CONSTRUCTION NOTES

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 thououghly 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 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 repitition 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 percent below 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.

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	92%

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

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

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 10CSR-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 interupted.

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.

REVEGETATIVE TABLE

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)

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

Fertilizer rates: Nitrogen 30 lbs./ac.
Phoshpate 30 lbs./ac.
Potassium 30 lbs./ac.
Lime 600 lbs./ac. ENM*

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

APPLICABLE UTILITIES

St. Charles County Water District No. 2 and Missouri-American Water Company.

Duckett Creek Sanitary Sewer District.

Union Electric Company.

GTE Telephone.

St. Charles Gas Company.

Wentzville Fire Protection District and O'Fallon Fire Protection District.

Wentzville School District and Fort Zumwalt School District.

WINGHAVEN
RESIDENTIAL L.L.C.
•1 MCBRIDE & SON
CORPORATE CENTER DRIVE
ST. LOUIS, MISSOURI 63005
PHONE (314) 537-2000

VOLZ

STATE OF MISSOURI
ELMER ANTHONY KUSSEL
NUMBER E-16146
REGISTERED PROFESSIONAL ENGINEER

WINGHAVEN™
TIMBER MEADOWS VILLAGE

GENERAL NOTES

Design By: G.A.S.
Drawn By: G.A.S.
Checked By: E.A.K.

B-5500

7-16-99

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