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ENGINEERING DEPARTMENT

GENERAL NOTES:

1. All construction methods, materials and practices shall conform to all current applicable specifications of governing agencies.

2. Any destruction of existing improvements or features shall be repaired or replaced in kind by the contractor and shall remain the contractor's responsibility.

3. It shall be distinctly understood that failure to mention specifically any work which would normally be required to complete the project shall not relieve the contractor of his responsibility to perform such work.

4. Contractor shall keep road clear of mud and debris.

5. Developer is notified that permit(s) from U.S. Army Corps of Engineers and Mo.D.N.R. may be required for this development.

6. Any permits, licenses, easements, or approvals required to work on public or private properties or roadways are the responsibility of the developer.

7. The underground utilities shown areon were plotted from available information and do not necessarily reflect the actual existaence, nonexistence, size, type, number or location of these or other utilities. The 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 obsolve any party from complying with the Underground Facility Safety and Damage Prevention Act, Chapter 319, RSMo. All proposed utilities will be located underground.

8. Developer must supply City construction inspectors with soil reports prior to or during site soil testing.

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

10. Lighting values will be reviewed on site prior to the final occupancy inspection. Corrections will need to be made if not in compliance with City standards.

11. All sign posts and backs and bracket arms shall be painted black using Carboline Rustband Penetrating 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 the traffic control signs.

12. All construction shall meet the requirements of the "Americans with Disabilities Act Accessibility Guidelines." If any conflict occurs between the ADAAG and the plans, the ADAAG guidelines shall take precedence and the contractor, prior to any construction, shall notify the project engineer.

GRADING NOTES:

1. All fill areas are to be compacted to a minimum of 90 percent of maximum dry density as directed by the Modified AASHTO compaction Test, ASTM D1557-78, or as specified by a soils engineer.

2. It shall be the grading contractors responsibility to provide the location of any existing underground utilities by notifying utility companies prior to grading operations.

3. The grading contractor shall cut or fill to subgrade elevation under all areas to be paved.

4. All drainage swales to be sodded or seeded and mulched to prevent erosion.

5. All rough grading is to be completed within ± 0.5' and all subgrade to be ± 0.1'.

6. 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.

7. 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.

8. The grading contractor shall perform a complete grading and compaction operation as shown on the plans, stated in these notes, or reasonably implied there from, all in accordance with the plans and notes as interpreted by the Geotechnical Engineer or the City of O'Fallon.

9. The Contractor shall notify the Soils Engineer or the City of O'Fallon at least two days in advance of the start of the grading operation.

10. All areas shall be allowed to drain. All low points shall be provided with temporary ditches.

11. A sediment control plan that includes monitored and maintained sediment control basins and/or straw bales should be implemented as soon as possible. No graded area is to be allowed to remain bare without being seeded and mulched. Care should be exercised to prevent soil from damaging adjacent property and silting up existing downstream storm drainage system.

12. Soft soil in the bottom and banks of any existing or former pond sites or tributaries or on 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 locations.

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

14. All areas to receive fill shall be scarified to a depth of not less than 6 inches and then compacted in accordance with the specifications given below. 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.

15. The sequence of operation in the fill areas will be fill, compact, verify acceptable soil density, and repetition of the sequence. The acceptable moisture contents during the filling operation are those at which satisfactory dry densities can be obtained.

16. 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. 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.

17. When mechanized land clearing activities are completed or suspended for more than 30 days, either temporary vegetation must be established or temporary siltation control measures must be put into place with the review and approval of the City Engineer.

18. All filled 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 filled 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. 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 same test that was used for compaction. Soil compaction curves shall be submitted to the City of 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.

19. No slopes shall be steeper than 3 (horizontal) to 1 (vertical).

20. All erosion control systems shall be inspected and any necessary correction shall be made within 24 hours of any rainstorm resulting in one-half inch of rain or more.

21. Graded areas that are to remain bare for over 2 weeks are to be seeded and mulched per DNR requirement.

SILTATION NOTES:

1. Siltation controls 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.

2. The installation and maintenance of all siltation control shall be the responsibility of the developer.

3. Additional siltation controls may be required as directed by the local governing authority.

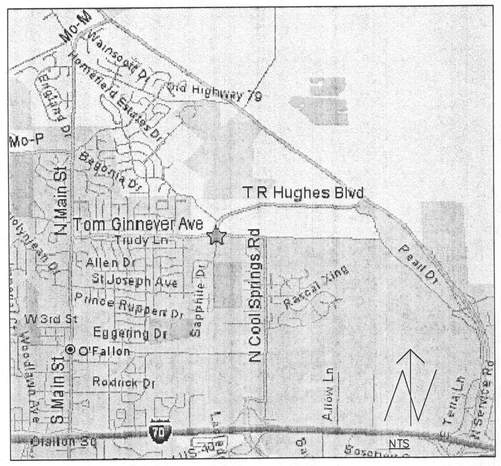
4. The Contractor shall assume complete responsibility for controlling all siltation and erosion of the project area. The Contractor shall use whatever means necessary to control erosion and siltation including, but not limited to, staked straw bales and/or siltation fabric fences (possible methods of 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 Contactor 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 City of O'Fallon and/or MoDOT.

A SITE PLAN FOR

FASTLANE - O'FALLON

IN SECTION 22, TOWNSHIP 47 NORTH, RANGE 3 EAST,
CITY OF O'FALLON, ST. CHARLES COUNTY, MISSOURI

SITE LOCATION MAP



LEGAL DESCRIPTION

Commencing at an old stone at the Northwest corner of the aforesaid Northeast Quarter of the Northeast Quarter of Section 21; thence along the West line of said Quarter-Quarter Section South 00 degrees 19 minutes 55 seconds West 1286.43 feet to the Northerly line of Tom Ginnever (100 foot wide) Road, as described in Deed Book 937 page 497, St. Charles County Records; thence along said Northerly line South 89 degrees 31 minutes 34 seconds East 1015.87 feet; thence continuing along said Northerly line South 87 degrees 16 minutes 38 seconds East 52.19 feet to an iron rod (set) at the Point of Beginning of this description; thence leaving said Northerly line, and defining the Easterly line of the proposed Cool Springs Road Extension, (86 feet wide), Northwesterly on a curve to the right having a radius point which bears North 02 degrees 43 minutes 22 seconds East 61.48 feet, an arc distance of 96.98 feet to an iron rod (set); thence continuing along the said Easterly line North 00 degrees, 13 minutes, 43 seconds East 61.48 feet to an iron rod (set); thence continuing along the said Easterly line, on a tangent curve to the right having a radius of 521.96 feet, an arc distance of 118.38 feet to an iron rod (set); thence leaving said Easterly line and defining the lease parcel herein described; thence South 87 degrees 16 minutes 38 seconds East 240 feet to an iron rod (set); thence South 02 degrees 43 minutes 22 seconds West 240.00 feet to an iron rod (set) on the aforesaid Northerly line of Tom Ginnever Road; thence along said Northerly line North 87 degrees 16 minutes 38 seconds West 182.13 feet to the Point of Beginning.

LEGEND

EXISTING		PROPOSED
854	CONTOURS	(854)
× 854	SPOT ELEVATIONS	×(854)
	CENTER LINE	
	BUILDING, ETC.	
	TREE LINE	
x x x	FENCE	x
	STORM SEWERS	
	SANITARY SEWERS	
EX CI 00	MANHOLE	CI 00
EX AI 00	AREA INLET	AI 00
EX MH 00	STORM MANHOLE	MH 00
EX FE 00	FLARED END	FE 00
EX MH AA	SANITARY MANHOLE	00
	UTILITY OR POWER POLE	
	FIRE HYDRANT	
	PAVEMENT	
	WATER MAIN & SIZE	
	GAS MAIN & SIZE	
TEL	TELEPHONE	T
	ELECTRIC (UNDERGROUND)	
	ELECTRIC (OVERHEAD)	
	SWALE	
	LIGHT STANDARD	
	STREET SIGN	
	LANDSCAPE AREA	
	VACUUM VENDING ISLANDS	

VEGETATIVE ESTABLISHMENT
For Urban Development Sites
APPENDIX A

Seeding Rates:
Permanent:
Tall Fescue - 30 lbs./ac.
Smooth Brome - 20 lbs./ac.
Combined Fescue @ 15 lbs./ac. and Brome @ 10 lbs./ac.

Temporary
Wheat or Rye - 150 lbs./ac. (3.5 lbs. per square foot)
Oats - 120 lbs./ac. (2.75 lbs. per square foot)

Seeding Periods:
Fescue or Brome - March 1 to June 1
August 1 to October 1
Wheat or Rye - March 15 to November 1
Oats - March 15 to September 15

Mulch Rates: 100 lbs. per 1,000 sq. feet (4,356 lbs. per acre)

Fertilizer Rates:

Nitrogen	30 lbs./ac.
Phosphate	30 lbs./ac.
Potassium	30 lbs./ac.
Lime	600 lbs./ac. ENM*

* ENM = effective neutralizing material as per State evaluation of quarried rock.

DEVELOPMENT NOTES

1. Owner: Lakeson Center Inc.

2. Owner Under Contract:
Warrenton Oil Company
2299 S. Spoede Lane
Truesdale, MO 63383

3. Area of Tract: 1.34 Acres (58,251 SF)

4. Existing Zoning: C-2

5. Proposed Use: Convienence Store/Car Wash

6. Building Sizes:
Area:
Retail Store 4690 sq. ft.
Car Wash 1500 sq. ft.
Height:
Retail Store/Car Wash 18 - 20 ft.
Canopy 15 ft.

7. Building Setbacks:
Front: 25 ft.
Side: None
Rear: None

8. Stormwater detention shall be provided by Underground Detention.

9. Parking Requirement:
One space per 250 square foot of floor area, plus one space for each two (2) gas pumps (per city's proposed calcualtion requirement)
4690 / 250 = 18.76 = 19, 10 / 2 = 5 19+5 = 24 required.

10. Parking Provided:
24 Parking Stalls (2 ADA)

11. Parking landscaped islands:
24 spaces required x 270 = 6480 SF, 6480 x 6% = 389 SF
1,312 SF "interior area" landscape islands provided.

12. Landscape Coverage:
58,251 SF x 15% required = 8738 SF
9023 SF provided (15%)

13. At this time no significant natural features such as streams, rivers, lakes, ponds, wetlands or floodplains exist on the site.

14. Flood Plain Note:
There is no floodplain on this site as shown on the Flood Insurance Rate Map Number 29183C0235 E, dated August 2, 1996.

15. Light shall not glare onto adjacent public roadways or adjacent properties per city requirement. (See Lighting Plan)

16. All utilities shall be located underground.

17. It is the intentions of this development to comply with Article XIII of the City of O'Fallon Zoning Code, Performance Standards and the Comprehensive Plan.

18. This Site is served by the following utilities:
WATER: O'Fallon Public Works
SANITARY SEWER: O'Fallon Public Works
ELECTRIC: Ameren UE
GAS: Laclede Gas
TELEPHONE: Century-Tel

19. SITE BENCHMARK:
Rail-Road Spike in Power Pole
Elevation= 505.95

20. USGS BENCHMARK: SC-47 Aluminum disc stamped "SC-47 2000"
Elev = 445.87
Coordinates = 769984.60, 1091991.70
Vertical = NAVD 1988

21. Site Coverage:
Total Area: 58,251 sq. ft.
Greenspace/landscaped Areas: 9023 sq. ft. (15%)
Buildings: 6190 sq. ft. (10%)
Pavement: 43038 sq. ft. (75%)

22. All sign location and sizes must be approved serperately through the planning division. Signage requires seperate permits.

SEWER NOTES:

1. All storm and sanitary sewer construction methods to conform to latest standards and specifications of the applicable codes and shall conform to all appropriate City of O'Fallon standards.

2. All manhole tops built without elevations furnished by the Engineer will be the responsibility of the sewer contractor.

3. All sanitary sewer mains are to be of at least 8" PVC with a SDR35 rating or equal with clean ½" to 1" granular stone bedding uniformly graded. This bedding shall extend from 4" below the pipe to the springline of the pipe. Immediate backfill over pipe shall consist of same size "clean" or minus stone from springline of pipe to 12" above the top of pipe.

4. 8" PVC sanitary sewer pipe shall meet the following standards. A.S.T.M. D-3034 SDR35, with wall thickness compression joint A.S.T.M. D-3212. An appropriate rubber seal watertap shall be installed between PVC pipe and masonry structures.

5. All sanitary sewer manholes shall be waterproofed on the exterior in accordance with the Missouri D.N.R. Specification 10CSR-8, 120(7) (E).

6. All filled places, including trench backfills, under buildings, proposed storm and sanitary sewer lines and/or paved areas, shall be compacted to 90% maximum density as determined by the "Modified AASHTO T-180 Compaction Test," (A.S.T.M. D-1557). All filled places within public roadways shall be compacted to 95% of maximum density as determined by the "Standard Proctor Test AASHTO T-99, method C" (A.S.T.M. D-698).

7. All trench backfills under paved areas shall be granular backfill, and shall be compacted to 90% of the maximum density as determined by the Modified AASHTO T-180 Compaction Test," (A.S.T.M. D-1557). All other trench backfills may be earth material (free of large clods or stones). All trench backfills shall be water jetted.

8. All filled 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 filled 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. 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 same test that was used for compaction. Soil compaction curves shall be submitted to the City of 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.

9. All pipes shall have positive drainage through manholes. No flat base structures are allowed. No brick structures are allowed.

10. Concrete pipe for storm sewers shall be Class III, A.S.T.M. C-76.

11. Concrete pipe joints shall be MSD type "A" approved compression-type joints and shall conform to the requirements of the specifications for joints for circular concrete sewer and culvert pipe, using flexible, watertight, rubber-type gaskets (A.S.T.M. C-443). Band-type gaskets depending entirely on cement for adhesion and resistance to displacement during jointing shall not be used.

12. The use of High Density Polyethylene Corrugated pipe, ADS N-12 or equal will be permitted as an acceptable alternative to reinforced concrete pipe except under roadways. ADS N-12 HC shall be used for all ADS pipe greater than 36". Pipe shall meet A.S.T.M. D-2321 and AASHTO M-294-291.

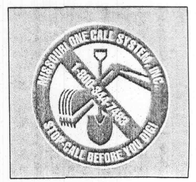
13. When HDPE pipe is used, City of O'Fallon specifications or manufacture's specifications, which ever are more stringent, shall be followed.

14. All flared end sections and inlet structures will be concrete. Rip-Rap shown at flared ends will be field evaluated after installation for effectiveness and field modified if necessary to reduced erosion on and off site.

15. All concrete pipe or ADS N-12 pipe shall be installed with "O-Ring" rubber-type gaskets per M.S.D. standard construction specifications or manufacturer. Gaskets must be water tight per city of O'Fallon specifications.

16. Deflection tests shall be performed on all flexible pipe. The test shall be run not less than thirty (30) days after final backfill has been placed. No pipe shall extend a deflection of five percent (5%). 10 CSR 20-8.120(6)(G)(5)

17. Leakage tests shall be performed. This may include appropriate water or low pressure air testing. The leakate outward or inward (exfiltration or infiltration) shall not exceed two hundred (200) gallons per inch of pipe diameter per mile per day, for any section of the system. An exfiltration or infiltration test shall be performed with a minimum positive head of two feet (2').



SHEET INDEX

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APPROVED AS NOTED
10/7/04
Frank Edwin

ISSUE	DATE - REMARKS
1	8-26-2004 1st. Submittal
2	9-8-2004 2nd. Submittal
3	9-22-2004 3rd. Submittal
4	10-06-2004 Sanitary Changes

PREPARED FOR:
FASTLANE - O'Fallon
Warrenton Oil Company
2299 S. Spoede Lane
Truesdale, MO 63383
(636) 456-3346

10-06-04

PREPARED BY:
Lewis - Bade, Inc.
101 E. Walton St.
Warrenton, Missouri 63383
(636) 456-2615 (FAX) 456-7252
Professional Land Surveyors
and Professional Engineers

FASTLANE
O'Fallon

SITE PLAN

PROJECT NO: 04145
DESIGNED BY: BART
DRAWN BY: Brandon
CHECKED BY: L.P.B.
SHEET NO: 1 OF 11

P&Z # 3504