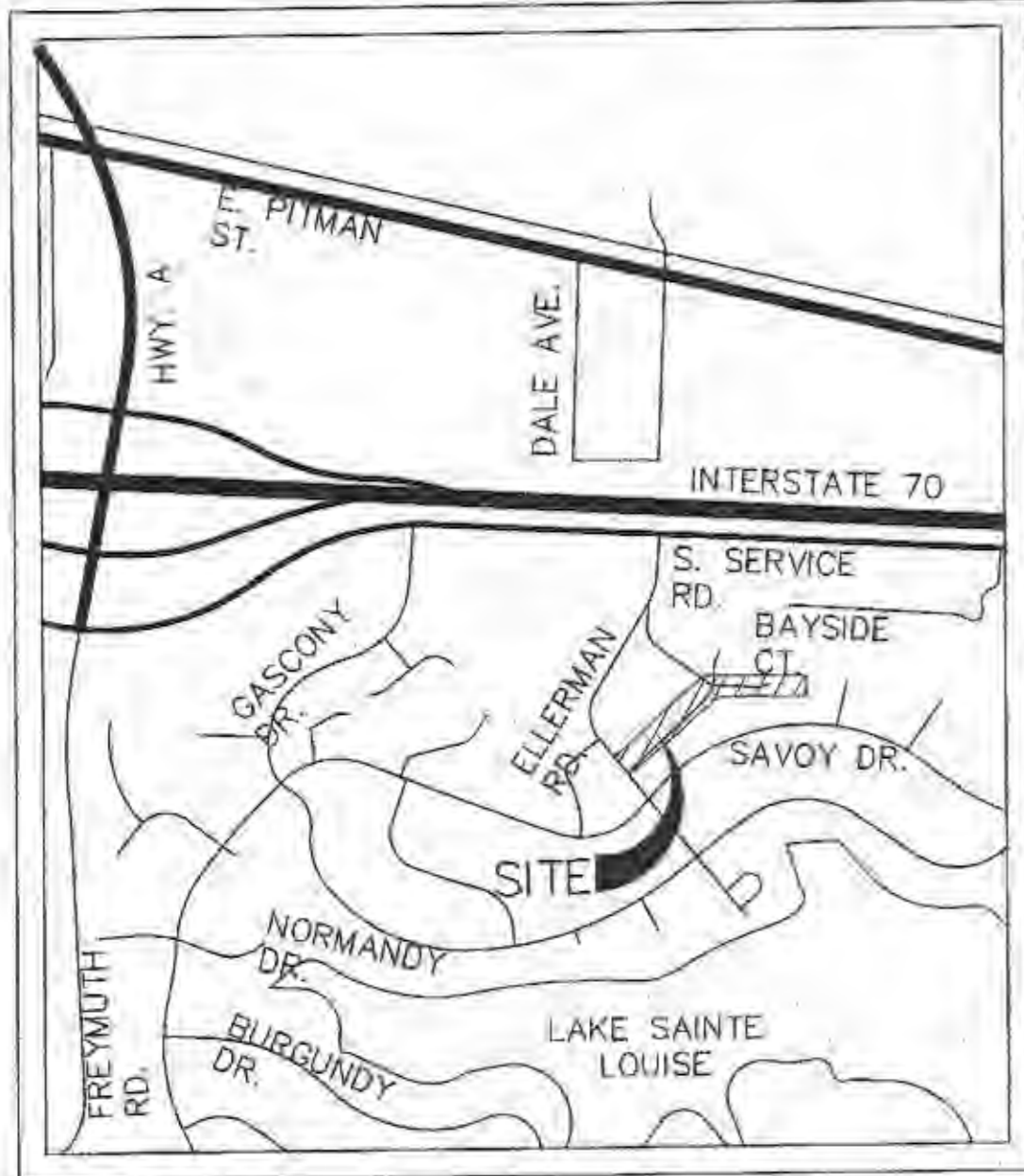


# A SANITARY SEWER EXTENSION PLAN FOR #3 & 7 ELLIS DRIVE

TRACTS OF LAND IN U.S. SURVEY 929,  
TOWNSHIP 47 NORTH, RANGE 2 EAST  
OF THE FIFTH PRINCIPAL MERIDIAN  
CITY OF LAKE SAINT LOUIS,  
ST. CHARLES COUNTY, MISSOURI



NOT TO SCALE  
LOCATION MAP

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

**Seeding Rates:**

**Permanent:**  
Tall Fescue - 80 lbs./ac.  
Smooth Brome - 100 lbs./ac.  
Combined Fescue & Brome - 50 lbs./ac.

**Temporary:**  
Wheat or Rye - 150 lbs./ac. (3.5 lbs. per 1,000 square foot)  
Oats - 120 lbs./ac. (2.75 lbs. per 1,000 square foot)

**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 1,000 sq. feet (4,356 lbs. per acre)

**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.

**GENERAL NOTES**

- 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 filled areas, including trench backfills, under buildings, proposed storm and sanitary sewer lines and/or paved areas, shall be compacted to 90% maximum density as determined by the "Modified AASHTO T-180 Compaction Test," (A.S.T.M. D-1557). All filled places within public roadways shall be compacted to 95% of maximum density as determined by the "Standard Proctor Test AASHTO T-99, Method C"(A.S.T.M. D-698).
- 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.
- No area shall be cleared without the permission of the Project Engineer.
- No slope shall be steeper than 3:1 unless otherwise approved and all slopes shall be sodded or seeded and mulched.
- All construction and materials used shall conform to current Public Water Supply District No. 2 of St. Charles County and City of Lake Saint Louis Standard Specifications.
- All utilities shown are existing unless otherwise noted. All new utilities shall be located underground.
- All dimensions are to back of curb unless otherwise noted.
- All construction methods and practices shall conform with current O.S.H.A. Standards.
- Notify the Public Water Supply District No. 2 and City of Lake Saint Louis 72 hours prior to the commencement of grading and/or prior to the commencement of construction.
- Parking on non-surfaced areas is prohibited in order to eliminate the condition whereby mud from construction and employee vehicles is tracked onto the pavement causing hazardous roadway and driving conditions. Contractor shall keep road clear of mud and debris.
- The streets surrounding this development and any street used for construction access thereto shall be steered throughout the day.
- Where natural vegetation is removed during grading, vegetation shall be reestablished in such a density as to prevent erosion.
- No excavation shall be made so close to the property line as to endanger any adjoining property of any public or private street without supporting and protecting such public or private street or property from settling, cracking, or other damage.
- Storm water pipes, outlets and channels shall be protected by silt barriers and kept free of waste and silt at all times prior to final surface stabilization and/or paving.
- Soft soils in the bottom and banks of any existing or former pond sites or tributaries or 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 in any storm sewer location.
- All trash or debris on-site, either existing or from construction, must be removed and properly disposed of off-site.
- Debris and foundation material from any existing on-site building or structures which is scheduled to be razed for this development must be properly disposed of off-site.
- Existing septic tank shall be abandoned per City of Lake Saint Louis and MDNR regulations.
- All existing site improvements disturbed, damaged or destroyed shall be repaired or replaced to closely match pre construction conditions.
- All sanitary sewer flowlines and tops built without elevations furnished by the engineer will be the responsibility of the sewer contractor.
- All sanitary sewer building connections have been designed so that the minimum vertical distances from the low point of the basement to the flowline of a sanitary sewer at the corresponding building connection is not less than the diameter of the pipe plus the vertical distance of 2-1/2 feet. (unless otherwise noted)
- All sanitary sewer manholes shall be waterproofed on the exterior in accordance Missouri Dept. Of Natural Resources specifications 10 CSR-8.120(7)(E).
- All PVC sanitary sewer pipe is to be SDR-35 or equal with crushed limestone (3/4" minus) bedding. This bedding shall extend from 6 inches below the pipe to springline of pipe. Immediate back fill over pipe shall consist of same size "clean" or "minus" stone from springline of pipe to 6 inches above the top pipe.
- All sanitary and storm sewer trench backfills shall be water jetted. Granular back fill will be used under pavement areas.
- All pipes shall have positive drainage through manholes. No flat base structures are allowed.
- Brick shall not be used on sanitary sewer manholes.
- All PVC 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 contractor shall prevent all storm surface water, mud and construction debris from entering the existing sanitary sewer system.
- Materials shall be in accordance with MDNR Rules under Title 10 CSR 20-8.120 and 130.
- All sanitary sewer construction shall conform to PWS#2 of St. Charles County Sewer System Specifications, which are available at [www.waterdistrict2.com/rules.html](http://www.waterdistrict2.com/rules.html)

**USGS BENCHMARKS:**

REFERENCE BENCHMARK: RM 24 ELEVATION = 511.22 (NGVD 29)  
CHISELED "SQUARE" ON TOP OF SOUTHEAST ABUTMENT OF WESTBOUND U.S. HIGHWAY 40  
BRIDGE OVER PERLOUE CREEK.

SITE BENCHMARK: ELEVATION = 828.95'  
SANITARY SEWER MANHOLE APPROXIMATELY 5 FEET SOUTH AND 10 FOOT EAST OF  
SOUTHWEST PROPERTY CORNER OF PROPERTY CONVEYED TO THOMAS W. MCGEE AS RECORDED  
IN DEED BOOK 4269, PAGE 2430 AT THE ST. CHARLES COUNTY RECORDERS OFFICE.

**DEVELOPMENT NOTES:**

- Area to be disturbed: 0.25 Acres
- Address of Site: #3 & 7 Ellis Drive
- Current Zoning: SR-1 Residential(City of Lake St. Louis)
- Existing Use: Residence
- Parcel Numbers: 4-0056-0929-00-B.1  
4-0056-0929-00-B.2
- Owners: C.M. Holdings, L.L.C.  
705 Collemor Hill Drive  
Weldon Spring, Mo 63304
- Site is served by:  
Culpeper Electric Coop.  
CenturyLink Telephone  
Loose Gas  
Public Water Supply District No. 2 (Water & Sewer)  
Charter Communications
- According to the Flood Insurance Rate Map of the St. Charles, Missouri Unincorporated areas, (Community panel Number 28183C0220F dated March 17, 2003) This tract lies within Zone X (unshaded) Zone X (shaded) is defined as areas determined to be outside 500-year floodplain.
- Additional flow added to sanitary sewer system with this extension is 1,110 GPD. This estimate includes a future third lot with one additional house.
- Before Sanitary main installation contractor to verify new flow line of sanitary laterals existing existing homes to determine flow lines of laterals in relation to new main and contact engineer if a conflict arises.

**LEGEND**

- ⊙ -IRON PIPE
- \* -FOUND CROSS
- GAS- -GAS LINE
- SAN- -SANITARY LINE
- W - -WATER LINE
- STM- -STORM LINE
- OHW- -OVERHEAD WIRE
- UCL- -UNDERGROUND CABLE LINE
- U- -UTILITY POLE
- ⊖ -BUY WIRE
- EMTR -ELECTRIC METER
- ⊙ -SANITARY MANHOLE
- ⊙ -SANITARY CLEANOUT
- WMTR -WATER METER
- ⊖ -FIRE HYDRANT
- ⊖ -WATER VALVE
- GMTR -GAS METER
- ⊖ -GAS DRIP
- ⊖ -BOLLARD
- ⊖ -SIGN /TYPE
- ⊖ -CURB/AREA INLET
- ⊖ -HANDICAPPED PARKING
- ⊖ -LIGHT STANDARD
- ⊖ -ELECTRIC YARD LIGHT
- ⊖ -WATER SPRINKLER

**PREPARED FOR:**  
**A SANITARY SEWER EXTENSION FOR**  
**#3 & 7 ELLIS DRIVE**  
**COLLEEN AND TERRY MORGAN**  
**705 COLLEMMOR HILL DRIVE**  
**WELDON SPRING, MO 63304**  
**(636) 373-2860**

**DISCLAIMER OF RESPONSIBILITY**  
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 part or parts of the architectural or engineering project or survey other than those authorized by my seal.



Larry David Walker  
Civil Engineer  
2007020343  
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**REVISIONS**

| NO.      | DATE | DESCRIPTION    |
|----------|------|----------------|
| 08-02-10 |      | City Comments  |
| 09-07-10 |      | PWS#2 Comments |
| 04-19-11 |      | New Alignment  |



**ENGINEERING  
PLANNING  
SURVEYING**  
221 Point West Blvd.  
St. Charles, MO 63301  
636-928-5652  
FAX 928-1718

**INDEX OF SHEETS**

| SHEET NO. | DESCRIPTION       |
|-----------|-------------------|
| 1         | COVER SHEET       |
| 2         | SITE PLAN         |
| 3         | PROFILE & DETAILS |

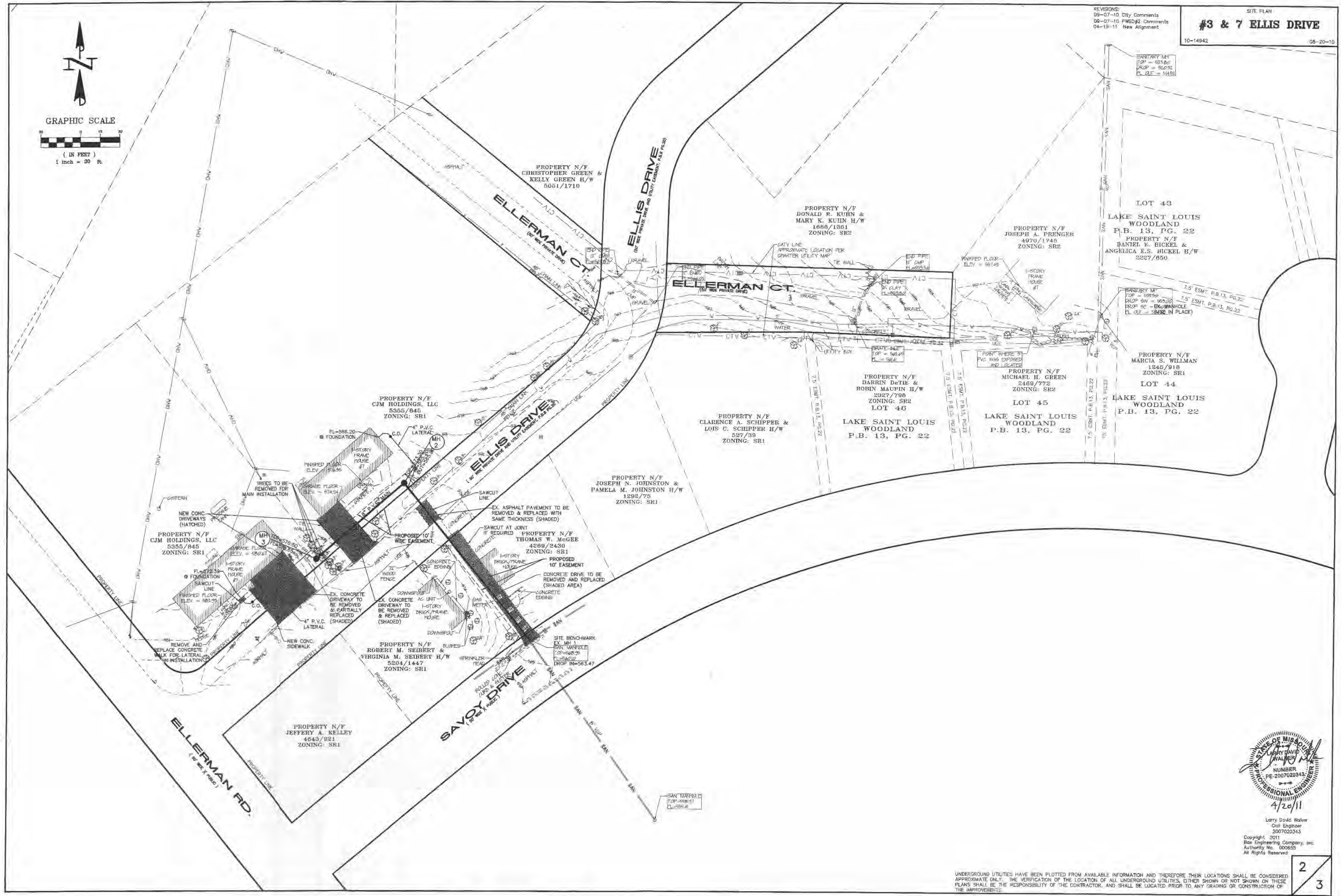
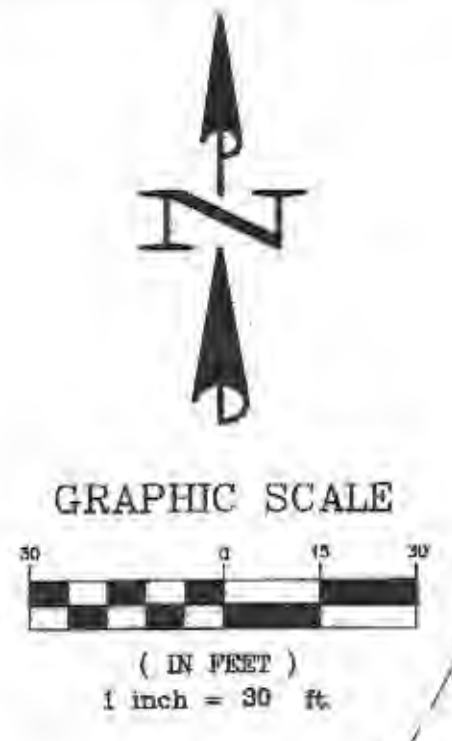


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YOU DIG!  
1-800-DIG-RITE**

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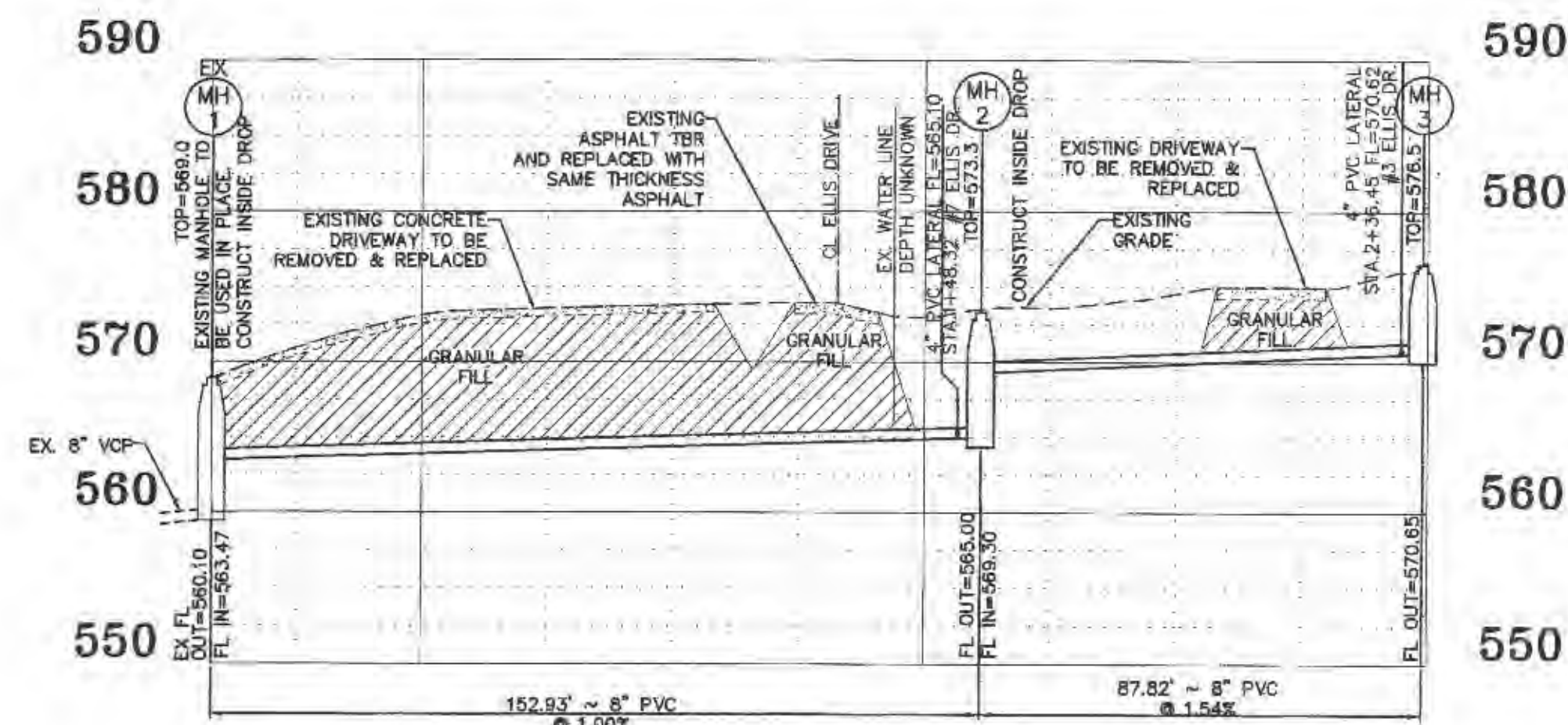
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 2007020345  
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UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE INFORMATION AND THEREFORE THEIR LOCATIONS SHALL BE CONSIDERED APPROXIMATE ONLY. THE VERIFICATION OF THE LOCATION OF ALL UNDERGROUND 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.





**SANITARY SEWER PROFILE**

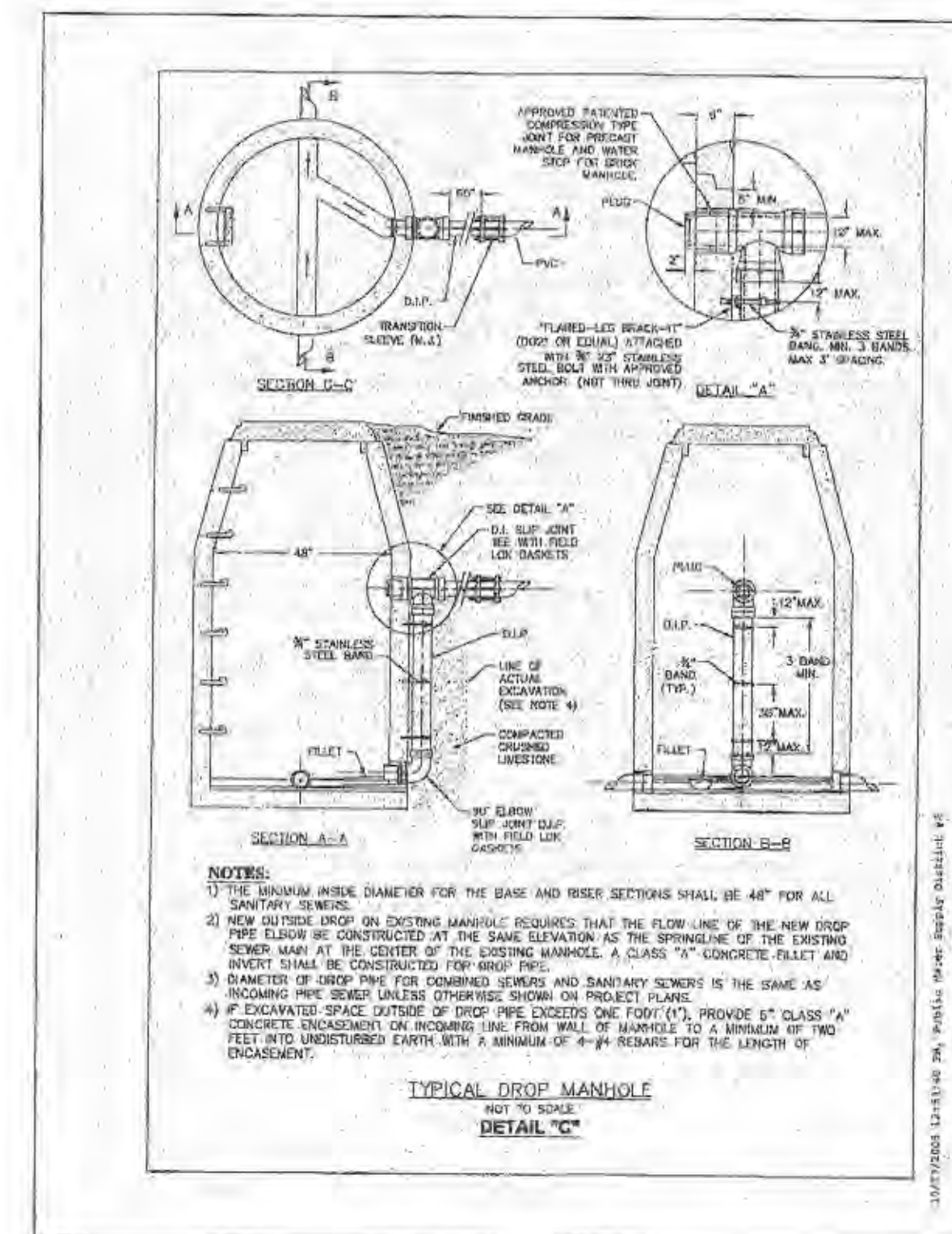
SCALES:  
 HORIZ. 1"=30'  
 VERT. 1"=10'



**SIDEWALK DETAIL**  
 NOT TO SCALE

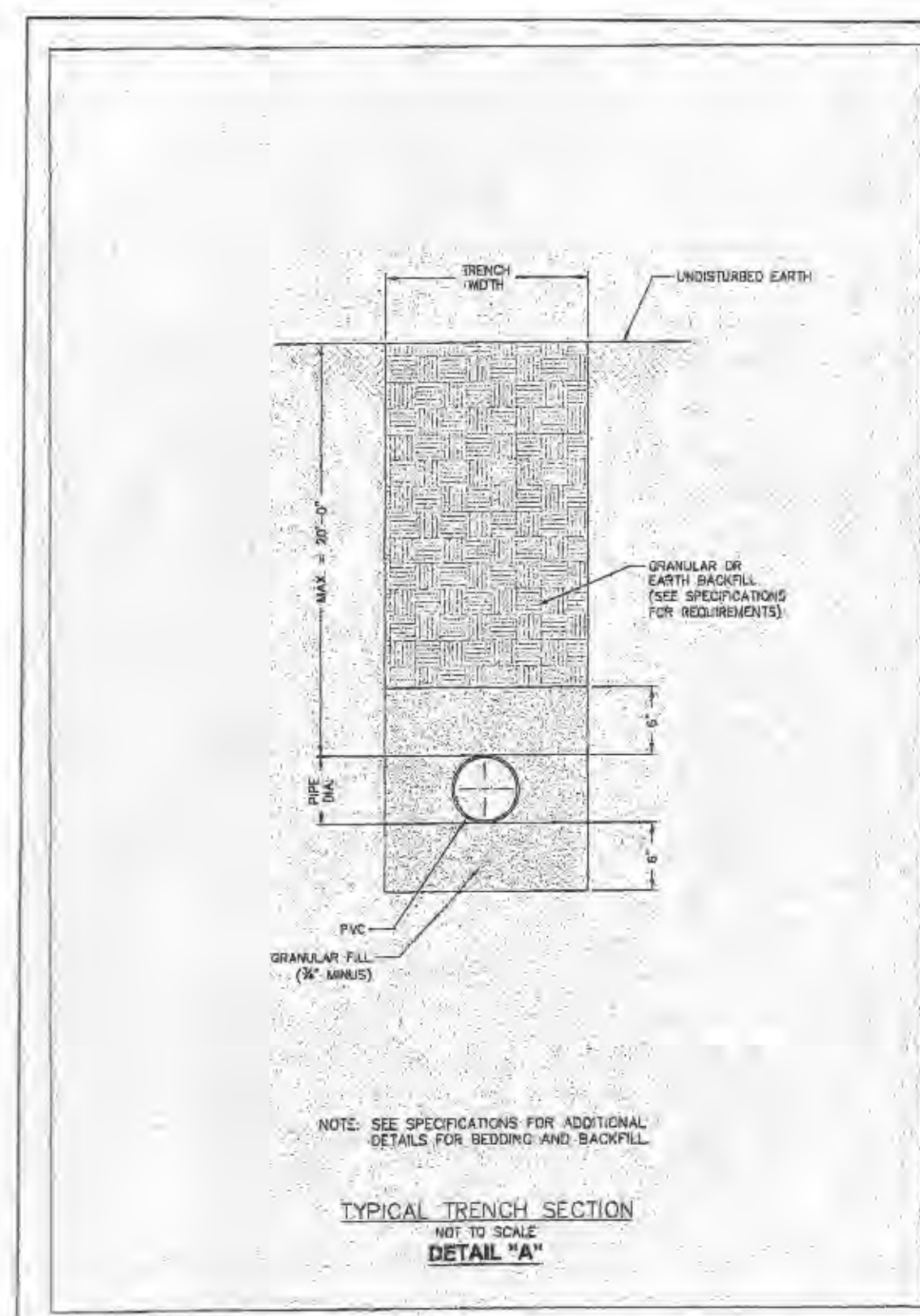


**DRIVEWAY PAVEMENT DETAIL**  
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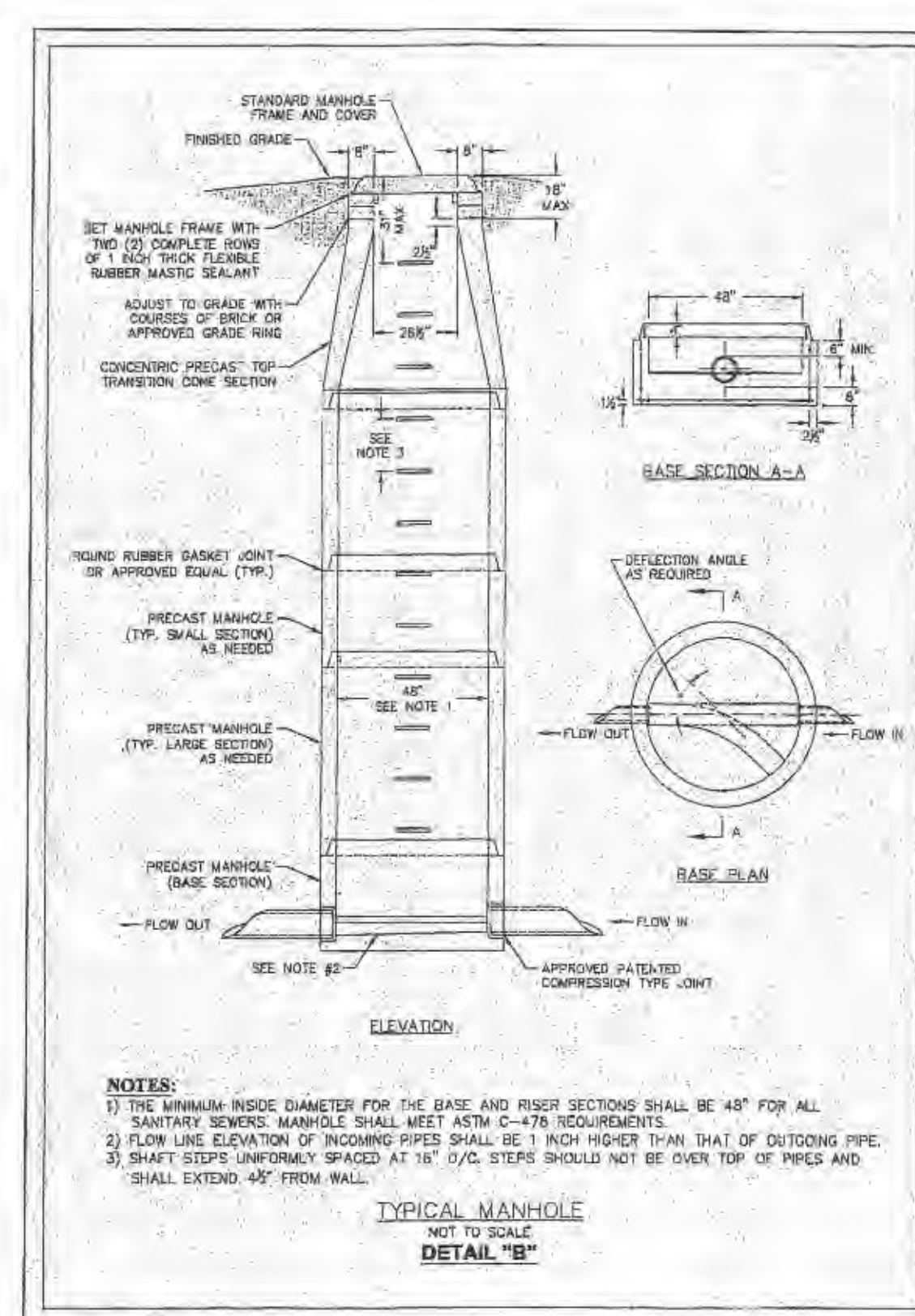


- NOTES:**
- 1) THE MINIMUM INSIDE DIAMETER FOR THE BASE AND RISER SECTIONS SHALL BE 48" FOR ALL SANITARY SEWERS.
  - 2) NEW OUTSIDE DROP ON EXISTING MANHOLE REQUIRED: THAT THE FLOW LINE OF THE NEW DROP PIPE SHALL BE CONSTRUCTED AT THE SAME ELEVATION AS THE SPRINGLINE OF THE EXISTING SEWER MAIN AT THE CENTER OF THE EXISTING MANHOLE. A CLASS "A" CONCRETE, FLEET AND INVERT SHALL BE CONSTRUCTED FOR NEW DROPS.
  - 3) DIAMETER OF DROP PIPE FOR COMBINED SEWERS AND SANITARY SEWERS IS THE SAME AS INCOMING PIPE UNLESS OTHERWISE SHOWN OR INDICATED OTHERWISE.
  - 4) IF EXCAVATED SPACE OUTSIDE OF DROP PIPE EXCEEDS ONE FOOT (1'), PROVIDE 8" CLASS "A" CONCRETE ENCASUREMENT OR INCOMING LINE FROM WALL OF MANHOLE TO A MINIMUM OF TWO FEET INTO UNDISTURBED EARTH WITH A MINIMUM OF 8" R4 REBAR FOR THE LENGTH OF ENCASUREMENT.

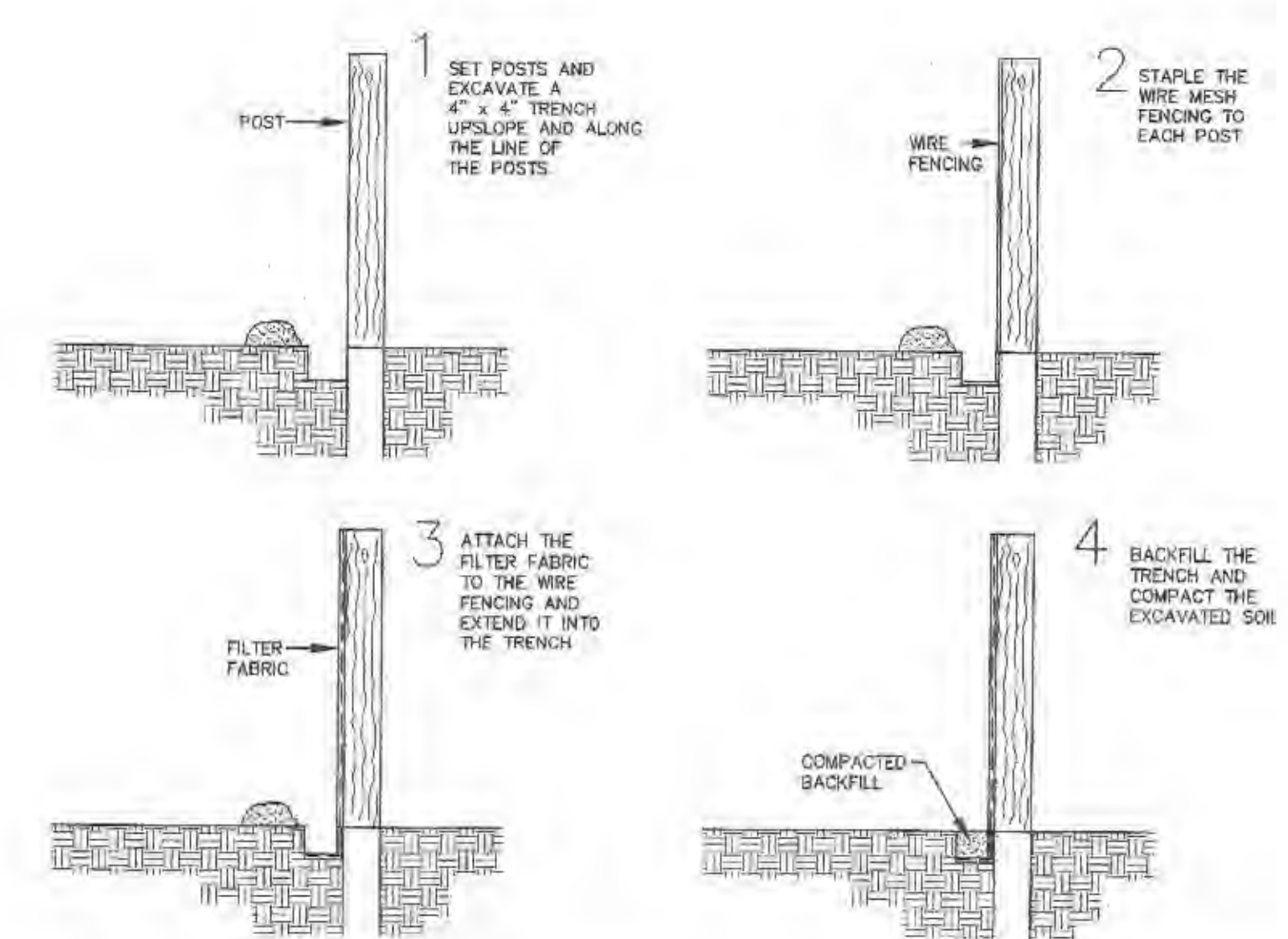
**TYPICAL DROP MANHOLE**  
 NOT TO SCALE  
**DETAIL "C"**



**TYPICAL TRENCH SECTION**  
 NOT TO SCALE  
**DETAIL "A"**



**TYPICAL MANHOLE**  
 NOT TO SCALE  
**DETAIL "B"**



1. FILTER BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.
2. SHOULD THE FABRIC DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER STILL BE NECESSARY, THE FABRIC SHALL BE REPLACED PROMPTLY.
3. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY HALF THE HEIGHT OF THE BARRIER.
4. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE OR FILTER BARRIER IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM WITH THE EXISTING GRADE, PREPARED AND SEEDDED.



**NOTE: IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE IF ADDITIONAL SILT FENCE SHOULD BE INSTALLED TO CONTROL SEDIMENT RUNOFF DURING CONSTRUCTION AND UNTIL VEGETATION IS ESTABLISHED.**



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