2.) ALL HANDICAP PARKING STRIPING AND SYMBOLS TO BE PAINTED BLUE IN COLOR.

3.) TOPOGRAPHIC AND BOUNDARY SURVEY COMPLETED BY COLE & ASSOCIATES.

4.) ALL MATERIALS AND METHODS OF CONSTRUCTION TO MEET THE CURRENT STANDARDS AND SPECIFICATIONS AS REQUIRED BY THE CITY OF O' FALLON, MO.

5.) ALL GRADED AREAS SHALL BE PROTECTED FROM EROSION BY EROSION CONTROL DEVICES AND/OR SEEDING AND MULCHING. EROSION CONTROL SHALL NOT BE LIMITED TO WHAT IS SHOWN ON THE PLAN, WHATEVER MEANS NECESSARY SHALL BE TAKEN TO PREVENT SILTATION AND EROSION FROM FROM ENTERING NATURAL STREAMS AND ADJACENT ROADWAYS, PROPERTIES, AND

6.) PRIOR TO BEGINNING ANY WORK ON THE SITE, THE CONTRACTOR SHALL CONTACT THE OFFICE OF THE DEVELOPER FOR SPECIFIC INSTRUCTIONS RELEVANT TO THE SEQUENCING OF WORK.

7.) GRADING CONTRACTOR SHALL INSTALL SILTATION CONTROL PRIOR TO STARTING THE GRADING. ADDITIONAL SILTATION CONTROL DEVICES MAY BE REQUIRED AS DIRECTED BY THE CITY OF O' FALLON,

8.) ALL FILLS AND BACKFILLS SHALL BE MADE OF SELECTED EARTH MATERIALS, FREE FROM BROKEN MASONRY, ROCK, FROZEN EARTH, RUBBISH, ORGANIC MATERIAL AND DEBRIS.

9.) PROPOSED CONTOURS SHOWN ARE FINISHED ELEVATIONS ON PAVED AREAS. CONTRACTOR TO GRADE ALL AREAS TO REQUIRED SUBGRADE.

10.) ALL PAVING TO BE IN ACCORDANCE WITH ST. CHARLES COUNTY STANDARDS AND SPECIFICATIONS EXCEPT AS MODIFIED BY THE CITY OF O' FALLON ORDINANCES.

12.) A GRADING PERMIT IS REQUIRED PRIOR TO ANY GRADING ON THE SITE.

13.) THE DEVELOPER IS REQUIRED TO PROVIDE ADEQUATE STORMWATER SYSTEMS IN ACCORDANCE WITH THE CITY OF O' FALLON AND M.S.D. 2000 STANDARDS.

14.) ALL STORMWATER SHALL BE DISCHARGED AT AN ADEQUATE NATURAL DISCHARGE POINT.

15.) THE CONTRACTOR MUST BE ON FILE WITH THE MISSOURI ONE CALL SYSTEM 1-800-344-7483.

16.) ALL PROPOSED UTILITIES ON THIS SITE MUST BE LOCATED UNDERGROUND.

17.) THE GENERAL CONTRACTOR SHALL FLAG ALL SANITARY AND STORM SEWER STRUCTURES WITH A 2X4 PAINTED ORANGE AND MARKED TO READ "STORM SEWER STRUCTURE OR SANITARY SEWER STRUCTURE

18.) SAFETY NOTICE TO CONTRACTOR: IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK, THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT LIMITED TO NORMAL WORKING HOURS.

19.) NO MONUMENT SIGNS OR THEIR PROPOSED LOCATIONS CAN BE APPROVED WITH THESE DOCUMENTS. ALL SIGN LOCATIONS AND SIZES MUST BE APPROVED SEPARATELY THROUGH THE PLANNING DIVISION.

20.) ALL PRIVATE SEWERS ARE UNDER THE CITY OF O' FALLON INSPECTION. THE SEWER CONTRACTOR MUST NOTIFY CITY AGENCIES FOR INSPECTIONS.

21.) THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE RAZING AND REMOVAL OF THE EXISTING STRUCTURES, INCLUDING FOUNDATIONS, RELATED UTILITIES, PAVING, UNDERGROUND FACILITIES AND ANY OTHER EXISTING IMPROVEMENTS.

22.) TREES, ORGANIC DEBRIS, RUBBLE, FOUNDATIONS AND OTHER DELETRIOUS MATERIAL SHALL BE REMOVED FOR THE SITE AND DISPOSED IN COMPLIANCE WITH ALL APPLICABLE LAWS AND REGULATIONS. LANDFILL TICKETS FOR SUCH DISPOSAL SHALL BE MAINTAINED ON FILE BY THE DEVELOPER.

23.) THE CONTRACTOR WILL BE HELD SOLELY RESPONSIBLE AND SHALL TAKE ALL PRECAUTIONS NECESSARY TO AVOID DAMAGE TO ADJACENT PROPERTIES DURING ALL PHASES OF THIS DEMOLITION

24.) BURNING ON SITE WILL BE ALLOWED ONLY BY PERMIT FROM LOCAL FIRE DISTRICT. IF A BURN PIT IS PROPOSED THE LOCATION AND MITIGATION SHALL BE SHOWN ON THE GRADING PLAN AND DOCUMENTED BY

25.) DISPOSAL OF MATERIAL ON-SITE WILL ONLY BE ALLOWED AS DIRECTED BY THE OWNER AND GEOTECHNICAL ENGINEER AND APPROVED BY THE CITY OF O' FALLON PUBLIC WORKS DEPARTMENT.

26.) THE SITE IMPROVEMENT PLANS APPROVED BY THE CITY OF O' FALLON DOES NOT ALLOW THE REMOVAL OR CONSTRUCTION OF ANY SANITARY OR STORM SEWER LINES WITHOUT THE PRIOR APPROVAL OR CONSENT OF THE CITY OF O' FALLON ..

27.) THE CONTRACTOR SHALL RESTORE OFFSITE CONSTRUCTION AREAS TO AN EQUAL OR BETTER CONDITION THAN EXISTED PRIOR TO THE COMMENCEMENT OF WORK

28.) ALL EXCAVATIONS, GRADING, OR FILLING SHALL HAVE A FINISHED GRADE NOT TO EXCEED A 3:1 SLOPE (33 PERCENT). 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 CITY BUILDING DEPARTMENT. PERMANENT SAFETY GUARDS WILL BE CONSTRUCTED IN ACCORDANCE WITH THE APPROPRIATE SECTION(S) OF THE ADOPTED BOCA CODES.

29.) PROVISIONS SHALL BE MADE TO ACCOMMODATE THE INCREASED RUNOFF CAUSED BY CHANGED SOIL AND SURFACE CONDITIONS DURING THE 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 DESIGNATED OFFICIAL. DETENTION BASINS, DIVERSIONS, OR OTHER APPROPRIATE STRUCTURES SHALL BE CONSTRUCTED TO PREVENT VELOCITIES ABOVE 5 FPS.

30.) SIDEWALKS, CURB RAMPS, RAMP AND ACCESSIBLE PARKING SPACES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT APPROVED "AMERICAN WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES" (ADAAG) ALONG WITH THE REQUIRED GRADES, CONSTRUCTION MATERIALS, SPECIFICATIONS AND SIGNAGE, IF 1.) ANY CONFLICT OCCURS BETWEEN THE ABOVE INFORMATION AND THE PLANS, THE ADAAG GUIDELINES SHALL TAKE PRECEDENCE AND THE CONTRACTOR PRIOR TO ANY CONSTRUCTION SHALL NOTIFY THE PROJECT

31.) ALL PUBLIC ROADS MUST BE KEPT CLEAR OF MUD AND DEBRIS AT ALL TIMES. FAILURE TO DO SO WILL BE CAUSE FOR THE CITY TO SUSPEND WORK,

32.) 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 OR DURING THE NEXT SEEDING PERIOD AFTER GRADING HAS BEEN COMPLETED.

33.) ALL FINISHED GRADES (AREAS NOT TO BE DISTURBED BY FUTURE IMPROVEMENT) IN EXCESS OF 20 PERCENT SLOPES (5:1) SHALL BE MULCHED AND TACKED AT THE RATE OF 100 POUNDS PER 1,000

34.) RUNOFF WATER FROM DEVELOPED AREAS (PARKING LOTS, PAVED SITES, AND BUILDINGS) ABOVE THE AREA TO DEVELOP 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 DESIGNATED OFFICIAL.

35.) ALL CONSTRUCTION METHODS AND PRACTICES TO CONFORM WITH OSHA STANDARDS.

36.) DEVELOPER MUST SUPPLY CITY CONSTRUCTION INSPECTORS WITH SOILS REPORTS PRIOR TO OR DURING SITE 9.) DURING THE GRADING OPERATION ADDITIONAL SILTATION CONTROL MEASURES MAY BE SOIL TESTING. THE SOILS REPORT WILL BE REQUIRED TO CONTAIN THE FOLLOWING INFORMATION IN SOIL TEST REQUIRED AS DIRECTED BY THE CITY OF O' FALLON. CURVES (PROCTOR REPORTS) FOR PROJECTS WITHIN THE CITY:

MAXIMUM DRY DENSITY OPTIMUM MOISTURE CONTENT

MAXIMUM AND MINIMUM ALLOWABLE MOISTURE CONTENT D. CURVE MUST BE PLOTTED TO SHOW DENSITY FROM A MINIMUM OF 95% COMPACTION AND ABOVE AS DETERMINED BY THE "MODIFIED AASHTO T-180 COMPACTION TEST" (A.S.T.M.-D-1157) OR FROM A MINIMUM OF 100% AS DETERMINED BY THE "STANDARD PROCTOR TEST ASSHTO T-99, METHOD C"

(A.S.T.M.-D-698). PROCTOR TYPE MUST BE DESIGNATED ON DOCUMENT. CURVE MUST HAVE AT LEAST 5 DENSITY POINTS WITH MOISTURE CONTENT AND SAMPLE LOCATIONS

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.

37.) 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 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 SILT OR MUD ON NEW OR EXISTING PAVEMENT SHALL BE REMOVED IMMEDIATELY. ANY DEPOSITING OF SILTS OR MUD 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.

38.) ALL FILL PLACED UNDER PROPOSED STORM AND SANITARY SEWER, PROPOSED ROADS, AND/OR PAVED AREAS SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY AS DETERMINED BY THE MODIFIED AASHTO T-180 COMPACTION TEST OR 100% OF MAXIMUM DENSITY AS DETERMINED BY THE STANDARD PROCTOR TEST AASHTO T-99. 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 BACKFILLING OPERATIONS. NOTE THAT THE MOISTURE CONTENT OF THE SOIL IN FILL AREAS IS TO CORRESPOND TO THE COMPACTIVE 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 O'FALLON PRIOR TO THE PLACEMENT OF FILL. PROOF ROLLING MAY BE REQUIRED TO VERIFY SOIL STABILITY AT THE DISCRETION OF

39.) 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.

40.) TRAFFIC CONTROL IS TO BE PER MODOT OR MUTCD WHICHEVER IS MOST STRINGENT.

41.) CONSTRUCTION WORK SHALL ONLY BE PREFORMED DURING THE FOLLOWING HOURS OF DAY:

OCTOBER 1 THRU MAY31 JUNE 1 THRU SEPTEMBER 30 6 AM TO 8 PM

ANY CONSTRUCTION WORK TO BE DONE OUTSIDE OF THE SET HOURS REQUIRES PRIOR WRITTEN APPROVAL FROM THE CITY ADMINISTRAATOR OR CITY ENGINEER (ORD. NO. 3429 1, 9-17-96)

42.) ALL SIGN POST AND BACKS AND BRACKET ARMS SHALL BE PAINTED BLACK USING CARBOLINE RUSTBOND PENETRATING SEALER SG AND CARBOUNES 133 HB PAINT (OR EQUIVALENT AS APPROVED BY CITY AND MoDOT). SIGN DESIGNATING STREET NAME SHALL BE ON THE OPPOSITE SIDE OF THE STREET FROM TRAFFIC CONTROL SIGNS.

43.) GRANULAR MATERIALS AND EARTH MATERIALS 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.

A.DEPTH. TRENCH BACKFILL LESS THAN 8-FEET IN DEPTH SHALL BE PROBED TO A DEPTH EXTENDING TO HALF THE DEPTH OF THE TRENCH BACKFILL, BUT NOT LESS THAN 3-FEET. TRENCH BACKFILL GREATER THAN 8-FEET IN DEPTH SHALL BE PROBED TO HALF THE DEPTH OF THE TRENCH BACKFILL BUT NOT GREATER THAN

B.EQUIPMENT. THE JETTING PROBE SHALL BE A METAL PIPE WITH AN EXTERIOR DIAMETER OF 1.5 TO 2-INCHES.

C.METHOD. JETTING SHALL BE PERFORMED FROM THE LOW SURFACE TOPOGRAPHIC POINT AND PROCEED TOWARD THE HIGH POINT, AND FROM THE BOTTOM OF THE TRENCH BACKFILL TOWARDS 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 DITCH WITHOUT FIRST SATURATING THE TRENCH.

D. SURFACE BRIDGING. THE CONTRACTOR SHALL IDENTIFY THE LOCATIONS OF THE SURFACE BRIDGING (THE TENDENCY FOR THE UPPER BACKFILL CRUST TO ARCH OVER THE TRENCH RATHER THAN COLLAPSE AND CONSOLIDATE DURING THE JETTING PROCESS). THE CONTRACTOR SHALL BREAKDOWN THE BRIDGED AREAS USING AN APPROPRIATE METHOD SUCH AS WHEELS OR BUCKET OF A BACKHOE. WHEN THE SURFACE CRUST IS COLLAPSED, THE VOID SHALL BE BACKFILLED WITH THE SAME MATERIAL USED AS TRENCH BACKFILL AND RE-JETTED. COMPACTION OF THE MATERIALS WITHIN THE SUNKEN/JETTED AREA SHALL BE COMPACTED SUCH THAT NO FURTHER SURFACE SUBSIDENCE OCCURS.

44.) PROVIDE TRAFFIC CONTROL ALONG TOM GINNEVER AND TR HUGHES ROADS DURING CONSTRUCTION.

GRADING NOTES

DRAIN ONTO CITY STREETS, STATE ROADS, OR PRIVATE PROPERTY.

AS SPECIFIED IN SOILS REPORT.

O' FALLON STANDARDS.

REQUIRED BY DNR.

PREVENT SILT FROM BYPASSING THEM.

INSTALLATION. (GRADING PERMIT REQUIRED).

ALL GRADES ARE TO FINISH GRADE OR FINISH PAVEMENT. THE CONTRACTOR SHALL

DEDUCT PAVEMENT THICKNESS IN BUILDING AREAS TO OBTAIN SUBGRADE ELEVATIONS.

SILTATION CONTROL SHALL BE UTILIZED DURING CONSTRUCTION TO PREVENT SILTATION

3.) MAXIMUM SLOPE SHALL BE 3 HORIZ. TO 1 VERT. (3:1) THE CIVIL ENGINEER ASSUMES NO

LIABILITY FOR SLOPES EXCEEDING THOSE RECOMMENDED BY GEOTECH. REPORT.

5.) ADDITIONAL SILTATION CONTROL DEVICES MAY BE REQUIRED BY CITY OF O' FALLON.

6.) THE GRADING CONTRACTOR SHALL ESTABLISH THE SILTATION CONTROL AND BE

INSPECTED BY THE CITY OF O' FALLON PRIOR TO BEGINNING THE GRADING.

4.) ALL GRADING AND DRAINAGE SHALL MEET THE CITY OF O' FALLON SPECIFICATIONS AND

7.) THE GRADING CONTRACTOR SHALL MAINTAIN THE SILTATION CONTROL DEVICES SO AS TO

8.) THE CITY OF O' FALLON STORMWATER TECHNICIAN SHALL BE NOTIFIED A MINIMUM OF 48

HOURS PRIOR TO THE COMMENCEMENT OF THE GRADING TO VERIFY SILT CONTROL

10.) ALL CONSTRUCTION METHODS AND MATERIAL SHALL CONFORM TO CURRENT CITY OF

ESTABLISHMENT OF A PERMANENT GROUND COVER, SEE VEGETATION NOTES.

12.) EXISTING AREAS OF SOFT SOILS AND ORGANIC DEBRIS SHALL BE COMPLETELY

13.) INTERIM STORM WATER DRAINAGE CONTROL IN THE FORM OF SILTATION CONTROL

REMOVED IN ACCORDANCE WITH THE GEOTECH REPORT.

11.) IF CUT AND FILL OPERATIONS OCCUR DURING A SEASON NOT FAVORABLE FOR IMMEDIATE

MEASURES, ARE REQUIRED AS APPROVED BY M.S.D. ALL DISTRIBUTED EARTH AREAS

14.) ANY DISTURBED OFF-SITE PROPERTY (I.E. BUSHES, FENCES, MAILBOXES, ETC.) SHALL BE

15.) GRADED AREAS THAT ARE TO REMAIN BARE FOR 2 WEEKS ARE SEEDED AND MULCHED

WITHIN PUBLIC RIGHT-OF-WAY AND OTHER OFF-SITE AREAS SHALL BE SODDED.

FROM RUNNING ONTO THE ADJACENT STREETS & PROPERTIES. NO STORM WATER SHALL

SANITARY SEWER NOTES

1.) 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, UNLESS MODIFIED BY THE CITY OF O' FALLON.

2.) ALL MANHOLES SHALL BE 42" DIA. PRE-CAST CONCRETE PER ASTM C-478.

3.) ALL LATERAL SEWER CONSTRUCTION METHODS TO CONFORM TO LATEST STANDARDS AND SPECIFICATIONS OF THE METROPOLITAN SEWER DISTRICT (2006), UNLESS MODIFIED BY THE CITY OF

ALL SANITARY LATERALS AND SANITARY MAINS CROSSING UNDER PAVEMENT MUST HAVE THE PROPER ROCK BACKFILL AND TO REQUIRED COMPACTION.

CONTRACTOR TO START LAYING PIPE AT DOWNSTREAM MANHOLE AND WORK UPSTREAM. TAILSTAKE ELEVATIONS AND WYE LOCATIONS ARE SHOWN ON THE SANITARY SEWER PROFILES.

7.) CLEANOUTS SHALL BE LOCATED AT ALL HORIZONTAL AND VERTICAL CHANGES IN DIRECTION

8.) 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.

OF FLOW OF BUILDING LATERALS AND ANY SANITARY LATERAL OF 100 FEET OR LONGER.

9.) ALL TRENCHES UNDER AREAS TO BE PAVED AND UNDER EXISTING PAVING SHALL BE GRANULARLY BACKFILLED WITH 3/4 INCH MINUS CRUSHED WHITE ROCK ONLY. BACKFILL SHALL BE PLACED IN ACCORDANCE WITH 2000 M.S.D STANDARDS.

GRANULAR MATERIALS AND EARTH MATERIALS 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.

A DEPTH. TRENCH BACKFILL LESS THAN 8-FEET IN DEPTH SHALL BE PROBED TO A DEPTH EXTENDING TO HALF THE DEPTH OF THE TRENCH BACKFILL, BUT NOT LESS THAN 3-FEET. TRENCH BACKFILL GREATER THAN 8-FEET IN DEPTH SHALL BE PROBED TO HALF THE DEPTH OF THE TRENCH BACKFILL BUT NOT GREATER THAN 8-FEET.

B.EQUIPMENT. THE JETTING PROBE SHALL BE A METAL PIPE WITH AN EXTERIOR DIAMETER OF 1.5 TO 2-INCHES.

C.METHOD. JETTING SHALL BE PERFORMED FROM THE LOW SURFACE TOPOGRAPHIC POINT AND PROCEED TOWARD THE HIGH POINT, AND FROM THE BOTTOM OF THE TRENCH BACKFILL TOWARDS 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 DITCH WITHOUT FIRST SATURATING THE TRENCH.

D.SURFACE BRIDGING. THE CONTRACTOR SHALL IDENTIFY THE LOCATIONS OF THE SURFACE BRIDGING (THE TENDENCY FOR THE UPPER BACKFILL CRUST TO ARCH OVER THE TRENCH RATHER THAN COLLAPSE AND CONSOLIDATE DURING THE JETTING PROCESS). THE CONTRACTOR SHALL BREAKDOWN THE BRIDGED AREAS USING AN APPROPRIATE METHOD SUCH AS WHEELS OR BUCKET OF A BACKHOE. WHEN THE SURFACE CRUST IS COLLAPSED, THE VOID SHALL BE BACKFILLED WITH THE SAME MATERIAL USED AS TRENCH BACKFILL AND RE-JETTED. COMPACTION OF THE MATERIALS WITHIN THE SUNKEN/JETTED AREA SHALL BE COMPACTED SUCH THAT NO FURTHER SURFACE SUBSIDENCE OCCURS.

11.) GAS, WATER, AND OTHER UNDERGROUND UTILITIES SHALL NOT CONFLICT WITH THE DEPTH OF HORIZONTAL LOCATION OF EXISTING OR PROPOSED SANITARY AND STORM SEWERS.

12.) THE CONTRACTOR SHALL PREVENT ALL STORM, SURFACE WATER, MUD AND CONSTRUCTION DEBRIS FROM ENTERING THE EXISTING SANITARY SEWER SYSTEMS.

13.) EASEMENTS SHALL BE PROVIDED FOR ALL SANITARY SEWERS, STORM SEWERS AND ALL UTILITIES ON THE RECORD PLAT.

14.) 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).

15.) BRICK SHALL NOT BE USED ON SANITARY SEWER MANHOLES.

16.) EXISTING SANITARY SEWER SERVICE SHALL NOT BE INTERRUPTED.

17.) ALL SANITARY FLOW LINES AND TOPS BUILT WITHOUT ELEVATIONS FURNISHED BY THE ENGINEER WILL BE THE RESPONSIBILITY OF THE SEWER CONTRACTOR.

18.) ALL PIPES SHALL HAVE POSITIVE DRAINAGE THROUGH MANHOLES. NO FLAT INVERT STRUCTURES ARE

BOOT/MISSION-TYPE COUPLINGS WILL NOT BE ALLOWED. 20.) ANY PERMITS, LICENSES, EASEMENTS, OR APPROVALS REQUIRED TO WORK ON PUBLIC OR PRIVATE

19.) PRE-MANUFACTURED ADAPTERS SHALL BE USED AT ALL PVC AND DIP CONNECTIONS. RUBBER

PROPERTIES OR ROADWAYS ARE THE RESPONSIBILITY OF THE DEVELOPER. 21.) 6" LATERALS ARE TO BE INSTALLED AT A MINIMUM 2% GRADE.

22.) TYPE "C" BEDDING PER M.S.D. STANDARDS IS REQUIRED FOR PIPES IN ROCK.

26.) USE CURRENT 2000 M.S.D. SPECIFICATIONS AND DETAILS.

27.) THE CONTRACTOR MUST VERIFY SIZE AND LOCATION OF EXISTING MAIN PRIOR TO ANY CONSTRUCTION. IF THERE IS A DISCREPANCY, HE MUST NOTIFY THE ENGINEER IMMEDIATELY.

...10,769± CUBIC YARD

....1,574± CUBIC CUT YARD

ALL CONTOURS SHOWN ARE TO FINAL GRADE. FOR CONTOURS SHOWN

IN PROPOSED PAVEMENT AREA AND BUILDING SLAB, CALCULATIONS

ASSUME 12" FOR PAVEMENT THICKNESS AND A 15% COMPACTION

FACTOR, CONTRACTOR TO ADJUST GRADE ACCORDINGLY FOR

THE ENGINEER HAS CALCULATED THE ABOVE QUANTITIES OF

EARTHWORK TO BE REGARDED AS AN ESTIMATE OF THE BULK

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.

MOVEMENT OR REDISTRIBUTION OF SOILS ON THIS PROJECT. AS AN

THE QUANTITIES ESTIMATED FOR EACH OF THE IMPROVEMENT ITEMS

ENGINEERING PLANS PREPARED BY COLE AND ASSOCIATES, INC. IT

HAULED OFF SITE, PROPOSED GRADES CALCULATED TO SUBGRADE

THE ENGINEER'S EARTHWORK ESTIMATE DOES NOT INCLUDE ANY OF

STANDARDS; BUILDING FOOTINGS AND FOUNDATIONS, STRIPPING OF

THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACTUAL SIZE

THE ENGINEER ASSUMES NO RESPONSIBILITY FOR COSTS INCURRED

ABOVE QUANTITIES ARE AN ESTIMATE AND SHOULD BE CONSIDERED

PREPARE A QUANTITY TAKEOFF AND NOTE ANY DISCREPANCIES TO

AS SUCH. IT IS THE GRADING CONTRACTOR'S RESPONSIBILITY TO

LISTED ABOVE ARE BASED UPON THE HORIZONTAL AND VERTICAL

LOCATION OF THE IMPROVEMENTS AS PROPOSED ON THE SITE

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;

OF THE FIELD EXCAVATIONS MADE FOR THE INSTALLATION OF

DUE TO REMOVAL OF UNSUITABLE MATERIAL FROM SITE. THE

QUANTITIES OF EARTHWORK FROM SUCH ITEMS MAY VARY FROM

UNDERGROUND STRUCTURES, AND AS SUCH, THE ACTUAL

THE ESTIMATE SHOWN ABOVE.

THE ENGINEER.

ELECTRICAL OR TELEPHONE CONDUITS; BASES FOR LIGHT

ELEVATIONS IN BUILDING AND PARKING LOT AREAS.

IS ASSUMED THAT THE EXISTING ASPHALT SURFACES ARE TO BE

SUBGRADE CONDITIONS.

....9,195± CUBIC YARD (INCLUDES 15% COMPACTION)

28.) SEPTIC TANKS SHALL BE ABANDONED IN ACCORDANCE WITH ST. CHARLES COUNTY STANDARD CONSTRUCTION SPECIFICATIONS.

29.) CONNECTIONS AT ALL SANITARY STRUCTURES TO BE MADE WITH A-LOCK JOINT OR EQUAL.

30.) THE ESTIMATED DAILY SANITARY FLOW FOR IS 8,825 GALLONS/DAY.

EARTHWORK NOTES POST CONSTRUCTION BEST MANAGEMENT PRACTICES DATED: 12/4/07 BULK CUT

2.) ALL DISTURBED AREAS SHALL BE MULCHED AND REMAIN MULCHED UNTIL VEGETATION IS

1.) SEEDED AND OTHER VEGETATIVE AREAS SHALL BECOME ESTABLISHED WITHIN 2 WEEKS OR

3.) ALL NEWLY PLANTED AREAS SHALL BE WATERED REGULARLY TO ENSURE SURWIVABILITY.

THE AREAS SHALL BE REPLANTED.

4.) THE STORMWATER DETENTION BASIN SHALL BE SEEDED AND MULCHED AND THE VEGETATION SHALL BE ESTABLISHED WITHIN 2 WEEKS. THE TRASH RACK ON THE LOW FLOW ORIFICE SHALL BE CLEANED REGULARLY. ANY SEDIMENT BUILD UP WITHIN THE BASIN SHALL BE COMPLETELY REMOVED WITHIN 2 WEEKS.

5.) THE SITE SHALL BE CHECKED AFTER EVERY MAJOR STORM EVENT TO ENSURE NO MAJOR

6.) THE GRASS BOTTOM BASIN SHOULD BE PROPERLY MAINTAINED SO THE VEGETATION CAN REMOVE POLLUTANTS ENTERING INTO THE BASIN.

7.) SOLID NON-HAZORDOUS CONSTRUCTION WASTE - DISPOSE OF IN TRASH DUSTERS OR APPROVED EQUIVALENT IN A LOCATION APPROVED BY THE OWNER. POTENTIALLY SOLUBLE OR LEACHABLE SOLID WASTE SHALL BE STORED OFF THE GROUND AND IN COVERED LEEK-PROOF CONTAINERS. SOLID WASTE SHALL BE PROPERLY DISPOSED OF OFF-SITE ON A

8.) HAZARDOUS WASTE - HAZARDOUS WASTE SHALL BE SEGREGATED FROM NON-HAZORDOUS CONSTRUCTION SITE DEBRIS, LIQUID OR SEMI-LIUQUID HAZARDOUS WASTE SHALL BE STORED IN APPROPRIATE CONTAINERS (CLOSED DRUMS OR SIMILAR) AND SHALL BE KEPT UNDER COVER, GRANULAR, SOLUBLE, OR LEACHABLE HAZARDOUS WASTE MATERIALS SHALL BE STORED OFF THE GROUND AND IN COVERED LEAK-PROOF CONTAINERS, THE OWNER SHALL PROPERLY APPROVE ANY HAZARDOUS WASTE STORAGE AREA LOCATIONS.

9.) HAZARDOUS WASTE SHALL BE PROPERLY DISPOSE OF OFF-SITE ON A REGULAR BASIS BY A REPUTABLE, LICENSED HAZARDOUS WASTE HAULER.

10.) PROVISIONS SHALL BE MADE FOR ON SITE LITTER CONTROL.

11.) STORM DRAINS - THE OWNER WILL BE SERVED BY A STORM WATER SYSTEM CONSISTING OF PIPE AND INLETS. ANY STORM DRAINAGE SYSTEM DESIGNATED AS "PRIVATE" SHALL BE OPERATED AND MAINTAINED BY THE OWNER.

PAVED AND KEPT IN GOOD REPAIR FOLLOWING COMPLETION OF CONSTRUCTION ACTIVATES. 13.) THE OWNER SHALL NOTIFY ALL AGENCIES REQUIRED BY LAW AND THE CITY OF O' FALLON

12.) PAVED AREAS AND WALKWAYS - AREAS SUBJECT TO FOOT AND VEHICLE TRAFFIC SHALL BE

UPON THE KNOWN OR SUSPECTED RELEASE OF ILLICIT DISCHARGES FROM THE SITE.

STORM SEWER NOTES

1.) ALL CONCRETE SHALL BE REINFORCED, AND CONFORM TO A.S.T.M. DESIGNATION C76 CLASS III UNLESS NOTED.

2.) ALL STORM SEWER STRUCTURES WITHIN PROJECT SITE TO BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF O'FALLON STANDARD CONSTRUCTION SPECIFICATIONS.

3.) TYPE "C" BEDDING IS REQUIRED FOR PIPES IN ROCK.

4.) ALL TRENCHES UNDER AREAS TO BE PAVED AND UNDER EXISTING PAVING SHALL BE GRANULARLY FILLED WITH 3/4" MINUS CRUSHED LIMESTONE ONLY. BACKFILL SHALL BE PLACED IN ACCORDANCE WITH THE CITY OF O'FALLON STANDARD CONSTRUCTION

5.) ALL TRENCH BACKFILLS UNDER PAVEMENT WITHIN THE PUBLIC RIGHT-OF-WAY SHALL BE GRANULAR BACKFILLED. TRENCH BACKFILLS UNDER PAVED AREAS, OUTSIDE OF PUBLIC RIGHT-OF-WAY SHALL BE GRANULAR BACKFILL ALSO IN LIEU OF THE COMPACTED EARTH

6.) JETTING IS NOT AN ACCEPTABLE METHOD OF ACHIEVING BACKFILL COMPACTION. ALL BACKFILL MATERIAL SHALL BE MECHANICALLY COMPACTED TO AT LEAST 90 PERCENT OF THE MATERIAL'S STANDARD PROCTOR MAXIMUM DRY DENSITY.

BRICK SHALL NOT BE USED IN THE CONSTRUCTION OF STORM SEWER STRUCTURES.

8.) ALL STORM SEWER JOINTS SHALL BE GASKETED O-RING TYPE.

9.) CONNECTIONS AT ALL STORM STRUCTURE TO BE MADE WITH A-LOCK JOINT OR EQUAL.

10.) RIP RAP SHOWN AT FLARED ENDS WILL BE EVALUATED IN THE FIELD AFTER INSTALLATION FOR EFFECTIVENESS AND FIELD MODIFIED IF NECESSARY TO REDUCE EROSION ON AND OFF

11.) PROVIDE 5/8" DIAMETER TRASH BAR FOR ALL INLETS.

12.) HDPE PIPE IS TO BE N-12WT OR EQUAL AND TO MEET ASTM F1417 WATER TIGHT FIELD TEST.

13.) PROVIDE A MARKING ON THE STORM SEWER INLETS. THE CITY WILL ALLOW THE FOLLOWING MARKERS AND ADHESIVE PROCEDURES ONLY AS SHOWN IN THE TABLE BELOW OR AN APPROVED EQUAL BY ALMETEK INDUSTRIES. "PEEL AND STICK" ADHESIVE PADS WILL NOT BE ALLOWED.

MANUFACTURE	SIZE	ADHESIVE	STYLE	MESSAGE (PART #)	WEBSITE
ACP INTERNATIONAL	3 7/8"	EPOXY	CRYSTAL CAP	NO DUMPING DRAINS TO WATERWAYS (SD-W-CC)	WWW.ACPINTERNATIONAL.COM
DAS MANUFACTURING INC.	4"	EPOXY	STANDARD STYLE	NO DUMPING DRAINS TO STREAM (#SDS)	WWW.DASMANUFACTURING.COM

WATER LINE NOTES

1.) ALL MATERIALS AND METHODS OF CONSTRUCTION FOR WATER MAINS TO MEET THE REQUIREMENTS OF THE CITY OF O' FALLON SPECIFICATIONS.

2.) WATER MAINS SHALL BE POLY VINYL CHLORIDE (PVC) CLASS 200, SDR 21 PIPE CONFORMING TO A.S.T.M. SPECIFICATION D2241. THE PIPE SHALL BE PRESSURE RATED FOR A HYDROSTATIC WORKING PRESSURE OF 200 PSI AT 73.4 DEGREES F AND SHALL MEET ALL APPLICABLE REQUIREMENTS AS SET FORTH UNDER COMMERCIAL STANDARD (CS) 256-63.

3.) DUCTILE IRON PIPE MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL THE REQUIREMENTS OF U.S.A. STANDARD A2151 (A.W.W.A. C-151-65). THE PIPE SHALL BE FURNISHED WITH MECHANICAL, PUSH ON, OR FLANCE JOINTS AS REQUIRED. THE INTERIOR SURFACE OF PIPE SHALL BE COATED WITH A CEMENT-MORTAR LINING IN ACCORDANCE WITH U.S.A. STANDARD A 21.4 (A.W.W.A. C 104). AFTER DRYING, THE CEMENT LINING SHALL BE SEAL COATED WITH SIMILAR A.W.W.A. APPROVED BITUMINOUS VARNISH. ALL FITTINGS AND BENDS SHALL BE CONSTRUCTED OF CAST OR

4.) WATER MAIN TRACER TAPE TO BE INSTALLED WITH ALL WATER MAIN AND SHALL CONSIST OF THREE INCH WIDE TAPE MADE OF BONDED LAYER PLASTIC WITH A METALLIC FOIL CORE, TAPE SHALL BE "TERRA TAPE D" AS MANUFACTURED BY THE GRIFFOLYN COMPANY OF HOUSTON, TEXAS, OR

5.) ALL VALVES FOR EXTERIOR USE SHALL BE BURIED GATE VALVES WITH A VALVE BOX AND TWO INCH SQUARE NUT ATTACHMENT FOR MANUAL OPERATION WITH STANDARD VALVE WRENCH. GATE VALVES SHALL BE IRON BODIED WITH BRASS OR BRONZE MOUNTED DOUBLE DISC GATE. GATE VALVES SHALL BE OF THE NON-RISING STEM TYPE, OPENED BY TURNING COUNTER-CLOCKWISE. THE VALVE STEM SHALL HAVE DOUBLE "O" RING SEALS AND TERMINATE AT TOP WITH TWO INCH SQUARE NUT. GATE VALVE CONSTRUCTION AND MATERIALS SHALL CONFORM TO THE LATEST GOVERNING SPECIFICATIONS OF THE A.S.T.M. AND A.W.W.A. ALL GATE VALVES FOR USE SHALL BE "MUELLER" OR APPROVED EQUAL.

6.) VALVE BOXES FOR USE SHALL BE THE SCREW-TYPE, EXTENSION SLEEVE KIND, OR P.V.C. PIPE. ALL BOXES SHALL BE FITTED WITH A RECESSED COVER HAVING THE WORD "WATER" CAST IN THE TOP.

7.) FIRE HYDRANTS SHALL BE MUELLER "CENTURION" OR THE AMERICAN DARLING MODEL NO. "B-84-B". HYDRANTS SHALL BE TRAFFIC MODEL TYPE WITH A WORKING PRESSURE OF 150 PSI IN FULL COMPLIANCE WITH A.W.W.A. STANDARD SPECIFICATIONS C-502 OF THE LATEST REVISION. HYDRANTS TO BE THREE-WAY WITH TWO 2 KINCH CONNECTIONS AND ONE 4 KINCH CONNECTION AND SHALL HAVE A 5 1/4" VALVE, A 6 INCH BARREL, AND SHALL BE OF A BREAKAWAY DESIGN, FROST FREE WITH CHAIN, LEFT HAND OPEN, AND HAVE NATIONAL STANDARD THREADS.

8.) ALL FIRE HYDRANTS SHALL BE SET SO THE CENTER OF A HOSE NOZZLE SHALL NOT BE LESS THAN 18" ABOVE FINISHED GRADE, FIRE HYDRANT OUTLETS MUST FACE THE STREET OR ACCESS DRIVE.

9.) THERE SHALL BE NO OBSTRUCTIONS WITHIN 6 FEET OF ANY FIRE HYDRANT AND/OR FIRE DEPARTMENT CONNECTION TO AN AUTOMATIC SPRINKLER

10.) FIRE HYDRANTS OFF OF PUBLIC MAINS SHALL BE PAINTED ACCORDING TO FLOW IN ACCORDANCE WITH O' FALLON FIRE DEPARTMENT. FIRE HYDRANTS OFF PRIVATE SYSTEMS SHALL BE PAINTED ENTIRELY RED (PORTER 4119 OR EQUAL). FLOW DATA AT COOL SPRINGS PER FIRE DEPARTMENT IS 919 GPM.

11.) CONCRETE FOR THRUST BLOCKING AT BENDS, TEES, VALVES, HYDRANTS, ETC., SHALL BE 3,500 PSI COMPRESSIVE STRENGTH AT 28 DAYS.

12.) BEFORE WATER MAINS ARE ACCEPTED AND PUT INTO SERVICE THEY SHALL BE TESTED FOR TWO HOURS ON EACH SEGMENT BETWEEN END POINTS AT A TEST PRESSURE OF AT LEAST 50% IN EXCESS OF NORMAL MAXIMUM OPERATING PRESSURE, NOT TO EXCEED 150 PSI. WATER MAINS SHALL BE STERILIZED AND FLUSHED IN ACCORDANCE WITH THE CITY OF O' FALLON.

13.) ALL WATER LINES AND SERVICE LINES SHALL HAVE A MINIMUM OF 42" OF

14.) VERTICAL CLEARANCE BETWEEN SEWERS AND WATER MAINS SHALL BE A MINIMUM OF 2'-0". HORIZONTAL CLEARANCE BETWEEN SEWERS AND WATER MAINS SHALL BE A MINIMUM OF 10'-0". 15.) FIRE HYDRANTS TO BE A MAXIMUM OF 600' APART OR AS DIRECTED BY THE

CITY OF O' FALLON FIRE DEPARTMENT 16.) ALL WATER MAINS SHALL HAVE A BACKFLOW PREVENTER INSIDE OR OUTSIDE

17.) ALL WATER LINES TO BE TESTED AND DISINFECTED IN ACCORDANCE WITH THE CURRENT MISSOURI DIVISION OF HEALTH AND MISSOURI DEPARTMENT OF NATURAL RESOURCES' REQUIREMENTS AND PROJECT SPECIFICATIONS.

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