

AGGREGATE ABSORPTION FIELD SYSTEMS - SEPTIC SYSTEM NOTES:

LOCATION:

ABSORPTION FIELDS SHALL BE INSTALLED IN AREAS PROTECTED FROM EXCESSIVE SURFACE WATER, PONDING OR RUNOFF, INCLUDING BUT NOT LIMITED TO STORM WATER AND DISCHARGE FROM BUILDING GUTTERS...

IF PROPERTIES ARE SERVED BY INDIVIDUAL WATER SUPPLY SYSTEMS, THE ABSORPTION FIELD SHALL BE INSTALLED NOT LESS THAN 50 FEET FROM PROPERTY LINES UNLESS WELLS AND ON-SITE SEWAGE MANAGEMENT SYSTEMS ARE ALREADY IN PLACE...

SEPTIC TANKS, AEROBIC TREATMENT UNITS AND ABSORPTION FIELDS ARE PROHIBITED WITHIN 150 FEET OF ANY PERENNIAL STREAM BANK IN A LARGE WATER SUPPLY WATERSHED TRIBUTARY THAT IS UPSTREAM TO A WATER SUPPLY RESERVOIR...

ABSORPTION FIELDS MAY NOT BE INSTALLED IN THE 100 FEET BUFFER AREA OF RIVERS CLASSIFIED FOR PROTECTION UNDER THE RULES OF THE DEPARTMENT OF NATURAL RESOURCES...

MINIMUM DESIGN AND CONSTRUCTION CRITERIA:

- A. ABSORPTION LINES AND ABSORPTION TRENCH BOTTOMS SHALL BE TRUE TO GRADE.
B. TRENCH BOTTOM DEPTH SHALL BE BASED ON SOIL CONDITIONS AS DETERMINED BY CRITERIA IN THIS MANUAL.
C. A MINIMUM OF SIX TO TWELVE INCHES OF EARTH COVER IS REQUIRED OVER ABSORPTION LINES.

DISTRIBUTION BOX METHOD:

ON LEVEL OR SLOPING TOPOGRAPHY, THE DISTRIBUTION BOX METHOD MAY BE USED AND SHALL BE REQUIRED WHEN DOSING TANKS ARE USED. A FIRM EARTHEN FOUNDATION SECURED BY CONCRETE OR CONCRETE FOUNDATION FOR DISTRIBUTION BOXES EXTENDING AT LEAST 12 INCHES BEYOND THE WALLS OF THE BOX SHALL BE PROVIDED TO INSURE AGAINST TILTING OF THE DISTRIBUTION BOX...

PERFORATED PIPE - GRAVITY FLOW USAGE:

- A. ALL PERFORATED PIPE USED FOR GRAVITY FLOW CARRIAGE AND DISTRIBUTION OF EFFLUENT WITHIN LATERAL TRENCHES, MOUNDS OR OTHER SUCH APPLICATIONS SHALL MEET 1,500 LB CRUSH STRENGTH IN ACCORDANCE WITH ASTM - F810 STANDARDS...
B. EACH STANDARD SECTION OF PIPE AS SUPPLIED BY THE MANUFACTURER SHALL BE PLAINLY MARKED, EMBOSSED OR ENGRAVED SHOWING THE MANUFACTURER'S NAME...

ABSORPTION TRENCH/BED AGGREGATE:

SHALL BE WASHED GRAVEL OR WASHED STONE MEETING THE GEORGIA DEPARTMENT OF TRANSPORTATION STANDARDS FOR HARDNESS OR OTHER MATERIALS APPROVED BY THE DEPARTMENT THAT SHALL BE ONE HALF INCH (1/2") TO TWO INCHES (2") IN DIAMETER.

AEROBIC TREATMENT UNIT:

- A. INSTALLATION AND IF REQUIRED, OPERATIONAL PERMITS, MUST BE OBTAINED FROM THE APPROPRIATE LOCAL HEALTH OFFICE PRIOR TO INSTALLATION AND USE.
B. ANY VARIANCES OR CHANGES IN THE INSTALLATION OR USE OF THESE DEVICES DIFFERENT FROM THE CONDITIONS, ALLOWANCES, OR CRITERIA CONTAINED IN THE DEPARTMENT'S APPROVAL...
C. AN ATU MUST BE INSTALLED BY AN AUTHORIZED REPRESENTATIVE OF THE MANUFACTURER APPROVED BY THE DEPARTMENT.

UTILITY NOTES:

THE CONTRACTOR SHALL PROVIDE THREE WORKING DAYS NOTICE TO THE UTILITIES PROTECTION CENTER BY CALLING 811 IN ORDER TO LOCATE UTILITIES PRIOR TO STARTING ANY EXCAVATION OR CONSTRUCTION.

THE LOCATIONS OF UNDERGROUND UTILITIES AS SHOWN HEREON ARE BASED ON ABOVE-GROUND STRUCTURES PROVIDED BY THE SURVEYOR, NOT ON UTILITIES OR SUBSURFACE LOCATING SERVICES WHICH WERE MADE DURING THE PERFORMED SURVEY TO LOCATE / IDENTIFY BURIED UTILITIES / STRUCTURES...

CONTRACTOR SHALL BE RESPONSIBLE FOR REMEDIATING ANY UTILITIES DAMAGED DURING DEMOLITION AND/OR CONSTRUCTION AT AN ADDITIONAL COST TO THE OWNER.

THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS PRIOR TO STARTING WORK AND SHALL BE RESPONSIBLE FOR THE PROPER FIT OF ALL COMPONENTS, SOME DIMENSIONS AND CONDITIONS MAY VARY. NOTIFY ENGINEER IN WRITING OF ANY DISCREPANCIES OR CONFLICTS.

CONTRACTOR SHALL COORDINATE WITH APPROPRIATE UTILITY COMPANIES TO SCHEDULE ALL UTILITY & SERVICE INTERRUPTIONS TO OCCUPIED PORTIONS OF THE SITE.

10' CLEAR HORIZONTAL AND 18 INCH VERTICAL CLEARANCE SHALL BE MAINTAINED BETWEEN SANITARY SEWER LINES AND ANY WATER OR STORM LINES. WATER AND STORM LINES SHALL BE ABOVE ANY SANITARY LINES.

MAINTAIN A MINIMUM OF 4" OF COVER ABOVE WATER MAINS.

ALL SANITARY SEWER LINES SHALL HAVE A MINIMUM OF 1% SLOPE UNLESS OTHERWISE NOTED.

FOR ANY WORK IN DOT RIGHT-OF-WAY, AN ENCROACHMENT AND/OR UTILITY PERMIT MAY BE REQUIRED.

ALL METERS, VALVES, AND BACKFLOW PREVENTORS ARE TO BE IN COMPLIANCE WITH THE LOCAL UTILITY AUTHORITY'S REQUIREMENTS.

ADJUST ALL TOP OF STRUCTURE ELEVATIONS (MANHOLES, CLEANOUTS, VALVE BOXES, ETC.) TO FINISHED GRADE ELEVATIONS.

ALL SANITARY SEWER WORK SHALL BE IN ACCORDANCE WITH THE LOCAL UTILITY AUTHORITY'S STANDARDS AND SPECIFICATIONS.

AT THE END OF EACH DAY'S WORK, REMOVE ANY DEBRIS, MATERIAL, ETC. (RESULTING FROM CONTRACTOR'S UTILITY OPERATIONS) THAT IS NOT WITHIN THE CONTRACTOR CONSTRUCTION LIMITS.

ALL PROPOSED AND EXISTING PAVEMENT AND CURB TO REMAIN SHALL BE PROTECTED. IF DAMAGED, IT SHALL BE REPLACED PROMPTLY TO MEET STATE AND LOCAL REQUIREMENTS AT THE CONTRACTOR'S EXPENSE.

CONTRACTOR IS REQUIRED TO NOTIFY ENGINEER IN WRITING OF ANY DISCREPANCIES OR CONFLICTS ENCOUNTERED DURING CONSTRUCTION ACTIVITIES.

ON-SITE SEWAGE MANAGEMENT SYSTEM NOTES: AN ON-SITE SEWAGE MANAGEMENT / PERMIT MUST BE OBTAINED FROM THE EFFINGHAM COUNTY ENVIRONMENTAL HEALTH DEPARTMENT

MAINTENANCE AND SLUDGE MANAGEMENT SHALL BE PERFORMED PER MANUFACTURER'S GUIDELINES.

CONDENSATION LINES FOR COOLING UNITS SHALL NOT DISCHARGE INTO SEPTIC SYSTEM.

SEPTIC TANK/ATU SHOULD BE LOCATED WITH THE FOLLOWING GUIDELINES:

- 1. NO LESS THAN 50' FROM EXISTING OR PROPOSED WELLS/SPRINGS, SINK HOLES OR SUCTION LINES
2. NO LESS THAN 25' FROM GEOTHERMAL BORE HOLES, LAKES, PONDS, STREAMS, WATER COURSES, AND OTHER IMPOUNDMENTS
3. NO LESS THAN 10' FROM PRESSURE WATER SUPPLY LINES
4. NO LESS THAN 10' FROM PROPERTY LINES
5. NO LESS THAN 15' FROM A DRAINAGE DITCH OR EMBANKMENT.
6. NO LESS THAN 10' FROM HARDSCAPES, DRIVES, SWIMMING POOLS, AND BUILDING FOUNDATIONS

ABSORPTION FIELDS SHOULD BE LOCATED WITH THE FOLLOWING GUIDELINES:

- 1. NO LESS THAN 100' FROM EXISTING OR PROPOSED WELLS/SPRINGS, SINK HOLES
2. NO LESS THAN 10' FROM WATER SUPPLY LINES AND BUILDINGS WITH BASEMENTS
3. NO LESS THAN 5' FROM BUILDINGS WITHOUT BASEMENTS, OTHER STRUCTURES, DRIVES, AND PROPERTY LINES
4. NO LESS THAN 15' FROM AN EMBANKMENT, SWIMMING POOL, FOUNDATION, DRAINAGE DITCH OR TRASH PITS
5. NO LESS THAN 50' FROM GEOTHERMAL BORE HOLES AND THE WATER LEVEL OF ANY IMPOUNDMENT, TRIBUTARY, STREAM, OR OTHER BODY OF WATER, INCLUDING PONDING AREAS OF WETLANDS.

NOTED MINIMUM DISTANCES:

- 1. PROPOSED SEPTIC TANK/ATU TO PROPOSED WELL = 124'
2. PROPOSED DOSING TANK TO PROPOSED WELL = 134'
3. PROPOSED ABSORPTION FIELD TO PROPOSED WELL = 144'
4. PROPOSED WATER LINE TO SEPTIC TANK = 130'
5. PROPOSED WATER LINE TO DOSING TANK = 142'

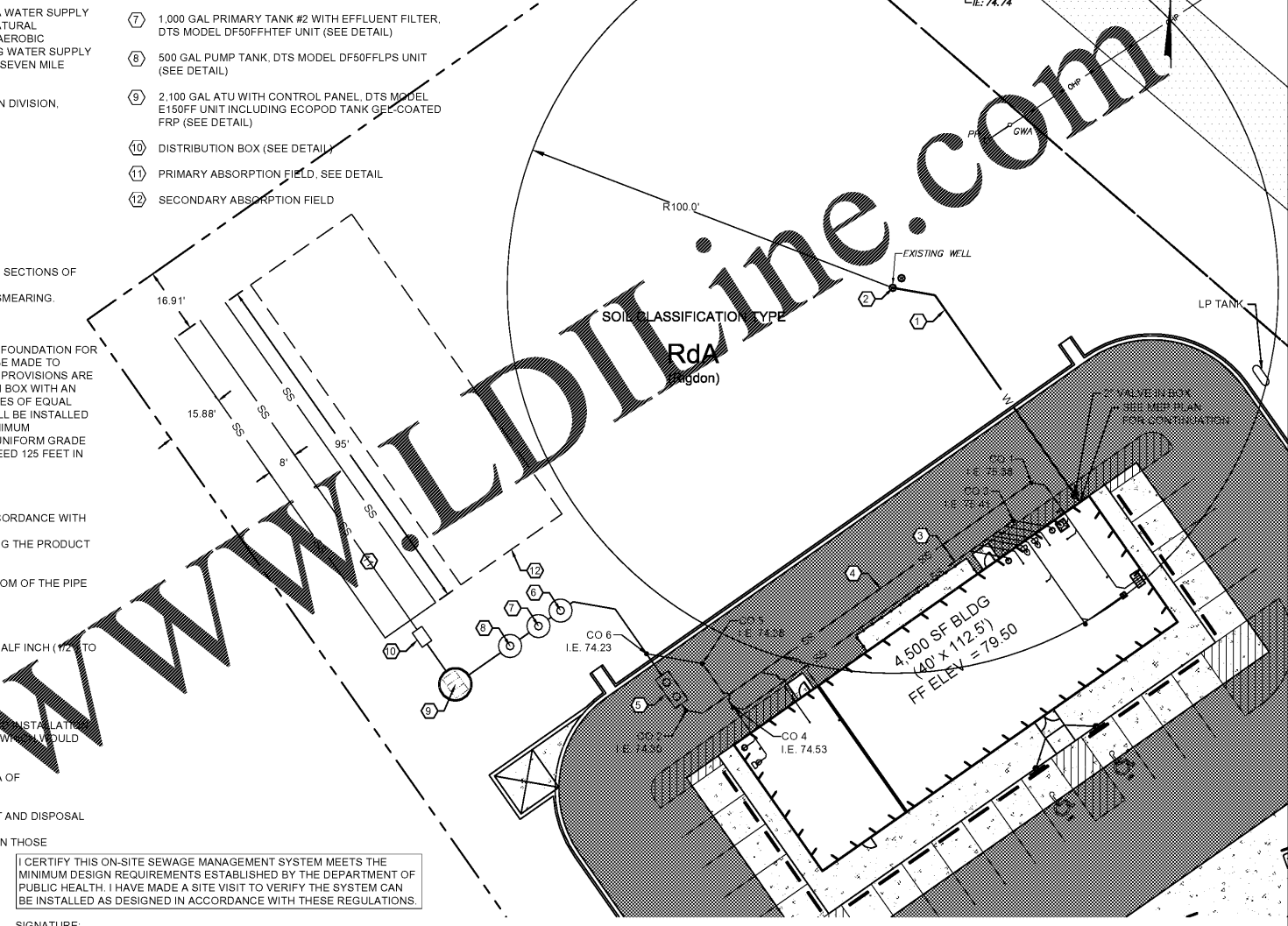
APPROXIMATE BUILDING SETBACKS FROM PROPERTY LINES:

- 1. FRONT SETBACK = 35'
2. SIDE SETBACK = 15'
3. BACK SETBACK = 15'

SPECIAL NOTE: WATER SERVICE FOR THE PROPOSED PROJECT WILL BE SERVED BY A PRIVATE COMMUNITY WATER SYSTEM. SANITARY SEWER SERVICE FOR THE PROPOSED PROJECT WILL BE SERVED BY AN ON-SITE SEWAGE MANAGEMENT SYSTEM. THERE IS NO PUBLIC SANITARY SEWER AVAILABLE WITHIN 200' OF THE PROPERTY.

KEY NOTES:

- 1) 2" PVC WATER SERVICE LINE, 77 LF
2) CONNECT TO EXISTING WELL
3) 3" PVC SS SERVICE LATERAL, 118 LF @ S = 1.00% MIN
4) 4" PVC SS SERVICE LATERAL, 180 LF @ S = 1.00% MIN
5) 1,000 GAL GREASE TRAP, SEE DETAIL
6) 1,000 GAL PRIMARY TANK #1, DTS MODEL DF50FFHPT UNIT (SEE DETAIL)
7) 1,000 GAL PRIMARY TANK #2 WITH EFFLUENT FILTER, DTS MODEL DF50FFHTEF UNIT (SEE DETAIL)
8) 500 GAL PUMP TANK, DTS MODEL DF50FFLPS UNIT (SEE DETAIL)
9) 2,100 GAL ATU WITH CONTROL PANEL, DTS MODEL E150FF UNIT INCLUDING ECOPOD TANK GEL-COATED FRP (SEE DETAIL)
10) DISTRIBUTION BOX (SEE DETAIL)
11) PRIMARY ABSORPTION FIELD, SEE DETAIL
12) SECONDARY ABSORPTION FIELD



I CERTIFY THIS ON-SITE SEWAGE MANAGEMENT SYSTEM MEETS THE MINIMUM DESIGN REQUIREMENTS ESTABLISHED BY THE DEPARTMENT OF PUBLIC HEALTH. I HAVE MADE A SITE VISIT TO VERIFY THE SYSTEM CAN BE INSTALLED AS DESIGNED IN ACCORDANCE WITH THESE REGULATIONS.

SIGNATURE:

SEPTIC SYSTEM NOTE:

THE SEPTIC SYSTEM EQUIPMENT/PRODUCTS SPECIFIED ON THIS PLAN ARE AS RECOMMENDED BY DELTA TREATMENT SYSTEMS, LLC. IF ALTERNATIVE SEPTIC SYSTEM EQUIPMENT/PRODUCTS ARE DESIRED, THOSE EQUIPMENT/PRODUCTS MUST BE CAPABLE OF TREATING WASTE TO REDUCE THE BOD5 AND TSS TO 200 MG/L OR BELOW BEFORE DISPOSAL THROUGH A SEPTIC TANK SYSTEM...

SEPTIC DRAIN FIELD SIZING CALCULATIONS:

SANITARY SEWER FLOW RATE
RETAIL STORES, CONVENIENCE STORE = 400 GPD / BATHROOM
NUMBER OF BATHROOMS = 3
3 x 400 GPD = 1200 GPD

FOOD SERVICE-CARRYOUT ONLY: FOOD STANDS
= 50 GPD / 100 SF FLOOR SPACE + 20 GPD / EMPLOYEE
KITCHEN FLOOR SPACE = 219 SF
KITCHEN EMPLOYEES = 1
(50(219 / 100)) + (20(1)) = 130 GPD
TOTAL = 1200 + 130 = 1330 GPD

ALLOWABLE RATE OF SEWAGE APPLICATION

Q = 5 / SORT OF T (WHERE T = PERCOLATION RATE (MIN./IN.))

T = 10 MIN./IN.

Q = 1.58 GPD / SQ. FT.

REQUIRED AREA OF DRAIN FIELD = 1330 GPD / 1.58 GPD/SF = 842 SF

LINEAR FEET OF SYSTEM = 842 SF / 3 FT (WIDTH OF TRENCH) = 281 FT

GREASE TRAP SIZING CALCULATIONS:

(MEALS PER DAY) x (GALLONS PER MEAL) x (LOADING FACTOR) = GREASE TRAP CAPACITY
MEALS PER DAY = 35 MEALS (PROVIDED BY OWNER)
GALLONS PER MEAL = 5 GALLONS
LOADING FACTOR = 0.5 WITHOUT DISHWASHING

35 MEALS PER DAY x 5 GALLONS PER MEAL x 0.5 LOADING FACTOR = 87.5 GAL

THERE ARE NO DISH MACHINES FOR WARE WASHING PROPOSED.

GREASE TRAP WILL BE A PRECAST TANK FROM APPROVED LOCAL SUPPLIER.

THE PROPOSED 1,000 GALLON GREASE TRAP WILL REDUCE THE FATS, OIL AND GREASE CONTENT OF THE WASTE STREAM TO 25MG/L PRIOR TO APPLICATION TO THE SOIL.

ESTIMATED BOD5 CONCENTRATION CALCULATIONS:

(lbs BOD5) / Q(GPD) / (8.35) x (1,000,000) = CONCENTRATION (mg/L)

lbs BOD5 = 150 CUSTOMERS PER DAY X 0.021 = 3.15 lbs BOD5

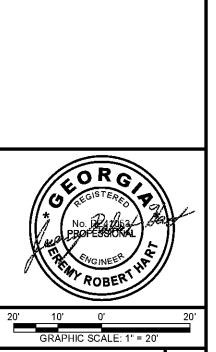
3.15 lbs BOD5 / 1330 GPD / 8.35 X 1,000,000 = 283.64 mg/L = 284 mg/L

THE MINIMUM SIZE GREASE TRAP PER GEORGIA DEPARTMENT OF PUBLIC HEALTH MANUAL FOR ON-SITE SEWAGE MANAGEMENT SYSTEMS - JUNE 2019 IS 125 GALLONS.

SOIL PROPERTIES

Table with 9 columns: SOIL SERIES, SLOPE %, SEASONAL HIGH WATER TABLE FROM EXISTING SURFACE (INCHES), ABSORPTION RATE AT RECOMMENDED TRENCH DEPTH (MINUTES/INCH), RECOMMENDED TRENCH DEPTH FROM EXISTING SURFACE (INCHES), SUITABILITY CODE, TOPSOIL AND/OR UNSUITED FILL (INCHES), RECOMMENDED HEIGHT OF MOUND BASED ON TRENCH DEPTH OF, 18 INCHES, 24 INCHES.

Table with columns: NO., REVISION DESCRIPTION, BY, DATE.



EMC ENGINEERING SERVICES, INC. CIVIL MARINE ENVIRONMENTAL OFFICE LOCATIONS: ALBANY, ATLANTA, AUGUSTA, BRUNSWICK, COLUMBUS, SAVANNAH, STATESBORO, AND VALDOSTA.

UTILITY PLAN. PATEL CONVENIENCE STORE BLUE JAY & McCALL ROAD RINCON, GEORGIA Prepared for: VIPULKUMAR PATEL PROJECT NO.: 20-0025 DRAWN BY: JCH DESIGNED BY: MDM SURVEYED BY: EMC SURVEY DATE: FEBRUARY 2016 CHECKED BY: JRH SCALE: 1" = 20' DATE: APRIL 2020 SHEET 5 OF 17