

FIELD GUIDE FOR MILLENNIUM MOUNDS



**CLERMONT CO. GENERAL HEALTH DISTRICT
2010**

DIMENSIONS BETWEEN DRAINS

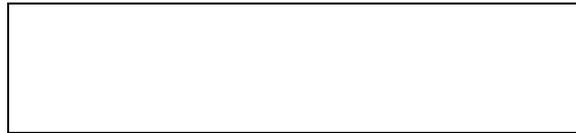
SINGLE LENGTH MOUND

2 BEDROOM	98' X 20'
3 BEDROOM	139' X 20'
4 BEDROOM	184' X 20'



HALF STRUCTURE MOUND

2 BEDROOM	56.5' X 20'
3 BEDROOM	76.5' X 20'
4 BEDROOM	99.5' X 20'



MAXIMUM GRADE CHANGE OVER LENGTH OF MOUND

SINGLE LENGTH

2 BEDROOM	98' X 20'	5.88 INCHES
3 BEDROOM	139' X 20'	8.34 INCHES
4 BEDROOM	184' X 20'	11 INCHES

HALF STRUCTURE

56.5' X 20'	3.39 INCHES
76.5' X 20'	4.59 INCHES
99.5' X 20'	5.97 INCHES

MOUND SPECS

SAND 1.25 FILTER SAND (1.25 gpd/ft²)
ABSORPTION BED GRAVEL ODOT #57 OR ODOT #8 ROUNDED STONE
GRADIENT DRAIN ODOT #57 OR ODOT #8 ROUNDED OR ANGULAR STONE

ABSORPTION BED GRAVEL THICKNESS 5 INCHES (3" UNDER LATERAL)
ORIFICE SIZE AND SPACING 1/8TH AND 2' ON CENTER
ORIFICE SHIELDS OVER ALL ORIFICES FIRST AND LAST ON LATERAL UP ALL OTHERS DOWN
FOUR OBSERVATION PORTS 2 TO BASAL AREA 2 TO SAND INTERFACE

LATERALS (3/4 INCH IN DIAMETER)

2 BEDROOM	8 LATERALS 20'	80 ORIFICES TOTAL
3 BEDROOM	8 LATERALS 30'	120 ORIFICES TOTAL
4 BEDROOM	16 LATERALS 20'	160 ORIFICES TOTAL

INSPECTION TOLERANCE +/- 1/2 INCH FROM ITS REFERENCE ELEVATION ALONG LATERAL

	FLOW RATE (gpm)	DESIGN DOSE (gallons)
2 BEDROOM	34.8	22.0
3 BEDROOM	53.0	34.0
4 BEDROOM	69.6	45.0

SURGE AND RESERVE

SINGLE TANK SET UP

80% SURGE (gal.) AND 80% RESERVE (gal.)

2 BEDROOM	(240 GALLON DAILY DESIGN FLOW)	192 surge	192 reserve
3 BEDROOM	(360 GALLON DAILY DESIGN FLOW)	288 surge	288 reserve
4 BEDROOM	(480 GALLON DAILY DESIGN FLOW)	384 surge	384 reserve

TWO TANK SET UP

RECOMMEND 100% SURGE AND 100% RESERVE

2 BEDROOM	240 surge	240 reserve
3 BEDROOM	360 surge	360 reserve
4 BEDROOM	480 surge	480 reserve

FLOAT SETTINGS EXAMPLE FOR 3 BEDROOM CONCRETE (CONSTANT CAPACITY TANK) SINGLE TANK SET UP

THE COMBINED HIGH WATER AND OVERRIDE ALARM IS LOCATED 288 GALLONS DOWN FROM THE UNDER LIP OF SEPTIC TANK. IF TANK HOLDS 32.5 GALLONS PER INCH ($288/32.5=8.86$) THE COMBINATION HIGH WATER/ OVERRIDE FLOAT IS LOCATED 8.66 (OR 9 INCHES) DOWN FROM UNDER LIP OF SEPTIC TANK. THE ENABLE FLOAT IS LOCATED 576 GALLONS DOWN FROM UNDER LIP OF TANK ($288+288=576$). TO FIND LOCATION IN INCHES $576/32.5=17.72$ OR 17.75 DOWN FROM UNDER LIP OF TANK. THE REDUNDANT OFF FLOAT IS LOCATED 2 INCHES BELOW ENABLE FLOAT.

WATER TIGHT TANK TEST



**CONCRETE TANKS FILLED 24 HOURS BEFORE INSPECTION
WATER LEVEL MARKED AND TIME RECORDED**

TANKS SHOULD BE BACKFILLED WITH APPROVED MATERIAL BEFORE TANKS ARE COMPLETELY FILLED 2 INCHES INTO THE RISER



FILTER AND FLOAT TREE HANDLES SHOULD BE EXTENDED FOR EASY ACCESS. PIPING SHOULD NOT INTERFERE WITH REMOVING SCREEN PUMP VAULT FILTER. CORDS SHOULD BE JUST LONG ENOUGH FOR SERVICE AND BE NEATLY WRAPPED UP. CORD GRIPS AND ELECTRICAL BOXES SHOULD BE TIGHTENED AND WATER TIGHT.



MOUND COVER SHOULD MAINTAIN A MINIMUM OF 3 TO 1 SLOPE



CONTROL PANEL LOCATED 4 TO 5 FEET ABOVE FINAL GRADE AND IN SITE OF DOSE TANK



THE OPERATING INSTRUCTION BOOKLET AND SERVICE RECORD CARD MUST BE STORED IN THE CONTROL PANEL

GRADIENT DRAIN DISCHARGE MUST BE PIPED TO DRAINAGEWAY AND PROVIDE SPLASH BLOCK OR 6 INCHES OF FREEBOARD FOR GRAVITY DISCHARGES

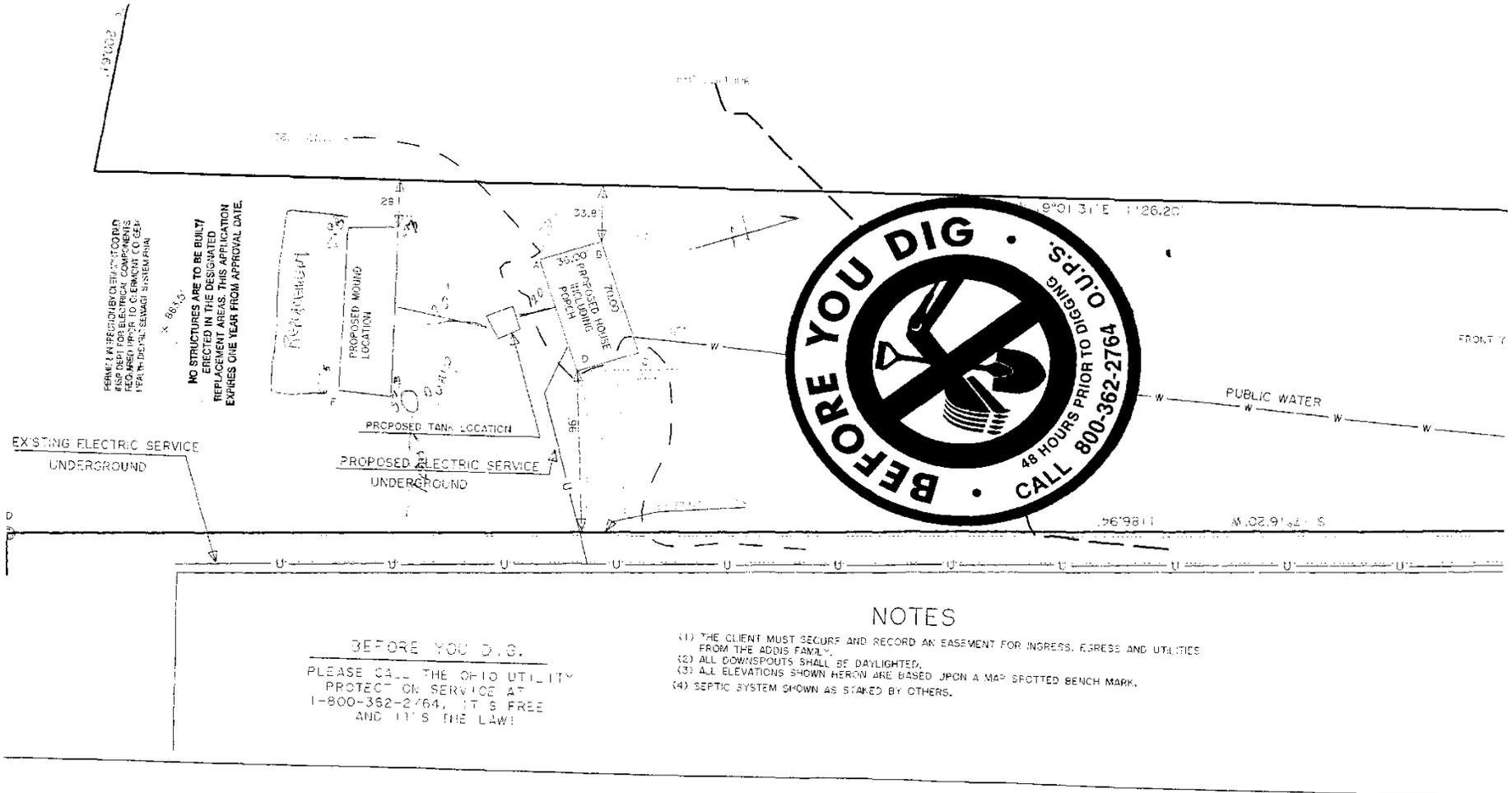


GRADIENT SUMP BASIN INSTALLED ACCORDING TO CCGHD INSTALLATION MANUAL



✓ SITE PLAN WITH SYSTEM DRAWN TO SCALE WITH REPLACEMENT AREA

SITE PLAN



PERMITS IN REGISTRY BY CLIENT TO O.D.R.D.
 RES. DEPT. FOR ELECTRICAL COMPONENTS
 REQUIRED PRIOR TO CLIENT'S CO. G.E.P.
 1/2" DIA. TYPICAL SEWAGE SYSTEM PIPING

NO STRUCTURES ARE TO BE BUILT
 OR EXCAVATED IN THE DESIGNATED
 REPLACEMENT AREAS. THIS APPLICATION
 EXPIRES ONE YEAR FROM APPROVAL DATE.



NOTES

BEFORE YOU D.I.G.
 PLEASE CALL THE OHIO UTILITY
 PROTECTION SERVICE AT
 1-800-362-2764. IT'S FREE
 AND IT'S THE LAW!

- (1) THE CLIENT MUST SECURE AND RECORD AN EASEMENT FOR INGRESS, EGRESS AND UTILITIES FROM THE ADDIS FAMILY.
- (2) ALL DOWNSPOUTS SHALL BE DAYLIGHTED.
- (3) ALL ELEVATIONS SHOWN HEREON ARE BASED UPON A MAP SPOTTED BENCH MARK.
- (4) SEPTIC SYSTEM SHOWN AS STAKED BY OTHERS.

✓ SITE MUST BE FLAGGED OR STAKED ALONG WITH HOME CORESPONDING WITH SITE PLAN



✓ **BASAL AREA MUST BE PROTECTED FROM CONSTRUCTION TRAFFIC**



✓ MUST HAVE A SIGNED INSTALLER LAYOUT PLAN CHECKLIST

Installer Layout Plan Checklist

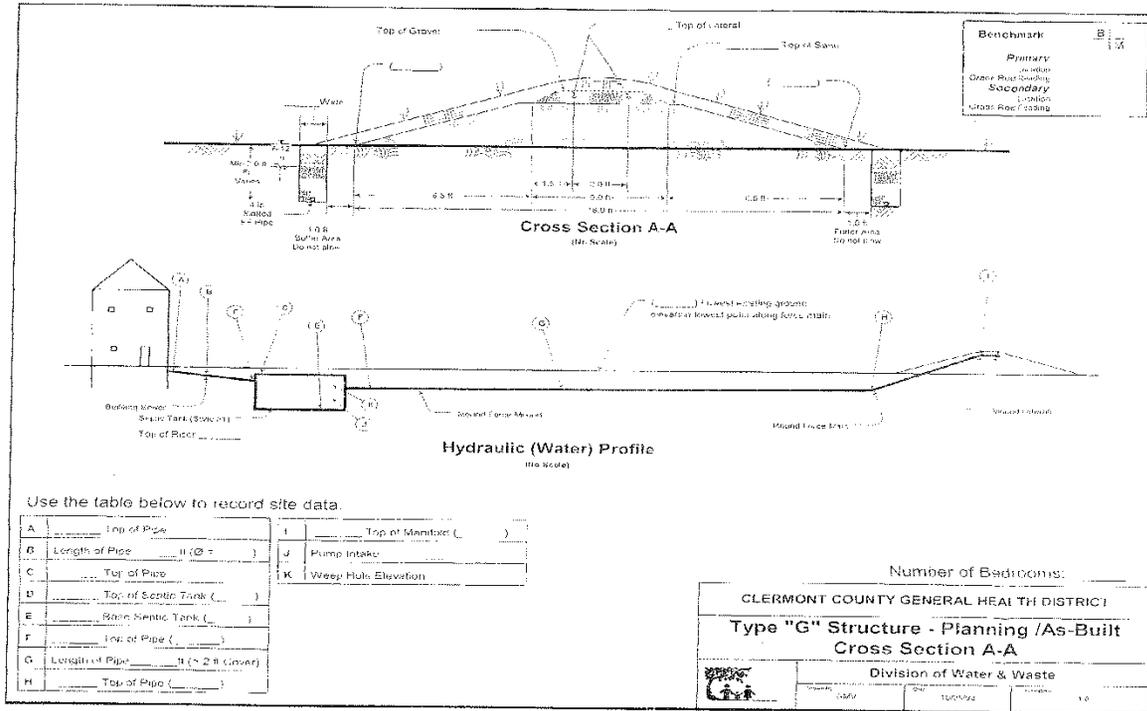
This applies only to an installer's layout plan application for a system that is a standard design in the current CCGHD Household Sewage Treatment System Installation Manual at the time of application. Applications for other systems must follow the two Design Plan Review Checklists provided by the Health District.

- Use ODH Site and Soils Evaluation forms
- For sites with less than 12" of soil to a seasonal water table (ABC soils), write "NO SOIL" on the soil information sheet. These will be recognized as needing two feet of separation distance made up of sand, or sand plus a soil credit from pretreatment or from a method of application.
- Site and soil information for all other sites will be submitted using the forms and following the format provided by the Ohio Department of Health.
- The site plan is drawn to scale on 8½ by 11 inch or larger paper. Shows north arrow.
- The site plan shows an outline of the system location and of the replacement.
- The existing elevations and planned elevations information are on the planning and as-built form, or forms, as provided for the system in the Health District's Installation Manual.
- The Health District's Installation Manual is referenced as the source of design information for the system, and as the source for installation guidance.
- The system is flagged or staked.
- The site is protected with caution tape, construction fencing or other barrier.
- Existing field elevations correspond to the information on the planning form(s)
- Site plan shows existing and proposed structures, driveways and other hardscapes
- Isolation offsets are maintained for system: 10 ft from property lines, right-of-ways, buildings; 50 ft from water supply source and surface water (pond, waterway, etc.).
- Application includes a floor plan of the residence to determine system size.
- The Health District's criteria for a bedroom, located in this manual, will be applied.
- Large volume water fixtures will be considered when sizing a system.
- As a registered and bonded installer, I understand the following:
 - If I encounter any undisclosed or hidden condition on the site that may bear upon the approvability of the system, it is my responsibility to discontinue that part of the installation effected and report the situation to the Health District immediately.
 - This system will be installed and inspected according to the current Health District's Installation Manual at the time of application.
 - A copy of the as-built drawing, equipment and/ or product installation manuals, schematic drawings, operation and maintenance literature, and warranty forms are to be given to the job customer when payment is received.

Installer Signature: _____ Date: _____

✓ **MUST HAVE TWO COMPLETED AS BUILT FORMS FOR TYPE G SYSTEM WITH BENCHMARK**

Clermont County General Health District
2009 Household Sewage Treatment System Installation Manual



Type "G" Structure - General Plan
(1/4" Scale)

Pipe Segment for Drainback	Total Drainback Length (ft)	Pipe Diameter (in)	Gall/foot of pipe	Volume of Drainback (gal)	Benchmark
Sub-Main					Primary Location: Grade Rod Reading: Secondary Location: Grade Rod Reading:
Force Main					
Total Drainback:					

Use of This Drawing

- Fill in the blanks in the above drawing with elevation readings obtained from either planning and/or as-built recording. This sheet can be used to plan a job, and then used to record constructed elevations.
- Draw the actual configuration and indicate the elevations of the sub-main/force main. Remember to record the lengths of the sub-main/force main that are not freeze protected to use in drainback calculations.
- Indicate the location of the outlet (lowest point) of gradient drain. If the gradient drain discharge is pumped, draw the location of the sump basin. On the back of this sheet, draw the discharge line showing slope for gravity or freeze protection for pressurized.
- Draw the location of the installed locations of the observation ports.

Number of Bedrooms: _____

CLERMONT COUNTY GENERAL HEALTH DISTRICT			
Type "G" Structure - Planning and As-Built General Plan			
Division of Water & Waste			
Drawn by	Date	Revised	Scale
GMV	11/31/09		1:0