# AN AS-BUILT PLAN FOR

# INDUSTRIAL PARK"

A TRACT OF LAND IN THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 24, TOWNSHIP 47 NORTH, RANGE 2 EAST, OF THE FIFTH PRINCIPAL MERIDIAN, ST. CHARLES COUNTY, MISSOURI

### GRADING NOTES

- 1. A Geotechnical Engineer shall be employed by the owner and be on site during grading operations. All soils tests shall be verified by the Geotechnical Engineer concurrent with the grading and backfilling operations.
- 2. The grading contractor shall perform a complete grading and compaction operation as shown on the plans, stated in these nates, or reasonably implied there from, all in accordance with the plans and notes as interpreted by the Geotechnical
- 3. The Contractor shall notify the Soils Engineer at least two days in advance of the start of the grading operation.
- 4. All areas shall be allowed to drain. All low points shall be provided with temporary ditches.
- 5. A sediment control plan that includes monitored and maintained sediment control basins and/or straw bales should be implemented as soon as possible. No graded area is to be allowed to remain bare without being seeded and mulched. Care should be exercised to prevent soil from damaging adjacent property and silting up existing downstream storm drainage system.
- 6. Debris and foundation material from any existing on-site building or structure which is scheduled to be razed for this development must be disposed of off-site.
- 7. All trash and debris on site, either existing or from construction, must be removed and properly disposed of off-site.
- 8. Soft soil in the bottom and banks of any existing or former pond sites or tributaries or on any sediment basins or traps should be removed, spread out and permitted to dry sufficiently to be used as fill. None of this material should be placed in proposed public right-of-way locations or on any storm sewer locations.
- 9. 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 thoroughly disced prior to the placement of any fill. The Soils Engineer shall approve the discing operation.
- 10. Compaction equipment shall consist of tamping rollers, pneumatic-tired rollers, vibratory 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
- 11. 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
- 12. 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.
- 13. 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.
- 14. The sequence of operation in the fill areas will be fill, compact, verify acceptable soil density, and repetition 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 to 8 percent above the optimum moisture control.
- 15. 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.
- 16. Fill and backfill should be compacted to the criteria specified in the following table:

CATEGORY	PERCENT COMPACTION	
Fill in building areas below footings Fill under slabs, walks, and pavement Fill other than building areas Natural subgrade Pavement subgrade Pavement base course	90% 90% 90% 90% 90% 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.

All site construction shall conform to the design recommendations as outlined above pending a future soils analysis/report.

### PRINCIPALS & STANDARDS

- All excavations, grading, or filling shall have a finished grade not to exceed a 3:1 slope (33%). 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.
- Sediment and erosion control plans for sites that exceed 20,000 square feet of grading shall provide for sediment or debris basins, silt traps or filters, staked straw bales or other approved measures to remove sediment from run-off Temporary siltation control measures shall be
- maintained until vegetative cover is established at a sufficient density to provide erosion control on the site.
- Where natural vegetation is removed during grading, vegetation shall be re-established in such a density as to prevent erosion. Permanent type grasses shall be established as soon as possible during the next seeding period after grading has
- 4. When grading operations are completed or suspended for more than 30 days permanent grass must be established at sufficient density to provide erosion control on the site. Between permanent grass seeding periods, temporary cover shall be

All finished grades (areas not to be disturbed by future improvement) in excess of 20% slopes (5:1) shall be mulched and tacked at the rate of 100 pounds per 1,000 square feet

- 5. Provisions shall be made to accommodate the increased runoff caused by changed soils and surface conditions during and 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 that 5 fps shall be established in permanent vegetation by use of commercial erosion control blankets or lined with rock riprap or concrete or other suitable materials. Detention basins, diversions or any other appropriate structures shall be constructed to prevent velocities above 5 fps.
- 6. The adjoining ground to development sites (lots) shall be provided with protection from accelerated and increased surface water, slit from erosion, and any other consequence of erosion. Run-off water from developed areas (parking lots, paved sites and buildings) above the area to be developed shall be directed to diversions, detention basins, concrete gutters and/or underground outlet systems. Sufficiently anchored straw bales may be temporarily substituted.
- 7. Development along natural watercourses shall have residential lot lines, commercial or industrial improvements, parking areas or driveways set back a minimum of 25 feet from the top of the existing stream bank. The watercourse shall be maintained and made the responsibility of the subdivision trustees or in the case of a site plan by the property owner. Permonent vegetation should be left intact. Variances will include designed streambank erosion control measures. FEMA and U.S. Army Corps of Engineers guidelines shall be followed where
- applicable regarding site development areas designated as flood plains and wetlands.
- 8. All lots shall be seeded and mulched or sodded before an occupancy permit shall be issued except that a temporary occupancy permit may be issued by the Building Department in cases of undue hardship because of unfavorable ground conditions.

9. The sediment control plan should be implemented before grading

- begins. This should follow the guidelines in the model sediment and erosion control regulations by St. Charles soil and water conservation 10. 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 entering natural streams and adjacent roadways. properties, and ditches. 11. All erosion control systems shall be inspected and necessary corrections
- 12. No graded area is to remain bare for over 6 months without being seeded

made within 24 hours of any rainstorm resulting in one-half inch of

#### VEGETATIVE ESTABLISHMENT For Urban Development Sites APPENDIX A

Permanent: Tall Fescue - 30 lbs./ac. Smooth Brome - 20 lbs./ac. Combined Fescue @ 15 lbs./ac. and Brome @ 10 lbs./ac. Wheat or Rye - 150 lbs./ac. (3.5 lbs. per square foot) - 120 lbs./ac. (2.75 lbs. per square foot)

Fescue or Brome - March 1 to June 1 August 1 to October 1 March 15 to November 1

March 15 to September 15 Mulch Rates: 100 lbs. per 1,000 sq. feet (4,356 lbs. per acre)

Nitrogen Fertilizer Rates: 30 lbs./ac. Phosphate 30 lbs./oc. 30 lbs./ac. 600 lbs./ac. ENM\* \* ENM = effective neutralizing material as per State evaluation of quarried rock.

# PRIVATE ROAD EASEMENT

# LOCATION MAP

GRADING QUANTITIES:

= SITE BALANCE

TO CONSTRUCTION.

OF FINAL MEASUREMENT PLANS

32,640 C.Y. CUT (INCLUDES SUBGRADE)

32,640 C.Y. FILL (INCLUDES 15% SHRINKAGE & SUBGRADE)

THE ABOVE GRADING QUANTITY IS APPROXIMATE ONLY, NOT FOR

BIDDING PURPOSES. CONTRACTOR SHALL VERIFY QUANTITIES PRIOR

U.S.G.S. BENCHMARKS

ORIGINAL REFERENCE BENCHMARK - RM46 ELEV. 469.17 "CHISELED SQUARE" ON TOP OF

SITE BENCHMARK ELEV=569.20 OLD IRON ROD AT THE NORTHWEST CORNER OF PROPERTY

CONVEYED TO PERMIAN HOLDINGS, INC., DEED BOOK 2349, PAGE 545, ST. CHARLES COUNTY

SEWER MEASUREMENTS

ALL PUBLIC SEWERS ARE LOCATED WITHIN DESIGNATED EXISTING OR PROPOSED EASEMENTS EXCEPT AS FOLLOWS:

THE EXISTING SEWER LENGTHS, SIZES, FLOWLINES, DEPTHS OF STRUCTURES AND SEWERS AND LOCATIONS WITH RESPECT TO

EXISTING OR PROPOSED EASEMENTS HAVE BEEN MEASURED. THE RESULTS OF THOSE MEASUREMENTS ARE SHOWN ON THIS SET

ABUTMENT AT SOUTHWEST CORNER OF HOFF ROAD BRIDGE OVER PERUQUE CREEK. THIS

BENCHMARK HAS BEEN REPLACED FROM NEW BRIDGE CONSTRUCTION AT THIS TIME.

## DEVELOPMENT NOTES

18.936 Acres

1. Area of Tract:

7,7		101000 110000
	Lot 1 Area:	1.539 Acres
	Lot 2 Area:	1.304 Acres
	Lot 3 Area:	1.304 Acres
	Lot 4 Area:	1.304 Acres
	Lot 5 Area:	1.304 Acres
2.	Existing Zoning:	I-2 Heavy Industrial
3.	Proposed Use:	Office/Warehouse
4.	Area of Proposed Buildings:	111,600 sq.ft.
5. The required height and building setbacks are as follows:		
	Minimum Front Yard:	30 feet
	Minimum Side Yard:	25 feet
	Minimum Rear Yard:	50 feet
	Maximum Height of Building:	50 feet
6.	Site is served by:	
	City of O'Fallon Sewer	636-281-2858
	AmerenUE Company	636-639-8312
	Laclede Gas Company	636-946-8937
	City of O'Fallon Water	636-281-2858
	Century Tel Telephone Company	636-332-3011
	O'Fallon Fire Protection District	636-272-3493
	Fort Zumwalt School District	636-272-6620
(C	According to the Flood Insurance Rate community Panel number 290315 0240 is property lies within zone X. Zone X atside the 500 year Flood Plain Limits.	E dated August 2, 1996)
8.	Parking Required: As Approved on Preli	
	(1 space per 400 s.f. office space plus	s 1 space per employee)

2,730 sq. ft. / 400 sq. ft. = 6.82 10 Employees = 10 Spaces Total Parking Required: 17 spaces Total Parking Provided: 18 spaces (Including 1 handicap spaces)

2,320 sq. ft. / 400 sq. ft. = 5.8 5 Employees = 5 Spaces Total Parking Required: 11 spaces Total Parking Provided: 17 spaces (Including 1 handicap spaces)

1,500 sq. ft. / 400 sq. ft. = 3.75 5 Employees = 5 Spaces Total Parking Required: 9 spaces Total Parking Provided: 16 spaces (Including 1 handicap spaces)

1,500 sq. ft. / 400 sq. ft. = 3.75 5 Employees = 5 Spaces Total Parking Required: 9 spaces Total Parking Provided: 16 spaces (Including 1 handicap spaces) 2,400 sq. ft. / 400 sq. ft. = 6

5 Employees = 5 Spaces Total Parking Required: 11 spaces Total Parking Provided: 11 spaces (Including 1 handicap spaces) 9. Landscape Required:

76 (spa.) x 270 = 20,520 S.F. 20,520 sq. ft.  $\times 0.06$  (%) = 1,231.20 Total Interior Landscape Required: 1,231.20 S.F. Total Interior Landscape Provided: 5,109.65 S.F. 519.76 L.F. / 40 L.F. = 12.99 ~ 13 Total Street Trees Required: 13 Trees

10. Site Coverage Calculations: Building = 111,600 sq.ft. Pavement = 122,619.53 sq.ft. Green Space = 63,952.22 sq.ft.

Total Street Trees Provided: 13 Trees

### GENERAL NOTES

- 1) UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE INFORMATION AND THEREFORE THEIR LOCATIONS SHALL BE CONSIDERED APPROXIMATE ONLY. THE VERIFICATION OF THE LOCATION OF ALL UNDERGROUND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THESE PLANS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, AND SHALL BE LOCATED PRIOR TO ANY GRADING OR CONSTRUCTION OF THE
- 2) ALL TRENCH BACKFILLS SHALL BE COMPACTED TO 90% OF THE MAXIMUM DENSITY AS DETERMINED BY THE "MODIFIED AASHTO T-180 COMPACTION TEST," (A.S.T.M.-D-1557). ALL TRENCH BACKFILLS UNDER PAVED AREAS INCLUDING SIDEWALKS SHALL BE GRANULAR FILL. AL. OTHER TRENCH BACK FILLS MAY BE EARTH MATERIAL (FREE OF LARGE CLODS OR STONES).
- 3) NO AREA SHALL BE CLEARED WITHOUT THE PERMISSION OF THE PROJECT
- 4) ALL GRADES SHALL BE WITHIN 0.2 FEET OF THOSE SHOWN ON THE
- 5) NO SLOPE SHALL BE STEEPER THAN 3:1. ALL SLOPES SHALL BE SODDED OR SEEDED AND MU CHED.
- 6) ALL CONSTRUCTION IND MATERIALS USED SHALL CONFORM TO CURRENT CITY OF O'FALLON S ANDARDS.
- 7) ALL UTILITIES SHOWN ARE EXISTING UNLESS OTHERWIS! NOTED. ALL NEW UTILITIES SHALL BE LOCATED INDERGROUND.
- 8) ALL DIMENSIONS ARI TO BACK OF CURB UNLESS OTH RWISE NOTED.
- THE DEVELOPER SHALL COMPLY WITH CURRENT ARTICL: 13 PERFORMANCE STANDARDS.
- 10) ONE LANE OF ROADWAY SHALL REMAIN OPEN AT ALL IMES AND TRAFFIC CONTROL SHALL MEET MISSOURI DEPARTMENT OF TRANSPORTATION SPECIFICATIONS.
- 11) ALL CONSTRUCTION METHODS AND PRACTICES TO CON ORM WITH OSHA STANDARDS.
- 12) DETENTION FOR THIS SITE WAS PROVIDED AS PART OF LONE STAR INDUSTRIAL PARK.
- 13) OFF-SITE EASEMENTS WILL BE REQUIRED WHERE THEY ARE NECESSARY. 14) THE DEVELOPER SHALL COMPLY WITH CURRENT TREE PRESERVATION ORDINANCE NUMBER 1689 AND PROVIDE LANDSCAPING AS SET FORTH IN ARTICLE 23 OF THE
  - CITY OF O'FALLON Z NING ORDINANCES. 15 Trees per Acre Cleared: 1.026 Ac. x 15 = 15.39 ~ 16 Trees
- 4 Trees Required Requirement 2 Requirement 3 Trees Required LOT 3 Requirement Trees Required LOT 4 Requirement Trees Required LOT 5 Requirement 3 Trees Required
- LOT 6 Requirement 4 Trees Required LANDSCAPE PLAN T BE PROVIDED WITH DEVELEOPMENT OF EACH INDIVIDUAL LOT.
- 15) THE DEVELOPER MUS. SUPPLY CITY CONSTRUCTION INSPECTORS WITH SOIL REPORTS PRIOR TO OR DURING SITE SOIL TESTING.
- 16) THE CONTRACTOR SHALL ASSUME COMPLETE RESPONSIBILITY FOR CONTROLLING ALL SILTATION AND ERO! ON OF THE PROJECT AREA. THE CONTRACTOR SHALL USE WHATEVER MEANS N CESSARY TO CONTROL EROSION AND SILTATION INCLUDING, BUT NOT LIMITED TO, ST. KED STRAW BALES AND/OR SILTATION FABRIC FENCES (POSSIBLE METHODS OF CONTRIL ARE DETAILED IN THE PLAN). CONTROL SHALL COMMENCE WITH GRADING AND E 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 DEPOSITING OF SILT. THE OWNER AND/OR THE CITY OF O'FALLON AND/CIT MODOT MAY AT THEIR OPTION IRECT THE CONTRACTOR IN HIS METHODS AS DEEME FIT TO PROTECT PROPERTY AND IMPROVEMENTS. ANY DEPOSITING OF SILTS OR MUD ON 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 S. ISFACTION OF THE OWNER AND/IR THE CITY OF O'FALLON AND/OR MoDOT.
- 17) ALL FILLED PLACES INDER PROPOSED STORM AND SA ITARY SEWER AND/OR PAVED AREAS SHALL BE COMPACTED TO 90% OF THE MAXIMUM DENSITY AS DETERMINED BY THE MODIFIED AASH 3 T-180 COMPACTION TEST OR 15% OF THE MAXIMUM DENSITY AS DETERMINED BY HE STANDARD PROCTOR TEST AASHOT T-99. ALL FILLED PLACED IN PROPOSED ROAD: SHALL BE COMPACTED FROM THE BOTTOM OF THE FILL UP. ALL TESTS SHALL BE VENIFIED BY A SOILS ENGINEER CONCURRENT WITH GRADING AND BACKFILLING OPERATIONS.
- 18) ALL SIGN LOCATIONS AND SIZES MUST BE APPROVED SEPERATELY THROUGH THE PLANNING DIVISION. SIGN LOCA IONS NOT KNOWN AT THIS TIME.
- 19) ALL SIGN POST AND BACKS AND BRACKET ARMS SHALL BE PAINTED BLACK USING CARBOLINE RUSTBOND PENETRATING SEALER SG AND CARBOLINE 133 HB PAINT (OR EQUIVALENT AS APPROVED BY CITY AND MODOT) SIGNS DESIGNATING STREET NAME SHALL BE ON THE OPPOSITE SIDE OF THE STREET FROM TRAFFIC CONTROL SIGNS.
- 20) LIGHTING VALUES WILL BE REVIEWED ON SITE PRIOR TO FINAL OCCUPANCY INSPECTION. CORRECTIONS WILL NEED TO BE MADE IF NOT IN COM-LIANCE WITH CITY STANDARDS.
- 21) ALL STORM AND SAI TARY STRUCTURES SHALL NOT BE CONSTRUCTED WITH BRICK. ALL STORM SEWER JOINT SHALL BE GASKETED O-RING 1 PE.
- 22) WHEN ELECTRIC SERVICE IS ESTABLISHED ALL TRANSFORMERS SHALL BE SCREENED FROM VIEW EXCEPT FOR A CESS POINT ON TRANSFORMERS.
- 23) NO BRICK IS TO BE USED IN THE CONSTRUCTION OF THE SANITARY OR STORM MANHOLES.

### SHEET INDEX

COVER SHEET SITE PLAN PROFILES

AS-BUILTS ADDED DECEMBER 2005

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In hereby specify that the documents intended to be authenticated by my seal are limited to this sheet, and I hereby disclaim any responsibility for all other Drawings, Specifications, Estimates, Reports or other documents or instruments relating to or intended to be used for any and or seal of the seal for the seal of the seal for any part or parts of the architectural or engineering project or survey.

ISCLAIMER OF RESPONSIBILITY

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REVISIONS



ENGINEERING PLANNING SURVEYING

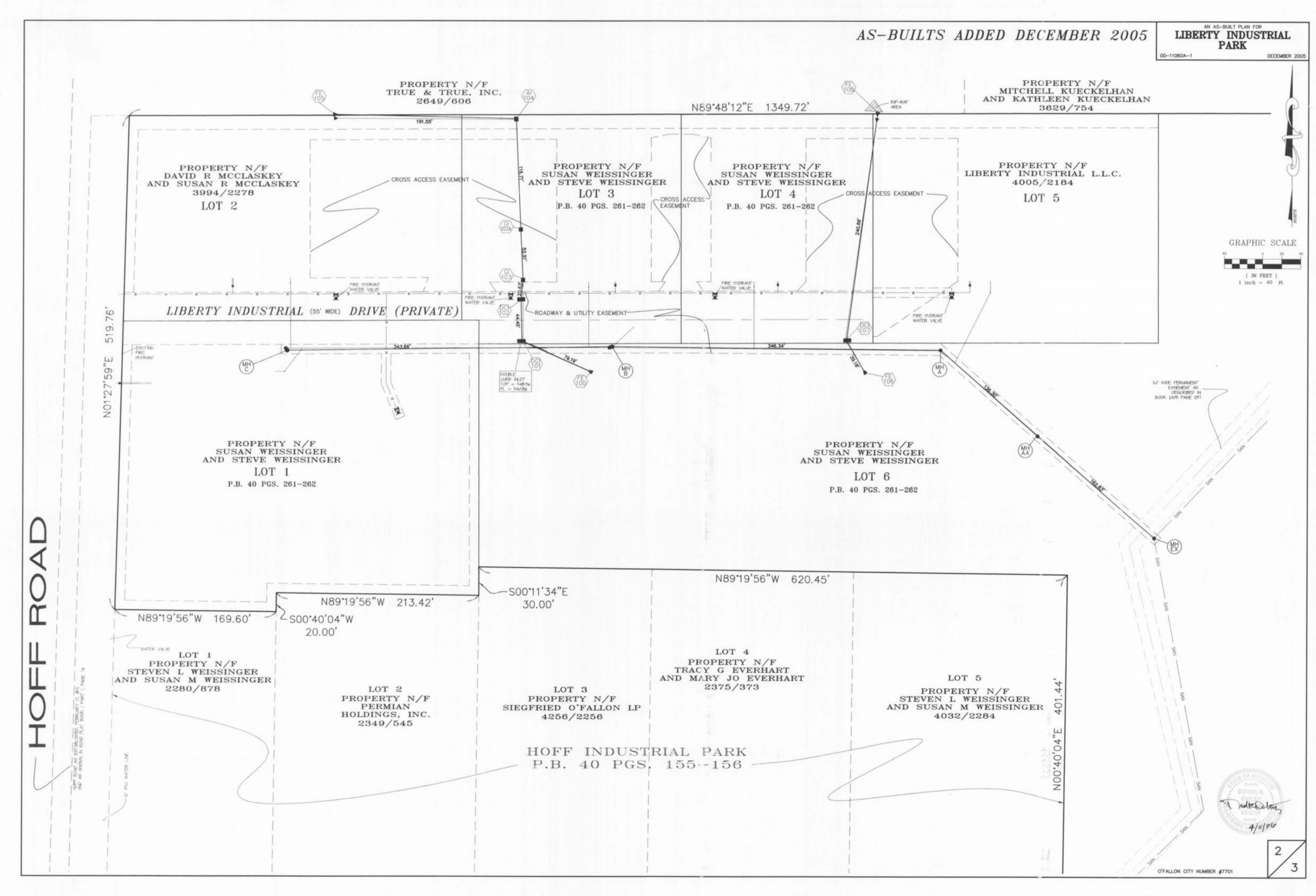
1052 South Cloverleaf Drive St. Peters, MO. 63376-6445 636-928-5552 FAX 928-1718

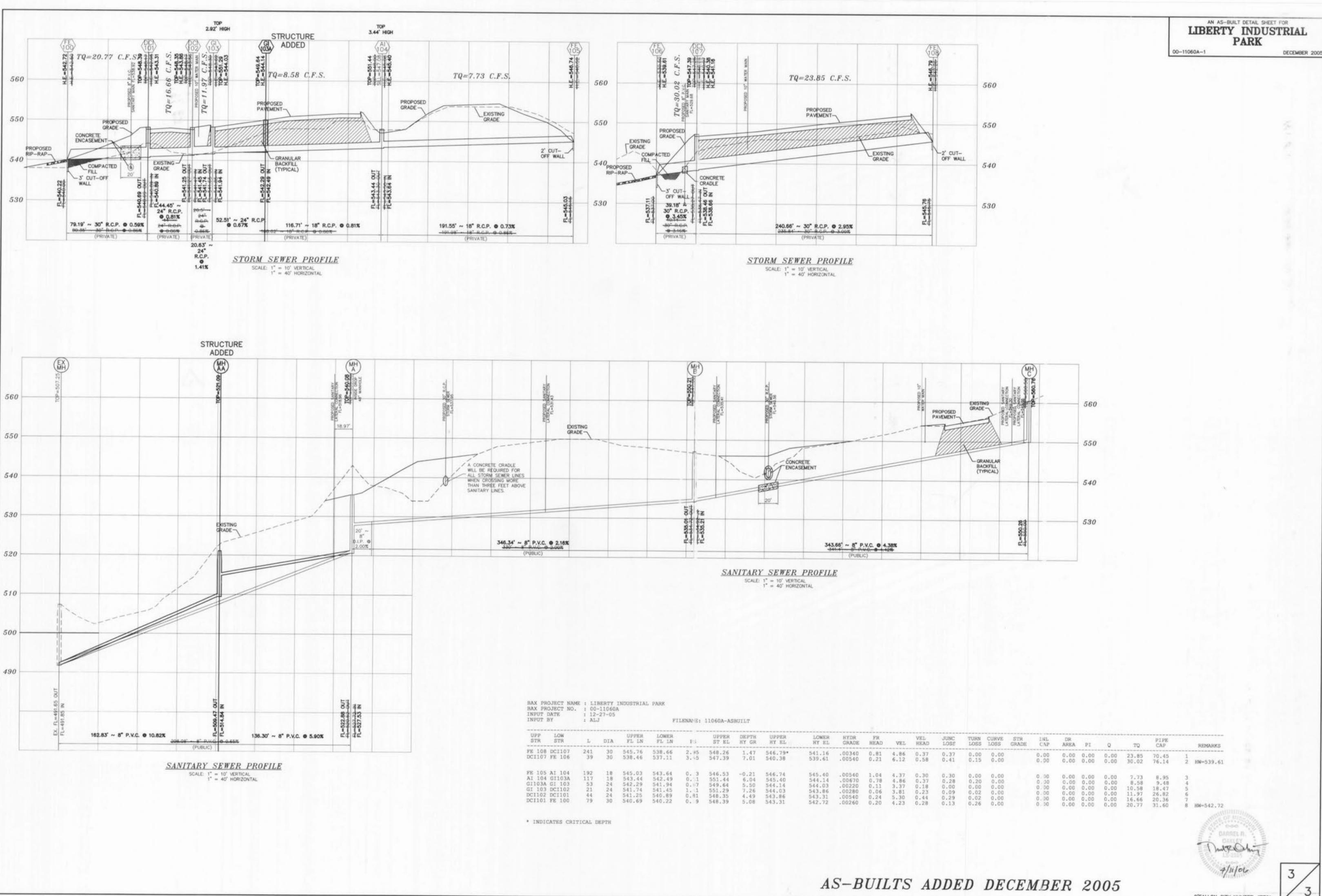
DECEMBER 2005 00-11060A-1 PROJECT NUMBER

FILE NAME

DESIGNED CHECKED

Liberty Industrial Park As-builts 1 of 3





O'FALLON CITY NUMBER #7701