

**CITY OF CASA GRANDE
SUPPLEMENT TO
MARICOPA ASSOCIATION OF GOVERNMENTS
STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION**



2024 EDITION

100 SERIES: GENERAL INFORMATION

DETAIL	REVISED	TITLE
CG-104	6/2024	BIKE LANE SYMBOL
CG-105-1	6/2024	REFUSE AREA – GENERAL NOTES & WALL DETAIL
CG-105-2	6/2024	REFUSE AREA – FRONT LOAD (SINGLE)
CG-105-3	6/2024	REFUSE AREA – FRONT LOAD WITH REAR WASTE OIL CONTAINER
CG-105-4	6/2024	REFUSE AREA – FRONT LOAD WITH SIDE WASTE OIL CONTAINER
CG-105-5	6/2024	REFUSE AREA – FRONT LOAD (DOUBLE)
CG-105-6	6/2024	REFUSE AREA – FRONT LOAD (DOUBLE) WITH SIDE WASTE OIL CONTAINER

200 SERIES: STREET INFORMATION

DETAIL	REVISED	TITLE
CG-253-1	6/2024	RIGHT-IN/RIGHT-OUT DRIVEWAY ACCESS (WITHOUT PEDESTRIAN ISLAND/WALKWAYS)
CG-253-2	6/2024	RIGHT-IN/RIGHT-OUT DRIVEWAY ACCESS (WITH PEDESTRIAN ISLAND/WALKWAYS)
CG-253-3	6/2024	RIGHT-IN/RIGHT-OUT DRIVEWAY ACCESS (WITH DECELERATION LANE, WITHOUT PEDESTRIAN ISLAND/WALKWAYS)
CG-253-4	6/2024	RIGHT-IN/RIGHT-OUT DRIVEWAY ACCESS (WITH DECELERATION LANE AND PEDESTRIAN ISLAND/WALKWAYS)
CG-253-5	6/2024	RIGHT-IN/RIGHT-OUT DRIVEWAY WITH LEFT-IN ACCESS (WITHOUT PEDESTRIAN ISLAND/WALKWAYS)
CG-253-6	6/2024	RIGHT-IN/RIGHT-OUT DRIVEWAY WITH LEFT-IN ACCESS (WITH PEDESTRIAN ISLAND/WALKWAYS)
CG-254-1	6/2024	DECCELERATION LANE
CG-255-1	6/2024	PRINCIPAL ARTERIAL INTERSECTION, RIGHT-OF-WAY, STREET DIMENSIONS

200 SERIES: STREET INFORMATION CONTINUED

DETAIL	REVISED	TITLE
CG-255-2	6/2024	PRINCIPAL ARTERIAL (DUAL LEFT) INTERSECTION, RIGHT-OF-WAY, STREET DIMENSIONS
CG-255-3	6/2024	MINOR ARTERIAL INTERSECTION, RIGHT-OF-WAY, STREET DIMENSIONS
CG-256-1	4/2024	ACCESSIBLE PARKING SPACE – PERPENDICULAR SPACES
CG-257-1	4/2024	SCHOOL ZONES AND CROSSWALKS – TRAFFIC CONTROL
CG-257-2	4/2024	SCHOOL ZONES AND CROSSWALKS – CROSSWALK DETAIL
CG-258-1	6/2024	PEDESTRIAN PUSH BUTTON POLE DETAILS
CG-258-2	6/2024	PEDESTRIAN PUSH BUTTON POLE PLACEMENT
CG-261	3/2024	SIGHT DISTANCE TRIANGLES
CG-273	6/2024	CURB MARKINGS FOR RAISED MEDIAN & MEDIAN ISLANDS
CG-274	6/2024	RAISED PAVEMENT MARKER DETAILS
CG-280-1	1/2024	LOCAL PAVEMENT SECTION
CG-280-2	1/2024	ARTERIAL PAVEMENT SECTION
CG-281-1	1/2024	URBAN LOCAL STREET TYPICAL CROSS SECTION – PARKING ALLOWED
CG-281-2	1/2024	URBAN LOCAL STREET TYPICAL CROSS SECTION – PARKING NOT ALLOWED
CG-281-3	1/2024	RURAL LOCAL STREET TYPICAL CROSS SECTION
CG-282-1	1/2024	MINOR COLLECTOR TYPICAL CROSS SECTION
CG-283-1	1/2024	MAJOR COLLECTOR TYPICAL CROSS SECTION
CG-283-2	1/2024	MAJOR COLLECTOR TYPICAL CROSS SECTION (ALTERNATE)
CG-284-1	1/2024	MINOR ARTERIAL STREET TYPICAL CROSS SECTION
CG-284-2	1/2024	MINOR ARTERIAL STREET WITH RAISED MEDIAN
CG-285-1	1/2024	PRINCIPAL ARTERIAL TYPICAL CROSS SECTION – HALF STREET SECTION
CG-285-2	1/2024	PRINCIPAL ARTERIAL TYPICAL CROSS SECTION – INTERIM BUILD-OUT
CG-285-3	1/2024	PRINCIPAL ARTERIAL TYPICAL CROSS SECTION – FINAL BUILD-OUT

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SHEET INDEX & ORDER

Sheet 1 of 2



Standard Details

Detail No.
CG-101-1

300 SERIES: WATER INFORMATION (COPPER MOUNTAIN RANCH WATER SYSTEM ONLY)

DETAIL REVISED TITLE

CG-360-1	6/2024	FIRE HYDRANT STANDARD INSTALLATION AND GRADE ADJUSTMENT
CG-360-2	6/2024	FIRE HYDRANT INSTALLATION DETAILS
CG-360-3	6/2024	VALVE BOX STANDARD INSTALLATION AND GRADE ADJUSTMENT
CG-362	6/2024	FIRE HYDRANT LOCATIONS

400 SERIES: SEWER INFORMATION

DETAIL REVISED TITLE

CG-423-1	4/2024	24" SANITARY SEWER MANHOLE COVER
CG-423-2	6/2024	30" SANITARY SEWER MANHOLE COVER
CG-423-3	6/2024	24" STORM SEWER MANHOLE COVER
CG-423-4	6/2024	30" STORM SEWER MANHOLE COVER

500 SERIES: IRRIGATION & STORM DRAIN INFORMATION

DETAIL REVISED TITLE

CG-543	6/2024	STORM DRAIN INLET MARKERS
CG-550-1	6/2024	DRAINAGE SCUPPERS AND SPILLWAYS – CONCRETE SCUPPER
CG-550-2	6/2024	DRAINAGE SCUPPERS AND SPILLWAYS – CONCRETE SCUPPER
CG-550-3	6/2024	DRAINAGE SCUPPERS AND SPILLWAYS – CONCRETE SPILLWAY & EROSION CONTROL

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SHEET INDEX & ORDER



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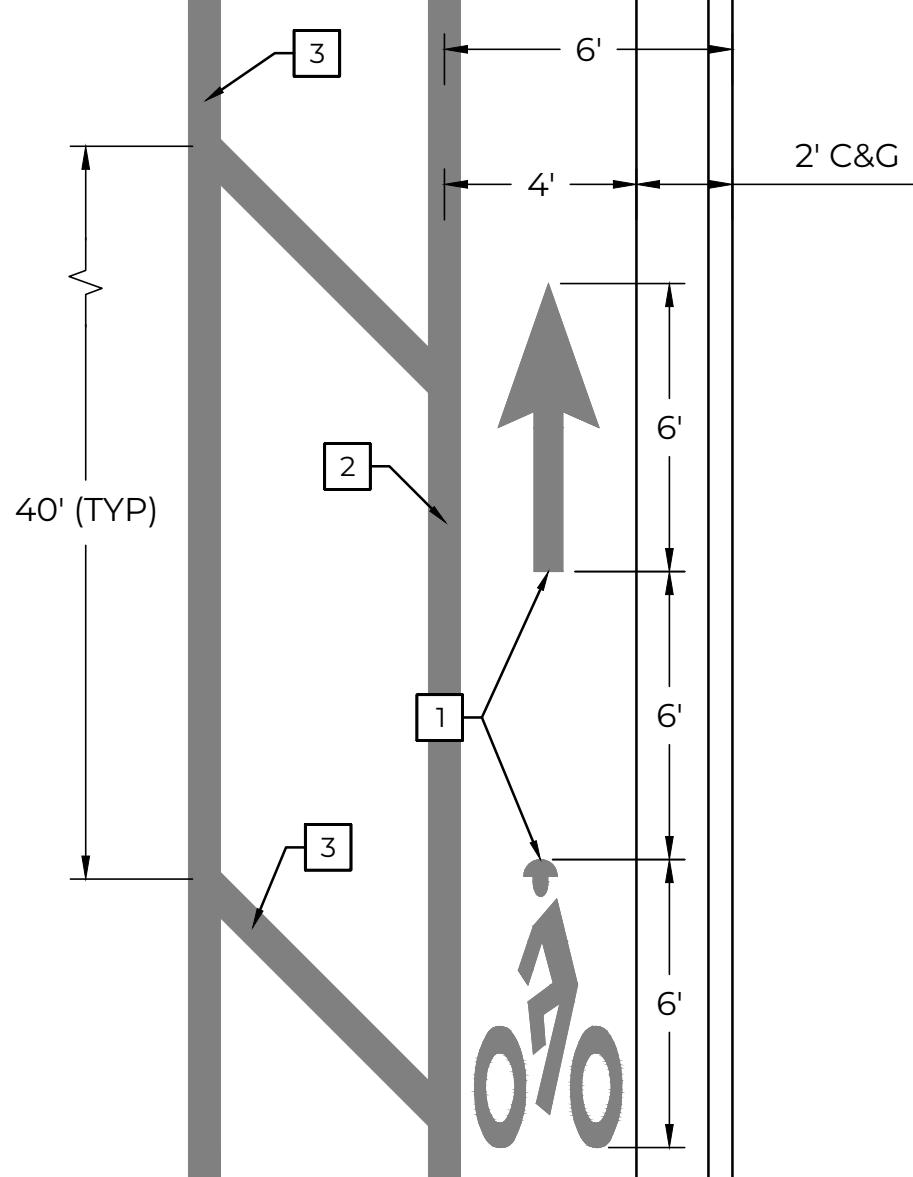
Sheet 2 of 2

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7/23/24
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Standard Details

**Detail No.
CG-101-2**



KEYNOTES

- [1] BIKE LANE SYMBOL & ARROW PER MUTCD FIGURE 9C-3(B)
- [2] 8" MINIMUM THERMOPLASTIC WHITE STRIPE TO DELINEATE BIKE LANE
- [3] WHERE A GAP OF MORE THAN 2' EXISTS BETWEEN BIKE LANE AND TRAFFIC LANE, STRIPE CHEVRONS 40' APART

GENERAL NOTES

1. ALL STRIPING AND MARKINGS SHALL BE THERMOPLASTIC WHITE WITH A MINIMUM THICKNESS OF 60 MILS (0.06")
2. 6' BIKE LANE INCLUDES WIDTH OF 2' CURB & GUTTER.

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BIKE LANE SYMBOL

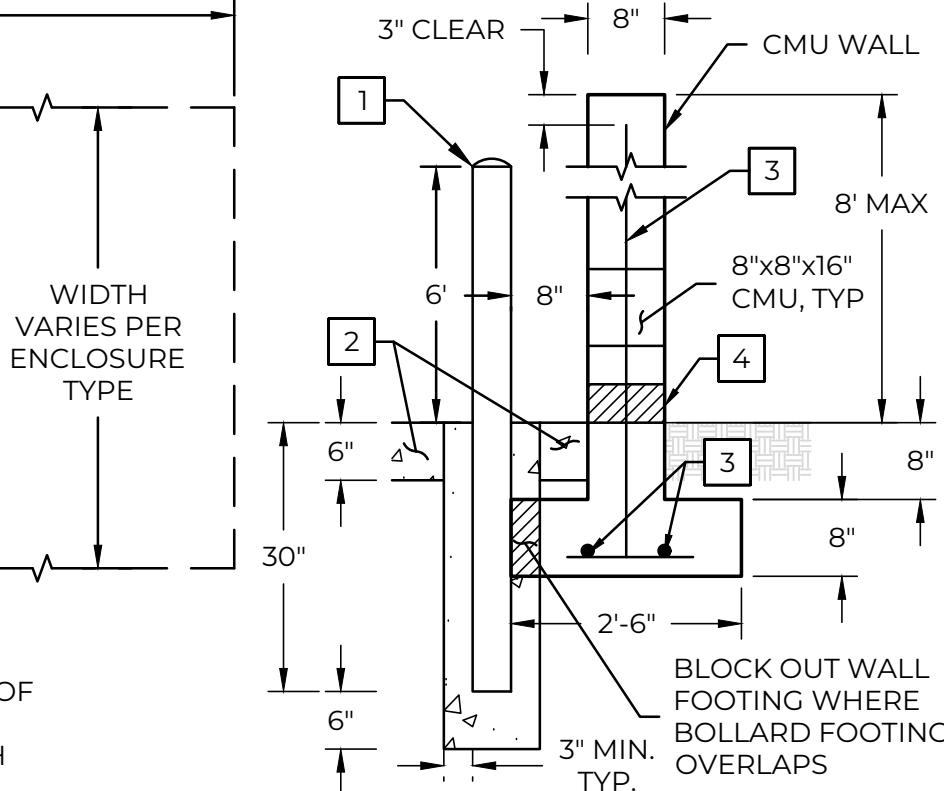
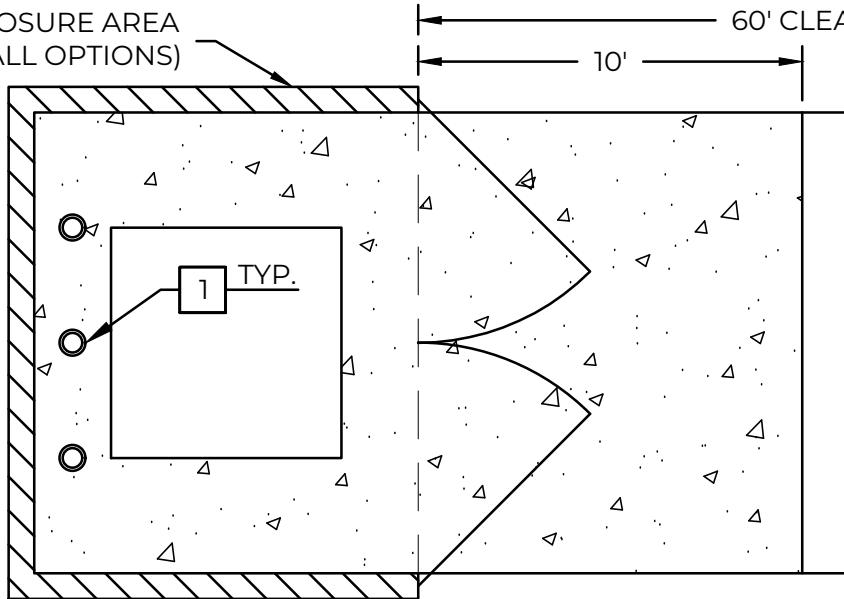


Standard Details

Detail No.

CG-104

ENCLOSURE AREA
(ALL OPTIONS)



GENERAL NOTES:

- 60' AREA IN FRONT OF THE REFUSE ENCLOSURE TO BE LEFT CLEAR OF OBSTRUCTIONS. THIS AREA INCLUDES THE 10' CONCRETE APRON.
- 22' OF UNOBSTRUCTED VERTICAL CLEARANCE IN THE DRIVING PATH REQUIRED.
- 30' OF UNOBSTRUCTED VERTICAL CLEARANCE ABOVE THE ENCLOSED REFUSE AREA REQUIRED.
- GATES MUST BE MOUNTED ON THE OUTSIDE OF THE ENCLOSURE.
- ALL GATES WILL BE REQUIRED TO HAVE GATE PINS AND HOLES DRILLED IN THE CONCRETE PAD TO SECURE THEM IN THE OPEN AND CLOSED POSITION.
- AFTER APPROVAL AND PRIOR TO CONSTRUCTION, MARK FOOTING & WALL LOCATIONS ON THE GROUND AND CALL SOLID WASTE AT 520-421-8625 FOR PRE-POUR INSPECTIONS.
- CONTACT SOLID WASTE DIVISION AT 520-421-2625, EXT. 4700 FOR ORIENTATION OF ENCLOSURE.

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REFUSE AREA

GENERAL NOTES & WALL DETAIL

KEYNOTES

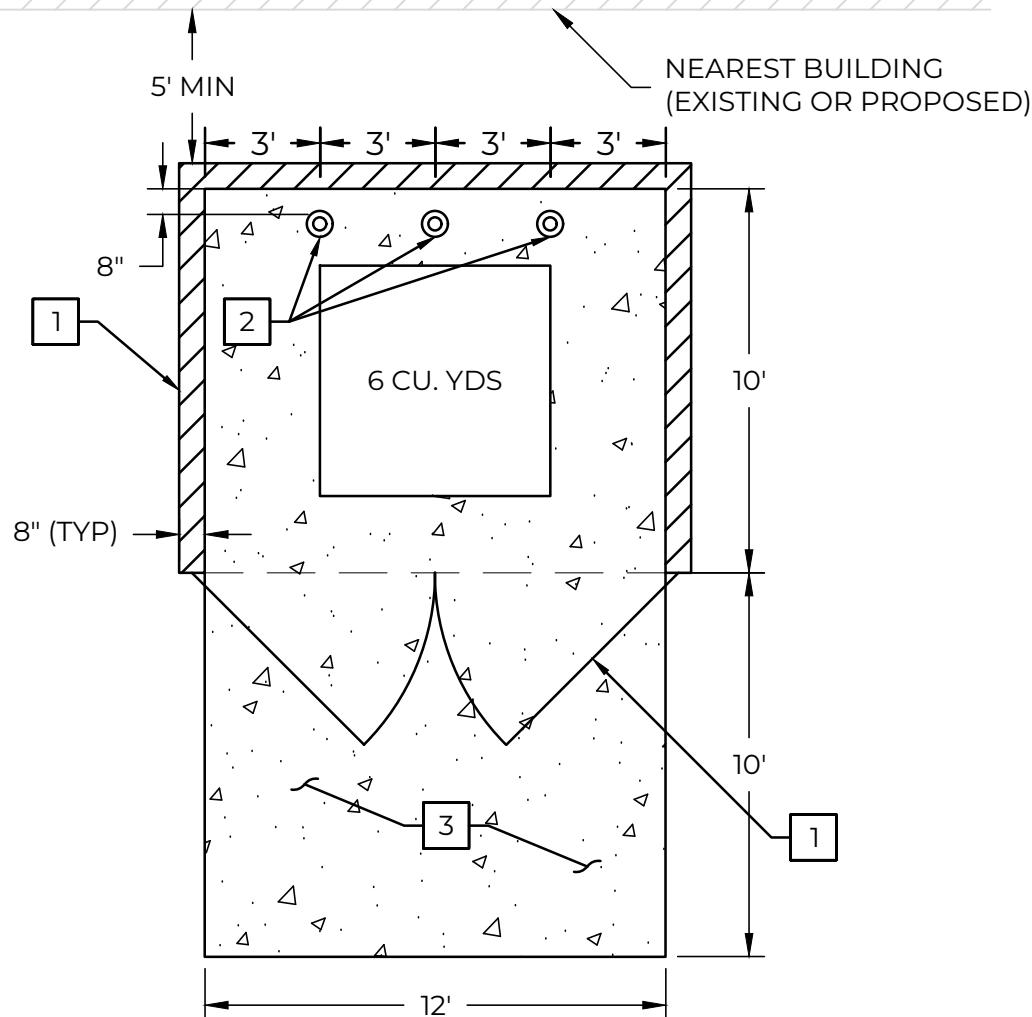
- 1 PERMANENT SAFETY BOLLARD PER MAG STD DTL 140, TYPE 1, 4" DIAMETER
- 2 6" THICK REINFORCED CONCRETE PAD. CLASS "A" CONCRETE PER MAG SECTION 725
- 3 CMU WALL. #4 BARS AT 8" O.C. IN GROUTED CELLS, FULL HEIGHT. 2-#4 BARS CONTINUOUS IN FOOTING
- 4 PROVIDE 4"x4" OPENING AT LOW POINT WHERE FLOOR SLOPES BACK BEHIND BIN RECEPTACLE



Standard Details

Detail No.

CG-105-1



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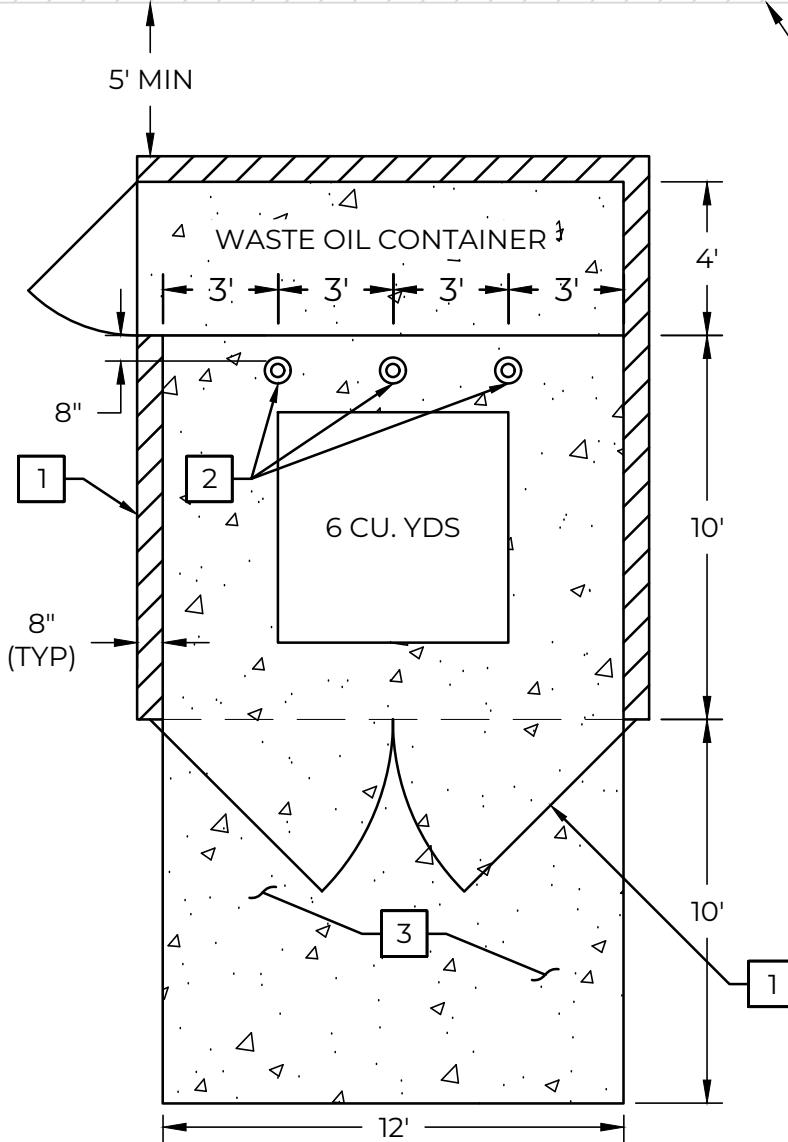
REFUSE AREA

FRONT LOAD (SINGLE)

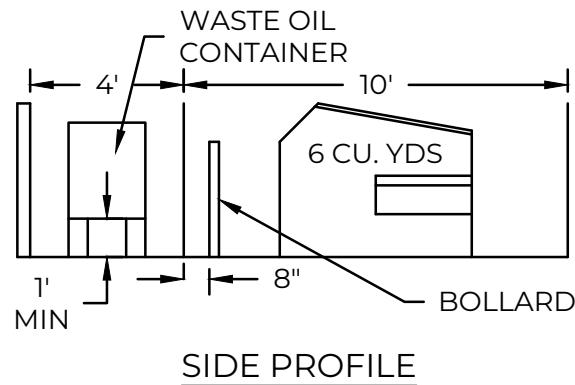


Standard Details

**Detail No.
CG-105-2**



NEAREST BUILDING
(EXISTING OR PROPOSED)



KEYNOTES

- [1] ENCLOSURE CMU WALL AND GATE PER CITY OF CASA GRANDE STD DTL CG-105-1
- [2] PERMANENT SAFETY BOLLARD PER MAG STD DTL 140, TYPE 1
- [3] 6" THICK REINFORCED CONCRETE PAD. CLASS "A" CONCRETE PER MAG SECTION 725

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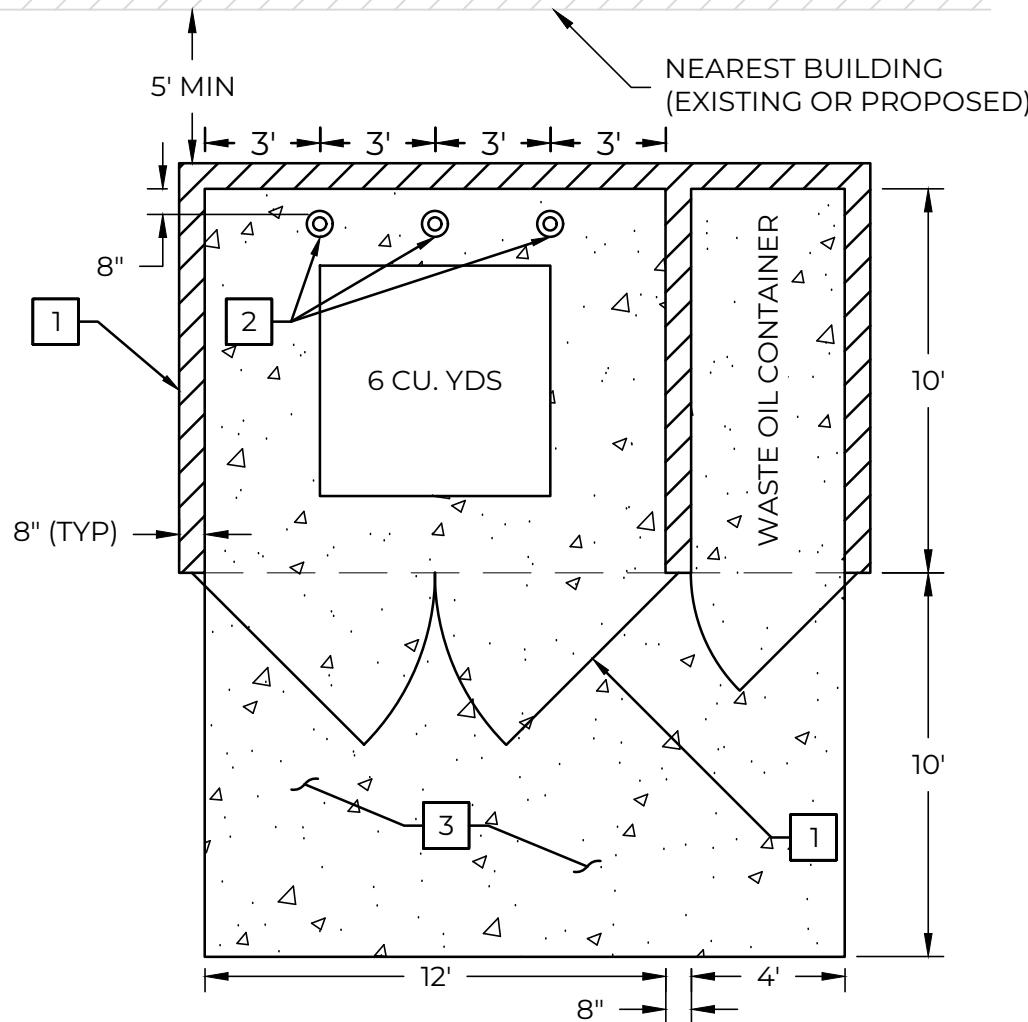
REFUSE AREA

**FRONT LOAD WITH REAR WASTE OIL
CONTAINER**



Standard Details

**Detail No.
CG-105-3**



KEYNOTES

- 1 ENCLOSURE CMU WALL AND GATE PER CITY OF CASA GRANDE STD DTL CG-105-1
- 2 PERMANENT SAFETY BOLLARD PER MAG STD DTL 140, TYPE 1
- 3 6" THICK REINFORCED CONCRETE PAD. CLASS "A" CONCRETE PER MAG SECTION 725

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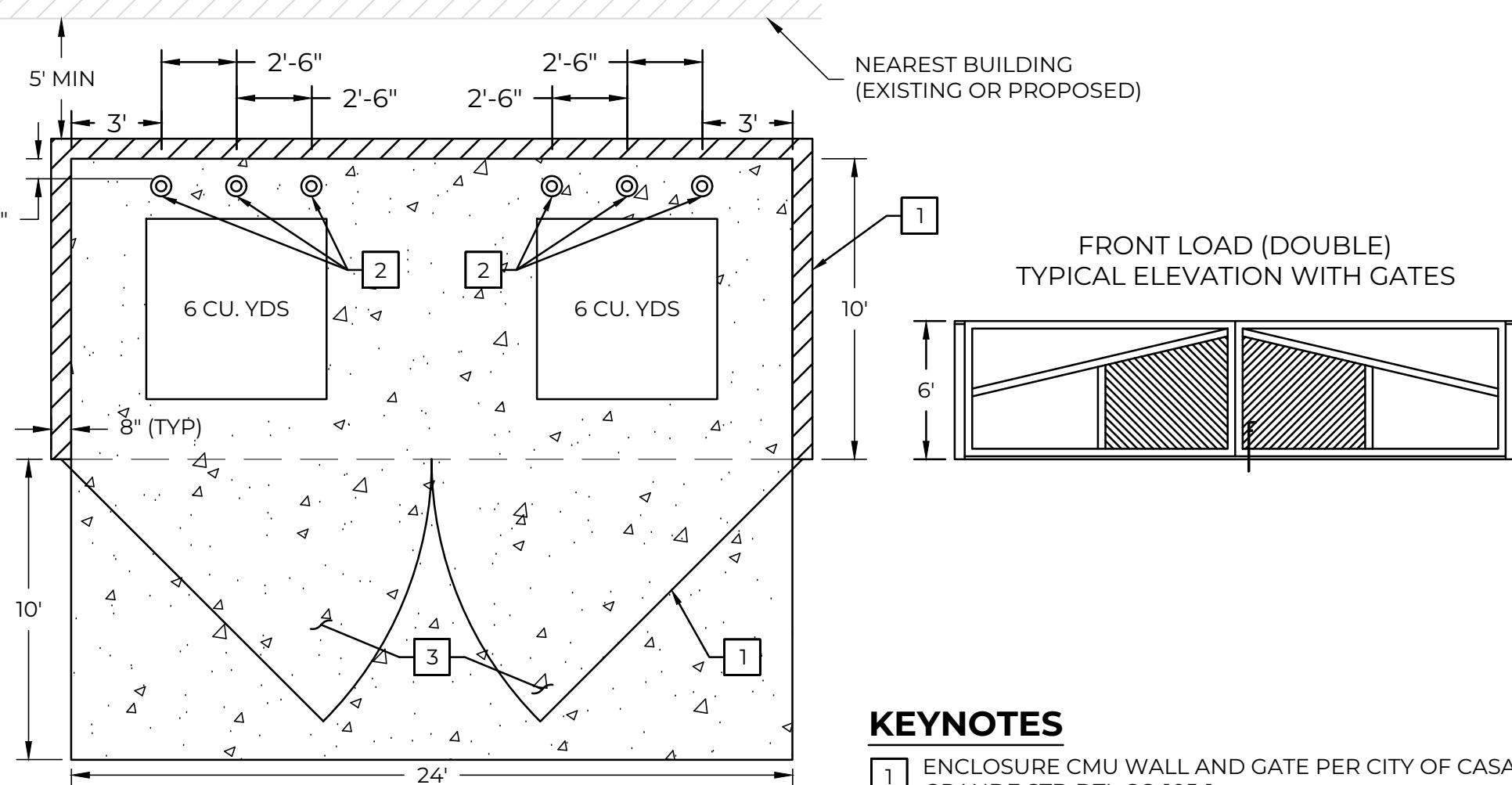
REFUSE AREA

**FRONT LOAD WITH SIDE WASTE OIL
CONTAINER**



Standard Details

**Detail No.
CG-105-4**



KEYNOTES

- 1 ENCLOSURE CMU WALL AND GATE PER CITY OF CASA
GRANDE STD DTL CG-105-1
- 2 PERMANENT SAFETY BOLLARD PER MAG STD DTL 140,
TYPE 1
- 3 6" THICK REINFORCED CONCRETE PAD. CLASS "A"
CONCRETE PER MAG SECTION 725

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REFUSE AREA

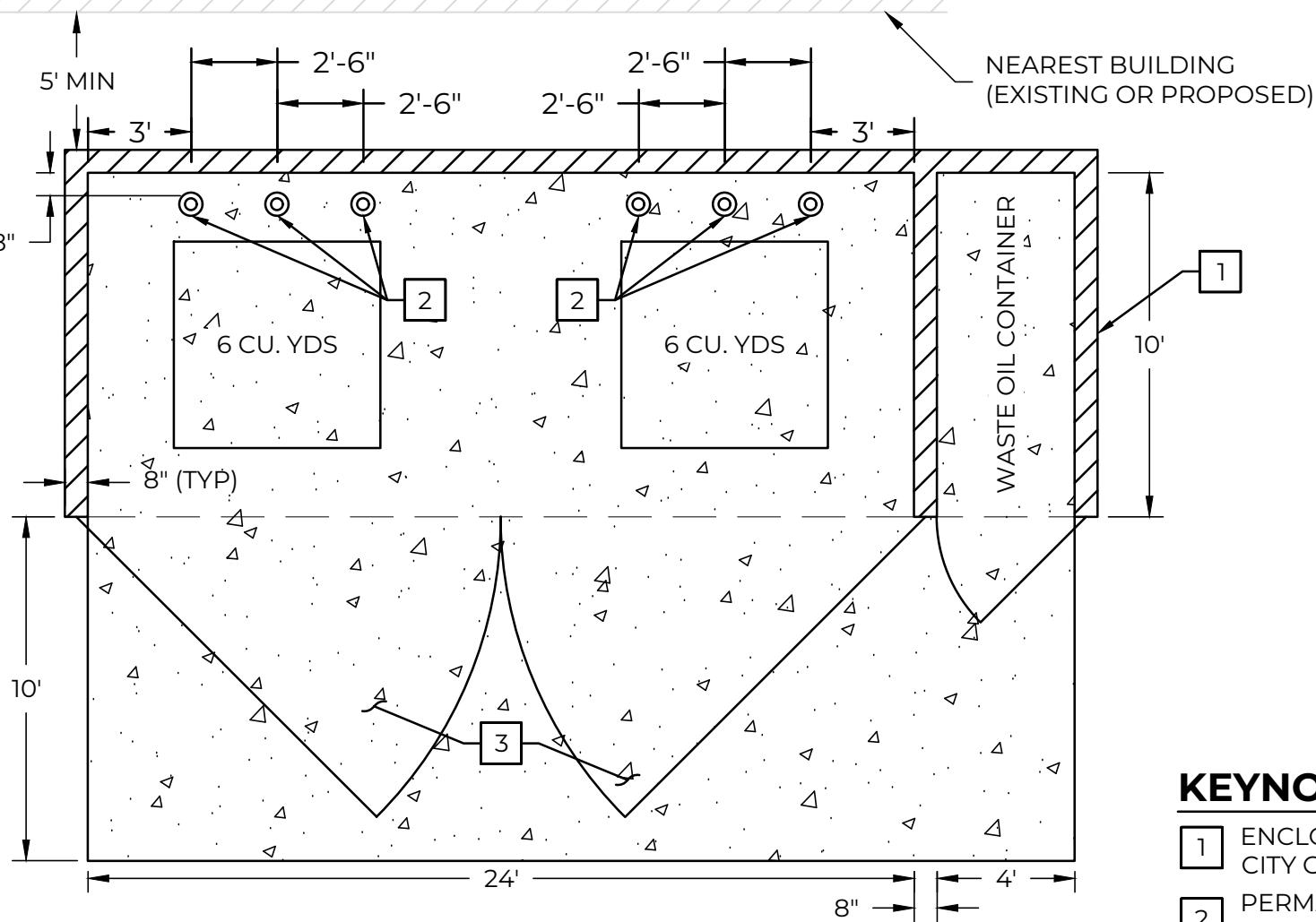
FRONT LOAD (DOUBLE)



CITY OF CASA GRANDE STRONGER UNITED

Standard Details

Detail No.
CG-105-5



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REFUSE AREA

FRONT LOAD (DOUBLE) WITH SIDE WASTE
OIL CONTAINER



Standard Details

Detail No.
CG-105-6

12' LANE

MAINTAIN EXISTING BIKE LANE
(4' MIN, IF APPLICABLE)

2

EXISTING ROAD

EDGE OF PAVEMENT
OR BACK OF CURB

12' LANE

46'

40'

46'

R2'

R2'

MATCH EXISTING
CURB & GUTTER (TYP)

2' CURB

R66'

R50'

14'

14'

R2'

R66'

R50'

4" YELLOW STRIPING

2' CURB

28'

2' CURB

24" WHITE
THERMOPLASTIC
STOP BAR

SIGNS



R1-1
STOP
48"x48"



R3-2
NO LEFT TURN
24"X24"



R4-7
KEEP RIGHT
24"x30"



R3-5R
RIGHT TURN ONLY
30"x36"

GENERAL NOTES

1. DIMENSIONS AND RADII SHOWN ARE TO BACK OF CURB.
2. VERTICAL CURBS & GUTTER PER MAG STD DTL 220, TYPE A.
3. ISLAND CURBING TO BE SINGLE CURB PER MAG STD DTL 222 TYPE A
4. SIGNS TO BE MOUNTED ON A PERFORATED 2-1/2" SQUARE TUBE POST ATTACHED TO A CONCRETE FOUNDATION.
5. SIGN HEIGHT TO BE 7' FROM PAVEMENT TO BOTTOM OF SIGN.
6. YELLOW REFLECTIVE RAISED PAVEMENT MARKERS TO BE AFFIXED TOP OF CURB AT ISLAND NOSE AND 2' SPACING EACH SIDE AT ALL 3 CORNERS.

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TYPICAL RIGHT-IN/RIGHT-OUT DRIVeway ACCESS

WITHOUT PEDESTRIAN
ISLAND & WALKWAYS



CITY OF
CASA GRANDE
STRONGER UNITED

Standard Details

Detail No.
CG-253-1

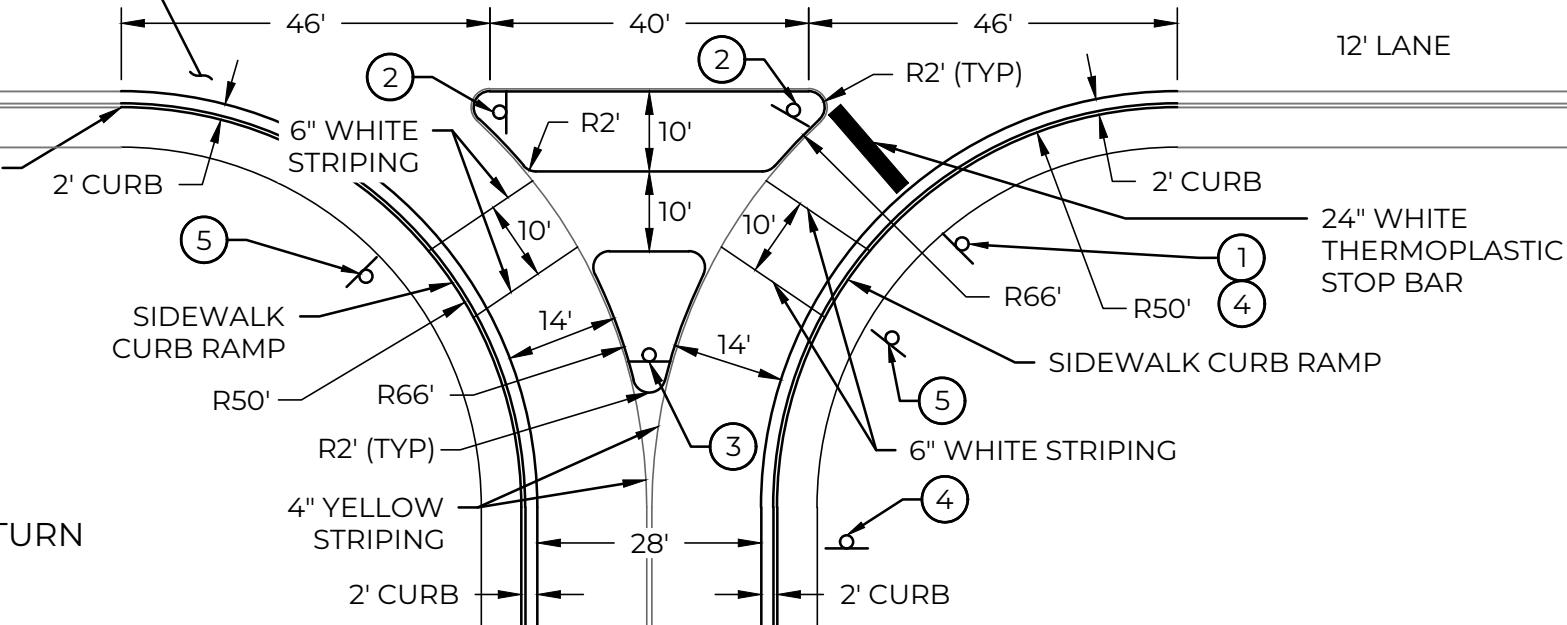
MAINTAIN EXISTING BIKE LANE
(4' MIN, IF APPLICABLE)

EXISTING ROAD

EDGE OF PAVEMENT
OR BACK OF CURB

12' LANE

MATCH EXISTING
CURB & GUTTER (TYP)



SIGNS

(1) R1-1
STOP
48"x48"

(2) R3-2
NO LEFT TURN
24"X24"

(3) R4-7
KEEP RIGHT
24"x30"

(4) R3-5R
RIGHT TURN ONLY
30"x36"

(5) R1-5
YIELD HERE TO PEDS
36"x36"

GENERAL NOTES

1. DIMENSIONS AND RADII SHOWN ARE TO BACK OF CURB.
2. VERTICAL CURBS & GUTTER PER MAG STD DTL 220, TYPE A.
3. RADIAL PARALLEL CURB RAMP PER MAG STD DTL 236-5
4. ISLAND CURBING TO BE SINGLE CURB PER MAG STD DTL 222 TYPE A

5. SIGNS TO BE MOUNTED ON A PERFORATED 2-1/2" SQUARE TUBE POST ATTACHED TO A CONCRETE FOUNDATION.
6. SIGN HEIGHT TO BE 7' FROM PAVEMENT TO BOTTOM OF SIGN.
7. YELLOW REFLECTIVE RAISED PAVEMENT MARKERS TO BE AFFIXED TOP OF CURB AT ISLAND NOSE AND 2' SPACING EACH SIDE AT ALL 3 CORNERS.
8. TRANSVERSE CROSSWALK STRIPING TO BE 6" WIDE THERMOPLASTIC WHITE

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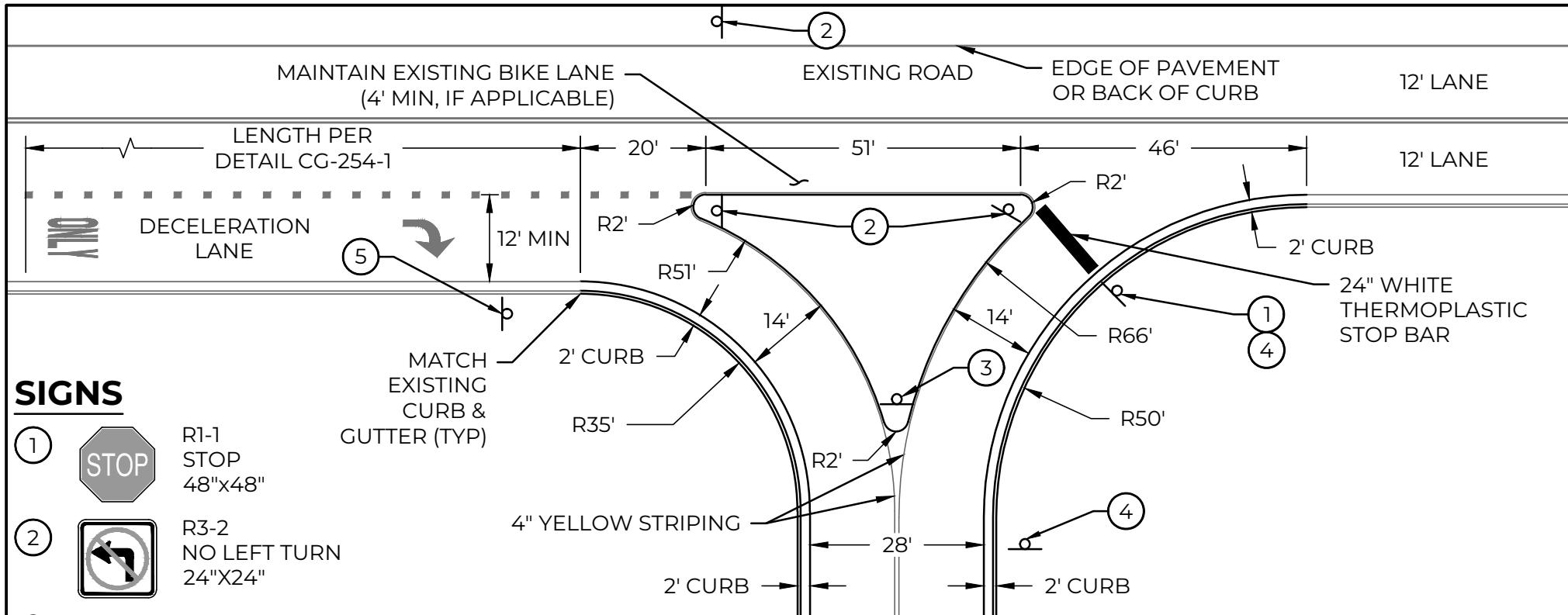
TYPICAL RIGHT-IN/RIGHT-OUT DRIVeway ACCESS

WITH PEDESTRIAN
ISLAND & WALKWAYS



Standard Details

Detail No.
CG-253-2



SIGNS

(1)		R1-1 STOP 48"x48"
(2)		R3-2 NO LEFT TURN 24"X24"
(3)		R4-7 KEEP RIGHT 24"x30"
(4)		R3-5R RIGHT TURN ONLY 30"x36"
(5)		R3-7R RIGHT LANE MUST TURN RIGHT 30"x30"

GENERAL NOTES

1. DIMENSIONS AND RADII SHOWN ARE TO BACK OF CURB.
2. VERTICAL CURBS & GUTTER PER MAG STD DTL 220, TYPE A.
3. ISLAND CURBING TO BE SINGLE CURB PER MAG STD DTL 222 TYPE A
4. SIGNS TO BE MOUNTED ON A PERFORATED 2-1/2" SQUARE TUBE POST ATTACHED TO A CONCRETE FOUNDATION.
5. SIGN HEIGHT TO BE 7' FROM PAVEMENT TO BOTTOM OF SIGN.
6. YELLOW REFLECTIVE RAISED PAVEMENT MARKERS TO BE AFFIXED TOP OF CURB AT ISLAND NOSE AND 2' SPACING EACH SIDE AT ALL 3 CORNERS.

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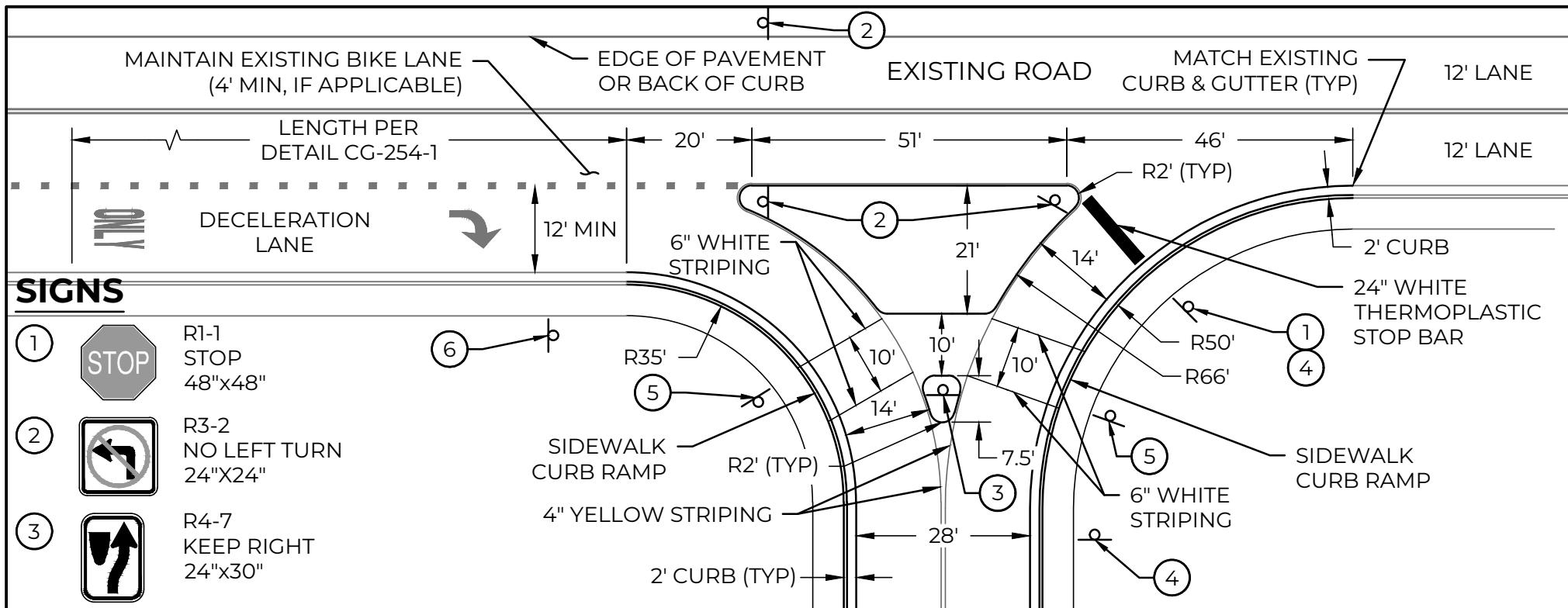
TYPICAL RIGHT-IN/RIGHT-OUT DRIVEWAY ACCESS

WITH DECELERATION LANE, WITHOUT
PEDESTRIAN ISLAND & WALKWAYS



Standard Details

Detail No.
CG-253-3



GENERAL NOTES

1. DIMENSIONS AND RADII SHOWN ARE TO BACK OF CURB.
2. VERTICAL CURBS & GUTTER PER MAG STD DTL 220, TYPE A.
3. RADIAL PARALLEL CURB RAMP PER MAG STD DTL 236-5
4. ISLAND CURBING TO BE SINGLE CURB PER MAG STD DTL 222 TYPE A

5. SIGNS TO BE MOUNTED ON A PERFORATED 2-1/2" SQUARE TUBE POST ATTACHED TO A CONCRETE FOUNDATION.
6. SIGN HEIGHT TO BE 7' FROM PAVEMENT TO BOTTOM OF SIGN.
7. YELLOW REFLECTIVE RAISED PAVEMENT MARKERS TO BE AFFIXED TOP OF CURB AT ISLAND NOSE AND 2' SPACING EACH SIDE AT ALL 3 CORNERS.
8. TRANSVERSE CROSSWALK STRIPING TO BE 6" WIDE THERMOPLASTIC WHITE

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7/23/24

DATE

TYPICAL RIGHT-IN/RIGHT-OUT DRIVEWAY ACCESS

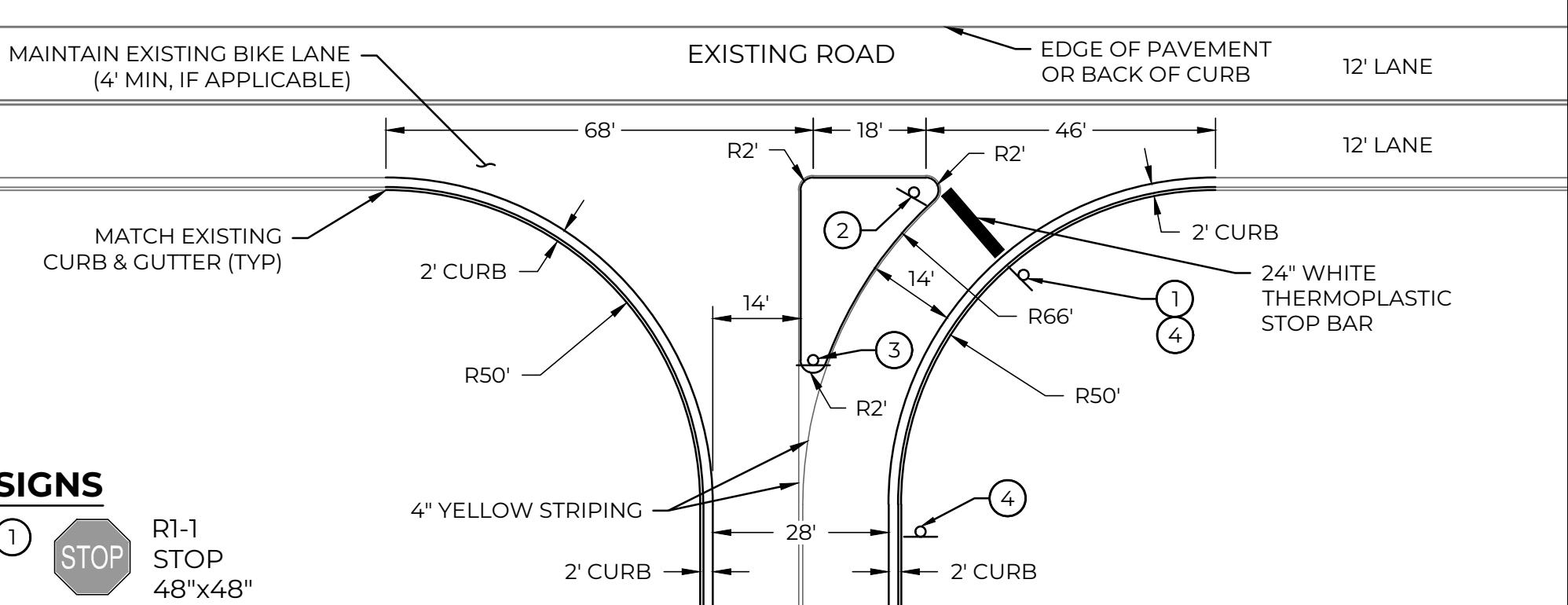
WITH DECELERATION LANE AND
PEDESTRIAN ISLAND & WALKWAYS



Standard Details

Detail No.

CG-253-4



SIGNS

(1)		R1-1 STOP 48"x48"
(2)		R3-2 NO LEFT TURN 24"x24"
(3)		R4-7 KEEP RIGHT 24"x30"
(4)		R3-5R RIGHT TURN ONLY 30"x36"

GENERAL NOTES

1. DIMENSIONS AND RADII SHOWN ARE TO BACK OF CURB.
2. VERTICAL CURBS & GUTTER PER MAG STD DTL 220, TYPE A.
3. ISLAND CURBING TO BE SINGLE CURB PER MAG STD DTL 222 TYPE A
4. SIGNS TO BE MOUNTED ON A PERFORATED 2-1/2" SQUARE TUBE POST ATTACHED TO A CONCRETE FOUNDATION.
5. SIGN HEIGHT TO BE 7' FROM PAVEMENT TO BOTTOM OF SIGN.
6. YELLOW REFLECTIVE RAISED PAVEMENT MARKERS TO BE AFFIXED TOP OF CURB AT ISLAND NOSE AND 2' SPACING EACH SIDE AT ALL 3 CORNERS.

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TYPICAL RIGHT-IN/RIGHT-OUT DRIVEWAY WITH LEFT-IN ACCESS

**WITHOUT PEDESTRIAN
ISLAND & WALKWAYS**



Standard Details

Detail No.
CG-253-5

MAINTAIN EXISTING BIKE LANE
(4' MIN, IF APPLICABLE)

12' LANE

EXISTING ROAD

EDGE OF PAVEMENT
OR BACK OF CURB

12' LANE

6" WHITE
STRIPING

MATCH EXISTING
CURB & GUTTER (TYP)

2' CURB

SIDEWALK
CURB RAMP

R2'
(TYP)

5

16'

10'

CROSSWALK

R66'

14'

28'

4" YELLOW
STRIPING

R2'
(TYP)

3

10'

2' CURB

2' CURB

2' CURB

2)

1

4

2' CURB

24" WHITE
THERMOPLASTIC
STOP BAR

SIGNS



R1-1
STOP
48"x48"



R3-2
NO LEFT TURN
24"X24"



R4-7
KEEP RIGHT
24"x30"



R3-5R
RIGHT TURN ONLY
30"x36"



R1-5
YIELD HERE TO PEDS
36"x36"

GENERAL NOTES

1. DIMENSIONS AND RADII SHOWN ARE TO BACK OF CURB.
2. VERTICAL CURBS & GUTTER PER MAG STD DTL 220, TYPE A.
3. RADIAL PARALLEL CURB RAMP PER MAG STD DTL 236-5
4. ISLAND CURBING TO BE SINGLE CURB PER MAG STD DTL 222 TYPE A

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8. TRANSVERSE CROSSWALK STRIPING TO BE 6" WIDE THERMOPLASTIC WHITE

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7/23/24

CITY ENGINEER

DATE

TYPICAL RIGHT-IN/RIGHT-OUT DRIVEWAY WITH LEFT-IN ACCESS

WITH PEDESTRIAN
ISLAND & WALKWAYS

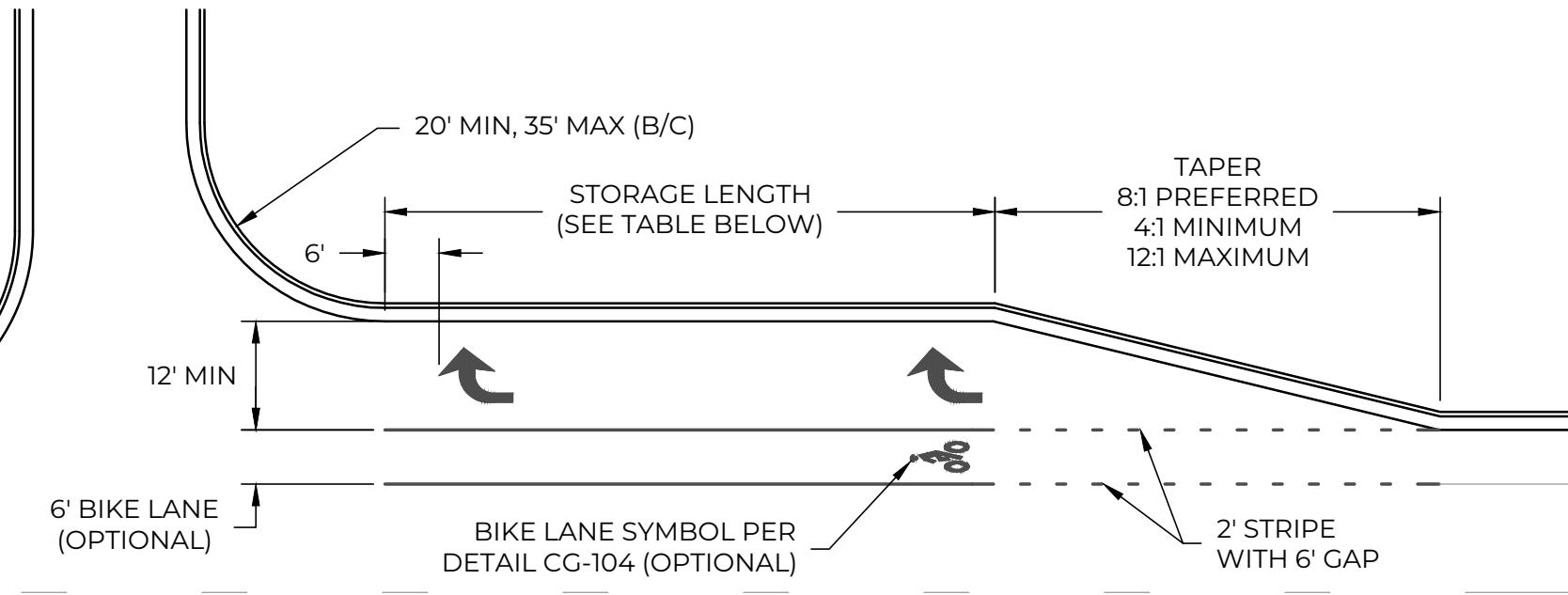


CITY OF
CASA GRANDE
STRONGER UNITED

Standard Details

Detail No.

CG-253-6



GENERAL NOTES

- LANDSCAPING SHALL BE PER CITY LANDSCAPING DESIGN OF RIGHTS-OF-WAY, MEDIANS, AND RETENTION BASINS TECHNICAL DESIGN MANUAL, AND SHALL COMPLY WITH SIGHT DISTANCE REQUIREMENTS SET FORTH IN DETAIL CG-261
- EXEMPTIONS TO THE MINIMUM REQUIREMENTS MAY BE GRANTED BY THE CITY ENGINEER DUE TO SPACE CONSTRAINTS OR ON A CASE-BY-CASE BASIS
-

MINIMUM STORAGE LENGTH (NOT INCLUDING TAPER)

PRIMARY STREET CLASSIFICATION	DETAIL	PERPENDICULAR STREET CLASSIFICATION				
		DRIVEWAY/ LOCAL ST	MINOR COLLECTOR	MAJOR COLLECTOR	MINOR ARTERIAL	PRINCIPAL ARTERIAL
MINOR COLLECTOR	CG-282	80'	100'	120'	160'	160'
MAJOR COLLECTOR	CG-283	100'	120'	120'	160'	160'
MINOR ARTERIAL	CG-284	100'	120'	120'	160'	160'
PRINCIPAL ARTERIAL	CG-285	100'	160'	160'	160'	160'

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4/2024

APPROVED

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7/23/24

CITY ENGINEER

DATE

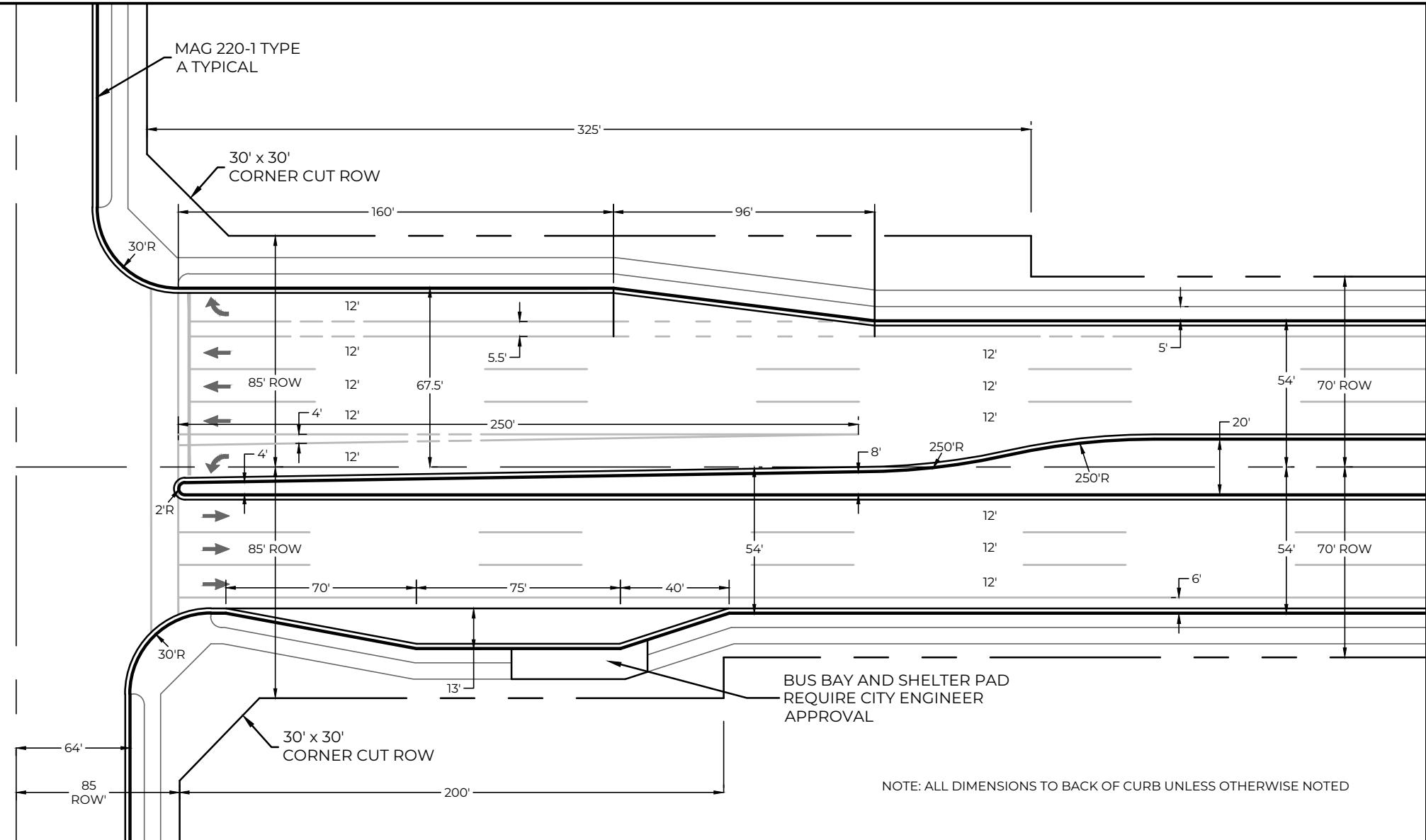
DECCELERATION LANE

RIGHT TURNS



Standard Details

Detail No.
CG-254-1



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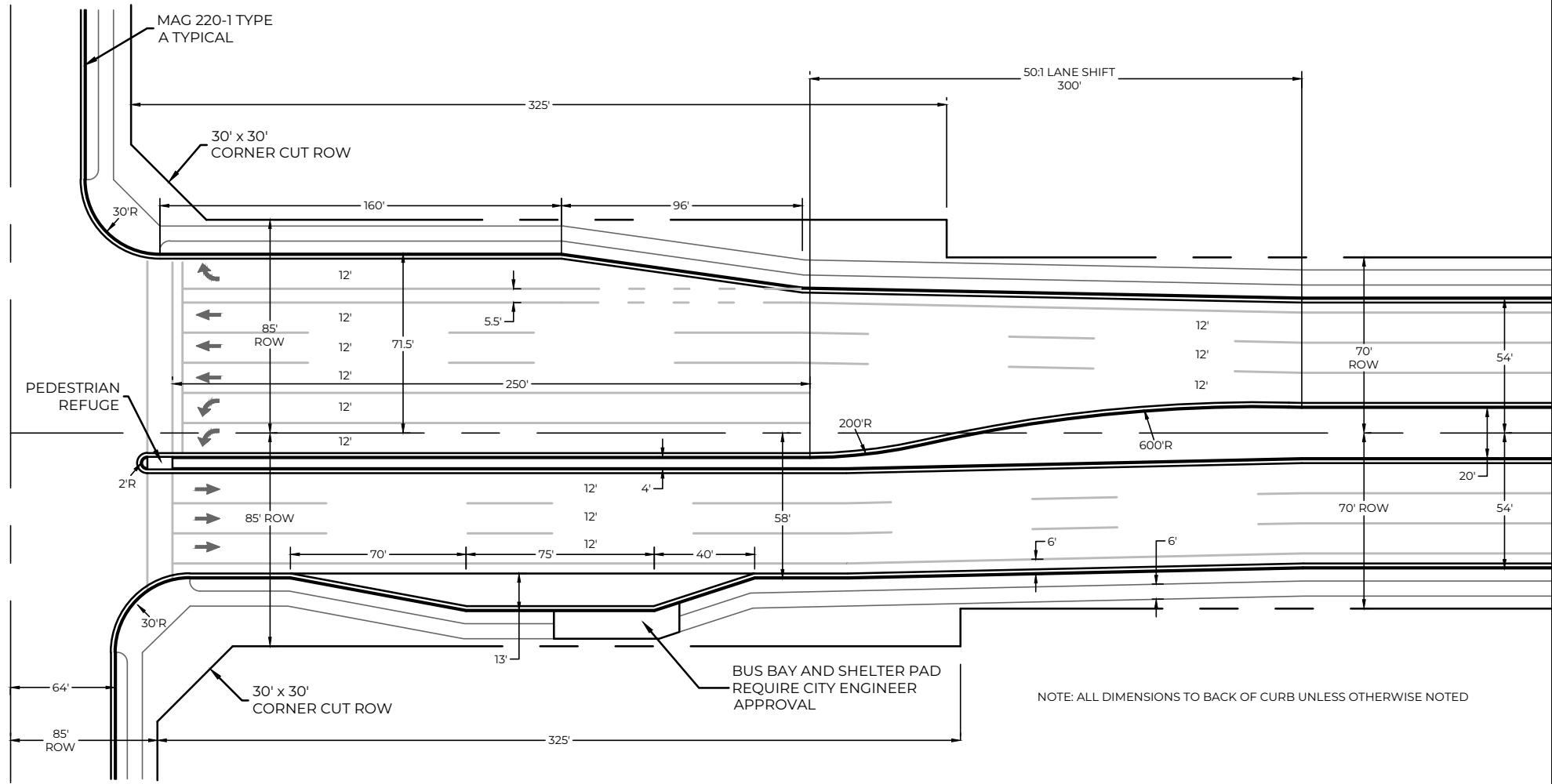
DATE

**PRINCIPAL ARTERIAL
INTERSECTION, RIGHT-OF-WAY,
STREET DIMENSIONS**



Standard Details

**Detail No.
CG-255-1**



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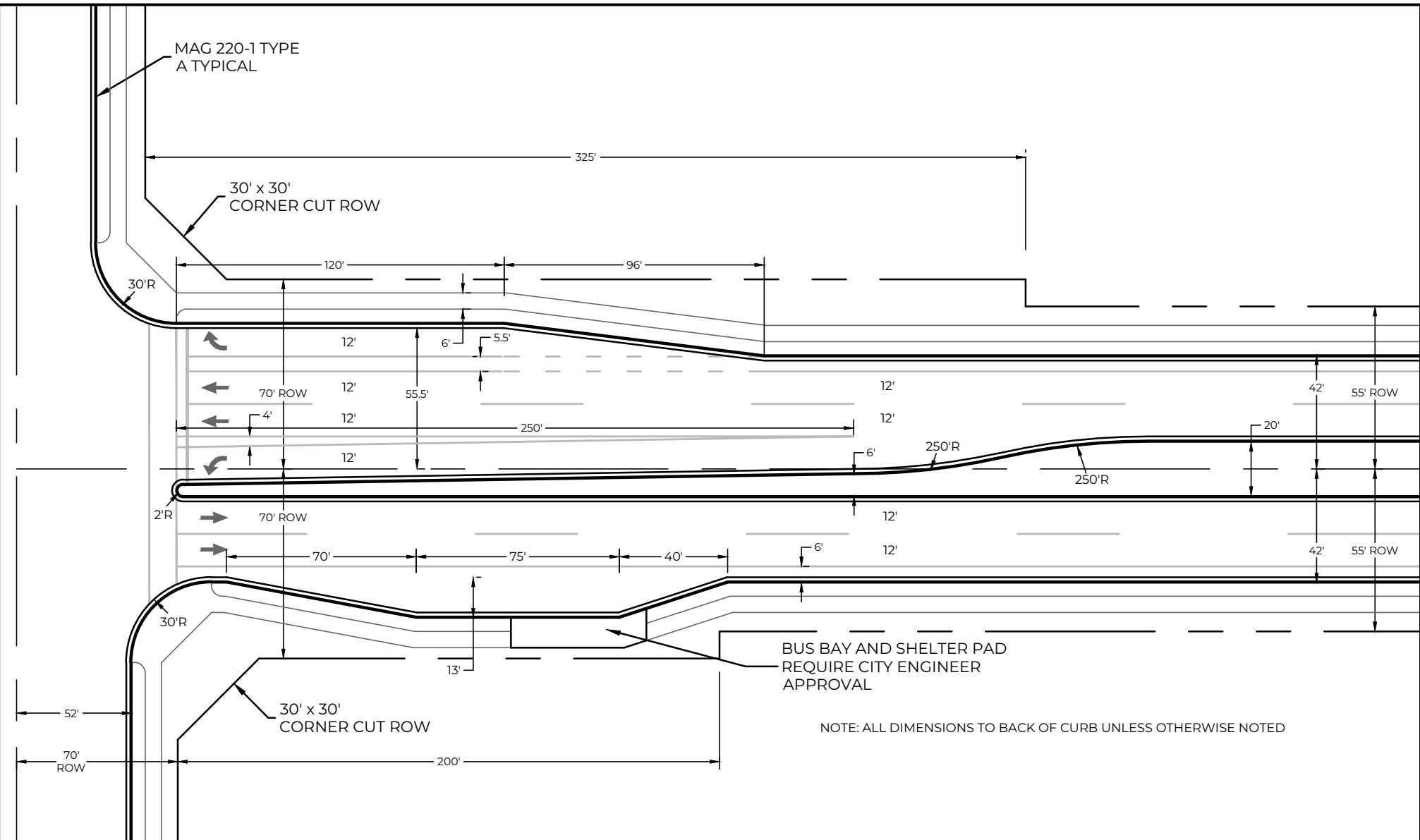
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PRINCIPAL ARTERIAL
- DUAL LEFT
INTERSECTION, RIGHT-OF-WAY,
STREET DIMENSIONS



Standard Details

Detail No.
CG-255-2



REVISED **6/2024**
APPROVED
Dave S. Etel
CITY ENGINEER **DATE**
 7/23/24

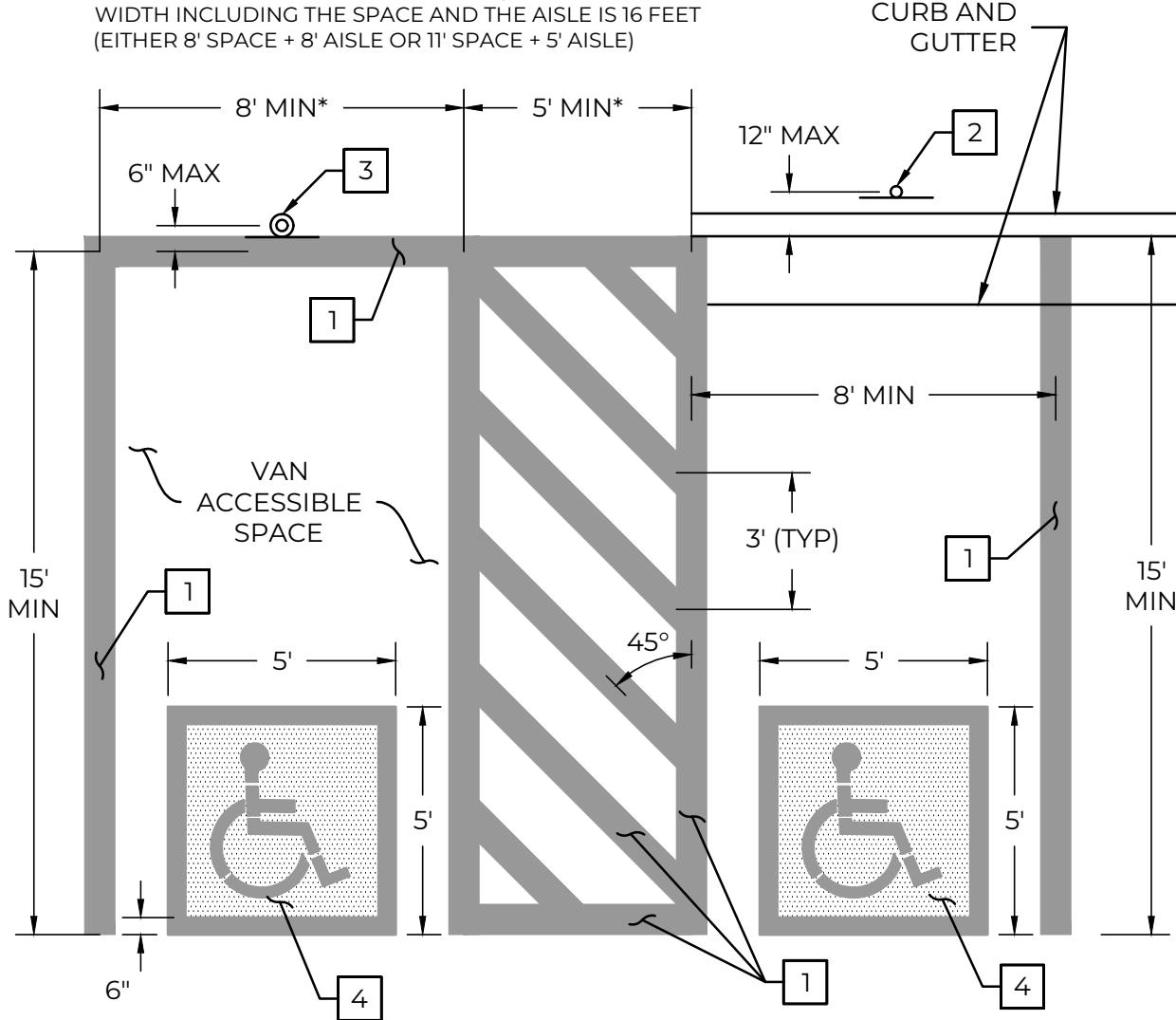
MINOR ARTERIAL
INTERSECTION, RIGHT-OF-WAY,
STREET DIMENSIONS



Standard Details

**Detail No.
CG-255-3**

* FOR SINGLE VAN ACCESSIBLE SPACES, THE TOTAL MINIMUM WIDTH INCLUDING THE SPACE AND THE AISLE IS 16 FEET (EITHER 8' SPACE + 8' AISLE OR 11' SPACE + 5' AISLE)



KEYNOTES

- 1 8" WHITE THERMOPLASTIC STRIPING
- 2 ACCESSIBLE PARKING SIGN AND POST (R7-8AZ, 12"x18"). 'VAN ACCESSIBLE' SIGN (R7-8P) FOR VAN ACCESSIBLE SPACES ONLY. LOWEST PART OF ANY SIGN SHALL BE 60" MINIMUM ABOVE SIGN BASE
- 3 SAME AS KEYNOTE 2 ABOVE, EXCEPT ENCASE SIGN POST IN BOLLARD PER MAG STD DTL 140
- 4 BLUE PAINT UNDER WHITE THERMOPLASTIC INTERNATIONAL SYMBOL OF ACCESSIBILITY (MUTCD SYMBOL 3B-22)

GENERAL NOTES

1. THE NUMBER OF ACCESSIBLE PARKING SPACES SHALL CONFORM TO CASA GRANDE CITY CODE § 17.56.050
2. AT LEAST ONE VAN ACCESSIBLE SPACE IS REQUIRED FOR EVERY SIX (6) REQUIRED ACCESSIBLE SPACES
3. SLOPE MAY NOT EXCEED 2 PERCENT IN ANY DIRECTION
4. SURFACE SHALL BE FIRM, STABLE, AND SLIP RESISTANT
5. ACCESSIBLE ROUTES SHALL BE PLACED IN FRONT OF, RATHER THAN BEHIND, ACCESSIBLE SPACES WHEREVER POSSIBLE

REVISED
APPROVED

4/2024

ACCESSIBLE PARKING SPACE

Dave S. Etter
CITY ENGINEER

7/23/24
DATE

PERPENDICULAR SPACES

 CITY OF
CASA GRANDE
STRONGER UNITED

Standard Details

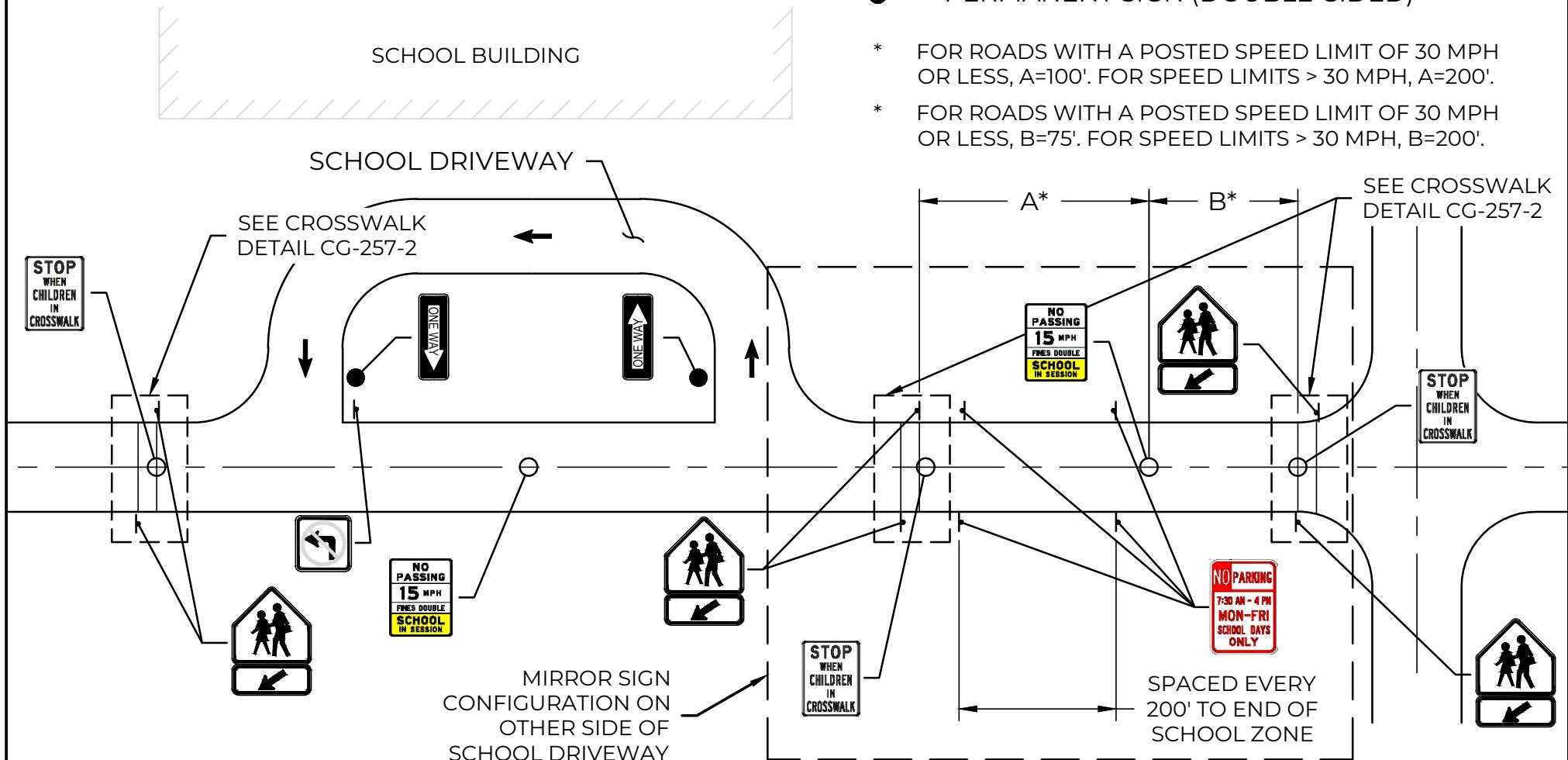
Detail No.
CG-256-1

SIGN LEGEND

- — PORTABLE SIGN (DOUBLE-SIDED)
- PERMANENT SIGN (ONE-SIDED)
- — PERMANENT SIGN (DOUBLE-SIDED)

* FOR ROADS WITH A POSTED SPEED LIMIT OF 30 MPH OR LESS, A=100'. FOR SPEED LIMITS > 30 MPH, A=200'.

* FOR ROADS WITH A POSTED SPEED LIMIT OF 30 MPH OR LESS, B=75'. FOR SPEED LIMITS > 30 MPH, B=200'.



REVISED

4/2024

APPROVED

Dane S. Etel

CITY ENGINEER

7/23/24

DATE

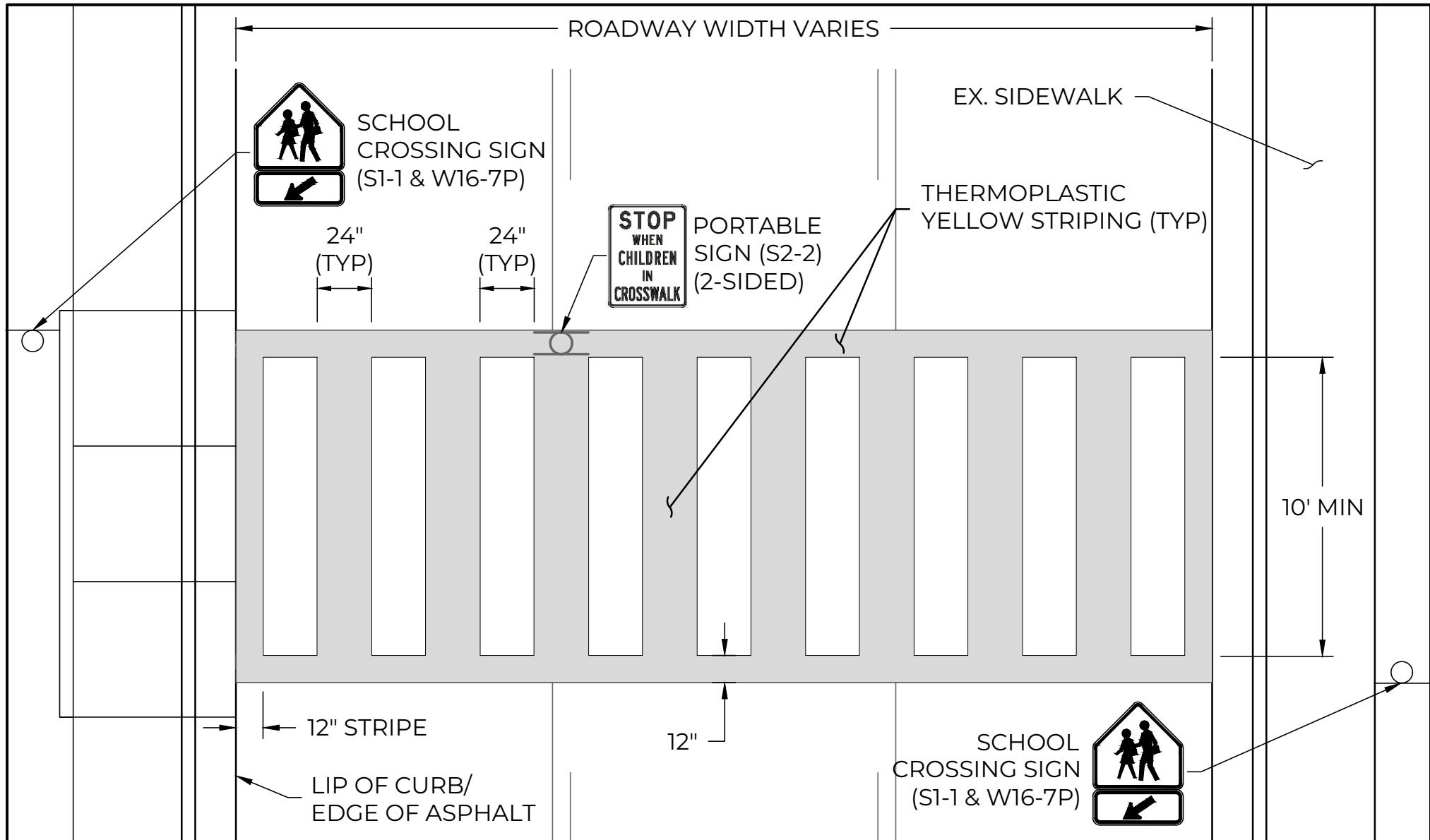
SCHOOL ZONES & CROSSWALKS

TRAFFIC CONTROL

**CITY OF
CASA GRANDE
STRONGER UNITED**

Standard Details

**Detail No.
CG-257-1**



REVISED

4/2024

APPROVED

Dave S. Etter

CITY ENGINEER

7/23/24

DATE

SCHOOL ZONES & CROSSWALKS

CROSSWALK DETAIL



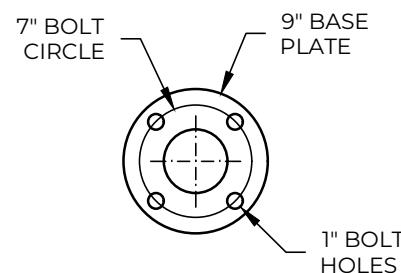
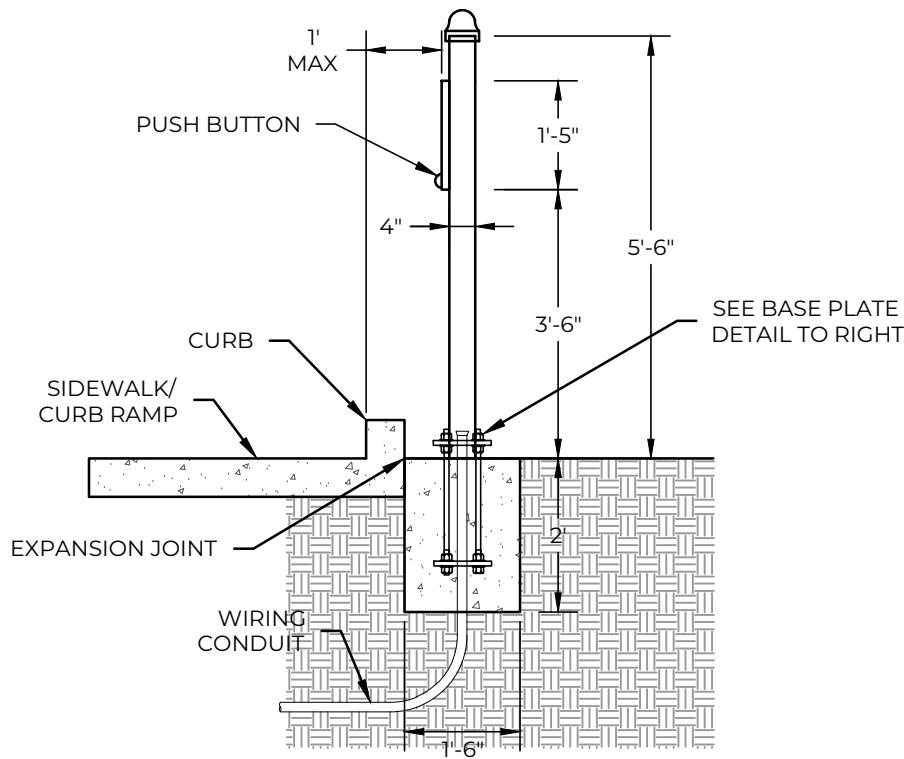
Standard Details

Detail No.

CG-257-2

GENERAL NOTES

1. CONCRETE FOUNDATION SHALL BE CLASS 'A' (3,000 PSI) PORTLAND CEMENT CONCRETE PER MAG SECTION 725
2. PUSH BUTTON SIGN SHALL BE MUTCD R10-3, R10-3A OR APPROVED EQUAL POINTING IN THE DIRECTION OF THE CROSSWALK



BASE PLATE DETAIL

REVISED

6/2024

APPROVED

Dave S. Etter

7/23/24

CITY ENGINEER

DATE

PEDESTRIAN PUSH BUTTON REQUIREMENTS

POLE DETAILS



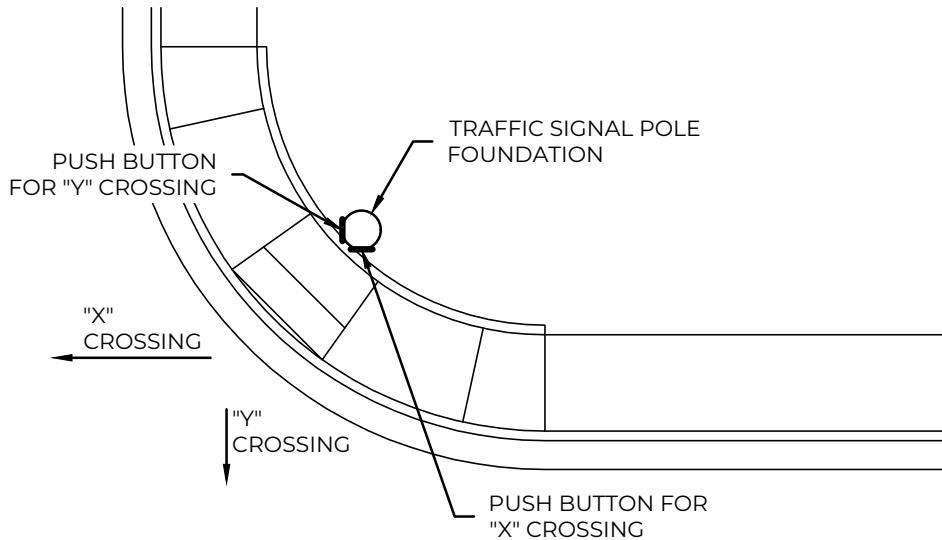
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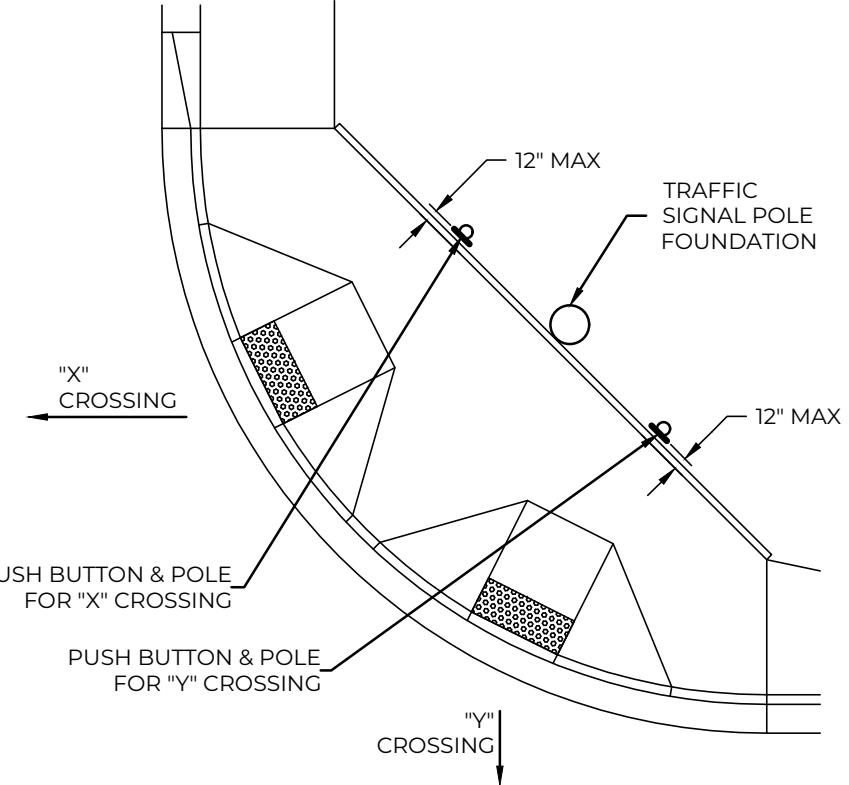
CG-258-1

GENERAL NOTES

1. CURB RAMP CONFIGURATION AND RADIUS PER PLANS
2. ALL IMPROVEMENTS SHALL BE WITHIN PUBLIC RIGHT-OF-WAY
3. PEDESTRIAN PUSH BUTTON SHALL BE NO MORE THAN 12" FROM THE FACE OF CURB OF THE BACK OF THE RAMP



SINGLE CURB RAMPS



DUAL CURB RAMPS

REVISED

6/2024

APPROVED

7/23/24

Dave S. Etel
CITY ENGINEER

DATE

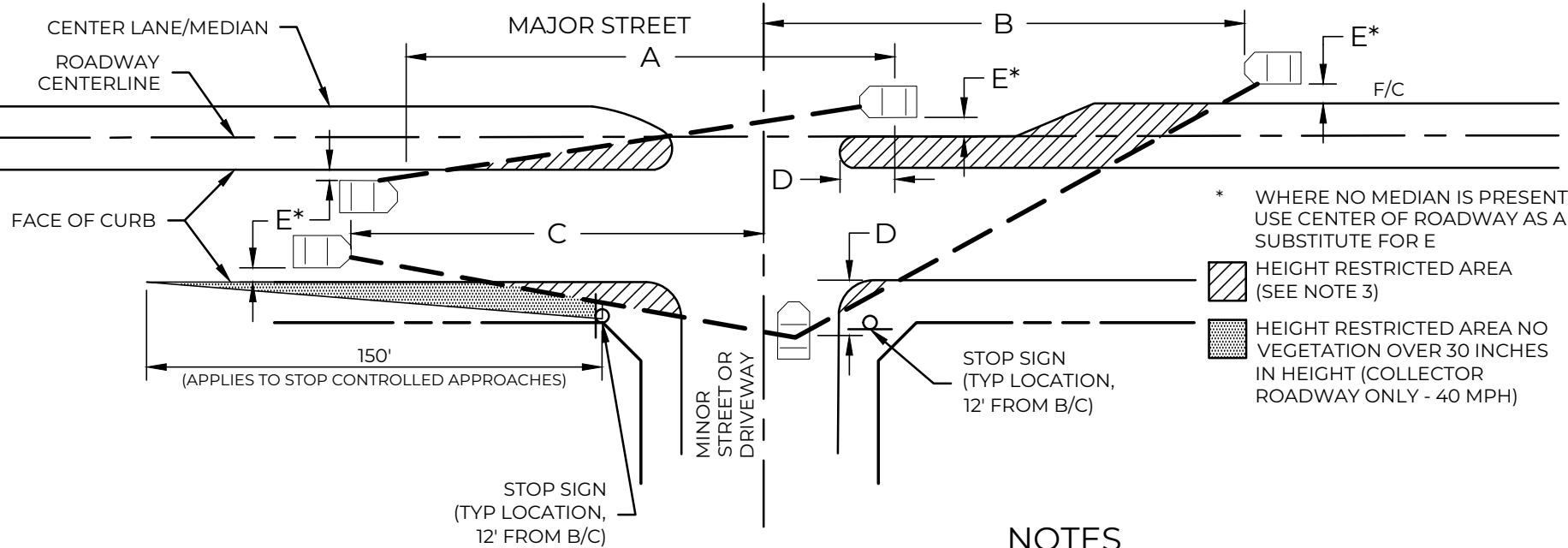
PEDESTRIAN PUSH BUTTON REQUIREMENTS

POLE PLACEMENT



Standard Details

**Detail No.
CG-258-2**



NOTES

1. DIMENSIONS SHOWN IN THE TABLE TO THE LEFT SHALL BE VERIFIED BASED ON AASHTO STANDARDS.
2. NO SIGNS, FENCES, WALLS, UTILITY BOXES, STRUCTURES, SHRUBS, HEDGES, OR OTHER PLANTS, (EXCLUDING TREES), OVER 30 INCHES IN HEIGHT SHALL BE PERMITTED WITHIN THE RESTRICTED AREAS.
3. TREES ARE PERMITTED WITHIN THE RESTRICTED AREAS PROVIDED:
 - A. NO LIMBS, LEAVES NEEDLES OR OTHER FOLIAGE ABOVE 30 INCHES OR BELOW 84 INCHES ARE PERMITTED.
 - B. TREES SHALL NOT OBSTRUCT MORE THAN 20% OF THE VISIBILITY WHEN COMBINED WITH OTHER OBSTRUCTIONS PRESENT.
4. SIGHT DISTANCE FOR TYPICAL RIGHT ANGLE INTERSECTION ONLY, SKEWED INTERSECTIONS WILL REQUIRE SPECIAL CONSIDERATION.
5. APPROACH GRADE SHALL NOT EXCEED 3% IN ANY LOCATION.

SIGHT DISTANCE CRITERIA

STREET TYPE	DETAIL	LANES IN EACH DIRECTION	WIDTH OF TURN LANE/ MEDIAN	DESIGN SPEED	A	B	C*	D	E
LOCAL	CG-281	1	N/A	30 MPH	360'	470'	290'	18'	3'
MINOR COLLECTOR	CG-282	1	N/A	40 MPH	480'	625'	385'	18'	3'
MAJOR COLLECTOR	CG-283	2	14'-0"	40 MPH	480'	625'	385'	18'	3'
MINOR ARTERIAL	CG-284	2	16'-0"	50 MPH	515'	665'	480'	18'	3'
PRINCIPAL ARTERIAL	CG-285	3	16'-0"	50 MPH	555'	700'	480'	18'	3'

* FOR RIGHT TURNS AT SIDE STREET APPROACHES PROVIDING ONLY RIGHT-IN/ RIGHT-OUT MOVEMENTS. WHERE LEFT TURNS ARE ALLOWED, DIMENSION "C" SHALL EQUAL DIMENSION "B".

REVISED

3/2024

APPROVED

Dave S. Etel

7/23/24

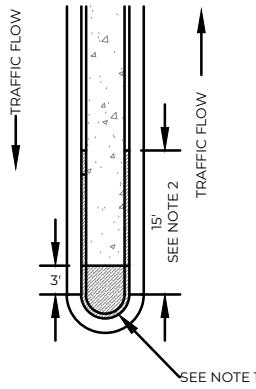
CITY ENGINEER

INTERSECTION SIGHT DISTANCE REQUIREMENTS

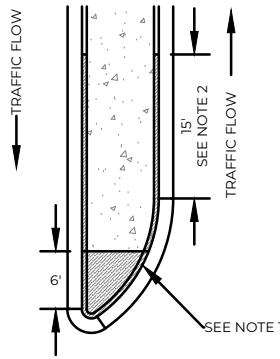


Standard Details

**Detail No.
CG-261**

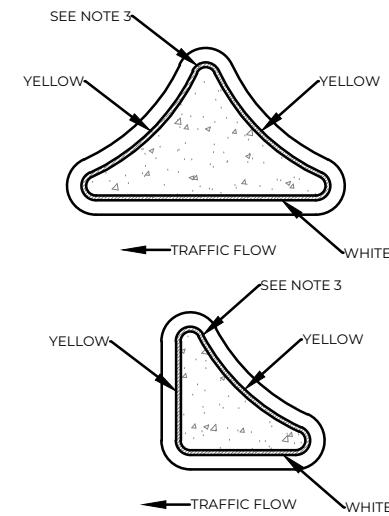


(FOR MEDIANS LESS THAN 6 FEET IN WIDTH)



(FOR MEDIANS 6 FEET AND OVER IN WIDTH)

MEDIAN



ISLANDS

NOTES:

1. PAINT TOP AND VERTICAL FACE OF CURB YELLOW AND INSIDE OF BULLNOSE (CONCRETE BULLNOSE ONLY. SEE MAG DETAIL 223.
2. PAINT TOP AND VERTICAL FACE OF CURB FOR THE DISTANCE SHOWN.
3. PAINT TOP AND VERTICAL FACE OF CURB ON ISLANDS AS SHOWN.

REVISED

6/2024

APPROVED

Dave S. Etter

7/23/24

CITY ENGINEER

DATE

RAISED MEDIAN AND ISLANDS

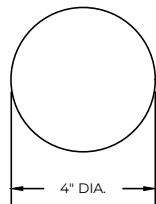
CURB MARKINGS



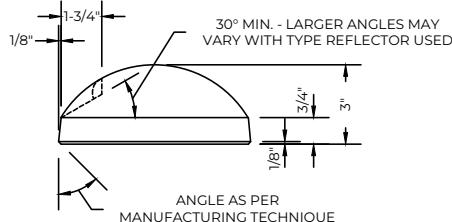
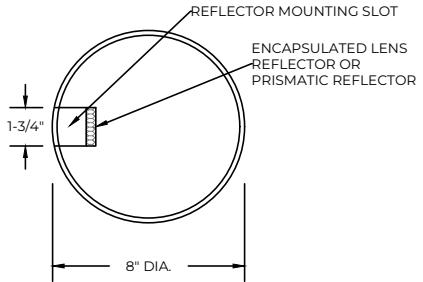
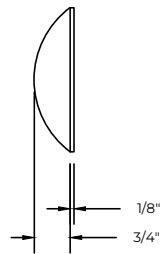
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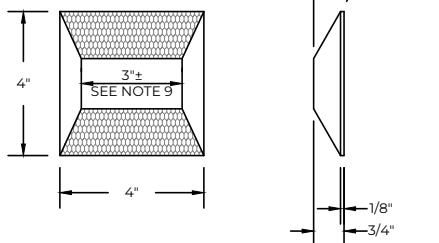
CG-273



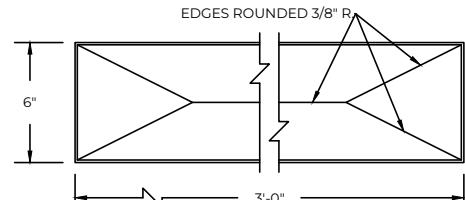
TYPE A & TYPE AY



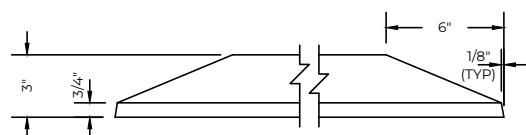
TYPE J & TYPE JY
DAGMAR



TYPE C, D, G & H
(TYPE G & H REFLECTORIZED
ON ONE SIDE ONLY)



TYPE K & TYPE KY
JIGGLE BAR



NOTES:

1. TYPE A RAISED PAVEMENT MARKERS ARE WHITE AND NON-REFLECTIVE. TYPE AY RAISED PAVEMENT MARKERS ARE YELLOW AND NON-REFLECTIVE.
2. TYPE J DAGMARS ARE WHITE AND REFLECTORIZED. TYPE JY DAGMARS ARE YELLOW AND REFLECTORIZED. ENCAPSULATED LENS REFLECTORS SHALL BE USED FOR TYPE J AND JY DAGMARS. SUCH REFLECTORS SHALL NOT EXTEND BEYOND THE CROWN SURFACE.
3. TYPE A AND AY RAISED PAVEMENT MARKERS AND J AND JY DAGMARS CONSIST OF A HEAT-FIRED VITREOUS CERAMIC BASE AND A HEAT-FIRED, OPAQUE, GLAZED SURFACE.
4. THE FOLLOWING RAISED PAVEMENT MARKERS ARE REFLECTORIZED AND INTENDED FOR USE WITH TWO-WAY TRAFFIC:
COLOR - TYPE D - YELLOW BOTH SIDES
5. THE FOLLOWING RAISED PAVEMENT MARKERS ARE REFLECTORIZED AND INTENDED FOR USE WITH ONE-WAY TRAFFIC:
COLOR
TYPE C - WHITE ONE SIDE, RED ONE SIDE
TYPE G - WHITE
TYPE H - YELLOW
6. TYPE C, D, G AND H RAISED PAVEMENT MARKERS SHALL CONSIST OF A PLASTIC SHELL FILLED WITH A MIXTURE OF AN INERT THERMO SETTING COMPOUND AND FILLER MATERIALS. THE EXTERIOR SURFACE SHALL BE SMOOTH. THE SHELL SHALL CONTAIN ONE OR TWO PRISMATIC REFLECTOR FACES, AS REQUIRED, OF THE COLOR SPECIFIED.
7. TYPE K JIGGLE BARS ARE WHITE AND REFLECTORIZED. TYPE KY JIGGLE BARS ARE YELLOW AND REFLECTORIZED. JIGGLE BARS MAY CONSIST OF A HEAT-FIRED VITREOUS CERAMIC BASE OR A CLASS B CONCRETE MIX FOR MINOR STRUCTURES. THE COLOR OF JIGGLE BARS SHALL BE ACCOMPLISHED BY PAINTING ALL UPPER SURFACES WITH TRAFFIC PAINT. REFLECTORIZATION SHALL BE ACCOMPLISHED BY DROPPING GLASS BEADS INTO THE WET TRAFFIC PAINT. TRAFFIC PAINT, GLASS BEADS AND METHODS OF APPLICATION SHALL BE PER MANUFACTURER'S RECOMMENDATION.
8. ALL DIMENSIONS ARE NOMINAL, EXCEPT AS OTHERWISE NOTED.
9. THE REFLECTORIZED RAISED PAVEMENT MARKER ILLUSTRATED IS THE SQUARE SHOULDER TYPE. THE ROUND SHOULDER TYPE IS AN ACCEPTABLE ALTERNATE.

REVISED
APPROVED

6/2024

RAISED PAVEMENT MARKER

Dawn S. Etter
CITY ENGINEER

7/23/24

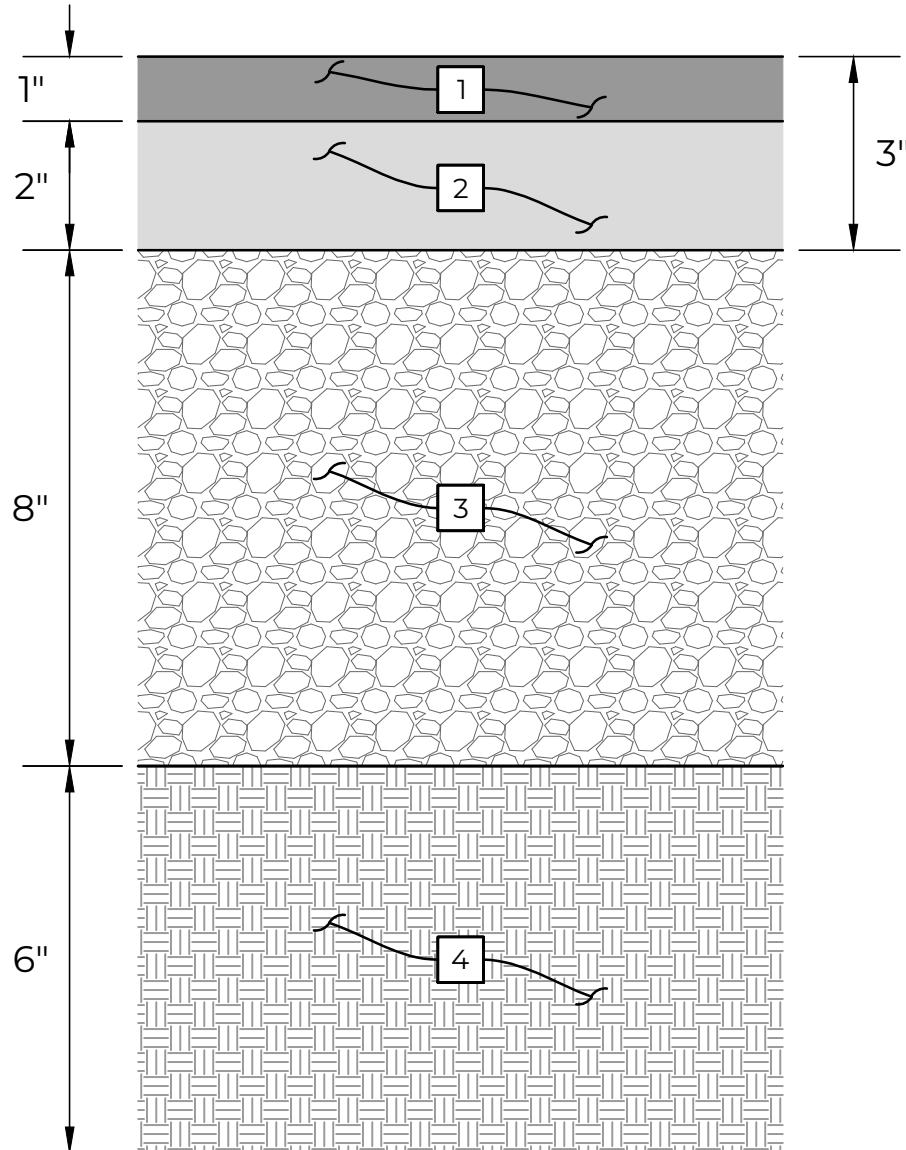
DATE

DETAILS

**CITY OF
CASA GRANDE
STRONGER UNITED**

Standard Details

**Detail No.
CG-274**



KEYNOTES

- [1] 1" THICK AC SURFACE COURSE, 1/2" MIX PER MAG SECTION 710, CONSTRUCTION PER MAG SECTION 321
- [2] 2" THICK AC BASE COURSE, 3/4" MIX PER MAG SECTION 710, CONSTRUCTION PER MAG SECTION 321
- [3] 8" THICK AGGREGATE BASE COURSE LAYER PER MAG SECTION 702, CONSTRUCTION PER MAG SECTION 310
- [4] SUBGRADE PREPARATION PER MAG SECTION 301

GENERAL NOTES

1. PAVEMENT SECTION SHOWN IS THE MINIMUM REQUIRED PAVEMENT SECTION.
2. A GEOTECHNICAL INVESTIGATION AND REPORT WITH A RECOMMENDED PAVEMENT SECTION THAT MEETS OR EXCEEDS THIS PAVEMENT SECTION IS REQUIRED FOR ALL PROJECTS UNDER THE JURISDICTION OF THE CITY OF CASA GRANDE.

REVISED

1/2024

APPROVED

Dave S. Etal

CITY ENGINEER

7/23/24

DATE

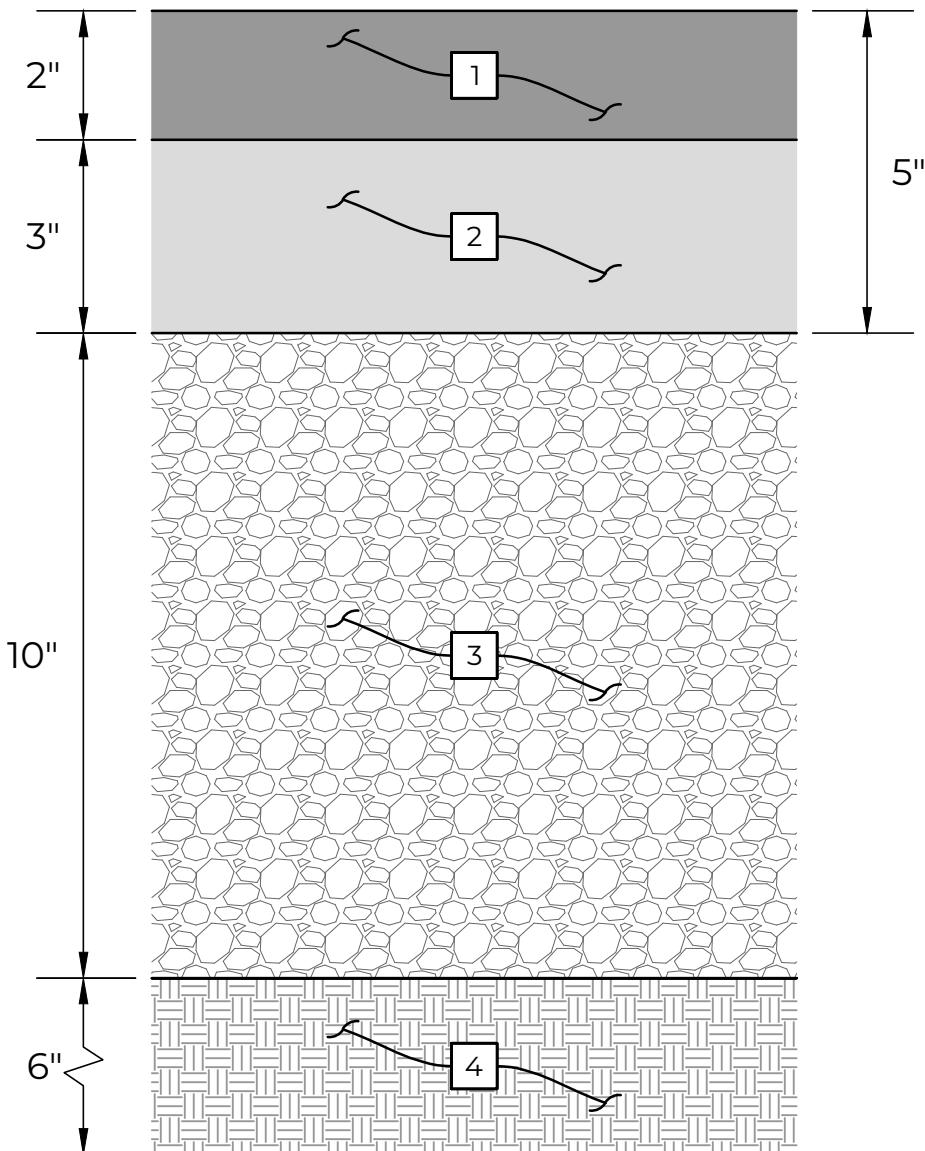
TYPICAL PAVEMENT SECTION

MINOR COLLECTORS & LOCAL
STREETS (NON-INDUSTRIAL)



Standard Details

Detail No.
CG-280-1



KEYNOTES

- [1] 2" THICK AC SURFACE COURSE, 1/2" MIX PER MAG SECTION 710, CONSTRUCTION PER MAG SECTION 321
- [2] 3" THICK AC BASE COURSE, 3/4" MIX PER MAG SECTION 710, CONSTRUCTION PER MAG SECTION 321
- [3] 10" THICK AGGREGATE BASE COURSE LAYER PER MAG SECTION 702, CONSTRUCTION PER MAG SECTION 310
- [4] SUBGRADE PREPARATION PER MAG SECTION 301

GENERAL NOTES

1. PAVEMENT SECTION SHOWN IS THE MINIMUM REQUIRED PAVEMENT SECTION.
2. A GEOTECHNICAL INVESTIGATION AND REPORT WITH A RECOMMENDED PAVEMENT SECTION THAT MEETS OR EXCEEDS THIS PAVEMENT SECTION IS REQUIRED FOR ALL PROJECTS UNDER THE JURISDICTION OF THE CITY OF CASA GRANDE.

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1/2024

APPROVED

Dave S. Etel

CITY ENGINEER

7/23/24

DATE

TYPICAL PAVEMENT SECTION

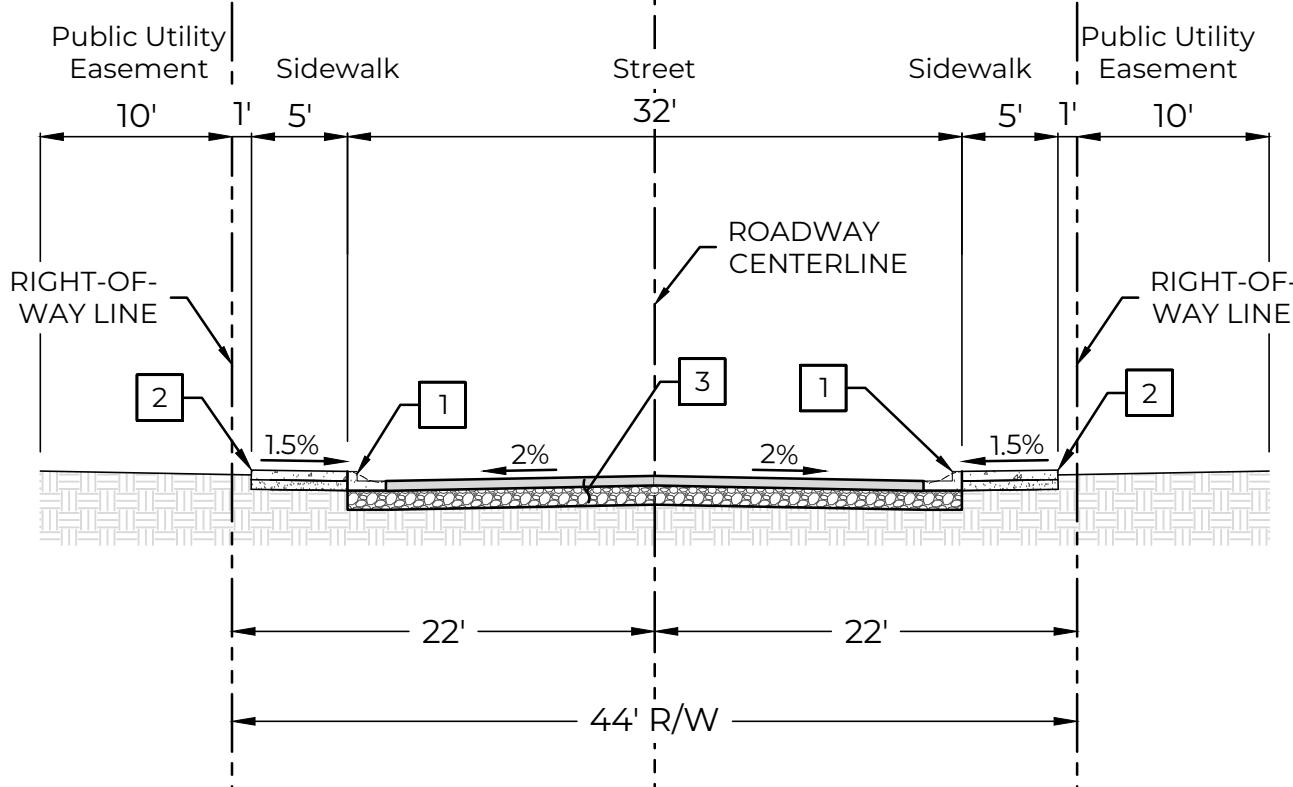
**PARKWAYS, MAJOR & MINOR ARTERIALS,
AND MAJOR COLLECTORS**



CITY OF
CASA GRANDE
STRONGER UNITED

Standard Details

Detail No.
CG-280-2



KEYNOTES

- 1 VERTICAL CURB & GUTTER PER MAG STD DTL 220-1 (TYPE A) OR ROLL CURB & GUTTER PER MAG STD DTL 220-1 (TYPE C), CONSTRUCTED ON 8" ABC, COMPAKTED AND TESTED TO CITY STANDARDS
- 2 SIDEWALK PER MAG STD DTL 230, CONSTRUCTED ON 4" ABC, COMPAKTED AND TESTED TO CITY STANDARDS
- 3 PAVEMENT SECTION PER DETAIL CG-280-1

GENERAL NOTES

- 1. ADDITIONAL RIGHT-OF-WAY SHALL BE PROVIDED WHERE NECESSARY TO ACCOMMODATE DOUBLE LEFT TURN LANES OR RIGHT TURN LANES WARRANTED BY TRAFFIC DEMANDS
- 2. LANDSCAPING SHALL BE PER CITY LANDSCAPING DESIGN OF RIGHTS-OF-WAY, MEDIAN, AND RETENTION BASINS TECHNICAL DESIGN MANUAL AND STANDARD DETAILS
- 3. THE LONGITUDINAL SLOPE OF THE ROADWAY SHALL BE NO LESS THAN 0.25% AND SHALL NOT EXCEED 6.0%

REVISED

APPROVED

Dane S. Etel

CITY ENGINEER

1/2024

7/23/24

DATE

LOCAL STREET – URBAN TYPICAL CROSS SECTION

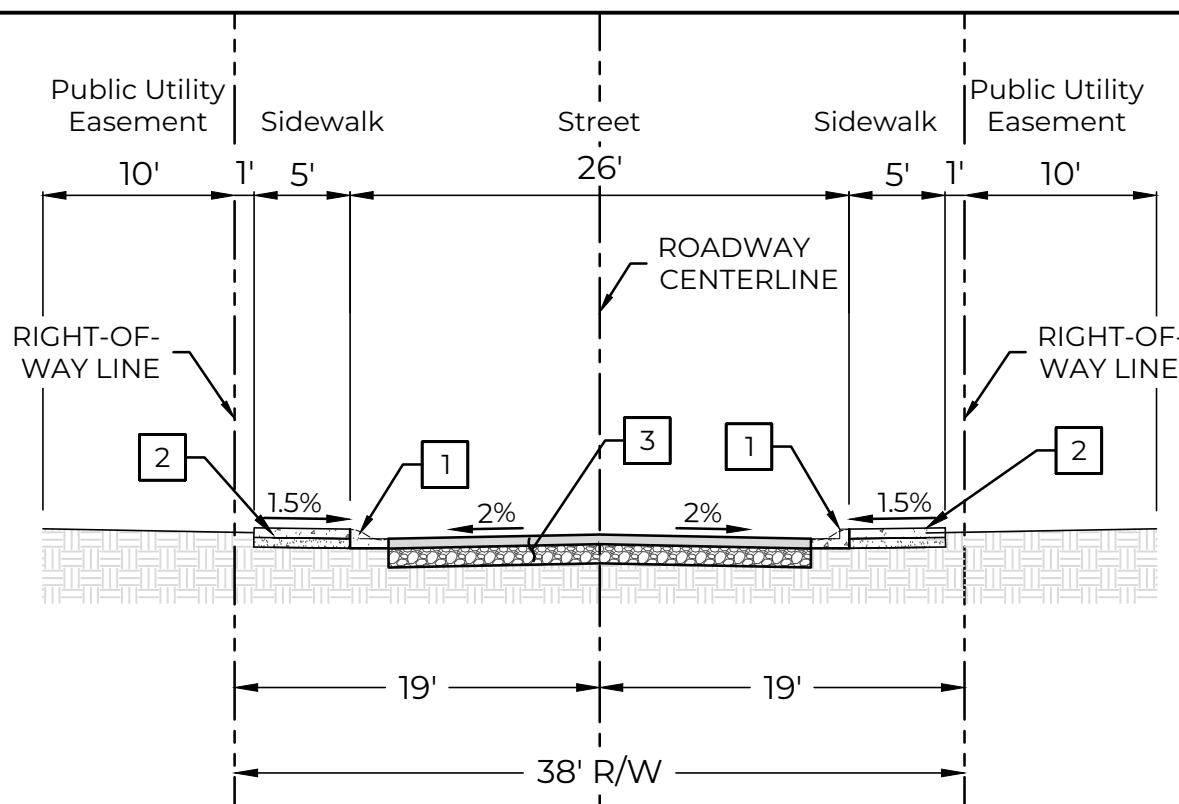
PARKING ALLOWED ON BOTH SIDES



Standard Details

Detail No.

CG-281-1



KEYNOTES

- 1 VERTICAL CURB & GUTTER PER MAG STD DTL 220-1 (TYPE A) OR ROLL CURB & GUTTER PER MAG STD DTL 220-1 (TYPE C), CONSTRUCTED ON 8" ABC, COMPAKTED AND TESTED TO CITY STANDARDS
- 2 SIDEWALK PER MAG STD DTL 230, CONSTRUCTED ON 4" ABC, COMPAKTED AND TESTED TO CITY STANDARDS
- 3 PAVEMENT SECTION PER DETAIL CG-280-1

GENERAL NOTES

- 1. ADDITIONAL RIGHT-OF-WAY SHALL BE PROVIDED WHERE NECESSARY TO ACCOMMODATE DOUBLE LEFT TURN LANES OR RIGHT TURN LANES WARRANTED BY TRAFFIC DEMANDS
- 2. LANDSCAPING SHALL BE PER CITY LANDSCAPING DESIGN OF RIGHTS-OF-WAY, MEDIAN, AND RETENTION BASINS TECHNICAL DESIGN MANUAL AND STANDARD DETAILS
- 3. THE LONGITUDINAL SLOPE OF THE ROADWAY SHALL BE NO LESS THAN 0.25% AND SHALL NOT EXCEED 6.0%

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1/2024

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7/23/24

CITY ENGINEER

DATE

LOCAL STREET – URBAN TYPICAL CROSS SECTION

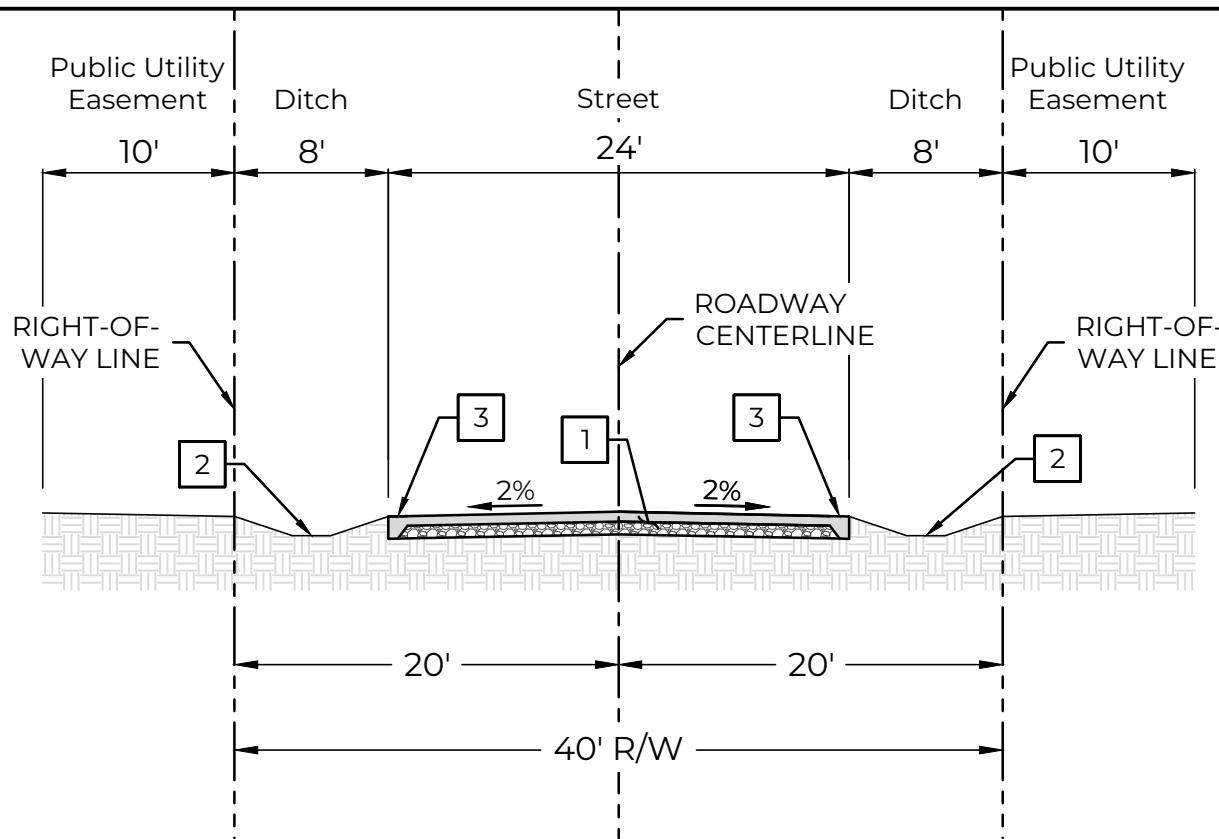
PARKING NOT ALLOWED

ALLOWED ONLY IN DEVELOPMENTS WITH 35,000 SQUARE FOOT
MINIMUM LOT SIZE PER CITY CODE 15.32.030.A



Standard Details

Detail No.
CG-281-2



KEYNOTES

- 1 PAVEMENT SECTION PER DETAIL CG-280-1
- 2 DRAINAGE DITCH – SLOPES & FLAT BOTTOM PER PLAN (3:1 MAX FORESLOPE, 3:1 MAX BACKSLOPE; 2' MIN BOTTOM WIDTH, 1' MIN DEPTH)
- 3 ASPHALT PAVEMENT EDGE PER MAG STD DTL 201, TYPE A

GENERAL NOTES

1. ADDITIONAL RIGHT-OF-WAY SHALL BE PROVIDED WHERE NECESSARY TO ACCOMMODATE DOUBLE LEFT TURN LANES OR RIGHT TURN LANES WARRANTED BY TRAFFIC DEMANDS
2. LANDSCAPING SHALL BE PER CITY LANDSCAPING DESIGN OF RIGHTS-OF-WAY, MEDIAN, AND RETENTION BASINS TECHNICAL DESIGN MANUAL AND STANDARD DETAILS
3. THE LONGITUDINAL SLOPE OF THE ROADWAY SHALL BE NO LESS THAN 0.25% AND SHALL NOT EXCEED 6.0%

REVISED

1/2024

APPROVED

Dawn S. Etter

7/23/24

CITY ENGINEER

DATE

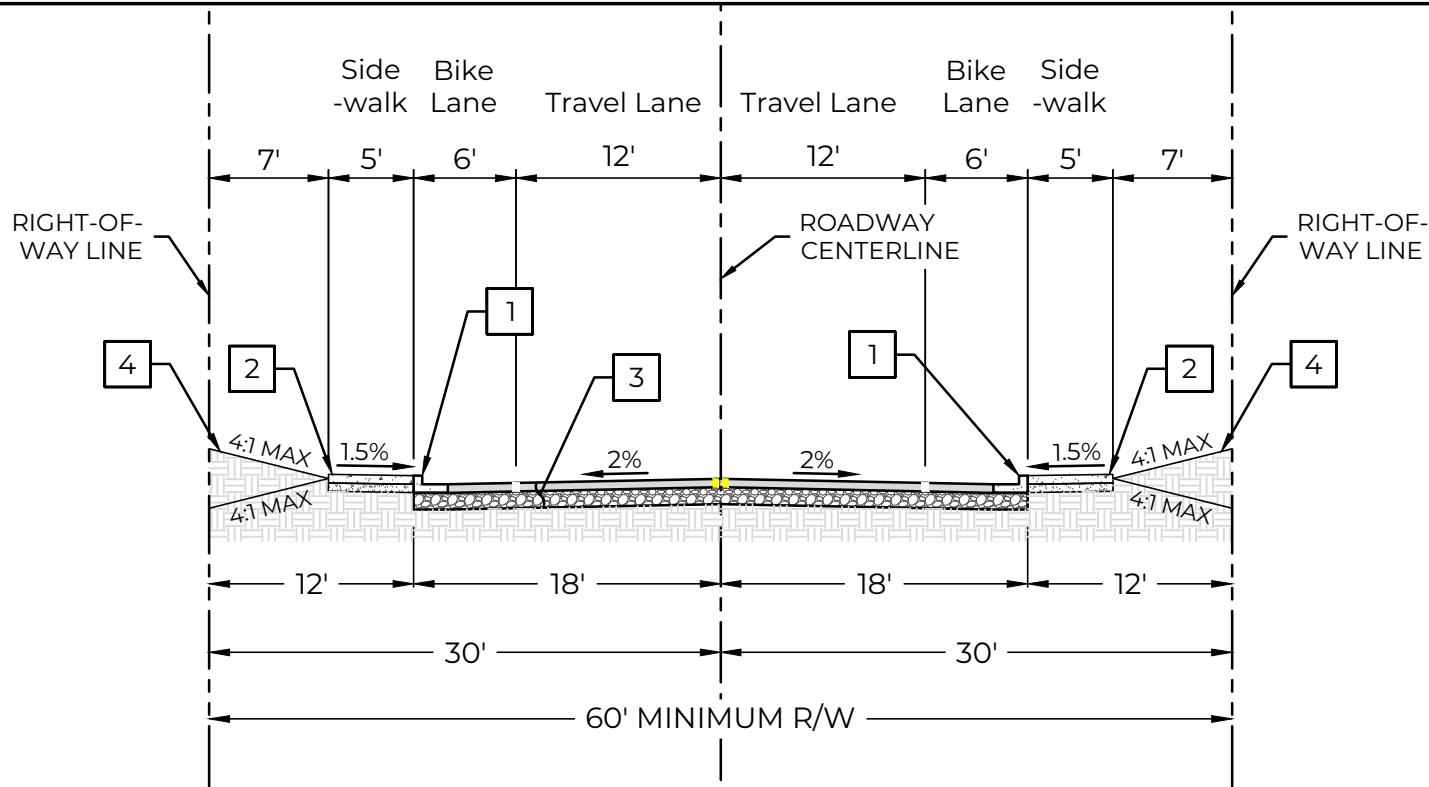
LOCAL STREET – RURAL TYPICAL CROSS SECTION

ALLOWED ONLY IN DEVELOPMENTS WITH 35,000 SQUARE FOOT
MINIMUM LOT SIZE PER CITY CODE 15.32.030.A



Standard Details

Detail No.
CG-281-3



KEYNOTES

- 1 VERTICAL CURB & GUTTER PER MAG STD DTL 220-1 (TYPE A), CONSTRUCTED ON 8" ABC, COMPACTED AND TESTED TO CITY STANDARDS
- 2 SIDEWALK PER MAG STD DTL 230, CONSTRUCTED ON 4" ABC, COMPACTED AND TESTED TO CITY STANDARDS
- 3 PAVEMENT SECTION PER DETAIL CG-280-1
- 4 LANDSCAPING SHALL BE PER CITY LANDSCAPING DESIGN OF RIGHTS-OF-WAY, MEDIANS, AND RETENTION BASINS TECHNICAL DESIGN MANUAL AND STANDARD DETAILS

REVISED

1/2024

APPROVED

Dave S. Etter

7/23/24

CITY ENGINEER

DATE

MINOR COLLECTOR TYPICAL CROSS SECTION

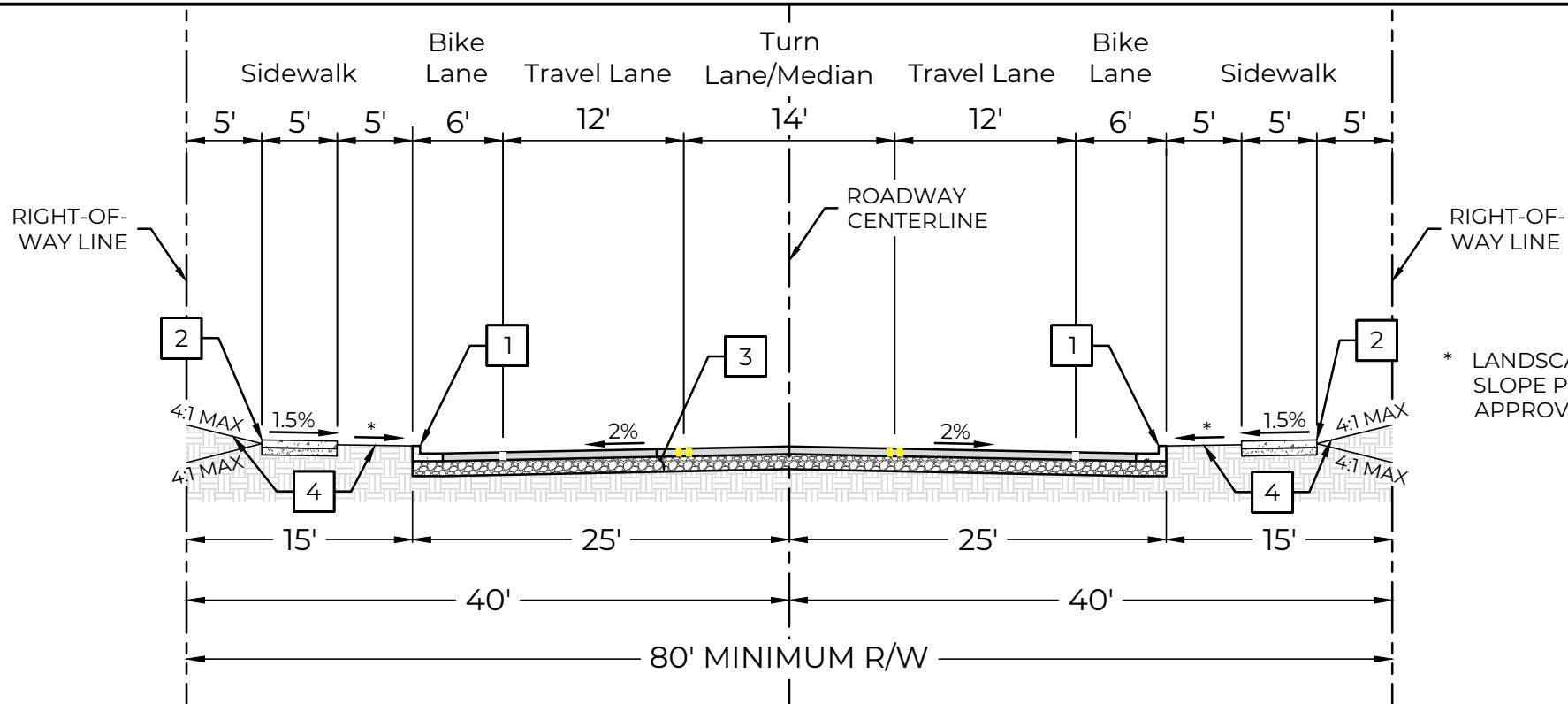


Standard Details

**Detail No.
CG-282-1**

GENERAL NOTES

1. ADDITIONAL RIGHT-OF-WAY SHALL BE PROVIDED WHERE NECESSARY TO ACCOMMODATE DOUBLE LEFT TURN LANES OR RIGHT TURN LANES WARRANTED BY TRAFFIC DEMANDS
2. THE LONGITUDINAL SLOPE OF THE ROADWAY SHALL BE NO LESS THAN 0.25% AND SHALL NOT EXCEED 6.0%



KEYNOTES

- [1] VERTICAL CURB & GUTTER PER MAG STD DTL 220-1 (TYPE A), CONSTRUCTED ON 8" ABC, COMPACTED AND TESTED TO CITY STANDARDS
- [2] SIDEWALK PER MAG STD DTL 230, CONSTRUCTED ON 4" ABC, COMPACTED AND TESTED TO CITY STANDARDS
- [3] PAVEMENT SECTION PER DETAIL CG-280-1
- [4] LANDSCAPING SHALL BE PER CITY LANDSCAPING DESIGN OF RIGHTS-OF-WAY, MEDIAN, AND RETENTION BASINS TECHNICAL DESIGN MANUAL AND STANDARD DETAILS

REVISED

1/2024

APPROVED

Dawn S. Etel

7/23/24

CITY ENGINEER

DATE

MAJOR COLLECTOR TYPICAL CROSS SECTION

3 LANES WITH BIKE LANES

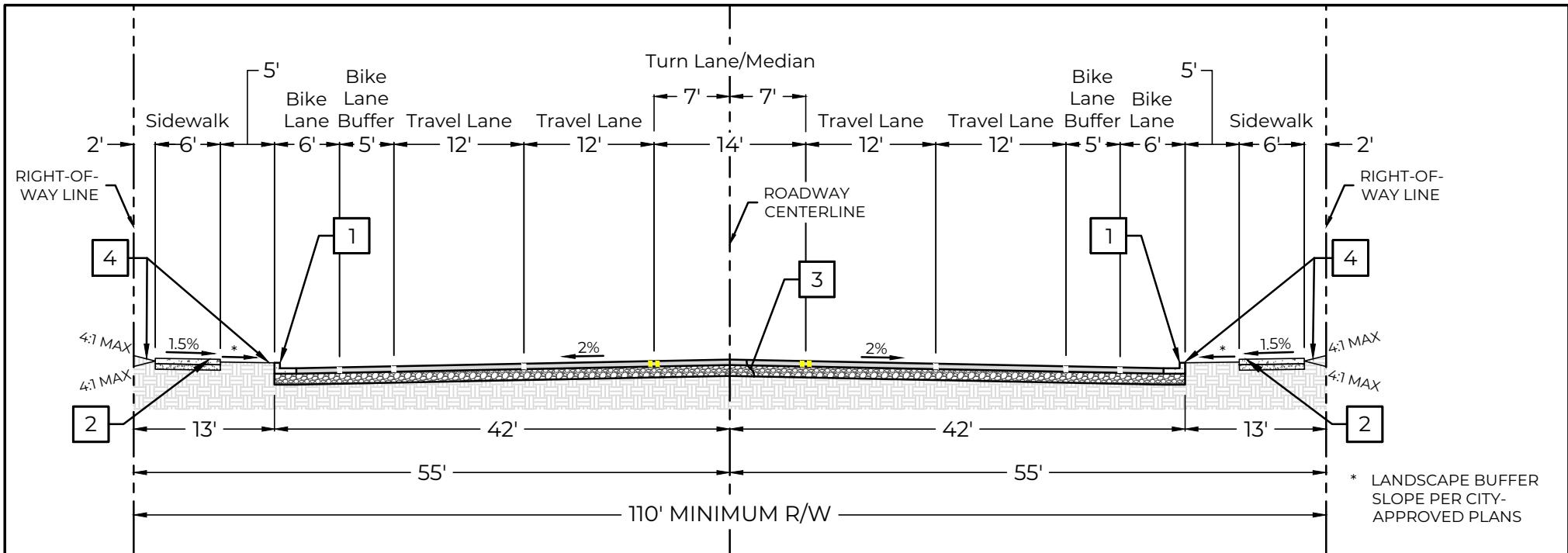


Standard Details

**Detail No.
CG-283-1**

GENERAL NOTES

1. ADDITIONAL RIGHT-OF-WAY SHALL BE PROVIDED WHERE NECESSARY TO ACCOMMODATE DOUBLE LEFT TURN LANES OR RIGHT TURN LANES WARRANTED BY TRAFFIC DEMANDS
2. THE LONGITUDINAL SLOPE OF THE ROADWAY SHALL BE NO LESS THAN 0.25% AND SHALL NOT EXCEED 6.0%



KEYNOTES

- 1 VERTICAL CURB & GUTTER PER MAG STD DTL 220-1 (TYPE A), CONSTRUCTED ON 8" ABC, COMPACTED AND TESTED TO CITY STANDARDS
- 2 SIDEWALK PER MAG STD DTL 230, CONSTRUCTED ON 4" ABC, COMPACTED AND TESTED TO CITY STANDARDS
- 3 PAVEMENT SECTION PER DETAIL CG-280-2
- 4 LANDSCAPING SHALL BE PER CITY LANDSCAPING DESIGN OF RIGHTS-OF-WAY, MEDIAN, AND RETENTION BASINS TECHNICAL DESIGN MANUAL AND STANDARD DETAILS

REVISED
APPROVED

1/2024

Dave S. Et al
CITY ENGINEER

7/23/24

DATE

MINOR ARTERIAL STREET TYPICAL CROSS SECTION



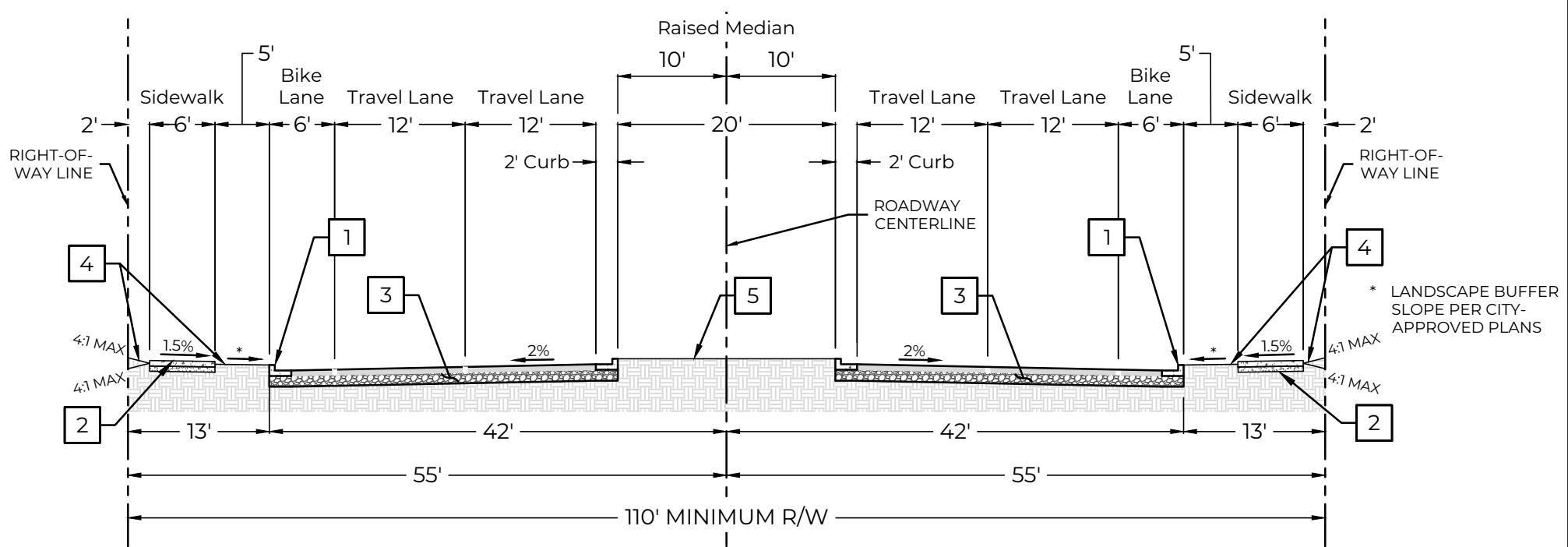
Standard Details

Detail No.
CG-284-1

* LANDSCAPE BUFFER
SLOPE PER CITY-
APPROVED PLANS

GENERAL NOTES

1. ADDITIONAL RIGHT-OF-WAY SHALL BE PROVIDED WHERE NECESSARY TO ACCOMMODATE DOUBLE LEFT TURN LANES OR RIGHT TURN LANES WARRANTED BY TRAFFIC DEMANDS
2. THE LONGITUDINAL SLOPE OF THE ROADWAY SHALL BE NO LESS THAN 0.25% AND SHALL NOT EXCEED 6.0%



KEYNOTES

- 1 VERTICAL CURB & GUTTER PER MAG STD DTL 220-1 (TYPE A), CONSTRUCTED ON 8" ABC, COMPAKTED AND TESTED TO CITY STANDARDS
- 2 SIDEWALK PER MAG STD DTL 230, CONSTRUCTED ON 4" ABC, COMPAKTED AND TESTED TO CITY STANDARDS
- 3 PAVEMENT SECTION PER DETAIL CG-280-2
- 4 LANDSCAPING SHALL BE PER CITY LANDSCAPING DESIGN OF RIGHTS-OF-WAY, MEDIAN, AND RETENTION BASINS TECHNICAL DESIGN MANUAL AND STANDARD DETAILS

REVISED 1/2024
APPROVED

Dave S. Etel
CITY ENGINEER

7/23/24
DATE

MINOR ARTERIAL STREET TYPICAL CROSS SECTION WITH RAISED MEDIAN

5 SURFACE RAISED MEDIAN WITH ONE OF THE FOLLOWING:
 A. MINIMUM 2" DECOMPOSED GRANITE PER MAG SECTION 430.8
 B. INTERLOCKING PAVERS PER MAG SECTION 342
 C. CLASS A CONCRETE PER MAG SECTION 725.1 WITH BASE COMPAKTED PER MAG STANDARDS

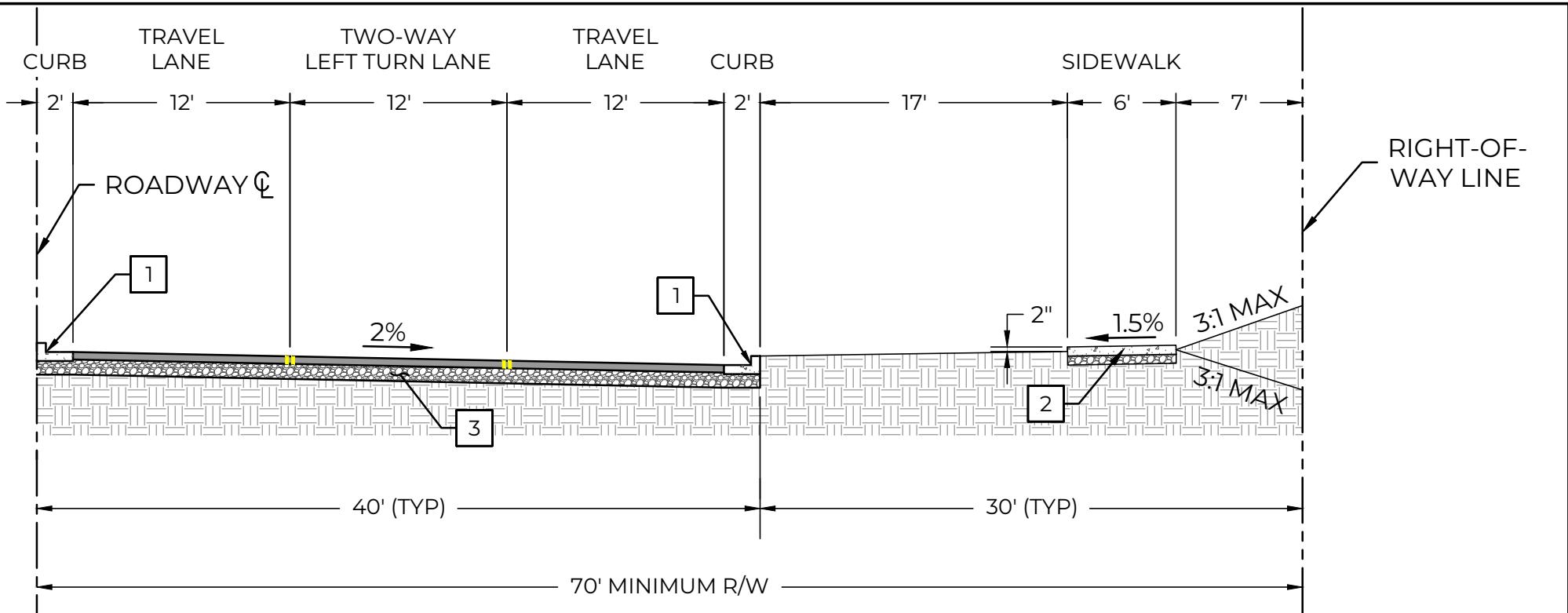
GENERAL NOTES

1. ADDITIONAL RIGHT-OF-WAY SHALL BE PROVIDED WHERE NECESSARY TO ACCOMMODATE DOUBLE LEFT TURN LANES OR RIGHT TURN LANES WARRANTED BY TRAFFIC DEMANDS
2. THE LONGITUDINAL SLOPE OF THE ROADWAY SHALL BE NO LESS THAN 0.25% AND SHALL NOT EXCEED 6.0%

 CITY OF
CASA GRANDE
STRONGER UNITED

Standard Details

Detail No.
CG-284-2



KEYNOTES

- 1** VERTICAL CURB & GUTTER PER MAG STD DTL 220-1 (TYPE A) CONSTRUCTED ABOVE 10" ABC, COMPAKTED AND TESTED TO CITY STANDARDS
- 2** SIDEWALK PER MAG STD DTL 230 ABOVE 4" ABC, COMPAKTED & TESTED TO CITY STANDARDS
- 3** PAVEMENT SECTION PER DETAIL CG-280-2

GENERAL NOTES

1. ADDITIONAL RIGHT-OF-WAY SHALL BE PROVIDED WHERE NECESSARY TO ACCOMMODATE DOUBLE LEFT TURN LANES OR RIGHT TURN LANES WARRANTED BY TRAFFIC DEMANDS
2. LANDSCAPING SHALL BE PER CITY LANDSCAPING DESIGN OF RIGHTS-OF-WAY, MEDIAN, AND RETENTION BASINS TECHNICAL DESIGN MANUAL AND STANDARD DETAILS
3. THE LONGITUDINAL SLOPE OF THE ROADWAY SHALL BE NO LESS THAN 0.25% AND SHALL NOT EXCEED 6.0%

REVISED
APPROVED

Dave S. Etter

CITY ENGINEER

1/2024

3/3/25

DATE

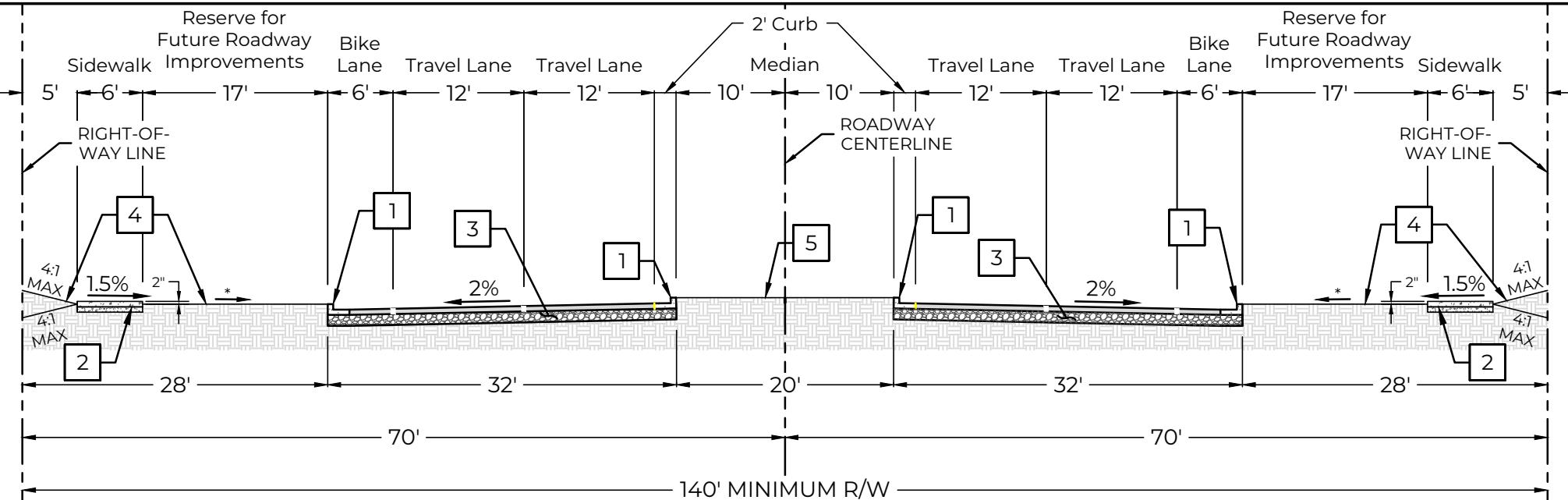
MAJOR ARTERIAL STREET TYPICAL CROSS SECTION

HALF STREET

 **CITY OF
CASA GRANDE
STRONGER UNITED**

Standard Details

**Detail No.
CG-285-1**



KEYNOTES

- 1 VERTICAL CURB & GUTTER PER MAG STD DTL 220-1 (TYPE A), CONSTRUCTED ON 8" ABC, COMPAKTED AND TESTED TO CITY STANDARDS
- 2 SIDEWALK PER MAG STD DTL 230, CONSTRUCTED ON 4" ABC, COMPAKTED AND TESTED TO CITY STANDARDS
- 3 PAVEMENT SECTION PER DETAIL CG-280-2
- 4 LANDSCAPING SHALL BE PER CITY LANDSCAPING DESIGN OF RIGHTS-OF-WAY, MEDIAN, AND RETENTION BASINS TECHNICAL DESIGN MANUAL AND STANDARD DETAILS
- 5 SURFACE RAISED MEDIAN WITH ONE OF THE FOLLOWING:
 - A. MINIMUM 2" DECOMPOSED GRANITE PER MAG SECTION 430.8
 - B. INTERLOCKING PAVERS PER MAG SECTION 342
 - C. CLASS A CONCRETE PER MAG SECTION 725.1 WITH BASE COMPAKTED PER MAG STANDARDS

* LANDSCAPE BUFFER SLOPE PER CITY-APPROVED PLANS

GENERAL NOTES

1. ADDITIONAL RIGHT-OF-WAY SHALL BE PROVIDED WHERE NECESSARY TO ACCOMMODATE DOUBLE LEFT TURN LANES OR RIGHT TURN LANES WARRANTED BY TRAFFIC DEMANDS
2. THE LONGITUDINAL SLOPE OF THE ROADWAY SHALL BE NO LESS THAN 0.25% AND SHALL NOT EXCEED 6.0%

REVISED

1/2024

APPROVED

Dave S. Etch

CITY ENGINEER

7/23/24

DATE

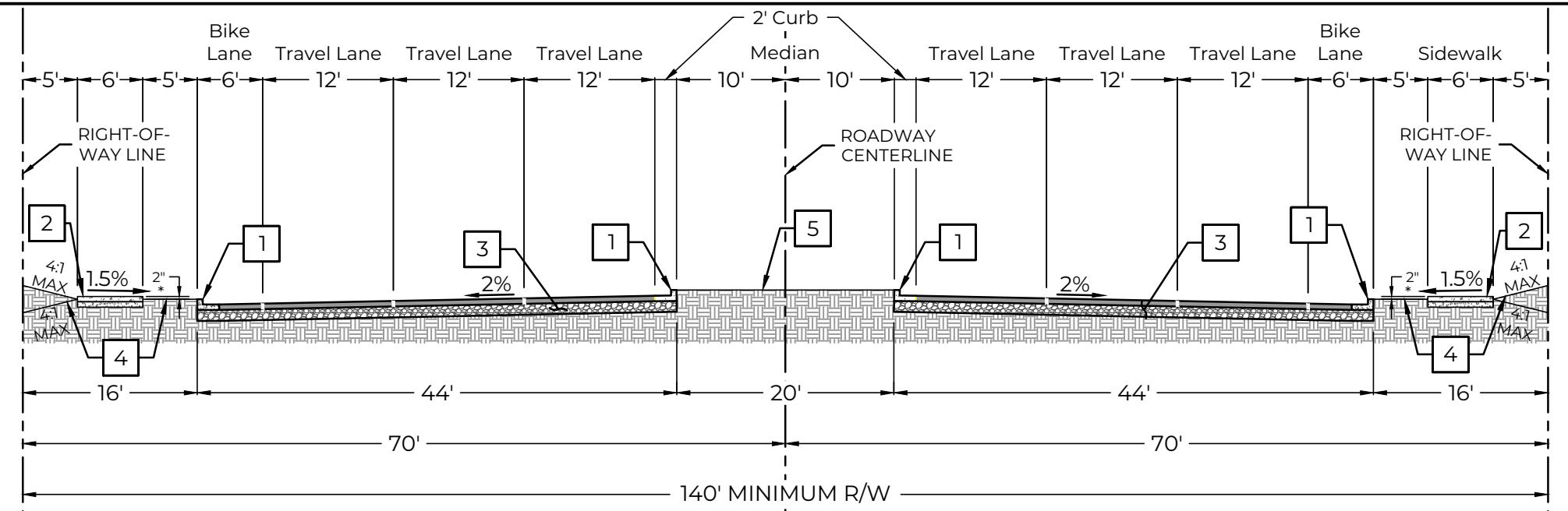
PRINCIPAL ARTERIAL TYPICAL CROSS SECTION

INTERIM BUILD-OUT



Standard Details

**Detail No.
CG-285-2**



KEYNOTES

- 1 VERTICAL CURB & GUTTER PER MAG STD DTL 220-1 (TYPE A), CONSTRUCTED ON 8" ABC, COMPAKTED AND TESTED TO CITY STANDARDS
- 2 SIDEWALK PER MAG STD DTL 230, CONSTRUCTED ON 4" ABC, COMPAKTED AND TESTED TO CITY STANDARDS
- 3 PAVEMENT SECTION PER DETAIL CG-280-2
- 4 LANDSCAPING SHALL BE PER CITY LANDSCAPING DESIGN OF RIGHTS-OF-WAY, MEDIAN, AND RETENTION BASINS TECHNICAL DESIGN MANUAL AND STANDARD DETAILS
- 5 SURFACE RAISED MEDIAN WITH ONE OF THE FOLLOWING:
 - A. MINIMUM 2" DECOMPOSED GRANITE PER MAG SECTION 430.8
 - B. INTERLOCKING PAVERS PER MAG SECTION 342
 - C. CLASS A CONCRETE PER MAG SECTION 725.1 WITH BASE COMPAKTED PER MAG STANDARDS

* LANDSCAPE BUFFER SLOPE PER CITY-APPROVED PLANS

GENERAL NOTES

1. ADDITIONAL RIGHT-OF-WAY SHALL BE PROVIDED WHERE NECESSARY TO ACCOMMODATE DOUBLE LEFT TURN LANES OR RIGHT TURN LANES WARRANTED BY TRAFFIC DEMANDS
2. THE LONGITUDINAL SLOPE OF THE ROADWAY SHALL BE NO LESS THAN 0.25% AND SHALL NOT EXCEED 6.0%

REVISED
APPROVED

1/2024

Dawn S. Etel
CITY ENGINEER

7/23/24

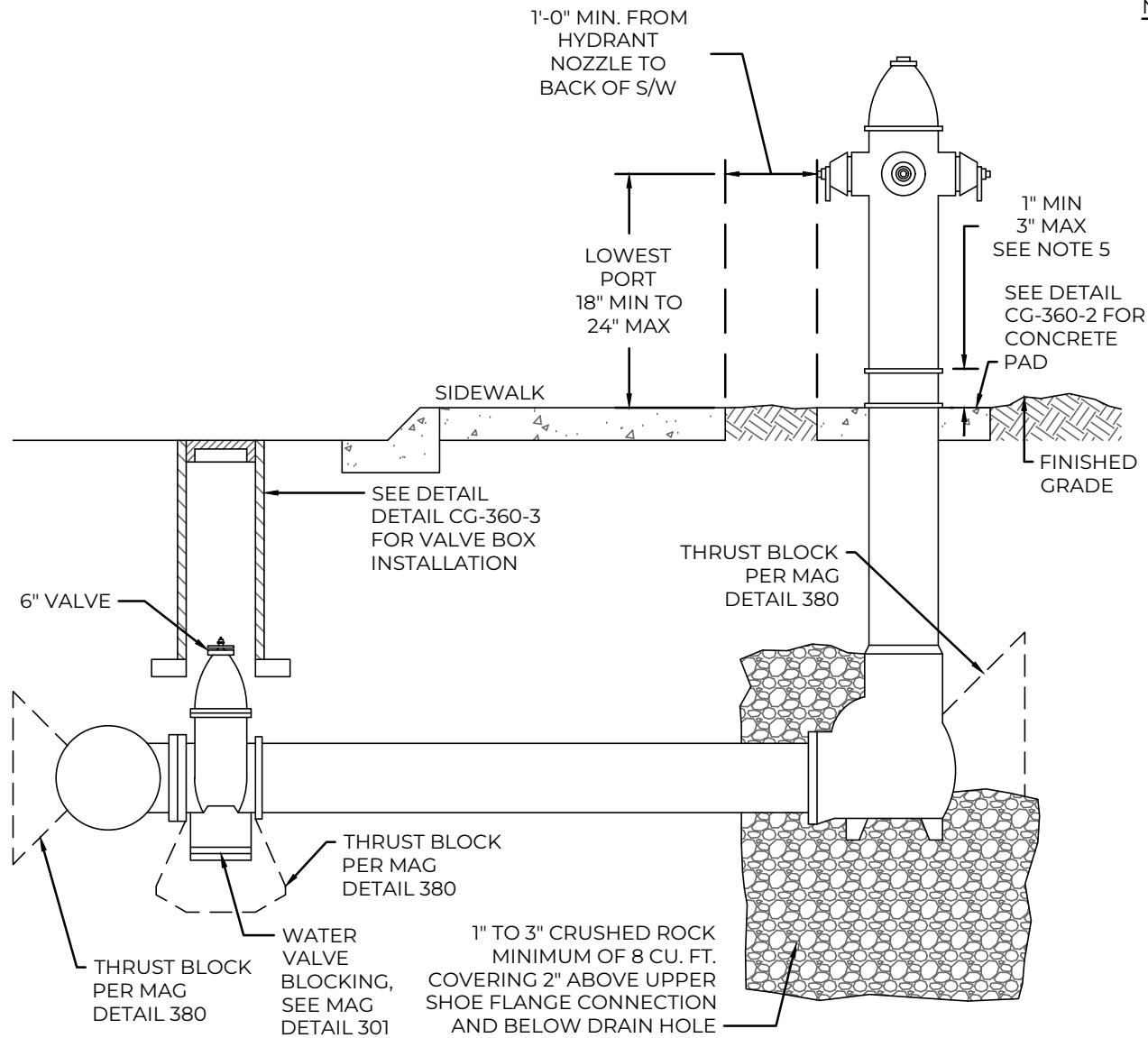
DATE

PRINCIPAL ARTERIAL TYPICAL CROSS SECTION FINAL BUILD-OUT



Standard Details

Detail No.
CG-285-3



NOTES:

1. JOINTS BETWEEN THE VALVE AND THE MAIN SHALL BE FLANGED TYPE. JOINTS BETWEEN THE VALVE AND HYDRANT SHALL BE RESTRAINT OR MECHANICAL TYPE.
2. RESTRAINTS SHALL BE MECHANICAL RESTRAINT OR THRUST BLOCK PER MAG DETAIL 380.
3. A FLANGE JOINT BY MECHANICAL JOINT VALVE SHALL BE USED AS THE TRANSITION BETWEEN THE JOINT TYPES.
4. PIPING BETWEEN WATER VALVE AND HYDRANT SHALL BE DUCTILE IRON, 150 PSI CLASS MIN.
5. SEE CITY OF CASA GRANDE DETAIL CG-362-1 FOR LOCATION OF HYDRANT.
6. PUMPER CONNECTION SHALL FACE THE STREET.
7. NO VALVES ARE TO BE LOCATED IN CURB.
8. NATIONAL STANDARD THREADS REQUIRED ON ALL CONNECTIONS UNLESS OTHERWISE DIRECTED.
9. SEE DETAIL CITY OF CASA GRANDE DETAIL CG-360-2 FOR CONCRETE PAD.
10. HYDRANTS SHALL BE PAINTED YELLOW WITH A RED BONNET. ALL NEW FIRE HYDRANTS SHALL BE FACTORY PAINTED ONLY AND IN NEW CONDITION. ANY NEW OR RELOCATED FIRE HYDRANTS REQUIRING PAINT TOUCH-UP SHALL BE DONE USING THE MANUFACTURER'S SPECIFIED SYSTEM AND INSTRUCTIONS.
11. THE HYDRANT SHALL HAVE 2- 2 1/2" PORT AND 1- 4 1/2" PORT (INDUSTRIAL OR COMMERCIAL)
12. THE HYDRANT SHALL HAVE 1- 2 1/2" PORT AND 1- 4 1/2" PORT (RESIDENTIAL)

REVISED

6/2024

APPROVED

Dave S. Etel

7/23/24

CITY ENGINEER

DATE

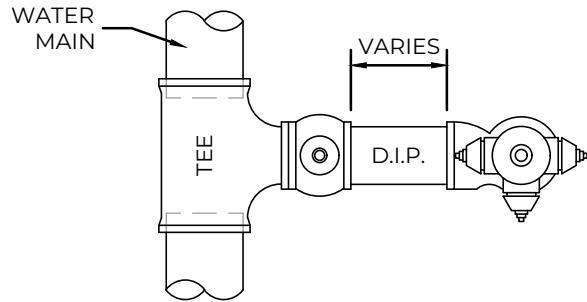
FIRE HYDRANT STANDARD

INSTALLATION

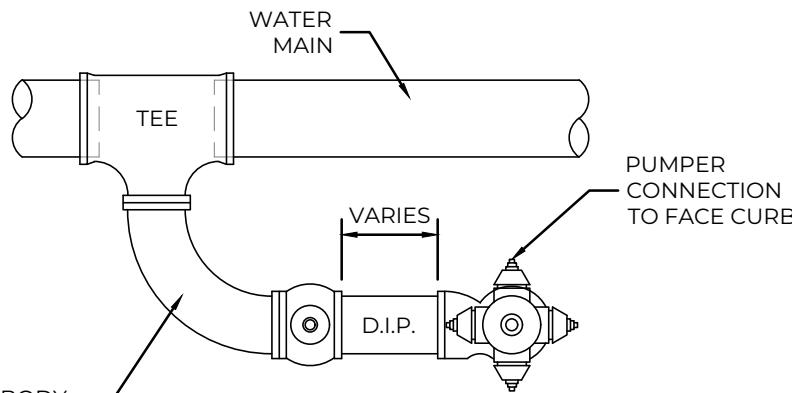


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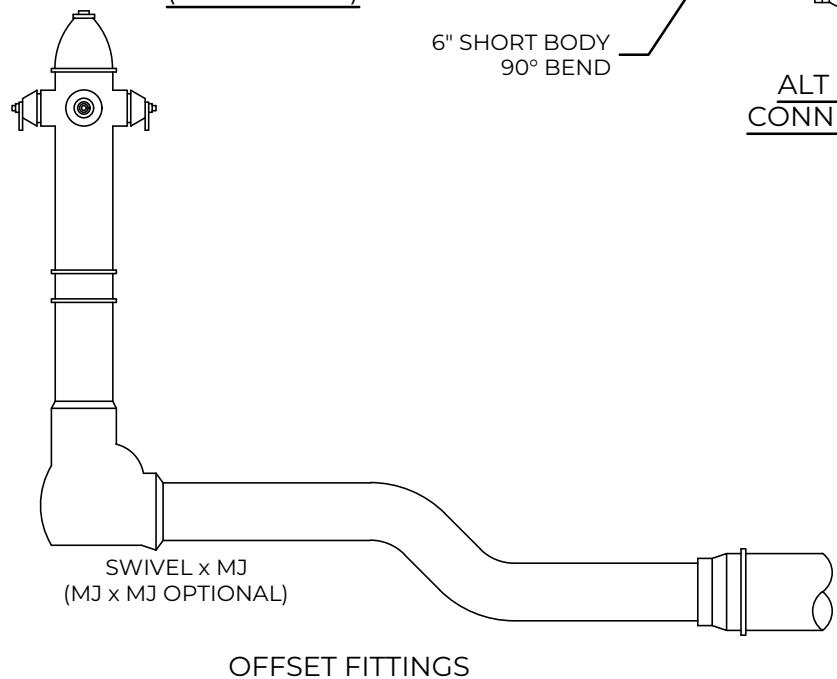
**Detail No.
CG-360-1**



TYP MAIN CONNECTION
(PREFERRED)



ALT MAIN
CONNECTION



REVISED

6/2024

APPROVED

Dane S. Etel

7/23/24

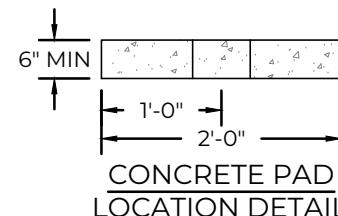
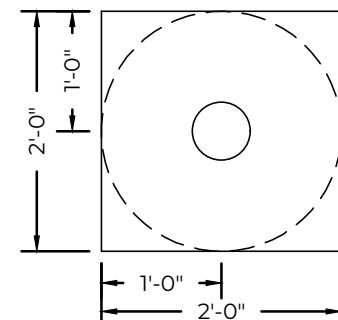
CITY ENGINEER

DATE

FIRE HYDRANT INSTALLATION

DETAILS

SQUARE OR ROUND IS ACCEPTABLE IF
ROUND: 24" DIAMETER MIN. REQUIRED



CONCRETE PAD
LOCATION DETAIL

NOTES:

1. CONCRETE FOR PAD SHALL BE CLASS "A", 3,000 PSI.
2. SCORE LINE SHALL BISECT CONCRETE PAD AT MID POINT OF ALL SIDES.
3. CONCRETE COLOR SHALL MATCH ADJACENT CONCRETE. THE FINISHED CONCRETE SURFACE SHALL HAVE A ROUGH BROOM FINISH (SURFACE ONLY).
4. MULTIPLE OFFSET FITTINGS SHALL NOT BE ALLOWED.
5. MINIMUM 36" CLEARANCE PER NFPA-24 AROUND FIRE HYDRANT.
6. 1/2" BITUMINOUS EXPANSION JOINT MATERIAL SHALL BE PLACED AROUND THE BARREL OF THE FIRE HYDRANT AT THE CONCRETE PAD.

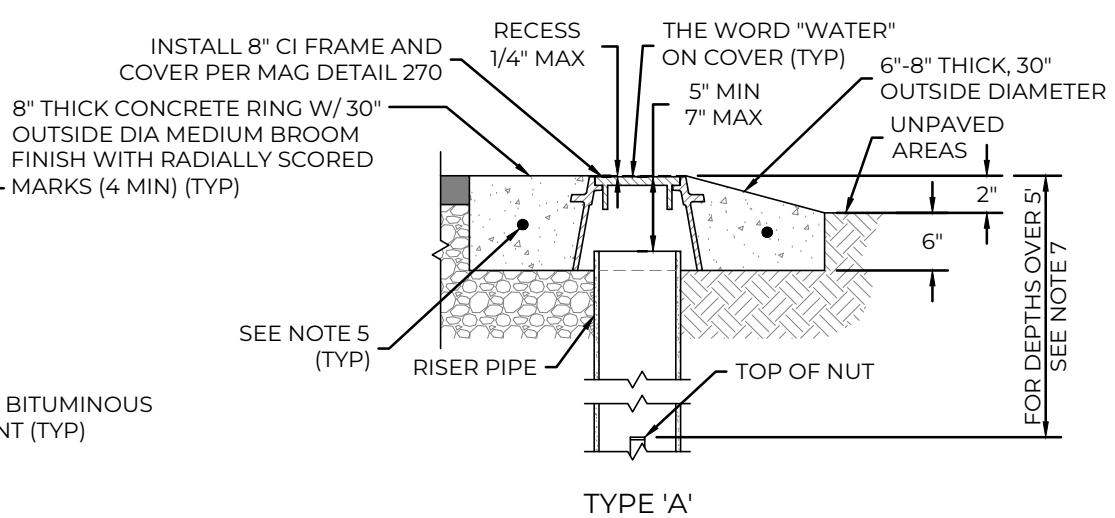
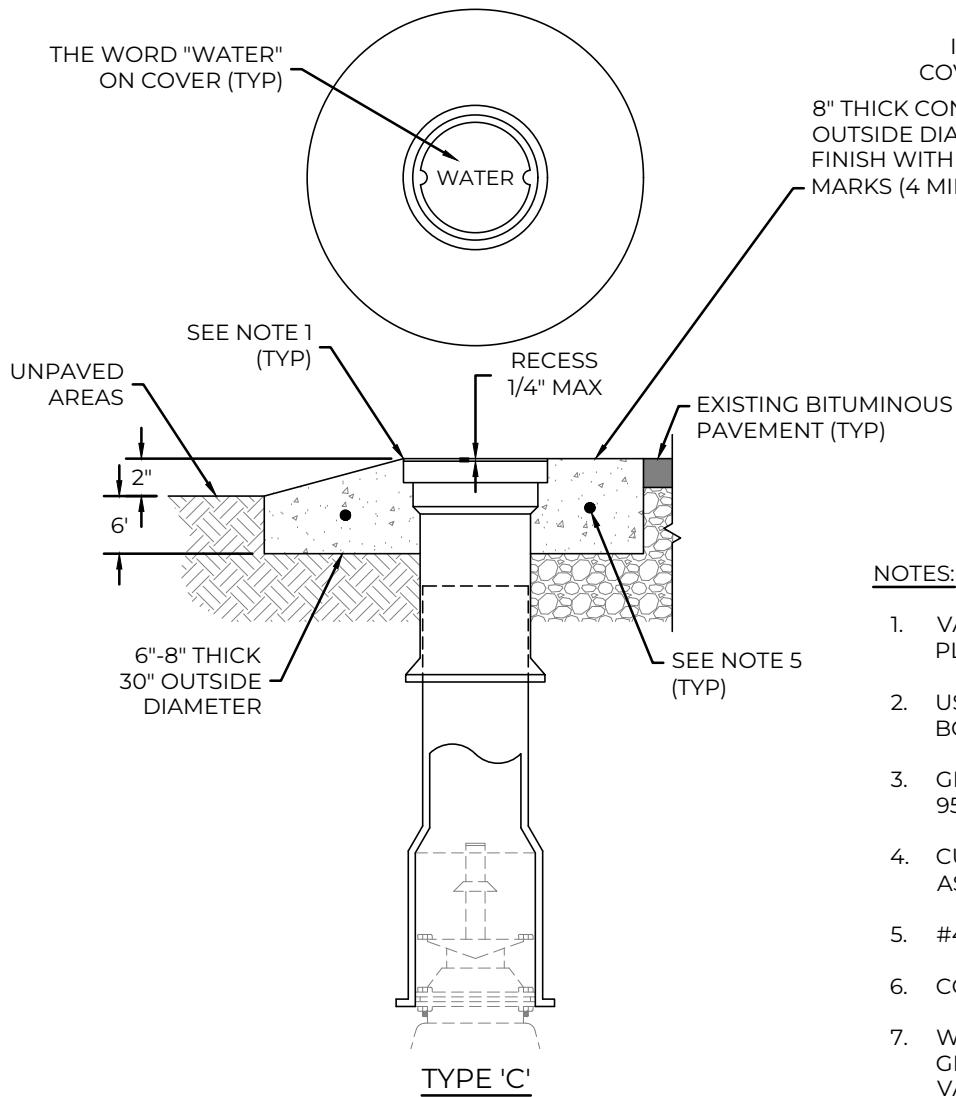


**CITY OF
CASA GRANDE
STRONGER UNITED**

Standard Details

Detail No.

CG-360-2



NOTES:

1. VALVE BOX OR FRAME SHALL BE ADJUSTED TO THE FINISHED GRADE PRIOR TO PLACEMENT OF CONCRETE.
2. USE DEEP SKIRTED LID (4" OR MORE) TYPE, SLIDING ADJUSTABLE CAST IRON VALVE BOX C.I. MIN 30,000 P.S.I.
3. GROUND BELOW CONCRETE RING AND CONCRETE RISER PAD TO BE COMPACTED TO 95% MAXIMUM DENSITY.
4. CUT RISER PIPE TO LENGTH IN FIELD. **CAUTION:** IF EXISTING RISER IS ASBESTOS-CEMENT PIPE (ACP) FOLLOW OSHA GUIDELINES FOR WORKING WITH ACP.
5. #4 REINFORCING STEEL HOOP EQUALLY CENTERED HORIZONTALLY & VERTICALLY.
6. CONCRETE SHALL BE CLASS "A", 3,000 PSI, PER SECTION 725.
7. WATER VALVE EXTENSIONS SHALL BE INSTALLED WHEN THE DIMENSION FROM FINISH GRADE TO TOP OF THE OPERATING NUT EXCEEDS 5 FEET. SEE MAG DETAIL 393 FOR VALVE EXTENSION.

REVISED

6/2024

APPROVED

Dave S. Etel

CITY ENGINEER

7/23/24

DATE

VALVE BOX INSTALLATION

AND GRADE ADJUSTMENT



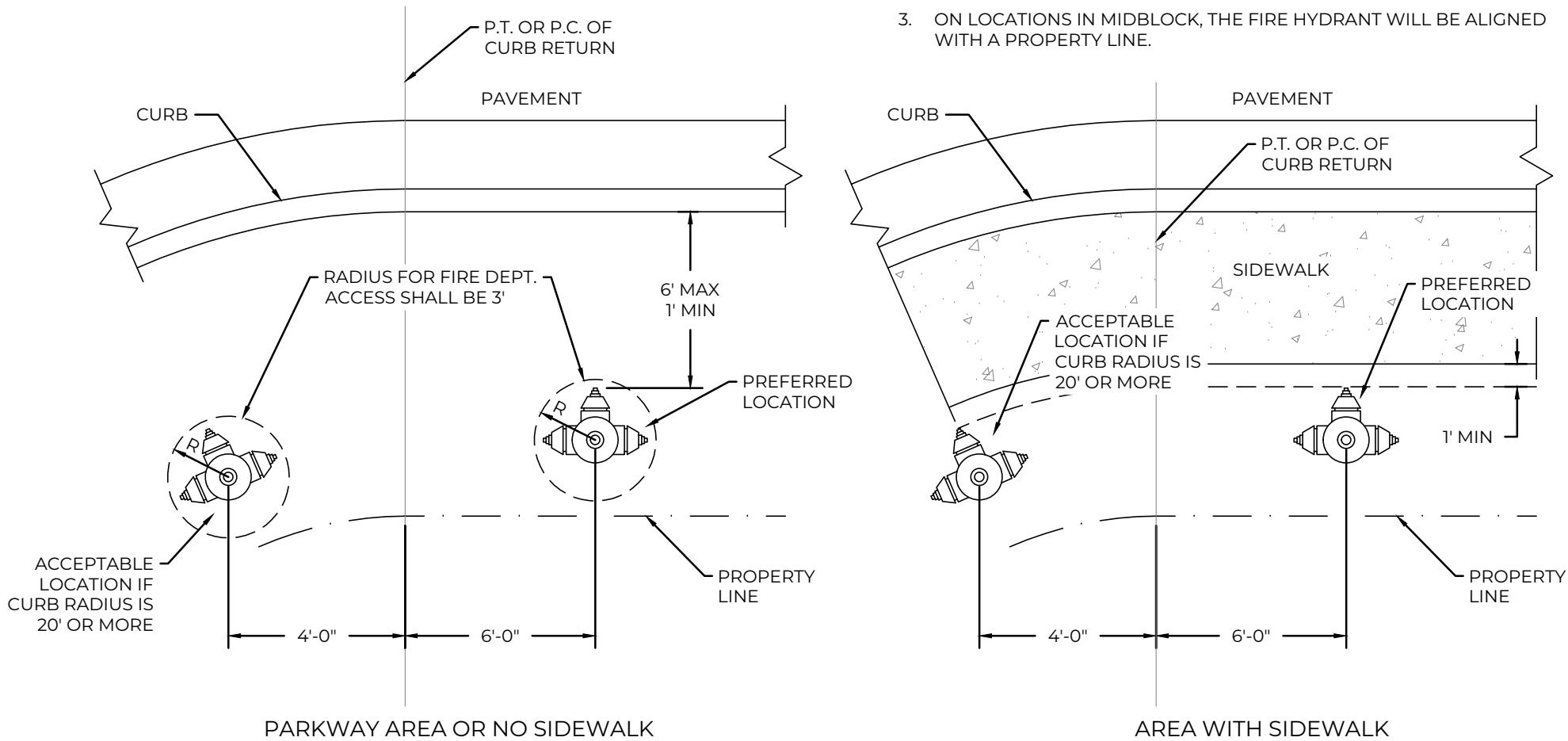
Standard Details

Detail No.

CG-360-3

NOTES:

1. OBSTRUCTIONS SUCH AS UTILITY POLES, STREET SIGNS, IRRIGATION BOXES, FENCES, ETC., MUST NOT BE PLACED BETWEEN CURB AND HYDRANT AND WITHIN THE RADIUS FOR FIRE DEPT. ACCESS.
2. DIMENSIONS SHOWN ON CONSTRUCTION DRAWINGS SUPERCEDE LOCATIONS SHOWN HERE.
3. ON LOCATIONS IN MIDBLOCK, THE FIRE HYDRANT WILL BE ALIGNED WITH A PROPERTY LINE.



REVISED

6/2024

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Dave S. Etter

7/23/24

CITY ENGINEER

DATE

FIRE HYDRANT

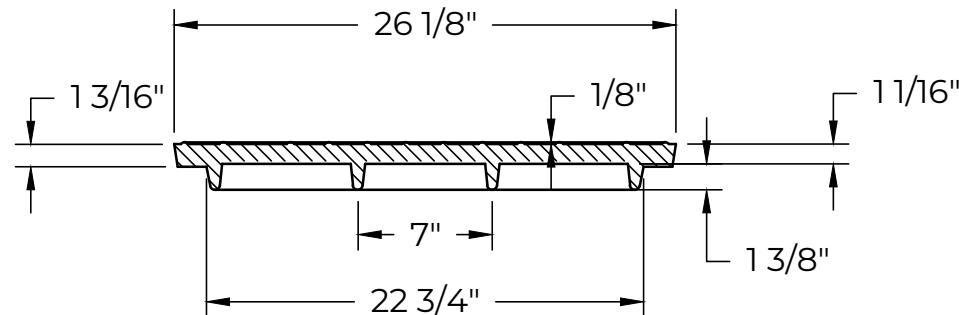
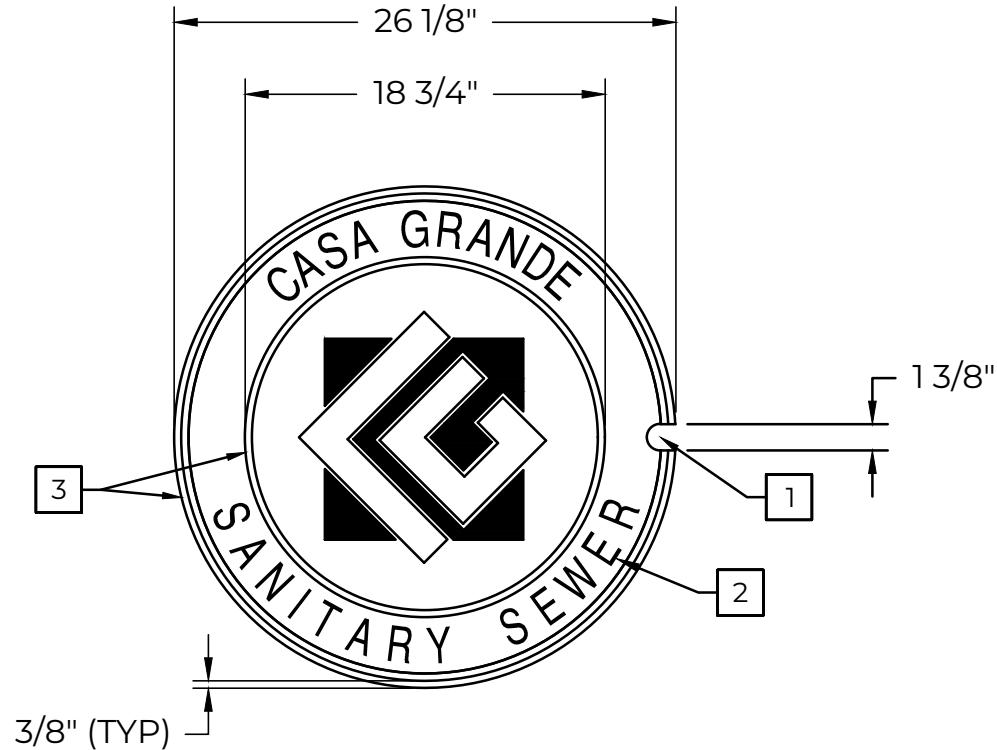
LOCATIONS



**CITY OF
CASA GRANDE
STRONGER UNITED**

Standard Details

**Detail No.
CG-362**



KEYNOTES

- [1] 1 OPEN PICKSLOT
- [2] 2" TALL LETTERS RAISED 1/8" HIGH
- [3] 1/8" TALL RAISED RINGS SPACED 3/8" APART

GENERAL NOTES

1. MANHOLE FRAME & COVER PER MAG STD DTL 423-1

LEGEND

- [Solid Black Box] RAISED FLUSH
- [White Box] 1/8" DEPRESSED

REVISED
APPROVED

4/2024

Dave S. Etter
CITY ENGINEER

7/23/24

DATE

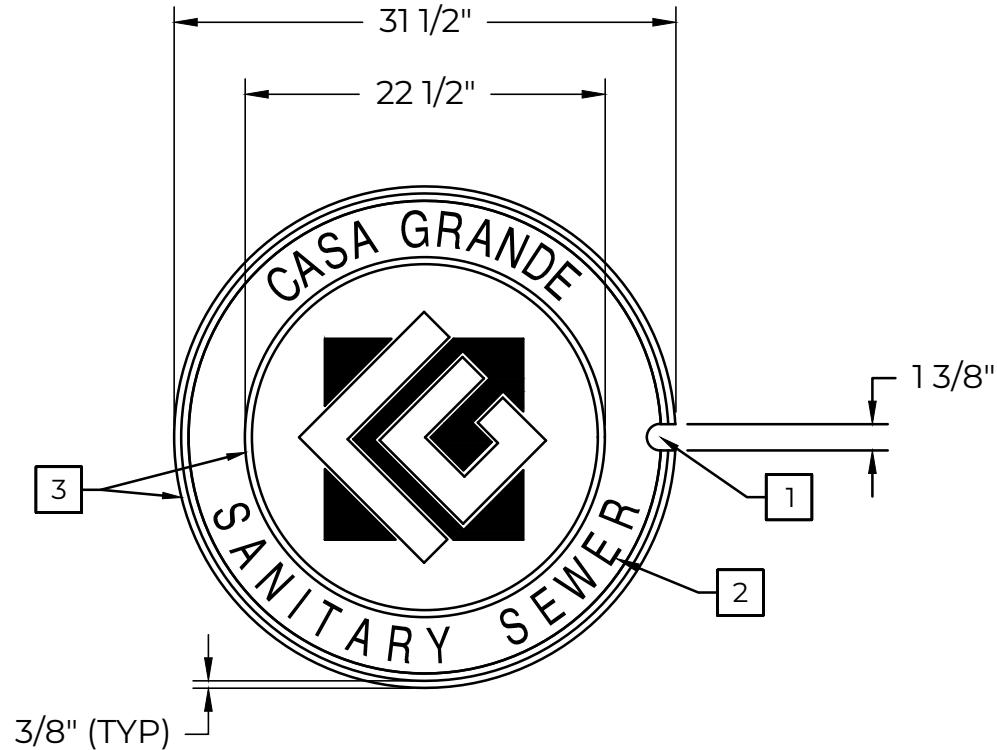
SEWER MANHOLE COVER

24" SANITARY SEWER

 **CITY OF
CASA GRANDE
STRONGER UNITED**

Standard Details

**Detail No.
CG-423-1**



KEYNOTES

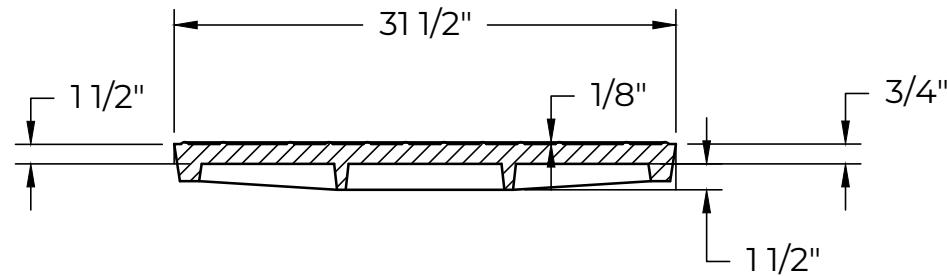
- [1] 1 OPEN PICKSLOT
- [2] 2" TALL LETTERS RAISED 1/8" HIGH
- [3] 1/8" TALL RAISED RINGS SPACED 3/8" APART

GENERAL NOTES

1. MANHOLE FRAME & COVER PER MAG STD DTL 423-2

LEGEND

- [Solid Black Box] RAISED FLUSH
- [White Box] 1/8" DEPRESSED



REVISED

6/2024

APPROVED

Dave S. Et al

7/23/24

CITY ENGINEER

DATE

SEWER MANHOLE COVER

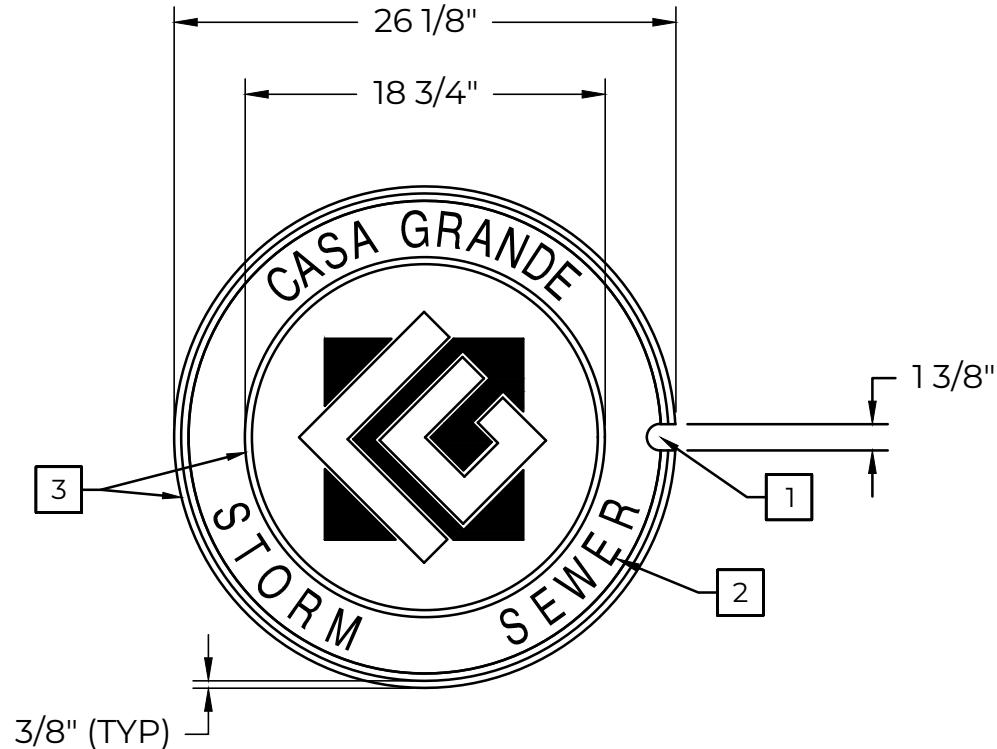
30" SANITARY SEWER



Standard Details

Detail No.

CG-423-2



KEYNOTES

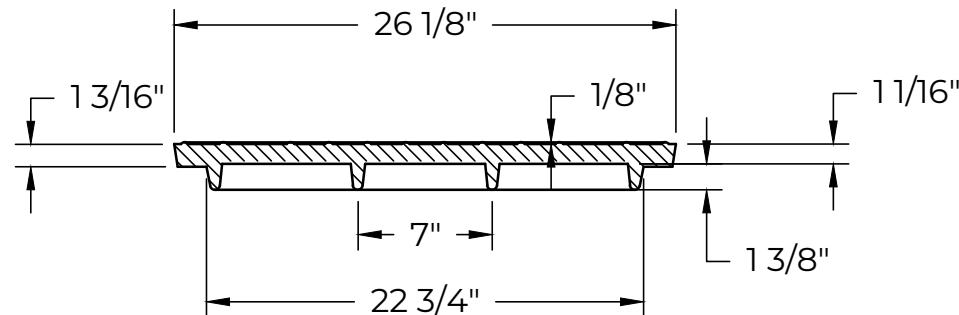
- [1] 1 OPEN PICKSLOT
- [2] 2" TALL LETTERS RAISED 1/8" HIGH
- [3] 1/8" TALL RAISED RINGS SPACED 3/8" APART

GENERAL NOTES

1. MANHOLE FRAME & COVER PER MAG STD DTL 423-1

LEGEND

- [Solid Black Box] RAISED FLUSH
- [White Box] 1/8" DEPRESSED



REVISED

6/2024

APPROVED

Dave S. Etter

7/23/24

CITY ENGINEER

DATE

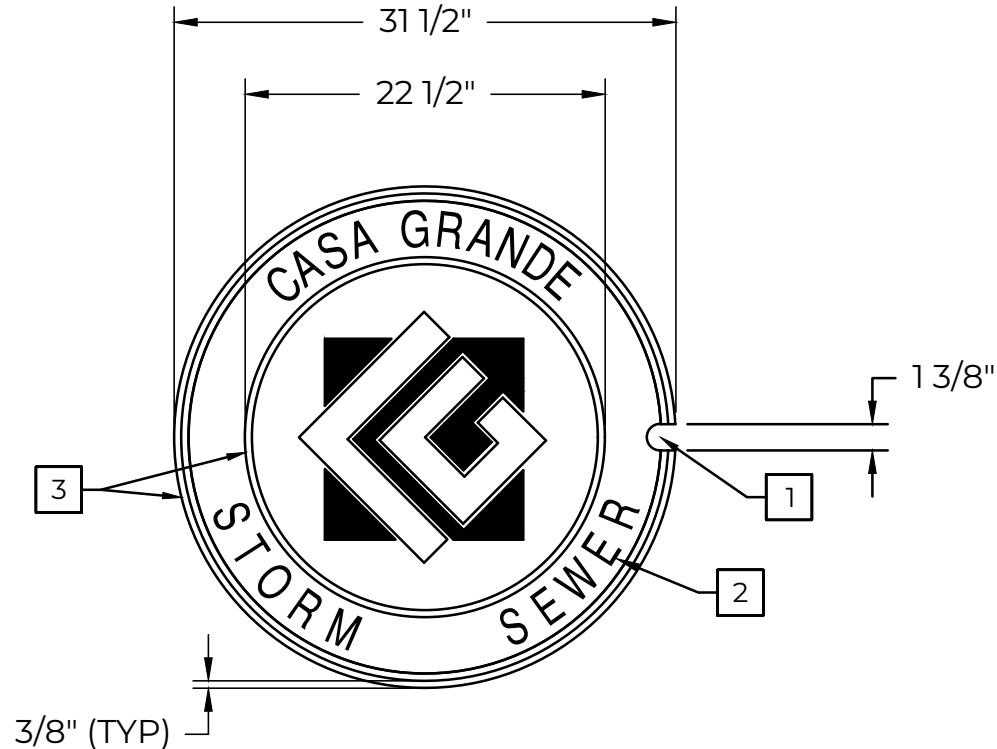
SEWER MANHOLE COVER

24" STORM SEWER



Standard Details

Detail No.
CG-423-3



KEYNOTES

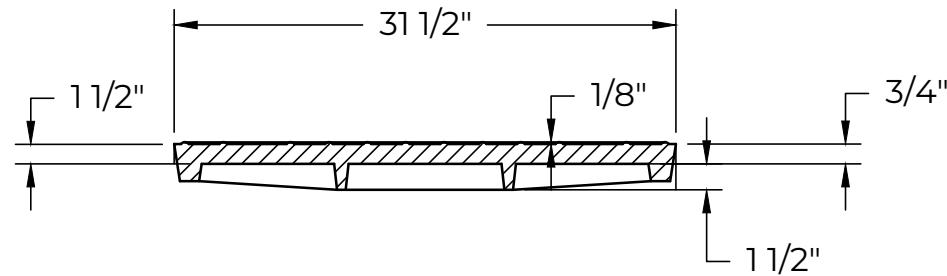
- [1] 1 OPEN PICKSLOT
- [2] 2" TALL LETTERS RAISED 1/8" HIGH
- [3] 1/8" TALL RAISED RINGS SPACED 3/8" APART

GENERAL NOTES

1. MANHOLE FRAME & COVER PER MAG STD DTL 423-2

LEGEND

- [Solid Black Box] RAISED FLUSH
- [White Box] 1/8" DEPRESSED



REVISED

6/2024

APPROVED

Dave S. Etel

CITY ENGINEER

7/23/24

DATE

SEWER MANHOLE COVER

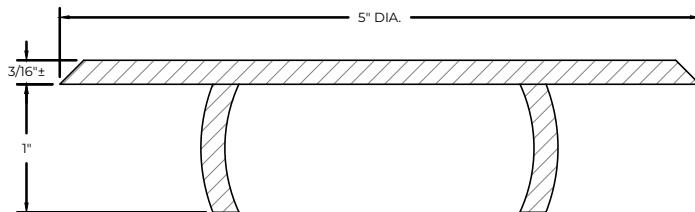
30" STORM SEWER



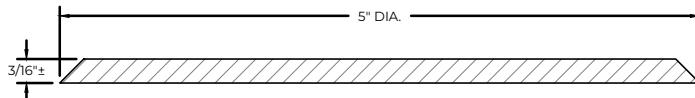
Standard Details

Detail No.

CG-423-4



TYPE "A":
TO BE INSTALLED IN WET
CONCRETE DURING CONSTRUCTION



TYPE "B":
TO BE INSTALLED WITH ADHESIVE
ON EXISTING STRUCTURES

NOTES:

1. MATERIAL: CAST ALUMINUM
2. THE TOTAL WIDTH OF INDIVIDUAL LETTER TO BE SUCH THAT LETTERS AND WORDS ARE EQUALLY SPACED AND BALANCED.
3. LETTERS TO BE 1/2" IN HEIGHT. TYPE OF LETTERS TO BE SUBMITTED FOR APPROVAL.

REVISED

6/2024

APPROVED

Dave S. Etch

7/23/24

CITY ENGINEER

DATE

STORM DRAIN

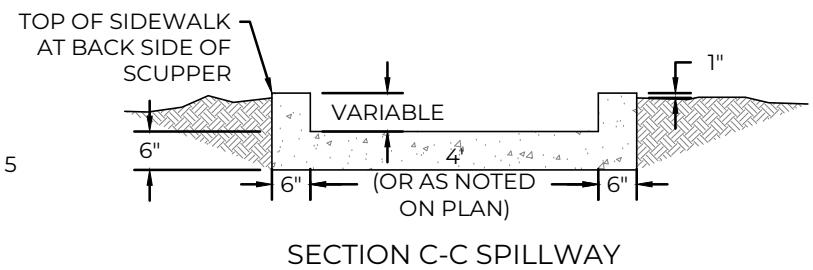
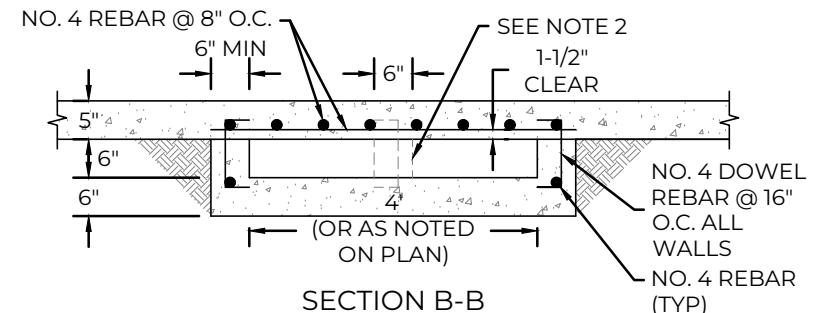
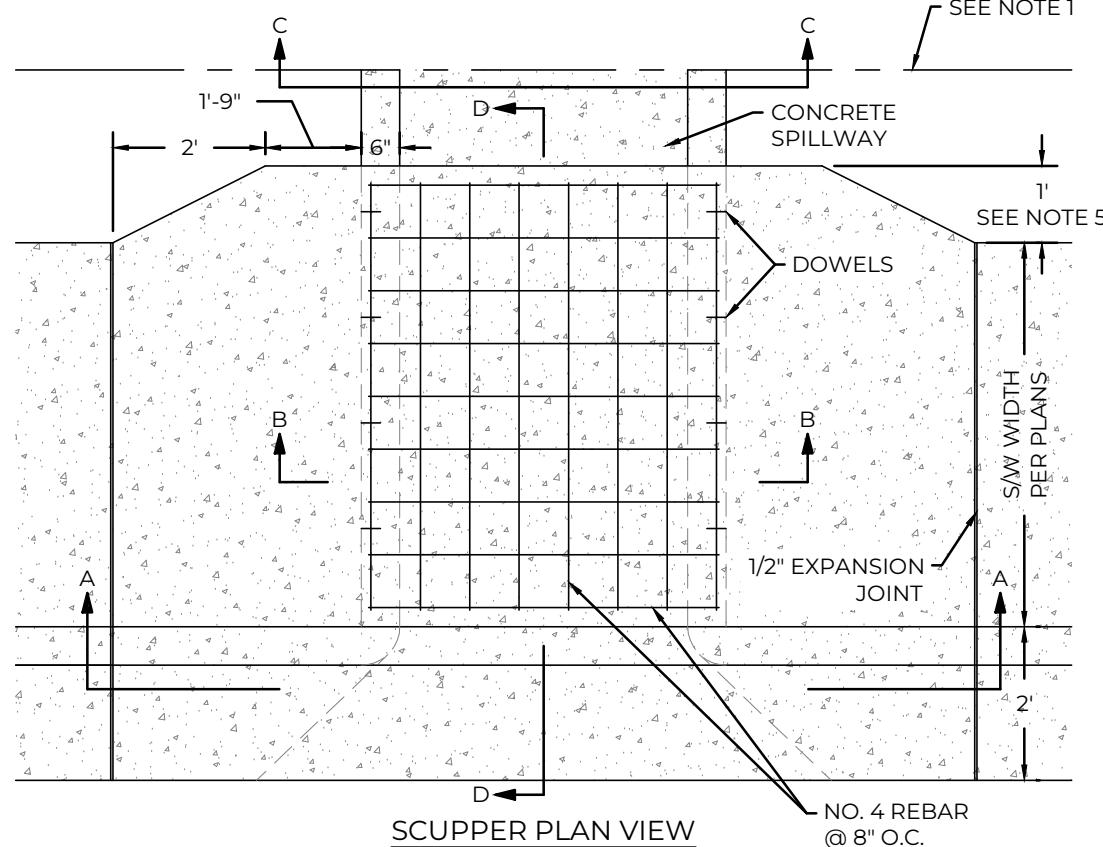
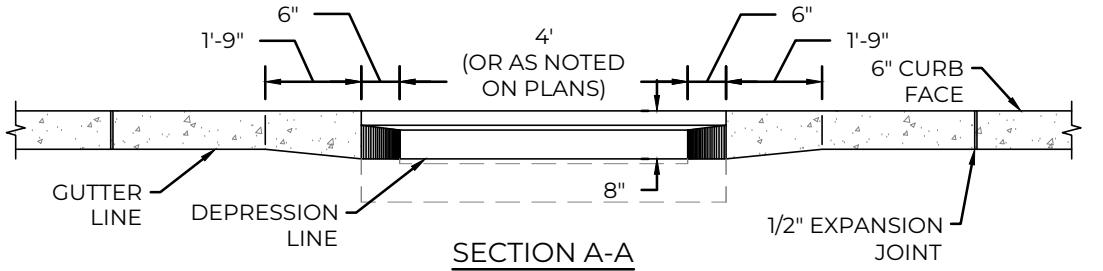
INLET MARKERS



Standard Details

Detail No.

CG-543



NOTES:

1. TRANSITION TO SPILLWAY/CHANNEL AS PER APPROVED PLANS. SEE DETAILS 550-2 & 550-3
2. A 6" WIDE CENTER WALL SHALL BE INSTALLED IN SCUPPERS WIDER THAN 4' OR IF MORE THAN 1 SCUPPER IS BUILT IN SERIES.
3. EXPANSION JOINT FILLER SHALL BE 1/2" BITUMINOUS TYPE PREFORMED EXPANSION JOINT FILLER, ASTM D-1751.
4. CONCRETE FOR THE SCUPPER SHALL BE CLASS 'A' PER SECTION 725. CONCRETE FOR THE SPILLWAY SHALL BE CLASS 'A' OR CLASS 'B'.
5. 12" OFFSET DISTANCE SHALL BE INCREASED TO 2'-6" FOR DESIGNATED BICYCLE PATHS.
6. INSTALL WIRE MESH IN BOTTOM CONCRETE & SPILLWAY PER DTL. CG-550-3

REVISED
APPROVED

6/2024

Dave S. Etel
CITY ENGINEER

7/23/24
DATE

DRAINAGE SCUPPERS
& SPILLWAYS

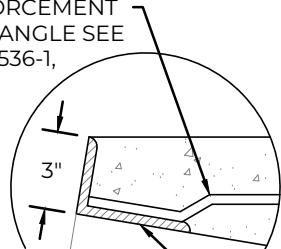
CONCRETE SCUPPER

 CITY OF
CASA GRANDE
STRONGER UNITED

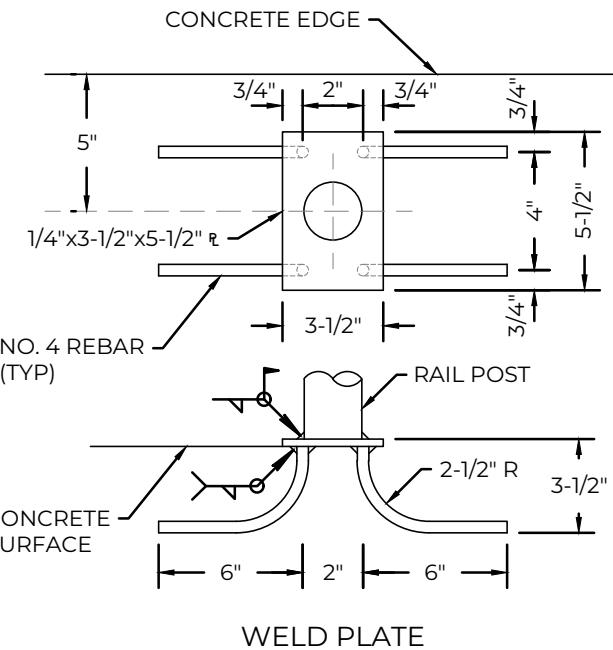
Standard Details

Detail No.
CG-550-1

NO. 4 REINFORCEMENT
WELDED TO ANGLE SEE
MAG DETAIL 536-1,
SECTION C-C

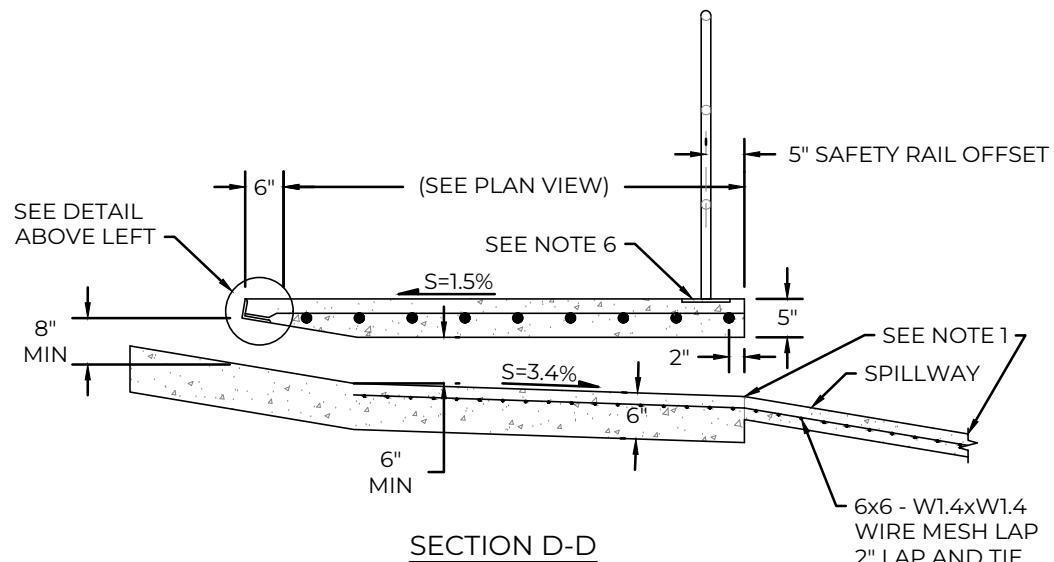


NOSE ANGLE
 $\angle 3'' \times 4'' \times 1/2''$
STANDARD CURB BATTER



NO. 4 REBAR
(TYP)

WELD PLATE



NOTES:

1. TRANSITION TO SPILLWAY/CHANNEL AS PER APPROVED PLANS. SEE DETAIL CG-550-3.
2. A CENTER WALL SHALL BE INSTALLED IN SCUPPERS WIDER THAN 4' OR IF MORE THAN 1 SCUPPER IS BUILT IN SERIES.
3. EXPANSION JOINT FILLER SHALL BE 1/2" BITUMINOUS TYPE PREFORMED EXPANSION JOINT FILLER, ASTM D-1751.
4. CONCRETE FOR THE SCUPPER SHALL BE CLASS 'A' PER SECTION 725. CONCRETE FOR THE SPILLWAY SHALL BE CLASS 'A' OR CLASS 'B'.
5. SAFETY RAIL SHALL BE CONTINUOUS BETWEEN THE SPILLWAY EXTERIOR WALLS.
6. USE WELD PLATES FOR SAFETY RAIL ANCHORS LOCATED IN THE 5" THICK CONCRETE.

REVISED

6/2024

APPROVED

Dave S. Et al

CITY ENGINEER

7/23/24

DATE

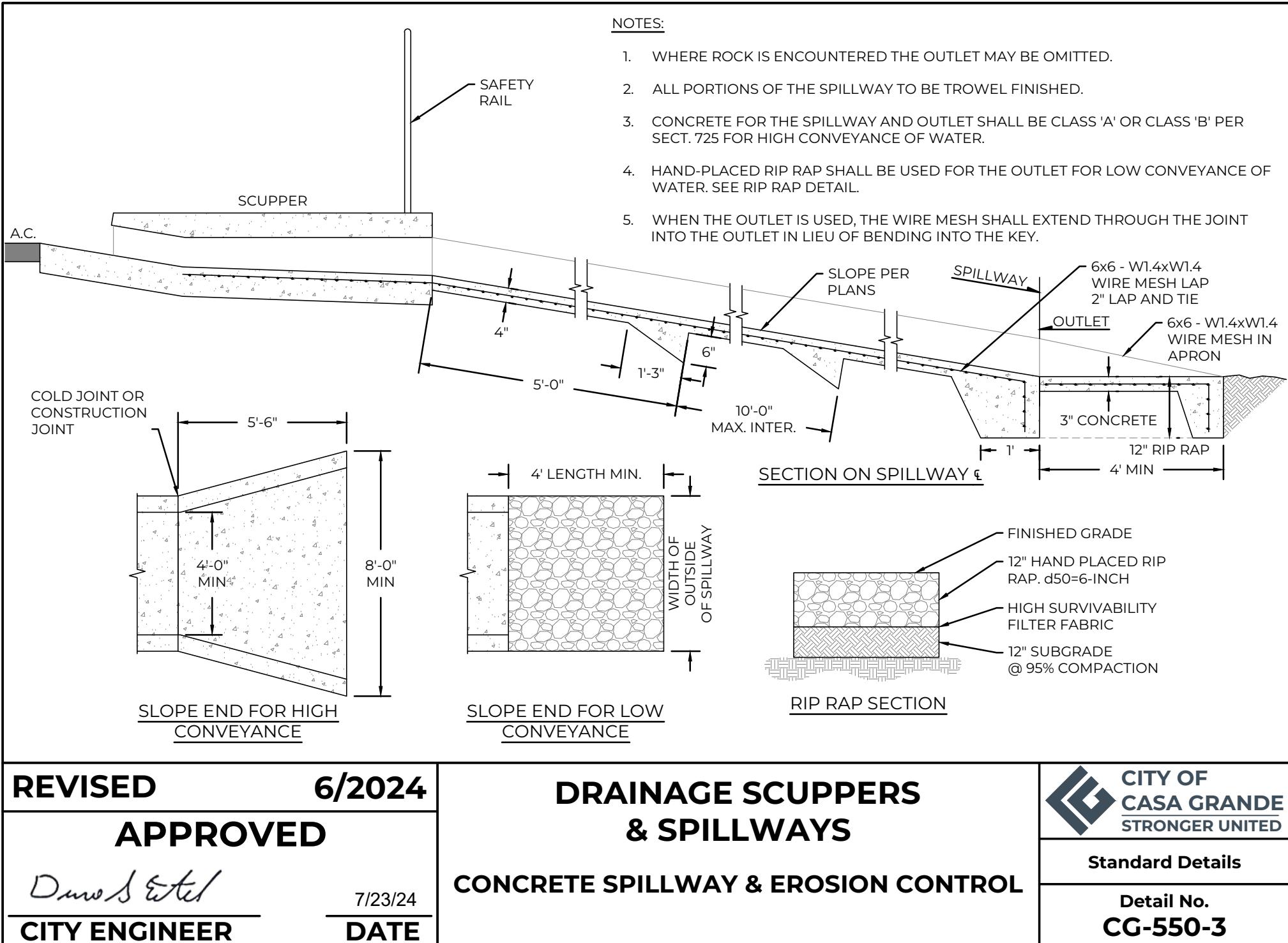
**DRAINAGE SCUPPERS
& SPILLWAYS**

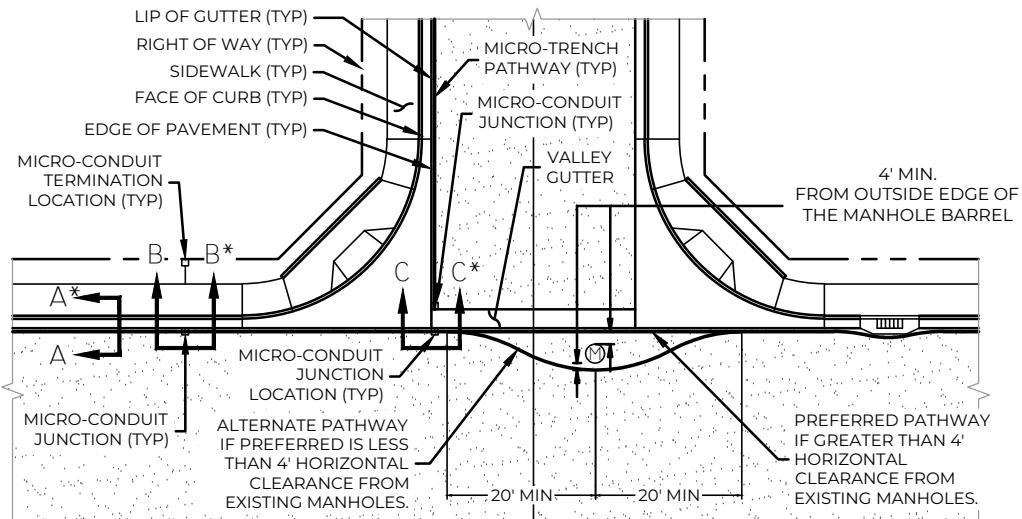
CONCRETE SCUPPER



Standard Details

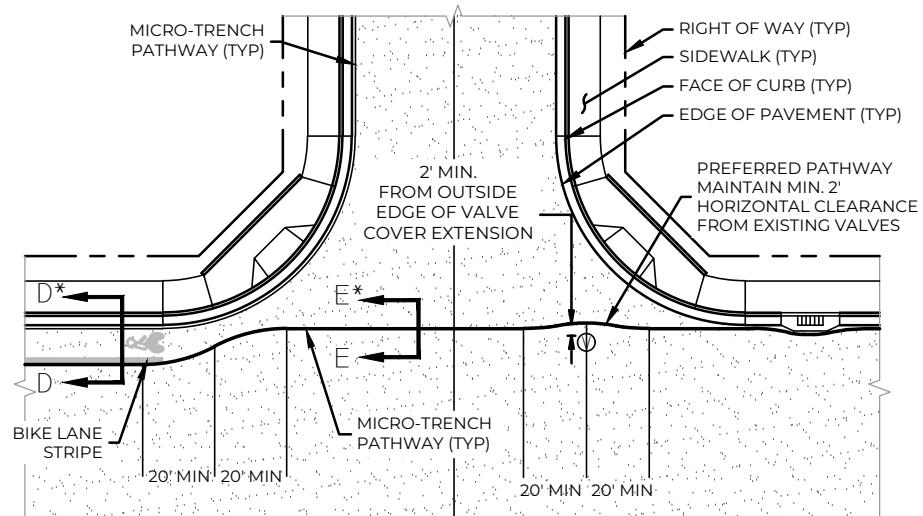
**Detail No.
CG-550-2**





ROADWAY WITH VALLEY GUTTER & APRON @ CURB RETURN

NOTE: REFER TO MICRO-TRENCH DETAILS NOTES CG-1000-3, CG-1000-4 AND CG-1000-5



ROADWAY WITH CURB AND GUTTER @ CURB RETURN

NOTE: REFER TO MICRO-TRENCH DETAILS NOTES CG-1000-3, CG-1000-4 AND CG-1000-5

LEGEND



* FOR ALL SECTION CUTS SEE CG-1000-2

REVISED

6/2024

APPROVED

Dave S. Et al

7/23/24

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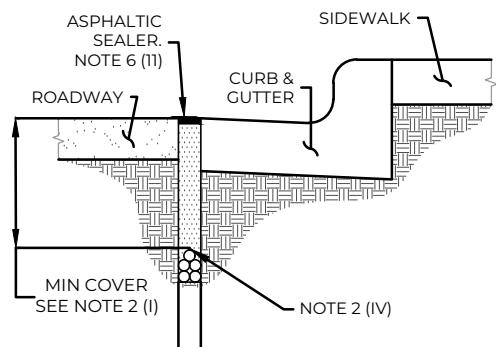
DATE

MICRO-TRENCH DETAILS

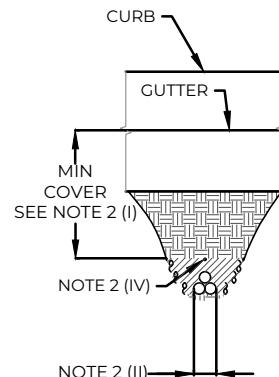


Standard Details

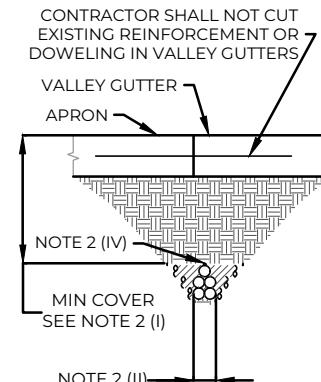
**Detail No.
CG-1000-1**



SECTION A-A



SECTION B-B
NOTE 1, 4 (III)



SECTION C-C
NOTE 1, 4 (III)

LEGEND

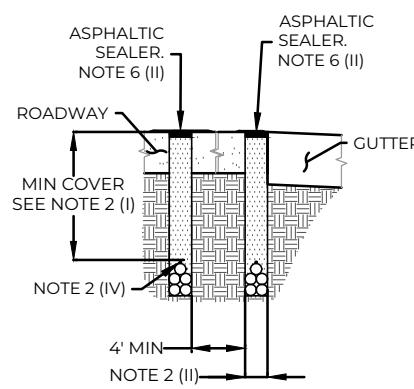
ASPHALT

CONCRETE

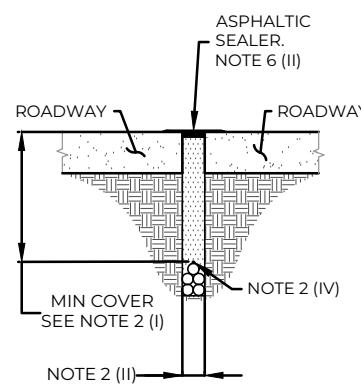
SUBGRADE

CONDUIT

CEMENTITIOUS BACKFILL, NOTE 5



SECTION D-D
NOTE 3 (VII)



SECTION E-E

REVISED **6/2024**

APPROVED

Dave S. Etel

7/23/24

CITY ENGINEER

DATE

MICRO-TRENCH DETAILS



Standard Details

Detail No.
CG-1000-2

NOT TO SCALE

NOTES**MICRO-TRENCHING**

THE FOLLOWING STANDARDS APPLY TO MICRO-TRENCHING:

1) MICRO-TRENCHING IS NOT PERMITTED IN THE FOLLOWING AREAS:

- I) CONCRETE STREETS, DRIVEWAYS, SIDEWALKS, CURB AND GUTTER, APRONS, OR OTHER CONCRETE STRUCTURES.
- II) SPECIAL PAVEMENTS SUCH AS, DECORATIVE PARKING, BRICKS, CONCRETE PAVERS, EXPOSED AGGREGATE CONCRETE, STAMPED ASPHALT, OR OTHER UNIQUE NON-CONCRETE OR NON-ASPHALT MATERIALS.
- III) CROWN OF THE STREET.

2) MICRO-TRENCHING MUST:

- I) HAVE SUFFICIENT DEPTH FOR THE CONDUITS TO BE INSTALLED WITH A MINIMUM COVER OF 16-INCHES ON ALL STREETS.
- II) HAVE MAXIMUM 2.5-INCHES WIDE TRENCH. WHERE TRENCH EXCEEDS 2.5-INCHES, CONTRACTOR WILL BE REQUIRED TO PROVIDE A MAG STANDARD TRENCH CONFORMING TO MAG STD DETAILS AND CITY SUPPLEMENT TO THE DETAILS.
- III) BE RESTORED WITH PREAPPROVED CEMENTITIOUS BACKFILL.
- IV) CONDUITS MUST BE TRACEABLE WITH I4 GAUGE TRACER WIRE MINIMUM.
- V) CONFORM TO SEPARATION REQUIREMENTS (HORIZONTAL AND VERTICAL) FROM EXISTING UTILITIES PER CITY OF CASA GRANDE STANDARD CONSTRUCTION NOTES OR AS OTHERWISE SHOWN ON DETAIL CG-1000-1, WHICHEVER IS GREATER.
- VI) BORE OVER OR UNDER TRAFFIC LOOPS WITH A MINIMUM OF 6-INCH CLEARANCE.
- VII) ALL MARKINGS SHALL BE AVOIDED. ANY MARKINGS DISTURBED SHALL BE REPLACED IN NEW CONDITION WITH LIMITS TO BE AT CITY STAFF DISCRETION.

3) LOCATION OF TRENCHES:

- I) MICRO-TRENCHING IS APPROVED ON ALL STREET CLASSIFICATIONS.
- II) MICRO-TRENCHING MAY BE UTILIZED ON EACH SIDE OF A STREET.
- III) MUST BE LOCATED AT THE EDGE OF LIP OF THE GUTTER OR IN AN ALTERNATE LOCATION APPROVED BY THE CITY.
- IV) MICRO-TRENCHING SHALL BE CONSTRUCTED AND PHASED TO MINIMIZE INTERFERENCE WITH VEHICULAR TRAFFIC.
- V) MICRO-TRENCHING MAY EXTEND THROUGH AN INTERSECTION AND CONTINUE ADJACENT TO THE CURB ON THE OTHER SIDE OF THE INTERSECTION.
- VI) PRIOR TO MICRO-TRENCHING OPERATION, THE CITY INSPECTOR AND CONTRACTOR SHALL "WALK" THE MICRO-TRENCH PATH AFTER AZ811 LOCATE MARKS HAVE BEEN COMPLETED. THE PURPOSE OF THE "WALK" IS TO IDENTIFY ANY AREAS OF POTENTIAL CONFLICT AND/OR INTERFERENCE AND

RECORD THE RESULTS OF THE "WALK". ADDITIONALLY, THE CONTRACTOR SHOULD VERIFY THAT ALL UTILITIES HAVE BEEN LOCATED. THE CONTRACTOR SHALL CROSS CHECK THE RECORD DRAWINGS AND PLANS WITH FIELD LOCATE MARKS TO DETERMINE DISCREPANCIES.

- VII) A SECOND MICRO-TRENCH MAY BE PLACED 4 FEET AWAY FROM THE FIRST MICRO-TRENCH. IF A BIKE LANE EXISTS, MICRO-TRENCH SHALL BE COMPLETELY OUTSIDE OF THE BIKE LANE AND BE ADJACENT TO THE BIKE LANE STRIPE. ANY DISTURBANCE TO THE BIKE LANE STRIPE WILL REQUIRE REPLACEMENT IN NEW CONDITION WITH LIMITS AT CITY STAFF DISCRETION.

4) PAVEMENT CUTS

- I) SAW CUTS SHALL BE STRAIGHT AND CLEAN
- II) THE VERTICAL FACES OF THE TRENCH MUST BE CLEAN, OIL FREE, WITH NO LOOSE MATERIAL.
- III) CONTRACTOR SHALL JACK OR PUSH CONDUITS DIRECTLY UNDER THE CURB AND GUTTER, SIDEWALK, AND/OR VALLEY GUTTER.

5) BACKFILL PROCEDURES

THE BACKFILL MATERIAL MUST BE 1200-2000 PSI CONTROLLED LOW STRENGTH MATERIAL (CLSM) WITH SAND OR AN EQUIVALENT FLOWABLE TYPE BACKFILL AS SPECIFIED IN MAG SPECIFICATION SECTION 604, 701.3, AND 728. MICRO-TRENCHING AND CORES SHALL BE BACKFILLED BY THE END OF THE DAY FOLLOWING THE INSTALLATION OF THE NEW FACILITY. THIS BACKFILLING PROCESS MUST ADHERE TO THE FOLLOWING REQUIREMENTS:

- I) THE BACKFILL MUST BE PLACED IN A TRENCH FREE OF STANDING WATER.
- II) BEFORE PLACING ANY BACKFILL, REMOVE ALL LOOSE CONCRETE, ROCKS, TRASH, AND OTHER DEBRIS FROM THE EXCAVATION.
- III) SAND BEDDING IS NOT ALLOWED.
- IV) THE BACKFILL MUST BE PLACED USING ON-BOARD VIBRATOR THAT MATCHES THE MICRO-TRENCH WIDTH.
- V) THE BACKFILL MATERIAL MUST ADHERE TO MAG SPECIFICATION 604.1, MODIFIED TO REPLACE COARSE AGGREGATE WITH FINE AGGREGATE (SAND), AS SPECIFIED IN MAG SPECIFICATION SECTION 701.3

THE MATERIAL MUST ALSO:

- (A) FLOW FREELY TO THE TRENCH'S BOTTOM.
- (B) REMAIN STABLE UNDER TRAFFIC LOADS.
- (C) BE SUITABLE FOR THE ROAD ENVIRONMENT.
- (D) MEET PERFORMANCE TESTING PER MAG SPECIFICATION SECTION 604.4
- (E) MEET ACCEPTANCE PER MAG SPECIFICATION SECTION 604.5
- VI) THE BACKFILL MATERIAL MUST BE 100% CURED BEFORE APPLYING THE ASPHALTIC SEALANT.
- VII) IF TESTS OR INSPECTIONS REVEAL THAT THE BACKFILL FAILS TO MEET THE REQUIREMENTS MENTIONED ABOVE, THE BACKFILL WILL BE CONSIDERED UNACCEPTABLE AND MUST BE REMOVED AND REPLACED. ALL COSTS RELATED TO CORRECTIONS AND SUBSEQUENT TESTING WILL BE THE RESPONSIBILITY OF THE CONTRACTOR IF THE BACKFILL IS DEEMED UNACCEPTABLE AND/OR IF THE TRENCH IS BACKFILLED WITHOUT BEING INSPECTED BY THE CITY INSPECTOR.
- VIII) THE ASPHALTIC SEALANT SHALL BE COMPLETED IN NO MORE THAN 7 CALENDAR DAYS AFTER THE PLACEMENT OF THE CLSM.

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7/23/24

CITY ENGINEER

DATE

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6) ASPHALTIC SEALER/OVERBAND

THE ASPHALTIC SEALING MATERIAL, ALSO KNOWN AS AN OVERBAND, PLACED OVER THE TOP OF A MICRO-TRENCH SHALL CONFORM TO MAG STANDARD 337 AND BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS OR THE REQUIREMENTS OF THIS STANDARD, WHICHEVER IS MORE STRINGENT.

- I) THE SEALANT SHALL OVERLAY THE GROOVE LEAVING A MAXIMUM OVERBAND APPEARANCE OF 3-INCH WIDE (6-INCH WIDTH TOTAL) ON EACH SIDE OF THE EXCAVATION CENTERLINE.
- II) WHERE THE TRENCH IS ADJACENT TO CURB AND GUTTER OR OTHER CONCRETE SURFACE, THE SEALANT SHALL OVERLAY THE GROOVE LEAVING A MAXIMUM 3-INCH WIDE OVERBAND ON THE ASPHALT SURFACE.
- III) THE SEALANT SHALL NOT COVER ANY PAVEMENT MARKINGS. THE TRENCH MUST BE LOCATED SO TO AVOID THE SEALANT FROM COVERING PAVEMENT STRIPING.
- IV) THE HEIGHT OF THE SEALANT ABOVE THE PAVEMENT SURFACE SHALL NOT EXCEED 1/8-INCH.
- V) PAVEMENT PATCHES SHALL BE "SQUARED UP" AND NOT IRREGULAR IN SHAPE PER MAG DETAIL 212.
- VI) THE UTILITY POTHOLE-KEYHOLE METHOD, ALSO KNOWN AS CORE RESTORATION, SHALL CONFORM TO MAG DETAIL 212, TYPE 'A' MODIFIED WITH A 2' X 2' PAVEMENT REPLACEMENT DIMENSION.
 - (A) IF THE PAVEMENT CORE IS FOUND FRACTURED OR DEFECTIVE UPON REMOVAL, OR IF IT BECOMES DAMAGED AFTER REMOVAL AND BEFORE REINSTATEMENT, THE DEFECTIVE OR DAMAGED CORE SHALL NOT BE USED TO RESTORE THE PAVEMENT.
 - (B) CLSM SHALL CONFORM TO MAG STANDARD SPECIFICATIONS SECTION 728 AND BE PLACED TO TOP OF TRENCH, ALLOWING SPACE FOR ASPHALTIC SEALER.
 - (C) CONVENTIONAL POTHOLE RESTORATION SHALL CONFORM TO MAG DETAIL 212, TYPE A PAVEMENT REPAIR.
- VII) THE RESTORED SURFACE SHALL BE THOROUGHLY COMPACTED, SMOOTH AND TRUE TO GRADE AND CROSS-SECTION, AND FREE FROM RUTS, HUMPS, DEPRESSIONS, OR IRREGULARITIES. (MAG 336.2.4.1).
- VIII) RESTORATION OF ANY DAMAGED TRAFFIC CONTROL DEVICES MUST BE COMPLETED, INCLUDING BUT NOT LIMITED TO EMBEDDED LOOP DETECTORS AND PAVEMENT MARKINGS, DAMAGED LOOP DETECTORS SHALL BE REPLACED PER CITY OF CASA GRANDE STANDARD SPECIFICATIONS AND DETAILS.

7) SITE RESTORATION

- III) A CONTRACTOR PERFORMING CONSTRUCTION IN PUBLIC RIGHT-OF-WAY (ROW) MUST RESTORE THE ROW TO A CONDITION EQUAL TO OR BETTER THAN THAT SPECIFIED IN THIS DETAIL OR OTHER APPLICABLE CITY DESIGN AND CONSTRUCTION STANDARDS.
- II) CONCRETE DAMAGE, POTHOLE EXCAVATIONS OR OTHER DAMAGE IN CONCRETE FACILITIES, SHALL BE SAW CUT AND REMOVED AND REPLACED IN KIND TO THE NEAREST JOINT.
- III) TURF REPLACEMENT AND SOD MATCHING EXISTING TURF SHOULD BE USED AND CONFORM TO MAG STANDARD SPECIFICATION 430, RUTS SHOULD BE ELIMINATED, AND TOPSOIL MUST BE PREPARED TO CREATE A SMOOTH SURFACE DEVOID OF ROCKS AND GRAVEL.

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- IV) ANY IRRIGATION SYSTEMS SHALL BE RESTORED PER MAG SPECIFICATION SECTION 440. ALL IRRIGATION SYSTEMS (I.E. SPRINKLER HEADS, BUBBLERS, EMITTERS, CONTROLS, ETC.) SERVING AN AREA AFFECTED BY THIS PROJECT SHALL BE RESTORED AS REQUIRED TO FACILITATE THE CONTINUED OPERATION FOR THEIR INTENDED USE. NEW SPRINKLER HEADS SHALL HAVE THE SAME PRECIPITATION OUTPUT AS THE EXISTING LAWN HEADS. ALL PIPING, PIPE FITTINGS, COUPLINGS, SPRINKLERS, EMITTERS CONDUIT, SLEEVING, LOW VOLTAGE CONDUCTORS, SERVICE LINE CONDUCTORS, DRIP LINE, FIXTURES, ETC. USED IN THE REPAIR AND RESTORATION OF EXISTING SPRINKLER AND Emitter SYSTEMS SHALL BE NEW, IN PERFECT CONDITION, AND SHALL COMPLY WITH MAG SPECIFICATION SECTION 757.
- V) FOR SYNTHETIC TURF, FOLLOW THE MANUFACTURER'S RECOMMENDATIONS FOR RESTORATION, ADHERING TO THESE ABBREVIATED STEPS:
 - (A) CLEAN THE SURFACE: BEGIN BY THOROUGHLY CLEANING THE SYNTHETIC TURF SURFACE. REMOVE DEBRIS, LEAVES, DIRT, AND DUST SING A LEAF BLOWER, BROOM, OR A GENTLE SPRAY OF WATER.
 - (B) APPLY INFILL: IF YOUR SYNTHETIC TURF HAS INFILL MATERIAL (LIKE SAND), CHECK IF IT NEEDS REPLENISHING. ADD THE APPROPRIATE AMOUNT OF INFILL TO MAINTAIN WEIGHT AND SUPPORT FOR THE TURF.
 - (C) REPAIR DAMAGES: INSPECT FOR DAMAGE SUCH AS TEARS, RIPS, OR LOOSE SEAMS. REPAIR DAMAGED AREAS AS PER THE MANUFACTURER'S GUIDELINE. SECURE SEAMS PROPERLY.
 - (D) DIRECTION OF GAUGES OR TUFTED FIBER: DETERMINE THE DIRECTION OF THE GAUGES OR TUFTED FIBER IN THE LAWN. ADD NEW SECTIONS IN THE CORRECT DIRECTION FOR A SEAMLESS APPEARANCE. ENSURE THAT BLADES AND STITCH PATTERNS FACE THE SAME DIRECTION.
 - (E) REMOVE STAINS: USE A MILD DETERGENT MIXED WITH WATER TO GENTLY SCRUB STAINED AREAS. RINSE THOROUGHLY WITH WATER TO REMOVE SOAP RESIDUE.
 - (F) RINSE AND DRAIN: RINSE THE ENTIRE TURF WITH WATER TO REMOVE CLEANING AGENTS OR DIRT. ENSURE PROPER DAMAGE FROM THE SURFACE.
 - (G) GROOM THE TURF: USE THE BRUSH OR POWER BROOM TO GROOM THE TURF IN THE NATURAL DIRECTION OF THE BLADES. THIS HELPS FIBERS STAND UPRIGHT AND GIVES A REALISTIC APPEARANCE.

FOR GEOTEXTILE FABRIC, FOLLOW THE MANUFACTURER'S RECOMMENDATIONS FOR RESTORATION. HERE ARE THE ABBREVIATED STEPS:

- (A) GEOTEXTILE OR WEED BARRIER FABRIC, IS SPECIALIZED MATERIAL DESIGNED FOR WEED CONTROL, EROSION PREVENTION, AND ENHANCED LANDSCAPING STABILITY. ENSURE THAT THE NEW GEOTEXTILE FABRIC MATCHES OR EXCEEDS THE QUALITY OF THE EXISTING FABRIC BEING REPLACED. THE WEIGHT PER SQUARE YARD SHOULD EXCEED THAT OF THE EXISTING GEOTEXTILE FABRIC.
- (B) BACKFILL AND COMPACT TRENCHES TO A MINIMUM OF 90% OF MAXIMUM DENSITY.
- (C) MAINTAIN A 6-INCH TO 12-INCH OVERLAP BETWEEN EACH PIECE OF GEOTEXTILE FABRIC. FAILING TO OVERLAP THE MATERIAL COULD ALLOW WEEDS TO GROW BETWEEN THE GAPS.
- (D) SECURE THE LANDSCAPE FABRIC IN PLACE.



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(E) REMOVE WEEDS AND DEBRIS.

(F) LEVEL THE SOIL SURFACE.

(G) THE CONTRACTOR SHOULD MATCH THE EXISTING LANDSCAPE ROCK AND ROCK PATTERN, COVERING THE ENTIRE AREA WITH ROCK AND ENSURING NO GAPS WHERE THE GEOTEXTILE FABRIC IS EXPOSED.

(H) UNLESS DIRECTED OTHERWISE BY THE CITY INSPECTOR, THE CONTRACTOR MUST COMPLETE ALL REPAIRS AND RESTORATION WORK ON DAMAGED OR DISTURBED LANDSCAPE IRRIGATION SYSTEMS, ELECTRICAL LINES, AND LIGHTING WITHIN 24 HOURS OF SUCH DAMAGE OR DISRUPTION.

VI) RESTORATION WORK SHOULD BE CARRIED OUT PROMPTLY. UNSATISFACTORY RESTORATION OR DELAYED COMPLETION WILL LEAD TO A HALT IN ALL CONTRACTOR WORK ON THE OVERALL PROJECT. NO ADDITIONAL PERMITS WILL BE ISSUED UNTIL SATISFACTORY RESTORATION IS COMPLETED, INCLUDING PREVIOUSLY PERMITTED BUT UNFINISHED WORK.

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 CITY OF CASA GRANDE STRONGER UNITED
Standard Details
Detail No. CG-1000-5