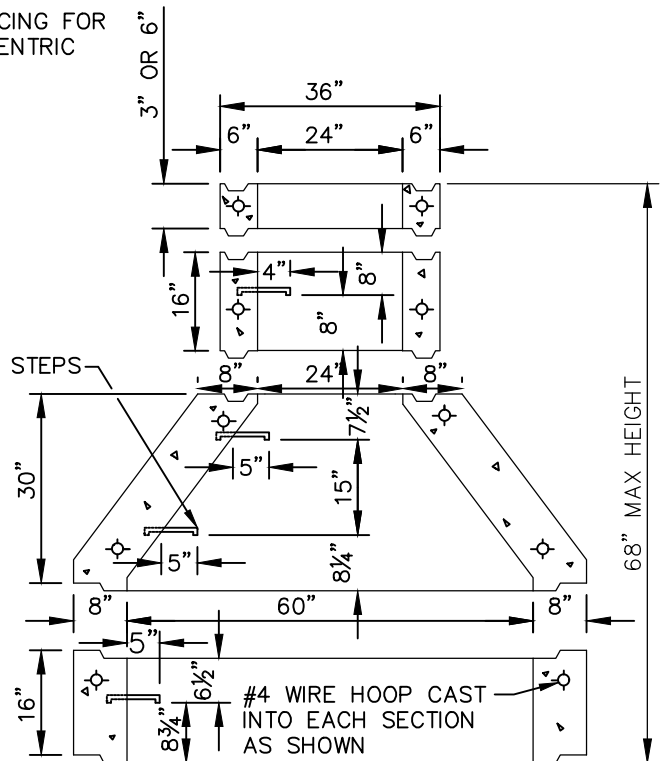


TYPICAL SECTION

48" ID CONCENTRIC
CONCRETE MANHOLE



TYPICAL SECTION

60" ID CONCENTRIC
CONCRETE MANHOLE

NOTES:

1. CONSTRUCTION SHALL BE IN ACCORDANCE WITH GREENBOOK SECTION 303.
2. SEE STD. PLAN 630-3-OC FOR MANHOLE FRAME & COVER DETAIL.
3. SEE STD. PLAN 1507 FOR MANHOLE STEP DETAILS. MAX. SPACING = 17 INCHES.
4. THE MANHOLE PIPES AND GRADE RINGS SHALL BE ARRANGED IN ORDER OF LONGER TO SHORTER LENGTHS FROM BOTTOM TO TOP.
5. MANHOLE DETAILS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.
6. PAVEMENT SURFACE SHALL BE FINISHED $\frac{1}{4}$ INCH ABOVE MANHOLE FRAME.
7. TOP OF CONE SHALL BE PLACED A MINIMUM OF 6 INCH BELOW BOTTOM OF ROADWAY STRUCTURAL SECTION OR A MINIMUM OF 16 INCHES BELOW FINISH GRADE, WHICHEVER IS GREATEST.

COUNTY OF ORANGE, OC PUBLIC WORKS DEPARTMENT

Approved

Khalid Bazmi
Khalid Bazmi, County Engineer

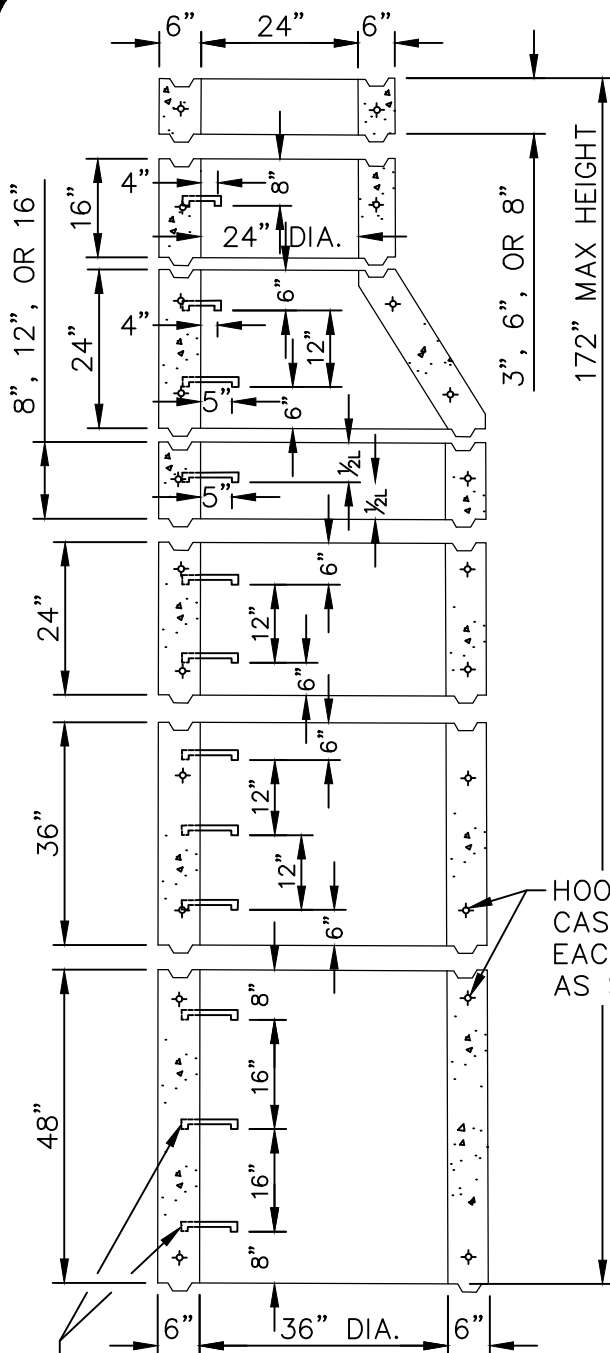
Revision: August 2018

STD. PLAN

1501

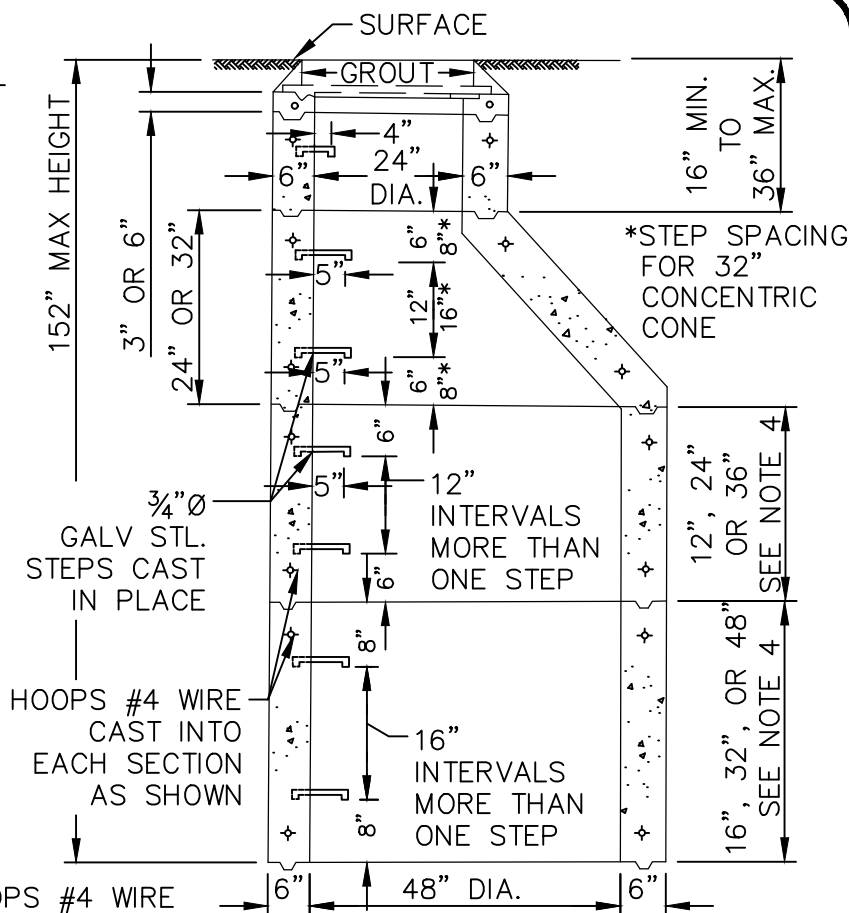
SHT. 1 OF 1

NON-REINF. CONC. CONCENTRIC CONE MANHOLE



**TYPICAL SECTION 36" ID
ECCENTRIC CONE MANHOLE**

$\frac{3}{4}$ " \varnothing GALV.
STL. STEPS
CAST IN PLACE



**TYPICAL SECTION 48" ID
ECCENTRIC CONE MANHOLE**

NOTES:

1. SEE STD. PLAN 630-3-OC FOR MANHOLE FRAME AND COVER DETAILS.
2. SEE STD. PLAN 1507 FOR MANHOLE STEPS DETAILS. MAX. SPACING=17 INCHES.
3. CONSTRUCTION SHALL BE IN ACCORDANCE WITH GREENBOOK SECTION 303.
4. THE MANHOLE PIPES AND GRADE RINGS SHALL BE ARRANGED IN ORDER OF LONGER TO SHORTER LENGTHS FROM BOTTOM TO TOP.
5. MANHOLE HEIGHT DETAILS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.
6. PAVEMENT TO BE FINISHED $\frac{1}{4}$ INCH ABOVE MANHOLE FRAME.
7. TOP OF CONE SHALL BE PLACED A MINIMUM OF 6 INCHES BELOW BOTTOM OF ROADWAY STRUCTURAL SECTION OR A MINIMUM OF 16 INCHES BELOW FINISH GRADE, WHICHEVER IS GREATEST.

COUNTY OF ORANGE, OC PUBLIC WORKS DEPARTMENT

Revision: August 2018

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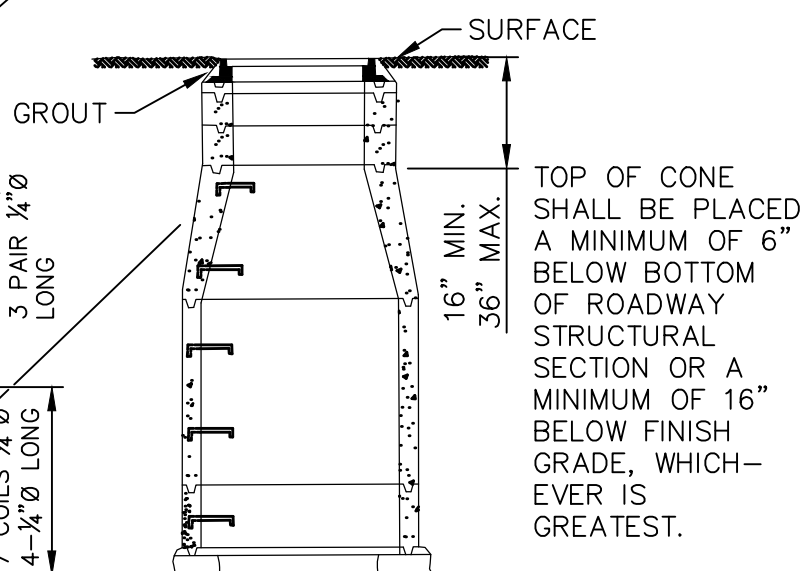
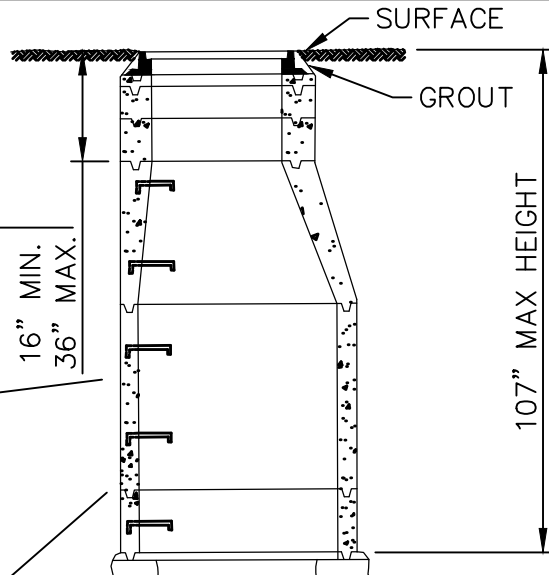
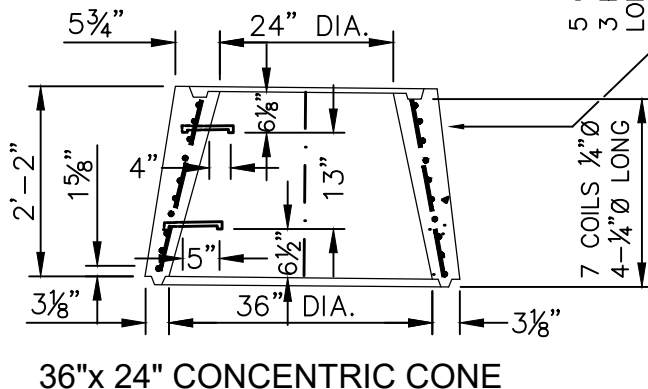
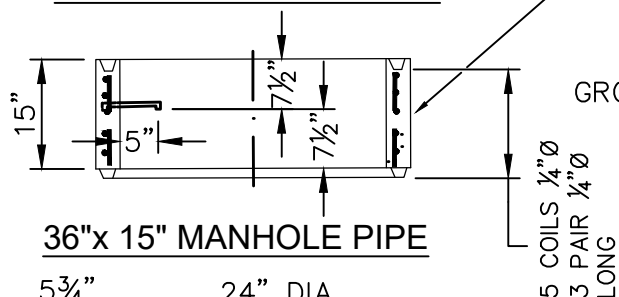
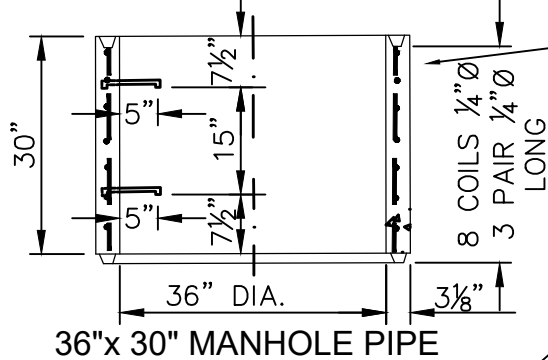
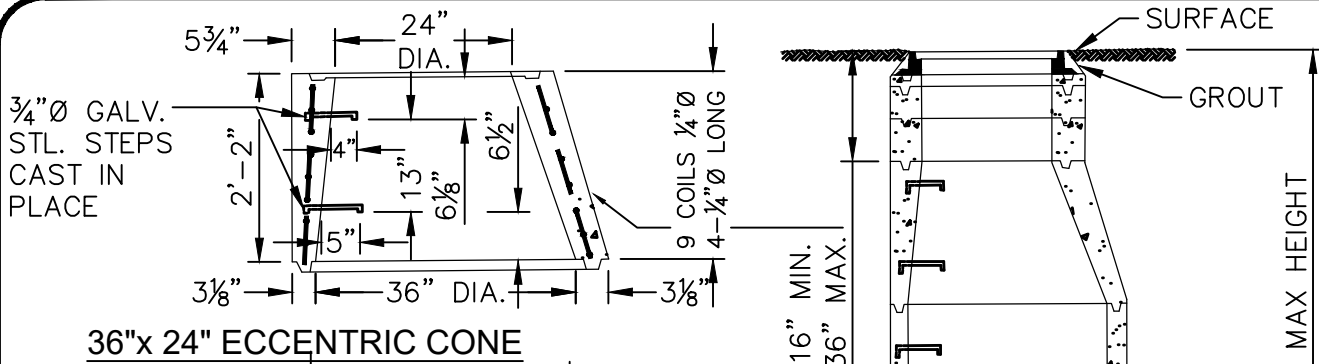
Khalid Bazmi
Khalid Bazmi, County Engineer

STD. PLAN

1502

SHT. 1 OF 1

NON-REINF. CONC. ECCENTRIC CONE MANHOLE



NOTES:

1. SEE STD PLAN 630-3-OC FOR MANHOLE FRAME AND COVER DETAILS.
2. SEE STD. PLAN 1507 FOR MANHOLE STEP DETAILS.
3. CONSTRUCTION SHALL BE IN ACCORDANCE WITH GREENBOOK SECTION 303.
4. THE MANHOLE PIPES AND GRADE RINGS SHALL BE ARRANGED IN ORDER OF LONGER TO SHORTER LENGTHS FROM BOTTOM TO TOP.
5. MANHOLE HEIGHT DETAILS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.
6. PAVEMENT SHALL BE FINISHED.

COUNTY OF ORANGE, OC PUBLIC WORKS DEPARTMENT

Approved

Khalid Bazmi
Khalid Bazmi, County Engineer

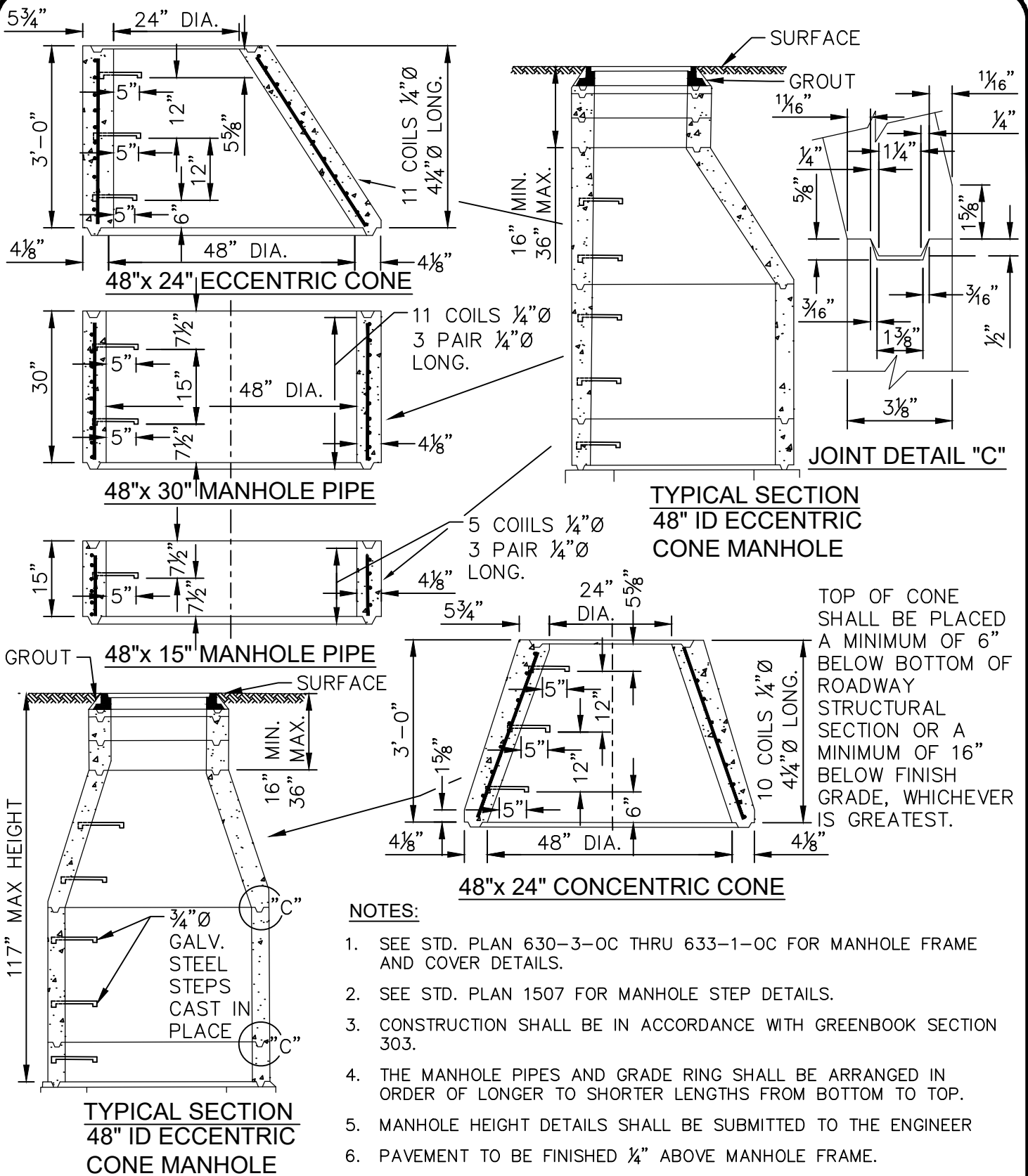
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STD. PLAN

1503

SHT. 1 OF 1

36" REINFORCED CONCRETE MANHOLE



COUNTY OF ORANGE, OC PUBLIC WORKS DEPARTMENT

Revision: August 2018

Approved

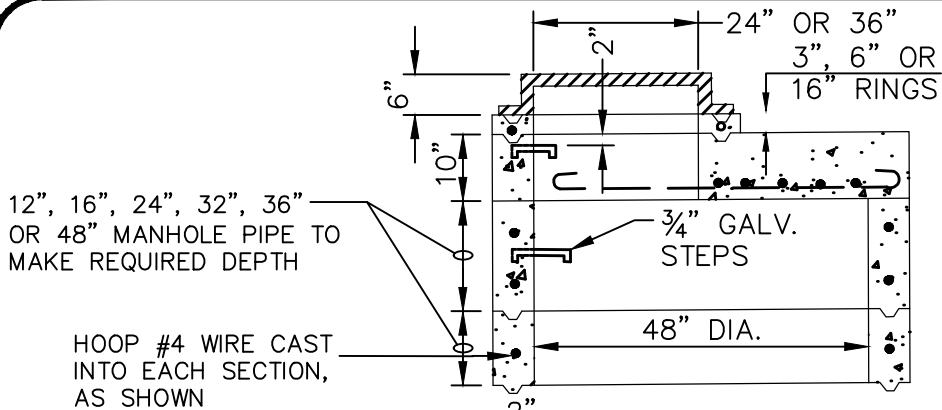
Khalid Bazmi
Khalid Bazmi, County Engineer

STD. PLAN

1504

SHT. 1 OF 1

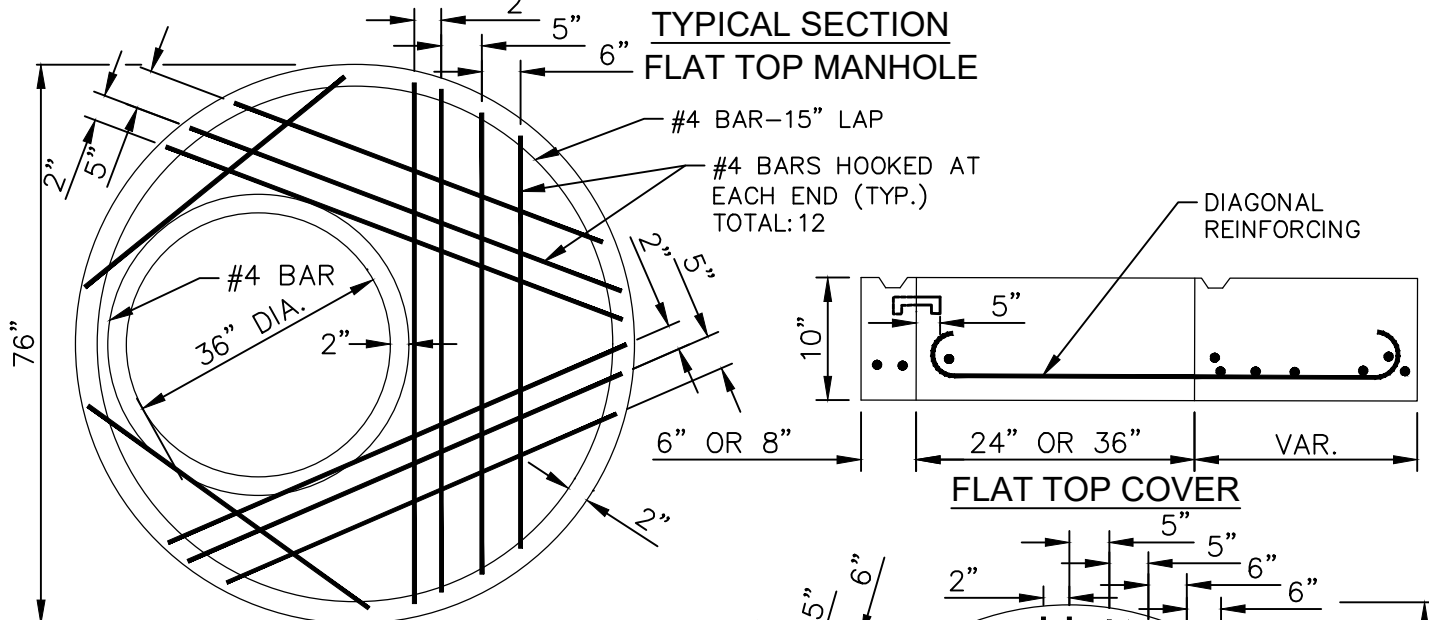
48" REINFORCED CONCRETE MANHOLE



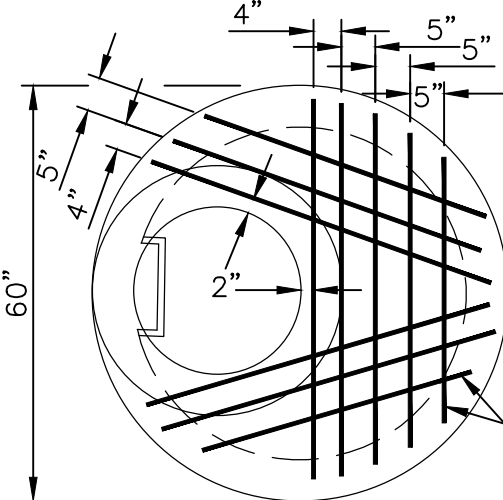
NOTES:

1. FOR MANHOLE FRAME & COVER SEE STD. PLAN 630-3-OC & 633-1-OC.
2. FOR MANHOLE STEPS SEE STD. PLAN 1507.
3. FOR RING & MANHOLE PIPE SECTIONS SEE STD. PLAN 1501.
4. CONSTRUCTION SHALL BE IN ACCORDANCE WITH GREENBOOK SECTION 303.

TYPICAL SECTION FLAT TOP MANHOLE



PLAN OF 60" COVER WITH 36" ACCESS



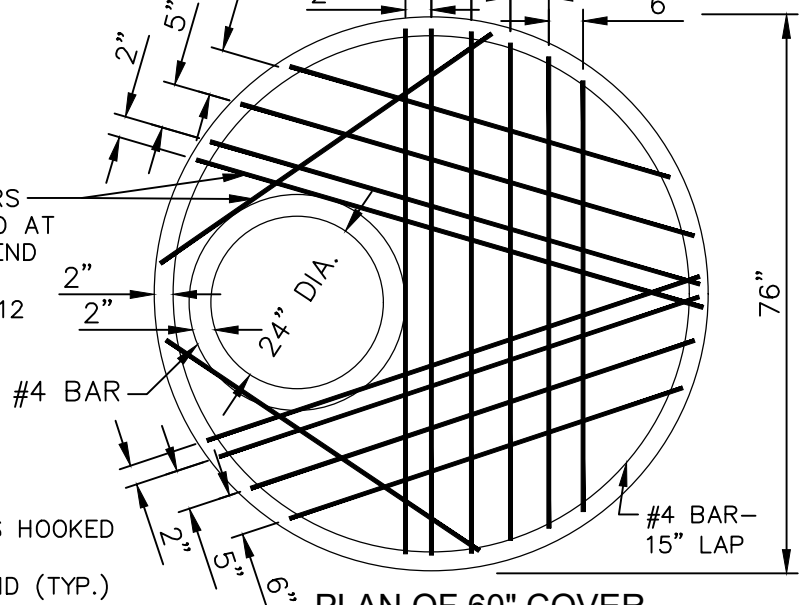
PLAN OF 48" COVER WITH 24" ACCESS

#4 BARS
HOOKED AT
EACH END
(TYP.)
TOTAL: 12

#5 BARS HOOKED
AT
EACH END (TYP.)
TOTAL: 11

#4 BAR

PLAN OF 60" COVER WITH 24" ACCESS



COUNTY OF ORANGE, OC PUBLIC WORKS DEPARTMENT

Approved

Khalid Bazmi
Khalid Bazmi, County Engineer

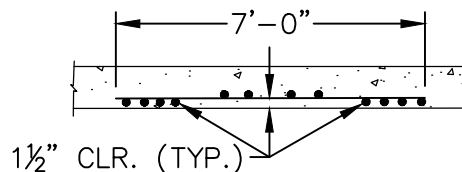
Revision: August 2018

STD. PLAN

1505

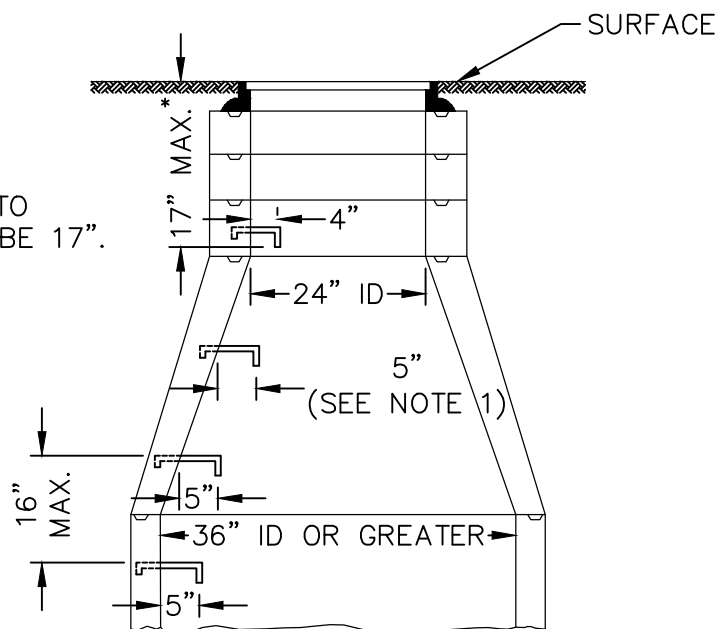
SHT. 1 OF 1

FLAT TOP MANHOLE COVERS

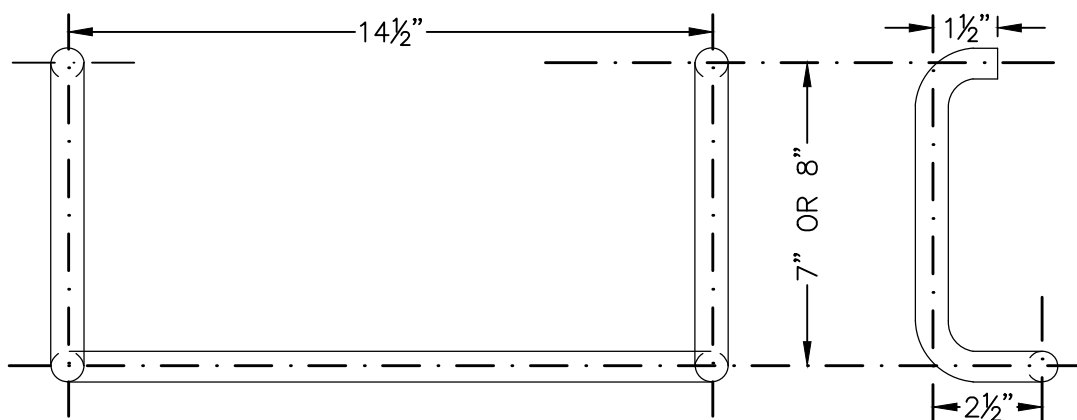


REINFORCED CONCRETE BOX MANHOLE

* THE MAXIMUM DISTANCE FROM SURFACE GRADE TO FIRST STEP THE SHALL BE 17".



TYPICAL MANHOLE



NOTES:

1. SEE STD. PLAN 1501, 1502, 1503, 1504, 1505, OR 1506 FOR MANHOLE STEP SPACING AND PLACEMENT.
2. STEPS 7 INCHES IN LENGTH SHALL BE USED IN 24 INCH ID UNITS.
STEPS 8 INCHES IN LENGTH SHALL BE USED IN 36 INCH ID UNITS.
STEPS 8 INCHES IN LENGTH SHALL BE USED IN 48 INCH ID UNITS.
3. MATERIAL SHALL BE 3/4 INCH DIA. STEEL CONFORMING TO ASTM A615 GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123.
4. STEPS SHALL HAVE A MINIMUM OF 4 INCH PROJECTION FROM POINT OF EMBEDMENT AND A MINIMUM OF 3 INCH EMBEDMENT.

COUNTY OF ORANGE, OC PUBLIC WORKS DEPARTMENT

Approved

Khalid Bazmi
Khalid Bazmi, County Engineer

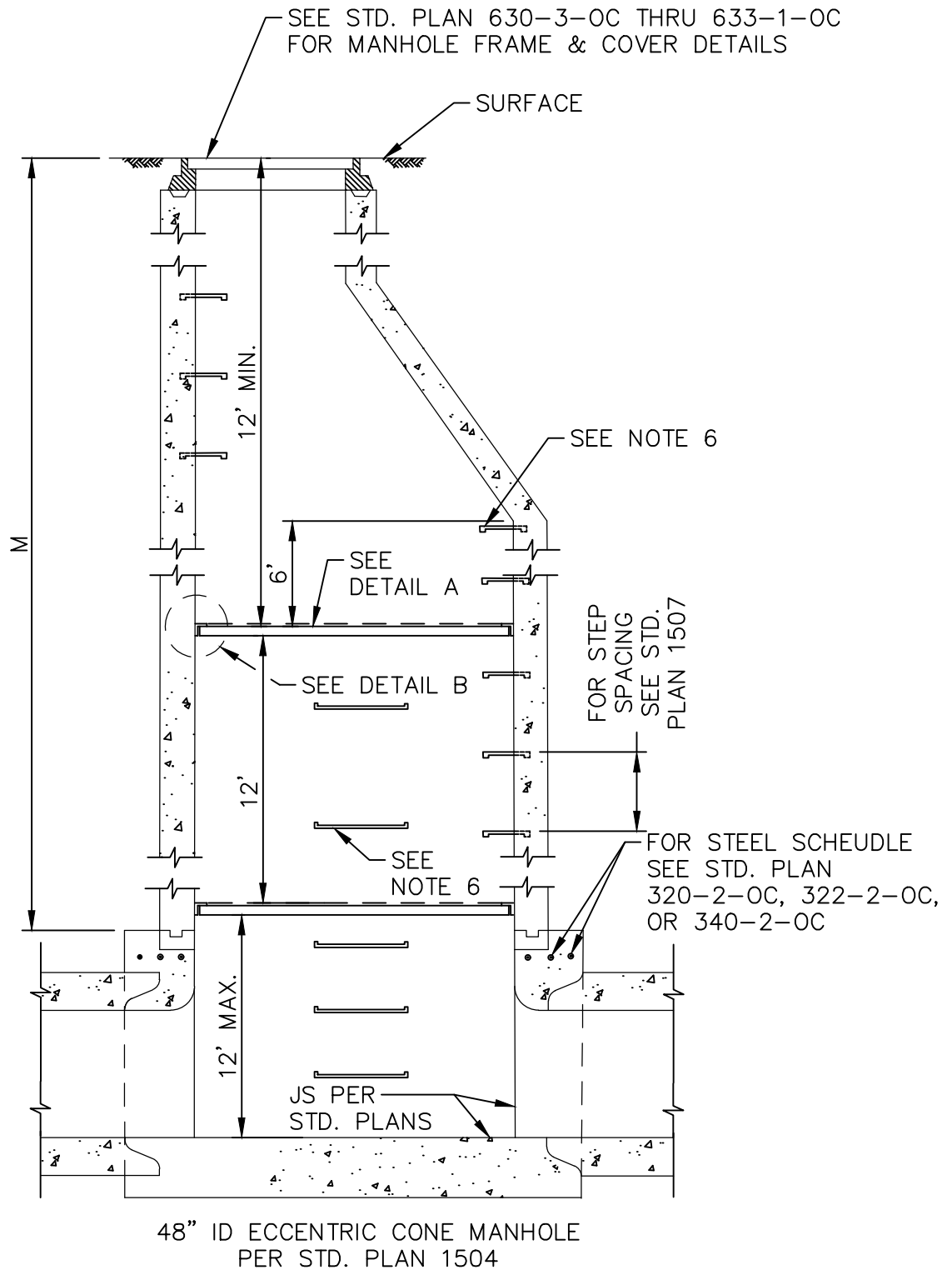
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MANHOLE STEPS

STD. PLAN

1507

SHT. 1 OF 1



COUNTY OF ORANGE, OC PUBLIC WORKS DEPARTMENT

Revision: August 2018

Approved

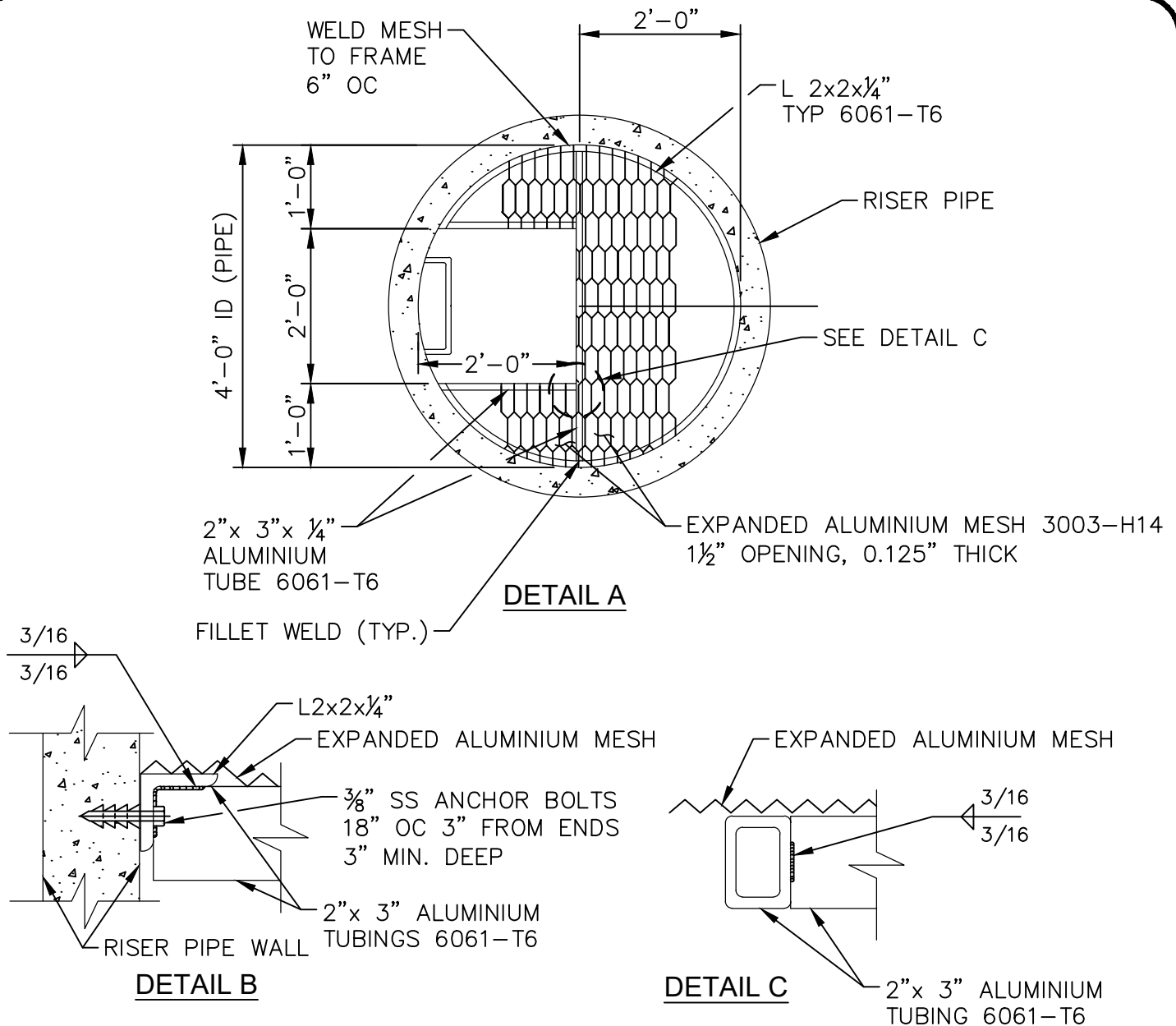
Khalid Bazmi
Khalid Bazmi, County Engineer

STD. PLAN

1508

SHT. 1 OF 2

DEEP MANHOLE LANDINGS



NOTES:

1. SPACING DIMENSIONS BETWEEN LANDINGS TO START AT BOTTOM OF HOLE.
2. ROTATE PLATFORM OPENING 90 DEGREE MINIMUM FROM OPENING BELOW.
3. WELDS TO BE HELI-ARC PER AWS SPECS.
4. FOR BASE SEE STD. PLAN 320-2-OC.
5. FOR PIPE & CONE SEE STD. PLAN 1504.
6. STEPS TO EXTEND MINIMUM FEET ABOVE LANDING FOR USE AS HANDHOLDS.
7. DESIGN LIVE LOAD : 150 PSF.

COUNTY OF ORANGE, OC PUBLIC WORKS DEPARTMENT

Approved

Khalid Bazmi
Khalid Bazmi, County Engineer

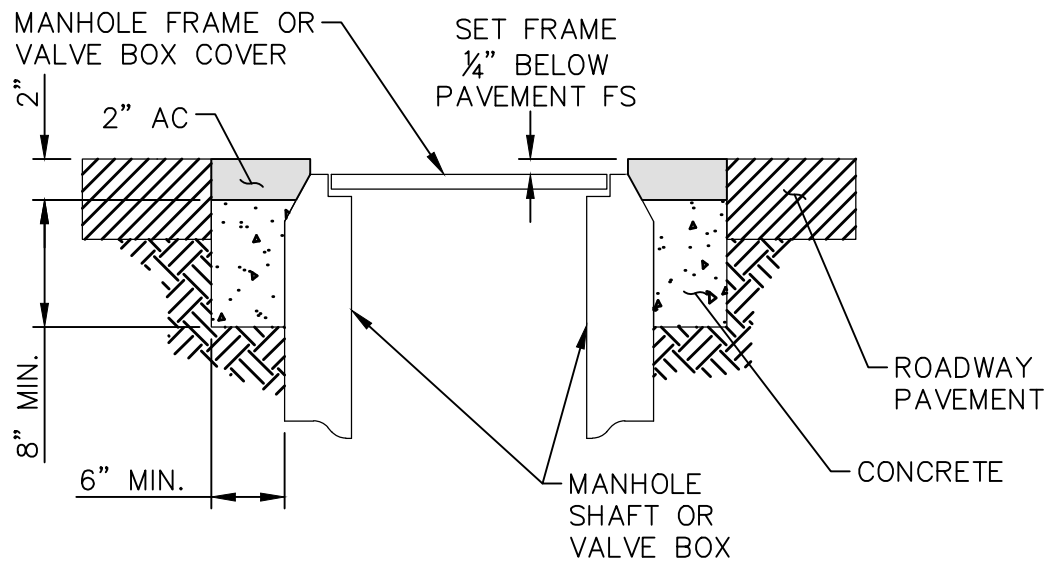
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STD. PLAN

1508

SHT. 2 OF 2

DEEP MANHOLE LANDINGS



MANHOLE / VALVE COVER

LEGEND:



EXISTING PAVEMENT



NEW PAVEMENT

NOTE:

1. FRAME AND COVER TO BE SET 1/4 INCH BELOW FINISHED SURFACE OF SURROUNDING ROADWAY PAVEMENT.

COUNTY OF ORANGE, OC PUBLIC WORKS DEPARTMENT

Approved

Khalid Bazmi
Khalid Bazmi, County Engineer

Revision: August 2018

STD. PLAN

1509

MANHOLE/VALVE COVER ADJUSTMENT TO GRADE DETAIL

SHT. 1 OF 1

