GENERAL NOTES:

1. THE CONTRACTOR SHALL VISIT THE WORK SITE TO FAMILIARIZE HIMSELF/HERSELF AND TO ASCERTAIN BY INSPECTION PERTINENT LOCAL CONDITIONS SUCH AS LOCATION, CHARACTER AND ACCESSIBILITY OF THE SITE, AVAILABILITY OF FACILITIES, LOCATION AND CHARACTER OF EXISTING WORK WITHIN OR ADJACENT THERETO, LABOR CONDITIONS, ETC. THE OWNER SHALL MAKE AVAILABLE TO CONTRACTOR, INFORMATION THAT HE MAY HAVE AS TO SUBSOIL CONDITIONS AT THE PROJECT SITE. SUCH INFORMATION WILL BE GIVEN IF REQUESTED, HOWEVER, AS THE BEST FACTUAL INFORMATION AVAILABLE WITHOUT THE ASSUMPTION OF RESPONSIBILITY FOR ITS ACCURACY OR FOR ANY CONCLUSIONS THAT THE CONTRACTOR MIGHT DRAW THEREFROM.

2. ALL ELEVATIONS ARE BASED ON U.S.G.S. DATUM.

3. PROPOSED CONTOURS SHOWN ARE FINISHED GRADES AND READ TO TOP OF PAVEMENT AND FINISHED DIRT GRADE.

4. TOPOGRAPHIC SURVEY WAS MADE BY BERUTTI & ASSOCIATES, INC.

5. BOUNDARY SURVEY WAS MADE BY KBR ENGINEERING, DATED 10-10-88 REV. 11-29-90.

6. EXCAVATION:

A. SCOPE:
THE OWNER HAS RETAINED SCI ENGINEERING, INC., 130 POINT WEST BOULEVARD, ST. CHARLES, MISSOURI TO PERFORM GEOTECHNICAL EXPLORATION WHICH WAS CONDUCTED ON JANUARY 24, 2001. THE RESULTS OF SAID EXPLORATION AND SPECIFIC RECOMMENDATIONS ARE INCLUDED IN A REPORT DATED FEBRUARY 15, 2001. THE CONTRACTOR SHALL VERIFY ALL SUBSURFACE INVESTIGATION DATA PRESENTED, THIS INFORMATION IS MADE AVAILABLE TO THE CONTRACTOR FOR HIS CONVENIENCE AND SHALL BE SOLELY AT THE CONTRACTOR'S RESPONSIBILITY. BERUTTI & ASSOCIATES, INC. AND OWNER ASSUME NO RESPONSIBILITY CONCERNING THE VALIDITY OF THE CONTENT OF THE SUBSURFACE INVESTIGATION DATA NOR INTERPRETATION OF THE DATA BY THE CONTRACTOR.

1. THE CONTRACTOR MAY PERFORM ADDITIONAL TEST BORINGS AND OTHER SUBSURFACE INVESTIGATION OPERATIONS AT HIS OWN EXPENSE.
2. THE SOIL BORING LOCATION DIAGRAM, LOT AND REPORT INFORMATION IS AVAILABLE FOR REVIEW AT THE OFFICES OF BERUTTI & ASSOCIATES, INC., 204 WEST MAIN STREET, BELLEVILLE, ILLINOIS 62220, (618) 235-0500
3. WORK SHALL CONSIST OF FURNISHING EVERYTHING NECESSARY FOR AND INCIDENTAL TO THE EXECUTION AND COMPLETION OF ALL EARTHWORK AS INDICATED ON PLANS.
4. ROCK EXCAVATION: ROCK EXCAVATION SHALL BE DEFINED AS REMOVAL AND DISPOSAL OF SOLID ROCK, BOULDERS OVER 1/2 CUBIC YARD, LEDGE ROCK, ROCK HARD CEMENTITIOUS DEPOSITS, AND OTHER MATERIALS OR OBSTRUCTIONS WHICH CANNOT BE DISLODGED AND EXCAVATED WITH MODERN, HEAVY DUTY EXCAVATION EQUIPMENT. NO EXCAVATION OF SUCH MATERIALS IS EXPECTED DURING THE SITE GRADING OPERATION OR DURING EXCAVATION OF BUILDING FOOTINGS AND FOUNDATION WALL. SHOULD SUCH OBSTRUCTIONS BE ENCOUNTERED, ADVISE OWNER AND ENGINEER IMMEDIATELY BEFORE PROCEEDING.

B. DESCRIPTION OF WORK:

1. REMOVAL OF ALL VEGETATION WITHIN PROJECT LIMITS.
2. COMPACTING OF SELECT BORROW MATERIAL TO BRING SITE TO ROUGH GRADE.
3. FINISHED GRADING TO ELEVATIONS INDICATED ON DRAWINGS WITHIN CONTRACT LIMITS.
4. GRADING, CUTTING AND FILLING TO SUBGRADES REQUIRED FOR CONCRETE SIDEWALK AND CONCRETE PAVEMENT.
5. PUMPING AND DEWATERING OPERATIONS TO MAINTAIN EXCAVATED AREA FREE FROM WATER FROM ANY SURFACE.
6. REMOVAL OF EXISTING CONCRETE SIDEWALK AND PAVING, 30-INCH AND 36-INCH DIAMETER STORM SEWERS AS INDICATED ON THE DRAWINGS. THE 36-INCH PIPE SHALL BE SALVAGED FOR RE-USE ON THE PROJECT.
7. ALL DEBRIS, RUBBISH AND OTHER MATERIALS RESULTING FROM DEMOLITION OPERATIONS SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN AN APPROVED STATE DUMP SITE.

C. JOB CONDITIONS:

1. PROTECTION OF EXISTING IMPROVEMENTS:
PROVIDE BARRICADES, COVERINGS, OTHER TYPE PROTECTORS NECESSARY TO PREVENT DAMAGE TO EXISTING IMPROVEMENTS INDICATED ON DRAWINGS TO BE LEFT IN PLACE.
2. PROTECTION OF PEDESTRIAN AND VEHICLE TRAFFIC WAYS:
CONTRACTOR TO PROVIDE AND INSTALL BARRICADES, SLOPE PROTECTORS, AND OTHER TYPES OF PROTECTORS AS REQUIRED TO INSURE THAT THE EARTHWORK OPERATIONS DO NOT INTERFERE WITH OR STOP PEDESTRIAN AND VEHICULAR TRAFFIC, AND SUCH THAT UNAUTHORIZED PEDESTRIANS OR VEHICLES CANNOT PHYSICALLY ENTER THE WORK AREA. ALL PROTECTIVE DEVICES TO CONFORM TO APPLICABLE CODE REQUIREMENTS. CONTRACTOR TO INSTALL WARNING LIGHTS OR POTS NEAR PEDESTRIAN AND VEHICULAR TRAFFIC WAYS SUCH THAT POSSIBLE HAZARDOUS AREAS WILL BE CLEARLY DEFINED DURING DARK HOURS.
3. PROTECTION OF EXISTING UTILITIES:
EXISTING UTILITIES HAVE BEEN SHOWN ON THE PLANS FOR THE CONTRACTOR'S CONVENIENCE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL EXISTING UTILITY LOCATIONS EITHER SHOWN OR NOT SHOWN ON THE PLANS. CONTRACTOR IS TO IMMEDIATELY NOTIFY THE APPLICABLE UTILITY COMPANY OF ANY DAMAGES AND CAUSE REPAIRS TO THE DAMAGED UTILITY IN ACCORDANCE WITH THE REQUIREMENTS OF THE UTILITY COMPANY.

D. QUALITY ASSURANCE:

1. CODES AND STANDARDS:
CONTRACTOR TO PERFORM EARTHWORK IN COMPLIANCE WITH APPLICABLE REQUIREMENTS OF GOVERNING AUTHORITIES.
2. TESTING AND INSPECTION SERVICES:
A. CONTRACTOR SHALL EMPLOY THE SERVICES OF A SOILS ENGINEER TO PROVIDE ENGINEERING RECOMMENDATIONS AND GUIDELINES FOR RELATED PROJECTS ITEMS.
B. CONTRACTOR TO PERFORM ALL QUALITY CONTROL SOIL SAMPLING AND TESTING SUBJECT TO GENERAL GUIDANCE OF PROOF/TEST LABORATORY APPROVED BY THE SOILS ENGINEER.
C. IT SHALL BE THE GRADING CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE SOILS ENGINEER OF WORK IN PROGRESS AND TO COMPLY WITH THE SPECIFICATIONS BY THE SOILS ENGINEER WITH REGARDS TO COMPACTION, SURFACE PREPARATION AND PLACEMENT OF FILL AREAS.
D. CONTRACTOR TO PERFORM ALL QUALITY CONTROL TESTING OF MATERIALS PROPOSED FOR USE IN THE WORK.
E. THE SOILS ENGINEER WILL BE THE SOLE AND FINAL JUDGE OF SUITABILITY OF ALL MATERIALS.
F. MATERIALS IN QUESTION, PENDING TEST RESULTS SHALL NOT BE USED IN THE WORK. CONTRACTOR TO REMOVE ALL MATERIALS THAT FAIL TO MEET THE REQUIREMENTS OF THE SPECIFICATIONS, WHETHER IN STOCKPILES OR IN PLACE.
G. ANY APPARENT NEGLIGENCE OR CARELESSNESS DURING ANY PORTION OF THE EARTHWORK OPERATIONS WILL REQUIRE, AT THE CONTRACTOR'S EXPENSE, THAT ADDITIONAL TESTS BE PERFORMED ON THAT PORTION OF THE WORK.
H. THE CITY OF O'FALLON, MISSOURI, CITY ENGINEER, SHALL BE NOTIFIED AT LEAST 48 HOURS PRIOR TO THE COMMENCEMENT OF THE GRADING.

E. TESTING PROCEDURES:

1. MOISTURE/DENSITY RELATIONS OF SOILS/AASHTO T180, (MODIFIED PROCTOR METHOD/ASTM D 1557).
2. DENSITY OF SOIL IN PLACE BY THE SAND CONE METHOD/AASHTO T191 OR BY RUBBER-BALL ON METHOD/ AASHTO T205.

F. SUBMITTALS:

1. CONTRACTOR TO SUBMIT TWO (2) COPIES OF THE FOLLOWING TEST REPORTS TO THE ENGINEER.
A. FIELD DENSITY TEST REPORTS.
B. OPTIMUM MOISTURE/MAXIMUM DENSITY CURVES FOR EACH TEST AS REQUIRED BY SOILS ENGINEER AS DIRECTED BY THE ENGINEER.
2. SOILS ENGINEER TO SUBMIT COMPACTION RESULTS TO CITY OF O'FALLON, MISSOURI, CITY ENGINEER.

G. MATERIAL DEFINITIONS:

1. SUITABLE MATERIALS FOR CONTROLLED FILL INCLUDE MATERIALS THAT ARE FREE OF DEBRIS, ROOTS, ORGANIC OR FROZEN MATERIALS, STONES HAVING A MAXIMUM DIMENSION OF 4 INCHES IN THE UPPER 6 INCHES OF FILL, OR 6 INCHES IN THE UPPER 3 FEET OF FILL OR 12 INCHES IN THE REMAINDER OF FILL.
2. SUITABLE GRANULAR MATERIALS FOR BACKFILL AGAINST NEW AND EXISTING RETAINING WALLS AND WHERE CALLED FOR ON THE DRAWINGS SHALL CONFORM TO THE FOLLOWING GRADATIONS:

SIEVE/SIZE	PERCENT/PASSING
1 1/2 INCH	100
1/2 INCH	55/90
NO. 10	20/50
NO. 20	15/35
NO. 100	0/10
NO. 200	0/3

3. UNSUITABLE MATERIALS INCLUDE ALL MATERIALS THAT CONTAIN DEBRIS, ROOTS, ORGANIC OR FROZEN MATERIALS, STONE HAVING A MAXIMUM DIMENSION LARGER THAN 4 INCHES IN THE UPPER 6 INCHES OF FILL OR LARGER THAN 6 INCHES IN THE UPPER 3 FEET OF FILL OR LARGER THAN 12 INCHES FOR THE REMAINDER OF FILL AND MATERIALS THAT ARE DETERMINED BY THE ENGINEER AS UNSUITABLE FOR PROVIDING A STABLE SLOPE, FILL, SUBGRADE OR FOUNDATION FOR STRUCTURES. OTHERWISE SUITABLE MATERIAL WHICH IS UNSUITABLE DUE TO EXCESS MOISTURE CONTENT WILL NOT BE CLASSIFIED AS UNSUITABLE MATERIAL UNLESS IT CANNOT BE DRIED BY MANIPULATION, AERATION, OR BLENDING WITH OTHER MATERIALS SATISFACTORILY AS DETERMINED BY THE SOILS ENGINEER. EXPANSIVE CLAY SOILS WILL ALSO BE CLASSIFIED AS UNSUITABLE UNLESS TREATED OR MIXED IN AN APPROVED METHOD.
4. ACCEPTABLE TOPSOIL INCLUDES SELECTIVELY EXCAVATED MATERIAL THAT IS REPRESENTATIVE OF SOILS IN THE VICINITY THAT PRODUCE HEAVY GROWTHS OF CROP, GRASS OR OTHER VEGETATION AND IS REASONABLY FREE FROM UNDERLYING SUBSOIL, CLAY LUMPS, OBJECTIONABLE WEEDS, LITTER, BRUSH, MATTED ROOTS, TOXIC SUBSTANCE OR ANY MATERIAL THAT MIGHT BE HARMFUL TO PLANT GROWTH OR BE A HINDRANCE TO GRADING, PLANTING OR MAINTENANCE OPERATIONS. TOPSOIL SHALL NOT CONTAIN MORE THAN FIVE PERCENT BY VOLUME OF STONES, STUMPS AND OTHER OBJECTS LARGER THAN 1 INCH IN ANY DIMENSION FOR FIELD SEEDED AREAS AND 1/2 INCH IN ANY DIMENSION FOR LAWN SEEDED AREAS.

H. CONSTRUCTION CONSIDERATIONS:
THE SITE PREPARATION PHASE OF THE PROJECT IS CRITICAL TO THE PERFORMANCE OF THE STRUCTURE. KEY ACTIVITIES DURING SITE PREPARATION INCLUDE:

1. STRIPPING VEGETATION FROM THE SITE. PROOF-ROLLING THE SUBGRADE PRIOR TO PLACING FILL. DETERMINING THE EXTENT OF THE FILL WITHIN THE PROJECT AREA.
2. COMPACTING SELECT BORROW MATERIAL TO RAISE PORTIONS OF THE SITE TO PROPOSED SUBGRADE AND/OR FINISHED GRADE ELEVATIONS.
3. EXCAVATING THE EXISTING FILL AND BACKFILLING EACH AREA PROPERLY.
4. REMOVAL FROM SITE AND PROPER DISPOSAL OF EXCESS EXCAVATED MATERIAL.

I. SITE PREPARATION:
THE EXISTING GRASSED AREAS IN CONSTRUCTION AREAS MUST BE STRIPPED OF ALL VEGETATION AND ORGANIC MATERIALS. THE STRIPPINGS SHOULD BE DISPOSED OFF-SITE IN A LEGAL MANNER OR STOCKPILED ON-SITE FOR LATER USE IN LANDSCAPED AREAS.

J. SUBGRADE CONSIDERATIONS:
EXISTING FILL SOIL WILL COMPRISE THE SUBGRADE SOILS AT THIS SITE. DURING SUBGRADE PREPARATION, IT WILL BE NECESSARY TO RE-EVALUATE THIS MATERIAL FOR QUALITY AND STABILITY. CARE SHOULD BE EXERCISED TO MAINTAIN THE INTEGRITY OF THE SUBGRADE WHEN PREPARING THE SITE. IF PUMPING AND/OR RUTTING OCCUR, ACTIVITY SHOULD BE HALTED UNTIL THE AFFECTED AREA CAN BE STABILIZED. THIS CAN NORMALLY BE ACCOMPLISHED WITH AERATION AND RECOMPACTION, INCORPORATION OF ADMIXTURES (E.G., LIME PRODUCTS OR CLASS C FLY-ASH FOR COHESIVE SOILS WITH A PLASTICITY INDEX (PI OF AT LEAST 12), OR A WORKING MAT OF CLEAN COARSE CRUSHED STONE. THE NEED FOR THESE MEASURES WILL DEPEND ON SOIL, MOISTURE, AND WEATHER CONDITIONS AT THE TIME OF EARTHWORK AND CAN BE EVALUATED AT THAT TIME. DEPENDING ON MOISTURE CONDITIONS AT THE TIME OF CONSTRUCTION, IT MAY BE NECESSARY TO ADD WATER OR AERATE THE FILL MATERIAL TO ACHIEVE THE REQUIRED COMPACTION. IN COLD OR WET WEATHER CONDITIONS, IT IS OFTEN NECESSARY TO INCREASE EXPENDITURES TO FACILITATE THE CONSTRUCTION SCHEDULE. THE USE OF AERATION, ADMIXTURES, AND GRANULAR FILL MAY BE REQUIRED TO PERFORM EARTHWORK UNDER ADVERSE CONDITIONS.

K. FILL MATERIALS AND COMPACTION:
1. ALL STRUCTURAL FILL BENEATH SLABS, PAVEMENTS, OR SIDEWALKS SHOULD BE FREE OF ORGANIC AND DELETERIOUS MATTER WITH A LIQUID LIMIT NOT TO EXCEED 45 AND A PLASTICITY INDEX NOT GREATER THAN 25. THE EXISTING FILL SOILS AND NATURAL LY OCCURRING COHESIVE SOILS AT THIS SITE ARE SUITABLE FOR REUSE AS CONTROLLED FILL, PROVIDED THEY ARE NON-ORGANIC AND MEET PLASTICITY REQUIREMENTS. COHESIVE FILL MATERIAL MAY BE USED ABOVE THE FOOTING BEARING ELEVATION IF IT IS DESIRED TO EARTH-FORM FOUNDATIONS.
2. STRUCTURAL FILL MATERIAL SHOULD BE PLACED IN MAXIMUM 8-INCH LOOSE LIFT THICKNESS AND MECHANICALLY COMPACTED TO AT LEAST 90 PERCENT OF THE MATERIAL'S MODIFIED PROCTOR (ASTM D 1557) MAXIMUM DRY DENSITY. STRUCTURAL FILL INCLUDES FILL PLACED BENEATH THE BUILDING, PAVED STREET, PARKING AREAS AND SLOPES STEEPER THAN 1 VERTICAL TO 4 HORIZONTAL. FILL PLACED OUTSIDE OF THESE AREAS SHOULD BE COMPACTED TO AT LEAST 88 PERCENT OF THE SAME CRITERIA. FIELD DENSITY TESTS MUST BE PERFORMED AS NEEDED BY A QUALIFIED SOILS TECHNICIAN TO VERIFY COMPLIANCE WITH THE DENSITY REQUIREMENT.
3. COMPACTION OF ANY FILL OR BACKFILL BY JETTING (SOMETIMES REFERRED TO AS FLOODING) IS NOT CONSIDERED ACCEPTABLE. THE SUCCESS OF THIS METHOD REQUIRES A FREE-DRAINING FILL MATERIAL AND THE DRAINAGE OF THE WATER THROUGH AND AWAY FROM A FILL AREA. JETTING IN COHESIVE SOILS OR CONFINED AREAS WILL RESULT IN THE ENTRAPMENT OF WATER BY THE FILL BOUNDARIES (E.G., BACKFILL IN A TRENCH) OR BY COHESIVE FILL MATERIALS. THIS TECHNIQUE WILL GENERALLY NOT ACHIEVE THE DESIRED COMPACTION BECAUSE OF NON-UNIFORMITY, SUBMERGENCE, AND THE WEAKENING OF THE RESULTANT FILL.

L. EXCAVATION CONSIDERATIONS:
DURING THE EXCAVATION PORTIONS OF THIS PROJECT, IT MAY BE NECESSARY TO SLOPE OR TEMPORARILY SHORE THE WALL OF THE OPEN EXCAVATION TO PREVENT COLLAPSE AND SLOUGHING OF THE SOILS. IN FEDERAL REGISTER VOLUME 54, NO. 209 (OCTOBER 1989), THE UNITED STATES DEPARTMENT OF LABOR, OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) AMENDED ITS "CONSTRUCTION STANDARDS FOR EXCAVATIONS, 29 CFR, PART 1926, SUBPART P". THIS DOCUMENT WAS ISSUED TO INCREASE THE SAFETY OF WORKERS IN THE EXCAVATIONS. IT IS MANDATED THAT ALL EXCAVATIONS, WHETHER THEY ARE UTILITY TRENCHES, BASEMENT EXCAVATIONS, OR FOOTING EXCAVATIONS, BE CONSTRUCTED IN ACCORDANCE WITH OSHA GUIDELINES.

M. FOUNDATION EXCAVATIONS:

EACH FOUNDATION EXCAVATION SHOULD BE OBSERVED AND TESTED BY AN EXPERIENCED SOILS TECHNICIAN TO VERIFY THAT THE DESIRED BEARING STRATUM IS EXPOSED. THE BASE OF THE EXCAVATION SHOULD BE CLEAN AND DRY.

SATISFACTORY FOUNDATION EXCAVATIONS SHOULD BE PROTECTED AGAINST DETERMINATE CHANGES IN CONDITION SUCH AS FROM FREEZING, DISTURBANCE, ETC. IF POSSIBLE, THE CONCRETE FOR FOUNDATIONS SHOULD BE PLACED THE SAME DAY THEIR EXCAVATION IS MADE. IF THIS IS NOT PRACTICAL, THE FOUNDATION EXCAVATIONS MUST BE PROTECTED.

N. SUBGRADE PREPARATION:
THE SUBGRADE SHOULD BE SLOPED TO PROVIDE DRAINAGE. IT IS RECOMMENDED THAT THE SUBGRADE BE SHAPED SO THAT POSITIVE DRAINAGE IS ACHIEVED FROM AREAS WHERE A THICKER PAVEMENT SECTION (LOWER SUBGRADE ELEVATION) IS PLANNED. THIS MAY REQUIRE EXTENDING THE THICKER SECTION.

O. SILTATION CONTROL:
1. SILTATION CONTROL DEVICES SUCH AS SILTATION FENCE OR STRAW BALES SHALL BE PROVIDED BY THE CONTRACTOR AS INDICATED ON THE DRAWINGS AND AS REQUIRED BY THE CITY OF O'FALLON, MISSOURI.
2. THE GRADING CONTRACTOR SHALL STAKE THE STRAW BALES AND CONSTRUCT TEMPORARY BERMS PRIOR TO STARTING THE GRADING.
3. THE GRADING CONTRACTOR SHALL MAINTAIN THE SILTATION FENCE OR STRAW BALES AND TEMPORARY BERMS TO PREVENT SILT FROM TOPPING THEM.
4. DURING THE GRADING OPERATION ADDITIONAL EROSION AND SILTATION CONTROL MAY BE REQUIRED AS DIRECTED BY THE CITY OF O'FALLON, MISSOURI.

7. CONCRETE PAVEMENT AND AGGREGATE BASE COURSE:
A. STATE HIGHWAY SPECIFICATIONS MEANS THE "MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION", STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, ADOPTED 1999.

1. ALL REFERENCE TO METHODS OF MEASUREMENTS AND BASIS OF PAYMENT STATED IN THE STATE HIGHWAY SPECIFICATION SHALL BE DELETED.
2. THE WORD "ENGINEER" REFERRED TO IN THE STATE HIGHWAY SPECIFICATIONS IS TO BE INTERPRETED AS THE ARCHITECT/ENGINEER.

B. REFERENCES

1. ACI 304 RECOMMENDED PRACTICE FOR MEASURING, MIXING, TRANSPORTING AND PLACING CONCRETE.
2. ANSI/ASTM D1751 PREFORMED EXPANSION JOINT FILLERS FOR CONCRETE PAVING AND STRUCTURAL CONSTRUCTION.
3. ANSI/ASTM D1752 PREFORMED SPONGE RUBBER AND CORK EXPANSION JOINT FILLERS FOR CONCRETE PAVING AND STRUCTURAL CONSTRUCTION.
4. ASTM C33 CONCRETE AGGREGATES.
5. ASTM C94 READY MIX CONCRETE.
6. ASTM C150 PORTLAND CEMENT.
7. ASTM C260 AIR-ENTRAINING ADMIXTURES FOR CONCRETE.
8. ASTM C309 LIQUID MEMBRANE FORMING COMPOUNDS FOR CURBING CONCRETE.
9. ASTM C494 CHEMICAL ADMIXTURES FOR CONCRETE.
10. FS TT-C-800 CURING COMPOUND, CONCRETE, FOR NEW AND EXISTING SURFACES.

C. SUBGRADE:
THE SUBGRADE SHALL BE FINE GRADED AND COMPACTED BY ROLLING TO THE ELEVATIONS INDICATED ON THE PLAN PRIOR TO PLACEMENT OF THE AGGREGATE BASE COURSE AND SHALL COMPLY TO STATE HIGHWAY SPECIFICATIONS, SECTION 209, PREPARED SUBGRADE AND SECTION 210 SUBGRADE COMPACTION.

D. AGGREGATE BASE COURSE:
1. THE BASE COURSE AGGREGATE SHALL BE AGGREGATE BASE COURSE TYPE 1 AS REQUIRED BY REFERENCE SPECIFICATIONS OR APPROVED EQUAL. THE CONTRACTOR SHALL, AT HIS OWN EXPENSE SUBMIT TO THE ENGINEER A SAMPLE OF THE AGGREGATE TO BE USED FOR AGGREGATE BASE COURSE AT LEAST 15 DAYS PRIOR TO STARTING CONSTRUCTION. THE SAMPLE SO SUBMITTED SHALL BE ACCOMPANIED BY A TEST REPORT FROM A REPUTABLE AND QUALIFIED TESTING LABORATORY CERTIFYING ITS COMPLIANCE WITH REFERENCED SPECIFICATIONS.
2. THE COMPACTED AGGREGATE BASE COURSE SHALL BE A MINIMUM OF 6 INCHES THICK AND COMPLY WITH STATE HIGHWAY SPECIFICATIONS, SECTION 304 AGGREGATE BASE COURSE.
3. BASE COURSE SHALL NOT BE PLACED ON FROZEN OR UNDULY WET SUBGRADE NOR WHEN WEATHER CONDITIONS ARE UNSUITABLE FOR SPREADING AND COMPACTING.

E. PORTLAND CEMENT CONCRETE PAVEMENT AND CURBS:
1. PORTLAND CEMENT CONCRETE PAVEMENT SHALL BE 9 INCHES THICK NON-REINFORCED PAVEMENT DESIGNED FOR MOVEMENT OF TRUCKS UP TO 80,000 POUNDS AND INSTALLED IN ACCORDANCE WITH STATE HIGHWAY SPECIFICATIONS, SECTION 502.
2. CONCRETE CURING MATERIALS AND MATERIAL FOR JOINTS SHALL BE IN ACCORDANCE WITH STATE HIGHWAY SPECIFICATION, SECTION 502. USE TYPE 1, CLEAR OR TRANSLUCENT WITHOUT DYE, SECTION 1055. TYPE 2, WHITE PIGMENTED WILL NOT BE ALLOWED. JOINT SEALERS IN ACCORDANCE WITH SECTION 1057.
3. PAVING SHALL NOT TAKE PLACE WHEN AIR TEMPERATURE IN SHADE IS LESS THAN 40 DEGREES F., OR BETWEEN NOVEMBER 1ST AND MAY 1ST, UNLESS APPROVED BY THE ENGINEER.
4. COLOR SHALL MATCH EXISTING CONCRETE SURFACES. FINISHES SHALL MATCH EXISTING:
A. PARKING AND DRIVES: BURLAP DRAG TEXTURE.
B. CURBS: BURLAP DRAG TEXTURE.
C. SIDEWALKS: LIGHT BROOM TEXTURE.

F. FIELD QUALITY CONTROL:
1. FIELD INSPECTION AND TESTING SHALL BE PERFORMED BY THE GENERAL CONTRACTOR. A TESTING FIRM SHALL BE RETAINED BY THE GENERAL CONTRACTOR TO TAKE CYLINDERS AND PERFORM SLUMP AND AIR ENTRAINMENT TESTS IN ACCORDANCE WITH ACI 301.
2. THREE CONCRETE TEST CYLINDERS SHALL BE TAKEN FOR EVERY 50 OR LESS CU. YDS. OF CONCRETE PLACED EACH DAY. ONE CYLINDER SHALL BE TESTED AT 7 DAYS, AND ONE SHALL BE TESTED AT 28 DAYS. THE THIRD CYLINDER SHALL BE HELD IN RESERVE, AND SHALL BE TESTED IF EITHER OF THE FIRST TWO FAILS TO REACH SPECIFIED STRENGTH.
3. ONE ADDITIONAL TEST CYLINDER WILL BE TAKEN DURING COLD WEATHER AND CURED ON SITE UNDER SAME CONDITIONS AS CONCRETE IT REPRESENTS.
4. ONE SLUMP TEST WILL BE TAKEN FOR EACH SET OF TEST CYLINDERS TAKEN.
5. MAINTAIN RECORDS OF PLACED CONCRETE AREAS. RECORD DATE, LOCATION OF POUR, QUANTITY, AIR TEMPERATURE, AND TEST SAMPLES TAKEN.

G. PROTECTION:
IMMEDIATELY AFTER PLACEMENT, PROTECT PAVEMENT FROM PREMATURE DRYING, EXCESSIVE HOT OR COLD TEMPERATURES, AND MECHANICAL INJURY.

8. SEWERS AND APPURTENANCES:
A. ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH THE MISSOURI DEPARTMENT OF TRANSPORTATION, 1999 STANDARD CONSTRUCTION SPECIFICATIONS AND THE CITY OF O'FALLON, MISSOURI.
B. PIPE AND APPURTENANCES:
STORM SEWER PIPE SHALL BE REINFORCED CONCRETE PIPE. STORM SEWERS EIGHTEEN (18) INCHES OR SMALLER SHALL BE ASTM C-14. STORM SEWERS TWENTY-ONE (21) INCHES OR LARGER SHALL BE ASTM C-76 CLASS III. JOINTS FOR REINFORCED CONCRETE PIPE SHALL BE RUBBER COMPRESSION GASKET JOINTS, ASTM C-443.
C. BEDDING:
1. TYPE 1 FOR PLASTIC PIPE: CRUSHED, NATURAL STONE; FREE OF SHALE, CLAY, FRIABLE MATERIAL, SAND, DEBRIS; GRADED IN ACCORDANCE WITH ANSI/ASTM C136 WITHIN THE FOLLOWING LIMITS:
TYPE B SAND: NATURAL RIVER OR BANK SAND; WASHED: FREE OF SILT, CLAY, LOAM, FRIABLE OR SOLUBLE MATERIALS, OR ORGANIC MATTER; GRADED IN ACCORDANCE WITH ANSI/ASTM C136, WITHIN THE FOLLOWING LIMITS:

SIEVE SIZE	PRESENT PASSING
NO. 4	100% PASSING
NO. 200	5% MAXIMUM PASSING

2. TYPE 2 FOR CONCRETE PIPE: NATURAL STONE; WASHED:
TYPE A GRANULAR MATERIAL: PIT RUN, OR CRUSHED, WASHED NATURAL STONE; FREE OF SHALE, CLAY, FRIABLE MATERIAL, SAND, DEBRIS; GRADED IN ACCORDANCE WITH ANSI/ASTM C136, WITHIN THE FOLLOWING LIMITS:

SIEVE SIZE	PRESENT PASSING
3/4 INCH	100% PASSING
NO. 4	95% RETAINED
NO. 200	3% MAXIMUM PASSING

3. SUBSOIL: REUSED, FREE OF GRAVEL LARGER THAN 3 INCH SIZE, AND DEBRIS.
D. TRENCH BACKFILL:
ALL TRENCHES UNDER PAVEMENT AREAS, SLABS ON GRADE AND AROUND STRUCTURES SHALL BE BACKFILLED WITH 3/4 INCH MINUS CRUSHER-RUN LIMESTONE ONLY. GRANULAR FILL SHALL BE PLACED UP TO TWO (2) FEET OUTSIDE THE EDGE OF PAVEMENT.

9. PAINT STRIPING:
A. THIS WORK SHALL CONSIST OF PAVEMENT STRIPING, EITHER BY PAINTING OR BY LANE MARKING TAPE. ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH 1997 ST. LOUIS COUNTY STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, SECTION 621 AND THE CITY OF O'FALLON, MISSOURI.

10. ALL GRADING SHALL BE PER THE CITY OF O'FALLON, MISSOURI, REQUIREMENTS AND STANDARDS WITH THE NEW SLOPES NOT STEEPER THAN 3:1 SLOPE.

11. HANDICAP ACCESS PER BOCA CODE ADOPTED APRIL 4, 1996.

12. SEEDING:
A. SCOPE:
THIS WORK SHALL CONSIST OF PREPARING, LIMING AND FERTILIZING A SEED BED AND FURNISHING AND SOWING OF SEEDS AS SPECIFIED IN THE CONTRACT THE CONTRACT.
B. SPECIFICATIONS DEFINITION:
COUNTY HIGHWAY SPECIFICATIONS SHALL MEAN THE "1997 ST. LOUIS COUNTY STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION." SECTIONS 801, 802 AND 805.
C. AREAS TO BE SEEDED:
ALL AREAS DISTURBED DURING CONSTRUCTION WITHIN AND OUTSIDE THE CONSTRUCTION LIMITS SHALL BE SEEDED.
D. SPECIAL LANDSCAPE PROVISIONS:
1. ACCEPTANCE OF SITE: CONTRACTOR SHALL INSPECT THE SITE TO DETERMINE ITS SUITABILITY FOR SEEDING OPERATIONS. IF THE SITE IS NOT SUITABLE, THE CONTRACTOR IS NOT BOUND TO ACCEPT THE SITE FOR HIS WORK. HE SHOULD INFORM THE ENGINEER OF THIS CONDITION AND DELAY PROCEEDING WITH HIS WORK UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.
2. COORDINATION: CONTRACTOR IS TO COORDINATE THE SCHEDULE OF HIS ACTIVITIES WITH THE CONSTRUCTION OPERATION PRIOR TO COMMENCING SEEDING OPERATIONS.
3. PLANTING SEASON: THE CONTRACTOR SHALL PLANT ONLY DURING PERIODS OF FAVORABLE WEATHER WHEN CONDITIONS ARE SUITABLE. CONTRACTOR SHALL NOTIFY ENGINEER AND OBTAIN APPROVAL BEFORE PROCEEDING.
4. WATER: GENERAL CONTRACTOR SHALL FURNISH WATER FOR THE SEEDING OPERATIONS.
E. MAINTENANCE:
1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSURING THE ESTABLISHMENT OF A HEALTHY, FIRST CLASS LAWN. AS SUCH HE WILL BE RESPONSIBLE FOR ALL MAINTENANCE, PROTECTION, AND REPAIR OR FOR A MAXIMUM OF ONE GROWING SEASON UNTIL THE ENGINEER/OWNER ACCEPTS THE PLANTED AREA. THIS INCLUDES BUT IS NOT LIMITED TO WATERING, ROLLING, FERTILIZING, AND MOWING.
2. PROTECTION: PROTECTION OF SEEDED AREAS SHALL BEGIN IMMEDIATELY AFTER PLANTING OPERATIONS AND SHALL CONTINUE UNTIL ENGINEER/OWNER ACCEPTS LAWN.
3. REPAIR: DURING THE MAINTENANCE PERIOD THE CONTRACTOR SHALL REPAIR OR RE-WORK WASHOUTS, DRY AREAS, EROSION, OR DAMAGE BY VANDALISM.
F. GUARANTEE, INSPECTION AND FINAL ACCEPTANCE:
1. THE CONTRACTOR SHALL GUARANTEE THAT AT THE END OF NINETY DAYS AFTER SEEDING A HEALTHY FIRST CLASS LAWN SHALL EXIST.
2. UPON WRITTEN REQUEST FROM THE CONTRACTOR, AT LEAST TEN DAYS BEFORE THE DATE OF INSPECTION, THE ENGINEER/OWNER WILL PERFORM AN INSPECTION OF SEEDED AREAS.
3. AFTER INSPECTION THE ENGINEER SHALL PREPARE A LIST OF ALL DEFICIENCIES OR OMISSIONS (PUNCH LIST) WHICH THE CONTRACTOR IS REQUIRED TO CORRECT. THESE ITEMS MUST BE CORRECTED BY THE CONTRACTOR AND ARE SUBJECT TO THE SAME GUARANTEE AND FINAL INSPECTION UNTIL FOUND ACCEPTABLE. THE CONTRACTOR WILL BE RESPONSIBLE FOR CONTINUED MAINTENANCE OF THAT PORTION OF THE LAWN WHICH, AFTER ONE YEAR HAS NOT BEEN ACCEPTED BY THE OWNER.
4. NOT WITHSTANDING PUNCH LIST ITEMS, THE ENGINEER/OWNER SHALL CERTIFY IN WRITING AS TO THE SUBSTANTIAL COMPLETION OF LAWN AND ACCEPTANCE WORK. UPON COMPLETION, REINSPECTION OF ALL REPAIRS OR RENEWALS NECESSARY IN THE JUDGMENT OF THE ENGINEER, THE OWNER WILL ASSUME RESPONSIBILITY FOR THE CONTINUED MAINTENANCE OF THE LAWN.
G. PRODUCTS:
1. SOIL AMENDMENTS: LIMESTONE SHALL BE IN ACCORDANCE WITH COUNTY SPECIFICATIONS, SECTION 801, FERTILIZING.
2. FERTILIZER SHALL BE IN ACCORDANCE WITH COUNTY SPECIFICATIONS, SECTION 801, FERTILIZING.
3. SEED SHALL BE IN ACCORDANCE WITH COUNTY SPECIFICATIONS, SECTION 805 SEEDING AND A MIXTURE COMPOSED OF THE FOLLOWING:

THE SEED MIX SHALL BE AS FOLLOWS:

35% FALCON TALL FESCUE
35% APACHE TALL FESCUE
20% PENNANT PERENNIAL RYEGRASS
10% KENTUCKY BLUEGRASS

APPLY AT 7 LBS/1000 SQ. FT. TOTAL APPLICATION BY VOLUME.

GRASS SHALL BE FRESH, NEW CROP SEED. THE CONTRACTOR SHALL FURNISH THE ENGINEER THE DEALER'S GUARANTEED STATEMENT OF THE COMPOSITION OF THE MIXTURE AND THE PERCENTAGE OF PURITY AND GERMINATION AND A COPY OF THE MISSOURI STATE CERTIFICATE FOR THE SEED.
4. MULCH SHALL BE IN ACCORDANCE WITH COUNTY SPECIFICATIONS, SECTION 802, MULCHING FOR USES OTHER THAN WITH HYDRO-SEEDING OPERATIONS SHALL BE HAY OR STRAW, NOT CHOPPED IN SHORT LENGTHS, TYPE 2 MULCH, VEGETATIVE WITH ASPHALT EMULSION.

13. PERMITS:
THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING PERMITS REQUIRED BY GOVERNING AGENCIES.

⚠ 14. FIRE LANE SIGNS AND STRIPING
THE CONTRACTOR SHALL PROVIDE AND INSTALL SIGNS AND STRIPING DESIGNATING THE FIRE LANE AROUND THE WAREHOUSE AND OFFICE. SIGNS SHALL BE SPACED AS REQUIRED BY N.F.P.A. OR EVERY 200 FEET AS INDICATED ON THE DRAWINGS IF N.F.P.A. HAS NO REQUIREMENT.

A. SIGNS SHALL BE "NO PARKING FIRE LANE" 12"X18" SIZE ENGINEER GRADE SCREENED STEEL. CAT NO. TC2405; POSTS SHALL BE GREEN BAKED ENAMEL, 6 FEET LONG, CAT. NO. 60U AS PROVIDED BY SETON IDENTIFICATION PRODUCTS, NEW HAVEN, CT. (800-243-6624)
B. POSTS AND SIGNS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. MINIMUM EMBEDMENT OF THE POST SHALL BE 18".
C. STRIPING
FIRE LANE ACROSS 4-DOOR DOCK AREA PAVEMENT SHALL BE MARKED "NO PARKING FIRE LANE" LETTERING AND STRIPING SHALL BE AS SPECIFIED BY THE CURRENT N.F.P.A. CODE. SEE NOTE NO. 9 "PAINT STRIPING". PAINT SHALL BE REFLECTIVE WHITE OR YELLOW LETTERS.

ENGINEER'S / SURVEYOR'S AUTHENTICATION:

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

BERUTTI & ASSOCIATES, INC.

Bovis Lend Lease
BOVIS LEND LEASE, INC.
PO BOX 32755
CHARLOTTE, NC 28232
OR
2550 WEST TYVOLA ROAD
SUITE 600
CHARLOTTE, NC 28217

NO.	DATE	ISSUE
1	05/18/01	ADDED NOTE 14.

PROJECT NO. 00-225
DESIGN BY. R.J.
DRAWN BY. C.B.
APPROVED BY. R.J.
DATE

aldi

distribution facility expansion
O'FALLON, MISSOURI

TITLE: GENERAL NOTES

PREPARED BY
Berutti
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SEAL: STATE OF MISSOURI — KENNETH RICHARD JOHNSON — E-16809 — REGISTERED PROFESSIONAL ENGINEER

SHEET C8 OF 8

DRAWING NO. 00225C8.DWG