A SET OF IMPROVEMENT PLANS FOR
SPRING ORCHARD
A TRACT OF LAND BEING PART OF U.S. SURVEY 67, TOWNSHIP 46 NORTH, RANGE 3 EAST, ST. CHARLES COUNTY, MISSOURI
FOR SANITARY & STORM SEWER APPROVAL ONLY

GRADING NOTES:

1. All construction methods, materials and practices shall conform to all current applicable specifications of the governing agencies.
2. Any destruction of existing improvements or features shall be repaired or replaced in kind by the contractor and shall remain the contractors responsibility.
3. 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 the responsibility of the contractor, and shall be located prior to grading or construction of improvements.
4. It shall be distinctly understood that failure to mention specifically any work which would normally be required to complete the project shall not relieve the contractor of his responsibility to perform such work.
5. Contractor shall keep road clear of mud and debris.
6. All fill areas to be compacted to a minimum of 90 percent of maximum dry density as determined by the Modified AASHTO Compacting Test, ASTM D1557-78, or as specified by the soils engineer.
7. It shall be the grading contractors responsibility to notify the soils engineer prior to work in progress and to comply with recommendations by the soils engineer with regards to compaction, surface preparation, and placement of fill.
8. It shall be the grading contractors responsibility to verify the location of any existing underground utilities by notifying utility companies prior to grading operations.
9. The grading contractor shall cut or fill to subgrade elevation under all areas to be paved. Subgrade depth is 0.5 foot below proposed finished elevations.
10. All drainage swales shall be sodded or seeded and mulched to prevent erosion.
11. All stumps, limbs, and other debris are to be removed from the site unless a suitable dump area is approved in advance by the owner after consulting with the soils engineer if burning is approved.
12. Subgrade is included in the total bid yardage. (Subgrade is figured at pavement depth.)
13. Slopes to receive fill which are steeper than 5:1 should be benched prior to placement of fill.
14. If fill is to be place in areas of soft soil, particularly in draws, drainage channels and other low lying areas, the soft soil shall be excavated until firm soil is encountered.
15. All grading shall comply with the soils engineer's recommendations.
16. Permanent grass is required for areas where grading is completed or a 30 day suspension of any site grading will be imposed.
17. A drainage easement will be granted to the City of O'Fallon for any creeks to remain in the development on the record plat.
18. Siltation control will be installed prior to any grading or construction operations and shall be inspected and maintained as necessary to insure their proper function until sufficient vegetation has been established to prevent erosion.
19. The installation and maintenance of all siltation controls shall be the responsibilty of the developer.
20. Additional siltation control may be required as directed by the local governing authority.
21. All grading area shall be protected from erosion by erosion control devices and/or seeding and mulching as required by the City of O'Fallon.
22. No portion of any lot will be in the 100 year flood plain after proposed grading is completed.
23. Erosion and sediment control structures shall be maintained throughout the construction process.
24. The Developer shall provide the City construction inspectors with soils reports prior to and during site soil testing.
25. 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 acceptence 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 any silts or mud on new or existing pavement or in new or existing 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.
26. All erosion control systems shall be inspected and necessary corrections made within 24 hours of any rainstorm resulting in one-half inch of rain or more.
27. 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, adjacent roadways, properties, ditches, and storm drainage systems (both on and offsite).
28. No graded area shall remain bare for over 6 months without being seeded or mulched.
29. No slope shall exceed 3(horz.):1(Vert.).
30. All filled places under proposed storm and sanitary sewer and/or paved areas shall be compacted from the bottom of the fill up to 90 % of maximum density as determined by the Modified AASHTO T-180 Compaction Test or 95 % of maximum density as determined by the Standard Proctor Test AASHOT T-99. A soils engineer concurrent with the grading and backfilling operations shall verify all tests.
31. When deemed necessary, positive steps should be exercised to prevent the soil from damaging adjacent property and silting up all storm drainage systems whether on or off site.
32. All low places whether on-site of off-site should be graded to allow drainage by installing temporary ditches.
33. Any wells and/or springs which may exist on this property should be located and sealed in a manner acceptable to the City of O'Fallon.
34. All trash and debris on-site, either existing or from construction, must be removed and disposed of off-site.
35. 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. All existing buildings and fencing is to be removed.
36. Soft soils in the bottom and banks of any existing or former pond sites or tributaries 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 location.
37. Please notify the Director of Public Works for the City of O'Fallon 24 hours prior to the commencement of grading. No building permits will be issued by the City of O'Fallon until construction plans are approved and the final plat recorded.
38. No grading is proposed within the R/W of Hwy. N at this time. Any subsequent grading or construction within state R/W as part of the final improvement plans will require MoDOT approval.
39. A LOMR-F (Letter Of Map Revision based on Fill) will be obtained from F.E.M.A. once grading is completed to remove all future lots out of the 100-year flood plain limits.
40. The low sill elevation for any proposed structures adjacent to the flood plain shall be a minimum of 1 (one) foot above the 100-year flood elevation and will be noted on the subdivision improvement plans.

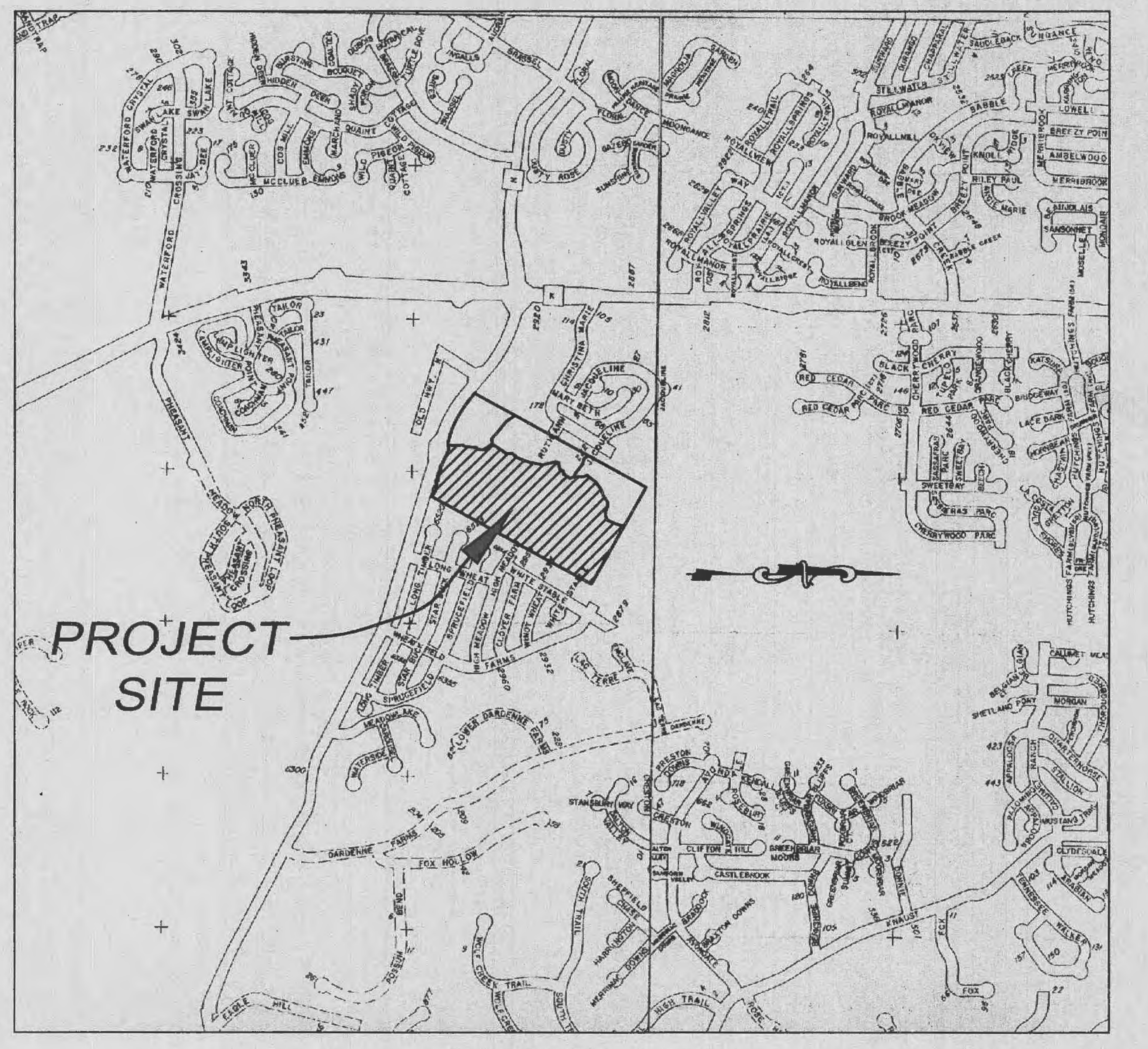
THESE PLANS HAVE BEEN REVIEWED BY SCI ENGINEERING, INC. FOR THEIR COMPLIANCE REGARDING GEOTECHNICAL RECOMMENDATIONS RELATIVE TO SITE DEVELOPMENT. BASED ON THIS REVIEW AND AVAILABLE SUBSURFACE INFORMATION, IT IS OUR OPINION THAT THE SITE MAY BE CONSTRUCTED IN ACCORDANCE WITH THE PLANS, GOOD CONSTRUCTION PRACTICES, AND THE RECOMMENDATIONS GIVEN IN THE GEOTECHNICAL REPORT OF JUNE, 2001.

WE HAVE NOT PREPARED ANY PART OF THESE PLANS AND MY SEAL ON THESE PLANS IS INTENDED ONLY TO CONFIRM MY PERSONAL REVIEW AND APPROVAL TO THE SITE GRADING PLAN AS IT RELATES TO THE STABILITY OT EARTH SLOPES.

SCI ENGINEERING, INC. MUST BE INVOLVED DURING THE CONSTRUCTION PHASE OF THIS PROJECT IN ORDER TO DETERMINE IF SUBSURFACE CONDITIONS ARE AS ANTICIPATED FROM THE FIELD EXPLORATION DATA, THAT OUR RECOMMENDATIONS RELATIVE TO SITE GRADING ARE IMPLEMENTED, AND THAT OTHER GEOTECHNICAL ASPECTS OF SITE DEVELOPMENT ARE PERFORMED IN ACCORDANCE WITH THESE PLANS.

SCI ENGINEERING, INC.

MARSIA GELDERT-MURPHEY, P.E.



LOCATION MAP
NOT TO SCALE

VILLAGES A & B
PROJECT NOTES:
R-1 PUD

1. Area of Site: 59.7 acres
2. Current Zoning: "R-1 PUD"
3. Present Owner: Goldkap III, L.L.C.
   401 N. Lindbergh Blvd., St. Louis , Mo. 63141
4. Lot Data:
   A. Total Units: 187
   B. Average Lot size Village A-8,157 sq. ft.
      Average Lot size Village B -8,788 sq. ft.
   C. Minimum Lot width at building line 70' Village B
      Minimum Lot width at building line 60' Village A
5. Yard set backs:
   1. Front - 20'
   2. Side - 5'
   3. Rear - 15'
6. Total area of tract = 59.70 Ac.
   Common Ground = 12.77 Ac.
   Net Total = 46.93 Ac.
7. Allowable Lots:
   $\frac{59.70 \text{ Ac} \times (43560 \text{ Sq.Ft./Ac})}{10{,}000 \text{ Sq.Ft allow/lot}} = 260$ Lots
8. Net lot Area:
   $\frac{46.93 \text{ Ac} \times (43{,}560 \text{ Sq.Ft./Ac})}{187 \text{ Lots}} = 10{,}932$ Sq.Ft. /Lots
9. Density Calculations:
   187 / 59.7 = 3.13 lots per ac.
10. Smallest Lot Size = 7,000 Sq. Ft. Village A
    Smallest Lot Size = 8,000 Sq. Ft. Village B
11. Approximate Structure Coverage is 55%.
    Structure Coverage is based on largest building placed on smallest lot.
    Village A = 92 - 60' Lots
    Village B = 95 - 70' Lots

DUCKETT CREEK SANITARY DISTRICT CONSTRUCTION NOTES

1. Underground utilities have been plotted from available information and therefore 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 improvements.
2. Gas, water and other underground utilities shall not conflict with the depth or horizontal location of existing or proposed sanitary and storm sewers, including house laterals.
3. All existing site improvements disturbed, damaged or destroyed shall be repaired or replaced to closely match preconstruction conditions.
4. All fill including places under proposed storm and sanitary sewer lines and paved areas including trench backfills within and off the road right-of-way shall be compacted to 90 per cent of maximum density as determined by the "Modified AASHTO T-180 Compaction Test (ASTM D1557)". All tests shall be verified by a Soils Engineer concurrent with grading and backfilling operations. the compacted fill shall be free of rutting and shall be non-yielding and non-pumping during proofrolling and compaction.
5. The contractor shall prevent all storm, surface water, mud and construction debris from entering the existing sanitary sewer system.
6. All sanitary sewer flowlines and tops built without elevations furnished by the engineer will be the responsibility of the sewer contractor.
7. Easements shall be provided for all sanitary sewers, storm sewers and all utilities on the record plat.
8. All construction and materials shall conform to the current construction standards of the Duckett Creek Sanitary District.
9. The Duckett Creek Sanitary District shall be notified at least 48 hours prior to construction for coordination of inspection.
10. 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 $2\frac{1}{2}$ feet.
11. All sanitary sewer manholes shall be waterproofed on the exterior in accordance with Missouri Department of Natural Resources specification 10 CSR-8.120(7)(E).
12. All PVC sanitary sewer pipe shall conform to the requirements of ASTM D-3034 Standard Specification for PSM Polyvinyl Chloride Sewer Pipe, SDR-35 or equal, with "clean" $\frac{1}{2}$ inch to 1 inch granular stone bedding uniformly graded. This bedding shall extend from 4 inches below the pipe to springline of pipe. Immediate backfill over pipe shall consist of same size "clean" or "minus" stone from springline of pipe to 6 inches above the top of pipe.
13. All sanitary and storm sewer trench backfills shall be water jetted. Granular backfill will be used under pavement areas.
14. All pipes shall have positive drainage through manholes. No flat invert structures are allowed.
15. All creek crossings shall be grouted rip-rap as directed by District inspectors. (All grout shall be high slump ready-mix concrete).
16. Brick shall not be used on sanitary sewer manholes.
17. Existing sanitary sewer service shall not be interrupted.
18. Maintain access to existing residential driveways and streets.
19. Pre-manufactured adapters shall be used at all PVC to DIP connections. Rubber boot/Mission-type couplings will not be allowed.
20. Any permits, licenses, easements, or approvals required to work on public or private properties or roadways are the responsibility of the developer.

LEGEND

EXISTING		PROPOSED
542	CONTOURS	(542)
536	SPOT ELEVATIONS	(536)
	CENTER LINE	
	BUILDINGS, ETC.	
	TREE LINE	
x	FENCE	x x x x x x x
	STORM SEWERS	
	SANITARY SEWERS	
EX. CI	CATCH BASIN	CI NO.
EX. AI	AREA INLET	AI NO.
EX. GI	GRATED INLET	GI NO.
EX. MH	STORM MANHOLE	MH NO.
EX MH	SANITARY MANHOLE	MH NO.
EX. FE	FLARED END SECTION	FE NO.
CO	CLEANOUT	CO
	LATERAL CONNECTION	
	UTILITY OR POWER POLE	
HYD	FIRE HYDRANT	HYD
TP	TEST HOLE	TP
	PAVEMENT	
2"G	GAS MAIN & SIZE	(2"G)
6"W	WATER MAIN & SIZE	(6"W)
T	TELEPHONE	(T)
E	ELECTRIC (U) UNDERGROUND	(E)
OWW	ELECTRIC (O) OVERHEAD	(OHW)
FL	FLOW LINE	FL
	TO BE REMOVED	TBR
TC	TOP OF CURB	(TC)
	SWALE	
	LIGHT STANDARD	
	STREET SIGN	
	STOP SIGN	STOP
P.S.	PARKING STALLS	P.S.
ELEC	YARD LIGHT	ELEC

INDEX OF SHEETS

LANDSCAPE LEGEND

EVERGREEN TREE(6' MIN. HT.) WHITE PINES/AUSTRIANS

DECIDUOUS TREE(2" MIN. CALIPER PIN OAKS, ASH, SWEET GUM

TREE ORDINANCE
Existing trees = 6.6 acres
Trees removed = 1.9 acres
Trees required = 15 trees per acre
15 trees X 1.9 acres = 29 trees required
Trees proposed = 29 trees
29 trees proposed = 29 trees required
Complied with Ordinance

GENERAL NOTES:

1. This site is in the following Districts:
   Duckett Creek Sewer District
   City of O'Fallon Fire Protection District
   Fort Zumwalt School District
2. This site is in the following Utility Service Areas:
   Public Water District #2
   AT&T Broadband
   Ameren UE Company
   St. Charles County Gas Company
   Verizon GTE Telephone
3. Sanitary sewer connections shall be as approved by the Duckett Creek Sewer District and the City of O'Fallon.
4. Storm Water Management shall be designed pursuant to the requirements of St. Charles County, and City of O'Fallon and shall discharge at an adequate natural discharge point.
5. The location of storm and sanitary sewer improvements are approximate only. Actual locations to be determined by field conditions and shall be indicated on the Improvement Plans.
6. Grading shall be per City of O'Fallon standards.
7. Developer shall provide a six foot wide asphalt trail within Highway N right-of-way as approved by MoDot or within a pedestrian easement to be maintained by the city. The trail shall be built in conjunction with this development.
8. The underground utilities shown herein were plotted from available information and do not necessarily reflect the actual existence, nonexistence, size, type, number, or location of these or other utilities. The general contractor shall be responsible for verifying the actual location of all underground utilities, shown or not shown, and shall be located in the field prior to any grading, excavation, or construction of improvements. The provisions shall in no way, absolve any party from complying with the Underground Facility Safety and Damage Prevention Act, Chapter 319, RSMO.
9. The source of topographic information is aerial photo dated 3-08-2001.
10. All proposed utilities and sewers shall be covered by easements granted to the appropriate utility companies and municipalities.
11. This project is in compliance with Article 26 of the City of O'Fallon's Zoning Code.
12. All sidewalks shall be 4' wide minimum and comply to ADA Standards.
13. This plat is not for record.
14. Proposed light standards shall be 16' tall max.
15. Villages A & B = 3.13 lots per acre
17. ✳ Denotes lots susceptible to street movement.
18. No known wetlands are on the subject property.
19. Existing land use: vacant.
20. All future uses on subject property will conform with Article XIII of the Zoning Code.
21. All necessary utilities (public or private) will be available, functioning and useable prior to the issuance of any occupancy permits.
22. Developer shall be responsible for all costs associated with the signalization of Spring Orchard Drive and Highway N when warranted by MoDot.
23. Prior to issuance of Building Permits for more than 30% of the total lots, all recreational amenities shall be completed.
24. Developer will meet the requirements of the Tree Preservation Ordinance in accordance with the approved Final Area Plan.
25. City approval of the Construction site plans does not mean that single family dwelling units can be constructed on the lots without meeting the building setbacks as required by the Zoning Code.
26. Driveway locations shall not interfere with the sidewalk handicap ramps.
27. Sidewalks, curb ramps, ramp, and accessible parking spaces shall be constructed in accordance with the current approved American with Disabilities Act Accessibility Guidelines" (ADAAC) along with the required grades, construction materials, specification and signage. If any conflict occurs between the above information and the plans, the ADAAC guidelines shall take precedence and the contractor prior to any construction shall notify the Project Engineer.
28. All sign post and backs and brackets arms shall be painted black using Carboline Rustbond Penetrating Sealer SG and Carboline 133 HB paint (or equivalent as approved by the City and MODOT).
29. All proposed playgrounds areas and pavilions will need a separate permit from the Building Division.
30. All Utilities shall be located underground.
31. All sign post and backs and brackets arms shall be painted black using Carboline Rustbond Penetrating Sealer SG and Carboline 133 HB paint (or equivalent as approved by the City and MODOT).
32. See the approved grading plan for the revegetation schedule.

FLOOD NOTE:

ACCORDING TO THE FLOOD INSURANCE RATE MAP OF THE COUNTY OF ST. CHARLES, MISSOURI, UNINCORPORATED AREAS (COMMUNITY PANEL NUMBER 29183C0239 E DATED AUGUST 2, 1996), A PORTION OF THIS PROPERTY LIES WITHIN ZONE AE. ZONE AE IS DEFINED AS AN AREA OF 100 YEAR FLOOD HAZARD, IN WHICH BASE FLOOD ELEVATIONS HAVE BEEN DETERMINED.

ESTIMATED CONSTRUCTION SCHEDULE

1. Clearing and Grubbing: August 2001
2. Rough Grading: August 2001 - October 2001
3. Construction of sewers, utilities, and roads: October 2001 - December 2001
4. Final Grading: January 2002
5. Landscaping: February 2002

PROJECT B.M. (MoDOT #90)

"□" AT CENTER OF SOUTH HEADWALL; STA. 225+83, 13' RT. ON OLD HIGHWAY N.
ELEV. 487.17
USGS DATUM

S.B.M. #1

OLD CROSS AT INTERSECTION OF HIGH MEADOWS DRIVE AND WHITE STABLE DRIVE.
ELEV. 530.15
USGS DATUM

APPROVED 10-17-01 [illegible]
RECEIVED OCT 17 2001 CITY OF O'FALLON, MO

S.B.M. #2

OLD CROSS AT INTERSECTION OF RUTH ANN DRIVE AND CHRISTINA MARIE DRIVE.
ELEV. 499.98
USGS DATUM

THE UNDERGROUND UTILITIES SHOWN HEREON WERE PLOTTED FROM AVAILABLE INFORMATION AND DO NOT NECESSARILY REFLECT THE ACTUAL EXISTENCE, NONEXISTENCE, SIZE, TYPE, NUMBER OR LOCATION OF THESE OR OTHER UTILITIES. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ALL UNDERGROUND UTILITIES, SHOWN OR NOT SHOWN, AND SAID UTILITIES SHALL BE LOCATED IN THE FIELD PRIOR TO ANY GRADING, EXCAVATION OR CONSTRUCTION OF IMPROVEMENTS. THESE PROVISIONS SHALL IN NO WAY ABSOLVE ANY PARTY FROM COMPLYING WITH THE UNDERGROUND FACILITY SAFETY AND DAMAGE PREVENTION ACT, CHAPTER 319, RSMo

ISSUE	REMARKS/DATE
1	9-06-01 FIRST SUBMITTAL
2	9-26-01 REVISIONS PER D.C.S.D.
3	10-05-01 REVISIONS PER CITY OF O'FALLON
4	10-11-01 FOR SANITARY & STORM SEWER APPROVAL
5	10-12-01 REVISE LATERALS PER CITY

2001

PREPARED FOR:
N & K HIGHWAYS, L.L.C.
5091 NEW BAUMGARTNER
ST. LOUIS, MISSOURI 63129
(314) 487-6717

STATE OF MISSOURI — JOHN C. ALEXANDER — NUMBER E-2000152268 — REGISTERED PROFESSIONAL ENGINEER
John C. Alexander 10-11-01

PREPARED BY:
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ENGINEERS & SURVEYORS
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DRAWN: GS
DESIGNED: JCM
CHECKED:

PROJECT: SPRING ORCHARD

SHEET TITLE: COVER SHEET

NO.		
01	01	008

M.S.D. P#

DIGITAL FILE LOCATION
SERVER=STERLING-2
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SHEET 1 OF 29

BASE MAP File

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9/05/01