

LITTLETON WATER DEPARTMENT
TOWN OF LITTLETON, MASSACHUSETTS
**LITTLETON WATER RESOURCE
RECOVERY FACILITY**

IFB-2022-LITTLETON WRRF

GENERAL MANAGER

NICK LAWLER

BOARD OF WATER COMMISSIONERS

JAMES KARR, CHAIRMAN
SCOTT LARSEN
IVAN PAGACIK
DICK TAYLOR
BRUCE TRUMBULL

WATER & WASTEWATER SUPERINTENDENT

COREY GODFREY



LOCATION PLAN
NTS

APRIL 2022

SITE PLAN REVIEW
NOT FOR CONSTRUCTION

**CDM
Smith**

BOSTON, MASSACHUSETTS

Water

Environment

Transportation

Energy

Facilities

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CIVIL/SITE ABBREVIATIONS

SYMBOL	DESCRIPTION
TC	TOP OF CURB
BC	BOTTOM OF CURB
BW	BOTTOM OF WALL
TW	TOP OF WALL
CB	CATCH BASIN
CLF	CHAIN LINK FENCE
CS	CRUSHED STONE
D-PVC	POLYVINYL CHLORIDE DRAIN
DMH	DRAIN MANHOLE
FES	FLARED END SECTION
MH	MANHOLE
TS	TOP OF STEP/SLAB
BS	BOTTOM OF STEP
RCP	REINFORCED CONCRETE PIPE
MJ	MECHANICAL JOINT
DI	DUCTILE IRON
FFE	FINISHED FLOOR ELEVATION
DN	DOWN
VGC	VERTICAL GRANITE CURB
UP	UTILITY POLE
PVC	POLYVINYL CHLORIDE
INV. EL.	INVERT ELEVATION
S	SLOPE
GV	GATE VALVE
EFF	EFFLUENT

YARD PIPING NOTES

- THE LOCATION OF EXISTING UTILITIES AND OTHER UNDERGROUND STRUCTURES SHOWN ON THE DRAWINGS IS APPROXIMATE, AND THEIR ACTUAL LOCATIONS MAY VARY FROM THAT SHOWN. FURTHER, IT IS NOT WARRANTED THAT ALL UNDERGROUND UTILITIES AND STRUCTURES ARE SHOWN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT LOCATION OF ALL UNDERGROUND FEATURES THAT MAY BE AFFECTED BY THE WORK.
- NEW WATER MAINS SHALL HAVE A MINIMUM COVER OF 5 FEET UNLESS OTHERWISE INDICATED AND SHALL PASS UNDER EXISTING UTILITIES AS NECESSARY TO MEET THIS REQUIREMENT.
- ALL NEW WATER PIPES, INCLUDING FIRE PROTECTION LINES, AND OTHER PRESSURE PIPES INCLUDING FORCE MAINS, SHALL HAVE RESTRAINED JOINTS AS SPECIFIED.
- TEST PITS SHALL BE DUG TO LOCATE EXISTING PIPES TO WHICH NEW PIPES ARE TO BE CONNECTED, AND WHERE NECESSARY TO DETERMINE EXACT LOCATIONS OF EXISTING UTILITIES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING ALL FINAL CONNECTIONS TO PIPES.
- ABANDONED PIPES, VALVES AND APPURTENANCES ENCOUNTERED DURING CONSTRUCTION MAY BE REMOVED AS REQUIRED. PIPES LEFT IN PLACE SHALL BE PLUGGED AND ABANDONED AS SPECIFIED AND AS APPROVED BY THE ENGINEER.
- WALKWAYS AND PAVEMENTS DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE RESTORED WITHOUT ADDITIONAL EXPENSE BY OWNER.
- THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION, SIZE, MATERIAL AND ELEVATION OF ALL EXISTING UTILITIES PRIOR TO THE START OF CONSTRUCTION BY DIGGING TEST PITS (WHETHER OR NOT INDICATED ON THE DRAWINGS) WHERE UTILITY INFORMATION IS ESSENTIAL.
- PRIOR TO ANY EXCAVATION WORK, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FAMILIARIZE HIMSELF WITH THE DETAILS OF THE PROJECT AREA, THE CONTRACTOR SHALL COORDINATE WITH DEPARTMENT PERSONNEL AND OWNER AND REVIEW ANY DRAWINGS THAT MAY BE AVAILABLE. CONTRACTOR SHALL ENSURE THAT EXISTING UTILITIES WITHIN THE WORK OF THIS CONTRACT ARE NOT DAMAGED, UTILITIES DAMAGED DURING EXCAVATION SHALL BE IMMEDIATELY REPAIRED AT NO ADDITIONAL COST TO OWNER.
- PERFORM EXCAVATION CLOSE TO EXISTING UTILITIES BY HAND TO DETERMINE EXACT UTILITY LOCATION PRIOR TO INSTALLING EXCAVATION BRACING OR BEFORE MACHINE EXCAVATION.

GRADING NOTES:

- CONTRACTOR IS RESPONSIBLE FOR CONFIRMING GRADES AND LOCATION OF UTILITIES. MAJOR DISCREPANCIES ARE TO BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
- TO ESTABLISH PROPER GRADES, CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION AND MAINTENANCE OF GRADE STAKES. THE NUMBER AND LOCATION SHALL BE DETERMINED IN THE FIELD AND APPROVED BY THE ENGINEER.

GENERAL NOTES

- BEFORE CONSTRUCTION, ALL UTILITIES, PUBLIC AND PRIVATE MUST BE NOTIFIED (SEE MASSACHUSETTS GENERAL LAWS, CHAPTER 82 SECTION 40.) CALL "DIG SAFE" 1 (888) 344-7233 HTTP://WWW.DIGSAFE.COM.
- FOR BORING INFORMATION AND LOCATIONS SEE EXISTING CONDITIONS DRAWINGS AND APPENDIX TO SPECIFICATIONS.
- THE CONTRACTOR SHALL PREPARE AN EROSION AND SEDIMENT CONTROL PLAN AND STORMWATER POLLUTION PREVENTION PLAN (SWPPP) AS SPECIFIED TO PROTECT THE SITES FROM EROSION AND PREVENT THE MOVEMENT OF SEDIMENT AND DEBRIS.
- ALL AREAS OUTSIDE THE LIMIT OF DISTURBANCE SHALL BE PROTECTED AT ALL TIMES UNLESS OTHERWISE DIRECTED BY THE OWNER AND/OR ENGINEER.
- ALL MATERIALS TO BE REMOVED WITHIN THE LIMIT OF DISTURBANCE SHALL BE REMOVED TO A LOCATION ARRANGED BY THE CONTRACTOR AND APPROVED BY THE OWNER AND/OR ENGINEER. THE LOCATION OF STOCKPILED TOPSOIL SHALL BE IN AREAS APPROVED BY THE OWNER AND/OR ENGINEER.
- CONTRACTOR SHALL PROVIDE SITE SECURITY THROUGHOUT CONSTRUCTION PERIOD.
- WHEN EXCAVATING AROUND EXISTING STRUCTURES, EXCAVATE SOILS UNIFORMLY AROUND THE STRUCTURE UNLESS INDICATED OTHERWISE. CONTROL EXCAVATION LEVELS AROUND THE ENTIRE PERIMETER OF THE STRUCTURE SUCH THAT THE GRADE DIFFERENTIAL DOES NOT EXCEED 2 FT.
- WHEN BACKFILLING AROUND STRUCTURES, BRING UP BACKFILL UNIFORMLY AROUND STRUCTURE UNLESS INDICATED OTHERWISE. CONTROL BACKFILL LEVELS AROUND THE ENTIRE PERIMETER OF THE STRUCTURE SUCH THAT THE GRADE DIFFERENTIAL DOES NOT EXCEED 2 FT.
- GAS MAINS ARE ASSUMED TO HAVE THREE FEET OF COVER UNLESS SHOWN OTHERWISE. LOCAL WATER MAINS ARE ASSUMED TO HAVE 5 FEET OF COVER. IT IS NOT WARRANTED THAT ALL UTILITIES ARE SHOWN OR ARE SHOWN AT THE CORRECT ELEVATION.
- ALL UNDERGROUND SERVICES TO HOUSES ARE NOT SHOWN.
- BORING LOGS HAVE BEEN APPENDED TO THE SPECIFICATION DOCUMENTS. BORINGS ARE INCLUDED FOR INFORMATIONAL PURPOSES ONLY AND MAY NOT BE SHOWN AT EXACT LOCATIONS.
- LIMITS OF CLEARING AND GRUBBING ARE SHOWN ON SHEET C-3 SITE PREPARATION AND EROSION AND SEDIMENTATION CONTROL PLAN. CONTRACTOR SHALL MINIMIZE CLEARING AND GRUBBING AS MUCH AS POSSIBLE. ALL CROSS-COUNTRY AREAS SHALL BE LOAMED AND SEEDED OR SODDED TO THE LIMITS DISTURBED BY CONSTRUCTION UNLESS OTHERWISE NOTED.
- CONTRACTOR SHALL NOT DISTURB ANY LAND OUTSIDE THE LIMITS OF WORK.
- WHEN THE HORIZONTAL SEPARATION BETWEEN THE NEW SEWER AND EXISTING OR RELOCATED WATER MAIN IS LESS THAN 10-FEET AND THE VERTICAL SEPARATION IS LESS THAN 18-IN THE NEW SEWER SHALL BE CONSTRUCTED OF RESTRAINED MJ DI OR CONCRETE ENCASED PIPE FOR A MINIMUM OF 10-FEET BEYOND WHERE THE SPACING IS LESS THAN 10-FEET HORIZONTAL AND 18-IN VERTICAL.
- IF A WATER MAIN CROSSES UNDER THE NEW SEWER, BOTH PIPES SHALL BE RESTRAINED MJ DI OR CONCRETE ENCASED FOR A MINIMUM OF 10-FEET TO EITHER SIDE OF THE RESPECTIVE CENTER LINES. DUCTILE IRON PIPE SHALL BE PAID UNDER THE RESPECTIVE PIPE ITEMS. CONCRETE ENCASEMENT SHALL BE PAID UNDER MISCELLANEOUS CONCRETE ITEM.
- IF NECESSARY TO WORK IN LIVE SEWER MANHOLES CONTRACTOR SHALL FOLLOW ALL FEDERAL, STATE AND LOCAL REQUIREMENTS FOR SAFETY WHEN IN CONFINED SPACES. THE CONTRACTOR IS ALSO REFERRED TO RECOMMENDATIONS IN THE NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH PUBLICATION NO. 80-106, "WORKING IN CONFINED SPACES".
- CONTRACTOR TO MAINTAIN FLOW IN EXISTING DRAINS AT ALL TIMES.
- IT IS NOT WARRANTED THAT ALL EXISTING ABOVE GROUND AND UNDERGROUND STRUCTURES, EQUIPMENT, PIPING AND ELECTRICAL CONDUITS ARE SHOWN. NOR IS IT WARRANTED THAT LOCATIONS AND SIZES OF STRUCTURES AND UTILITIES ARE EXACT. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL SIZES AND LOCATIONS OF EXISTING EQUIPMENT, PIPING, ETC. REFER TO SPECIFICATIONS FOR FURTHER DETAILS.
- ELEVATIONS SHOWN ARE IN FEET AND ARE REFERENCED USGS DATUM NAVD88.
- THE CONTRACTOR SHALL PREPARE AN EROSION AND SEDIMENT CONTROL PLAN AND STORMWATER POLLUTION PREVENTION PLAN (SWPPP) TO PROTECT THE SITE FROM EROSION AND PREVENT THE MOVEMENT OF SEDIMENT AND DEBRIS AS SPECIFIED. THE SWPPP SHALL BE PREPARED FOR APPROVAL BY STATE AND FEDERAL PERMIT AUTHORITIES AND FOR INFORMATION PURPOSES ONLY BY THE ENGINEER AND OWNER.
- THE CONTRACTOR SHALL COORDINATE WORK TO ENSURE CONTINUED ACCESS TO ALL EXISTING FACILITY STRUCTURES. SEE SPECIFICATION FOR ADDITIONAL INFORMATION.
- REMOVE AND DISPOSE OF EXISTING PAVEMENT WITHIN LIMITS SHOWN ON DRAWINGS TAKING CARE NOT TO DAMAGE EXISTING WALLS, CURBS, BUILDINGS OR UTILITY STRUCTURES.
- STRIP EXISTING VEGETATION AND 6" LAYER TOPSOIL WITHIN AREAS OF DISTURBANCE. GRIND ANY STUMPS TO A MINIMUM OF ONE FOOT BELOW FINISH GRADE AND BACKFILL WITH MAX. 12 INCH COMPACTED LAYERS AS SPECIFIED. CONTRACTOR SHALL STOCKPILE STRIPPED TOPSOIL IN A MANNER APPROVED BY THE ENGINEER.
- EXISTING VERTICAL OR SLOPED GRANITE CURB DISTURBED FOR CONSTRUCTION SHALL BE STOCKPILED AND REINSTALLED AS APPROVED BY THE ENGINEER.
- ALL BITUMINOUS ROADWAY AND SIDEWALK PAVEMENT AREAS AND ALL CONCRETE SIDEWALK AND OTHER AREAS DISTURBED BY TRENCHING SHALL BE REPAIRED AS SPECIFIED. SELECTED AREAS TO RECEIVE AN OVERPLAY LEVELING COURSE AS DIRECTED BY THE ENGINEER.

LAYOUT NOTES:

- FOR LAYOUT PURPOSES AND TO ESTABLISH THE COORDINATE SYSTEM SEE SURVEY NOTES G-1.
- CONTRACTOR SHALL VERIFY ALL PROPERTY AND SURVEY INFORMATION.
- CONTRACTOR SHALL BE RESPONSIBLE TO IDENTIFY AND PROTECT ALL ON-SITE STRUCTURES AND VEGETATION TO BE RETAINED ON THE SITE THROUGHOUT THE CONSTRUCTION PROJECT.
- CONTRACTOR SHALL MAINTAIN VEHICULAR ACCESS AND ALL UTILITY SERVICES THROUGHOUT THE DURATION OF THE CONTRACT, UNLESS OTHERWISE SPECIFIED.
- LOCATIONS OF BURIED UTILITIES, VAULTS AND CONCRETE PADS ARE APPROXIMATE ONLY. FINAL LOCATIONS SHALL BE DETERMINED IN THE FIELD AFTER STAKING BY THE CONTRACTOR BASED ON ACTUAL SITE CONDITIONS AS APPROVED BY THE OWNER AND/OR ENGINEER.
- ALL DISTURBED AREAS NOT COVERED WITH PAVEMENT, PADS, CRUSHED STONE, SOD, OR STRUCTURES SHALL RECEIVE 6" LAYER OF LOAM AND SEED AS SPECIFIED, UNLESS NOTED OTHERWISE.
- DIMENSIONS FOR STRUCTURES ARE TO OUTSIDE FACE OF WALL. DIMENSIONS TO CONCRETE PADS ARE TO EDGE OF PAD. DIMENSIONS TO FENCES AND GATES ARE ON-CENTER.
- ALL ITEMS TO BE REMOVED, UNLESS OTHERWISE INDICATED ON THE DRAWINGS, SHALL BE DISPOSED OFF SITE IN A LEGAL MANNER.
- CONTRACTOR SHALL LIMIT CONSTRUCTION ACCESS TO AREAS DESIGNATED ON THE DRAWINGS AND AS INDICATED BY THE OWNER.
- LOCATIONS OF CONCRETE PADS, PAVEMENTS, BOLLARDS, GATES, AND SIGNS ARE APPROXIMATE ONLY. FINAL LOCATIONS SHALL BE STAKED IN THE FIELD FOR REVIEW AND APPROVAL BY THE ENGINEER.
- ALL ITEMS TO BE REMOVED AND DISPOSED SHALL BE DISPOSED OFF SITE IN A LEGAL MANNER IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS.
- ITEMS SLATED FOR RE-USE SHALL BE STORED IN A CLEAN, DRY PLACE, PRIOR TO RELOCATION ON SITE.
- ITEMS REMOVED AND INDICATED TO REMAIN PROPERTY OF THE OWNER SHALL BE DELIVERED TO AN AREA AS SPECIFIED BY THE OWNER.
- BOUNDARIES OF AREAS TO RECEIVE LOAM & SEED MIXTURES, WASHED STONE, OVERLAY PAVEMENT OR OTHER SURFICIAL MATERIALS ARE FOR SCHEMATIC PURPOSES ONLY. FINAL LOCATIONS SHALL BE STAKED IN THE FIELD BY THE CONTRACTOR FOR REVIEW AND APPROVAL BY THE ENGINEER.

REV. NO.	DATE	DRWN	CHKD		REMARKS

DESIGNED BY:	M.DODSON
DRAWN BY:	J. BRONENKANT
SHEET CHK'D BY:	M.DODSON
CROSS CHK'D BY:	W.LENGYEL
APPROVED BY:	X
DATE:	APRIL 2022

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Boston, MA 02109
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LITTLETON WATER DEPARTMENT

LITTLETON WATER RESOURCE
RECOVERY FACILITY

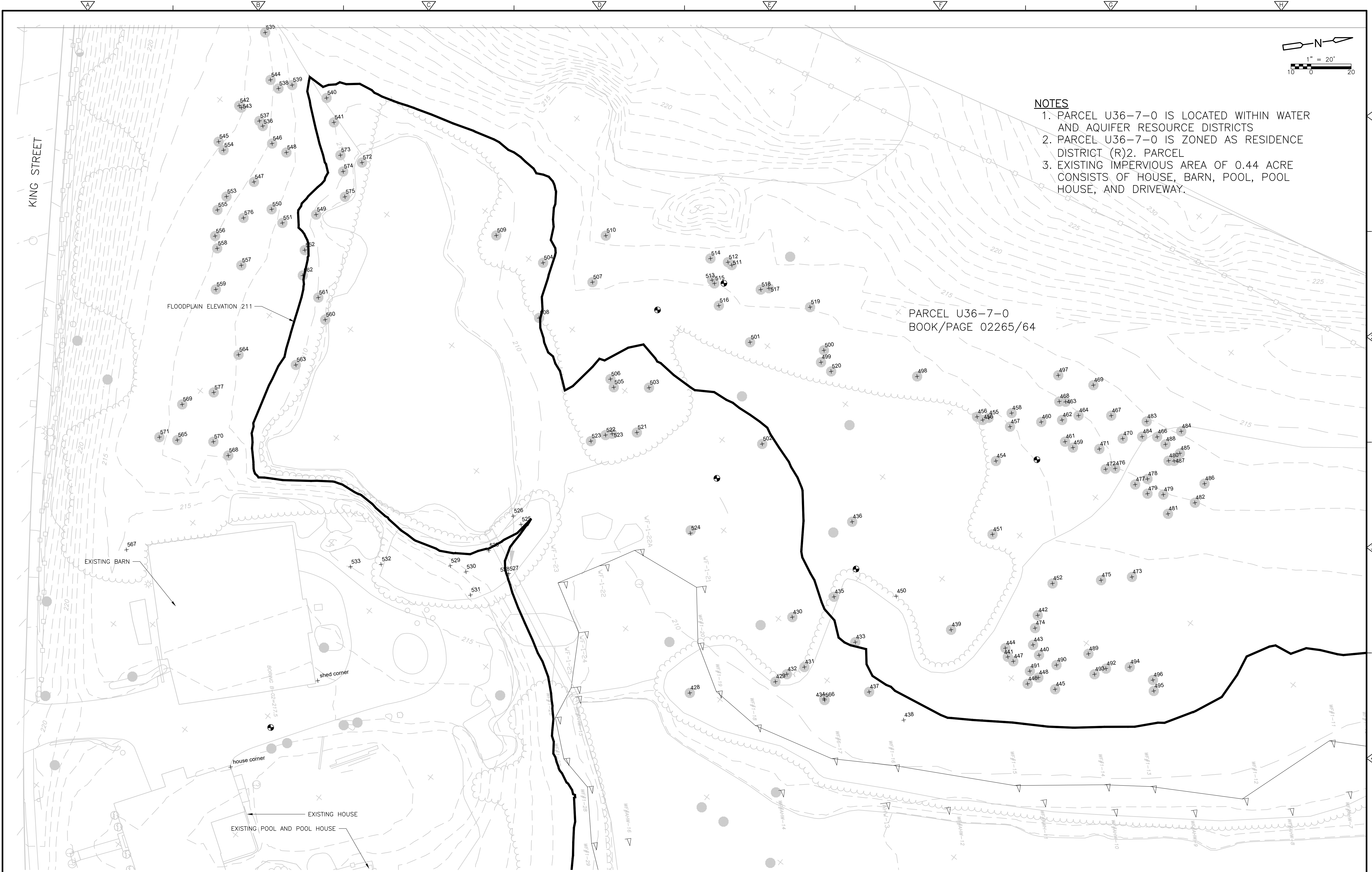
CIVIL GENERAL NOTES
AND ABBREVIATIONS

PROJECT NO. 263387-261886
FILE NAME: C025STPL.dwg

SHEET NO.

C-1

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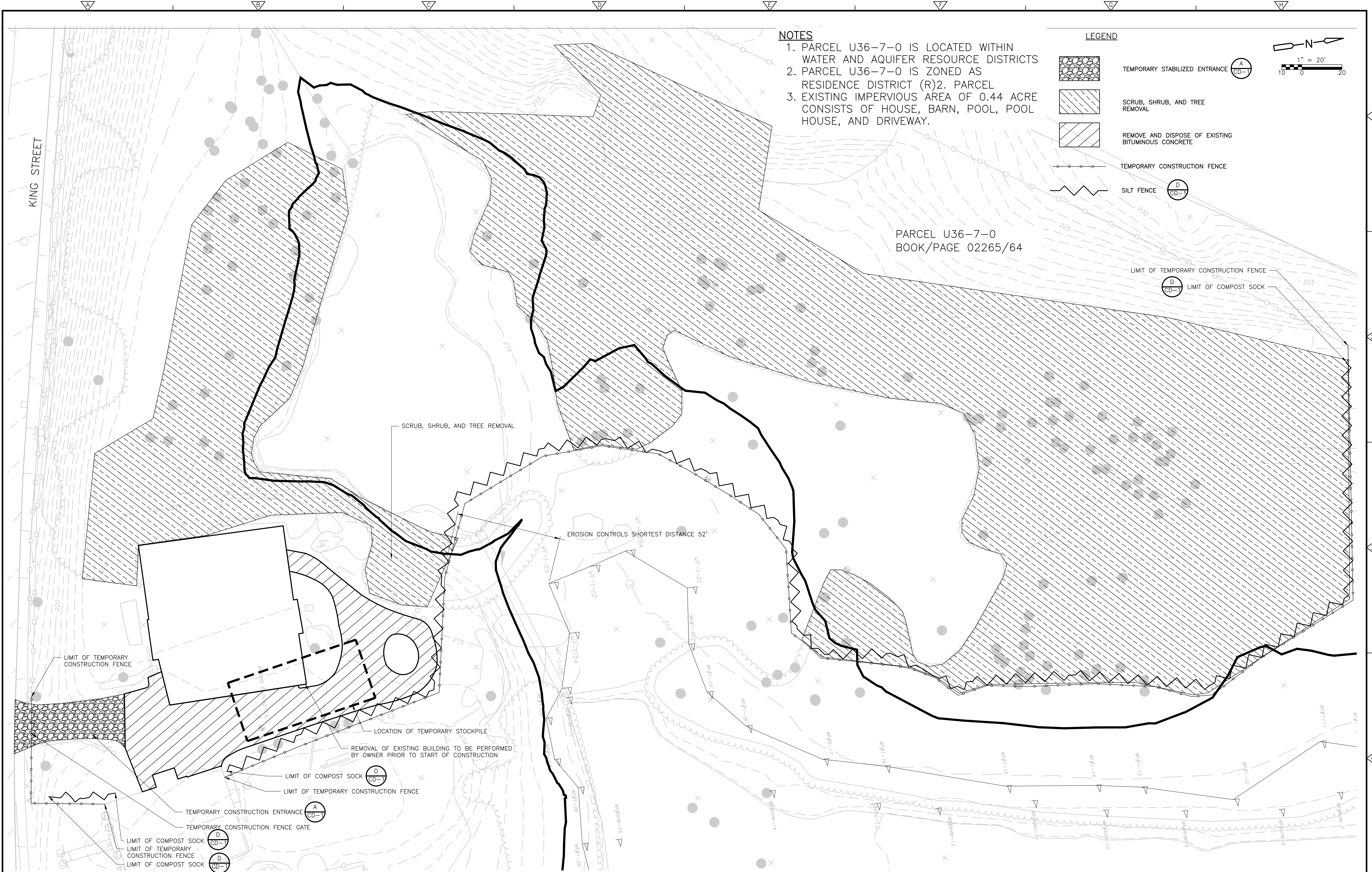
- NOTES**
1. PARCEL U36-7-0 IS LOCATED WITHIN WATER AND AQUIFER RESOURCE DISTRICTS
 2. PARCEL U36-7-0 IS ZONED AS RESIDENCE DISTRICT (R)2. PARCEL
 3. EXISTING IMPERVIOUS AREA OF 0.44 ACRE CONSISTS OF HOUSE, BARN, POOL, POOL HOUSE, AND DRIVEWAY.

PARCEL U36-7-0
BOOK/PAGE 02265/64

						DESIGNED BY: M.DODSON	CDM Smith 75 State Street, Suite 701 Boston, MA 02109 Tel: (617) 452-6000	LITTLETON WATER DEPARTMENT		CIVIL EXISTING CONDITIONS PLAN		PROJECT NO. 263387-261886
					DRAWN BY: J. BRONENKANT	FILE NAME: C025STPL.dwg						
					SHEET CHK'D BY: M.DODSON	SHEET NO.						
					CROSS CHK'D BY: W.LENGYEL	C-2						
					APPROVED BY: X							
REV. NO.	DATE	DRWN	CHKD		REMARKS	DATE: APRIL 2022						LITTLETON WATER RESOURCE RECOVERY FACILITY

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REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: M.DODSON
DRAWN BY: J. BRONENKANT
SHEET CHK'D BY: M.DODSON
CROSS CHK'D BY: W.LENGYEL
APPROVED BY: X
DATE: APRIL 2022

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Tel: (617) 452-6000

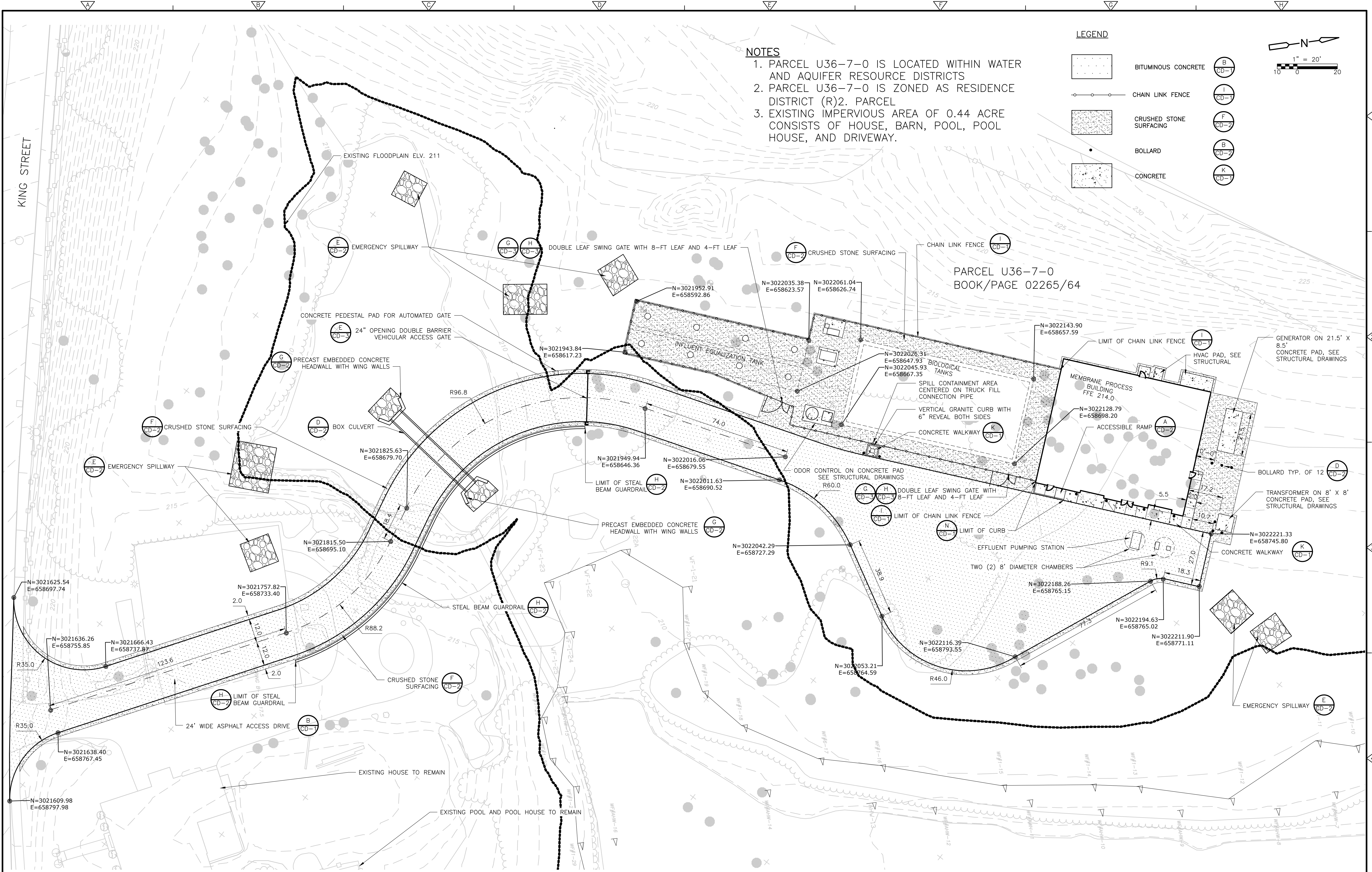
LITTLETON WATER DEPARTMENT

LITTLETON WATER RESOURCE
RECOVERY FACILITY

SITE PREPARATION AND
EROSION AND SEDIMENTATION CONTROL PLAN

PROJECT NO. 263387-261886
FILE NAME: C027STPL.dwg
SHEET NO.
C-3

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- NOTES**
1. PARCEL U36-7-0 IS LOCATED WITHIN WATER AND AQUIFER RESOURCE DISTRICTS
 2. PARCEL U36-7-0 IS ZONED AS RESIDENCE DISTRICT (R)2. PARCEL
 3. EXISTING IMPERVIOUS AREA OF 0.44 ACRE CONSISTS OF HOUSE, BARN, POOL, POOL HOUSE, AND DRIVEWAY.

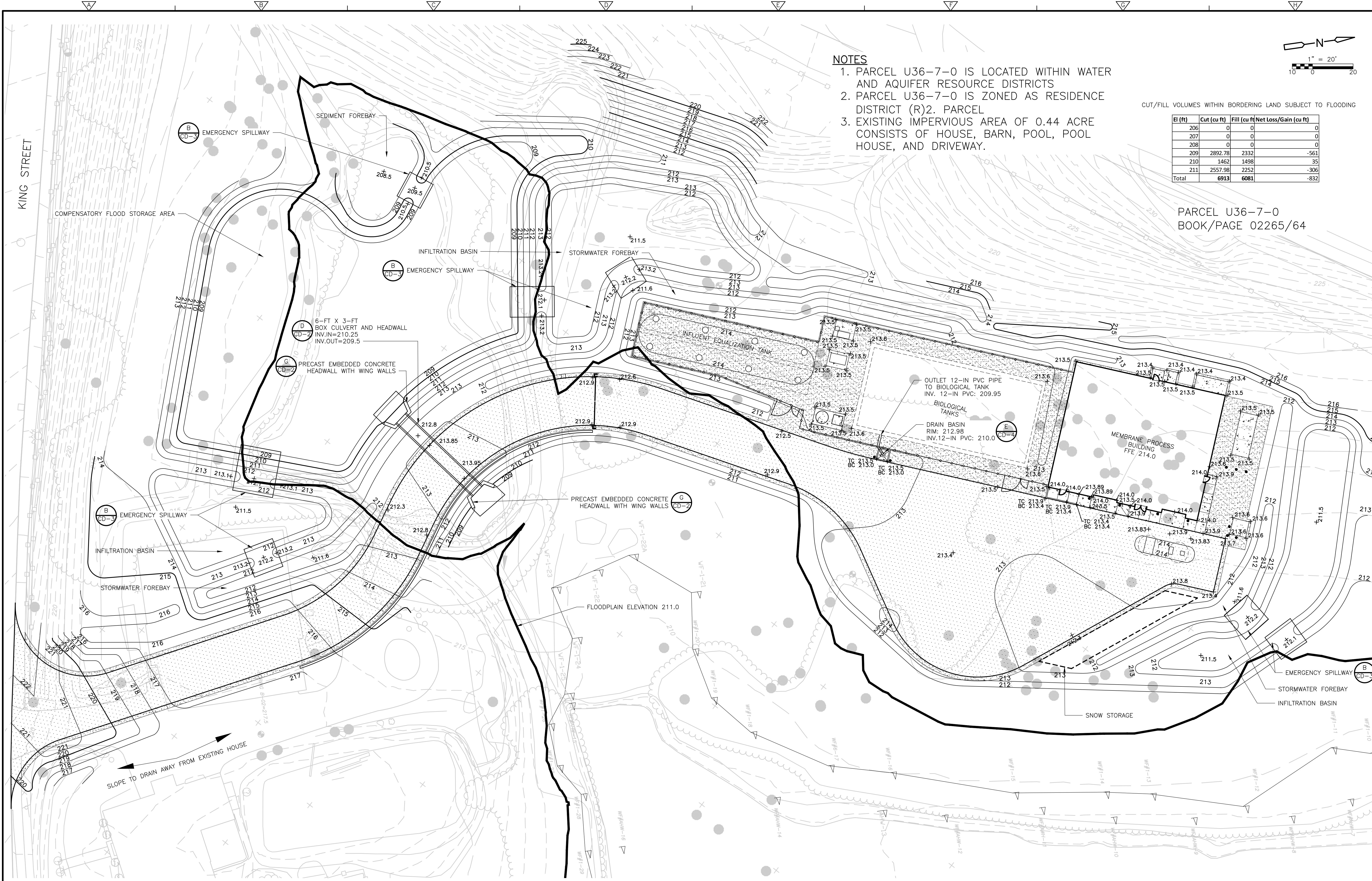
LEGEND

	BITUMINOUS CONCRETE		B
	CHAIN LINK FENCE		K
	CRUSHED STONE SURFACING		
	BOLLARD		
	CONCRETE		

1" = 20'
10 0 20

					DESIGNED BY: M.DODSON	 75 State Street, Suite 701 Boston, MA 02109 Tel: (617) 452-6000	LITTLETON WATER DEPARTMENT		CIVIL LAYOUT AND MATERIALS PLAN	PROJECT NO. 263387-261886
					DRAWN BY: J. BRONENKANT		LITTLETON WATER RESOURCE RECOVERY FACILITY			FILE NAME: C004STPL.dwg
					SHEET CHK'D BY: M.DODSON					SHEET NO.
					CROSS CHK'D BY: W.LENGYEL					C-4
					APPROVED BY: X					
REV. NO.	DATE	DRWN	CHKD	REMARKS	DATE: APRIL 2022					

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NOTES

1. PARCEL U36-7-0 IS LOCATED WITHIN WATER AND AQUIFER RESOURCE DISTRICTS
2. PARCEL U36-7-0 IS ZONED AS RESIDENCE DISTRICT (R)2. PARCEL
3. EXISTING IMPERVIOUS AREA OF 0.44 ACRE CONSISTS OF HOUSE, BARN, POOL, POOL HOUSE, AND DRIVEWAY.

CUT/FILL VOLUMES WITHIN BORDERING LAND SUBJECT TO FLOODING

El (ft)	Cut (cu ft)	Fill (cu ft)	Net Loss/Gain (cu ft)
206	0	0	0
207	0	0	0
208	0	0	0
209	2892.78	2332	-561
210	1462	1498	35
211	2557.98	2252	-306
Total	6913	6081	-832

PARCEL U36-7-0
BOOK/PAGE 02265/64

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: M.DODSON
DRAWN BY: J. BRONENKANT
SHEET CHK'D BY: M.DODSON
CROSS CHK'D BY: W.LENGYEL
APPROVED BY: X
DATE: APRIL 2022

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LITTLETON WATER DEPARTMENT

LITTLETON WATER RESOURCE
RECOVERY FACILITY

CIVIL GRADING AND DRAINAGE PLAN

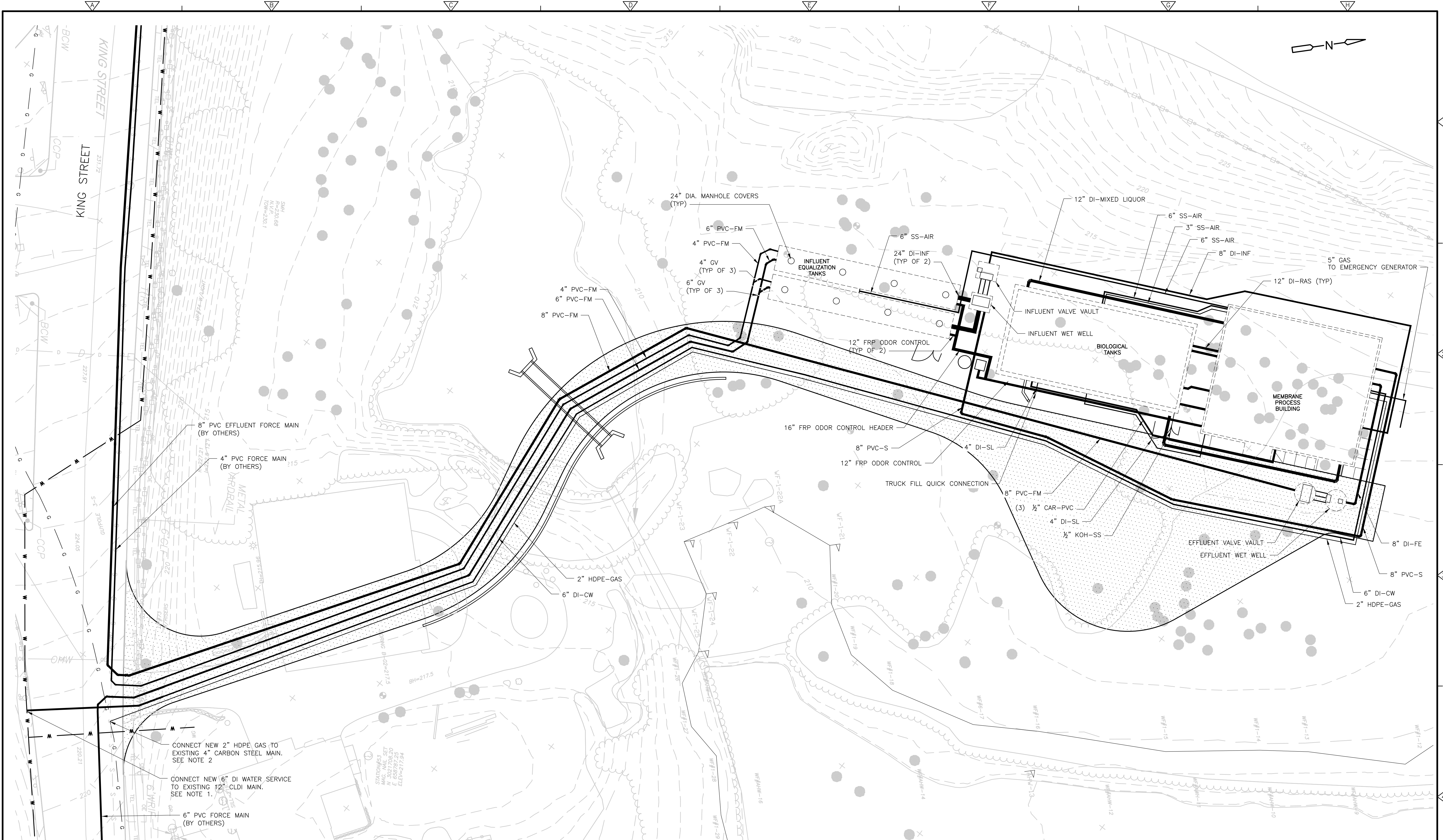
PROJECT NO. 263387-261886
FILE NAME: C005STPL

SHEET NO.

C-5

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PLAN
1" = 20'
10 0 20

- NOTES:
- COORDINATE THE TIE-IN OF THE PROPOSED WATER LINE WITH LITTLETON WATER DEPARTMENT.
 - COORDINATE THE TIE-IN OF THE PROPOSED GAS LINE WITH NATIONAL GRID.

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY:	W. LENGUEL
DRAWN BY:	S. ENGEL
SHEET CHK'D BY:	
CROSS CHK'D BY:	
APPROVED BY:	
DATE:	APRIL 2022

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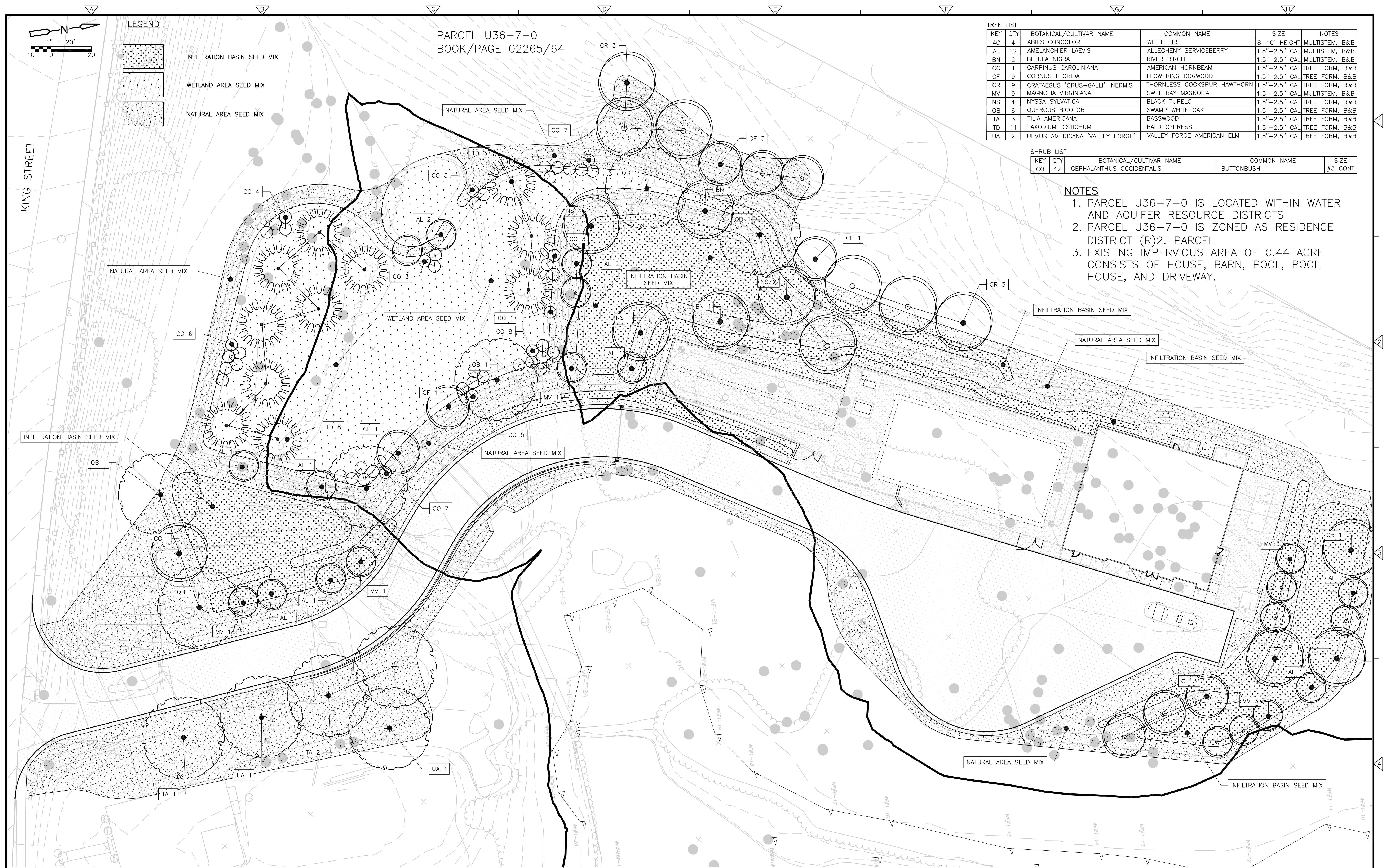
LITTLETON WATER DEPARTMENT

LITTLETON WATER RESOURCE
RECOVERY FACILITY

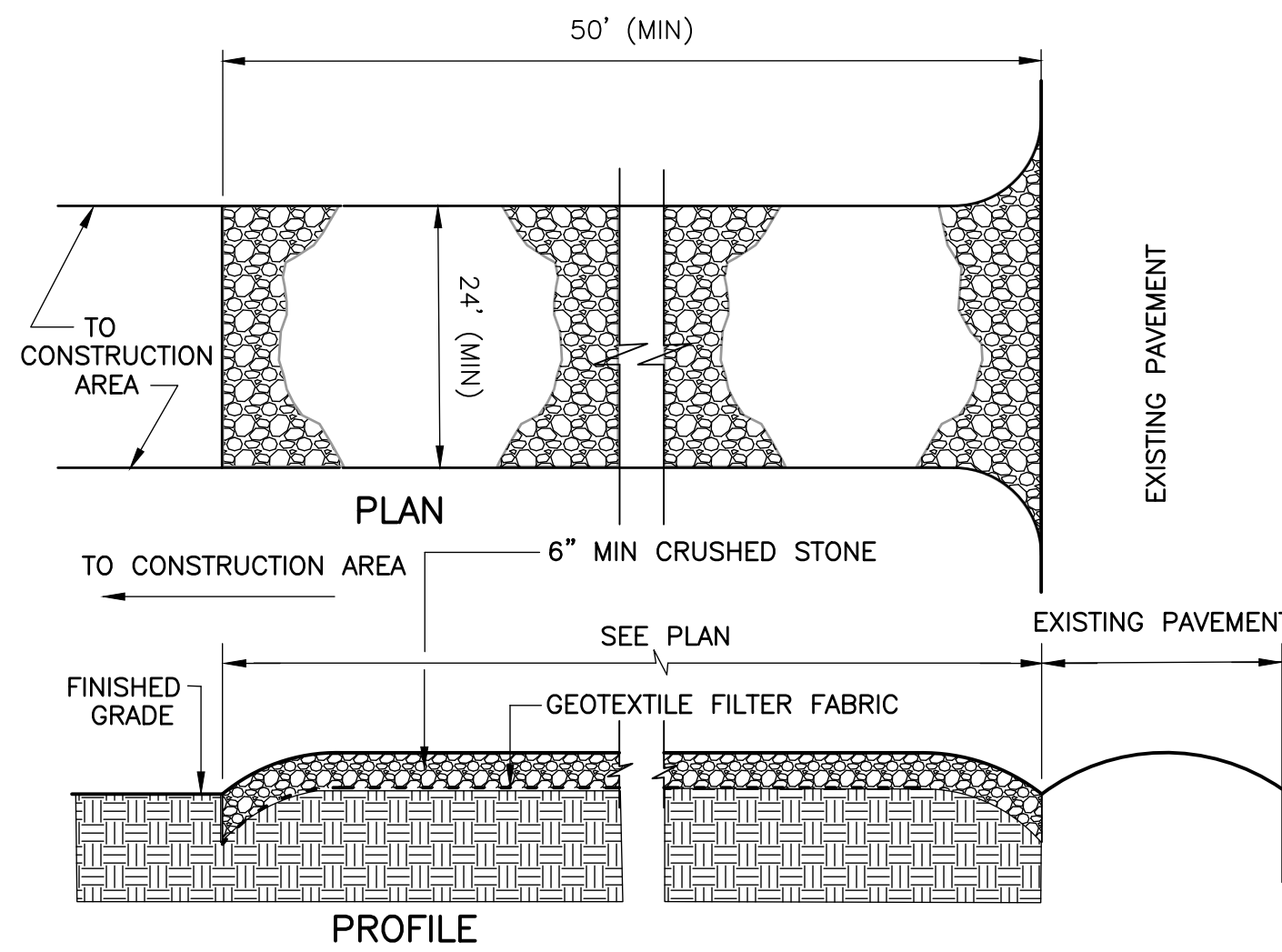
YARD PIPING
PLAN

C-6

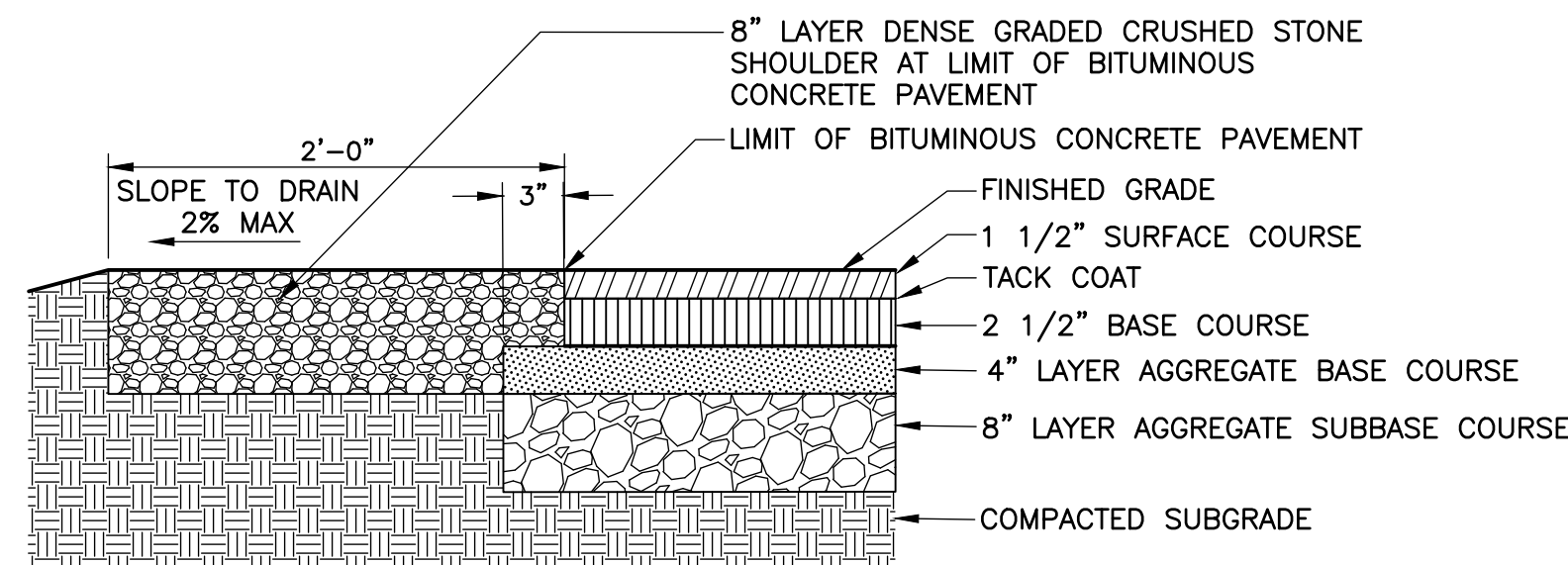
PROJECT NO. 263387-261886 FILE NAME: C006YPPL
SHEET NO. C-6



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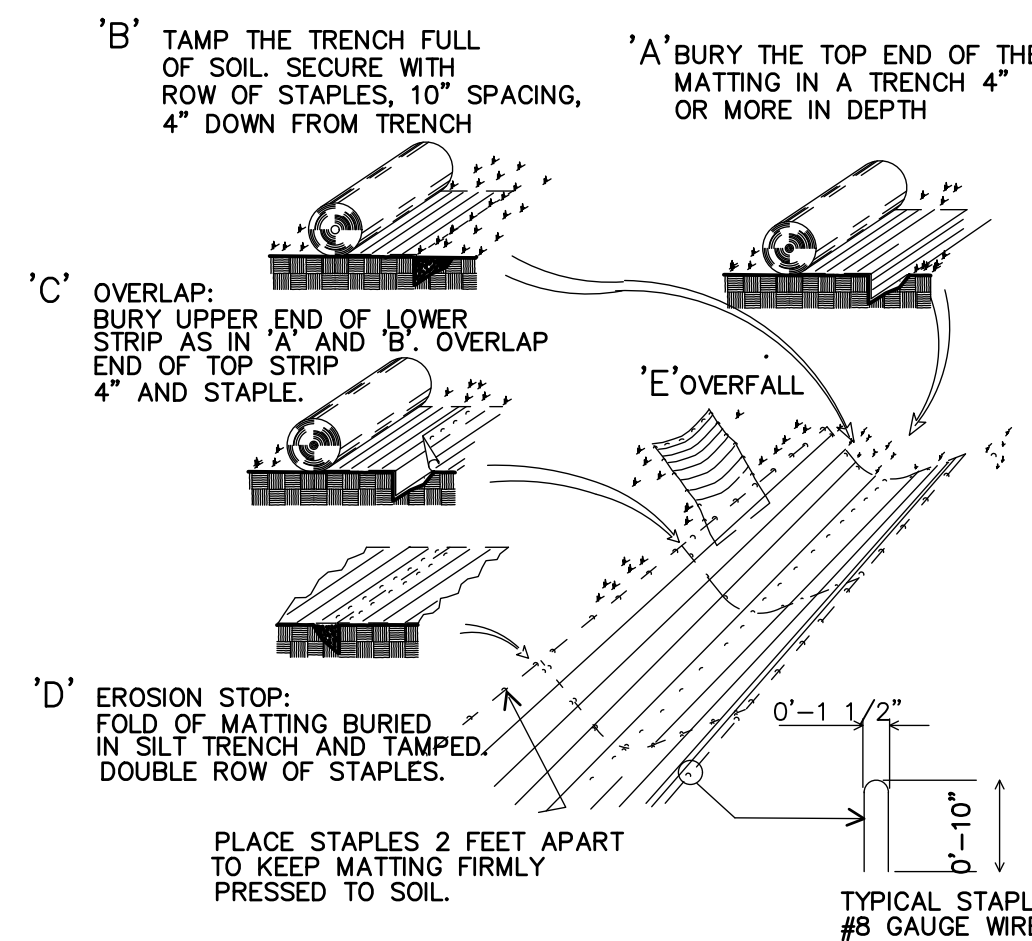


STABILIZED CONSTRUCTION ENTRANCE
DETAIL A
NOT TO SCALE
CD-1



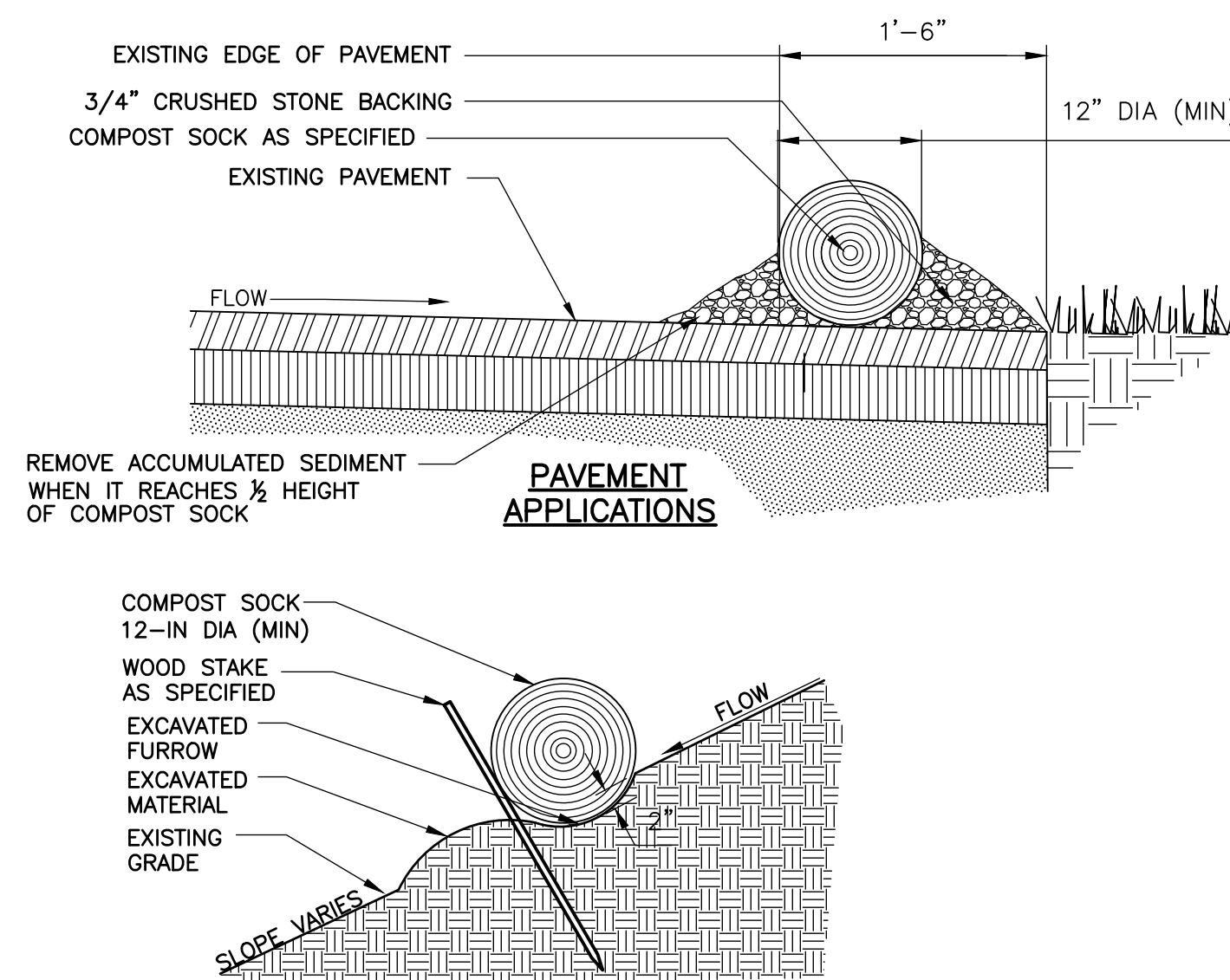
- NOTES:
1. AGGREGATE BASE AND SUBBASE COURSE SHALL EXTEND 3" MIN. BEYOND EDGE OF PAVEMENT.
 2. CONTRACTOR MAY UTILIZE EXISTING GRANULAR BASE WHERE NEW PAVEMENT IS SHOWN OVER EXISTING.

BITUMINOUS CONCRETE PAVEMENT
DETAIL B
NOT TO SCALE
CD-1

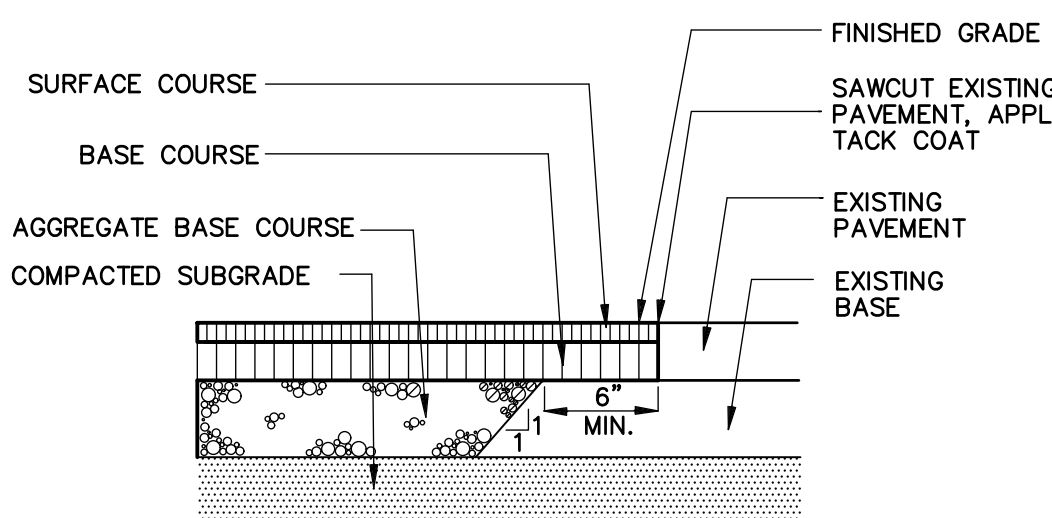


EROSION CONTROL BLANKET
DETAIL C
NOT TO SCALE
CD-1

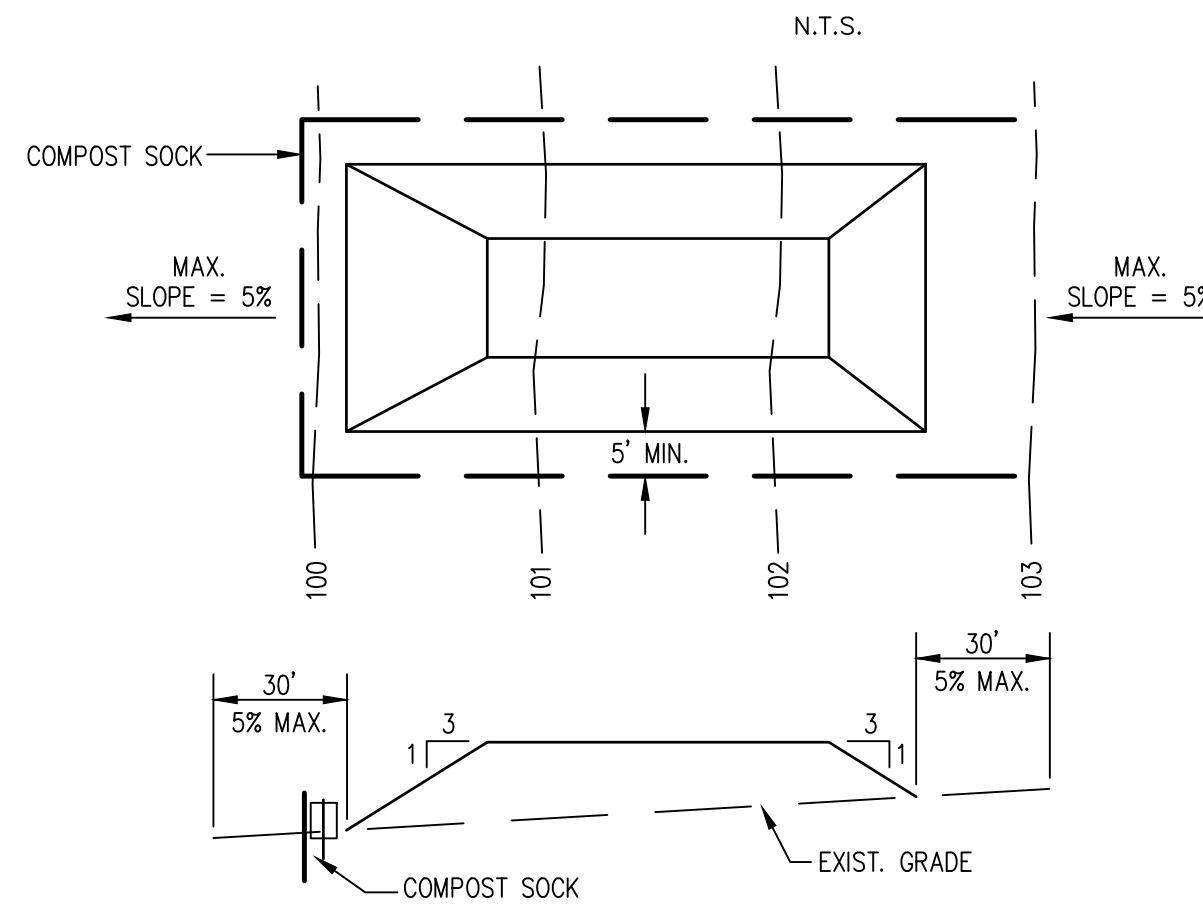
- NOTES:
- 1.) PROVIDE APPROPRIATE TRANSITION BETWEEN STABILIZED CONSTRUCTION ENTRANCE AND EXISTING PAVEMENT.
 - 2.) LIMITS OF STABILIZED CONSTRUCTION ENTRANCE SHALL BE AS SHOWN ON PLANS AND APPROVED BY THE ENGINEER.
 - 3.) THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO EXISTING PAVEMENT. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR ADDING STONE TO THE LENGTH OF THE ENTRANCE.
 - 4.) REPAIR AND CLEANOUT MEASURES USED TO TRAP SEDIMENT, ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO EXISTING PAVEMENT SHALL BE REMOVED AS DIRECTED BY THE ENGINEER.



LANDSCAPE APPLICATIONS
TYPICAL COMPOST SOCK DETAIL
DETAIL D
SCALE: NTS
CD-1

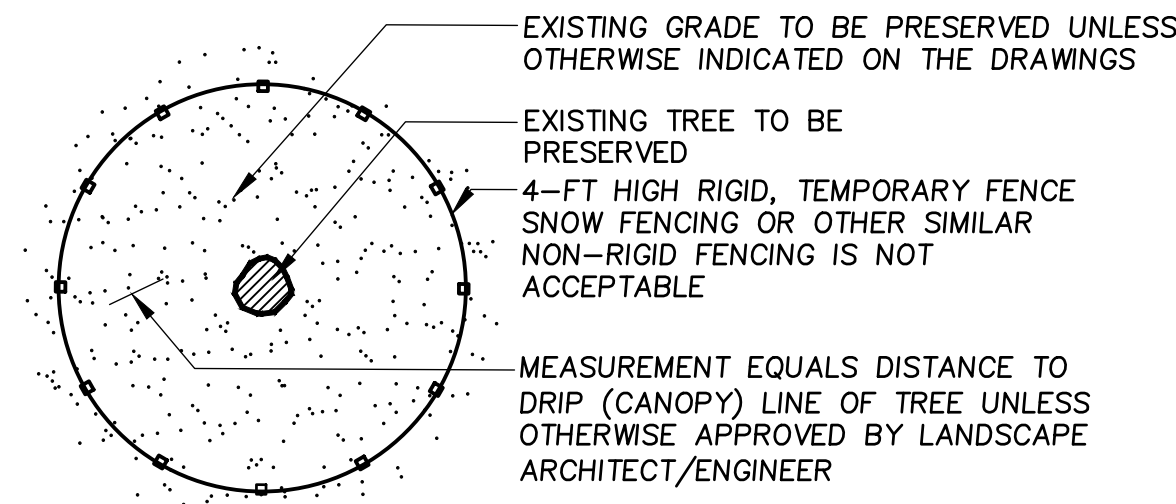


PAVEMENT MATCH
DETAIL E
NOT TO SCALE
CD-1



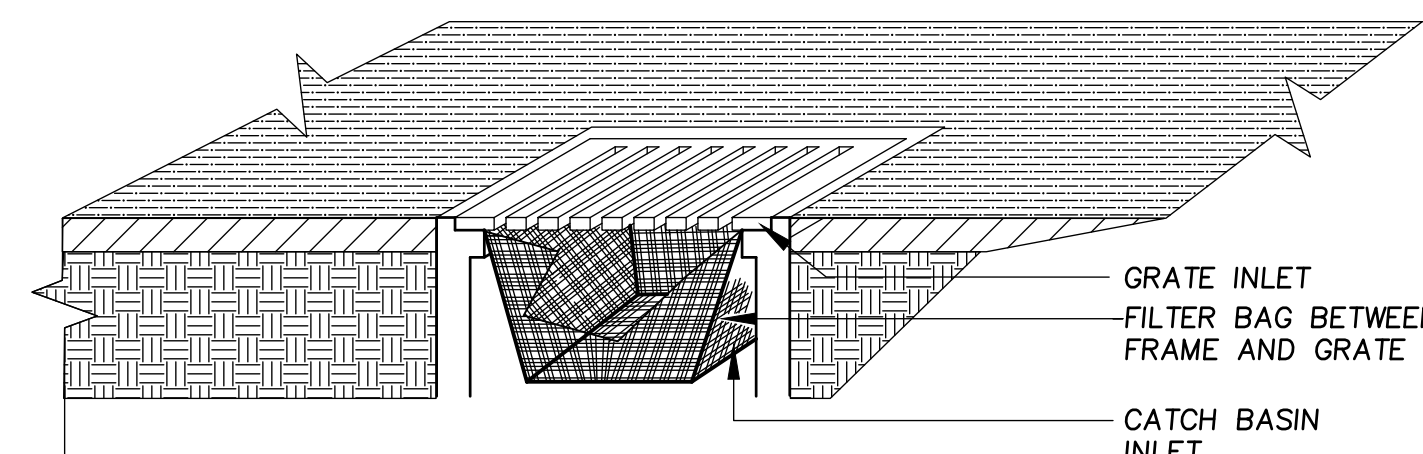
- NOTES:
1. PLACE STOCKPILES AT LOCATIONS AS SHOWN ON THE SOIL EROSION AND SEDIMENT CONTROL PLAN.
 2. ALL SIDE SLOPES SHALL BE 3 TO 1 OR FLATTER.
 3. STOCKPILE SHALL RECEIVE A VEGETATIVE COVER IN ACCORDANCE WITH MINIMUM STABILIZATION REQ.
 4. COMPOST SOCK SHALL BE INSTALLED AS DETAILED HEREON.

SOIL STOCKPILE
DETAIL F
NOT TO SCALE
CD-1

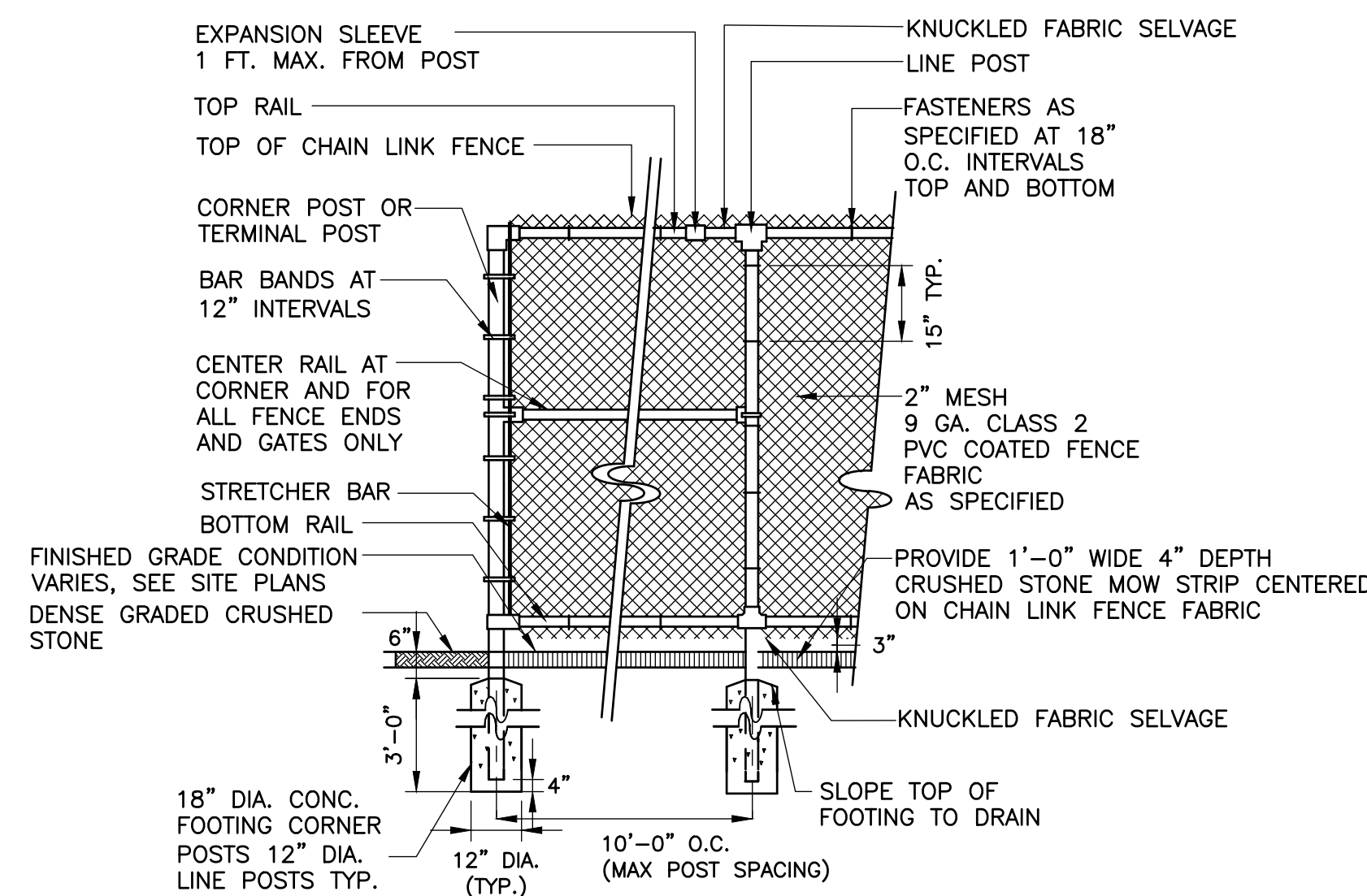


- NOTES:
1. FENCING SHALL BE INSTALLED AROUND PERIMETER OF ALL EXISTING TREES TO BE PRESERVED WITHIN THE LIMIT OF WORK.
 2. FENCING MAY BE REMOVED TEMPORARILY, ONLY AS REQUIRED TO PERFORM THE WORK SHOWN ON THE DRAWINGS.
 3. FENCING SHALL REMAIN IN PLACE & BE MAINTAINED THROUGHOUT CONSTRUCTION AND THEN REMOVED COMPLETELY.

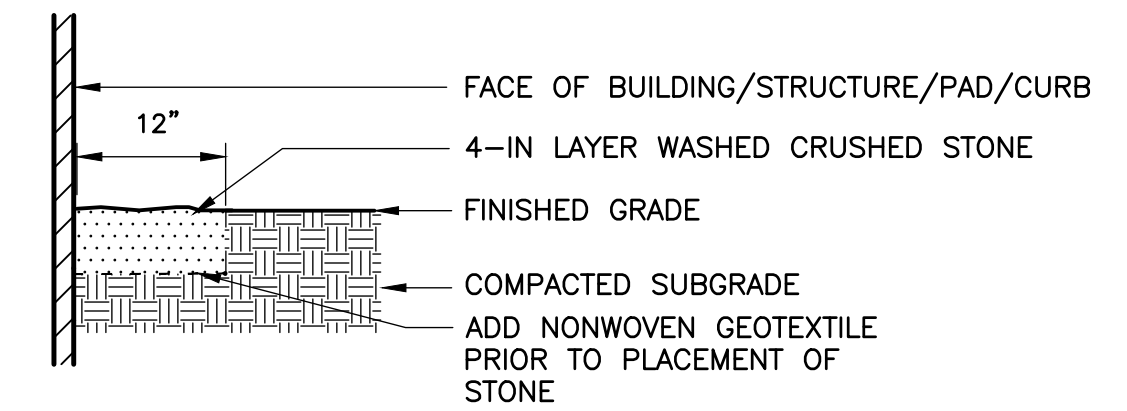
TREE PROTECTION
DETAIL G
NOT TO SCALE
CD-1



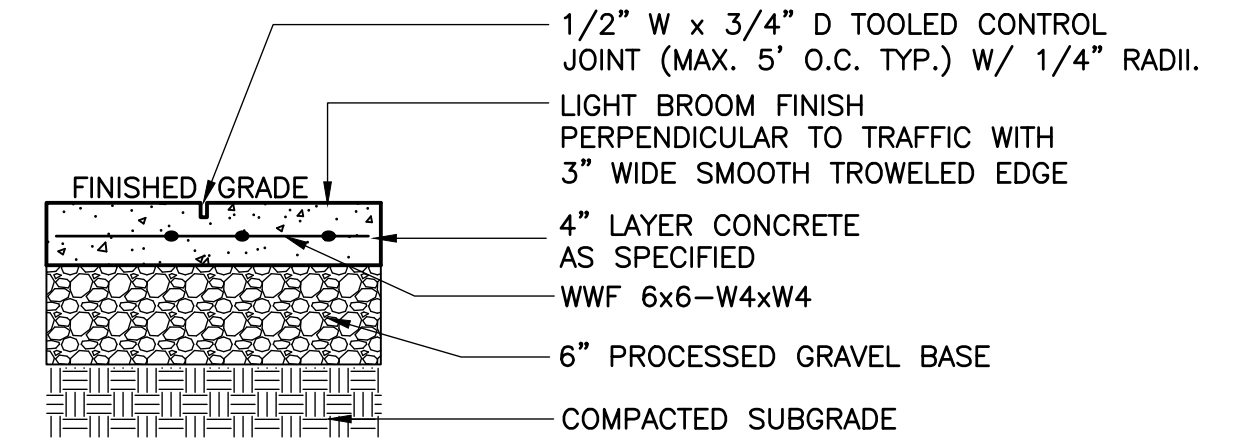
CATCH BASIN FILTER
DETAIL H
NOT TO SCALE
CD-1



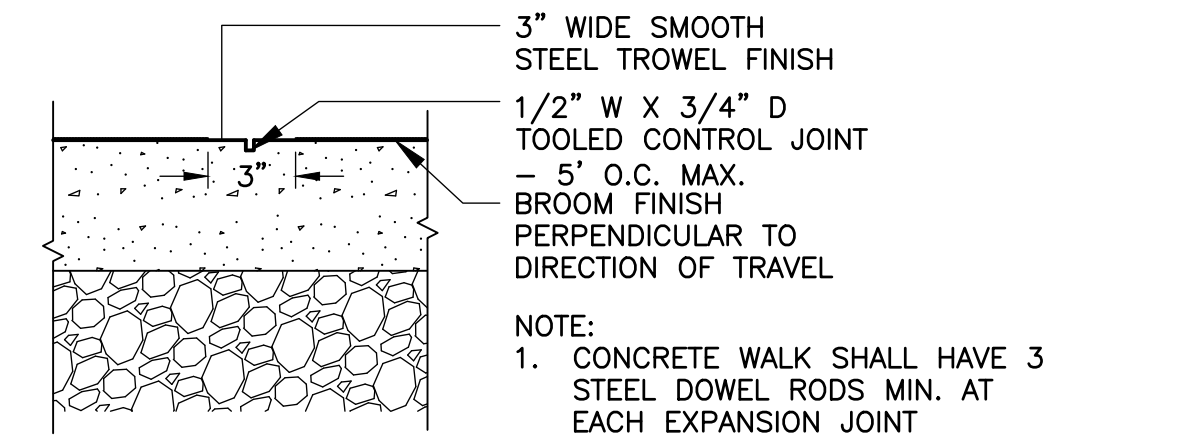
6-FT HIGH CHAIN LINK FENCE
DETAIL I
NOT TO SCALE
CD-1



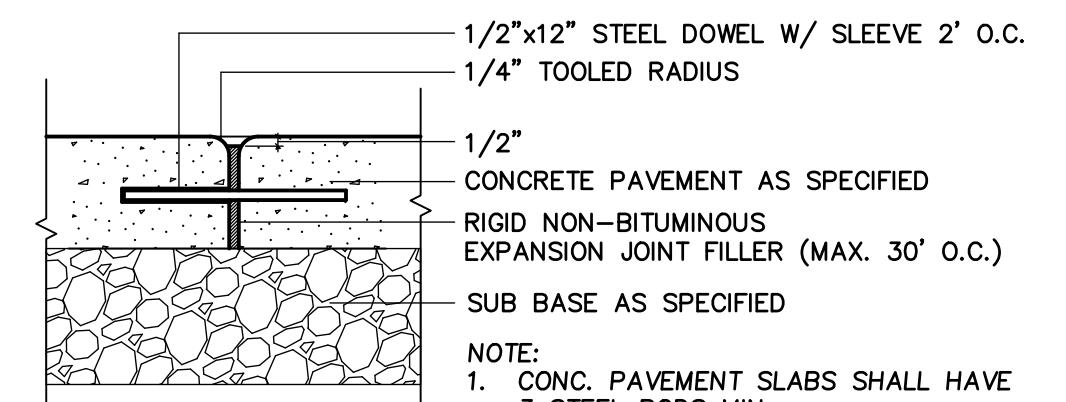
CRUSHED STONE MOW STRIP
DETAIL J
NTS
CD-1



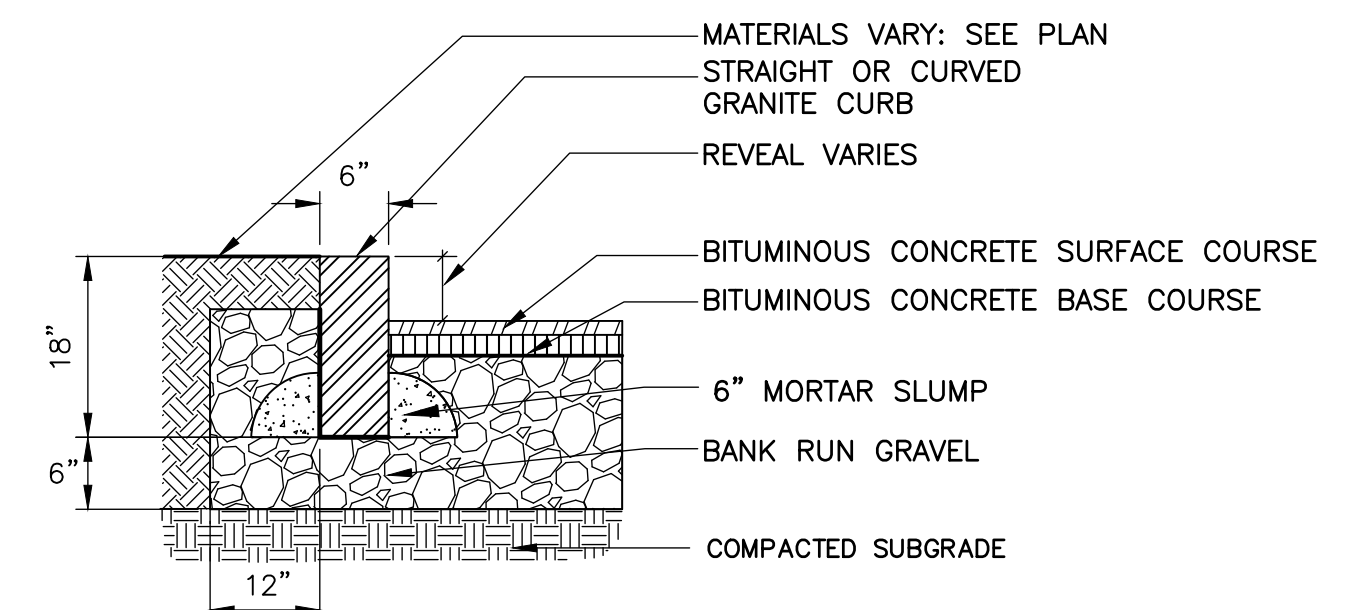
CONCRETE WALKWAY
DETAIL K
NOT TO SCALE
CD-1



CONTROL JOINT
DETAIL L
NOT TO SCALE
CD-1



EXPANSION JOINT
DETAIL M
NOT TO SCALE
CD-1



VERTICAL GRANITE CURB
DETAIL N
NOT TO SCALE
CD-1

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY:	M.DODSON
DRAWN BY:	J. BRONENKANT
SHEET CHK'D BY:	M.DODSON
CROSS CHK'D BY:	W.LENGYEL
APPROVED BY:	X
DATE:	APRIL 2022

CDM Smith
75 State Street, Suite 701
Boston, MA 02109
Tel: (617) 452-6000

LITTLETON WATER DEPARTMENT

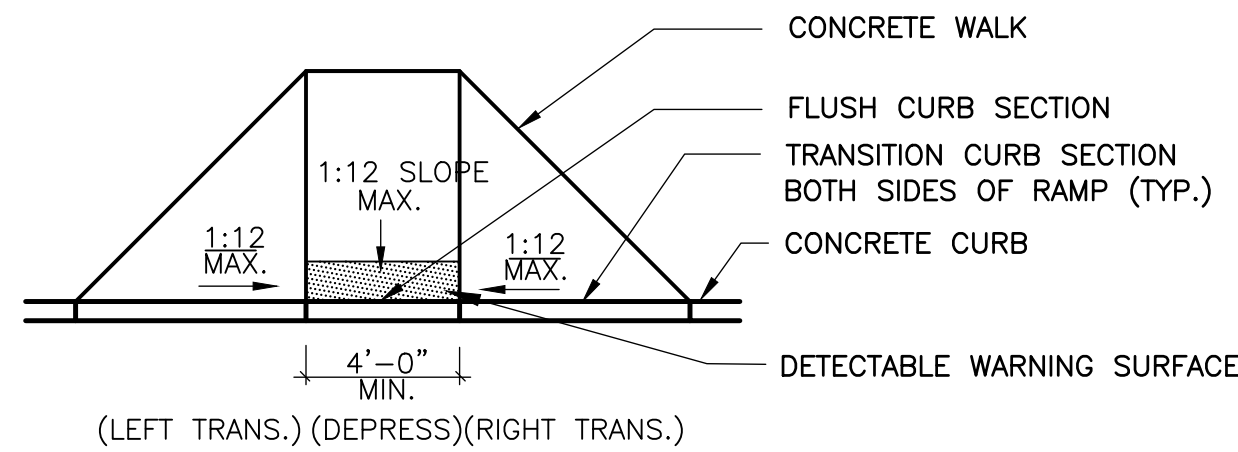
LITTLETON WATER RESOURCE
RECOVERY FACILITY

CIVIL DETAILS I

PROJECT NO. 263387-261886
FILE NAME: CD001STD1
SHEET NO.
CD-1

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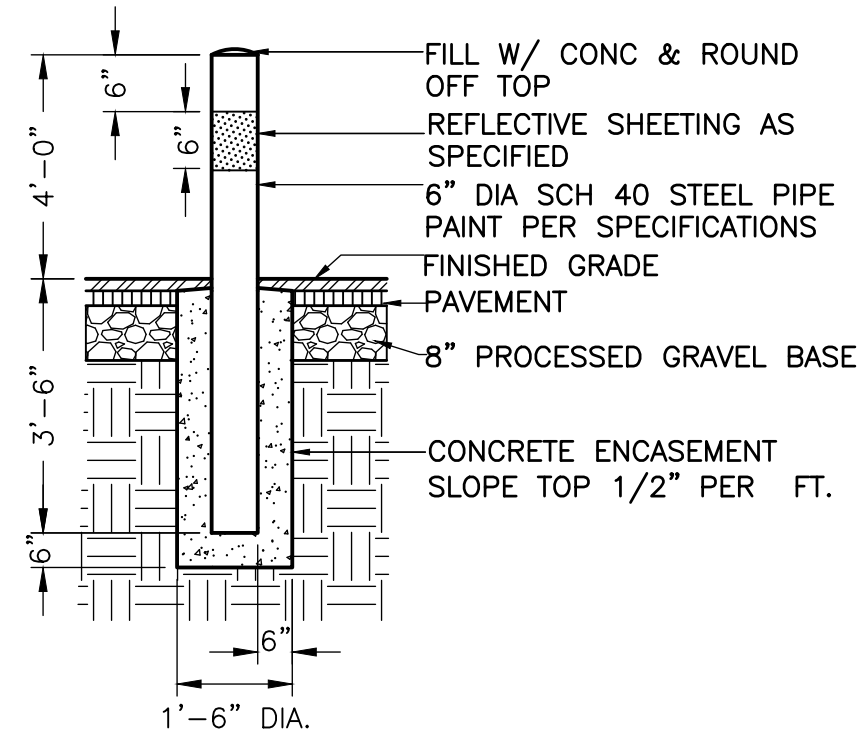
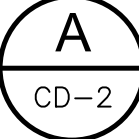
NOTES:

- ALL RELEVANT DETAILS TO COMPLY WITH MADOT STANDARD CONSTRUCTION DETAILS MANUAL
- DIMENSIONS ARE SUBJECT TO CHANGE IN FIELD. ALL SLOPES AND DIMENSIONS TO COMPLY WITH A.D.A. REQUIREMENTS.
- PROVIDE EXPANSION JOINT AT TOPS OF RAMP AND AT BACK OF WALK AT INTERFACE OF CURB
- PROVIDE HEAVY BROOM FINISH ON RAMP AND SIDE SLOPES PERPENDICULAR TO FLOW OF TRAFFIC.
- MINIMUM WALK DIMENSIONS ARE FROM BACK OF CURB.
- TRANSITION CURB LENGTH AS REQUIRED TO MEET CODE.
- FIXED OBJECTS (i.e. UTILITY POLES, HYDRANTS ETC.) MUST NOT ENCR OACH ON ANY PART OF A WHEELCHAIR RAMP, INCLUDING TRANSITION SLOPES.

ACCESSIBLE CURB RAMP

DETAIL

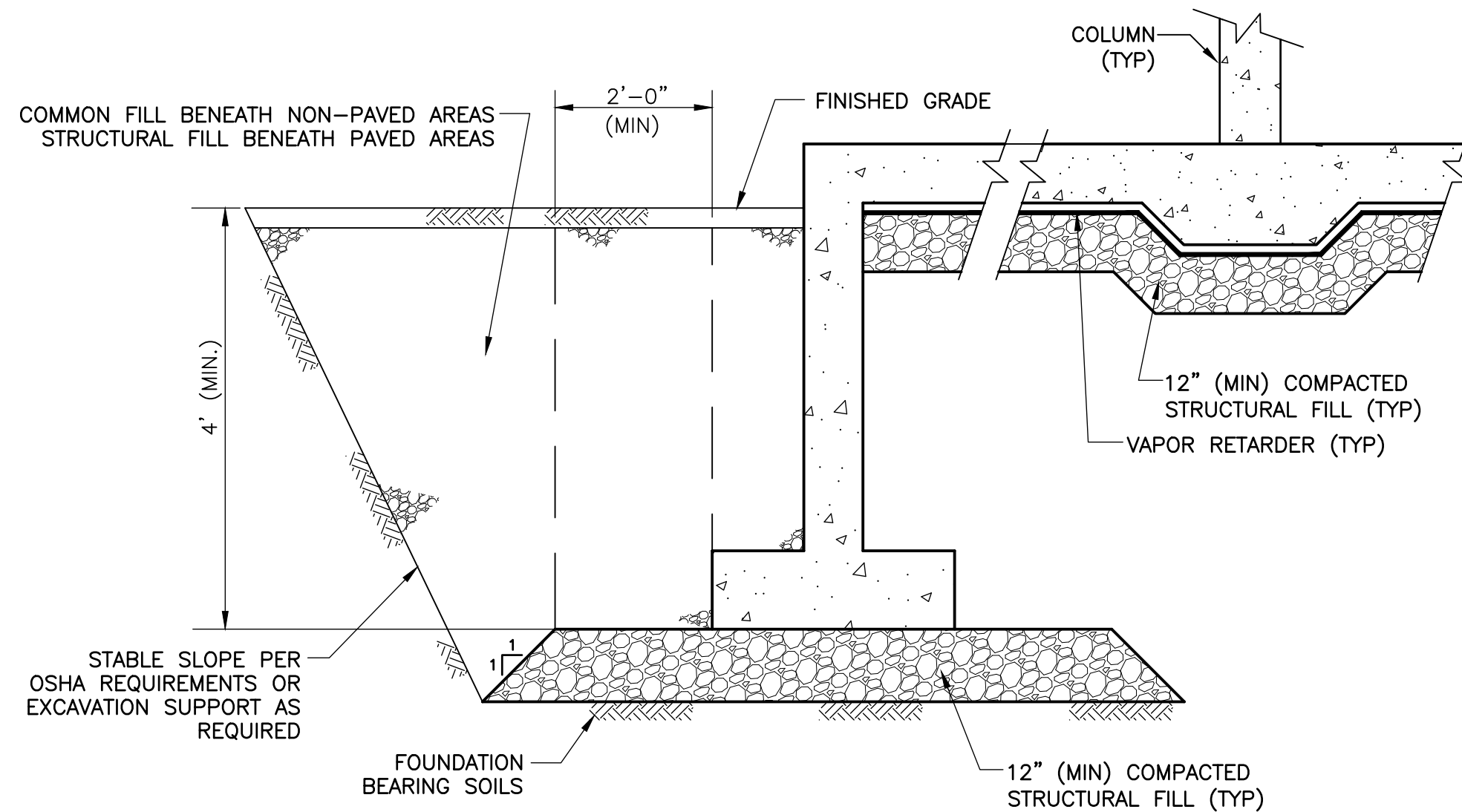
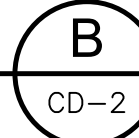
NOT TO SCALE



STEEL BOLLARD

DETAIL

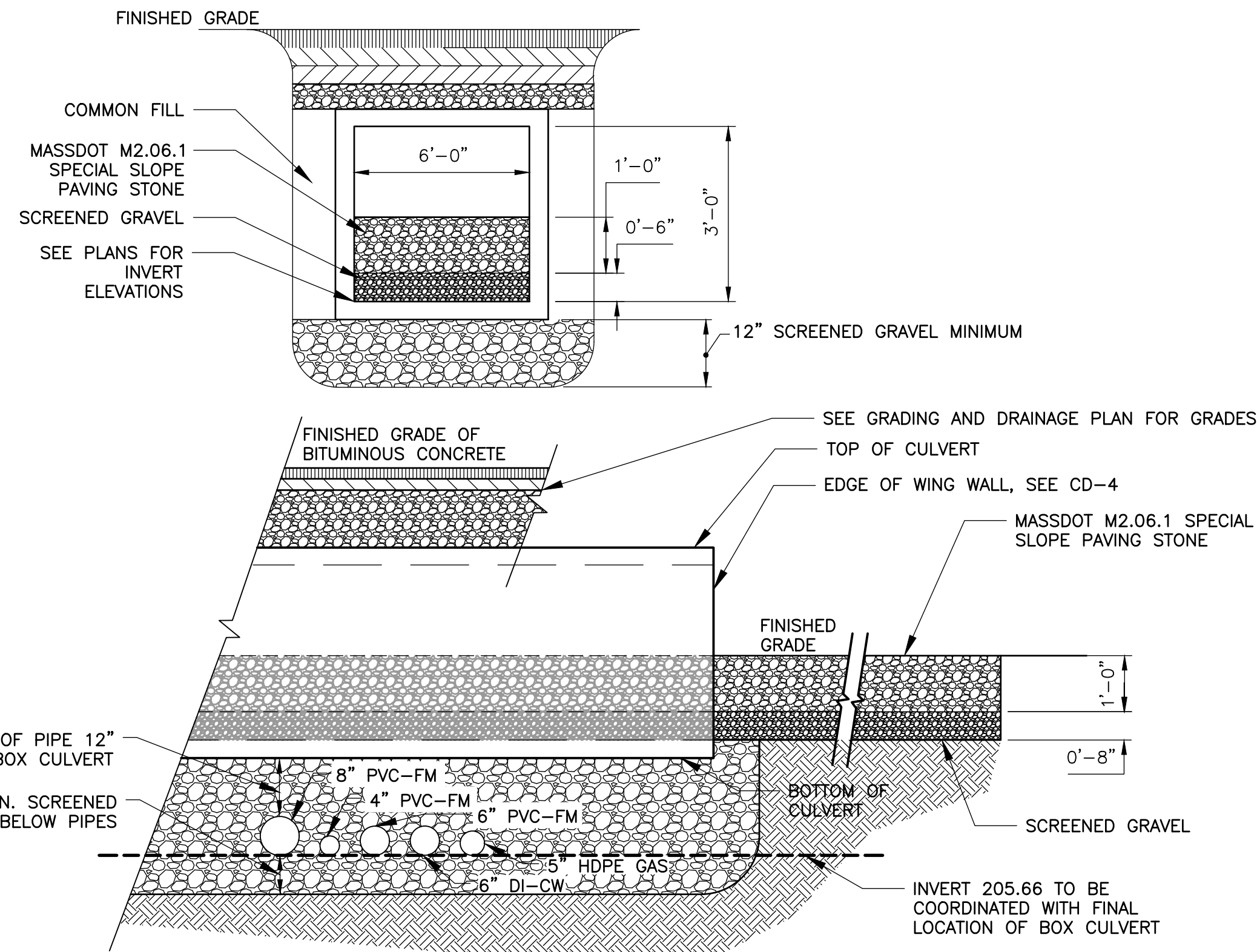
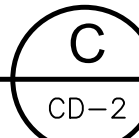
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BACKFILL

DETAIL

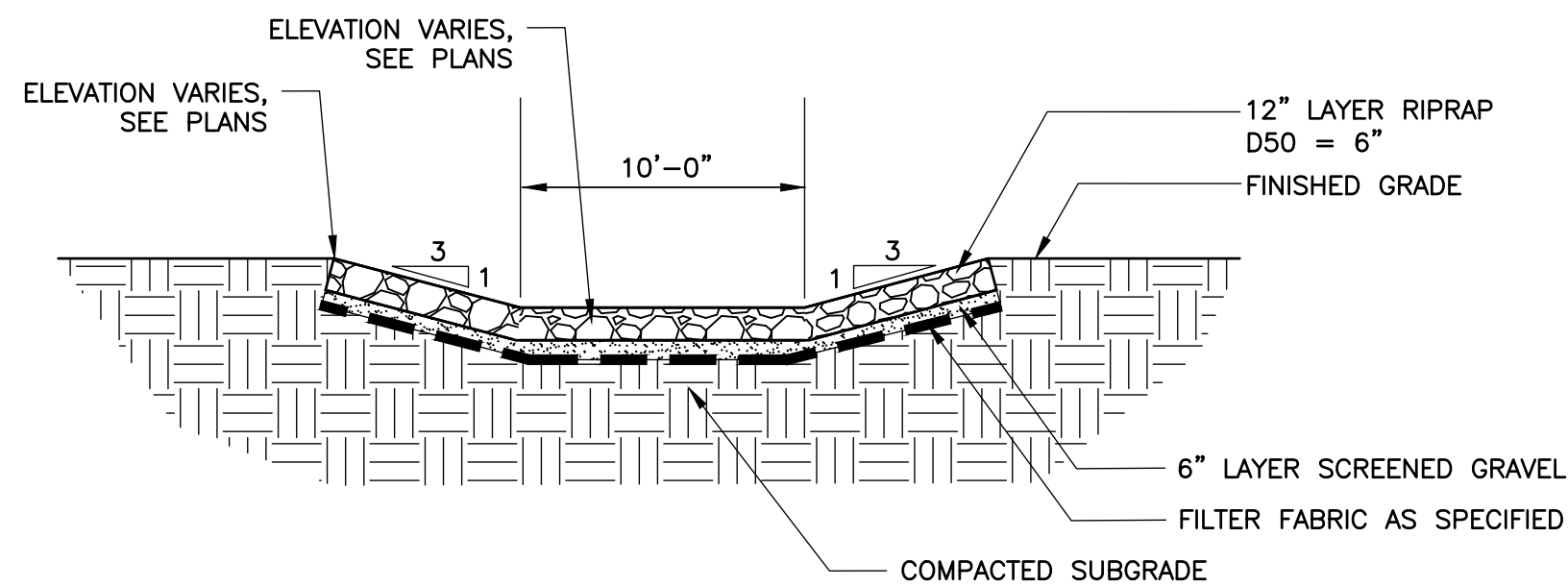
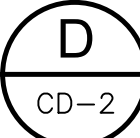
NTS



EMBEDDED BOX CULVERT WITH RIPRAP PAD

DETAIL

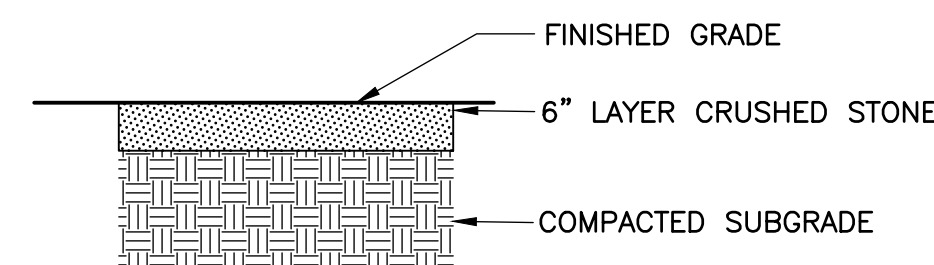
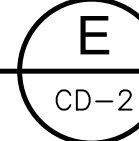
NOT TO SCALE



EMERGENCY SPILLWAY

DETAIL

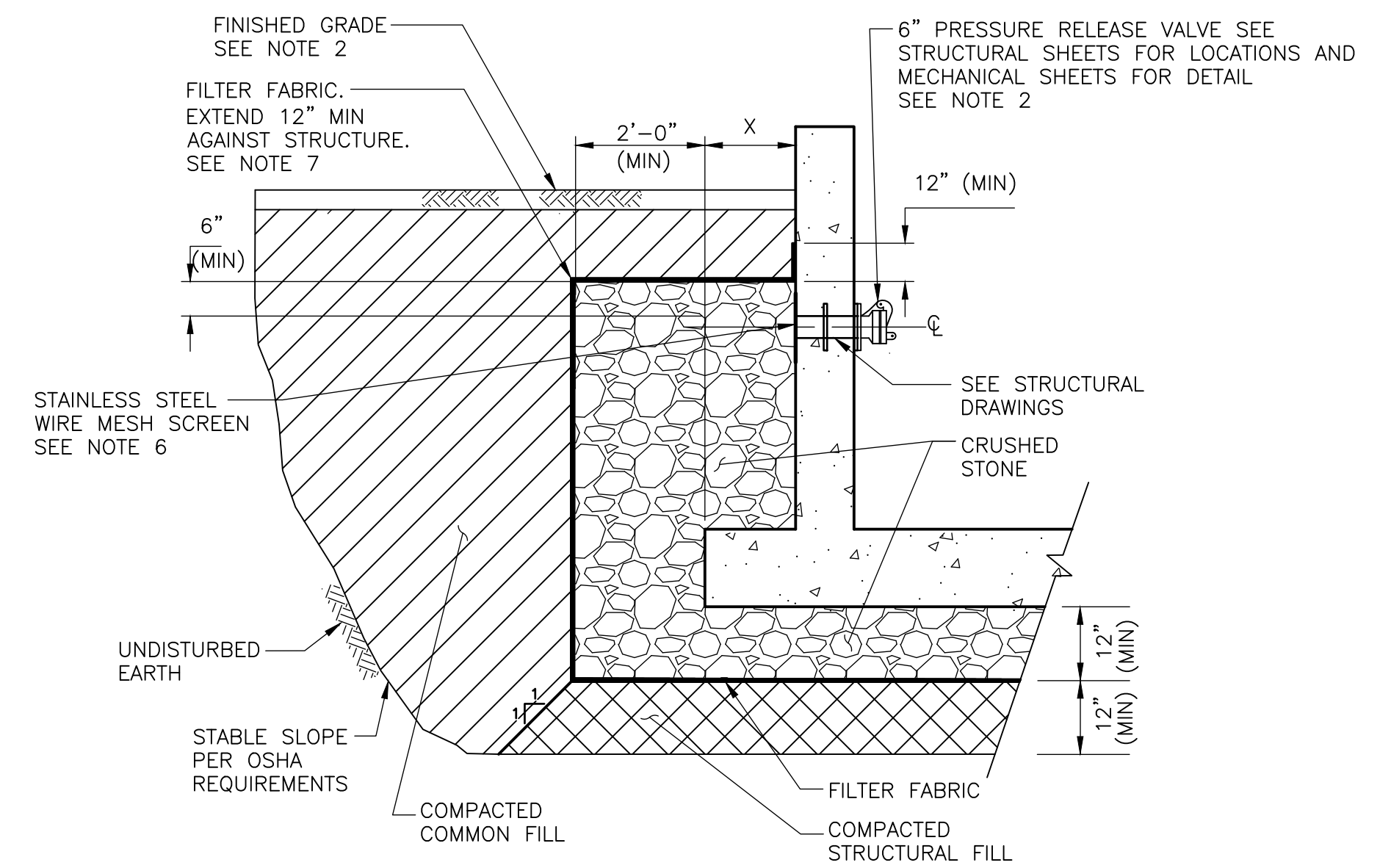
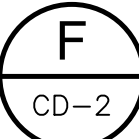
NTS



CRUSHED STONE SURFACING

DETAIL

NOT TO SCALE



NOTES:

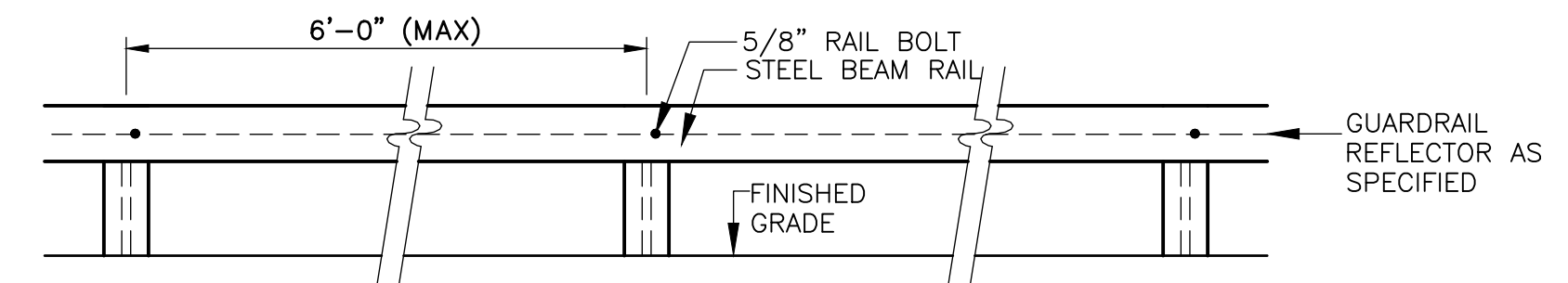
- DETAIL TYPICAL FOR BIOLOGICAL TANKS.
- FOR RELATIVE ELEVATIONS, SEE BELOW TABLE.
- THE SUITABILITY OF THE FOUNDATION SUB-GRADE TO BE VERIFIED BY CONTRACTOR'S GEOTECHNICAL ENGINEER PRIOR TO THE PLACEMENT OF FILL OR CONCRETE.
- SEE SPECIFICATION SECTION 312000 FOR COMPACTION REQUIREMENTS.
- WIRE MESH SCREEN SHALL BE DESIGNED TO PREVENT MATERIALS FINER THAN No. 200 FROM PASSING AND ANCHORED TO THE EXTERNAL SURFACE OF THE CONCRETE TANKS A MINIMUM OF 4-IN BEYOND THE OD OF THE PIPE.
- FILTER FABRIC SHALL BE OVERLAPPED NO LESS THAN 24-IN TO ASSURE CONTINUITY OF THE FABRIC.

	FINISHED GRADE	FLAP VALVE ELEVATION	BOTTOM OF SLAB ELEVATION	"X" DIMENSION
BIOLOGICAL TANKS	213.6	209.5	189.25	2'-0"

BACKFILL AT NEW TANKS AND STRUCTURES

DETAIL

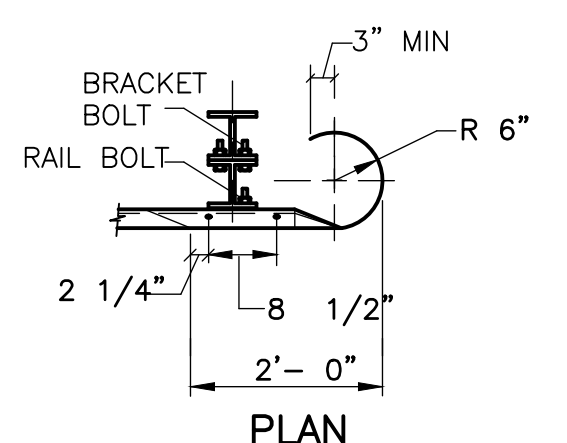
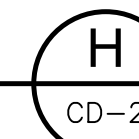
NOT TO SCALE



SECTION STEEL BEAM GUARDRAIL

DETAIL

NOT TO SCALE



PROJECT NO. 263387-261886
FILE NAME: CD002STD1

SHEET NO.

CD-2

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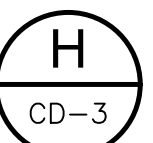
DESIGNED BY: M.DODSON
DRAWN BY: J. BRONENKANT
SHEET CHK'D BY: M.DODSON
CROSS CHK'D BY: W.LENGYEL
APPROVED BY: X
DATE: APRIL 2022

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75 State Street, Suite 701
Boston, MA 02109
Tel: (617) 452-6000

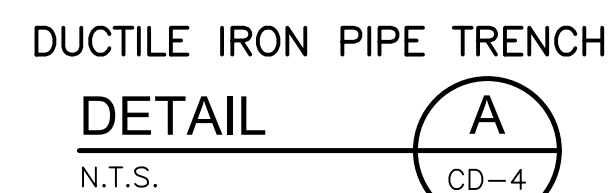
LITTLETON WATER DEPARTMENT

LITTLETON WATER RESOURCE
RECOVERY FACILITY

CIVIL DETAILS II



90% SUBMITTAL - NOT FOR CONSTRUCTION



-
- 6' VALVE BOX
- ANCHORING TEE WITH 6" TEE BRANCH (RESTRAINED MJ OR FLANGED)
- CONCRETE THRUST BLOCK
- UNDISTURBED EARTH
- 6" DI PIPE
- 5'-6" MIN
- 6'-0" WHERE POSSIBLE
- 6" MJ GATE VALVE
- HYDRANT
- FINISHED GRADE
- 1/2" SCREENED GRAVEL PIT 2'-6" MIN DIA FORM 6" BELOW HYDRANT TO AT LEAST 6" ABOVE HYDRANT DRAIN RING
- SINGLE PLY ROOFING FELT
- CONCRETE THRUST BLOCK
- CONCRETE BLOCK SET ON UNDISTURBED EARTH
- NOTE:**
- ALL PIPING BETWEEN THE WATER MAIN, GATE VALVE, AND HYDRANT SHALL BE FULLY RESTRAINED.

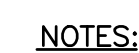
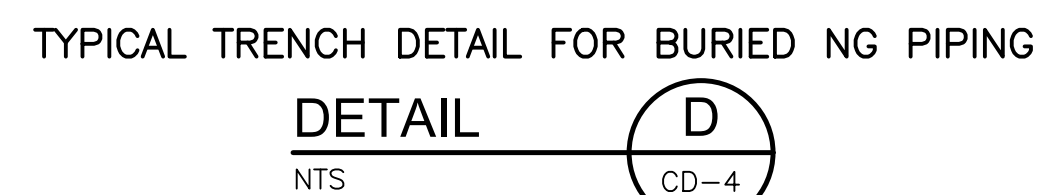
STANDARD HYDRANT
DETAIL

N.T.S.

(B)
CD-4

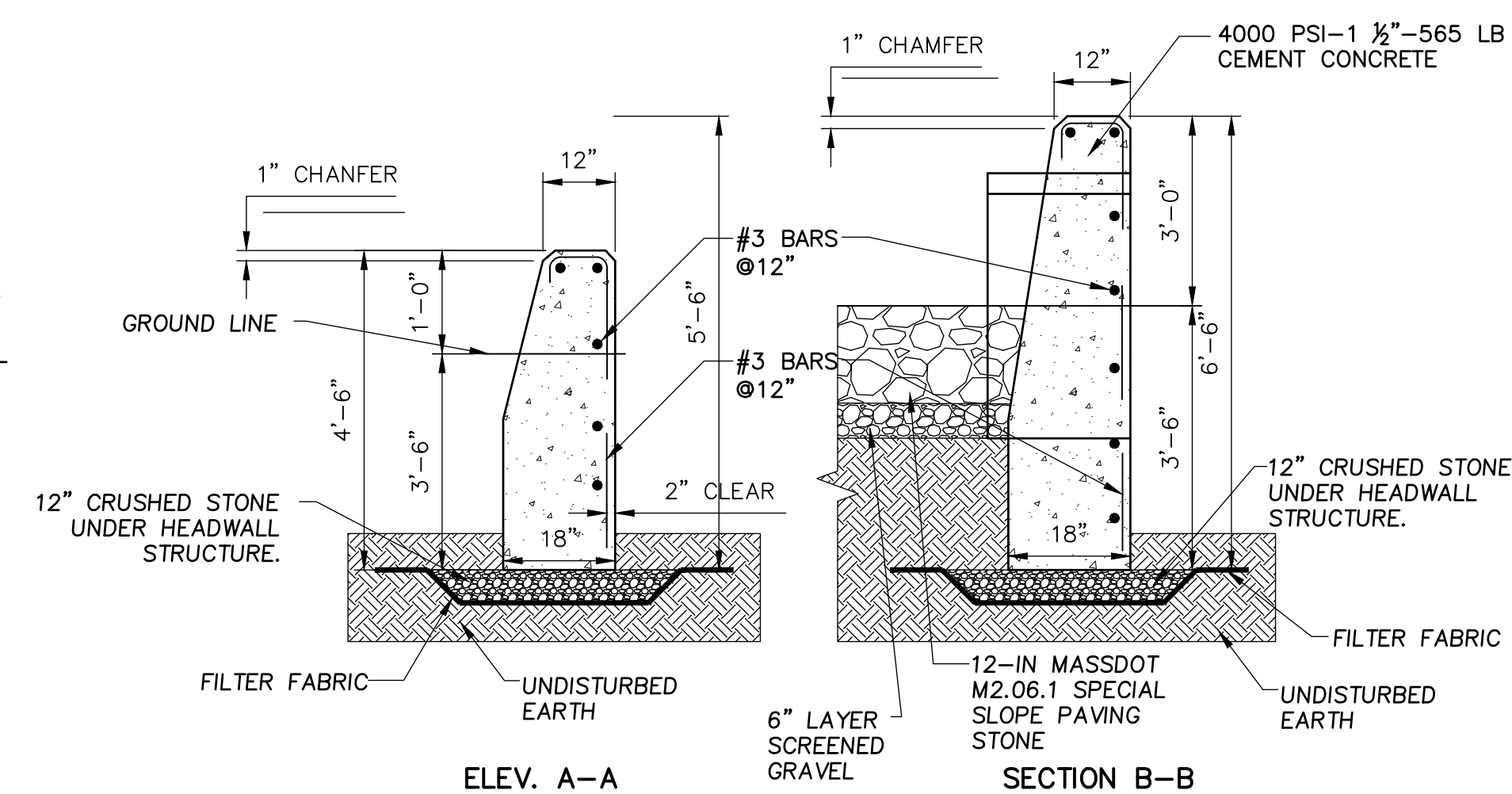


EXISTING UTILITY CROSSING
DETAIL 
NTS 



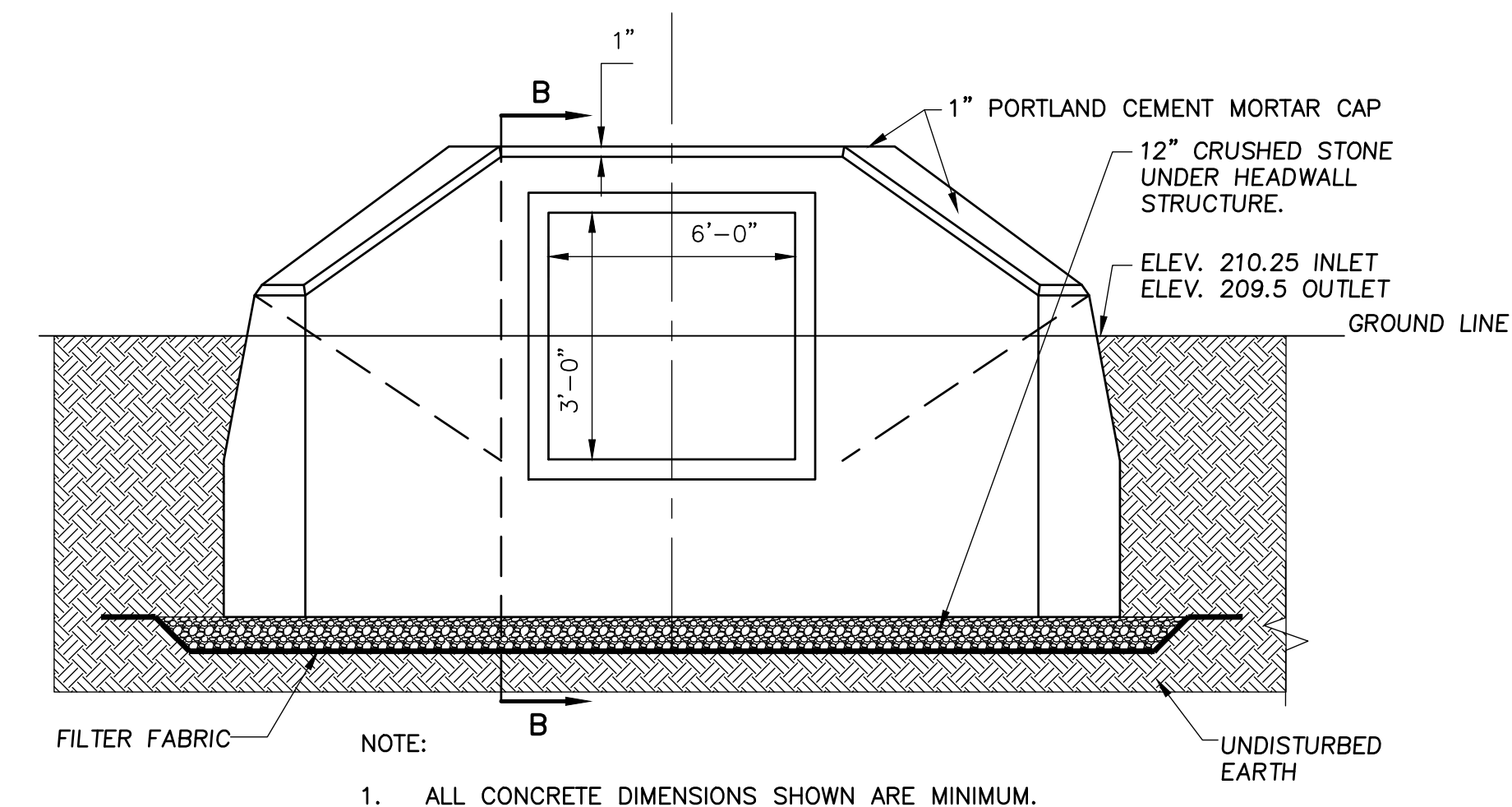
1. FOR PIPES OTHER THAN PVC AND RCP, SELECT COMMON FILL MAY BE USED FROM MID-DIAMETER OF PIPE TO 12" ABOVE TOP OF PIPE.
2. FILTER FABRIC SHALL BE PLACED BETWEEN UNDISTURBED EARTH AND SCAFFOLD GRAVEL WHERE TRENCH EXCAVATION EXTENDS BELOW THE GROUNDWATER LEVEL.
3. IN UNSUITABLE SUBGRADES, EXCAVATE TO THE TOP OF NATURALLY DEPOSITED SUITABLE MATERIAL TO A MAXIMUM OF 4-FT BELOW THE PIPE INVERT AND SHALL BE REPLACED WITH LIGHTWEIGHT FILL AS SPECIFIED.

TYPICAL TRENCH DETAIL
DETAIL
NOT TO SCALE



ELEV. A-A

SECTION B-B



PRECAST EMBEDDED CONCRETE HEADWALL WITH WING WALLS

DETAIL G

NOT TO SCALE CD-4

DESIGNED BY: M.DODSON
DRAWN BY: J. BRONENKANT
SHEET CHK'D BY: M.DODSON
CROSS CHK'D BY: _____
APPROVED BY: _____ X
DATE: APRIL 2022

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LITTLETON WATER RESOURCE RECOVERY FACILITY

CIVIL DETAILS IV

SHEET NO.

CD-4