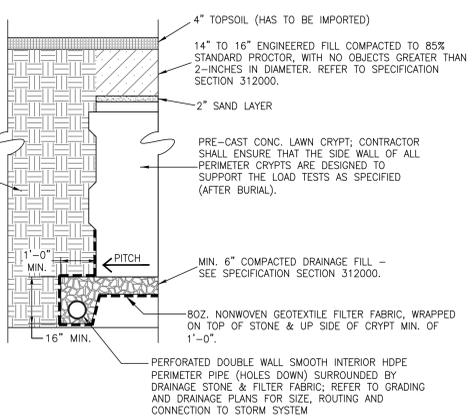
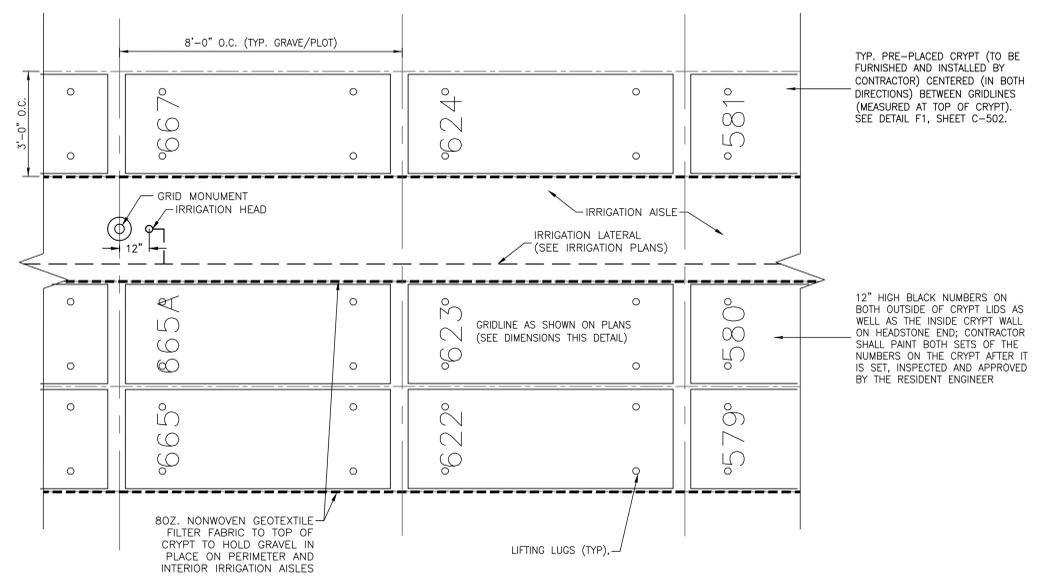


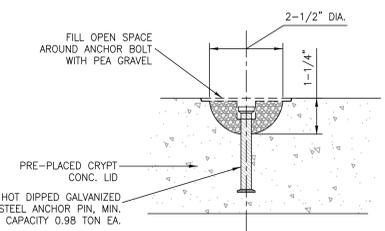
**B1** PRE-PLACED CRYPT UNDERDRAIN CLEANOUT  
SCALE:N.T.S.



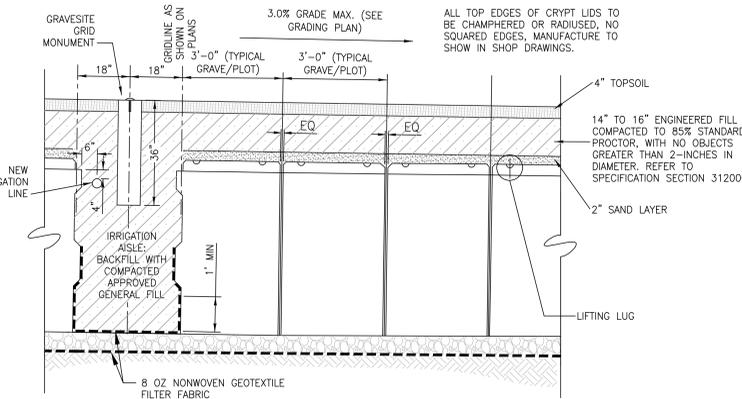
**B4** PRE-PLACED CRYPTS - END ROW  
SCALE:N.T.S.



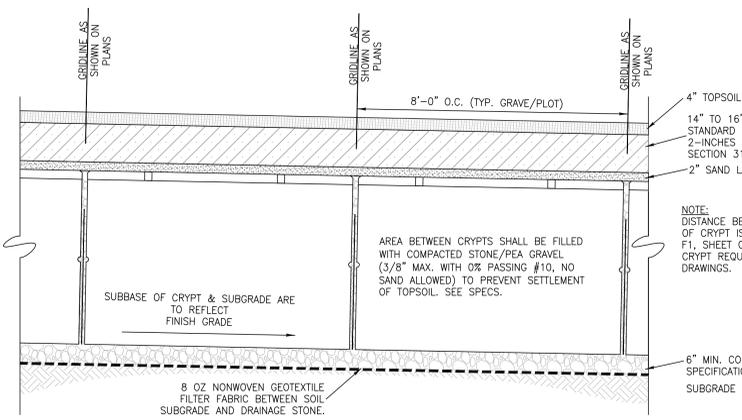
**B7** STANDARD PRE-PLACED CRYPT INSTALLATION DETAIL  
SCALE:N.T.S.



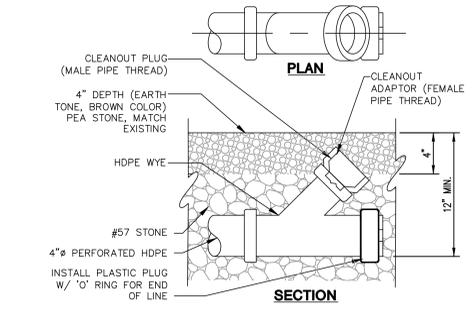
**C1** LIFTING LUG DETAIL  
SCALE:N.T.S.



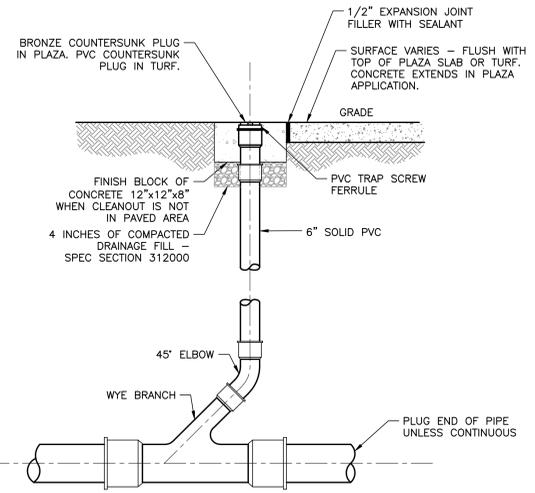
- NOTES:
- CRYPT/MONUMENT LAYOUT GENERAL NOTE: LAYOUT OF DOUBLE-DEPTH CRYPTS SHALL BE BASED ON THE LOCATION DATA FOR THE GRAVESITE MONUMENTS PROVIDED ON SITE PLAN. THE ACTUAL PLACEMENT OF THE GRAVESITE MONUMENTS SHALL OCCUR AFTER THE PLACEMENT OF ALL CRYPTS. TO ENSURE ACCURATE MONUMENT PLACEMENT, CONTRACTOR SHALL HAND-EXCAVATE SUFFICIENT MATERIAL (IN THE PROXIMITY OF EACH MONUMENT) TO EXPOSE THE CRYPT LIDS. REPLACE ALL EXCAVATED MATERIAL AFTER PLACEMENT OF MONUMENTS. MONUMENT PLACEMENT SHALL BE BASED UPON THE ACTUAL INSTALLED CRYPT LOCATIONS. ANY DEVIATIONS (FROM THE PLANS) SHALL BE RECORDED ON THE RECORD DRAWINGS.
  - MAINTAINING DEPTH OF COVER OVER ALL CRYPT LIDS IS CRITICAL; CONTRACTOR SHALL PROVIDE THE MEANS AND METHODS (AS APPROVED BY THE COTR) TO VERIFY DEPTH OF COVER; DEFICIENCIES IN DEPTH SHALL BE REMEDIED TO THE SATISFACTION OF THE COTR) PRIOR TO ACCEPTANCE OF CRYPT INSTALLATION.
  - REFER TO SPECIFICATIONS SECTION 034821 REGARDING ALLOWABLE TOLERANCES DURING CRYPT PLACEMENT
  - CONTRACTOR TO PROVIDE THE CEMETERY WITH THREE (3) OF THE STANDARD LIFTING DEVICES FOR CRYPT LID REMOVAL. FURTHERMORE, CONTRACTOR SHALL ONLY USE THIS DEVICE FOR REMOVING LIDS DURING CONSTRUCTION.



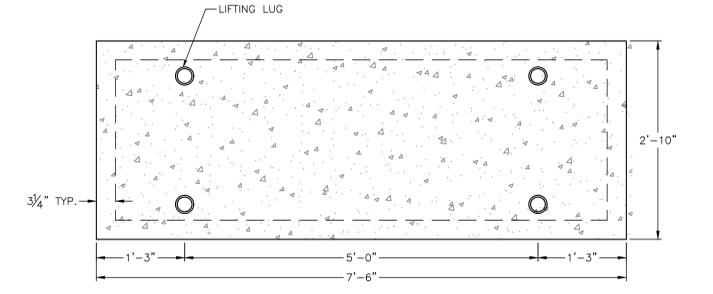
**F1** PRE-PLACED CRYPT PLAN AND SECTION DETAIL  
SCALE:N.T.S.



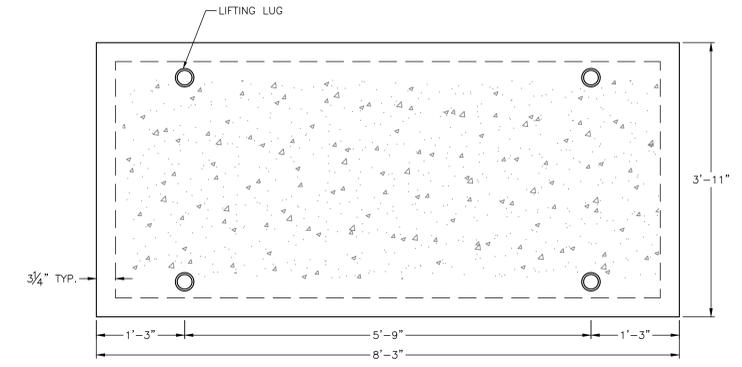
**D5** CLEAN OUT DETAIL - FLOWER STRIP APPLICATION  
SCALE:N.T.S.



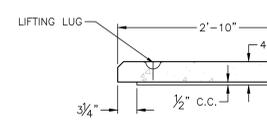
**F5** CLEAN OUT DETAIL - TURF OR PLAZA APPLICATION  
SCALE:N.T.S.



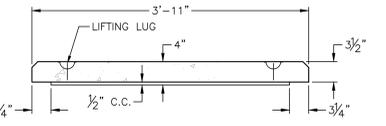
**D7** TOP VIEW - PRE-PLACED CRYPT LID  
SCALE:1" = 1'-0"



**E7** TOP VIEW - OVERSIZE CRYPT LID  
SCALE:1" = 1'-0"



**F7** SECTION - CRYPT LID  
SCALE:1" = 1'-0"



**F9** SECTION - OVERSIZE CRYPT LID  
SCALE:1" = 1'-0"

COMMITMENT 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**

U.S. Department of Veterans Affairs

Drawing Title  
**GRAVESITE DETAILS 1 OF 2**

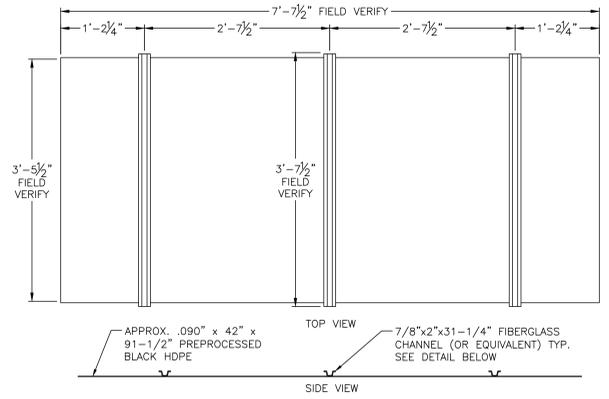
Approved: Project Director  
Steve Davis  
Department of Veterans Affairs, NCA  
Phone: 202.632.4833  
Email: steve.davis@va.gov

Phase  
**BID DOCUMENTS**

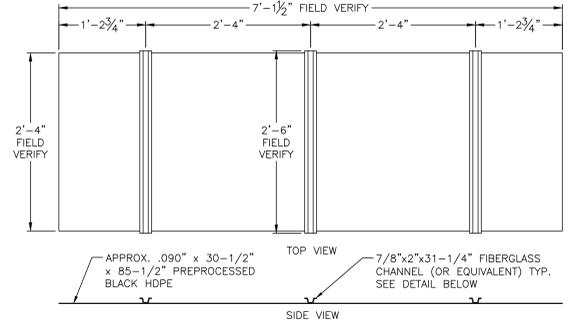
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**BID DOCUMENT SUBMITTAL**

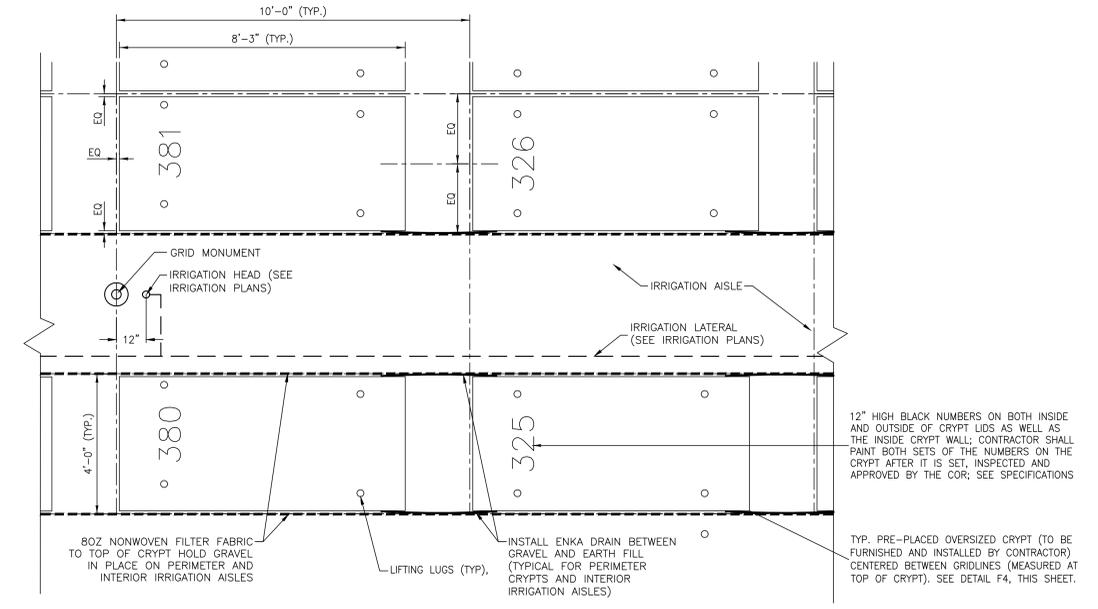
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Location Cedar City, UT	Building Number N/A
Issue Date 7/22/2022	Checked CAP
Drawn MJL	Drawing Number C-501
Sheet 17 of 61	



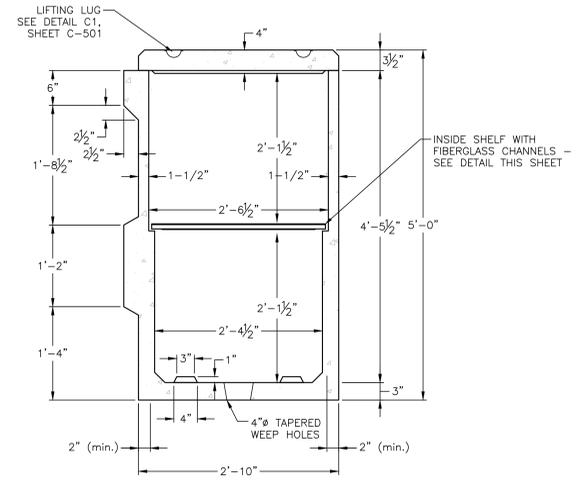
**B1** TOP VIEW - OVERSIZE INSIDE SHELF  
SCALE: 1" = 1'-0"



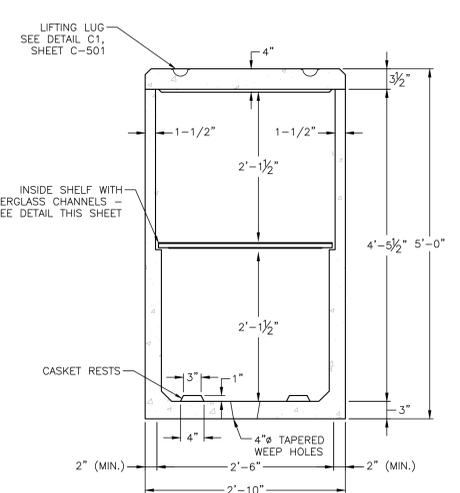
**B4** TOP VIEW - INSIDE SHELF  
SCALE: 1" = 1'-0"



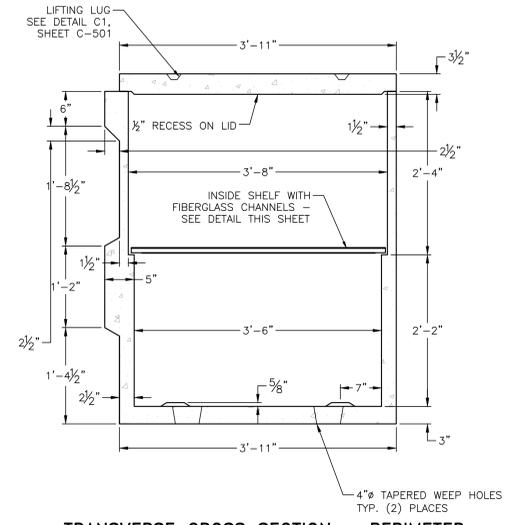
**B7** OVERSIZE PRE-PLACED CRYPT INSTALLATION DETAIL  
SCALE: N.T.S.



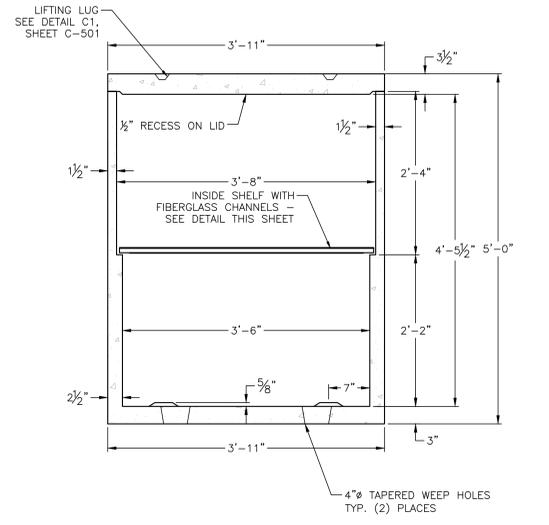
**D1** TRANSVERSE CROSS SECTION - PERIMETER PRE-PLACED CRYPT  
SCALE: 1" = 1'-0"



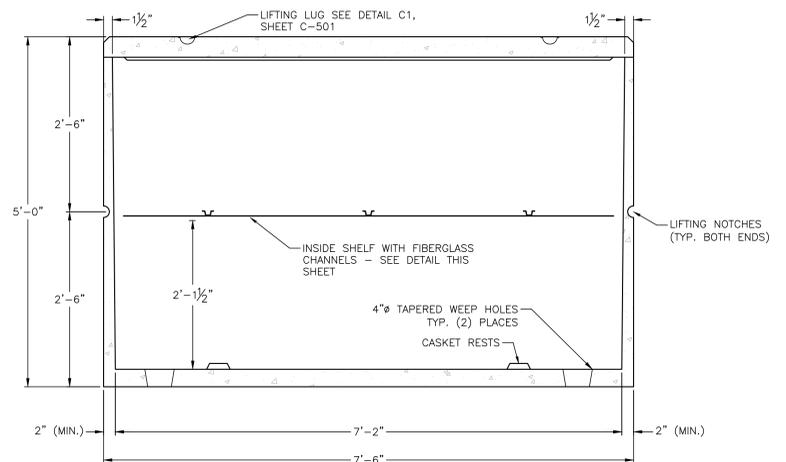
**D4** TRANSVERSE CROSS SECTION - STANDARD PRE-PLACED CRYPT  
SCALE: 1" = 1'-0"



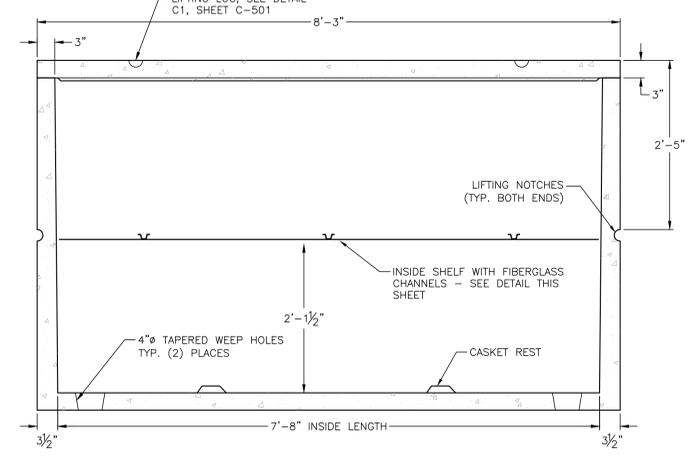
**D6** TRANSVERSE CROSS SECTION - PERIMETER OVERSIZED PRE-PLACED CRYPT  
SCALE: 1" = 1'-0"



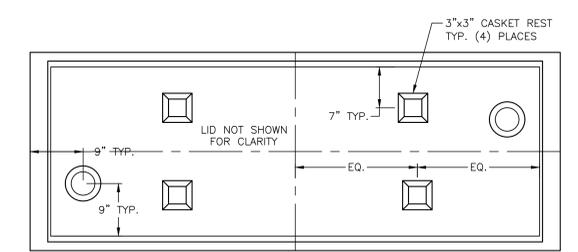
**D9** TRANSVERSE CROSS SECTION - OVERSIZED PRE-PLACED CRYPT  
SCALE: 1" = 1'-0"



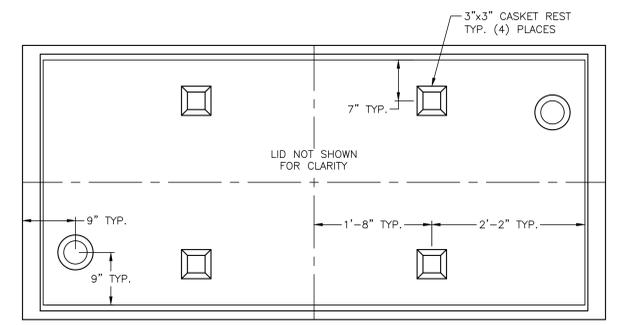
**F1** LONGITUDINAL CROSS SECTION - STANDARD PRE-PLACED CRYPT  
SCALE: 1" = 1'-0"



**F4** LONGITUDINAL CROSS SECTION - OVERSIZED PRE-PLACED CRYPT  
SCALE: 1" = 1'-0"



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



**F9** PLAN VIEW - OVERSIZED PRE-PLACED CRYPT  
SCALE: 1" = 1'-0"

COMMITMENT SHELTER MODIFICATIONS	4/28/2022
ADDITION OF UNDERGROUND DETENTION FACILITY	12/15/2021
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504.684.4408; Sean Fitzpatrick



**National Cemetery Administration**  
Design and Construction Service  
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  
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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

Building Number  
N/A

Drawing Number  
C-502

Sheet 18 of 61





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

**Ds1** DISTURBED AREA STABILIZATION (WITH MULCH ONLY)

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.

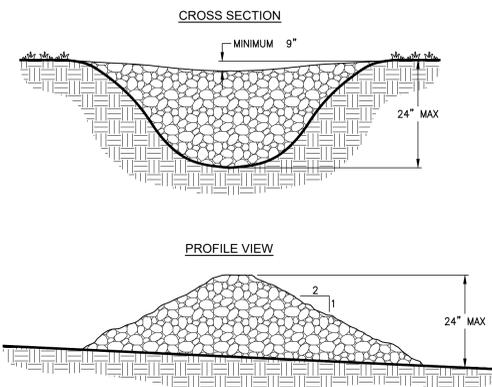
SPECIES	RATES PER 1,000 SQ. FT.	RATES PER ACRE	PLANTING DATES BY REGION		
			M-L	P	C
RYE (GRAIN)	3.9 LBS.	3 BU	8/15-11/19	9/15-12/1 3/1-4/1	10/1-11/1
RYEGRASS	0.9 LB.	40 LBS.	8/15-11/15	9/1-12/15	9/15-1/1
RYE AND ANNUAL LESPEDEZA	0.6 LB. 0.6 LB.	0.5 BU 24 LBS.	3/1-4/1	3/1-4/1	2/1-3/1
WEeping LOVEGRASS	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

- UNUSUAL SITE CONDITIONS MAY REQUIRE HEAVIER SEEDING RATES.
- SEEDING DATES MAY NEED TO BE ALTERED TO FIT TEMPERATURE VARIATIONS AND LOCAL CONDITIONS.

TABLE 3  
FERTILIZER REQUIREMENTS FOR TEMPORARY VEGETATION

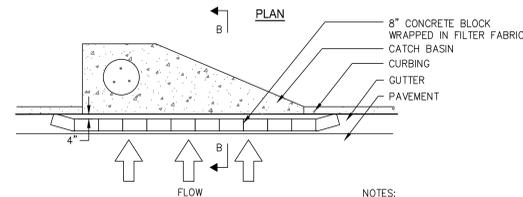
TYPE OF SPECIES	PLANTING YEAR	FERTILIZER (N-P-K)	RATE (LBS./ACRE)	N TOP DRESSING RATE (LBS./ACRE)
COOL SEASON GRASSES	FIRST	6-12-12	1500	50-100
	SECOND	6-12-12	1000	--
	MAINTENANCE	10-10-10	400	30
COOL SEASON GRASSES AND LEGUMES	FIRST	6-12-12	1500	0-50
	SECOND	0-10-10	1000	--
	MAINTENANCE	0-10-10	400	--
TEMPORARY COVER CROPS SEEDING 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)

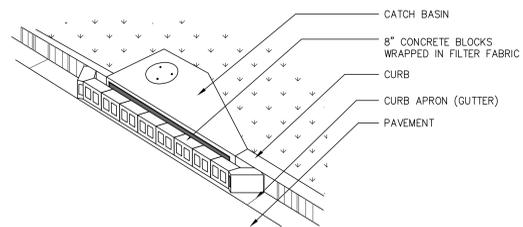
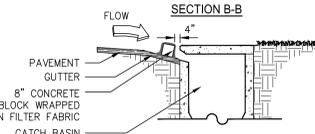


- NOTES:
- CHECK DAMS ARE TO BE USED ONLY IN SMALL OPEN CHANNELS (THEY ARE NOT TO BE USED IN LIVE STREAMS).
  - THE DRAINAGE AREA FOR STONE CHECK DAMS SHALL NOT EXCEED TWO ACRES.
  - THE CENTER OF THE CHECK DAM MUST BE AT LEAST 9 INCHES LOWER THAN THE OUTER EDGES.
  - THE DAM HEIGHT SHOULD BE A MAXIMUM 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.

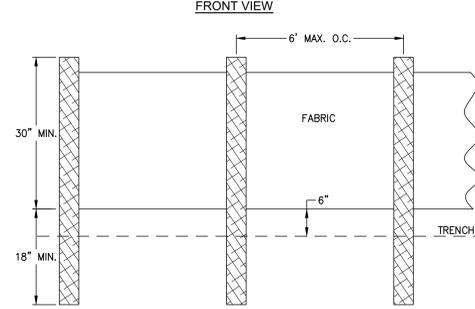
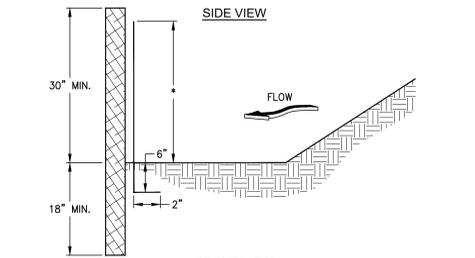
**Cd-S** STONE CHECK DAM



- NOTES:
- INSTALL FILTER AFTER ANY ASPHALT PAVEMENT INSTALLATION.
  - WRAP 8" CONCRETE BLOCKS IN 8 OZ NONWOVEN FILTER FABRIC. SPAN ACROSS CATCH BASIN INLET.
  - FACE OPENINGS IN BLOCKS OUTWARD.
  - LEAVE A GAP OF APPROXIMATELY 4 INCHES BETWEEN THE CURB AND THE FILTERS TO ALLOW FOR OVERFLOW TO PREVENT HAZARDOUS PONDING.
  - INSTALL OUTLET PROTECTION BELOW STORM DRAIN OUTLETS.

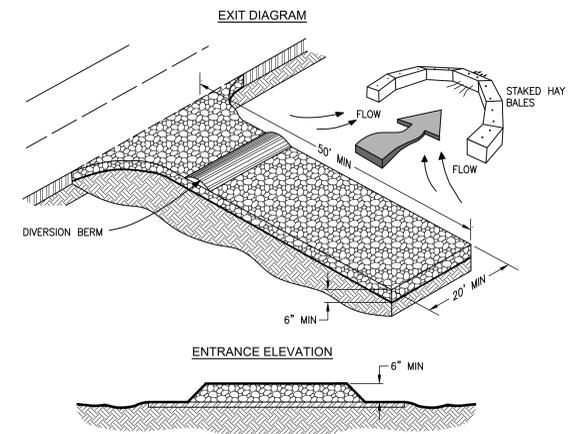


**Sd2-P** CURB INLET FILTER "PIGS IN BLANKET"



- NOTES:
- USE STEEL OR WOOD POSTS OR AS SPECIFIED BY THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.
  - HEIGHT (\*) IS TO BE SHOWN ON THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.

**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

COMMITTEE SHELTER MODIFICATIONS	4/28/2022
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**National Cemetery Administration Design and Construction Service**

**VA** U.S. Department of Veterans Affairs

Drawing Title  
**EROSION CONTROL DETAILS**

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  
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Checked  
CAP

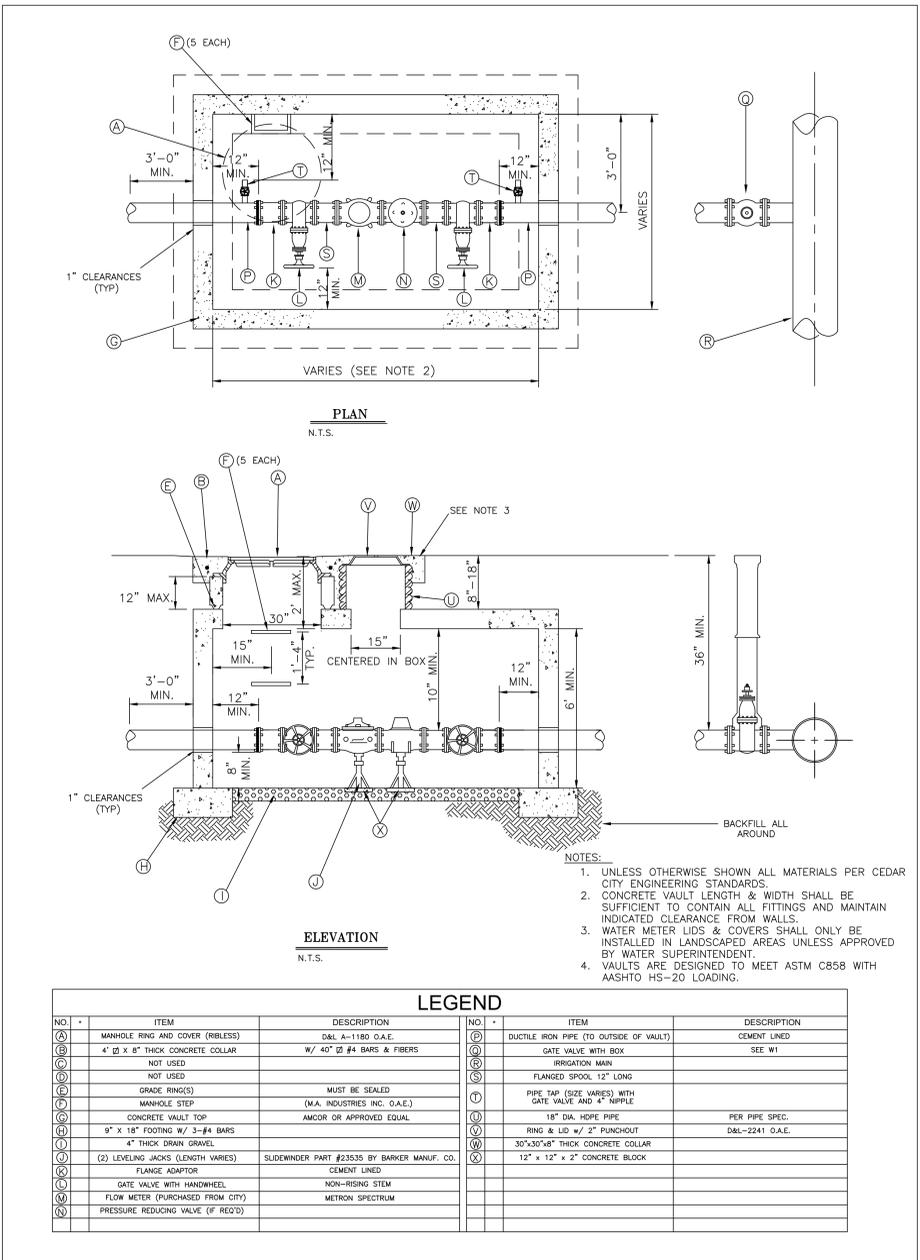
Drawn  
MJL

**BID DOCUMENT SUBMITTAL**

Project Number	942CM3001
Building Number	N/A
Drawing Number	C-505
Sheet	21 of 61

A  
B  
C  
D  
E  
F

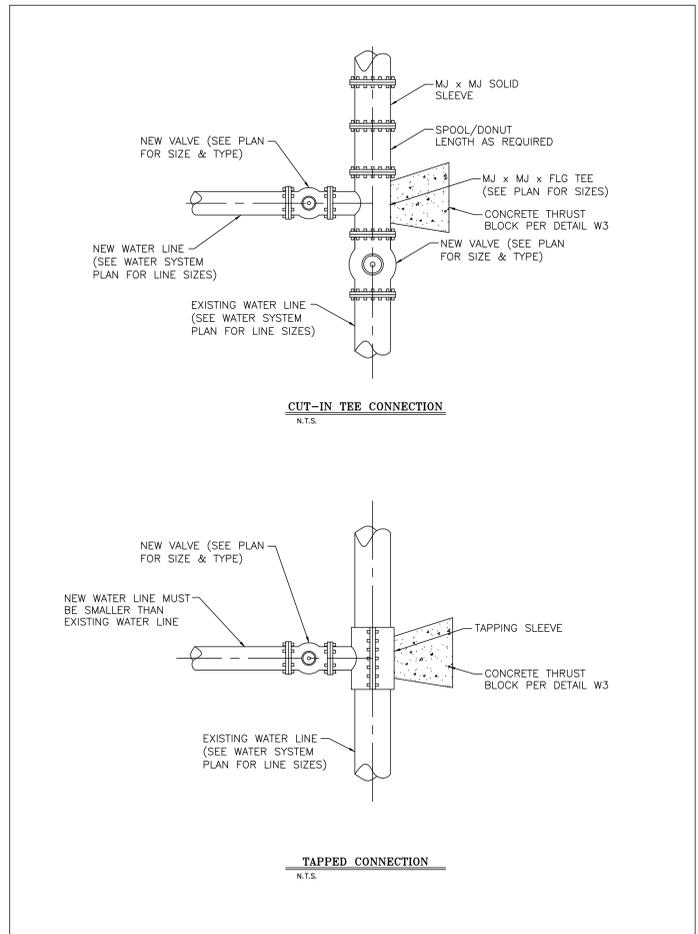
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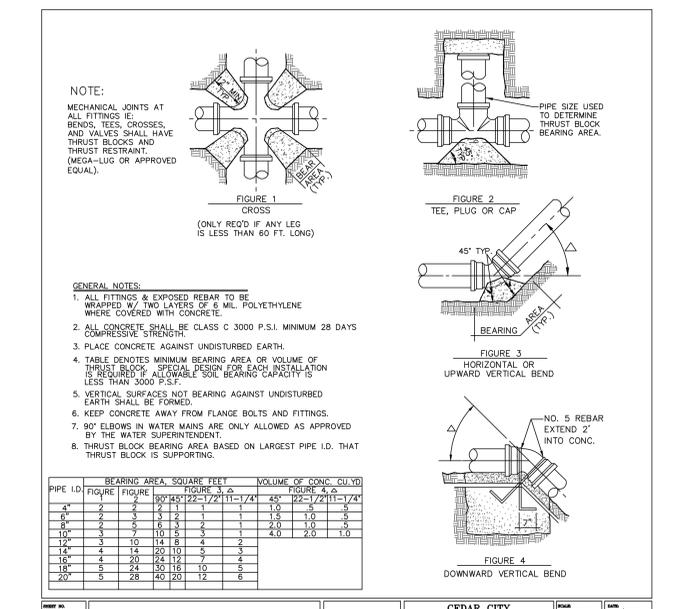
**LEGEND**

NO.	ITEM	DESCRIPTION	NO.	ITEM	DESCRIPTION
(A)	MANHOLE RING AND COVER (RIBLESS)	D&L A-1180 O.A.E.	(P)	DUCTILE IRON PIPE (TO OUTSIDE OF VAULT)	CEMENT LINED
(B)	4" x 8" THICK CONCRETE COLLAR	W/ 40# 2" #4 BARS & FIBERS	(Q)	GATE VALVE WITH BOX	SEE W1
(C)	NOT USED		(R)	IRRIGATION MAIN	
(D)	NOT USED		(S)	FLANGED SPOOL 12" LONG	
(E)	GRADE RINGS	MUST BE SEALED	(T)	PIPE TAP (SIZE VARIES) WITH GATE VALVE AND 4" NIPPLE	
(F)	MANHOLE STEP	(M.A. INDUSTRIES INC. O.A.E.)	(U)	18" DIA. HDPE PIPE	PER PIPE SPEC.
(G)	CONCRETE VAULT TOP	AMCOR OR APPROVED EQUAL	(V)	RING & LID W/ 2" PUNCHOUT	D&L-2241 O.A.E.
(H)	9" x 18" FOOTING W/ 3-#4 BARS		(W)	30"x30"x8" THICK CONCRETE COLLAR	
(I)	4" THICK DRAIN GRAVEL		(X)	12" x 12" x 2" CONCRETE BLOCK	
(J)	(2) LEVELING JACKS (LENGTH VARIES)	SLIDEWINDER PART #23335 BY BARKER MANUF. CO.			
(K)	FLANGE ADAPTOR	CEMENT LINED			
(L)	GATE VALVE WITH HANDWHEEL	NON-RISING STEM			
(M)	FLOW METER (PURCHASED FROM CITY)	METRON SPECTRUM			
(N)	PRESSURE REDUCING VALVE (F REQ'D)				

SHEET NO: **W9**      **IRRIGATION METER**      **CDAR CITY**  
 16 NORTH MAIN STREET      SCALE:      DATE: **8/2019**  
 CEDAR CITY, UTAH 84709      DRAWN: **T.B.M.**      CHECKED: **K.C.W.**  
 PH: (435) 588-2963



SHEET NO: **W10**      **WATER MAIN TO MAIN CONNECTION**      **CDAR CITY**  
 16 NORTH MAIN STREET      SCALE:      DATE: **8/2019**  
 CEDAR CITY, UTAH 84709      DRAWN: **T.B.M.**      CHECKED: **K.C.W.**  
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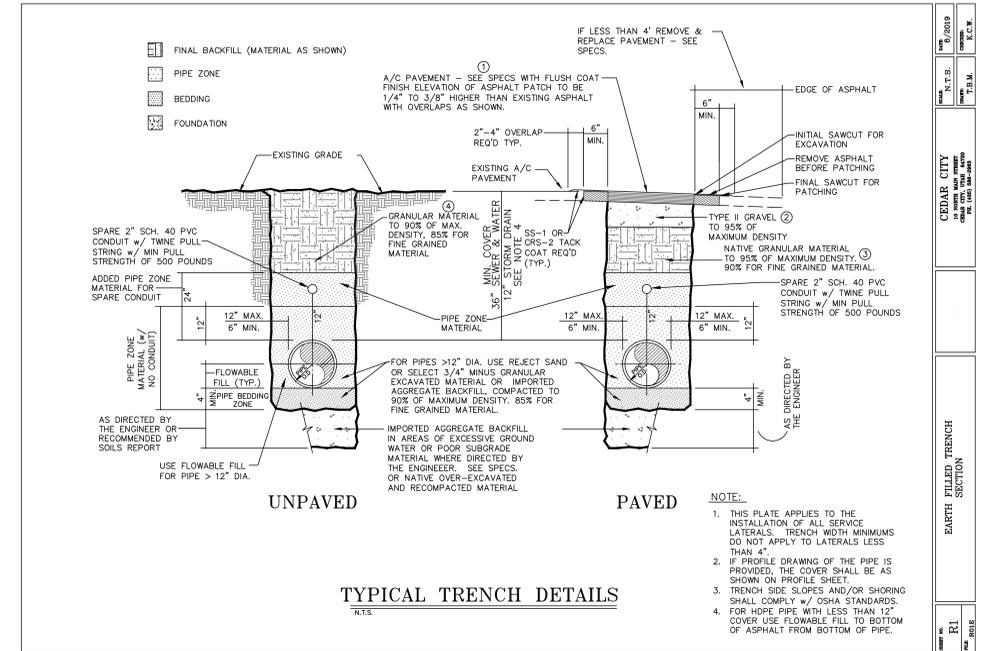
SHEET NO: **W3**      **THRUST BLOCKS**      **CDAR CITY**  
 16 NORTH MAIN STREET      SCALE: **N.T.S.**      DATE: **8/2019**  
 CEDAR CITY, UTAH 84709      DRAWN: **T.B.M.**      CHECKED: **K.C.W.**  
 PH: (435) 588-2963

COMMITMENT SHELTER MODIFICATIONS ADDITION OF UNDERGROUND DETENTION FACILITY CD1 - REDESIGN Revisions:	4/28/2022 12/15/2021 1/22/2021 4/28/2022	<b>CONSULTANT</b>  Environment & Infrastructure Solutions, Inc. 1075 BIG SHANTY ROAD, NW, SUITE 100 KENNESAW, GEORGIA 30144 (770) 421-3400 mrwmla.com 505 268 2266	<b>ARCHITECT/ENGINEER OF RECORD</b>  <b>VCI</b> Project Management Construction Management Engineering 18300 East 71st Ave., Denver, CO, 80249 504.684.4408; Sean Fitzpatrick	 <b>National Cemetery Administration Design and Construction Service</b> U.S. Department of Veterans Affairs	Drawing Title <b>UTILITY DETAILS 1 OF 2</b> Approved: Project Director Steve Davis Department of Veterans Affairs, NCA Phone: 202.632.4833 Email: steve.davis@va.gov	Phase <b>BID DOCUMENTS</b>	Project Title <b>NATIONAL CEMETERY DEVELOPMENT                  CEDAR CITY RURAL INITIATIVE</b>	Project Number <b>942CM3001</b>
						Location <b>Cedar City, UT</b>	Building Number <b>N/A</b>	Drawing Number <b>C-506</b>
						Issue Date <b>7/22/2022</b>	Checked <b>CAP</b>	Drawn <b>MJL</b>
						Sheet <b>22</b> of <b>61</b>		

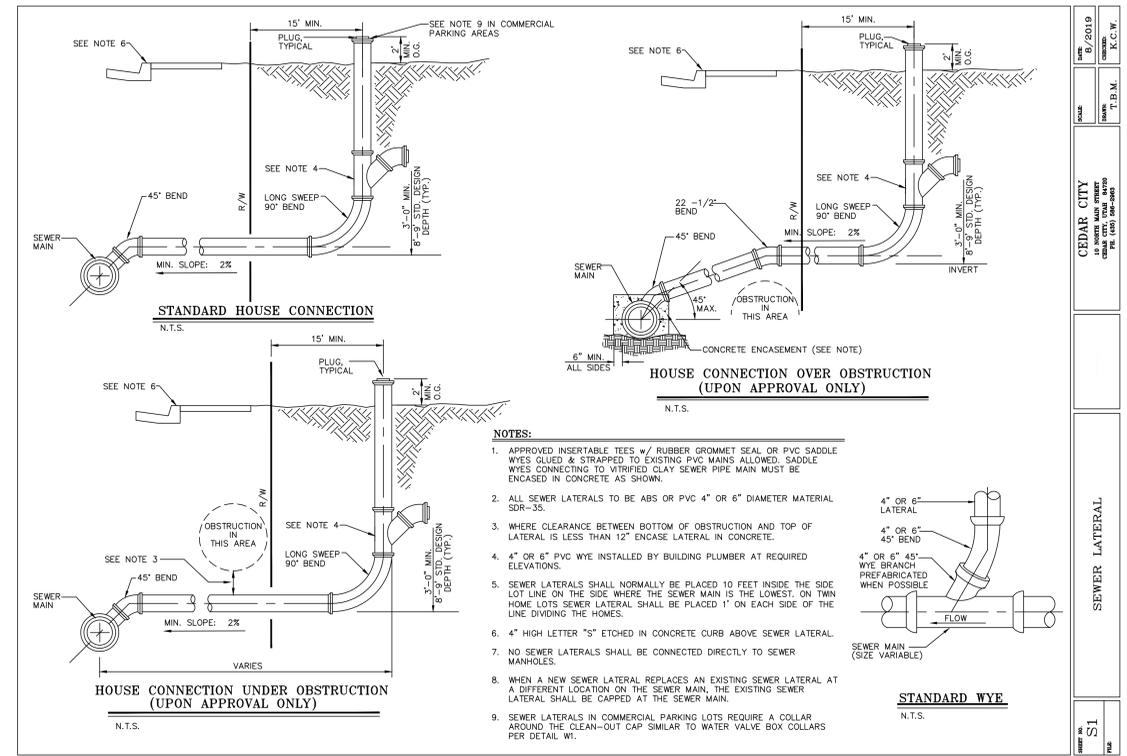
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THRUST BLOCKING SCALE: N.T.S.

A  
B  
C  
D  
E  
F



**F6** TYPICAL TRENCH DETAILS  
SCALE: N.T.S.



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

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

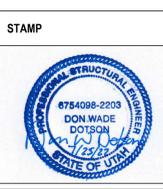
**CONSULTANT**

**wood.**  
Environment & Infrastructure Solutions, Inc.  
1075 BIG SHANTY ROAD, NW, SUITE 100  
KENNESAW, GEORGIA 30144 (770) 421-3400  
mwmla.com 505 268 2266

**MRWM**  
LANDSCAPE ARCHITECTS

**ARCHITECT/ENGINEER OF RECORD**

**VCI** Project Management  
Construction Management  
Engineering  
16300 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

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**

**N/A**

**BID DOCUMENT SUBMITTAL**

Project Title <b>NATIONAL CEMETERY DEVELOPMENT CEDAR CITY RURAL INITIATIVE</b>	Project Number <b>942CM3001</b>
Location <b>Cedar City, UT</b>	Building Number <b>N/A</b>
Issue Date <b>7/22/2022</b>	Checked <b>CAP</b>
Drawn <b>MJL</b>	Sheet <b>23</b> of <b>61</b>

PROJECT INFORMATION	
ENGINEERED PRODUCT MANAGER	
ADS SALES REP	
PROJECT NO.	



## CEDAR CITY NATIONAL CEMETERY CEDAR CITY, UT

### SC-160LP STORMTECH CHAMBER SPECIFICATIONS

- CHAMBERS SHALL BE STORMTECH SC-160LP.
- CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418-16a, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
- THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOAD AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
- CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
- REQUIREMENTS FOR HANDLING AND INSTALLATION:
  - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
  - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 1.5".
  - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 8.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 400 LBS/IN. AND 1) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
- ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
  - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
  - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.05 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD. THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
  - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2418 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
- CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

### IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-160LP SYSTEM

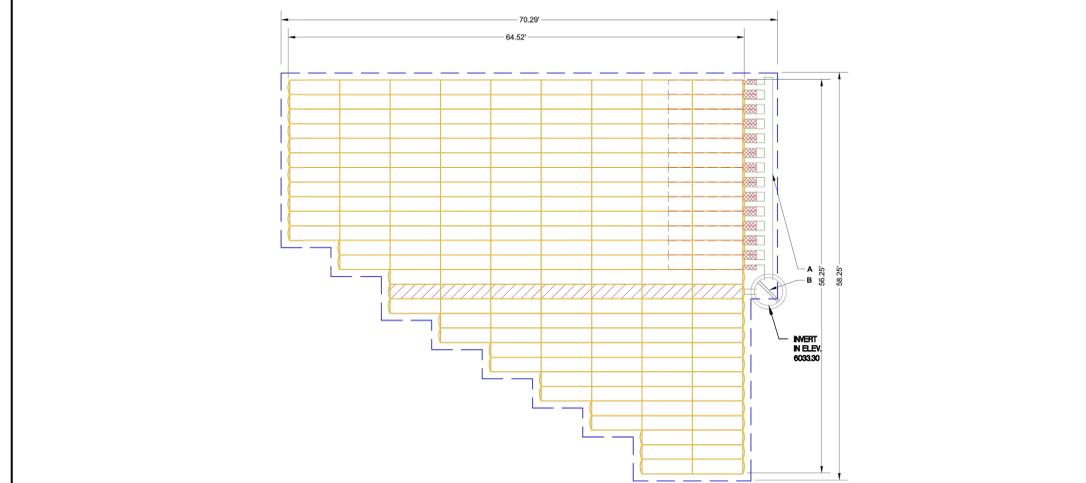
- STORMTECH SC-160LP CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
- STORMTECH SC-160LP CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-160LP CONSTRUCTION GUIDE".
- FOUNDATION STONE AND EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE: AASHTO M43 #3, 57, 4, 497, 5, 56, OR 57.
- THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
- THE DEPTH OF FOUNDATION STONE SHALL BE DETERMINED BASED ON THE SUBGRADE BEARING CAPACITY PROVIDED BY THE SITE DESIGN ENGINEER.
- THE CONTRACTOR MUST REPORT ANY DISCREPANCIES CONCERNING CHAMBER FOUNDATION DESIGN AND SUBGRADE BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
- JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
- CHAMBERS SHALL BE INSTALLED "TOE TO TOE". NO ADDITIONAL SPACING BETWEEN ROWS IS REQUIRED.
- STORMTECH RECOMMENDS 3 BACKFILL METHODS:
  - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
  - NO RUBBER Tired LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH SC-160LP CONSTRUCTION GUIDE".
  - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH SC-160LP CONSTRUCTION GUIDE".
- ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

### NOTES FOR CONSTRUCTION EQUIPMENT

- THE USE OF CONSTRUCTION EQUIPMENT OVER SC-160LP CHAMBERS IS LIMITED:
  - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
  - NO RUBBER Tired LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH SC-160LP CONSTRUCTION GUIDE".
  - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH SC-160LP CONSTRUCTION GUIDE".
- FULL 30" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

CONTACT STORMTECH AT 1-888-882-2684 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

PROPOSED LAYOUT		CONCEPTUAL ELEVATIONS		PART TYPE		ITEM ON LAYOUT		DESCRIPTION		*INVERT ABOVE BASE OF CHAMBER	
ITEM NO.	DESCRIPTION	MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED)	ELEVATION	PART TYPE	ITEM ON LAYOUT	DESCRIPTION	INVERT	MAX FLOW			
178	STORMTECH SC-160LP CHAMBERS	MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC)	11.50	MANIFOLD	A	12" x 8" REDUCING CONCENTRIC MOLDED FITTINGS (12" PIPE)	-1.27'				
54	STORMTECH SC-160LP END CAPS	MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC)	11.50	CONCRETE STRUCTURE	B	DESIGN BY ENGINEER / PROVIDED BY OTHERS	0.66'	4.9 CFS IN			
8	STONE ABOVE (6)	MINIMUM ALLOWABLE GRADE (TOP OF RIGID CONCRETE PAVEMENT)	2.00								
6	STONE BELOW (6)	MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT)	2.00								
40	STONE VOID	MINIMUM ALLOWABLE GRADE (TOP OF STONE)	2.00								
3158	INSTALLED SYSTEM VOLUME (C) (PERIMETER STONE INCLUDED)	TOP OF SC-160LP CHAMBER (COVER STONE INCLUDED)	0.58								
3332	SYSTEM AREA (B) (BASE STONE INCLUDED)	TOP OF SC-160LP CHAMBER (COVER STONE INCLUDED)	0.58								
207.1	SYSTEM PERIMETER (R)	BOTTOM OF SC-160LP CHAMBER (TOP OF 8" BOTTOM MANHOLE INVERT (8" PIPE))	0.50								
		BOTTOM OF STONE	0.00								



**NOTES**

- MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECH NOTE #6 32 FOR MANIFOLD SIZING GUIDANCE.
- BEFORE CUTTING AND JOINING ADDITIONAL PIPE TO STANDARD MANIFOLD 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 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 & THE REQUIRED STORAGE VOLUME CAN BE ACHIEVED ON SITE.

CEDAR CITY NATIONAL CEMETERY  
CEDAR CITY, UT

StormTech Chamber System

4640 TRELAWAY BLVD  
KANSAS CITY, MO 64118  
800.882.2684

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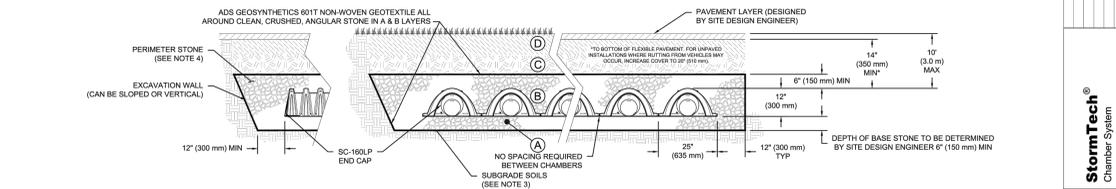
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### ACCEPTABLE FILL MATERIALS: STORMTECH SC-160LP CHAMBER SYSTEMS

MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 14" (356 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE.	AASHTO M45 A-1, A-2.4, A-3 OR AASHTO M43 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE.	AASHTO M43 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE.	AASHTO M43 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. <sup>2,3</sup>

- PLEASE NOTE:
- THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
  - STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) MAX LIFTS USING TWO FULL COVERSAGES WITH A VIBRATORY COMPACTOR.
  - WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
  - ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.



- NOTES:**
- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418-16a, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
  - CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
  - THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
  - PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
  - REQUIREMENTS FOR HANDLING AND INSTALLATION:
    - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
    - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 1.5".
    - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 8.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 400 LBS/IN. AND 1) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

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CEDAR CITY, UT

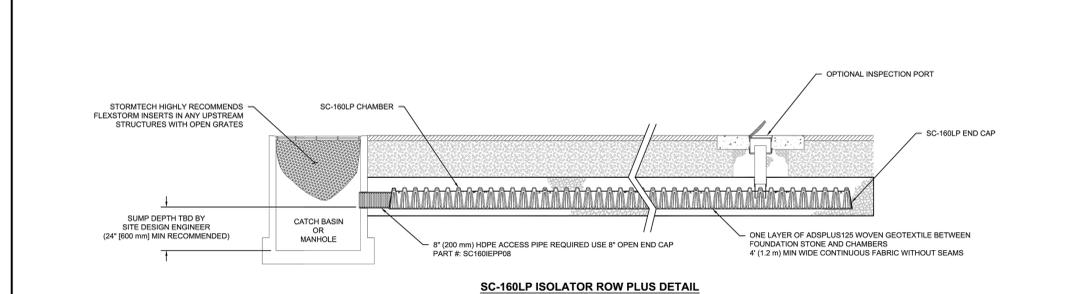
StormTech Chamber System

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800.882.2684

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PROJECT # \_\_\_\_\_

3 OF 5



- INSPECTION & MAINTENANCE**
- STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT INSPECTION PORTS (IF PRESENT).
- REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN.
  - REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED.
  - USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG.
  - LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL).
  - IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR PLUS ROWS
- REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE.
  - MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY.
  - FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE.
  - IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
- A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45° (1.1 m) OR MORE IS PREFERRED.
  - APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN.
  - VACUUM STRUCTURE SUMP AS REQUIRED.
- STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.
- STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.
- NOTES**
- INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION, ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
  - CONDUCT JETTING AND VACUUMING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

CEDAR CITY NATIONAL CEMETERY  
CEDAR CITY, UT

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4 OF 5

**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.

COMMITTAL SHELTER MODIFICATIONS ADDITION OF UNDERGROUND DETENTION FACILITY CD-1- REDESIGN Revisions: 4/28/2022 12/15/2021 1/22/2021 4/28/2022		<b>CONSULTANT</b>  Environment & Infrastructure Solutions, Inc. 1075 BIG SHANTY ROAD, NW, SUITE 100 KENNESAW, GEORGIA 30144 (770) 421-3400 mwmla.com 505 268 2266		<b>ARCHITECT/ENGINEER OF RECORD</b>  Project Management Construction Management Engineering 18300 East 71st Ave., Denver, CO, 80249 504.684.4408; Sean Fitzpatrick		<b>National Cemetery Administration Design and Construction Service</b>  U.S. Department of Veterans Affairs Drawing Title: UNDERGROUND DETENTION FACILITY 1 OF 2 Approved: Project Director Steve Davis Department of Veterans Affairs, NCA Phone: 202.632.4833 Email: steve.davis@va.gov		<b>Phase</b> BID DOCUMENTS <b>Project Title</b> NATIONAL CEMETERY DEVELOPMENT CEDAR CITY RURAL INITIATIVE <b>Location</b> Cedar City, UT <b>Issue Date</b> 7/22/2022 <b>Checked</b> CAP <b>Drawn</b> MJL		<b>BID DOCUMENT SUBMITTAL</b> <b>Project Number</b> 942CM3001 <b>Building Number</b> N/A <b>Drawing Number</b> C-511 <b>Sheet</b> 24 of 61	
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### SC-160LP TECHNICAL SPECIFICATION

NTS

**NOMINAL CHAMBER SPECIFICATIONS**

SIZE (W X H X INSTALLED LENGTH)	25.0" X 12.0" X 85.4'	(635 mm X 305 mm X 2169 mm)
CHAMBER STORAGE	6.85 CUBIC FEET	(0.19 m <sup>3</sup> )
MINIMUM INSTALLED STORAGE*	16.0 CUBIC FEET	(0.45 m <sup>3</sup> )
WEIGHT	24.0 lbs	(10.9 kg)

\*ASSUMES 6" (152 mm) ABOVE, 6" (152 mm) BELOW, AND STONE BETWEEN CHAMBERS WITH 40% STONE POROSITY.

PART #	STUB	A
SC160EPP	8" (150 mm)	0.96" (24 mm)
SC160WQXX	8" (150 mm)	0.86" (22 mm)
SC160WQXX	8" (150 mm)	0.96" (24 mm)

ALL STUBS ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-992-2894.

NOTE: ALL DIMENSIONS ARE NOMINAL.

SHEET 5 OF 5

MODEL #	MAIN PIPE DIA	SIEMER SIZE	TREATED FLOW RATE (CFS)	INLET Ø	OUTLET Ø	OUTLET ORIFICE Ø	ELEVATION CHANGE*
3620WQXX	36"	140	0.0106	1.5	10"	7.82"	11.9"
3620WQXX	36"	200	0.0075	0.7	10"	5.35"	11.9"

XX DENOTES A BY-PASS SIZE OF 12", 18", 24", 30", 36", 42", 48", OR 60"  
 XX=00 DENOTES UNITS WITHOUT A BY-PASS  
 \* ELEVATION CHANGE FOR UNITS WITHOUT A BY-PASS IS 2"

REV.	DESCRIPTION	BY	DATE	CHK'D
1	FORMATTING UPDATES AND RENAMED	TJR	02/17/16	CKS
3	FORMATTING UPDATES AND RENAMED	TJR	02/17/16	CKS

ADVANCED DRAINAGE SYSTEMS, INC. ("ADS") HAS PREPARED THIS DETAIL BASED ON INFORMATION PROVIDED TO ADS. THIS DRAWING IS INTENDED TO DEPICT THE COMPONENTS AS REQUESTED. ADS HAS NOT PERFORMED ANY ENGINEERING OR DESIGN SERVICES FOR THIS PROJECT, NOR HAS ADS INDEPENDENTLY VERIFIED THE INFORMATION SUPPLIED. THE INSTALLATION DETAILS PROVIDED HEREIN ARE GENERAL RECOMMENDATIONS AND ARE NOT SPECIFIC FOR THIS PROJECT. THE DESIGN ENGINEER SHALL REVIEW THESE DETAILS PRIOR TO CONSTRUCTION. IT IS THE DESIGN ENGINEER'S RESPONSIBILITY TO ENSURE THE DETAILS PROVIDED HEREIN MEETS OR EXCEEDS THE APPLICABLE NATIONAL, STATE, OR LOCAL REQUIREMENTS AND TO ENSURE THAT THE DETAILS PROVIDED HEREIN ARE ACCEPTABLE FOR THIS PROJECT.

MODEL #	MAIN PIPE DIA	TREAT. FLOW RATE	SIEMER SIZE	INLET STUB DIA	OUTLET STUB DIA	ORIFICE DIA	A	B	C	D
3620WQXX	36"	1.50 CFS	140	10"	10"	7.82"	13.9"	28"	24"	24"
3620WQXX	36"	0.7 CFS	200	10"	10"	5.35"	13.9"	28"	24"	24"
4220WQXX	42"	1.75 CFS	140	12"	12"	8.13"	16.1"	30"	30"	28"
4220WQXX	42"	0.86 CFS	200	12"	12"	5.70"	16.1"	30"	30"	28"
4820WQXX	48"	2.26 CFS	140	12"	12"	8.24"	18.1"	36"	36"	34"
4820WQXX	48"	1.13 CFS	200	12"	12"	6.33"	18.1"	36"	36"	34"
6020WQXX	60"	2.95 CFS	140	15"	15"	10.05"	18.9"	45"	48"	43"
6020WQXX	60"	1.47 CFS	200	15"	15"	7.1"	18.9"	45"	48"	43"

XX DENOTES A BY-PASS SIZE OF 12", 18", 24", 30", 36", 42", 48", OR 60"  
 XX=00 DENOTES UNITS WITHOUT A BY-PASS.

NOTES:  
 1. ALL DIMENSIONS ARE NOMINAL.  
 2. ALL FITTING CONNECTIONS WILL BE MADE USING A STANDARD BELL/BELL OR SPLIT COUPLER.

REV.	DESCRIPTION	BY	DATE	CHK'D
3	FORMATTING UPDATES AND RENAMED	TJR	02/17/16	CKS

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**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.

<b>CONSULTANT</b> 		<b>ARCHITECT/ENGINEER OF RECORD</b> 		<b>NATIONAL CEMETERY Administration Design and Construction Service</b> 		<b>Drawing Title</b> UNDERGROUND DETENTION FACILITY 2 OF 2		<b>Phase</b> BID DOCUMENTS		<b>Project Title</b> NATIONAL CEMETERY DEVELOPMENT CEDAR CITY RURAL INITIATIVE		<b>Project Number</b> 942CM3001									
<b>COMMITMENT SHELTER MODIFICATIONS</b> ADDITION OF UNDERGROUND DETENTION FACILITY CD1 - REDESIGN Revisions: 4/28/2022		Environment & Infrastructure Solutions, Inc. 1075 BIG SHANTY ROAD, NW, SUITE 100 KENNESAW, GEORGIA 30144 (770) 421-3400 mwmia.com 505 268 2266		Project Management Construction Management Engineering 18300 East 71st Ave., Denver, CO, 80249 504.684.4408; Sean Fitzpatrick		Approved: Project Director Steve Davis Department of Veterans Affairs, NCA Phone: 202.632.4833 Email: steve.davis@va.gov		Location Cedar City, UT		Issue Date 7/22/2022		Checked CAP		Drawn MJL							
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