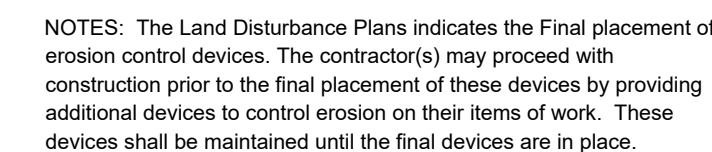


Section 8, Township 48 North, Range 31 West
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

C.001



LEGEND

PHASE 1 SILT FENCE ————SF-1—————SF-1—————

PHASE 2 SILT FENCE ————SF-2—————SF-2—————

INLET PROTECTION **█**

DURING ALL PHASES OF CONSTRUCTION,
INACTIVE AREA STABILIZATION METHODS AS
DESCRIBED IN APWA SECTION 5111.3 SHALL BE
USED TO CONTROL EROSION AND SILTATION.

Perimeter Silt Fence
Must Be Installed Prior to
Any Land Disturbance Activities
Per APWA Detail ESC-03. (Typ.)

Perimeter Silt Fence
Must Be Installed Prior to
Any Land Disturbance Activities
Per APWA Detail ESC-03. (Typ.)

Temporary Construction Entrance
Must Be Installed Prior to
Any Land Disturbance Activities
Per APWA Detail ESC-01.

Temporary Construction Entrance
Must Be Installed Prior to
Any Land Disturbance Activities
Per APWA Detail ESC-01.

ENGINEERING
—ENGINEERING & SURVEYING—
SOLUTIONS

50 SE 30TH STREET
LEE'S SUMMIT, MO 64082
P: (816) 623-9888 F: (816) 623-9849

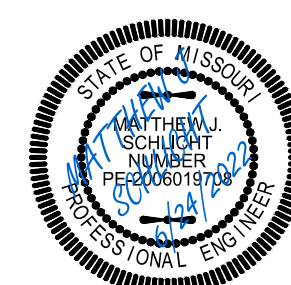
Professional Registration
Missouri
Engineering 2005002186-D
Surveying 2005008319-D
Kansas
Engineering E-1695
Surveying LS-218
Oklahoma
Engineering 6254
Nebraska
Engineering CA2821

THE VILLAS OF CHAPEL RIDGE-2ND PLAT
LOTS 43-76
Lee's Summit, Jackson County, Missouri

Project: VILLAS OF CHAPEL
RIDGE, LSMO

Issue Date: June 24, 2022

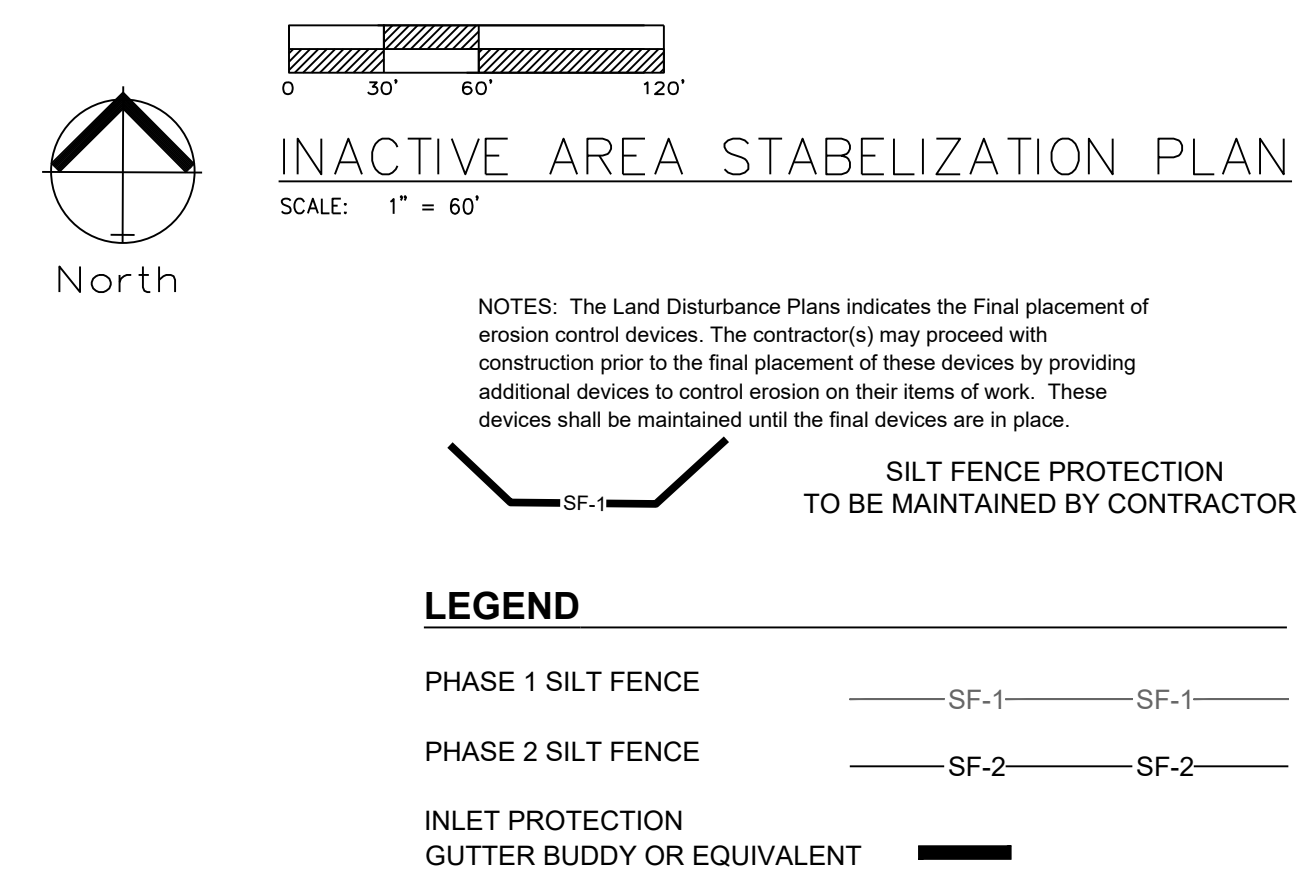
ESC PHASE 1 - Pre Clearing Plan
Construction Plans for:
THE VILLAS OF CHAPEL RIDGE-2ND PLAT
LOTS 43-76
Lee's Summit, Jackson County, Missouri



Matthew J. Schlich
MO PE 2006019708
KS PE 19071
OK PE 25226
NE PE E-14335

REVISIONS

C.050



DURING ALL PHASES OF CONSTRUCTION,
INACTIVE AREA STABILIZATION METHODS AS
DESCRIBED IN APWA SECTION 5111.3 SHALL BE
USED TO CONTROL EROSION AND SILTATION.

TO MAINTAIN THE EROSION AND SEDIMENT CONTROLS, THE FOLLOWING PROCEDURES WILL BE PERFORMED:

- SEDIMENT CAPTURE DEVICES:** SEDIMENT WILL BE REMOVED FROM THE UPSTREAM OR UPSLOPE SIDE OF THE FILTER FABRIC FENCES, WHEN THE DEPTH OF ACCUMULATED SEDIMENT REACHES ABOUT ONE-THIRD THE HEIGHT OF THE STRUCTURE.
- STORM SEWER INLETS:** ANY SEDIMENT IN THE STORM SEWER INLETS WILL BE REMOVED AND DISPOSED OF PROPERLY.
- TEMPORARY CONTROLS:** ALL TEMPORARY CONTROLS WILL BE REMOVED AFTER THE DISTURBED AREAS HAVE BEEN STABILIZED.

INSPECTIONS WILL BE DONE BY THE RESPONSIBLE PERSON(S) AT LEAST ONCE EVERY WEEK AND WITHIN 24 HOURS EACH STORM EVENT PRODUCING ANY AMOUNT OF RAINFALL. AREAS THAT HAVE BEEN RESEEDED WILL BE INSPECTED REGULARLY AFTER SEED GERMINATION TO ENSURE COMPLETE COVERAGE OF EXPOSED AREAS. DISTURBED AREAS THAT HAVE NOT BEEN FINALLY STABILIZED SHALL HAVE ALL POLLUTION CONTROL MEASURES INSPECTED FOR PROPER OPERATION, LOCATION, AND MAINTENANCE. LOCATIONS WHERE STORM WATER LEAVES THE SITE SHALL BE INSPECTED FOR EVIDENCE OF EROSION OR SEDIMENT DEPOSITION. ANY DEFICIENCIES SHALL BE NOTED IN A REPORT OF THE INSPECTION AND CORRECTED WITHIN SEVEN CALENDAR DAYS OF THE INSPECTION. THE PERMITTEE SHALL PROMPTLY NOTIFY THE STATE CONTRACTORS RESPONSIBLE FOR OPERATION AND MAINTENANCE OF POLLUTION CONTROL DEVICES OF DEFICIENCIES.

IF THE EXISTING GROUND COVER IS NATURAL GRASS, DISTURBED AREAS SHALL BE TEMPORARILY SEEDED WITH WHEAT/RYE AT A RATE OF 15 POUNDS PER 1000 SQUARE FEET. PERMANENT SEEDED SHALL CONSIST OF 90% IN THREE EQUAL PARTS OF THIN BLADE, TURF-TYPE, TALL FESCUE AND 10% BLUEGRASS SEED AT A RATE OF 10 POUNDS PER 1000 SQUARE FEET. BOTH TEMPORARY AND PERMANENT SEEDED AREAS SHALL BE MULCHED AND WATERED TO MAINTAIN THE PROPER MOISTURE LEVEL OF THE SOIL TO ESTABLISH GRASS. NEW GRASS SHALL BE WATERED AND MAINTAINED UNTIL IT REACHES A HEIGHT OF 3 INCHES. ANY BARE AREAS SHALL BE RESEEDED.

ALL EROSION CONTROL DEVICES SHALL BE REMOVED BY GENERAL CONTRACTOR AFTER SITE STABILIZATION IS COMPLETE AND APPROVED BY ENGINEER.

THE DEVELOPER WILL DESIGNATE A QUALIFIED PERSON OR PERSONS TO PERFORM THE FOLLOWING INSPECTIONS:

STABILIZATION MEASURES: DISTURBED AREAS AND AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION WILL BE INSPECTED FOR EVIDENCE OF, OR THE POTENTIAL FOR, POLLUTANTS ENTERING THE DRAINAGE SYSTEM. AFTER A PORTION OF THE SITE IS FINALLY STABILIZED, INSPECTIONS WILL BE CONDUCTED AT LEAST ONCE EVERY MONTH THROUGHOUT THE LIFE OF THE PROJECT. CONTRACTOR CAN CONTACT ENGINEERING SOLUTIONS FOR COPIES OF THE INSPECTION FORM TO BE USED FOR STABILIZATION

STRUCTURAL CONTROLS: FILTER FABRIC FENCES AND ALL OTHER EROSION AND SEDIMENT CONTROL MEASURES IDENTIFIED IN THE PLAN WILL BE INSPECTED REGULARLY FOR PROPER POSITIONING, ANCHORING, AND EFFECTIVENESS IN TRAPPING SEDIMENTS. SEDIMENT WILL BE REMOVED FROM THE UPSTREAM OR UPSLOPE SIDE OF THE FILTER FABRIC. CONTRACTOR CAN CONTACT ENGINEERING SOLUTIONS FOR COPIES OF THE EROSION FORM TO BE USED FOR STABILIZATION MEASURES.

CONTROL MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT AMOUNTS OF POLLUTANTS FROM ENTERING RECEIVING WATERS.

CONSTRUCTION ENTRANCE: LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE WILL BE INSPECTED FOR EVIDENCE OF OFF-SITE SEDIMENT TRACKING.

A LOG OF EACH INSPECTION SHALL BE KEPT. THE INSPECTION REPORT IS TO INCLUDE THE FOLLOWING MINIMUM INFORMATION: INSPECTOR'S NAME, DATE OF INSPECTION, OBSERVATIONS RELATIVE TO THE EFFECTIVENESS OF THE POLLUTION CONTROL DEVICES, ACTIONS TAKEN OR NECESSARY TO CORRECT DEFICIENCIES, AND LISTING OF AREAS WHERE LAND DISTURBANCE OPERATIONS HAVE PERMANENTLY OR TEMPORARILY STOPPED. THE INSPECTION REPORT SHALL BE SIGNED BY THE PERMITTEE OR BY THE PERSON PERFORMING THE INSPECTION IF DULY AUTHORIZED TO DO SO.

- 1.) SILT FENCE SHALL BE PLACED AT THE PERIMETER OF THE GRADING AND AT INTERMEDIATE AREAS THROUGHOUT THE SITE AS SHOWN ON THE PLAN. INLET SEDIMENT TRAPS SHALL BE PLACED SURROUNDING ALL STORM INLETS
- 2.) INSTALL TEMPORARY CONSTRUCTION ENTRANCE AS SHOWN ON PLAN

1.) SILT FENCE AND TEMPORARY CONSTRUCTION ENTRANCE SHALL BE INSTALLED AT THE PERIMETER OF THE GRADED AREAS PRIOR TO BEGINNING OF CLEARING OR DEMOLITION OPERATIONS. THE CONTRACTOR SHALL INSTALL SILT FENCE AS SHOWN ON PLANS AS GRADING PROGRESSES.

A.) INSTALLATION

1.) AVOID LOCATING ON STEEP SLOPES OR AT CURVES ON PUBLIC STREETS. IF POSSIBLE, LOCATE WHERE PERMANENT ROADS WILL EVENTUALLY BE CONSTRUCTED

2.) REMOVE ALL VEGETATION AND OTHER UNSUITABLE MATERIAL FROM THE FOUNDATION AREA. GRADE AND CROWN FOR POSITIVE DRAINAGE

- EDGE OF THE PUBLIC ROAD TO DIVERT RUNOFF AWAY FROM IT.
- 4) INSTALL PIPE UNDER THE ENTRANCE IF NEEDED TO MAINTAIN DRAINAGE DITCHES ALONG PUBLIC ROADS
- 5) LEAVE STONE TO DIMENSIONS AND GRADES AS SHOWN ON PLANS. LEAVE SURFACE SMOOTH AND SLOPED FOR DRAINAGE
- 6) DIVERT ALL SURFACE DRAINAGE AND DRAINAGE FROM THE ENTRANCE TO A SEDIMENT CONTROL DEVICE
- 7) IF WET CONDITIONS ARE ANTICIPATED PLACE GEOTEXTILE FABRIC ON THE GRADED FOUNDATION TO IMPROVE STABILITY
- B) TROUBLESHOOTING
- 1) CONSULT WITH A QUALIFIED DESIGN PROFESSIONAL IF ANY OF THE FOLLOWING OCCUR:
- INADEQUATE RUNOFF CONTROLS TO THE EXTENT THAT SEDIMENT WASHES ONTO PUBLIC ROADS
 - INSTALL DIVERSIONS OR OTHER RUNOFF CONTROL MEASURES
 - SMALL STONE, THIN PAD, OR ABSEAS OF GEOTEXTILE FABRIC RESULTS IN RUTS AND MUDDY CONDITIONS AS STONE IS PRESSED INTO SOIL - INCREASE STONE SIZE OR PAD THICKNESS OR ADD GEOTEXTILE FABRIC
 - PAD TOO SHORT FOR HEAVY CONSTRUCTION TRAFFIC - EXTEND PAD BEYOND THE MINIMUM 50 FOOT LENGTH AS NECESSARY
- C) INSPECTION AND MAINTENANCE
- 1) INSPECT STONE PAD AND SEDIMENT DISPOSAL AREA WEEKLY AND AFTER ANY RAIN EVENT
- 2) RESHAPE PAD AS NEEDED FOR PROPER DRAINAGE AND RUNOFF CONTROL
- 3) TOP DRESS WITH CLEAN 2 AND 3 INCH STONES NEEDED
- 4) IMMEDIATELY REMOVE MUD OR SEDIMENT TRACKED OR WASHED ONTO PUBLIC ROADWAY. REPAIR ANY BROKEN ROAD PAVEMENT IMMEDIATELY
- 5) REMOVE ALL TEMPORARY ROAD MATERIALS FROM AREAS WHERE PERMANENT VEGETATION WILL BE ESTABLISHED

THE VILLAS OF CHAPEL RIDGE-2ND PLAT
LOTS 43-76
Lee's Summit, Jackson County, Missouri

ESC PHASE 2 - Inactive Area Stabilization Plan

Construction Plans for:
THE VILLAS OF CHAPEL RIDGE-2ND PLAT
LOTS 43-76
Lee's Summit, Jackson County, Missouri

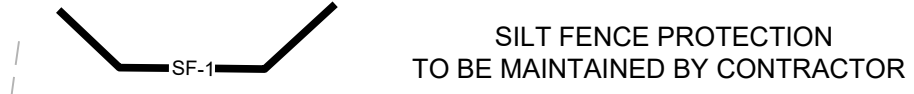
Project: VILLAS OF CHAPEL RIDGE LENO

Issue Date: June 24, 2022



Matthew J. Schlicht
MO PE 2006019708
KS PE 19071
OK PE 25226
NE PE E-14335

REVISIONS



PHASE 1 SILT FENCE 

PHASE 2 SILT FENCE 

INLET PROTECTION
GUTTER BUDDY OR EQUIVALENT 

NOTES: The Land Disturbance Plans indicates the Final placement of erosion control devices. The contractor(s) may proceed with construction prior to the final placement of these devices by providing additional devices to control erosion on their items of work. These devices shall be maintained until the final devices are in place.

All areas disturbed by construction activities shall be seeded and mulched. Seeding shall be done before the proposed seedbed becomes eroded, crusted over, or dried out and shall not be done when the ground is frozen, or covered with snow. The seed shall comply with the requirements of the Missouri Seed Law and the Federal Seed Act. Also, it shall contain no seed of any plant on the Federal Noxious Weed List. Other weed seeds shall not exceed one percent by weight of mix

Seed and Fertilizer Rate:

Mix I - Rye Grass / Blue Grass	100 lbs. per Acre
Mix II - Tall Fescue / Blue Grass	195 lbs. per Acre
Lime	2000 lbs per Acre (50 lbs. per 1000 sq. ft.)
Fertilizer	800 to 1200 lbs per Acre (25 lbs per 1000 sq. ft.)

During the dates December 15th through May 31 ALL lime fertilizer, seed and mulch shall be applied to finished slopes of disturbed areas. During the months of June, July, October and November 1st through December 15th, lime fertilizer, seed and mulch shall be applied at the following rates:

- Lime - 100% of specified quantity
- Fertilizer - 75% of the specified quantity
- Seed - 50% of the specified quantity
- Mulch - 100% of the specified quantity

Mulch shall be Vegetative type, cereal straw from stalks of oats, rye, or barley, or approved equal. The straw shall be free of prohibited weed seed and relatively free of all other noxious and undesirable seed.

Mulch shall be applied at the rate of 2 tons per acre, (70 to 90 lbs per 1000 sq. ft.). Mulch shall be embedded by a mulch anchoring tool or disk type roller having flat serrated disks spaced not more than 10 inches apart and cleaning scrapers shall be provided

ONCE SITE IS 90% VEGETATED ALL ESC DEVICES
SHALL BE REMOVED AND ANY DISTURBED AREAS
SHALL BE RESTORED





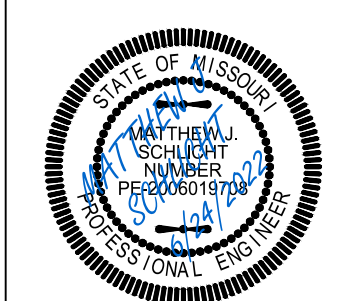
Professional Registration
Missouri
Engineering 2005002186-D
Surveying 2005008319-D
Kansas
Engineering E-1695
Surveying LS-218
Oklahoma
Engineering 6254
Nebraska
Engineering CA2821

THE VILLAS OF CHAPEL RIDGE-2ND PLAT
LOTS 43-76
Lee's Summit, Jackson County, Missouri

Project: VILLAS OF CHAPEL
RIDGE, LSMO

Issue Date:
June 24, 2022

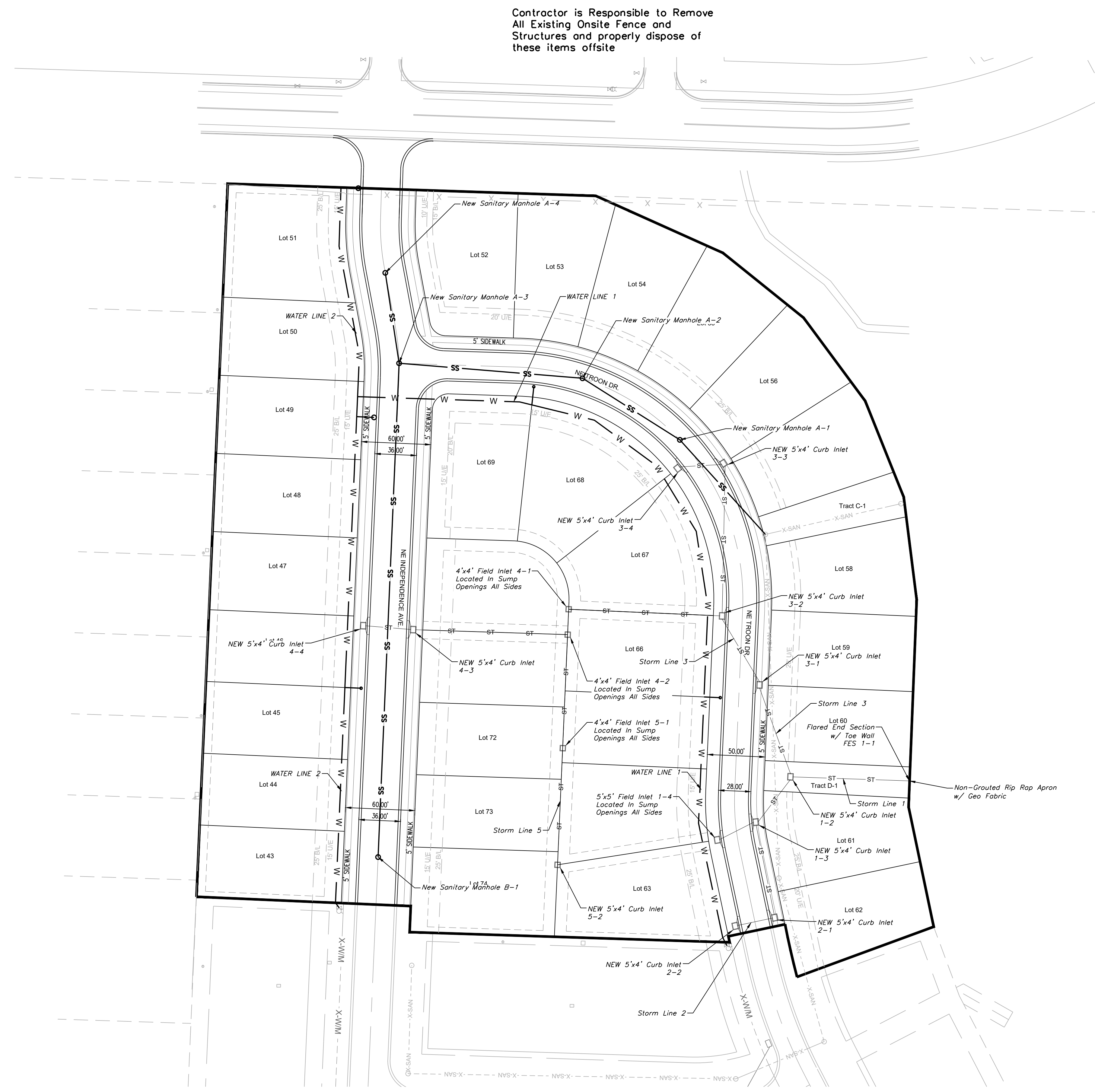
Site Plan
Construction Plans for:
THE VILLAS OF CHAPEL RIDGE-2ND PLAT
LOTS 43-76
Lee's Summit, Jackson County, Missouri

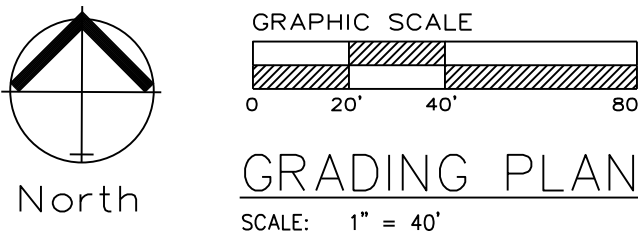


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NE PE E-14335

REVISIONS

C.100





Site Area	7.32 Acres
Cut Volume (Unadjusted)	29,628 c.y.
Fill Volume (Unadjusted)	30,922 c.y.
Street & Sidewalk Cut Volume	1,820 c.y.

Net Excess 3,114 c.y. (Unadjusted)(Cut)

1. Contractor is responsible for verifying all existing utility locations prior to excavation
2. There are no known natural or artificial water storage detention areas, or wetlands in the area designated for construction
3. No part of the project lies within the 100 year flood plain
4. All erosion and sediment control measures need to be implemented prior to construction
5. Additional erosion control may be required by the City Engineer, Design Engineer or Owner at any time problematic areas are noted in the field or existing measures are found to be ineffective
6. Soil Stabilization of disturbed areas shall be completed within 14 days of construction inactivity
7. Contractor responsible for all density testing of roadway subgrade and granular base.

Professional Registration
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THE VILLAS OF CHAPEL RIDGE-2ND PLAT
LOTS 43-76
Lee's Summit, Jackson County, Missouri

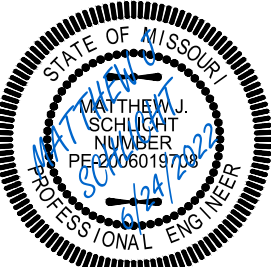
Project: VILLAS OF CHAPEL
RIDGE, LSMO

Issue Date: June 24, 2022

Master Drainage Plan 1 of 3:

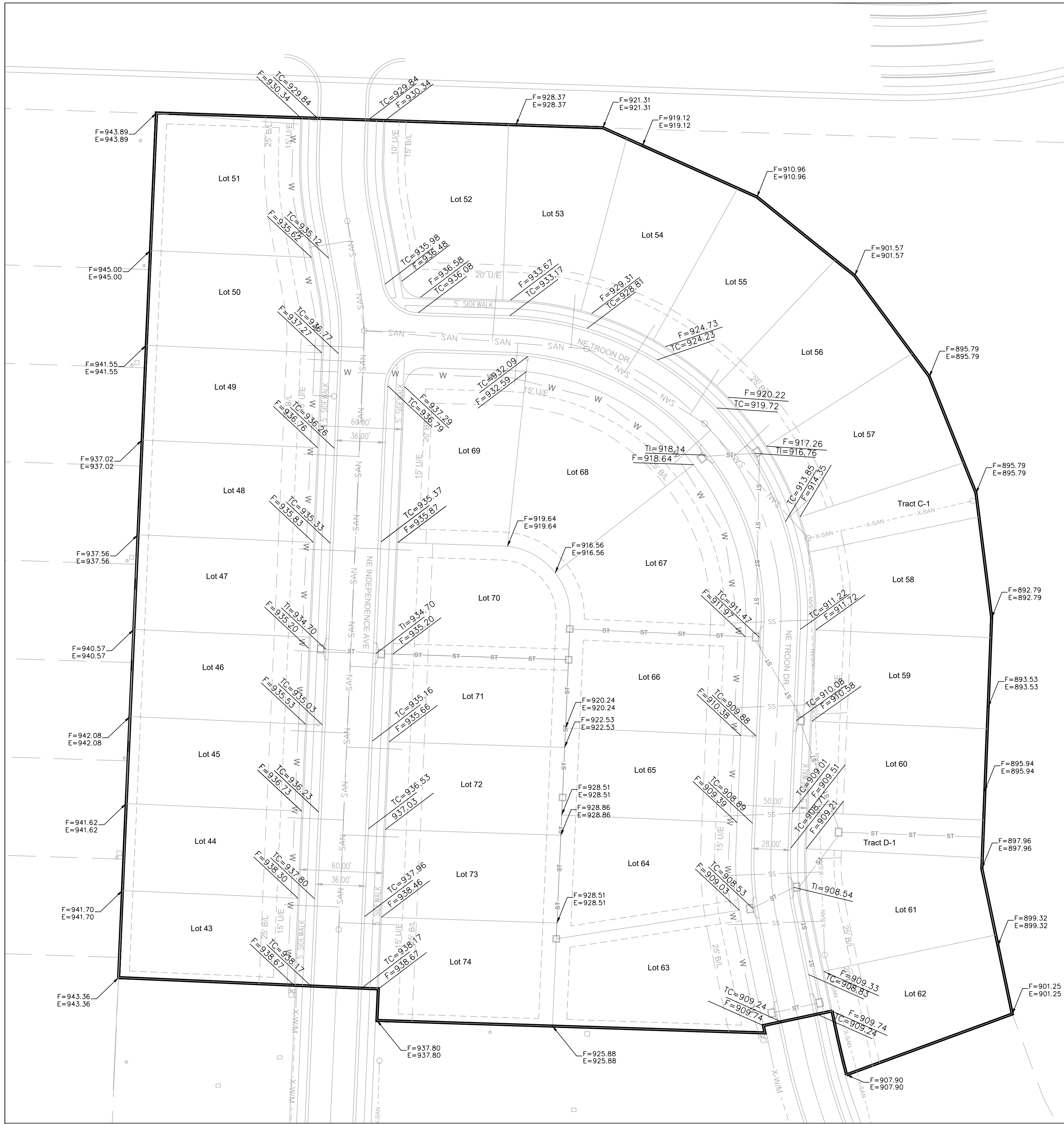
Grading Plan

Construction Plans for:
THE VILLAS OF CHAPEL RIDGE-2ND PLAT
LOTS 43-76

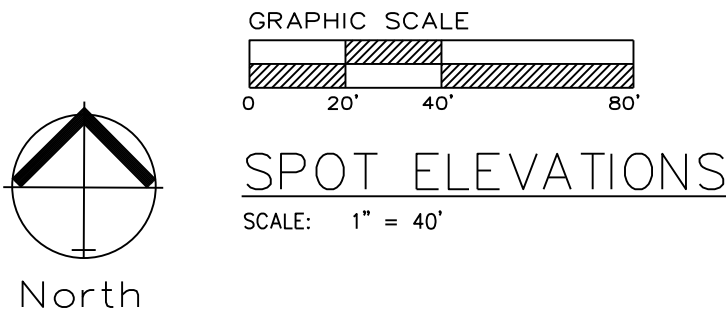


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OK PE 25226
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Note:
AS GRADED PLOT PLAN REQUIRED FOR EACH LOT.



ENGINEERING SOLUTIONS
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Professional Registration
Missouri
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Kansas
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Project:
THE VILLAS OF CHAPEL RIDGE-2ND PLAT
LOTS 43-76
Issue Date:
June 24, 2022

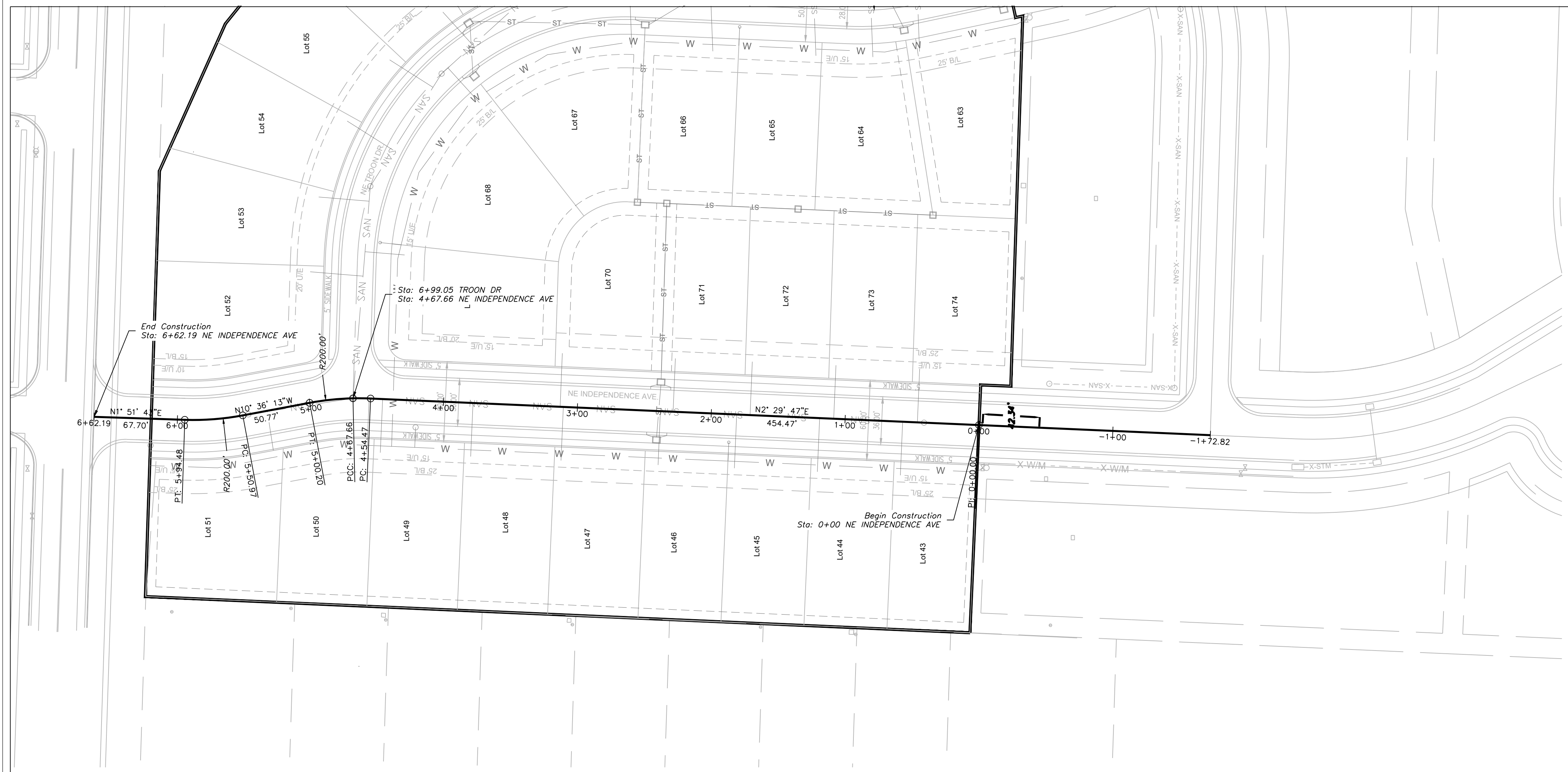
Master Drainage Plan 2 of 3:
Spot Elevations
Construction Plans for:
THE VILLAS OF CHAPEL RIDGE-2ND PLAT
LOTS 43-76
Lee's Summit, Jackson County, Missouri

STATE OF MISSOURI
MATTHEW J. SCHLICHT
REGISTERED PROFESSIONAL ENGINEER
NO. 000000181
Matthew J. Schlicht
MO PE 2006019708
KS PE 19071
OK PE 25226
NE PE E-14335

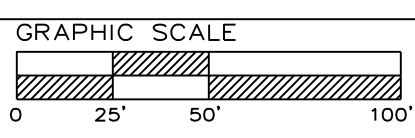
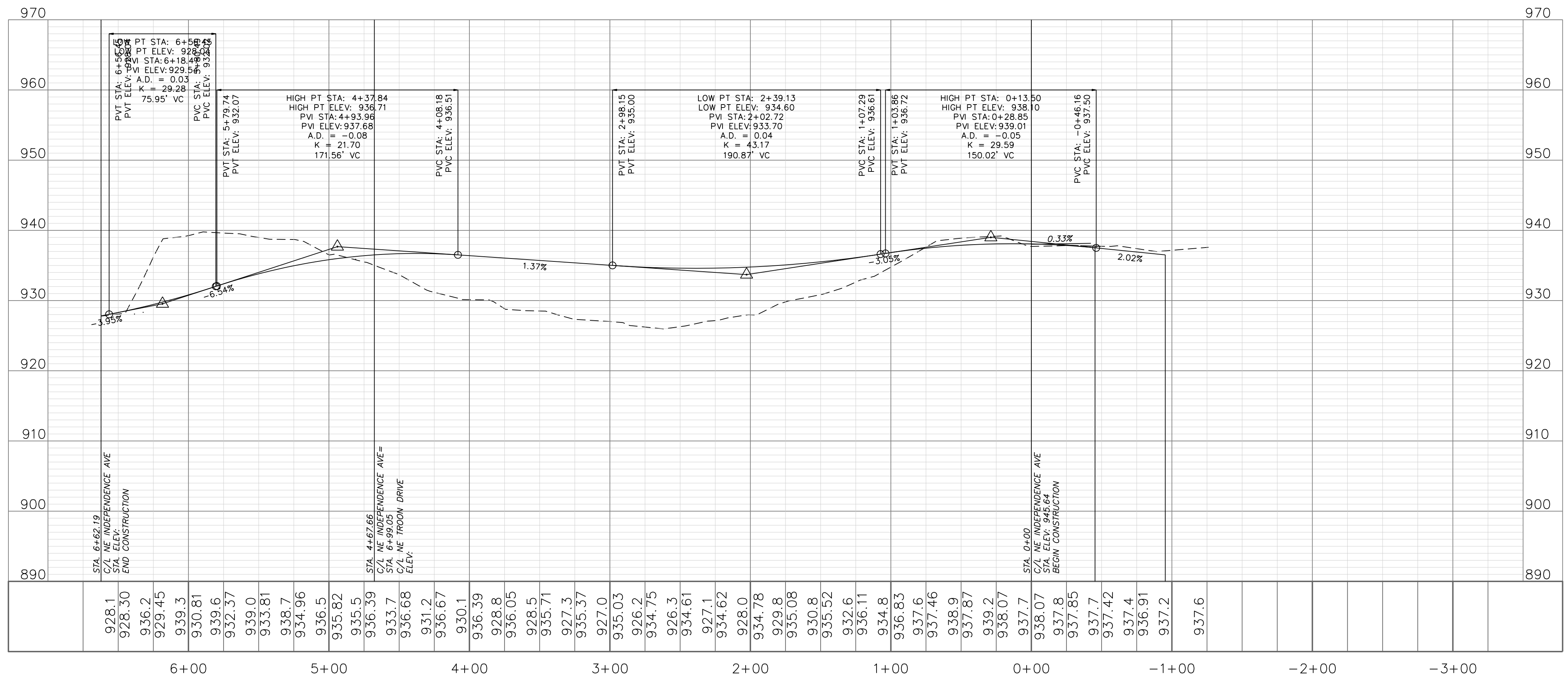
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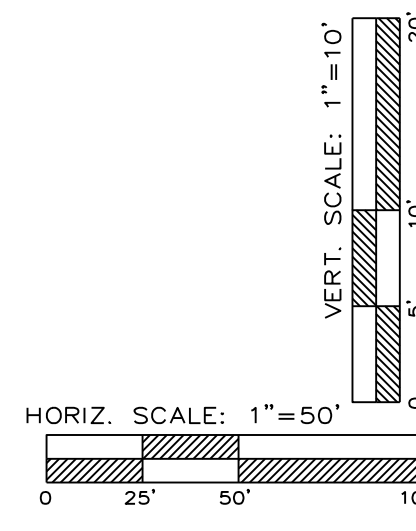
Master Drainage Map 3 of 3:
Drainage Area Map
Construction Plans for:
THE VILLAS OF CHAPEL RIDGE-2ND PLAT
LOTS 43-76
Lee's Summit, Jackson County, Missouri



NE INDEPENDENCE AVE



STREET PLAN & PROFILE
SCALE: 1" = 50'

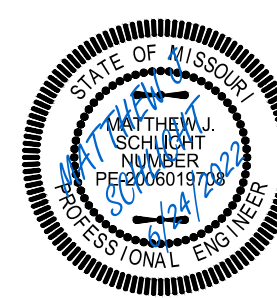


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Missouri
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THE VILLAS OF CHAPEL RIDGE-2ND PLAT
LOTS 43-76
Lee's Summit, Jackson County, Missouri

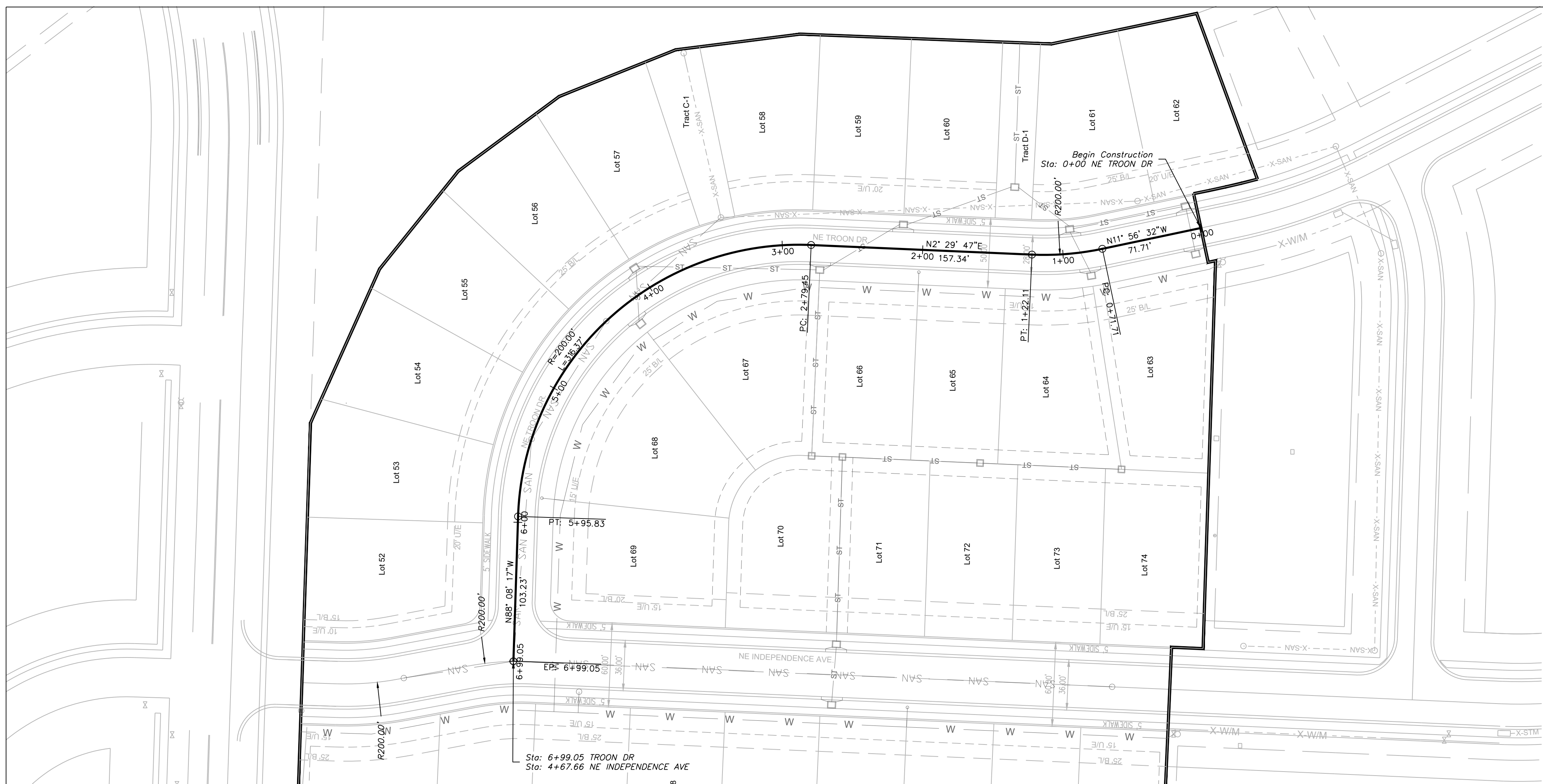
Project:
VILLAS OF CHAPEL
RIDGE-LSMO
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June 24, 2022

Street Plan and Profile
Construction Plans for:
THE VILLAS OF CHAPEL RIDGE-2ND PLAT
LOTS 43-76
Lee's Summit, Jackson County, Missouri

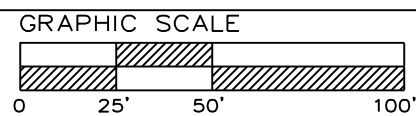
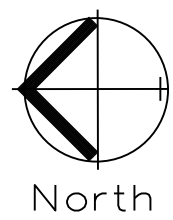
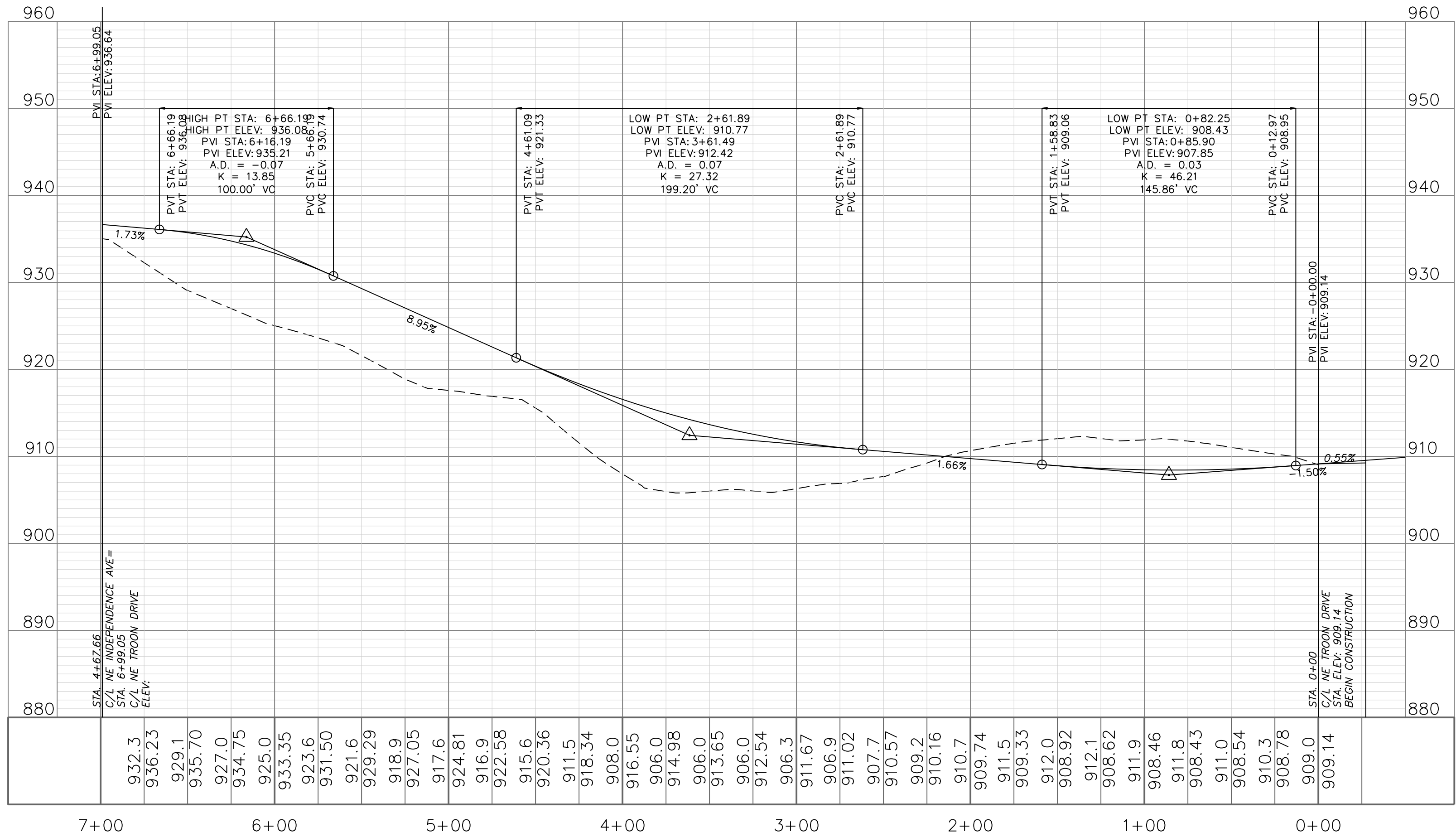


Matthew J. Schlicht
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NE PE E-14335

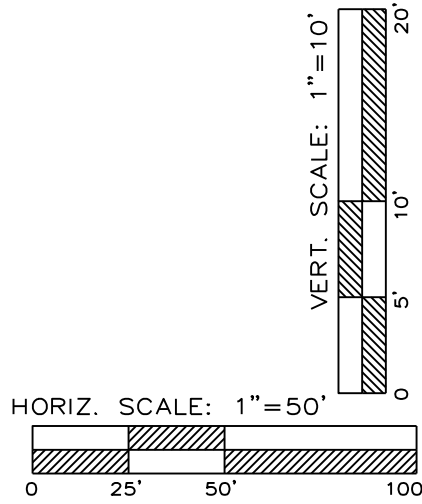
REVISIONS



NE TROON DRIVE



STREET PLAN & PROFILE
SCALE: 1" = 50'



Street Plan and Profile

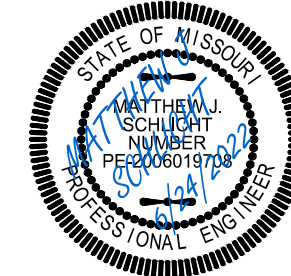
Construction Plans for:
THE VILLAS OF CHAPEL RIDGE-2ND PLAT
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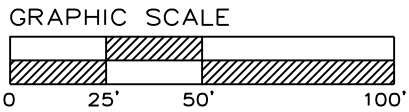
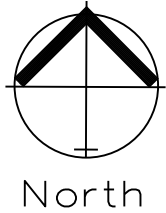


50 SE 30TH STREET
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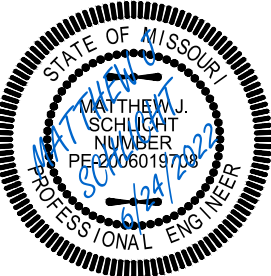


STREET SIGNAGE
SCALE: 1" = 60'

Street Signage Plan

Construction Plans for:
THE VILLAS OF CHAPEL RIDGE-2ND PLAT
LOTS 43-76
Lee's Summit, Jackson County, Missouri

Project:
VILLAS OF CHAPEL
RIDGE-LSMO
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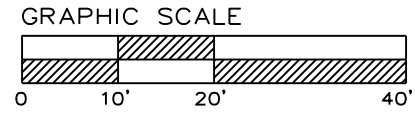
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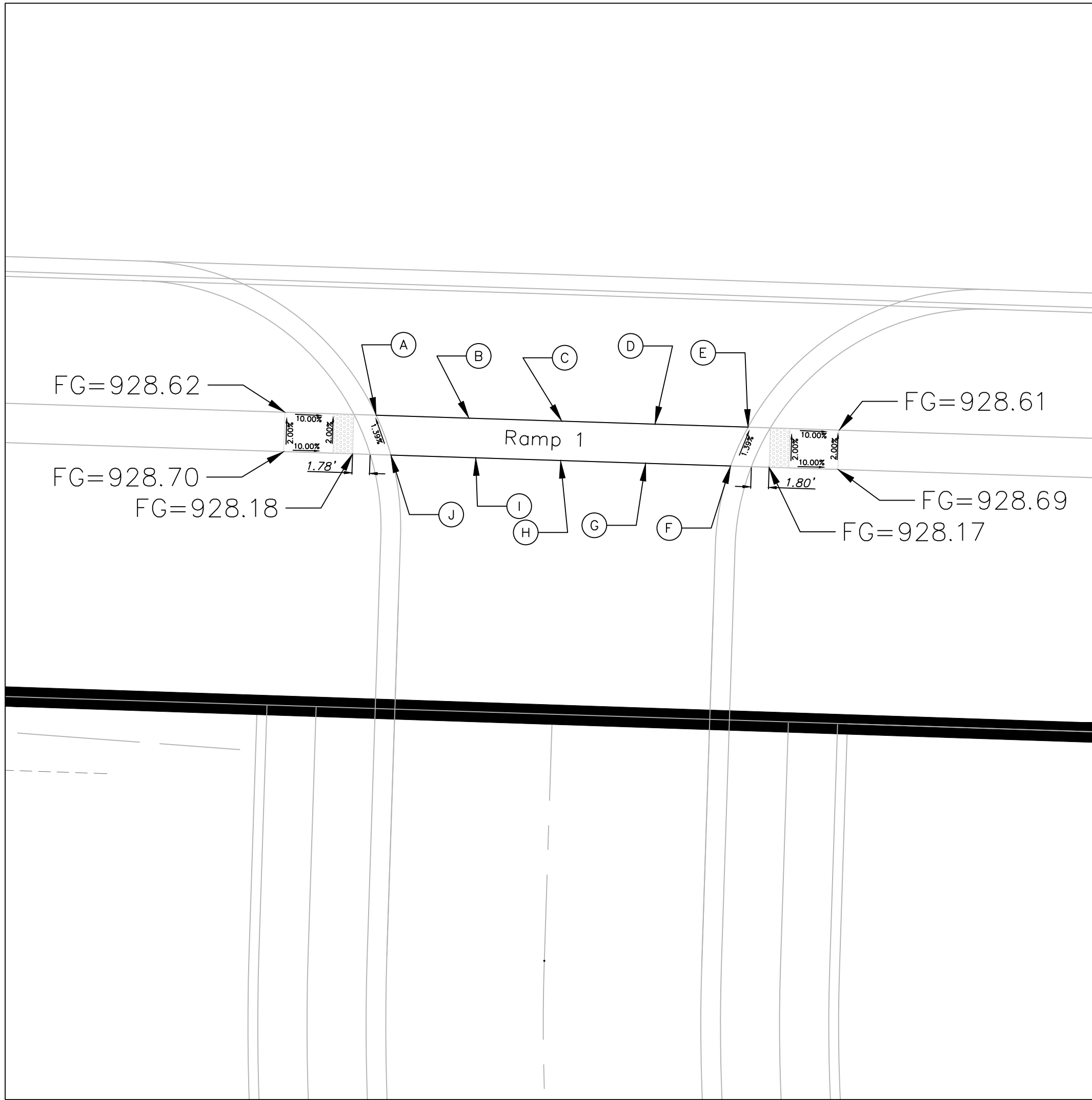
THE VILLAS OF CHAPEL RIDGE-2ND PLAT
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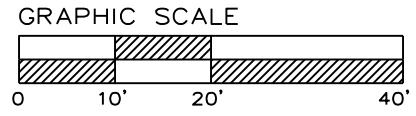


SIDEWALK AND INTERSECTION PLAN
SCALE: 1" = 20'

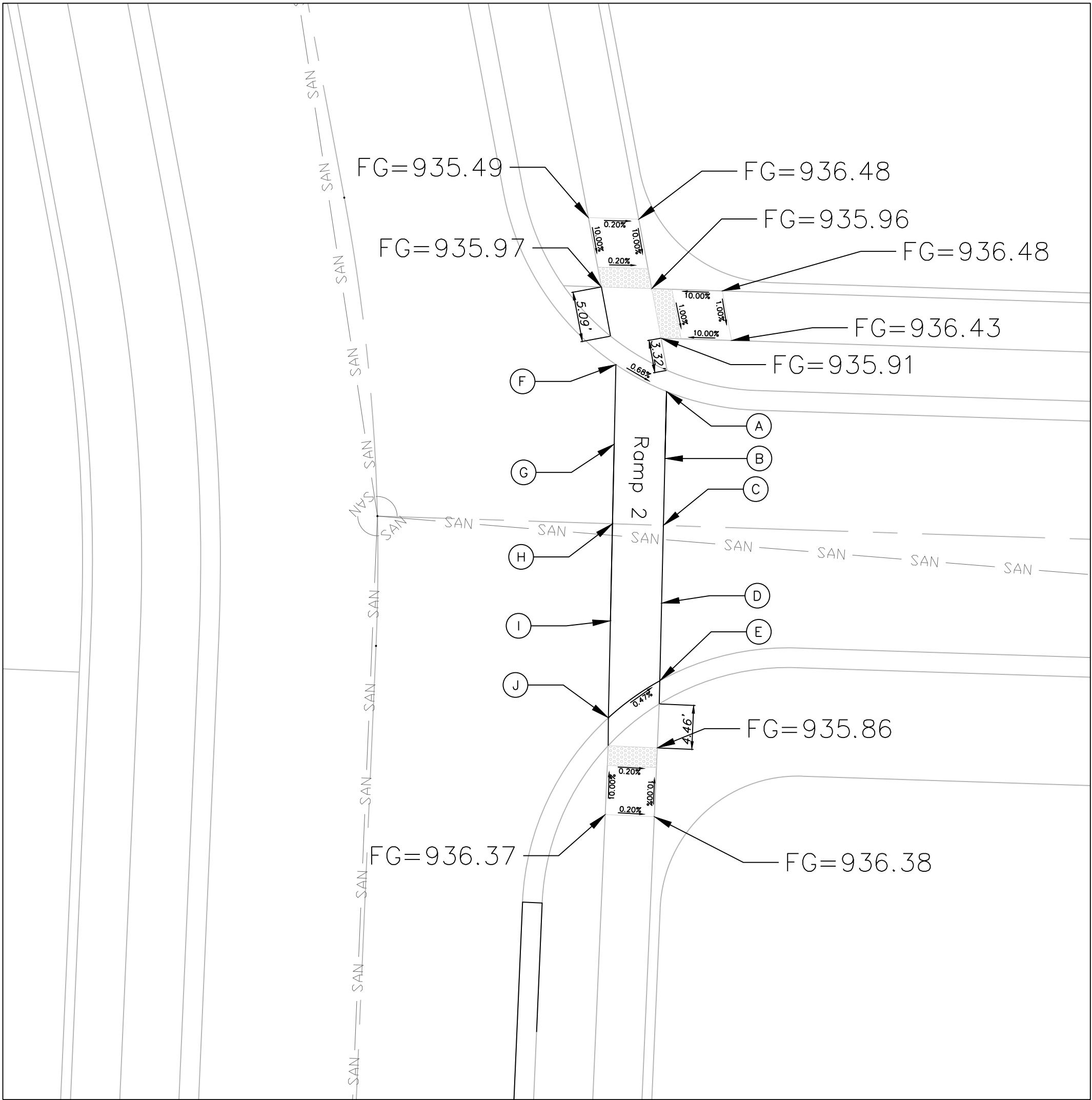


SPOT ELEVATION TABLE				
	Ramp 1	Ramp 2		
Spot	Elevation	Elevation		
A	928.10	935.88		
B	928.21	936.01		
C	928.33	936.14		
D	928.21	935.98		
E	928.09	935.82		
F	928.15	935.92		
G	928.33	936.08		
H	928.50	936.24		
I	928.33	936.04		
J	928.16	935.85		

NOTE:
ALL ADA ACCESSIBLE RAMPS TO BE CONSTRUCTED WITH STREET IMPROVEMENTS.



SIDEWALK AND INTERSECTION PLAN
SCALE: 1" = 20'

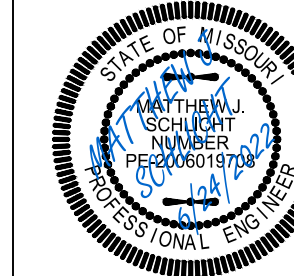


Sidewalk and
Intersection Plan
Construction Plans for:
THE VILLAS OF CHAPEL RIDGE-2ND PLAT
LOTS 43-76
Lee's Summit, Jackson County, Missouri

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Issue Date:
June 24, 2022

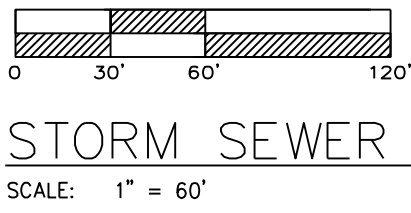
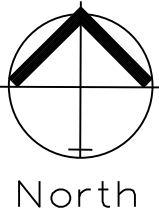
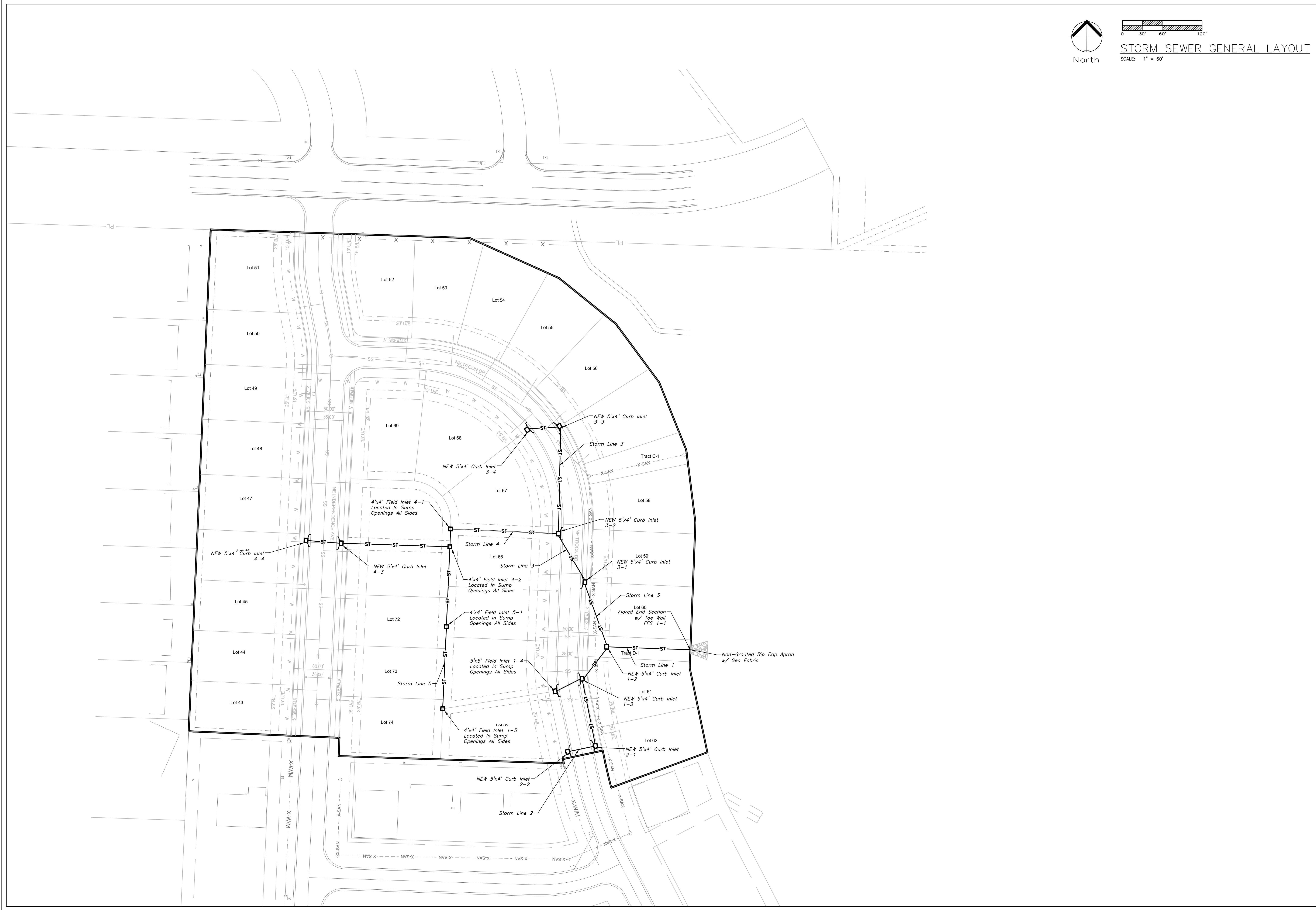
THE VILLAS OF CHAPEL RIDGE-2ND PLAT
LOTS 43-76
Lee's Summit, Jackson County, Missouri

Professional Registration
Missouri
Engineering 2005002186-D
Surveying 2005008319-D
Kansas
Engineering E-1695
Surveying LS-218
Oklahoma
Engineering 6254
Nebraska
Engineering CA2821

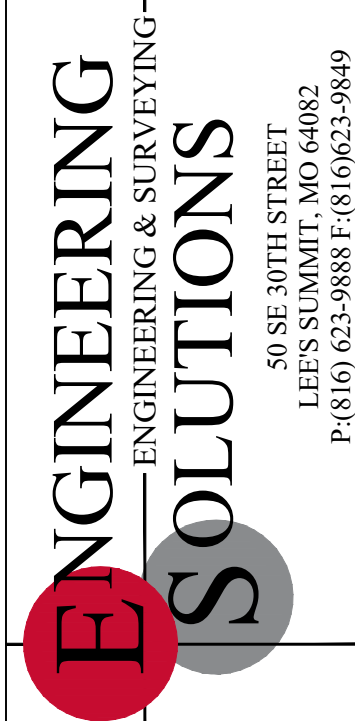


Matthew J. Schlicht
MO PE 2006019708
KS PE 19071
OK PE 25226
NE PE E-14335

REVISIONS



STORM SEWER GENERAL LAYOUT



Professional Registration
Missouri
Engineering 2005002186-D
Surveying 2005008319-D
Kansas
Engineering E-1685
Surveying LS-218
Oklahoma
Engineering 6254
Nebraska
Engineering CA2821

THE VILLAS OF CHAPEL RIDGE-2ND PLAT
LOTS 43-76
Lee's Summit, Jackson County, Missouri

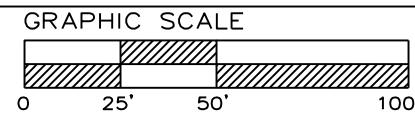
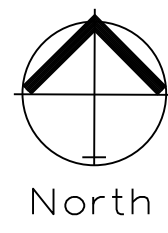
Project:
VILLAS OF CHAPEL
RIDGE-LSMO
Issue Date:
June 24, 2022

Storm Sewer General Layout
Construction Plans for:
THE VILLAS OF CHAPEL RIDGE-2ND PLAT
LOTS 43-76
Lee's Summit, Jackson County, Missouri



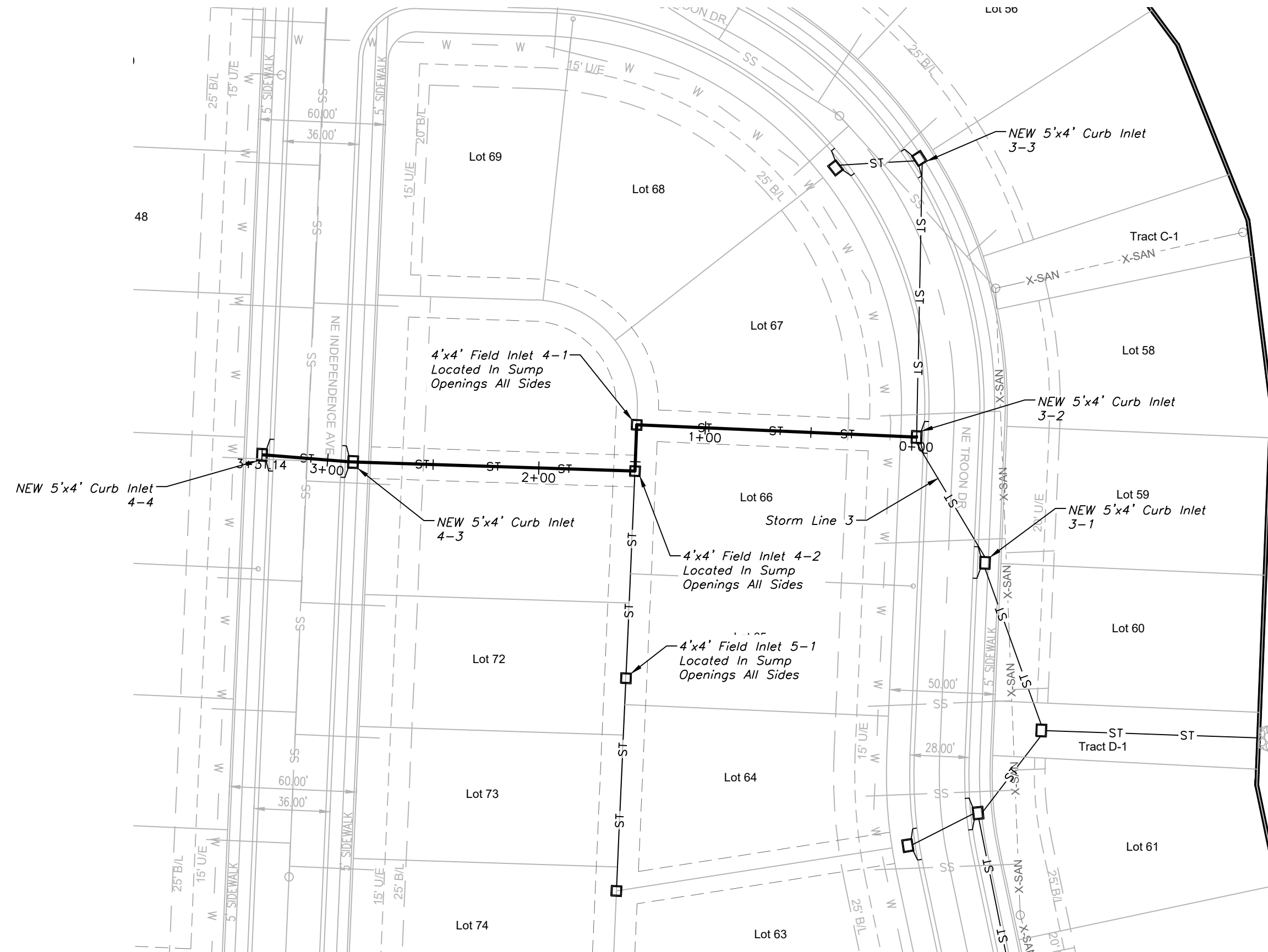
Matthew J. Schlicht
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OK PE 25226
NE PE E-14335

REVISIONS

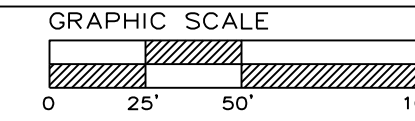
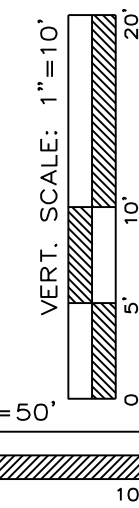
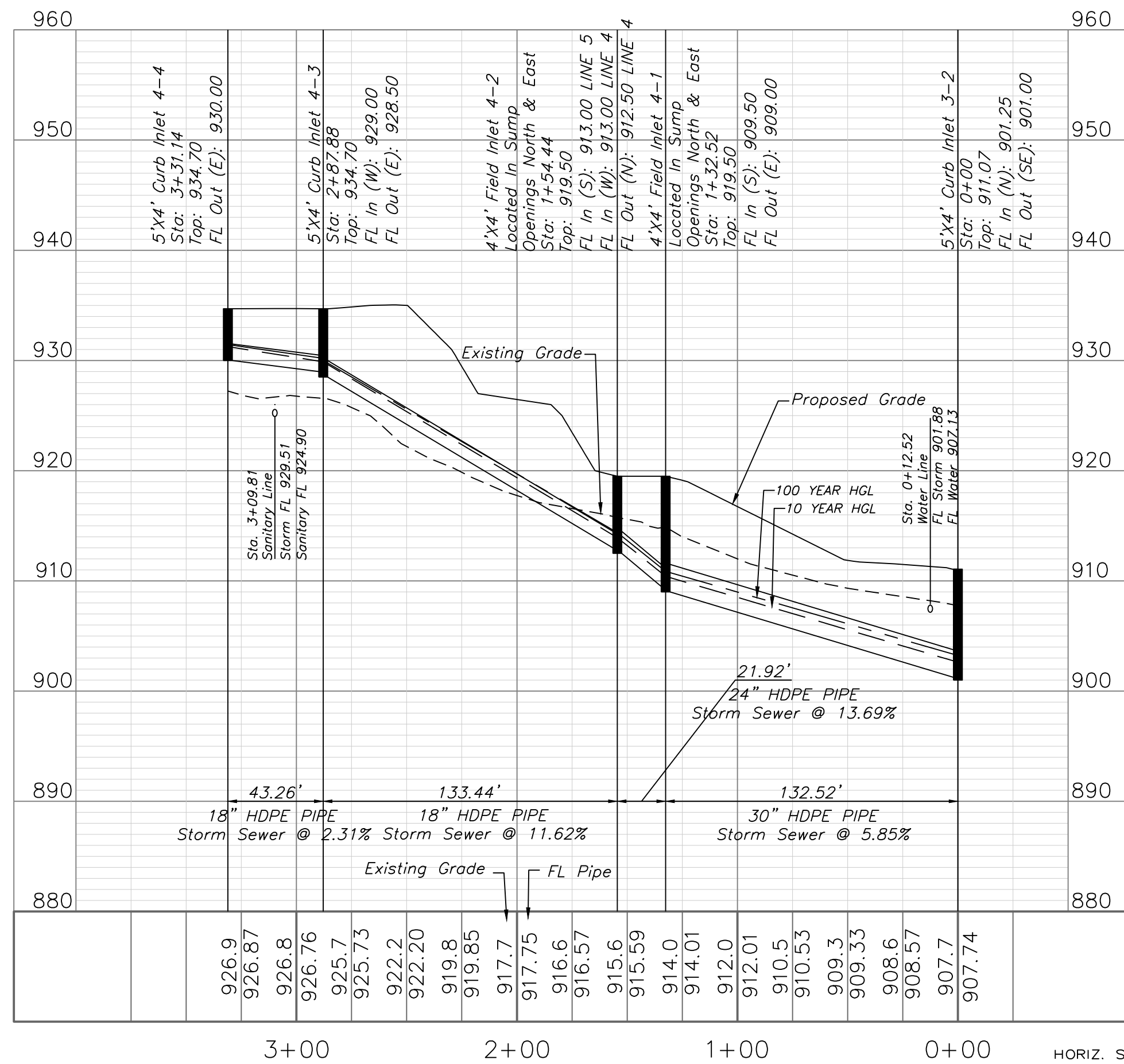


STORM SEWER PLAN & PROFILE

SCALE: 1" = 50'

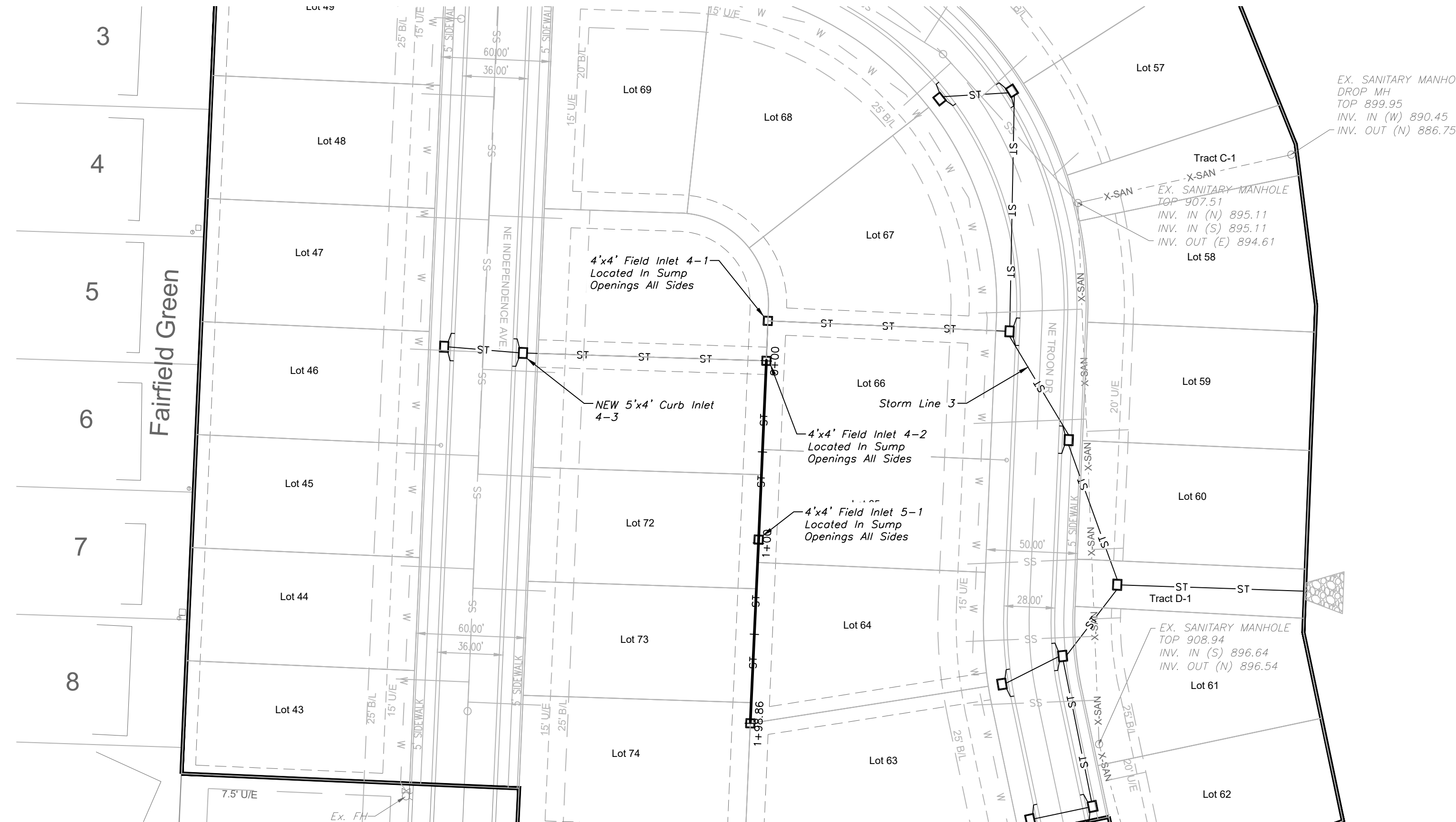


STORM LINE 4

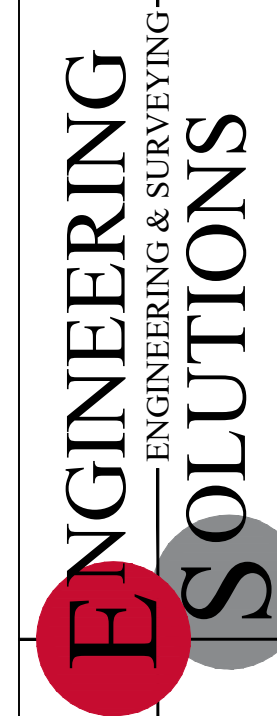
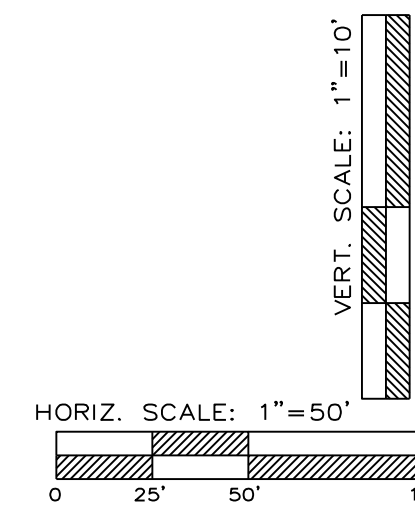
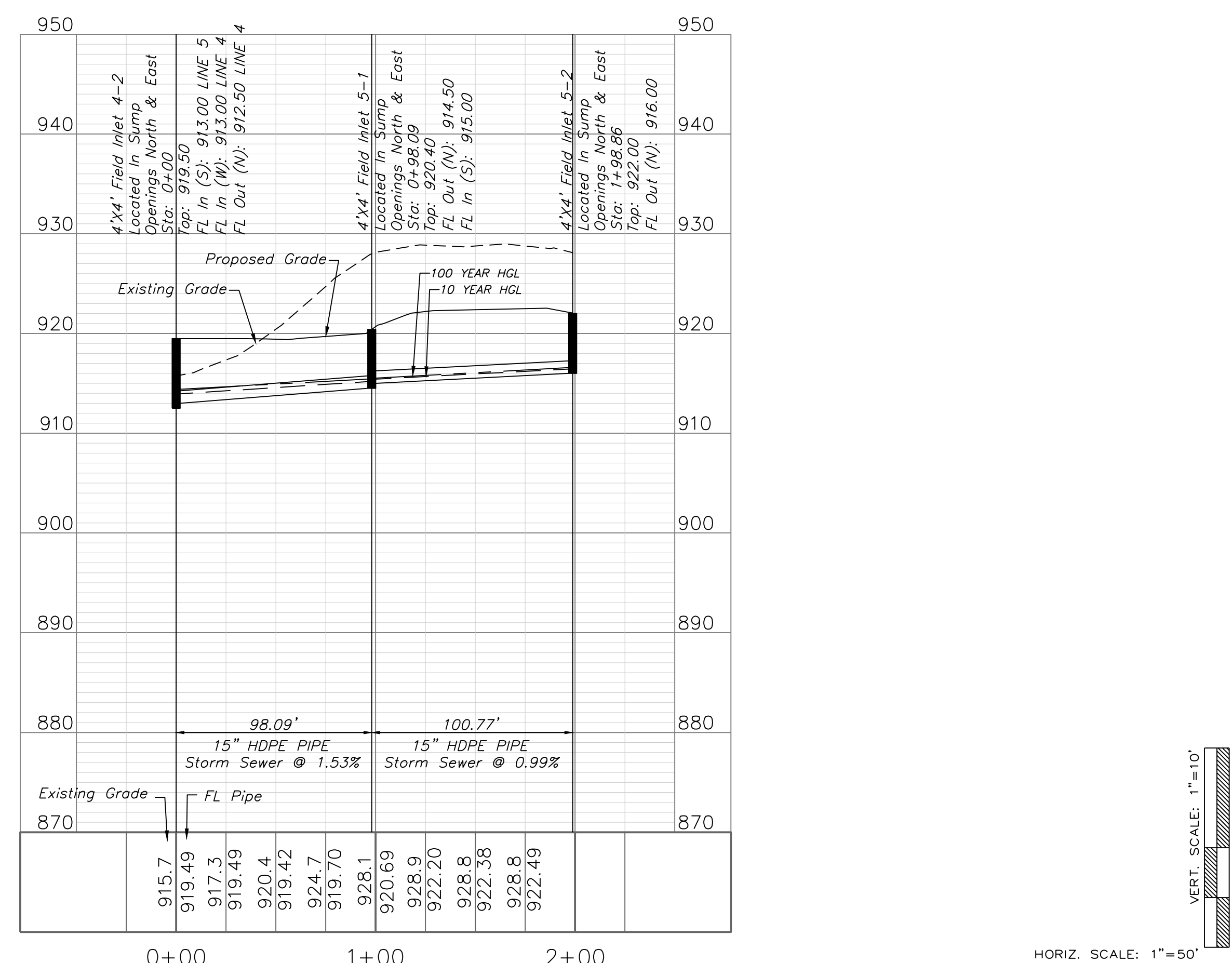


STORM SEWER PLAN & PROFILE

SCALE: 1" = 50'



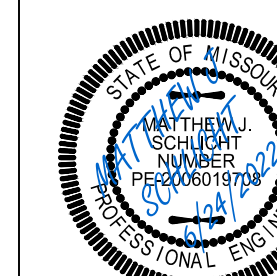
STORM LINE 5



Professional Registration
Missouri
Engineering 2005002186-D
Surveying 2005008319-D
Kansas
Engineering E-1685
Surveying LS-218
Oklahoma
Engineering 6284
Nebraska
Engineering CA2821

Project:
THE VILLAS OF CHAPEL RIDGE-2ND PLAT
LOTS 43-76
Issue Date:
June 24, 2022

Storm Sewer Plan and Profile
Construction Plans for:
THE VILLAS OF CHAPEL RIDGE-2ND PLAT
LOTS 43-76
Lee's Summit, Jackson County, Missouri



Matthew J. Schlicht
MO PE 2006019708
KS PE 19071
OK PE 25226
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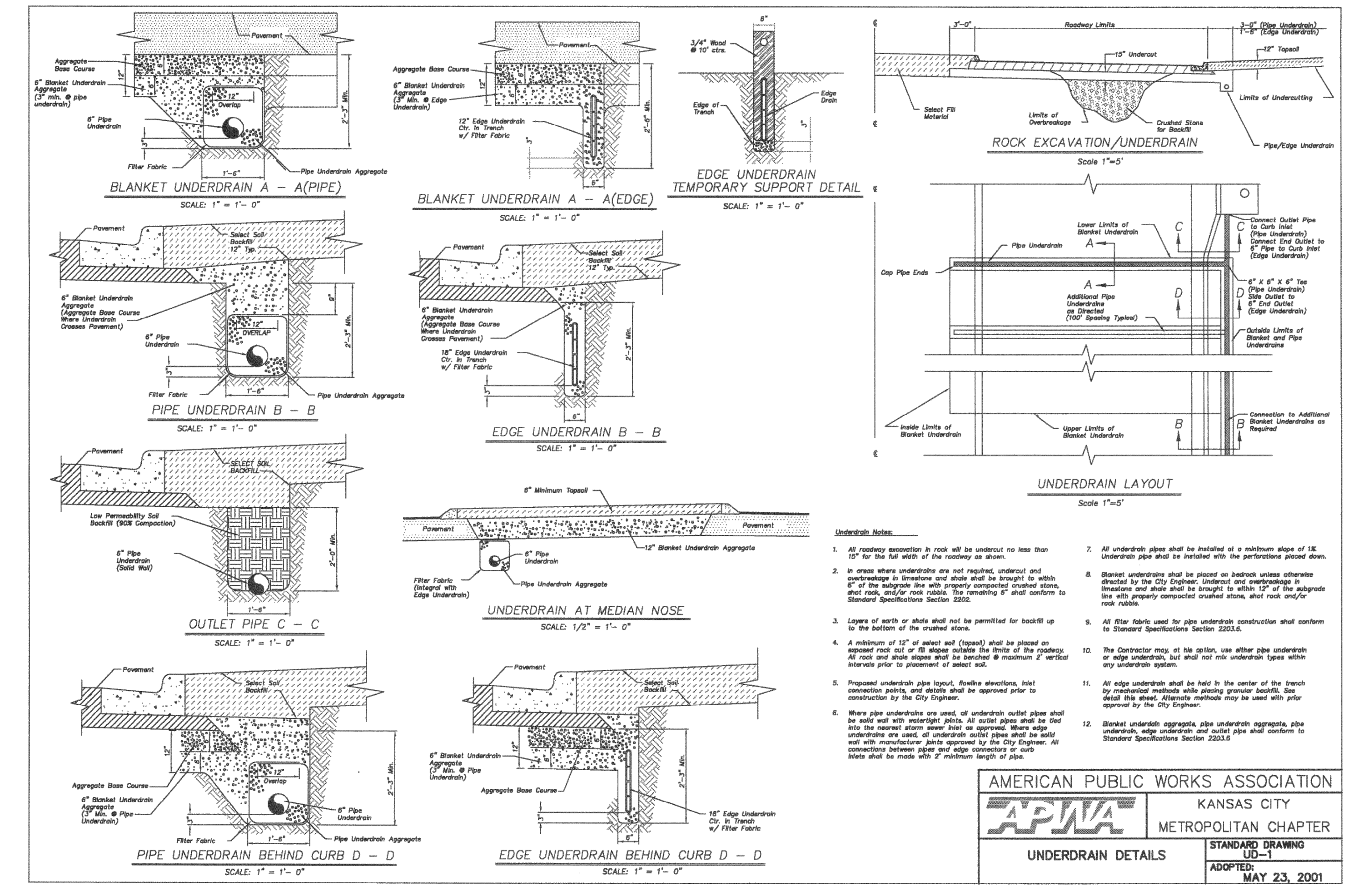
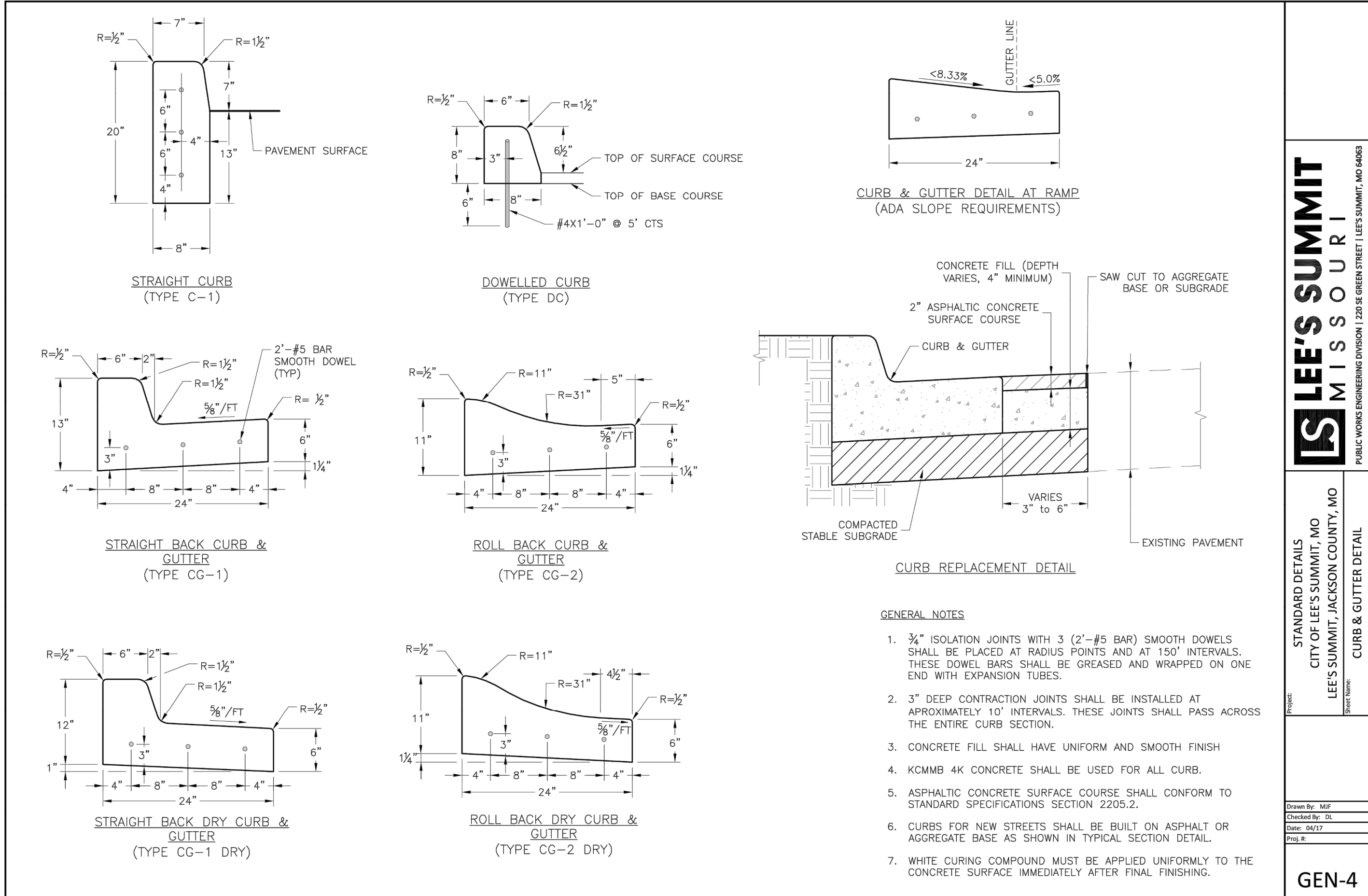
REVISIONS

D.S. Str.	Str. No.	Area (ac)	InletTime (min)	Int. (in/hr)	RunoffCoeff. (C)	Q =CIA (cfs)	Q Carry-over (cfs)	QCaptured (cfs)	QBypassed (cfs)	JunctType	CurbHeight (in)	CurbLength (ft)	GutterSlope (ft/ft)	GutterWidth (ft)	CrossSlope, Sw (ft/ft)	CrossSlope, Sx (ft/ft)	LocalDepr. (in)	InletDepth (ft)	BypassDepth (ft)	BypassSpread (ft)	GutterDepth (ft)	GutterSpread (ft)	Bypass Str.
1-1	1-2	0	0	0	0	0				MH													
1-2	1-3	0.21	5.8	7.11	0.66	0.99	0	0.99	0	Curb	3.8	5	Sag	2	0.05	0.02	9	0.95	n/a	n/a	0.2	6.77	Sag
1-3	1-4R	0.68	6.6	6.9	0.66	3.09	0.83	3.92	0	Curb	3.8	5	Sag	2	0.05	0.02	9	1.15	n/a	n/a	0.4	16.99	Sag
1-4R	1-4L	0.24	5.4	7.23	0.66	1.14	0.81	1.95	0	Curb	3.8	5	Sag	2	0.05	0.02	9	1.02	n/a	n/a	0.27	10.67	Sag
1-3	2-1	0.17	6.4	6.95	0.66	0.78	0	0.78	0	Curb	3.8	5	0.015	2	0.05	0.02	9	0.9	0	0	0.15	4.69	1-3
2-1	2-2	0.73	5.8	7.11	0.66	3.43	0	2.62	0.81	Curb	3.8	5	0.015	2	0.05	0.02	9	1	0.16	4.78	0.25	9.29	1-4L
1-2	3-1	0.22	5.7	7.14	0.66	1.04	0.24	1.28	0	Curb	3.8	5	0.017	2	0.05	0.02	9	0.93	0.02	0.34	0.18	5.83	1-3
3-1	3-2	0.72	5.8	7.11	0.66	3.38	0	2.55	0.83	Curb	3.8	5	0.017	2	0.05	0.02	9	0.99	0.15	4.68	0.24	8.99	1-4R
3-2	3-3	0.31	5.6	7.17	0.66	1.47	0.1	1.33	0.24	Curb	3.8	5	0.062	2	0.05	0.02	9	0.9	0.08	1.57	0.15	4.66	3-1
3-3	3-4	0.23	5.3	7.26	0.66	1.1	0	1	0.1	Curb	3.8	5	0.08	2	0.05	0.02	9	0.88	0.05	1.08	0.13	3.53	3-3
3-2	4-1	0.15	5.0	7.34	0.66	0.73	0	0.73	0	Dp-Curb	6	16	Sag		0.02	0.02		0.06	n/a	n/a	0.06	3.06	Sag
4-1	4-2	0.09	5.1	7.31	0.66	0.43	0	0.43	0	Dp-Curb	6	16	Sag		0.02	0.02		0.04	n/a	n/a	0.04	2.17	Sag
4-2	4-3	0.56	6.7	6.87	0.66	2.54	0	2.54	0	Curb	3.8	5	Sag	2	0.05	0.02	9	1.06	n/a	n/a	0.31	12.72	Sag
4-3	4-4R	1.2	6.9	6.82	0.66	5.4	0	5.4	0	Curb	3.8	5	Sag	2	0.05	0.02	9	1.23	n/a	n/a	0.48	21.03	Sag
4-4R	4-4L	1.38	7.1	6.77	0.66	6.16	0	6.16	0	Curb	3.8	5	Sag	2	0.02	0.02	9	1.21	n/a	n/a	0.46	22.97	Sag
4-4R	5-1	0.29	5.3	7.26	0.66	1.39	0	1.39	0	Dp-Curb	6	16	Sag		0.02	0.02		0.09	n/a	n/a	0.09	4.71	Sag
5-1	5-2	0.23	5.1	7.31	0.66	1.11	0	1.11	0	Dp-Curb	6	16	Sag		0.02	0.02		0.08	n/a	n/a	0.08	4.05	Sag

D.S. Str.		U.S. Str.		10-YR PIPE																		
				TOTAL RUNOFF											TOTAL FLOW							
		LineLength	Incr.Area	TotalArea	RunoffCoeff.	IncrC x A	TotalC x A	InletTime	TimeConc	RnfalInt	TotalRunoff	TotalFlow	CapacFull	Veloc	PipeSize	PipeSlope	Inv ElevDn	Inv ElevUp	HGLDn	HGLUp	Grnd/RimDn	Grnd/RimUp
		(ft)	(ac)	(ac)	(C)			(min)	(min)	(in/hr)	(cfs)	(cfs)	(cfs)	(ft/s)	(in)	(%)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
1-1	1-2	102.81	0	7.41	0	0	4.89	0	8.1	6.5	31.88	31.88	135.2	6.14	36	2.43	896.00	898.50	898.41	900.33	0.00	910.00
1-2	1-3	50.27	0.21	2.03	0.66	0.14	1.34	5.8	6.7	6.9	9.2	9.2	85.49	4.73	24	8.45	899.00	903.25	900.33	904.33	910.00	908.54
1-3	1-4R	36.85	0.68	0.92	0.66	0.45	0.61	6.6	6.6	6.9	4.19	4.19	6.91	5.38	15	0.68	904.00	904.25	904.70	905.08	908.54	908.53
1-4R	1-4L	1	0.24	0.24	0.66	0.16	0.16	5.4	5.4	7.2	1.14	1.14	59.36	2.24	15	50.00	904.25	904.75	905.08	905.17	908.53	908.53
1-3	2-1	84.05	0.17	0.9	0.66	0.11	0.59	6.4	6.4	6.9	4.13	4.13	6.47	5.21	15	0.59	903.75	904.25	904.48	905.07	908.54	909.13
2-1	2-2	34.97	0.73	0.73	0.66	0.48	0.48	5.8	5.8	7.1	3.43	3.43	7.1	5.11	15	0.71	904.75	905.00	905.36	905.75	909.13	909.13
1-2	3-1	83.98	0.22	5.38	0.66	0.15	3.55	5.7	8	6.6	23.29	23.29	58.18	7.8	30	1.19	899.00	900.00	900.33	901.64	910.00	910.08
3-1	3-2	68.55	0.72	5.16	0.66	0.48	3.41	5.8	7.8	6.6	22.47	22.47	55.77	7.36	30	1.09	900.25	901.00	901.64	902.61	910.08	911.07
3-2	3-3	132.24	0.31	0.54	0.66	0.2	0.36	5.6	5.6	7.2	2.55	2.55	22.5	3.06	15	7.18	901.25	910.75	902.61	911.39	911.07	916.76
3-3	3-4	40.46	0.23	0.23	0.66	0.15	0.15	5.3	5.3	7.3	1.1	1.1	19.8	5.89	15	5.56	911.25	913.50	911.45	913.91	916.76	918.14
3-2	4-1	132.52	0.15	3.9	0.66	0.1	2.57	5	7.4	6.7	17.2	17.2	128.93	6.18	30	5.85	901.25	909.00	902.61	910.40	911.07	923.00
4-1	4-2	21.92	0.09	3.75	0.66	0.06	2.48	5.1	7.4	6.7	16.56	16.56	108.78	9.38	24	13.69	909.50	912.50	910.40	913.97	923.00	923.00
4-2	4-3	133.44	0.56	3.14	0.66	0.37	2.07	6.7	7.2	6.7	13.98	13.98	46.53	9.92	18	11.62	913.00	928.50	913.97	929.88	923.00	934.70
4-3	4-4R	43.26	1.2	2.58	0.66	0.79	1.7	6.9	7.1	6.8	11.52	11.52	20.76	8.9	18	2.31	929.00	930.00	929.88	931.29	934.70	934.70
4-4R	4-4L	1	1.38	1.38	0.66	0.91	0.91	7.1	7.1	6.8	6.16	6.16	96.53	5.84	18	50.00	930.50	931.00	931.29	931.96	934.70	934.70
4-4R	5-1	98.09	0.29	0.52	0.66	0.19	0.34	5.3	5.5	7.2	2.47	2.47	10.38	3.21	15	1.53	913.00	914.50	913.97	915.13	923.00	920.40
5-1	5-2	100.77	0.23	0.23	0.66	0.15	0.15	5.1	5.1	7.3	1.11	1.11	8.36	3.92	15	0.99	915.00	916.00	915.31	916.41	920.40	922.00

100-YR STRUCTURE																							
D.S. Str.	Str. No.	Area (ac)	InletTime (min)	Int. (in/hr)	RunoffCoeff. (C)	Q =CIA (cfs)	Q Carry-over (cfs)	QCaptured (cfs)	QBypassed (cfs)	JunctType	CurbHeight (in)	CurbLength (ft)	GutterSlope (ft/ft)	GutterWidth (ft)	CrossSlope, Sw (ft/ft)	CrossSlope, Sx (ft/ft)	LocalDepr. (in)	InletDepth (ft)	BypassDepth (ft)	BypassSpread (ft)	GutterDepth (ft)	GutterSpread (ft)	Bypass Str.
1-1	1-2	0	0	0	0	0				MH													
1-2	1-3	0.21	5.8	12.52	0.66	1.74	0.57	2.31	0	Curb	3.8	5	Sag	2	0.05	0.02	9	1.05	n/a	n/a	0.3	11.93	Sag
1-3	1-4R	0.68	6.6	12.17	0.66	5.46	2.49	7.95	0	Curb	3.8	5	Sag	2	0.05	0.02	9	1.35	n/a	n/a	0.6	27.23	Sag
1-4R	1-4L	0.24	5.4	12.71	0.66	2.01	2.48	4.49	0	Curb	3.8	5	Sag	2	0.05	0.02	9	1.18	n/a	n/a	0.43	18.6	Sag
1-3	2-1	0.17	6.4	12.26	0.66	1.38	0	1.37	0	Curb	3.8	5	0.015	2	0.05	0.02	9	0.93	0.02	0.47	0.18	6.22	1-3
2-1	2-2	0.73	5.8	12.52	0.66	6.03	0	3.55	2.48	Curb	3.8	5	0.015	2	0.05	0.02	9	1.04	0.22	8.09	0.29	11.7	1-4L
1-2	3-1	0.22	5.7	12.57	0.66	1.82	1.08	2.33	0.57	Curb	3.8	5	0.017	2	0.05	0.02	9	0.98	0.14	3.78	0.23	8.43	1-3
3-1	3-2	0.72	5.8	12.52	0.66	5.95	0	3.46	2.49	Curb	3.8	5	0.017	2	0.05	0.02	9	1.04	0.22	7.89	0.29	11.35	1-4R
3-2	3-3	0.31	5.6	12.61	0.66	2.58	0.47	1.98	1.08	Curb	3.8	5	0.062	2	0.05	0.02	9	0.94	0.14	3.76	0.19	6.48	3-1
3-3	3-4	0.23	5.3	12.75	0.66	1.94	0	1.46	0.47	Curb	3.8	5	0.08	2	0.05	0.02	9	0.91	0.1	1.93	0.16	4.87	3-3
3-2	4-1	0.15	5.0	12.9	0.66	1.28	0	1.28	0	Dp-Curb	6	16	Sag		0.02	0.02		0.09	n/a	n/a	0.09	4.45	Sag
4-1	4-2	0.09	5.1	12.85	0.66	0.76	0	0.76	0	Dp-Curb	6	16	Sag		0.02	0.02		0.06	n/a	n/a	0.06	3.16	Sag
4-2	4-3	0.56	6.7	12.13	0.66	4.48	0	4.48	0	Curb	3.8	5	Sag	2	0.05	0.02	9	1.18	n/a	n/a	0.43	18.57	Sag
4-3	4-4R	1.2	6.9	12.04	0.66	9.54	0	9.54	0	Curb	3.8	5	Sag	2	0.05	0.02	9	1.42	n/a	n/a	0.67	30.74	Sag
4-4R	4-4L	1.38	7.1	11.96	0.66	10.89	0	10.89	0	Curb	3.8	5	Sag	2	0.02	0.02	9	1.42	n/a	n/a	0.67	33.59	Sag
4-4R	5-1	0.29	5.3	12.75	0.66	2.44	0	2.44	0	Dp-Curb	6	16	Sag		0.02	0.02		0.14	n/a	n/a	0.14	6.86	Sag
5-1	5-2	0.23	5.1	12.85	0.66	1.95	0	1.95	0	Dp-Curb	6	16	Sag		0.02	0.02		0.12	n/a	n/a	0.12	5.9	Sag

100-YR PIPE																						
D.S. Str.	U.S. Str.	LineLength (ft)	Incr.Area (ac)	TotalArea (ac)	RunoffCoeff. (C)	IncrC x A	TotalC x A	InletTime (min)	TimeConc (min)	RnfalInt (in/hr)	TotalRunoff (cfs)	TotalFlow (cfs)	CapacFull (cfs)	Veloc (ft/s)	PipeSize (in)	PipeSlope (%)	Inv ElevDn (ft)	Inv ElevUp (ft)	HGLDn (ft)	HGLUp (ft)	Grnd/RimDn (ft)	Grnd/RimUp (ft)
1-1	1-2	102.81	0	7.41	0	0	4.89	0	7.9	11.6	56.94	56.94	135.2	8.84	36	2.43	896.00	898.50	898.72	900.94	0.00	910.00
1-2	1-3	50.27	0.21	2.03	0.66	0.14	1.34	5.8	6.7	12.1	16.25	16.25	85.49	5.93	24	8.45	899.00	903.25	900.94	904.70	910.00	908.54
1-3	1-4R	36.85	0.68	0.92	0.66	0.45	0.61	6.6	6.6	12.2	7.39	7.39	6.91	6.32	15	0.68	904.00	904.25	905.13	905.38	908.54	908.53
1-4R	1-4L	1	0.24	0.24	0.66	0.16	0.16	5.4	5.4	12.7	2.01	2.01	59.36	1.86	15	50.00	904.25	904.75	905.69	905.67	908.53	908.53
1-3	2-1	84.05	0.17	0.9	0.66	0.11	0.59	6.4	6.4	12.3	7.28	7.28	6.47	5.93	15	0.59	903.75	904.25	905.00	905.63	908.54	909.13
2-1	2-2	34.97	0.73	0.73	0.66	0.48	0.48	5.8	5.8	12.5	6.03	6.03	7.1	4.92	15	0.71	904.75	905.00	906.45	906.63	909.13	909.13
1-2	3-1	83.98	0.22	5.38	0.66	0.15	3.55	5.7	7.8	11.7	41.54	41.54	58.18	9.68	30	1.19	899.00	900.00	900.94	902.16	910.00	910.08
3-1	3-2	68.55	0.72	5.16	0.66	0.48	3.41	5.8	7.6	11.7	40	40	55.77	9.46	30	1.09	900.25	901.00	902.16	903.13	910.08	911.07
3-2	3-3	132.24	0.31	0.54	0.66	0.2	0.36	5.6	5.6	12.6	4.5	4.5	22.5	4.33	15	7.18	901.25	910.75	903.13	911.61	911.07	916.76
3-3	3-4	40.46	0.23	0.23	0.66	0.15	0.15	5.3	5.3	12.8	1.94	1.94	19.8	1.15	15	5.56	911.25	910.50	911.61	914.05	916.76	918.14
3-2	4-1	132.52	0.15	3.9	0.66	0.1	2.57	5	7.3	11.9	30.53	30.53	128.93	7.71	30	5.85	901.25	909.00	903.13	910.88	911.07	923.00
4-1	4-2	21.92	0.09	3.75	0.66	0.06	2.48	5.1	7.3	11.9	29.39	29.39	108.78	11.19	24	13.69	909.50	910.50	910.88	914.35	923.00	934.70
4-2	4-3	133.44	0.56	3.14	0.66	0.37	2.07	6.7	7.2	11.9	24.74	24.74	46.53	14.39	18	11.62	913.00	928.50	914.35	929.99	923.00	934.70
4-3	4-4R	43.26	1.2	2.58	0.66	0.79	1.7	6.9	7.1	12	20.37	20.37	20.76	12.48	18	2.31	929.00	930.00	930.20	931.47	934.70	934.70
4-4R	4-4L	1	1.38	1.38	0.66	0.91	0.91	7.1	7.1	12	10.89	10.89	96.53	7.94	18	50.00	930.50	931.00	931.47	932.26	934.70	934.70
4-4R	5-1	98.09	0.29	0.52	0.66	0.19	0.34	5.3	5.5	12.7	4.35	4.35	10.38	4.24	15	1.53	913.00	914.50	914.35	915.34	923.00	920.40
5-1	5-2	100.77	0.23	0.23	0.66	0.15	0.15	5.1	5.1	12.8	1.95	1.95	8.36	4.63	15	0.99	915.00	916.00	915.41	916.56	920.40	922.00



GENERAL NOTE:
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ENGINEERING SOLUTIONS

ENGINEERING & SURVEYING

50 SE 30TH STREET
LEE'S SUMMIT, MO 64082
P: (816) 623-9888 F: (816) 623-9849

Professional Registration
Missouri
Engineering 2005002186-D
Surveying 2005008319-D
Kansas
Engineering E-1695
Surveying LS-218
Oklahoma
Engineering 6254
Nebraska
Engineering CA2821

THE VILLAS OF CHAPEL RIDGE-2ND PLAT
LOTS 43-76
Lee's Summit, Jackson County, Missouri

Construction Details

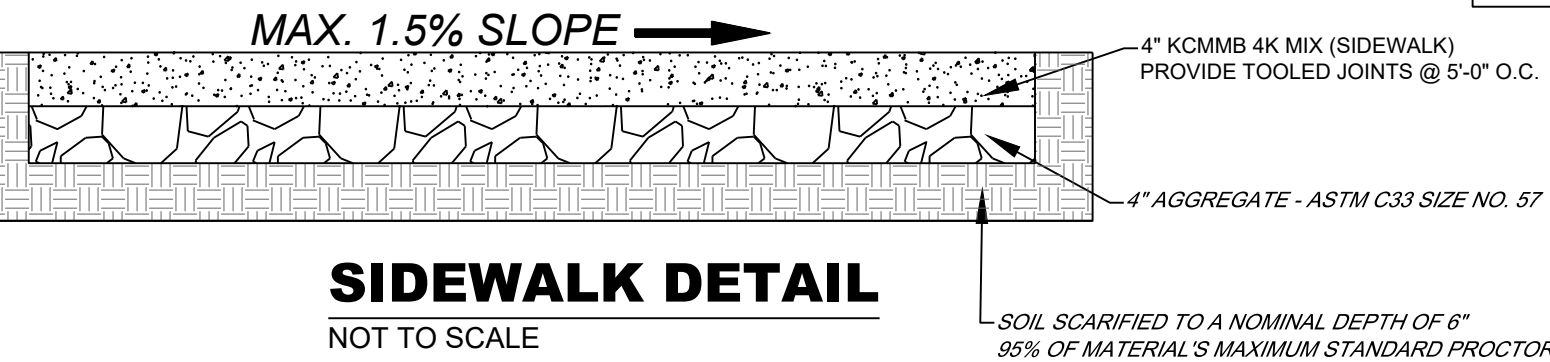
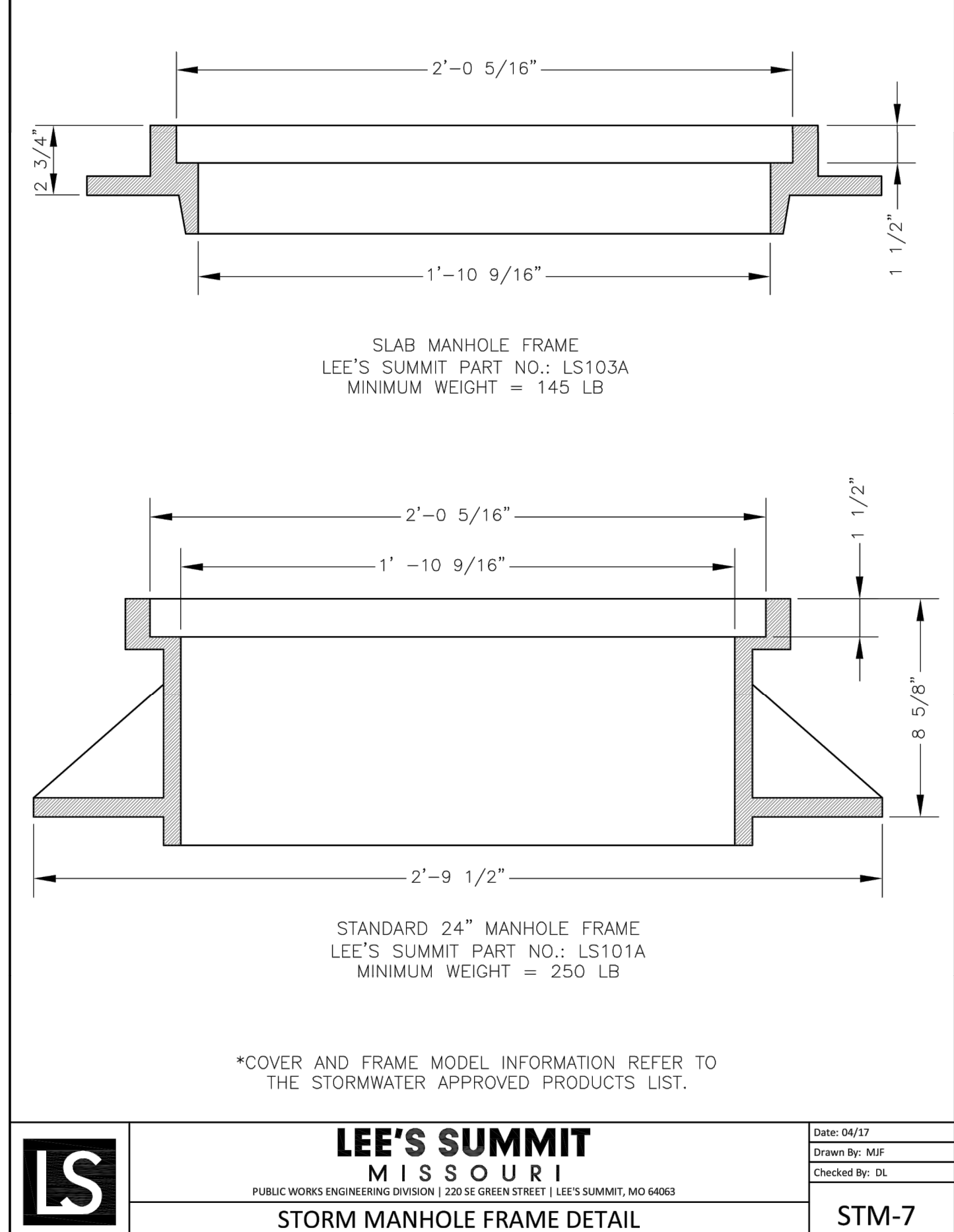
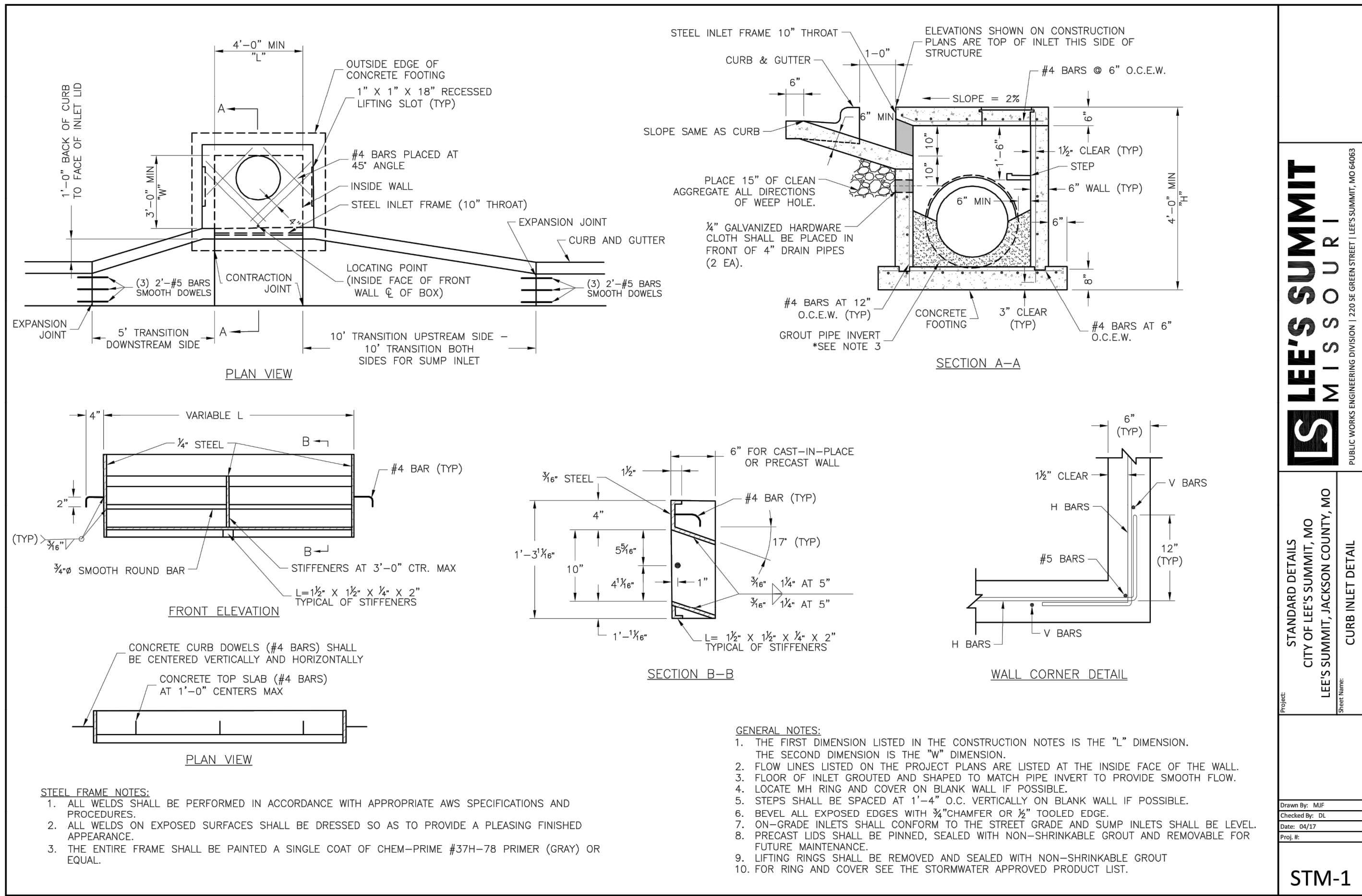
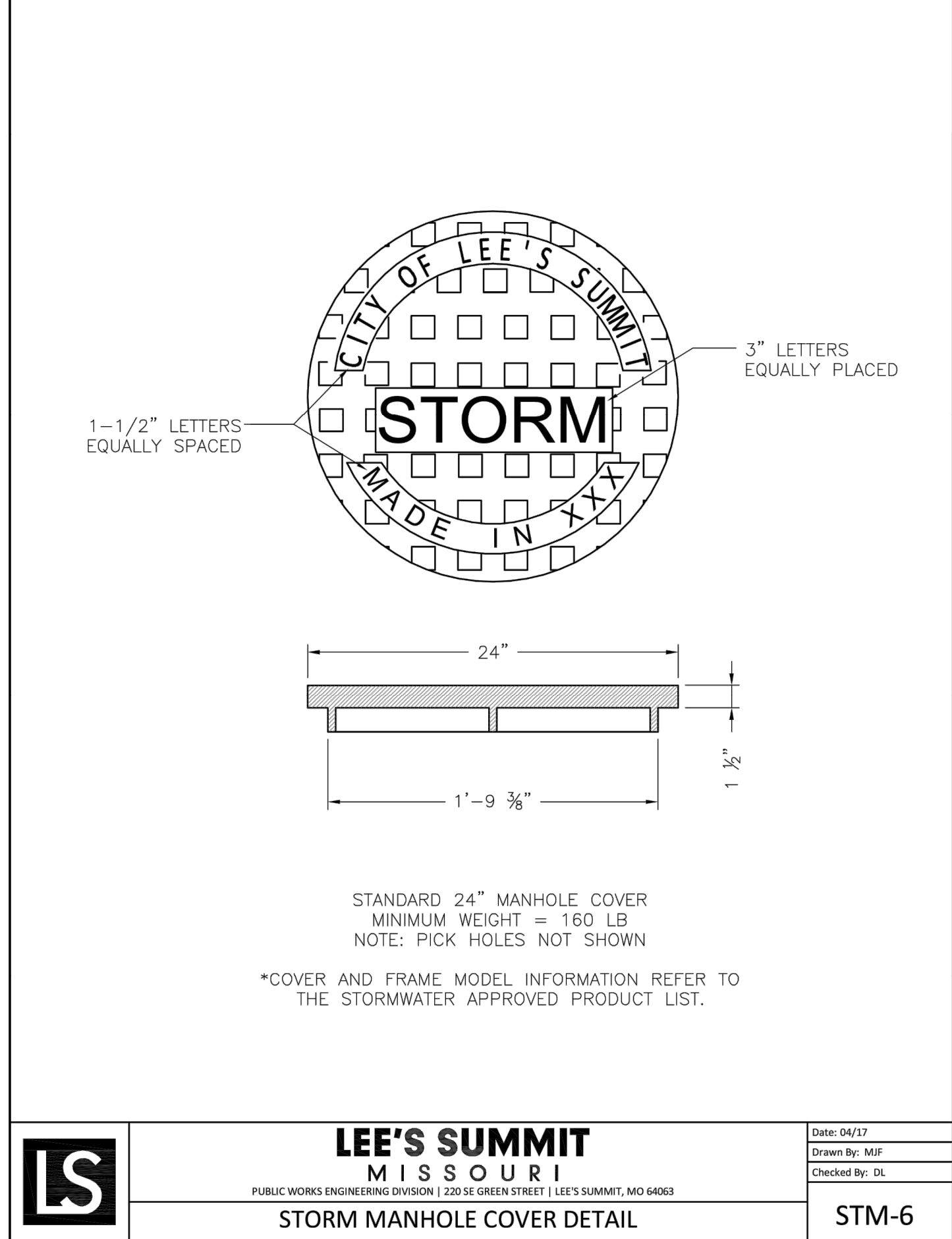
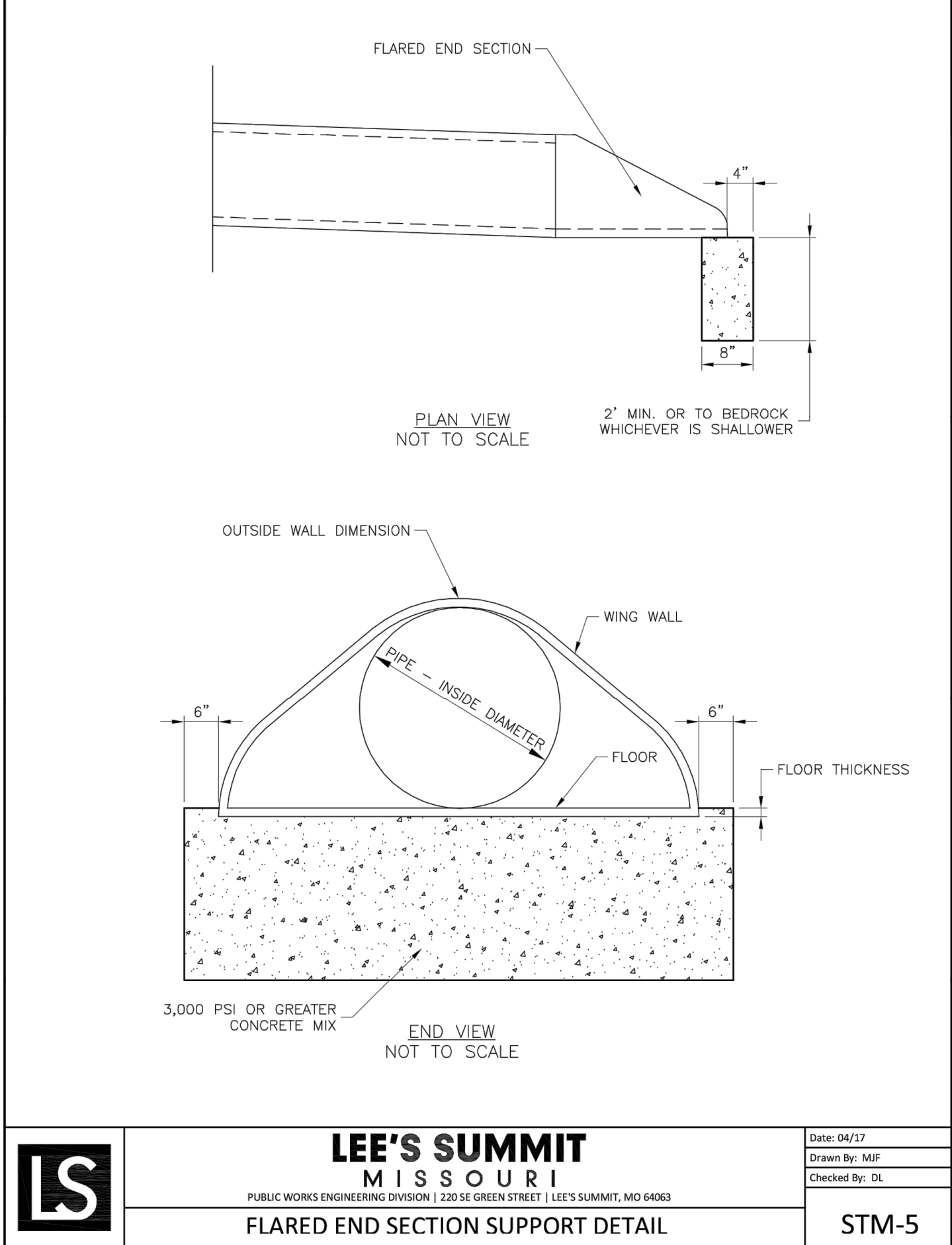
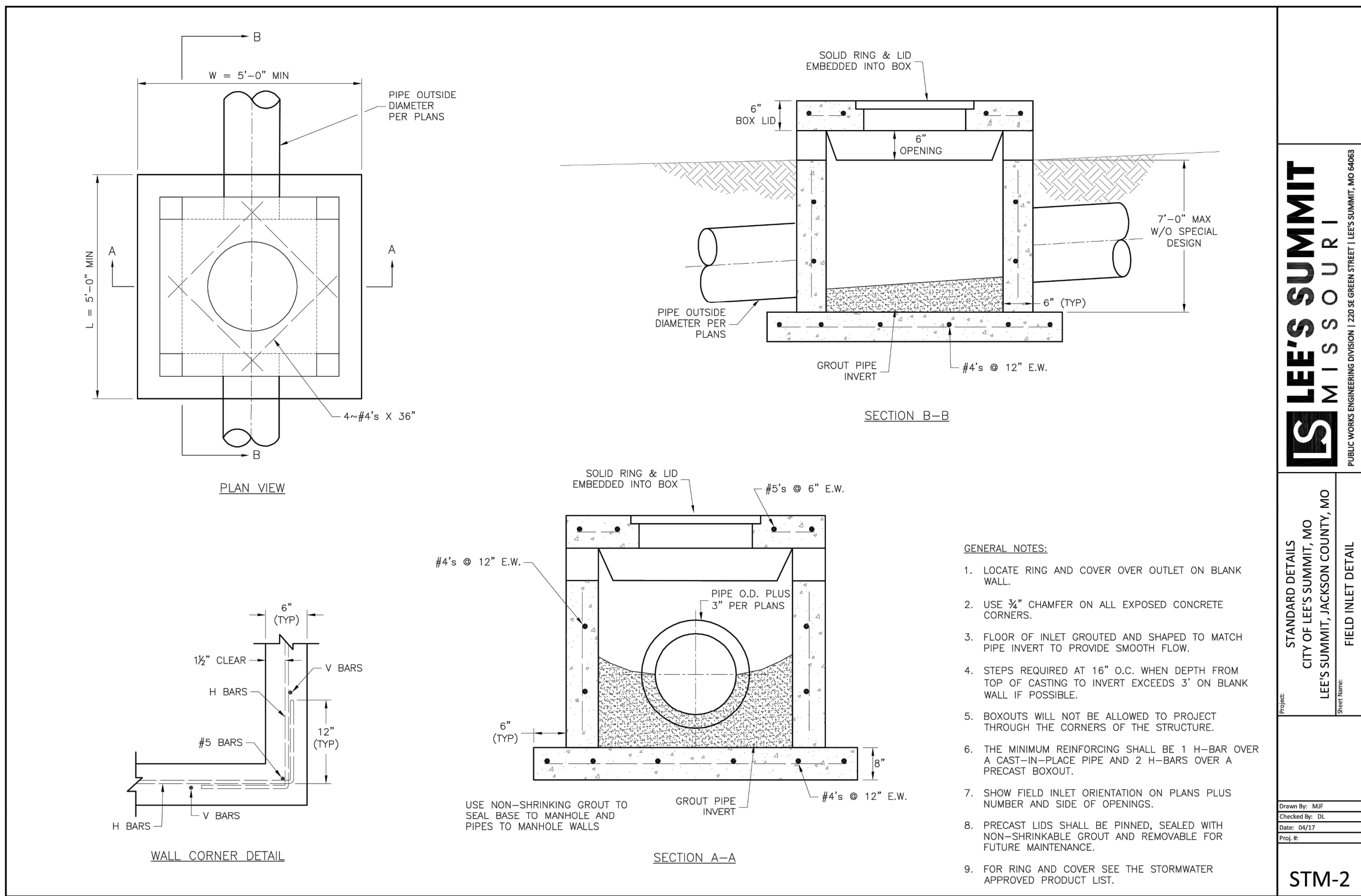
Construction Plans for:
THE VILLAS OF CHAPEL RIDGE-2ND PLAT
LOTS 43-76
Lee's Summit, Jackson County, Missouri

Project:
VILLAS OF CHAPEL RIDGE, L3MO

Issue Date:
June 24, 2022

Matthew J. Schlicht
MO PE 2006019708
KS PE 19071
OK PE 25226
NE PE E-14335

REVISIONS



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