

LEGEND

- EX. CABLE TV LINE
- EX. GAS SERVICE LINE
- EX. R.O.W. LINE
- FUTURE R.O.W. LINE
- EX. FENCE
- EX. WATER LINE
- EX. SANITARY SEWER LINE
- EX. ELECTRIC LINE
- EX. UNDERGROUND ELECTRIC LINE
- EX. CONTOUR LINE
- EX. SPOT ELEVATION
- EX. SANITARY SEWER CLEANOUT
- EX. SANITARY SEWER MANHOLE
- EXIST. R.O.W. POINT
- EX. WATER VALVE
- EX. LIGHT POLE
- EX. UTILITY POLE
- EX. TRAFFIC LIGHT
- EX. FIRE HYDRANT
- EX. SIGN
- EX. CONCRETE SIDEWALK/PAVEMENT
- EX. RIP RAP
- EX. PAINTED STRIPING
- PROPOSED CONCRETE SIDEWALK OR SURFACE
- PROPOSED STORM PIPING
- PROPOSED FINISH CONTOUR
- PROPOSED SPOT ELEVATION

GENERAL NOTES

- ALL PVC STORM OR DOWNSPOUT PIPING SHALL BE SCH. 40 WITH GASKETED OR GLUE JOINT.
- ALL HIGH DENSITY POLYETHYLENE (HDPE) PIPING SHALL BE SEALED JOINT.
- CONTRACTOR TO CONNECT ALL DOWNSPOUTS TO STORM PIPING WITH PVC DOWNSPOUT SHOE, TOP OF DOWNSPOUT SHOE SHALL BE 4" ABOVE FINISH GRADE.
- ALL CONNECTIONS OF STORM DRAINAGE PIPES TO STORM STRUCTURES SHALL BE SEALED WITH NON-SHRINK GROUT, OR PER DRAIN BASIN MANUFACTURERS RECOMMENDATIONS.
- MAXIMUM SLOPE OF ALL RAMPS SHOWN SHALL NOT EXCEED 1:12.
- BEFORE STARTING SITE EXCAVATION, CONTRACTOR SHALL STRIP ALL TOPSOIL FROM THE PROJECT AREA AND STORE IN A PROTECTED LOCATION THAT SHALL NOT INTERFERE WITH PROJECT DEVELOPMENT. CONTRACTOR SHALL BE RESPONSIBLE FOR REDISTRIBUTING AND SUPPLYING NEW TOPSOIL IF REQUIRED (6" MIN.) IN LANDSCAPE AREAS.
- IMPROPER GRADING/FINISHING OF ALL EXCAVATION AND FILL PLACEMENT WITHIN THE PROJECT LIMITS OR ADJACENT PROPERTIES THAT RESULTS IN DRAINAGE PROBLEMS SHALL BE REMOVED AND REINSTALLED TO IMPLEMENT POSITIVE DRAINAGE BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- BEFORE CONSTRUCTION, THE CONTRACTOR SHOULD CONTACT KENTUCKY UNDERGROUND AT 1-800-752-6007.
- BENCHMARK INFORMATION AS PROVIDED SHALL BE USED TO CONFIRM EXISTING TOPOGRAPHIC CONDITIONS PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES. ANY CONFLICT AND/OR DISCREPANCIES ENCOUNTERED BETWEEN THE EXISTING TOPOGRAPHY SHOWN AND ACTUAL SITE CONDITIONS SHALL BE REPORTED TO ENGINEER IMMEDIATELY.
- ALL SOFT AND UNSUITABLE MATERIAL IN AREAS TO RECEIVE FILL MUST BE OVER-EXCAVATED TO A STABLE SUB-BASE AND BACKFILLED WITH AN APPROVED ENGINEERED BACKFILL. ALL BACKFILL MUST MEET THE COMPACTION REQUIREMENTS OF THE SPECIFICATIONS AND GEOTECHNICAL REPORT.
- CONTRACTOR SHALL REVIEW ARCHITECTURAL PLANS FOR DOWN SPOUT PIPING LOCATIONS FOR CONNECTION TO STORM PIPING.
- ALL BACKFILL MATERIALS SHALL BE AS SPECIFIED ON THE DETAILS AND SPECIFICATIONS.
- ALL STORM SEWER PIPE SHALL HAVE A MINIMUM COVER OF 12" OVER THE TOP OF PIPE. CONTRACTOR SHALL PROVIDE MINIMUM COVER IN ALL CASES. IF DISCREPANCIES EXIST IN THE GRADING PLAN OR IF UNSEEN SITE CONDITIONS EXIST THAT WILL NOT ALLOW THIS COVER AS DESIGNED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SITE RECONNAISSANCE AND THIS DETERMINATION PRIOR TO BIDDING THE WORK.
- ALL STORM SEWER PIPE BENEATH PROPOSED AND EXISTING PAVEMENT SHALL BE BACKFILLED FULL DEPTH WITH COMPACTED SOA. SEE DETAIL H, SHEET C1.05.
- ANY DAMAGE AND REPAIR TO EXISTING ROADWAYS, STORM PIPING, UTILITIES AND ETC. SHALL BE BECOME THE RESPONSIBILITY OF THE CONTRACTOR.
- THE GRADING PLAN DOES NOT INDICATE INDIVIDUAL STORM WATER FITTINGS REQUIRED FOR THIS INSTALLATION. CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND INSTALLATION OF ALL FITTINGS AND COUPLINGS ALONG WITH THE PIPE AND STRUCTURES IN THE SCHEDULE AS PART OF THIS PROJECT. THIS INCLUDES, BUT IS NOT LIMITED TO, "T" FITTINGS, "Y" FITTINGS, JOULES AND TRIBLE MANIFOLDS, REDUCERS, BANDS, TIES, ETC. ALL FITTINGS SHALL BE APPROVED AND SUPPLIED BY THE PIPE MANUFACTURER.
- THE CONTRACTOR IS RESPONSIBLE FOR FABRICATING TRANSITION FITTING FROM PROPOSED DOWNSPOUT TO PVC DOWNSPOUT SHOE. MATERIAL SHALL BE OF SAME MATERIAL AND COLOR AS DOWNSPOUT. SEE ARCHITECTURAL PLANS FOR DOWNSPOUT LOCATIONS AND DETAILS.
- ALL GRASS SLOPES WHICH EQUAL OR EXCEED 3:1 (H:V) AND WHERE NOTED ON PLANS, SHALL UTILIZE CONTECH CONSTRUCTION PRODUCTS PERMANENT TURF REINFORCEMENT MATS C35 OR APPROVED EQUAL. MATS SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS AND STANDARDS. CONTRACTOR SHALL COORDINATE INSTALLATION INSPECTION WITH MANUFACTURER.

TBM# EL. = 499.19

DIRECTIONAL ARROW ON FIRE HYDRANT SAID HYDRANT BEING LOCATED APPROXIMATELY 85 FEET NORTHEAST OF THE C.F.S.B. CENTER AS SHOWN HEREON. VERTICAL DATUM BASED ON CITY OF MURRAY CONTROL DATUM MONUMENT BM C5 2 (EL. = 547.89, NAVD=85)

"CITY OF MURRAY CONTROL DATUM"
CITY CONTROL MONUMENT BM C5 2
(STATE PLANE COORD. - ZONE 17, S 1602)

GRAPHIC SCALE
(IN FEET)
1 inch = 20 ft.

STORM WATER RUNOFF CALCULATION SUMMARY WITH HALL OF FAME (HOF):

METHOD OF STORM WATER CALCULATIONS:
RATIONAL FORMULA, DESIGN STORM: 10, 25, & 100

PRE DEVELOPMENT (Q=CIA)
Total Drainage Area: 0.764 Ac.
Coefficient of Runoff: 0.60 (Average)
Int=7.00 in/hr, Int=7.81 in/hr, Int=8.84 in/hr
Q₁₀=3.21 cfs, Q₂₅=3.58 cfs, Q₁₀₀=4.10 cfs

POST DEVELOPMENT (Q=CIA)
Total Drainage Area: 0.070 Ac.
Coefficient of Runoff: 0.58
Int=7.00 in/hr, Int=7.81 in/hr, Int=8.84 in/hr
Q₁₀=0.48 cfs, Q₂₅=0.54 cfs, Q₁₀₀=0.61 cfs

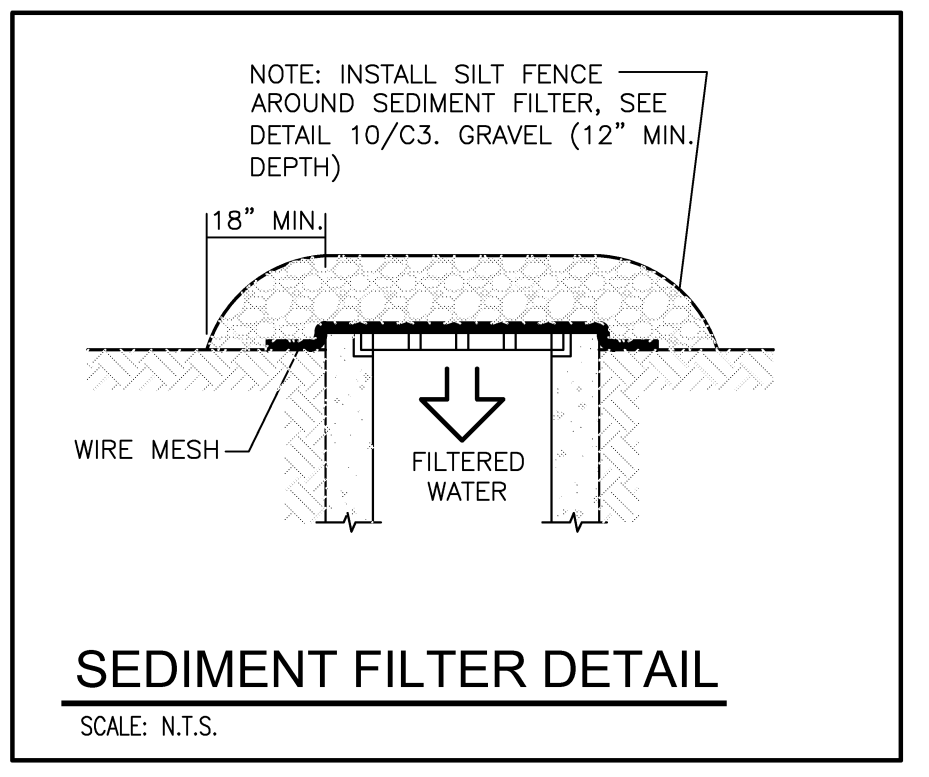
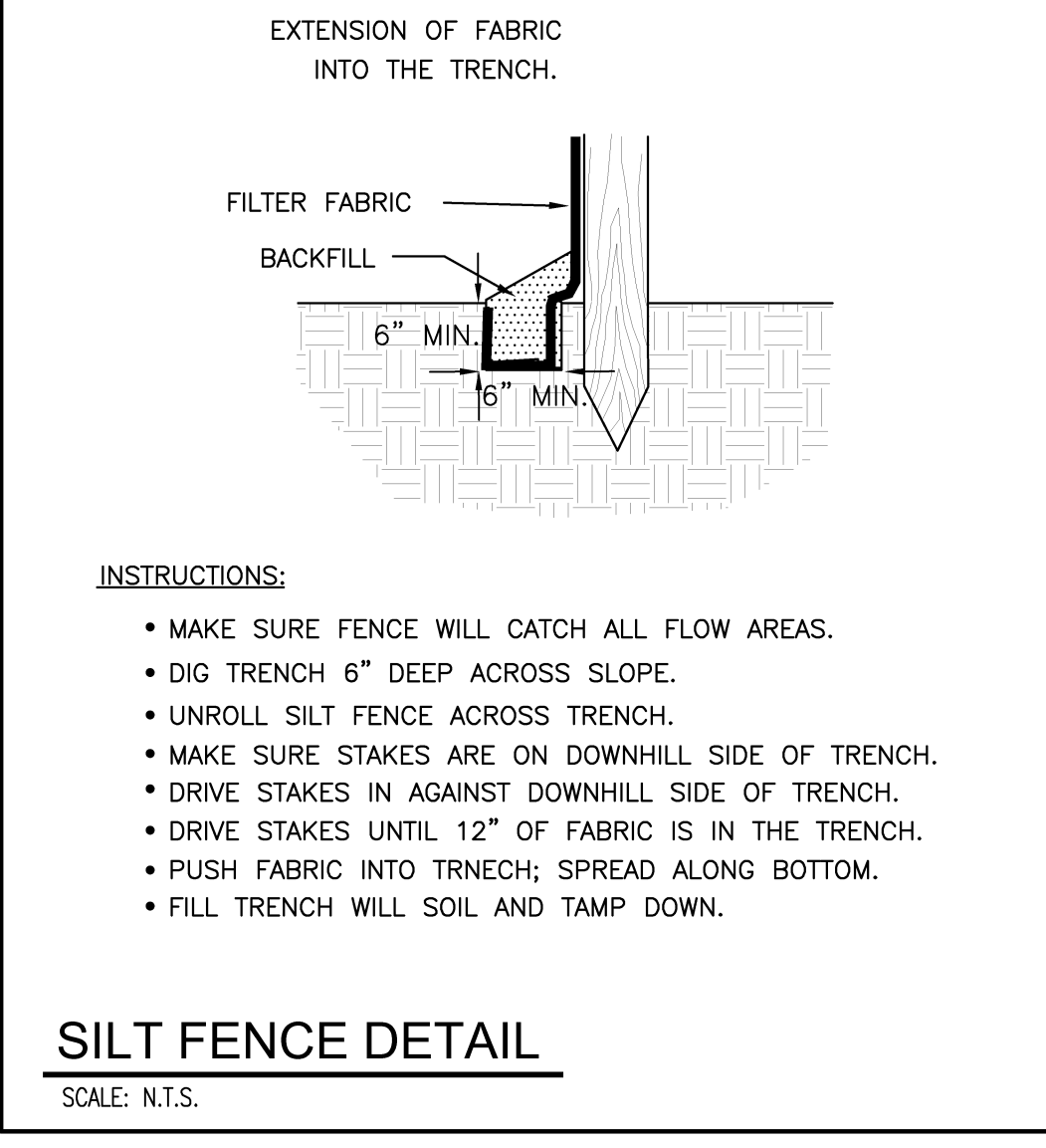
ALLOWABLE DISCHARGE FROM DETENTION SYSTEM:
Q₁₀=2.21 cfs = 0.48 cfs = 2.73 cfs
Q₂₅=3.58 cfs = 0.54 cfs = 3.04 cfs
Q₁₀₀=4.10 cfs = 0.61 cfs = 3.49 cfs

POST DEVELOPMENT HYDROGRAPHS
Total Drainage Area: 0.703 Ac.
Coefficient of Runoff: 0.58
Q₁₀ peak @ 1c = 5.24 cfs
Q₂₅ peak @ 1c = 5.85 cfs
Q₁₀₀ peak @ 1c = 6.69 cfs

EMERG. STORAGE
Storage Volume: 0.02 Ac-Ft
(300 L.F. 24" HDPE PIPE)

STRUCTURE
7 1/2" Orifice, I.E. 504.00
Emergency Spillover: Top of Grated Junction Box of Underground Detention Piping.
Weir El. 509.50

Post Development Hydrograph Routed Through Outlet
10 Year: Peak Discharge = 2.68 cfs < 3.04 cfs
Peak Elevation = 507.20
25 Year: Peak Discharge = 2.88 cfs < 3.04 cfs
Peak Elevation = 507.20
100 Year: Peak Discharge = 3.43 cfs < 3.49 cfs
Peak Elevation = 509.07



ESTIMATED EARTHWORK & ENGINEERED FILL QUANTITIES:

UNSUITABLE SOILS (HAUL OFF)	=	6,300 C.Y.
ENGINEERED FILL (COMPACTED)	=	6,950 C.Y.

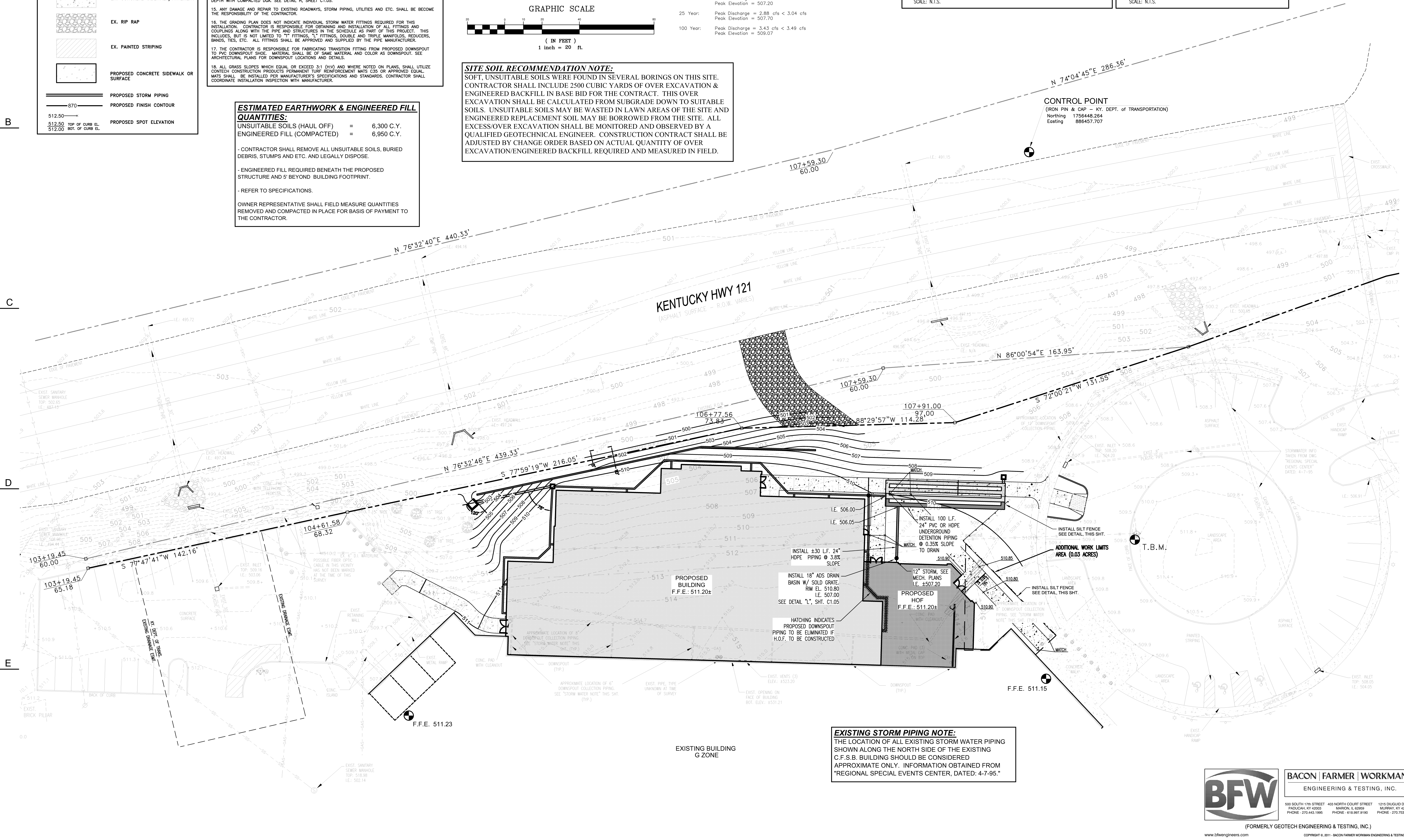
- CONTRACTOR SHALL REMOVE ALL UNSUITABLE SOILS, BURIED DEBRIS, STUMPS AND ETC. AND LEGALLY DISPOSE.

- ENGINEERED FILL REQUIRED BENEATH THE PROPOSED STRUCTURE AND 5' BEYOND BUILDING FOOTPRINT.

- REFER TO SPECIFICATIONS.

OWNER REPRESENTATIVE SHALL FIELD MEASURE QUANTITIES REMOVED AND COMPACTED IN PLACE FOR BASIS OF PAYMENT TO THE CONTRACTOR.

SITE SOIL RECOMMENDATION NOTE:
SOFT, UNSUITABLE SOILS WERE FOUND IN SEVERAL BORINGS ON THIS SITE. CONTRACTOR SHALL INCLUDE 2500 CUBIC YARDS OF OVER EXCAVATION & ENGINEERED BACKFILL IN BASE BID FOR THE CONTRACT. THIS OVER EXCAVATION SHALL BE CALCULATED FROM SUBGRADE DOWN TO SUITABLE SOILS. UNSUITABLE SOILS MAY BE WASTED IN LAWN AREAS OF THE SITE AND ENGINEERED REPLACEMENT SOIL MAY BE BORROWED FROM THE SITE. ALL EXCESS/OVER EXCAVATION SHALL BE MONITORED AND OBSERVED BY A QUALIFIED GEOTECHNICAL ENGINEER. CONSTRUCTION CONTRACT SHALL BE ADJUSTED BY CHANGE ORDER BASED ON ACTUAL QUANTITY OF OVER EXCAVATION/ENGINEERED BACKFILL REQUIRED AND MEASURED IN FIELD.



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MURRAY STATE UNIVERSITY
SPORTS PRACTICE FACILITY
MURRAY STATE UNIVERSITY
MURRAY, KENTUCKY
BID SET - 2012-01-04

BFW
ENGINEERING & TESTING, INC.
FORMERLY GEOTECH ENGINEERING & TESTING, INC.

REVISIONS

Date	2012-01-04
H+C Project No	2983.00
FDC Project No	10-007
BFW Project No	11194
Marcum Project No	11557

Sheet Name - SITE GRADING PLAN - HALL OF FAME ALTERNATE

C1.08