

# BIO CLEAN ENVIRONMENTAL MODEL NO. NSBB-2.5-4-60

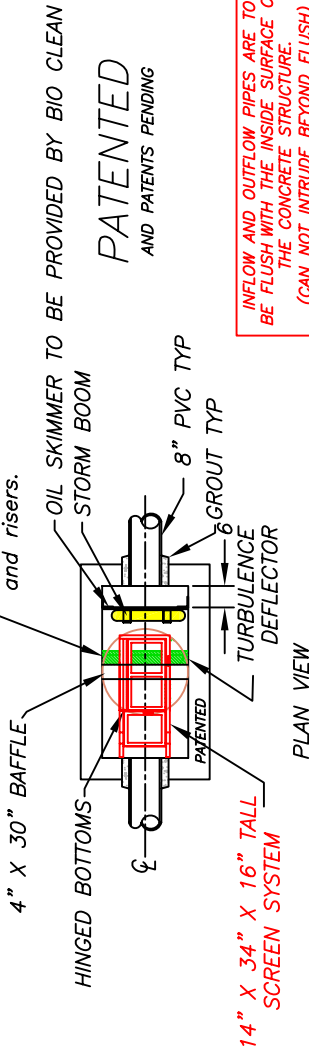
FLOW & BY-PASS SPECIFICATIONS FOR THE BIOMASS SEPARATING SCREEN SYSTEM, SEDIMENT STORAGE, AND SKIMMER SPECIFICATIONS.

- Inflow Pipe Area (8" PVC AS DRAWN) — 0.35 sq.ft.
- SCREEN SPECIFICATIONS:
- Open orifice area in screen system — 4.07 sq.ft.
- Open orifice area in screen system with 50% blockage — 2.03 sq.ft.
- Open orifice area in screen system with 75% blockage — 1.01 sq.ft.
- By-pass through screen system — 0.39 sq.ft.
- Minimum by-pass around screen system — 1.54 sq.ft.
- Screen system storage volume — 2.73 cu.ft.
- SEDIMENT STORAGE:
- Volume of first chamber — 5.16 cu.ft.
- Volume of second chamber — 5.00 cu.ft.
- Volume of third chamber — 5.16 cu.ft.

SKIMMER SPECIFICATIONS:

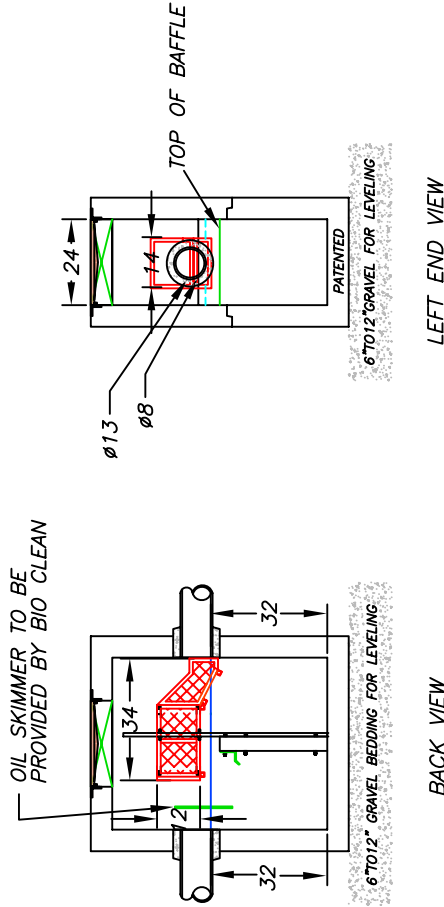
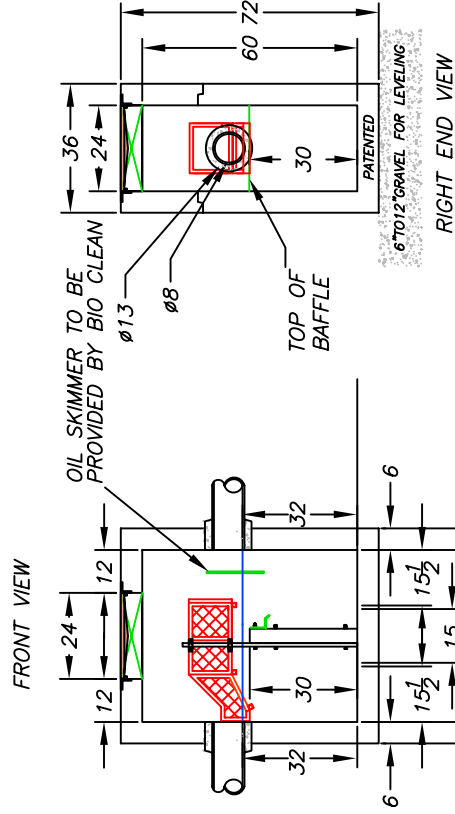
- Flow area under skimmer — 2.25 sq.ft.
- Area of pipe in line with skimmer — 0.35 sq.ft.
- Area of between skimmer and outflow pipe parallel with the surface of the pipe — 1.04 sq.ft.

24" Manhole rings & covers typical. Also available, Hatches with Locks, and risers.



**PATENTED**  
AND PATENTS PENDING

INFLOW AND OUTFLOW PIPES ARE TO BE FLUSH WITH THE INSIDE SURFACE OF THE CONCRETE STRUCTURE. (CAN NOT INTRUDE BEYOND FLUSH)



- NOTES:
- CONCRETE 28 DAY COMPRESSIVE STRENGTH  $f_c=5,000$  PSI.
  - REINFORCING: ASTM A-615, GRADE 60.
  - SUPPORTS AN H2O LOADING AS INDICATED BY AASHTO.
  - JOINT SEALANT: BUTYL RUBBER SS-S-00210
  - TOP, BOTTOM, +WALLS ARE 6" THICK. ARE AVAILABLE.

EXCLUSIVE CALIFORNIA DISTRIBUTOR:  
BIO CLEAN ENVIRONMENTAL SERVICE  
P.O. BOX 869, OCEANSIDE, CA. 92049  
TEL: 760-433-7640 FAX: 760-433-3176  
Email: info@biocleanenvironmental.net

TREATMENT REFERS TO AT LEAST 80% REMOVAL OF TOTAL SUSPENDED PARTICLES FROM 0.125MM TO 2MM IN SIZE. BASED ON A MAXIMUM FLOW RATE OF 6 LINEAR FEET PER SECOND THROUGH PIPE.

PEAK TREATMENT DESIGN FLOW  
1 CUBIC FOOT PER SEC.  
PEAK DESIGN FLOW  
2 CUBIC FEET PER SEC.

PROJECT: STANDARD MODEL	
DRAWING #: 4-07-21-05-03	DATE:
REVISIONS:	REVISIONS:
DATE:	DATE:
DATE:	DATE:
SUNTREE TECHNOLOGIES, INC. 798 CLEARLAKE RD SUITE #2 COCOA, FL 32922	
NUTRIENT SEPARATING BAFFLE BOX MODEL NO. NSBB-2-4-60	
DATE: 07/21/05	SCALE: = 57.6
DRAFTER: T.H.2. UNITS = INCHES	

work will be made 1 1/2" x 1 1/2" x 1/4" aluminum angle beam. The screen used to span the aluminum frame is described as follows: For the body of the screen system, flattened expanded stainless steel sheet 1/2" No. 16 F; Open area = 60%; Grade = 304 Stainless Steel. The screen will be attached to the screen system frame by sandwiching the screen to the aluminum frame between a series of 1" x 3/16" aluminum bars and welded in place.

12. A turbulence deflector will be attached near the top of each of the baffles with 1/2" stainless steel through bolts and stainless steel fender washers. The turbulence deflectors will be made from laminated fiberglass and measure a minimum of 1/4" in thickness. The turbulence deflectors will form a horizontal ledge that measures 8" from the downstream side of the first baffle and 6" from the downstream side of the second baffle, and span the full width of the baffle box.

13. The stormwater treatment system will be precast concrete. The concrete will be 28 day compressive strength  $f_c = 5,000$  psi. Steel reinforcing will be ASTM A - 615 Grade 60. Structure will support an H2O loading as indicated by AASHTO. The joint between the concrete sections will ship lap and the joint sealed with Ram-Nek or equal butyl rubber joint sealant.

14. For access into the stormwater treatment system, two to three holes will be cast into the top of the vault.

15. The inflow and outflow pipes will not intrude beyond flush with the inside surface of the Nutrient Separating Baffle Box. The space between the pipe holes in the ends of the stormwater treatment system and the outside surface of the pipe will be filled with non-shrink grout to form a water proof seal.

16. The nutrient separating screen system shall extend more than half way of the internal length of the stormwater treatment system. The nutrient separating screen system shall start at the inflow pipe not more than 4" from the wall of the inflow pipe.

17. The stormwater treatment system must have two separate reports verifying no scouring occurs at flows equal to or greater than the specified treatment flow rate for that particle size distribution.

18. The stormwater treatment system shall have a shallow sump, not more than 48" from invert of outflow pipe to bottom floor of the sump area.

19. The stormwater treatment system must have a minimum of two sediment chambers (sump areas) which are separated by a vertical pier that divides the chamber from the bottom of the sump to the invert of the outflow pipe. No openings are allowed at the bottom or coming up vertically along the pier. Or any other method that would connect the two chambers together such as orifices.