

**GRADING NOTES**

- A Geotechnical Engineer shall be employed by the owner and be on site during grading operations. All soils tests shall be verified by the Geotechnical Engineer concurrent with the grading and backfilling operations. The developer shall also supply the City construction inspector with the soil report(s) prior to or during site soil testing.
- The grading contractor shall perform a complete grading and compaction operation as shown on the plans, stated in these notes, or reasonably implied therefrom, all in accordance with the plans and notes as interpreted by the Geotechnical Engineer.
- The Contractor shall notify the Soils Engineer at least two days in advance of the start of the grading operation.
- All areas shall be allowed to drain. All low points shall be provided with temporary ditches.
- All filled places, including trench backfills, under buildings, proposed storm and sanitary sewer lines and/or paved areas, shall be compacted to 90% of maximum density as determined by the "Modified A.A.S.H.T.O. T-180 Compaction Test," (A.S.T.M.-D-1557), or 95% maximum density as determined by the Standard Proctor Test (A.A.S.H.T.O. T-99). All filled places within public roadways shall be compacted from the bottom of the fill up to 90% maximum density as determined by the Modified A.A.S.H.T.O. T-180 Compaction Test or 95% of maximum density as determined by the Standard Proctor Test A.A.S.H.T.O. T-99, Method "C" (A.S.T.M.-D-698). All test shall be verified by a soils engineer concurrent with grading and backfilling operations.
- 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 siting up existing downstream storm drainage systems. All erosion control systems shall be inspected and necessary corrections made within 24 hours of any rain storm resulting in 1/2 inch of rain or more.
- Debris and foundation material from any existing on-site building or structure which is scheduled to be razed for the development must be disposed of off-site.
- All trash and debris on site, either existing or from construction, must be removed and properly disposed of off-site.
- 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.
- 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 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.
- 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 roller shall be designed so as to avoid the creation of a layered fill without proper blending of successive fill layers.
- 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.
- The Soils Engineer shall notify the Contractor of rejection 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.
- 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.
- 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. The acceptable moisture contents during the filling operation in the remaining areas are from 2 to 8 percent above the optimum moisture content.
- 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 temperatures is such as to permit the layer under placement to freeze.
- Fill and backfill should be compacted to the criteria specified in the following table:

CATEGORY	MINIMUM PERCENT COMPACTION
Fill in building areas below footings	90%
Fill under slabs, walks, and pavement	90%
Fill other than building areas	88%
Natural subgrade	88%
Pavement subgrade	90%
Pavement base course	90%

Measured as a percent of the maximum dry density as determined by modified Proctor Test (A.S.T.M.-D-1557).

Moisture content must be within 2 percent below or 4 percent above optimum moisture content if fill is deeper than 10 feet.

**LANDSCAPE LEGEND**

- QTY. 41 INDICATES PROPOSED HARDWOOD TREE (MINIMUM 2" CALIPER) (ashes, oaks, maples, birches, sweet gum)
  - QTY. 4 INDICATES PROPOSED EVERGREEN TREE (MINIMUM 6' HEIGHT) (firs, pines, cypresses, larch, spruce)
  - QTY. 23 INDICATES PROPOSED EVERGREEN SHRUB (mugho pines, yews, junipers, hollies, boxwoods)
  - QTY. 27 INDICATES PROPOSED ORNAMENTAL SHRUB (mugho pines, yews, junipers, hollies, boxwoods)
- LANDSCAPING AS DEPICTED IS SUBJECT TO FINAL DESIGN BY A QUALIFIED LANDSCAPE DESIGNER.

**PRINCIPALS & STANDARDS**

- All excavations, grading, or filling shall have a finished grade not to exceed a 3:1 slope (33%). Steeper grades may be approved by the designated official if the excavation is through rock or the excavation or the fill is adequately protected (a designed head wall or toe wall may be required). Retaining walls that exceed a height of four (4) feet shall require the construction of safety guards as identified in the appropriate section(s) of the adopted BOCA Codes and must be approved by the City Building Department. Permanent safety guards shall be constructed in accordance with the appropriate section(s) of the adopted BOCA Codes.
- Sediment and erosion control plans for sites that exceed 20,000 square feet of grading shall provide for sediment or debris basins, silt traps or filters, staked straw bales or other approved measures to remove sediment from run-off waters. Temporary siltation control measures shall be maintained until vegetative cover is established at a sufficient density to provide erosion control on the site.
- 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 during the next seeding period after grading has been completed.
- When grading operations are completed or suspended for more than 30 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.

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 1,000 square feet when seeded.

- Provision shall be made to accommodate the increased runoff caused by changed soils and surface conditions during and after grading. Unvegetated open channels shall be designed so that gradients result in velocities of 2 fps (feet per second) or less. Open channels with velocities more than 2 fps and less than 5 fps shall be established in permanent vegetation by use of commercial erosion control blankets or lined with rock riprap of concrete or other suitable materials. Detention basins, diversions or any other appropriate structures shall be constructed to prevent velocities above 5 fps.
- The adjoining ground to development sites (lots) shall be provided with protection from accelerated and increased moisture contents during the filling operation are those at which satisfactory dry densities can be obtained. The acceptable moisture contents during the filling operation in the remaining areas are from 2 to 8 percent above the optimum moisture content.
- Development along natural watercourses shall have residential lot lines, commercial or industrial improvements, parking areas or driveways set back a minimum of 25 feet from the top of the existing stream bank. The watercourse shall be maintained and made the responsibility of the subdivision trustees or in the case of a site plan by the property owner. Permanent vegetation should be left intact. Variances will include designed stream bank erosion control measures. FEMA and U.S. Army Corps of Engineers guidelines shall be followed where applicable regarding site development areas designated as flood plains and wetlands.

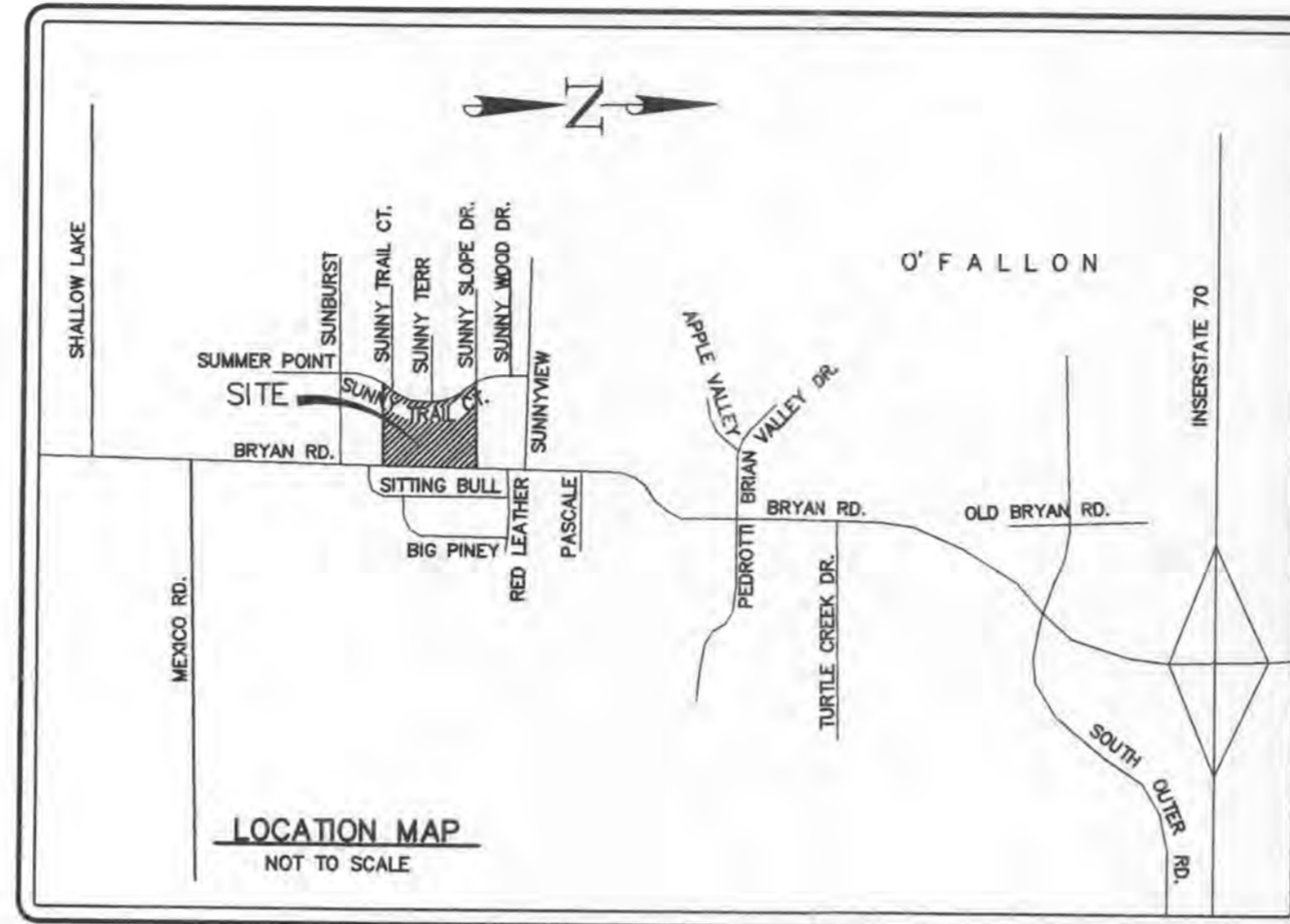
- All lots shall be seeded and mulched or sodded before an occupancy permit shall be issued except that a temporary occupancy permit may be issued by the Building Department in cases of undue hardship because of unfavorable ground conditions.

**GRADING QUANTITY**

7,520 C.Y. CUT  
4,862 C.Y. FILL (INCLUDES 15% SHRINKAGE)  
2,658 C.Y. EXCESS

THE ABOVE GRADING QUANTITY IS APPROXIMATE ONLY. NOT FOR BIDDING PURPOSES. CONTRACTOR SHALL VERIFY QUANTITIES PRIOR TO CONSTRUCTION.

**A CONSTRUCTION PLAN FOR "BRYAN CENTRE"**  
**A TRACT OF LAND BEING PART OF FRACTIONAL SECTION 36, TOWNSHIP 47 NORTH, RANGE 2 EAST OF THE FIFTH PRINCIPAL MERIDIAN, ST. CHARLES COUNTY, MISSOURI**



**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**

- Area of Tract: 2.275 Acres
- Existing Zoning: C-2 General Business District
- Proposed Use: Retail Center
- Area of Proposed Buildings: 23,188 sq.ft.
- The required height and building setbacks are as follows:  
Minimum Front Yard: 25 feet  
Minimum Side Yard: 0 (10 feet abutting residential or office)  
Minimum Rear Yard: 0 (10 feet abutting residential or office)  
Maximum Height of Building: 1 stories
- Site is served by:  
City of O'Fallon Water 636-272-6818  
AmerenUE Company 1-800-55-ASKUE  
St. Charles Gas Company 636-946-0352  
City of O'Fallon Sewer 636-272-6818  
Verizon/Century Telephone Company 636-332-7318  
O'Fallon Fire Department 636-272-3493
- According to the Flood Insurance Rate Map of the City of O'Fallon, (Community Panel number 290316 0430 E dated August 2, 1996) this property lies within zone X. Zone X is defined as an area of minimal flood hazard.
- Parking Required: 23,188 s.f. Leasable area.  
23,188 s.f. leasable area x 80% = 18,550 s.f.  
18,550 / 1,000 = 18.55  
18.55 x 5.5 = 102.02 ~ 102  
Total Parking Required: 102 spaces  
Total Parking Provided: 105 spaces (including 6 handicap spaces)
- Landscape Required:  
107 (spa.) x 270 = 28,890 S.F.  
28,890 sq. ft. x 0.06 (%) = 1733.40  
Total Interior Landscape Required: 1,733.40 S.F.  
Total Interior Landscape Provided: 2,556.70 S.F.  
942.98 L.F. / 40 L.F. = 23.57 ~ 24  
Total Street Trees Required: 24 Trees  
Total Street Trees Provided: 24 Trees
- Site Coverage Calculations:  
Proposed Building = 23,188 sq.ft.  
Pavement = 54,941.73 sq.ft.  
Green Space = 20,980.28 sq.ft.
- The Developer shall comply with current Tree Preservation Ordinance number 1689 and provide landscaping as set forth in Article 23 of the City of O'Fallon Zoning Ordinances.  
15 Trees per Acre Cleared: 0.11 Ac. x 15 = 1.65 ~ 2 Trees  
Total Trees Required = 2 Trees  
Total Trees Proposed = 2 Trees
- Site after construction shall be 80% impervious. Underground detention structure pipes shall be designed to attenuate increased runoff per City of O'Fallon requirements.

**LEGEND**

- C.I. CURB INLET
- D.C.I. DOUBLE CURB INLET
- A.I. AREA INLET
- M.H. MANHOLE
- F.E. FLARED END SECTION
- E.P. END PIPE
- C.P. CONCRETE PIPE
- R.C.P. REINFORCED CONCRETE PIPE
- C.M.P. CORRUGATED METAL PIPE
- C.I.P. CAST IRON PIPE
- P.V.C. POLY VINYL CHLORIDE (PLASTIC)
- C.O. CLEAN OUT
- FIRE HYDRANT
- STORM SEWER
- SANITARY SEWER
- ☆ STREET LIGHT
- 582- EXISTING CONTOUR
- 582- PROPOSED CONTOUR
- S<sub>s</sub> STREET SIGN
- W WATER SIGN
- WV WATER VALVE
- B.O. BLOW OFF ASSEMBLY
- FLOWLINE ELEVATION OF HOUSE CONNECTION
- FLOWLINE ELEVATION OF SEWER MAIN

**U.S.G.S. BENCHMARK**

REFERENCE BENCHMARK: ELEVATION 643.21 DATUM (USGS) EXISTING 60D NAIL IN POWER POLE AT THE NORTHWEST CORNER OF FIESE ROAD AND BRYAN ROAD AS SHOWN ON IMPROVEMENT PLANS FOR FIESE ROAD, O'FALLON PROJECT NO.210-005, AS PREPARED BY GEORGE BUTLER ASSOCIATES.

SITE BENCHMARK ELEVATION 609.14 USGS DATUM CUT "L" ON SOUTHWEST CORNER OF CONCRETE PAD AT NORTHWEST CORNER OF SUBJECT PROPERTY.

**GENERAL NOTES**

- 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 OR CONSTRUCTION OF THE IMPROVEMENTS.
- ALL TRENCH BACKFILLS 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 TRENCH BACKFILLS UNDER PAVED AREAS INCLUDING SIDEWALKS SHALL BE GRANULAR FILL. ALL OTHER TRENCH BACK FILLS MAY BE EARTH MATERIAL (FREE OF LARGE CLODS OR STONES).
- NO AREA SHALL BE CLEARED WITHOUT THE PERMISSION OF THE PROJECT ENGINEER.
- ALL GRADES SHALL BE WITHIN 0.2 FEET OF THOSE SHOWN ON THE GRADING PLAN.
- NO SLOPE SHALL BE STEEPER THAN 3:1. ALL SLOPES SHALL BE SODDED OR SEEDED AND MULCHED.
- ALL CONSTRUCTION AND MATERIALS USED SHALL CONFORM TO CURRENT CITY OF O'FALLON STANDARDS.
- ALL UTILITIES SHOWN ARE EXISTING UNLESS OTHERWISE NOTED. ALL NEW UTILITIES SHALL BE LOCATED UNDERGROUND.
- ALL DIMENSIONS ARE TO BACK OF CURB UNLESS OTHERWISE NOTED.
- THE DEVELOPER SHALL COMPLY WITH CURRENT ARTICLE 13 PERFORMANCE STANDARDS.
- ONE LANE OF ROADWAY SHALL REMAIN OPEN AT ALL TIMES AND TRAFFIC CONTROL SHALL MEET MISSOURI DEPARTMENT OF TRANSPORTATION SPECIFICATIONS.
- ALL CONSTRUCTION METHODS AND PRACTICES TO CONFORM WITH OSHA STANDARDS.
- OFF-SITE EASEMENTS WILL BE REQUIRED WHERE THEY ARE NECESSARY.
- THE DEVELOPER SHALL COMPLY WITH CURRENT TREE PRESERVATION ORDINANCE NUMBER 1689 AND PROVIDE LANDSCAPING AS SET FORTH IN ARTICLE 23 OF THE CITY OF O'FALLON ZONING ORDINANCES.
- THE DEVELOPER MUST SUPPLY CITY CONSTRUCTION INSPECTORS WITH SOIL REPORTS PRIOR TO OR 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 MUDOT. THE CONTRACTOR'S RESPONSIBILITIES DEPOSITING OF SILT. THE OWNER AND/OR THE CITY OF O'FALLON AND/OR MUDOT 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 MUDOT.
- ALL FILLED PLACES UNDER PROPOSED STORM AND SANITARY SEWER AND/OR PAVED AREAS SHALL BE COMPACTED TO 90% OF THE MAXIMUM DENSITY AS DETERMINED BY THE MODIFIED AASHTO T-180 COMPACTION TEST OR 95% OF THE MAXIMUM DENSITY AS DETERMINED BY THE STANDARD PROCTOR TEST AASHTO T-99. ALL FILLED PLACES 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.
- ALL SIGN LOCATIONS AND SIZES MUST BE APPROVED SEPERATELY THROUGH THE PLANNING DIVISION. SIGN LOCATIONS NOT KNOWN AT THIS TIME.
- ALL SIGN POST AND BACKS AND BRACKET ARMS SHALL BE PAINTED BLACK USING CARBOLINE RUSTBOND PENETRATING SEALER 50 AND CARBOLINE 133 HB PAINT (OR EQUIVALENT AS APPROVED BY CITY AND MUDOT). SIGNS DESIGNATING STREET NAME SHALL BE ON THE OPPOSITE SIDE OF THE STREET FROM TRAFFIC CONTROL SIGNS.
- LIGHTING VALUES WILL BE REVIEWED ON SITE PRIOR TO FINAL OCCUPANCY INSPECTION. CORRECTIONS WILL NEED TO BE MADE IF NOT IN COMPLIANCE WITH CITY STANDARDS.
- ALL STORM AND SANITARY STRUCTURES SHALL NOT BE CONSTRUCTED WITH BRICK. ALL STORM SEWER JOINTS SHALL BE GASKETED O-RING TYPE.

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- PROFILES AND DETAILS
- CONSTRUCTION DETAILS
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- CONSTRUCTION DETAILS
- CONSTRUCTION DETAILS

O'FALLON FILE NUMBER 1103

PREPARED FOR: SPACE BUILDER, L.L.C.  
313 JUNGERMAN  
ST. PETERS, MISSOURI 63376  
314-220-6764

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**REVISIONS**

DATE	DESCRIPTION
7-29-03	PER CITY COMMENTS
8-15-03	PER CITY COMMENTS
8-25-03	PER PHOTOMETRIC
10-8-03	PER CLIENT
10-29-03	PER CLIENT
12-30-03	PER CITY COMMENTS



1052 South Cloverleaf Drive  
St. Peters, MO. 63376-6445  
636-928-5552  
FAX 928-1718

DATE	DESCRIPTION
5-21-03	
03-12-263	
PROJECT NUMBER	1 OF 9
SHEET OF	12263CON.DWG
FILE NAME	KLW/ALJ
DRAWN	
DESIGNED	CLH/ALJ
CHECKED	



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