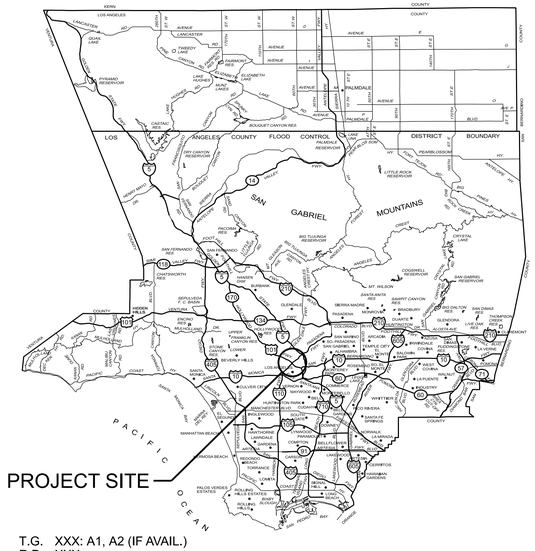
FED ID XXXXXXX

# LOS ANGELES COUNTY PUBLIC WORKS

# PROJECT TITLE

## PROJECT SUBTITLE




T.G. XXX: A1, A2 (IF AVAIL.)
R.D. XXX

**LOCATION MAP**
NO SCALE

## INDEX TO PROJECT PLANS



(24X36 SHEET)

UPDATE ALL ORANGE TEXT

**KEY MAP**
NO SCALE

PRIME CONTRACTOR LICENSE REQUIRED: CLASS XX

811 Know what's below. Call before you dig.

APPROVED BY: _____ CITY OF _____ DATE

APPROVED BY: _____ CITY OF _____ DATE

APPROVED BY: _____ CITY OF _____ DATE

APPROVED BY MARK PESTRELLA, DIRECTOR OF PUBLIC WORKS
_____ ASSISTANT DEPUTY DIRECTOR DATE

RECOMMENDED BY: _____ DESIGN DIVISION DATE

| DATE | MARK | DESCRIPTION |
|---|---|---|
| | | |
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| | | |
| | | |
| | | |

REVISIONS

REGISTERED PROFESSIONAL ENGINEER — ENGINEER'S NAME — C XXXXX — CIVIL — STATE OF CALIFORNIA

_____ PROJECT ENGINEER DATE

LOS ANGELES COUNTY PUBLIC WORKS

PROJECT TITLE
PROJECT SUBTITLE
PROJECT DESCRIPTION
PROJECT ID NO. RDCXXXXXXX
TITLE SHEET

| DWG XX-X-XXX.X | PD XXXXXXX | SHEET # OF # |
|---|---|---|

60% PRELIMINARY ■ AS-BUILT DRAWINGS — DISCLAIMER: UNDER REVIEW AND SUBJECT TO CHANGE — DATE: 0/0/2026

PLAN XX

USE "PH" FOR HIGHWAY
USE "PD" FOR DRAINAGE

| | |
|---|---|
| DRAFTER | X. XXXXXXX |
| DESIGNER | X. XXXXXXX |
| CHECKER | X. XXXXXXX |
| CADD PROJECT FILE NAME | LACPW_ENGINEERING_BORDER.dgn |

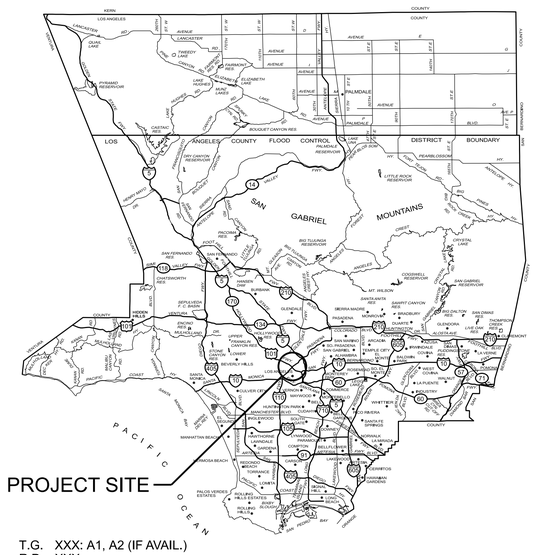
DATE: 5/29/2025 TIME: 4:48:17 PM FILE: C:\ProgramData\Bentley\LACOPW_CONNECT\Configuration\WorkSpaces\LA County Public Works\Standards\Seed\BorderSheets\LACPW_ENGINEERING_BORDER.dgn

# LOS ANGELES COUNTY PUBLIC WORKS

# PROJECT TITLE

# GUARDRAIL REPAIR PROJECT

## ROAD MAINTENANCE WORK ORDER NO. XXXXXXXXX




PROJECT SITE

T.G. XXX: A1, A2 (IF AVAIL.)
R.D. XXX

**LOCATION MAP**
NO SCALE

COMMONLY USED ITEMS
ADD / DELETE AS NEEDED

## INDEX



## CONSTRUCTION LEGEND

1. REMOVE & DISPOSE EXISTING METAL BEAM GUARDRAIL
2. TRANSITION RAILING (CALTRANS STD PLAN A77U4)
3. MIDWEST GUARDRAIL SYSTEM (CALTRANS STD PLAN A77L2)
4. FLARE TERMINAL SYSTEM (TYPE X-TENSION)
5. IN-LINE TERMINAL SYSTEM (TYPE X-TENSION)
6. AC PAVEMENT (VARIABLE THICKNESS)

## STANDARD PLANS

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
STANDARD PLANS (2023 EDITION)

| | |
|---|---|
| RSP A77L2 | MIDWEST GUARDRAIL SYSTEM<br>STANDARD RAILING SECTION |
| RSP A77N3 | MIDWEST GUARDRAIL SYSTEM<br>TYPICAL LINE POST EMBEDMENT AND HINGE POINT OFFSET DETAILS |
| A77U3 | MIDWEST GUARDRAIL SYSTEM<br>CONNECTIONS TO ABUTMENTS AND WALLS |
| A77U4 | MIDWEST GUARDRAIL SYSTEM<br>TRANSITION RAILING (TYPE WB-31) |
| RSP A77P2 | MIDWEST GUARDRAIL SYSTEM<br>TYPICAL LAYOUTS FOR EMBANKMENTS |

## GUARDRAIL NOTES

1. INSERT NOTES
2. INSERT NOTES

**KEY MAP**
NO SCALE

(24X36 SHEET)

UPDATE ALL ORANGE TEXT

**KEY MAP**
NO SCALE

INDICATES DIRECTION OF TRAFFIC

CADD PROJECT FILE NAME: LACPW_ENGINEERING_BORDER.dgn
CHECKER: X. XXXXXXX
DESIGNER: X. XXXXXXX
DRAFTER: X. XXXXXXX

Know what's **below.** **Call** before you dig.

APPROVED BY:

DESIGN DIVISION DATE

| DATE | MARK | DESCRIPTION |
|---|---|---|
| | | |

REVISIONS

REGISTERED PROFESSIONAL ENGINEER — ENGINEER'S NAME — C XXXXX — CIVIL — STATE OF CALIFORNIA

PROJECT ENGINEER DATE

LOS ANGELES COUNTY PUBLIC WORKS

PROJECT TITLE
PROJECT SUBTITLE
GUARDRAIL REPAIR PROJECT
PROJECT ID NO. RDCXXXXXXX
TITLE, PLAN, DETAILS

| DWG XX-X-XXX.X | PD XXXXXXX | SHEET # OF # |
|---|---|---|

USE "PH" FOR HIGHWAY
USE "PD" FOR DRAINAGE

DATE: 5/29/2025 TIME: 4:48:17 PM FILE: C:\ProgramData\Bentley\LACOPW_CONNECT\Configuration\WorkSpaces\LA County Public Works\Standards\Seed\BorderSheets\LACPW_ENGINEERING_BORDER.dgn

FED ID XXXXXXX

DRAFTER X. XXXXXXX

DESIGNER X. XXXXXXX

CHECKER X. XXXXXXX

CADD PROJECT FILE NAME LACPW_ENGINEERING_BORDER.dgn

REVIEWED BY

DATE

| DATE | MARK | DESCRIPTION |
|---|---|---|
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REVISIONS

REGISTERED PROFESSIONAL ENGINEER — ENGINEER'S NAME — C XXXXX — CIVIL — STATE OF CALIFORNIA

PROJECT ENGINEER DATE

LOS ANGELES COUNTY PUBLIC WORKS

# PROJECT TITLE

PROJECT SUBTITLE

PROJECT DESCRIPTION

PROJECT ID NO. RDCXXXXXXX

SHEET DESCRIPTION

| DWG XX-X-XXX.X | PD XXXXXXX | SHEET # OF # |
|---|---|---|

60% PRELIMINARY PLANS UNOFFICIAL AND SUBJECT TO CHANGE
DATE: 5/29/2025

PLAN XX

USE "PH" FOR HIGHWAY
USE "PD" FOR DRAINAGE

DATE: 5/29/2025 TIME: 4:48:17 PM FILE: C:\ProgramData\Bentley\LACOPW_CONNECT\Configuration\WorkSpaces\LA County Public Works\Standards\Seed\BorderSheets\LACPW_ENGINEERING_BORDER.dgn

FED ID XXXXXXX

SCALE: HOR. 1"= XX'
VERT. 1"= X'

DRAFTER X. XXXXXXX
DESIGNER X. XXXXXXX
CHECKER X. XXXXXXX
CADD PROJECT FILE NAME LACPW_ENGINEERING_BORDER.dgn
REVIEWED BY
DATE

# (24X36 SHEET)

## UPDATE ALL ORANGE TEXT

| DATE | MARK | DESCRIPTION |
|---|---|---|
| | | |
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REVISIONS

REGISTERED PROFESSIONAL ENGINEER — ENGINEER'S NAME — C XXXXX — CIVIL — STATE OF CALIFORNIA

PROJECT ENGINEER DATE

LOS ANGELES COUNTY PUBLIC WORKS

PROJECT TITLE
PROJECT SUBTITLE
PROJECT DESCRIPTION
PROJECT ID NO. RDCXXXXXXX
SHEET DESCRIPTION

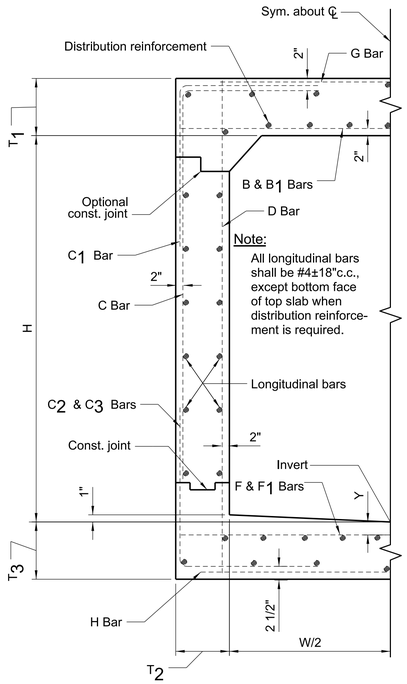
| DWG XX-X-XXX.X | PD XXXXXXX | SHEET # OF # |
|---|---|---|

60% PRELIMINARY PLANS UNOFFICIAL AND SUBJECT TO CHANGE
DATE: 5/29/2025

PLAN XX

USE "PH" FOR HIGHWAY
USE "PD" FOR DRAINAGE

DATE: 5/29/2025 TIME: 4:48:17 PM FILE: C:\ProgramData\Bentley\LACOPW_CONNECT\Configuration\WorkSpaces\LA County Public Works\Standards\Seed\BorderSheets\LACPW_ENGINEERING_BORDER.dgn




TYPICAL RC BOX SECTION

NOT TO SCALE

## STRUCTURAL NOTES

1. DIMENSIONS FROM FACE OF CONCRETE TO STEEL ARE TO CENTER OF BAR, UNLESS OTHERWISE SHOWN.
2. CONCRETE DIMENSIONS SHALL BE MEASURED HORIZONTALLY OR VERTICALLY ON THE PROFILE, AND PARALLEL TO OR AT RIGHT ANGLES (OR RADIALLY) TO CENTERLINE OF CONDUIT ON THE PLAN EXCEPT AS OTHERWISE SHOWN.
3. ALL BAR BENDS AND HOOKS SHALL CONFORM TO THE AMERICAN CONCRETE INSTITUTE'S "BUILDING CODE REQUIREMENT FOR REINFORCED CONCRETE", LATEST EDITION, SECTION 7.2.
4. TRANSVERSE CONSTRUCTION JOINTS SHALL NOT BE PLACED WITHIN 30 INCHES OF MANHOLE OR JUNCTION STRUCTURE OPENINGS.
5. TRANSVERSE CONSTRUCTION JOINTS IN WALLS AND SLABS SHALL BE IN THE SAME PLANE. NO STAGGERING OF JOINTS WILL BE PERMITTED. TRANSVERSE CONSTRUCTION JOINTS SHALL BE NORMAL OR RADIAL TO THE CENTERLINE OF CONSTRUCTION.
6. THE TRANSVERSE REINFORCING BARS SHALL TERMINATE ONE AND ONE-HALF INCHES FROM THE CONCRETE SURFACES UNLESS OTHERWISE SHOWN ON THE STRUCTURAL DETAILS.
7. EXPOSED SURFACES OF CONCRETE MEMBERS SHALL BE ROUNDED OR BEVELED.
8. NO SPLICES IN TRANSVERSE BARS REINFORCEMENT WILL BE PERMITTED OTHER THAN SHOWN ON THE DRAWING WITHOUT APPROVAL OF THE ENGINEER. NO MORE THAN TWO SPLICES WILL BE PERMITTED IN ANY LONGITUDINAL BAR BETWEEN TRANSVERSE JOINTS. SPLICES SHALL BE STAGGERED.
9. LONGITUDINAL BARS SHALL BE LAPPED 20 BAR DIAMETERS AT SPLICES. TRANSVERSE BARS SHALL BE LAPPED 30 BAR DIAMETERS AT SPLICES.
10. LONGITUDINAL BARS SHALL BE CONTINUOUS AND EXTEND THROUGH ALL CONSTRUCTION JOINTS.
11. UNLESS OTHERWISE SHOWN ON THE DRAWINGS, TRANSVERSE CONSTRUCTION JOINTS (IN BOTH SLABS AND WALLS), SHALL BE PLACED AT THE END OF EACH POUR, BUT THE SPACING THEREOF SHALL NOT EXCEED 50 FEET NOR BE LESS THAN 10 FEET.
12. UNLESS OTHERWISE SHOWN ON THE DETAILS, IN CURVED SECTIONS TRANSVERSE BARS SHALL BE PLACED RADIALLY. THE SPACING OF STRAIGHT TRANSVERSE BARS IN TOP AND BOTTOM SLABS SHALL BE MEASURED AT THE CENTERLINE OF CONSTRUCTION. THE SPACING OF STRAIGHT BARS AND L-BARS IN WALLS SHALL BE MEASURED BETWEEN THE VERTICAL LEGS OF BARS.
13. AT THE BEGINNING AND ENDING OF ALL POURS, A CURTAIN OF REINFORCEMENT COMPOSED OF B, C, C2, D, F, G, AND H BARS SHALL BE PLACED THREE INCHES FROM THE TRANSVERSE CONSTRUCTION JOINT.
14. D BARS MAY BE SPLICED 20 BAR DIAMETERS AT THE LOWER LONGITUDINAL CONSTRUCTION JOINT, AT CONTRACTOR'S OPTION.
15. IN ALL SECTIONS LAP C AND C2 BARS. THE VERTICAL LENGTH OF C AND C2 HAS BEEN CALCULATED FOR A FOUR-INCH STARTER WALL. IF THE HEIGHT OF THE STARTER WALL IS VARIED, THE VERTICAL LENGTH OF THE C AND C2 BARS SHALL BE VARIED CORRESPONDINGLY SO AS TO MAINTAIN A 30 DIAMETER LAP BETWEEN THE TWO BARS. THE LAPS SHALL BE BASED ON THE SMALLER BARS.
16. CONCRETE QUANTITIES ARE BASED ON A SIX-BY-SIX INCH FILLET AND STEEL QUANTITIES DO NOT INCLUDE ANY OPTIONAL SPLICES.
17. IF WALL THICKNESS IS SIX INCHES, PLACE REINFORCEMENT AT THE CENTERLINE OF THE WALL.

| BOX SECTION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Design Cover | | | | | | | | | | |
| Width | W | | | | | | | | | |
| Height | H | | | | | | | | | |
| Top Slab Thickness | T1 | | | | | | | | | |
| Side Wall Thickness | T2 | | | | | | | | | |
| Bottom Slab Thickness | T3 | | | | | | | | | |
| Concrete Cover ( 3") Min. | Y | | | | | | | | | |
| B Bars | Bar No. & Spacing | | | | | | | | | |
| | Length | | | | | | | | | |
| B1 Bars | Bar No. & Spacing | | | | | | | | | |
| | Length | | | | | | | | | |
| C Bars | Bar No. & Spacing | | | | | | | | | |
| | Hor. Length | | | | | | | | | |
| | Vert. Length | | | | | | | | | |
| C1 Bars | Bar No. & Spacing | | | | | | | | | |
| | Hor. Length | | | | | | | | | |
| | Vert. Length | | | | | | | | | |
| C1 Bars | Bar No. & Spacing | | | | | | | | | |
| | Hor. Length | | | | | | | | | |
| | Vert. Length | | | | | | | | | |
| C1 Bars | Bar No. & Spacing | | | | | | | | | |
| | Hor. Length | | | | | | | | | |
| | Vert. Length | | | | | | | | | |
| D Bars | Bar No. & Spacing | | | | | | | | | |
| | Length | | | | | | | | | |
| F Bars | Bar No. & Spacing | | | | | | | | | |
| | Length | | | | | | | | | |
| F1 Bars | Bar No. & Spacing | | | | | | | | | |
| | Length | | | | | | | | | |
| G Bars | Bar No. & Spacing | | | | | | | | | |
| | Length | | | | | | | | | |
| H Bars | Bar No. & Spacing | | | | | | | | | |
| | Length | | | | | | | | | |

| NUMBER OF LONGITUDINAL REINFORCEMENT #4 BARS | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Top Slab ( includes distribution reinforcement ) | | | | | | | | | |
| Bottom Slab | | | | | | | | | |
| Side Walls | | | | | | | | | |
| TOTAL | | | | | | | | | |

| QUANTITIES | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Concrete Cu. Yds./Lin. Ft. | | | | | | | | | |
| Steel Lbs./Lin. Ft. | | | | | | | | | |



| RC BOX LOCATION SCHEDULE | | | | | |
|---|---|---|---|---|---|
| Box. Sect. | Station From | Station To | Box. Sect. | Station From | Station To |
| - | + . | + . | - | + . | + . |
| - | + . | + . | - | + . | + . |
| - | + . | + . | - | + . | + . |
| - | + . | + . | - | + . | + . |
| - | + . | + . | - | + . | + . |
| - | + . | + . | - | + . | + . |
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| - | + . | + . | - | + . | + . |
| - | + . | + . | - | + . | + . |
| - | + . | + . | - | + . | + . |
| - | + . | + . | - | + . | + . |

## STRUCTURAL DESIGN CRITERIA

L.A.C.F.C.D. STRUCTURAL DESIGN MANUAL
DATED APRIL 1982

LIVE LOAD

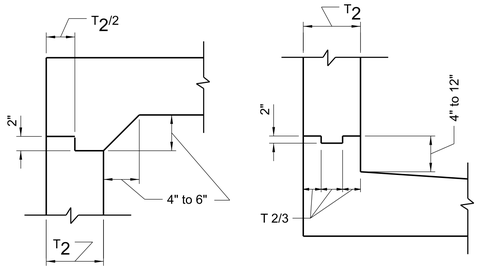
HS 20-44 unless otherwise noted

DEAD LOAD

Earth load per Marston's formula: w= pcf
Ku=Ku'=0.150
Bd=Outside width of box plus 3 feet
Side earth psf per foot of depth
Internal water pressure: 62.4 psf per foot of depth
Weight of concrete: 150 pcf

ALLOWABLE STRESSES

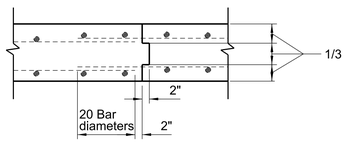
f'c=4000 psi at 28 days
fc =1800 psi
fs =24,000 psi
n =8
Shear and bond stresses per A.C.I. 318-63




TOP OF WALL

BASE OF WALL

LONGITUDINAL JOINT




TRANSVERSE JOINT

## CONSTRUCTION JOINT DETAILS

NOT TO SCALE

| DATE | MARK | DESCRIPTION |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

REVISIONS

REGISTERED PROFESSIONAL ENGINEER'S NAME C XXXXX CIVIL STATE OF CALIFORNIA

PROJECT ENGINEER DATE

LOS ANGELES COUNTY PUBLIC WORKS

# PROJECT TITLE

PROJECT SUBTITLE

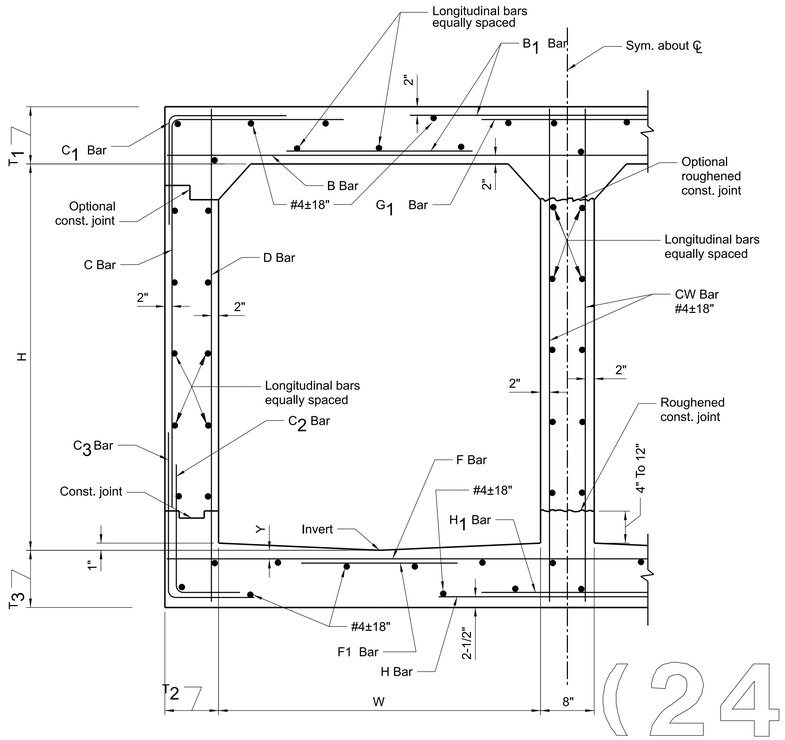
PROJECT DESCRIPTION
SINGLE R C BOX
STRUCTURAL SCHEDULE, NOTES AND DETAILS
PROJECT ID NO. RDCXXXXXXX

| DWG XX-X-XXX.X | PD XXXXXXX | SHEET # OF # |
|---|---|---|

DRAFTER X. XXXXXXX
DESIGNER X. XXXXXXX
CHECKER X. XXXXXXX
CADD PROJECT FILE NAME LACPW_ENGINEERING_BORDER.dgn
REVIEWED BY DATE

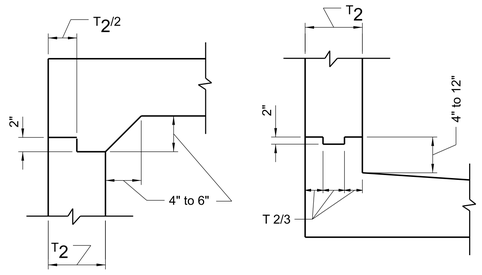
60% PRELIMINARY PLANS UNOFFICIAL AND SUBJECT TO CHANGE DATE: 5/29/2025

PLAN XX



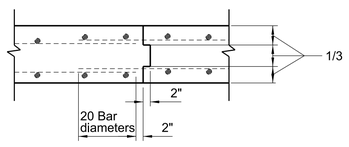

## TYPICAL RC BOX SECTION

NOT TO SCALE




TOP OF WALL BASE OF WALL

LONGITUDINAL JOINT




## CONSTRUCTION JOINT DETAILS

NOT TO SCALE

## STRUCTURAL NOTES

1. Dimensions from face of concrete to steel are to center of bar, unless otherwise shown.
2. Concrete dimensions shall be measured horizontally or vertically on the profile, and parallel to or at right angles (or radially) to centerline of conduit on the plan except as otherwise shown.
3. All bar bends and hooks shall conform to the american concrete institute's "building code requirement for reinforced concrete", latest edition, sections 7.1 and 7.2.
4. Transverse construction joints shall not be placed within 30 inches of manhole or junction structure openings.
5. Transverse construction joints in walls and slabs shall be in the same plane. no staggering of joints will be permitted. Transverse construction joints shall be normal or radial to the centerline of construction.
6. The transverse reinforcing bars shall terminate one and one-half inches from the concrete surfaces unless otherwise shown on the structural details.
7. Exposed edges of concrete members shall be rounded or beveled.
8. No splices in transverse bars reinforcement will be permitted other than shown on the drawing without approval of the engineer. no more than two splices will be permitted in any longitudinal bar between transverse joints. Splices shall be staggered.
9. Longitudinal bars shall be lapped 20 bar diameters at splices. Transverse bars shall be lapped 30 bar diameters at splices.
10. Longitudinal bars shall be continuous and extend through all construction joints.
11. Unless otherwise shown on the drawings, transverse construction joints (in both slabs and walls), shall be placed at the end of each pour, but the spacing thereof shall not exceed 50 feet nor be less than 10 feet.
12. Unless otherwise shown on the details, in curved sections transverse bars shall be placed radially. Straight transverse bars in top and bottom slabs shall be spaced as shown on the typical sections: spacing shall be at the centerline of the barrel on the outside of the curve for double barrel boxes. straight bars and l-bars in walls shall be spaced as shown on the typical sections, with the spacing measured between the vertical legs of bars.
13. At the beginning and ending of all pours, a curtain of reinforcement composed of b, c, c2, d, cw, f, g, and h bars shall be placed three inches from the transverse construction joint.
14. D bars and cw bars may be spliced 20 bar diameters at the lower longitudinal construction joint, at contractor's option.
15. In all sections lap c and c2 bars. the vertical length of c and c2 bars has been calculated for a four-inch starter wall. if the height of the starter wall is varied, the vertical length of the c and c2 bars shall be varied correspondingly so as to maintain a 30 diameter lap between the two bars. The laps shall be based on the smaller bars.
16. Concrete quantities are based on a six-by-six inch fillet and the steel quantities do not include any optional splices.
17. If wall thickness is six inches, place reinforcement at the centerline of the wall.
18. The design of box sections identified by a numerical value only is based on a width of trench equal to the outside width of the conduit plus 3 feet. When the cover is equal to 10 feet or less the trench width is unrestricted. When the cover is greater than 10 feet and the trench width is greater than the outside width of the conduit plus 3 feet for a distance in excess of 10 feet an alternate section shall be used as indicated below:
    a. When the depth of cover is less than 18 feet, sections with the suffix "b" shall be used.
    b. When the depth of cover is greater than 18 feet and:
        1. The trench width is less than the outside width of the conduit plus 6 feet, sections with the suffix "a" shall be used.
        2. The trench width is greater than the outside width of conduit plus 6 feet, sections with the suffix "b" shall be used.



| BOX SECTION | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Design Cover | | | | | | | | | | |
| Width | W | | | | | | | | | |
| Height | H | | | | | | | | | |
| T op Slab Thickness | $T_1$ | | | | | | | | | |
| Side Wall Thickness | $T_2$ | | | | | | | | | |
| Bottom Slab Thickness | $T_3$ | | | | | | | | | |
| Concrete Cover ( 3") Min. | Y | | | | | | | | | |
| B Bars | Bar No. & Spacing | | | | | | | | | |
| | Length | | | | | | | | | |
| $B_1$ Bars | Bar No. & Spacing | | | | | | | | | |
| | Length | | | | | | | | | |
| C Bars | Bar No. & Spacing | | | | | | | | | |
| | Hor. Length | | | | | | | | | |
| | Vert. Length | | | | | | | | | |
| $C_1$ Bars | Bar No. & Spacing | | | | | | | | | |
| | Hor. Length | | | | | | | | | |
| | Vert. Length | | | | | | | | | |
| $C_2$ Bars | Bar No. & Spacing | | | | | | | | | |
| | Hor. Length | | | | | | | | | |
| | Vert. Length | | | | | | | | | |
| $C_3$ Bars | Bar No. & Spacing | | | | | | | | | |
| | Hor. Length | | | | | | | | | |
| | Vert. Length | | | | | | | | | |
| D Bars | Bar No. & Spacing | | | | | | | | | |
| | Length | | | | | | | | | |
| F Bars | Bar No. & Spacing | | | | | | | | | |
| | Length | | | | | | | | | |
| $F_1$ Bars | Bar No. & Spacing | | | | | | | | | |
| | Length | | | | | | | | | |
| G Bars | Bar No. & Spacing | | | | | | | | | |
| | Length | | | | | | | | | |
| $G_1$ Bars | Bar No. & Spacing | | | | | | | | | |
| | Length | | | | | | | | | |
| H Bars | Bar No. & Spacing | | | | | | | | | |
| | Length | | | | | | | | | |
| $H_1$ Bars | Bar No. & Spacing | | | | | | | | | |
| | Length | | | | | | | | | |
| NUMBER OF LONGITUDINAL REINFORCEMENT # 4 BARS | | | | | | | | | | |
| Top Slab (includes distribution reinforcement) | | | | | | | | | | |
| Ext. Walls | | | | | | | | | | |
| Int. Walls | | | | | | | | | | |
| Inv. Slab | | | | | | | | | | |
| TOTAL | | | | | | | | | | |
| QUANTITIES | | | | | | | | | | |
| Concrete Cu. Yds./Lin. Ft. | | | | | | | | | | |
| Steel Lbs./Lin. Ft. | | | | | | | | | | |

RC BOX LOCATION SCHEDULE

| Box. Sect. | Station From | Station To | Box. Sect. | Station From | Station To |
|---|---|---|---|---|---|
| - | + . | + . | - | + . | + . |
| - | + . | + . | - | + . | + . |
| - | + . | + . | - | + . | + . |
| - | + . | + . | - | + . | + . |
| - | + . | + . | - | + . | + . |
| - | + . | + . | - | + . | + . |
| - | + . | + . | - | + . | + . |
| - | + . | + . | - | + . | + . |
| - | + . | + . | - | + . | + . |
| - | + . | + . | - | + . | + . |
| - | + . | + . | - | + . | + . |
| - | + . | + . | - | + . | + . |

## STRUCTURAL DESIGN CRITERIA

L.A.C.F.C.D. STRUCTURAL DESIGN MANUAL
DATED APRIL 1982

### LIVE LOAD

HS 20-44 unless otherwise noted

### DEAD LOAD

Earth load per Marston's formula: w= pcf
Ku=Ku'=0.150
Bd=Outside width of box plus 3 feet
Side earth psf per foot of depth
Internal water pressure: 62.4 psf per foot of depth
Weight of concrete: 150 pcf

### ALLOWABLE STRESSES

fc'=4000 psi at 28 days
fc =1800 psi
fs =24,000 psi
n =8
Shear and bond stresses per A.C.I. 318-63

| DATE | MARK | DESCRIPTION |
|---|---|---|
| | | |

REVISIONS

REGISTERED PROFESSIONAL ENGINEER — ENGINEER'S NAME — C XXXXX — CIVIL — STATE OF CALIFORNIA

PROJECT ENGINEER DATE

LOS ANGELES COUNTY PUBLIC WORKS

# PROJECT TITLE

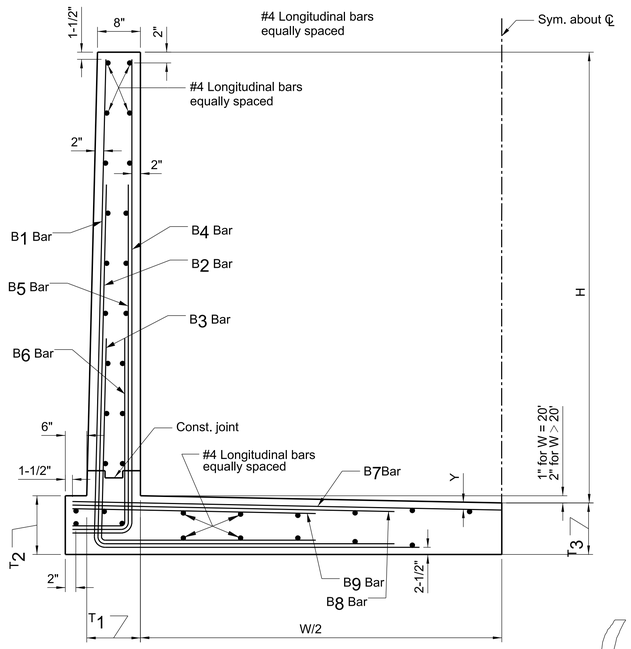
PROJECT SUBTITLE
PROJECT DESCRIPTION
DOUBLE R C BOX
STRUCTURAL SCHEDULE, NOTES AND DETAILS
PROJECT ID NO. RDCXXXXXXX

DWG XX-X-XXX.X | PD XXXXXXX | SHEET # OF #

DRAFTER X. XXXXXXX
DESIGNER X. XXXXXXX
CHECKER X. XXXXXXX
CADD PROJECT FILE NAME LACPW_ENGINEERING_BORDER.dgn
REVIEWED BY DATE

60% PRELIMINARY PLANS UNOFFICIAL AND SUBJECT TO CHANGE DATE: 5/29/2025 PLAN XX

DATE: 5/29/2025 TIME: 4:48:18 PM FILE: C:\ProgramData\Bentley\LACOPW_CONNECT\Configuration\WorkSpaces\LA County Public Works\Standards\Seed\BorderSheets\LACPW_ENGINEERING_BORDER.dgn




## TYPICAL CHANNEL SECTION

NOT TO SCALE

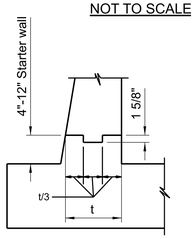
## STRUCTURAL NOTES

1. Dimensions from face of concrete to steel are to center of bar, unless otherwise shown.
2. Concrete dimensions shall be measured horizontally or vertically on the profile, and parallel to or at right angles (or radially) to centerline of conduit on the plan except as otherwise shown.
3. All bar bends and hooks shall conform to the american concrete institute's "building code requirements for reinforced concrete", latest edition.
4. Transverse construction joints shall not be placed within 30 inches of inlets.
5. Transverse construction joints in walls and slabs shall be in the same plane, no staggering of joints will be permitted. Transverse construction joints shall be normal or radial to the centerline of construction.
6. The transverse reinforcing bars shall terminate one and one-half inches from the concrete surfaces unless otherwise shown on the structural details.
7. Exposed edges of concrete members shall be rounded or beveled.
8. No splices in tranverse bars reinforcement will be permitted other than shown on the drawing without approval of the engineer. no more than two splices will be permitted in any longitudinal bar between transverse joints. Splices shall be staggered.
9. Longitudinal bars shall be lapped 20 bar diameters at splices. Transverse bars shall be lapped 30 bar diameters at splices.
10. Longitudinal bars shall terminate two inches from transverse construction joints.
11. Transverse joints shall be spaced not to exceed 50 feet nor be less than 10 feet, measured along the centerline of construction, except as otherwise shown on drawings.
12. Transverse joints shall be placed at the junction of rectangular open channel sections with closed conduit sections.
13. All rectangular open channel walls shall be fenced in accordance with standard plan 600-0 except as otherwise shown on the drawings.
14. Unless otherwise shown on the drawings, in curved sections, the maximum spacing of bars shall not exceed that shown on the typical sections. Bars shall be placed radially from the maximum spacing.
15. At the beginning and ending of all pours, a complete curtain of reinforcement bars shall be placed three inches from the transverse construction joints.

| CHANNEL SECTION | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Width | W | | | | | | | |
| Height | H | | | | | | | |
| Wall Thickness | T1 | | | | | | | |
| Slab Thickness | T2 | | | | | | | |
| Slab Thickness | T3 | | | | | | | |
| Concrete Cover | Y | | | | | | | |
| B1 Bars | Bar No. & Spacing | | | | | | | |
| | Hor. Length | | | | | | | |
| | Vert. Length | | | | | | | |
| B2 Bars | Bar No. & Spacing | | | | | | | |
| | Hor. Length | | | | | | | |
| | Vert. Length | | | | | | | |
| B3 Bars | Bar No. & Spacing | | | | | | | |
| | Hor. Length | | | | | | | |
| | Vert. Length | | | | | | | |
| B4 Bars | Bar No. & Spacing | | | | | | | |
| | Hor. Length | | | | | | | |
| | Vert. Length | | | | | | | |
| B5 Bars | Bar No. & Spacing | | | | | | | |
| | Hor. Length | | | | | | | |
| | Vert. Length | | | | | | | |
| B6 Bars | Bar No. & Spacing | | | | | | | |
| | Hor. Length | | | | | | | |
| | Vert. Length | | | | | | | |
| B7 Bars | Bar No. & Spacing | | | | | | | |
| | Hor. Length | | | | | | | |
| B8 Bars | Bar No. & Spacing | | | | | | | |
| | Hor. Length | | | | | | | |
| B9 Bars | Bar No. & Spacing | | | | | | | |
| | Hor. Length | | | | | | | |
| NUMBER OF LONGITUDINAL REINFORCEMENT # 4 BARS | | | | | | | | |
| Walls | | | | | | | | |
| Slab | | | | | | | | |
| TOTAL | | | | | | | | |
| QUANTITIES | | | | | | | | |
| Concrete Cu. Yds./Lin. Ft. | | | | | | | | |
| Steel Lbs./Lin. Ft. | | | | | | | | |

(24X36 SHEET)

UPDATE ALL ORANGE TEXT

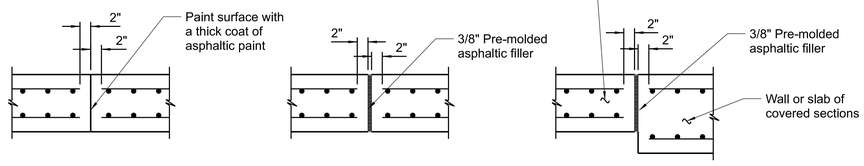



WALL BASE

## LONGITUDINAL CONSTRUCTION

JOINT DETAIL

NOT TO SCALE




FOR CHANNEL WALLS

FOR INVERT SLAB

FOR WALLS AND SLABS JOINING OPEN AND COVERED SECTIONS

## TRANSVERSE CONSTRUCTION JOINT DETAILS

NOT TO SCALE

RC CHANNEL LOCATION SCHEDULE

| Chan. Sect. | Station From | Station To | Chan. Sect. | Station From | Station To |
|---|---|---|---|---|---|
| - | + . | + . | - | + . | + . |
| - | + . | + . | - | + . | + . |
| - | + . | + . | - | + . | + . |
| - | + . | + . | - | + . | + . |
| - | + . | + . | - | + . | + . |
| - | + . | + . | - | + . | + . |
| - | + . | + . | - | + . | + . |
| - | + . | + . | - | + . | + . |
| - | + . | + . | - | + . | + . |
| - | + . | + . | - | + . | + . |
| - | + . | + . | - | + . | + . |
| - | + . | + . | - | + . | + . |
| - | + . | + . | - | + . | + . |

## STRUCTURAL DESIGN CRITERIA

L.A.C.F.C.D. STRUCTURAL DESIGN MANUAL
DATED APRIL 1982

### LOADS

External 62.5 p.s.f. E.F.P.

Internal 40.0 p.s.f. E.F.P.

### ALLOWABLE STRESSES

f'c= 4000 psi
fc = 1800 psi
fs = 24,000 psi
n = 8
Shear and bond stresses per A.C.I. 318-63
foundation modulus k = 165 p.c.i.

| DATE | MARK | DESCRIPTION |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

REVISIONS

REGISTERED PROFESSIONAL ENGINEER'S NAME C XXXXX CIVIL STATE OF CALIFORNIA

PROJECT ENGINEER DATE

LOS ANGELES COUNTY PUBLIC WORKS

# PROJECT TITLE

PROJECT SUBTITLE

PROJECT DESCRIPTION
R C RECTANGULAR CHANNEL
STRUCTURAL SCHEDULE, NOTES AND DETAILS
PROJECT ID NO. RDCXXXXXXX

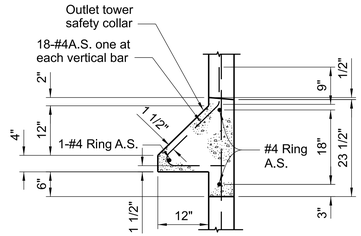
DWG XX-X-XXX.X | PD XXXXXXX | SHEET # OF #

60% PRELIMINARY PLANS UNOFFICIAL AND SUBJECT TO CHANGE
DATE: 5/29/2025

PLAN XX

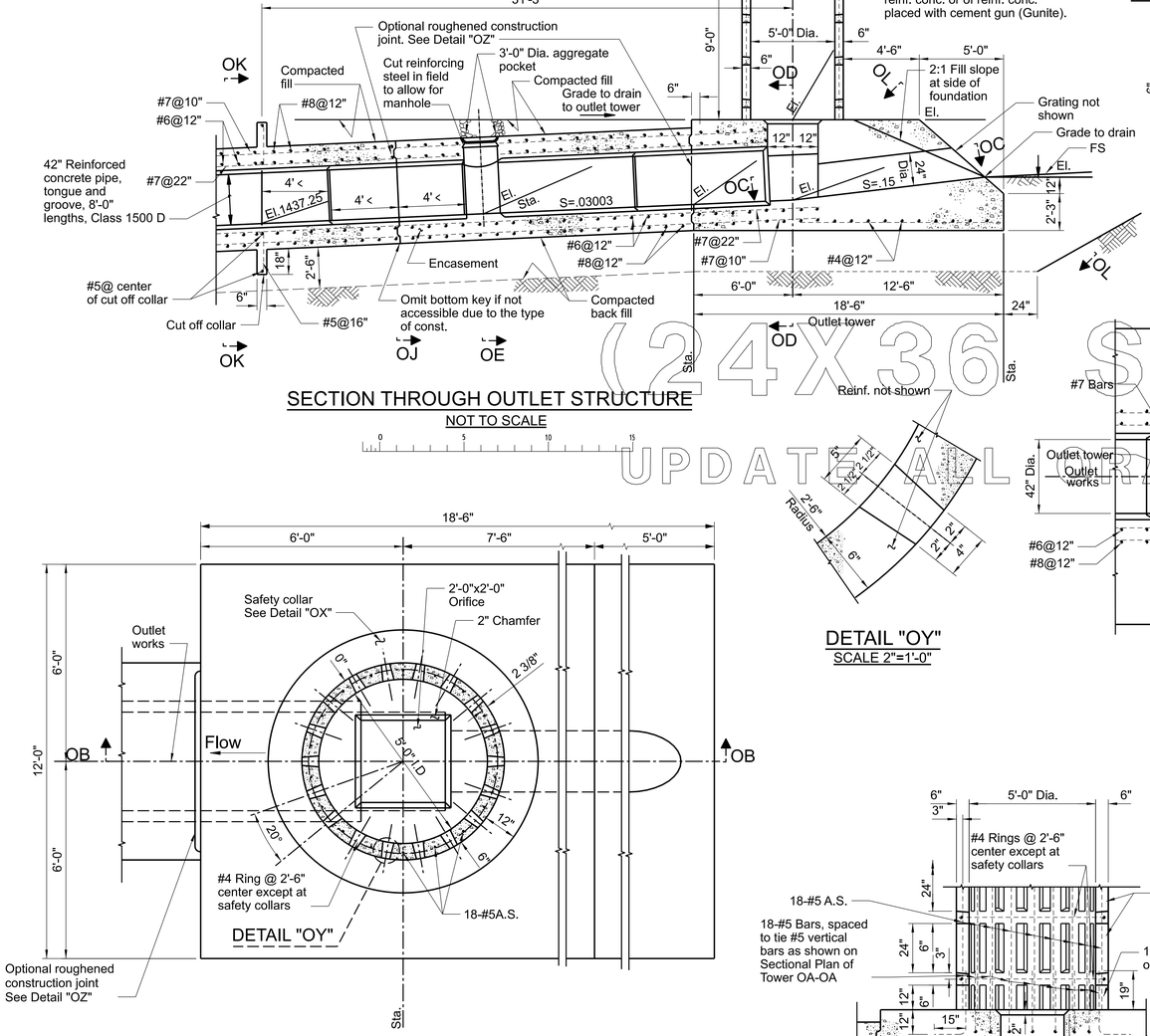
DRAFTER X. XXXXXXX
DESIGNER X. XXXXXXX
CHECKER X. XXXXXXX
CADD PROJECT FILE NAME LACPW_ENGINEERING_BORDER.dgn
REVIEWED BY DATE

DATE: 5/29/2025 TIME: 4:48:18 PM FILE: C:\ProgramData\Bentley\LACOPW_CONNECT\Configuration\WorkSpaces\LA County Public Works\Standards\Seed\BorderSheets\LACPW_ENGINEERING_BORDER.dgn



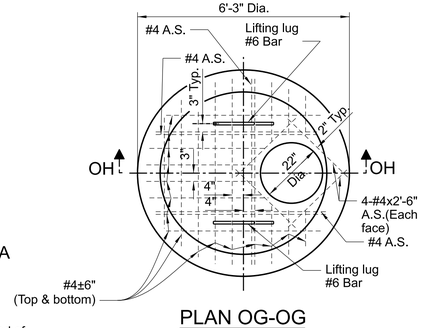

DETAIL "OX"
SCALE 3/4" = 1'-0"


DETAIL "OZ"
SCALE 2" = 1'-0"

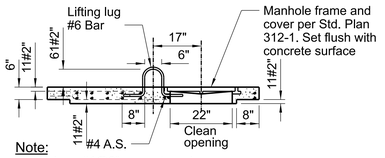



SECTION THROUGH OUTLET STRUCTURE
NOT TO SCALE



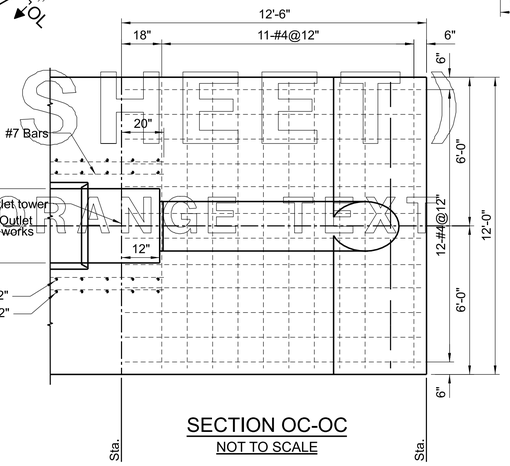




PLAN OG-OG
SHOWING OUTLET TOWER COVER
SCALE 1/2" = 1'-0"

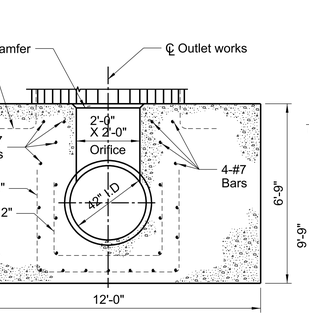



Note:
All bars #4@6", except as shown two rows (Both ways)

SECTION OH-OH
SCALE 1/2"=1'-0"




SECTION OC-OC
NOT TO SCALE




SECTION OD-OD
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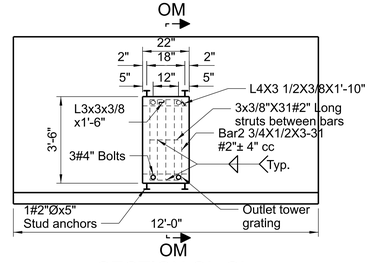
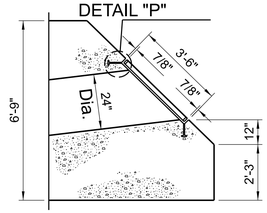
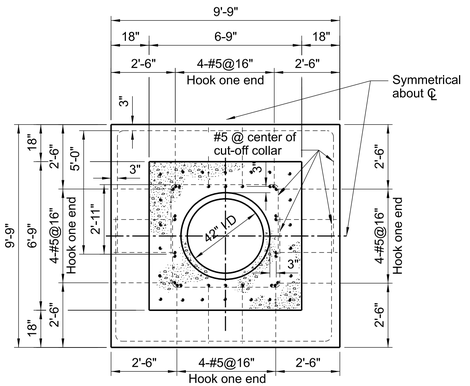


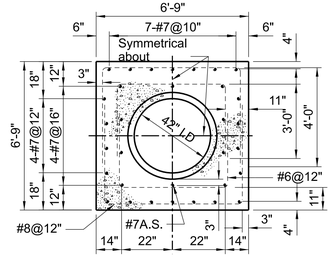

SECTION OL-OL
SCALE 3/8" = 1'-0"




SECTION OM-OM
SCALE 3/8" = 1'-0"

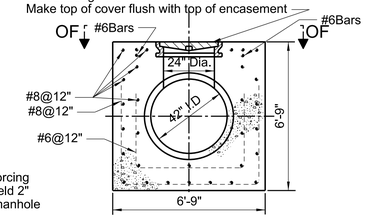



SECTION OK-OK
NOT TO SCALE

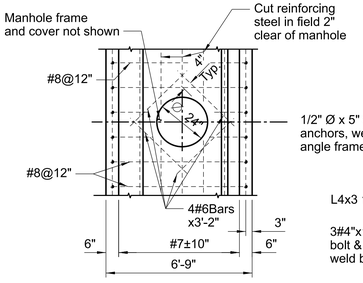



SECTION OJ-OJ
NOT TO SCALE

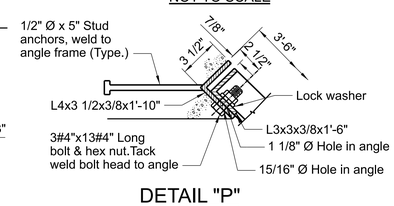
Manhole frame and cover as per Std. Plan 630-1. Drill 50 -5/8" Dia. holes through cover in auniform pattern. No holes are to be drilledthrough the ribs of the cover bottom. Make top of cover flush with top of encasement




SECTION OE-OE
NOT TO SCALE




SECTION OF-OF
SCALE 3/8" = 1'-0"




DETAIL "P"
SCALE 2" = 1'-0"




DETAIL "OY"
SCALE 2"=1'-0"




SECTION OA-OA
SHOWING SECTIONAL PLAN OF TOWER
NOT TO SCALE




SECTION OB-OB
NOT TO SCALE

Note:
1. The 42" RCP shall be securely anchored while concrete encasement is being placed.
2. The longitudinal #7 bars shown in the outlet pipe encasement are designed for hard grade steel only. If medium grade steel is used in place of hard grade steel, the size or number of longitudinal bars must be increased to provide a total steel area equal to 1.275 times the total area of longitudinal bars shown hereon.



| DATE | MARK | DESCRIPTION |
|---|---|---|
| | | |

REVISIONS

REGISTERED PROFESSIONAL ENGINEER — ENGINEER'S NAME — C XXXXX — CIVIL — STATE OF CALIFORNIA

PROJECT ENGINEER DATE

LOS ANGELES COUNTY PUBLIC WORKS

# PROJECT TITLE

PROJECT SUBTITLE

PROJECT DESCRIPTION

OUTLET WORKS
STRUCTURAL DETAILS
PROJECT ID NO. RDCXXXXXXX

| DWG XX-X-XXX.X | PD XXXXXXX | SHEET # OF # |
|---|---|---|

60% PRELIMINARY PLANS UNOFFICIAL AND SUBJECT TO CHANGE DATE: 5/29/2025

PLAN XX

DRAFTER X. XXXXXXX
DESIGNER X. XXXXXXX
CHECKER X. XXXXXXX
CADD PROJECT FILE NAME LACPW_ENGINEERING_BORDER.dgn
REVIEWED BY
DATE

DATE: 5/29/2025 TIME: 4:48:19 PM FILE: C:\ProgramData\Bentley\LACOPW_CONNECT\Configuration\WorkSpaces\LA County Public Works\Standards\Seed\BorderSheets\LACPW_ENGINEERING_BORDER.dgn

## CONSTRUCTION LEGEND

(PROJECT DEPENDENT, EDIT AS NEEDED. EXAMPLE SHOWN BELOW. COMPLETE NOTES AVAIL. IN LINK)

(use the Standard Items list as a guide to name the various items of construction since the names on plans, estimate, specs should all match)

1. PORTLAND CEMENT CONCRETE CURB AND GUTTER
2. PORTLAND CEMENT CONCRETE SIDEWALK, 4" THICK
3. CURB RAMP, CASE ___, UNLESS OTHERWISE SHOWN
4. DRIVEWAY, TYPE ___, Y=VARIES UNLESS OTHERWISE SHOWN
5. COLD MILL ASPHALT CONCRETE PAVEMENT
6. ASPHALT CONCRETE PAVEMENT, ON BASE MATERIAL
7. ASPHALT CONCRETE PAVEMENT, VARIABLE THICKNESS
8. DOUBLE ADJUST MANHOLE

## CONSTRUCTION NOTES

(PROJECT DEPENDENT, EDIT AS NEEDED. EXAMPLE SHOWN BELOW. COMPLETE NOTES AVAIL. IN LINK)

1. USE APPROVED NOTE LIST TO LEFT
2. SKIP ROW BETWEEN NOTES

## STANDARD PLANS

(PROJECT DEPENDENT, EDIT AS NEEDED EXAMPLE SHOWN BELOW)

CALTRANS STANDARD PLANS, 20XX EDITION

| | |
|---|---|
| A77A1 | METAL BEAM GUARD RAILING STANDARD RAILING SECTION |

RSP A88A CURB RAMP DETAILS (DATED XX-XX-XX)

SPPWC, 20XX EDITION

| | |
|---|---|
| 120-2 | CURB AND GUTTER - BARRIER |
| 122-2 | CROSS AND LONGITUDINAL GUTTERS |
| 134-2 | CONCRETE PAVEMENT JOINT DETAILS |
| 300-3 | CURB OPENING CATCH BASIN |
| 310-3 | CATCH BASIN FACE PLATE ASSEMBLY AND PROTECTION BAR |
| 313-3 | LOCAL DEPRESSIONS AT CATCH BASINS |

## UTILITIES

(PROJECT DEPENDENT, EDIT AS NEEDED EXAMPLE SHOWN BELOW)

| | |
|---|---|
| WATER: | LOS ANGELES DEPARTMENT OF WATER AND POWER<br>METROPOLITAN WATER DISTRICT |
| POWER: | LOS ANGELES DEPARTMENT OF WATER AND POWER |
| GAS: | SOUTHERN CALIFORNIA GAS COMPANY |
| CABLE: | TIME WARNER<br>AT&T |
| TELEPHONE: | VERIZON<br>AT&T<br>SPRINT |
| SEWER: | SANITATION DISTRICT OF LOS ANGELES COUNTY |
| OIL: | EXXON MOBIL OIL CORPORATION |
| STREET LIGHTS: | LOS ANGELES BUREAU OF STREET LIGHTING |

## TOPOGRAPHY LEGEND

(PROJECT DEPENDENT, EDIT AS NEEDED. EXAMPLE SHOWN BELOW. COMPLETE NOTES AVAIL. IN LINK)

| | EXISTING TOPOGRAPHY | PROPOSED IMPROVEMENTS |
|---|---|---|
| CURB | | |
| CURB AND GUTTER | | |
| GUTTER | | |
| PAVEMENT CONCRETE | | |
| PAVEMENT AC | | |
| CURB RAMP | | |
| BUILDING | | |
| FENCE | | |
| GUY POLE | | |
| DRIVEWAY | | |
| FIRE HYDRANT | | |
| GUY WIRE | | |
| MANHOLE | | |
| POLE | | |
| R/W LINE | | |
| PULL BOX | PB | |
| SIDEWALK | | SHADED IF NOT CONTINUOUS |
| SIGNAL CONTROL BOX | | |
| SIGNAL FLASHING | | |
| SIGNAL TRAFFIC | | |
| STREET LIGHT | | |
| PALM TREE | | |
| OAK TREE | | |
| OTHER TREE | | |
| VALVE | | |
| VAULT | V | |

## CONSTRUCTION SYMBOLS

(PROJECT DEPENDENT, EDIT AS NEEDED. EXAMPLE SHOWN BELOW. COMPLETE NOTES AVAIL. IN LINK)

- (#) INDICATES WORK PER CONSTRUCTION LEGEND
- (ltr.) CURVE DATA SHOWN IN TABLE ON PLAN
- 2" P4 — ABOVE LINE: INDICATES THE TYPE OF STANDARD OR THICKNESS OF SURFACE MATERIAL IN INCHES, STANDARD PLAN VARIABLES; CURB RAMP CASE, TYPE, SECTION AND DETAIL; OR TREE PLANTING CASE
- 5" CMB — BELOW LINE: REFERENCE TO DETAIL OR THICKNESS OR BASE MATERIAL IN INCHES OR TREE WELL CASE
- (#) A x B / 4" CMB — ABOVE LINE: A = LENGTH PARALLEL TO CURB, B = LENGTH PERDICULAR TO CURB

(This should be the construction legend # used for 'Portland Cement Concrete Sidewalk')

## ABBREVIATIONS

(PROJECT DEPENDENT, EDIT AS NEEDED. EXAMPLE SHOWN BELOW. COMPLETE NOTES AVAIL. IN LINK)

| ABBREVIATION | WORD OR WORDS |
|---|---|
| AC | ASPHALT CONCRETE |
| BC | BEGINING OF CURVE |
| BCR | BEGINING OF CURB RETURN |
| BM | BENCH MARK |
| CL | CENTER LINE |
| CMB | CRUSHED MISCELLANEOUS BASE |
| CMP | CORRUGATED METAL PIPE |
| CONST | CONSTRUCT, CONSTRUCTION |
| CY | CUBIC YARD |
| DIA | DIAMETER |
| EC | END OF CURVE |
| ECR | END OF CURB RETURN |
| EL | ELEVATION |
| EXST | EXISTING |
| FL | FLOW LINE |
| H | HORIZONTAL |
| L | LENGTH |
| LACPW | LOS ANGELES COUNTY PUBLIC WORKS |
| MAX | MAXIMUM |
| MIN | MINIMUM |
| SF | SQUARE FOOT |
| SPPWC | STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION |
| STA | STATION |
| STD | STANDARD |
| R/W | RIGHT OF WAY |
| TYP | TYPICAL |
| V | VERTICAL |
| W | WIDTH |

## REFERENCES

(PROJECT DEPENDENT, EDIT AS NEEDED EXAMPLE SHOWN BELOW)

| | |
|---|---|
| SURVEY FIELD NOTES: | PWFB 1917, PG 133-149 |
| FINAL MATERIALS TEST REPORT: | LAB NO XXXXX |

## AC PAVEMENT CLASS AND GRADE LEGEND

| | |
|---|---|
| P1 C2-PG 64-10<br>B-PG 64-10 | P3 B-PG 64-10 |
| P2 C2-PG 64-10 | P4 D2-PG 64-10 |

NOTE: THE PERFORMANCE GRADE 64-10 IS TYPICAL, BUT MAY CHANGE DEPENDING ON PROJECT, MAKE SURE TO CHECK WITH GMED/MATRIALS REPORT

(24X36 SHEET)

UPDATE ALL ORANGE TEXT

DRAFTER X. XXXXXXX | DESIGNER X. XXXXXXX | CHECKER X. XXXXXXX | CADD PROJECT FILE NAME LACPW_ENGINEERING_BORDER.dgn | REVIEWED BY | DATE

| DATE | MARK | DESCRIPTION |
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REVISIONS

REGISTERED PROFESSIONAL ENGINEER — ENGINEER'S NAME — C XXXXX — CIVIL — STATE OF CALIFORNIA

PROJECT ENGINEER DATE

LOS ANGELES COUNTY PUBLIC WORKS

# PROJECT TITLE

PROJECT SUBTITLE

PROJECT DESCRIPTION

PROJECT ID NO. RDCXXXXXXX

NOTES AND REFERENCES

DWG XX-X-XXX.X | PH XXXXXXX | SHEET # OF #

60% PRELIMINARY PLANS UNOFFICIAL AND SUBJECT TO CHANGE DATE: 5/29/2025

PLAN XX

DATE: 5/29/2025 TIME: 4:48:19 PM FILE: C:\ProgramData\Bentley\LACOPW_CONNECT\Configuration\WorkSpaces\LA County Public Works\Standards\Seed\BorderSheets\LACPW_ENGINEERING_BORDER.dgn

## CONSTRUCTION NOTES

(PROJECT DEPENDENT, EDIT AS NEEDED. EXAMPLE SHOWN BELOW. COMPLETE NOTES AVAIL. IN LINK)

1. USE APPROVED NOTE LIST
2. SKIP ROW BETWEEN NOTES

## STANDARD PLANS

(PROJECT DEPENDENT, EDIT AS NEEDED EXAMPLE SHOWN BELOW)

CALTRANS STANDARD PLANS, 20XX EDITION

| | |
|---|---|
| A77A1 | METAL BEAM GUARD RAILING STANDARD RAILING SECTION |

SPPWC, 20XX EDITION

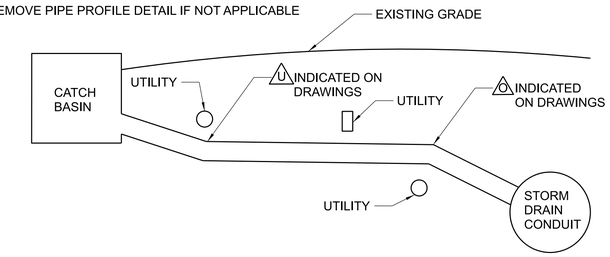
| | |
|---|---|
| 120-2 | CURB AND GUTTER - BARRIER |
| 122-2 | CROSS AND LONGITUDINAL GUTTERS |
| 134-2 | CONCRETE PAVEMENT JOINT DETAILS |
| 300-3 | CURB OPENING CATCH BASIN |
| 310-3 | CATCH BASIN FACE PLATE ASSEMBLY AND PROTECTION BAR |
| 313-3 | LOCAL DEPRESSIONS AT CATCH BASINS |

## CONSTRUCTION SYMBOLS

(PROJECT DEPENDENT, EDIT AS NEEDED. EXAMPLE SHOWN BELOW. COMPLETE NOTES AVAIL. IN LINK)

(ltr.) CURVE DATA SHOWN IN TABLE ON PLAN

REMOVE PIPE PROFILE DETAIL IF NOT APPLICABLE




## TYPICAL CONNECTOR PIPE PROFILE

NOT TO SCALE

NOTES

1. THE CHANGE IN GRADE OF THE CONNECTOR PIPE MAY OCCUR EITHER OVER OR UNDER EXISTING UTILITY. THE PARTICULAR UTILITY AT WHICH THE CHANGE IN GRADE OCCURS, IS NOTED ON THE PROJECT PLANS. AT LOCATIONS WHICH UTILITY CROSSINGS ARE MARKED U, THE CONNECTOR PIPE GRADE WILL BREAK OVER THE UTILITY AT LOCATIONS WHERE UTILITY CROSSINGS ARE MARKED U, THE CONNECTOR PIPE GRADE WILL BREAK UNDER THE UTILITY.
2. ON THOSE CONNECTOR PIPES WHERE CHANGE IN GRADE IS NOT INDICATED, IT IS ASSUMED THAT THE CONNECTOR PIPE CAN BE LAID ON A STRAIGHT GRADE FROM THE CATCH BASIN TO THE STORM DRAIN WITHOUT INTERFERENCE WITH UTILITIES.
3. THE CONTRACTOR SHALL MAKE EXPLORATORY EXCAVATIONS TO DETERMINE THE EXACT LOCATION AND DEPTH OF UTILITIES, EXCEPT SANITARY SEWER, WHICH ARE MARKED U OR O. AFTER THE EXACT LOCATION A UTILITY HAS BEEN DETERMINED, THE GRADE AND ALIGNMENT OF THE CONNECTOR PIPE WILL BE STAKED SO AS TO CLEAR THE UTILITY.
4. WHERE CONNECTOR PIPE HAS A GRADE CHANGE EXCEEDING 0.10 FEET PER FEET, OR DIFFERS IN DIAMETER FROM THAT OF EXISTING PIPE, USE CONCRETE COLLAR PER STANDARD PLAN 380-3.

## UTILITIES

(PROJECT DEPENDENT, EDIT AS NEEDED EXAMPLE SHOWN BELOW)

| | |
|---|---|
| WATER: | LOS ANGELES DEPARTMENT OF WATER AND POWER |
| | METROPOLITAN WATER DISTRICT |
| POWER: | LOS ANGELES DEPARTMENT OF WATER AND POWER |
| GAS: | SOUTHERN CALIFORNIA GAS COMPANY |
| CABLE: | TIME WARNER |
| | AT&T |
| TELEPHONE: | VERIZON |
| | AT&T |
| | SPRINT |
| SEWER: | SANITATION DISTRICT OF LOS ANGELES COUNTY |
| OIL: | EXXON MOBIL OIL CORPORATION |
| STREET LIGHTS: | LOS ANGELES BUREAU OF STREET LIGHTING |

## TOPOGRAPHY LEGEND

(PROJECT DEPENDENT, EDIT AS NEEDED. EXAMPLE SHOWN BELOW. COMPLETE NOTES AVAIL. IN LINK)

| | EXISTING TOPOGRAPHY | PROPOSED IMPROVEMENTS |
|---|---|---|
| CURB | | |
| CURB AND GUTTER | | |
| GUTTER | | |
| PAVEMENT CONCRETE | | |
| AC | | |
| CURB RAMP | | |
| FENCE | | |
| DRIVEWAY | | |
| FIRE HYDRANT | | |
| MANHOLE | | |
| PIPE | | |
| CONNECTOR PIPE | | |
| MAIN LINE | | |
| POLE | | |
| R/W LINE | | |
| PULL BOX | PB | |
| STREET LIGHT | | |
| PALM TREE | | |
| OAK TREE | | |
| OTHER TREE | | |
| VALVE | | |

## AC PAVEMENT CLASS AND GRADE LEGEND

(PROJECT DEPEDENT, EDIT AS NEEDED)

| | |
|---|---|
| P1 C2-PG 64-10 B-PG 64-10 | P3 B-PG 64-10 |
| P2 C2-PG 64-10 | P4 D2-PG 64-10 |

NOTE: THE PERFORMANCE GRADE 64-10 IS TYPICAL, BUT MAY CHANGE DEPENDING ON PROJECT, MAKE SURE TO CHECK WITH GMED/MATRIALS REPORT

## REFERENCES

(PROJECT DEPENDENT, EDIT AS NEEDED EXAMPLE SHOWN BELOW)

SURVEY FIELD NOTES: PWFB 1917, PG 133-149

FINAL MATERIALS TEST REPORT: LAB NO XXXXX

(24X36 SHEET)

## ABBREVIATIONS

(PROJECT DEPENDENT, EDIT AS NEEDED, EXAMPLE SHOWN BELOW. COMPLETE NOTES AVAIL. IN LINK)

UPDATE ALL ORANGE TEXT

| ABBREVIATION | WORD OR WORDS |
|---|---|
| AC | ASPHALT CONCRETE |
| BC | BEGINING OF CURVE |
| BM | BENCH MARK |
| CL | CENTER LINE |
| CMB | CRUSHED MISCELLANEOUS BASE |
| CMP | CORRUGATED METAL PIPE |
| CONST | CONSTRUCT, CONSTRUCTION |
| CY | CUBIC YARD |
| DIA | DIAMETER |
| EC | END OF CURVE |
| EL | ELEVATION |
| EXST | EXISTING |
| H | HORIZONTAL |
| INV | INVERT |
| L | LENGTH |
| LACDPW | LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS |
| LACFCD | LOS ANGELES COUNTY FLOOD CONTROL DISTRICT |
| MAX | MAXIMUM |
| MH | MANHOLE |
| MIN | MINIMUM |
| R/W | RIGHT OF WAY |
| SF | SQUARE FOOT |
| SPPWC | STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION |
| STA | STATION |
| STD | STANDARD |
| TYP | TYPICAL |
| U/S | UPSTREAM |
| V | VERTICAL |
| W | WIDTH |

DRAFTER X. XXXXXXX
DESIGNER X. XXXXXXX
CHECKER X. XXXXXXX
CADD PROJECT FILE NAME LACPW_ENGINEERING_BORDER.dgn
REVIEWED BY
DATE

| DATE | MARK | DESCRIPTION |
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REVISIONS

REGISTERED PROFESSIONAL ENGINEER — ENGINEER'S NAME — C XXXXX — CIVIL — STATE OF CALIFORNIA

PROJECT ENGINEER DATE

LOS ANGELES COUNTY PUBLIC WORKS

# PROJECT TITLE

PROJECT SUBTITLE
PROJECT DESCRIPTION
PROJECT ID NO. RDCXXXXXXX
NOTES AND REFERENCES

DWG XX-X-XXX.X | PD XXXXXXX | SHEET # OF #

60% PRELIMINARY PLANS UNOFFICIAL AND SUBJECT TO CHANGE DATE: 5/29/2025

PLAN XX

DATE: 5/29/2025 TIME: 4:48:19 PM FILE: C:\ProgramData\Bentley\LACOPW_CONNECT\Configuration\WorkSpaces\LA County Public Works\Standards\Seed\BorderSheets\LACPW_ENGINEERING_BORDER.dgn