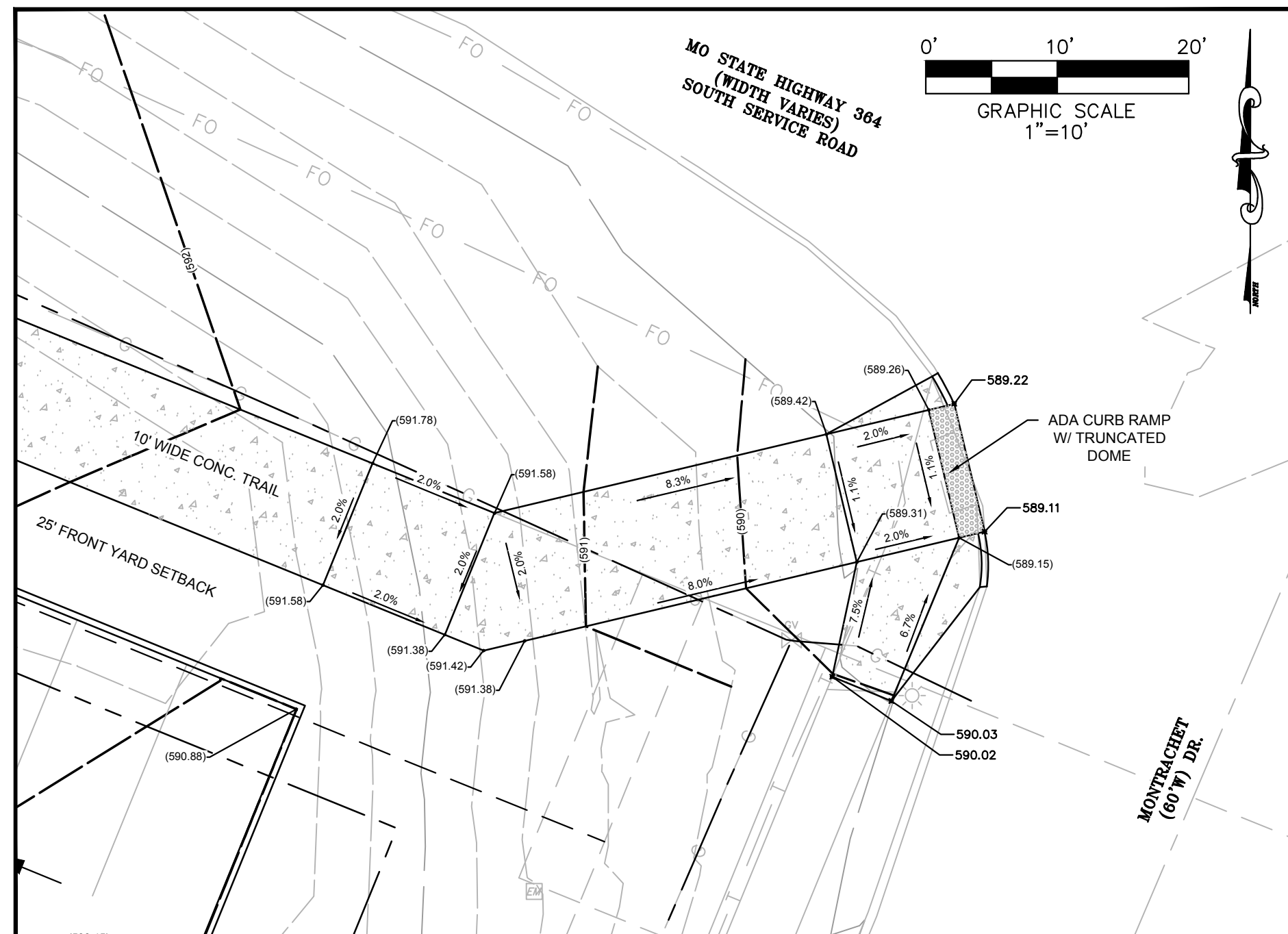


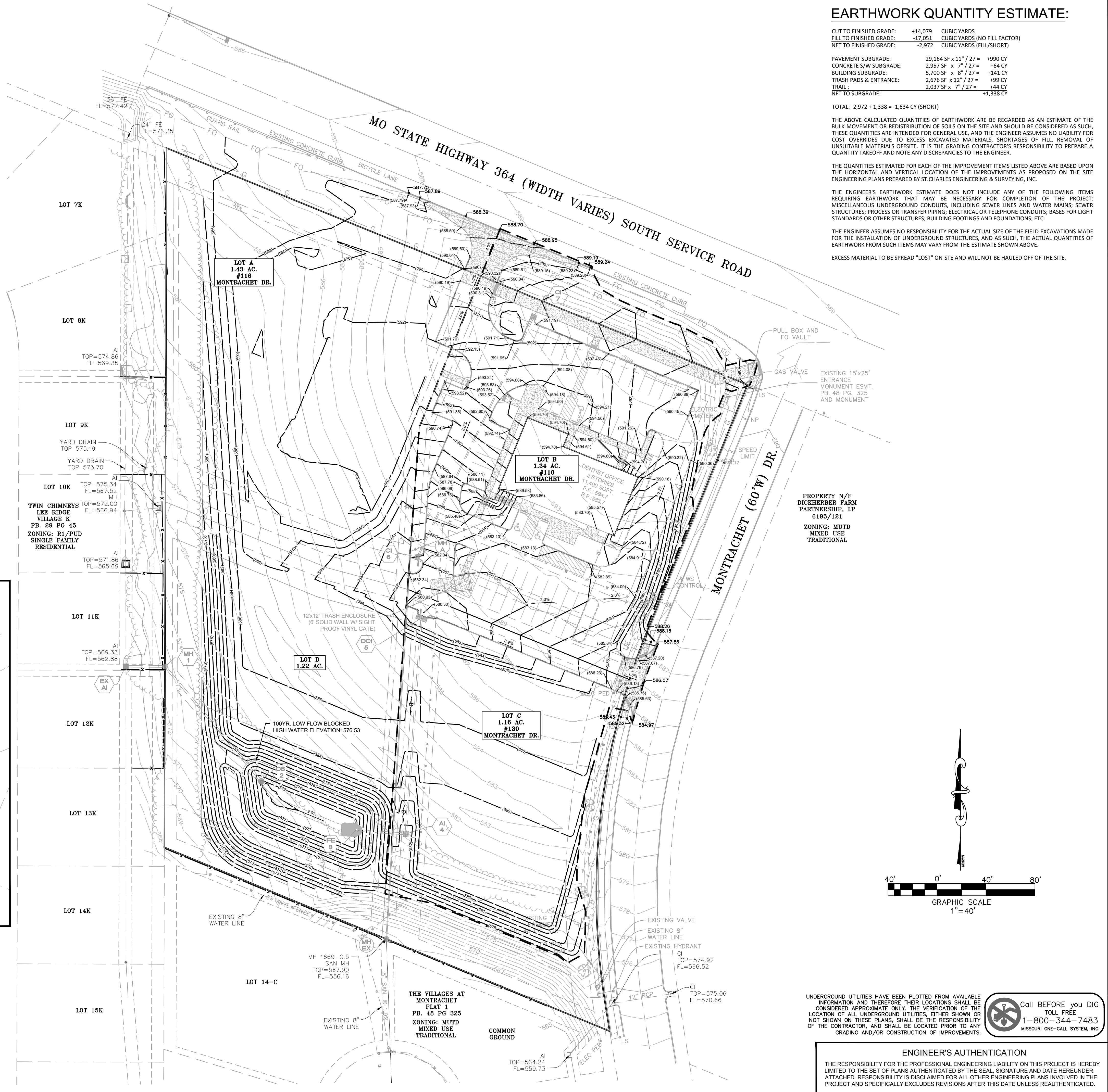
GRADING NOTES:

- DEVELOPER MUST SUPPLY CITY CONSTRUCTION INSPECTORS WITH AN ENGINEER'S SOIL REPORTS PRIOR TO AND DURING SITE GRADING. THE SOIL REPORT WILL BE REQUIRED TO CONTAIN THE FOLLOWING INFORMATION ON SOIL TEST CURVES (PROCTOR REPORTS) FOR PROJECTS WITHIN THE CITY:
 - MAXIMUM DRY DENSITY
 - OPTIMUM MOISTURE CONTENT
 - MAXIMUM AND MINIMUM ALLOWABLE MOISTURE CONTENT
 - CURVE MUST BE PLOTTED TO SHOW DENSITY FROM A MINIMUM OF 80% COMPACTION AND ABOVE AS DETERMINED BY THE "MODIFIED AASHTO T-99 COMPACTION TEST" (A.S.T.M.-D-1557) OR FROM A MINIMUM OF 96% AS DETERMINED BY THE "STANDARD PROCTOR TEST AASHTO T-99, METHOD C" (A.S.T.M.-D-998). PROCTOR TYPE MUST BE DESIGNATED ON DOCUMENT.
 - CURVE MUST HAVE AT LEAST 5 DENSITY POINTS WITH MOISTURE CONTENT AND SAMPLE LOCATIONS LISTED ON DOCUMENT
 - SPECIFIC GRAVITY
 - NATURAL MOISTURE CONTENT
 - LIQUID LIMIT
 - PLASTIC LIMIT
- BE ADVISED THAT IF THIS INFORMATION IS NOT PROVIDED TO THE CITY'S CONSTRUCTION INSPECTOR THE CITY WILL NOT ALLOW GRADING OR CONSTRUCTION ACTIVITIES TO PROCEED ON ANY PROJECT SITE.
- ALL FILL PLACED IN AREAS OTHER THAN PROPOSED STORM SEWERS, SANITARY SEWERS, PROPOSED ROADS, AND PAVED AREAS SHALL BE COMPACTED FROM THE BOTTOM OF THE FILL UP IN 8" LIFTS AND COMPACTED TO 90% MAXIMUM DENSITY AS DETERMINED BY MODIFIED AASHTO T-99 COMPACTION TEST OR 95% OF MAXIMUM DENSITY AS DETERMINED BY THE STANDARD PROCTOR TEST AASHTO T-99. ENSURE THE MOISTURE CONTENT OF THE SOIL IN FILL AREAS CORRESPONDS TO THE COMPACTION 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 OFALLON PRIOR TO THE PLACEMENT OF FILL.
- THE SURFACE OF THE FILL SHALL BE FINISHED SO 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 SEDIMENT AND DETENTION BASINS ARE TO BE CONSTRUCTED DURING THE INITIAL PHASE OF THE GRADING OPERATION OR IN ACCORDANCE WITH THE APPROVED SWPPP.
- WHEN GRADING OPERATIONS ARE COMPLETE OR SUSPENDED FOR MORE THAN 14 DAYS, PERMANENT GRASS MUST BE ESTABLISHED AT SUFFICIENT DENSITY TO PROVIDE EROSION CONTROL ON SITE. BETWEEN PERMANENT GRASS SEEDING PERIODS, TEMPORARY COVER SHALL BE PROVIDED ACCORDING TO MISSOURI DEPARTMENT OF NATURAL RESOURCES PROTECTING WATER QUALITY - A FIELD GUIDE TO EROSION, SEDIMENT AND STORMWATER BEST MANAGEMENT PRACTICES FOR DEVELOPMENT SITES IN MISSOURI AND KANSAS ALL FINISHED GRADES (AREAS NOT TO BE DISTURBED BY IMPROVEMENTS) IN EXCESS OF 20% SLOPES (S:1) SHALL BE MULCHED AND TACKED AT A RATE OF 100 POUNDS PER 1000 SQUARE FEET WHEN SEEDED.
- NO SLOPES SHALL EXCEED 3 (HORIZONTAL) : 1 (VERTICAL) UNLESS OTHERWISE APPROVED BY THE SOILS REPORT AND SPECIFICALLY LOCATED ON THE PLANS AND APPROVED BY THE CITY ENGINEER.
- ALL LOW PLACES WHETHER ON SITE OR OFF SHALL BE GRADED TO PROVIDE DRAINAGE WITH TEMPORARY DITCHES.
- ANY EXISTING WELLS AND/OR SPRINGS WHICH MAY EXIST ON THE PROPERTY MUST BE SEALED IN A MANNER ACCEPTABLE TO THE CITY OF OFALLON CONSTRUCTION INSPECTION DEPARTMENT AND FOLLOWING MISSOURI DEPARTMENT OF NATURAL RESOURCES STANDARDS AND SPECIFICATIONS.
- (INTENTIONALLY OMITTED)
- ALL TRENCH BACK FILLS UNDER PAVED AREAS SHALL BE GRANULAR BACK FILL, AND COMPACTED MECHANICALLY. ALL OTHER TRENCH BACK FILLS MAY BE EARTH MATERIAL (FREE OF LARGE CLODS, OR STONES) AND COMPACTED USING MECHANICAL TAMPING OR WATER JETTING. GRANULAR MATERIAL AND EARTH MATERIAL ASSOCIATED WITH NEW CONSTRUCTION OUTSIDE OF PAVEMENTS MAY BE JETTED, TAKING CARE TO AVOID DAMAGE TO NEWLY LAID SEWERS. THE JETTING SHALL BE PERFORMED WITH A PROBE ROUTE ON NOT GREATER THAN 7.5 FOOT CENTERS WITH THE JETTING PROBE CENTERED OVER AND PARALLEL WITH THE DIRECTION OF THE PIPE. TRENCH WIDTHS GREATER THAN 10 FEET WILL REQUIRE MULTIPLE PROBES EVERY 7.5 FOOT CENTERS.
 - DEPTH. TRENCH BACK FILLS LESS THAN 8 FEET DEEP SHALL BE PROBED TO A DEPTH EXTENDING HALF THE DEPTH OF THE TRENCH BACK FILL, BUT NOT LESS THAN 3 FEET. TRENCH BACK FILL GREATER THAN 8 FEET IN DEPTH SHALL BE PROBED TO HALF THE DEPTH OF THE TRENCH BACK FILL BUT NOT GREATER THAN 8 FEET.
 - EQUIPMENT. THE JETTING PROBE SHALL BE A METAL PIPE WITH AN INTERIOR DIAMETER OF 1.5 TO 2 INCHES.
 - METHOD. JETTING SHALL BE PERFORMED FROM THE LOWEST SURFACE TOPOGRAPHIC POINT AND PROCEED TOWARD THE HIGHEST POINT, AND FROM THE BOTTOM OF THE TRENCH BACK FILL TOWARD THE SURFACE. THE FLOODING OF EACH JETTING PROBE SHALL BE STARTED SLOWLY ALLOWING SLOW SATURATION OF THE SOIL. WATER IS NOT ALLOWED TO FLOW AWAY FROM THE TRENCH WITHOUT FIRST SATURATING THE TRENCH.
 - SURFACE BRIDGING. THE CONTRACTOR SHALL IDENTIFY THE LOCATIONS OF THE SURFACE BRIDGING THE TENDENCY FOR THE UPPER SURFACE TO CRUST AND ARCH OVER THE TRENCH RATHER THAN COLLAPSE AND CONSOLIDATE DURING THE JETTING PROCESS). THE CONTRACTOR SHALL BREAK DOWN THE BRIDGED AREAS USING AN APPROPRIATE METHOD SUCH AS WHEELS OR BUCKET OF A BACKHOE. WHEN SURFACE CRUST IS COLLAPSED, THE VOID SHALL BE BACK FILLED WITH THE SAME MATERIAL USED AS TRENCH BACK FILL AND RE-JETTED. COMPACTION OF THE MATERIALS WITHIN THE SUNKEN/JETTED AREA SHALL BE COMPACTED SUCH THAT NO FURTHER SURFACE SUBSIDENCE OCCURS.
- SITE GRADING.
 - WITHIN CITY RIGHT-OF-WAY. MATERIAL IS TO BE PLACED IN EIGHT (8) INCH TO TWELVE (12) INCH LOOSE LIFTS AND COMPACTED PER THE APPROVED COMPACTION REQUIREMENTS. ONE (1) COMPACTION TEST WILL BE PERFORMED EVERY TWO HUNDRED FIFTY (250) FEET ALONG THE CENTERLINE FOR EACH LIFT.
 - OUTSIDE OF CITY RIGHT-OF-WAY. MATERIAL IS TO BE PLACED IN EIGHT (8) INCH TO TWELVE (12) INCH LOOSE LIFTS AND COMPACTED PER THE APPROVED COMPACTION REQUIREMENTS. ONE (1) COMPACTION TEST WILL BE PERFORMED AT TWO (2) FOOT VERTICAL INTERVALS AND APPROXIMATELY EVERY ONE THOUSAND (1,000) CUBIC YARDS.
- ACCESS TO THE SITE FROM ANY OTHER LOCATION OTHER THAN THE PROPOSED CONSTRUCTION ENTRANCE IS STRICTLY PROHIBITED!

ADA RAMP DETAIL



- NOTES:**
- ALL SPOT ELEVATIONS ARE TO TOP OF PAVEMENT.



EARTHWORK QUANTITY ESTIMATE:

CUT TO FINISHED GRADE:	+14,079	CUBIC YARDS
FILL TO FINISHED GRADE:	-17,051	CUBIC YARDS (NO FILL FACTOR)
NET TO FINISHED GRADE:	-2,972	CUBIC YARDS (FILL/SHORT)
PAVEMENT SUBGRADE:		
CONCRETE 5" SUBGRADE:	2,957 SF x 11' / 27 =	+990 CY
BUILDING SUBGRADE:	5,700 SF x 8' / 27 =	+141 CY
TRASH PADS & ENTRANCE:	2,676 SF x 12' / 27 =	+99 CY
TRAIL:	2,037 SF x 7' / 27 =	+44 CY
NET TO SUBGRADE:		+1,338 CY

TOTAL: -2,972 + 1,338 = -1,634 CY (SHORT)

THE ABOVE CALCULATED QUANTITIES OF EARTHWORK ARE TO BE REGARDED AS AN ESTIMATE OF THE BULK MOVEMENT OR REDISTRIBUTION OF SOILS ON THE SITE AND SHOULD BE CONSIDERED AS SUCH. THESE QUANTITIES ARE INTENDED FOR GENERAL USE, AND THE ENGINEER ASSUMES NO LIABILITY FOR COST OVERRIDES DUE TO EXCESS EXCAVATED MATERIALS, SHORTAGES OF FILL, REMOVAL OF UNSUITABLE MATERIALS OFFSITE. IT IS THE GRADING CONTRACTOR'S RESPONSIBILITY TO PREPARE A QUANTITY TAKEOFF AND NOTE ANY DISCREPANCIES TO THE ENGINEER.

THE QUANTITIES ESTIMATED FOR EACH OF THE IMPROVEMENT ITEMS LISTED ABOVE ARE BASED UPON THE HORIZONTAL AND VERTICAL LOCATION OF THE IMPROVEMENTS AS PROPOSED ON THE SITE ENGINEERING PLANS PREPARED BY ST. CHARLES ENGINEERING & SURVEYING, INC.

THE ENGINEER'S EARTHWORK ESTIMATE DOES NOT INCLUDE ANY OF THE FOLLOWING ITEMS REQUIRING EARTHWORK THAT MAY BE NECESSARY FOR COMPLETION OF THE PROJECT: MISCELLANEOUS UNDERGROUND CONDUITS, INCLUDING SEWER LINES AND WATER MAINS; SEWER STRUCTURES; PROCESS OR TRANSFER PIPING; ELECTRICAL OR TELEPHONE CONDUITS; BASES FOR LIGHT STANDARDS OR OTHER STRUCTURES; BUILDING FOOTINGS AND FOUNDATIONS; ETC.

THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACTUAL SIZE OF THE FIELD EXCAVATIONS MADE FOR THE INSTALLATION OF UNDERGROUND STRUCTURES, AND AS SUCH, THE ACTUAL QUANTITIES OF EARTHWORK FROM SUCH ITEMS MAY VARY FROM THE ESTIMATE SHOWN ABOVE.

EXCESS MATERIAL TO BE SPREAD "LOST" ON-SITE AND WILL NOT BE HAULED OFF OF THE SITE.

IMPROVEMENT PLAN
THE VILLAGES AT MONTRACHET
 WEST COMMERCIAL
 GRADING PLAN

ST. CHARLES ENGINEERING & SURVEYING, INC.
 801 S. FIFTH STREET, SUITE 202
 ST. CHARLES, MO 63301
 TEL: (636) 947-0607 FAX: (636) 947-2448
 ST. CHARLES ENGINEERING AND SURVEYING, INC.
 PROFESSIONAL ENGINEERING AND LAND SURVEYING CORPORATION
 MISSOURI STATE CERTIFICATES OF AUTHORITY - 001647 & 000379

S|C|E|S

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 MICHAEL NEWELL
 LICENSED PROFESSIONAL ENGINEER
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ENGINEER'S AUTHENTICATION
 THE RESPONSIBILITY FOR THE PROFESSIONAL ENGINEERING LIABILITY ON THIS PROJECT IS HEREBY LIMITED TO THE SET OF PLANS AUTHENTICATED BY THE SEAL, SIGNATURE AND DATE HEREUNDER ATTACHED. RESPONSIBILITY IS DISCLAIMED FOR ALL OTHER ENGINEERING PLANS INVOLVED IN THE PROJECT AND SPECIFICALLY EXCLUDES REVISIONS AFTER THIS DATE UNLESS REAUTHENTICATED.