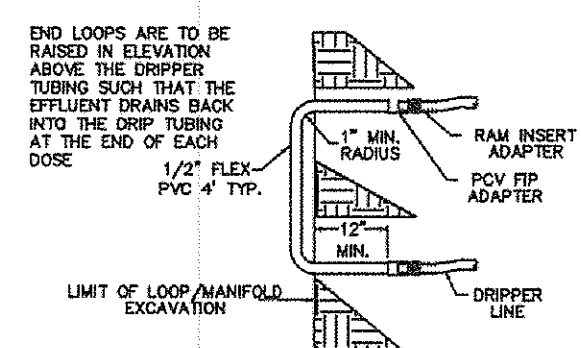
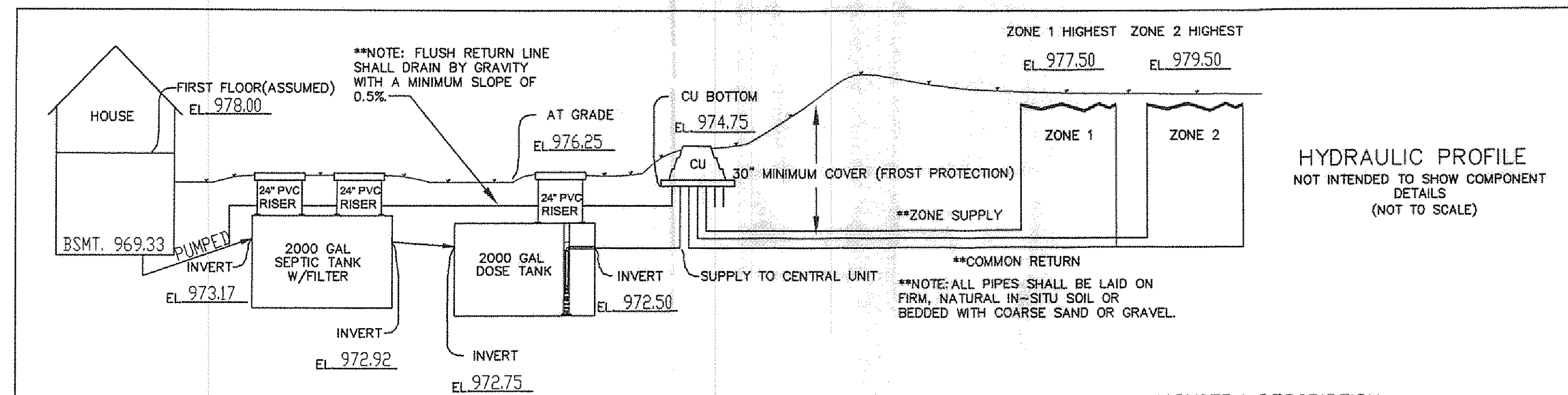
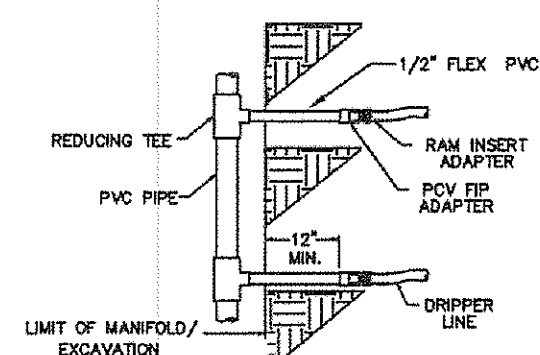




TYPICAL DRIP LOOP CONNECTION
NTS

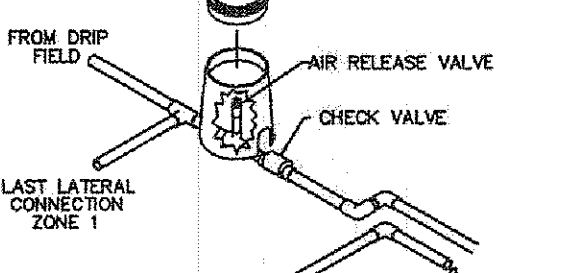


TYPICAL MANIFOLD CONNECTION
NTS

**IMPORTANT TANK NOTES

THE INSTALLING CONTRACTOR IS RESPONSIBLE FOR PROVIDING WATERPROOF TANKS. BOTH THE SEPTIC TANK AND THE DOSING TANK SHALL BE FITTED WITH FLEXIBLE BOOTS ON THE INLETS AND OUTLETS. TANK OPENINGS ARE TO HAVE ADAPTER RINGS CAST IN THE TOP TO ACCEPT PVC RISERS. TANKS SHALL BE WATER TIGHT PER OHIO ADMINISTRATIVE CODE CHAPTER 3701-29 "SEWAGE TREATMENT SYSTEM RULES".

- NOTE:
1. THE AIR RELEASE VALVE SHALL BE PLACED AT THE HIGHEST POINT ON THE RETURN LINE OF EACH ZONE.
 2. EACH ZONE TO HAVE THE SAME VALVE BOX SETUP AND THEREAFTER CONNECTED.



AIR RELEASE & CHECK VALVE DETAIL

**SYSTEM DESCRIPTION

DOMESTIC SEWAGE WILL FLOW BY GRAVITY THROUGH THE SEPTIC TANK THEN INTO A FINAL DOSING TANK. THE CENTRAL UNIT WILL DISPOSE OF THE EFFLUENT BY ALTERNATELY DOSING MULTIPLE ZONES IN THE ABSORPTION AREA. THE CENTRAL UNIT COMPRISES BOTH THE CONTROLS AND THE HYDRAULIC UNIT. THE HYDRAULIC UNIT INCLUDES WASTEWATER FILTRATION, FLOW MEASUREMENT AND VALVING TO ISOLATE FLOWS TO ZONES.

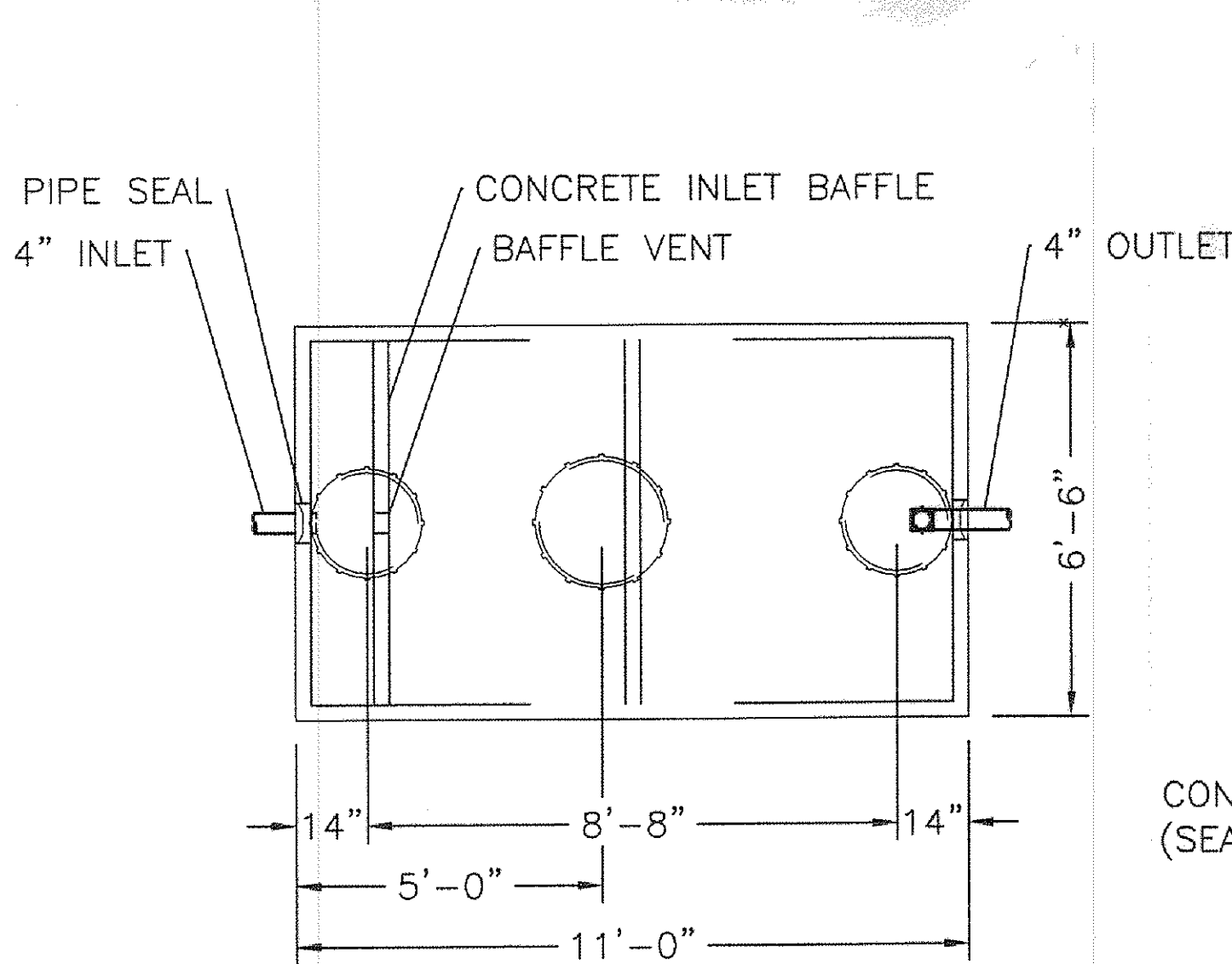
TITLE:
HYDRAULIC PROFILE & TYPICAL DRIP DETAILS
MOUND INSTALLATION

Homeowner
Location
County, Ohio

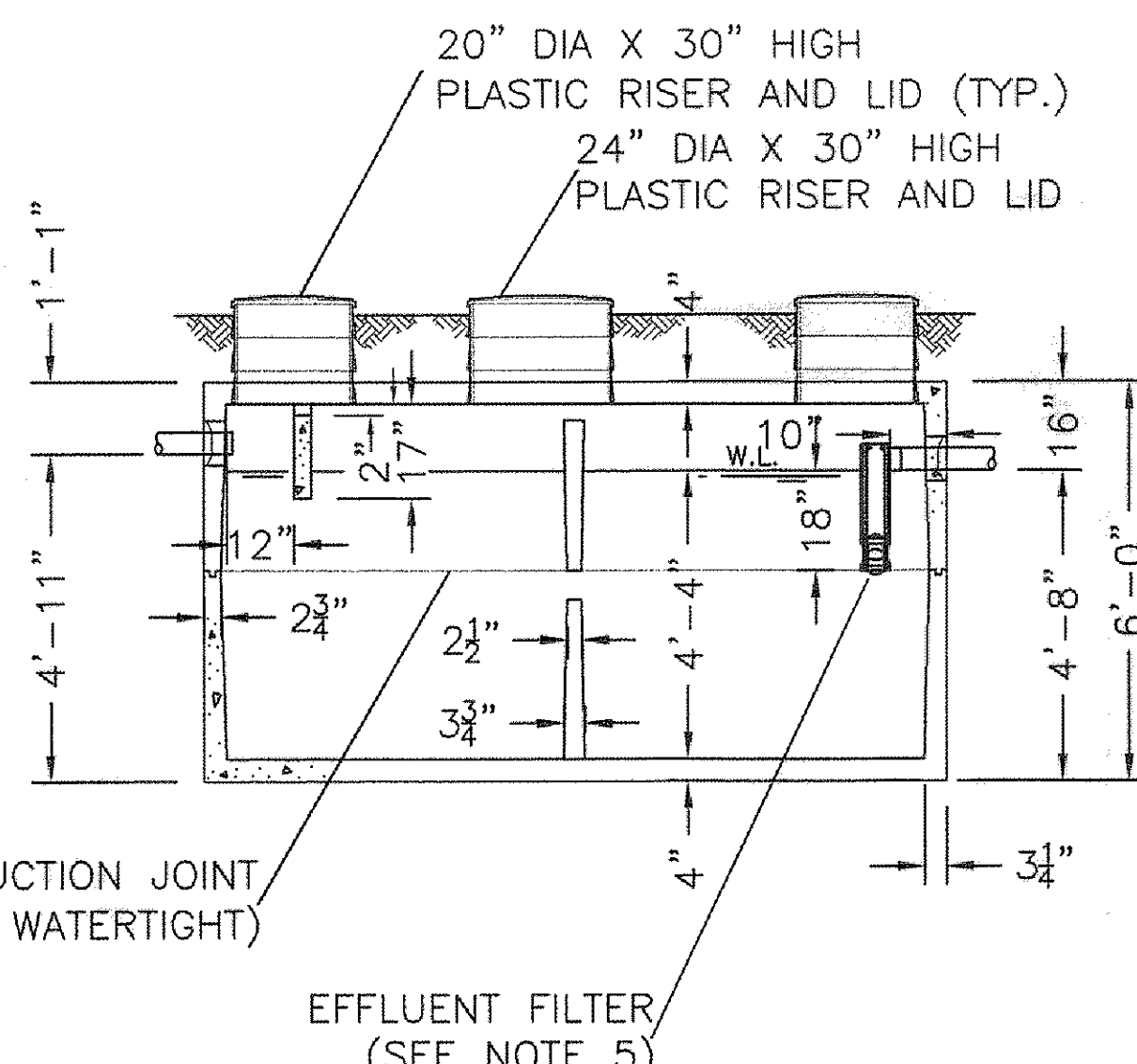
DR. BY: RKM
CK BY: EJK
DATE:
SCALE: None
FILE:

Engineered By:
StreamKey
Engineered Plumbing & Wastewater Solutions
10515 Reading Road
Cincinnati, OH 45241
513-792-1221

SHEET NO.



PLAN VIEW



SECTION VIEW

NOTES:

1. REINFORCED PRECAST CONCRETE TO HAVE A COMPRESSIVE STRENGTH OF 5000 PSI @ 28 DAYS.
2. PRECAST CONCRETE TANK SHALL MEET OR EXCEED SPECIFICATIONS AS SET BY O.A.C. RULE 3701-293-11.
3. CONCRETE JOINT SEALANT CONFORMS TO ASTM C-990.
4. TANK SEALS CONFORM TO ASTM C-923.
5. EFFLUENT FILTER RETAINS SOLIDS GREATER THAN 1/16" AND CONFORMS TO ASTM C-1227.
6. STAMP OR LABEL TOP OF TANK AS FOLLOWS:
MACK INDUSTRIES LOGO
2000 GAL. TANK CAPACITY
DATE OF MANUFACTURE

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STATE APPROVAL PENDING

DUAL COMPARTMENT 2000 GALLON SEPTIC TANK

O.D.H. 2007 COMPLIANCE, OAC RULE 3701-29-11

DRAWN BY: CJ SCALE: 1/4"=1'-0" DRAWING NO.:
DATE: 4/5/07 REV: D 1000 GAL

MACK INDUSTRIES, INC.

201 COLUMBIA ROAD, VALLEY CITY, OHIO 44280 (330) 483-3111

AMERICAN MANUFACTURING COMPANY

SEPTIC DRIP CALCULATION SHEET

Job Name: **B.R. KNEZ CONSTRUCTION, INC.** Location: **Kirtland, Ohio**
Project No.: **10010-002** Date: **4/26/2010**

1. 480 GALLONS PER DAY
2. 4 NO. OF BEDROOMS
3. 200 FT. (Length) 17 FT. (Width) AREA FOR DISPOSAL LAYO. 3400 FT²
4. 2 ZONES
5. 2000 TOTAL DRIPPER LINE PROVIDED (Zone 1 + Zone 2)
6. 2000 SEPTIC TANK SIZE (gallons)
7. 2000 DOSING TANK SIZE (gallons)
8. 35.4 GALLONS PER INCH IN DOSING TANK (Provided From Manufacturer)
9. ZONE ONE
10. 1700 TOTAL ABSORPTION AREA (FT²)
11. 1000 LINEAR FEET OF DRIP TUBING (Total Tubing for Zone 1)
12. 200 LONGEST LATERAL LENGTH (FT) 45.5 Minimum Dose Volume (Gal/Dose)
13. 5.08 DOSING FLOW RATE (GPM) (Length of tubing / 2) x (0.61 Gal/Hr) / (60 Min/Hr)
14. 5 NO. RETURN FIELD FLUSH CONNECTIONS (#/zone)
15. 8.09 FIELD FLUSH FLOW RATE (GPM) (1.6 gpm/Connection) x (no. of field flush connections)
16. 13.08 TOTAL FLOW REQUIRED (GPM) (Dosing flow rate + Field flushing flow rate)

17. ZONE TWO
18. 1700 TOTAL ABSORPTION AREA (FT²)
19. 1000 LINEAR FEET OF DRIP TUBING (Total Tubing for Zone 2)
20. 200 LONGEST LATERAL LENGTH (FT) 45.5 Minimum Dose Volume (Gal/Dose)
21. 5.08 DOSING FLOW RATE (GPM) (Length of tubing / 2) x (0.61 Gal/Hr) / (60 Min/Hr)
22. 5 NO. RETURN FIELD FLUSH CONNECTIONS (#/zone)
23. 8.09 FIELD FLUSH FLOW RATE (GPM) (1.6 gpm/Connection) x (no. of field flush connections)
24. 13.08 TOTAL FLOW REQUIRED (GPM) (Dosing flow rate + Field flushing flow rate)
25. 14. MAXIMUM DESIGN TOTAL FLUSHING FLOW (GPM)
26. 13 FEET OF HEAD LOSS FROM HYDRAULIC UNIT (TDH) (Based Chart 2A)

27. HYDRAULIC UNIT SUPPLY LINE
28. 1.5" PIPE DIAMETER (Inches) (From pump to Hydraulic Unit)
29. 15 LENGTH SUPPLY PIPE (FT) (From pump to Hydraulic Unit)
30. 5 FEET OF STATIC LIFT (From pump to Hydraulic Unit)
31. 6 TOTAL FEET HEAD LOSS IN LINE (Dynamic Head Loss + #30)

32. FORCE MAIN SUPPLY LINE PIPE SIZE & LENGTH:
33. 1" ZONE 1 SIZE 100 ZONE 1 LENGTH 11 FT. HEAD LOSS
34. 1" ZONE 2 SIZE 200 ZONE 2 LENGTH 21 FT. HEAD LOSS

(Friction losses through supply piping at the specific size, distance and flow, as listed above)

35. RETURN FLUSH LINE SIZE & RETURN:
36. 1" ZONE 1 SIZE 100 ZONE 1 LENGTH 4 FT. HEAD LOSS
37. 1" ZONE 2 SIZE 200 ZONE 2 LENGTH 6 FT. HEAD LOSS
38. STATIC HEAD:
39. 5 FEET OF TOTAL STATIC HEAD LOSS (Vertical Lift)
40. TOTAL PRESSURE LOSS (Add Items 26, 31, 33/34, 36/37, 39 + Flushing):
41. 69 ZONE 1 HEAD LOSS, INCLUDES 18 FEET FLUSHING (Chart 3A)
42. 73 ZONE 2 HEAD LOSS, INCLUDES 18 FEET FLUSHING (Chart 3A)
43. PUMP SIZING:
44. 73 MAXIMUM TOTAL PRESSURE LOSS (Highest 41 or 42)
45. 123 DISC FILTER BACKFLUSH (#31 + 116, @ 15 GPM)
46. 15 GPM @ 123 FEET 115 VOLTS 1 PHASE 0.5 HP

47. TIMED DOSING PER ZONE:
48. ZONE ONE:
49. 5.08 Dosing GPM 8.95 Min/Dose 45.5 Gallons Per Dose (Minimum Fill Ratio 3.5)
50. 3.2 Ave. Cycles 5.3 Peak Cycles (Run Frequencies)
51. ZONE TWO:
52. 5.08 Dosing GPM 8.95 Min/Dose 45.5 Gallons Per Dose (Minimum Fill Ratio 3.5)
53. 3.2 Ave. Cycles 5.3 Peak Cycles (Run Frequencies)

54. AVERAGE DOSING REST TIMES: 220 Minutes
55. PEAK DOSING REST TIMES: 137 Minutes
56. LANDSCAPE LINEAR LOADING RATE: AS PROVIDED 2.40 GPD/LF AS GIVEN FROM SITE ELAVATION OR DESIGNER 2.70 GPD/LF
57. SOIL LOADING RATE: 0.14 GPD/Sq. Ft. 0.60 GPD/Sq. Ft.

TITLE:
CALCULATION SHEET - MOUND
B.R. Knez Construction, Inc.
Kirtland
Lake, Ohio
DR. BY: WSO
CK. BY: EJK
DATE:
SCALE: None
FILE:

Engineered By:
StreamKey
Engineered Plumbing & Wastewater Solutions
10515 Reading Road, Cincinnati, Ohio 45241
513-792-1221 (phone) / 513-792-1223 fax

SHEET NO.

REVISIONS	BY
REVISED SEPTIC APR. 26, 2010	WSO

Barrington
CONSULTING GROUP, INC.
9114 TYLER BLVD., MENTOR, OHIO 44060
PHONE 440.205.1260 FAX 440.205.1262
www.BarringtonCGI.com

KNEZ
B.R. KNEZ CONSTRUCTION, INC.
8023 CRILE RD. - SUITE 250
CONCORD TWP, OHIO 44077
440-710-0711

SITE PLAN
10507 STONE RIDGE DR., KIRTLAND, OHIO 44094
S/L 2 THE RESERVE AT STONE CREEK SUBDIVISION VOL. 50 PG. 31

DRAWN
WSO
CHECKED
OWN
DATE
APR. 20, 2010
SCALE
1" = 20'
JOB NO.
10010-002
SHEET
3/3
OF SHEETS

10010-002