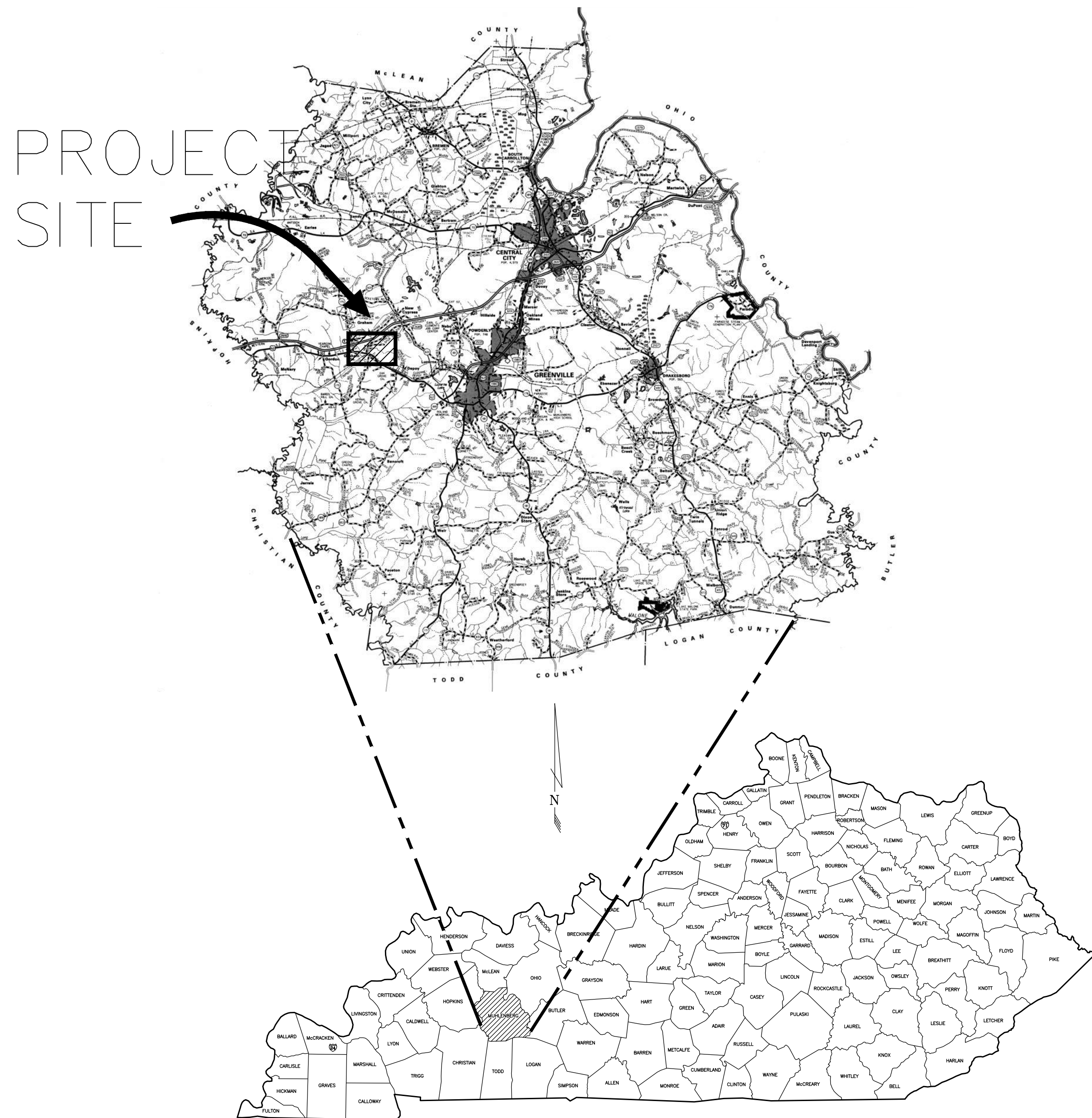


DEVELOPMENT AUTHORITY, INC.

MUHLENBERG COUNTY, KENTUCKY

WATER AND SEWER EXTENSIONS

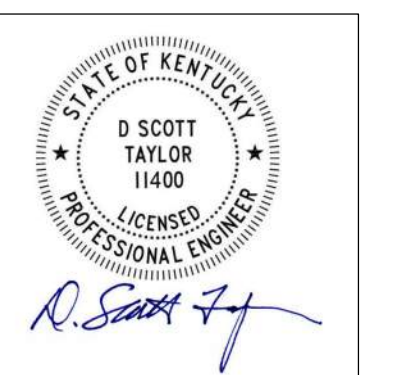


JUNE 2023



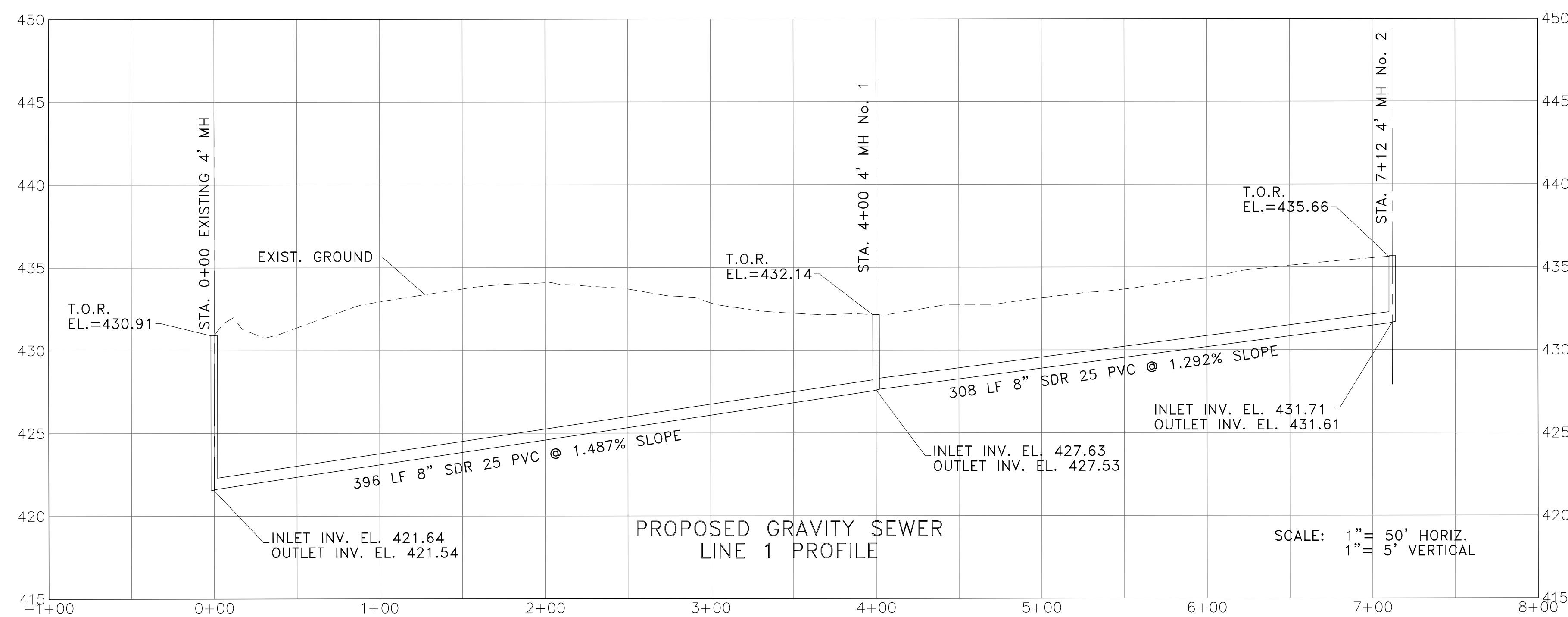
624 Wellington Way
Lexington, KY 40503
www.mselex.com

PHONE: (859)223-5694
FAX: (859)223-2607

[illegible]

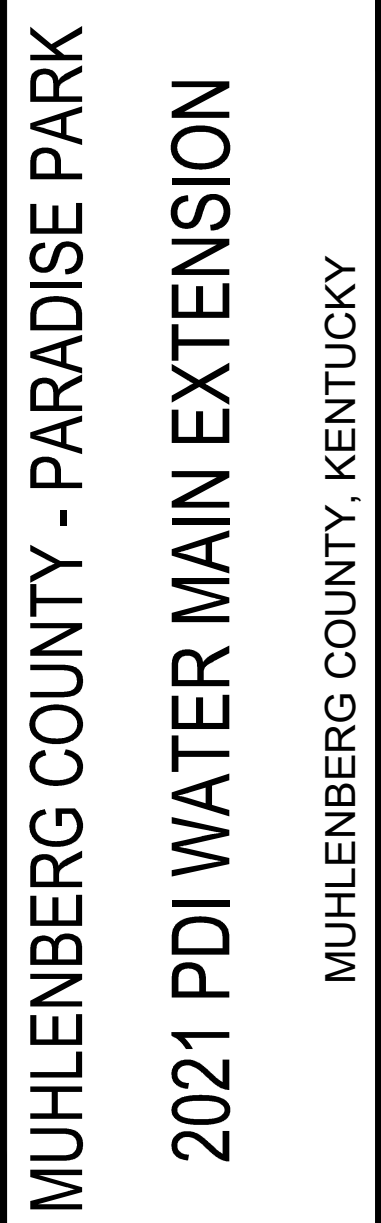
SET NO. _____

MSE PROJECT No. 2083-08



624 Wellington Way
Lexington, KY 40503
www.mselex.com

SHEET OF



PROJECT NO. 2060-12		DATE		REVISION		BY	
DESIGNED BY	G.A.R.						
DRAWN BY	J.R.M.						
CHECKED BY	G.A.R.						
REVIEWED BY	G.A.R.						
DATE	APRIL 2022	© copyright NOTICE: This document discloses subject matter considered confidential by MGE of Kentucky, Inc. and its affiliates. It is to be used for the purpose of preparing a bid or proposal for the project only. It is not to be reproduced, in whole or in part, without the prior written permission of MGE of Kentucky, Inc. and its affiliates. It is to be used for any other purpose without the written permission of MGE of Kentucky, Inc.					
SCALE	AS NOTED						

msc
OF KENTUCKY, INC.

Engineers
Architects
Planners

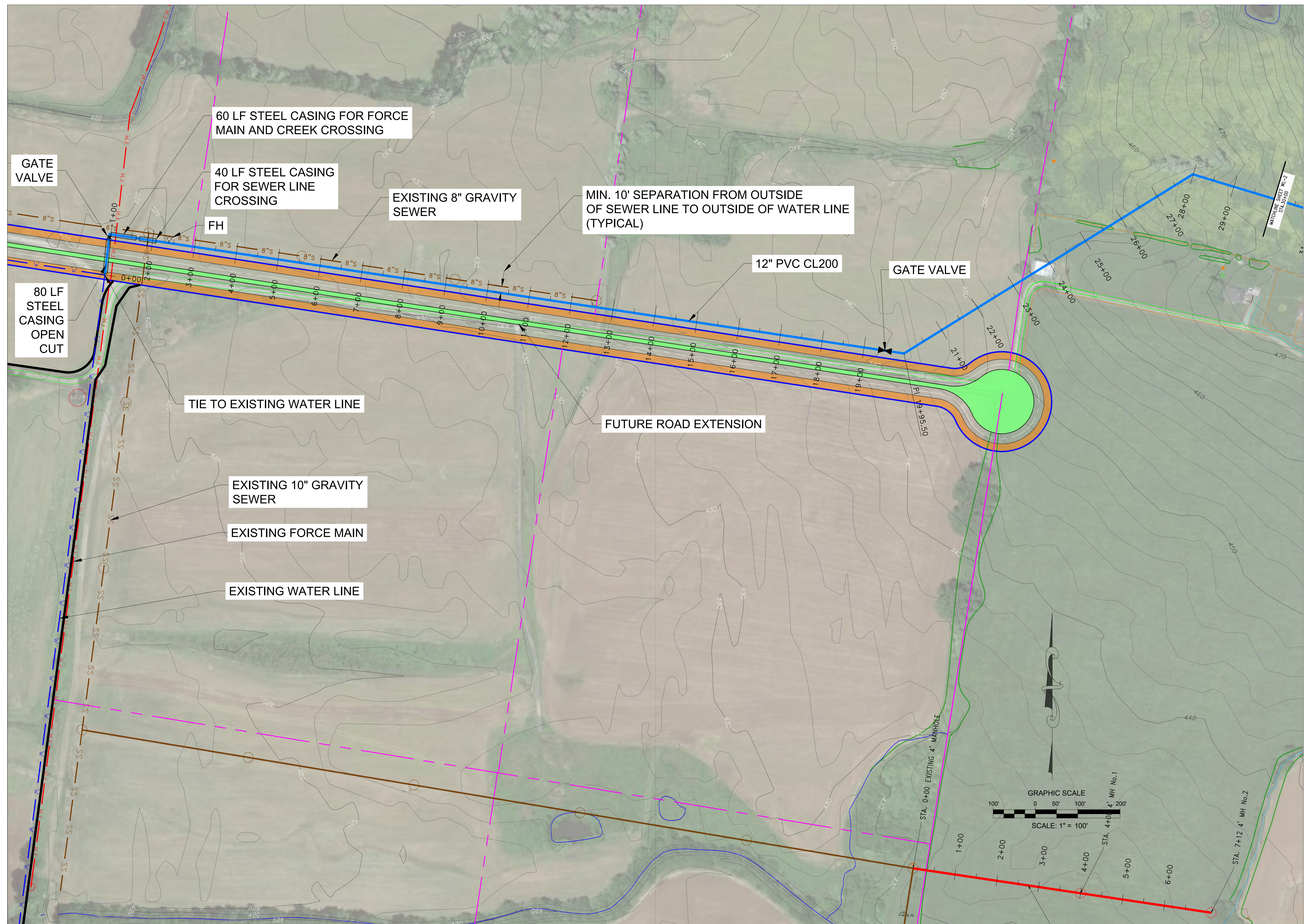
Phone: (859)223-5684
Fax: (859)223-2607
www.mslex.com

624 Wellington Way
Lexington, KY 40503
www.mslex.com

DRAWING NO.

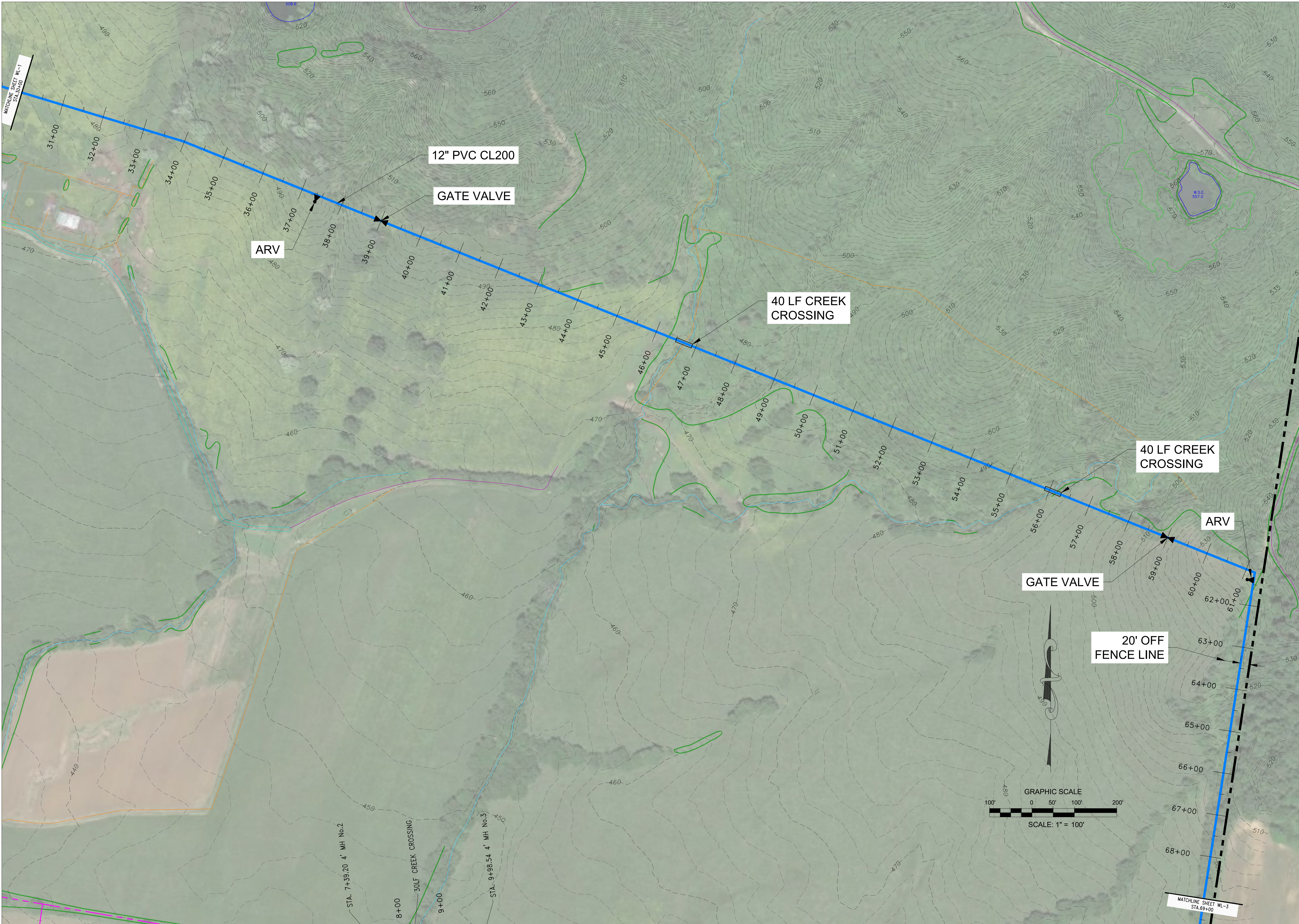
WL-1

SHEET OF



M:\PROJECTS\Paradise Park Water and Sewer Extensions\Working\Paradise Park water - sewer exts 6-19-23.dwg, 6/23/2023 12:40:04 AM, DWG To PDF.pc3

M:\PROJECTS\Paradise Park Water and Sewer Extension\Drawings\Paradise Park Water - sewer extension 10-12-22.dwg 10/12/2022 12:43:38 AM DWS TO PIP.rvt



MUHENBERG COUNTY - PARADISE PARK
2021 PDI WATER MAIN EXTENSION
MUHENBERG COUNTY, KENTUCKY

PROJECT NO.	2060-12	DATE	REVISION	BY
DESIGNED BY	G.A.R.			
DRAWN BY	J.R.M.			
CHECKED BY	G.A.R.			
REVIEWED BY	G.A.R.			
DATE	APRIL 2022			
SCALE	AS NOTED			

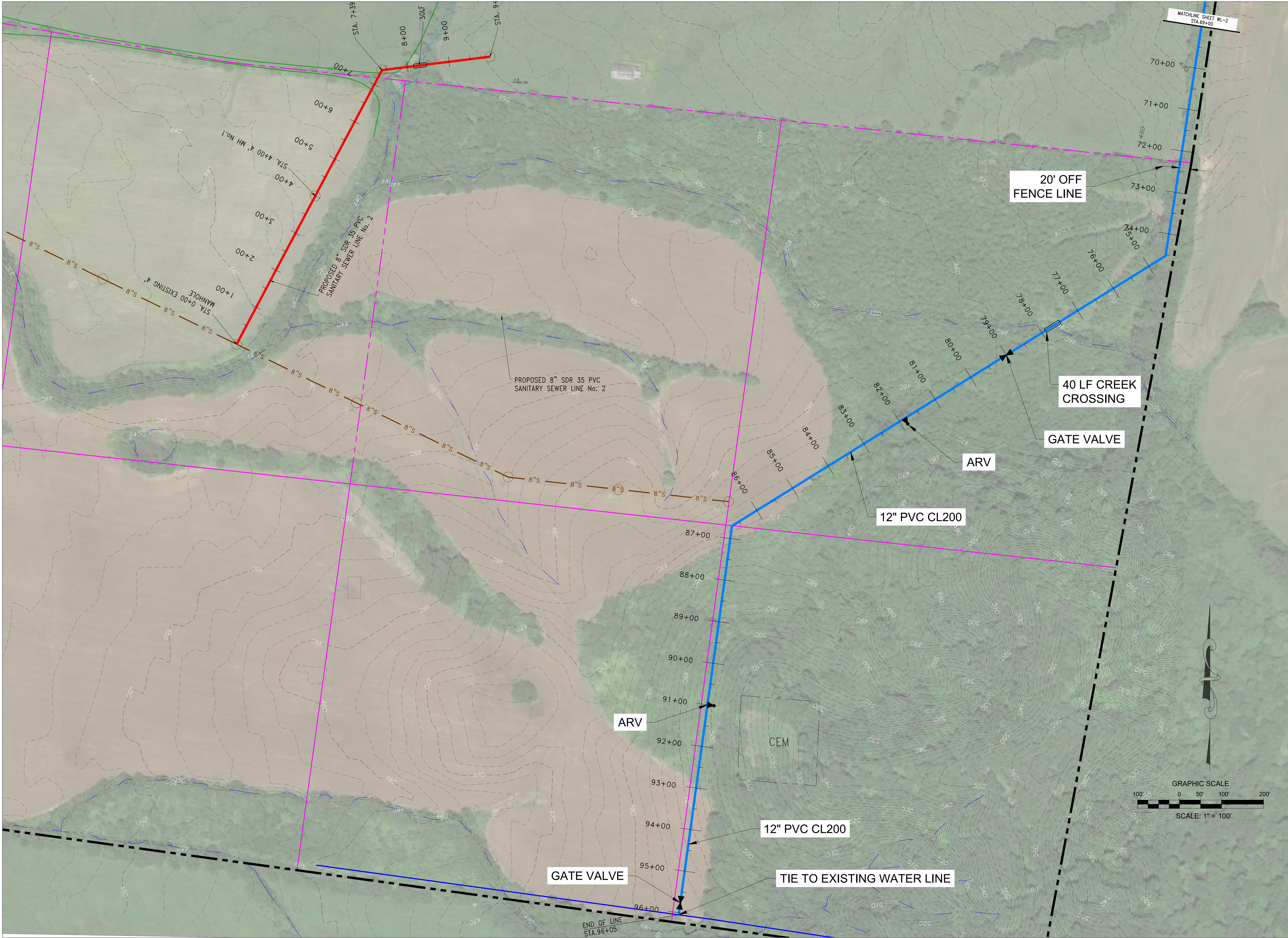
© COPYRIGHT
MUSE. This document is the property of MUSE. It is to be used only for the project and location specified. No part of this document may be reproduced or transmitted in any form or by any means electronic or mechanical, including photocopying, recording, or by any information storage and retrieval system, without the written permission of MUSE, Inc.

MUSE
Engineers
Architects
Planners
OF KENTUCKY, INC.

624 Wellington Way
Lexington, KY 40503
www.museinc.com

Phone: (859) 223-5694
Fax: (859) 223-2607

M:\PROJECTS\Paradise Park Water and Sewer Extension\DWG\Paradise Park WL-3.dwg 02/20/2023 12:44:49 AM DWS TO PIP.dwg



MUHENBERG COUNTY - PARADISE PARK
2021 PDI WATER MAIN EXTENSION
 MUHENBERG COUNTY, KENTUCKY

DATE	REVISION	BY

PROJECT NO. 2050-12

DESIGNED BY G.A.R.

DRAWN BY J.R.M.

CHECKED BY G.A.R.

REVIEWED BY G.A.R.

DATE APRIL 2022

SCALE AS NOTED

**Engineers
Architects
Planners**

nse

OF KENTUCKY, INC.

624 Wellington Way
Lexington, KY 40503
www.nseinc.com

Phone: (859) 225-5694
Fax: (859) 225-2607

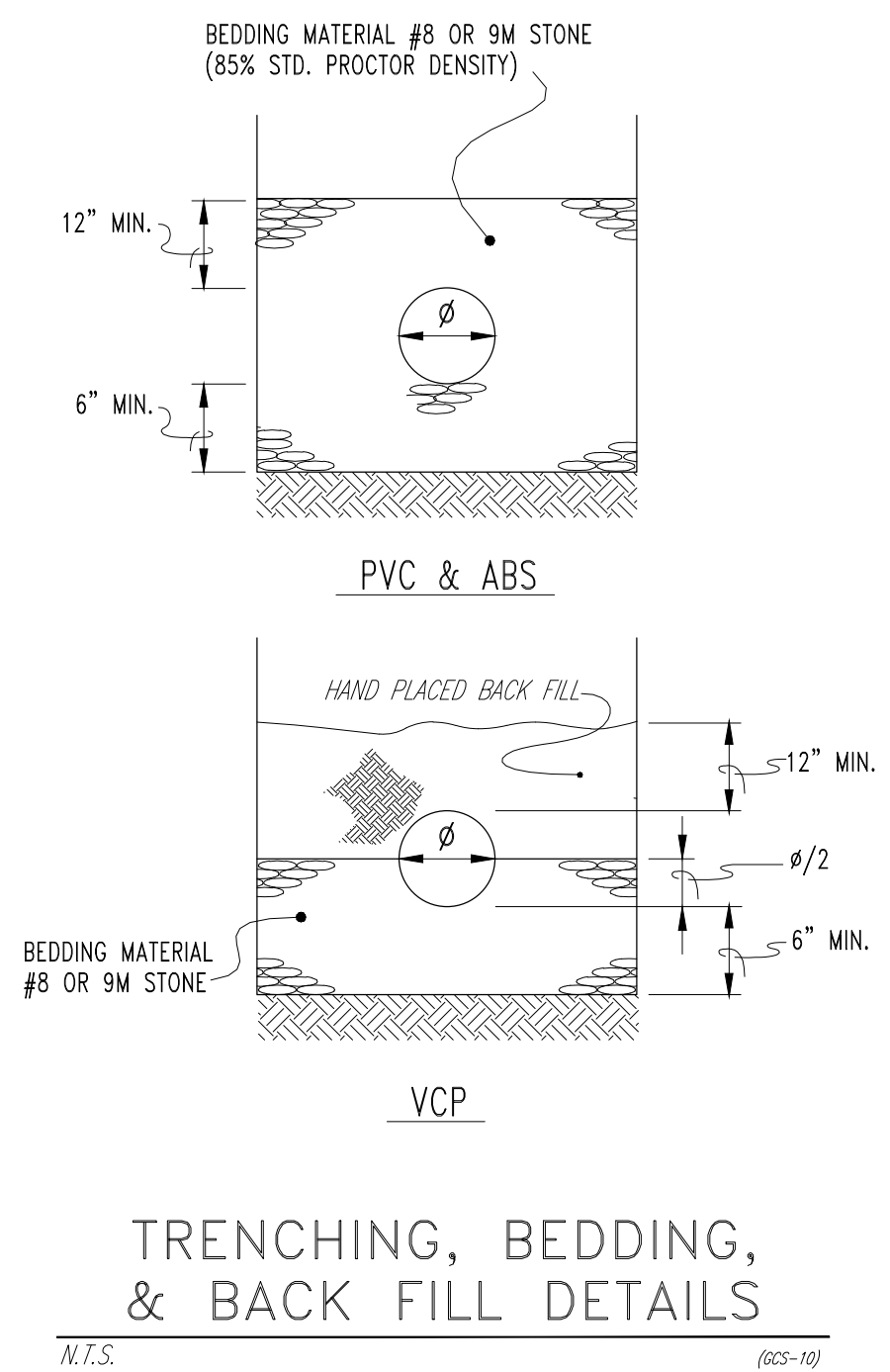
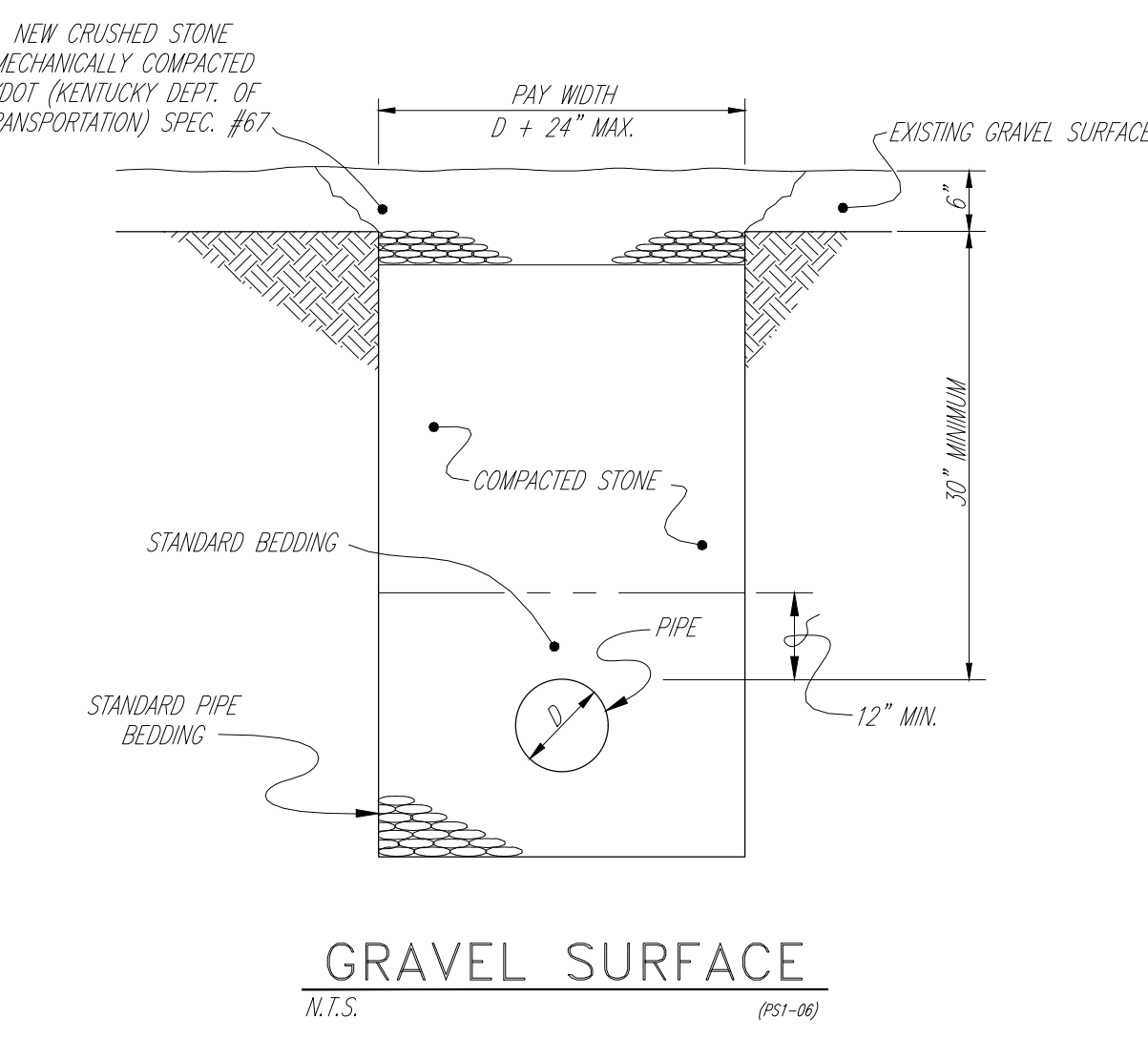
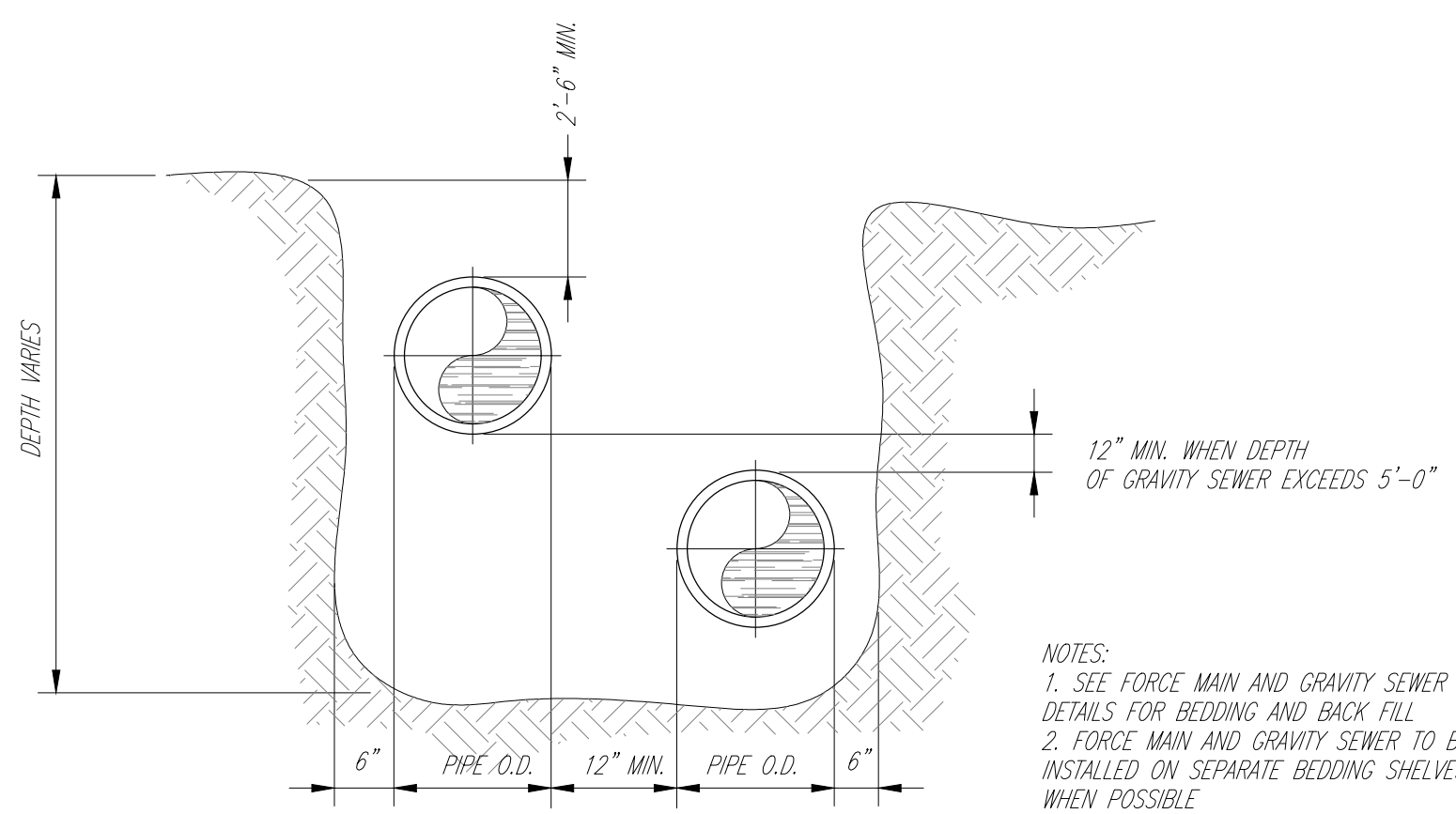
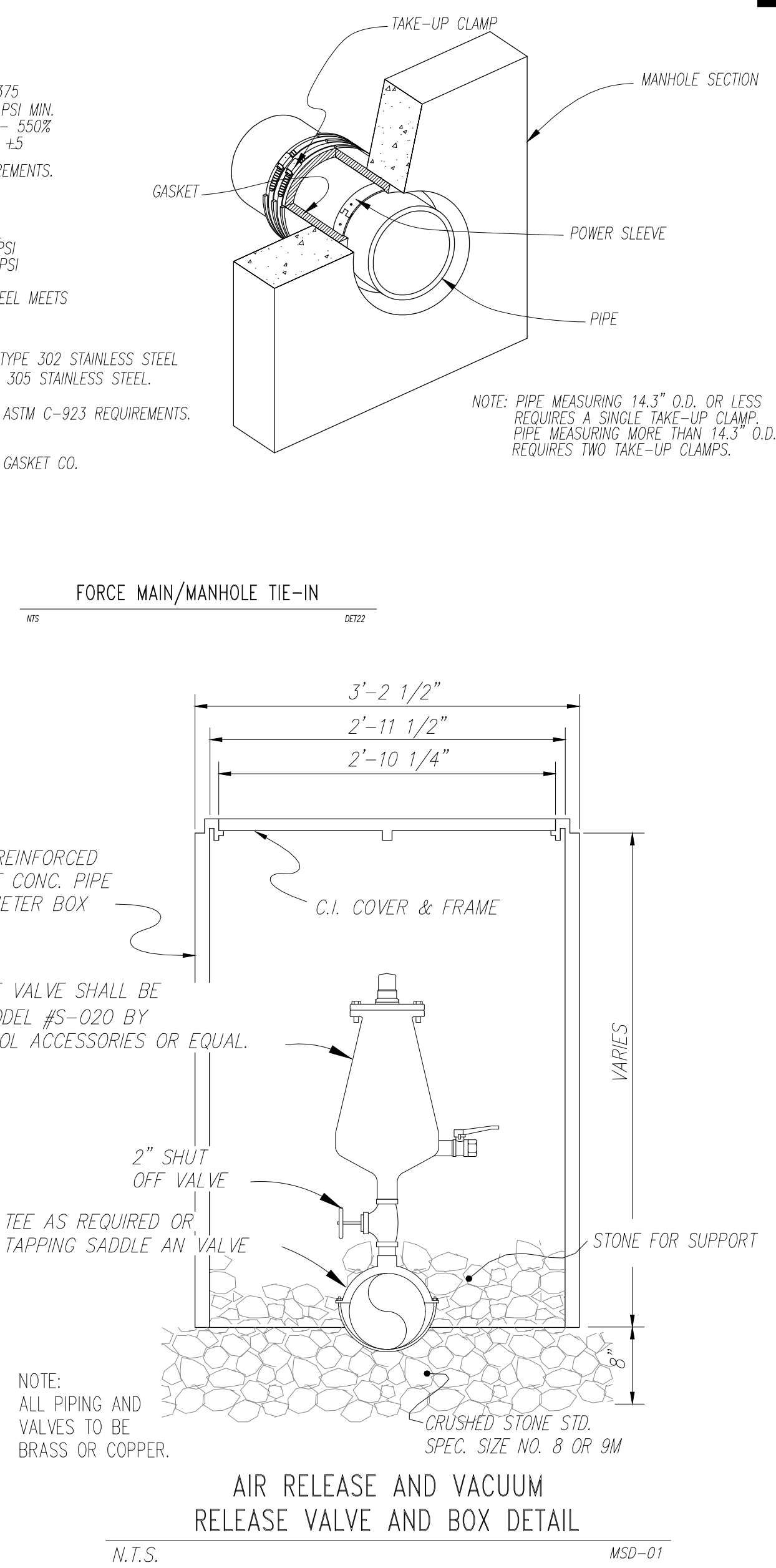
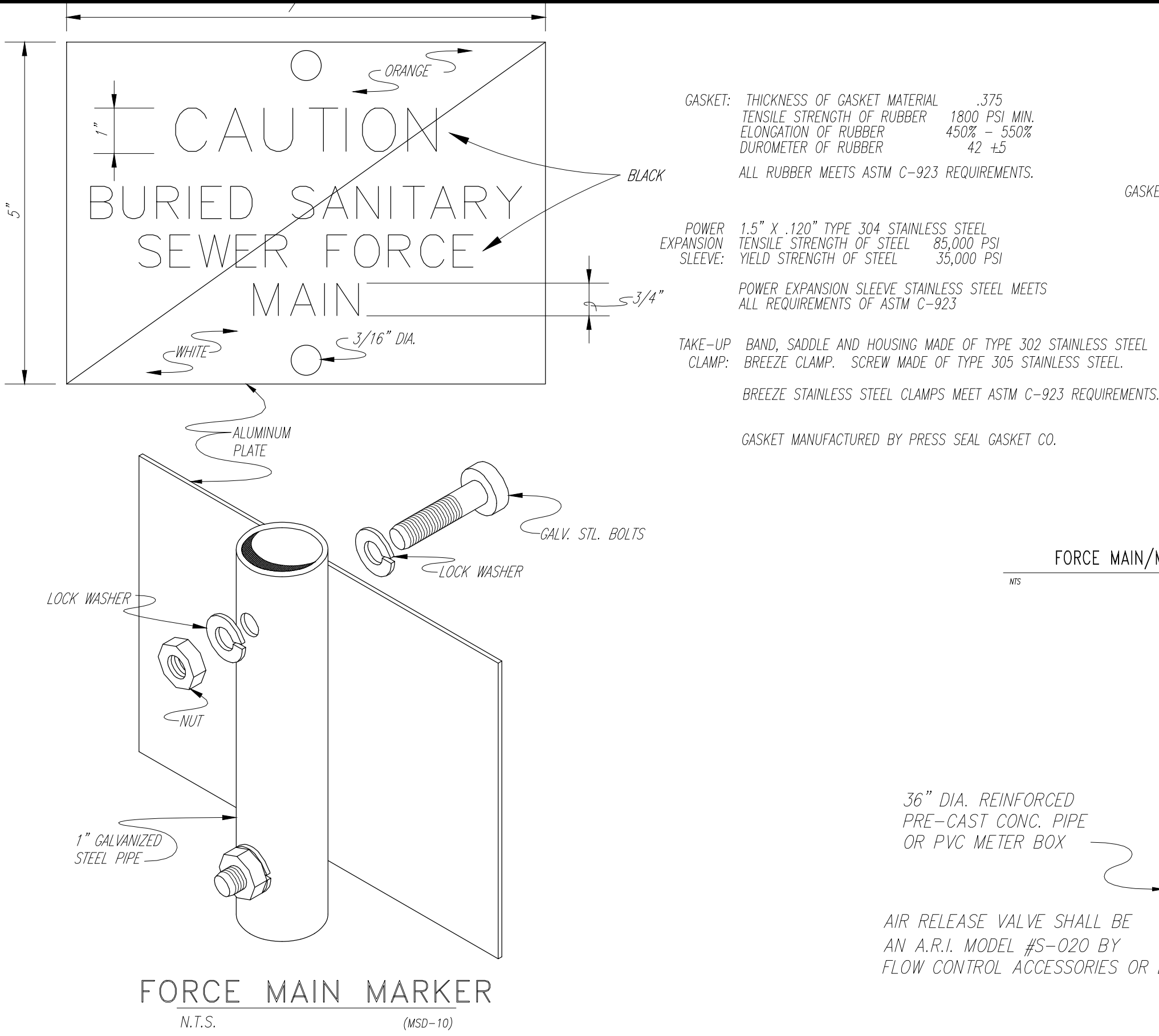
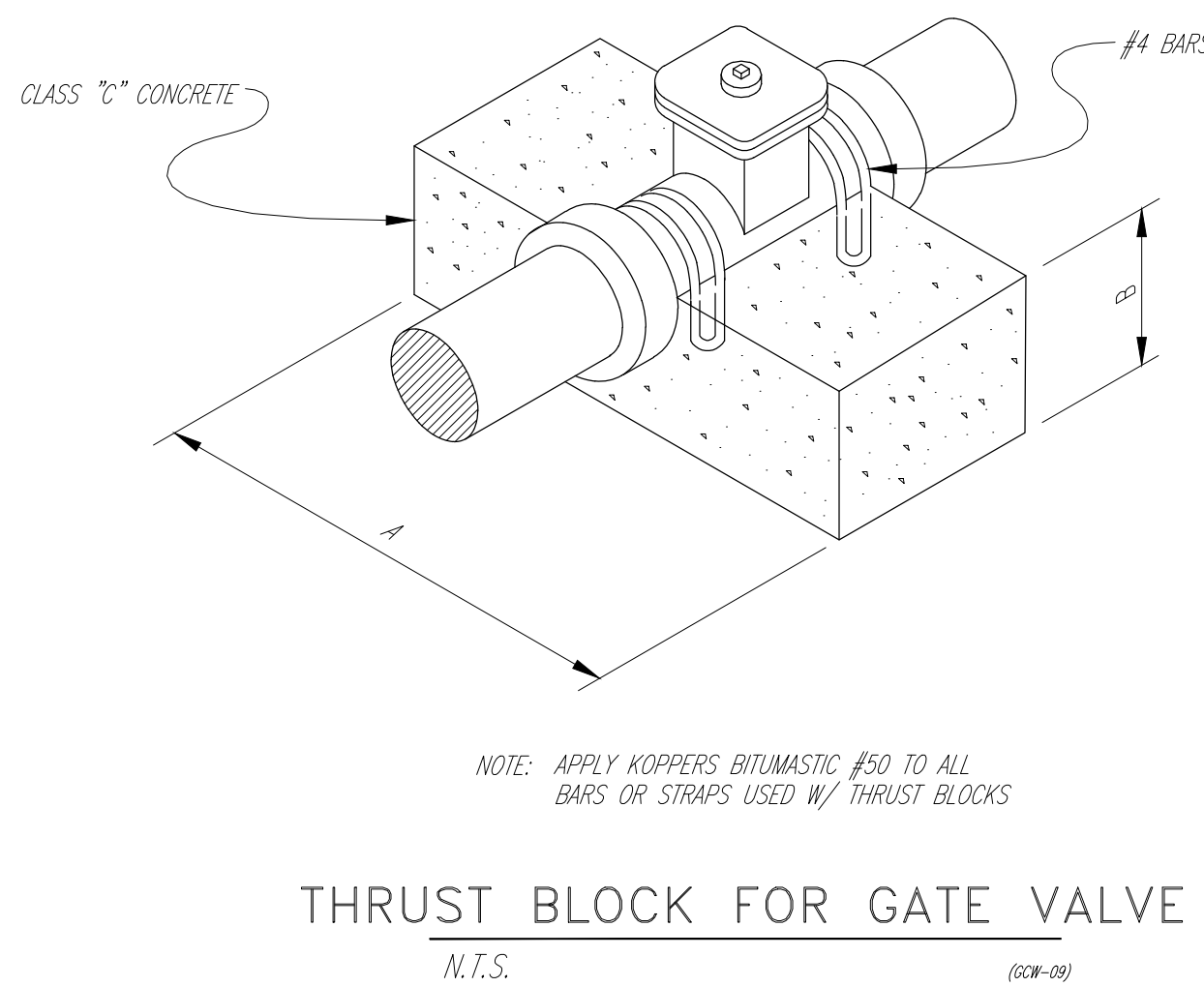
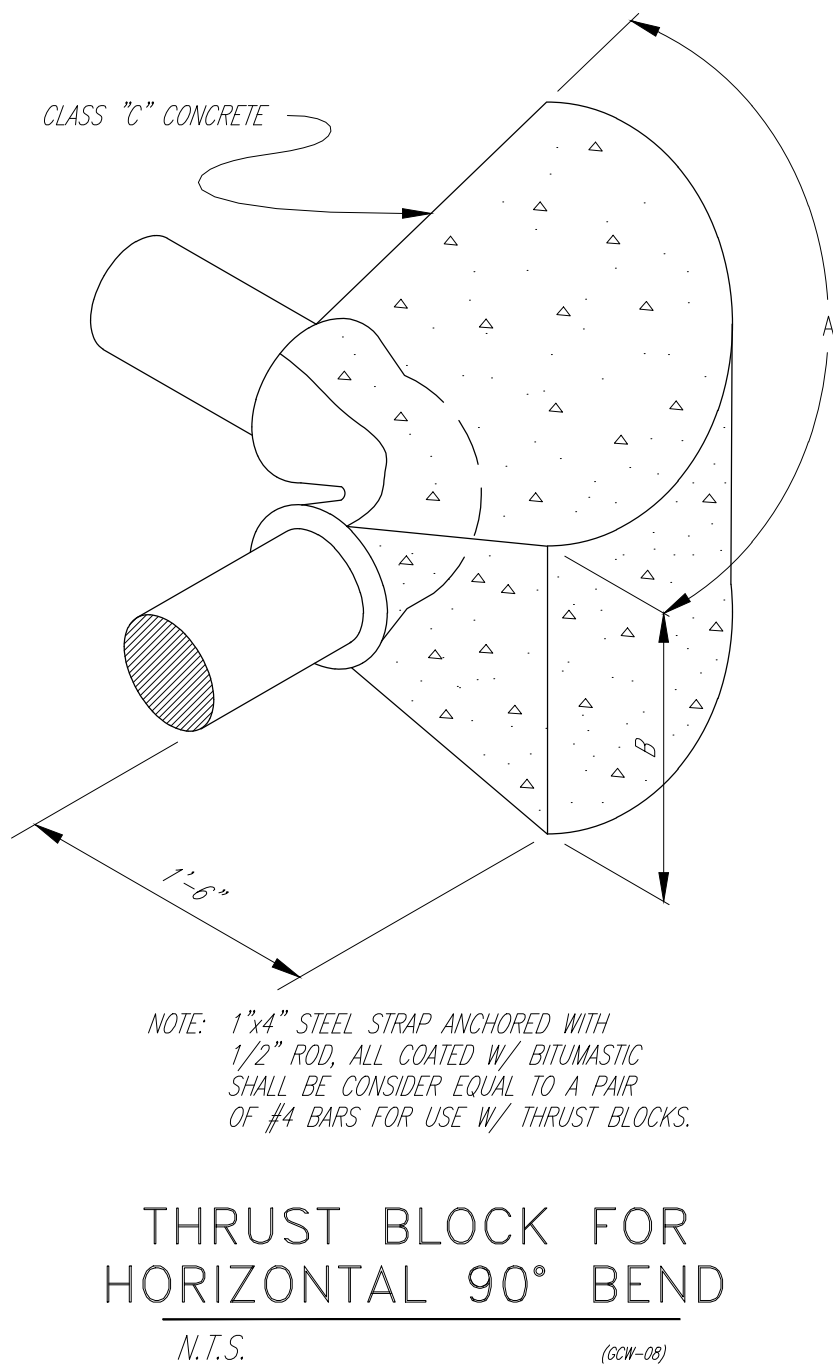
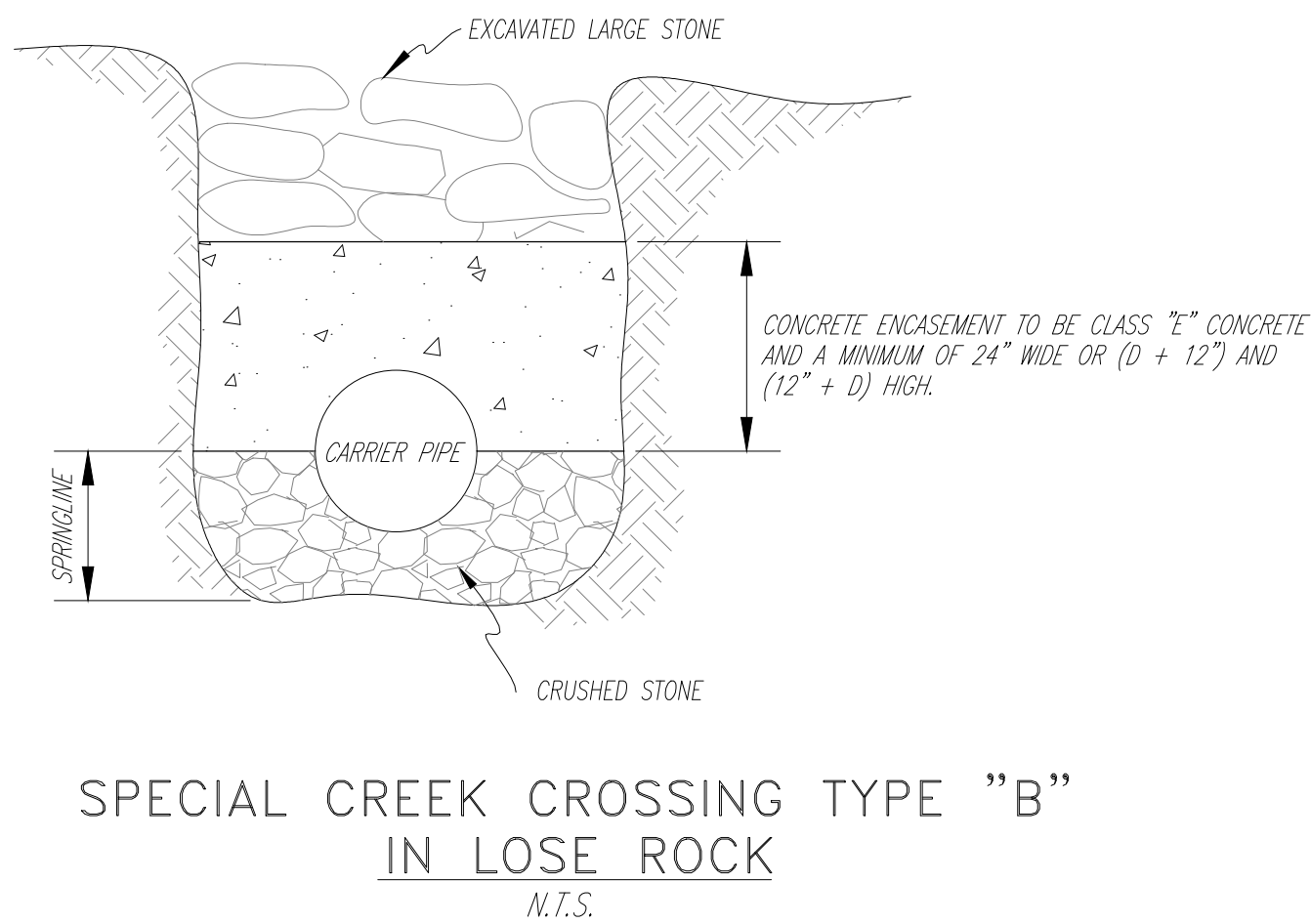
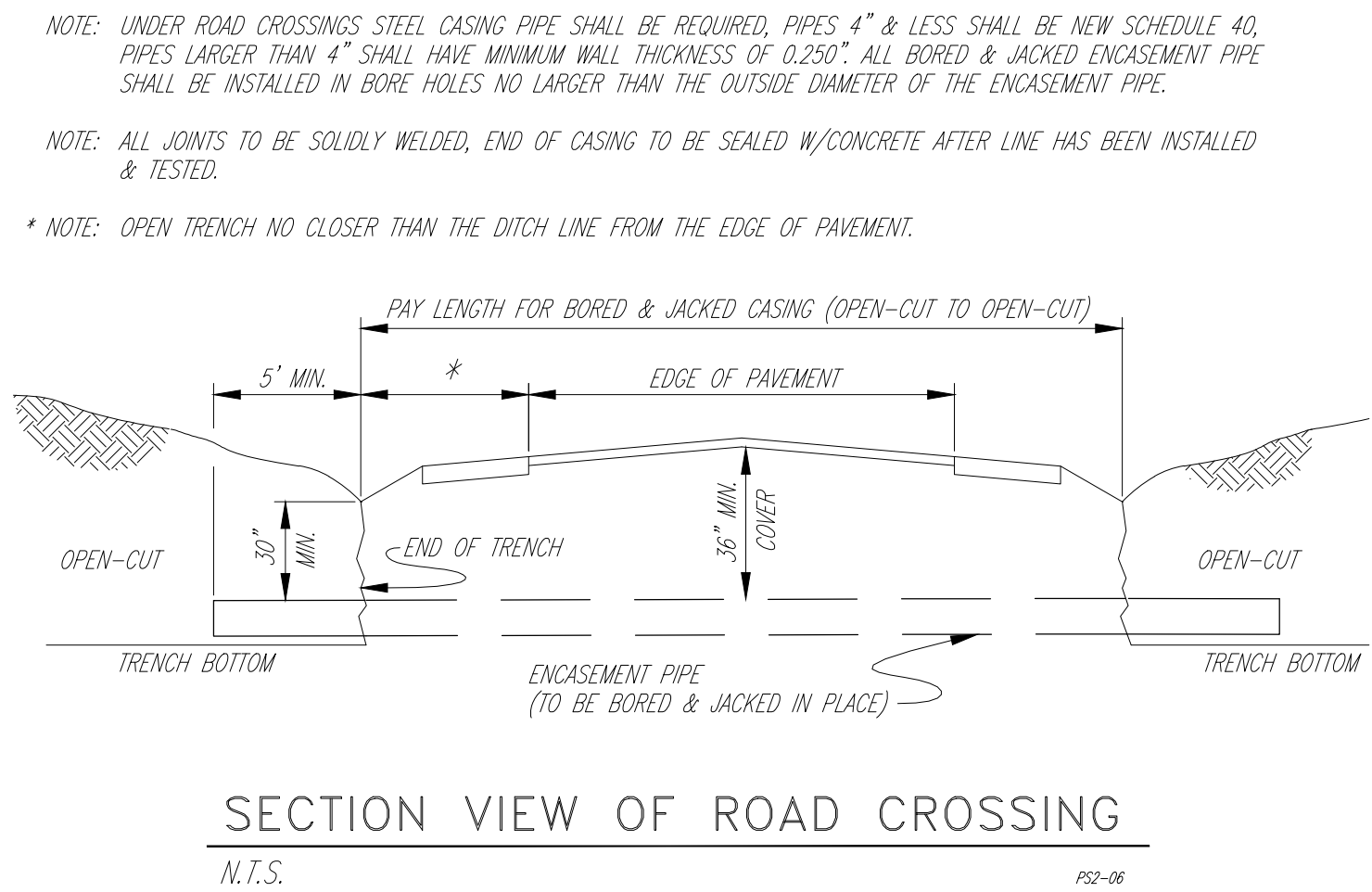
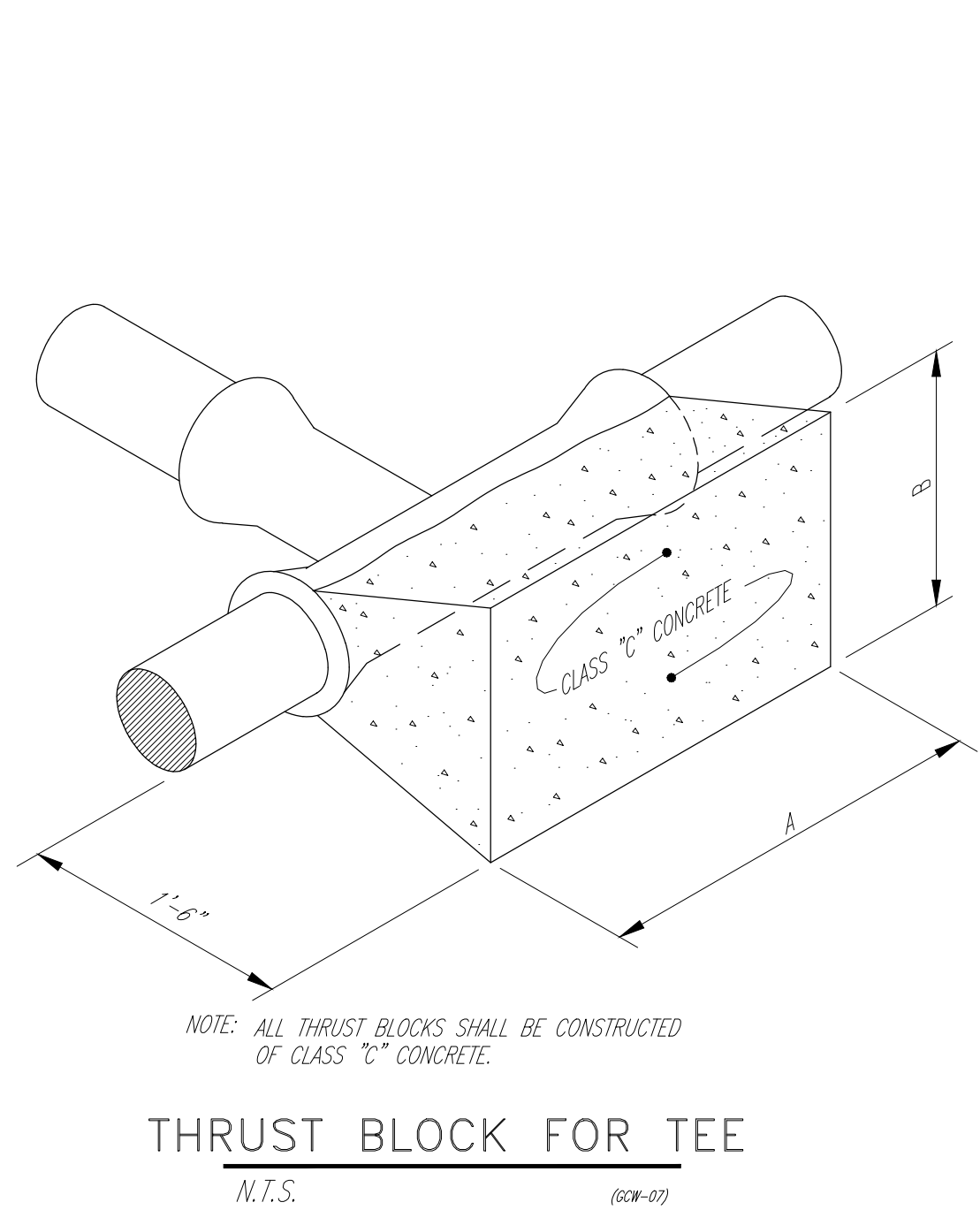
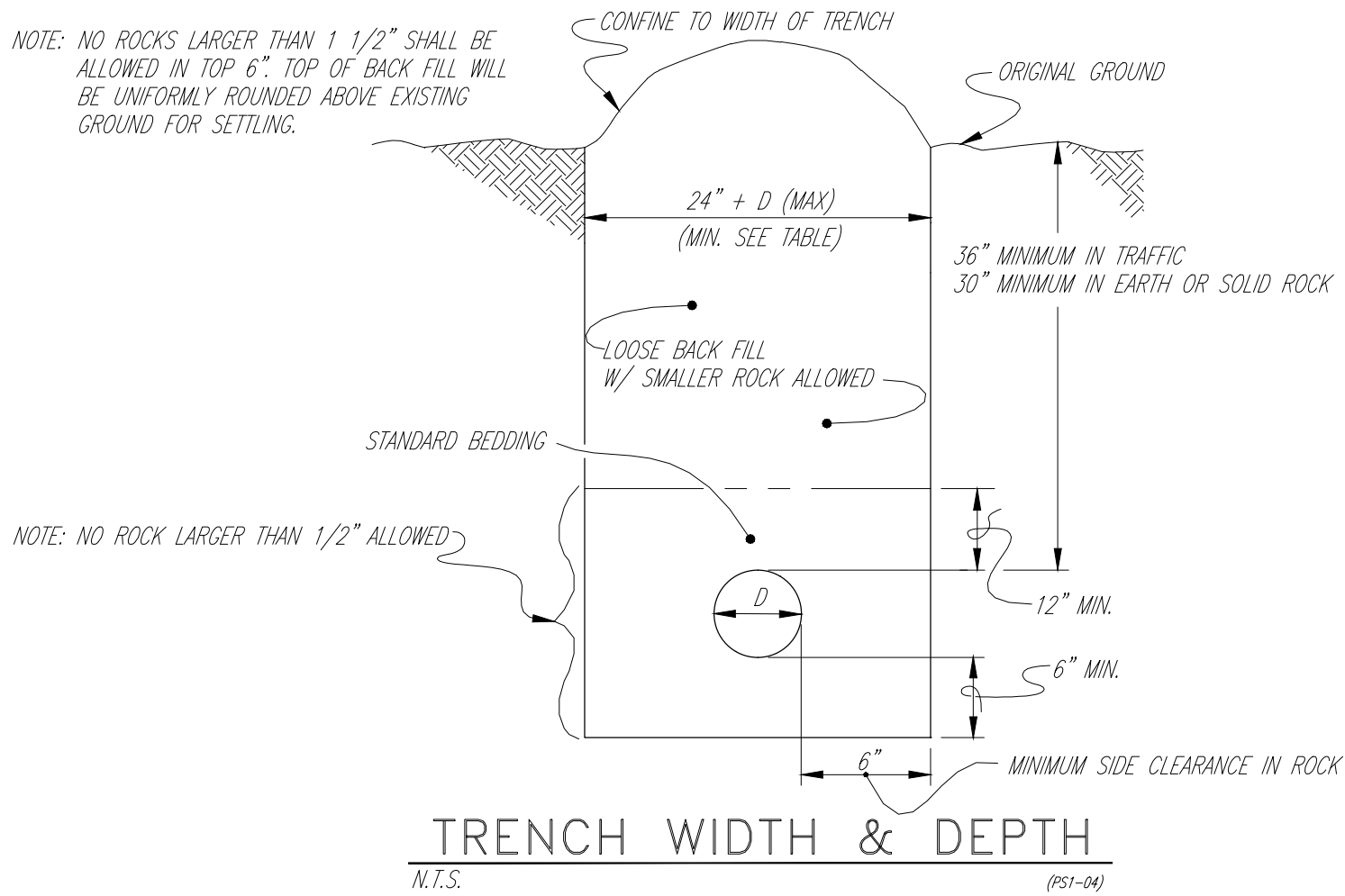
DRAWING NO.

WL-3

SHEET OF

SOFT-SANDY CLAY SOIL (BEARING STRENGTH = 2,000#/FT. ²)									
PIPE SIZE	BEARING AREA 90° BEND	"B"	"A"	BEARING AREA 45° BEND	"B"	"A"	BEARING AREA TEE, GATE VALVE & DEAD END	"B"	"A"
1 1/2"	0.33 FT. ²	12"	4"	0.18 FT. ²	8"	4"	0.24 FT. ²	9"	4"
2"	0.52 FT. ²	12"	7"	0.28 FT. ²	12"	4"	0.37 FT. ²	12"	5"
2 1/2"	0.75 FT. ²	12"	9"	0.41 FT. ²	12"	5"	0.53 FT. ²	12"	7"
3"	1.12 FT. ²	18"	9"	0.61 FT. ²	12"	8"	0.79 FT. ²	18"	7"
4"	1.84 FT. ²	24"	12"	1.00 FT. ²	18"	8"	1.30 FT. ²	24"	8"
6"	3.96 FT. ²	36"	16"	2.14 FT. ²	26"	12"	2.80 FT. ²	30"	14"
8"	6.70 FT. ²	54"	18"	3.63 FT. ²	30"	18"	4.74 FT. ²	36"	19"
10"	10.00 FT. ²	60"	24"	5.41 FT. ²	44"	18"	7.07 FT. ²	43"	24"
12"	13.69 FT. ²	60"	33"	7.41 FT. ²	36"	30"	9.68 FT. ²	47"	30"
14"	16.35 FT. ²	66"	36"	9.35 FT. ²	40"	34"	12.20 FT. ²	60"	30"
16"	19.55 FT. ²	72"	40"	11.35 FT. ²	60"	28"	14.77 FT. ²	60"	36"

THRUST BLOCKS
(160 P.S.I. DESIGNED)



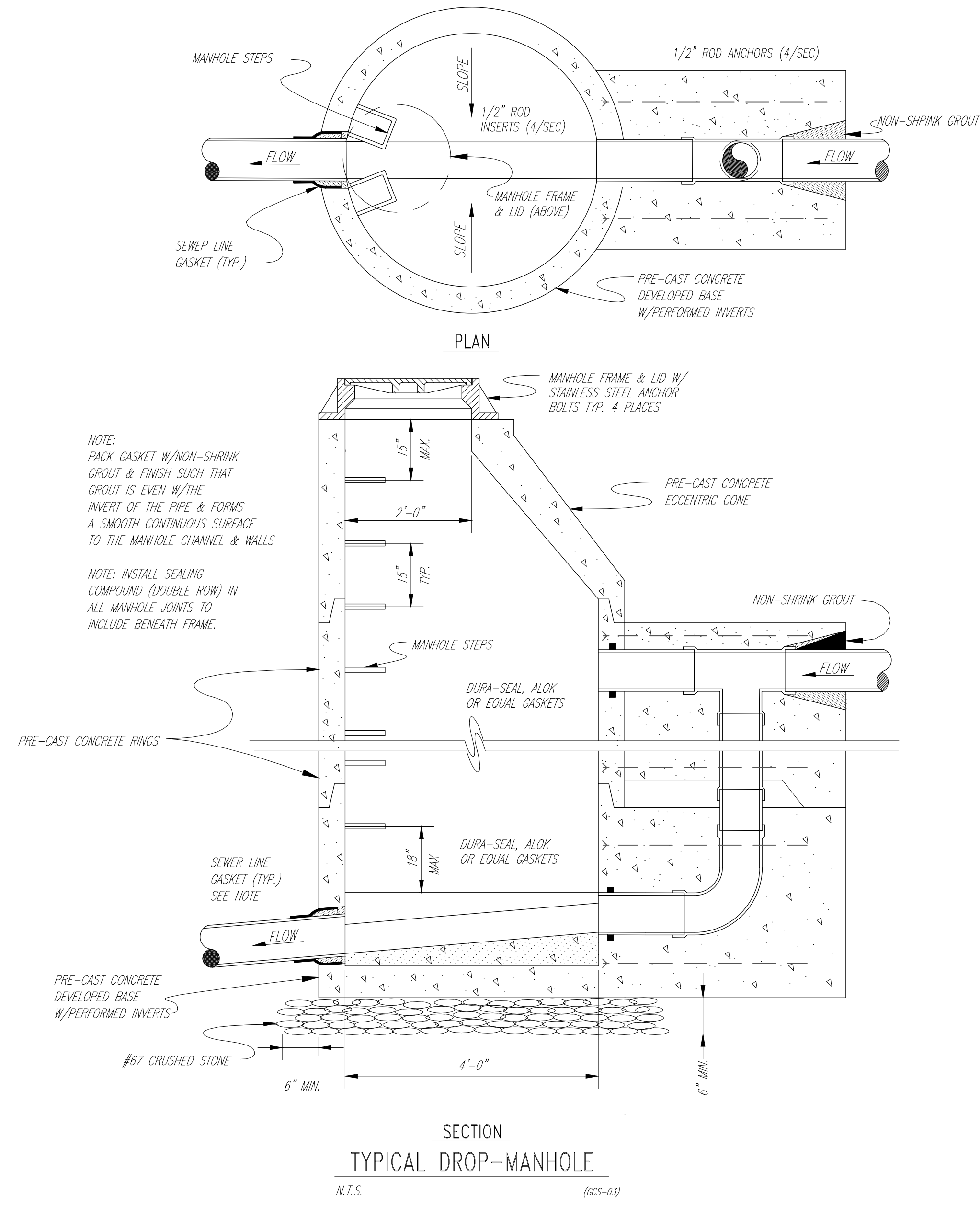
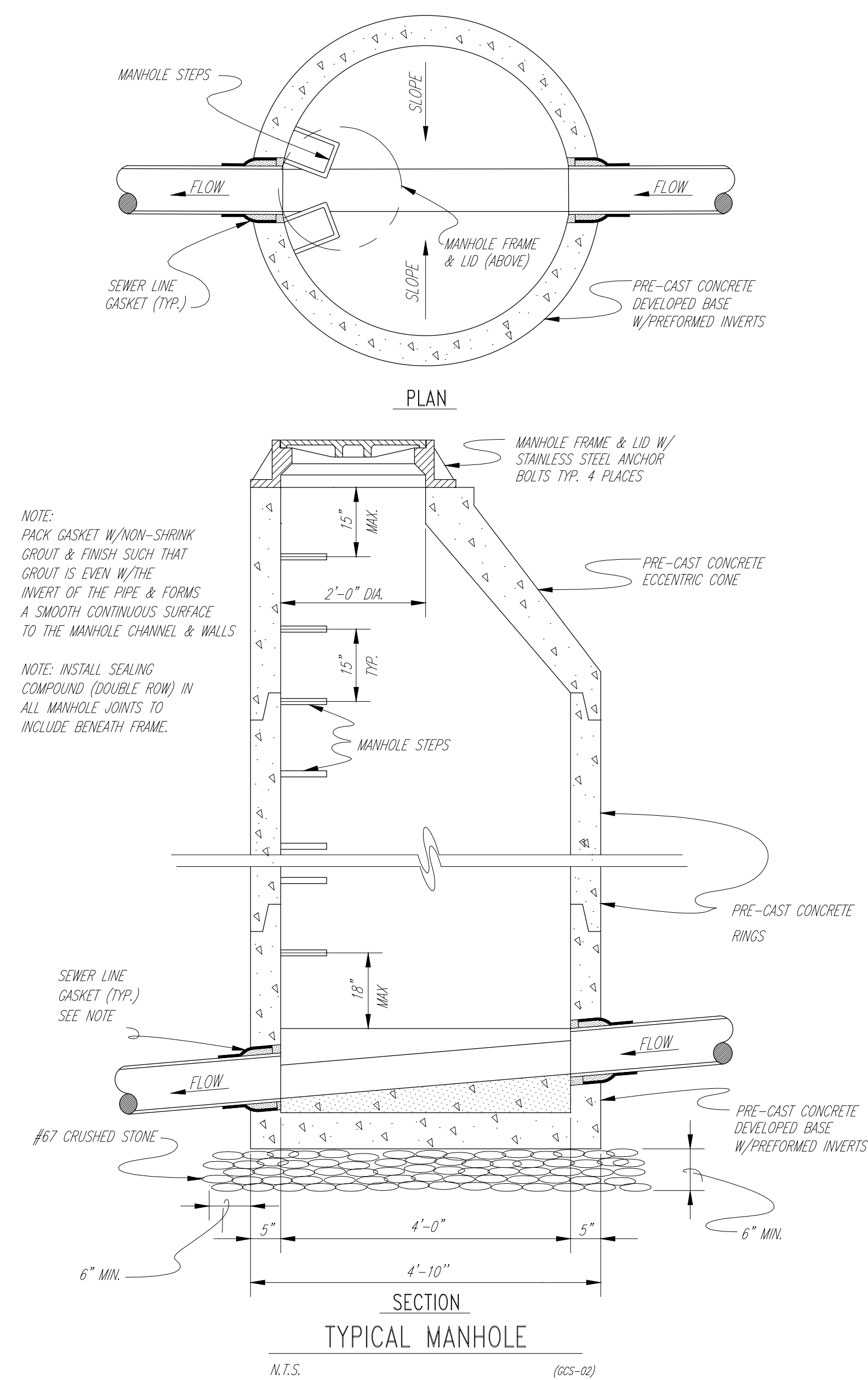
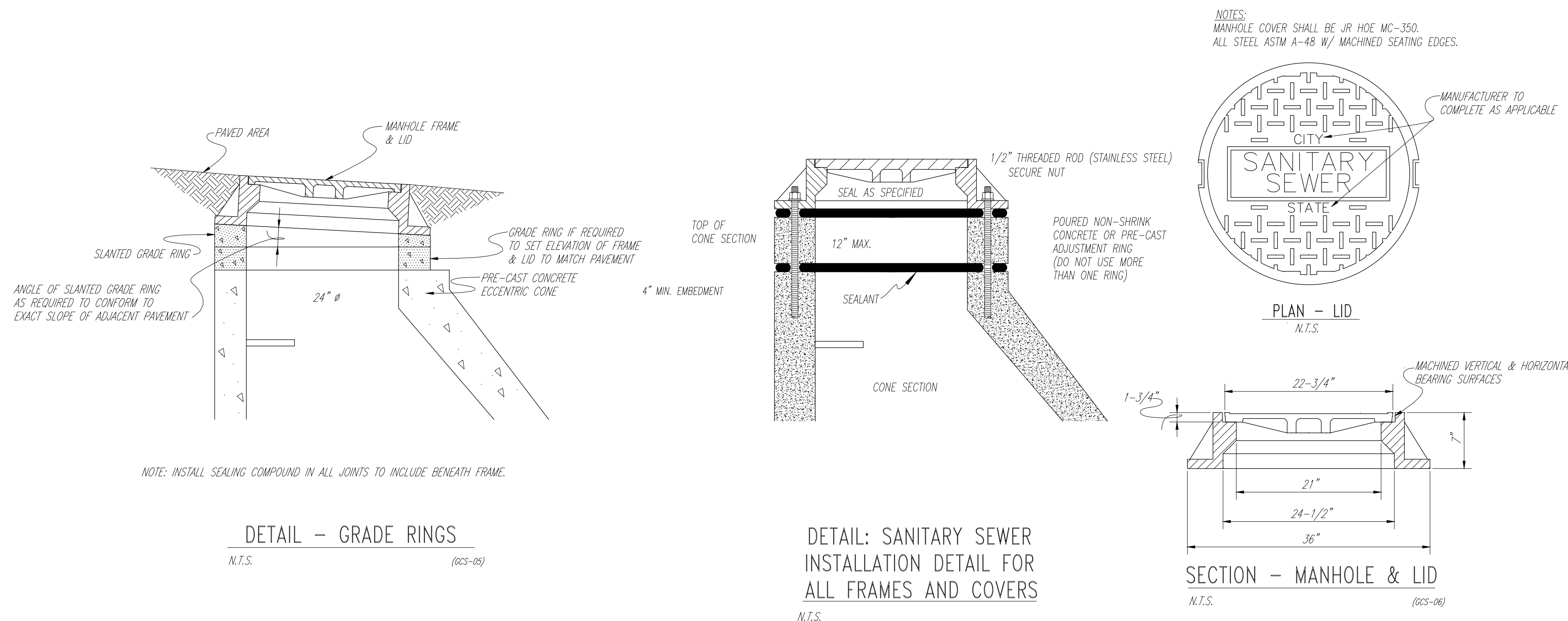
MUHENBERG COUNTY - PARADISE PARK
2021 PDI SEWER LINE EXTENSIONS
STANDARD SEWER DETAILS
MUHENBERG COUNTY, KENTUCKY

PROJECT NO.	DESIGNED BY: DST	DRAWN BY: JDW	CHECKED BY: DST	REVIEWED BY: DST	DATE: JUNE 2023	SCALE: AS SHOWN
BY						
REVISION						
DATE						

nse OF KENTUCKY, INC.
Engineers
Architects
Planners
624 Wellington Way
Lexington, KY 40503
Phone: (859)223-5694
Fax: (859)223-2607
www.nselex.com



MUHLENBERG COUNTY - PARADISE PARK
2021 PDI SEWER LINE EXTENSIONS
STANDARD SEWER DETAILS
MUHLENBERG COUNTY, KENTUCKY



PROJECT NO.	DESIGNED BY: DST	DATE	BY
DRAWN BY: JDW	CHECKED BY: DST	REVISION	
REVIEWED BY: DST	DATE: JUNE 2023	SCALE: AS SHOWN	

Engineers
Architects
Planners
nse
OF KENTUCKY, INC.
624 Wellington Way
Lexington, Ky. 40503
www.nselex.com
Phone: (859)223-5694
Fax: (859)223-2607

DRAWING NO.
SD-2
SHEET OF

MINIMUM TRENCH WIDTHS IN EARTH & MAXIMUM PAY WIDTHS FOR ROCK EXCAVATION					
SIZE	WIDTH	SIZE	WIDTH	SIZE	WIDTH
UP TO 4" PIPE	1'-6"	12" PIPE	2'-6"	18" PIPE	3'-0"
6"	2'-0"	14"	2'-9"	20"	3'-5"
8"	2'-0"	15"	2'-9"	22"	3'-5"
10"	2'-4"	16"	2'-8"	24"	3'-8"

NOTE: NO ROCKS LARGER THAN 1 1/2" SHALL BE ALLOWED IN TOP 6" TOP OF BACKFILL. WILL BE UNIFORMLY ROUNDED ABOVE EXISTING GROUND FOR SETTLING.

NOTE: BACKFILL SHALL BE HAND PLACED BUT MAY BE MECHANICALLY PLACED IF APPROVED BY ENGINEER & SOLIDLY TAMPED BY HAND OR APPROVED MECHANICAL METHODS (MAY BE "WALKED-IN" WITH PVC PIPE) AROUND THE PIPE & TO A POINT 6" HIGHER THAN TOP OF THE PIPE & 12" HIGHER FOR A.C. PIPE. THE REMAINDER OF BACKFILL SHALL CONTAIN NO ROCKS LARGER THAN 18".

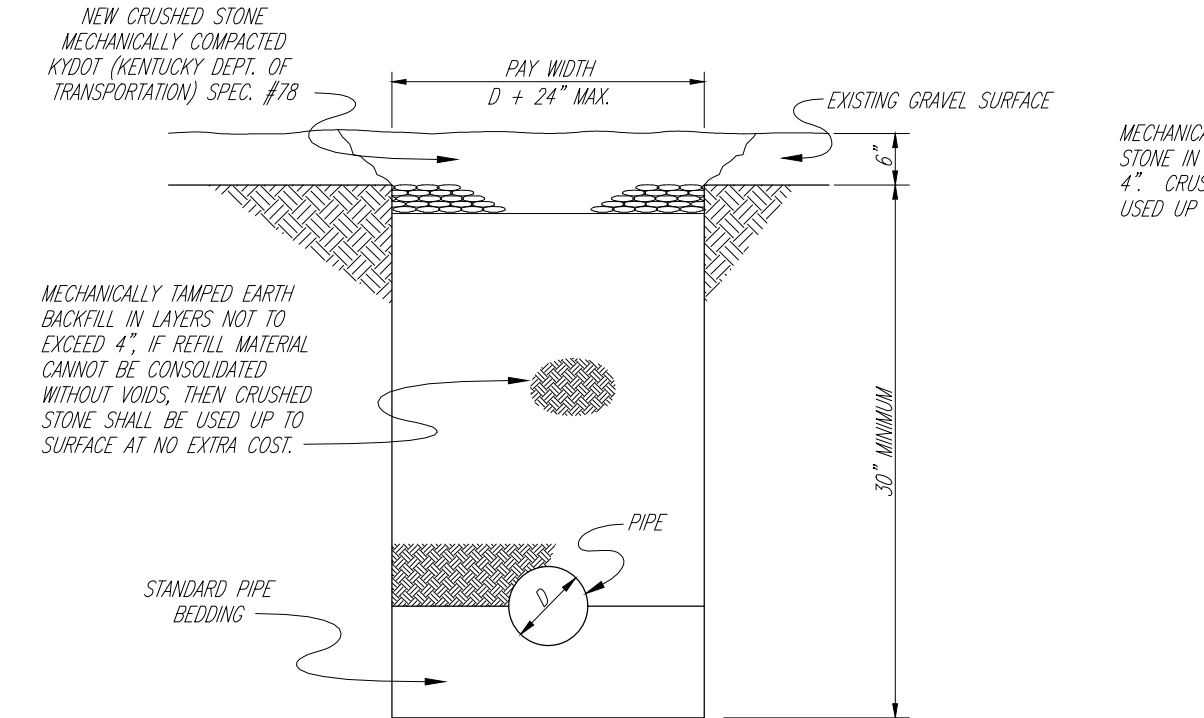
NOTE: NO ROCK LARGER THAN 1/2" ALLOWED.

STANDARD BEDDING (SEE STANDARD BEDDING TABLE) FOR PVC PIPE MAY BE COMPACTED IN PLACE BY "WALKING-IN" FINELY GRADED SELECT MATERIAL. WHERE TRENCHING EQUIPMENT LEAVES SUITABLE BEDDING, SHOVELING OF ADDITIONAL BEDDING SHALL NOT BE REQUIRED. THE PIPE BARREL SHALL BE UNIFORMLY SUPPORTED FOR ITS FULL LENGTH.

TRENCH WIDTH & DEPTH

N.T.S. (N61-08)

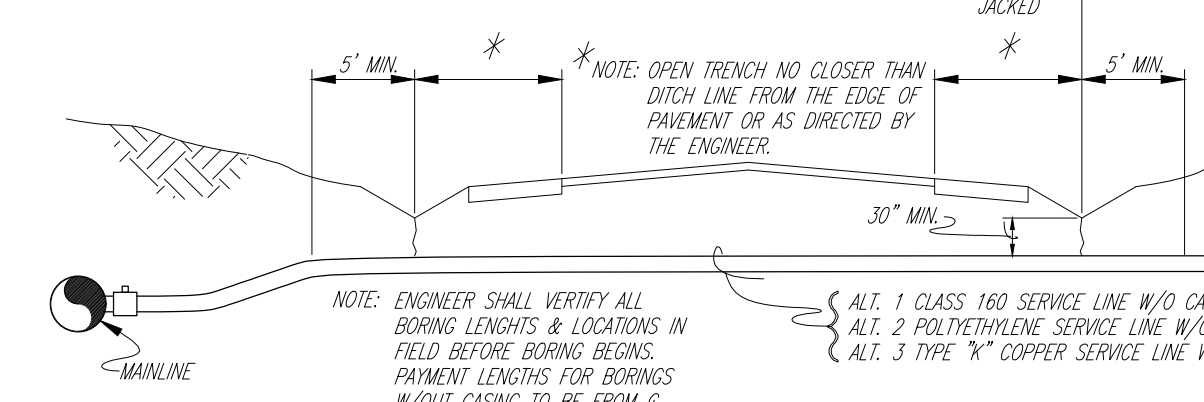
NOTE: AC PIPE CROSSINGS SUBSTITUTE BANK RUN SAND, IF NOT ENCASED, FOR SPEC. #78 STONE. ALL OTHER PIPE MATERIALS USE STONE.



GRAVEL SURFACE

N.T.S. (N61-09)

NOTE: FOR BOTH OPPOSITE SIDE & SAME SIDE SERVICES IN HIGH PRESSURE AREA WHERE MAINLINE PIPE EXCEEDS CLASS 160, THE SERVICE LINE SHALL BE CONSTRUCTED OF PIPE OF THE SAME CLASS AS THE MAINLINE FROM THE MAINLINE TAP TO THE PRESSURE REGULATOR.

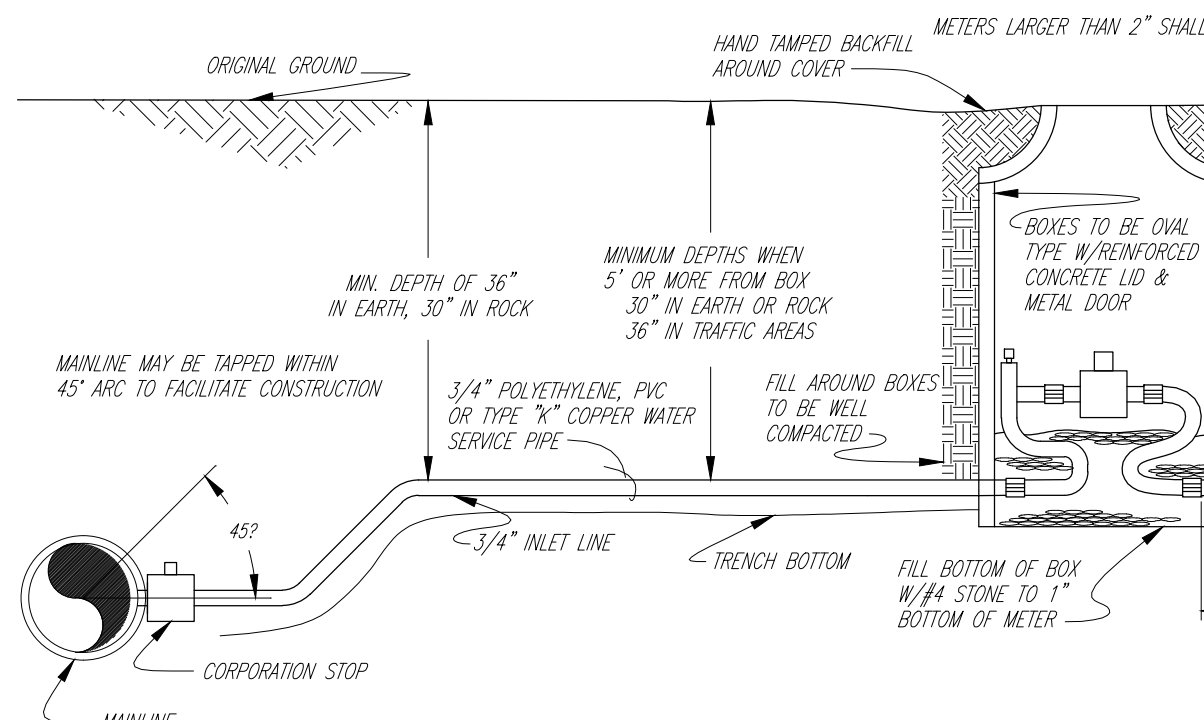


OPPOSITE SIDE SERVICE

N.T.S. (N61-09)

NOTE: METER BOXES SHALL BE A MIN. OF 36" DEEP & 15" W & H. SHALL BE EITHER CAST IRON/CONCRETE, CONCRETE PIPE, OR WIRE-ROD CLAY PIPE. THE COVERS FOR 15" W & H PIPE SHALL BE CAST IRON 11 1/2" W & H 4" DEEP, STAMPED WITH THE WORD "WATER METER" FORD NO. 31 OR EQUAL.

NOTE: THIS TYPE OF SETTING REQUIRED FOR INSTALLATION OF NEW PRESSURE REDUCING VALVES AT EXISTING METERS.



STANDARD METER SETTING

N.T.S. (N61-09)

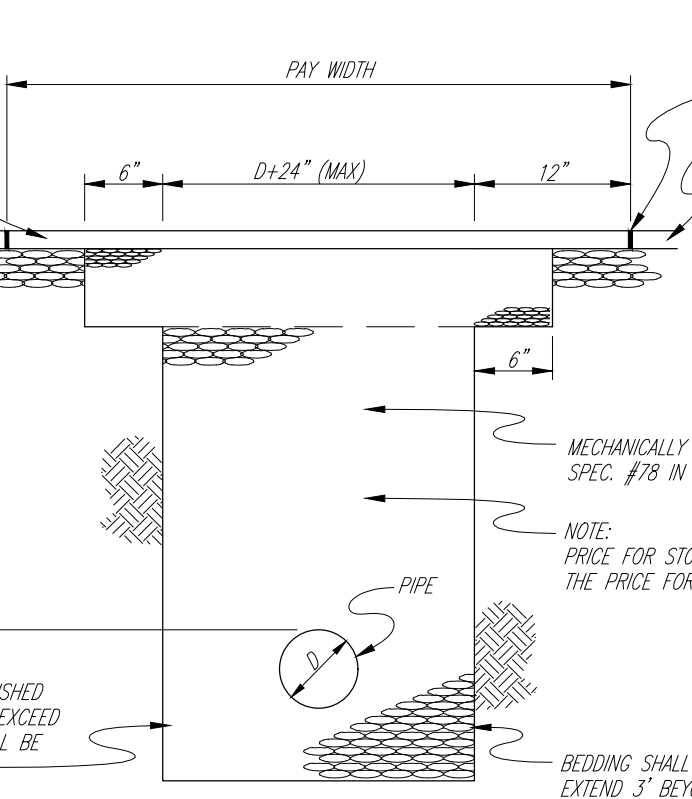
SURFACE RESTORATION

(N61-10)

NOTE: WHERE SEPARATE BID ITEMS ARE ESTABLISHED FOR PAVING REPLACEMENT, QUANTITIES SHALL BE DETERMINED AS FOLLOWS: STONE USED FOR PAVEMENT REPLACEMENT TO BE PAID FOR BY TON FOR WEIGHT OF MATERIAL REQUIRED TO FIT THE DIMENSIONS SHOWN IN THESE DETAILS. UNIT WEIGHT = 110#/SQ.YD. PER INCH OF DEPTH.

BITUMINOUS SURFACING OF ALL TYPES PAID FOR ON THE BASIS OF SQUARE YARDAGE OF 2" THICK PAVING REQUIRED TO FIT DIMENSIONS SHOWN IN THE DETAILS. ADJUST THE ACTUAL DEPTH REQUIRED TO MATCH EXISTING PAVING. CONCRETE SURFACING, EXCEPT DRIVEWAYS & SIDEWALKS, PAID FOR ON BASIS OF SQUARE YARDAGE OF 6" THICK PAVING REQUIRED TO FIT DIMENSIONS SHOWN IN DETAILS. ADJUST TO ACTUAL DEPTH REQUIRED.

NOTE: AC PIPE CROSSINGS SUBSTITUTE BANK RUN SAND, IF NOT ENCASED, FOR SPEC. #78 STONE. ALL OTHER PIPE MATERIALS USE STONE.



BITUMINOUS LIGHT-DUTY SURFACE 2" OR LESS

N.T.S. (N61-09)

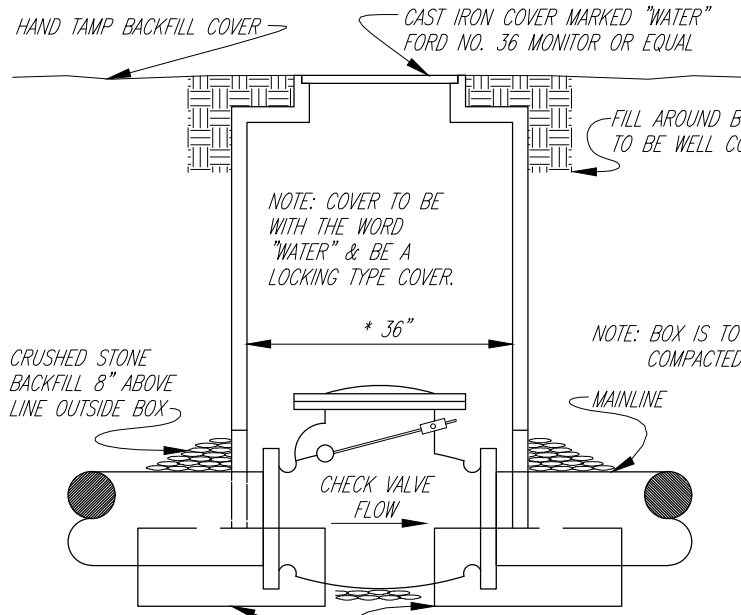
PIPE	BEDDING (REQ'D NO EXTRA PAYMENT)
PVC (4" AND SMALLER), COPPER, GALVANIZED	EARTH TRENCH BOTTOM (LEVELLED)
PVC (ABOVE 4"), ALL MUNICIPAL P.V.	COMPACTED EARTH BACKFILL
C.I. AND D.I. (LESS THAN 4")	COMPACTED EARTH BACKFILL
C.I. AND D.I. (4" DIA. AND ABOVE)	COMPACTED CRUSHED STONE BACKFILL
ASBESTOS-CEMENT (ABOVE 4")	COMPACTED BANK RUN SAND

STANDARD BEDDING TABLE

(N61-08)

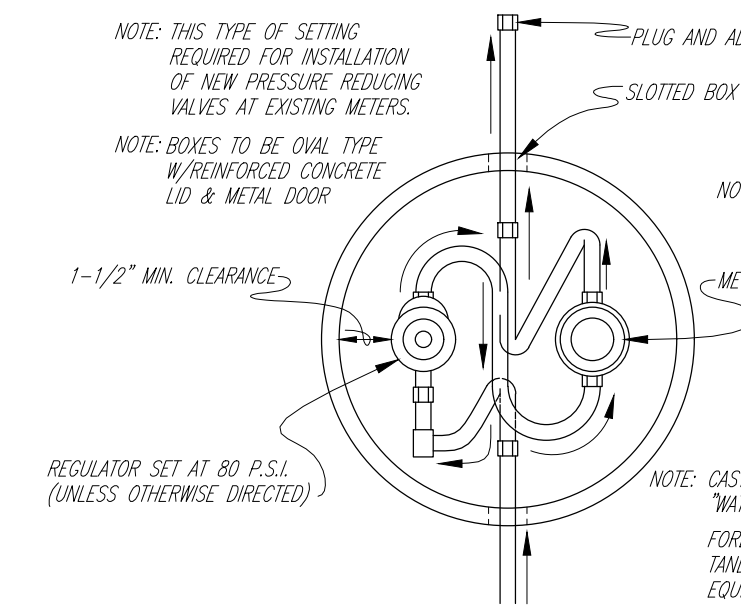
NOTE: BOXES IN GRASS AREAS SHALL BE NO HIGHER THAN 1/2" ABOVE GROUND & NO LONGER THAN FLUSH. BOXES IN CONCRETE OR PAVED AREAS SHALL BE FLUSH. IN AREAS TO BE SOILED, THE TOP OF BOX SHALL BE 2" ABOVE GRADE.

NOTE: CHECK VALVES TO BE INSTALLED IN METER BOX WITH A SUITABLE METER BOX COVER TO ACCOMMODATE VALVE & ACCESSORIES.



CHECK VALVE SETTING

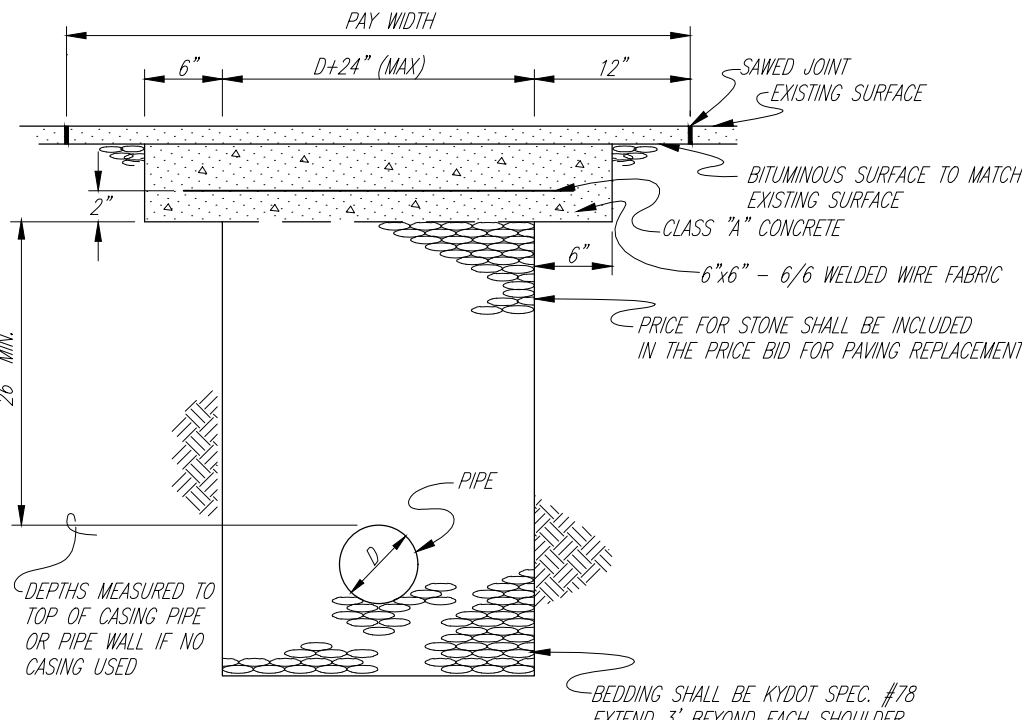
N.T.S. (N61-09)



PLAN VIEW OF TANDEM COPPER SETTER WITH PRESSURE REGULATOR ON INLET SIDE OF METER

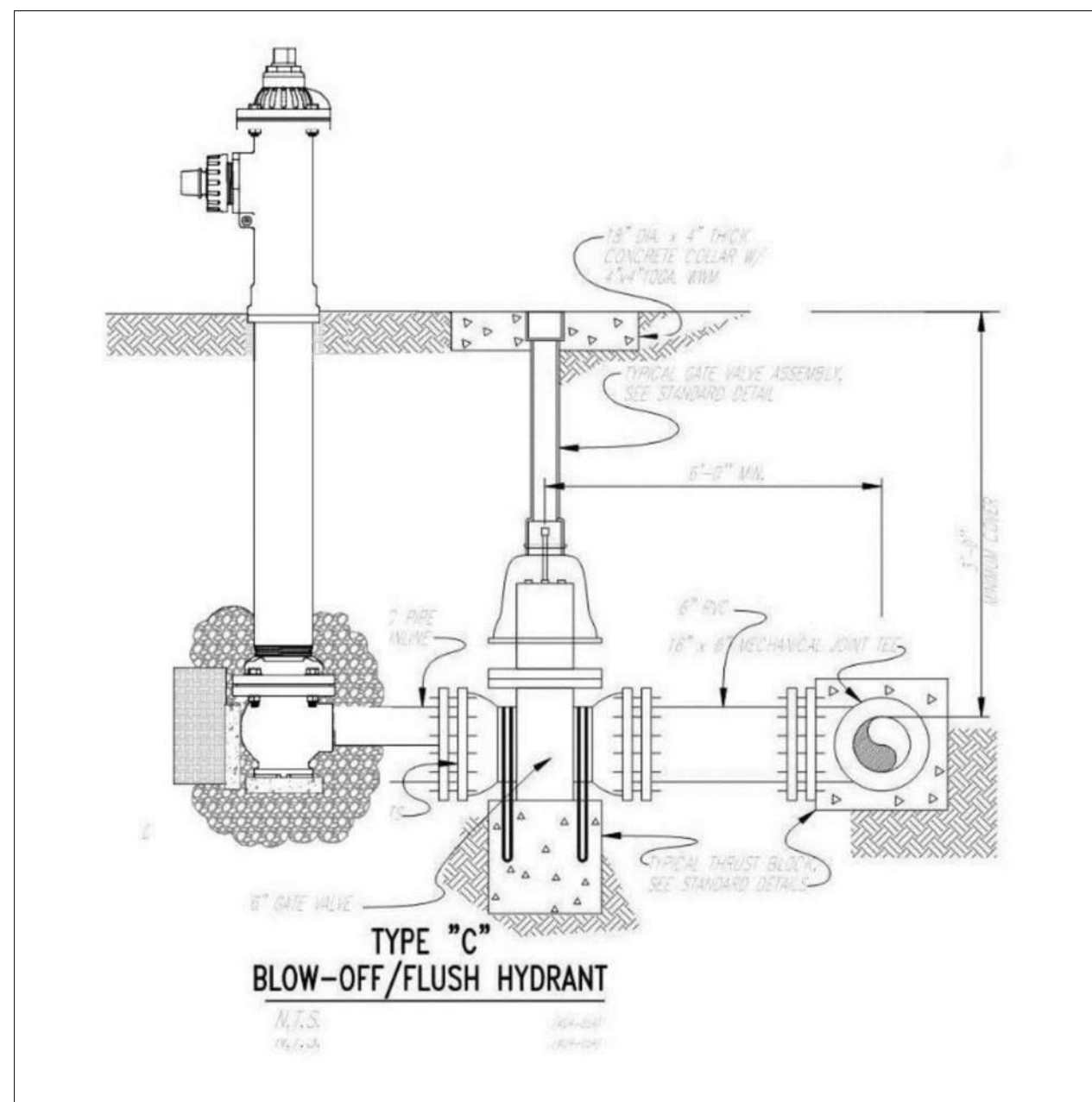
N.T.S. (N61-09)

NOTE: AC PIPE CROSSINGS SUBSTITUTE BANK RUN SAND, IF NOT ENCASED, FOR SPEC. #78 STONE. ALL OTHER PIPE MATERIALS USE STONE.



BITUMINOUS HEAVY-DUTY SURFACE MORE THAN 2"

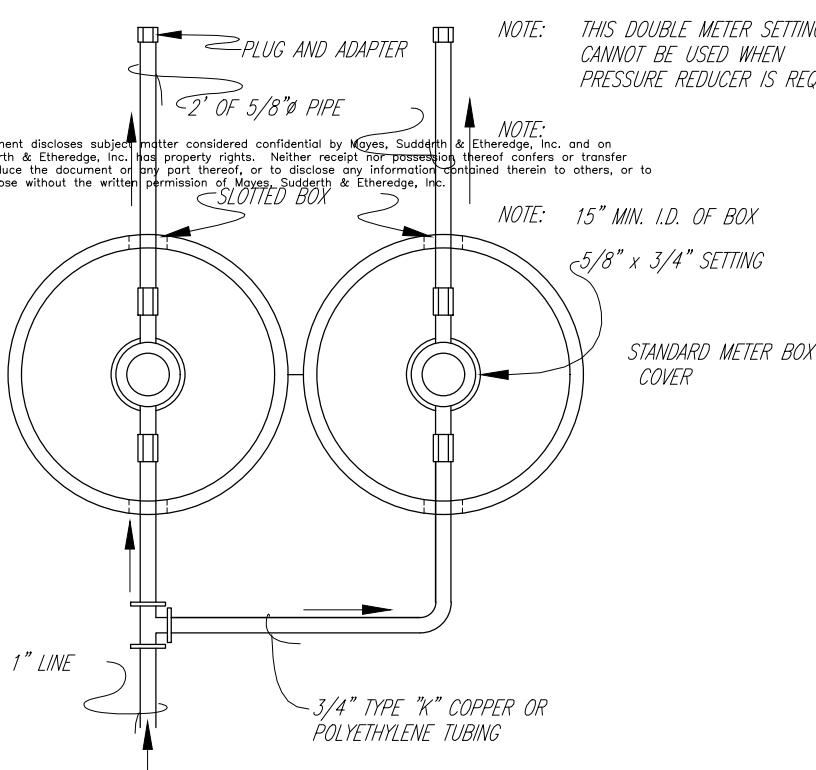
N.T.S. (N61-09)



TYPE "C" BLOW-OFF/FLUSH HYDRANT

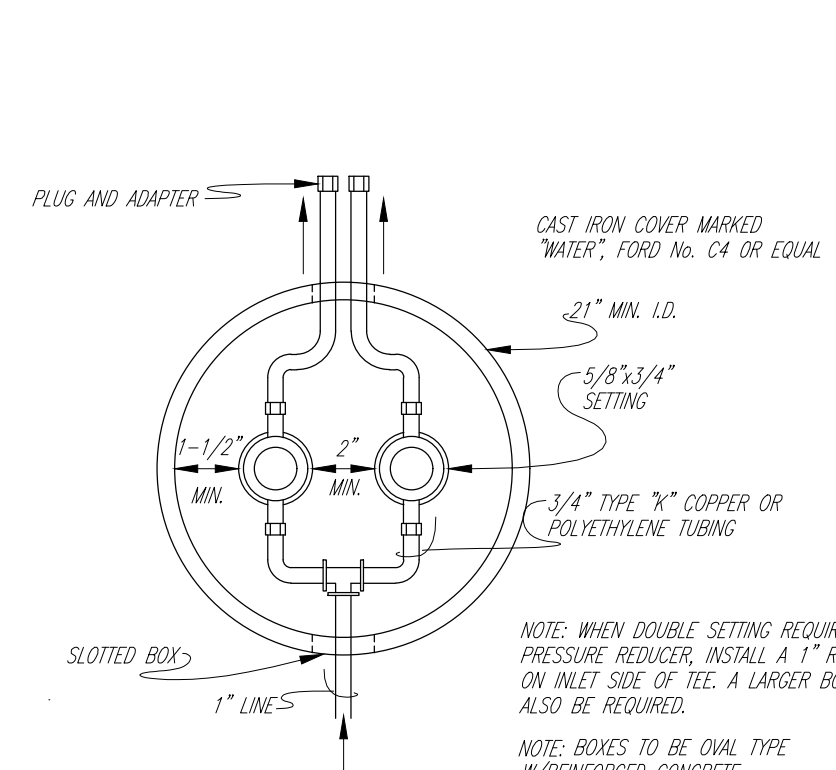
CONCRETE SURFACE

N.T.S. (N61-04)



OPTIONAL DOUBLE METER SETTING

N.T.S. (N61-09)

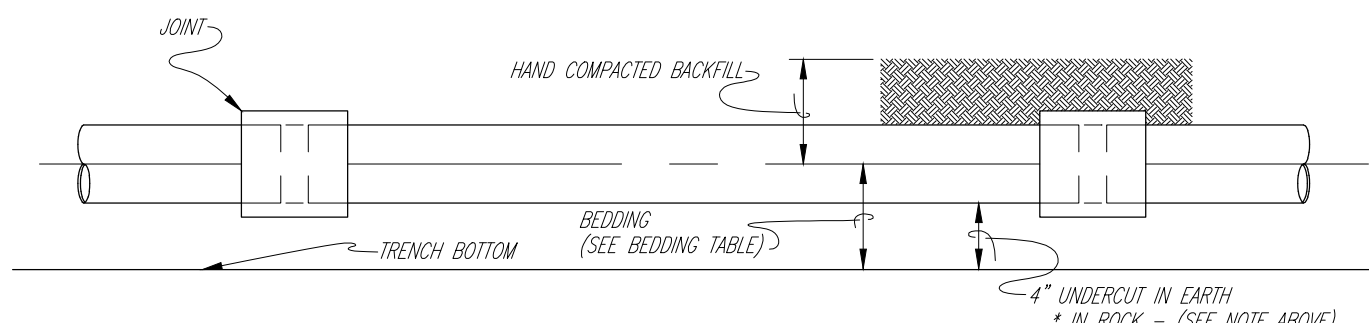


DOUBLE METER SETTING

N.T.S. (N61-09)

NOTE: ALL INSTALLATION IN ROCK WILL UTILIZE THE UNDERCUTTING METHOD W/6" CRUSHED STONE BEDDING (SAND FOR A.C.) PVC, COPPER, OR GALVANIZED MAY BE BEDDED IN ROCK ON 6" EARTH IF PIPE IS 4" DIA. OR LESS.

NOTE: UNDERCUTTING METHOD REQUIRED FOR ALL PVC, CAST IRON, & DUCTILE IRON PIPE 4" & ABOVE. OPTIONAL ON ALL OTHER SIZES. - A.C. PIPE OF ALL SIZES SHALL USE UNDERCUTTING METHODS. SEE SPECIFICATIONS. (SEE NOTE ELSEWHERE ON THIS SHEET FOR EXCEPTIONS FOR PVC PIPE.)

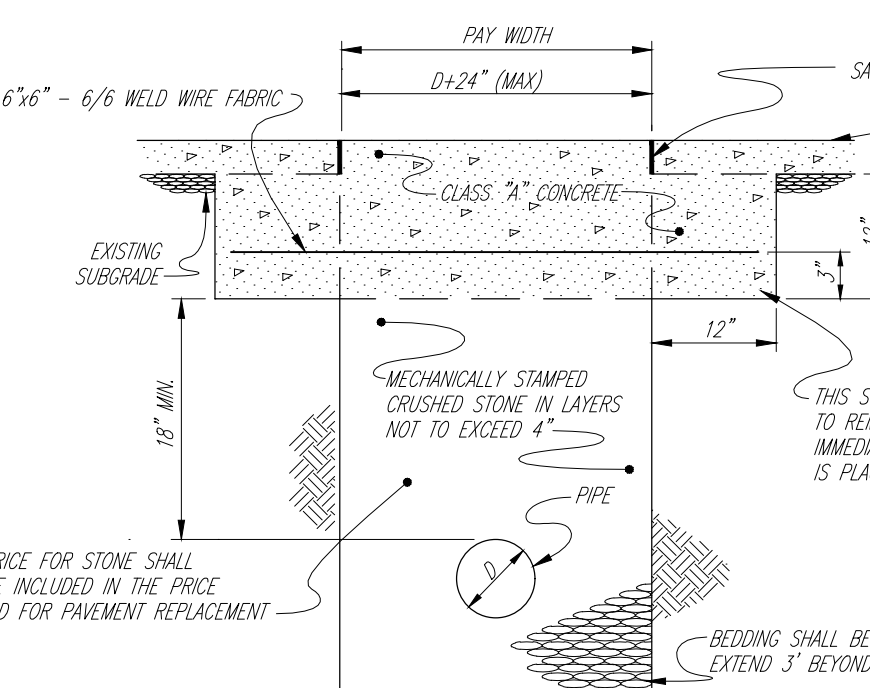


UNDERCUTTING METHOD

N.T.S. (N61-09)

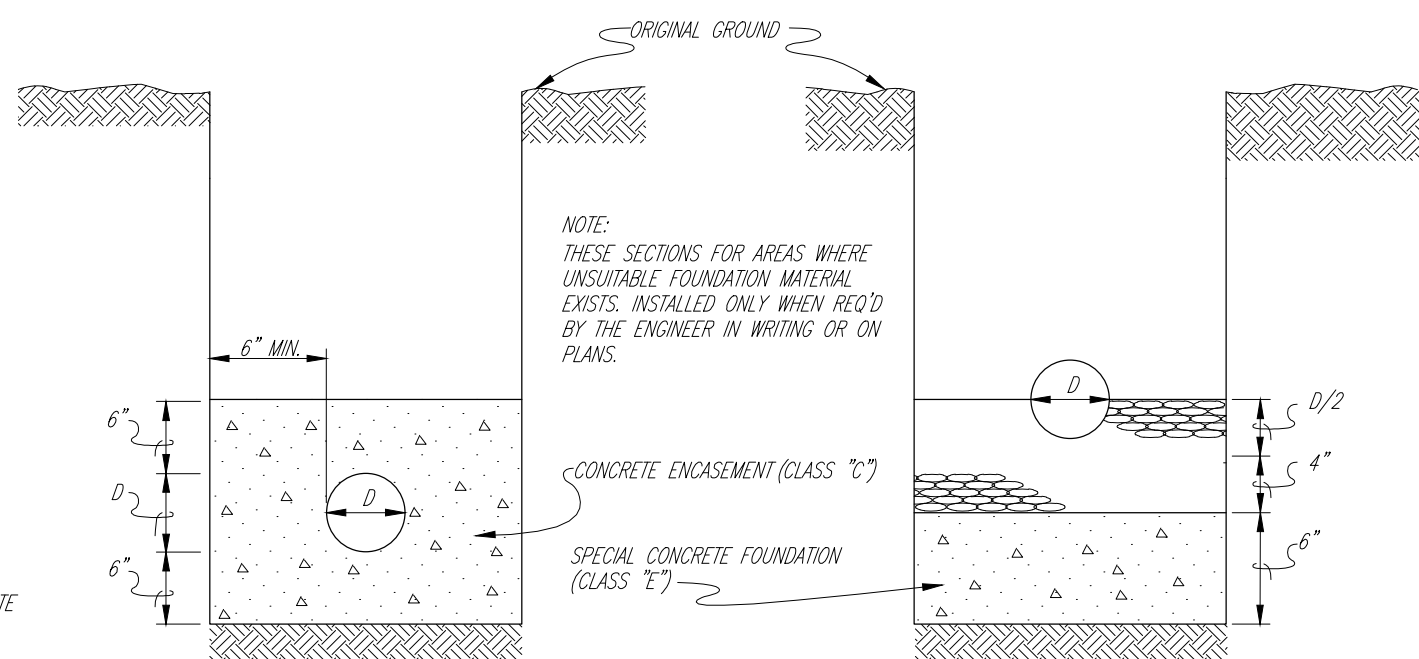
NOTE: AC PIPE CROSSINGS SUBSTITUTE BANK RUN SAND, IF NOT ENCASED, FOR SPEC. #78 STONE. ALL OTHER PIPE MATERIALS USE STONE.

NOTE: EXISTING JOINTS OR BREAKS IN PAVEMENT TO BE USED FOR SAW JOINTS IF POSSIBLE. IF DISTANCE FROM SAWED JOINT TO NEAREST EXISTING JOINT IS LESS THAN 6' REMOVE PAVEMENT TO EXISTING JOINT & REPLACE SLAB.



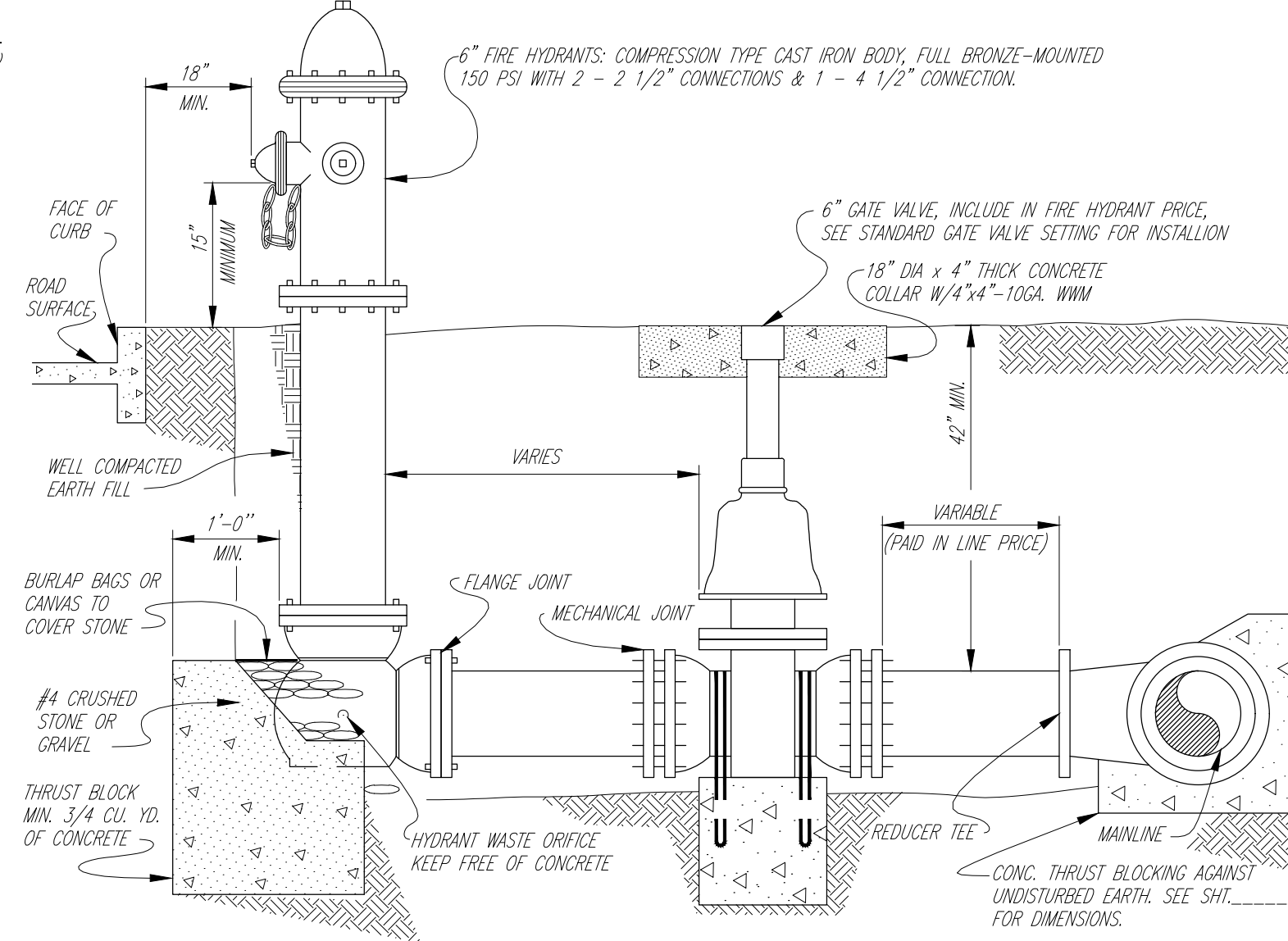
SOLID TRENCH BOTTOM METHOD

N.T.S. (N61-09)



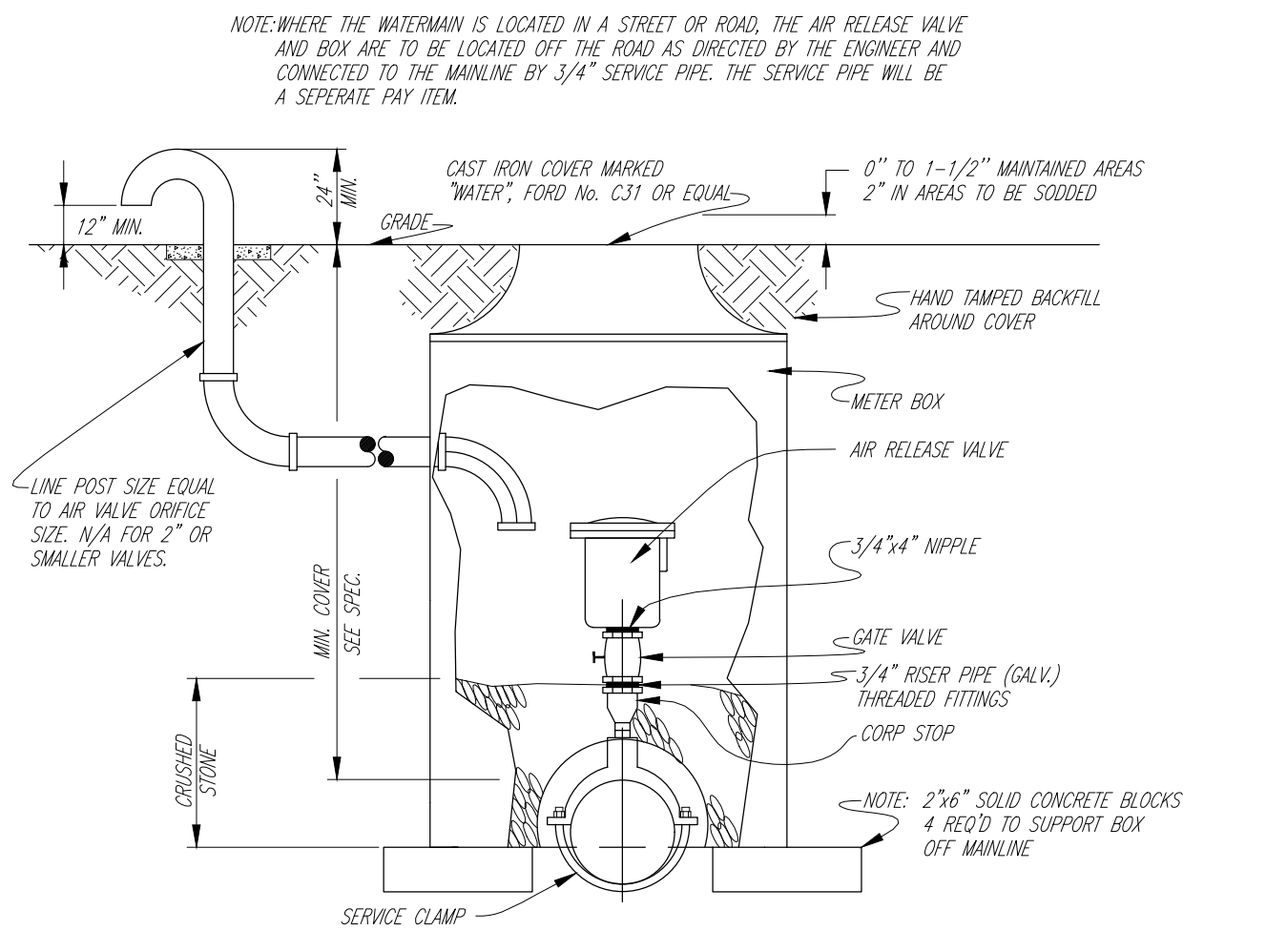
SPECIAL BEDDING FOR UNSTABLE FOUNDATIONS (EXTRA PAY ITEM)

N.T.S. (N61-09)



ELEVATION FIRE HYDRANT

N.T.S. (N61-09)



AIR RELEASE VALVES

N.T.S. (N61-04)



MUHLBERG COUNTY - PARADISE PARK 2021 PDI WATER LINE EXTENSIONS STANDARD WATER DETAILS

MUHLBERG COUNTY, KENTUCKY

PROJECT NO.	DESIGNED BY:	DATE
DST	DST	
DESIGNED BY:	DATE	REVISION
JDW		
CHECKED BY:	DATE	REVISION
DST		
REVIEWED BY:	DATE	REVISION
DST		
DATE:	SCALE:	AS SHOWN
JUNE 2023		

Engineers
Architects
Planners
nse
OF KENTUCKY, INC.
624 Wellington Way
Lexington, Ky. 40503
Phone: (659)223-5684
Fax: (659)223-5607
www.nselex.com

DRAWING NO.

WD1

SHEET OF



N.T.S.



(102-25)

1003-221

(102-05)