ADJUSTED FILL(15% SHRINKAGE FACTOR): ±4916 CUBIC YARD

±742 CUBIC YARD (HEAVY)

THE ENGINEER HAS CALCULATED THE ABOVE QUANTITIES OF EARTHWORK TO BE REGARDED AS AN ESTIMATE OF THE BULK MOVEMENT OR REDISTRIBUTION OF SOILS ON THIS PROJECT. AS AN ESTIMATE, THESE QUANTITIES ARE INTENDED FOR GENERAL USE, AND THE ENGINEER ASSUMES NO LIABILITY FOR COST OVERRUNS DUE TO EXCESS EXCAVATED MATERIALS OR SHORTAGES OF FILL.

THE QUANTITIES ESTIMATED FOR EACH OF THE IMPROVEMENT ITEMS LISTED AS PROPOSED ON THE SITE ENGINEERING PLANS PREPARED BY ABOVE ARE BASED UPON THE HORIZONTAL AND VERTICAL LOCATION OF PICKETT, RAY & SILVER, 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, STANDARD MANHOLES; PROCESS OR TRANSFER PIPING; ELECTRICAL OR TELEPHONE CONDUITS; BASES FOR LIGHT STANDARDS; 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.

THE ABOVE QUANTITIES ARE AN ESTIMATE AND SHOULD BE CONSIDERED AS SUCH. IT IS THE GRADING CONTRACTORS RESPONSIBILITY TO PREPARE A QUANTITY TAKEOFF AND NOTE ANY DISCREPANCIES TO THE ENGINEER.

BMP MAINTENANCE NOTES

<u>INLET PROTECTION - FABRIC DROP</u>

- INSPECT EVERY WEEK AND AFTER EVERY STORM REMOVE TRASH ACCUMULATION AND SEDIMENT ONCE IT REACHES DEPTH OF 6" AT INLET.
- REPLACE LOOSE, TORN OR CLOGGED FABRIC
- REPAIR ANY EROSION OR SETTLEMENT OF TEMPORARY BERM DOWNSTREAM OF INLET. MAINTAIN DROP IN TYPE FILTER PER MANUFACTURER SPECIFICATIONS.
- INSPECT EVERY WEEK AND AFTER EVERY STORM
- REMOVE SEDIMENT BUILDUP DEEPER THAN ½ THE FENCE HEIGHT OR 12", WHICHEVER IS
- REPLACE TORN OF CLOGGED FABRIC; REPAIR LOOSE FABRIC
- REPAIR UNSTABLE OR BROKEN POSTS • STABILIZE ANY AREAS SUSCEPTIBLE TO UNDERMINING
- EXTEND FENCE OR ADD ADDITIONAL ROW(S) OF FENCE IF NECESSARY TO PROVIDE ADEQUATE PROTECTION

CONSTRUCTION ENTRANCE

 IMMEDIATELY REMOVE ANY MUD OR DEBRIS TRACKED ONTO PAVED SURFACES REMOVE SEDIMENT AND CLODS OF DIRT FROM CONSTRUCTION ENTRANCE CONTINUOUSLY

> SEDIMENT MONITORING POST CLEANOUT ELEVATION = 607.78

- REPLACE ROCK IF NECESSARY TO MAINTAIN CLEAN SURFACE
- REPAIR SETTLED AREAS
- WASHDOWN STATION
- REMOVE SEDIMENT DAILY
- REPAIR SETTLED AREAS REPLACE ROCK IF NECESSARY TO MAINTAIN CLEAN SURFACE

ALLOWABLE NON-STORM WATER DISCHARGES

THE FOLLOWING NON-STORM WATER DISCHARGES ARE AUTHORIZED PROVIDED IT HAS BEEN DETERMINED BY THE PERMITTEE THAT THEY ARE NOT SIGNIFICANT CONTRIBUTORS OF POLLUTANTS TO THE MS4. IMPLEMENTATION OF POLLUTION PREVENTION MEASURES FOR NON-STORM WATER DISCHARGES IS REQUIRED FOR SIGNIFICANT CONTRIBUTORS.

1. Water line flushing Landscape irrigation

Diverted stream flows 4. Rising ground waters

5. Uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20))

- 6. Uncontaminated pumped ground water 7. Discharge from potable water sources 3. Foundation drains
- 9. Air conditioning condensation
- 10. Irrigation water, springs 11. Water from crawl space pumps
- 12. Footing drains 13. Lawn watering
- 14. Individual resident car washing 15. Flows from riparian habitats and wetlands 16. Dechlorinated swimming pool discharges
- 17. Street wash water 18. Residential building wash waters, without detergents.
- DISCHARGES OR FLOWS FROM FIRE FIGHTING ACTIVITIES OCCUR DURING EMERGENCY SITUATIONS. THE PERMITTEE IS NOT EXPECTED TO EVALUATE FIRE FIGHTING DISCHARGES WITH REGARD TO POLLUTANT CONTRIBUTIONS. THEREFORE, THESE DISCHARGES ARE AUTHORIZED AS ALLOWABLE NON-STORM WATER DISCHARGES, UNLESS IDENTIFIED, BY EPA, AS SIGNIFICANT SOURCES OF POLLUTANTS TO

- 1. REPAIR ANY DAMAGED SILTATION FENCES.

- 3. RESTORE ANY NECESSARY SILTED AREAS.
- AND MSD.

CONSTRUCTION ENTRANCE / WASHDOWN STATION INLET PROTECTION DITCH CHECKS

SILTATION CONTROL LEGEND

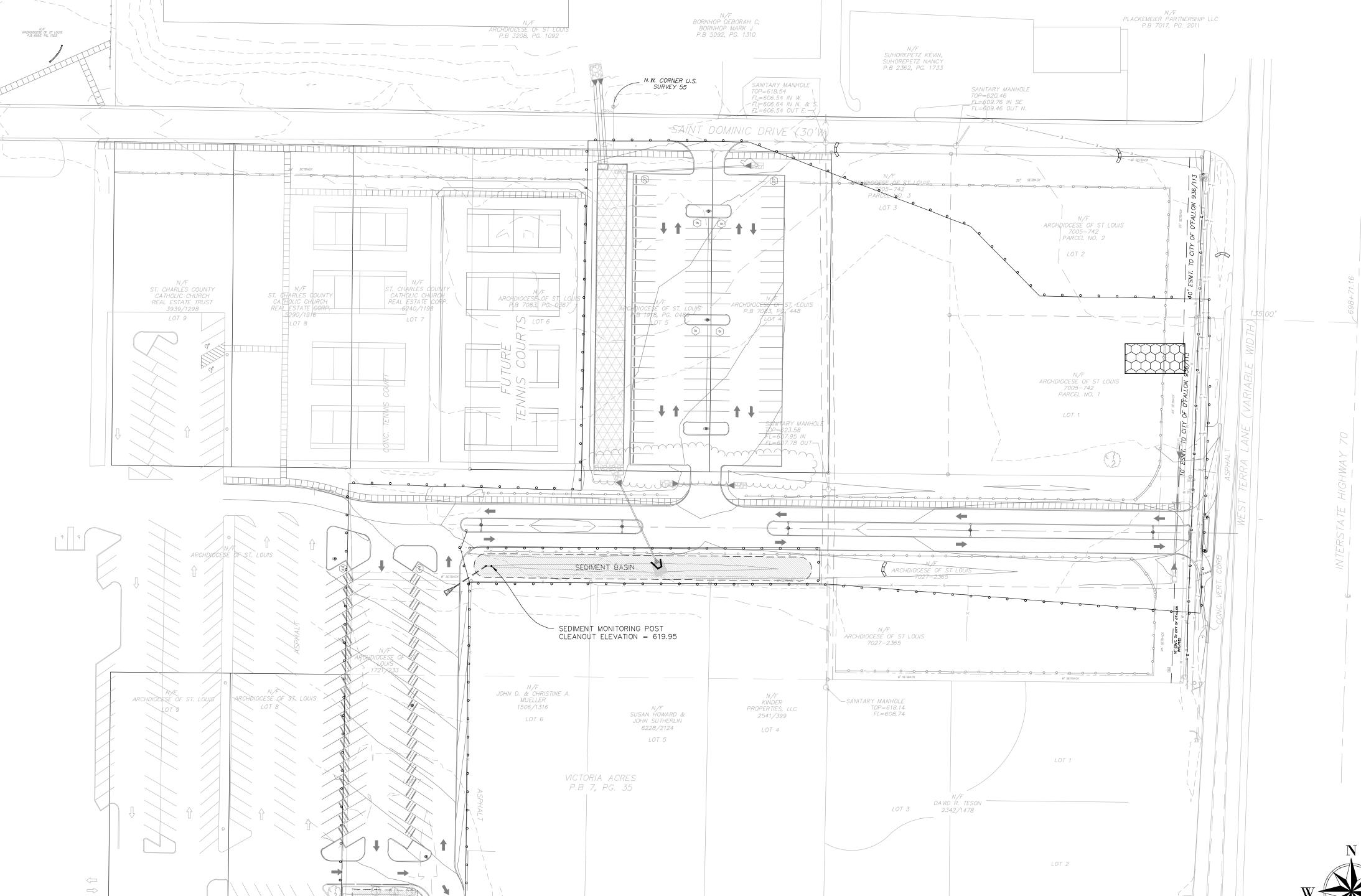
2549 LF 1 EACH 2 EACH

CONTAINMENT FAILURE PLAN

- IN THE EVENT OF ANY LOSS OF CONTAINED SEDIMENT:
- 2. CLEAN UP ANY NECESSARY SILTED AREAS.
- 4. PROVIDE DOCUMENTATION OF ACTIONS & MANDATORY REPORTING TO ST LOUIS CITY

SILTATION FENCE OR OTHER APPROVED PRODUCT

4 EACH





EROSION. PERMANENT TYPE GRASSES SHALL BE ESTABLISHED AS SOON AS POSSIBLE OR DURING THE NEXT SEEDING PERIOD AFTER GRADING 11. WHEN GRADING OPERATIONS ARE COMPLETED OR SUSPENDED FOR MORE THAN 30 DAYS. PERMANENT GRASS MUST BE ESTABLISHED AT

SWPPP GENERAL NOTES

T-180 COMPACTION TEST," (ASTM D-1557).

PROMPTLY BY CONTRACTOR.

PROPOSED SANITARY AND STORM SEWERS, INCLUDING HOUSE LATERALS.

CITY OF ST. LOUIS) AND SHALL BE EITHER SODDED OR SEEDED AND MULCHED.

PROPERTIES AND ROADS WILL BE ADEQUATELY PROTECTED.

SUFFICIENT DENSITY TO PROVIDE EROSION CONTROL FROM THE SITE. BETWEEN PERMANENT GRASS SEEDING PERIODS, TEMPORARY COVER SHALL BE PROVIDED ACCORDING TO THE DESIGNATED OFFICIALS RECOMMENDATION.

1. GAS, WATER AND OTHER UNDERGROUND UTILITIES SHALL NOT CONFLICT WITH THE DEPTH OR HORIZONTAL LOCATIONS OF EXISTING AND

2. UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE INFORMATION AND, THEREFORE, THEIR LOCATIONS MUST BE CONSIDERED

APPROXIMATE ONLY. THE VERIFICATION OF THE LOCATION OF ALL UNDERGROUND UTILITIES. EITHER SHOWN OR NOT SHOWN ON THESE PLANS.

SHALL BE COMPACTED TO AT LEAST 90% OF MAXIMUM DRY DENSITY AS DETERMINED BY THE "MODIFIED A.A.S.H.T.O. T-180 COMPACTION TEST"

SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE LOCATED PRIOR TO GRADING OR CONSTRUCTION OF IMPROVEMENTS.

3. ALL FILLED PLACES UNDER BUILDINGS, PROPOSED SANITARY AND STORM SEWER LINES, AND/OR PAVED AREAS INCLUDING TRENCH BACKFILLS

(ASTM D-1557) UNLESS OTHERWISE SPECIFIED BY THE LOCAL GOVERNING AUTHORITY SPECIFICATIONS. ALL TESTS WILL BE VERIFIED BY A

DENSITY AS DETERMINED BY THE "MODIFIED A.A.S.H.T.O. T-180" COMPACTION TEST." (ASTM D-1557). UNLESS OTHERWISE SPECIFIED BY

5. EARTH SUBGRADE FOR PAVED AREAS MUST BE COMPACTED TO 90% OF MAXIMUM DRY DENSITY AS DETERMINED BY THE "MODIFIED A.A.S.H.T.O.

6. NO SLOPE SHALL BE GREATER THAN 3:1 (UNLESS JUSTIFIED BY A GEOTECHNICAL REPORT WHICH HAS BEEN ACCEPTED/APPROVED BY THE

7. THE DEVELOPER SHALL CONTRACT WITH A SOIL CONSULTANT FIRM REGISTERED IN THE STATE OF MISSOURI DURING THE GRADING OPERATION

8. OWNER/DEVELOPER ASSUMES FULL RESPONSIBILITY AS TO THE PERFORMANCE OF THE GRADING OPERATION AND ASSURANCE THAT ALL

9. IF SILTATION CONTROL DEVICES OR SILTATION FENCE ARE DESTROYED BY HEAVY RAINS, VANDALISM, ETC., THEY ARE TO BE REPLACED

10. WHERE NATURAL VEGETATION IS REMOVED DURING GRADING, VEGETATION SHALL BE RE-ESTABLISHED IN SUCH A DENSITY AS TO PREVENT

TO MONITOR CUT AND FILLS AND TO VERIFY PROPER COMPACTION HAS BEEN ACHIEVED. A REPORT SHALL BE PREPARED BY THE SOILS

4. ALL FILLED PLACES IN PAVED STATE, COUNTY OR CITY ROADS (HIGHWAYS) SHALL BE COMPACTED TO AT LEAST 90% OF THE MAXIMUM DRY

LOCAL GOVERNING AUTHORITY SPECIFICATIONS. ALL TESTS WILL BE VERIFIED BY A SOILS ENGINEER.

CONSULTANT AND PROVIDED TO THE ENGINEER FOR VERIFICATION OF THE GRADING OPERATION.

12. ALL FINISHED GRADES (AREAS NOT TO BE DISTURBED BY FUTURE IMPROVEMENT) IN EXCESS OF 20% SLOPES (5:1) SHALL BE MULCHED AND TACKED IN ACCORDANCE WITH THE CITY OF O'FALLON STANDARDS WHEN SEEDED.

13. TREES. ORGANIC DEBRIS. RUBBLE. FOUNDATIONS AND OTHER DELETERIOUS MATERIAL SHALL BE REMOVED FROM THE SITE AND DISPOSED IN COMPLIANCE WITH ALL APPLICABLE LAWS AND REGULATIONS. LANDFILL TICKETS FOR SUCH DISPOSAL SHALL BE MAINTAINED ON FILE BY THE

14. THE DEVELOPER AND HIS CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING THE SILTATION CONTROL AS APPROVED BY THE CITY OF O'FALLON PRIOR TO THE COMMENCEMENT OF GRADING OPERATIONS.

15. SILTATION CONTROL DEVICES AND /OR SILT FENCES WILL BE INSTALLED, AS NECESSARY, IN FILL CONDITIONS, TO PREVENT ANY EROSION, SILT, OR SEDIMENT, FROM ESCAPING GRADING SITE.

16. ALL EROSION AND SEDIMENT CONTROL FACILITIES SHALL BE INSPECTED AT LEAST ONCE PER WEEK AND NO LATER THAN 24 HOURS AFTER A RAINFALL THAT CAUSES STORM WATER RUNOFF TO OCCUR ON-SITE.

17. EACH CONTRACTOR, SUBCONTRACTOR, AND /OR UTILITY COMPANY SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND PRESERVATION OF ANY SILTATION CONTROL PLACED ON THE DEVELOPMENT BY THE DEVELOPER AND SHALL NOT DISTURB THE SILTATION CONTROL EXCEPT AS ABSOLUTELY NECESSARY. IN THE EVENT OF ANY SUCH DISTURBANCE OF SILTATION CONTROL, THEN THE CONTRACTOR, SUBCONTRACTOR, OF UTILITY COMPANY, AS APPLICABLE, DISTURBING SUCH SILTATION CONTROL SHALL IMMEDIATELY REPLACE THE SAME AT SUCH CONTRACTOR'S, SUBCONTRACTOR'S, AND UTILITY COMPANY'S, AS APPLICABLE, EXPENSE. IN THE EVENT OF ANY FINES OR PENALTIES BEING LEVIED AS A RESULT OF THE DISTURBANCE OF ANY SUCH SILTATION CONTROL, THE PARTY DISTURBING SUCH SILTATION CONTROL SHALL BE LIABLE FOR PAYMENT OF SAME AND SHALL INDEMNIFY AND HOLD CENTRAL DESIGN GROUP LLC, FROM ANY AND ALL LIABILITIES, DAMAGES, DEMANDS, PENALTIES, FINES, FEES, CLAIMS, CAUSES OF ACTION, JUDGEMENTS, COSTS AND EXPENSES, INCLUDING, WITHOUT LIMITATION, ATTORNEYS' FEES, ARISING FROM OR IN CONNECTION WITH ANY SUCH DISTURBANCE.

18. THE SEDIMENT CONTROL PLAN MUST BE IMPLEMENTED BEFORE GRADING BEGINS. NO GRADED AREA IS TO REMAIN DISTURBED FOR MORE THAN THIRTY (30) DAYS WITHOUT BEING SEEDED AND MULCHED OR SODDED. TRANSPORTED SOIL MUST BE PREVENTED FROM DAMAGING ADJACENT PROPERTY AND BEING DEPOSITED IN THE FORM OF SILT IN STORM DRAINAGE SYSTEMS WHETHER ON-SITE OR OFF-SITE.

19. THE CITY OF O'FALLON SHALL BE CONTACTED AFTER THE INSTALLATION OF THE SILTATION CONTROL DEVICES AND AT LEAST 24 HOURS PRIOR TO THE COMMENCEMENT OF ANY GRADING OPERATIONS.

20. ANY DEPOSITING OF SILTS OR MUD ONTO 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 CITY OF ST. LOUIS.

21. THE DEVELOPER IS ADVISED THAT UTILITY COMPANIES WILL REQUIRE COMPENSATION FOR RELOCATION OF THEIR UTILITY FACILITIES WITHIN THE PUBLIC ROAD RIGHT-OF-WAY. UTILITY RELOCATION COST SHALL BE CONSIDERED THE DEVELOPER'S RESPONSIBILITY. THE DEVELOPER SHOULD ALSO BE AWARE OF EXTENSIVE DELAYS IN UTILITY COMPANY RELOCATION AND ADJUSTMENTS. SUCH DELAYS WILL NOT CONSTITUTE A CAUSE TO ALLOW OCCUPANCY PRIOR TO COMPLETION OF ROAD IMPROVEMENTS.

22. PROVIDE ADEQUATE OFF-STREET PARKING FOR CONSTRUCTION EMPLOYEES. PARKING ON NON-SURFACED AREAS SHALL BE PROHIBITED IN ORDER TO ELIMINATE THE CONDITION WHEREBY MUD FROM CONSTRUCTION AND EMPLOYEE VEHICLES IS TRACKED ONTO THE PAVEMENT CAUSING HAZARDOUS ROADWAY AND DRIVEWAY CONDITIONS.

23. INTERIM STORM WATER DRAINAGE CONTROL IN THE FORM OF SILTATION CONTROL MEASURES IS REQUIRED.

24. THE DEVELOPER IS REQUIRED TO PROVIDE ADEQUATE STORM WATER SYSTEMS IN ACCORDANCE WITH THE CITY O'FALLON STANDARDS.

25. ALL OFFSITE AFFECTED PROPERTY OWNERS SHALL BE GIVEN NOTICE 48 HOURS IN ADVANCE OF ANY WORK.

26. ANY DISTURBED OFFSITE PROPERTY (I.E., BUSHES, FENCES, MAILBOXES, ETC.) SHALL BE REPLACED, IN KIND, AT THE DEVELOPER'S EXPENSE.

27. SOILS ENGINEER WILL VERIFY THAT ALL COMPRESSIBLE MATERIAL HAS BEEN REMOVED PRIOR TO FILL PLACEMENT AND THAT ALL FILL, UNDER SANITARY AND STORM SEWER LINES CONSTRUCTED ABOVE ORIGINAL GRADE, HAS BEEN COMPACTED TO 90% OF "MODIFIED PROCTOR". FILL IS TO BE PLACED IN A MAXIMUM OF 9-INCH LIFTS. TEST SHALL BE TAKEN AT A MAXIMUM OF 50-FOOT INTERVALS ALONG THE ROUTE OF THE PIPE; AT A MAXIMUM OF 2-FOOT VERTICALLY; AND LATERALLY ON EACH SIDE OF THE PIPE, AT A DISTANCE EQUAL TO THE DEPTH OF FILL

28. ALL CONSTRUCTION SHALL BE PER THE MOST CURRENT DETAILS FOR THE CITY OF O'FALLON.

29. STORM WATER SHALL BE DISCHARGED AT AN ADEQUATE NATURAL DISCHARGE POINT. SINKHOLES ARE NOT ADEQUATE DISCHARGE POINTS.

30. A LAND DISTURBANCE PERMIT WILL NOT BE REQUIRED.

31. ALL DISTURBED EARTH AREA WITHIN PUBLIC RIGHT-OF-WAY SHALL BE SODDED

32. ADDITIONAL SILTATION CONTROL SHALL BE INSTALLED AS REQUIRED BY THE CITY OF O'FALLON.

33. SEDIMENT SHALL BE WASHED FROM ALL VEHICLES AT WASHDOWN STATION PRIOR TO LEAVING SITE. NO TRACKING OF MUD ONTO PUBLIC

ROADS SHALL BE ALLOWED. 34. THE CONTRACTOR SHALL PROVIDE, INSTALL, MAINTAIN, AND REMOVE A PUBLIC NOTIFICATION SIGN.

35. SWPPP INSPECTION MUST BE SCHEDULED AT LEAST ONCE PER WEEK AND NO LATER THAN 24 HOURS AFTER A RAINFALL THAT CAUSES

36. ANY LAND CLEARING, CONSTRUCTION, OR DEVELOPMENT INVOLVING THE MOVEMENT OF EARTH SHALL BE IN ACCORDANCE WITH THE STORM WATER POLLUTION PLAN, AND THE PERSON ISSUED A LAND DISTURBANCE PERMIT ASSUMES AND ACKNOWLEDGES RESPONSIBILITY FOR

37. NO TEMPORARY ON-SITE CONCRETE OR ASPHALT BATCH PLANTS ARE ANTICIPATED TO BE UTILIZED.

38. NO ENDANGERED SPECIES OR HISTORIC PROPERTIES ARE AFFECTED BY THIS DEVELOPMENT.

39. NO DEWATERING METHODS ARE ANTICIPATED TO BE NEEDED FOR THIS DEVELOPMENT

UTILITIES NOTE

UNDERGROUND FACILITIES, UTILITIES AND STRUCTURES HAVE BEEN PLOTTED FROM AVAILABLE INFORMATION AND THEREFORE, THEIR LOCATION MUST BE CONSIDERED APPROXIMATE ONLY. THERE MAY BE OTHERS, THE EXISTENCE OF WHICH IS PRESENTLY NOT KNOWN. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE ALL UTILITIES LOCATED IN THE

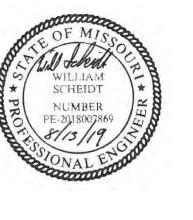
FIELD PRIOR TO EXCAVATION OR CONSTRUCTION.



TOOH

The responsibility for 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 this project and specifically excludes revisions after this PICKETT, RAY & SILVER, INC

NGINEERS AUTHENTICATION



P+Z No.: SP19-000018 Approval Date: 6/6/2019

City No.: 19-005347

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