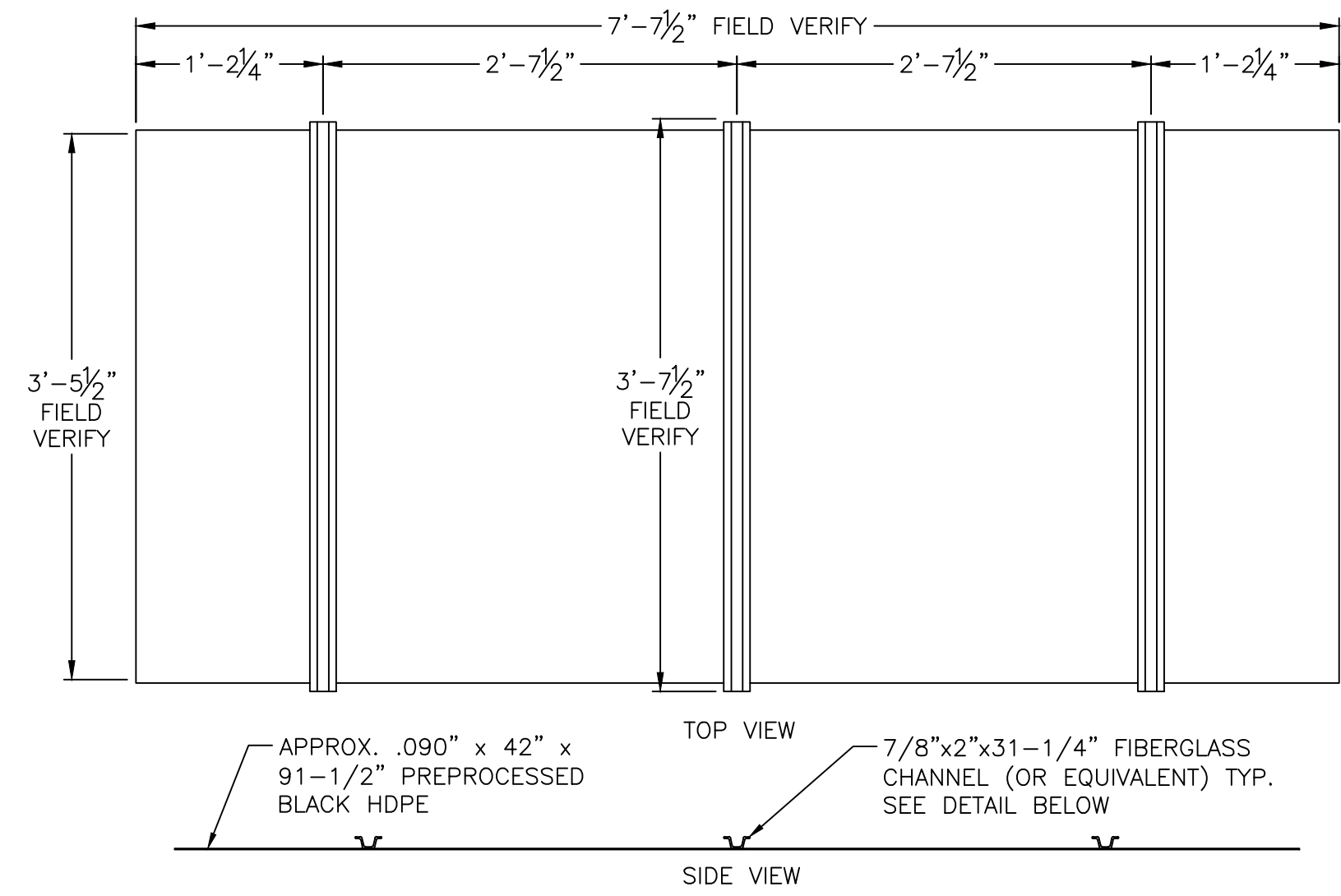
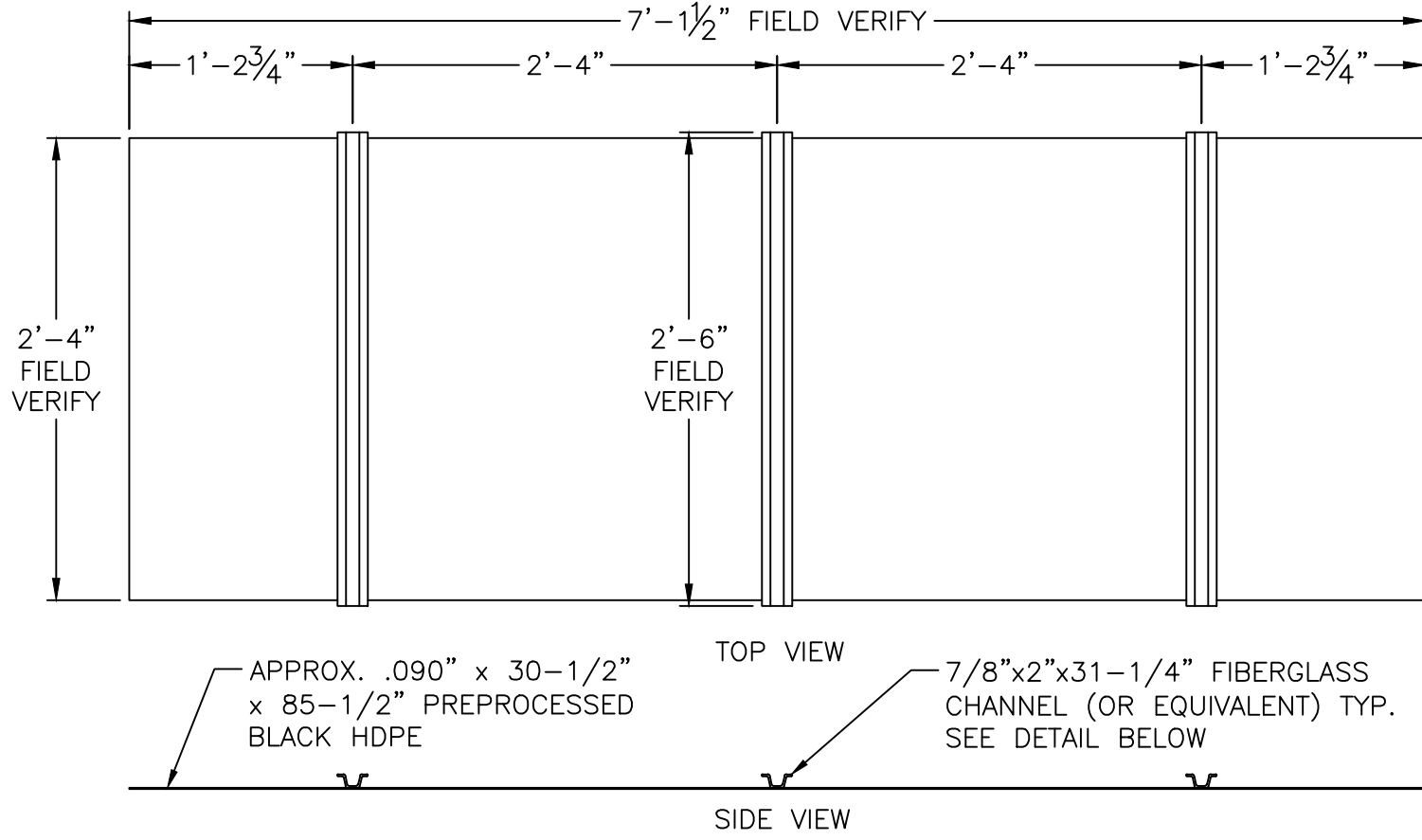


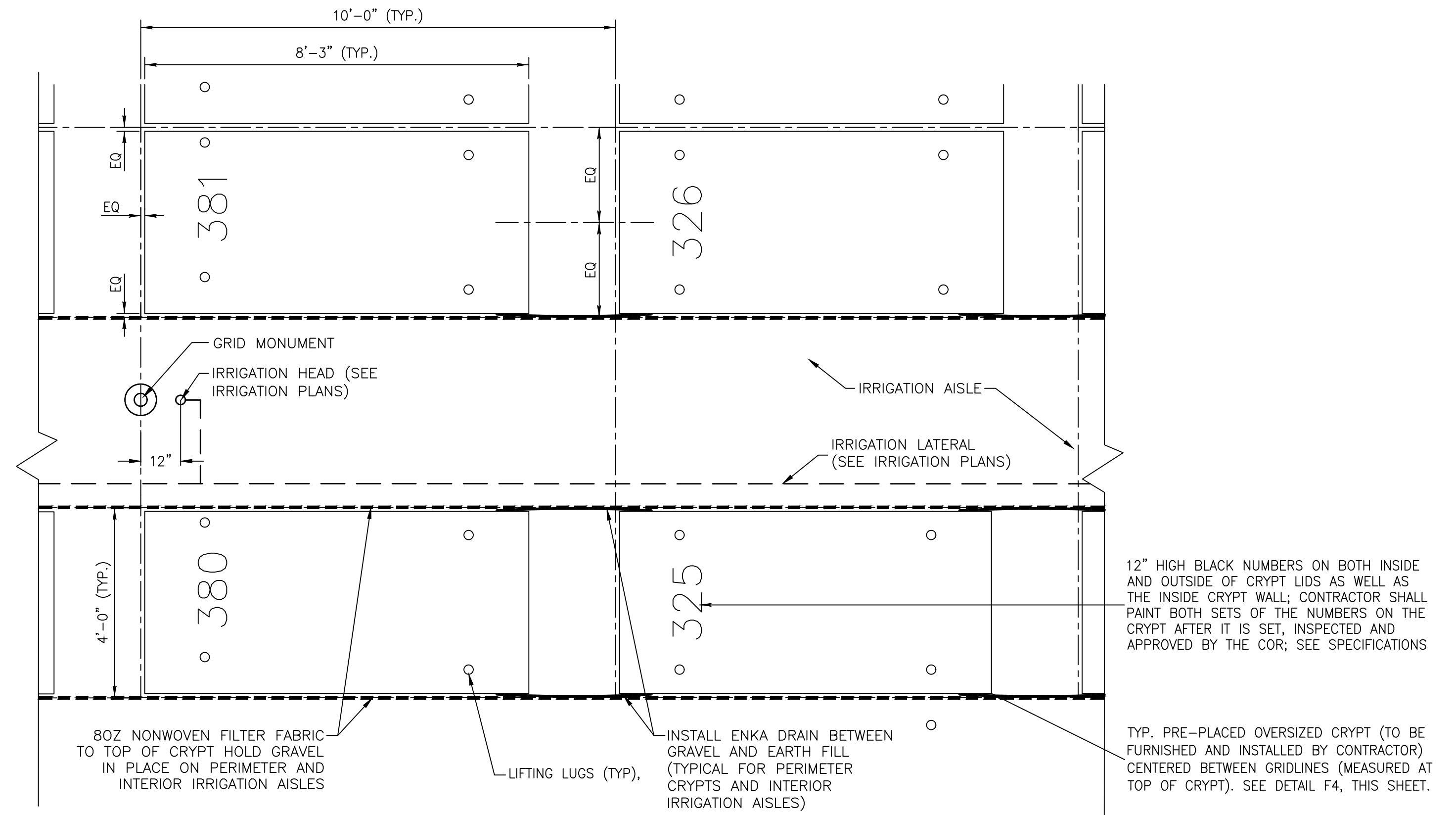
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B1 TOP VIEW – OVERSIZE INSIDE SHELF
SCALE: 1" = 1'-0"

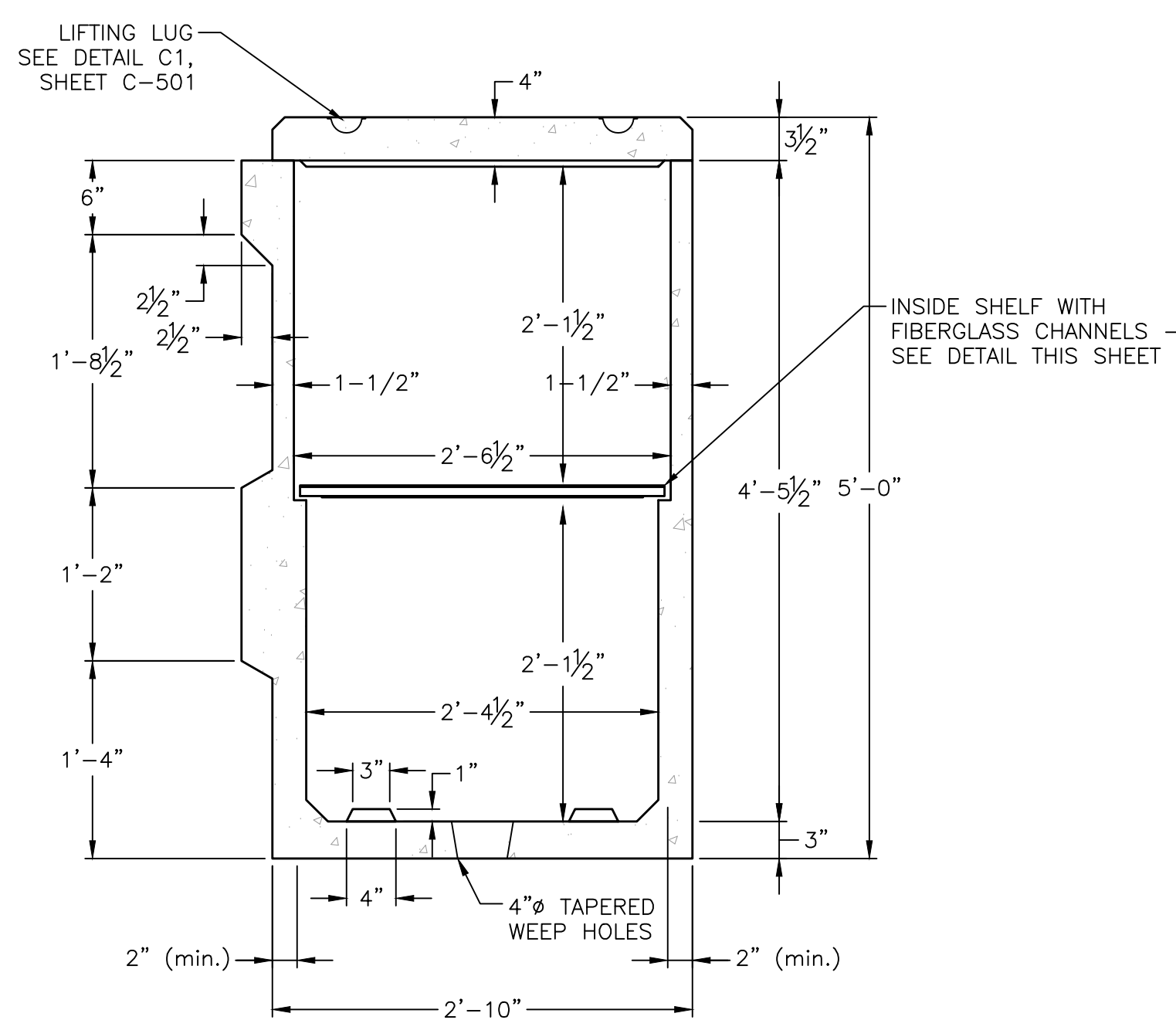


B4 TOP VIEW – INSIDE SHELF
SCALE: 1" = 1'-0"

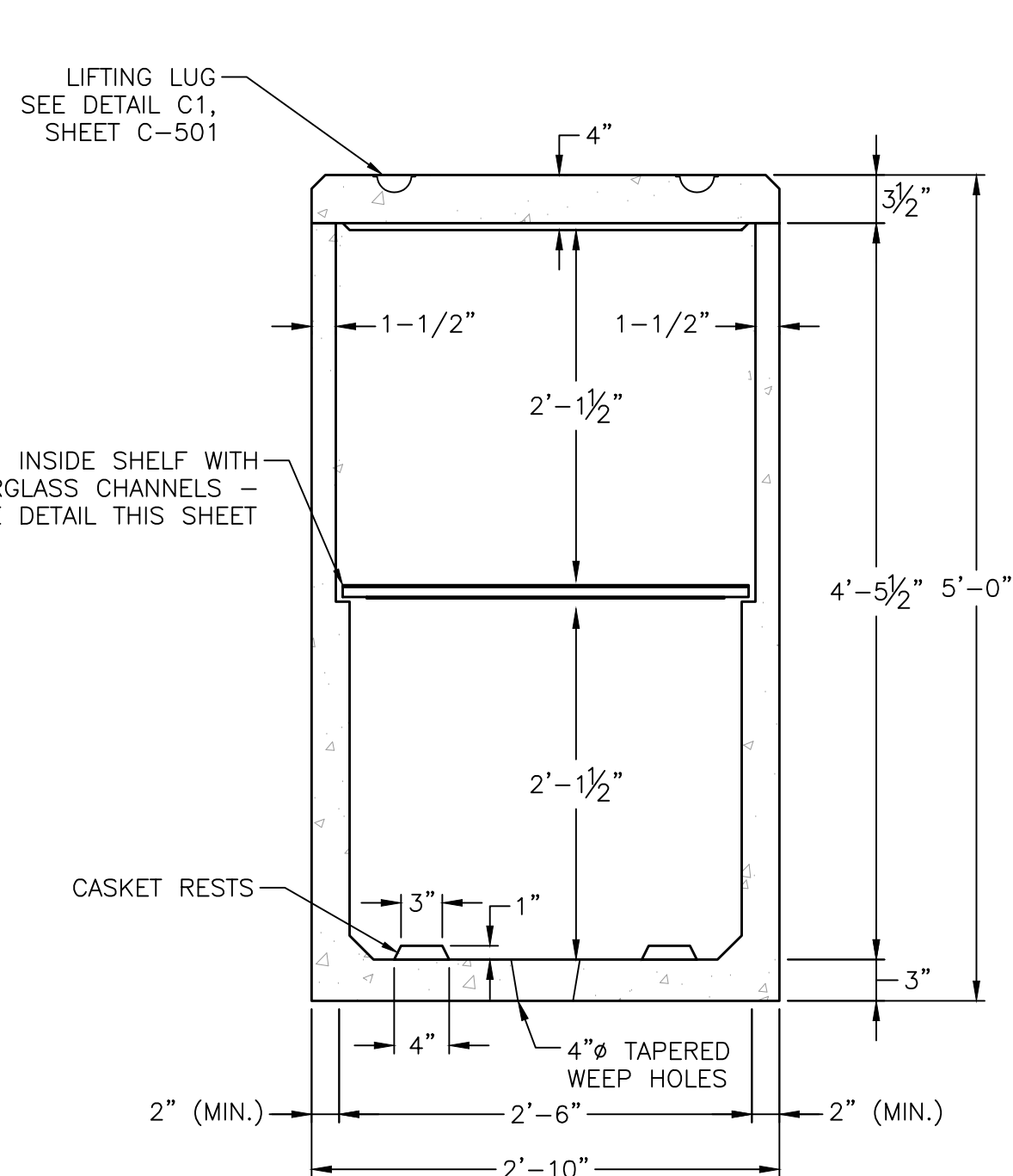


B7 OVERSIZE PRE-PLACED CRYPT INSTALLATION DETAIL
SCALE: N.T.S.

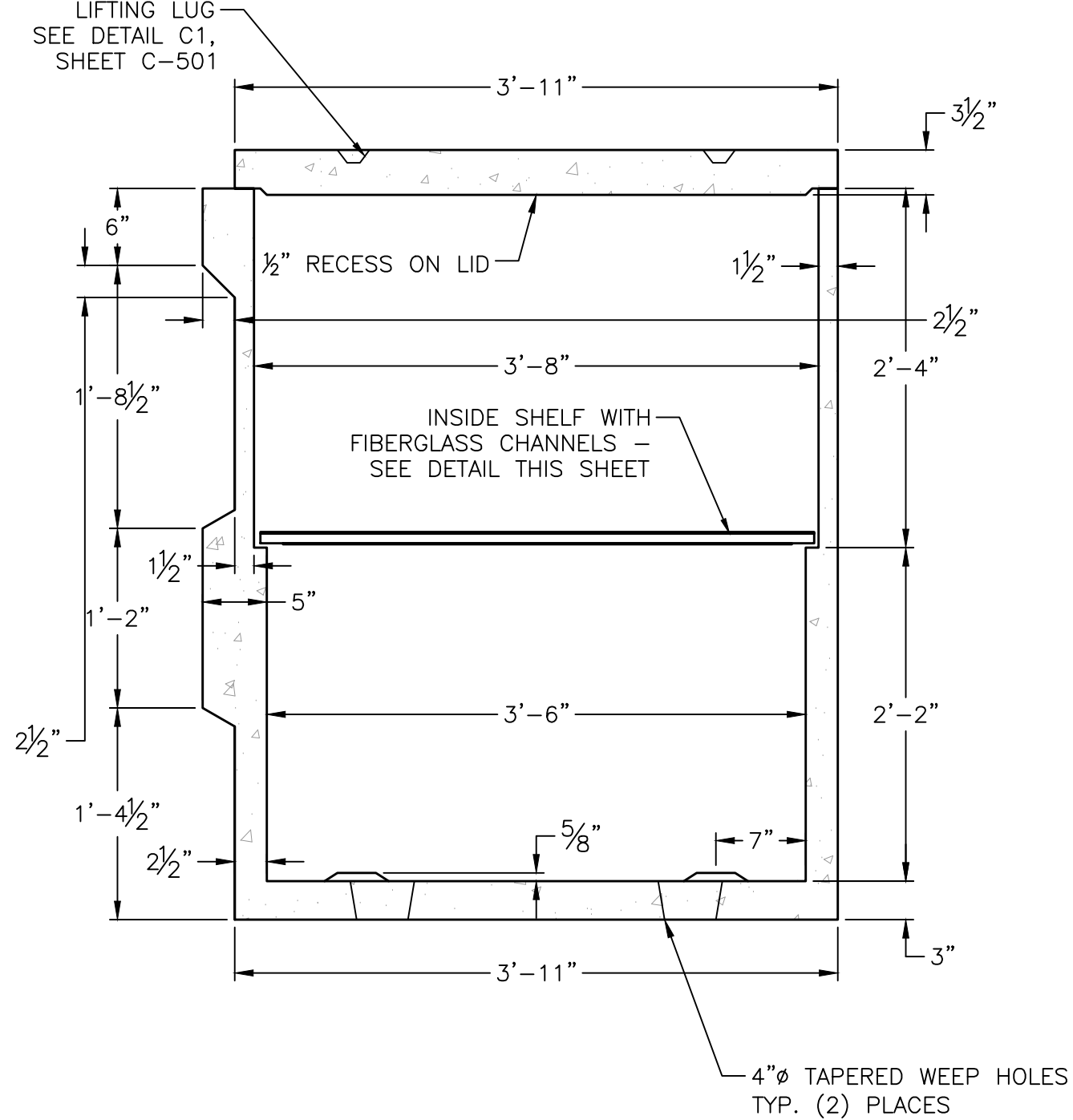
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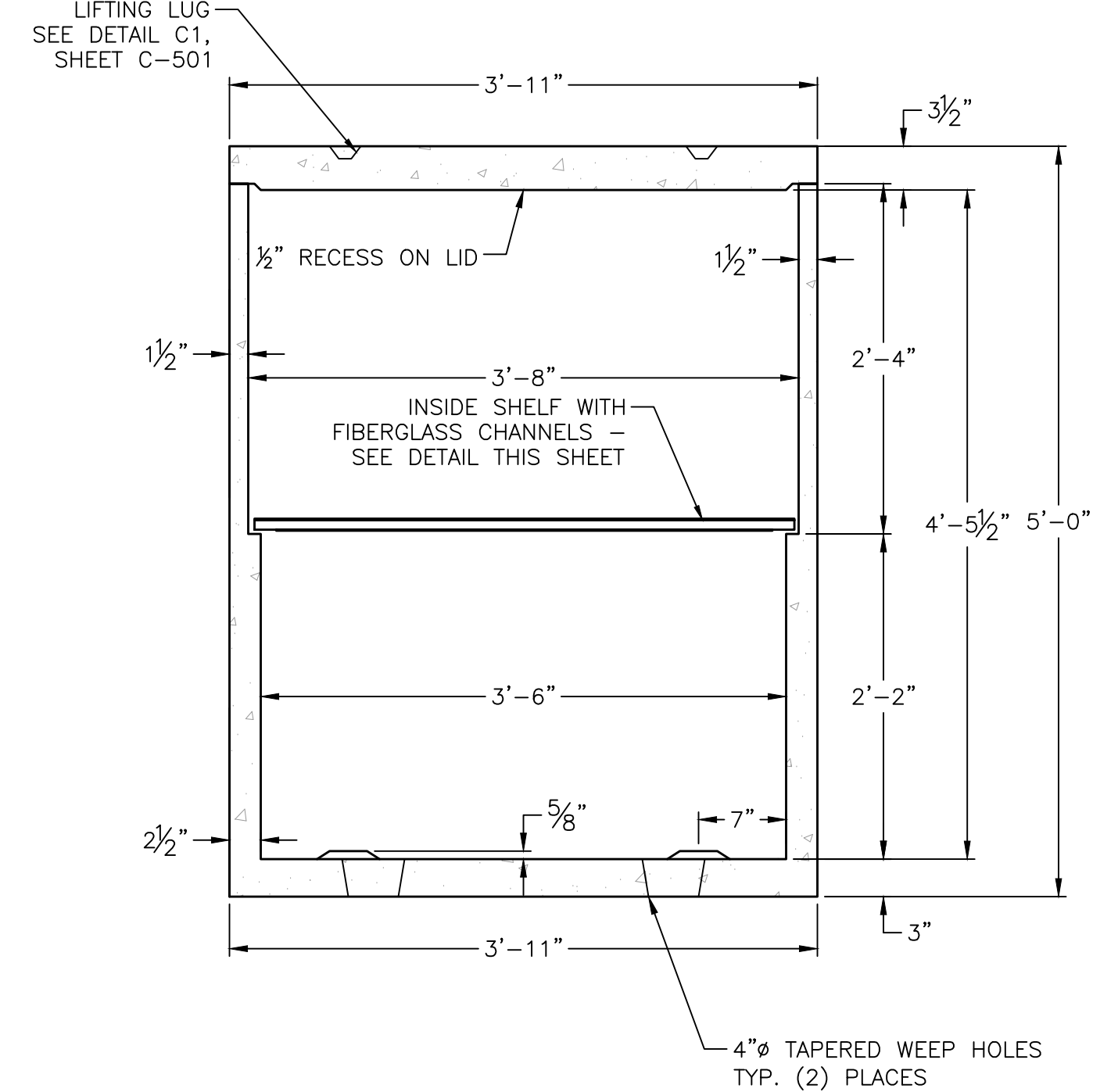
D1 TRANSVERSE CROSS SECTION – PERIMETER PRE-PLACED CRYPT
SCALE: 1" = 1'-0"



D4 TRANSVERSE CROSS SECTION – STANDARD PRE-PLACED CRYPT
SCALE: 1" = 1'-0"

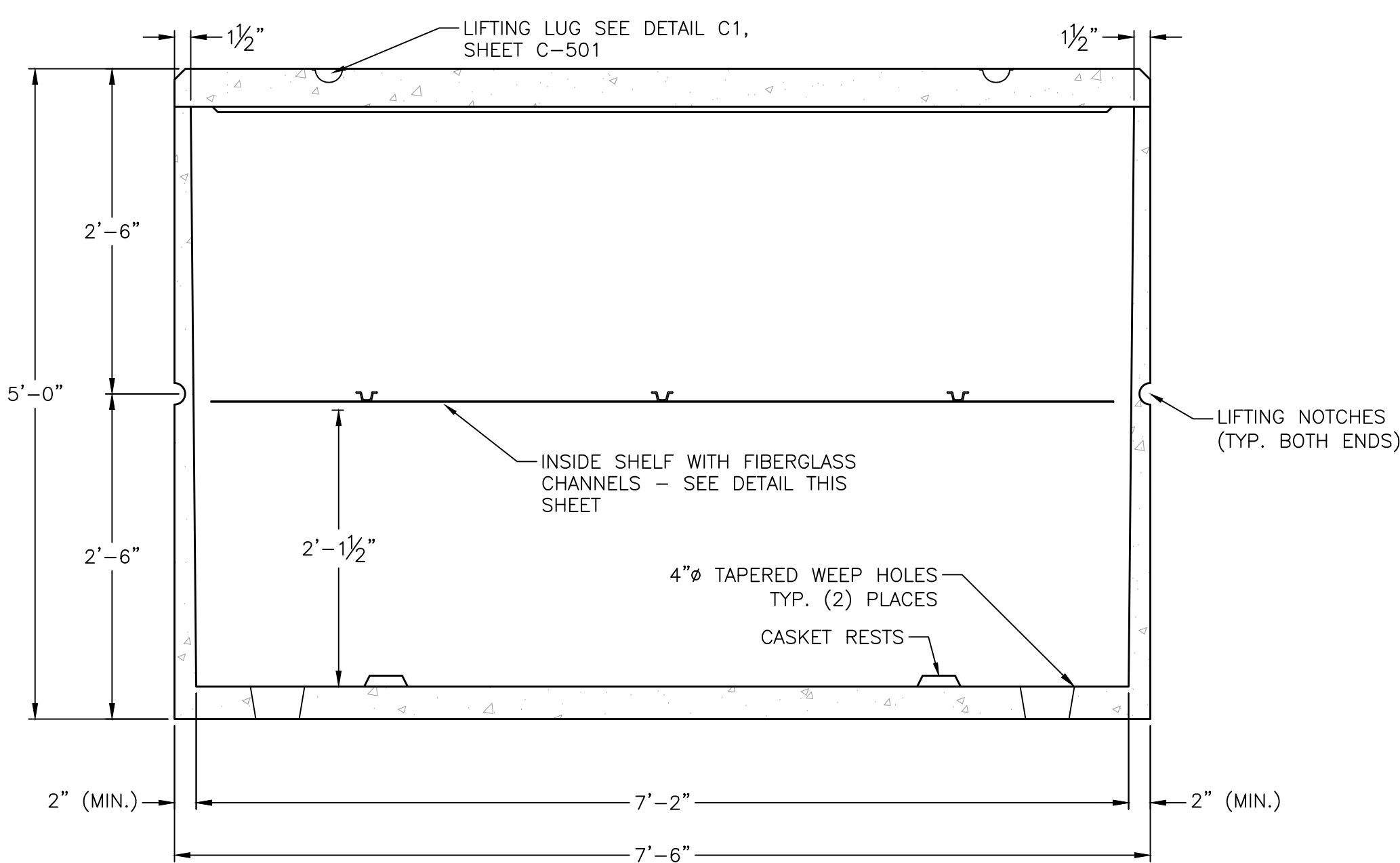


D6 TRANSVERSE CROSS SECTION – PERIMETER OVERSIZE PRE-PLACED CRYPT
SCALE: 1" = 1'-0"

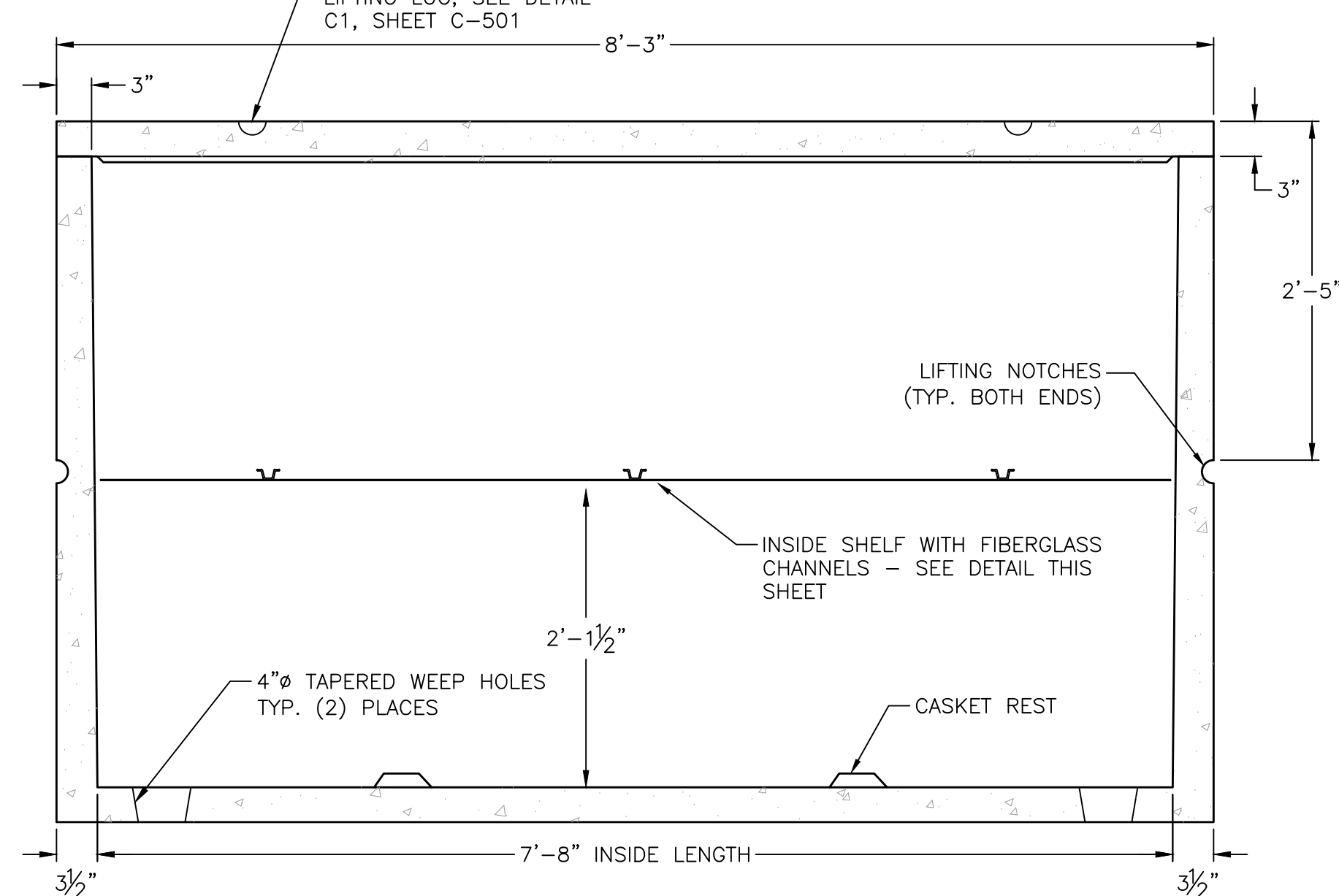


D9 TRANSVERSE CROSS SECTION – OVERSIZE PRE-PLACED CRYPT
SCALE: 1" = 1'-0"

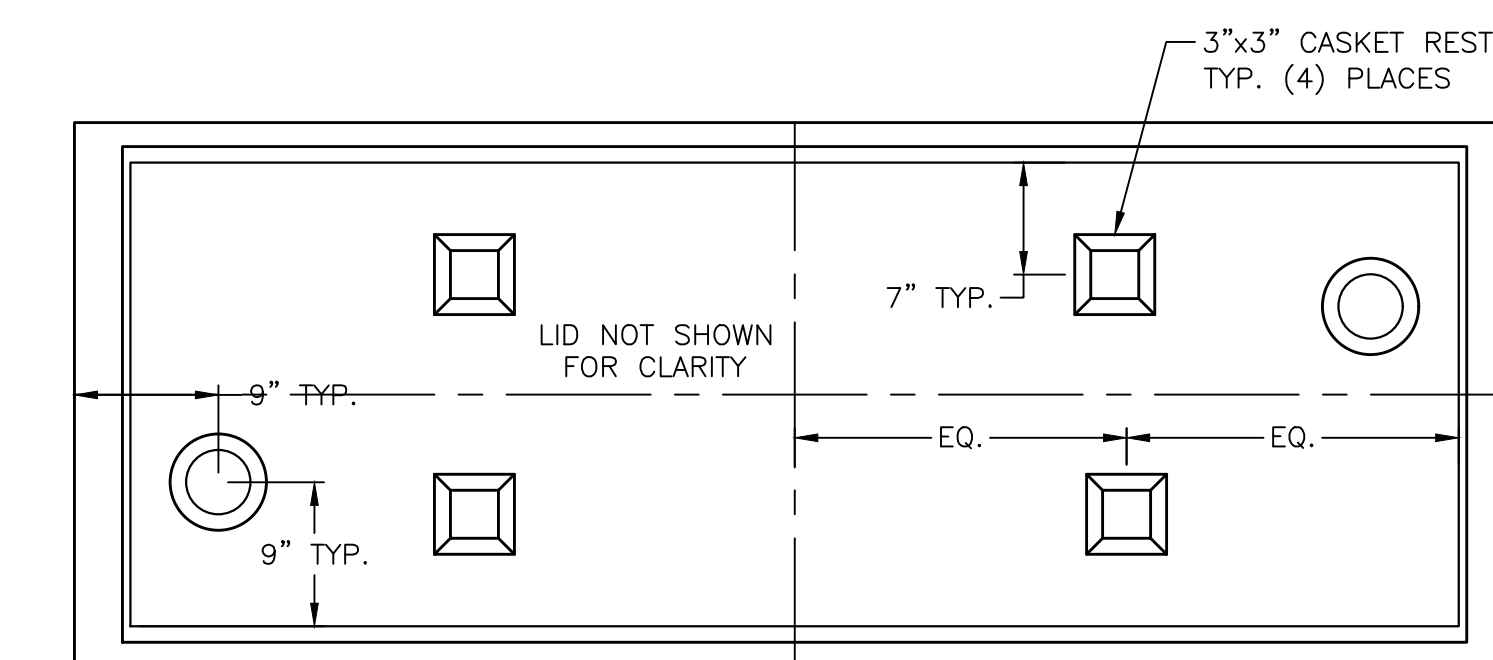
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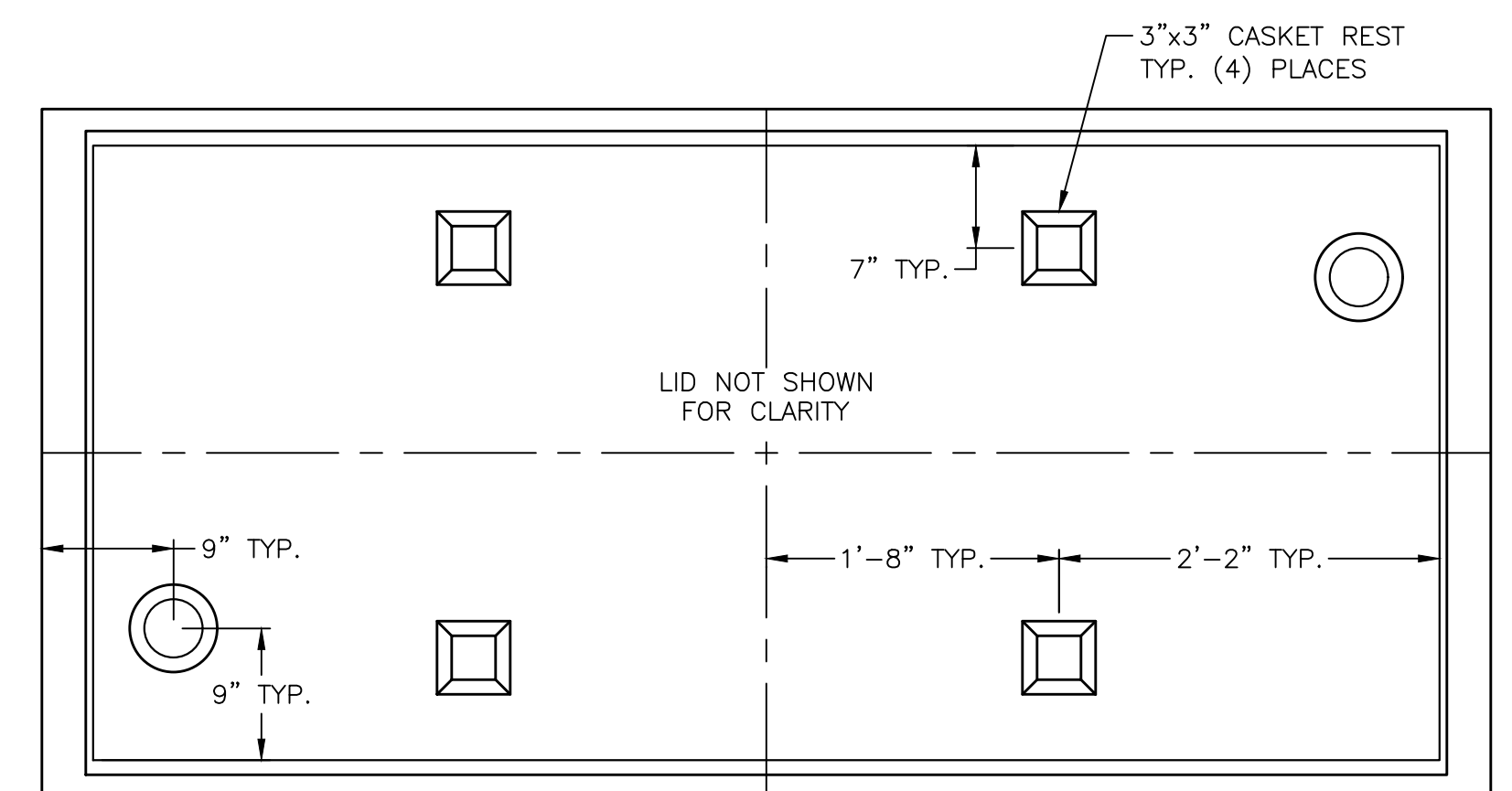
F1 LONGITUDINAL CROSS SECTION – STANDARD PRE-PLACED CRYPT
SCALE: 1" = 1'-0"



F4 LONGITUDINAL CROSS SECTION – OVERSIZE PRE-PLACED CRYPT
SCALE: 1" = 1'-0"



F6 CRYPT-PLAN-STANDARD
SCALE: 1" = 1'-0"



F9 PLAN VIEW – OVERSIZE PRE-PLACED CRYPT
SCALE: 1" = 1'-0"

COMMITTAL SHELTER MODIFICATIONS	4/28/2022
ADDITION OF UNDERGROUND DETENTION FACILITY	12/15/2021
CD1- REDESIGN	1/22/2021
Revisions:	4/28/2022

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National Cemetery Administration Design and Construction Service	
VA U.S. Department of Veterans Affairs	

Drawing Title GRAVESITE DETAILS 2 OF 2
Approved: Project Director Steve Davis Department of Veterans Affairs, NCA Phone: 202.632.4833 Email: steve.davis@va.gov

Phase BID DOCUMENTS
N/A

Project Title NATIONAL CEMETERY DEVELOPMENT CEDAR CITY RURAL INITIATIVE
Location Cedar City, UT
Issue Date 7/22/2022
Checked CAP
Drawn MJL

BID DOCUMENT SUBMITTAL	
Project Number 942CM3001	Drawing Number C-502
Building Number N/A	Sheet 18 of 61

LEGEND:

- PLACE AND COMPACT ASPHALT CONCRETE HOT MIX (ACHM) SURFACE COURSE, 3/8" (9.5 mm) MAXIMUM AGGREGATE SIZE, 1-1/4" MIN. TOTAL LAYER THICKNESS
- TACK COAT
- PLACE AND COMPACT ASPHALT CONCRETE HOT MIX (ACHM) BINDER COURSE, 1/2" (12.5 mm) MAXIMUM AGGREGATE SIZE, 1-3/4" MIN. TOTAL LAYER THICKNESS.
- PRIME COAT
- 8" MINIMUM TOTAL THICKNESS OF AGGREGATE BASE COURSE (LBR 100) COMPACTED TO 95% MAX. DRY DENSITY PER ASTM D1557, PER CEDAR CITY STANDARD SPECIFICATIONS
- 12" STABILIZED SUBGRADE (LBR 40), COMPACTED TO 95% MAX DENSITY PER ASTM D1557, PER CEDAR CITY SPECIFICATIONS

NOTES:

- PROVIDE ASPHALT SPLICE AT ALL TRANSITIONS BETWEEN NEW AND EXISTING PAVEMENT SECTIONS.
- REFER TO PAVEMENT SPLICING DETAIL FOR TRANSITION AREAS.
- CONTRACTOR TO SUBMIT PAVEMENT SUBMITTAL WITH MINIMUM 3" THICKNESS ASPHALTIC CEMENT PAVEMENT LAYER PER CEDAR CITY SPECIFICATIONS SECTION 4.3.1 AND TABLE 4.3. CONTRACTORS MEANS AND METHODS OF ASPHALT CEMENT MATERIAL PLACEMENT SHALL COMPLY WITH SECTION 4.3 OF THE CEDAR CITY SPECIFICATIONS.
- ASPHALTIC CONCRETE LAYERS TO BE COMPACTED TO A MINIMUM OF 95% OF THE MARSHALL MAXIMUM DENSITY PER CEDAR CITY SPECIFICATIONS.

1" BATTER
5"
1/2" RAD.
1/2" EXP. JOINT FILLER, FULL DEPTH OF SLAB
CONCRETE PAVING
4-INCH WIDE TRENCH DRAIN - ACO KLASIKDRAIN K100 LOAD CLASS "A" WITH TYPE 451D STAINLESS STEEL GRATE OR APPROVED EQUAL
NOTE: WHERE SIDEWALK ABUTS CURB, PLACE 1/2" THICK EXPANSION JOINT MATERIAL BETWEEN CURB AND SIDEWALK, FULL DEPTH OF SLAB
6"
18"
6" MIN.
2
1

PAVEMENT AND BASE, THICKNESS AS INDICATED ELSEWHERE
3/8" TOOLED CHAMFERED EDGE
1 1/2"
6" RADIUS
10' SOD, OR TO LIMIT OF CONSTRUCTION
13" RADIUS
2 1/4"
24"
6"
6" MIN.
1
2
NOTE: SAWED OR TOOLED CONTRACTION JOINTS AT 10'-0" O.C. JOINTS SHALL BE 1/4" (+1/16", -0") WIDE, 1" MIN. OR MAX. D/4 DEEP WHICHEVER IS GREATER. EXPANSION JOINTS SHALL BE INSTALLED AT 50' MAX. SPACING & AT ALL POINTS OF CURVATURE (P.C.'s), POINTS OF TANGENCY (PT), AND MID-POINT OF CURVE, UNLESS APPROVED OR INDICATED OTHERWISE ON PLAN VIEW JOINT PATTERN. ALIGN JOINTS WITH ADJOINING CURB AND/OR PAVEMENT.

PAVEMENT AND BASE, THICKNESS AS INDICATED ELSEWHERE
3/8" TOOLED CHAMFERED EDGE
1/2" EXPANSION JOINT FILLER - FULL DEPTH OF SLAB WITH SEALANT
VEHICULAR CONCRETE PAVEMENT - (SEE E4/C-503)
SEE GRADING PLAN FOR SLOPE
3"
24"
3" CLR
3" CLR
6" MIN.
1
2
30"
2-#4 REBAR, 3" CLR SIDES AND BOTTOM
THICKENED EDGE - SEE DETAIL THIS SHEET
EXTEND AGGREGATE BASE 10 FEET BEYOND BACK OF CURB
DOWEL - SEE CONSTRUCTION JOINT DETAIL

B1 FLEXIBLE PAVEMENT SECTION
SCALE:N.T.S.

B3 HEADER CURB WITH TRENCH DRAIN AND GRATE DETAIL
SCALE:N.T.S.

B6 24-INCH ROLL BACK CURB SECTION
SCALE:N.T.S.

B8 24-INCH RIBBON CURB
SCALE:N.T.S.

24" CONCRETE ROLL CURB
CREATE SMOOTH TRANSITION OF BACK OF ROLL CURB AND GUTTER LINE DOWN TO MATCH ELEVATION AND LOCATION OF RIBBON CURB
24-INCH WIDE CONCRETE RIBBON CURB
CONSISTENT EDGE OF PAVEMENT LINE
TRANSITION BOTTOM OF CURB DOWN TO BOTTOM OF RIBBON CURB
12"
10'
1

6"
12"
7"
R 1/2" TYP.
4"
6"
2"
8"
15"
30"
1
2
30" CURB & GUTTER
0.57 YD³/10 LINEAR FT.
TYPE A

NOTE:

ALL CURB AND GUTTER TYPES SHALL HAVE:

- CONTRACTION JOINTS EVERY 10' O.C. 1/2" DEEP.
- EXPANSION JOINTS AT THE P.C. AND P.T. OF A STREET INTERSECTION CURB RADIUS RETURN.

REINFORCEMENT MAT MADE OF #4 REBAR @ 12" O.C. EACH WAY SECURED TO REINFORCEMENT BAR CHAIRS. CHAIRS TO BE A MAXIMUM OF 48" O.C. EACH WAY
4" THICK 4000 PSI CONCRETE MEDIUM BROOM FINISH
1
2

C1 3-FOOT CURB TRANSITION
SCALE:N.T.S.

C3 CEDAR CITY DETAIL C1 TYPE A CURB AND GUTTER
SCALE:N.T.S.

C5 PEDESTRIAN CONCRETE PAVEMENT
SCALE:N.T.S.

DOWEL - SEE CONSTRUCTION JOINT DETAIL
1/2"
BITUMASTIC EXPANSION JOINT MATERIAL WITH SEALANT PLACED AT INTERVAL AS NOTED ABOVE FOR FULL DEPTH OF CONCRETE.
1

CONCRETE PAVEMENT
1/4"
NOTES:
1. MAXIMUM JOINT SPACING SHALL BE 12.5' O.C.
2. CONTRACTION JOINTS SHALL BE EXTENDED TO 1/4 SLAB THICKNESS (D/4)
1

REINFORCEMENT MAT MADE OF #4 REBAR @ 12" O.C. EACH WAY SECURED TO REINFORCEMENT BAR CHAIRS. CHAIRS TO BE A MAXIMUM OF 48" O.C. EACH WAY
8" THICK 4000 PSI CONCRETE MEDIUM BROOM FINISH
1
2

CAST IRON MANHOLE RING AND COVER - SEE C3/C-504 FOR DETAIL
FINISHED SURFACE (TURF)
CONCRETE CONE SECTION
ADJUSTMENT SECTION (TYP.)
CRUSHED SURFACING BASE COURSE
8 OZ. NON-WOVEN GEOTEXTILE FABRIC
LIMIT OF EXCAVATION 1H : 2V SLOPE (MAX.)
#4 STONE
FOUR 6" DIAM. DRAIN HOLES (TYP.) POSITIONED NOT TO INTERFERE WITH REINFORCING BARS
CUTAWAY ELEVATION VIEW
INTEGRAL BASE PRECAST WITH RISER
TWO 60" SECTIONS
24" MIN. VARIES
12"
12"
I.D. 48"
1

E1 EXPANSION JOINT - VEHICULAR CONC.
SCALE:N.T.S.

E3 TRANSVERSE CONTRACTION JOINT
SCALE:N.T.S.

E4 VEHICULAR CONCRETE PAVEMENT
SCALE:N.T.S.

E9 6'-0" CROSS GUTTER DETAIL
SCALE:N.T.S.

DOWEL - SEE CONSTRUCTION JOINT DETAIL
1/2"
BITUMASTIC EXPANSION JOINT MATERIAL WITH SEALANT PLACED AT INTERVAL AS NOTED ABOVE FOR FULL DEPTH OF CONCRETE.
1

CONCRETE PAVEMENT
3"
3"
REINFORCING
D/2
D
DOWEL - SEE CONSTRUCTION JOINT DETAIL
SLAB JOINT
NOTES:
1. TYPICAL AT EVERY JOINT WHERE REINF. OCCURS.
2. PANELS TO BE REINFORCED AS SHOWN IN DETAILS
1

SECOND POUR
INITIAL POUR
PAINT AND GREASE END OF DOWELS
D/2
D
BUTTED JOINT - NO KEYWAY
5"
5"
10"
SMOOTH DOWEL 5/8" DIA. PLACED IN FORMS, CAST IN PLACE, 24" O/C
1

CONCRETE CONE SECTION
ADJUSTMENT SECTION (TYP.)
CRUSHED SURFACING BASE COURSE
8 OZ. NON-WOVEN GEOTEXTILE FABRIC
LIMIT OF EXCAVATION 1H : 2V SLOPE (MAX.)
#4 STONE
FOUR 6" DIAM. DRAIN HOLES (TYP.) POSITIONED NOT TO INTERFERE WITH REINFORCING BARS
CUTAWAY ELEVATION VIEW
INTEGRAL BASE PRECAST WITH RISER
TWO 60" SECTIONS
24" MIN. VARIES
12"
12"
I.D. 48"
1

F1 EXPANSION JOINT FOR 4-INCH PAVEMENT
SCALE:N.T.S.

F3 REINFORCING TERMINATION
SCALE:N.T.S.

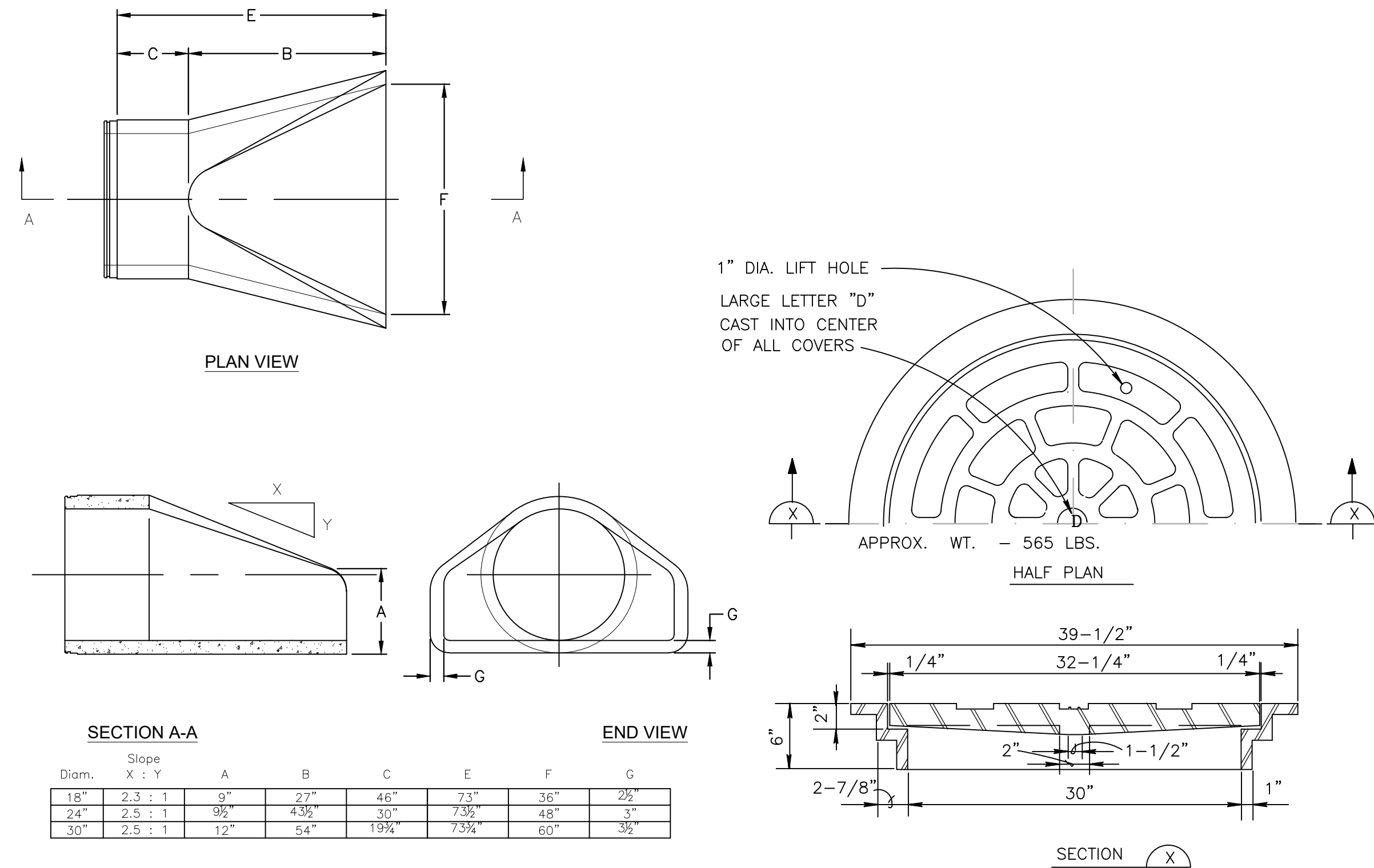
F4 LONGITUDINAL DOWELLED CONSTRUCTION JOINT
SCALE:N.T.S.

F5 STANDARD DRY WELL
SCALE:N.T.S.

CONSULTANT		ARCHITECT/ENGINEER OF RECORD		STAMP		National Cemetery Administration Design and Construction Service		Drawing Title		Phase		Project Title		Project Number	
wood.		MRWM LANDSCAPE ARCHITECTS		VCI Project Management Construction Management Engineering		VA U.S. Department of Veterans Affairs		SITE DETAILS 1 OF 2		BID DOCUMENTS		NATIONAL CEMETERY DEVELOPMENT CEDAR CITY RURAL INITIATIVE		942CM3001	
Environment & Infrastructure Solutions, Inc. 1075 BIG SHANTY ROAD, NW, SUITE 100 KENNESAW, GEORGIA 30144 (770) 421-3400		18300 East 71st Ave., Denver, CO, 80249 504.684.4408; Sean Fitzpatrick		6754098-2203 DON WADE DOTSON		U.S. Department of Veterans Affairs		Approved: Project Director Steve Davis Department of Veterans Affairs, NCA		N/A		Cedar City, UT		C-503	
COMMITTAL SHELTER MODIFICATIONS 4/28/2022								Phone: 202.632.4833 Email: steve.davis@va.gov				Issue Date 7/22/2022		Sheet 19 of 61	
ADDITION OF UNDERGROUND DETENTION FACILITY 12/15/2021												Checked CAP		Drawn MJL	
CD1- REDESIGN 1/22/2021															
Revisions: 4/28/2022															

BID DOCUMENT SUBMITTAL

Project Title		Project Number	
NATIONAL CEMETERY DEVELOPMENT CEDAR CITY RURAL INITIATIVE		942CM3001	
Location		Building Number	
Cedar City, UT		N/A	
Issue Date		Drawing Number	
7/22/2022		C-503	
Checked	Drawn	Sheet	
CAP	MJL	19 of 61	



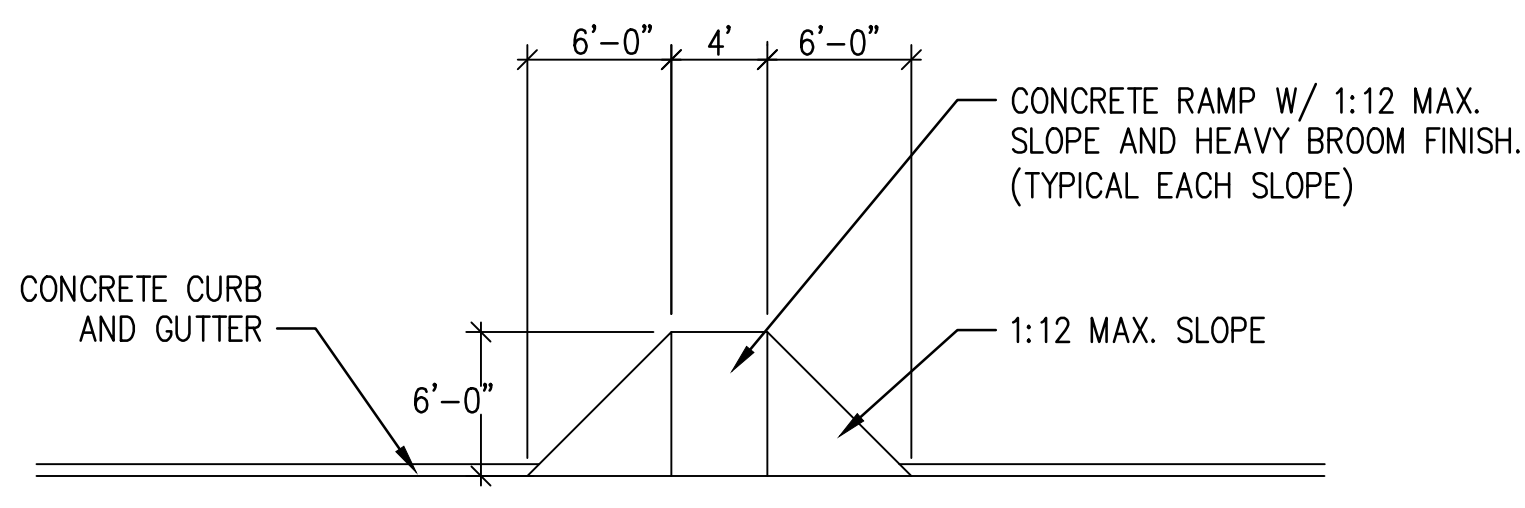
C1 OUTLET FLARED END SECTION (FES)
SCALE: N.T.S.

C3 COVER AND FRAME
SCALE: N.T.S.

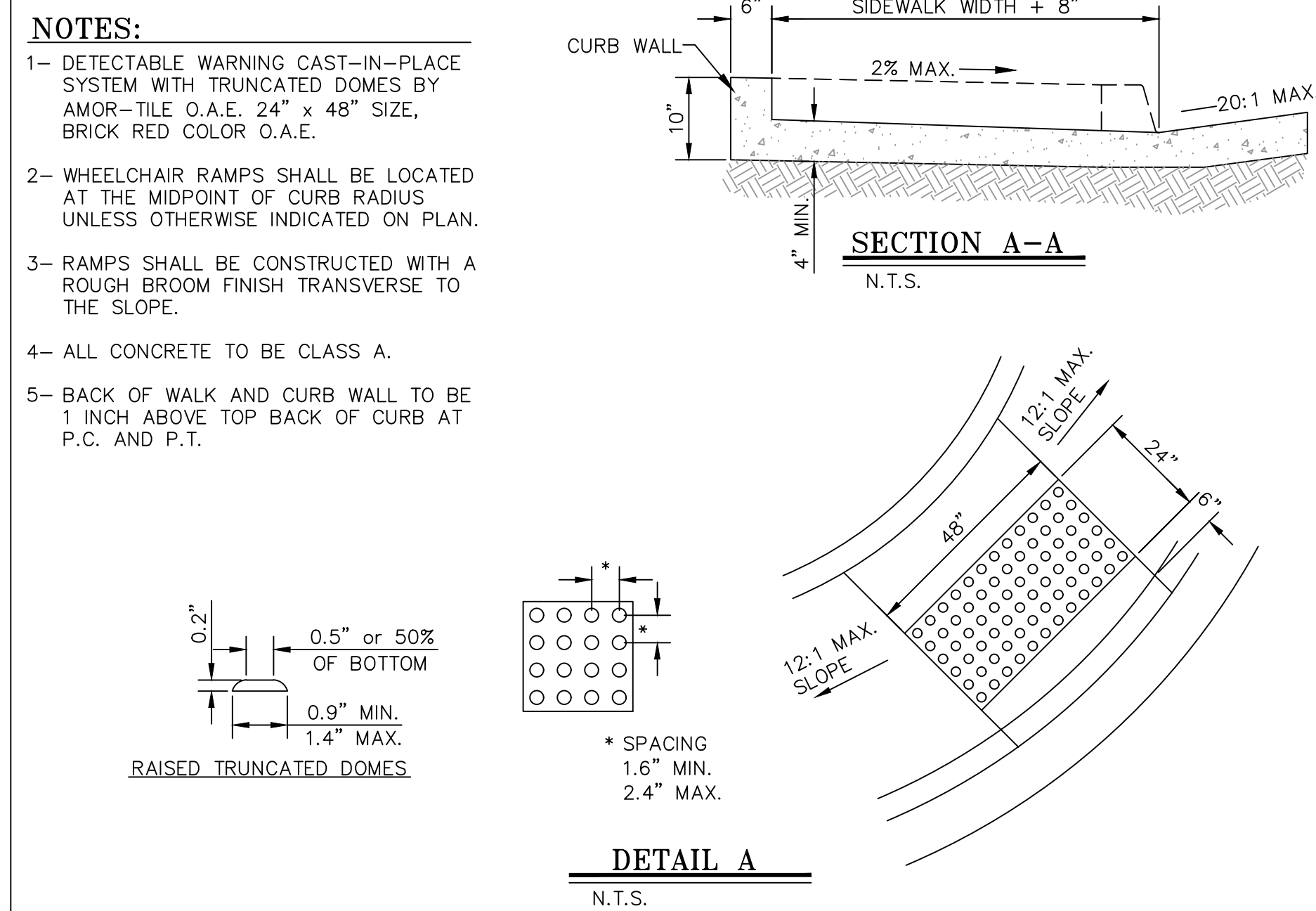
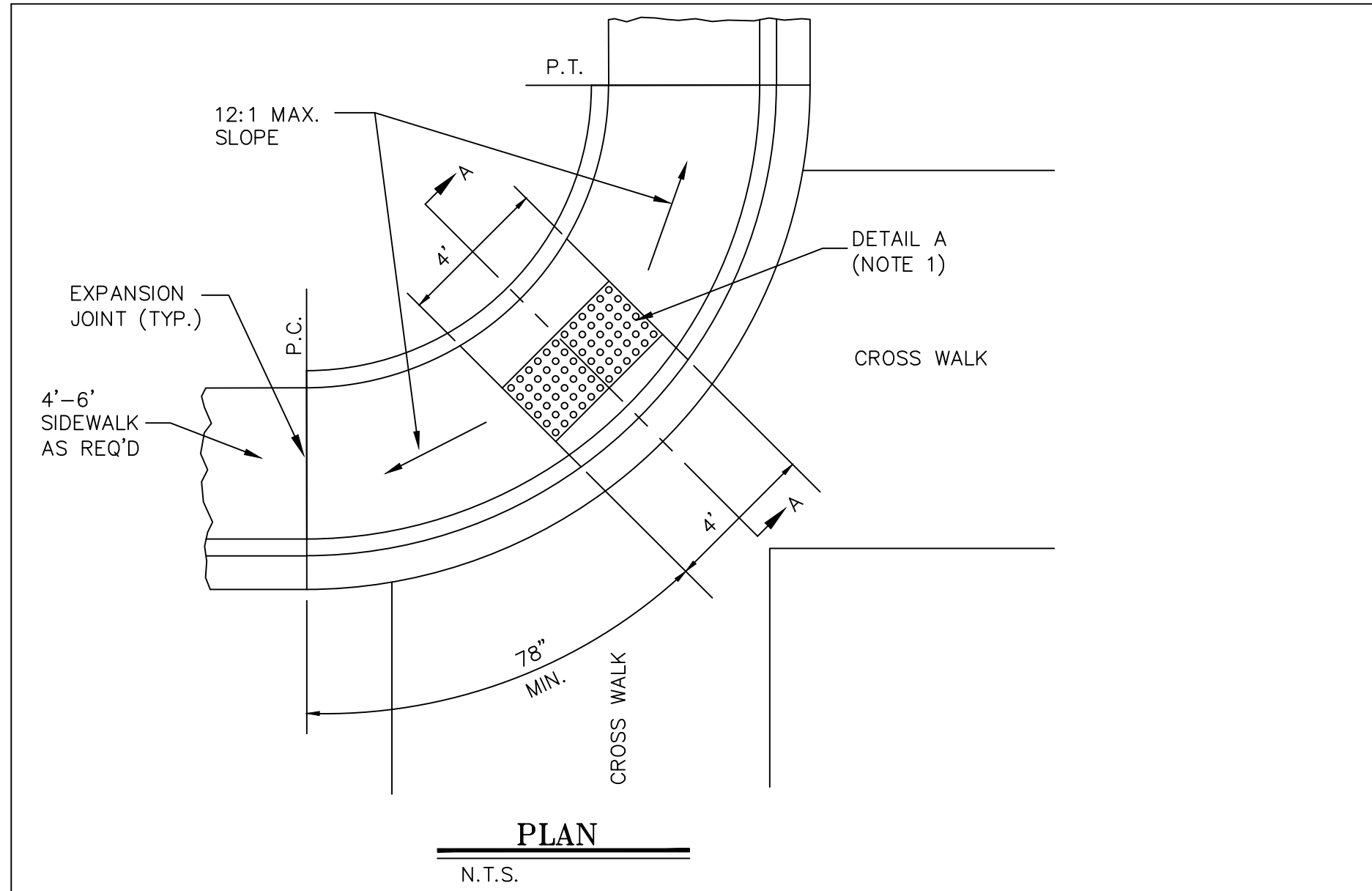
TABLE 4.10 CONCRETE MIX SPECIFICATIONS						
CLASS	MINIMUM CEMENT CONTENT		MAXIMUM WATER CONTENT (GAL./BAG OF CEMENT)	MAXIMUM SLUMPS	MINIMUM 28-DAY COMP. STRENGTH (PSI)	PRIMARY USE
	(BAGS /C.Y.)	(POUND S /C.Y.)				
A	7	658	4.43	4"	5000	CROSS GUTTERS
B	6	564	5	4"	4000	REINFORCED STRUCTURAL CONCRETE, SIDEWALKS, CURB & GUTTERS; CROSS GUTTERS; PAVEMENTS; UNREINFORCED FOOTINGS
				2"		
C	5	470	5.75	4"	3000	MINOR NON-STRUCTURAL ITEMS SUCH AS THRUST BLOCS; ANCHORS, MASS CONCRETE, ETC.

NOTE: TABLE 4.10 APPLIES TO THE CEDAR CITY DETAILS SHOWN ON SHEET C-504 AND DETAIL E9 ON SHEET C-503. REFERENCE CEDAR CITY STANDARD SPECIFICATIONS, LATEST EDITION.

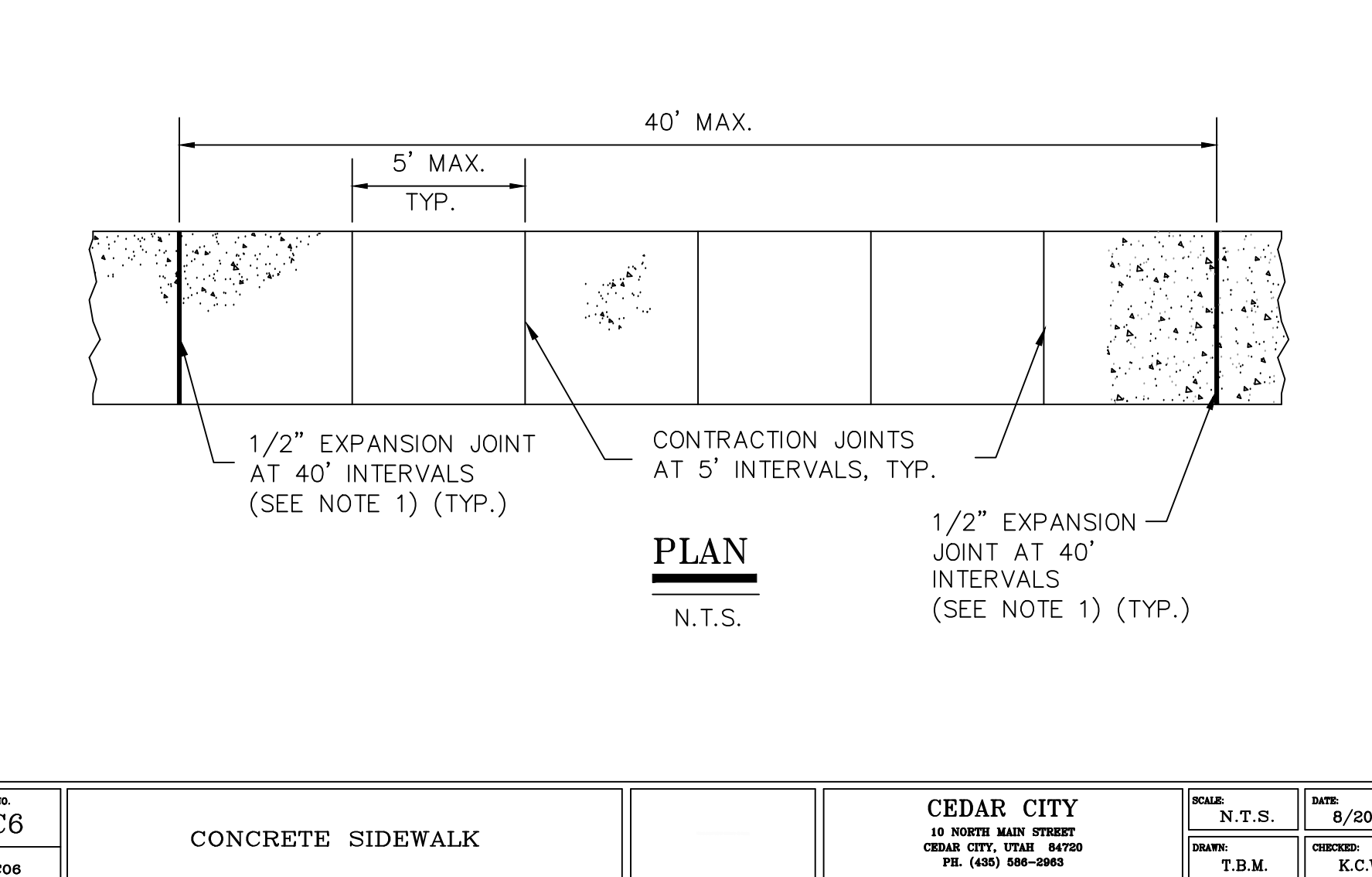
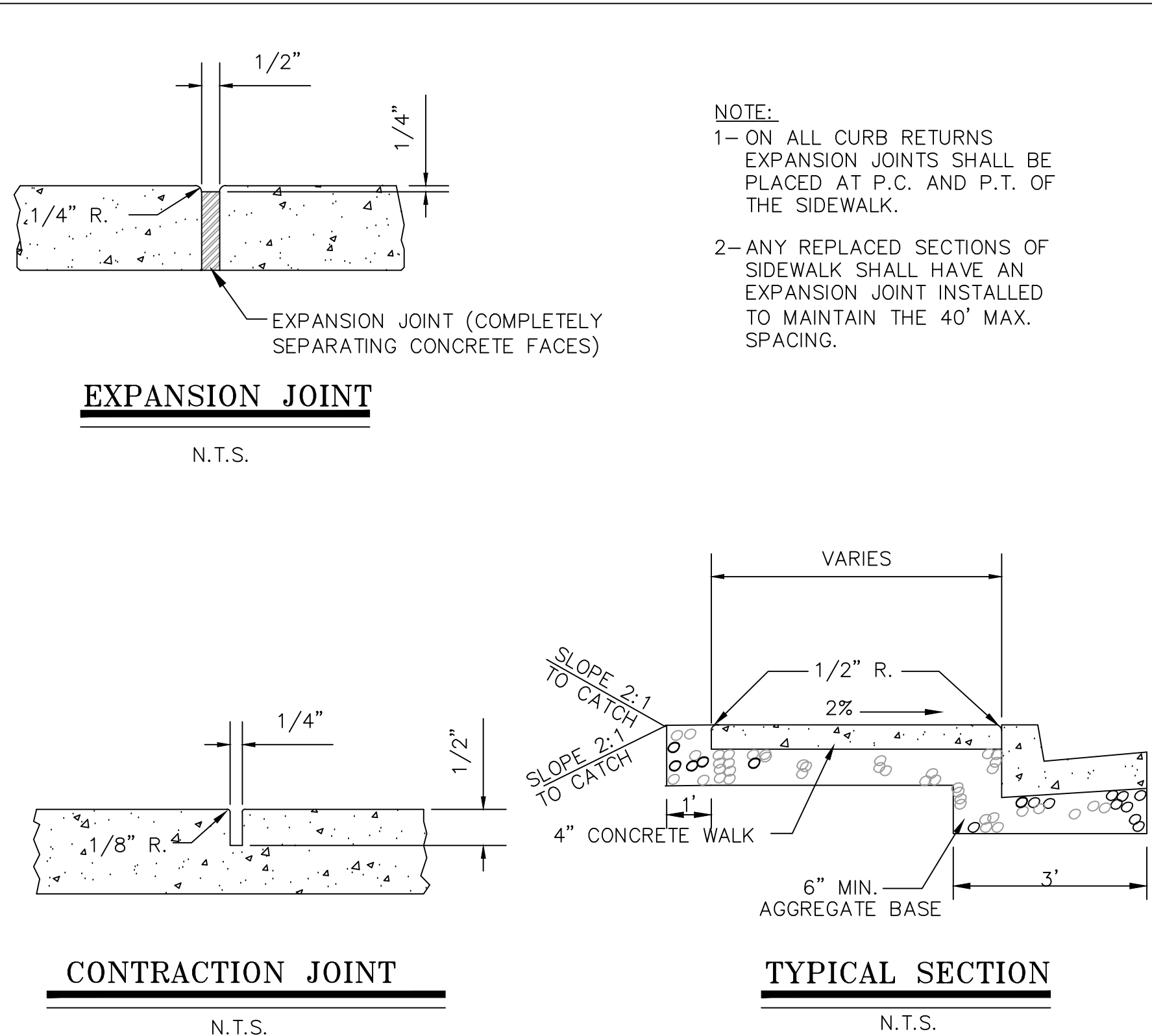
C4 CEDAR CITY TABLE 4.10
SCALE: N.T.S.



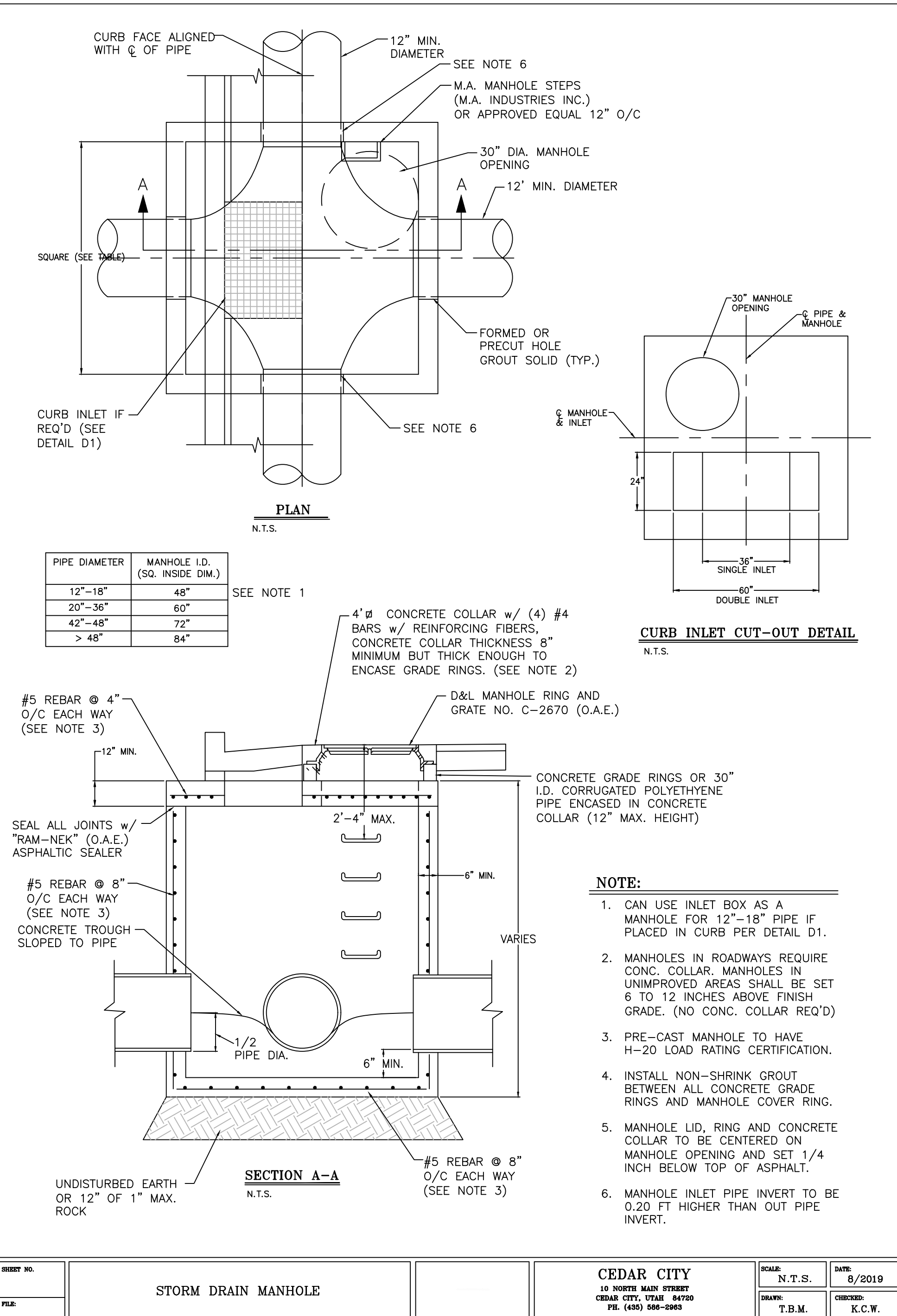
C9 ON-SITE CURB RAMP
SCALE: N.T.S.



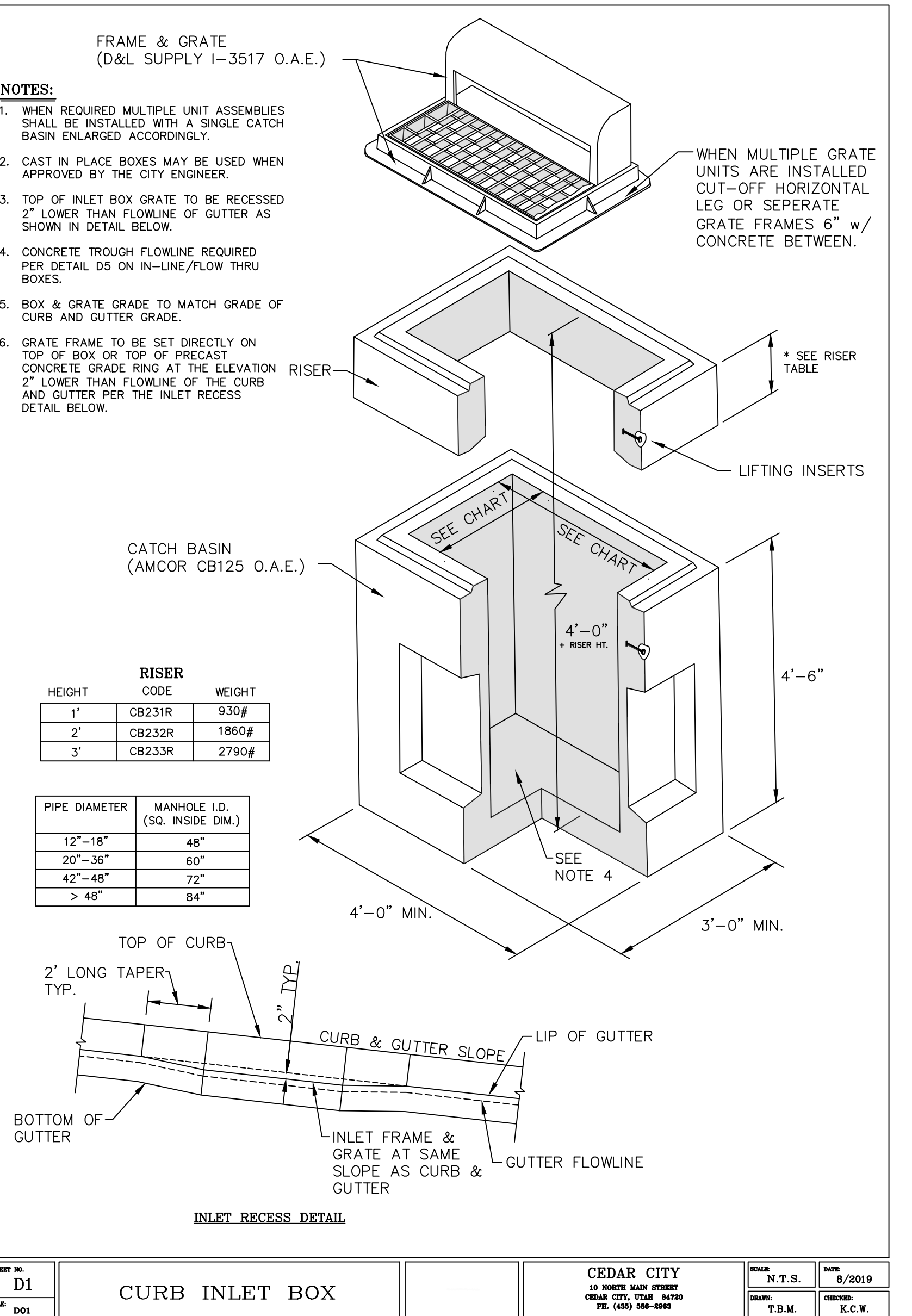
F1 ACCESSIBLE RAMP DETAIL
SCALE: N.T.S.



F4 CONCRETE SIDEWALK
SCALE: N.T.S.



F8 STORM DRAIN MANHOLE
SCALE: N.T.S.



F9 CURB INLET BOX
SCALE: N.T.S.

CONSULTANT wood. Environment & Infrastructure Solutions, Inc. 1075 BIG SHANTY ROAD, NW, SUITE 100 KENNESAW, GEORGIA 30144 (770) 421-3400		ARCHITECT/ENGINEER OF RECORD MRWM LANDSCAPE ARCHITECTS mrwmla.com 505 268 2266		ARCHITECT/ENGINEER OF RECORD VCI Project Management Construction Management Engineering 18300 East 71st Ave., Denver, CO 80249 504.684.4408; Sean Fitzpatrick		National Cemetery Administration Design and Construction Service VA U.S. Department of Veterans Affairs		BID DOCUMENT SUBMITTAL	
COMMITTAL SHELTER MODIFICATIONS 4/28/2022 ADDITION OF UNDERGROUND DETENTION FACILITY 12/15/2021 CD1- REDESIGN 1/22/2021 Revisions: 4/28/2022		Project Title NATIONAL CEMETERY DEVELOPMENT CEDAR CITY RURAL INITIATIVE		Project Number 942CM3001		Building Number N/A		Drawing Number C-504	
Location Cedar City, UT		Issue Date 7/22/2022		Checked CAP		Drawn MJL		Sheet 20 of 61	

MULCHING APPLICATION REQUIREMENTS		
MATERIAL	RATE	DEPTH
STRAW OR HAY	2-1 1/2 TON/ACRE	6" TO 10"
GEOTEXTILES, JUTE MATTING, NETTING, ETC.	SEE MANUFACTURER'S RECOMMENDATIONS	---

Ds1

DISTURBED AREA STABILIZATION (WITH MULCH ONLY)

TABLE 1

SUGGESTED SEEDBED DEPTHS	
SLOPE	SEEDBED DEPTH
3:1 OR FLATTER	LESS THAN 4" DEPTH
2:1 TO 3:1	1" TO 4" DEPTH
2:1 OR STEEPER	DEPRESSIONS EVERY 6" TO 8" HAND-DUG, IF NECESSARY

RE-SEED AREAS WHERE AN ADEQUATE STAND OF TEMPORARY VEGETATION FAILS TO EMERGE OR WHERE A POOR STAND EXISTS.

TABLE 2

SOME TEMPORARY PLANT SPECIES, SEEDING RATES AND PLANTING DATES

SPECIES	RATES PER 1,000 SQ. FT.	RATES PER ACRE	PLANTING DATES BY REGION		
			M-L	P	C
RYE (GRAIN)	3.9 LBS.	3 BU	8/15-11/19	9/15-12/1 3/1-4/1	10/1-11/1
RYEGRASS	0.9 LB.	40 LBS.	8/15-11/15	9/1-12/15	9/15-1/1
RYE AND ANNUAL LESPEDEZA	0.6 LB. 0.6 LB.	0.5 BU 24 LBS	3/1-4/1	3/1-4/1	2/1-3/1
WEEPING LOVEGRASS	0.1 LB.	4 LBS.	4/1-6/1	4/1-6/1	3/1-6/1
SUDANGRASS	1.0 LB.	60 LBS.	5/1-8/1	5/1-8/1	4/1-8/1
BROWNTOP MILLET	1.1 LBS.	50 LBS.	4/15-6/15	4/15-7/1	4/15-7/1
WHEAT	4.1 LBS.	3 BU	9/15-12/1	10/1-12/15	10/15-1/1

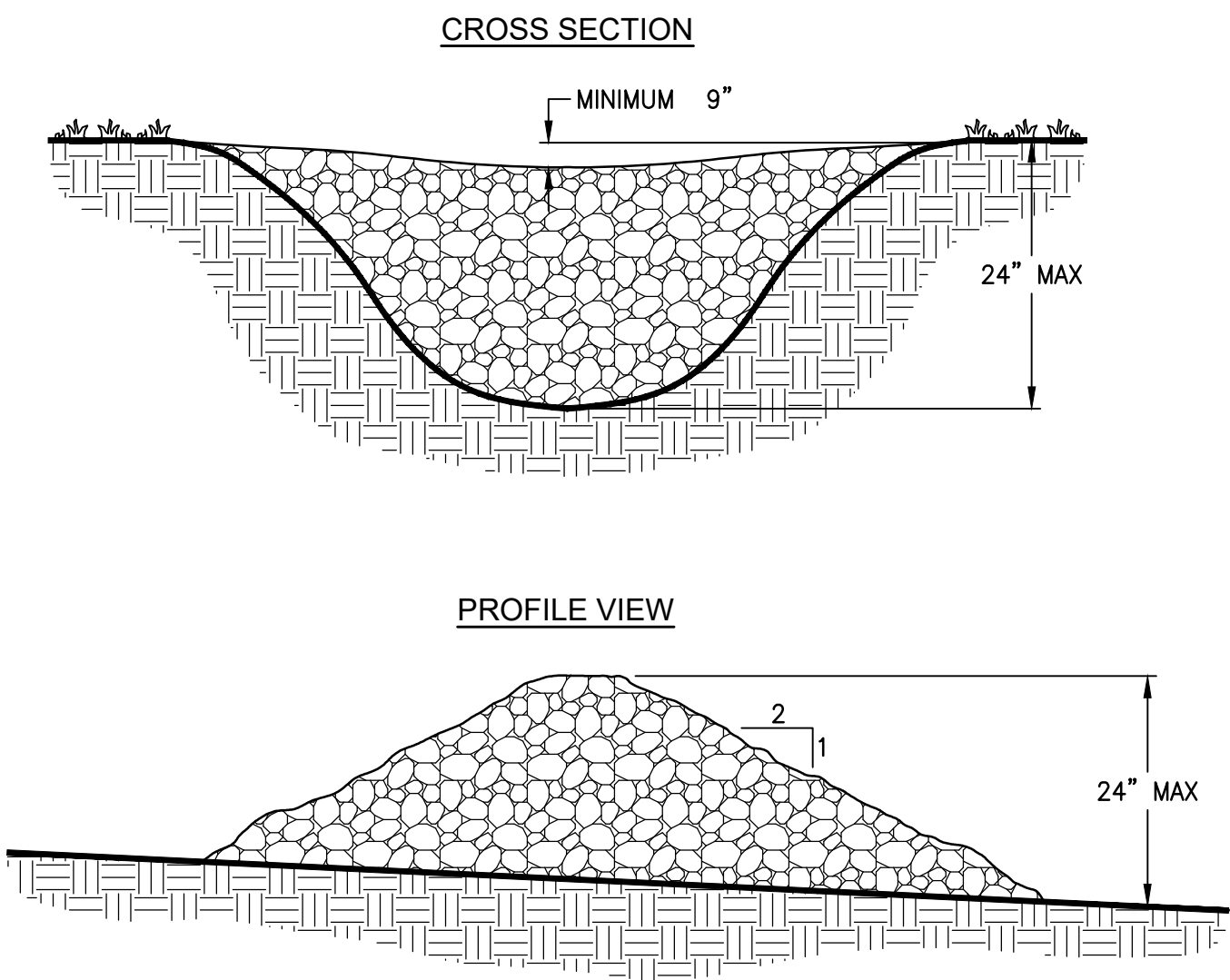
1. UNUSUAL SITE CONDITIONS MAY REQUIRE HEAVIER SEEDING RATES.

2. SEEDING DATES MAY NEED TO BE ALTERED TO FIT TEMPERATURE VARIATIONS AND LOCAL CONDITIONS.

TABLE 3 FERTILIZER REQUIREMENTS FOR TEMPORARY VEGETATION				
TYPE OF SPECIES	PLANTING YEAR	FERTILIZER (N-P-K)	RATE (LBS./ACRE)	N TOP DRESSING RATE (LBS./ACRE)
COOL SEASON GRASSES	FIRST	6-12-12	1500	50-100
	SECOND	6-12-12	1000	--
	MAINTENANCE	10-10-10	400	30
COOL SEASON GRASSES AND LEGUMES	FIRST	6-12-12	1500	0-50
	SECOND	0-10-10	1000	--
	MAINTENANCE	0-10-10	400	---
TEMPORARY COVER CROPS SEEDED ALONE	FIRST	10-10-10	500	30
WARM SEASON GRASSES	FIRST	6-12-12	1500	50-100
	SECOND	6-12-12	800	50-100
	MAINTENANCE	10-10-10	400	30

Ds2

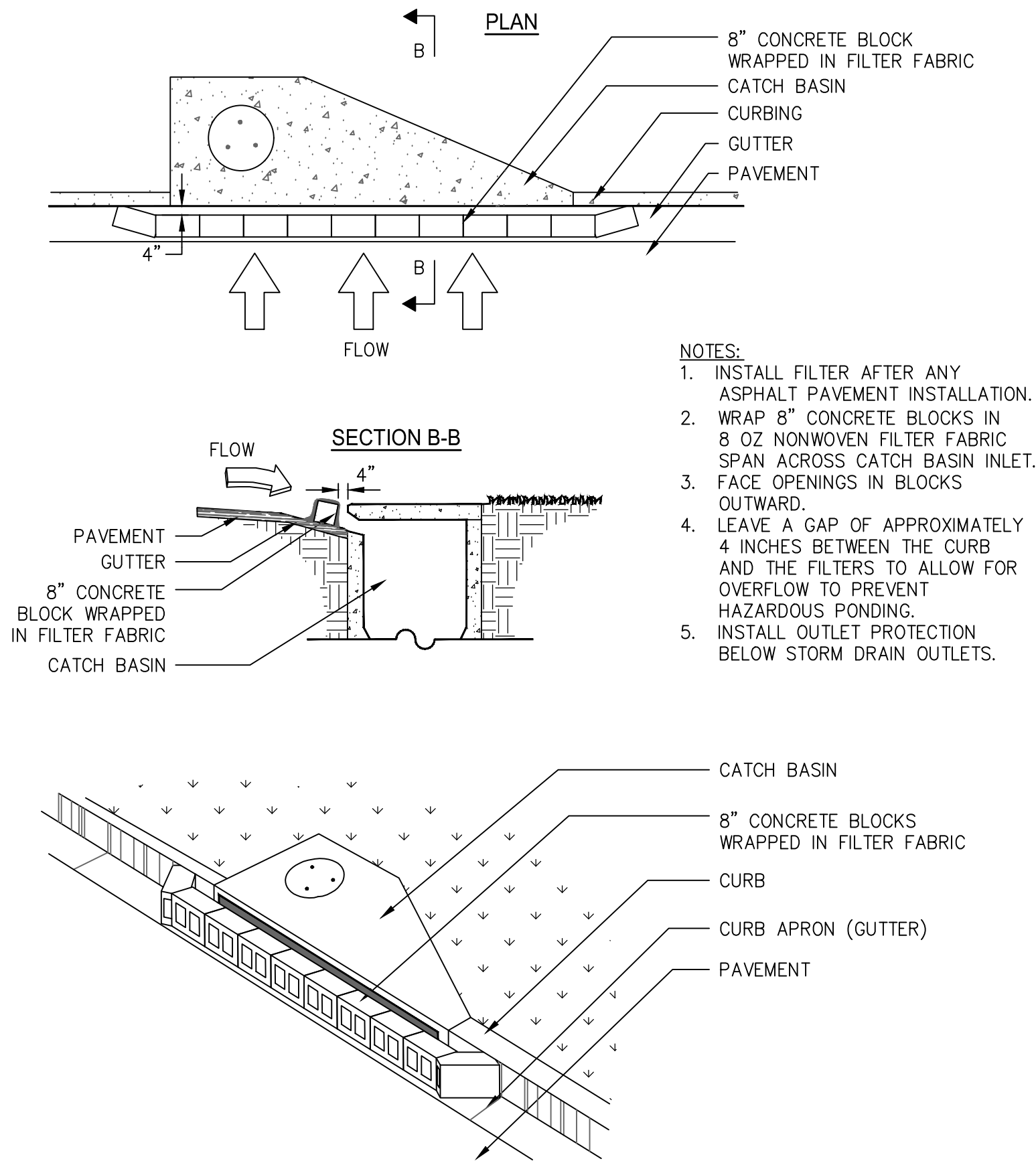
DISTURBED AREA STABILIZATION (WITH TEMPORARY SEEDING)



- NOTES:
- CHECK DAMS ARE TO BE USED ONLY IN SMALL OPEN CHANNELS (THEY ARE NOT TO BE USED IN LIVE STREAMS).
 - THE DRAINAGE AREA FOR STONE CHECK DAMS SHALL NOT EXCEED TWO ACRES.
 - THE CENTER OF THE CHECK DAM MUST BE AT LEAST 9 INCHES LOWER THAN THE OUTER EDGES.
 - THE DAM HEIGHT SHOULD BE A MAXIMUM OF 2 FEET FROM CENTER TO RIM EDGE.
 - THE SIDE SLOPES OF THE CHECK DAM SHALL NOT EXCEED A 2:1 SLOPE.
 - 8 OZ NONWOVEN GEOTEXTILE SHALL BE USED TO PREVENT THE MITIGATION OF SUBGRADE SOIL PARTICLES INTO THE STONES.

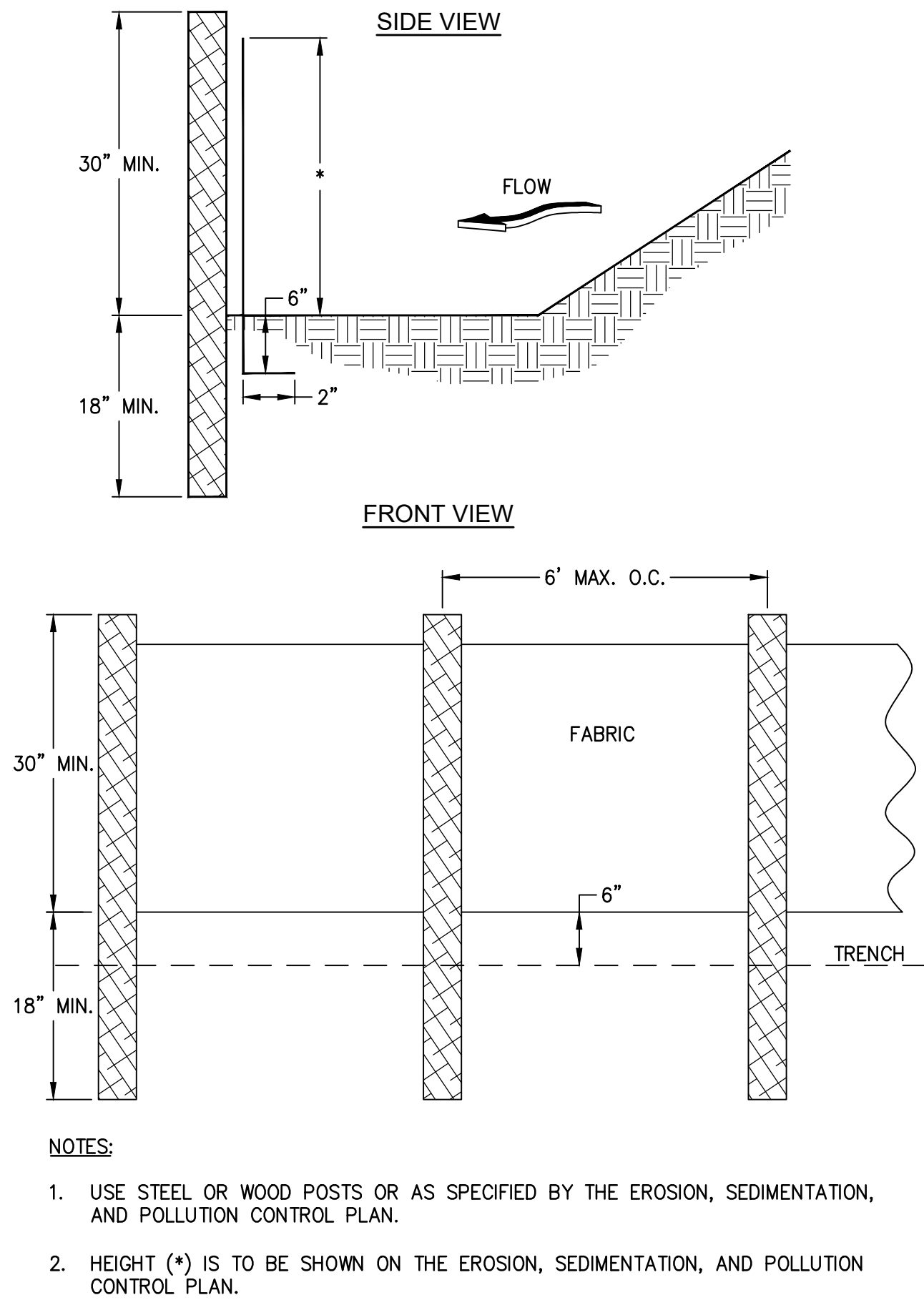
Cd-S

STONE CHECK DAM



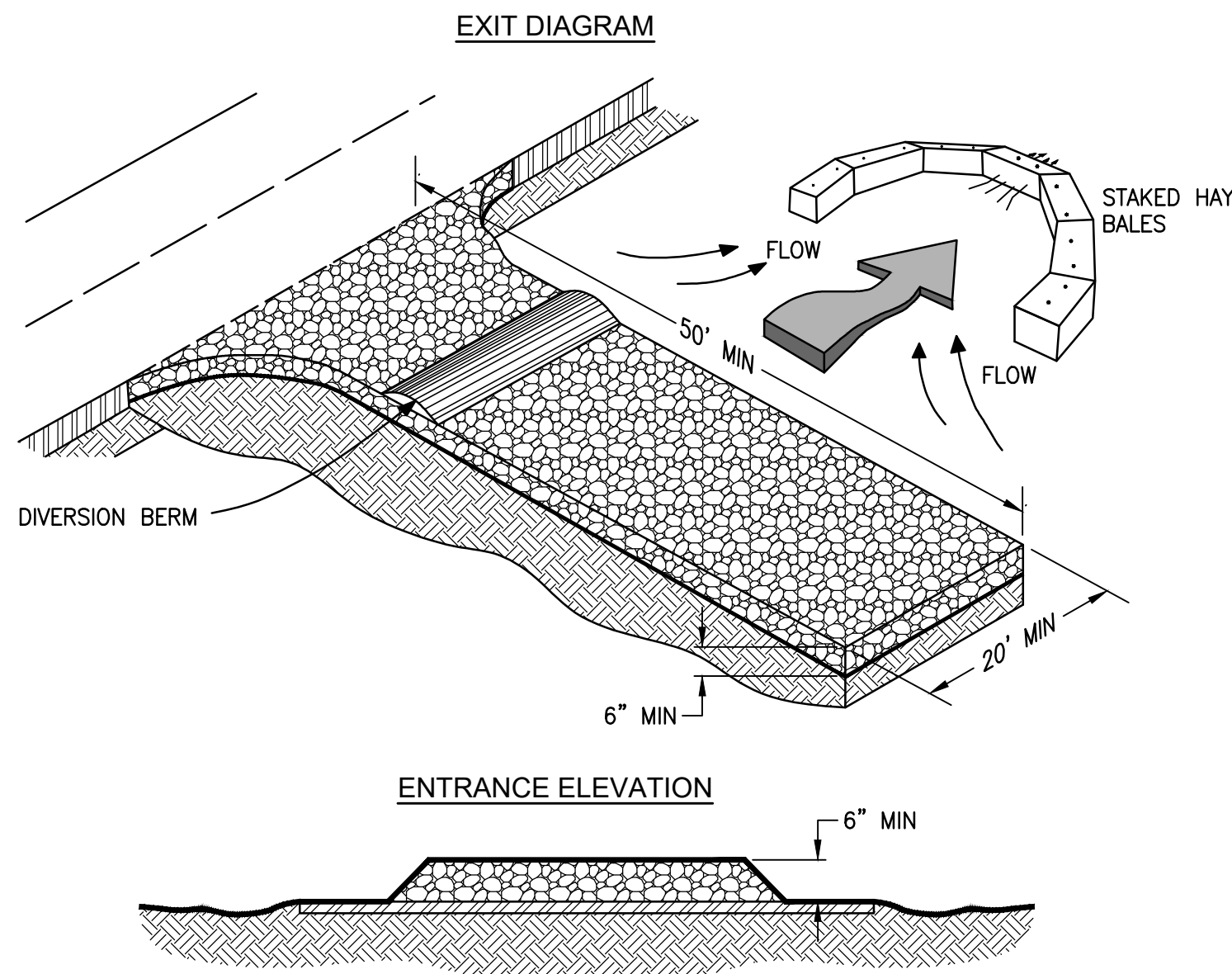
Sd2-P

CURB INLET FILTER "PIGS IN BLANKET"



Sd1-Ns

SILT FENCE - TYPE NON-SENSITIVE



- NOTES:
- AVOID LOCATING ON STEEP SLOPES OR AT CURVES ON PUBLIC ROADS.
 - REMOVE ALL VEGETATION AND OTHER UNSUITABLE MATERIAL FROM THE FOUNDATION AREA, GRADE, AND CROWN FOR POSITIVE DRAINAGE.
 - AGGREGATE SIZE SHALL BE IN ACCORDANCE WITH NATIONAL STONE ASSOCIATION R-2 (1.5"-3.5" STONE).
 - GRAVEL PAD SHALL HAVE A MINIMUM THICKNESS OF 6".
 - PAD WIDTH SHALL BE EQUAL FULL WIDTH AT ALL POINTS OF VEHICULAR EGRESS, BUT NO LESS THAN 20'.
 - A DIVERSION RIDGE SHOULD BE CONSTRUCTED WHEN GRADE TOWARD PAVED AREA IS GREATER THAN 2%.
 - NO PIPE UNDER THE ENTRANCE IS NEEDED.
 - WHEN WASHING IS REQUIRED, IT SHOULD BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN (DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE ENTRANCE TO A SEDIMENT CONTROL DEVICE).
 - MAINTAIN AREA IN A WAY THAT PREVENTS TRACKING AND/OR FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.

Co

CRUSHED STONE CONSTRUCTION EXIT

BID DOCUMENT SUBMITTAL									
		CONSULTANT		ARCHITECT/ENGINEER OF RECORD		STAMP		Drawing Title	
								EROSION CONTROL DETAILS	
								Phase	
								BID DOCUMENTS	
								Project Title	
								NATIONAL CEMETERY DEVELOPMENT CEDAR CITY RURAL INITIATIVE	
								Project Number	
								942CM3001	
								Building Number	
								N/A	
								Drawing Number	
								C-505	
								Location	
								Cedar City, UT	
								Issue Date	
								7/22/2022	
								Checked	
								CAP	
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								Sheet	
								21 of 61	

A

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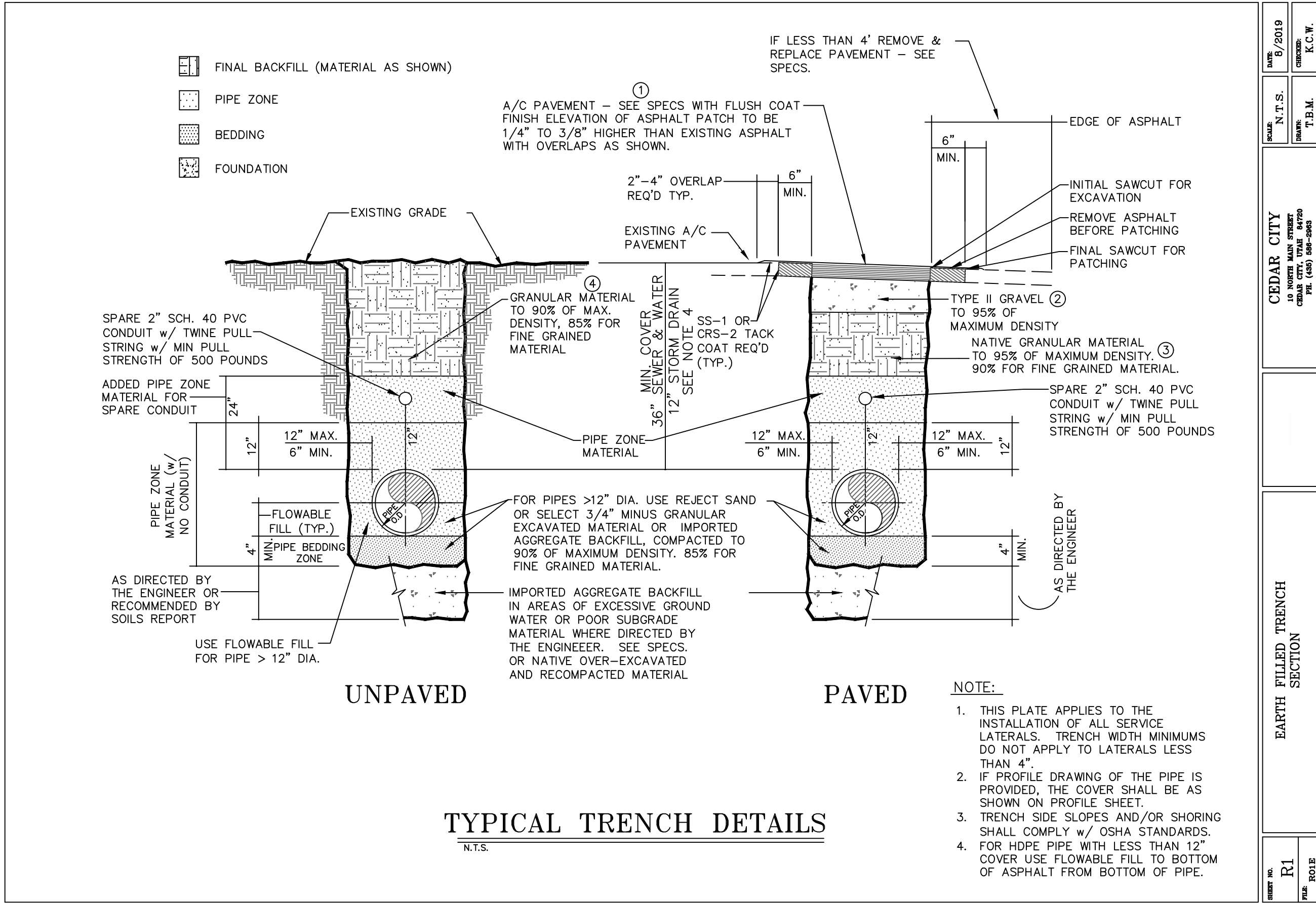
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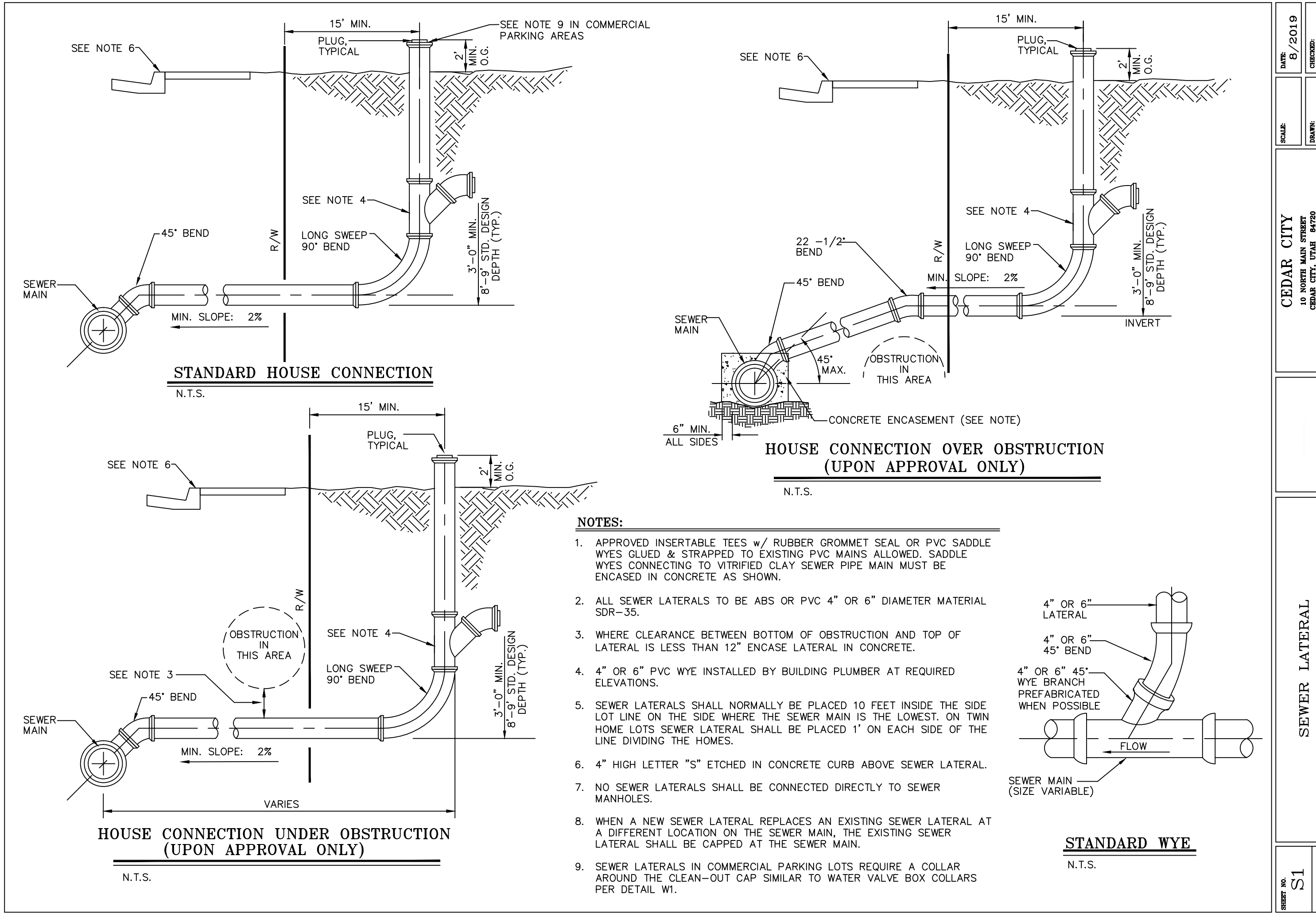
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C8 TYPICAL TRENCH DETAILS
SCALE:N.T.S.



F6 SANITARY SEWER CONNECTION DETAILS
SCALE:N.T.S.

COMMITMENT SHELTER MODIFICATIONS ADDITION OF UNDERGROUND DETENTION FACILITY CD1 - REDESIGN Revisions:		4/28/2022 12/15/2021 1/22/2021 4/28/2022
CONSULTANT		ARCHITECT/ENGINEER OF RECORD
wood. Environment & Infrastructure Solutions, Inc. 1075 BIG SHANTY ROAD, NW, SUITE 100 KENNESAW, GEORGIA 30144 (770) 421-3400		MRWM LANDSCAPE ARCHITECTS mrwmla.com 505 268 2266
VCI Project Management Construction Management Engineering 18300 East 71st Ave., Denver, CO, 80249 504.684.4408; Sean Fitzpatrick		STAMP 6754098-2203 DON WADE DOTSON STATE OF UTAH REGISTERED PROFESSIONAL ENGINEER
National Cemetery Administration Design and Construction Service VA U.S. Department of Veterans Affairs		Drawing Title UTILITY DETAILS 2 OF 2 Approved: Project Director Steve Davis Department of Veterans Affairs, NCA Phone: 202.632.4833 Email: steve.davis@va.gov
Phase BID DOCUMENTS		Project Title NATIONAL CEMETERY DEVELOPMENT CEDAR CITY RURAL INITIATIVE
Location Cedar City, UT		Project Number 942CM3001
Issue Date 7/22/2022		Building Number N/A
Checked CAP		Drawn MUL
Sheet 23 of 61		Drawing Number C-507

PROPOSED LAYOUT		CONCEPTUAL ELEVATIONS	
178	STORMTECH SC-160LP CHAMBERS	MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED):	11.50
54	STORMTECH SC-160LP END CAPS	MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC):	3.10
8	STONE ABOVE (IN)	MINIMUM ALLOWABLE GRADE (UNPAVED W/ TRAFFIC):	2.60
6	STONE BELOW (IN)	MINIMUM ALLOWABLE GRADE (TOP OF RIGID CONCRETE PAVEMENT):	2.60
40	STONE VOID	MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT):	2.00
3158	INSTALLED SYSTEM VOLUME (CF)	TOP OF STONE:	2.00
	PERIMETER STONE INCLUDED	TOP OF SC-160LP CHAMBER:	1.00
	(COVER STONE INCLUDED)	8" ISOLATOR ROW PLUS ROBERT:	0.08
	BASE STONE INCLUDED	12" x 8" BOTTOM MANHOLE INVERT (8" PIPE):	0.00
	SYSTEM AREA (SF)	BOTTOM OF SC-160LP CHAMBER:	0.00
297.1	SYSTEM PERIMETER (IN)	12" x 8" BOTTOM MANHOLE INVERT (12" PIPE):	0.00
		BOTTOM OF STONE:	6.00

PART TYPE		ITEM ON LAYOUT	DESCRIPTION	INVERT	MAX FLOW
MANIFOLD	A	12" x 8" REDUCING CONCENTRIC MOLDED FITTINGS (12" PIPE)	12" x 8" REDUCING CONCENTRIC MOLDED FITTINGS (8" PIPE)	-1.47' 0.80'	
CONCRETE STRUCTURE	B	(DESIGN BY ENGINEER / PROVIDED BY OTHERS)			4.9 CFS IN

NOTES

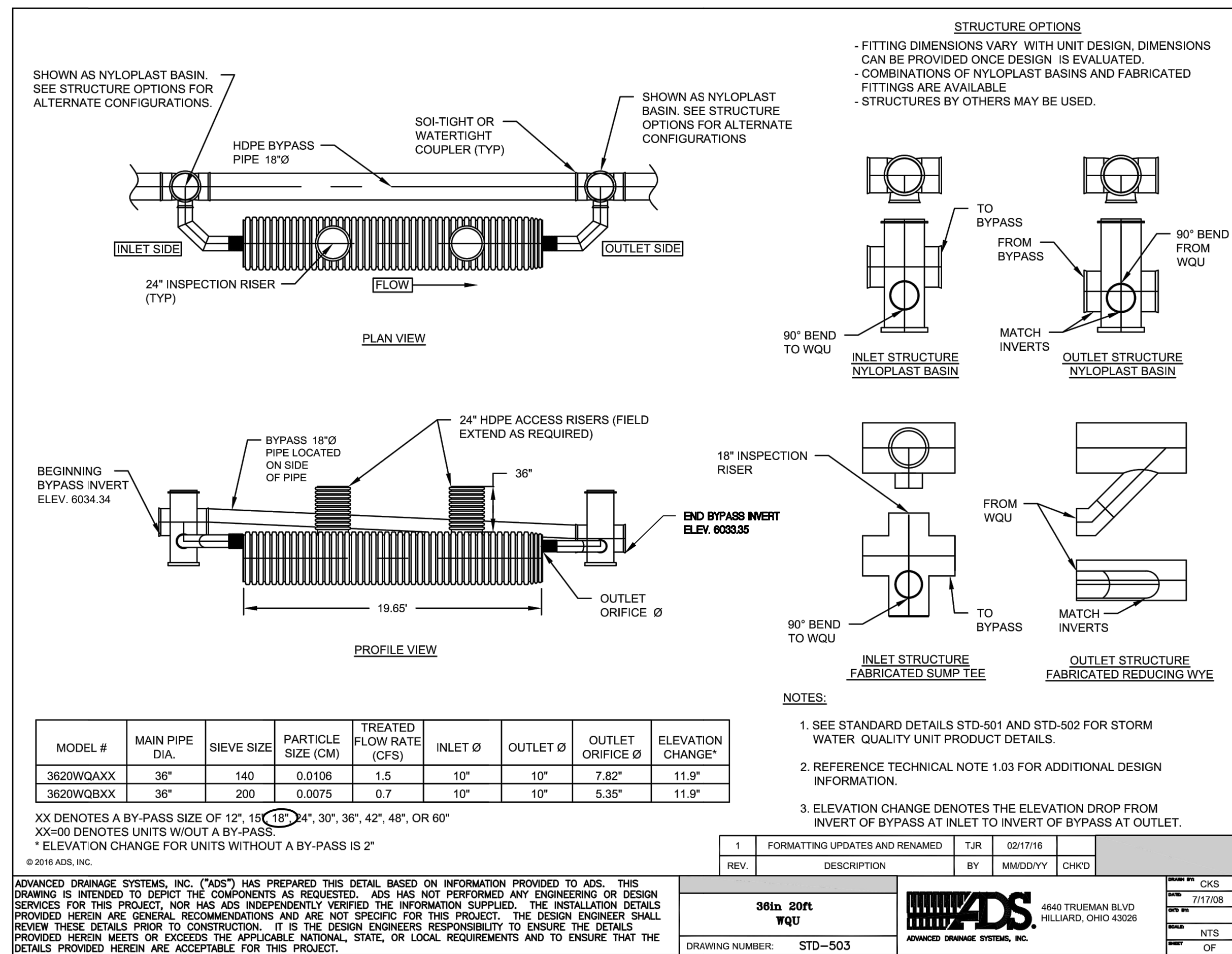
- MANHOLE SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECH NOTE #6.32 FOR MANHOLE SIZING GUIDANCE.
- DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANHOLE COMPONENTS IN THE FIELD.
- THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.
- THIS CHAMBER SYSTEM WAS DESIGNED WITHOUT SITE-SPECIFIC INFORMATION ON SOIL CONDITIONS OR BEARING CAPACITY. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR DETERMINING THE SUITABILITY OF THE SOIL AND PROVIDING THE BEARING CAPACITY OF THE IN-SITU SOILS. THE BASE STONE DEPTH MAY BE INCREASED OR DECREASED ONCE THIS INFORMATION IS PROVIDED.
- NOT FOR CONSTRUCTION:** THIS LAYOUT IS FOR DIMENSIONAL PURPOSES ONLY TO PROVE CONCEPT A THE REQUIRED STORAGE VOLUME CAN BE ACHIEVED ON SITE.

ISOLATOR ROW PLUS (SEE DETAIL)
 PLACE MINIMUM 12" OF ASPHALT/12" WOVEN GEOTEXTILE OVER BEDDING STONE AND UNDERNEATH CHAMBER FEET FOR SCOUR PROTECTION AT ALL CHAMBER INLET ROWS
 BED LIMITS

/ADS 1640 TROSMAN BLVD SUITE 200 FARMINGTON, CT 06030 TEL: 860-273-4272 FAX: 860-273-4273 <small>THIS DOCUMENT IS THE PROPERTY OF STORMTECH. IT IS TO BE USED FOR THE PROJECT AND SITE SPECIFIC PURPOSE ONLY. NO PART OF THIS DOCUMENT SHALL BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT PERMISSION FROM STORMTECH.</small>	StormTech® Chamber System 888-882-2884 WWW.STORMTECH.COM		CEDAR CITY NATIONAL CEMETERY CHAMBER # _____ DATE: _____ DRAWN: GB CHECKED: N/A PROJECT #: _____ DESCRIPTION: _____ DATE: _____ DRY: _____ CHK: _____
	SHEET 4 OF 5		

THE ADVANCE DRAINAGE SYSTEMS, INC. (ADS) STORMTECH SC-160LP SYSTEM SHOWN IS THE BASIS OF DESIGN. OTHER UNDERGROUND DETENTION SYSTEMS MAY BE PROPOSED BY THE CONTRACTOR, BUT THE CONTRACTOR WILL BE RESPONSIBLE FOR SUBMITTING AND GAINING APPROVAL FROM THE OWNER THAT THE CONTRACTOR PROPOSED SYSTEM IS EQUAL IN BOTH QUALITY AND FUNCTION TO THE BASIS OF DESIGN.

Project Title			Project Number		
NATIONAL CEMETERY DEVELOPMENT CEDAR CITY RURAL INITIATIVE			942CM3001		
Location			Building Number		
Cedar City, UT			N/A		
Issue Date			Drawing Number		
7/22/2022			C-511		
Checked	Drawn				
CAP	MJL				
		Sheet 24 of 61			



BASIS OF DESIGN NOTE:

THE ADVANCE DRAINAGE SYSTEMS, INC. (ADS) STORMTECH SC-160LP SYSTEM SHOWN IS THE BASIS OF DESIGN. OTHER UNDERGROUND DETENTION SYSTEMS MAY BE PROPOSED BY THE CONTRACTOR, BUT THE CONTRACTOR WILL BE RESPONSIBLE FOR SUBMITTING AND GAINING APPROVAL FROM THE OWNER THAT THE CONTRACTOR PROPOSED SYSTEM IS EQUAL IN BOTH QUALITY AND FUNCTION TO THE BASIS OF DESIGN.

Project Title NATIONAL CEMETERY DEVELOPMENT CEDAR CITY RURAL INITIATIVE			Project Number 942CM3001	
Location Cedar City, UT			Building Number N/A	
Issue Date 7/22/2022			Drawing Number C-512	
Checked CAP		Drawn MJL		
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