

W INGHAVEN
PHASE 3
HERITAGE COMMONS VILLAGE
FINAL SEWER MEASUREMENTS
W INGHAVEN RESIDENTIAL L.L.C.

McBRIDE & SON HOMES INC.

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

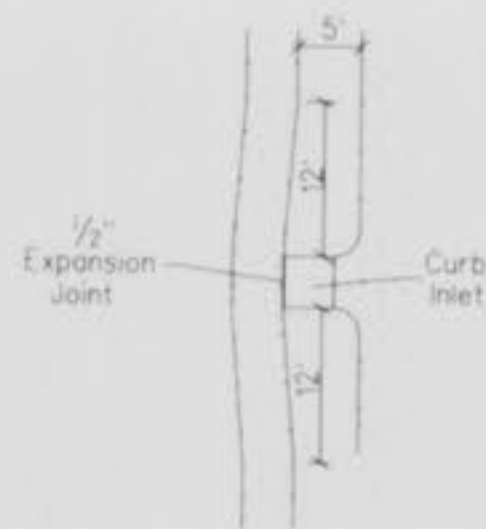


VOLZ



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.

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



Sidewalk At Curb Inlet
N.T.S.

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

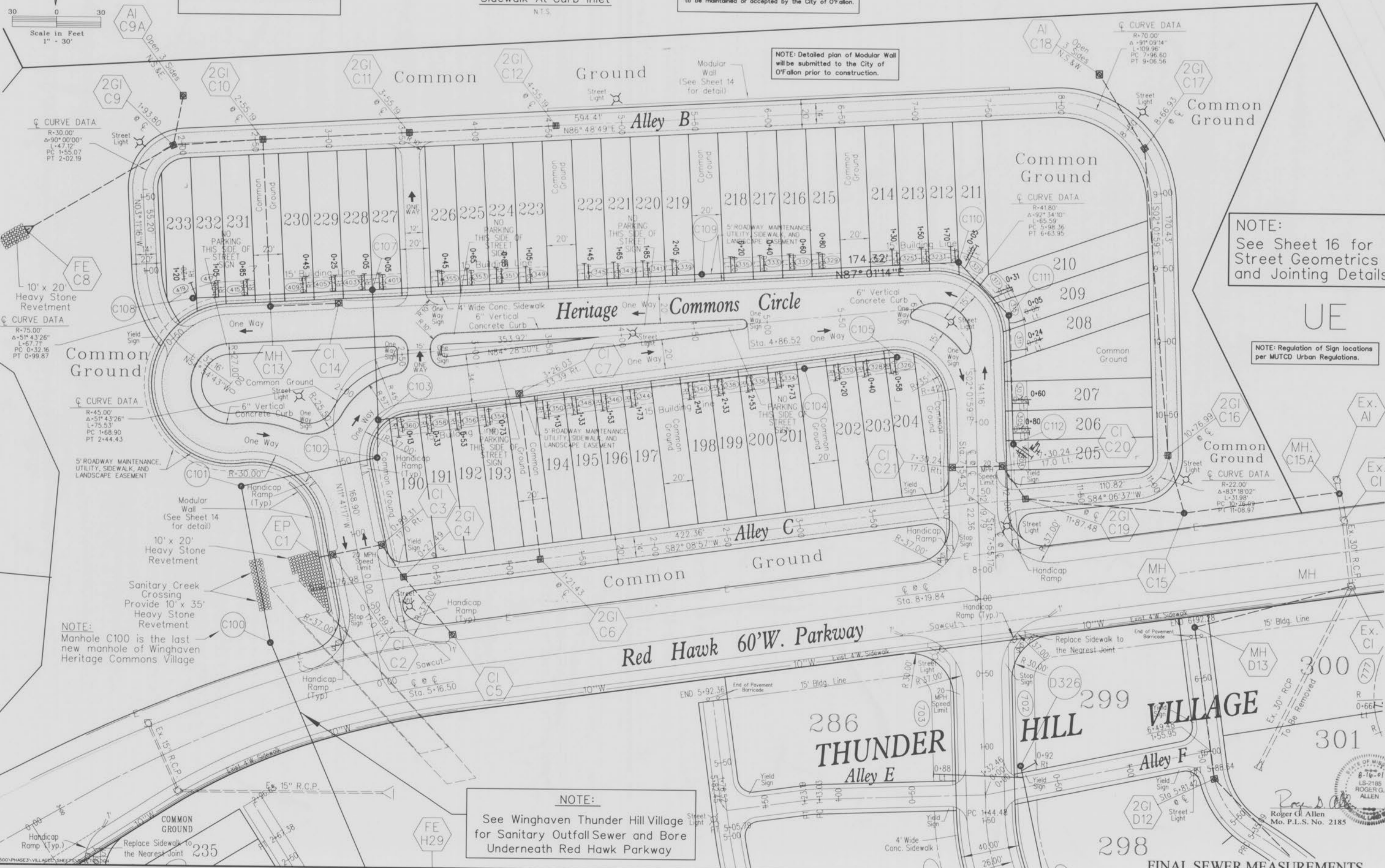
NOTE
Winghaven - Heritage Commons Village will be part of Winghaven Residential Owners Association, Inc., which includes all of the Winghaven Development, Phases 1, 2, and 3. The alleys in Winghaven Phase 3 are private and will remain private forever and never to be maintained or accepted by the City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

PHASE 3 RESIDENTIAL
VILLAGE C
HERITAGE HILL VILLAGE

TOTAL VILLAGE ACREAGE	R.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
6.995	46	3.5	3.035	44	2,000	15'	20' MIN. BETWEEN STRUCTURES	5'	1790	

WINGHAVEN RESIDENTIAL L.L.C.
11465 S. WILSON AVE.
CORPORATE CENTER DRIVE
ST. LOUIS, MISSOURI 63005
PHONE (314) 537-2000

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

NOTE: See Sheet 16 for Street Geometrics and Jointing Details

NOTE: Regulation of Sign locations per MUTCD Urban Regulations.

NOTE: Manhole C100 is the last new manhole of Winghaven Heritage Commons Village

NOTE: See Winghaven Thunder Hill Village for Sanitary Outfall Sewer and Bore Underneath Red Hawk Parkway

WINGHAVEN
HERITAGE COMMONS VILLAGE

SITE PLAN
Design By: E.D.K.
Drawn By: D.M.L.
Checked By: E.A.K.
B-5500

ROYER CL ALLEN
Professional Engineer
No. P.L.S. No. 2185

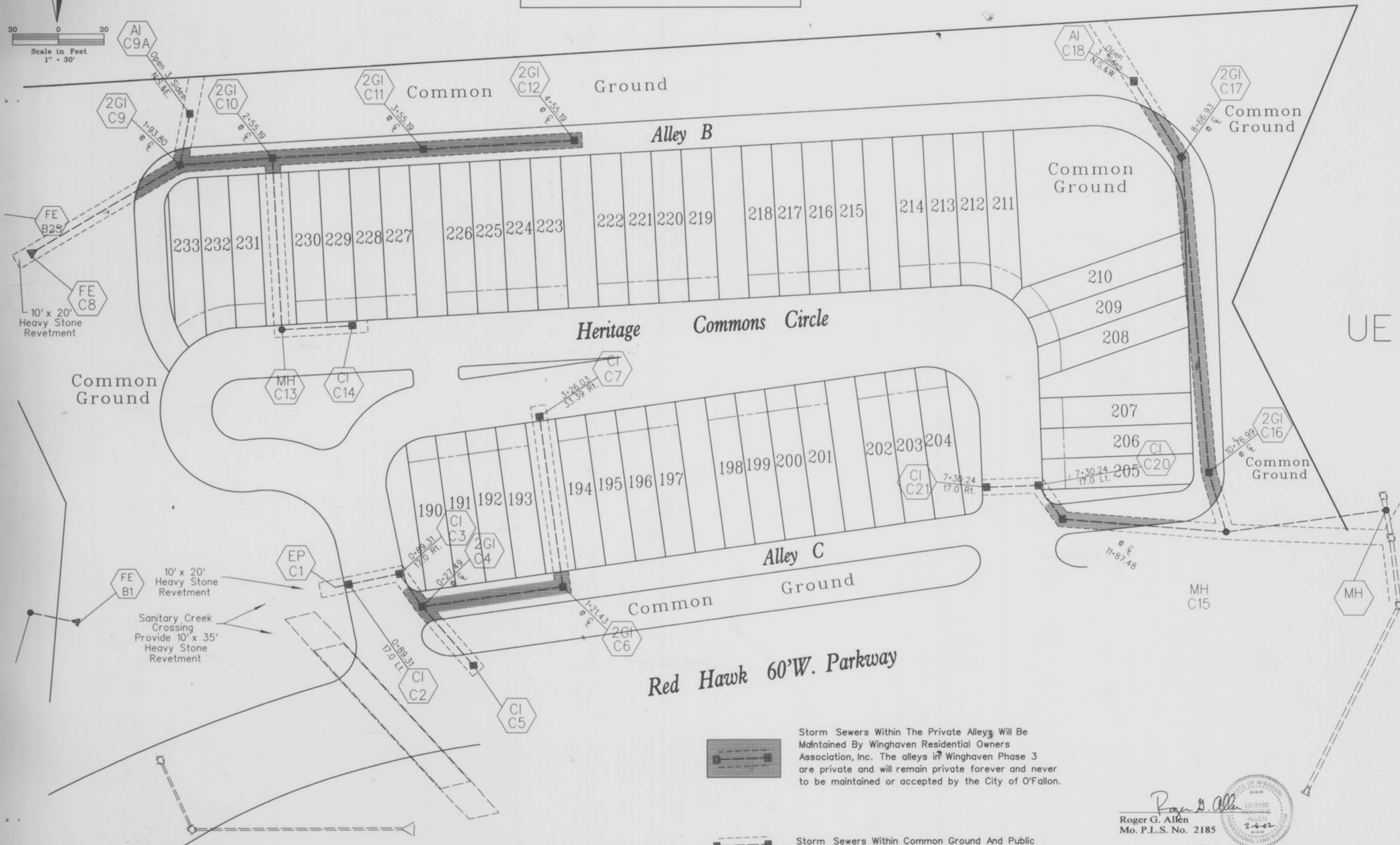
FINAL SEWER MEASUREMENTS

NOTE

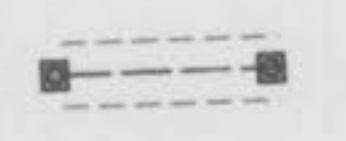
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Scale in Feet
1" = 30'



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.

Roger G. Allen
 Roger G. 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 13141 537-2000



WINGHAVEN

HERITAGE COMMONS VILLAGE

STORM SEWER
 MAINTENANCE

Design By: E.A.K.
 Drawn By: D.M.L.
 Checked By: E.A.K.

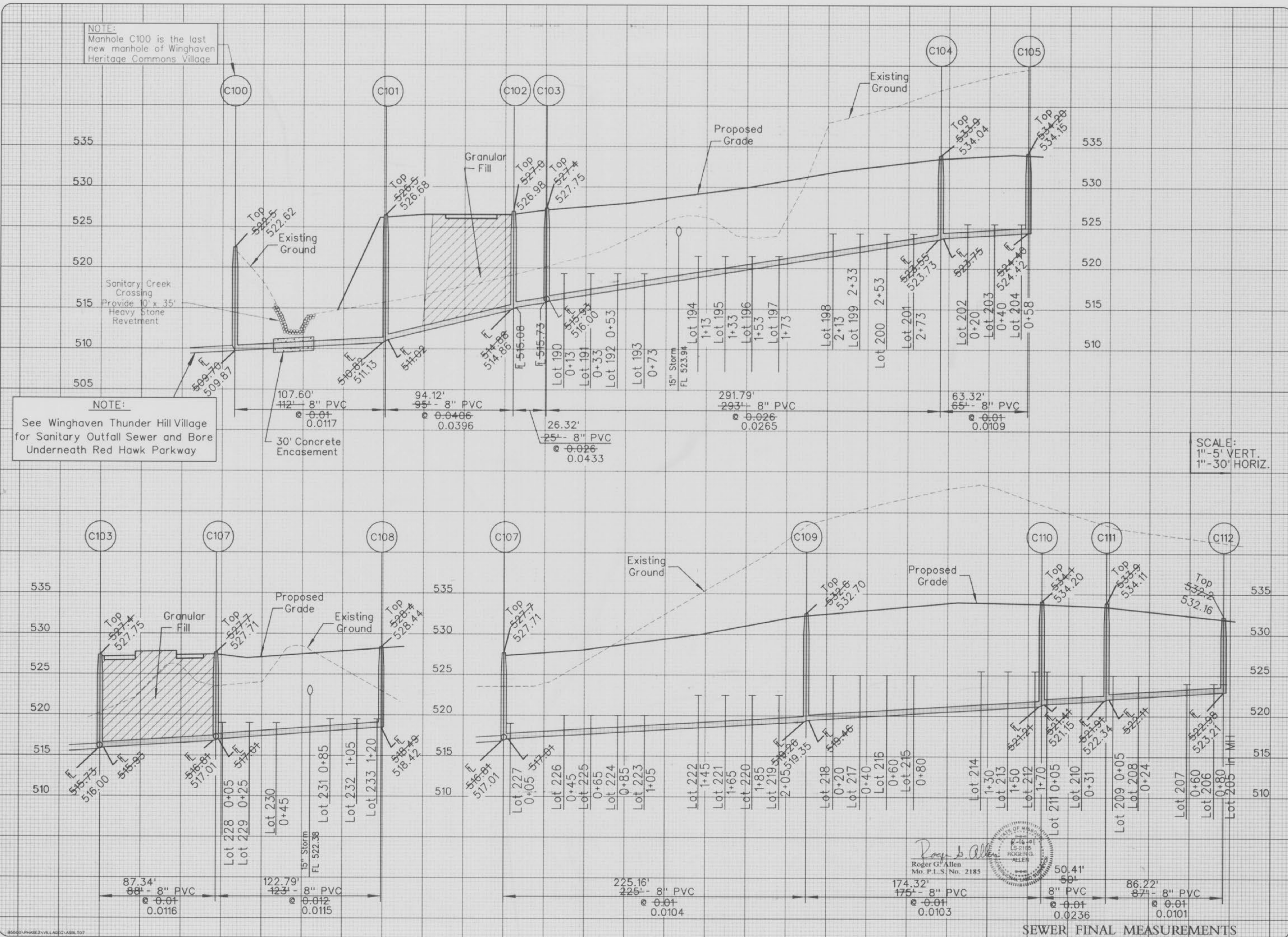
B-6500

04-19-01
 3A

NOTE:
Manhole C100 is the last
new manhole of Winghaven
Heritage Commons Village

NOTE:
See Winghaven Thunder Hill Village
for Sanitary Outfall Sewer and Bore
Underneath Red Hawk Parkway

SCALE:
1" = 5' VERT.
1" = 30' HORIZ.



WINGHAVEN
RESIDENTIAL L.L.C.
*MURPHY & SON
CORPORATE CENTER DRIVE
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PHONE 13141 537-2000

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WINGHAVEN

HERITAGE COMMONS VILLAGE

SANITARY PROFILES

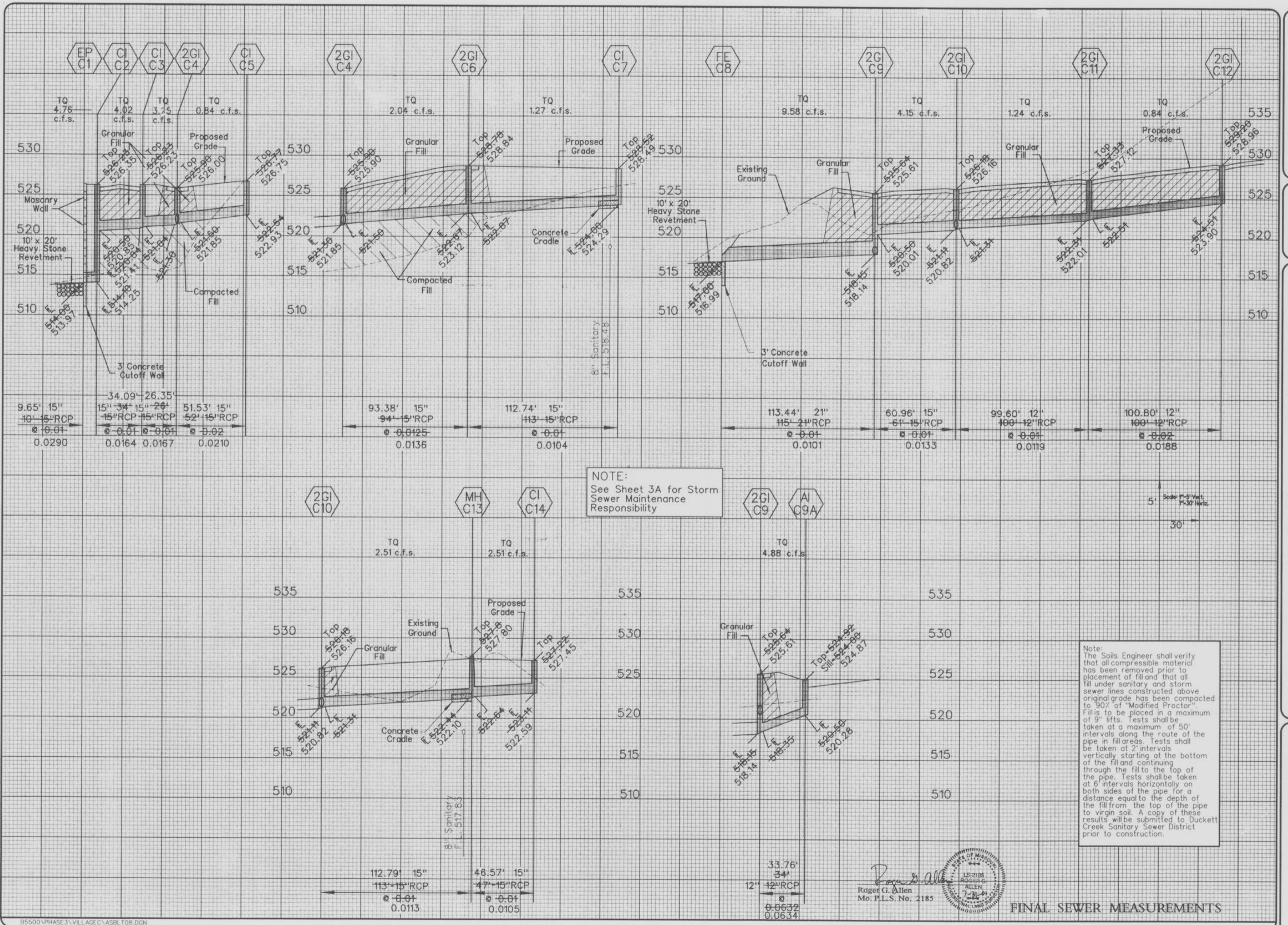
Design By: E.A.K.
Drawn By: D.L.L.
Checked By: E.A.K.

B-4500

03-20-01
07

SEWER FINAL MEASUREMENTS

Heritage Commons



WINGHAVEN
RESIDENTIAL L.L.C.
*1 WCBRDE & SON
CORPORATE CENTER DRIVE
ST. LOUIS, MISSOURI 63005
PHONE (314) 937-2000

VOLZ

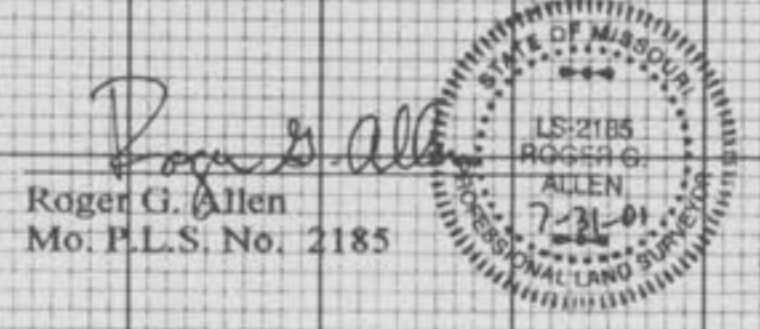
WINGHAVEN
HERITAGE COMMONS VILLAGE

WINGHAVEN
HERITAGE COMMONS VILLAGE

STORM SEWER PROFILES

Design By: E.D.K.
Drawn By: D.A.L.
Checked By: E.A.K.
B-8500
04-19-01
08

FINAL SEWER MEASUREMENTS



AS-BUILT

VOLZ ENGINEERING & SURVEYING, INC.
 10849 INDIAN HEAD INDUSTRIAL BLVD.
 ST. LOUIS, MO 63132 (314)426-6212
 B6500CAB HERITAGE COMMONS AS BUILT

4-15-***
 13:08:46
 Page 1

LINE	STRUCTURES				FLOWLINE		UPPER STRUCTURE		HYDRAULIC		FRICTION LOSS	VELOCITY		TURN		AREA PI		QUANTITY		***	CAPACITIES								
	UPPER	LOWER	LENGTH	SIZE	UPPER	LOWER	ELEVATION	FREEBOARD	UPPER	LOWER		GRADE	FPS	HEAD	GAIN	ANGLE	LOSS	AREA	PI		INCR	TOTAL	PIPE	INLET	GUTTER	P.V.	BYPASS		
LINE 1	5 STRUCTURES																												
CI	c5	2GI	c4	51.5	15	522.93	521.85	.021	526.75	2.57	524.18	523.10*	.0002	.01	.69	.01	.00	0	.00	.32	2.64	.84	.84	LOW	9.35	4.00	2.00	4.73	
2GI	c4	CI	C3	26.4	15	521.75	521.51	.009	526.00	2.90	522.83	522.76*	.0025	.07	2.65	.11	.11	0	.00	.14	2.64	.37	3.25	.50'	6.16	5.40	5.43	5.07	
															INCOMING LINE 2		80	.03			2.03								
CI	C3	CI	C2	34.1	15	521.31	520.85	.013	526.23	3.47	522.23	522.10*	.0039	.13	3.27	.17	.10	80	.07	.29	2.64	.77	4.01	1.0%	7.50	2.29	2.97	6.13	
CI	C2	EP	C1	9.6	15	514.25	513.97	.029	526.35	4.25	.05	.00	.0054	.05	3.87	.23	.12	0	.00	.28	2.64	.74	4.75	1.0%	11.00	2.29	2.97	8.14	
																												8.65pv	
LINE 2	3 STRUCTURES																												
CI	C7	2GI	C6	112.7	15	524.29	523.22	.009	528.49	2.95	525.54	524.47*	.0004	.04	1.03	.02	.00	0	.00	.48	2.64	1.27	1.27	2.2%	6.29	1.86	4.44	3.94	
2GI	C6	2GI	C4	93.4	15	523.02	521.95	.011	528.84	4.37	.09	.00	.0010	.09	1.66	.04	.04	90	.01	.29	2.64	.77	2.03	.50'	6.91	5.40	7.33	4.82	
LINE 3	5 STRUCTURES																												
2GI	C12	2GI	C11	100.8	12	523.90	522.11	.018	528.96	4.06	524.90	523.11*	.0006	.06	1.08	.02	.00	0	.00	.32	2.64	.84	.84	.50'	4.75	5.40	7.33	4.58	
2GI	C11	2GI	C10	99.6	12	521.91	520.92	.010	527.12	4.01	522.04	521.92*	.0012	.12	1.58	.04	.04	0	.00	.15	2.64	.40	1.24	.50'	3.55	5.40	7.33	4.13	
2GI	C10	2GI	C9	61.0	15	520.72	520.01	.012	526.16	4.24	521.30	521.26*	.0006	.04	1.33	.03	.00	0	.00	.15	2.64	.40	1.64	.50'	6.97	5.40	7.33	4.69	
2GI	C9	FE	C8	113.4	21	518.04	516.99	.009	525.61	4.35	.20	.00	.0018	.20	2.80	.12	.00	30	.01	.08	2.64	.21	6.73	.50'	15.24	5.40	7.33	6.08	
															INCOMING LINE 5		70	.37			4.88							6.15pv	
LINE 4	3 STRUCTURES																												
CI	C14	MH	C13	46.6	15	522.59	522.20	.008	527.45	3.61	523.84	523.45*	.0015	.07	2.04	.06	.00	0	.00	.19	2.64	2.51	2.51	LOW	5.91	4.00	2.00	4.54	
MH	C13	2GI	C10	112.8	15	522.00	520.92	.010	527.80	4.35	522.34	522.17*	.0015	.17	2.04	.06	.00	90	.05	.76	2.64		2.51		6.32				4.93
LINE 5	2 STRUCTURES																												
AI	C9A	2GI	C9	33.8	12	520.28	518.24	.060	524.87	2.98	521.89	521.26	.0188	.63	6.22	.60	.00	0	.00	1.85	2.64	4.88	4.88	3 SIDES 6"	8.76	10.35			11.42
LINE 6	5 STRUCTURES																												
AI	C18	2GI	C17	59.4	12	527.98	527.46	.009	532.92	3.94	528.98	528.46*	.0018	.11	1.95	.06	.00	0	.00	.58	2.64	1.53	1.53	3 SIDES 6"	3.33	10.35			4.20
2GI	C17	2GI	C16	207.4	12	527.26	525.10	.010	531.74	3.28	527.26	526.10*	.0056	1.16	3.39	.18	.19	15	.01	.26	2.64	1.14	2.67	.50'	3.64	5.40	2.00		4.98
2GI	C16	MH	C15	39.8	12	524.90	522.34	.064	531.70	5.60	523.63	523.34*	.0074	.29	3.90	.24	.11	10	.02	.17	2.64	.40	3.06	.50'	9.03	5.40	7.33	10.37	
MH	C15	MH	C15A	106.7	15	522.14	516.87	.049	530.19	6.85	.58	.00	.0054	.58	3.87	.23	.09	85	.16	.15	2.64	.40	4.75	.50'	14.36				10.47
															INCOMING LINE 7		15	.01			1.69								
LINE 7	4 STRUCTURES																												
CI	C21	CI	C20	34.5	15	527.29	526.93	.010	531.73	3.19	528.54	528.18*	.0000	.00	.28	.00	.00	0	.00	.13	2.64	.34	.34	2.4%	6.59	1.79	4.64	2.79	
CI	C20	2GI	C19	27.3	15	526.73	526.62	.004	531.83	3.65	527.88	527.87*	.0005	.01	1.18	.02	.03	65	.00	.42	2.64	1.11	1.45	2.4%	4.10	1.79	4.64	3.05	
2GI	C19	MH	C15	108.0	15	526.42	522.34	.038	530.61	2.74	523.66	523.59*	.0007	.07	1.38	.03	.01	45	.01	.09	2.64	.24	1.69	.50'	12.56	5.40	7.33	7.15	

*** AIs # of sides open & depth of sill
 CIs street grade at inlet
 GIs depth over grate

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

WINGHAVEN
HERITAGE COMMONS VILLAGE



NOTE:
See Sheet 3A for Storm
Sewer Maintenance
Responsibility

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". Fill is 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.

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

SEWER FINAL MEASUREMENTS

STORM SEWER PROFILES
Design By: E.D.K.
Drawn By: D.A.L.
Checked By: E.A.K.
B-6600
04-19-01
09