

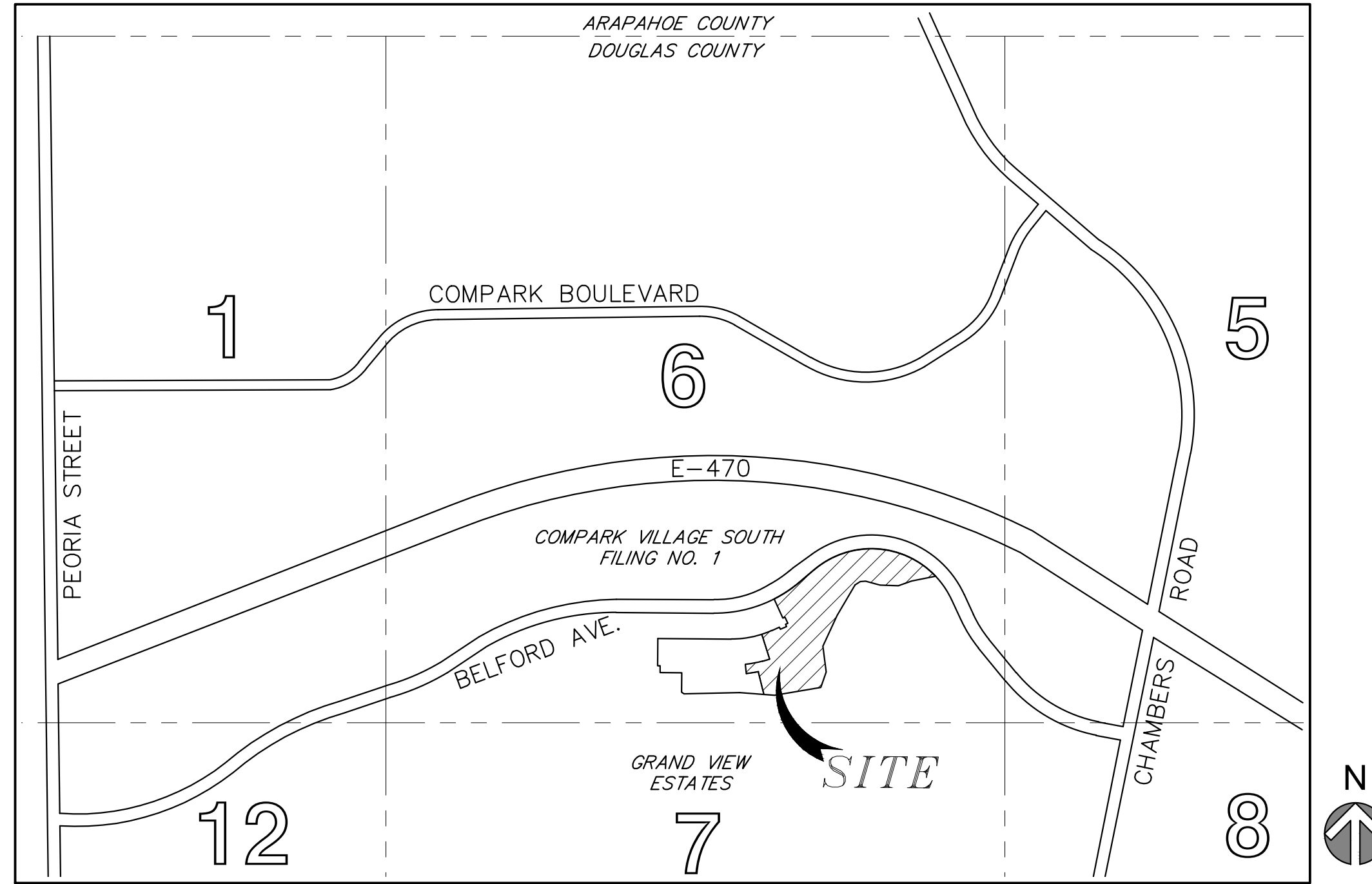
WATER AND SANITARY SEWER CONSTRUCTION PLANS FOR: COMPARK VILLAGE SOUTH FILING NO. 1, AMD. 2

LOT 1, COMPARK VILLAGE SOUTH FILING NO. 1, AMENDMENT 2

LOCATED IN THE SOUTH HALF OF SECTION 6, TOWNSHIP 6 SOUTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN,
TOWN OF PARKER, COUNTY OF DOUGLAS, STATE OF COLORADO

LEGEND

PROPOSED	EXISTING	
CATV	CATV	CABLE TV LINE W/ PEDESTAL
E	E	ELECTRIC LINE W/ BOX, METER, AND LIGHT
OHE	OHE	OVERHEAD ELECTRIC WITH POLE
OHE/C	OHE/C	OVERHEAD ELECTRIC COMMUNICATIONS
UE	UE	UNDERGROUND ELECTRIC
FO	FO	FIBER OPTIC LINE W/ TRAFFIC CONTROL BOX
F	F	FIRE
G	G	GAS LINE W/ DRY UTILITY VAULT
IRR	IRR	IRRIGATION
SS	SS	SANITARY SEWER W/ MANHOLE
SD	SD	STORM SEWER FES W/ MAHNOLE, RIPRAP
T	T	TELEPHONE LINE W/ PEDESTAL
OHT	OHT	OVERHEAD TELEPHONE
W	W	WATER LINE, VALVE, FITTINGS, METER, AND HYDRANT
T	T	UNDERDRAIN
		CURB AND GUTTER
		WHEEL STOP
4950	4950	CONTOURS
UD	UD	TRASH ENCLOSURE
UD	UD	UNDERDRAIN W/ TYPE R INLET
X	X	FENCE LINE
>	>	DRAINAGE SWALE
		RIGHT-OF-WAY
		SECTION LINE
		PROPERTY LINE
		LOT LINE
		EASEMENT
		IRRIGATION CONTROL VALVE BOX
		PEDESTRIAN LIGHT
		STREET LIGHT
		TRAFFIC LIGHT
4990	4990	SPOT ELEVATION
		FLOW OF WATER
		SIGN



Vicinity Map
N.T.S.

Sheet Number	Sheet Title
C7.0	COVER SHEET
C7.1	GENERAL NOTES
C7.2	OVERALL UTILITY PLAN
C7.3	OVERALL UTILITY
C8.0	WATER PLAN & PROFILE
C8.1	WATER PLAN & PROFILE
C8.2	WATER PLAN & PROFILE
C8.3	SANITARY SEWER PLAN & PROFILE
C8.4	SANITARY SEWER PLAN & PROFILE
C8.5	WATER SERVICE PLAN
C8.6	WATER SERVICE PLAN
C8.7	STANDARD DETAILS - WATER
C8.8	STANDARD DETAILS - WATER
C8.9	STANDARD DETAILS - WATER
C8.10	STANDARD DETAILS - WATER
C8.11	STANDARD DETAILS - WATER
C8.12	STANDARD DETAILS - SANITARY
C8.13	STANDARD DETAILS - SANITARY

ABBREVIATION LEGEND

TW	GRADE AT TOP OF WALL
BG	GRADE AT BOTTOM OF WALL
PC	POINT OF CURVE
PT	POINT OF TANGENT
CL	DELTA HORIZONTAL CURVE DIRECTION CHANGE
FL	CENTERLINE
DBL	FLOWLINE
C.O.	DOUBLE
K	CLEAN OUT
AD	RATE OF CURVATURE
VC	ABSOLUTE GRADE DIFFERENCE IN %
PVC	VERTICAL CURVE
PVT	POINT OF VERTICAL CURVE
PVI	POINT OF VERTICAL INTERSECTION
PI	POINT OF TANGENT INTERSECTION
ROW	RIGHT OF WAY
PVMT	PAVEMENT
HP	HIGH POINT
LP	LOW POINT
PCR	POINT OF CURB RETURN
PCC	POINT OF COMPOUND CURVE
PRC	POINT OF REVERSE CURVE
EX. EX.	EXISTING
PR. PR.	PROPOSED
ME	MATCH EXISTING
TC	BACK TOP OF CURB
FG	FINISHED GRADE
STA	STATION
EL. ELEV.	ELEVATION
FF	FINISHED FLOOR
TC	TOP OF CONCRETE
BOP	BOTTOM OF PIPE
TOP	TOP OF PIPE
Ø	DIAMETER
GV	GATE VALVE

DEVELOPER/ OWNER
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SURVEYOR
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GREENWOOD VILLAGE, CO 80111
PHONE: 303-751-0741
CONTACT: KENNETH G. OUELLETTE, PLS

PLANNER
PCS GROUP
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CONTACT: PAUL SHOUKAS

ENGINEER
MERRICK & COMPANY
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GREENWOOD VILLAGE, CO 80111
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CONTACT: KRISTOFER K. WIEST, PE

TOWN & UTILITY CONTACTS

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INTERMOUNTAIN REA
CONTACT: BROOKS KAUFMAN
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CENTURY LINK
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PHONE: 303-320-8333

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PHONE: 720-488-7200

COMCAST
CONTACT: KEVIN YOUNG
PHONE: 720-490-3867

XCEL ENERGY
CONTACT: MICHELLE O'NAN
PHONE: 303-329-1618

STONEGATE VILLAGE METRO DISTRICT
(WATER & SANITARY SEWER)
CONTACT: SCOTT BARNETT (DISTRICT ENGINEER)
PHONE: 303-263-3699

TOWN OF PARKER BUILDING DEPT FIRE LIFE SAFETY APPROVAL

ALL FIRE HYDRANTS SHALL BE INSTALLED ACCORDING TO WATER UTILITY STANDARDS. THE NUMBER AND LOCATIONS OF THE FIRE HYDRANTS AS SHOWN ON THE OVERALL UTILITY PLAN ARE CORRECT AS SPECIFIED BY THE TOWN OF PARKER COMMUNITY DEVELOPMENT DEPARTMENT.

FIRE CODE OFFICIAL OR DESIGNATED REPRESENTATIVE DATE

(NOTE - UNDERGROUND FIRE LINE SUBMITTAL DOCUMENTS MUST MEET THE REQUIREMENTS OF NFPA 24 WHEN SUBMITTING FOR REVIEW.)

DISTRICT APPROVALS

THESE DESIGN PLANS AND CONTRACT DOCUMENTS ARE REVIEWED FOR CONCEPT AND GENERAL CONFORMANCE TO THE DISTRICTS MINIMUM STANDARDS ONLY, AND THE PRIMARY RESPONSIBILITY FOR THE DESIGN ADEQUACY IS TO REMAIN WITH THE ENGINEER OF RECORD. THIS REVIEW DOES NOT IMPLY RESPONSIBILITY BY EITHER THE STONEGATE VILLAGE METROPOLITAN DISTRICT OR THE DISTRICT ENGINEER FOR COMPLETENESS, ACCURACY OR CORRECTNESS OF CALCULATIONS. THE REVIEW DOES NOT IMPLY THAT QUANTITIES OF ITEMS INDICATED ON THE PLANS ARE THE FINAL QUANTITIES REQUIRED. THE REVIEW SHALL NOT BE CONSTRUED FOR ANY REASON AS ACCEPTANCE OF FINANCIAL RESPONSIBILITY BY THE STONEGATE VILLAGE METROPOLITAN DISTRICT FOR ADDITIONAL ITEMS AND ADDITIONAL QUANTITIES OF ITEMS SHOWN THAT MAY BE REQUIRED DURING THE CONSTRUCTION PHASE.

BY: *Scott Barnett*
STONEGATE VILLAGE METROPOLITAN DISTRICT ENGINEER

DATE: 9/18/2022

FIRE FLOW DATA BLOCK:

BUILDING	TOTAL BUILDING SQUARE FOOTAGE	CONSTRUCTION TYPE	NUMBER OF STORIES	SPRINKLED	CALCULATED FIRE FLOW (IFC TABLE B105.1) (GPM)	CALCULATED FIRE FLOW W/ 50% REDUCTION (IFC SECTION B105) (GPM)	MINIMUM NUMBER OF HYDRANTS (IFC TABLE C105.1)	MINIMUM FIRE FLOW (GPM)
A	47560	V-A	3	YES	4000	2000	2	1500
B	66520	V-A	3	YES	4750	2375	3	1500
C	64905	V-A	3	YES	4500	2250	2	1500
D	83010	V-A	3 W/ MEZZANINE	YES	5250	2625	3	1500
CLUBHOUSE	8485	V-B	1	YES	1500	750	1	1500

Conclusion:

The maximum required fire flow calculated from the 2021 IFC using a 50% reduction is 1500 GPM @ 20 PSI Residual Pressure. Each fire hydrant must supply a 1500 gpm @ 20 PSI Residual Pressure.

Notes:

- Calculated fire flow (GPM) is from the 2021 International Fire Code Table B105.1
- Minimum number of hydrants is from the 2021 International Fire Code Table C105.1
- Minimum fire flow from Town of Parker Zoning Ordinance 11.04.050-Amendments

BEARINGS ARE ASSUMED AND ARE BASED UPON THE SOUTH LINE OF THE SOUTHEAST QUARTER OF SAID SECTION 6, AS BEARING N87°48'59"E A DISTANCE OF 2634.08 FEET BETWEEN THE SOUTH QUARTER CORNER OF SAID SECTION 6, BEING A FOUND 3-1/4" ALUMINUM CAP, FLUSH WITH THE SURFACE AND STAMPED PLS 38026 AND THE SOUTHEAST CORNER OF SAID SECTION 6, BEING A FOUND 3-1/4" ALUMINUM CAP, FLUSH WITH THE SURFACE AND STAMPED PLS 12405.

SOURCE BENCHMARK
DOUGLAS COUNTY BM 1.115010
A DOUGLAS COUNTY GIS MONUMENT SET IN CONCRETE LOCATED APPROXIMATELY 130 FEET SOUTHWESTERLY OF THE CENTERLINE OF CHAMBERS ROAD AND 95 FEET NORTHWESTERLY OF THE CENTERLINE OF COMPARK BOULEVARD.

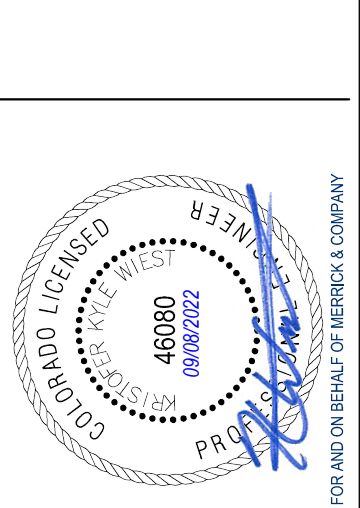
SITE BENCHMARKS

- A NO. 5 REBAR WITH 2" ALUMINUM CAP STAMPED "LS 28286, 2001" FOUND AT THE SOUTHWEST CORNER OF SECTION 6, T6S, R66W LOCATED ON THE WEST LINE OF FIRST STREET APPROXIMATELY 1000 FEET NORTH OF ELM AVENUE.
- A 2.5" IRON PIPE WITH 3.25" ALUMINUM CAP STAMPED "PLS 12405, 1997" FOUND AT THE SOUTHEAST CORNER OF SECTION 6, T6S, R66W LOCATED APPROXIMATELY 960 FEET NORTH OF THE CENTERLINE OF AVENTERRA PARKWAY AND APPROXIMATELY 1050 FEET WEST OF THE CENTERLINE OF CHAMBERS ROAD.



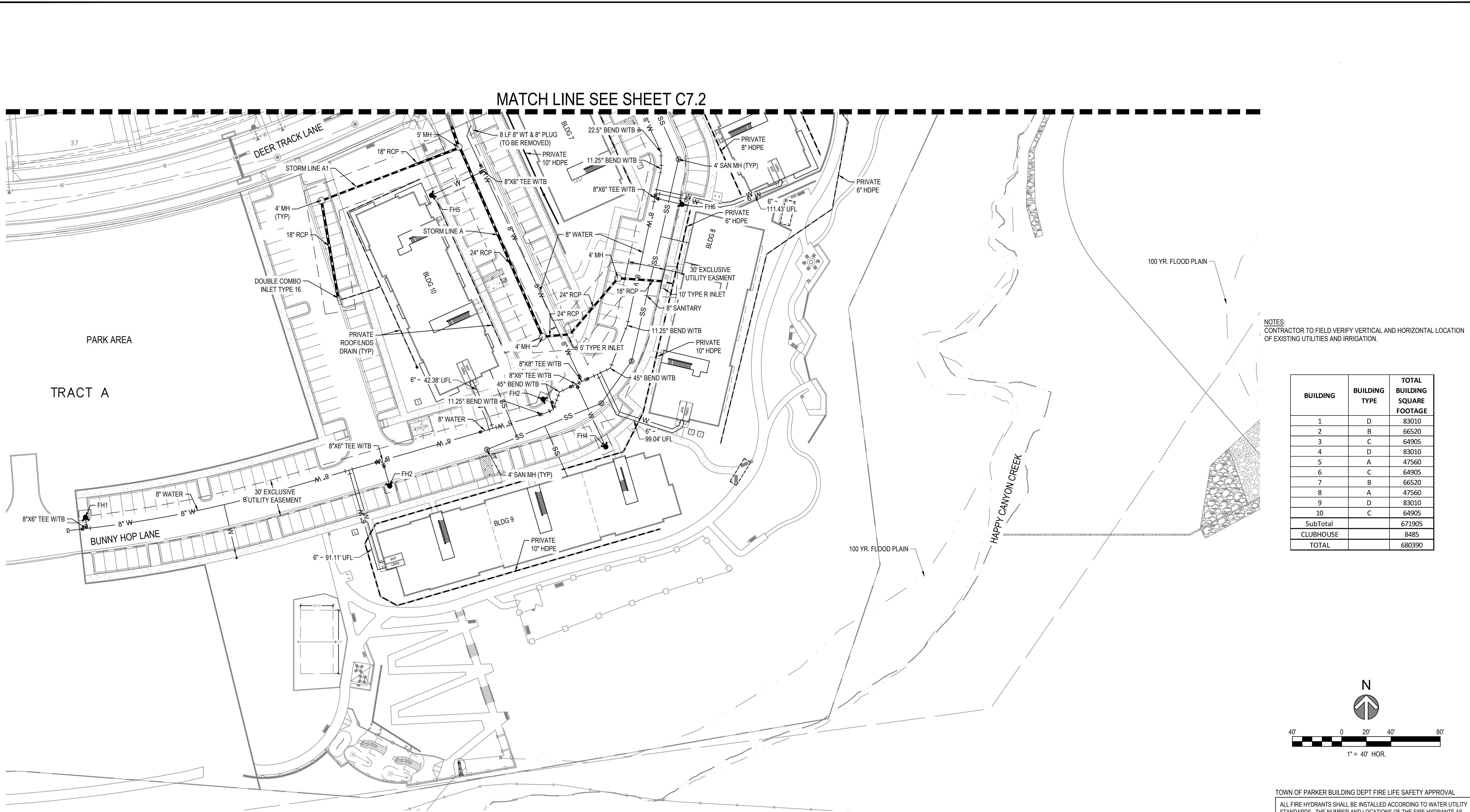
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REV	REVISION DESCRIPTION	DATE	CHKD	APPD
A	ISSUED FOR CONSTRUCTION	8/25/2022		



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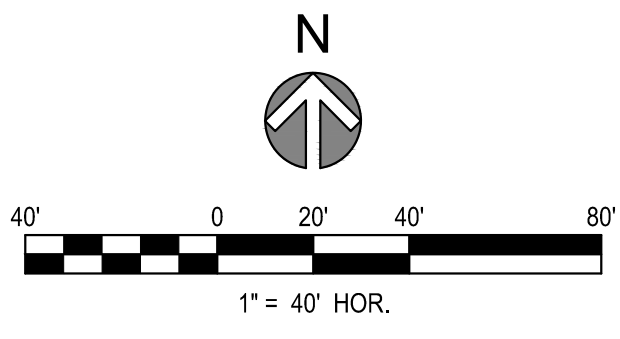
MATCH LINE SEE SHEET C7.2

100 YR. FLOOD PLAIN

100 YR. FLOOD PLAIN

NOTES:
CONTRACTOR TO FIELD VERIFY VERTICAL AND HORIZONTAL LOCATION OF EXISTING UTILITIES AND IRRIGATION.

BUILDING	BUILDING TYPE	TOTAL BUILDING SQUARE FOOTAGE
1	D	83010
2	B	66520
3	C	64905
4	D	83010
5	A	47560
6	C	64905
7	B	66520
8	A	47560
9	D	83010
10	C	64905
SubTotal		671905
CLUBHOUSE		8485
TOTAL		680390



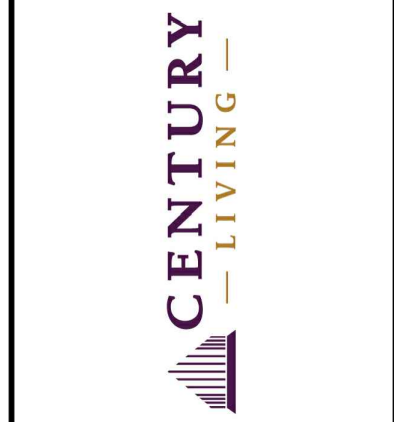
TOWN OF PARKER BUILDING DEPT FIRE LIFE SAFETY APPROVAL
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FIRE CODE OFFICIAL OR DESIGNATED REPRESENTATIVE DATE
(NOTE - UNDERGROUND FIRE LINE SUBMITTAL DOCUMENTS MUST MEET THE REQUIREMENTS OF NFPA 24 WHEN SUBMITTING FOR REVIEW.)

THE TOWN OF PARKER REVIEW CONSTITUTES GENERAL COMPLIANCE WITH THE TOWN'S STANDARDS AND APPROVED VARIANCES, SUBJECT TO THESE PLANS BEING STAMPED, SIGNED, AND DATED BY THE PROFESSIONAL ENGINEER OF RECORD. REVIEW BY THE TOWN DOES NOT CONSTITUTE APPROVAL OF THE PLAN DESIGN OR ACCURACY AND CORRECTNESS OF ENGINEERING CALCULATIONS. ERRORS IN THE DESIGN OR CALCULATIONS REMAIN THE RESPONSIBILITY OF THE REGISTERED PROFESSIONAL ENGINEER WHOSE STAMP AND SIGNATURE ARE AFFIXED TO THIS DOCUMENT.

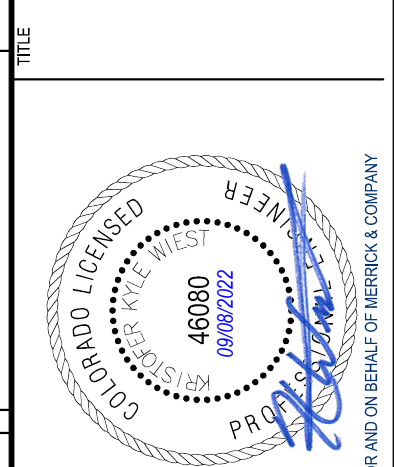
THIS REVIEW DOES NOT CONSTITUTE APPROVAL OF ANY PRIVATE ON-SITE IMPROVEMENTS WHICH MAY BE SHOWN. CONSTRUCTION CANNOT COMMENCE UNTIL ALL REQUIRED DRAINAGE/TRAFFIC REPORT(S), FINAL DEVELOPMENT PLAN(S), SPECIAL REVIEW(S), GRADING PERMIT, AND/OR OTHER PERMITS ARE COMPLETE, APPROVED AND ON FILE WITH THE TOWN OF PARKER.

TOWN OF PARKER, DIRECTOR OF ENGINEERING DATE



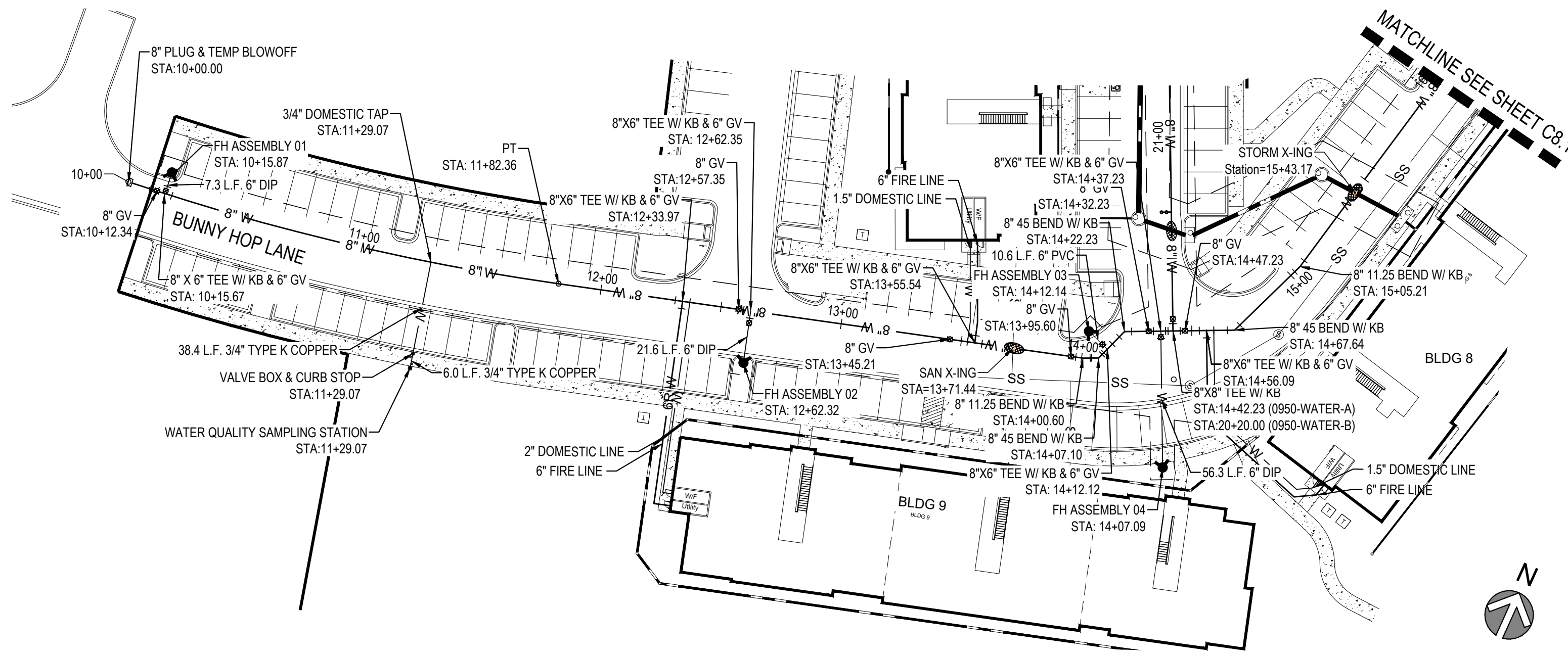
REV	REVISION DESCRIPTION	DATE	CHKD	APPD
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LOT 1, COMPARK VILLAGE SOUTH
FLG 1, AMD 2
WATER & SANITARY SEWER IMPROVEMENTS
OVERALL UTILITY

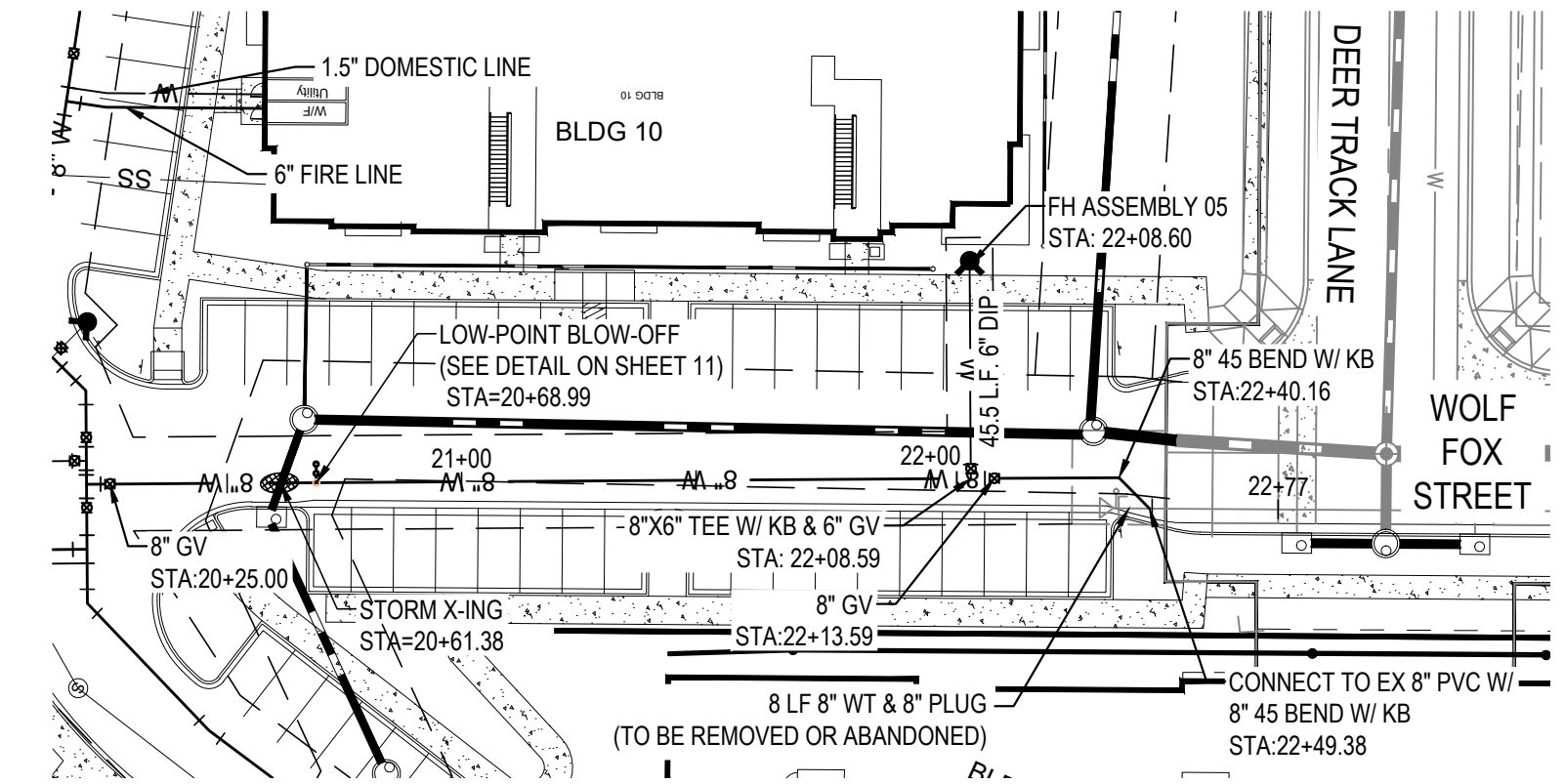
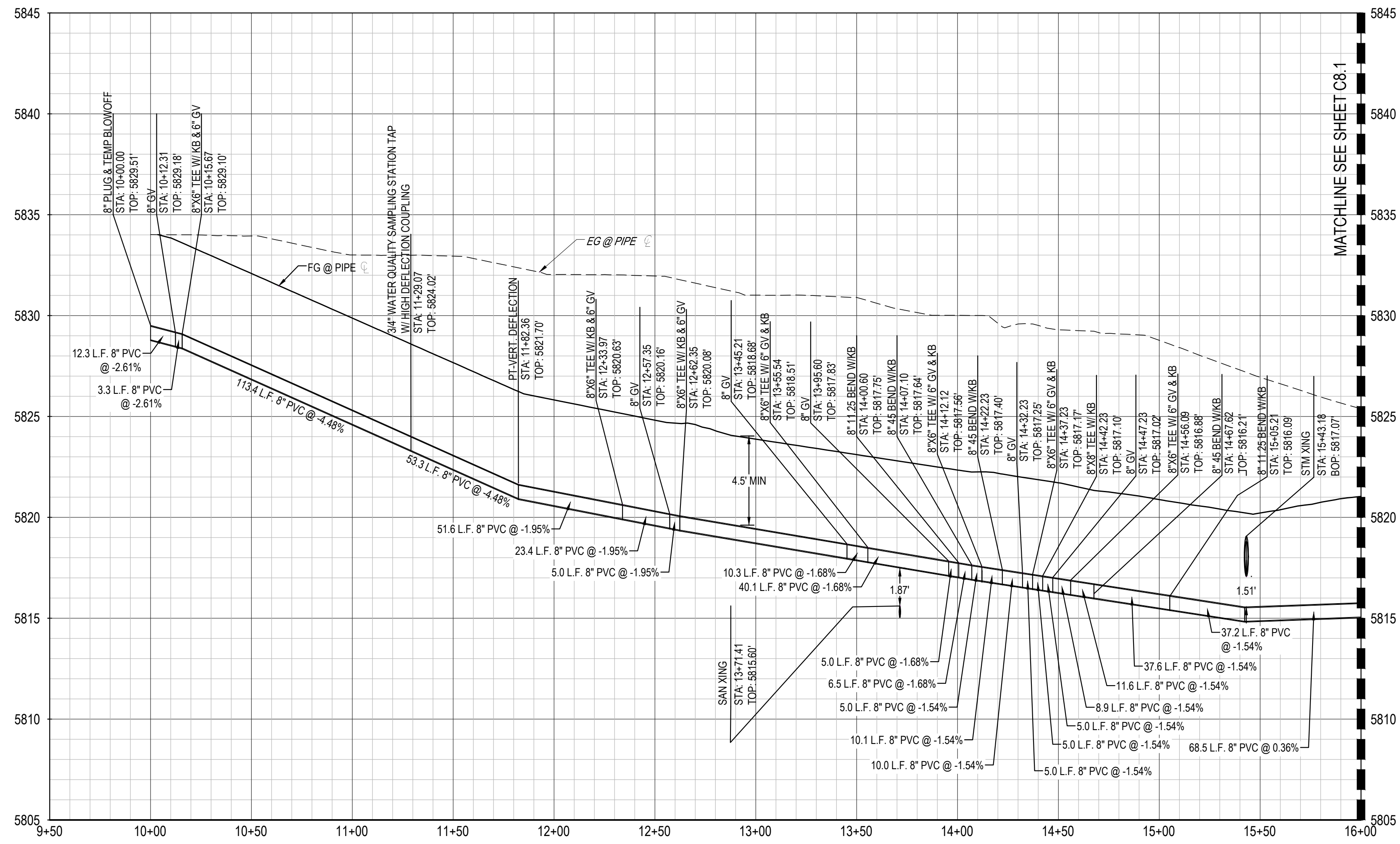


JOB NUMBER: 65120850
DATE: 9/25/2022
SHEET: C7.3
03

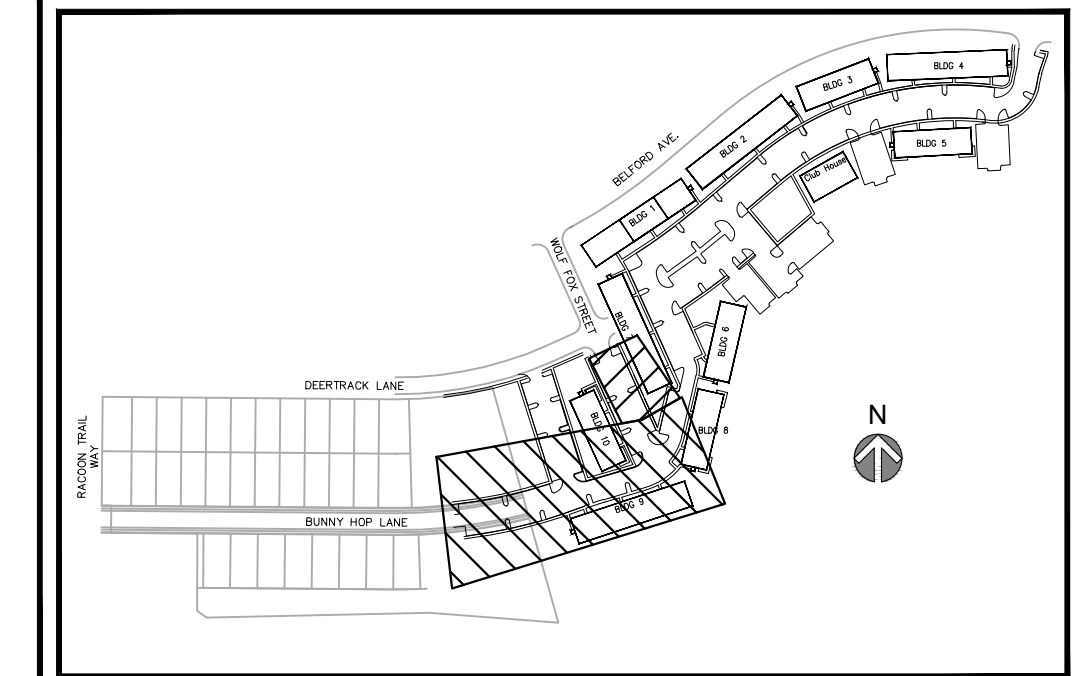
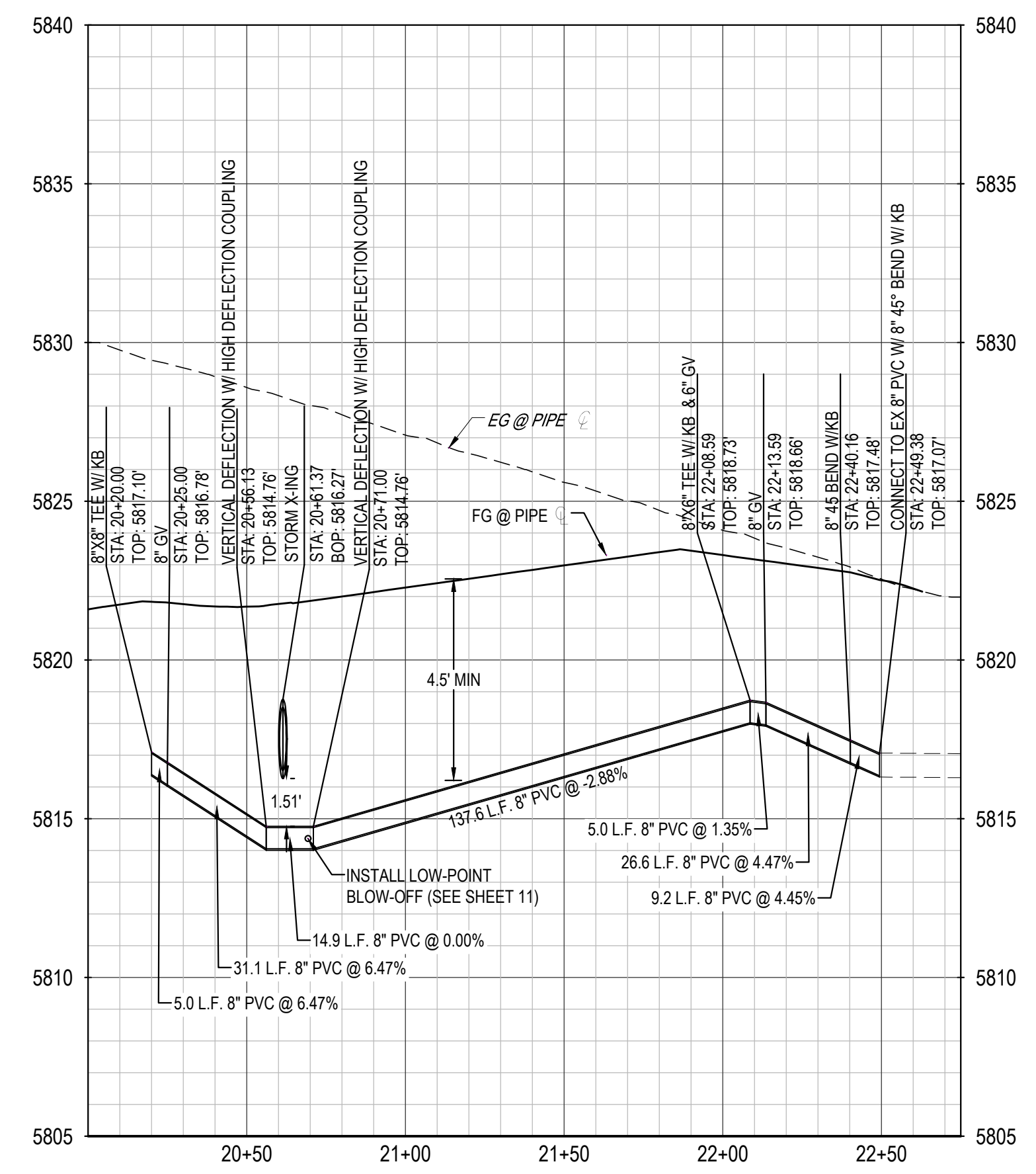
THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL APPLICABLE AGENCIES AND AUTHORITIES. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL APPLICABLE AGENCIES AND AUTHORITIES. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL APPLICABLE AGENCIES AND AUTHORITIES.



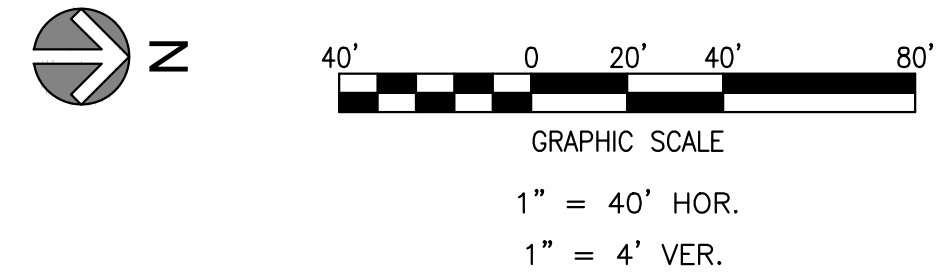
WATER PROFILE A: STA 10+00 - STA 16+00



WATER PROFILE B

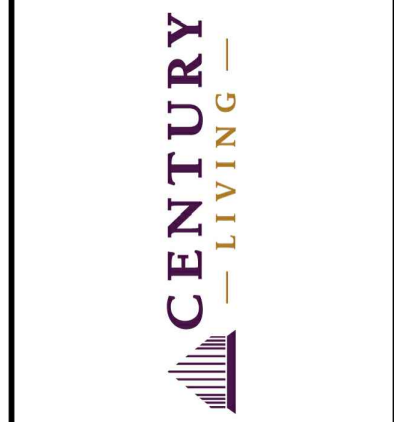


KEYMAP (NTS)



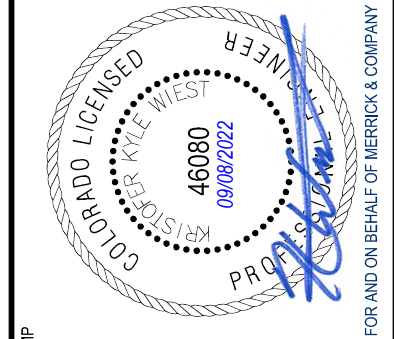
- NOTES:**
1. ALL STATIONING & PIPE LENGTHS ARE TO CENTER OF STRUCTURE.
 2. ALL PVC TO BE C900 DR 14 UNLESS OTHERWISE NOTED.
 3. CONTRACTOR TO VERIFY LOCATION/ELEVATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.
 4. MINIMUM COVER OVER PIPE SHALL BE 4.5-FT.
 5. REFER TO SHEETS C8.5 & C8.6 FOR WATER SERVICE INFORMATION.
 6. WATER MAIN SHALL BE CONSTRUCTED USING MANUFACTURER SPECIFICATION AND/OR A MAXIMUM OF 1" DEFLECTION AT THE JOINT, WHICHEVER IS MORE STRICT, AND ESA&A IRON SERIES 3800 MEGACOUPLING HIGH DEFLECTION COUPLINGS WITH A MAXIMUM DEFLECTION OF 3".
 7. ALL WATER MAINS SHALL BE C900 DR14 PVC.
 8. INSTALL MARKER POSTS AT THE END OF ALL STUB-OUTS.

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REV	REVISION DESCRIPTION	DATE	CHKD	APPD
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LOT 1, COMPARK VILLAGE SOUTH
 FLG 1, AMD 2
 WATER & SANITARY SEWER IMPROVEMENTS
 WATER PLAN & PROFILE



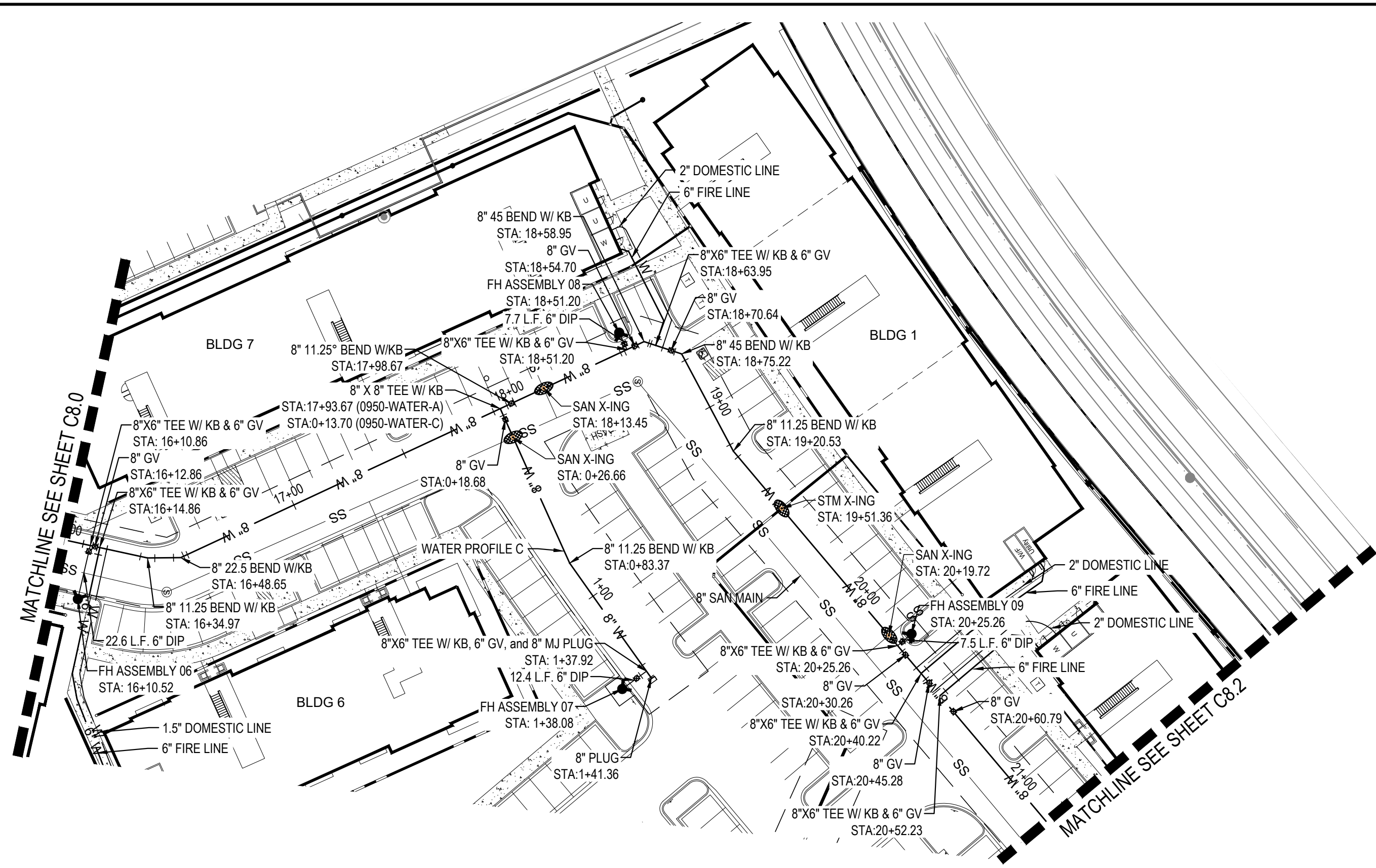
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DATE	8/25/2022
SHEET	C8.0
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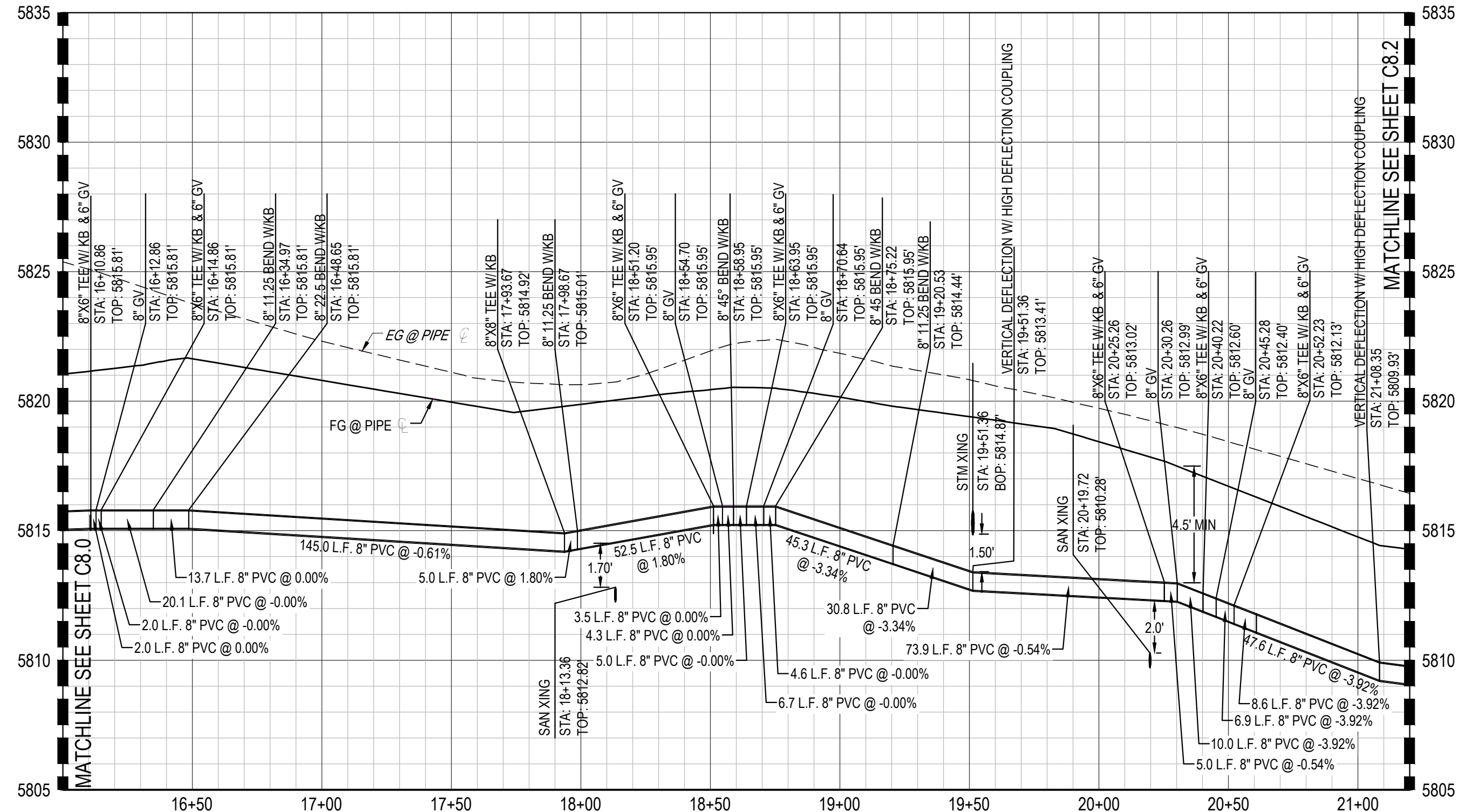
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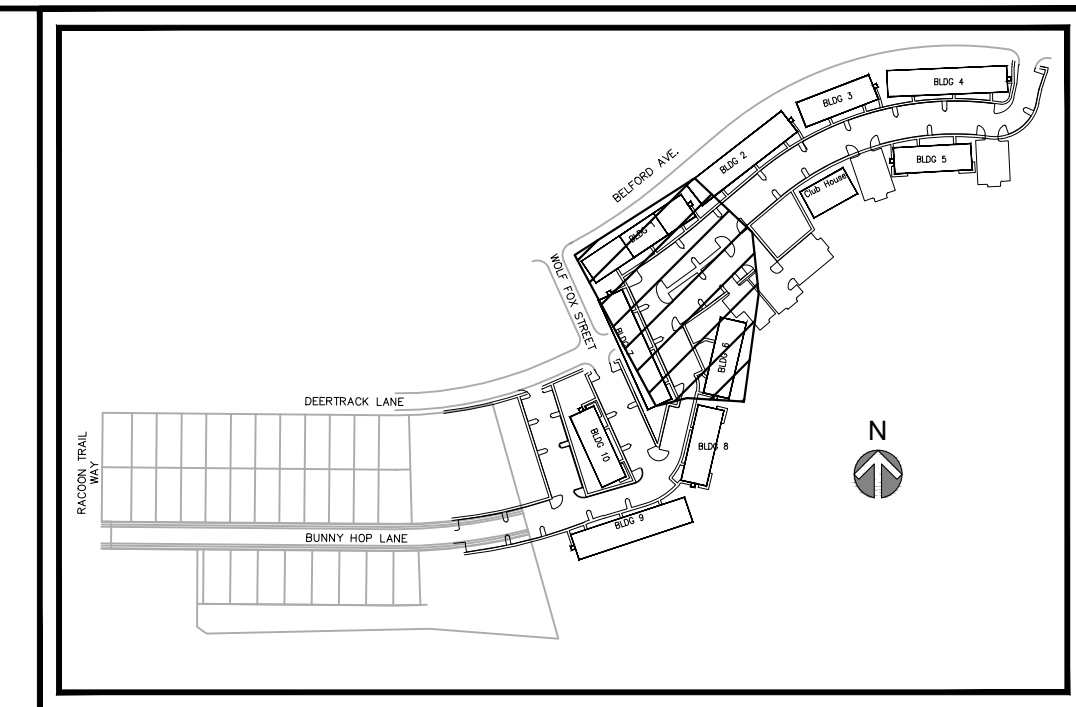
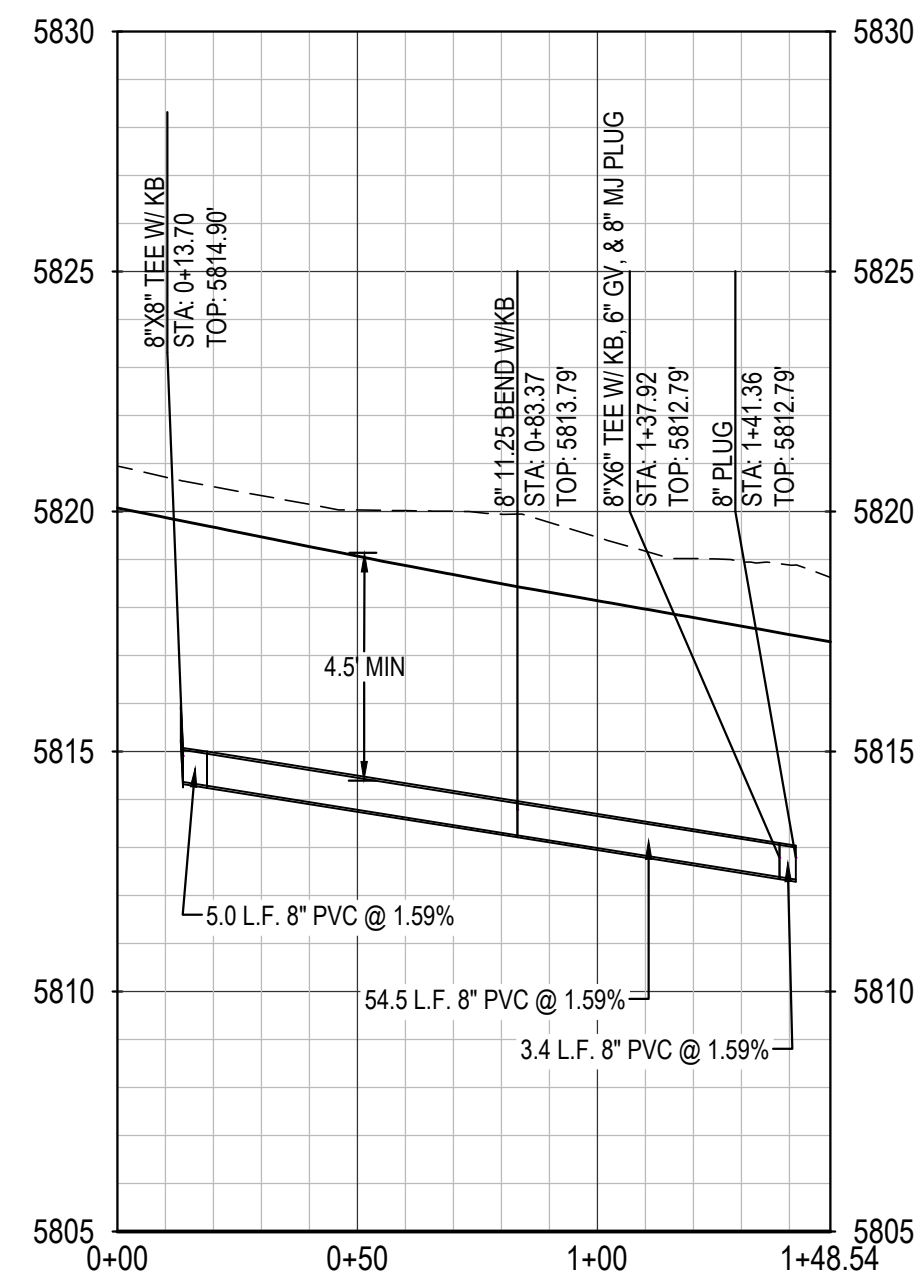
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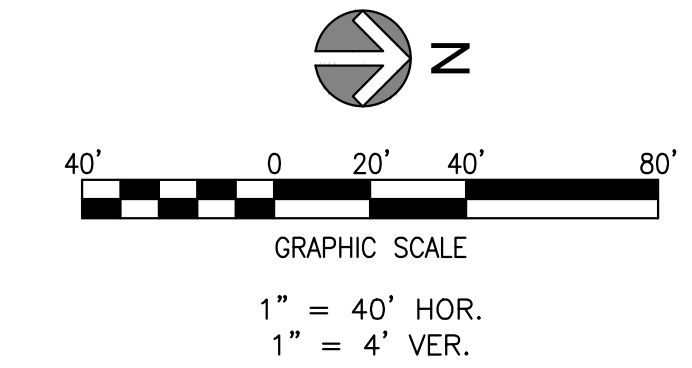
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WATER PROFILE C



KEYMAP (NTS)



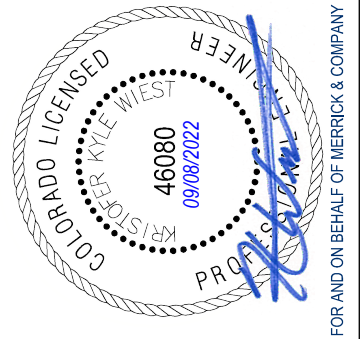
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LOT 1, COMPARK VILLAGE SOUTH
FLG 1, AMD 2
WATER & SANITARY SEWER IMPROVEMENTS
WATER PLAN & PROFILE



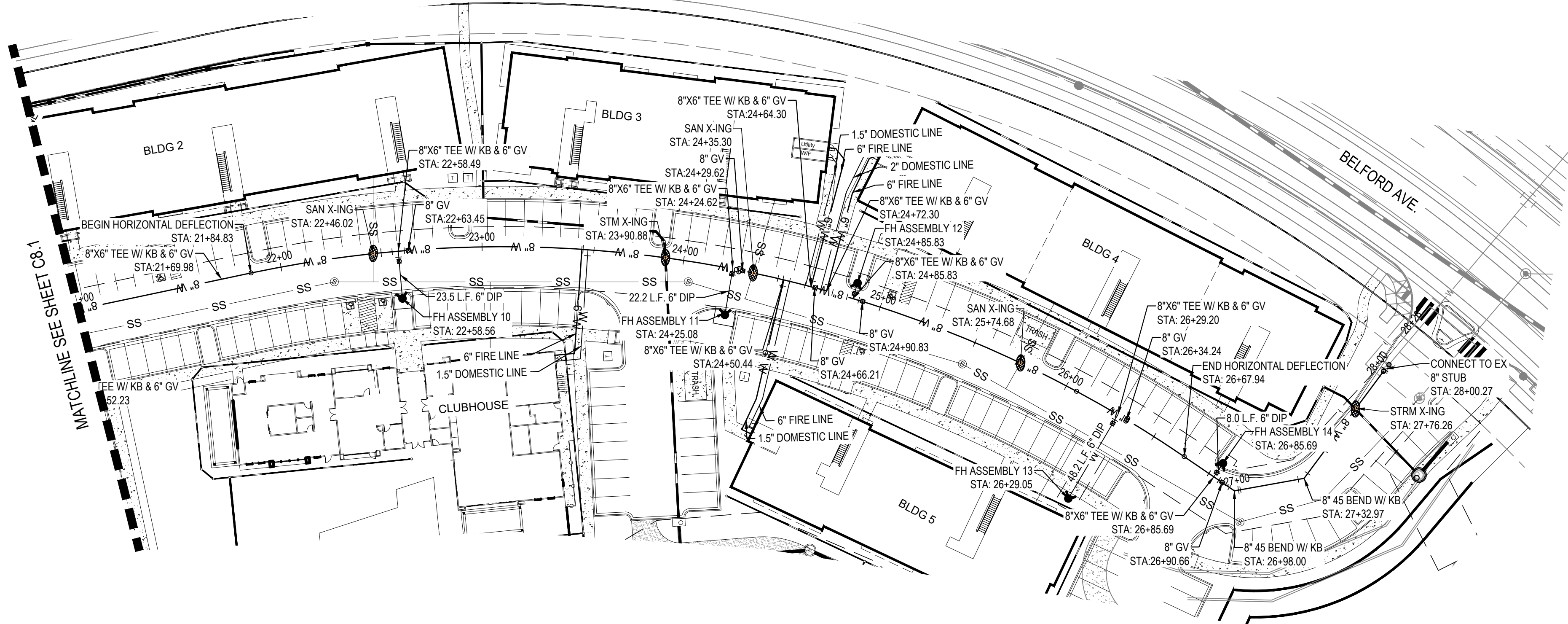
JOB NUMBER	65120950
DATE	8/25/2022
SHEET	C8.1
	05

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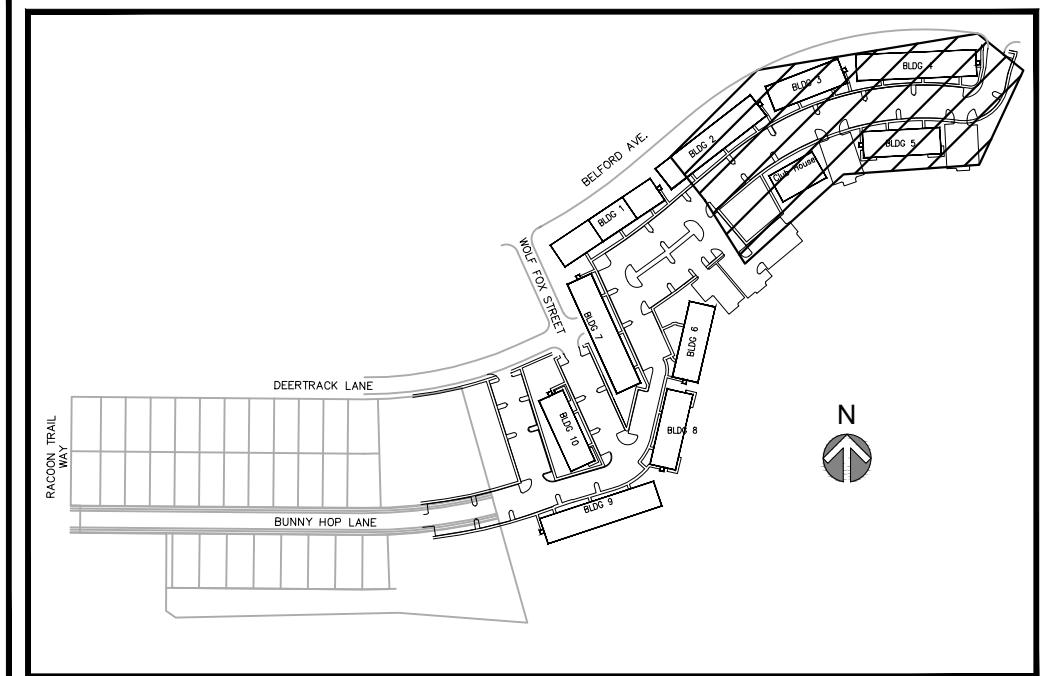
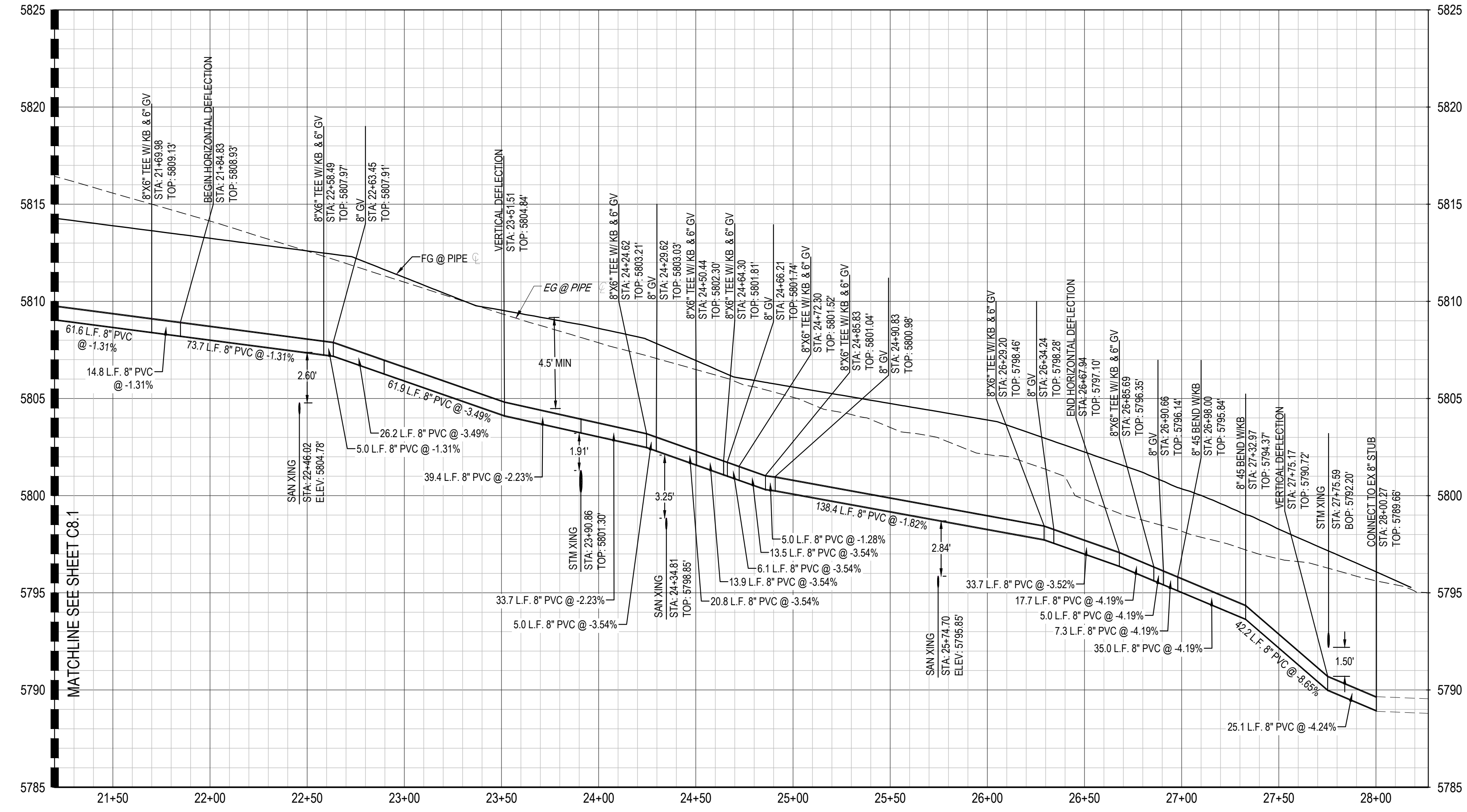
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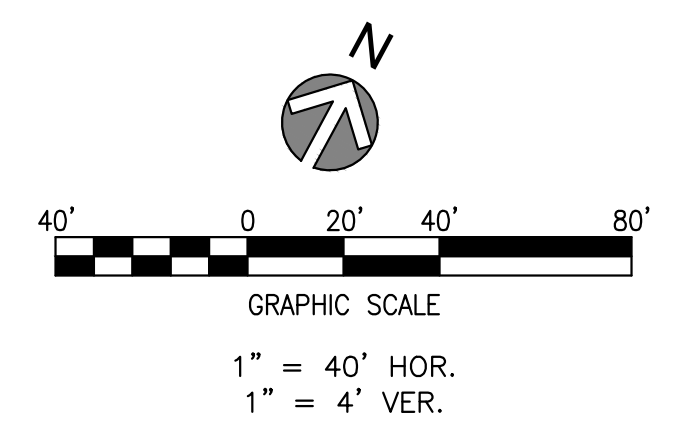
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WATER PROFILE A: STA 21+20 - STA 28+27

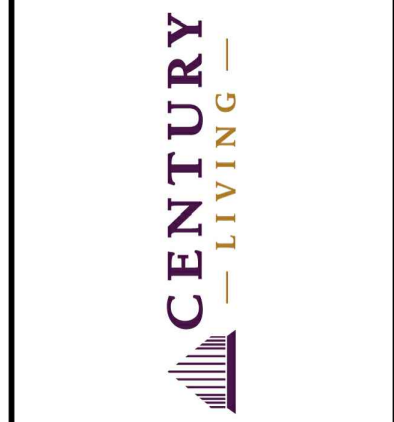


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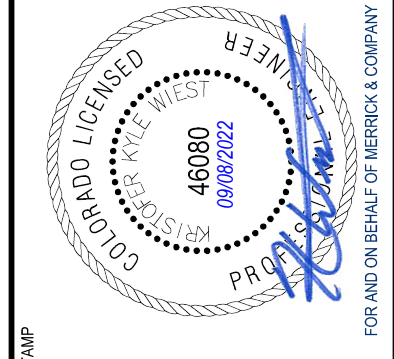
NOTES:

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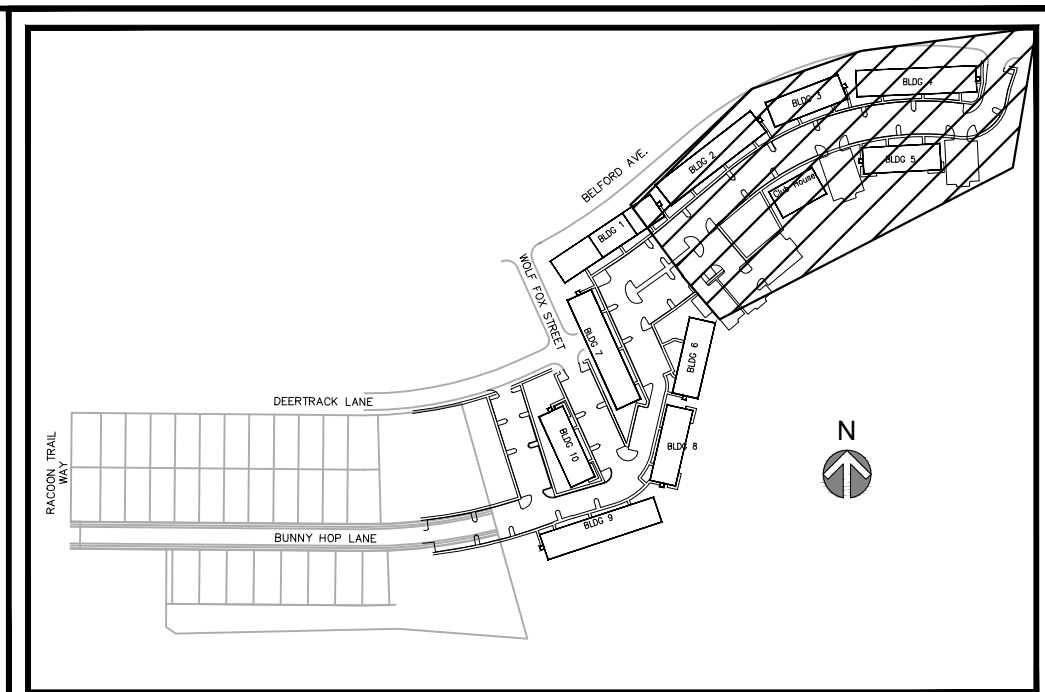
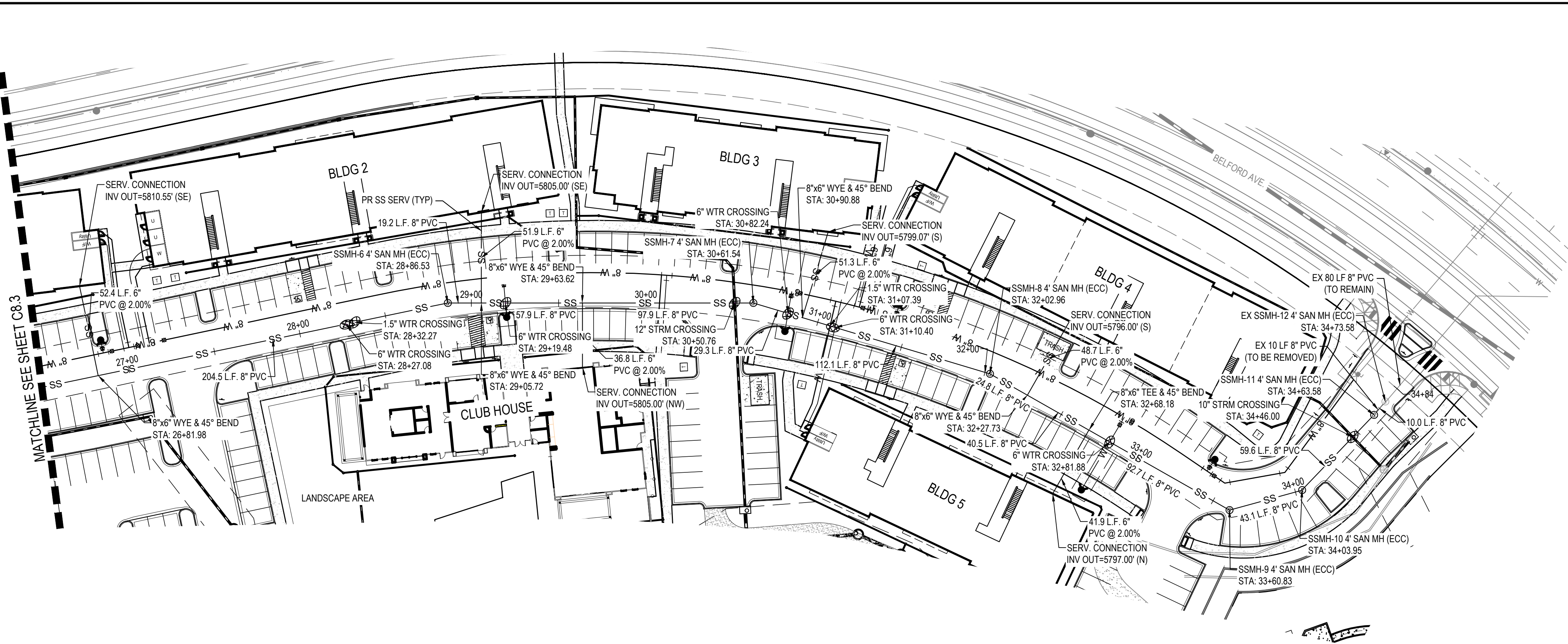
LOT 1, COMPARK VILLAGE SOUTH
 FLG 1, AMD 2
 WATER & SANITARY SEWER IMPROVEMENTS
 WATER PLAN & PROFILE



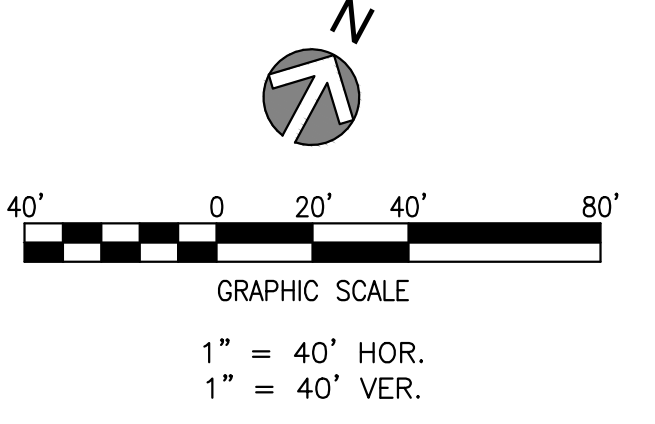
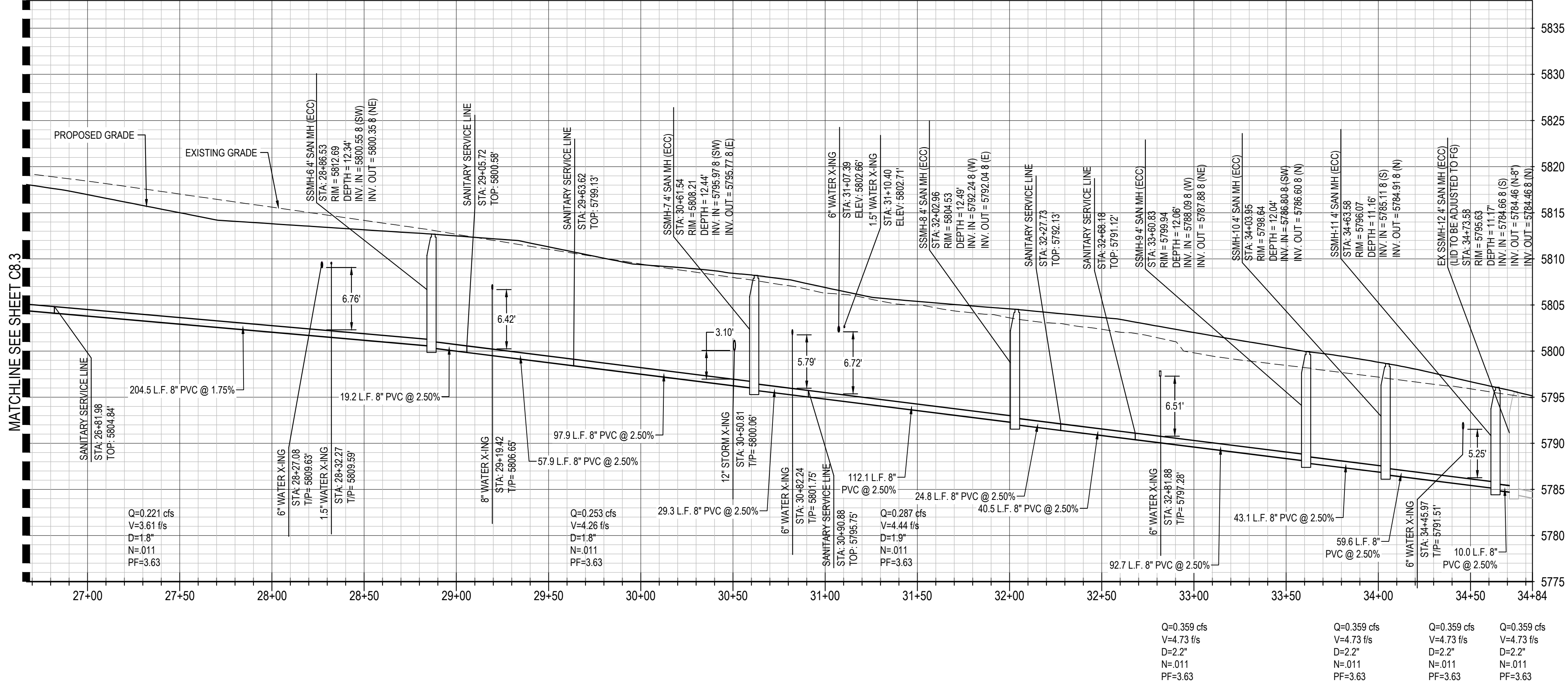
JOB NUMBER	65120850
DATE	8/25/2022
SHEET	C8.2
	06

THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL APPLICABLE AGENCIES AND AUTHORITIES. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL APPLICABLE AGENCIES AND AUTHORITIES. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL APPLICABLE AGENCIES AND AUTHORITIES.

File Location: D:\DEN\Projects\0950-C0 Compark_South\CAD\CDS\Water\0950-SAN_PP.dwg Plot Date: 8/25/2022 12:10 PM Last Saved By: KBLACK



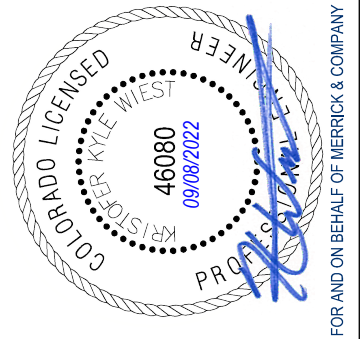
KEYMAP (NTS)



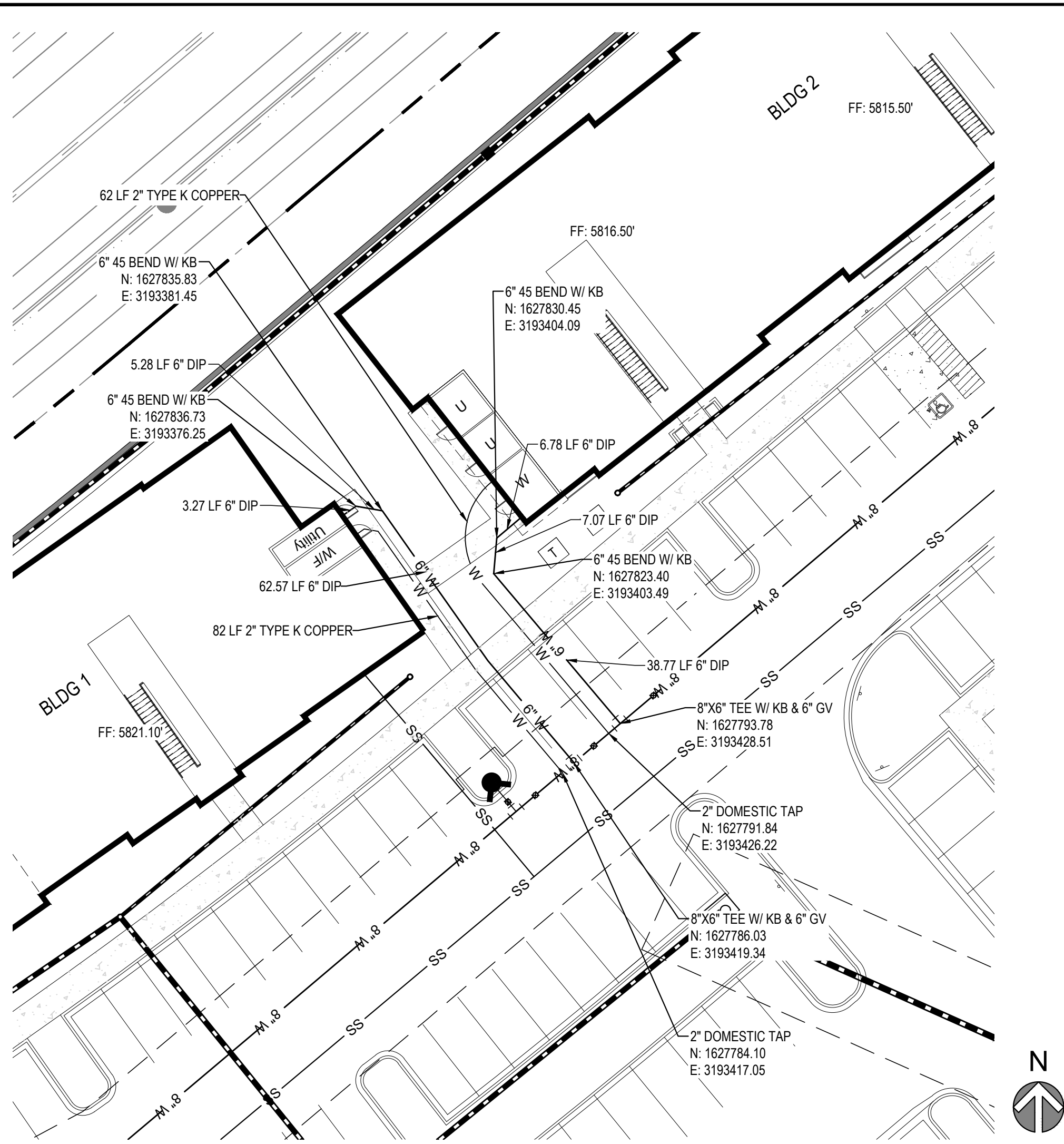
- NOTES:
- ALL STATIONING & PIPE LENGTHS ARE TO CENTER OF STRUCTURE.
 - ALL SANITARY SEWER PVC TO BE SDR 35 PVC UNLESS SPECIFIED OTHERWISE.
 - CONTRACTOR TO VERIFY LOCATION/ELEVATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.
 - ALL MANHOLES TO HAVE 48" INNER DIAMETER.
 - NO PIPE DEFLECTION >1"

REV	REVISION DESCRIPTION	DATE	CHKD	APPR
A	ISSUED FOR CONSTRUCTION	8/25/2022		

**LOT 1, COMPARK VILLAGE SOUTH
 FLG 1, AMD 2
 WATER & SANITARY SEWER IMPROVEMENTS
 SANITARY SEWER PLAN & PROFILE**



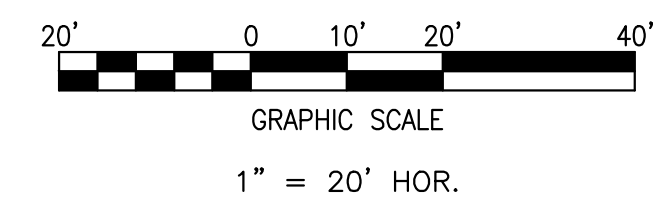
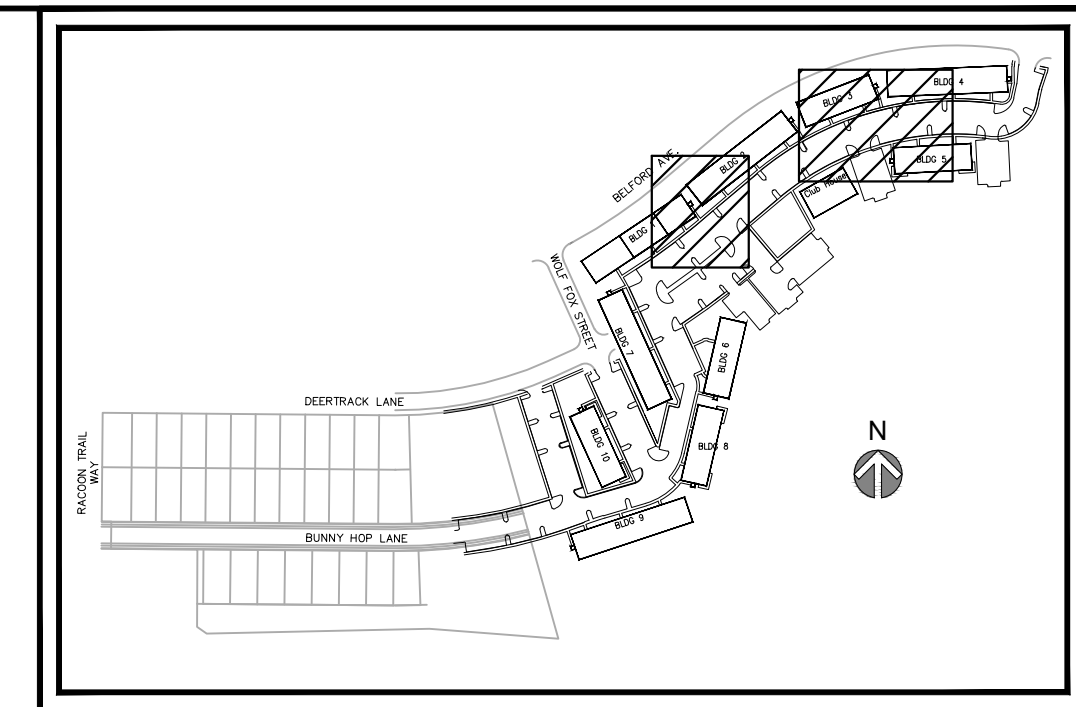
THE USE OF ANY CHANGES, REVISIONS, OR AMENDMENTS TO ANY INSTRUMENT OF SERVICE, AGREEMENT, OR CONTRACT, INCLUDING ANY ADDENDUM, IS THE SOLE RESPONSIBILITY OF THE CLIENT. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR ANY CHANGES, REVISIONS, OR AMENDMENTS TO ANY INSTRUMENT OF SERVICE, AGREEMENT, OR CONTRACT, INCLUDING ANY ADDENDUM, UNLESS SUCH CHANGES, REVISIONS, OR AMENDMENTS ARE MADE BY THE ENGINEER OR HIS EMPLOYEES OR AGENTS. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR ANY CHANGES, REVISIONS, OR AMENDMENTS TO ANY INSTRUMENT OF SERVICE, AGREEMENT, OR CONTRACT, INCLUDING ANY ADDENDUM, UNLESS SUCH CHANGES, REVISIONS, OR AMENDMENTS ARE MADE BY THE ENGINEER OR HIS EMPLOYEES OR AGENTS.



BUILDING 1 & 2 SERVICE DETAIL
SCALE: 1:20



BUILDING 3, 4, & 5 SERVICE DETAIL
SCALE: 1:20



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CENTURY LIVING

REV	REVISION DESCRIPTION	DATE	CHKD	APPR
A	ISSUED FOR CONSTRUCTION	8/25/2022		

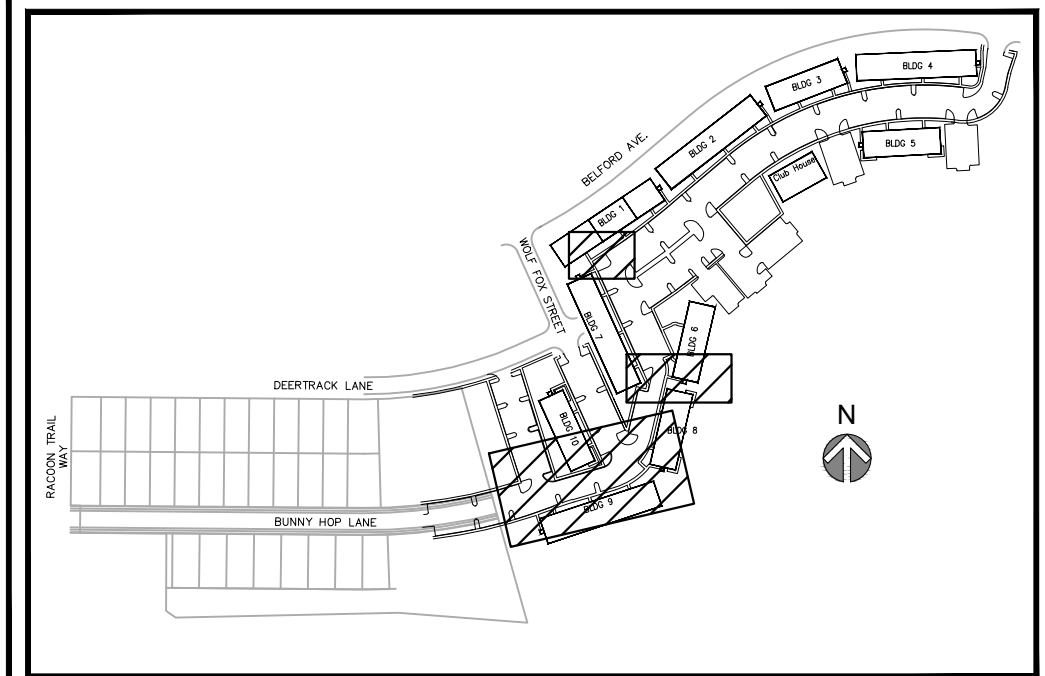
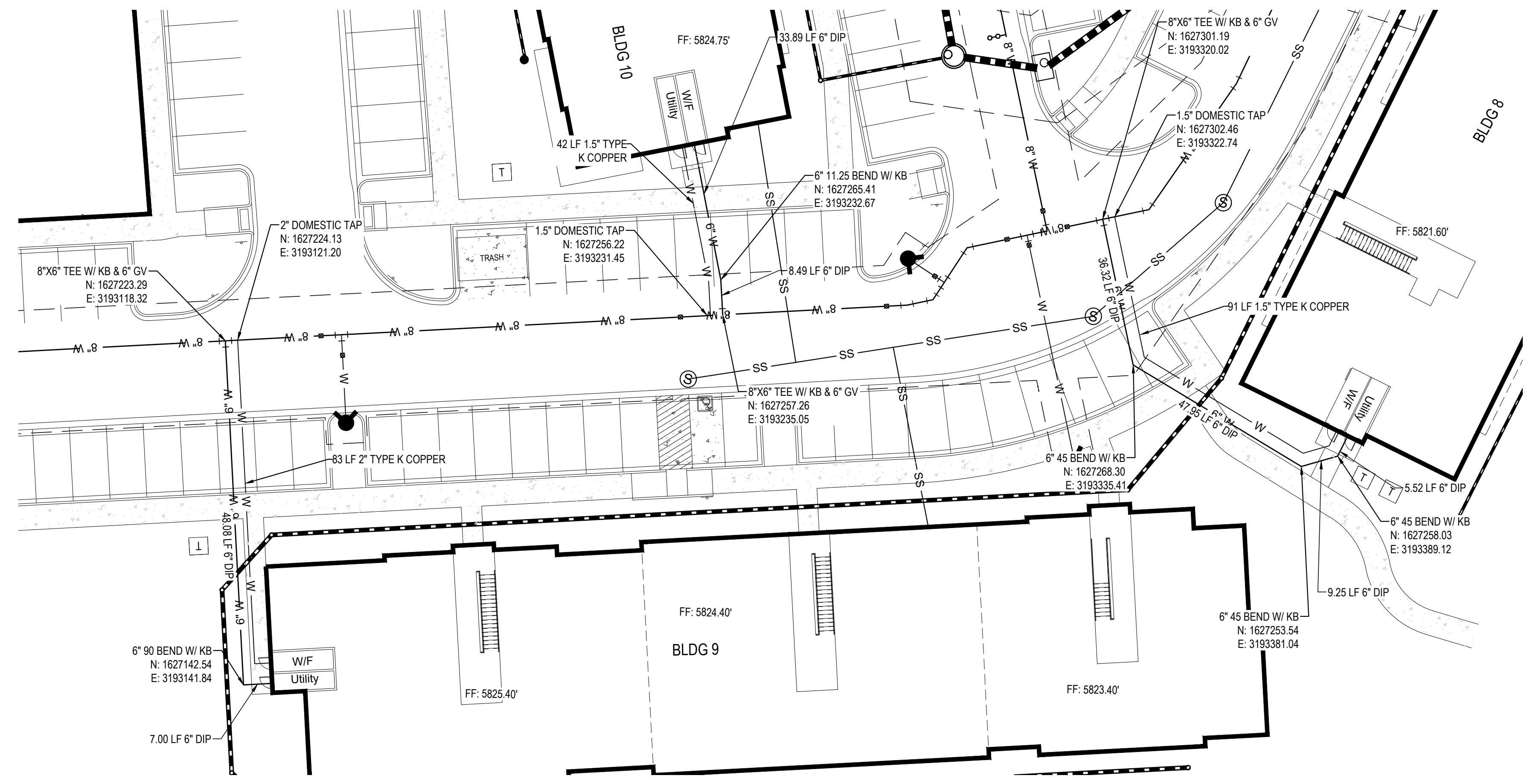
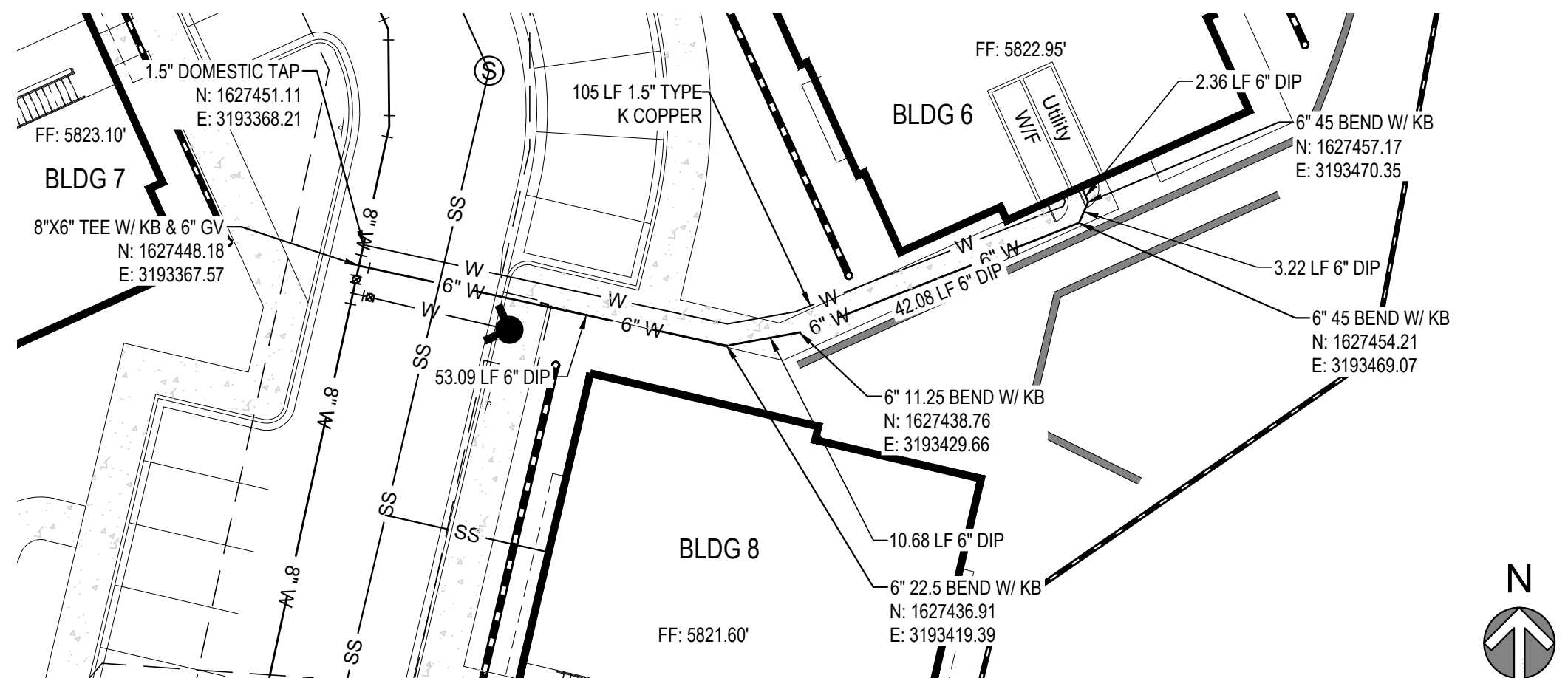
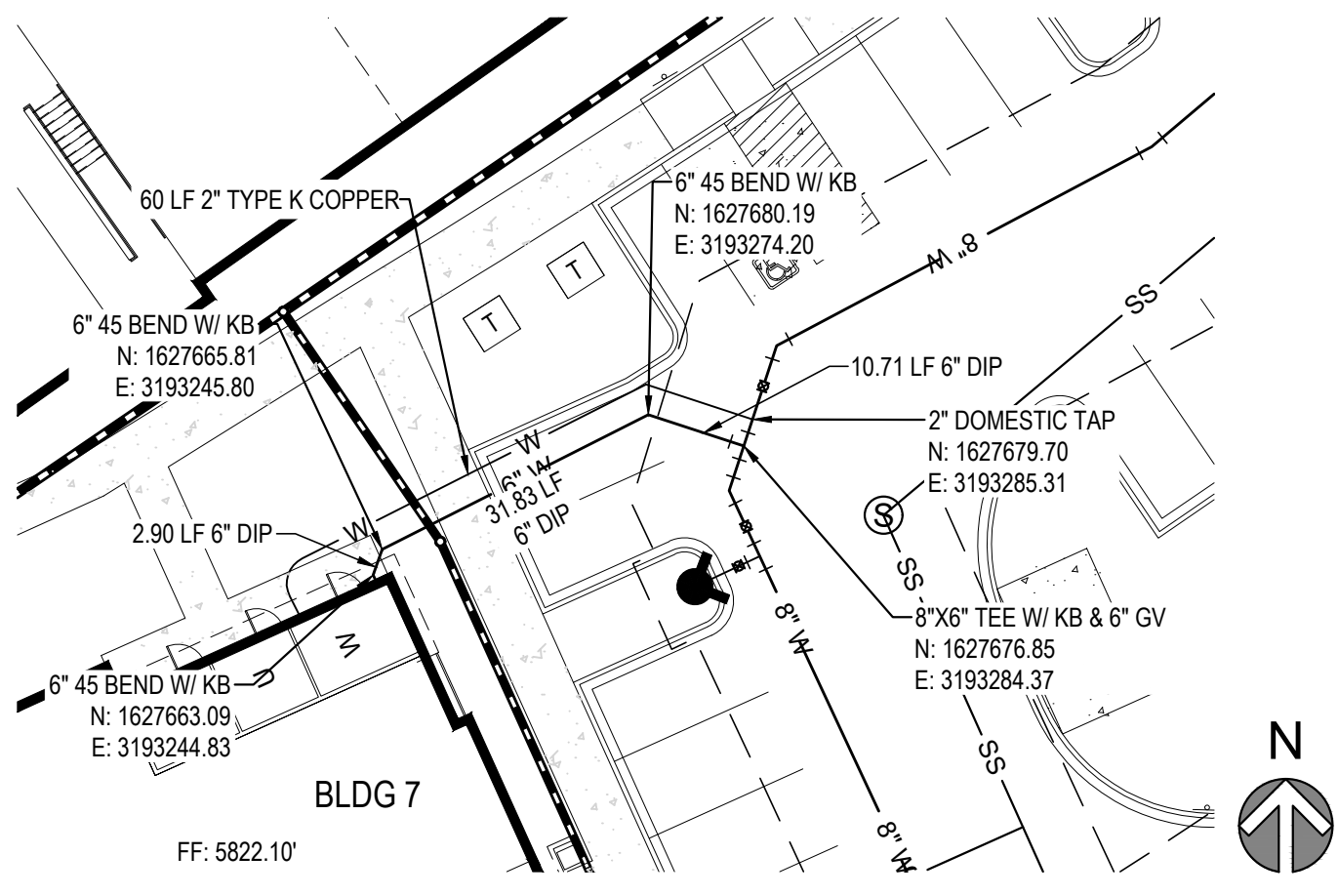
**LOT 1, COMPARK VILLAGE SOUTH
FLG 1, AMD 2
WATER & SANITARY SEWER IMPROVEMENTS
WATER SERVICE PLAN**

PROFESSIONAL ENGINEER
46080
08/25/2022
FOR AND ON BEHALF OF MERRICK & COMPANY

JOB NUMBER: 65120850
DATE: 8/25/2022
SHEET: C8.5
09

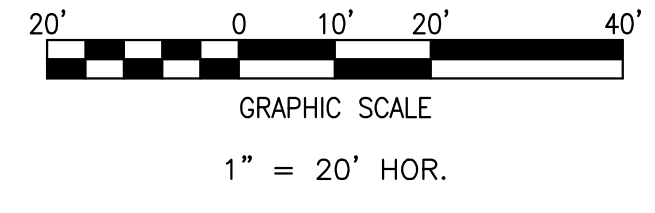
File Location: D:\DEN\Projects\0950-00 Compark_South\CAD\CDS\Water\0950-SERVY Plan.dwg Plot Date: 8/25/2022 12:10 PM Last Saved By: KBLACK

811
Know what's below.
Call before you dig.



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File Location: D:\DEN\Projects\0950-C01 Compark_South\CAD\CDS\Water\0950-SERV Plan.dwg Plot Date: 8/25/2022 12:11 PM Last Saved By: KBLACK



REV	REVISION DESCRIPTION	DATE	CHKD	APPD
A	ISSUED FOR CONSTRUCTION	8/25/2022		

TITLE
 LOT 1, COMPARK VILLAGE SOUTH
 FLAG 1, AMD 2
 WATER & SANITARY SEWER IMPROVEMENTS
 WATER SERVICE PLAN

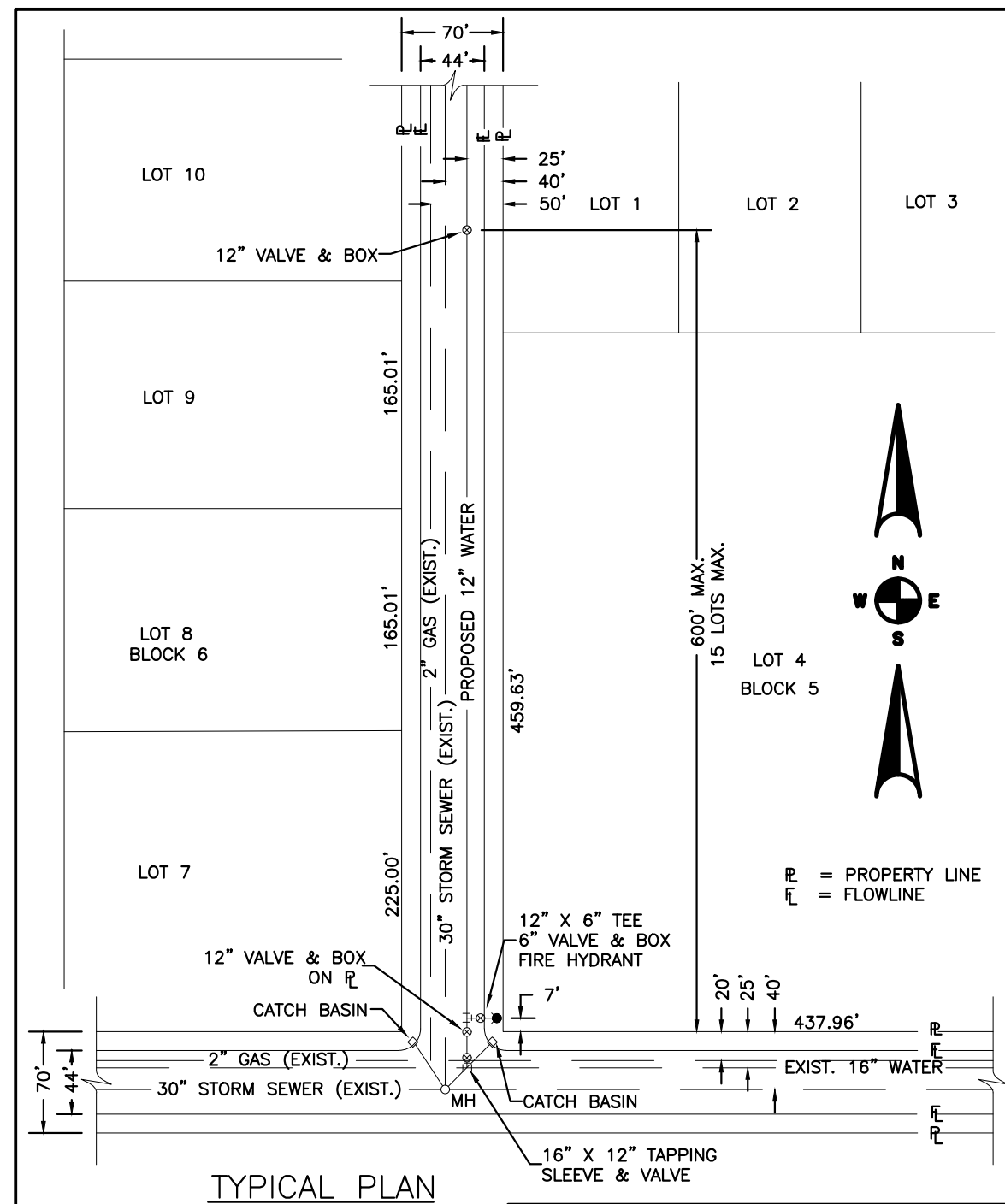


JOB NUMBER: 65120850
 DATE: 8/25/2022
 SHEET: C8.6
 TOTAL SHEETS: 10

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TYPICAL PLAN

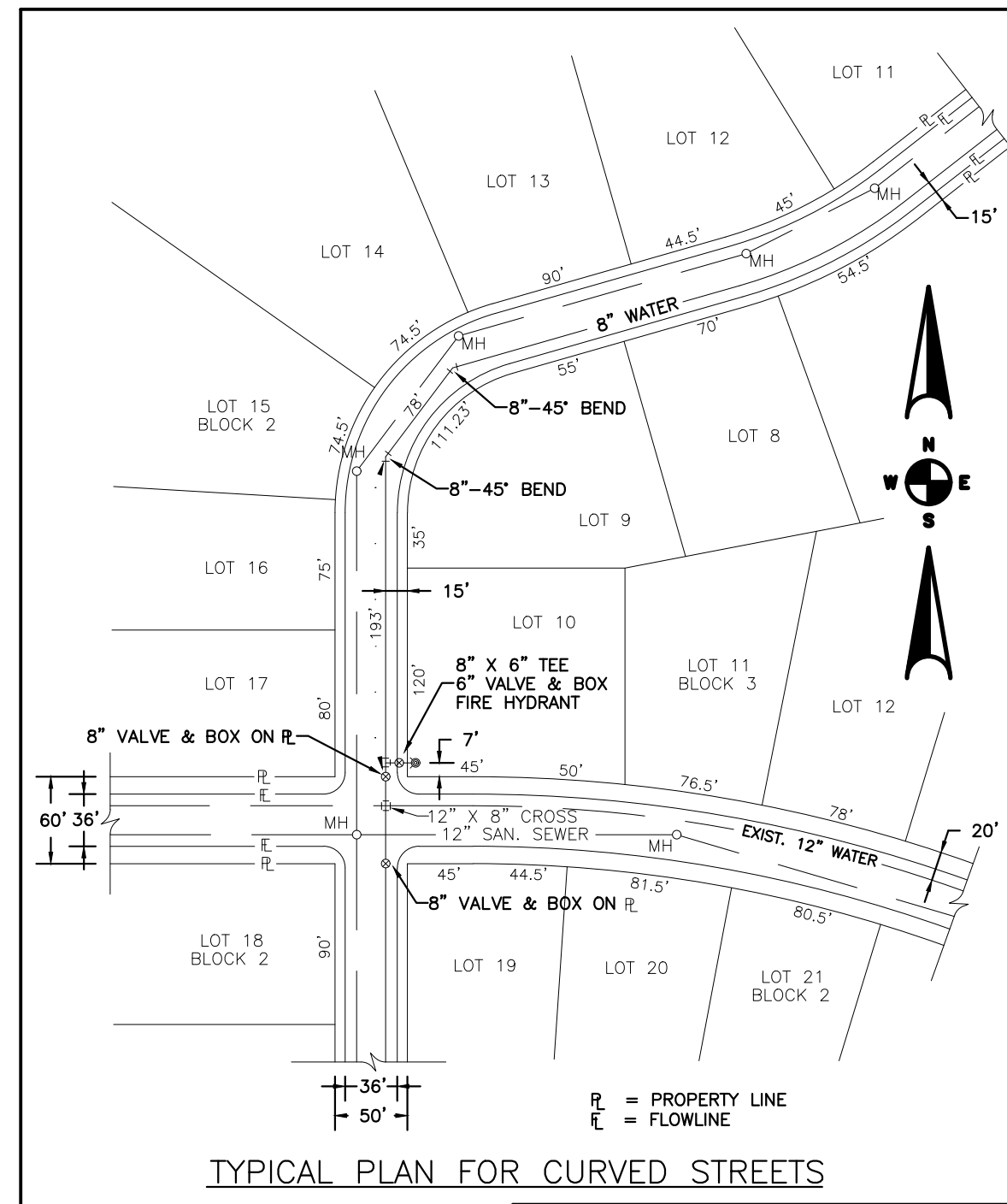
NOTES:
 1. SEE "TYPICAL STREET CROSS SECTION - TYPICAL STREET Q_L PROFILE" DRAWING.
 2. ALL FIRE HYDRANTS TO BE LOCATED AT POINTS OTHER THAN CORNER INTERSECTIONS SHALL BE INSTALLED AT A LOT LINE EXTENDED.

STONEGATE VILLAGE METROPOLITAN DISTRICT
 WATER DISTRIBUTION SYSTEM
 TYPICAL PLAN

SCALE: NONE DATE: 4/00

APPROVED: R/JG DISTRICT ENGINEER

2000 REVISION SHEET 1



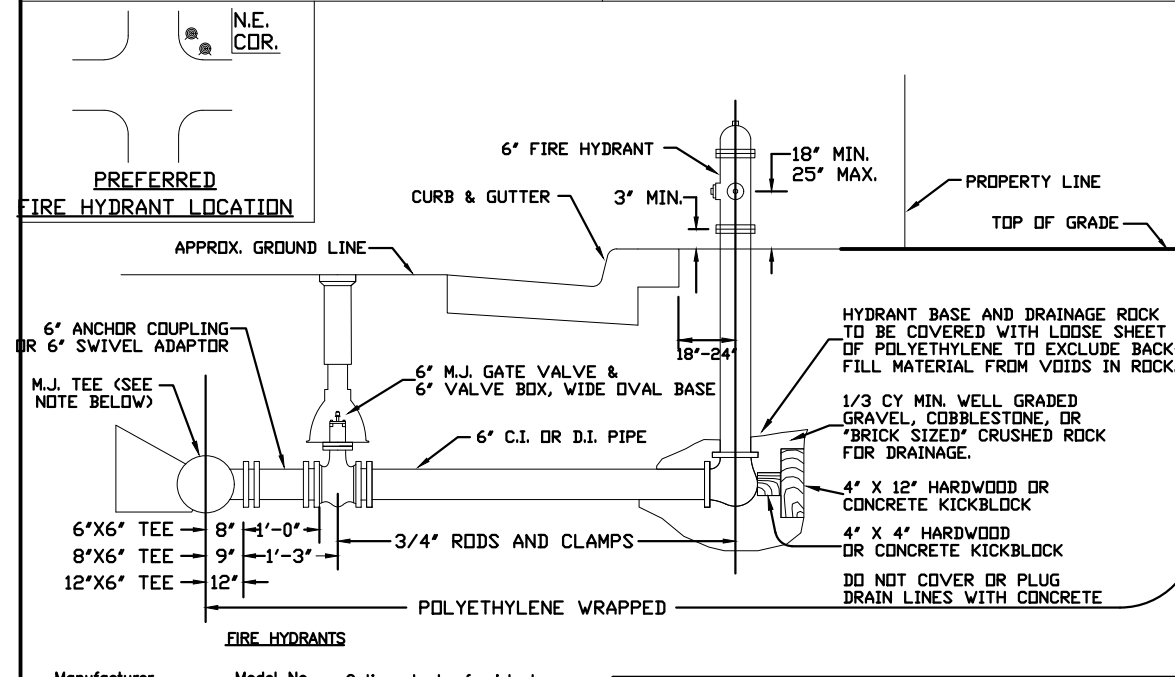
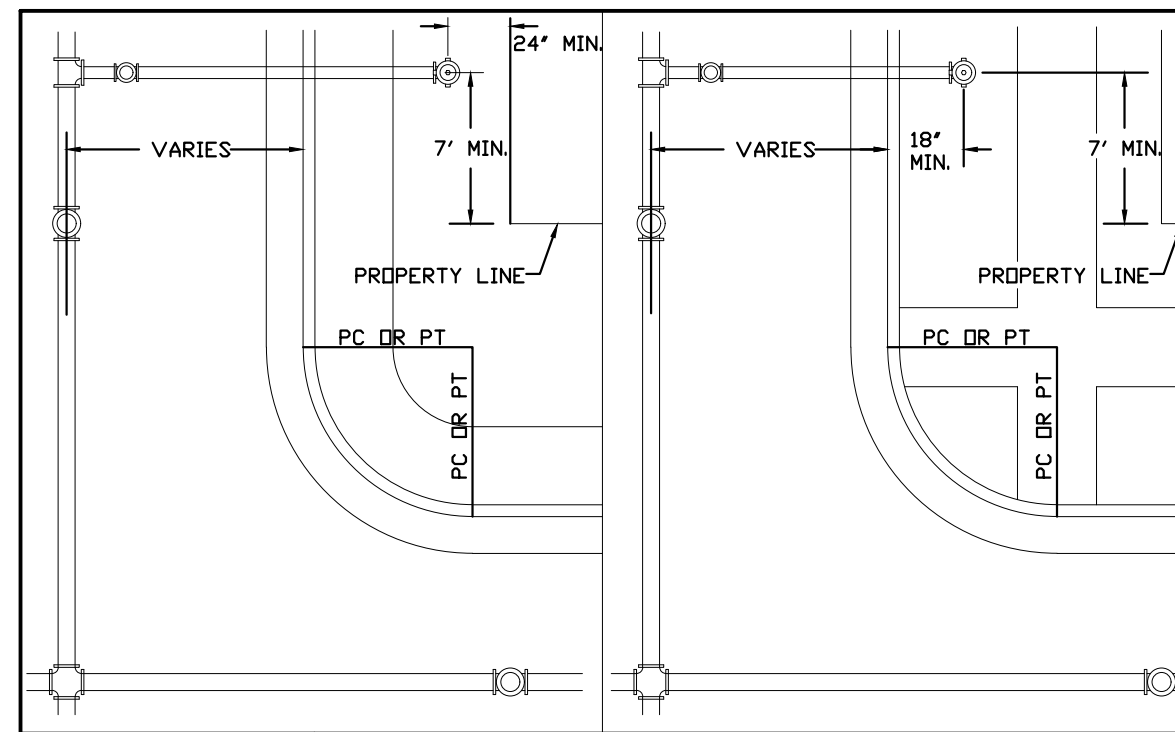
TYPICAL PLAN FOR CURVED STREETS

STONEGATE VILLAGE METROPOLITAN DISTRICT
 WATER DISTRIBUTION SYSTEM
 TYPICAL PLAN FOR CURVED STREETS

SCALE: NONE DATE: 4/00

APPROVED: R/JG DISTRICT ENGINEER

2000 REVISION SHEET 3



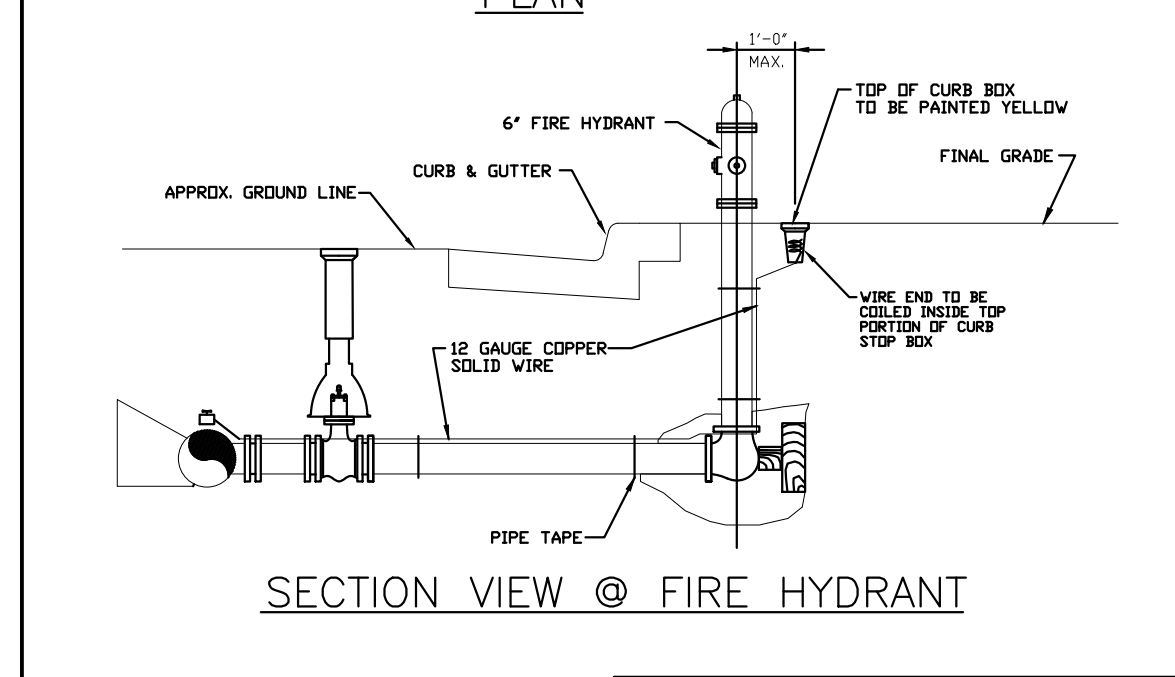
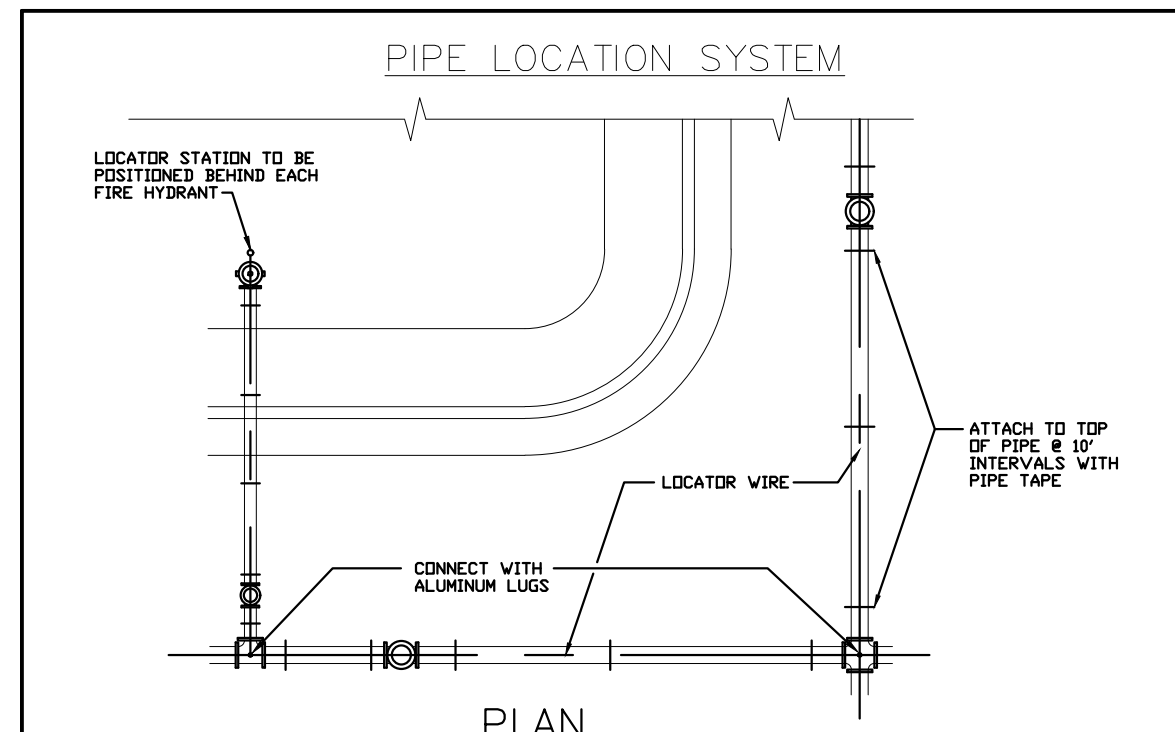
FIRE HYDRANTS LOCATION & INSTALLATION

STONEGATE VILLAGE METROPOLITAN DISTRICT

SCALE: NONE DATE: 4/00

APPROVED: R/JG DISTRICT ENGINEER

2000 REVISION SHEET 5



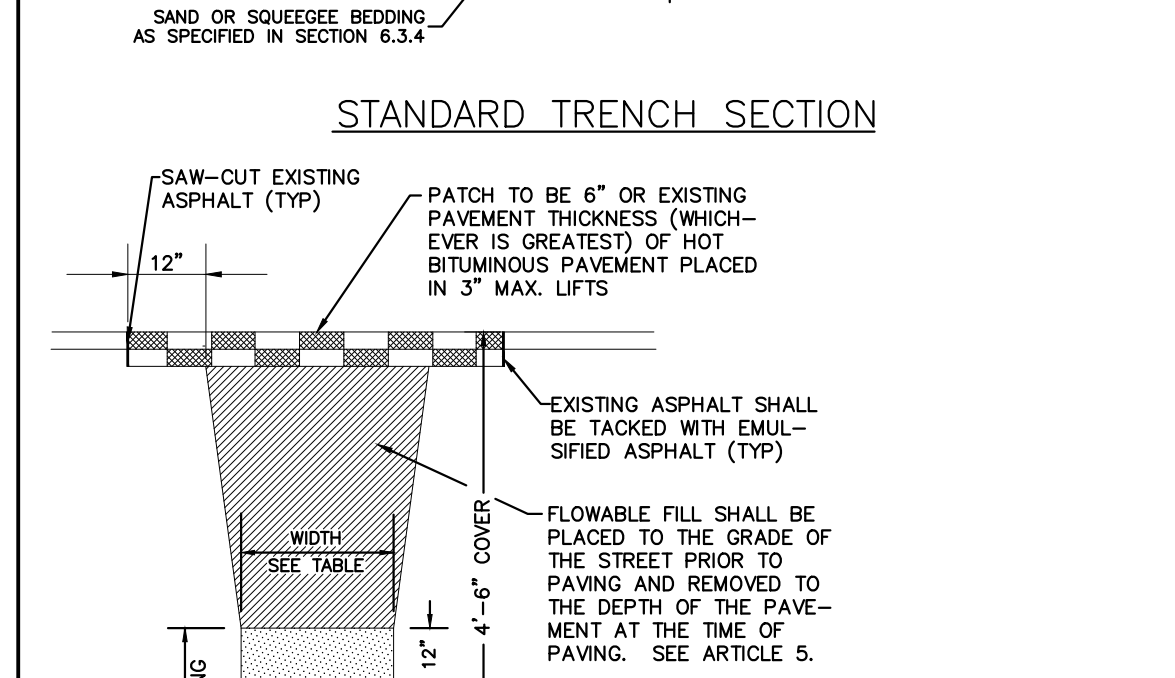
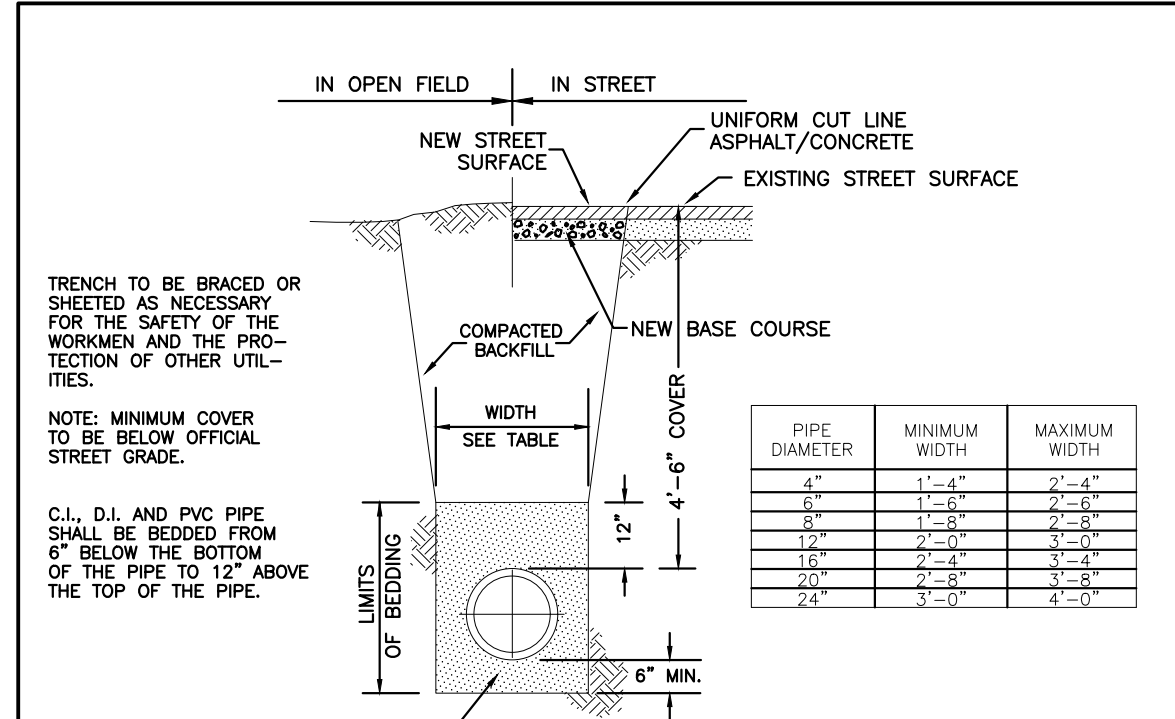
LOCATOR WIRE DETAILS

STONEGATE VILLAGE METROPOLITAN DISTRICT

SCALE: NONE DATE: 4/00

APPROVED: R/JG DISTRICT ENGINEER

2000 REVISION SHEET 6



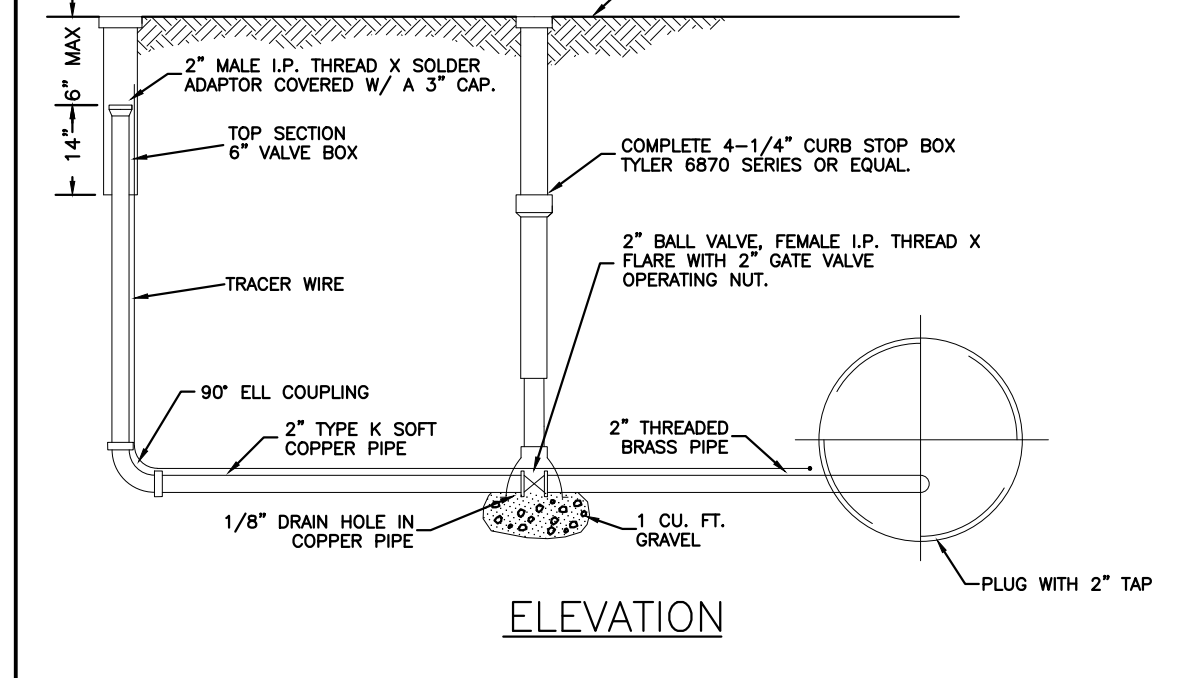
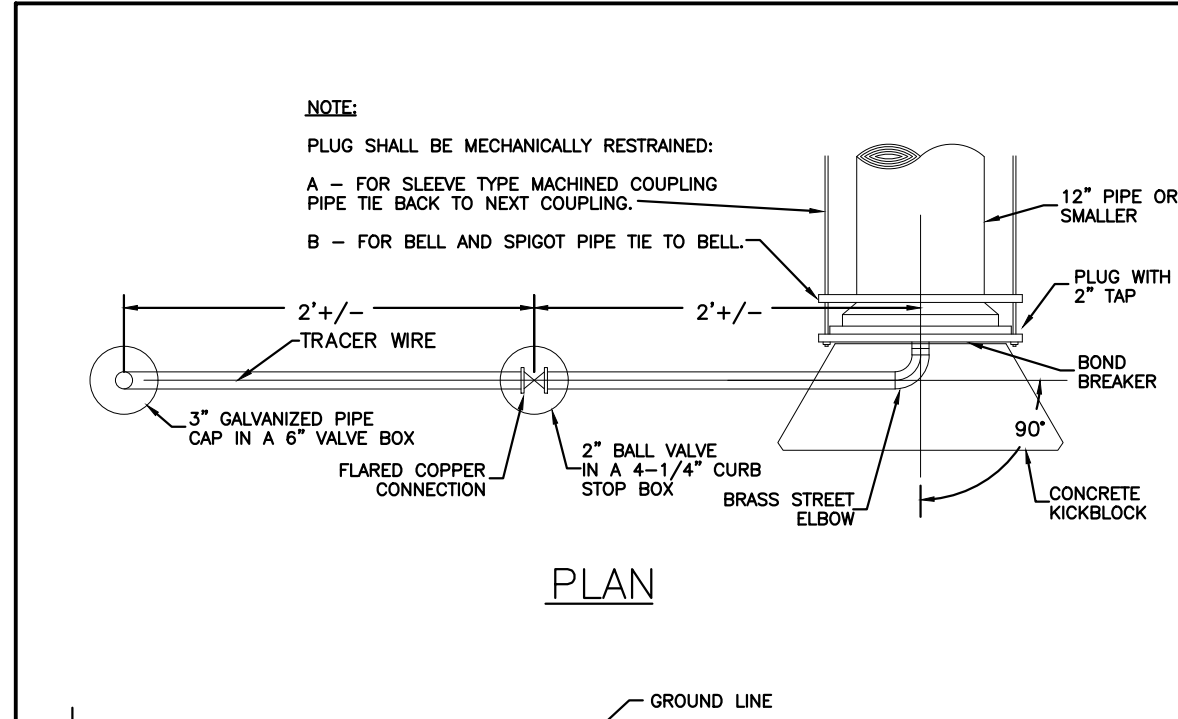
TYPICAL TRENCH SECTION PIPE PROTECTION

STONEGATE VILLAGE METROPOLITAN DISTRICT

SCALE: NONE DATE: 4/00

APPROVED: R/JG DISTRICT ENGINEER

2000 REVISION SHEET 8



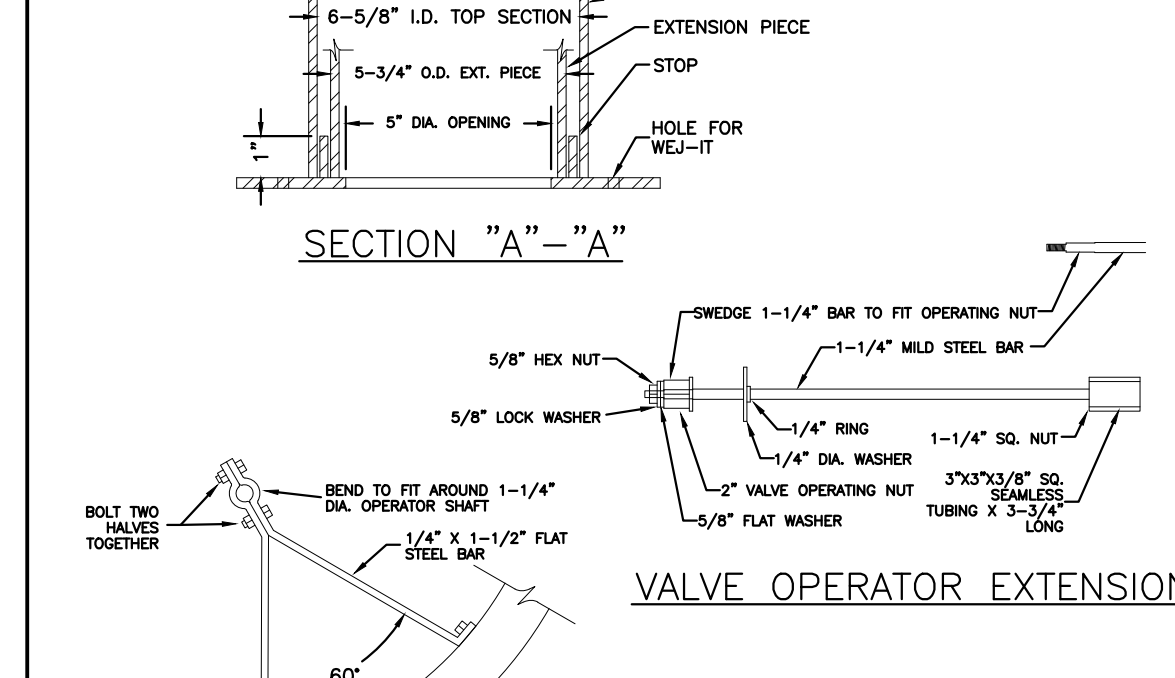
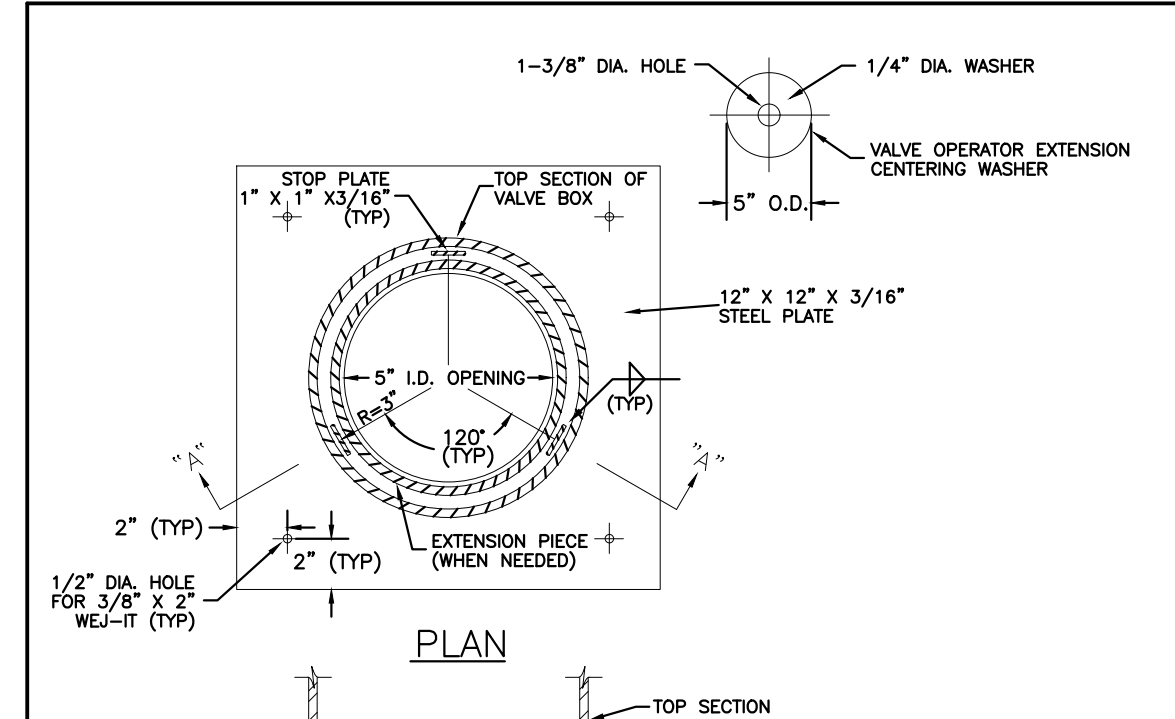
BLOW-OFF INSTALLATION FOR 12" & SMALLER PIPE

STONEGATE VILLAGE METROPOLITAN DISTRICT

SCALE: NONE DATE: 4/00

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2000 REVISION SHEET 9



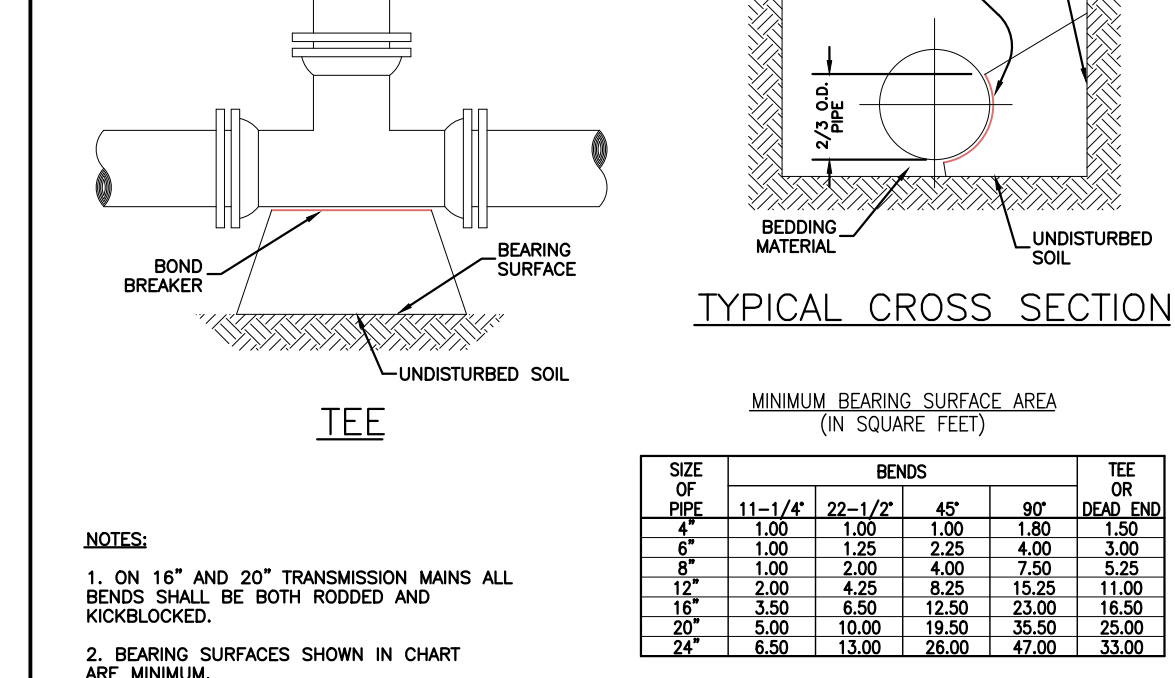
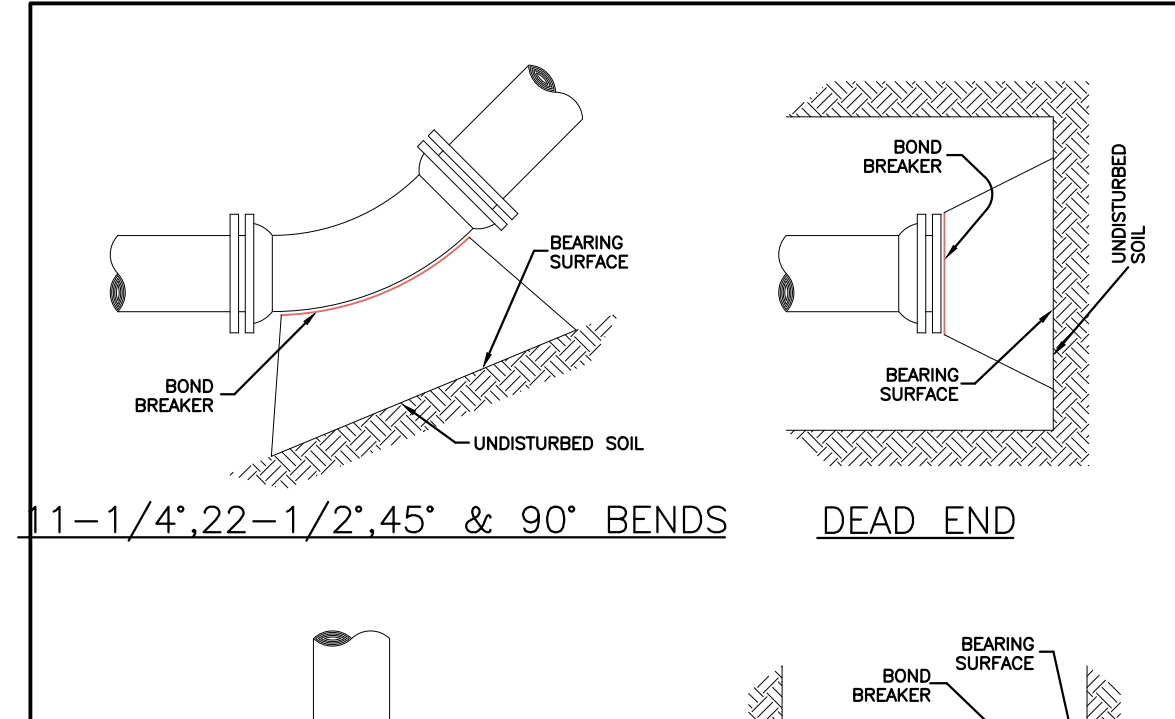
VALVE BOX SUPPORT PLATE AND EXTENSION GUIDE

STONEGATE VILLAGE METROPOLITAN DISTRICT

SCALE: NONE DATE: 4/00

APPROVED: R/JG DISTRICT ENGINEER

2000 REVISION SHEET 12



CONCRETE KICKBLOCKS BEARING SURFACES AND INSTALLATION

STONEGATE VILLAGE METROPOLITAN DISTRICT

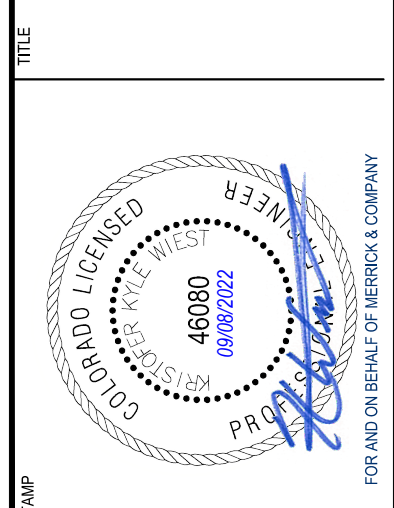
SCALE: NONE DATE: 4/00

APPROVED: R/JG DISTRICT ENGINEER

2000 REVISION SHEET 17

REV	DESCRIPTION	DATE	BY	CHKD	APPR
A	ISSUED FOR CONSTRUCTION	8/25/2022			

**LOT 1, COMPARK VILLAGE SOUTH
 FLG 1, AMD 2
 WATER & SANITARY SEWER IMPROVEMENTS
 STANDARD DETAILS - WATER**



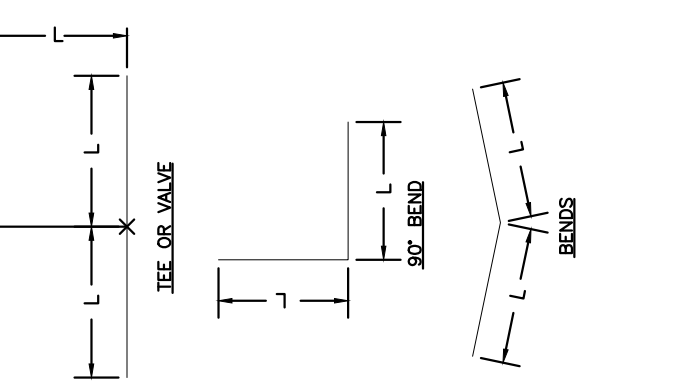
File Location: D:\DEN\Projects\0959-00 Compark South\CADD\Water\0959-WATER DETAIL S.M.F.dwg Plot Date: 8/25/2022 3:30 PM Last Saved By: KBLACK

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LENGTH OF TIED PIPE

PIPE SIZE	4"	6"	8"	12"	16"	20"	24"	
D	L	G	D	L	G	D	L	G
3/4"	6.0	M.S.	3/4"	13.0	M.S.	3/4"	20.0	M.S.
1 1/4"	6.0	M.S.	1 1/4"	13.0	M.S.	1 1/4"	20.0	M.S.
2"	6.0	M.S.	2"	13.0	M.S.	2"	20.0	M.S.
2 1/2"	6.0	M.S.	2 1/2"	13.0	M.S.	2 1/2"	20.0	M.S.
3"	6.0	M.S.	3"	13.0	M.S.	3"	20.0	M.S.
4"	6.0	M.S.	4"	13.0	M.S.	4"	20.0	M.S.
4 1/2"	6.0	M.S.	4 1/2"	13.0	M.S.	4 1/2"	20.0	M.S.
5"	6.0	M.S.	5"	13.0	M.S.	5"	20.0	M.S.
5 1/2"	6.0	M.S.	5 1/2"	13.0	M.S.	5 1/2"	20.0	M.S.
6"	6.0	M.S.	6"	13.0	M.S.	6"	20.0	M.S.
6 1/2"	6.0	M.S.	6 1/2"	13.0	M.S.	6 1/2"	20.0	M.S.
7"	6.0	M.S.	7"	13.0	M.S.	7"	20.0	M.S.
7 1/2"	6.0	M.S.	7 1/2"	13.0	M.S.	7 1/2"	20.0	M.S.
8"	6.0	M.S.	8"	13.0	M.S.	8"	20.0	M.S.
8 1/2"	6.0	M.S.	8 1/2"	13.0	M.S.	8 1/2"	20.0	M.S.
9"	6.0	M.S.	9"	13.0	M.S.	9"	20.0	M.S.
9 1/2"	6.0	M.S.	9 1/2"	13.0	M.S.	9 1/2"	20.0	M.S.
10"	6.0	M.S.	10"	13.0	M.S.	10"	20.0	M.S.
10 1/2"	6.0	M.S.	10 1/2"	13.0	M.S.	10 1/2"	20.0	M.S.
11"	6.0	M.S.	11"	13.0	M.S.	11"	20.0	M.S.
11 1/2"	6.0	M.S.	11 1/2"	13.0	M.S.	11 1/2"	20.0	M.S.
12"	6.0	M.S.	12"	13.0	M.S.	12"	20.0	M.S.
12 1/2"	6.0	M.S.	12 1/2"	13.0	M.S.	12 1/2"	20.0	M.S.
13"	6.0	M.S.	13"	13.0	M.S.	13"	20.0	M.S.
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14"	6.0	M.S.	14"	13.0	M.S.	14"	20.0	M.S.
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15"	6.0	M.S.	15"	13.0	M.S.	15"	20.0	M.S.
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16"	6.0	M.S.	16"	13.0	M.S.	16"	20.0	M.S.
16 1/2"	6.0	M.S.	16 1/2"	13.0	M.S.	16 1/2"	20.0	M.S.
17"	6.0	M.S.	17"	13.0	M.S.	17"	20.0	M.S.
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18"	6.0	M.S.	18"	13.0	M.S.	18"	20.0	M.S.
18 1/2"	6.0	M.S.	18 1/2"	13.0	M.S.	18 1/2"	20.0	M.S.
19"	6.0	M.S.	19"	13.0	M.S.	19"	20.0	M.S.
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20"	6.0	M.S.	20"	13.0	M.S.	20"	20.0	M.S.

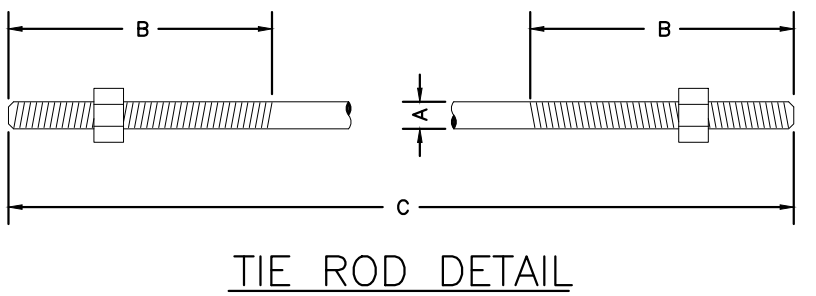
- NOTES:
- LENGTH OF TIED PIPE MEASURED EACH WAY FROM VALVES AND BENDS.
 - CLAMPS AND RODS NOT ALLOWED FOR 24" AND LARGER PIPES.
 - D = DIAMETER, L = LENGTH, G = GRADE, M.S. = MILD STEEL, H.S. = HIGH STRENGTH.
 - MINIMUM 4.5" GROUND COVER REQUIRED.
 - BASED ON 150 PSI INTERNAL PRESSURE.
 - M.S. MEANS MILD STEEL ROD A.S.T.M. STANDARD DESIGNATION A-36.
 - H.S. MEANS HIGH STRENGTH ROD A.S.T.M. STANDARD DESIGNATION A-307 GRADE A OR B HEXAGON HEAVY SERIES.
 - NUTS SHALL BE A.S.T.M. STANDARD DESIGNATION A-307 GRADE A OR B HEXAGON HEAVY SERIES.
 - CLAMP METALS AND SET CLAMP DETAILS SHALL BE AS SHOWN. SEE THE ROD COUPLING DETAILS.
 - LENGTH REFERS TO THE AMOUNT OF PIPE WHICH MUST BE TIED TOGETHER AND IS NOT NECESSARILY THE LENGTH OF THE RODS.
 - STAR BOLTS NOT ALLOWED ON PIPE LARGER THAN 16".
 - MINIMUM OF 4 RODS REQUIRED ON 16" PIPE IF STAR BOLTS ARE USED.
 - TEES ARE TO BE RODED IN BOTH DIRECTIONS.
 - ALL VALVES TO BE RODED IN BOTH DIRECTIONS.



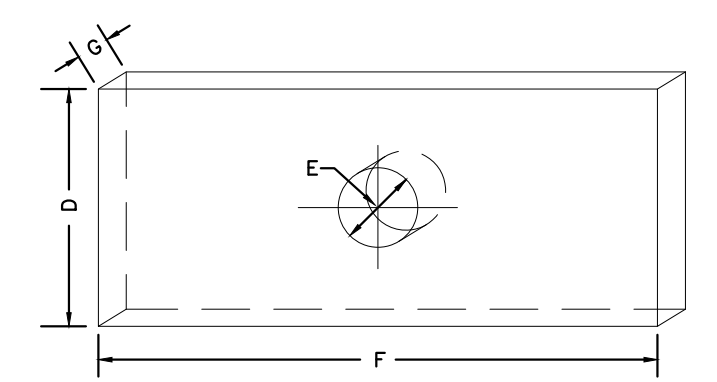
STONEGATE VILLAGE METROPOLITAN DISTRICT
LENGTH OF TIED PIPE

SCALE: NONE DATE: 4/00
APPROVED: R/JG DISTRICT ENGINEER

2000 REVISION SHEET 18



TIE ROD DETAIL



WASHER DETAIL

TIE RODS

ROD DIAMETER	THREAD	ROD LENGTH
3/4"	ALL THREAD	10 11 8 20
1"	ALL THREAD	10 11 8 20

WASHERS

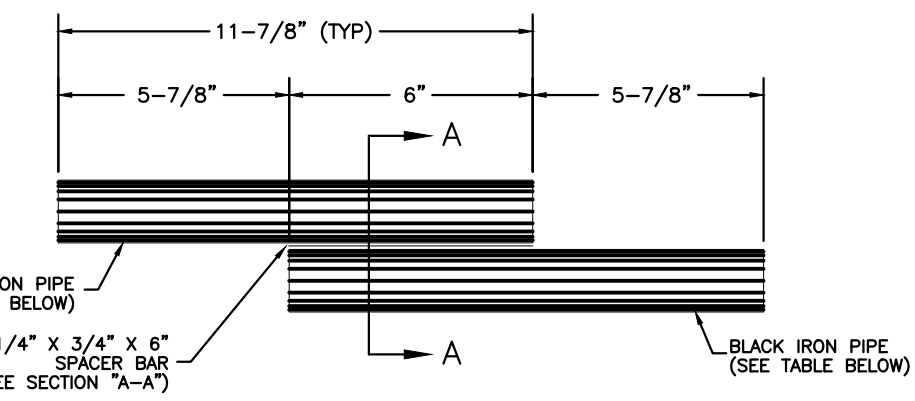
WIDTH	HOLE DIAMETER	LENGTH	THICKNESS
3"	2 1/2"	6"	3/8"
4"	3 1/2"	7"	3/8"
5"	4 1/2"	8"	3/8"

- NOTES:
- SEE TIED JOINTS ROD DIMENSIONS SHEET.
 - SEE CLAMP DETAILS AND DIMENSIONS SHEET 23 FOR PROPER PLACEMENT OF WASHERS.

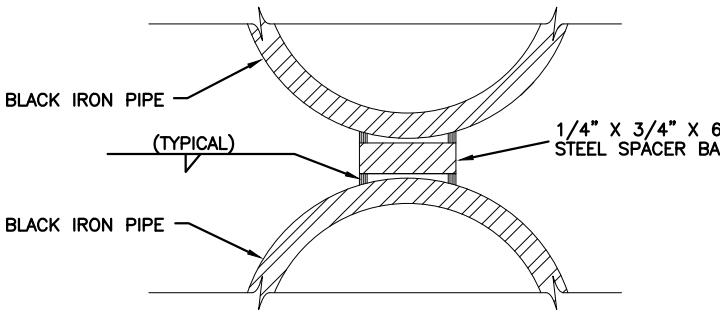
STONEGATE VILLAGE METROPOLITAN DISTRICT
TIE ROD AND WASHER DETAILS

SCALE: NONE DATE: 4/00
APPROVED: R/JG DISTRICT ENGINEER

2000 REVISION SHEET 19



TIE ROD COUPLING DETAIL



SECTION "A-A"

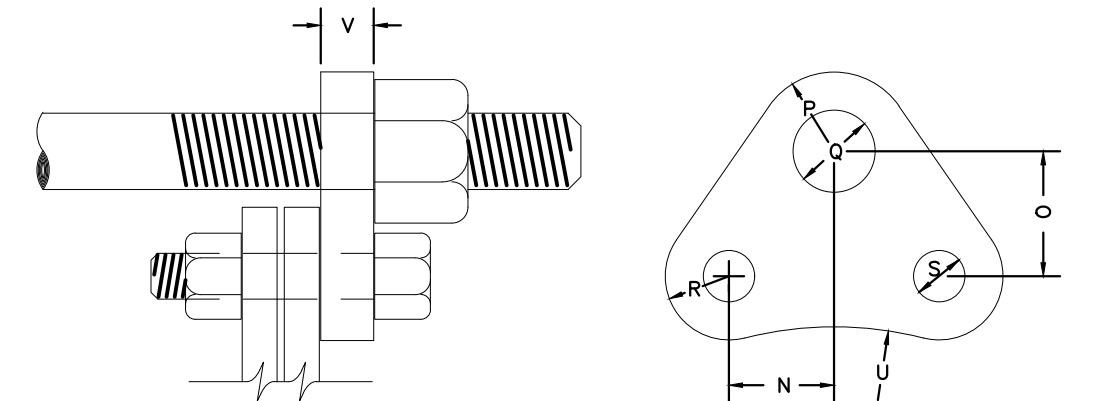
ROD SIZE	PIPE DIAMETER
3/4"	1"
1"	1-1/4"
1-1/4"	1-1/2"

NOTE: BLACK IRON PIPE = SCHEDULE 40.

STONEGATE VILLAGE METROPOLITAN DISTRICT
TIE ROD COUPLING

SCALE: NONE DATE: 4/00
APPROVED: R/JG DISTRICT ENGINEER

2000 REVISION SHEET 20



FLANGE LUG DETAIL

DIMENSIONS (IN INCHES)

PIPE DIA.	N	O	H.S. ROD			M.S. ROD			R	S	U	V	PIPE DIA.
			P	Q	ROD DIA.	P	Q	ROD DIA.					
4"	1 1/2"	2 1/4"	7/8"	3/4"	7/8"	3/4"	7/8"	3/4"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	4"
6"	2 1/4"	3 1/4"	7/8"	3/4"	7/8"	3/4"	7/8"	3/4"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	6"
8"	2 3/4"	3 3/4"	7/8"	3/4"	7/8"	3/4"	7/8"	3/4"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	8"
10"	3 1/4"	4 1/4"	7/8"	3/4"	7/8"	3/4"	7/8"	3/4"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	10"
12"	3 3/4"	4 3/4"	7/8"	3/4"	7/8"	3/4"	7/8"	3/4"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	12"
14"	4 1/4"	5 1/4"	7/8"	3/4"	7/8"	3/4"	7/8"	3/4"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	14"
16"	4 3/4"	5 3/4"	7/8"	3/4"	7/8"	3/4"	7/8"	3/4"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	16"
18"	5 1/4"	6 1/4"	7/8"	3/4"	7/8"	3/4"	7/8"	3/4"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	18"
20"	5 3/4"	6 3/4"	7/8"	3/4"	7/8"	3/4"	7/8"	3/4"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	20"

- NOTES:
- M.S. MEANS MILD STEEL ROD A.S.T.M. STANDARD DESIGNATION A-36. (NUTS SHALL BE A.S.T.M. STANDARD DESIGNATION A-307 GRADE A OR B HEXAGON HEAVY SERIES).
 - H.S. MEANS HIGH STRENGTH STEEL ROD A.S.T.M. STANDARD DESIGNATION A-193 GRADE 87. (NUTS SHALL BE A.S.T.M. STANDARD DESIGNATION A-194 GRADE 2H).
 - FLANGE LUGS SHALL NOT BE USED ON VALVES.

STONEGATE VILLAGE METROPOLITAN DISTRICT
FLANGE LUG DETAIL

SCALE: NONE DATE: 4/00
APPROVED: R/JG DISTRICT ENGINEER

2000 REVISION SHEET 21

PIPE BEDDING:

(a) Installation of Bedding and Pipe: After completion of the trench excavation and proper preparation of the foundation, six inches (6") of bedding material shall be placed on the trench bottom for support under the pipe. Bell holes shall be dug deep enough to provide a minimum of two inches (2") of clearance between the bell and bedding material. All pipe shall be installed in such a manner as to insure full support of the pipe barrel over its entire length. After the pipe is adjusted for line and grade, and the joint is made, the bedding material shall be carefully placed and tamped under the haunches of the pipe and in the previously dug bell holes.

Tamping is herein defined as the act of placing approved bedding material under the haunches of the pipe, paying particular attention to voids, bell holes, and silt holes. The purpose of tamping is to ensure uniform support for the pipe.

The limits of bedding shall be from six inches (6") below the bottom of the pipe to twelve inches (12") above the top of the pipe. Approved backfill may then be installed to the groundline. See Section 8 of these Standards for backfill and composition of backfill.

Compaction of bedding is not required. The only requirement is sufficient tamping to achieve uniform support under the pipe. See Sheet 8 of these Standards for a typical trench cross section.

(b) Bedding Material: The bedding material shall be a clean well-graded sand or silt-sand and shall conform to the following limits when tested by means of laboratory sieves:

Well-Graded Sand

Sieve Size	Total Percent Passing by Weight
3/8 inch	100
No. 4	95-100
No. 8	80-100
No. 16	50-85
No. 30	25-60
No. 50	10-30
No. 100	2-10
No. 200	0

Squeeze Sand

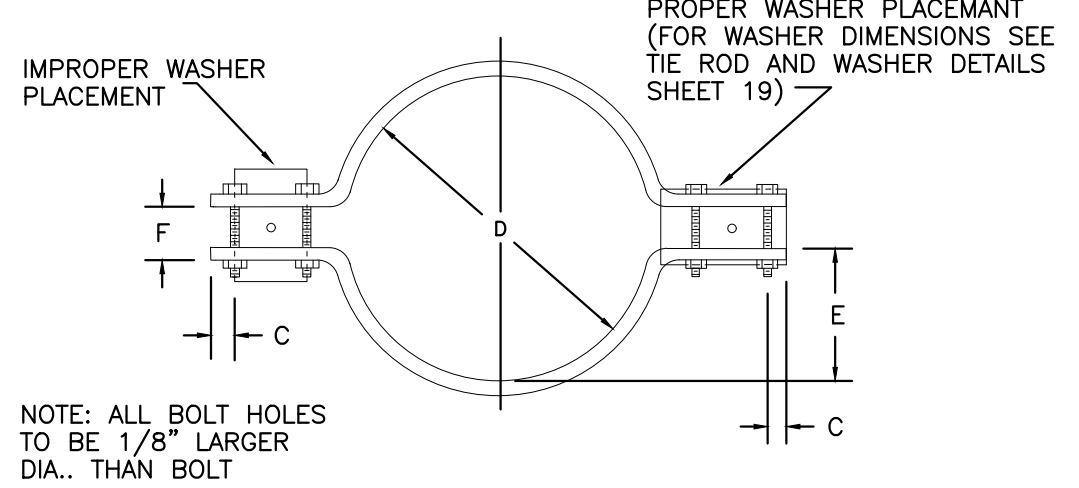
Sieve Size	Total Percent Passing by Weight
3/8 inch	100
No. 100	0-5

If approved by the District, fines from the trench walls and spoils pile may be used to provide uniform support for the pipe. No rock or stone larger than that allowed by the sieve analysis, or any other detrimental substance, shall be placed closer to the pipe than six inches (6"). Approved bedding materials shall be stockpiled on the jobsite to be used in the event natural materials become unsatisfactory. The District reserves the right to require the use of the specified bedding material at any time.

STONEGATE VILLAGE METROPOLITAN DISTRICT
PIPE BEDDING

SCALE: NONE DATE: 4/00
APPROVED: R/JG DISTRICT ENGINEER

2000 REVISION SHEET 22



CLAMP DETAILS

DIMENSIONS

TABLE OF DIMENSIONS FOR CLAMPS

PIPE DIA.	BAR SIZE	A	B	C	D	E	F	BOLT SIZES	PIPE DIA.					
4"	1-1/2"	9-3/4"	7-1/2"	3-1/2"	3-1/2"	1"	6-3/4"	4-7/8"	2-3/4"	1-13/16"	1-1/4"	3X1/2"	2-1/2X3/8"	4"
6"	2X1/2"	13"	9-1/2"	4"	4-1/2"	2"	10-1/4"	7-7/8"	4-1/8"	2-19/16"	2"	1-1/4"	3-1/2X1/2"	6"
8"	2-1/2"	15"	12-3/4"	4-3/4"	4-1/2"	2-1/4"	12-1/4"	9-1/4"	5-1/8"	4"	2"	1-1/4"	4-1/2X1/2"	8"
12"	2-1/2"	17-1/2"	16-3/8"	4-5/8"	4-3/4"	1"	1-1/4"	14-1/2"	13-1/2"	6"	5-1/2"	2-1/2"	4-1/2X5/8"	12"
16"	3X3/4"	24-1/2"	21-7/8"	4-1/2"	4-3/4"	1-1/2"	19-3/4"	17-1/2"	8-3/8"	7-1/2"	3"	2-1/2"	5-1/2X5/8"	16"
20"	3X3/4"	30-1/2"	25-3/8"	4-1/2"	4-3/4"	1-1/2"	24-3/4"	21-3/4"	10-7/8"	9-1/2"	3"	2-3/4"	5-1/2X5/8"	20"
24"														24"

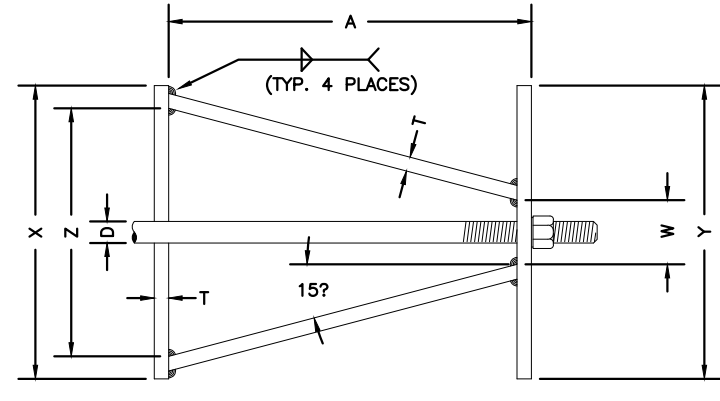
RODS AND CLAMPS NOT ALLOWED.

NOTE: ALL DIMENSIONS IN INCHES. CLAMPS MAY NOT BE USED ON PVC PIPE.

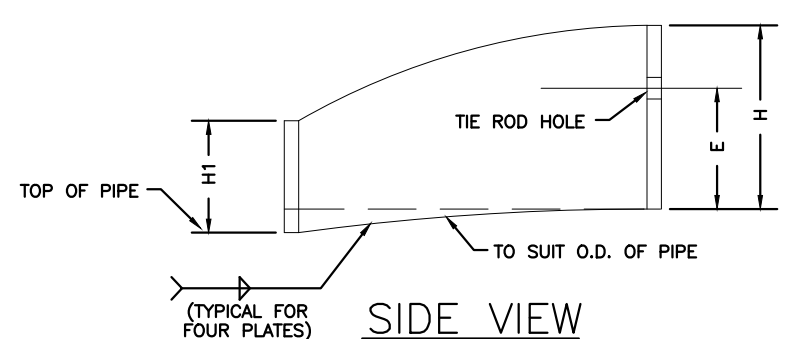
STONEGATE VILLAGE METROPOLITAN DISTRICT
CLAMP DETAILS AND DIMENSIONS

SCALE: NONE DATE: 4/00
APPROVED: R/JG DISTRICT ENGINEER

2000 REVISION SHEET 23



TOP VIEW



SIDE VIEW

HARNES LUG DIMENSIONS

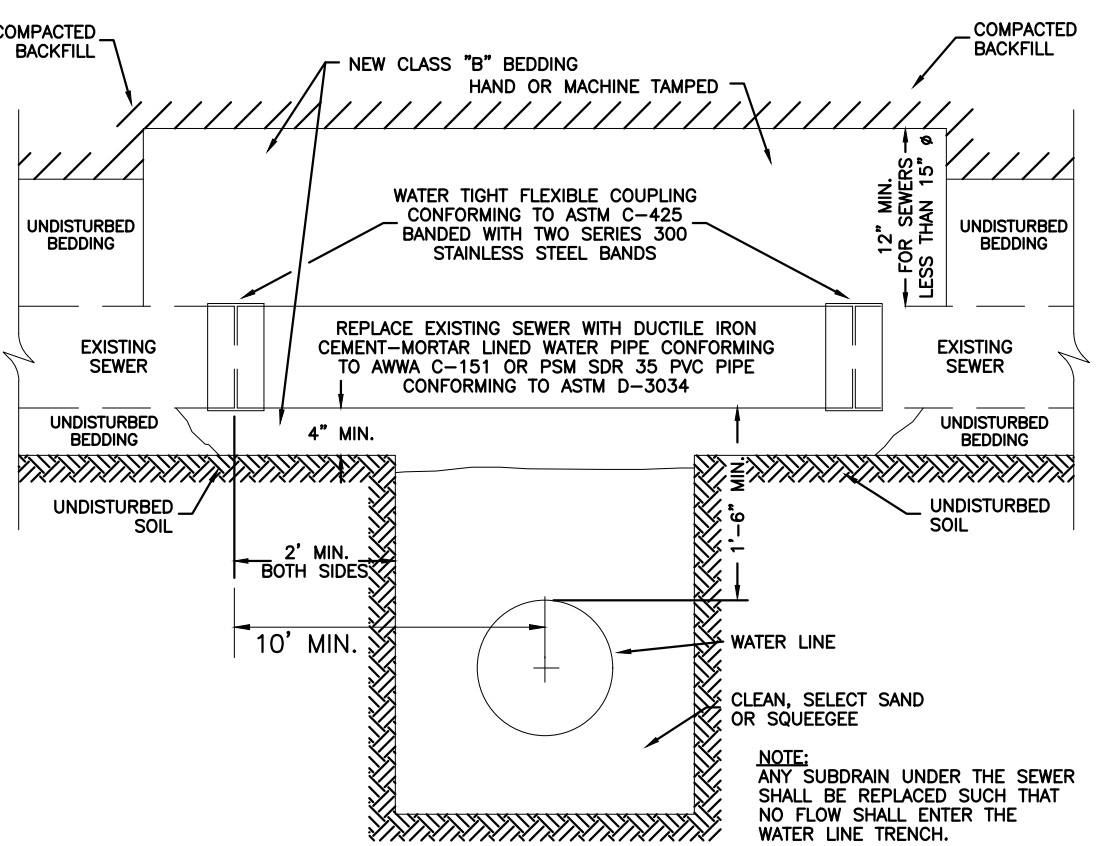
CARRIER PIPE NOMINAL DIA.	STUD DIA.	A	W	Z	T	H	E	H1	Y	X
4" to 16"	3/4"	5"	1-1/2"	3-3/4"	3/8"	4-1/8"	3-1/8"	2"	4-1/2"	5"
20"	1"	5-3/4"	1-3/4"	4-7/16"	3/8"	4-1/2"	3-1/4"	2"	5-1/4"	5-11/16"

- NOTES:
- USE TWO HIGH STRENGTH STEEL TIE RODS AT END OF CASING.
 - TIE ROD HOLE DIAMETER 1/8" LARGER THAN STUD DIAMETER.
 - BOTTOM EDGE OF ALL PLATES SHAPED TO FIT O.D. OF PIPE.

STONEGATE VILLAGE METROPOLITAN DISTRICT
HARNES LUG DETAILS

SCALE: NONE DATE: 4/00
APPROVED: R/JG DISTRICT ENGINEER

2000 REVISION SHEET 24



SEWER CROSSING UNDER (WITH "D" LESS THAN 2')

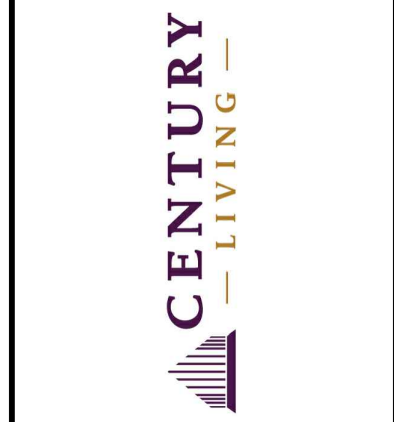
STONEGATE VILLAGE METROPOLITAN DISTRICT
CROSSING STORM & SANITARY SEWERS

SCALE: NONE DATE: 4/00
APPROVED: R/JG DISTRICT ENGINEER

2000 REVISION SHEET 28

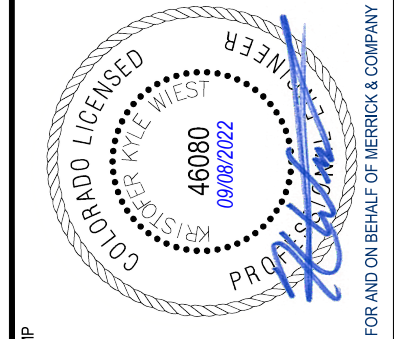


Know what's below. Call before you dig.

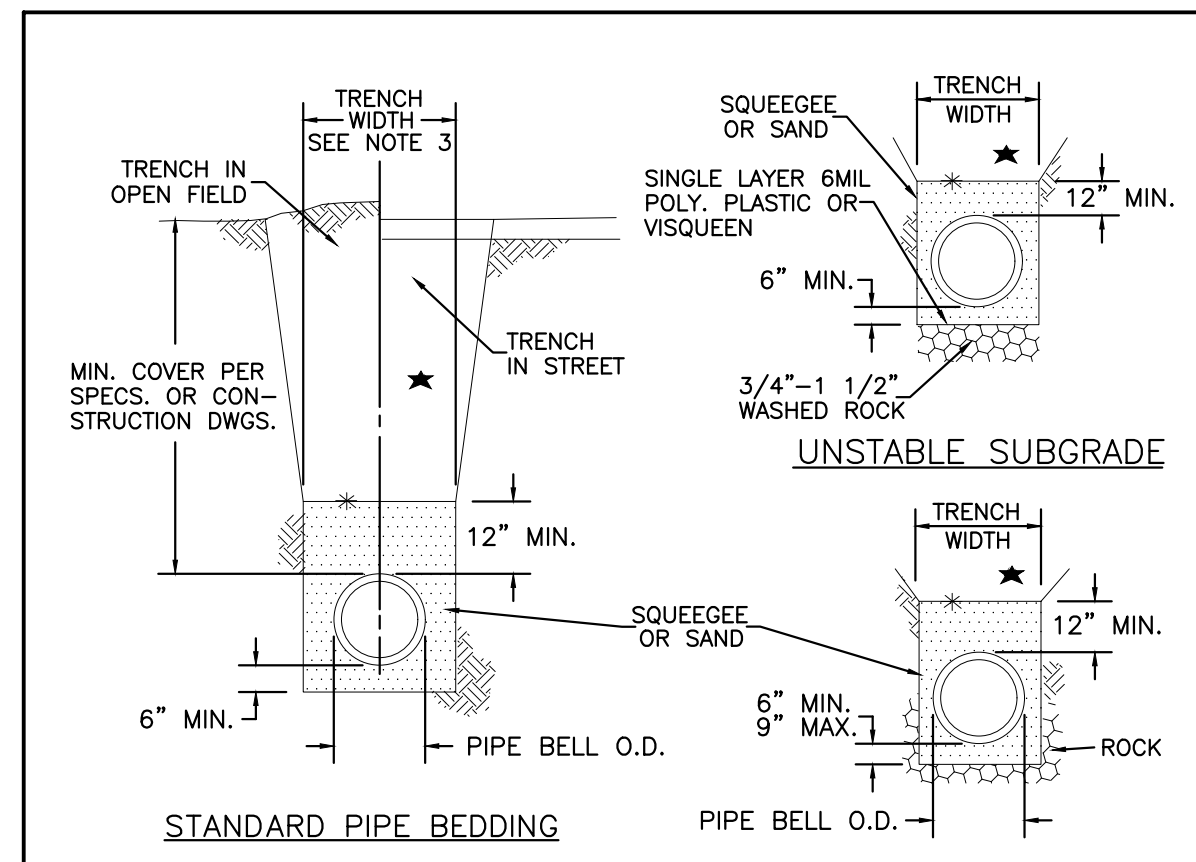


REV	DESCRIPTION	DATE	BY	CHKD	APPD
A	ISSUED FOR CONSTRUCTION	8/25/2022			

LOT 1, COMPARK VILLAGE SOUTH
FLG 1, AMD 2
WATER & SANITARY SEWER IMPROVEMENTS
STANDARD DETAILS - WATER



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- STANDARD PIPE BEDDING**
- ★ MACHINE COMPACTED TRENCH BACKFILL
 - * LIMIT OF SLOPING OR BENCHING OF TRENCH WALLS
 - UNDISTURBED GROUND
- PIPE BEDDING IN ROCK**

NOTES:

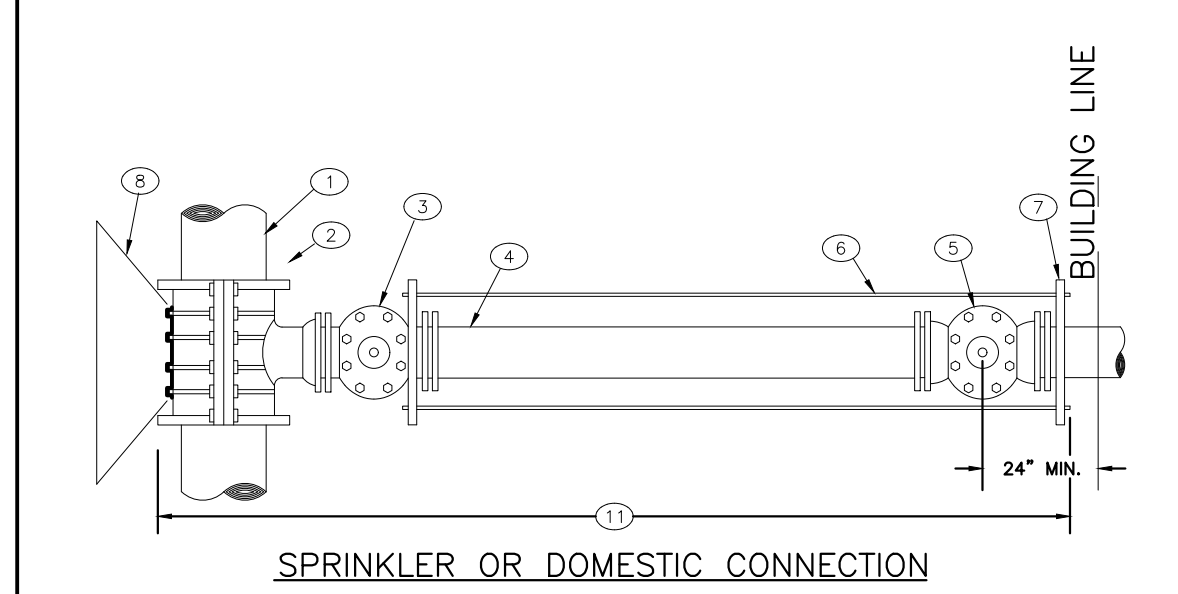
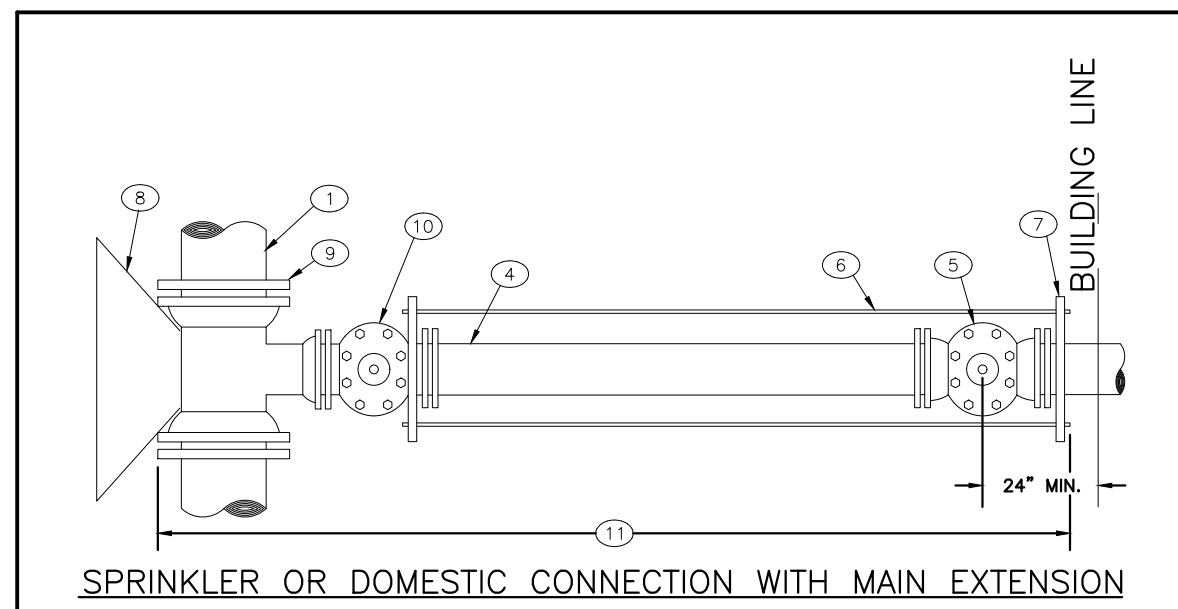
- MIN. COVER TO BE BELOW FINAL STREET GRADE WHEN AVAILABLE.
- TRENCH TO BE BRACED OR SHEETED AS NECESSARY FOR THE PROTECTION OF OTHER UTILITIES AND TO MEET OSHA SAFETY REQUIREMENT.
- TRENCH WIDTH SHALL NOT BE MORE THAN 16" NOR LESS THAN 12" WIDER THAN THE LARGEST OUTSIDE DIAMETER OF THE PIPE LAID THEREIN (BELL OR COUPLING O.D. IF APPLICABLE).

STONEGATE VILLAGE METROPOLITAN DISTRICT
BEDDING DETAILS

SCALE: NONE DATE: 4/00

APPROVED: R/JG DISTRICT ENGINEER

2000 REVISION SHEET 29



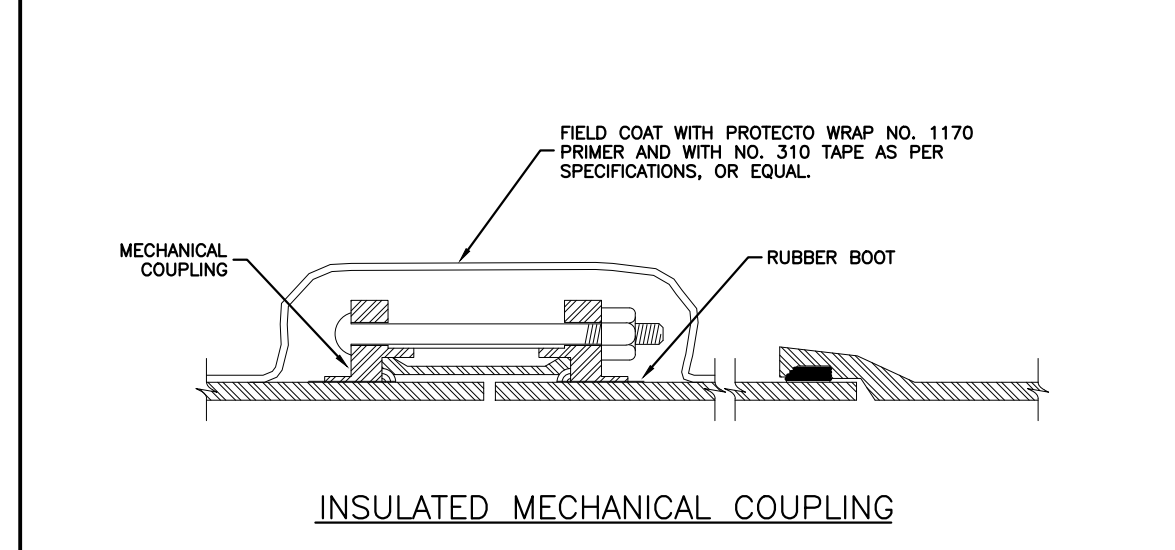
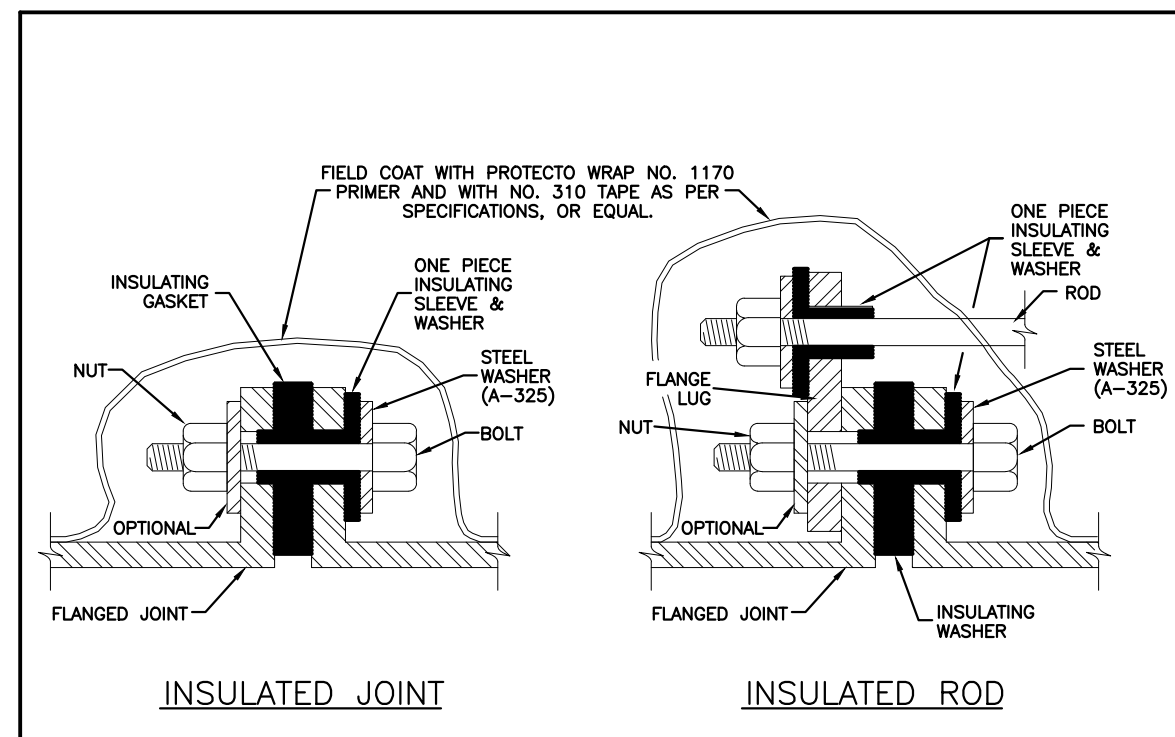
- EXISTING MAIN**
- EXISTING MAIN
 - TAPPING SLEEVE
 - TAPPING VALVE
 - DOUBLE SPIGOT PIPE
 - PROPERTY LINE VALVE
 - TEE RODS
 - PIPE CLAMP
 - CONCRETE KICKBLOCK
 - M.J. ANCHORING TEE (SWIVEL TEE)
 - M.J. VALVE
 - POLYETHYLENE WRAPPED

STONEGATE VILLAGE METROPOLITAN DISTRICT
3" AND LARGER DOMESTIC AND SPRINKLER CONNECTIONS

SCALE: NONE DATE: 4/00

APPROVED: R/JG DISTRICT ENGINEER

2000 REVISION SHEET 31

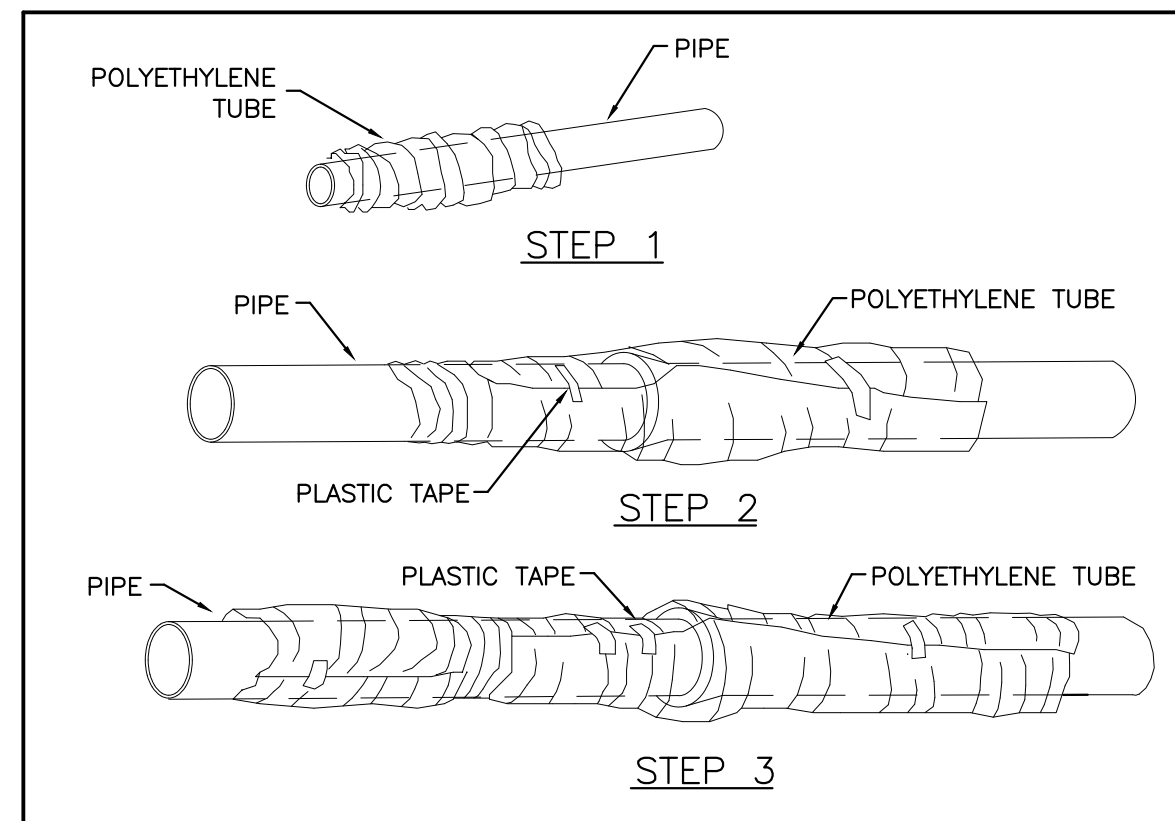


STONEGATE VILLAGE METROPOLITAN DISTRICT
INSULATED JOINTS, RODS AND MECHANICAL COUPLINGS

SCALE: NONE DATE: 4/00

APPROVED: R/JG DISTRICT ENGINEER

2000 REVISION SHEET 32



FIELD INSTALLATION - POLYETHYLENE WRAP

STEP 1 - PLACE TUBE OF POLYETHYLENE MATERIAL ON PIPE PRIOR TO LOWERING IT INTO TRENCH.

STEP 2 - PULL THE TUBE OVER THE LENGTH OF THE PIPE. TAPE TUBE TO PIPE AT JOINT. FOLD MATERIAL AROUND THE ADJACENT SPIGOT END AND WRAP WITH TAPE TO HOLD THE PLASTIC TUBE IN PLACE.

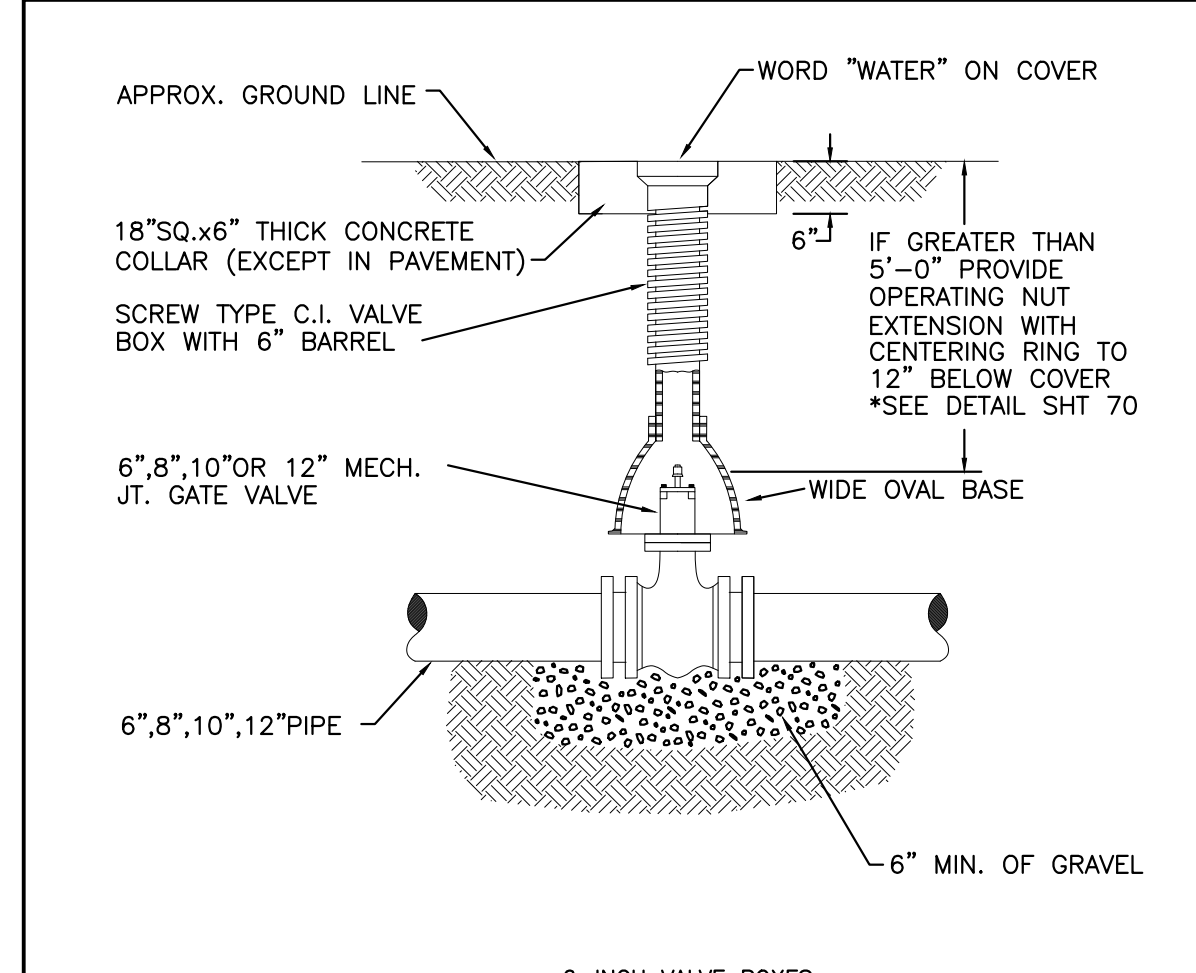
STEP 3 - OVERLAP FIRST TUBE WITH ADJACENT TUBE AND SECURE WITH PLASTIC ADHESIVE TAPE. THE POLYETHYLENE TUBE MATERIAL COVERING THE PIPE SHALL BE LOOSE. EXCESS MATERIAL SHALL BE NEATLY DRAWN UP AROUND THE PIPE BARREL, FOLDED ON TOP OF PIPE AND TAPED IN PLACE.

STONEGATE VILLAGE METROPOLITAN DISTRICT
POLYETHYLENE WRAP

SCALE: NONE DATE: 4/00

APPROVED: R/JG DISTRICT ENGINEER

2000 REVISION SHEET 33



6-INCH VALVE BOXES

Materials:
Valve box parts shall be made from gray cast iron, ASTM A48 Class 20A. Use of an aluminum alloy as a casting material is not acceptable.

Approved Patterns:
Valve boxes shall be the three-piece adjustable screw type and the following two patterns are acceptable.

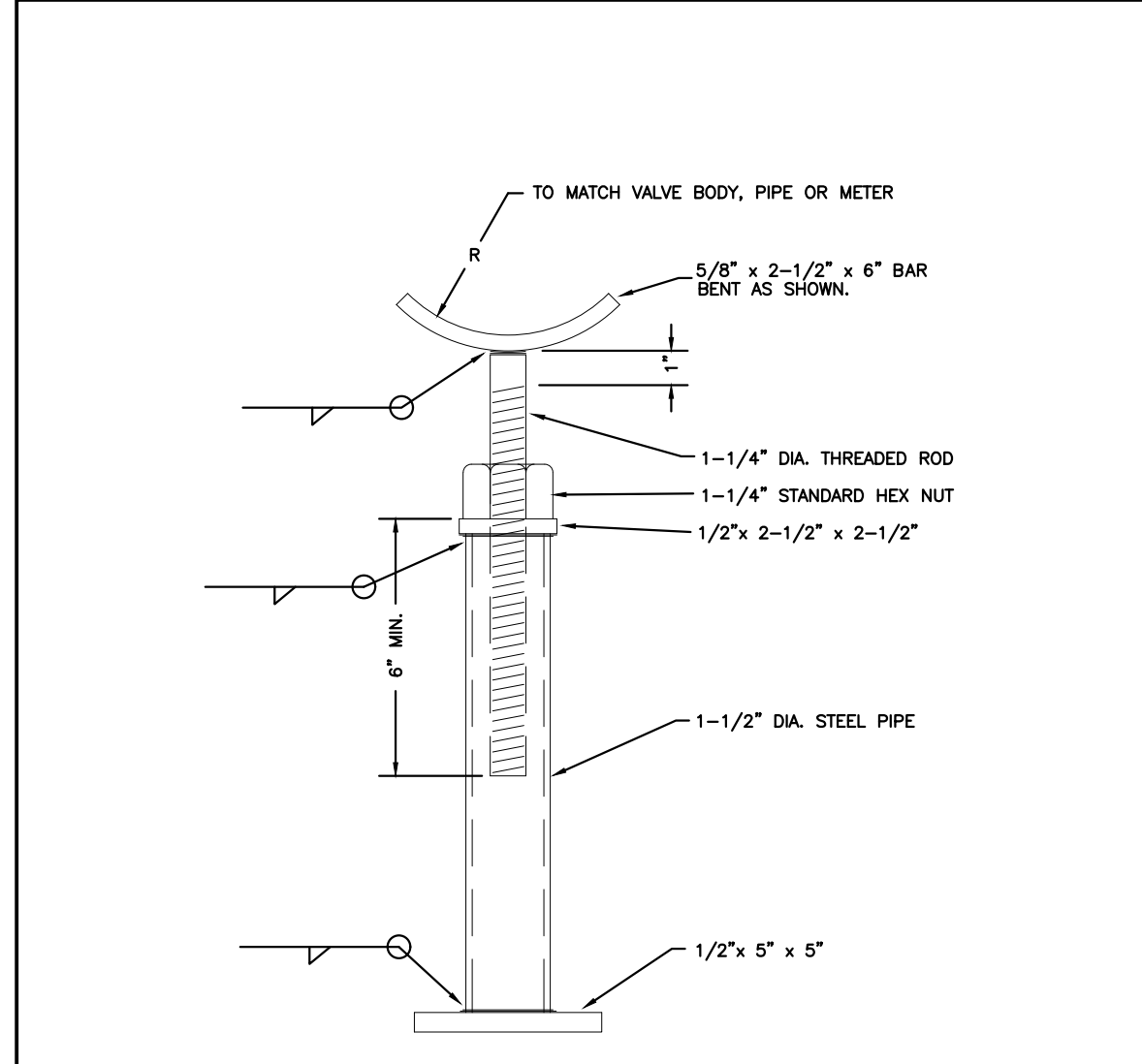
- Tyler screw-type 6-inch cast iron valve box assembly series 6860 with No. 160 oval base.
- Clay and Bailey screw-type 6-inch cast iron valve box assembly No. P-108 with No. 160 large oval base.

STONEGATE VILLAGE METROPOLITAN DISTRICT
VALVE BOX DETAIL

SCALE: NONE DATE: 4/00

APPROVED: R/JG DISTRICT ENGINEER

2000 REVISION SHEET 34

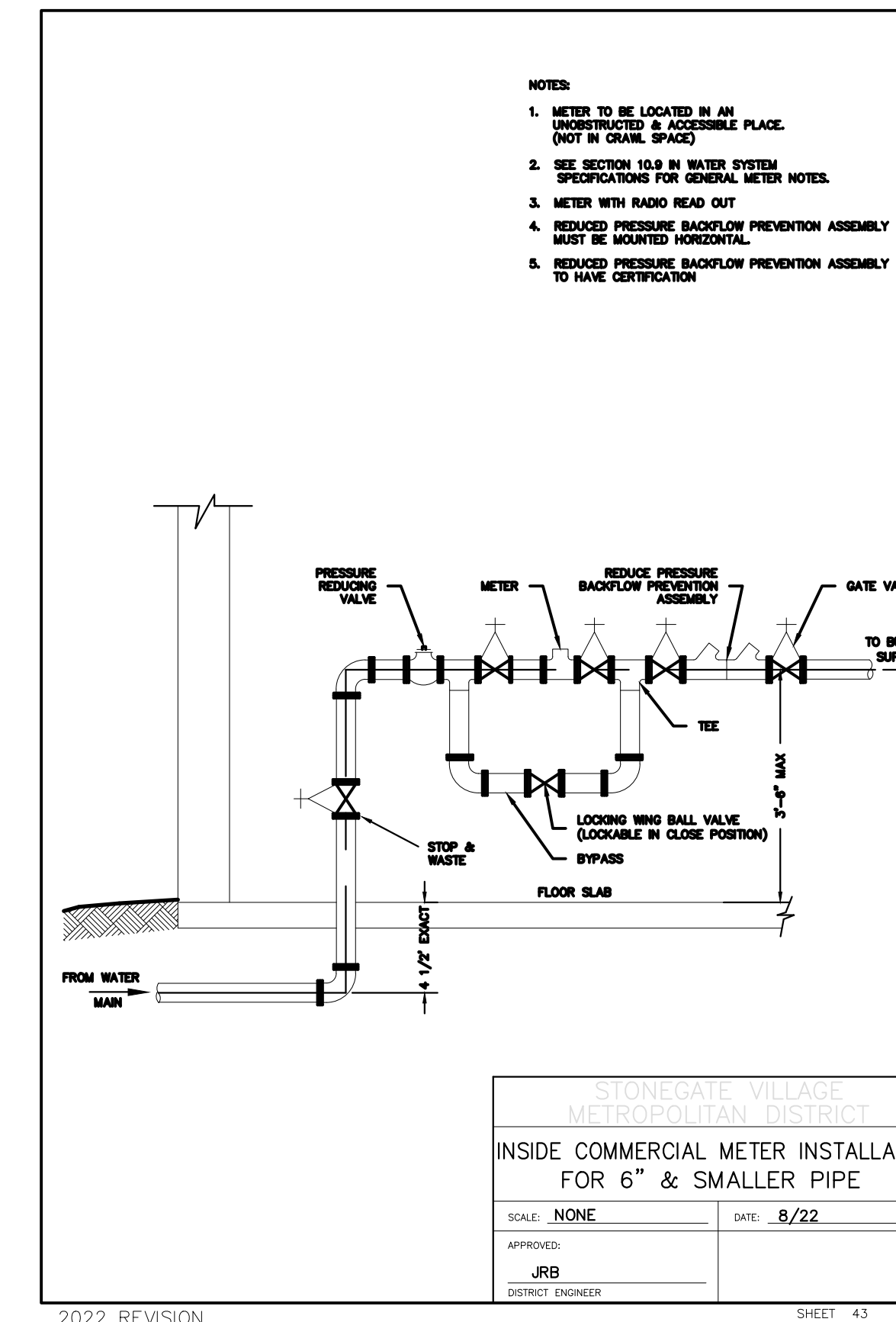


STONEGATE VILLAGE METROPOLITAN DISTRICT
ADJUSTABLE STEEL PIPE VALVE SUPPORT

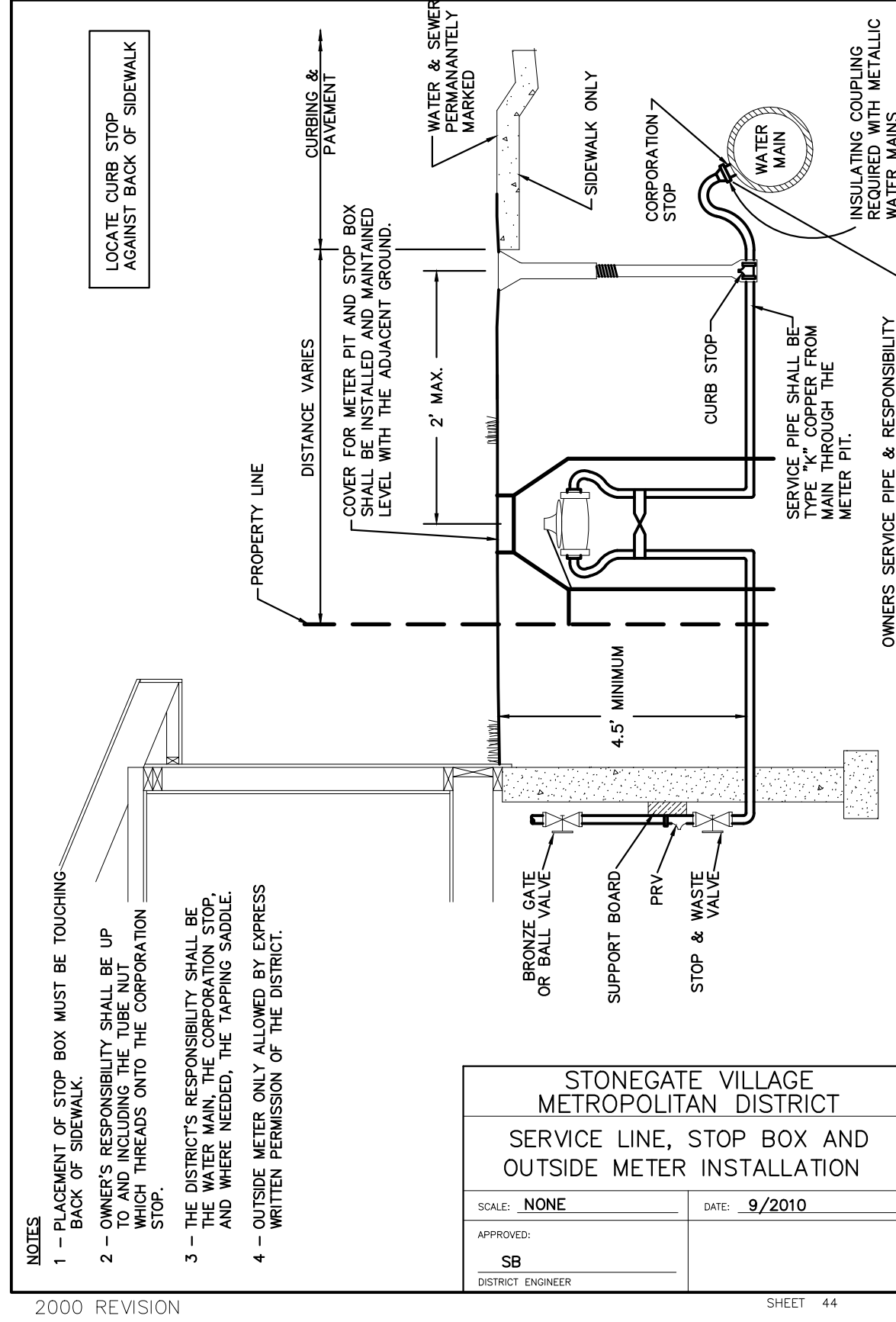
SCALE: NONE DATE: 4/00

APPROVED: R/JG DISTRICT ENGINEER

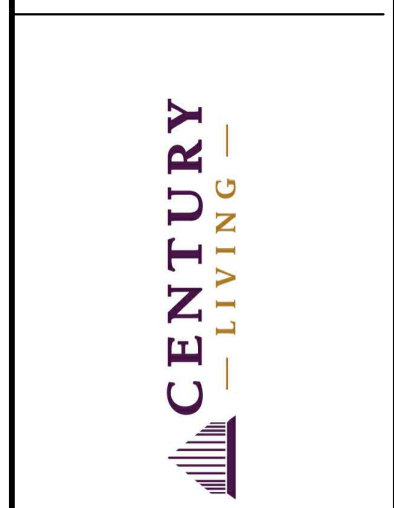
2000 REVISION SHEET 35



2022 REVISION SHEET 43



2000 REVISION SHEET 44



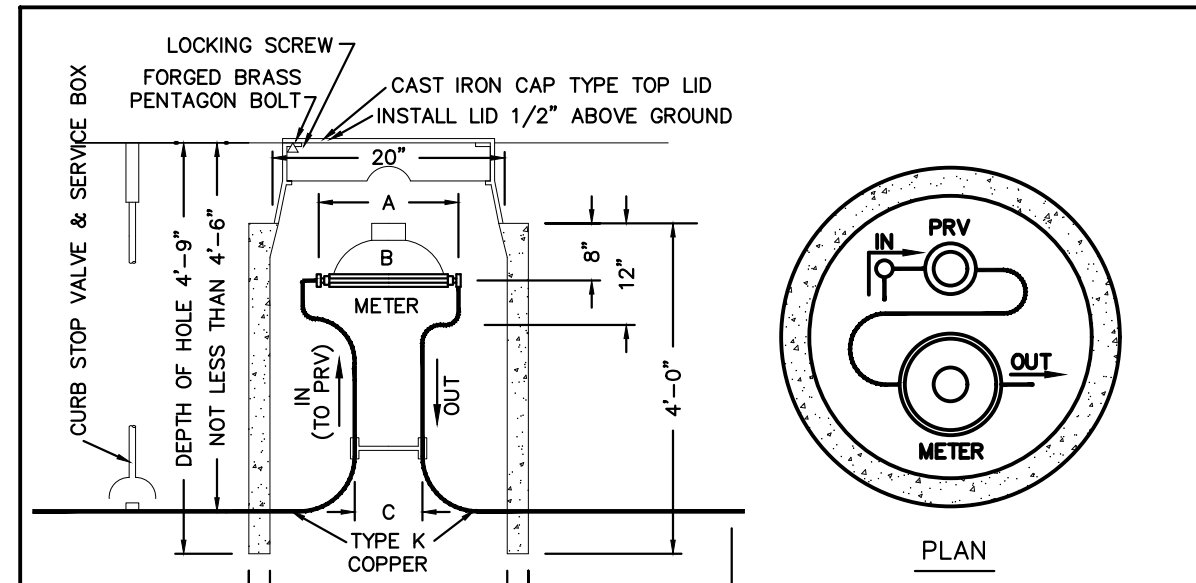
REV	REVISION DESCRIPTION	DATE	CHKD	APPD
A	ISSUED FOR CONSTRUCTION	8/25/2022		

LOT 1, COMPARK VILLAGE SOUTH
FLG 1, AMD 2
WATER & SANITARY SEWER IMPROVEMENTS
STANDARD DETAILS - WATER



JOB NUMBER: 65120850
DATE: 9/25/2022
SHEET: C8.9
13

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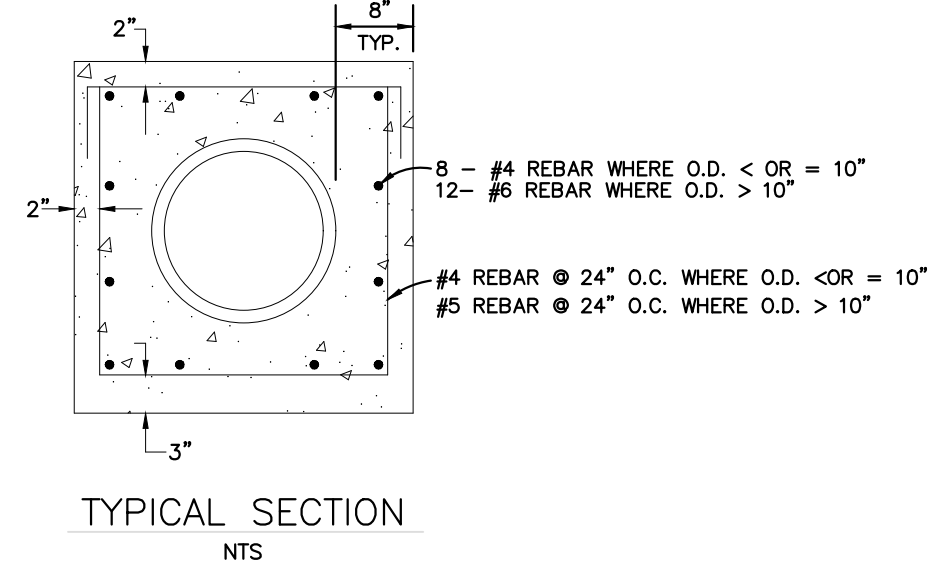


- GENERAL NOTES:**
- NOT FOR INSTALLATION IN ROADWAYS, OR PARKING AREAS.
 - IF SURFACE IS NOT TO FINAL GRADE AT TIME OF INSTALLATION OF METER, OWNER MUST RAISE OR LOWER PIT WHEN SURFACE IS GRADED.
 - METER SETTING MUST BE INSPECTED BY THE DISTRICT BEFORE BACKFILLING.
 - LOCATION OF METER TO BE ESTABLISHED BY A DISTRICT REPRESENTATIVE.
 - NO CONCRETE FLOOR TO BE LAID IN METER PIT.
 - METER PIT SHALL BE CONSTRUCTED OF FOUR 12", OR ONE 12" AND ONE 36" RINGS. WALLS SHALL BE 2" THICK.
 - ADJUSTMENT RINGS SHALL BE 2", 3" 4" OR 6" IN HEIGHT AND SHALL BE INSERTED BETWEEN THE TOP TWO RINGS.
 - NO CONNECTIONS OR CHANGES IN PIPE DIAMETER SHALL BE MADE IN THE METER PIT OR IN THE DISTANCE OF FIVE FEET BEYOND THE METER PIT WALL ON THE OUTLET SIDE.
 - LAWN SPRINKLER CONNECTION SHALL BE A MINIMUM OF FIVE FEET FROM THE METER PIT WALL ON THE OUTLET SIDE.
 - THIS DETAIL TO BE USED ONLY WITH EXPRESS PERMISSION OF THE DISTRICT.
 - THE FORD TANDEM COPPERSETTER TO HOLD A WATTS USB PRESSURE REGULATOR (PRV) JUST AHEAD OF THE WATER METER.
 - (JUMPER OR CHEATER) PIPES TO BE REMOVED BEFORE METER SET DATE.

METER SIZE	A	B	C
5/8" x 3/4"	12 5/8"	7 1/2"	4"
3/4"	14 1/4"	9 5/16"	5"
1"	17 1/4"	11 1/16"	6"

STONEGATE VILLAGE METROPOLITAN DISTRICT
 ALL OUTSIDE SETTING FOR 5/8" x 3/4", 3/4" & 1" METERS w/ PRV
 SCALE: NONE DATE: 4/00
 APPROVED: R/JG DISTRICT ENGINEER

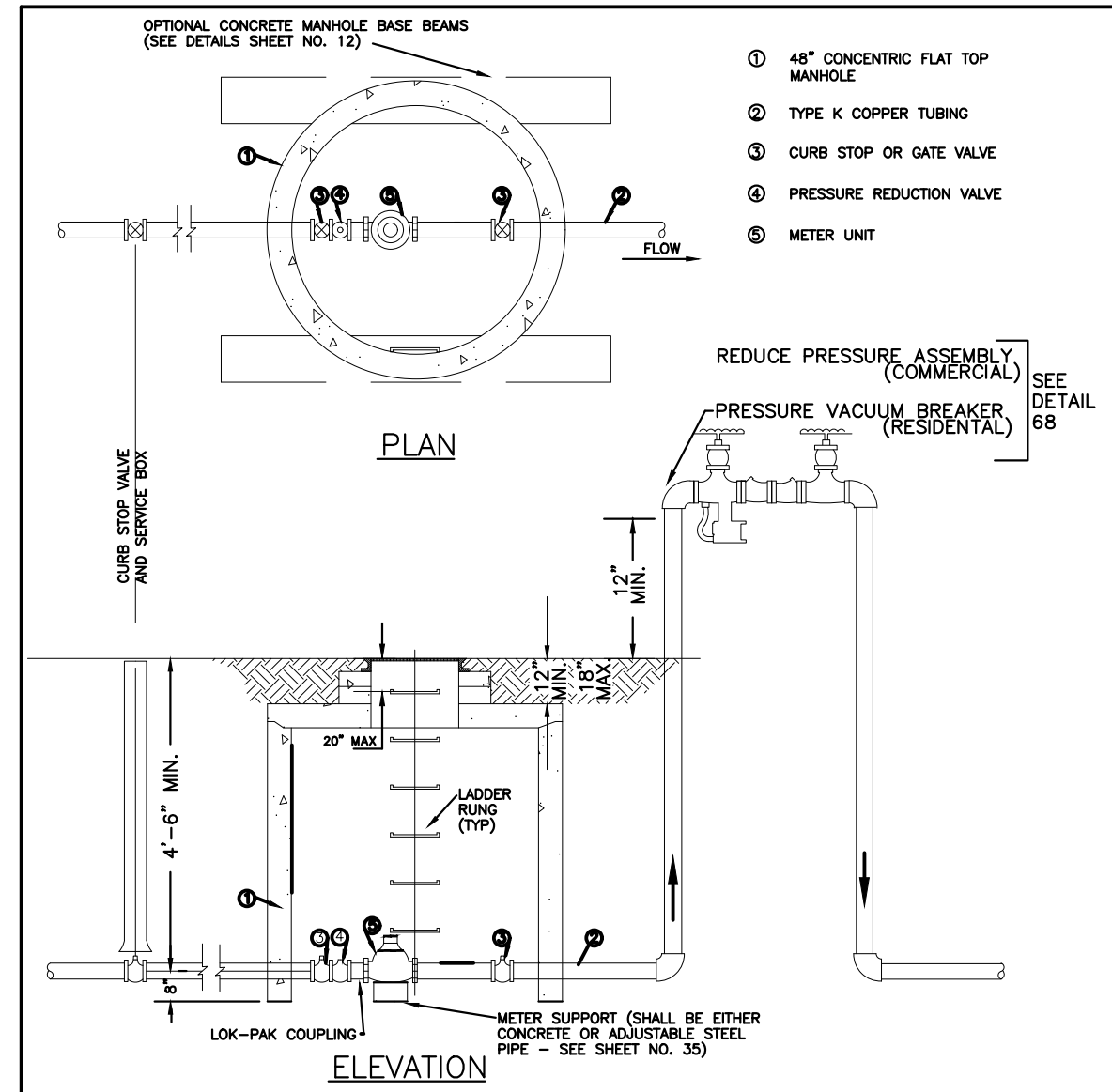
2000 REVISION SHEET 45



- NOTES:**
- ALL CONCRETE SHALL HAVE A 28 DAY STRENGTH OF 3,000 PSI USING TYPE 1 PORTLAND CEMENT AND 3/4" AGGREGATE. ALL CONCRETE SHALL HAVE 5-7% ENTRAINED AIR CONTENT AND A MAXIMUM SLUMP OF 4".
 - ALL REINFORCEMENT SHALL CONFORM TO ASTM A615, GRADE 60.
 - ALL REINFORCEMENT SHALL HAVE 2" MIN. CONCRETE COVER.
 - THE SUBGRADE SHALL BE COMPACTED TO 95% OF THE MAXIMUM STANDARD PROCTOR DENSITY PRIOR TO FORMING THE STRUCTURE.

STONEGATE VILLAGE METROPOLITAN DISTRICT
 WATERLINE ENCASEMENT
 SCALE: NONE DATE: 4/00
 APPROVED: R/JG DISTRICT ENGINEER

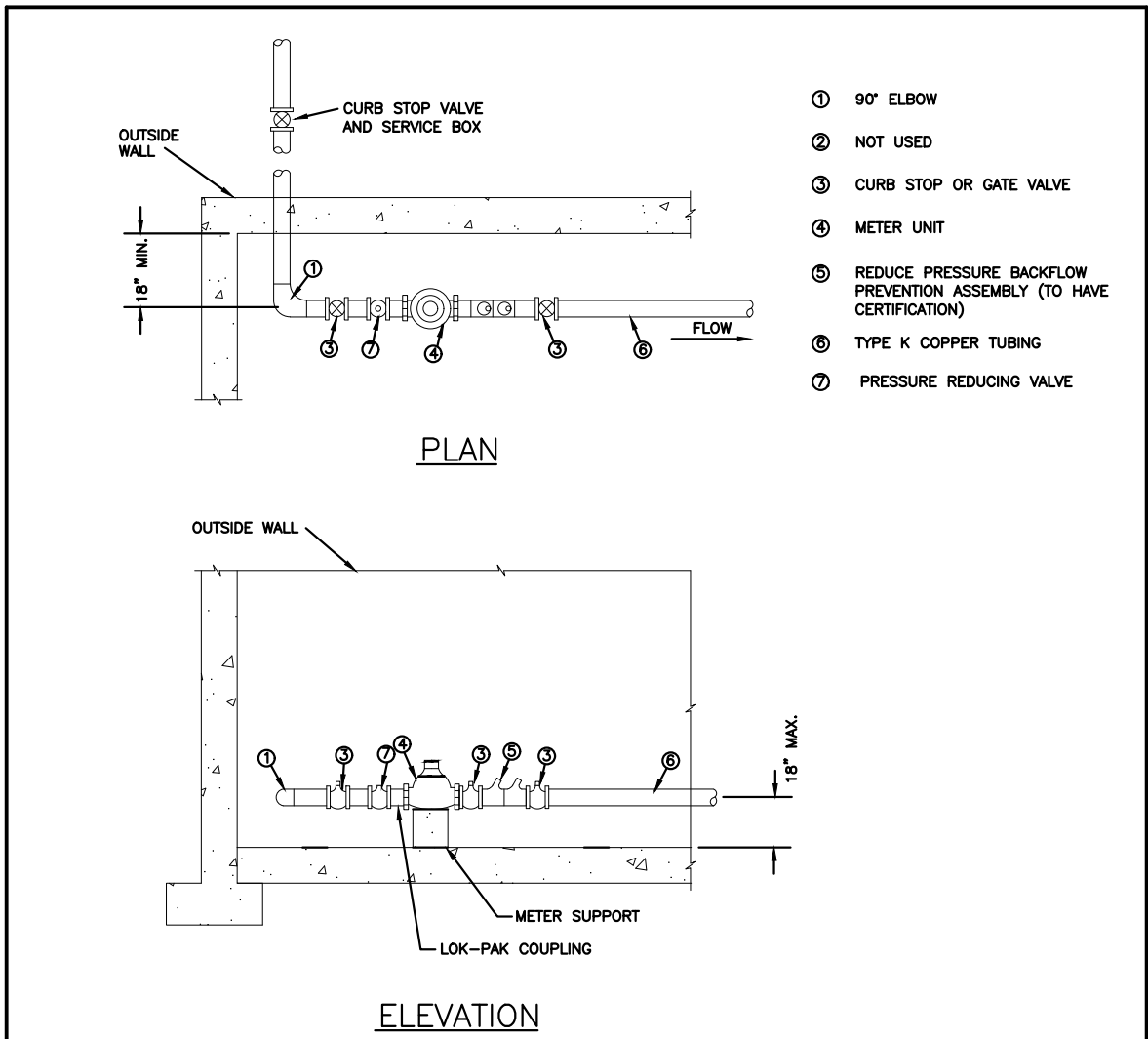
2000 REVISION SHEET 48



- NOTES:**
- MANHOLE BASE BEAMS SHALL BE REQUIRED FOR INSTALLATIONS IN DRIVEWAYS, OR PARKING AREAS.
 - 4" 45° CONCENTRIC FLAT TOP MANHOLE FIT WILL ACCOMMODATE 1 1/2" AND 2" SPLIT BASE METERS.
 - JOINTS INSIDE METER VAULT SHALL BE EITHER THREADED OR SOLDERED WITH 95-5 TINANTIMONY SOLDER.
 - SEE SECTION 10.9, WATER SYSTEM SPECIFICATIONS FOR GENERAL METER NOTES.
 - NO CONCRETE TO BE LAID IN FLOOR OF METER M.H.
 - METER SHALL BE FLANGED WITH BRASS COMPANION FLANGES.
 - NO CONNECTIONS OR CHANGES IN PIPE DIAMETER SHALL BE MADE IN THE METER PIT OR IN THE DISTANCE OF FIVE FEET BEYOND THE METER PIT ON THE OUTLET SIDE.
 - LADDER RINGS SHALL BE ON OPPOSITE SIDE OF BYPASS.
 - (JUMPER OR CHEATER) PIPES TO BE REMOVED BEFORE METER SET DATE.

STONEGATE VILLAGE METROPOLITAN DISTRICT
 OUTSIDE SETTING FOR 1 1/2" & 2" METER FOR IRRIGATION
 SCALE: NONE DATE: 4/00
 APPROVED: R/JG DISTRICT ENGINEER

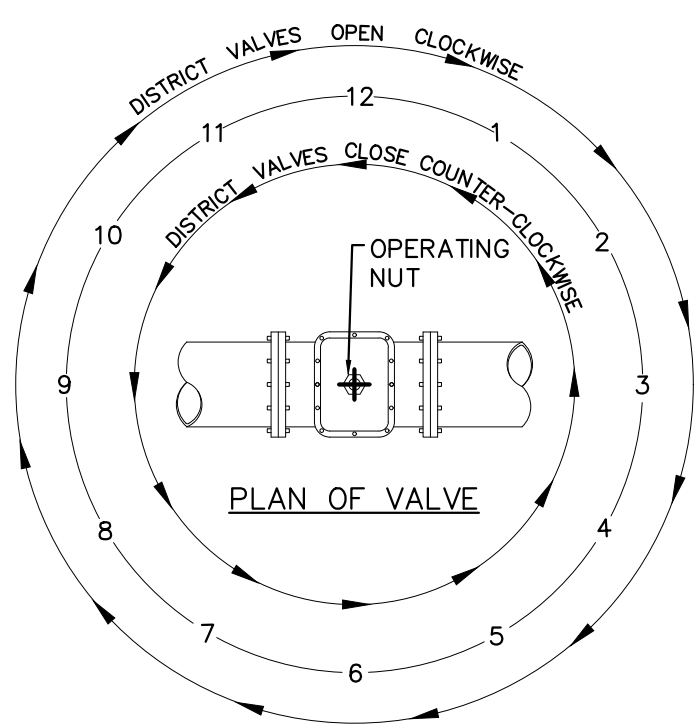
2000 REVISION SHEET 49



- NOTES:**
- PIPE JOINT SHALL BE THREADED OR SOLDERED WITH SILVER SOLDER.
 - INSTALLATION MUST ALLOW ACCESS FOR MAINTENANCE AND BE PROTECTED FROM FREEZING.
 - SEE SECTION 10.9, WATER SYSTEM SPECIFICATIONS FOR GENERAL METER NOTES.
 - COMPANION FLANGES SHALL BE BRASS.
 - METER SUPPORT SHALL BE EITHER CONCRETE OR ADJ. STEEL PIPE (SEE SHEET NO. 34)
 - THIS DETAIL TO BE USED ONLY WITH EXPRESS PERMISSION OF THE DISTRICT ENGINEER.

STONEGATE VILLAGE METROPOLITAN DISTRICT
 INSIDE SETTING FOR 1 1/2" & 2" METER WITH CHECK VALVE
 SCALE: NONE DATE: 4/00
 APPROVED: R/JG DISTRICT ENGINEER

2000 REVISION SHEET 51

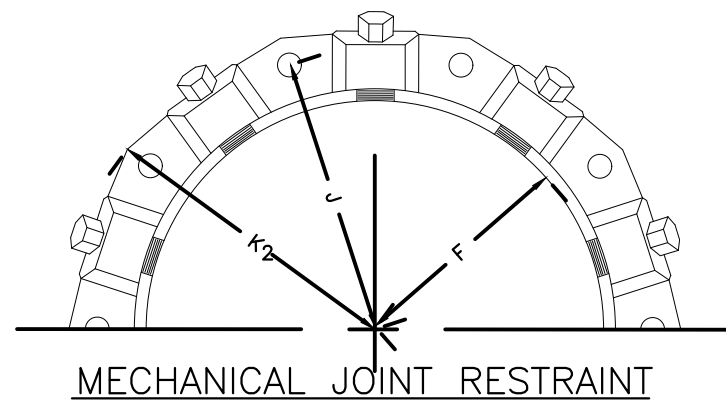


NOTE:
 NORMALLY VALVES WITH A RED OPERATING NUT INDICATE A STANDARD DENVER VALVE.

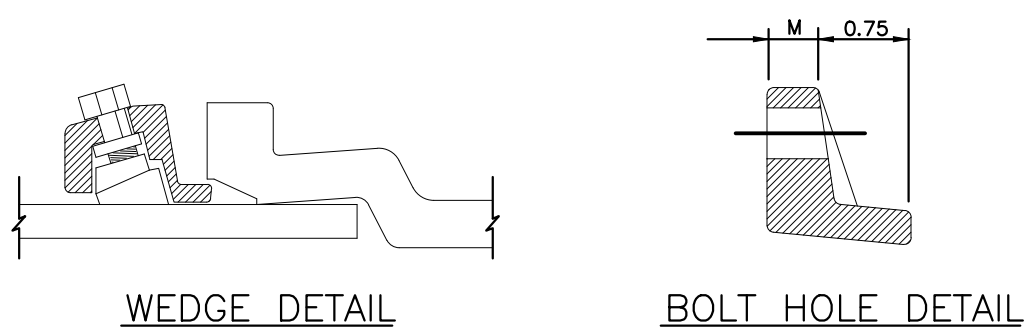
VALVE OPENING & CLOSING PROCEDURE

STONEGATE VILLAGE METROPOLITAN DISTRICT
 VALVE OPERATION
 SCALE: NONE DATE: 4/00
 APPROVED: R/JG DISTRICT ENGINEER

2000 REVISION SHEET 61



MECHANICAL JOINT RESTRAINT

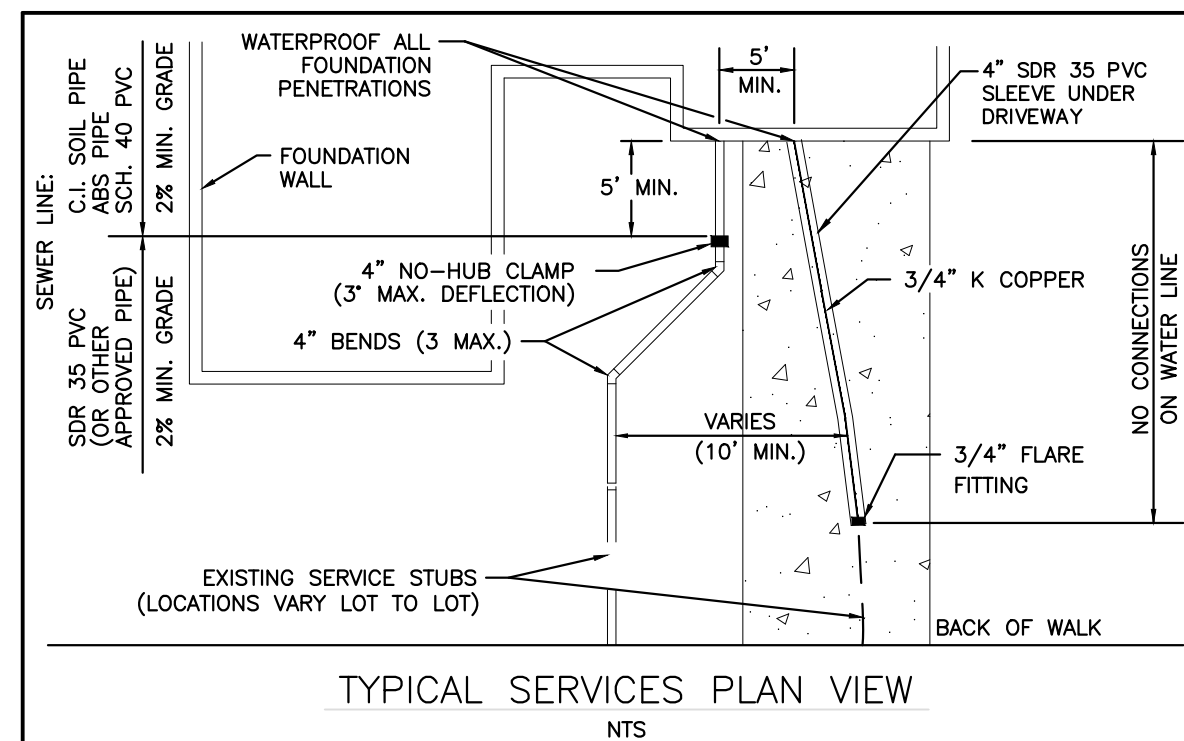


NOMINAL PIPE SIZE	NO. OF BOLTS	NO. OF WEDGES	K2 INCHES	J INCHES	F INCHES	M INCHES
4"	2	2				
6"	6	3	11.12	9.5	7.00	0.88
8"	6	4	13.37	11.75	9.15	1.00
10"	8	6	15.62	14.00	11.20	1.00
12"	8	8	17.88	16.25	13.30	1.25

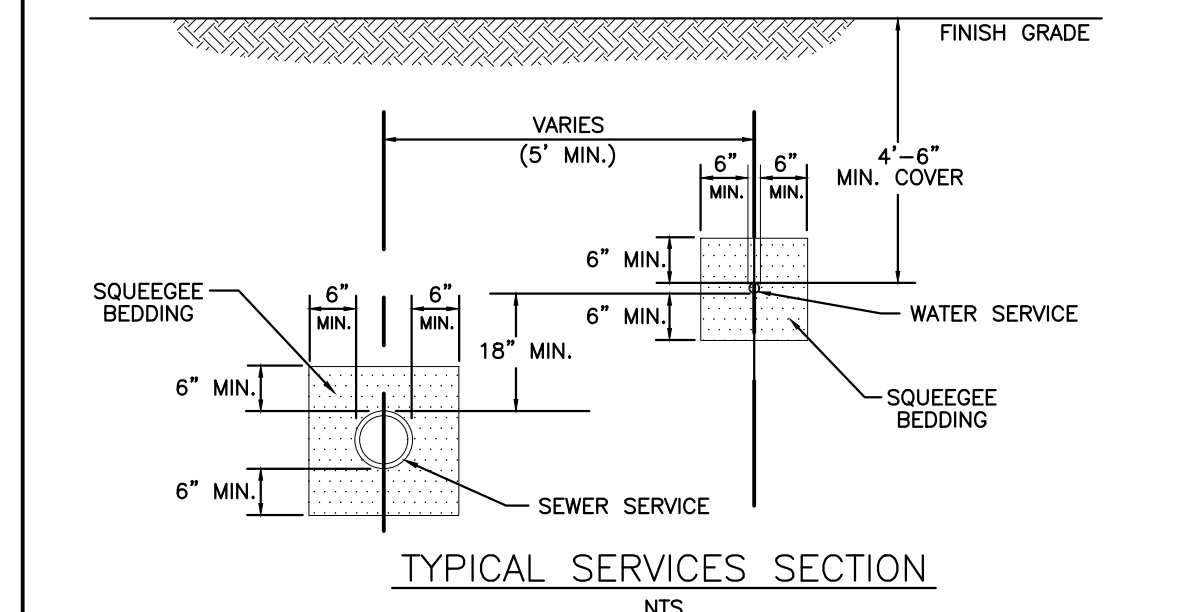
- NOTES:**
- REFER TO SHEET W-19 SECTION 6.10.
 - DIMENSIONS FOR 16" AND 20" D.I. PIPE NOT SHOWN.

STONEGATE VILLAGE METROPOLITAN DISTRICT
 MECHANICAL JOINT RESTRAINT DETAILS
 SCALE: NONE DATE: 4/00
 APPROVED: R/JG DISTRICT ENGINEER

2000 REVISION SHEET 65



TYPICAL SERVICES PLAN VIEW



TYPICAL SERVICES SECTION

NOTE:
 SEE SHEET 67 OF 68 FOR DISTRICT POLICIES AND INSTALLATION NOTES.

STONEGATE VILLAGE METROPOLITAN DISTRICT
 TYPICAL WATER SERVICES
 SCALE: NONE DATE: 4/00
 APPROVED: R/JG DISTRICT ENGINEER

2000 REVISION SHEET 66

- INSPECTION POLICY:**
- ALL SERVICE INSPECTIONS MUST BE SCHEDULED WITH THE DISTRICT ENGINEER (303) 263-3699 AT LEAST 24 HOURS IN ADVANCE OF THE REQUESTED INSPECTION.
 - SERVICE INSPECTIONS WILL OCCUR BETWEEN 8:00 A.M. AND 3:00 P.M. SPECIFIC INSPECTION TIMES ARE NOT AVAILABLE.
 - IF THE CONTRACTOR IS NOT READY FOR INSPECTION WHEN THE INSPECTOR ARRIVES AT THE SITE, A RE-INSPECTION WILL HAVE TO BE SCHEDULED IN ACCORDANCE WITH NOTES 1 AND 2 ABOVE.
 - SHOULD THE SERVICE LINES BE DAMAGED BY LATER CONSTRUCTION, AN INSPECTION OF THE REPAIR WILL BE REQUIRED IN ACCORDANCE WITH NOTES 1 AND 2 ABOVE.
 - THE CONTRACTOR SHALL LEAVE ALL PIPE AND FITTINGS EXPOSED FOR THE INSPECTOR TO OBSERVE. INSPECTORS WILL NOT ENTER ANY EXCAVATIONS TO CHECK MATERIALS. THE TOP LAYER OF BEDDING CAN BE ADDED AFTER THE INSPECTION HAS BEEN COMPLETED.
 - ALL EXCAVATIONS SHALL BE IN ACCORDANCE WITH OSHA STANDARDS.

- INSTALLATION NOTES:**
- WATER**
- ACCEPTABLE PIPE MATERIALS SHALL BE K-COPPER TUBING. (3/4" MIN.)
 - APPROVED BEDDING TO BE SQUEEGEE.
 - ONLY ONE COUPLING WILL BE ALLOWED BETWEEN THE STUB-IN AND BUILDING. A COUPLING MAY BE EITHER FLARED OR SILVER-SOLDERED. COMPRESSION COUPLINGS WILL NOT BE ALLOWED. MOVED CURB BOXES MUST BE INSPECTED BY PWSD PRIOR TO BURIAL.
 - A WATER SERVICE WHICH CROSSES A SEWER SERVICE CAN DO SO ONLY AT A 90°± ANGLE MAXIMUM, 45° ANGLE MINIMUM. WATER SERVICES SHALL BE LOCATED A MINIMUM OF 18" ABOVE SEWER SERVICE.
 - WATER SERVICE FOUNDATION PENETRATIONS SHALL BE WATERPROOFED USING MASTIC OR OTHER APPROVED METHOD.
 - STOPBOX MUST BE PLUMB AND CENTERED OVER NUT, AND MUST BE SET AT OR, SLIGHTLY ABOVE FINISHED GRADE.
 - STOPBOXES MUST BE SET AT BACK OF SIDEWALK ONLY (TOUCHING) NOT AT CURBS.
 - NO CRAWLSPACE MOUNTED METERS ALLOWED.
 - WATERLINE MUST BE ATTACHED TO A SUPPORT BOARD THAT IS MOUNTED TO THE WALL.
 - NO VOIDS ALLOWED UNDER WATERLINES FROM STOP BOX TO FOUNDATION.
 - METER SHOULD BE LOCATED ON SAME SIDE OF HOUSE AS CURBSTOP IF POSSIBLE.
 - WATERLINES PASSING UNDER DRIVEWAYS NEED TO BE SLEEVED IN 4" P.V.C. AND HAVE EXPRESS PERMISSION OF THE DISTRICT.
 - YOKES SHOULD BE MOUNTED NO GREATER THAN 6 INCHES ABOVE BOTTOM SHUTOFF. EACH SERVICE MUST INCLUDE A STOP AND WASTE VALVE AND A PRESSURE REDUCING VALVE LOCATED WITHIN THE ABOVE REFERENCED 6 INCH SPACE.
 - NO SPLICES OR FLARED COUPLINGS ALLOWED ON WATERLINES. SILVER SOLDER JOINTS MUST BE USED IN MOVING STOPBOXES, AND SILVER SOLDER JOINT MUST BE INSPECTED BY PWSD PRIOR TO BURIAL.
 - ONLY 3/4" (JUMPER OR CHEATER) PIPES (RESIDENCES) ARE ALLOWED. (JUMPER OR CHEATER) PIPES WILL BE REMOVED PRIOR TO METER SET DATE.
 - ALL SERVICES WILL BE PERMANENTLY MARKED ON CURB FACE AS FOLLOWS: "X" FOR SANITARY SEWER SERVICE "Y" FOR WATER SERVICES

STONEGATE VILLAGE METROPOLITAN DISTRICT
 DISTRICT POLICIES & INSTALLATION NOTES FOR WATER SERVICES
 SCALE: NONE DATE: 4/00
 APPROVED: R/JG DISTRICT ENGINEER

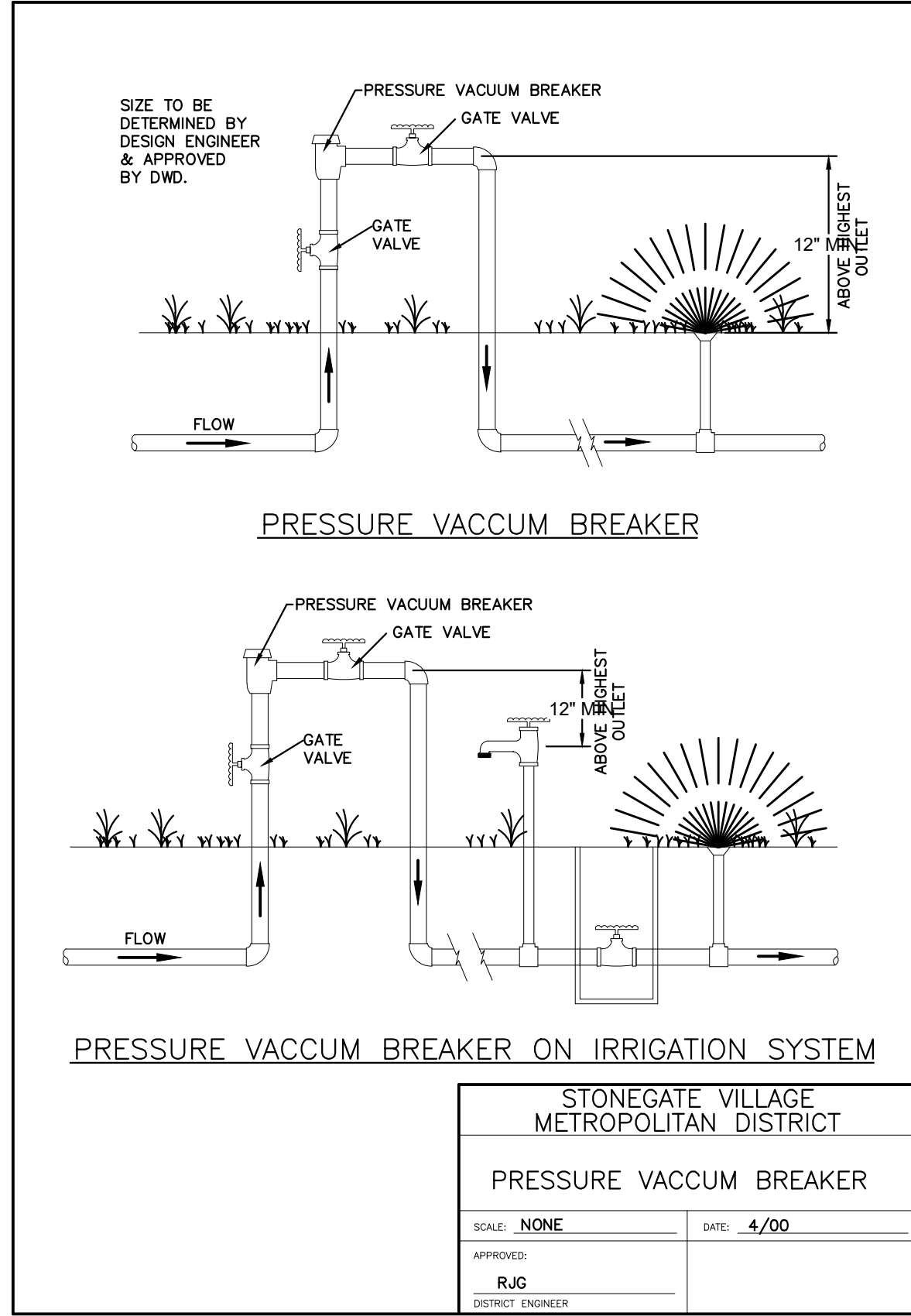
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A	ISSUED FOR CONSTRUCTION	8/25/2022		

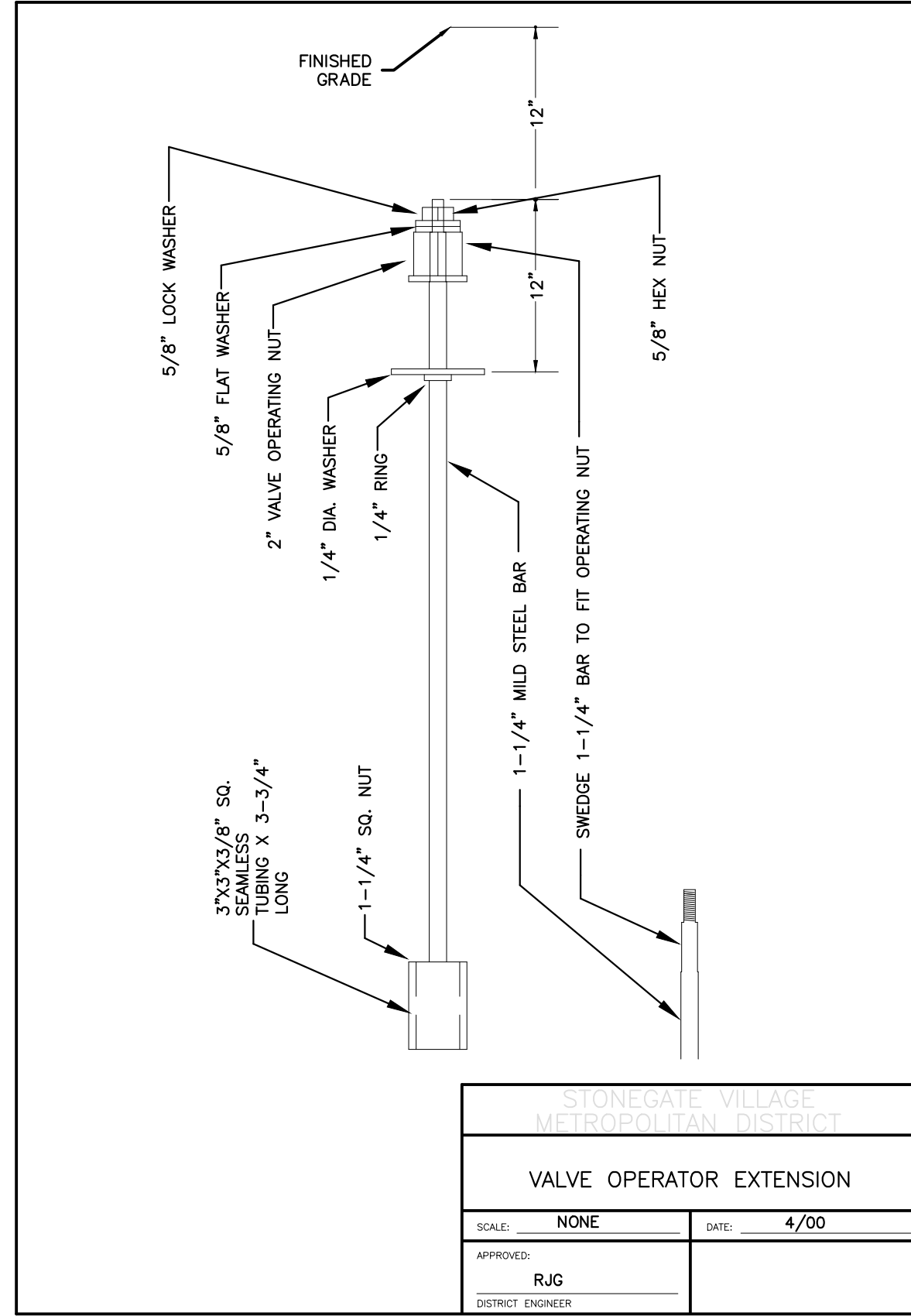


Know what's below.
 Call before you dig.

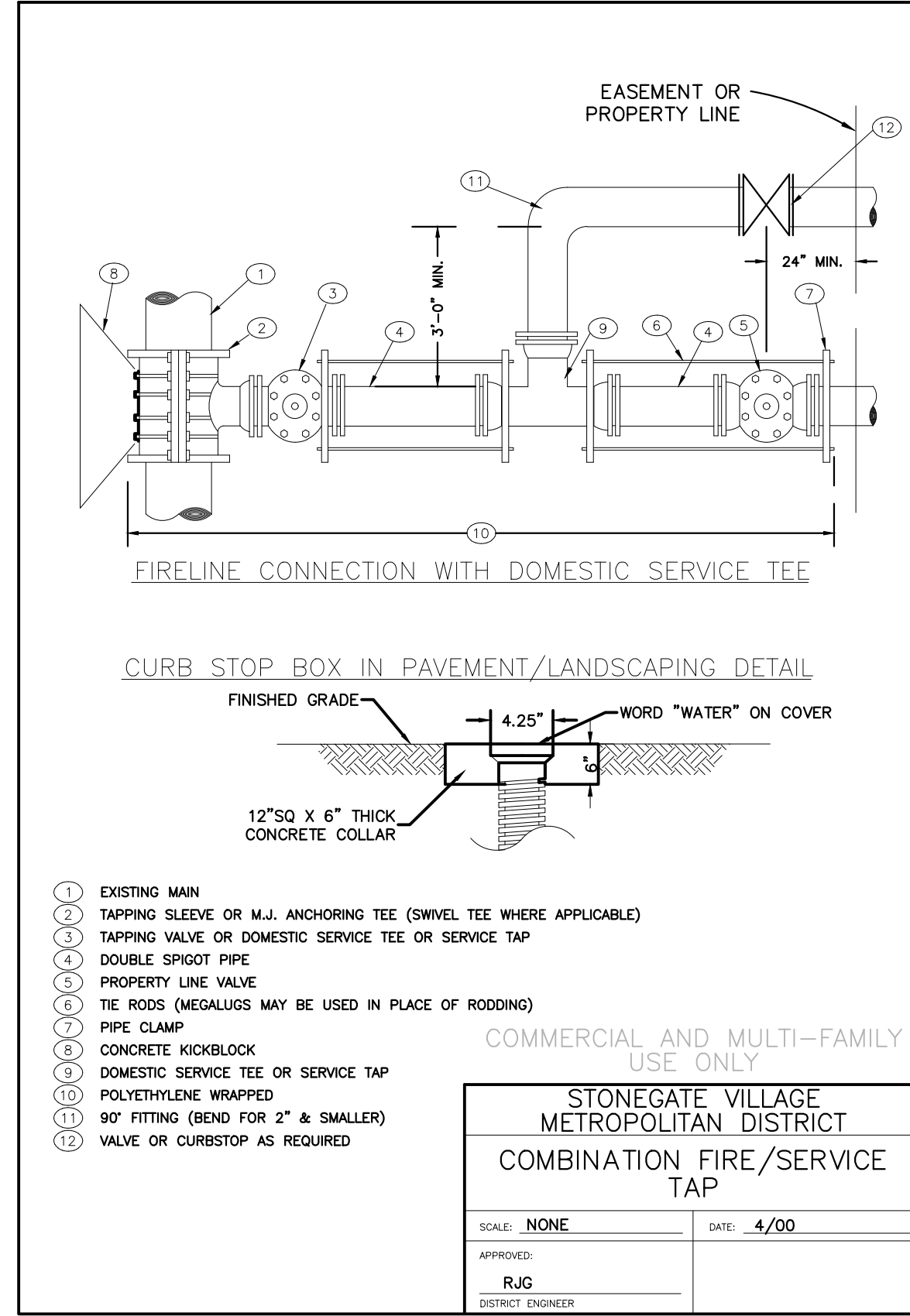
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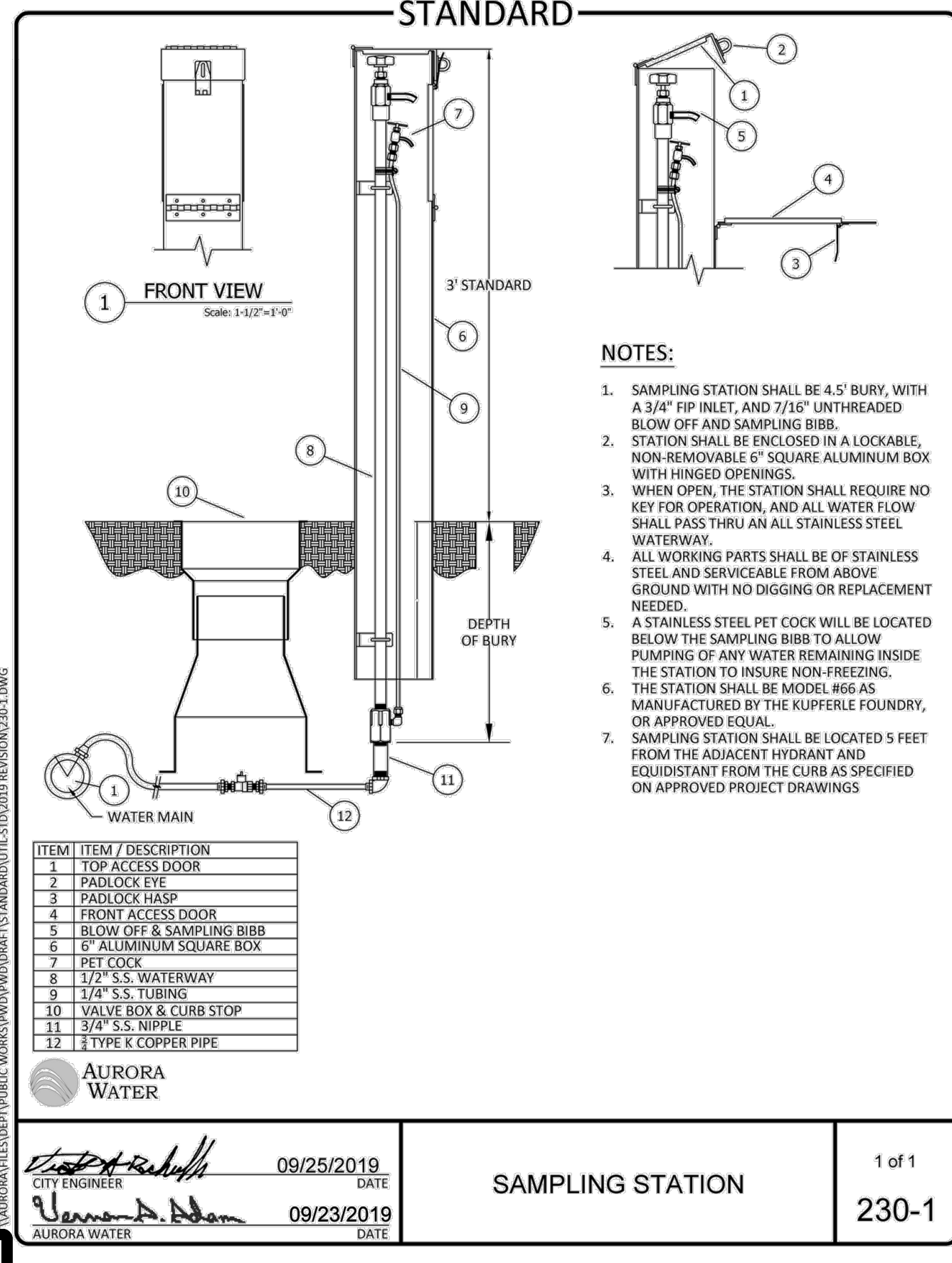
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2000 REVISION SHEET 69



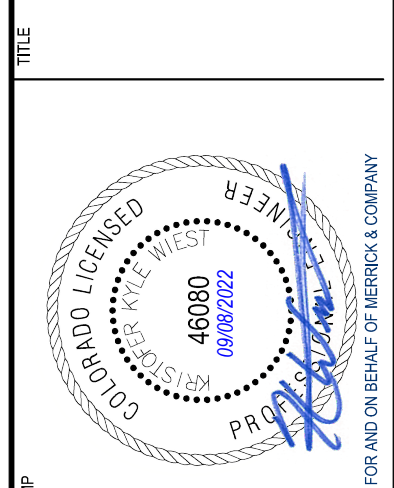
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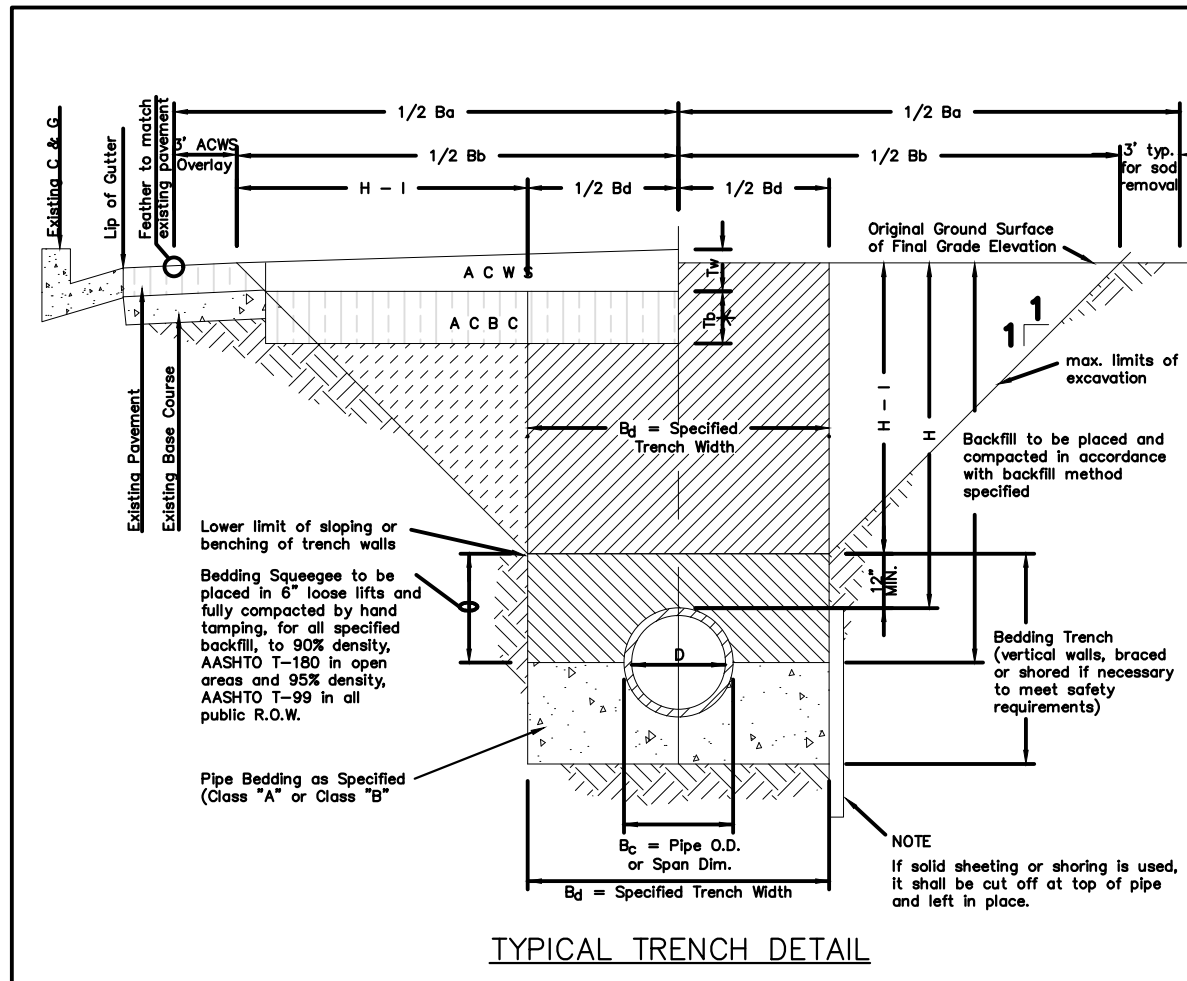
REV	REVISION DESCRIPTION	DATE	CHKD	APPD
A	ISSUED FOR CONSTRUCTION	8/25/2022		

LOT 1, COMPARK VILLAGE SOUTH
 FLG 1, AMD 2
 WATER & SANITARY SEWER IMPROVEMENTS
 STANDARD DETAILS - WATER



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NOTES

- Sloping or benching of trench side walls, where permitted shall be in accordance with applicable Federal, State and Local agency regulations.
- Trench shall be brooded and shored as necessary to afford safe working conditions or to protect adjacent utilities, structures, etc. Unless otherwise specified on the plans, no pavement will be made for removal, replacement or relocation of curb and gutters, utilities, structures, etc. outside the maximum limits of excavation as shown and the contractor shall be responsible for protection of same.
- If dimension T_2 is $\leq 5'$, then existing asphalt pavement shall be removed and replaced up to the gutter. Maximum asphalt patching, R_2 if R_2 shall then be based upon this section only.

ASPHALT AND BASE COURSE REPLACEMENT SCHEDULE

STREET WIDTH	ASPHALTIC BASE COURSE (T ₁)	ASPHALTIC WEARING SURFACE (T ₂)	TOTAL THICKNESS (T ₃)
UP TO 36'	4"	2"	6"
36' TO 44'	4"	3"	7"
44' TO 48'	5"	3"	8"
WIDER THAN 48'	6"	3"	9"

TABLE II * Unless otherwise noted on the plans or in the specs.

2000 REVISION SHEET 1

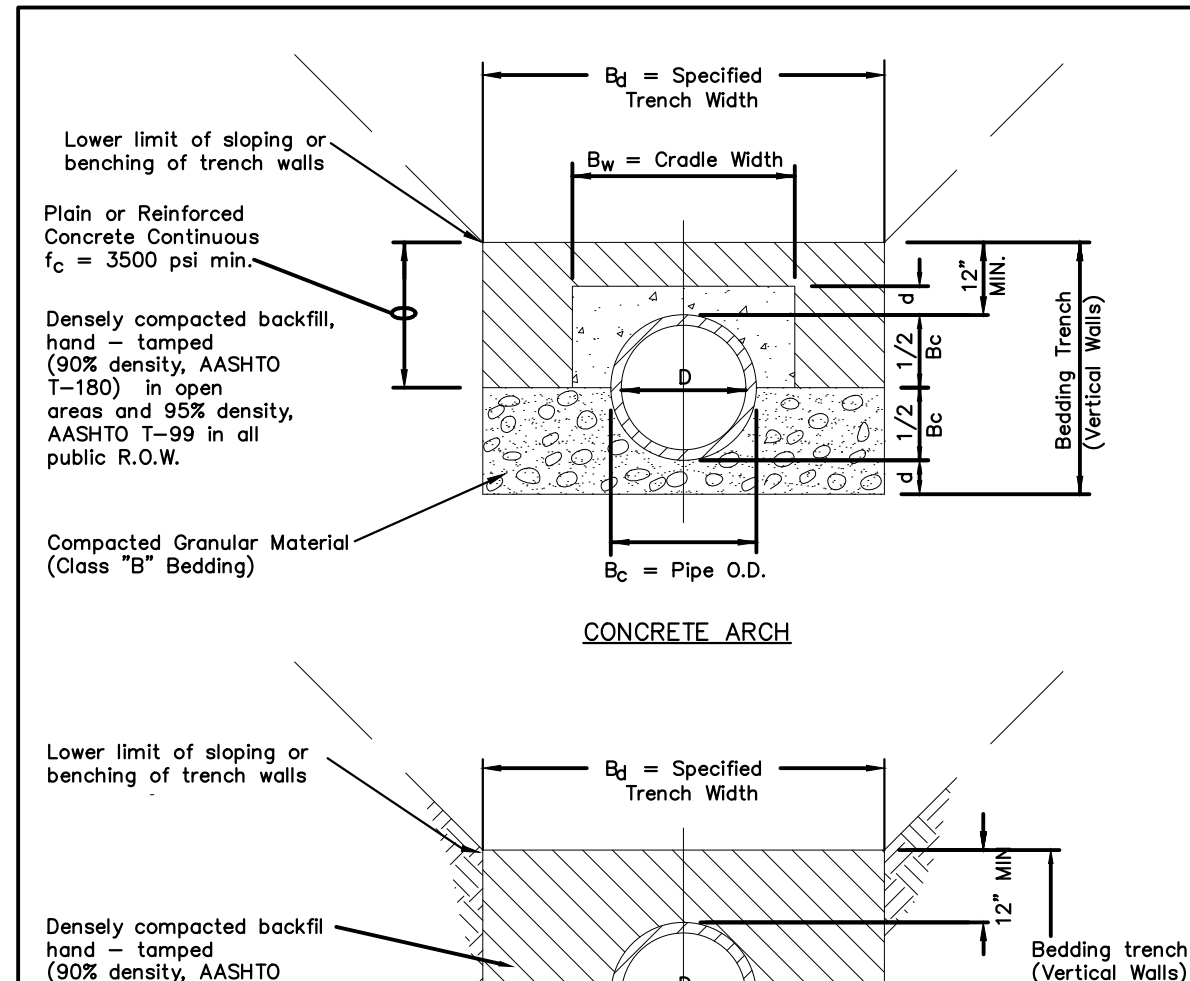


TABLE III

NOMINAL DIAMETER (D)	MINIMUM THICKNESS (t)	MIN. WIDTH OF CRADLE (B _c)
18" & smaller	4"	B _c = 6"
21" to 24"	6"	B _c = 8"
27" to 33"	8"	B _c = 8"
36" to 42"	10"	1.25 B _c
48" & larger	1/4 D	1.25 B _c

GENERAL NOTES FOR TYPE I & II ENCASEMENT

- CONCRETE TO BE CAST AGAINST UNDISTURBED SOIL OR SHORING. IF OPTIONAL CONSTRUCTION JOINT IS USED & BOTTOM HALF OF ENCASEMENT IS POURED SEPARATELY, A ONE INCH LAYER OF SAND OR MORTAR SHALL BE PLACED BETWEEN BOTTOM OF SANITARY SEWER AND TOP OF CONCRETE.
- LENGTH OF ENCASEMENT FOR: (a) TYPE I & II ENCASEMENT SHALL EXTEND FULL TRENCH WIDTH EXCAVATED FOR PROPOSED SEWER OR CONDUIT. (b) TYPE II ENCASEMENT SHALL EXTEND AT LEAST TO FEET EACH SIDE OF WATER MAIN.
- UNLESS OTHERWISE NOTED ON PLAN/PROFILE DRAWINGS, TYPE I & II ENCASEMENTS NEED NOT BE REINFORCED. REINFORCEMENT, IF REQUIRED, SHALL BE SPECIFIED AND DETAILED SEPARATELY ON PLAN & PROFILE DRAWINGS.
- TYPE I, II OR III ENCASEMENTS ARE REQUIRED UNDER FOLLOWING CONDITIONS: (a) TYPE I OR TYPE II IF $d \leq 18"$ ($d \leq 12"$ EXCEPT FOR SANITARY SEWER CROSSING OVER OR UNDER WATER MAINS). (b) TYPE II OR TYPE III IF $d \leq 24"$ ($d \leq 18"$). (c) TYPE III IS REQUIRED FOR SANITARY SEWERS CROSSING OVER TOP OF WATER MAINS, REGARDLESS OF DIMENSION "d". (d) EXCEPT FOR UNUSUAL CIRCUMSTANCES, WATER MAIN CROSSINGS, OR WHERE UNSTABLE SOIL CONDITIONS ARE ENCOUNTERED, TYPE I ENCASEMENT WILL NORMALLY BE SATISFACTORY. (e) IF THE SANITARY SEWER IS REPLACED OR CONSTRUCTED OF DUCTILE IRON PIPE (AWWA C-150 OR C-151), CONCRETE ENCASEMENT MAY NOT BE REQUIRED.
- FILLER MATERIAL BETWEEN CONDUITS TO BE: (a) APPROVED COMPRESSIBLE MATERIAL SUCH AS STYROFOAM, ETC. IF d_1 & $d_2 \leq 6"$. (b) COMPACTED CLASS "B" BEDDING IF d_1 & $d_2 > 6"$ (IF d_1 & d_2 FOR TYPE II ENCASEMENT POUR CONCRETE ON UNDISTURBED SOIL).
- SHORING OR SHEETING, IF USED, TO BE CUT OFF AT TOP OF ENCASEMENT.
- THESE ENCASEMENT DETAILS MAY ALSO BE APPLICABLE FOR CONDUITS OTHER THAN STORM OR SANITARY SEWER INSTALLATIONS. IN CERTAIN SITUATIONS WHERE CONDUIT DIAMETER "D" IS EXTREMELY LARGE, PIER SUPPORTS ON EACH SIDE OF SANITARY SEWER MAY ALSO BE REQUIRED. IF REQUIRED, SUPPORTS SHALL BE SPECIFIED AND DETAILED SEPARATELY ON PLAN AND PROFILE DRAWINGS.

2000 REVISION SHEET 2

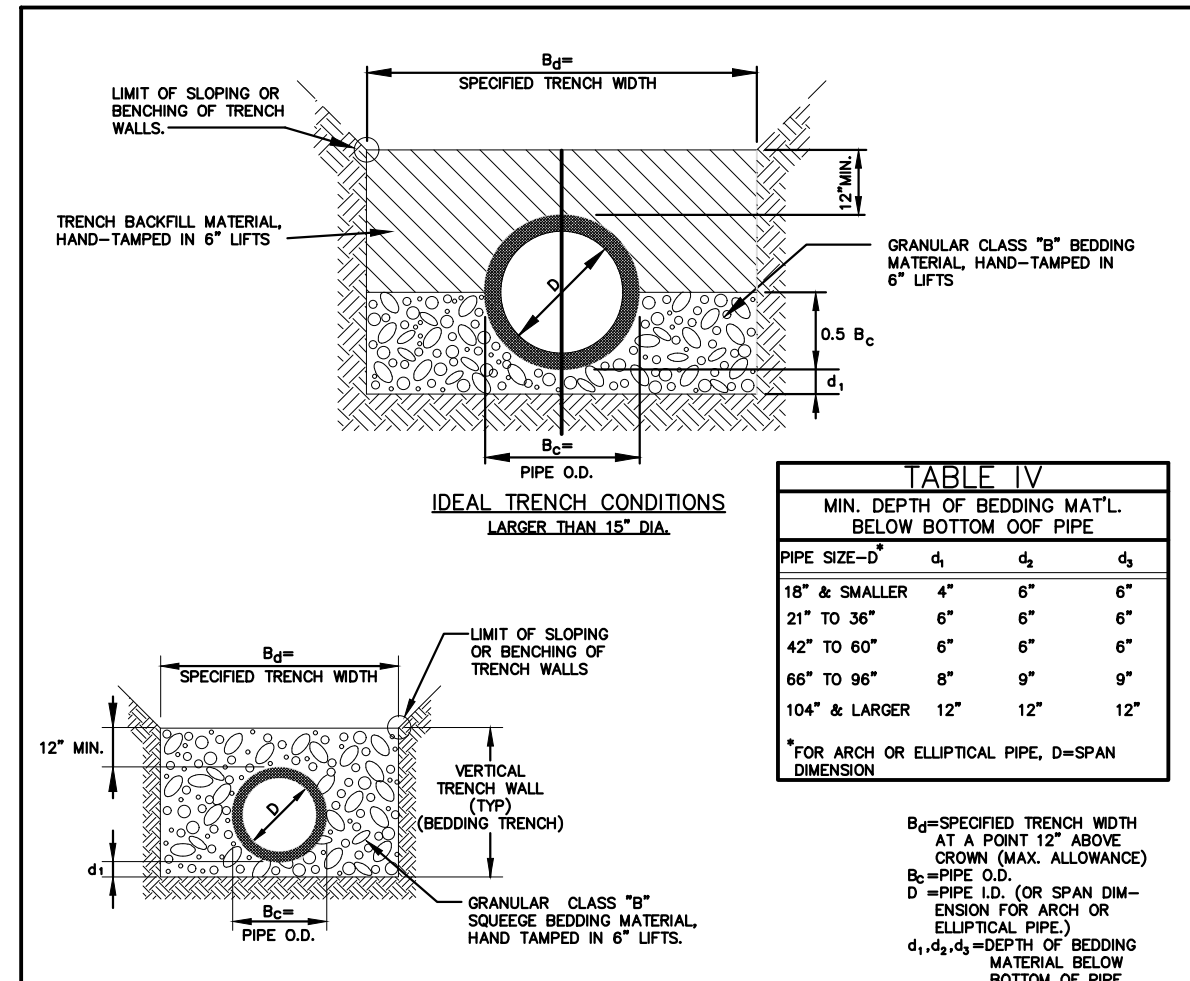


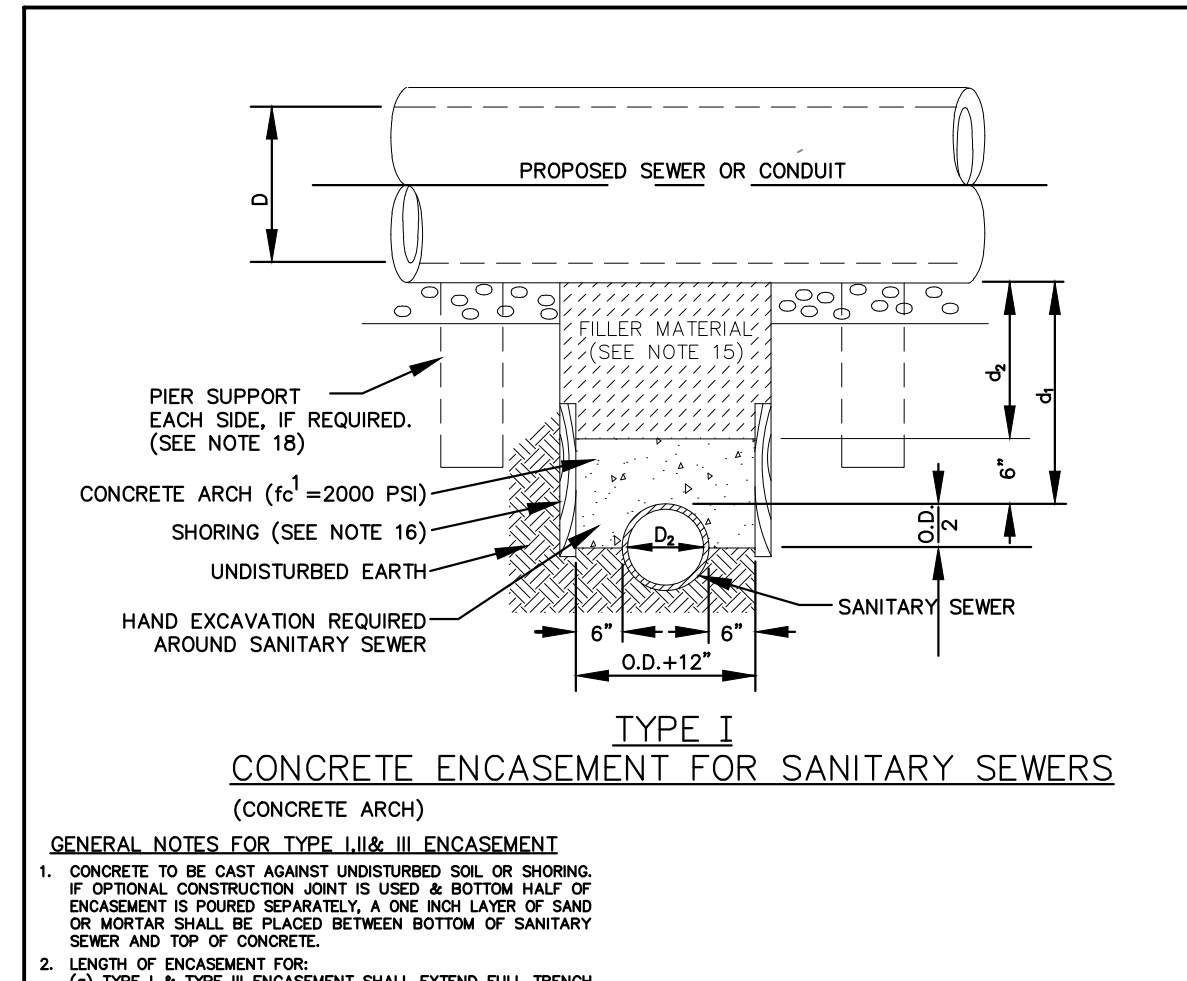
TABLE IV

PIPE SIZE - D	4"	6"	8"
18" & SMALLER	4"	6"	6"
21" TO 36"	6"	6"	6"
42" TO 60"	6"	6"	6"
66" TO 96"	8"	9"	9"
104" & LARGER	12"	12"	12"

GENERAL NOTES:

- THESE DETAILS ARE TYPICAL FOR NORMAL TRENCH CONDITIONS. FOR INSTALLATIONS OTHER THAN THESE (SUCH AS EMBANKMENT OR TUNNEL INSTALLATIONS, ETC.) EXCAVATION, BEDDING AND BACKFILL REQUIREMENTS SHALL BE DETAILED ON THE CONSTRUCTION DRAWINGS. FOR UNUSUAL OR UNSTABLE SOIL CONDITIONS, TRENCH AND BEDDING DETAILS SHALL BE A SPECIAL DESIGN.
- ULTIMATE BACKFILL LOADS AND STRUCTURAL DESIGN OF PIPE OR CONDUIT SHALL BE BASED UPON B₁ & TRANSITION WIDTH AS SET FORTH IN "REFERENCE R-2" (SEE BLOCK BELOW).
- FOR INSTALLATIONS OTHER THAN TYPICAL TRENCH CONDITIONS, EXCAVATIONS, BEDDING, BACKFILL AND STRUCTURAL REQUIREMENTS SHALL BE DESIGNED IN ACCORDANCE WITH THE REFERENCES NOTED BELOW OR THE PIPE MFG.'S RECOMMENDATIONS.

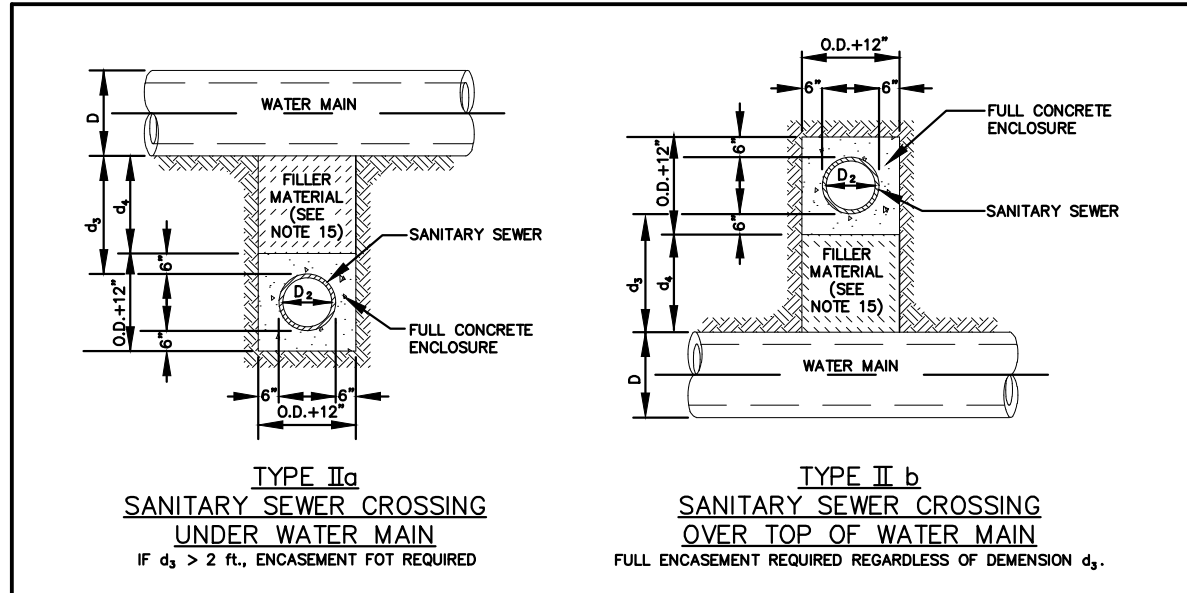
2000 REVISION SHEET 3



GENERAL NOTES FOR TYPE I, II & III ENCASEMENT

- CONCRETE TO BE CAST AGAINST UNDISTURBED SOIL OR SHORING. IF OPTIONAL CONSTRUCTION JOINT IS USED & BOTTOM HALF OF ENCASEMENT IS POURED SEPARATELY, A ONE INCH LAYER OF SAND OR MORTAR SHALL BE PLACED BETWEEN BOTTOM OF SANITARY SEWER AND TOP OF CONCRETE.
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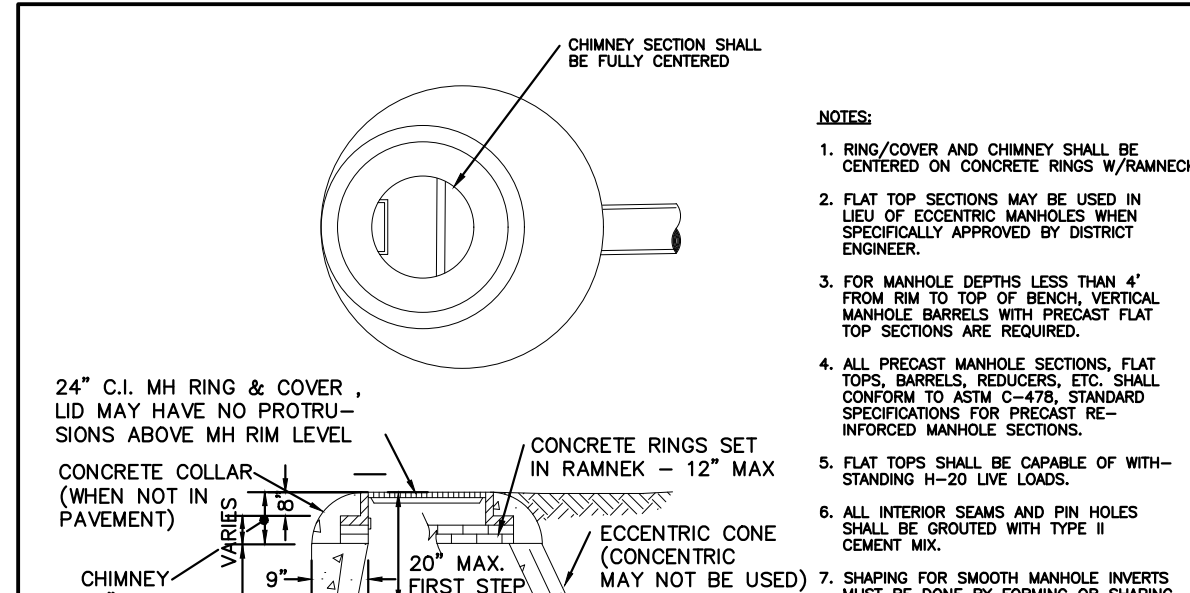
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GENERAL NOTES FOR TYPE I, II & III ENCASEMENT

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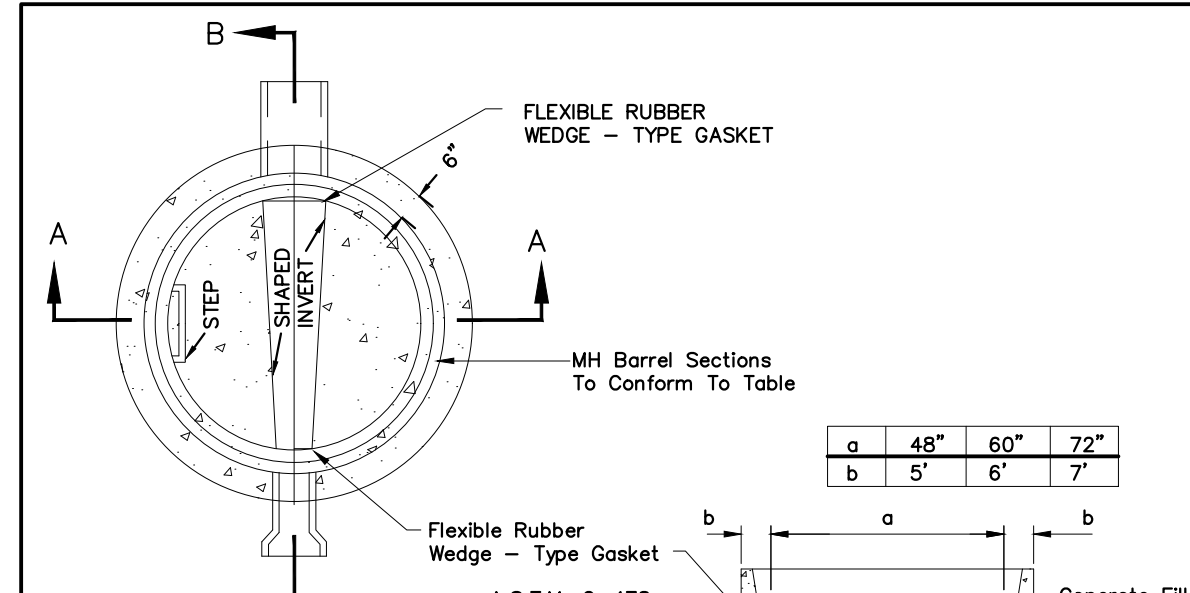


CONCRETE ENCASEMENT TYPE II

PIPE I.D. MANHOLE I.D.

18" & SMALLER	4'-0"
21" TO 48"	5'-0"
54"	6'-0"
60" & LARGER	SPECIAL DESIGN

2000 REVISION SHEET 9



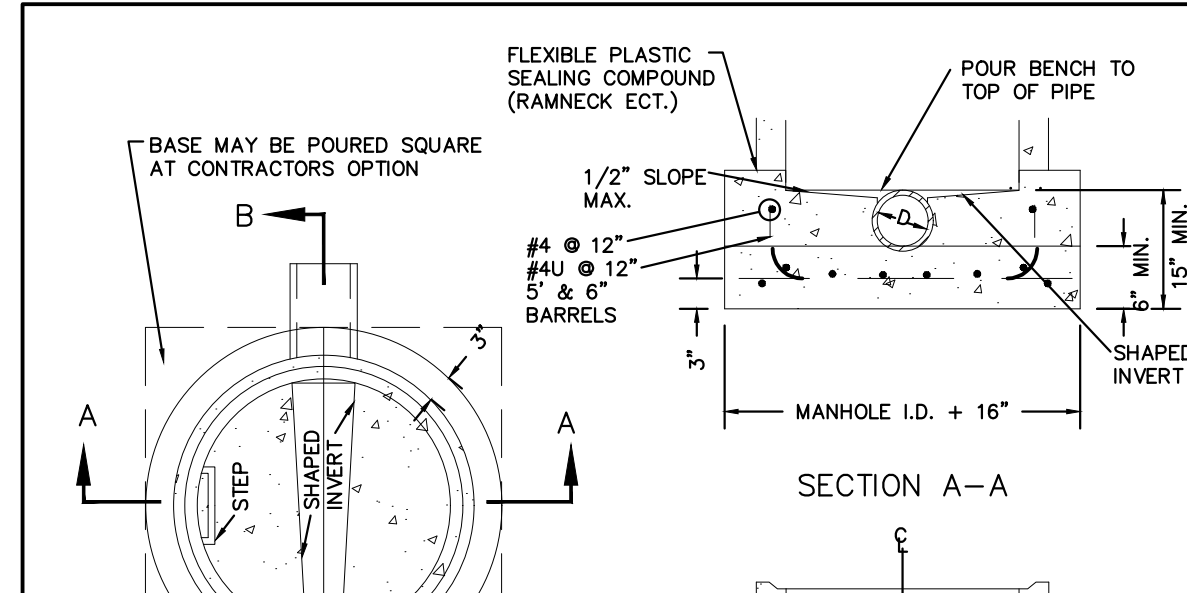
SECTION A-A

SECTION B-B

PRECAST MANHOLE BASE DETAIL

SCALE: NONE DATE: 4/00

2000 REVISION SHEET 12



SECTION A-A

SECTION B-B

CAST-IN-PLACE MANHOLE BASE DETAIL

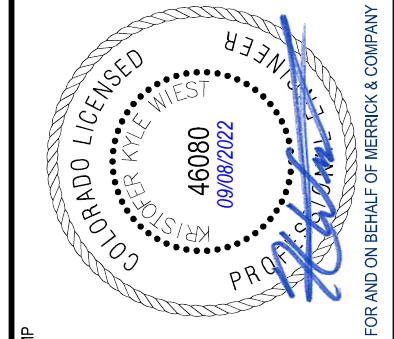
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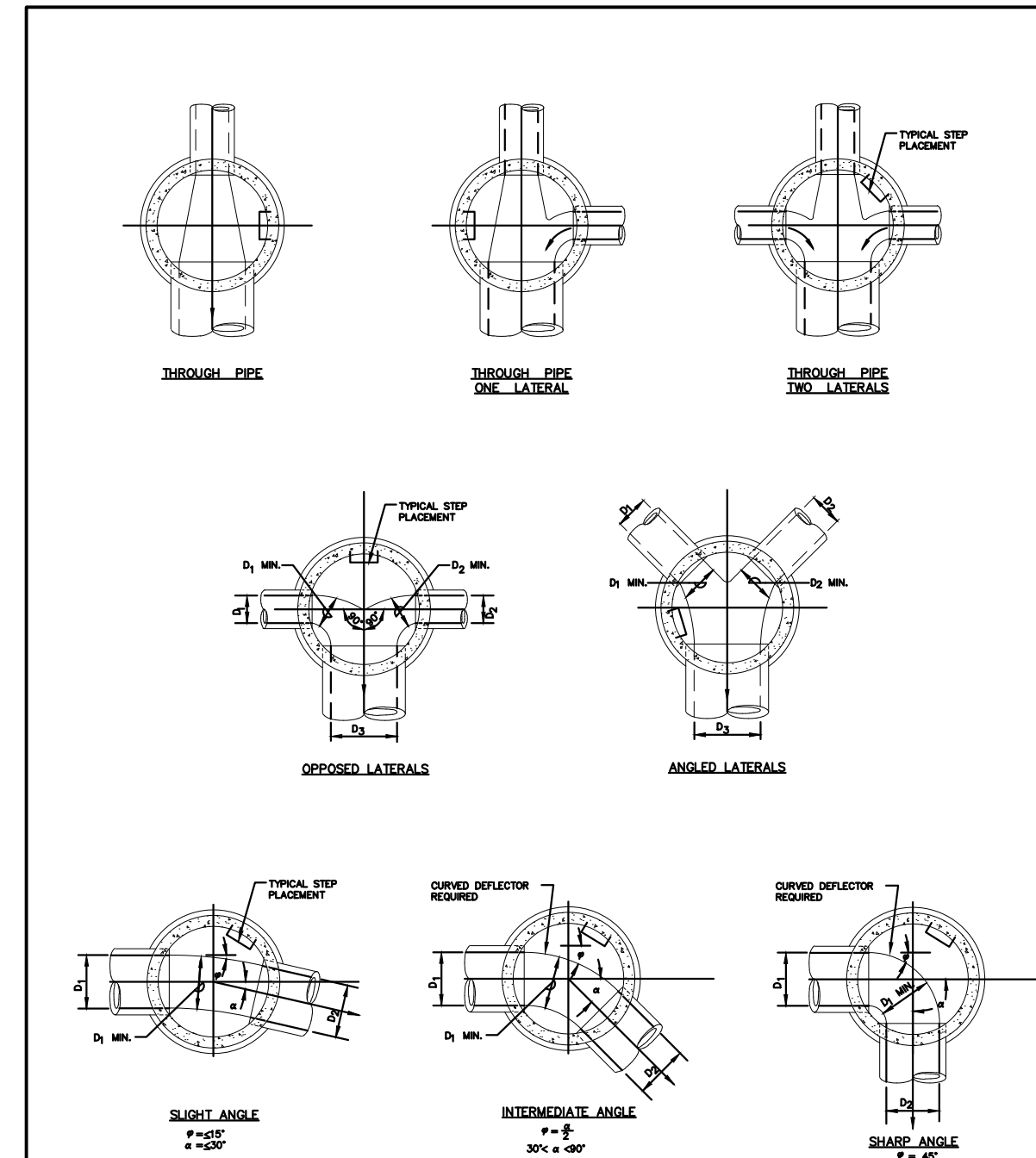


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A	ISSUED FOR CONSTRUCTION	8/25/2022		

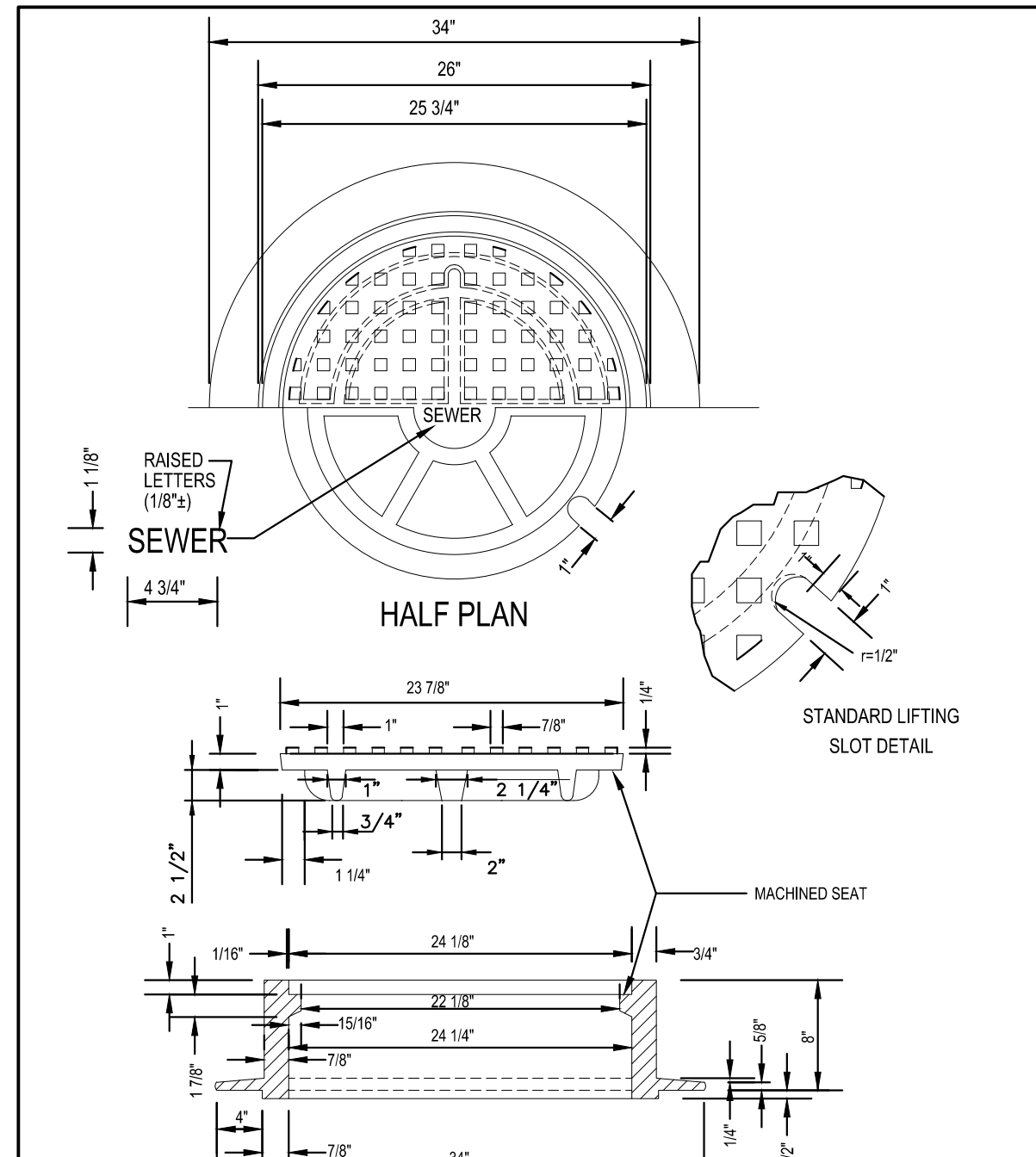


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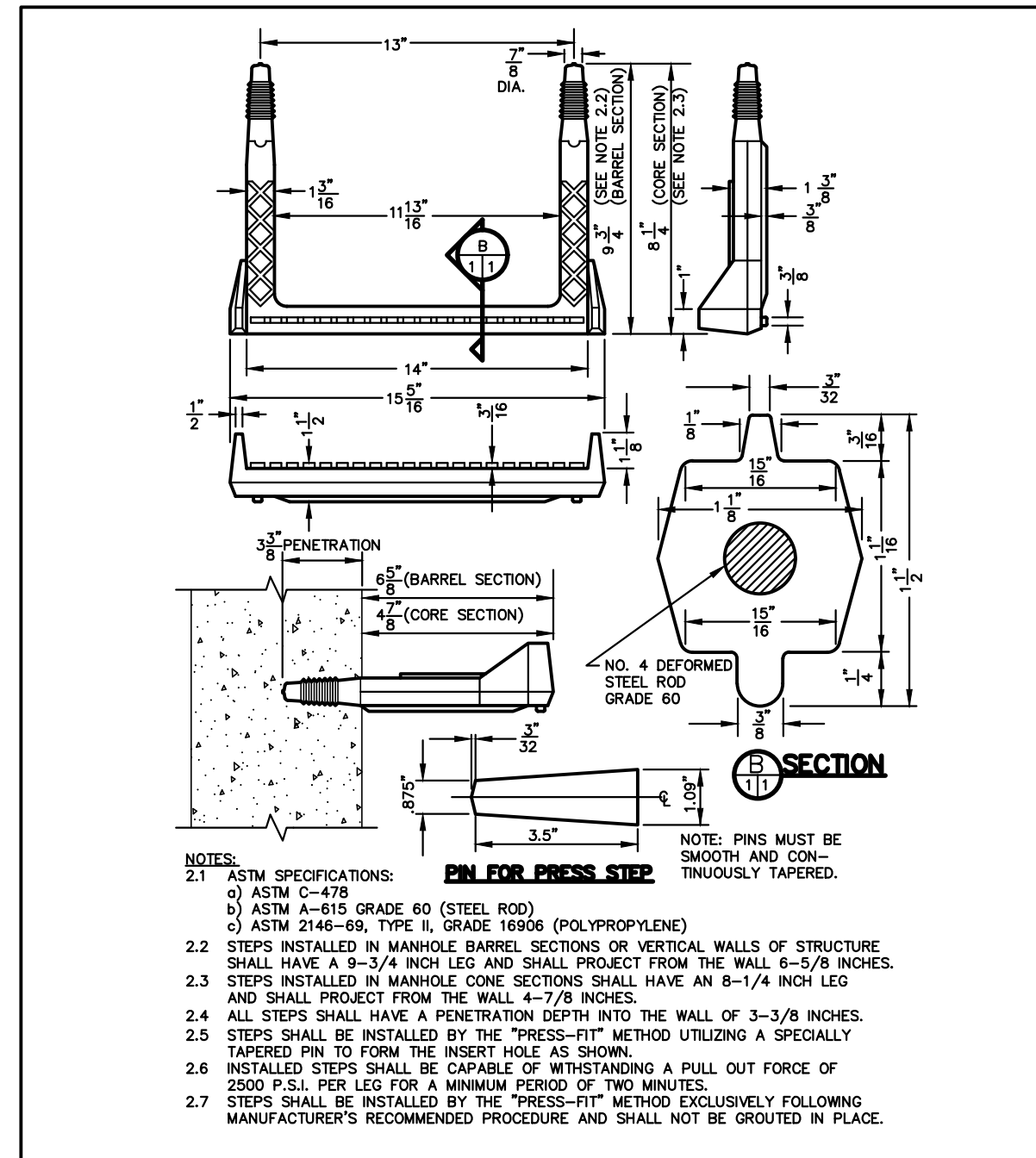
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TYPICAL BASE CHANNELIZATION DETAILS	
SCALE: NONE	DATE: 4/00
APPROVED: RJD	DISTRICT ENGINEER

2000 REVISION SHEET 15



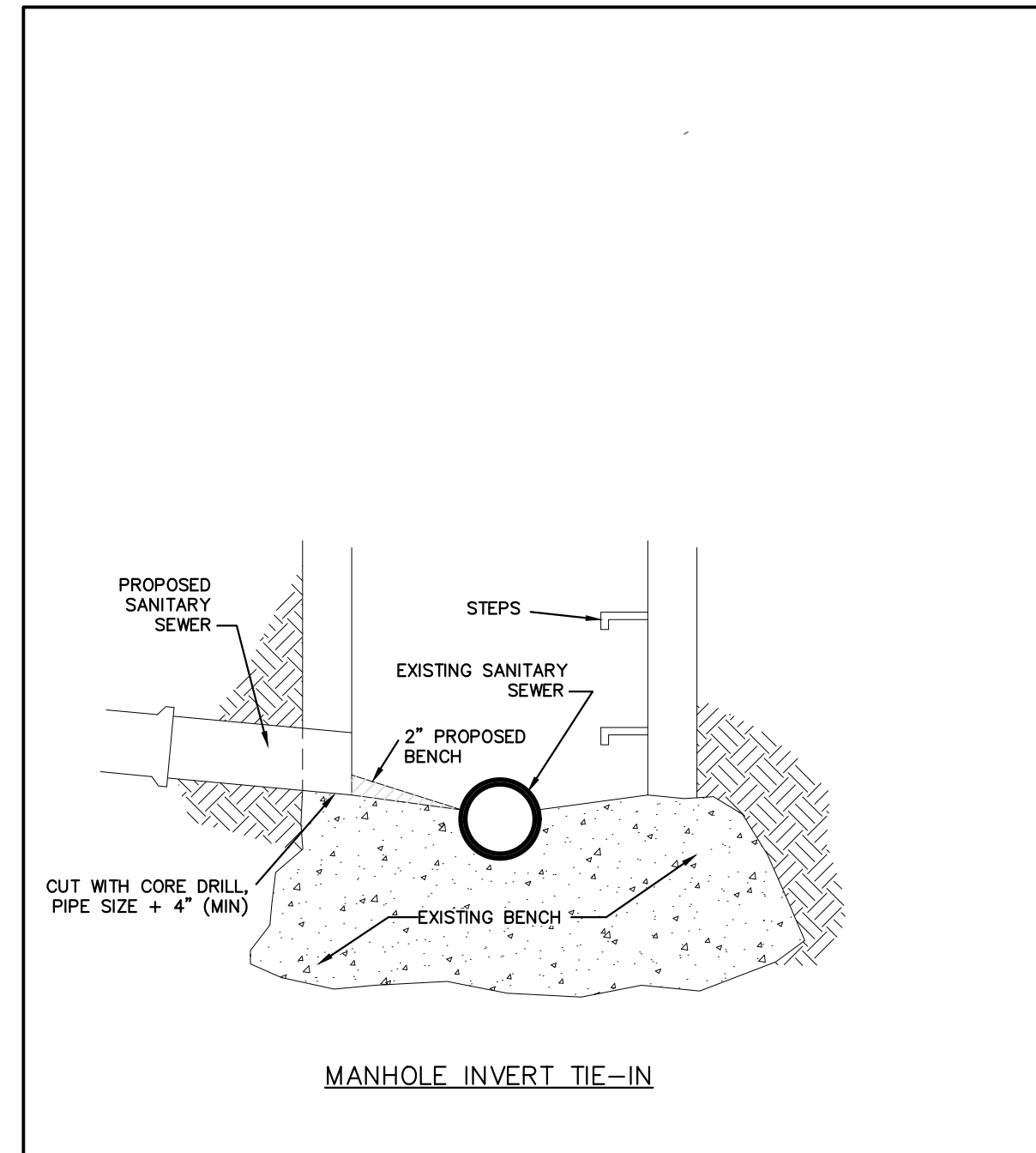
STONEGATE VILLAGE METROPOLITAN DISTRICT	
24" DIAMETER RING AND COVER	
SCALE: NONE	DATE: 4/00
APPROVED: RJD	DISTRICT ENGINEER

2000 REVISION SHEET 17



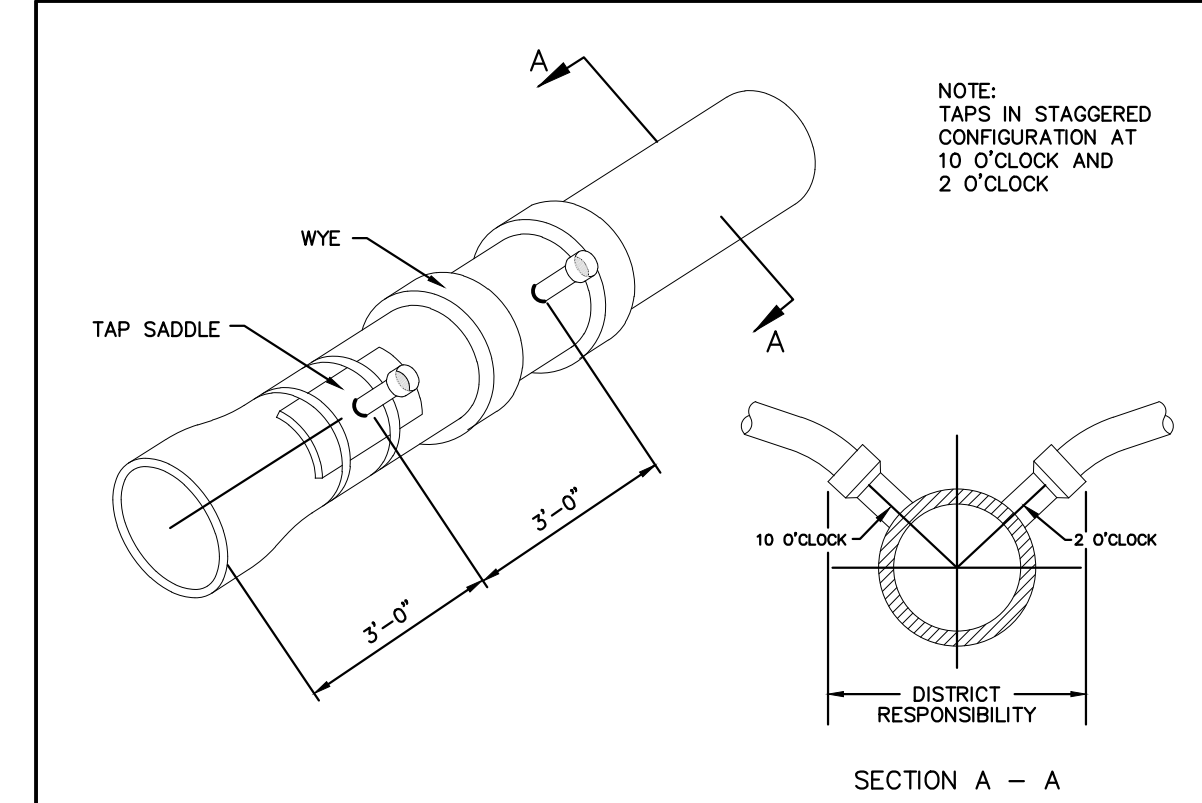
STONEGATE VILLAGE METROPOLITAN DISTRICT	
POLYPROPYLENE REINFORCED PLASTIC MANHOLE STEP	
SCALE: NONE	DATE: 4/00
APPROVED: RJD	DISTRICT ENGINEER

2000 REVISION SHEET 20



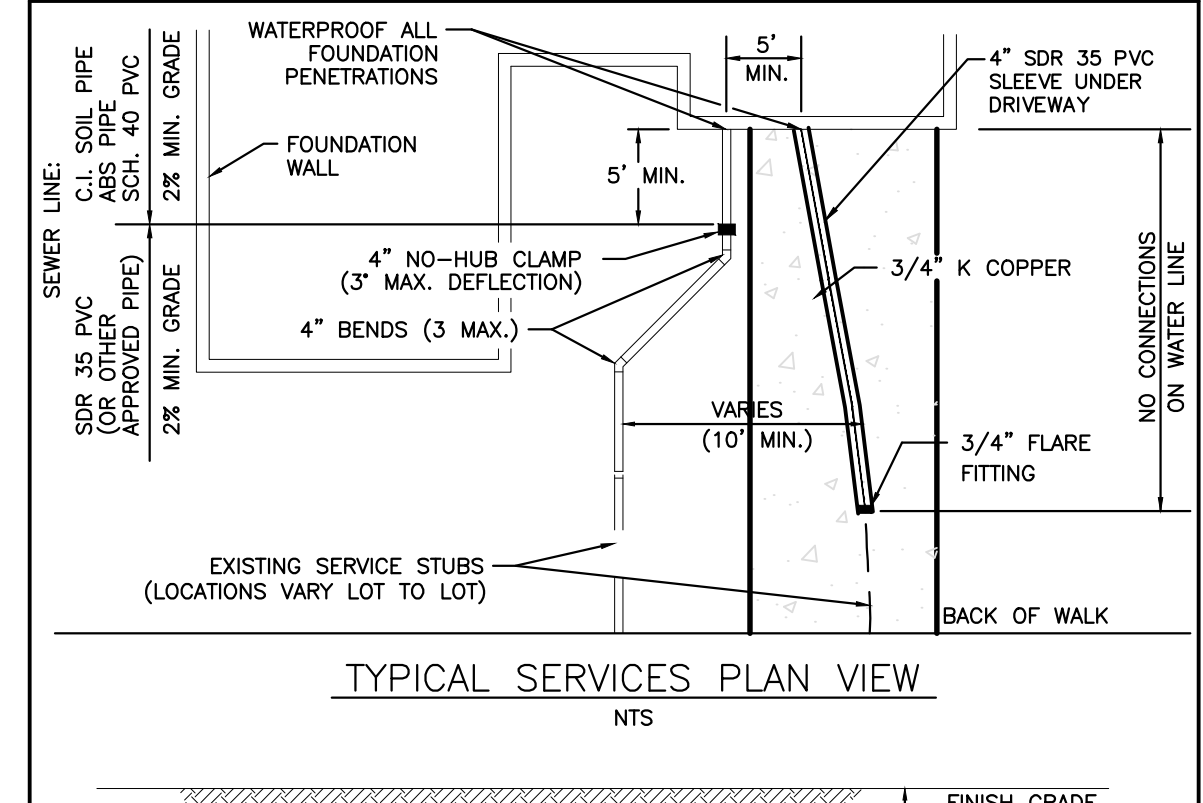
STONEGATE VILLAGE METROPOLITAN DISTRICT	
MANHOLE INVERT TIE-IN DETAIL	
SCALE: NONE	DATE: 4/00
APPROVED: RJD	DISTRICT ENGINEER

2000 REVISION SHEET 22



STONEGATE VILLAGE METROPOLITAN DISTRICT	
DOMESTIC SEWER TAPPING DETAIL	
SCALE: NONE	DATE: 4/00
APPROVED: RJD	DISTRICT ENGINEER

2000 REVISION SHEET 27



STONEGATE VILLAGE METROPOLITAN DISTRICT	
TYPICAL SEWER SERVICES	
SCALE: NONE	DATE: 4/00
APPROVED: RJD	DISTRICT ENGINEER

2000 REVISION SHEET 28

INSPECTION POLICY:

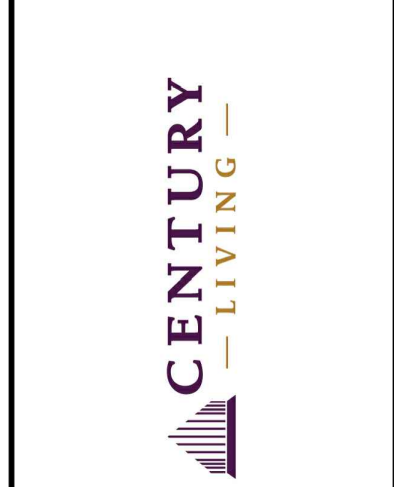
- ALL SERVICE INSPECTIONS MUST BE SCHEDULED WITH THE DISTRICT ENGINEER'S OFFICE (303) 263-3699 AT LEAST 24 HOURS IN ADVANCE OF THE REQUESTED INSPECTION.
- SERVICE INSPECTIONS WILL OCCUR BETWEEN 1:00 P.M. AND 4:00 P.M. SPECIFIC INSPECTION TIMES ARE NOT AVAILABLE.
- IF THE CONTRACTOR IS NOT READY FOR INSPECTION WHEN THE INSPECTOR ARRIVES AT THE SITE, A RE-INSPECTION WILL HAVE TO BE SCHEDULED IN ACCORDANCE WITH NOTES 1 AND 2 ABOVE.
- SHOULD THE SERVICE LINES BE DAMAGED BY LATER CONSTRUCTION, AN INSPECTION OF THE REPAIR WILL BE REQUIRED IN ACCORDANCE WITH NOTES 1 AND 2 ABOVE.
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- ALL EXCAVATIONS SHALL BE IN ACCORDANCE WITH OSHA STANDARDS.

INSTALLATION NOTES:

SEWER

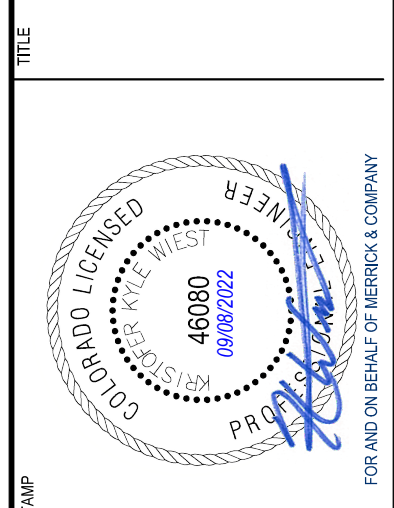
- ACCEPTABLE PIPE MATERIALS ARE TO BE SDR 35 PVC PIPE, ABS PIPE AND CAST IRON CLASS 22 SOIL PIPE. APPROVED BEDDING IS TO BE SQUEEGEE.
- NO-HUB CLAMPS SHALL BE USED TO JOIN 2 MALE PIPE ENDS WITH A MAXIMUM DEFLECTION OF 3".
- MINIMUM GRADE SHALL BE 2%.
- INSTALLATION SHALL INCLUDE NO MORE THAN 3 BENDS. 90° BENDS ARE NOT ALLOWED. SOLVENT WELDED PIPE WILL NOT BE ALLOWED.
- CLEAN-OUTS SHALL BE INSTALLED AT 100' INTERVALS. CLEAN-OUTS ARE NOT REQUIRED FOR SERVICES LESS THAN 100'.
- STRESSING OF THE PIPE BETWEEN FITTINGS WILL NOT BE ALLOWED.

2000 REVISION SHEET 29



REV	REVISION DESCRIPTION	DATE	CHKD	APPD
A	ISSUED FOR CONSTRUCTION	8/25/2022		

LOT 1, COMPARK VILLAGE SOUTH
FLG 1, AMD 2
WATER & SANITARY SEWER IMPROVEMENTS
STANDARD DETAILS - SANITARY



JOB NUMBER: 65120850	DATE: 8/25/2022	SHEET: C8.13	17
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