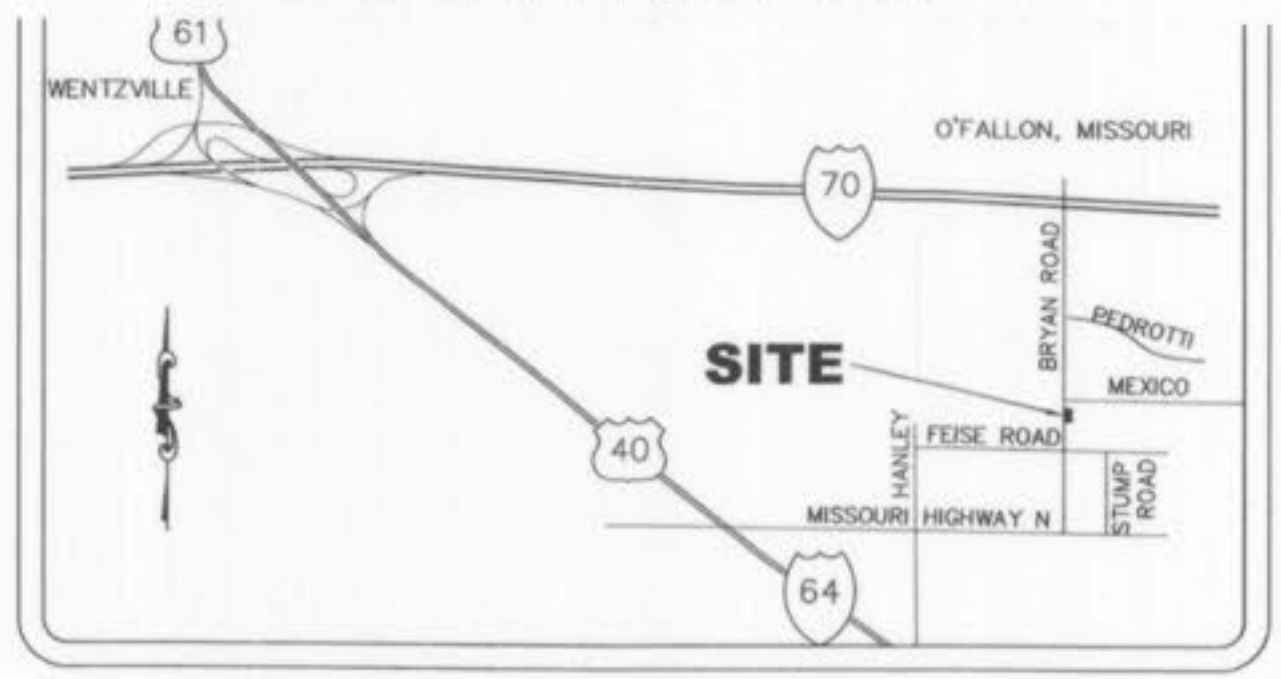


AS-BUILTS IMPROVEMENT PLANS

FOR Hillmann Farm Plaza

A TRACT OF LAND IN THE SOUTHWEST QUARTER OF SECTION 31,
TOWNSHIP 47 NORTH, RANGE 3 EAST OF THE FIFTH PRINCIPAL MERIDIAN
ST. CHARLES COUNTY, MISSOURI

FINAL MEASUREMENT DRAWINGS



LOCATION MAP
NOT TO SCALE

PROPERTY DATA

OWNER = LAUBER LAND DEVELOPERS, L.L.C.
 ADDRESS = 1260 BRYAN ROAD
 ACREAGE = 4.321 Ac.±
 EXISTING ZONING = C2, GENERAL BUSINESS
 FIRE DISTRICT = O'FALLON FIRE PROTECTION DISTRICT
 SCHOOL DISTRICT = FORT ZUMWALT
 SEWER DISTRICT = PUBLIC WATER SUPPLY DISTRICT NO. 2
 WATER SHED = DARDENNE CREEK
 FEMA MAP = 2903150240 E, AUGUST 2, 1996
 ELECTRIC COMPANY = AMERENUE
 GAS COMPANY = LACLEDE GAS COMPANY
 PHONE COMPANY = CENTURY TEL
 WATER COMPANY = PUBLIC WATER SUPPLY DISTRICT NO. 2

UTILITIES

ELECTRIC COMPANY = AMEREN UE - ST. CHARLES DISTRICT
 200 N. CALLAHAN ROAD
 WENTZVILLE, MO 63385
 PH. (636) 639-8311
 ATTN: MR. JEFF BUTLER

PHONE COMPANY = CENTURY TEL
 1151 CENTURY TEL DRIVE
 WENTZVILLE, MO 63385
 PH. (636) 332-7392
 ATTN: CARL E. OWENS, JR.

GAS COMPANY = LACLEDE GAS CO.
 1999 TRADE CENTER DRIVE
 ST. PETERS, MO 63376
 PH. (636) 978-2663, X-103
 ATTN: MIKE LANGAN

WATER COMPANY = PUBLIC WATER SUPPLY DIST. NO. 2
 OF ST. CHARLES COUNTY
 100 WATER DRIVE
 P.O. BOX 967
 O'FALLON, MO 63366
 PH. (636) 561-3737
 ATTN: BRIAN M. PIEPER / MR. BILL SHIRLEY

FIRE DISTRICT = O'FALLON FIRE PROTECTION DISTRICT
 119 E. ELM STREET
 O'FALLON, MO 63366
 ATTN: FIRE MARSHAL MARK MORRISON

INDEX OF SHEETS

- C1 TITLE SHEET
- C2 SPECIFICATION SHEET
- C3 EXISTING CONDITIONS & DEMOLITION PLAN
- C4 SITE AND GRADING PLAN
- C5 SITE GEOMETRICS PLAN
- C6 SEWER PROFILES
- C7 SEWER DETAILS
- C8 CONSTRUCTION DETAILS
- C9 DRAINAGE AREA PLAN

PROJECT BENCHMARK

REFERENCE BENCHMARK: ELEVATION 643.21 DATUM (USGS)
 EXISTING 600 NAL IN POWER POLE AT THE NORTHWEST CORNER
 OF FEISE ROAD AND BRYAN ROAD AS SHOWN ON IMPROVEMENT
 PLANS FOR FEISE ROAD, O'FALLON PROJECT NO.210-005,
 AS PREPARED BY GEORGE BUTLER ASSOCIATES

SITE BENCHMARK

SITE BENCHMARK ELEVATION 609.59 USGS DATUM
 OLD IRON PIPE AT THE NORTHEAST CORNER SUBJECT
 PROPERTY.

Final Measurement Drawings - The existing sewer lengths, sizes, flowlines, depths of structures and sewers and location with respect to existing or proposed easements have been measured. The result of those measurements shown on this set of final measurement plans. All public sewers are located within designated existing or proposed easements. Since the vertical locations have been plotted from information provided by the sewer contractor or other sources, I disclaim any responsibility for that specific information.

Marler Surveying Co., Inc.
 L.S.-347-D

2-24-08 revised C-6 - Rev. 21' Pipe
 2-25-08
 F. VINCENT
 Delmar, Missouri

CIVIL ENGINEERING DESIGN CONSULTANTS, INC. AND THE UNDERSIGNED ENGINEER HAVE NO RESPONSIBILITY FOR SERVICES PROVIDED BY OTHERS TO IMPLEMENT THE IMPROVEMENTS SHOWN ON THIS PLAN AND ALL OTHER DRAWINGS HEREON. THE UNDERSIGNED ENGINEER'S SEAL APPEARS. THE CONSTRUCTION MEANS, METHODS, MATERIALS ARE THE SOLE RESPONSIBILITY OF THE OWNER AND CONTRACTOR. CIVIL ENGINEERING DESIGN CONSULTANTS, INC. HAS NO RESPONSIBILITY TO VERIFY FINAL IMPROVEMENTS AS SHOWN ON THIS PLAN UNLESS SPECIFICALLY ENGAGED AND AUTHORIZED TO DO SO BY THE OWNER OR CONTRACTOR.

UTILITY NOTE:
 UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS, RECORDS AND INFORMATION, AND, THEREFORE DO NOT NECESSARILY REFLECT THE ACTUAL EXISTENCE, NON-EXISTENCE, SIZE, TYPE, NUMBER, OR LOCATION OF THESE FACILITIES, STRUCTURES AND UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ALL UNDERGROUND FACILITIES, STRUCTURES, AND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THESE PLANS. THE UNDERGROUND FACILITIES, STRUCTURES, AND UTILITIES SHALL BE LOCATED IN THE FIELD 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 TO CONTRACTOR:
 CONTRACTOR/SUBCONTRACTOR SHALL INVESTIGATE, ASCERTAIN AND CONFORM TO ANY AND ALL PERMIT REQUIREMENTS OF THE (ANY) VARIOUS AFFECTED UTILITY COMPANIES AND/OR REGULATORY AGENCIES WITH REGARDS TO MAKING CONNECTIONS TO, OR CROSSINGS OF THEIR FACILITIES; WORKING WITHIN THEIR RIGHT-OF-WAY OR EASEMENTS; INSPECTIONS AND ASSOCIATED MONETARY CHARGES; AND/OR SPECIAL BACKFILL REQUIREMENTS. SUCH INVESTIGATION TO INCLUDE BUT NOT LIMITED TO THE MAKING OF NECESSARY APPLICATIONS AND PAYMENTS OF ALL REQUIRED FEES.

THE LOCATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS OR PROFILES ARE APPROXIMATE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR/SUBCONTRACTOR TO VERIFY THE FIELD LOCATIONS, ANTICIPATED CLEARANCES AND THE EXISTENCE OF ANY FACILITIES NOT SHOWN HEREON, AS PART OF THE INVESTIGATIONS IN THE PARAGRAPH ABOVE.

Call Before you DIG
 TOLL FREE
 1-800-344-7483
 MISSOURI ONE-CALL SYSTEM INC.

MoDOT UNDERGROUND LOCATE
 CALL 314-340-4100

LEGEND

EXISTING CONTOURS	----- 433 -----	WATER MANHOLE	WMH
PROPOSED CONTOURS	----- 433 -----	TELEPHONE MANHOLE	TMH
EXISTING STORM SEWER	=====	BRUSH & SHRUB LINE	BSL
PROPOSED STORM SEWER	=====	TREE & SIZE	+
EXISTING SANITARY SEWER	=====	BUSH & SIZE	96
PROPOSED SANITARY SEWER	=====	BOLLARD	•
RIGHT-OF-WAY	-----	SIGN	○
EASEMENT	-----	ELECTRIC YARD LIGHT	⊗
CENTERLINE	-----	BORING LOCATION	⊕
EXISTING TREE	○ 12"	MAIL BOX	MB
EXISTING SPOT ELEVATION	433.28	ELECTRIC BOX	EB
PROPOSED SPOT ELEVATION	433.28	CLEAN OUT	CO
SWALE/DRAINAGE PATH	~ ~ ~ ~ ~	GAS VALVE	GV
TO BE REMOVED	T.B.R.	GAS METER	GM
TO BE REMOVED & RELOCATED	T.B.R. & R.	GAS DRIP	GD
TO BE USED IN PLACE	U.I.P.		
ADJUST TO GRADE	A.T.G.		
BACK OF CURB	B.C.		
FACE OF CURB	F.C.		
WATER MAIN	W W		
GAS MAIN	G G		
UNDERGROUND TELEPHONE	T T		
OVERHEAD WIRE	O.H. O.H.		
UNDERGROUND ELECTRIC	E E		
FIRE HYDRANT	⊕		
POWER POLE	⊗		
WATER VALVE	⊗		

ABBREVIATIONS

N	NORTH
S	SOUTH
E	EAST
W	WEST
CONC	CONCRETE
ASPH	ASPHALT
PB	PLAT BOOK
DB	DEED BOOK
PG	PAGE
SF	SQUARE FEET
AC	ACRES
ELEV	ELEVATION
FL	FINISH FLOOR
PVC	POLYVINYL CHLORIDE PIPE
RCP	REINFORCED CONCRETE PIPE
STM	STORM
SAN	SANITARY
(S)	SAVE
(R)	REMOVE
(T.B.R.)	TO BE REMOVED

LAND DESCRIPTION

A TRACT OF LAND IN THE SOUTHWEST QUARTER OF SECTION 31, TOWNSHIP 47 NORTH, RANGE 3 EAST OF THE FIFTH PRINCIPAL MERIDIAN, ST. CHARLES COUNTY, MISSOURI, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:
 BEGINNING AT THE SOUTHWEST CORNER OF PROPERTY CONVEYED TO RAYMOND AND DORIS HILLMAN BY DEED RECORDED IN BOOK 1020, PAGE 482 OF THE ST. CHARLES COUNTY RECORDS; THENCE ALONG THE NORTH LINE OF "GLENMARE PLAT ONE", RECORDED IN PLAT BOOK 33, PAGES 98-99 OF SAID RECORDS, NORTH 89 DEGREES 56 MINUTES 48 SECONDS WEST, 298.75 FEET TO THE EAST LINE OF BRYAN ROAD, SAID POINT BEING 46.50 FEET PERPENDICULARLY DISTANT EAST OF BRYAN ROAD CENTERLINE STATION 76+90.99; THENCE ALONG SAID EAST LINE, NORTH 02 DEGREES 00 MINUTES 54 SECONDS EAST 635.85 FEET TO A POINT BEING 46.50 FEET PERPENDICULARLY DISTANT EAST OF BRYAN ROAD CENTERLINE STATION 70+55.14, SAID POINT ALSO BEING THE SOUTHWEST CORNER OF PROPERTY CONVEYED TO BLACKSTONE GROUP - ILLINOIS, L.L.C. BY DEED RECORDED IN BOOK 2488, PAGE 1608 OF SAID RECORDS; THENCE ALONG THE SOUTH LINE OF SAID BLACKSTONE GROUP - ILLINOIS, L.L.C. PROPERTY, SOUTH 88 DEGREES 00 MINUTES 57 SECONDS EAST, 298.24 FEET TO THE WEST LINE OF THE AFORESAID HILLMAN PROPERTY; THENCE ALONG THE WEST LINE OF SAID HILLMAN PROPERTY, SOUTH 01 DEGREES 59 MINUTES 03 SECONDS WEST, 625.78 FEET TO THE POINT OF BEGINNING, CONTAINING 4.321 ACRES.

PREPARED FOR:

Lauber Land Developers, L.L.C.
 #8 Parkland Avenue
 Suite 500
 St. Louis, Missouri 63122
 Mr. Ron Lauber
 314-821-8999

PREPARED BY:

CIVIL ENGINEERING
 DESIGN CONSULTANTS, INC.
 11402 GRAVOIS ROAD SUITE 100 SAINT LOUIS MISSOURI 63126
 314.729.1400 FAX 314.729.1404 INFO@CEDC.NET WWW.CEDC.NET

BRANDON A. HARP, P.E. E-28650

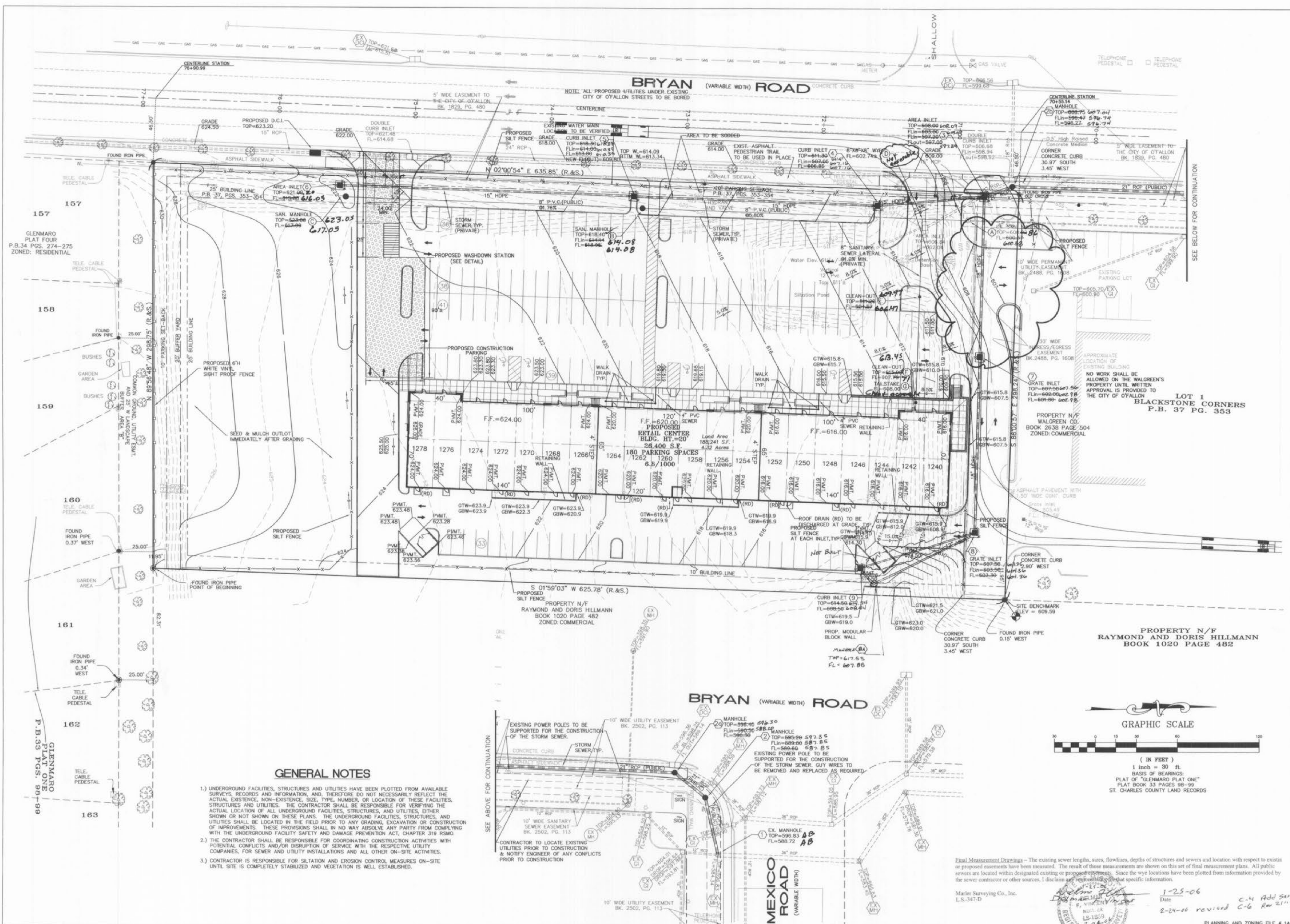
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 DESIGN CONSULTANTS, INC.
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 SAINT LOUIS MISSOURI 63126
 314.729.1400 FAX 314.729.1404
 INFO@CEDC.NET WWW.CEDC.NET

Improvement Plans
 Hillmann Farm Plaza
 1260 Bryan Road
 O'Fallon, Missouri 63366

Proj. #0266	
No. Description	Date
Owner Review	12.01.04
Per Engineer	12.07.04
Permit / Bidding	01.10.05
Per City	03.17.05
Per City	04.11.05

TITLE SHEET

C1



GENERAL NOTES

- 1.) UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS, RECORDS AND INFORMATION, AND, THEREFORE DO NOT NECESSARILY REFLECT THE ACTUAL EXISTENCE, NON-EXISTENCE, SIZE, TYPE, NUMBER, OR LOCATION OF THESE FACILITIES, STRUCTURES, AND UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ALL UNDERGROUND FACILITIES, STRUCTURES, AND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THESE PLANS. THE UNDERGROUND FACILITIES, STRUCTURES, AND UTILITIES SHALL BE LOCATED IN THE FIELD 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.
- 2.) THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING CONSTRUCTION ACTIVITIES WITH POTENTIAL CONFLICTS AND/OR DISRUPTION OF SERVICE WITH THE RESPECTIVE UTILITY COMPANIES, FOR SEWER AND UTILITY INSTALLATIONS AND ALL OTHER ON-SITE ACTIVITIES.
- 3.) CONTRACTOR IS RESPONSIBLE FOR SILTATION AND EROSION CONTROL MEASURES ON-SITE UNTIL SITE IS COMPLETELY STABILIZED AND VEGETATION IS WELL ESTABLISHED.



1.) UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS, RECORDS AND INFORMATION, AND, THEREFORE DO NOT NECESSARILY REFLECT THE ACTUAL EXISTENCE, NON-EXISTENCE, SIZE, TYPE, NUMBER, OR LOCATION OF THESE FACILITIES, STRUCTURES, AND UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ALL UNDERGROUND FACILITIES, STRUCTURES, AND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THESE PLANS. THE UNDERGROUND FACILITIES, STRUCTURES, AND UTILITIES SHALL BE LOCATED IN THE FIELD 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.

BRANDON A. HARP, P.E. E-28650

**CIVIL ENGINEERING
DESIGN CONSULTANTS, INC.**
11402 GRAYVOIS ROAD SUITE 100
SAINT LOUIS, MISSOURI 63146
314.729.1400 FAX 314.729.1404
INFO@CECD.NET WWW.CECD.NET

FINAL MEASUREMENT DRAWINGS
Hillmann Farm Plaza
1260 Bryan Road
O'Fallon, Missouri 63366

Proj. #0266	No. Description	Date
	Owner Review	12.01.04
	Per Engineer	12.07.04
	Permit / Bidding	01.10.05
	Per City	03.17.05
	Per City	04.11.05
	Per City	04.22.05
	Per City	06.01.05
	Per Contractor	09.07.05
	Per Contractor	09.22.05

AS-BUILTS

C4

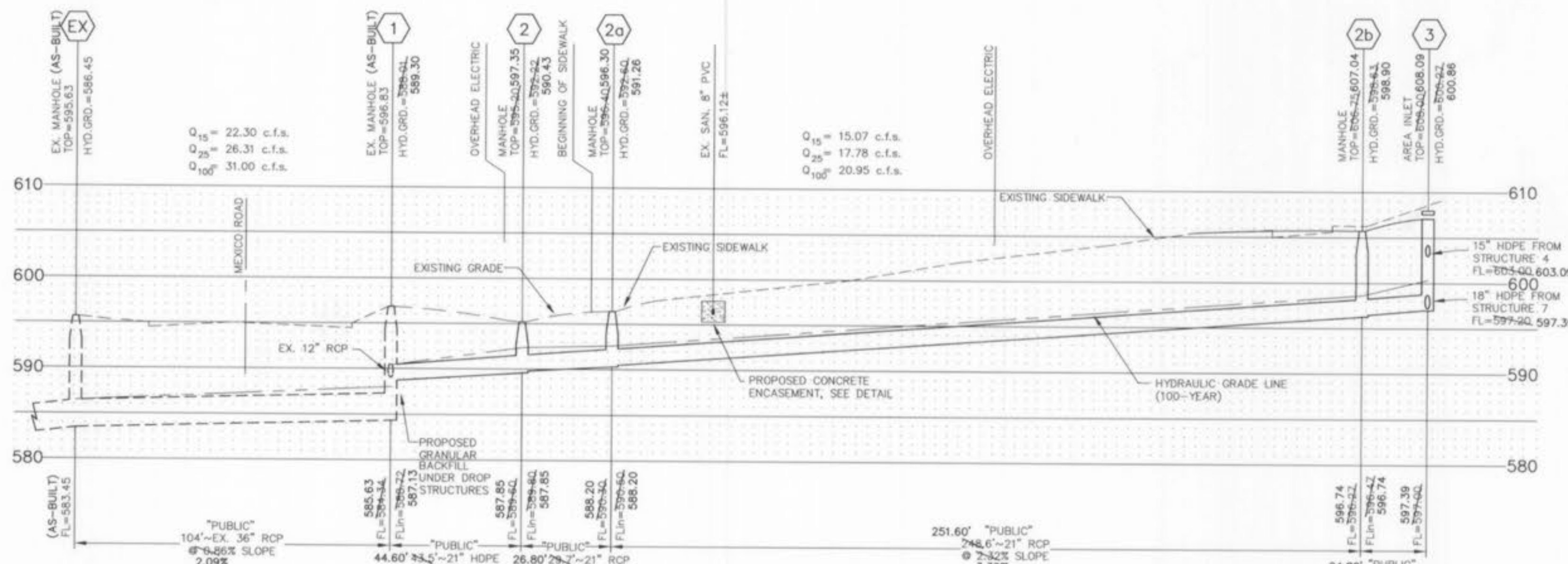
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Marler Surveying Co., Inc.
L.S. 347-D
Date: 1-25-06
2-24-06 revised C-4 Add Sanitary
C-6 Rev 21st P.P.P.



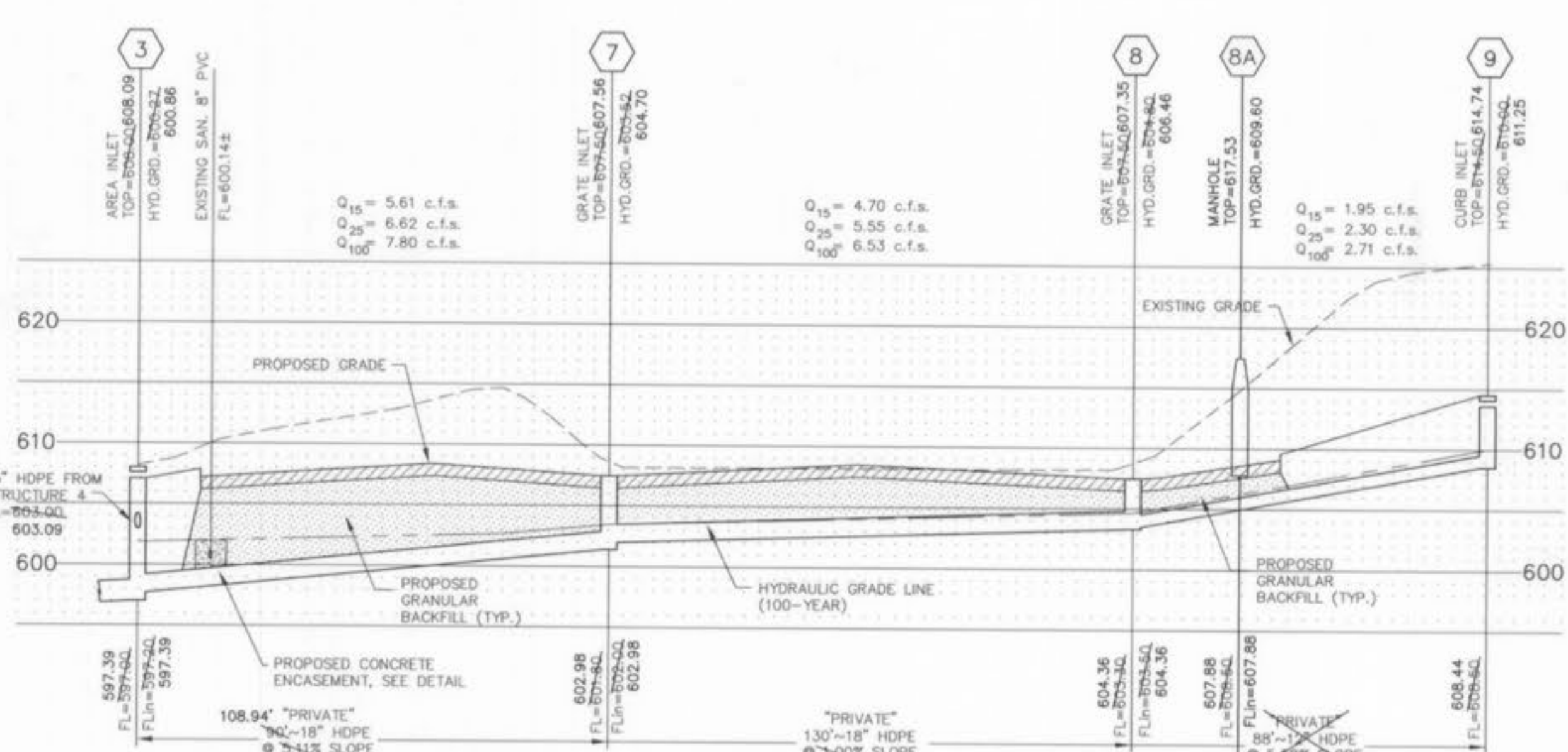
PLANNING AND ZONING FILE # 1404

Hillmann Farm Plaza As-Builts



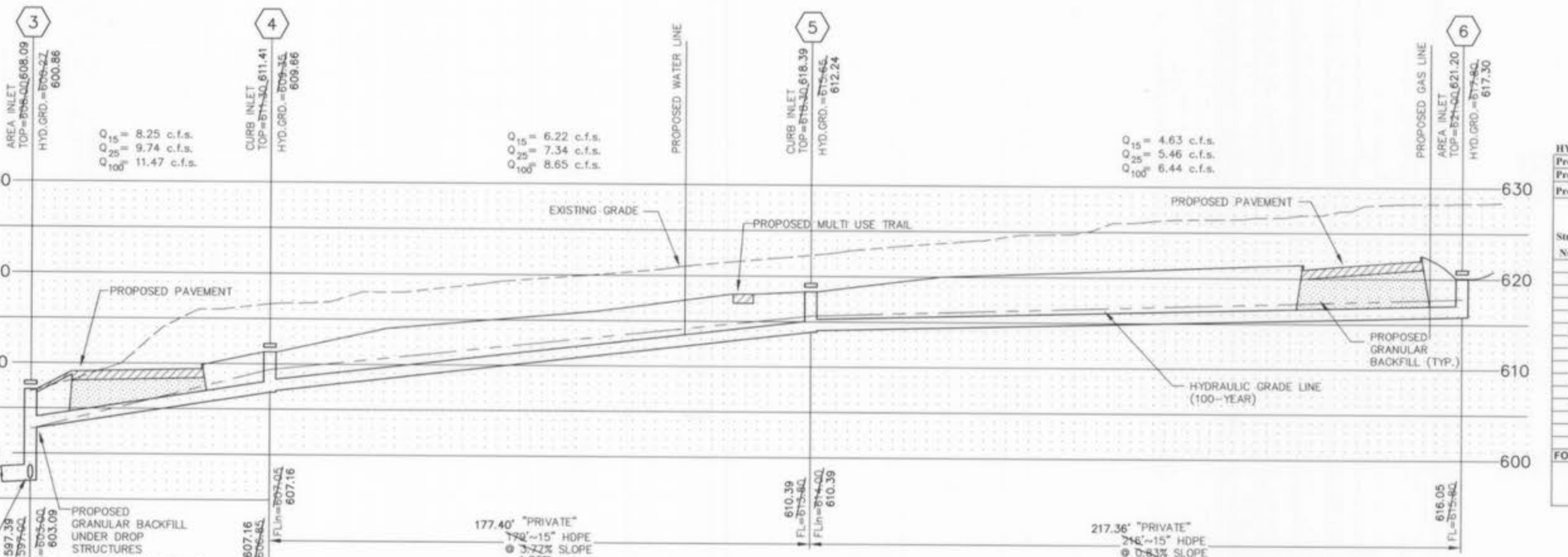
STORM SEWER PROFILE

SCALE: 1"=30' HORIZONTAL
1"=10' VERTICAL



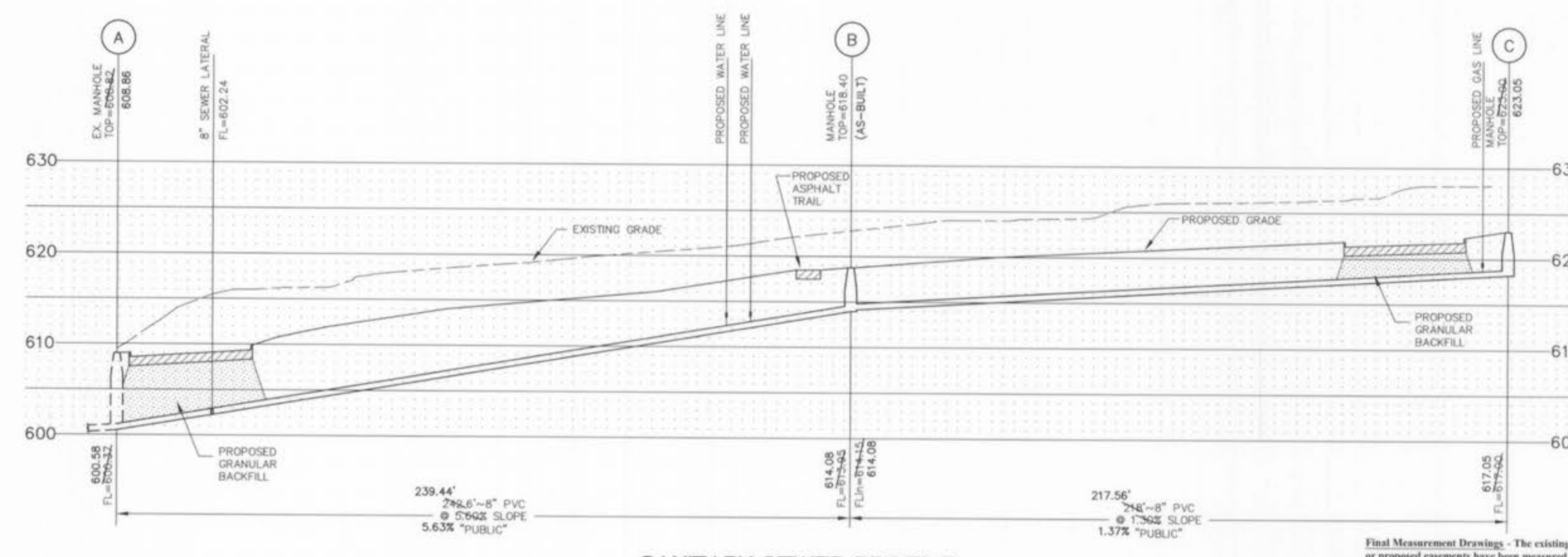
STORM SEWER PROFILE

SCALE: 1"=30' HORIZONTAL
1"=10' VERTICAL



STORM SEWER PROFILE

SCALE: 1"=30' HORIZONTAL
1"=10' VERTICAL



SANITARY SEWER PROFILE

SCALE: 1"=30' HORIZONTAL
1"=10' VERTICAL

HYDRAULIC CALCULATION SHEET (SEE DRAINAGE AREA MAP SHEET C9 FOR P.I. AND Q (inflow) FOR EACH STRUCTURE)

Project name: Hillmann Farm Plaza Calculated By: MWE
Project number: 0266 Checked By: RAH
Project Location: O'Fallon, Missouri Date: Rev. 02/23/06

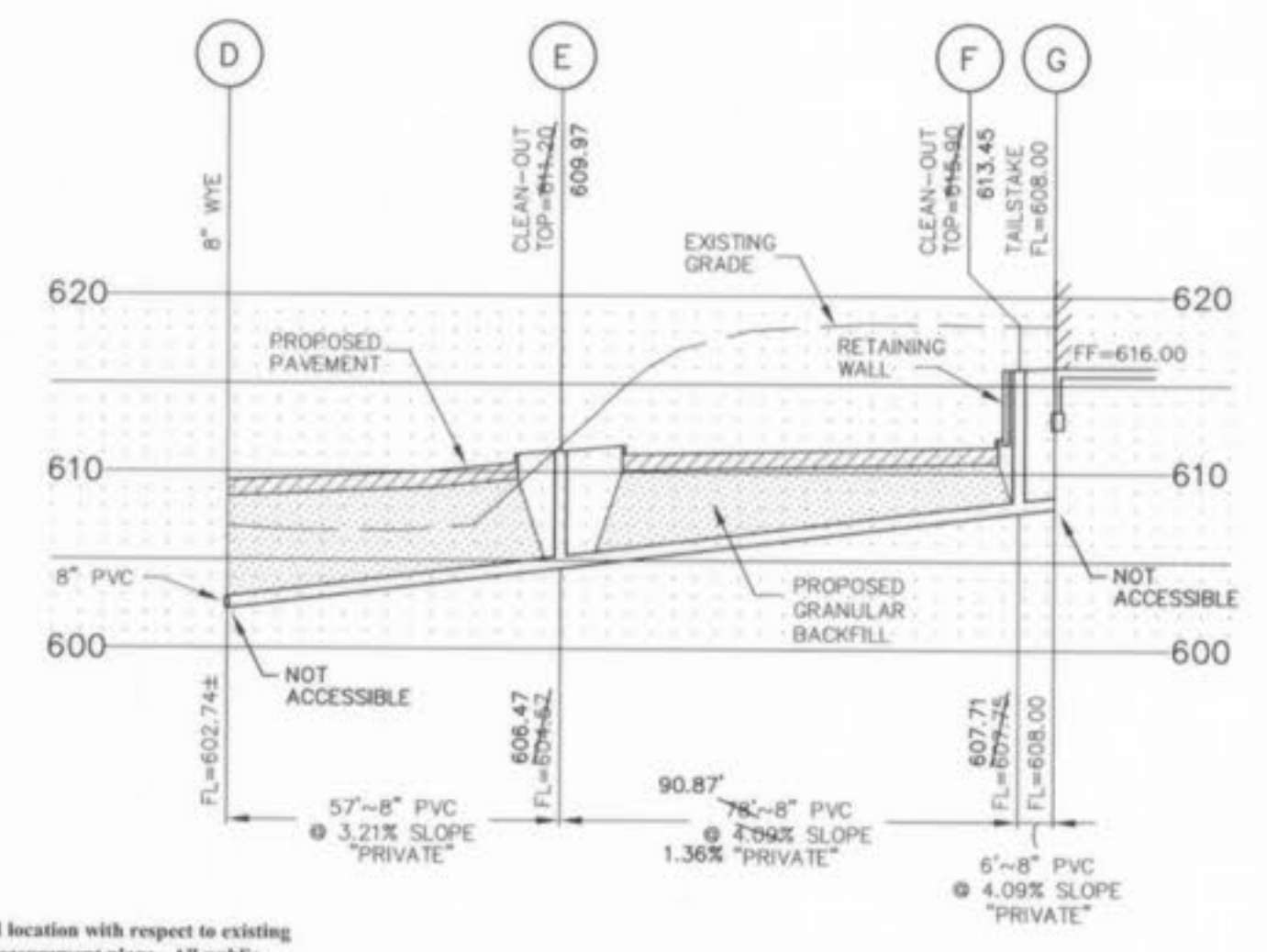
Structure Number	FLOW LINE		Length (ft)	Flowline (ft)	Pipe Size (in.)	Full Flow (cfs)	Total (ft)	Vel (ft/s)	Bend Coef.	Velocity Head (ft)	Q ₁₅ (cfs)	Q ₂₅ (cfs)	Q ₁₀₀ (cfs)	R ₁ (ft)	Junction (ft)	Bend (ft)	Total (ft)	Hydraulic Elevations						
	Upper	Lower																Upper	Lower	Upper	Lower	Upper	Lower	Structure
6	6	5	616.05	610.39	217.36	0.0260	15	13.59	6.44	5.25								609.44	611.25	609.60	611.25	614.74	3.49	9
5	5	4	610.39	607.16	177.40	0.0182	15	11.36	8.65	7.05								611.64	611.54	609.66	612.34	618.39	6.15	5
4	4	3	607.16	603.09	79.47	0.0512	15	19.06	11.47	9.35								608.41	601.75	600.37	609.66	611.41	1.75	4
9	9	8A	608.44	607.88	83.36	0.0067	12	3.81	6.53	5.31								609.44	611.25	609.60	611.25	614.74	3.49	9
8A	8A	8	607.88	604.36	17.40	0.2023	12	20.89	6.53	8.31								608.88	608.81	606.46	609.60	617.53	7.93	8A
8	8	7	604.36	602.98	130.00	0.0106	18	14.11	7.51	4.25								605.86	605.09	604.70	606.46	607.53	0.89	8
7	7	3	602.98	597.39	108.94	0.0153	18	31.62	7.80	4.41								604.48	601.21	600.86	604.70	607.56	2.86	7
3	3	2b	597.39	596.74	24.80	0.0262	21	25.72	20.95	8.71								600.86	600.86	600.86	600.86	608.09	7.23	3
2b	2b	2a	596.74	598.20	751.60	0.0339	21	29.37	20.95	8.71								598.49	595.65	591.26	598.00	607.04	8.74	2b
2a	2a	2	588.20	587.85	26.80	0.0111	21	18.16	20.95	8.71								589.95	590.90	590.43	591.26	596.30	5.04	2a
2	2	1	587.85	587.15	44.60	0.0161	21	26.54	20.95	8.71								589.60	589.76	589.30	590.43	597.35	6.92	2
1	1	DS	585.63	583.45	104.00	0.0210	36	96.83	31.00	4.39								588.63	586.45	586.45	586.45	596.83	7.33	1

FORMULAS:
MEAN FULL FLOW VELOCITY: $V = Q_{ACT} / A_{PIPE}$
FRICTION LOSS (H_f): $H_f = 2.47 n^2 (L/V^{4.75})$
VELOCITY HEAD: $V_h = V^2/2g$

JUNCTION LOSSES (JUNC.): $[Q_{in} V_{in} - \sum (Q_{out} V_{out})] \times 1.33 Q_{in}$
BEND LOSSES (BEND): $(V^2/2g) \times \text{ANGLE COEFFICIENT}$

NOTE: 1. IF MORE THAN ONE INCOMING LINE, CALCULATE EACH BEND LOSS AND ADD TOGETHER.
2. NO STRUCTURE LOSSES TO BE CALCULATED AT A DROP.
3. IF $Q_{ACT} > Q_{DESIGN}$, NO JUNCTION LOSSES TO BE CALCULATED.

NOTE: THE FOLLOWING PIPE REACHES HAVE AN AS-BUILT SLOPE WHICH VARIES BY MORE THAN 10% FROM THE DESIGN SLOPE:
STORM PIPE REACH: "EX" TO 1, 1 TO 2, 2 TO 2b, 2a TO 2b, 8 TO 8A, 8A TO 9, 4 TO 5, 5 TO 6
SANITARY PIPE REACH: "C" TO "F"

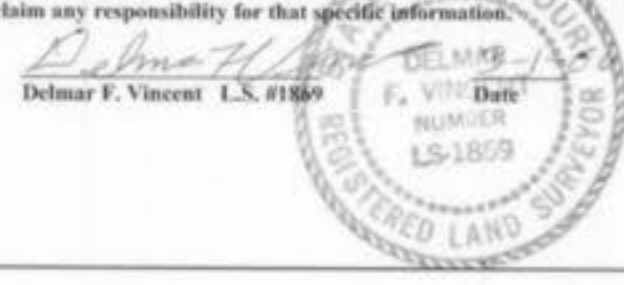


SANITARY SEWER PROFILE

SCALE: 1"=30' HORIZONTAL
1"=10' VERTICAL

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Marker Surveying Co., Inc.
L.S. - 347-D



BRANDON A. HARP, P.E. E-28650

CIVIL ENGINEERING
DESIGN CONSULTANTS, INC.
11402 GRAVVOIS ROAD SUITE 100
SAINT LOUIS, MISSOURI 63126
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INFO@CEDC.NET WWW.CEDC.NET

Improvement Plans
Hillmann Farm Plaza
1260 Bryan Road
O'Fallon, Missouri 63366

Proj. # 0266

No.	Description	Date
Owner Review	12.01.04	
Per Engineer	12.07.04	
Permit / Bidding	01.10.05	
Per City	03.17.05	
Per City	04.11.05	
Per City	04.22.05	
Per Contractor	09.07.05	
Per Contractor	09.22.05	
As Built	02.23.06	

SEWER PROFILES AS-BUILTS

C6