

B.M. LOOP NOTES

U.S.G.S. DATUM BENCHMARK
(Provided by the Missouri Department of Transportation)

ELEVATION 616.50 at Dardenne Prairie, T. 46N., R. 2E., near approximate corner sections 1, 2, 11 & 12, 31' N. and 20' W. of Crossroads, the intersection of State Highway "N" with Post Road and Hanley Road, 49' S. of S.E. Corner of Catholic Church, 2.0' N. of sidewalk, and in concrete post, standard tablet stamped "TT 60 C 1936 616."

WINGHAVEN PHASE 3 SLEEPY HOLLOW VILLAGE AS-BUILT PLANS WINGHAVEN RESIDENTIAL L.L.C.

The existing sewer lengths, sizes, flowlines, depths of structures and sewers and locations with respect to existing or proposed easements have been measured. The results of those measurements are shown on this set of Final Measurement Plans. Since the wye locations have been plotted from information provided by the sewer contractor or other sources, I disclaim any responsibility for that specific information.

All public sewers are located within designated existing or proposed easements except as shown in this drawing.

The results of those measurements are shown on this drawing by lining out the planned number and indicating the measured number adjacent to the planned number. All other numbers shown have not been measured or verified.

The location of the sewers were determined by locating the manholes and traversing in a straight line between them.

No hydraulic computations have been done on the measured lines to verify or confirm the capacity, freeboard or design requirements of the sewers.



Roger G. Allen
Roger G. Allen
Mo. Reg. L.S. 2185



STRUCTURES UPPER LOWER	LENGTH	SIZE	FLOWLINE			UPPER STRUCTURE			HYDRAULIC			FRICTION LOSS	VELOCITY			TURN ANGLE LOSS	AREA	PI	QUANTITY		CAPACITIES								
			UPPER	LOWER	GRADE	ELEVATION	FREEDBOARD	UPPER	LOWER	GRADE	FPS		HEAD	GAIN	INCH				TOTAL	***	PIPE	INLET	OUTTER	PI	BYPASS				
LINE 5 7 STRUCTURES																													
ZOI	K50	ZOI	K49	122.1	12	493.04	491.78	.010	497.64	3.60	494.04	492.78*	.0055	.67	3.36	.18	.00	0	.00	1.00	2.64	2.64	2.64	1.00'	3.62	17.10	2.97	4.87	
ZOI	K49	ZOI	K48	61.4	15	491.78	490.51	.014	496.42	3.64	492.45	492.16*	.0048	.29	3.64	.21	.14	0	.00	.69	2.64	1.82	4.46	.50'	7.69	5.40	2.00	6.47	
ZOI	K48	CI	K47	141.3	18	490.91	489.15	.012	496.20	4.04	491.17	490.65*	.0037	-.82	3.60	.20	.08	0	.00	.72	2.64	1.90	6.36	.80'	11.73	13.50	2.66	6.47	
CI	K47	CI	K46	33.9	18	489.15	487.88	.037	496.09	5.44	489.60	489.38*	.0065	-.22	4.78	.35	.27	90	.14	.36	2.64	.95	8.45	1.18	20.33	2.25	3.12	10.91	
INCOMING LINE																													
CI	K46	MH	K45	31.6	21	487.88	487.51	.012	496.09	6.71	489.37	489.26*	.0035	-.11	3.91	.24	.00	0	.00	.36	2.64	.95	9.40	1.18	17.15	2.25	3.12	7.34	
MH	K45	ZOI	K42	127.5	21	487.51	486.08	.011	496.18	6.92	488.69	488.04	.0035	-.45	3.91	.24	.00	70	.14			.95	9.40	1.18	18.78				7.41
LINE 6 2 STRUCTURES																													
ZOI	K6	ZOI	K5	39.1	12	491.80	490.78	.026	495.98	3.18	492.80	491.78*	.0072	-.09	2.15	.07	.00	0	.00	.64	2.64	1.69	1.69	1.00'	5.76	17.10	2.97	6.34	
LINE 7 3 STRUCTURES																													
CI	K9	CI	K8	35.4	15	490.80	490.48	.009	495.21	3.16	492.05	491.73*	.0002	-.01	.75	.01	.00	0	.00	.35	2.64	.92	.92	1.0M	6.34	4.00	2.00	3.67	
CI	K8	ZOI	K7	61.7	15	490.48	489.83	.011	495.30	3.57	491.17	491.08*	.0015	-.09	2.07	.07	.08	0	.00	.61	2.64	1.61	2.53	1.0M	6.63	4.00	2.00	5.12	
LINE 8 4 STRUCTURES																													
ZOI	K28	ZOI	K27	337.9	32	493.11	491.43	.012	497.56	3.45	494.11	492.75	.0056	-.77	3.39	.18	.00	0	.00	1.01	2.64	2.67	2.67	1.00'	3.93	17.10	2.97	5.85	
ZOI	K27	ZOI	K26	46.3	15	491.43	490.86	.012	496.16	3.41	492.45	492.11*	.0073	-.34	4.50	.31	.30	0	.00	1.08	2.64	2.85	5.62	.50'	7.17	5.40	2.00	6.34	
ZOI	K26	FE	K25	119.8	18	490.86	489.68	.010	496.88	4.77		.40	.00	.0034	-.40	3.45	.18	.00	0	.00	.22	2.64	.58	6.10	1.00'	10.42	17.10	2.97	6.44
LINE 9 3 STRUCTURES																													
CI	K36	CI	K35	34.2	15	489.17	488.74	.013	494.90	4.48	490.42	489.99*	.0008	-.03	1.51	.04	.00	0	.00	.70	2.64	1.85	1.85	1.04	7.24	2.29	2.97	5.00	
CI	K35	ZOI	K41	144.1	15	488.74	487.31	.010	494.76	4.77	489.63	489.25	.0027	-.38	2.71	.13	.13	0	.00	.56	2.64	1.48	3.33	1.04	6.43	2.29	2.97	5.11	
LINE 10 5 STRUCTURES																													
ZOI	K40	ZOI	K39	126.7	15	490.34	489.11	.010	494.80	3.71	491.59	490.36*	.0018	-.23	2.26	.08	.00	0	.00	1.05	2.64	2.77	2.77	1.00'	6.36	17.10	2.97	5.06	
ZOI	K39	CI	K38	52.6	15	489.11	488.56	.010	493.50	3.14	490.10	489.85	.0048	-.25	3.66	.21	.21	0	.00	.65	2.64	1.72	4.49	1.00'	6.61	17.10	2.97	5.04	
CI	K38	CI	K41	34.0	18	488.56	488.05	.015	493.46	3.61	489.68	489.66*	.0037	-.12	3.60	.20	.07	60	.09	.71	2.44	1.87	6.36	1.0M	12.74	4.00	2.00	7.14	
CI	K41	FE	K41A	34.2	18	488.06	477.95	.296	493.48	3.92		.16	.00	.0046	-.16	4.04	.25	.10	25	.06	.30	2.60	.78	7.14	1.0M	57.15	4.00	2.00	12.84
LINE 11 2 STRUCTURES																													
CI	K51	CI	K47	76.8	15	490.93	489.15	.023	496.12	3.94	492.18	490.65	.0003	-.02	.93	.01	.00	0	.00	.43	2.64	1.14	1.14	1.04	9.84	2.29	2.97	5.31	

*** A/c # of sides open & depth of sill
C/a street grade at inlet
G/a depth over grate

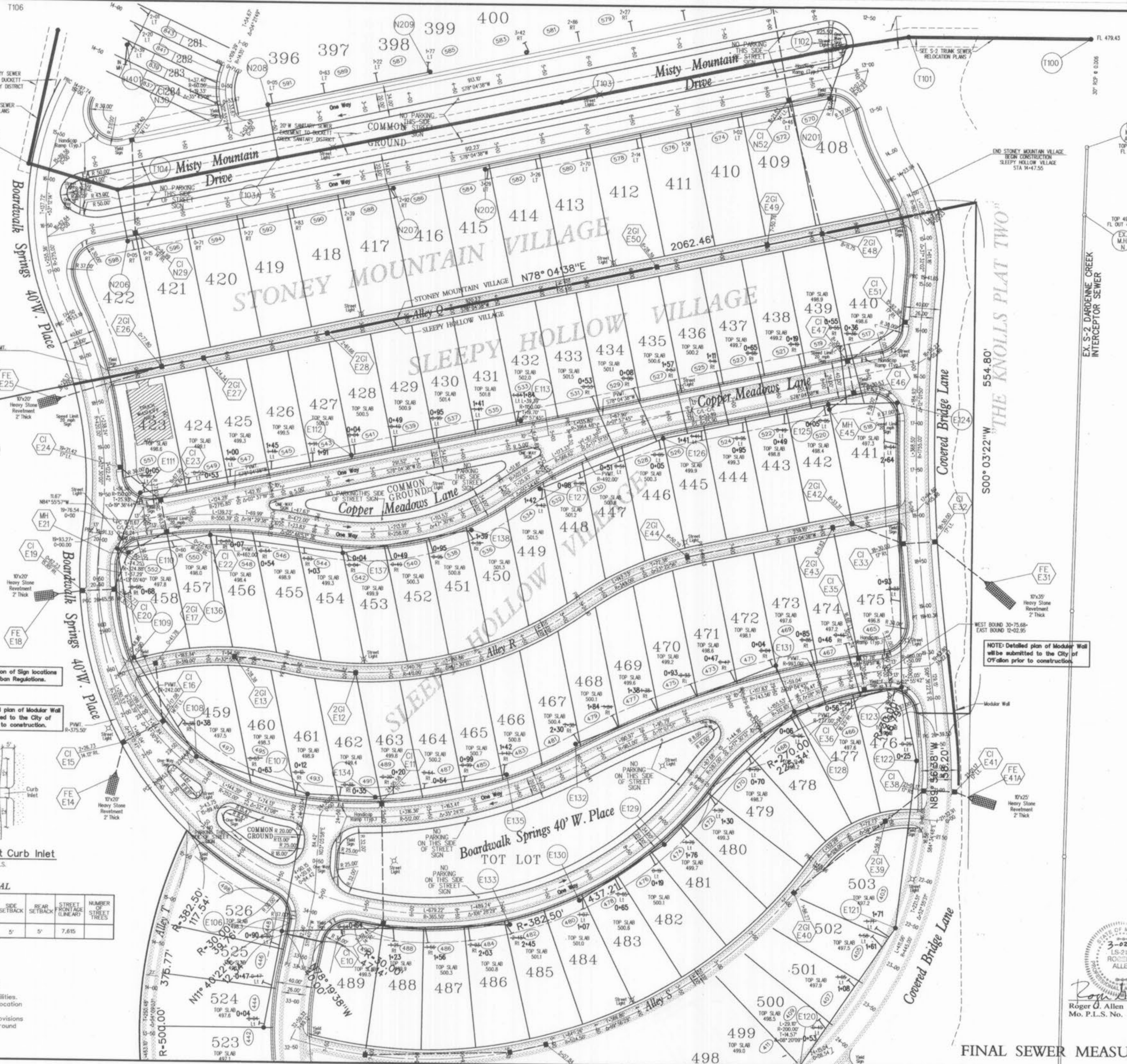
* lower hydraulic elevation when flowing less than full
C curve loss in pipe
R radius of curve
SW entrance control elevation
pv partial flow velocity

AS-BUILT

STRUCTURES UPPER LOWER	LENGTH	SIZE	FLOWLINE			UPPER STRUCTURE			HYDRAULIC			FRICTION LOSS	VELOCITY			TURN ANGLE LOSS	AREA	PI	QUANTITY		CAPACITIES								
			UPPER	LOWER	GRADE	ELEVATION	FREEDBOARD	UPPER	LOWER	GRADE	FPS		HEAD	GAIN	INCH				TOTAL	***	PIPE	INLET	OUTTER	PI	BYPASS				
LINE 1 10 STRUCTURES																													
ZOI	K11	ZOI	K12	133.0	15	491.73	490.45	.010	495.51	2.53	492.98	491.70*	.0008	-.11	1.53	.04	.00	0	.00	.71	2.64	1.87	1.87	1.00'	6.34	17.10	2.97	8.54	
ZOI	K12	CI	K11	149.5	15	490.45	488.97	.010	496.93	5.23	490.86	490.27	.0041	-.59	3.36	.17	.21	0	.00	.85	2.64	2.24	4.12	1.00'	6.52	17.10	2.97	5.65	
CI	K11	CI	K10	128.9	15	488.97	487.82	.009	497.17	6.90	489.95	489.07*	.0068	-.88	4.35	.29	.21	70	.11	.46	2.64	1.21	5.33	1.04	6.10	2.29	2.97	5.87	
CI	K10	ZOI	K7	145.3	15	487.82	485.94	.013	497.95	8.88	488.78	487.61	.0081	1.17	4.73	.35	.10	10	.03	.18	2.64	.48	5.81	1.04	7.35	2.29	2.97	6.45	
ZOI	K7	ZOI	K5	158.6	18	485.94	484.29	.010	495.68	8.07	487.31	486.08	.0078	1.23	5.24	.43	.25	10	.04	.35	2.64	.92	9.27	1.00'	10.71	17.10	2.97	6.31	
INCOMING LINE																													
ZOI	K5	CI	K4	146.3	21	484.29	482.67	.011	495.63	9.55	485.85	484.87	.0067	.98	5.39	.45	.18	10	.05	.76	2.64	2.01	12.96	.50'	16.64	5.40	2.00	4.47	
INCOMING LINE																													
CI	K4	CI	K3	71.5	21	482.67	482.06	.009	494.76	9.89	484.39	483.81*	.0081	.58	5.93	.55	.18	80	.30	.49	2.64	1.29	14.26	LOW	14.63	4.00	2.00	7.4	
CI	K3	MH	K2	151.1	24	482.06	479.97	.014	493.75	9.94	482.79	481.97*	.0054	-.82	5.31	.44	.00	0	.00	.92	2.64	2.43	16.68	LOW	26.61	4.00	2.00	8.78	
MH	K2	FE	K1	128.5	24	479.97	478.97	.008	493.82	11.85		.70	.00	.0054	-.70	5.31	.44	.00	20	.11									7.11pv
LINE 2 7 STRUCTURES																													
CI	K24	CI	K23	56.5	15	492.39	491.95	.008	495.62	2.05	493.64	493.20*	.0005	-.03	1.20	.02	.00	0	.00	.56	2.64	1.48	1.48	2.04	5.70	1.93	4.23	3.74	
CI	K23	CI	K22	34.9	15	491.95	491.60	.013	495.78	2.58	492.82	492.75*	.0019	-.07	2.32	.08	.10	0	.00	.52	2.64	1.37	2.85	2.04	7.34	1.93	4.23	5.62	
CI	K22	MH	K21	67.1	15	491.60	490.97	.011	495.78	3.03	492.43	492.22*	.0045	-.21	3.53	.19	.18	40	.04	.56	2.64	1.48	4.33	1.94	6.85	1.97	4.13	5.46	
MH	K21	CI	K20	63.0	15	490.97	490.44	.012	494.82	2.60	491.98	491.78	.0045	-.19	3.53	.19	.00	70	.12										6.05
CI	K20	CI	K19	34.7	15	490.44	490.08	.010	494.36	2.58	491.55	491.33*	.0064	-.22	4.19	.27	.15	40	.08	.31	2.64	.82	5.15	LOW	6.58	4.00	2.00	5.81	
CI	K19	FE	K18	32.0	18	490.08	489.70	.012	494.36	3.03		.14	.00	.0044	-.14	3.96	.24	.06	65	.16	.70	2.64	1.85	7.00	LOW	11.45	4.00	2.00	6.93
LINE 3 4 STRUCTURES																													
ZOI	K17	CI	K16	63.3	15	491.36	490.78	.009	494.80	2.19	492.61	492.03*	.0003	-.02	.93	.01	.00	0	.00	.43	2.64	1.14	1.14	.50'	6.19	5.40	2.00	3.81	
CI	K16	CI	K15	47.8	15	490.78	490.36	.009	494.48	2.45	491.69	491.61*	.0018	-.08	2.22	.08	.09	0	.00	.60	2.64	1.58	2.72	1.04	6.05	2.29	2.97	4.85	
CI	K15	FE	K14	38.8	15	490.36	489.81	.014	494.66	3.05		.14	.00	.0035	-.14	3.12	.15	.13	70	.05	.42	2.64	1.11	3.83	LOW	7.69	4.00	2.00	6.26pv
LINE 4 6 STRUCTURES																													
ZOI	K44	ZOI	K43	162.4	12	491.29	487.31	.025	495.87	3.58	492.29	489.25	.0062	1.00	3.56	.30	.00	0	.00	1.06	2.64	2.80	2.80	1.00'	5.88	17.10	2.97	7.16	
ZOI	K43	ZOI	K42	21.3	15	487.31	486.08	.058	494.06	4.81	488.40	488.04	.0172	-.37	6.91	.74	.94	0	.00	.89	2.64	3.35	8.47	1.00'	15.52	17.10	2.97	8.44	
INCOMING LINE																													
ZOI	K42	CI	K33	60.0	24	486.08	484.90	.020	493.93	5.89	487.29	486.90*	.0065	-.39	5.81	.52	.08	90	.53	.14	2.64	.37	18.24	1.00'	31.73	17.10	2.97	10.62	
INCOMING LINE																													
CI	K33	CI	K32	34.2	30	484.90	479.70	.152	493.86	6.96	482.28	482.20*	.0024	-.08	4.09	.36	.00	35	.21	.70	2.64	1.85	20.09	LOW	159.96	4.00	2.00	11.44	
CI	K32	FE	K31	72.9	30	479.70	479.01	.009	493.64	11.44		.19	.00	.0026	-.19	4.27	.28	.05	30	.06	.33	2.64	.87	28.96	LOW	39.89	4.00	2.00	8.87

*** A/c # of sides open & depth of sill
C/a street grade at inlet
G/a depth over grate

* lower hydraulic elevation when flowing less than full
C curve loss in pipe
R radius of curve
SW entrance control elevation
pv partial flow velocity



NOTE
CONSTRUCTION PARKING AND TRUCK WASH OFF AREA TO BE CONSTRUCTED OF 8" ROLLED STONE

DEED RESTRICTED WETLANDS

CAUTION !!!
Contractor To Locate All Underground Utilities Prior To Construction

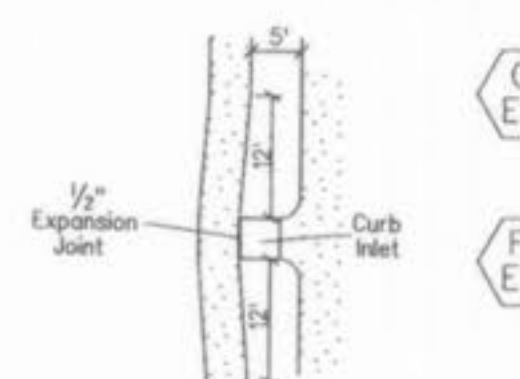
NOTE
Winghaven - Heritage Commons Village will be part of Winghaven Residential Owners Association, Inc. which includes all of the Winghaven Development, Phases 1, 2, and 3. The alleys in Winghaven Phase 3 are private and will remain private forever and never to be maintained or accepted by the City of O'Fallon.

NOTE
All new utilities installed within this subdivision to be located underground.

NOTE
Tot Lot Plans are not part of this set of plans. Plans for the Tot Lot areas shall be submitted by others.

NOTE: Regulation of Sign locations per MUTCD Urban Regulations.

NOTE: Detailed plan of Modular Wall will be submitted to the City of O'Fallon prior to construction.



PHASE 3 RESIDENTIAL

TOTAL VILLAGE ACREAGE	P.O.W. ACREAGE	COMMON GROUND	NET VILLAGE ACREAGE	TOTAL NUMBER OF UNITS	MINIMUM LOT SIZE (SQ. FT.)	FRONT SETBACK	SIDE SETBACK	REAR SETBACK	STREET FRONTAGE (LINEAR)	NUMBER OF STREET TREES
68,179	4.43	48.73	17.01	104	5,000	15'	5'	5'	7,615	

VILLAGE E - SLEEPY HOLLOW

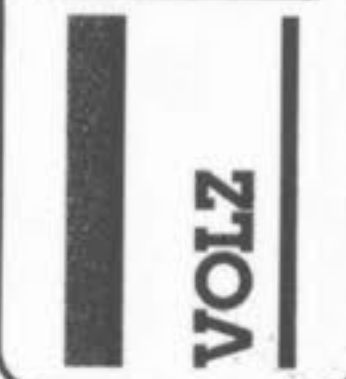
The underground utilities shown herein were plotted from available information and do not necessarily reflect the actual existence, or nonexistence, size, type, number, or location of these or other utilities. The general contractor shall be responsible for verifying the actual location of all underground utilities in the field, shown or not shown, prior to any grading, excavation, or construction of improvements. These provisions shall in no way absolve any party from complying with the Underground Facility Safety and Damage Prevention Act, Chapter 319, RSMo.



Roger Q. Allen
Mo. P.L.S. No. 2185

FINAL SEWER MEASUREMENTS

WINGHAVEN RESIDENTIAL L.L.C.
*MCBRIDE & SON
CORPORATE CENTER DRIVE
ST. LOUIS, MISSOURI 63005
PHONE (314) 537-5000

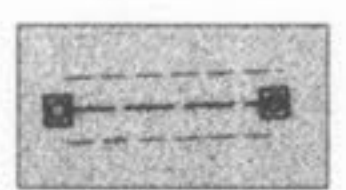
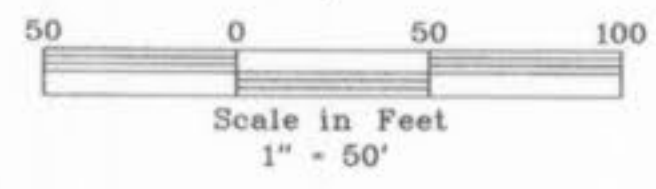


WINGHAVEN

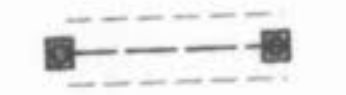
SLEEPY HOLLOW VILLAGE AS-BUILT PLANS

SITE PLAN
Design By: G.A.S.
Drawn By: M.W.M.
Checked By: E.A.K.
B-8500

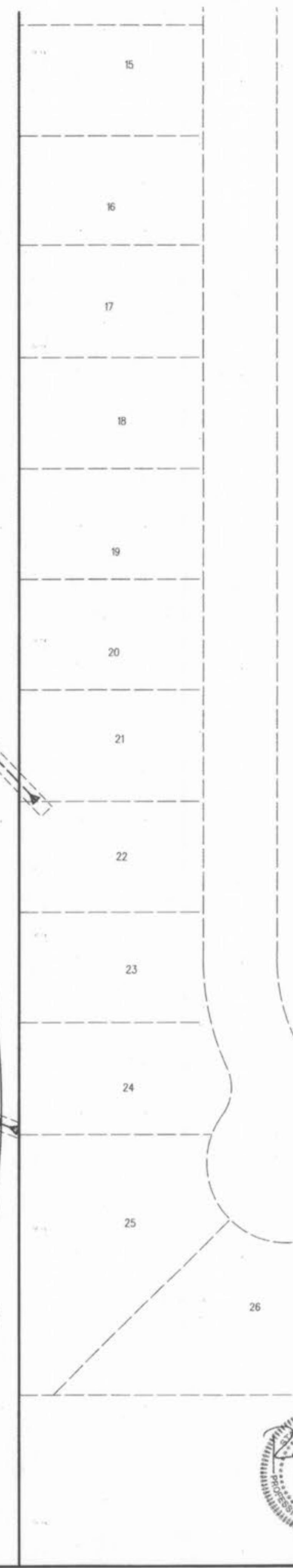
10-24-01
03



Storm Sewers Within The Private Alleys Will Be Maintained By Winghaven Residential Owners Association, Inc. The alleys in Winghaven Phase 3 are private and will remain private forever and never to be maintained or accepted by the City of O'Fallon.



Storm Sewers Within Common Ground And Public Right Of Way To Be Accepted And Maintained By The City of O'Fallon.



DEED RESTRICTED WETLANDS

NOTE
All new utilities installed within this subdivision to be located underground.

NOTE
Winghaven - Sleepy Hollow Village will be part of Winghaven Residential Owners Association, Inc., which includes all of the Winghaven Development, Phases 1, 2, and 3. The alleys in Winghaven Phase 3 are private and will remain private forever and never to be maintained or accepted by the City of O'Fallon.

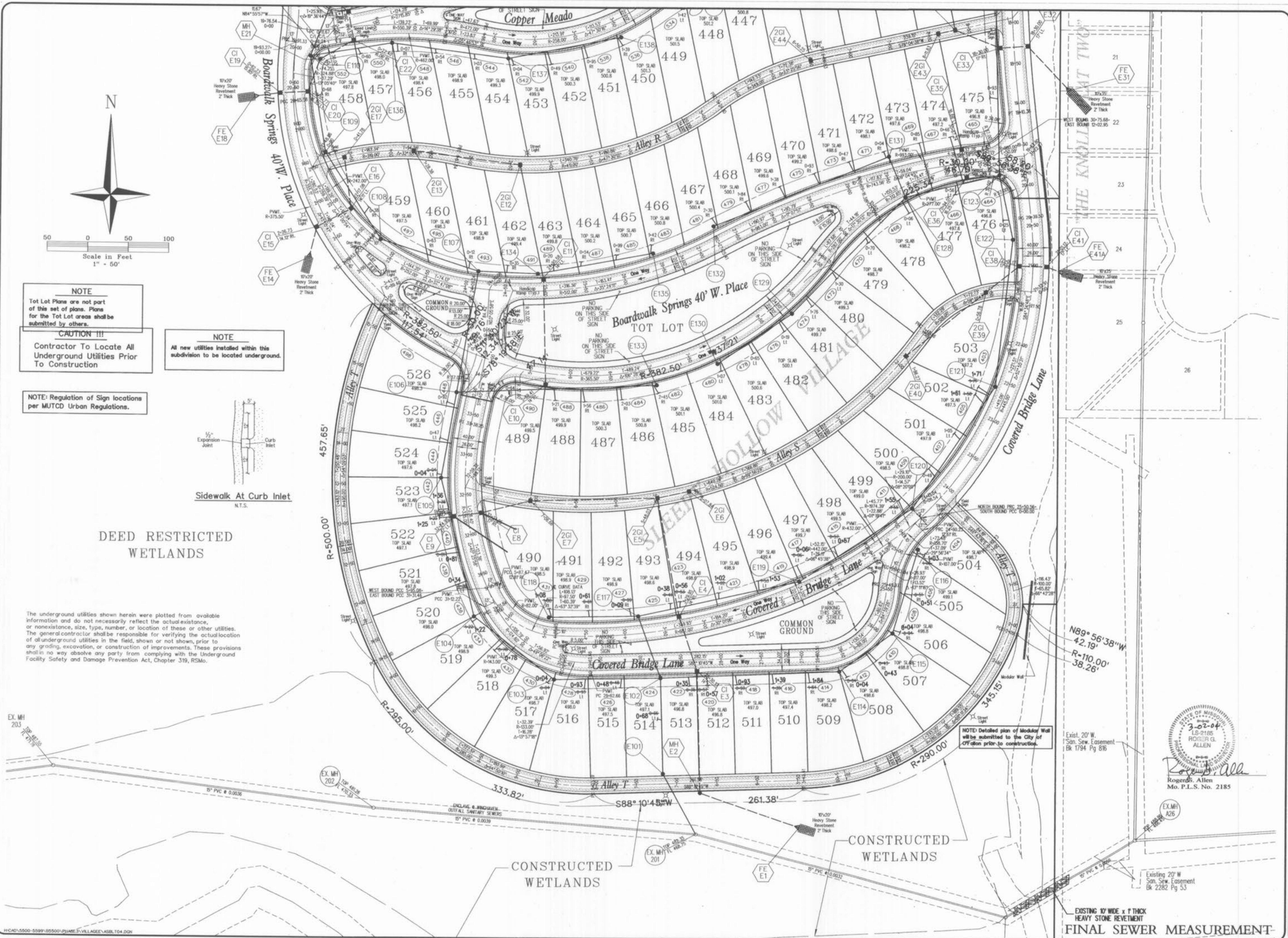


WINGHAVEN
RESIDENTIAL L.L.C.
*MCBRIDE & SON
CORPORATE CENTER DRIVE
ST. LOUIS, MISSOURI 63005
PHONE (314) 537-2000

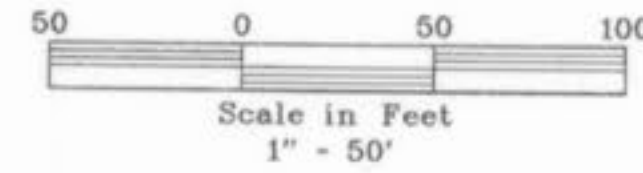


WINGHAVEN
SLEEPY HOLLOW VILLAGE AS-BUILT PLANS

STORM SEWER MAINTENANCE
Design By: G.A.S.
Drawn By: M.W.M.
Checked By: E.A.K.
B-8000
05-10-01
3A





DEED RESTRICTED WETLANDS

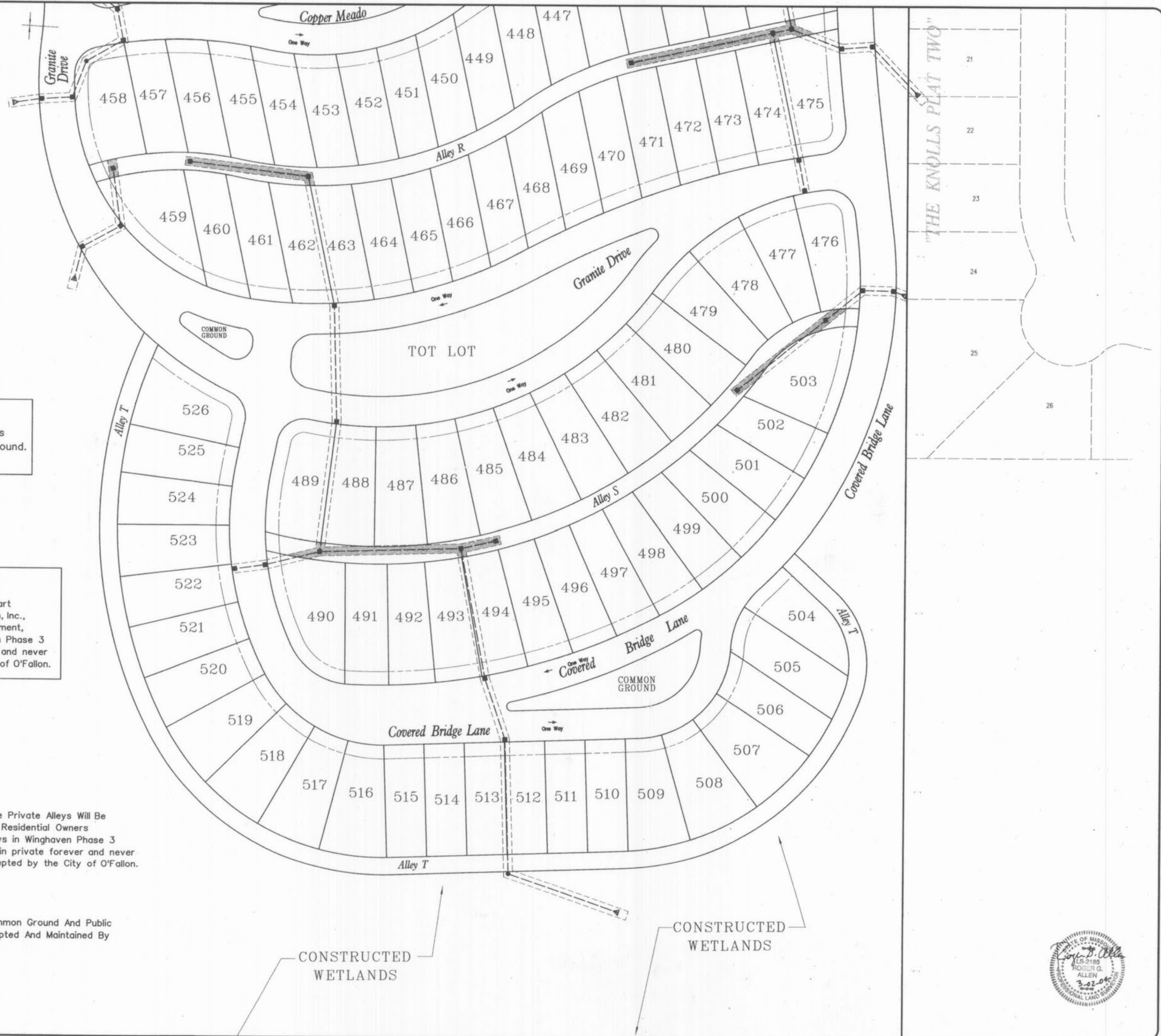


NOTE
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NOTE
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 Storm Sewers Within The Private Alleys Will Be Maintained By Winghaven Residential Owners Association, Inc. The alleys in Winghaven Phase 3 are private and will remain private forever and never to be maintained or accepted by the City of O'Fallon.

 Storm Sewers Within Common Ground And Public Right Of Way To Be Accepted And Maintained By The City of O'Fallon.



CONSTRUCTED WETLANDS

CONSTRUCTED WETLANDS



WINGHAVEN RESIDENTIAL L.L.C.
*MCBRIDE & SON
CORPORATE CENTER DRIVE
ST. LOUIS, MISSOURI 63005
PHONE (314) 337-2000



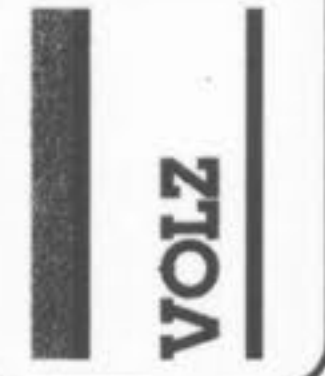
WINGHAVEN
SLEEPY HOLLOW VILLAGE AS-BUILT PLANS

STORM SEWER MAINTENANCE

Design By: C.A.S.
Drawn By: M.W.M.
Checked By: E.A.K.

B-6000

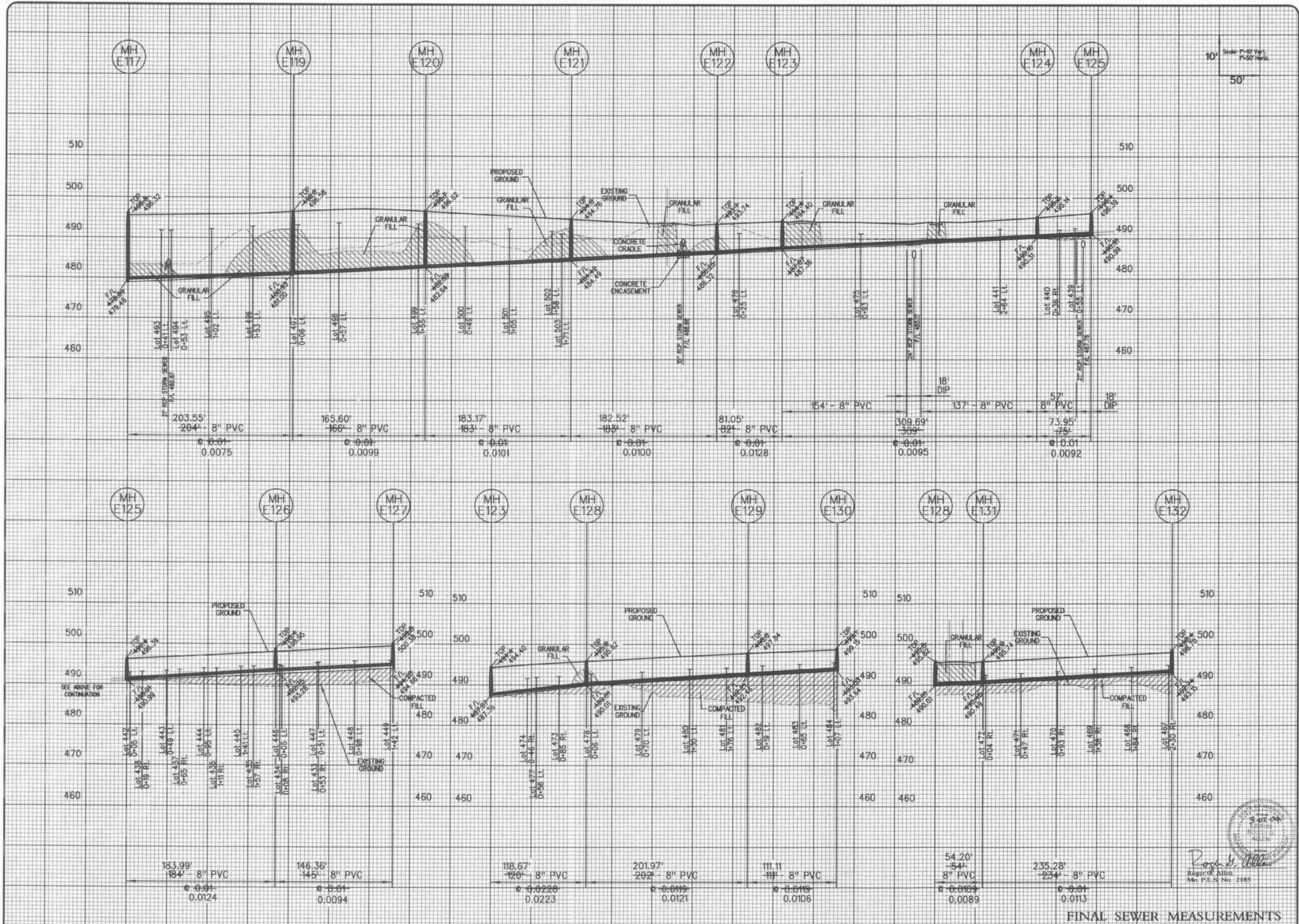
05-10-01
4A



WINGHAVEN™
SLEEPY HOLLOW VILLAGE AS-BUILT PLANS

SANITARY SEWER PROFILES
Design By: G.A.S.
Drawn By: M.W.M.
Checked By: E.A.K.
B-6000

10'
50'
Scale: 1"=10' Vert.
1"=50' Horiz.



3-02-04
ROGERS
ALLEN
Roger G. Allen
Mo. P.E. No. 2185

FINAL SEWER MEASUREMENTS

MH E106

MH E133

MH E107

MH E134

MH E135

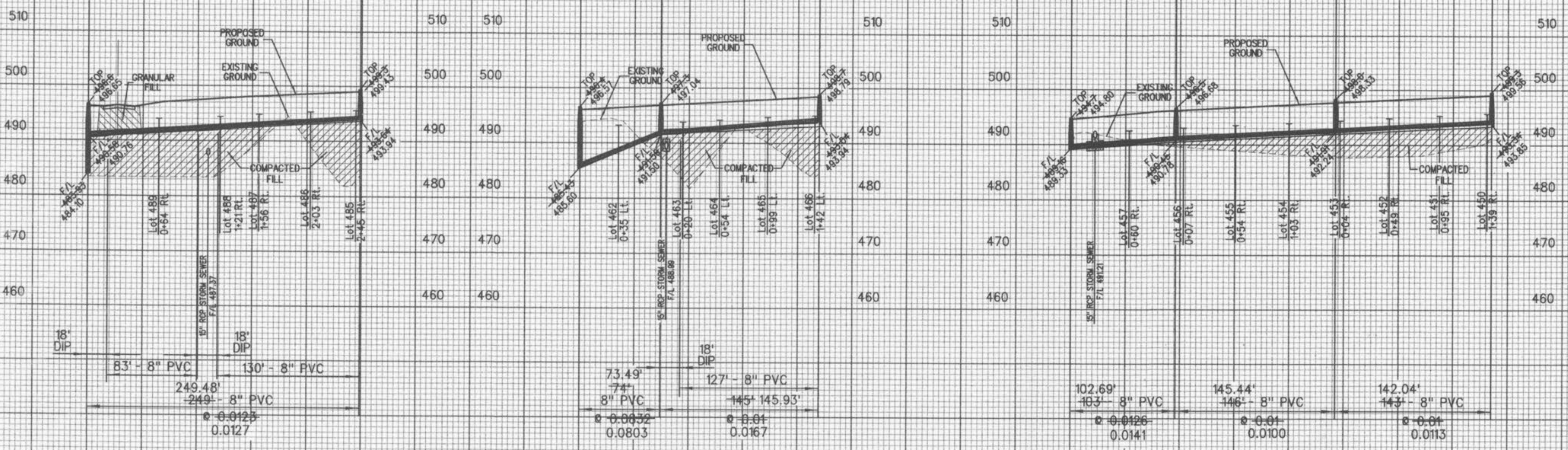
MH E110

MH E136

MH E137

MH E138

Scale: 1"=10' Vert.
1"=50' Horiz.
50'



WINGHAVEN
RESIDENTIAL L.L.C.
*MICROE & SON
CORPORATE CENTER DRIVE
ST. LOUIS, MISSOURI 63005
PHONE (314) 537-2000

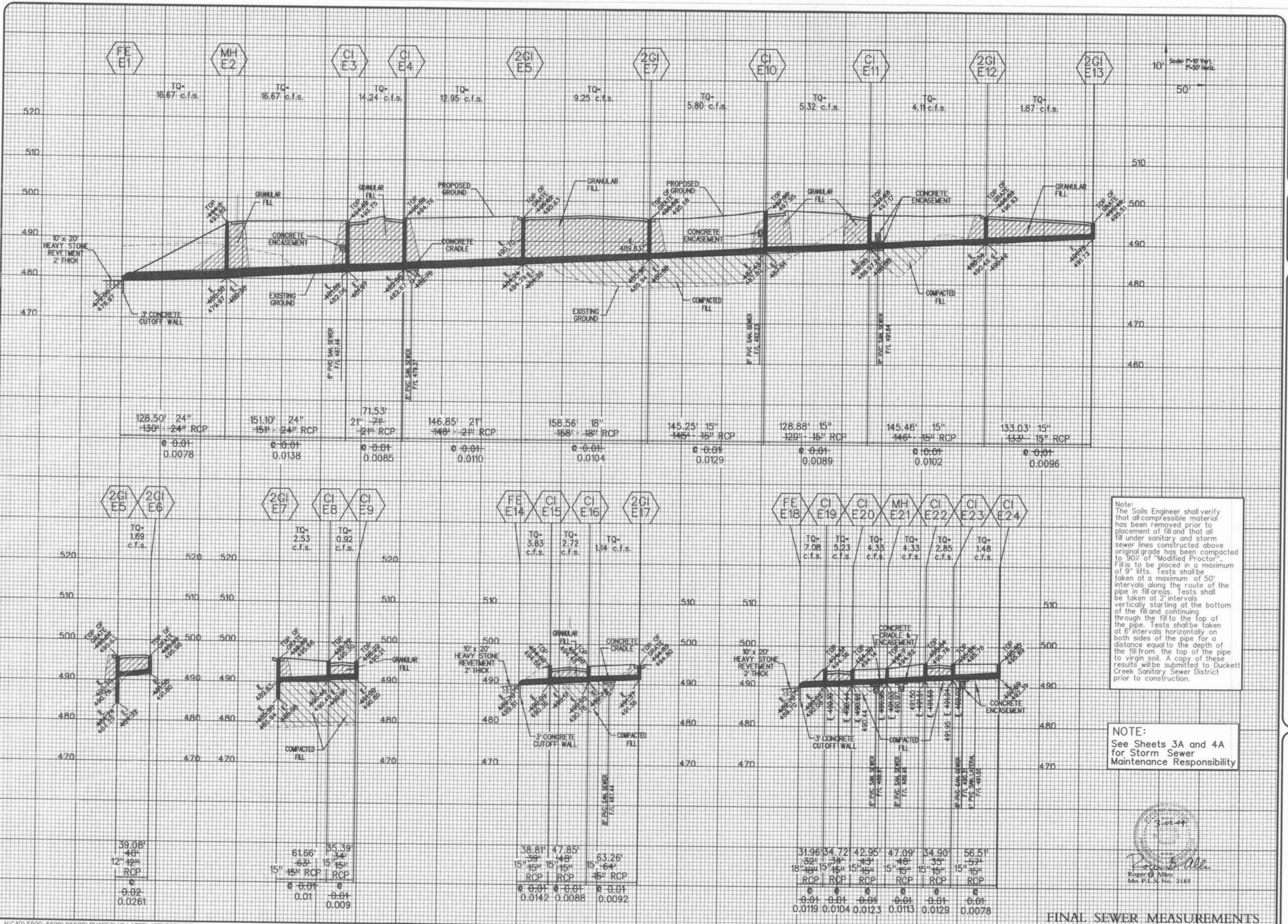
VOLZ

WINGHAVEN™
SLEEPY HOLLOW VILLAGE AS-BUILT PLANS

3-22-04
REGISTERED PROFESSIONAL ENGINEER
ROGER E. ALLEN
No. P.L.S. No. 2185

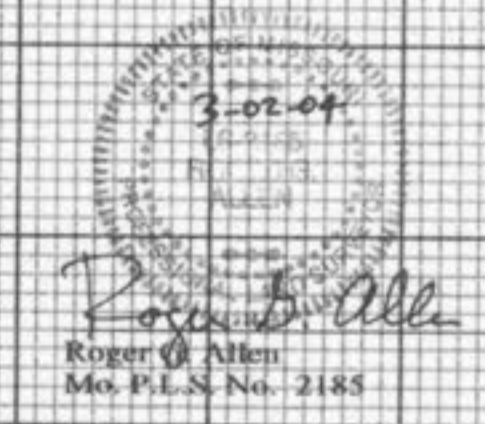
FINAL SEWER MEASUREMENTS

SANITARY SEWER PROFILES
Design By: G.A.S.
Drawn By: M.W.M.
Checked By: E.A.K.
B-4500



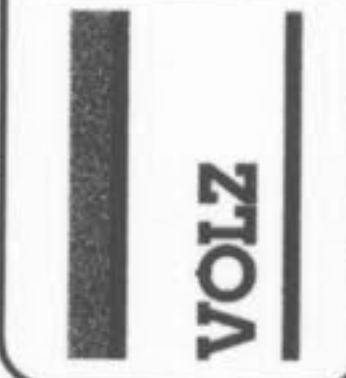
Note:
The Soils Engineer shall verify that all compressible material has been removed prior to placement of fill and that all fill under sanitary and storm sewer lines constructed above original grade has been compacted to 90% of "Modified Proctor". Fills to be placed in a maximum of 9" lifts. Tests shall be taken at a maximum of 50' intervals along the route of the pipe in fill areas. Tests shall be taken at 2' intervals vertically starting at the bottom of the fill and continuing through the fill to the top of the pipe. Tests shall be taken at 6' intervals horizontally on both sides of the pipe for a distance equal to the depth of the fill from the top of the pipe to virgin soil. A copy of these results will be submitted to Duckett Creek Sanitary Sewer District prior to construction.

NOTE:
See Sheets 3A and 4A for Storm Sewer Maintenance Responsibility



FINAL SEWER MEASUREMENTS

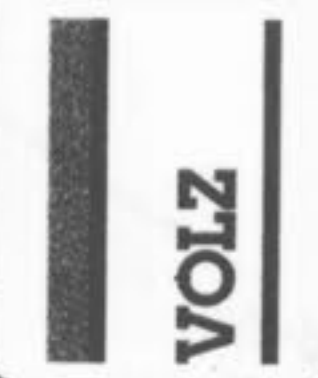
WINGHAVEN
RESIDENTIAL L.L.C.
*MCBRIDE & SON
CORPORATE CENTER DRIVE
ST. LOUIS, MISSOURI 63005
PHONE (314) 537-2000



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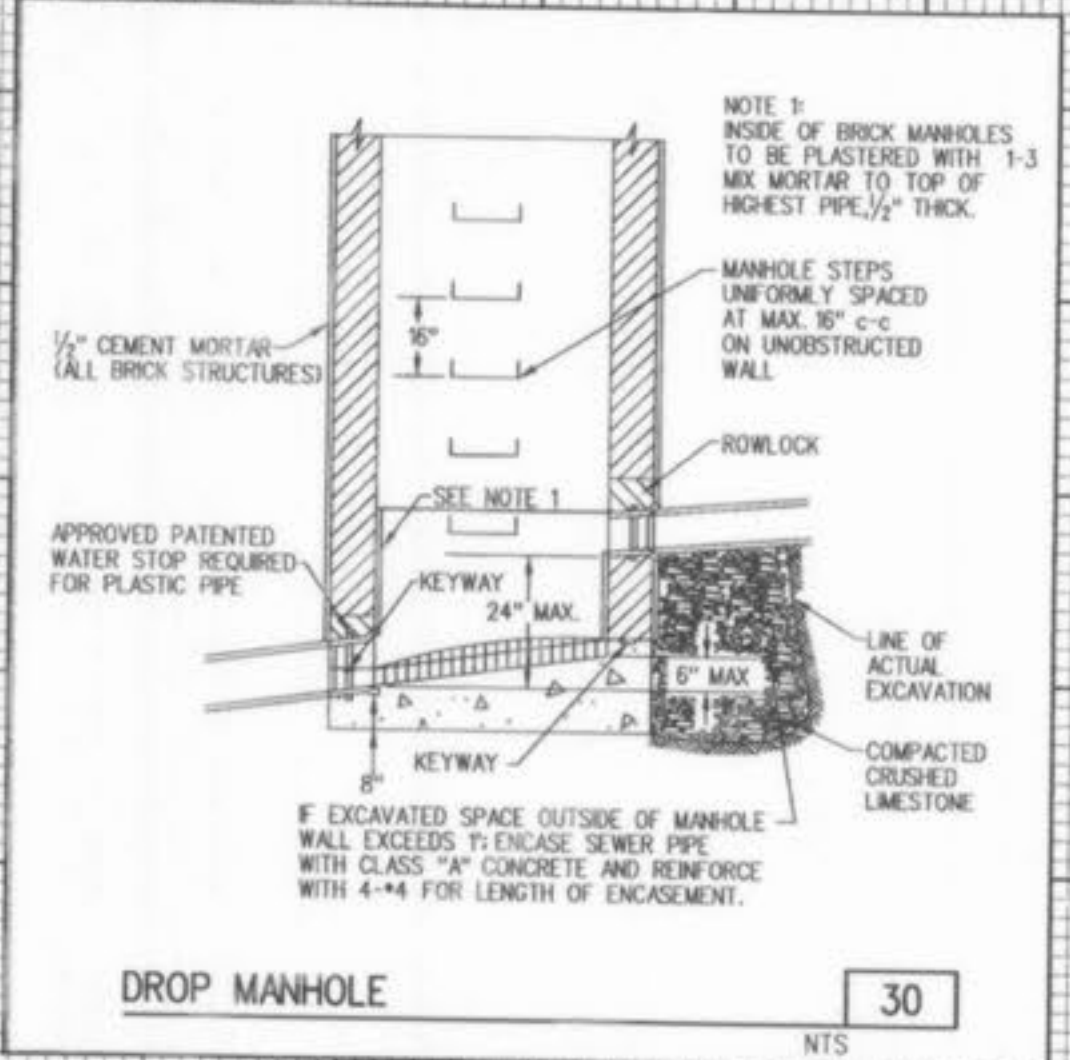
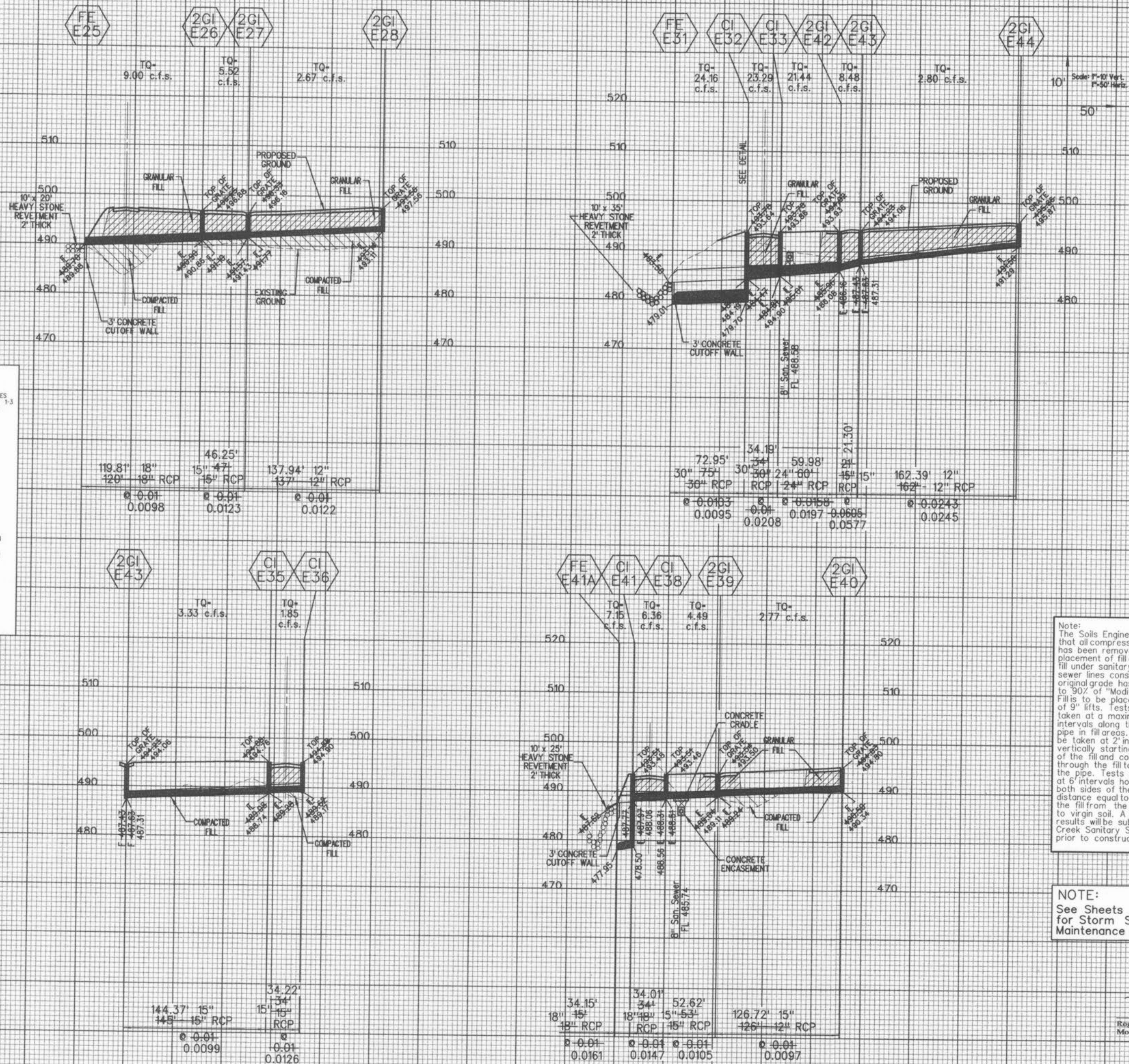
SLEEPY HOLLOW VILLAGE AS-BUILT PLANS

STORM SEWER PROFILES
Design By: G.A.S.
Drawn By: M.W.M.
Checked By: E.A.C.
B-6000
08-24-01
15



WINGHAVEN™
SLEEPY HOLLOW VILLAGE AS-BUILT PLANS

STORM SEWER PROFILES
Design By: G.A.S.
Drawn By: M.W.M.
Checked By: E.A.K.
B-6000

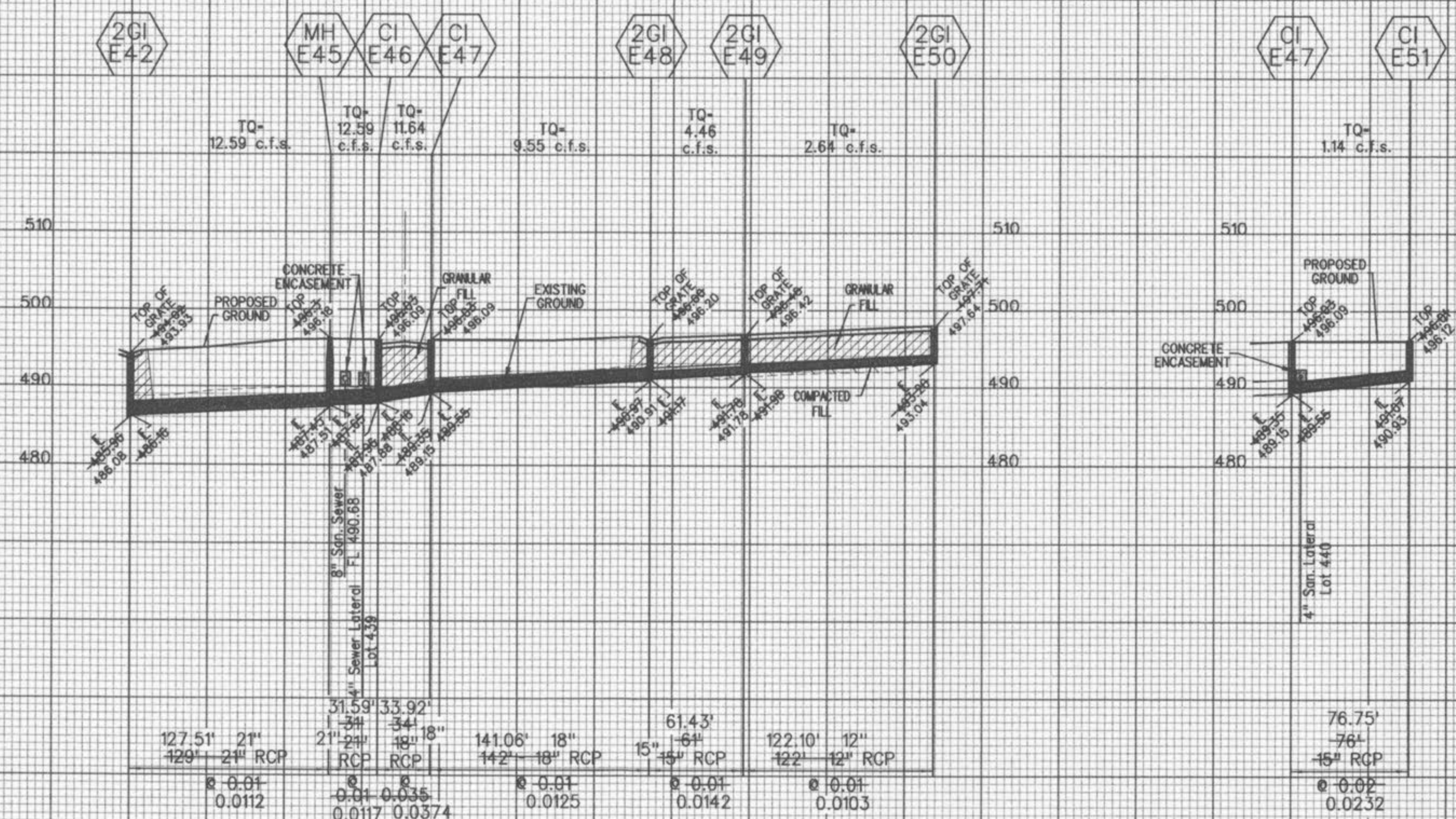


Note:
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NOTE:
See Sheets 3A and 4A for Storm Sewer Maintenance Responsibility

Roger G. Allen
Roger G. Allen
Mo. P.E. No. 2185

FINAL SEWER MEASUREMENTS



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NOTE:
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Scale: 1"=10' Vert.
1"=50' Horiz.

Professional Engineer Seal
Rogers & Allen
Mo. P.E. No. 2185

FINAL SEWER MEASUREMENTS

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PHONE (314) 537-2000



WINGHAVEN™
SLEEPY HOLLOW VILLAGE AS-BUILT PLANS

STORM SEWER PROFILES
Design By: G.A.S.
Drawn By: M.W.M.
Checked By: E.A.K.
B-6500