

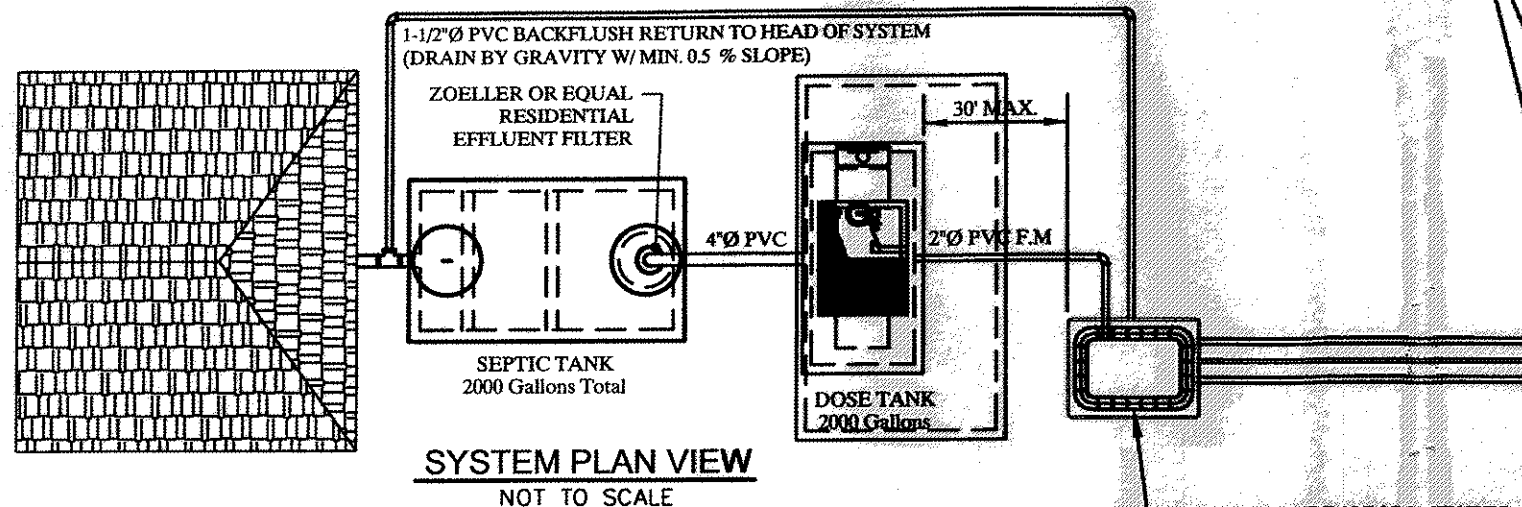
## DOSE DESIGN:

- 1) AN AIR RELEASE VALVE MUST BE INSTALLED ON THE PUMP DISCHARGE PIPING INSIDE THE PUMP TANK.
- 2) TIMED AND ALTERNATE DOSING OF THE DRIP ZONES SHALL BE PROVIDED AS FOLLOWS:  
 EMITTER TUBING: NETAFIM 0.61 PRESSURE COMPENSATING  
 PEAK DAILY FLOW(PDF): 480 GPD(4 BEDROOMS @ 120 gpd)  
 NO. OF PUMP CYCLES PER DAY: 5 PER ZONE  
 ZONE DISCHARGE FLOW: 3.8 GPM  
 GALLONS PUMPED PER CYCLE(GPC): 33.8(at avg. daily flow of 70%=336 GPD)  
 RUN TIME: 8.9 MINUTES(@ ADF)  
 REST/CYCLE TIME: 270MINUTES(@ ADF)  
 FIELD FLUSH FLOW RATE: 8.0 GPM
- 3) SYSTEM SHALL ALSO PROVIDE FLOW MEASUREMENT, DOSE TOTALIZER, FILTER FLUSH, FIELD FLUSH, AND ALARM EVENTS.
- 4) DRIP FIELDS SHALL BE FLUSHED EVERY 25 DOSES.

## AIR RELEASE VALVE INSTALLATION:

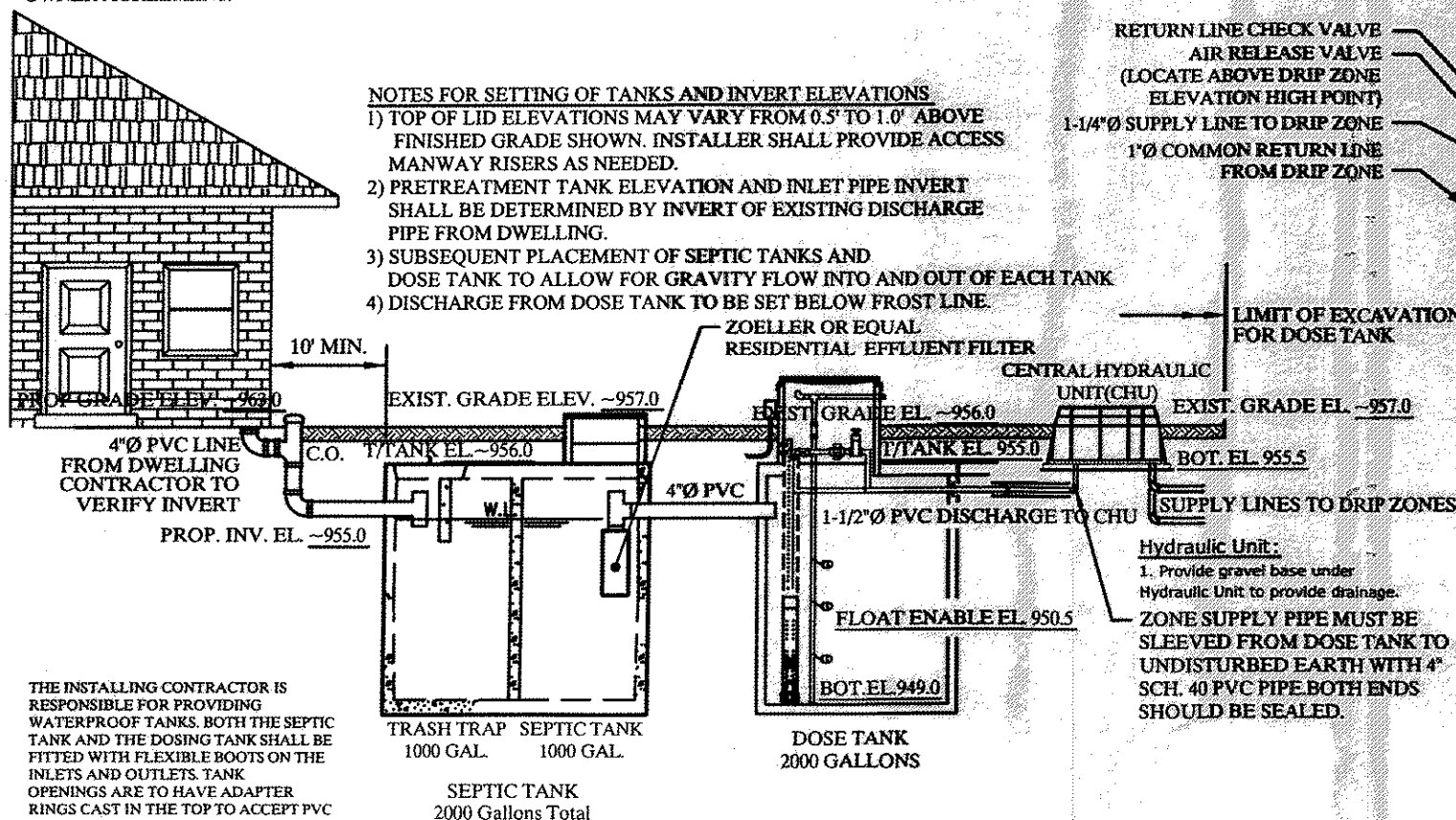
1. Provide gravel base under Air Release Valves to provide drainage. Provide french drain from each valve.
2. Both Supply and Common Return Lines are to be Sch 40 PVC Piping with Pressure Rated Fittings and Frost Protected.

1/2" Ø BLACK FLEXIBLE IPS RETURN LATERAL TYPICAL  
 1/2" Ø BLACK FLEXIBLE IPS SUPPLY LATERAL TYPICAL  
 RETURN LINE CHECK VALVE  
 AIR RELEASE VALVE  
 (LOCATE ABOVE DRIP ZONE ELEVATION HIGH POINT)  
 1" Ø COMMON RETURN LINE FROM DRIP ZONES  
 1-1/4" Ø SUPPLY LINE TO DRIP ZONE



SYSTEM PLAN VIEW  
NOT TO SCALE

NOTE:  
CONTROL PANELS FOR ALL EQUIPMENT  
MAY BE MOUNTED ON THE DWELLING OR  
AT RESPECTIVE TANKS PER INSTALLER &  
OWNER AGREEMENT.



SYSTEM ELEVATION VIEW  
NOT TO SCALE

## NOTES FOR SETTING OF TANKS AND INVERT ELEVATIONS

- 1) TOP OF LID ELEVATIONS MAY VARY FROM 0.5' TO 1.0' ABOVE FINISHED GRADE SHOWN. INSTALLER SHALL PROVIDE ACCESS MANWAY RISERS AS NEEDED.
- 2) PRETREATMENT TANK ELEVATION AND INLET PIPE INVERT SHALL BE DETERMINED BY INVERT OF EXISTING DISCHARGE PIPE FROM DWELLING.
- 3) SUBSEQUENT PLACEMENT OF SEPTIC TANKS AND DOSE TANK TO ALLOW FOR GRAVITY FLOW INTO AND OUT OF EACH TANK
- 4) DISCHARGE FROM DOSE TANK TO BE SET BELOW FROST LINE.

CENTRAL HYDRAULIC UNIT(CHU)  
SEE DETAIL DRAWING 1

1/2" Ø BLACK FLEXIBLE IPS  
SUPPLY LATERAL TYPICAL

RETURN LINE CHECK VALVE  
AIR RELEASE VALVE  
(LOCATE ABOVE DRIP ZONE  
ELEVATION HIGH POINT)  
1-1/4" Ø SUPPLY LINE TO DRIP ZONE  
1" Ø COMMON RETURN LINE  
FROM DRIP ZONE

LIMIT OF EXCAVATION  
FOR DOSE TANK

EXIST. GRADE EL. ~957.0  
BOT. EL. 955.5

SUPPLY LINES TO DRIP ZONES

Hydraulic Unit:  
1. Provide gravel base under  
Hydraulic Unit to provide drainage.  
ZONE SUPPLY PIPE MUST BE  
SLEEVED FROM DOSE TANK TO  
UNDISTURBED EARTH WITH 4"  
SCH. 40 PVC PIPE BOTH ENDS  
SHOULD BE SEALED.

## VERTICAL SEPARATION SPECIFICATIONS(ALL ZONES) - SEE ATTACHED DESIGN CALCULATIONS

|   |                    |
|---|--------------------|
| APPLICABLE LIMITING LAYER DEPTH:          | 12"                |
| ODH MINIMUM VERTICAL SEPARATION DISTANCE: | 24"                |
| DEPTH CREDIT FOR DRIP DISTRIBUTION:       | 12"                |
| VERTICAL SEPARATION DISTANCE REQUIRED:    | 12"                |
| EMITTER LINE TUBING INSTALLATION:         | MICRO-SAND MOUND   |
| TOPSOIL COVERING:                         | 8" SETTLED TOPSOIL |
| RESULTANT VERTICAL SEPARATION DISTANCE:   | 18"                |

## NOTES:

1. SEE SITE PLAN DRAWING 2 FOR DRIP ZONE LAYOUT.
2. SUPPLY AND RETURN LINES SHALL BE INSTALLED 36" MINIMUM BELOW GRADE.
3. DRIP TUBING SHALL FOLLOW EXISTING CONTOURS @ HORIZONTAL SPACING SHOWN.
4. DRIP FIELD SHALL BE INSTALLED WITH LOW GROUND PRESSURE EQUIPMENT.
5. DRIP TUBING SHALL BE 0.57" I.D. AND SHALL BE RATED @ 0.61 GPH PER EMITTER.
6. A MINIMUM OF TWO ZONES SHALL BE PROVIDED.
7. ZONES SHALL BE DOSED INDIVIDUALLY ON ALTERNATE CYCLES.



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PREPARED UNDER THE  
SUPERVISION OF:



REVISIONS

Michael & Nicole Carlisle Property  
HOUSEHOLD SEWAGE TREATMENT &  
ONSITE DISPOSAL SYSTEM  
AT/DRIP ZONE PLAN & HYD. PROFILE

SITE LOCATION:

10180 Orchard Drive-Parcel #20A022E000040  
Kirtland, Lake County, State of Ohio

Site Address:

10180 Orchard Drive  
Parcel #20A022E000040  
Kirtland  
Lake County-State of Ohio

Prepared For:

Otero Signature Homes  
8859 E. Washington St.  
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(216) 346-7301

HESS Project #11-079

DESIGNED BY: MT  
DRAWN BY: MT  
CHECKED BY: GJH  
DATE: 9/2011  
SCALE: N/A V.