| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4,242 | R8.0/25.0, 0.0/3.4 | 401 | 477 |

10/14/13
REGISTERED CIVIL ENGINEER — DATE

1-13-14
PLANS APPROVAL DATE

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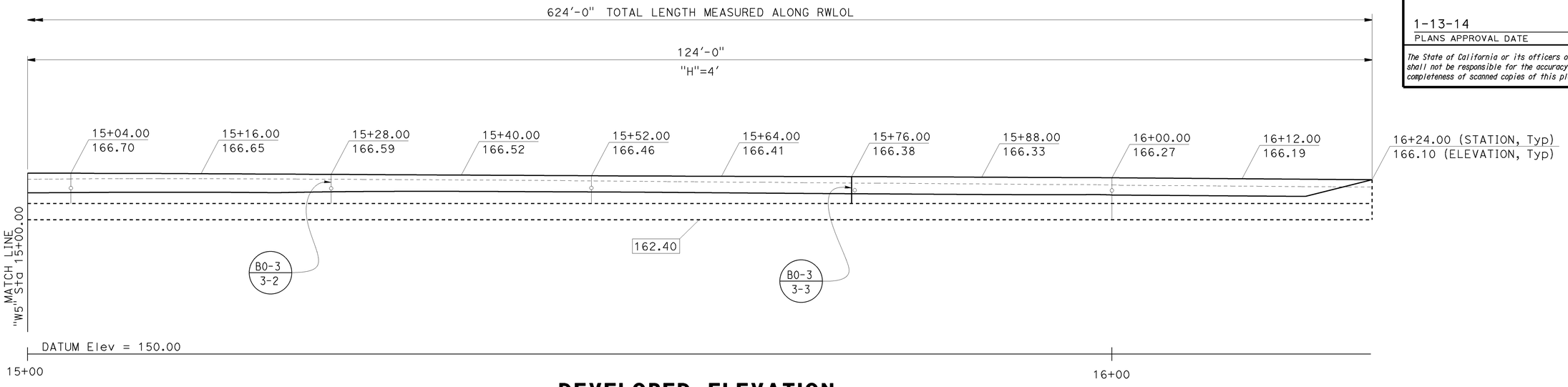
REGISTERED PROFESSIONAL ENGINEER
John E Peterson
No. C60724
Exp. 12/31/14
CIVIL
STATE OF CALIFORNIA




## DEVELOPED ELEVATION

1" = 5'

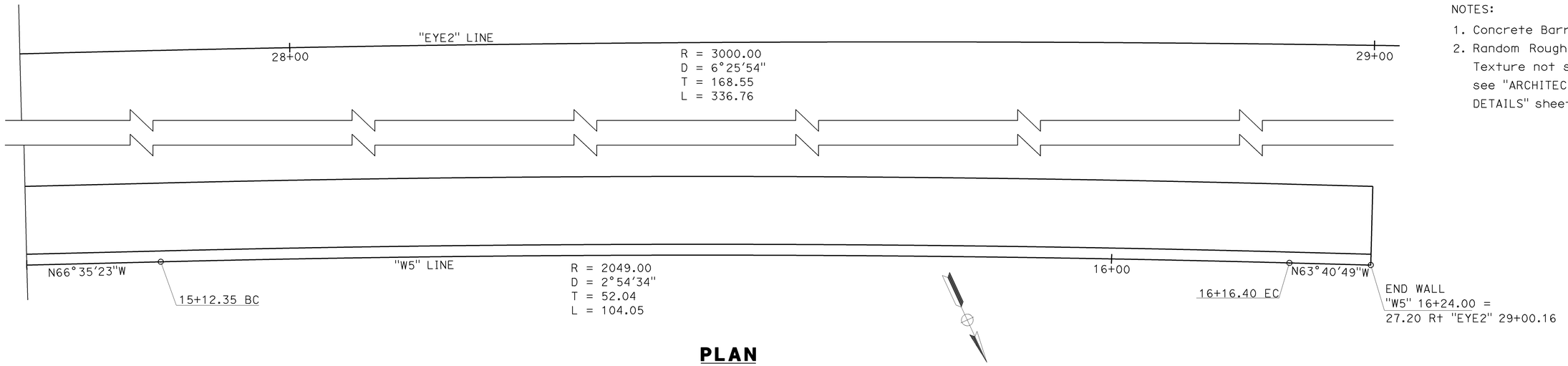
LEGEND:

XXX.XX Denotes bottom of footing elevation

○ Weep Hole

NOTES:

1. Concrete Barrier not shown
2. Random Rough Stacked Rock Texture not shown, for details see "ARCHITECTURAL TREATMENT DETAILS" sheet




## PLAN

1" = 5'

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| DESIGN | BY John Peterson | CHECKED Tanzeeba Kishwar | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16 | BRIDGE NO. RETW | MORELLO Ave WB WALL STRUCTURE PLAN No. 5 | |
| DETAILS | BY Liang Ma | CHECKED Tanzeeba Kishwar | | | POST MILE 10.18 | | |
| QUANTITIES | BY Alireza Yazdani | CHECKED Tanzeeba Kishwar | | | | | |

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3617
PROJECT NUMBER & PHASE: 04120006281
CONTRACT NO.: 04-152724

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| 10-14-13 | 01-03-14 | | | 7 | 18 |

FILE => 28-morello-wb-c-sp05.dgn

USERNAME => s134959 DATE PLOTTED => 08-JAN-2014 TIME PLOTTED => 15:16

## CURVE DATA

| No. | R | Δ | T | L |
|---|---|---|---|---|
| 8 | 3000.00 | 6°25'54" | 168.55 | 336.76 |
| 26 | 1044.00 | 5°50'53" | 53.33 | 106.56 |
| 27 | 2049.00 | 2°54'34" | 52.04 | 104.05 |

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4,242 | R8.0/25.0, 0.0/3.4 | 402 | 477 |

10/14/13
REGISTERED CIVIL ENGINEER — DATE

1-13-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — John E Peterson — No. C60724 — Exp. 12/31/14 — CIVIL — STATE OF CALIFORNIA

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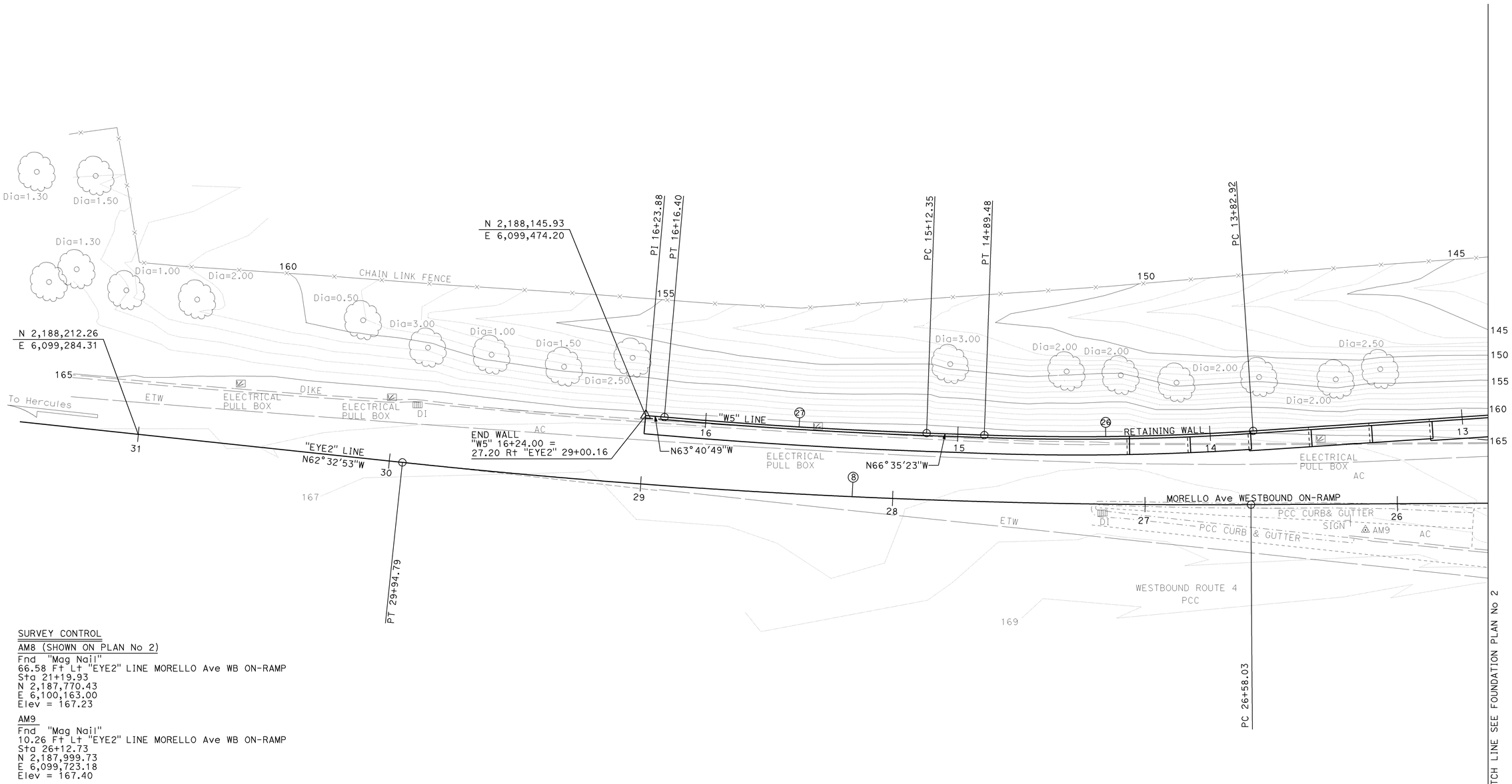


### SURVEY CONTROL

AM8 (SHOWN ON PLAN No 2)
Fnd "Mag Nail"
66.58 Ft Lt "EYE2" LINE MORELLO Ave WB ON-RAMP
Sta 21+19.93
N 2,187,770.43
E 6,100,163.00
Elev = 167.23

AM9
Fnd "Mag Nail"
10.26 Ft Lt "EYE2" LINE MORELLO Ave WB ON-RAMP
Sta 26+12.73
N 2,187,999.73
E 6,099,723.18
Elev = 167.40

| PRELIMINARY INVESTIGATION SECTION | | | | | | |
|---|---|---|---|---|---|---|
| SCALE 1"=20' | VERT.DATUM NAVD88 | PHOTOGRAMMETRY AS OF: X | | | | |
| | HORZ.DATUM NAD83 | SURVEYED | BY DISTRICT | CHECKED | BY J. BORDEN | 08/2013 |
| ALIGNMENT TIES Dist TRAVERSE SHEET | | DRAFTED | BY T. ZOLNIKOV 08/2013 | CHECKED | BY L. LEW | 08/2013 |

| | | |
|---|---|---|
| DESIGN | BY John Peterson | CHECKED Tanzeeba Kishwar |
| DETAILS | BY Liang Ma | CHECKED Tanzeeba Kishwar |
| QUANTITIES | BY Alireza Yazdani | CHECKED Tanzeeba Kishwar |

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 16

| BRIDGE NO. | |
|---|---|
| RETW | |
| POST MILE | |
| 10.18 | |

# MORELLO Ave WB WALL
# FOUNDATION PLAN No. 1

STRUCTURES FOUNDATION PLAN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3617
PROJECT NUMBER & PHASE: 04120006281 CONTRACT NO.: 04-152724

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| 08/27/13 | 10-14-13 | 10-28-13 | 01-03-14 | 8 | 18 |

FILE => 28-morello-wb-e-fpl01.dgn

USERNAME => s1334959 DATE PLOTTED => 08-JAN-2014 TIME PLOTTED => 15:16

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4,242 | R8.0/25.0, 0.0/3.4 | 403 | 477 |

10/14/13
REGISTERED CIVIL ENGINEER — DATE

REGISTERED PROFESSIONAL ENGINEER
John E Peterson
No. C60724
Exp. 12/31/14
CIVIL
STATE OF CALIFORNIA

1-13-14
PLANS APPROVAL DATE

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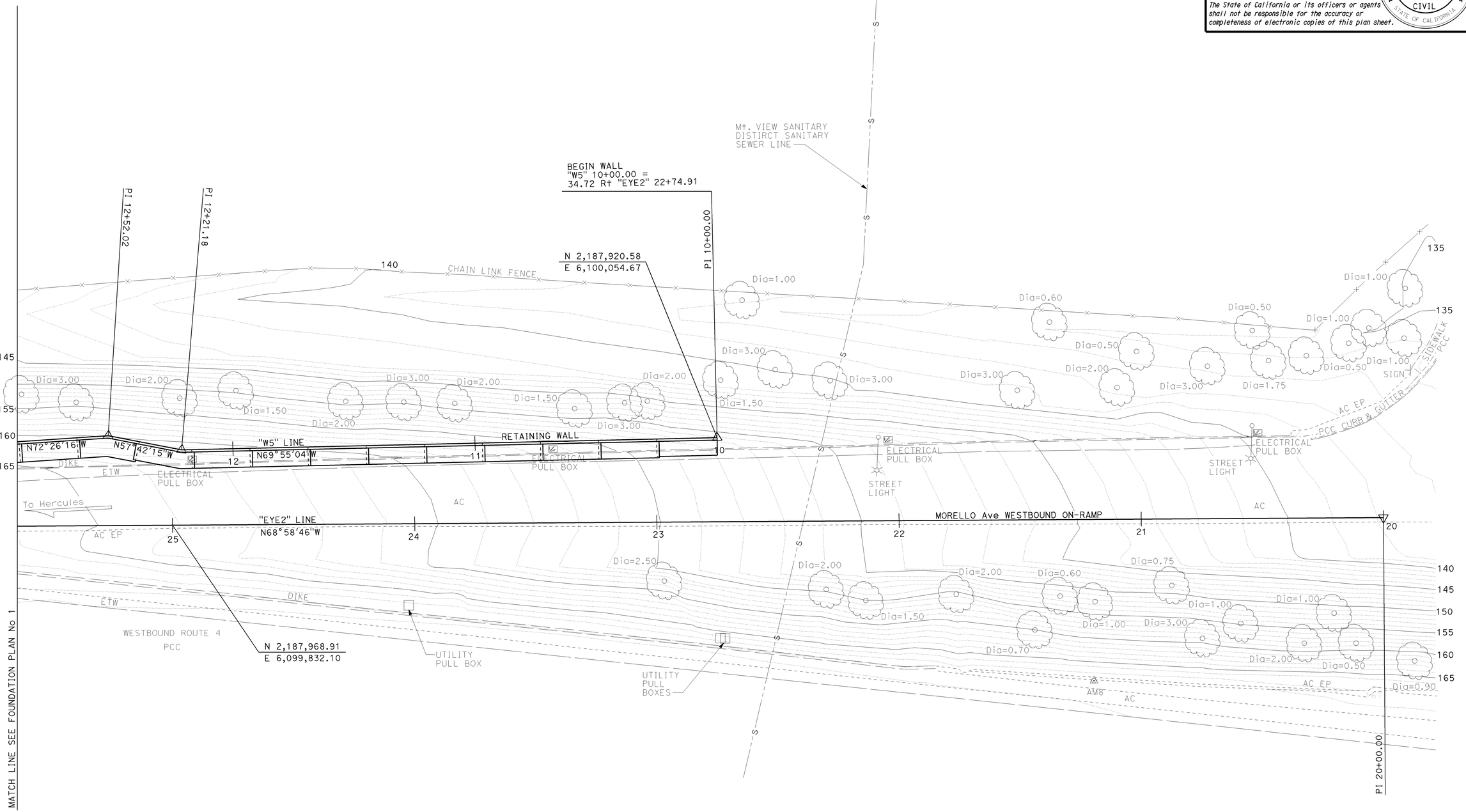


| PRELIMINARY INVESTIGATION SECTION | | | | | | | DESIGN | BY John Peterson | CHECKED Tanzeeba Kishwar | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16 | BRIDGE NO. RETW | MORELLO Ave WB WALL FOUNDATION PLAN No. 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SCALE 1"=20' | VERT.DATUM NAVD88 | PHOTOGRAMMETRY AS OF: X | | | | | DETAILS | BY Liang Ma | CHECKED Tanzeeba Kishwar | | | POST MILE 10.18 | |
| ALIGNMENT TIES Dist TRAVERSE SHEET | HORZ.DATUM NAD83 | SURVEYED | BY DISTRICT | CHECKED | BY J. BORDEN 08/2013 | | QUANTITIES | BY Alireza Yazdani | CHECKED Tanzeeba Kishwar | | | | |
| | | DRAFTED | BY T. ZOLNIKOV 08/2013 | CHECKED | BY L. LEW 08/2013 | | | | | | | | |

STRUCTURES FOUNDATION PLAN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3617
PROJECT NUMBER & PHASE: 04120006281 CONTRACT NO.: 04-152724

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| 08/22/13 | 10/14/13 | 10/28/13 | 01-03-14 | 9 | 18 |

FILE => 28-morello-wb-e-fp102.dgn

USERNAME => s134959 DATE PLOTTED => 08-JAN-2014 TIME PLOTTED => 15:16

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4, 242 | R8.0/25.0<br>0.0/3.4 | 404 | 477 |

REGISTERED CIVIL ENGINEER — DATE 01-09-14

1-13-14
PLANS APPROVAL DATE

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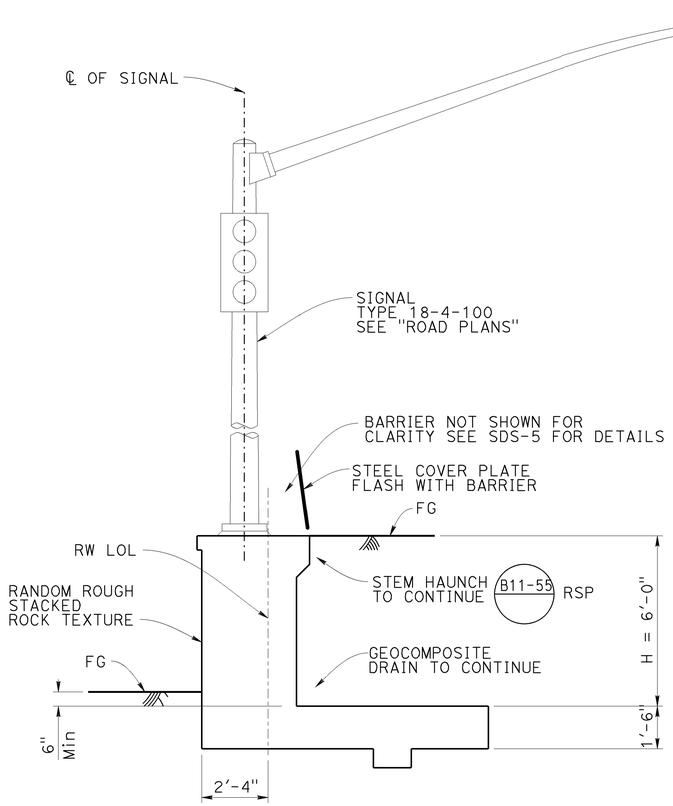
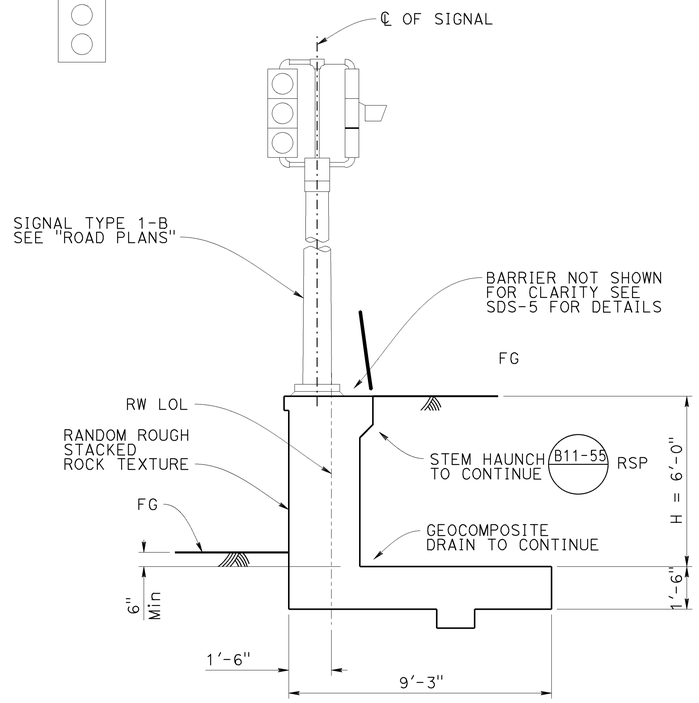
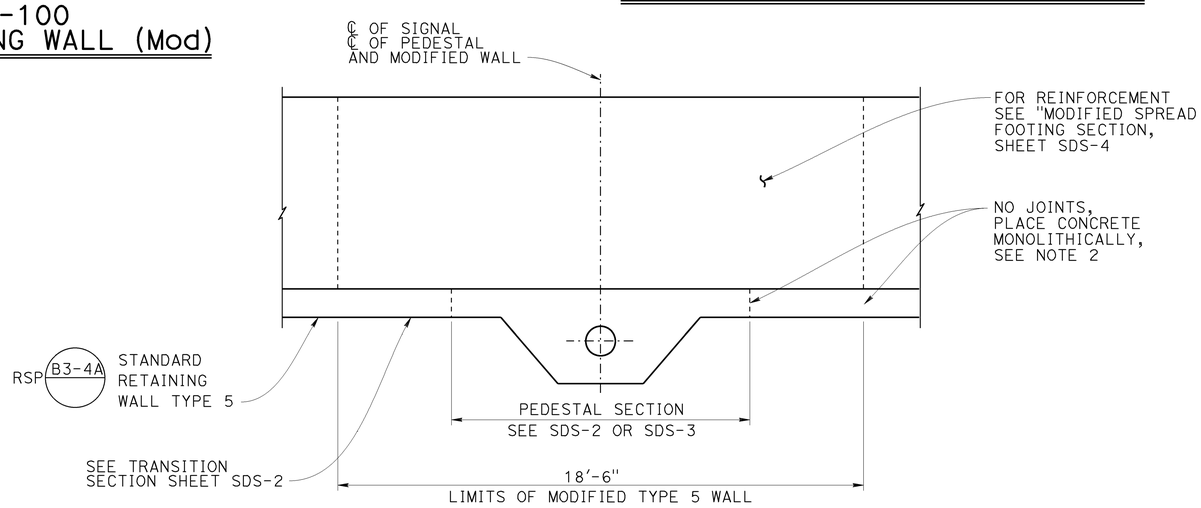
REGISTERED PROFESSIONAL ENGINEER
TAMARA S. MARCHENKO
No. C76837
Exp. 12-31-14
CIVIL
STATE OF CALIFORNIA




## TYPE 18-4-100
## ON TYPE 5 RETAINING WALL (Mod)




## TYPE 1-B
## ON TYPE 5 RETAINING WALL (Mod)




## PLAN

**NOTES:**

1. Before construction bottom of footing shall be over-excavated to a depth of 2′ and 1′ on either side and the over-excavated area shall be backfilled using structure backfill materials at 95% relative compaction up to the bottom grade. Except as permitted by the engineer upon field verification.
2. Provide joints when required, but no less than 20′ from center line of signal pedestal, symmetrically.

NO SCALE

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| BRANCH CHIEF DAVID A NEUMANN | DESIGN | BY TAMARA MARCHENKO | CHECKED MAHFOUD LICHA | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN SPECIAL DESIGN BRANCH | BRIDGE NO. RETW | MORELLO AVENUE WB WALL | SDS- 1 |
| | DETAILS | BY SHUMEI JIANG | CHECKED MAHFOUD LICHA | | | POST MILE 10.18 | PEDESTAL DETAILS NO.1 | |
| | QUANTITIES | BY JOHN PETERSON | CHECKED MONZER JABER | | | | | |

STRUCTURES DESIGN SPECIAL DESIGN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3619
PROJECT NUMBER & PHASE: 0412000628-1 CONTRACT NO.: 04-152721

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| 01-09-14 | | | | 10 | 18 |

FILE => 28-morello-wb-u-miscdt01.dgn

USERNAME => s132428 DATE PLOTTED => 09-JAN-2014 TIME PLOTTED => 15:50

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4, 242 | R8.0/25.0<br>0.0/3.4 | 405 | 477 |

REGISTERED CIVIL ENGINEER — 01-09-14 DATE

1-13-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
TAMARA S. MARCHENKO
No. C76837
Exp. 12-31-14
CIVIL
STATE OF CALIFORNIA

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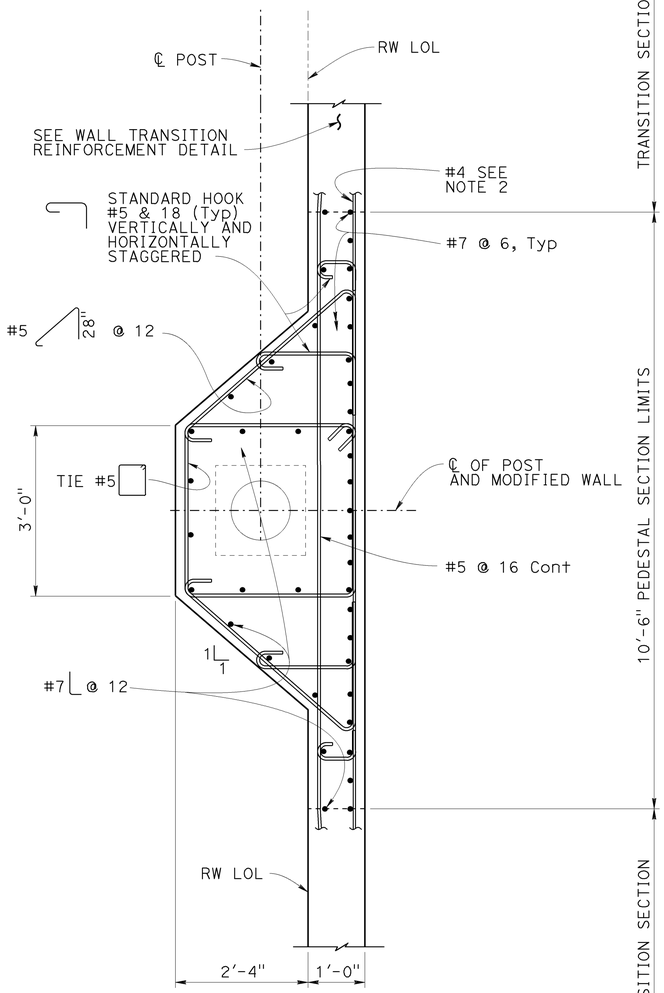
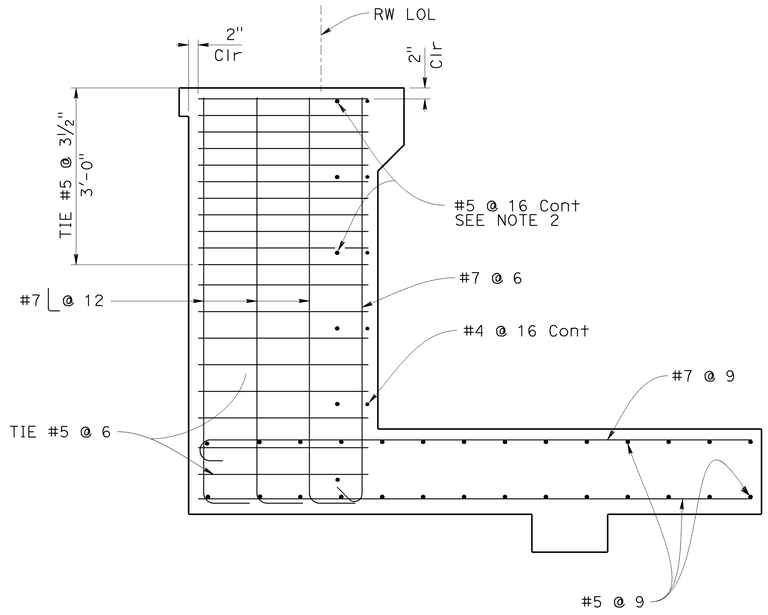
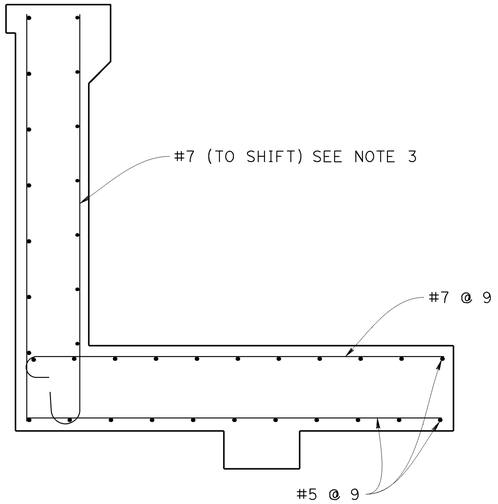



## TYPE 18-4-100 PEDESTAL SECTION

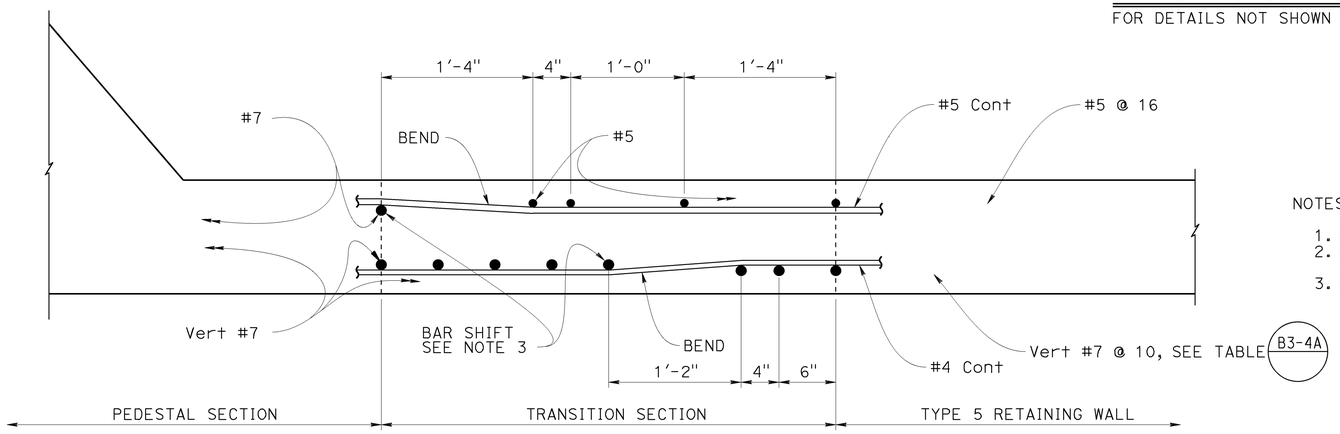



## PEDESTAL AND FOOTING




## TRANSITION SECTION

FOR DETAILS NOT SHOWN SEE RSP B3-4A




NOTES:

1. Bend bars where anchor bolts occur.
2. Bar must be continue thru pedestal section.
3. Bars to be shifted inward adjust bar position for bending.

## TRANSITION REINFORCEMENT DETAIL

NO SCALE

BRANCH CHIEF DAVID A NEUMANN

| | BY | CHECKED |
|---|---|---|
| DESIGN | TAMARA MARCHENKO | MAHFOUD LICHA |
| DETAILS | SHUMEI JIANG | MAHFOUD LICHA |
| QUANTITIES | JOHN PETERSON | MONZER JABER |

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
SPECIAL DESIGN BRANCH

BRIDGE NO. RETW
POST MILE 10.18

# MORELLO AVENUE WB WALL
## PEDESTAL DETAILS NO.2

SDS-2

STRUCTURES DESIGN SPECIAL DESIGN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3619
PROJECT NUMBER & PHASE: 0412000628-1 CONTRACT NO.: 04-152721

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES: 01-09-14

SHEET 11 OF 18

FILE => 28-morello-wb-u-miscdt02.dgn

USERNAME => s1132428 DATE PLOTTED => 09-JAN-2014 TIME PLOTTED => 15:50

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4, 242 | R8.0/25.0<br>0.0/3.4 | 406 | 477 |

REGISTERED CIVIL ENGINEER — 01-09-14 DATE

1-13-14
PLANS APPROVAL DATE

TAMARA S. MARCHENKO
REGISTERED PROFESSIONAL ENGINEER
No. C76837
Exp. 12-31-14
CIVIL
STATE OF CALIFORNIA

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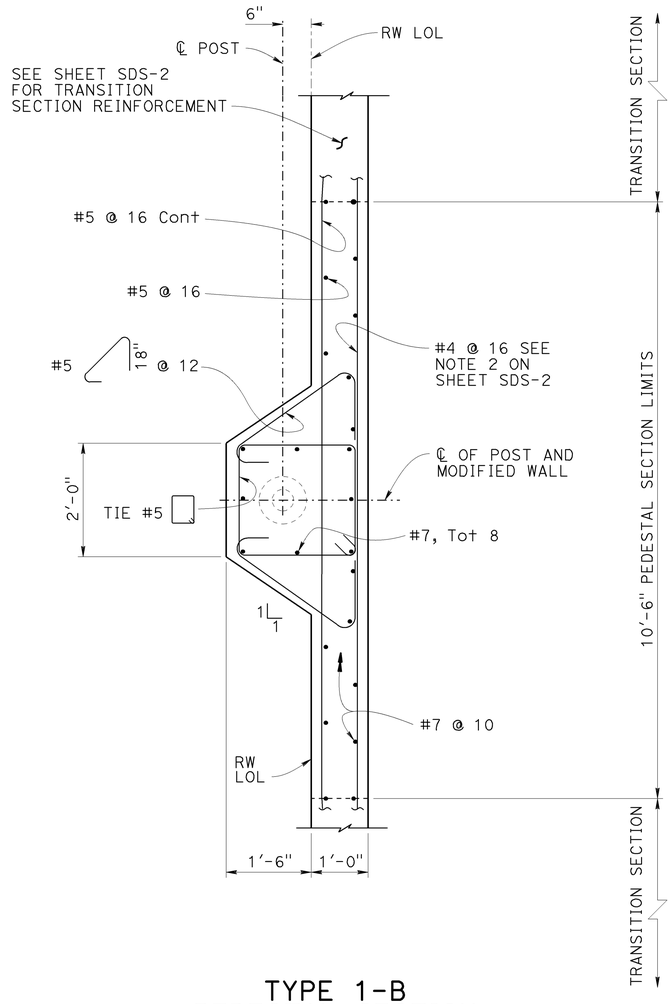
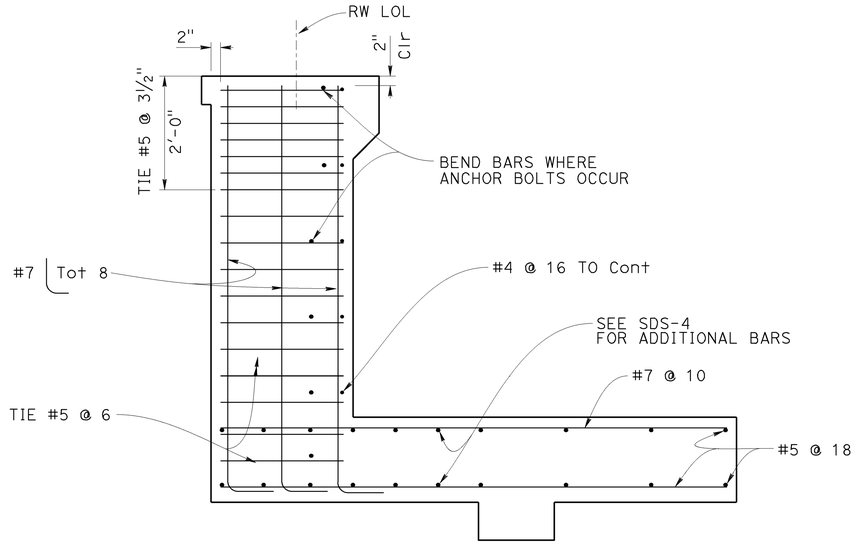



## TYPE 1-B
## PEDESTAL SECTION




## PEDESTAL AND FOOTING

NOTE:

1. For reinforcement details not shown see RSP B3-4A.
2. See sheet "SDS-2" for transition details.

NO SCALE

BRANCH CHIEF DAVID A NEUMANN

| | BY | CHECKED |
|---|---|---|
| DESIGN | TAMARA MARCHENKO | MAHFOUD LICHA |
| DETAILS | SHUMEI JIANG | MAHFOUD LICHA |
| QUANTITIES | JOHN PETERSON | MONZER JABER |

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
SPECIAL DESIGN BRANCH

BRIDGE NO. RETW
POST MILE 10.18

# MORELLO AVENUE WB WALL
# PEDESTAL DETAILS NO.3

SDS-3

STRUCTURES DESIGN SPECIAL DESIGN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

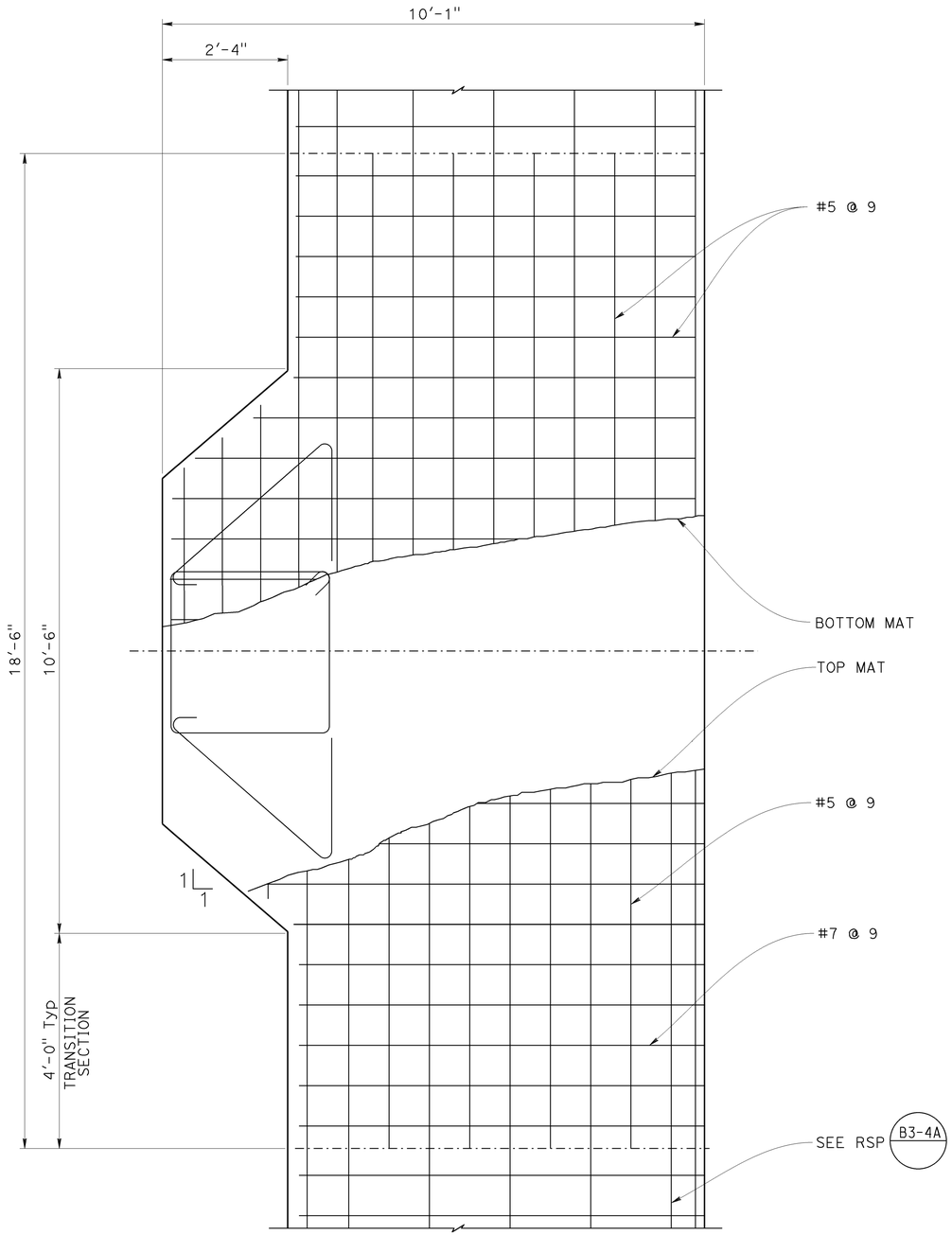
UNIT: 3619
PROJECT NUMBER & PHASE: 0412000628-1 CONTRACT NO.: 04-152721

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

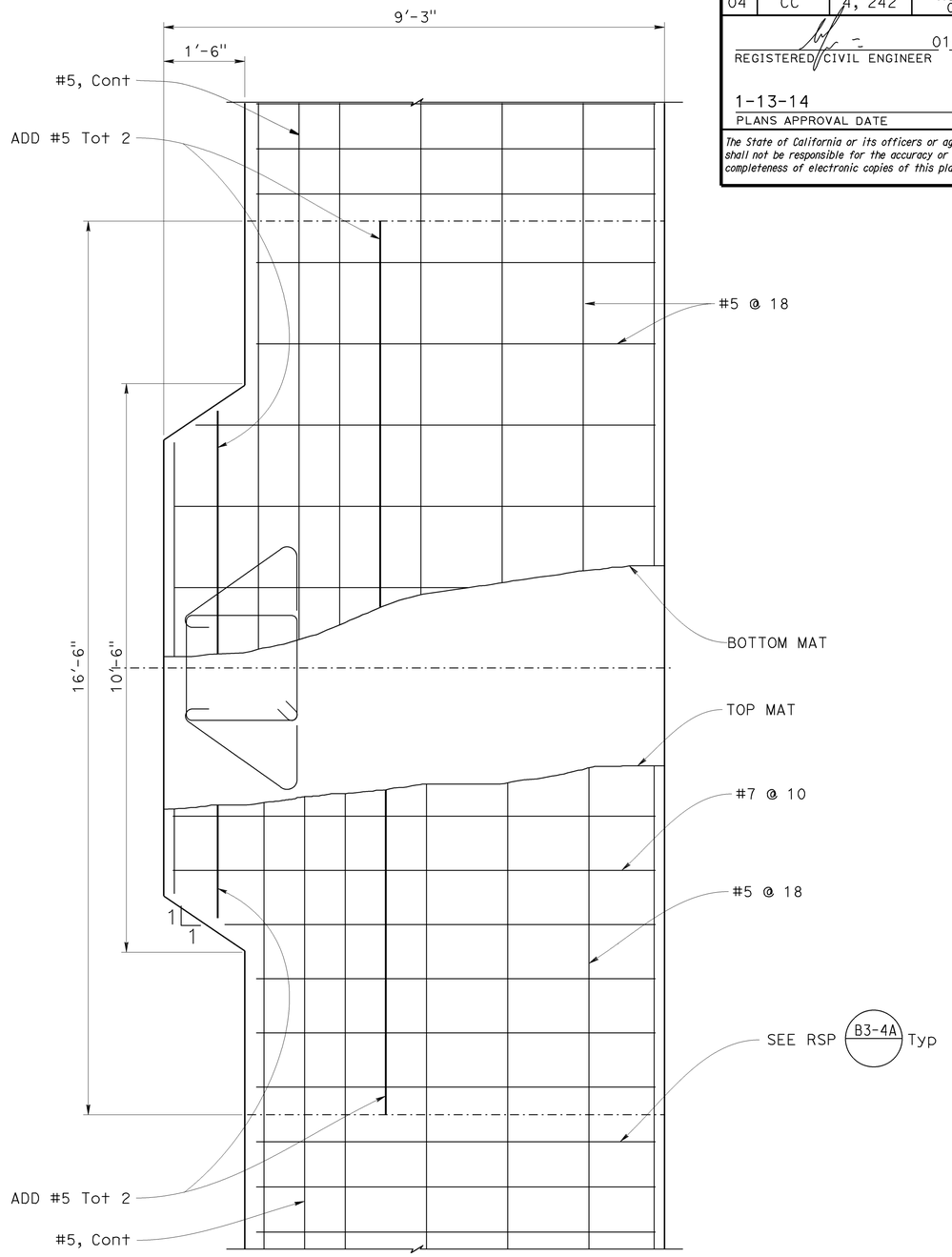
| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| 01-09-14 | | | | 12 | 18 |

FILE => 28-morello-wb-u-miscdt03.dgn

USERNAME => s132428 DATE PLOTTED => 09-JAN-2014 TIME PLOTTED => 15:50




FOR 18-4-100 SIGNAL




FOR TYPE 1-B SIGNAL

## FOOTING REINFORCEMENT PLAN

NO SCALE

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4, 242 | R8.0/25.0<br>0.0/3.4 | 407 | 477 |

REGISTERED CIVIL ENGINEER — 01-09-14 DATE

1-13-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — TAMARA S. MARCHENKO — No. C76837 — Exp. 12-31-14 — CIVIL — STATE OF CALIFORNIA

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| | | | |
|---|---|---|---|
| BRANCH CHIEF | DAVID A NEUMANN | | |
| DESIGN | BY TAMARA MARCHENKO | CHECKED MAHFOUD LICHA | |
| DETAILS | BY SHUMEI JIANG | CHECKED MAHFOUD LICHA | |
| QUANTITIES | BY JOHN PETERSON | CHECKED MONZER JABER | |

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
SPECIAL DESIGN BRANCH

BRIDGE NO. RETW
POST MILE 10.18

# MORELLO AVENUE WB WALL
## PEDESTAL DETAILS NO.4

SDS-4

STRUCTURES DESIGN SPECIAL DESIGN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3619
PROJECT NUMBER & PHASE: 0412000628-1 CONTRACT NO.: 04-152721

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES: 01-09-14

SHEET 13 OF 18

FILE => 28-morello-wb-u-miscdt04.dgn

USERNAME => s132228 DATE PLOTTED => 09-JAN-2014 TIME PLOTTED => 15:50

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | A, 242 | R8.0/25.0<br>0.0/3.4 | 408 | 477 |

REGISTERED CIVIL ENGINEER — 01-09-14 DATE

1-13-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — TAMARA S. MARCHENKO — No. C76837 — Exp. 12-31-14 — CIVIL — STATE OF CALIFORNIA

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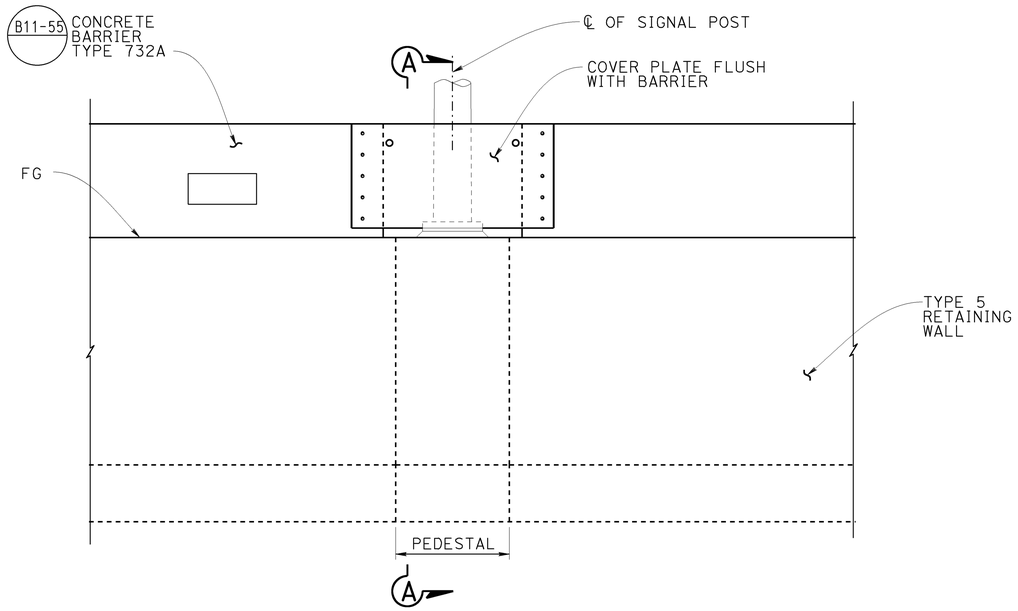
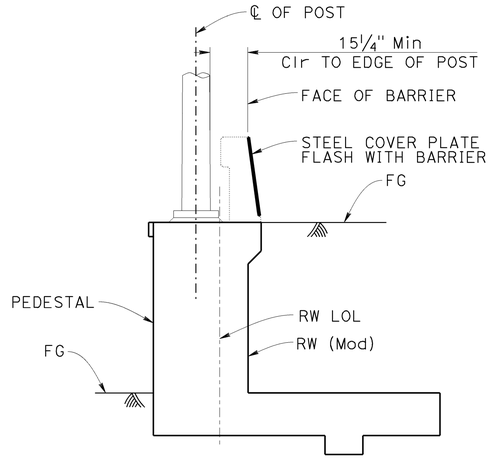
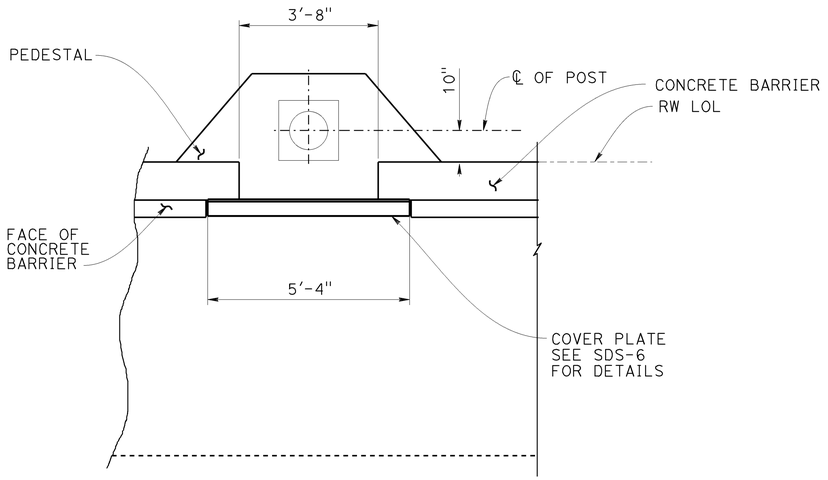


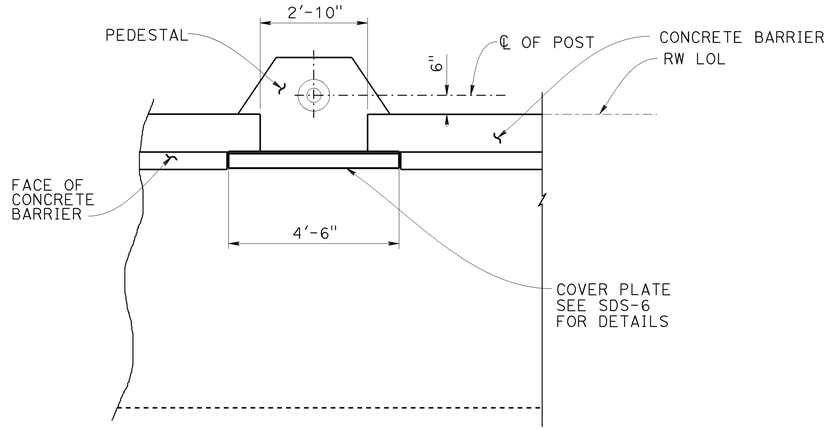

## WALL FACE ELEVATION VIEW




## SECTION A-A




## PLAN
FOR SIGNAL TYPE 18-4-100




## PLAN
FOR SIGNAL TYPE 1-B

NOTES:

1. Connection to structure and barrier details refer to Standard A76E.
2. Barrier is symmetrical about centerline of Signal Post.

NO SCALE

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| BRANCH CHIEF: DAVID A NEUMANN | DESIGN | BY TAMARA MARCHENKO | CHECKED MAHFOUD LICHA | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN SPECIAL DESIGN BRANCH | BRIDGE NO. RETW | MORELLO AVENUE WB WALL |
| | DETAILS | BY SHUMEI JIANG | CHECKED MAHFOUD LICHA | | | POST MILE 10.18 | PEDESTAL DETAILS NO.5 |
| | QUANTITIES | BY JOHN PETERSON | CHECKED MONZER JABER | | | | SDS-5 |

STRUCTURES DESIGN SPECIAL DESIGN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3619
PROJECT NUMBER & PHASE: 0412000628-1 CONTRACT NO.: 04-152721

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| 01-09-14 | | | | 14 | 18 |

FILE => 28-morello-wb-u-miscdt05.dgn

USERNAME => s1324128 DATE PLOTTED => 09-JAN-2014 TIME PLOTTED => 15:50

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4, 242 | R8.0/25.0<br>0.0/3.4 | 409 | 477 |

REGISTERED CIVIL ENGINEER — 01-09-14 DATE

TAMARA S. MARCHENKO — REGISTERED PROFESSIONAL ENGINEER — No. C76837 — Exp. 12-31-14 — CIVIL — STATE OF CALIFORNIA

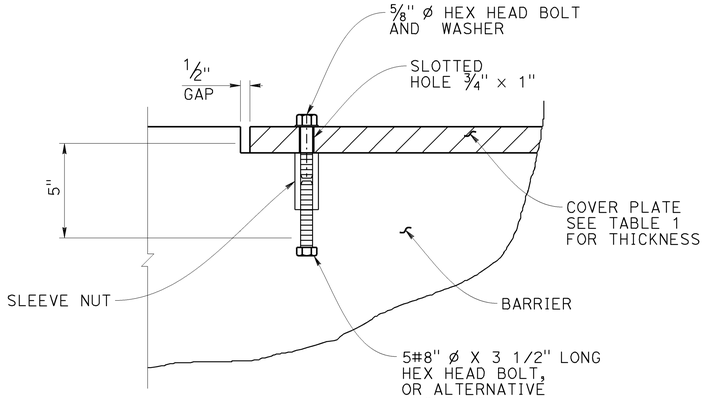
1-13-14
PLANS APPROVAL DATE

*The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.*

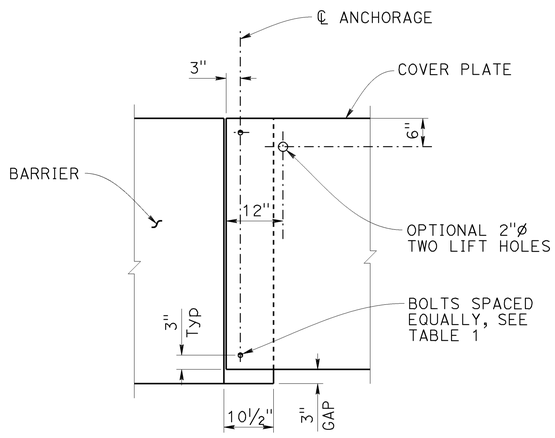
| TABLE 1 | | |
|---|---|---|
| L (ft) | PLATE THICKNESS (in) | TOTAL NO. OF BOLTS |
| 6'-6" Max | 11/16 | 7 |
| 4'-6" Max | 7/16 | 5 |

NOTE:

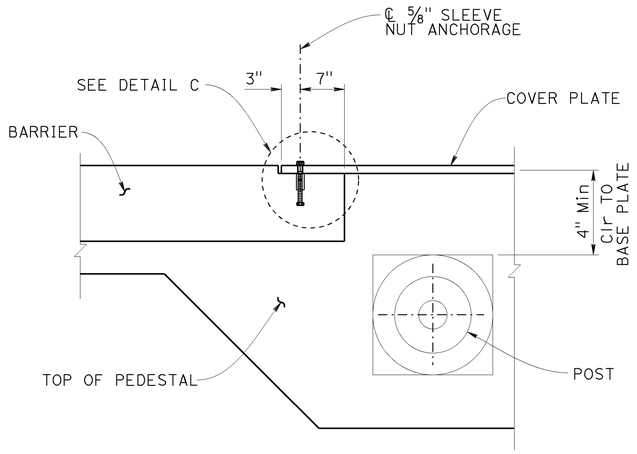
Structural steel, fy = 50,000 psi unless otherwise noted




DETAIL C




DETAIL A




DETAIL B

NO SCALE

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| BRANCH CHIEF: DAVID A NEUMANN | DESIGN | BY TAMARA MARCHENKO | CHECKED MAHFOUD LICHA | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN SPECIAL DESIGN BRANCH | BRIDGE NO. RETW | MORELLO AVENUE WB WALL PEDESTAL DETAILS NO.6 | SDS-6 |
| | DETAILS | BY SHUMEI JIANG | CHECKED MAHFOUD LICHA | | | POST MILE 10.18 | | |
| | QUANTITIES | BY JOHN PETERSON | CHECKED MONZER JABER | | | | | |

STRUCTURES DESIGN SPECIAL DESIGN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3619
PROJECT NUMBER & PHASE: 0412000628-1 CONTRACT NO.: 04-152721

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| 01-09-14 | | | | 15 | 18 |

FILE => 28-morello-wb-u-miscdt06.dgn

USERNAME => s132428 DATE PLOTTED => 09-JAN-2014 TIME PLOTTED => 15:50

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 1, 242 | R8.0/25.0<br>0.0/3.4 | 410 | 477 |

REGISTERED CIVIL ENGINEER — 01-09-14 DATE

1-13-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
TAMARA S. MARCHENKO
No. C76837
Exp. 12-31-14
CIVIL
STATE OF CALIFORNIA

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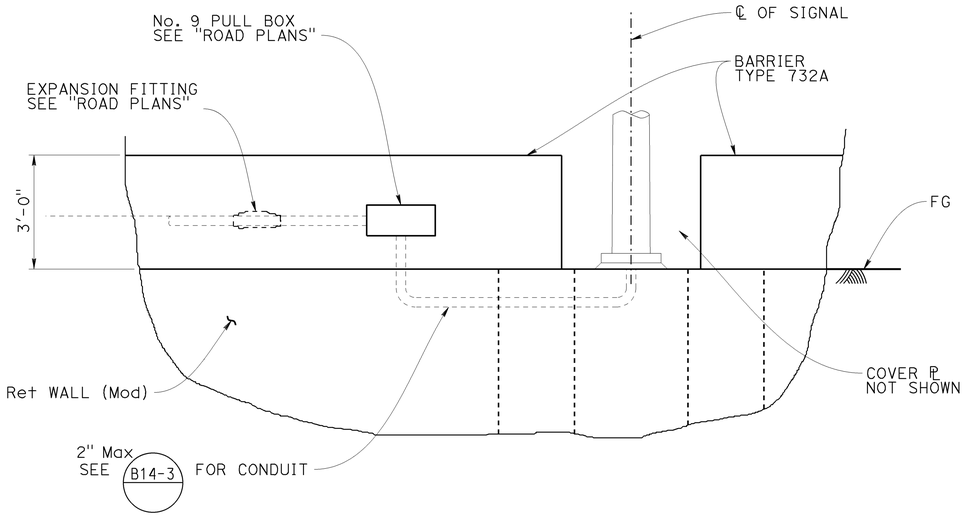
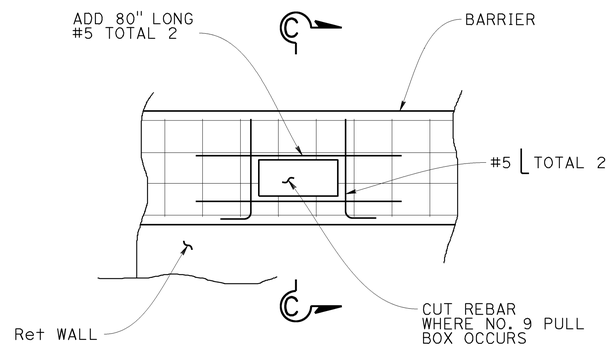
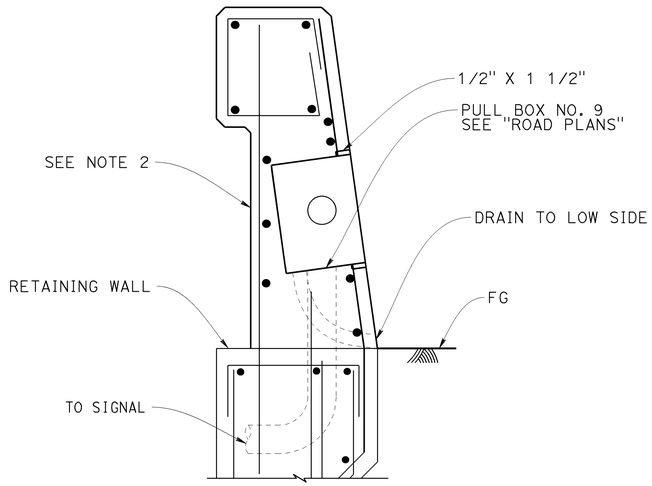



## NO. 9 PULL BOX AT TYPE 732A BARRIER




## BARRIER REINFORCEMENT




## SECTION C-C

NOTES:

1. For pull box location see electrical plans.
2. See RSP B11-55 for barrier details.

NO SCALE

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BRANCH CHIEF DAVID A NEUMANN | DESIGN | BY TAMARA MARCHENKO | CHECKED MAHFOUD LICHA | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN SPECIAL DESIGN BRANCH | BRIDGE NO. RETW | MORELLO AVENUE WB WALL | SDS-7 |
| | DETAILS | BY SHUMEI JIANG | CHECKED MAHFOUD LICHA | | | POST MILE 10.18 | PEDESTAL DETAILS NO.7 | |
| | QUANTITIES | BY JOHN PETERSON | CHECKED MONZER JABER | | | | | |

STRUCTURES DESIGN SPECIAL DESIGN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3619
PROJECT NUMBER & PHASE: 0412000628-1 CONTRACT NO.: 04-152721

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| 01-09-14 | | | | 16 | 18 |

FILE => 28-morello-wb-u-miscdt07.dgn

USERNAME => s1342428 DATE PLOTTED => 09-JAN-2014 TIME PLOTTED => 15:50

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4,242 | R8.0/25.0, 0.0/3.4 | 411 | 477 |

REGISTERED CIVIL ENGINEER 10/14/13 DATE

1-13-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
John E Peterson
No. C60724
Exp. 12/31/14
CIVIL
STATE OF CALIFORNIA

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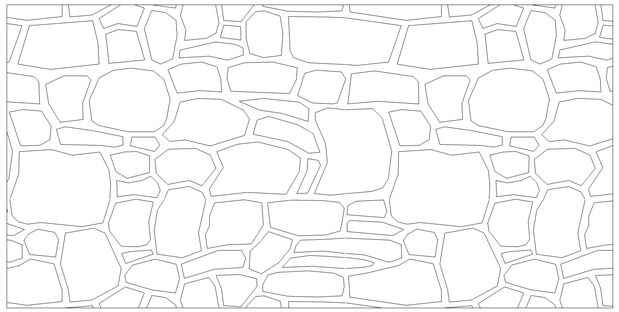
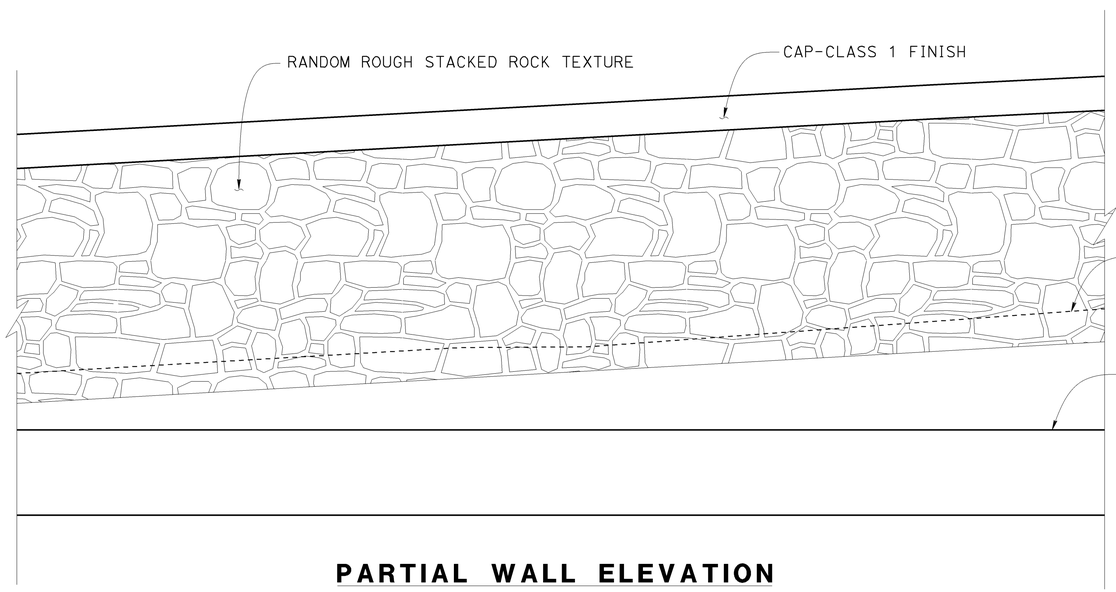


## PATTERN ELEVATION
NO SCALE

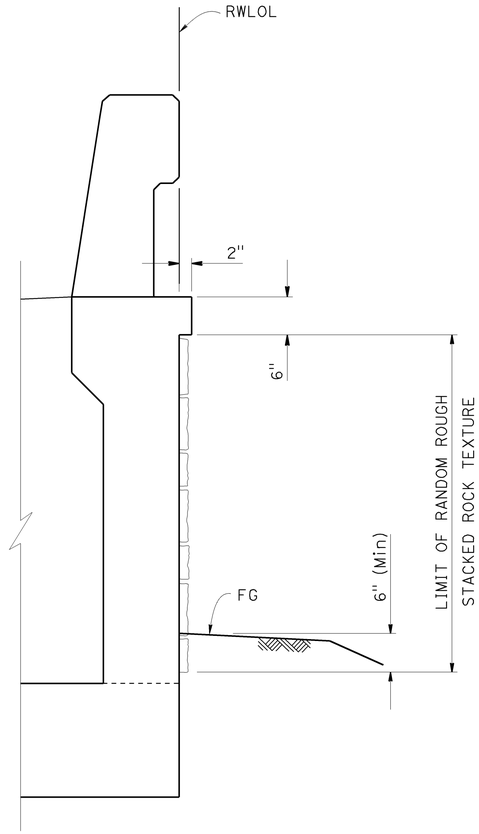
## RANDOM ROUGH STACKED ROCK TEXTURE DETAILS

### TEXTURE NOTES:

Random Rough Stacked Rock
Texture relief to be 1.5" maximum
Stone sizes shall be random
2.5" to 18" in width
2" to 12" in Height




## PARTIAL WALL ELEVATION
3/4" = 1'
( BARRIER NOT SHOWN )




## SECTION
1" = 1'

| | | | | | |
|---|---|---|---|---|---|
| DESIGN | BY John Peterson | CHECKED Tanzeeba Kishwar | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16 | BRIDGE NO. RETW |
| DETAILS | BY Liang Ma | CHECKED Tanzeeba Kishwar | | | POST MILE 10.18 |
| QUANTITIES | BY Alireza Yazdani | CHECKED Tanzeeba Kishwar | | | |

# MORELLO Ave WB WALL
# ARCHITECTURAL TREATMENT DETAILS

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3617
PROJECT NUMBER & PHASE: 04120006281
CONTRACT NO.: 04-152724

DISREGARD PRINTS BEARING EARLIER REVISION DATES

| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| 8-1-13 | 10-14-13 | 01-03-14 | | 17 | 18 |

FILE => 28-morello-wb-u-miscdt08.dgn

USERNAME => s134959 DATE PLOTTED => 08-JAN-2014 TIME PLOTTED => 15:16

## BENCH MARK

SURVEY CONTROL

AM8 (SHOWN ON PLAN No 2)
Fnd "Mag Nail"
66.58 Ft Lt "EYE2" LINE MORELLO Ave WB ON-RAMP
Sta. 21+19.93
N 2,187,770.43
E 6,100,163.00
Elev=167.23

AM9
Fnd "Mag Nail"
10.26 Ft Lt "EYE2" LINE MORELLO Ave WB ON-RAMP
Sta 26+12.73
N 2,187,999.73
E 6,099,723.18
Elev=167.40

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4,242 | R8.0/25.0, 0.0/3.4 | 412 | 477 |

REGISTERED CIVIL ENGINEER 09/24/13

1-13-14
PLANS APPROVAL DATE

Samuel Awad No. 64589 Exp. 6-30-15 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

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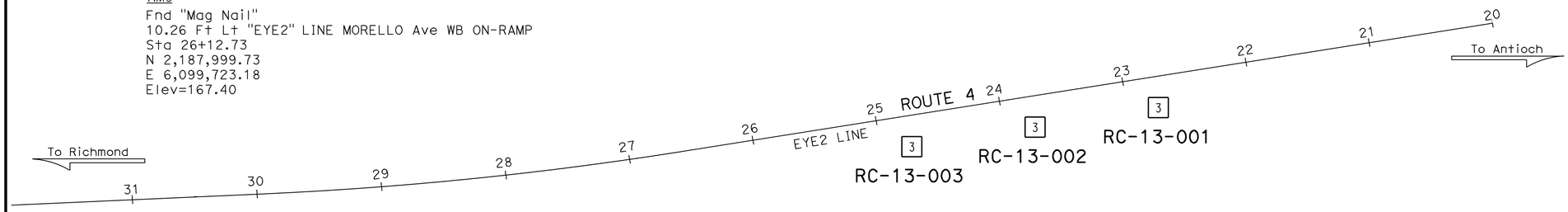
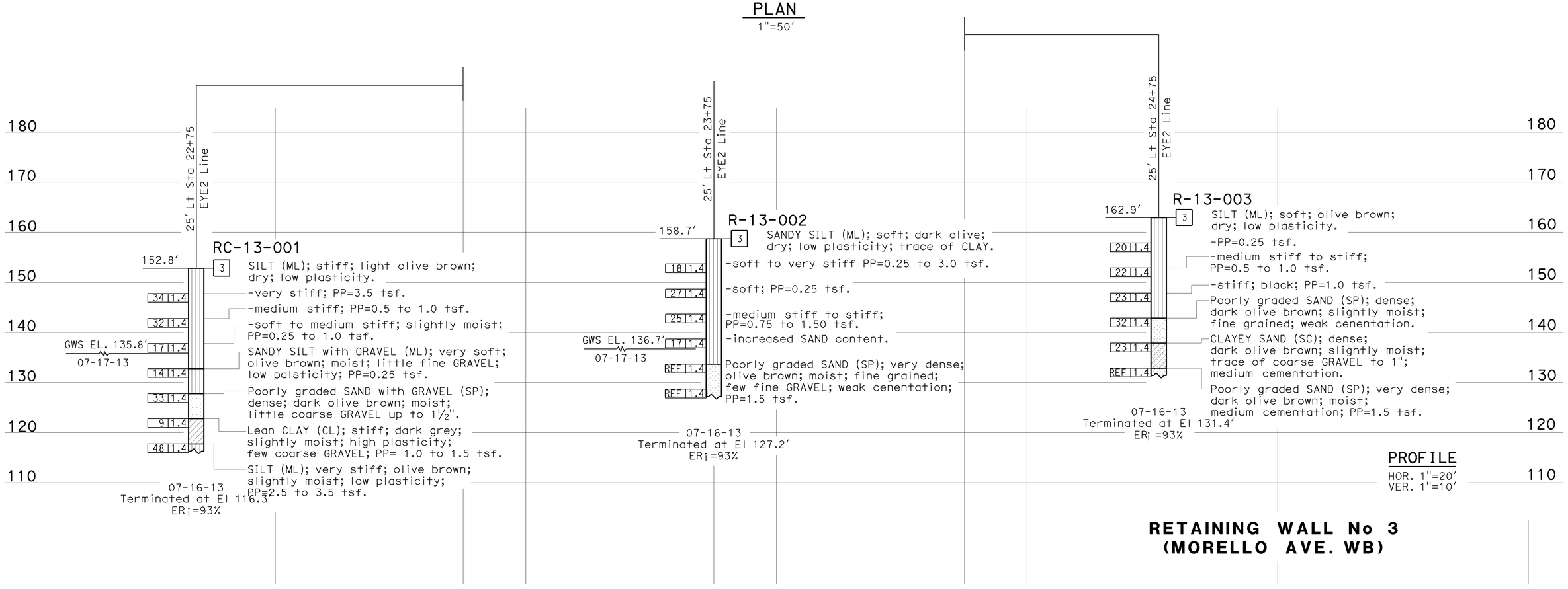
This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (2010 Edition).




NOTES:

1. PP=unconfined compressive strength (tsf) as measured by pocket penetrometer
2. Ground water was not encountered at RC-13-003 during drilling operation

## PLAN
1"=50'




## PROFILE
HOR. 1"=20'
VER. 1"=10'

## RETAINING WALL No 3 (MORELLO AVE. WB)

| ENGINEERING SERVICES | | GEOTECHNICAL SERVICES | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN | BRIDGE NO. | MORELLO Ave WB WALL |
|---|---|---|---|---|---|---|
| FUNCTIONAL SUPERVISOR | DRAWN BY: M. Reynolds 09/ 13 | FIELD INVESTIGATION BY: | | DESIGN BRANCH A | RETW | LOG OF TEST BORINGS |
| NAME: H. Nikoui | CHECKED BY: S. Yang | S. Awad | | | POST MILES 10.18 | |

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3660
PROJECT NUMBER & PHASE: 04120006281 CONTRACT NO.: 04-152724

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| 10-14-13 | 10-21-13 | 01-03-14 | | 18 | 18 |

FILE => 28-morello-wb-z-ltb01.dgn

USERNAME = s134959 DATE PLOTTED => 08-JAN-2014 TIME PLOTTED => 15:16

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4,242 | R8.0/25.0, 0.0/3.4 | 413 | 477 |

REGISTERED CIVIL ENGINEER — 10/14/13 DATE

1-13-14
PLANS APPROVAL DATE

John E Peterson No. C60724 Exp. 12/31/14 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

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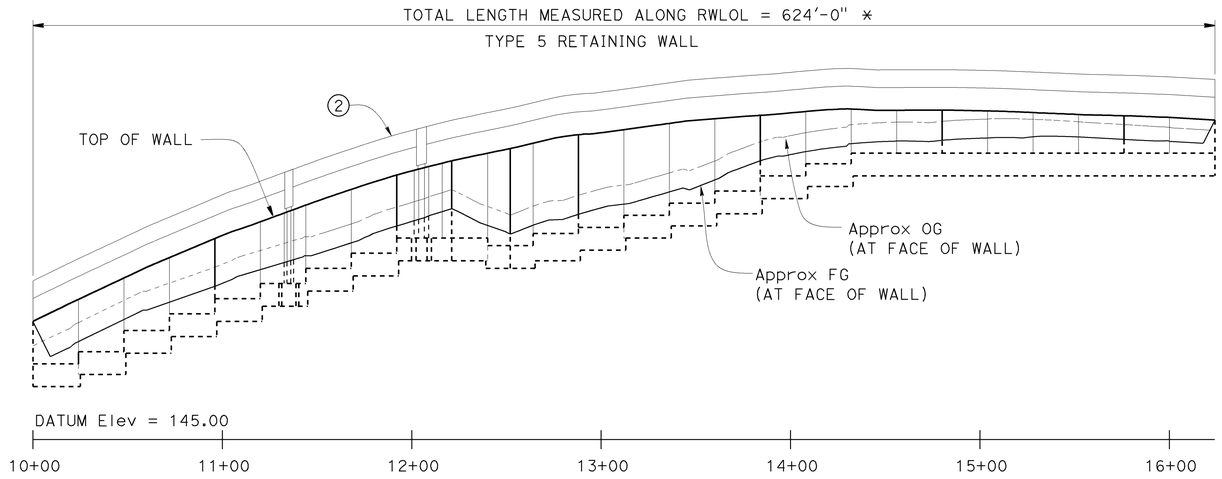



## DEVELOPED ELEVATION

* Limits of random rough stacked rock texture

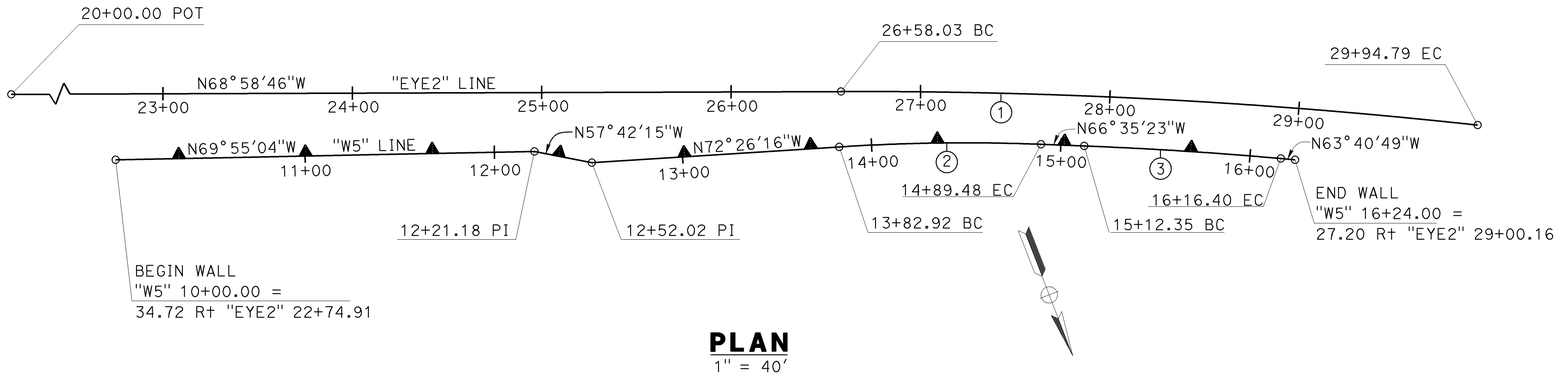
HORIZONTAL 1" = 40'
VERTICAL 1" = 5'

## QUANTITIES

| | | |
|---|---|---|
| STRUCTURE EXCAVATION (RETAINING WALL) | 725 | CY |
| STRUCTURE BACKFILL (RETAINING WALL) | 450 | CY |
| STRUCTURAL CONCRETE, RETAINING WALL | 398 | CY |
| RANDOM ROUGH STACKED ROCK TEXTURE | 2,000 | SQFT |
| BAR REINFORCING STEEL (RETAINING WALL) | 54,100 | LB |
| CONCRETE BARRIER (TYPE 732A) | 624 | LF |

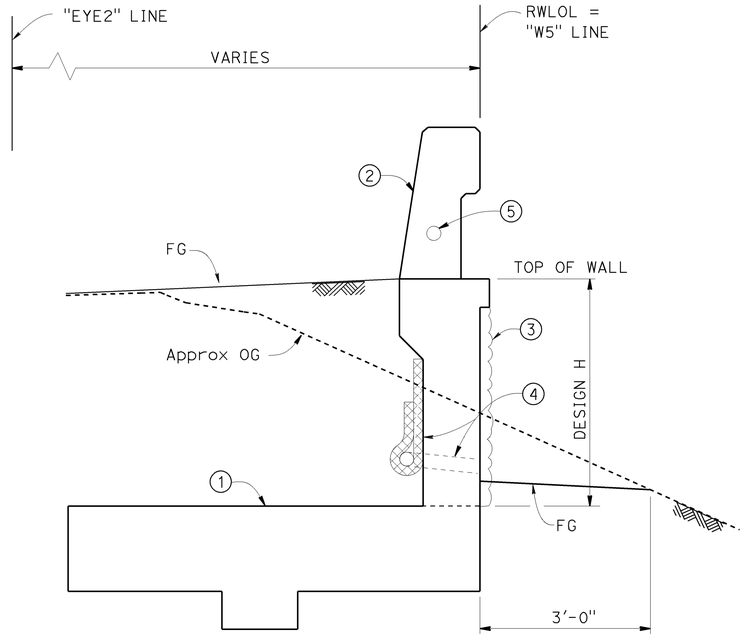
CURVE DATA

| No. | R | Δ | T | L |
|---|---|---|---|---|
| (1) | 3000.00 | 6°25'54" | 168.55 | 336.76 |
| (2) | 1044.00 | 5°50'53" | 53.33 | 106.56 |
| (3) | 2049.00 | 2°54'34" | 52.04 | 104.05 |




## PLAN

1" = 40'




## TYPICAL SECTION

¾" = 1'

NOTES:

1. (1) Retaining Wall Type 5 (CASE 1) RSP B3-4A
2. (2) Concrete Barrier Type 732A RSP B11-55
3. (3) Random Rough Stacked Rock Texture
4. (4) Weep Hole and Geocomposite Drain, see "INDEX TO PLANS" sheet for details
5. (5) 3" ø electrical conduit, see "ROAD PLANS"

X
DESIGN ENGINEER

| | | | | | |
|---|---|---|---|---|---|
| DESIGN | BY John Peterson | CHECKED Tanzeeba Kishwar | LOAD & RESISTANCE FACTOR DESIGN | LIVE LOADING: SURCHARGE ON LEVEL GROUND SURFACE | |
| DETAILS | BY Liang Ma | CHECKED Tanzeeba Kishwar | LAYOUT BY John Peterson | CHECKED E. Pongpairoj | |
| QUANTITIES | BY Alireza Yazdani | CHECKED Tanzeeba Kishwar | SPECIFICATIONS BY Dave Klein | PLANS AND SPECS COMPARED Dave Klein | |

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 16

BRIDGE NO. RETW
POST MILE 10.18

# MORELLO Ave WB WALL
# GENERAL PLAN

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3617
PROJECT NUMBER & PHASE: 04120006281
CONTRACT NO.: 04-152724

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| 6-12-13 | 10-14-13 | | | 1 | 18 |

STRUCTURES DESIGN GENERAL PLAN SHEET (ENGLISH) (REV.09-01-10)

FILE => 28-morello-wb-g-gp01.dgn

USERNAME => s134959 DATE PLOTTED => 08-JAN-2014 TIME PLOTTED => 15:15

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4,242 | R8.0/25.0, 0.0/3.4 | 414 | 477 |

10/14/13
REGISTERED CIVIL ENGINEER — DATE

1-13-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — John E Peterson — No. C60724 — Exp. 12/31/14 — CIVIL — STATE OF CALIFORNIA

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# INDEX TO PLANS


| SHEET NO. | TITLE |
|---|---|
| 1 | GENERAL PLAN |
| 2 | INDEX TO PLANS |
| 3 | STRUCTURE PLAN No. 1 |
| 4 | STRUCTURE PLAN No. 2 |
| 5 | STRUCTURE PLAN No. 3 |
| 6 | STRUCTURE PLAN No. 4 |
| 7 | STRUCTURE PLAN No. 5 |
| 8 | FOUNDATION PLAN No. 1 |
| 9 | FOUNDATION PLAN No. 2 |
| 10 | PEDESTAL DETAILS NO. 1 |
| 11 | PEDESTAL DETAILS NO. 2 |
| 12 | PEDESTAL DETAILS NO. 3 |
| 13 | PEDESTAL DETAILS NO. 4 |
| 14 | PEDESTAL DETAILS NO. 5 |
| 15 | PEDESTAL DETAILS NO. 6 |
| 16 | PEDESTAL DETAILS NO. 7 |
| 17 | ARCHITECTURAL TREATMENT DETAILS |
| 18 | LOG OF TEST BORINGS |


## STANDARD PLANS DATED 2010

| | | |
|---|---|---|
| | A10A | ABBREVIATIONS (SHEET 1 OF 2) |
| RSP | A10B | ABBREVIATIONS (SHEET 2 OF 2) |
| | A10C | LINES AND SYMBOLS (SHEET 1 OF 3) |
| | A10D | LINES AND SYMBOLS (SHEET 2 OF 3) |
| | A10E | LINES AND SYMBOLS (SHEET 3 OF 3) |
| | A10F | LEGEND - SOIL (SHEET 1 OF 2) |
| | A10G | LEGEND - SOIL (SHEET 2 OF 2) |
| | A10H | LEGEND - ROCK |
| | BO-3 | BRIDGE DETAILS |
| RSP | B3-4A | RETAINING WALL TYPE 5 (CASE 1) |
| RSP | B3-5 | RETAINING WALL DETAILS No. 1 |
| | B3-6 | RETAINING WALL DETAILS No. 2 |
| RSP | B11-55 | CONCRETE BARRIER TYPE 732 |
| | B14-3 | COMMUNICATION AND SPRINKLER CONTROL CONDUITS (CONDUIT LESS THAN 4") |

STANDARD PLAN SHEET NO.

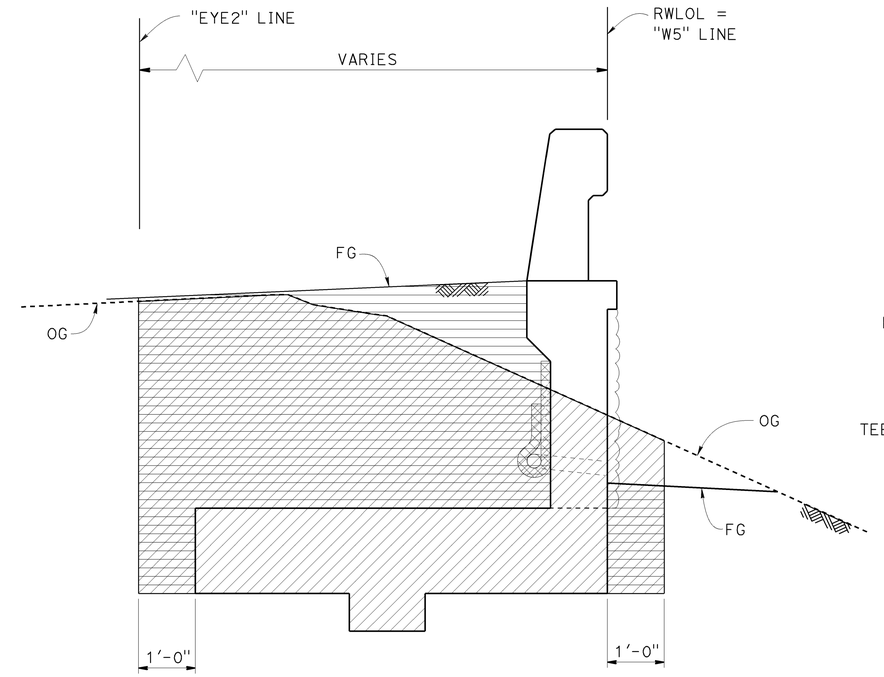
DETAIL NO.

# GENERAL NOTES

SEE RSP B3-4A FOR DESIGN SPECIFICATIONS WITH THE FOLLOW REVISIONS

SEISMIC DESIGN:

$K_h$ = 0.24



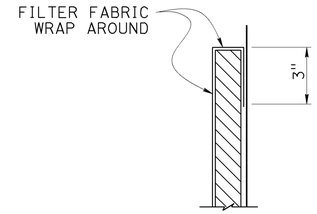

## EXCAVATION AND BACKFILL

NO SCALE

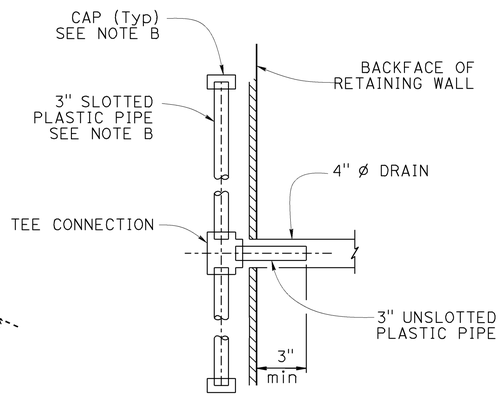
LEGEND:

STRUCTURE EXCAVATION

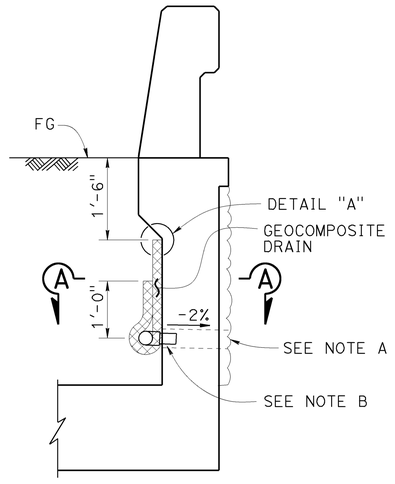
STRUCTURE BACKFILL




## DETAIL "A"




## SECTION A-A




## WALL SECTION

## WEEP HOLE AND GEOCOMPOSITE DRAIN

NO SCALE

ALTERNATIVE TO BRIDGE DETAIL BO-3 / 3-1

Notes:

A. 4" ø drains at intermediate sag points and at 25' max center to center. Exposed wall drains shall be located 3" ± above finished grade.

B. Geocomposite drain and 3" ø slotted plastic pipe continuous behind retaining wall. Cap ends of pipe. Provide "Tee" connection at each 4" ø drain.

C. Connect the low end of plastic pipe to the main outlet pipe as applicable.

| | BY | CHECKED |
|---|---|---|
| DESIGN | John Peterson | Tanzeeba Kishwar |
| DETAILS | Liang Ma/T. Cotton | Tanzeeba Kishwar |
| QUANTITIES | Alireza Yazdani | Tanzeeba Kishwar |

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 16

BRIDGE NO. RETW
POST MILE 10.18

# MORELLO Ave WB WALL
## INDEX TO PLANS

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3617
PROJECT NUMBER & PHASE: 04120006281
CONTRACT NO.: 04-152724

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES: 8-1-13 | 10-14-13 | 01-03-14

SHEET 2 OF 18

FILE => 28-morello-wb-a-itp.dgn

USERNAME => s134999 DATE PLOTTED => 08-JAN-2014 TIME PLOTTED => 15:15

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4,242 | R8.0/25.0, 0.0/3.4 | 415 | 477 |

10/14/13
REGISTERED CIVIL ENGINEER — DATE

1-13-14
PLANS APPROVAL DATE

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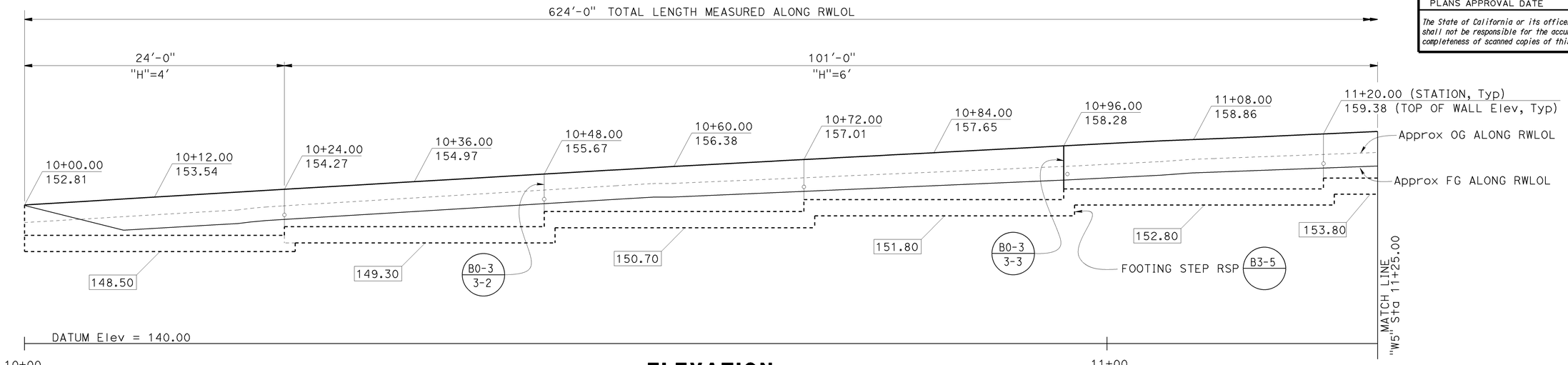
REGISTERED PROFESSIONAL ENGINEER
John E Peterson
No. C60724
Exp. 12/31/14
CIVIL
STATE OF CALIFORNIA




## ELEVATION
1" = 5'

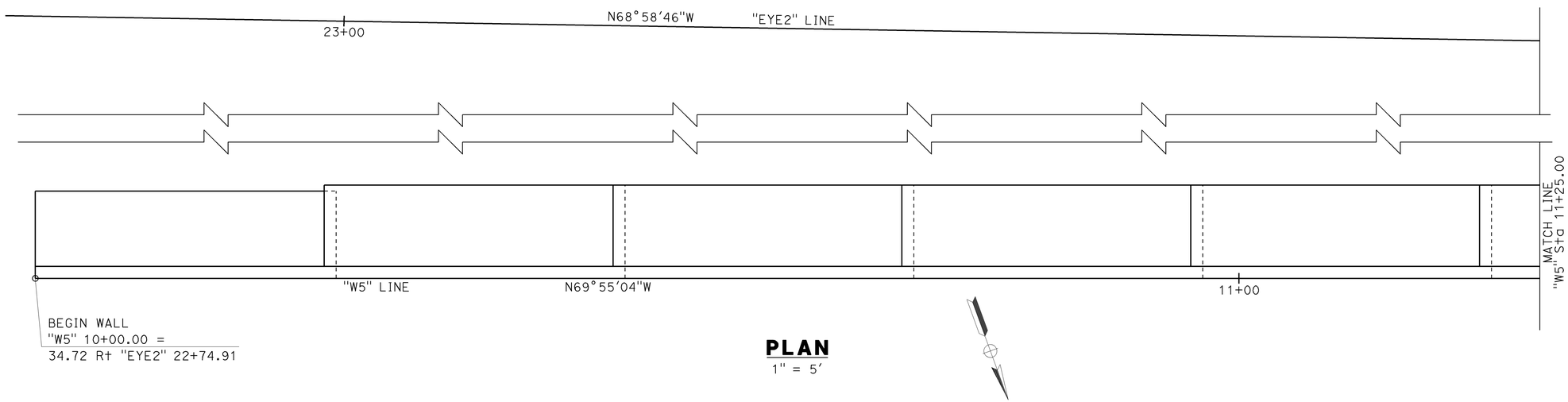
LEGEND:

XXX.XX Denotes bottom of footing elevation

○ Weep Hole

NOTES:

1. Concrete Barrier not shown
2. Random Rough Stacked Rock Texture not shown, for details see "ARCHITECTURAL TREATMENT DETAILS" sheet




## PLAN
1" = 5'

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| DESIGN | BY John Peterson | CHECKED Tanzeeba Kishwar | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16 | BRIDGE NO. RETW | MORELLO Ave WB WALL STRUCTURE PLAN No. 1 | |
| DETAILS | BY Liang Ma | CHECKED Tanzeeba Kishwar | | | POST MILE 10.18 | | |
| QUANTITIES | BY Alireza Yazdani | CHECKED Tanzeeba Kishwar | | | | | |

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3617
PROJECT NUMBER & PHASE: 04120006281
CONTRACT NO.: 04-152724

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| 10-14-13 | 01-03-14 | | | 3 | 18 |

FILE => 28-morello-wb-c-sp01.dgn

USERNAME => s134959 DATE PLOTTED => 08-JAN-2014 TIME PLOTTED => 15:16

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4,242 | R8.0/25.0, 0.0/3.4 | 416 | 477 |

10/14/13
REGISTERED CIVIL ENGINEER — DATE

1-13-14
PLANS APPROVAL DATE

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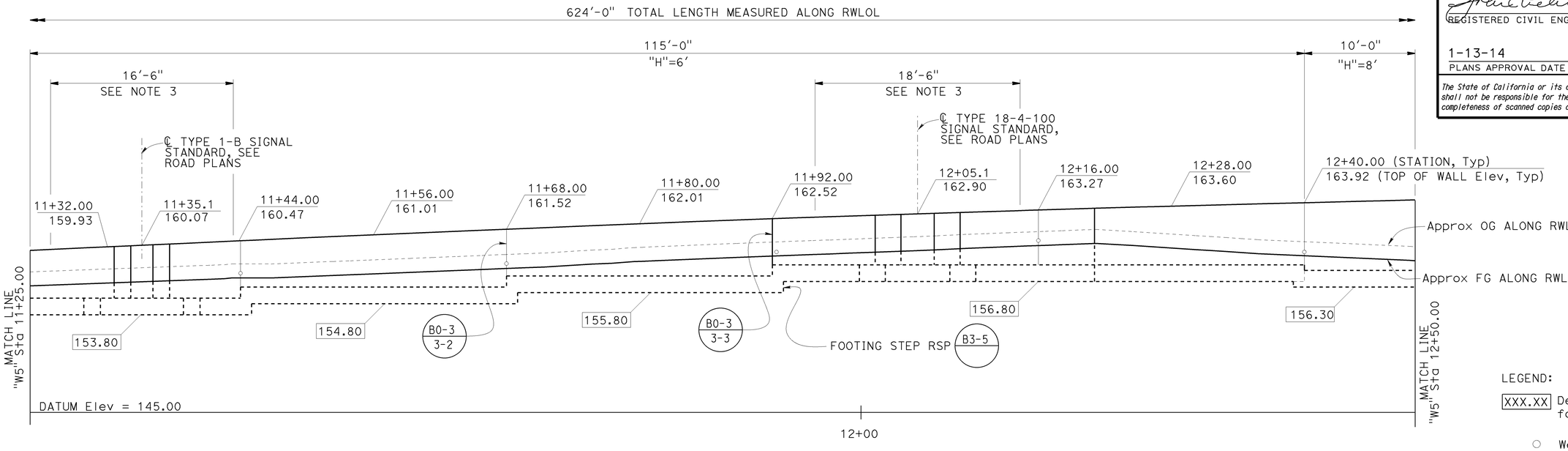
REGISTERED PROFESSIONAL ENGINEER — John E Peterson — No. C60724 — Exp. 12/31/14 — CIVIL — STATE OF CALIFORNIA




## DEVELOPED ELEVATION

1" = 5'

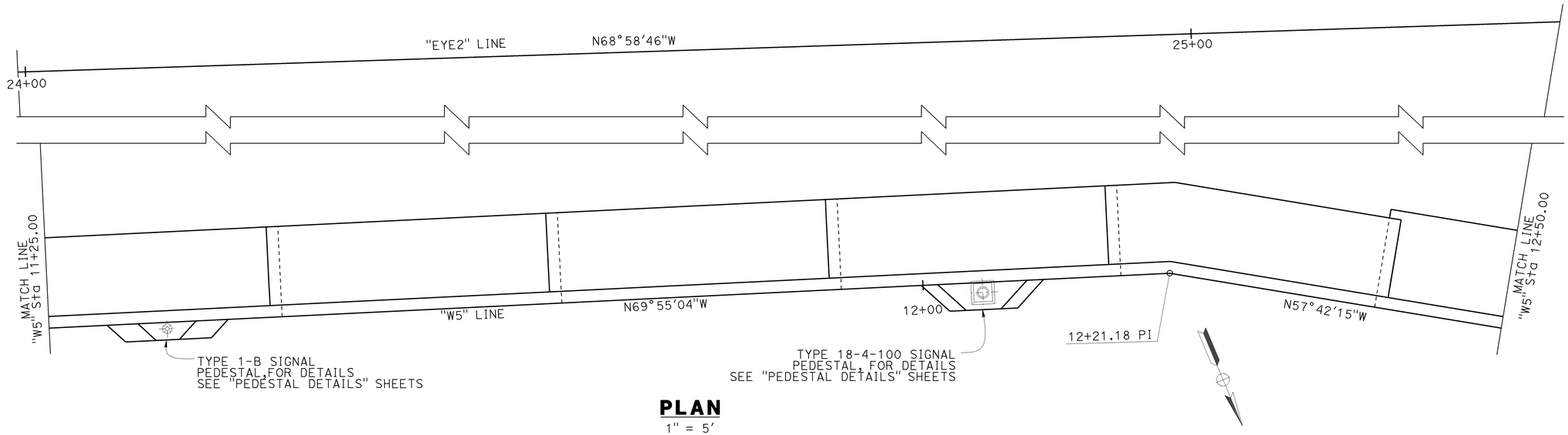
LEGEND:

XXX.XX Denotes bottom of footing elevation

○ Weep Hole

NOTES:

1. Concrete Barrier not shown
2. Random Rough Stacked Rock Texture not shown, for details see "ARCHITECTURAL TREATMENT DETAILS" sheet
3. Modified Pedestal Zone, for details see "PEDESTAL DETAILS" sheets




## PLAN

1" = 5'

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| DESIGN | BY John Peterson | CHECKED Tanzeeba Kishwar | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16 | BRIDGE NO. RETW | MORELLO Ave WB WALL STRUCTURE PLAN No. 2 | |
| DETAILS | BY Liang Ma | CHECKED Tanzeeba Kishwar | | | POST MILE 10.18 | | |
| QUANTITIES | BY Alireza Yazdani | CHECKED Tanzeeba Kishwar | | | | | |

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3617
PROJECT NUMBER & PHASE: 04120006281
CONTRACT NO.: 04-152724

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| 10-14-13 | 01-03-14 | | | 4 | 18 |

FILE => 28-morello-wb-c-sp02.dgn

USERNAME => s134959 DATE PLOTTED => 08-JAN-2014 TIME PLOTTED => 15:16

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4,242 | R8.0/25.0, 0.0/3.4 | 417 | 477 |

REGISTERED CIVIL ENGINEER — 10/14/13 DATE

1-13-14
PLANS APPROVAL DATE

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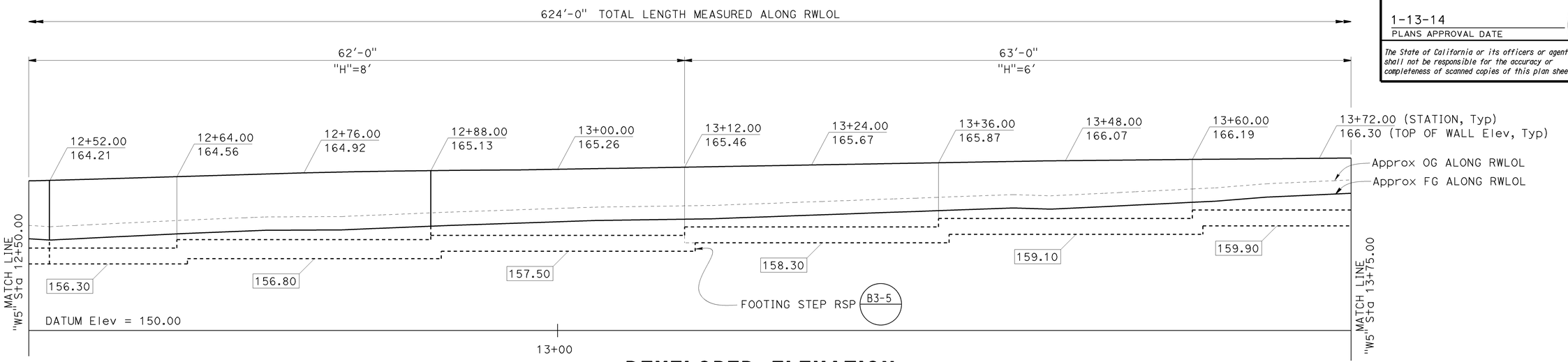
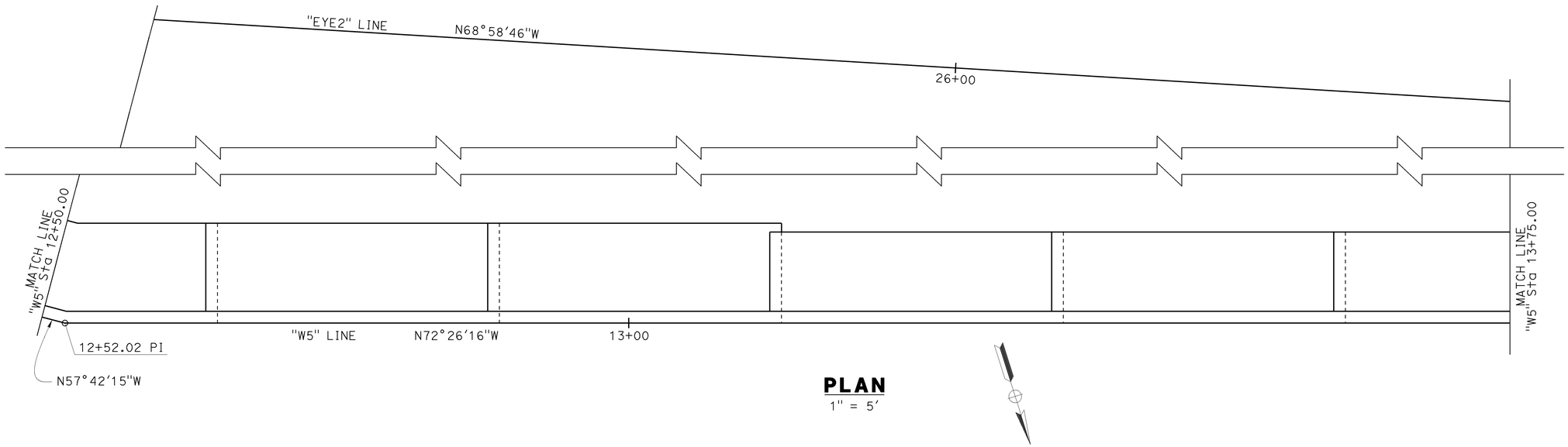
REGISTERED PROFESSIONAL ENGINEER — John E Peterson — No. C60724 — Exp. 12/31/14 — CIVIL — STATE OF CALIFORNIA




## DEVELOPED ELEVATION

1" = 5'




## PLAN

1" = 5'

LEGEND:

XXX.XX Denotes bottom of footing elevation

○ Weep Hole

NOTES:

1. Concrete Barrier not shown
2. Random Rough Stacked Rock Texture not shown, for details see "ARCHITECTURAL TREATMENT DETAILS" sheet

| | | | | | |
|---|---|---|---|---|---|
| DESIGN | BY John Peterson | CHECKED Tanzeeba Kishwar | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16 | BRIDGE NO. RETW |
| DETAILS | BY Liang Ma | CHECKED Tanzeeba Kishwar | | | POST MILE 10.18 |
| QUANTITIES | BY Alireza Yazdani | CHECKED Tanzeeba Kishwar | | | |

# MORELLO Ave WB WALL
# STRUCTURE PLAN No. 3

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3617
PROJECT NUMBER & PHASE: 04120006281
CONTRACT NO.: 04-152724

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| 10-14-13 | 01-03-14 | | | 5 | 18 |

FILE => 28-morello-wb-c-sp03.dgn

USERNAME => s134959 DATE PLOTTED => 08-JAN-2014 TIME PLOTTED => 15:16

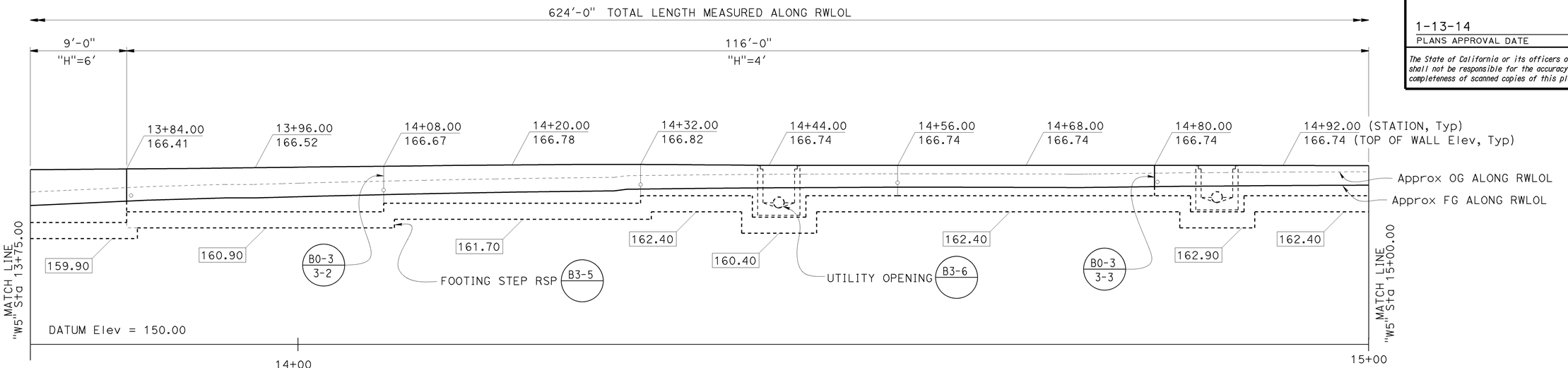
| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4,242 | R8.0/25.0, 0.0/3.4 | 418 | 477 |

10/14/13
REGISTERED CIVIL ENGINEER DATE

1-13-14
PLANS APPROVAL DATE

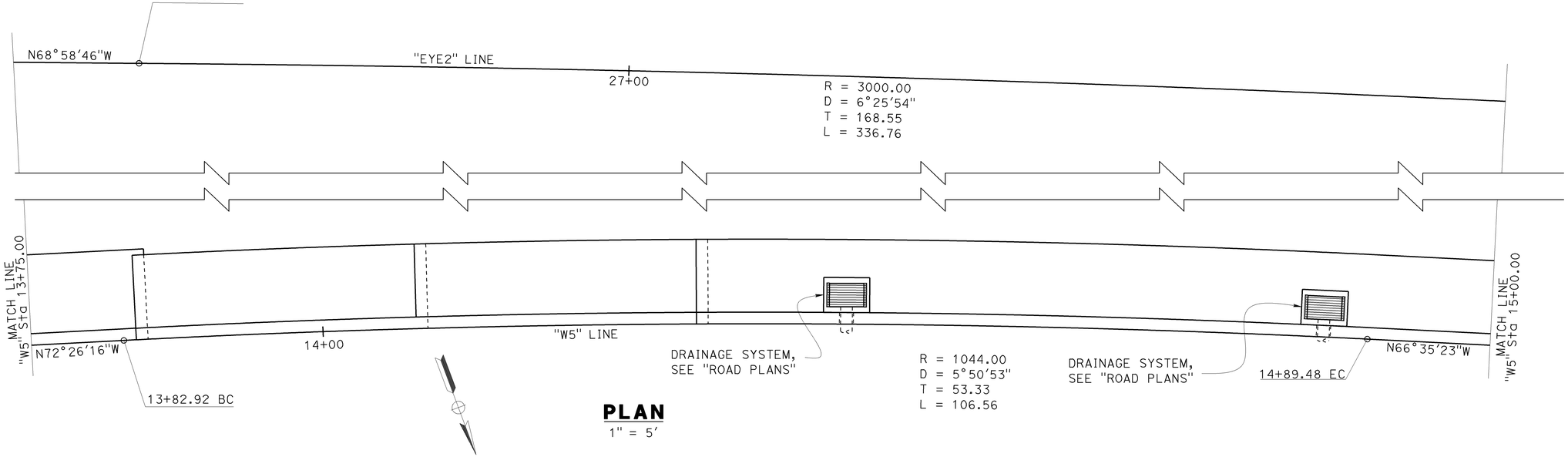
REGISTERED PROFESSIONAL ENGINEER
John E Peterson
No. C60724
Exp. 12/31/14
CIVIL
STATE OF CALIFORNIA

*The State of California or its officers or agents shall not be responsible for the accuracy or completeness of scanned copies of this plan sheet.*




## DEVELOPED ELEVATION

1" = 5'




## PLAN

1" = 5'

LEGEND:

XXX.XX Denotes bottom of footing elevation

○ Weep Hole

NOTES:

1. Concrete Barrier not shown
2. Random Rough Stacked Rock Texture not shown, for details see "ARCHITECTURAL TREATMENT DETAILS" sheet

| | | | | | |
|---|---|---|---|---|---|
| DESIGN | BY John Peterson | CHECKED Tanzeeba Kishwar | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16 | BRIDGE NO. RETW |
| DETAILS | BY Liang Ma | CHECKED Tanzeeba Kishwar | | | POST MILE 10.18 |
| QUANTITIES | BY Alireza Yazdani | CHECKED Tanzeeba Kishwar | | | |

# MORELLO Ave WB WALL
# STRUCTURE PLAN No. 4

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3617
PROJECT NUMBER & PHASE: 04120006281
CONTRACT NO.: 04-152724

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| 10-14-13 | 01-03-14 | | | 6 | 18 |

FILE => 28-morello-wb-c-sp04.dgn

USERNAME => s134959 DATE PLOTTED => 08-JAN-2014 TIME PLOTTED => 15:16

## CURVE DATA

| No. ⑥ | R | Δ | T | L |
|---|---|---|---|---|
| 6 | 2800.00 | 03°41'30" | 90.23 | 180.41 |
| 25 | 4279.48 | 03°28'08" | 129.59 | 259.10 |

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4,242 | R8.0/25.0<br>0.0/3.4 | 419 | 477 |

10/14/13
REGISTERED CIVIL ENGINEER DATE

1-13-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
John E Peterson
No. C60724
Exp. 12/31/14
CIVIL
STATE OF CALIFORNIA

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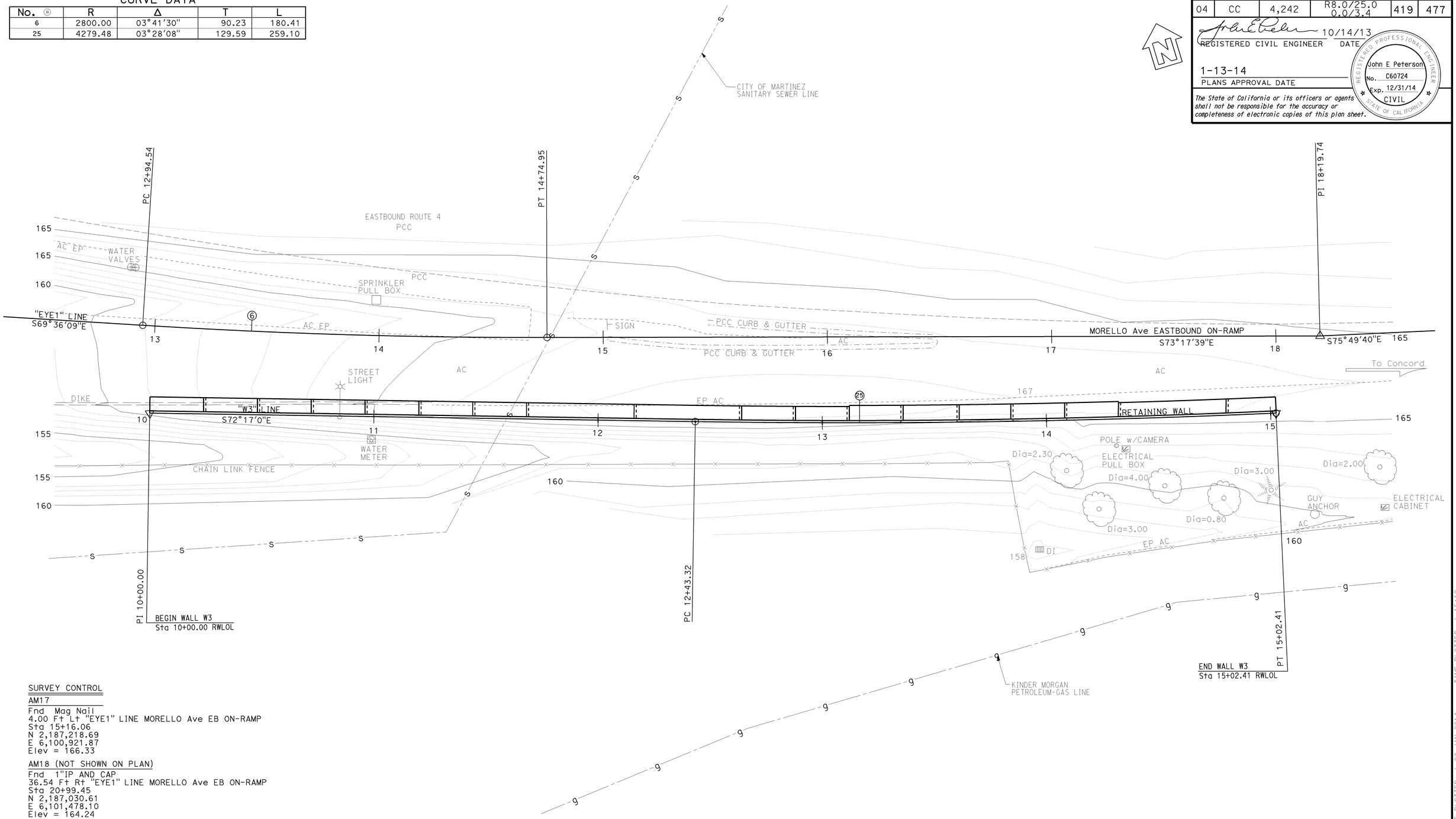


SURVEY CONTROL

AM17

Fnd Mag Nail
4.00 Ft Lt "EYE1" LINE MORELLO Ave EB ON-RAMP
Sta 15+16.06
N 2,187,218.69
E 6,100,921.87
Elev = 166.33

AM18 (NOT SHOWN ON PLAN)

Fnd 1"IP AND CAP
36.54 Ft Rt "EYE1" LINE MORELLO Ave EB ON-RAMP
Sta 20+99.45
N 2,187,030.61
E 6,101,478.10
Elev = 164.24

PRELIMINARY INVESTIGATION SECTION

| | | | | | |
|---|---|---|---|---|---|
| SCALE 1"=20' | VERT.DATUM NAVD88 | PHOTOGRAMMETRY AS OF: X | | | |
| | HORZ.DATUM NAD83 | SURVEYED | BY DISTRICT | CHECKED | BY J. BORDEN 08/2013 |
| ALIGNMENT TIES Dist TRAVERSE SHEET | | DRAFTED | BY T. ZOLNIKOV 08/2013 | CHECKED | BY L. LEW 08/2013 |

| | | |
|---|---|---|
| DESIGN | BY Tanzeeba Kishwar | CHECKED John Peterson |
| DETAILS | BY Liang Ma | CHECKED John Peterson |
| QUANTITIES | BY Tanzeeba Kishwar | CHECKED Monzer Jaber |

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 16

| BRIDGE NO. | |
|---|---|
| RETW | |
| POST MILE | |
| 10.49 | |

# MORELLO Ave EB WALL
# FOUNDATION PLAN

STRUCTURES FOUNDATION PLAN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3617
PROJECT NUMBER & PHASE: 04120006281 CONTRACT NO.: 04-152724

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| 08/22/13 | 10-14-13 | 10-28-13 | 01-06-14 | 7 | 16 |

FILE => 28-morello-eb-e-fpl01.dgn

USERNAME = s134959 DATE PLOTTED => 08-JAN-2014 TIME PLOTTED => 15:12

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4, 242 | R8.0/25.0<br>0.0/3.4 | 420 | 477 |

REGISTERED CIVIL ENGINEER — 01-09-14 DATE

1-13-14
PLANS APPROVAL DATE

TAMARA S. MARCHENKO — REGISTERED PROFESSIONAL ENGINEER — No. C76837 — Exp. 12-31-14 — CIVIL — STATE OF CALIFORNIA

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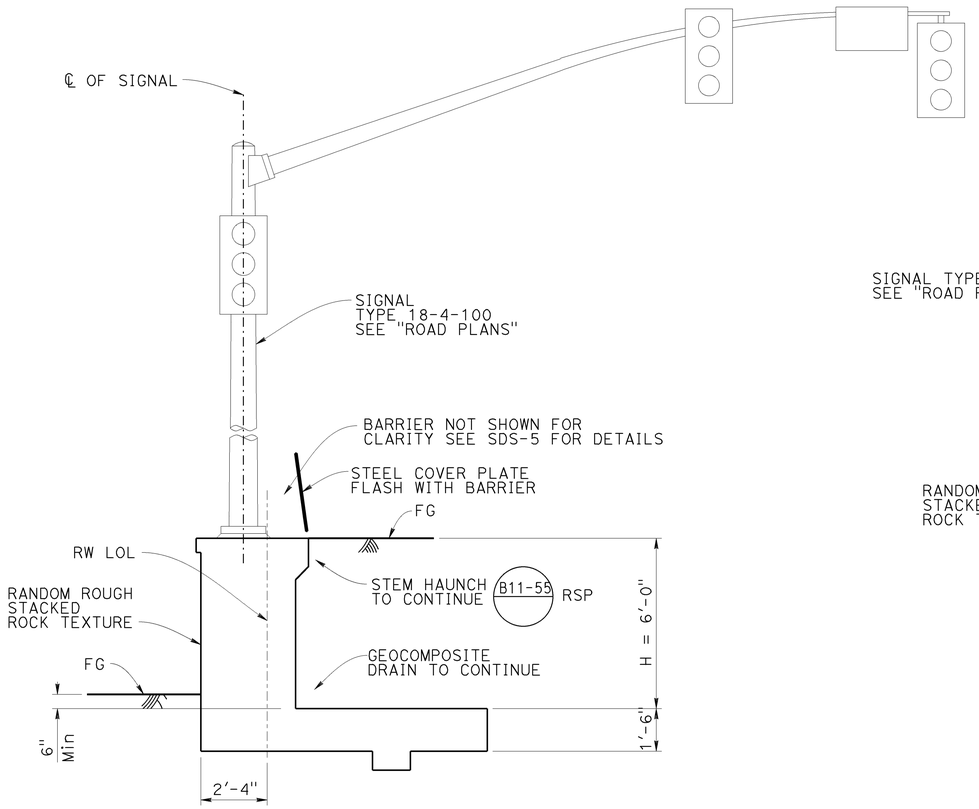
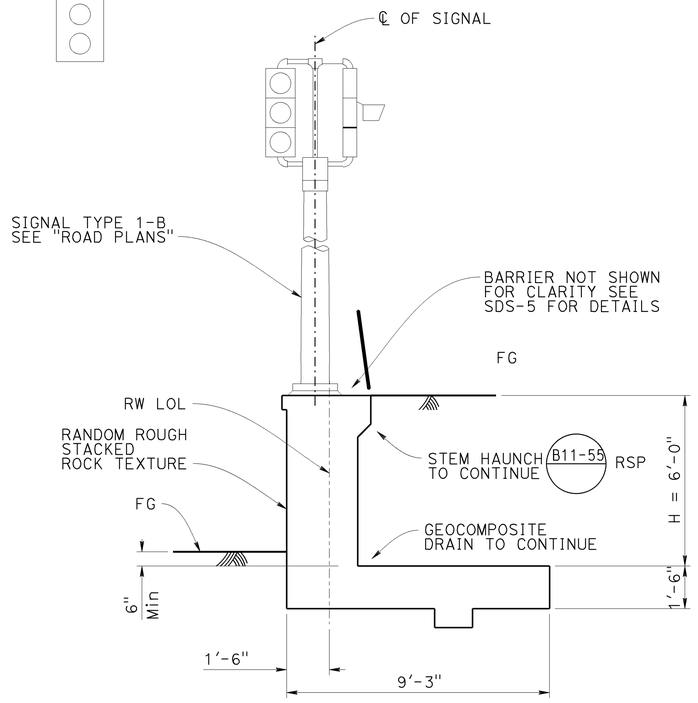
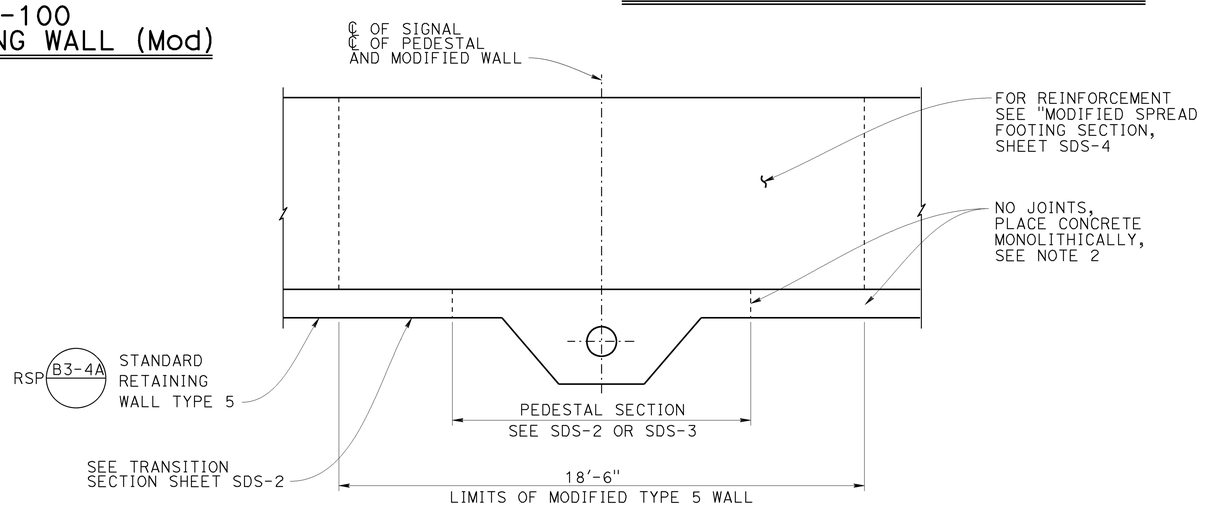



## TYPE 18-4-100
## ON TYPE 5 RETAINING WALL (Mod)




## TYPE 1-B
## ON TYPE 5 RETAINING WALL (Mod)




## PLAN

**NOTES:**

1. Before construction bottom of footing shall be over-excavated to a depth of 2' and 1' on either side and the over-excavated area shall be backfilled using structure backfill materials at 95% relative compaction up to the bottom grade. Except as permitted by the engineer upon field verification.
2. Provide joints when required, but no less than 20' from center line of signal pedestal, symmetrically.

NO SCALE

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| BRANCH CHIEF: DAVID A NEUMANN | DESIGN | BY TAMARA MARCHENKO | CHECKED MAHFOUD LICHA | STATE OF CALIFORNIA<br>DEPARTMENT OF TRANSPORTATION | DIVISION OF ENGINEERING SERVICES<br>STRUCTURE DESIGN<br>SPECIAL DESIGN BRANCH | BRIDGE NO. RETW<br>POST MILE 10.49 | MORELLO AVENUE EB WALL<br>PEDESTAL DETAILS NO.1 | SDS-1 |
| | DETAILS | BY SHUMEI JIANG | CHECKED MAHFOUD LICHA | | | | | |
| | QUANTITIES | BY JOHN PETERSON | CHECKED MONZER JABER | | | | | |

STRUCTURES DESIGN SPECIAL DESIGN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3619
PROJECT NUMBER & PHASE: 0412000628-1 CONTRACT NO.: 04-152721

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| 01-08-14 | | | | 8 | 16 |

FILE => 28-morello-eb-u-miscdt01.dgn

USERNAME => s1324128 DATE PLOTTED => 09-JAN-2014 TIME PLOTTED => 15:50

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4, 242 | R8.0/25.0<br>0.0/3.4 | 421 | 477 |

REGISTERED CIVIL ENGINEER — DATE 01-09-14

1-13-14
PLANS APPROVAL DATE

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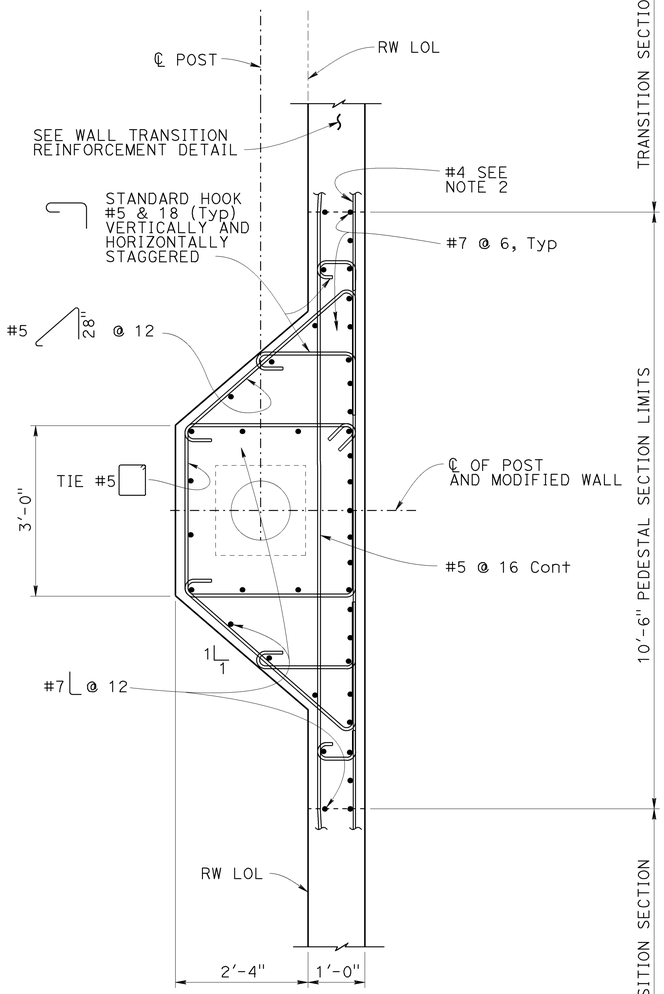
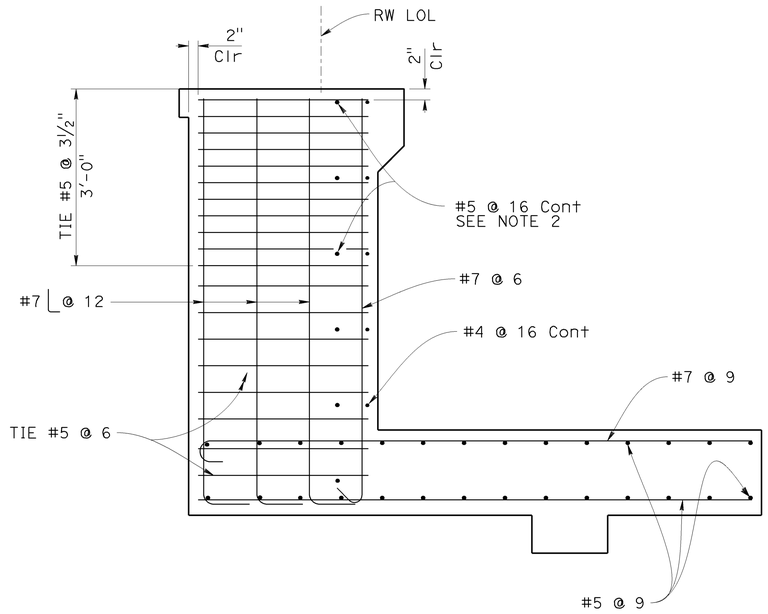
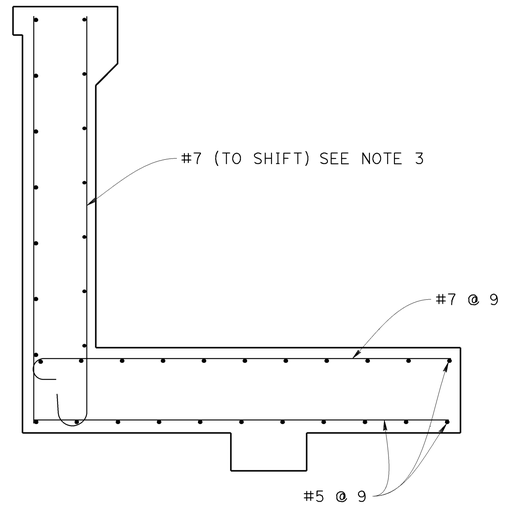
REGISTERED PROFESSIONAL ENGINEER
TAMARA S. MARCHENKO
No. C76837
Exp. 12-31-14
CIVIL
STATE OF CALIFORNIA




## TYPE 18-4-100 PEDESTAL SECTION

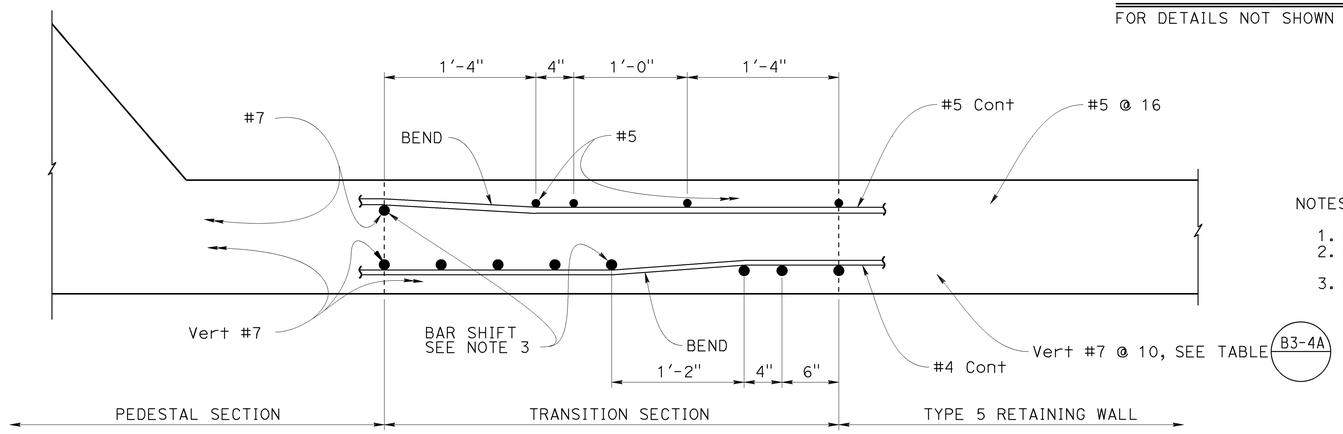



## PEDESTAL AND FOOTING




## TRANSITION SECTION

FOR DETAILS NOT SHOWN SEE RSP B3-4A




NOTES:

1. Bend bars where anchor bolts occur.
2. Bar must be continue thru pedestal section.
3. Bars to be shifted inward adjust bar position for bending.

## TRANSITION REINFORCEMENT DETAIL

NO SCALE

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| BRANCH CHIEF: DAVID A NEUMANN | DESIGN | BY: TAMARA MARCHENKO | CHECKED: MAHFOUD LICHA | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN SPECIAL DESIGN BRANCH | BRIDGE NO. RETW | MORELLO AVENUE EB WALL |
| | DETAILS | BY: SHUMEI JIANG | CHECKED: MAHFOUD LICHA | | | POST MILE 10.49 | PEDESTAL DETAILS NO.2 |
| | QUANTITIES | BY: JOHN PETERSON | CHECKED: MONZER JABER | | | | SDS-2 |

STRUCTURES DESIGN SPECIAL DESIGN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3619
PROJECT NUMBER & PHASE: 0412000628-1 CONTRACT NO.: 04-152721

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| 01-08-14 | | | | 9 | 16 |

FILE => 28-morello-eb-u-miscdt02.dgn

USERNAME => s132428 DATE PLOTTED => 09-JAN-2014 TIME PLOTTED => 15:50

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4, 242 | R8.0/25.0<br>0.0/3.4 | 422 | 477 |

REGISTERED CIVIL ENGINEER — 01-09-14 DATE

1-13-14
PLANS APPROVAL DATE

TAMARA S. MARCHENKO
REGISTERED PROFESSIONAL ENGINEER
No. C76837
Exp. 12-31-14
CIVIL
STATE OF CALIFORNIA

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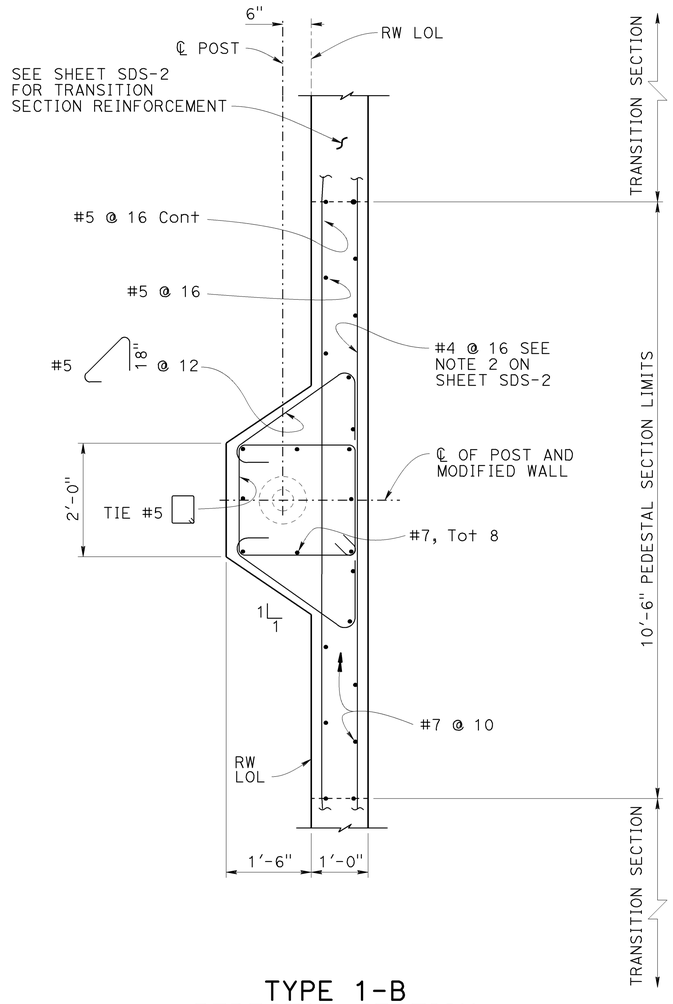
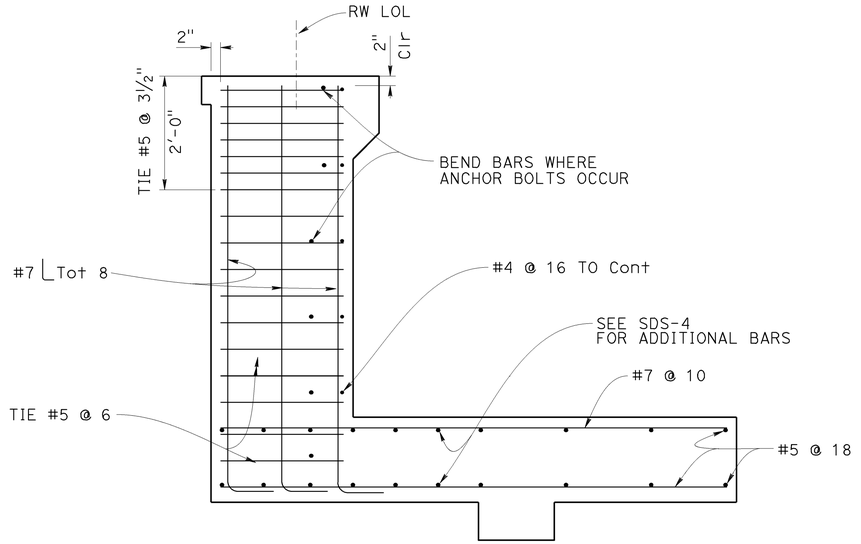



## TYPE 1-B
## PEDESTAL SECTION




## PEDESTAL AND FOOTING

NOTE:

1. For reinforcement details not shown see RSP B3-4A.
2. See sheet "SDS-2" for transition details.

NO SCALE

BRANCH CHIEF DAVID A NEUMANN

| | BY | CHECKED |
|---|---|---|
| DESIGN | TAMARA MARCHENKO | MAHFOUD LICHA |
| DETAILS | SHUMEI JIANG | MAHFOUD LICHA |
| QUANTITIES | JOHN PETERSON | MONZER JABER |

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
SPECIAL DESIGN BRANCH

BRIDGE NO. RETW
POST MILE 10.49

# MORELLO AVENUE EB WALL
## PEDESTAL DETAILS NO.3

SDS-3

STRUCTURES DESIGN SPECIAL DESIGN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

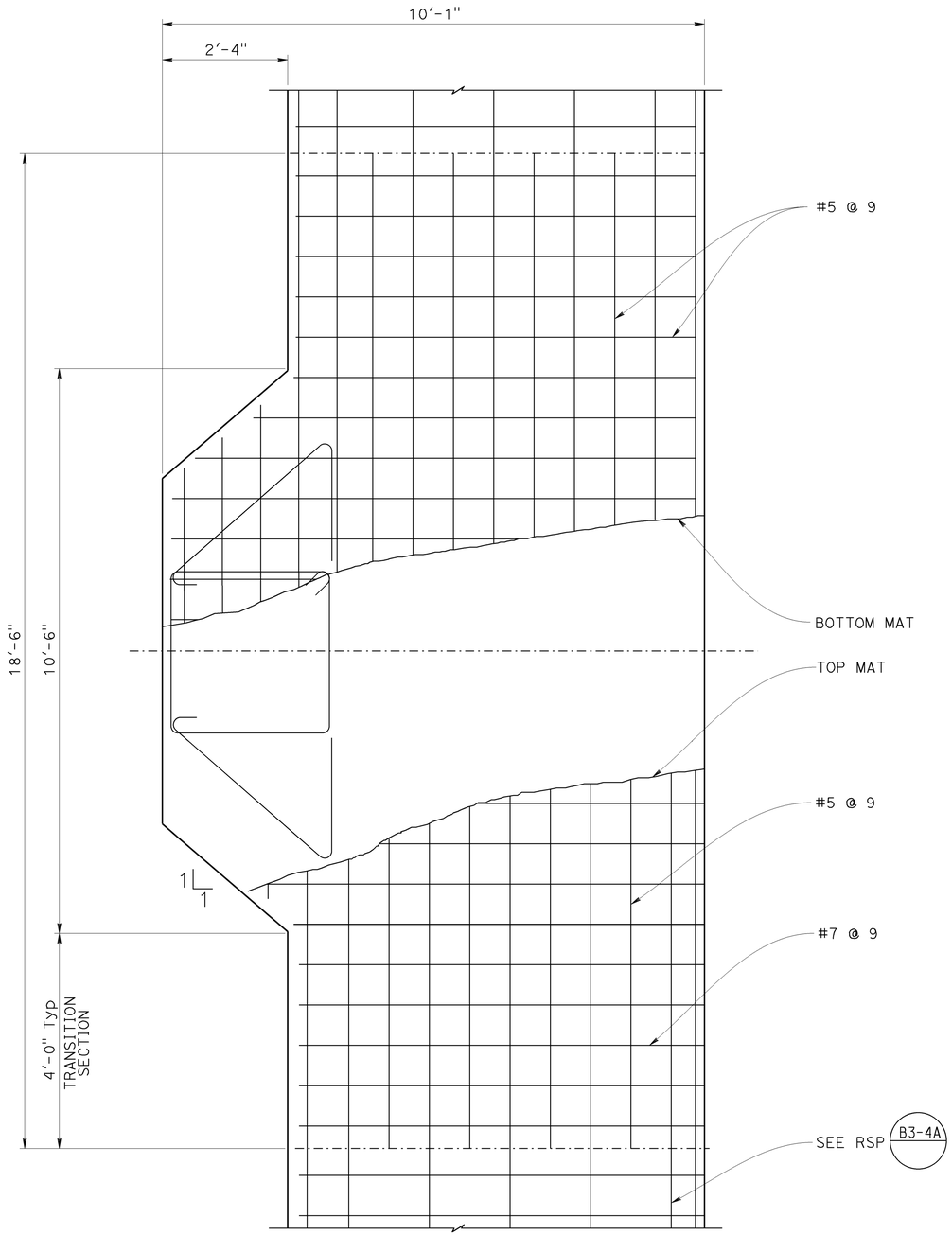
UNIT: 3619
PROJECT NUMBER & PHASE: 0412000628-1 CONTRACT NO.: 04-152721

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

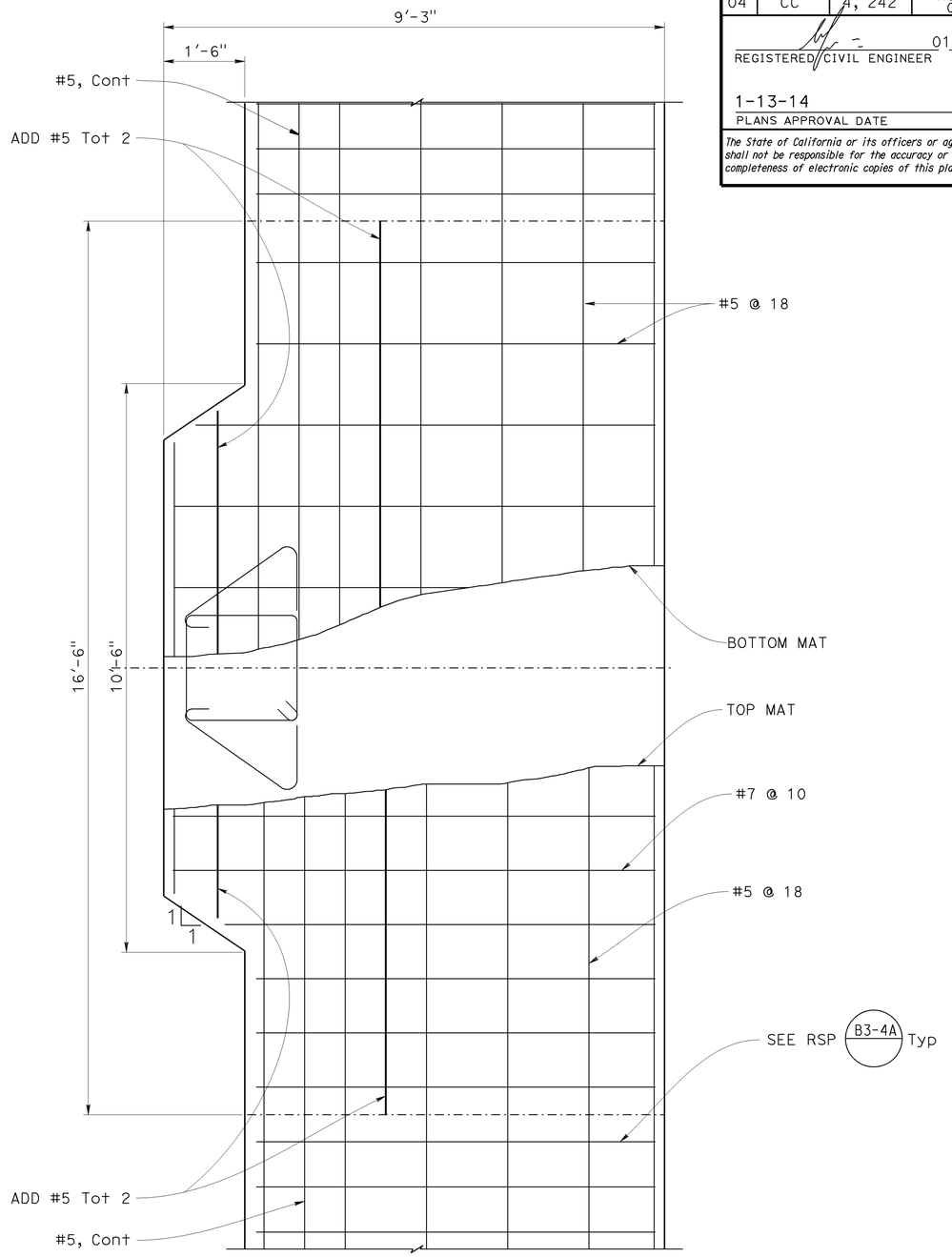
| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| 01-08-14 | | | | 10 | 16 |

FILE => 28-morello-eb-u-miscdt03.dgn

USERNAME => s132428 DATE PLOTTED => 09-JAN-2014 TIME PLOTTED => 15:50




FOR 18-4-100 SIGNAL




FOR TYPE 1-B SIGNAL

## FOOTING REINFORCEMENT PLAN

NO SCALE

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 1, 242 | R8.0/25.0<br>0.0/3.4 | 423 | 477 |

REGISTERED CIVIL ENGINEER — 01-09-14 DATE

1-13-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — TAMARA S. MARCHENKO — No. C76837 — Exp. 12-31-14 — CIVIL — STATE OF CALIFORNIA

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BRANCH CHIEF DAVID A NEUMANN

| | BY | CHECKED |
|---|---|---|
| DESIGN | TAMARA MARCHENKO | MAHFOUD LICHA |
| DETAILS | SHUMEI JIANG | MAHFOUD LICHA |
| QUANTITIES | JOHN PETERSON | MONZER JABER |

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
SPECIAL DESIGN BRANCH

BRIDGE NO. RETW
POST MILE 10.49

# MORELLO AVENUE EB WALL
## PEDESTAL DETAILS NO.4

SDS-4

STRUCTURES DESIGN SPECIAL DESIGN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3619
PROJECT NUMBER & PHASE: 0412000628-1 CONTRACT NO.: 04-152721

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES: 01-08-14

SHEET 11 OF 16

FILE => 28-morello-eb-u-miscdt04.dgn

USERNAME => s132228 DATE PLOTTED => 09-JAN-2014 TIME PLOTTED => 15:50

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | A, 242 | R8.0/25.0<br>0.0/3.4 | 424 | 477 |

REGISTERED CIVIL ENGINEER — 01-09-14 DATE

1-13-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — TAMARA S. MARCHENKO — No. C76837 — Exp. 12-31-14 — CIVIL — STATE OF CALIFORNIA

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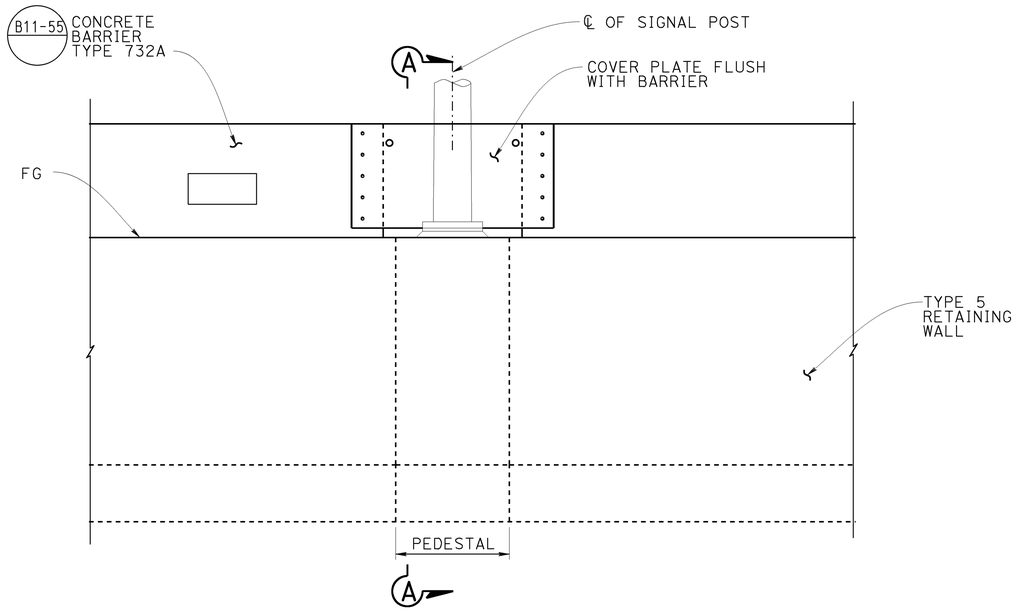
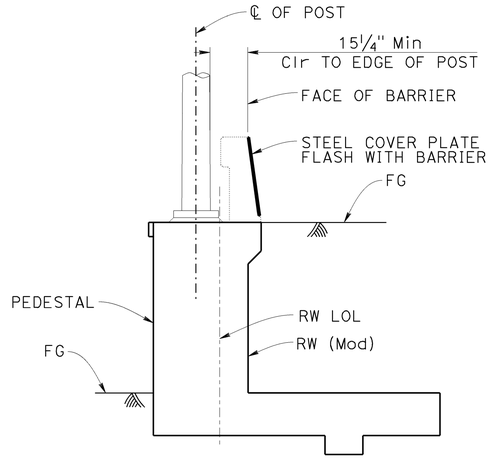
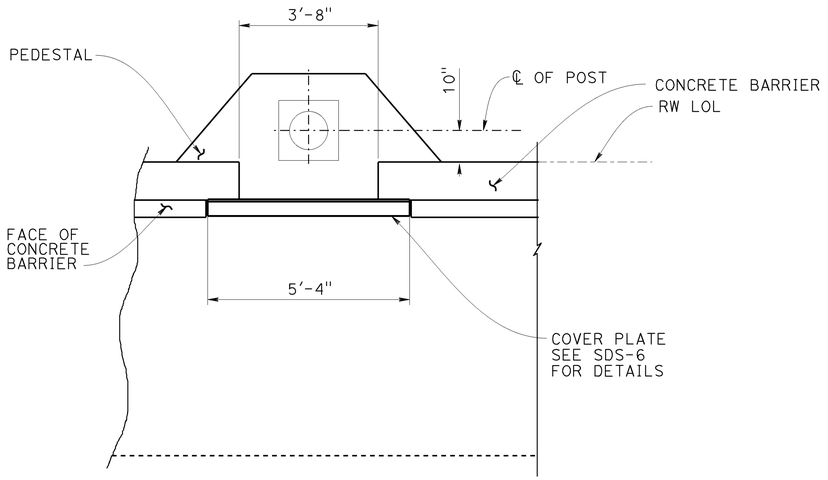


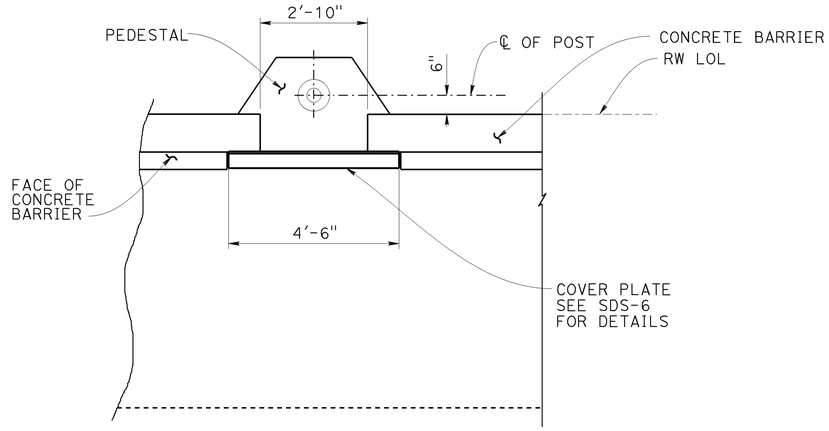

## WALL FACE ELEVATION VIEW




## SECTION A-A




## PLAN
FOR SIGNAL TYPE 18-4-100




## PLAN
FOR SIGNAL TYPE 1-B

NOTES:

1. Connection to structure and barrier details refer to Standard A76E.
2. Barrier is symmetrical about centerline of Signal Post.

NO SCALE

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| BRANCH CHIEF: DAVID A NEUMANN | DESIGN | BY: TAMARA MARCHENKO | CHECKED: MAHFOUD LICHA | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN SPECIAL DESIGN BRANCH | BRIDGE NO. RETW<br>POST MILE 10.49 | MORELLO AVENUE EB WALL<br>PEDESTAL DETAILS NO.5 | SDS-5 |
| | DETAILS | BY: SHUMEI JIANG | CHECKED: MAHFOUD LICHA | | | | | |
| | QUANTITIES | BY: JOHN PETERSON | CHECKED: MONZER JABER | | | | | |

STRUCTURES DESIGN SPECIAL DESIGN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3619
PROJECT NUMBER & PHASE: 0412000628-1 CONTRACT NO.: 04-152721

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| 01-08-14 | | | | 12 | 16 |

FILE => 28-morello-eb-u-miscdt05.dgn

USERNAME => s1324128 DATE PLOTTED => 09-JAN-2014 TIME PLOTTED => 15:50

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4, 242 | R8.0/25.0<br>0.0/3.4 | 425 | 477 |

REGISTERED CIVIL ENGINEER — 01-09-14 DATE

1-13-14
PLANS APPROVAL DATE

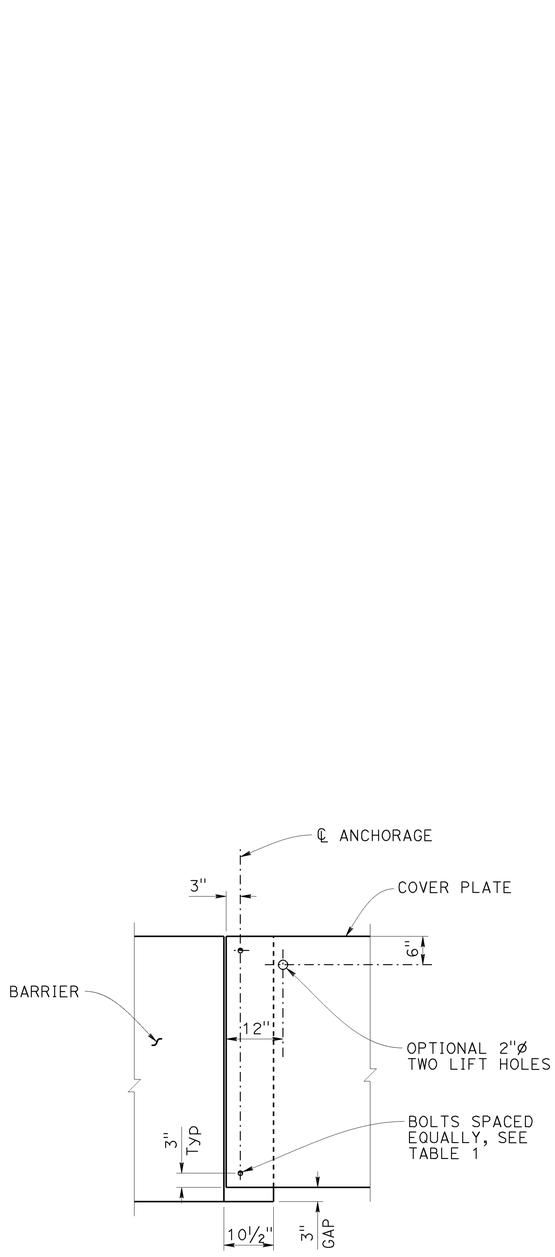
TAMARA S. MARCHENKO — REGISTERED PROFESSIONAL ENGINEER — No. C76837 — Exp. 12-31-14 — CIVIL — STATE OF CALIFORNIA

*The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.*

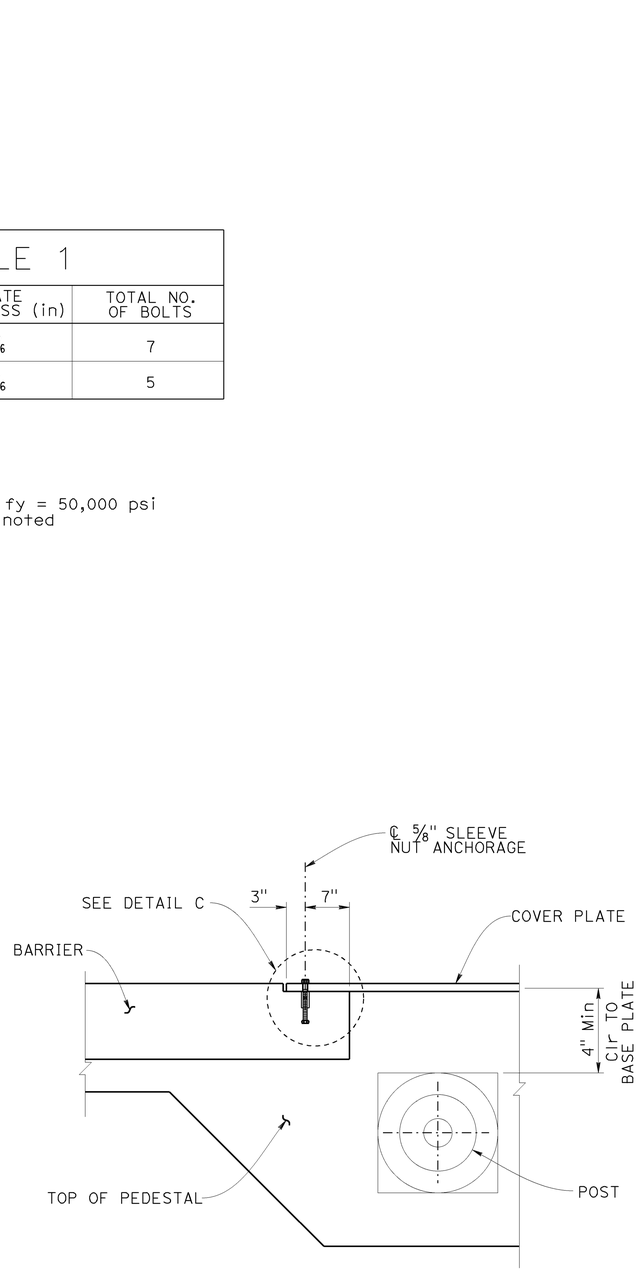
| TABLE 1 | | |
|---|---|---|
| L (ft) | PLATE THICKNESS (in) | TOTAL NO. OF BOLTS |
| 6'-6" Max | 11/16 | 7 |
| 4'-6" Max | 7/16 | 5 |

NOTE:

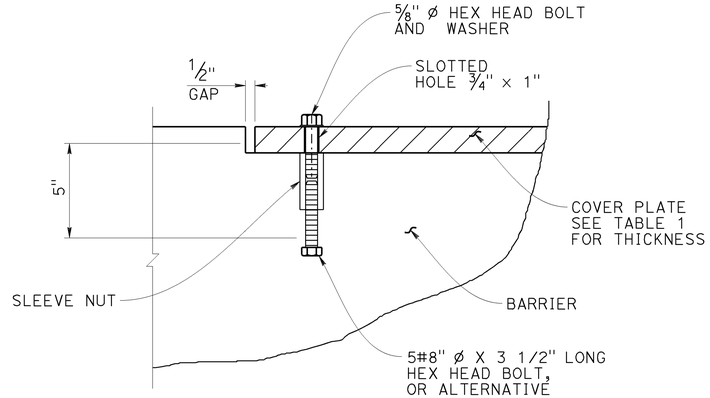
Structural steel, fy = 50,000 psi unless otherwise noted




DETAIL A




DETAIL B




DETAIL C

NO SCALE

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| BRANCH CHIEF: DAVID A NEUMANN | DESIGN | BY TAMARA MARCHENKO | CHECKED MAHFOUD LICHA | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN SPECIAL DESIGN BRANCH | BRIDGE NO. RETW | MORELLO AVENUE EB WALL PEDESTAL DETAILS NO.6 | SDS-6 |
| | DETAILS | BY SHUMEI JIANG | CHECKED MAHFOUD LICHA | | | POST MILE 10.49 | | |
| | QUANTITIES | BY JOHN PETERSON | CHECKED MONZER JABER | | | | | |

STRUCTURES DESIGN SPECIAL DESIGN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3619
PROJECT NUMBER & PHASE: 0412000628-1 CONTRACT NO.: 04-152721

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| 01-08-14 | | | | 13 | 16 |

FILE => 28-morello-eb-u-miscdt06.dgn

USERNAME => s132428 DATE PLOTTED => 09-JAN-2014 TIME PLOTTED => 15:50

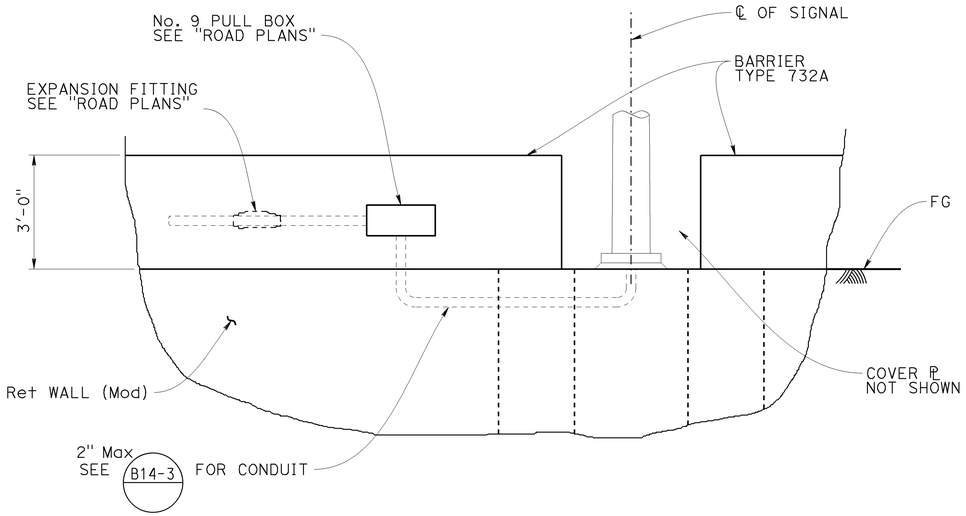
| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | A, 242 | R8.0/25.0<br>0.0/3.4 | 426 | 477 |

REGISTERED CIVIL ENGINEER — 01-09-14 DATE

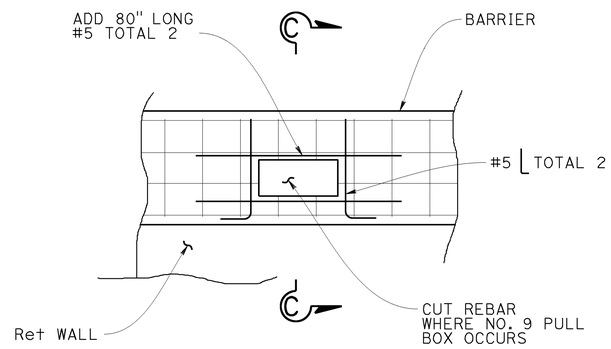
1-13-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
TAMARA S. MARCHENKO
No. C76837
Exp. 12-31-14
CIVIL
STATE OF CALIFORNIA

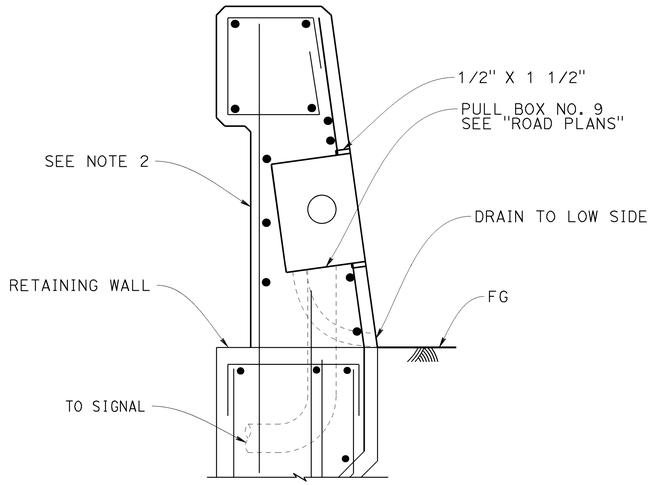
*The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.*




## NO. 9 PULL BOX AT TYPE 732A BARRIER




## BARRIER REINFORCEMENT




## SECTION C-C

NOTES:

1. For pull box location see electrical plans.
2. See RSP B11-55 for barrier details.

NO SCALE

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| BRANCH CHIEF DAVID A NEUMANN | DESIGN | BY TAMARA MARCHENKO | CHECKED MAHFOUD LICHA | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN SPECIAL DESIGN BRANCH | BRIDGE NO. RETW | MORELLO AVENUE EB WALL PEDESTAL DETAILS NO.7 | SDS-7 |
| | DETAILS | BY SHUMEI JIANG | CHECKED MAHFOUD LICHA | | | POST MILE 10.49 | | |
| | QUANTITIES | BY JOHN PETERSON | CHECKED MONZER JABER | | | | | |

STRUCTURES DESIGN SPECIAL DESIGN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3619
PROJECT NUMBER & PHASE: 0412000628-1 CONTRACT NO.: 04-152721

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| 01-08-14 | | | | 14 | 16 |

FILE => 28-morello-eb-u-miscdt07.dgn

USERNAME => s1342428 DATE PLOTTED => 09-JAN-2014 TIME PLOTTED => 15:50

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4,242 | R8.0/25.0<br>0.0/3.4 | 427 | 477 |

REGISTERED CIVIL ENGINEER — 10/14/13 DATE

1-13-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
John E Peterson
No. C60724
Exp. 12/31/14
CIVIL
STATE OF CALIFORNIA

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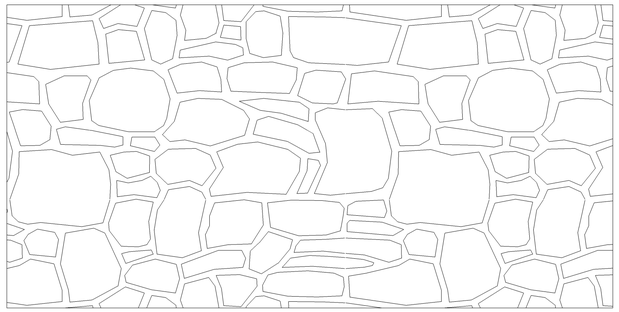
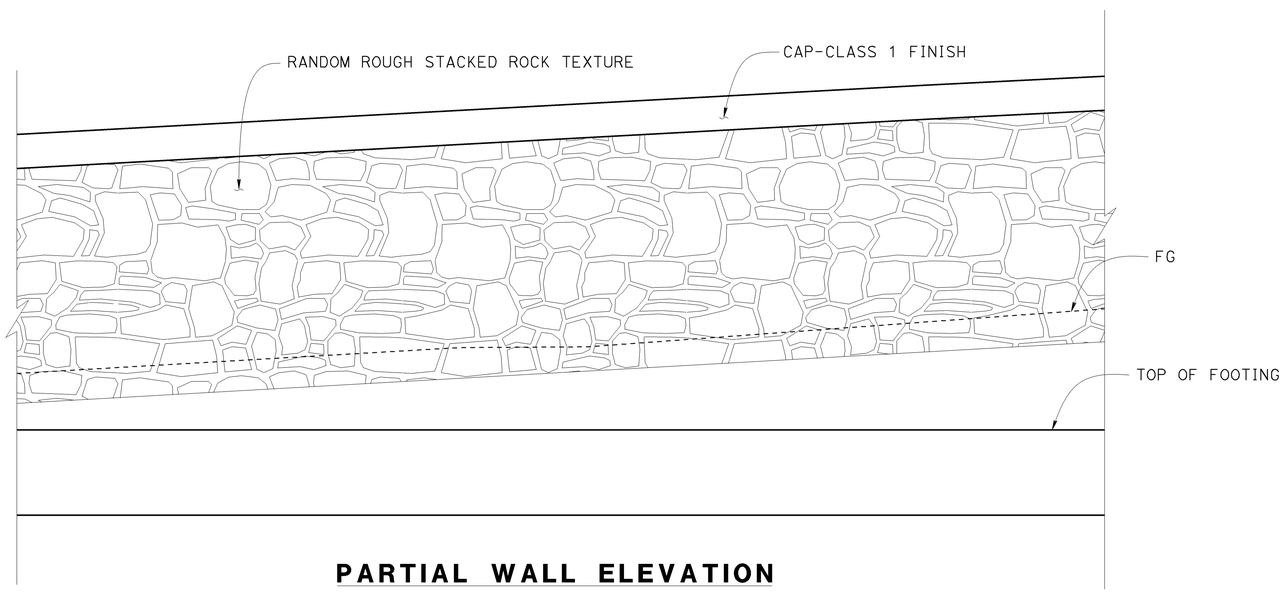


## PATTERN ELEVATION
NO SCALE

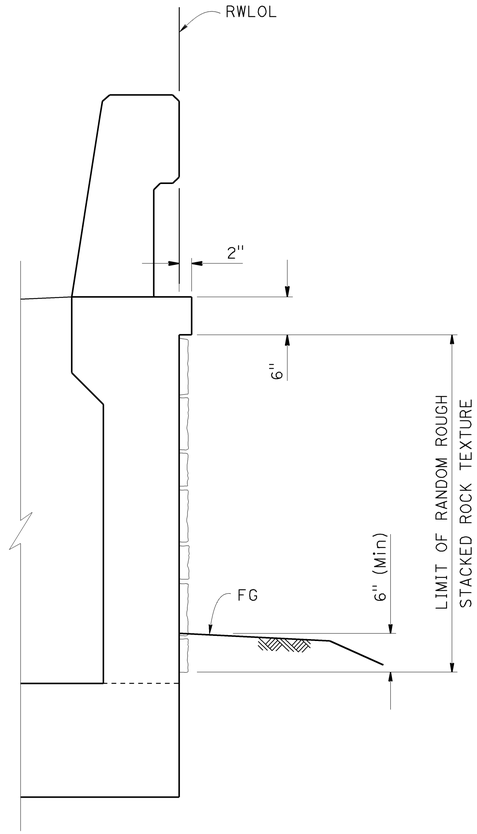
## RANDOM ROUGH STACKED ROCK TEXTURE DETAILS

### TEXTURE NOTES:

Random Rough Stacked Rock
Texture relief to be 1.5" maximum
Stone sizes shall be random
2.5" to 18" in width
2" to 12" in Height




## PARTIAL WALL ELEVATION
3/4" = 1'
( BARRIER NOT SHOWN )




## SECTION
1" = 1'

| | | | | | |
|---|---|---|---|---|---|
| DESIGN | BY Tanzeeba Kishwar | CHECKED John Peterson | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16 | BRIDGE NO. RETW |
| DETAILS | BY Liang Ma | CHECKED John Peterson | | | POST MILE 10.49 |
| QUANTITIES | BY Tanzeeba Kishwa | CHECKED Monzer Jober | | | |

# MORELLO Ave EB WALL
# ARCHITECTURAL TREATMENT DETAILS

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3617
PROJECT NUMBER & PHASE: 04120006281
CONTRACT NO.: 04-152724

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| 8-1-13 | 10-14-13 | 01-06-14 | | 15 | 16 |

FILE => 28-morello-eb-u-miscdt08.dgn

USERNAME => 613459 DATE PLOTTED => 08-JAN-2014 TIME PLOTTED => 15:13

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4,242 | R8.0/25.0<br>0.0/3.4 | 428 | 477 |

REGISTERED CIVIL ENGINEER — 09/24/13

1-13-14
PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER — Samuel Awad — No. 64589 — Exp. 6-30-15 — CIVIL — STATE OF CALIFORNIA

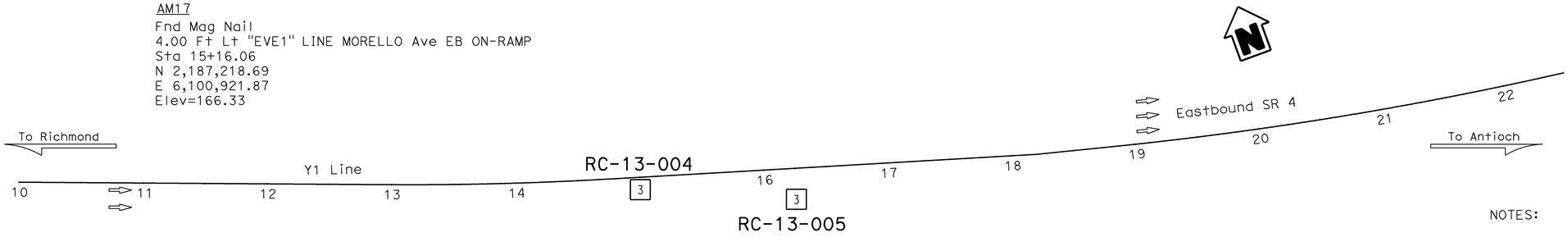
This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (2010 Edition).

## BENCH MARK

SURVEY CONTROL

AM17
Fnd Mag Nail
4.00 Ft Lt "EVE1" LINE MORELLO Ave EB ON-RAMP
Sta 15+16.06
N 2,187,218.69
E 6,100,921.87
Elev=166.33

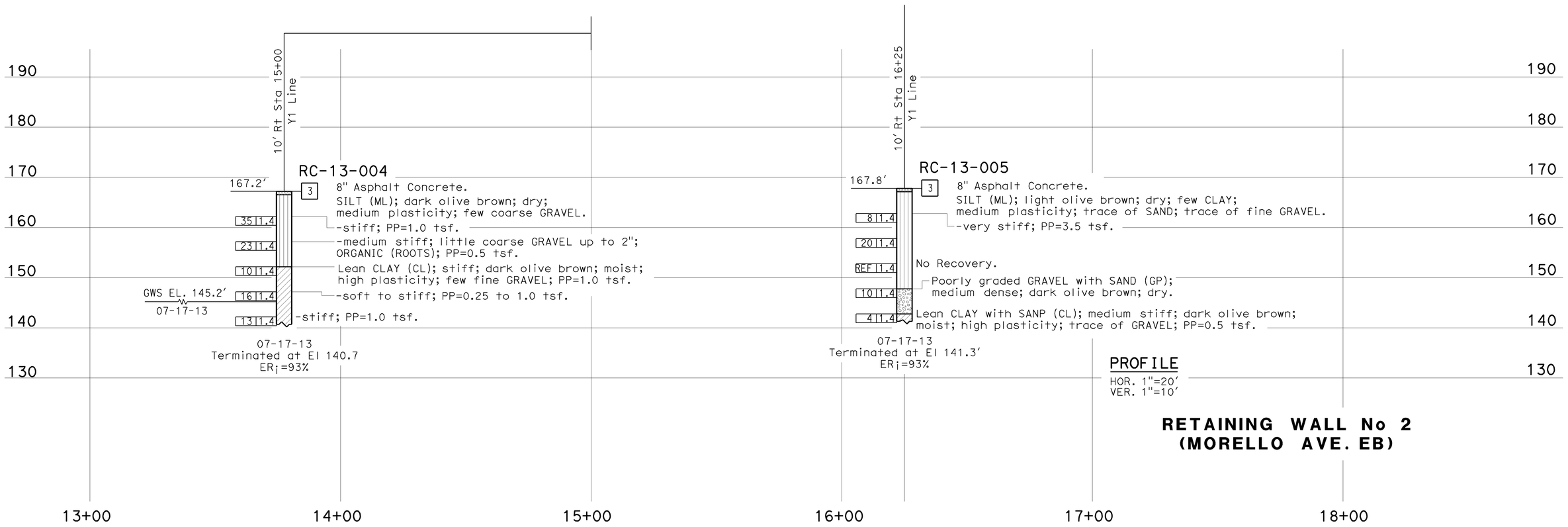
AM18 (NOT SHOWN ON PLAN)
Fnd 1"IP AND CAP
36.54 Ft Rt "EYE1" LINE MORELLO Ave EB ON-RAMP
Sta 20+99.45
N 2,187,030.61
E 6,101,478.10
Elev=164.24




## PLAN
1"=50'

NOTES:

1. PP=unconfined compressive strength (tsf) as measured by pocket penetrometer
2. Ground water was not encountered at RC-13-005 during drilling operation




## PROFILE
HOR. 1"=20'
VER. 1"=10'

**RETAINING WALL No 2**
**(MORELLO AVE. EB)**

| ENGINEERING SERVICES | | GEOTECHNICAL SERVICES | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN | BRIDGE NO. | MORELLO Ave EB WALL |
|---|---|---|---|---|---|---|
| FUNCTIONAL SUPERVISOR | DRAWN BY: M. Reynolds 09/ 13 | FIELD INVESTIGATION BY: | | DESIGN BRANCH A | RETW | LOG OF TEST BORINGS |
| NAME: H. Nikoui | CHECKED BY: S. Yang | S. Awad | | | POST MILES 10.49 | |

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3660
PROJECT NUMBER & PHASE: 04120006281 CONTRACT NO.: 04-152724

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| 10-14-13 | 10-21-13 | 01-06-14 | | 16 | 16 |

FILE => 28-morello-eb-z-ltb01.dgn

USERNAME => s134959 DATE PLOTTED => 08-JAN-2014 TIME PLOTTED => 15:13

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4,242 | R8.0/25.0, 0.0/3.4 | 429 | 477 |

REGISTERED CIVIL ENGINEER — 10/14/13 DATE

1-13-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — JOHN E PETERSON No. 60724 Exp. 12-31-14 CIVIL — STATE OF CALIFORNIA

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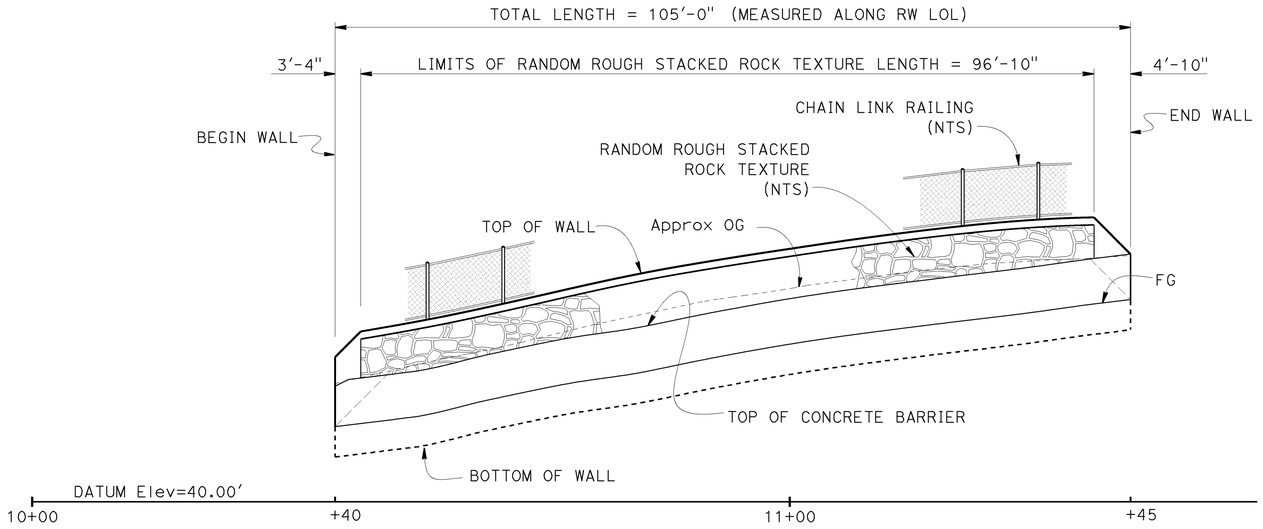
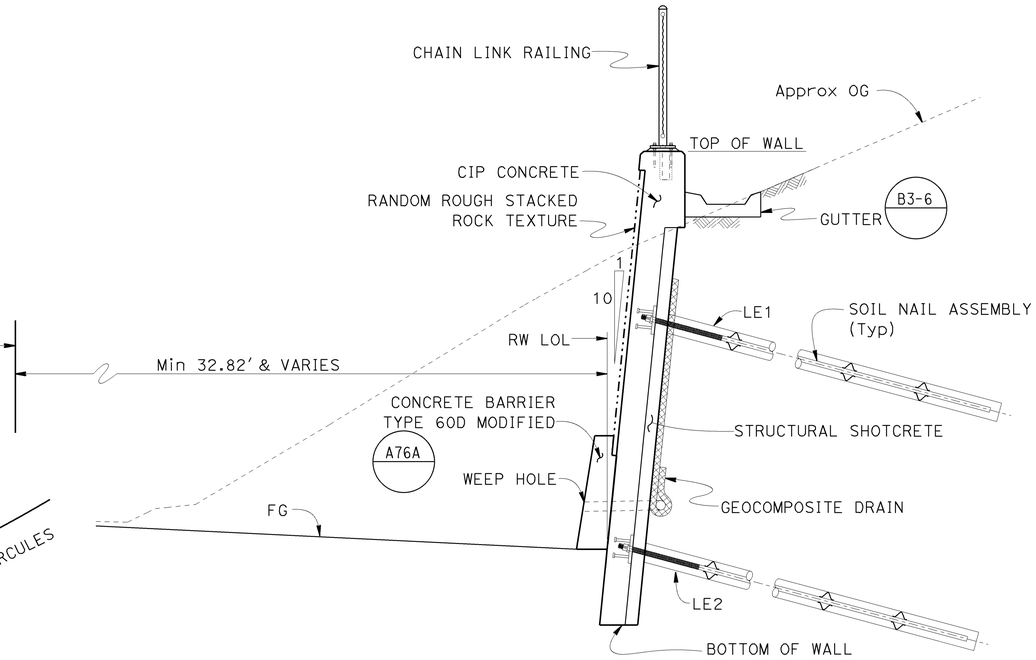


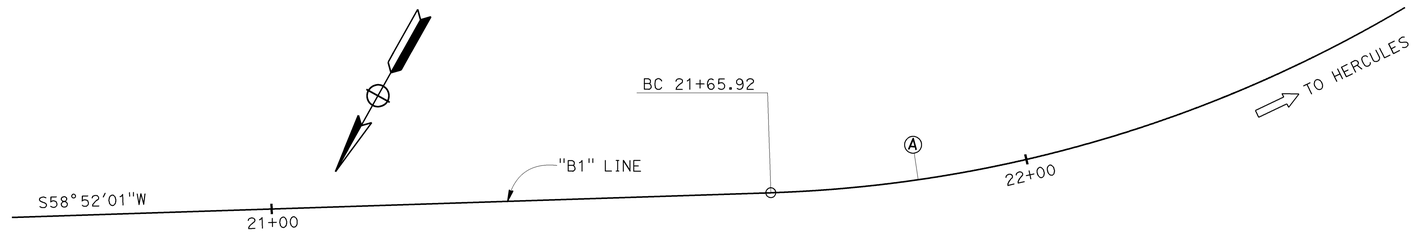

## DEVELOPED MIRROR ELEVATION

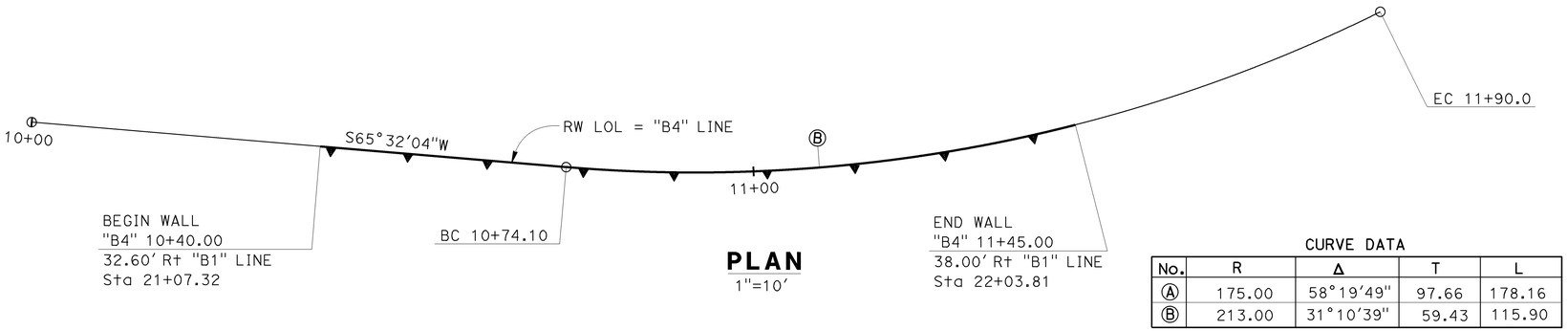
Horiz (1"=10')  Vert (1"=5')




## TYPICAL SECTION

1/2"=1'-0"




## PLAN

1"=10'

CURVE DATA

| No. | R | Δ | T | L |
|---|---|---|---|---|
| Ⓐ | 175.00 | 58°19'49" | 97.66 | 178.16 |
| Ⓑ | 213.00 | 31°10'39" | 59.43 | 115.90 |

## QUANTITIES

| | | |
|---|---|---|
| STRUCTURE EXCAVATION (SOIL NAIL WALL) | 49 | CY |
| STRUCTURE BACKFILL (SOIL NAIL WALL) | 9 | CY |
| SOIL NAIL | 418 | LF |
| STRUCTURAL CONCRETE, RETAINING WALL | 25 | CY |
| RANDOM ROUGH STACKED ROCK TEXTURE | 335 | SQFT |
| BAR REINFORCING STEEL (RETAINING WALL) | 3,080 | LB |
| STRUCTURAL SHOTCRETE | 8 | CY |
| MINOR CONCRETE (GUTTER) (LF) | 105 | LF |
| CHAIN LINK RAILING | 105 | LF |
| CONCRETE BARRIER (TYPE 60D MODIFIED) | 105 | LF |

Nuthanna S. Omran
DESIGN ENGINEER

| | | | | | |
|---|---|---|---|---|---|
| DESIGN | BY Hardeep Singh | CHECKED Son Ly | LOAD & RESISTANCE FACTOR DESIGN | LIVE LOADING: SURCHARGE ON LEVEL GROUND SURFACE | |
| DETAILS | BY Min Yu | CHECKED Son Ly | LAYOUT BY John E Peterson | CHECKED E. Pongpairaj | |
| QUANTITIES | BY Hardeep Singh | CHECKED Ghiath Taleb-Agha | SPECIFICATIONS BY Dave Klein | PLANS AND SPECS COMPARED Dave Klein | |

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 16

BRIDGE NO. 28E0206
POST MILE 12.31

# PACHECO BLVD WB WALL B4
# GENERAL PLAN

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3617
PROJECT NUMBER & PHASE: 04120006281
CONTRACT NO.: 04-152724

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| 10-16-13 | 10-21-13 | 01-06-14 | | 1 | 12 |

STRUCTURES DESIGN GENERAL PLAN SHEET (ENGLISH) (REV.09-01-10)

FILE => 28e0206-a-gp01.dgn

USERNAME => s134959 DATE PLOTTED => 07-JAN-2014 TIME PLOTTED => 10:40

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4,242 | R8.0/25.0, 0.0/3.4 | 430 | 477 |

REGISTERED CIVIL ENGINEER — 10/14/13 DATE

1-13-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — JOHN E PETERSON No. 60724 Exp. 12-31-14 CIVIL — STATE OF CALIFORNIA

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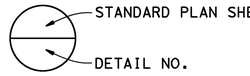
# INDEX TO PLANS


| SHEET NO. | TITLES |
|---|---|
| 1 | GENERAL PLAN |
| 2 | INDEX TO PLANS |
| 3 | STRUCTURE PLAN |
| 4 | FOUNDATION PLAN |
| 5 | RETAINING WALL DETAILS NO. 1 |
| 6 | RETAINING WALL DETAILS NO. 2 |
| 7 | RETAINING WALL DETAILS NO. 3 |
| 8 | RETAINING WALL DETAILS NO. 4 |
| 9 | CHAIN LINK RAILING DETAILS |
| 10 | ARCHITECTURAL TREATMENT DETAILS |
| 11 | LOG OF TEST BORINGS (1 OF 2) |
| 12 | LOG OF TEST BORINGS (2 OF 2) |


# STANDARD PLANS DATED 2010

| | |
|---|---|
| A10A | ABBREVIATIONS (SHEET 1 OF 2) |
| RSP A10B | ABBREVIATIONS (SHEET 2 OF 2) |
| A10C | LINES AND SYMBOLS (SHEET 1 OF 3) |
| A10D | LINES AND SYMBOLS (SHEET 2 OF 3) |
| A10E | LINES AND SYMBOLS (SHEET 3 OF 3) |
| A10F | LEGEND - SOIL (SHEET 1 OF 2) |
| A10G | LEGEND - SOIL (SHEET 2 OF 2) |
| A10H | LEGEND - ROCK |
| A76A | CONCRETE BARRIER TYPE 60D |
| B3-6 | RETAINING WALL DETAILS NO. 2 |




# GENERAL NOTES

**DESIGN:**
"SOIL NAIL WALLS" (FHWAO-IF-03-017)

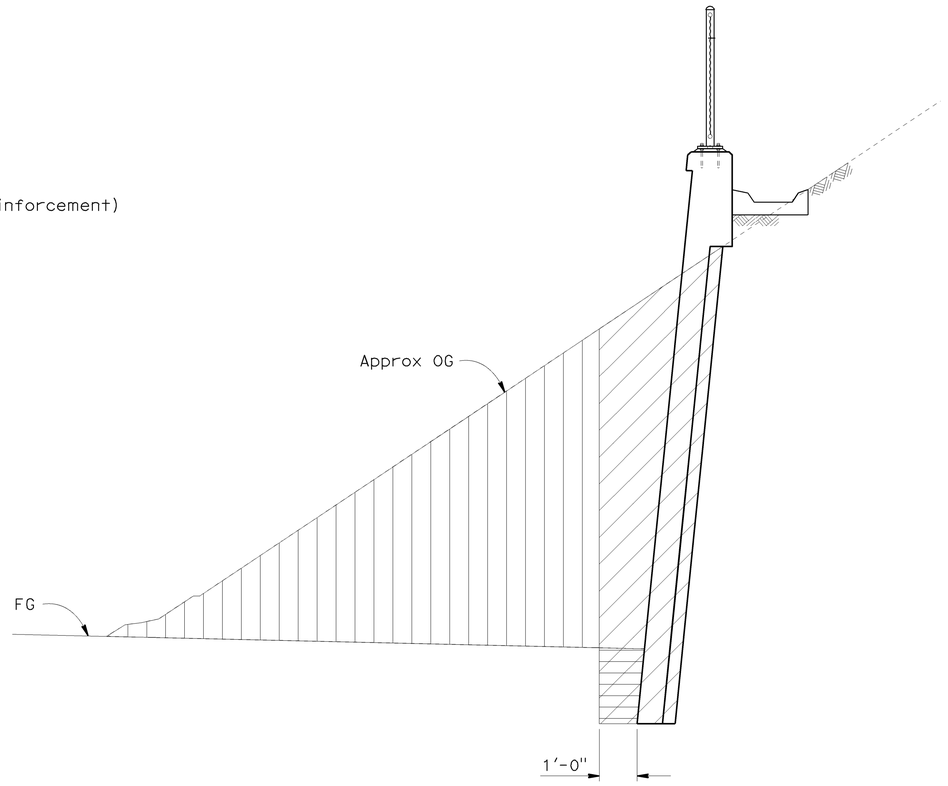
**REINFORCED CONCRETE:**
$f'_c$ = 4000 psi
$f_y$ = 60000 psi

**STRUCTURAL SHOTCRETE:**
$f'_c$ = 3000 psi
$f_y$ = 65000 psi (ASTM A185, PLAIN Welded Wire Reinforcement)

**SOIL PARAMETERS:**
ø = 0° γ = 135 pcf c = 1500 psf
Pull Out Resistance = 1.6 kips/ft

**SOIL NAILS:**
ASTM A 615 / A 615M, Grade 60

**SEISMIC DESIGN:**
Kh = 0.26




## EXCAVATION AND BACKFILL

NO SCALE

LEGEND:

Structure Excavation (Soil Nail Wall)

Structure Backfill (Soil Nail Wall)

Roadway Excavation

| | | | | | |
|---|---|---|---|---|---|
| DESIGN | BY Hardeep Singh | CHECKED Son Ly | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16 | BRIDGE NO. 28E0206 |
| DETAILS | BY Min Yu | CHECKED Son Ly | | | POST MILE 12.31 |
| QUANTITIES | BY Hardeep Singh | CHECKED Ghiath Taleb-Agha | | | |

# PACHECO BLVD WB WALL B4
## INDEX TO PLANS

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3617
PROJECT NUMBER & PHASE: 04120006281 CONTRACT NO.: 04-152724

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| 10-15-13 | 10-21-13 | 11-07-13 | 01-06-14 | 2 | 12 |

FILE => 28e0206-a-itp.dgn

USERNAME => s134959 DATE PLOTTED => 07-JAN-2014 TIME PLOTTED => 10:40

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4,242 | R8.0/25.0, 0.0/3.4 | 431 | 477 |

REGISTERED CIVIL ENGINEER — 10/14/13 DATE

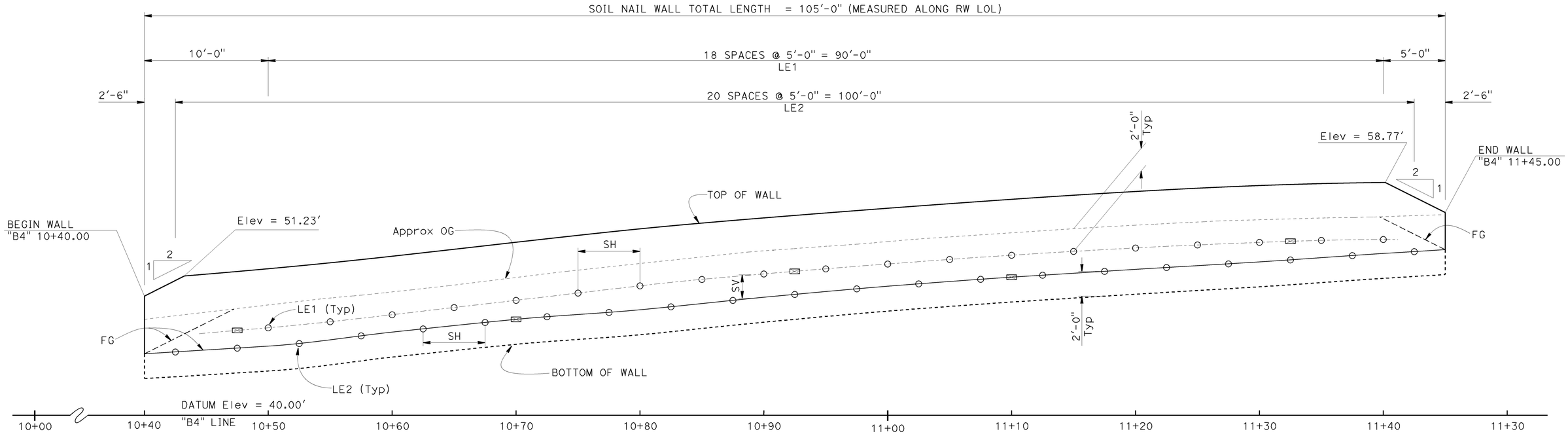
1-13-14
PLANS APPROVAL DATE

JOHN E PETERSON No. 60724 Exp. 12-31-14 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

*The State of California or its officers or agents shall not be responsible for the accuracy or completeness of scanned copies of this plan sheet.*

LEGEND:

- ○ - Indicates Soil Nail location
- ⊠ - Indicates Proof Test Soil Nail location (location may be adjusted by the Engineer)




| STATION | TOP WALL Elev (ft) | Bot WALL Elev (ft) |
|---|---|---|
| 10+40 | 49.62 | 42.95 |
| 10+50 | 51.76 | 43.57 |
| 10+60 | 52.81 | 44.70 |
| 10+70 | 53.95 | 45.73 |
| 10+80 | 55.08 | 46.50 |
| 10+90 | 55.93 | 47.51 |
| 11+00 | 56.70 | 48.40 |
| 11+10 | 57.43 | 49.13 |
| 11+20 | 58.06 | 49.76 |
| 11+30 | 58.58 | 50.36 |
| 11+40 | 58.82 | 51.04 |
| 11+45 | 56.37 | 51.37 |

## DEVELOPED MIRROR ELEVATION

1/4"=1'-0"

| LEVEL | NAIL SIZE | LENGTH (ft) |
|---|---|---|
| LE1 | #9 | 10 |
| LE2 | #9 | 8 |

NOTES:

1. SH - Horizontal spacing of Soil Nail, SH (Max) = 5'-0"
2. SV - Vertical spacing of Soil Nail, SV (Min) = 1'-6", SV (Max) = 5'-0"
3. Vertical distance from top of wall to the top of cut = 3'-0" (Max), 2'-0" (Min)
4. Concrete Barrier, Chain Link Railing, and Architectural Treatment not shown for clarity.

| | | | |
|---|---|---|---|
| DESIGN | BY Hardeep Singh | CHECKED Son Ly | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION |
| DETAILS | BY Min Yu | CHECKED Son Ly | |
| QUANTITIES | BY Hardeep Singh | CHECKED Ghiath Taleb-Agha | |

DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN
DESIGN BRANCH 16

BRIDGE NO. 28E0206
POST MILE 12.31

# PACHECO BLVD WB WALL B4
# STRUCTURE PLAN

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3617
PROJECT NUMBER & PHASE: 04120006281
CONTRACT NO.: 04-152724

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| 08-28-13 | 09-25-13 | 10-21-13 | 01-06-14 | 3 | 12 |

FILE => 28e0206-c-sp01.dgn

DATE PLOTTED => 07-JAN-2014 TIME PLOTTED => 10:40
USERNAME => s134959

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4,242 | R8.0/25.0, 0.0/3.4 | 432 | 477 |

10/14/13
REGISTERED CIVIL ENGINEER — DATE

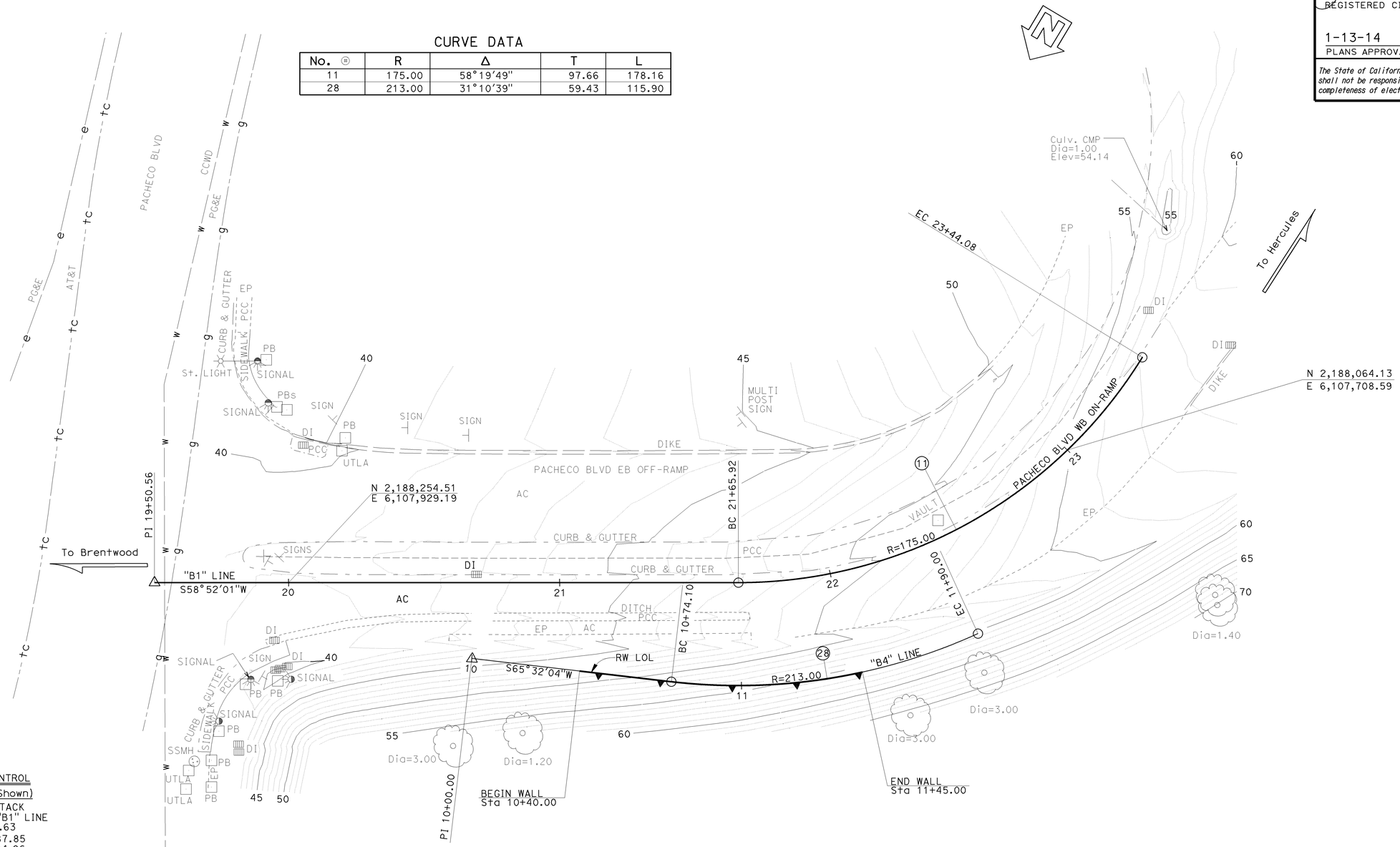
REGISTERED PROFESSIONAL ENGINEER — JOHN E PETERSON — No. 60724 — Exp. 12-31-14 — CIVIL — STATE OF CALIFORNIA

1-13-14
PLANS APPROVAL DATE

*The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.*

## CURVE DATA

| No. ⓦ | R | Δ | T | L |
|---|---|---|---|---|
| 11 | 175.00 | 58°19'49" | 97.66 | 178.16 |
| 28 | 213.00 | 31°10'39" | 59.43 | 115.90 |




SURVEY CONTROL

AM3 (Not Shown)
Fnd HUB/TACK
10.47' Lt "B1" LINE
Sta 25+99.63
N 2,187,787.85
E 6,107,604.96
Elev=66.57

AM4 (Not Shown)
Fnd HUB/TACK
31.13' Rt "B1" LINE
Sta 30+46.33
N 2,187,639.79
E 6,107,183.11
Elev=84.26

| PRELIMINARY INVESTIGATION SECTION | | | | | | DESIGN | BY Hardeep Singh | CHECKED Son Ly | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16 | BRIDGE NO. 28E0206 | PACHECO BLVD WB WALL B4 FOUNDATION PLAN |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SCALE 1"=20' | VERT.DATUM NAVD88 | PHOTOGRAMMETRY AS OF: X | | | | DETAILS | BY Min Yu | CHECKED Son Ly | | | POST MILE 12.31 | |
| | HORZ.DATUM NAD83 | SURVEYED | BY DISTRICT | CHECKED | BY LAWRENCE LEW 08/2013 | QUANTITIES | BY Hardeep Singh | CHECKED Ghiath Taleb-Agha | | | | |
| ALIGNMENT TIES Dist. Traverse Sheet | | DRAFTED | BY SHARON ZHENG 08/2013 | CHECKED | BY JOHN BORDEN 08/2013 | | | | | | | |

STRUCTURES FOUNDATION PLAN SHEET (ENGLISH) (REV. 09-01-10) X

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3617
PROJECT NUMBER & PHASE: 04120006281 CONTRACT NO.: 04-152724

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| 08-21-13 | 08-27-13 | 01-06-14 | | 4 | 12 |

FILE => 28e0206-e-fp104.dgn

USERNAME => s134959 DATE PLOTTED => 07-JAN-2014 TIME PLOTTED => 10:40

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4,242 | R8.0/25.0, 0.0/3.4 | 433 | 477 |

REGISTERED CIVIL ENGINEER — 10/14/13 DATE

1-13-14
PLANS APPROVAL DATE

JOHN E PETERSON No. 60724 Exp. 12-31-14 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

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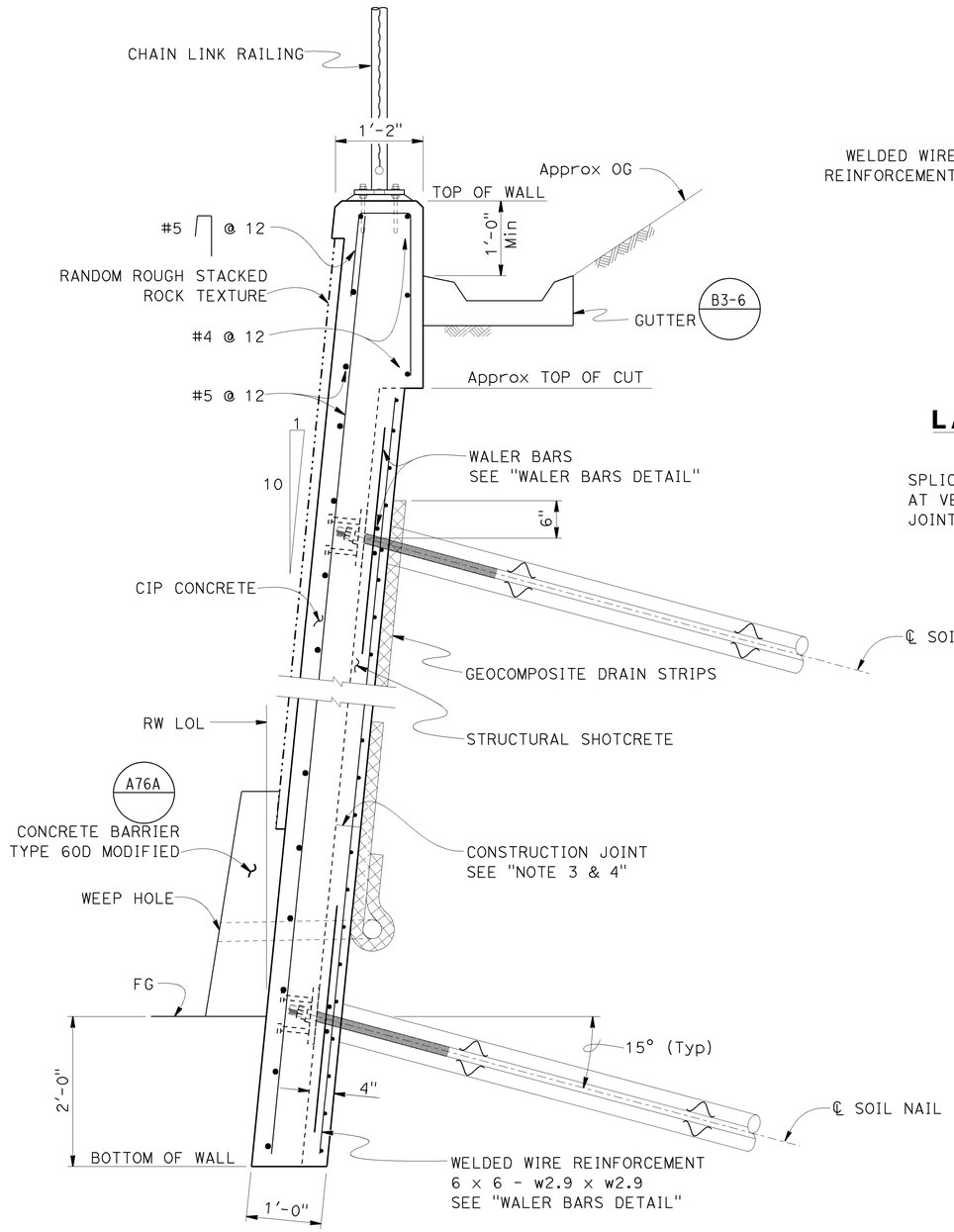


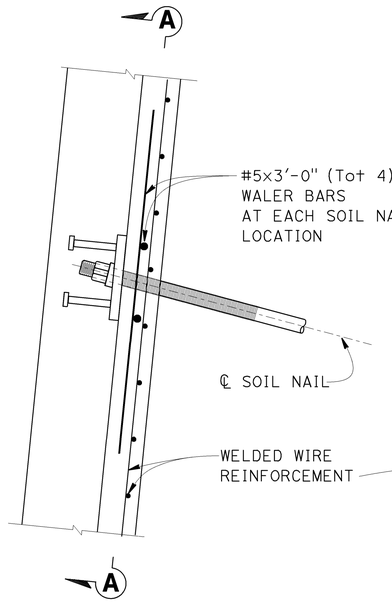

## TYPICAL SECTION

1"=1'-0"

## LAP SPLICE

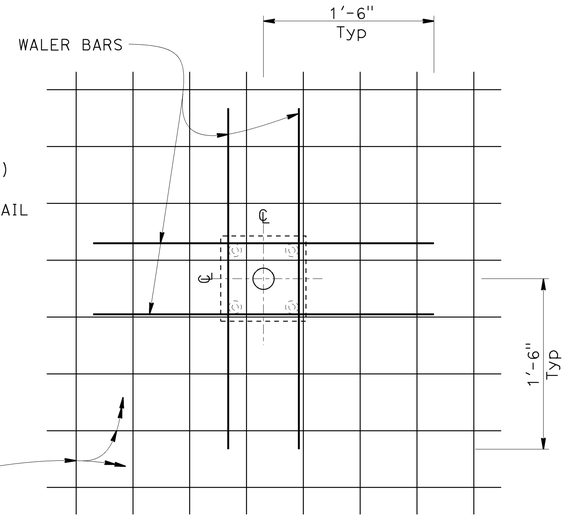
1½"=1'-0"

SPLICING IS NOT REQUIRED AT VERTICAL CONSTRUCTION JOINT IN TEMPORARY FACING




## WALER BARS DETAIL

1½"=1'-0"




## SECTION A-A

1½"=1'-0"

NOTES:

1. For soil nail spacing , length and size, see "STRUCTURE PLAN" sheet
2. For gutter drain inlet and down drain locations see "ROAD PLANS"
3. The vertical and horizontal construction joints in the structural shotcrete layer shall be located a minimum of 1'-6" from adjacent soil nails
4. No horizontal construction joints in the CIP concrete shall be allowed CIP vertical construction joint to be placed a minimum of 1'-6" from adjacent shotcrete vertical construction joint
5. For geocomposite drain details, see "RETAINING WALL DETAILS NO. 2" sheet
6. For bearing plate and studs details, see "RETAINING WALL DETAILS NO. 3" sheet

| | | | |
|---|---|---|---|
| DESIGN | BY Hardeep Singh | CHECKED Son Ly | |
| DETAILS | BY Min Yu | CHECKED Son Ly | |
| QUANTITIES | BY Hardeep Singh | CHECKED Ghiath Taleb-Agha | |

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 16

BRIDGE NO. 28E0206
POST MILE 12.31

# PACHECO BLVD WB WALL B4
# RETAINING WALL DETAILS NO. 1

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3617
PROJECT NUMBER & PHASE: 04120006281
CONTRACT NO.: 04-152724

DISREGARD PRINTS BEARING EARLIER REVISION DATES

| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| 11-07-13 | 01-06-14 | | | 5 | 12 |

FILE => 28e0206-g-rwdt01.dgn

USERNAME => s134959 DATE PLOTTED => 07-JAN-2014 TIME PLOTTED => 10:40

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4,242 | R8.0/25.0, 0.0/3.4 | 434 | 477 |

REGISTERED CIVIL ENGINEER — 10/14/13 DATE

1-13-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — JOHN E PETERSON No. 60724 Exp. 12-31-14 CIVIL — STATE OF CALIFORNIA

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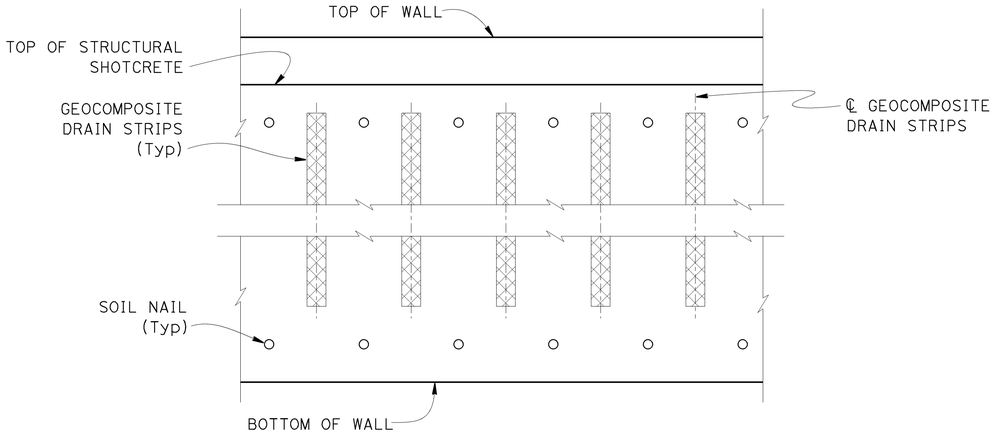



## TYPICAL GEOCOMPOSITE DRAIN STRIPS LAYOUT

1/4"=1'-0"

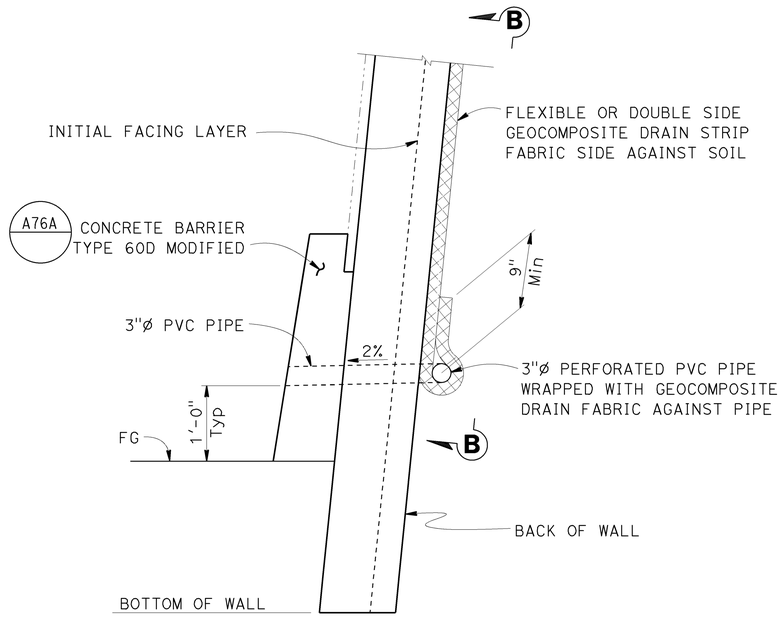
NOTES:

1. Center geocomposite vertical drain between soil nails
2. Geocomposite drain may be omitted when conflicting with test soil nail
3. Geocomposite drains are not required for wall height less than 6 feet



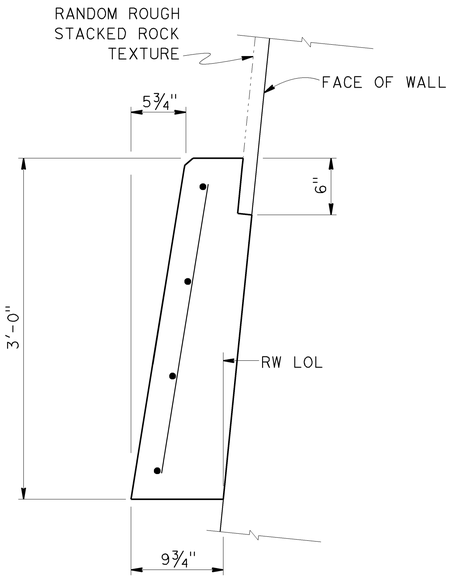

## VIEW B-B AT GEOCOMPOSITE DRAIN

No scale




## WALL DRAIN DETAIL AT WEEPHOLE

1"=1'-0"




## CONCRETE BARRIER TYPE 60D MODIFIED

A76A

1 1/2"=1'-0"

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| DESIGN | BY Hardeep Singh | CHECKED Son Ly | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16 | BRIDGE NO. 28E0206 | PACHECO BLVD WB WALL B4 | |
| DETAILS | BY Min Yu | CHECKED Son Ly | | | POST MILE 12.31 | RETAINING WALL DETAIL NO. 2 | |
| QUANTITIES | BY Hardeep Singh | CHECKED Ghiath Taleb-Agha | | | | | |

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3617
PROJECT NUMBER & PHASE: 04120006281 CONTRACT NO.: 04-152724

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| 08-28-13 | 09-25-13 | 10-08-13 | 01-06-14 | 6 | 12 |

FILE => 28e0206-g-rwdt02.dgn

USERNAME => s134959 DATE PLOTTED => 07-JAN-2014 TIME PLOTTED => 10:40

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4,242 | R8.0/25.0, 0.0/3.4 | 435 | 477 |

REGISTERED CIVIL ENGINEER — 10/14/13 DATE

1-13-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — JOHN E PETERSON — No. 60724 — Exp. 12-31-14 — CIVIL — STATE OF CALIFORNIA

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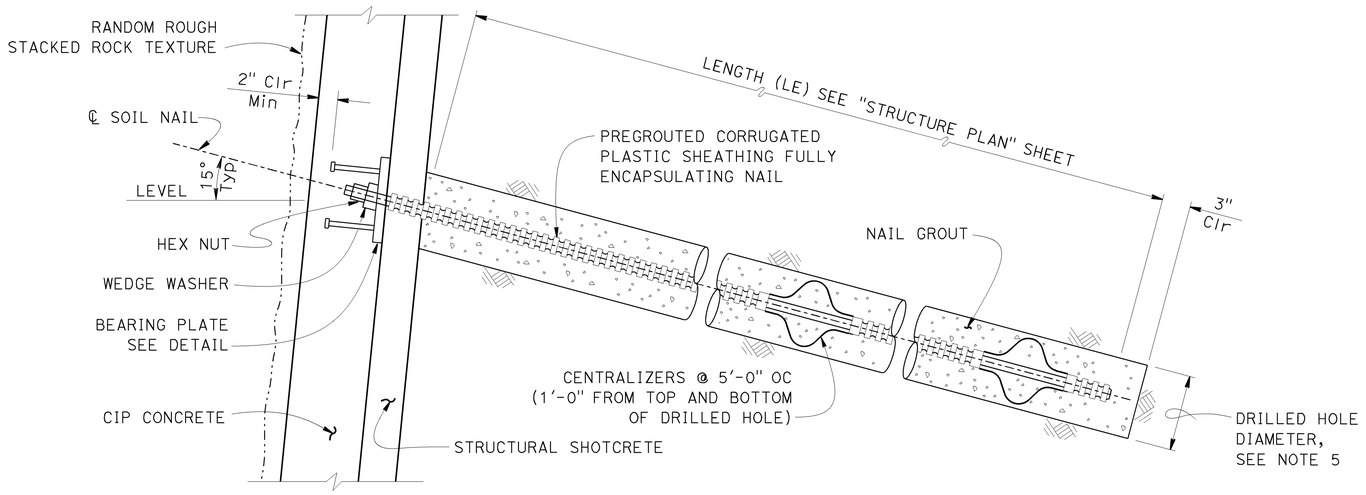
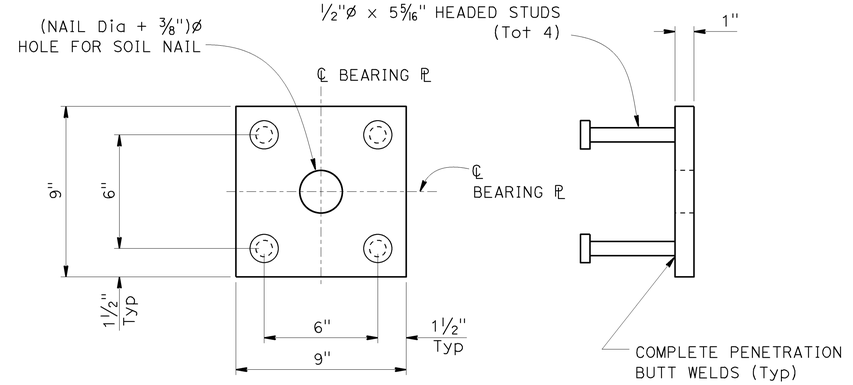


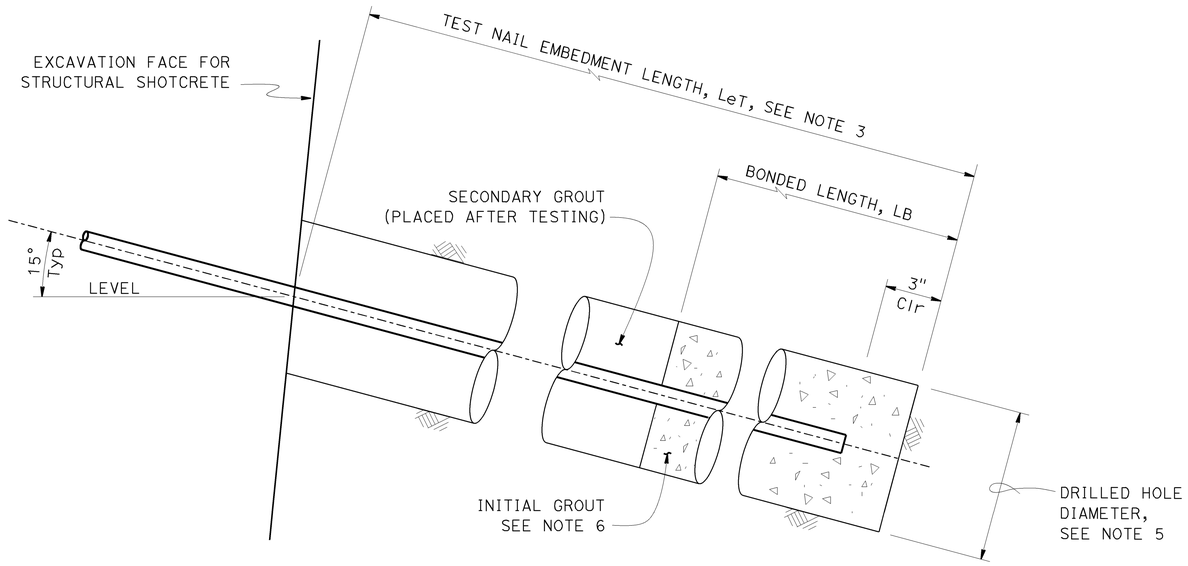

## PRODUCTION SOIL NAIL DETAIL

1½"=1'-0"




## BEARING PLATE DETAIL

3"=1'-0"




## TEST SOIL NAIL DETAIL

3"=1'-0"

NOTES:

1. Reinforcement in facing is not shown
2. The test nail embedment length LeT, shall equal to ⅔ of the embedment length, Le of adjacent production soil nail assemblies, but not less than 12 feet
3. The total length of the test soil nail assembly equals the embedment length plus the required length for jacking equipment
4. For location of proof test nail see "STRUCTURE PLAN" sheets,
5. Contractor to determine drilled hole diameter
6. Finished grout surface for test nail to be normal to the bar

| | | | | | |
|---|---|---|---|---|---|
| DESIGN | BY Hardeep Singh | CHECKED Son Ly | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16 | BRIDGE NO. 28E0206 |
| DETAILS | BY Min Yu | CHECKED Son Ly | | | POST MILE 12.31 |
| QUANTITIES | BY Hardeep Singh | CHECKED Ghiath Taleb-Agha | | | |

# PACHECO BLVD WB WALL B4
# RETAINING WALL DETAIL NO. 3

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3617
PROJECT NUMBER & PHASE: 04120006281 CONTRACT NO.: 04-152724

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| 11-07-13 | 01-06-14 | | | 7 | 12 |

FILE => 28e0206-g-rwdt03.dgn

USERNAME => s134959 DATE PLOTTED => 07-JAN-2014 TIME PLOTTED => 10:40

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4,242 | R8.0/25.0, 0.0/3.4 | 436 | 477 |

REGISTERED CIVIL ENGINEER — 10/14/13 DATE

1-13-14
PLANS APPROVAL DATE

JOHN E PETERSON No. 60724 Exp. 12-31-14 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

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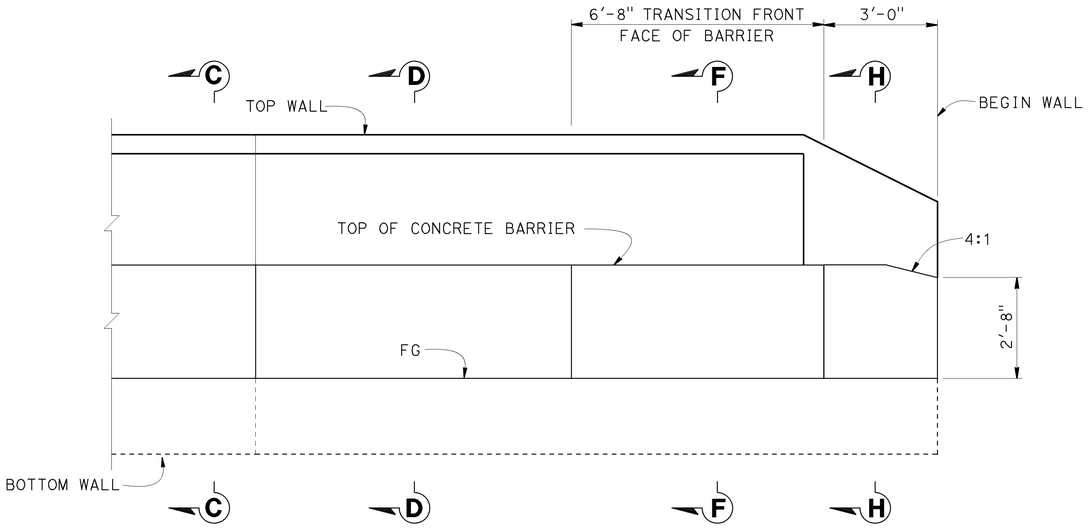
NOTES:

1. For the "SECTION C-C" detail see "TYPICAL SECTION" on "RETAINING WALL DETAILS NO. 1" sheet
2. Random Rough Stacked Rock Texture not shown in all views
3. Horizontal and Vertical profile grades not shown, see "STRUCTURE PLANS" for details

④ Random Stacked Rock Texture

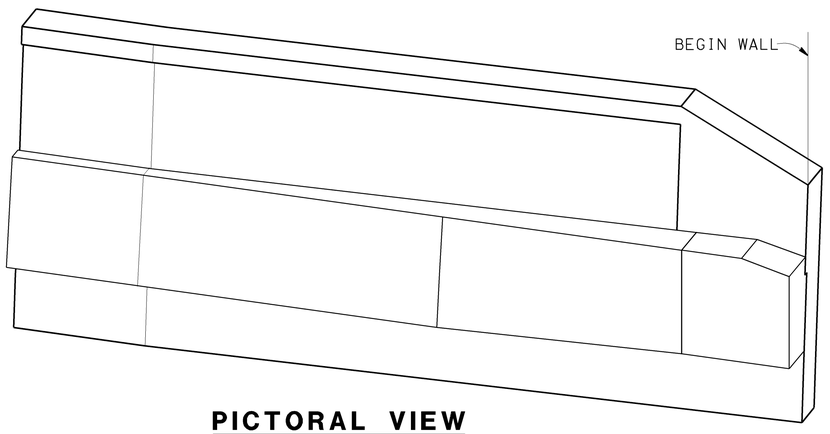



## BEGIN WALL - ELEVATION

½"=1'-0"

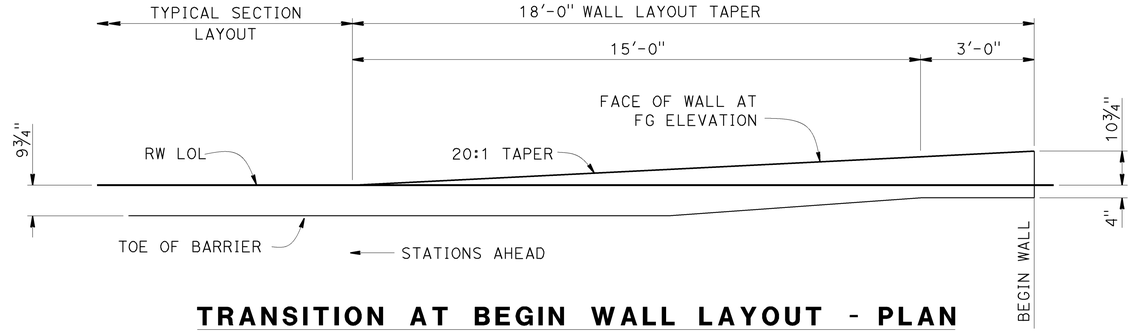
## BEGIN WALL - PLAN

½"=1'-0"



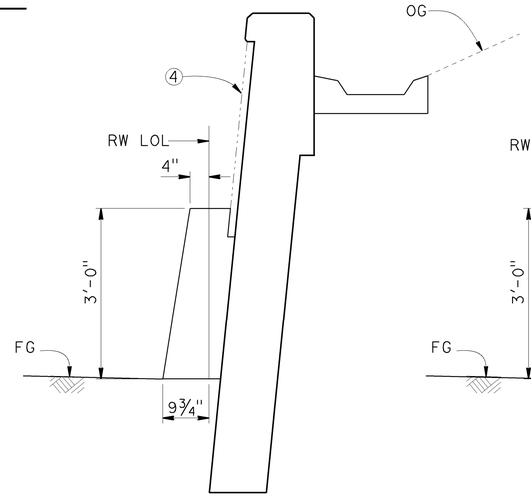

## PICTORAL VIEW

½"=1'-0"



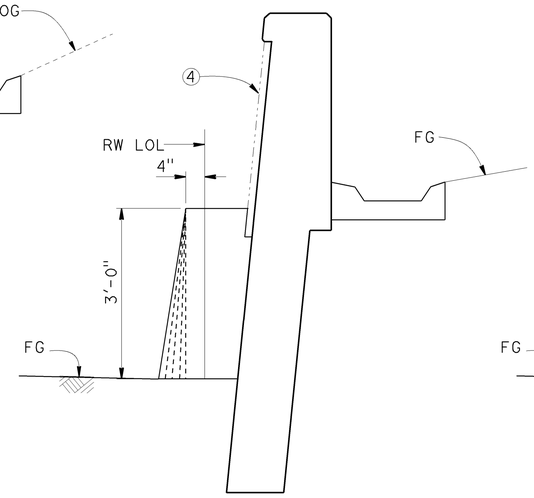

## TRANSITION AT BEGIN WALL LAYOUT - PLAN

½"=1'-0"



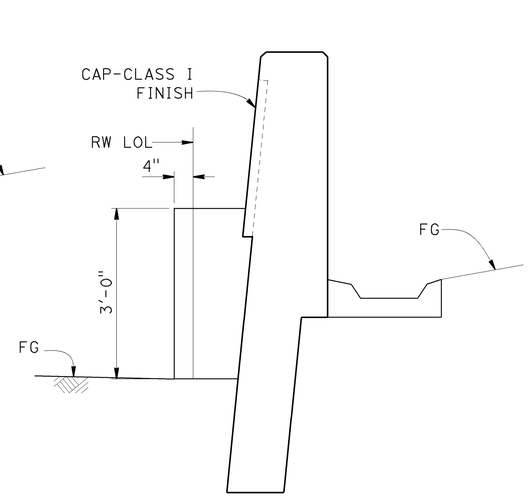

## SECTION D-D

¾" = 1'-0"




## SECTION F-F

¾" = 1'-0"




## SECTION H-H

¾" = 1'-0"

| | | | | | | |
|---|---|---|---|---|---|---|
| DESIGN | BY John E Peterson | CHECKED Son Ly | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16 | BRIDGE NO. 28E0206 | PACHECO BLVD WB WALL B4 |
| DETAILS | BY Min Yu | CHECKED Son Ly | | | POST MILE 9.37 | RETAINING WALL DETAILS NO. 4 |
| QUANTITIES | BY John E Peterson | CHECKED Ghiath Taleb-Agha | | | | |

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3617
PROJECT NUMBER & PHASE: 04120006281
CONTRACT NO.: 04-152724

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| 11-07-13 | 01-06-14 | | | 8 | 12 |

FILE => 28e0206-g-rwdt04.dgn

USERNAME => s134859 DATE PLOTTED => 07-JAN-2014 TIME PLOTTED => 10:40

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4,242 | R8.0/25.0, 0.0/3.4 | 437 | 477 |

10/14/13
REGISTERED CIVIL ENGINEER — DATE

REGISTERED PROFESSIONAL ENGINEER
JOHN E PETERSON
No. 60724
Exp. 12-31-14
CIVIL
STATE OF CALIFORNIA

1-13-14
PLANS APPROVAL DATE

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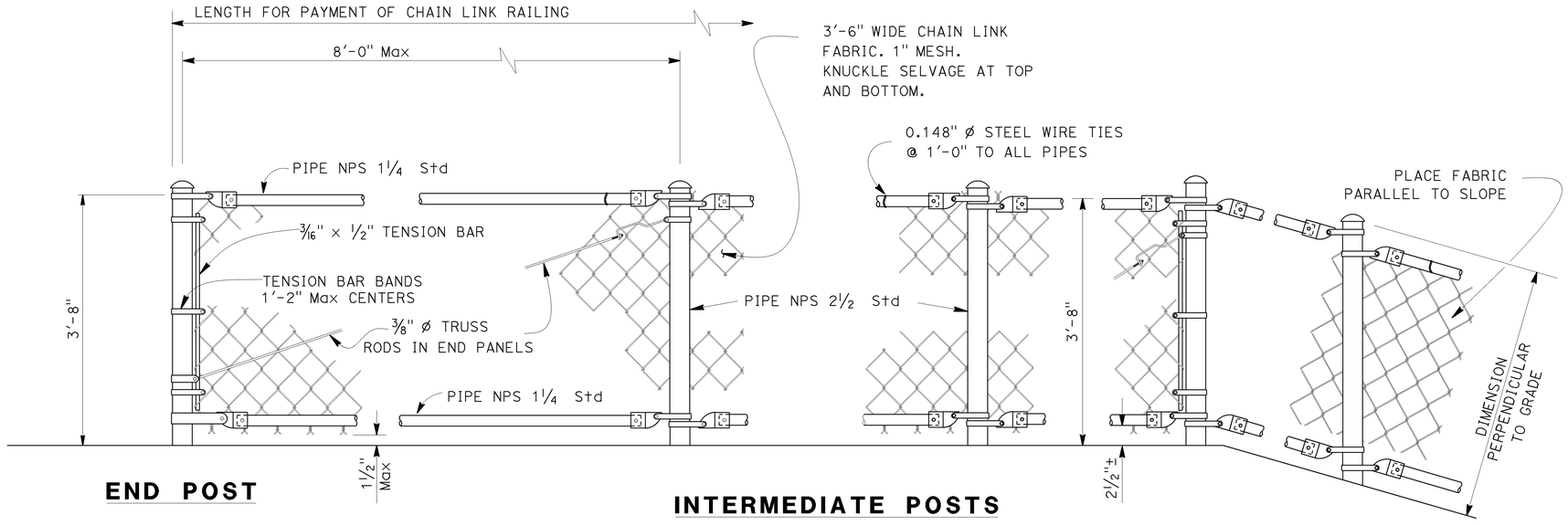
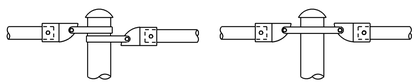



## ELEVATION

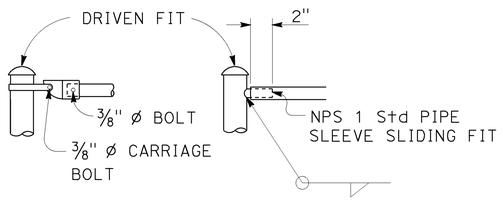
NO SCALE

NOTES:

1. Peen all bolt threads
2. Railing must conform to horizontal and vertical alignment. Posts must be vertical. Top and bottom pipes must be bent if radius is 148'-0" or less; may be on 8'-0" chords if radius is over 148'-0"
3. When railing is on slope, 3'-6" chain link fabric must be placed parallel to slope
4. Chain link fabric must be black vinyl coated

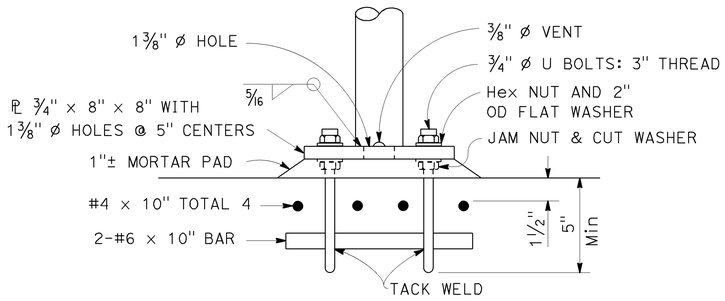


## ALTERNATIVE DETAILS



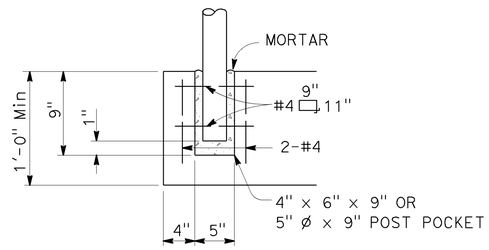

## TYPICAL CONNECTION DETAILS

NO SCALE




## ANCHORAGE DETAIL

NO SCALE




## ALTERNATIVE ANCHORAGE DETAIL

MAY BE USED WHEN THICKNESS OF CONCRETE IS 1'-0" OR MORE

NO SCALE

| | | | | | |
|---|---|---|---|---|---|
| DESIGN | BY John E Peterson | CHECKED Son Ly | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16 | BRIDGE NO. 28E0206 |
| DETAILS | BY Min Yu | CHECKED Son Ly | | | POST MILE 12.31 |
| QUANTITIES | BY Hardeep Singh | CHECKED Ghiath Taleb-Agha | | | |

# PACHECO BLVD WB WALL B4
# CHAIN LINK RAILING DETAILS

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3617
PROJECT NUMBER & PHASE: 04120006281
CONTRACT NO.: 04-152724

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| 11-07-13 | 01-06-14 | | | 9 | 12 |

FILE => 28e0206-u-miscdt01.dgn

USERNAME => s134959 DATE PLOTTED => 07-JAN-2014 TIME PLOTTED => 10:40

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4,242 | R8.0/25.0, 0.0/3.4 | 438 | 477 |

REGISTERED CIVIL ENGINEER 10/14/13 DATE

1-13-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
JOHN E PETERSON
No. 60724
Exp. 12-31-14
CIVIL
STATE OF CALIFORNIA

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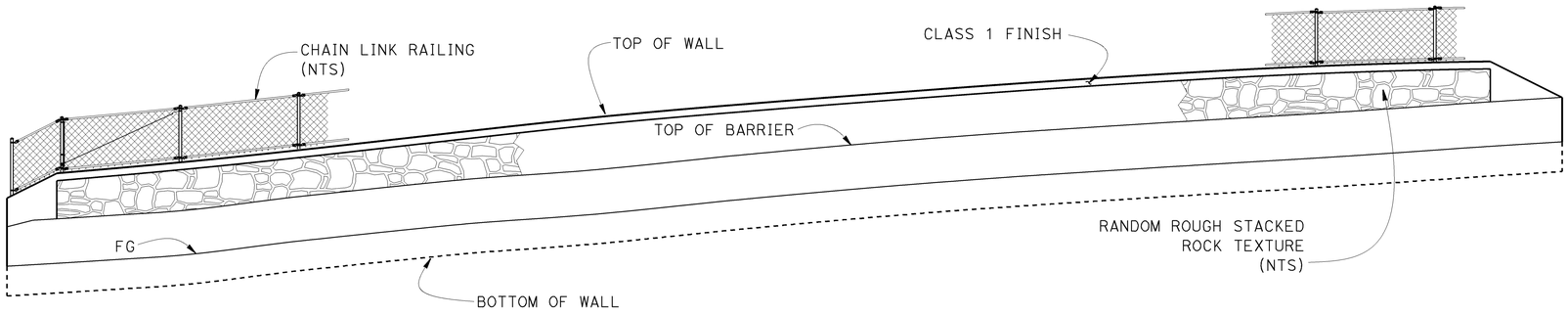
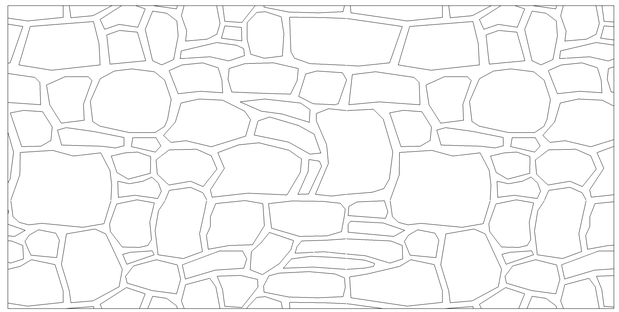



## MIRROR ELEVATION
1"=5'

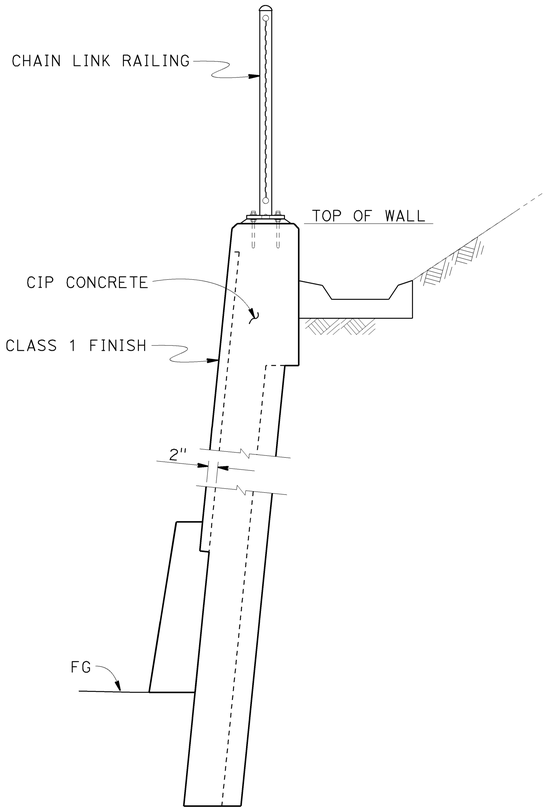


## PATTERN ELEVATION
NO SCALE

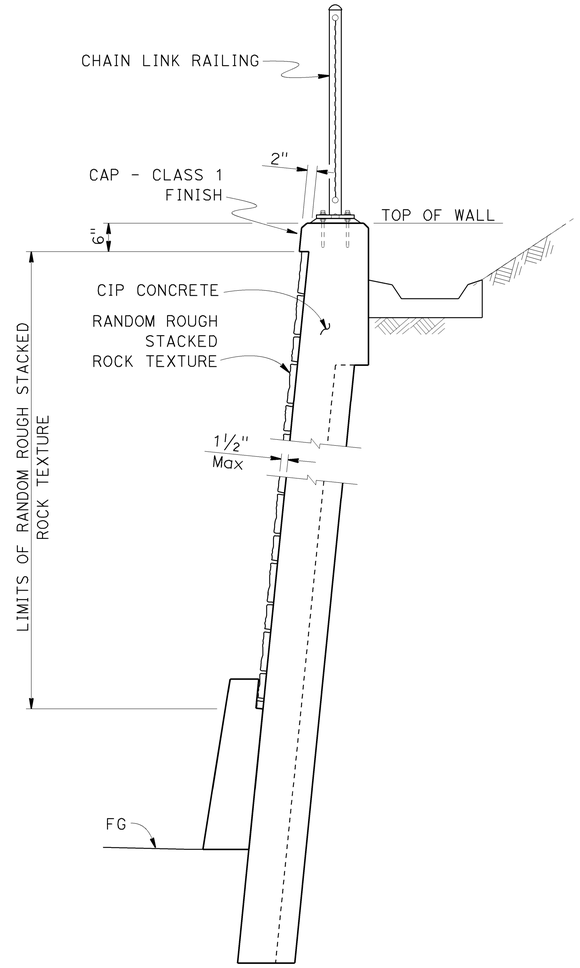
## RANDOM ROUGH STACKED ROCK TEXTURE DETAILS

TEXTURE NOTES:

Random Rough Stacked Rock
Texture relief to be 1.5" maximum
Stone sizes shall be random
2.5" to 18" in Width
2" to 12" in Height




## TYPICAL END SECTION
3/4"=1'-0"




## TYPICAL SECTION
3/4"=1'-0"

| | | | | | | |
|---|---|---|---|---|---|---|
| DESIGN | BY John E. Peterson | CHECKED Hardeep Singh | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16 | BRIDGE NO. 28E0206 | PACHECO BLVD WB WALL B4 |
| DETAILS | BY Min Yu | CHECKED Hardeep Singh | | | POST MILE 12.31 | ARCHITECTURAL TREATMENT DETAILS |
| QUANTITIES | BY Hardeep Singh | CHECKED Ghiath Taleb-Agha | | | | |

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0617
PROJECT NUMBER & PHASE: 0412000628I CONTRACT NO.: 04-152724

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| 08-28-13 | 09-25-13 | 01-06-14 | | 10 | 12 |

FILE => 28e0206-u-miscdt02.dgn

USERNAME => s134959 DATE PLOTTED => 08-JAN-2014 TIME PLOTTED => 09:38

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4,242 | R8.0/25.0, 0.0/3.4 | 439 | 477 |

REGISTERED CIVIL ENGINEER 01/04/13

1-13-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Samuel Awad
No. 64589
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

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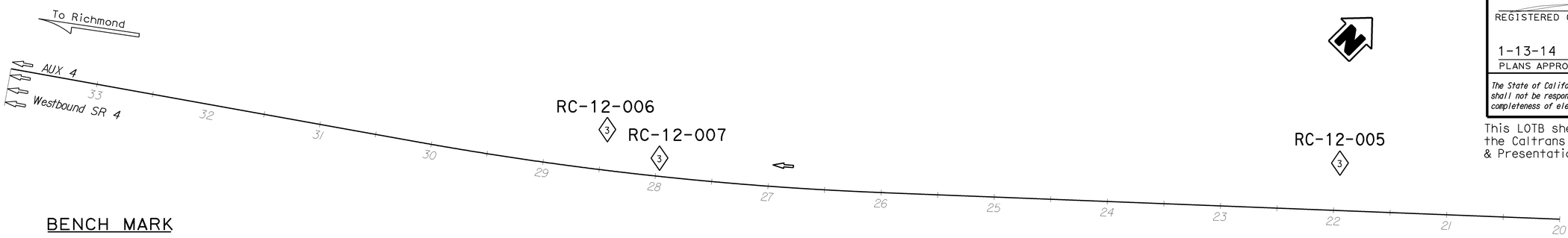
This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (2010 Edition).




## BENCH MARK

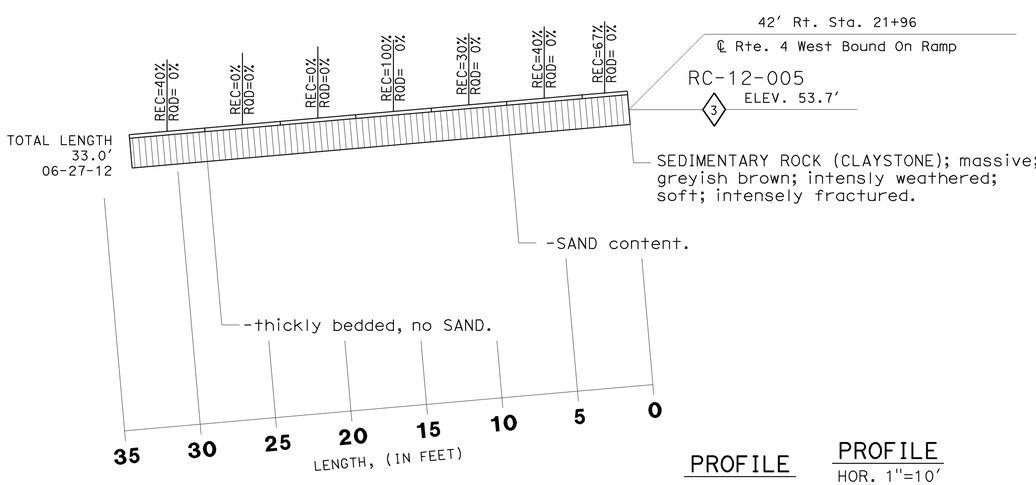
TBM2

Find PK nail+ST Shnr
N 2,187,787.85
E 6,107,604.96
Elev. 66.57′
10.1′ Lt. Sta. 26+50

NOTE: PP=unconfined compressive strength (tsf) as measured by pocket penetrometer.

## PLAN

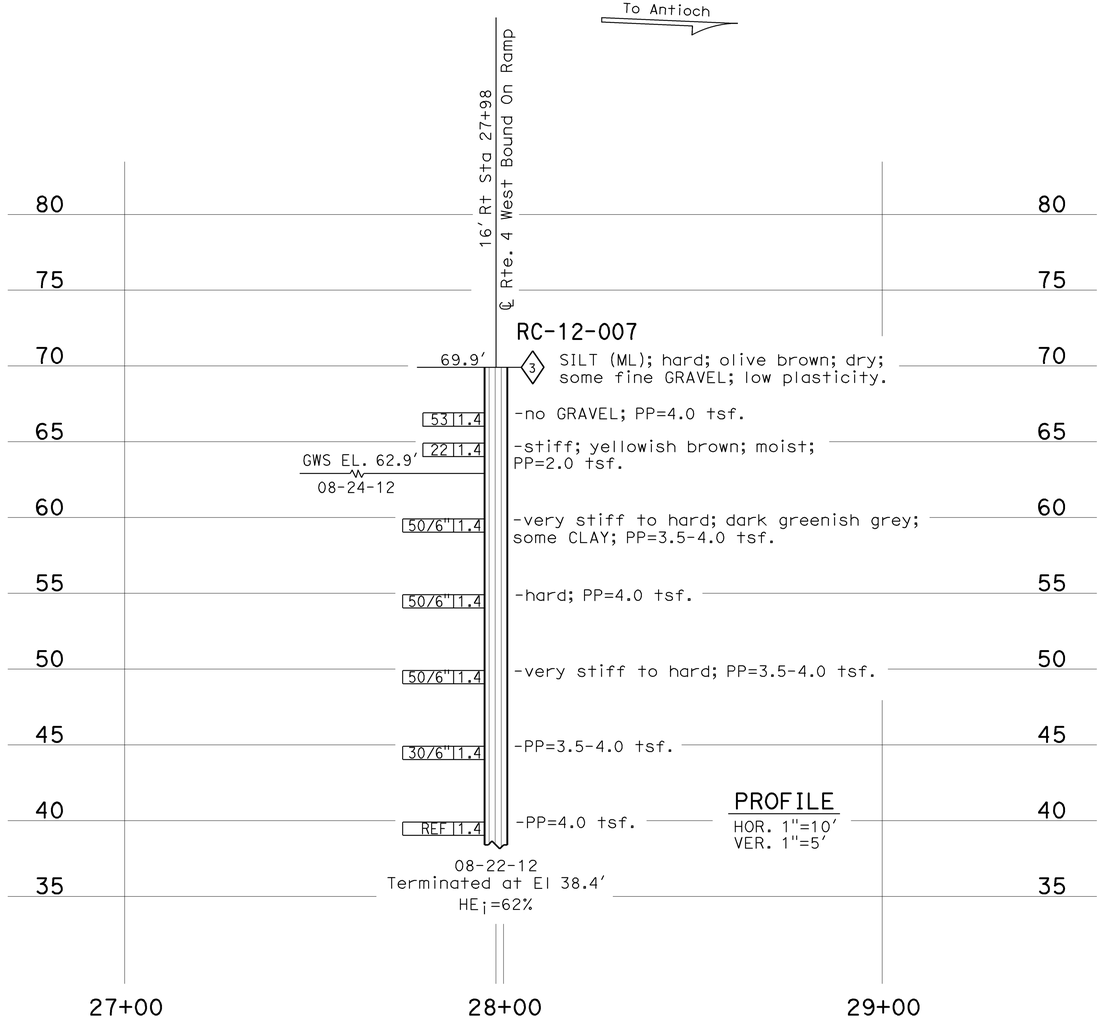
1" = 50′




## PROFILE

## PROFILE

HOR. 1"=10′




## PROFILE

HOR. 1"=10′
VER. 1"=5′

| ENGINEERING SERVICES | | GEOTECHNICAL SERVICES | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | DIVISION OF ENGINEERING SERVICES OFFICE OF GEOTECHNICAL DESIGN BRANCH | BRIDGE NO. 28E0206 | PACHECO BLVD WB WALL B4 |
|---|---|---|---|---|---|---|
| FUNCTIONAL SUPERVISOR | DRAWN BY: M. Reynolds 11/12 | FIELD INVESTIGATION BY: V. Khato, S. Awad | | | POST MILES 12.31 | LOG OF TEST BORINGS (1 OF 2) |
| NAME: N. Name | CHECKED BY: M. Gaffney | | | | | |

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3660
PROJECT NUMBER & PHASE: 04120006281 CONTRACT NO.: 04-152724

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES

SHEET 11 OF 12

FILE => 28e0206-z-1tb01.dgn

USERNAME => s134959 DATE PLOTTED => 07-JAN-2014 TIME PLOTTED => 10:40

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4,242 | R8.0/25.0, 0.0/3.4 | 440 | 477 |

REGISTERED CIVIL ENGINEER 01/04/13

1-13-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Samuel Awad
No. 64589
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

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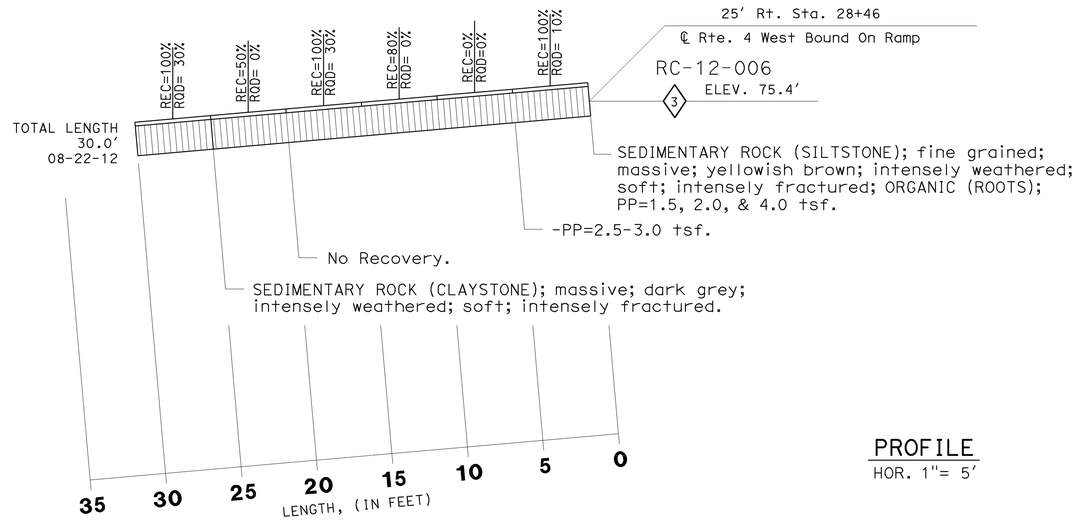
This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (2010 Edition).

(For Boring Location See Plan, LOTB Sheet 1 of 2)

NOTE: PP=unconfined compressive strength (tsf) as measured by pocket penetrometer.




PROFILE
HOR. 1"= 5'

| ENGINEERING SERVICES | GEOTECHNICAL SERVICES | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | DIVISION OF ENGINEERING SERVICES OFFICE OF GEOTECHNICAL | BRIDGE NO. 28E0206 | PACHECO BLVD WB WALL B4 |
|---|---|---|---|---|---|
| FUNCTIONAL SUPERVISOR<br>NAME: N. Name | DRAWN BY: M. Reynolds 11/12<br>CHECKED BY: M. Gaffney | FIELD INVESTIGATION BY:<br>V. Khato<br>S. Awad | DESIGN BRANCH | POST MILES 12.31 | LOG OF TEST BORINGS (2 OF 2) |

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3660
PROJECT NUMBER & PHASE: 04120006281 CONTRACT NO.: 04-152724

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| 01-30-13 | | | | 12 | 12 |

FILE => 28e0206-z-1tb02.dgn

USERNAME => s134959 DATE PLOTTED => 07-JAN-2014 TIME PLOTTED => 10:40

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4,242 | R8.0/25.0, 0.0/3.4 | 441 | 477 |

REGISTERED CIVIL ENGINEER — 10/14/13 DATE

1-13-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — JOHN E PETERSON — No. 60724 — Exp. 12-31-14 — CIVIL — STATE OF CALIFORNIA

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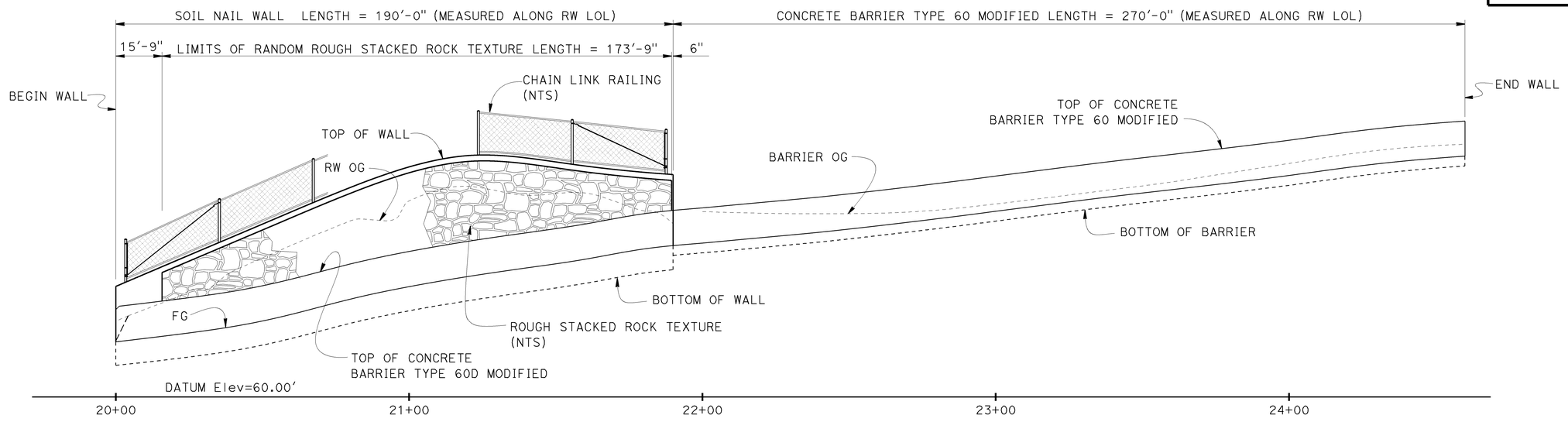
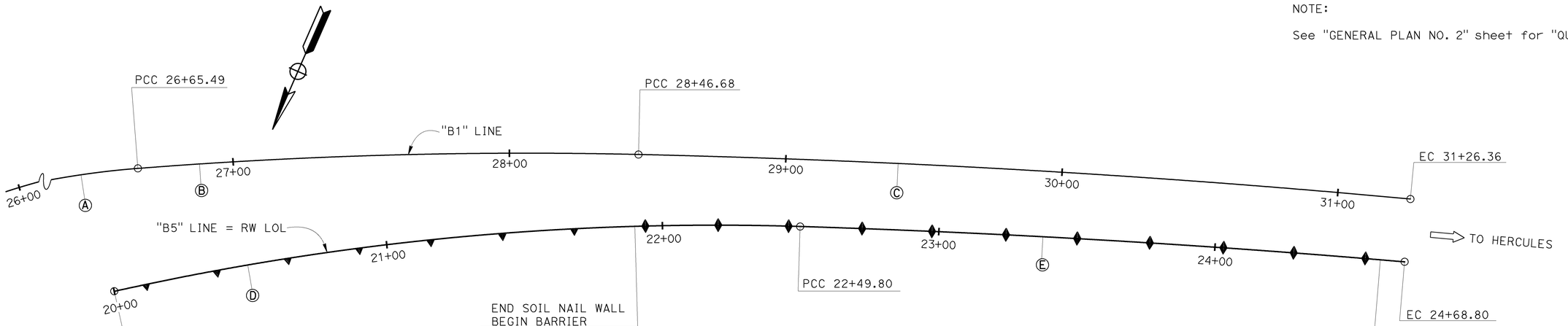



## DEVELOPED MIRROR ELEVATION

Horiz (1"=20') Vert (1"=5')

NOTE:

See "GENERAL PLAN NO. 2" sheet for "QUANTITIES"




## PLAN

1"=20'

CURVE DATA

| No. | R | Δ | T | L | No. | R | Δ | T | L |
|---|---|---|---|---|---|---|---|---|---|
| Ⓐ | 300.00 | 61°23'05" | 178.07 | 321.41 | Ⓓ | 999.00 | 14°19'36" | 125.55 | 249.80 |
| Ⓑ | 1800.00 | 5°46'03" | 90.67 | 181.19 | Ⓔ | 3997.00 | 3°08'21" | 109.53 | 219.00 |
| Ⓒ | 4000.00 | 4°0'22" | 139.90 | 279.68 | | | | | |

Muthanna S. Omran
DESIGN ENGINEER

| | BY | CHECKED | | |
|---|---|---|---|---|
| DESIGN | Hardeep Singh | Son Ly | LOAD & RESISTANCE FACTOR DESIGN | LIVE LOADING: SURCHARGE ON LEVEL GROUND SURFACE |
| DETAILS | Min Yu | Son Ly | LAYOUT: John E Peterson | CHECKED: E. Pongpairaj |
| QUANTITIES | Hardeep Singh | Ghiath Taleb-Agha | SPECIFICATIONS: Dave Klein | PLANS AND SPECS COMPARED: Dave Klein |

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 16

BRIDGE NO. 28E0209
POST MILE 12.31

# PACHECO BLVD WB WALL B5
# GENERAL PLAN NO. 1

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3617
PROJECT NUMBER & PHASE: 04120006281 CONTRACT NO.: 04-152724

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| 08-28-13 | 09-25-13 | 10-21-13 | 01-06-14 | 1 | 14 |

STRUCTURES DESIGN GENERAL PLAN SHEET (ENGLISH) (REV.09-01-10)

FILE => 28e0209-a-gp01.dgn

USERNAME = s1134959 DATE PLOTTED => 07-JAN-2014 TIME PLOTTED => 10:53

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4,242 | R8.0/25.0, 0.0/3.4 | 442 | 477 |

REGISTERED CIVIL ENGINEER — 10/14/13 DATE

1-13-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — JOHN E PETERSON — No. 60724 — Exp. 12-31-14 — CIVIL — STATE OF CALIFORNIA

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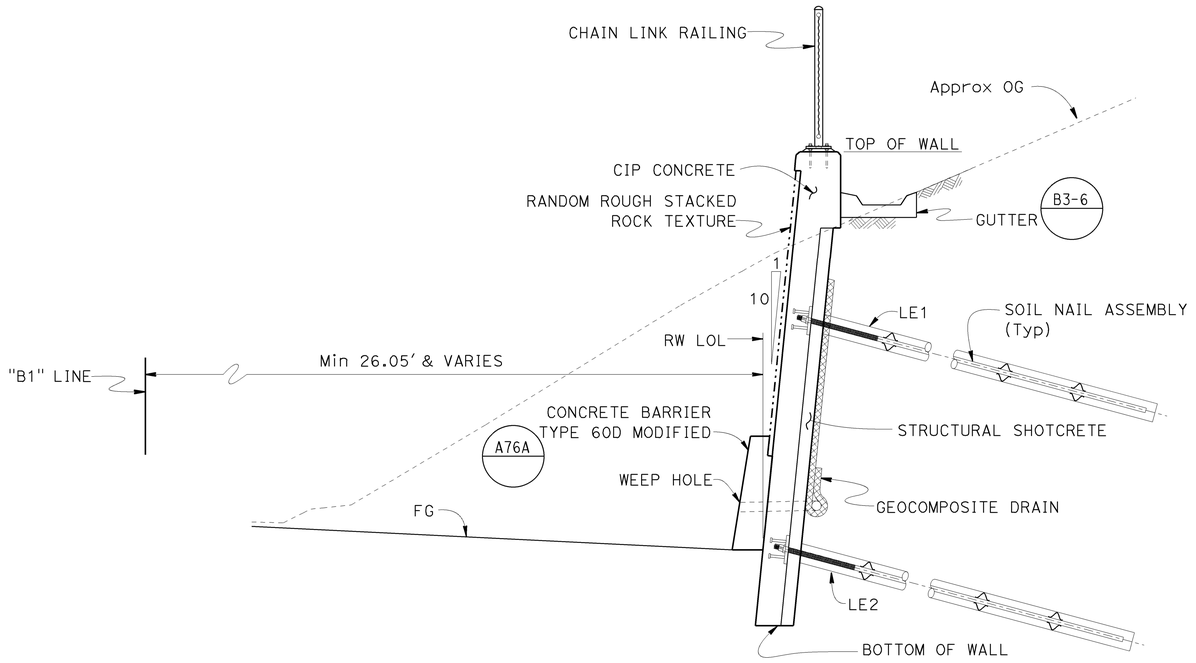
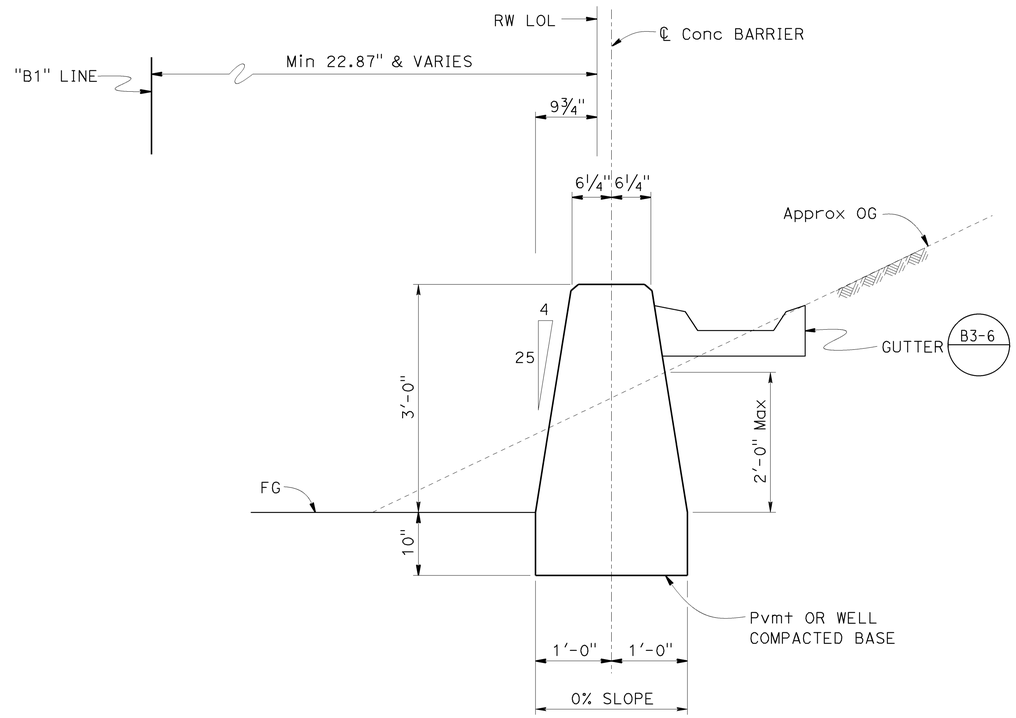



## SOIL NAIL WALL TYPICAL SECTION

1/2"=1'-0"




## CONCRETE BARRIER TYPE 60 MODIFIED TYPICAL SECTION

1" = 1'-0"

A76A

## QUANTITIES

| | | |
|---|---|---|
| STRUCTURE EXCAVATION (SOIL NAIL WALL) | 185 | CY |
| STRUCTURE BACKFILL (SOIL NAIL WALL) | 48 | CY |
| SOIL NAIL | 1,043 | LF |
| STRUCTURAL CONCRETE, RETAINING WALL | 56 | CY |
| RANDOM ROUGH STACKED ROCK TEXTURE | 1,000 | SQFT |
| BAR REINFORCING STEEL (RETAINING WALL) | 6,350 | LB |
| STRUCTURAL SHOTCRETE | 18 | CY |
| MINOR CONCRETE (GUTTER) (LF) | 460 | LF |
| CHAIN LINK RAILING | 190 | LF |
| CONCRETE BARRIER (TYPE 60 MODIFIED) | 270 | LF |
| CONCRETE BARRIER (TYPE 60D MODIFIED) | 190 | LF |

Muthanna S. Omran
DESIGN ENGINEER

| | | | | | | |
|---|---|---|---|---|---|---|
| DESIGN | BY Hardeep Singh | CHECKED Son Ly | LOAD & RESISTANCE FACTOR DESIGN | LIVE LOADING: SURCHARGE ON LEVEL GROUND SURFACE | | |
| DETAILS | BY Min Yu | CHECKED Son Ly | LAYOUT BY John E Peterson | CHECKED E. Pongpairaj | | |
| QUANTITIES | BY Hardeep Singh | CHECKED Ghiath Taleb-Agha | SPECIFICATIONS BY Dave Klein | PLANS AND SPECS COMPARED Dave Klein | | |

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 16

BRIDGE NO. 28E0209
POST MILE 12.31

# PACHECO BLVD WB WALL B5
# GENERAL PLAN NO. 2

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3617
PROJECT NUMBER & PHASE: 04120006281
CONTRACT NO.: 04-152724

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| 11-07-13 | 01-06-14 | | | 2 | 14 |

USERNAME => s1349959 DATE PLOTTED => 08-JAN-2014 TIME PLOTTED => 15:35

STRUCTURES DESIGN GENERAL PLAN SHEET (ENGLISH) (REV.09-01-10)

FILE => 28e0209-a-gp02.dgn

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4,242 | R8.0/25.0, 0.0/3.4 | 443 | 477 |

REGISTERED CIVIL ENGINEER — 10/14/13 DATE

1-13-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — JOHN E PETERSON — No. 60724 — Exp. 12-31-14 — CIVIL — STATE OF CALIFORNIA

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# INDEX TO PLANS


| SHEET NO. | TITLES |
|---|---|
| 1 | GENERAL PLAN NO. 1 |
| 2 | GENERAL PLAN NO. 2 |
| 3 | INDEX TO PLANS |
| 4 | STRUCTURE PLAN NO. 1 |
| 5 | STRUCTURE PLAN NO. 2 |
| 6 | FOUNDATION PLAN |
| 7 | RETAINING WALL DETAILS NO. 1 |
| 8 | RETAINING WALL DETAILS NO. 2 |
| 9 | RETAINING WALL DETAILS NO. 3 |
| 10 | RETAINING WALL DETAILS NO. 4 |
| 11 | CHAIN LINK RAILING DETAILS |
| 12 | ARCHITECTURAL TREATMENT DETAILS |
| 13 | LOG OF TEST BORINGS (1 OF 2) |
| 14 | LOG OF TEST BORINGS (2 OF 2) |


# STANDARD PLANS DATED 2010

| | | |
|---|---|---|
| | A10A | ABBREVIATIONS (SHEET 1 OF 2) |
| RSP | A10B | ABBREVIATIONS (SHEET 2 OF 2) |
| | A10C | LINES AND SYMBOLS (SHEET 1 OF 3) |
| | A10D | LINES AND SYMBOLS (SHEET 2 OF 3) |
| | A10E | LINES AND SYMBOLS (SHEET 3 OF 3) |
| | A10F | LEGEND - SOIL (SHEET 1 OF 2) |
| | A10G | LEGEND - SOIL (SHEET 2 OF 2) |
| | A10H | LEGEND - ROCK |
| | A76A | CONCRETE BARRIER TYPE 60 |
| | B3-6 | RETAINING WALL DETAILS NO. 2 |

# GENERAL NOTES

**DESIGN:**
"SOIL NAIL WALLS" (FHWAO-IF-03-017)

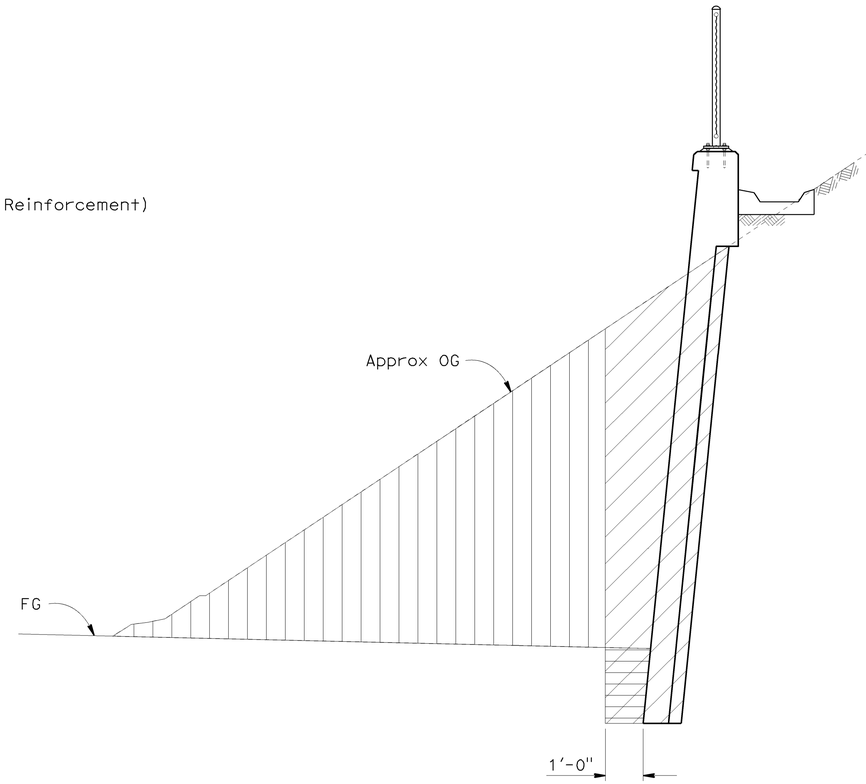
**REINFORCED CONCRETE:**
$f'_c$ = 4000 psi
$f_y$ = 60000 psi

**STRUCTURAL SHOTCRETE:**
$f'_c$ = 3000 psi
$f_y$ = 65000 psi (ASTM A185, PLAIN Welded Wire Reinforcement)

**SOIL PARAMETERS:**
ø = 0° γ = 135 pcf c = 1500 psf
Pull Out Resistance = 1.6 kips/ft

**SOIL NAILS:**
ASTM A 615 / A 615M, Grade 60

**SEISMIC DESIGN:**
Kh = 0.26




## EXCAVATION AND BACKFILL
NO SCALE

LEGEND:

Structure Excavation

Structure Backfill

Roadway Excavation

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| DESIGN | BY Hardeep Singh | CHECKED Son Ly | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16 | BRIDGE NO. 28E0209 | PACHECO BLVD WB WALL B5 INDEX TO PLANS | |
| DETAILS | BY Min Yu | CHECKED Son Ly | | | POST MILE 12.31 | | |
| QUANTITIES | BY Hardeep Singh | CHECKED Ghiath Taleb-Agha | | | | | |

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3617
PROJECT NUMBER & PHASE: 04120006281 CONTRACT NO.: 04-152724

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| 10-15-13 | 10-21-13 | 11-07-13 | 01-06-14 | 3 | 14 |

FILE => 28e0209-a-itp.dgn

USERNAME => s134959 DATE PLOTTED => 07-JAN-2014 TIME PLOTTED => 10:53

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4,242 | R8.0/25.0, 0.0/3.4 | 444 | 477 |

REGISTERED CIVIL ENGINEER — 10/14/13 DATE

1-13-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — JOHN E PETERSON — No. 60724 — Exp. 12-31-14 — CIVIL — STATE OF CALIFORNIA

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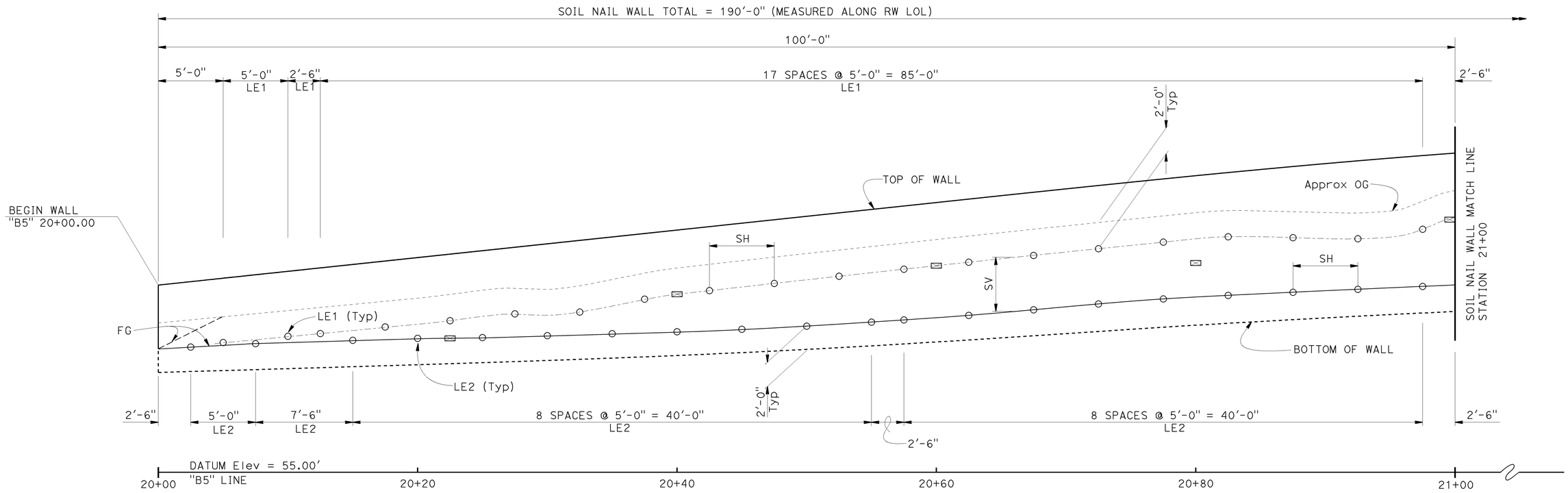
LEGEND:

- ○ - Indicates Soil Nail location
- ⊠ - Indicates Proof Test Soil Nail location (location may be adjusted by the Engineer)




## DEVELOPED MIRROR ELEVATION

1/4"=1'-0"

| STATION | TOP WALL Elev (ft) | Bot WALL Elev (ft) |
|---|---|---|
| 20+00 | 69.43 | 62.69 |
| 20+10 | 70.49 | 62.98 |
| 20+20 | 71.55 | 63.28 |
| 20+30 | 72.61 | 63.49 |
| 20+40 | 73.67 | 63.79 |
| 20+50 | 74.73 | 64.26 |
| 20+60 | 75.79 | 64.90 |
| 20+70 | 76.85 | 65.74 |
| 20+80 | 77.91 | 66.50 |
| 20+90 | 78.83 | 66.98 |
| 21+00 | 79.72 | 67.43 |

| LEVEL | NAIL SIZE | LENGTH (ft) |
|---|---|---|
| LE1 | #9 | 15 |
| LE2 | #9 | 10 |

NOTES:

1. SH - Horizontal spacing of Soil Nail, SH (Max) = 5'-0"
2. SV - Vertical spacing of Soil Nail, SV (Min) = 1'-6", SV (Max) = 5'-0"
3. Vertical distance from top of wall to the top of cut = 3'-0" (Max), 2'-0" (Min)
4. Concrete Barrier, Chain Link Railing, and Architectural Treatment not shown for clarity.

| | | | |
|---|---|---|---|
| DESIGN | BY Hardeep Singh | CHECKED Son Ly | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION |
| DETAILS | BY Min Yu | CHECKED Son Ly | |
| QUANTITIES | BY Hardeep Singh | CHECKED Ghiath Taleb-Agha | |

DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN
DESIGN BRANCH 16

BRIDGE NO. 28E0209
POST MILE 12.31

# PACHECO BLVD WB WALL B5
## STRUCTURE PLAN NO. 1

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3617
PROJECT NUMBER & PHASE: 04120006281
CONTRACT NO.: 04-152724

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| 08-28-13 | 09-25-13 | 01-06-14 | | 4 | 14 |

FILE => 28e0209-c-sp01.dgn

USERNAME => s134959 DATE PLOTTED => 07-JAN-2014 TIME PLOTTED =>

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4,242 | R8.0/25.0, 0.0/3.4 | 445 | 477 |

REGISTERED CIVIL ENGINEER — 10/14/13 DATE

1-13-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — JOHN E PETERSON — No. 60724 — Exp. 12-31-14 — CIVIL — STATE OF CALIFORNIA

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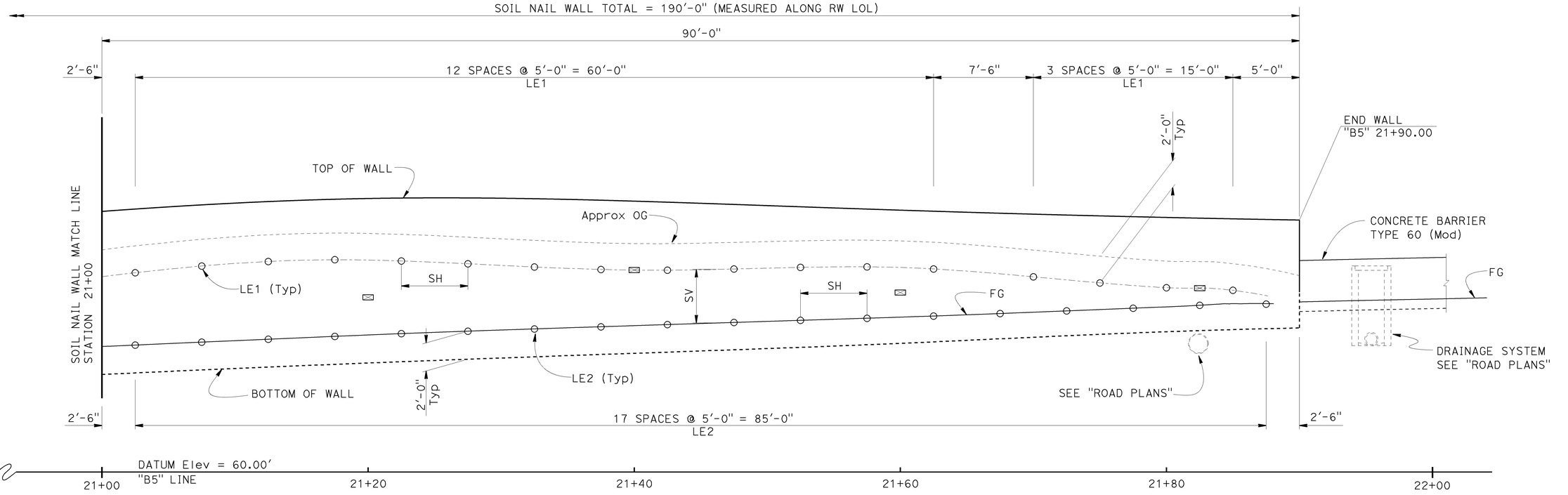
LEGEND:

- ○ - Indicates Soil Nail location
- ⊠ - Indicates Proof Test Soil Nail location (location may be adjusted by the Engineer)




## DEVELOPED MIRROR ELEVATION

1/4"=1'-0"

| STATION | TOP WALL Elev (ft) | Bot WALL Elev (ft) |
|---|---|---|
| 21+00 | 79.72 | 67.43 |
| 21+10 | 80.46 | 67.87 |
| 21+20 | 80.81 | 68.30 |
| 21+30 | 80.74 | 68.67 |
| 21+40 | 80.44 | 69.00 |
| 21+50 | 80.00 | 69.32 |
| 21+60 | 79.62 | 69.64 |
| 21+70 | 79.37 | 70.01 |
| 21+80 | 79.12 | 70.41 |
| 21+90 | 78.96 | 71.84 |

| LEVEL | NAIL SIZE | LENGTH (ft) |
|---|---|---|
| LE1 | #9 | 15 |
| LE2 | #9 | 10 |

NOTES:

1. SH - Horizontal spacing of Soil Nail, SH (Max) = 5'-0"
2. SV - Vertical spacing of Soil Nail, SV (Min) = 1'-6", SV (Max) = 5'-0"
3. Vertical distance from top of wall to the top of cut = 3'-0" (Max), 2'-0" (Min)
4. Concrete Barrier Type 60D Modified, Chain Link Railing, and Architectural Treatment not shown for clarity.

| | | | | | |
|---|---|---|---|---|---|
| DESIGN | BY Hardeep Singh | CHECKED Son Ly | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16 | BRIDGE NO. 28E0209 |
| DETAILS | BY Min Yu | CHECKED Son Ly | | | POST MILE 12.31 |
| QUANTITIES | BY Hardeep Singh | CHECKED Ghiath Taleb-Agha | | | |

# PACHECO BLVD WB WALL B5
# STRUCTURE PLAN NO. 2

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3617
PROJECT NUMBER & PHASE: 04120006281
CONTRACT NO.: 04-152724

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES: 11-07-13 | 01-06-14

SHEET 5 OF 14

FILE => 28e0209-c-sp02.dgn

USERNAME => s134859 DATE PLOTTED => 07-JAN-2014 TIME PLOTTED =>

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4,242 | R8.0/25.0, 0.0/3.4 | 446 | 477 |

10/14/13
REGISTERED CIVIL ENGINEER — DATE

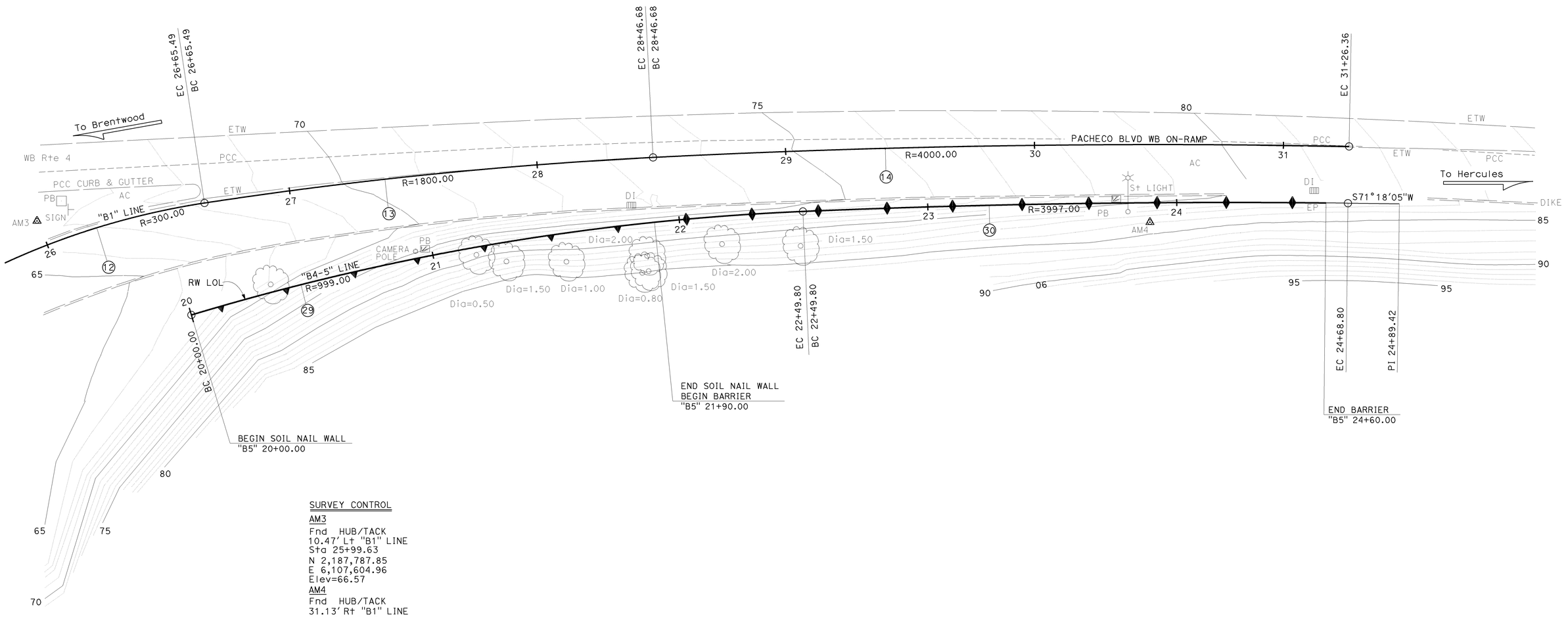
REGISTERED PROFESSIONAL ENGINEER — JOHN E PETERSON — No. 60724 — Exp. 12-31-14 — CIVIL — STATE OF CALIFORNIA

1-13-14
PLANS APPROVAL DATE

*The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.*

## CURVE DATA

| No. ⑫ | R | Δ | T | L |
|---|---|---|---|---|
| 12 | 300.00 | 61°23'05" | 178.07 | 321.41 |
| 13 | 1800.00 | 05°46'03" | 90.67 | 181.19 |
| 14 | 4000.00 | 04°00'22" | 139.90 | 279.68 |
| 29 | 999.00 | 14°19'36" | 125.55 | 249.80 |
| 30 | 3997.00 | 03°08'21" | 109.53 | 219.00 |




### SURVEY CONTROL

AM3
Fnd HUB/TACK
10.47' Lt "B1" LINE
Sta 25+99.63
N 2,187,787.85
E 6,107,604.96
Elev=66.57

AM4
Fnd HUB/TACK
31.13' Rt "B1" LINE
Sta 30+46.33
N 2,187,639.79
E 6,107,183.11
Elev=84.26

PRELIMINARY INVESTIGATION SECTION

| SCALE | VERT.DATUM NAVD88 | PHOTOGRAMMETRY AS OF: X | | | |
|---|---|---|---|---|---|
| 1"=20' | HORZ.DATUM NAD83 | SURVEYED | BY DISTRICT | CHECKED | BY LAWRENCE LEW 08/2013 |
| ALIGNMENT TIES Dist. Traverse Sheet | | DRAFTED | BY SHARON ZHENG 08/2013 | CHECKED | BY JOHN BORDEN 08/2013 |

STRUCTURES FOUNDATION PLAN SHEET (ENGLISH) (REV. 09-01-10) X

| | BY | CHECKED |
|---|---|---|
| DESIGN | Hardeep Singh | Son Ly |
| DETAILS | Min Yu | Son Ly |
| QUANTITIES | Hardeep Singh | Ghiath Taleb-Agha |

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 16

UNIT: 3617
PROJECT NUMBER & PHASE: 04120006281 CONTRACT NO.: 04-152724

BRIDGE NO. 28E0209
POST MILE 12.31

# PACHECO BLVD WB WALL B5
# FOUNDATION PLAN

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| 8-21-13 | 8-27-13 | 01-06-14 | | 6 | 14 |

FILE => 28e0209-e-fpl01.dgn

USERNAME = s134959 DATE PLOTTED => 07-JAN-2014 TIME PLOTTED => 10:53

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4,242 | R8.0/25.0, 0.0/3.4 | 447 | 477 |

REGISTERED CIVIL ENGINEER — 10/14/13 DATE

1-13-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — JOHN E PETERSON — No. 60724 — Exp. 12-31-14 — CIVIL — STATE OF CALIFORNIA

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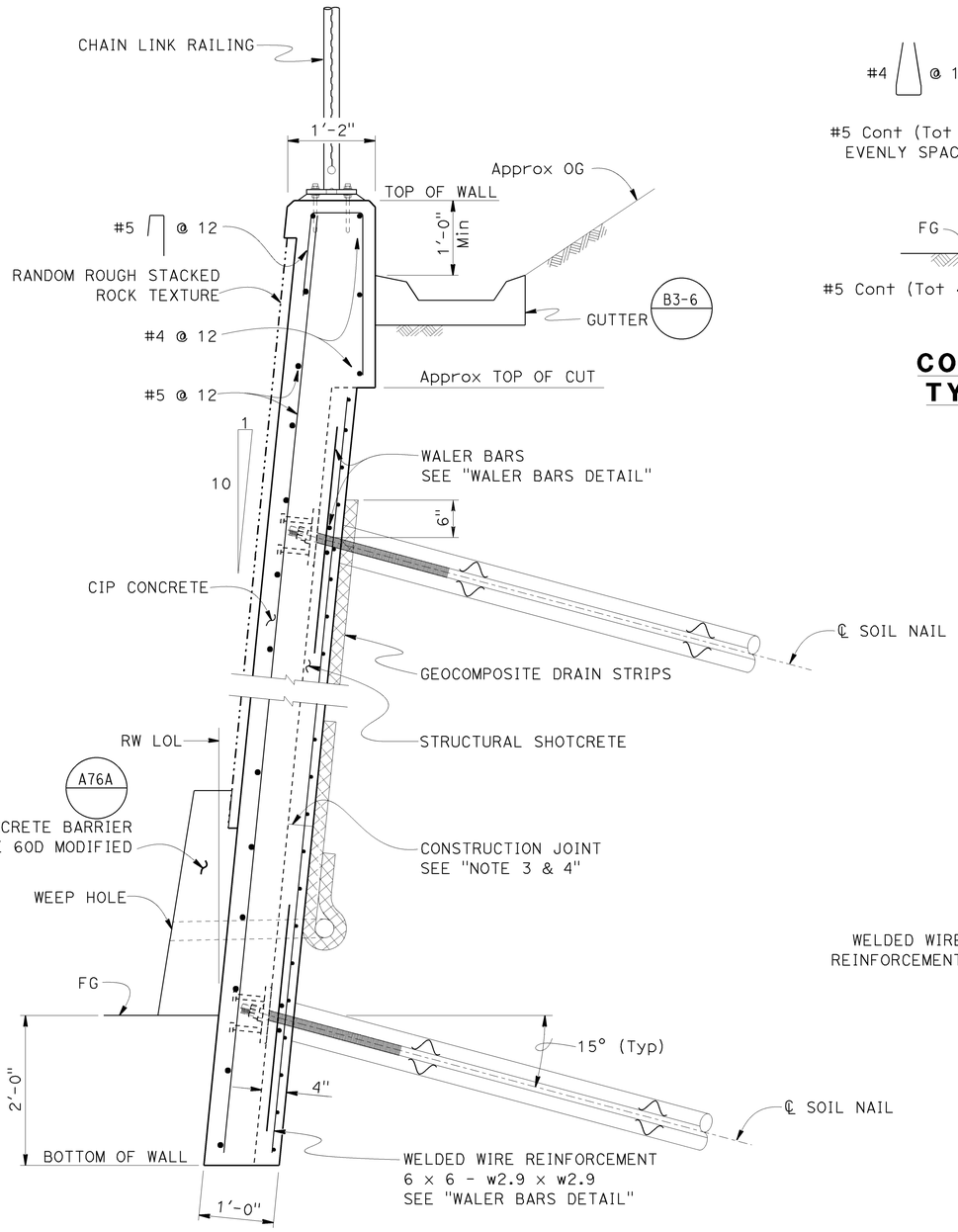
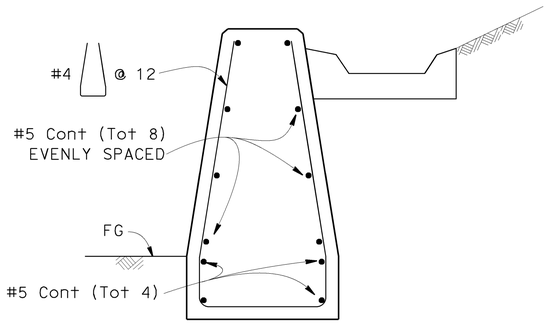
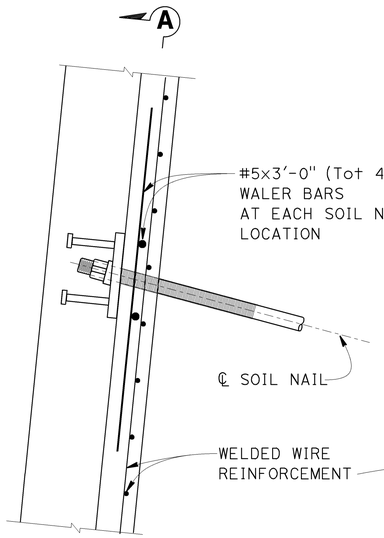


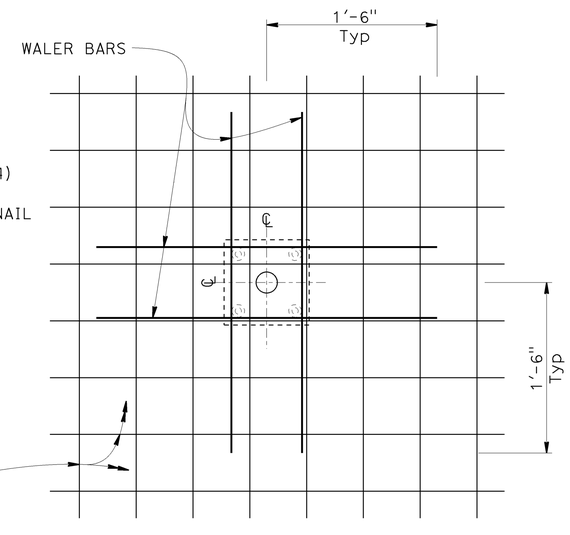

## TYPICAL SECTION
1"=1'-0"



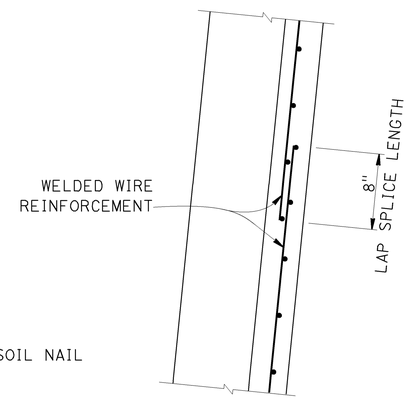

## CONCRETE BARRIER TYPE 60 MODIFIED
1" = 1'-0"
A76A




## WALER BARS DETAIL
1½"=1'-0"




## SECTION A-A
1½"=1'-0"




## LAP SPLICE
1½"=1'-0"

SPLICING IS NOT REQUIRED AT VERTICAL CONSTRUCTION JOINT IN TEMPORARY FACING

NOTES:

1. For soil nail spacing , length and size, see "STRUCTURE PLAN" sheets
2. For gutter drain inlet and down drain locations see "ROAD PLANS"
3. The vertical and horizontal construction joints in the structural shotcrete layer shall be located a minimum of 1'-6" from adjacent soil nails
4. No horizontal construction joints in the CIP concrete shall be allowed CIP vertical construction joint to be placed a minimum of 1'-6" from adjacent shotcrete vertical construction joint
5. For geocomposite drain details, see "RETAINING WALL DETAILS NO. 2" sheet
6. For bearing plate and studs details, see "RETAINING WALL DETAILS NO. 3" sheet

| | | | |
|---|---|---|---|
| DESIGN | BY Hardeep Singh | CHECKED Son Ly | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION |
| DETAILS | BY Min Yu | CHECKED Son Ly | |
| QUANTITIES | BY Hardeep Singh | CHECKED Ghiath Taleb-Agha | |

DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN
DESIGN BRANCH 16

BRIDGE NO. 28E0209
POST MILE 12.31

# PACHECO BLVD WB WALL B5
# RETAINING WALL DETAILS NO. 1

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3617
PROJECT NUMBER & PHASE: 04120006281 CONTRACT NO.: 04-152724

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES: 11-07-13 | 01-06-14

SHEET 7 OF 14

FILE => 28e0209-g-rwdt01.dgn

USERNAME => s134959 DATE PLOTTED => 07-JAN-2014 TIME PLOTTED => 10:53

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4,242 | R8.0/25.0, 0.0/3.4 | 448 | 477 |

REGISTERED CIVIL ENGINEER — DATE 10/14/13

1-13-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — JOHN E PETERSON — No. 60724 — Exp. 12-31-14 — CIVIL — STATE OF CALIFORNIA

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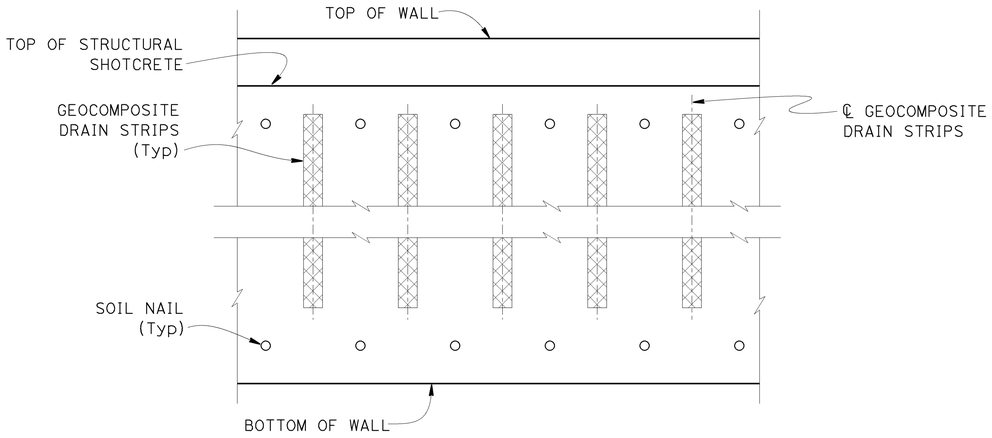
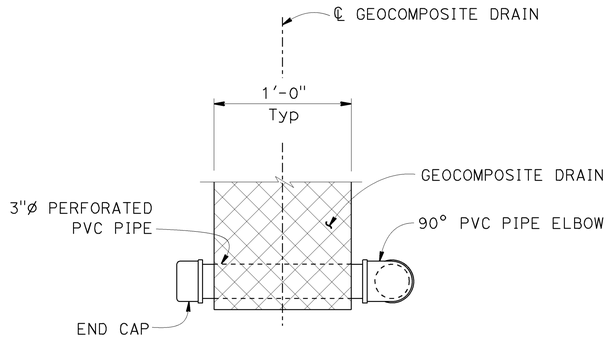



## TYPICAL GEOCOMPOSITE DRAIN STRIPS LAYOUT

1/4"=1'-0"

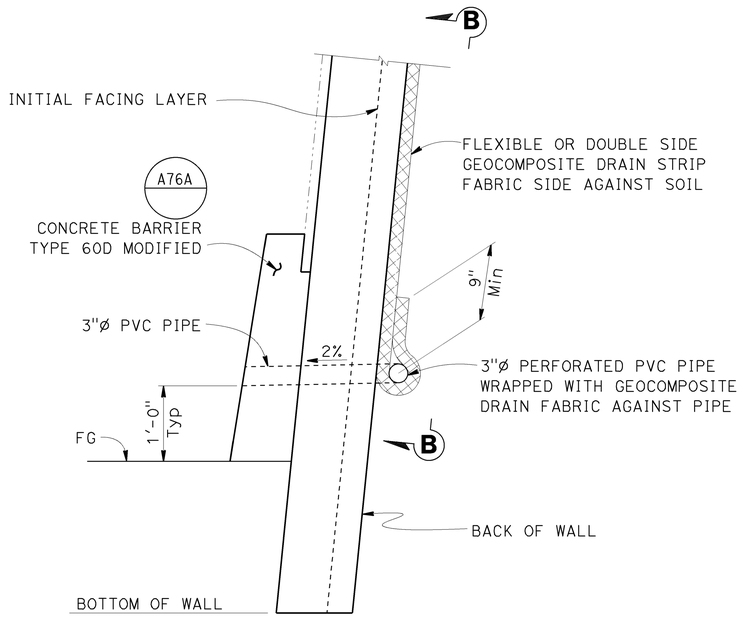
NOTES:

1. Center geocomposite vertical drain between soil nails
2. Geocomposite drain may be omitted when conflicting with test soil nail
3. Geocomposite drains are not required for wall height less than 6 feet



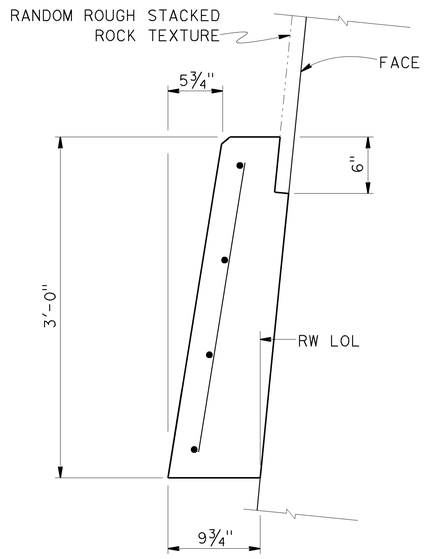

## VIEW B-B AT GEOCOMPOSITE DRAIN

No scale




## WALL DRAIN DETAIL AT WEEPHOLE

1"=1'-0"




## CONCRETE BARRIER TYPE 60D MODIFIED

A76A

1 1/2"=1'-0"

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| DESIGN | BY Hardeep Singh | CHECKED Son Ly | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16 | BRIDGE NO. 28E0209 | PACHECO BLVD WB WALL B5 | |
| DETAILS | BY Min Yu | CHECKED Son Ly | | | POST MILE 12.31 | RETAINING WALL DETAILS NO. 2 | |
| QUANTITIES | BY Ghiath Taleb-Agha | CHECKED Hardeep Singh | | | | | |

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3617
PROJECT NUMBER & PHASE: 04120006281 CONTRACT NO.: 04-152724

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| 11-07-13 | 01-06-14 | | | 8 | 14 |

FILE => 28e0209-g-rwdt02.dgn

USERNAME => s134999 DATE PLOTTED => 07-JAN-2014 TIME PLOTTED => 10:54

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4,242 | R8.0/25.0, 0.0/3.4 | 449 | 477 |

REGISTERED CIVIL ENGINEER — 10/14/13 DATE

1-13-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — JOHN E PETERSON No. 60724 Exp. 12-31-14 CIVIL — STATE OF CALIFORNIA

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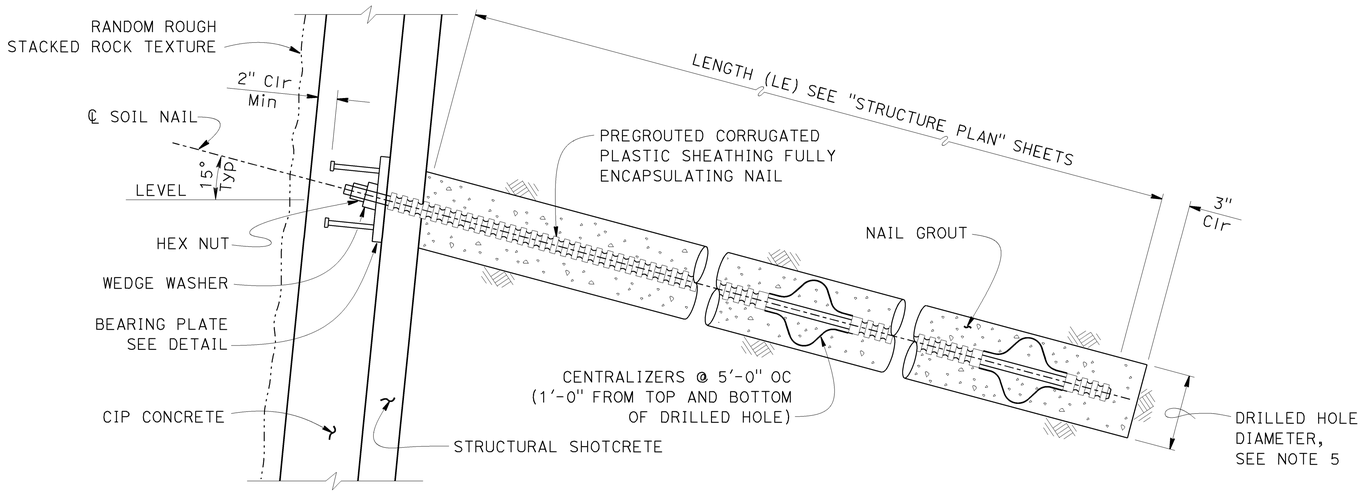
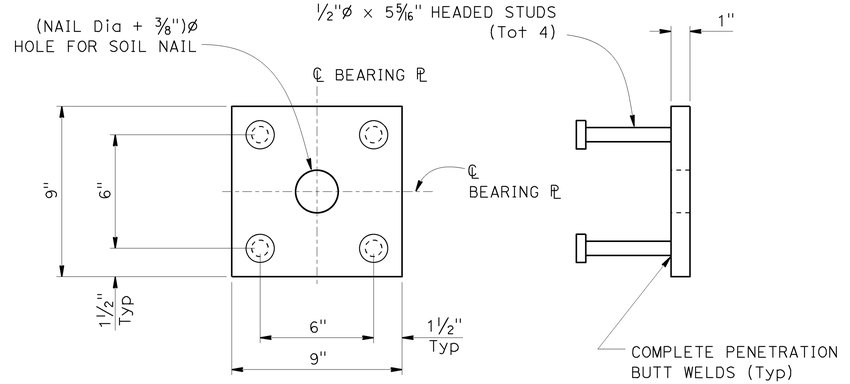


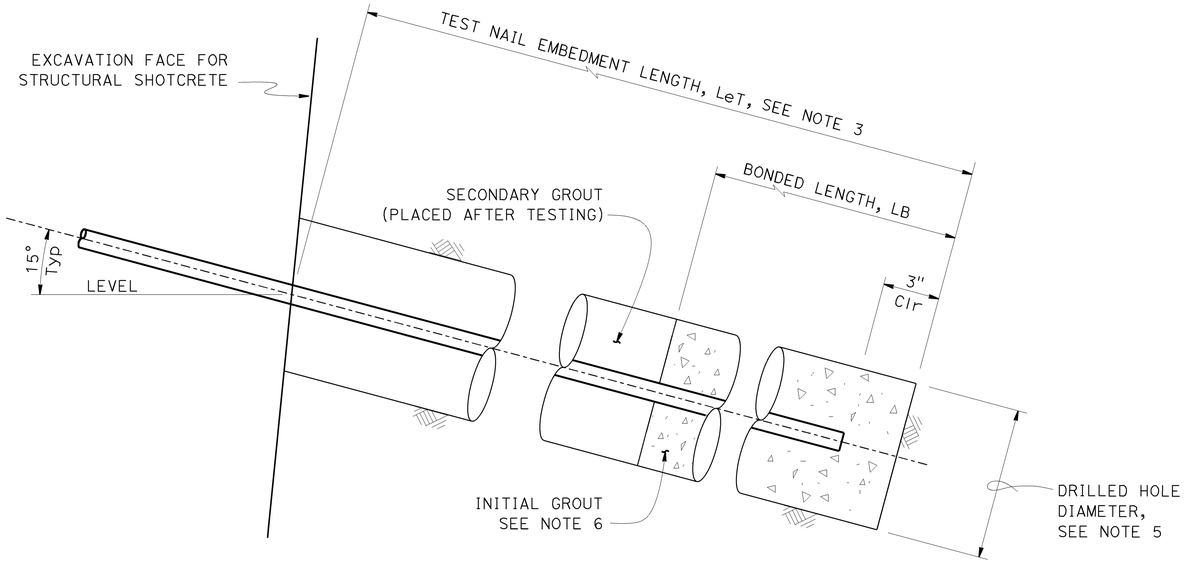

## PRODUCTION SOIL NAIL DETAIL

1½"=1'-0"




## BEARING PLATE DETAIL

3"=1'-0"




## TEST SOIL NAIL DETAIL

3"=1'-0"

NOTES:

1. Reinforcement in facing is not shown
2. The test nail embedment length LeT, shall equal to ⅔ of the embedment length, Le of adjacent production soil nail assemblies, but not less than 12 feet
3. The total length of the test soil nail assembly equals the embedment length plus the required length for jacking equipment
4. For location of proof test nail see "STRUCTURE PLAN" sheets
5. Contractor to determine drilled hole diameter
6. Finished grout surface for test nail to be normal to the bar

| | | | | | |
|---|---|---|---|---|---|
| DESIGN | BY Hardeep Singh | CHECKED Son Ly | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16 | BRIDGE NO. 28E0209 |
| DETAILS | BY Min Yu | CHECKED Son Ly | | | POST MILE 12.31 |
| QUANTITIES | BY Hardeep Singh | CHECKED Ghiath Taleb-Agha | | | |

# PACHECO BLVD WB WALL B5
# RETAINING WALL DETAILS NO. 3

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

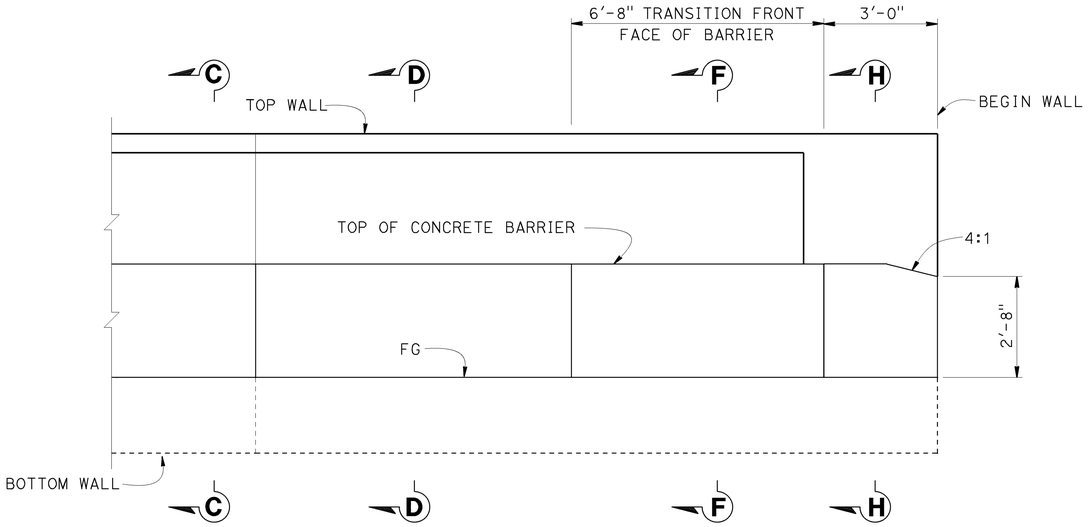
UNIT: 3617
PROJECT NUMBER & PHASE: 04120006281 CONTRACT NO.: 04-152724

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| 11-07-13 | 01-06-14 | | | 9 | 14 |

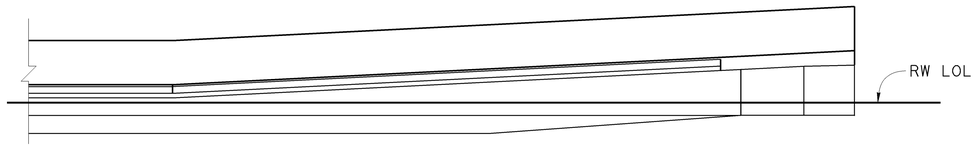
FILE => 28e0209-g-rwdt03.dgn

USERNAME => s134959 DATE PLOTTED => 07-JAN-2014 TIME PLOTTED => 10:54



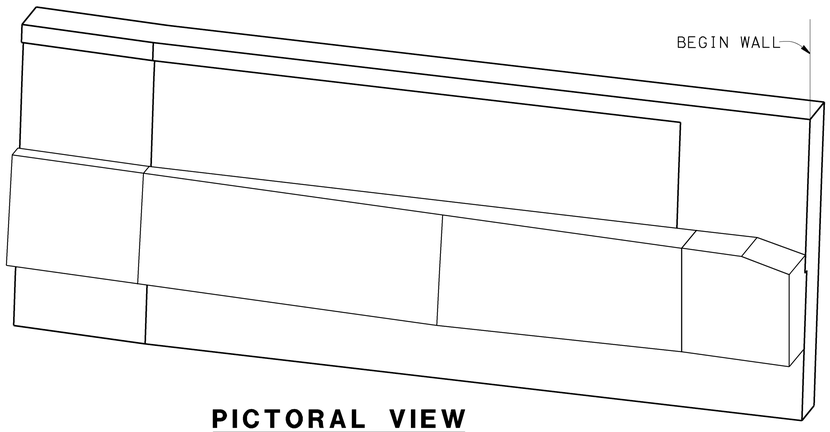

## BEGIN WALL - ELEVATION

1/2"=1'-0"




## BEGIN WALL - PLAN

1/2"=1'-0"



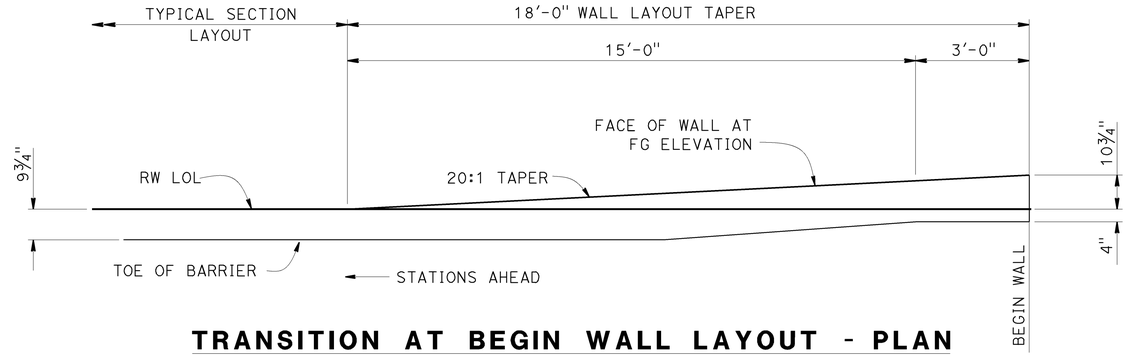

## PICTORAL VIEW

1/2"=1'-0"

NOTES:

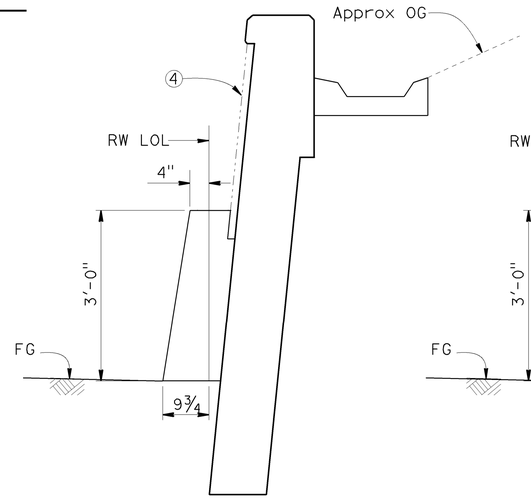
1. For the "SECTION C-C" detail see "TYPICAL SECTION" on "RETAINING WALL DETAILS NO. 1" sheet
2. Random Rough Stacked Rock Texture not shown in all views
3. Horizontal and Vertical profile grades not shown, see "STRUCTURE PLANS" for details

④ Random Stacked Rock Texture



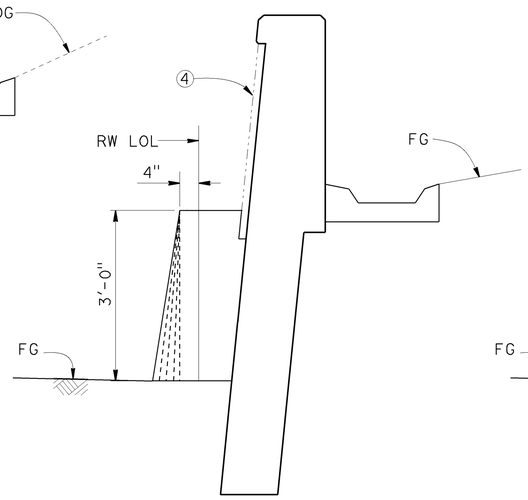

## TRANSITION AT BEGIN WALL LAYOUT - PLAN

1/2"=1'-0"



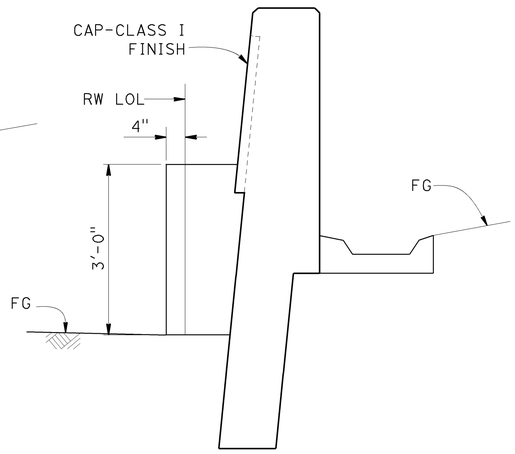

## SECTION D-D

3/4" = 1'-0"




## SECTION F-F

3/4" = 1'-0"




## SECTION H-H

3/4" = 1'-0"

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4,242 | R8.0/25.0, 0.0/3.4 | 450 | 477 |

REGISTERED CIVIL ENGINEER — 10/14/13 DATE

1-13-14
PLANS APPROVAL DATE

JOHN E PETERSON No. 60724 Exp. 12-31-14 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

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| | | | |
|---|---|---|---|
| DESIGN | BY John E Peterson | CHECKED Son Ly | |
| DETAILS | BY Min Yu | CHECKED Son Ly | |
| QUANTITIES | BY John E Peterson | CHECKED Ghiath Taleb-Agha | |

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 16

BRIDGE NO. 28E0209
POST MILE 12.31

# PACHECO BLVD WB WALL B5
# RETAINING WALL DETAILS NO. 4

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3617
PROJECT NUMBER & PHASE: 04120006281
CONTRACT NO.: 04-152724

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| 11-07-13 | 01-06-14 | | | 10 | 14 |

FILE => 28e0209-g-rwdt04.dgn

USERNAME => s134959 DATE PLOTTED => 07-JAN-2014 TIME PLOTTED => 10:54

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4,242 | R8.0/25.0, 0.0/3.4 | 451 | 477 |

REGISTERED CIVIL ENGINEER — 10/14/13 DATE

1-13-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — JOHN E PETERSON No. 60724 Exp. 12-31-14 CIVIL — STATE OF CALIFORNIA

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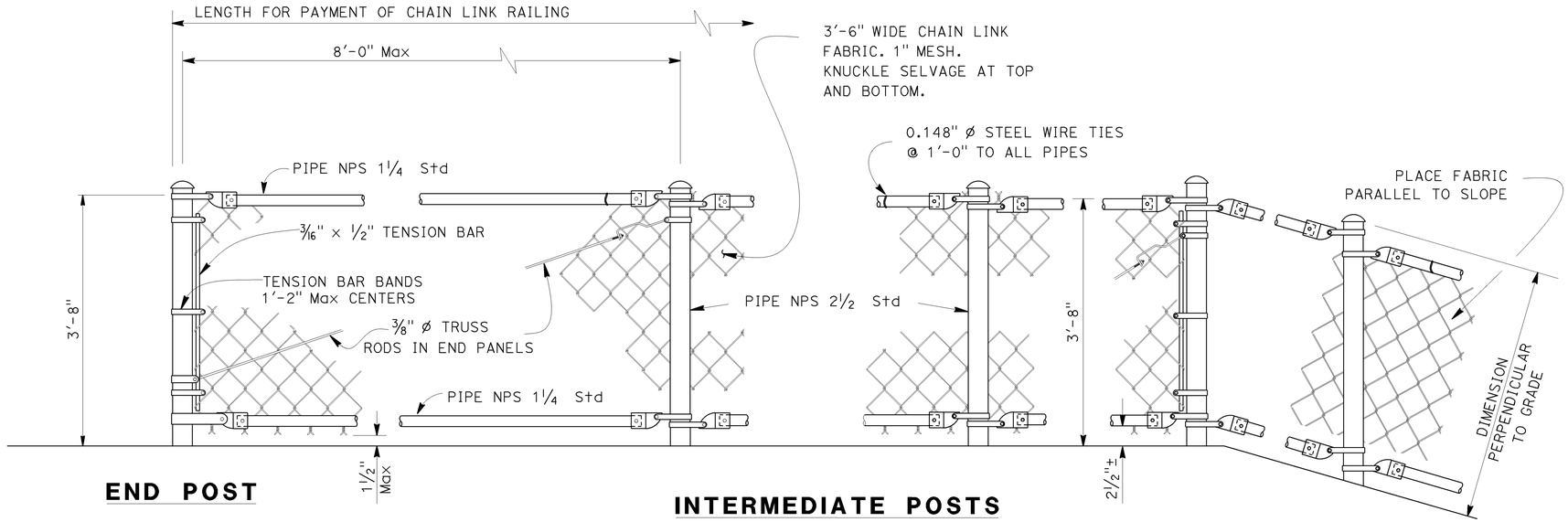
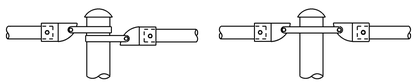



## ELEVATION

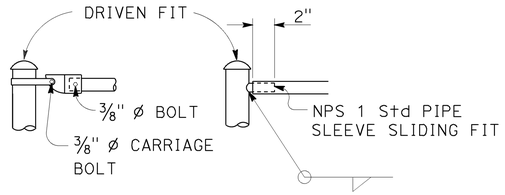
NO SCALE

NOTES:

1. Peen all bolt threads
2. Railing must conform to horizontal and vertical alignment. Posts must be vertical. Top and bottom pipes must be bent if radius is 148'-0" or less; may be on 8'-0" chords if radius is over 148'-0"
3. When railing is on slope, 3'-6" chain link fabric must be placed parallel to slope
4. Chain link fabric must be black vinyl coated

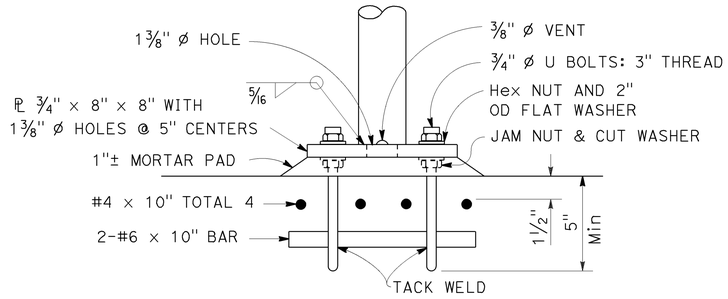


## ALTERNATIVE DETAILS



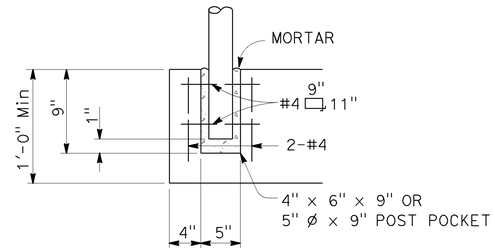

## TYPICAL CONNECTION DETAILS

NO SCALE




## ANCHORAGE DETAIL

NO SCALE




## ALTERNATIVE ANCHORAGE DETAIL

MAY BE USED WHEN THICKNESS OF CONCRETE IS 1'-0" OR MORE

NO SCALE

| | | | | | |
|---|---|---|---|---|---|
| DESIGN | BY John E Peterson | CHECKED Son Ly | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16 | BRIDGE NO. 28E0209 |
| DETAILS | BY Min Yu | CHECKED Son Ly | | | POST MILE 12.31 |
| QUANTITIES | BY Hardeep Singh | CHECKED Ghiath Taleb-Agha | | | |

# PACHECO BLVD WB WALL B5
# CHAIN LINK RAILING DETAILS

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3617
PROJECT NUMBER & PHASE: 04120006281
CONTRACT NO.: 04-152724

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| 11-07-13 | 01-06-14 | | | 11 | 14 |

FILE => 28e0209-u-miscdt01.dgn

USERNAME => s134959 DATE PLOTTED => 07-JAN-2014 TIME PLOTTED => 10:54

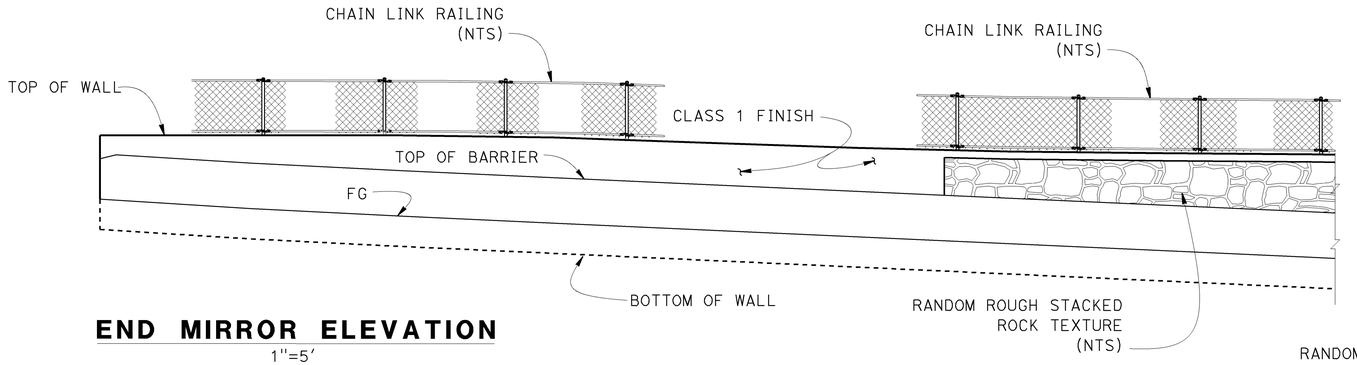
| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4,242 | R8.0/25.0, 0.0/3.4 | 452 | 477 |

REGISTERED CIVIL ENGINEER — 10/14/13 DATE

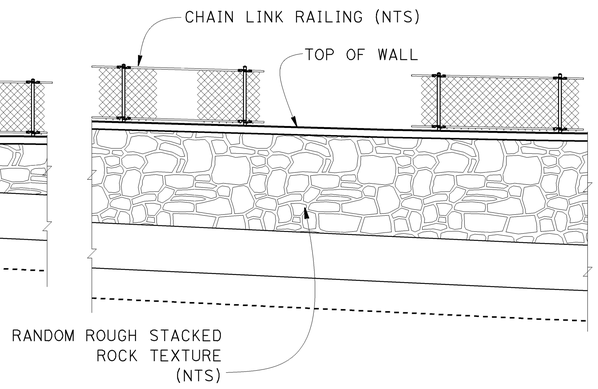
1-13-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — JOHN E PETERSON No. 60724 Exp. 12-31-14 CIVIL — STATE OF CALIFORNIA

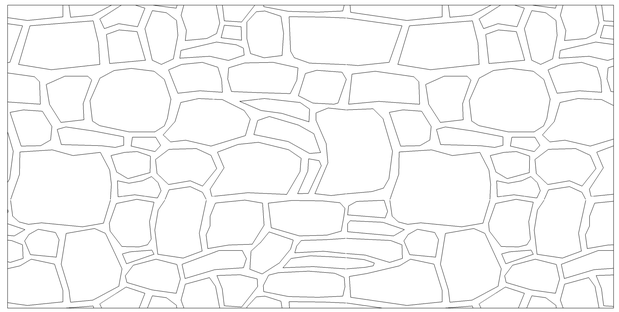
*The State of California or its officers or agents shall not be responsible for the accuracy or completeness of scanned copies of this plan sheet.*




## END MIRROR ELEVATION
1"=5'




## TYPICAL ELEVATION
1"=5'

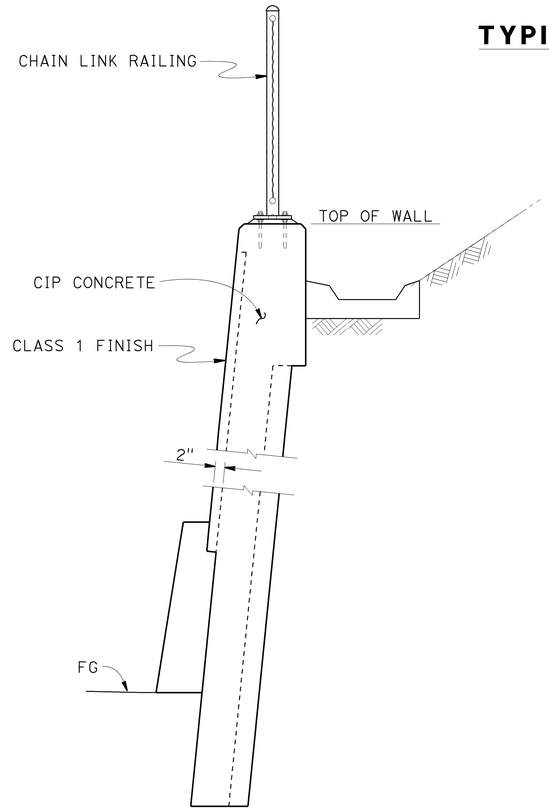


## PATTERN ELEVATION
NO SCALE

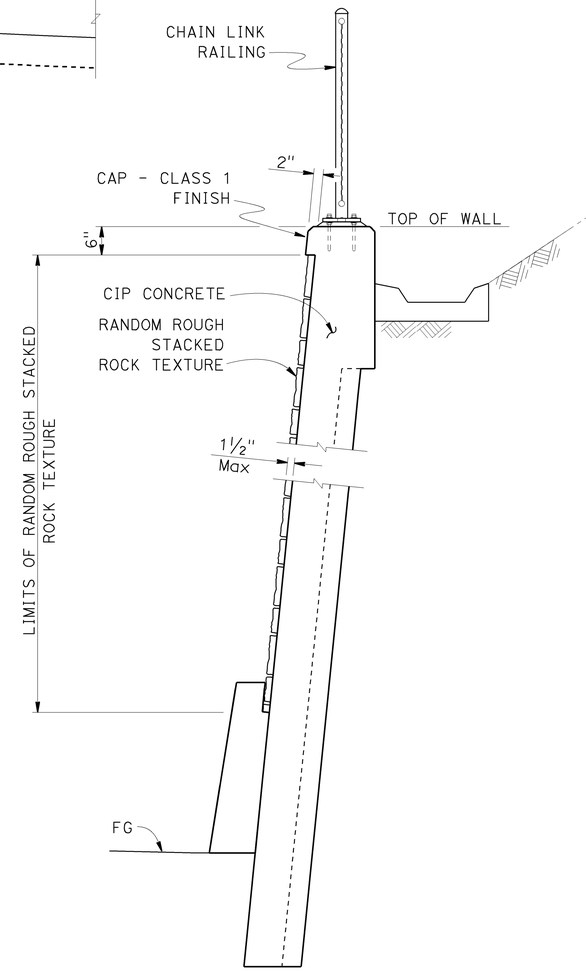
## RANDOM ROUGH STACKED ROCK TEXTURE DETAILS

TEXTURE NOTES:

Random Rough Stacked Rock
Texture relief to be 1.5" maximum
Stone sizes shall be random
2.5" to 18" in Width
2" to 12" in Height




## TYPICAL END SECTION
3/4"=1'-0"




## TYPICAL SECTION
3/4"=1'-0"

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| DESIGN | BY John E. Peterson | CHECKED Hardeep Singh | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16 | BRIDGE NO. 28E0209 | PACHECO BLVD WB WALL B5 ARCHITECTURAL TREATMENT DETAILS | |
| DETAILS | BY Min Yu | CHECKED Hardeep Singh | | | POST MILE 12.31 | | |
| QUANTITIES | BY Hardeep Singh | CHECKED Ghiath Taleb-Agha | | | | | |

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3617
PROJECT NUMBER & PHASE: 04120006281 CONTRACT NO.: 04-152724

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| 08-28-13 | 09-12-13 | 10-21-13 | 01-06-14 | 12 | 14 |

FILE => 28e0209-u-miscdt02.dgn

USERNAME => s134959 DATE PLOTTED => 08-JAN-2014 TIME PLOTTED => 09:41

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4,242 | R8.0/25.0, 0.0/3.4 | 453 | 477 |

REGISTERED CIVIL ENGINEER 01/04/13

1-13-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Samuel Awad
No. 64589
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

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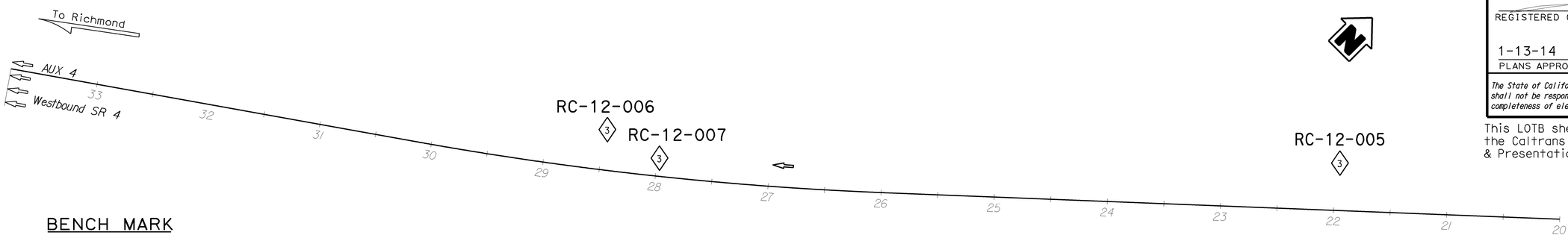
This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (2010 Edition).




## BENCH MARK

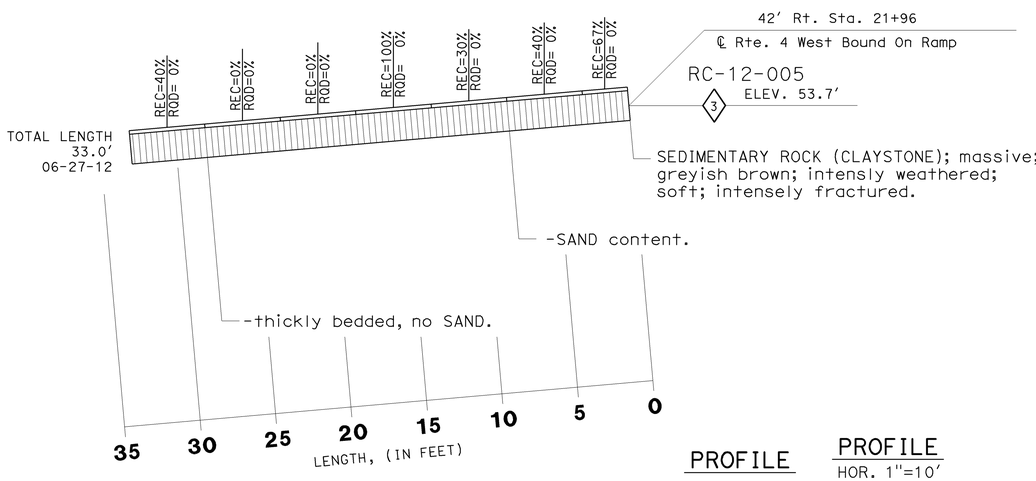
TBM2

Find PK nail+ST Shnr
N 2,187,787.85
E 6,107,604.96
Elev. 66.57′
10.1′ Lt. Sta. 26+50

NOTE: PP=unconfined compressive strength (tsf) as measured by pocket penetrometer.

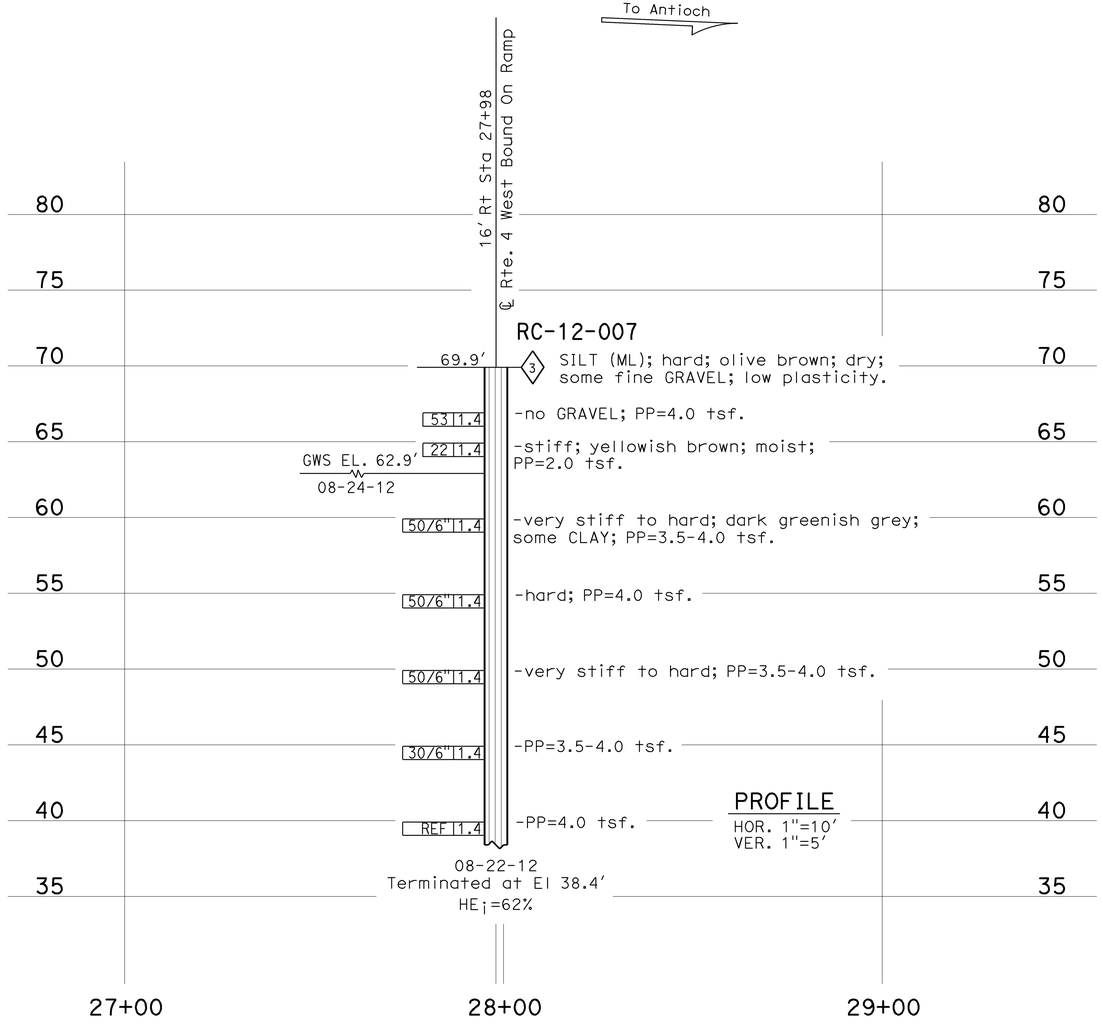
## PLAN

1" = 50′




PROFILE

PROFILE
HOR. 1"=10′




PROFILE
HOR. 1"=10′
VER. 1"=5′

| ENGINEERING SERVICES | | GEOTECHNICAL SERVICES | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | DIVISION OF ENGINEERING SERVICES OFFICE OF GEOTECHNICAL DESIGN BRANCH | BRIDGE NO. 28E0209 | PACHECO BLVD WB WALL B5 |
|---|---|---|---|---|---|---|
| FUNCTIONAL SUPERVISOR | DRAWN BY: M. Reynolds 11/12 | FIELD INVESTIGATION BY: V. Khato, S. Awad | | | POST MILES 12.31 | LOG OF TEST BORINGS (1 OF 2) |
| NAME: N. Name | CHECKED BY: M. Gaffney | | | | | |

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3660
PROJECT NUMBER & PHASE: 04120006281 CONTRACT NO.: 04-152724

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES

SHEET 13 OF 14

FILE => 28e0209-z-1tb01.dgn

USERNAME => s134959 DATE PLOTTED => 07-JAN-2014 TIME PLOTTED => 10:54

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4,242 | R8.0/25.0, 0.0/3.4 | 454 | 477 |

REGISTERED CIVIL ENGINEER 01/04/13

1-13-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Samuel Awad
No. 64589
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

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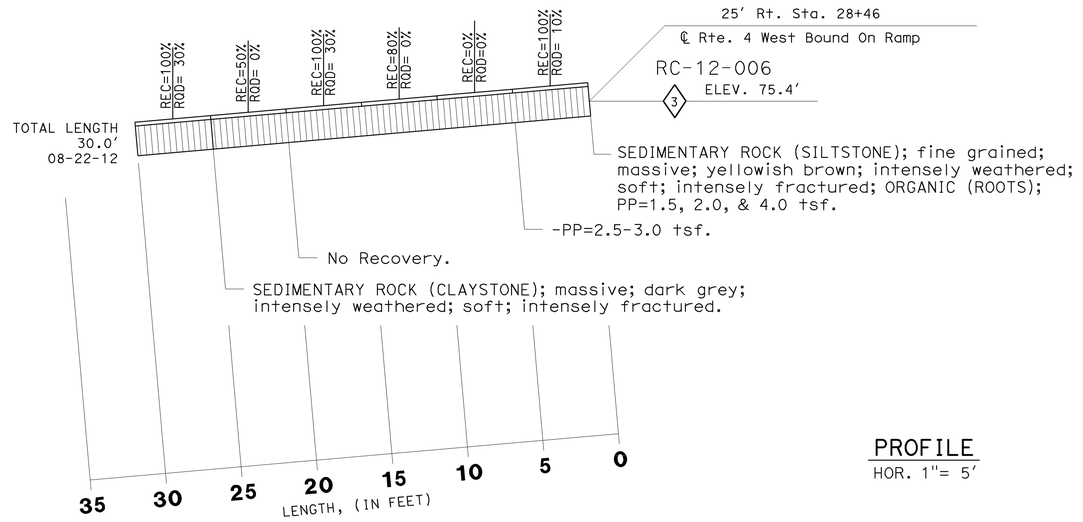
This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (2010 Edition).

(For Boring Location See Plan, LOTB Sheet 1 of 2)

NOTE: PP=unconfined compressive strength (tsf) as measured by pocket penetrometer.




PROFILE
HOR. 1"= 5'

| ENGINEERING SERVICES | GEOTECHNICAL SERVICES | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | DIVISION OF ENGINEERING SERVICES OFFICE OF GEOTECHNICAL | BRIDGE NO. 28E0209 | PACHECO BLVD WB WALL B5 |
|---|---|---|---|---|---|
| FUNCTIONAL SUPERVISOR<br>NAME: N. Name | DRAWN BY: M. Reynolds 11/12<br>CHECKED BY: M. Gaffney | FIELD INVESTIGATION BY:<br>V. Khato<br>S. Awad | DESIGN BRANCH | POST MILES 12.31 | LOG OF TEST BORINGS (2 OF 2) |

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3660
PROJECT NUMBER & PHASE: 04120006281 CONTRACT NO.: 04-152724

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| 01-30-13 | | | | 14 | 14 |

FILE => 28e0209-z-1tb02.dgn

USERNAME => s134959 DATE PLOTTED => 07-JAN-2014 TIME PLOTTED => 10:54

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4,242 | R8.0/25.0<br>0.0/3.4 | 455 | 477 |

Aiman Malak 12-24-13
REGISTERED CIVIL ENGINEER DATE

1-13-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
AIMAN MALAK
No. C73369
Exp. 12-31-2014
CIVIL
STATE OF CALIFORNIA

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# INDEX TO PLANS

| SHEET NO. | TITLE |
|---|---|
| 1 | INDEX TO PLANS |
| 2 | CONCRETE BARRIER TRANSITION-THRIE BEAM CONNECTION - TYPE 1A |
| 3 | CONCRETE BARRIER TRANSITION-THRIE BEAM CONNECTION - TYPE 9 |
| 4 | CONCRETE BARRIER TRANSITION-THRIE BEAM CONNECTION - TYPE 25 |
| 5 | TYPE 21 POLE ON MODIFIED TYPE 25 BARRIER-PEDESTAL DETAILS |

# STANDARD PLANS DATED 2010

| | | |
|---|---|---|
| | A10A | ABBREVIATIONS (SHEET 1 OF 2) |
| RSP | A10B | ABBREVIATIONS (SHEET 2 OF 2) |
| | A78F1 | DOUBLE THRIE BEAM BARRIER - CONNECTION TO BRIDGE RAILINGS WITHOUT SIDEWALKS |
| | A78F2 | SINGLE THRIE BEAM BARRIER - CONNECTIONS TO BRIDGE RAILINGS WITHOUT SIDEWALKS |
| | ES-6B | ELECTRICAL SYSTEMS (ELECTROLIER ANCHORAGE AND GROUTING FOR TYPE 15 AND TYPE 21 BARRIER RAIL MOUNTED) |

-PACHECO BLVD BR BR NO 28-0182R

QUANTITIES

| | | |
|---|---|---|
| CONCRETE BARRIER (TRANSITION) | 6.5 | LF |

-ALHAMBRA WAY UC BR NO 28-0216R

QUANTITIES

| | | |
|---|---|---|
| CONCRETE BARRIER (TRANSITION) | 3.5 | LF |

-SOLANO WAY UC BR NO 28-0241R

QUANTITIES

| | | |
|---|---|---|
| CONCRETE BARRIER (TRANSITION) | 3.5 | LF |

-PERALTA ROAD UC BR NO 28-0242R

QUANTITIES

| | | |
|---|---|---|
| CONCRETE BARRIER (TRANSITION) | 3.5 | LF |
| BRIDGE REMOVAL (PORTION) | LUMP | SUM |
| STRUCTURAL CONCRETE, BRIDGE | 1 | CY |
| BAR REINFORCING STEEL (BRIDGE) | 167 | LB |

# LEGEND

Indicates existing structure.

Indicates new construction.

Bridge removal (portion)

BRANCH CHIEF DAVID A. NEUMANN

| | BY | CHECKED |
|---|---|---|
| DESIGN | NIRANJEN KANEPATHIPILLAI | AIMAN MALAK |
| DETAILS | SHUMEI JIANG | AIMAN MALAK |
| QUANTITIES | NIRANJEN KANEPATHIPILLAI | AIMAN MALAK |

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
SPECIAL DESIGN BRANCH

BRIDGE NO. VARIES
POST MILE VARIES

**INDEX TO PLANS**
**CONCRETE BARRIER TRANSITION**

STRUCTURES DESIGN SPECIAL DESIGN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3619
PROJECT NUMBER & PHASE: 0412000628-1 CONTRACT NO.: 04-152721

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES: 5-09-13 | 6-05-13 | 9-18-13 | 01-10-14

SHEET 1 OF 6

FILE => 04-152721-u-miscdt01.dgn

USERNAME => s1342428 DATE PLOTTED => 10-JAN-2014 TIME PLOTTED => 15:04

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4,242 | R8.0/25.0<br>0.0/3.4 | 456 | 477 |

Diman Malak 12-24-13
REGISTERED CIVIL ENGINEER DATE

1-13-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
AIMAN MALAK
No. C73369
Exp. 12-31-2014
CIVIL
STATE OF CALIFORNIA

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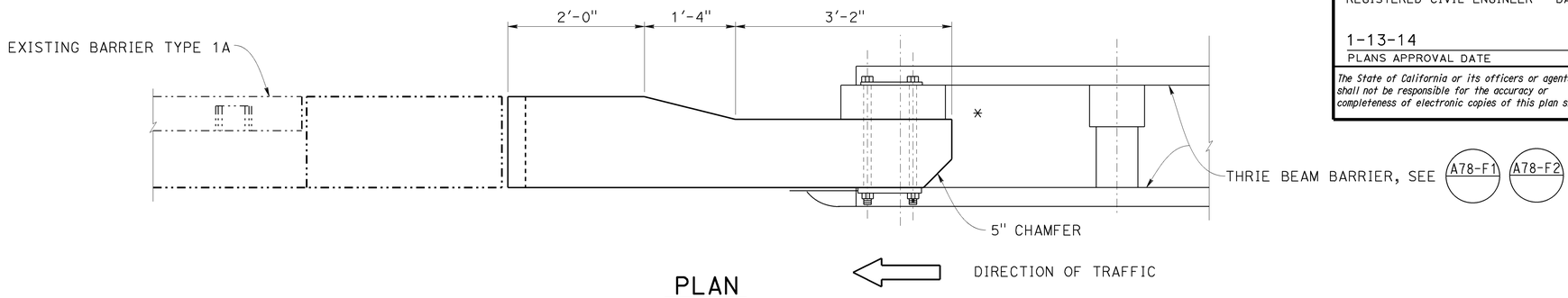


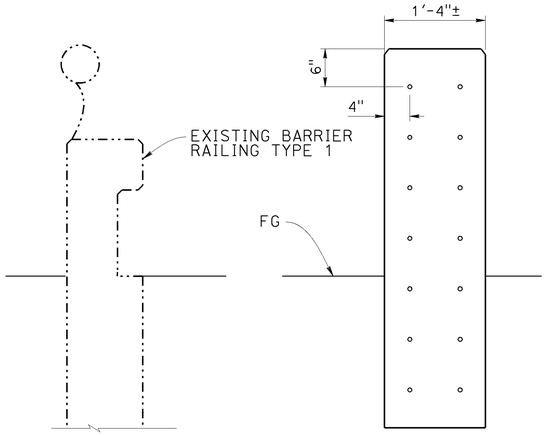

PLAN
1" = 1'-0"

LEGEND:
·····-·····- Indicates Existing Structure
_____ Indicates New Structure

## LOCATION TABLE

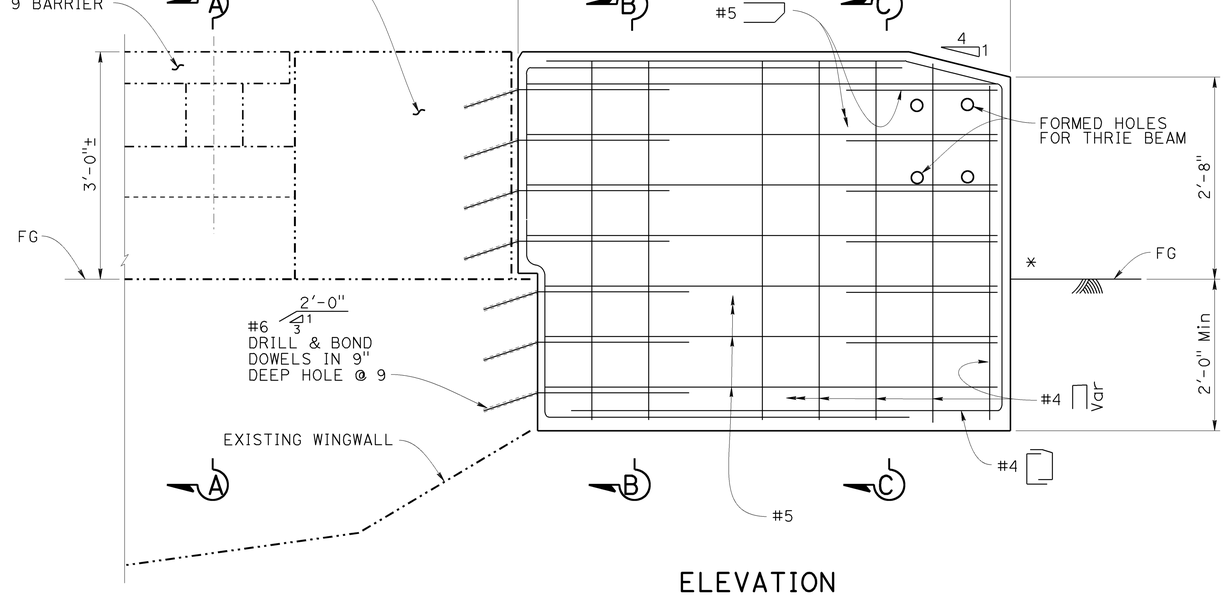
| BRIDGE # | BRIDGE NAME | PM | # OF CONNECTION | | DIRECTION | LENGTH (ft) |
|---|---|---|---|---|---|---|
| | | | APROACH | DEPARTURE | | |
| 28-0182R | PACHECO BLVD UC | 12.41 | 1 | | EB | 6.5' |

* For utility relocation, see Roadway Plans.

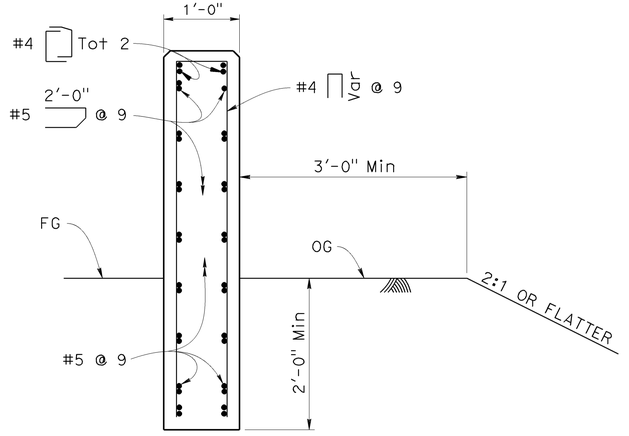



SECTION A-A
1" = 1'-0"

SECTION B-B
1" = 1'-0"




ELEVATION
1" = 1'-0"




SECTION C-C
1" = 1'-0"

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

BRANCH CHIEF DAVID A. NEUMANN

| | BY | CHECKED |
|---|---|---|
| DESIGN | NIRANJEN KANEPATHIPILLAI | AIMAN MALAK |
| DETAILS | SHUMEI JIANG | AIMAN MALAK |
| QUANTITIES | NIRANJEN KANEPATHIPILLAI | AIMAN MALAK |

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
SPECIAL DESIGN BRANCH

BRIDGE NO. 28-0182R
POST MILE 12.41

# CONCRETE BARRIER TRANSITION
# THRIE BEAM CONNECTION - TYPE 1A

STRUCTURES DESIGN SPECIAL DESIGN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3619
PROJECT NUMBER & PHASE: 0412000628-1 CONTRACT NO.: 04-152721

DISREGARD PRINTS BEARING EARLIER REVISION DATES

| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| 4-24-13 | | 9-10-13 | 5-09-13 | 2 | 6 |

FILE => 04-152721-u-miscdt02.dgn

USERNAME => s132428 DATE PLOTTED => 10-JAN-2014 TIME PLOTTED => 15:04

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4,242 | R8.0/25.0<br>0.0/3.4 | 457 | 477 |

Aiman Malak 12-24-13
REGISTERED CIVIL ENGINEER DATE

1-13-14
PLANS APPROVAL DATE

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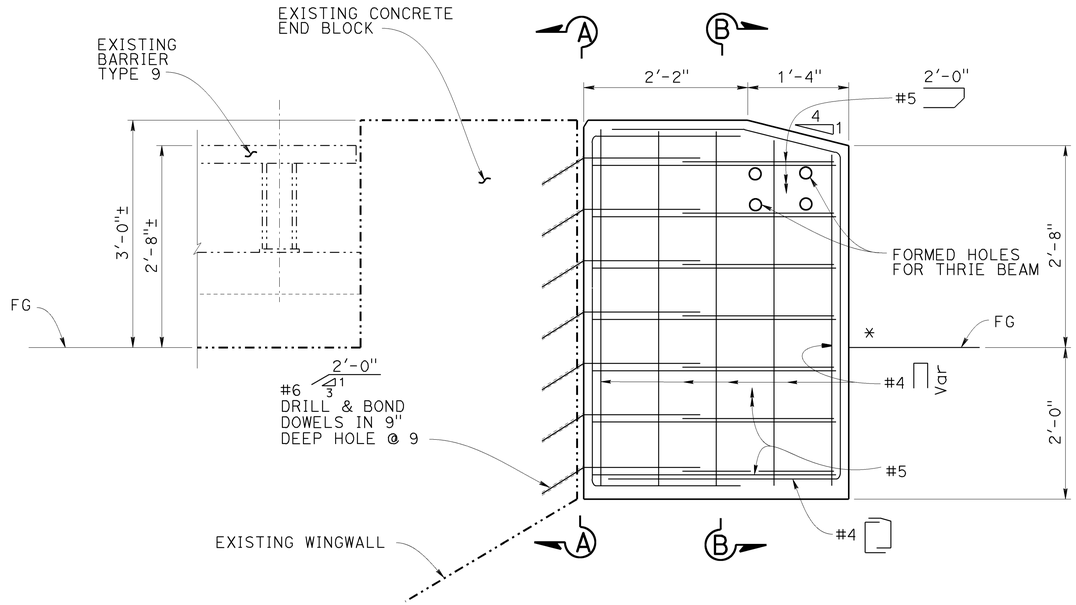
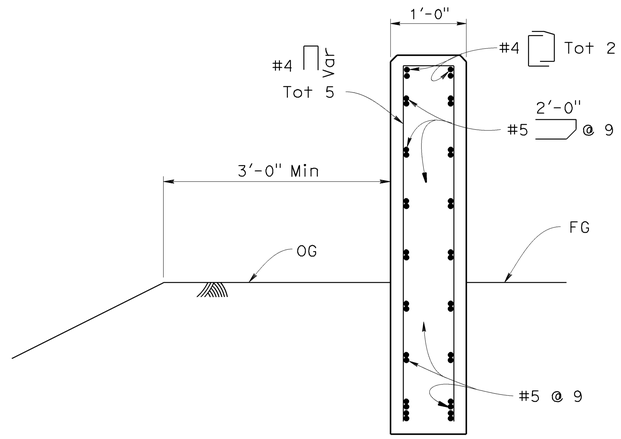
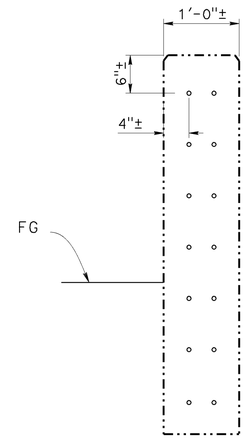
REGISTERED PROFESSIONAL ENGINEER
AIMAN MALAK
No. C73369
Exp. 12-31-2014
CIVIL
STATE OF CALIFORNIA



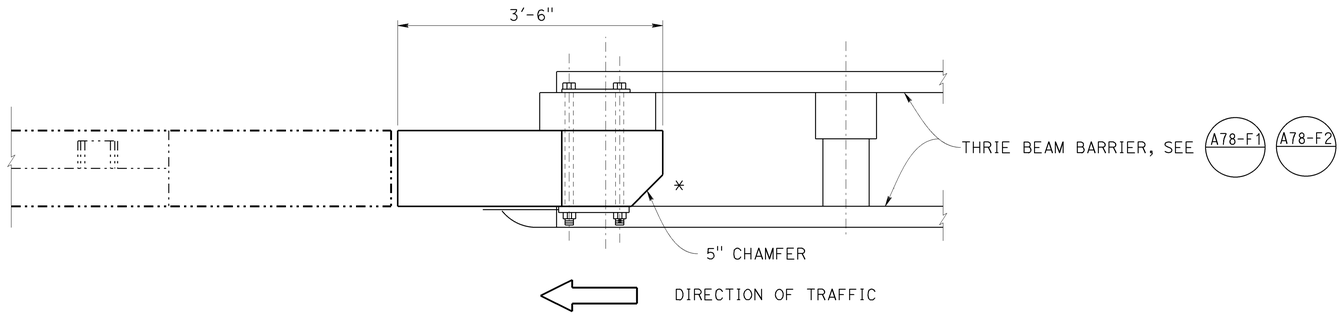

## ELEVATION
1" = 1'-0"




## SECTION B-B
1" = 1'-0"




## SECTION A-A
1" = 1'-0"




## PLAN
1" = 1'-0"

* For utility relocation, see Roadway Plans.

LEGEND:
- Indicates Existing Stucture
- Indicates New Structure

## LOCATION TABLE

| BRIDGE # | BRIDGE NAME | PM | # OF CONNECTION | | DIRECTION | LENGTH (ft) |
|---|---|---|---|---|---|---|
| | | | APROACH | DEPARTURE | | |
| 28-0216 R | ALHAMBRA WAY UC | R 8.75 | 1 | | EB | 3.5' |

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

BRANCH CHIEF DAVID A. NEUMANN

| | BY | CHECKED |
|---|---|---|
| DESIGN | NIRANJEN KANEPATHIPILLAI | AIMAN MALAK |
| DETAILS | SHUMEI JIANG | AIMAN MALAK |
| QUANTITIES | NIRANJEN KANEPATHIPILLAI | AIMAN MALAK |

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
SPECIAL DESIGN BRANCH

BRIDGE NO. 28-0216R
POST MILE R 8.75

# CONCRETE BARRIER TRANSITION
# THRIE BEAM CONNECTION - TYPE 9

STRUCTURES DESIGN SPECIAL DESIGN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3619
PROJECT NUMBER & PHASE: 0412000628-1 CONTRACT NO.: 04-152721

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES: 4-12-13 | | 9-10-13 | 6-05-13

SHEET 3 OF 6

FILE => 04-152721-u-miscdt03.dgn

USERNAME => s1324128 DATE PLOTTED => 10-JAN-2014 TIME PLOTTED => 15:04

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4,242 | R8.0/25.0<br>0.0/3.4 | 458 | 477 |

Diman Malak 12-24-13
REGISTERED CIVIL ENGINEER DATE

1-13-14
PLANS APPROVAL DATE

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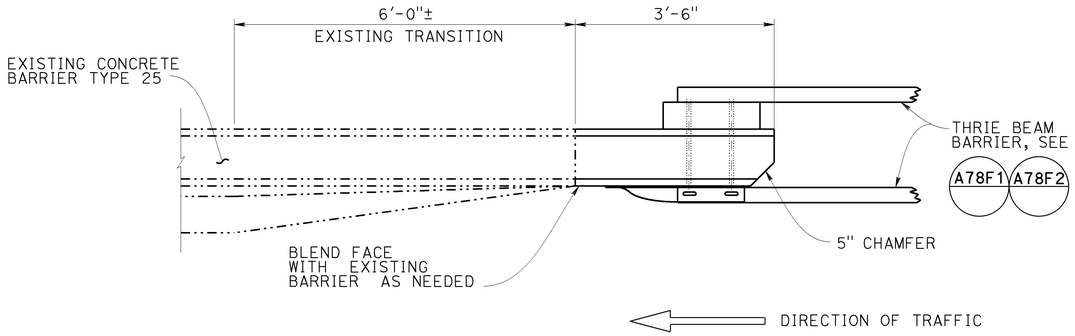
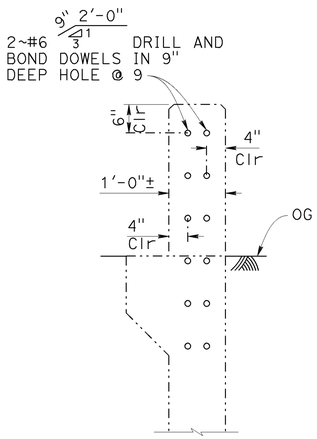
REGISTERED PROFESSIONAL ENGINEER
AIMAN MALAK
No. C73369
Exp. 12-31-2014
CIVIL
STATE OF CALIFORNIA



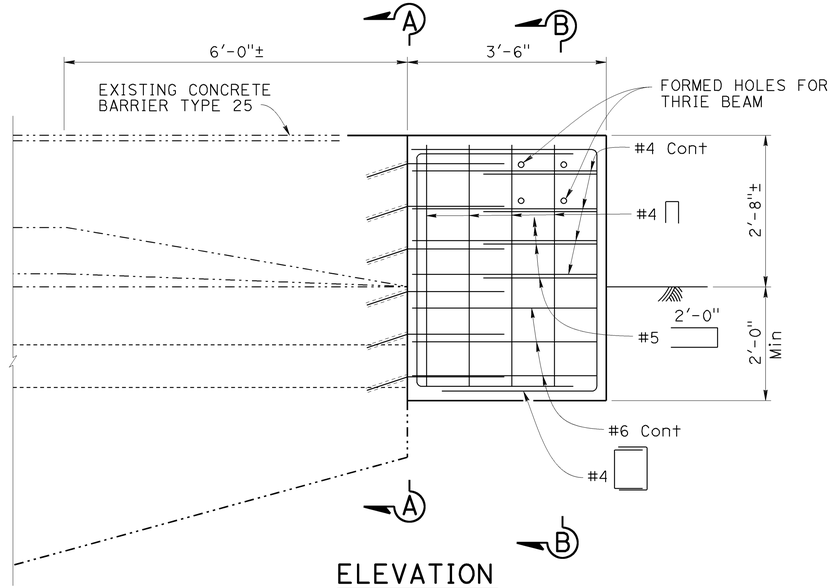

## PLAN
3/4" = 1'-0"

## LOCATION TABLE

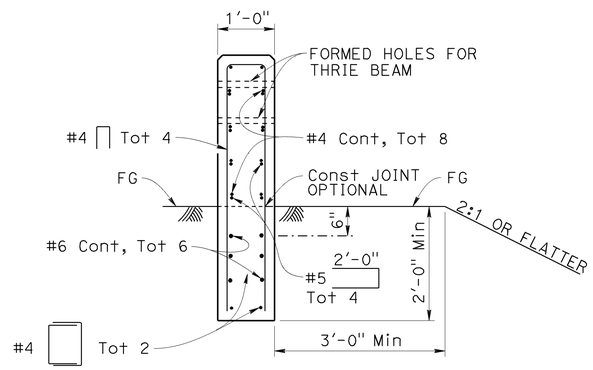
| BRIDGE # | BRIDGE NAME | PM | # OF CONNECTION | | DIRECTION | LENGTH (ft) |
|---|---|---|---|---|---|---|
| | | | APROACH | DEPARTURE | | |
| 28-0241 R | SOLANO WAY UC | | 1 | | WB | 3.5' |
| 28-0242 R | PERALTA ROAD UC | | 1 | | EB | 3.5' |




## SECTION A-A
3/4" = 1'-0"




## ELEVATION
3/4" = 1'-0"




NOTE:
Thrie Beam not shown

## SECTION B-B
3/4" = 1'-0"

LEGEND:

-·-·-·- Indicates Existing Structure

_____ Indicates New Construction

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

BRANCH CHIEF DAVID A. NEUMANN

| | BY | CHECKED |
|---|---|---|
| DESIGN | NIRANJEN KANEPATHIPILLAI | AIMAN MALAK |
| DETAILS | SHUMEI JIANG | AIMAN MALAK |
| QUANTITIES | NIRANJEN KANEPATHIPILLAI | AIMAN MALAK |

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
SPECIAL DESIGN BRANCH

BRIDGE NO. VARIES
POST MILE VARIES

# CONCRETE BARRIER TRANSITION
# THRIE BEAM CONNECTION - TYPE 25

STRUCTURES DESIGN SPECIAL DESIGN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3619
PROJECT NUMBER & PHASE: 0412000628-1 CONTRACT NO.: 04-152721

DISREGARD PRINTS BEARING EARLIER REVISION DATES

| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| 4-18-13 | | 9-10-13 | 6-05-13 | 4 | 6 |

FILE => 04-152721-u-miscdt04.dgn

USERNAME => s132428 DATE PLOTTED => 10-JAN-2014 TIME PLOTTED => 15:04

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4,242 | R8.0/25.0<br>0.0/3.4 | 459 | 477 |

Mahfoud A. Licha 12/17/13
REGISTERED CIVIL ENGINEER DATE

1-13-14
PLANS APPROVAL DATE

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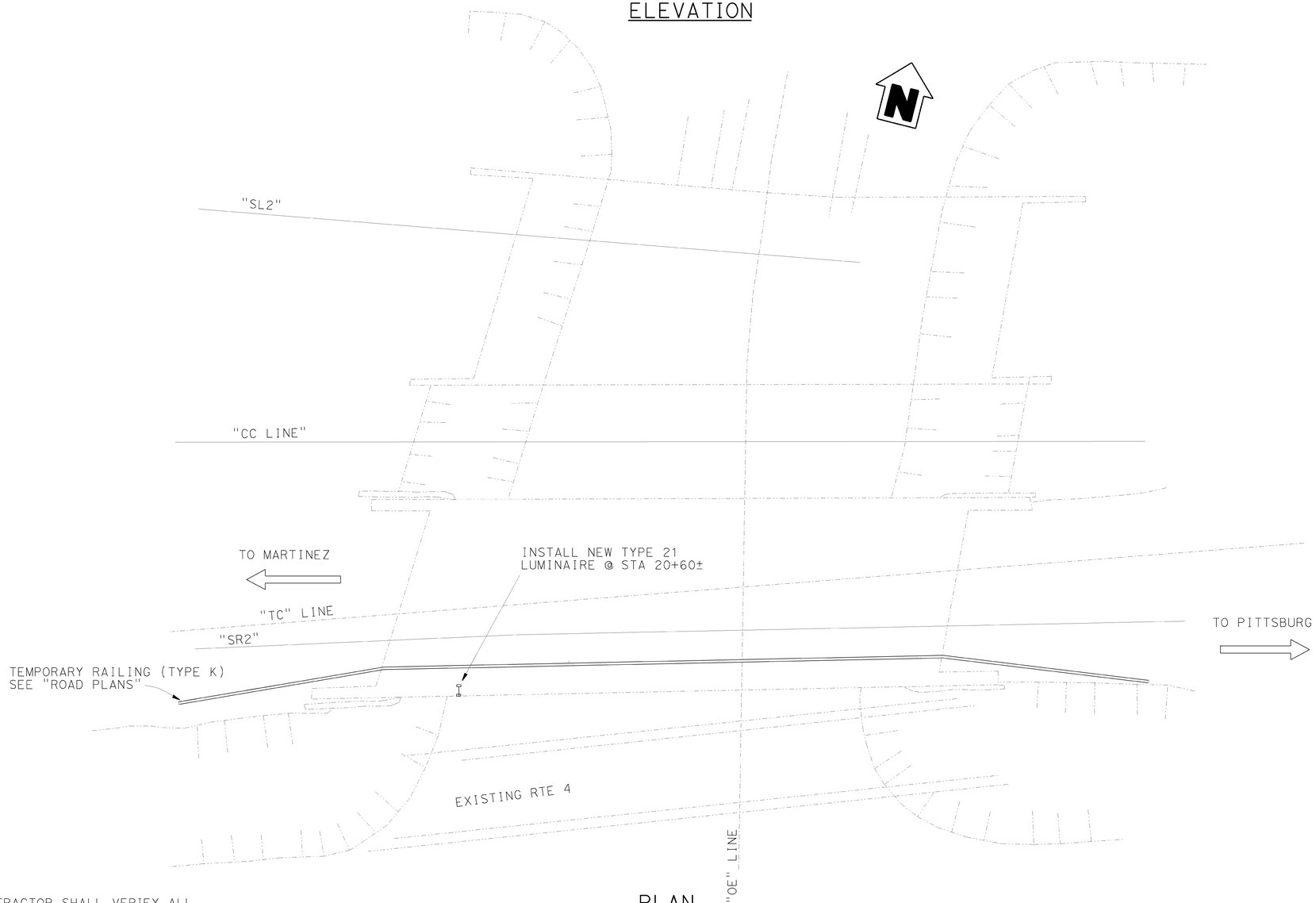
REGISTERED PROFESSIONAL ENGINEER
MAHFOUD A. LICHA
No. C62816
Exp. 6/30/14
CIVIL
STATE OF CALIFORNIA

ELEVATION




PLAN

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

STANDARD PLANS DATED MAY 2010

| | |
|---|---|
| A10A | ABBREVIATIONS (SHEET 1 OF 2) |
| RSPA10B | ABBREVIATIONS (SHEET 2 OF 2) |
| ES-6B | ELECTRICAL SYSTEMS (ELECTROLIER ANCHORAGE AND GROUTING FOR TYPE 15 AND TYPE 21 BARRIER RAIL MOUNTED) |

INDEX TO PLANS


| SHEET NO. | TITLE |
|---|---|
| 1. | TYPE 21 LUMINAIRE - LOCATION PLAN |
| 2. | PEDESTAL DETAILS |


PERALTA ROAD UC BRIDGE No. 28-0242R

QUANTITIES

| | | |
|---|---|---|
| BRIDGE REMOVAL (PORTION) | LUMP | SUM |
| STRUCTURAL CONCRETE, BRIDGE | 1 | CY |
| BAR REINFORCING STEEL (BRIDGE) | 167 | LB |
| CONCRETE BARRIER (TRANSITION) | 3.5 | LF |

NO SCALE

BRANCH CHIEF

| | BY | CHECKED |
|---|---|---|
| DESIGN | MAHFOUD LICHA | KC LIU |
| DETAILS | H NGUYEN | ANDY HOUGH |
| QUANTITIES | MAHFOUD LICHA | ANDY HOUGH |

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
SPECIAL DESIGN BRANCH

BRIDGE NO. 28-242R
POST MILE 8/25,0/3.4

# PERALTA ROAD UC
## TYPE 21 LUMINAIRE - LOCATION PLAN

STRUCTURES DESIGN SPECIAL DESIGN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

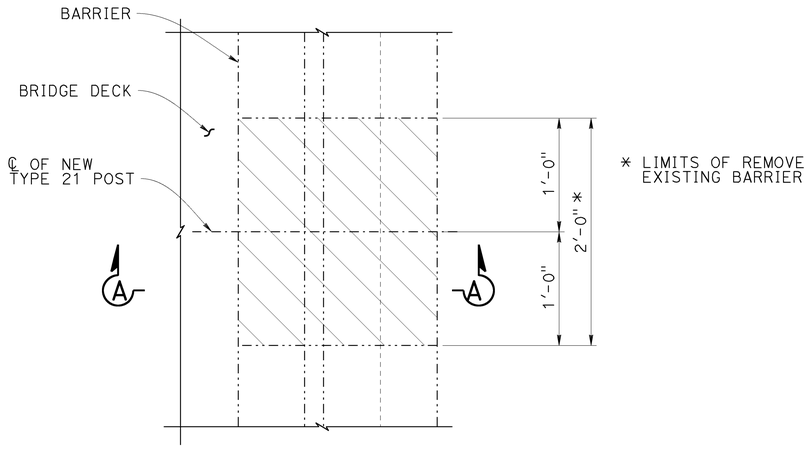
UNIT: 3619
PROJECT NUMBER & PHASE: 0412000628 CONTRACT NO.: 04-152721

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

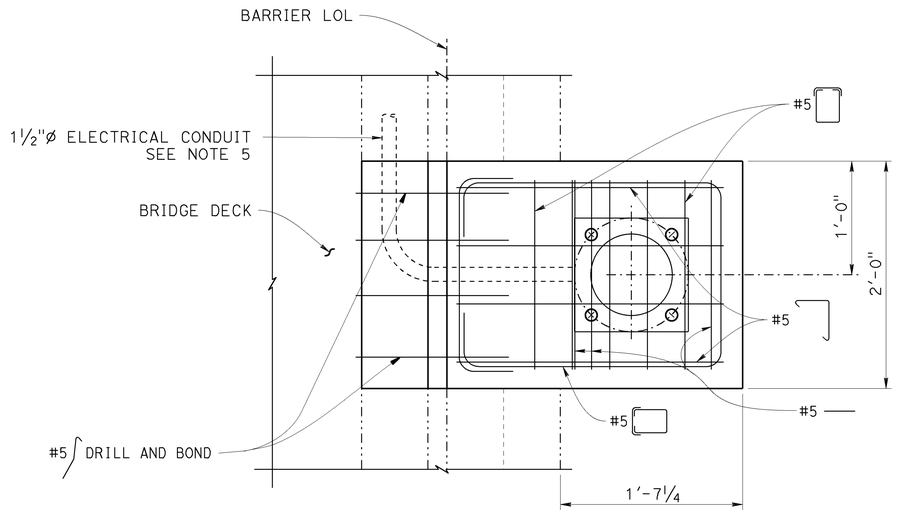
| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| 11/26/13 | | | | 5 | 6 |

FILE => 04-152721-u-1.dgn

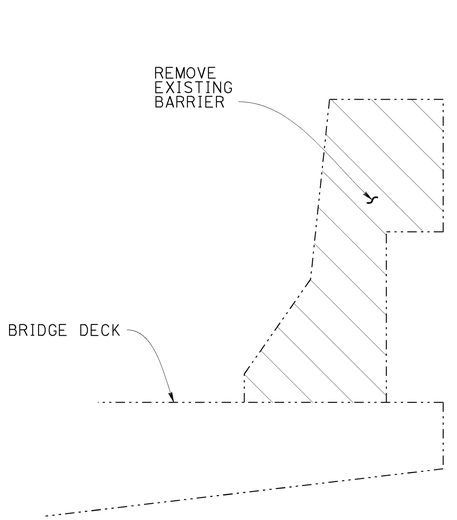
USERNAME = s128678 DATE PLOTTED => 17-DEC-2013 TIME PLOTTED => 10:11



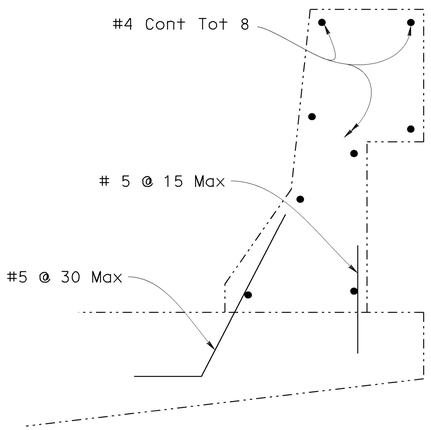

PLAN




PLAN

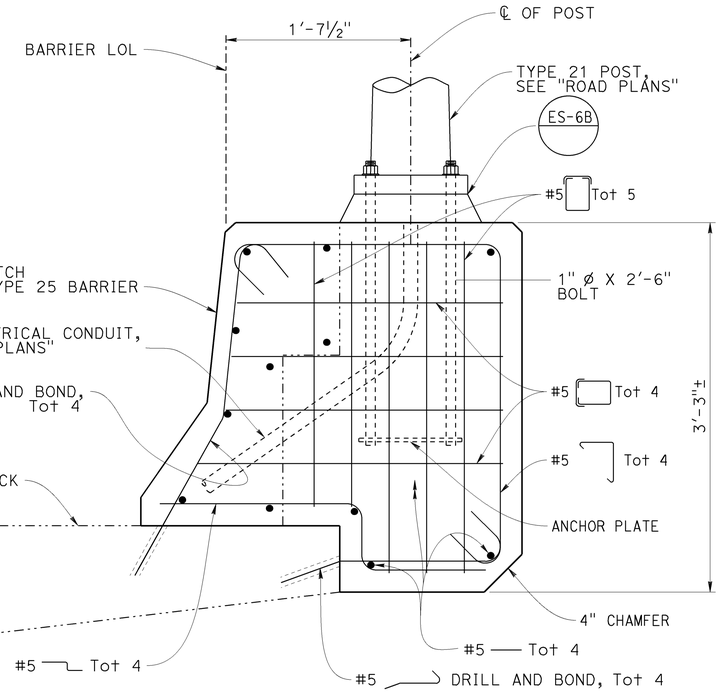



REMOVE CONCRETE




EXISTING REBAR TO REMAIN

SECTION A-A




SIDE VIEW

STA 20+60± R

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4, 242 | R8.0/25.0 0.0/3.4 | 460 | 477 |

Mahfoud A. Licha 12/24/13
REGISTERED CIVIL ENGINEER DATE

1-13-14
PLANS APPROVAL DATE

*The State of California or its officers or agents shall not be responsible for the accuracy or completeness of scanned copies of this plan sheet.*

REGISTERED PROFESSIONAL ENGINEER
MAHFOUD A. LICHA
No. C62816
Exp. 6/30/14
CIVIL
STATE OF CALIFORNIA

## GENERAL NOTES:

### SPECIFICATIONS

Design: AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals. Fifth Edition.

### LOADING

Wind Loadings: 100 MPH (3-second gust)

### UNIT STRESSES

Structure steel:
fy = 55,000 psi tapered steel tube
fy = 50,000 psi unless otherwise noted
Anchor bolts: fy = 55 ksi
Reinforced concrete: f'c = 3,600 psi
fy = 60,000 psi

### NOTES:

1. For pole locations, see "ELECTRICAL PLANS".
2. Concrete cover over pedestal rebar shall be 1 inch minimum.
3. Fillets and chamfers typically are 1 inch, unless otherwise noted.
4. Drill and bond dowels. Dowel slope at 3:1 with 6 inch embedment.
5. Connect new 1½" Electrical conduit to existing 1½" dia conduit. See "Electrical Plans" for details.

NO SCALE

| | | | |
|---|---|---|---|
| BRANCH CHIEF | DAVID A NEUMANN | | |
| DESIGN | BY MAHFOUD LICHA | CHECKED KC LIU | |
| DETAILS | BY SHUMEI JIANG/H NGUYEN | CHECKED ANDY HOUGH | |
| QUANTITIES | BY MAHFOUD LICHA | CHECKED ANDY HOUGH | |

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
SPECIAL DESIGN BRANCH

BRIDGE NO. 28-242R
POST MILE 8/25,0/3.4

# TYPE 21 POLE ON MODIFIED TYPE 25 BARRIER
## PEDESTAL DETAILS

STRUCTURES DESIGN SPECIAL DESIGN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

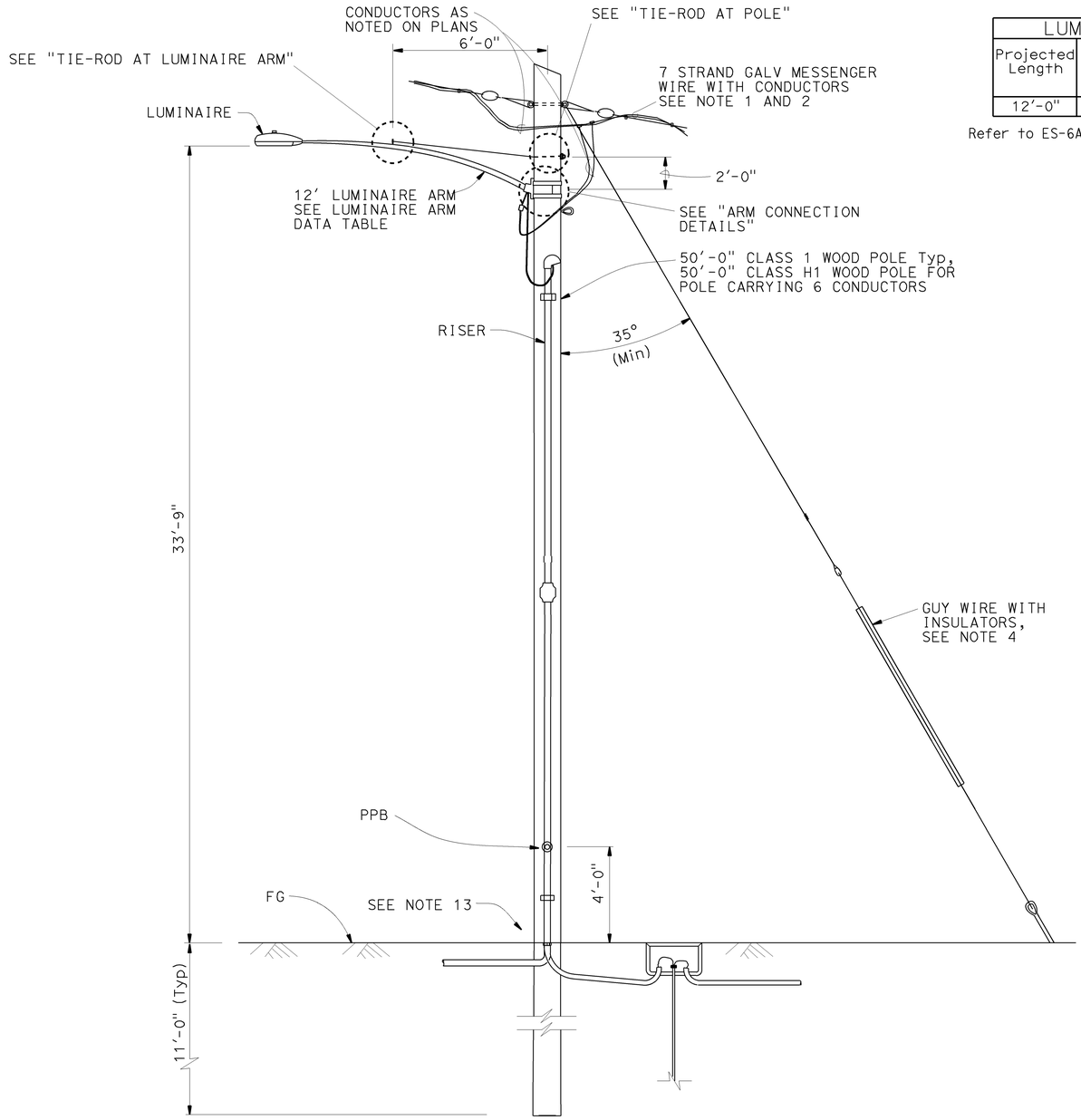
UNIT: X
PROJECT NUMBER & PHASE: 0412000628-1 CONTRACT NO.: 04-152721

DISREGARD PRINTS BEARING EARLIER REVISION DATES

| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| 11/21/13 | | | | 6 | 6 |

FILE => 04-152721-u-miscdt05.dgn

USERNAME = s132428 DATE PLOTTED => 10-JAN-2014 TIME PLOTTED => 15:04




WOOD POLE SUPPORT

NO SCALE

SEE NOTE 11

| LUMINAIRE ARM DATA | | | |
|---|---|---|---|
| Projected Length | N Rise | Min OD At Pole | Thickness |
| 12'-0" | 4'-3" | 3⅞" | 0.1196" |

Refer to ES-6A for Luminaire arm details

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4,242 | R8.0/25.0 0.0/3.4 | 461 | 477 |

REGISTERED CIVIL ENGINEER — 10-25-2013 DATE

1-13-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — YU SONG No. C71687 Exp. 12/31/15 CIVIL — STATE OF CALIFORNIA

*The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.*

GENERAL NOTES:

SPECIFICATIONS

Design: AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals dated 2009 and 2010 Interim Revisions.

LOADING

Wind Loadings: 85 MPH

UNIT STRESSES

Timber Poles: Tapered treated round pole ASTM D2899 Standard
Fb = 1850 psi
Fv = 110 psi
E = 1500 x $10^3$ psi

TREATMENT

To conform with Section 86 Standard Specifications

GALVANIZATION

All steel or iron per Section 75 Standard Specification.

SPECIFICATIONS

Caltrans Standard Specifications 2010
ANSI 05 Wood Poles
ASTM A475 Utility Grade Wires

NOTES:

1. All overhead cables shall be slack spanned with 25'-0" minimum overhead clearance.
2. Conductors shall be suspended from span-wire as follows:
   A) Main run 5/16" span-wire with 4.5%± sag.
   No spare conductors allowed except as noted.
3. Overhead line construction not specifically covered here shall conform with the provisions of General Order No. 95 of Public Utilities Commission.
4. Wood poles shall be stabilized using guy wires, breast blocks or rakes at each dead end, corner, drop or line deviation more than 10° from straight line. The direction of the guy shall counteract the resultant of unbalanced force applied to pole. Where space or conflict prevent guy installation, a diagonal brace shall be used. The brace shall be wood and shall be connected to the pole by means to satisfy structural and electrical requirements. The direction of the brace shall counteract the resultant of unbalanced horizontal force of 3000 pounds (Min).
5. Guy wire shall be attached to pole as nearly as practical to the center of conductors load, or 3'-0" Max otherwise, See Note 4.
6. All attachments shall be mounted with stainless steel straps or other manufacturers methods without drilling holes in pole, except as shown. Drilling through pole will require the Engineer's approval.
7. Foundation design is based on AASHTO 2009 and 2010 Interim Revisions article 13.6 Broms' approximate procedure assuming a cohesionless material. The angle of internal friction used is 30° and unit weight of soil used is 120 lb/ft$^3$. The Contractor to verify actual soil condition.
8. If pole is located on a steep slope add 2 feet extra for embedment.
9. See Sheets SES-2, SES-3 and SES-4 for details.
10. For details not shown, see "2010 STANDARD PLANS" and "2010 REVISED STANDARD PLANS"
11. Attach combination of attachments as specified at locations where indicated on Electrical Sheets.
12. The maimum overhead span is 200'.
13. All temporary wood poles shall be protected from traffic by means according to California Department of Transportation Highway Manual as required. See "Roadway Plans".

| | | | | | |
|---|---|---|---|---|---|
| DESIGN | BY YU SONG | CHECKED TAMARA MARCHENKO | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN SPECIAL DESIGN BRANCH | BRIDGE NO. N/A |
| DETAILS | BY P C WELLS | CHECKED YU SONG | | | POST MILE Varies |
| QUANTITIES | BY X | CHECKED X | | | |

# TEMPORARY LIGHTING SYSTEM
# TEMPORARY WOOD POLE

SES-1

STRUCTURES DESIGN SPECIAL DESIGN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3619
PROJECT NUMBER & PHASE: 0412000628
CONTRACT NO.: 04-152721

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

| REVISION DATES | | | | | SHEET | OF |
|---|---|---|---|---|---|---|
| 10-24-13 | | | | | 1 | 4 |

FILE => 04152721-U-ses01.dgn

USERNAME => s124393 DATE PLOTTED => 09-JAN-2014 TIME PLOTTED => 15:00

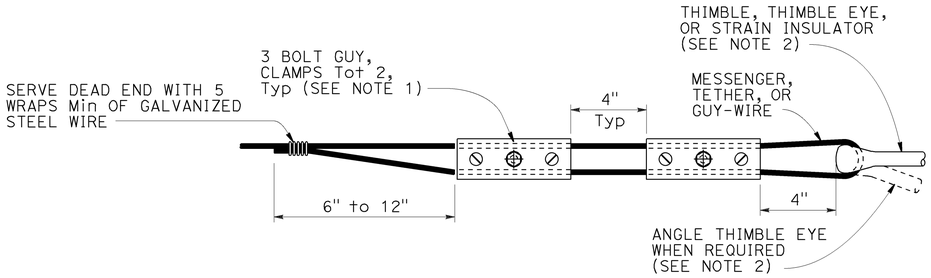
| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4,242 | R8.0/25.0<br>0.0/3.4 | 462 | 477 |

REGISTERED CIVIL ENGINEER — 10-25-2013 DATE

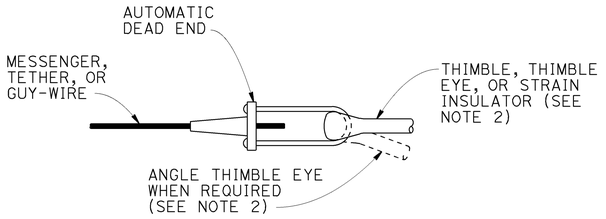
1-13-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — YU SONG No. C71687 Exp. 12/31/15 CIVIL — STATE OF CALIFORNIA

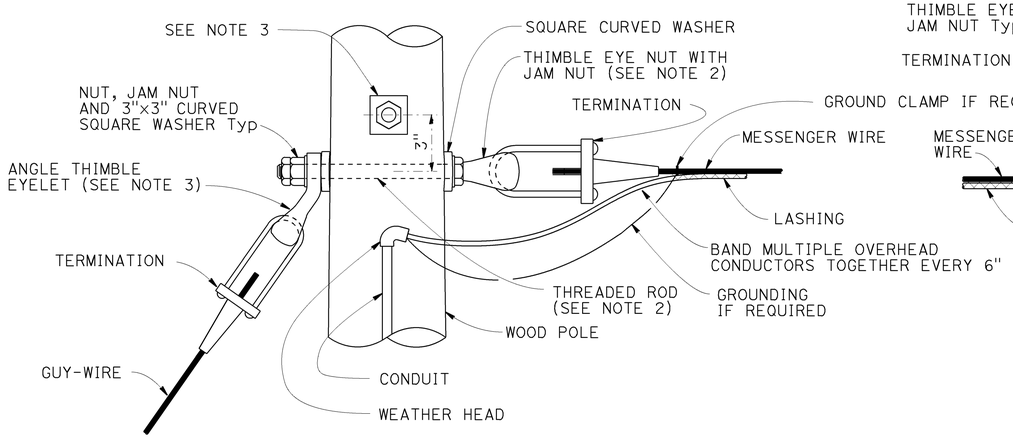
*The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.*



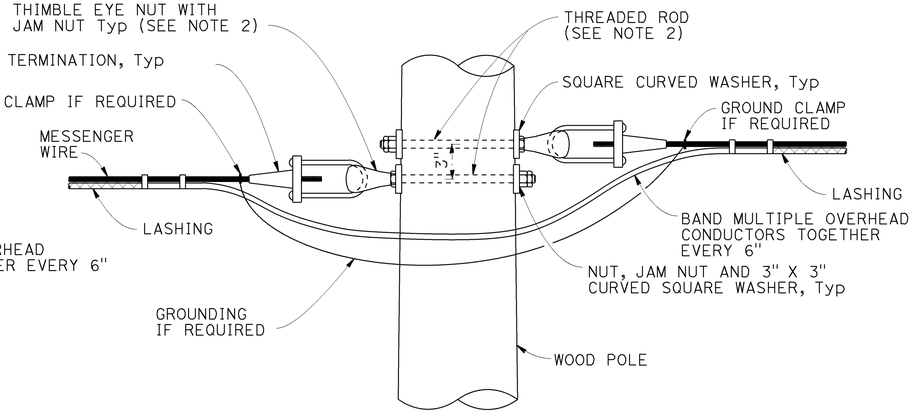

## ALTERNATIVE TERMINATION OF MESSENGER WIRES USING GUY CLAMPS



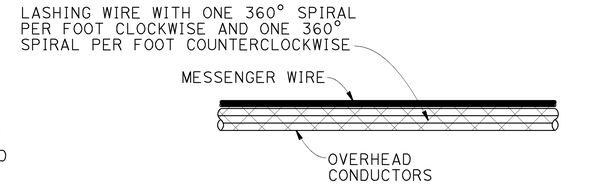

## TERMINATION OF WIRES USING AUTOMATIC DEAD END




## POLE AT DEAD END WITH GUY-WIRE CONNECTION

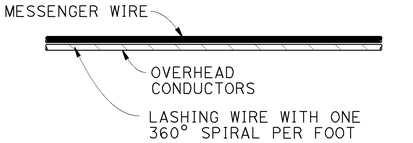



## POLE AT TANGENT OR CORNER CONNECTION



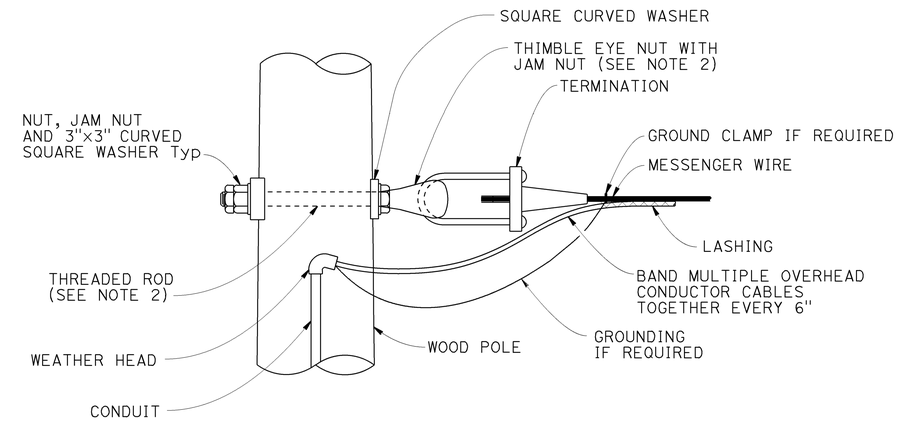

## DOUBLE LASHING DETAIL

USE IF $d_p$ IS GREATER THAN 1½"



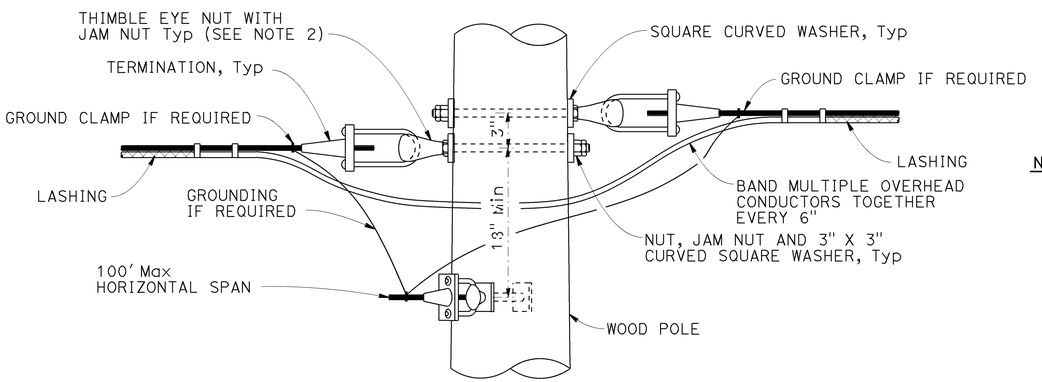

## TYPICAL LASHING DETAIL

USE IF $d_p$ IS 1½" OR LESS




## POLE AT DEAD END CONNECTION

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.




## POLE AT JUNCTION CONNECTION

**NOTES:**

1. For guy wires use 3 clamps.
2. Use ⅝" ø except ¾" ø at guyed wires
3. Install additional angle thimble eyelet at poles with two guy wires.

NO SCALE

| | | | | | |
|---|---|---|---|---|---|
| DESIGN | BY YU SONG | CHECKED TAMARA MARCHENKO | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN<br>SPECIAL DESIGN BRANCH | BRIDGE NO. N/A<br>POST MILE Varies | TEMPORARY LIGHTING SYSTEM<br>DETAILS No. 1 | SES-2 |
| DETAILS | BY P C WELLS | CHECKED YU SONG | | | | | |
| QUANTITIES | BY X | CHECKED X | | | | | |

DS OSD 2147A (ENGLISH STANDARD DRAWING "XS" BORDER REV. (02-02-11)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3619
PROJECT NUMBER & PHASE: 0412000628
CONTRACT NO.: 04-152721

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| 10-24-13 | | | | 2 | 4 |

FILE => 04152721-U-ses02.dgn

USERNAME => s124393 DATE PLOTTED => 09-JAN-2014 TIME PLOTTED => 15:00

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4,242 | R8.0/25.0<br>0.0/3.4 | 463 | 477 |

REGISTERED CIVIL ENGINEER — 10-25-2013 DATE

1-13-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
YU SONG
No. C71687
Exp. 12/31/15
CIVIL
STATE OF CALIFORNIA

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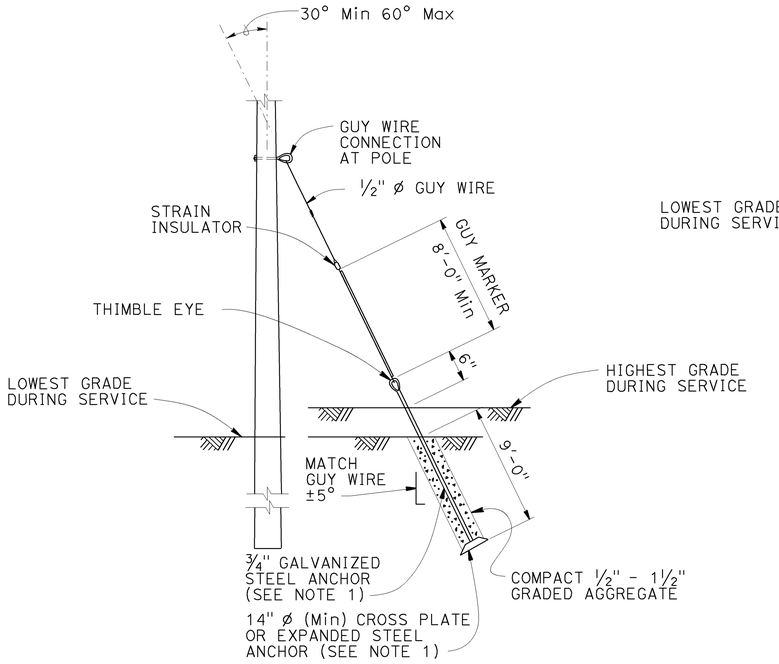
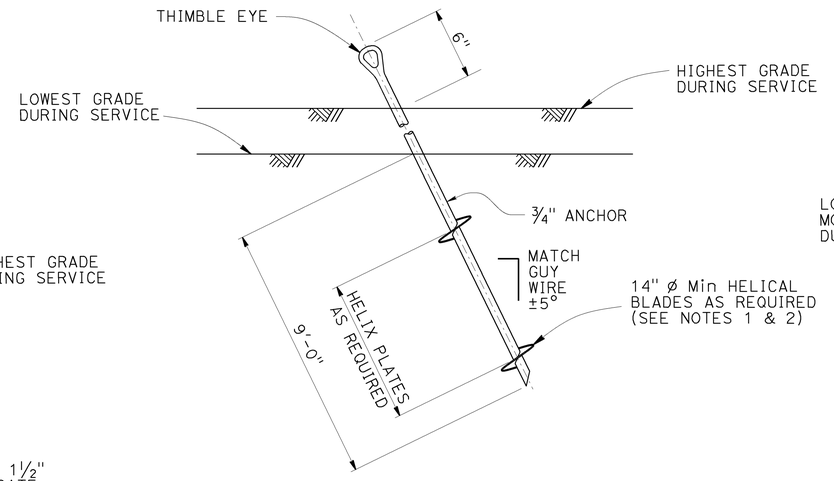
**NOTES:**

1. Minimum allowable tension capacity "Qa" = 8,900 lbs.
2. Minimum installation torque "T" = 1780 lbs-ft.
3. Helical anchor detail may be used in place of expanded steel anchors.

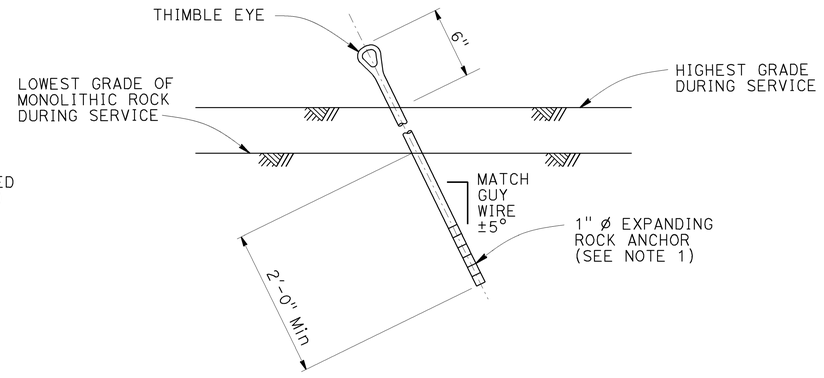



## EXPANDED STEEL ANCHOR DETAIL

SEE NOTE 3




## HELICAL ANCHOR DETAIL




## EXPANDING ROCK ANCHOR DETAIL

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

NO SCALE

| | | | | | | |
|---|---|---|---|---|---|---|
| DESIGN | BY YU SONG | CHECKED TAMARA MARCHENKO | STATE OF CALIFORNIA<br>DEPARTMENT OF TRANSPORTATION | DIVISION OF ENGINEERING SERVICES<br>STRUCTURE DESIGN<br>SPECIAL DESIGN BRANCH | BRIDGE NO. N/A<br>POST MILE Varies | TEMPORARY LIGHTING SYSTEM<br>DETAILS No. 2 |
| DETAILS | BY P C WELLS | CHECKED YU SONG | | | | SES-3 |
| QUANTITIES | BY X | CHECKED X | | | | |

DS OSD 2147A (ENGLISH STANDARD DRAWING "XS" BORDER REV. (02-02-11)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3619
PROJECT NUMBER & PHASE: 0412000628 CONTRACT NO.: 04-152721

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| 10-24-13 | | | | 3 | 4 |

FILE => 04152721-U-ses03.dgn

USERNAME => s1243933 DATE PLOTTED => 09-JAN-2014 TIME PLOTTED => 15:00

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4,242 | R8.0/25.0<br>0.0/3.4 | 464 | 477 |

REGISTERED CIVIL ENGINEER — 10-25-2013 DATE

1-13-14
PLANS APPROVAL DATE

YU SONG No. C71687 Exp. 12/31/15 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

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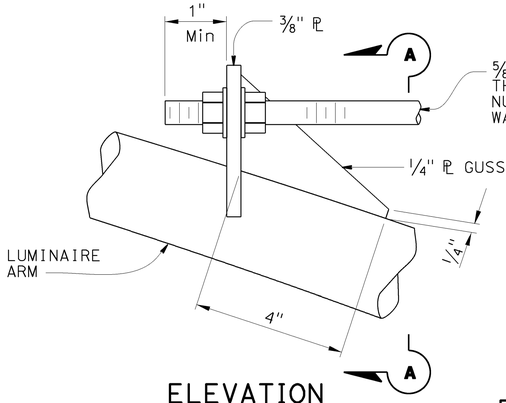
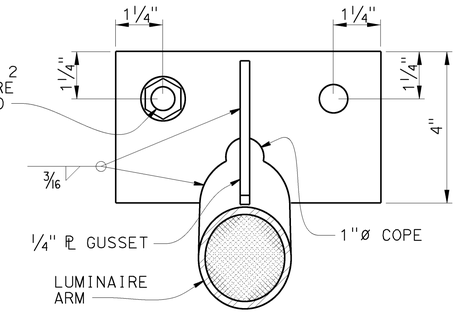



ELEVATION



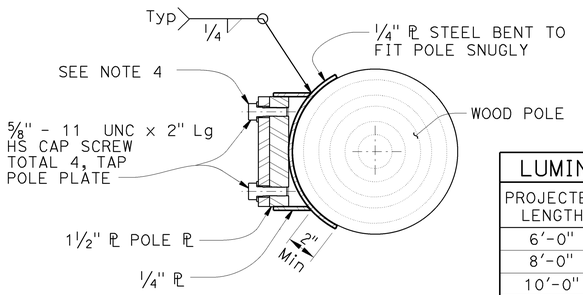

SECTION A-A

## DETAIL A
## TIE-ROD AT LUMINAIRE ARM

NO SCALE

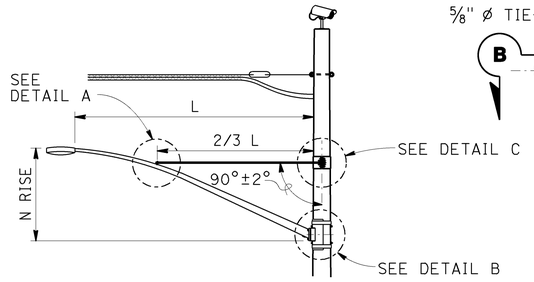
NOTES:

1. Luminaire mast arms must be in compliance with Standard Plan ES-6D with noted modifications.
2. Verify pole dimensions at tie-rod attachment height. Fabricate 8" flat bar with "L" Dimension to maintain an open gap between flanges in finished installation.
3. Not all screw heads and bolt heads are shown for clarity.
4. Mast arm not shown for clarity.

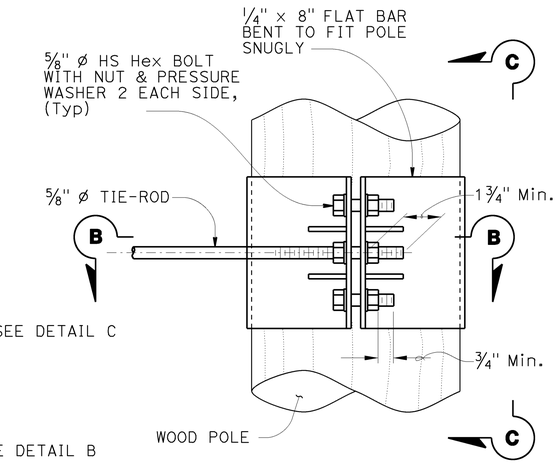



SECTION E-E

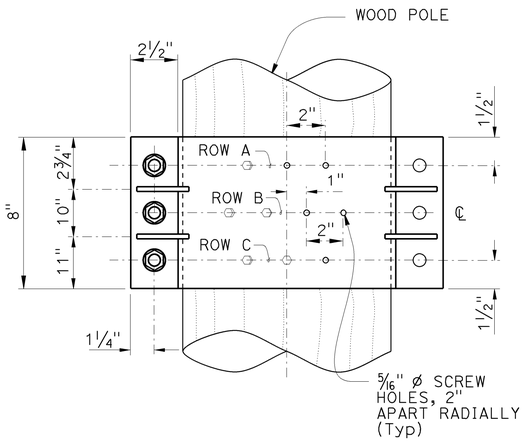
| LUMINAIRE MAST ARM DATA | | | |
|---|---|---|---|
| PROJECTED LENGTH | N RISE | Min OD AT POLE | NOMINAL THICKNESS |
| 6'-0" | 2'-0"± | 3 1/4" | 0.1196" |
| 8'-0" | 2'-6"± | 3 1/2" | |
| 10'-0" | 3'-3"± | 3 7/8" | |
| 12'-0" | 4'-3"± | | |



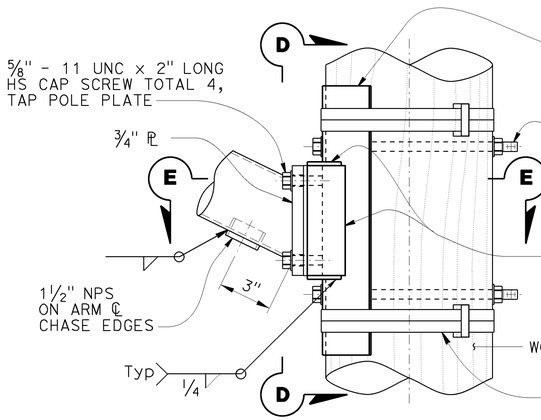

LUMINAIRE MAST ARM



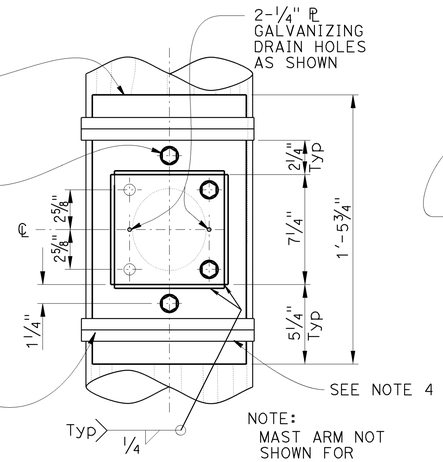

ELEVATION




VIEW C-C



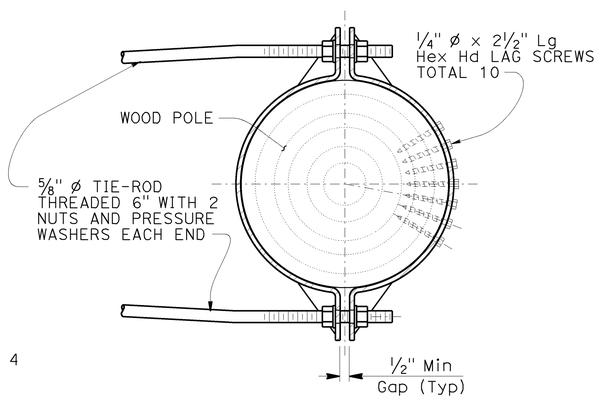

ELEVATION



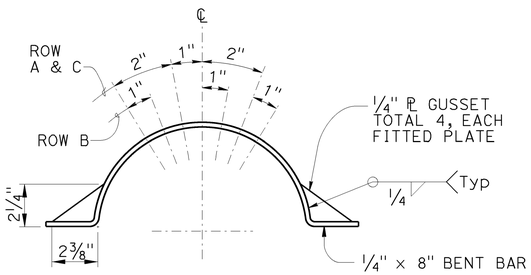

VIEW D-D

## DETAIL B
## ARM CONNECTION DETAILS

NO SCALE




SECTION B-B




LAG SCREW AND GUSSET PLATE LAYOUT

## DETAIL C
## TIE-ROD AT POLE

NO SCALE

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

| | BY | CHECKED |
|---|---|---|
| DESIGN | YU SONG | TAMARA MARCHENKO |
| DETAILS | P C WELLS | YU SONG |
| QUANTITIES | X | X |

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
SPECIAL DESIGN BRANCH

BRIDGE NO. N/A
POST MILE Varies

# TEMPORARY LIGHTING SYSTEM
## DETAILS No. 3

SES-4

DS OSD 2147A (ENGLISH STANDARD DRAWING "XS" BORDER REV. (02-02-11)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3619
PROJECT NUMBER & PHASE: 0412000628
CONTRACT NO.: 04-152721

DISREGARD PRINTS BEARING EARLIER REVISION DATES

| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| 10-24-13 | | | | 4 | 4 |

FILE => 04152721-U-ses04.dgn

USERNAME => s124393 DATE PLOTTED => 09-JAN-2014 TIME PLOTTED => 15:00

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4,242 | R8.0/25.0<br>0.0/3.4 | 465 | 477 |

10/29/13
REGISTERED CIVIL ENGINEER — DATE

YU SONG
No. C71687
Exp. 12/31/15
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

1-13-14
PLANS APPROVAL DATE

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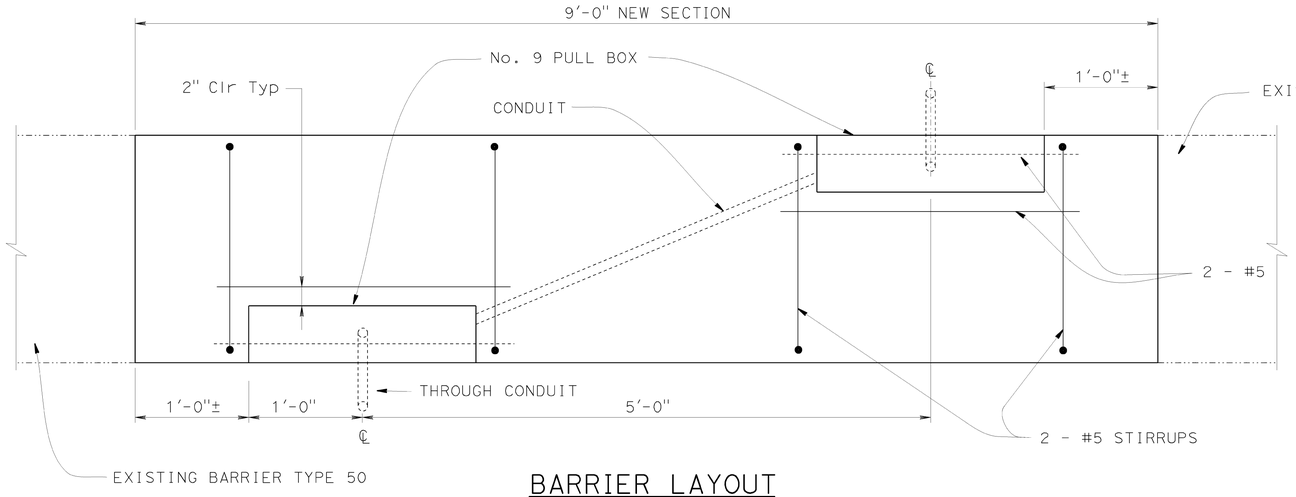
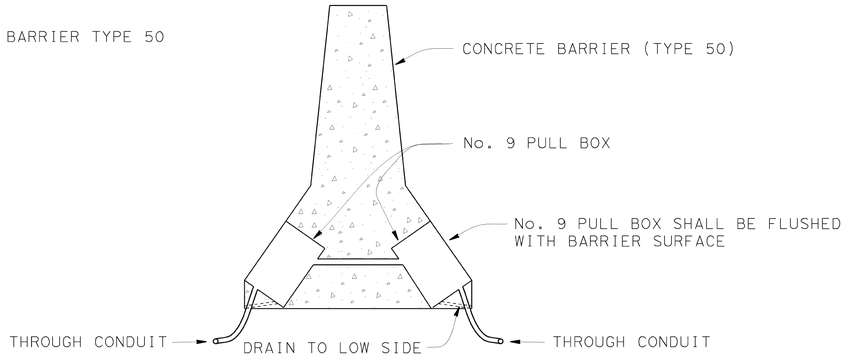



BARRIER LAYOUT

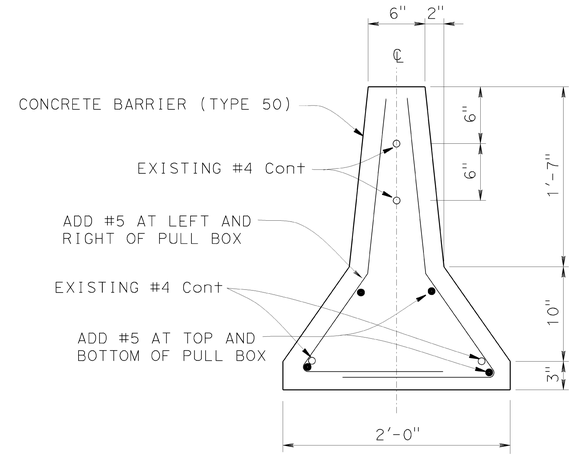



SECTION

# No. 9 DOUBLE PULL BOX INSTALLATION IN EXISTING MEDIAN BARRIER

NOTES:

1. Pull box installation steps:
   a. Remove 9' of existing barrier all the way to about ¾" from the bottom with jackhammer, leave existing rebars undamaged. Sandblast the existing rebars to remove old concrete.
   b. Cut the bottom horizontal bars for the size of No. 9 pull box. Install two No. 9 pull box back to back, and offset 5 ft. Add rebars around boxes as shown. Connect two pull box with conduit and install through conduits.
   c. Form 9' barrier section based on the shape of Type 50 barrier. No. 9 pull box shall be flushed with barrier surface. Create drainage hole below the box. Pour and cure concrete per Standard specification.
2. For No. 9 pull box detail, refer to Standard Plan ES-9C.
3. For pull box installation details, refer to Standard Plan ES-9A and ES-9D.




REBAR DETAIL

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

NO SCALE

| | | | |
|---|---|---|---|
| BRANCH CHIEF | DAVID NEUMANN | | |
| DESIGN | BY YU SONG | CHECKED T MARCHENKO | |
| DETAILS | BY H NGUYEN | CHECKED YU SONG | |
| QUANTITIES | BY | CHECKED | |

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
DESIGN AND TECHNICAL SERVICES
SPECIAL DESIGNS BRANCH
B

BRIDGE NO. N/A
POST MILE 0.0/3.4

**TYPE 9 PULL BOX IN EXISTING MEDIAN BARRIER**
**ELECTRICAL DETAILS**

**SES-5**

STRUCTURES DESIGN SPECIAL DESIGN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT:
PROJECT NUMBER & PHASE: 0412000628
CONTRACT NO.: 04-152721

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| 10/1/13 | | | | 1 | 1 |

FILE => 04-152722ses1.dgn

USERNAME => S1254178 DATE PLOTTED => 16-DEC-2013 TIME PLOTTED => 09:08

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4, 242 | R8.0/25.0<br>0.0/3.4 | 466 | 477 |

Eliseo Lopez 11/25/13
REGISTERED CIVIL ENGINEER DATE

1-13-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — ELISEO LOPEZ No. C72910 Exp. 12/31/14 CIVIL — STATE OF CALIFORNIA

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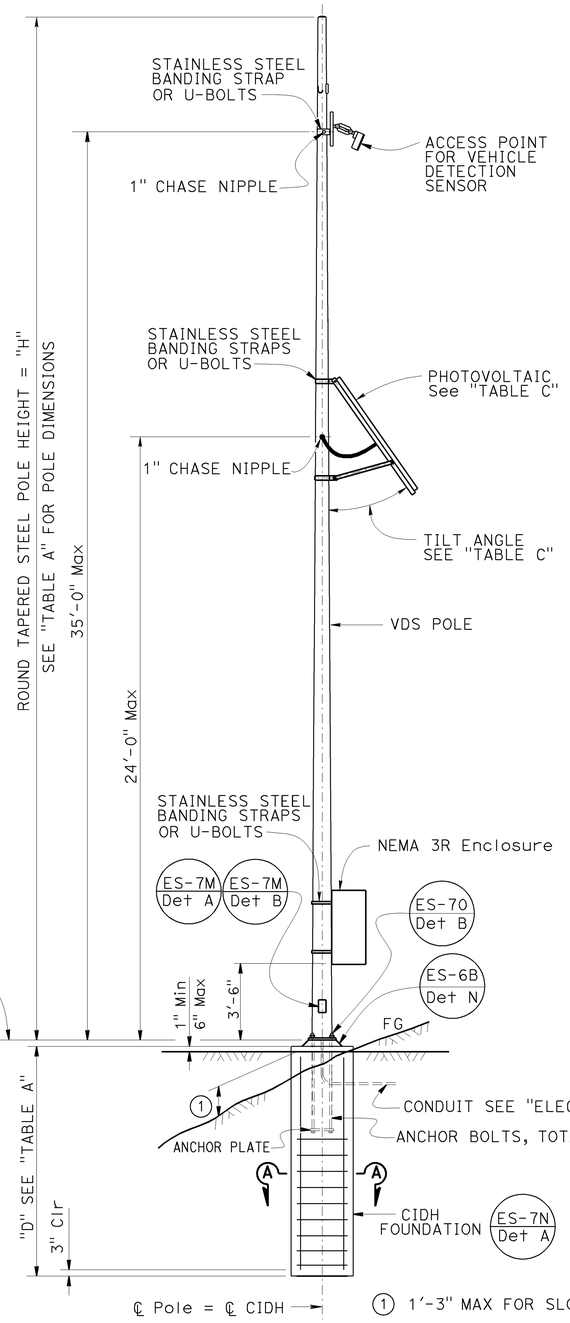



## ELEVATION

NO SCALE

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

**TABLE A**

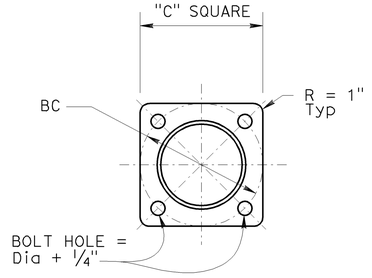
| POLE TYPE | POLE DATA | | | | BASE PLATE DATA | | | | "D" 2'-6" ϕ CIDH Pile | |
|---|---|---|---|---|---|---|---|---|---|---|
| | HEIGHT "h" | Min OD | | THICKNESS | "C" | THICKNESS | ANCHOR BOLTS | | | |
| | | BASE | TOP | | | | SIZE | BC = BOLT CIRCLE | LEVEL GROUND | SLOPING GROUND |
| VDS 40 | 40' | 9 3/8" | 3 7/8" | 0.1793" | 1'-3" | 1 1/2" | 1 1/2" ϕ x 3'-0 | 1'-3" | 12'-0" | 14'-0" |

**TABLE B**

| ATTACHMENT | DIMENSIONS | MOUNTING HEIGHT | WEIGHT LIMITS (LBS) |
|---|---|---|---|
| ENCLOSURE | 54"H X 18"W X 16"D Max | 3'-6" Max. bottom Clr | 450 Max |
| PHOTOVOLTAIC | 54"W X 48"H | 24' Max | 46 Max |
| ACCESS POINT SENSOR | 6"H X 5"W X 2 1/2"D | 35' Max | 5 Max |

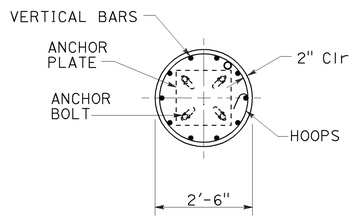
**TABLE C**

| PHOTOVOLTAIC PANEL LIMITS | |
|---|---|
| PANEL SIZE | TILT ANGLE |
| 18 $ft^2$ Max | 45° Min |




## BASE PLATE

SCALE 1 1/2"= 1'




## SECTION A-A

NO SCALE
SEE 2010 STANDARD PLAN ES-7N

## GENERAL NOTES:

SPECIFICATIONS

DESIGN: AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, FIFTH EDITION.

LOADING

WIND LOADINGS: (3 SEC GUST) : 100 MPH

UNIT STRESSES

STRUCTURAL STEEL: FY = 55,000 PSI (TAPERED STEEL TUBE AND ANCHOR BOLTS)
FY = 50,000 PSI (UNLESS OTHERWISE NOTED)

REINFORCED CONCRETE: F'C = 3,600 PSI
fy = 60,000 psi

NOTES:

1. FOR POLE LOCATION, SEE "ELECTRICAL PLANS"
2. ALL STEEL SHALL BE GALVANIZED AFTER FABRICATION.
3. DURING POLE ERECTION THE POLE SHALL BE RAKED AS NECESSARY WITH THE USE OF LEVELING NUTS TO PROVIDE A PLUMB POLE AXIS.
4. THE FOUNDATION SHALL BE TREATED AS LEVEL GROUND CONDITION IF THE SLOPE INCLINATION IS FLATTER THAN 4H:1V.
5. FOUNDATION DESIGN IS BASED ON AASHTO LTS-5 ARTICLE 13.6 BROMS' APPROXIMATE PROCEDURE ASSUMING A COHESSIONLESS MATERIAL. THE ANGLE OF INTERNAL FRICTION USED IS 30 DEGREES AND UNIT WEIGHT OF SOIL USED IS 120 LBS/$FT^3$.
6. ALL ATTACHMENT, UNLESS OTHERWISE NOTED, SHALL BE MOUNTED TO POLE WITH STAINLESS STRAPS OR OTHER METHOD WITHOUT DRILLING HOLES IN POLE.
7. FOR DETAILS NOT SHOWN, SEE "2010 STANDARD PLANS" AND "2010 REVISED STANDARD PLANS"

BRANCH CHIEF JEFFREY B WOODY

| | BY | CHECKED |
|---|---|---|
| DESIGN | ELISEO LOPEZ | ARLENA GUTIERREZ |
| DETAILS | JINLI GUO | ARLENA GUTIERREZ |
| QUANTITIES | BY | CHECKED |

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
DESIGN AND TECHNICAL SERVICES
SPECIAL DESIGNS BRANCH A

BRIDGE NO. N/A
POST MILE 0.8/25.0,0.0/3.4

# ELECTRICAL SYSTEMS
## VEHICLE DETECTION SYSTEM POLE DETAILS

SES-6

(ENGLISH) SPECIAL DESIGNS BRANCH BORDER SHEET (REV. 7-1-09)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3619
PROJECT NUMBER & PHASE: 0412000628-1 CONTRACT NO.: 04-152721

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES: 11/27/13 | 1/10/14 | 11/25/13 | 1/6/14

| SHEET | OF |
|---|---|
| 1 | 2 |

FILE => spec_des_br_prj/2013sd/04-152721/04152721-g-_ses6.dgn

USERNAME => s129055 DATE PLOTTED => 10-JAN-2014 TIME PLOTTED => 11:29

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4, 242 | R8.0/25.0 0.0/3.4 | 467 | 477 |

Eliseo Lopez 11/25/13
REGISTERED CIVIL ENGINEER DATE

1-13-14
PLANS APPROVAL DATE

ELISEO LOPEZ No. C72910 Exp. 12/31/14 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

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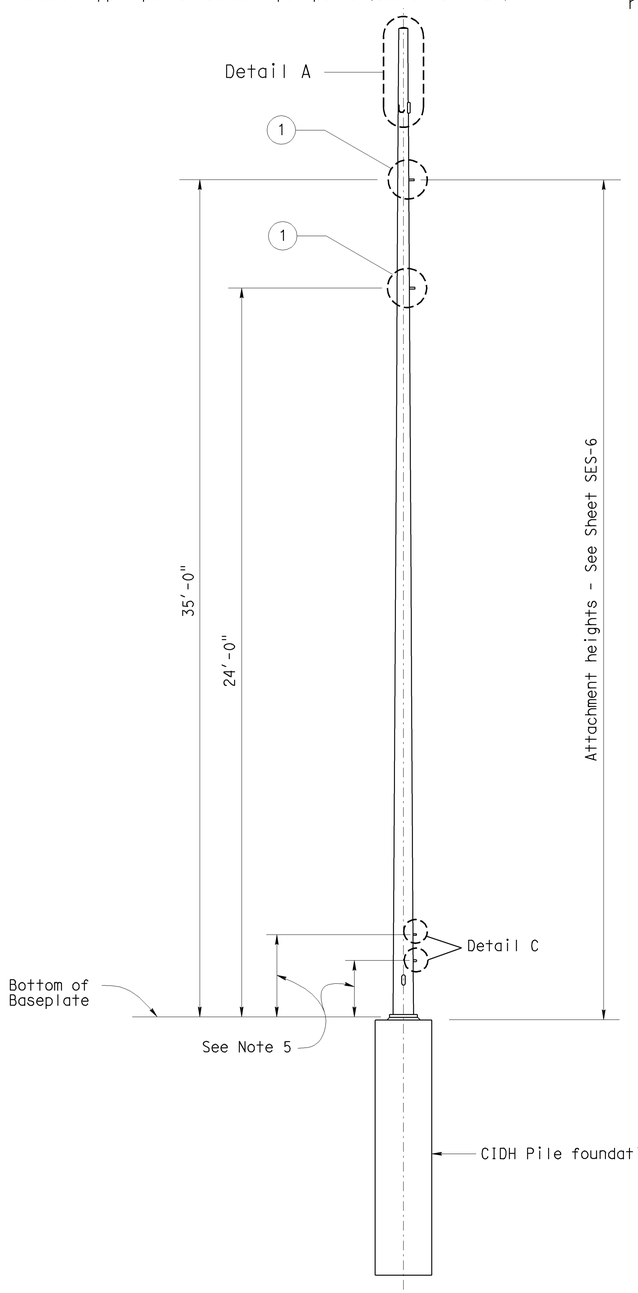
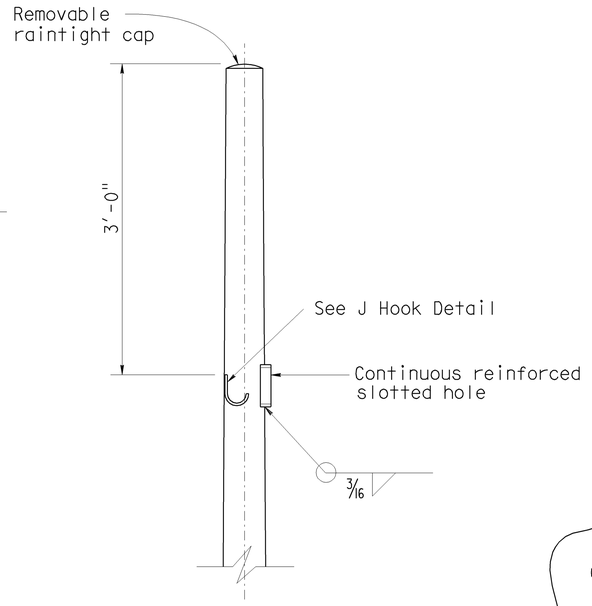
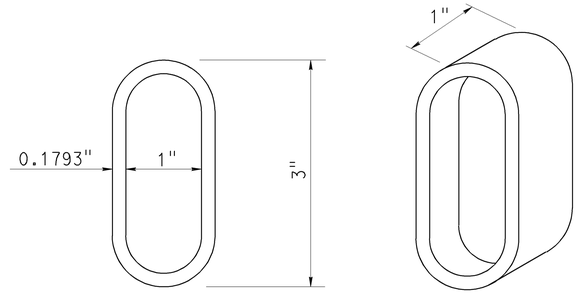
(1) Drill and tap for 1" Chase nipple and plug with raintight plugs. 1" chase nipple per attachment per pole. (See Detail "B")



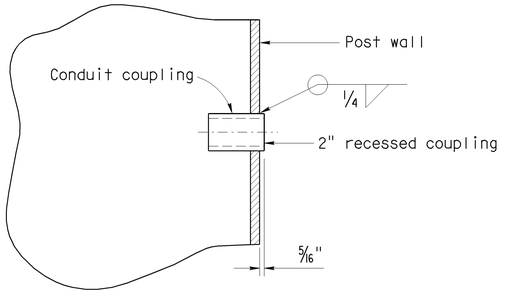

## ELEVATION



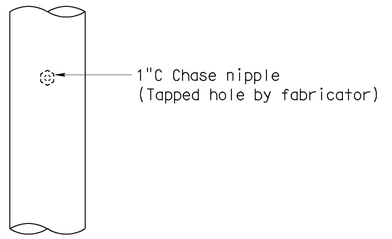

## DETAIL A



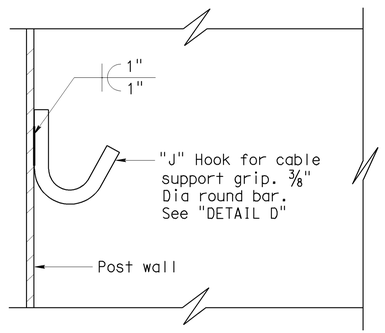

## SLOTTED HOLE



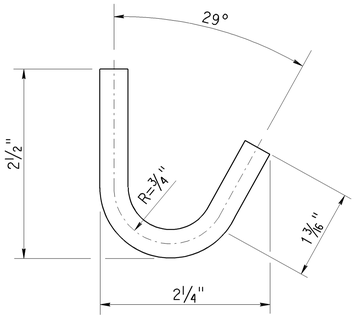

## 2" RECESSED COUPLING DETAIL C (TYPICAL)




## DETAIL B
## TYPICAL ELECTRICAL ACCESS DETAIL




## J HOOK DETAIL




## DETAIL D

**NOTES:**

1. Place all couplings on the same side of pole.
2. Chase nipples and slotted hole shall have a raintight plug. Plug should only be removed if chase nipple or slotted hole is used.
3. The chase nipples shall be 1'-0" min vertical clearance from the slotted hole and not on the same side as the slotted hole.
4. For attachment details, see sheet SES-1.
5. Coupling location above ground and spacing shall be verified to match choice of enclosure, prior to fabrication.
6. All attachments, unless otherwise noted, shall be mounted to pole with stainless steel straps or other method without drilling holes in pole. Enclosure may require drilling through post for mounting. Method of mounting enclosure will require Engineer approval.

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

BRANCH CHIEF JEFFREY B WOODY

| | BY | CHECKED |
|---|---|---|
| DESIGN | ELISEO LOPEZ | ARLENA GUTIERREZ |
| DETAILS | JINLI GUO | ARLENA GUTIERREZ |
| QUANTITIES | BY | CHECKED |

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
DESIGN AND TECHNICAL SERVICES
SPECIAL DESIGNS BRANCH A

BRIDGE NO. N/A
POST MILE 0.8/25.0,0.0/3.4

# ELECTRICAL SYSTEMS
## VEHICLE DETECTION SYSTEM POLE DETAILS

SES-7

(ENGLISH) SPECIAL DESIGNS BRANCH BORDER SHEET (REV. 7-1-09)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3619
PROJECT NUMBER & PHASE: 0412000628-1 CONTRACT NO.: 04-152721

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| 11/27/13 | 1/10/14 | 12/13/13 | 1/6/14 | 2 | 2 |

FILE => spec_des_br_prj/2013sd/04-152721/04152721-a-_ses-7.dgn

USERNAME => s123055 DATE PLOTTED => 10-JAN-2014 TIME PLOTTED => 11:29

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 1, 242 | R8.0/25.0<br>0.0/3.4 | 468 | 477 |

REGISTERED CIVIL ENGINEER — 01-09-14 DATE

1-13-14
PLANS APPROVAL DATE

TAMARA S. MARCHENKO
REGISTERED PROFESSIONAL ENGINEER
No. C76837
Exp. 12-31-14
CIVIL
STATE OF CALIFORNIA

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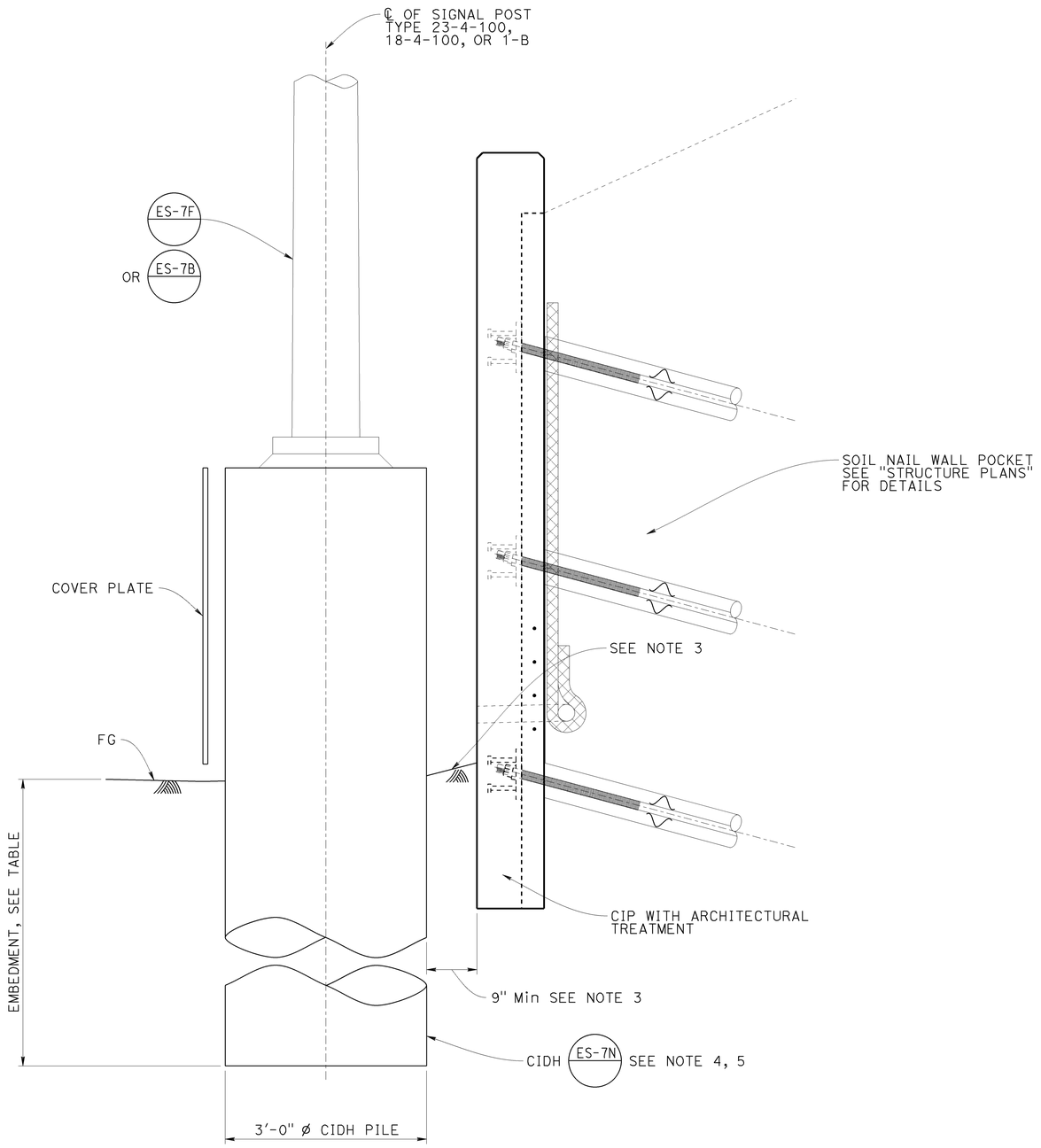


SECTION

CIDH PILE FOUNDATION

| Signal Standard Type | 23-4-100 OR 18-4-100 | 1-B |
|---|---|---|
| Embedment Depth | 16' | 10' |

NOTES:

1. For details not shown see retaining wall details on "STRUCTURE PLANS".
2. Soil Nail Wall shall be modified for pocket at location of the signal standard. See "STRUCTURE PLANS" for location.
3. Maintain 5% slope outward from the pocket for drainage.
4. Corrosive resistant concrete (CRC) required for CIDH plies located within Pine Street intersection, both directions.
5. CRC water-to-cementitious material ratio must be 0.4. Refer to the Standard Specifications 90-1.02H for other requirements.

NO SCALE

BRANCH CHIEF DAVID A NEUMANN

| | BY | CHECKED |
|---|---|---|
| DESIGN | TAMARA MARCHENKO | MAHFOUD LICHA |
| DETAILS | SHUMEI JIANG | MAHFOUD LICHA |
| QUANTITIES | | |

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
SPECIAL DESIGN BRANCH

BRIDGE NO. N/A
POST MILE N/A

# SIGNAL STANDARD ON RW (MOD)
# EXTENDED CIDH PLE DETAILS

SES-8

STRUCTURES DESIGN SPECIAL DESIGN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3619
PROJECT NUMBER & PHASE: 0412000628-1 CONTRACT NO.: 04-152721

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

| REVISION DATES | SHEET | OF |
|---|---|---|
| 01-08-14 | X | X |

FILE => 28-morello-u-misc-ses-8.dgn

USERNAME => s132028 DATE PLOTTED => 10-JAN-2014 TIME PLOTTED => 14:02

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4, 242 | R8.0/25.0<br>0.0/3.4 | 469 | 477 |

REGISTERED CIVIL ENGINEER — 01-10-14 DATE

1-13-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
TAMARA S. MARCHENKO
No. C76837
Exp. 12-31-14
CIVIL
STATE OF CALIFORNIA

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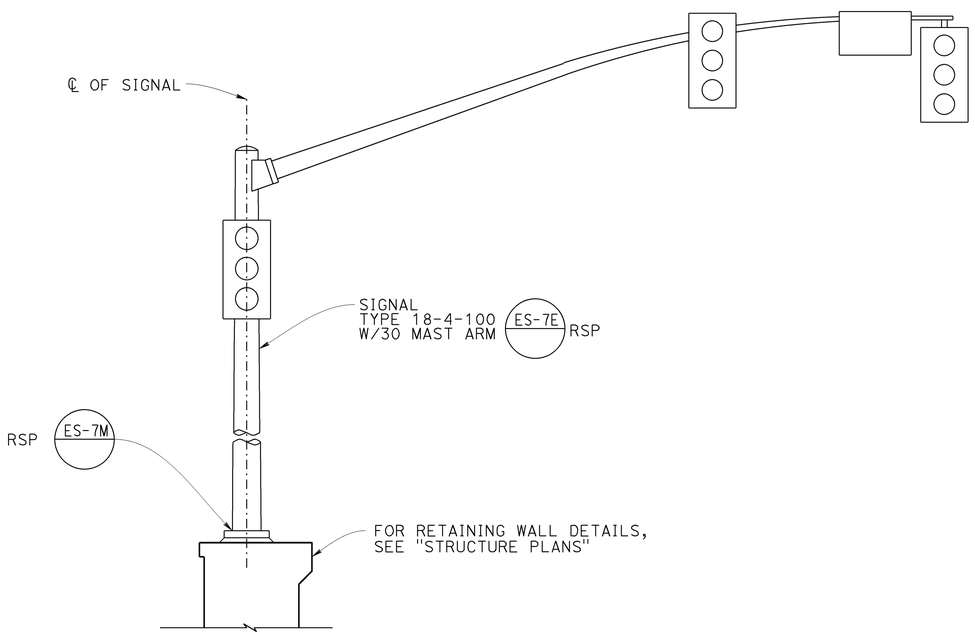
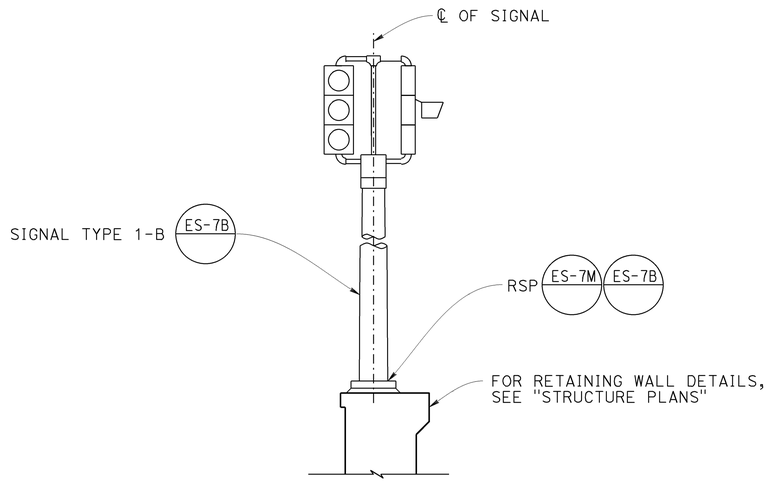



## ELEVATION
## TYPE 18-4-100 RETAINING WALL MOUNTED




## ELEVATION
## TYPE 1-B RETAINING WALL MOUNTED

NOTES:

1. All steel shall be galvanized after fabrication.
2. During pole erection the pole shall be raked as necessary with the use of leveling nuts to provide a plumb pole axis.
3. For details not shown see "2010 STANDARD PLANS" and "2010 REVISED STANDARD PLANS"

NO SCALE

BRANCH CHIEF DAVID A NEUMANN

| | BY | CHECKED |
|---|---|---|
| DESIGN | TAMARA MARCHENKO | MAHFOUD LICHA |
| DETAILS | SHUMEI JIANG | MAHFOUD LICHA |
| QUANTITIES | BY | CHECKED |

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
SPECIAL DESIGN BRANCH

BRIDGE NO. RETW
POST MILE 10.18 & 10.49

# SIGNAL STANDARD ON RW
# POLE DETAILS

SES-9

STRUCTURES DESIGN SPECIAL DESIGN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

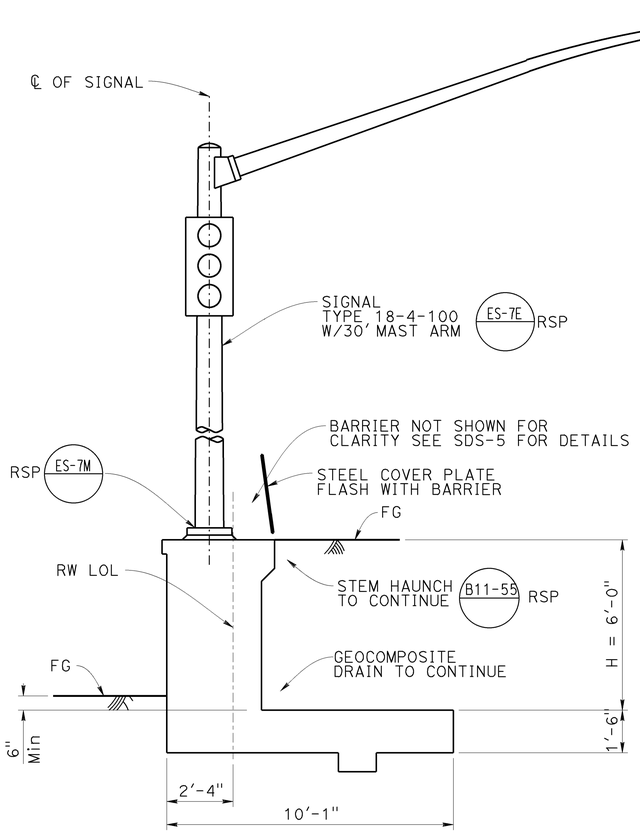
UNIT: 3619
PROJECT NUMBER & PHASE: 0412000628-1 CONTRACT NO.: 04-152721

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

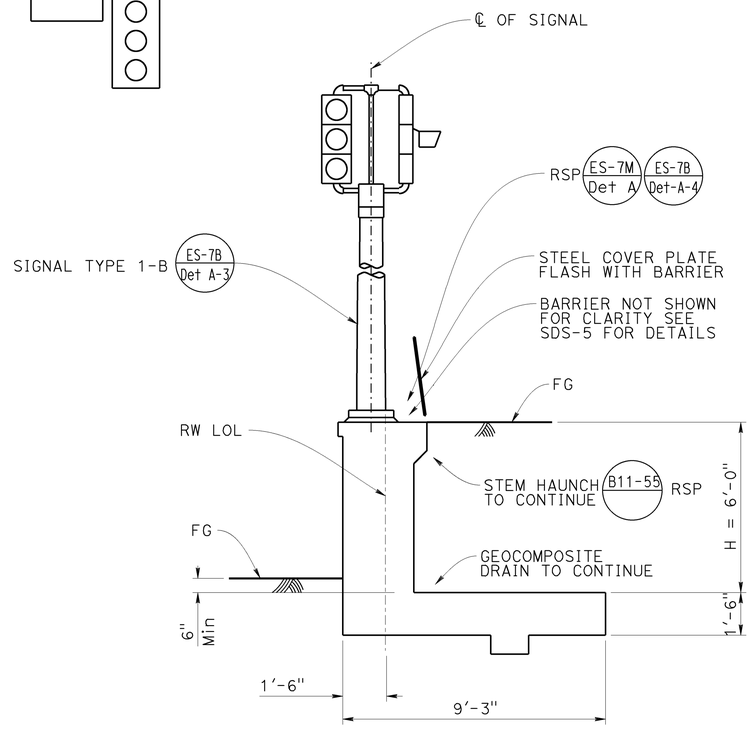
| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| 01-08-14 | | | | X | X |

FILE => 28-morello-u-misc-ses-9.dgn

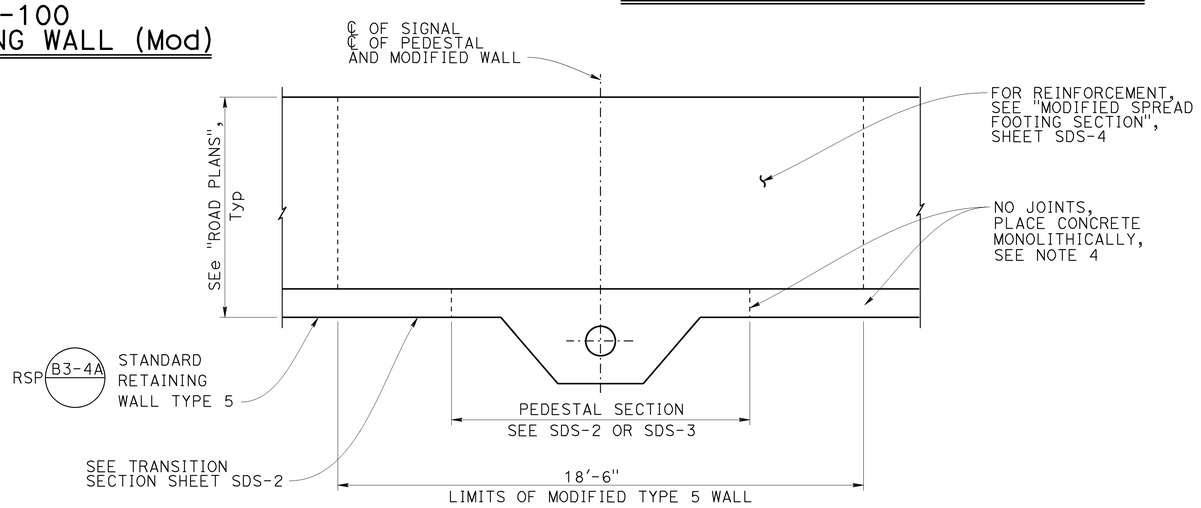
USERNAME => s8132428 DATE PLOTTED => 10-JAN-2014 TIME PLOTTED => 13:43




## TYPE 18-4-100
## ON TYPE 5 RETAINING WALL (Mod)




## TYPE 1-B
## ON TYPE 5 RETAINING WALL (Mod)




## PLAN

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4,242 | R8.0/25.0 0.0/3.4 | 470 | 477 |

12-12-13
REGISTERED CIVIL ENGINEER — DATE

TAMARA S. MARCHENKO — REGISTERED PROFESSIONAL ENGINEER — No. C76837 — Exp. 12-31-14 — CIVIL — STATE OF CALIFORNIA

1-13-14
PLANS APPROVAL DATE

*The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.*

## DESIGN CONDITIONS:

Design H may be exceeded by 6". Special footing design is required where foundation material is incapable of supporting bearing stress listed in the table.

## DESIGN NOTES:

DESIGN: AASHTO LRFD Bridge Design Specifications, 4th Edition with California Amendments

LS: Varied surcharge on level ground surface

DC: Stem Architectural Treatment of thickness up to 6" of concrete (75 psf) considered

CT: 54 kip transverse force applied at He = 32", distributed over 10 feet at the top of wall and 1 : 1 distribution down and outward. Distribution below footing taken no less than 40'.

SEISMIC: $k_h = 0.24$
$k_v = 0.0$

SOIL: $\phi = 34°$
$\gamma = 120$ pcf

REINFORCED CONCRETE: $f'c = 3{,}600$ psi
$fy = 60{,}000$ psi

LOAD COMBINATIONS AND LIMIT STATES:

| | |
|---|---|
| Service I | Q = 1.00DC+1.00EV+1.00EH+1.00LS |
| Strength I | Q = αDC+βEV+ηEH+1.75LS |
| Extreme I | Q = 1.00DC+1.00EV+1.00EH+1.00EQD+1.00EQE |
| Extreme II | Q = 1.00DC+1.00EV+1.00EH+1.00CT |

Where:

| | |
|---|---|
| Q: | Force Effects |
| α: | 1.25 or 0.90, Whichever Controls Design |
| β: | 1.35 or 1.00, Whichever Controls Design |
| η: | 1.50 or 0.90, Whichever Controls Design |
| DC: | Dead Load of Structure Components |
| EH: | Horizontal Earth Fill Pressure |
| EV: | Vertical Earth Pressure from Earth Fill Weight |
| LS: | Live Load Surcharge |
| EQE: | Seismic Earth Pressure |
| EQD: | Soil and Structural and Nonstructural Components Inertia |
| CT: | Vehicular Collision Force |

## NOTES:

1. Before construction bottom of footing shall be over-excavated to a depth of 2' and 1' on either side and the over-excavated area shall be backfilled using structure backfill materials at 95% relative compaction up to the bottom grade. Except as permitted by the engineer upon field verification.
2. For drainage, joints and backfilling, see Standard Plans B3-9.
3. Provide joints when required, but no less than 20' from center line of signal pedestal, symmetrically.
4. Base plate shall be centered at pedestal at station stated on "electrical" sheets.

NO SCALE

BRANCH CHIEF: DAVID A NEUMANN

| | BY | CHECKED |
|---|---|---|
| DESIGN | TAMARA MARCHENKO | MAHFOUD LICHA |
| DETAILS | SHUMEI JIANG | MAHFOUD LICHA |
| QUANTITIES | X | X |

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
SPECIAL DESIGN BRANCH

BRIDGE NO. 28-242R
POST MILE 8/25,0/3.4

# SIGNAL STANDARD ON TYPE 5 RW (MOD)
# SIGN PEDESTAL

SDS-1

STRUCTURES DESIGN SPECIAL DESIGN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS: 0 1 2 3

UNIT: 3619
PROJECT NUMBER & PHASE: 0412000628-1
CONTRACT NO.: 04-152721

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES: 8-13-13 | 12-02-13 | 10-08-13

SHEET 1 OF 8

FILE => 04-152721-u-misc-sds01.dgn

USERNAME => s133428 DATE PLOTTED => 12-DEC-2013 TIME PLOTTED => 15:37

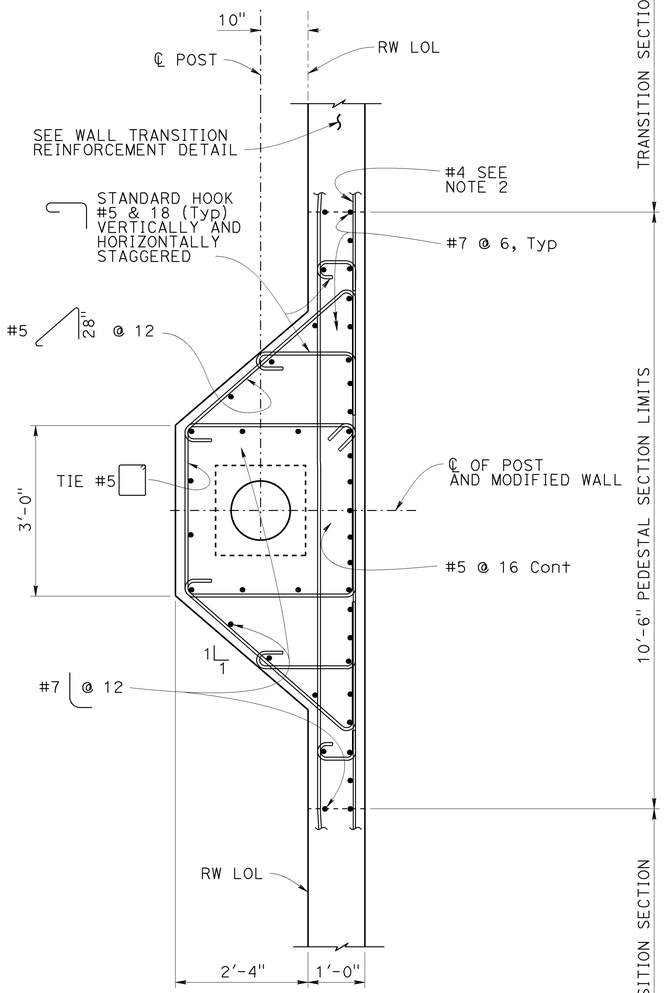
| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4,242 | R8.0/25.0<br>0.0/3.4 | 471 | 477 |

REGISTERED CIVIL ENGINEER — 12-12-13 DATE

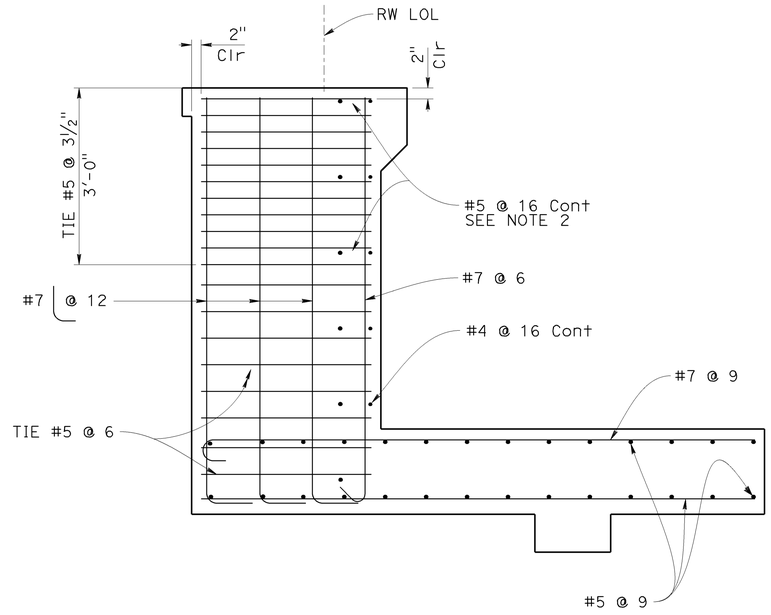
1-13-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
TAMARA S. MARCHENKO
No. C76837
Exp. 12-31-14
CIVIL
STATE OF CALIFORNIA

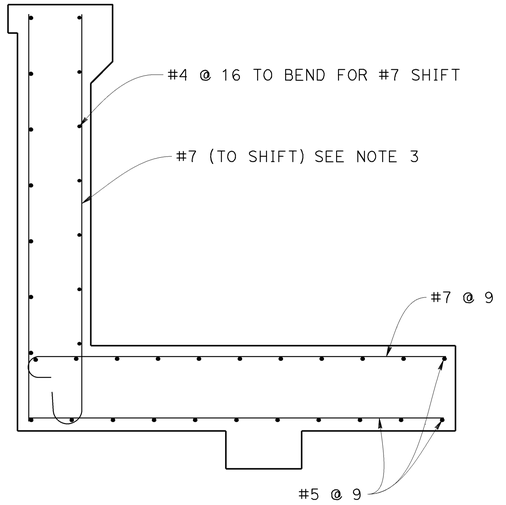
*The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.*




## TYPE 18-4-100 PEDESTAL SECTION

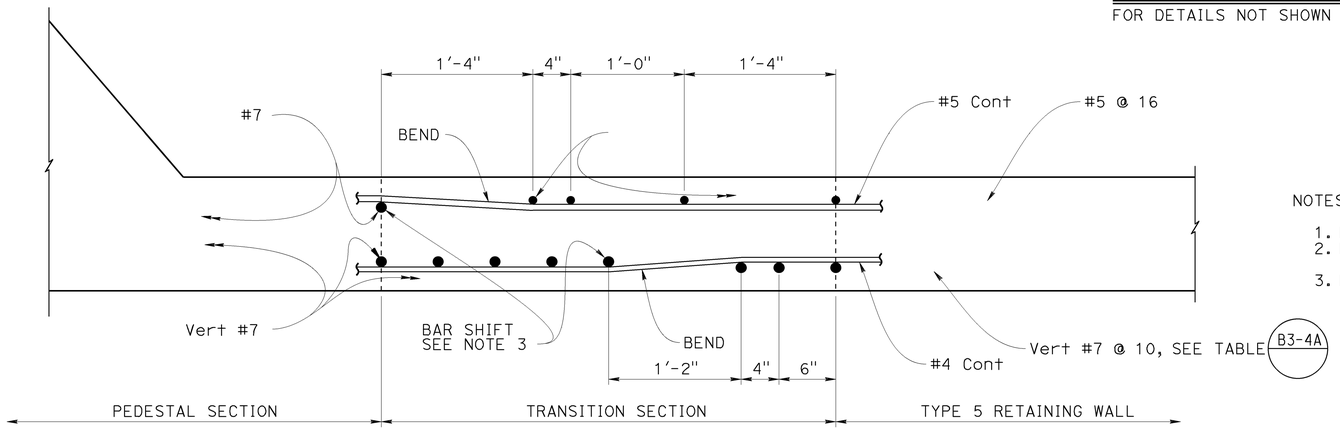



## PEDESTAL AND FOOTING




## TRANSITION SECTION

FOR DETAILS NOT SHOWN SEE RSP B3-4A




NOTES:

1. Bend bars where anchor bolts occur.
2. Bar must be continue thru pedestal section.
3. Bars to be shifted inward adjust bar position for bending.

## TRANSITION REINFORCEMENT DETAIL

NO SCALE

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| BRANCH CHIEF: DAVID A NEUMANN | DESIGN | BY: TAMARA MARCHENKO | CHECKED: MAHFOUD LICHA | STATE OF CALIFORNIA<br>DEPARTMENT OF TRANSPORTATION | DIVISION OF ENGINEERING SERVICES<br>STRUCTURE DESIGN<br>SPECIAL DESIGN BRANCH | BRIDGE NO. 28-242R<br>POST MILE 8/25,0/3.4 | SIGNAL STANDARD ON TYPE 5 RW (MOD)<br>REINFORCEMENT DETAILS No. 1 | SDS-2 |
| | DETAILS | BY: SHUMEI JIANG | CHECKED: MAHFOUD LICHA | | | | | |
| | QUANTITIES | BY: X | CHECKED: X | | | | | |

STRUCTURES DESIGN SPECIAL DESIGN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3619
PROJECT NUMBER & PHASE: 0412000628-1 CONTRACT NO.: 04-152721

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES: 8-15-13 | 12-03-13 | 10-28-13

SHEET 2 OF 8

FILE => 04-152721-u-misc-sds02.dgn

USERNAME => s1132428 DATE PLOTTED => 12-DEC-2013 TIME PLOTTED => 15:37

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4, 242 | R8.0/25.0<br>0.0/3.4 | 472 | 477 |

REGISTERED CIVIL ENGINEER — 12-12-13 DATE

1-13-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
TAMARA S. MARCHENKO
No. C76837
Exp. 12-31-14
CIVIL
STATE OF CALIFORNIA

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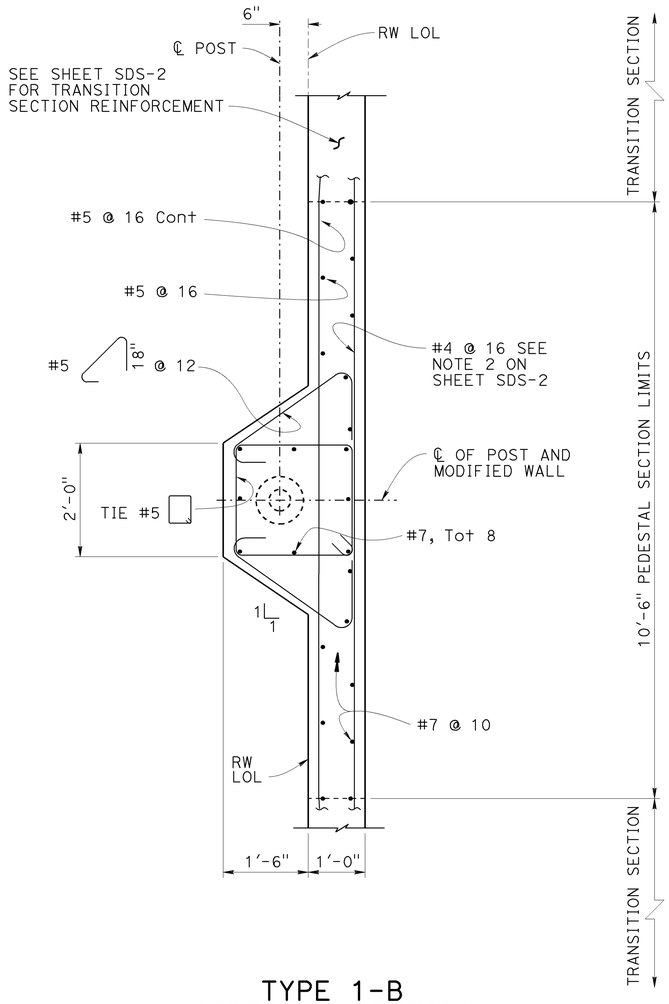
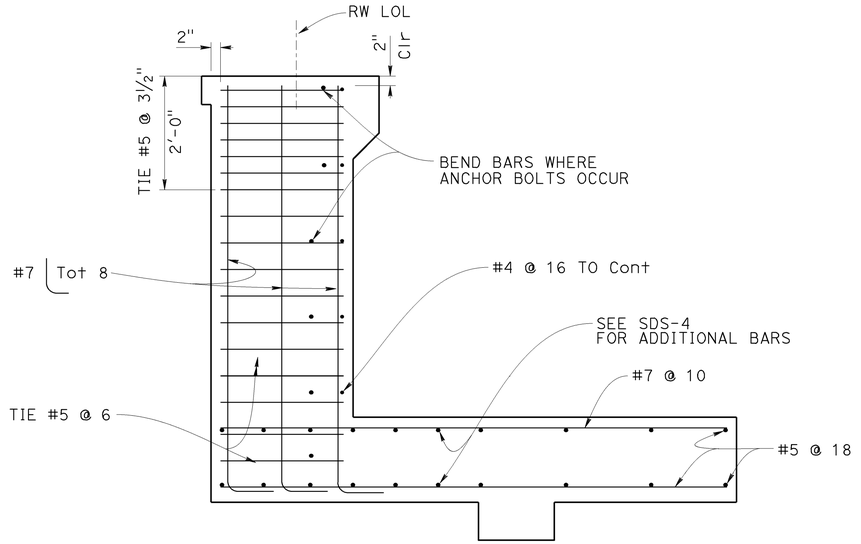



## TYPE 1-B PEDESTAL SECTION




## PEDESTAL AND FOOTING

NOTE:

1. For reinforcement details not shown see RSP B3-4A and ES-7N, ES-7B.
2. See sheet "SDS-2" for transition details.

NO SCALE

**BRANCH CHIEF** DAVID A NEUMANN

| | BY | CHECKED |
|---|---|---|
| DESIGN | TAMARA MARCHENKO | MAHFOUD LICHA |
| DETAILS | SHUMEI JIANG | MAHFOUD LICHA |
| QUANTITIES | X | X |

STATE OF **CALIFORNIA** DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
SPECIAL DESIGN BRANCH

BRIDGE NO. 28-242R
POST MILE 8/25,0/3.4

# SIGNAL STANDARD ON TYPE 5 RW (MOD) REINFORCEMENT DETAILS No. 2

SDS-3

STRUCTURES DESIGN SPECIAL DESIGN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3619
PROJECT NUMBER & PHASE: 0412000628-1 CONTRACT NO.: 04-152721

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES: 8-13-13 | 12-03-13 | 10-28-13

SHEET 3 OF 8

FILE => 04-152721-u-misc-sds03.dgn

USERNAME => s132428 DATE PLOTTED => 12-DEC-2013 TIME PLOTTED => 15:37

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4, 242 | R8.0/25.0<br>0.0/3.4 | 473 | 477 |

REGISTERED CIVIL ENGINEER — 12-12-13 DATE

1-13-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
TAMARA S. MARCHENKO
No. C76837
Exp. 12-31-14
CIVIL
STATE OF CALIFORNIA

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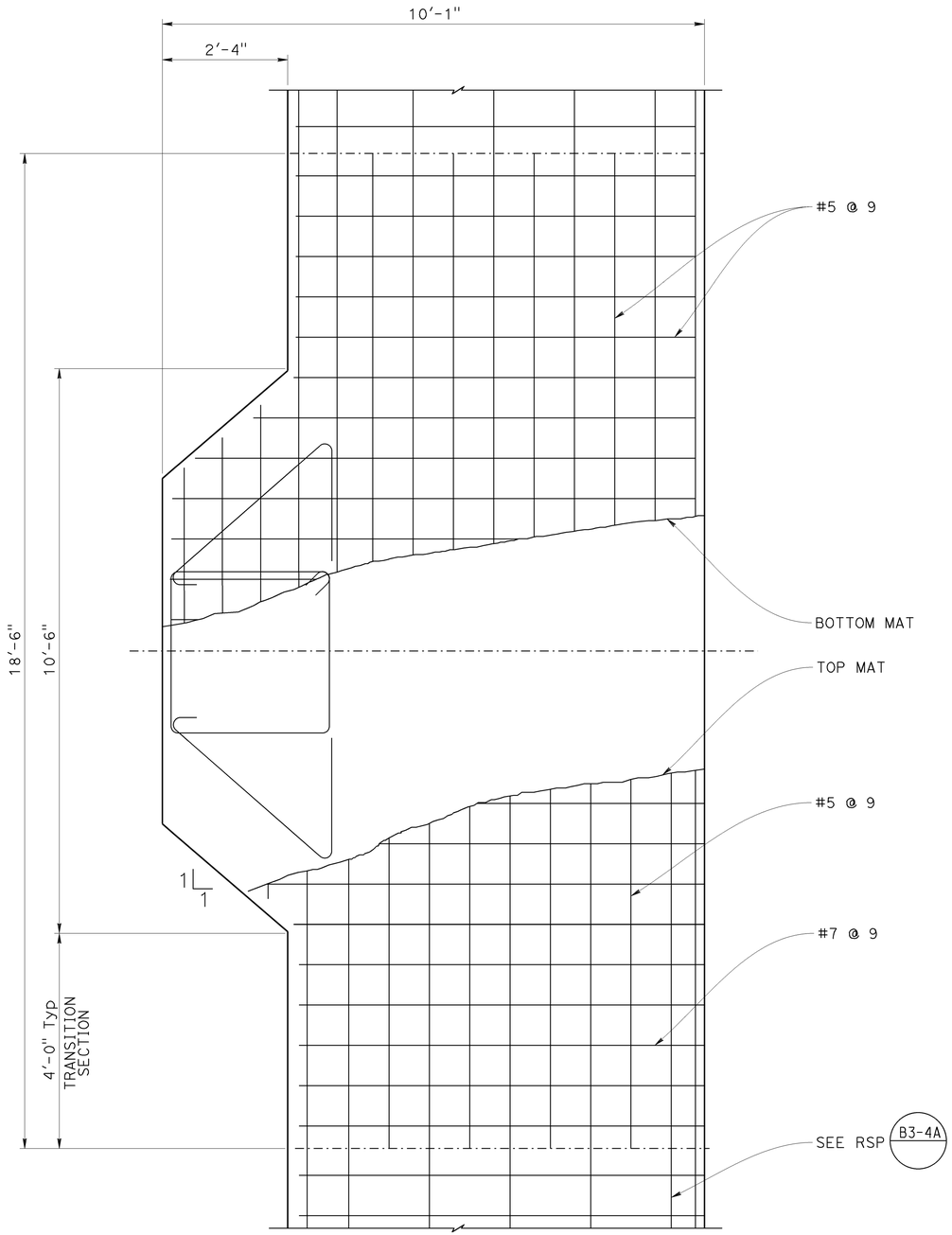
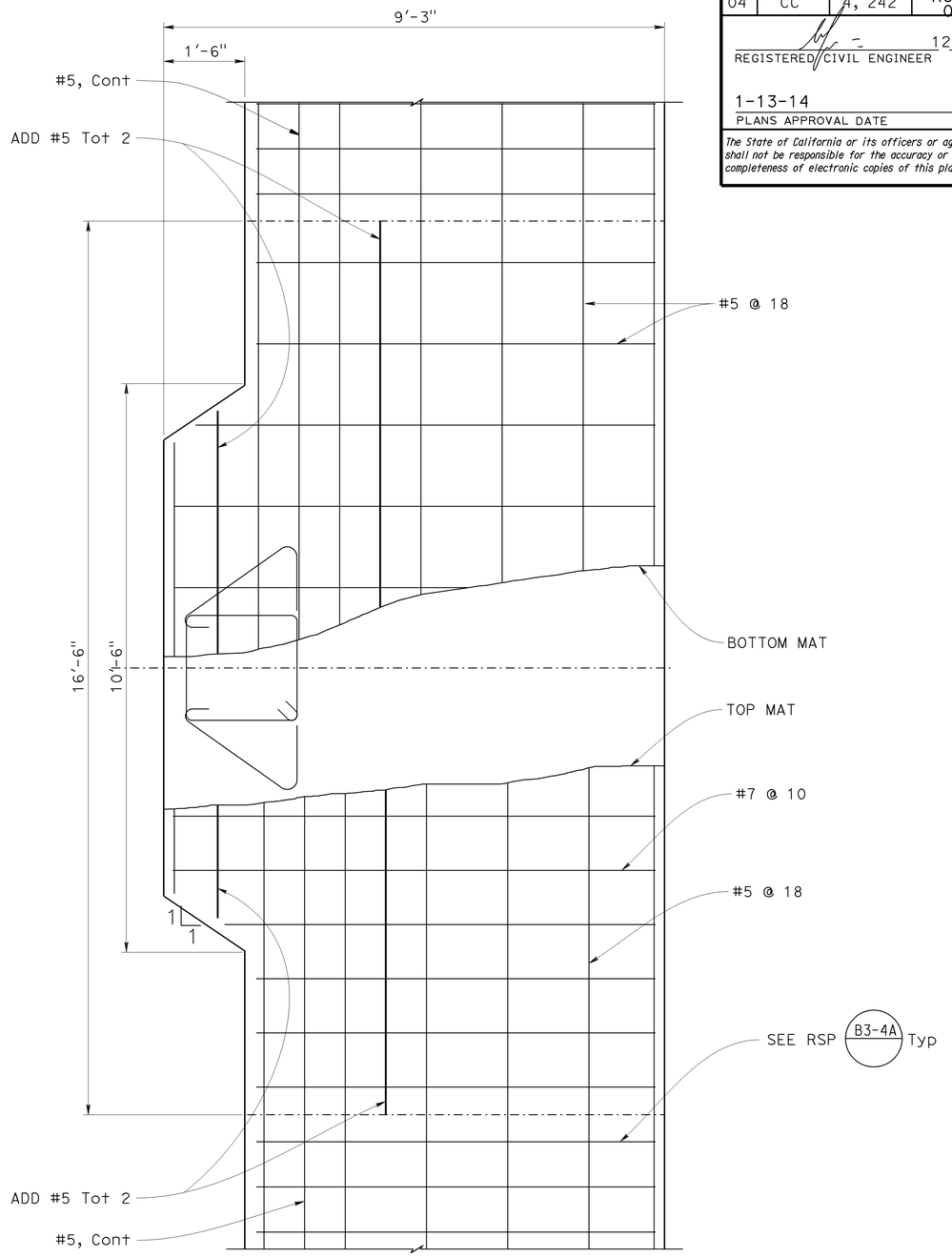



FOR 18-4-100 SIGNAL




FOR TYPE 1-B SIGNAL

## FOOTING REINFORCEMENT PLAN

NO SCALE

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BRANCH CHIEF: DAVID A NEUMANN | DESIGN | BY TAMARA MARCHENKO | CHECKED MAHFOUD LICHA | STATE OF CALIFORNIA<br>DEPARTMENT OF TRANSPORTATION | DIVISION OF ENGINEERING SERVICES<br>STRUCTURE DESIGN<br>SPECIAL DESIGN BRANCH | BRIDGE NO. 28-242R<br>POST MILE 8/25,0/3.4 | SIGNAL STANDARD ON TYPE 5 RW (MOD)<br>FOOTING REINFORCEMENT | SDS-4 |
| | DETAILS | BY SHUMEI JIANG | CHECKED MAHFOUD LICHA | | | | | |
| | QUANTITIES | BY X | CHECKED X | | | | | |

STRUCTURES DESIGN SPECIAL DESIGN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3619
PROJECT NUMBER & PHASE: 0412000628-1 CONTRACT NO.: 04-152721

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| 8-13-13 | | 12-03-13 | 10-28-13 | 4 | 8 |

FILE => 04-152721-u-misc-sds04.dgn

USERNAME => s132228 DATE PLOTTED => 12-DEC-2013 TIME PLOTTED => 15:37

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4, 242 | R8.0/25.0<br>0.0/3.4 | 474 | 477 |

REGISTERED CIVIL ENGINEER — 12-12-13 DATE

1-13-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — TAMARA S. MARCHENKO — No. C76837 — Exp. 12-31-14 — CIVIL — STATE OF CALIFORNIA

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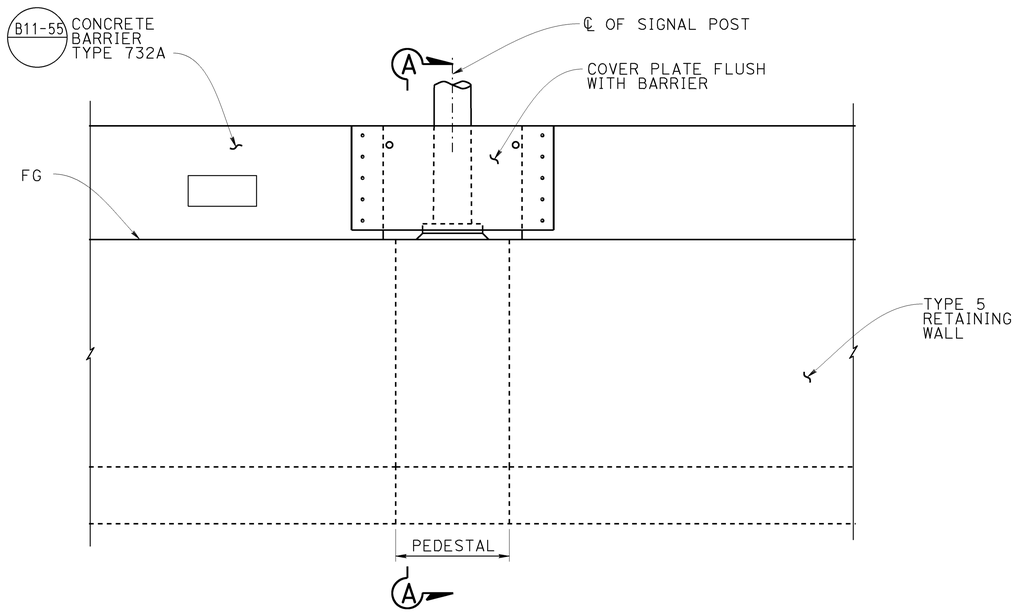
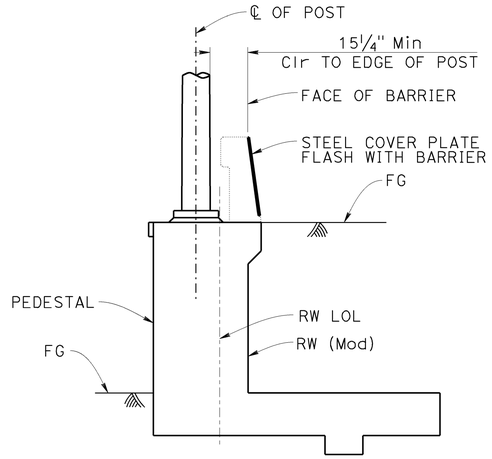
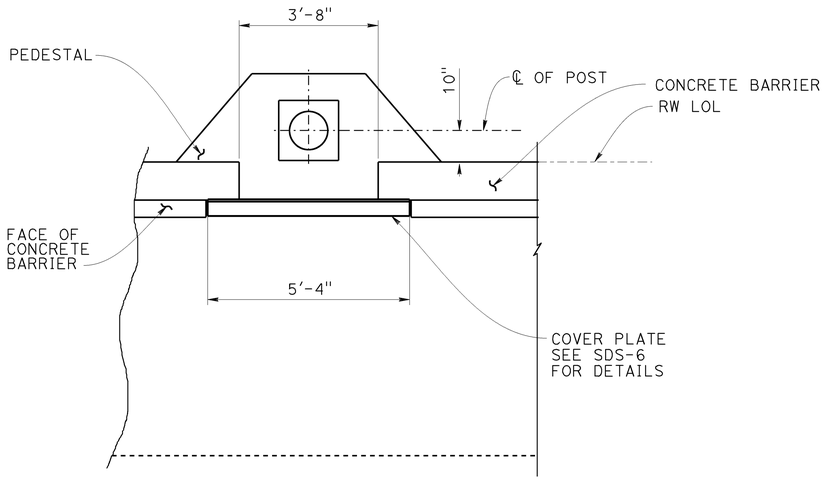


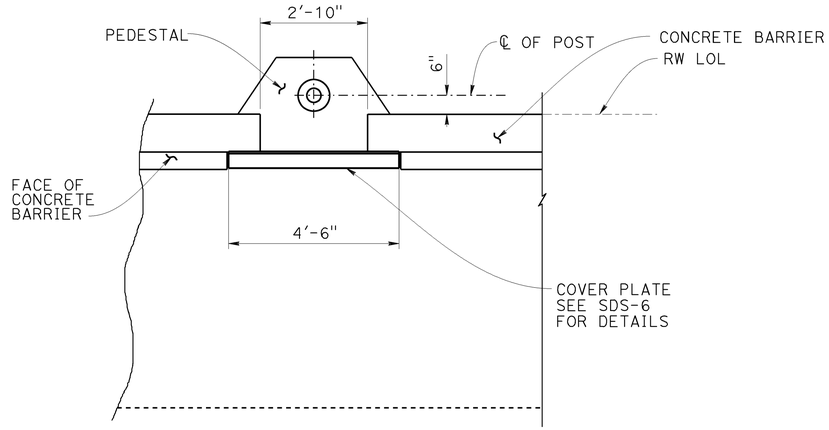

## WALL FACE ELEVATION VIEW




## SECTION A-A




## PLAN
FOR SIGNAL TYPE 18-4-100




## PLAN
FOR SIGNAL TYPE 1-B

NOTES:

1. Connection to structure and barrier details refer to Standard A76E.
2. Barrier is symmetrical about centerline of Signal Post.
3. Architectural treatment and drainage are not shown, see Road Plans for details.

NO SCALE

BRANCH CHIEF DAVID A NEUMANN

| | BY | CHECKED |
|---|---|---|
| DESIGN | TAMARA MARCHENKO | MAHFOUD LICHA |
| DETAILS | SHUMEI JIANG | MAHFOUD LICHA |
| QUANTITIES | X | X |

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
SPECIAL DESIGN BRANCH

BRIDGE NO. 28-242R
POST MILE 8/25,0/3.4

# SIGNAL STANDARD ON TYPE 5 RW (MOD) COVER PLATE

SDS-5

STRUCTURES DESIGN SPECIAL DESIGN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3619
PROJECT NUMBER & PHASE: 0412000628-1 CONTRACT NO.: 04-152721

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES: 8-15-13 | 12-03-13 | 10-28-13

SHEET 5 OF 8

FILE => 04-152721-u-misc-sds05.dgn

USERNAME => s1332428 DATE PLOTTED => 12-DEC-2013 TIME PLOTTED => 15:37

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 1, 242 | R8.0/25.0<br>0.0/3.4 | 475 | 477 |

REGISTERED CIVIL ENGINEER — 12-12-13 DATE

1-13-14
PLANS APPROVAL DATE

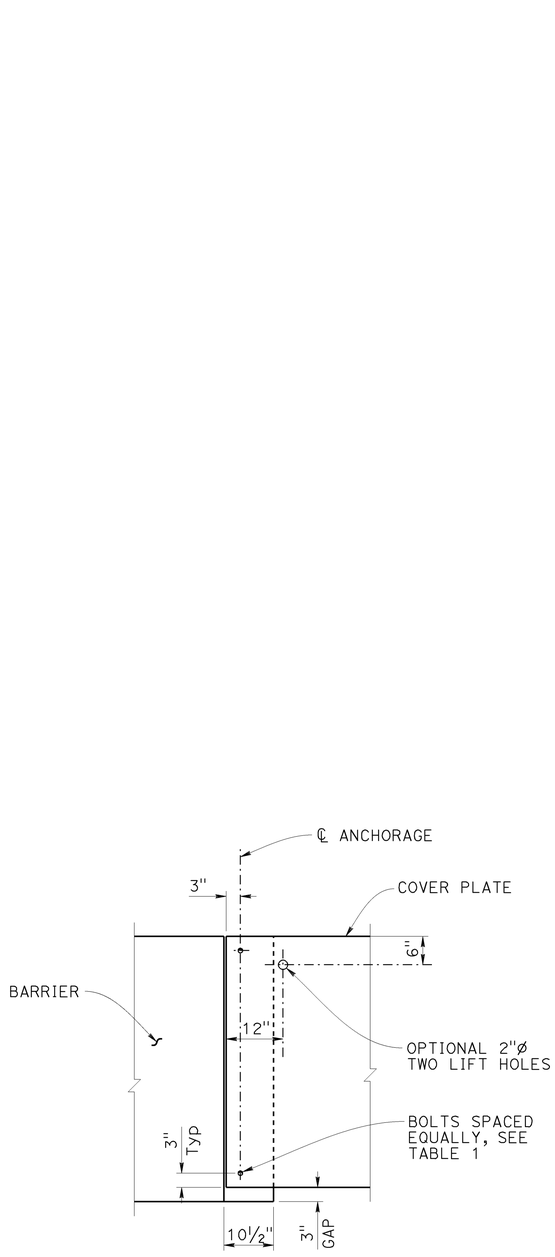
REGISTERED PROFESSIONAL ENGINEER — TAMARA S. MARCHENKO — No. C76837 — Exp. 12-31-14 — CIVIL — STATE OF CALIFORNIA

*The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.*

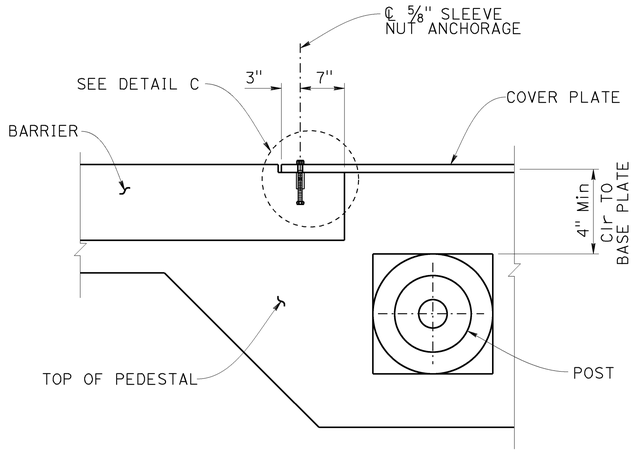
| TABLE 1 | | |
|---|---|---|
| L (ft) | PLATE THICKNESS (in) | TOTAL NO. OF BOLTS |
| 6'-6" Max | 11/16 | 7 |
| 4'-6" Max | 7/16 | 5 |

NOTE:

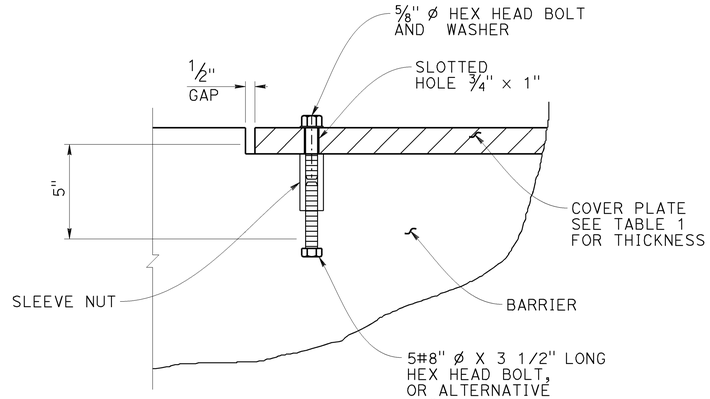
Structural steel, fy = 50,000 psi unless otherwise noted




DETAIL A




DETAIL B




DETAIL C

NO SCALE

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| BRANCH CHIEF: DAVID A NEUMANN | DESIGN | BY: TAMARA MARCHENKO | CHECKED: MAHFOUD LICHA | STATE OF CALIFORNIA<br>DEPARTMENT OF TRANSPORTATION | DIVISION OF ENGINEERING SERVICES<br>STRUCTURE DESIGN<br>SPECIAL DESIGN BRANCH | BRIDGE NO. 28-242R<br>POST MILE 8/25,0/3.4 | SIGNAL STANDARD ON TYPE 5 RW (MOD)<br>COVER PLATE DETAILS | SDS-6 |
| | DETAILS | BY: SHUMEI JIANG | CHECKED: MAHFOUD LICHA | | | | | |
| | QUANTITIES | BY: X | CHECKED: X | | | | | |

STRUCTURES DESIGN SPECIAL DESIGN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3619
PROJECT NUMBER & PHASE: 0412000628-1 CONTRACT NO.: 04-152721

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| 8-13-13 | | 12-03-13 | 10-28-13 | 6 | 8 |

FILE => 04-152721-u-misc-sds06.dgn

USERNAME => s132228 DATE PLOTTED => 12-DEC-2013 TIME PLOTTED => 15:37

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 4, 242 | R8.0/25.0<br>0.0/3.4 | 476 | 477 |

REGISTERED CIVIL ENGINEER — 12-12-13 DATE

1-13-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
TAMARA S. MARCHENKO
No. C76837
Exp. 12-31-14
CIVIL
STATE OF CALIFORNIA

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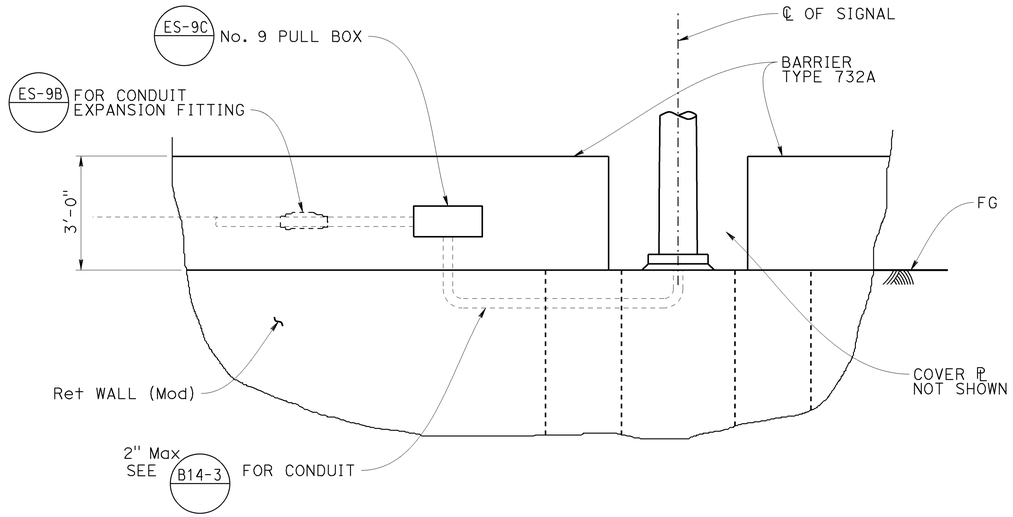
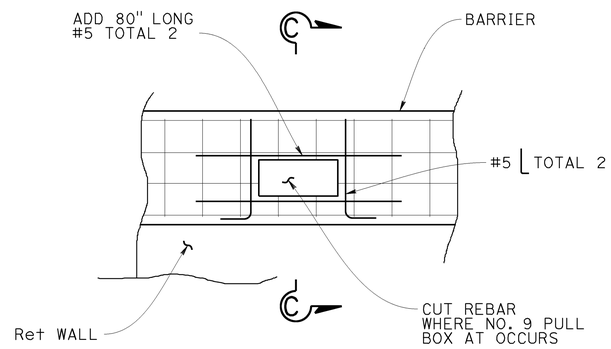
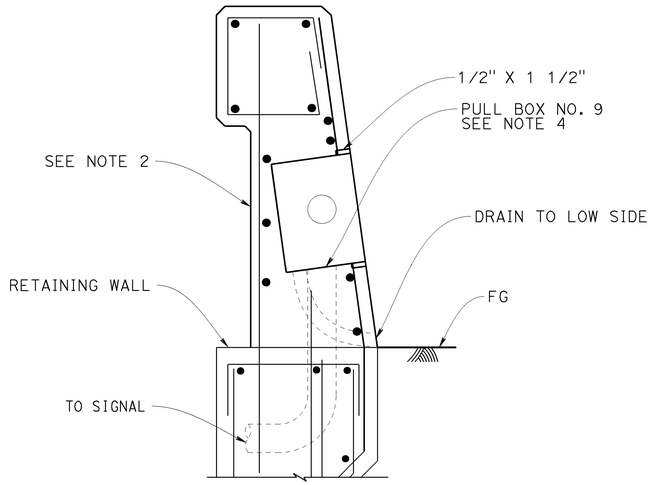



## NO. 9 PULL BOX AT TYPE 732A BARRIER




## BARRIER REINFORCEMENT




## SECTION C-C

NOTES:

1. For pull box location see electrical plans.
2. See RSP B11-55 for barrier details.
3. See notes and installation details on SP A76A and ES-9D.
4. See ES-9C for pull box details and conduits.

NO SCALE

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| BRANCH CHIEF: DAVID A NEUMANN | DESIGN | BY: TAMARA MARCHENKO | CHECKED: MAHFOUD LICHA | STATE OF CALIFORNIA<br>DEPARTMENT OF TRANSPORTATION | DIVISION OF ENGINEERING SERVICES<br>STRUCTURE DESIGN<br>SPECIAL DESIGN BRANCH | BRIDGE NO. 28-242R<br>POST MILE 8/25,0/3.4 | SIGNAL STANDARD ON TYPE 5 RW (MOD)<br>BARRIER AND PULL BOX DETAILS | SDS-7 |
| | DETAILS | BY: SHUMEI JIANG | CHECKED: MAHFOUD LICHA | | | | | |
| | QUANTITIES | BY: X | CHECKED: X | | | | | |

STRUCTURES DESIGN SPECIAL DESIGN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3619
PROJECT NUMBER & PHASE: 0412000628-1 CONTRACT NO.: 04-152721

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES: 8-15-13 | 12-03-13 | 10-28-13

SHEET 7 OF 8

FILE => 04-152721-u-misc-sds07.dgn

USERNAME => s1342428 DATE PLOTTED => 12-DEC-2013 TIME PLOTTED => 15:37

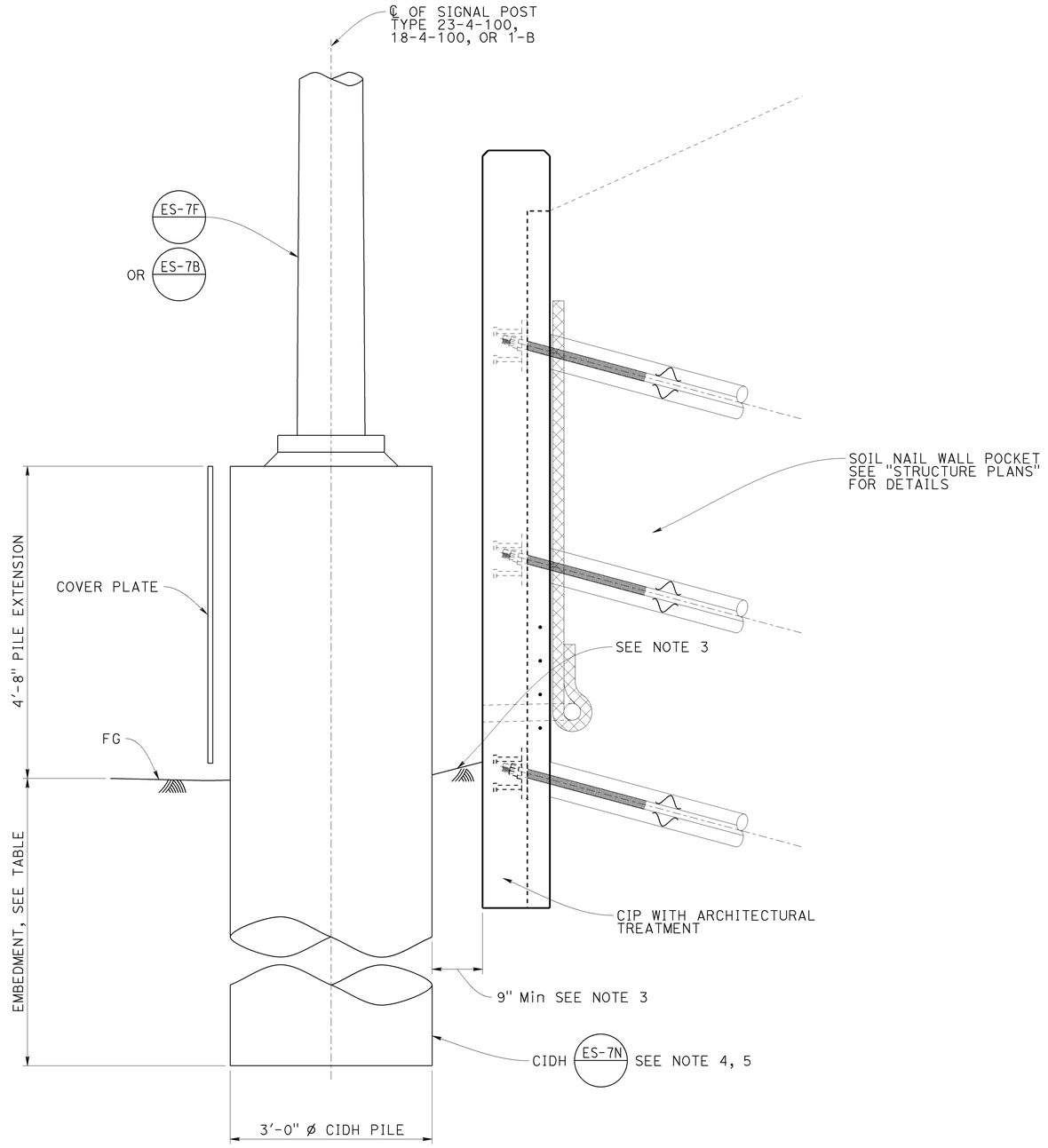
| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 04 | CC | 1, 242 | R8.0/25.0<br>0.0/3.4 | 477 | 477 |

REGISTERED CIVIL ENGINEER — 12-12-13 DATE

1-13-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
TAMARA S. MARCHENKO
No. C76837
Exp. 12-31-14
CIVIL
STATE OF CALIFORNIA

*The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.*




SECTION

CIDH PILE FOUNDATION

| Signal Standard Type | 23-4-100 OR 18-4-100 | 1-B |
|---|---|---|
| Embedment Depth | 16' | 10' |

NOTES:

1. For details not shown see retaining wall details on "STRUCTURE PLANS".
2. Soil Nail Wall shall be modified for pocket at location of the signal standard. See "STRUCTURE PLANS" for location.
3. Maintain 5% slope outward from the pocket for drainage.
4. Corrosive resistant concrete (CRC) required for CIDH plies located within Pine Street intersection, both directions.
5. CRC water-to-cementitious material ratio must be 0.4. Refer to the Standard Specifications 90-1.02H for other requirements.

NO SCALE

BRANCH CHIEF DAVID A NEUMANN

| | BY | CHECKED |
|---|---|---|
| DESIGN | TAMARA MARCHENKO | MAHFOUD LICHA |
| DETAILS | SHUMEI JIANG | MAHFOUD LICHA |
| QUANTITIES | X | X |

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
SPECIAL DESIGN BRANCH

BRIDGE NO. 28-242R
POST MILE 8/25,0/3.4

# SIGNAL STANDARD ON RW (MOD) EXTENDED CIDH PLE DETAILS

SDS-8

STRUCTURES DESIGN SPECIAL DESIGN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3619
PROJECT NUMBER & PHASE: 0412000628-1 CONTRACT NO.: 04-152721

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| 8-13-13 | | 12-03-13 | 10-28-13 | 8 | 8 |

FILE => 04-152721-u-misc-sds08.dgn

USERNAME => s132228 DATE PLOTTED => 12-DEC-2013 TIME PLOTTED => 15:37