

**GENERAL NOTES**

- PROPERTY IS IN THE TOWN OF DARDENNE PRAIRIE
- 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 IMPROVEMENTS.
- ALL MANHOLE AND INLET TOPS BUILT WITHOUT ELEVATIONS FURNISHED BY THE ENGINEER WILL BE THE RESPONSIBILITY OF THE SEWER CONTRACTOR.
- ALL STREETS SHALL BE 26" W CONCRETE PAVEMENT CENTERED IN A 50' W PUBLIC RIGHT OF WAY.
- STORM SEWERS 18" DIAMETER AND SMALLER SHALL BE A.S.T.M. C-76, CLASS II MINIMUM, UNLESS OTHERWISE SHOWN ON THE PLANS.
- STORM SEWERS 21" DIAMETER AND LARGER SHALL BE A.S.T.M. C-76, CLASS II MINIMUM, UNLESS OTHERWISE SHOWN ON THE PLANS.
- ALL STORM PIPE IN THE RIGHT-OF-WAY SHALL BE REINFORCED CONCRETE PIPE (A.S.T.M. C-76 CLASS III MINIMUM).
- 8" P.V.C. SANITARY SEWER PIPE SHALL MEET THE FOLLOWING STANDARDS: A.S.T.M.-D-3034 SDR-35, WITH WALL THICKNESS COMPRESSION JOINT A.S.T.M.-D-3212, AN APPROPRIATE RUBBER SEAL WATERSTOP AS APPROVED BY THE SEWER DISTRICT SHALL BE INSTALLED BETWEEN P.V.C. PIPE AND MASONRY STRUCTURES.
- THE ACCESS/WASH OFF AREA SHALL CONSIST OF A 6" - 8" LAYER OF AGGREGATE UNDERLAIN WITH FILTER CLOTH. WATER SHALL BE AVAILABLE AT THIS LOCATION FOR VEHICLE WASH OFF. ALL DRAINAGE SHALL BE AWAY FROM BATES ROAD AND ADJACENT PROPERTIES OR HAVE ADEQUATE SILTATION CONTROL TO PROTECT THESE ADJACENT OFFSITE AREAS.
- ALL TRENCH BACKFILLS UNDER PAVED AREAS SHALL BE GRANULAR BACKFILL, AND 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 OTHER TRENCH BACKFILLS MAY BE EARTH MATERIAL (FREE OF LARGE CLODS OR STONES). ALL TRENCH BACKFILLS SHALL BE WATER JETTED.
- ALL SANITARY HOUSE CONNECTIONS HAVE BEEN DESIGNED SO THAT THE MINIMUM VERTICAL DISTANCE FROM THE LOW POINT OF THE BASEMENT TO THE FLOW LINE OF A SANITARY SEWER AT THE CORRESPONDING HOUSE CONNECTION IS NOT LESS THAN THE DIAMETER OF THE PIPE PLUS A VERTICAL DISTANCE OF 2 1/2 FEET.
- NO AREA SHALL BE CLEARED WITHOUT THE PERMISSION OF THE PROJECT ENGINEER.
- ALL GRADES SHALL BE WITHIN 0.2 FEET OF THOSE SHOWN ON THE GRADING PLAN.
- NO SLOPE SHALL BE STEEPER THAN 3:1 OR AS CALLED FOR IN THE SOILS REPORT FOR THE PROJECT. ALL SLOPES SHALL BE SODDED OR SEEDED AND MULCHED.
- ALL CONSTRUCTION AND MATERIALS USED SHALL CONFORM TO CURRENT ST. CHARLES COUNTY & THE TOWN OF DARDENNE PRAIRIE STANDARDS.
- ALL SOILS TESTS SHALL BE VERIFIED BY A SOILS ENGINEER CONCURRENT WITH THE GRADING AND BACKFILLING OPERATIONS.
- EASEMENTS SHALL BE PROVIDED FOR STORM SEWERS, SANITARY SEWERS, AND ALL UTILITIES ON THE RECORD PLAT. SEE RECORD PLAT FOR LOCATION AND SIZE OF EASEMENTS.
- MAINTENANCE AND UPKEEP OF COMMON AREAS SHALL BE THE RESPONSIBILITY OF THE DEVELOPER AND/OR SUCCESSORS.
- A 25' BUILDING LINE SHALL BE ESTABLISHED ALONG ALL PUBLIC RIGHTS-OF-WAY.
- ALL WATER LINES SHALL BE LAID AT LEAST 10 FEET HORIZONTALLY, FROM ANY SANITARY SEWER, STORM SEWER, OR MANHOLE. WHENEVER WATER LINES MUST CROSS SANITARY SEWERS, LATERALS OR STORM DRAINS THE WATER LINE SHALL BE LAID AT SUCH AN ELEVATION THAT THE BOTTOM OF THE WATER LINE IS 12 INCHES ABOVE THE TOP OF THE DRAIN OR SEWER. A FULL LENGTH OF WATER PIPE SHALL BE CENTERED OVER THE SEWER LINE TO BE CROSSED SO THAT THE JOINTS WILL BE EQUALLY DISTANT FROM THE SEWER AND AS REMOTE THEREFROM AS POSSIBLE. THIS VERTICAL SEPARATION SHALL BE MAINTAINED FOR THAT PORTION OF THE WATER LINE LOCATED WITHIN 10 FEET, HORIZONTALLY, OF ANY SEWER OR DRAIN IT CROSSES.
- ALL SANITARY MANHOLES SHALL BE WATERPROOFED ON THE EXTERIOR IN ACCORDANCE WITH MISSOURI DEPARTMENT OF NATURAL RESOURCES SPECIFICATIONS 10 CSR-8.120 (7).
- SILTATION CONTROL DEVICES SHALL BE AS SHOWN ON PLANS, AND APPROVED BY THE LOCAL GOVERNING AUTHORITY. ADDITIONAL SILTATION CONTROL, IF REQUIRED, WILL BE PLACED AT THE DIRECTION OF THE SOILS ENGINEER ON-SITE AND/OR THE LOCAL GOVERNING AUTHORITY PRIOR TO PLACEMENT.
- THE GRADING YARDAGE SHOWN ON THE DRAWINGS IS AN APPROXIMATION ONLY, AND NOT FOR BIDDING PURPOSES. THE CONTRACTOR SHALL VERIFY QUANTITIES PRIOR TO CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED IF ANY DIFFICULTIES ARISE IN ACHIEVING THE REQUIRED EXCESS.
- BRICK SHALL NOT BE USED ON MANHOLES.
- THE DUCKETT CREEK SEWER DISTRICT SHALL BE NOTIFIED AT LEAST 48 HOURS PRIOR TO CONSTRUCTION OF SANITARY SEWERS FOR COORDINATION AND INSPECTION.
- ALL STORM AND SANITARY TRENCH BACKFILLS SHALL BE WATER JETTED. GRANULAR BACKFILL WILL BE USED UNDER PAVEMENT AREAS.
- ALL PVC SANITARY SEWER PIPE IS TO BE SDR-35 OR EQUAL WITH "CLEAN" 1/2" TO 1" GRANULAR STONE BEDDING UNIFORMLY GRADED. THIS BEDDING SHALL EXTEND FROM 4" 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" ABOVE THE TOP OF PIPE.
- CONCRETE PIPE JOINTS SHALL BE MSD TYPE "A" APPROVED COMPRESSION-TYPE JOINTS AND SHALL CONFORM TO THE REQUIREMENTS OF THE SPECIFICATIONS FOR JOINTS FOR CIRCULAR CONCRETE SEWER AND CULVERT PIPE, USING FLEXIBLE, WATERTIGHT, RUBBER-TYPE GASKETS ASTM C-2443, BAND-TYPE GASKETS DEPENDING ENTIRELY ON CEMENT FOR ADHESION AND RESISTANCE TO DISPLACEMENT DURING JOINTING SHALL NOT BE USED.
- ALL WATER MAINS SHALL BE PVC CLASS 200, SDR 21 WITH LOCATOR WIRE AND TRACER TAPE EXTENDED TO RIM OF LID.

- FIRE HYDRANTS SHALL BE 6" THREE WAY WITH AUXILIARY VALVE AND BOX. STEAMER CONNECTIONS SHALL BE INSTALLED FACING THE STREET. HYDRANTS SHALL BE MUELLER "CENTURIOR" OR CLOW "EDDY".
- ST. CHARLES COUNTY PUBLIC WATER SUPPLY DISTRICT No. 2 REQUIRES A MINIMUM OF 24 HOURS NOTICE PRIOR TO CONSTRUCTION OF WATER SYSTEM FACILITIES.
- ALL FILLED PLACES UNDER PROPOSED STORM AND SANITARY SEWER LINES AND/OR PAVED AREAS INCLUDING TRENCH BACKFILLS WITHIN AND OFF THE ROAD RIGHT-OF-WAY SHALL BE COMPACTED TO 90% MAXIMUM DENSITY AS DETERMINED BY THE "MODIFIED AASHTO T-180 COMPACTION TEST," (A.S.T.M.-D-1557). ALL TESTS SHALL BE VERIFIED BY A SOILS ENGINEER CONCURRENT WITH GRADING AND BACKFILLING OPERATIONS.
- GAS, WATER AND OTHER UNDERGROUND UTILITIES SHALL NOT CONFLICT WITH THE DEPTH OR HORIZONTAL LOCATION OF EXISTING OR PROPOSED SANITARY OR STORM SEWERS, INCLUDING HOUSE LATERALS.
- ALL EXISTING SITE IMPROVEMENTS DISTURBED, DAMAGED OR DESTROYED SHALL BE REPAIRED OR REPLACED TO CLOSELY MATCH PRE CONSTRUCTION CONDITIONS.
- THE CONTRACTOR SHALL PREVENT ALL STORM, SURFACE WATER, MUD AND CONSTRUCTION DEBRIS FROM ENTERING THE EXISTING SANITARY SEWER SYSTEM.
- EXISTING SANITARY SEWER SERVICE SHALL NOT BE INTERRUPTED.
- MAINTAIN ACCESS TO EXISTING RESIDENTIAL DRIVEWAYS AND STREETS.
- PRE-MANUFACTURED ADAPTERS SHALL BE USED AT ALL PVC TO DIP CONNECTIONS. RUBBER BOOT / MISSION-TYPE COUPLINGS WILL NOT BE ALLOWED.
- ALL FILLED PLACES IN PROPOSED AND EXISTING ST. CHARLES COUNTY ROADS (HIGHWAYS) SHALL BE COMPACTED FROM THE BOTTOM OF THE FILL UP TO 90 PERCENT MAXIMUM DENSITY AS DETERMINED BY THE "MODIFIED AASHTO T-180 COMPACTION TEST" (ASTM D-1557). PAVED AREAS IN THE CUTS SHALL MEET THE SAME COMPACTION REQUIREMENTS. ALL TESTS SHALL BE VERIFIED BY A SOILS ENGINEER CONCURRENT WITH THE GRADING OPERATIONS.
- PLEASE NOTIFY THE CHIEF INSPECTOR OF THE ST. CHARLES COUNTY HIGHWAY DEPARTMENT 24 HOURS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
- IF THE STORM AND SANITARY SEWERS ARE PARALLEL AND IN THE SAME TRENCH OR OVERDIP, THE UPPER PIPE SHALL BE PLACED ON A SHELVE AND THE LOWER PIPE SHALL BE BEDDED IN COMPACTED GRANULAR FILL TO THE FLOW LINE OF THE UPPER PIPE.
- ALL CUL-DE-SACS MUST BE HAND FORMED BEGINNING AT THE PC'S OF THE ROUNDINGS. A CONTINUOUS SLOPE MUST BE MAINTAINED FROM THE CENTER OF THE CUL-DE-SAC TO THE CURB.

**LEGEND**

CL	CURB INLET	☆	STREET LIGHT
D.G.I.	DOUBLE CURB INLET	---	EXISTING CONTOUR
AI	AREA INLET	---	PROPOSED CONTOUR
M.H.	MANHOLE	5x5	STREET SIGN
F.E.	FLARED END SECTION	---	NO PARKING SIGN
E.P.	END PIPE	W	WATER VALVE
C.P.	CONCRETE PIPE	8.0	BLOW OFF ASSEMBLY
R.C.P.	REINFORCED CONCRETE PIPE	---	FLOWLINE ELEVATION OF HOUSE CONNECTION
C.M.P.	CORRUGATED METAL PIPE	---	FLOWLINE ELEVATION OF SEWER MAIN
C.I.P.	CAST IRON PIPE	---	
P.V.C.	POLY VINYL CHLORIDE (PLASTIC)	---	
C.O.	CLEAN OUT	---	
☆	FIRE HYDRANT	---	
---	STORM SEWER	---	
---	SANITARY SEWER	---	

**APPENDIX A**

**VEGETATION ESTABLISHMENT For Urban Development Sites**

**SEEDING RATES:**

**PERMANENT:**  
Tall Fescue - 30 lbs./ac.  
Smooth Brome - 20 lbs./ac.  
Combined - Fescue @ 15 lbs./ac. AND Brome @ 10 lbs./ac.

**TEMPORARY:**  
Wheat or Rye - 150 lbs./ac.  
Oats - 120 lbs./ac.

**SEEDING PERIODS:**  
Fescue or Brome - March 1 to June 1  
August 1 to October 1

Wheat or Rye - March 15 to November 1  
Oats - March 15 to September 15

**MULCH RATES:**  
100 lbs. per 1000 sq. ft. (4,356 lbs. per ac.)

**FERTILIZER RATES:**

Nitrogen	30 lbs./ac.
Phosphate	30 lbs./ac.
Potassium	30 lbs./ac.
Lime	600 lbs./ac. ENM*

\* ENM = effective neutralizing material as per State evaluation of quarried rock.

**KEY MAP**  
NO SCALE

**BENCHMARK**

Site Bench Mark Elevation = 590.28 FT  
The old iron pipe at the northwest corner of the property at eastern right of way corner of Blue Jay Lane and Joy Court.

reference mark 40: elevation = 526.94 ft. cut cross on top of north end of a c.m.p. at the northeast corner of McClure, Bates and Henning roads.

taken from St. Charles co. F.I.R.M. map # 29183C0430c dated: august 2, 1996. USGS DATUM

**GRADING QUANTITY**

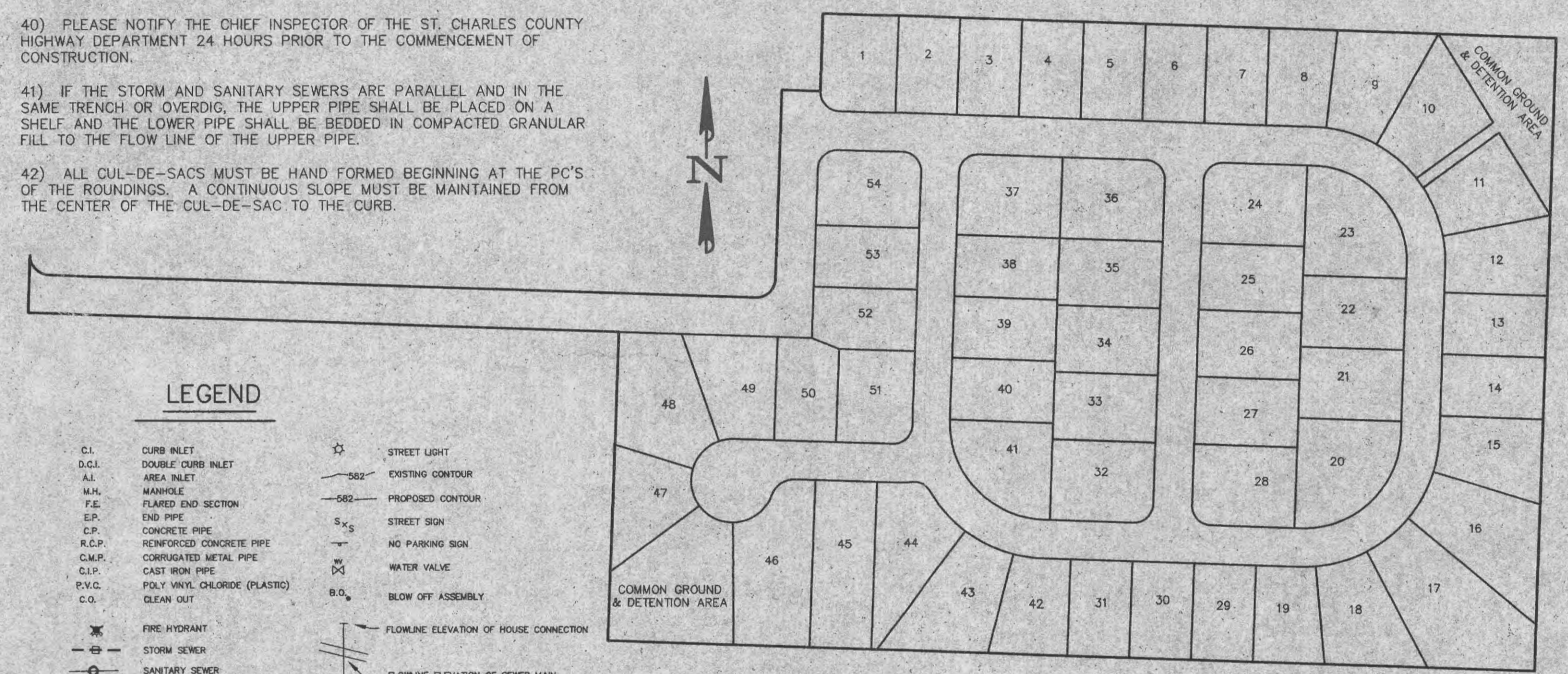
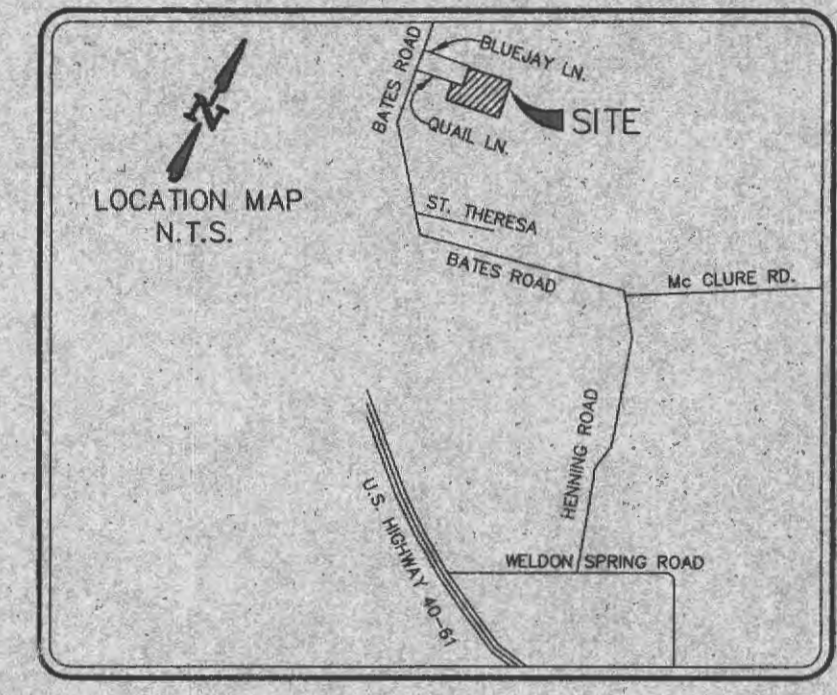
37,540 cu.yds.  
(INCLUDES 15% SHRINKAGE)

The above yardage is an approximation only, NOT FOR BIDDING PURPOSES. Contractors shall verify quantities prior to construction.

It is the intention of the Engineer for the earthwork to balance on-site. The Engineer shall be notified if any difficulties arise in achieving the balance.

**A SET OF CONSTRUCTION PLANS FOR PRAIRIE HILLS**

A TRACT OF LAND BEING PART OF LOT 1 OF THE SUBDIVISION OF CAROLYN M. BATES FARM, ALSO BEING PART OF LOTS NO. 12 AND 17 OF WALNUT GROVE TRACT, ALL IN.U.S. SURVEY 1669, TOWNSHIP 46 NORTH, RANGE 3 EAST OF THE FIFTH PRINCIPAL MERIDIAN, ST. CHARLES COUNTY, MISSOURI



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- 12 THRU 16 - CONSTRUCTION DETAILS

**GRADING NOTES**

- 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).
- Temporary siltation control measures (structural) shall be maintained by the contractor until vegetative cover is established at a sufficient density to provide erosion control on the site. (Refer to Appendix A.)
- 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 been completed. (Refer to Appendix A.)
- 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 provided. (Refer to Appendix A.) 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 when seeded.
- The adjoining ground to development sites (lots) shall be provided with protection from accelerated and increased surface water, silt from erosion, and any other consequence of erosion. Sufficiently anchored straw bales may be temporarily substituted with the approval of the Designated Official.
- All lots shall be seeded and mulched at the minimum rates defined in Appendix A 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.
- Designated official shall be The Town of Dardenne Prairie.
- All grading operation, removal of septic tanks and treatment of existing wells shall be coordinated with the Soils Engineer.
- Any wells and/or springs which may exist on this property shall be located and sealed in a manner acceptable to the St. Charles County and The Town of Dardenne Prairie.
- All trash and debris on-site, either existing or from construction, must be removed and properly disposed of off-site.
- Soft soils in the bottom and banks of existing pond shall be removed, spread out and permitted to dry sufficiently to be used as fill. None of this material SHALL be placed in proposed public right-of-way locations or on any storm sewer location. Fill materials in existing pond shall be compacted to 90% of maximum dry density as determined by the "Modified Proctor Test" or to whatever the surrounding ground is. All compaction shall be coordinated with soil consultant.
- Please notify Gerald Schoenherr of George Butler Associates 48 hours prior to the commencement of grading and/or prior to the commencement of construction. No building permits will be issued by the town of Dardenne Prairie until construction plans are approved and the final plat is recorded.
- All area inlets shall be protected from sediment with straw bales.
- All siltation control devices shall be inspected by the contractor after any rain of 1/2" or more with any appreciable accumulation of mud to be removed and siltation measures repaired where necessary.
- All siltation control measures are to be installed in accordance with the composite agency manual "Protecting Water Quality".
- All unpaved areas shall be seeded and mulched within one week of final grading of that part of site.
- Concrete swales shall be installed after construction is completed.
- Basins shall be over-excavated to contain sediment per approved grading plan.

**DEVELOPMENT NOTES:**

- TOTAL AREA OF TRACT - 21.66 ACRES
- EXISTING ZONING - R-10 PUD (VILLAGE OF DARDENNE PRAIRIE)
- TOTAL NUMBER OF LOTS PROPOSED - 54 LOTS
- NO FLOOD PLAIN EXISTS ON THIS SITE PER FIRM #29183C0240E DATED AUG. 2, 1996
- THE EXISTING POND SHALL BE CAREFULLY DRAINED, UNDERCUT AND BACKFILLED TO AVOID ANY FOUNDATION PROBLEMS ON LOT 28, 29, & 30.
- THIS DEVELOPMENT SHALL BE CONSTRUCTED IN ONE PHASE.
- EACH LOT SHALL HAVE A MINIMUM OF A TWO CAR GARAGE WITH TWO OFFSTREET PARKING SPACES.
- MINIMUM YARD REQUIREMENTS:
  - LOT AREA - 10,000 SQ.FT.
  - LOT WIDTH - 80 FEET
  - REAR YARD - 25 FEET
  - FRONT YARD - 25 FEET
  - SIDE YARD - 7 FEET
  - DWELLING SIZE - 1,600 SQ.FT. (ONE STORY), 1,250 SQ.FT. (FIRST FLOOR TWO STORY, 2,200 SQ.FT. TOTAL), 1,900 SQ.FT. (SPLIT LEVEL)
- THIS TRACT IS LOCATED IN AND SERVED BY:
  - FORT ZUMWALT SCHOOL DISTRICT
  - O'FALLON FIRE DISTRICT
  - ST. CHARLES GAS COMPANY
  - UNION ELECTRIC COMPANY
  - ST. CHARLES COUNTY PUBLIC WATER DISTRICT NO.2
  - OR MISSOURI AMERICAN WATER COMPANY
  - GTE TELEPHONE COMPANY
  - DUCKETT CREEK SEWER DISTRICT
- STORMWATER DETENTION SHALL BE DESIGNED TO DETAIN THE 2-YEAR, 25-YEAR AND 100-YEAR 20-MIN. STORMS.

**DISCLAIMER OF RESPONSIBILITY**  
I hereby certify that the documents referred to in the certification are my work and that I am a duly licensed professional engineer in the State of Missouri. I am not responsible for any errors or omissions in the drawings, reports or other documents or instruments prepared or submitted by me or by any other person in connection with the execution of any project or work.

**REVISIONS**

08-11-98	DCSD COMMENTS
08-28-98	YOP COMMENTS
08-14-98	YOP COMMENTS
08-21-98	ISCD COMMENTS

**ENGINEERING PLANNING SURVEYING**

1052 South Cleveland Drive  
St. Peters, MO. 65376-9445  
914-928-5552  
FAX 928-1718

7-10-98  
DATE  
97-9328A  
PROJECT NUMBER  
1 OF 16  
SHEET OF  
9328A CON.DWG  
FILE NAME  
ADJ MCG  
DRAWN CHECKED

PLAINTIFF'S EXHIBIT  
DE-29C  
HLS 4-24-00

Prairie Hills  
Storm sewers  
connect to Twin Chimneys  
10/98

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