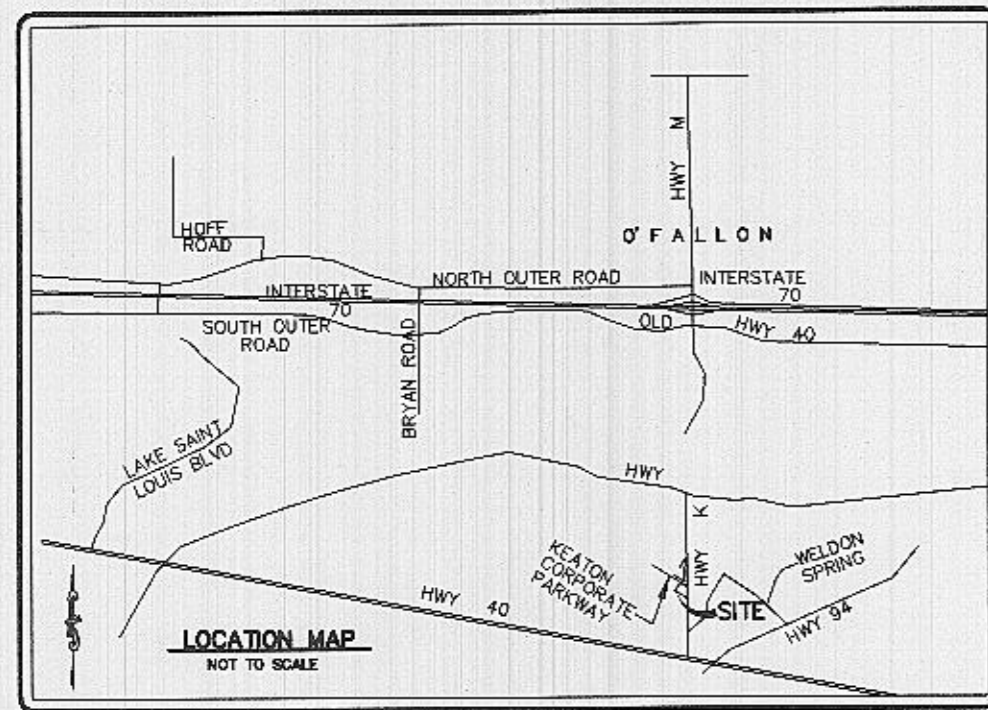


A SET OF CONSTRUCTION PLANS FOR CULVER'S RESTAURANT

A TRACT OF LAND BEING PART OF LOT 1
OF THE PLAT RECORDED IN BOOK "P", NO. 2, PAGE 628
AND PART OF LOT 25 OF JOHN D. COALTER'S SUBDIVISION
OF HOWELL'S PRAIRIE TRACT IN U.S. SURVEY 1669,
TOWNSHIP 46 NORTH, RANGE 3 EAST OF THE FIFTH
PRINCIPAL MERIDIAN, ST. CHARLES COUNTY, MISSOURI



STANDARD SYMBOLS & ABBREVIATIONS

TREE OR BUSH	⊙
LIGHT POLE	⊕
SANITARY SEWER & MANHOLE	⊖
STORM SEWER & INLET	⊖
MAILBOX	⊖
ELECTRIC LINE	—E—
GAS LINE	—G—
WATER LINE	—W—
TELEPHONE LINE	—T—
CABLE TV LINE	—CTV—
OVERHEAD WIRE	—OHW—
UTILITY POLE	⊖
UTILITY POLE W/ DOWN GUY	⊖
FIRE HYDRANT	⊖
WATER VALVE	⊖
WATER METER	⊖
GAS VALVE	⊖
ROAD SIGN	⊖
TELEPHONE PEDESTAL	⊖ TEL. PED.
FENCE	—X—

PRINCIPLES & 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 Building Department. Permanent safety guards will 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, stacked straw bales or other approved measures to remove sediment from run-off waters. The design to be approved by the Designated Official. Temporary siltation control measures (structural) 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 reestablished 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 according to the City Engineer's recommendations. 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.
- Provisions 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 rip rap or concrete or other suitable materials as approved by the City Engineer. Detention basins, diversions, or 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 surface water, silt from erosion, and any other consequence of erosion. Run-off water from developed areas (parking lots, paved sites and buildings) above the area to be developed shall be directed to diversions, detention basins, concrete gutters and/or underground outlet systems. Sufficiently anchored straw bales may be temporarily substituted with the approval of the City Engineer.
- 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. Variations will include designed stream bank erosion control measures and shall be approved by the City Engineer. 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 at the minimum rates defined in Appendix A 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.

VEGETATIVE ESTABLISHMENT For Urban Development Sites APPENDIX A

Seeding Rates:	
Permanent:	
Tall Fescue	30 lbs./ac.
Smooth Brome	20 lbs./ac.
Combined Fescue & Brome	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
Wheat or Rye	August 1 to October 1
	March 15 to November 1
Dats	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.
Line	600 lbs./ac. ENM*
* ENM = effective neutralizing material as per State evaluation of quarried rock.	

LANDSCAPE LEGEND

	QTY. 14 INDICATES PROPOSED HARDWOOD TREE (oaks, maples, birches, sweet gum) (Minimum 2" caliper)
	QTY. 19 INDICATES PROPOSED SHRUB (mugo pines, yews, junipers, hollies, boxwoods) (Minimum 4" in height)
	QTY. 83 INDICATES PROPOSED EVERGREEN SHRUB

LANDSCAPING AS DEPICTED IS SUBJECT TO FINAL DESIGN BY A QUALIFIED LANDSCAPE DESIGNER

GENERAL NOTES:

- Underground utilities have been plotted from available information and therefore locations shall be considered approximate only. The verifications 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 improvements.
- Gas, water and other underground utilities shall not conflict with the depth or horizontal location of existing or proposed sanitary and storm sewers, including building laterals.
- All existing site improvements disturbed, damaged or destroyed shall be repaired or replaced to closely match pre construction conditions.
- All filled places 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-150 Compaction Test or 95% of maximum density as determined by the Standard Proctor Test AASHTO T-88. 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 back filling operations.
- The contractor shall prevent all storm, surface water, mud and construction debris from entering the existing sanitary sewer system.
- All sanitary sewer flowlines and tops built without elevations furnished by the engineer will be the responsibility of the sewer contractor.
- Easements shall be provided for all public sanitary sewers, storm sewers and utilities on the record plat. See record plat (if required) for location and size of easement.
- All construction and materials shall conform to the current construction standards of the City of O'Fallon.
- The City of O'Fallon shall be notified at least 48 hours prior to start of construction for coordination and inspection.
- All sanitary sewer building connections have been designed so that the minimum vertical distances from the low point of the basement to the flow line of a sanitary sewer at the corresponding building connection is not less than the diameter of the pipe plus the vertical distance of 2-1/2 feet. (unless otherwise noted)
- All sanitary sewer manholes shall be waterproofed on the exterior in accordance Missouri Dept. Of Natural Resources specifications 10 CSR-8.120(7)(E).
- All PVC sanitary sewer pipe is to be SDR-35 or equal with "clean" 1/2 inch to 1 inch granular stone bedding uniformly graded. This bedding shall extend from 4 inches below the pipe to springline of pipe. Immediate back fill over pipe shall consist of same size "clean" or "minus" stone from springline of pipe to 6 inches above the top pipe. (Note: All P.V.C. Force Main shall be C-900, Class 200 P.V.C.)
- All sanitary and storm sewer trench back fills shall be water jetted. Granular back fill will be used under pavement areas.
- All pipes shall have positive drainage through manholes. No flat base structures are allowed.
- Brick shall not be used on sanitary sewer manholes nor shall brick be used in the construction of storm sewer structures.
- All PVC sanitary sewer pipe shall meet the following standards. A.S.T.M. D-3034 SDR-35 with wall thickness compression joint A.S.T.M. D-3212. An appropriate rubber seal waterstop as approved by the sewer district shall be installed between P.V.C. pipe and masonry structures. (Note: All P.V.C. Force Main shall be C-900, Class 200 P.V.C.)
- All sanitary and storm sewers shall meet all specifications and installation requirements of the local governing authority.
- Storm sewers 18 inch diameter and smaller shall be A.S.T.M. C-14 unless otherwise shown on the plans.
- Storm sewers 21 inch diameter and larger shall be A.S.T.M. C-76, Class II minimum, unless otherwise shown on the plans.
- All storm sewer pipe in the right-of-way shall be reinforced concrete pipe (A.S.T.M. C-76, Class III minimum).
- All storm sewer pipe shall be "O-ring" pipe. Joints shall be gasketed O-ring type.
- All water lines shall be laid at least 10 feet horizontally from any sanitary sewer, or manhole. Whenever water lines must cross sanitary sewers, laterals or storm drains the water line shall be laid at such an elevation that the bottom of the water line is 18 inches above the top of the drain or sewer. A full length of water pipe shall be centered over the sewer line to be crossed so that the joints will be equally distant from the sewer and as remote therefrom as possible. This vertical separation shall be maintained for that portion of the water line located within 10 feet, horizontally, of any sewer or drain it crosses.
- All water lines shall be C-900 Class 200 P.V.C.
- The grading yardage shown on these drawings is an approximation only, and not for bidding purposes. The contractor shall verify quantities prior to construction.
- All sanitary sewer laterals shall be a minimum of 6 inches in diameter.
- All sewer construction and materials to be in accordance with the Metropolitan St. Louis Sewer District Standard Construction Specifications for Sewers and Drainage Facilities, 2000.
- Maintenance of the sewers designated as "public" shall be the responsibility of the Duckett Creek Sanitary Sewer District upon dedication of the sewers to the district.
- All sign post and backs and bracket arms shall be painted black using Carboline Rustbond 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 traffic control signs.



CALL BEFORE
YOU DIG!
1-800-DIG-RITE

MoDOT (314-340-4100)
FIBER OPTICS PRESENT

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 back filling operations.
- 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.
- 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.
- 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 over the winter without being seeded and mulched. Care should be exercised to prevent soil from damaging adjacent property and silting up existing downstream storm drainage system.
- Any existing trash and debris currently on this property must be removed and disposed of off-site.
- Soft soil 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 right-of-way locations or on 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 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.
- Compaction equipment shall consist of tamping 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.
- 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 control.
- 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.
- All siltation control devices shall be inspected by the contractor after any rain of 1/2" or more with any appreciable accumulation of mud to be removed and siltation measures repaired where necessary.
- No slope shall be steeper than 3(Horizontal):1(Vertical). All slopes shall be seeded or mulched.
- Fill and back fill shall be compacted to the criteria specified in the following table:

CATEGORY	MINIMUM PERCENT COMPACTION %
Fill in building areas below footings	95 %
Fill under slabs, walks, and pavement	95 %
Fill other than building areas	90 %
Natural sub grade	90 %
Pavement sub grade	90 %
Pavement base course	90 %

Measured as a percent of the maximum dry density as determined by Standard Proctor Test (ASTM-D-698). Moisture content must be within 2 percent below or 4 percent above optimum moisture content if fill is deeper than 10 feet.

- Any contaminated soil encountered during excavation shall be hauled and placed as directed by the owners environmental engineering representative.
- 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 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 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.

SHEET INDEX:

SHEET 1	COVER SHEET
SHEET 2	SITE PLAN
SHEET 3	GRADING PLAN
SHEET 4	DRAINAGE MAP
SHEET 5	STORM SEWER PROFILES
SHEET 6	MODOT DETAILS
SHEET 7	CONSTRUCTION DETAILS

DEVELOPMENT NOTES:

- Area of Tract: 1.37 Acres
- Existing Zoning: C-2 General Business
- Proposed Use: Restaurant
- Area of Building: 4,538 sq.ft.
- The required height and building setbacks are as follows:
Minimum Front Yard: 25 feet
Minimum Side Yard: None
Minimum Rear Yard: None
Maximum Height of Building: Not to exceed 50'
Maximum Proposed Height: 24'
- Site is served by:
Duckett Creek Sanitary Sewer District
Union Electric Company
Laclede Gas Company
Missouri American Water Company
SBC Telephone Company
- According to the Flood Insurance Rate Map of the City of O'Fallon, (Community Plan 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:
Total Building Area = 4,538 sq.ft.
20 spaces plus 1 per 100 sq. ft. of floor area
20 + (4,538 / 100) = 65.38 ~ 65 spaces required
Total Parking Provided: 65 spaces (including 2 handicap spaces)
- Landscape Required:
Interior Landscape Requirements:
65 (sq.) x 270 = 17,550 S.F.
17,550 sq. ft. x 0.06 (6%) = 1,053
Total Interior Landscape Required: 1,053 S.F.
Total Interior Landscape Provided: 3,714 S.F.
Street Tree Requirements:
1 tree every 40' of frontage = 44.2 / 40 = 11.05 ~ 11
- Open Space Landscape Requirements:
10111 S.F. / 3,000 S.F. = 3.37 ~ 3 Trees
Total Trees Required: 14 Trees
- Site Coverage Calculations:
Building = 4,538 sq.ft. = 8%
Pavement = 41,429 sq.ft. = 69%
Green Space = 13,825 sq.ft. = 23%
- Existing detention basin provided for Keaton Corporate Park.
- All proposed fencing requires a separate permit through the Planning Division.
- 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.
- All sign locations and sizes must be approved separately through the Planning Division.
- All new utilities will be located underground.
- Materials stored in enclosure will not extend above the height of the enclosure.

GRADING QUANTITIES:

2,032 C.Y. CUT
2,262 C.Y. FILL (INCLUDES 15% SHRINKAGE)
230 C.Y. SHORT

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

BENCHMARKS:

REFERENCE BENCHMARK - RM57 ELEV. 548.01 "CHISELED SQUARE" IN THE SOUTHWEST END OF THE SOUTH HEADWALL OF THE CULVERT LOCATED AT THE JUNCTION OF U.S. HIGHWAY 40 AND MISSOURI STATE HIGHWAY K. FEMA MAP29183C0430 E.

SITE BENCHMARK - ELEV. 550.81 THE "O" IN OPEN ON FIRE HYDRANT AT THE NORTHEAST CORNER OF SUBJECT PROPERTY.

Revisions
APPROVED
9-24-03

PREPARED FOR:
Dan Grenia, KMG
9232 LURLINE DRIVE
ST. LOUIS, MISSOURI
314-244-0320

DISCLAIMER OF RESPONSIBILITY
I hereby certify that the documents intended to be authorized by my seal are limited to the project and I hereby disclaim any responsibility for all other drawings, Specifications, Estimates, Reports or other documents or instruments related to or intended to be used for any part or parts of the architectural or engineering project or survey.



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REVISIONS	
07-28-03	CITY COMMENTS
08-11-03	MoDOT
08-11-03	CITY COMMENTS
08-19-03	CITY COMMENTS
09-23-03	CITY COMMENTS

ENGINEERING
PLANNING
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St. Peters, MO. 63376-6445
636-928-5562
FAX 928-1718

05-23-03	DATE
02-12221D	PROJECT NUMBER
1	OF 7 SHEET OF
12221D.CON.DWG	FILE NAME
RJM	DRAWN
RJM	CLH
DESIGNED	CHECKED