GENERAL NOTES

1. Underground utilities have been plotted from available information and therefore their locations shall 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 any grading and/or construction of improvements.

2. Sediment and erosion control shall not be limited to the measures shown on the plans. The contractor, with the approval of the City inspector, shall utilize best management practices to prevent sediment from entering adjacent roadways, properties, ditches and silting up all storm drainage systems on site and in receiving channels. Such control might include channeling runoff into sediment basins, channeling runoff into areas where an extra row of straw bales are used. A silt fence might be considered, if necessary.

3. No area shall be cleared without permission of the developer.

4. Owner/Developer assumes full responsibility as to the performance of the grading operation and assurance that all properties and City/County and State roads will be adequately protected.

5. Soil preparation and re-vegetation shall be performed according to Appendix A of the Model Sediment and Erosion Control Regulations for Urban Development.

6. Where natural vegetation is removed during grading, vegetation shall be re-established in such a density as to prevent erosion. Permanent type grasses shall be established as soon as possible or during the next seeding period after grading has been completed. Refer to Appendix A of St. Charles Soil and Water Conservation District – Model Sediment and Erosion Control Regulations.

7. Site preparation includes the clearance of all stumps, trees, bushes, shrubs, and weeds; the grubbing and removal of roots and other surface obstructions from the site; and the demolition and removal of any man-made structures. The unsuitable material shall be properly disposed of off-site. Topsoil and grass in the fill areas shall be thoroughly disced prior to the placement of any fill. The Soils Engineer shall approve the discing operation.

8. Compaction equipment shall consist of tamping rollers, pneumatic-tired rollers, vibratory rollers or high speed impact type drum rollers acceptable to the Soils Engineer. The rollers shall be designed so as to avoid the creation of a layered fill without proper blending of successive fill layers.

9. The developer must supply the City construction inspectors with soil reports prior to or during soil testing.

10. The Soils Engineer shall observe and test the placement of the fill to verify that specifications are met. A series of fill density tests will be determined on each lift of fill. Interim reports showing fill quality will be made to the Owner at regular intervals.

11. The Soils Engineer shall notify the Contractor of rejections of a lift of fill or portion thereof. The Contractor shall rework the rejected portion of fill and obtain notification from the Soils Engineer of its acceptance prior to the placement of additional fill.

12. All Areas to receive fill shall be scarified to a depth of not less than 6 inches and then compacted to at least 85 percent of the maximum density as determined by the Modified AASHTO T-180 Compaction Test (ASTM D-1557). Natural slopes steeper than 1 vertical to 5 horizontal to receive fill shall have horizontal benches cut into the slopes before the placement of any fill. The width and height to be determined by the Soils Engineer. The fill shall be loosely placed in horizontal layers not exceeding 8 inches in thickness and compacted in accordance with the specifications given below. The Soils Engineer shall be responsible for determining the acceptability of soils placed. Any unacceptable soils placed shall be removed at the Contractor's expense.

13. The sequence of operation in the fill areas will be; fill, compact, verify acceptable soil density, and repetition of the sequence.

14. The surface of the fill shall be finished so that it will not impound water. If at the end of a days work it would appear that there may be rain prior to the next working day, the surface shall be finished smooth. If the surface has been finished smooth for any reason, it shall be scarified before proceeding with the placement of succeeding lifts. Fill shall not be placed on frozen ground, nor shall filling operations continue when the temperature is such as to permit the layer under placement to freeze.

15. All cut and fill slopes should be a maximum of 33% slope (3:1) after grading.

16. All fill within and off the road right-of-way shall be compacted to 90% of maximum density as determined by the "Modified AASHTO T-180 Compaction Test (ASTM D-1557)". All tests shall be verified by a Soils Engineer concurrent with grading and backfilling operations. The compacted fill shall be free of rutting and shall be non-yielding and non-pumping during proof rolling and compaction.

17. All fill placed under proposed storm and sanitary sewer, proposed roads, 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. 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.

18. Fill placed within proposed street R.O.W. shall be compacted to 90% M.O.D. Proctor. Soils compaction to be verified to be within these limits within this grading area.

19. Soft soils in the bottom and banks any existing or former pond sites or tributaries or any sediment basins or traps 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.

20. Temporary siltation control measures (structural) shall be maintained until vegetative cover is established at a sufficient density to provide erosion control on the site.

21. If straw bales or silt fences are destroyed by heavy rains, vandalism, etc., they are to be replaced immediately by contractor.

22. When grading operations are completed or suspended for more than fourteen (14) days, permanent grass must be established at sufficient density to provide erosion control on the site. Between permanent grass seeding periods, temporary cover shall be provided according to the Designated Official's recommendation. Refer to Appendix A of St. Charles Soil and Water Conservation District – Model Sediment and Erosion Control Regulations. All finished grades (areas not to be disturbed by future improvement) in excess of 20% slopes (5:1) shall be mulched and tacked at the rate of 100 pounds per 1000 square feet when seeded.

23. All existing trash and debris on-site must be removed and disposed of off-site.

24. 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.

25. 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.

26. The total yardage of this project is based on a 15% ± shrinkage factor.

27. The shrinkage factor is subject to change, due to soil conditions (types and moisture content), weather conditions, and the percentage of compaction actually achieved at the time of the year grading is performed. As a result, adjustments in final grade may be required. If adjustments need to be made, the contractor shall contact St. Charles Engineering and Surveying, Inc. prior to completion of the grading.

28. The vertical grading tolerance shall be plus or minus 0.2 feet for all rough grading.

29. The Contractor shall prevent all storm/surface water, mud or construction debris from entering the sanitary sewer system.

30. All low places shall be graded to provide drainage with temporary ditches.

31. All filled places in proposed and existing St. Charles County roads (highways) 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" (ASTM D-1557). Paved areas in cuts shall meet the same compaction requirements. All tests shall be verified by the Soils Engineer concurrent with grading operations.

32. Any wells and/or springs which may exist on this property shall be located and sealed in a manner acceptable to the City of O'Fallon Engineering Department.

33. Upon completion of storm sewers, siltation control shall be provided around all open sewer inlets and shall remain until the disturbed drainage areas have been properly stabilized.

34. 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 silts or mud on new or existing pavement or in new or existing storm 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.

35. The most stringent of the above requirements shall apply.

36. The Development of both Commercial Lot A and Commercial Lot B will require Final Plan approval.

37. Sidewalks shall be installed along Veterans Memorial Road when both Commercial Lot A and Commercial Lot B are developed.

38. All paving to be in accordance with St. Charles County standards and specifications except as modified by the City of O'Fallon.

39. Brick shall not be used in the construction of storm sewer structures.

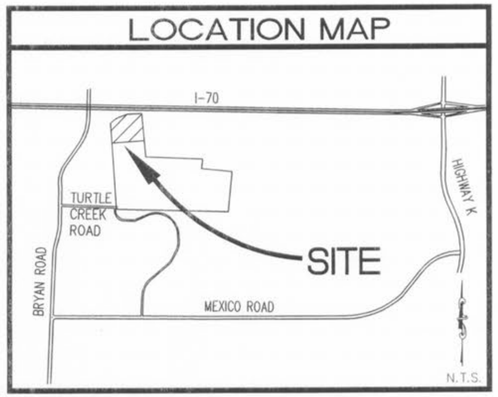
40. Sidewalks, curb ramps, and handicap accessible parking spaces shall be constructed in accordance with the current approved "American with Disabilities Act Accessibility Guidelines" (ADAAG) along with the required grades, construction materials, specifications and signage. If any conflict occurs between the above information and the plans, the ADAAG guidelines shall take precedence and the contractor shall notify the Project Engineer prior to any construction. Ensure at least one 8' wide handicap access aisle is provided and curb ramps do not project into handicap access aisle.

IMPROVEMENT PLANS FOR

MAGNOLIA COMMERCIAL

PART OF A TRACT OF LAND BEING PART
OF SECTION 30 OF TOWNSHIP 47 NORTH;
RANGE 3 EAST
CITY OF O'FALLON, MISSOURI

LOCATION MAP



41. All storm sewer pipe joints shall be gasketed O-ring type.

42. 5/8" diameter trash bars shall be provided for all inlets.

43. Brick shall not be used in the construction of sanitary sewer structures.

44. All sign posts and backs and bracket arms shall be painted black using Carboline Rustbond Penetration Sealer SG and Carboline 133 HB paint (or equivalent as approved by City and MoDOT). Signs designating street name shall be on the opposite side of the street from traffic control signs.

45. All Utilities to be located underground.

46. Roadway landscaping to be addressed with the Site Plans on each lot.

47. Any graded areas that are to remain bare for over two weeks are to be seeded and mulched per DNR requirement.

48. The water main extension shall adhere to city specifications.

49. Electric will be installed when lots are developed.

50. All private drives shall be resurfaced with 3 inches of Type "C" asphalt.

51. Onsite Easements shall be dedicated on the record plat for storm and sanitary sewers and all public utilities.

52. On-site detention will be provided when lots develop. Detention basin shall be located at the south end of Lot B.

53. Roadway landscaping shall be addressed with site plans for each lot.

54. All fill placed under proposed storm and sanitary sewer, proposed roads, 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. All fill palced 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. Note that the moisture content of the soils in fill areas is to correspond to the compactive effort as defined by the Standard and Modified Proctor Test. Optimum moisture content shall be determined using the same test that was used for compaction. Soil Compaction curves shall be submitted tot he City of O'Fallon prior to the placement of fill. Proof rolling may be required to verify soil stability at the descretion of the City of O'Fallon.

55. The following marking shall be provided on all storm sewer inlets. "Peel and stick" adhesive pads will not be allowed.

Manufacturer	Size	Adhesive	Style	Message (Part #)	Website
ACP International	3 7/8"	Epoxy	Crystal Cap	No Dumping Drains To Waterways (SD-W-CC)	www.acpinternational.com
DAS Manufacturing Inc.	4"	Epoxy	Standard Style	No Dumping Drain To Stream (#SDS)	www.dasmanufacturing.com

56. Truncated domes shall be installed on all Handicapped Ramps

UTILITY LOCATES

MoDOT – 314-340-4100
Light Core – 314-880-1612
Fiber Optic Lines along Veterans Memorial Drive.

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

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LEGEND

	SANITARY STRUCTURE	C.O.	CLEAN OUT
	STORM STRUCTURE	T.B.R.	TO BE REMOVED
	TEST HOLE	T.B.R.&R.	TO BE REMOVED & RELOCATED
	POWER POLE	T.B.P.	TO BE PROTECTED
	LIGHT STANDARD	T.B.A.	TO BE ABANDONED
C.I.	CURB INLET	B.C.	BASE OF CURB
D.C.I.	DOUBLE CURB INLET	T.C.	TOP OF CURB
G.I.	GRATE INLET (EXISTING)	T.W.	TOP OF WALL
A.I.	AREA INLET (EXISTING)	TYP.	TYPICAL
D.A.I.	DOUBLE AREA INLET	U.N.O.	UNLESS NOTED OTHERWISE
F.E.	FLARED END SECTION	U.I.P.	USE IN PLACE
E.P.	END PIPE	572	EXISTING CONTOUR
E.D.	ENERGY DISSIPATOR	578	PROPOSED CONTOUR
M.H.	MANHOLE		TREE LINE
R.C.P.	REINFORCED CONCRETE PIPE		SAN. SEWER (EXISTING)
C.M.P.	CORRUGATED METAL PIPE		SAN. SEWER (PROPOSED)
C.I.P.	CAST IRON PIPE		STORM DRAIN (EXISTING)
PVC	POLYVINYL CHLORIDE		STORM DRAIN (PROPOSED)
VCP	VITRIFIED CLAY PIPE		PHONE BOX
	GUY WIRE		IRON PIPE
	SIGN		WATER LINE, SIZE
	POST		HYDRANT
	WATER METER		CONCRETE PAVEMENT
SILT SILT	SILT FENCE		PLACED RIP-RAP W/UNDERLAIN FABRIC
	DIVERSION SWALE PROVIDE DITCH CHECKS EVERY 150'		
	DITCH CHECK		

10/14/05 File Inspectors Copy
APPROVED
ABK

RECEIVED
SEP 21 2005
ENGINEERING DEPARTMENT

THIS PROPERTY IS SERVICED BY THE FOLLOWING UTILITY COMPANIES:
CITY OF O'FALLON SANITARY DISTRICT
AMEREN UE
ST. CHARLES GAS COMPANY
CITY OF O'FALLON WATER DISTRICT
CENTURYTEL TELEPHONE COMPANY

ACCORDING TO FIRM FLOOD INSURANCE RATE MAP 29183C0240 E DATED AUGUST 2, 1996, THIS SITE IS IN ZONE X. THIS SITE IS NOT WITHIN THE 100-YEAR FLOODPLAIN.

TREE PRESERVATION CALCULATIONS
COMMERCIAL ONLY:
AREA OF EXISTING TREE MASS = 10.9 ACRES
AREA OF TREE MASS TO REMAIN = 0 ACRES
PERCENTAGE OF REMAINING TREE MASS = 0%
TREE REPLACEMENT WILL BE REQUIRED FOR 2.2 ACRES.

SITE BENCHMARK:
FEMA REFERENCE MARK 56, ELEVATION 487.05, CHISELED SQUARE ON CENTERLINE OF SOUTH HEADWALL OF GUTTERMUTH ROAD BRIDGE OVER TRIBUTARY NO. 9. AS SHOWN ON FIRM FLOOD INSURANCE RATE MAP NUMBER 29183C0435 E, DATED REVISED AUGUST 2, 1996.

BENCHMARK CONVERSION
PLANS PREPARED FOR DAIRY QUEEN BY BAX ENGINEERING TO FLAVIN SANITARY SEWER EXTENSION PREPARED BY ST. CHARLES ENGINEERING AND SURVEYING. +3.48 FEET

P & Z FILE NO. 3603.1

DEVELOPER

Cissell Mueller Construction
530 Salt River Road
St. Peters, Missouri 63376
636-970-0330

STATE OF MISSOURI
KARL ANTHONY SCHOENE
NUMBER PE-2003015039
PROFESSIONAL ENGINEER
9-19-05

ENGINEERS AUTHENTICATION
The responsibility for the professional engineering liability on this project is hereby limited to the set of plans authenticated by the seal, signature and date hereunder attached. Responsibility is disclaimed for all other engineering plans involved in the project and specifically excludes revisions after this date unless reauthenticated.

10/26/04	REVISED AS PER CITY COMMENTS
12/22/04	REVISED AS PER CITY COMMENTS
1/19/05	REVISED AS PER MoDOT COMMENTS
4/04/05	REVISED AS PER MoDOT COMMENTS
5/20/05	REVISED AS PER O'Fallon COMMENTS
8/17/05	REVISED AS PER O'Fallon COMMENTS
9/19/05	REVISED AS PER O'Fallon COMMENTS

MAGNOLIA COMMERCIAL
TITLE SHEET
CISSELL MUELLER

ST. CHARLES ENGINEERING & SURVEYING, INC.
801 S. FIFTH STREET, SUITE 202
ST. CHARLES, MO 63301
TEL: (636) 947-0607 FAX: (636) 947-2448

ORDER NO.
031486
DATE
08/26/04
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