

BRIARCHASE ADDITION

A Tract of Land Being a Part of U.S. Survey 931,
in Township 46 North, Range 2 East,
City of O'Fallon, Missouri

IMPROVEMENT PLANS

GRADING & CONSTRUCTION NOTES:

- All construction methods, materials and practices shall conform to all current applicable specifications of the governing agencies.
- Any destruction of existing improvements or features shall be repaired or replaced in kind by the contractor and shall remain the contractor's responsibility.
- Underground utilities have been plotted from available information and therefore their locations must be considered approximate only. The verification of the location of all underground utilities, either shown or not shown on these plans shall be the responsibility of the contractor, and shall be located prior to grading or construction of improvements.
- It shall be distinctly understood that failure to specifically mention any work which would normally be required to complete the project shall not relieve the contractor of his responsibility to perform such work.
- Contractor shall keep road clear of mud and debris.
- All filled areas to be compacted to a minimum of 90 percent of maximum dry density as determined by the Modified AASHTO Compaction Test, ASTM D1557-75, or as specified by the soils engineer.
- It shall be the grading contractor's responsibility to notify the soils engineer prior to work in progress and to comply with recommendations by the soils engineer with regards to compaction, surface preparation, and placement of fill.
- It shall be the grading contractor's responsibility to provide the location of any existing underground utilities by notifying utility companies prior to grading operations.
- The grading contractor shall cut or fill to subgrade elevation under all areas to be paved. (Subgrade is figured at pavement depth). Rough grading is to be completed within $\pm 0.20'$.
- All drainage swales shall be sodded or seeded and mulched to prevent erosion.
- All stumps, limbs, and other debris are to be removed from the site unless a suitable dump area is approved in advance by the owner after consulting with the soils engineer if burning is approved.
- Subgrade is included in the total bid yardage. (Subgrade is figured at pavement depth).
- Slopes to receive fill which are steeper than 5:1 should be benched prior to placement of fill.
- If fill is to be placed in areas of soft soil, particularly in draws, drainage channels and other low lying areas, the soft soil shall be excavated until firm soil is encountered.
- All grading shall comply with the soils engineer's recommendations.
- Permanent grass is required at completion of grading or a 30 day suspension of grading will be imposed.
- A drainage easement will be granted to the City of O'Fallon for any creeks to remain in the development on the record plat.
- Siltation control will be installed prior to any grading or construction operations and shall be inspected and maintained as necessary to insure their proper function until sufficient vegetation has been established to prevent erosion.
- The installation and maintenance of all siltation controls shall be the responsibility of the developer.
- Additional siltation control may be required as directed by the local governing authority.
- All grading areas shall be protected from erosion by erosion control devices and/or seeding and mulching as required by the City of O'Fallon.
- All fill placed in proposed roads shall be compacted from the bottom of the fill up to 90 percent maximum density as determined by the Modified AASHTO T-180 Compaction Test or 95 maximum density as determined by the Standard Proctor Test AASHTO T-99. All tests shall be verified by a soils engineer concurrent with grading and backfilling operations.
- Erosion and sediment control structures shall be maintained throughout the construction process.
- The Developer shall provide the City of O'Fallon construction inspectors with soils reports prior to and during site soil testing.
- The contractor shall assume complete responsibility for controlling all siltation and erosion of the project area. The Contractor shall use whatever means necessary to control erosion and siltation including, but not limited to, staked straw bales and/or siltation fabric fences (possible methods of control are detailed in the plan). Control shall commence with grading and be maintained throughout the project until acceptance of the work by the Owner and/or the City of O'Fallon and/or MoDOT. The Contractor's responsibilities include all design and implementation as required to prevent erosion and the depositing of silt. The Owner and/or the City of O'Fallon and/or MoDOT may at their option direct the Contractor in his methods as deemed fit to protect property and improvements. Any depositing of any silt or mud on new or existing pavement or in new or existing sewers or swales shall be removed after each rain and affected areas cleaned to the satisfaction of the Owner and/or the City of O'Fallon and/or MoDOT.
- All erosion control systems shall be inspected and necessary corrections made within 24 hours of any rainstorm resulting in one-half inch of rain or more.
- Erosion control shall not be limited to what is shown on the plan. Whatever means necessary shall be taken to prevent siltation and erosion from entering natural streams, adjacent roadways, properties, ditches.
- No graded area shall remain bare for over 6 months without being seeded or mulched.
- No slope shall exceed 3(Horz.):1(Vert.).
- All filled places under proposed storm and sanitary sewer and/or paved areas shall be compacted to 90% of maximum density as determined by the Modified AASHTO T-180 Compaction Test or 95% of maximum density as determined by the Standard Proctor Test AASHTO T-99.
- When deemed necessary, positive steps should be exercised to prevent the soil from damaging adjacent property and silted up all storm drainage systems whether on or off site.
- All low places whether on-site or off-site should be graded to allow drainage by installing temporary ditches.
- Any wells and/or springs which may exist on this property should be located and sealed in a manner acceptable to the City of O'Fallon.
- All trash and debris on-site, either existing or from construction, must be removed and disposed of off-site.
- Debris and foundation material from any existing on-site building or structure which is scheduled to be razed for this development must be disposed of off-site. All existing buildings and fencing is to be removed.
- Soft soils in the bottom and banks of any existing or former pond sites or tributaries should be removed, spread out and permitted to dry sufficiently to be used as fill. None of this material should be placed in proposed public right-of-way locations or on any storm sewer location. Dewatering of existing pond shall not exceed 50 GPM.
- Please notify the Director of Public Works for the City of O'Fallon 24 hours prior to the commencement of grading. No building permits will be issued by the City of O'Fallon until construction plans are approved and the final plat recorded.
- The sediment control plan should be implemented before grading begins. This should follow the guidelines in the model sediment and erosion control regulations by St. Charles Soil and Water Conservation District.
- The low sill elevation for any proposed structures adjacent to the flood plain shall be a minimum of 1(one) foot above the 100-year flood elevation.
- All grading adjustments shall be submitted to and receive approval from the City of O'Fallon.
- When utilized temporary siltation ponds/structures shall be completely removed following re-establishment of vegetation. Ponds shall be backfilled, compacted, and graded to provide positive drainage and then seeded and mulched.
- All fill placed in proposed roads shall be compacted from the bottom of the fill up. All tests shall be verified by a soils engineer concurrent with grading and backfilling operations. Ensure the moisture content of the soil in fill areas is to correspond to the compactive effort as defined by the Standard or Modified Proctor Test. Optimum moisture content shall be determined using the O'Fallon prior to the placement of fill. Proof rolling may be required to verify soil stability at the discretion of the City of O'Fallon.
- All paving to be in accordance with St. Charles County standards and specifications except as modified by the City of O'Fallon.

LEGAL DESCRIPTION:

A tract of land being a part of U.S. Survey 931, in Township 46 North, Range 2 East, St. Charles County, Missouri, being the same tract of land described in a deed to John C. and Ruth M. Steinmann and being more particularly described as follows:

Commencing at an old stone, found for the Northeast corner of U.S. Survey 931; thence with the North line of U.S. Survey 931, North 82°24'54" West 1486.70 feet to an iron rod and being the Point of Beginning of the herein described tract of land and also being a point on the Northwest corner of a tract of land described in a deed to Jo Ann Dickherber as recorded in deed Book 1767 Page 1654 of the St. Charles County records; thence with the West line of said Dickherber Tract and its direct prolongation, South 07°40'52" West 3384.96 feet to a found iron rod on the North line of a tract of land described in a deed to John C. Doyle as recorded in deed Book 638 Page 1264 of the St. Charles County records; thence with the North line of said Doyle Tract, North 81°54'03" West 396.90 to a found stone on the East line of a tract of land described in a deed to Adelaide Rhodes and Rhodes Family Farm, Inc., as recorded in deed Book 2617 Page 001 of the St. Charles County records; thence with the East line of said Rhodes Tract, North 07°50'38" East 2661.97 feet to a point on the East line of a tract of land described in a deed to Della A. and Clarence E. Mueller as recorded in deed Book 1703 Page 332 of the St. Charles County records, and from which said point a found iron rod bears South 41°35'44" East 0.06 feet; thence South 82°06'10" East 364.33 feet to a point 25 feet west and perpendicular to the west line of aforesaid Dickherber Tract, from which said point, a found iron rod bears South 39°22'47" East 0.09 feet; thence in a Northerly direction, 25 feet west and parallel to the west line of the said Dickherber Tract, North 07°40'52" East 721.44 feet to a point on the aforesaid North line of U.S. Survey 931, from which said point, a found iron pipe bears North 73°02'10" East 0.89 feet; thence with the said North line of U.S. Survey 931, South 82°24'54" East 25.00 feet to the Point of Beginning and containing 1,064,754 square feet (24.4433 acres), more or less.

GENERAL NOTES:

- This site is in the following Districts:
Public Water District No. 2 (Water & Sewer)
Wentzville Fire Protection District
Wentzville School District
- This site is in the following Utility Service Areas:
AT&T Broadband
Cuivre River Electric Company
St. Charles County Gas Company
Centurytel
- Sanitary sewer connections shall be approved by Public Water and Sewer District No. 2 and the City of O'Fallon.
- Storm Water Management shall be designed pursuant to the requirements of City of O'Fallon and shall discharge at an adequate natural discharge point.
- Grading shall be per City of O'Fallon standards.
- Street trees, landscaping and street lights shall be per City of O'Fallon standards.
- The underground utilities shown herein were plotted from available information and do not necessarily reflect the actual existence, 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, shown or not shown, and shall be located in the field prior to any grading, excavation, or construction of improvements. The provisions shall in no way absolve any party from complying with the Underground Facility Safety and Damage Prevention Act, Chapter 319, RSMo.
- The Source of topographic information is USGS Datum.
- All proposed utilities and sewers shall be covered by easements granted to the appropriate utility companies and municipalities.
- This project is in compliance with Article 26 of the City of O'Fallon's Zoning Code.
- All sidewalks shall be 4' wide minimum and comply with City of O'Fallon ADA Standards.
- This plot is not for record.
- Proposed light standards shall be 16' tall max.
- No known wetlands are on the subject property.
- All future uses on subject property will conform with Article XIII of the Zoning Code.
- All necessary utilities (public or private) will be available, functioning and useable prior to the issuance of any occupancy permits.
- Any septic tanks or leach fields to be removed per St. Charles County requirements.
- If detention basin structure and pipes are being used as a sediment basin, installation of detention structure and pipes are at the developers own risk.
- All lots within the subdivision shall only be accessed via a public right of way. Access to lots may not be permitted via private easements or drives.
- Lot information: min. width at building line - 60', side yard - 5', front yard - 20', rear yard - 15'.
- Driveway locations shall not interfere with the sidewalk accessible ramps.
- All utilities shall be located underground.
- City approval of the construction site plans does not mean single family and two family dwelling units can be constructed on the lots without meeting the building setbacks, as required by the zoning code.
- A 5/8" trash bar shall be provided in all inlets.

FLOOD PLAIN NOTE:

According to the Flood Insurance Rate Map of the County of St. Charles, Missouri, Unincorporated Areas (Community Panel Number 29183C0220 E Dated August 2, 1996, This property lies entirely within zone X. Zone X is defined as an area outside the 500 year flood hazard, in which base flood elevations have been determined.

PROJECT BENCHMARK

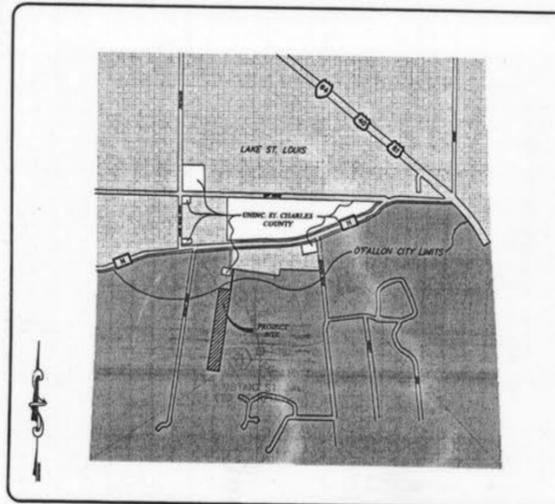
"SQ" cut west end of southern headwall located at the southwest intersection of Sommers Road and State Highway "N"; 36.5' east of Sommers Road and 14' south of centerline of State Highway "N".

Elevation = 607.22

TREE ORDINANCE

Existing trees = 4.47 acres
Trees removed = 4.02 acres
Trees saved = 0.45 acres
20% of existing trees are required to be saved = 0.89 acres
Trees required = 15 trees per acre
Trees to be provided = 15 trees/oc X 0.44 acres = 7 trees
Trees proposed = 7
Complied with ordinance

THE UNDERGROUND UTILITIES SHOWN HEREON WERE PLOTTED FROM AVAILABLE INFORMATION AND DO NOT NECESSARILY REFLECT THE ACTUAL EXISTENCE, 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, SHOWN OR NOT SHOWN, AND SAID 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.



LOCATION MAP
N.T.S.

EXISTING	LEGEND	PROPOSED
542	CONTOURS	(542)
536	SPOT ELEVATIONS	(536)
---	CENTER LINE	---
---	BUILDINGS, ETC.	---
---	TREE LINE	---
---	FENCE	---
---	STORM SEWERS	---
---	SANITARY SEWERS	---
---	CATCH BASIN	---
---	AREA INLET	---
---	GRATED INLET	---
---	STORM MANHOLE	---
---	SANITARY MANHOLE	---
---	FLARED END SECTION	---
---	CLEANOUT	---
---	LATERAL CONNECTION	---
---	UTILITY OR POWER POLE	---
---	FIRE HYDRANT	---
---	TEST HOLE	---
---	PAVEMENT	---
2" G	GAS MAIN & SIZE	(2" G)
6" W	WATER MAIN & SIZE	(6" W)
T	TELEPHONE	(T)
E	ELECTRIC (U) UNDERGROUND	(E)
OWH	ELECTRIC (O) OVERHEAD	(OWH)
FL	FLOW LINE	FL
TC	TO BE REMOVED	TC
---	TOP OF CURB	---
---	SWALE	---
---	LIGHT STANDARD	---
---	STREET SIGN	---
P.S.	PARKING STALLS	P.S.
---	YARD LIGHT	---

INDEX OF SHEETS

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SC1	SILTATION CONTROL DETAILS
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AS-BUILT
SANITARY AND STORM SEWER
FINAL MEASUREMENT PLAN

As of 12-17-04, I certify that the actual 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 Measurements 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 follows:

THE STERLING COMPANY
By: George J. Overman, Vice President
Mo. Reg. L.S. #2336

ESTIMATED CONSTRUCTION SCHEDULE

- CLEARING AND GRUBBING: PRESENT - MAY 2004
- ROUGH GRADING: MAY - JUNE 2004
- CONSTRUCTION OF SEWERS, UTILITIES, ROADS: JUNE - AUGUST 2004
- FINAL GRADING: SEPTEMBER 2004
- LANDSCAPING: SEPTEMBER 2004

Drawing name: K:\D\2006142_Briarchase Addition\IMPROVEMENTS\01\22IMP.dwg Plotted on: Jul 27, 2004 - 7:22am Plotted by: ramold

McBride & Son Homes
Land Development, Inc.
#1 McBride & Son Center Drive
Chesterfield, Missouri 63005
(636) 537-2000

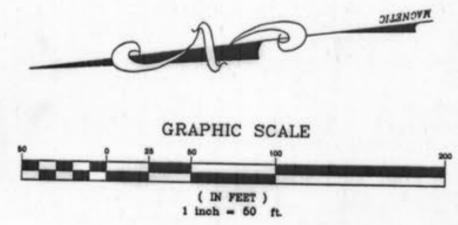
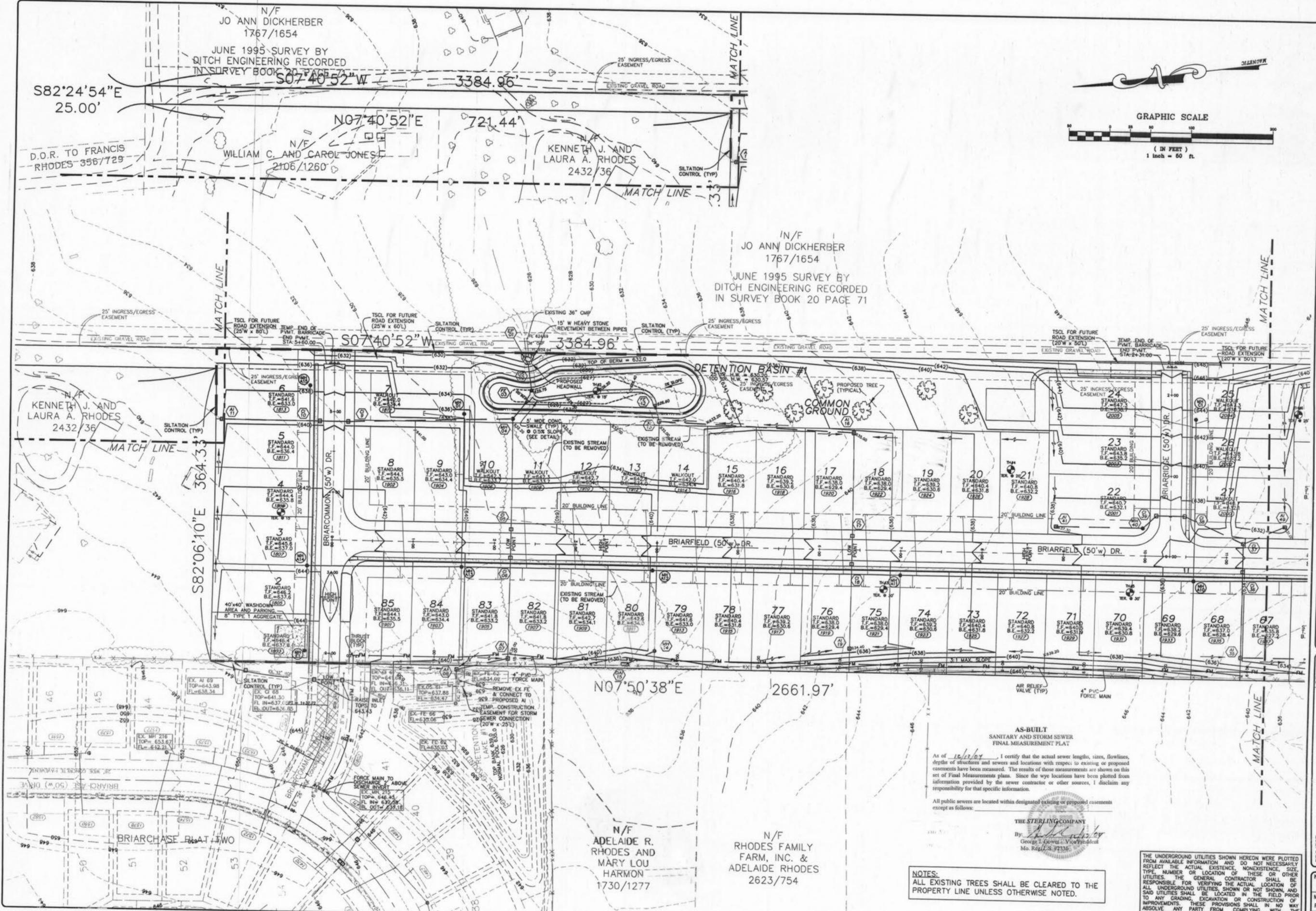
PREPARED FOR:

THE STERLING COMPANY
ENGINEERS & SURVEYORS
5052 N. MISSOURI AVENUE
ST. LOUIS, MISSOURI 63112
(314) 487-0440 FAX 487-8844
E-Mail: Sterling@sterling-eng-surf.com

PROJECT: BRIARCHASE ADDITION

SHEET TITLE: COVER SHEET

NO. 02 06 142
M.S.D. SHEET
PW 1



ISSUE	REMARKS/DATE
1	04-29-04 FIRST SUBMITTAL
2	06-21-04 REVISED PER CITY OF ST. LOUIS COMMENTS
3	06-25-04 REVISED PER PMSD #2 COMMENTS
4	07-20-04 REVISED PER CITY COMMENTS

PREPARED FOR:
McBride & Son Homes, Inc.
 Land Development, Inc.
 #1 McBride & Son Center Drive
 Chesterfield, Missouri 63005
 (636) 537-2000



PREPARED BY:
THE STERLING CO.
 ENGINEERS & SURVEYORS
 5065 NEW BAY PARKWAY ROAD
 ST. LOUIS, MISSOURI 63112
 (314) 487-0440 FAX 487-2849
 E-Mail: Sterling@sterling-eng.com

PROJECT:	BRIARCHASE ADDITION
DESIGNED:	
CHECKED:	
SHEET TITLE:	GRADING PLAN

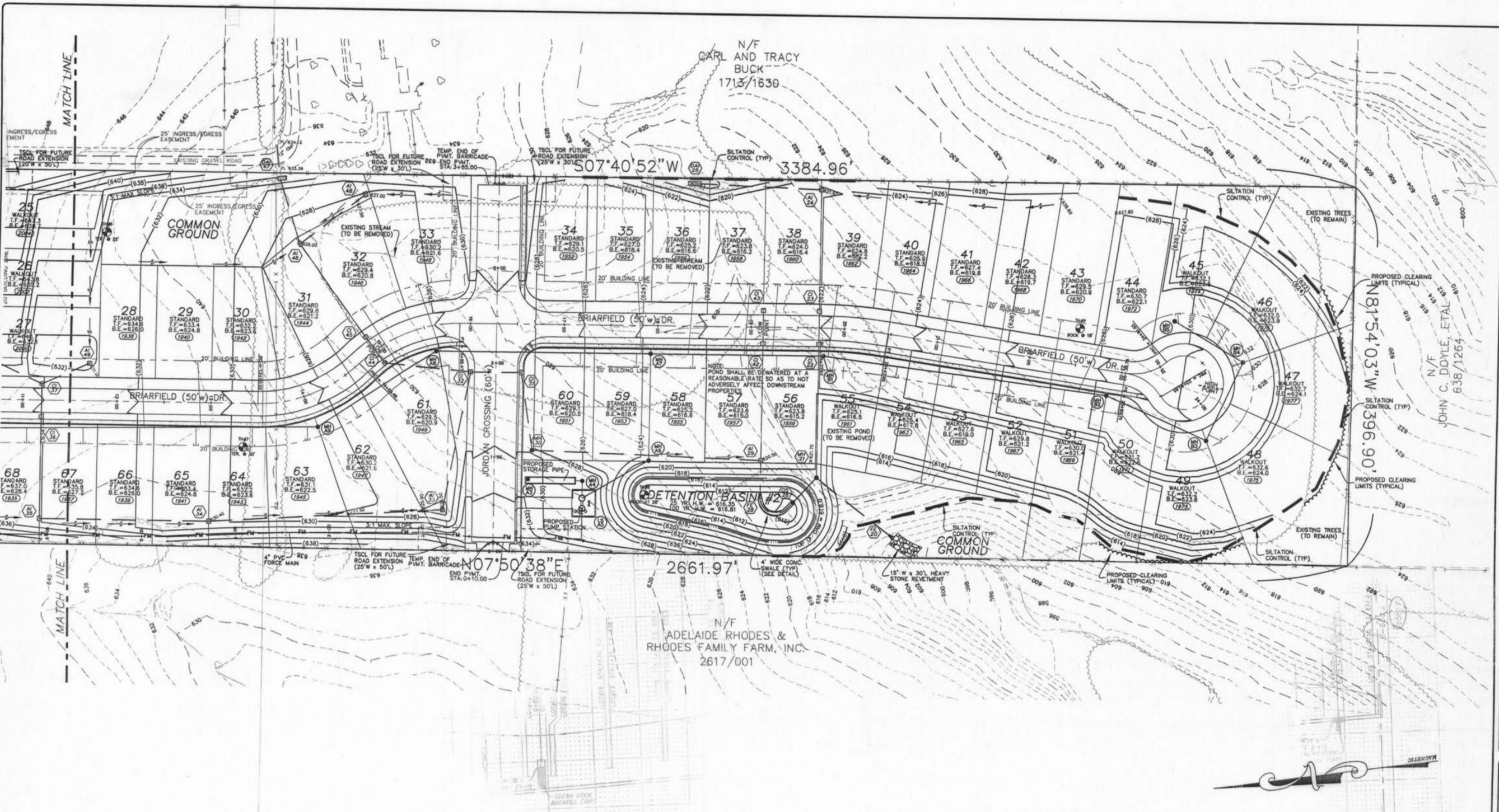
NO.	02	06	142
M.S.D.			SHEET
#	2		OF
			22

AS-BUILT
 SANITARY AND STORM SEWER
 FINAL MEASUREMENT PLAT
 As of 12/17/04, I certify that the actual 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 Final Measurements plat. Since the eye 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 follows:

THE STERLING COMPANY
 By: *George I. Gower*
 George I. Gower - Vice President
 Mo. Reg. No. 17336

NOTES:
 ALL EXISTING TREES SHALL BE CLEARED TO THE PROPERTY LINE UNLESS OTHERWISE NOTED.

THE UNDERGROUND UTILITIES SHOWN HEREON WERE PLOTTED FROM AVAILABLE INFORMATION AND DO NOT NECESSARILY REFLECT THE ACTUAL EXISTENCE, 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, SHOWN OR NOT SHOWN, AND 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.



N/F
CARL AND TRACY
BUCK
1713/1630

N/F
ADELAIDE RHODES &
RHODES FAMILY FARM, INC.
2617/001

S07°40'52"W 3384.96'

N81°54'03"W 3966.90'

2661.97'

**AS-BUILT
SANITARY AND STORM SEWER
FINAL MEASUREMENT PLAT**

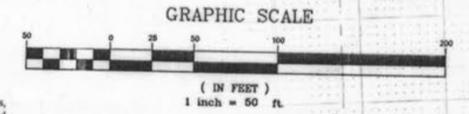
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THE STERLING COMPANY
By: George J. Gower
George J. Gower - Vice President
Mo. Reg. L.S.#7236

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ISSUE	REMARKS/DATE
1	04-29-04 FIRST SUBMITTAL
2	06-21-04 REVISED PER CITY OF ST. LOUIS COMMENTS
3	06-25-04 REVISED PER PMSD #2 COMMENTS
4	07-20-04 REVISED PER CITY COMMENTS

PREPARED FOR:
**McBride & Son Homes
Land Development, Inc.**
#1 McBride & Son Center Drive
Chestertown, Missouri 63005
(636) 537-2000

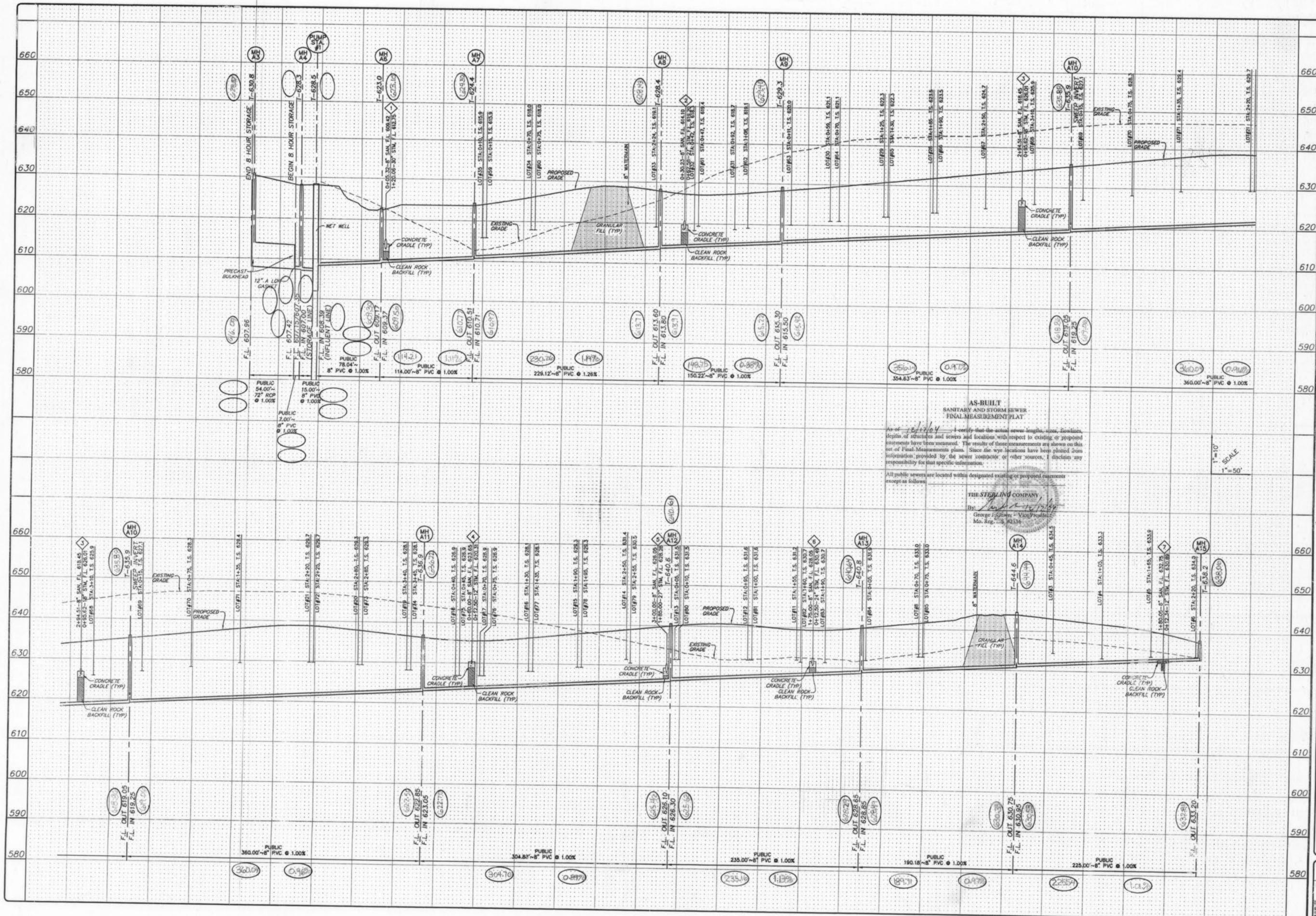


PREPARED BY:
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(314) 487-2440 FAX: 487-2445
E-Mail: Sterling@sterling-eng-survey.com

DRAWN: _____
DESIGNED: _____
CHECKED: _____

PROJECT: **BRIARCHASE ADDITION**
SHEET TITLE: **GRADING PLAN**

NO. **02 06 142**
M.S.D. SHEET **3**
OF **22**



AS-BUILT
SANITARY AND STORM SEWER
FINAL MEASUREMENT PLAN

As of 2/17/04, I certify that the actual sewer lengths, size, lineages, 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 Measurements 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 follows:

THE STERLING COMPANY
By: George J. Stowers - Vice President
Mo. Reg. No. 3, 92336

ISSUE	REMARKS/DATE
1	04-29-04 FIRST SUBMITTAL
2	06-21-04 REVISED PER CITY OF FALLON COMMENTS
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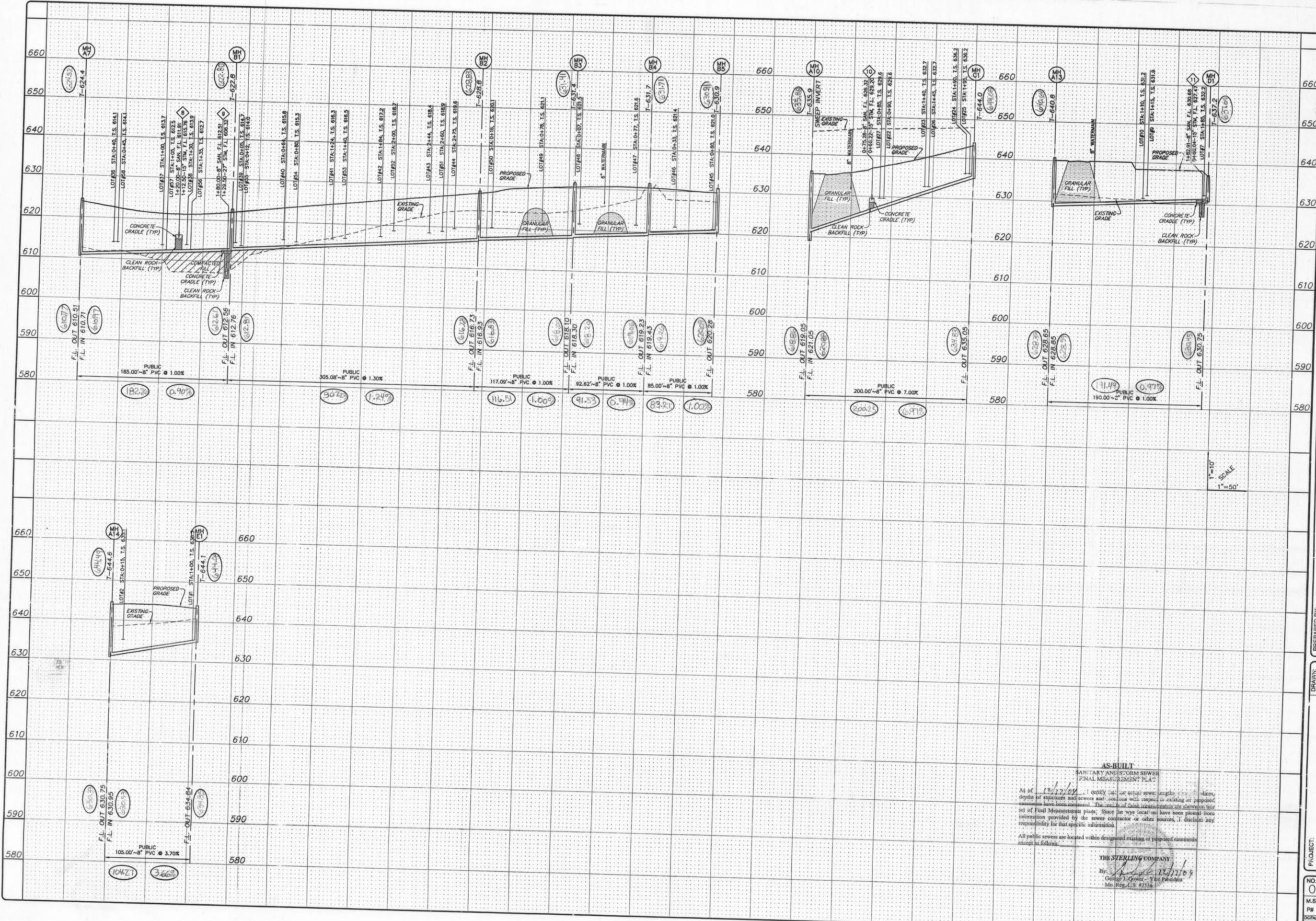
PREPARED FOR:
McBride & Son Homes
Land Development, Inc.
#1 McBride & Son Center Drive
Chesterfield, Missouri 63005
(636) 637-2000



THE STERLING COMPANY
ENGINEERS & SURVEYORS
5655 NEW BAUMGARTNER ROAD
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(314) 427-0400 FAX (314) 427-0401
E-Mail: Sterling@sterling-eng-surf.com

PROJECT: **BRIARCHASE ADDITION**
SHEET TITLE: **SANITARY SEWER PROFILES**

NO	02 06 142
M.S.D.	SHEET
#	8
DATE	22



AS-BUILT
 SANITARY AND STORM SEWER
 FINAL MEASUREMENT PLAT

As of 12/17/04, I certify that the actual sewer lengths, manhole depths, depth of structures and sewer and manhole wall thicknesses or proposed elevations have been measured. The results of these measurements are shown on this set of Final Measurements plans. Since the measurements have been platted 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 follows:

THE STERLING COMPANY
 By: *George J. Gower* 12/17/04
 George J. Gower - Vice President
 Mo. Reg. #LS 42336

ISSUE REMARKS/DATE

1	04-25-04	FIRST SUBMITTAL
2	06-21-04	REVISED PER CITY OF FALLON COMMENTS
3	06-25-04	REVISED PER PASO PER CITY COMMENTS
4	07-20-04	REVISED PER CITY COMMENTS

PREPARED FOR:
McBride & Son Homes
 Land Development, Inc.
 #1 McBride & Son Center Drive
 Chesterfield, Missouri 63005
 (636) 537-2000



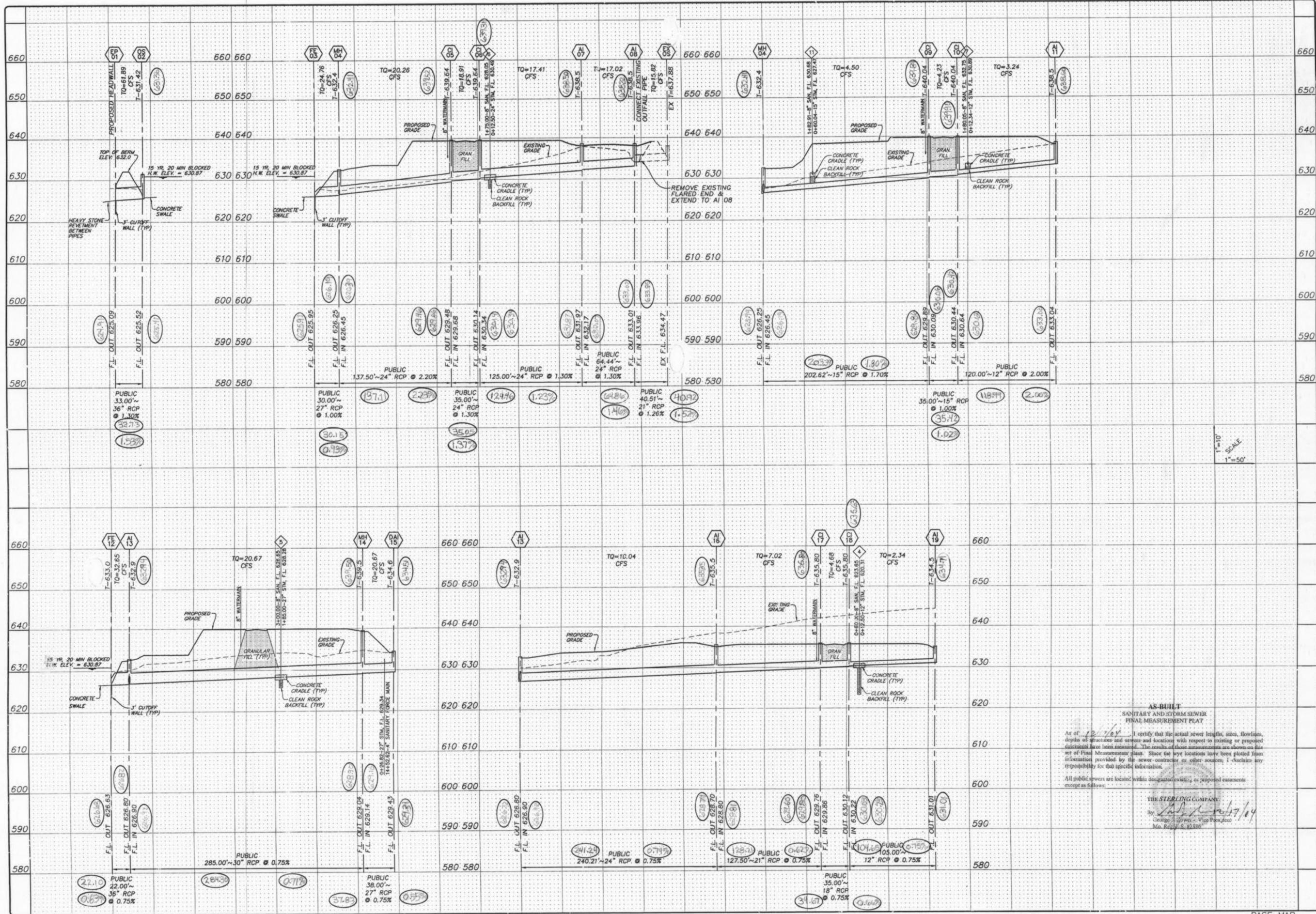
PREPARED BY:
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 (314) 487-2440 FAX 437-8844
 E-Mail: Sterling@sterling-eng-sur.com

PROJECT: **BRIARCHASE ADDITION**

SHEET TITLE: **SANITARY SEWER PROFILES**

DESIGNED: _____
 CHECKED: _____

NO.	02 06 142
M.S.D.	SHEET
P#	9
DIGITAL FILE LOCATION	22
SERVER-STERLING-2	
DATE	



1"=10'
SCALE
1"=50'

AS-BUILT
SANITARY AND STORM SEWER
FINAL MEASUREMENT PLAT

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THE STERLING COMPANY
By: *George J. Jivac*, Vice President
No. 1017 & 1213C

ISSUE REMARKS/DAT

1	04-29-04	REVISED PER CITY OF FALLON COMMENTS
2	06-21-04	REVISED PER PASO PER COMMENTS
3	06-26-04	REVISED PER PASO PER COMMENTS
4	07-20-04	REVISED PER CITY COMMENTS

PREPARED FOR:

McBride & Son Homes, Inc.
Land Development, Inc.
#1 McBride & Son Center Drive
Chesterfield, Missouri 63005
(636) 537-2000

PROFESSOR OF SURVEYING
STATE OF MISSOURI
No. 1017 & 1213C

PREPARED BY:

THE STERLING CO.
ENGINEERS & SURVEYORS
5655 NEW BAUMGARTNER ROAD
ST. LOUIS, MISSOURI 63129
(314) 487-0440 FAX 487-8844
E-Mail: Sterling@sterling-eng-sur.com

PROJECT: **BRIARCLASE ADDITION**

DRAWN: _____ DESIGNED: _____ CHECKED: _____

SHEET TITLE: **STORM SEWER PROFILES**

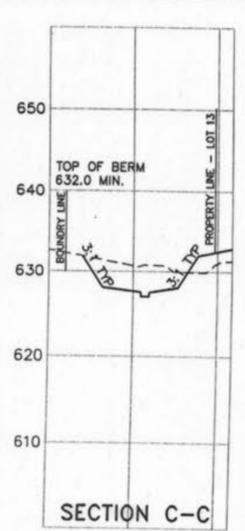
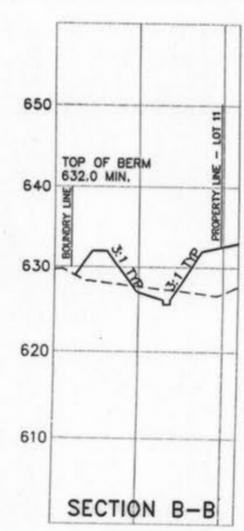
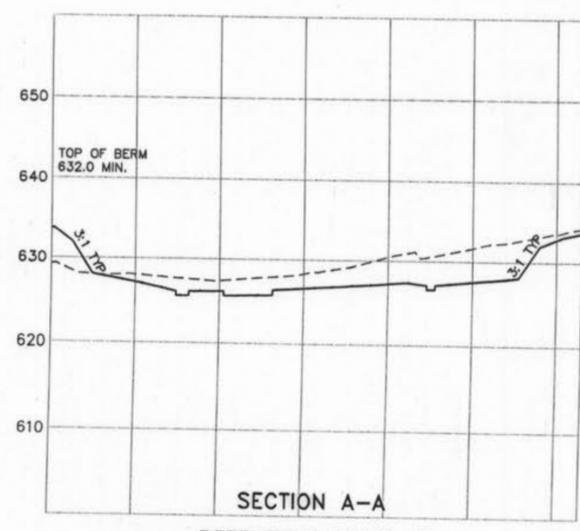
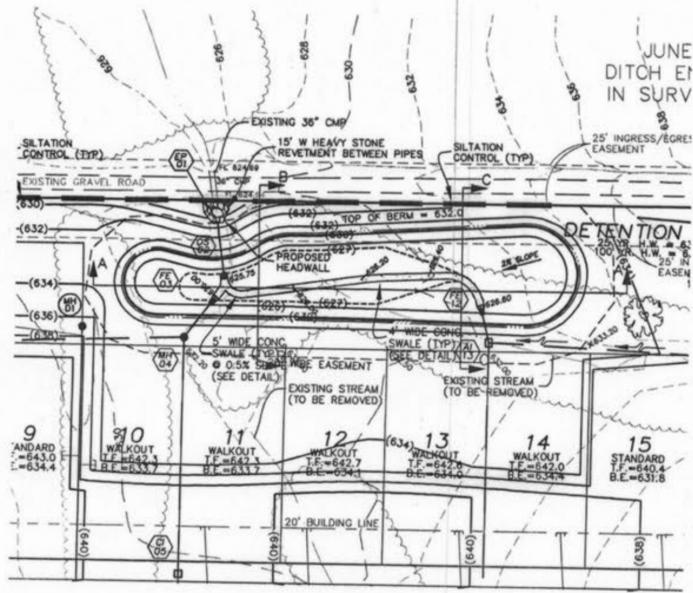
NO. **02 06 142**

M.S.D. SHEET **10**

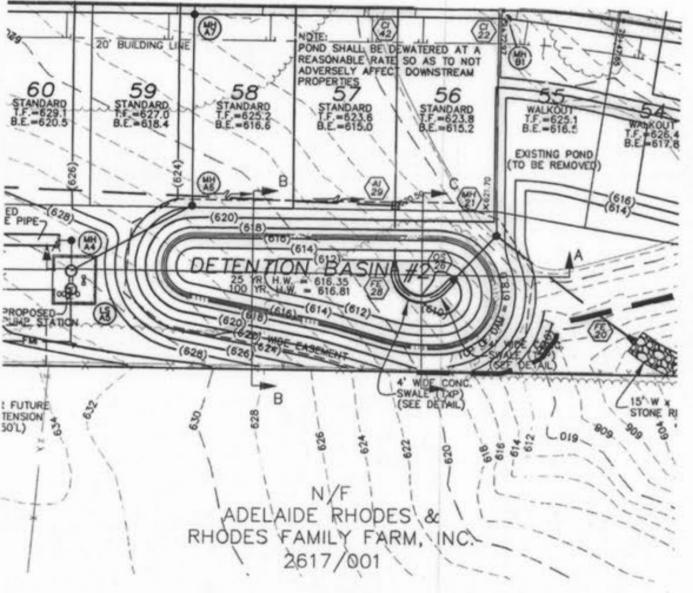
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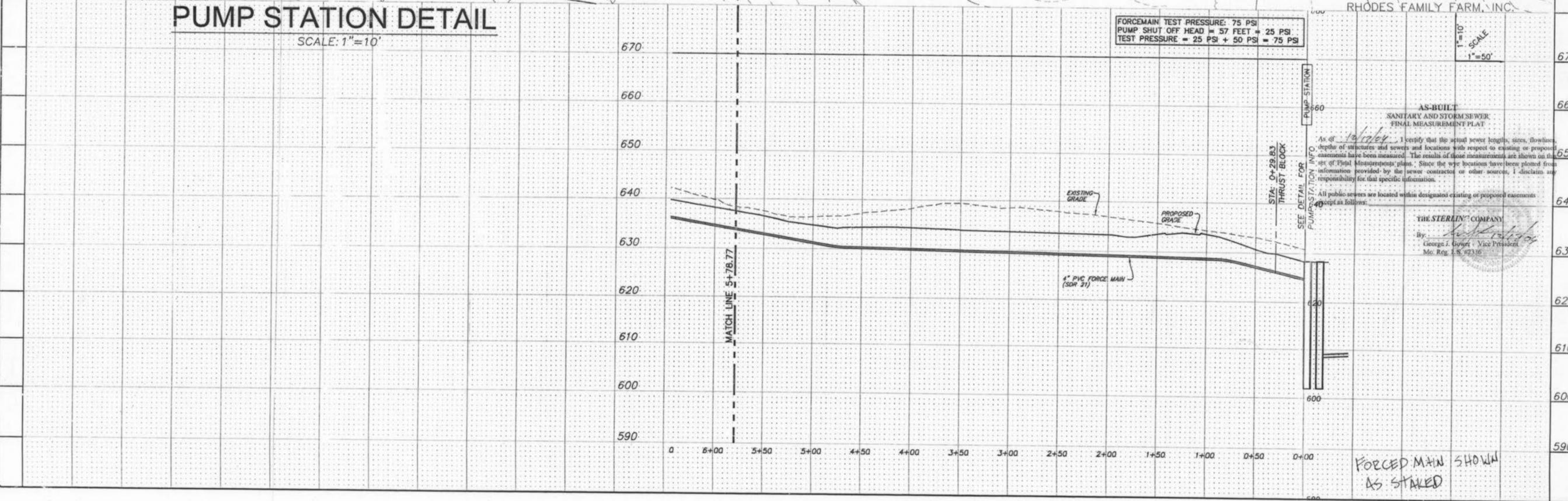
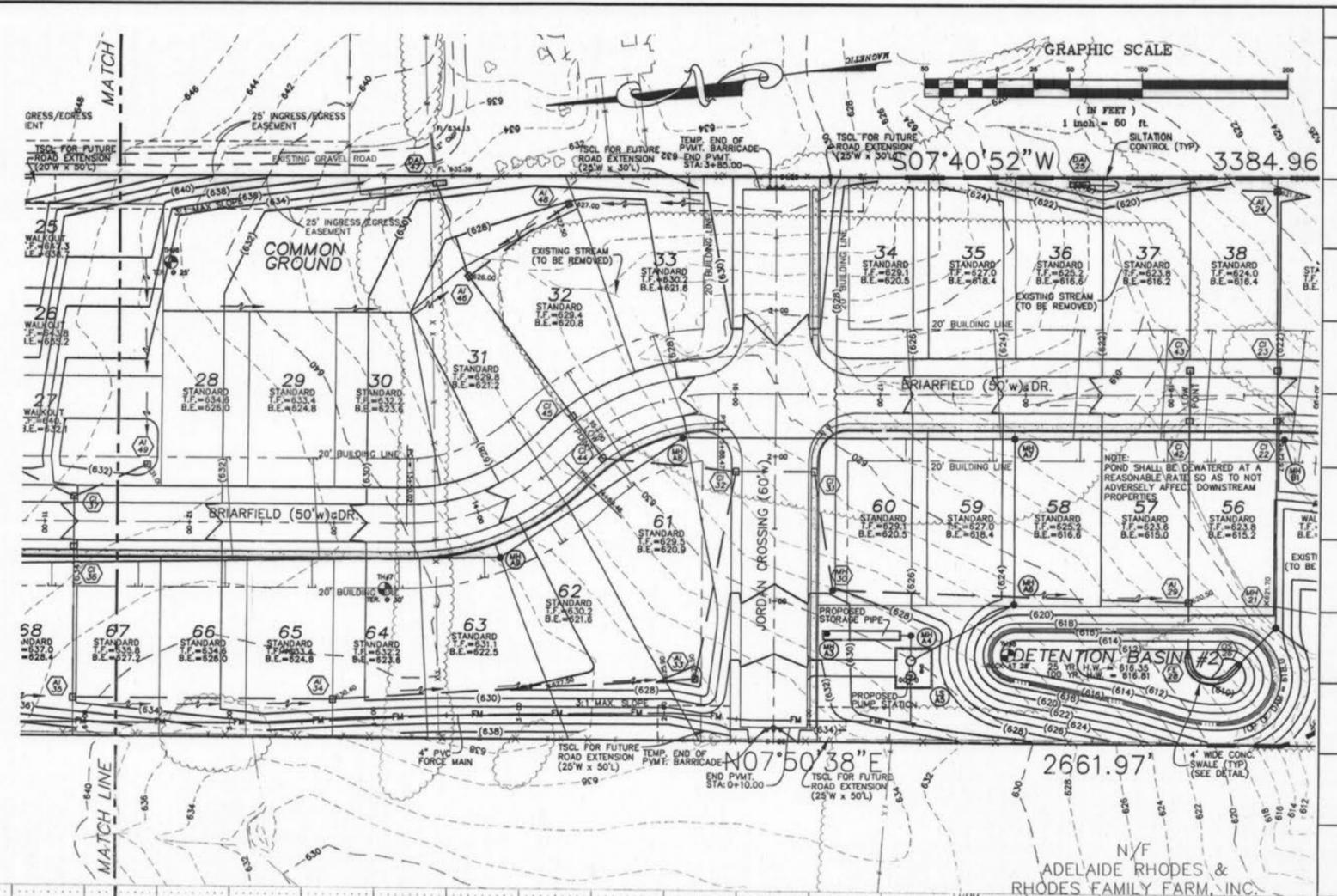
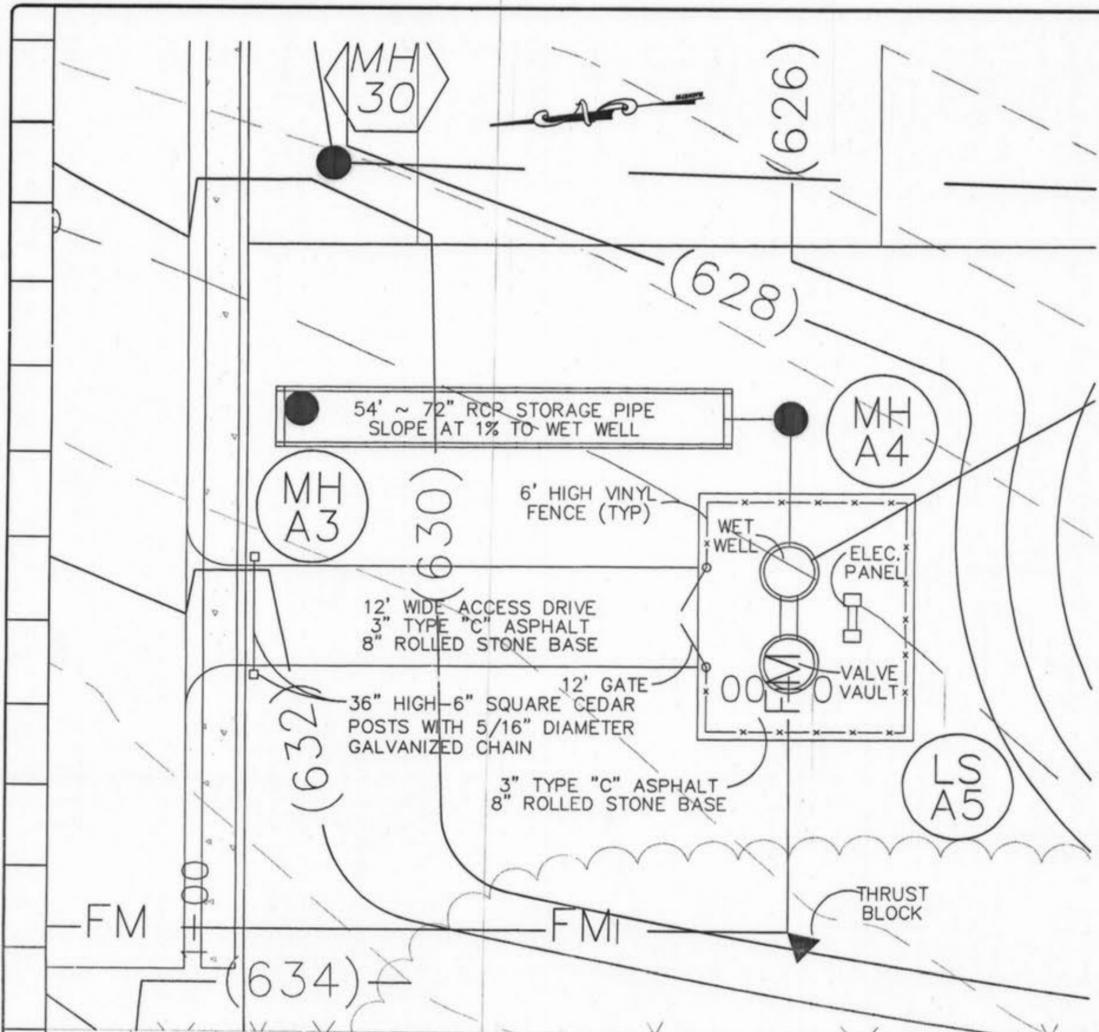
OF **22**

Upper Str. Type	Str. Number	Len. Ft.	Area in acre	P. I.	Q in c. f. s.	Total Q in c. f. s.	Pipe Size in.	Const. Grade	V in f. p. s.	Vh in Ft.	Q x Vh	Hyd. Grade	Flow Line Elevation Upper	Top of Structure Elevation Lower	Free Board	Hydraulic Grade Line Upper	Frict. Loss Ft.	Curve Loss Ft.	Junc. Loss Ft.	Entr. Loss Ft.	Angle (S @)	Turn Loss Ft.	Capacity c. f. s.	Q/Cap.	Normal Depth Ft.			
T	49	37	55.72		1.20	1.20	12	1.54X	1.53	0.04	0.04	0.11X	627.41	626.55	631.51	635.03	2.15	629.36	629.30	0.06		0.04	65	0.12	4.43	0.27	0.35	
T	48	46	86.49		2.28	2.28	12	1.21X	2.90	0.13	0.30	0.41X	622.63	621.58	627.53	626.62	2.49	625.04	624.69	0.35		0.13	90	0.23	3.93	0.58	0.54	
AI	47	46	70.06		7.50	7.50	15	6.04X	6.11	0.58	4.35	1.35X	625.81	621.58	634.02	626.62	7.61	626.41	624.69	0.94		0.58	20	0.23	15.87	0.47	0.60	
AI	46	45	119.83		3.95	3.95	15	0.98X	4.37	0.30	4.07	0.37X	621.38	620.21	626.62	627.28	1.93	624.46	624.02	0.44		0.20	50	0.20	22.35	0.61	1.12	
CI	44	32	92.01		2.28	2.28	24	0.93X	5.10	0.40	6.46	0.90X	620.01	619.48	627.28	627.28	3.26	623.82	623.65	0.18			50	0.20	21.79	0.73	1.26	
CI	44	32	92.01		2.10	2.10	27	1.00X	4.55	0.32	5.83	0.34X	619.48	618.56	627.28	628.00	3.63	623.44	623.13	0.31			5	0.17	30.97	0.98	1.22	
T	43	42	35.52		1.71	1.71	15	1.52X	1.39	0.03	0.05	0.07X	616.97	616.43	621.47	621.42	3.04	618.43	618.40	0.02		0.11	0.03			7.96	0.21	0.39
CI	42	29	124.71		1.41	3.12	15	4.48X	2.54	0.10	0.31	0.25X	616.23	610.64	621.42	620.66	3.02	618.29	618.00	0.29					4.44	13.68	0.23	0.40
T	41	40	106.43		2.34	2.34	12	1.48X	2.98	0.14	0.32	0.43X	632.75	631.17	637.70	637.00	4.43	633.27	632.17	0.46		0.14	45	0.06	4.34	0.54	0.52	
MH	40	39	32.14		0.93	2.34	12	1.81X	2.98	0.14	0.32	0.43X	630.97	630.57	636.83	637.42	4.83	631.67	631.57	0.10		0.02			4.79	0.49	0.49	
CI	39	38	35.58		0.93	3.27	15	1.55X	2.66	0.11	0.36	0.26X	630.27	629.72	637.12	637.32	5.85	631.06	630.97	0.09		0.13			8.03	0.41	0.55	
CI	38	37	79.98		0.93	4.20	15	2.55X	3.42	0.18	0.76	0.42X	629.52	626.68	637.32	634.33	6.35	630.02	629.30	0.34		0.34			12.17	0.35	0.50	
CI	37	36	34.99		0.72	6.12	15	0.91X	4.99	0.39	2.36	0.90X	626.48	626.16	634.33	634.30	5.03	628.84	628.52	0.31					6.18	0.99	1.01	
CI	36	35	106.6		1.20	7.32	18	0.98X	4.14	0.27	1.95	0.49X	625.96	624.92	634.30	634.30	5.78	628.52	628.01	0.52		0.22			10.38	0.71	0.92	
AI	35	34	179.03		1.47	8.79	18	0.90X	4.97	0.38	3.38	0.70X	624.72	623.11	634.30	630.76	6.49	627.60	626.35	1.25		0.21			9.96	0.88	1.08	
AI	34	33	250.8		1.17	9.96	18	1.00X	5.64	0.49	4.91	0.90X	622.91	620.41	630.76	625.91	4.41	626.12	623.87	2.25		0.21			7.75	0.31	1.16	
AI	33	32	148.81		2.62	18.18	24	1.11X	3.88	0.23	2.84	0.29X	620.21	618.56	625.91	628.80	2.04	623.56	623.13	0.43		0.86			10.49	0.95	1.16	
AI	32	31	54.79		0.51	30.80	27	1.44X	7.75	0.93	88.70	0.99X	618.36	616.21	628.80	629.20	7.09	620.89	620.05	0.84		0.06			37.19	0.83	1.95	
CI	31	30	81.91		0.48	31.28	27	1.42X	7.87	0.96	30.06	1.02X	617.37	610.64	629.20	621.01	9.15	619.43	618.00	1.43		0.32			36.86	0.85	1.58	
MH	30	29	245.71		0.96	31.28	30	2.19X	6.37	0.63	19.72	0.58X	616.01	610.64	629.20	621.01	3.01	617.24	616.95	0.29					63.64	0.52	1.25	
AI	29	28	39.2		0.96	35.36	30	0.97X	7.20	0.81	28.49	0.74X	610.44	610.06	621.01										40.38	0.88	1.80	
T	26	21	34.31		38.23	38.23	30	5.33X	7.79	0.94	36.01	0.87X	607.79	605.96	617.69	619.29	7.25	610.44	610.14	0.30		0.94	90	0.97	94.73	0.40	1.10	
T	25	24	137.73		16.83	16.83	24	1.26X	5.36	0.45	7.50	0.55X	611.10	609.36	616.00	621.95	2.17	613.89	613.06	0.76		0.34	45	0.31	25.43	0.66	1.18	
AI	24	23	122.87		3.21	20.04	24	0.81X	6.38	0.63	12.66	0.78X	609.16	608.16	621.95	622.08	8.89	612.41	611.45	0.96					20.41	0.98	1.60	
CI	23	22	36.29		2.37	22.41	27	1.13X	5.64	0.49	11.05	0.52X	607.96	607.55	622.08	622.00	10.63	611.45	611.26	0.19		0.21			32.82	0.68	1.35	
CI	22	21	141.68		2.34	24.75	27	0.98X	6.22	0.60	14.89	0.64X	607.35	605.96	622.08	619.29	10.74	611.05	610.14	0.90		0.56			30.68	0.81	1.53	
MH	21	20	102.97		62.98	62.98	36	1.04X	8.91	1.23	77.63	0.89X	605.79	604.69	619.29		9.15	608.61	607.69	0.92					67.99	0.93	2.28	
T	19	18	104.65		2.34	2.34	12	0.75X	2.98	0.14	0.32	0.43X	631.01	630.23	634.71	635.63	1.90	632.81	632.36	0.45		0.05	0.14		3.08	0.76	0.65	
T	18	17	34.67		2.34	4.68	18	0.66X	2.65	0.11	0.51	0.43X	630.03	629.80	635.63	635.80	3.27	632.31	632.24	0.07		0.09			8.56	0.55	0.78	
CI	17	16	128.21		2.34	7.02	21	0.62X	2.92	0.13	0.93	0.20X	629.60	628.81	635.80	635.35	3.56	632.16	631.91	0.25		0.09			12.44	0.56	0.93	
AI	16	13	841.24		3.02	10.04	24	0.74X	3.20	0.16	1.59	0.20X	628.71	626.92	635.35	632.74	3.44	631.75	631.27	0.48			60	0.07	19.49	0.52	1.00	
T	15	14	37.83		20.67	20.67	27	0.56X	5.20	0.42	8.67	0.45X	629.31	629.10	634.51	639.50	2.11	632.40	632.23	0.17		0.14	45	0.24	22.07	0.90	1.64	
MH	14	13	284.3		1.94	23.67	30	0.70X	4.21	0.28	5.69	0.23X	628.90	626.92	639.50	632.94	7.27	631.99	631.27	0.72					34.23	0.60	1.38	
CI	13	12	22.1		1.94	32.65	36	0.63X	4.62	0.33	10.82	0.45X	628.92	626.92	639.50	632.94	1.67	630.92	630.87	0.05					53.09	0.62	1.68	
T	11	10	118.99		3.84	3.84	12	2.00X	4.13	0.26	0.86	0.83X	633.00	630.62	638.60	639.90	5.02	632.58	632.46	0.98		0.05	0.26		5.04	0.64	0.58	
CI	10	9	35.42		0.99	4.23	15	1.02X	3.45	0.18	0.78	0.43X	630.42	630.06	639.90	639.89	7.44	632.46	632.31	0.15					6.51	0.65	0.73	
CI	9	4	203.39		0.27	4.50	15	1.80X	3.67	0.21	0.94	0.49X	629.86	626.19	639.89	632.91	7.58	632.25	631.26	0.99					8.68	0.52	0.64	
T	61	8	40.92		15.82	15.82	21	1.52X	6.58	0.67	10.63	1.00X	634.47	633.85	637.88	638.32	1.87	636.01	635.60	0.41		0.67	50	0.34	19.50	0.81	1.19	
AI	8	7	64.86		1.20	17.02	24	1.46X	5.42	0.46	7.76	0.57X	633.02	632.07	638.32	638.50	2.72	634.44	634.07	0.37		0.04			27.38	0.62	1.14	
AI	7	6	124.46		0.39	17.41	24	1.23X	5.54	0.48	8.30	0.59X	631.87	630.34	638.50	639.31	4.43	633.66	632.93	0.74		0.16			25.88	0.69	1.22	
CI	6	5	35.05		1.50	18.91	24	1.37X	6.02	0.56	10.64	0.70X	630.14	629.66	639.31	639.52	6.38	632.76	632.52	0.24		0.16			26.47	0.71	1.24	
CI	5	4	137.11		1.35	20.26	24	2.24X	6.23	0.60	13.08	0.80X	629.46	626.39	639.52	632.41	7.00	632.36	631.26	1.10		0.05			33.85	0.60	1.10	
MH	4	3	30.15		24.76	24.76	27	0.93X	6.23	0.60	14.91	0.64X	626.19	625.91	632.41		1.15	631.06	630.87	0.19					29.85	0.83	1.55	
T	2	1	32.73		61.89	61.89	36	1.53X	8.76	1.19	73.67	0.86X	625.41	624.91	631.36		2.99	628.37	628.09	0.28		1.19			82.44	0.75	1.92	



SECTION A-A
SECTION B-B
SECTION C-C
DETENTION BASIN #1
SCALE:
1" = 50' HOR.
1" = 10' VER.





ISSUE REMARKS/DATE

1	04-20-04	FIRST SUBMITTAL
2	06-21-04	REVISED PER CITY OF FALLON COMMENTS
3	06-26-04	REVISED PER RPD #2 COMMENTS
4	07-20-04	REVISED PER CITY COMMENTS

PREPARED FOR:
**McBride & Son Homes
Land Development, Inc.**
#1 McBride & Son Center Drive
Chesterfield, Missouri 63005
(636) 537-2000

PREPARED BY:
THE STERLING CO.
ENGINEERS & SURVEYORS
5965 NEW BAUMGARTNER ROAD
ST. LOUIS, MISSOURI 63123
(314) 487-0440 FAX: 487-8544
E-Mail: Sterling@sterling-eng-sur.com

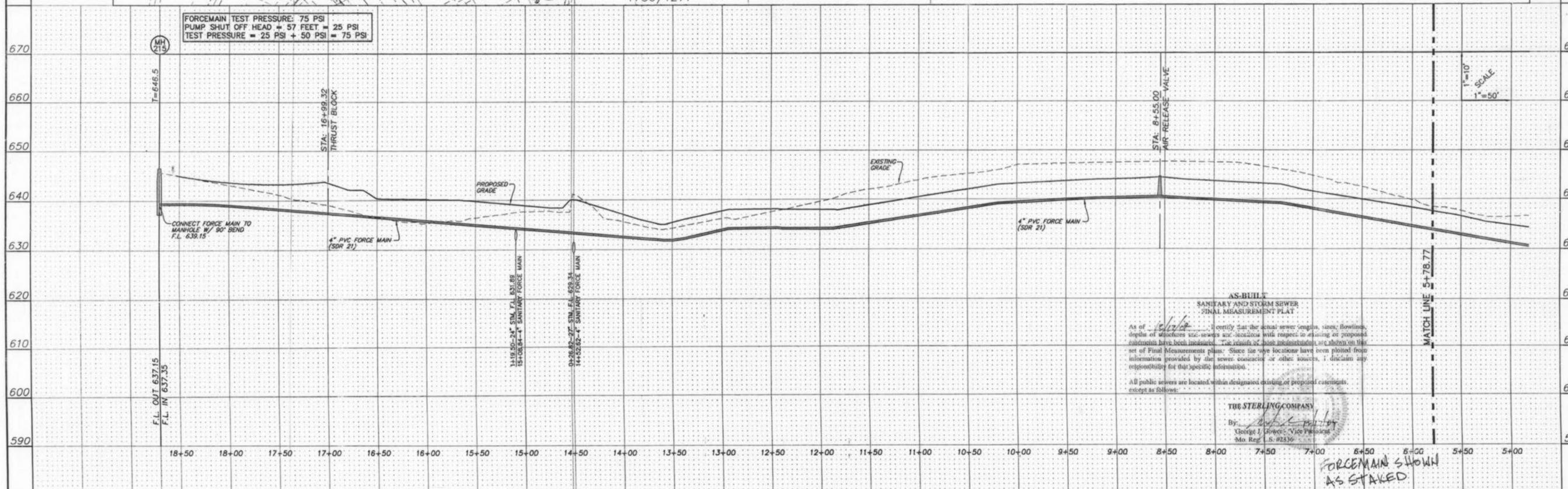
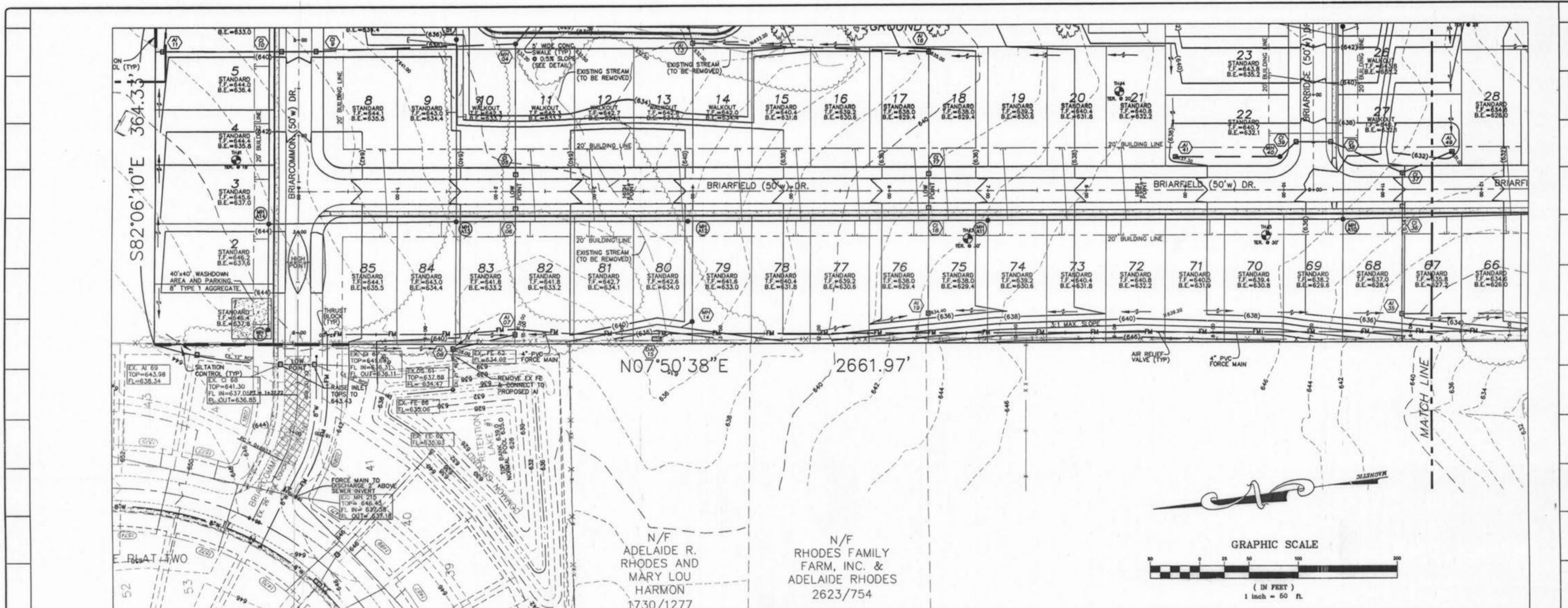
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DESIGNED: [Signature]
CHECKED: [Signature]

PROJECT: **BRIARCHASE ADDITION**
SHEET TITLE: FORCEMAIN PLAN/PROFILES

NO.	02	06	142
M.S.D.			SHEET
PH		20	OF 22

DIGITAL FILE LOCATION: B:\BRIARCHASE\BRIARCHASE-2
PLOTTER: DWG, PLOT, LAYOUT

BASE MAP: Briar Chase Add 2/10/05 A6X



FORCEMAIN TEST PRESSURE: 75 PSI
 PUMP SHUT OFF HEAD = 57 FEET = 25 PSI
 TEST PRESSURE = 25 PSI + 50 PSI = 75 PSI

AS-BUILT
 SANITARY AND STORM SEWER
 FINAL MEASUREMENT PLAT

As of 10/17/14, I certify that the actual sewer depths, sizes, flowlines, depths of manholes and manhole structures with respect to existing or proposed easements have been measured. The results of these measurements are shown on this set of Final Measurements plans. Since the site locations have been plotted from information provided by the sewer contractor or other sources, I disclaim any responsibility for their specific information.

All public sewers are located within designated existing or proposed easements, except as follows:

THE STERLING COMPANY
 By: *George J. Fowler*
 George J. Fowler, Vice President
 Mo. Reg. No. 22336

FORCEMAIN SHOWN
 AS STAKED

ISSUE REMARKS/DATE

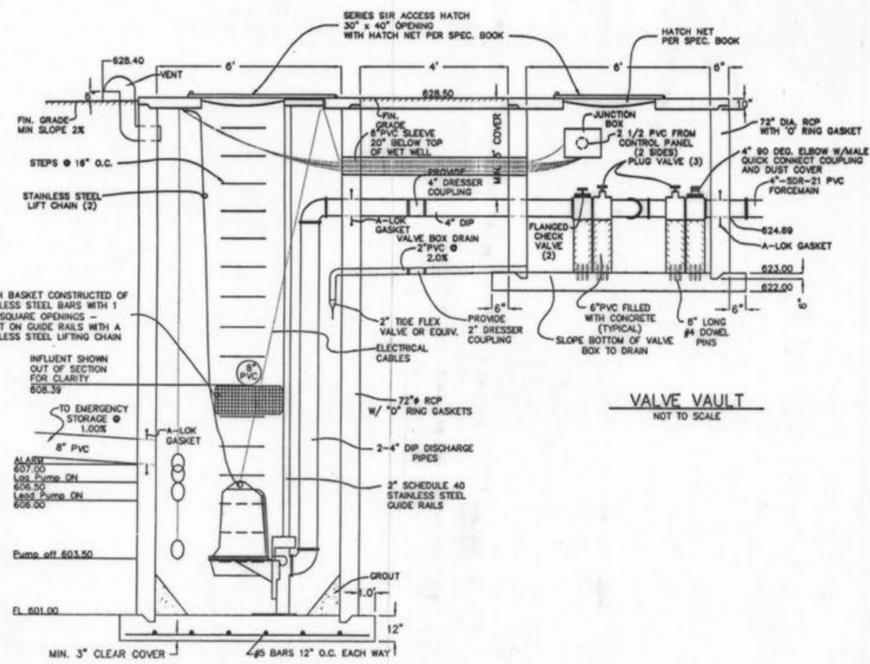
1	04-28-04 FIRST SUBMITTAL
2	08-21-04 REVISED PER CITY OF ALLIANCE COMMENTS

PREPARED FOR:
McBride & Son Homes
 Land Development, Inc.
 #1 McBride & Son Center Drive
 Chesterfield, Missouri 63005
 (636) 537-2000

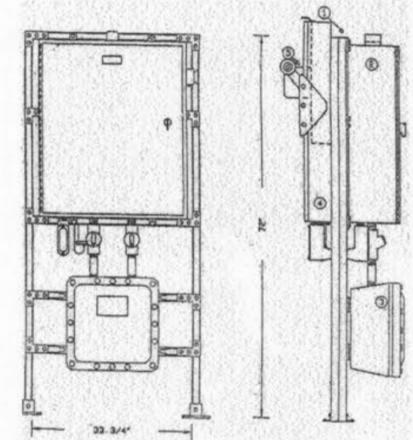


PREPARED BY:
THE STERLING CO.
 ENGINEERS & SURVEYORS
 5655 NEW BALUNGA TURNER ROAD
 ST. LOUIS, MISSOURI 63128
 (314) 487-3440 FAX 487-8844
 E-Mail: Sterling@sterling-eng-sur.com

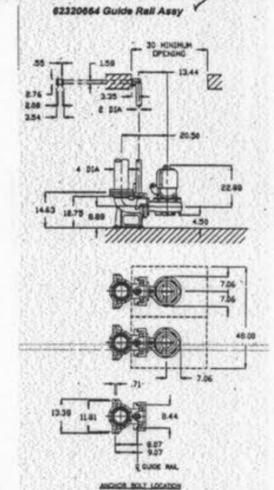
PROJECT:	BRIARCHASE ADDITION	
DRAWN:	DESIGNED:	CHECKED:
NO.	02 06 142	SHEET
M.S.D.		21
PIV		22
DIGITAL FILE LOCATION:	STERLING-STERLING-2	
DATE:	10/17/14	



VALVE VAULT
NOT TO SCALE



ELECTRICAL PANEL
NO SCALE
 1. UNISTRUT FRAME
 2. NEMA 4X PUMP CONTROL PANEL
 3. NEMA 4X JUNCTION BOX WITH TERMINAL STRIP
 4. DISCONNECT SWITCH
 5. METER BASE



TYPICAL DRAWING ONLY, NOT FOR CONSTRUCTION PURPOSES. CONTACT FACTORY FOR CERTIFIED DRAWINGS.
 ABS
 A Division of the United States

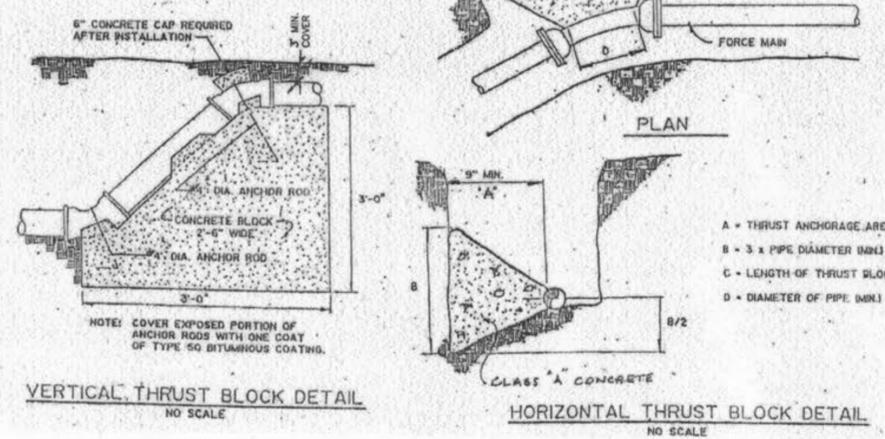
TYPICAL THRUST BLOCK DIMENSIONS (MIN)

FITTING	A	B	C
11 1/4"	1"	1"	1.5"
22 1/2"	1"	1"	1.5"
45"	1"	2"	2"
90"	1"	2"	2"
TEE	1"	1.5"	2"

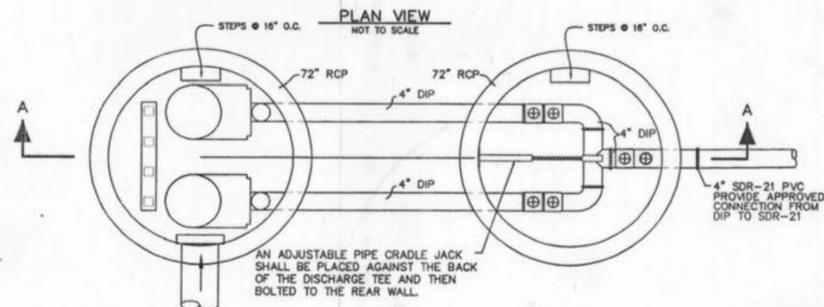
NOTES:

1. PRECAST 72" I.D. MANHOLES TO BE USED FOR PUMP STATION AND VALVE BOX AS APPROVED BY ENGINEER.
2. PRECAST WET WELL ENTRANCE STEPS SHALL BE COPOLYMER POLYPROPYLENE PLASTIC TYPE MANHOLE STEPS.
3. STEPS SHALL NOT BE PLACED IN FRONT OF INCOMING GRAVITY LINES OR LOCATED UNDER OR NEXT TO ANY OBSTRUCTIONS.
4. THE STEPS SHOULD PROVIDE A CLEAR-IN-LINE VISIBLE UNOBSTRUCTED ACCESS FROM THE TOP OF THE CHAMBER TO THE BOTTOM OF THE STATION AND BE PLACED ON ONE OF THE STATION SIDEWALLS APPROXIMATELY CENTERED WITH THE HATCH COVER.
5. ALL PIPES MUST ENTER THE STRUCTURE WALLS WITH A ONE (1) FOOT MINIMUM DISTANCE FROM THE CENTERLINE OF THE PIPE TO THE FACE OF THE ADJOINING WALL TO ALLOW PROPER PIPE GASKET PLACEMENT.
6. FORCE MAIN TO BE 4" DIA. SDR-21 PVC WITH SLIP JOINTS.
7. AIR RELIEF VALVE - AN AUTOMATIC COMBINATION VACUUM AIR RELIEF VALVE SHALL BE PLACED AT HIGH POINTS IN THE FORCE MAIN TO PREVENT AIR LOCKING.
8. THRUST BLOCKS SHALL BE INSTALLED AT ALL BENDS (VERTICAL AND HORIZONTAL) AND ANY TERMINATION POINT.
9. ALL PUMP STATION EQUIPMENT AND INSTALLATION SHALL BE COORDINATED WITH PUMP MANUFACTURER FOR COMPLETENESS AND COMPATIBILITY.
10. THE PUMP STATION SHALL BE AN ABS MODEL AFP1032 M70/4 OR APPROVED EQUAL AS DIRECTED BY WATER DISTRICT #2, ST. CHARLES COUNTY, MISSOURI, INCLUDING ALL FITTINGS AND SUPPORT EQUIPMENT.
11. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH DEPARTMENT OF NATURAL RESOURCES AND WATER DISTRICT #2, ST. CHARLES COUNTY STANDARDS AND SPECIFICATIONS WHICHEVER IS GREATER.
12. ON PRECAST STATIONS GRAVITY LINES MUST HAVE THEIR ANGLES OF ENTRY INCLUDED ON THE STRUCTURE PLANS AT THEIR POINTS OF ENTRY TO THE STRUCTURE. THE MAXIMUM ANGLE OF DEFLECTION ALLOWED FOR PIPE GASKET TO BE "Z-LOCK" = 25 DEGREE AND "A-LOCK" @ 7 DEGREE.

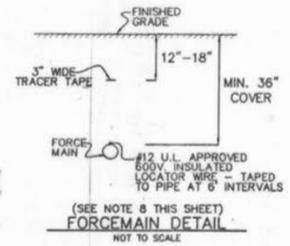
THRUST ANCHORAGE DATA



- A = THRUST ANCHORAGE AREA (2x2)
- B = 3 x PIPE DIAMETER (MIN)
- C = LENGTH OF THRUST BLOCK
- D = DIAMETER OF PIPE (MIN)



AN ADJUSTABLE PIPE CRADLE JACK SHALL BE PLACED AGAINST THE BACK OF THE DISCHARGE TEE AND THEN BOLTED TO THE REAR WALL.



FORCE MAIN DETAIL
NOT TO SCALE

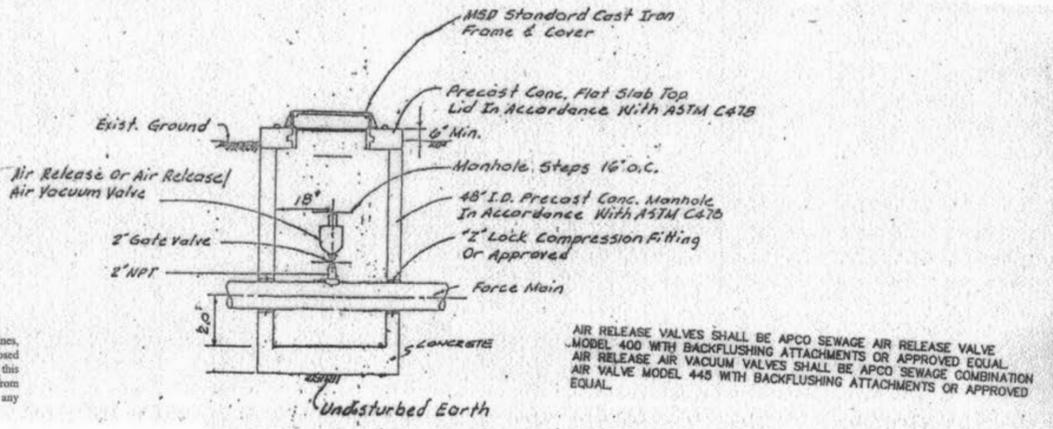
AS-BUILT
SANITARY AND STORM SEWER
FINAL MEASUREMENT PLAT

As of 7/17/04, I certify that the actual 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 Measurements 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 follows:

THE STERLING COMPANY
 By: George J. Goyer - Vice President
 Mo. Reg. I.S. #2336

AIR RELEASE/AIR VACUUM VALVES AND VALVE VAULT
No Scale



AIR RELEASE VALVES SHALL BE APCO SEWAGE AIR RELEASE VALVE MODEL 400 WITH BACKFLUSHING ATTACHMENTS OR APPROVED EQUAL. AIR RELEASE/AIR VACUUM VALVES SHALL BE APCO SEWAGE COMBINATION AIR VALVE MODEL 445 WITH BACKFLUSHING ATTACHMENTS OR APPROVED EQUAL.

THE UNDERGROUND UTILITIES SHOWN HEREON WERE PLOTTED FROM AVAILABLE INFORMATION AND DO NOT NECESSARILY REFLECT THE ACTUAL EXISTENCE, 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, SHOWN OR NOT SHOWN, AND SAID 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

ISSUE REMARKS/DATE

1	04-20-04	FIRST SUBMITTAL
2	06-21-04	REVISED PER CITY OF O'FALLON COMMENTS

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PROJECT: BRIARCHASE ADDITION PUMP STATION DETAILS

NO. 02 06 142 SHEET 22 OF 22

M.S.D. SHEET 22 OF 22

DRAWN: DESIGNED: CHECKED: