

SECTION 10, TOWNSHIP 47 N, RANGE 32 W
IN LEE'S SUMMIT, JACKSON COUNTY, MO

SECTION 10, TOWNSHIP 47 N, RANGE 32 W
IN LEE'S SUMMIT, JACKSON COUNTY, MO

PROJECT TEAM & UTILITY CONTACT LIST	
<u>OWNER / DEVELOPER</u> THE YARCO COMPANIES 7920 WARD PKWY KANSAS CITY, MISSOURI 64114 CONTACT: GRUBE, MIKE PHONE: 816.300.0640 FAX: 816.389.5640 EMAIL: MGRUBE@YARCO.COM	<u>UTILITY SERVICE NUMBERS</u> NAME: LEE'S SUMMIT PUBLIC WORKS PHONE: 816-969-1800 NAME: LEE'S SUMMIT WATER & SERVICES DEPARTMENT PHONE: 816-969-1940
<u>ENGINEER</u> OLSSON ASSOCIATES 1301 BURLINGTON, SUITE 100 NORTH KANSAS CITY, MO 64116 CONTACT: NICHOLAS D. HEISER, P.E. PHONE: 816.587.4320	NAME: SPIRE (MGE) PHONE: 314-342-0500 NAME: AT&T PHONE: 800-286-8313
<u>SURVEYOR</u> OLSSON ASSOCIATES 1301 BURLINGTON, SUITE 100 NORTH KANSAS CITY, MO 64116 CONTACT: JASON ROUBEUSH PHONE: 816.587.4320	NAME: KCP&L PHONE: 816-471-5275 NAME: SPECTRUM (TWC) PHONE: 877-772-2253 NAME: GOOGLE FIBER PHONE: 877-454-6959



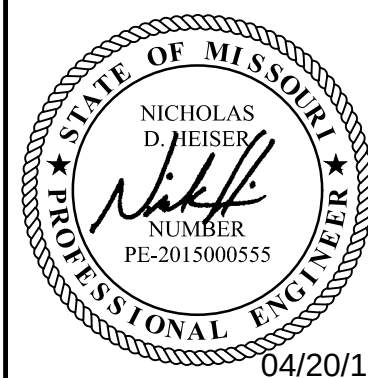
Sheet List Table	
Sheet Number	Sheet Title
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C102	EXISTING CONDITIONS
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C114	10YR DRAINAGE TABLES
C115	100 YR DRAINAGE TABLES
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PROPERTY DESCRIPTION:

LOT 2, MINOR PLAT OF FASCINATION AT NEW LONGVIEW, LOTS 1 & 2, A SUBDIVISION IN LEE'S SUMMIT, JACKSON COUNTY, MISSOURI. CONTAINING 6.76 ACRES MORE OR LESS.

BENCHMARK

THE STATION IS A KC METRO DISK SET IN CONCRETE AND FLUSH WITH THE GROUND. THE STATION IS TAMPED JA-147, 2000.
STATION JA-148

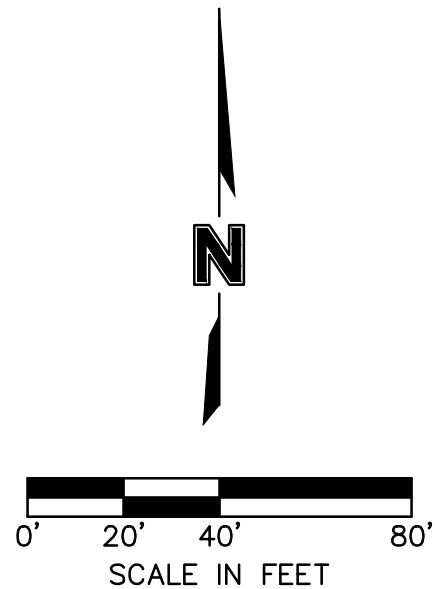
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TITLE SHEET	
DEVELOPMENT PLANS	
KESSLER RIDGE APARMENTS	
LEE'S SUMMIT, MO	2018

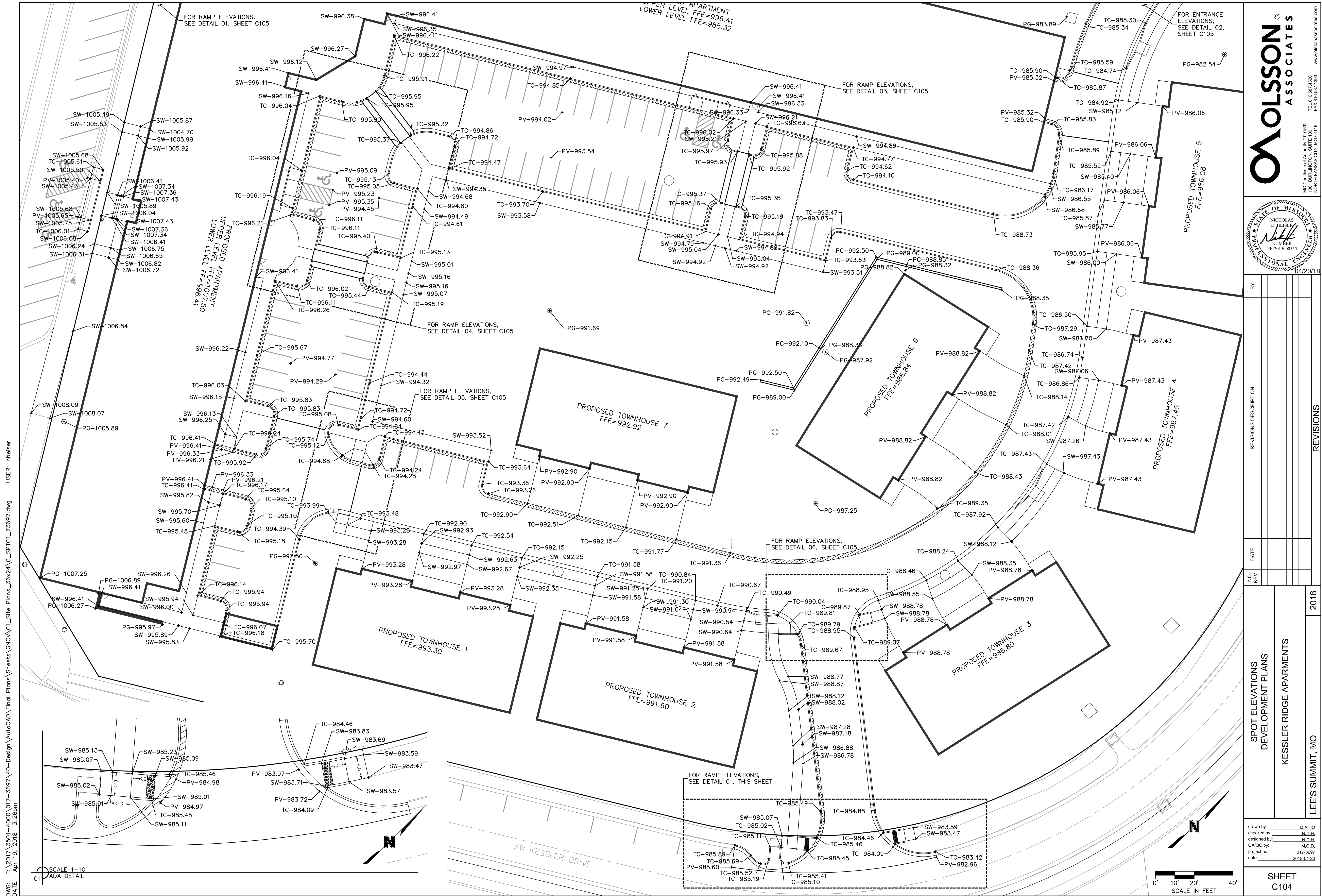
drawn by: D.A.HQ
checked by: N.D.H.
designed by: N.D.H.
QA/QC by: M.G.D.
project no.: 017-3697
date: 2018-04-20

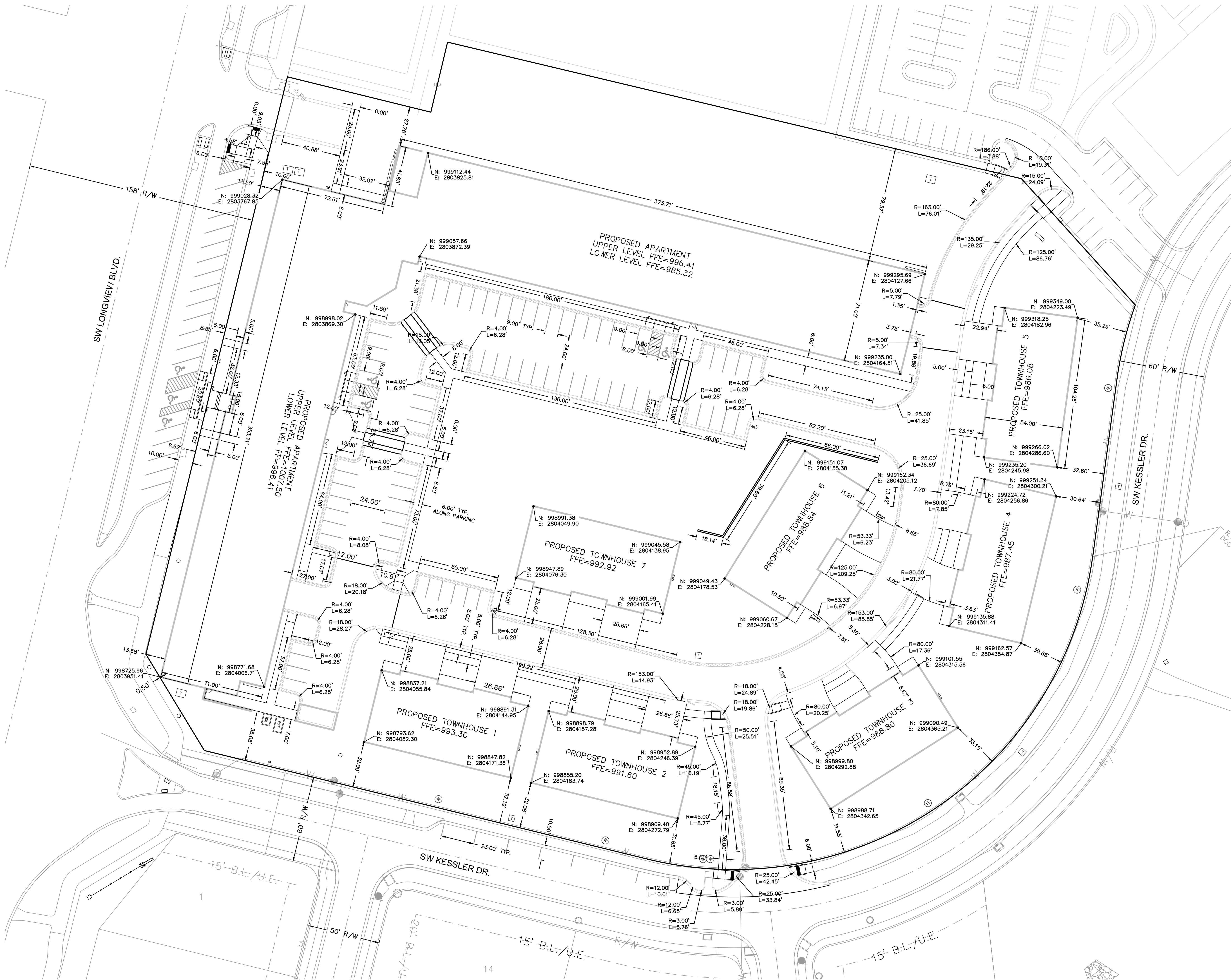
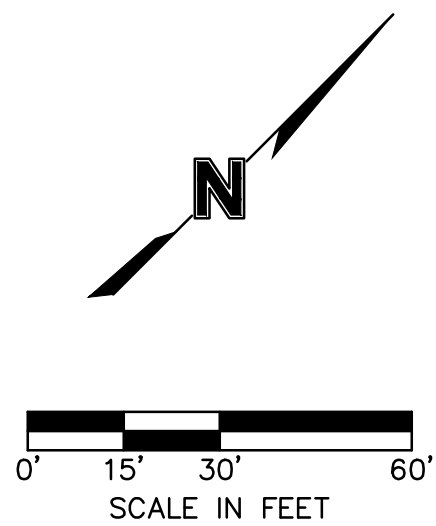
SHEET
C100

DWG: F:\2017\3501-4000\017-3697\40-Design\AutoCAD\Final Plans\Sheets\GNCV\01_Site Plans_36\24\C_EXC01_73697.dwg
DATE: Apr 19, 2018 3:23pm
USER: rtheiser



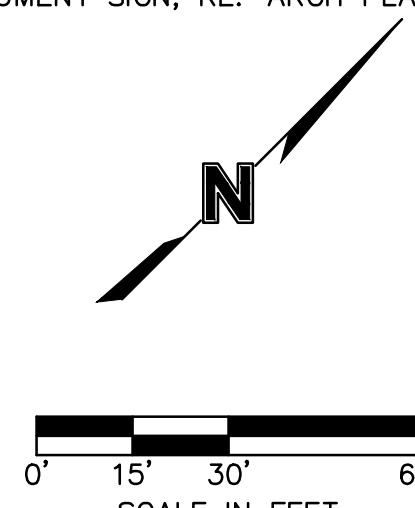
drawn by: D.A.H. checked by: N.D.H. designed by: N.D.H. QA/QC by: M.G.D. project no.: 017-3697 date: 2018-04-20		SHEET C102	
EXISTING CONDITIONS DEVELOPMENT PLANS		KESSLER RIDGE APARMENTS	
LEE'S SUMMIT, MO		2018	
NO. REV.		DATE	
REVISIONS DESCRIPTION		BY	
04/20/18		PROFESSIONAL ENGINEER	
NICHOLAS D. HEISER NUMBER PE-2015000555		STATE OF MISSOURI	
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OLSSON [®]		ASSOCIATES	

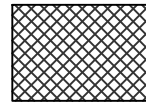
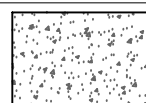




GEOMETRIC PLAN DEVELOPMENT PLANS KESSLER RIDGE APARMENTS		NO. REV.		DATE	BY
		REVISIONS DESCRIPTION			
LEE'S SUMMIT, MO		2018		REVISIONS	
drawn by: D.A.H. checked by: N.D.H. designed by: N.D.H. QA/QC by: M.G.D. project no.: 017-3697 date: 2018-04-20		SHEET C106			

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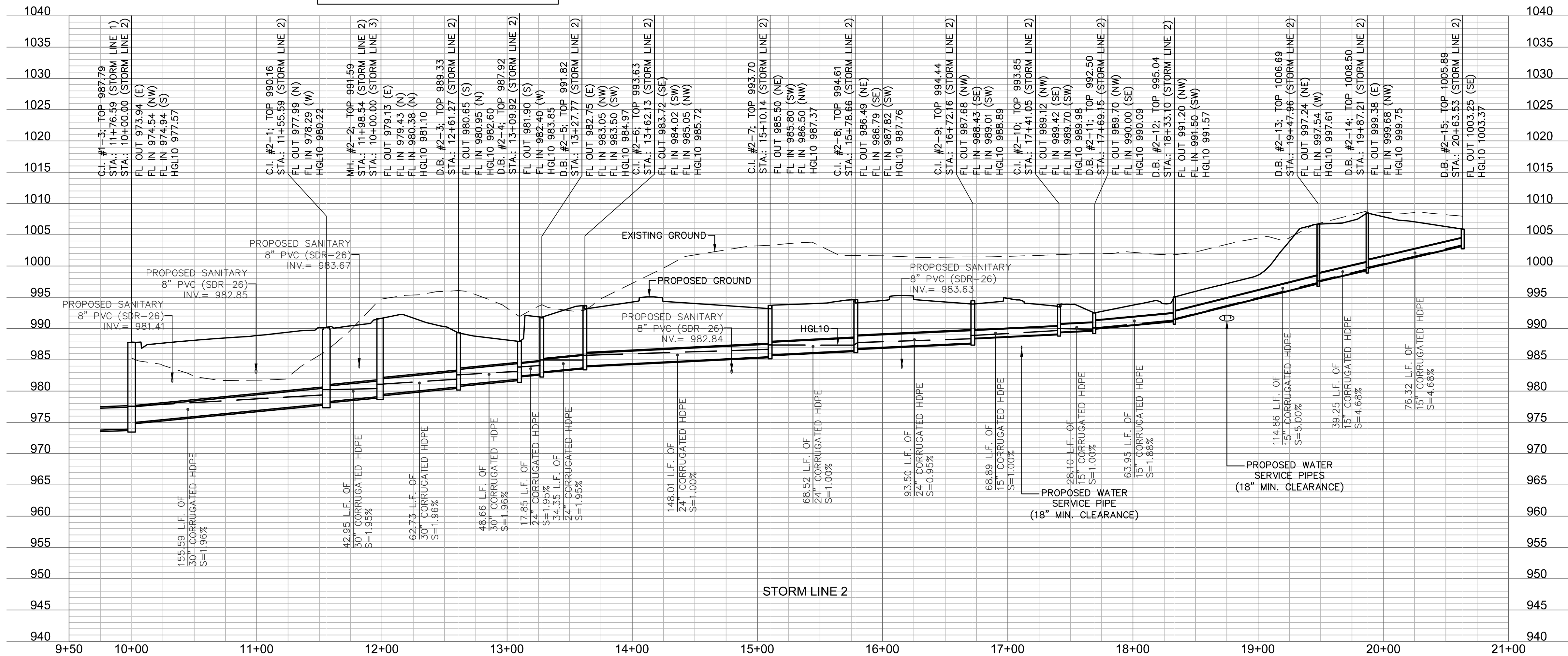
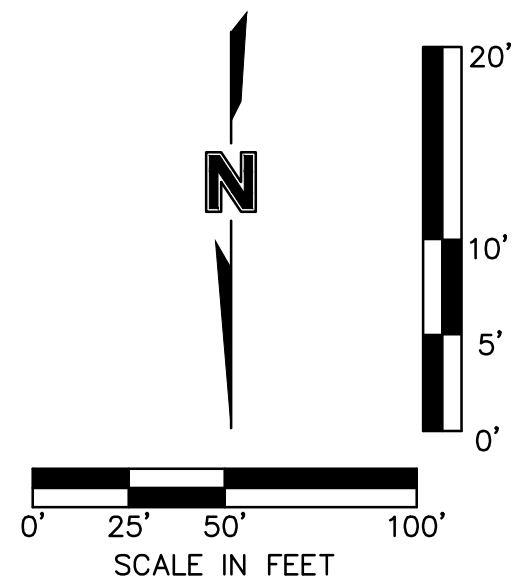


LEGEND	
	CONCRETE SIDEWALK
	STANDARD DUTY ASPHALT PAVEMENT
	HEAVY DUTY ASPHALT PAVEMENT
	CONCRETE PAVEMENT
	CG-1 CURB & GUTTER (See Detail Sheet)
	CG-1 DRY CURB & GUTTER (See Detail Sheet)
	CG-2 CURB & GUTTER (See Detail Sheet)
	CG-2 DRY CURB & GUTTER (See Detail Sheet)
	# OF PARKING STALLS

- 1 CONTRACTOR TO SAW-CUT AND REMOVE EXISTING CURB & GUTTER AND PAVEMENT TO PROVIDE FOR PROPOSED ENTRANCES.
- 2 CONSTRUCT HEAVY DUTY ASPHALT PAVEMENT (SEE LEGEND)
- 3 CONSTRUCT STANDARD DUTY ASPHALT PAVEMENT (SEE LEGEND)
- 4 CONSTRUCT STANDARD CONCRETE PAVEMENT (SEE LEGEND)
- 5 PROPOSED RETAINING WALL (SEE SPOT ELEVATION PLAN) TO BE DESIGN-BUILD LANDSCAPE BLOCK. COORDINATE STYLE/COLOR WITH OWNER AND ARCHITECT.
- 6 TYPE CG-1 CONCRETE CURB AND GUTTER (SEE LEGEND)
- 7 TYPE CG-2 CONCRETE CURB AND GUTTER (SEE LEGEND)
- 8 CONSTRUCT PRIVATE SIDEWALK
- 9 CONSTRUCT PUBLIC SIDEWALK
- 10 CONSTRUCT ACCESSIBLE SIDEWALK RAMP AT HEAD-IN ADA PARKING (SEE SPOT ELEVATION PLAN)
- 11 CONSTRUCT PERPENDICULAR SIDEWALK RAMP (SEE SPOT ELEVATION PLAN)
- 12 PROPOSED ACCESSIBLE PARKING STALLS (TYP.)
- 13 PROPOSED ACCESSIBLE SIGNAGE AND STRIPING (TYP.) (SEE DETAIL SHEET)
- 14 PROPOSED PAVEMENT STRIPING (TYP.). SEE NOTE 10, SHEET C101.
- 15 CONSTRUCT CONCRETE EXTERIOR STAIRS, RE: ARCH PLANS
- 16 FIRE DEPARTMENT CONNECTION, RE: MEP PLANS
- 17 TRASH ENCLOSURE, RE: ARCH PLANS
- 18 CONSTRUCT 5' CURB TERMINUS (SEE SPOT ELEVATION PLAN & DETAIL SHEET)
- 19 CONSTRUCT RAISED CONCRETE CROSSWALK (SEE SPOT ELEVATION PLAN & DETAIL SHEET)
- 20 CONSTRUCT PUBLIC SIDEWALK RAMP PER LEE'S SUMMIT STANDARD
- 21 MONUMENT SIGN, RE: ARCH PLANS.

SITE DEVELOPMENT DATA														
LOTS	EXISTING ZONING	GROSS AREA (AC.)	PROPOSED STREET R/W (AC.)	NET AREA (AC.)	IMPERVIOUS COVERAGE	LAND USE DESCRIPTION	NUMBER OF FLOORS	FLOOR AREA (S.F.)	BUILDING COVERAGE (S.F.)	# OF UNITS	F.A.R.	PARKING STALLS REQUIRED**		
						EXISTING / PROPOSED						RATIO	REQUIRED	PROVIDED
1	PMIX	6.76	0.00	6.76	58.45%	UNDEVELOPED / MULTI-FAMILY RESIDENTIAL	4	213,865	52,330	76 1-BED 70 2-BED	0.86	1.5:1 UNIT	219	217
						UNDEVELOPED / TOWNHOUSE	2	38,948 (5,564/BLDG.)	38,290 (5,470/BLDG.)	28		2:1 UNIT	56	56

** REQUIRED PARKING COUNT BASED ON 'NEW LONGVIEW PHASE II - ULI SHARED PARKING MODEL', SEPT. 2, 2016, BY CONFLUENCE ARCHITECTURE. TOTAL PARKING SPACES PROVIDED FOR DEVELOPMENT ORIGINALLY 879, 303 PROVIDED BY THE KESSLER RIDGE APARTMENTS SITE AND ADJACENT PUBLIC STREET PARKING. PUBLIC STREET PARKING HAS BEEN REDUCED BY 22 SPACES BASED ON CITY COMMENTS AND ON-SITE PARKING PROVIDED BY THE KESSLER RIDGE APARTMENTS SITE IS BEING REDUCED BY 30 SPACES BASED ON REVISED SITE LAYOUT. WITH ALL REDUCTIONS IN PARKING ACCOUNTED FOR, TOTAL PARKING SPACES PROVIDED FOR THE DEVELOPMENT IS 827 WITH 717 PARKING SPACES REQUIRED DURING PEAK DEMAND PER THE SHARED PARKING MODEL.



D.B. #2-3, CONSTRUCT
NYLOPLAST DRAIN BASIN (30")
WITH SOLID TOP
STA.: 12+61.27 (STORM LINE 2)
N: 999,046.5551
E: 2,804,165.8533

C.I. #2-1, CONSTRUCT STD. CURB
INLET (5'x4' INSIDE)
STA.: 11+55.59 (STORM LINE 2)
N: 998,973.2836
E: 2,804,229.3068

MH. #2-2, CONSTRUCT
STD. JUNCTION BOX (4'x4' INSIDE)
STA.: 11+98.54 (STORM LINE 2)
=STA.: 10+00.00 (STORM LINE 3)
N: 998,988.2740
E: 2,804,189.0619

D.B. #2-4, CONSTRUCT
NYLOPLAST DRAIN BASIN (30")
WITH BEEHIVE TOP
STA.: 13+09.92 (STORM LINE 2)
N: 999,093.9969
E: 2,804,155.0491

D.B. #2-11, CONSTRUCT
NYLOPLAST DRAIN BASIN (24")
WITH BEEHIVE TOP
STA.: 17+69.15 (STORM LINE 2)
N: 998,831.4988
E: 2,804,046.4374

D.B. #2-12, CONSTRUCT
NYLOPLAST DRAIN BASIN (18")
WITH SOLID TOP
STA.: 18+33.10 (STORM LINE 2)
N: 998,775.5104
E: 2,804,077.3421

D.B. #2-5, CONSTRUCT
NYLOPLAST DRAIN BASIN (30")
WITH BEEHIVE TOP
STA.: 13+27.77 (STORM LINE 2)
=STA.: 10+00.00 (STORM LINE 6)
N: 999,097.7595
E: 2,804,137.6025

C.I. #2-6, CONSTRUCT
NYLOPLAST C.I. (30"-3'x2')
STA.: 13+62.13 (STORM LINE 2)
N: 999,127.1246
E: 2,804,119.7752

C.I. #2-8, CONSTRUCT
NYLOPLAST C.I. (30"-3'x2')
STA.: 15+78.66 (STORM LINE 2)
N: 998,996.3377
E: 2,803,951.0446

C.I. #2-9, CONSTRUCT
NYLOPLAST C.I. (30"-3'x2')
STA.: 16+72.16 (STORM LINE 2)
N: 998,916.4132
E: 2,803,999.5660

C.I. #2-10, CONSTRUCT
NYLOPLAST C.I. (24"-3'x2')
STA.: 17+41.05 (STORM LINE 2)
N: 998,856.1015
E: 2,804,032.8571

D.B. #2-15, CONSTRUCT
NYLOPLAST DRAIN BASIN (24")
WITH BEEHIVE TOP
STA.: 20+63.53 (STORM LINE 2)
N: 998,791.5271
E: 2,803,903.2106

D.B. #2-14, CONSTRUCT
NYLOPLAST DRAIN BASIN (18")
WITH SOLID TOP
STA.: 19+87.21 (STORM LINE 2)
N: 998,725.2440
E: 2,803,941.0385

D.B. #2-13, CONSTRUCT
NYLOPLAST DRAIN BASIN (18")
WITH SOLID TOP
STA.: 19+47.96 (STORM LINE 2)
N: 998,715.9068
E: 2,803,979.1631

STORM SEWER PLAN & PROFILE
DEVELOPMENT PLANS

KESSLER RIDGE APARTMENTS

LEE'S SUMMIT, MO

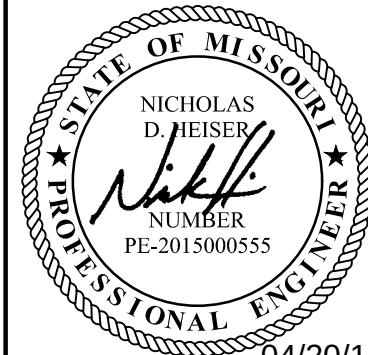
2018

drawn by: D.A.H.
checked by: N.D.H.
designed by: N.D.H.
QA/QC by: M.G.D.
project no.: 017-3697
date: 2018-04-20

SHEET
C109

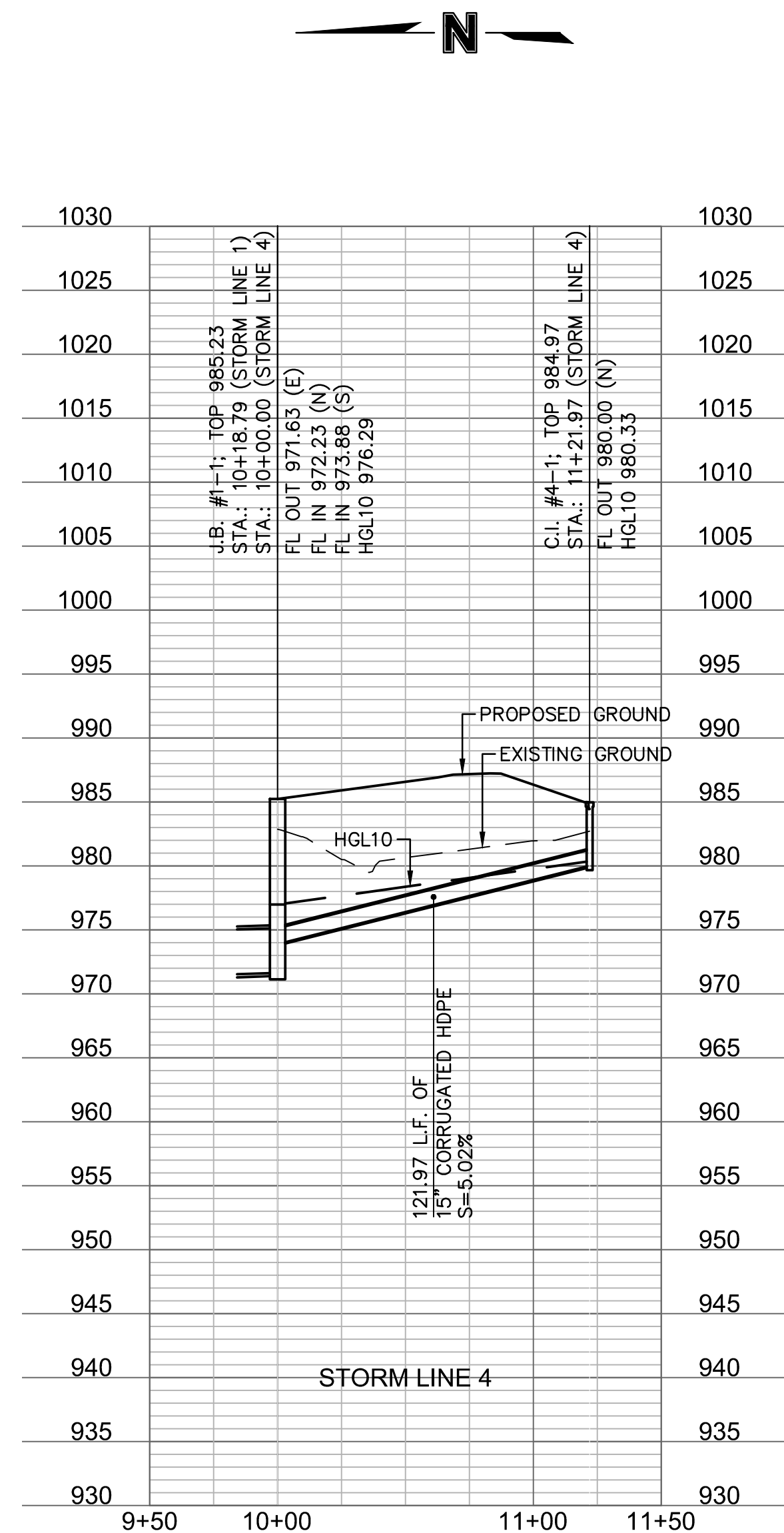
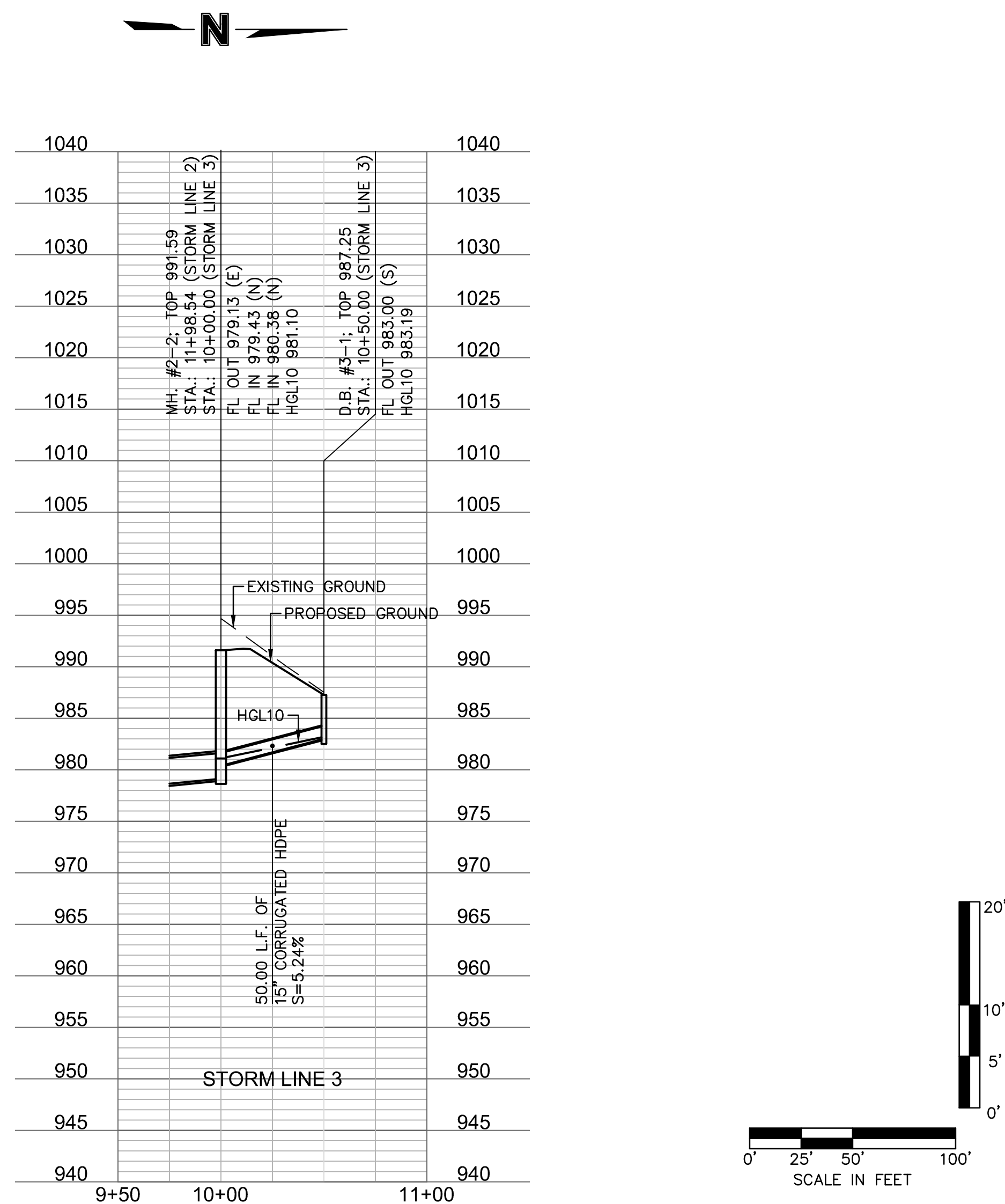
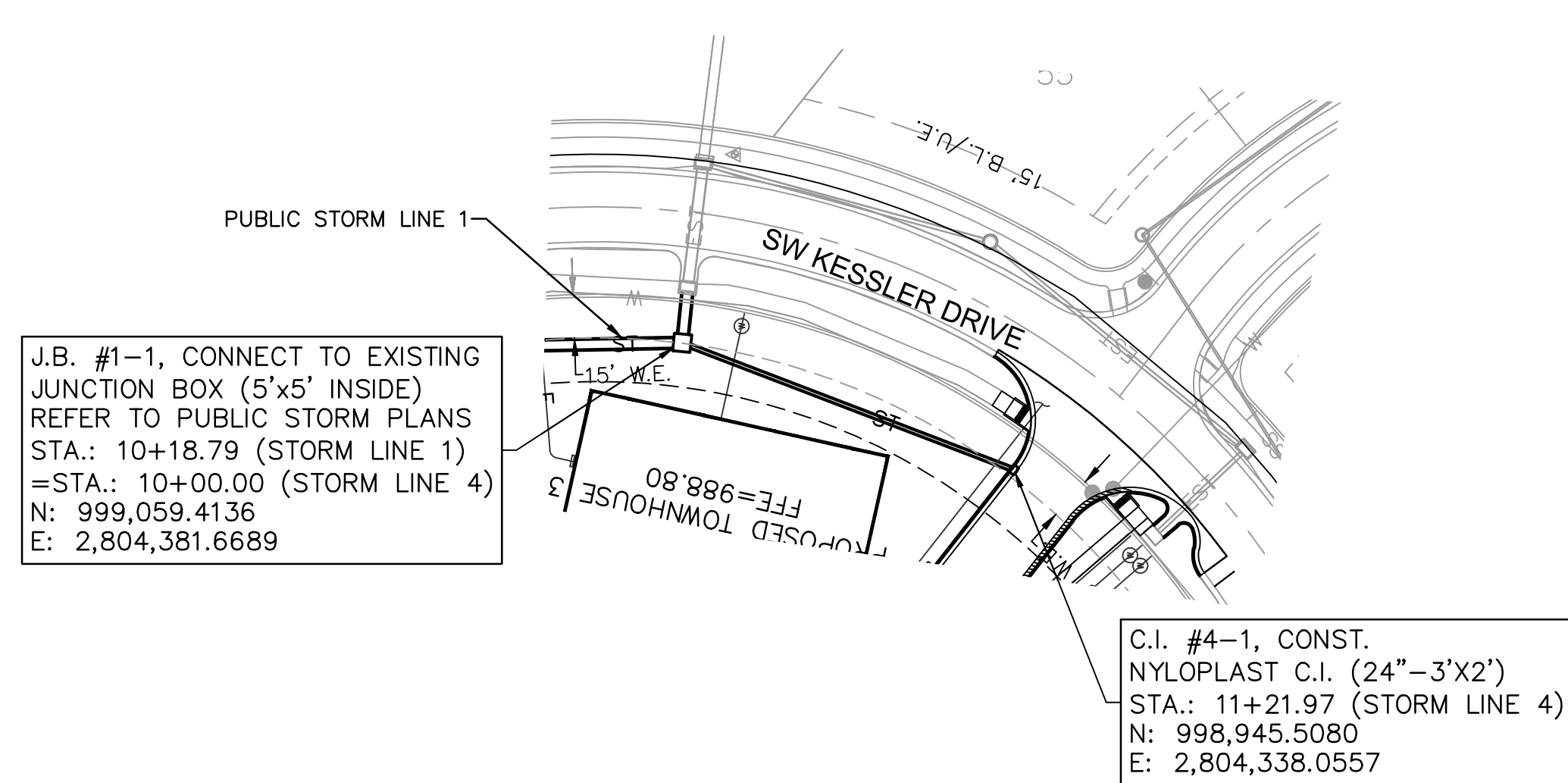
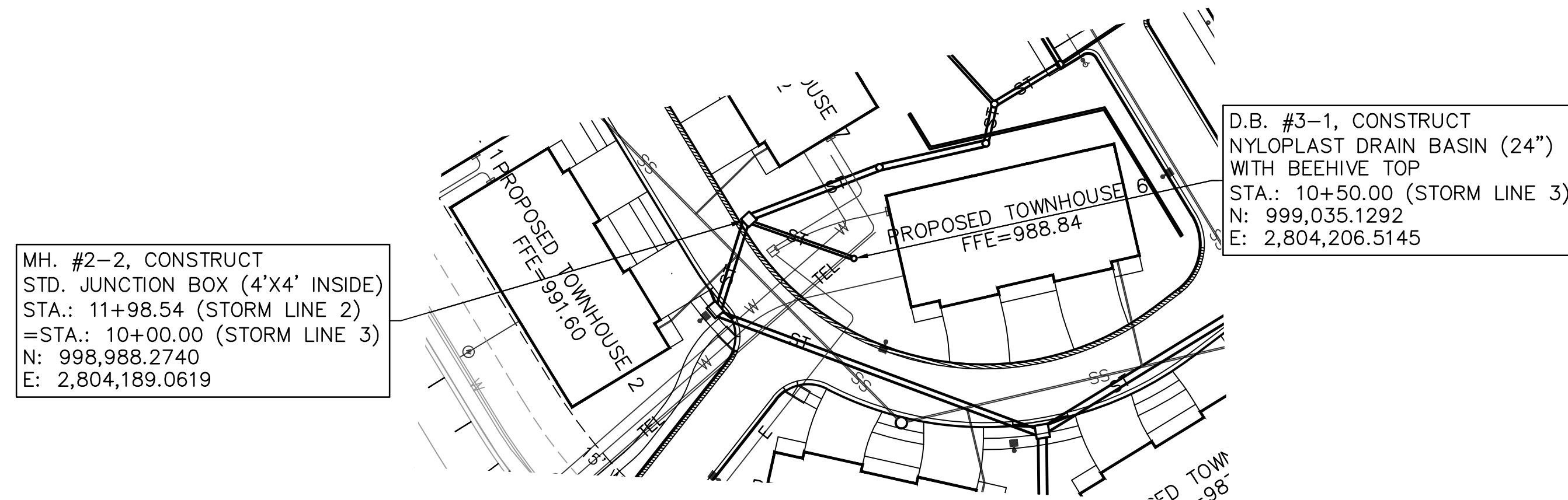
REVISIONS

BY



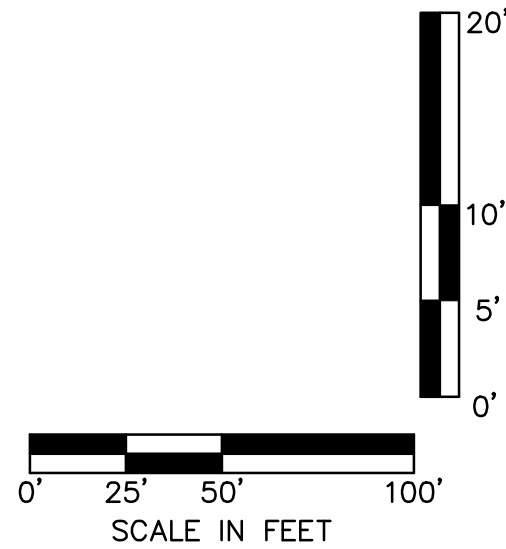
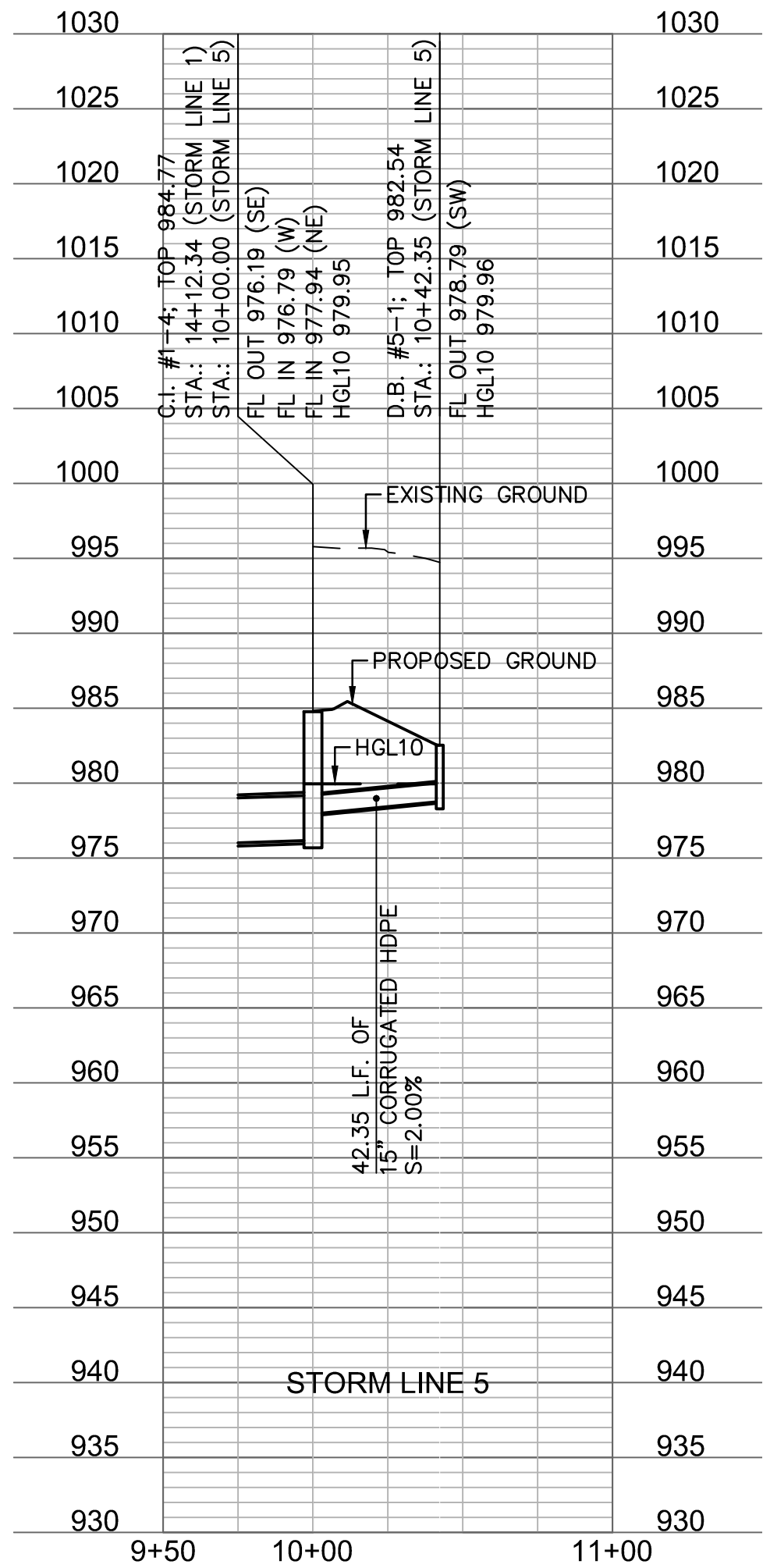
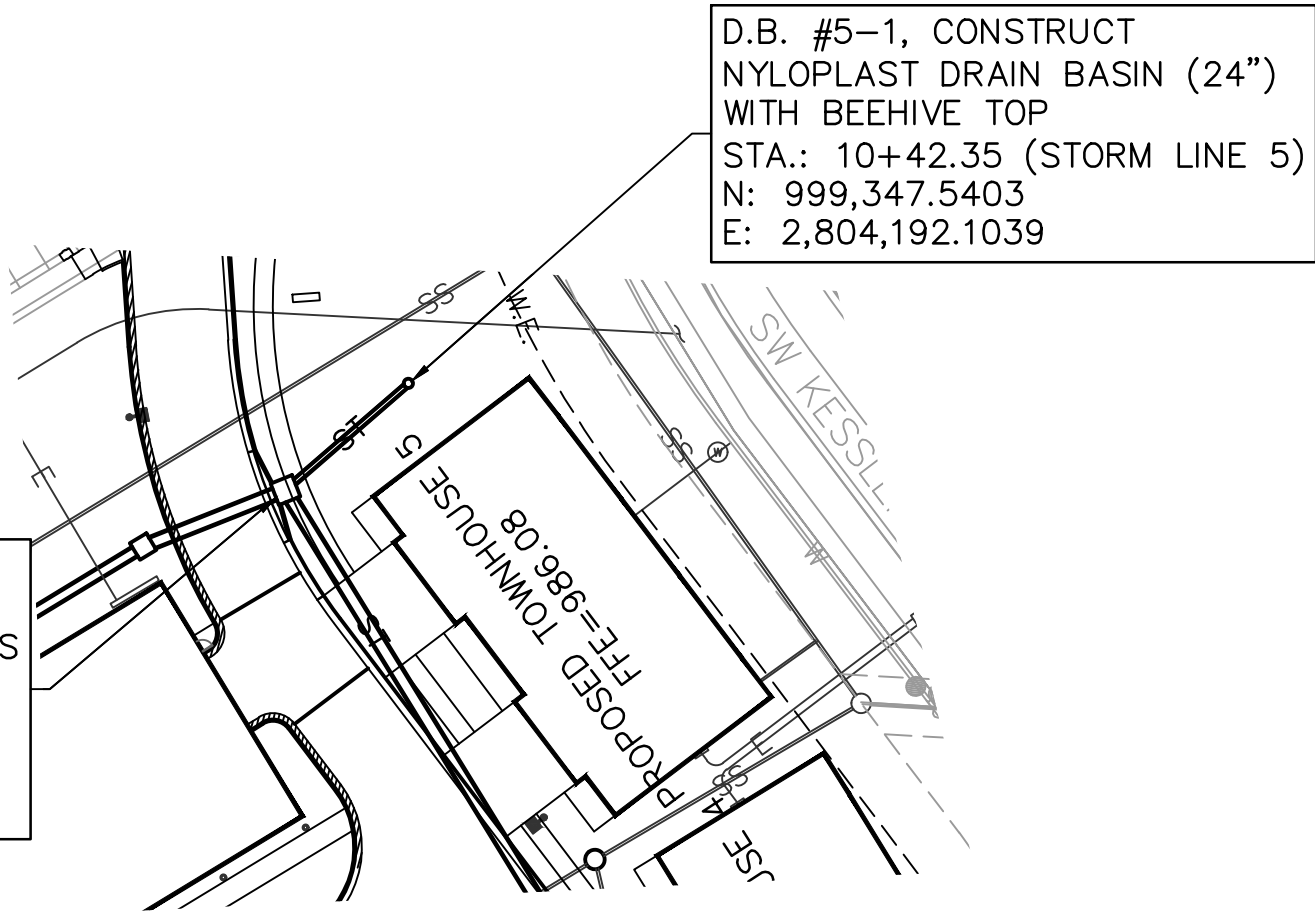
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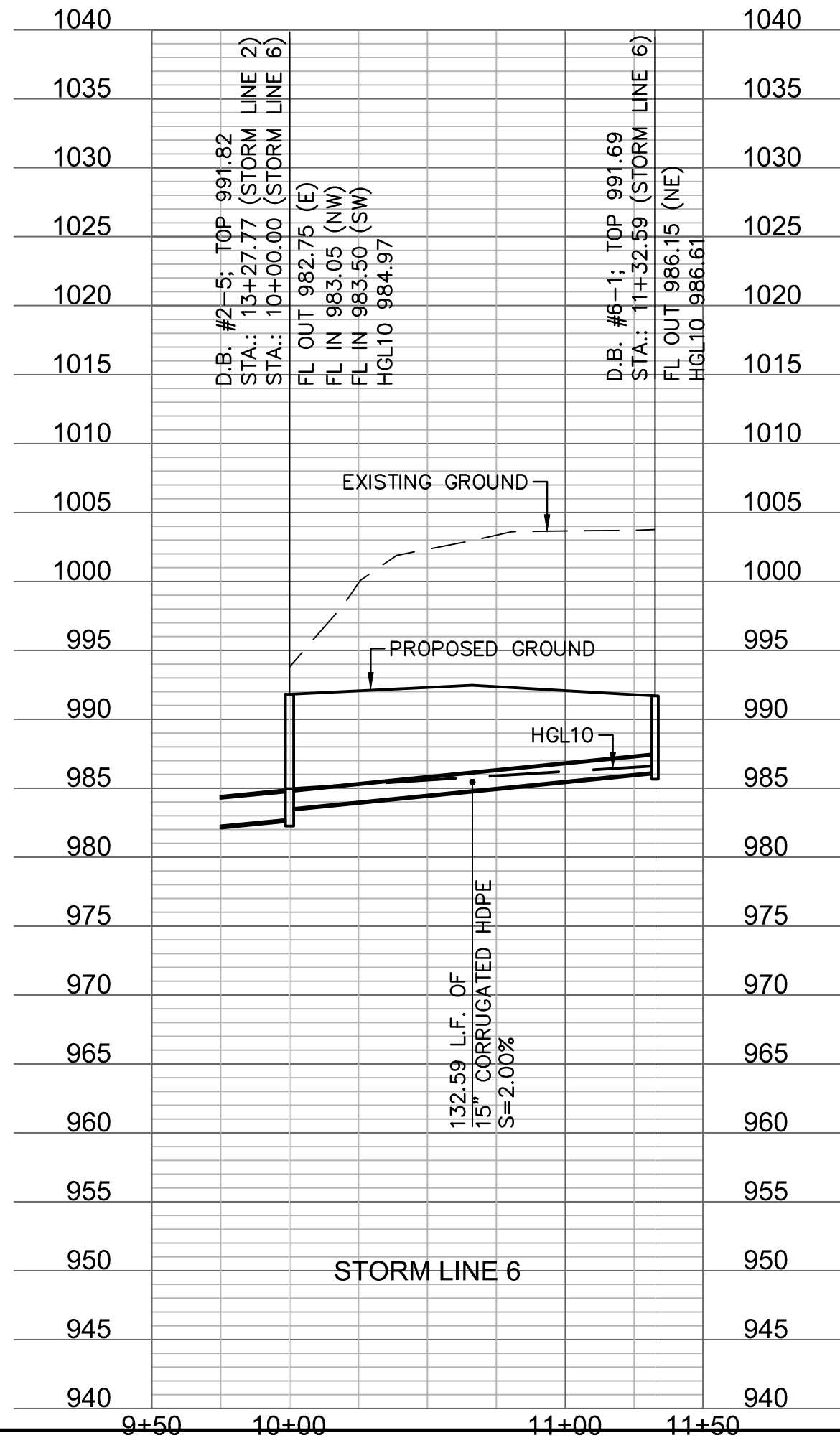
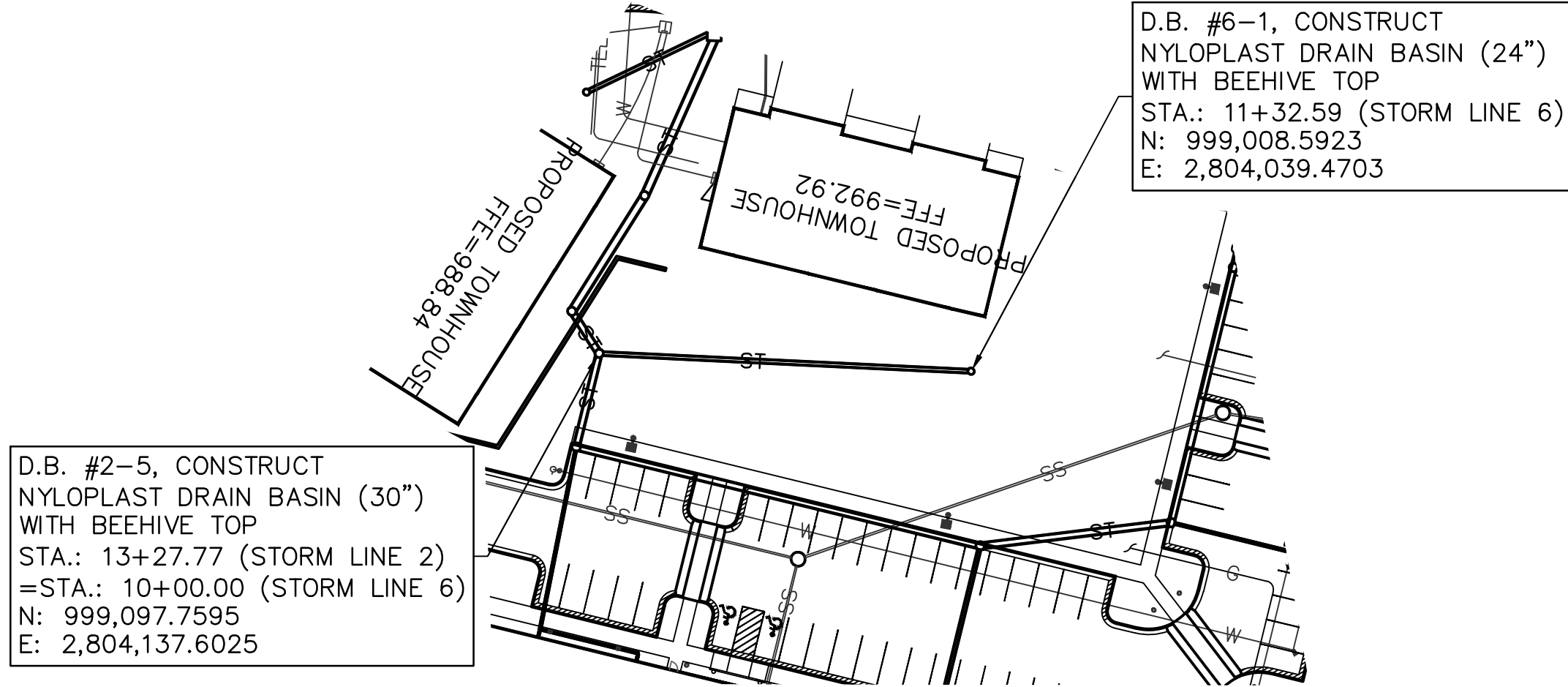
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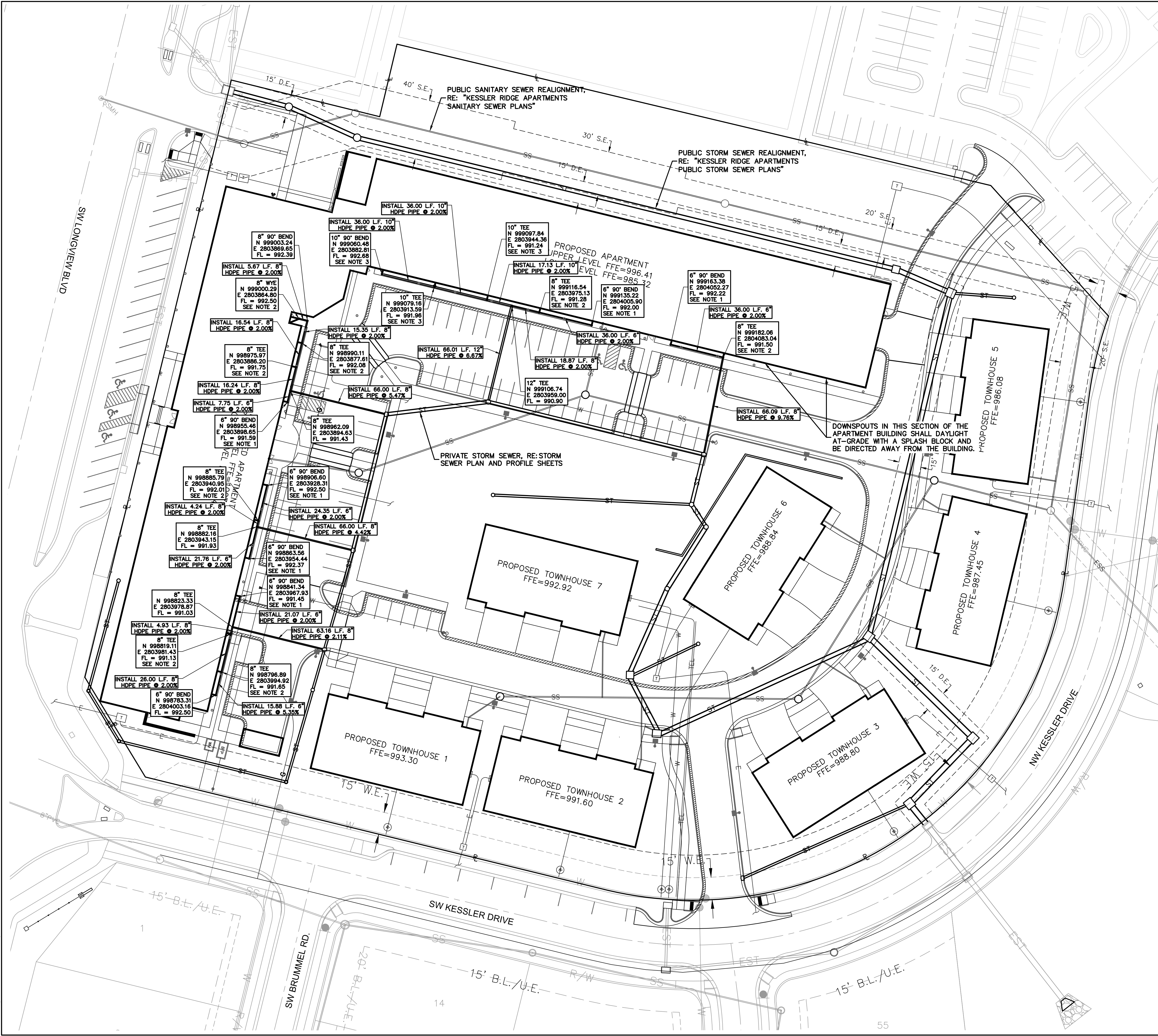
STORM SEWER PLAN & PROFILE DEVELOPMENT PLANS	
KESSLER RIDGE APARMENTS	
LEE'S SUMMIT, MO	2018

C.I. #1-4, CONNECT TO EXISTING CURB INLET (5'x5" INSIDE) REFER TO PUBLIC STORM SEWER PLANS
STA.: 14+12.34 (STORM LINE 1)
=STA.: 10+00.00 (STORM LINE 5)
N: 999,319.8615
E: 2,804,160.0556



D.B. #2-5, CONSTRUCT NYLOPLAST DRAIN BASIN (30") WITH BEEHIVE TOP
STA.: 13+27.77 (STORM LINE 2)
=STA.: 10+00.00 (STORM LINE 6)
N: 999,097.7595
E: 2,804,137.6025





- ROOF DRAIN NOTES
1. FROM 6" TEE, INSTALL 6" HDPE PIPE @ 2.0% MIN., TO BUILDING ROOF DRAIN CONNECTION. RE: ARCH AND MEP PLANS FOR CONTINUATION
 2. FROM 8" FITTING, INSTALL 8"x6" REDUCER AND 6" HDPE PIPE @ 2.0% MIN., TO BUILDING ROOF DRAIN CONNECTION. RE: ARCH AND MEP PLANS FOR CONTINUATION.
 3. FROM 10" FITTING, INSTALL 10"x6" REDUCER AND 6" HDPE PIPE @ 2.0% MIN., TO BUILDING ROOF DRAIN CONNECTION. RE: ARCH AND MEP PLANS FOR CONTINUATION.
 4. ALL TOWNHOUSE ROOF DRAINS SHALL DAYLIGHT AT-GRADE WITH SPLASH BLOCKS AND BE DIRECTED AWAY FROM THE BUILDING.

ROOF DRAINAGE PLAN DEVELOPMENT PLANS KESSLER RIDGE APARTMENTS		NO. REV.		DATE		REVISIONS DESCRIPTION		BY	
LEE'S SUMMIT, MO		2018		REVISIONS					
drawn by: D.A.H.		checked by: N.D.H.							
designed by: N.D.H.		QA/QC by: M.G.D.							
project no.: 017-3697		date: 0000.00.00							
SHEET C112									

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PE-2015000555
04/20/18
Professional Engineer

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Drainage Area Design Table						
10 Year Return Frequency						
Inlet ID	Drainage Area	C	Tc	i	K	Peak Flow
	(ac)		(min)	(in/hr)		(cfs)
EX. C.I. 3 (L)	0.87	0.62	5.0	7.35	1.0	3.98
EX. C.I. 3 (R)	0.00	0.00	5.0	7.35	1.0	0.00
EX. C.I. 3 (B)	0.00	0.00	5.0	7.35	1.0	0.00
EX. C.I. 3	0.87	0.62	5.0	7.35	1.0	3.98
EX. C.I. 1-0 (L)	0.24	0.59	5.0	7.35	1.0	1.05
EX. C.I. 1-0 (R)	0.64	0.59	5.0	7.35	1.0	2.76
EX. C.I. 1-0 (B)	0.00	0.59	5.0	7.35	1.0	0.00
EX. C.I. 1-0	0.88	0.59	5.0	7.35	1.0	3.81
C.I. 1-3	0.27	0.83	5.0	7.35	1.0	1.65
C.I. 1-4 (L)	0.06	0.78	5.0	7.35	1.0	0.32
C.I. 1-4 (R)	0.81	0.78	5.0	7.35	1.0	4.67
C.I. 1-4 (B)	0.00	0.78	5.0	7.35	1.0	0.00
C.I. 1-4	0.87	0.78	5.0	7.35	1.0	4.99
F.I. 1-5	1.92	0.30	5.0	7.35	1.0	4.24
C.I. 2-1	0.52	0.82	5.0	7.35	1.0	3.13
D.B. 2-4	0.11	0.59	5.0	7.35	1.0	0.46
D.B. 2-5	0.17	0.44	5.0	7.35	1.0	0.54
C.I. 2-6 (L)	0.04	0.89	5.0	7.35	1.0	0.26
C.I. 2-6 (R)	0.00	0.89	5.0	7.35	1.0	0.00
C.I. 2-6 (B)	0.13	0.90	5.0	7.35	1.0	0.86
C.I. 2-6	0.17	0.90	5.0	7.35	1.0	1.12
C.I. 2-7 (L)	0.15	0.88	5.0	7.35	1.0	0.99
C.I. 2-7 (R)	0.16	0.88	5.0	7.35	1.0	1.07
C.I. 2-7 (B)	0.45	0.88	5.0	7.35	1.0	2.92
C.I. 2-7	0.77	0.88	5.0	7.35	1.0	4.98
C.I. 2-8 (L)	0.01	0.87	5.0	7.35	1.0	0.04
C.I. 2-8 (R)	0.13	0.87	5.0	7.35	1.0	0.84
C.I. 2-8 (B)	0.16	0.87	5.0	7.35	1.0	1.05
C.I. 2-8	0.30	0.87	5.0	7.35	1.0	1.92
C.I. 2-9 (L)	0.05	0.87	5.0	7.35	1.0	0.32
C.I. 2-9 (R)	0.09	0.87	5.0	7.35	1.0	0.58
C.I. 2-9 (B)	0.15	0.87	5.0	7.35	1.0	0.96
C.I. 2-9	0.29	0.87	5.0	7.35	1.0	1.86
C.I. 2-10	0.29	0.86	5.0	7.35	1.0	1.83
D.B. 2-11	0.05	0.41	5.0	7.35	1.0	0.14
D.B. 2-15	0.04	0.30	5.0	7.35	1.0	0.09
D.B. 3-1	0.09	0.34	5.0	7.35	1.0	0.23
C.I. 4-1	0.15	0.67	5.0	7.35	1.0	0.72
D.B. 5-1	0.33	0.50	5.0	7.35	1.0	1.19
D.B. 6-1	0.43	0.43	5.0	7.35	1.0	1.37

STORM SEWER DESIGN CALCULATION (10-YR)																
Upstream Structure	Downstream Structure	Line Length (ft)	Upstream Invert (ft)	Downstream Invert (ft)	Pipe Slope (%)	Pipe Size (in)	Manning's n	Total Flow (cfs)	Upstream Velocity (ft/s)	Downstream Velocity (ft/s)	Pipe Capacity (cfs)	Upstream Depth (ft)	Downstream Depth (ft)	Upstream Struct. HGL (ft)	Downstream Struct. HGL (ft)	Upstream Top Elev. (ft)
EX. C.I. 0-0	EX. F.E.S.	109.094	967.18	959.93	6.65	42	0.012	74.47	9.35	8.26	280.97	2.70**	3.10	969.88	963.03	982.04
EX. C.I. 1-0	EX. C.I. 0-0	44.069	971.38	969.72	3.77	42	0.012	68.43	8.96	9.98	211.54	2.59**	2.35	973.97	972.07	981.85
EX. MH.	EX. C.I. 0-0	102.052	973.40	971.69	1.68	15	0.012	4.79	5.15	7.48	9.06	0.89**	0.65	974.29	972.34	983.32
EX. C.I. 2	EX. MH.	112.800	975.51	973.90	1.43	15	0.012	4.79	5.15	4.49	8.36	0.89**	1.01	976.40 j	974.91	984.94
EX. C.I. 3	EX. C.I. 2	43.171	979.53	978.33	2.78	15	0.012	3.98	4.75	8.60	11.66	0.81**	0.50	980.34	978.83	985.07
J.B. 1-1	EX. C.I. 1-0	18.786	971.63	971.50	0.69	42	0.012	64.62	6.72	6.72	90.67	3.50	3.50	975.99	975.92	985.23
J.B. 1-2	J.B. 1-1	60.861	972.66	972.23	0.71	42	0.012	63.90	6.64	6.64	91.61	3.50	3.50	976.50	976.29	984.29
C.I. 1-3	J.B. 1-2	96.942	973.94	973.26	0.70	42	0.012	63.90	7.23	6.64	91.28	3.02	3.50	976.96	976.77	987.79
C.I. 1-4	C.I. 1-3	235.748	976.19	974.54	0.70	36	0.012	44.58	8.13	6.31	60.45	2.17**	3.00	978.36 j	977.57	984.77
F.I. 1-5	C.I. 1-4	39.866	977.19	976.79	1.00	36	0.012	38.40	5.54	5.43	72.38	2.85	3.00	980.04	979.95	985.00
MH. 1-6	F.I. 1-5	370.045	989.74	977.79	3.23	30	0.012	34.16	8.17	7.01	79.84	1.99**	2.44	991.73 j	980.23	998.12
MH. 1-7	MH. 1-6	50.008	991.55	990.34	2.42	30	0.012	34.16	8.17	6.96	69.11	1.99**	2.50	993.54	993.43	1004.82
EX. C.I. 1-8	MH. 1-7	42.017	993.17	992.15	2.43	30	0.012	34.16	7.49	6.96	69.22	2.19	2.50	995.36	995.24	1004.00
C.I. 2-1	C.I. 1-3	155.590	977.99	974.94	1.96	30	0.012	17.67	6.13	3.60	62.21	1.42**	2.50	979.41 j	977.57	990.16
J.B. 2-2	C.I. 2-1	42.946	979.13	978.29	1.96	30	0.012	14.54	5.73	3.57	62.14	1.28**	1.93	980.41 j	980.22	991.59
D.B. 2-3	J.B. 2-2	62.732	980.65	979.43	1.94	30	0.012	14.31	5.69	4.11	61.96	1.27**	1.67	981.92 j	981.10	989.33
D.B. 2-4	D.B. 2-3	48.656	981.90	980.95	1.95	30	0.012	14.31	5.69	4.17	62.08	1.27**	1.65	983.17 j	982.60	987.92
D.B. 2-5	D.B. 2-4	17.848	982.75	982.40	1.96	24	0.012	13.85	6.19	5.68	34.31	1.34**	1.45	984.09 j	983.85	991.82
C.I. 2-6	D.B. 2-5	34.353	983.72	983.05	1.95	24	0.012	11.94	5.83	3.85	34.22	1.24**	1.92	984.96 j	984.97	993.63
C.I. 2-7	C.I. 2-6	148.010	985.50	984.02	1.00	24	0.012	10.82	5.62	3.81	24.50	1.18**	1.70	986.68 j	985.72	993.70
C.I. 2-8	C.I. 2-7	68.522	986.49	985.80	1.01	24	0.012	5.84	4.57	2.21	24.59	0.85**	1.57	987.34 j	987.37	994.61
C.I. 2-9	C.I. 2-8	93.500	987.68	986.79	0.95	24	0.012	3.92	4.05	2.59	23.91	0.69**	0.97	988.37 j	987.76	994.44
C.I. 2-10	C.I. 2-9	68.890	989.12	988.43	1.00	15	0.012	2.06	3.77	4.96	7.00	0.57**	0.46	989.69	988.89	993.85
D.B. 2-11	C.I. 2-10	28.102	989.70	989.42	1.00	15	0.012	0.23	2.03	0.43	6.98	0.19**	0.56	989.89	989.98	992.50
D.B. 2-12	D.B. 2-11	63.952	991.20	990.00	1.88	15	0.012	0.09	1.59	2.46	9.58	0.12**	0.09	991.32	990.09	995.39
D.B. 2-13	D.B. 2-12	114.855	997.24	991.50	5.00	15	0.012	0.09	1.59	3.45	15.64	0.12**	0.07	997.36	991.57	1006.69
D.B. 2-14	D.B. 2-13	39.251	999.38	997.54	4.69	15	0.012	0.09	1.59	3.37	15.15	0.12**	0.07	999.50	997.61	1008.50
D.B. 2-15	D.B. 2-14	76.318	1003.25	999.68	4.68	15	0.012	0.09	1.59	3.37	15.13	0.12**	0.07	1003.37	999.75	1005.89
D.B. 3-1	J.B. 2-2	50.000	983.00	980.38	5.24	15	0.012	0.23	2.03	0.32	16.01	0.19**	0.72	983.19 j	981.10	987.25
C.I. 4-1	J.B. 1-1	121.970	980.00	973.88	5.02	15	0.012	0.72	2.76	0.59	15.67	0.33**	1.25	980.33 j	976.97	984.44
D.B. 5-1	C.I. 1-4	42.346	978.79	977.94	2.01	15	0.012	1.19	1.00	0.97	9.91	1.17	1.25	979.96	979.95	982.54
D.B. 6-1	D.B. 2-5	132.592	986.15	983.50	2.00	15	0.012	1.37	3.32	1.12	9.89	0.46**	1.25	986.61 j	984.97	991.69

Notes: j - Line contains hyd. jump; ** - critical depth

Inlet Design Table													
10 Year Return Frequency													
Inlet ID	Inlet Location	Peak Flow	Upstream Bypass	Total Flow	Clogging Factor	Inlet Capacity	Sag Inlet Capacity (Note 1)	Captured Flow	Bypass Flow	Inlet Efficiency (Note 2)	Gutter Depth	Gutter Spread	Ponding Depth
		(cfs)	(cfs)	(cfs)		(cfs)	(cfs)	(cfs)	(cfs)	(%)	(ft)	(ft)	(ft)
EX. C.I. 3 (L)	SAG	3.98	0.00	3.98	0.8	19.40	15.52	3.98	0.00	100.00%	0.16	7.49	...
EX. C.I. 3 (R)	SAG	0.00	0.00	0.00	0.8	19.40	15.52	0.00	0.00	...	0.00	0.00	...
EX. C.I. 3 (B)	SAG	0.00	0.00	0.00	0.8	19.40	15.52	0.00	0.00	...	...	...	...
EX. C.I. 3	SAG	3.98	0.00	3.98	0.8	19.40	15.52	3.98	0.00	100.00%	...	...	...
EX. C.I. 1-0 (L)	SAG	1.05	0.38	1.43	0.8	19.40	15.52	1.43	0.00	100.00%	0.15	6.74	...
EX. C.I. 1-0 (R)	SAG	2.76	0.00	2.76	0.8	19.40	15.52	2.76	0.00	100.00%	0.16	7.18	...
EX. C.I. 1-0 (B)	SAG	0.00	0.00	0.00	0.8	19.40	15.52	0.00	0.00	...	...	...	...
EX. C.I. 1-0	SAG	3.81	0.00	3.81	0.8	19.40	15.52	3.81	0.00	100.00%	...	...	...
C.I. 1-3	GRADE	1.65	0.00	1.65	1.0	1.48	1.48	1.48	0.17	89.48%	0.16	7.78	...
C.I. 1-4 (L)	SAG	0.32	0.00	0.32	0.8	19.40	15.52	0.32	0.00	100.00%	0.07	3.33	...
C.I. 1-4 (R)	SAG	4.67	0.17	4.84	0.8	19.40	15.52	4.84	0.00	100.00%	0.23	11.69	...
C.I. 1-4 (B)	SAG	0.00	0.00	0.00	0.8	19.40	15.52	0.00	0.00	...	...	...	...
C.I. 1-4	SAG	4.99	0.00	4.99	0.8	15.52	12.42	4.99	0.00	100.00%	...	...	...
F.I. 1-5	SAG	4.24	0.00	4.24	0.8	39.60	31.68	4.24	0.00	100.00%	...	...	0.23
C.I. 2-1	GRADE	3.13	0.11	3.24	1.0	2.59	2.59	2.59	0.65	79.82%	0.20	10.02	...
D.B. 2-4	GRADE	0.46	0.00	0.46	0.8	20.72	16.58	0.46	0.00	100.00%	...	...	0.08
D.B. 2-5	GRADE	0.54	0.00	0.54	0.8	20.72	16.58	0.54	0.00	100.00%	...	...	0.09
C.I. 2-6 (L)	SAG	0.26	0.00	0.26	0.8	11.64	9.31	0.26	0.00	100.00%	0.07	3.37	...
C.I. 2-6 (R)	SAG	0.00	0.00	0.00	0.8	11.64	9.31	0.00	0.00	...	0.00	0.00	...
C.I. 2-6 (B)	SAG	0.86	0.00	0.86	0.8	11.64	9.31	0.86	0.00	100.00%	...	...	...
C.I. 2-6	SAG	1.12	0.00	1.12	0.8	11.64	9.31	1.12	0.00	100.00%	...	...	...
C.I. 2-7 (L)	SAG	0.99	0.00	0.99	0.8	11.64	9.31	0.99	0.00	100.00%	0.13	5.97	...
C.I. 2-7 (R)	SAG	1.07	0.00	1.07	0.8	11.64	9.31	1.07	0.00	100.00%	0.13	6.02	...
C.I. 2-7 (B)	SAG	2.92	0.00	2.92	0.8	11.64	9.31	2.92	0.00	100.00%	...	...	...
C.I. 2-7	SAG	4.98	0.00	4.98	0.8	11.64	9.31	4.98	0.00	100.00%	...	...	...
C.I. 2-8 (L)	SAG	0.04	0.00	0.04	0.8	11.64	9.31	0.04	0.00	100.00%	0.04	1.63	...
C.I. 2-8 (R)	SAG	0.84	0.00	0.84	0.8	11.64	9.31	0.84	0.00	100.00%	0.11	5.25	...
C.I. 2-8 (B)	SAG	1.05	0.00	1.05	0.8	11.64	9.31	1.05	0.00	100.00%	...	...	...
C.I. 2-8	SAG	1.92	0.00	1.92	0.8	11.64	9.31	1.92	0.00	100.00%	...	...	...
C.I. 2-9 (L)	SAG	0.32	0.00	0.32	0.8	11.64	9.31	0.32	0.00	100.00%	0.08	3.82	...
C.I. 2-9 (R)	SAG	0.58	0.00	0.58	0.8	11.64	9.31	0.58	0.00	100.00%	0.10	4.74	...
C.I. 2-9 (B)	SAG	0.96	0.00	0.96	0.8	11.64	9.31	0.96	0.00	100.00%	...	...	...
C.I. 2-9	SAG	1.86	0.00	1.86	0.8	11.64	9.31	1.86	0.00	100.00%	...	...	...
C.I. 2-10	GRADE	1.83	0.00	1.83	1.0	1.71	1.71	1.71	0.11	93.77%	0.15	6.98	...
D.B. 2-11	SAG	0.14	0.00	0.14	0.8	20.72	16.58	0.14	0.00	100.00%	...	...	0.04
D.B. 2-15	SAG	0.09	0.00	0.09	0.8	20.72	16.58	0.09	0.00	100.00%	...	...	0.03
D.B. 3-1	SAG	0.23	0.00	0.23	0.8	20.72	16.58	0.23	0.00	100.00%	...	...	0.05
C.I. 4-1	GRADE	0.72	0.65	1.37	1.0	0.99	0.99	0.99	0.38	72.07%	0.11	5.66	...
D.B. 5-1	SAG	1.19	0.00	1.19	0.8	20.72	16.58	1.19	0.00	100.00%	...	...	0.15
D.B. 6-1	SAG	1.37	0.00	1.37	0.8	20.72	16.58	1.37	0.00	100.00%	...	...	0.16

Drainage Area Design Table						
100 Year Return Frequency						
Inlet ID	Drainage Area	C	Tc	i	K	Peak Flow
	(ac)		(min)	(in/hr)		(cfs)
EX. C.I. 3 (L)	0.87	0.62	5.0	10.32	1.25	6.98
EX. C.I. 3 (R)	0.00	0.00	5.0	10.32	1.25	0.00
EX. C.I. 3 (B)	0.00	0.00	5.0	10.32	1.25	0.00
EX. C.I. 3	0.87	0.62	5.0	10.32	1.25	6.98
EX. C.I. 1-0 (L)	0.24	0.59	5.0	10.32	1.25	1.84
EX. C.I. 1-0 (R)	0.64	0.59	5.0	10.32	1.25	4.85
EX. C.I. 1-0 (B)	0.00	0.59	5.0	10.32	1.25	0.00
EX. C.I. 1-0	0.88	0.59	5.0	10.32	1.25	6.68
C.I. 1-3	0.27	0.83	5.0	10.32	1.25	2.90
C.I. 1-4 (L)	0.06	0.78	5.0	10.32	1.25	0.57
C.I. 1-4 (R)	0.81	0.78	5.0	10.32	1.25	8.19
C.I. 1-4 (B)	0.00	0.78	5.0	10.32	1.25	0.00
C.I. 1-4	0.87	0.78	5.0	10.32	1.25	8.76
F.I. 1-5	1.92	0.30	5.0	10.32	1.25	7.43
C.I. 2-1	0.52	0.82	5.0	10.32	1.25	5.49
D.B. 2-4	0.11	0.59	5.0	10.32	1.25	0.80
D.B. 2-5	0.17	0.44	5.0	10.32	1.25	0.95
C.I. 2-6 (L)	0.04	0.89	5.0	10.32	1.25	0.46
C.I. 2-6 (R)	0.00	0.89	5.0	10.32	1.25	0.00
C.I. 2-6 (B)	0.13	0.90	5.0	10.32	1.25	1.51
C.I. 2-6	0.17	0.90	5.0	10.32	1.25	1.97
C.I. 2-7 (L)	0.15	0.88	5.0	10.32	1.25	1.75
C.I. 2-7 (R)	0.16	0.88	5.0	10.32	1.25	1.87
C.I. 2-7 (B)	0.45	0.88	5.0	10.32	1.25	5.12
C.I. 2-7	0.77	0.88	5.0	10.32	1.25	8.74
C.I. 2-8 (L)	0.01	0.87	5.0	10.32	1.25	0.06
C.I. 2-8 (R)	0.13	0.87	5.0	10.32	1.25	1.47
C.I. 2-8 (B)	0.16	0.87	5.0	10.32	1.25	1.84
C.I. 2-8	0.30	0.87	5.0	10.32	1.25	3.37
C.I. 2-9 (L)	0.05	0.87	5.0	10.32	1.25	0.56
C.I. 2-9 (R)	0.09	0.87	5.0	10.32	1.25	1.01
C.I. 2-9 (B)	0.15	0.87	5.0	10.32	1.25	1.68
C.I. 2-9	0.29	0.87	5.0	10.32	1.25	3.26
C.I. 2-10	0.29	0.86	5.0	10.32	1.25	3.21
D.B. 2-11	0.05	0.41	5.0	10.32	1.25	0.25
D.B. 2-15	0.04	0.30	5.0	10.32	1.25	0.16
D.B. 3-1	0.09	0.34	5.0	10.32	1.25	0.40
C.I. 4-1	0.15	0.67	5.0	10.32	1.25	1.26
D.B. 5-1	0.33	0.50	5.0	10.32	1.25	2.10
D.B. 6-1	0.43	0.43	5.0	10.32	1.25	2.41

STORM SEWER DESIGN CALCULATION (100-YR)																	
Upstream Structure	Downstream Structure	Line Length (ft)	Upstream Invert (ft)	Downstream Invert (ft)	Pipe Slope (%)	Pipe Size (in)	Manning's n	Total Flow (cfs)	Upstream Velocity (ft/s)	Downstream Velocity (ft/s)	Pipe Capacity (cfs)	Upstream Depth (ft)	Downstream Depth (ft)	Upstream Struct. HGL (ft)	Downstream Struct. HGL (ft)	Upstream Top Elev. (ft)	
EX. C.I. 0-0	EX. F.E.S.	109.094	967.18	959.93	6.65	42	0.012	118.36	12.74	13.13	280.97	3.24**	3.10	970.42	963.03	982.04	
EX. C.I. 1-0	EX. C.I. 0-0	44.069	971.38	969.72	3.77	42	0.012	111.59	11.60	11.60	211.54	3.50	3.50	975.83	975.36	981.85	
EX. MH.	EX. C.I. 0-0	102.052	973.40	971.69	1.68	15	0.012	5.08	4.14	4.14	9.06	1.25	1.25	975.90	975.36	983.32	
EX. C.I. 2	EX. MH.	112.800	975.51	973.90	1.43	15	0.012	5.08	4.77	4.14	8.36	1.01	1.25	976.52	976.01	984.94	
EX. C.I. 3	EX. C.I. 2	43.171	979.53	978.33	2.78	15	0.012	3.98	4.75	8.60	11.66	0.81**	0.50	980.34	978.83	985.07	
J.B. 1-1	EX. C.I. 1-0	18.786	971.63	971.50	0.69	42	0.012	104.91	10.90	10.91	90.67	3.50	3.50	978.75	978.57	985.23	
J.B. 1-2	J.B. 1-1	60.861	972.66	972.23	0.71	42	0.012	103.65	10.77	10.78	91.61	3.50	3.50	980.08	979.53	984.29	
C.I. 1-3	J.B. 1-2	96.942	973.94	973.26	0.70	42	0.012	103.65	10.77	10.78	91.28	3.50	3.50	981.68	980.80	987.79	
C.I. 1-4	C.I. 1-3	235.748	976.19	974.54	0.70	36	0.012	71.43	10.11	10.11	60.45	3.00	3.00	984.92	982.62	984.77	
F.I. 1-5	C.I. 1-4	39.866	977.19	976.79	1.00	36	0.012	64.34	9.10	9.10	72.38	3.00	3.00	986.17	985.86	985.00	
MH. 1-6	F.I. 1-5	370.045	989.74	977.79	3.23	30	0.012	60.10	12.24	12.25	79.84	2.50	2.50	993.46	986.69	998.12	
MH. 1-7	MH. 1-6	50.008	991.55	990.34	2.42	30	0.012	60.10	12.24	12.25	69.11	2.50	2.50	997.97	997.05	1004.82	
EX. C.I. 1-8	MH. 1-7	42.017	993.17	992.15	2.43	30	0.012	60.10	12.24	12.25	69.22	2.50	2.50	999.63	998.86	1004.00	
C.I. 2-1	C.I. 1-3	155.590	977.99	974.94	1.96	30	0.012	29.32	5.97	5.97	62.21	2.50	2.50	984.33	983.65	990.16	
J.B. 2-2	C.I. 2-1	42.946	979.13	978.29	1.96	30	0.012	23.83	4.85	4.86	62.14	2.50	2.50	984.86	984.74	991.59	
D.B. 2-3	J.B. 2-2	62.732	980.65	979.43	1.94	30	0.012	23.43	4.77	4.77	61.96	2.50	2.50	985.20	985.02	989.33	
D.B. 2-4	D.B. 2-3	48.656	981.90	980.95	1.95	30	0.012	23.43	4.77	4.77	62.08	2.50	2.50	985.47	985.34	987.92	
D.B. 2-5	D.B. 2-4	17.848	982.75	982.40	1.96	24	0.012	22.63	7.20	7.20	34.31	2.00	2.00	985.77	985.61	991.82	
C.I. 2-6	D.B. 2-5	34.353	983.72	983.05	1.95	24	0.012	19.27	6.13	6.13	34.22	2.00	2.00	986.06	985.85	993.63	
C.I. 2-7	C.I. 2-6	148.010	985.50	984.02	1.00	24	0.012	17.30	6.85	5.51	24.50	1.50**	2.00	987.00 j	986.24	993.70	
C.I. 2-8	C.I. 2-7	68.522	986.49	985.80	1.01	24	0.012	8.56	2.98	2.73	24.59	1.72	2.00	988.21	988.15	994.61	
C.I. 2-9	C.I. 2-8	93.500	987.68	986.79	0.95	24	0.012	6.88	4.81	2.65	23.91	0.93**	1.54	988.61 j	988.33	994.44	
C.I. 2-10	C.I. 2-9	68.890	989.12	988.43	1.00	15	0.012	3.62	4.58	5.61	7.00	0.77**	0.65	989.89	989.08	993.85	
D.B. 2-11	C.I. 2-10	28.102	989.70	989.42	1.00	15	0.012	0.41	2.37	0.42	6.98	0.25**	0.93	989.95	990.35	992.50	
D.B. 2-12	D.B. 2-11	63.952	991.20	990.00	1.88	15	0.012	0.16	1.84	2.92	9.58	0.15**	0.11	991.35	990.11	995.39	
D.B. 2-13	D.B. 2-12	114.855	997.24	991.50	5.00	15	0.012	0.16	1.84	4.12	15.64	0.15**	0.09	997.39	991.59	1006.69	
D.B. 2-14	D.B. 2-13	39.251	999.38	997.54	4.69	15	0.012	0.16	1.84	4.02	15.15	0.15**	0.09	999.53	997.63	1008.50	
D.B. 2-15	D.B. 2-14	76.318	1003.25	999.68	4.68	15	0.012	0.16	1.84	4.02	15.13	0.15**	0.09	1003.40	999.77	1005.89	
D.B. 3-1	J.B. 2-2	50.000	983.00	980.38	5.24	15	0.012	0.40	0.33	0.33	16.01	1.25	1.25	985.38	985.37	987.25	
C.I. 4-1	J.B. 1-1	121.970	980.00	973.88	5.02	15	0.012	1.26	1.03	1.03	15.67	1.25	1.25	981.36	981.32	984.44	
D.B. 5-1	C.I. 1-4	42.346	978.79	977.94	2.01	15	0.012	2.10	1.71	1.71	9.91	1.25	1.25	987.14	987.10	982.54	
D.B. 6-1	D.B. 2-5	132.592	986.15	983.50	2.00	15	0.012	2.41	3.96	1.96	9.89	0.62**	1.25	986.77 j	985.85	991.69	

Notes: j - Line contains hyd. jump; ** - critical depth

Inlet Design Table													
100 Year Return Frequency													
Inlet ID	Inlet Location	Peak Flow	Upstream Bypass	Total Flow	Clogging Factor	Inlet Capacity	Sag Inlet Capacity (Note 1)	Captured Flow	Bypass Flow	Inlet Efficiency (Note 2)	Gutter Depth	Gutter Spread	Ponding Depth
		(cfs)	(cfs)	(cfs)		(cfs)	(cfs)	(cfs)	(cfs)	(%)	(ft)	(ft)	(ft)
EX. C.I. 3 (L)	SAG	6.98	0.00	6.98	0.8	19.40	15.52	6.98	0.00	100.00%	0.20	9.25	...
EX. C.I. 3 (R)	SAG	0.00	0.00	0.00	0.8	19.40	15.52	0.00	0.00	...	0.00	0.00	...
EX. C.I. 3 (B)	SAG	0.00	0.00	0.00	0.8	19.40	15.52	0.00	0.00	...	...	...	...
EX. C.I. 3	SAG	6.98	0.00	6.98	0.8	19.40	15.52	6.98	0.00	100.00%	...	...	...
EX. C.I. 1-0 (L)	SAG	1.84	1.66	3.50	0.8	19.40	15.52	3.50	0.00	100.00%	0.20	9.43	...
EX. C.I. 1-0 (R)	SAG	4.85	0.00	4.85	0.8	19.40	15.52	4.85	0.00	100.00%	0.19	8.87	...
EX. C.I. 1-0 (B)	SAG	0.00	0.00	0.00	0.8	19.40	15.52	0.00	0.00	...	...	...	...
EX. C.I. 1-0	SAG	6.68	0.00	6.68	0.8	19.40	15.52	6.68	0.00	100.00%	...	...	...
C.I. 1-3	GRADE	2.90	0.00	2.90	1.0	2.37	2.37	2.37	0.53	81.77%	0.19	9.61	...
C.I. 1-4 (L)	SAG	0.57	0.00	0.57	0.8	19.40	15.52	0.57	0.00	100.00%	0.08	4.11	...
C.I. 1-4 (R)	SAG	8.19	0.53	8.72	0.8	19.40	15.52	8.72	0.00	100.00%	0.29	14.58	...
C.I. 1-4 (B)	SAG	0.00	0.00	0.00	0.8	19.40	15.52	0.00	0.00	...	...	...	...
C.I. 1-4	SAG	8.76	0.00	8.76	0.8	15.52	12.42	8.76	0.00	100.00%	...	...	...
F.I. 1-5	SAG	7.43	0.00	7.43	0.8	39.60	31.68	7.43	0.00	100.00%	...	...	0.33
C.I. 2-1	GRADE	5.49	0.52	6.01	1.0	3.98	3.98	3.98	2.03	66.17%	0.25	12.62	...
D.B. 2-4	GRADE	0.80	0.00	0.80	0.8	20.72	16.58	0.80	0.00	100.00%	...	...	0.11
D.B. 2-5	GRADE	0.95	0.00	0.95	0.8	20.72	16.58	0.95	0.00	100.00%	...	...	0.13
C.I. 2-6 (L)	SAG	0.46	0.00	0.46	0.8	11.64	9.31	0.46	0.00	100.00%	0.09	4.16	...
C.I. 2-6 (R)	SAG	0.00	0.00	0.00	0.8	11.64	9.31	0.00	0.00	...	0.00	0.00	...
C.I. 2-6 (B)	SAG	1.51	0.00	1.51	0.8	11.64	9.31	1.51	0.00	100.00%	...	...	...

NOTES:

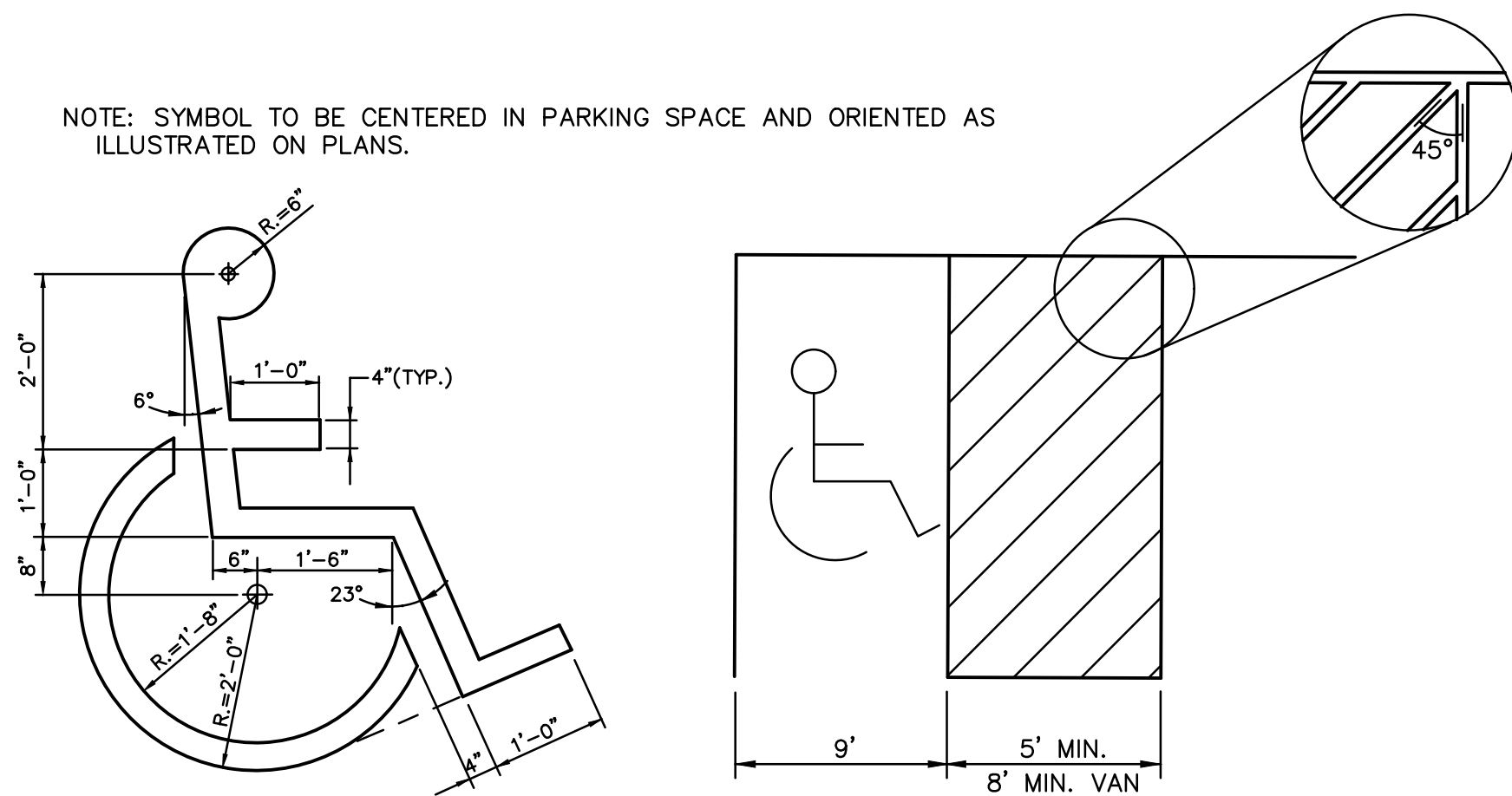
- ALL HDPE AND PVC PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST EDITION.
- IF TRENCH IS EXCAVATED IN ROCK OR HIGH-BEARING STRENGTH SOILS, TRENCH WIDTHS FOR 24" - 60" DIA. MAY BE REDUCED, FROM VALUES IN TABLE 1, TO THE PIPE OD PLUS 12".
- MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.
- FOUNDATION:** WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE GEOTECHNICAL ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE GEOTECHNICAL ENGINEER. AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.
- BEDDING:** SUITABLE MATERIAL SHALL BE ASTM CLASS 1A OR 1B, MODOT TYPE 1, OR APPROVED OTHER, COMPACTED TO 95% STANDARD MAX. DENSITY. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER, UNLESS OTHERWISE NOTED BY THE ENGINEER. MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR PIPE 24" DIAMETER AND LESS; 6" FOR 30"-60" DIAMETER PIPE.
- INITIAL BACKFILL:** SUITABLE MATERIAL SHALL BE ASTM CLASS 1A OR 1B, MODOT TYPE 1, OR APPROVED OTHER, COMPACTED TO 95% STANDARD MAX. DENSITY IN THE PIPE ZONE EXTENDING NOT LESS THAN 6" ABOVE CROWN OF PIPE. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION. INSTALL AND COMPACT IN 6" MAXIMUM LIFTS.
- FINAL BACKFILL:** EXCEPT WHERE SUPERCEDED BY CITY REQUIREMENTS FOR RIGHT-OF-WAY CONSTRUCTION, GEOTECHNICAL REQUIREMENTS FOR UTILITY TRENCH BACKFILL, AND OTHER CONSIDERATIONS, SUITABLE MATERIAL MAY BE SITE SOILS COMPACTED TO 95% STANDARD MAX. DENSITY TO WITHIN 12" OF THE PAVEMENT SUBGRADE, AND TO SUBGRADE ELEVATION FOR NON-PAVED AREAS.
- MINIMUM COVER:** MINIMUM COVER, H, IN NON-TRAFFIC RATED APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" FROM THE TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED PER CITY AND/OR UTILITY STANDARDS AND/OR TO PREVENT FLOTATION. FOR TRAFFIC APPLICATIONS, MINIMUM COVER, H, IS 12" FOR UP TO 48" DIAMETER PIPE AND 24" OF COVER FOR UP TO 60" DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE OR TO TOP OF RIGID PAVEMENT.

01 PIPE TRENCHING & BEDDING

PIPE DIA.	MIN. TRENCH WIDTH*
<4"	O.D. + 15"
4"	21"
6"	23"
8"	26"
10"	28"
12"	30"
15"	34"
18"	39"
24"	48"
30"	56"
36"	64"
42"	72"
48"	80"
54"	88"
60"	96"

*TRENCH CENTERED ON PIPE

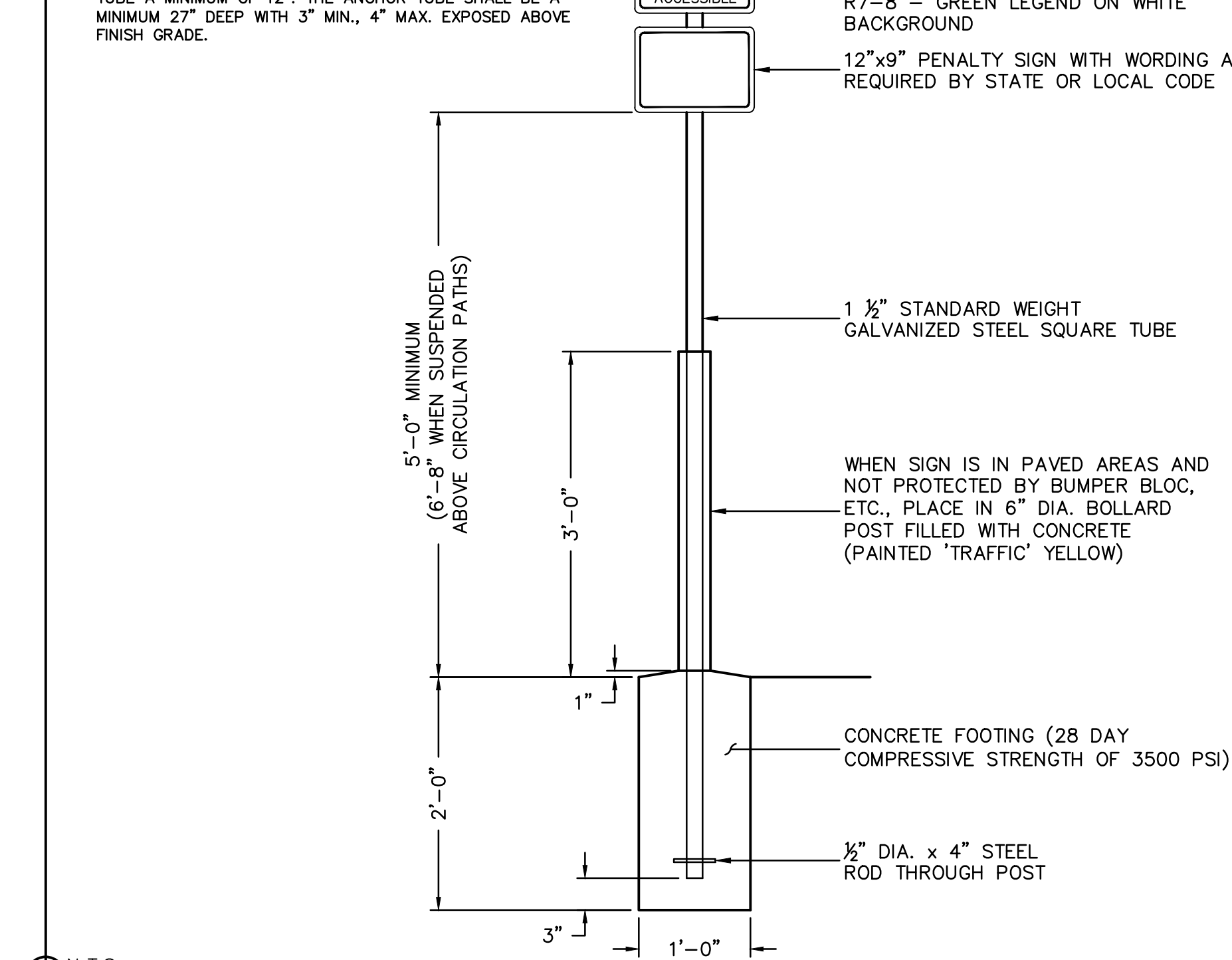
NOTE: SYMBOL TO BE CENTERED IN PARKING SPACE AND ORIENTED AS ILLUSTRATED ON PLANS.



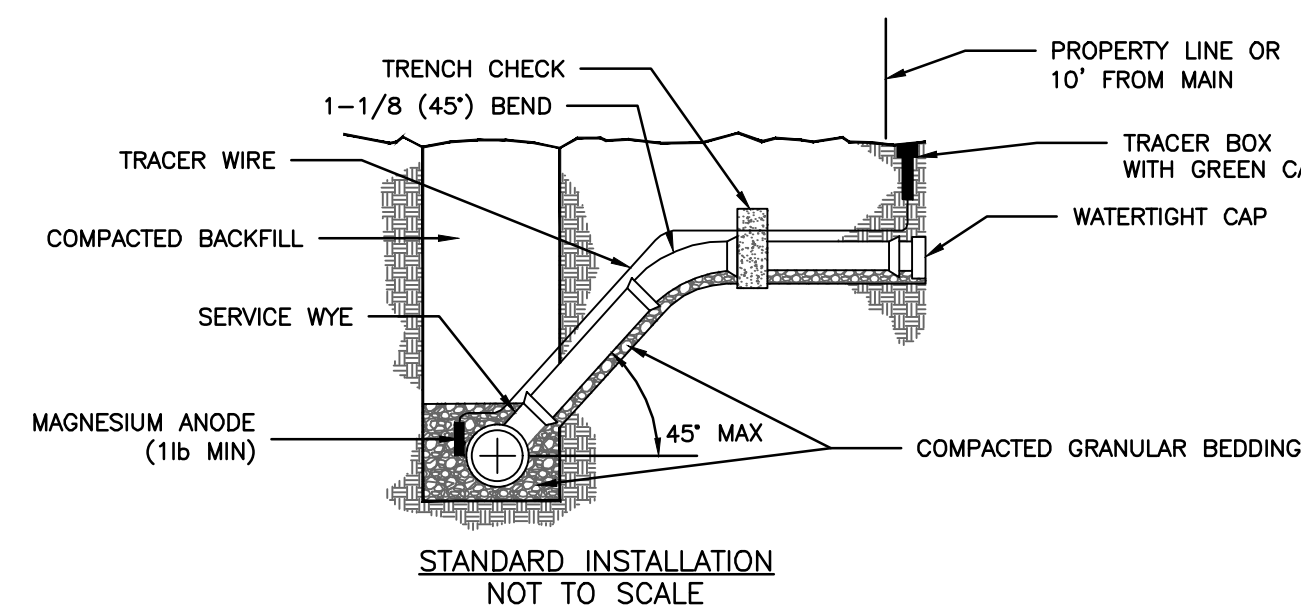
02 ACCESSIBLE STRIPING DETAIL

NOTES:

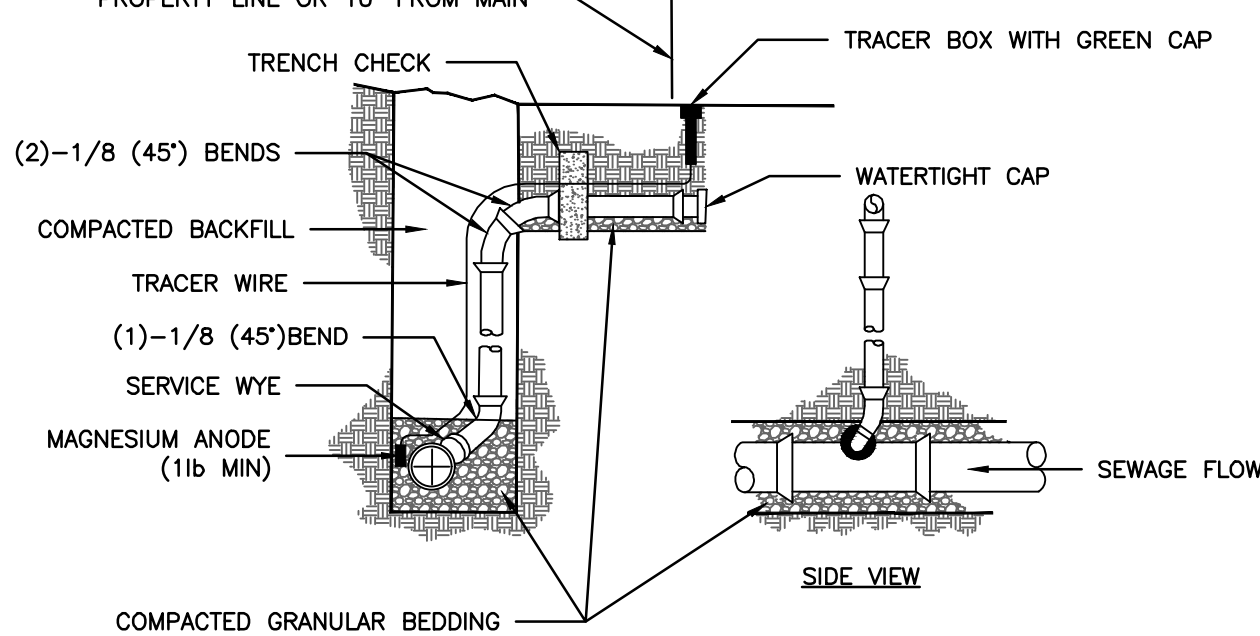
- ALL SIGNS SHALL COMPLY WITH THE U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION'S "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES", LOCAL CODES AND AS SPECIFIED. MOUNT SIGNS TO POST IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS
 - GALVANIZED SQUARE TUBE
- POST TUBES - 2"x2"x $\frac{3}{4}$ " 12GA.
POST TUBE SHALL MEET ASTM A1011 GRADE 50.
POST TUBE GALVANIZED AS PER ASTM A653 GRADE 90.
- ANCHOR TUBE - 2- $\frac{1}{2}$ "x2- $\frac{1}{4}$ "x $\frac{3}{8}$ " 12GA.
HEAVY DUTY ANCHOR TUBE SHALL MEET ASTM A500 GRADE B.
STRUCTURAL TUBE AND STEEL SHALL BE HOT DIP GALVANIZED PER ASTM A123.
- THE UPPER SIGN POST SHALL TELESCOPE INSIDE THE ANCHOR TUBE A MINIMUM OF 12". THE ANCHOR TUBE SHALL BE A MINIMUM 27" DEEP WITH 3" MIN., 4" MAX. EXPOSED ABOVE FINISH GRADE.



03 ACCESSIBLE SIGNAGE DETAIL



STANDARD INSTALLATION
NOT TO SCALE

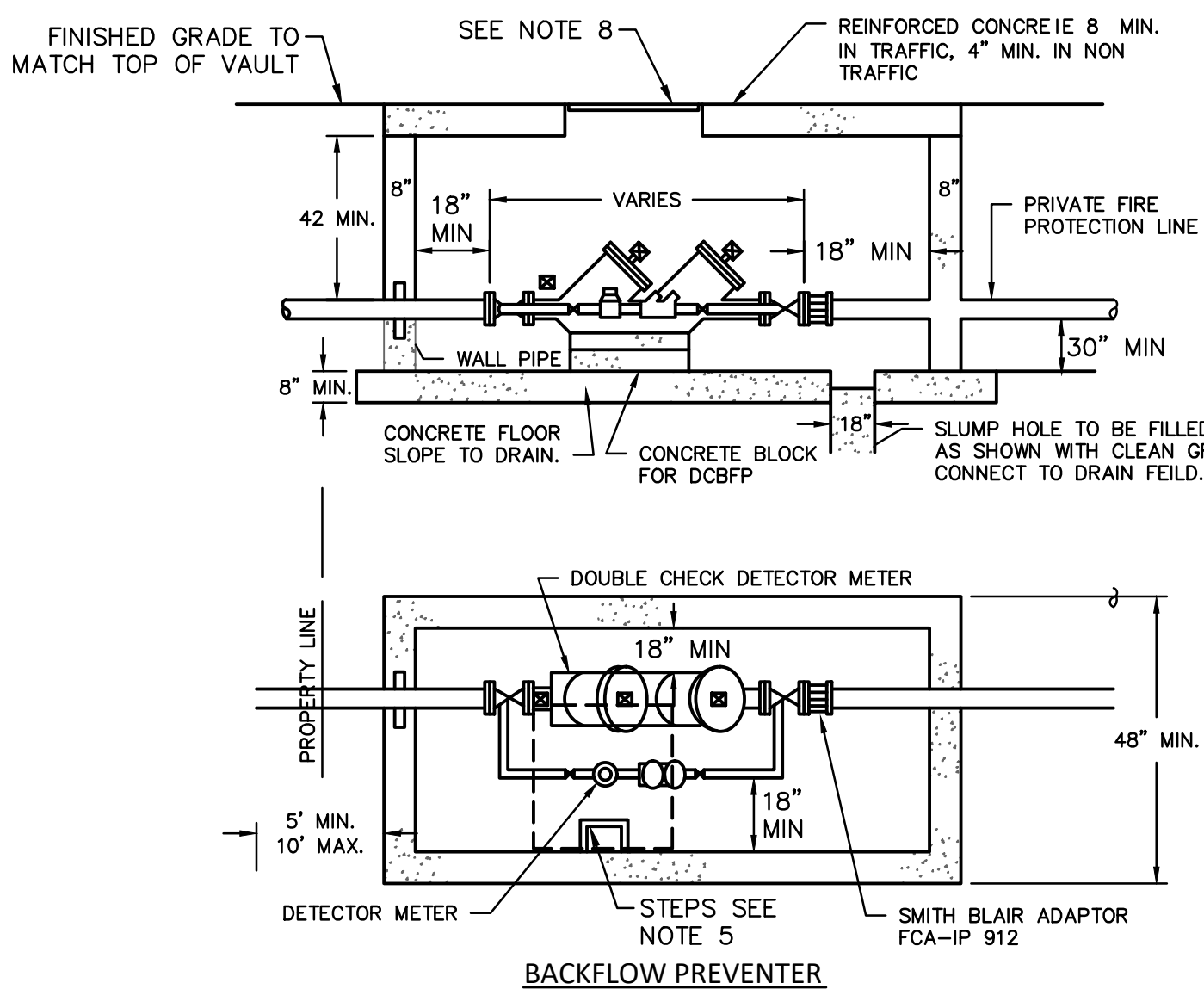


VERTICAL RISER
NOT TO SCALE

NOTES:

- ALL SEWER STUBS SHALL BE CONSTRUCTED TO PROPERTY LINE OR 10' MINIMUM FROM THE MAIN. WHERE SIDEWALKS ARE PRESENT, CONTRACTOR SHALL EXTEND SERVICE LINE UNDER EXISTING SIDEWALK TO TWO FEET BEYOND.
- ALL NEW CONSTRUCTION OFF SEWER STUBS SHALL BE TEMPORARILY MARKED WITH A MARKING STAKE, 36" ABOVE GROUND AND PAINTED GREEN.
- IMPERVIOUS TRENCH CHECKS SHALL BE PLACED ON BUILDING SEWER STUBS (AT LEAST 5' AWAY FROM THE SANITARY SEWER MAIN).
- TRENCH CHECKS ON THE BUILDING SEWER STUBS SHALL EXTEND 6" BELOW THE BOTTOM OF THE PIPE. LENGTH SHALL BE A MINIMUM OF 12". THE HEIGHT OF THE TRENCH CHECK SHALL EXTEND 12" ABOVE THE TOP OF THE PIPE. THE WIDTH OF THE TRENCH CHECK SHALL BE THE WIDTH OF THE TRENCH.
- SEE SPECIFICATION SECTION 2100 FOR SEWER MAIN BEDDING AND BACKFILL.
- #12 GAUGE GREEN INSULATED COPPER TRACER WIRE SHALL BE INSTALLED. TRACER WIRE TERMINAL BOXES SHALL BE INSTALLED DIRECTLY ABOVE THE SEWER SERVICE OR AS DETERMINED BY THE ENGINEER.
- FOR SERVICES, TRACER WIRE SHALL RUN FROM THE WYE AND TERMINATE IN A FLUSH MOUNTED TRACER BOX WITH A GREEN CAST IRON LOCKABLE TOP. WIRE SHALL BE TAPED OR TIED TO THE PIPE AT 5' INTERVALS.
- TRACER WIRE BOX SHALL BE INSTALLED WITHIN 1.0' OF PROPERTY LINE.
- THE TRACER WIRE SHALL REMAIN CONTINUOUS TO THE GREATEST EXTENT POSSIBLE. SPLICES IN THE TRACER WIRE SHOULD BE MADE WITH SPLIT BOLT CONNECTORS. WIRE NUTS SHALL NOT BE USED. A WATER-PROOF CONNECTION IS NECESSARY TO PREVENT CORROSION.

04 BUILDING SEWER STUB AND RISER



GENERAL NOTES

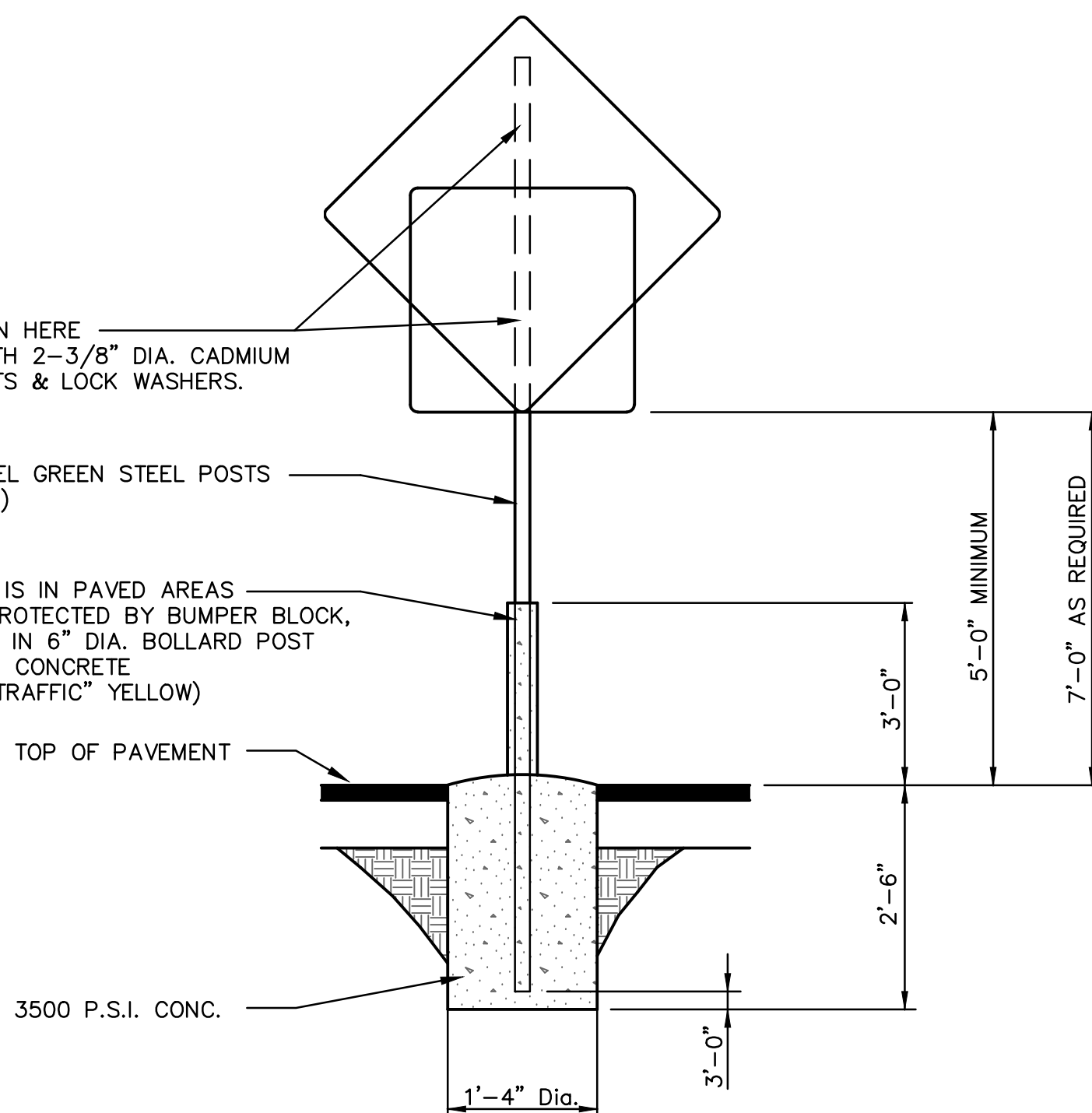
- METER VAULT WALLS TO BE POURED OR PRECAST CONCRETE. METER VAULT ROOF TO BE REINFORCED CONCRETE WITH OPENING CENTERED OVER DETECTOR METER. REINFORCED WALLS AND SLABS ARE TO BE DESIGNED BY THE OWNER'S ENGINEER OR PRECAST ENGINEER.
- METER VAULT TO BE LOCATED, WHEN POSSIBLE, OUTSIDE TRAFFIC AREA AND WHERE SURFACE WATER WILL NOT DRAIN INTO IT. PROVIDE CONCRETE SUMP TO DRAIN TO AN ABOVE GROUND DISCHARGE POINT.
- ALL PIPE AND FITTINGS FROM THE CITY WATER MAIN THROUGH THE VAULT SHALL BE PROVIDED WITH RESTRAINED JOINT FITTINGS.
- ALL FITTINGS FOR THE DETECTOR METER BE BRASS.
- STEPS SHALL BE IN ACCORDANCE WITH THE APPROVED PRODUCT LIST FOR WATER UTILITIES AND SHALL BE ON 16" CENTERS.
- A DEPARTMENT OF NATURAL RESOURCES APPROVED DOUBLE CHECK DETECTOR ASSEMBLY BACKFLOW PREVENTER MUST BE USED. FOR A COPY OF THE MISSOURI DEPARTMENT OF NATURAL RESOURCES APPROVED BACKFLOW PREVENTION ASSEMBLIES, CONTRACT WATER UTILITIES AT 816.969.1900.
- ALL VALVES SHALL HAVE RISING STEMS.
- MANHOLE COVER SHALL BE A BILCO K-1 MODEL UNLESS IN A VEHICLE TRAFFIC AREA. SEE THE APPROVED PRODUCTS LIST FOR WATER UTILITIES FOR TRAFFIC CONDITIONS. THE COVER SHALL HAVE A 1-3/4" DIAMETER HOLE DRILLED FOR A TOUGH/READ DEWEE.
- A MINIMUM OF 18" CLEARANCE SHALL BE PROVIDED AROUND ALL PIPING, VALVES, APPURTENANCES, ETC.
- CONTACT PUBLIC WORKS ENGINEERING FOR VAULTS THAT INCLUDE A FIRE DEPARTMENT CONNECTION OF A 3" OR LARGER METER.

05 BACKFLOW PREVENTER

MOUNT SIGN HERE
FASTEN WITH 2-3/8" DIA. CADMIUM BOLTS, NUTS & LOCK WASHERS.

"U" CHANNEL GREEN STEEL POSTS
(2 LBS./FT.)

WHEN SIGN IS IN PAVED AREAS AND NOT PROTECTED BY BUMPER BLOCK, ETC. PLACE IN 6" DIA. BOLLARD POST FILLED WITH CONCRETE (PAINTED "TRAFFIC" YELLOW)



- ALL SIGNS SHOULD COMPLY WITH U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION'S "UNIFORM TRAFFIC CONTROL DEVICES", AND LOCAL CODES AS SPECIFIED. MOUNT SIGNS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
- IF ANY SIGN PROTRUDES MORE THAN 1'-0" PAST THE CENTER LINE OF THE POST IT IS MOUNTED TO THE BOTTOM OF THE SIGN SHALL BE SET AT 7'-0" INSTEAD OF 5'-0".
- ALL SIGNS MAY NOT BE APPLICABLE TO THIS PROJECT. USE SIGNS SPECIFIED ON PLOT PLAN.
- SIGNS SHALL BE LOCATED 2'-6" BEHIND CURB WHERE THERE IS CURB & GUTTER.

06 SIGN BASE

KESSLER RIDGE
APARTMENTS
LEE'S SUMMIT, MISSOURI

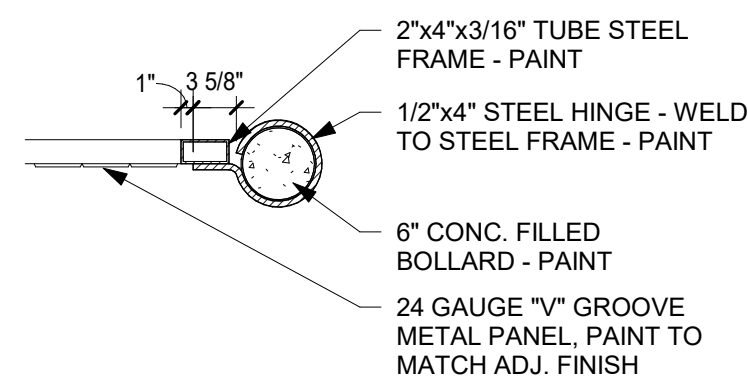
SHEET TITLE
ARCHITECTURAL SITE AMENITIES

PROJECT NUMBER: 16062

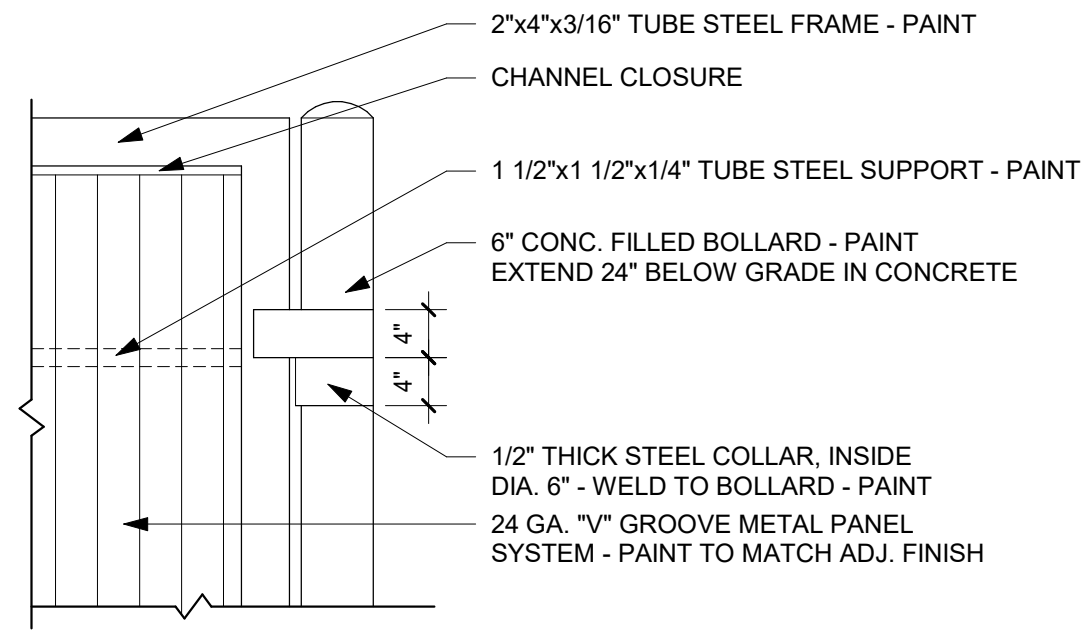
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AS-100

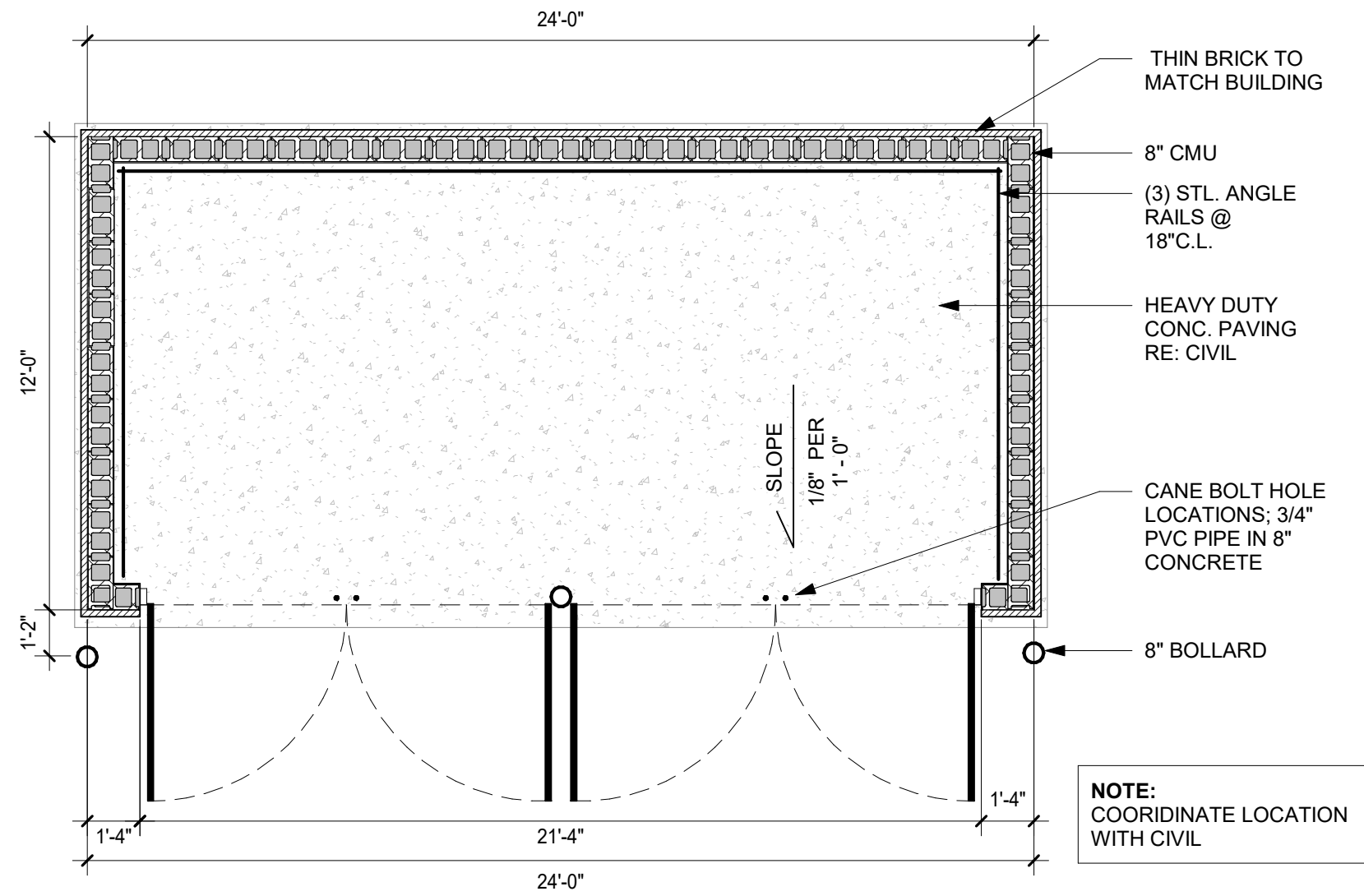
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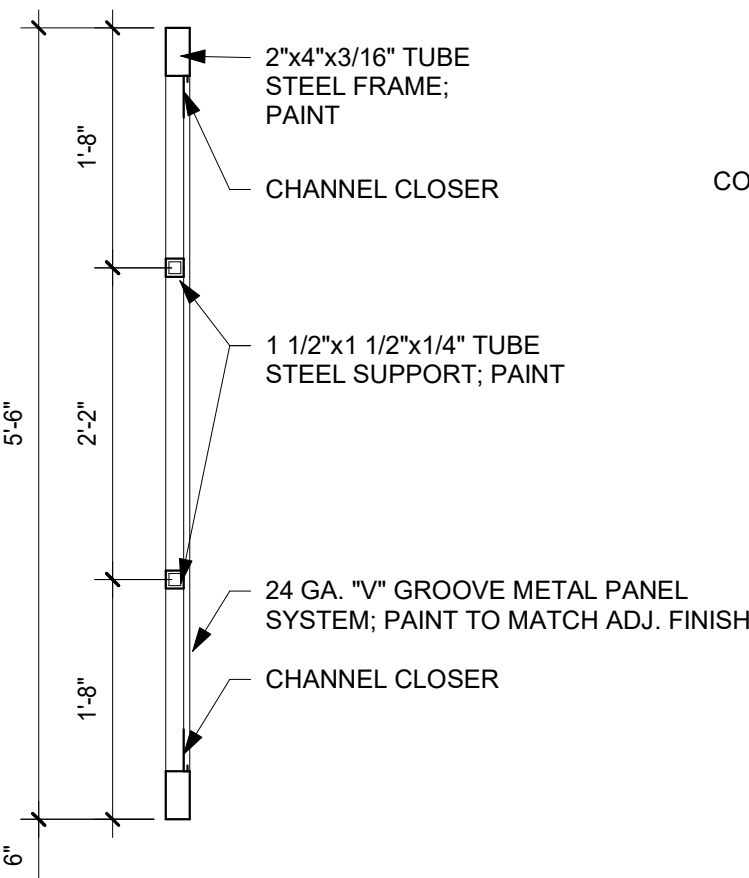
8 TRASH GATE CROSS SECTION
3/4" = 1'-0"



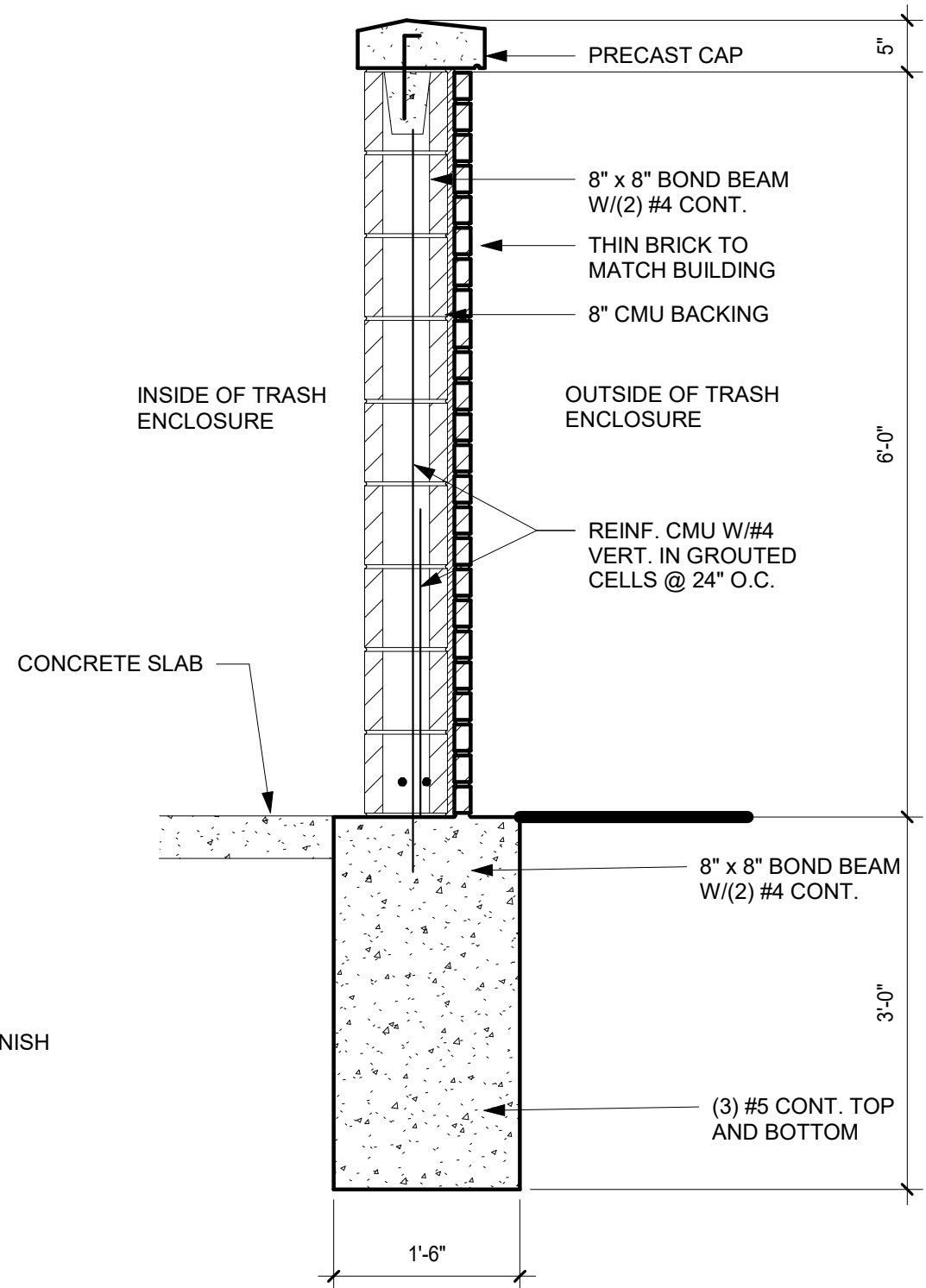
7 TRASH GATE DETAIL
3/4" = 1'-0"



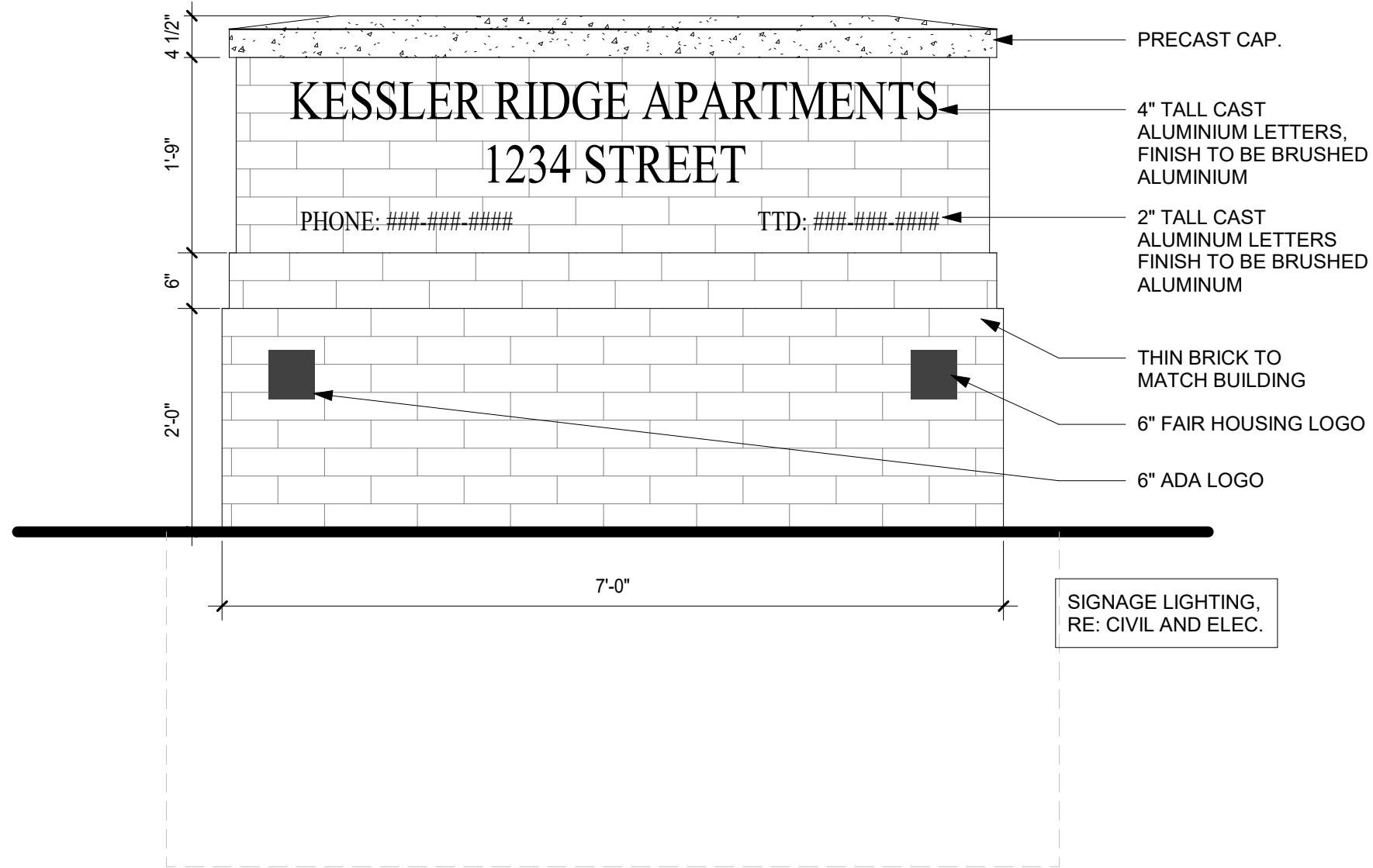
5 TRASH ENCLOSURE PLAN1
1/4" = 1'-0"



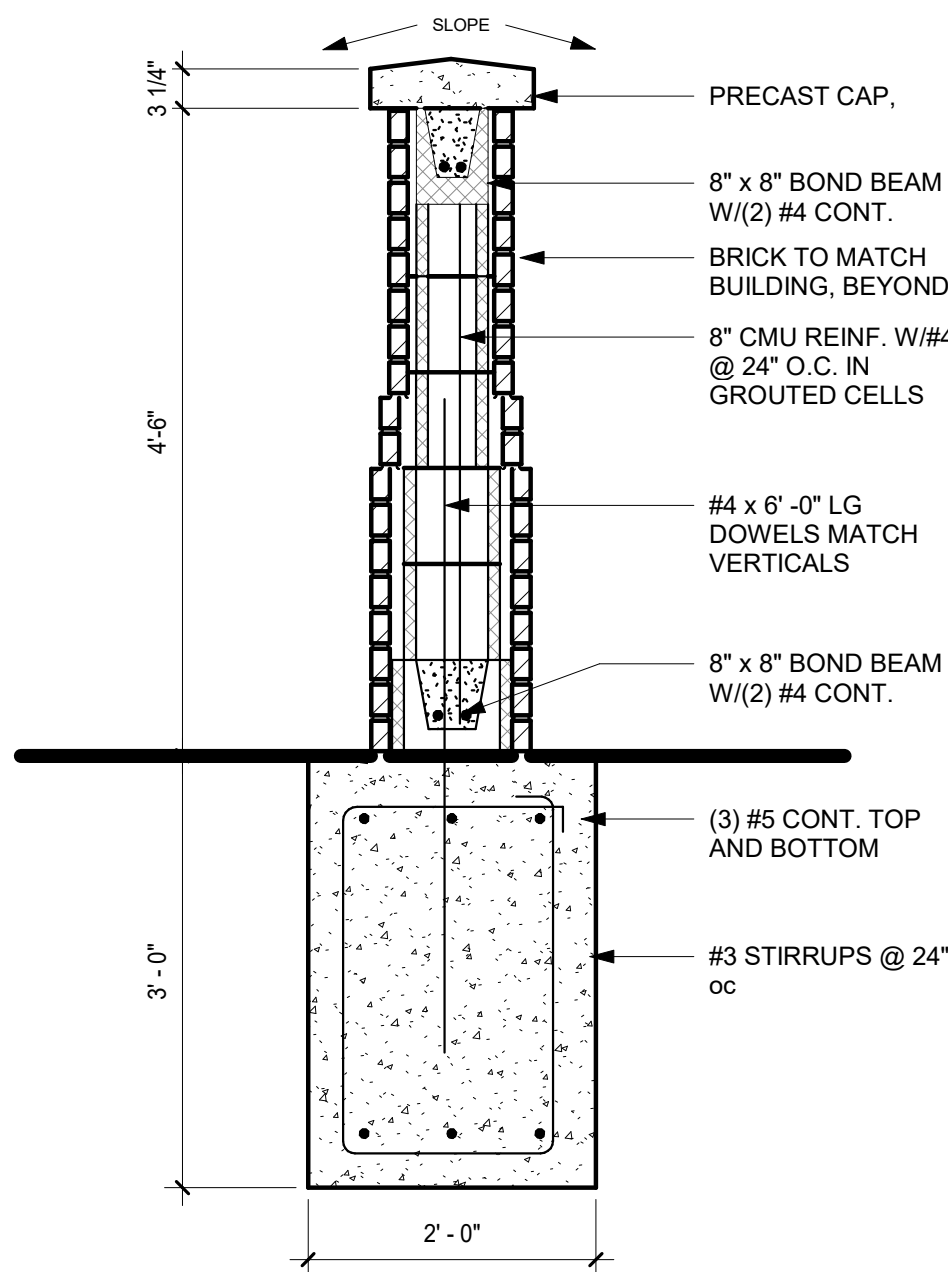
3 TRASH GATE SECTION
3/4" = 1'-0"



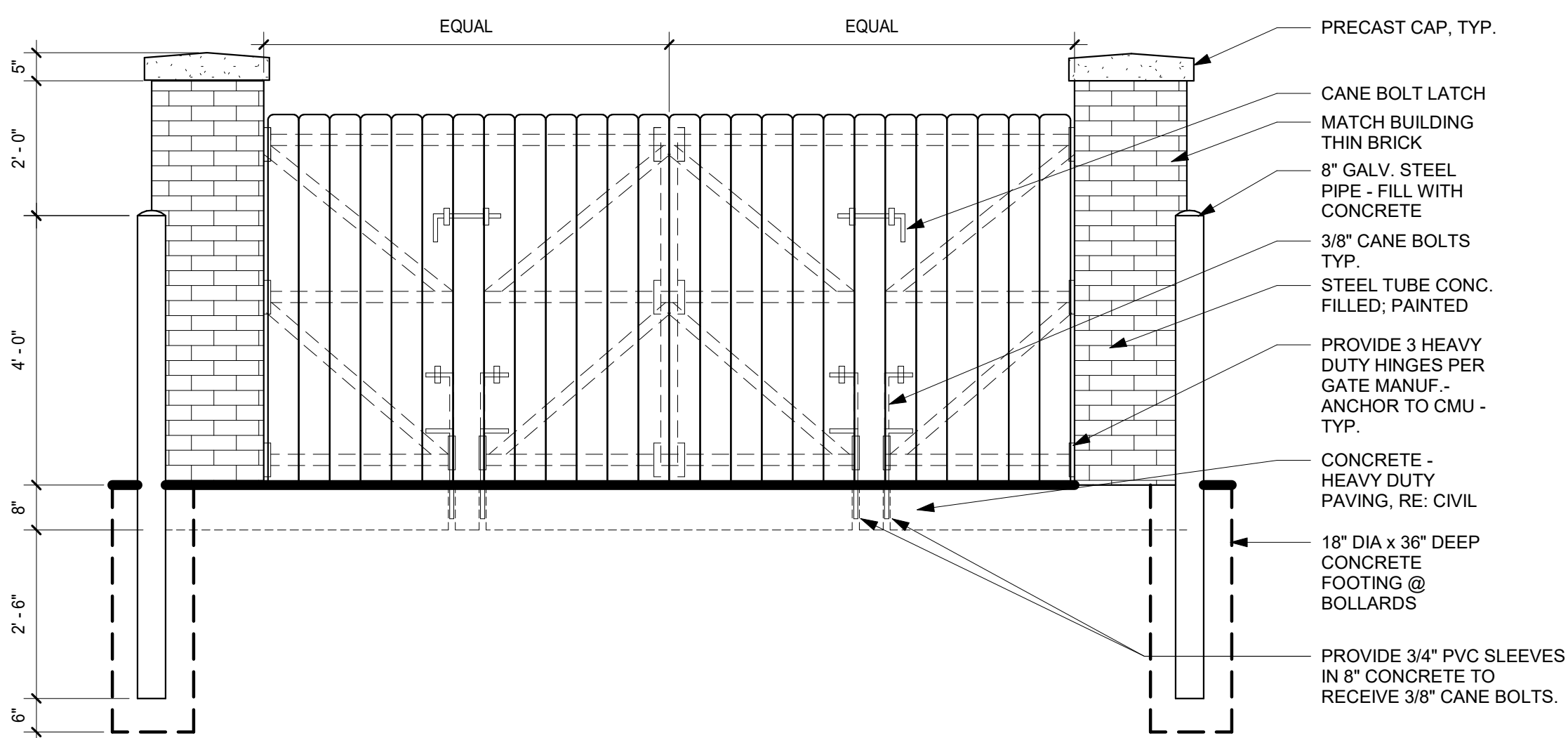
2 TRASH ENCLOSURE WALL SECTION
3/4" = 1'-0"



6 MONUMENT SIGN FRONT ELEVATION
3/4" = 1'-0"



4 MONUMENT SIGN SECTION
3/4" = 1'-0"



1 TRASH ENCLOSURE GATE ELEVATION1
1/2" = 1'-0"

**KESSLER RIDGE
APARTMENTS
LEE'S SUMMIT, MISSOURI**

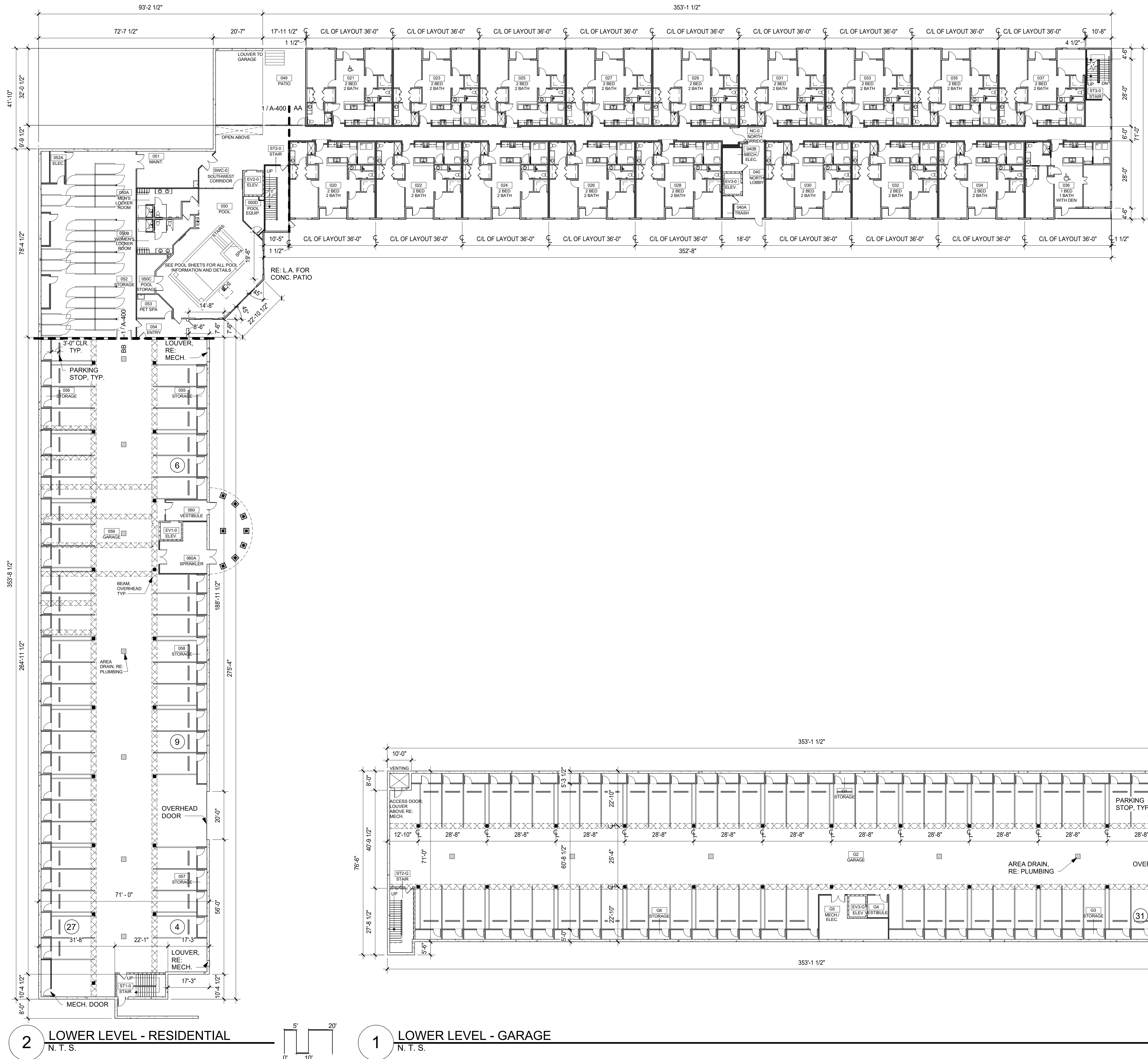
SHEET TITLE
LOWER LEVEL PLANS

PROJECT NUMBER: 16062

SHEET NUMBER:

A-101

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**KESSLER RIDGE
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LEE'S SUMMIT, MISSOURI

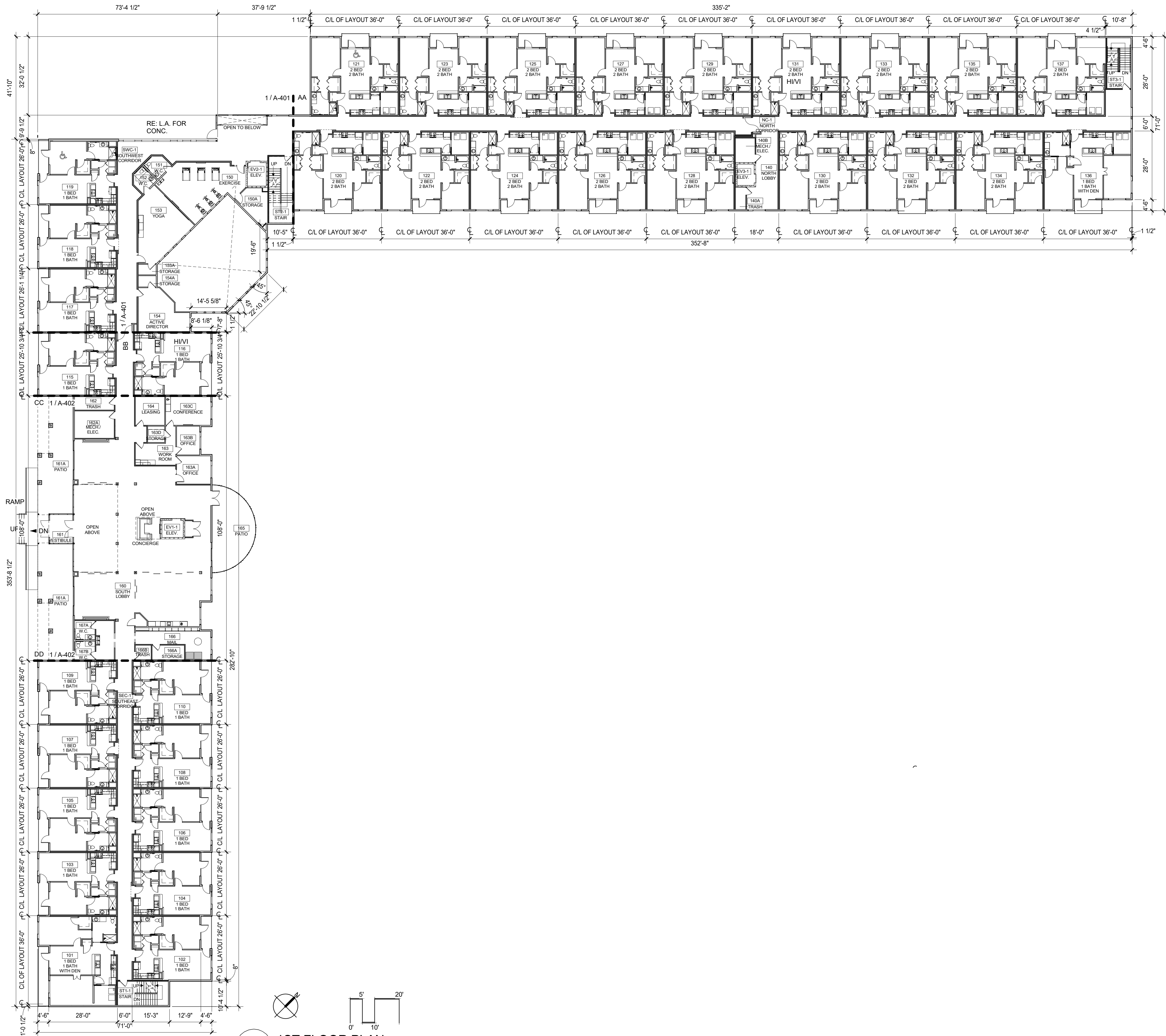
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1ST FLOOR PLAN

PROJECT NUMBER: 16062

SHEET NUMBER:

A-102

DRAWN BY: AD CHECKED BY: EE



1 1ST FLOOR PLAN
N. T. S.

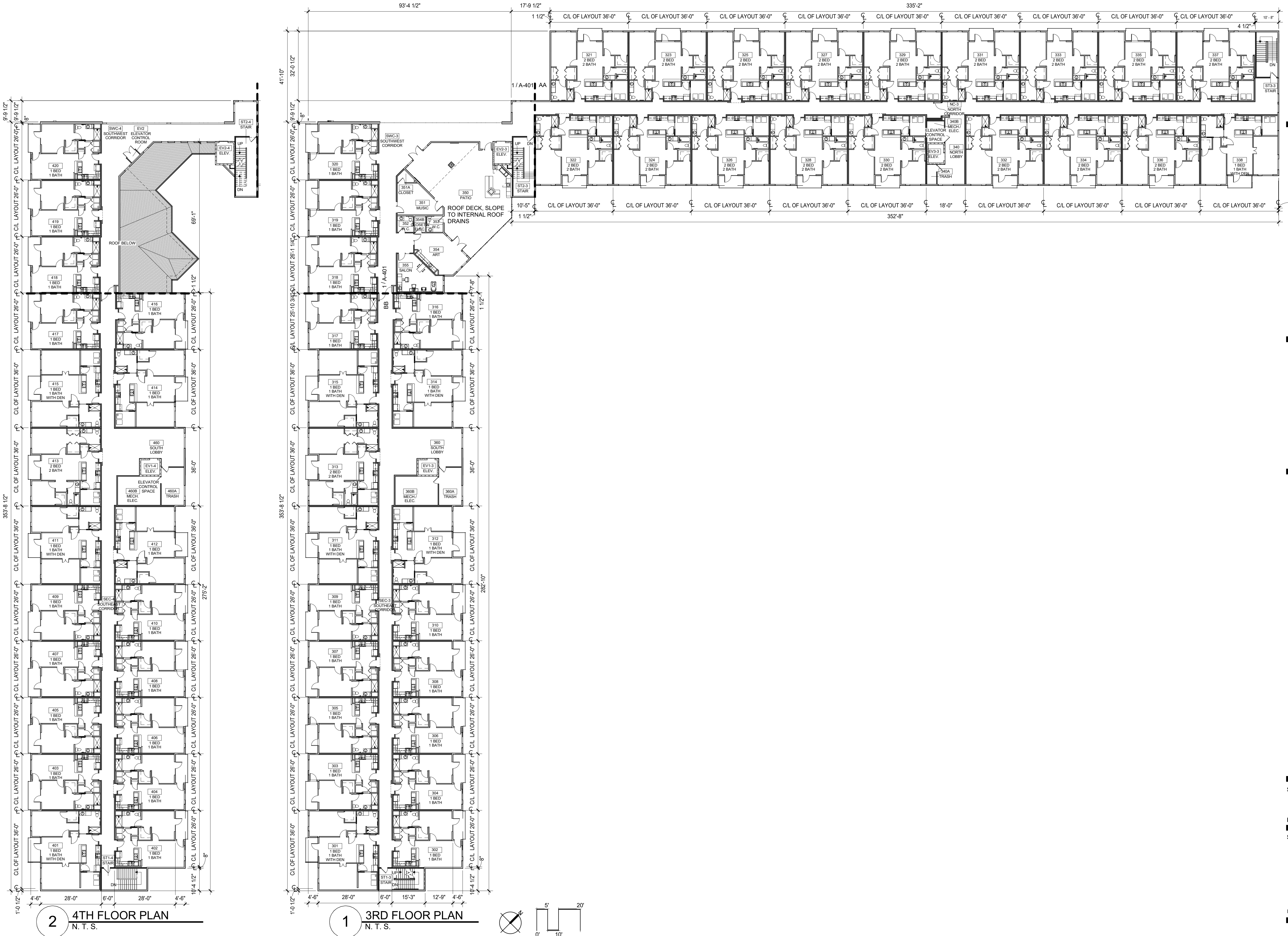


**KESSLER RIDGE
APARTMENTS**
LEE'S SUMMIT, MISSOURI

SHEET TITLE
3RD & 4TH FLOOR PLANS
PROJECT NUMBER: 16062
SHEET NUMBER:

A-104

DRAWN BY: AD CHECKED BY: EE



2 4TH FLOOR PLAN
N. T. S.

1 3RD FLOOR PLAN
N. T. S.

KESSLER RIDGE
APARTMENTS
LEE'S SUMMIT, MISSOURI

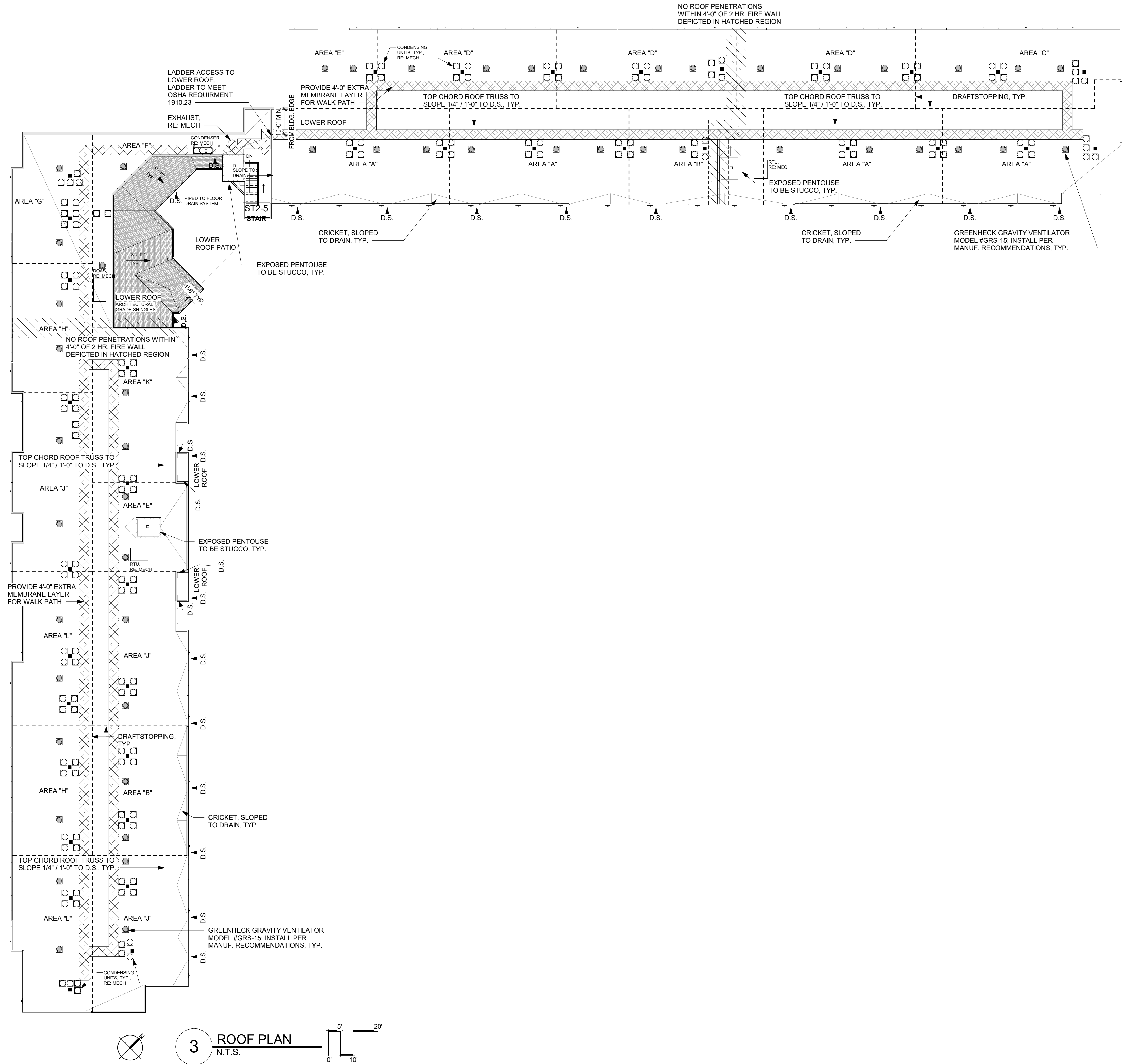
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ROOF PLAN

PROJECT NUMBER: 16062

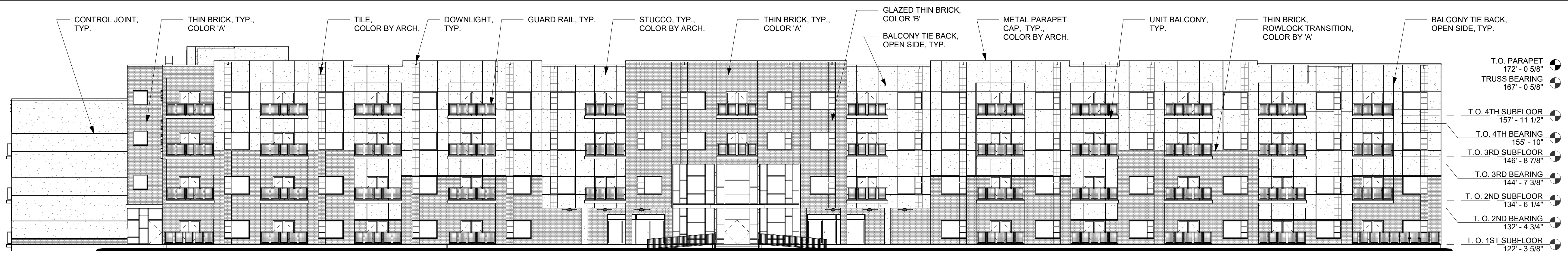
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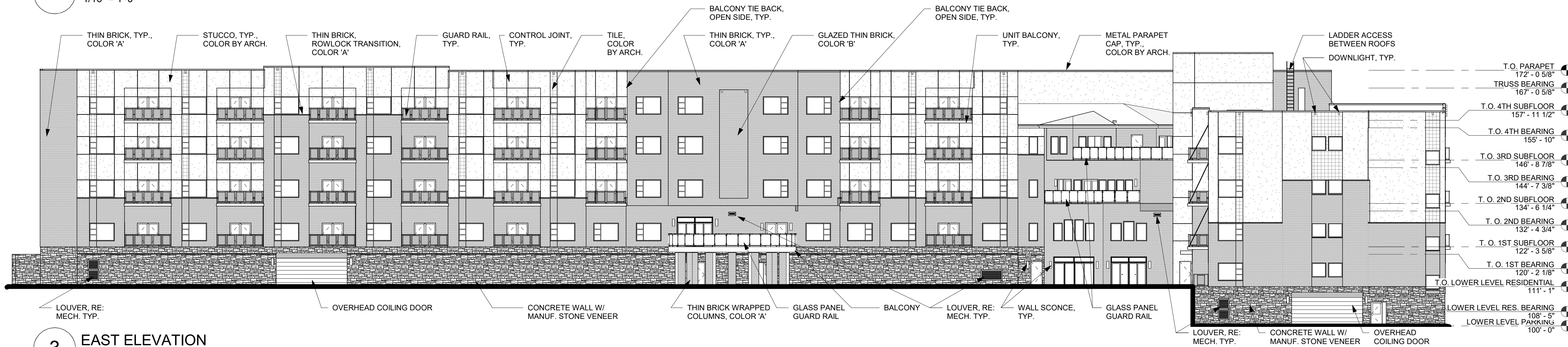


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C:\Users\jrd\Documents\16062 - Kessler Ridge - Control.dwg



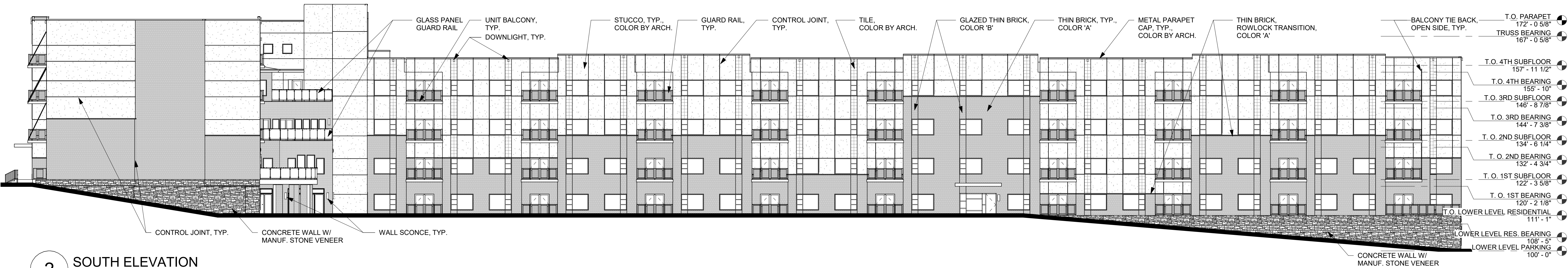
4 WEST ELEVATION

1/16" = 1'-0"



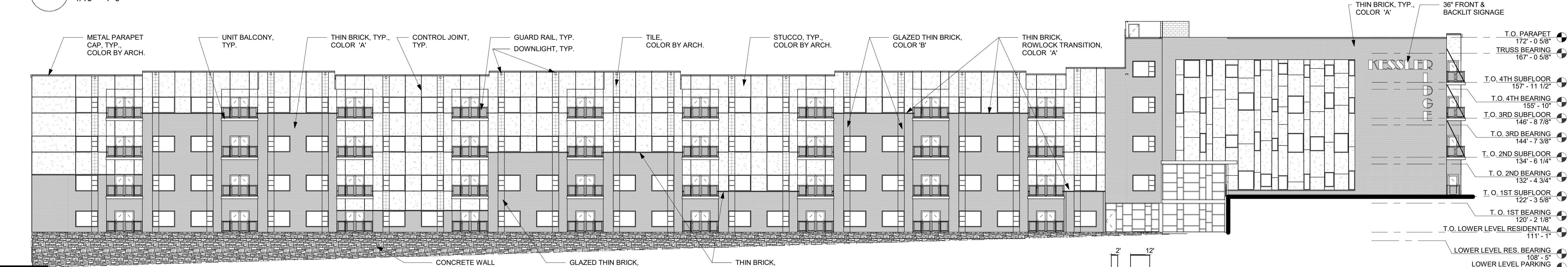
3 EAST ELEVATION

1/16" = 1'-0"



2 SOUTH ELEVATION

1/16" = 1'-0"



1 NORTH ELEVATION

1/16" = 1'-0"

PRINTS ISSUED
FINAL DEVELOPMENT PLAN - 04/20/2018

REVISIONS:

rosemann & ASSOCIATES P.C.
ARCHITECTURE
INTERIOR DESIGN
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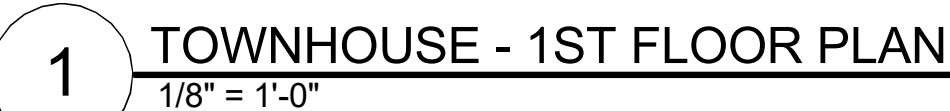
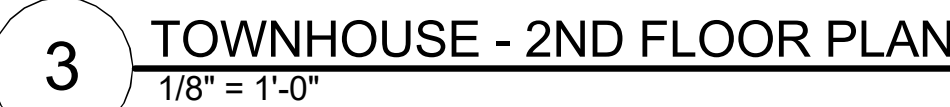
SHEET TITLE
EXTERIOR ELEVATIONS

PROJECT NUMBER: 16062

SHEET NUMBER:

A-200

DRAWN BY: AD CHECKED BY: EE

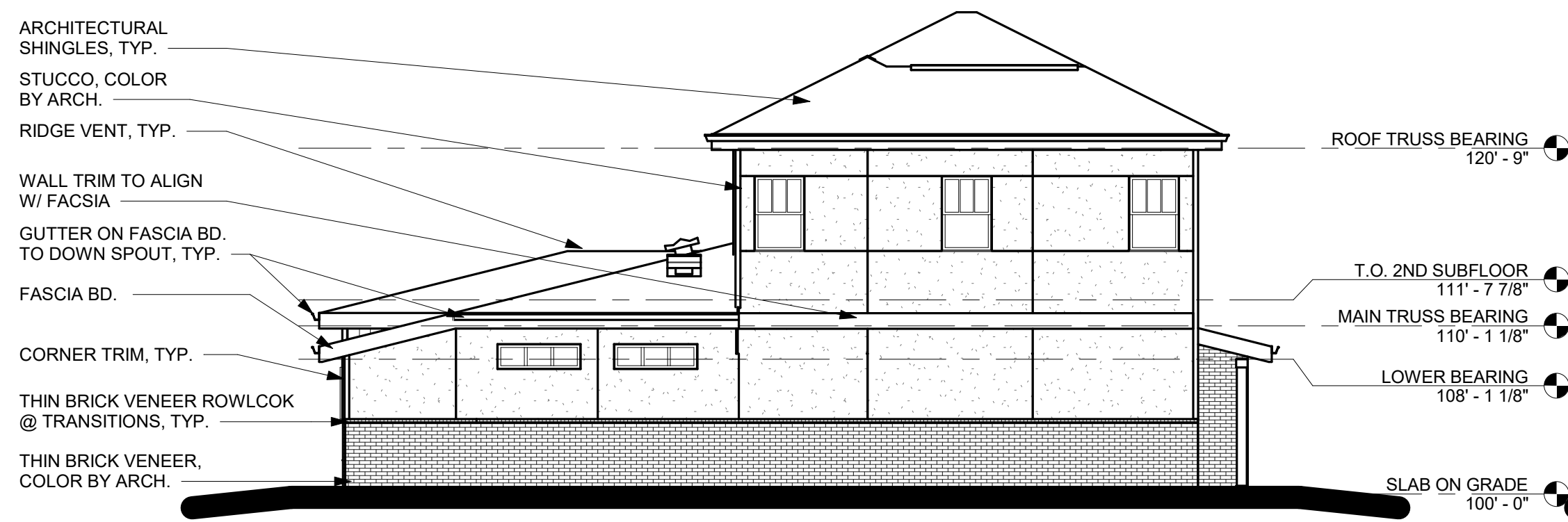


KESSLER RIDGE
APARTMENTS
LEE'S SUMMIT, MISSOURI

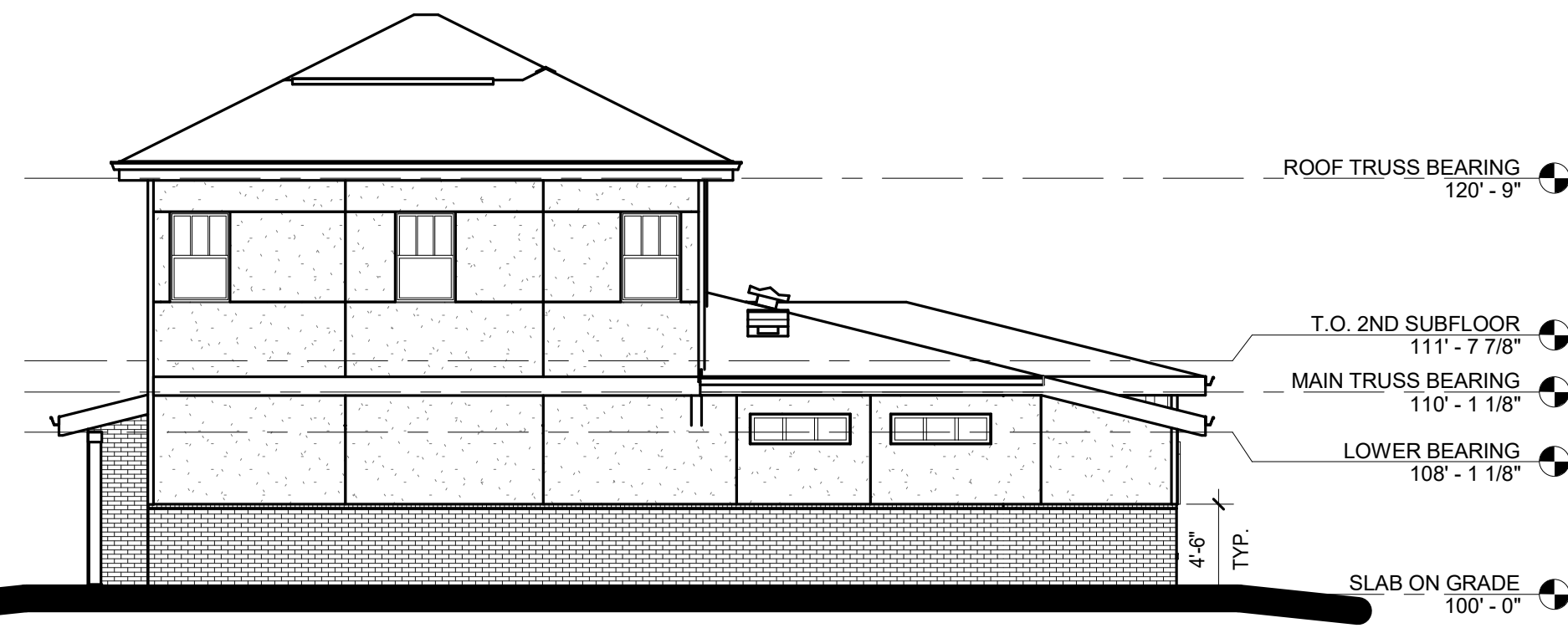
SHEET NUMBER:

AT-101

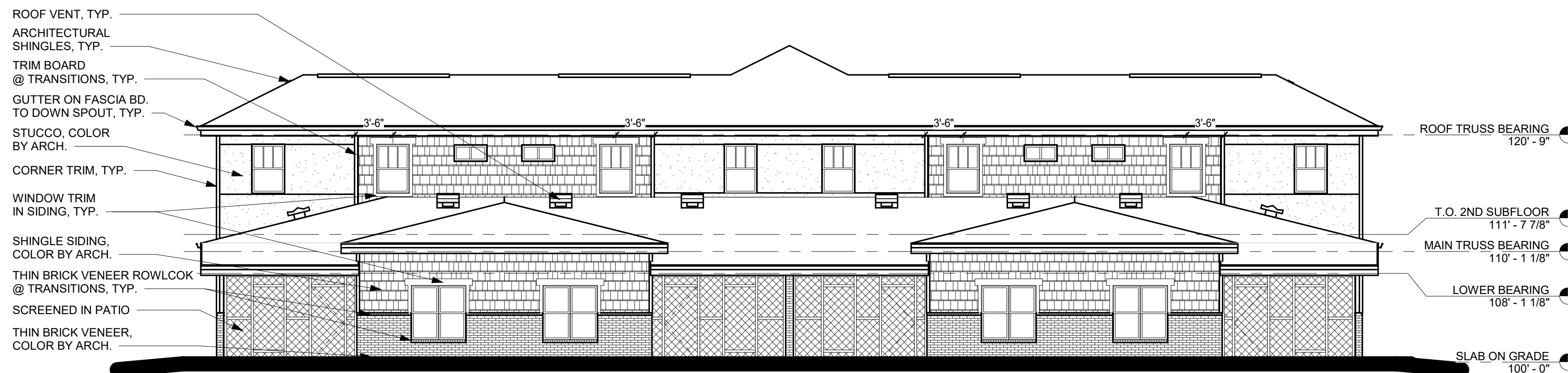
DRAWN BY: AD CHECKED BY: EE



4 TOWNHOUSE - LEFT ELEVATION
1/8" = 1'-0"



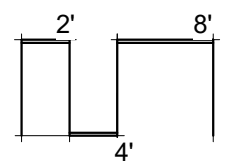
3 TOWNHOUSE - RIGHT ELEVATION
1/8" = 1'-0"



2 TOWNHOUSE - REAR ELEVATION
1/8" = 1'-0"



1 TOWNHOUSE - FRONT ELEVATION
1/8" = 1'-0"



KESSLER RIDGE
APARTMENTS
LEE'S SUMMIT, MISSOURI

SHEET TITLE
TOWNHOUSE BUILDING
ELEVATIONS

PROJECT NUMBER: 16062

SHEET NUMBER:

AT-200

DRAWN BY: AD CHECKED BY: EE

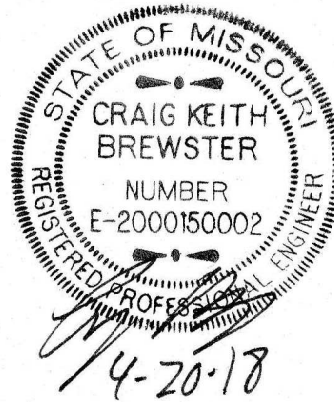
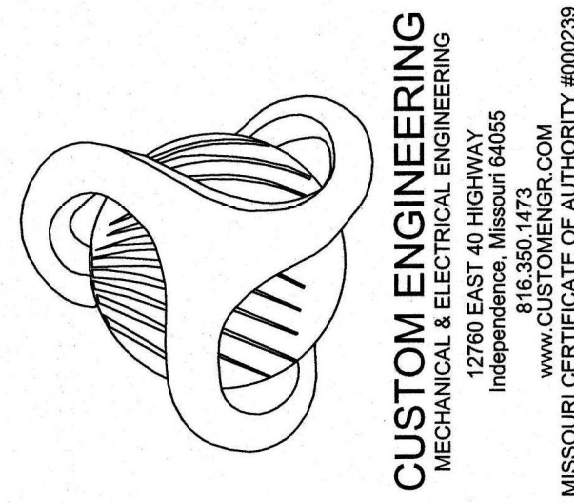
LUMINAIRE SCHEDULE						
SYMBOL	LABEL	DESCRIPTION	MANUFACTURE	CATALOG NUMBER	LUMENS	WATTAGE
■	PL	SITE LED LIGHT WITH 20' POLE	US ARCHITECTURAL	QSR/4810/PLED-IV-RAL-8019/DBZ	18040	160
■	BL	6" SQUARE BOLLARD LED LIGHT	WILLIAMS	OSA6S-L20/830-AC-FT-DBR-AB-UNV	1039	27.5
●	Y	BULLET SHAPE ALUMINUM FLOOD LED LIGHT	RAB LIGHTING	HSLED13B	780	13

Statistics						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Calc Zone #1	+	2.3 fc	10.2 fc	0.1 fc	102.0:1	23.0:1
Calc Zone #2	+	4.4 fc	10.2 fc	0.2 fc	51.0:1	22.0:1
Calc Zone #3	+	2.9 fc	8.3 fc	0.5 fc	16.6:1	5.8:1
Calc Zone #4	+	2.1 fc	8.0 fc	0.1 fc	80.0:1	21.0:1
Calc Zone #5	+	2.8 fc	14.9 fc	0.1 fc	149.0:1	28.0:1
Calc Zone #6	+	1.6 fc	3.5 fc	0.3 fc	11.7:1	5.3:1



PRINTS ISSUED
DATE - 4/20/2018- CITY SUBMITTAL

REVISIONS:



KESSLER RIDGE
APARTMENTS
LEE'S SUMMIT, MISSOURI

SHEET TITLE
SITE PHOTOMETRIC
LIGHTING PLAN

PROJECT NUMBER: 16062

SHEET NUMBER:

E-002

DRAWN BY: AAS CHECKED BY: CKB