

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|------|--------|-------|--------------------------|-----------|--------------|
| 12 | ORA | 405 | 8.4 | 101 | 142 |

HOMA IRANINEJADIAN
 REGISTERED CIVIL ENGINEER
 No. C 68284
 Exp. 09-30-15
 CIVIL
 STATE OF CALIFORNIA

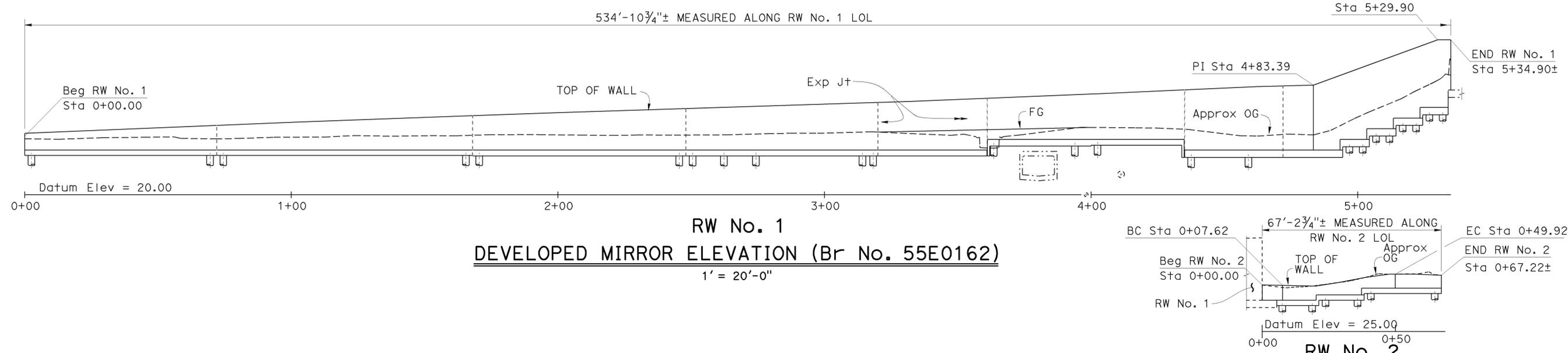
1-05-15
 DATE
 4-27-15
 PLANS APPROVAL DATE

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| | | | |
|---|------------|---|------------|
| RETAINING WALL NO. 1 (55E0162) | QUANTITIES | RETAINING WALL NO. 2 (55E0163) | QUANTITIES |
| STRUCTURE EXCAVATION (RETAINING WALL) | 2,829 CY | STRUCTURE EXCAVATION (RETAINING WALL) | 260 CY |
| STRUCTURE BACKFILL (RETAINING WALL) | 3,318 CY | STRUCTURE BACKFILL (RETAINING WALL) | 142 CY |
| PERVIOUS BACKFILL MATERIAL (RETAINING WALL) | 114 CY | PERVIOUS BACKFILL MATERIAL (RETAINING WALL) | 6 CY |
| 30" CAST-IN-DRILLED-HOLE CONCRETE PILING | 9,348 LF | 30" CAST-IN-DRILLED-HOLE CONCRETE PILING | 630 LF |
| STRUCTURAL CONCRETE, RETAINING WALL | 1,028 CY | STRUCTURAL CONCRETE, RETAINING WALL | 68 CY |
| BAR REINFORCING STEEL (RETAINING WALL) | 618,565 LB | BAR REINFORCING STEEL (RETAINING WALL) | 36,063 LB |
| MINOR CONCRETE (GUTTER) (LF) | 535 LF | | |
| CABLE RAILING | 535 LF | | |

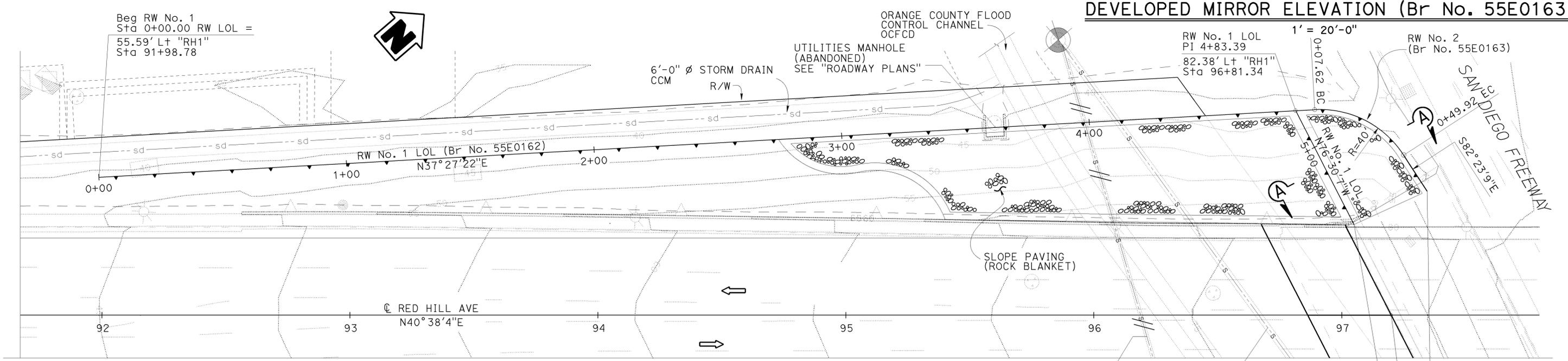
LEGEND:

- Indicates New Construction
- - - Indicates Existing Structure
- ➔ Indicates direction of traffic
- ▨ Slope paving (Rock Blanket), see "ROADWAY PLANS"



RW No. 1
DEVELOPED MIRROR ELEVATION (Br No. 55E0162)
 1' = 20'-0"

RW No. 2
DEVELOPED MIRROR ELEVATION (Br No. 55E0163)
 1' = 20'-0"



NOTE:
 1. For Section A-A, see "INDEX TO PLANS" sheet

PLAN
 1" = 20'

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

HOWARD NG
 DESIGN ENGINEER

| | | | | |
|------------|-----------------------|---------------------------|---------------------------------|---|
| DESIGN | BY HOMA IRANINEJADIAN | CHECKED MOHAMMAD MUQTADIR | LOAD & RESISTANCE FACTOR DESIGN | LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE |
| DETAILS | BY ANTONETTE L. ONG | CHECKED MOHAMMAD MUQTADIR | LAYOUT | BY DAWIT WORKU |
| QUANTITIES | BY HOMA IRANINEJADIAN | CHECKED MOHAMMAD MUQTADIR | SPECIFICATIONS | BY KEVIN ELLINGSON |

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
 STRUCTURE DESIGN
DESIGN BRANCH 20

| | |
|------------|---------|
| BRIDGE NO. | 55E0162 |
| POST MILE | 8.40 |

RETAINING WALLS No. 1 & No. 2
GENERAL PLAN

| | | | | | |
|------|--------|-------|--------------------------|-----------|--------------|
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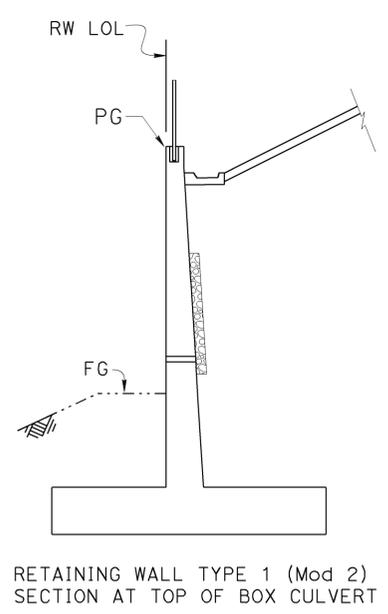
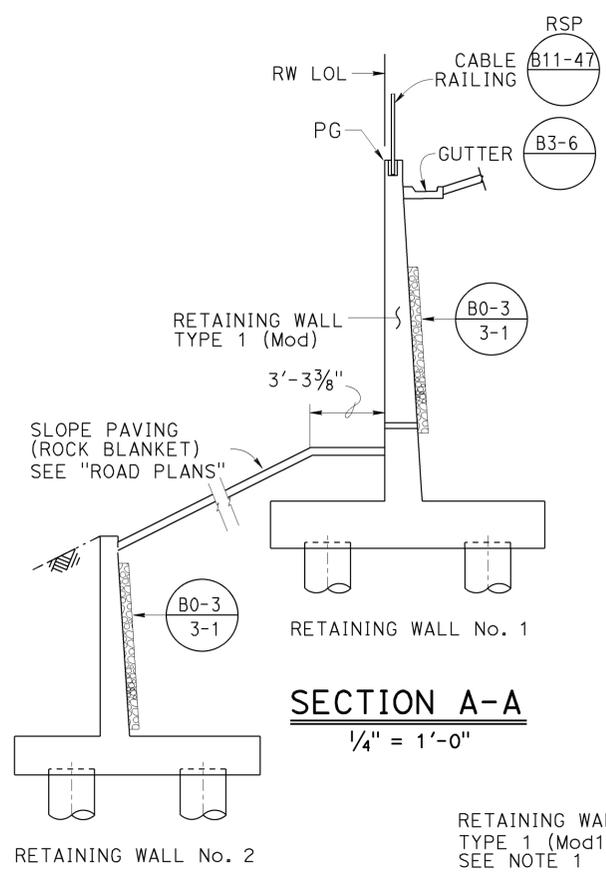
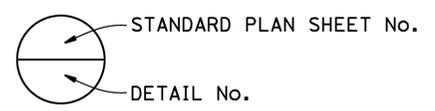
1-05-15
 REGISTERED CIVIL ENGINEER DATE
 4-27-15
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 No. C 68284
 Exp. 09-30-15
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 STATE OF CALIFORNIA
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INDEX TO PLANS

| SHEET No. | SHEET NAME |
|-----------|---|
| 1. | GENERAL PLAN |
| 2. | INDEX TO PLANS |
| 3. | PILE DATA TABLE |
| 4. | FOUNDATION PLAN |
| 5. | LAYOUT No. 1 |
| 6. | LAYOUT No. 2 |
| 7. | LAYOUT No. 3 |
| 8. | RETAINING WALL TYPE 1 (MOD 1) DETAILS No. 1 |
| 9. | RETAINING WALL TYPE 1 DETAILS No. 2 |
| 10. | LOG OF TEST BORINGS 1 OF 12 |
| 11. | LOG OF TEST BORINGS 2 OF 12 |
| 12. | LOG OF TEST BORINGS 3 OF 12 |
| 13. | LOG OF TEST BORINGS 4 OF 12 |
| 14. | LOG OF TEST BORINGS 5 OF 12 |
| 15. | LOG OF TEST BORINGS 6 OF 12 |
| 16. | LOG OF TEST BORINGS 7 OF 12 |
| 17. | LOG OF TEST BORINGS 8 OF 12 |
| 18. | LOG OF TEST BORINGS 9 OF 12 |
| 19. | LOG OF TEST BORINGS 10 OF 12 |
| 20. | LOG OF TEST BORINGS 11 OF 12 |
| 21. | LOG OF TEST BORINGS 12 OF 12 |

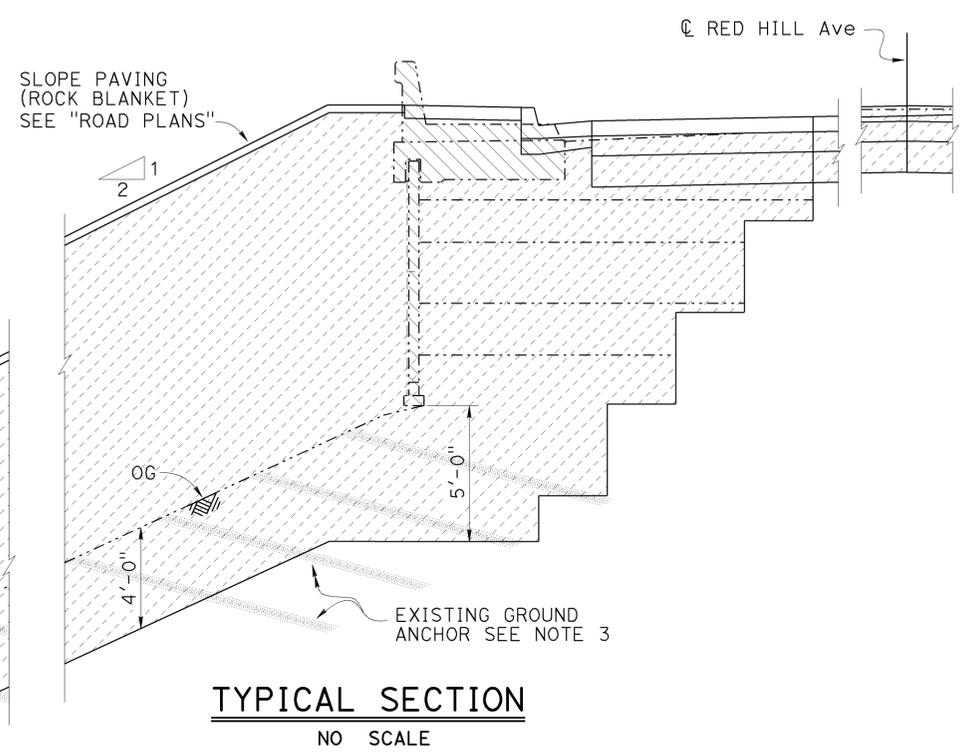
STANDARD PLANS 2010

| | |
|------------|---|
| A10A | ABBREVIATIONS (SHEET 1 of 2) |
| A10B | ABBREVIATIONS (SHEET 2 of 2) |
| A10C | LINES & SYMBOLS (SHEET 1 of 3) |
| A10D | LINES & SYMBOLS (SHEET 2 of 3) |
| A10E | LINES & SYMBOLS (SHEET 3 of 3) |
| A10F | LEGEND - SOIL (SHEET 1 OF 2) |
| A10G | LEGEND - SOIL (SHEET 2 OF 2) |
| A10H | LEGEND - ROCK |
| A62B | LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL BRIDGE SURCHARGE AND WALL |
| A62C | LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL BRIDGE |
| B0-3 | BRIDGE DETAILS |
| RSP B3-5 | RETAINING WALL DETAIL No. 1 |
| RSP B3-6 | RETAINING WALL DETAIL No. 2 |
| RSP B11-47 | CABLE RAILING |



NOTES:

- Structure will be closed to traffic during construction, see "ROAD PLANS"
- For limits of Retaining Wall Type 1 (Mod 2), see "RETAINING WALL LAYOUT No. 2" sheet
- Contractor should remove interfering portions of the existing ground anchors. See "ROADWAY PLANS" for locations
- Typical section shown at Roadway Pavement, approach slab location similar



LEGEND:

- Indicates Existing Structure
- Indicates New Construction
- ▨ Remove existing MSE Wall, Type 26 Barrier and Barrier Slab, see "ROAD PLANS"
- ▩ Structure Excavation (Retaining Wall)
- ▧ Roadway Excavation and Embankment, see "ROAD PLANS"
- ▣ Structure Backfill (Retaining Wall)

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

| | | | | | | |
|--|-----------------------|---------------------------|--|---|-------------------------|---|
| DESIGN | BY HOMA IRANINEJADIAN | CHECKED MOHAMMAD MUQTADIR | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 20 | BRIDGE No. | RETAINING WALLS No. 1 & No. 2 INDEX TO PLANS |
| DETAILS | BY A. ONG / P. PEREZ | CHECKED MOHAMMAD MUQTADIR | | | 55E0162 | |
| QUANTITIES | BY HOMA IRANINEJADIAN | CHECKED MOHAMMAD MUQTADIR | | | 55E0163 | |
| | | | UNIT: 3622 | POST MILE | 8.40 | |
| STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10) | | | ORIGINAL SCALE IN INCHES FOR REDUCED PLANS | PROJECT NUMBER & PHASE: 1214000057 1 | CONTRACT No.: 12-0N5404 | DISREGARD PRINTS BEARING EARLIER REVISION DATES |
| | | | 0 1 2 3 | REVISION DATES | SHEET | OF |
| | | | | 01/12/15 | 03/11/15 | 01/20/15 |
| | | | | 2 | 21 | |

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|------|--------|-------|--------------------------|-----------|--------------|
| 12 | ORA | 405 | 8.4 | 103 | 142 |


 1-05-15
 REGISTERED CIVIL ENGINEER DATE

4-27-15
 PLANS APPROVAL DATE



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| PILE DATA TABLE (RETAINING WALL No. 1 - BRIDGE No. 55E0162) | | | | | | |
|---|-------------|-----------|--------------------|---------------|----------------------|------------------------------|
| Location | | Pile Type | Nominal Resistance | | Design Tip Elevation | Specified Tip Elevation (ft) |
| Beg Station | End Station | | Compression (kip) | Tension (kip) | | |
| 0+00.00 | 1+68.00 | 30" CIDH | 225 | N/A | -25(a) 5(d) | -25 |
| 1+68.00 | 3+20.00 | 30" CIDH | 250 | N/A | -25(a) 5(d) | -25 |
| 3+20.00 | 4+35.00 | 30" CIDH | 280 | N/A | -25(a) 5(d) | -25 |
| 4+35.00 | 4+93.39 | 30" CIDH | 250 | N/A | -25(a) 5(d) | -25 |
| 4+93.39 | 5+03.39 | 30" CIDH | 215 | N/A | -25(a) 5(d) | -25 |
| 5+03.39 | 5+13.39 | 30" CIDH | 215 | N/A | -25(a) 5(d) | -25 |
| 5+13.39 | 5+24.39 | 30" CIDH | 215 | N/A | -20(a) 10(d) | -20 |
| 5+24.39 | 5+34.90 | 30" CIDH | 215 | N/A | -20(a) 10(d) | -20 |

| PILE DATA TABLE (RETAINING WALL No. 2 - BRIDGE No. 55E0163) | | | | | | |
|---|-------------|-----------|--------------------|---------------|----------------------|------------------------------|
| Location | | Pile Type | Nominal Resistance | | Design Tip Elevation | Specified Tip Elevation (ft) |
| Beg Station | End Station | | Compression (kip) | Tension (kip) | | |
| 0+00.00 | 0+67.22 | 30" CIDH | 165 | N/A | -20(a) 5(d) | -20 |

NOTE:
 1. Design Tip Elevations are controlled by:
 (a) Compression (strength limit)

| | | | | | | |
|---|---|--|---|---|--|--|
| STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10) | 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 20 | BRIDGE No. 55E0162 55E0163 POST MILE 8.40 | RETAINING WALLS No. 1 & No. 2 PILE DATA TABLE | REVISION DATES 01/06/15 12/05/14 12/17/14 SHEET OF 3 21 |
| DESIGN BY HOMA IRANINEJADIAN CHECKED MOHAMMAD MUQTADIR DETAILS BY LAN T TRAN CHECKED MOHAMMAD MUQTADIR QUANTITIES BY HOMA IRANINEJADIAN CHECKED MOHAMMAD MUQTADIR | | | UNIT: 3622 PROJECT NUMBER & PHASE: 1214000057 1 CONTRACT NO.: 12-0N5404 | | DISREGARD PRINTS BEARING EARLIER REVISION DATES | |

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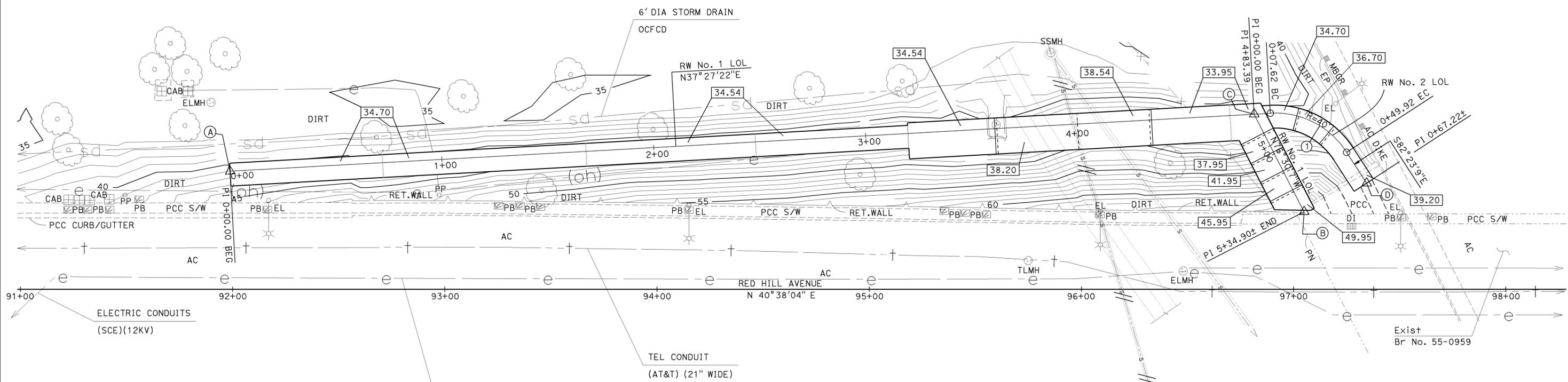
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|------|--------|-------|--------------------------|-----------|--------------|
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HOMA IRANINEJADIAN
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 PLANS APPROVAL DATE 4-27-15
 No. C 68284
 Exp. 09-30-15
 CIVIL
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CURVE DATA

| No. | R | Δ | T | L |
|-----|----|-----------|-------|-------|
| ① | 40 | 60°35'25" | 23.37 | 42.30 |

- Ⓐ Sta 0+00.00 Begin LOL RW No. 1 = 55.59 Lt @ Red Hill Avenue Sta 91+98.78
- Ⓑ Sta 5+34.90± End LOL RW No. 1 = 36.52± Lt @ Red Hill Avenue Sta 97+04.96±
- Ⓒ Sta 0+00.00 Begin LOL RW No. 2 = 82.38 Lt @ Red Hill Avenue Sta 96+81.34
- Ⓓ Sta 0+67.22± End LOL RW No. 2 = 49.91± RT @ Red Hill Avenue Sta 97+34.38±



SURVEY CONTROL

PRHV-204
 FND 1" IP
 105.87 Ft Lt @ Red Hill Ave
 Sta 93+35.17
 N 2 196 916.76
 E 6 069 263.83
 Elev= 35.59

PRHV-205
 FND 1" IP
 119.34 Ft Lt @ Red Hill Ave
 Sta 94+53.16
 N 2 197 015.07
 E 6 069 330.44
 Elev= 35.48

LEGEND:

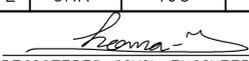
xxxx Footing bottom elevation

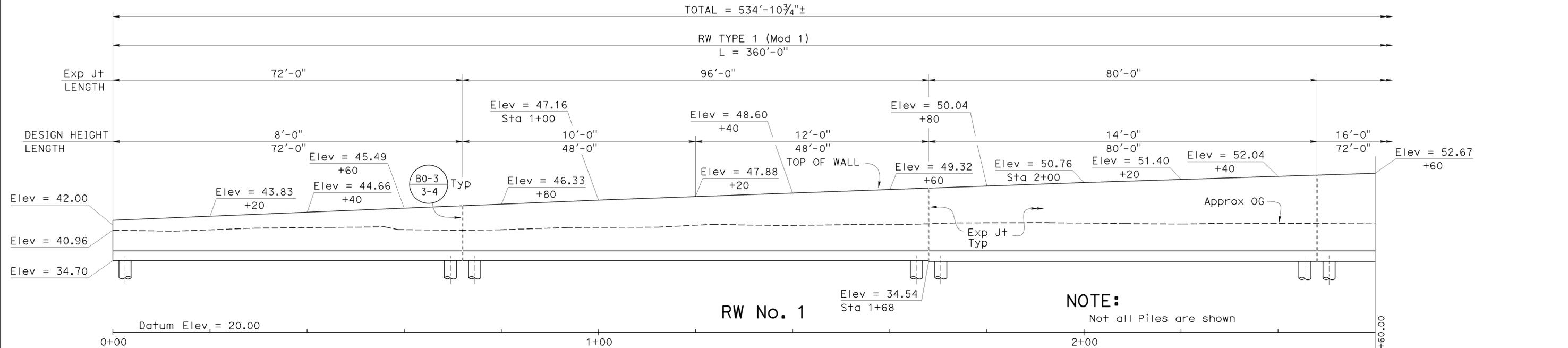
NOTES:

UNDERGROUND UTILITIES AS SHOWN ARE APPROXIMATE,
 SEE UTILITY PLANS FOR MORE INFORMATION

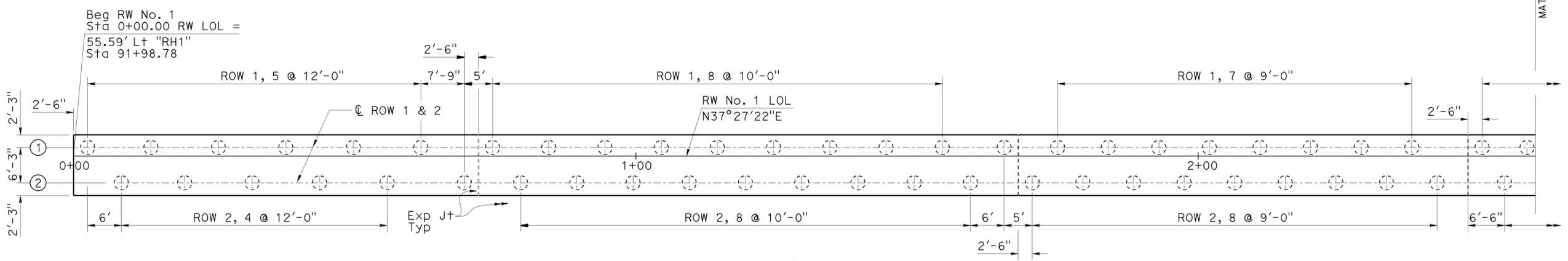
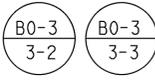
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|--|---------------------------|-----------------------------|------------------------|----------------------------------|---------------------------|--|---|--------------------|--|-------------------------|---|----------------|---------|-------|
| PRELIMINARY INVESTIGATION SECTION | | | | DESIGN BY HOMA IRANINEJADIAN | CHECKED MOHAMMAD MUQTADIR | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 20 | BRIDGE NO. 55E0162 | RETAINING WALLS No. 1 & No. 2 FOUNDATION PLAN | | | | | |
| SCALE 1"=20' | VERT.DATUM NAVD88 | PHOTOGRAMMETRY AS OF: X | | DETAILS BY ANTONETTE L. ONG | CHECKED MOHAMMAD MUQTADIR | | | POST MILE 55E0163 | | | | | | |
| ALIGNMENT TIES Dist. Traverse Sheet | DRAFTED BY V.PHAM 07/2014 | CHECKED BY S.ALIVIO 07/2014 | CHECKED BY District 12 | QUANTITIES BY HOMA IRANINEJADIAN | CHECKED MOHAMMAD MUQTADIR | | | POST MILE 8.40 | | | | | | |
| STRUCTURES FOUNDATION PLAN SHEET (ENGLISH) (REV. 09-01-10) | | | | | | | ORIGINAL SCALE IN INCHES FOR REDUCED PLANS | UNIT: 3622 | PROJECT NUMBER & PHASE: 1214000057 1 | CONTRACT No.: 12-0N5404 | DISREGARD PRINTS BEARING EARLIER REVISION DATES | REVISION DATES | SHEET 4 | OF 21 |

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| PLANS APPROVAL DATE | | | 4-27-15 | | |
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DEVELOPED MIRROR ELEVATION (Br No. 55E0162)
1" = 10'-0"



PLAN
1" = 10'

LEGEND:

- Indicates New Construction
- ⊗ Pile Row Number
- ⊕ 30" CIDH Pile
- y @ x'-xx" No. of Spaces @ Pile Spacing

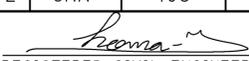
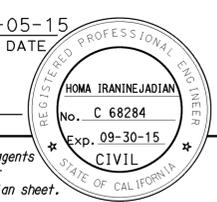
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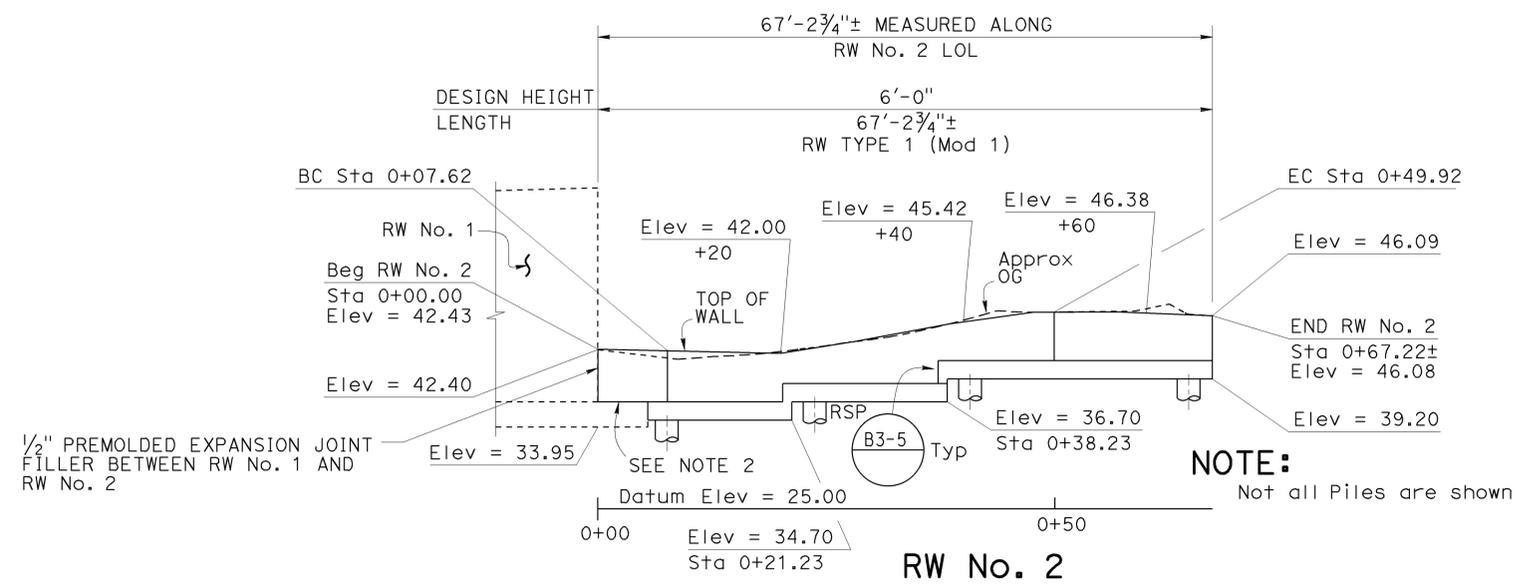
- For Retaining Wall Type 1 (Mod 1) Details, see "RETAINING WALL TYPE 1 (Mod 1) DETAILS No. 1 AND No. 2" sheets

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



| | | | | | | | | | |
|--|---------|--------------------|------------------|-------------------|---|---|-------------------|---|----------------|
| DESIGN | BY | HOMA IRANINEJADIAN | CHECKED | MOHAMMAD MUQTADIR | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 20 | BRIDGE NO. | RETAINING WALL No. 1 | |
| | DETAILS | BY | ANTONETTE L. ONG | CHECKED | | | MOHAMMAD MUQTADIR | 55E0162 | LAYOUT No. 1 |
| QUANTITIES | BY | HOMA IRANINEJADIAN | CHECKED | MOHAMMAD MUQTADIR | UNIT: 3622 | POST MILE | 8.40 | CONTRACT NO.: | 12-0N5404 |
| STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10) | | | | | | PROJECT NUMBER & PHASE: | 1214000057 1 | DISREGARD PRINTS BEARING EARLIER REVISION DATES | REVISION DATES |
| ORIGINAL SCALE IN INCHES FOR REDUCED PLANS | | | | | | 0 | 1 | 2 | 3 |
| FILE => 55-E0162&E0163-g_rwt1001.dgn | | | | | | SHEET | | 5 | OF |
| | | | | | | 11/13/14 | | 11/19/14 | 12/03/14 |
| | | | | | | | | 21 | |

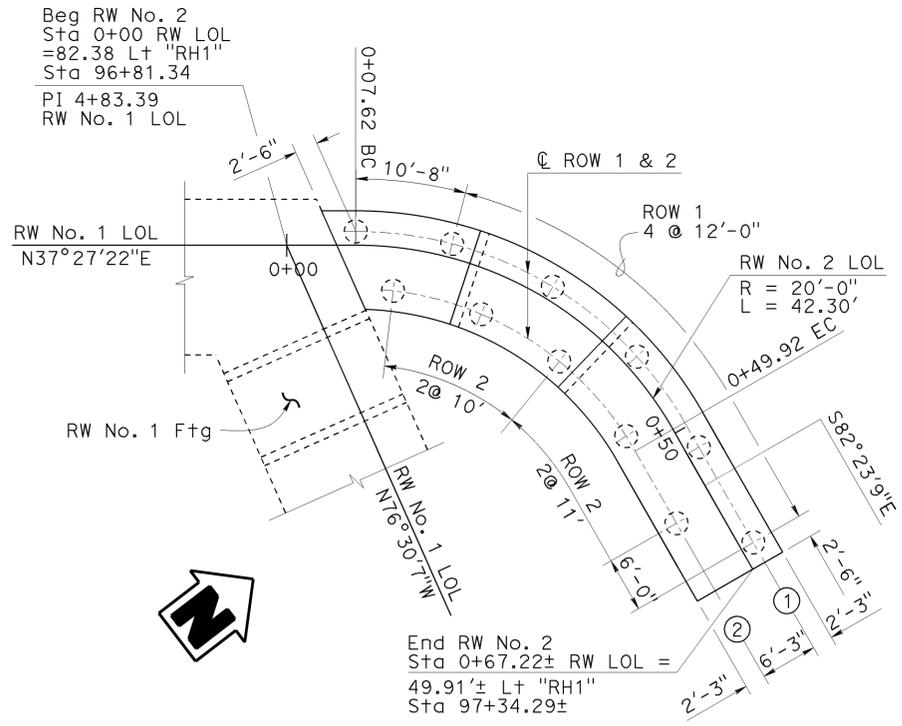
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| PLANS APPROVAL DATE 4-27-15 | | | | | |
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DEVELOPED MIRROR ELEVATION (Br No. 55E0163)
1' = 10'-0"

NOTE:
Not all Piles are shown

- NOTE:**
- For Retaining Wall Type 1 (Mod 1) Details, see "RETAINING WALL TYPE 1 (Mod 1) DETAILS No. 1 AND No. 2" sheets
 - Retaining Wall 2 stem longitudinal reinforcement to be developed into Retaining Wall No. 1 footing



PLAN
1" = 10'

- LEGEND:**
- Indicates New Construction
 - ⊗ Pile Row Number
 - ⊕ 30" CIDH Pile
 - y @ x'-xx" No. of Spaces @ Pile Spacing

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

| | | |
|------------|-----------------------|---------------------------|
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| DETAILS | BY ANTONETTE L. ONG | CHECKED MOHAMMAD MUQTADIR |
| QUANTITIES | BY HOMA IRANINEJADIAN | CHECKED MOHAMMAD MUQTADIR |

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 20

| | |
|------------|---------|
| BRIDGE No. | 55E0163 |
| POST MILE | 8.40 |

RETAINING WALL No. 2
LAYOUT No. 3

| | | | | | |
|------|--------|-------|--------------------------|-----------|--------------|
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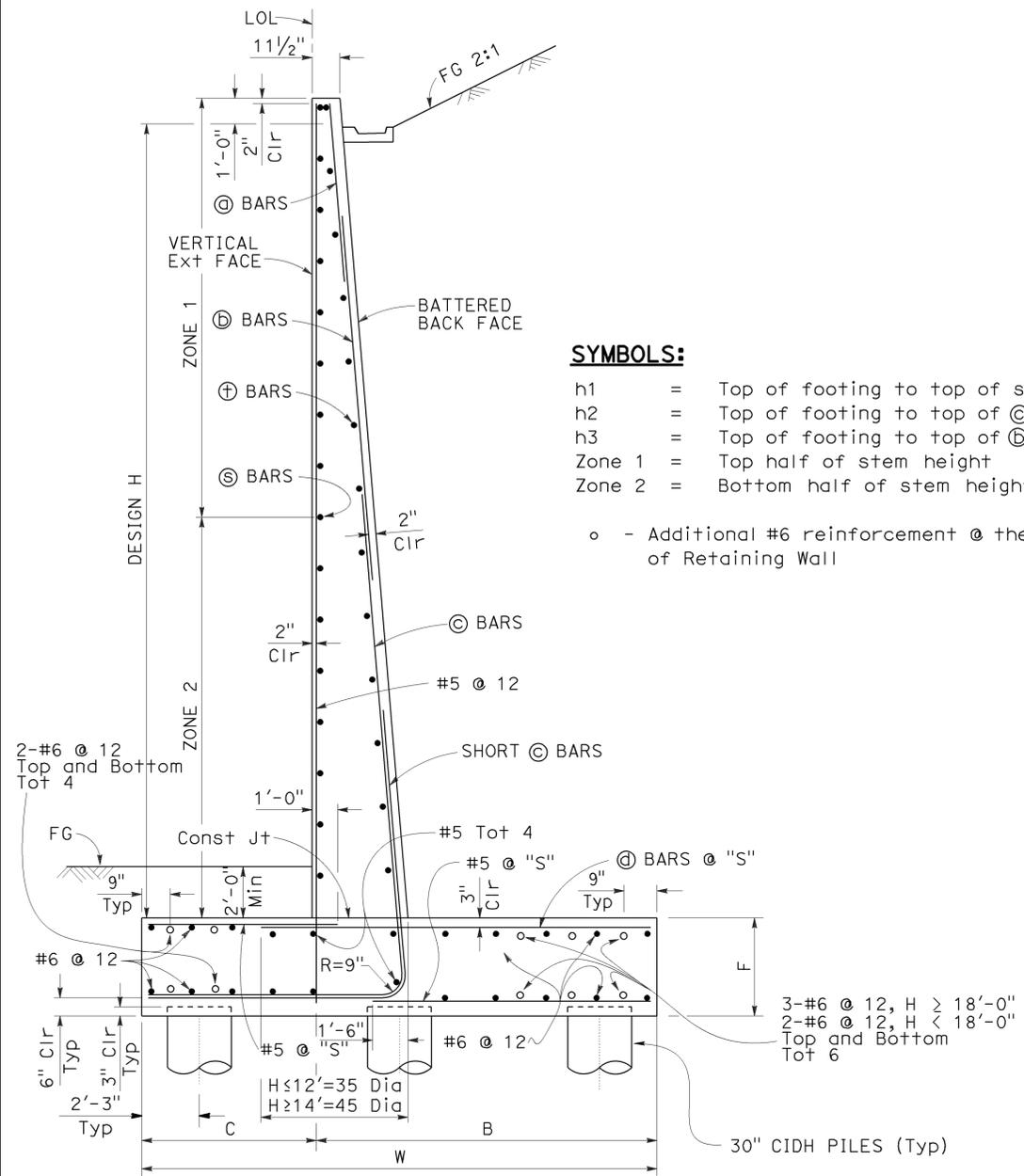
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DESIGN CONDITIONS:

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

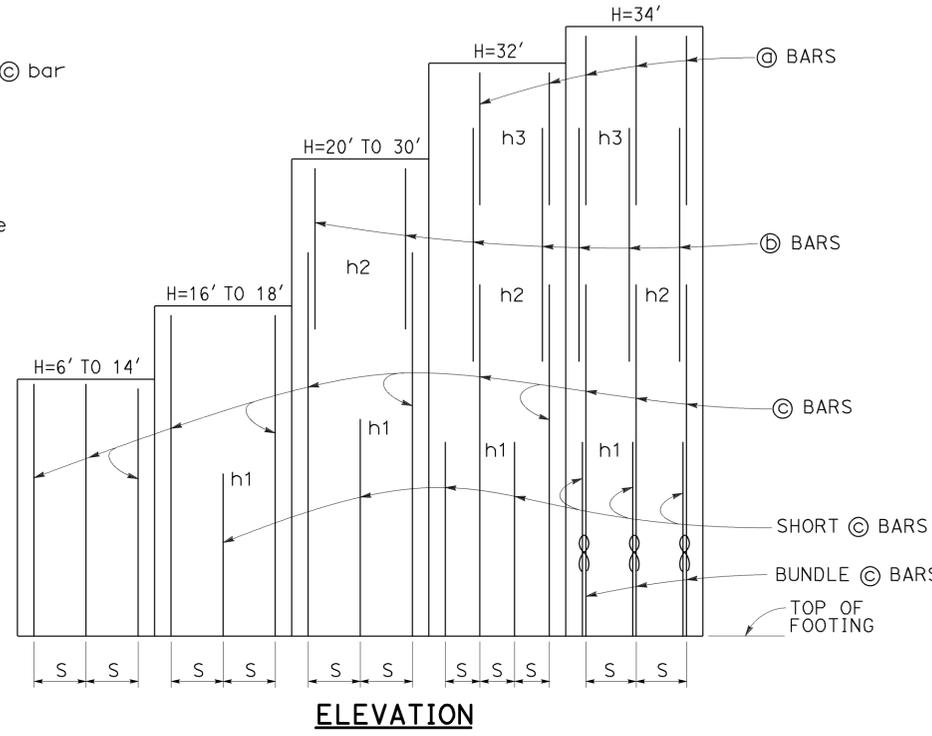
DESIGN NOTES:

- 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
- SEISMIC: PGA = 0.62g, $K_H = GPA/3 = 0.20$, $K_V = 0.0$
- SOIL: $\phi = 30^\circ$
 $c = 200$ psf (Extreme Event load case)
 $c = 0$ psf (Service and Strength load case)
 $\gamma = 120$ pcf
- REINFORCED CONCRETE: $f'_c = 3,600$ psi
 $f_y = 60,000$ psi
- LOAD COMBINATIONS AND LIMIT STATES:
 Service I $Q = 1.00DC + 1.00EV + 1.00EH + 1.00LS$
 Strength I $Q = \alpha DC + \beta EV + \eta EH + 1.75LS$
 Extreme I $Q = 1.00DC + 1.00EV + 1.00EH + 1.00EQD + 1.00EQE$
- Where:
 Q: Force Effects
 a: 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



SYMBOLS:

- h1 = Top of footing to top of short ⊙ bar
 h2 = Top of footing to top of ⊕ bar
 h3 = Top of footing to top of ⊖ bar
 Zone 1 = Top half of stem height
 Zone 2 = Bottom half of stem height
- - Additional #6 reinforcement @ the edge of Retaining Wall



30" CIDH PILE FOOTING SECTION

- NOTES:**
- For details not shown and drainage notes see RSP B3-5
 - For wall stem joint details see B0-3/3-3 and B0-3/3-4
 - At ⊙ bars:
 $H = 6'$, no splices are allowed within 1'-8" above the top of footing.
 $H > 6'$, no splices are allowed within H/4 above the top of footing.
 - Not all piles are shown, see Pile Layout on "LAYOUT SHEETS"
 - Lateral resistance of each pile:
 22 kips for service limit state
 49 kip for strength limit state
 54 kip for extreme limit state

| DESIGN H | 6' | 8' | 10' | 12' | 14' | 16' | 18' | 20' | 22' | 24' | 26' |
|---------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| W | 10'-9" | 10'-9" | 10'-9" | 10'-9" | 10'-9" | 10'-9" | 17'-0" | 17'-0" | 17'-0" | 17'-0" | 17'-0" |
| C | 3'-9" | 3'-9" | 3'-9" | 3'-9" | 3'-9" | 3'-9" | 5'-0" | 5'-0" | 5'-0" | 5'-0" | 5'-0" |
| B | 7'-0" | 7'-0" | 7'-0" | 7'-0" | 7'-0" | 7'-0" | 12'-0" | 12'-0" | 12'-0" | 12'-0" | 12'-0" |
| F | 2'-0" | 2'-0" | 2'-0" | 2'-0" | 2'-0" | 2'-2" | 2'-2" | 2'-2" | 2'-2" | 2'-2" | 2'-2" |
| BATTER | 1/2: 12 | 1/2: 12 | 1/2: 12 | 1/2: 12 | 1/2: 12 | 1/2: 12 | 1/2: 12 | 1/2: 12 | 7/8: 12 | 7/8: 12 | 7/8: 12 |
| SPACING "S" | 12" | 9" | 10" | 7" | 7" | 5" | 5" | 5" | 5" | 5" | 5" |
| ⊙ BARS | - | - | - | - | - | - | - | - | - | - | - |
| ⊕ BARS | - | - | - | - | - | - | - | #7 | #7 | #7 | #7 |
| ⊖ BARS | #5 | #6 | #7 | #8 | #9 | #9 | #9 | #10 | #11 | #11 | #11 |
| ⊗ BARS | #5 | #6 | #6 | #6 | #6 | #7 | #7 | #8 | #9 | #9 | #9 |
| h1 | - | - | - | - | - | 5'-9" | 5'-10" | 8'-0" | 9'-0" | 10'-1" | 10'-1" |
| h2 | - | - | - | - | - | - | - | 10'-5" | 13'-0" | 14'-7" | 14'-7" |
| h3 | - | - | - | - | - | - | - | - | - | - | - |
| ZONE 1 ⊖ BARS | #5 @ 18 | #5 @ 18 | #5 @ 18 | #5 @ 18 | #5 @ 18 | #5 @ 18 | #5 @ 18 | #5 @ 18 | #5 @ 18 | #5 @ 12 | #5 @ 12 |
| ZONE 2 ⊖ BARS | #5 @ 18 | #5 @ 18 | #5 @ 18 | #5 @ 18 | #5 @ 18 | #5 @ 12 | #5 @ 12 | #5 @ 12 | #5 @ 12 | #5 @ 12 | #5 @ 12 |
| ZONE 1 ⊕ BARS | #4 @ 18 | #4 @ 18 | #4 @ 18 | #4 @ 18 | #4 @ 18 | #4 @ 18 | #4 @ 18 | #4 @ 18 | #4 @ 18 | #4 @ 12 | #4 @ 12 |
| ZONE 2 ⊕ BARS | #4 @ 18 | #4 @ 18 | #4 @ 18 | #4 @ 18 | #4 @ 18 | #4 @ 18 | #4 @ 18 | #4 @ 18 | #4 @ 18 | #4 @ 12 | #4 @ 12 |

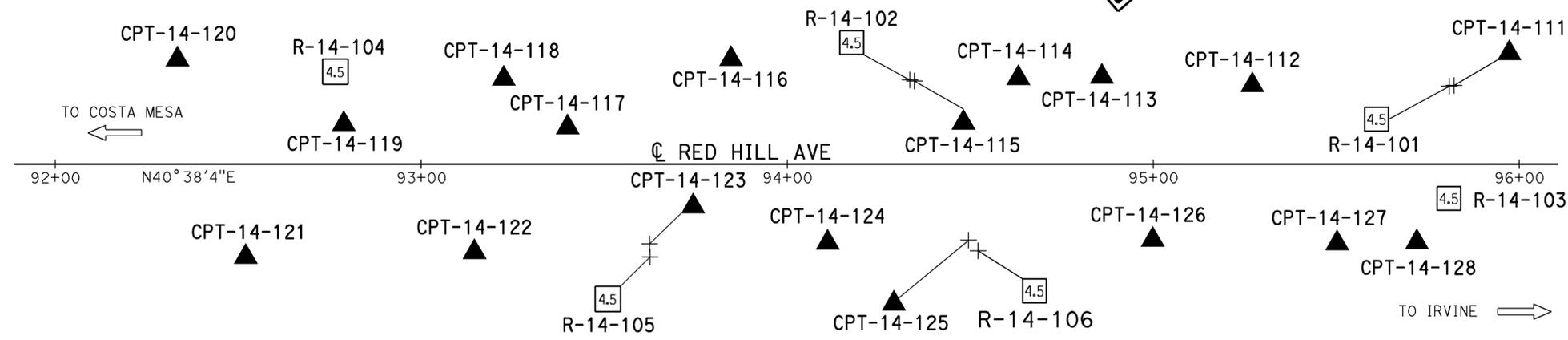
| | | | | | |
|------------|-----------------------|---------------------------|--|---------------|--|
| DESIGN | BY HOMA IRANINEJADIAN | CHECKED MOHAMMAD MUQTADIR | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | BRIDGE NO. | RETAINING WALL NO. 1 & 2 RETAINING WALL TYPE 1 (MOD1) DETAILS NO. 1 |
| DETAILS | BY LAN T TRAN | CHECKED MOHAMMAD MUQTADIR | | VARIABLES | |
| QUANTITIES | BY HOMA IRANINEJADIAN | CHECKED MOHAMMAD MUQTADIR | | POST MILE 8.4 | |

PROJECT NUMBER & PHASE: 1214000057 1 CONTRACT NO.: 120N5404
 UNIT: 3622
 DISREGARD PRINTS BEARING EARLIER REVISION DATES

| | | |
|----------------|---------|-------|
| REVISION DATES | SHEET 8 | OF 21 |
|----------------|---------|-------|

BENCH MARK

BM Elev 38.912
 Found 33/4" OCS aluminum benchmark disk stamped "D 1416 1988", set in the SW corner of a 7' by 9' concrete catch basin. Monument is located along the southwesterly side of redhill avenue, 0.6 miles southwesterly of the centerline of main street and 38' northwesterly of the centerline of red hill avenue. Monument is set level with the sidewalk. NAVD88



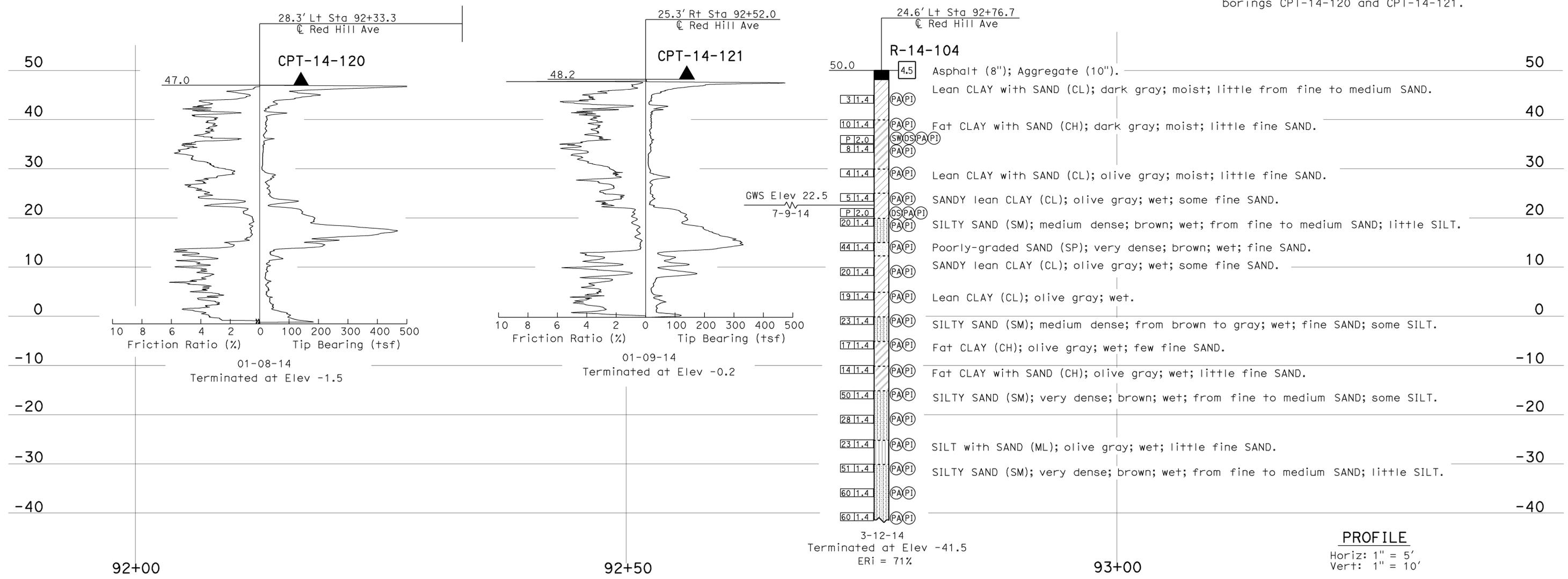
PLAN
 1" = 20'

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|------|--------|-------|--------------------------|-----------|--------------|
| 12 | Ora | 405 | 8.4 | 110 | 142 |

REGISTERED CIVIL ENGINEER
 1-9-15 DATE
 4-27-15 PLANS APPROVAL DATE
 Seung Han
 No. C73527
 Exp. 12-31-16
 CIVIL
 STATE OF CALIFORNIA

This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (2010 Edition).
 See 2010 Standard Plans A10F and A10G for Soil Legend, and A10H for Rock Legend.

Note: Groundwater was not measured in borings CPT-14-120 and CPT-14-121.



PROFILE
 Horiz: 1" = 5'
 Vert: 1" = 10'

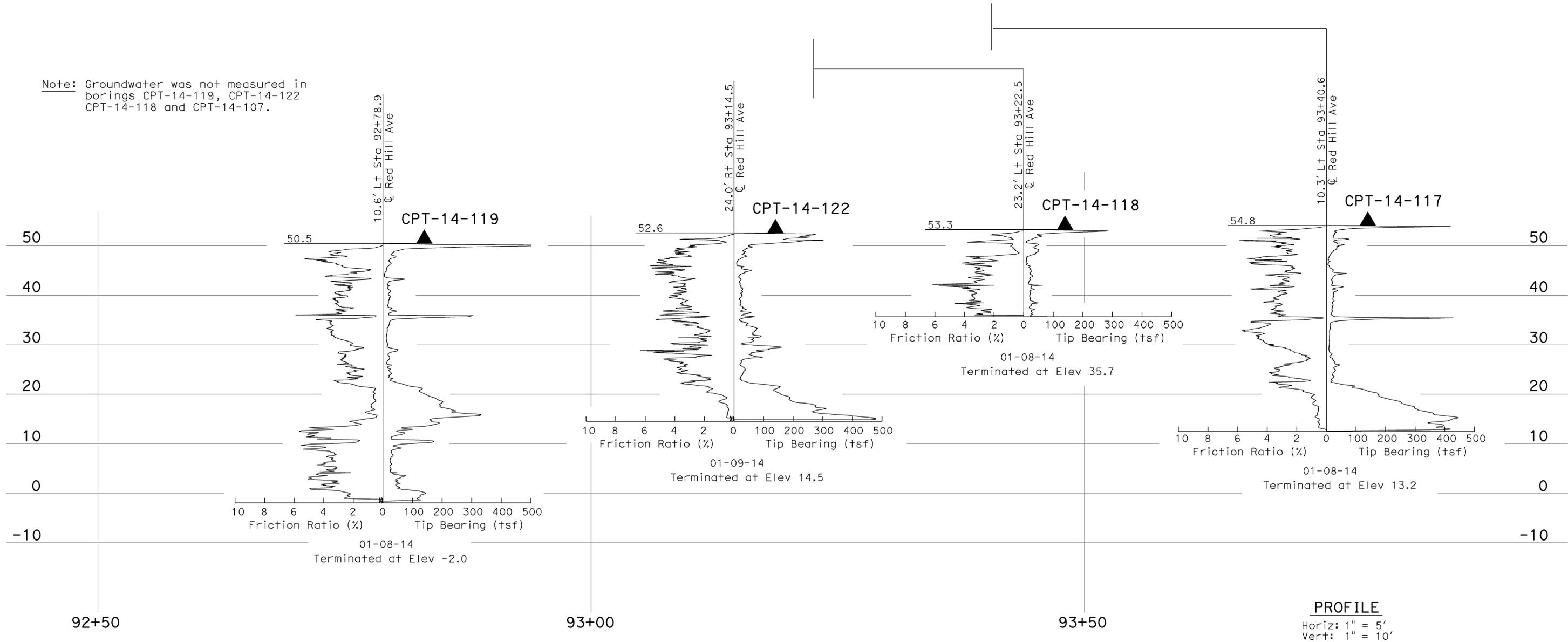
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|-------------------------------------|--|--|--|--------------------------------|--|---|--|-------------------------|--|--|--|
| ENGINEERING SERVICES | | MATERIALS AND GEOTECHNICAL SERVICES | | STATE OF CALIFORNIA | | DIVISION OF ENGINEERING SERVICES | | BRIDGE NO. | | RETAINING WALLS No. 1 & No. 2 | |
| FUNCTIONAL SUPERVISOR | | DRAWN BY: W. Tang, I.G-Remmen | | DEPARTMENT OF TRANSPORTATION | | STRUCTURE DESIGN | | VARIES | | LOG OF TEST BORINGS 1 OF 12 | |
| NAME: D. Jang | | CHECKED BY: Y. Choi | | FIELD INVESTIGATION BY: S. Han | | DESIGN BRANCH 20 | | POST MILE | | | |
| 06S CIVIL LOG OF TEST BORINGS SHEET | | ORIGINAL SCALE IN INCHES FOR REDUCED PLANS | | UNIT: 3643 | | PROJECT NUMBER & PHASE: 12140000571 | | CONTRACT NO.: 12-0N5404 | | REVISION DATES | |
| | | | | 0 1 2 3 | | DISREGARD PRINTS BEARING EARLIER REVISION DATES | | 09-30-14 01-07-15 | | SHEET 10 OF 21 | |

| | | | | | |
|---|--------|-------|--------------------------|-----------|--------------|
| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
| 12 | Ora | 405 | 8.4 | 111 | 142 |
| REGISTERED CIVIL ENGINEER | | | DATE | 1-9-15 | |
| PLANS APPROVAL DATE | | | 4-27-15 | | |
| | | | | | |
| <small>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.</small> | | | | | |

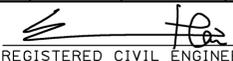
FOR PLAN VIEW, SEE
"LOG OF TEST BORINGS 1 OF 12"

This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (2010 Edition).
See 2010 Standard Plans A10F and A10G for Soil Legend, and A10H for Rock Legend.

Note: Groundwater was not measured in borings CPT-14-119, CPT-14-122, CPT-14-118 and CPT-14-107.

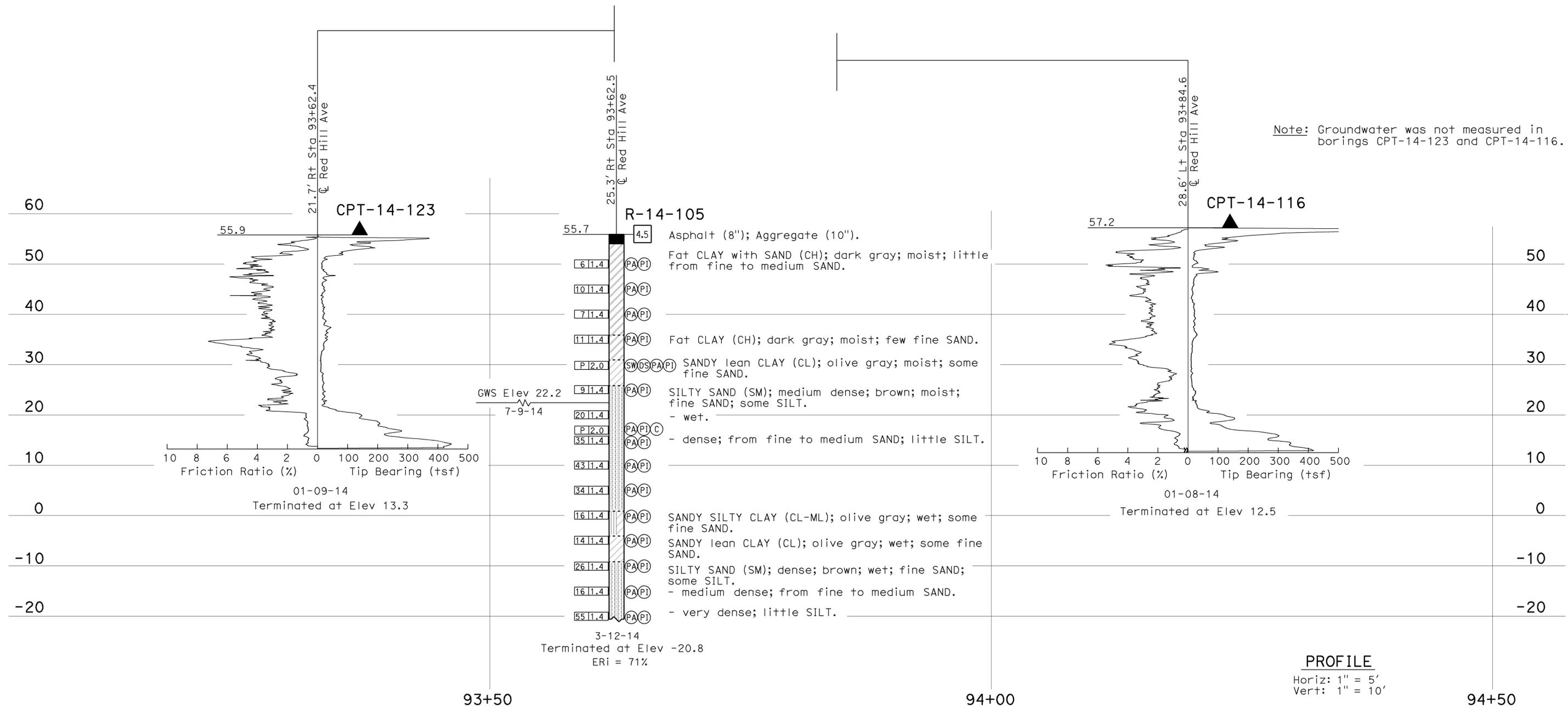


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|--|--|--|--|--|--|---|--|--|--|--|--|
| ENGINEERING SERVICES | | MATERIALS AND GEOTECHNICAL SERVICES | | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | | DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 20 | | BRIDGE NO. VARIES POST MILE 8.4 | | RETAINING WALLS No. 1 & No. 2 LOG OF TEST BORINGS 2 OF 12 | |
| FUNCTIONAL SUPERVISOR NAME: D. Jang | DRAWN BY: W. Tang, I.G-Remmen CHECKED BY: Y. Choi | FIELD INVESTIGATION BY: S. Han | | UNIT: 3643 PROJECT NUMBER & PHASE: 12140000571 | | CONTRACT NO.: 12-0N5404 | | DISREGARD PRINTS BEARING EARLIER REVISION DATES | | REVISION DATES 09-30-14 01-07-15 | |
| O&S CIVIL LOG OF TEST BORINGS SHEET | | | | ORIGINAL SCALE IN INCHES FOR REDUCED PLANS | | 0 1 2 3 | | SHEET OF 11 21 | | FILE => 55-E0162&E0163-z-rw1&2-1fb02.dgn | |

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|---|--------|-------|---|-----------|--------------|
| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
| 12 | Ora | 405 | 8.4 | 112 | 142 |
|  REGISTERED CIVIL ENGINEER | | | 1-9-15 | DATE | |
| 4-27-15 PLANS APPROVAL DATE | | |  | | |
| <small>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.</small> | | | | | |

FOR PLAN VIEW, SEE
"LOG OF TEST BORINGS 1 OF 12"

This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (2010 Edition).
See 2010 Standard Plans A10F and A10G for Soil Legend, and A10H for Rock Legend.



| | | | | | | | | | | | |
|-------------------------------------|--|--|--|--------------------------------|--|---|--|-------------------------|--|--|--|
| ENGINEERING SERVICES | | MATERIALS AND GEOTECHNICAL SERVICES | | STATE OF CALIFORNIA | | DIVISION OF ENGINEERING SERVICES | | BRIDGE NO. | | RETAINING WALLS No. 1 & No. 2 | |
| FUNCTIONAL SUPERVISOR | | DRAWN BY: W. Tang, I.G-Remmen | | DEPARTMENT OF TRANSPORTATION | | STRUCTURE DESIGN | | VARIES | | LOG OF TEST BORINGS 3 OF 12 | |
| NAME: D. Jang | | CHECKED BY: Y. Choi | | FIELD INVESTIGATION BY: S. Han | | DESIGN BRANCH 20 | | POST MILE | | | |
| 065 CIVIL LOG OF TEST BORINGS SHEET | | ORIGINAL SCALE IN INCHES FOR REDUCED PLANS | | UNIT: 3643 | | PROJECT NUMBER & PHASE: 12140000571 | | CONTRACT NO.: 12-0N5404 | | REVISION DATES | |
| | | | | 0 1 2 3 | | DISREGARD PRINTS BEARING EARLIER REVISION DATES | | 09-30-14 01-07-15 | | SHEET 12 OF 21 | |

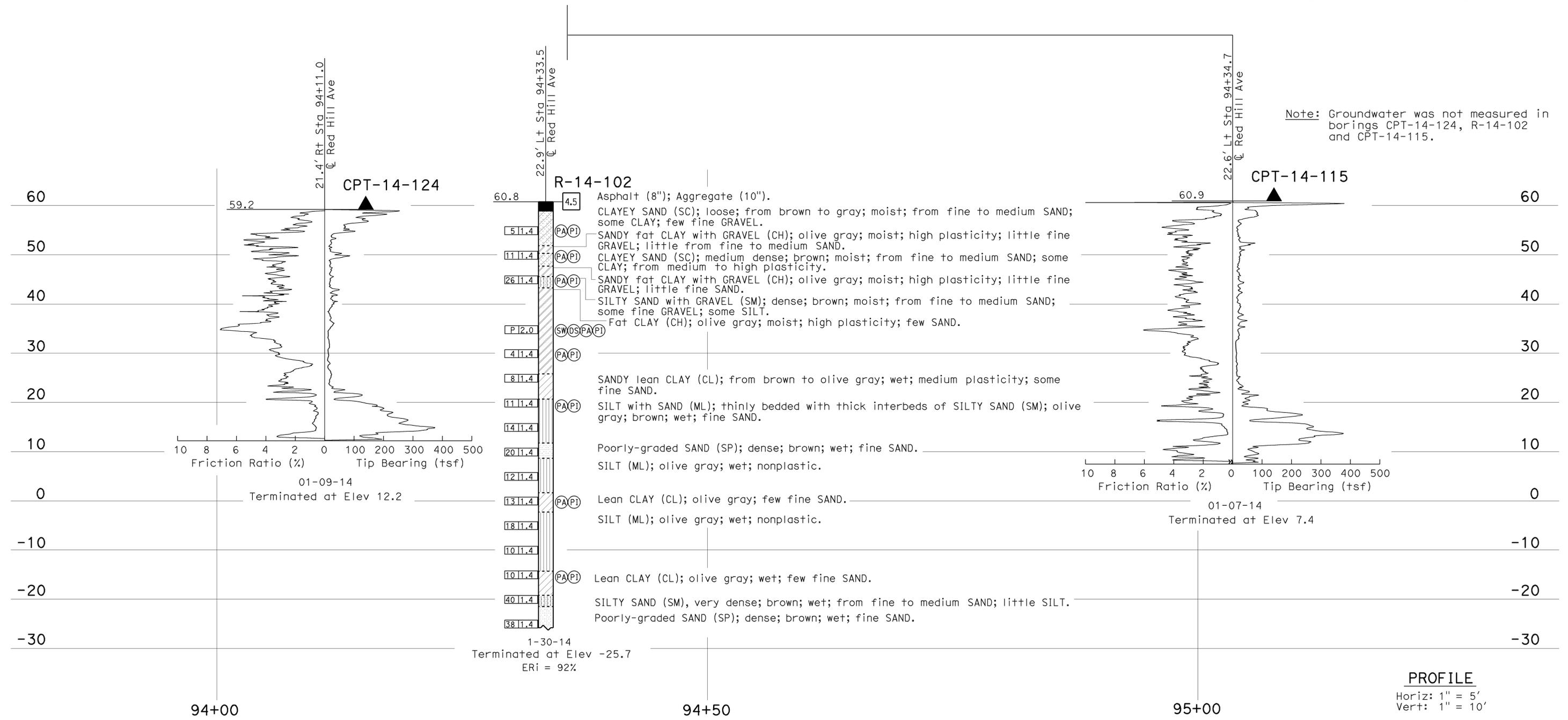
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| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|------|--------|-------|--------------------------|-----------|--------------|
| 12 | Ora | 405 | 8.4 | 113 | 142 |


 REGISTERED CIVIL ENGINEER DATE 1-9-15
 PLANS APPROVAL DATE 4-27-15
 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.

FOR PLAN VIEW, SEE
"LOG OF TEST BORINGS 1 OF 12"

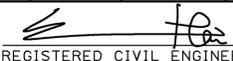
Note: Groundwater was not measured in borings CPT-14-124, R-14-102 and CPT-14-115.



PROFILE
Horiz: 1" = 5'
Vert: 1" = 10'

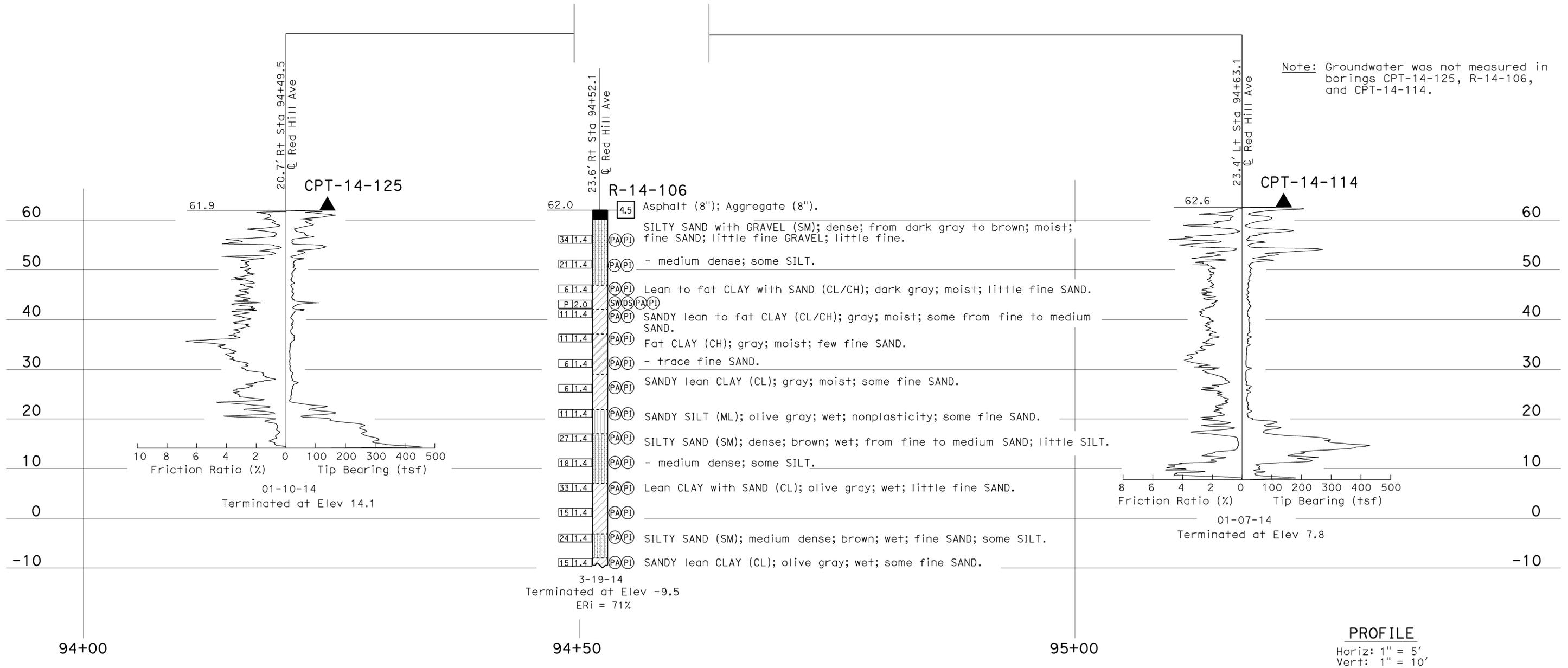
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|-------------------------------------|--|--|--|----------------------------|--|---|--|-------------------------|--|---|--|
| ENGINEERING SERVICES | | MATERIALS AND GEOTECHNICAL SERVICES | | STATE OF CALIFORNIA | | DIVISION OF ENGINEERING SERVICES | | BRIDGE NO. | | RETAINING WALLS No. 1 & No. 2 | |
| FUNCTIONAL SUPERVISOR | | DRAWN BY: W. Tang, I.G-Remmen | | FIELD INVESTIGATION BY: | | STRUCTURE DESIGN | | VARIES | | LOG OF TEST BORINGS 4 OF 12 | |
| NAME: D. Jang | | CHECKED BY: Y. Choi | | S. Han | | DESIGN BRANCH 20 | | POST MILE | | | |
| 065 CIVIL LOG OF TEST BORINGS SHEET | | ORIGINAL SCALE IN INCHES FOR REDUCED PLANS | | UNIT: 3643 | | PROJECT NUMBER & PHASE: 12140000571 | | CONTRACT NO.: 12-0N5404 | | DISREGARD PRINTS BEARING EARLIER REVISION DATES | |
| | | | | 0 1 2 3 | | REVISION DATES | | SHEET | | OF | |
| | | | | | | 09-30-14 01-07-15 | | 13 | | 21 | |

FILE => 55-E0162&E0163-z-rw1&2-1fb04.dgn

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|---|--------|-------|---|-----------|--------------|
| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
| 12 | Ora | 405 | 8.4 | 114 | 142 |
|  REGISTERED CIVIL ENGINEER | | | 1-9-15 | DATE | |
| 4-27-15 PLANS APPROVAL DATE | | |  | | |
| <small>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.</small> | | | | | |

FOR PLAN VIEW, SEE
"LOG OF TEST BORINGS 1 OF 12"

Note: Groundwater was not measured in borings CPT-14-125, R-14-106, and CPT-14-114.



| | | | | | | | | | | | |
|-------------------------------------|--|--|--|--------------------------------|--|---|--|-------------------|--|--|--|
| ENGINEERING SERVICES | | MATERIALS AND GEOTECHNICAL SERVICES | | STATE OF CALIFORNIA | | DIVISION OF ENGINEERING SERVICES | | BRIDGE NO. | | RETAINING WALLS No. 1 & No. 2 | |
| FUNCTIONAL SUPERVISOR | | DRAWN BY: W. Tang, I.G-Remmen | | DEPARTMENT OF TRANSPORTATION | | STRUCTURE DESIGN | | VARIES | | LOG OF TEST BORINGS 5 OF 12 | |
| NAME: D. Jang | | CHECKED BY: Y. Choi | | FIELD INVESTIGATION BY: S. Han | | DESIGN BRANCH 20 | | POST MILE | | REVISION DATES | |
| 065 CIVIL LOG OF TEST BORINGS SHEET | | ORIGINAL SCALE IN INCHES FOR REDUCED PLANS | | UNIT: 3643 | | PROJECT NUMBER & PHASE: 12140000571 | | 8.4 | | SHEET OF | |
| | | | | CONTRACT NO.: 12-0N5404 | | DISREGARD PRINTS BEARING EARLIER REVISION DATES | | 09-30-14 01-07-15 | | 14 21 | |

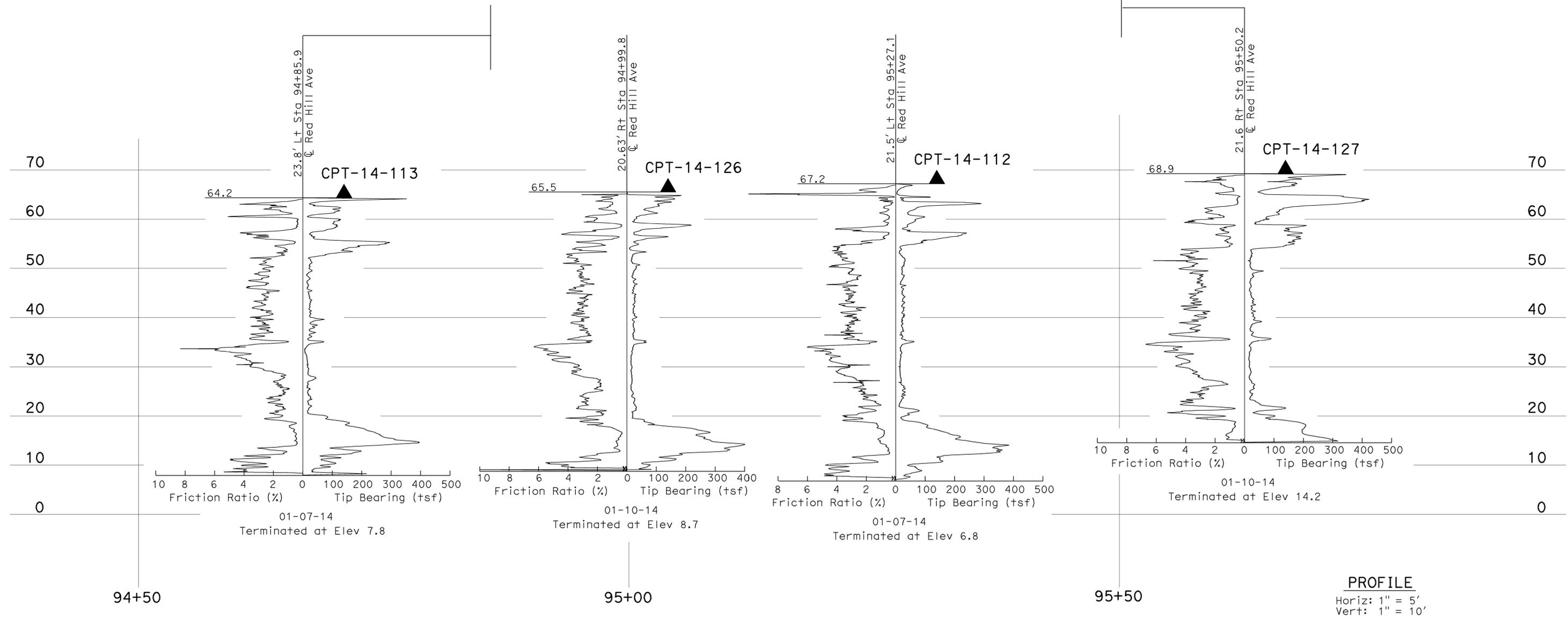
USERNAME => s136953 DATE PLOTTED => 09-FEB-2015 TIME PLOTTED => 15:14

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|---|--------|-------|--------------------------|-----------|--------------|
| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
| 12 | Ora | 405 | 8.4 | 115 | 142 |
| REGISTERED CIVIL ENGINEER | | | DATE | 1-9-15 | |
| PLANS APPROVAL DATE | | | 4-27-15 | | |
| | | | | | |
| <small>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.</small> | | | | | |

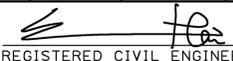
FOR PLAN VIEW, SEE
"LOG OF TEST BORINGS 1 OF 12"

This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (2010 Edition).
See 2010 Standard Plans A10F and A10G for Soil Legend, and A10H for Rock Legend.

Note: Groundwater was not measured in borings CPT-14-113, CPT-14-126, CPT-14-112 and CPT-14-127.



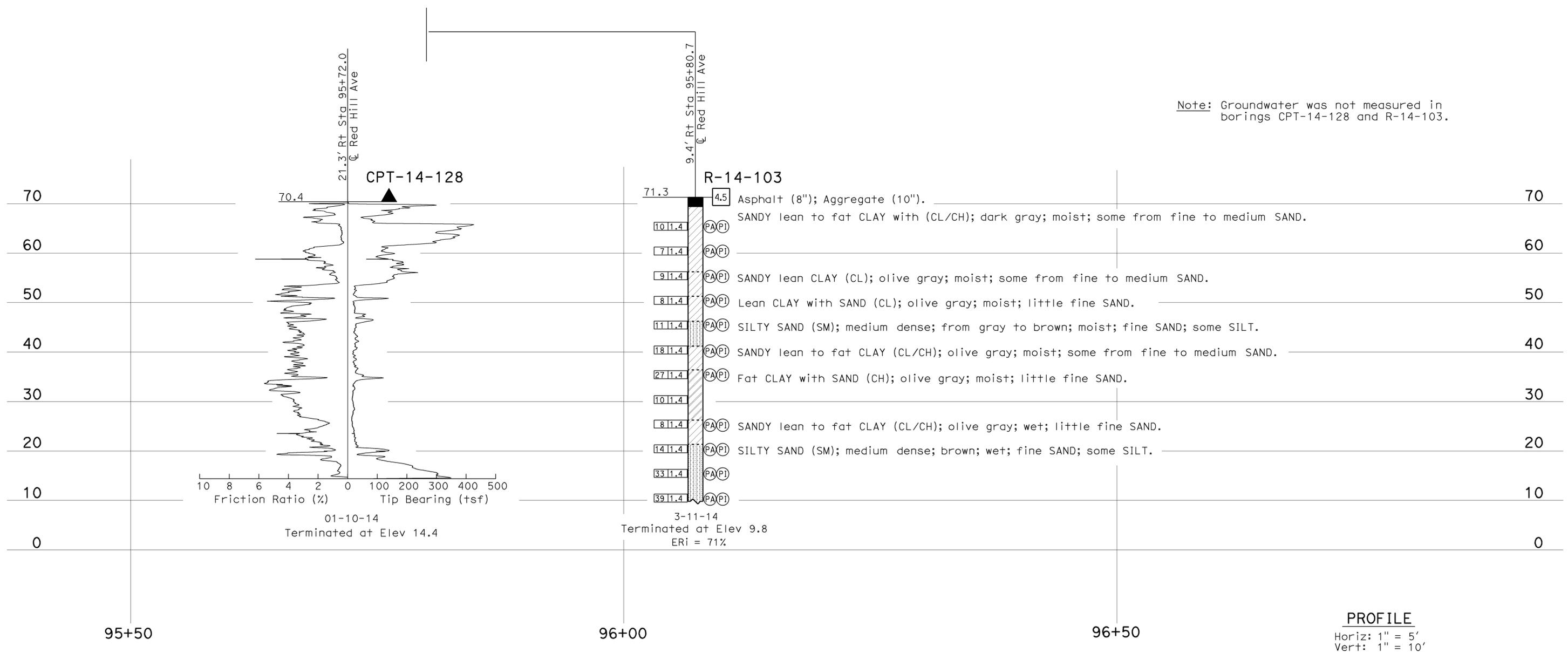
| | | | | | | | | | | | | | | | | | |
|--|--|--|----|--|--|---|--|--|--|----------------|--|-------|----|----------|----------|----|----|
| ENGINEERING SERVICES | | MATERIALS AND GEOTECHNICAL SERVICES | | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | | DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 20 | | RETAINING WALLS No. 1 & No. 2 LOG OF TEST BORINGS 6 OF 12 | | | | | | | | | |
| FUNCTIONAL SUPERVISOR NAME: D. Jang | DRAWN BY: W. Tang, I.G-Remmen CHECKED BY: Y. Choi | FIELD INVESTIGATION BY: S. Han | | BRIDGE NO. VARIES POST MILE 8.4 | | UNIT: 3643 PROJECT NUMBER & PHASE: 12140000571 | | CONTRACT NO.: 12-0N5404 | | | | | | | | | |
| O&S CIVIL LOG OF TEST BORINGS SHEET | | | | ORIGINAL SCALE IN INCHES FOR REDUCED PLANS | | DISREGARD PRINTS BEARING EARLIER REVISION DATES | | <table border="1"> <tr> <td colspan="2">REVISION DATES</td> <td>SHEET</td> <td>OF</td> </tr> <tr> <td>09-30-14</td> <td>01-07-15</td> <td>15</td> <td>21</td> </tr> </table> | | REVISION DATES | | SHEET | OF | 09-30-14 | 01-07-15 | 15 | 21 |
| REVISION DATES | | SHEET | OF | | | | | | | | | | | | | | |
| 09-30-14 | 01-07-15 | 15 | 21 | | | | | | | | | | | | | | |

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|---|--------|-------|---|-----------|--------------|
| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
| 12 | Ora | 405 | 8.4 | 116 | 142 |
|  REGISTERED CIVIL ENGINEER | | | 1-9-15 | DATE | |
| 4-27-15 PLANS APPROVAL DATE | | |  | | |
| <small>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.</small> | | | | | |

FOR PLAN VIEW, SEE
"LOG OF TEST BORINGS 1 OF 12"

This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (2010 Edition).
See 2010 Standard Plans A10F and A10G for Soil Legend, and A10H for Rock Legend.

Note: Groundwater was not measured in borings CPT-14-128 and R-14-103.



PROFILE
 Horiz: 1" = 5'
 Vert: 1" = 10'

| | | | | | | | | | | | |
|--|--|--|--|--|--|---|--|--|--|---|--|
| ENGINEERING SERVICES | | MATERIALS AND GEOTECHNICAL SERVICES | | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | | DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 20 | | BRIDGE NO. VARIES POST MILE 8.4 | | RETAINING WALLS No. 1 & No. 2 | |
| FUNCTIONAL SUPERVISOR NAME: D. Jang | | DRAWN BY: W. Tang, I.G-Remmen CHECKED BY: Y. Choi | | FIELD INVESTIGATION BY: S. Han | | UNIT: 3643 PROJECT NUMBER & PHASE: 12140000571 | | CONTRACT NO.: 12-0N5404 | | DISREGARD PRINTS BEARING EARLIER REVISION DATES | |
| 065 CIVIL LOG OF TEST BORINGS SHEET | | | | | | | | | | REVISION DATES | |
| ORIGINAL SCALE IN INCHES FOR REDUCED PLANS | | | | | | | | | | SHEET 16 OF 21 | |

USERNAME => s136953 DATE PLOTTED => 09-FEB-2015 TIME PLOTTED => 15:14
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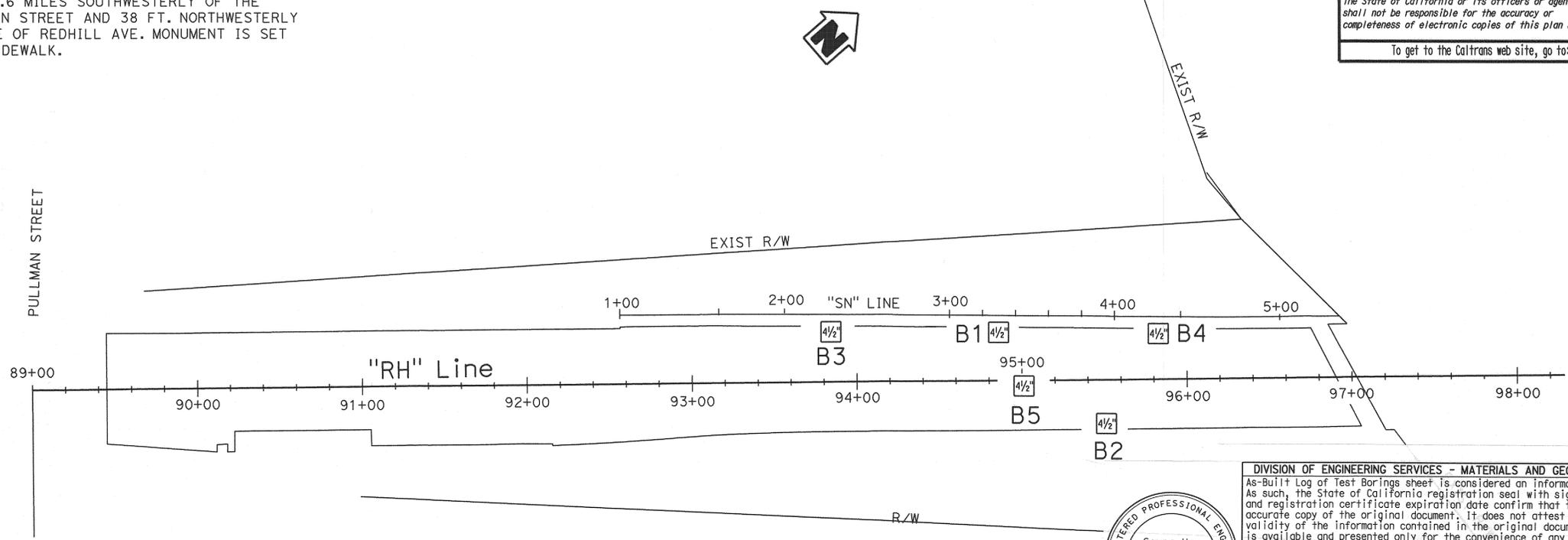
| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No | TOTAL SHEETS |
|------|--------|-------|--------------------------|----------|--------------|
| 12 | Ora | 405 | 8.4 | 118 | 142 |

REGISTERED PROFESSIONAL ENGINEER
 DATE 09-27-07
 4-27-15
 PLANS APPROVAL DATE
 Vincent Rodriguez
 No. GE2733
 Exp. 06-30-08
 STATE OF CALIFORNIA
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 To get to the Caltrans web site, go to: <http://www.dot.ca.gov>

BENCH MARK

D-1416 Elev. 38.912'
 Fnd 3 3/4" OCS ALUMINUM BENCH MARK DISK STAMPOED "D1416 1988"; SET IN THE SOUTHWEST CORNER OF A 7 FT. BY 9 FT. CONCRETE CATCH BASIN. MONUMENT IS LOCATED ALONG THE SOUTHWESTERLY SIDE OF REDHILL AVENUE, 0.6 MILES SOUTHWESTERLY OF THE CENTERLINE OF MAIN STREET AND 38 FT. NORTHWESTERLY OF THE CENTERLINE OF REDHILL AVE. MONUMENT IS SET LEVEL WITH THE SIDEWALK.

NAVD 88



PLAN
1"=40'

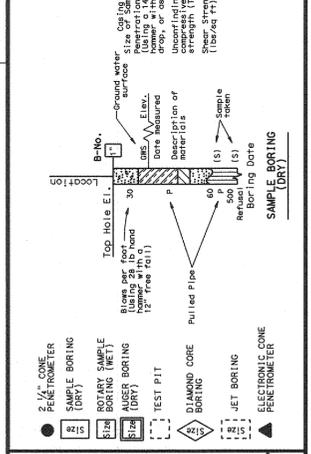


| DIVISION OF ENGINEERING SERVICES - MATERIALS AND GEOTECHNICAL SERVICES | | | | | |
|---|--------|------------------------|-------------------------|---------------------------|--------------|
| As-Built Log of Test Borings sheet is considered an informational document only. As such, the State of California registration seal with signature, license number and registration certificate expiration date confirm that this is a true and accurate copy of the original document. It does not attest to the accuracy or validity of the information contained in the original document. This drawing is available and presented only for the convenience of any bidder, contractor or other interested party. | | | | | |
| DIST. | COUNTY | ROUTE | POST MILE-TOTAL PROJECT | Sheet No. | Total Sheets |
| 12 | Ora | 405 | 8.4 | 118 | 142 |
| | | | | REGISTERED CIVIL ENGINEER | DATE 11/9/15 |
| RETAINING WALLS 1, 2, 3, AND 4 | | | | | |
| LOG OF TEST BORINGS 9 OF 12 | | | | | |
| UNIT: 3643 | | CONTRACT No. 12-0N5404 | | BRIDGE No. VARIES | |
| PROJ. No. & PHASE: 12140000571 | | | | | |
| AS-BUILT VERT DATUM: N/A | | CONVERSION: N/A | | Sheet of | |
| NOTE: A COPY OF THIS LOG OF TEST BORINGS IS AVAILABLE AT OFFICE OF STRUCTURE MAINTENANCE AND INVESTIGATIONS, SACRAMENTO, CALIFORNIA | | | | | |

Notes:

- A mobile Drill B-47 was used for this project, with a Caltrans ID of CT #3174786 and Average Hammer Efficiency is 57%.
- Borings were drilled with a 4.5-inch punch core wire-line system.
- After completion of drilling, a piezometer was installed in Boring 3. Ground water was measured immediately after drilling at an elevation of 20.4 ft. Subsequent measurements have been made through July 2007 and the ground water elevation has varied between 18.4 ft to 21.4 ft.
- Ground water levels indicated on the Log of Test Borings (LOTB) sheets reflect the measured ground water levels in the borehole on the specified date. Ground water surface elevations are subject to seasonal fluctuations and will be encountered at higher or lower elevations depending upon conditions at time of construction.
- During the investigation, ground water was not measured in Borings 1, 2, 4, and 5. Slope inclinometers were installed in the borings after drilling.
- The descriptions and classifications of soil, including consistency and relative density descriptors, used by the field personnel for the exploration boreholes shown on these sheets are based on the "Soil and Rock Logging Classification Manual (Field Guide)", Engineer Service Center, Office of Structural Foundations, August 1996.
- Test borings 1 through 4 utilized a Safety hammer to advance the sampler using a 140 lb hammer with a 30 inch drop. Penetration index values shown on the Log of Test Boring (LOTB) sheets were the actual values recorded in the field. Soil consistency shown on the LOTB sheets is based on the actual penetration index values recorded in the field. For a list of hammer efficiency adjustment factors, please refer to Drill Rig Hammer Evaluation Report 59-910683, Geotechnical Services, Dated December 7, 2005.
- Refusal in earth material is defined as severely limited or halted penetration (less than 6 inches of penetration in 50 blow counts) of Standard Penetration Test (SPT) sampler due to the presence of gravels, cobbles, boulders or rock formation materials. Penetration index value designated "REF" means sampler refusal, which indicates no penetration was recorded in the field. If penetration of less than 12 inches was recorded, the number of blows is shown with the indicated penetration in inches

LEGEND OF BORING OPERATIONS



LEGEND OF EARTH MATERIALS

| | |
|---------------------------|-------------------------|
| GRAVEL | CLAYEY SILT |
| SAND | PEAT or silt |
| SILT | COBBLES and/or Boulders |
| CLAY | GENEOUS ROCK |
| SANDY CLAY or CLAYEY SAND | SEDIMENTARY ROCK |
| SANDY SILT or SILTY SAND | METAMORPHIC |
| SILTY CLAY | |

CONSISTENCY CLASSIFICATION FOR SOILS

| SPT Blow Count (ft) | Consistency | |
|---------------------|--------------|--------------|
| | Granular | Cohesive |
| 0-4 | Very Loose | Very Soft |
| 5-10 | Loose | Soft |
| 11-30 | Medium Dense | Medium stiff |
| 31-50 | Dense | Stiff |
| >50 | Very Dense | Very stiff |
| >70 | | Hard |
| >80 | | Very Hard |

NOTE: Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.

| | |
|-----------------------------------|------------------------------|
| ENGINEERING SERVICE CENTER | GEOTECHNICAL SERVICES |
| DRAWN BY: W. Tang 09/07 | CHECKED BY: V. Rodriguez |

FIELD INVESTIGATION BY:
V. Rodriguez

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH

BRIDGE NO.
POST MILE
8.4

SLOPE STABILIZATION
LOG OF TEST BORINGS 1 OF 4

| | | | | | |
|------|--------|-------|--------------------------|----------|--------------|
| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No | TOTAL SHEETS |
| 12 | Ora | 405 | 8.4 | 119 | 142 |

REGISTERED PROFESSIONAL ENGINEER
 DATE 09-27-07
 4-27-15
 PLANS APPROVAL DATE

Vincent Rodriguez
 No. GE2733
 Exp. 06-30-08
 STATE OF CALIFORNIA

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FOR PLAN VIEW, SEE
 "LOG OF TEST BORINGS" 1 OF 4

DIVISION OF ENGINEERING SERVICES - MATERIALS AND GEOTECHNICAL SERVICES

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| | | | | | |
|-------|--------|-------|-------------------------|-----------|--------------|
| DIST. | COUNTY | ROUTE | POST MILE-TOTAL PROJECT | Sheet No. | Total Sheets |
| 12 | Ora | 405 | 8.4 | 119 | 142 |

REGISTERED CIVIL ENGINEER
 DATE 11/9/15

RETAINING WALLS 1, 2, 3, AND 4
LOG OF TEST BORINGS 10 OF 12

UNIT: 3643
 PROJ. No. & PHASE: 12140000571
 CONTRACT No.: 12-0N5404
 BRIDGE No.: VARIES

AS-BUILT VERT DATUM: N/A
 CONVERSION: N/A

NOTE: A COPY OF THIS LOG OF TEST BORINGS IS AVAILABLE AT OFFICE OF STRUCTURE MAINTENANCE AND INVESTIGATIONS, SACRAMENTO, CALIFORNIA



LEGEND OF BORING OPERATIONS

2 1/4" CONE PENETROMETER BORING (SAMPLE BORING)
 Description of material (unit weight (lb/cu ft) and moisture content (w) measured) - Cone Penetration Test
 Friction Ratio (s) - Tip Bearing (TSF)
 Pressure measured at depth (TSF) (lb/cu ft) - Friction Ratio (s)

2 1/4" CONE PENETROMETER TEST
 No. of blows (150 lb hammer) - Friction Ratio (s) - Tip Bearing (TSF)
 Pressure measured at depth (TSF) (lb/cu ft) - Friction Ratio (s)

ROTARY CORE BORING (SAMPLE BORING)
 Description of material (unit weight (lb/cu ft) and moisture content (w) measured) - Cone Penetration Test
 Friction Ratio (s) - Tip Bearing (TSF)
 Pressure measured at depth (TSF) (lb/cu ft) - Friction Ratio (s)

DIAMOND CORE BORING (SAMPLE BORING)
 Description of material (unit weight (lb/cu ft) and moisture content (w) measured) - Cone Penetration Test
 Friction Ratio (s) - Tip Bearing (TSF)
 Pressure measured at depth (TSF) (lb/cu ft) - Friction Ratio (s)

WET BORING
 Description of material (unit weight (lb/cu ft) and moisture content (w) measured) - Cone Penetration Test
 Friction Ratio (s) - Tip Bearing (TSF)
 Pressure measured at depth (TSF) (lb/cu ft) - Friction Ratio (s)

PIEZOMETER
 Description of material (unit weight (lb/cu ft) and moisture content (w) measured) - Cone Penetration Test
 Friction Ratio (s) - Tip Bearing (TSF)
 Pressure measured at depth (TSF) (lb/cu ft) - Friction Ratio (s)

LEGEND OF EARTH MATERIALS

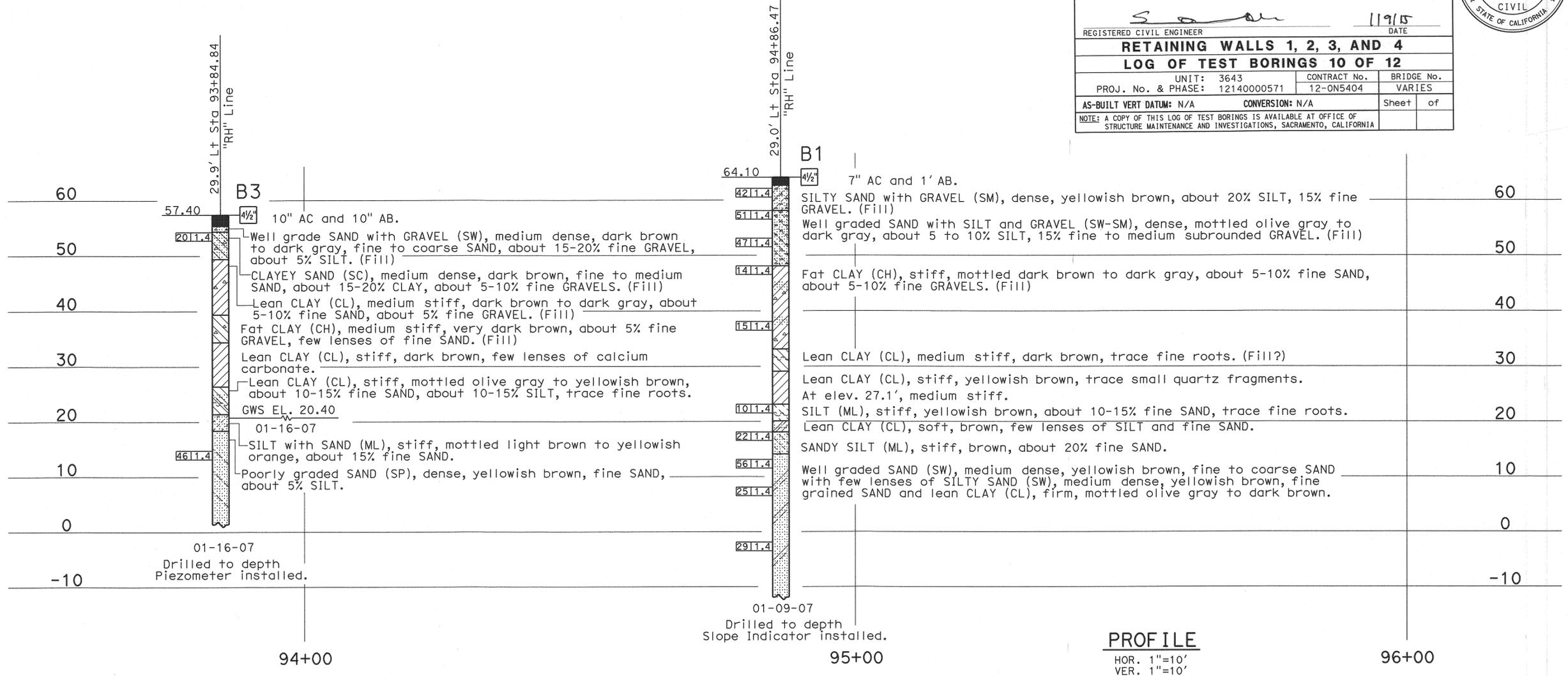
GRAVEL
 SAND
 SILT
 CLAY
 SANDY CLAY or SILTY SAND
 CLAYEY SAND or SILTY CLAY
 CLAYEY SILT
 PEAT and/or WATER BEARERS
 COBBLES
 Boulders
 SEDIMENTARY ROCK
 METAMORPHIC ROCK

CONSISTENCY CLASSIFICATION FOR SOILS

According to the Standard Penetration Test

| SPT N-Value (blows/foot) | Consistency |
|--------------------------|--------------|
| 0-4 | Very Loose |
| 5-10 | Loose |
| 11-20 | Medium Dense |
| 21-30 | Dense |
| 31-50 | Very Dense |
| >50 | Very Dense |

NOTE: Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.



| | | | | | | |
|----------------------------|----------------------------|---|---|---|--------------------------------|---|
| ENGINEERING SERVICE CENTER | GEOTECHNICAL SERVICES | FIELD INVESTIGATION BY: V. Rodriguez | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH | BRIDGE NO. POST MILE 8.4 | SLOPE STABILIZATION LOG OF TEST BORINGS 2 OF 4 |
| DRAWN BY W. Tang 09/07 | CHECKED BY V. Rodriguez | | | | | |

OSF CIVIL LOG OF TEST BORINGS SHEET (ENGLISH) (REV. 10/25/05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

CU 12
EA 0J1200

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES

SHEET OF
X X

07-JAN-2015 TIME PLOTTED => 13:35

| | | | | | |
|------|--------|-------|--------------------------|-----------|--------------|
| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
| 12 | Ora | 405 | 8.4 | 120 | 142 |

REGISTERED PROFESSIONAL ENGINEER
 DATE 09-27-07
 4-27-15
 PLANS APPROVAL DATE

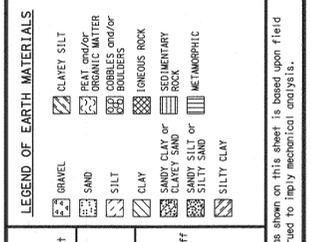
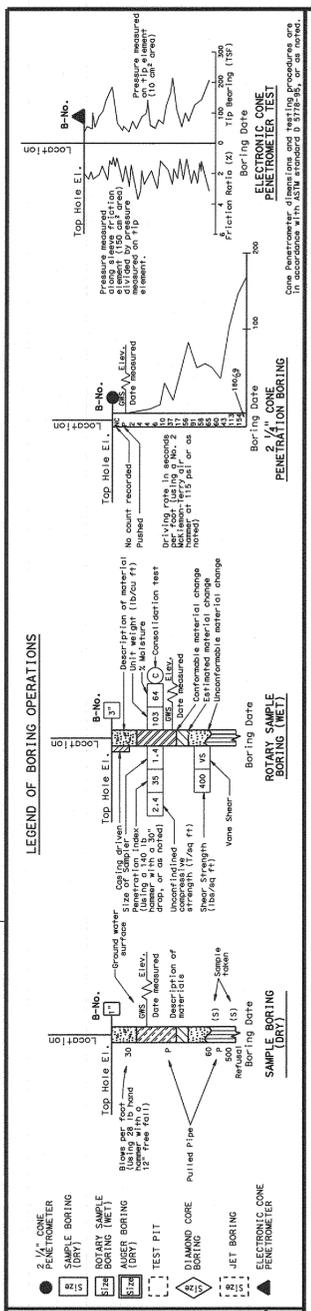
Vincent Rodriguez
 No. GE2733
 Exp. 06-30-08
 STATE OF CALIFORNIA

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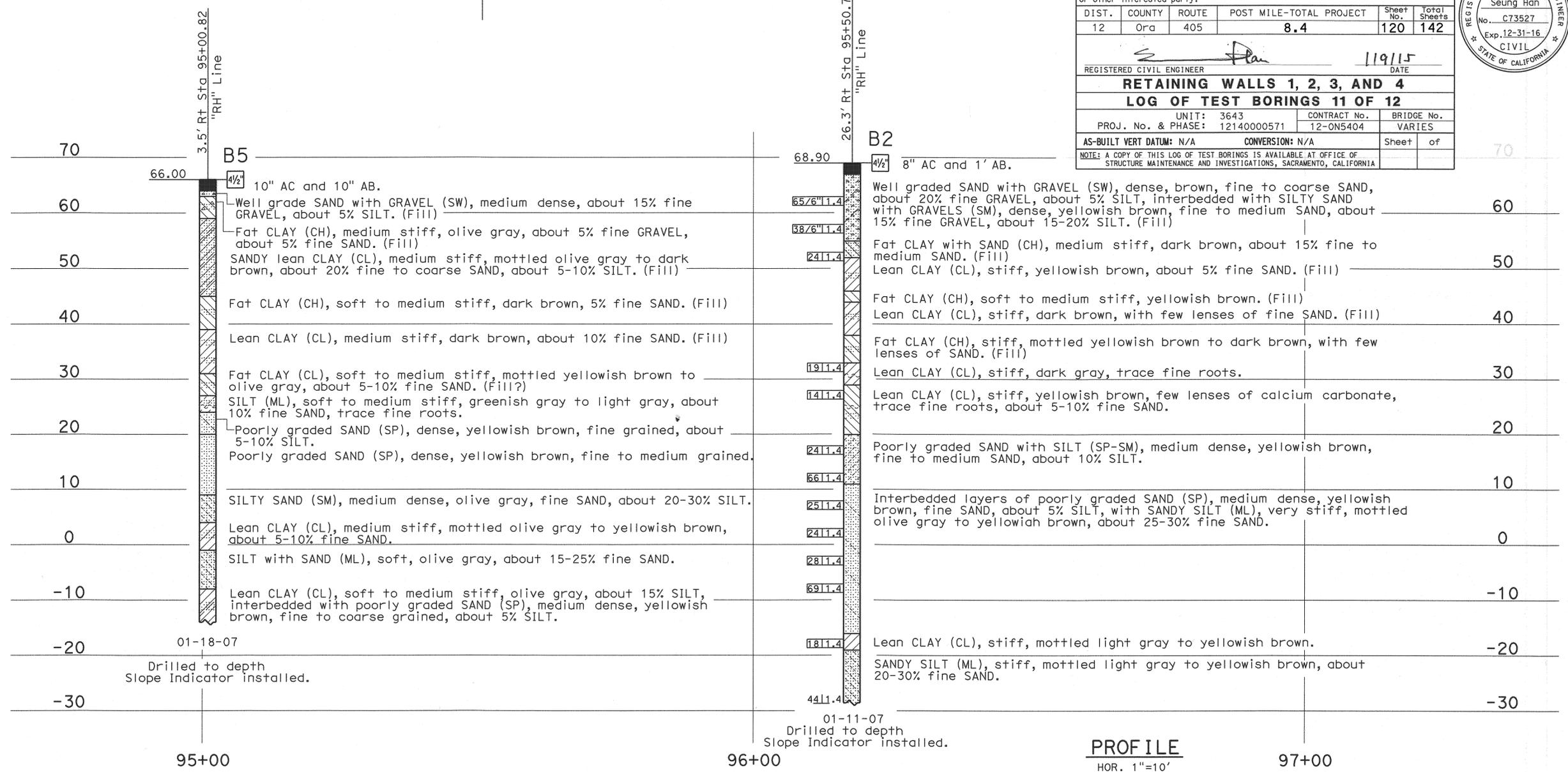
FOR PLAN VIEW, SEE
 "LOG OF TEST BORINGS" 1 OF 4

| | | | | | |
|---|--------|--------------------------|-------------------------|-------------------|--------------|
| DIVISION OF ENGINEERING SERVICES - MATERIALS AND GEOTECHNICAL SERVICES | | | | | |
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| DIST. | COUNTY | ROUTE | POST MILE-TOTAL PROJECT | Sheet No. | Total Sheets |
| 12 | Ora | 405 | 8.4 | 120 | 142 |
| REGISTERED CIVIL ENGINEER | | | DATE | 11/9/15 | |
| RETAINING WALLS 1, 2, 3, AND 4 | | | | | |
| LOG OF TEST BORINGS 11 OF 12 | | | | | |
| UNIT: 3643 | | CONTRACT No. 12140000571 | | BRIDGE No. VARIES | |
| PROJ. No. & PHASE: | | 12-ON5404 | | Sheet of | |
| AS-BUILT VERT DATUM: N/A | | CONVERSION: N/A | | Sheet of | |
| NOTE: A COPY OF THIS LOG OF TEST BORINGS IS AVAILABLE AT OFFICE OF STRUCTURE MAINTENANCE AND INVESTIGATIONS, SACRAMENTO, CALIFORNIA | | | | | |



| CONSISTENCY CLASSIFICATION FOR SOILS | | According to the Standard Penetration Test | |
|--------------------------------------|--------------|--|-------|
| SPT N-value (blows/foot) | Granular | Cohesive | |
| | Very Loose | Very Soft | |
| 0-4 | Loose | Soft | 0-2 |
| 5-10 | Medium Dense | Medium Stiff | 3-8 |
| 11-20 | Dense | Stiff | 9-15 |
| 21-30 | Very Dense | Hard | 16-30 |
| 31-50 | | Very Hard | 31-60 |
| 51-70 | | | 70 |

NOTE: Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.



| | | | | | | | |
|---|----------------------------|--|---|---|-------------------|---|----------------|
| ENGINEERING SERVICE CENTER | GEOTECHNICAL SERVICES | FIELD INVESTIGATION BY: V. Rodriguez | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH | BRIDGE NO. 8.4 | SLOPE STABILIZATION LOG OF TEST BORINGS 3 OF 4 | |
| DRAWN BY W. Tang 09/07 | CHECKED BY V. Rodriguez | | | | | DISREGARD PRINTS BEARING EARLIER REVISION DATES | REVISION DATES |
| OSF CIVIL LOG OF TEST BORINGS SHEET (ENGLISH) (REV. 10/25/05) | | ORIGINAL SCALE IN INCHES FOR REDUCED PLANS | CU 12 EA 0J1200 | SHEET OF X X | | 99-27-01 | |

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No | TOTAL SHEETS |
|------|--------|-------|--------------------------|----------|--------------|
| 12 | Ora | 405 | 8.4 | 121 | 142 |

REGISTERED PROFESSIONAL ENGINEER
 DATE 09-27-07
 VINCENT RODRIGUEZ
 No. GE2733
 Exp. 06-30-08
 STATE OF CALIFORNIA
 GEOTECHNICAL
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FOR PLAN VIEW, SEE
 "LOG OF TEST BORINGS" 1 OF 4

DIVISION OF ENGINEERING SERVICES - MATERIALS AND GEOTECHNICAL SERVICES
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| DIST. | COUNTY | ROUTE | POST MILE-TOTAL PROJECT | Sheet No. | Total Sheets |
|-------|--------|-------|-------------------------|-----------|--------------|
| 12 | Ora | 405 | 8.4 | 121 | 142 |

REGISTERED CIVIL ENGINEER
 DATE 11/9/15
RETAINING WALLS 1, 2, 3, AND 4
LOG OF TEST BORINGS 12 OF 12
 UNIT: 3643 CONTRACT No. 12-0N5404 BRIDGE No. 12-0N5404
 PROJ. No. & PHASE: 12140000571 VARIES
 AS-BUILT VERT DATUM: N/A CONVERSION: N/A Sheet of
 NOTE: A COPY OF THIS LOG OF TEST BORINGS IS AVAILABLE AT OFFICE OF STRUCTURE MAINTENANCE AND INVESTIGATIONS, SACRAMENTO, CALIFORNIA



LEGEND OF BORING OPERATIONS

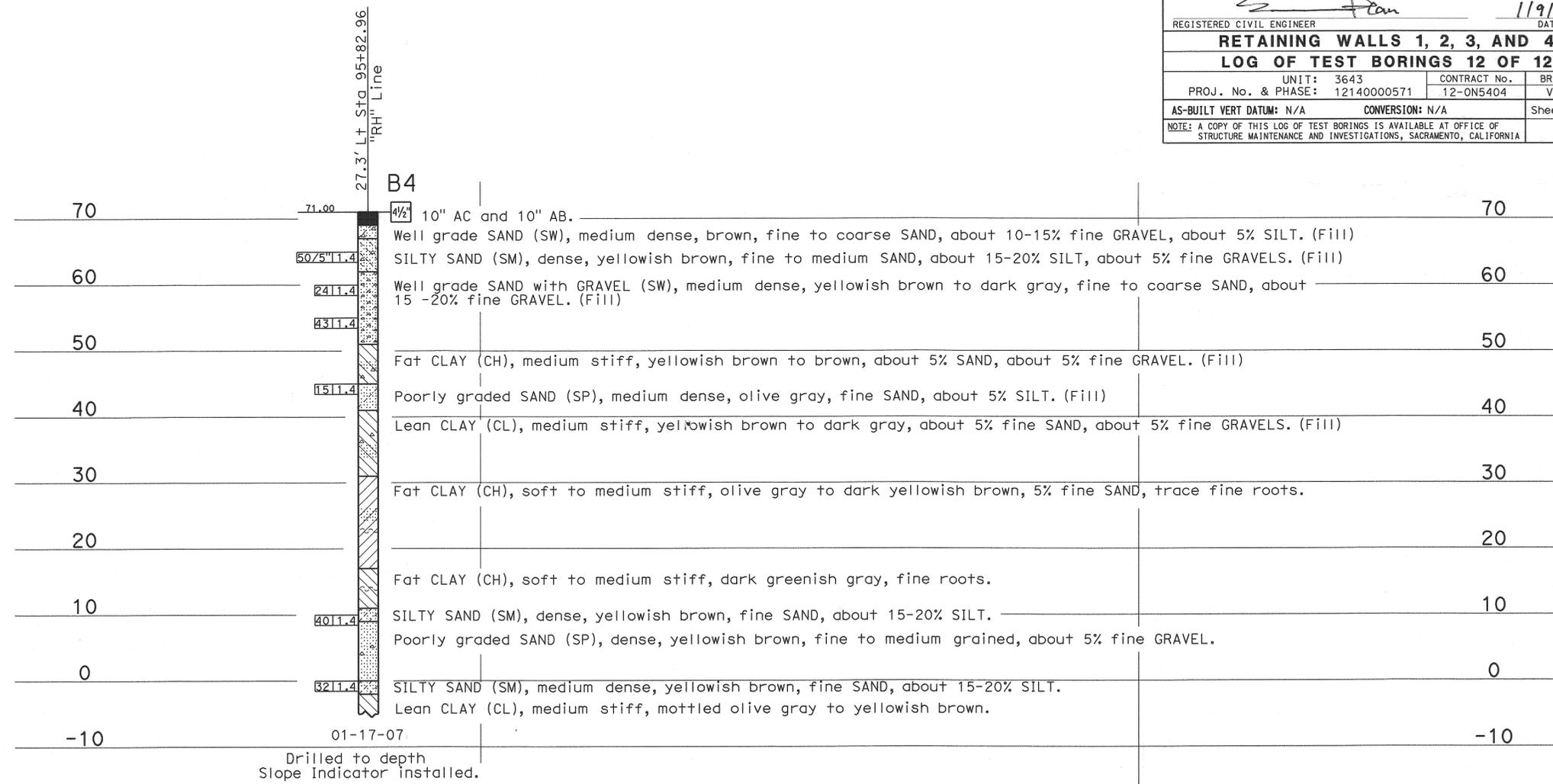
LEGEND OF EARTH MATERIALS

CONSISTENCY CLASSIFICATION FOR SOILS

LEGEND OF BORING OPERATIONS

LEGEND OF EARTH MATERIALS

CONSISTENCY CLASSIFICATION FOR SOILS



| | | | | | | |
|---|----------------------------|---|---|---|---|---|
| ENGINEERING SERVICE CENTER | GEOTECHNICAL SERVICES | FIELD INVESTIGATION BY: V. Rodriguez | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH | BRIDGE NO. POST MILE 8.4 | SLOPE STABILIZATION LOG OF TEST BORINGS 4 OF 4 |
| DRAWN BY W. Tang 09/07 | CHECKED BY V. Rodriguez | | | | | REVISION DATES 09-27-07 |
| OSF CIVIL LOG OF TEST BORINGS SHEET (ENGLISH) (REV. 10/25/05) | | | ORIGINAL SCALE IN INCHES FOR REDUCED PLANS | CU 12 EA 0J1200 | DISREGARD PRINTS BEARING EARLIER REVISION DATES | SHEET OF X X |

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|------|--------|-------|--------------------------|-----------|--------------|
| 12 | ORA | 405 | 8.4 | 122 | 142 |

| | |
|---|--------------|
|  | |
| REGISTERED CIVIL ENGINEER | DATE 1-05-15 |
| PLANS APPROVAL DATE 4-27-15 | |
| <small>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.</small> | |

LEGEND:

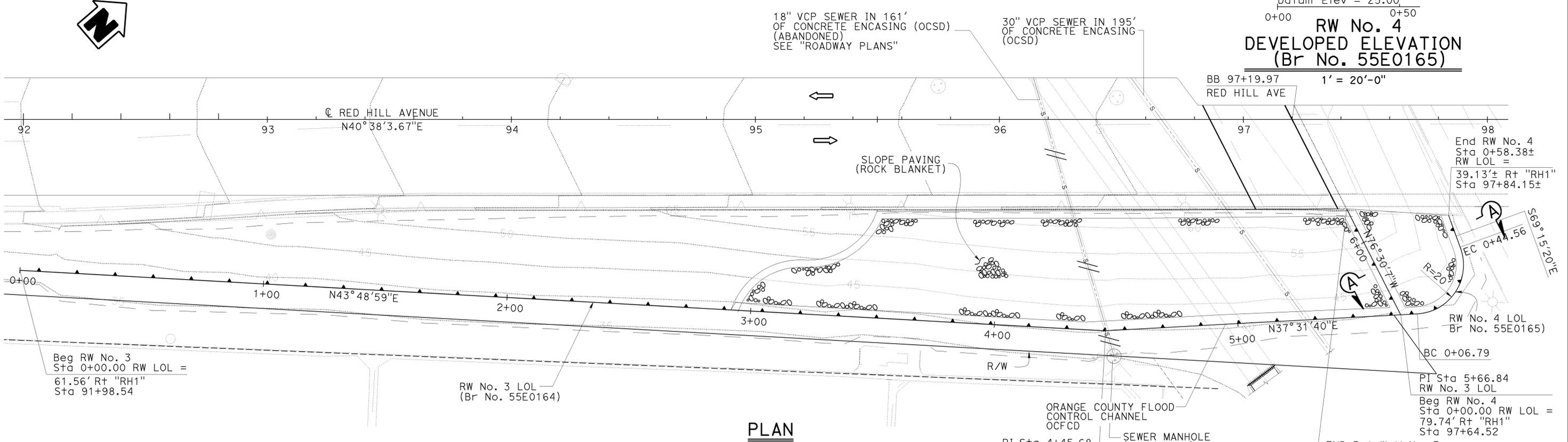
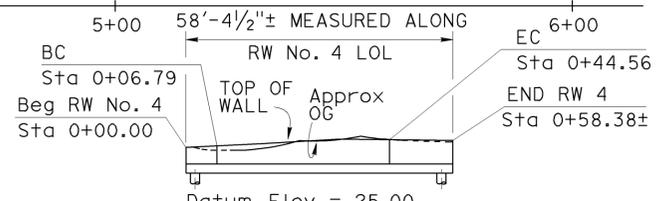
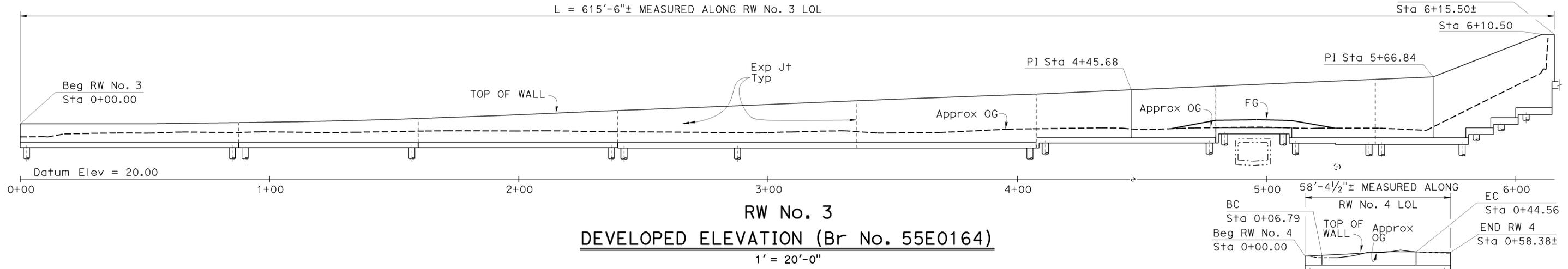
-  Indicates New Construction
-  Indicates Existing Structure
-  Indicates direction of traffic
-  Slope paving (Rock Blanket), see "ROADWAY PLANS"

RETAINING WALL NO. 3 (55E0164) QUANTITIES

| | | |
|---|---------|----|
| STRUCTURE EXCAVATION (RETAINING WALL) | 2,791 | CY |
| STRUCTURE BACKFILL (RETAINING WALL) | 3,916 | CY |
| PERVIOUS BACKFILL MATERIAL (RETAINING WALL) | 145 | CY |
| 30" CAST-IN-DRILLED-HOLE CONCRETE PILING | 9,933 | LF |
| STRUCTURAL CONCRETE, RETAINING WALL | 1,209 | CY |
| BAR REINFORCING STEEL (RETAINING WALL) | 669,872 | LB |
| MINOR CONCRETE (GUTTER) (LF) | 616 | LF |
| CABLE RAILING | 616 | LF |

RETAINING WALL NO. 4 (55E0165) QUANTITIES

| | | |
|---|--------|----|
| STRUCTURE EXCAVATION (RETAINING WALL) | 198 | CY |
| STRUCTURE BACKFILL (RETAINING WALL) | 111 | CY |
| PERVIOUS BACKFILL MATERIAL (RETAINING WALL) | 4 | CY |
| 30" CAST-IN-DRILLED-HOLE CONCRETE PILING | 494 | LF |
| STRUCTURAL CONCRETE, RETAINING WALL | 58 | CY |
| BAR REINFORCING STEEL (RETAINING WALL) | 28,749 | LB |



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

NOTE:
1. For Section A-A, see "INDEX TO PLANS" sheet

| | | | | | | | | | |
|------------------------------|------------|-----------------------|---------------------------|---------------------------------|---|---|---|----------------------------------|---|
| HOWARD NG DESIGN ENGINEER | DESIGN | BY HOMA IRANINEJADIAN | CHECKED MOHAMMAD MUQTADIR | LOAD & RESISTANCE FACTOR DESIGN | LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 20 | BRIDGE NO. 55E0164 55E0165 | RETAINING WALLS No. 3 & No. 4 GENERAL PLAN |
| | DETAILS | BY ANTONETTE L. ONG | CHECKED MOHAMMAD MUQTADIR | LAYOUT | BY DAWIT WORKU | | | CHECKED HOMA IRANINEJADIAN | |
| | QUANTITIES | BY HOMA IRANINEJADIAN | CHECKED MOHAMMAD MUQTADIR | SPECIFICATIONS | BY KEVIN ELLINGSON | CHECKED KEVIN ELLINGSON | | | |

| | | | | | |
|------------|--------------------------------------|-------------------------|---|----------------------------|---------------|
| UNIT: 3622 | PROJECT NUMBER & PHASE: 1214000057 1 | CONTRACT NO.: 12-0N5404 | DISREGARD PRINTS BEARING EARLIER REVISION DATES | REVISION DATES | SHEET 1 OF 21 |
| | | | | 01/27/15 01/28/15 02/04/15 | |

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

FILE => 55-E0164&E0165-a-gp01.dgn

| | | | | | |
|------|--------|-------|--------------------------|-----------|--------------|
| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
| 12 | ORA | 405 | 8.4 | 123 | 142 |

1-05-15
REGISTERED CIVIL ENGINEER DATE

4-27-15
PLANS APPROVAL DATE

HOMA IRANINEJADIAN
No. C 68284
Exp. 09-30-15
CIVIL
STATE OF CALIFORNIA

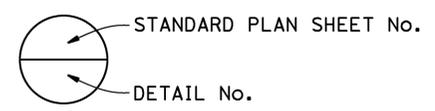
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INDEX TO PLANS

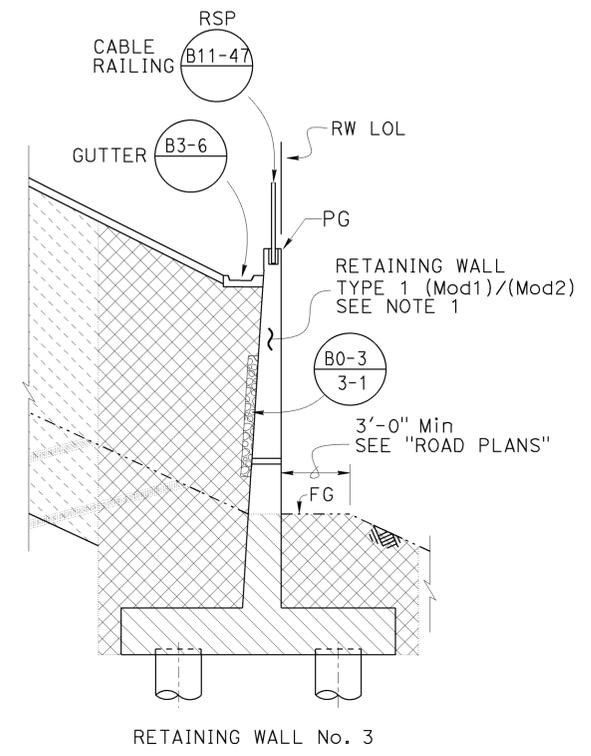
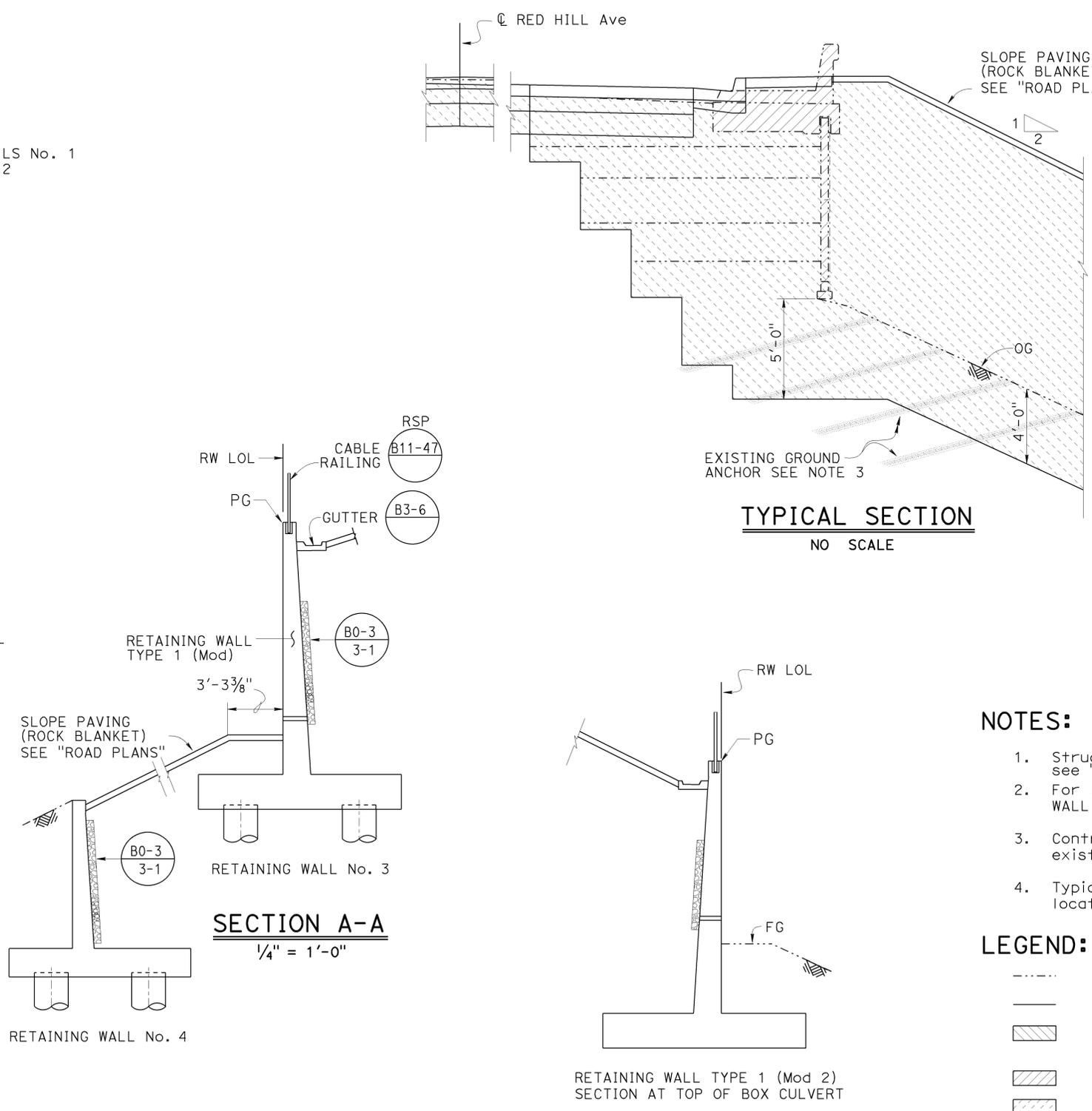
| SHEET No. | SHEET NAME |
|-----------|---|
| 1. | GENERAL PLAN |
| 2. | INDEX TO PLANS |
| 3. | PILE DATA TABLE |
| 4. | FOUNDATION PLAN |
| 5. | LAYOUT No. 1 |
| 6. | LAYOUT No. 2 |
| 7. | LAYOUT No. 3 |
| 8. | RETAINING WALL TYPE 1 (MOD 1) DETAILS No. 1 |
| 9. | RETAINING WALL TYPE 1 DETAILS No. 2 |
| 10. | LOG OF TEST BORINGS 1 OF 12 |
| 11. | LOG OF TEST BORINGS 2 OF 12 |
| 12. | LOG OF TEST BORINGS 3 OF 12 |
| 13. | LOG OF TEST BORINGS 4 OF 12 |
| 14. | LOG OF TEST BORINGS 5 OF 12 |
| 15. | LOG OF TEST BORINGS 6 OF 12 |
| 16. | LOG OF TEST BORINGS 7 OF 12 |
| 17. | LOG OF TEST BORINGS 8 OF 12 |
| 18. | LOG OF TEST BORINGS 9 OF 12 |
| 19. | LOG OF TEST BORINGS 10 OF 12 |
| 20. | LOG OF TEST BORINGS 11 OF 12 |
| 21. | LOG OF TEST BORINGS 12 OF 12 |

STANDARD PLANS 2010

| | |
|------------|---|
| RSP A10A | ABBREVIATIONS (SHEET 1 of 2) |
| RSP A10B | ABBREVIATIONS (SHEET 2 of 2) |
| A10C | LINES & SYMBOLS (SHEET 1 of 3) |
| A10D | LINES & SYMBOLS (SHEET 2 of 3) |
| A10E | LINES & SYMBOLS (SHEET 3 of 3) |
| A10F | LEGEND - SOIL (SHEET 1 OF 2) |
| A10G | LEGEND - SOIL (SHEET 2 OF 2) |
| A10H | LEGEND - ROCK |
| A62B | LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL BRIDGE SURCHARGE AND WALL |
| A62C | LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL BRIDGE |
| B0-3 | BRIDGE DETAILS |
| RSP B3-5 | RETAINING WALL DETAIL No. 1 |
| B3-6 | RETAINING WALL DETAIL No. 2 |
| RSP B11-47 | CABLE RAILING |



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



NOTES:

- Structure will be closed to traffic during construction, see "ROAD PLANS"
- For limits of Retaining Wall Type 1 (Mod 2), see "RETAINING WALL LAYOUT No. 2" sheet
- Contractor should remove interfering portions of the existing ground anchors. See "ROADWAY PLANS" for locations
- Typical section shown at Roadway Pavement, approach slab location similar

LEGEND:

- Indicates Existing Structure
- Indicates New Construction
- ▨ Remove existing MSE Wall, Type 26 Barrier and Barrier Slab, see "ROAD PLANS"
- ▩ Structure Excavation (Retaining Wall)
- ▧ Roadway Excavation and Embankment, see "ROAD PLANS"
- ▤ Structure Backfill (Retaining Wall)

| | | |
|------------|-----------------------|---------------------------|
| DESIGN | BY HOMA IRANINEJADIAN | CHECKED MOHAMMAD MUQTADIR |
| DETAILS | BY A. ONG / P. PEREZ | CHECKED MOHAMMAD MUQTADIR |
| QUANTITIES | BY HOMA IRANINEJADIAN | CHECKED MOHAMMAD MUQTADIR |

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 20

| | |
|------------|---------|
| BRIDGE NO. | 55E0164 |
| POST MILE | 8.40 |

RETAINING WALLS No. 3 & No. 4

INDEX TO PLANS

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|------|--------|-------|--------------------------|-----------|--------------|
| 12 | ORA | 405 | 8.4 | 124 | 142 |

1-05-15
DATE

REGISTERED CIVIL ENGINEER

4-27-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
HOMA IRANINEJADIAN
No. C 68284
Exp. 09-30-15
CIVIL
STATE OF CALIFORNIA

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| PILE DATA TABLE (RETAINING WALL No. 3 - BRIDGE No. 55E0164) | | | | | | |
|---|-------------|-----------|--------------------|---------------|----------------------|------------------------------|
| Location | | Pile Type | Nominal Resistance | | Design Tip Elevation | Specified Tip Elevation (ft) |
| Beg Station | End Station | | Compression (kip) | Tension (kip) | | |
| 0+00.00 | 2+39.62 | 30" CIDH | 225 | N/A | -25(a) 5(d) | -25 |
| 2+39.62 | 3+35.62 | 30" CIDH | 250 | N/A | -25(a) 5(d) | -25 |
| 3+35.62 | 4+45.62 | 30" CIDH | 280 | N/A | -25(a) 5(d) | -25 |
| 4+45.62 | 4+71.62 | 30" CIDH | 260 | N/A | -25(a) 0(d) | -25 |
| 4+71.62 | 5+10.12 | 30" CIDH | 280 | N/A | -25(a) 0(d) | -25 |
| 5+10.12 | 5+27.62 | 30" CIDH | 280 | N/A | -25(a) 0(d) | -25 |
| 5+27.62 | 5+79.98 | 30" CIDH | 250 | N/A | -25(a) 0(d) | -25 |
| 5+79.98 | 5+89.98 | 30" CIDH | 215 | N/A | -25(a) 5(d) | -25 |
| 5+89.98 | 5+99.98 | 30" CIDH | 215 | N/A | -20(a) 10(d) | -20 |
| 5+99.98 | 6+15.50 | 30" CIDH | 215 | N/A | -20(a) 10(d) | -20 |

| PILE DATA TABLE (RETAINING WALL No. 4 - BRIDGE No. 55E0165) | | | | | | |
|---|-------------|-----------|--------------------|---------------|----------------------|------------------------------|
| Location | | Pile Type | Nominal Resistance | | Design Tip Elevation | Specified Tip Elevation (ft) |
| Beg Station | End Station | | Compression (kip) | Tension (kip) | | |
| 0+00.00 | 0+58.38 | 30" CIDH | 165 | N/A | -20(a) 5(d) | -20 |

NOTE:
1. Design Tip Elevations are controlled by:
(a) Compression (strength limit)

| | | | | | | |
|---|--|------------------|--|---|---|---|
| STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10) | 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 20 | BRIDGE NO. VARIES POST MILE 8.40 | RETAINING WALLS No. 3, & No. 4 PILE DATA TABLE |
| UNIT: 3622 PROJECT NUMBER & PHASE: 1214000057 1 CONTRACT NO.: 12-0N5404 | | | | DISREGARD PRINTS BEARING EARLIER REVISION DATES | | REVISION DATES SHEET 3 OF 21 |

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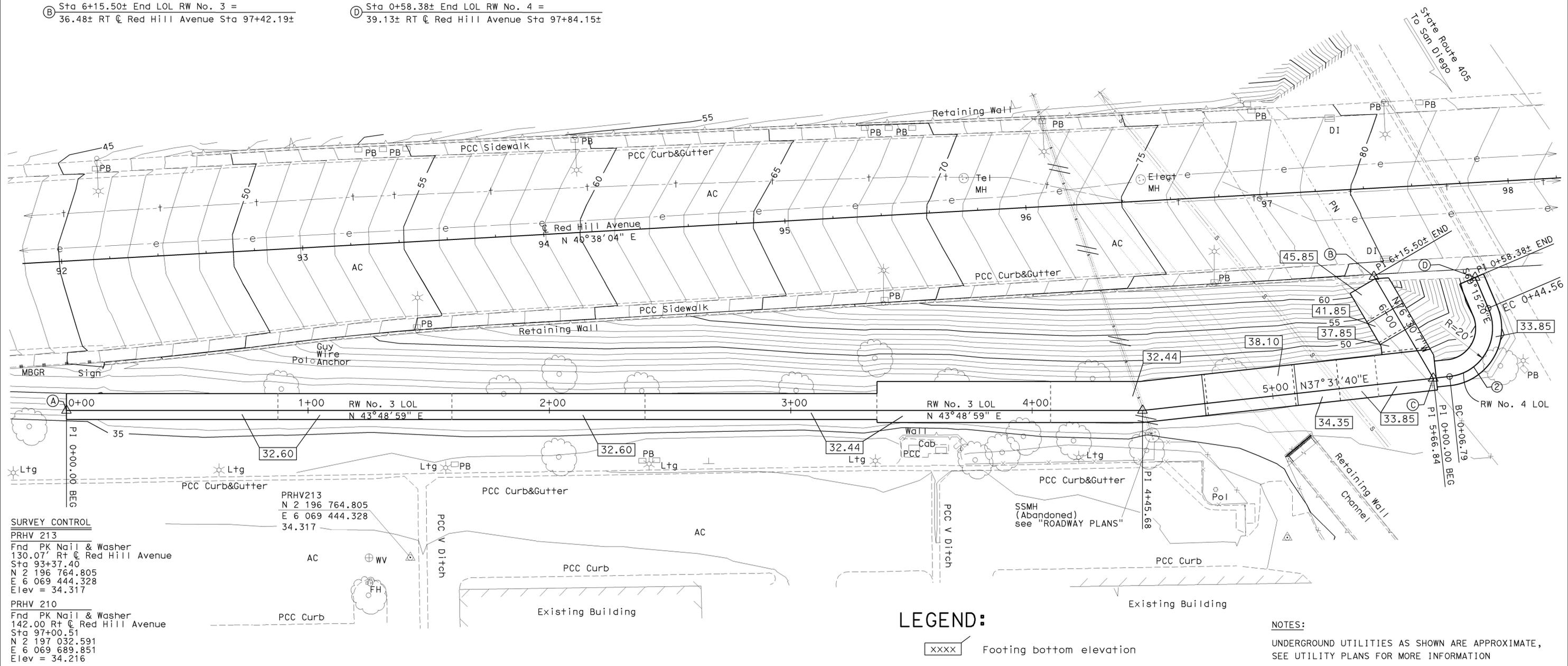
| | | | | | |
|------|--------|-------|--------------------------|-----------|--------------|
| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
| 12 | Ora | 405 | 8.4 | 125 | 142 |

Homa Iraninejadian
 REGISTERED CIVIL ENGINEER DATE 1-05-15
 4-27-15
 PLANS APPROVAL DATE
 HOMA IRANINEJADIAN
 No. C 68284
 Exp. 09-30-15
 CIVIL
 STATE OF CALIFORNIA
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CURVE DATA

| No. | R | Δ | T | L |
|-----|----|------------|-------|-------|
| (2) | 20 | 108°12'11" | 27.63 | 37.77 |

- (A) Sta 0+00.00 Begin LOL RW No. 3 = 61.56 RT @ Red Hill Avenue Sta 91+98.55
- (B) Sta 6+15.50± End LOL RW No. 3 = 36.48± RT @ Red Hill Avenue Sta 97+42.19±
- (C) Sta 0+00.00 Begin LOL RW No. 4 = 79.74 RT @ Red Hill Avenue Sta 97+64.52
- (D) Sta 0+58.38± End LOL RW No. 4 = 39.13± RT @ Red Hill Avenue Sta 97+84.15±



SURVEY CONTROL

PRHV 213
 Fnd PK Nail & Washer
 130.07' Rt @ Red Hill Avenue
 Sta 93+37.40
 N 2 196 764.805
 E 6 069 444.328
 Elev = 34.317

PRHV 210
 Fnd PK Nail & Washer
 142.00 Rt @ Red Hill Avenue
 Sta 97+00.51
 N 2 197 032.591
 E 6 069 689.851
 Elev = 34.216

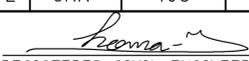
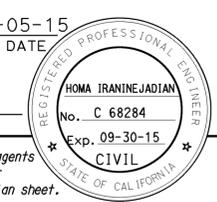
LEGEND:

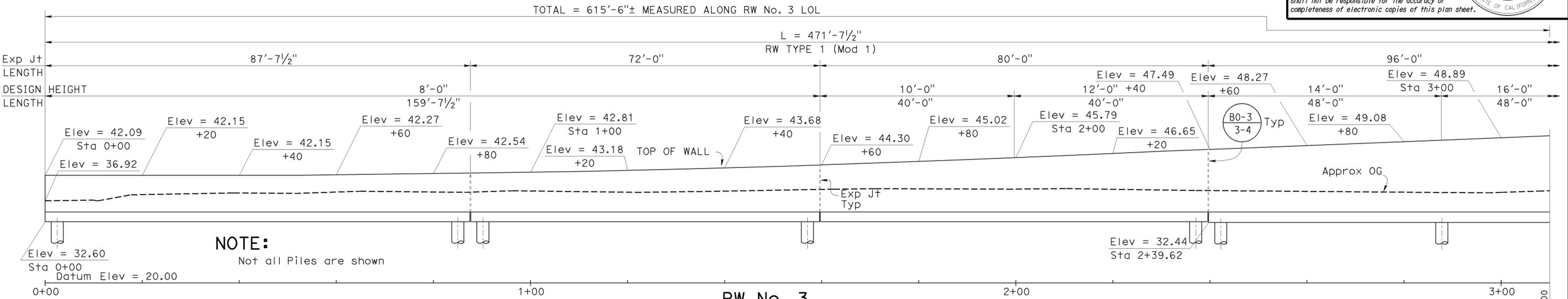
XXXX Footing bottom elevation

NOTES:
 UNDERGROUND UTILITIES AS SHOWN ARE APPROXIMATE,
 SEE UTILITY PLANS FOR MORE INFORMATION

| | | | | | | | | | |
|--|-------------------------|----------------------------------|----------------------------|------------------------------|---------------------------|---|---|---|--|
| PRELIMINARY INVESTIGATION SECTION | | | | DESIGN BY HOMA IRANINEJADIAN | CHECKED MOHAMMAD MUQTADIR | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 20 | BRIDGE NO. 55E0164 | RETAINING WALLS No. 3 & No. 4 FOUNDATION PLAN |
| SCALE VERT. DATUM NAVD 88 | PHOTOGRAMMETRY AS OF: X | DETAILS BY ANTONETTE L. ONG | CHECKED MOHAMMAD MUQTADIR | POST MILE 55E0165 | | | | | |
| 1"=20' | HORIZ. DATUM NAD 83 | QUANTITIES BY HOMA IRANINEJADIAN | CHECKED MOHAMMAD MUQTADIR | 8.4 | | | | | |
| ALIGNMENT TIES Dist. Traverse Sheet | | DRAFTED BY M. Sadaghiani 07-14 | CHECKED BY E. Viagar 07-14 | UNIT: 3622 | | PROJECT NUMBER & PHASE: 1214000057 1 | CONTRACT NO.: 12-0N5404 | DISREGARD PRINTS BEARING EARLIER REVISION DATES | |
| STRUCTURES FOUNDATION PLAN SHEET (ENGLISH) (REV. 09-01-10) | | | | | | ORIGINAL SCALE IN INCHES FOR REDUCED PLANS | REVISION DATES: 01/12/15, 01/15/15, 02/04/15 SHEET 4 OF 21 | | |

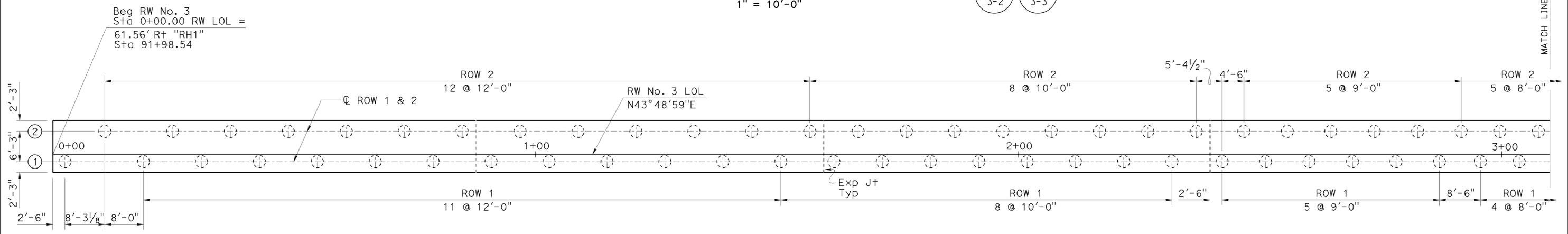
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|---|--------|-------|---|-----------|--------------|
| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
| 12 | ORA | 405 | 8.4 | 126 | 142 |
|  REGISTERED CIVIL ENGINEER | | | DATE | 1-05-15 | |
| PLANS APPROVAL DATE 4-27-15 | | |  | | |
| <small>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.</small> | | | | | |



NOTE:
Not all Piles are shown

**RW No. 3
DEVELOPED ELEVATION (Br No. 55E0164)**
1" = 10'-0"



PLAN
1" = 10'

NOTE:
1. For Retaining Wall Type 1 (Mod 1) Details, see "RETAINING WALL TYPE 1 (Mod 1) DETAILS No. 1 AND No. 2" sheets

LEGEND:

- Indicates New Construction
- ⊗ Pile Row Number
- ⊕ 30" CIDH Pile
- y @ x'-xx" No. of Spaces Pile Spacing

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

| | | | | | | | | | |
|--|------------|-----------------------|---------------------------|---|---|----------------|--------------------------------------|-----------------------------|---------------------|
| STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10) | DESIGN | BY HOMA IRANINEJADIAN | CHECKED MOHAMMAD MUQTADIR | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 20 | BRIDGE NO. | 55E0164 | RETAINING WALL No. 3 | |
| | DETAILS | BY ANTONETTE L. ONG | CHECKED MOHAMMAD MUQTADIR | | | POST MILE | 8.40 | | LAYOUT No. 1 |
| | QUANTITIES | BY HOMA IRANINEJADIAN | CHECKED MOHAMMAD MUQTADIR | | | UNIT: 3622 | PROJECT NUMBER & PHASE: 1214000057 1 | | |
| ORIGINAL SCALE IN INCHES FOR REDUCED PLANS | | | | DISREGARD PRINTS BEARING EARLIER REVISION DATES | | REVISION DATES | SHEET 5 OF 21 | | |

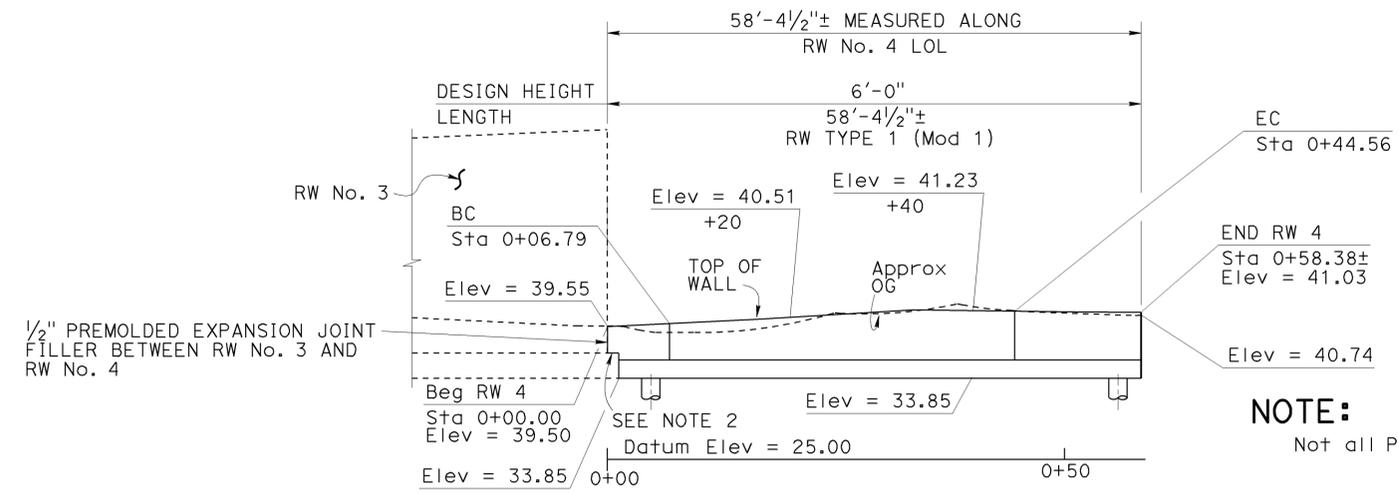
| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|------|--------|-------|--------------------------|-----------|--------------|
| 12 | ORA | 405 | 8.4 | 128 | 142 |

1-05-15
DATE

4-27-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 HOMA IRANINEJADIAN
 No. C 68284
 Exp. 09-30-15
 CIVIL
 STATE OF CALIFORNIA

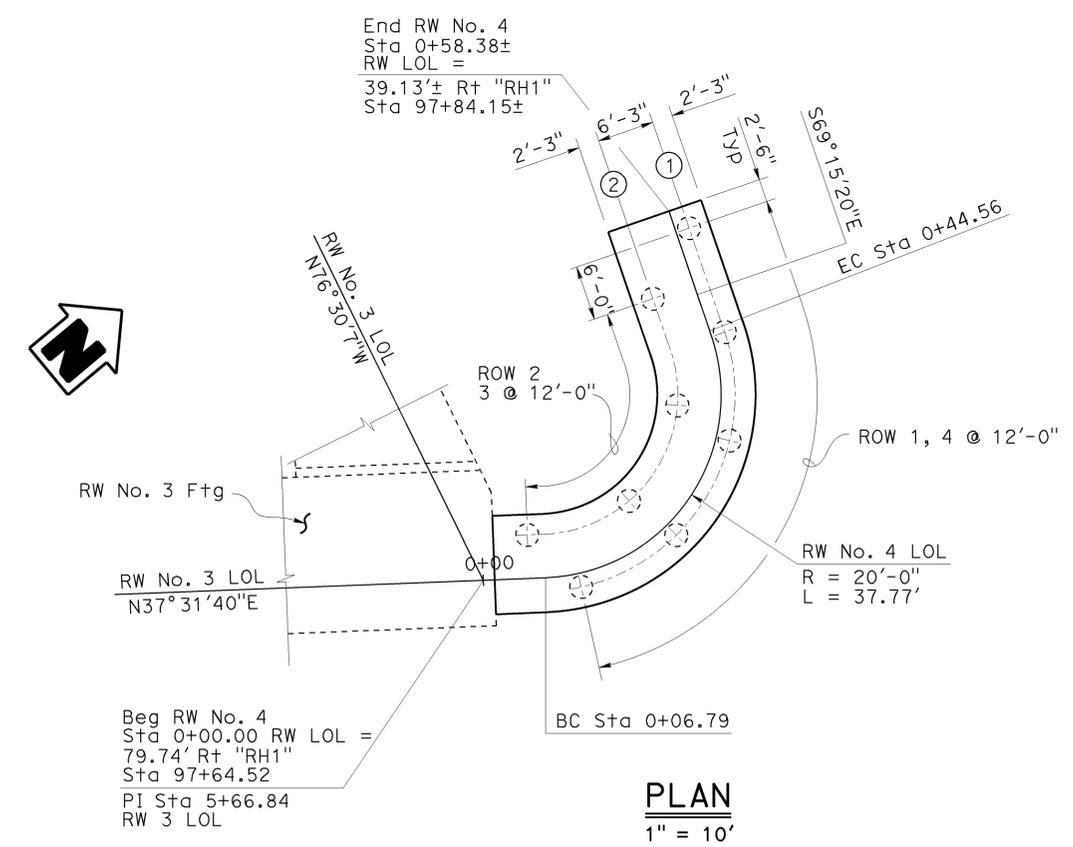
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



RW No. 4
DEVELOPED ELEVATION (Br No. 55E0165)
 1' = 20'-0"

- NOTE:**
- For Retaining Wall Type 1 (Mod 1) Details, see "RETAINING WALL TYPE 1 (Mod 1) DETAILS No. 1 AND No. 2" sheets
 - Retaining Wall 4 stem longitudinal reinforcement to be developed into Retaining Wall No. 3 footing

- LEGEND:**
- Indicates New Construction
 - ⊗ Pile Row Number
 - ⊕ 30" CIDH Pile
 - $\frac{y}{x} @ \frac{x'-xx''}{y'-yy''}$ No. of Spaces / Pile Spacing



PLAN
 1" = 10'

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

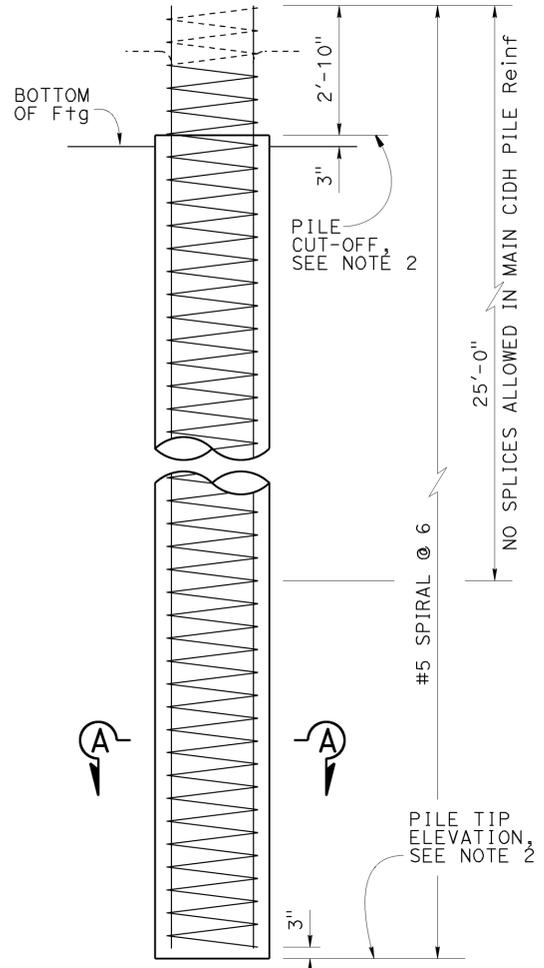
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| DETAILS | BY ANTONETTE L. ONG | CHECKED MOHAMMAD MUQTADIR |
| QUANTITIES | BY HOMA IRANINEJADIAN | CHECKED MOHAMMAD MUQTADIR |

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
 STRUCTURE DESIGN
DESIGN BRANCH 20

| | |
|------------|---------|
| BRIDGE NO. | 55E0165 |
| POST MILE | 8.40 |

RETAINING WALL No. 4
LAYOUT No. 3



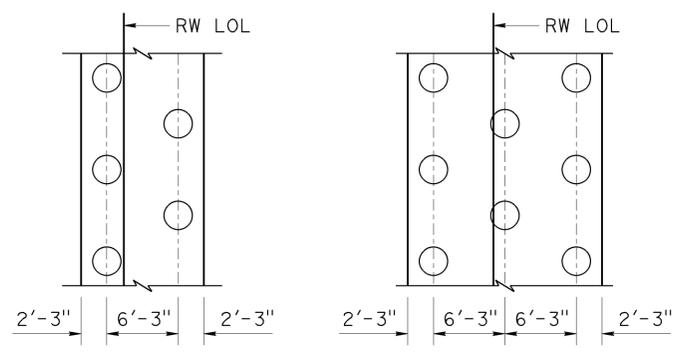
NOTES:

- For pile cut-off & tip elevation, see "PILE DATA TABLE" and "FOUNDATION PLAN" sheet.
- Reinforcement extending into the footing shall be hooked as required to provide clearance to top of footing.
- Lapped splices in spiral pile reinforcement shall be lapped at least 80 wire/bar diameters. Spiral pile reinforcement at splices and at ends shall be terminated with a 135° hook with a 6" tail hooked around a longitudinal bar.
- Provide 3" Min clearance between main reinforcement and the inspection tubes.

DESIGN DATA:
 Reinforced Concrete: $f_y = 60,000$ psi
 $f'_c = 4,000$ psi

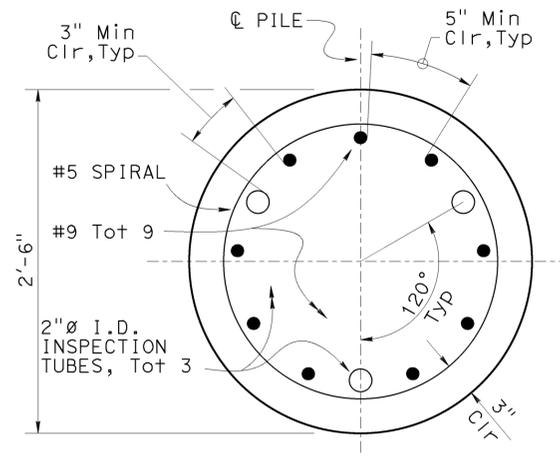
DESIGN CAPACITY:
 Compression: 200 kip (Service State)
 400 kip (Nominal axial structural resistance)

Tension: 80 kip (Service State)
 200 kip (Nominal axial structural resistance)

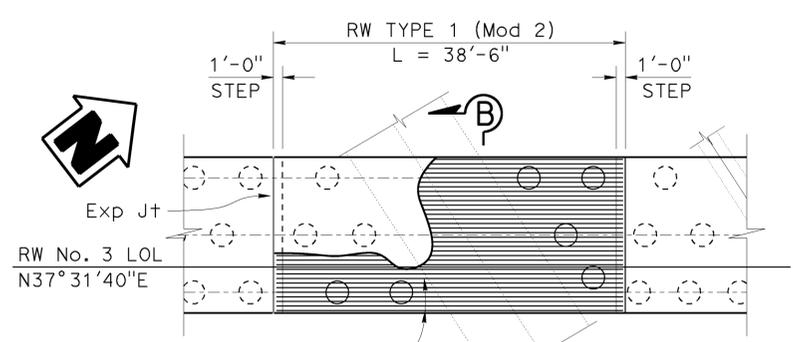


H=6' TO H=16' H=18' TO H=26'

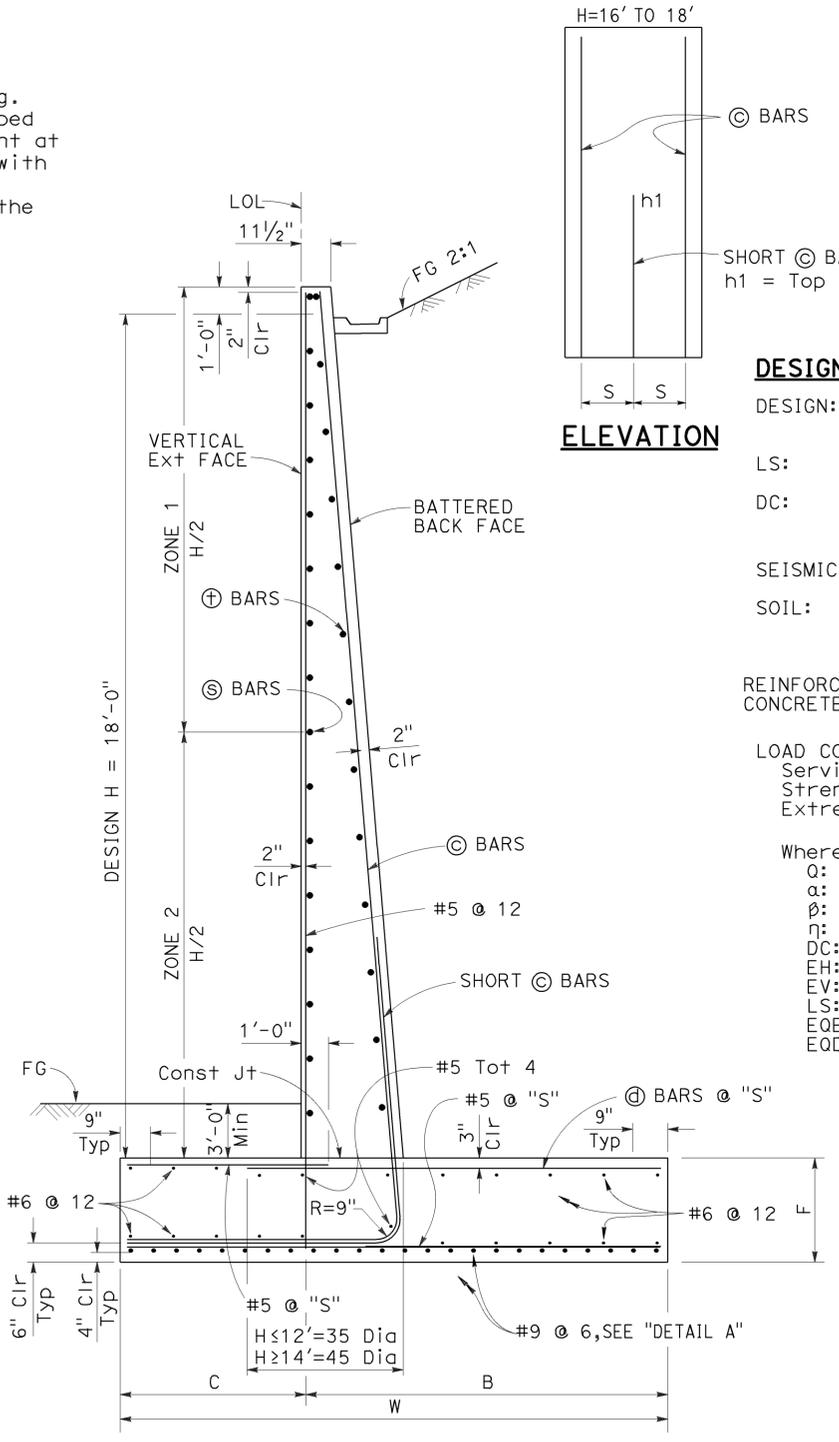
For longitudinal pile spacing, see "RETAINING WALL LAYOUT" sheets.



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

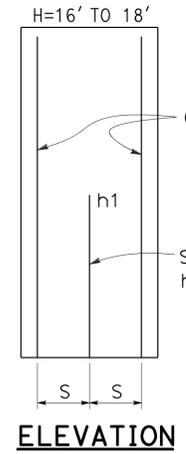


BOTTOM REINFORCEMENT DETAIL A
 NO SCALE



NOTES:

- For locations, see "RETAINING WALL LAYOUT" sheets.
- Provide piles for portions of the wall as detailed on "RETAINING WALL LAYOUT" sheets.



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

SEISMIC: PGA = 0.62g, $k_h = GPA/3 = 0.20$, $k_v = 0.0$

SOIL: $\phi = 30^\circ$
 $c = 200$ psf (Extreme Event load case)
 $c = 0$ psf (Service and Strength load case)
 $\gamma = 120$ pcf

REINFORCED CONCRETE: $f'_c = 3,600$ psi
 $f_y = 60,000$ psi

LOAD COMBINATIONS AND LIMIT STATES:
 Service I $Q = 1.00DC + 1.00EV + 1.00EH + 1.00LS$
 Strength I $Q = \alpha DC + \beta EV + \eta EH + 1.75LS$
 Extreme I $Q = 1.00DC + 1.00EV + 1.00EH + 1.00EQD + 1.00EQE$

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

| | |
|---------------|---------|
| DESIGN H | 18' |
| W | 17'-0" |
| C | 5'-0" |
| B | 12'-0" |
| F | 2'-6" |
| BATTER | 1/2: 12 |
| SPACING "S" | 5" |
| @ BARS | #9 |
| @ BARS | #7 |
| h1 | 5'-10" |
| ZONE 1 @ BARS | #5 @ 18 |
| ZONE 2 @ BARS | #5 @ 12 |
| ZONE 1 @ BARS | #4 @ 18 |
| ZONE 2 @ BARS | #4 @ 18 |

| | | |
|------------|-----------------------|---------------------------|
| DESIGN | BY HOMA IRANINEJADIAN | CHECKED MOHAMMAD MUQTADIR |
| DETAILS | BY A. ONG / P. PEREZ | CHECKED MOHAMMAD MUQTADIR |
| QUANTITIES | BY HOMA IRANINEJADIAN | CHECKED MOHAMMAD MUQTADIR |

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

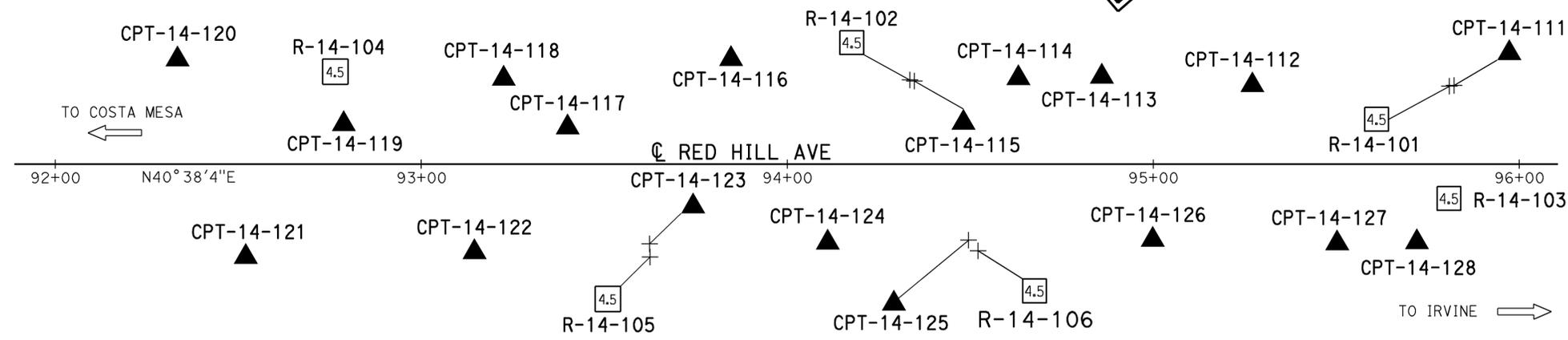
DIVISION OF ENGINEERING SERVICES
 STRUCTURE DESIGN
 DESIGN BRANCH 20

BRIDGE NO. VARIES
 POST MILE 8.40

RETAINING WALLS 3 & 4
 RETAINING WALL TYPE 1 DETAILS No. 2

BENCH MARK

BM Elev 38.912
 Found 33/4" OCS aluminum benchmark disk stamped "D 1416 1988", set in the SW corner of a 7' by 9' concrete catch basin. Monument is located along the southwesterly side of redhill avenue, 0.6 miles southwesterly of the centerline of main street and 38' northwesterly of the centerline of red hill avenue. Monument is set level with the sidewalk. NAVD88



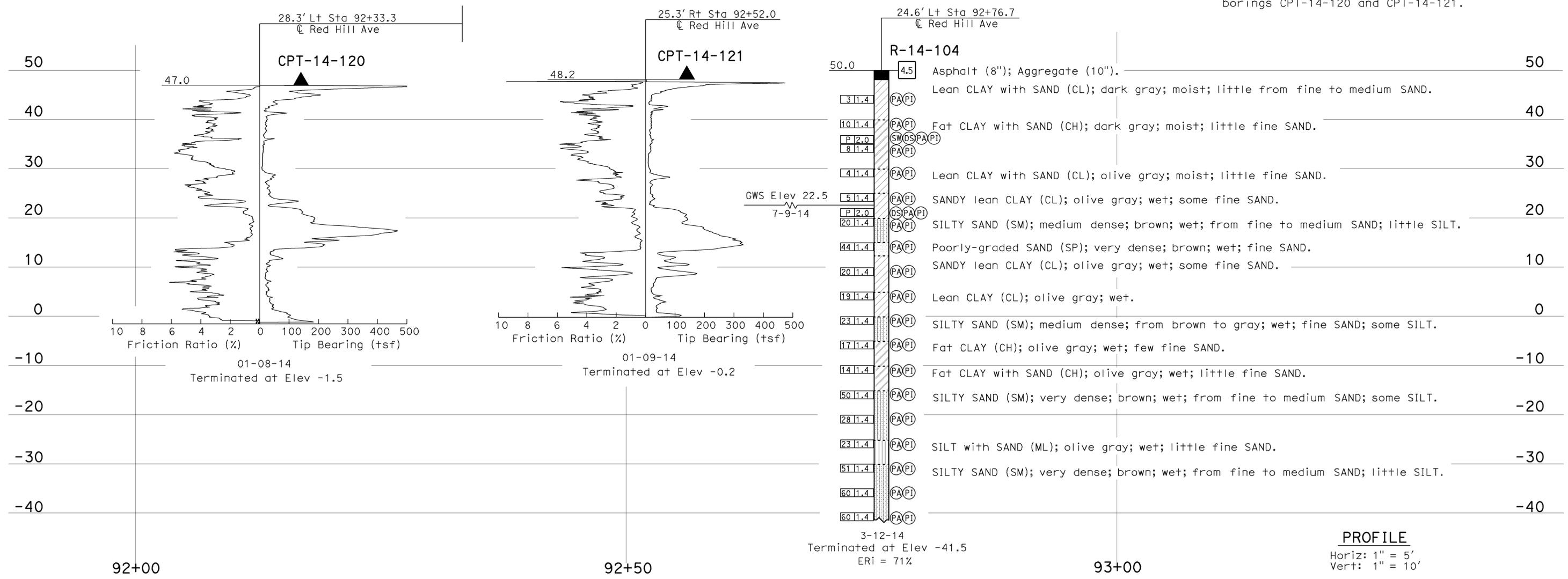
PLAN
 1" = 20'

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|------|--------|-------|--------------------------|-----------|--------------|
| 12 | Ora | 405 | 8.4 | 131 | 142 |

REGISTERED CIVIL ENGINEER
 1-9-15 DATE
 4-27-15 PLANS APPROVAL DATE
 Seung Han
 No. C73527
 Exp. 12-31-16
 CIVIL ENGINEER
 STATE OF CALIFORNIA

This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (2010 Edition).
 See 2010 Standard Plans A10F and A10G for Soil Legend, and A10H for Rock Legend.

Note: Groundwater was not measured in borings CPT-14-120 and CPT-14-121.



PROFILE
 Horiz: 1" = 5'
 Vert: 1" = 10'

| | | | | | | | | | | | |
|-------------------------------------|--|--|--|----------------------------|--|---|--|-------------------------|--|---|--|
| ENGINEERING SERVICES | | MATERIALS AND GEOTECHNICAL SERVICES | | STATE OF CALIFORNIA | | DIVISION OF ENGINEERING SERVICES | | BRIDGE NO. | | RETAINING WALLS No. 3 & No. 4 | |
| FUNCTIONAL SUPERVISOR | | DRAWN BY: W. Tang, I.G-Remmen | | FIELD INVESTIGATION BY: | | STRUCTURE DESIGN | | VARIES | | LOG OF TEST BORINGS 1 OF 12 | |
| NAME: D. Jang | | CHECKED BY: Y. Choi | | S. Han | | DESIGN BRANCH 20 | | POST MILE | | | |
| 065 CIVIL LOG OF TEST BORINGS SHEET | | ORIGINAL SCALE IN INCHES FOR REDUCED PLANS | | UNIT: 3643 | | PROJECT NUMBER & PHASE: 12140000571 | | CONTRACT NO.: 12-0N5404 | | DISREGARD PRINTS BEARING EARLIER REVISION DATES | |
| | | | | 0 1 2 3 | | 8.4 | | REVISION DATES | | SHEET OF | |
| | | | | | | | | 09-30-14 01-07-15 | | 10 21 | |

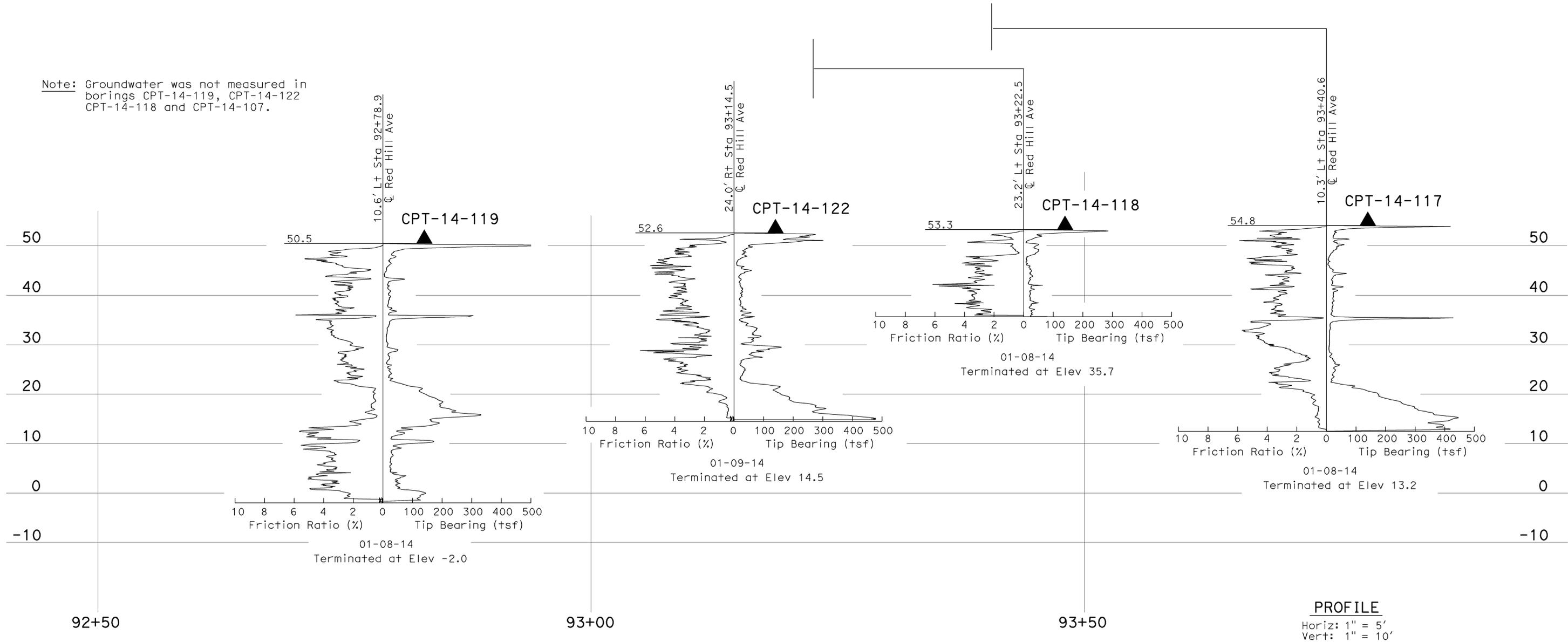
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|---|--------|-------|--------------------------|-----------|--------------|
| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
| 12 | Ora | 405 | 8.4 | 132 | 142 |
| REGISTERED CIVIL ENGINEER | | | DATE | 1-9-15 | |
| PLANS APPROVAL DATE | | | 4-27-15 | | |
| | | | | | |
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FOR PLAN VIEW, SEE
"LOG OF TEST BORINGS 1 OF 12"

This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (2010 Edition).
See 2010 Standard Plans A10F and A10G for Soil Legend, and A10H for Rock Legend.

Note: Groundwater was not measured in borings CPT-14-119, CPT-14-122, CPT-14-118 and CPT-14-107.



PROFILE
Horiz: 1" = 5'
Vert: 1" = 10'

| | | | | | | | | | | | | | | | | | |
|--|--|--|----|--|--|---|--|--|--|----------------|--|-------|----|----------|----------|----|----|
| ENGINEERING SERVICES | | MATERIALS AND GEOTECHNICAL SERVICES | | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | | DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 20 | | RETAINING WALLS No. 3 & No. 4 LOG OF TEST BORINGS 2 OF 12 | | | | | | | | | |
| FUNCTIONAL SUPERVISOR NAME: D. Jang | DRAWN BY: W. Tang, I.G-Remmen CHECKED BY: Y. Choi | FIELD INVESTIGATION BY: S. Han | | BRIDGE NO. VARIES POST MILE 8.4 | | UNIT: 3643 PROJECT NUMBER & PHASE: 12140000571 | | CONTRACT NO.: 12-0N5404 | | | | | | | | | |
| 065 CIVIL LOG OF TEST BORINGS SHEET | | | | ORIGINAL SCALE IN INCHES FOR REDUCED PLANS | | DISREGARD PRINTS BEARING EARLIER REVISION DATES | | <table border="1"> <tr> <td colspan="2">REVISION DATES</td> <td>SHEET</td> <td>OF</td> </tr> <tr> <td>09-30-14</td> <td>01-07-15</td> <td>11</td> <td>21</td> </tr> </table> | | REVISION DATES | | SHEET | OF | 09-30-14 | 01-07-15 | 11 | 21 |
| REVISION DATES | | SHEET | OF | | | | | | | | | | | | | | |
| 09-30-14 | 01-07-15 | 11 | 21 | | | | | | | | | | | | | | |

USERNAME => s136953 DATE PLOTTED => 09-FEB-2015 TIME PLOTTED => 15:15

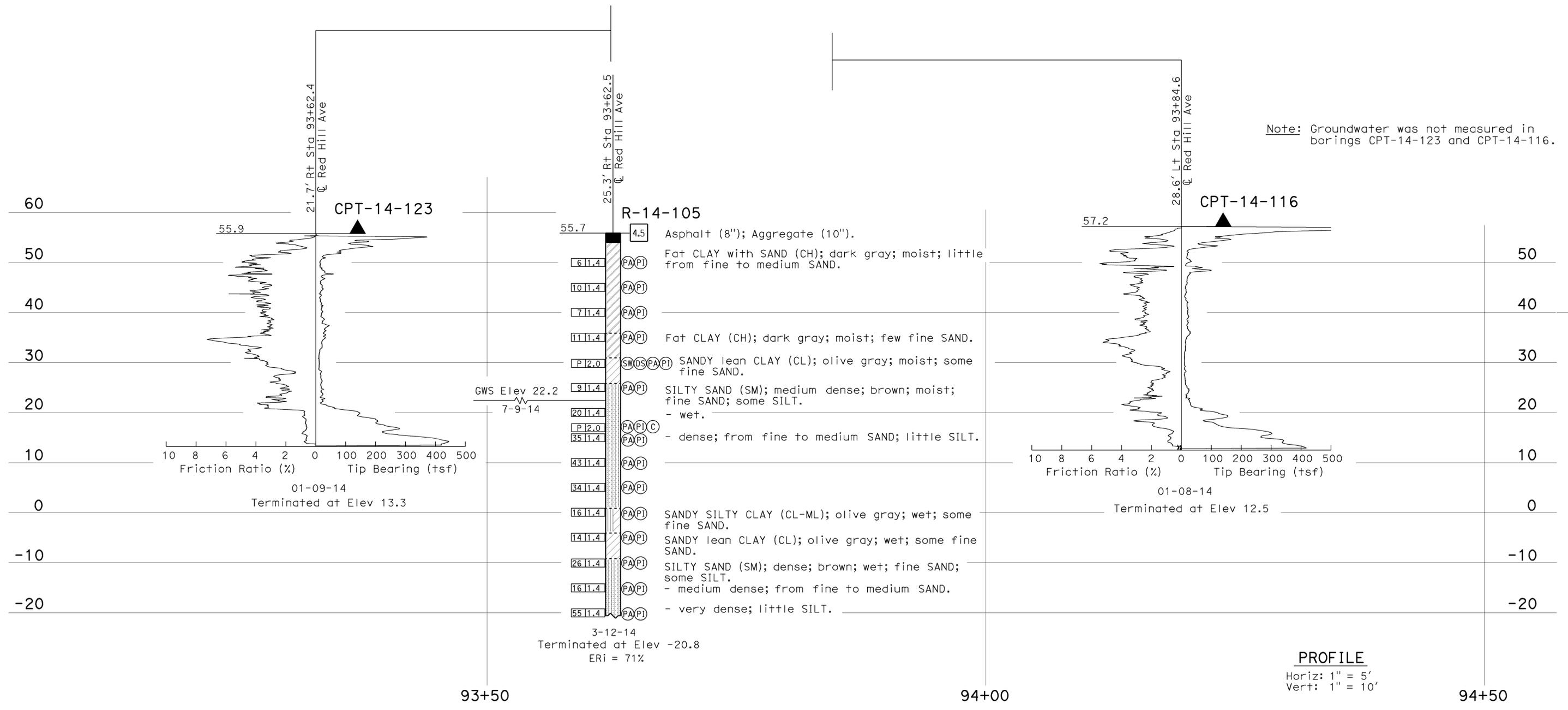
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|--|--------|-------|--------------------------|-----------|--------------|
| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
| 12 | Ora | 405 | 8.4 | 133 | 142 |
| | | | 1-9-15 | | |
| REGISTERED CIVIL ENGINEER | | | DATE | | |
| 4-27-15 | | | PLANS APPROVAL DATE | | |
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FOR PLAN VIEW, SEE
"LOG OF TEST BORINGS 1 OF 12"

This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (2010 Edition).
See 2010 Standard Plans A10F and A10G for Soil Legend, and A10H for Rock Legend.

Note: Groundwater was not measured in borings CPT-14-123 and CPT-14-116.



PROFILE
Horiz: 1" = 5'
Vert: 1" = 10'

| | | | | | | | | | | | |
|-------------------------------------|--|--|--|--------------------------------|--|---|--|-------------------------|--|--|--|
| ENGINEERING SERVICES | | MATERIALS AND GEOTECHNICAL SERVICES | | STATE OF CALIFORNIA | | DIVISION OF ENGINEERING SERVICES | | BRIDGE NO. | | RETAINING WALLS No. 3 & No. 4 | |
| FUNCTIONAL SUPERVISOR | | DRAWN BY: W. Tang, I.G-Remmen | | DEPARTMENT OF TRANSPORTATION | | STRUCTURE DESIGN | | VARIES | | LOG OF TEST BORINGS 3 OF 12 | |
| NAME: D. Jang | | CHECKED BY: Y. Choi | | FIELD INVESTIGATION BY: S. Han | | DESIGN BRANCH 20 | | POST MILE | | | |
| 065 CIVIL LOG OF TEST BORINGS SHEET | | ORIGINAL SCALE IN INCHES FOR REDUCED PLANS | | UNIT: 3643 | | PROJECT NUMBER & PHASE: 12140000571 | | CONTRACT NO.: 12-0N5404 | | REVISION DATES | |
| | | | | 0 1 2 3 | | DISREGARD PRINTS BEARING EARLIER REVISION DATES | | 09-30-14 01-07-15 | | SHEET OF | |
| | | | | | | FILE => 55-E0164&E0165-z-rw3&4-1fb03.dgn | | | | 12 21 | |

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|------|--------|-------|--------------------------|-----------|--------------|
| 12 | Ora | 405 | 8.4 | 134 | 142 |

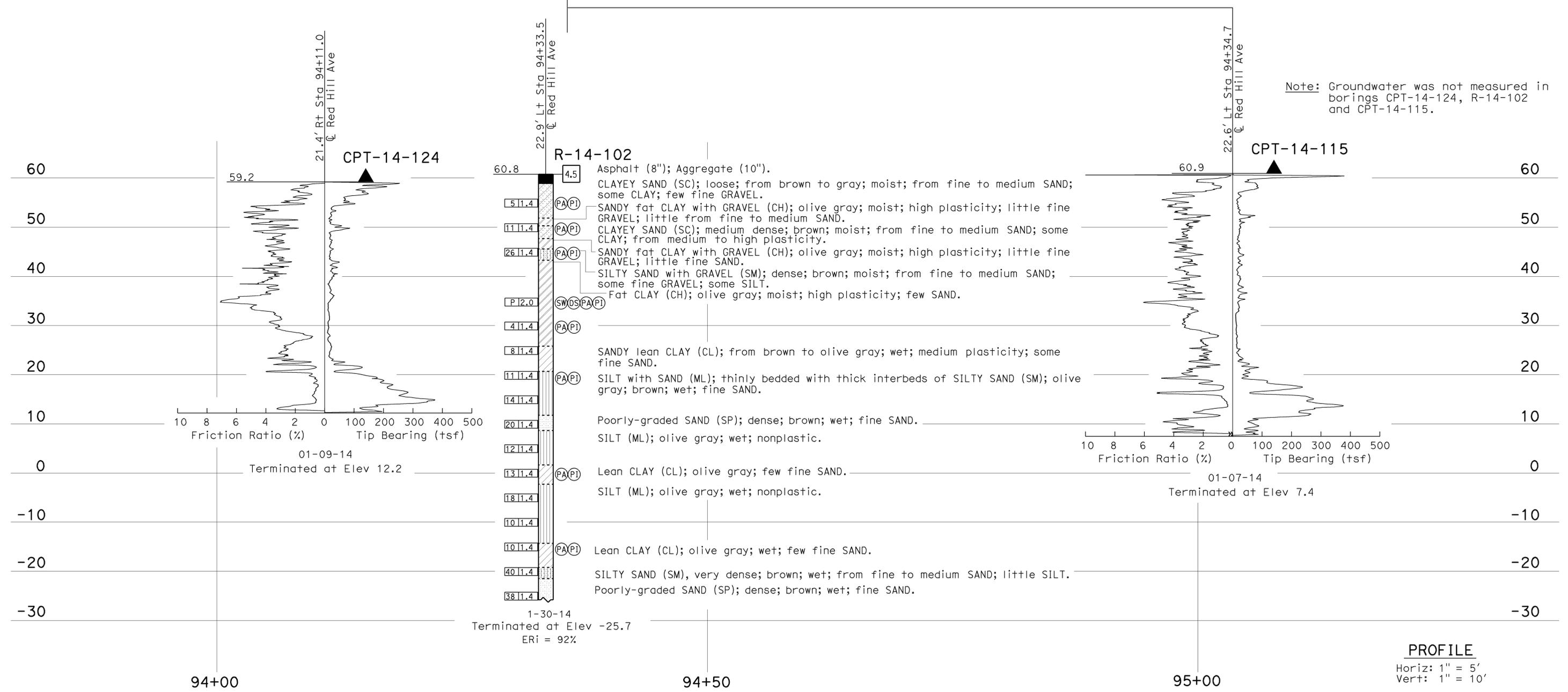
1-9-15
 REGISTERED CIVIL ENGINEER DATE
 4-27-15
 PLANS APPROVAL DATE
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REGISTERED PROFESSIONAL ENGINEER
 Seung Han
 No. C73527
 Exp. 12-31-16
 CIVIL
 STATE OF CALIFORNIA

FOR PLAN VIEW, SEE
"LOG OF TEST BORINGS 1 OF 12"

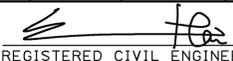
This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (2010 Edition).
 See 2010 Standard Plans A10F and A10G for Soil Legend, and A10H for Rock Legend.

Note: Groundwater was not measured in borings CPT-14-124, R-14-102 and CPT-14-115.



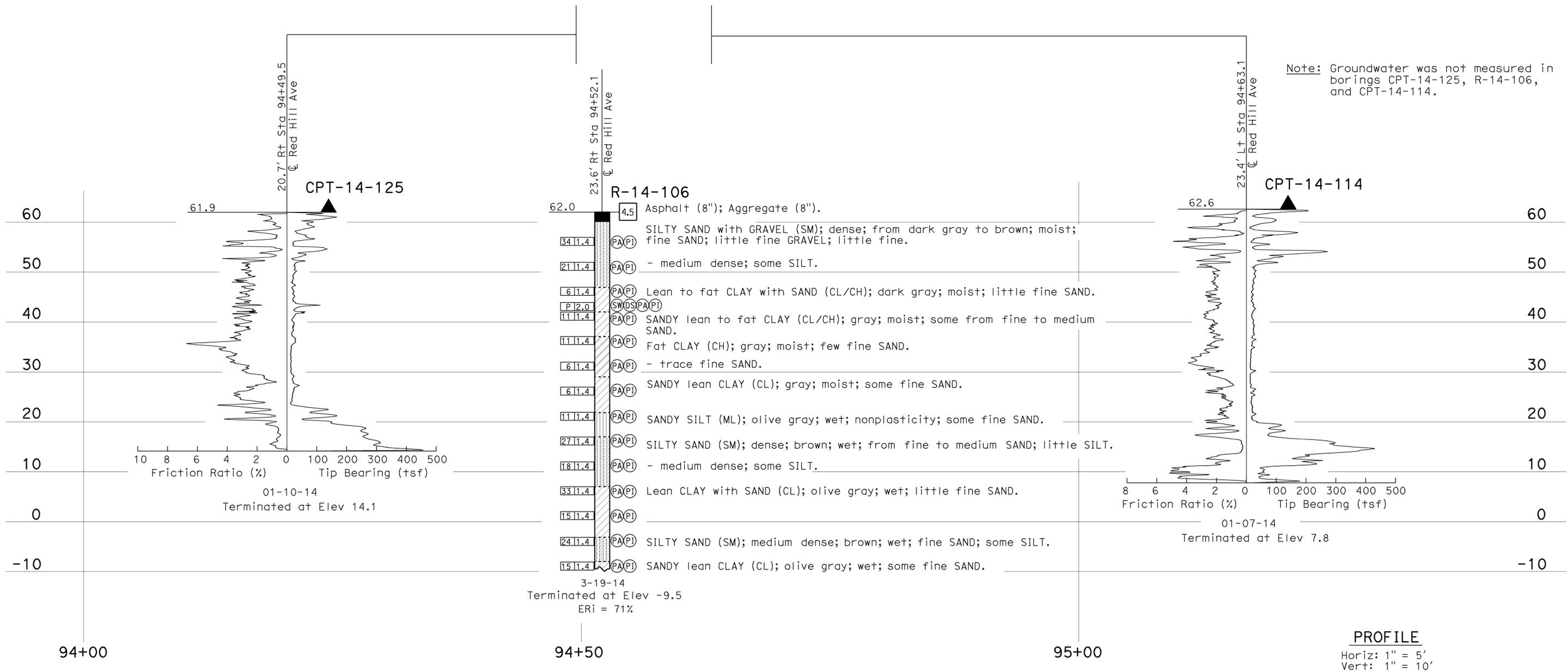
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|--|--|--|--|--|---|---|--|
| ENGINEERING SERVICES | | MATERIALS AND GEOTECHNICAL SERVICES | | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 20 | BRIDGE NO. VARIES POST MILE 8.4 | RETAINING WALLS No. 3 & No. 4 LOG OF TEST BORINGS 4 OF 12 |
| FUNCTIONAL SUPERVISOR NAME: D. Jang | DRAWN BY: W. Tang, I.G-Remmen CHECKED BY: Y. Choi | FIELD INVESTIGATION BY: S. Han | | UNIT: 3643 PROJECT NUMBER & PHASE: 12140000571 | CONTRACT NO.: 12-0N5404 | DISREGARD PRINTS BEARING EARLIER REVISION DATES | |
| ORIGINAL SCALE IN INCHES FOR REDUCED PLANS | | | | | | REVISION DATES | SHEET OF |
| 0 1 2 3 | | | | | | 09-30-14 01-07-15 | 13 21 |

FILE => 55-E0164&E0165-z-rw3&4-1fb04.dgn

| | | | | | |
|---|--------|-------|---|-----------|--------------|
| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
| 12 | Ora | 405 | 8.4 | 135 | 142 |
|  REGISTERED CIVIL ENGINEER | | | 1-9-15 | DATE | |
| 4-27-15 PLANS APPROVAL DATE | | |  | | |
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FOR PLAN VIEW, SEE
"LOG OF TEST BORINGS 1 OF 12"

This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (2010 Edition).
See 2010 Standard Plans A10F and A10G for Soil Legend, and A10H for Rock Legend.



Note: Groundwater was not measured in borings CPT-14-125, R-14-106, and CPT-14-114.

PROFILE
Horiz: 1" = 5'
Vert: 1" = 10'

| | | | | | | | | | | | |
|--|--|--|--|---|--|--|--|--|--|--|--|
| ENGINEERING SERVICES | | MATERIALS AND GEOTECHNICAL SERVICES | | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | | DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 20 | | BRIDGE NO. VARIES POST MILE 8.4 | | RETAINING WALLS No. 3 & No. 4 LOG OF TEST BORINGS 5 OF 12 | |
| FUNCTIONAL SUPERVISOR NAME: D. Jang | | DRAWN BY: W. Tang, I.G-Remmen CHECKED BY: Y. Choi | | FIELD INVESTIGATION BY: S. Han | | UNIT: 3643 PROJECT NUMBER & PHASE: 12140000571 | | CONTRACT NO.: 12-0N5404 | | DISREGARD PRINTS BEARING EARLIER REVISION DATES | |
| ORIGINAL SCALE IN INCHES FOR REDUCED PLANS | | | | | | | | | | REVISION DATES | |
| 05 CIVIL LOG OF TEST BORINGS SHEET | | | | | | | | | | SHEET 14 OF 21 | |

USERNAME => s136953 DATE PLOTTED => 09-FEB-2015 TIME PLOTTED => 15:15

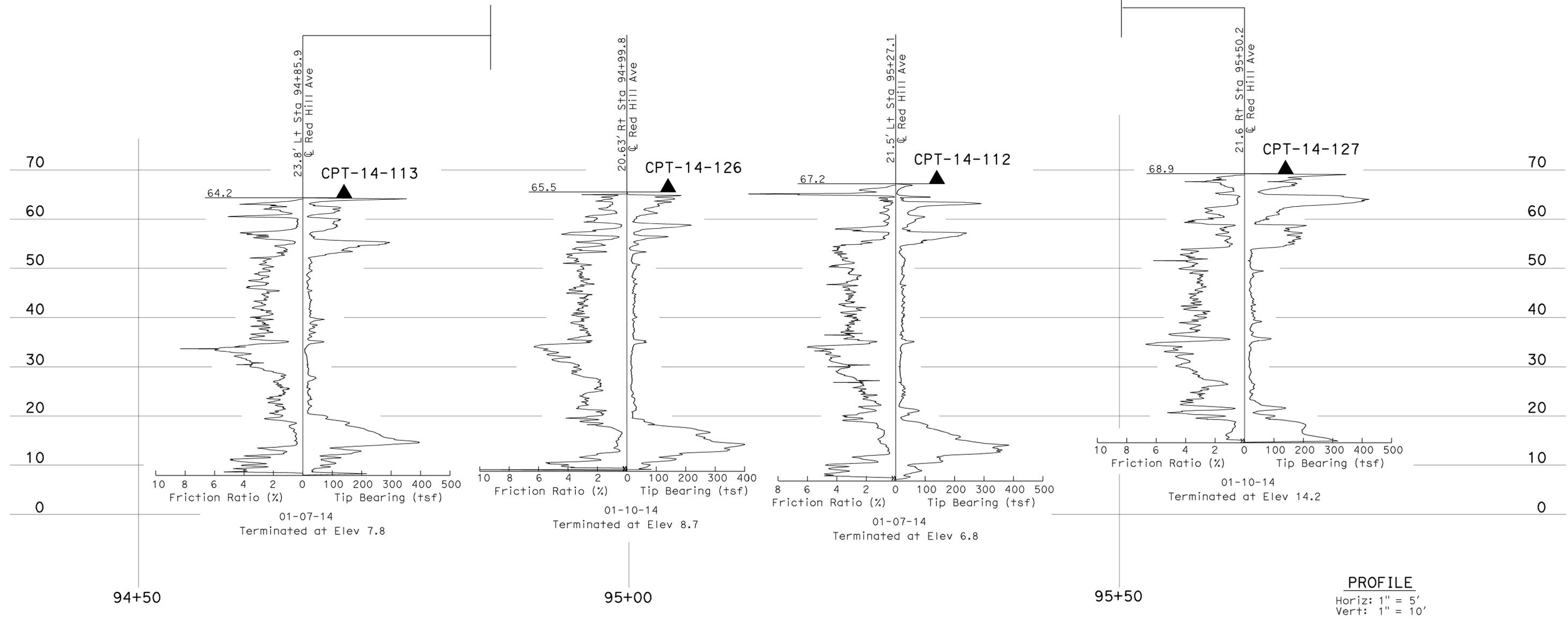
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|---|--------|-------|--------------------------|-----------|--------------|
| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
| 12 | Ora | 405 | 8.4 | 136 | 142 |
| REGISTERED CIVIL ENGINEER | | | DATE | 1-9-15 | |
| PLANS APPROVAL DATE | | | 4-27-15 | | |
| | | | | | |
| <small>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.</small> | | | | | |

FOR PLAN VIEW, SEE
"LOG OF TEST BORINGS 1 OF 12"

This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (2010 Edition).
See 2010 Standard Plans A10F and A10G for Soil Legend, and A10H for Rock Legend.

Note: Groundwater was not measured in borings CPT-14-113, CPT-14-126, CPT-14-112 and CPT-14-127.



PROFILE
Horiz: 1" = 5'
Vert: 1" = 10'

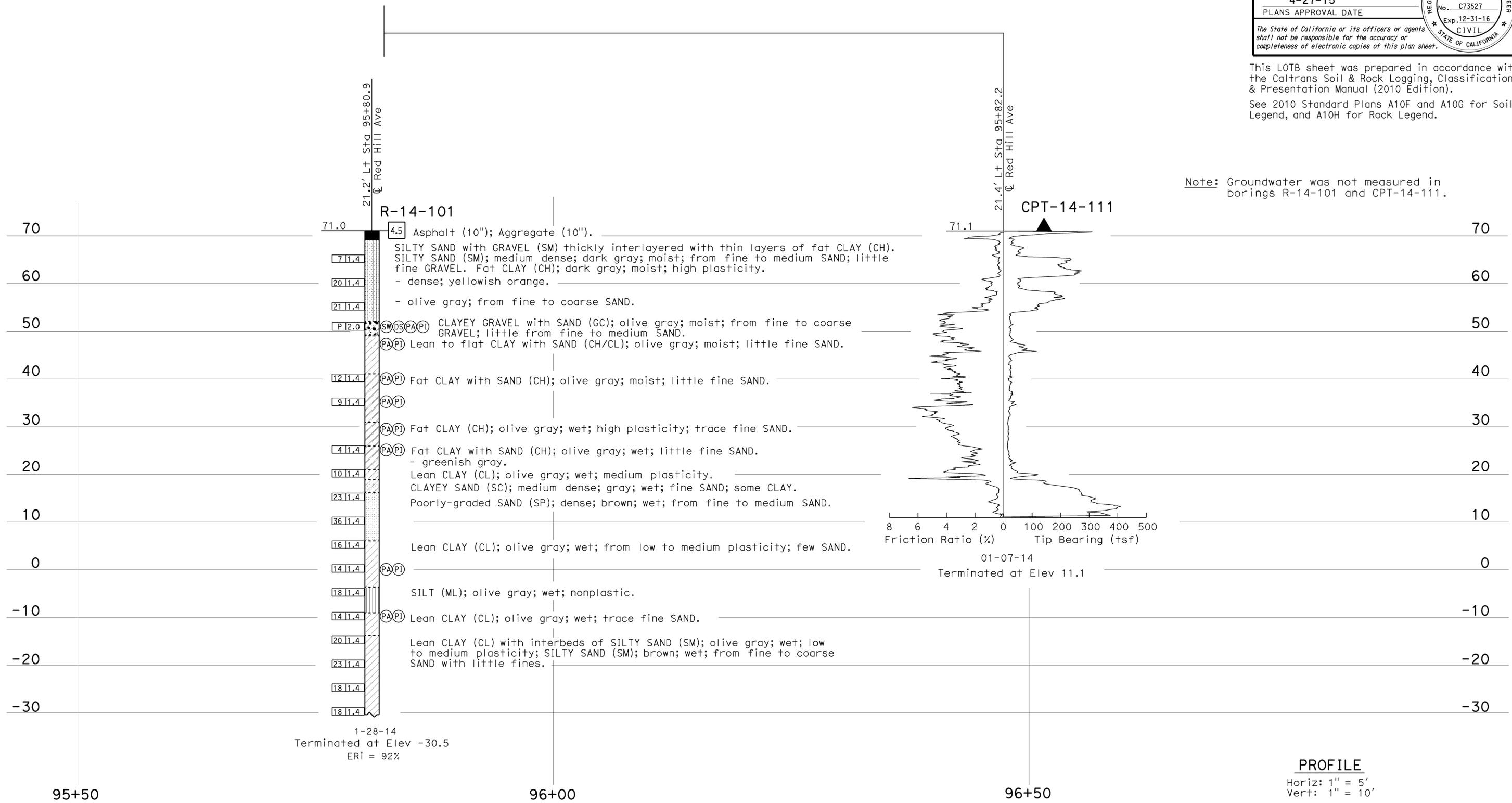
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| ENGINEERING SERVICES | | MATERIALS AND GEOTECHNICAL SERVICES | | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | | DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 20 | | BRIDGE NO. VARIES POST MILE 8.4 | | RETAINING WALLS No. 3 & No. 4 LOG OF TEST BORINGS 6 OF 12 | |
| FUNCTIONAL SUPERVISOR NAME: D. Jang | DRAWN BY: W. Tang, I.G-Remmen CHECKED BY: Y. Choi | FIELD INVESTIGATION BY: S. Han | | UNIT: 3643 PROJECT NUMBER & PHASE: 12140000571 | | CONTRACT NO.: 12-0N5404 | | DISREGARD PRINTS BEARING EARLIER REVISION DATES | | REVISION DATES 01-07-15 | |
| O&S CIVIL LOG OF TEST BORINGS SHEET | | | | ORIGINAL SCALE IN INCHES FOR REDUCED PLANS | | 0 1 2 3 | | SHEET 15 OF 21 | | DATE PLOTTED => 09-FEB-2015 | |

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|------|--------|-------|--------------------------|-----------|--------------|
| 12 | Ora | 405 | 8.4 | 138 | 142 |

1-9-15 DATE
 REGISTERED CIVIL ENGINEER
 4-27-15 PLANS APPROVAL DATE
 Seung Han
 No. C73527
 Exp. 12-31-16
 CIVIL
 STATE OF CALIFORNIA

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FOR PLAN VIEW, SEE
"LOG OF TEST BORINGS 1 OF 12"



Note: Groundwater was not measured in borings R-14-101 and CPT-14-111.

| | | | | | | | | | | | |
|--|--|--|--|--|--|---|--|---|--|--|--|
| ENGINEERING SERVICES | | MATERIALS AND GEOTECHNICAL SERVICES | | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | | DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 20 | | BRIDGE NO. VARIES POST MILE 8.4 | | RETAINING WALLS No. 3 & No. 4 | |
| FUNCTIONAL SUPERVISOR NAME: D. Jang | DRAWN BY: W. Tang, I.G-Remmen CHECKED BY: Y. Choi | FIELD INVESTIGATION BY: S. Han | | PROJECT NUMBER & PHASE: 12140000571 | | CONTRACT NO.: 12-0N5404 | | DISREGARD PRINTS BEARING EARLIER REVISION DATES | | REVISION DATES 01-07-15 | |
| 065 CIVIL LOG OF TEST BORINGS SHEET | | | | ORIGINAL SCALE IN INCHES FOR REDUCED PLANS | | UNIT: 3643 | | SHEET 17 OF 21 | | DATE PLOTTED => 09-FEB-2015 | |

| | | | | | |
|------|--------|-------|--------------------------|----------|--------------|
| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No | TOTAL SHEETS |
| 12 | Ora | 405 | 8.4 | 140 | 142 |

REGISTERED PROFESSIONAL ENGINEER
 DATE: 09-27-07
 4-27-15
 PLANS APPROVAL DATE

Vincent Rodriguez
 No. GE2733
 Exp. 06-30-08
 STATE OF CALIFORNIA

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FOR PLAN VIEW, SEE
 "LOG OF TEST BORINGS" 1 OF 4

DIVISION OF ENGINEERING SERVICES - MATERIALS AND GEOTECHNICAL SERVICES

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| | | | | | |
|-------|--------|-------|-------------------------|-----------|--------------|
| DIST. | COUNTY | ROUTE | POST MILE-TOTAL PROJECT | Sheet No. | Total Sheets |
| 12 | Ora | 405 | 8.4 | 140 | 142 |

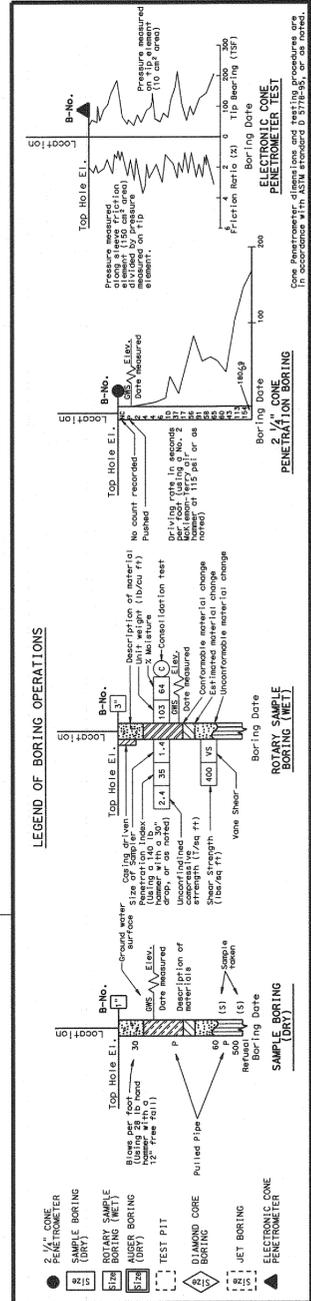
REGISTERED CIVIL ENGINEER
 DATE: 11/9/15

RETAINING WALLS 1, 2, 3, AND 4
LOG OF TEST BORINGS 10 OF 12

UNIT: 3643
 PROJ. No. & PHASE: 12140000571
 CONTRACT No.: 12-0N5404
 BRIDGE No.: VARIES

AS-BUILT VERT DATUM: N/A
 CONVERSION: N/A

NOTE: A COPY OF THIS LOG OF TEST BORINGS IS AVAILABLE AT OFFICE OF STRUCTURE MAINTENANCE AND INVESTIGATIONS, SACRAMENTO, CALIFORNIA



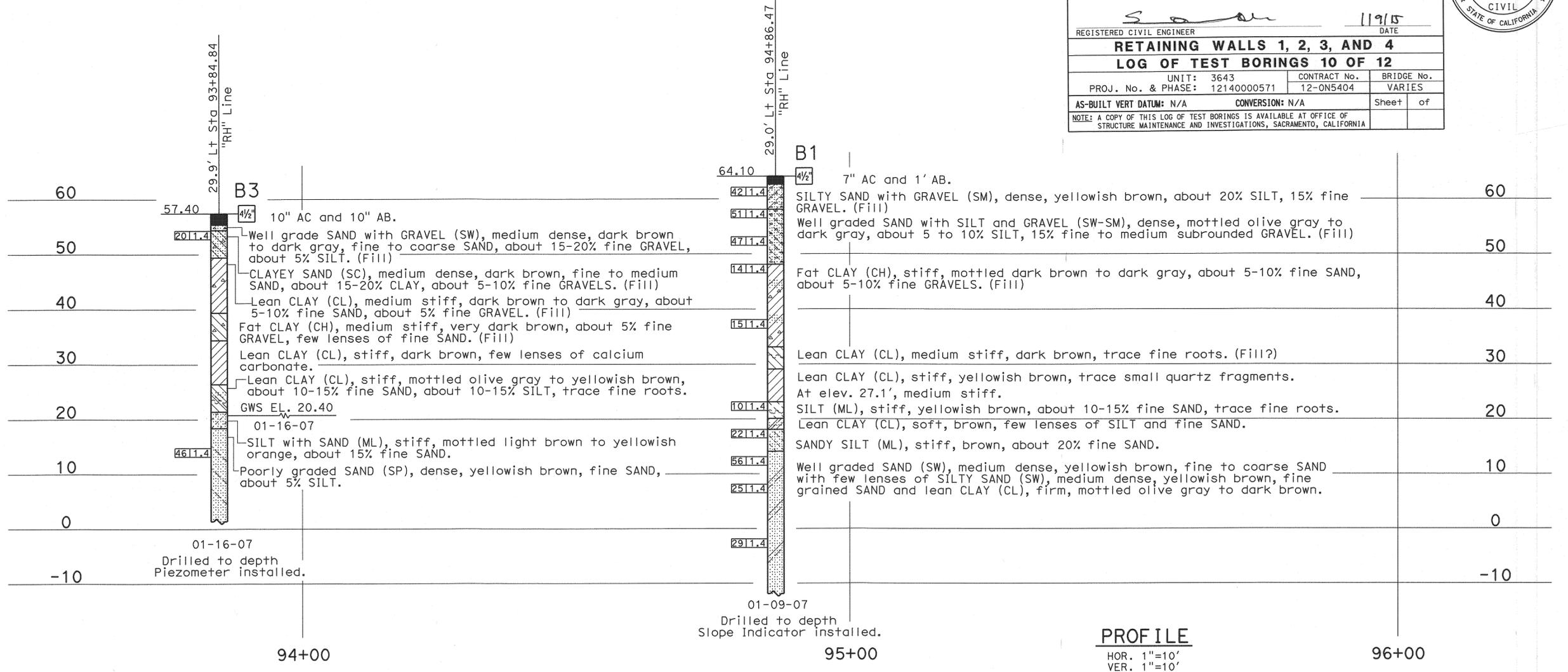
LEGEND OF EARTH MATERIALS

| | |
|--------------------------|-------------------|
| GRAVEL | CLAYEY SILT |
| SAND | PEAT AND/OR WATER |
| SILT | COBBLES |
| CLAY | BOULDERS |
| SANDY CLAY or SILTY SAND | IGNEOUS ROCK |
| SILT CLAY | SEDIMENTARY ROCK |
| | METAMORPHIC ROCK |

CONSISTENCY CLASSIFICATION FOR SOILS

| | |
|--------------------------|--------------|
| SPT N-Value (Blows/foot) | Consistency |
| 0-4 | Very Loose |
| 5-10 | Loose |
| 11-30 | Medium Dense |
| 31-50 | Dense |
| >50 | Very Dense |
| >70 | Very Hard |

NOTE: Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.



| | | | | | | |
|----------------------------|--------------------------|---|---|---|--------------------------------|---|
| ENGINEERING SERVICE CENTER | GEOTECHNICAL SERVICES | FIELD INVESTIGATION BY: V. Rodriguez | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH | BRIDGE NO. POST MILE 8.4 | SLOPE STABILIZATION LOG OF TEST BORINGS 2 OF 4 |
| DRAWN BY: W. Tang 09/07 | CHECKED BY: V. Rodriguez | | | | | |

OSF CIVIL LOG OF TEST BORINGS SHEET (ENGLISH) (REV. 10/25/05)

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

CU 12
EA 0J1200

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES: 09-27-07

SHEET OF: X X

07-JAN-2015 TIME PLOTTED => 13:35

FOR PLAN VIEW, SEE
"LOG OF TEST BORINGS" 1 OF 4

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No | TOTAL SHEETS |
|------|--------|-------|--------------------------|----------|--------------|
| 12 | Ora | 405 | 8.4 | 141 | 142 |

REGISTERED PROFESSIONAL ENGINEER
DATE 09-27-07
4-27-15
PLANS APPROVAL DATE

Vincent Rodriguez
No. GE2733
Exp. 06-30-08
STATE OF CALIFORNIA

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DIVISION OF ENGINEERING SERVICES - MATERIALS AND GEOTECHNICAL SERVICES

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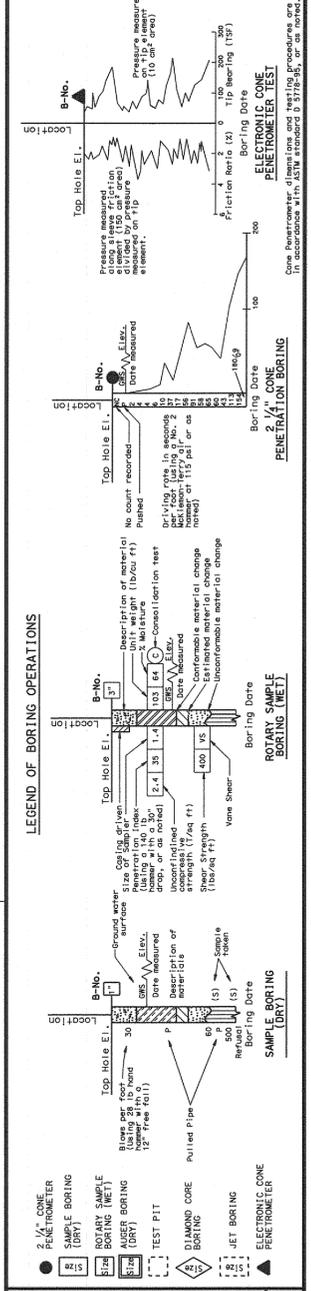
| DIST. | COUNTY | ROUTE | POST MILE-TOTAL PROJECT | Sheet No. | Total Sheets |
|-------|--------|-------|-------------------------|-----------|--------------|
| 12 | Ora | 405 | 8.4 | 141 | 142 |

REGISTERED CIVIL ENGINEER
DATE 11/9/15

RETAINING WALLS 1, 2, 3, AND 4
LOG OF TEST BORINGS 11 OF 12

| | | | |
|--------------------------|--------------------------|----------------------|--------|
| UNIT: 3643 | CONTRACT No. 12140000571 | BRIDGE No. 12-0N5404 | VARIES |
| AS-BUILT VERT DATUM: N/A | CONVERSION: N/A | Sheet | of |

NOTE: A COPY OF THIS LOG OF TEST BORINGS IS AVAILABLE AT OFFICE OF STRUCTURE MAINTENANCE AND INVESTIGATIONS, SACRAMENTO, CALIFORNIA



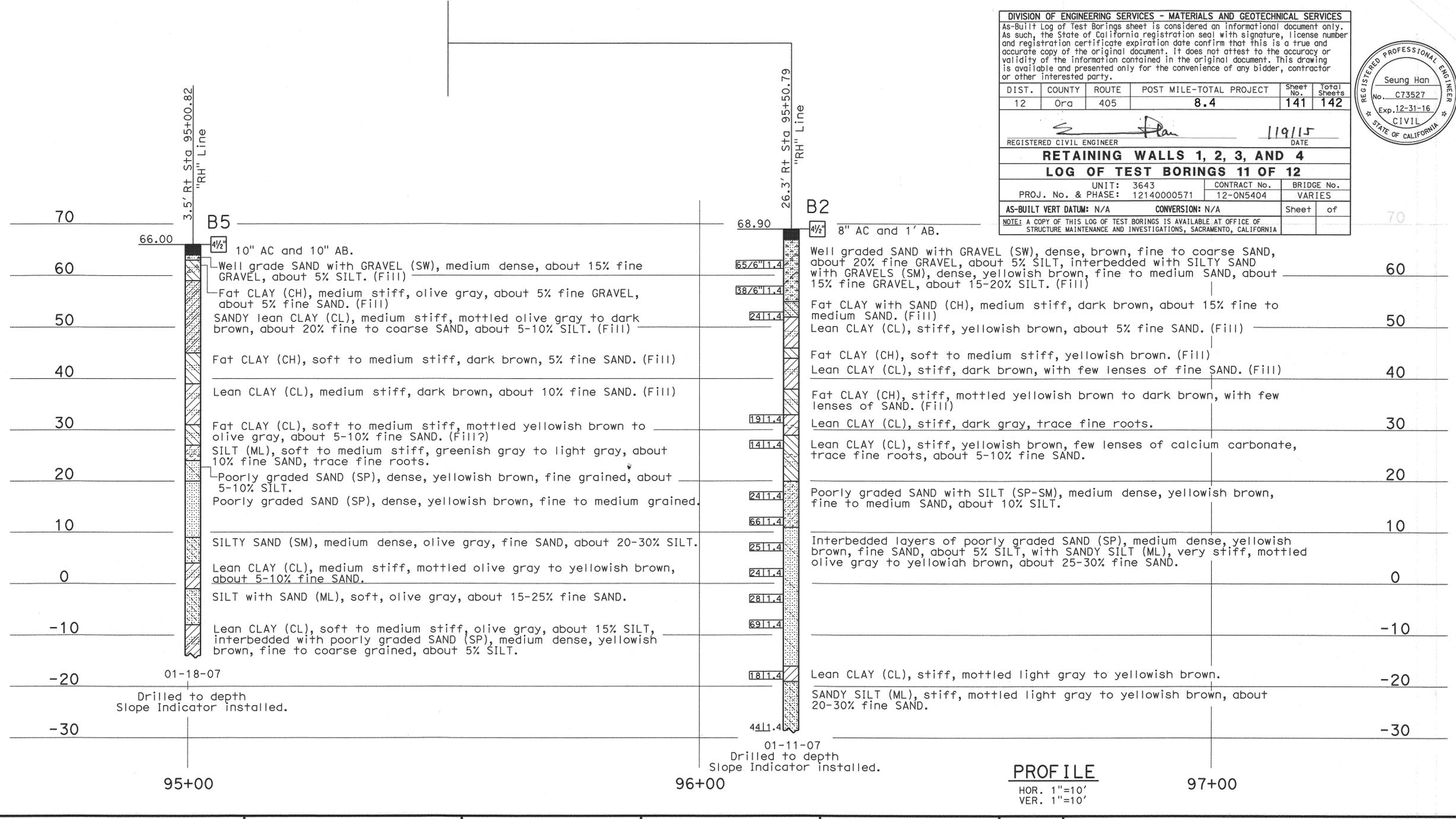
LEGEND OF EARTH MATERIALS

| | |
|---------------------------|----------------------------|
| GRAVEL | CLAYEY SILT |
| SAND | PEAT and/or ORGANIC MATTER |
| SILT | BOULDERS |
| CLAY | IGNEOUS ROCK |
| SANDY CLAY or CLAYEY SAND | SEDIMENTARY ROCK |
| SANDY SILT or SILTY SAND | METAMORPHIC ROCK |
| SILTY CLAY | |

CONSISTENCY CLASSIFICATION FOR SOILS

| SP | SM | CL | CH | OH | OC |
|------------|-------|--------------|-------|------------|-------|
| 0-4 | 5-10 | 11-20 | 21-30 | 31-50 | 51-70 |
| Very Loose | Loose | Medium Dense | Dense | Very Dense | Hard |

NOTE: Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.



| | | | | | | | |
|----------------------------|----------------------------|---|---|---|-------------------|---|----------------|
| ENGINEERING SERVICE CENTER | GEOTECHNICAL SERVICES | FIELD INVESTIGATION BY: V. Rodriguez | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH | BRIDGE NO. 8.4 | SLOPE STABILIZATION LOG OF TEST BORINGS 3 OF 4 | |
| DRAWN BY W. Tang 09/07 | CHECKED BY V. Rodriguez | | | | | DISREGARD PRINTS BEARING EARLIER REVISION DATES | REVISION DATES |

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No | TOTAL SHEETS |
|------|--------|-------|--------------------------|----------|--------------|
| 12 | Ora | 405 | 8.4 | 142 | 142 |

REGISTERED PROFESSIONAL ENGINEER
 ENGINEER
 4-27-15
 PLANS APPROVAL DATE
 DATE 09-27-07
 Vincent Rodriguez
 No. GE2733
 Exp. 06-30-08
 GEOTECHNICAL
 STATE OF CALIFORNIA
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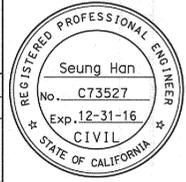
FOR PLAN VIEW, SEE
"LOG OF TEST BORINGS" 1 OF 4

DIVISION OF ENGINEERING SERVICES - MATERIALS AND GEOTECHNICAL SERVICES
 As-Built Log of Test Borings sheet is considered an informational document only. As such, the State of California registration seal with signature, license number and registration certificate expiration date confirm that this is a true and accurate copy of the original document. It does not attest to the accuracy or validity of the information contained in the original document, this drawing is available and presented only for the convenience of any bidder, contractor or other interested party.

| DIST. | COUNTY | ROUTE | POST MILE-TOTAL PROJECT | Sheet No. | Total Sheets |
|-------|--------|-------|-------------------------|-----------|--------------|
| 12 | Ora | 405 | 8.4 | 142 | 142 |

REGISTERED CIVIL ENGINEER
 DATE 11/9/15
RETAINING WALLS 1, 2, 3, AND 4
LOG OF TEST BORINGS 12 OF 12
 UNIT: 3643 CONTRACT No. 12-0N5404 BRIDGE No. 12-0N5404
 PROJ. No. & PHASE: 12140000571 VARIES
 AS-BUILT VERT DATUM: N/A CONVERSION: N/A Sheet of

NOTE: A COPY OF THIS LOG OF TEST BORINGS IS AVAILABLE AT OFFICE OF STRUCTURE MAINTENANCE AND INVESTIGATIONS, SACRAMENTO, CALIFORNIA



LEGEND OF BORING OPERATIONS

1/2" CONE PENETROMETER (DRY)
 SAMPLE BORING (DRY)
 ROTARY SAMPLE BORING (WET)
 TEST PIT
 SAND CORE
 JET BORING
 ELECTRONIC CONE PENETROMETER
 SAMPLE BORING (WET)
 ROTARY SAMPLE BORING (WET)
 TEST PIT
 SAND CORE
 JET BORING
 ELECTRONIC CONE PENETROMETER

Bore Penetrometer, a firm time and testing procedure and in accordance with ASTM Method D 1586, shall be used.

LEGEND OF EARTH MATERIALS

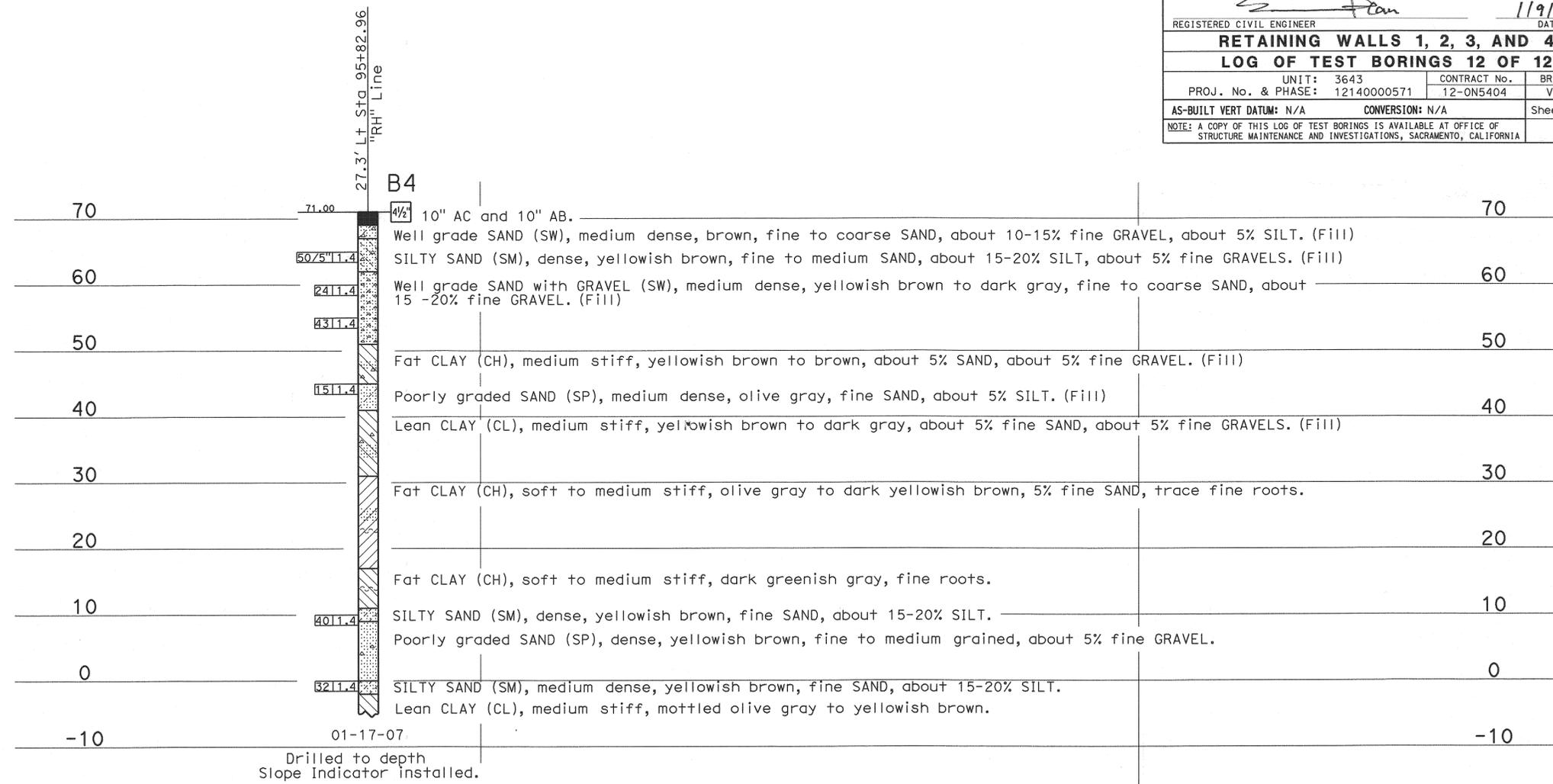
GRAVEL
 SAND
 SILT
 CLAY
 SANDY CLAY or CLAYEY SAND
 SANDY SILT or SILTY SAND
 SILTY CLAY
 CLAYEY SILT
 ORGANIC MATTER
 COBBLES and/or Boulders
 IGNEOUS ROCK
 SEDIMENTARY ROCK
 METAMORPHIC

CONSISTENCY CLASSIFICATION FOR SOILS

According to the Standard Penetration Test

| SPT N-value (Blows/foot) | Consistency |
|--------------------------|--------------|
| 0-4 | Very Loose |
| 5-10 | Loose |
| 11-20 | Medium Dense |
| 21-30 | Dense |
| 31-50 | Very Dense |
| 51-60 | Very Dense |
| 61-80 | Very Hard |

NOTE: Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.



| | | | | | | | |
|----------------------------|----------------------------|---|---|---|--------------------------------|---|-----------------|
| ENGINEERING SERVICE CENTER | GEOTECHNICAL SERVICES | FIELD INVESTIGATION BY: V. Rodriguez | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH | BRIDGE NO. POST MILE 8.4 | SLOPE STABILIZATION LOG OF TEST BORINGS 4 OF 4 | |
| DRAWN BY W. Tang 09/07 | CHECKED BY V. Rodriguez | | | | | REVISION DATES | SHEET OF X X |

OSF CIVIL LOG OF TEST BORINGS SHEET (ENGLISH) (REV. 10/25/05)
 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS
 CU 12
 EA 0J1200
 DISREGARD PRINTS BEARING EARLIER REVISION DATES
 09-27-07