-63-2-2017-1C1) (MULTI-SHIFT)

BUILDING/CONSTRUCTION INSPECTOR, FIELD SOILS AND MATERIAL
TESTER, AND NON-DESTRUCTIVE TESTING (SC-23-63-2-2017-1D)

BUILDING/CONSTRUCTION INSPECTOR, FIELD SOILS AND MATERIAL
TESTER, AND NON-DESTRUCTIVE TESTING (SPECIAL SHIFT)
(SC-23-63-2-2017-1D1)

BUILDING/CONSTRUCTION INSPECTOR, FIELD SOILS AND MATERIAL
TESTER, AND NON-DESTRUCTIVE TESTING (MULTI-SHIFT)
(SC-23-63-2-2017-1D2)

ALL LOCALITIES WITH IMPERIAL, INYO, KERN, LOS ANGELES, MONO,
ORANGE, RIVERSIDE, SAN BERNARDINO, SAN LUIS OBISPO,
SANTA BARBARA, AND VENTURA COUNTIES

These predetermined increases for the above named crafts apply only to the current determinations
for work being performed on public works projects with bid advertisement dates on or after
September 1, 2017, until the determination(s) is/are superseded by a new determination(s) or a
predetermined increase modification notice becomes effective.
When referencing our prevailing wage determinations, please note that if the prevailing wage rate determination which was in effect on the bid advertisement date of a project has a single asterisk (*) after the expiration date, the rate will be good for the life of the project. However, if a prevailing wage rate determination has double asterisks (**) after the expiration date, the rate must be updated on the following date to reflect the predetermined rate change(s).

**OPERATING ENGINEER: All Classifications and All Shifts**
The above Determinations are currently in effect and will expire on June 30, 2018**.

**Effective on July 1, 2018,** there will be an increase of $2.30 to be allocated to wages and/or fringes.

There will be no further increases applicable to these determinations.
### CRAFT: Carpenter and Related Trades

**DETERMINATION: SC-23-31-2-2017-2**

**EXPIRATION DATE OF DETERMINATION:** June 30, 2018** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

**LOCALITY:** All localities within Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Luis Obispo, Santa Barbara, and Ventura counties.

### Classification

<table>
<thead>
<tr>
<th>Classification</th>
<th>Basic Hourly Rate</th>
<th>Health and Welfare</th>
<th>Pension</th>
<th>Vacation/ Holiday</th>
<th>Training</th>
<th>Other</th>
<th>Employee Payments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acoustical Installer</td>
<td>$41.25</td>
<td>$7.10</td>
<td>$4.91</td>
<td>$5.60</td>
<td>$0.57</td>
<td>$0.39</td>
<td>$8 = 59.82</td>
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<tr>
<td>Pile Driver</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$80.445</td>
</tr>
<tr>
<td>Shipper</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$101.07</td>
</tr>
<tr>
<td>Saw Filer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Table Saw Power Saw Operator</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pneumatic Nailer or Power Stapler</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Roof Loader of Shingles</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scaffold Builder</td>
<td></td>
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</tr>
<tr>
<td>Millwright</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Head Rockslinger</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rock Bargeman or Scowman</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diver, Wet (Up To 50 Ft. Depth)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Diver, (Stand-By)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diver’s Tender</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assistant Diver (Diver’s)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**DETERMINATION:** SC-31-741-1-2017-1

**EXPIRATION DATE OF DETERMINATION:** May 31, 2018** Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Office of the Director – Research Unit at (415) 703-4774 for new rates after 10 days from the expiration date, if no subsequent determination is issued.

**LOCALITY:** All localities within Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Luis Obispo, Santa Barbara, and Ventura counties.

### Classification

<table>
<thead>
<tr>
<th>Classification</th>
<th>Basic Hourly Rate</th>
<th>Health and Welfare</th>
<th>Pension</th>
<th>Vacation/ Holiday</th>
<th>Training</th>
<th>Other</th>
<th>Employee Payments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terrazzo Installer</td>
<td>$38.10</td>
<td>$7.10</td>
<td>$4.91</td>
<td>$3.93</td>
<td>$0.52</td>
<td>$48.06</td>
<td>$73.61</td>
</tr>
<tr>
<td>Terrazzo Finisher</td>
<td>$36.60</td>
<td>$7.10</td>
<td>$4.91</td>
<td>$3.93</td>
<td>$0.52</td>
<td></td>
<td>$73.61</td>
</tr>
</tbody>
</table>

# Indicates an apprenticeable craft. The current apprentice wage rates are available on the Internet @ http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp. To obtain any apprentice wage rates as of July 1, 2008 and prior to September 27, 2012, please contact the Division of Apprenticeship Standards or refer to the Division of Apprenticeship Standards’ website at http://www.dir.ca.gov/das/das.html.

### RECOGNIZED HOLIDAYS:
Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holidays provided for current or superseded determinations on the Internet at http://www.dir.ca.gov/OPRLDpPwntdetermination.html.

**TRAVEL AND/OR SUBSISTENCE PAYMENT:** In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence payments for the current determinations on the Internet at http://www.dir.ca.gov/OPRLDpPwntdetermination.html. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.
PREDETERMINED INCREASE FOR

CARPENTER AND RELATED TRADES
(SC-23-31-2-2017-2)

IN ALL LOCALITIES WITHIN IMPERIAL, INYO, KERN, LOS ANGELES, MONO, ORANGE, RIVERSIDE, SAN BERNARDINO, SAN LUIS OBISPO, SANTA BARBARA, AND VENTURA COUNTIES

This predetermined increase for the above named craft applies only to the current determination for work being performed on public works projects with bid advertisement dates on or after September 1, 2017, until this determination is superseded by a new determination or a predetermined increase modification notice becomes effective.

When referencing our prevailing wage determinations, please note that if the prevailing wage rate determination which was in effect on the bid advertisement date of a project has a single asterisk (*) after the expiration date, the rate will be good for the life of the project. However, if a prevailing wage rate determination has double asterisks (**) after the expiration date, the rate must be updated on the following date to reflect the predetermined rate change(s).

CARPENTER: All classifications:
Determination SC-23-31-2-2017-2 is currently in effect and expires on June 30, 2018**.

Effective on July 1, 2018, there will be an increase of $2.20 to be allocated to wages and/or employer payments.

Effective on July 1, 2019, there will be an increase of $2.30 to be allocated to wages and/or employer payments.

There will be no further increases applicable to this determination.

Issued 8/22/2017, Effective 9/1/2017 until superseded.

This page will be updated when wage rate breakdown becomes available.

Last Updated: September 1, 2017
**CRAFT: # CEMENT MASON**

**DETERMINATION:** SC-23-203-2-2017-1  
**ISSUE DATE:** August 22, 2017  
**EXPIRATION DATE OF DETERMINATION:** June 30, 2018** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

**LOCALITY:** All localities within Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Luis Obispo, Santa Barbara, and Ventura Counties.

<table>
<thead>
<tr>
<th>CLASSIFICATION (JOURNEYPRESON)</th>
<th>Basic Rate</th>
<th>Health and Welfare</th>
<th>Vacation/Other Training</th>
<th>Holiday/Pension</th>
<th>Sunday/Vacation/Other Training</th>
<th>Straight-Time Hourly Rate</th>
<th>Overtime Hourly Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cement Mason, Curb and Gutter Machine Operator, Clary and Similar Type of Screed Operator (Cement only); Grinding Machine Operator (all types); Jackson Vibratory, Texas Screed and Similar Type Screed Operator; Scoring Machine Operator</td>
<td>$34.50</td>
<td>7.77</td>
<td>8.86</td>
<td>6.71b</td>
<td>0.64</td>
<td>0.27</td>
<td>8</td>
</tr>
<tr>
<td>Magnesite, magnesite-terrazzo and mastic composition, Epoxy, Urethanes and exotic coatings, Dex-O-Tex</td>
<td>$34.62</td>
<td>7.77</td>
<td>8.86</td>
<td>6.71b</td>
<td>0.64</td>
<td>0.27</td>
<td>8</td>
</tr>
<tr>
<td>Floating and Troweling Machine Operator</td>
<td>$34.75</td>
<td>7.77</td>
<td>8.86</td>
<td>6.71b</td>
<td>0.64</td>
<td>0.27</td>
<td>8</td>
</tr>
</tbody>
</table>

# Indicates an apprenticeable craft. The current apprentice wage rates are available on the Internet @ [http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp](http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp). To obtain any apprentice wage rates as of July 1, 2008 and prior to September 27, 2012, please contact the Division of Apprenticeship Standards or refer to the Division of Apprenticeship Standards' website at [http://www.dir.ca.gov/das/das.html](http://www.dir.ca.gov/das/das.html).

a Saturday in the same work week may be worked at straight-time rate, up to 8 hours on Saturday or when the employee has worked a total of 40 hours in the work week, if it is not reasonably possible for any individual employee on a particular job site to complete 40 hours of work on a 8 hour day, Monday through Friday, due to inclement weather or similar act of God or a situation beyond the control of the contractor.

b Includes an amount for supplemental dues.

c Rate applies to the first 4 daily overtime hours and the first 12 hours worked on Saturday. All other time is paid at the double time (2X) rate.

**RECOGNIZED HOLIDAYS:** Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at [http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

**TRAVEL AND/OR SUBSISTENCE PAYMENT:** In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at [http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.
This predetermined increase for the above named craft applies only to the current determination for work being performed on public works projects with bid advertisement dates on or after September 1, 2017, until this determination is superseded by a new determination or a predetermined increase modification notice becomes effective.

When referencing our prevailing wage determinations, please note that if the prevailing wage rate determination which was in effect on the bid advertisement date of a project has a single asterisk (*) after the expiration date, the rate will be good for the life of the project. However, if a prevailing wage rate determination has double asterisks (**) after the expiration date, the rate must be updated on the following date to reflect the predetermined rate change(s).

Cement Mason
Determination SC-23-203-2-2017-1 is currently in effect and expires on June 30, 2018**.

Effective on July 1, 2018, there will be an increase of $2.00 allocated as follows: $0.15 to Pension, and $1.85 to Wages and/or fringes.

Effective on July 1, 2019, there will be an increase of $2.05 allocated as follows: $0.15 to Pension, and $1.90 to Wages and/or fringes.

Effective on July 1, 2020, there will be an increase of $1.85 allocated as follows: $0.15 to Pension, and $1.70 to Wages and/or fringes.

There will be no further increases applicable to this determination.
### General Prevailing Wage Determination

**Determination:** SC-23-63-2-2017-1B  
**Issue Date:** August 22, 2017  
**Expiration Date of Determination:** June 30, 2018**  
The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

**Locality:** All localities within Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Luis Obispo, Santa Barbara, and Ventura counties.

<table>
<thead>
<tr>
<th>Classification (Journeyperson)</th>
<th>Basic Hourly Rate</th>
<th>Health and Welfare</th>
<th>Pension</th>
<th>Vacation/ Holiday (a)</th>
<th>Training</th>
<th>Other Payments</th>
<th>Hours</th>
<th>Total Hourly Rate</th>
<th>Daily (c)</th>
<th>Saturday (d)</th>
<th>Sunday/ Holiday</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Group 1</strong></td>
<td>$45.35</td>
<td>$11.45</td>
<td>$9.65</td>
<td>$3.55</td>
<td>$1.00</td>
<td>$0.39</td>
<td>8</td>
<td>$71.39</td>
<td>$94.065</td>
<td>$94.065</td>
<td>$116.74</td>
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<tr>
<td><strong>Group 2</strong></td>
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<td>$9.65</td>
<td>$3.55</td>
<td>$1.00</td>
<td>$0.39</td>
<td>8</td>
<td>$72.17</td>
<td>$95.235</td>
<td>$95.235</td>
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<td><strong>Group 3</strong></td>
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<td>$9.65</td>
<td>$3.55</td>
<td>$1.00</td>
<td>$0.39</td>
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<td>$72.60</td>
<td>$95.880</td>
<td>$95.880</td>
<td>$119.16</td>
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<tr>
<td><strong>Group 4</strong></td>
<td>$46.56</td>
<td>$11.45</td>
<td>$9.65</td>
<td>$3.55</td>
<td>$1.00</td>
<td>$0.39</td>
<td>8</td>
<td>$72.82</td>
<td>$96.210</td>
<td>$96.210</td>
<td>$119.60</td>
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<td><strong>Group 5</strong></td>
<td>$46.78</td>
<td>$11.45</td>
<td>$9.65</td>
<td>$3.55</td>
<td>$1.00</td>
<td>$0.39</td>
<td>8</td>
<td>$72.93</td>
<td>$96.375</td>
<td>$96.375</td>
<td>$120.06</td>
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<tr>
<td><strong>Group 6</strong></td>
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<td>$11.45</td>
<td>$9.65</td>
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<td>$1.00</td>
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<td>$73.05</td>
<td>$96.555</td>
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<tr>
<td><strong>Group 7</strong></td>
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<td>$1.00</td>
<td>$0.39</td>
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<td>$73.22</td>
<td>$96.810</td>
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<td><strong>Group 8</strong></td>
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<td>$11.45</td>
<td>$9.65</td>
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<td>$1.00</td>
<td>$0.39</td>
<td>8</td>
<td>$73.39</td>
<td>$97.065</td>
<td>$97.065</td>
<td>$120.74</td>
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<tr>
<td><strong>Group 9</strong></td>
<td>$48.35</td>
<td>$11.45</td>
<td>$9.65</td>
<td>$3.55</td>
<td>$1.00</td>
<td>$0.39</td>
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<td>$103.065</td>
<td>$103.065</td>
<td>$128.74</td>
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**Legend:**  
(a) Includes an amount withheld for supplemental dues.  
(b) For classifications within each group, see page 10B.  
(c) Rate applies to the first 4 overtime hours. All other daily overtime is paid at the Sunday rate.  
(d) Rate applies to the first 12 hours worked. All other time is paid at the Sunday rate.

**Note:** For Special Shift and Multi-Shift, see pages 10A-1 and 10A-2.

**Recognized Holidays:** Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at [http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

**Travel and/or Subsistence Payment:** In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at [http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

CLASSIFICATIONS:

GROUP 1
Engineer Oiler

GROUP 2
Truck Crane Oiler

GROUP 3
A-Frame or Winch Truck Operator
Ross Carrier Operator (Jobsite)

GROUP 4
Bridge-Type Unloader and Turntable Operator
Helicopter Hoist Operator
Snobble Unit (pin-n-go or similar type)

GROUP 5
Hydraulic Boom Truck/Knuckleboom
Stinger Crane (Austin-Western or similar type)
Tugger Hoist Operator (1 drum)

GROUP 6
Bridge Crane Operator
Cretor Crane Operator
Hoist Operator (Chicago Boom and similar type)
Lift Mobile Operator
Lift Slab Machine Operator (Vagtborg and similar types)
Material Hoist and/or Manlift Operator
Polar Gantry Crane Operator
Prentice Self-Loader
Self Climbing Scaffold (or similar type)
Shovel, Dragline, Clamshell Operator (over 3/4 yd and up to 5 cu yds, M.R.C.)
Silent Piler
Tugger Hoist Operator (2 drum)

GROUP 7
Pedestal Crane Operator
Shovel, Dragline, Clamshell Operator (over 5 cu yds, M.R.C.)
Tower Crane Repairman
Tugger Hoist Operator (3 drum)

GROUP 8
Crane Operator (up to and including 25 ton capacity)
Crawler Transporter Operator
Derrick Barge Operator (up to and including 25 ton capacity)
Hoist Operator, Stiff Legs, Guy Derrick or similar type (up to and including 25 ton capacity)
Shovel, Dragline, Clamshell Operator (over 7 cu yds M.R.C.)

GROUP 9
Crane Operator (over 25 tons, up to and including 50 ton M.R.C.)
Derrick Barge Operator (over 25 tons, up to and including 50 ton M.R.C.)
Highline Cableway Operator
Hoist Operator, Stiff Legs, Guy Derrick or similar type (over 25 tons, up to and including 50 ton M.R.C.)
K-Crane
Polar Crane Operator
Self Erecting Tower Crane Operator Maximum Lifting Capacity ten (10) tons.

GROUP 10
ABI/Fundex Machine
Crane Operator (over 50 tons, up to and including 100 ton M.R.C.)
Derrick Barge Operator (over 50 tons, up to and including 100 ton M.R.C.)
Hoist Operator, Stiff Legs, Guy Derrick or similar type (over 50 tons, up to and including 100 ton M.R.C.)
Mobile Tower Crane Operator (over 50 tons, up to and including 100 ton M.R.C.)
Shovel, Dragline, Clamshell Operator (over 10 cu. yds.)

GROUP 11
Crane Operator (over 100 tons, up to and including 200 ton M.R.C.)
Derrick Barge Operator (over 100 tons, up to and including 200 ton M.R.C.)
Hoist Operator, Stiff Legs, Guy Derrick or similar type (over 100 tons, up to and including 200 ton M.R.C.)
Mobile Tower Crane Operator (over 100 tons, up to and including 200 ton M.R.C.)
Tower Crane Operator and Tower Gantry

GROUP 12
Crane Operator (over 200 tons, up to and including 300 tons M.R.C.)
Derrick Barge Operator (over 200 tons, up to and including 300 tons M.R.C.)
Hoist Operator, Stiff Legs, Guy Derrick or similar type (over 200 tons, up to and including 300 ton M.R.C.)
Mobile Tower Crane Operator (over 200 tons, up to and including 300 ton M.R.C.)

GROUP 13
Crane Operator (over 300 tons)
Derrick Barge Operator (over 300 tons)
Helicopter Pilot
Hoist Operator, Stiff Legs, Guy Derrick or similar type (over 300 tons)
Hydraulically Controlled Lift Gantry Operator BCR Lift System (over 300 tons)
Mobile Tower Crane Operator (over 300 tons)

MISCELLANEOUS PROVISIONS:

1. Operators on hoists with three drums shall receive fifteen cents (15¢) per hour additional pay to the regular rate of pay. The additional pay shall be added to the regular rate and become the base rate for the entire shift.

2. All heavy duty repairman and heavy duty combination shall receive fifty cents (50¢) per hour tool allowance in addition to their regular rate of pay and this shall become their base rate of pay.

3. Employees required to suit up and work in a hazardous material environment, shall receive Two Dollars ($2.00) per hour in addition to their regular rate of pay, and that rate shall become the basic hourly rate of pay.
GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: #Cranes, Pile Driver and Hoisting Equipment (Operating Engineer, Special Shift)

DETERMINATION: SC-23-63-2-2017-1B1

ISSUE DATE: August 22, 2017

EXPIRATION DATE OF DETERMINATION: June 30, 2018** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

LOCALITY: All localities within Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Luis Obispo, Santa Barbara, and Ventura counties.

<table>
<thead>
<tr>
<th>Classification Groups (b)</th>
<th>Basic Hourly Rate</th>
<th>Health and Welfare</th>
<th>Pension</th>
<th>Vacation/Holiday (a)</th>
<th>Training</th>
<th>Other Payments</th>
<th>Straight – Time Hours</th>
<th>Total Hourly Rate</th>
<th>Overtime Hourly Rate</th>
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<td>$103.815</td>
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</tbody>
</table>

* # Indicates an apprenticeable craft. The current apprentice wage rates are available on the Internet @ http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp. To obtain any apprentice wage rates as of July 1, 2008 and prior to September 27, 2012, please contact the Division of Apprenticeship Standards or refer to the Division of Apprenticeship Standards' website at http://www.dir.ca.gov/das/das.html.

a Includes an amount withheld for supplemental dues.
b For classifications within each group, see page 10B.
c Rate applies to the first 4 overtime hours. All other daily overtime is paid at the Sunday rate.
d Rate applies to the first 12 hours worked. All other time is paid at the Sunday rate.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm. Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.
GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
Pursuant to California Labor Code Part 7, Chapter 1, Article 2, Sections 1770, 1773 and 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: #Cranes, Pile Driver and Hoisting Equipment (Operating Engineer, Multi-Shift)


ISSUE DATE: August 22, 2017

EXPIRATION DATE OF DETERMINATION: June 30, 2018** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

LOCALITY: All localities within Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Luis Obispo, Santa Barbara, and Ventura counties.

<table>
<thead>
<tr>
<th>CLASSIFICATION (Journeyperson)</th>
<th>Basic Hourly Rate</th>
<th>Health and Welfare</th>
<th>Pension</th>
<th>Vacation/ Holiday (a)</th>
<th>Training</th>
<th>Other Payments</th>
<th>Employer Payments</th>
<th>Straight – Time Hours (c)</th>
<th>Total Hourly Rate</th>
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<td>$104.565</td>
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<td>$130.74</td>
</tr>
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</table>

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• Includes an amount withheld for supplemental dues.

• For classifications within each group, see page 10B.

• Rate applies to the first 4 overtime hours. All other daily overtime is paid at the Sunday rate.

• Rate applies to the first 12 hours worked. All other time is paid at the Sunday rate.

• The Third Shift shall work 6.5 hours, exclusive of meal period, for which 8 hours straight-time shall be paid at the non-shift rate, Monday through Friday.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm. Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

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10A2
PREDETERMINED INCREASES FOR

OPERATING ENGINEER (SC-23-63-2-2017-1)
OPERATING ENGINEER (MULTI-SHIFT) (SC-23-63-2-2017-1)
OPERATING ENGINEER (SPECIAL SHIFT) (SC-23-63-2-2017-1)

CRANES, PILE DRIVER AND HOISTING EQUIPMENT
(OPERATING ENGINEER) (SC-23-63-2-2017-1B)

CRANES, PILE DRIVER AND HOISTING EQUIPMENT
(OPERATING ENGINEER, MULTI-SHIFT) (SC-23-63-2-2017-1B1)

CRANES, PILE DRIVER AND HOISTING EQUIPMENT
(OPERATING ENGINEER, SPECIAL SHIFT) (SC-23-63-2-2017-1B2)

TUNNEL (OPERATING ENGINEER) (SC-23-63-2-2017-1C)

TUNNEL (OPERATING ENGINEER) (SC-23-63-2-2017-1C1) (MULTI-SHIFT)

BUILDING/CONSTRUCTION INSPECTOR, FIELD SOILS AND MATERIAL TESTER, AND NON-DESTRUCTIVE TESTING (SC-23-63-2-2017-1D)

BUILDING/CONSTRUCTION INSPECTOR, FIELD SOILS AND MATERIAL TESTER, AND NON-DESTRUCTIVE TESTING (SPECIAL SHIFT) (SC-23-63-2-2017-1D1)

BUILDING/CONSTRUCTION INSPECTOR, FIELD SOILS AND MATERIAL TESTER, AND NON-DESTRUCTIVE TESTING (MULTI-SHIFT) (SC-23-63-2-2017-1D2)

ALL LOCALITIES WITH IMPERIAL, INYO, KERN, LOS ANGELES, MONO, ORANGE, RIVERSIDE, SAN BERNARDINO, SAN LUIS OBISPO, SANTA BARBARA, AND VENTURA COUNTIES

These predetermined increases for the above named crafts apply only to the current determinations for work being performed on public works projects with bid advertisement dates on or after September 1, 2017, until the determination(s) is/are superseded by a new determination(s) or a predetermined increase modification notice becomes effective.
When referencing our prevailing wage determinations, please note that if the prevailing wage rate determination which was in effect on the bid advertisement date of a project has a single asterisk (*) after the expiration date, the rate will be good for the life of the project. However, if a prevailing wage rate determination has double asterisks (**) after the expiration date, the rate must be updated on the following date to reflect the predetermined rate change(s).

**OPERATING ENGINEER: All Classifications and All Shifts**
The above Determinations are currently in effect and will expire on June 30, 2018**.

**Effective on July 1, 2018**, there will be an increase of $2.30 to be allocated to wages and/or fringes.

There will be no further increases applicable to these determinations.
GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: # DREDGER (OPERATING ENGINEER)

DETERMINATION: SC-63-12-23-2017-1
ISSUE DATE: August 22, 2017
EXPIRATION DATE OF DETERMINATION: July 31, 2018** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director – Research Unit for specific rates at (415) 703-4774.

LOCALITY: All localities within Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Diego, San Luis Obispo, Santa Barbara, and Ventura counties.

<table>
<thead>
<tr>
<th>CLASSIFICATION (Journeyperson)</th>
<th>Employer Payments</th>
<th>Straight-Time</th>
<th>Overtime Hourly Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Basic Hours</td>
<td>Health</td>
<td>Pension Hours</td>
</tr>
<tr>
<td>Chief Engineer, Deck Captain</td>
<td>$55.50</td>
<td>11.45</td>
<td>9.65</td>
</tr>
<tr>
<td>Leverman</td>
<td>$53.55</td>
<td>11.45</td>
<td>9.65</td>
</tr>
<tr>
<td>Watch Engineer, Deckmate</td>
<td>$47.47</td>
<td>11.45</td>
<td>9.65</td>
</tr>
<tr>
<td>Winchman (Stern Winch on Dredge)</td>
<td>$46.92</td>
<td>11.45</td>
<td>9.65</td>
</tr>
<tr>
<td>Fireman-Oiler, Leveehand, Deckhand (can operate anchor scow under direction of mate), Bargeman</td>
<td>$46.38</td>
<td>11.45</td>
<td>9.65</td>
</tr>
<tr>
<td>Dozer Operator</td>
<td>$47.58</td>
<td>11.45</td>
<td>9.65</td>
</tr>
<tr>
<td>Hydrographic Surveyor</td>
<td>$49.01</td>
<td>11.45</td>
<td>9.65</td>
</tr>
<tr>
<td>Barge Mate</td>
<td>$46.99</td>
<td>11.45</td>
<td>9.65</td>
</tr>
<tr>
<td>Welder</td>
<td>$48.97</td>
<td>11.45</td>
<td>9.65</td>
</tr>
</tbody>
</table>

# Indicates an apprenticeable craft. The current apprentice wage rates are available on the Internet @ http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp. To obtain any apprentice wage rates as of July 1, 2008 and prior to September 27, 2012, please contact the Division of Apprenticeship Standards or refer to the Division of Apprenticeship Standards' website at http://www.dir.ca.gov/das/das.html.

a Includes an amount for supplemental dues.
b Rate applies to the first 4 daily overtime hours and first 12 hours on Saturdays. All other time is paid at the Sunday overtime rate.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at http://www.dir.ca.gov/oprl/DPreWageDetermination.htm. Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at http://www.dir.ca.gov/oprl/DPreWageDetermination.htm. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.
PREDETERMINED INCREASES FOR

DREDGER (OPERATING ENGINEER) (SC-63-12-23-2017-1)

ALL LOCALITIES WITHIN IMPERIAL, INYO, KERN, LOS ANGELES, MONO, ORANGE, RIVERSIDE, SAN BERNARDINO, SAN DIEGO, SAN LUIS OBISPO, SANTA BARBARA, AND VENTURA COUNTIES

These predetermined increases for the above named craft applies only to the current determination for work being performed on public works projects with bid advertisement dates on or after September 1, 2017, until this determination is superseded by a new determination or a predetermined increase modification notice becomes effective.

When referencing our prevailing wage determinations, please note that if the prevailing wage rate determination, which was in effect on the bid advertisement date of a project has a single asterisk (*) after the expiration date, the rate will be good for the life of the project. However, if a prevailing wage rate determination has double asterisks (**) after the expiration date, the rate must be updated on the following date to reflect the predetermined rate change(s).

DREDGER (OPERATING ENGINEER): All Classifications

Determination SC-63-12-23-2017-1 is currently in effect and will expire on July 31, 2018**.

Effective on August 1, 2018, there will be an increase of $2.30 to be allocated to wages and or employer payments.

There will be no further increases applicable to this determination.

Issued 8/22/2017, Effective 9/1/2017 until superseded.

This page will be updated when wage rate breakdown information becomes available.

Last Updated: September 1, 2017
**DETERMINATION:** SC-31-X-41-2017-2  
**ISSUE DATE:** August 22, 2017  
**EXPIRATION DATE OF DETERMINATION:** June 30, 2018** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director – Research Unit for specific rates at (415) 703-4774.  
**LOCALITY:** All localities within Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Luis Obispo, Santa Barbara and Ventura counties.

<table>
<thead>
<tr>
<th>Classification</th>
<th>Basic Rate</th>
<th>Health and Welfare</th>
<th>Pension</th>
<th>Vacation/Holiday</th>
<th>Training</th>
<th>Other</th>
<th>Straight-Time Hours</th>
<th>Total Daily Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drywall Installer/</td>
<td>$41.25</td>
<td>$7.10</td>
<td>$4.91</td>
<td>$5.60</td>
<td>$0.57</td>
<td>$0.67</td>
<td>8</td>
<td>$60.10</td>
</tr>
<tr>
<td>Lather</td>
<td>$41.25</td>
<td>$7.10</td>
<td>$4.91</td>
<td>$5.60</td>
<td>$0.57</td>
<td>$0.67</td>
<td>8</td>
<td>$60.10</td>
</tr>
</tbody>
</table>

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**DETERMINATION:** SC-31-X-41-2017-2A  
**ISSUE DATE:** August 22, 2017  
**EXPIRATION DATE OF DETERMINATION:** June 30, 2018* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Office of the Director - Research Unit (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.

<table>
<thead>
<tr>
<th>Classification</th>
<th>Basic Rate</th>
<th>Health and Welfare</th>
<th>Pension</th>
<th>Vacation/Holiday</th>
<th>Training</th>
<th>Other</th>
<th>Straight-Time Hours</th>
<th>Total Daily Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stocker, Scrapper</td>
<td>$12.00</td>
<td>$7.10</td>
<td>-</td>
<td>$4.60</td>
<td>$0.57</td>
<td>-</td>
<td>8</td>
<td>$24.27</td>
</tr>
</tbody>
</table>

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# Indicates an apprenticeable craft. The current apprentice wage rates are available on the Internet @ http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp. To obtain any apprentice wage rates as of July 1, 2008 and prior to September 27, 2012, please contact the Division of Apprenticeship Standards or refer to the Division of Apprenticeship Standards' website at http://www.dir.ca.gov/das/das.html.

*a* Includes an amount per hour worked for supplemental dues.  
*b* Rate applies to the first 4 daily overtime hours and to the first 8 hours on Saturday. All other overtime will be paid the Sunday and Holiday double time rate. Saturdays in the same workweek may be worked at straight-time if job is shut down during the normal work week due to inclement weather.

**RECOGNIZED HOLIDAYS:** Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm. Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

**TRAVEL AND/OR SUBSISTENCE PAYMENT:** In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.
**Determination:** C-DT-830-261-10-2016-1  
**Issue Date:** August 22, 2016  
**Expiration date of determination:** September 30, 2016  
*Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Division of Labor Statistics and Research at (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.

**Localities:** All localities within Imperial, Inyo, Los Angeles, Mono, Orange, Riverside, San Bernardino and San Diego Counties.

<table>
<thead>
<tr>
<th>Classification</th>
<th>Employer Payments</th>
<th>Straight-Time</th>
<th>Overtime Hourly Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Basic Hourly Rate</td>
<td>And Health And Vacation And Pension And Holiday Training Other Hours</td>
<td>Total Hourly Rate</td>
</tr>
<tr>
<td>Driver: Dump Truck</td>
<td>$17.00</td>
<td>$2.05</td>
<td>$0.085</td>
</tr>
</tbody>
</table>

*The contribution applies to all work up to $355.00 per month.

$0.65 after 2 years of service  
$0.98 after 5 years of service  
$1.31 after 9 years of service

*Rate applies to work in excess of eight (8) hours daily and forty (40) hours weekly.

*There is no predetermined increase applicable to this determination.

**RECOGNIZED HOLIDAYS:** Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at [http://www.dir.ca.gov/OPRL/PWD](http://www.dir.ca.gov/OPRL/PWD). Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

**TRAVEL AND/OR SUBSISTENCE PAYMENT:** In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence requirements for the current determinations on the Internet at [http://www.dir.ca.gov/OPRL/PWD](http://www.dir.ca.gov/OPRL/PWD). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.
PREDETERMINED INCREASE FOR

DRYWALL INSTALLER/LATHER (CARPENTER)
(SC-31-X-41-2017-2)

ALL LOCALITIES WITHIN IMPERIAL, INYO, KERN, LOS ANGELES, MONO, ORANGE, RIVERSIDE, SAN BERNARDINO, SAN LUIS OBISPO, SANTA BARBARA, AND VENTURA COUNTIES

This predetermined increase for the above named craft applies only to the current determination for work being performed on public works projects with bid advertisement dates on or after September 1, 2017, until this determination is superseded by a new determination or a predetermined increase modification notice becomes effective.

When referencing our prevailing wage determinations, please note that if the prevailing wage rate determination, which was in effect on the bid advertisement date of a project, has a single asterisk (*) after the expiration date, the rate will be good for the life of the project. However, if a prevailing wage rate determination has double asterisks (**) after the expiration date, the rate must be updated on the following date to reflect the predetermined rate change(s).

DRYWALL INSTALLER/LATHER (CARPENTER)
Determination SC-31-X-41-2017-2 is currently in effect and expires on June 30, 2018**.

Effective July 1, 2018, there will be a $2.20 increase to be allocated to wages and/or employer payments and $0.05 to Other.

Effective July 1, 2019, there will be a $2.30 increase to be allocated to wages and/or employer payments.

There will be no further increases for this determination.
Determination: SC-23-31-20-2017-1
Issue Date: August 22, 2017
Expiration Date of Determination: June 30, 2018* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Office of the Director – Research Unit at (415) 703-4774 for the new rates after ten days after the expiration date if no subsequent determination is issued.

Locality: All localities within Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Diego, San Luis Obispo, Santa Barbara, and Ventura counties.

<table>
<thead>
<tr>
<th>Classification</th>
<th>Basic Hourly Rate</th>
<th>Health and Welfare</th>
<th>Vacation and Pension</th>
<th>Holiday and Training</th>
<th>Other</th>
<th>Total Hours</th>
<th>Daily Rate</th>
<th>Saturday 1/2X</th>
<th>Sunday 1/2X</th>
<th>Holiday 1 1/2X</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fence Builder</td>
<td>$37.29</td>
<td>$7.10</td>
<td>$4.66</td>
<td>$5.00</td>
<td>$0.57</td>
<td>$0.21</td>
<td>$54.83</td>
<td>$73.475</td>
<td>$73.475</td>
<td>$92.120</td>
</tr>
</tbody>
</table>

*Rate applies to the first 4 overtime hours. All other time is paid at the Sunday and Holiday overtime hourly rate.

b Saturdays in the same work week may be worked at straight-time for the first 8 hours if the job is shut down during the normal work week due to inclement weather, or reasons beyond the control of the employer.

Recognized Holidays: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm. Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

Travel and/or Subsistence Payment: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.
GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT:  # IRON WORKER

DETERMINATION:  C-20-X-1-2017-1
ISSUE DATE:  February 22, 2017
EXPIRATION DATE OF DETERMINATION:  June 30, 2017* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Office of the Director – Research Unit at (415) 703-4774 for the new rates after ten days after the expiration date if no subsequent determination is issued.

LOCALITY:  All localities within the State of California

<table>
<thead>
<tr>
<th>CLASSIFICATION (Journeyperson)</th>
<th>Employer Payments</th>
<th>Straight-Time</th>
<th>Overtime Hourly Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Basic Hourly Rate</td>
<td>Health Pension</td>
<td>Vacation/ Training Other Hours Total Daily Saturday Sunday/ Holiday</td>
</tr>
<tr>
<td>Iron Worker (Ornamental, Reinforcing, Structural)</td>
<td>$36.00 9.55 13.32</td>
<td>a 4.00 0.72</td>
<td>2.865 8 66.455 84.455 84.455 102.455</td>
</tr>
<tr>
<td>Fence Erector</td>
<td>$29.58 7.38 8.99</td>
<td>a 2.70 0.51</td>
<td>1.905 8 51.065 65.855 65.855 80.645</td>
</tr>
</tbody>
</table>

# Indicates an apprenticeable craft. The current apprentice wage rates are available on the Internet at http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp. To obtain any apprentice wage rates as of July 1, 2008 and prior to September 27, 2012, please contact the Division of Apprenticeship Standards or refer to the Division of Apprenticeship Standards' website at http://www.dir.ca.gov/das/das.html.

a Includes supplemental dues.
b Rate applies to the first 2 daily overtime hours and the first 8 hours on Saturday. All other overtime is at the Sunday/Holiday rate.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm. Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

TRAFFIC AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.
GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: LABORER AND RELATED CLASSIFICATIONS

ISSUE DATE: August 22, 2017
EXPIRATION DATE OF DETERMINATION: July 31, 2018* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Office of the Director – Research Unit at (415) 703-4774 for the new rates after ten days after the expiration date if no subsequent determination is issued.

LOCALITY: All localities within Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Luis Obispo, Santa Barbara, and Ventura counties.

<table>
<thead>
<tr>
<th>Classification a (Journeyperson)</th>
<th>Basic Hourly Rate</th>
<th>Health and Welfare</th>
<th>Pension</th>
<th>Vacation/ and Holiday d</th>
<th>Training</th>
<th>Other Payment</th>
<th>Straight-Time Hours</th>
<th>Total Daily Hourly Rate</th>
<th>Overtime Hourly Rates</th>
<th>Sunday</th>
<th>Saturday</th>
<th>Holiday</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 1</td>
<td>$33.19</td>
<td>7.12</td>
<td>7.53</td>
<td>4.59</td>
<td>0.69</td>
<td>0.61</td>
<td>8</td>
<td>53.73</td>
<td>70.325</td>
<td>70.325</td>
<td>86.920</td>
<td></td>
</tr>
<tr>
<td>Group 2</td>
<td>33.74</td>
<td>7.12</td>
<td>7.53</td>
<td>4.59</td>
<td>0.69</td>
<td>0.61</td>
<td>8</td>
<td>54.28</td>
<td>71.150</td>
<td>71.150</td>
<td>88.020</td>
<td></td>
</tr>
<tr>
<td>Group 3</td>
<td>34.29</td>
<td>7.12</td>
<td>7.53</td>
<td>4.59</td>
<td>0.69</td>
<td>0.61</td>
<td>8</td>
<td>54.83</td>
<td>71.975</td>
<td>71.975</td>
<td>89.120</td>
<td></td>
</tr>
<tr>
<td>Group 4</td>
<td>35.84</td>
<td>7.12</td>
<td>7.53</td>
<td>4.59</td>
<td>0.69</td>
<td>0.61</td>
<td>8</td>
<td>56.38</td>
<td>74.300</td>
<td>74.300</td>
<td>92.220</td>
<td></td>
</tr>
<tr>
<td>Group 5</td>
<td>36.19</td>
<td>7.12</td>
<td>7.53</td>
<td>4.59</td>
<td>0.69</td>
<td>0.61</td>
<td>8</td>
<td>56.73</td>
<td>74.825</td>
<td>74.825</td>
<td>92.920</td>
<td></td>
</tr>
</tbody>
</table>

# Indicates an apprenticeable craft. The current apprentice wage rates are available on the Internet @ http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp. To obtain any apprentice wage rates as of July 1, 2008 and prior to September 27, 2012, please contact the Division of Apprenticeship Standards or refer to the Division of Apprenticeship Standards' website at http://www.dir.ca.gov/das/das.html.

a For classification within each group, see page 14.
b Any hours worked over 12 hours in a single workday are double (2) time.
c Saturdays in the same work week may be worked at straight-time if job is shut down during work week due to inclement weather or similar Act of God, or a situation beyond the employers control.
d Includes an amount per hour worked for supplemental dues

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm. Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.
CLASSIFICATION GROUPS

GROUP 1
Boring Machine Helper (Outside)
Certified Confined Space Laborer
Cleaning and Handling of Panel Forms
Concrete Screeding for Rough Strike-Off
Concrete, Water Curing
Demolition Laborer, the cleaning of brick if performed by an employee performing any other phase of demolition work, and the cleaning of lumber
Fiberoptic Installation, Blowing, Splicing, and Testing Technician on public right-of-way only
Fire Watcher, Limbers, Brush Loaders, Pilers and Debris Handlers
Flagman
Gas, Oil and/or Water Pipeline Laborer
Laborer, Asphalt-Rubber Material Loader
Laborer, General or Construction
Laborer, General Cleanup
Laborer, Jetting
Laborer, Temporary Water and Air Lines
Plugging, Filling of Shee-Bolt Holes; Dry Packing of Concrete and Patching
Post Hole Digger (Manual)
Railroad Maintenance, Repair Trackman and Road Beds; Streetcar and Railroad Construction Track Laborers
Rigging and Signaling
Scaler
Slip Form Raisers
Tarman and Mortar Man
Tool Crib or Tool House Laborer
Traffic Control by any method
Water Well Driller Helper
Window Cleaner
Wire Mesh Pulling - All Concrete Pouring Operations

GROUP 2
Asphalt Shoveler
Cement Dumper (on 1 yard or larger mixer and handling bulk cement)
Cesspool Digger and Installer
Chucktender
Chute Man, pouring concrete, the handling of the chute from readymix trucks, such as walls, slabs, decks, floors, foundations, footings, curbs, gutters and sidewalks
Concrete Curer-Impervious Membrane and Form Oiler
Cutting Torch Operator (Demolition)
Fine Grader, Highways and Street Paving, Airport, Runways, and similar type heavy construction
Gas, Oil and/or Water Pipeline Wrapper-Pot Tender and Form Man
Guinea Chaser
Headerboard Man-Asphalt
Installation of all Asphalt Overlay Fabric and Materials used for Reinforcing Asphalt
Laborer, Packing Rod Steel and Pans
Membrane Vapor Barrier Installer
Power Broom Sweepers (small)
Riprap, Stonemason, placing stone or wet sacked concrete
Roto Scraper and Tiller
Sandblaster (Pot Tender)
Septic Tank Digger and Installer (leadman)

GROUP 2 (continued)
Tank Scaler and Cleaner
Tree Climber, Faller, Chain Saw Operator, Pittsburgh Chipper and similar type Brush Shredders
Underground Laborer, including Caisson Bellerower

GROUP 3
Asphalt Installation of all fabrics
Buggymobile Man
Compactor (all types including Tampers, Barko, Wacker)
Concrete Cutting Torch
Concrete Pile Cutter
Driller, Jackhammer, 2 1/2 ft. drill steel or longer
Dri Pak-it Machine
Gas, Oil and/or Water Pipeline Wrapper - 6-inch pipe and over by any method, inside and out
High Scaler (including drilling of same)
Impact Wrench, Multi-Plate
Kettlemen, Potmen and Men applying asphalt, lay-kold, creosote, lime caustic and similar type materials
Laborer, Fence Erector
Material Hoseman (Walls, Slabs, Floors and Decks)
Operators of Pneumatic, Gas, Electric Tools, Vibrating Machines, Pavement Breakers, Air Blasting, Come-Alongs, and similar mechanical tools not separately classified herein; operation of remote controlled robotic tools in connection with Laborers work
Pipelayer's backup man, coating, grouting, making of joints, sealing, caulking, diaphraging and including rubber gasket joints, pointing and any and all other services
Power Post Hole Digger
Rock Slinger
Rotary Scarifier or Multiple Head Concrete Chipping Scarifier
Steel Headerboard Man and Guideline Setter
Trenching Machine, Hand Propelled

GROUP 4
Any Worker Exposed to Raw Sewage
Asphalt Raker, Luteman, Ironer, Asphalt Dumpman, and Asphalt Spreader Boxes (all types)
Concrete Core Cutter (walls, floors or ceilings), Grinder or Sander
Concrete Saw Man, Cutting Walls or Flat Work, Scoring old or new concrete
Cribber, Shorer, Lagging, Sheeting and Trench Bracing, Hand-Guided Lagging Hammer
Head Rock Slinger
Laborer, Asphalt-Rubber Distributor Bootman
Laser Beam in connection with Laborers work
Oversize Concrete Vibrator Operator, 70 pounds and over
Pipelayer
Prefabricated Manhole Installer
Sandblaster (Nozzlemans), Water Blasting, Porta Shot-Blast
Subsurface Imaging Laborer
Traffic Lane Closure, certified

GROUP 5
Blasters Powderman
Driller
Toxic Waste Removal
Welding, certified or otherwise in connection with Laborers' work
### GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

**CRAFT: #LANDSCAPE/IRRIGATION LABORER/TENDER**

**DETERMINATION:** SC-102-X-14-2017-2  
**ISSUE DATE:** August 22, 2017

**EXPIRATION DATE OF DETERMINATION:** July 31, 2018* Effective until superseded by a new determination issued by the Director of Industrial Relations.  
Contact the Office of the Director – Research Unit at (415) 703-4774 for the new rates after ten days after the expiration date if no subsequent determination is issued.

**LOCALITY:** All localities within Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Luis Obispo, Santa Barbara and Ventura counties.

<table>
<thead>
<tr>
<th>CLASSIFICATION (Journeyperson)</th>
<th>Employer Payments</th>
<th>Straight-Time</th>
<th>Overtime Hourly Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Basic Hourly Rate</td>
<td>Health and Welfare</td>
<td>Pension</td>
</tr>
<tr>
<td>Landscape/Irrigation Laborer</td>
<td>$31.38</td>
<td>$7.12</td>
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<tr>
<td>Landscape Hydro Seeder</td>
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<td>$7.12</td>
<td>$7.53</td>
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---

**DETERMINATION:** SC-102-X-14-2017-2A  
**ISSUE DATE:** August 22, 2017

**EXPIRATION DATE OF DETERMINATION:** July 31, 2018* Effective until superseded by a new determination issued by the Director of Industrial Relations.  
Contact the Office of the Director – Research Unit at (415) 703-4774 for the new rates after ten days after the expiration date if no subsequent determination is issued.

**LOCALITY:** All localities within Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Luis Obispo, Santa Barbara and Ventura counties.

<table>
<thead>
<tr>
<th>CLASSIFICATION (Journeyperson)</th>
<th>Employer Payments</th>
<th>Straight-Time</th>
<th>Overtime Hourly Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Basic Hourly Rate</td>
<td>Health and Welfare</td>
<td>Pension</td>
</tr>
<tr>
<td>Landscape/Irrigation Tender c</td>
<td>$14.21</td>
<td>$2.25</td>
<td>$1.00</td>
</tr>
</tbody>
</table>

*Indicates an apprenticeable craft, the applicable apprentice determination for this journeyman determination is Landscape Irrigation Fitter. The current apprentice wage rates are available on the Internet at [http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp](http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp). To obtain any apprentice wage rates as of July 1, 2008 and prior to September 27, 2012, please contact the Division of Apprenticeship Standards or refer to the Division of Apprenticeship Standards' Website at [http://www.dir.ca.gov/das/das.html](http://www.dir.ca.gov/das/das.html).

b Includes an amount per hour worked for Supplemental Dues.
b Rate applies to first 4 daily overtime hours and the first 12 hours on Saturday. All other time is paid at the Sunday and Holiday double-time rate.
b The first employee on the jobsite shall be a Landscape/Irrigation Laborer; the second employee on the jobsite must be an Apprentice or a Landscape/Irrigation Laborer; and the third and fourth employees may be Tenders. The fifth employee on the jobsite shall be a Landscape/Irrigation Laborer; the sixth employee must be an Apprentice or a Landscape/Irrigation Laborer; and the seventh and eight employees may be Tenders. Thereafter, Tenders may be employed with Landscape/Irrigation Laborers in a 50/50 ratio on each jobsite. However, plant establishment may be performed exclusively by Landscape/Irrigation Tenders without the supervision of a Journeyman.

**RECOGNIZED HOLIDAYS:** Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at [http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

**TRAVEL AND/OR SUBSISTENCE PAYMENT:** In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the Travel and/or subsistence provisions for the current determinations on the Internet at [http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm](http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm). Travel and/or Subsistence provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.
November 29, 2017

IMPORTANT NOTICE TO AWARDING BODIES AND OTHER INTERESTED PARTIES REGARDING A CORRECTION TO THE DIRECTOR’S GENERAL PREVAILING WAGE DETERMINATIONS

CRAFT: DRIVER (ON/OFF-HAULING TO/FROM CONSTRUCTION SITE)
CLASSIFICATION: MIXER DRIVER
DETERMINATION: C-MT-261-36-95-2017-2
LOCALITY: All localities within Imperial and San Diego Counties.


The modified predetermined increase page last updated on June 2, 2017 that accompanied the above mentioned important notice is incorrect. The amounts allocated to Vacation and Holiday were higher than what was predetermined. Under the listed predetermined increase effective October 29, 2018, the effective dates for the years of service should be October 29, 2018, not October 30, 2017.

Please refer to attached interim determination issued May 22, 2017 and corrected predetermined increase page, last updated November 29, 2017.
IMPORTANT NOTICE TO AWARDING BODIES & ALL INTERESTED PARTIES REGARDING CORRECTIONS TO THE IMPORTANT NOTICE ISSUED MAY 22, 2017

INTERIM DETERMINATION FOR THE CRAFT OF DRIVER (ON/OFF-HAULING TO/FROM CONSTRUCTION SITE)

**Determination:** C-MT-261-36-95-2017-2  
**Issue Date:** May 22, 2017  
**Expiration date of determination:** October 29, 2017** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director – Research Unit for specific rates at (415) 703-4774.

**Localities:** All localities within Imperial and San Diego Counties.

<table>
<thead>
<tr>
<th>Classification</th>
<th>Basic Rate</th>
<th>Health And</th>
<th>Vacation And</th>
<th>Training Other</th>
<th>Hours Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mixer Driver</td>
<td>$27.10</td>
<td>$7.41</td>
<td>$4.28</td>
<td>-</td>
<td>8.0 $40.25</td>
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</tbody>
</table>

a The contribution applies to all hours until $1,284.00 is paid for the month.

b $1.98 after one year of service  
$2.50 after 7 years of service.  
$3.02 after 14 years of service.

c Rate applies to work in excess of eight (8) hours daily and forty (40) hours weekly. All work in excess of 12 hours daily shall be paid the Sunday/Holiday (2X) rate.

**RECOGNIZED HOLIDAYS:** Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at [http://www.dir.ca.gov/oprl/DPreWageDetermination.htm](http://www.dir.ca.gov/oprl/DPreWageDetermination.htm). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director - Research Unit at (415) 703-4774.

**TRAVEL AND/OR SUBSISTENCE PAYMENT:** In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence requirements for the current determinations on the Internet at [http://www.dir.ca.gov/oprl/DPreWageDetermination.htm](http://www.dir.ca.gov/oprl/DPreWageDetermination.htm). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director - Research Unit at (415) 703-4774.
MODIFIED PREDETERMINED INCREASE FOR

DRIVER (ON/OFF-HAULING TO/FROM CONSTRUCTION SITE)
(Determination C-MT-261-36-95-2017-2)

IN ALL LOCALITIES WITHIN IMPERIAL AND SAN DIEGO COUNTIES

This predetermined increase for the above named craft applies only to the above referenced determination for work being performed on public works projects with bid advertisement dates on or after June 1, 2017 until this determination is superseded by a new determination or a predetermined increase modification notice becomes effective.

When referencing our prevailing wage determinations, please note that if the prevailing wage rate determination which was in effect on the bid advertisement date of a project has a single asterisk (*) after the expiration date, the rate will be good for the life of the project. However, if a prevailing wage rate determination has double asterisks (**) after the expiration date, the rate must be updated on the following date to reflect the predetermined rate change(s).

**Ready Mix Driver**
Determination C-MT-261-36-95-2017-2 is currently in effect and expires on October 29, 2017**.

**Effective October 30, 2017**, there will be an increase of $0.51 as follows: $0.50 to the Basic Hourly Rate and $0.01 to Vacation and Holiday.
After 1 year of service: **Effective October 30, 2017**, there will be an increase of $0.52 as follows: $0.50 to the Basic and $0.02 to Vacation and Holiday.
After 7 years of service: **Effective October 30, 2017**, there will be an increase of $0.53 as follows: $0.50 to the Basic Hourly Rate and $0.03 to Vacation and Holiday.
After 14 years of service: **Effective October 30, 2017**, there will be an increase of $0.54 as follows: $0.50 to the Basic Hourly Rate and $0.04 to Vacation and Holiday.

**Effective November 1, 2017** there will be an increase of $0.33 to Pension.

**Effective January 1, 2018**, there will be an increase of $0.48 to Health and Welfare.

**Effective October 29, 2018**, there will be an increase of $0.51 as follows: $0.50 to the Basic Hourly Rate and $0.01 to Vacation and Holiday.
After 1 year of service: **Effective October 29, 2018**, there will be an increase of $0.52 as follows: $0.50 to the Basic and $0.02 to Vacation and Holiday.
After 7 years of service: **Effective October 29, 2018**, there will be an increase of $0.53 as follows: $0.50 to the Basic Hourly Rate and $0.03 to Vacation and Holiday.
After 14 years of service: **Effective October 29, 2018**, there will be an increase of $0.54 as follows: $0.50 to the Basic Hourly Rate and $0.04 to Vacation and Holiday.

**Effective November 1, 2018**, there will be an increase of $0.45 to Pension.

**Effective January 1, 2019**, there will be an increase of $0.48 to Health and Welfare.

Issued 5/22/2017, Effective 6/1/2017 until superseded.

This page will be updated when wage rate breakdown information becomes available.

**Last Updated**: November 29, 2017
### General Prevailing Wage Determination

**Determination:** SC-23-63-2-2017-1  
**Issue Date:** August 22, 2017  
**Expiration Date of Determination:** June 30, 2018**

The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

**Locality:** All localities within Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Luis Obispo, Santa Barbara, and Ventura counties.

<table>
<thead>
<tr>
<th>Classification Groups (b)</th>
<th>Basic Hourly Rate</th>
<th>Health and Welfare</th>
<th>Pension</th>
<th>Vacation/Holiday (a)</th>
<th>Training</th>
<th>Other Payments</th>
<th>Total Hourly Rate</th>
<th>Overtime Hourly Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 1</td>
<td>$44.00</td>
<td>$11.45</td>
<td>$9.65</td>
<td>$3.55</td>
<td>$1.00</td>
<td>$0.39</td>
<td>$70.04</td>
<td>$92.040</td>
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<tr>
<td>Group 2</td>
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<td>$9.65</td>
<td>$3.55</td>
<td>$1.00</td>
<td>$0.39</td>
<td>$70.82</td>
<td>$93.210</td>
</tr>
<tr>
<td>Group 3</td>
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<td>$9.65</td>
<td>$3.55</td>
<td>$1.00</td>
<td>$0.39</td>
<td>$71.11</td>
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<td>Group 4</td>
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<td>$0.39</td>
<td>$72.60</td>
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<td>$3.55</td>
<td>$1.00</td>
<td>$0.39</td>
<td>$72.82</td>
<td>$96.210</td>
</tr>
<tr>
<td>Group 8</td>
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<td>$9.65</td>
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<td>$1.00</td>
<td>$0.39</td>
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<td>$3.55</td>
<td>$1.00</td>
<td>$0.39</td>
<td>$73.55</td>
<td>$97.305</td>
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<tr>
<td>Group 12</td>
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<td>$9.65</td>
<td>$3.55</td>
<td>$1.00</td>
<td>$0.39</td>
<td>$73.72</td>
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<tr>
<td>Group 13</td>
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<td>$3.55</td>
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<td>Group 14</td>
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<td>Group 15</td>
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<td>$3.55</td>
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<td>Group 17</td>
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<td>$1.00</td>
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<td>$97.710</td>
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<tr>
<td>Group 19</td>
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<td>$0.39</td>
<td>$74.72</td>
<td>$99.060</td>
</tr>
</tbody>
</table>

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# Indicates an apprenticeable craft. The current apprentice wage rates are available on the Internet at http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp. To obtain any apprentice wage rates as of July 1, 2008 and prior to September 27, 2012, please consult the Division of Apprenticeship Standards or refer to the Division of Apprenticeship Standards’ website at http://www.dir.ca.gov/das/das.html.

* Indicates an amount withheld for supplemental dues.

** For classifications within each group, see pages 8 and 9.

† Rate applies to the first 4 overtime hours. All other daily overtime is paid at the Sunday rate.

‡ Rate applies to the first 12 hours worked. All other time is paid at the Sunday rate.

**NOTE:** For Special Shift and Multi-Shift, see pages 9A and 9B.

**Recognized Holidays:** Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm. Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

**Travel and/or Subsistence Payment:** In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.
Determination: SC-23-63-2-2017-1

Classifications:

**Group 1**
- Burgeman
- Breaker
- Compressor Operator
- Ditchwitch, with seat or similar type equipment
- Elevator Operator - Inside
- Engineer Oiler
- Forklift Operator (includes knuck, luff or similar types - under 5 tons)
- Generator Operator
- Generator Pump or Compressor Plant Operator
- Heavy Duty Repairman Helper
- Pump Operator
- Signalman
- Switchman

**Group 2**
- Asphalt Rubber Plant Operator (Nurse Tank Operator)
- Concrete Mixer Operator - Skip Type
- Concrete Mixer Operator - Skid Type
- Forced Feed Loader
- Drill Doctor
- Rotary Drill Operator (excluding caisson type)
- Rock Drill or Similar Types (see Miscellaneous Provision #4 for additional information regarding this classification)

**Group 3**
- Asphalt Rubber Blend Operator
- (Skid Steer, with all types)
- Equipment Greaser (truck)
- Ford Ferguson (with dump type attachments)
- Stationary Pipe Wrapping and Cleaning Machine Operator

**Group 4**
- Asphalt Plant Fireman
- Backhoe Operator (min-max or similar type)
- Boring Machine Operator
- Boring System Electronic Tracking Locator
- Boom or Miceran (asphalt or concrete)
- Concrete Cleaning Decontamination Machine Operator
- Concrete Pump Operator (small portabale)
- Drilling Machine Operator, Small Auger Types (Texoma Super Economatic, or similar types - Hughes 100 or 200, or similar types - drilling depth of 30 maximum)
- Equipment Greaser (grease truck)
- Excavator Track / Rubber-Tired (Operating weight under 21,000 lbs)
- Highline Cableway Signalman
- Hydro-Hammer-Auto Stomper
- Hydraulic Casing Oscillator Operator – drilling depth of 45' maximum
- Hydraulic Casing Oscillator Operator – drilling depth of 60' maximum
- Hydraulic Operated Grout Plant (excludes hand loading)
- Hydraulic Paving Machine Operator (barber greene or similar type, one (1) Screedman)
- Asphalt-Rubber Distributor Operator
- Backhoe Operator (up to and including 3/4 yds.) small ford, case or similar
- Backhoe Operator (over 3/4 yd. and up to 5 yds. M.R.C.)
- Barrier Rail Mover (BTM Series 200 or similar types)
- Cast in Place Pipe Laying Machine Operator
- Cold Feedanol Asphalt Recycler
- Combination Mixer and Compresor Operator (grain type)
- Compactor Operator - Self Propelled
- Concrete Mixer Operator - Paving
- Crushing Plant Operator
- Drill Doctor
- Drilling Machine Operator, Bucket or Auger Types (Calweld 150 bucket or similar types - Watson 1500, 2000, 2500 auger or similar types - Texoma 700, 800 auger or similar types - drilling depth of 60' maximum)
- Elevating Grader Operator
- Excavator Trucks / Rubber-Tired (Operating Weight 21,000 lbs - 100,000 lbs)
- Global Positioning System / GPS (or Technician)
- Grader Operator
- Gruddle Operator
- Groat Machine Operator
- Heavy Duty Repairman/Pump Installer
- Heavy Equipment Robiotics Operator
- Hydraulic Casing Oscillator Operator – drilling depth of 60’ maximum
- Hydraulic Operated Great Plant (excludes hand loading)
- Kolman Belt Loader and similar types
- Le Touzeau Bitich Compactor or similar type
- Lo Drill Operator
- Master Environmental Maintenance Mechanic
- Mobra Chipper or similar types
- Ozrie Parrer or similar types
- P.C. 490 Slot Saw
- Pneumatic Concrete Placing Machine Operator (Hackleby-Preacwell or similar type)
- Rock Cutters / Rubber-Tired (Auger, or Skip Loader)
- Rock Drill or Similar Types (see Miscellaneous Provision #4 for additional information regarding this classification)
- Rotary Drill Operator (excluding caisson type)
- Rubber-Tired Earth Moving Equipment Operator (single engine, caterpillar, excil, athey wagon, and similar types with any and all attachments over 25 yds. and up to and including 50 cu. yds. struck)
- Rubber-Tired Earth Moving Equipment Operator (multiple engine - up to and including 25 yds. struck)
- Rubber-Tired Scraper Operator (self-loading paddle wheel type - John Deere, 1040 and similar single units)
- Self-Propelled Curb and Guttae Machine Operator
- Shuttle Buggy
- Skiploader Operator (crewler and wheel type over 1 1/2 yds. up to and including 6 1/2 yds.)
- Soil Remediation Plant Operator (CMI, Environment or Similar)
- Soi1 Stabilizer and Reclaimer (WR-2400)
- Somero SXP Laser Screed
- Speed Sweeper Operator
- Surface Heaters and Planer Operator
- Tractor Compresssor Drill Combination Operator

**Group 7** (for multi-shift rate, see page 9B)
- Welder – General (Multi-Shift)
- Welder – General (Multi-Shift)

**Group 8**
- Asphalt or Concrete Spreading Operator (tamping or finishing)
- Asphalt Pavement Machine Operator (barber greene or similar type, one (1) Screedman)
- Asphalt-Rubber Distributor Operator
- Backhoe Operator (up to and including 3/4 yds.) small ford, case or similar
- Breaker Operator (over 3/4 yd. and up to 5 yds. M.R.C.)
- Compactor Operator - Self Propelled
- Concrete Mixer Operator - Paving
- Crushing Plant Operator
- Drill Doctor
- Drilling Machine Operator, Bucket or Auger Types (Calweld 150 bucket or similar types - Watson 1500, 2000, 2500 auger or similar types - Texoma 700, 800 auger or similar types - drilling depth of 60' maximum)
- Elevating Grader Operator
- Excavator Trucks / Rubber-Tired (Operating Weight 21,000 lbs - 100,000 lbs)
- Global Positioning System / GPS (or Technician)
- Grader Operator
- Gruddle Operator
- Groat Machine Operator
- Heavy Duty Repairman/Pump Installer
- Heavy Equipment Robiotics Operator
- Hydraulic Casing Oscillator Operator – drilling depth of 60’ maximum
- Hydraulic Operated Great Plant (excludes hand loading)
- Kolman Belt Loader and similar types
- Le Touzeau Bitich Compactor or similar type
- Lo Drill Operator
- Master Environmental Maintenance Mechanic
- Mobra Chipper or similar types
- Ozrie Parrer or similar types
- P.C. 490 Slot Saw
- Pneumatic Concrete Placing Machine Operator (Hackleby-Preacwell or similar type)
- Rock Cutters / Rubber-Tired (Auger, or Skip Loader)
- Rock Drill or Similar Types (see Miscellaneous Provision #4 for additional information regarding this classification)
- Rotary Drill Operator (excluding caisson type)
- Rubber-Tired Earth Moving Equipment Operator (single engine, caterpillar, excil, athey wagon, and similar types with any and all attachments over 25 yds. and up to and including 50 cu. yds. struck)
- Rubber-Tired Earth Moving Equipment Operator (multiple engine - up to and including 25 yds. struck)
- Rubber-Tired Scraper Operator (self-loading paddle wheel type - John Deere, 1040 and similar single units)
- Self-Propelled Curb and Guttae Machine Operator
- Shuttle Buggy
- Skiploader Operator (crewler and wheel type over 1 1/2 yds. up to and including 6 1/2 yds.)
- Soil Remediation Plant Operator (CMI, Environment or Similar)
- Soi1 Stabilizer and Reclaimer (WR-2400)
- Somero SXP Laser Screed
- Speed Sweeper Operator
- Surface Heaters and Planer Operator
- Tractor Compresssor Drill Combination Operator

**Group 9**
- Asphalt or Concrete Spreading Operator (tamping or finishing)
- Asphalt Pavement Machine Operator (barber greene or similar type, one (1) Screedman)
- Asphalt-Rubber Distributor Operator
- Backhoe Operator (up to and including 3/4 yds.) small ford, case or similar
- Breaker Operator (over 3/4 yd. and up to 5 yds. M.R.C.)
- Compactor Operator - Self Propelled
- Concrete Mixer Operator - Paving
- Crushing Plant Operator
- Drill Doctor
- Drilling Machine Operator, Bucket or Auger Types (Calweld 150 bucket or similar types - Watson 1500, 2000, 2500 auger or similar types - Texoma 700, 800 auger or similar types - drilling depth of 60' maximum)
- Elevating Grader Operator
- Excavator Trucks / Rubber-Tired (Operating Weight 21,000 lbs - 100,000 lbs)
- Global Positioning System / GPS (or Technician)
- Grader Operator
- Gruddle Operator
- Groat Machine Operator
- Heavy Duty Repairman/Pump Installer
- Heavy Equipment Robiotics Operator
- Hydraulic Casing Oscillator Operator – drilling depth of 60’ maximum
- Hydraulic Operated Great Plant (excludes hand loading)
- Kolman Belt Loader and similar types
- Le Touzeau Bitich Compactor or similar type
- Lo Drill Operator
- Master Environmental Maintenance Mechanic
- Mobra Chipper or similar types
- Ozrie Parrer or similar types
- P.C. 490 Slot Saw
- Pneumatic Concrete Placing Machine Operator (Hackleby-Preacwell or similar type)
- Rock Drill or Similar Types (see Miscellaneous Provision #4 for additional information regarding this classification)
- Rotary Drill Operator (excluding caisson type)
- Rubber-Tired Earth Moving Equipment Operator (single engine, caterpillar, excil, athey wagon, and similar types with any and all attachments over 25 yds. and up to and including 50 cu. yds. struck)
- Rubber-Tired Earth Moving Equipment Operator (multiple engine - up to and including 25 yds. struck)
- Rubber-Tired Scraper Operator (self-loading paddle wheel type - John Deere, 1040 and similar single units)
- Self-Propelled Curb and Guttae Machine Operator
- Shuttle Buggy
- Skiploader Operator (crewler and wheel type over 1 1/2 yds. up to and including 6 1/2 yds.)
- Soil Remediation Plant Operator (CMI, Environment or Similar)
- Soi1 Stabilizer and Reclaimer (WR-2400)
- Somero SXP Laser Screed
- Speed Sweeper Operator
- Surface Heaters and Planer Operator
- Tractor Compresssor Drill Combination Operator
GROUP P CONT:

Tractor Operator (any type larger than D-5 - 100 flywheel H.P. and, or, similar – bulldozer, tamper, scraper and push tractor, single engine)

Tractor Operator (boom attachments)

Traveling Pipe Wrapping, Cleaning and Bending Machine Operator

Trussing Machine Operator (over 6 ft. depth capacity, manufacturer's rating)

Trussing Machine with Road Material Attachment (over 60 ft. depth capacity, manufacturer's rating - Ohio or Journeyman Trainer required)

Ultra High Pressure Waterjet Cutting Tool System Mechanic

Water Pull (compaction)

GROUP P for multi-shift rate, see page 9B

Heavy Duty Repairman (Multi-Shift)

Drilling Machine Operator, Bucket or Auger types (Calweld 200 B bucket or similar types - Watson 3000 or 5000 auger or similar types - Telson 900 auger or similar types - drilling depth of 10'5' maximum)

Dual Drum Mixer

Dynamic Compactor LCD350 or similar types

Heavy Duty Repairman-Welder combination

Hydraulic Casing Oscillator Operator – drilling depth of 10'5' maximum

Monorail Locomotive Operator (diesel, gas or electric)

Motor Repairer/ Blade Operator (single engine)

Multiple Engine Tractor Operator (excavil and similar type - except quad 9 cat.

Pneumatic Pipe Ramming Tool and similar types

Pre-assembled Wrapping Machine Operator (2 Operators required:

Rubber - Tired Earth Moving Equipment Operator (single engine, over 50 yds. struck)

Rubber - Tired Earth Moving Equipment Operator (multiple engine, excavil caterpillar and similar - over 25 yds., and up to 50 yds. struck)

Tower Crane Repairman

Tractor Loader Operator (crawler and wheel-type over 6 1/2 yds. Wide - Certified)

Welder Mixer (and similar pugmill equipment)

GROUP P (for multi-shift rate, see page 9B)

Heavy Duty Repairman - Welder Combination (Multi-Shift)

Welder - Certified (Multi-Shift)

Group 13

Automatic Slip Form Operator

Backhoe Operator (over 7 cu. yds. M.R.C.)

Drilling Machine Operator, Bucket or Auger types (Calweld, auger 200 CA or similar types - Watson, auger 6000 or similar types - hughes super duty, auger 200 or similar types - drilling depth of 175' maximum)

Excavator Truck/Rubber Tired (Operating Weight exceeding 200,000 lbs.)

Hoe Ram or similar with compressor

Hydraulic Casing Oscillator Operator – drilling depth of 175' maximum

Maas Excavator Operator - less than 750 cu. yds.

Motor Grader Operator

Mobile Form Trowel Operator

Mobile Motor Control Operator

Mobile Pile Driver Operator

Mobile Machine Operator

Moving Equipment

Rubber-Tired Self-Loading Scraper Operator (padle-wheel-auger type self-loading - (two (2) or more units)

GROUP 13

Rubber-Tired Earth Moving Equipment Operator, Operating Equipment with the Puls-Pull System (single engine, up to and including 25 yds. struck)

GROUP 14

Canal Liner Operator

Canal Tunneler Operator

Drilling Machine Operator, Bucket or Auger types (Calweld, auger 200 CA or similar types - watson, auger 6000 or similar types - hughes super duty, auger 200 or similar types - drilling depth of 100' maximum)

Remote Controlled Earth Moving Operator ($1.00 per hour additional to base rate)

Wheel Excavator Operator (over 750 cu. yds. per hour)

GROUP 15

Rubber-Tired Earth Moving Equipment Operator, Operating Equipment with the Puls-Pull System (single engine, caterpiller, excavil, atey wagon, and similar types with any and all attachments over 25 yds. and up to and including 50 cu. yds. struck)

Rubber-Tired Earth Moving Equipment Operator, Operating Equipment with the Puls-Pull System (multiple engine - up to and including 25 yds. struck)

GROUP 16

Excavator Truck/Rubber Tired (Operating Weight exceeding 200,000 lbs.)

Rubber-Tired Earth Moving Equipment Operator, Operating Equipment with the Puls-Pull System (single engine, over 50 yds. struck)

Rubber-Tired Earth Moving Equipment Operator, Operating Equipment with the Puls-Pull System (multiple engine, excavil, caterpiller, and similar, over 25 yds. and up to 50 yds. struck)

GROUP 17

Rubber-Tired Earth Moving Equipment Operator, Operating Equipment with the Puls-Pull System (multiple engine, excavil, caterpiller, and similar, over 50 yds. struck)

Tandem Tractor Operator (operating crawler type tractors in tandem - Quad 9 and similar types)

GROUP 18

Rubber-Tired Earth Moving Equipment Operator, Operating in Tandem (scrapers, belly dumps, and similar types in any combination, excluding compaction units - single engine, up to and including 25 yds. struck)

GROUP 19

Rubber-Tired Earth Moving Equipment Operator, Operating in Tandem (scrapers, belly dumps, and similar types in any combination, excluding compaction units - single engine, up to and including 25 yds. struck)

GROUP 20

Rubber-Tired Earth Moving Equipment Operator, Operating in Tandem (scrapers, belly dumps, and similar types in any combination, excluding compaction units - single engine, up to and including 25 yds. struck)

GROUP 21

Rubber-Tired Earth Moving Equipment Operator, Operating in Tandem (scrapers, belly dumps, and similar types in any combination, excluding compaction units - multiple engine, excavil, caterpillar, and similar type, up to 50 cu. yds. struck)

GROUP 22

Rubber-Tired Earth Moving Equipment Operator, Operating Equipment with the Tandem Push-Pull System (single engine, up to and including 25 yds. struck)

GROUP 23

Rubber-Tired Earth Moving Equipment Operator, Operating Equipment with the Tandem Push-Pull System (multiple engine, up to and including 25 yds. struck)

GROUP 24

Rubber-Tired Earth Moving Equipment Operator, Operating Equipment with the Tandem Push-Pull System (single engine, over 50 yds. Struck)

Rubber-Tired Earth Moving Equipment Operator, Operating Equipment with the Tandem Push-Pull System (multiple engine, excavil, caterpiller and similar, over 25 yds. and up to 50 yds. struck)

GROUP 25

Concrete Pump Operator-Truck Mounted

Pedestal Concrete Pump Operator

Rubber-Tired Earth Moving Equipment Operator, Operating Equipment with the Tandem Push-Pull System (multiple engine, excavil, caterpiller and similar over 50 cu. yds struck)

MISCELLANEOUS PROVISIONS:

1. Operators on hoists with three drums shall receive fifteen cents ($0.15) per hour additional pay to the regular rate of pay. The additional pay shall be added to the regular rate and become the base rate for the entire shift.

2. All heavy duty repairmen and heavy duty combination shall receive fifteen cents ($0.15) per hour tool allowance in addition to their regular rate of pay and this shall become their base rate for the entire shift.

3. Employees required to suit up and work in a hazardous material environment, shall receive Two Dollars ($2.00) per hour in addition to their regular rate of pay, and this rate shall become the base rate of pay.

4. A review of rock drilling is currently pending. The minimum acceptable rate of pay for this classification or type of work on public works projects is Laborer and Related Classifications/Group 5 (Driller) as published on pages 13 and 14 of the Director's General Prevailing Wage Determinations. However, the published rate for the craft/classification of Operating Engineer Group 8 (Rock Drill or Similar Types) may be used by contractors to perform rock drilling on public works projects.
## General Prevailing Wage Determination

**Determination:** SC-23-63-2-2017-1

**Issue Date:** August 22, 2017

**Expiration Date of Determination:** June 30, 2018**

The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

### Locality

All localities within Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Luis Obispo, Santa Barbara, and Ventura counties.

### Classification Groups

<table>
<thead>
<tr>
<th>Classification Groups (b)</th>
<th>Basic Hourly Rate</th>
<th>Health and Welfare</th>
<th>Pension</th>
<th>Vacation</th>
<th>Holiday (a)</th>
<th>Training</th>
<th>Other Payments</th>
<th>Straight Time</th>
<th>Overtime Hourly Rate</th>
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**Notes:**

- Indicates an apprenticeable craft. The current apprentice wage rates are available on the Internet @ http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp. To obtain any apprentice wage rates as of July 1, 2008 and prior to September 27, 2012, please contact the Division of Apprenticeship Standards or refer to the Division of Apprenticeship Standards' website at http://www.dir.ca.gov/das/das.html.

- Includes an amount withheld for supplemental dues.

- For classifications within each group, see pages 8 and 9.

- Rate applies to the first 12 hours worked. All other daily overtime is paid at the Sunday rate.

- Rate applies to the first 12 hours worked. All other time is paid at the Sunday rate.

**Recognized Holidays:** Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at http://www.dir.ca.gov/OPRL/OPD/PwWageDeterminations.htm. Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

**Travel and/or Subsistence Payment:** In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at http://www.dir.ca.gov/OPRL/OPD/PwWageDeterminations.htm. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.
GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: #OPERATING ENGINEER (Multi-Shift)

ISSUE DATE: August 22, 2017

EXPIRATION DATE OF DETERMINATION: June 30, 2018** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

LOCALITY: All localities within Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Luis Obispo, Santa Barbara, and Ventura counties.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at http://www.dir.ca.gov/DAS/DAS.html.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.
PREDETERMINED INCREASES FOR

OPERATING ENGINEER (SC-23-63-2-2017-1)
OPERATING ENGINEER (MULTI-SHIFT) (SC-23-63-2-2017-1)
OPERATING ENGINEER (SPECIAL SHIFT) (SC-23-63-2-2017-1)

CRANES, PILE DRIVER AND HOISTING EQUIPMENT
(OPERATING ENGINEER) (SC-23-63-2-2017-1B)

CRANES, PILE DRIVER AND HOISTING EQUIPMENT
(OPERATING ENGINEER, MULTI-SHIFT) (SC-23-63-2-2017-1B1)

CRANES, PILE DRIVER AND HOISTING EQUIPMENT
(OPERATING ENGINEER, SPECIAL SHIFT) (SC-23-63-2-2017-1B2)

TUNNEL (OPERATING ENGINEER) (SC-23-63-2-2017-1C)

TUNNEL (OPERATING ENGINEER) (SC-23-63-2-2017-1C1) (MULTI-SHIFT)

BUILDING/CONSTRUCTION INSPECTOR, FIELD SOILS AND MATERIAL TESTER, AND NON-DESTRUCTIVE TESTING (SC-23-63-2-2017-1D)

BUILDING/CONSTRUCTION INSPECTOR, FIELD SOILS AND MATERIAL TESTER, AND NON-DESTRUCTIVE TESTING (SPECIAL SHIFT) (SC-23-63-2-2017-1D1)

BUILDING/CONSTRUCTION INSPECTOR, FIELD SOILS AND MATERIAL TESTER, AND NON-DESTRUCTIVE TESTING (MULTI-SHIFT) (SC-23-63-2-2017-1D2)

ALL LOCALITIES WITH IMPERIAL, INYO, KERN, LOS ANGELES, MONO, ORANGE, RIVERSIDE, SAN BERNARDINO, SAN LUIS OBISPO, SANTA BARBARA, AND VENTURA COUNTIES

These predetermined increases for the above named crafts apply only to the current determinations for work being performed on public works projects with bid advertisement dates on or after September 1, 2017, until the determination(s) is/are superseded by a new determination(s) or a predetermined increase modification notice becomes effective.
When referencing our prevailing wage determinations, please note that if the prevailing wage rate determination which was in effect on the bid advertisement date of a project has a single asterisk (*) after the expiration date, the rate will be good for the life of the project. However, if a prevailing wage rate determination has double asterisks (**) after the expiration date, the rate must be updated on the following date to reflect the predetermined rate change(s).

**OPERATING ENGINEER: All Classifications and All Shifts**
The above Determinations are currently in effect and will expire on June 30, 2018**.

**Effective on July 1, 2018**, there will be an increase of $2.30 to be allocated to wages and/or fringes.

There will be no further increases applicable to these determinations.
GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: #TEAMSTER
(APPLIES ONLY TO WORK ON THE CONSTRUCTION SITE)

ISSUE DATE: August 22, 2017
EXPIRATION DATE OF DETERMINATION: June 30, 2018** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

LOCALITY: All localities within Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Luis Obispo, Santa Barbara and Ventura Counties

<table>
<thead>
<tr>
<th>Classification (Journeyperson)</th>
<th>Basic Hourly Rate</th>
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<th>Vacation/ Holiday</th>
<th>Training</th>
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<th>Employer Payments</th>
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Subjourneymanb

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Over 6000 hours and thereafter at journeyman rates

# Indicates an apprenticeable craft. The current apprentice wage rates are available on the Internet @ http://www.dir.ca.gov/OPRL/PWAppWage/PWAppWageStart.asp. To obtain any apprentice wage rates as of July 1, 2008 and prior to September 27, 2012, please contact the Division of Apprenticeship Standards or refer to the Division of Apprenticeship Standards' website at http://www.dir.ca.gov/das/das.html.

a Includes an amount for Supplemental Dues.

b Subjourneyman may be employed at a ratio of one subjourneyman for every five journeymen.

c For classifications within each group, see page 21A.

d Rate applies to the first 4 daily overtime hours on weekdays and the first 12 hours on Saturday. All other overtime is paid at the Sunday/Holiday double-time rate.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at http://www.dir.ca.gov/oprl/DPReWageDetermination.htm. Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at http://www.dir.ca.gov/oprl/DPReWageDetermination.htm. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.
Group I
Warehouseman and Teamster

Group II
Driver of Vehicle or Combination of Vehicles - 2 axles
Traffic Control Pilot Car, excluding moving heavy equipment permit load
Truck Mounted Power Broom

Group III
Driver of Vehicle or Combination of Vehicles - 3 axles
Bootman
Cement Mason Distribution Truck
Fuel Truck Driver
Water Truck - 2 axles
Dump Truck of less than 16 yards water level
Erosion Control Driver

Group IV
Driver of Transit Mix Truck -Under 3 yds
Dumpcrete Truck Less than 6 1/2 yards water level
Truck Repairman Helper

Group V
Water Truck 3 or more axles
Warehouseman Clerk
Slurry Truck Driver

Group VI
Driver of Transit Mix Truck - 3 yds or more
Dumpcrete Truck 6 1/2 yds water level and over
Driver of Vehicle or Combination of Vehicles - 4 or more axles
Driver of Oil Spreader Truck
Dump Truck 16 yds to 25 yds water level
Side Dump Trucks
Flow Boy Dump Trucks

Group VII
A Frame, Swedish Crane or Similar
Forklift Driver
Ross Carrier Driver
Truck Greaser and Tireman - $0.50 additional for Tireman
Pipeline and Utility Working Truck Driver, including Winch Truck and Plastic Fusion, limited to Pipeline and Utility Work
Working Truck Driver

Group VIII
Dump Truck of 25 yds to 49 yards water level
Truck Repairman
Water Pull Single Engine
Welder

Group IX
Truck Repairman Welder
Low Bed Driver, 9 axles or over

Group X
Water Pull Single Engine with attachment
Dump Truck and Articulating - 50 yards or more water level

Group XI
Water Pull Twin Engine
Water Pull Twin Engine with attachments
Winch Truck Driver - $0.25 additional when operating a Winch or similar special attachments
GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: #TEAMSTER (SPECIAL SHIFT)
(APPLIES ONLY TO WORK ON THE CONSTRUCTION SITE)

ISSUE DATE: August 22, 2017
EXPIRATION DATE OF DETERMINATION: June 30, 2018** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Office of the Director - Research Unit for specific rates at (415) 703-4774.

LOCALITY: All localities within Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Luis Obispo, Santa Barbara and Ventura Counties

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<th>Classificationa (Journeyperson)</th>
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<th>Health and Welfare</th>
<th>Pension</th>
<th>Vacation/ Holiday</th>
<th>Training</th>
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Subjourneymanb

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21B
**Determining the Prevailing Wage for Teamster (Second Shift)**

**Location:**
All localities within Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Luis Obispo, Santa Barbara, and Ventura Counties

### Wage Rates

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<th>Health and Welfare</th>
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**Subjourneyman**

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<td>2001-4000 hours</td>
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</table>

**Notes:**
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- b Subjourneyman may be employed at a ratio of one subjourneyman for every five journeymen.
- c For classifications within each group, see page 21A.
- d The third shift shall work 6.5 hours, exclusive of meal period, for which 8 hours straight-time shall be paid at the non-shift rate, Monday through Friday.
- e Rate applies to the first 4 daily overtime hours and the first 12 hours on Saturday. All other overtime is paid at the Sunday/Holiday double-time rate.

**Recognized Holidays:**
Holidays upon which the general prevailing hourly wage rate for holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at [http://www.dir.ca.gov/oprl/DPreWageDetermination.htm](http://www.dir.ca.gov/oprl/DPreWageDetermination.htm). Holiday provisions for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.

**Travel and/or Subsistence Payment:**
In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at [http://www.dir.ca.gov/oprl/DPreWageDetermination.htm](http://www.dir.ca.gov/oprl/DPreWageDetermination.htm). Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Office of the Director – Research Unit at (415) 703-4774.
PREDETERMINED INCREASE FOR

TEAMSTER (SC-23-261-2-2017-2)
TEAMSTER (SECOND SHIFT) (SC-23-261-2-2017-2)
TEAMSTER (SPECIAL SHIFT) (SC-23-261-2-2017-2)

IN IMPERIAL, INYO, KERN, LOS ANGELES, MONO, ORANGE,
RIVERSIDE, SAN BERNARDINO, SAN LUIS OBISPO, SANTA BARBARA
AND VENTURA COUNTIES

This predetermined increase for the above named craft applies only to the above-referenced determination for work being performed on public works projects with bid advertisement dates on or after September 1, 2017, until this determination is superseded by a new determination or a predetermined increase modification notice becomes effective.

When referencing our prevailing wage determinations, please note that if the prevailing wage rate determination which was in effect on the bid advertisement date of a project has a single asterisk (*) after the expiration date, the rate will be good for the life of the project. However, if a prevailing wage rate determination has double asterisks (**) after the expiration date, the rate must be updated on the following date to reflect the predetermined rate change(s).

**Teamster: Groups I-XI (All Shifts)**
The predetermined increases applicable to Determination SC-23-261-2-2017-2 are as follows:

**Effective July 1, 2018,** $1.85 to be allocated to wages and/or employer payments.

**Note:** Subjourneymen (0-6000 hours) receive no predetermined increases.

There will be no further increments applicable to this determination.

---

Issued 8/22/2017, Effective 9/1/2017 until superseded.

This page will be updated when wage rate breakdown information becomes available.

**Last Updated:** September 1, 2017
## General Prevailing Wage Determination

**Locality:** Imperial County  
**Determination:** IMP-2017-2

<table>
<thead>
<tr>
<th>Craft (Journey Level)</th>
<th>Issue Date</th>
<th>Expiration Date</th>
<th>Basic Hourly Rate</th>
<th>Health and Welfare</th>
<th>Pension</th>
<th>Vacation/Holiday</th>
<th>Training</th>
<th>Other Payments</th>
<th>Hours</th>
<th>Total Hourly Rate</th>
<th>Daily</th>
<th>Saturday</th>
<th>Sunday and Holiday</th>
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</table>

### GENERAL PREVAILING WAGE DETERMINATION

Made by the Director of Industrial Relations

Pursuant to California Labor Code Part 7, Chapter 1, Article 2, Sections 1770, 1773 and 1773.1

For Commercial Building, Highway, Heavy Construction and Dredging Projects

<table>
<thead>
<tr>
<th>CRAFT (JOURNEY LEVEL)</th>
<th>ISSUE DATE</th>
<th>EXPIRATION DATE</th>
<th>BASIC HOURLY RATE</th>
<th>HEALTH AND WELFARE</th>
<th>PENSION</th>
<th>VACATION/HOLIDAY</th>
<th>TRAINING</th>
<th>OTHER PAYMENTS</th>
<th>HOURS</th>
<th>TOTAL HOURLY RATE</th>
<th>DAILY</th>
<th>SATURDAY</th>
<th>SUNNY AND HOLIDAY</th>
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<td>AJ 2.710</td>
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<td>-</td>
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<td>42.920</td>
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LOCALITY: IMPERIAL COUNTY
DETERMINATION: IMP-2017-2

THE PREDETERMINED INCREASE SHOWN IS TO BE ALLOCATED TO WAGES AND/OR EMPLOYER PAYMENTS. PLEASE CONTACT THE OFFICE OF THE DIRECTOR - RESEARCH UNIT AT (415) 703-4774 WHEN THE PREDETERMINED INCREASE BECOMES DUE TO CONFIRM THE DISTRIBUTION. PLEASE ALSO EXAMINE THE IMPORTANT NOTICES TO SEE IF ANY MODIFICATIONS HAVE BEEN ISSUED, AS THERE MAY BE REDUCTIONS TO PREDETERMINED INCREASES.

A. THE RATIO OF BRICK TENDERS TO BRICKLAYERS SHALL BE AS FOLLOWS: ONE (1) BRICK TENDER TO NO MORE THAN THREE (3) BRICKLAYERS DURING THE INSTALLATION OF BLOCK ON A TYPICAL MASONRY PROJECT.

B. $1.25 TO BASIC HOURLY RATE, $0.90 DECREASE TO HEALTH AND WELFARE, $0.78 TO PENSION, $0.05 TO TRAINING, AND $0.07 TO OTHER.

C. $0.78 TO PENSION.

D. A MATERIAL HANDLER MAY BE UTILIZED IN RATIO OF ONE (1) MATERIAL HANDLER WITH ANY FIVE (5) JOURNEYMEN ON ANY GIVEN PROJECT.

E. $0.90 DECREASE TO HEALTH & WELFARE.

F. $1.40 TO THE BASIC HOURLY RATE, $0.40 TO HEALTH & WELFARE, $0.25 TO PENSION AND $0.10 TO OTHER PAYMENTS.

G. $1.60 TO THE BASIC HOURLY RATE, $0.40 TO HEALTH & WELFARE, $0.25 TO PENSION AND $0.10 TO OTHER PAYMENTS.

H. THE FIRST WORKER ON THE SITE MUST BE A JOURNEYMAN TECHNICIAN GRADE #1 OR #2 OR ANY HIGHER PAID JOURNEYMAN CLASSIFICATION, SUCH AS JOURNEYMAN INSIDE WIREMAN; THEREAFTER THE CONTRACTOR MAY EMPLOY FIVE (5) JOURNEYMAN TECHNICIANS WITH A MAXIMUM OF TWO (2) LEVEL #5 TECHNICIANS PER CREW. THESE SIX (6) WORKERS SHALL CONSTITUTE A CREW ON THE JOB SITE.

J. $0.98 TO THE BASIC HOURLY RATE AND $0.03 TO NEBF.

K. $0.80 TO THE BASIC HOURLY RATE, AND $0.03 TO NEBF.

L. $0.80 TO THE BASIC HOURLY RATE, AND $0.02 TO NEBF.

M. $0.65 TO THE BASIC HOURLY RATE AND $0.02 TO NEBF.

N. $0.55 TO THE BASIC HOURLY RATE AND $0.01 TO NEBF.

O. $0.55 TO THE BASIC HOURLY RATE AND $0.02 TO NEBF.

P. $0.45 TO THE BASIC HOURLY RATE AND $0.01 TO NEBF.

Q. $0.45 TO THE BASIC HOURLY RATE AND $0.02 TO NEBF.


S. $2.15 TO THE BASIC HOURLY RATE, $0.10 TO VACATION & HOLIDAY (SUPPLEMENTAL DUES), AND $0.05 TO TRAINING.

T. AN ADDITIONAL $0.25 PER HOUR WILL BE ADDED TO THE BASIC HOURLY RATE WHEN PERFORMING PAPERHANGING WORK.

U. $0.20 TO HEALTH AND WELFARE.

V. $0.40 TO HEALTH AND WELFARE AND $0.65 TO WAGES AND/OR FRINGES.

W. $0.40 TO HEALTH AND WELFARE AND $0.50 TO WAGES AND/OR FRINGES.

X. PIPE TRADESMEN SHALL NOT BE PERMITTED ON ANY JOB WITHOUT A JOURNEYMAN. TRADESMEN SHALL ONLY BE USED IF THE FIRST WORKER ON THE JOB IS A LANDSCAPE/IRRIGATION FITTER, SECOND WORKER MUST BE A LANDSCAPE/IRRIGATION FITTER OR APPRENTICE.

Y. LANDSCAPE/IRRIGATION FITTER. THE 3RD AND 4TH MAY BE A TRADESMAN. THE 5TH MUST BE A LANDSCAPE/IRRIGATION FITTER AND THEREAFTER TRADESMEN WILL BE REFERRED ON A 50-50 BASIS, TO JOURNEYMAN OR APPRENTICE.

Z. INCREASE BECOMES DUE TO CONFIRM THE DISTRIBUTION. PLEASE ALSO EXAMINE THE IMPORTANT NOTICES TO SEE IF ANY MODIFICATIONS HAVE BEEN ISSUED, AS THERE MAY BE REDUCTIONS TO PREDETERMINED INCREASES.

IMP-2017-2-INC
Mr. Matt Capuzzi  
Kimley-Horn and Associates, Inc.  
401 B Street, Suite 600  
San Diego, CA 92101

Subject: Geotechnical Investigation Report  
El Centro Aquatic Center  
Adams Avenue to Park Avenue and 4th to 6th Street  
El Centro, California

Dear Mr. Capuzzi,

In accordance with your request and authorization, we are presenting the results of our geotechnical investigation for the Aquatic Center project in the City of El Centro, California. The purpose of this investigation has been to evaluate the subsurface conditions at the site and to provide geotechnical engineering recommendations for the proposed project.

Please note that the recommendations presented within the report are based on assumptions stated herein. Should conditions encountered during development differ from those assumed in our analyses, or should the proposed development change, our recommendations may need to be modified accordingly. This report should be submitted to the appropriate authorities as part of the process of obtaining development permits for the project.

We appreciate the opportunity to be of service on this project. Should you have any questions regarding this report or if we can be of further service, please do not hesitate to contact the undersigned.

Respectfully submitted,

TWINING, INC.

Andres Bernal, R.C.E. 62366,  
Senior Geotechnical Engineer

Richard S. Hazen, P.G. 4371, C.E.G. 1712  
Principal Engineering Geologist
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Appendix A – Field Exploration
Appendix B – Laboratory Testing
Appendix C – Percolation Tests
1. INTRODUCTION

This report presents the results of the geotechnical evaluation performed by Twining, Inc. (Twining) for the proposed El Centro Aquatic Center project, located in Adams Park in the City of El Centro, California as shown in Figure 1, Site Location Map. The purpose of this study has been to evaluate subsurface conditions and provide geotechnical engineering recommendations related to the design and construction of the proposed project. The objectives of this study were to evaluate the subsurface conditions of the site, and to provide geotechnical recommendations for the design and construction of the proposed development, including recommendations for foundations and earthwork.

2. SITE DESCRIPTION AND PROPOSED DEVELOPMENT

The project site is located on two city blocks extending from 4th Street to 6th Street between Adams Avenue and Park Avenue in El Centro, California. The site is currently occupied by Adams Park which consists of a grass field with isolated trees, a restroom building, two gazebos and two trash bin fenced enclosures on concrete slabs. A section of 5th Street crosses the site and will be removed as part of the Aquatic Center project.

Based on our review of the project plan provided by Kimley-Horn, the proposed aquatic center will include an asphalt-paved parking lot on the west side, a competition pool, warm-up pool, activity pool, two one-story buildings for patrons and pool equipment, gazebos and other minor structures in the central portion, and a lazy river with an underground pump area on the east side. A future water slide and MEP building is also planned for the east side. The central portion of the site will be covered with concrete flatwork, except for additional asphalt paved parking spaces to the south. Storm water detention areas are proposed in the center of the western parking lot and surrounding the future slide area on the east side. The proposed project is shown in Figure 2, Exploration Location Map.

The approximate site coordinates are latitude 32.796°N and longitude 115.555°W. The site is relatively flat with surface elevations varying from elevations -44 to -46 feet relative to mean sea level (msl). Drainage across the site is by sheet flow in the northeasterly direction.

3. SCOPE OF SERVICES

Our scope of services for this project consisted of the following:

- We reviewed readily available background data including the previous geotechnical report by Twining, Inc. (2012) for the Sidewinder Skate Park located to the east of the Aquatic Center on Adams Park between 6th and 7th Street, as well as in-house geotechnical data, geologic maps, topographic maps, and aerial photographs relevant to the subject site.

- We performed a geotechnical site reconnaissance to observe the general surface conditions at the site and selected exploratory locations based on our review of the project plan and discussions with Kimley-Horn. After the planned locations were delineated, a private utility locator was used to clear the areas for utility lines and Underground Service Alert (USA) was notified a minimum of 48 hours prior to excavation.

- We performed a subsurface evaluation including the excavation, logging, and sampling of six exploratory borings. We obtained samples of earth materials from the borings and transported them to our in-house laboratory for examination and testing.
• We excavated two hand-auger borings to perform percolation testing.

• We performed laboratory testing on selected samples of earth materials in order to evaluate the geotechnical engineering properties of the on-site soils.

• We compiled and analyzed the data collected from our site reconnaissance, subsurface evaluation, and laboratory testing. Specifically, our analyses included the following:
  o Evaluation of general subsurface conditions and description of types, distribution, and engineering characteristics of subsurface materials;
  o Evaluation of geologic hazards and engineering seismology, including evaluation of fault rupture hazard, seismic shaking hazard, liquefaction and seismic settlement potential;
  o Evaluation of seismic design parameters in accordance with 2013 California Building Code;
  o Evaluation of current and historical groundwater conditions at the site and potential impact on design and construction;
  o Evaluation of expansion potential of the on-site soils;
  o Evaluation of project feasibility and suitability of on-site soils for foundation support;
  o Development of general recommendations for earthwork, including requirements for placement of compacted fill;
  o Evaluation of foundation design parameters including allowable bearing capacity for shallow foundations, estimated settlement, and lateral resistance;
  o Recommendations for concrete slab-on-grade support;
  o Recommendations for pool construction, light pole foundations, and temporary excavations;
  o Recommendations for flexible and rigid pavement design and concrete flatwork; and,
  o Evaluation of the potential for the on-site materials to corrode buried concrete and metals.

• We prepared this report to present the work performed and data acquired and summarize our conclusions and geotechnical recommendations for the design and construction of the proposed improvements.

4. FIELD EXPLORATION AND LABORATORY TESTING

4.1. Field Exploration

Our subsurface exploration was conducted on March 29 and 30, 2016. The subsurface conditions were evaluated by advancing six 8-inch diameter, hollow-stem auger borings to approximate depths ranging from 21½ to 51½ feet below existing ground surface (bgs) using a CME-95 truck-mounted drill rig. Driven samples of the soils were obtained using standard penetration test (SPT) and modified California split spoon samplers. The samplers were driven using a 140-pound, automatic-drop hammer falling approximately 30 inches. The blow count was recorded, and the materials encountered in the borings were logged by our field personnel. Upon completion of drilling, the borings were backfilled with soils cuttings by the drilling subcontractor.
In addition, two hand-auger borings were excavated to 5 foot depth to perform percolation testing. The approximate locations of the exploratory borings and percolation tests are shown on Figure 2, Exploration Location Map. The logs of borings are presented in Appendix A, Field Exploration.

4.2. Percolation Testing

Percolation testing was performed on March 29 and 30, 2016 in general conformance with Imperial County Public Health Department (2013) guidelines. The purpose of the testing was to evaluate percolation rates of subgrade soils in order to determine design infiltration rates for proposed stormwater infiltration systems.

Two 8-inch diameter test holes, P-1 and P-2, were excavated to an approximate depth of 5 feet below existing ground surface. The walls and bottom of the test holes were scored to remove all smeared soil and loose soil was removed from the bottom. A 1-foot thick layer of coarse gravel was placed at the bottom in order to prevent scouring during testing. Before the start of testing, the boreholes were presoaked by filling with clean water to a depth of six inches above the top of the gravel. The liquid depth was maintained for a 24-hour period until the soil was saturated.

Percolation testing was performed the following day by re-establishing the water level to six inches above the gravel. The procedure indicates that the rate of drop should be measured in minutes, with the drop in inches recorded for the amount of time. A minimum of three determinations per hole are recommended, with 10 minutes allowed between determinations. Based on our observations, the drop after 10 minutes was negligible; therefore the test period was extended to 2 hours. The drop observed after 2 hours in test holes P-1 and P-2 was 0.5 inches and 0.25 inches, respectively.

Table 1 summarizes the calculated percolation rates for each test hole. Additional details are provided in Appendix C. Based on the percolation test results, infiltration at the project site is not considered feasible. Lined detention basins connected to the City storm water system are recommended for the site.

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<th>Test Hole No.</th>
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<th>Rate of Drop, t (min/inch)</th>
<th>Percolation Rate, $P_v$ $^*$</th>
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<td>P-2</td>
<td>East Side</td>
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Note: $^*$ Percolation rate calculated using $P_v = \frac{d}{\sqrt{t}}$ and a correction factor for 8-inch holes.

4.3. Laboratory Testing

Laboratory tests were performed on selected samples obtained from the borings in order to aid in the soil classification and to evaluate the engineering properties of the foundation soils. Laboratory tests included in-situ moisture content and dry density, grain size analysis, expansion index, Atterberg limits, direct shear, consolidation, maximum density and optimum moisture content, and soil corrosivity.

The in-situ moisture content and dry density data are presented on the boring logs in Appendix A. The remaining laboratory test results are presented in Appendix B.
5. REGIONAL GEOLOGIC SETTING AND SUBSURFACE CONDITIONS

The project site is located in the Salton Trough region of the Colorado Desert geomorphic province. The Colorado Desert is a low lying barren desert basin dominated by the Salton Sea (California Geological Survey, 2002). The province is generally bounded by the San Andreas Fault to the west and the Mojave Desert to the east. The Salton Trough encompasses the Coachella, Imperial and Mexicali Valleys and extends north from the Gulf of California (Cotton Bridges Associates, 2003). The Salton Trough region is currently undergoing extensional rifting. Non-marine and alluvium sediments cover large portions of the area.

According to geologic mapping published by the California Division of Mines and Geology (Strand, 1962), the project site is underlain by Quaternary lake deposits (geologic map symbol Q1). These deposits are typically unconsolidated to poorly consolidated and porous, consisting generally of clay, silt and sand. A portion of the California Division of Mines and Geology mapping is reproduced as Figure 3, Regional Geologic Map.

5.1. Earth Materials

Earth materials encountered during the subsurface exploration consist of alluvium deposits. Generalized descriptions of these units are provided below. Detailed descriptions of the earth materials encountered in the exploratory borings are presented in Appendix A, Logs of Borings. The approximate locations of the exploratory borings are shown in Figure 2, Exploration Location Map.

5.1.1. Quaternary Lake Deposits

Quaternary lake deposits were encountered in each of the exploratory borings and extended to the total depth of each excavation. The upper lake deposit materials generally consists of medium to dark brown, damp to saturated, stiff to hard, fat clay extending to depths ranging from 15 to 25 feet bgs. Underlying the upper lake deposit materials is medium brown, saturated, stiff to hard silty clay and loose to dense, sandy silt and clayey sand.

5.2. Groundwater

Groundwater was encountered in each of the exploratory borings at an approximate depth of 13 feet bgs. Previous borings performed by Twining (2012) for the Sidewinder Skate Park encountered groundwater at depths ranging from 8 to 14 feet bgs. Remediation/groundwater monitoring well data accessed from the State Water Resources Control Board Geotracker website shows groundwater levels as high as 7 feet below the existing surface in the vicinity of the proposed project. The Environmental Impact Report (EIR) for the City of El Centro (Cotton Bridges Associates, 2003) indicates that groundwater basin recharge is exceeding extraction in the valley and groundwater levels are rising as a result. Groundwater conditions may vary across the site due to stratigraphic and hydrologic conditions, and may change over time as a consequence of seasonal and meteorological fluctuations and activities by humans at this and nearby sites.

5.3. Geologic Hazards

5.3.1. Seismic Hazard Zones

As part of our study, we performed a limited evaluation of possible geologic hazards at the site. The El Centro Quadrangle has not been evaluated for seismic hazards by the California Geological Survey seismic hazards zonation program. Liquefaction in the Imperial Valley has been documented by the United States Geological Survey (McCrink et al., 2011). High groundwater levels and
unconsolidated to poorly consolidated lacustrine deposits in the area suggest a high susceptibility to liquefaction in the valley. Our opinion regarding the potential for liquefaction at the project site is discussed in Section 6.4 below.

5.3.2. Flooding

The Federal Emergency Management Agency has developed flood maps as part of the National Flood Insurance Program. Based on our review of the FEMA (2008) map, the project site is located in an area determined to be outside the 0.2 percent annual chance floodplain.

5.4. Rippability

Based on our subsurface exploration of the site, the lake deposit materials should be generally excavatable with heavy-duty earthwork equipment in good working condition.

5.5. Caving Potential

Due to the presence of cohesive materials onsite, caving during excavations is not anticipated. Shoring in accordance with CalOSHA guidelines is recommended for trench excavations. Drilling mud or casing may be needed to stabilize drilled holes for piers extending below the groundwater level.

5.6. Expansive Soils

Expansive soils are characterized by their ability to undergo significant volume changes (shrink or swell) due to variations in moisture content. According to our observations and laboratory testing, the majority of the soils encountered at the site exhibit high expansion potential.

6. ENGINEERING SEISMOLOGY AND DESIGN

The subject site is not located within a State of California Earthquake Fault Zone (formerly known as an Alquist-Priolo Special Studies Zone) (Hart and Bryant, 1999). However, the site is located in a seismically active area, as is the majority of southern California, and the potential for strong ground motion in the project area is considered high during the design life of the proposed structure. The hazards associated with seismic shaking at the site are discussed in the following sections.

6.1. Active Faulting

Official Maps of Earthquake Fault Zones were reviewed to evaluate the location of the project site relative to known active fault zones. Alquist-Priolo Earthquake Fault Zones (known as Special Studies Zones prior to 1994) have been established in accordance with the Alquist-Priolo Special Studies Zones Act of 1972, as amended. The act directs the State Geologist to delineate the regulatory zones that encompass the surface traces of active faults exhibiting a potential for future surface fault rupture. The purpose of the act is to regulate development near active faults in order to mitigate the hazard of surface fault rupture.

The project site is located on the El Centro Quadrangle. There are two mapped Earthquake Fault Zones in the El Centro Quadrangle. The closest mapped Earthquake Fault Zones correspond to the Superstition Hills fault system located approximately 3.9 miles northwest of the site, and the Imperial fault system located approximately 4.1 miles east of the site.
Neither our field observations nor our review of published geologic literature indicated that the surface traces of any active faults pass through or near the site. However, the potentially active Weinert fault trends toward the site, although its position and/or presence in the vicinity of the site are not well known. The Weinert fault is a southeastern extension of the Superstition Hills fault zone. The Weinert fault experienced about 30 cm of total slip during and shortly after (as afterslip) the 1987 Superstition Hills earthquake, though only about half of its length exhibited surface rupture (http://www.data.scec.org/significant/wienert.html). The Imperial fault zone is located to the east of the project site. The Imperial Valley is a seismically active area with documented occurrences of fault rupture. On the basis of our observations and review of published literature, it is our opinion that there is a low to moderate likelihood of fault rupture occurring at the site during the design life of the proposed improvements. Figure 4, Fault Location Map, shows the approximate site location relative to the major faults in the southern California region.

6.2. Historical Seismicity

In the absence of fault rupture, the greatest seismic hazard likely to affect the site is seismic shaking due to one or more earthquakes generated on nearby or distant active faults. The approximate locations of major faults in the region and their geographic relationship to the site are shown on Figure 4, Fault Location Map. The epicentral locations of selected historic earthquakes in southern California have been plotted by the California Division of Mines and Geology (Toppozada et al., 2000). A reproduction of this map including recent earthquakes in the vicinity of the site (http://maps.conservation.ca.gov/cgs/historicearthquakes/) is presented as Figure 5, Historical Seismicity Map.

Significant earthquakes that have affected this region include 1892 (M7.1), 1915 (M6.3; M7.1), 1930 (M5.7), 1940 (M6.9), 1950 (M5.4), 1957 (M5.2), 1968 (6.5), 1979 (6.4), 1980 (M6.1), 1981 (M5.8), 1987 (M6.2; M6.8), 2010 (M7.2). It is likely that the site will be subject to strong shaking during the design life of the proposed improvements.

6.3. CBC Seismic Design Parameters

Our recommendations for seismic design parameters have been developed in accordance with 2013 California Building Code (CBC) and ASCE 7-10 (American Society of Civil Engineers, 2010) standards. As discussed above, the project site is potentially liquefiable and would be classified as Site Class F per ASCE 7-10 Section 20.3.1. However, ASCE 7-10 provides an exception for structures with periods of vibration equal to or less than 0.5 seconds. Since the proposed one-story structures are anticipated to have a fundamental period of less than 0.5s, the site class may be determined using the definitions provided in Table 20.3.1. Based on the results of our field investigation the applicable Site Class is D consisting of a stiff soil profile with average SPT N between 15 and 50 blows per foot. Table 2 presents the seismic design parameters for the site in accordance with 2013 CBC and mapped spectral acceleration parameters (United States Geological Survey, 2016).
### 2013 California Building Code Design Parameters

<table>
<thead>
<tr>
<th>Design Parameters</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site Class</td>
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</tr>
<tr>
<td>Mapped Spectral Acceleration Parameter at Period of 0.2-Second, $S_s$</td>
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</tr>
<tr>
<td>Mapped Spectral Acceleration Parameter at Period 1-Second, $S_1$</td>
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</tr>
<tr>
<td>Site Coefficient, $F_a$</td>
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<tr>
<td>Site Coefficient, $F_v$</td>
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<tr>
<td>Adjusted MCE\textsuperscript{1} Spectral Response Acceleration Parameter at Short Period, $S_{MS}$</td>
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</tr>
<tr>
<td>1-Second Period Adjusted MCE\textsuperscript{1} Spectral Response Acceleration Parameter, $S_{M1}$</td>
<td>0.900g</td>
</tr>
<tr>
<td>Short Period Design Spectral Response Acceleration Parameter, $S_{DS}$</td>
<td>$2/3 S_{MS} = 1.030g$</td>
</tr>
<tr>
<td>1-Second Period Design Spectral Response Acceleration Parameter, $S_{DF}$</td>
<td>$2/3 S_{M1} = 0.600g$</td>
</tr>
<tr>
<td>Peak Ground Acceleration, PGA\textsuperscript{2}</td>
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</tr>
<tr>
<td>Seismic Design Category\textsuperscript{3}</td>
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</tr>
</tbody>
</table>

Notes:  
\textsuperscript{1} Risk-Targeted Maximum Considered Earthquake  
\textsuperscript{2} Peak Ground Acceleration adjusted for site effects  
\textsuperscript{3} Seismic Design Category

### 6.4. Liquefaction and Seismic Settlement Potential

Liquefaction occurs when the pore pressures generated within a soil mass approach the effective overburden pressure. This results in a loss of strength, and the soil then possesses a certain degree of mobility sufficient to permit both horizontal and vertical movements. Liquefaction of soils may be caused by ground shaking during earthquakes. Liquefaction is generally known to occur in loose, saturated, relatively clean, fine-grained cohesionless soils at depths shallower than approximately 50 feet. Factors to consider in the evaluation of soil liquefaction potential include groundwater conditions, soil type, grain-size distribution, relative density, degree of saturation, and both the intensity and duration of ground motion.

The site is located in an area that has not been mapped for liquefaction potential by the State of California. High groundwater levels and unconsolidated to poorly consolidated lacustrine deposits in the area suggest a high susceptibility to liquefaction in the valley. Earthquake moment magnitudes for the project site were evaluated based fault parameter values published by the United States Geological Survey (2008a). The peak ground acceleration (pga) at the project site was also evaluated by dividing the short period design spectral response acceleration parameter, $S_{DS}$, by 2.5. For the purposes of our analysis, we used a moment magnitude of 6.8 and a PGA value of 0.586g.

Our analysis indicates that the zones of potentially liquefiable soil have a total potential for 0.9 inches of settlement during intense shaking. The potentially liquefiable zones consist of discontinuous soil layers encountered at depths ranging from 15 to 40 feet below the existing ground surface.

Seismic settlement can occur when loose to medium dense granular materials densify during seismic shaking. Seismically-induced settlement may occur in dry, unsaturated, as well as saturated soils. Based on the results of our subsurface investigation, no additional seismic settlement is anticipated in the layers that are not liquefiable.
6.5. Landslides

Based on our review of the referenced geologic maps, literature, topographic maps, aerial photographs, and our subsurface evaluation, no landslides or related features underlie or are adjacent to the subject site. Due to the relatively level nature of the site and surrounding areas, the potential for landslides at the project site is considered negligible.

6.6. Flooding and Seiches

The Federal Emergency Management Agency (FEMA) has prepared flood insurance rate maps (FIRMs) for use in administering the National Flood Insurance Program. Based on our review of the FEMA (2008) flood map, the site is outside the 0.2% annual chance (500-year) floodplain.

Seiches are standing wave oscillations of an enclosed water body after the original driving force has dissipated. The potential for the site to be adversely impacted by earthquake-induced seiches is considered to be negligible due to the lack of any significant enclosed bodies of water located upstream of the site.

7. DESIGN RECOMMENDATIONS

Based on the results of the field exploration and engineering analyses, it is our opinion that the proposed construction is feasible from a geotechnical standpoint, provided that the recommendations in this report are incorporated into the design plans and are implemented during construction. It is our opinion that the proposed buildings may be supported on shallow spread footings or on mat foundations placed on engineered fill.

Our geotechnical engineering analyses performed for this report were based on the earth materials encountered during the subsurface exploration for the site. We have assumed maximum wall and column loads of 5 kips per foot and 20 kips, respectively, in our foundation analyses. If the design changes substantially, then our geotechnical engineering recommendations would be subject to revision based on our evaluation of the changes. The following sections present our conclusions and recommendations pertaining to the engineering design for this project.

7.1. Site Preparation and Earthwork

In general, earthwork should be performed in accordance with the recommendations presented in this report. Twining should be contacted with questions regarding the recommendations or guidelines presented herein.

7.1.1. Site Preparation

Site preparation should begin with the removal of utility lines, asphalt, concrete, vegetation, and other deleterious debris from areas to be graded. Tree stumps and roots should be removed to such a depth that organic material is generally not present. Clearing and grubbing should extend to the outside edges of the proposed excavation and fill areas. We recommend that unsuitable materials such as organic matter or oversized material be selectively removed and disposed of off-site. The debris and unsuitable material generated during clearing and grubbing should be removed from areas to be graded and disposed at a legal dump site away from the project area.
7.1.2. Treatment of Highly Expansive Clayey Soils

According to our observations, the surficial soils consist of highly expansive fat clay materials extending to approximate depths ranging from 15 to 25 feet below existing grade. The recommendations presented in this report account for the presence of highly expansive soil conditions which could cause heaving of concrete building slabs and foundations, concrete flatwork, and other site improvements. In general, clayey materials may be used after treatment to partially mitigate the expansion potential, or could be removed and replaced with granular, non-expansive imported materials.

The first approach to mitigate the expansion potential of on-site soils is to remove the existing soils to a depth of 3 feet below building floor slabs and foundation bottoms and moisture condition to achieve moisture contents at least 5 percent above optimum as determined by ASTM D1557. This will mitigate the expansion potential of clayey soils provided exposed surfaces are irrigated to maintain this moisture content over time until the proposed improvements are constructed.

The second approach to mitigate the expansion potential of on-site soils is to perform lime treatment by mixing the clayey soils with approximately 5 percent lime (as measured by dry weight). Lime treatment should extend to a depth of 3 feet below building floor slabs and foundation bottoms. Additional laboratory and field testing should be performed at the time of construction to determine the required lime content to mitigate expansion of on-site soils.

The third approach to mitigate the expansion potential of on-site soils consists of removal of the upper 3 feet of on-site clayey soils below building floor slabs and foundation bottoms and replacement with imported low expansion potential granular soils (Expansion Index of 40 or less).

It is important to note that, in our opinion, removal of highly expansive soils and replacement with low expansive granular soil will more effectively mitigate the potential for heaving than the options for treatment of onsite soil. The second best option would be lime treatment of on-site clayey soil as lime would render the soil far less susceptible to expansion and shrinkage if exposed to wetting and drying cycles. The City of El Centro should consider these options and select the most appropriate alternative based on previous experience, initial cost to implement the various options, and maintenance costs of site improvements over the life of the project.

Removals under concrete flatwork areas should extend to a depth of 18 inches and for pools should extend to a depth of 12 inches below the bottom. Removals should extend laterally on a 1:1 (horizontal to vertical) projection away from foundation edges, where possible. The extent and depths of removal should be evaluated by Twining's representative in the field based on the materials exposed. Additional removals may be recommended if loose or soft soils are exposed during grading.

7.1.3. Compacted Fill

After subgrade soils below foundations, slabs and flatwork are removed to the depths indicated in Section 7.1.2, the removal bottoms should be scarified to a depth of 8 inches and be moisture conditioned to 3 to 5 percent above optimum moisture content. The scarified materials should be compacted to relative compaction of at least 85 percent of the maximum dry density in accordance with ASTM Test Method D1557.

If the option to incorporate the use of on-site soils without lime treatment is selected, then on-site soils should be compacted to relative compaction ranging from 85 to 90 percent in order to mitigate
the potential for expansion and shrinkage upon wetting and drying. As indicated above, the moisture content of the exposed fill must be maintained though constant irrigation until placement of the concrete slabs or flatwork is complete. Additional pre-saturation requirements for on-site soils may be provided based upon the moisture content of the materials encountered during grading.

Should the option of lime treatment be selected, the upper 3 feet of on-site soil should be mixed with the recommended lime content determined through laboratory testing and then compacted to at least 90 percent relative compaction. These materials should be placed in loose lifts approximately 8 inches thick and moisture conditioned to above optimum moisture content to ensure proper hydration of the lime and achieve proper compaction.

If the option to remove the on-site soil and replace with import soil is selected, the proposed import soil should be sampled, tested, and evaluated by Twining prior to transporting to the site. Imported materials should be non-plastic and be uniformly graded with no greater than 30 percent fine content and no particles greater than 6 inches in maximum dimension. Imported soils should have an expansion index no greater than 40 and low corrosion potential (chloride content less than 500 parts per million [ppm], soluble sulfate content less than 0.1 percent, and pH of 5.5 or higher). Imported fill and other non-clayey materials should be compacted at or above optimum moisture content to at least 90 percent relative compaction.

7.2. Building Foundation Recommendations

Shallow foundation systems consisting of spread footings may be used for support of the proposed buildings, provided that footings are placed on compacted fill materials as described in Section 7.2. Shallow foundations should be designed using geotechnical design parameters presented in Table 3.

| Minimum Footing Dimensions | • Width: 1 foot  
|                           | • Depth¹: Option 1 - Reuse clayey soils: 3 feet  
|                           | Option 2 - Lime treatment, Option 3 - Import soil: 18 inches  |
| Allowable Bearing Pressure ² | • 2,000 pounds per square foot (psf).  
|                           | • Allowable bearing values may be increased by one-third for transient live loads such as wind or seismic  |
| Estimated Settlement (Total/Differential) | • Total static settlement is estimated to be less than 1 inch.  
|                           | • Differential settlement is estimated to be ½ inch between footings with similar loading conditions.  |
| Coefficient of Friction Below Footings | 0.30  |
| Unfactored Lateral Passive Resistance | 250 pcf (equivalent fluid pressure)  |

Notes: ¹ For Option 1, footings should be embedded at least 3 feet below the lowest adjacent grade to reduce moisture content fluctuation below structures. ² Assumed maximum wall loads up to 5 kips per foot and maximum column loads up to 20 kips.
7.3. Deep Foundations for Light Poles, Shade Sails and Scoreboard

Deep foundations consisting of cast-in-drilled-hole (CIDH) concrete piles are anticipated for light poles, shade sails and the scoreboard. CIDH piles may be designed using an allowable skin friction of 200 psf times the side surface area of pile in contact with bearing material. The uplift pile capacity can be calculated as one-half of the compressive capacity and may include the total dead weight of the pile. Allowable bearing values may be increased by one-third for transient live loads from wind or earthquake. For pile spacings less than three pile diameters group effects should be considered in the design.

We recommend an allowable passive pressure of 250 psf per foot of depth be used with a value of up to 2,000 psf for lateral load capacity. This value assumes that the ground is horizontal for a distance of 10 feet, or three times the height generating the passive pressure, whichever is greater. We recommend that the upper 1 foot of soil not protected by pavement or a concrete slab be neglected when calculating passive resistance.

The bottoms of the pile excavations should be clean and inspected by a Twining representative. If pile excavations are not stable or groundwater is encountered, drilling mud or casing may be required. In addition, we recommend placement of concrete by the tremie method to mitigate aggregate and cement segregation during the pour.

7.4. Concrete Slabs

Subgrade soils below concrete slabs should be prepared in accordance with Section 7.2 of this report. For design of concrete slabs, a modulus of subgrade reaction \( k \) of 100 pounds per cubic inch (pci) may be used when supported by the on-site clayey soils, or a modulus of subgrade reaction of 150 pci may be used when supported by imported granular fill.

Slabs should be designed and reinforced in accordance with the structural engineer recommendations. As a minimum, slabs should be 5 inches thick and reinforced with No. 3 reinforcing bars spaced at 18 inches on-center each way and placed at the mid-height. It is recommended to use joint spacing of 10 feet or as designed by the structural engineer along with keeping pad grade soils at elevated moisture content. Care should be taken during placement of the concrete to prevent displacement of the underslab materials. The concrete slab should be allowed to cure properly prior to placing vinyl or other moisture-sensitive floor covering.

The recommendations presented above are intended to reduce the potential for cracking of slabs; however, even with the incorporation of the recommendations presented herein, slabs may still exhibit some cracking. The occurrence of concrete shrinkage cracks is independent of the supporting soil characteristics. Table 4 provides recommendations for various levels of protection against vapor transmission through concrete floor slabs placed over a properly prepared subgrade.

We recommend that exterior concrete flatwork be constructed with dowels and crack control joints to reduce the potential manifestation of distress due to movement of the underlying soil. Positive drainage should be established and maintained adjacent to flatwork. Uniform moisture content should be maintained throughout the year to reduce differential heave of concrete flatwork.
### Table 4
Options for Subgrade Preparation below Concrete Floor Slabs

<table>
<thead>
<tr>
<th>Primary Objective</th>
<th>Recommendation</th>
</tr>
</thead>
</table>
| Enhanced protection against vapor transmission         | • Concrete floor slab-on-grade may be placed directly on a 15-mil-thick moisture vapor retarder that meets the requirements of ASTM E 1745 Class C (Stego Wrap or similar).  
• The moisture vapor retarder membrane may be placed directly on the subgrade (ACI302.1R-67); if required for either leveling of the subgrade or for protection of the membrane from protruding gravel, then place about 2 inches of silty sand\(^1\) under the membrane.  
• Special consideration for curing the concrete, such as wet curing, should be made if concrete is placed directly on the impermeable vapor retarder. |
| Above-standard protection against vapor transmission    | This option is available if the slab perimeter is bordered by continuous footings at least 24 inches deep, OR if the area adjacent and extending at least 10 feet from the slab is covered by hardscape without planters:  
• 2 inches of dry silty sand\(^1\); over  
• Waterproofing plastic membrane 10-mil thick; over  
• At least 4 inches of ¾-inch crushed rock\(^2\) or clean gravel\(^3\) to act as a capillary break |
| Standard protection against vapor transmission          | • 2 inches of dry silty sand\(^1\); over  
• Waterproofing plastic membrane 10-mil thick. If required for either leveling of the subgrade or for protection of the membrane from protruding gravel, place at least 2 inches of silty sand\(^1\) under the membrane. |

Notes:

1. Silty sand should have a gradation between approximately 15 and 40 percent passing the No. 200 sieve and a plasticity index (PI) of less than 4.
3. Gravel should contain less than 10 percent of material passing the No. 4 sieve and less than 3 percent passing the No. 200 sieve.

#### 7.5. Retaining Walls

##### 7.5.1. Lateral Earth Pressure

For retaining walls less than 6 feet in height, the following recommendations can be used for structural design. The values presented below assume that the supported grade is level and that surcharge loads are not applied. The recommended design lateral earth pressure is calculated assuming that a drainage system will be installed behind the retaining walls and that external hydrostatic pressure will not develop behind the walls.
Walls that are supporting earth that has adequate drainage, and are restrained against rotation at the top (such as by a floor deck), may be designed for “at-rest” lateral earth pressure equivalent to a fluid weighing 55 pcf. For walls that are free to rotate at the top (such as cantilevered walls), the lateral earth pressure may be designed for the “active” equivalent fluid pressure of 35 pcf. Where adequate drainage is not provided behind walls, further evaluation should be conducted by the geotechnical engineer.

Vertical surcharge loads within a 1:1 (horizontal:vertical) projection upward from the bottom of the wall distributed over retained soils should be considered as additional uniform horizontal pressure acting on the wall. The additional horizontal pressure acting on the wall can be estimated as approximately 35% and 50% of the magnitude of the vertical surcharge pressure for the “active” and “at-rest” conditions, respectively. All permanent surcharge loading conditions should be evaluated on a case-by-case basis by the geotechnical engineer.

7.5.2. Seismic Lateral Earth Pressure

In addition to the above-mentioned static lateral earth pressures, retaining walls greater than 6 feet in height should be designed to support seismic lateral earth pressures in accordance with 2013 CBC requirements. The additional seismic pressure should be modeled as a rectangular pressure distribution with a maximum pressure equal to 26H psf, where H is the wall height in feet. For wall design, this pressure should be added to active earth pressure component only and does not need to be added to the at-rest pressure.

7.5.3. Backfill and Drainage of Walls

The backfill material behind walls should consist of granular non-expansive material and should be approved by the project geotechnical engineer. Due to the highly expansive nature of the on-site clay soil, we recommend that retaining walls be backfilled with imported granular materials that have a relatively low potential for expansion (Expansion Index no greater than 40). Retaining walls should be waterproofed and adequately drained in order to limit hydrostatic buildup behind walls. Wall drainage may be provided by a geosynthetic drainage composite such as TerraDrain®, MiraDrain®, or equivalent, attached to the outside perimeter of the wall. The drain should be placed continuously along the back of the wall and connected to a 4-inch-diameter perforated pipe. The pipe should be sloped at least 1% and should be surrounded by 1 cubic foot per foot of ¾-inch crushed rock wrapped in suitable non-woven filter fabric (Mirafi® 140NL or equivalent). The crushed rock should meet the requirements defined in Section 200-1.2 of the latest edition of The “Greenbook” Standard Specifications for Public Works Construction (Public Works Standards, 2012). The drain should discharge through a solid pipe to an appropriate outlet.

7.5.4. Excavations and Shoring

CalOSHA regulations provide trench sloping and shoring design parameters for trenches up to 20 feet deep based on a description of the soil types encountered. Trenches over 20 feet deep should be designed by the contractor’s engineer based on site-specific geotechnical analyses.

For planning purposes, we recommend that OSHA Type C soil classification be used for excavations in lake deposits. Upon making the excavations, the soil classification and excavation performance should be evaluated in the field by Twining in accordance with OSHA regulations. For trench or other temporary excavations, OSHA requirements regarding personnel safety should be met by laying back the slopes to a gradient no steeper than 1.5:1 (horizontal:vertical) for fill and alluvial materials.
Where sloped excavations are created, the tops of the slopes should be barricaded so that vehicles and storage loads do not encroach within 10 feet of the tops of the excavated slopes. A greater setback may be necessary when considering heavy vehicles, such as concrete trucks and cranes. Twining should be advised of such heavy vehicle loadings so that specific setback requirements can be established. If the temporary construction slopes are to be maintained during the rainy season, berms are recommended to be graded along the tops of the slopes in order to prevent runoff water from entering the excavation and eroding the slope faces. We recommend that excavated areas be backfilled as soon as practicable. The stability of the excavations decreases over time as the soil dries and weathers.

For vertical excavations less than approximately 15 feet in height, cantilevered shoring may be used. Shoring of excavations deeper than approximately 15 feet may need to be accomplished with the aid of tied-back earth anchors. The shoring design should be provided by a California Registered Civil Engineer experienced in the design and construction of shoring under similar conditions. Once the final excavation and shoring plans are complete, the plans and the design should be reviewed by Twining, Inc. for conformance with the design intent and recommendations. Further, the shoring system should satisfy applicable requirements of CalOSHA.

For design of cantilevered shoring, a triangular distribution of lateral earth pressure may be used. It may be assumed that the drained soils, with a level surface behind the cantilevered shoring, will exert an equivalent fluid pressure of 35 pcf.

Tied-back or braced shoring should be designed to resist a trapezoidal distribution of lateral earth pressure. The recommended pressure distribution, for the case where the grade is level behind the shoring, is illustrated in the following diagram with the maximum pressure equal to $22H$ in psf, where $H$ is the height of the shored wall in feet.

Any surcharge (live, including traffic, or dead load) located within a 1:1 plane drawn upward from the base of the shored excavation, including adjacent structures, should be added to the lateral earth pressures. The lateral contribution of a uniform surcharge load located immediately behind the temporary shoring may be calculated by multiplying the vertical surcharge pressure by 0.35. Lateral load contributions of surcharges located at a distance behind the shored wall may be provided once the load configurations and layouts are known. As a minimum, a 300 psf vertical uniform surcharge is recommended to account for nominal construction and/or traffic loads.
7.5.5. Excavation Bottom Stability

In general, we anticipate that the bottoms of the excavations will be stable and should provide suitable support to the proposed improvements. Unstable bottom conditions may be mitigated by overexcavation of the bottom to suitable depths and replacement with a 1-foot-thick gravel or lean concrete mud mat. Any loose, soft, or deleterious material should be removed prior to placement of gravel or lean concrete. Recommendations for stabilizing excavation bottoms should be based on evaluation in the field by the geotechnical consultant at the time of construction.

7.5.6. Construction Dewatering

Due to the presence of groundwater at an approximate depth of 13 feet, dewatering measures may be necessary during deeper excavation operations. If needed, considerations for construction dewatering should include anticipated drawdown, volume of pumping, potential for settlement of nearby structures, and groundwater discharge. Disposal of groundwater should be performed in accordance with guidelines of the Regional Water Quality Control Board.

7.6. Pool Recommendations

The proposed swimming pool slab should be reinforced in accordance with the recommendations of the design structural engineer. The subgrade soils have high expansion potential and should be treated as described in Section 7.2. Pool walls should be designed using lateral pressures corresponding to an equivalent fluid pressure of 85 pcf. The swimming pool should also be designed for any possible surcharge loading if such nearby loading is located within a lateral distance from the pool equal to the pool depth.

Surface drainage around the pool should be designed to prevent water from ponding and seeping into the ground. Surface water should be collected and directed through non-erosive devices to the storm drain system or other approved disposal area. Leakage for the proposed pool could produce an artificial groundwater condition that will likely create instability problems. As indicated above, the bottom of the excavation of the pool should be scarified, moisture conditioned as necessary and compacted in accordance with the Section 7.2 of this report. It is recommended that a drainage system consisting of a geotextile-wrapped “burrito” drain with 1-square-foot section of ¾-inch gravel and a slotted, 4-inch PVC pipe be placed below the deeper section of the pool. The drainage system should collect any infiltration water and direct it to a sump pump system. This will also mitigate the potential for uplift of the pool structure as a result of buoyancy forces on the shell in case groundwater level variations occur. A hydrostatic relief valve system is also recommended at the bottom of the pool.

Water stops should also be provided in accordance with the recommendations of the American Concrete Institute. All joints should be sealed with an approved flexible sealant to reduce the potential for introduction of surface water into the underlying soil.

7.7. Preliminary Pavement Design

Based on the results of R-value testing on a sample of subgrade materials from the site, we have used an R-value of 22 for design of flexible pavements as shown in Table 5. Actual pavement recommendations should be based on R-value tests performed on bulk samples of the soils that are exposed at the finished subgrade elevations in the areas to be paved once grading operations have been performed. We also considered Traffic Index (TI) of 5 for parking stalls and light traffic driveways and TI of 6 for truck traffic and access driveways.
### Table 5
Pavement Recommendations

<table>
<thead>
<tr>
<th>Traffic Index</th>
<th>Pavement Area</th>
<th>Design R-value</th>
<th>Asphalt Concrete (inches)</th>
<th>Aggregate Base (inches)</th>
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<tr>
<td>5.0</td>
<td>Light Traffic</td>
<td>22</td>
<td>3.0</td>
<td>7.0</td>
</tr>
<tr>
<td>6.0</td>
<td>Truck Traffic</td>
<td>22</td>
<td>4.0</td>
<td>8.0</td>
</tr>
</tbody>
</table>

Traffic indices used for this project should be determined by the project civil engineer based upon anticipated traffic loading conditions. Additional pavement section recommendations for different traffic indices can be provided by Twining, if requested. The aggregate base and upper 12 inches of the subgrade materials should be moisture conditioned to 3 percent above optimum moisture content and compacted to a relative compaction of 95 percent as evaluated by ASTM D1557. We suggest that consideration be given to using Portland cement concrete (PCC) pavements in areas where dumpsters will be stored and where buses and garbage trucks will stop and load. We recommend for these areas a 6½ -inch thick PCC pavement section with flexural strength of 600 psi placed over 6 inches of aggregate base compacted to 95 percent relative compaction.

### 7.8. Drainage Control

The control of surface water is essential to the satisfactory performance of the building and site improvements. Surface water should be controlled so that conditions of uniform moisture are maintained beneath the improvements, even during periods of heavy rainfall. The following recommendations are considered minimal:

- Ponding and areas of low flow gradients should be avoided.
- If bare soil within 5 feet of the structure is not avoidable, then a gradient of 5 percent or more should be provided sloping away from the improvement. Corresponding paved surfaces should be provided with a gradient of at least 1 percent.
- The remainder of the unpaved areas should be provided with a drainage gradient of at least 2 percent.
- Positive drainage devices, such as graded swales, paved ditches, and/or catch basins should be employed to accumulate and to convey water to appropriate discharge points.
- Concrete walks and flatwork should not obstruct the free flow of surface water.
- Brick flatwork should be sealed by mortar or be placed over an impermeable membrane.
- Area drains should be recessed below grade to allow free flow of water into the basin.
- Enclosed raised planters should be sealed at the bottom and provided with an ample flow gradient to a drainage device. Recessed planters and landscaped areas should be provided with area inlet and subsurface drain pipes.
- Planters should not be located adjacent to the structures wherever possible. If planters are to be located adjacent to the structures, the planters should be positively sealed, should incorporate a subdrain, and should be provided with free discharge capacity to a drainage device.
- Planting areas at grade should be provided with positive drainage. Wherever possible, the grade of exposed soil areas should be established above adjacent paved grades. Drainage devices and curbing should be provided to prevent runoff from adjacent pavement or walks into planted areas.
• Gutter and downsoput systems should be provided to capture discharge from roof areas. The accumulated roof water should be conveyed to off-site disposal areas by a pipe or concrete swale system.

• Landscape watering should be performed judiciously to preclude either soaking or desiccation of soils. The watering should be such that it just sustains plant growth without excessive watering. Sprinkler systems should be checked periodically to detect leakage and they should be turned off during the rainy season.

7.9. Corrosion

Laboratory testing was performed on two representative samples of on-site soils to evaluate pH and electrical resistivity, as well as chloride and sulfate contents. The pH and electrical resistivity tests were performed in accordance with California Test 643 and the sulfate and chloride tests were performed in accordance with California Tests 417 and 422, respectively. These laboratory test results are presented in Appendix B.

The results of the corrosivity testing indicated electrical resistivity values of 340 and 200 ohm-cm. The soil pH values of the samples were 7.3 and 8.2. The tests indicated soluble chloride content of 1,356 and 2,026 parts per million (ppm). Soluble sulfate contents were 7,251 and 12,822 ppm (that is, 0.73 and 1.28 percent). Based on Caltrans (2012) criteria, the on-site soils would be classified as corrosive, which classification is defined as soil having more than 500 ppm chlorides, more than 0.2 percent sulfates, or a pH less than 5.5.

7.10. Concrete

Concrete in contact with soil or water that contains high concentrations of soluble sulfates can be subject to chemical deterioration. Laboratory testing indicated a sulfate content of the samples tested of 0.73 and 1.28 percent, which corresponds to sulfate exposure Class S2 – Severe (sulfate content between 0.2% and 2%). According to ACI 318-11 it is recommend that 3 inches of concrete cover be provided over reinforcing steel, that Type V cement be used for cast-in-place structures in contact with soil. In addition, a water to cement ratio of no more than 0.45 and concrete with minimum compressive strength of 4,500 psi is recommend. A corrosion specialist may be consulted regarding suitable types of piping and appropriate protection for underground metal conduits.

8. DESIGN REVIEW

Geotechnical review of plans and specifications is of paramount importance in engineering practice. The poor performance of many structures has been attributed to inadequate geotechnical review of construction documents. Additionally, observation of excavations will be important to the performance of the proposed development. The following sections present our recommendations relative to the review of construction documents and the monitoring of construction activities.

8.1. Plans and Specifications

The design plans and specifications should be reviewed by Twining prior to bidding and construction, as the geotechnical recommendations may need to be reevaluated in the light of the actual design configuration and loads. This review is necessary to evaluate whether the recommendations contained in this report and future reports have been properly incorporated into the project plans and specifications. Based on the work already performed, this office is best qualified to provide such review.
8.2. Construction Monitoring

Site preparation, removal of unsuitable soils, assessment of imported fill materials, fill placement, foundation installation, and other site grading operations should be observed and tested. The substrata exposed during the construction may differ from that encountered in the test excavations. Continuous observation by a representative of Twining during construction allows for evaluation of the soil conditions as they are encountered, and allows the opportunity to recommend appropriate revisions where necessary.

The project geologist should be notified prior to exposure of subgrades. It is critically important that the geologist be provided with an opportunity to observe and/or map all exposed subgrades prior to burial or covering.

9. LIMITATIONS

The recommendations and opinions expressed in this report are based on information obtained from our field exploration for the entire site. In the event that any of our recommendations conflict with recommendations provided by other design professionals, we should be contacted to aid in resolving the discrepancy.

Due to the limited nature of our field explorations, conditions not observed and described in this report may be present on the site. Uncertainties relative to subsurface conditions can be reduced through additional subsurface exploration. Additional subsurface evaluation and laboratory testing can be performed upon request. It should be understood that conditions different from those anticipated in this report may be encountered during excavation operations, for example, the presence of unsuitable soil, and that additional effort may be required to mitigate them.

Site conditions, including groundwater elevation, can change with time as a result of natural processes or the activities of man at the subject site or at nearby sites. Changes to the applicable laws, regulations, codes, and standards of practice may occur as a result of government action or the broadening of knowledge. The findings of this report may, therefore, be invalidated over time, in part or in whole, by changes over which Twining has no control.

Twining’s recommendations for this site are, to a high degree, dependent upon appropriate quality control of foundation construction. Accordingly, the recommendations are made contingent upon the opportunity for Twining to observe foundation excavations for the proposed construction. If parties other than Twining are engaged to provide such services, such parties must be notified that they will be required to assume complete responsibility as the geotechnical engineer of record for the geotechnical phase of the project by concurring with the recommendations in this report and/or by providing alternative recommendations.

This document is intended to be used only in its entirety. No portion of the document, by itself, is designed to completely represent any aspect of the project described herein. Twining should be contacted if the reader requires additional information or has questions regarding the content, interpretations presented, or completeness of this document.

This report has been prepared for the exclusive use by the client and its agents for specific application to the proposed design and construction of the project described herein. Any party other than the client who wishes to use this report for an adjacent or nearby project, shall notify Twining of such intended use. Land use, site conditions, or other factors may change over time, and additional work may be required with the passage of time. Based on the intended use of this report and the nature of the project, Twining may require that additional work be performed and that an updated report be issued. Non-compliance with any of these
requirements by the client or any other party will release Twining from any liability resulting from the use of this report by any unauthorized party.

Twining has endeavored to perform its evaluation using the degree of care and skill ordinarily exercised under similar circumstances by reputable geotechnical professionals with experience in this area in similar soil conditions. No other warranty, either expressed or implied, is made as to the conclusions and recommendations contained in this report.
10. SELECTED REFERENCES


American Concrete Institute, 2011, Building Code Requirements for Structural Concrete (ACI 318-11) and Commentary (ACI 318R-11).


Earthquake Engineering Research Institute, 2008, Soil Liquefaction During Earthquakes, Monograph No. MNO-12.


McCrink, T.P., Pridmore, C.L., Tinsley, J.C., Sickler, R.R., Brandenberg, S.J., and Stewart, J.P., 2011, Liquefaction and other ground failures in Imperial County, California, from the April 4, 2010, El Mayor-


Twining, Inc., 2012, Geotechnical Engineering & Engineering Geologic Evaluation Report, Martin Luther King Community Skate Park, Adams Park Between 6th and 7th Street, El Centro, California, dated January 9.

United States Geological Survey, 1957, El Centro Quadrangle: 7.5 Minute Series (Topographic), scale 1:24,000.


FIGURES
FIGURE 1

REPORT DATE
May 2016

PROJECT NO.
160237.2

SITE LOCATION MAP
EL CENTRO AQUATIC CENTER
EL CENTRO, CALIFORNIA

REFERENCE: UNITED STATES GEOLOGICAL SURVEY (1957)

SITE COORDINATES
LATITUDE: 32.796°N
LONGITUDE: 115.555°W

AREA ENLARGED IN FIGURE 2

REFERENCE: UNITED STATES GEOLOGICAL SURVEY (1957)
EPICENTERS

- < 6.0
- 6.0 - 6.4
- 6.4 - 7.0
- 7.0 +

APPENDIX A
FIELD EXPLORATION
Appendix A  
Field Exploration  

General  

The subsurface exploration program for the proposed project consisted of drilling and logging six 8-inch diameter exploratory borings. The 8-inch diameter exploratory borings were advanced using a truck-mounted CME-95 hollow stem auger drill rig. Drilling was performed by Baja Exploration of Escondido, California. The borings reached depths of approximately 21½ to 51½ feet below the existing grades. Upon completion of the borings, the boreholes were backfilled with soil from the cuttings.  

Drilling and Sampling  

The boring logs are presented as Figures A-2 through A-9. An explanation of these logs is presented as Figure A-1. The boring logs describe the earth materials encountered, samples obtained, and show the field and laboratory tests performed. The log also shows the boring number, drilling date, and the name of the logger and drilling subcontractor. The borings were logged by a Twining engineer using the Unified Soil Classification System. The boundaries between soil types shown on the logs are approximate because the transition between different soil layers may be gradual. Drive and bulk samples of representative earth materials were obtained from the borings.  

A California modified sampler was used to obtain drive samples of the soil encountered. This sampler consists of a 3-inch outside diameter (O.D.), 2.4-inch inside diameter (I.D.) split barrel shaft that is driven a total of 18-inches into the soil at the bottom of the boring. The soil was retained in brass rings for laboratory testing. Additional soil from each drive remaining in the cutting shoe was usually discarded after visually classifying the soil. The number of blows required to drive the sampler the final 12 inches is presented on the boring logs.  

Disturbed samples were obtained using a Standard Penetration Sampler (SPT). This sampler consists of a 2-inch O.D., 1.4-inch I.D. split barrel shaft that is advanced into the soil at the bottom of the drilled hole a total of 18 inches. The number of blows required to drive the sampler the final 12 inches is presented on the boring logs. Soil samples obtained by the SPT were retained in plastic bags.  

Both the California modified and the SPT sampler were driven by an automatic-trip hammer weighing 140 pounds at a drop height of approximately 30 inches.
**UNIFIED SOIL CLASSIFICATION CHART**

<table>
<thead>
<tr>
<th>MAJOR DIVISIONS</th>
<th>SYMBOLS</th>
<th>TYPICAL DESCRIPTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>COARSE-GRAINED SOILS</strong></td>
<td>CLEAN GRAVELS</td>
<td>WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES</td>
</tr>
<tr>
<td></td>
<td>GRAVELS WITH FINES</td>
<td>POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES</td>
</tr>
<tr>
<td></td>
<td>SANDS WITH FINES</td>
<td>CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES</td>
</tr>
<tr>
<td><strong>FINE-GRAINED SOILS</strong></td>
<td>LIQUID LIMIT LESS THAN 50</td>
<td>INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILT OR CLAYY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY</td>
</tr>
<tr>
<td></td>
<td>LIQUID LIMIT GREATER THAN 50</td>
<td>INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELY CLAYS, SANDY CLAYS, CLAYEY CLAYS, LEAN CLAYS</td>
</tr>
<tr>
<td><strong>HIGHLY ORGANIC SOILS</strong></td>
<td></td>
<td>ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY</td>
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</table>

**CAUTION:** DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS

### LABORATORY TESTING ABBREVIATIONS

- ATT: Atterberg Limits
- C: Consolidation
- CORR: Corrosivity Series
- DS: Direct Shear
- EI: Expansion Index
- GS: Grain Size Distribution
- K: Permeability
- MAX: Moisture/Density
- O: Organic Content
- RV: Resistance Value
- SE: Sand Equivalent
- SG: Specific Gravity
- TX: Triaxial Compression
- UC: Unconfined Compression

---

**EXPLANATION FOR LOG OF BORINGS**

El Centro Aquatic Center
El Centro, California

<table>
<thead>
<tr>
<th>PROJECT NO.</th>
<th>REPORT DATE</th>
<th>FIGURE A-1</th>
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<tr>
<td>160237.2</td>
<td>May 2016</td>
<td>A-1</td>
</tr>
</tbody>
</table>

**NOTE:** SPT blow counts based on 140 lb. hammer falling 30 inches
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<tr>
<th>ELEVATION (feet)</th>
<th>BLOWS / FOOT</th>
<th>MOISTURE (%)</th>
<th>DRY DENSITY (pcf)</th>
<th>ADDITIONAL TESTS</th>
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<td>22.4</td>
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<tr>
<td>-75</td>
<td>15</td>
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</tbody>
</table>

**LAKE DEPOSITS:**

- Fat CLAY, medium brown, damp, few coarse-grained sand
  - moist, no sand
  - mottled black, wet, stiff to very stiff
  - some rust-colored staining
  - @ 13': groundwater encountered during drilling
  - saturated, stiff
  - same

- Silty CLAY, medium brown, saturated, stiff
  - same

- Sandy SILT, medium brown, saturated, medium dense, fine-grained sand
  - same
<table>
<thead>
<tr>
<th>ELEVATION (feet)</th>
<th>DEPTH (feet)</th>
<th>SAMPLES</th>
<th>BLOWS / FOOT</th>
<th>MOISTURE (%)</th>
<th>DRY DENSITY (pcf)</th>
<th>ADDITIONAL TESTS</th>
<th>GRAPHIC LOG</th>
<th>U.S.C.S. CLASSIFICATION</th>
<th>DESCRIPTION</th>
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<td>24.0</td>
<td>101.1</td>
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<td></td>
<td>LAKE DEPOSITS (continued) Sandy Silt, dark brown, saturated, medium dense, fine-grained sand</td>
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<tr>
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<td></td>
<td>21.7</td>
<td>104.4</td>
<td>SC</td>
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<td></td>
<td></td>
<td>Clayey Sand, medium brown, saturated, medium dense, fine-grained sand</td>
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<td>-- same</td>
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<td>29</td>
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<td></td>
<td>Total Depth = 51.5 feet Backfilled on 3/29/2016 Groundwater encountered during drilling at depth of 13 feet. Borehole backfilled with soil from cuttings.</td>
</tr>
<tr>
<td>ELEVATION (feet)</td>
<td>BLOWS / FOOT</td>
<td>MOISTURE (%)</td>
<td>DRY DENSITY (pcf)</td>
<td>ADDITIONAL TESTS</td>
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</table>

**LOG OF BORING**

El Centro Aquatic Center
El Centro, California

<table>
<thead>
<tr>
<th>DATE DRILLED</th>
<th>LOGGED BY</th>
<th>BORING NO.</th>
<th>DRIVE WEIGHT</th>
<th>DROP</th>
<th>DEPTH TO GROUNDWATER (ft.)</th>
<th>DRILLING METHOD</th>
<th>DRILLER</th>
<th>SURFACE ELEVATION (ft.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/29/2016</td>
<td>AM</td>
<td>B-2</td>
<td>140 lbs.</td>
<td>30 inches</td>
<td>13</td>
<td>8” Hollow Stem Auger</td>
<td>Baja Drilling</td>
<td>-45 +(MSL)</td>
</tr>
</tbody>
</table>

**LAKE DEPOSITS:**
- Fat CLAY, medium brown, damp
  - moist
  - stiff
- mottled red, saturated
- @ 13’: groundwater encountered during drilling
  - medium brown
- Sandy silty CLAY, medium brown, saturated, stiff, fine-grained sand
- Sandy SILT, medium brown, saturated, loose, fine-grained sand
- Silty SAND, medium brown, saturated, medium dense, fine-grained
<table>
<thead>
<tr>
<th>ELEVATION (feet)</th>
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</table>

**LAKE DEPOSITS (continued)**
- Silty SAND, medium brown, saturated, medium dense, fine-grained
- Sandy lean CLAY, medium brown, very hard, saturated, some fine gravel
- Silty SAND, medium brown, saturated, dense, fine-grained

Total Depth = 51.5 feet
Backfilled on 3/29/2016
Groundwater encountered during drilling at depth of 13 feet.
Borehole backfilled with soil from cuttings.
### LAKE DEPOSITS:

- **Fat CLAY**, medium brown, damp, some coarse-grained sand
  - moist, no sand
  - medium brown, stiff to very stiff
  - @ 13': groundwater encountered during drilling
  - saturated, stiff

- **Sandy silty CLAY**, medium brown, saturated, very stiff, fine-grained sand
  - Total Depth = 21.5 feet
  - Backfilled on 3/29/2016
  - Groundwater encountered during drilling at depth of 13 feet.
  - Borehole backfilled with soil from cuttings.
## Lake Deposits:

Fat CLAY, medium brown, damp, few coarse-grained sand

- moist, no sand
- wet, hard

- @13' : groundwater encountered during drilling
- saturated, very stiff
- stiff

Total Depth = 21.5 feet
Backfilled on 3/29/2016
Groundwater encountered during drilling at depth of 13 feet.
Borehole backfilled with soil from cuttings.
**LOG OF BORING**

El Centro Aquatic Center
El Centro, California

**DATE DRILLED** 3/29/2016  **LOGGED BY** AM  **BORING NO.** B-5

**DRIVE WEIGHT** 140 lbs.  **DROP** 30 inches  **DEPTH TO GROUNDWATER (ft.)** 13

**DRILLING METHOD** 8" Hollow Stem Auger  **DRILLER** Baja Drilling  **SURFACE ELEVATION (ft.)** -45 +/- (MSL)

<table>
<thead>
<tr>
<th>ELEVATION (feet)</th>
<th>DEPTH (feet)</th>
<th>SAMPLES</th>
<th>BLOWS / FOOT</th>
<th>MOISTURE (%)</th>
<th>DRY DENSITY (pcf)</th>
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<th>DESCRIPTION</th>
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</tr>
<tr>
<td>-60</td>
<td>12</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-55</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-50</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-45</td>
<td>28</td>
<td>Drive</td>
<td></td>
<td>20.6</td>
<td>102.9</td>
<td>CH</td>
<td>LAKE DEPOSITS: Fat CLAY, dark brown, damp</td>
<td></td>
</tr>
<tr>
<td>-40</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-- medium brown, moist</td>
<td></td>
</tr>
<tr>
<td>-35</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-- wet, very stiff</td>
<td></td>
</tr>
<tr>
<td>-30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-- stiff</td>
<td></td>
</tr>
<tr>
<td>-25</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-- @ 13' : groundwater encountered during drilling</td>
<td></td>
</tr>
<tr>
<td>-20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Clayey SAND, medium brown, saturated, medium dense, fine-grained sand</td>
<td></td>
</tr>
<tr>
<td>-15</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-- less clay</td>
<td></td>
</tr>
<tr>
<td>-10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Silty SAND, medium brown, saturated, medium dense, fine-grained</td>
<td></td>
</tr>
</tbody>
</table>

Total Depth = 21.5 feet
Backfilled on 3/29/2016
Groundwater encountered during drilling at depth of 13 feet.
Borehole backfilled with soil from cuttings.
<table>
<thead>
<tr>
<th>ELEVATION (feet)</th>
<th>DEPTH (feet)</th>
<th>SAMPLES</th>
<th>BLOWS / FOOT</th>
<th>MOISTURE (%)</th>
<th>DRY DENSITY (pcf)</th>
<th>ADDITIONAL TESTS</th>
<th>U.S.C.S. CLASSIFICATION</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>-50</td>
<td></td>
<td>Bulk</td>
<td>14</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>CH</td>
</tr>
<tr>
<td>-55</td>
<td>5</td>
<td>Driven</td>
<td>28</td>
<td>24.8</td>
<td>99.3</td>
<td>CORR</td>
<td></td>
<td>Lake Deposits: Fat CLAY, dark brown, damp, some coarse-grained sand</td>
</tr>
<tr>
<td>-60</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-- moist, stiff</td>
</tr>
<tr>
<td>-65</td>
<td>15</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-- very stiff</td>
</tr>
<tr>
<td>-70</td>
<td>20</td>
<td></td>
<td></td>
<td>16</td>
<td>25.4</td>
<td>97.1</td>
<td></td>
<td>@ 13' : groundwater encountered during drilling</td>
</tr>
<tr>
<td>-75</td>
<td>25</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-- saturated, stiff</td>
</tr>
</tbody>
</table>

Total Depth = 21.5 feet
Backfilled on 3/29/2016
Groundwater encountered during drilling at depth of 13 feet.
Borehole backfilled with soil from cuttings.
**DATE DRILLED**: 3/29/2016  
**LOGGED BY**: AM  
**BORING NO.**: P-1  
**DRIVE WEIGHT**: 140 lbs.  
**DROP**: 30 inches  
**DRILLER**: Baja Drilling  
**SURFACE ELEVATION (ft.)**: -45 -(MSL)  
**DEPT TO GROUNDWATER (ft.)**:  

**DRILLING METHOD**: 8" Hollow Stem Auger

<table>
<thead>
<tr>
<th>ELEVATION (feet)</th>
<th>DEPTH (feet)</th>
<th>SAMPLES</th>
<th>BLOWNS / FOOT</th>
<th>MOISTURE (%)</th>
<th>DRY DENSITY (pcf)</th>
<th>GRAPHIC LOG</th>
<th>U.S.C.S. CLASSIFICATION</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>-50</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-55</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-60</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-65</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-70</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-75</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-80</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**CH**

**LAKE DEPOSITS:**
Fat CLAY, damp, dark brown, few fine-grained sand

Total Depth = 5.0 feet
Backfilled on 3/30/2016
Gravel placed at bottom of borehole, presoaked with 6 inches of water.
Borehole backfilled with soil from cuttings.
**LAKE DEPOSITS:**
Fat CLAY, damp, medium to dark brown, few coarse-grained sand

Total Depth = 5.0 feet
Backfilled on 3/30/2016
Gravel placed at bottom of borehole, presoaked with 6 inches of water.
Borehole backfilled with soil from cuttings.
APPENDIX B
LABORATORY TESTING
Appendix B
Laboratory Testing

Laboratory Moisture Content and Density Tests
The moisture content and dry densities of selected driven samples obtained from the exploratory borings were evaluated in general accordance with the latest version of ASTM D2937. The test results are presented on the logs of the exploratory borings in Appendix A and also summarized in Table B-1.

Table B-1
Laboratory Moisture Content and Dry Density

<table>
<thead>
<tr>
<th>Boring No.</th>
<th>Depth (feet)</th>
<th>Moisture Content (%)</th>
<th>Dry Unit Weight (pcf)</th>
</tr>
</thead>
<tbody>
<tr>
<td>B-1</td>
<td>5</td>
<td>22.4</td>
<td>100.9</td>
</tr>
<tr>
<td>B-1</td>
<td>15</td>
<td>24.1</td>
<td>100.6</td>
</tr>
<tr>
<td>B-1</td>
<td>35</td>
<td>24.0</td>
<td>101.1</td>
</tr>
<tr>
<td>B-1</td>
<td>45</td>
<td>21.7</td>
<td>104.4</td>
</tr>
<tr>
<td>B-2</td>
<td>10</td>
<td>24.7</td>
<td>99.9</td>
</tr>
<tr>
<td>B-2</td>
<td>20</td>
<td>23.5</td>
<td>101.4</td>
</tr>
<tr>
<td>B-2</td>
<td>30</td>
<td>21.8</td>
<td>103.6</td>
</tr>
<tr>
<td>B-3</td>
<td>15</td>
<td>25.8</td>
<td>97.8</td>
</tr>
<tr>
<td>B-4</td>
<td>5</td>
<td>20.4</td>
<td>102.1</td>
</tr>
<tr>
<td>B-4</td>
<td>20</td>
<td>25.1</td>
<td>98.1</td>
</tr>
<tr>
<td>B-5</td>
<td>5</td>
<td>20.6</td>
<td>102.9</td>
</tr>
<tr>
<td>B-5</td>
<td>15</td>
<td>22.8</td>
<td>102.0</td>
</tr>
<tr>
<td>B-6</td>
<td>10</td>
<td>24.8</td>
<td>99.3</td>
</tr>
<tr>
<td>B-6</td>
<td>20</td>
<td>25.4</td>
<td>97.1</td>
</tr>
</tbody>
</table>

Atterberg Limits
Atterberg limits tests were performed on selected soil samples to evaluate plasticity characteristics and to aid in the classification of the soil. The tests were performed in general accordance with ASTM D4318. The results are presented in Figure B-1.

Sieve Analyses and Hydrometer Tests
The grain-size distribution of selected soil samples was evaluated in general accordance with ASTM C136/C117 and ASTM D422. Test results are presented on Figures B-2 through B-5.

Expansion Index Test
The expansion index of selected soil samples was evaluated in general accordance with ASTM D4829. The specimen was molded under a specified compactive energy at approximately 50 percent saturation. The prepared 1-inch-thick by 4-inch-diameter specimen was loaded with a surcharge of 144 pounds per square foot and was inundated with tap water. Readings of volumetric swell were made for a period of 24 hours. The results of the Expansion Index test are presented on Table B-2.
Table B-2
Expansion Index Test Results

<table>
<thead>
<tr>
<th>Boring No.</th>
<th>Depth (feet)</th>
<th>Expansion Index</th>
<th>Expansion Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>B-2</td>
<td>5</td>
<td>123</td>
<td>High</td>
</tr>
<tr>
<td>B-3</td>
<td>0 - 3</td>
<td>128</td>
<td>High</td>
</tr>
<tr>
<td>B-5</td>
<td>0 - 5</td>
<td>120</td>
<td>High</td>
</tr>
</tbody>
</table>

**Maximum Dry Density-Optimum Moisture Content**
A selected bulk soil sample was tested to evaluate maximum dry density and optimum moisture content. The test was performed in general accordance with ASTM test method D 1557. The results are presented on Figure B-6.

**Direct Shear Test**
Direct shear test was performed on a selected relatively undisturbed and remolded soil samples in general accordance with ASTM D3080 to evaluate the shear strength characteristics of the material. The samples were inundated during shearing to represent adverse field conditions. Test results are presented on Figures B-7 and B-8.

**Consolidation Test**
Consolidation tests were performed on selected samples in general accordance with the latest version of ASTM D2435. The sample was inundated during testing to represent adverse field conditions. The percent consolidation for each load cycle was recorded as a ratio of the amount of vertical compression to the original height of the sample. The test results are presented on Figures B-9 through B-10.

**Corrosivity**
Soil pH and resistivity tests were performed by Anaheim Test Laboratories on representative soil samples in general accordance with the latest version of California Test Method 643. The chloride content of the selected samples was evaluated in general accordance with the latest version of California Test Method 422. The sulfate content of the selected samples was evaluated in general accordance with the latest version of California Test Method 417. The test results are presented on Table B-3.

Table B-3
Corrosivity Test Results

<table>
<thead>
<tr>
<th>Boring No.</th>
<th>Depth (feet)</th>
<th>pH</th>
<th>Water Soluble Sulfate (ppm)</th>
<th>Water Soluble Chloride (ppm)</th>
<th>Minimum Resistivity (ohm-cm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>B-2</td>
<td>5</td>
<td>7.3</td>
<td>7,251</td>
<td>1,356</td>
<td>340</td>
</tr>
<tr>
<td>B-4</td>
<td>2</td>
<td>8.2</td>
<td>12,822</td>
<td>2,026</td>
<td>200</td>
</tr>
</tbody>
</table>

**Resistance Value (R-Value)**
R-value testing was performed on a select bulk sample of the near-surface soils encountered at the site. The test was performed in general accordance with ASTM D2844. The testing was performed by AP Engineering and Testing, Inc. The results are summarized in Table B-4.

Table B-4
R-Value Test Results

<table>
<thead>
<tr>
<th>Boring No.</th>
<th>Depth (feet)</th>
<th>R – Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>B-5</td>
<td>0 – 5</td>
<td>22</td>
</tr>
</tbody>
</table>
Sample Location | LL | PL | PI | U.S.C.S. Classification
--- | --- | --- | --- | ---
• B-1 at 10 ft | 64 | 25 | 39 | Fat CLAY
■ B-1 at 30 ft | NP | NP | NP | Sandy SILT
▲ B-3 at 5 ft | 62 | 24 | 38 | Fat CLAY

El Centro Aquatic Center
El Centro, California

PROJECT NO. 160237.2
REPORT DATE May 2016
FIGURE B-1
Sample Location | U.S.C.S. Classification | Cc | Cu
--- | --- | --- | ---
B-1 at 5 ft | Fat CLAY | | |

<table>
<thead>
<tr>
<th>D&lt;sub&gt;100&lt;/sub&gt;</th>
<th>D&lt;sub&gt;60&lt;/sub&gt;</th>
<th>D&lt;sub&gt;50&lt;/sub&gt;</th>
<th>D&lt;sub&gt;30&lt;/sub&gt;</th>
<th>D&lt;sub&gt;10&lt;/sub&gt;</th>
<th>%Gravel</th>
<th>%Sand</th>
<th>%Silt</th>
<th>%Clay</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.15</td>
<td>0.005</td>
<td>0.002</td>
<td></td>
<td></td>
<td>0.0</td>
<td>1.0</td>
<td>39.1</td>
<td>59.9</td>
</tr>
</tbody>
</table>

GRAIN SIZE DISTRIBUTION

El Centro Aquatic Center
El Centro, California

PROJECT NO. 160237.2
REPORT DATE May 2016
FIGURE B-2
## Grain Size Distribution

### Sample Location | U.S.C.S. Classification | Cc | Cu
--- | --- | --- | ---
**B-2 at 10 ft** | Fat CLAY |  |  

<table>
<thead>
<tr>
<th>D&lt;sub&gt;100&lt;/sub&gt;</th>
<th>D&lt;sub&gt;60&lt;/sub&gt;</th>
<th>D&lt;sub&gt;50&lt;/sub&gt;</th>
<th>D&lt;sub&gt;30&lt;/sub&gt;</th>
<th>D&lt;sub&gt;10&lt;/sub&gt;</th>
<th>%Gravel</th>
<th>%Sand</th>
<th>%Silt</th>
<th>%Clay</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.15</td>
<td>0.004</td>
<td>0.002</td>
<td></td>
<td>0.0</td>
<td>2.2</td>
<td>31.6</td>
<td>66.2</td>
<td></td>
</tr>
</tbody>
</table>

---

**Grazin Size Distribution**

El Centro Aquatic Center
El Centro, California

PROJECT NO. 160237.2
REPORT DATE May 2016
FIGURE B-3
**Sample Location**: B-4 at 5 ft

**U.S.C.S. Classification**: Fat CLAY

<table>
<thead>
<tr>
<th>Grain Size</th>
<th>%Gravel</th>
<th>%Sand</th>
<th>%Silt</th>
<th>%Clay</th>
</tr>
</thead>
<tbody>
<tr>
<td>D_100</td>
<td>0.0</td>
<td>0.4</td>
<td>42.1</td>
<td>57.5</td>
</tr>
<tr>
<td>D_60</td>
<td>0.006</td>
<td></td>
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</tr>
<tr>
<td>D_50</td>
<td>0.003</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D_30</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D_10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**U.S.SIEVE OPENING IN INCHES**
- 6
- 4
- 3
- 2
- 1 1/2
- 1
- 3/4
- 1/2
- 1/3
- 1/4
- 1/8

**U.S. SIEVE NUMBERS**
- 6
- 10
- 40
- 50
- 100
- 140
- 200

**HYDROMETER**
- 0.001
- 0.002
- 0.003
- 0.004
- 0.005
- 0.006
- 0.007
- 0.008
- 0.009
- 0.01
- 0.02
- 0.03
- 0.04
- 0.05
- 0.06
- 0.07
- 0.08
- 0.09
- 0.1
- 0.2
- 0.3
- 0.4
- 0.5
- 0.6
- 0.7
- 0.8
- 0.9
- 1

**Grain Size Distribution**

**COBBLES**
- Coarse

**GRAVEL**
- Fine

**SAND**
- Coarse
- Medium

**SILT OR CLAY**
- Fine

**REPORT DATE**: May 2016

**PROJECT NO.**: 160237.2

**El Centro Aquatic Center**
El Centro, California
**Sample Location** | **U.S.C.S. Classification** | **Cc** | **Cu**
---|---|---|---
B-5 at 0 - 5 ft | Fat CLAY | | |

<table>
<thead>
<tr>
<th>D$_{100}$</th>
<th>D$_{60}$</th>
<th>D$_{50}$</th>
<th>D$_{30}$</th>
<th>D$_{10}$</th>
<th>%Gravel</th>
<th>%Sand</th>
<th>%Silt</th>
<th>%Clay</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.18</td>
<td>0.004</td>
<td>0.002</td>
<td></td>
<td>0.0</td>
<td>6.4</td>
<td>31.4</td>
<td></td>
<td>62.2</td>
</tr>
</tbody>
</table>
Boring No.: B-2
Sample Depth: BULK 0 - 5'
Sample Description: Fat CLAY
Test Method: ASTM D1557 Method A
Sampled By: AM
Sample Date: 3/29/2016
Test Date: 4/13/2016

TEST RESULTS
Maximum Dry Density: 114.1 pcf
Optimum Water Content: 13.9 %

Curves of 100% Saturation for Specific Gravity Equal to:
- 2.80
- 2.70
- 2.60
- 2.50

MOISTURE-DENSITY RELATIONSHIP
El Centro Aquatic Center
El Centro, California

PROJECT NO. 160237.2
REPORT DATE May 2016
FIGURE B-6
Shear Strength Parameters

Peak  Ultimate

Cohesion, C (psf): 250 230
Friction Angle, $\phi$ (deg): 31 31
Initial Moisture (%): 13.9
Final Moisture (%): 25.9

Boring No.: B-2
Sample Depth (ft): 0 - 5'
Sample Description: Fat CLAY
Strain Rate (in./min): 0.005
Dry Density (pcf): 102.5
Relative Compaction (%): 90
Shear Strength Parameters

Boring No.: B-4
Sample Depth (ft): 20
Sample Description: Fat CLAY
Strain Rate (in./min): 0.005
Dry Density (pcf): 98.1

Cohesion, C (psf): 560 265
Friction Angle, Ø (deg): 23 23
Initial Moisture (%): 25.1
Final Moisture (%): 24.9
Moisture Content (%):

<table>
<thead>
<tr>
<th>Sample Location</th>
<th>Soil Description</th>
<th>Dry Density (pcf)</th>
<th>Moisture Content (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>B-2 at 10 ft</td>
<td>Fat CLAY</td>
<td>98.3</td>
<td>24.7</td>
</tr>
</tbody>
</table>

**CONSOLIDATION TEST**

El Centro Aquatic Center
El Centro, California

PROJECT NO. 160237.2
REPORT DATE May 2016
FIGURE B-9
### CONSOLIDATION TEST

El Centro Aquatic Center
El Centro, California

**PROJECT NO.**
160237.2

**REPORT DATE**
May 2016

**FIGURE B-10**

<table>
<thead>
<tr>
<th>Sample Location</th>
<th>Soil Description</th>
<th>Dry Density (pcf)</th>
<th>Moisture Content (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>B-6 at 10 ft</td>
<td>Fat CLAY</td>
<td>98.3</td>
<td>24.8</td>
</tr>
</tbody>
</table>

**STRAIN, %**

**STRESS, ksf**
## Geologic Unit: Quaternary Lake Deposits

**Location:** P-1

**Soil Type:** Fat Clayey with few fine-grained Sand

**Liquid Description:** Clean Tap Water

**Measurement Method:** Visual with Tape

**Date/Time for Presoak:** 3/29/16 8:15 am

**Depth of Boring:** 60 in.

**Diameter of Boring:** 8 in.

**Test Performed by:** AM

**Test Date:** 3/30/16

<table>
<thead>
<tr>
<th>Presoak Date</th>
<th>( t_1 ) (hr:min)</th>
<th>( d_1 ) (inches)</th>
<th>Presoak End</th>
<th>( t_2 ) (hr:min)</th>
<th>( d_2 ) (inches)</th>
<th>( \Delta t ) (min)</th>
<th>( \Delta d ) (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/29/16</td>
<td>8:15 AM</td>
<td>42.0</td>
<td>3/30/16</td>
<td>8:15 AM</td>
<td>45.0</td>
<td>1440</td>
<td>3.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>( t_1 ) (hr:min)</th>
<th>( d_1 ) (inches)</th>
<th>( t_2 ) (hr:min)</th>
<th>( d_2 ) (inches)</th>
<th>( \Delta t ) (min)</th>
<th>( \Delta d ) (inches)</th>
<th>Rate of Drop (t, min/inch)</th>
<th>Percolation Rate, ( P_v )</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:20 AM</td>
<td>42.000</td>
<td>10:20 AM</td>
<td>42.500</td>
<td>120</td>
<td>0.50</td>
<td>240.0</td>
<td>0.925</td>
</tr>
</tbody>
</table>

### Notes:

- \( t_1 \) = initial time when filling or refilling is completed in hh:mm
- \( d_1 \) = initial depth of water in hole in inches
- \( t_2 \) = final time in hh:mm
- \( d_2 \) = final depth of water in hole in inches
- \( \Delta t \) = change in time in minutes
- \( \Delta d \) = change in depth in inches

**Correction Factor:** 2.865 (13.5-inch to 8-inch diameter)

**Percolation Rate:** \( P_v = \frac{d}{\sqrt{t}} \) per Imperial County Standard Method of Conducting Percolation Tests (2008)