

WAT & SEW

MORRIS & RITCHE ASSOCIATES, INC.
 ENGINEERS, ARCHITECTS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS
 111 RUTHAR DRIVE
 NEWARK, DE 19711
 (302) 326-2200
 MRAGTA.COM
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WATER PLAN FOR PARADISE MEADOWS

ENGINEER'S SEAL
 BROADKILL HUNDRED
 SUSSEX COUNTY, DE

DATE: 07/15/2024
 JOB NO.: 21482
 SCALE: 1"=50'
 DRAWN BY: FRP
 DESIGN BY: JPH
 REVIEW BY: CJF/PLT
 SHEET: 2 OF 22

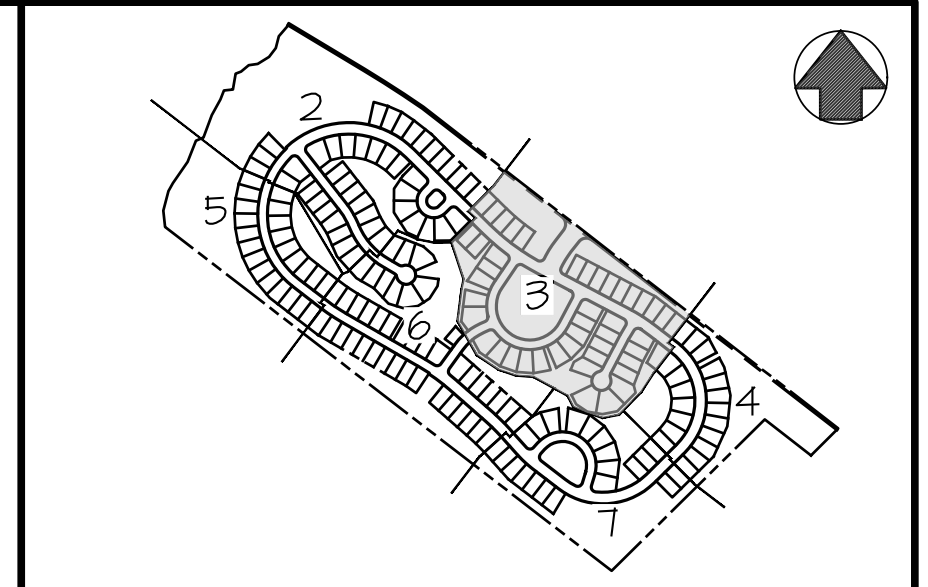
LEGEND

- PROPERTY BOUNDARY
- - - EXISTING RIGHT-OF-WAY
- - - EXISTING ADJACENT PROPERTY LINE
- - - PROPOSED RIGHT OF WAY
- - - PROPOSED LOT LINE/PARCEL LINE
- - - PROPOSED EASEMENT
- - - BUILDING SETBACK LINE
- FP 100 YR FEMA FLOODPLAIN
- NW NON-JURISDICTIONAL WETLANDS
- WB WETLANDS BUFFER
- PROPOSED LOT NUMBER
- PROPOSED CURB & GUTTER
- PROPOSED CONC. SIDEWALK
- PROPOSED HANDICAP RAMP
- PROPOSED SANITARY LATERAL
- PROPOSED SANITARY SEWER & MANHOLE
- PROPOSED WATER LATERAL
- PROPOSED WATER MAIN W/HYDRANT & TEE
- FM PROPOSED FORCEMAIN

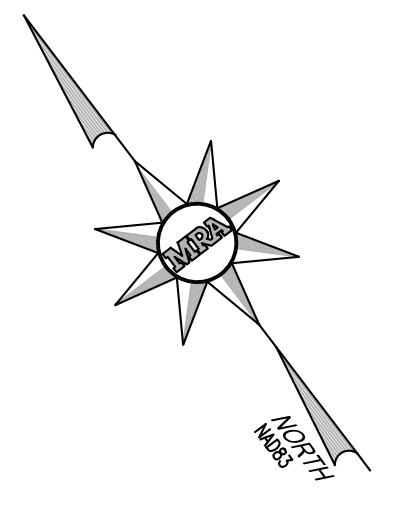
WATER CROSSING CHART

CROSSING PIPE	CROSSING LABEL	STATION	OFFSET	SURFACE ELEVATION	WATER INVERT	CROSSING PIPE INVERT	DESCRIPTION	DEPRESS METHOD
OASIS DRIVE								
P 1	X-3	12+72.07	25.37 RT	26.78	22.55	18.17	18" RCCP	N/A
P 5	X-4	15+74.66	23.77 RT	24.63	18.46	20.85	18" RCCP	Vertical Bends 4-45' Bends
P 5A	X-5	15+92.05	21.92 RT	24.48	20.25	9.64	48" RCCP	N/A
SSP 9	X-25	7+74.92	0.00	29.67	25.44	19.41	8" RCCP	N/A
SSP 7	X-28	6+06.92	0.14 RT	27.87	23.64	16.45	8" RCCP	N/A
SSP 26	X-29	16+25.27	5.62 LT	24.12	20.10	17.94	8" RCCP	N/A
GRACE WAY								
P 15	X-26	2+31.30	17.42 RT	27.06	22.83	18.75	30" RCCP	N/A
P 19	X-27	3+57.06	21.50 RT	27.56	23.33	19.43	24" RCCP	N/A
UTOPIA COURT								
P 65A	X-30	0+41.99	21.50 RT	24.63	20.40	15.78	30" RCCP	N/A

G:\1482-Cave Neck Road\1482\DWG\WAT&SEW\1482-WAT_PLAN.dwg, 7/15/2024 14:51:10 PM, FRP
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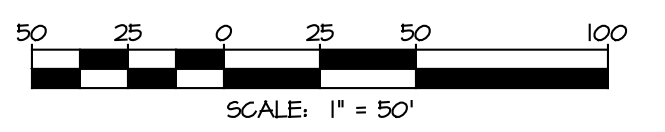


KEY MAP



LEGEND

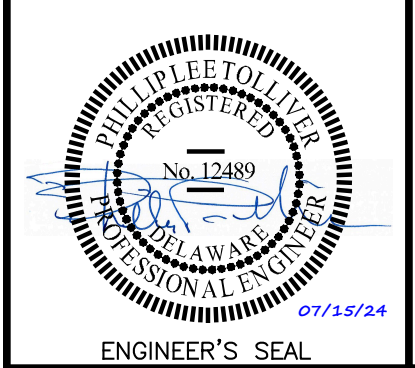
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- PROPOSED HANDICAP RAMP
- PROPOSED SANITARY LATERAL
- PROPOSED SANITARY SEWER & MANHOLE
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- FM PROPOSED FORCEMAIN



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 MORRIS & RITCHIE ASSOCIATES, INC.



WATER PLAN
 FOR
PARADISE MEADOWS

BROADKILL HUNDRED SUSSEX COUNTY, DE

DATE	REVISIONS	JOB NO.:
		21482
		SCALE: 1"=50'
		DATE: 07/15/2024
		DRAWN BY: FRP
		DESIGN BY: JPH
		REVIEW BY: CJF/PLT
		SHEET: 3 OF 22

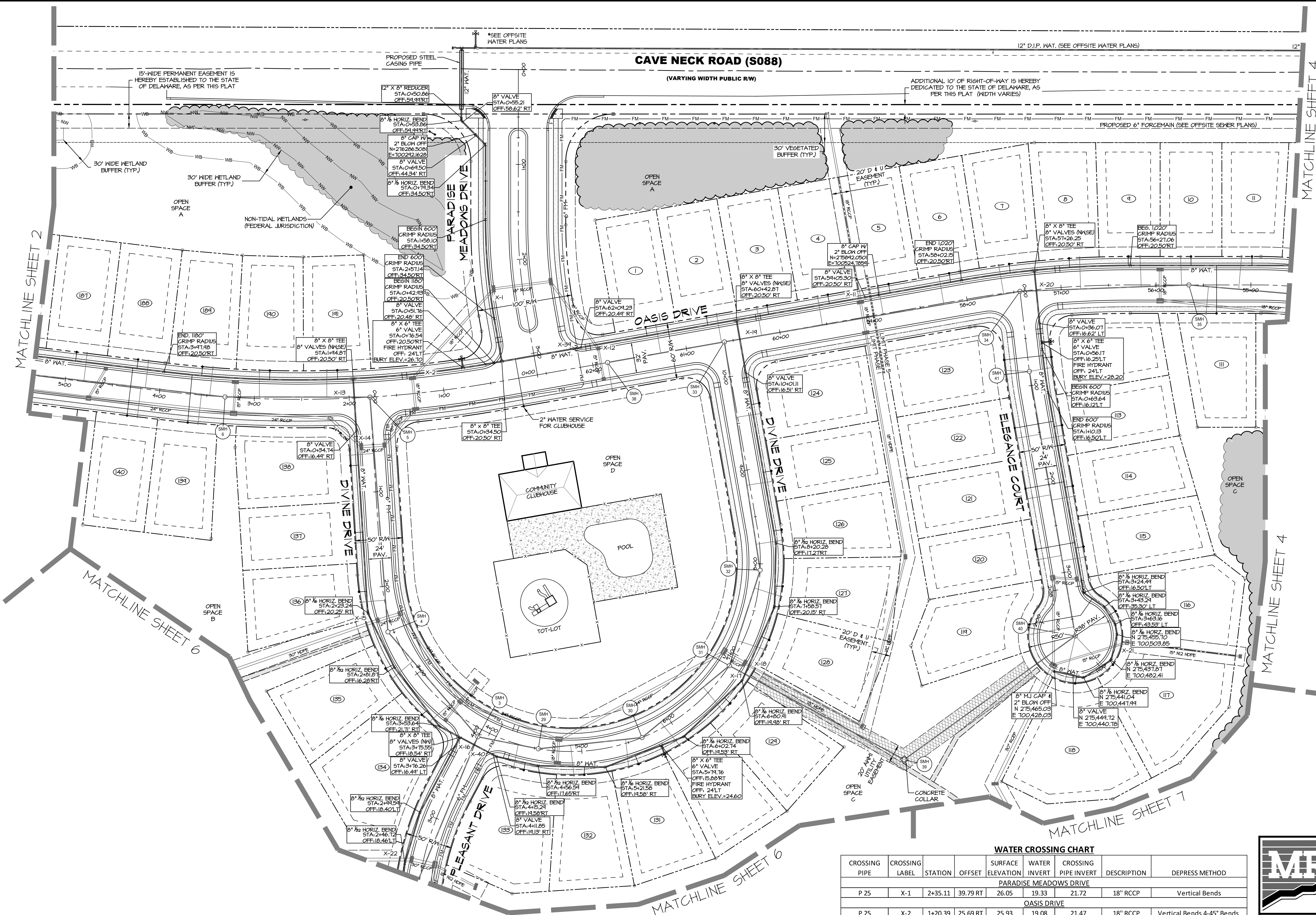
CAVE NECK ROAD (S088)

(VARYING WIDTH PUBLIC RW)

12" D.I.P. MAT. (SEE OFFSITE WATER PLANS)

ADDITIONAL 10' OF RIGHT-OF-WAY IS HEREBY DEDICATED TO THE STATE OF DELAWARE, AS PER THIS PLAT (WIDTH VARIES)

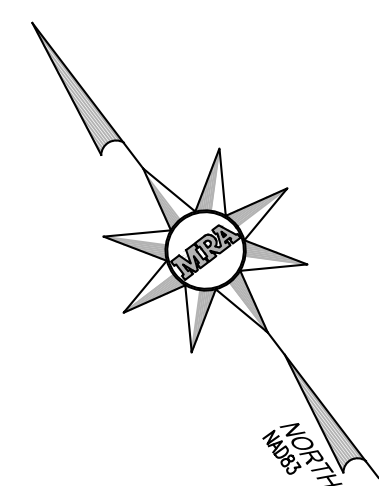
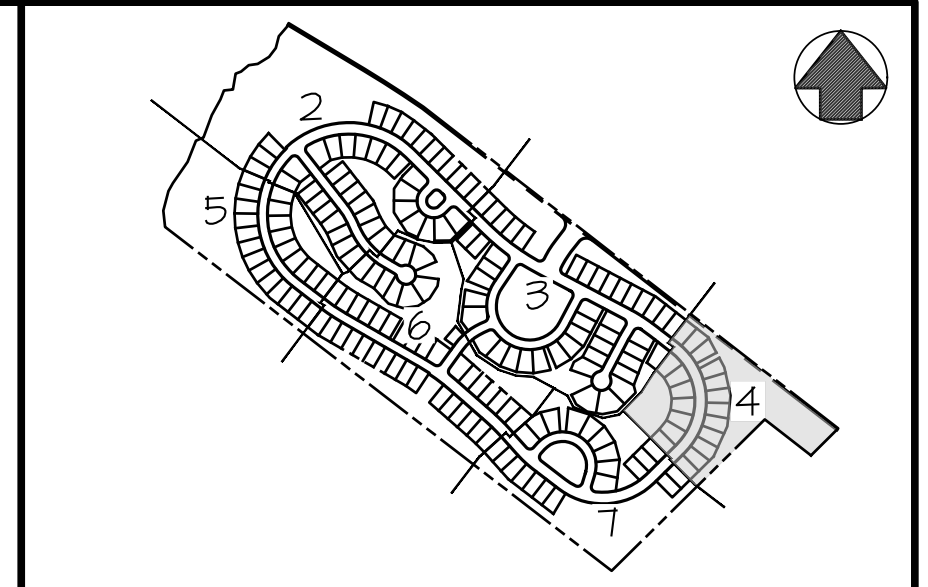
PROPOSED 6" FORCEMAIN (SEE OFFSITE SEWER PLANS)



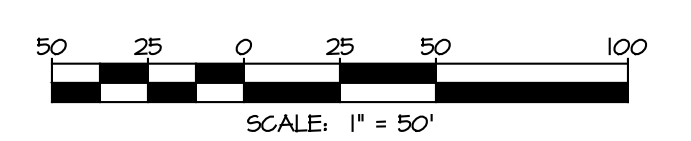
WATER CROSSING CHART

CROSSING PIPE	CROSSING LABEL	STATION	OFFSET	SURFACE ELEVATION	WATER INVERT	CROSSING PIPE INVERT	DESCRIPTION	DEPRESS METHOD
PARADISE MEADOWS DRIVE								
P 25	X-1	2+35.11	39.79 RT	26.05	19.33	21.72	18" RCCP	Vertical Bends
OASIS DRIVE								
P 25	X-2	1+20.39	25.69 RT	25.93	19.08	21.47	18" RCCP	Vertical Bends 4-45° Bends
P 43A	X-11	59+10.98	25.50 RT	26.82	20.71	23.10	18" RCCP	Vertical Bends 4-45° Bends
P 27	X-12	61+95.90	25.50 RT	27.31	20.97	23.36	18" RCCP	Vertical Bends 4-45° Bends
SSP 6	X-13	1+99.60	1.18 RT	25.24	21.01	14.73	8" RCCP	N/A
SSP 34	X-19	60+37.87	0.12 LT	27.50	23.27	17.35	8" RCCP	N/A
FM	X-39	62+13.37	20.50 RT	26.50	22.27	19.24	6" PVC FM	N/A
DIVINE DRIVE								
P 95	X-14	0+41.74	21.50 RT	25.50	18.37	20.80	24" RCCP	Vertical Bends 4-45° Bends
P 32	X-15	2+33.15	19.41 RT	25.51	15.39	17.78	30" RCCP	Vertical Bends 4-45° Bends
SSP 39	X-17	6+87.99	22.05 RT	24.99	20.76	15.86	8" RCCP	N/A
P 40	X-18	6+96.98	20.70 RT	25.03	17.21	19.52	18" RCCP	Vertical Bends 4-45° Bends
FM	X-40	4+18.13	19.15 RT	23.83	19.60	15.56	6" PVC FM	N/A
ELEGANCE COURT								
P 82B	X-21	0+75.89	4.49 LT	25.13	18.79	21.08	15" RCCP	Vertical Bends 4-45° Bends
PLEASANT DRIVE								
SSP 3	X-16	3+91.56	19.14 RT	23.71	19.48	12.53	8" RCCP	N/A
P 50	X-22	2+50.13	20.31 LT	22.98	18.75	14.07	30" RCCP	N/A

03/14/23-Cave Neck Road/1500/01/W&S/21482-3-W&S/PLAN.dwg, 7/15/2024 14:18 PM, FRP



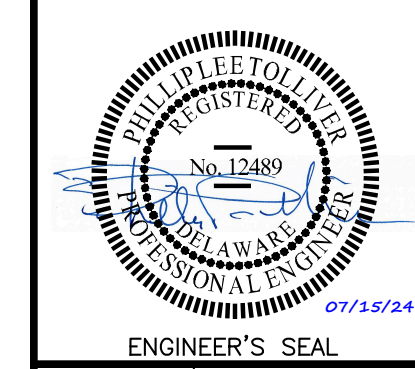
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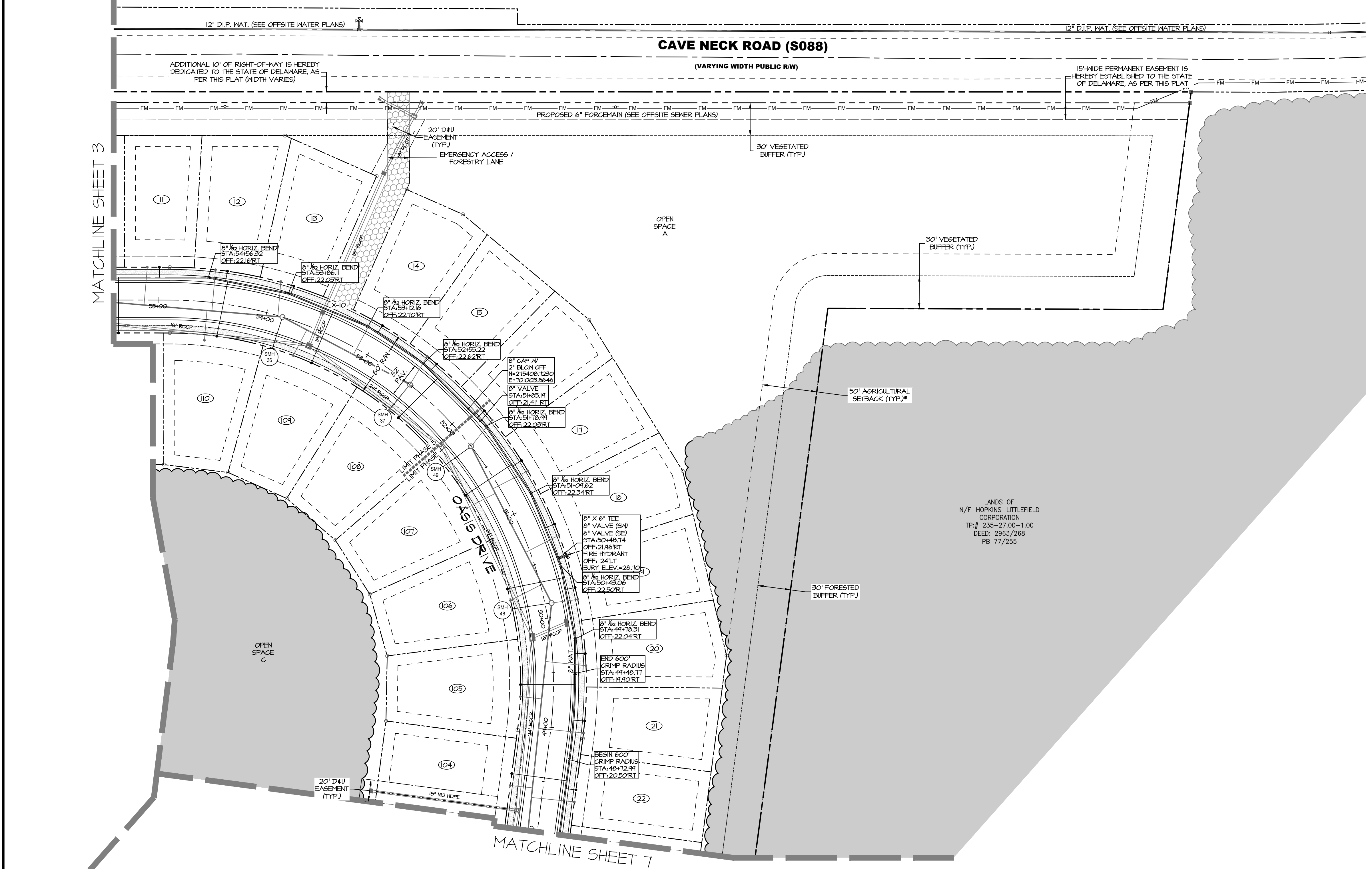


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 FOR
PARADISE MEADOWS

ENGINEER'S SEAL BROADKILL HUNDRED SUSSEX COUNTY, DE

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		SCALE: 1"=50'
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		DESIGN BY: JPH
		REVIEW BY: CJF/PLT
		SHEET: 4 OF 22

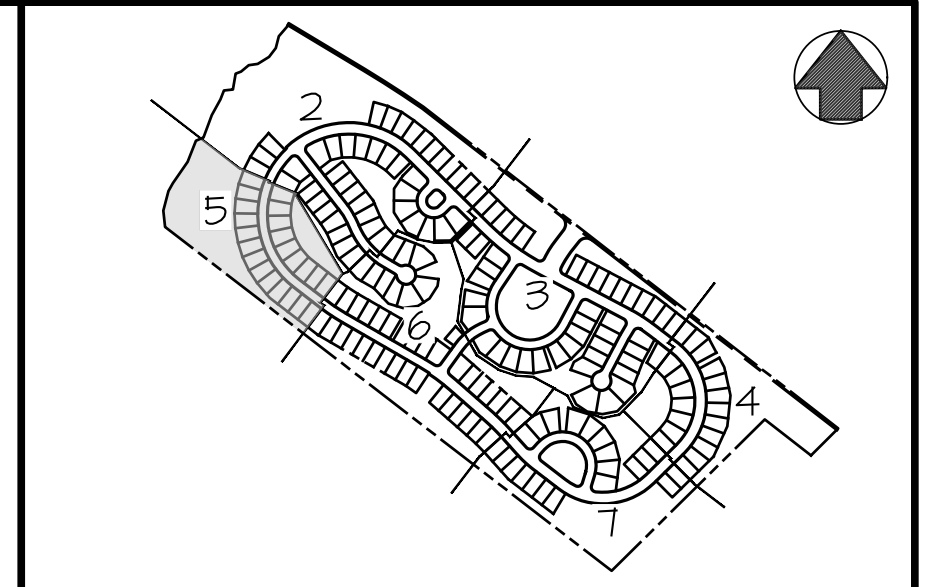


P 50	X-22	2+50.13	20.31 LT	22.98	18.75	14.07	30" RCCP	N/A
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WATER CROSSING CHART

CROSSING PIPE	CROSSING LABEL	STATION	OFFSET	SURFACE ELEVATION	WATER INVERT	CROSSING PIPE INVERT	DESCRIPTION	DEPRESS METHOD

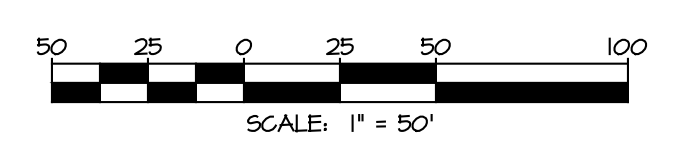
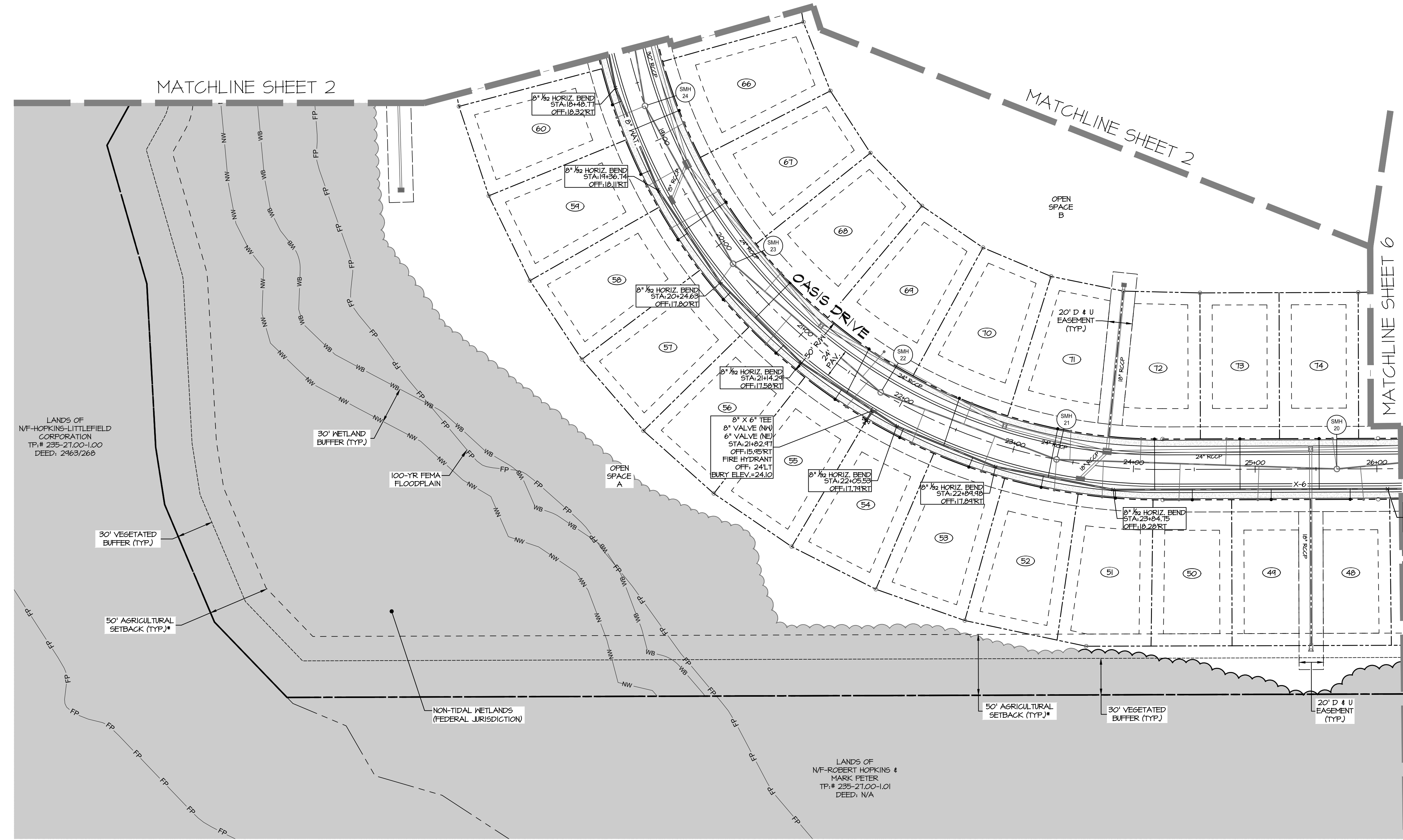
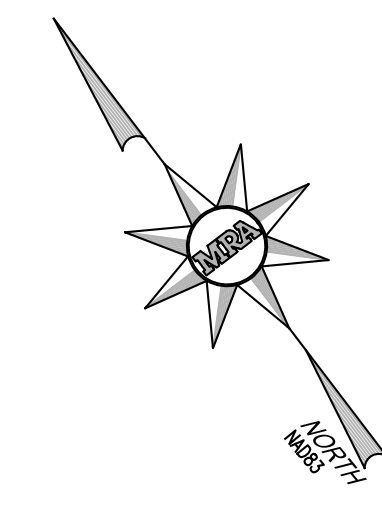
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KEY MAP

LEGEND

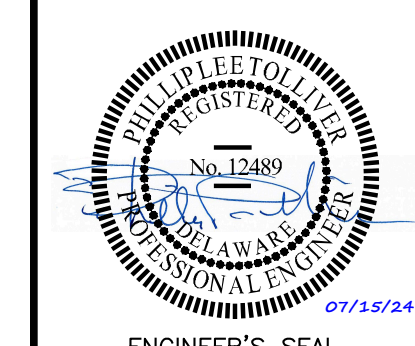
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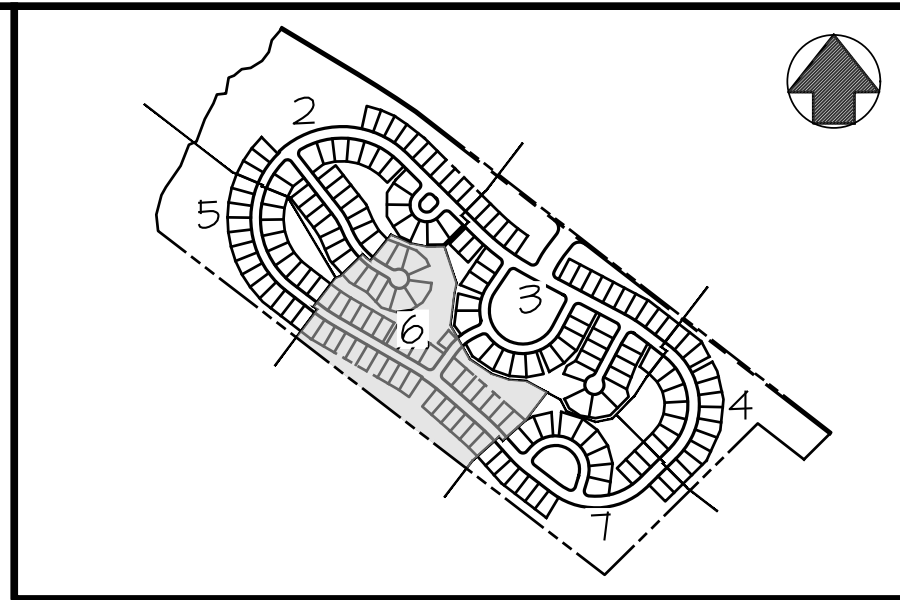
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		REVIEW BY: CJF/PLT
		SHEET: 5 OF 22

WATER CROSSING CHART

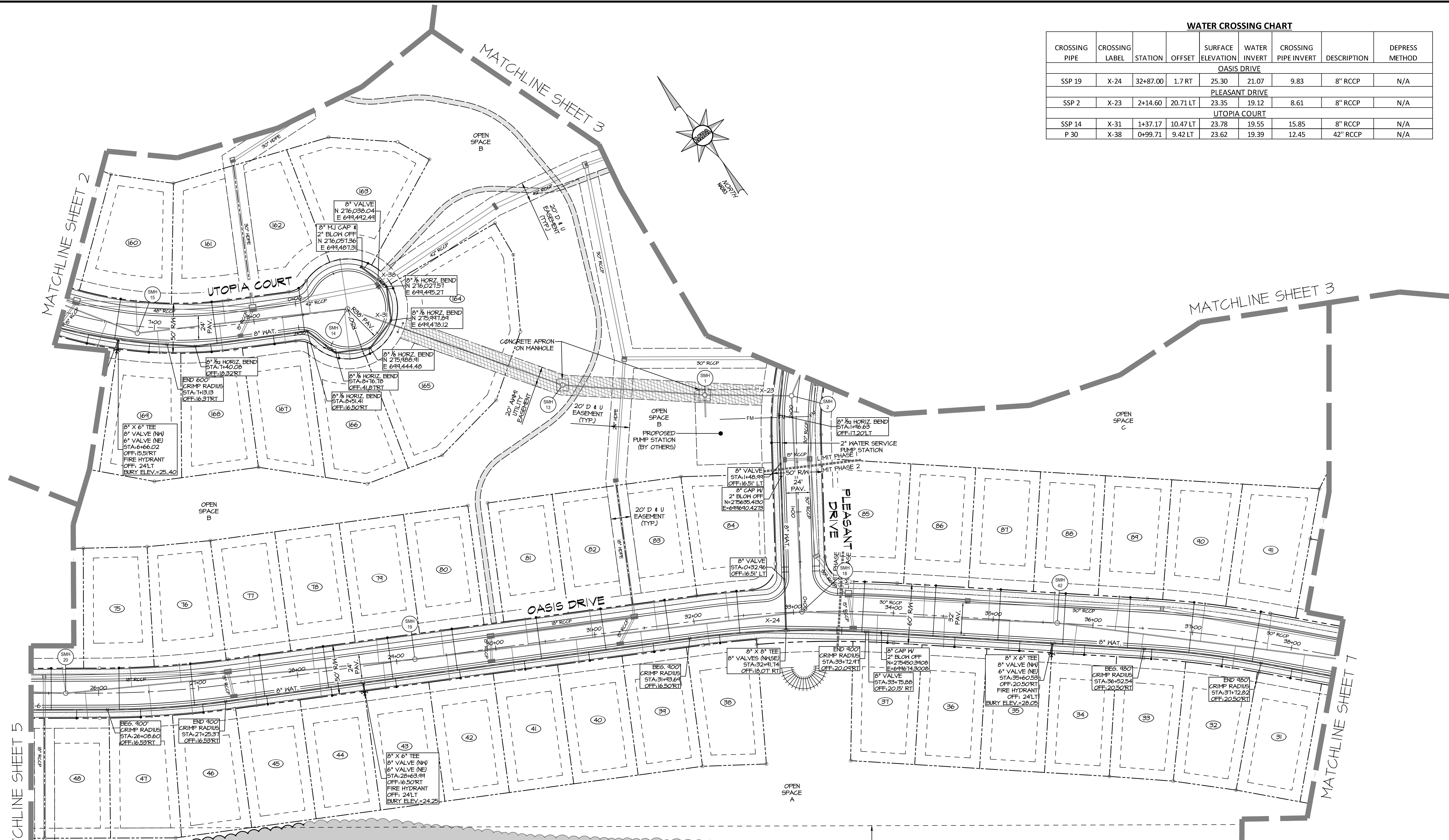
CROSSING PIPE	CROSSING LABEL	STATION	OFFSET	SURFACE ELEVATION	WATER INVERT	CROSSING PIPE INVERT	DESCRIPTION	DEPRESS METHOD
OASIS DRIVE								
P 70B	X-6	24+99.07	21.50 RT	23.26	16.19	18.58	18" PVC	Vertical Bends 4-45° Bends

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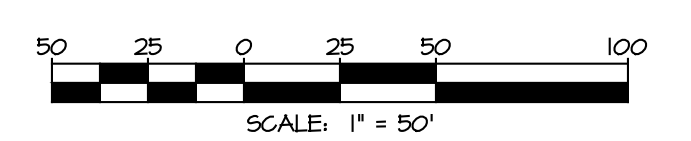
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CROSSING PIPE	CROSSING LABEL	STATION	OFFSET	SURFACE ELEVATION	WATER INVERT	CROSSING PIPE INVERT	DESCRIPTION	DEPRESS METHOD
OASIS DRIVE								
SSP 19	X-24	32+87.00	1.7 RT	25.30	21.07	9.83	8" RCCP	N/A
PLEASANT DRIVE								
SSP 2	X-23	2+14.60	20.71 LT	23.35	19.12	8.61	8" RCCP	N/A
UTOPIA COURT								
SSP 14	X-31	1+37.17	10.47 LT	23.78	19.55	15.85	8" RCCP	N/A
P 30	X-38	0+99.71	9.42 LT	23.62	19.39	12.45	42" RCCP	N/A



KEY MAP



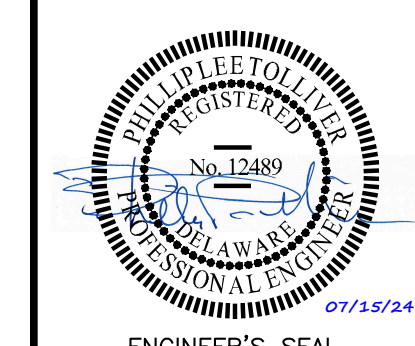
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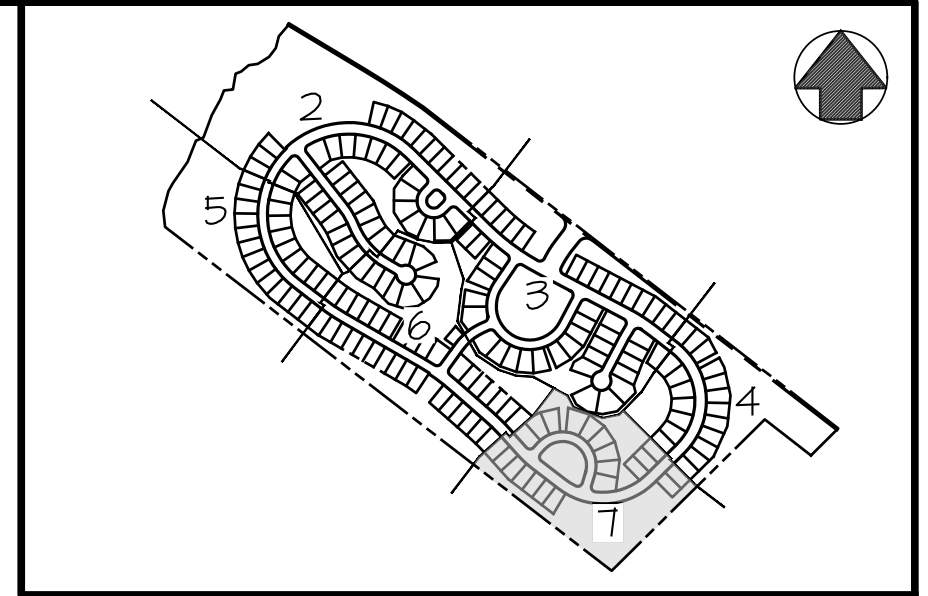
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WATER PLAN
 FOR
PARADISE MEADOWS

DATE	REVISIONS	JOB NO.:
		21482
		SCALE: 1"=50'
		DATE: 07/15/2024
		DRAWN BY: FRP
		DESIGN BY: JPH
		REVIEW BY: CJF/PLT
		SHEET: 6 OF 22

LANDS OF
 N/F-ROBERT HOPKINS &
 MARK PETER
 TP: # 235-27.00-1.01
 DEED: N/A

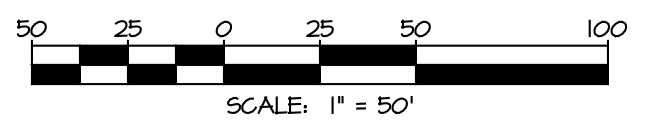
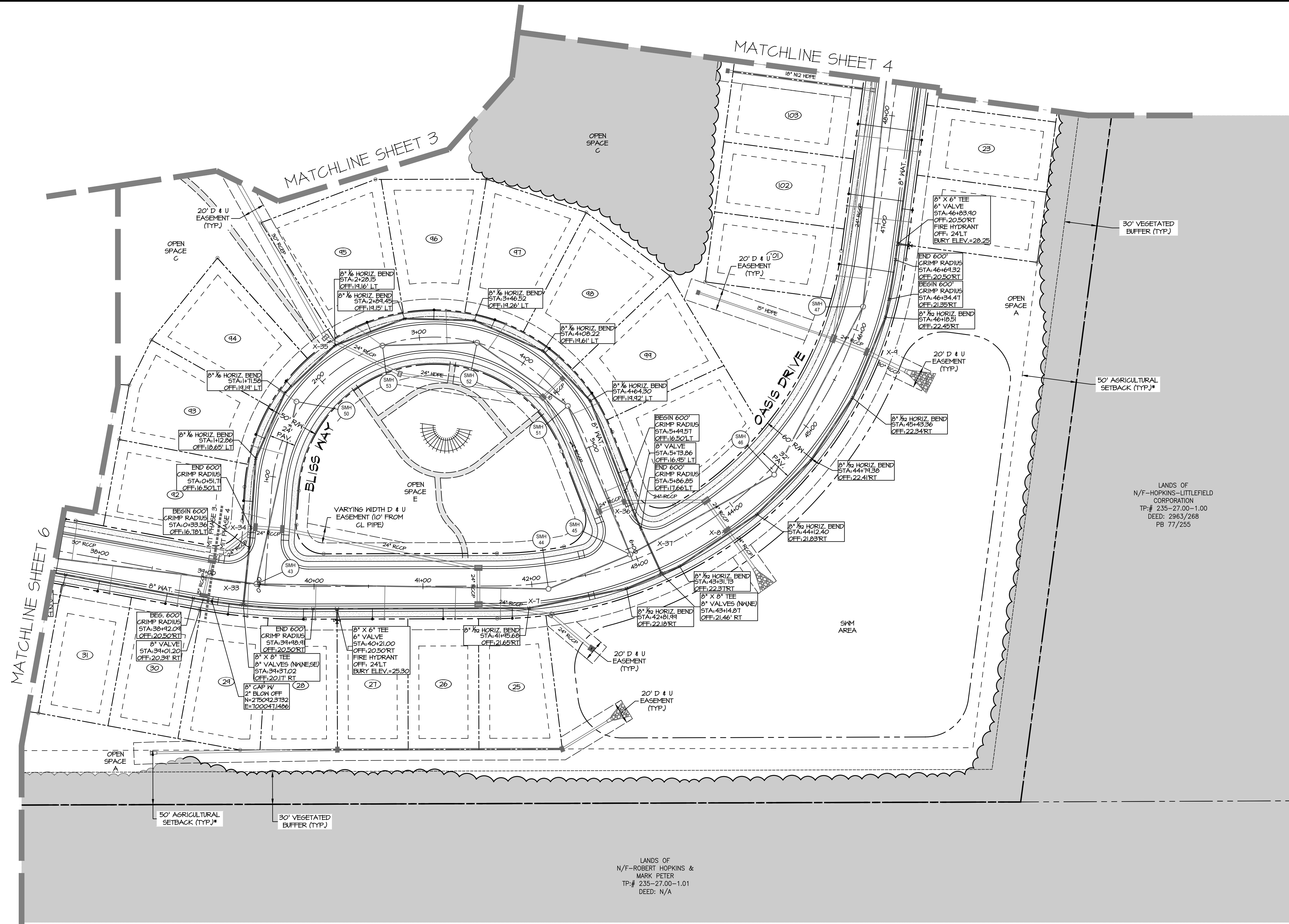
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KEY MAP

LEGEND

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LANDS OF
N/F-ROBERT HOPKINS &
MARK PETER
TP:# 235-27.00-1.01
DEED: N/A

LANDS OF
N/F-HOPKINS-LITTLEFIELD
CORPORATION
TP:# 235-27.00-1.00
DEED: 2963/268
PB 77/255

P 30	X-38	0+99.71	9.42 LT	23.62	19.39	12.45	42" RCCP	N/A
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WATER CROSSING CHART

CROSSING PIPE	CROSSING LABEL	STATION	OFFSET	SURFACE ELEVATION	WATER INVERT	CROSSING PIPE INVERT	DESCRIPTION	DEPRESS METHOD
OASIS DRIVE								
P 64A	X-7	41+96.89	24.94 RT	24.24	15.21	17.64	24" RCCP	Vertical Bends 4-45" Bends
P 75	X-8	43+83.81	25.38 RT	24.33	16.40	18.83	24" RCCP	Vertical Bends 4-45" Bends
P 85	X-9	45+84.18	25.91 RT	26.79	17.61	20.08	30" PVC	Vertical Bends 4-45" Bends
SSP 43	X-33	39+36.92	0.85 LT	25.42	21.27	12.15	8" RCCP	N/A
SSP 46	X-37	43+19.76	8.50 LT	24.42	20.19	15.61	8" RCCP	N/A
BLISS WAY								
P 61	X-34	0+43.51	22.05 LT	25.32	21.09	16.61	24" RCCP	N/A

WAT & SEW



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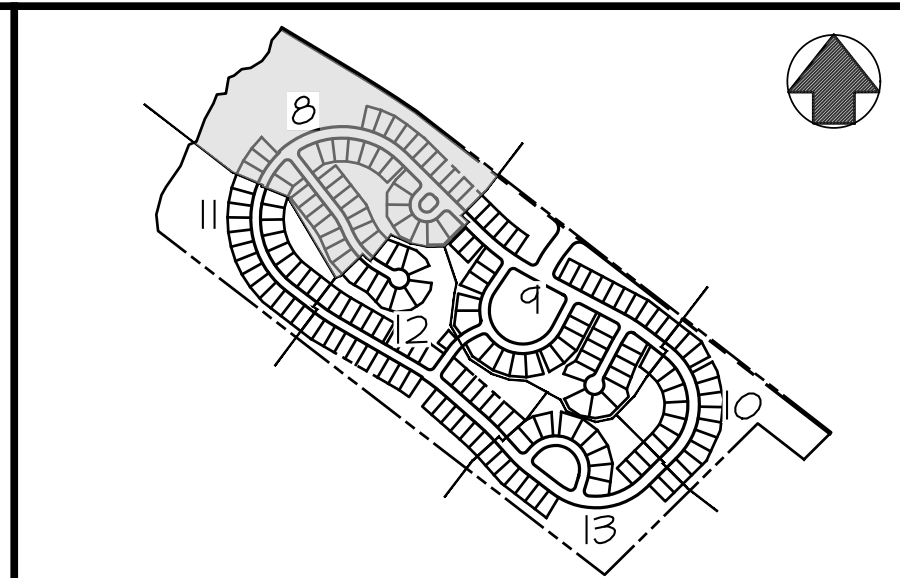
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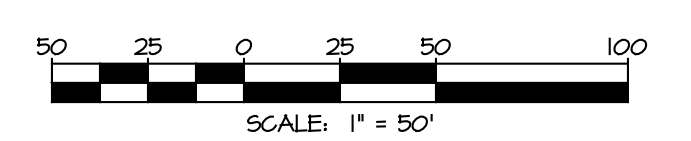
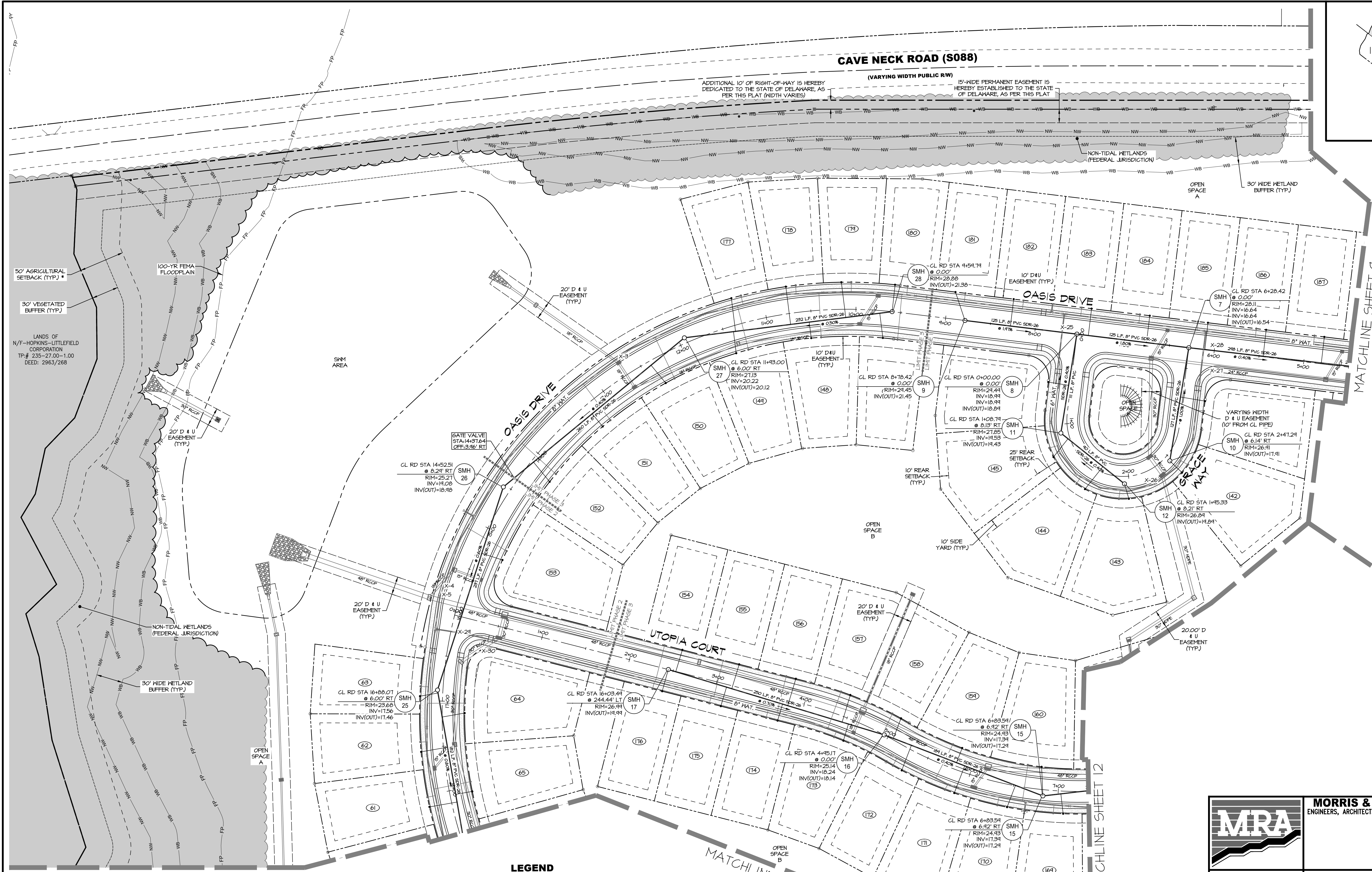
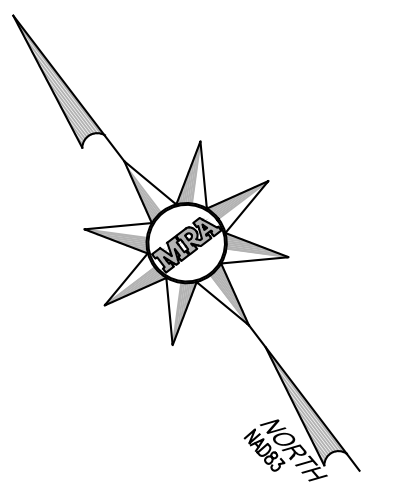
WATER PLAN
FOR
PARADISE MEADOWS

DATE	REVISIONS	JOB NO.: 21482
		SCALE: 1"=50'
		DATE: 07/15/2024
		DRAWN BY: FRP
		DESIGN BY: JPH
		REVIEW BY: CJF/PLT
		SHEET: 7 OF 22

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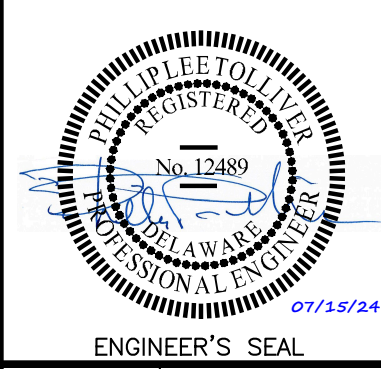
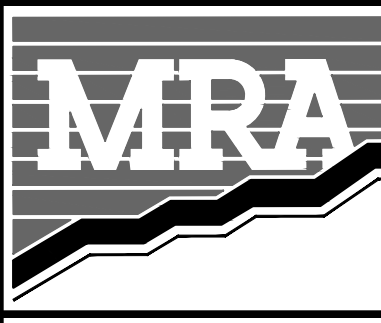


KEY MAP



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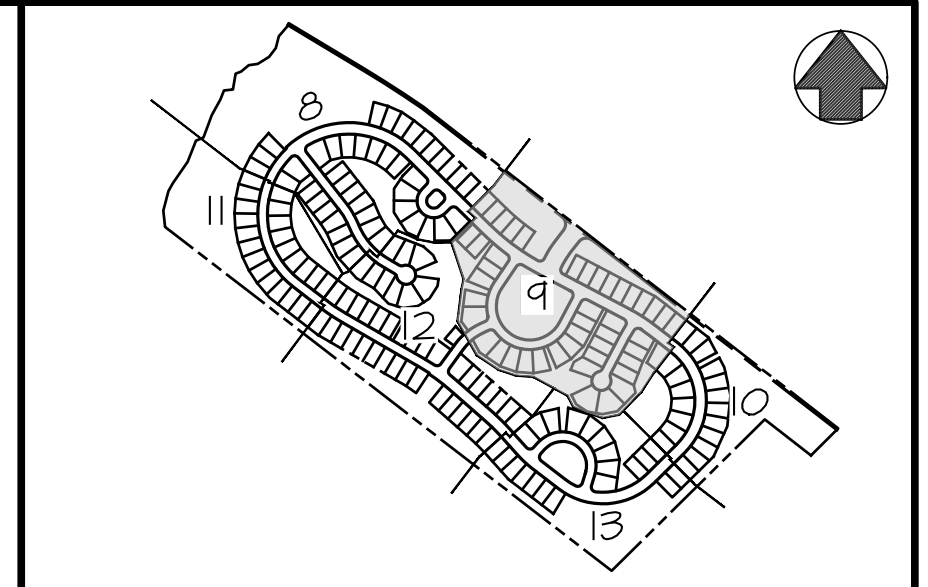


SANITARY SEWER PLAN FOR PARADISE MEADOWS

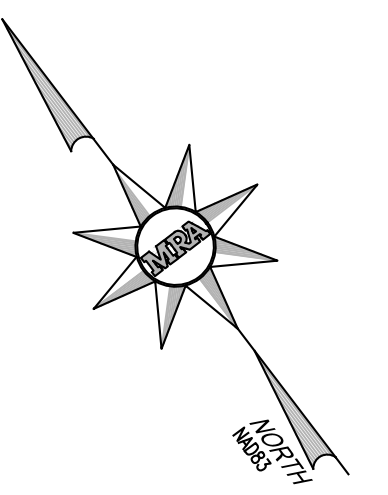
DATE	REVISIONS	JOB NO.: 21482
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		DESIGN BY: JPH
		REVIEW BY: CJF/PLT
		SHEET: 8 OF 22

- LEGEND**
- PROPERTY BOUNDARY
 - EXISTING RIGHT-OF-WAY
 - EXISTING ADJACENT PROPERTY LINE
 - PROPOSED RIGHT OF WAY
 - PROPOSED LOT LINE/PARCEL LINE
 - PROPOSED EASEMENT
 - BUILDING SETBACK LINE
 - FP 100 YR FEMA FLOODPLAIN
 - NW NON-JURISDICTIONAL WETLANDS
 - WB WETLANDS BUFFER
 - PROPOSED LOT NUMBER
 - PROPOSED CURB & GUTTER
 - PROPOSED CONC. SIDEWALK
 - PROPOSED HANDICAP RAMP
 - PROPOSED SANITARY LATERAL
 - PROPOSED SANITARY SEWER & MANHOLE
 - PROPOSED WATER LATERAL
 - PROPOSED WATER MAIN W/HYDRANT & TEE
 - FM PROPOSED FORCEMAIN

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KEY MAP



- LEGEND**
- PROPERTY BOUNDARY
 - - - EXISTING RIGHT-OF-WAY
 - - - EXISTING ADJACENT PROPERTY LINE
 - - - PROPOSED RIGHT OF WAY
 - - - PROPOSED LOT LINE/PARCEL LINE
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 - PROPOSED WATER LATERAL
 - PROPOSED WATER MAIN W/HYDRANT & TEE
 - FM PROPOSED FORCEMAIN



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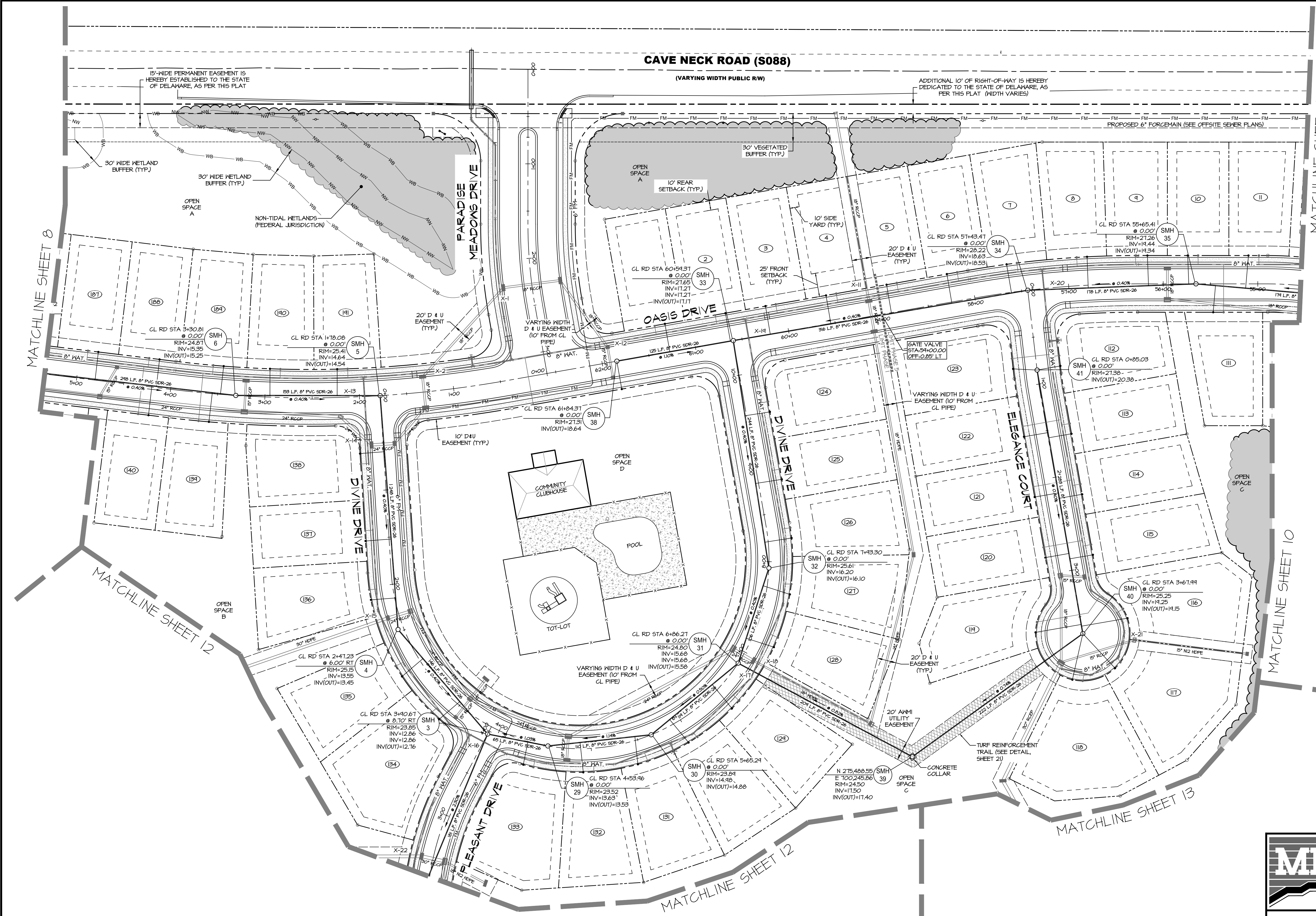


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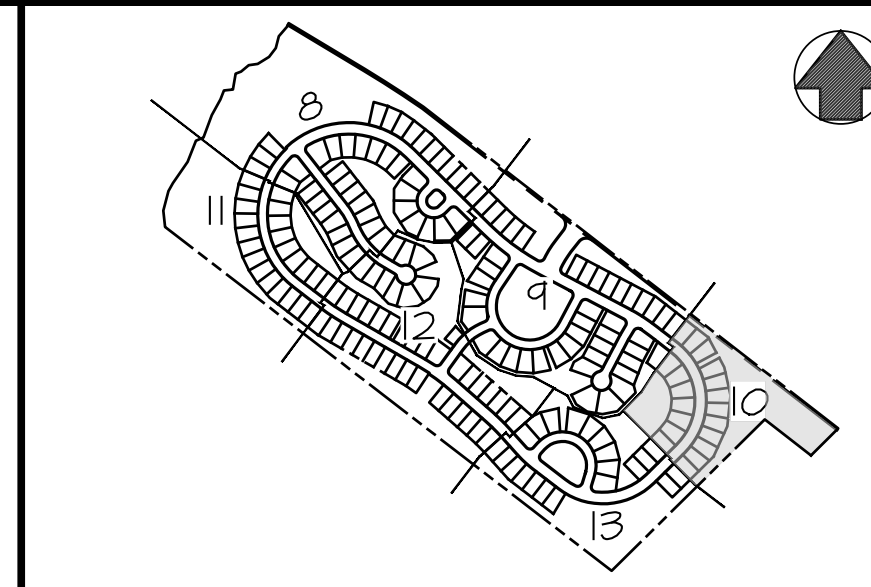
SANITARY SEWER PLAN
 FOR
PARADISE MEADOWS

BROADKILL HUNDRED SUSSEX COUNTY, DE

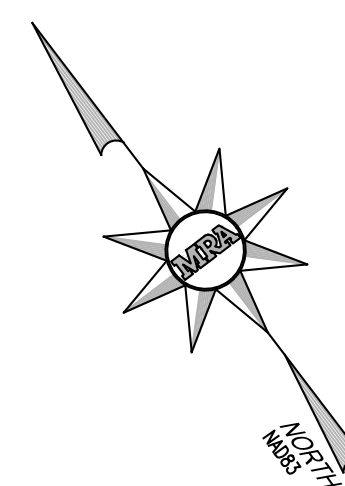
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		REVIEW BY: CJF/PLT
		SHEET: 9 OF 22



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KEY MAP



LEGEND

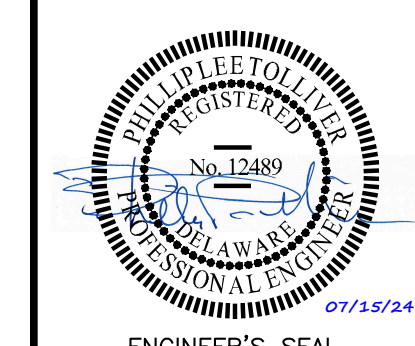
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- - - - - EXISTING RIGHT-OF-WAY
- - - - - EXISTING ADJACENT PROPERTY LINE
- - - - - PROPOSED RIGHT OF WAY
- - - - - PROPOSED LOT LINE/PARCEL LINE
- - - - - PROPOSED EASEMENT
- - - - - BUILDING SETBACK LINE
- FP 100 YR FEMA FLOODPLAIN
- NW NON-JURISDICTIONAL WETLANDS
- WB WETLANDS BUFFER
- ⊗ PROPOSED LOT NUMBER
- PROPOSED CURB & GUTTER
- PROPOSED CONC. SIDEWALK
- PROPOSED HANDICAP RAMP
- PROPOSED SANITARY LATERAL
- PROPOSED SANITARY SEWER & MANHOLE
- PROPOSED WATER LATERAL
- PROPOSED WATER MAIN W/HYDRANT & TEE
- FM PROPOSED FORCEMAIN



WAT & SEW

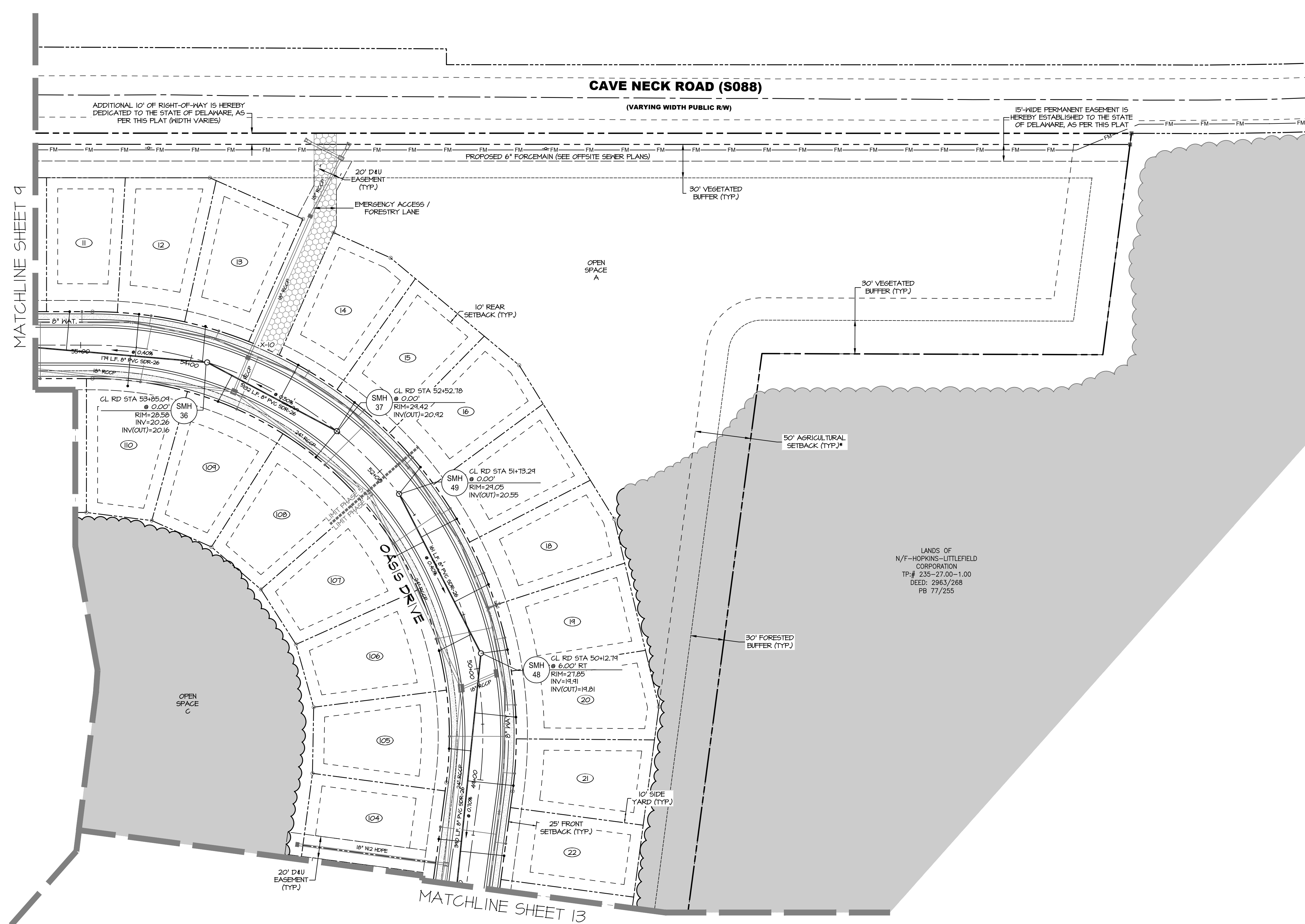


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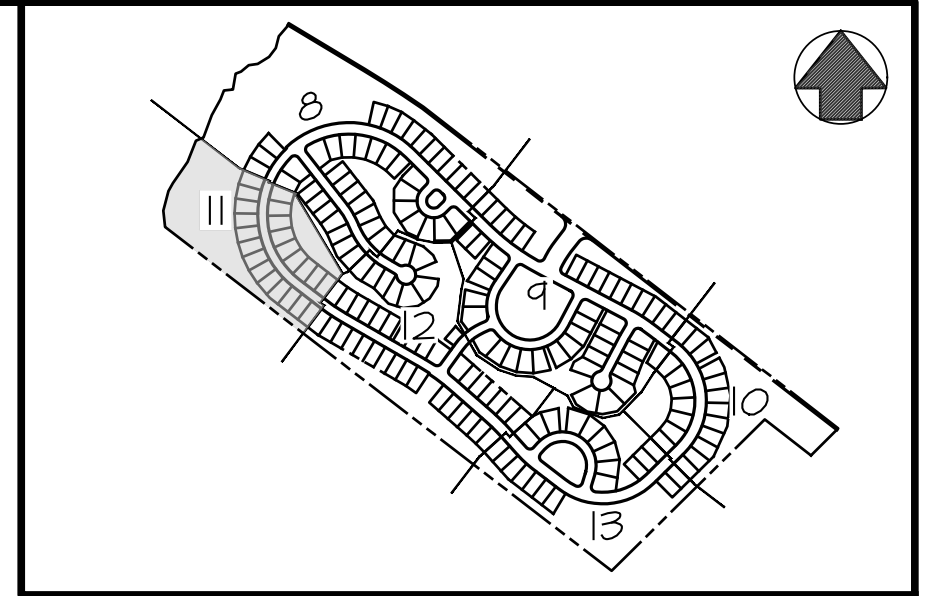


SANITARY SEWER PLAN
 FOR
PARADISE MEADOWS
 ENGINEER'S SEAL BROADKILL HUNDRED SUSSEX COUNTY, DE

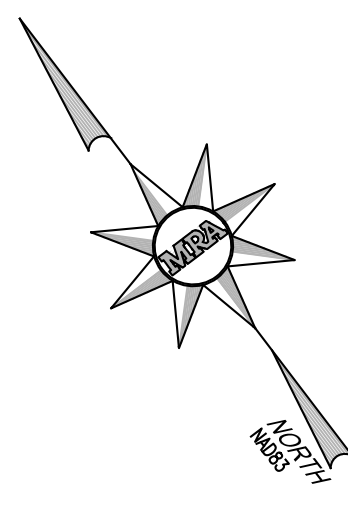
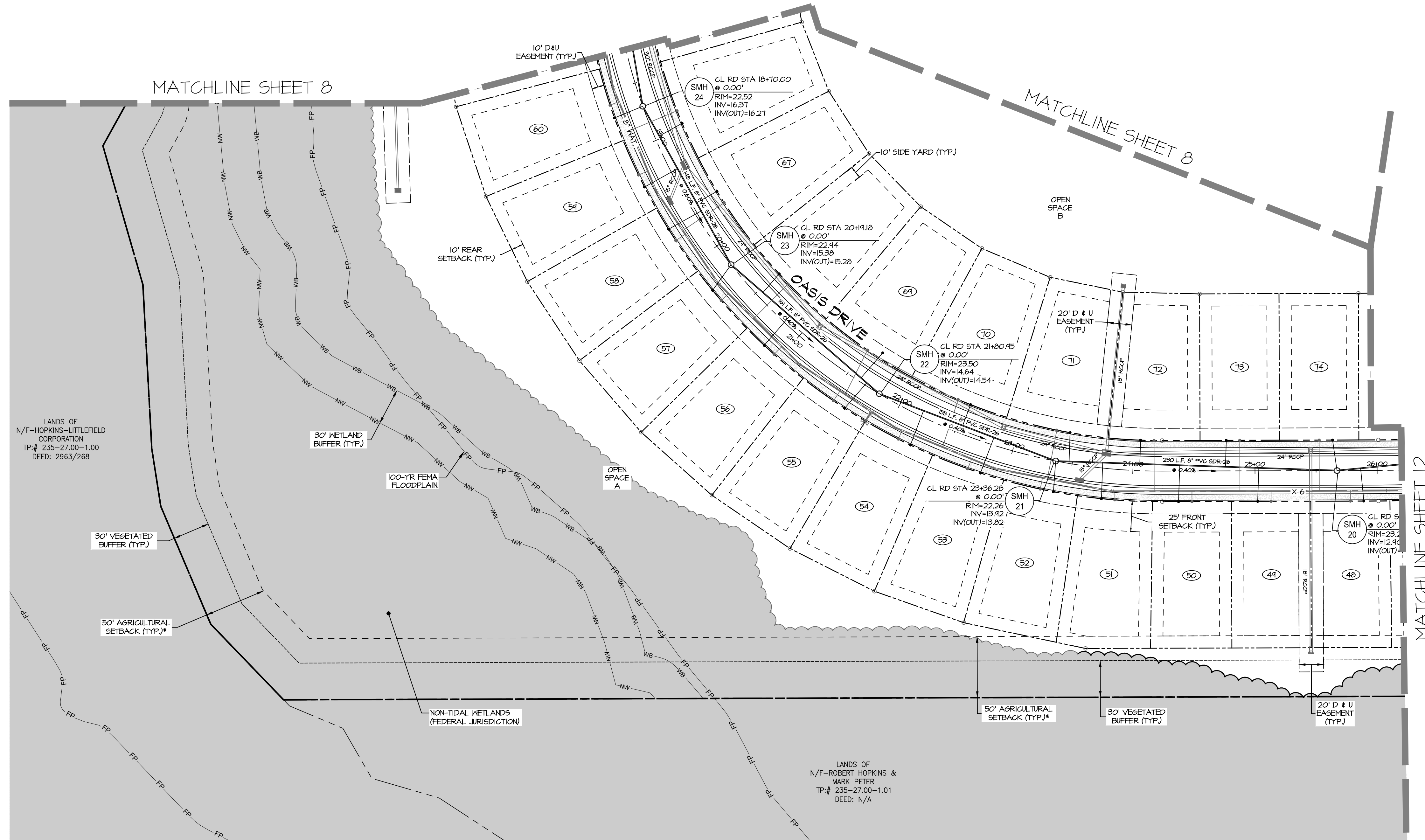
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		DESIGN BY: JPH
		REVIEW BY: CJF/PLT
		SHEET: 10 OF 22



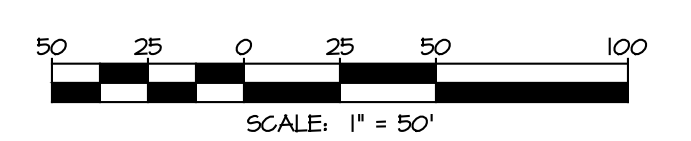
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KEY MAP



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 - PROPOSED EASEMENT
 - BUILDING SETBACK LINE
 - 100 YR FEMA FLOODPLAIN
 - NW NON-JURISDICTIONAL WETLANDS
 - WB WETLANDS BUFFER
 - (X) PROPOSED LOT NUMBER
 - PROPOSED CURB & GUTTER
 - PROPOSED CONC SIDEWALK
 - PROPOSED HANDICAP RAMP
 - PROPOSED SANITARY LATERAL
 - PROPOSED SANITARY SEWER & MANHOLE
 - PROPOSED WATER LATERAL
 - PROPOSED WATER MAIN W/HYDRANT & TEE
 - FM PROPOSED FORCEMAIN

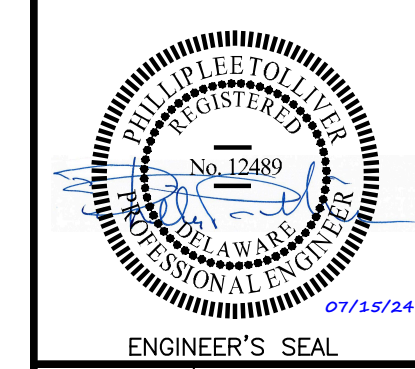


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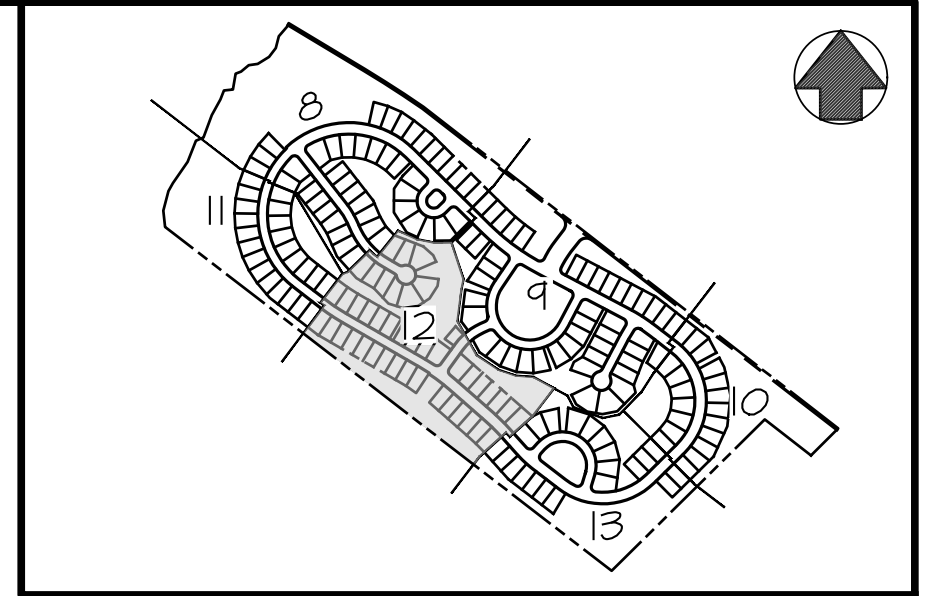


SANITARY SEWER PLAN
 FOR
PARADISE MEADOWS

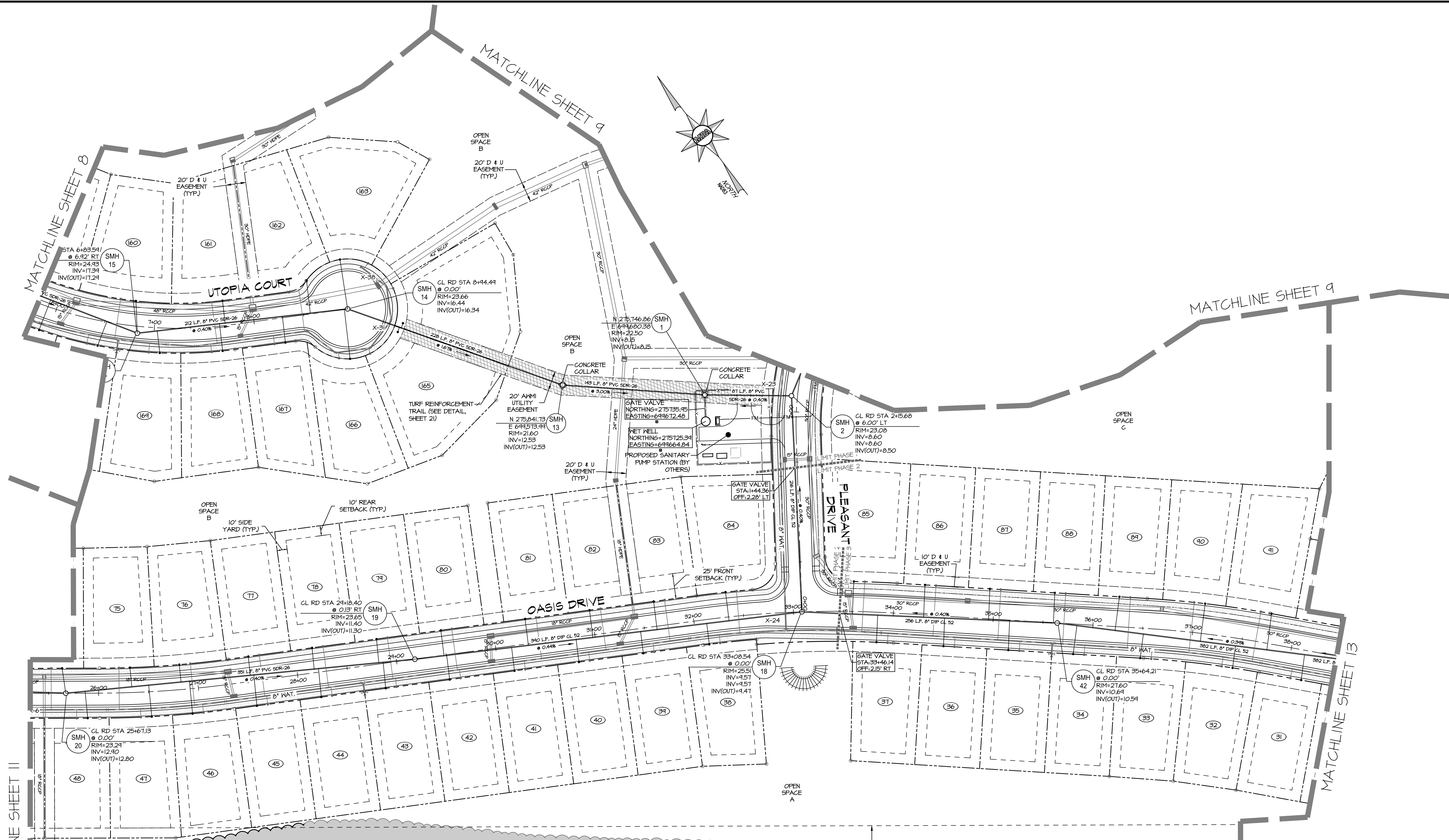
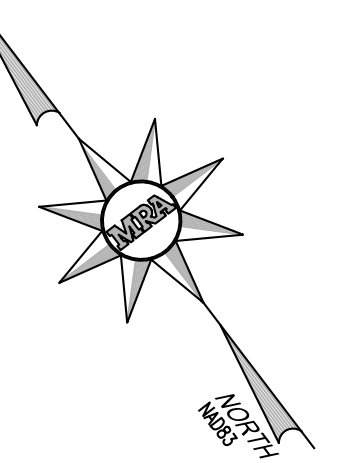
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DATE	REVISIONS	JOB NO.: 21482
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		DATE: 07/15/2024
		DRAWN BY: FRP
		DESIGN BY: JPH
		REVIEW BY: CJF/PLT
		SHEET: 11 OF 22

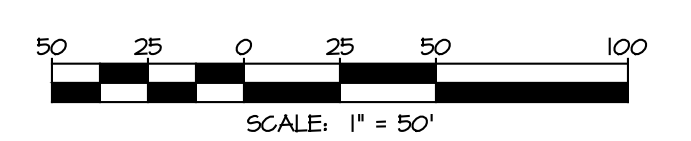
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KEY MAP



- LEGEND**
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 - PROPOSED WATER LATERAL
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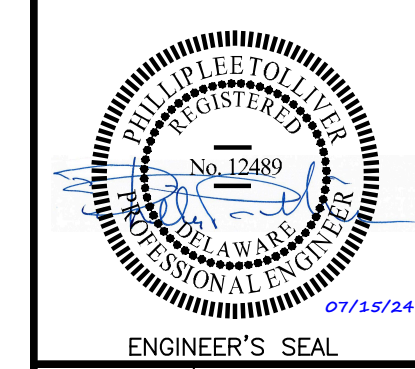


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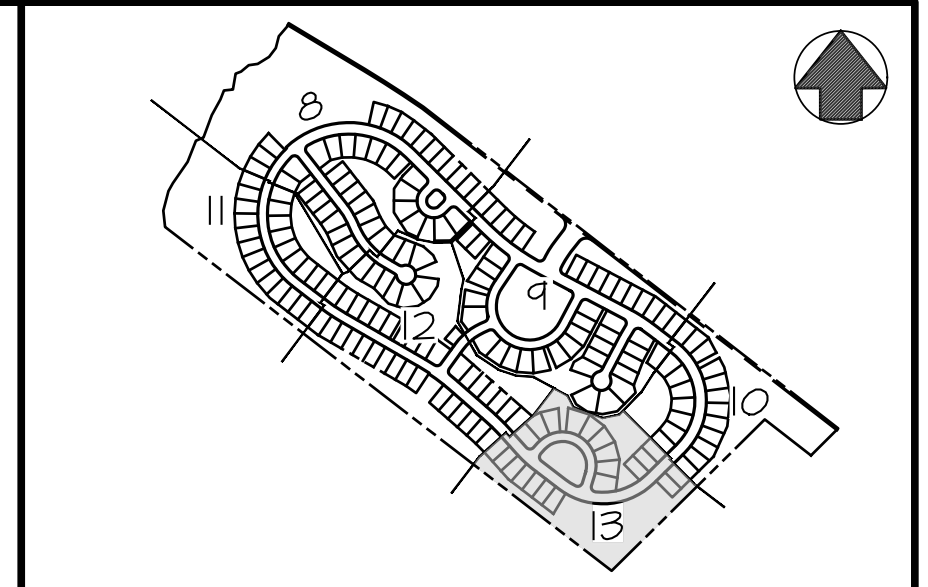
SANITARY SEWER PLAN
 FOR
PARADISE MEADOWS

ENGINEER'S SEAL BROADKILL HUNDRED SUSSEX COUNTY, DE

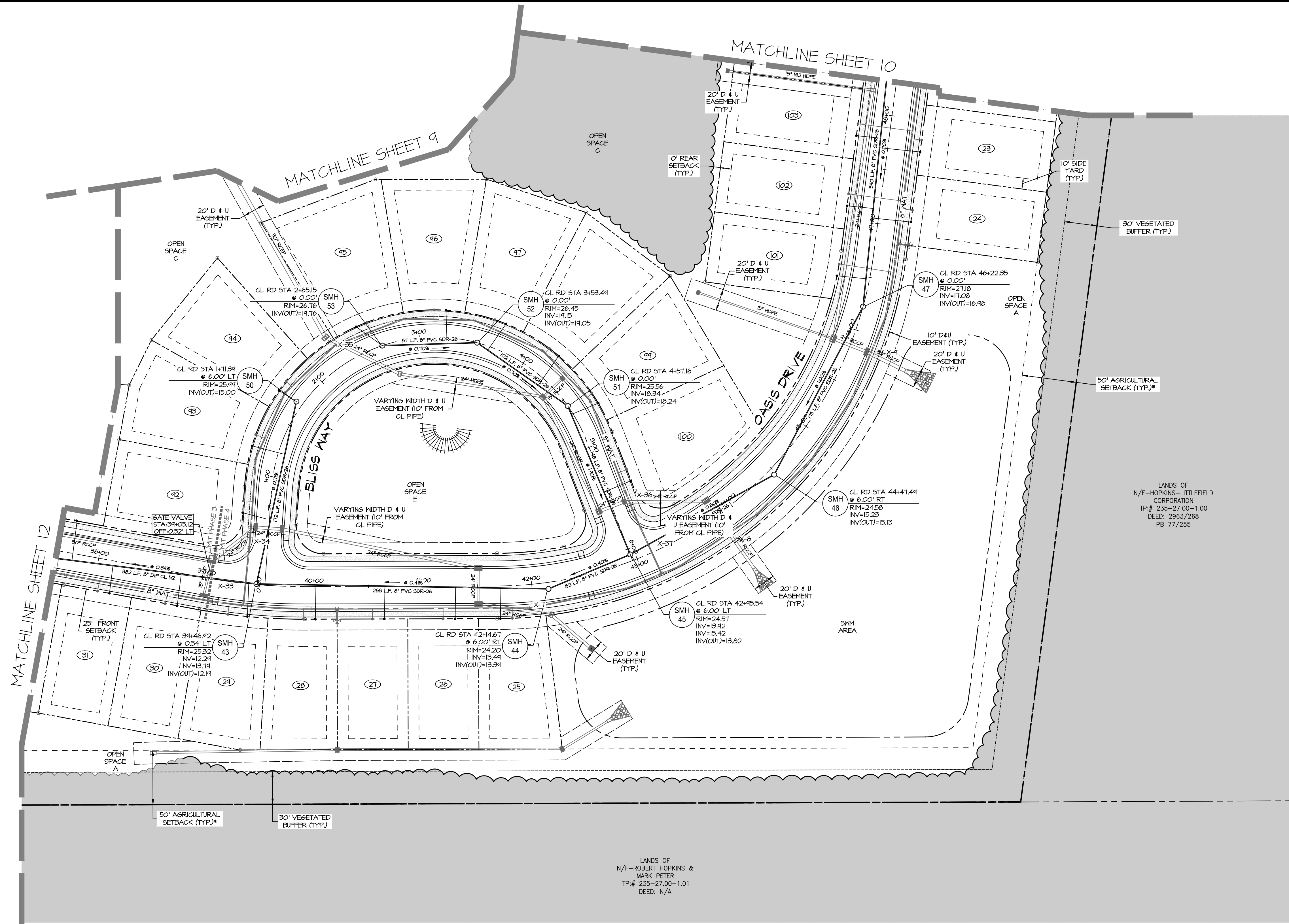
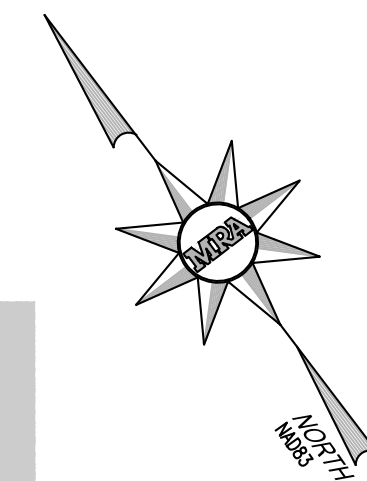
LANDS OF
 N/F-ROBERT HOPKINS &
 MARK PETER
 TP: # 235-27.00-1.01
 DEED: N/A

DATE	REVISIONS	JOB NO.: 21482
		SCALE: 1"=50'
		DATE: 07/15/2024
		DRAWN BY: FRP
		DESIGN BY: JPH
		REVIEW BY: CJF/PLT
		SHEET: 12 OF 22

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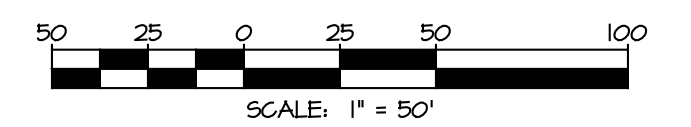
KEY MAP



- LEGEND**
- PROPERTY BOUNDARY
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 - - - EXISTING ADJACENT PROPERTY LINE
 - - - PROPOSED RIGHT OF WAY
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 - - - 100 YR FEMA FLOODPLAIN
 - - - NON-JURISDICTIONAL WETLANDS
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 - ⊙ PROPOSED LOT NUMBER
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 - PROPOSED SANITARY SEWER & MANHOLE
 - PROPOSED WATER LATERAL
 - PROPOSED WATER MAIN W/HYDRANT & TEE
 - PROPOSED FORCEMAIN

LANDS OF
N/F-HOPKINS-LITTLEFIELD
CORPORATION
TP: # 235-27.00-1.00
DEED: 2963/268
PB 77/255

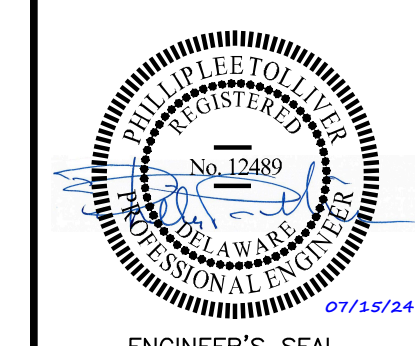
LANDS OF
N/F-ROBERT HOPKINS &
MARK PETER
TP: # 235-27.00-1.01
DEED: N/A



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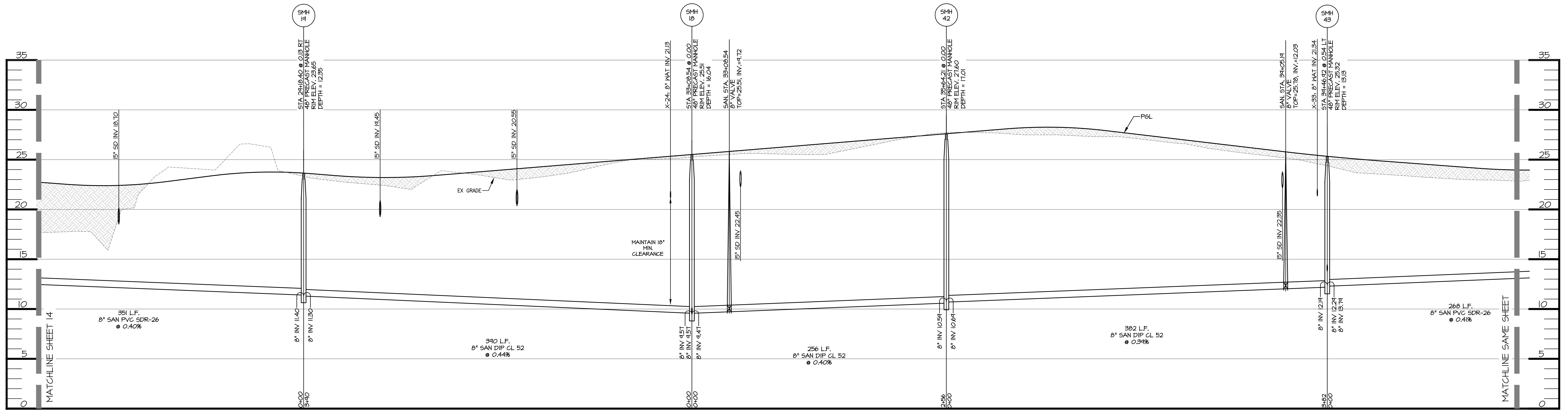


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FOR
PARADISE MEADOWS

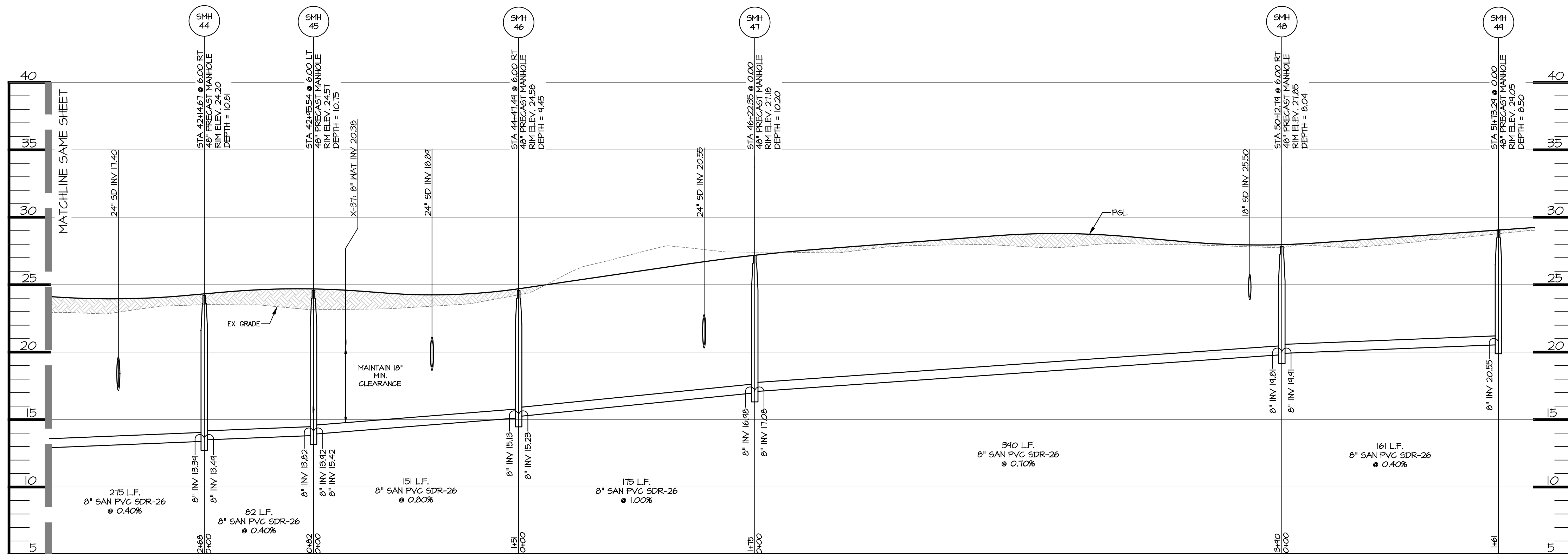
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		DESIGN BY: JPH
		REVIEW BY: CJF/PLT
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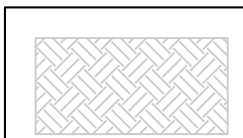
OASIS DRIVE PROFILE

SCALE: H: 1"=50'
V: 1"=5'



OASIS DRIVE PROFILE

SCALE: H: 1"=50'
V: 1"=5'


 DENOTES CONTROLLED & COMPACTED FILL AS CERTIFIED BY AN APPROVED SOILS ENGINEER

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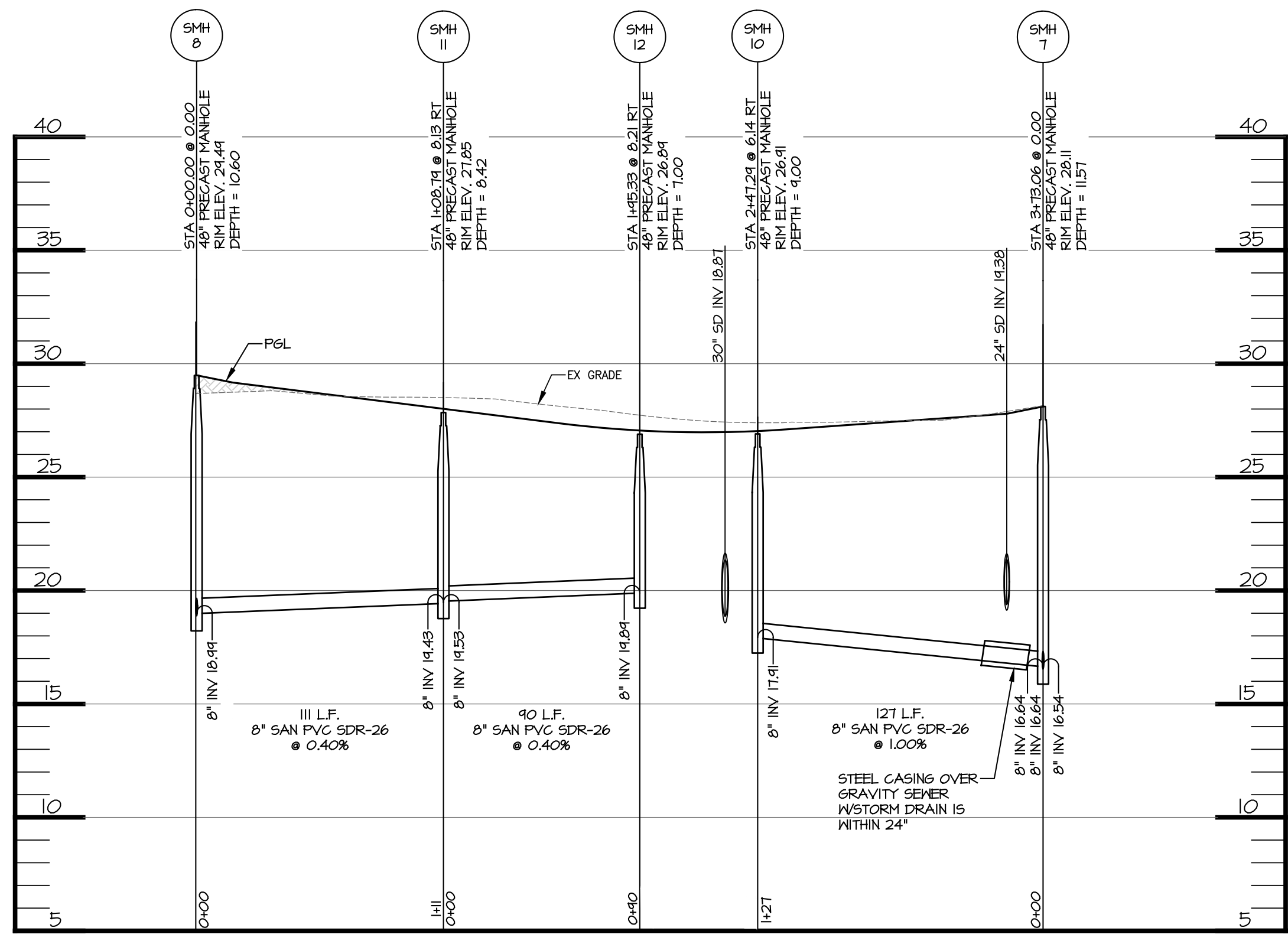


SANITARY SEWER PROFILES
FOR
PARADISE MEADOWS

ENGINEER'S SEAL BROADKILL HUNDRED SUSSEX COUNTY, DE

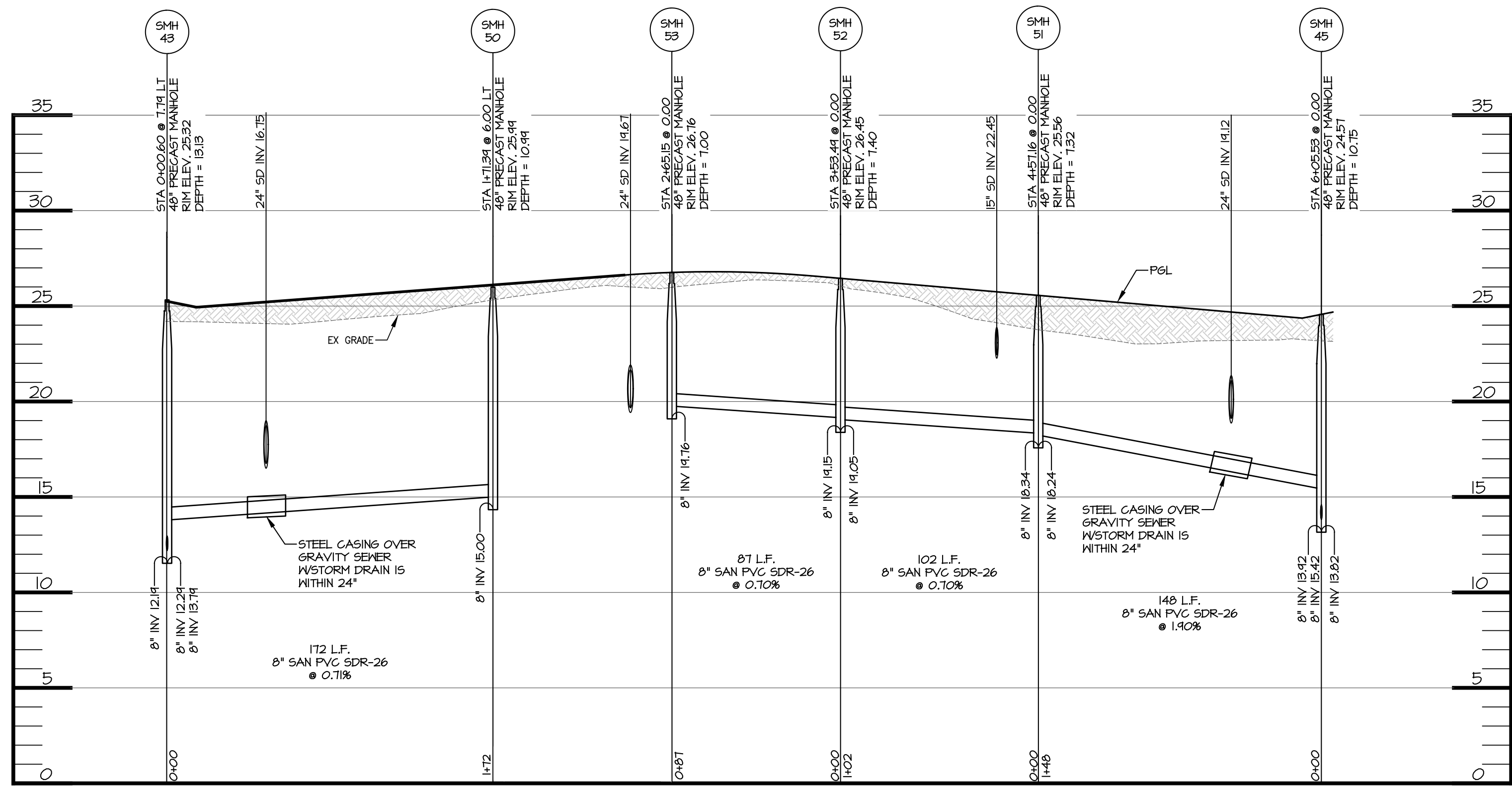
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		DESIGN BY: JPH
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		SHEET: 15 OF 22

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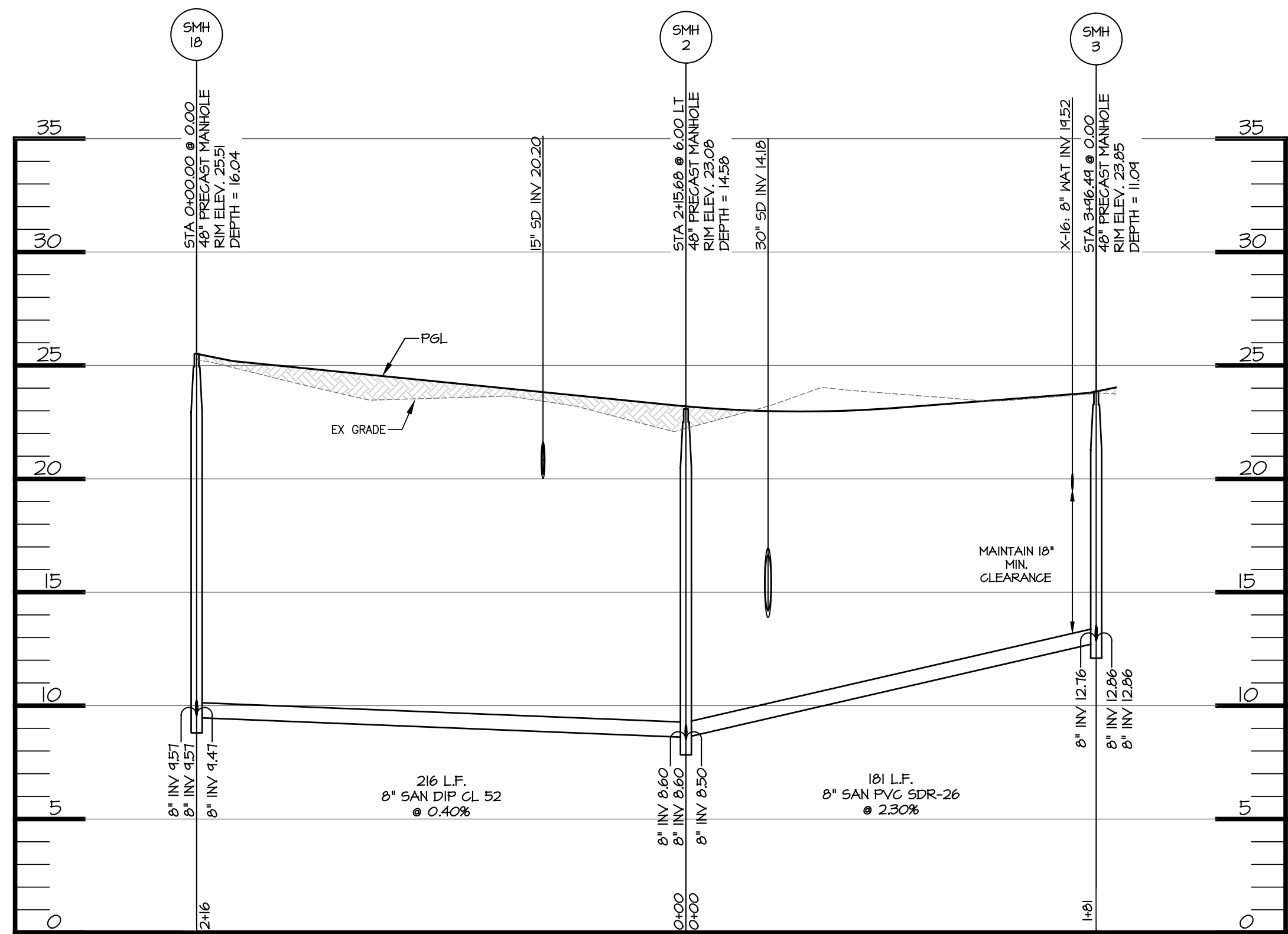
GRACE WAY PROFILE

SCALE: H: 1"=50'
V: 1"=5'



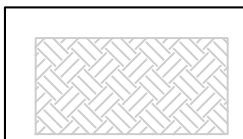
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PLEASANT DRIVE PROFILE

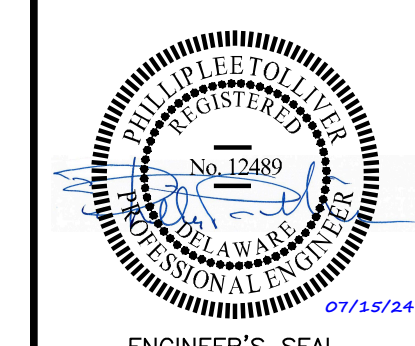
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WAT & SEW

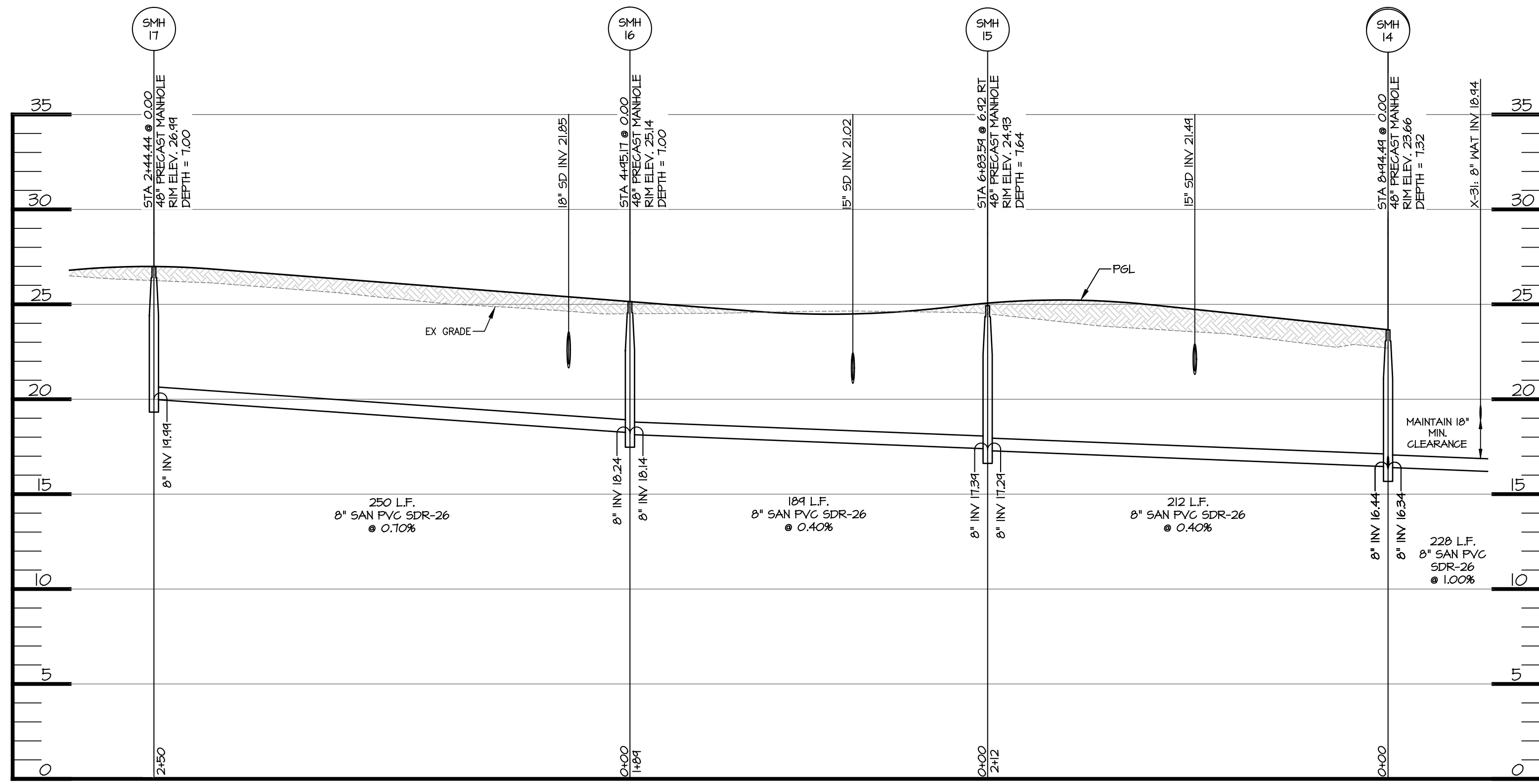


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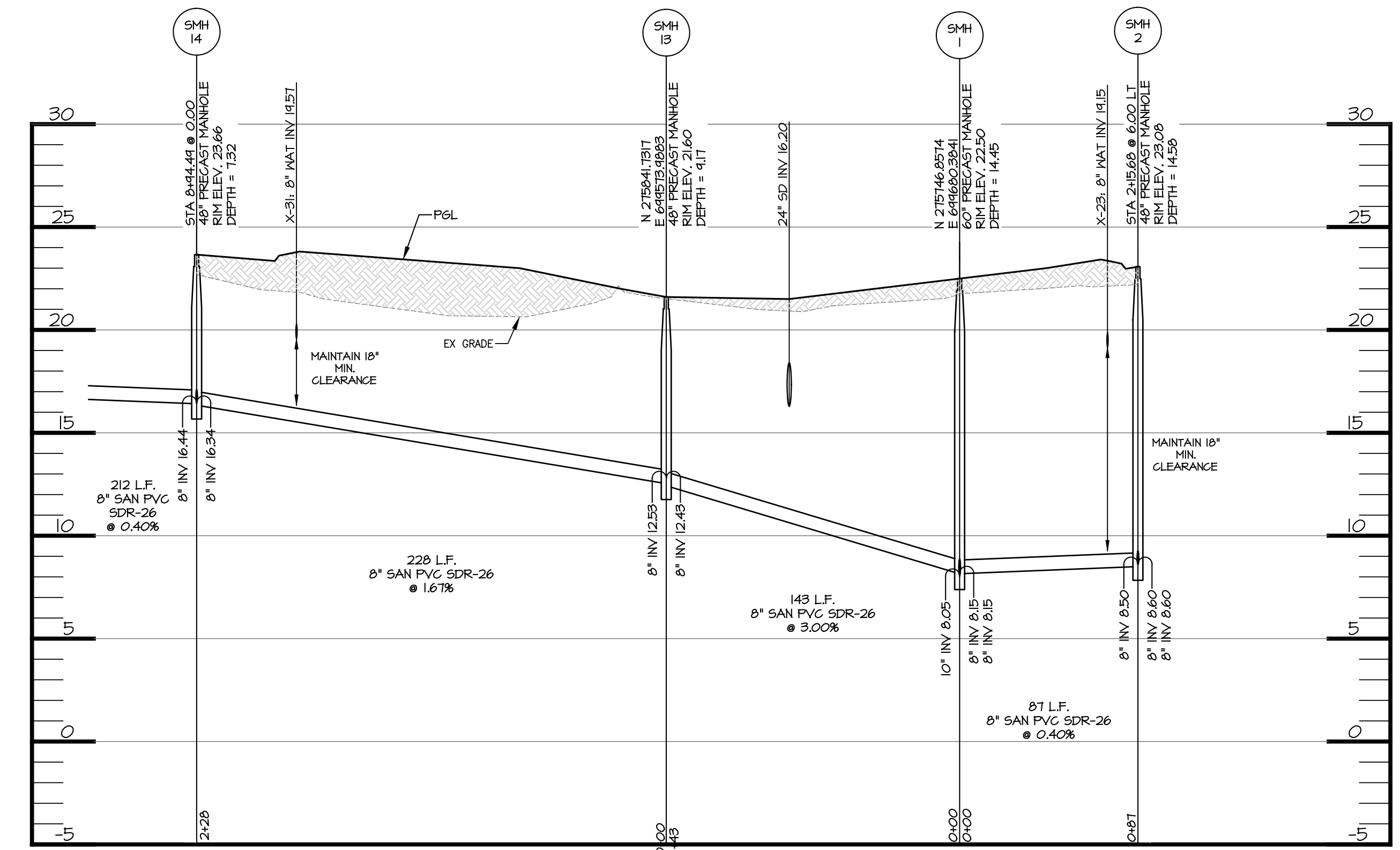
SANITARY SEWER PROFILES
FOR
PARADISE MEADOWS

DATE	REVISIONS	JOB NO.: 21482
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		DATE: 07/15/2024
		DRAWN BY: FRP
		DESIGN BY: JPH
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		SHEET: 17 OF 22



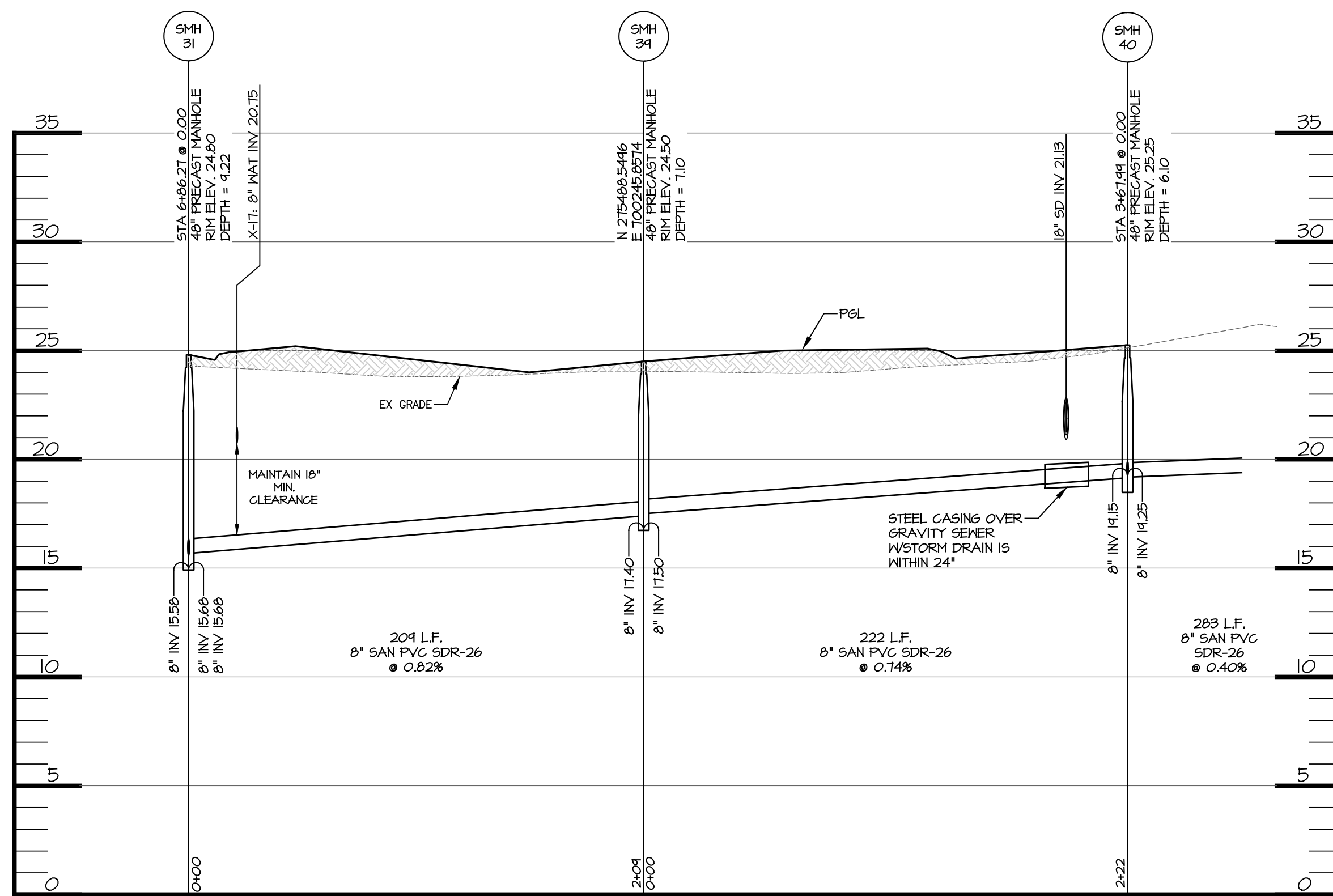
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V: 1"=5'



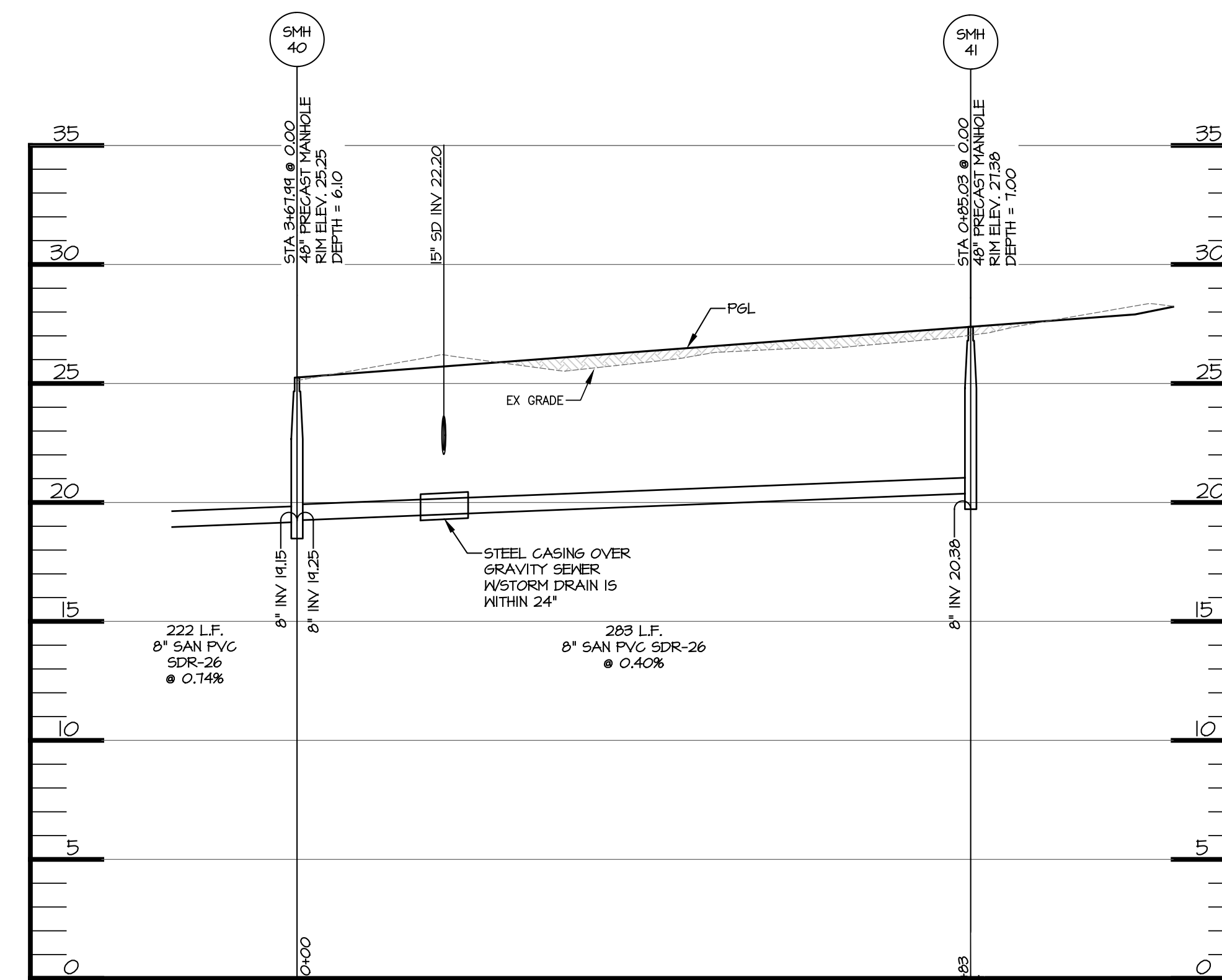
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SCALE: H: 1"=50'
V: 1"=5'



SMH 31 TO SMH 40 PROFILE

SCALE: H: 1"=50'
V: 1"=5'



ELEGANCE COURT PROFILE

SCALE: H: 1"=50'
V: 1"=5'

DENOTES CONTROLLED & COMPACTED
 FILL AS CERTIFIED BY AN APPROVED
 SOILS ENGINEER

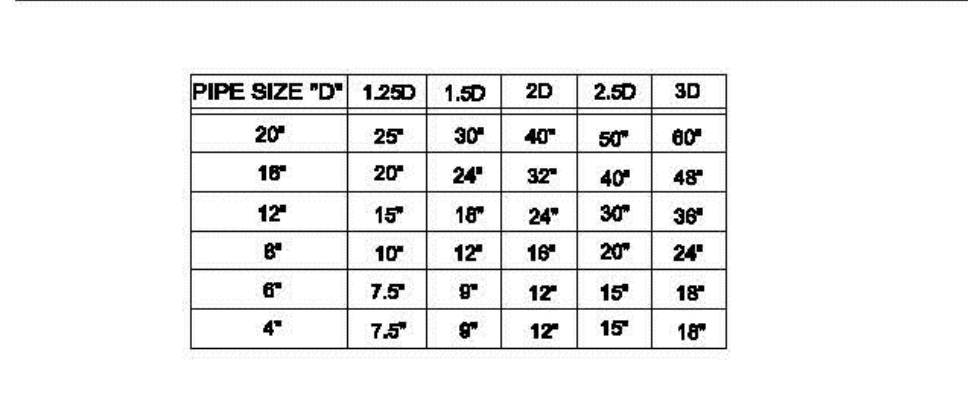
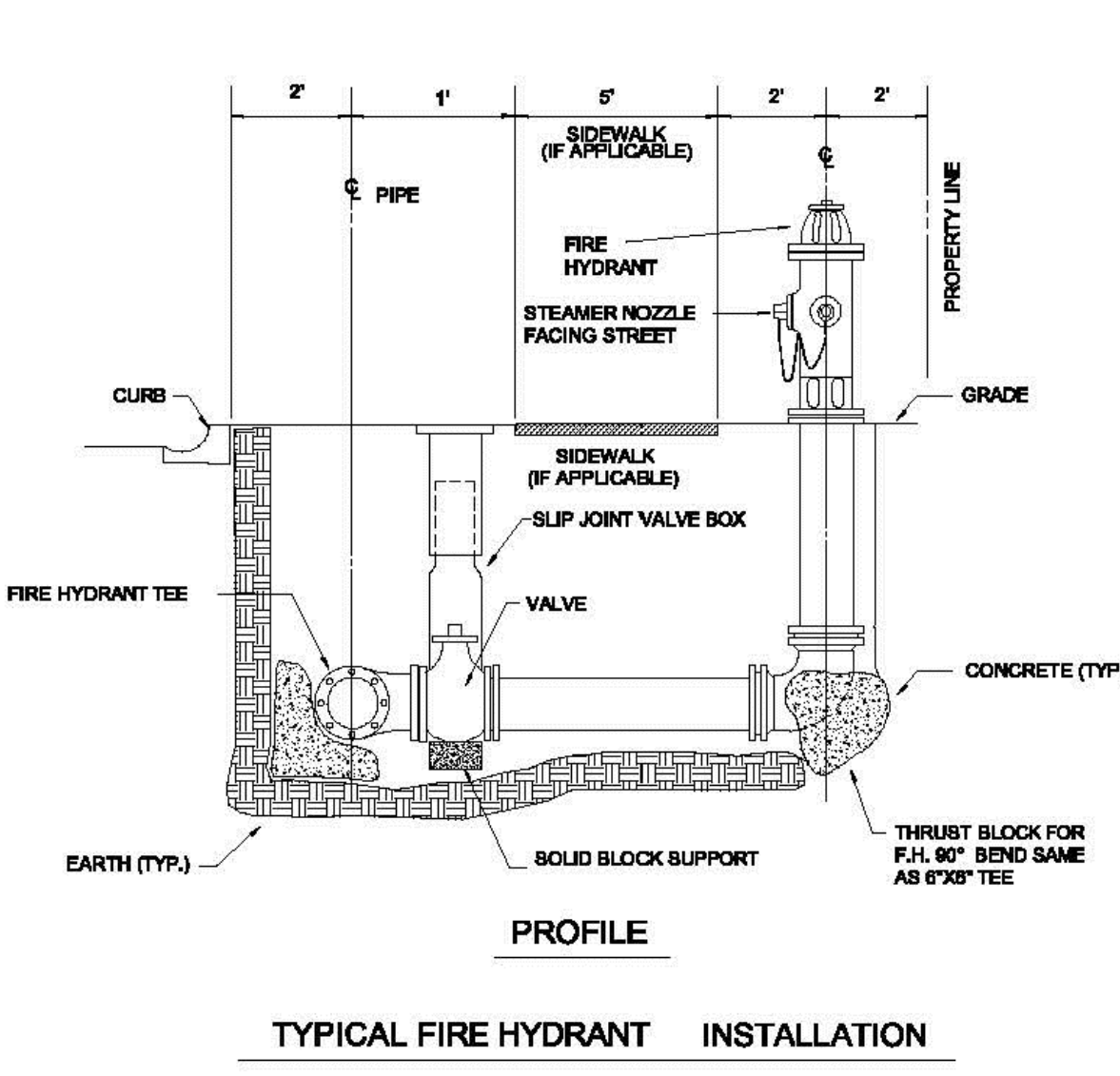
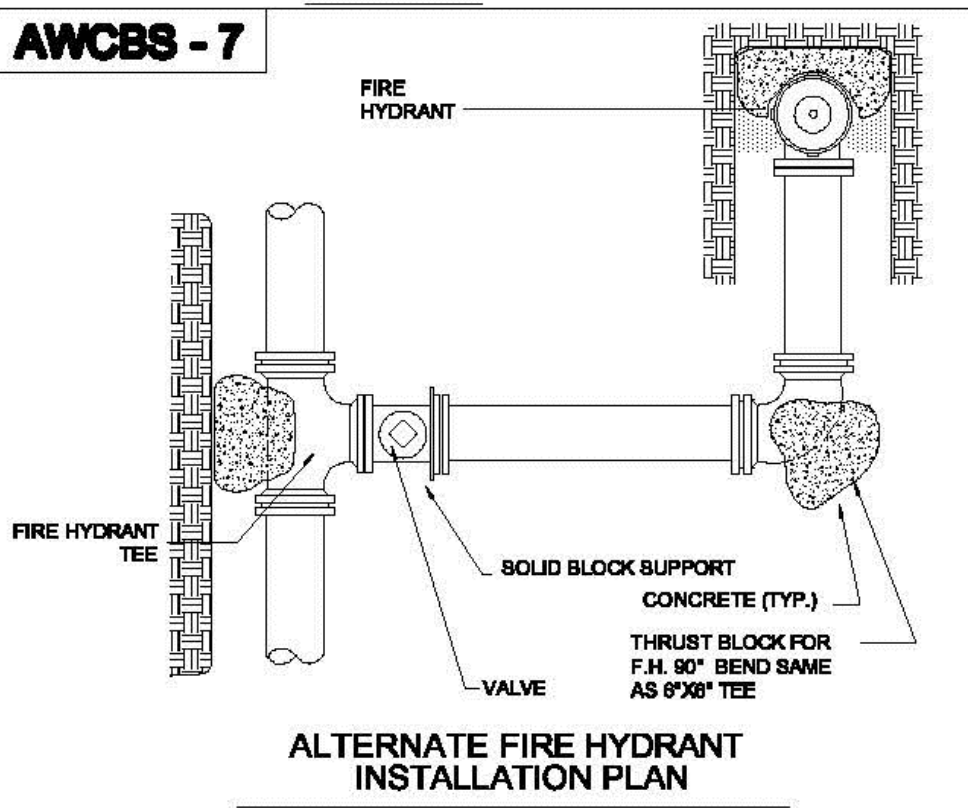
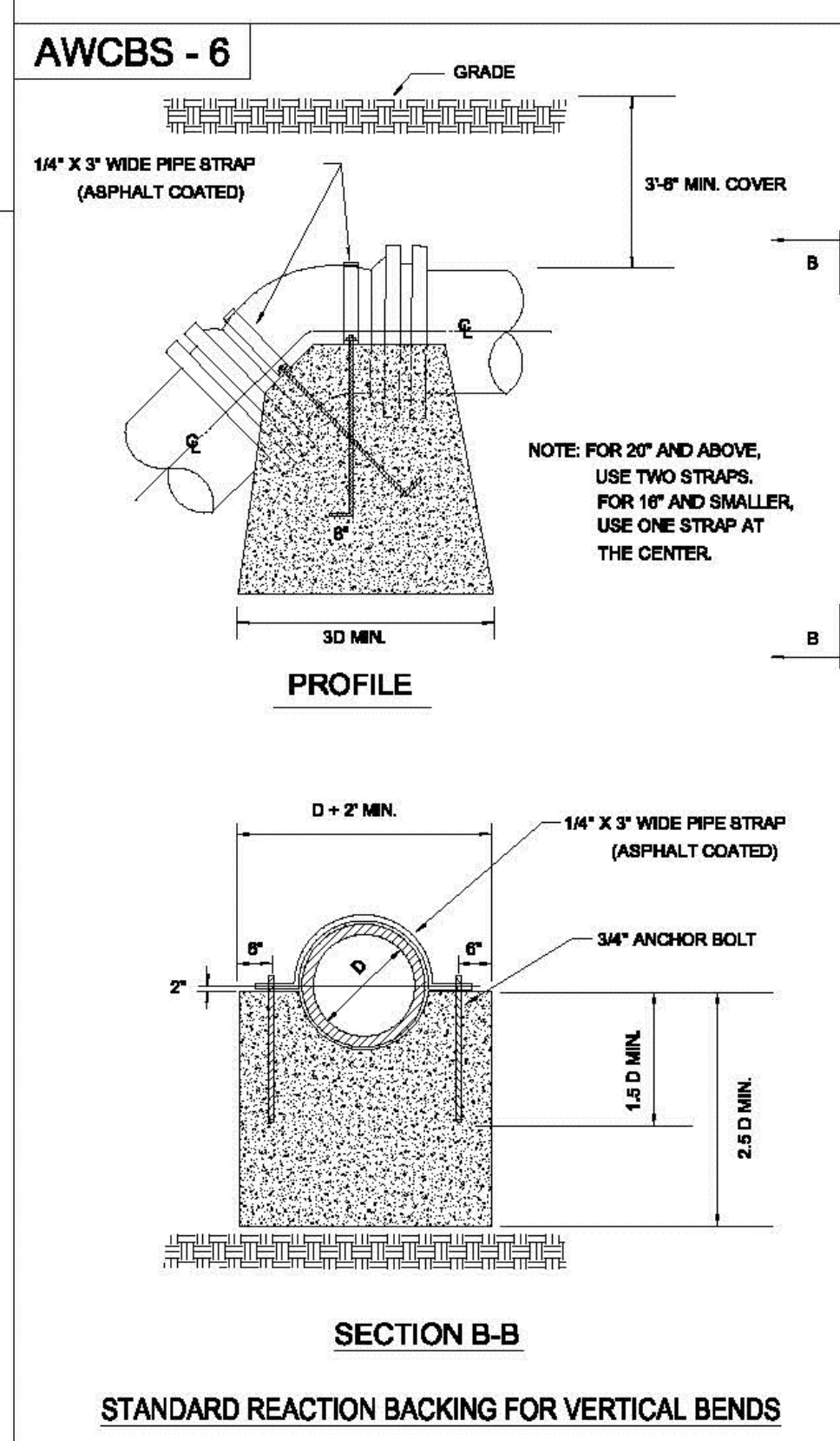
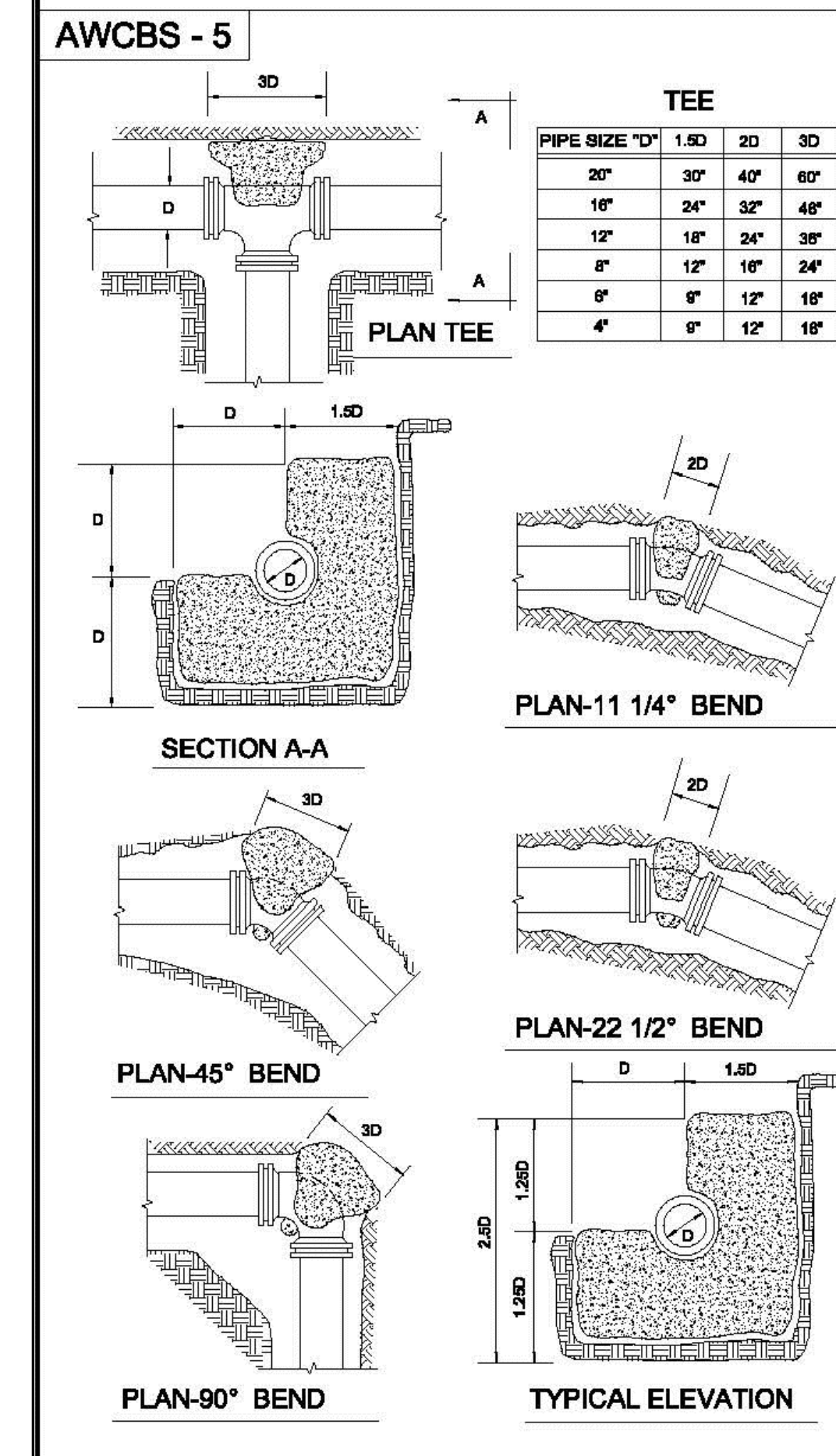
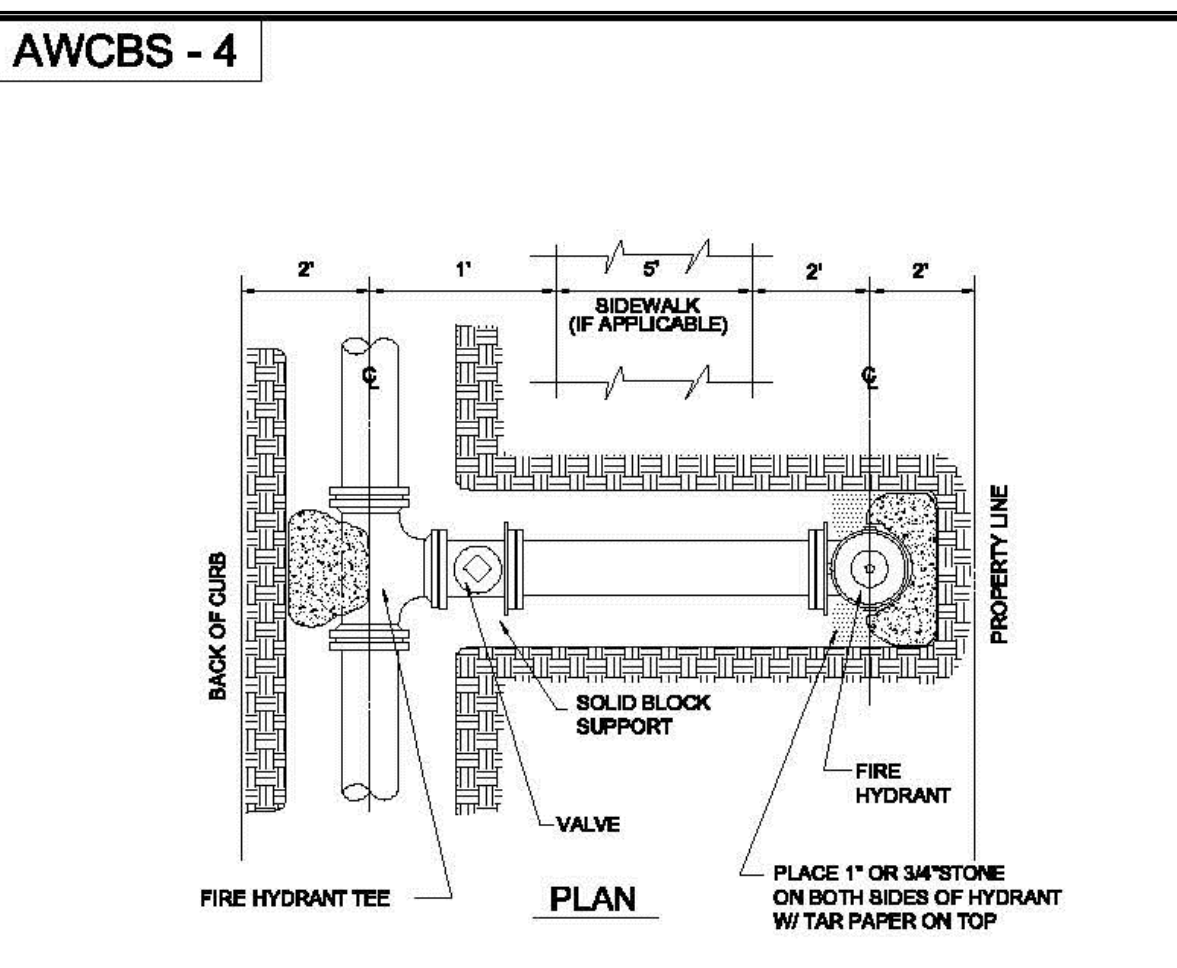
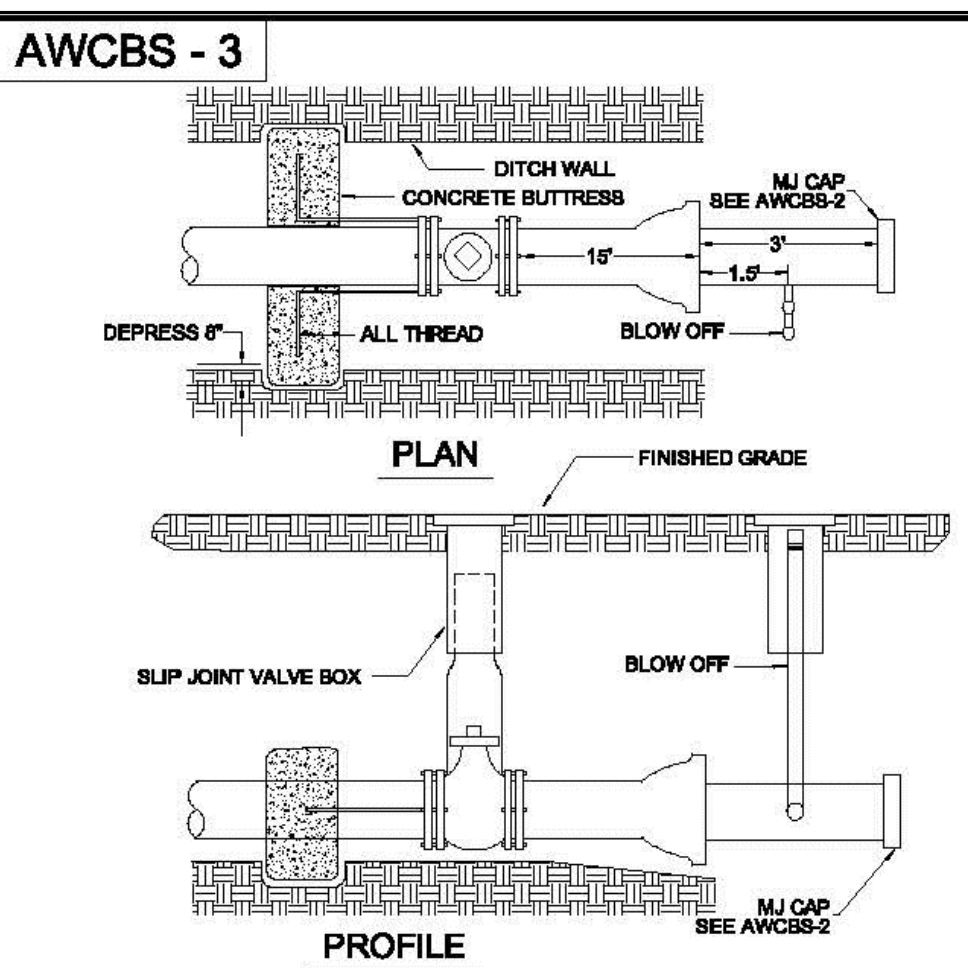
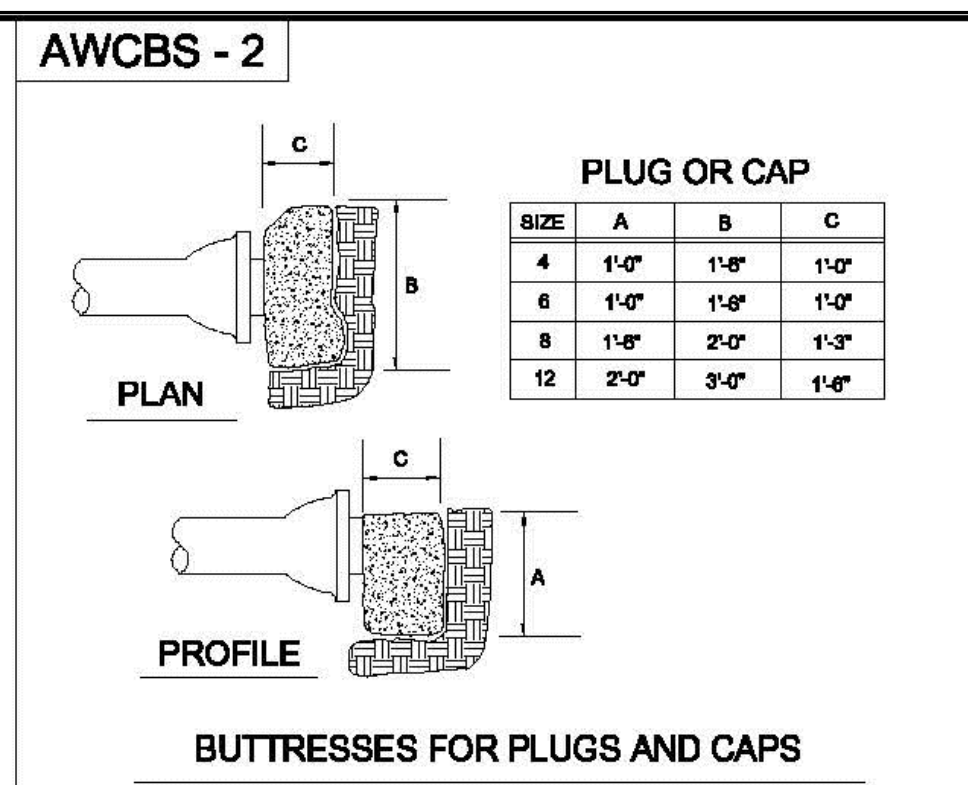
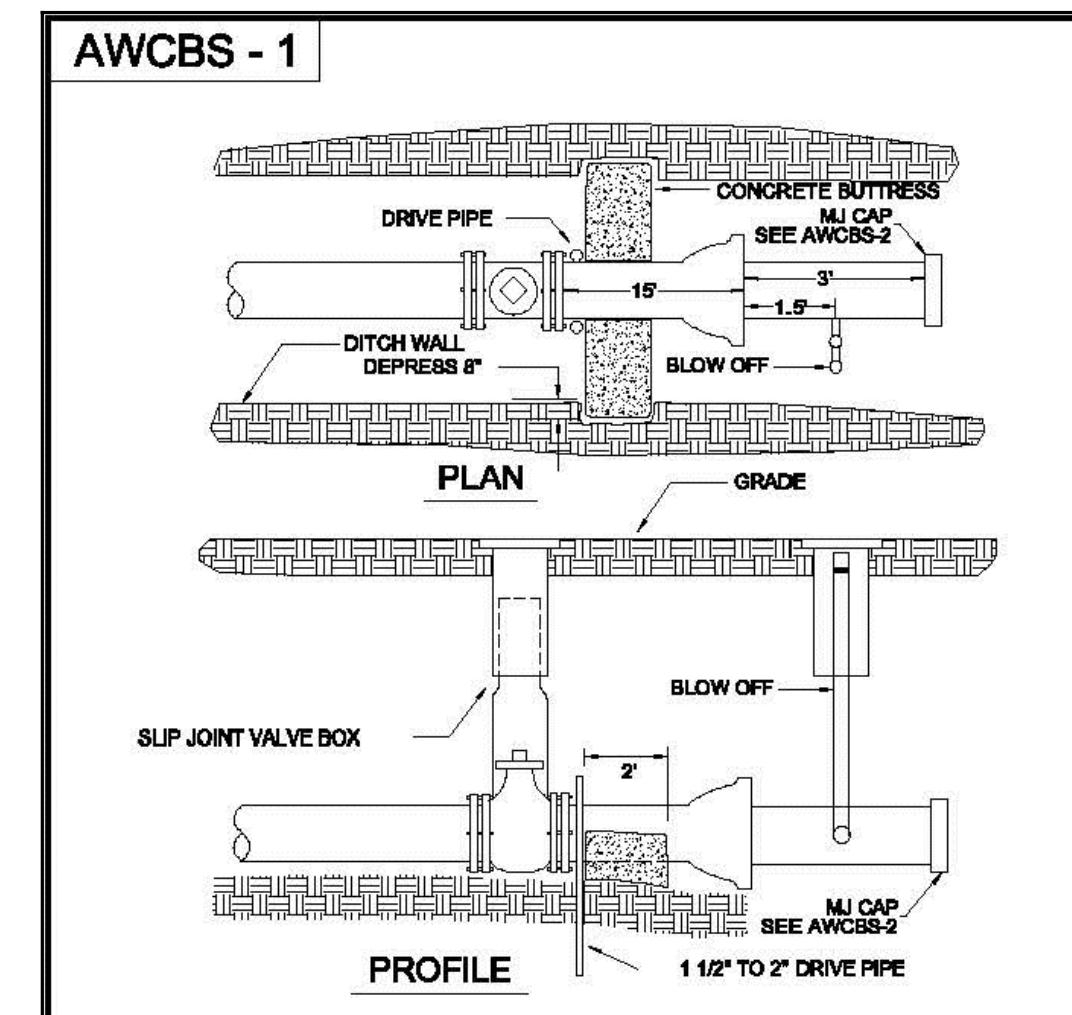
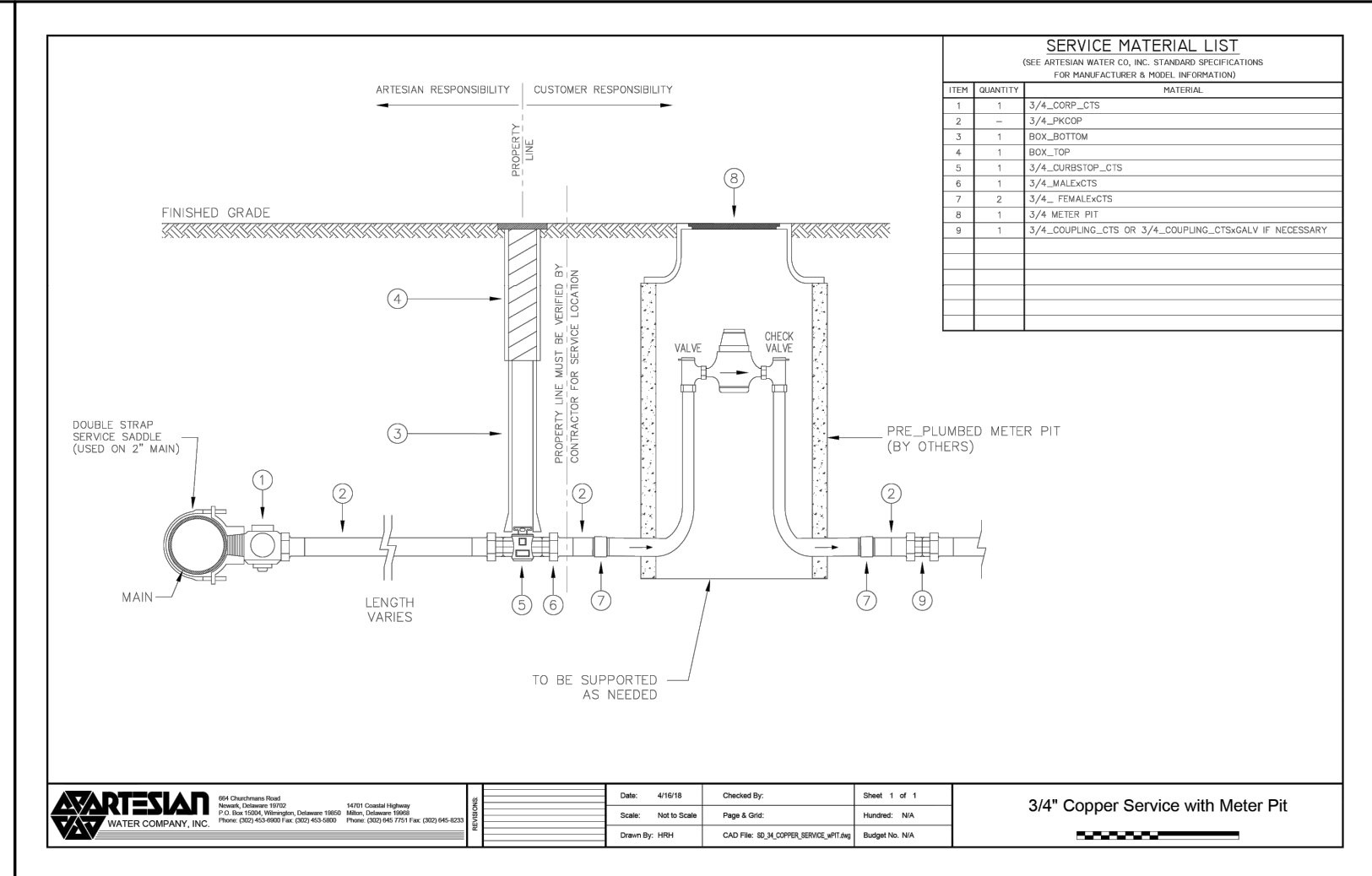
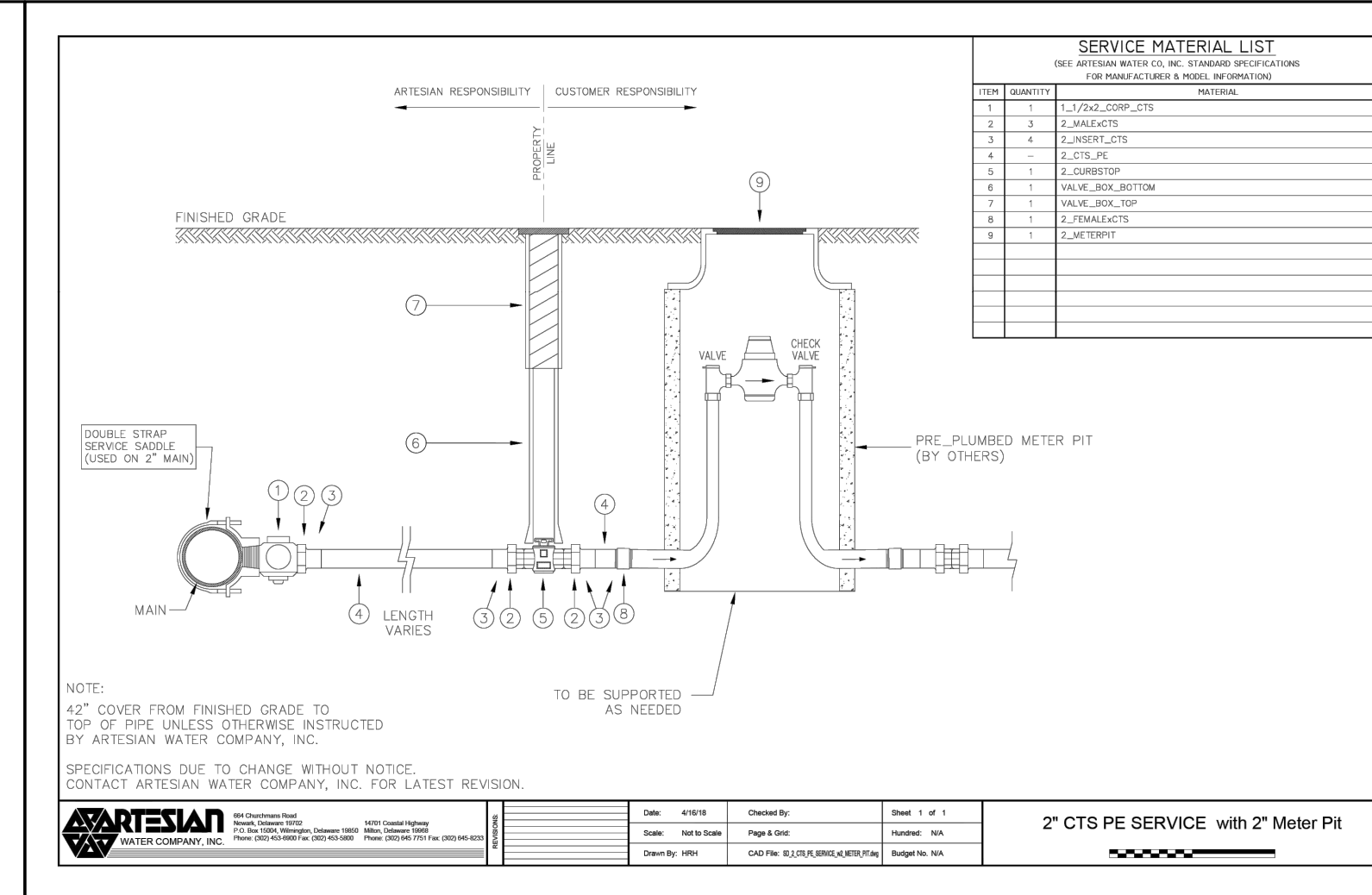
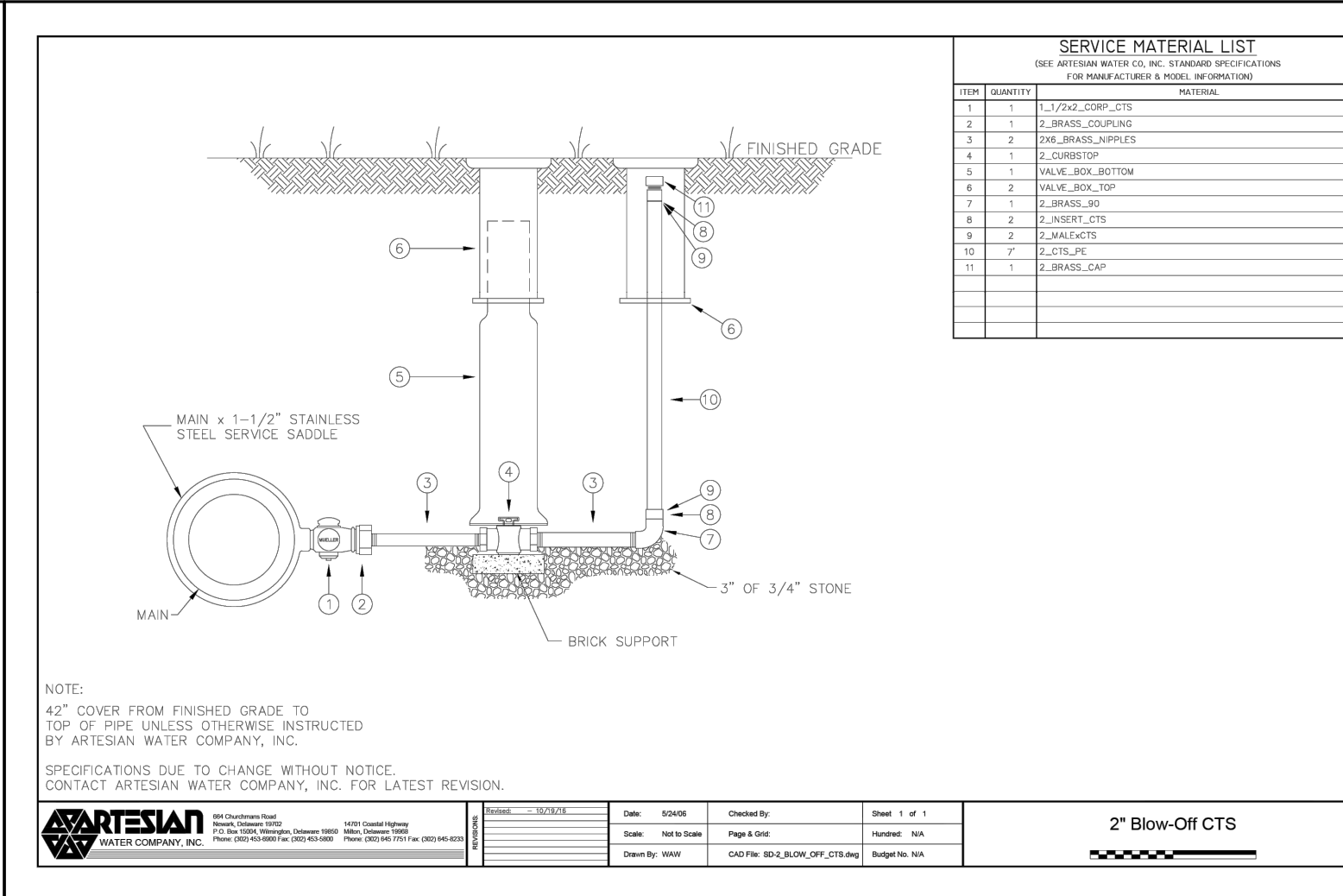
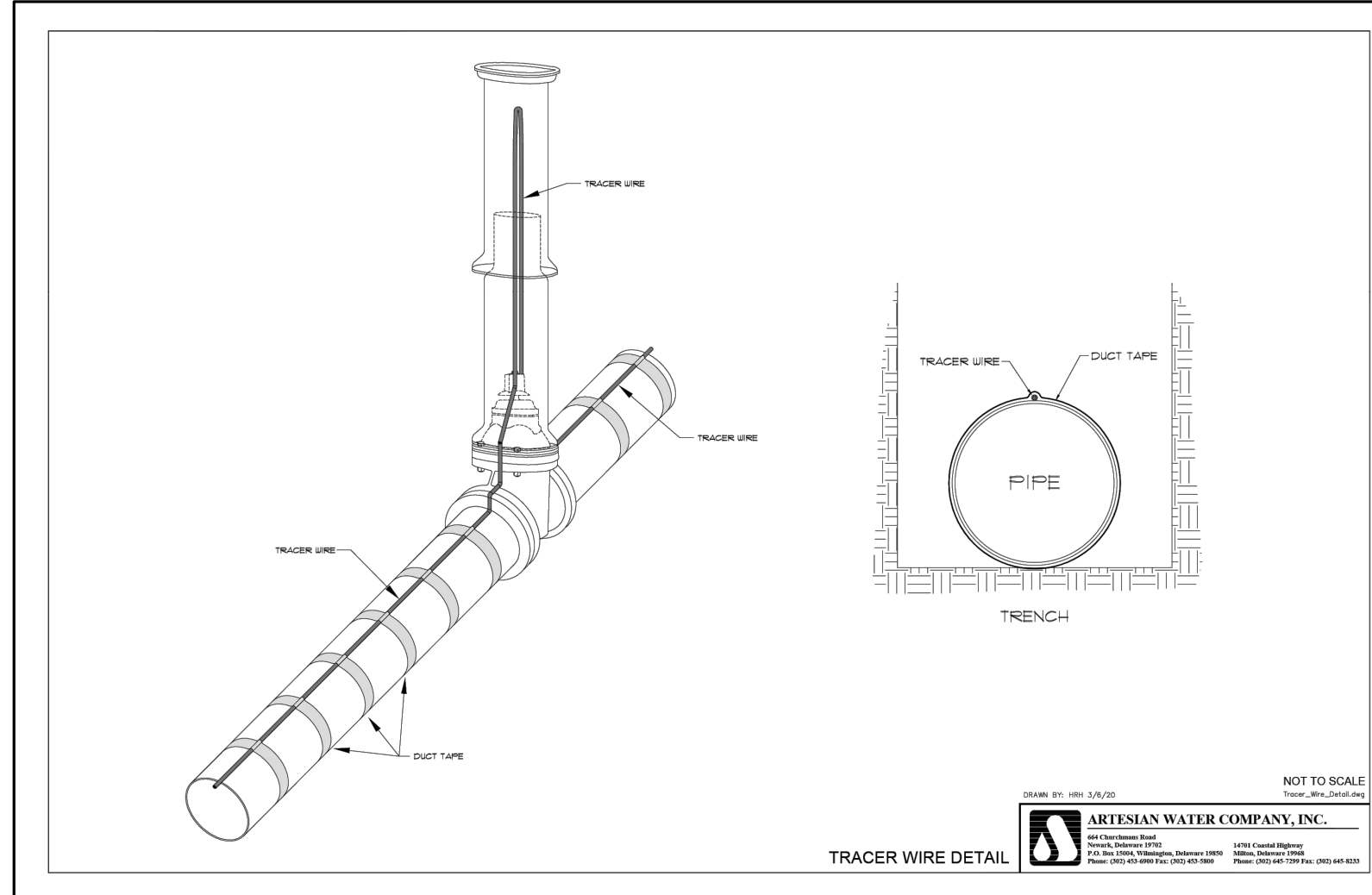
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SANITARY SEWER PROFILES
 FOR
PARADISE MEADOWS

DATE	REVISIONS	JOB NO.: 21482
		SCALE: 1"=50'H/1"=5'V
		DATE: 07/15/2024
		DRAWN BY: FRP
		DESIGN BY: JPH
		REVIEW BY: CJF/PLT
		SHEET: 18 OF 22

G:\1482-Cove Neck Road\1482\PROJ\W&S\1482-1-W&S_PROFILES.dwg, 7/15/2024, 3:45:23 PM, FRP
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SPECIFICATIONS DUE TO CHANGE WITHOUT NOTICE. CONTACT ARTESIAN WATER CO. FOR LATEST REVISIONS.

GENERAL NOTES

1. ALLOW SUFFICIENT SPACE TO HAVE AN ACCESS TO BOLTS IN THE MECHANICAL JOINT.
2. STRENGTH OF CONCRETE SHOULD BE 2500 P.S.I. (MIN.) AFTER 28 DAYS.
3. ALL REACTION BACKING TO EXTEND TO UNDISTURBED EARTH.
4. WHEN USING MECHANICAL JOINT, USE TAR PAPER BETWEEN FITTING AND CONCRETE.

REVISIONS

3/16/06 - ADG

8/21/06 - ADG

STANDARD REACTION BACKING AT BENDS, TEES, PLUGS, AND FIRE HYDRANTS

DELAWARE

NEW CASTLE COUNTY

ARTESIAN WATER COMPANY, INC.

180 CHESTNUT ROAD NEWARK, DE 19711 (302) 463-8000

scale NONE

date 10/14/09

drawn JTP/JMB

design

checked

grid

hundred

file

sheet 1

of 1 sheets

WAT & SEW

MORRIS & RITCHE ASSOCIATES, INC.
ENGINEERS, ARCHITECTS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS
111 RUTHAR DRIVE
NEWARK, DE 19711
(302) 326-2200

MRA

REGISTERED PROFESSIONAL ENGINEER
No. 12489
STATE OF DELAWARE
07/15/24

ENGINEER'S SEAL

BROADKILL HUNDRED

SUSSEX COUNTY, DE

DATE

REVISIONS

JOB NO.: 21482

SCALE: AS-SHOWN

DATE: 07/15/2024

DRAWN BY: FRP

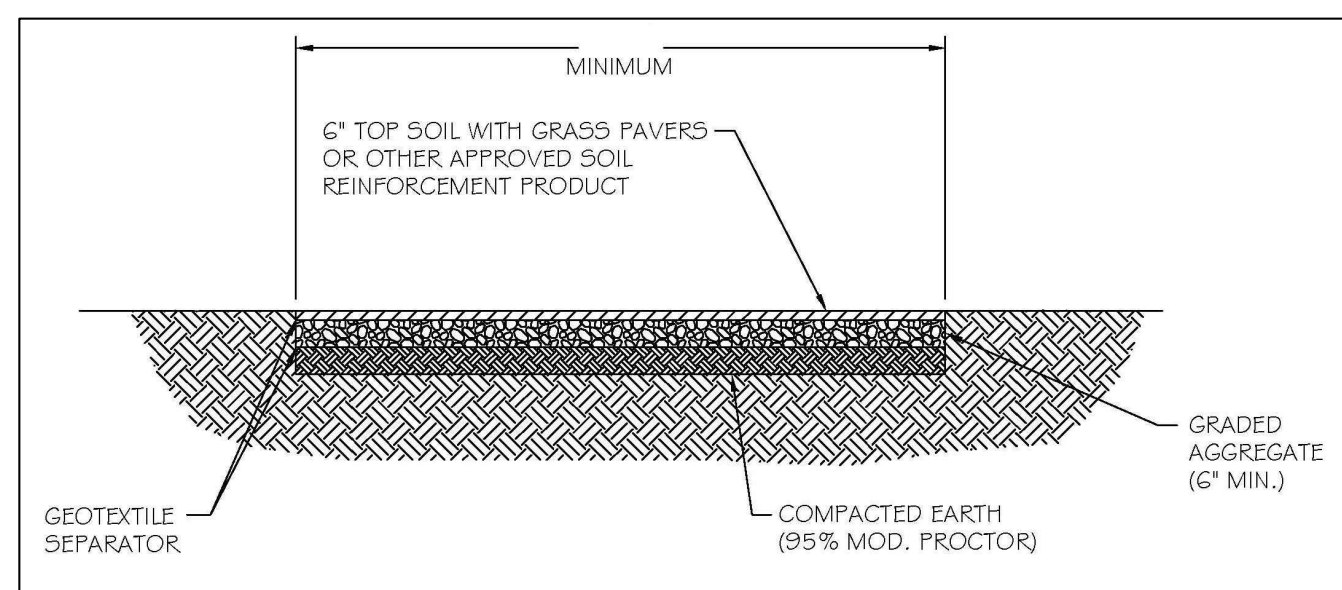
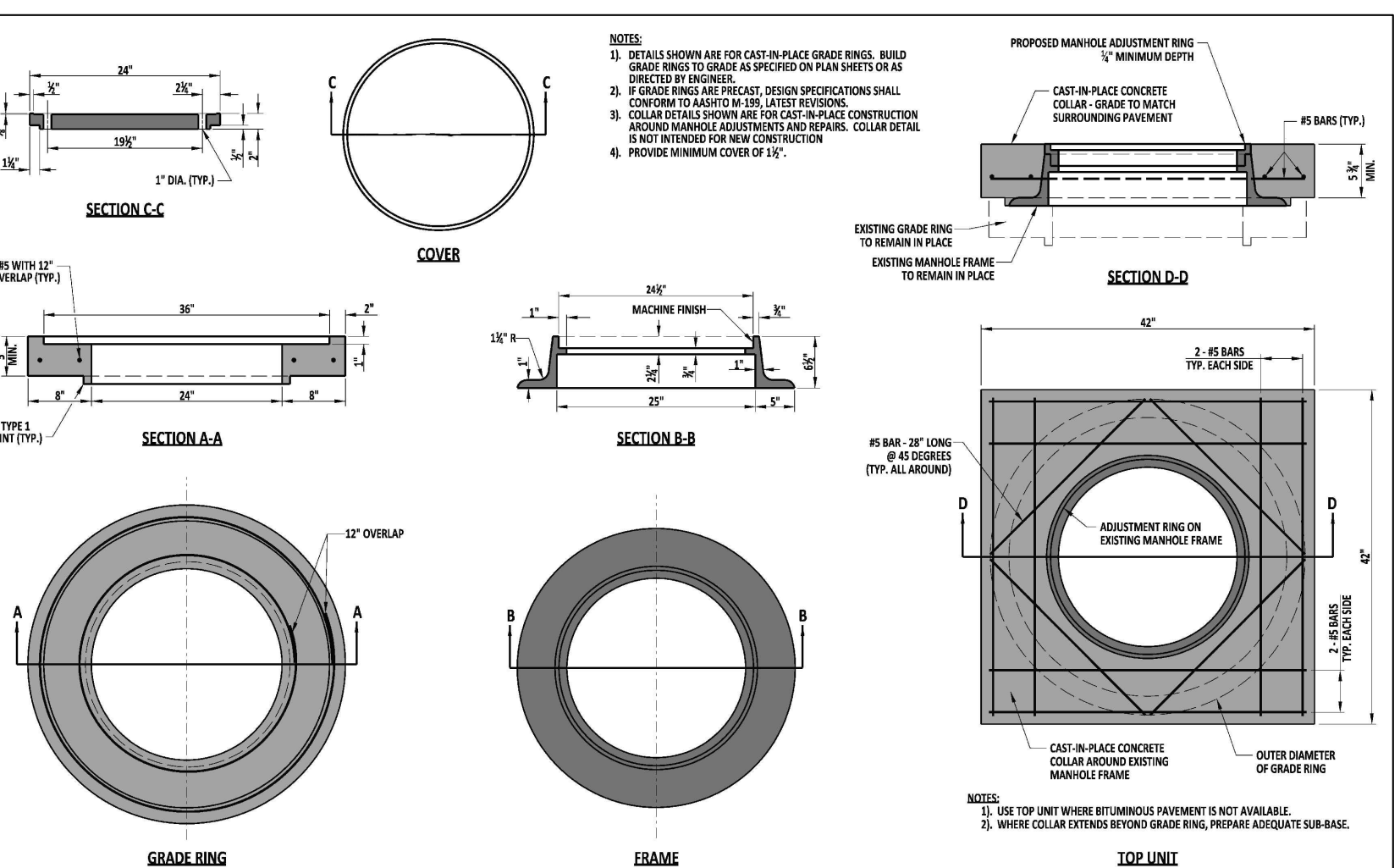
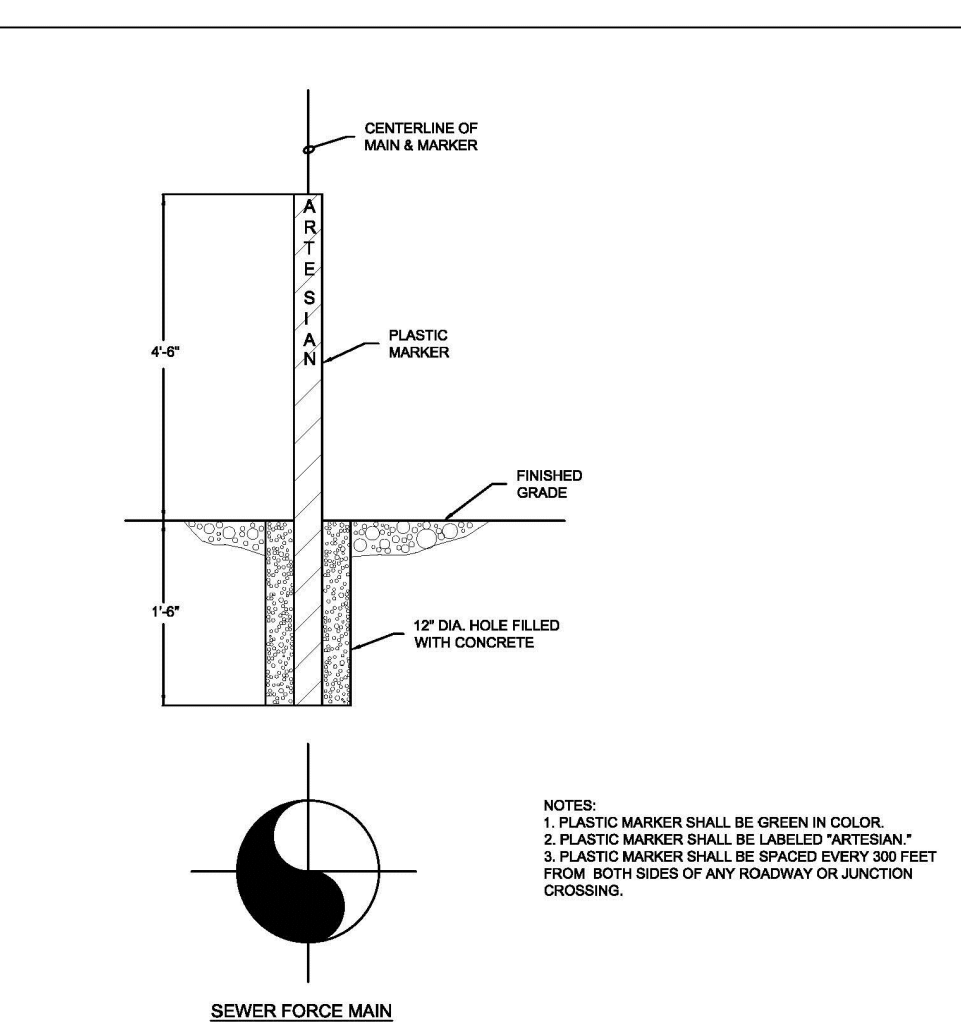
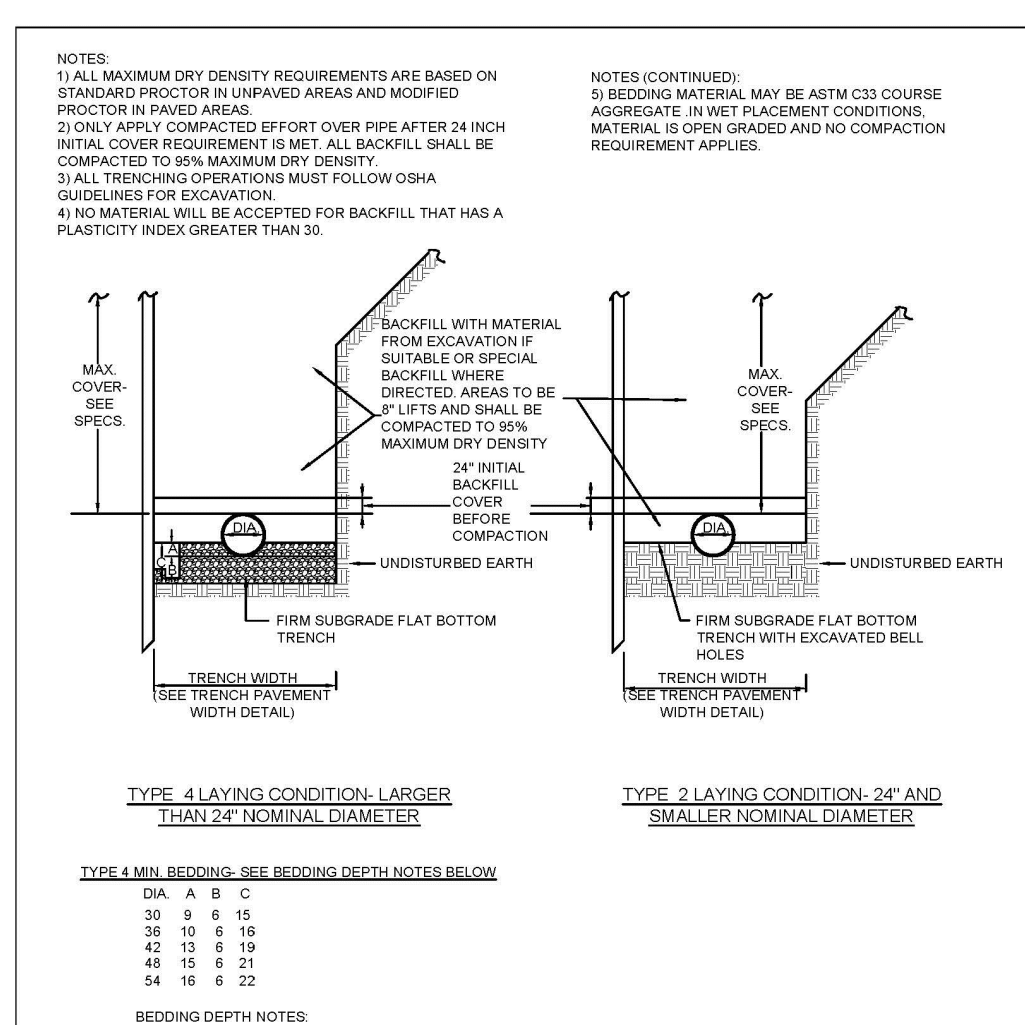
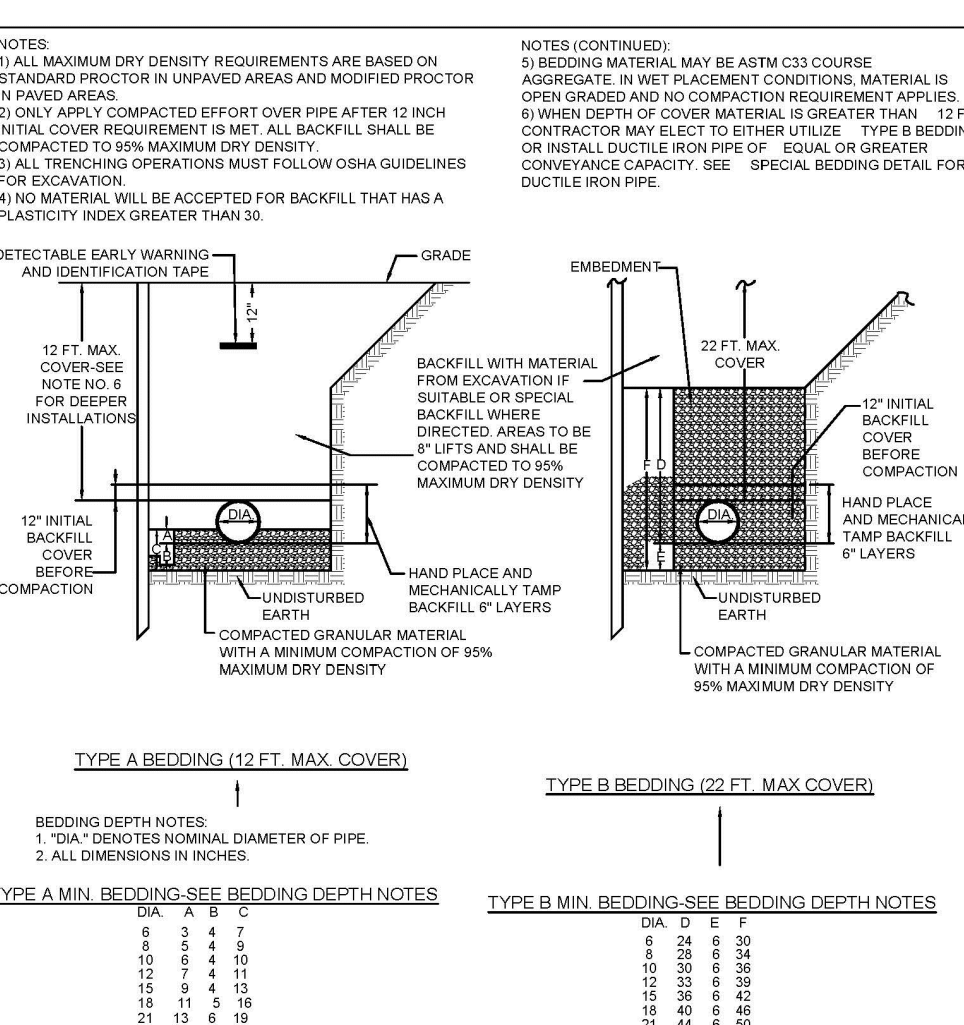
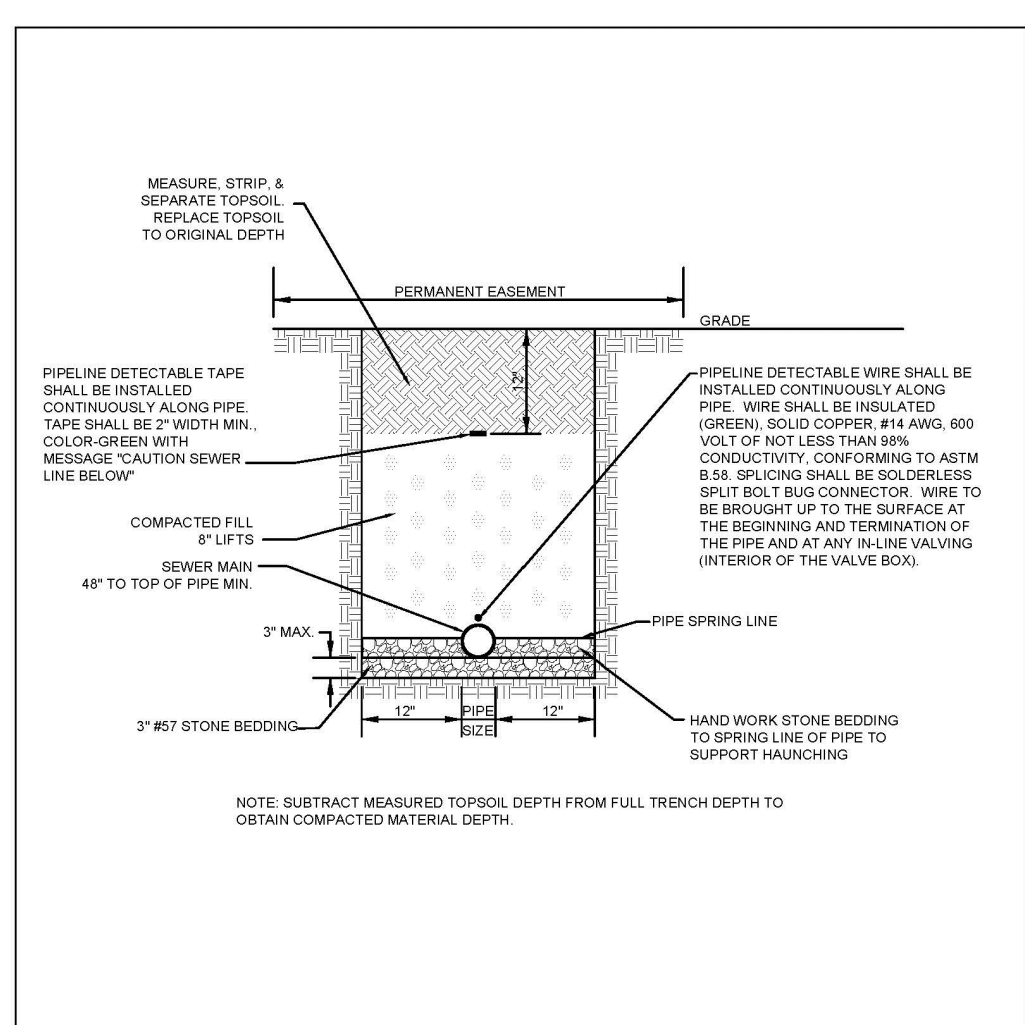
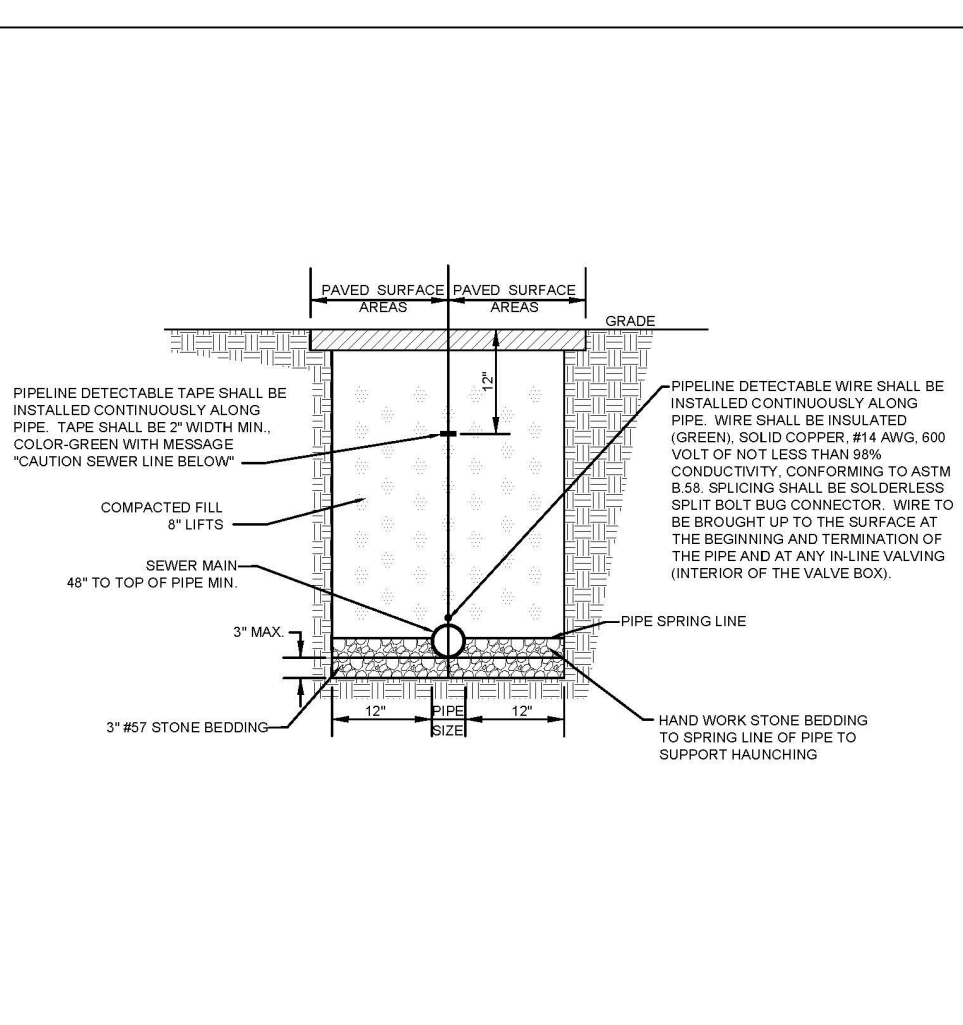
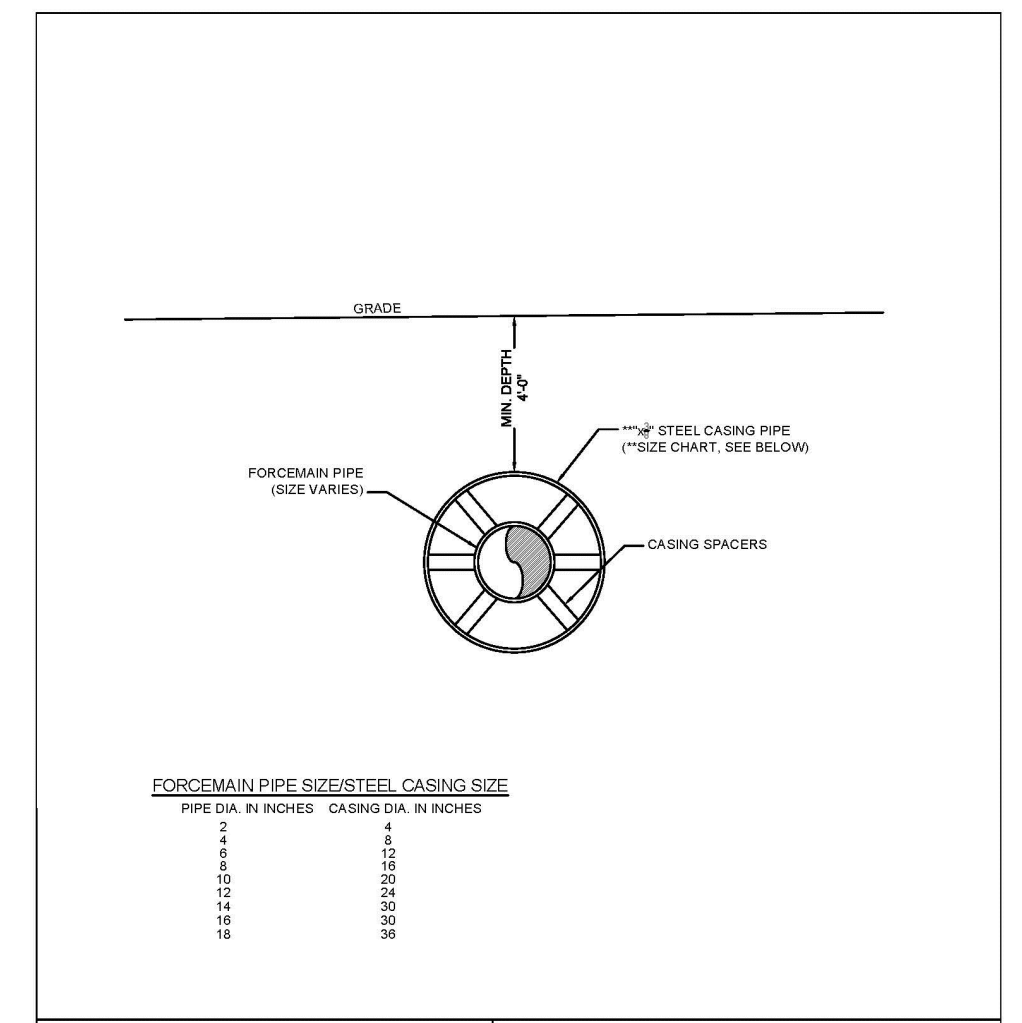
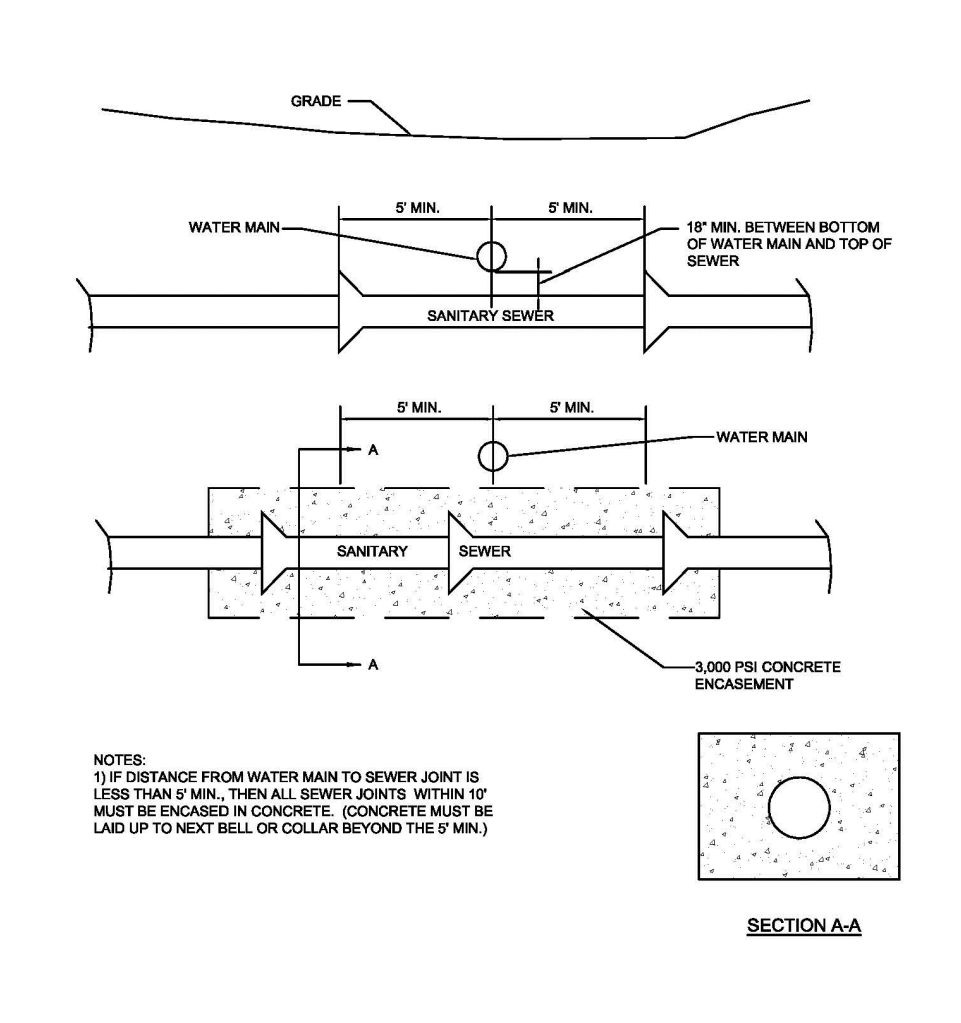
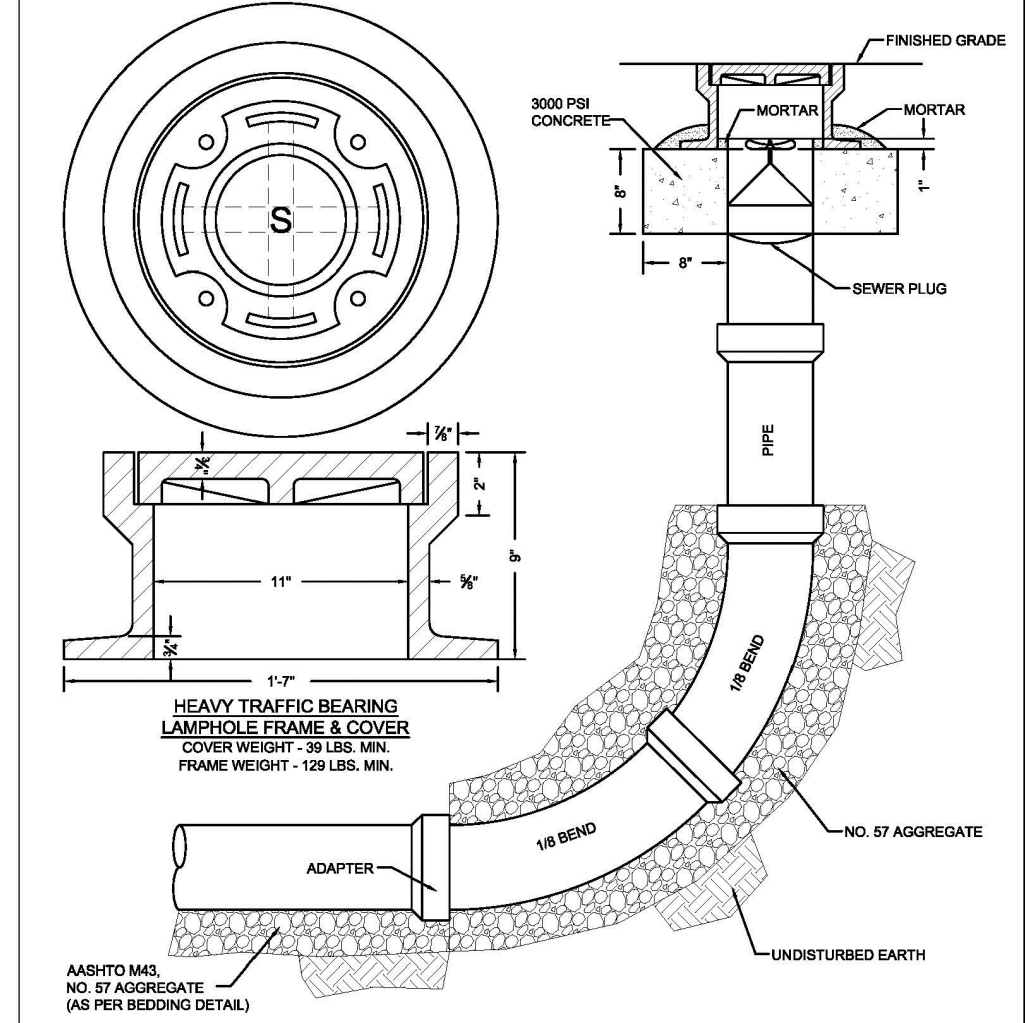
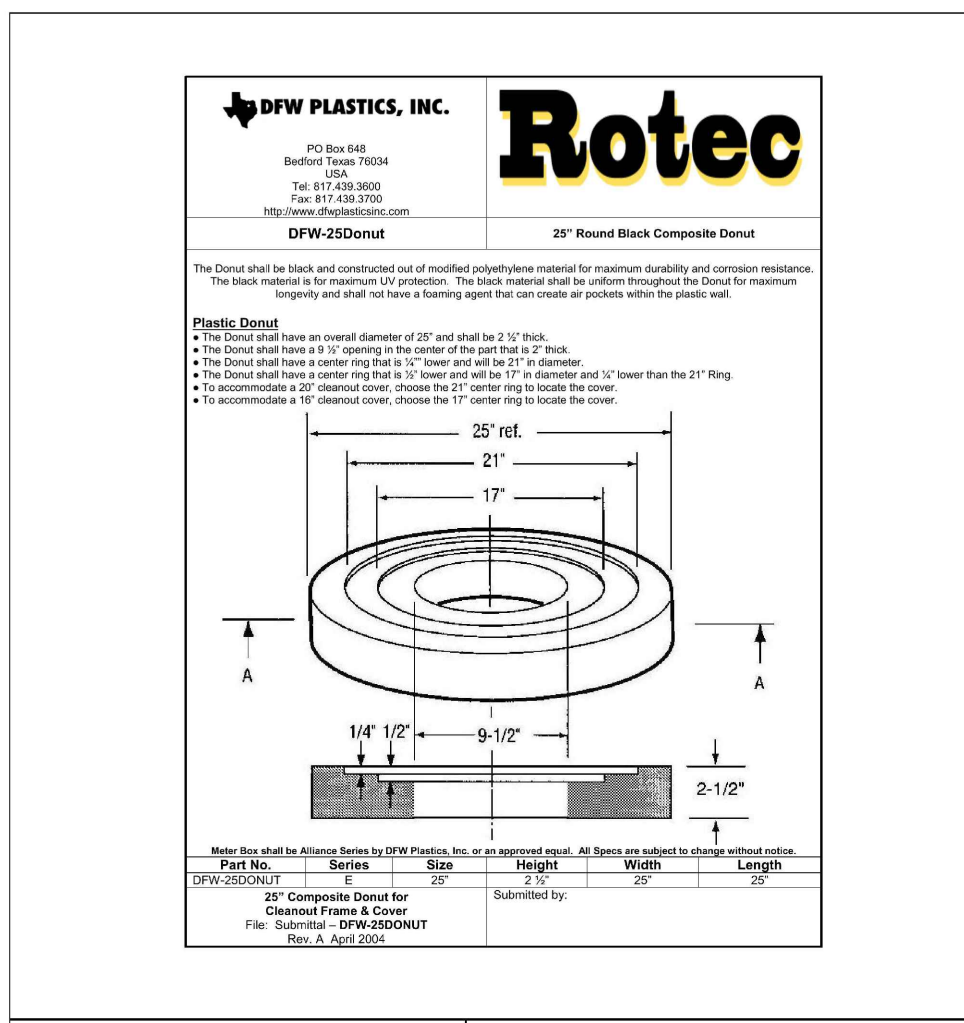
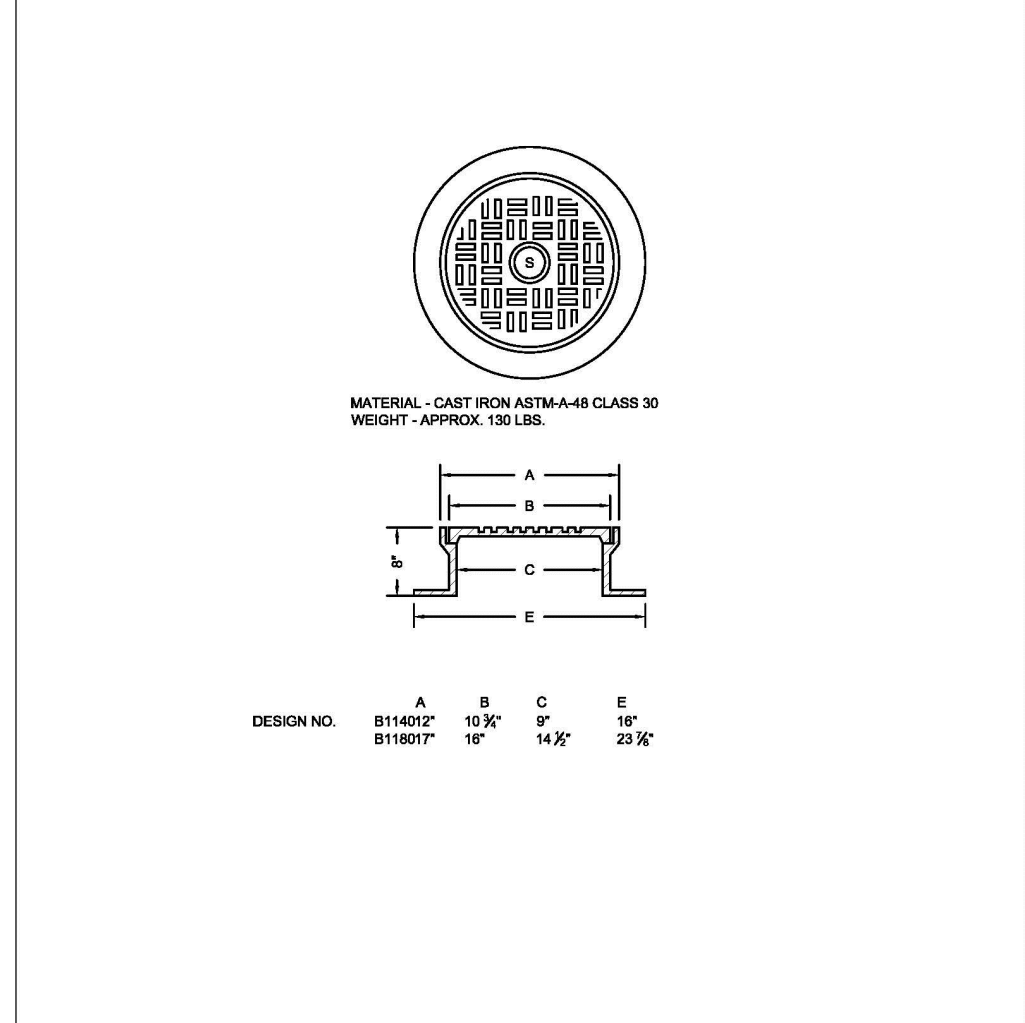
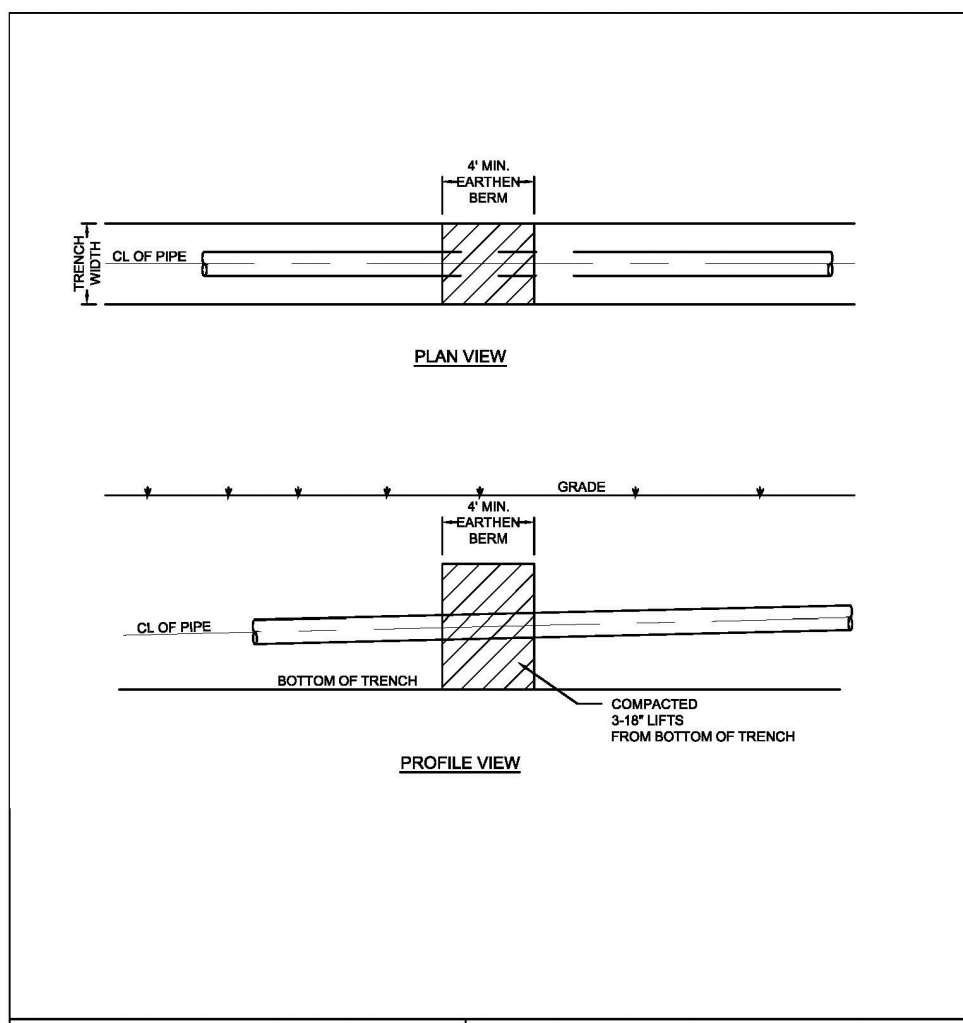
DESIGN BY: JPH

REVIEW BY: CJF/PLT

SHEET: 19 OF 22

03/14/25-Cover Back Box V15E/01 WBSY1489-5-WAS_DETAILS.dwg, 7/15/2024, 3:45:27 PM, FRP

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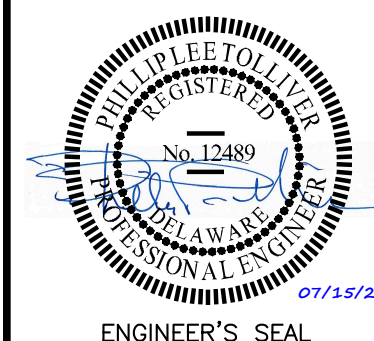
WAT & SEW

MORRIS & RITCHIE ASSOCIATES, INC.
ENGINEERS, ARCHITECTS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

111 RUTHAR DRIVE
NEWARK, DE 19711
(302) 326-2200

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SEWER DETAILS FOR PARADISE MEADOWS



07/15/24
ENGINEER'S SEAL

BROADKILL HUNDRED

SUSSEX COUNTY, DE

DATE	REVISIONS	JOB NO.:
		21482
		SCALE: AS-SHOWN
		DATE: 07/15/2024
		DRAWN BY: FRP
		DESIGN BY: JPH
		REVIEW BY: CJF/PLT
		SHEET: 21 OF 22

SANITARY CLEANOUT CHART

Lot #	Sta. @ Main	Connection Method	Invert @ Connection	Length of Service	Slope of Service	Invert @ C.O.	Top of C.O.	Pipe Cover @ C.O.
From SMH 3 to SMH 4								
134	0+45.18	1/8 BEND	13.13 MAIN / 18.69 BEND	28.67	2.08%	19.17	24.67	5.00'
135	1+05.06	1/8 BEND	13.37 MAIN / 19.14 BEND	29.07	2.08%	19.63	25.13	5.00'
From SMH 4 to SMH 5								
136	0+33.49	1/8 BEND	13.77 MAIN / 19.89 BEND	26.18	2.08%	20.31	25.81	5.00'
137	0+96.00	1/8 BEND	14.02 MAIN / 20.29 BEND	27.14	2.08%	20.73	26.23	5.00'
138	1+88.63	1/8 BEND	14.39 MAIN / 19.82 BEND	25.84	2.08%	20.25	25.75	5.00'
From SMH 5 to SMH 6								
191	0+45.45	1/8 BEND	14.9 MAIN / 19.26 BEND	27.98	2.08%	19.75	25.25	5.00'
190	1+16.49	1/8 BEND	15.19 MAIN / 18.89 BEND	28.26	2.08%	19.40	24.90	5.00'
From SMH 6 to SMH 7								
189	0+16.26	1/8 BEND	15.5 MAIN / 19.14 BEND	29.32	2.08%	19.68	25.18	5.00'
139	0+25.00	1/8 BEND	15.53 MAIN / 18.2 BEND	31.00	2.08%	18.79	25.29	6.00'
188	0+84.45	1/8 BEND	15.77 MAIN / 19.93 BEND	28.65	2.08%	20.44	25.94	5.00'
140	0+89.28	MAIN	15.79	31.32	6.00%	17.67	25.99	7.82'
187	1+49.63	1/8 BEND	16.03 MAIN / 20.65 BEND	29.07	2.08%	21.16	26.66	5.00'
186	2+14.63	1/8 BEND	16.29 MAIN / 21.36 BEND	29.48	2.08%	21.87	27.37	5.00'
185	2+79.63	1/8 BEND	16.55 MAIN / 22.08 BEND	29.89	2.08%	22.59	28.09	5.00'
From SMH 7 to SMH 8								
184	0+47.23	1/8 BEND	17.57 MAIN / 22.78 BEND	30.00	2.08%	23.30	28.80	5.00'
183	1+12.24	1/8 BEND	18.74 MAIN / 23.49 BEND	30.00	2.08%	24.02	29.52	5.00'
From SMH 8 to SMH 9								
182	0+74.24	1/8 BEND	20.53 MAIN / 23.87 BEND	30.00	2.08%	24.43	29.93	5.00'
181	1+25.00	MAIN	21.53	33.20	5.00%	23.19	29.52	5.83'
From SMH 9 to SMH 10								
141	0+55.38	1/8 BEND	17.28 MAIN / 21.75 BEND	27.55	2.08%	22.23	27.73	5.00'
142	1+27.17	1/8 BEND	18. MAIN / 21.44 BEND	18.87	2.08%	21.76	27.26	5.00'
From SMH 10 to SMH 11								
146	0+57.53	1/8 BEND	19.3 MAIN / 22.99 BEND	22.74	2.08%	23.39	28.89	5.00'
From SMH 11 to SMH 12								
145	0+10.13	1/8 BEND	19.65 MAIN / 22.09 BEND	22.83	2.08%	22.52	28.02	5.00'
144	0+59.61	MAIN	19.85	31.88	5.00%	21.45	27.57	5.62'
143	0+90.22	MAIN	19.97	17.29	5.00%	20.84	27.27	5.93'
From SMH 12 to SMH 13								
164	1+71.17	1/8 BEND	15.86 MAIN / 18.28 BEND	5.00	2.08%	18.33	23.83	5.00'
165	1+73.17	1/8 BEND	15.88 MAIN / 18.27 BEND	5.00	2.08%	18.33	23.83	5.00'
163	2+28.17	MAIN	16.43	50.00	2.08%	17.47	23.92	5.95'
From SMH 13 to SMH 14								
166	0+03.29	MAIN	16.54	49.89	2.08%	17.57	24.07	6.00'
162	0+37.55	MAIN	16.67	33.02	5.00%	18.32	24.18	5.38'
167	0+65.66	MAIN	16.79	26.32	5.00%	18.10	24.59	5.99'
161	1+23.33	1/8 BEND	17.02 MAIN / 19.27 BEND	22.59	2.08%	19.69	25.19	5.00'
168	1+28.98	1/8 BEND	17.04 MAIN / 19.22 BEND	27.40	2.08%	19.75	25.25	5.00'
169	1+91.65	1/8 BEND	17.29 MAIN / 19.51 BEND	22.16	2.08%	19.93	25.43	5.00'
160	2+11.69	MAIN	17.37	32.28	5.00%	18.99	25.25	5.76'
From SMH 14 to SMH 15								
170	0+32.62	MAIN	17.60	25.89	5.00%	18.90	24.92	5.52'
171	0+92.87	MAIN	17.84	32.29	2.08%	18.51	24.72	5.71'
159	1+02.59	MAIN	17.88	17.48	5.00%	18.75	24.75	5.50'
172	1+56.27	MAIN	18.09	29.75	2.08%	18.71	25.10	5.89'
158	1+77.66	MAIN	18.18	23.80	5.00%	19.37	25.32	5.45'
From SMH 15 to SMH 16								
173	0+41.44	MAIN	18.61	19.28	5.00%	19.58	25.68	5.60'
157	0+48.74	MAIN	18.66	31.44	2.08%	19.32	25.77	5.95'
156	1+11.75	MAIN	19.11	31.17	2.08%	19.75	26.24	5.99'
174	1+17.72	MAIN	19.15	19.14	5.00%	20.10	26.30	5.70'
155	1+76.55	MAIN	19.56	28.30	5.00%	20.97	26.75	5.28'
175	1+82.66	MAIN	19.60	22.02	5.00%	20.70	26.81	5.61'
154	2+41.48	MAIN	20.01	25.47	5.00%	21.29	27.20	5.41'
176	2+50.10	MAIN	20.07	25.01	5.00%	21.32	27.22	5.40'
From SMH 16 to SMH 17								
84	0+73.43	1/8 BEND	10.12 MAIN / 19.23 BEND	28.87	2.08%	19.64	25.14	5.00'
38	0+95.93	1/8 BEND	10.21 MAIN / 19.21 BEND	21.03	2.08%	19.46	24.96	5.00'
83	1+45.95	1/8 BEND	10.41 MAIN / 18.64 BEND	28.34	2.08%	19.06	24.56	5.00'
39	1+62.53	1/8 BEND	10.47 MAIN / 18.63 BEND	21.89	2.08%	18.92	24.42	5.00'
82	2+10.69	1/8 BEND	10.67 MAIN / 18.11 BEND	27.49	2.08%	18.53	24.03	5.00'
40	2+27.53	1/8 BEND	10.73 MAIN / 18.07 BEND	22.74	2.08%	18.39	23.89	5.00'
81	2+75.68	1/8 BEND	10.93 MAIN / 17.6 BEND	26.63	2.08%	18.02	23.52	5.00'
41	2+92.52	1/8 BEND	10.99 MAIN / 17.59 BEND	23.59	2.08%	17.95	23.45	5.00'
42	3+57.92	1/8 BEND	11.26 MAIN / 17.75 BEND	24.45	2.08%	18.13	23.63	5.00'
80	3+60.68	1/8 BEND	11.27 MAIN / 17.75 BEND	25.52	2.08%	18.15	23.65	5.00'

Lot #	Sta. @ Main	Connection Method	Invert @ Connection	Length of Service	Slope of Service	Invert @ C.O.	Top of C.O.	Pipe Cover @ C.O.
From SMH 17 to SMH 18								
43	0+31.88	1/8 BEND	11.61 MAIN / 18.09 BEND	26.09	2.08%	18.50	24.00	5.00'
79	0+36.27	1/8 BEND	11.63 MAIN / 18.12 BEND	23.78	2.08%	18.48	23.98	5.00'
44	0+96.83	1/8 BEND	11.87 MAIN / 17.56 BEND	28.55	2.08%	18.04	23.54	5.00'
78	1+01.22	1/8 BEND	11.89 MAIN / 17.67 BEND	21.32	2.08%	18.00	23.50	5.00'
45	1+61.79	1/8 BEND	12.13 MAIN / 16.72 BEND	31.01	2.08%	17.27	22.77	5.00'
77	1+65.48	1/8 BEND	12.14 MAIN / 16.96 BEND	18.88	2.08%	17.25	22.75	5.00'
46	2+26.56	1/8 BEND	12.39 MAIN / 16.59 BEND	32.60	2.08%	17.18	22.68	5.00'
76	2+35.01	MAIN	12.42	17.47	5.00%	13.29	22.73	8.94'
75	2+84.47	MAIN	12.62	19.33	5.00%	13.58	23.11	9.03'
48	3+31.40	1/8 BEND	12.81 MAIN / 17.46 BEND	26.95	2.08%	17.93	23.43	5.00'
74	3+50.84	MAIN	12.88	25.25	5.00%	14.15	23.53	8.88'
From SMH 18 to SMH 19								
49	0+64.03	1/8 BEND	13.24 MAIN / 17.36 BEND	27.39	2.08%	17.85	23.35	5.00'
73	0+91.39	MAIN	13.35	21.64	5.00%	14.43	23.15	8.22'
50	1+28.78	1/8 BEND	13.5 MAIN / 16.79 BEND	29.78	2.08%	17.34	22.84	5.00'
72	1+61.52	1/8 BEND	13.63 MAIN / 16.75 BEND	19.41	2.08%	17.09	22.59	5.00'
51	1+91.91	1/8 BEND	13.75 MAIN / 16.39 BEND	29.50	2.08%	16.95	22.45	5.00'
71	2+19.43	1/8 BEND	13.86 MAIN / 16.52 BEND	23.62	2.08%	16.96	22.46	5.00'
52	2+30.46	1/8 BEND	13.91 MAIN / 16.5 BEND	25.17	2.08%	16.97	22.47	5.00'
From SMH 19 to SMH 20								
53	0+54.04	1/8 BEND	14.22 MAIN / 16.81 BEND	31.12	2.08%	17.40	22.90	5.00'
70	0+81.47	MAIN	14.33	18.34	5.00%	15.25	23.12	7.37'
54	1+15.74	1/8 BEND	14.47 MAIN / 17.32 BEND	30.12	2.08%	17.89	23.39	5.00'
From SMH 20 to SMH 21								
55	0+13.57	1/8 BEND	14.78 MAIN / 17.87 BEND	27.52	2.08%	18.38	23.88	5.00'
69	0+19.83	MAIN	14.80	27.10	5.00%	16.16	23.87	7.21'
56	0+97.10	1/8 BEND	15.11 MAIN / 17.83 BEND	31.96	2.08%	18.44	23.94	5.00'
68	1+26.26	MAIN	15.23	20.22	5.00%	16.24	23.59	6.85'
57	1+60.91	MAIN	15.36	25.91	6.00%	16.92	23.26	5.84'
From SMH 21 to SMH 22								
58	0+50.29	MAIN	15.77	30.56	2.08%	16.40	22.59	5.69'
67	0+58.02	MAIN	15.81	19.14	4.00%	16.58	22.55	5.47'
59	0+90.03	MAIN	16.00	30.91	2.08%	16.65	22.46	5.31'
66	1+20.64	1/8 BEND	16.19 MAIN / 17.67 BEND	21.37	2.08%	18.08	22.58	4.00'
60	1+48.50	MAIN	16.36	25.03	2.08%	16.88	22.75	5.37'
From SMH 22 to SMH 23								
61	0+55.94	MAIN	16.79	31.05	2.08%	17.43	23.15	5.22'
65	0+64.64	1/8 BEND	16.84 MAIN / 18.34 BEND	18.68	2.08%	18.70	23.20	4.00'
62	1+17.64	MAIN	17.16	29.65	2.08%	17.77	23.56	5.29'
64	1+51.65	MAIN	17.36	25.30	2.08%	17.89	23.85	5.46'
63	1+78.62	MAIN	17.52	20.27	2.08%	17.94	23.97	5.53'
From SMH 23 to SMH 24								
153	1+59.30	MAIN	18.90	24.02	2.08%	19.10	25.10	5.50'
From SMH 24 to SMH 25								
151	0+43.32	MAIN	19.34	28.17	2.08%	19.92	25.86	5.44'
152	1+27.62	MAIN	19.67	18.31	2.08%	20.05	26.50	5.95'
150	2+12.19	MAIN	20.01	25.59	5.00%	21.29	27.13	5.34'
From SMH 25 to SMH 26								
149	0+54.94	MAIN	20.58	24.09	5.00%	21.78	27.77	5.49'
177	0+57.22	MAIN	20.59	37.06	2.08%	21.36	27.85	5.99'
178	1+18.75	MAIN	20.90	42.19	2.08%	21.77	28.26	5.99'
From SMH 26 to SMH 27								
148	1+39.59	MAIN	21.00	17.89	6.00%	22.07	28.41	5.84'
179	1+80.43	MAIN	21.21	39.39	5.00%	23.17	28.66	4.99'
147	2+18.41	MAIN	21.40	27.61	5.00%	22.78	29.00	5.72'
180	2+32.21	MAIN	21.46	30.00	5.00%	22.96	29.05	5.59'
From SMH 27 to SMH 28								
133	0+43.37	1/8 BEND	13.39 MAIN / 17.96 BEND	24.46	2.08%	18.38	23.88	5.00'
From SMH 28 to SMH 29								
132	0+34.25	1/8 BEND	14.1 MAIN / 17.6 BEND	31.74	2.08%	18.19	23.69	5.00'