

WHATABURGER

PRELIMINARY GRADING AND DRAINAGE PLAN

5427 S. POWER ROAD, MESA AZ 85212

DEVELOPER

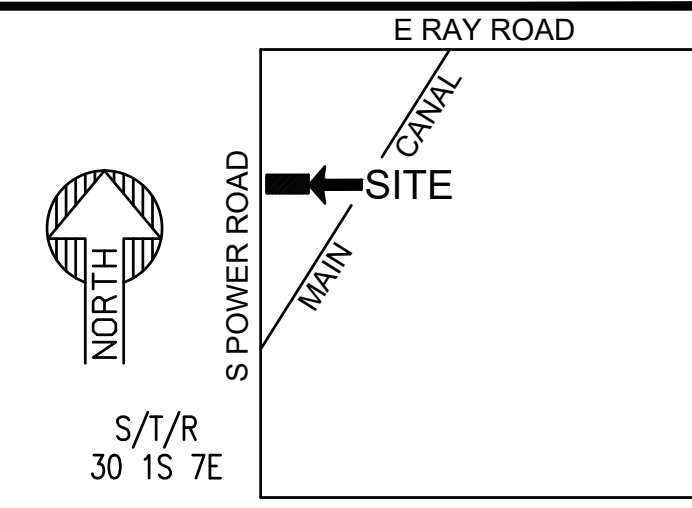
WHATABRANDS REAL ESTATE
300 CONCORD PLAZA DRIVE
SAN ANTONIO, TEXAS 78216
PHONE: 210-476-6181
ATTN: CLINT SAAVADRA

OWNER

GS TRUST/5427 S POWER LLC
5427 S. SETON DR, GILBERT,
AZ 85259
PHONE: 505-980-1991

CIVIL ENGINEER

SUSTAINABILITY ENGINEERING GROUP
8280 E. GELDING DR., SUITE 101
SCOTTSDALE, ARIZONA 85260
PHONE: 480-588-7226
ATTN: ALI FAKIH



PRELIMINARY
NOT FOR
CONSTRUCTION

SUSTAINABILITY
ENGINEERING
GROUP

SEG

8280 E. GELDING DRIVE SUITE 101, SCOTTSDALE, ARIZONA 85260
WWW.AZSEG.COM TEL. 480.588.7226 FAX. 480.259.3534



PROJECT	WHATABURGER	LOCATION	5427 S. POWER ROAD, MESA, AZ
DRAWN	AF	DATE	07/08/2021
DESIGNED	JC, LR	DATE	07/08/2021
QC	SC	DATE	07/02/2021
FINAL GC	KZ	DATE	07/08/2021
PROJ. MGR.	AF	DATE	07/08/2021

ISSUED FOR: SITE PLAN/DESIGN REVIEW

REVISION NO.	DATE
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PRELIMINARY
GRADING AND
DRAINAGE PLAN

BASIS OF BEARING

THE BASIS OF BEARING AND ALL MONUMENTATION SHOWN HEREON IS BASED ON THE WEST LINE OF THE NORTHWEST QUARTER OF SECTION 30, T1S, R7E, USING A BEARING OF SOUTH 00 DEGREES 56 MINUTES 43 SECONDS EAST, AS SHOWN ON PLSS RECORD OF SURVEY, RECORD IN BOOK 609, PAGE 29, MARICOPA COUNTY RECORDS.

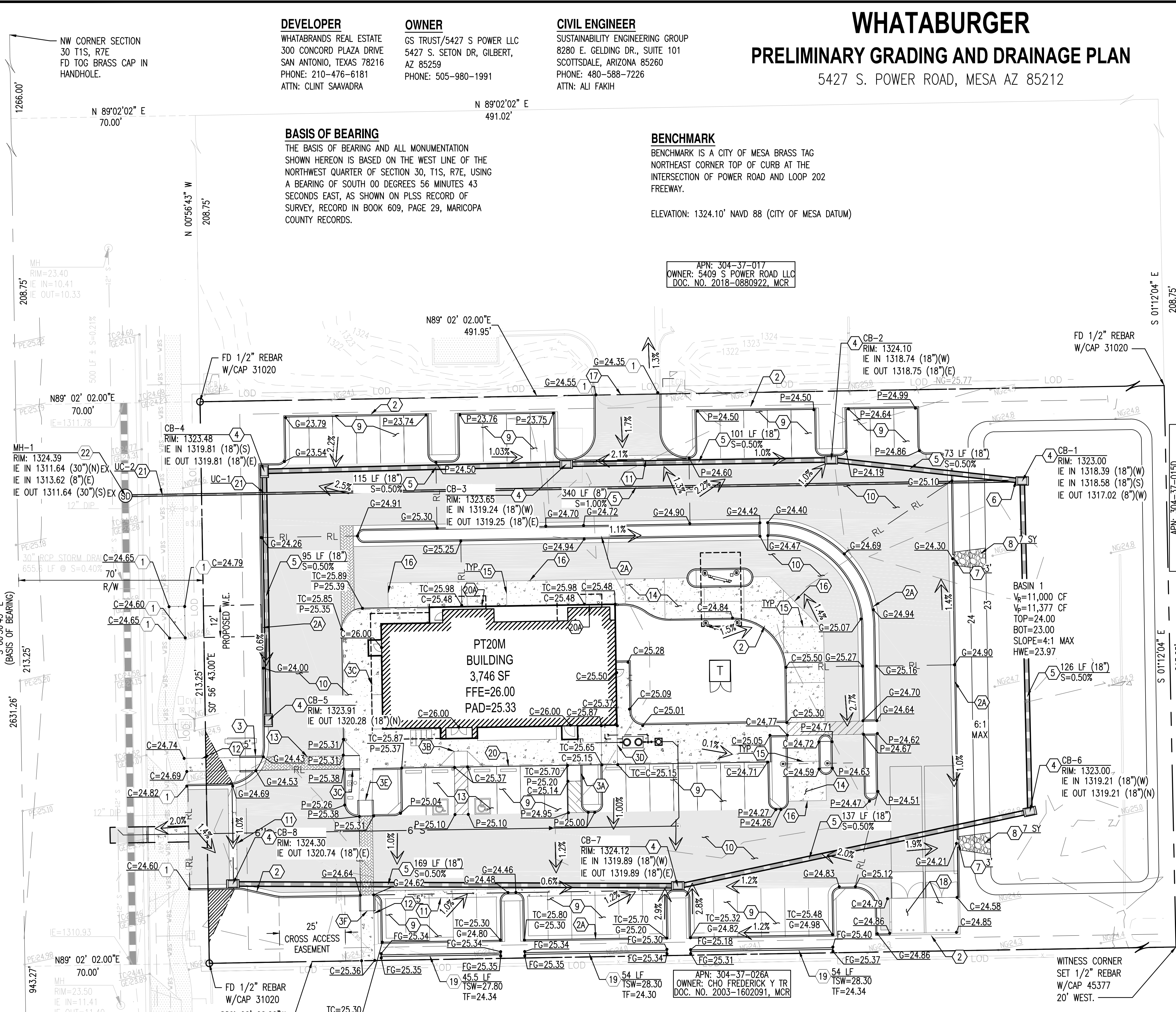
BENCHMARK

BENCHMARK IS A CITY OF MESA BRASS TAG NORTHEAST CORNER TOP OF CURB AT THE INTERSECTION OF POWER ROAD AND LOOP 202 FREEWAY.

ELEVATION: 1324.10' NAVD 88 (CITY OF MESA DATUM)

APN: 304-37-017
OWNER: 5409 S POWER ROAD LLC
DOC. NO. 2018-0880922, MCR

APN: 304-37-026A
OWNER: CHO FREDERICK Y TR
DOC. NO. 2003-1602091, MCR



GRADING CONSTRUCTION KEY NOTES

- MATCH EXISTING GRADE; CONTRACTOR TO VERIFY IN FIELD ALL GRADES PRIOR TO CONSTRUCTION ACTIVITIES AND CONTACT ENGINEER IN CASE OF ANY DISCREPANCIES.
- CONSTRUCT 6" SINGLE CURB PER MAG STD. DET. 222 TYPE "B"
- CONSTRUCT 6" VERTICAL CURB AND GUTTER PER MAG STD. DET. 220 TYPE "A".
- CONSTRUCT ADA RAMP PER DET. 1/C3.10.
- CONSTRUCT DELIVERY RAMP PER DET. 2/C3.10.
- CONSTRUCT ADA RAMP PER DET. 4/C3.10.
- CONSTRUCT ADA RAMP PER DET. 7/C3.10.
- CONSTRUCT DELIVERY RAMP PER DET. 8/C3.10.
- CONSTRUCT ADA RAMP PER DET. 16/C3.11.
- CONSTRUCT ADA RAMP PER DET. 17/C3.11.
- FURNISH AND INSTALL CONCRETE CATCH BASIN TYPE "F" PER MAG STD. DET. 535.
- FURNISH AND INSTALL HDPE DOUBLE WALL PIPE, CLASS 100; PIPE MATERIAL PER MAG SPECIFICATION 738. LENGTH, SIZE AND SLOPE PER PLAN.
- FURNISH AND INSTALL ORIFICE PLATE IN THE CATCH BASIN BEFORE THE 8" BLEED OFF PIPE PER DET. 6/C3.10.
- CONSTRUCT CURB OPENING PER DETAIL 10/C3.11; LENGTH PER PLAN.
- FURNISH AND INSTALL RIP-RAP; D50 = 6", 12" DEPTH. DIMENSIONS PER PLAN. REFER TO DETAIL 3/C3.10.
- CONSTRUCT LIGHT DUTY PAVEMENT PER DETAIL 11/C3.11.
- CONSTRUCT HEAVY DUTY PAVEMENT PER DETAIL 11/C3.11.
- CONCRETE VALLEY GUTTER PER MAG STD. DET. 240 MODIFIED TO 3' WIDE PER DET 5/C3.10.
- CONSTRUCT CONCRETE SIDEWALK PER MAG STD. DET. 230. WIDTH PER PLAN.
- CONSTRUCT PAVEMENT WITH 2% MAXIMUM SLOPE IN ANY DIRECTION AT ACCESSIBLE PARKING STALLS AND 2% MAXIMUM CROSS SLOPE AT ADA ACCESSIBLE ROUTE.
- CONSTRUCT CONCRETE PAVEMENT PER DETAIL 12/C3.11.
- CONSTRUCT CONTROL JOINT PER DET. 13/C3.11 & 14/C3.11.
- PAVING TRANSITION PER DET. 15/C3.11.
- TRANSITION TO EXISTING PAVEMENT PER DET. 9/C3.10.
- TRASH ENCLOSURE. REFER TO C2.00
- 3' SCREEN WALL. REFER TO SITE PLAN DET. 3/C2.10. LENGTH PER PLAN.
- TURN DOWN SLAB. REFER TO WHATABURGER PT20M PLANS SECTION VIEW A2/S5.3. REFER TO DET 18/C3.12 FOR REFERENCE.
- TURN DOWN SLAB. REFER TO WHATABURGER PT20M PLANS SECTION VIEW A3/S5.3. REFER TO DET 19/C3.12 FOR REFERENCE.
- CONTRACTOR TO VERIFY ALL INVERTS AND CLEARANCE OF UTILITIES PRIOR TO COMMENCING CONSTRUCTION.
- FURNISH AND INSTALL PRECAST MANHOLE WITH 60-INCH BASE PER MAG STD. DET. 521 AND 522 WITH CONCRETE COLLAR PER MAG STD. DET. 422.; FRAME AND COVER PER MAG STD. DET. 423-2.

DRAINAGE STATEMENT

PROPOSED DEVELOPMENT IS A 3,751 S.F. RESTAURANT WITH DRIVE-THRU, WITH PARKING AND LANDSCAPE AREAS. LOT SIZE IS 105,003 S.F. (2.41 A.C.)

RETENTION VOLUME IS CALCULATED AS:
 $V = (C_w * D^3) / 12$
 WHERE:
 V = RUNOFF VOLUME FROM THE DRAINAGE AREA TO BE RETAINED (CF)
 C_w = WEIGHTED RUNOFF COEFFICIENT (CALCULATED PER TABLE 8.1 EDSPM-MESA)
 D = 2.18 INCHES PER 100-YR, 2-HR NOAA ATLAS 14)
 A = DRAINAGE AREA IN S.F.

C_w WEIGHTED CALCULATIONS
 C = 0.50 @ PERVIOUS-DESERT LANDSCAPING
 C = 0.95 @ IMPERVIOUS-PAVEMENT/ROOFTOPS

PERVIOUS AREA = 57,547
 IMPERVIOUS AREA = 47,445
 $C_w = (0.50 * 57,547 + 0.95 * 47,445) / 105,003 = 0.70$
 BASIN 1 (OPEN RETENTION):
 RETENTION VOLUME IS CALCULATED AS:
 $V = (C_w * D^3) / 12$
 $V = (0.70 * 2.18^3 * 105,003) / 12 = 11,000$ CF
 VOLUME REQUIRED = 11,000 CF < 11,337 CF*

*REFER TO PLAN FOR PROPOSED RETENTION CALCULATIONS. CATCH BASIN RIP-RAP

PROVIDED VOLUME IS CALCULATED AS:
 $V = ((A1 + A2) / 2) * D$
 WHERE:
 V = PROVIDED VOLUME
 A1 = AREA 1
 A2 = AREA 2
 D = DEPTH

PROVIDED VOLUME IS CALCULATED AS:
 $V = ((10,259 + 12,495) / 2) * 1$
 VOLUME PROVIDED = 11,377 CF*

STORM WATER BLEED OFF TO STREET
 A RESTRICTOR PLATE WITH 1.2" ORIFICE WILL BLEED OFF THE RETENTION VOLUME AT A RATE OF 0.1079 CFS WITHIN 29.3 HOURS.

CONCLUSIONS
 THE PROVIDED VOLUME EXCEEDS THE REQUIRED VOLUME.

Crossing	Storm Drain	Elevation	Notes
UC-1	18" STORM BOT	1319.85	NO EXTRA PROTECTION REQUIRED
	8" STORM TOP	1314.91	
UC-2	12" WATER BOT	1319.70	NO EXTRA PROTECTION REQUIRED
	8" STORM TOP	1314.47	

EXISTING LEGEND:

- XXXX --- EX. MAJOR CONTOURS
- XXXX --- EX. MINOR CONTOURS
- TC-XX.XX EX. SPOT ELEVATION
- CE-XX.XX EASEMENT LINE AS NOTED
- Ex. S SEWER LINE
- Ex. W WATER LINE
- WV Water Valve
- FH Fire Hydrant
- Ex. S SEWER MANHOLE
- Ex. W WATER MANHOLE
- Gas Line
- Fence
- Storm Drain Line
- Storm Catch Basin
- Storm Manhole
- Gas Line
- Fence
- Sign
- Street Light
- Tree
- Road Centerline

PROPOSED GRADING LEGEND:

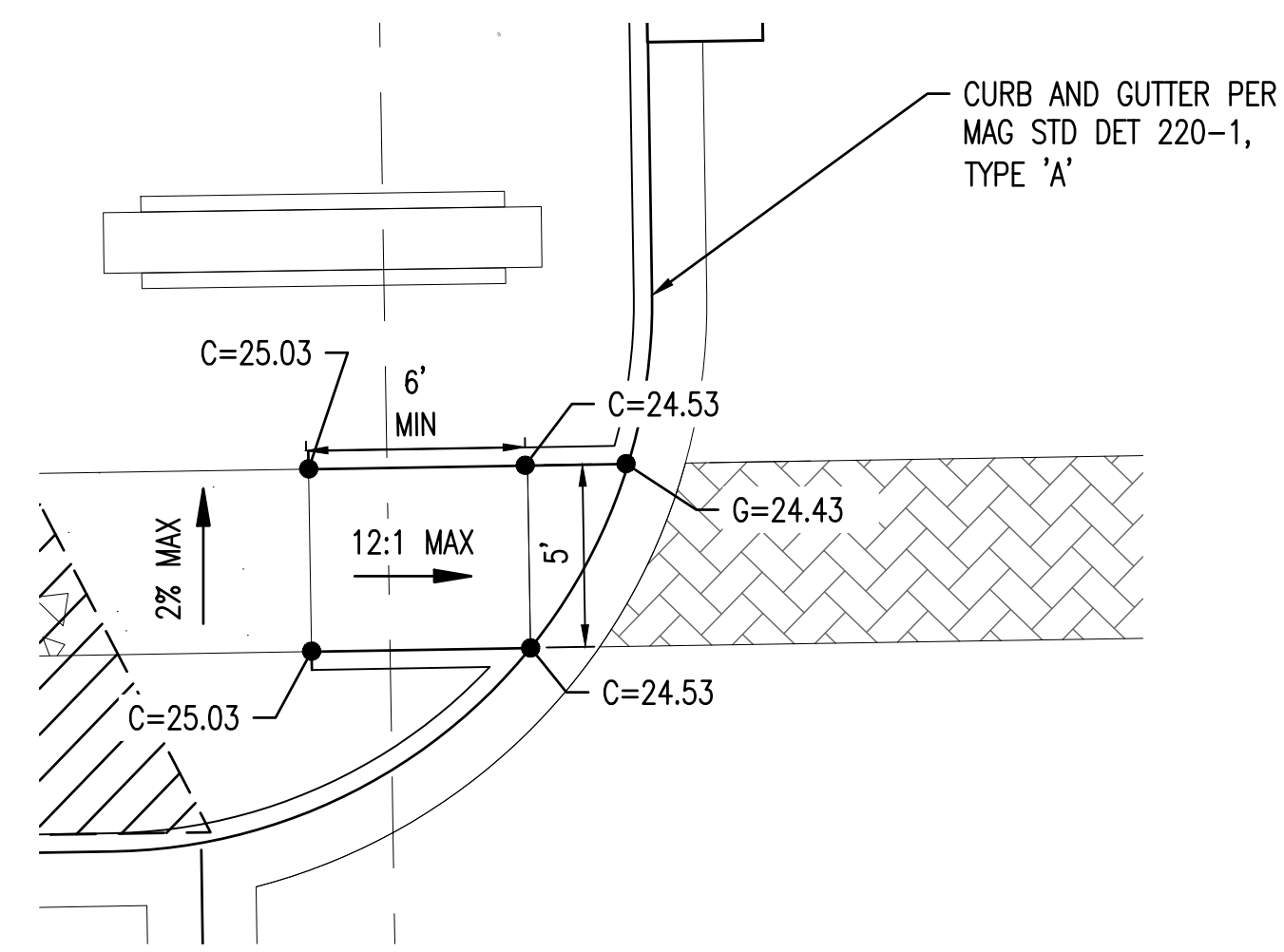
- G=XX.XX CUTTER ELEVATION, TC = G+0.5'
- P=XX.XX PAVEMENT ELEVATION
- C=XX.XX CONCRETE ELEVATION
- --- PROPERTY LINE
- --- CURB AND GUTTER
- --- VERTICAL CURB
- --- RIDGELINE
- --- LIMIT OF ONSITE CONSTRUCTION
- --- MAJOR CONTOUR
- --- MINOR CONTOUR
- --- FLOW ARROW
- --- CONCRETE PAVEMENT
- --- HEAVY DUTY PAVEMENT
- --- LIGHT DUTY PAVEMENT

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 DATE: 7/14/2021
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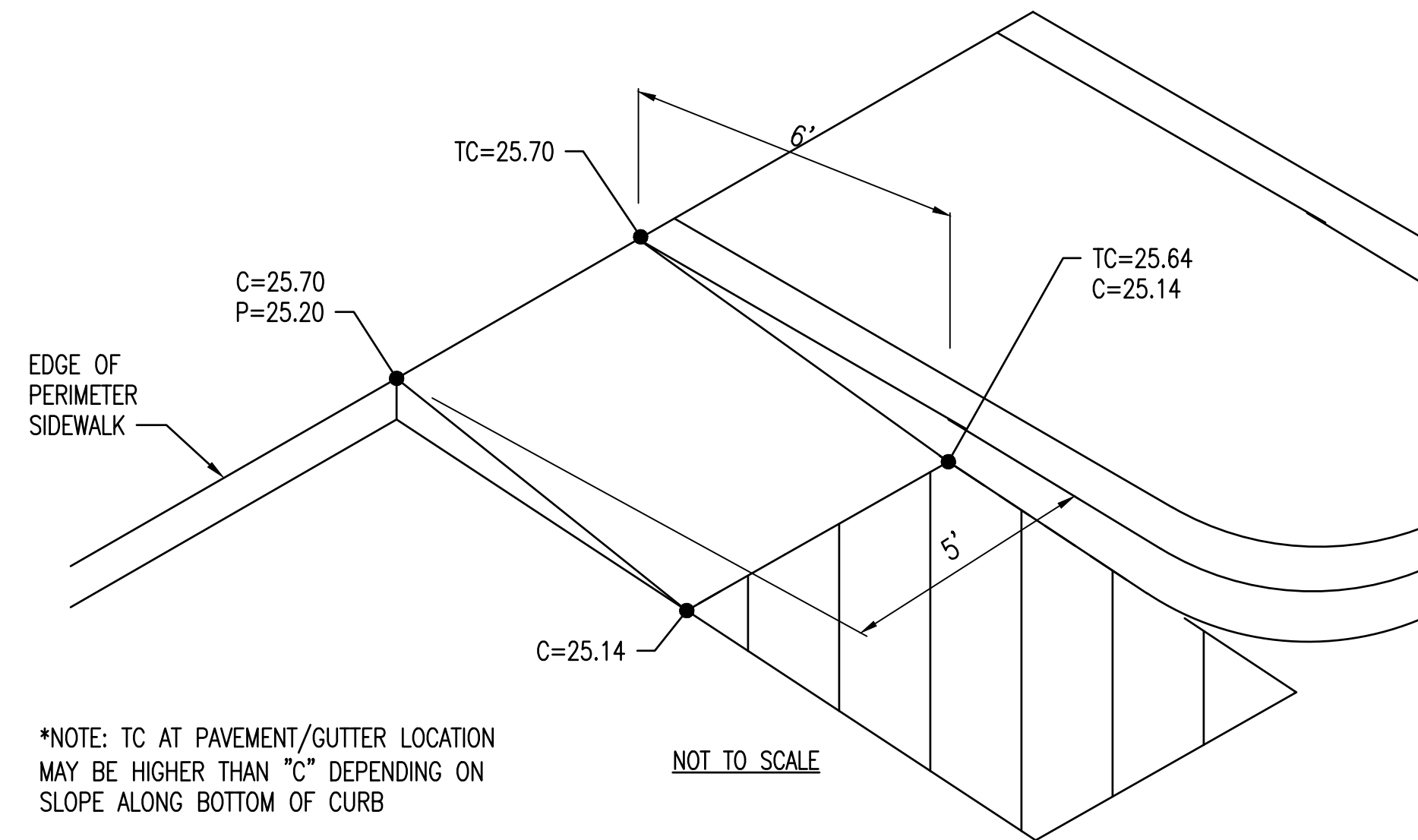
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ADA ACCESSIBLE RAMP



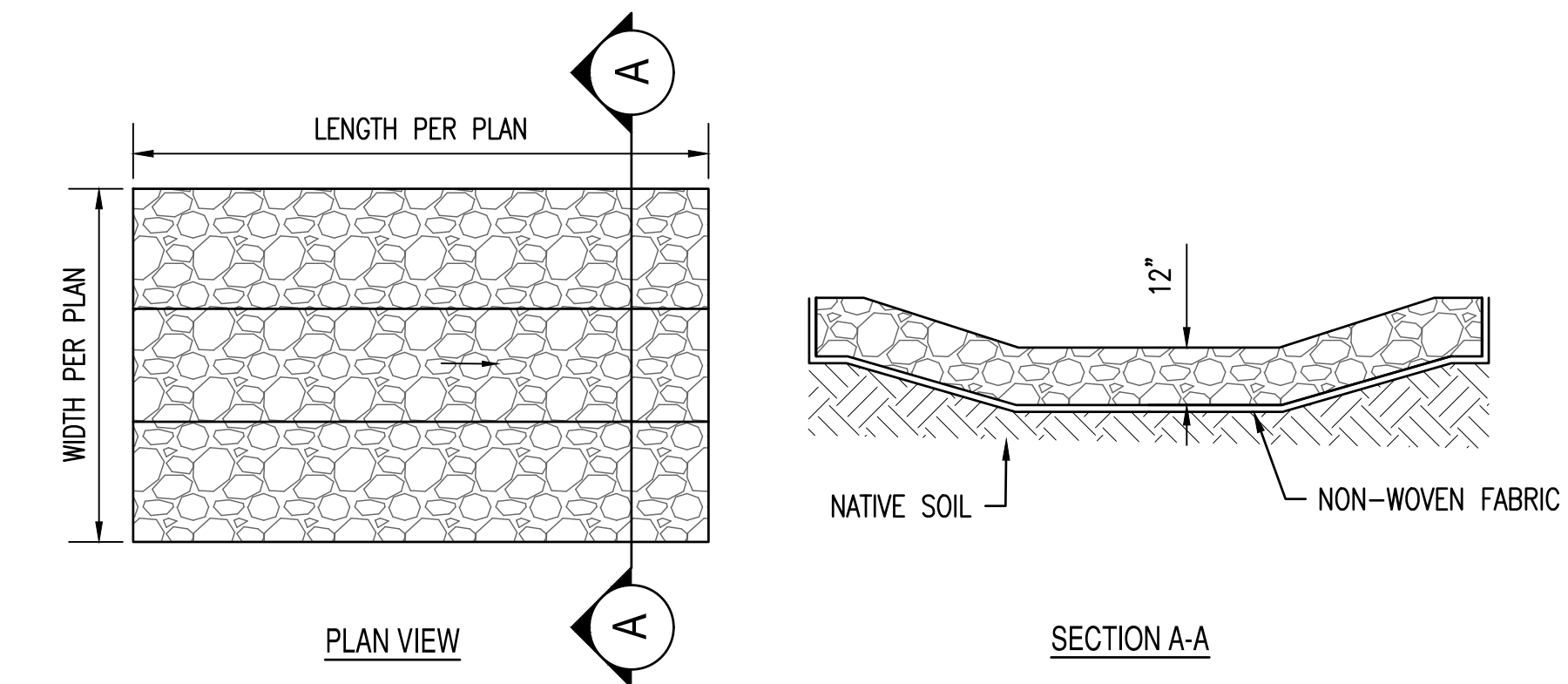
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DELIVERY RAMP



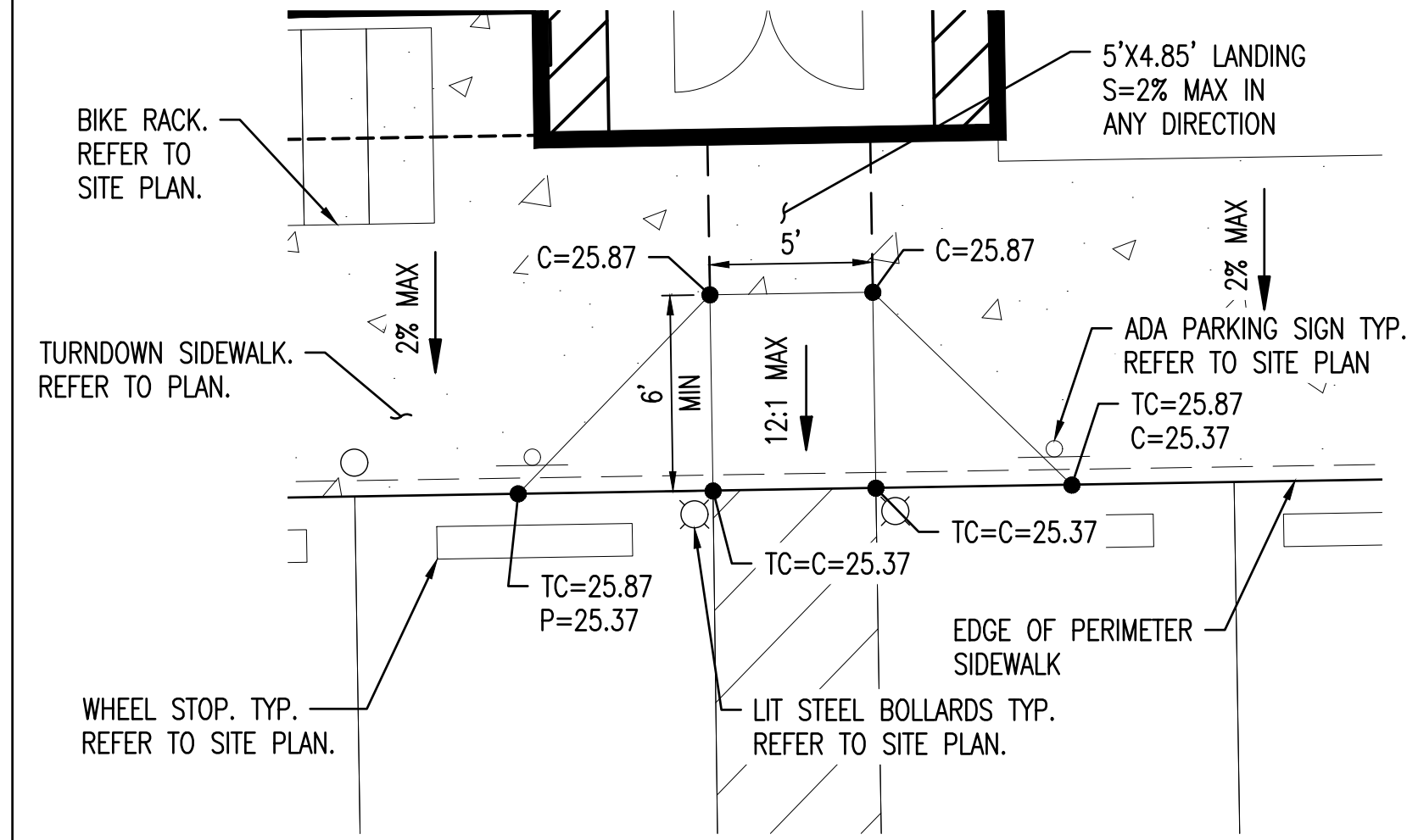
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TYPICAL RIP RAP PAD



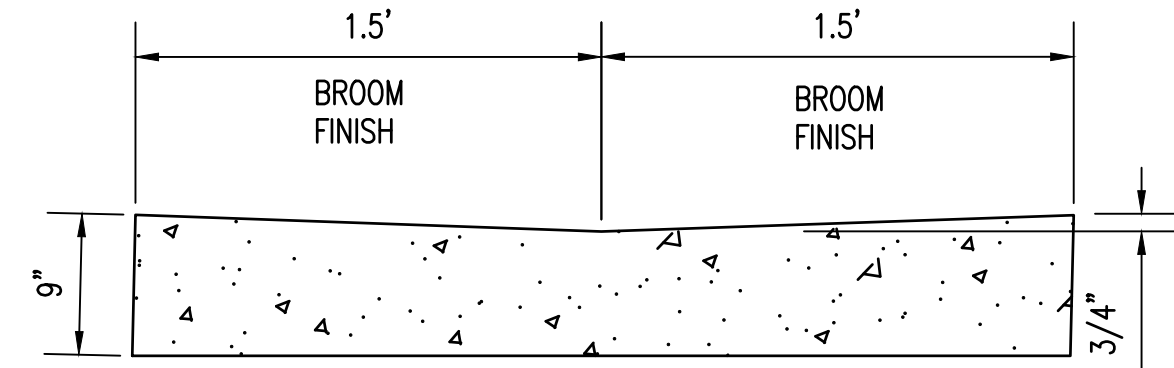
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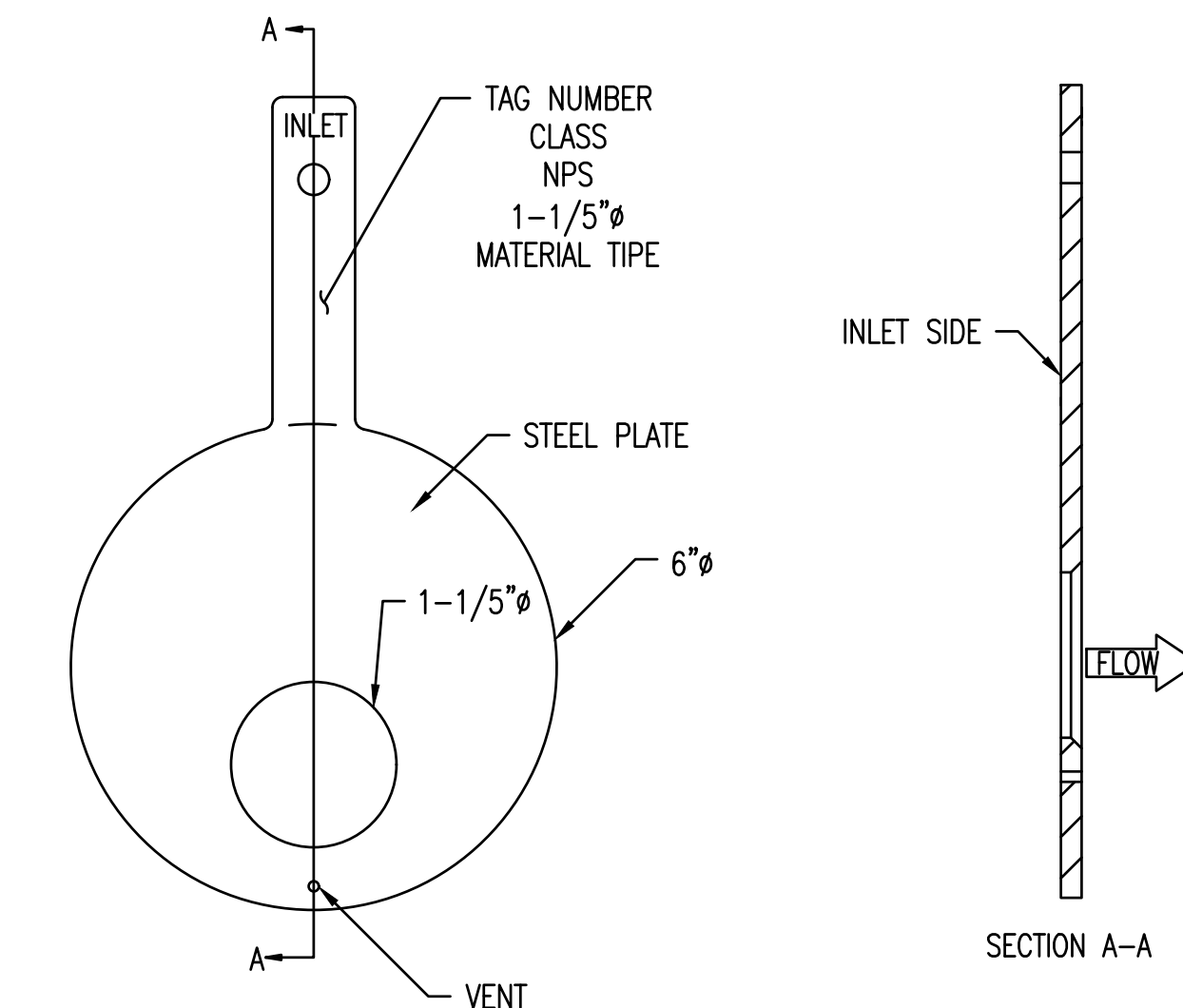
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3' VALLEY GUTTER



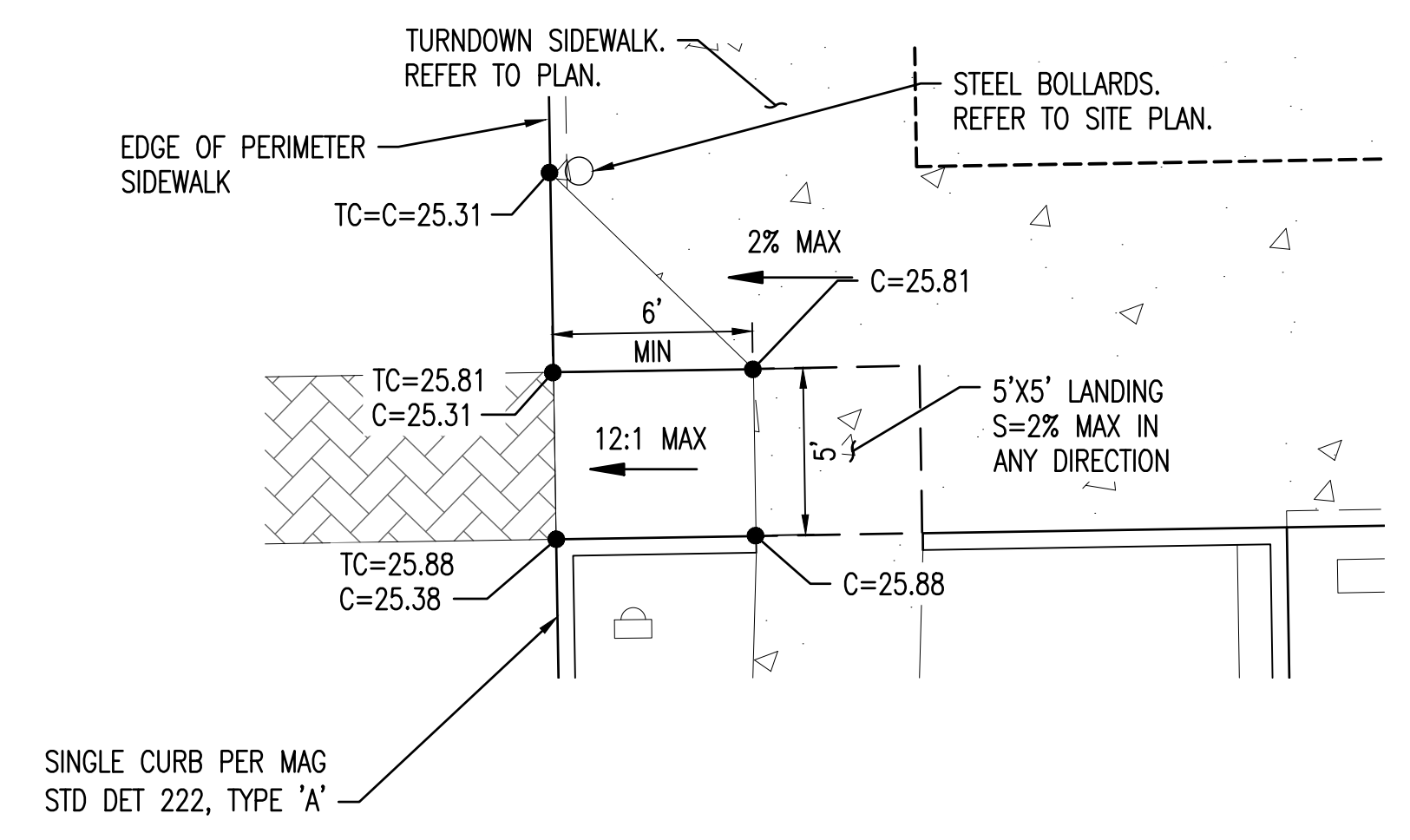
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ORIFICE PLATE



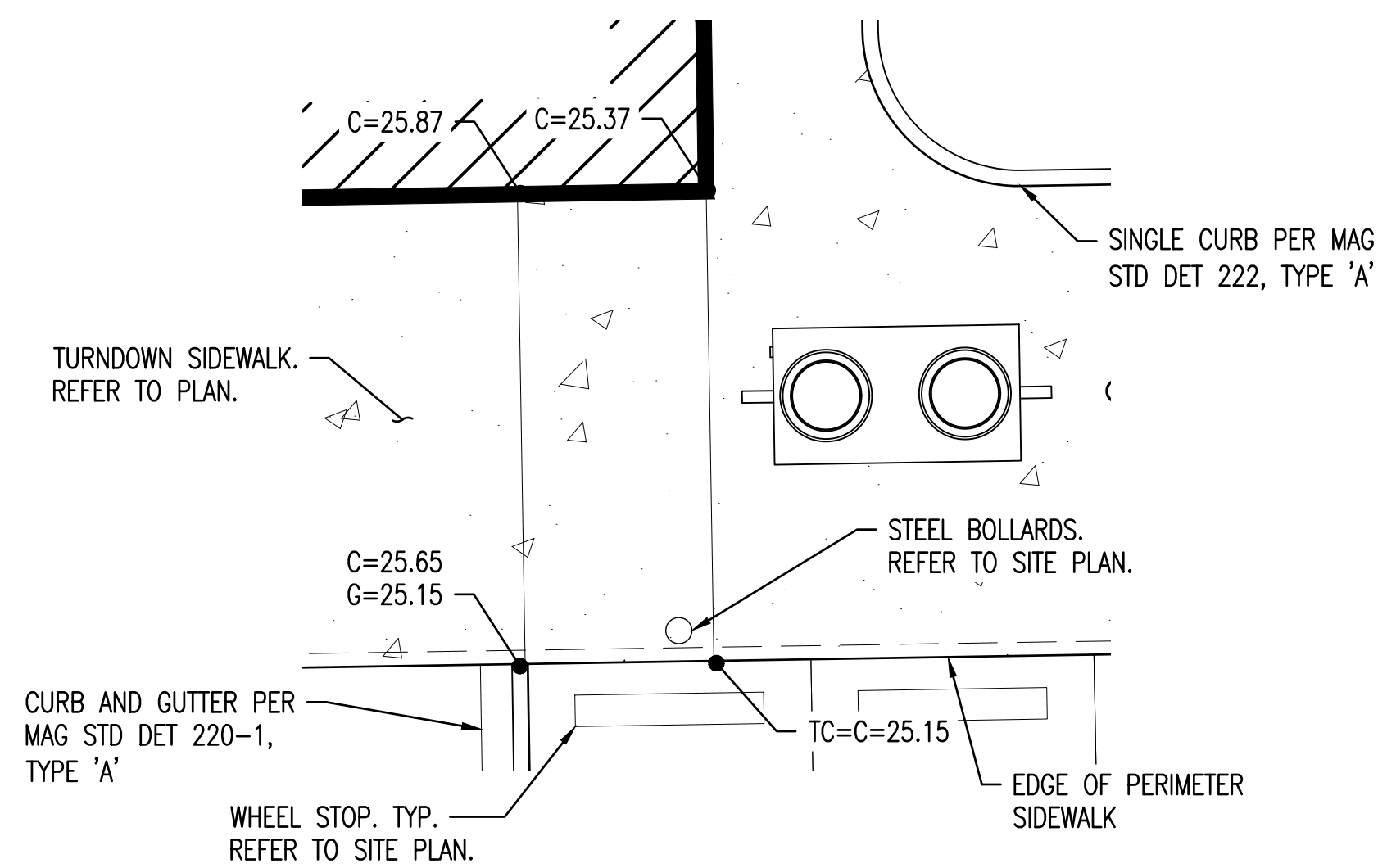
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ADA ACCESSIBLE RAMP



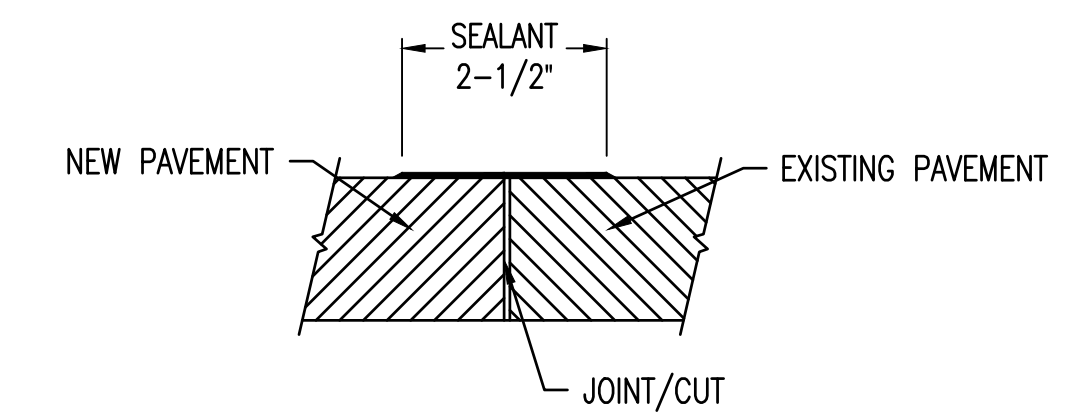
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DELIVERY RAMP



8



TRANSITION TO EXISTING PAVEMENT



9

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WHATABURGER



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LOCATION: 5427 S. POWER ROAD, MESA, AZ

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DESIGNED: JC, LR 07/08/2021
QC: SC 07/02/2021
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SHEET TITLE:
**PRELIMINARY
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DRAINAGE DETAILS**

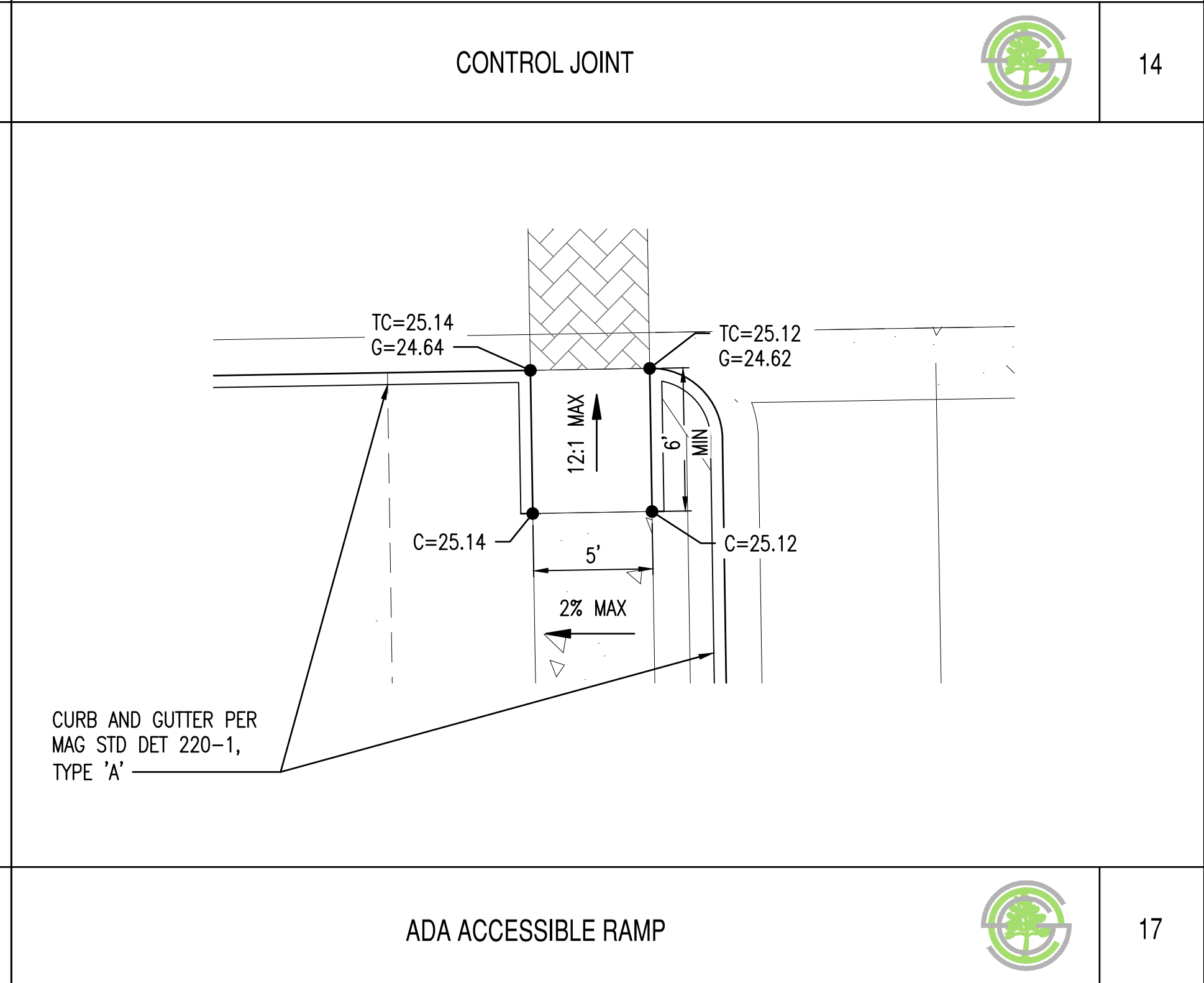
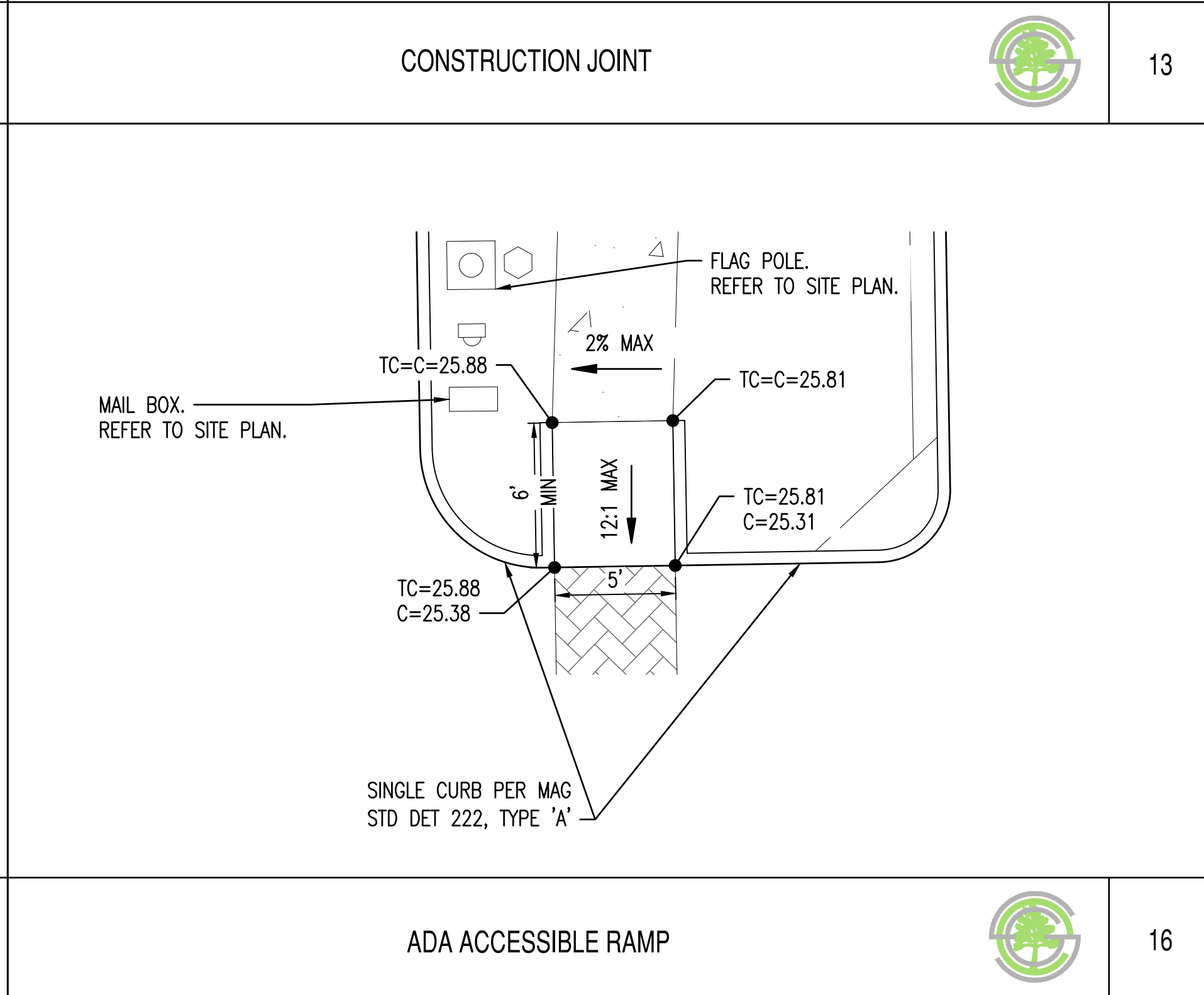
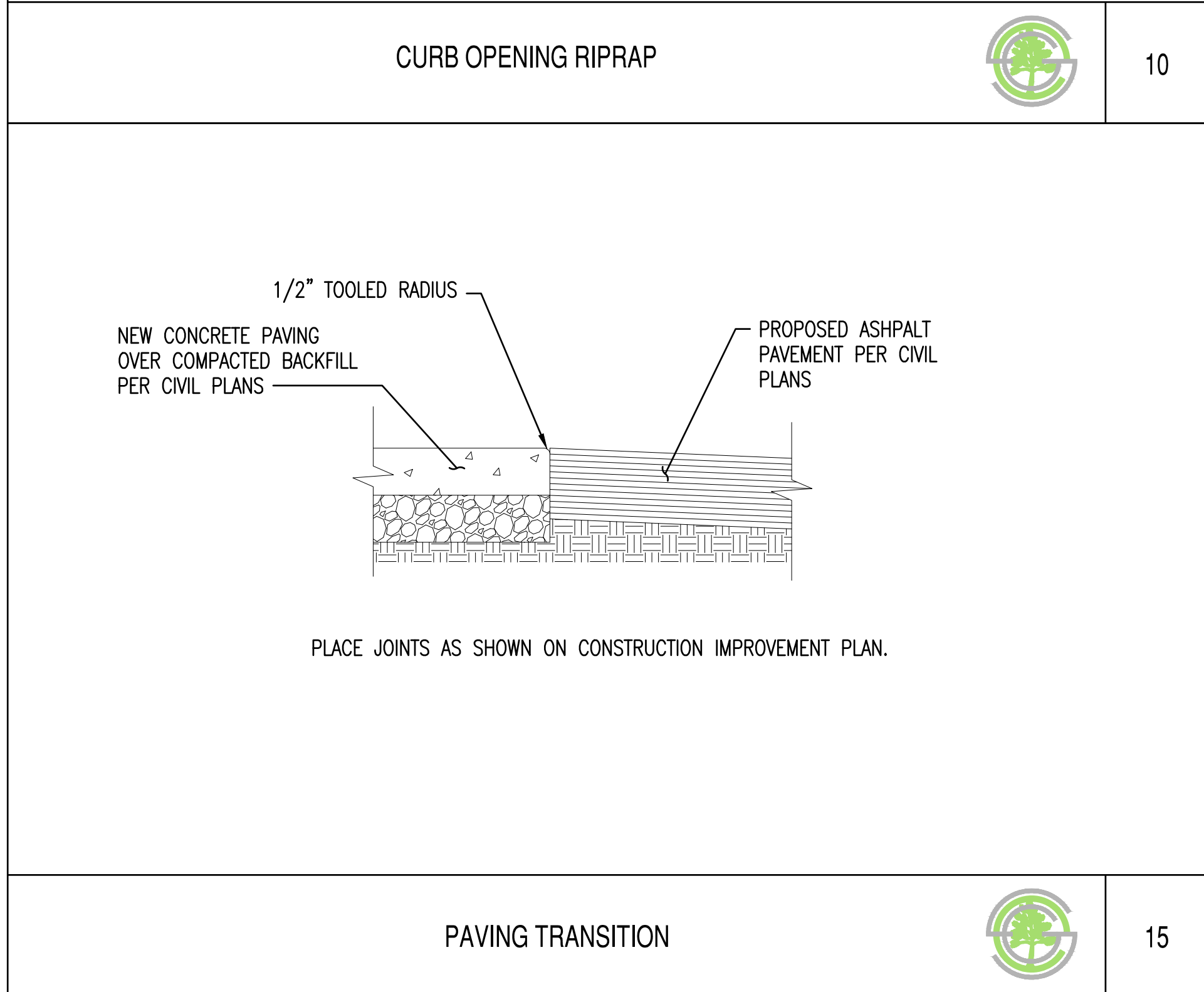
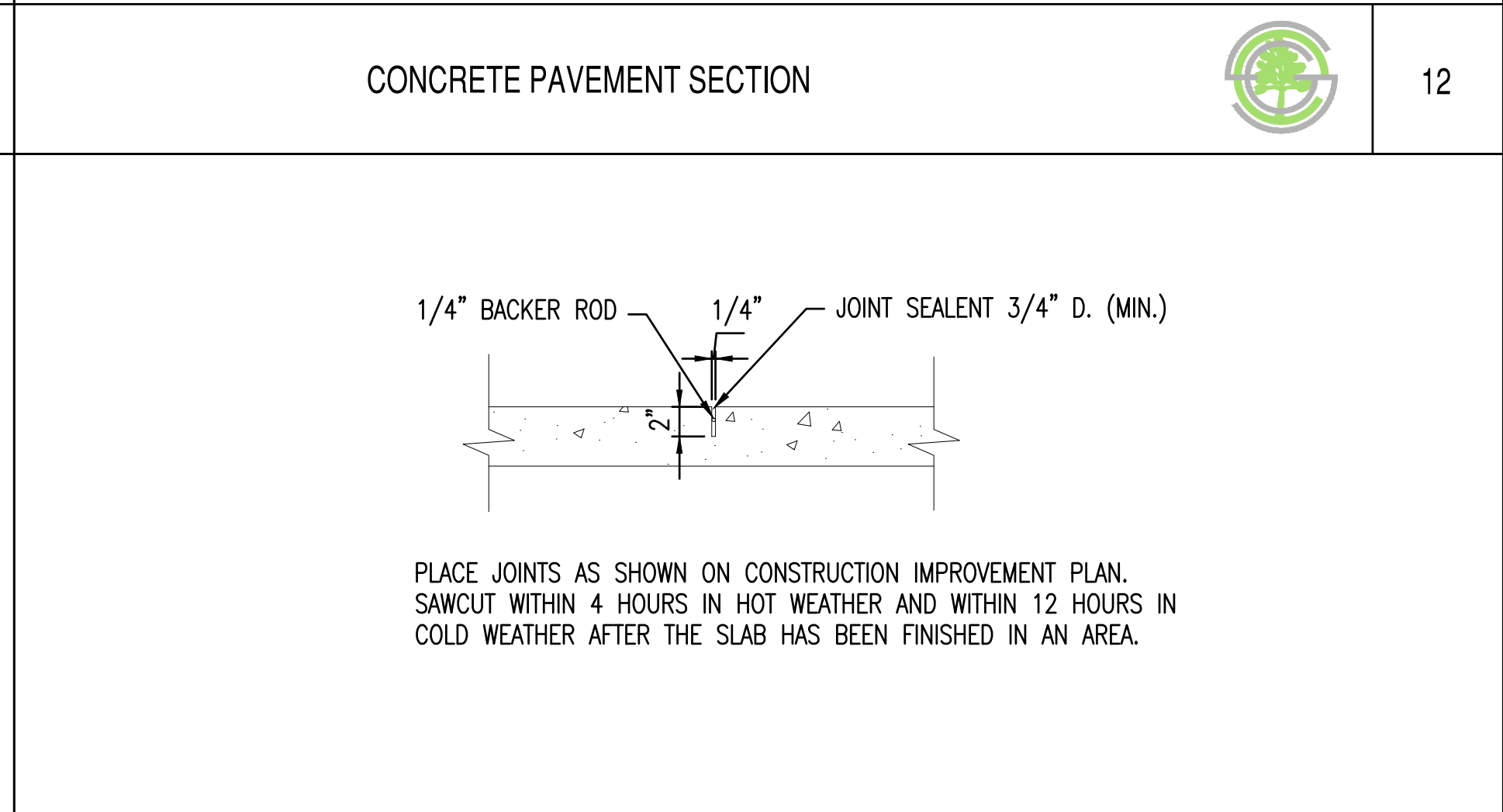
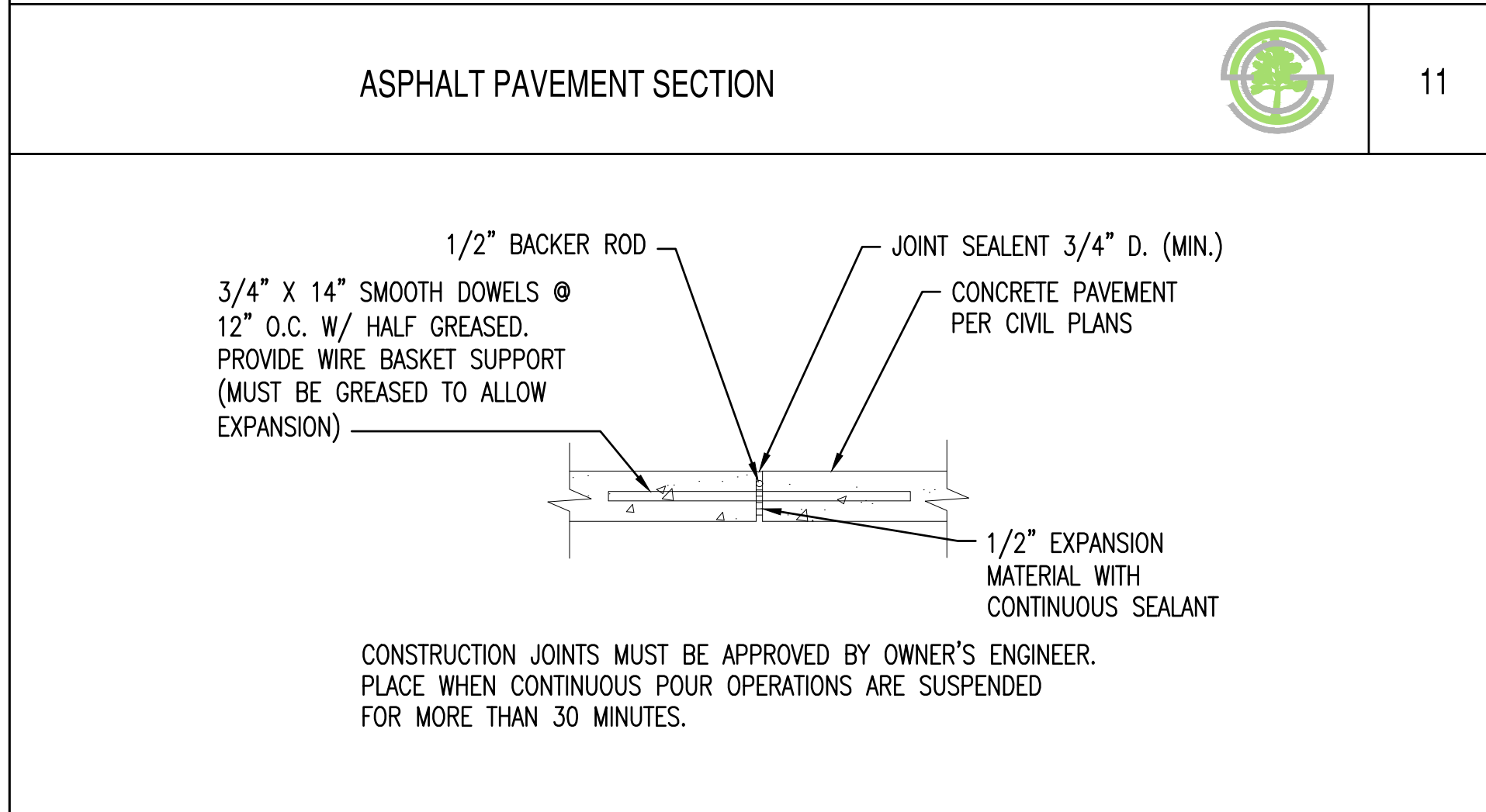
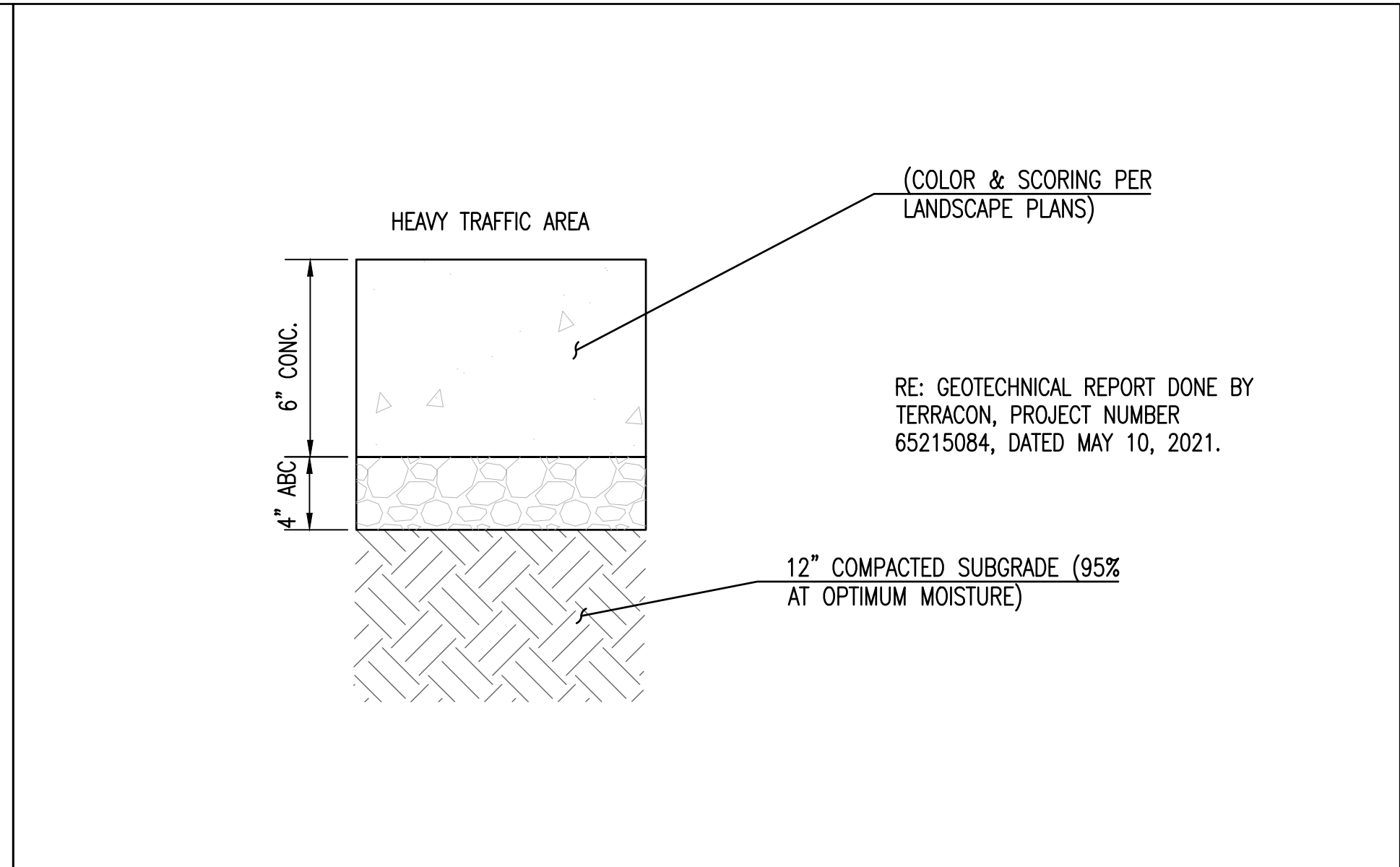
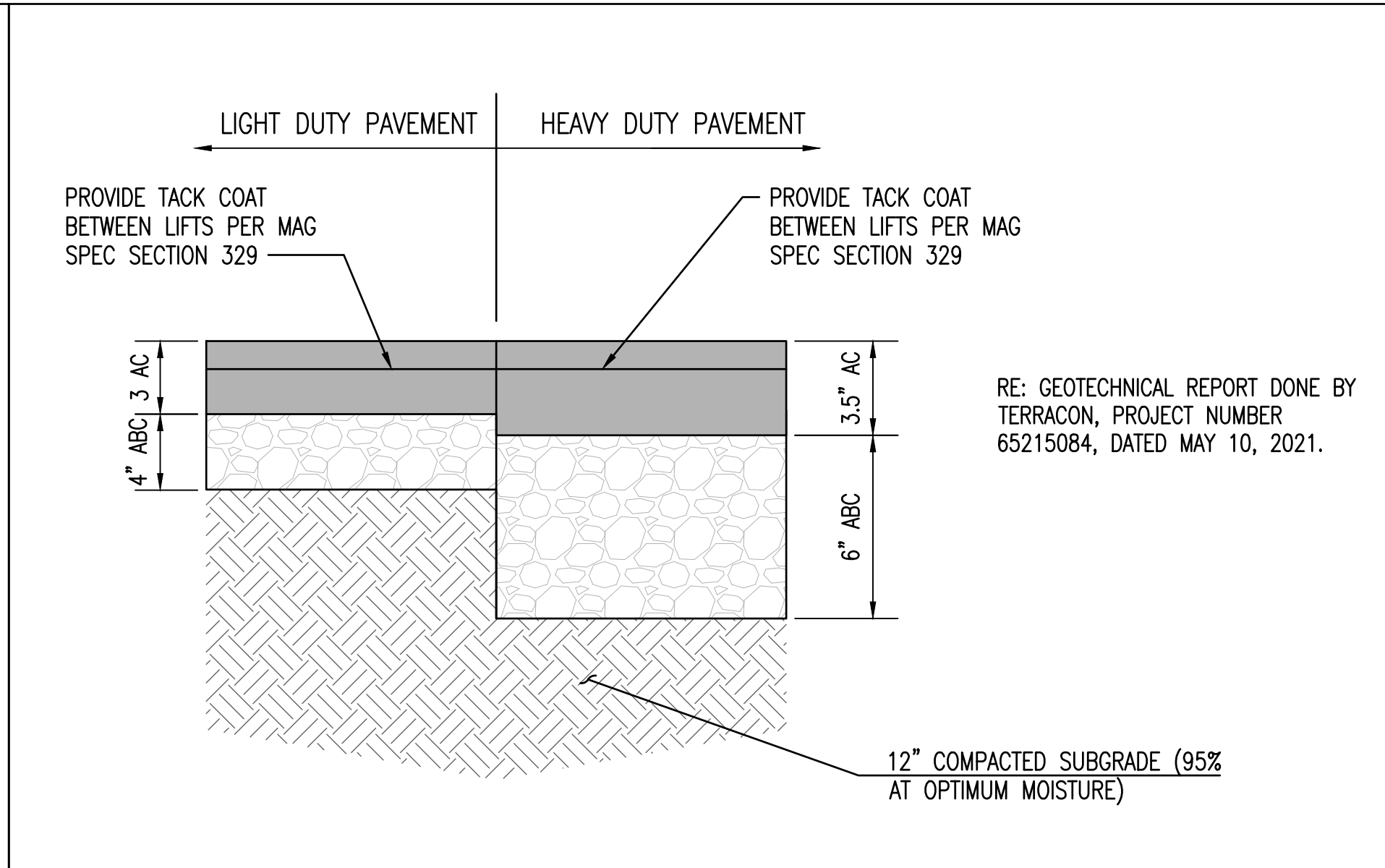
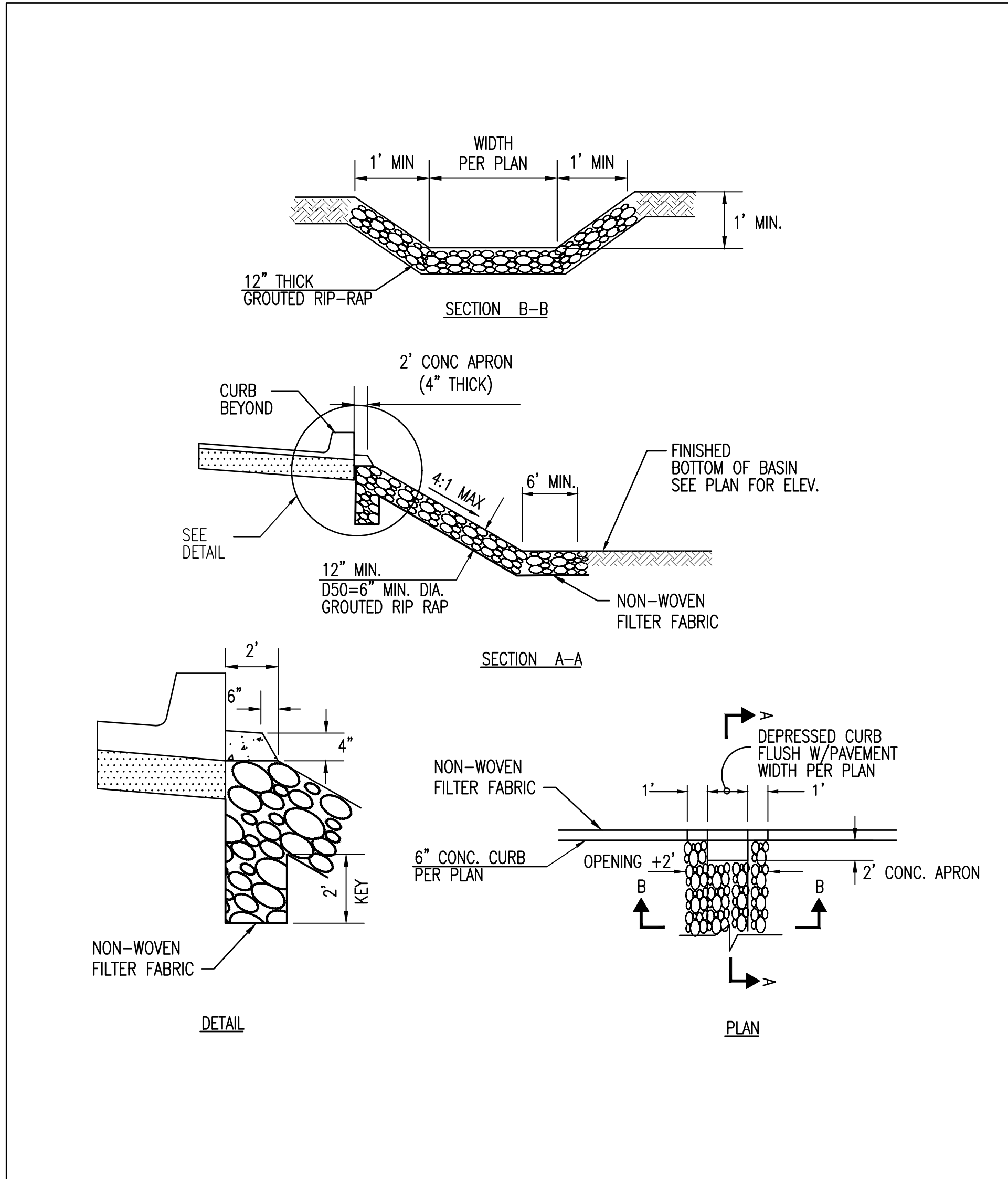
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SHEET NO.: C3.10

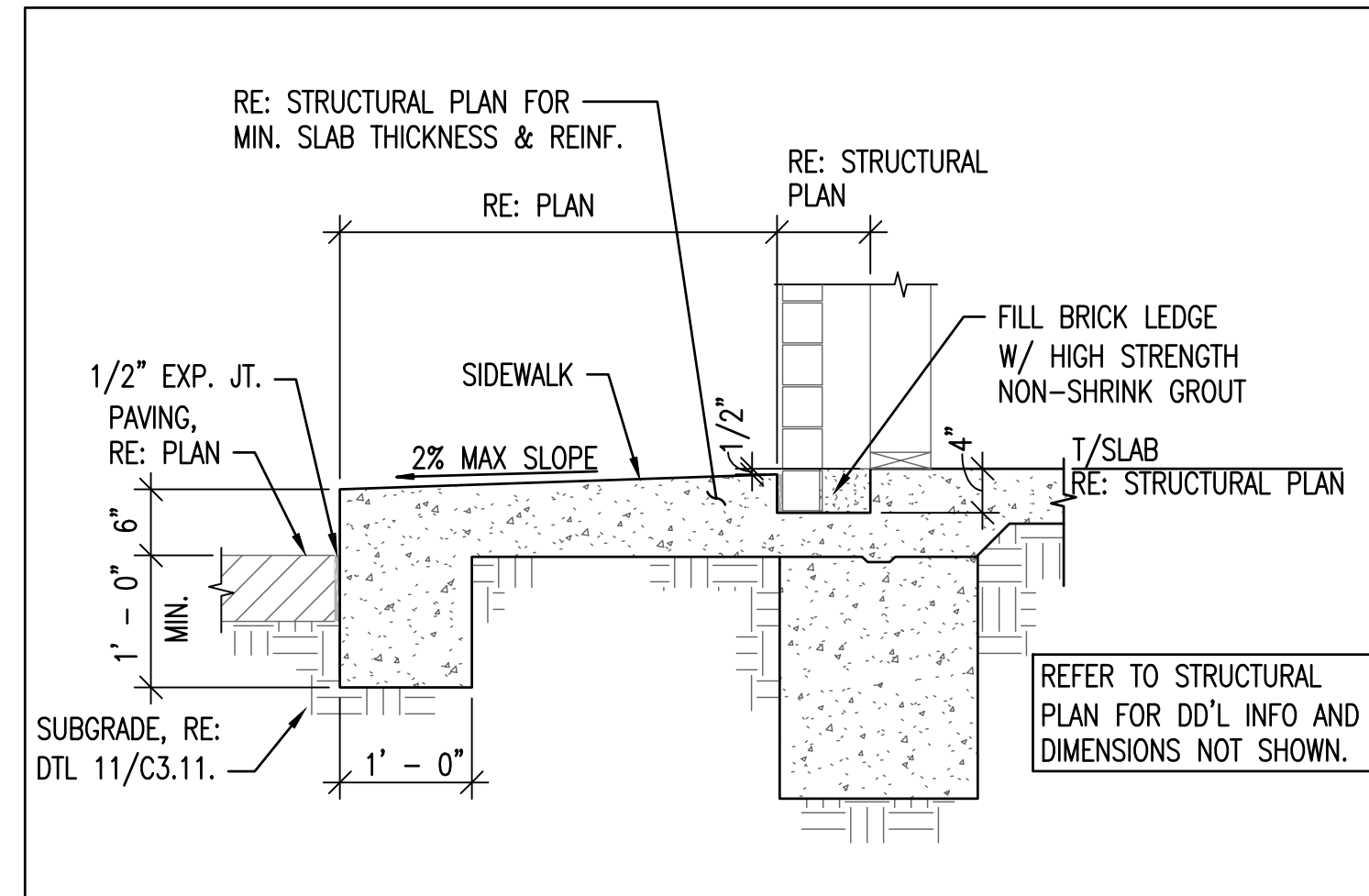
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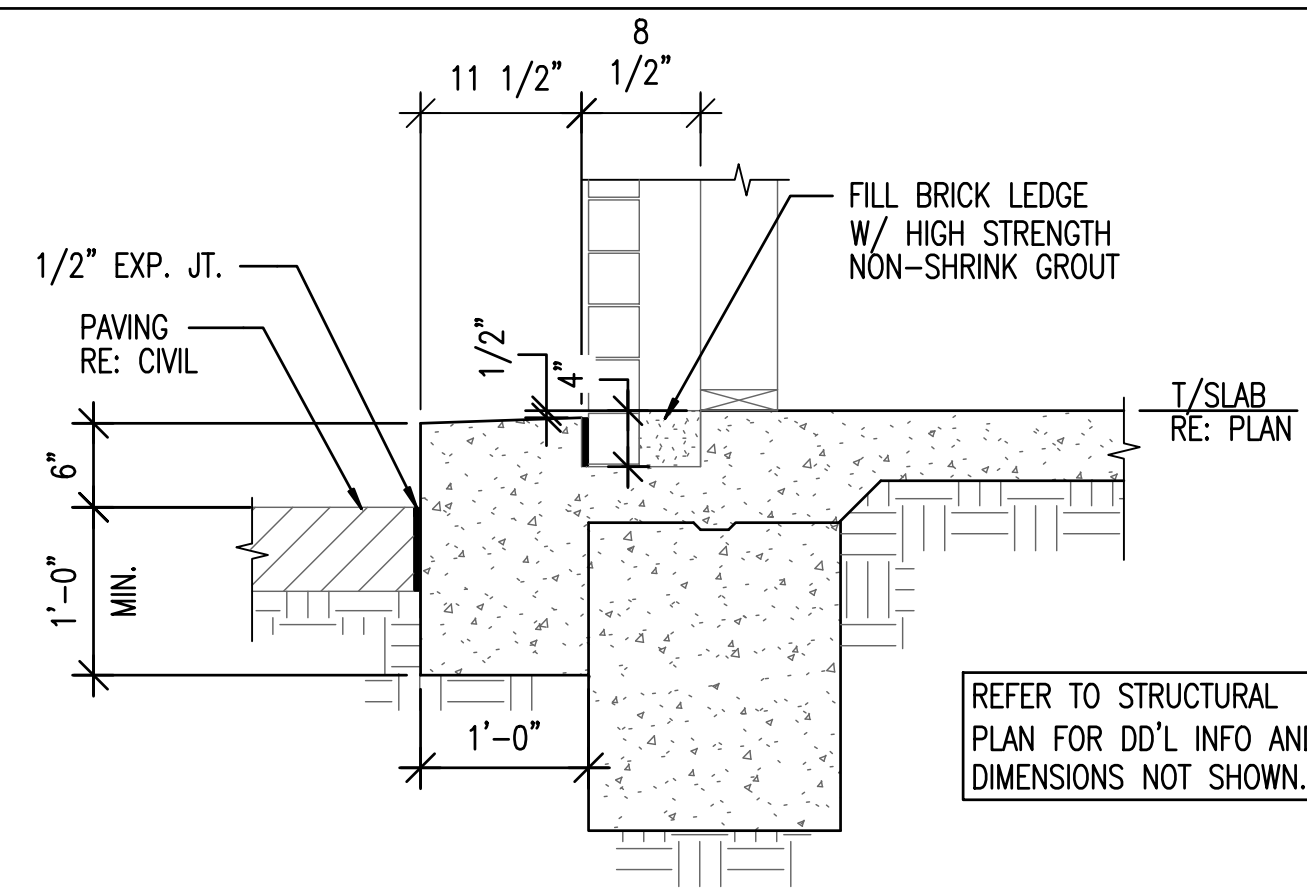




TURNDOWN SIDEWALK



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TURNDOWN SIDEWALK



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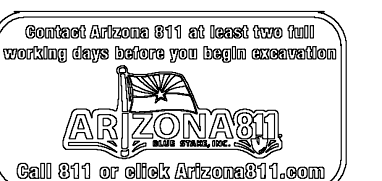
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SHEET TITLE:
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PAGE NO.: 4 OF 4
SHEET NO.: C3.12