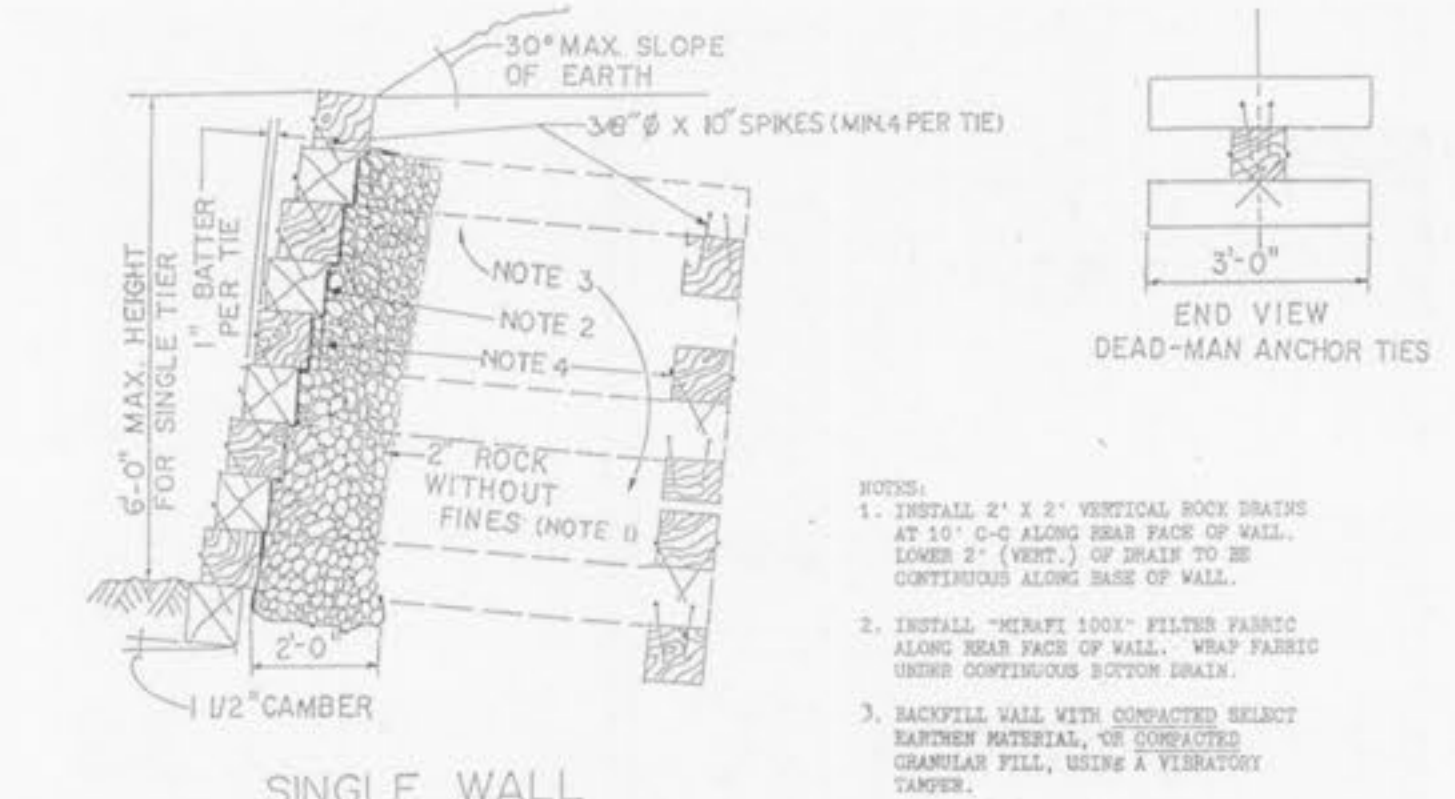


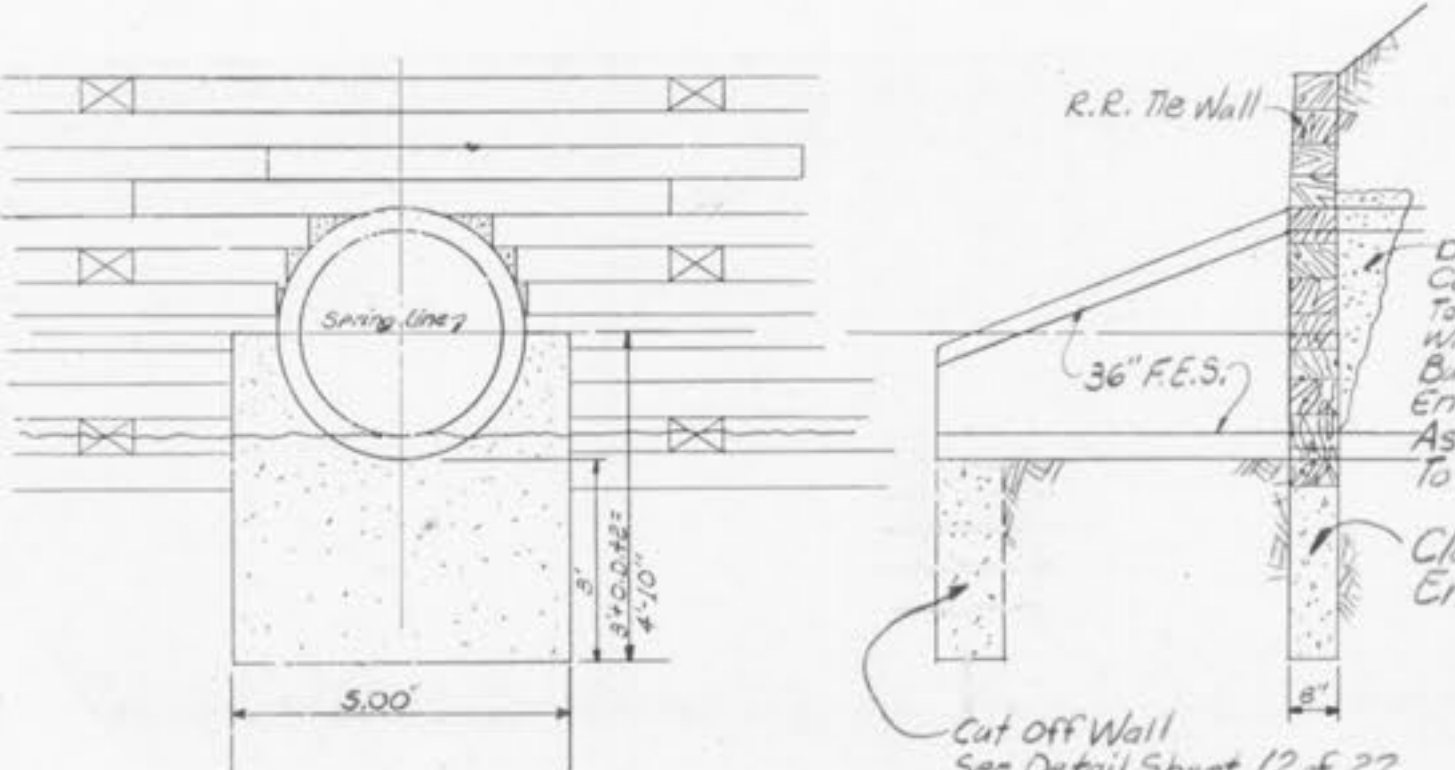
**GENERAL CONSTRUCTION NOTES**

- UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE RECORDS. THEREFORE, THE RELATIONSHIP BETWEEN PROPOSED WORK AND EXISTING FACILITIES, STRUCTURES AND UTILITIES MUST BE CONSIDERED APPROXIMATE AND IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THEIR EXACT LOCATION AND THE EXISTENCE OF ANY NOT SHOWN. (ALL UTILITIES SHALL BE LOCATED BOTH HORIZONTALLY AND VERTICALLY TO INSURE CLEARANCE/COVER OF ANY PROPOSED GRADING, SEWERS, FOOTINGS, ETC. PRIOR TO CONSTRUCTION. UTILITY COMPANY REPRESENTATIVES SHALL BE ON SITE DURING SUCH TIMES THAT EXCAVATION IS TAKING PLACE IN THE VICINITY OF THEIR FACILITIES.)
- ALL ELEVATIONS BASED ON U.S.G.S. DATUM.
- BOUNDARY SURVEY MADE BY FOX & COLE, INC. TOPOGRAPHIC SURVEY MADE BY ROWLAND SURVEYING CO., INC. SITE GEOMETRIC CALCULATIONS MADE BY LAND DEVELOPMENT SERVICES.
- SUBSURFACE INVESTIGATIONS ON THIS PROJECT WERE NOT AVAILABLE AT THE TIME THESE PLANS WERE PREPARED.
- PRIOR TO BEGINNING ANY WORK ON THE SITE, THE CONTRACTOR SHALL CONTACT THE OFFICE OF THE DEVELOPER FOR SPECIFIC INSTRUCTIONS RELEVANT TO THE SEQUENCING OF WORK.
- THE CONTRACTOR SHALL RESTORE TO THE ORIGINAL CONDITION, ALL ADJACENT PROPERTY IN EASEMENTS OFF SITE DISTURBED BY HIS OPERATIONS.
- ALL CONSTRUCTION METHODS AND MATERIALS USED SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF O'FALLON, MO.
- ALL GRADED AREAS SHALL BE PROTECTED FROM EROSION BY CONTROL DEVICES (HAY BALES, SILT FENCES & BERMS, ETC.) AND/OR SEEDING & MULCHING.
- ADDITIONAL SILTATION CONTROL MAY BE REQUIRED AS DIRECTED BY THE CITY OF O'FALLON.
- DETENTION BASINS SHALL BE CONSTRUCTED AS EARLY AS PRACTICAL DURING THE GRADING OPERATION TO FUNCTION AS A SILTATION BASIN. FOLLOWING THE GRADING THE SITE, AND PRIOR TO INSTALLATION OF THE STORM SEWERS, THE BASINS SHALL BE CLEANED OF ALL SILT AND BROUGHT TO THE FINAL LINE AND GRADE AS PER THE APPLICABLE DRAWINGS.
- PROPOSED CONTOURS SHOWN ARE FINISH GRADES AND READ TO TOP OF PAVEMENT AND FINISH DIRT GRADE.
- COMPACTION WITHIN R/W TO BE 90% OF MAX. DENSITY AS DETERMINED BY AASHTO-T-99, METHOD A. MATERIALS TO BE PLACED IN MAX. 10' LIFTS. TOLERANCE OF ALL LINES AND GRADES IN SUBGRADE CROSS SECTIONS TO BE 0.04'.
- FILL AREAS OUTSIDE R/W, INCLUDING TRENCH BACKFILLS, SHALL BE COMPACTED TO 85% OF THE MAXIMUM DENSITY AS DETERMINED BY THE MODIFIED AASHTO T-180 COMPACTION TEST, ASTM D-1557.
- ALL MATERIALS AND METHODS OF CONSTRUCTION FOR SANITARY SEWER PER DETAILS ON SHEETS 11, 12 & 15.
- ALL 8" MAINS AND 4" LATERALS TO BE CONSTRUCTED OF P.V.C. SDR-35 THICKWALL PIPE, A.S.T.M. D-3034.
- ALL 8" MAINS AND 4" LATERAL JOINTS TO CONFORM TO A.S.T.M. STANDARD PER SDR-35 THICKWALL COMPRESSION JOINT FOR P.V.C.
- CONTRACTOR TO START LAYING PIPE AT DOWNSTREAM STRUCTURE AND WORK UPSTREAM.
- ALL MANHOLE COVERS SHALL BE AS APPROVED BY THE CITY OF O'FALLON.
- ALL LATERAL SEWER CONSTRUCTION METHODS TO CONFORM TO LATEST STANDARDS AND SPECIFICATIONS OF THE CITY OF O'FALLON.
- SANITARY TAILSTAKE ELEVATIONS SHALL BE 10' FEET BELOW PROPOSED TOP OF FOUNDATION ELEVATIONS SHOWN ON THE DRAWINGS.
- CLEANOUTS SHALL BE LOCATED AT ALL HORIZONTAL AND VERTICAL CHANGES IN DIRECTION OF FLOW OF HOUSE LATERALS AND ANY SANITARY LATERAL OF 100' FEET OR LONGER.
- ALL STORM SEWER STRUCTURES TO BE CONSTRUCTED PER DETAILS ON SHEETS 11, 12, 15 & 16.
- ALL CONCRETE PIPE SHALL CONFORM TO A.S.T.M. DESIGNATION C14 STANDARD STRENGTH EXCEPT AS NOTED. REINFORCED CONCRETE PIPE WHERE INDICATED ON THE PROFILES BY R.C.P. SHALL CONFORM TO A.S.T.M. DESIGNATION C76 CLASS III, EXCEPT WHERE HIGHER CLASSES MAY BE NOTED.
- ALL STORM SEWER PIPES WITHIN PROPOSED RIGHT-OF-WAY TO BE REINFORCED CONCRETE PIPE.
- ALL STANDARD STREET CATCH BASINS SHALL BE LOCATED TWO FEET BACK OF CURB AND INLET TOP TO BE LOCATED 0.25 FT. ABOVE TOP OF ROLLED CURB AND LEVEL WITH TOP OF VERTICAL CURB.
- THE TOP ELEVATIONS OF ALL SEWER AND DRAINAGE STRUCTURES SHALL BE ADJUSTED AS NECESSARY TO CORRESPOND TO FINAL GRADE ELEVATIONS. (SANITARY SEWER MANHOLES SHALL BE 36" DIA. UNLESS OTHERWISE NOTED OTHERWISE).
- ALL FILL UNDER STORM OR SANITARY LINES CONSTRUCTED ABOVE ORIGINAL GRADE SHALL BE COMPACTED TO 90% OF MAXIMUM DRY DENSITY AS DETERMINED BY MODIFIED A.A.S.H.T.O. COMPACTION TEST.
- TYPE "C" BEDDING PER DETAIL ON SHEET 11 IS REQUIRED FOR PIPES IN ROCK.
- ALL TRENCHES UNDER AREAS TO BE PAVED AND FOR A DISTANCE OF THREE (3) FEET BEYOND THE EDGE OF PAVEMENT SHALL BE GRANULARLY FILLED WITH ONE (1) INCH CRUSHED LIMESTONE SAND COMPACTED IN PLACE.
- VERTICAL CLEARANCE BETWEEN SANITARY SEWER AND WATER MAINS SHALL BE A MINIMUM OF 2' - 0".
- PRIOR TO CONSTRUCTION OF THE FOUNDATION ON ANY LOT, THE CONTRACTOR, BUILDER, OR DEVELOPER SHALL LOCATE THE END OF THE SANITARY LATERAL AND VERIFY THE DEPTH.
- HYDRAULIC CALCULATIONS FOR THE STORM SEWERS ARE BASED UPON THE ANTICIPATED ULTIMATE "FINE" GRADING OF THE SITE, (GRADING SHOWN IS FOR "ROUGH" GRADING ONLY).
- ALL SEWERS TO BE COVERED BY EASEMENTS ON RECORD PLAT.
- ALL WEEDS, BRUSH, SHRUBS, TREES (EXCEPT THOSE TREES DESTROYED TO PERMIT THE PLACE) STUMPS, ROOTS, TRASH, DEBRIS, ORGANIC MATERIAL & REFUSE WITHIN THE LIMITS OF THE GRADING OPERATION SHALL BE CLEARED & GRUBBED PRIOR TO GRADING, AND SHALL BE REMOVED FROM THE SITE OR DISPOSED OF ON SITE IN A MANNER AS APPROVED BY OR AS SET FORTH HEREON.
- BURN PITS, WHEN ALLOWED BY APPROPRIATE LOCAL AUTHORITIES, SHALL BE LOCATED IN CUT AREAS SO THAT THE BASE OF THE BURN PIT IS ABOVE FINAL GRADE AFTER CUTTING, OR IN A NON-FILL AREA OUTSIDE OF PAVEMENT AND BUILDING AREAS. AT THE END OF ALL BURNING OPERATIONS THE PITS SHALL BE CLEARED, BACKFILLED AND COMPACTED PER THE REQUIREMENTS HEREON.

- ALL TOPSOIL IN BORROW AND FILL AREAS SHALL BE EXCAVATED AND DISPOSED OF ON-SITE IN LOCATIONS OUTSIDE THE CONSTRUCTION AREA, OR REMOVED FROM THE SITE. IF THE DRAWINGS INDICATE PLANTING, LANDSCAPING & BERM AREAS, THE TOPSOIL MAY BE STOCKPILED ON-SITE FOR FUTURE REDISTRIBUTION IN THESE PLANTING AREAS. IN NO INSTANCE SHALL TOPSOIL BE PLACED IN BUILDING &/OR PAVED AREAS.
- THE CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT GRADED AREAS FROM, AND AS NECESSARY RESTORE TO GRADE, ANY RITS, WHIMES OR OTHER CHANGES FROM THE DESIGN ELEVATIONS SHOWN HEREON, UNTIL GRADING WORK IS ACCEPTED BY THE OWNER.
- SOFT SOILS IN FILL AREAS SHALL BE EXCAVATED UNTIL FIRM SOIL IS ENCOUNTERED OR TO A DEPTH OF THREE (3) FEET, WHICHEVER IS FIRST ENCOUNTERED. IN BUILDING AND PARKING/DRIVE AREAS THE SOFT SOIL SHOULD BE REMOVED TO A DEPTH OF FIVE (5) FEET IF FIRM SOIL IS NOT ENCOUNTERED FIRST, AND FOR A DISTANCE OF AT LEAST FIVE (5) FEET BEYOND THE OUTSIDE EDGE OF THE FOOTING IN BUILDING AREAS, OR THREE (3) FEET BEYOND THE EDGE OF PAVEMENT IN PARKING/DRIVE AREAS. OVER-EXCAVATED AREAS SHALL BE BACKFILLED AND COMPACTED PER THE REQUIREMENTS HEREON.
- SOILS WITH LIQUID LIMITS GREATER THAN 50 SHALL NOT BE USED AS FILL WITHIN FIVE (5) FEET VERTICALLY OF THE ELEVATION OF FOUNDATIONS OR PARKING/DRIVE AREAS. IN ADDITION, SOILS WITH LIQUID LIMITS GREATER THAN 50 ENCOUNTERED IN BUILDING AND PARKING/DRIVE AREAS SHALL BE OVER-EXCAVATED AS PER THE REQUIREMENTS NOTED HEREON FOR SOFT SOILS. SHOULD IT BE NECESSARY TO USE AS FILL SOILS WITH LIQUID LIMITS GREATER THAN 50, HYDRATED LIME SHALL BE DISCED INTO THE SOILS AT THE RATE OF 5 PERCENT BY WEIGHT, PRIOR TO COMPACTION.
- AREAS OF "NOT CUT-NO FILL" UPON WHICH FOUNDATIONS AND/OR PARKING & DRIVES ARE TO BE PLACED, AND ALL SUBGRADE TO BE FILLED, SHALL BE SURFACE TREATED VIA DICING TO A MINIMUM DEPTH OF EIGHT (8) INCHES, AND COMPACTED AS PER THE NOTES HEREON.
- ALL FILLS, REFILLED OVEREXCAVATIONS, SCARIFIED SURFACES AND TRENCH BACKFILLS SHALL BE COMPACTED TO A MINIMUM OF 90% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE MODIFIED AASHTO COMPACTION TEST, OR ASTM D 1557-76. FILL MATERIAL SHALL BE EVENLY SPREAD IN LIFTS OF THICKNESSES SUCH THAT FOLLOWING THE REQUIRED COMPACTION EFFORT, THE COMPACTED LAYER WILL NOT EXCEED SIX (6) INCHES IN DEPTH. THE MOISTURE CONTENT OF THE FILL MATERIAL SHALL BE CONTROLLED WITHIN THE LIMITS ESTABLISHED BY THE MODIFIED AASHTO COMPACTION TEST OR ASTM D 1557-76. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN A SCARIFIED SOILS CONSULTANT TO OBSERVE ALL PHASES OF THE GRADING OPERATIONS AND TO TEST COMPACTION OF THE FILL DURING PLACEMENT. A REPORT SUMMARIZING THE RESULTS OF ALL COMPACTION TESTS, INCLUDING ANY CORRECTIVE WORK, SHALL BE SUBMITTED TO THE OWNER AT THE CONCLUSION OF THE WORK.
- ALL FILLS AND BACKFILLS SHALL BE MADE OF SELECTED EARTHEN MATERIALS, FREE FROM EXCESS MOISTURE, ROCK OVER 1 1/2" (4) INCHES IN DIAMETER, FROZEN EARTH, FRESH, ORGANIC MATERIAL AND DEBRIS.



**RAILROAD TIE RETAINING WALL (AT DETENTION BASIN #1)**



**PIPE THRU RAILROAD TIE RETAINING WALL (Locate Deadmen So As Not To Conflict With Proposed Storm Sewer)**

**GRouted RIP-RAP DETAILS/SPECIFICATIONS (@ Detention Basins, See Sheet 16 of 22)**

**MATERIALS:**

- Stone used for rip-rap should be hard, durable, angular in shape; resistant to weathering; free from overburden, soil, shale, and organic material; and should meet the gradation requirements shown hereon. Neither breadth nor thickness of a single stone should be less than one-third its length. Rounded stone or boulders, or shale and stone with shale seams are not acceptable. The minimum weight of the stone should be 155 pounds per cubic foot. Stone should be clean and free of fines which prevent penetration of grout.
- Grout shall consist of one part portland cement and three parts of sand, thoroughly mixed with water to produce a creamy consistency.
- All material comprising the filter blanket should be tough, durable particles reasonably free from thin, flat, and elongated pieces and should contain no organic matter nor soft, friable particles.

**CONSTRUCTION:**

- Filter blanket shall be placed on the prepared slopes to the full thickness specified, using methods which will not cause segregation of particle sizes within the bedding. Composition of the filter is not required, but the surface of the finished layer should be reasonably even and free from ripples or windrows.
- Stones shall be placed on the filter blanket in a manner which will produce a reasonably well-graded mass of stone with the minimum practicable percentage of voids. The entire mass of stone should be placed in conformance with the lines, grades and thicknesses shown on the drawings. The riprap should be placed to its full course thickness at one operation and in such a manner as to avoid displacing the underlying material. The riprap should be placed and distributed so that there will be no large accumulations of either the larger or smaller sizes of stone.
- The grout may be delivered to the site by any means that will insure uniformity and prevent segregation of the grout. Penetration of the grout may be obtained by either gravity flow or by pressure grouting. For gravity flow the grout should be spaded or rodded into the interstices to completely fill the voids in the stone blanket. If pressure grouting is used, care should be taken to avoid unseating the stones and grout should be spaded or rodded into the voids.

Penetration of the grout should be to the depth specified. The grouted rip-rap should be left with a rough surface; the stone should be brushed until one-fourth to one-half of the depth of the surface stone is exposed. Weep holes should be provided in the blanket.

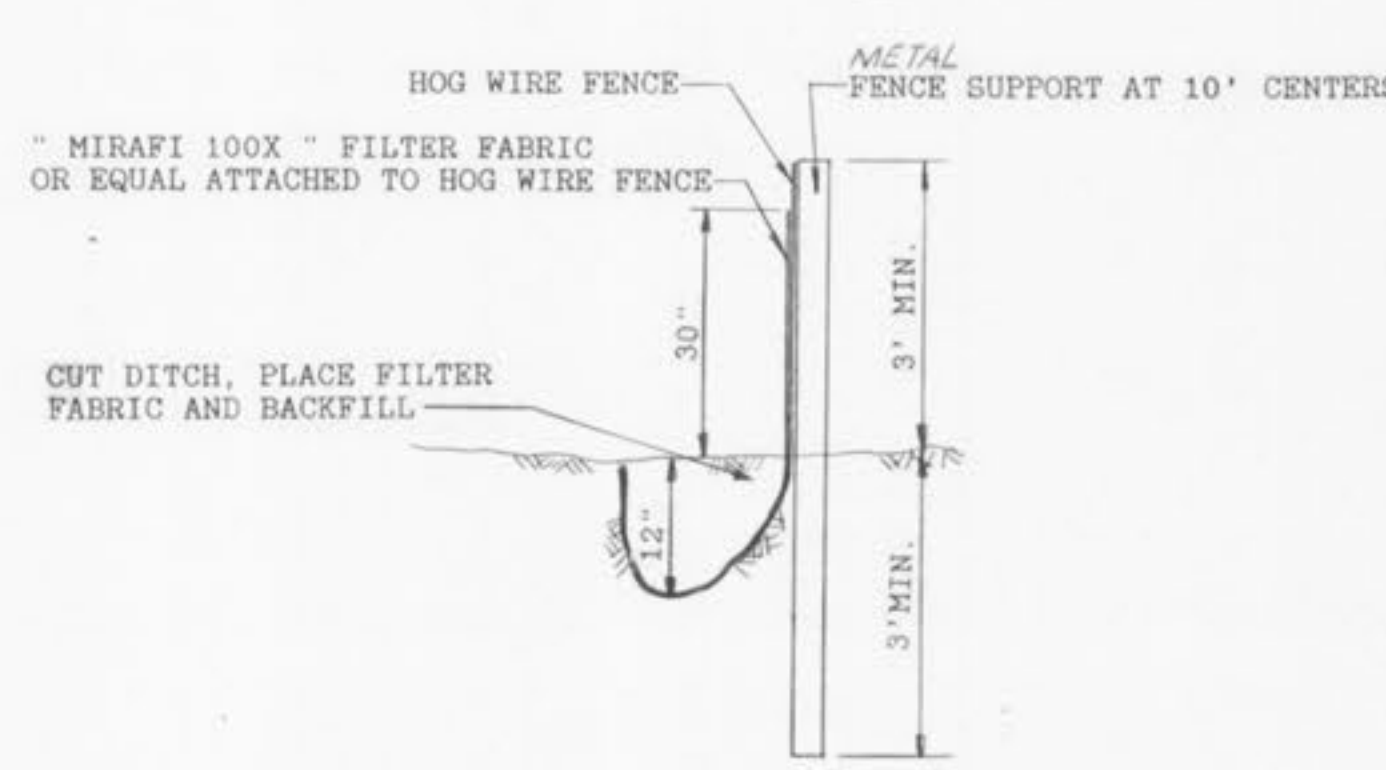
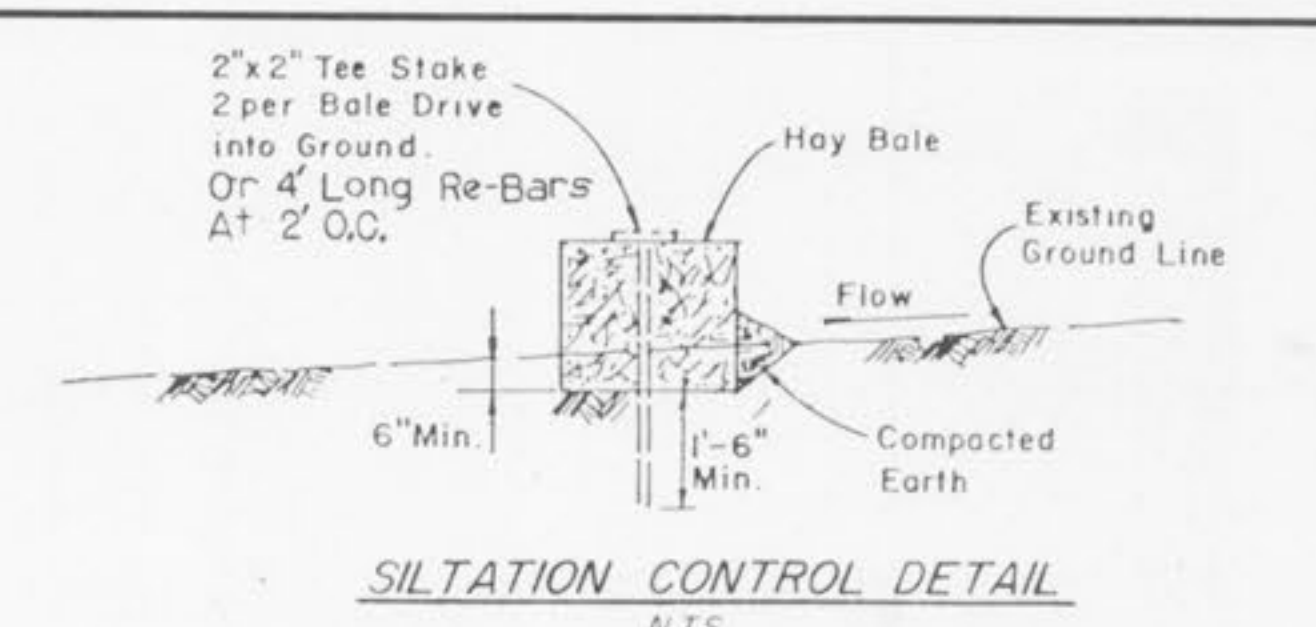
Grout should be placed only when the temperature is above 35 degrees Fahrenheit and rising. It should be protected from freezing, and no load should be placed on the grouted rip-rap until the grout has cured.

**GRADATION:**

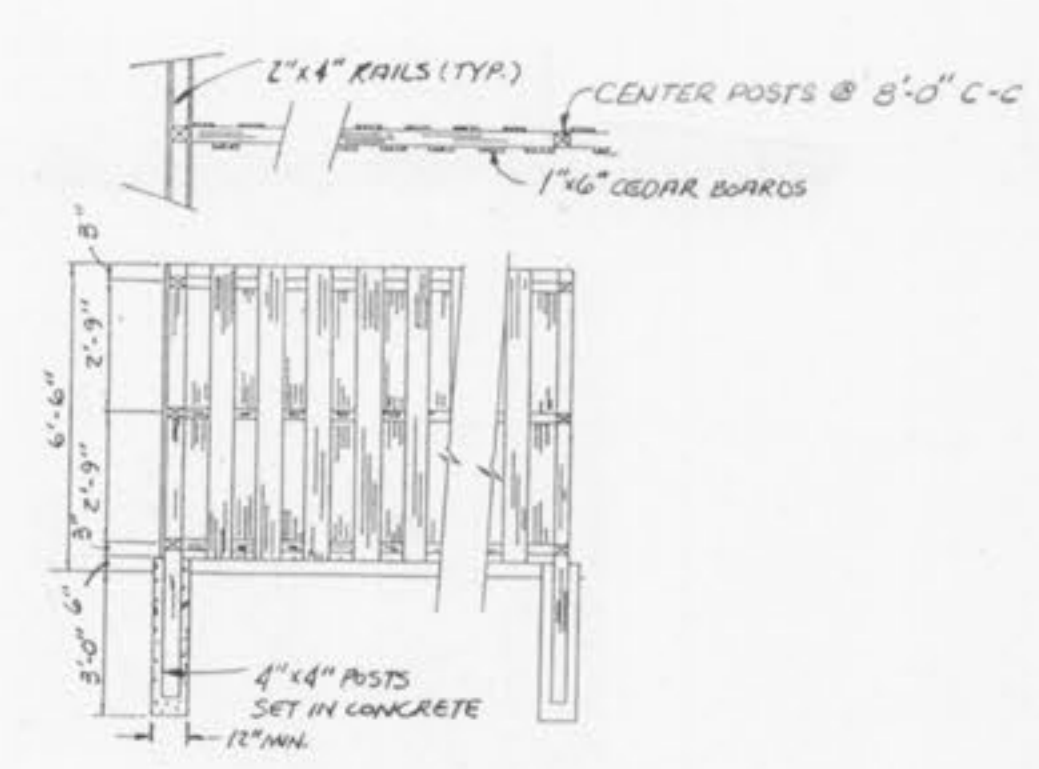
Rip rap shall be graded per the following table:

Size of stone *	% of total weight smaller than the given size
15"	100%
12"	80%
8"	50%
3"	not to exceed 10%

\* mean diameter of stone in inches



**CEDAR FENCE AT DETENTION BASIN # 1 (Alternate Selection Of 6 Ft. High Chain Link Fencing As Per Owner.)**



**LAKEVIEW GENERAL NOTES/DETAILS**

**HALL, HALSEY & WIND**  
LAND PLANNING  
CIVIL ENGINEERING  
LANDSCAPE ARCHITECTURE

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Drawn By <b>VLB</b>	Checked By <b>DCW</b>	Project Number <b>86025</b>	Sheet Number <b>15 OF 22</b>
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