

## CONSTRUCTION NOTES

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 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.

All construction and materials used shall conform to current City of O'Fallon, MO, St. Charles County Dept. of Highways and Traffic, and latest Duckett Creek Sanitary District standards and construction specifications. Consult Geotechnical Engineer for soil compaction recommendations.

All utility relocations will be determined by the individual utility company. No area shall be cleared without permission of the developer.

All filled places, including trench backfills, under buildings, proposed storm and sanitary sewer lines and/or paved areas outside of public right-of-way, shall be compacted to at least 90 percent of the maximum density, as determined by the "Modified AASHTO T-180 Compaction Test," A.S.T.M. D-1557, unless otherwise required by the inspecting geotechnical engineer or soils report for this project.

All grades shall be within 0.2 feet, plus or minus, of those shown on the grading plan.

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

All swales shall be sodded, unless otherwise noted on the plans.

No slope shall be steeper than 3 horizontal to 1 vertical.

Erosion and siltation control shall be installed prior to any grading and be maintained throughout the project until acceptance of the work by the owner and/or controlling regulatory agency and adequate vegetative growth insures no further erosion or soil.

Additional siltation control devices may be required as directed by The City of O'Fallon, MO.

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. Grading shall comply with recommendations in the soils report by SCI Engineering, Inc. dated July 1997.

The Contractor shall notify the Geotechnical Engineer at least two days in advance of the start of the grading operation.

Parking on non-surfaced areas is prohibited in order to eliminate the condition whereby mud from construction and employee vehicles is tracked onto the pavement causing hazardous roadway and driving conditions. Contractor shall keep road clear of mud and debris.

Storm water pipes, outlets and channels shall be protected by silt barriers and kept free of waste and silt at all times prior to final surface stabilization and/or paving.

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 MODOOT. 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 MODOOT 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 MODOOT.

Siltation fences shall be inspected periodically for damage and for the amount of sediment which has accumulated. Removal of sediment will be required when it reaches 1/2 the height of the fences.

Straw bales shall be inspected periodically for deterioration. Bales which have rotted or failed shall be replaced. Removal of sediment will be required when it reaches 1/2 the height of the bales.

The erosion control systems 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 and adjacent roadways, properties and ditches.

If cut & fill operations occur during a season not favorable for immediate establishment of a permanent ground cover, a fast germinating annual such as rye grasses or sudan grasses shall be utilized to retard erosion.

Undercutting for treatment of plastic clay conditions for foundations has not been considered in grading computations shown. Contact geotechnical engineer if this condition exists.

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. Contractor is responsible for monitoring grading operation and accuracy of final rough grades. Notify Volz, Inc. of any discrepancies affecting final grading balance.

Contractor is responsible to maintain all siltation control devices shown, and provide additional siltation control devices as deemed necessary due to field conditions. See approved grading plan set for location of devices.

All trench backfills under pavement within the public right-of-way shall be granular backfills. Trench backfills under paved areas, outside of public right-of-way may be granular backfill in lieu of the earth backfill compacted to 90 percent of the Modified AASHTO T-180 compaction test A.S.T.M. D-1557.

P.V.C. gravity sanitary sewer pipe sizes 4" through 15" shall conform to the requirements of A.S.T.M. D-3034, for the PSM-PVC sewer pipe fittings, SDR-35 Large diameter plastic gravity sewer pipe and fittings shall conform to the requirements of A.S.T.M. F-679. All fittings for P.V.C. pipe shall be of the same material and strength requirements as the sewer pipe.

When P.V.C. pipe is used, appropriate rubber seal waterstop, as approved by the sewer district, shall be installed between P.V.C. pipe and masonry concrete and brick structure.

All sanitary laterals shown on plan are to be constructed of 4-inch P.V.C. pipe.

All manhole and inlet tops built without elevations furnished by the engineer will be the responsibility of the sewer contractor. At the time of construction stakeout of the sewer lines, all curb and grate inlets will be face staked, provided said stakes do not fall in the ditch line. If stakes fall within the ditch line, the sewer company or job superintendent shall notify the engineer by phone that stakes are needed and allow 48 hours for cuts.

All storm sewer pipe regardless of size shall be reinforced concrete pipe A.S.T.M. C-76, Class III minimum, unless otherwise shown on the plans.

Corrugated metal pipe shall conform to the standard specifications for corrugated iron or steel galvanized culvert pipe AASHTO M-36.

Maintenance of the sanitary sewer mains shall be the responsibility of the Duckett Creek Sanitary District upon dedication of the sewers to the District. Maintenance of the storm sewers shall be the responsibility of the City of O'Fallon, MO, upon acceptance by the city for these storm sewers.

All disturbed earth areas within City, County and State right-of-way shall be sodded. Blasting will require a permit from the City of O'Fallon, MO.

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

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 trash and debris on site, either existing or from construction, must be removed and properly disposed of off-site.

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 proposed fencing requires a separate permit through the Planning Division.

## ABBREVIATIONS

ATG	ADJUST TO GRADE
AI	AREA INLET
BF	BASEMENT FLOOR
C	CENTERLINE
CC	CONCRETE COLLAR
CO	CLEAN OUT
CI	CURB INLET
CMP	CORRUGATED METAL PIPE
DCI	DOUBLE CURB INLET
ESMT	EASEMENT
EP	END OF PIPE
ED	ENERGY DISSIPATOR
EX	EXISTING
FF	FINISHED FLOOR
FH	FIRE HYDRANT
FE	FLARED END
F	FLOWLINE
2GISI	2 GRATE INLET WITH SIDE INTAKE
MH	MANHOLE
MAX	MAXIMUM
MIN	MINIMUM
N/F	NOW OR FORMERLY
PVC	POLYVINYLCHLORIDE (PLASTIC PIPE)
RCP	REINFORCED CONCRETE PIPE
R/W	RIGHT OF WAY
STA	STATION
TBR	TO BE REMOVED
TBRBO	TO BE REMOVED BY OTHERS
TBR&R	TO BE REMOVED AND REPLACED
TF	TOP OF FOUNDATION
TYP	TYPICAL
UIP	USE IN PLACE
UP	UTILITY POLE
W	WIDE

## BENCH MARKS

### U.S.G.S. DATUM BENCHMARK (Provided by the Missouri Department of Transportation)

ELEVATION 616.50 at Dardene Prairie, T. 46N., R. 2E., near approximate corner sections 1, 2, 11 & 12, 31' N. and 20' W. of Crossroads, the intersection of State Highway "N" with Post Road and Hanley Road, 49' S. of S.E. Corner of Catholic Church, 2.0' N. of sidewalk, and in concrete post, standard tablet stamped "TT 60 C 1936 616."

## DUCKETT CREEK SANITARY DISTRICT CONSTRUCTION NOTES

- Underground utilities have been plotted from available information and therefore 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 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 hours laterals.
- All existing site improvements disturbed, damaged or destroyed shall be repaired or replaced to closely match preconstruction conditions.
- All fill including places under proposed storm and sanitary sewer lines and paved areas including trench backfills within and off the road right-of-way shall be compacted to 90 percent of maximum density as determined by the "Modified AASHTO T-180 Compaction Test (ASTM D1557)". 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 proofrolling and compaction.
- 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 sanitary sewers, storm sewers and all utilities on the record plat.
- All construction and materials shall conform to the current construction standards of the Duckett Creek Sanitary District.
- The Duckett Creek Sanitary District shall be notified at least 48 hours prior to construction for coordination of inspection.
- All sanitary sewer building connections shall be designed so that the minimum vertical distance from the low point of the basement to the flowline of a sanitary sewer at the corresponding building connection shall not be less than the diameter of the pipe plus the vertical distance of 2-1/2 feet.
- All sanitary sewer manholes shall be waterproofed on the exterior in accordance with Missouri Dept. of Natural Resources specification 10 CSR-8.120(7)(E).
- All PVC sanitary sewer pipe shall conform to the requirements of ASTM D-3034 Standard Specification for PSM Polyvinyl Chloride Sewer Pipe, 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 backfill over pipe shall consist of same size "clean" or "minus" stone from springline of pipe to 6 inches above the top of pipe.
- All sanitary and storm sewer trench backfills shall be water jetted. Granular backfill will be used under pavement areas.
- All pipes shall have positive drainage through manholes. No flat invert structures are allowed.
- All creek crossings shall be grouted rip-rap as directed by District inspectors. (All grout shall be high slump ready-mix concrete).
- Brick shall not be used on sanitary sewer manholes.
- Existing sanitary sewer service shall not be interrupted.
- Maintain access to existing residential driveways and streets.
- Pre-manufactured adapters shall be used at all PVC to DIP connections. Rubber boot/mission-type couplings will not be allowed.
- Any permits, licenses, easements, or approvals required to work on public or private properties or roadways are the responsibility of the developer.

## LEGEND

—UC—	EXISTING UNDERGROUND CABLE TV
—UT—	EXISTING UNDERGROUND TELEPHONE
—UE—	EXISTING UNDERGROUND ELECTRIC
—OU—	EXISTING OVERHEAD UTILITY WIRES
—G—	EXISTING GAS MAIN
—W—	EXISTING WATER MAIN
—F—	PROPOSED FORCE MAIN
—F—	EXISTING FORCE MAIN
—	BUILDING LINE
—	EXISTING SANITARY SEWER
—	PROPOSED SANITARY SEWER
—	EXISTING STORM SEWER
—	PROPOSED STORM SEWER
—	EXISTING CONTOUR
—	PROPOSED CONTOUR
—	EXISTING TREE LINE
—	PROPOSED TREE LINE
—	SILTATION CONTROL
—	EX HIGH WATER OR DITCH
—	GRADE BREAK
—	STREET SIGN
—	SWALE
—	DIRECTION OF SHEET FLOW
—	CLEARING AND GRADING LIMITS
—	FIRE HYDRANT
—	LIGHT STANDARD
—	VALVE
—	LATERAL
—	ADDRESS
—	TREE
—	SANITARY SEWER DESIGNATOR
—	STORM SEWER DESIGNATOR
—	AIR RELIEF VALVE
—	AIR RELIEF VALVE & C.O.

## REVEGETATIVE TABLE

### VEGETATIVE ESTABLISHMENT For Urban Development Sites APPENDIX A

#### Minimum 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)

Mulch rates: 100lbs. 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.

## SOILS ENGINEER NOTES

Geo Test and the undersigned engineer have not prepared any part of these plans. The seal of the undersigned professional engineer has been affixed at the request of St. Louis County and is a professional opinion to indicate that the undersigned has reviewed the grading plans and revisions through the date given herein and that in my opinion the grading and improvements as shown on the plans are compatible with the soil and geologic conditions at the site as described in the geotechnical report for the project dated February, 2000. Roads and building foundations may be supported on naturally occurring or fill soil slopes may be constructed as shown.

The above opinion is based on data from the geotechnical report which was based on widely spaced explorations. Conditions may vary from those encountered in the explorations, or can change due to the construction activities or weather conditions. Therefore, the undersigned shall be involved during the construction phase of this project in order to determine that subsurface conditions are as anticipated from the exploration data that recommendations relative to construction are implemented.

Geo Test and the undersigned have no responsibility for services provided by others, except as they relate to the geotechnical aspects of the design. Services by others may include: establishment of grades, sewer plans and grades, drainage, boundary, and topographic surveys; all structural and electrical components; water, gas, electric and telephone services and distribution facilities; any and all other engineering plans, specifications, estimates, plats, reports, surveys or other documents or instruments relating to or intended to be used for any part or parts of this project. Construction means and methods for implementation of the grading plan shall be left to the contractor with verification by the geotechnical engineer in writing.

GEOTEST INC.

Marlene D. Maag, P.E.

## PROJECT INFORMATION

PREPARED FOR:

McEagle Development

689 CRAIG ROAD  
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PHONE: (314) 432-4320 FAX: (314) 432-6501

PREPARED BY:

VOLZ INCORPORATED

5933 SOUTH HIGHWAY 94, SUITE 201  
ST. CHARLES, MISSOURI 63304-5611  
PHONE: (636) 939-5155 FAX: (314) 939-5138

WUNNENBERG'S MAP: PAGE 45, GRID VV-20  
ZIP CODE: 63366  
MUNICIPALITY: O'FALLON

## LOCATION MAP



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## FEMA MAP

There Is No Flood Plain On  
This Site Per  
F.I.R.M. MAP #29183C0220 E  
REVISED AUGUST 2, 1996

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MIDWEST BANK

GENERAL INFORMATION  
Design By: E.A.K.  
Drawn By: D.K.L.  
Checked By: E.A.K.  
B-6770

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