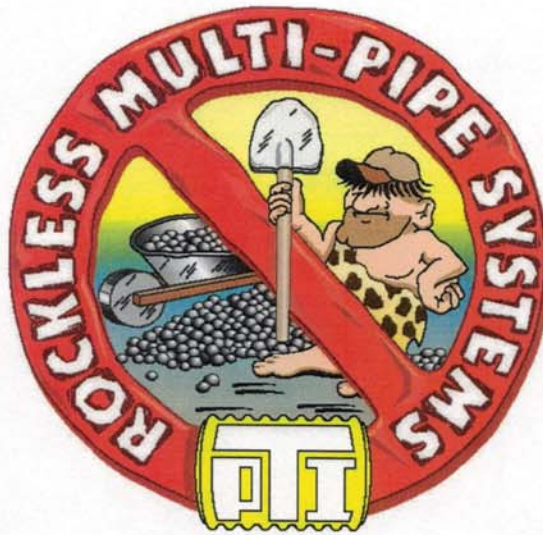
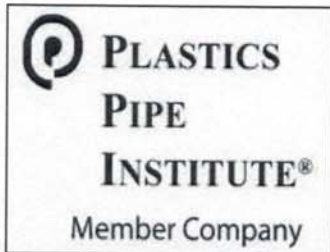


PTI Multi-Pipe System®

Certified Contractor Manual Design and Installation

Department of Health / Division of Environmental Health
Onsite Sewage Program

State of
FLORIDA



ECO-FRIENDLY
MADE WITH
RECYCLED
MATERIAL

Plastic Tubing Industries, Inc.
2346 Vulcan Road
Apopka, Fl. 32703

1-800-780-5121
fax: 407 / 578-9393
www.pti-pipe.com

Approved with changes
Florida Department of Health,
Onsite Sewage Programs.
October 21, 2015

PLASTIC TUBING INDUSTRIES, INC.
PO Box 607356
Orlando, Fla. 32860
800 /780-5121 fax 407 /578-9393



Thank you for choosing the PTI Multi-Pipe Drainfield System.

The Florida Department of Environmental Health manages the designing, sizing, use, and maintenance of On-site Sewage Management Systems under the Rules and Regulation for Managing On-Site Sewage Management Systems, Chapter 64E-6.

As a Certified Multi-Pipe Installation Technician, you may install the PTI Multi-Pipe Systems in place of traditional gravel. The following configurations of the systems have been approved in Florida

PTI MPS-9, MPS-10, MPS-11, MPS-13 and MPS-14

Please follow the directions and charts included in this manual. If you have any questions on applications, or if you would like to arrange for the certification of an additional employee of your company, please call our toll free number and ask that your local representative contact you. Our number is **800/780-5121**

INDEX

Included in your manual you should find:

- Florida Brochure
- Florida DOH Approval
- System component drawings
- System photos
- Model diagrams
- **General installation guide**
- Fittings
- Warranty
- Typical layout MPS-9
- Typical Layout MPS-11
- Sizing Chart

ONSITE SEWAGE TREATMENT and DISPOSAL SYSTEMS

ALTERNATIVE DRAINFIELD PRODUCTS

AS OF July 02, 2010

http://www.floridahealth.gov/environmental-health/onsite-sewage/products/_documents/alternative.pdf

Plastic Tubing Industries MPS systems have a history of testing and approvals dating back to the MPS- 14 in 1994. As the Florida market has evolved, so have our MPS configurations. This has resulted in a number of MPS systems which carry the same 1 to 1 equivalency to a conventional gravel system...

PTI MPS has been listed as "MPRDS" Multi-Pipe Rockless Drainfield System

PTI "MPRDS"		http://oulla.com
10 pipes - 3 tier	1 linear foot of product = 2 sqft of mineral aggregate	
14 pipes - 3 tier	1 linear foot of product = 3 sqft of mineral aggregate	
9 pipes - 2 tier Marketed by PTI as "MPS-9"	1 linear foot of product = 3 sqft of mineral aggregate	
13 pipes - 2 tier Marketed by PTI as "MPS-13"	1 linear foot of product = 3 sqft of mineral aggregate	
11 pipes - 2 tier Marketed by PTI as "MPS-11"	1 linear foot of product = 3 sqft of mineral aggregate	

FLORIDA ONSITE SEWAGE TREATMENT and DISPOSAL SYSTEMS
ALTERNATIVE DRAINFIELD PRODUCTS AS OF June 1, 2015

PRODUCT NAME / DESCRIPTION	SIZING CRITERIA
10 pipes - 3 tier	1 linear foot of product = 2 sqft of mineral aggregate
14 pipes - 3 tier	1 linear foot of product = 3 sqft of mineral aggregate
9 pipes - 2 tier; Marketed by PTI as "MPS-9"	1 linear foot of product = 3 sqft of mineral aggregate
11 pipes - 2 tier; Marketed by PTI as "MPS-11"	1 linear foot of product = 3 sqft of mineral aggregate
13 pipes - 2 tier; Marketed by PTI as "MPS-13"	1 linear foot of product = 3 sqft of mineral aggregate

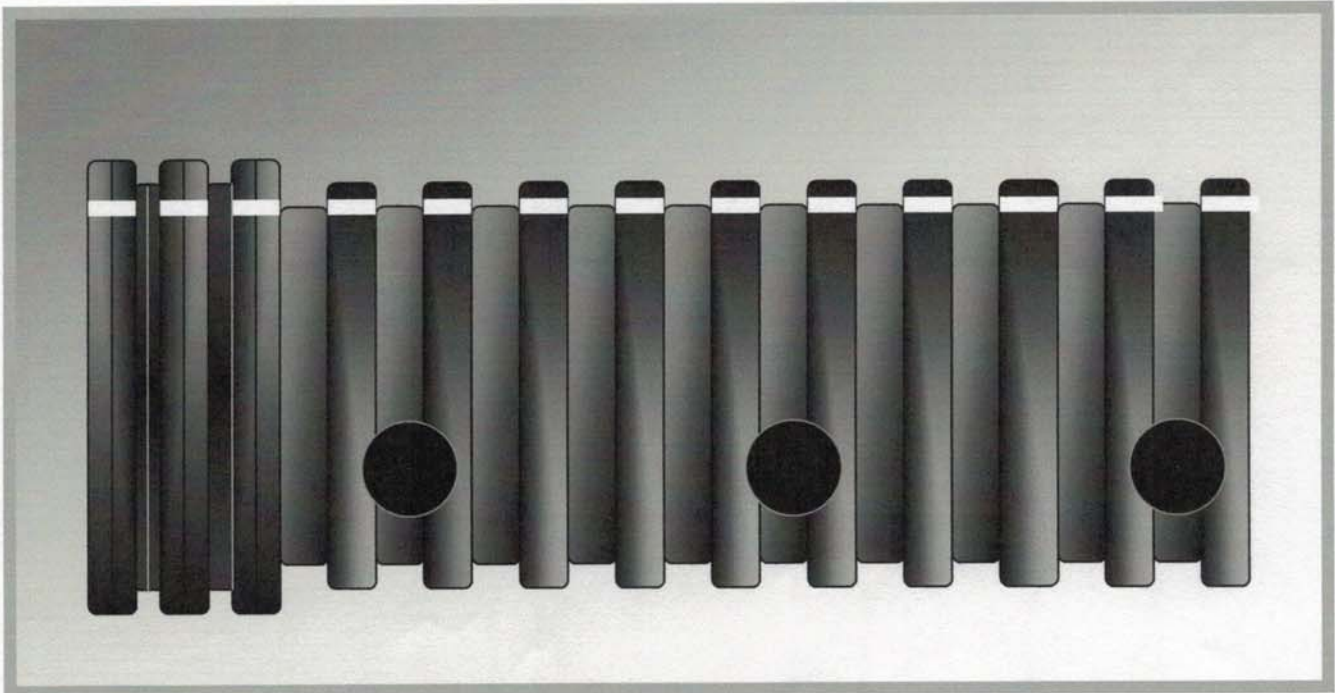
Note:
MPS-9, MPS-11, MPS-13 are manufactured either as 10 foot long or as 7.5 foot long bundles.
Bundles are allowed to be cut for intermediate lengths.

See cross sections on last page

Labeling consists of a white stripe on top of the distribution pipe and letters containing "PTI" and "MULTI-PIPE SYSTEM" on individual pipes.



PTI-Void Pipe



Distribution Pipe

PTI MULTI-PIPE Florida

The 3 most commonly used configurations each **approved at 3 sq ft per lineal foot.**
(MPS-14, MPS-10 also approved but not used.)



MPS-9
Length: 10 ft or 7.5 ft
Height: 8.6 inch
Width: 23.125 inches
Invert: 4 inches aprox



MPS-11
Length: 10 ft or 7.5 ft
Height: 8.63 inches
Width 27.75 inches
Invert; 4 inches aprox.



MPS-13
Length: 10 ft or 7.5 ft
Height; 8.63 inches
Width: 32.375 inches
Invert 4 inches aprox



Florida Installation Guide

Thank you for choosing the PTI Multi-Pipe Drainfield System.

The Florida Department of Environmental Health manages the designing, sizing, use, and maintenance of On-site Sewage Management Systems. PTI MPS 14, MPS-13, MPS-11, MPS-10 and MPS-9 are approved under the Rules and Regulation for Managing On-Site Sewage Management Systems, Chapter 64E-6. This manual contains information and general instruction to compliment the field training offered.

Please follow all State and County codes. All MPS system absorption areas must comply with all other appropriate separation distances, trench locations, trench depth, and contour orientation as prescribed in the State regulations.

Multi-Pipe systems are comprised of a single 4" Distribution pipe, and bundled void pipes. **The distribution pipe is the only one that needs to be connected to the outflow of the tank.** Each MPS VOID pipe, which is comprised of both holes and slots, comes bundled and strapped together. You should strive to maintain the integrity of the MPS strapped bundles where the specific configuration permits.

VOID PIPE BUNDLES: The different void pipe bundles and/or individual pipes are placed in the trench so that they butt up to one another. Where permitted by rule, they may be cut in length or bent to conform to the flow of the trench. There should be no large gaps between the void pipes for dirt to fall into. Large gaps can be filled with small sections of the void pipe. When the width of the MPS system used is narrower than the excavated trench, the strapping and bundling is necessary to lend support to the individual pipes. Where the MPS system fits tightly into the excavated trench, some of the bundles and straps may be cut as long as the integrity of the Distribution pipe is maintained.

- **The MPS-9** configuration of the system comes in a bundle which can either be installed as a single unit or the outer bands can be cut to separate the system into 1 bundle of 5 void pipes, a bundle of 3 void pipes and a single distribution pipe.
- The **MPS-11** consists of 2 strapped bundles of 5 void pipes and a single distribution pipe
- The **MPS-13** has the same 2 bundles of 5 void pipes and a 3 pipe bundle which contains 2 void pipes and the white lined distribution pipe.
- The **PTI MPS-14** is not currently marketed in the State.
- The **PTI MPS-10** is not currently marketed in the State

DISTRIBUTION PIPE: The MPS distribution pipe is constructed with 2 holes at 4 and 7 o'clock with NO hole on the bottom to provide for a more even distribution of the effluent. The PTI distribution pipe can be clearly identified by a white reference mark which is to be installed straight up so that the holes are properly aligned. The PTI distribution pipe is designed to couple with any cut section of PTI pipe and should be easily adaptable to PVC pipe and/or fittings. Connecting one distribution pipe to another is easily accomplished by snapping a cleanly cut end into the built on coupler. If a section of distribution pipe is used which does not have a coupler then either an internal or external PTI coupler should be used to make the connection.



CONSTRUCTION; When constructing trenches, the distribution pipe must be capped with a PTI end cap, or looped where permitted according to local codes. When connecting the distribution pipe to a second system running perpendicular to the first (right angle), butt the ends of the void pipe bundles of the first system up to the sides of the void pipes of the second system. Carefully cut out a section of the TOP VOID pipes and remove them. Connect a short section of Distribution pipe to extend it to the receiving tee or elbow on the adjacent bundle. The completed connection will have the Distribution pipe resting on the bottom void pipes giving it support. When constructing a bed or looping the ends, you can (if permitted by rule) remove a section of top void pipes and place the looped pipe across the end resting it upon the bottom level of void pipes. This provides additional support for the distribution pipe during backfill.

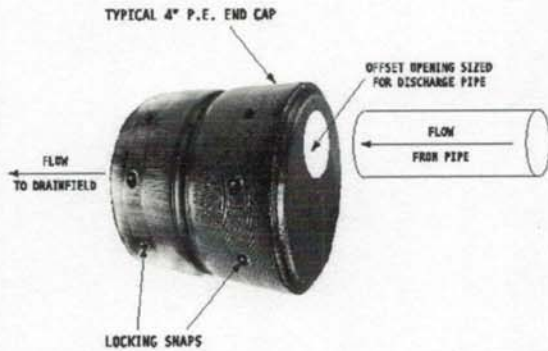




When and where required, the use of PTI (filter cloth) is designed to provide a limited barrier to soil intrusion. The filter cloth sold by PTI has been tested for its ability to wick and is the only tile guard to be used in the warranted system. Where the pipe ends are **open** to the soil, you should double the cloth and tuck 3 or 4 inches under the bundle, then fold it up and over the open ends. This is designed to prevent the soil from pushing into the open ends during backfilling. Place a single layer of cloth over the length of the system so that it drapes down the sides and flares out. Flaring out the sides rather than tucking them under allows any excess water to move away from the system. Toss some soil on it to hold it until backfill.



PRESSURE DOSED METHOD DETAIL OF DRILLED END CAP



For Low Pressure Distribution, the PVC pressure pipe is fed entirely down the PTI Distribution pipe. This will allow the PVC pipe to be serviced.

For a Pumped Effluent application, the PVC pipe should be extended into the PTI Distribution pipe approx. 18" to 24"

Back fill : Using common sense and some minor deviations from normal covering practices will result in a Multi-Pipe System which is quick , easy to cover, and capable of standing up to H-10 loadings. The best practice is to make certain that dirt is first placed against the side of the system to prevent it from moving. This can be accomplished by pushing the dirt into the trench or by placing dirt with the bucket. Do not drop dirt from any height more than a few feet above the system. Once the sides have been supported to prevent the system from shifting, you can push the covering dirt on the system. It is best to cover at an angle moving the dirt along the length of the system. **If you must cross the system, keep 12 or more inches under your machines wheels and then back scrape it to your finished grade.**





MPS SYSTEMS Installation Check

Plastic Tubing Industries

- Warrenton, GA 30828 706-465-3121
- Orlando, FL 32860 800-780-5121
- Hempstead, TX 77445 888-784-7473

www.pti-pipe.com

The PTI MULTI-PIPE SYSTEM should have been installed according to the approvals granted, and to all of your State and county codes. Should you have any question on the system or its application, please contact your local representative or our corporate office at 1-800-780-5121.

MULTI-PIPE DRAINFIELD

- Note the configuration of pipe installed to make certain it is an approved model for your State.
- Check to see that the PTI MULTI-PIPE SYSTEM which has been installed meets or exceeds the amount required by your permit
- Do the void pipe bundles contain BOTH slots and holes?
- In tight soils which could smear and seal off, remember to scratch or rough up the side walls and bottom area to provide proper contact with the pipes.
- Is the Header pipe or Distribution box level and properly supported so that the Distribution pipe is fed correctly?
- Is the connection from the Header pipe to PTI Distribution pipe a “downhill connection”? This means that the external coupler on the distribution pipe goes over the fitting or pipe it meets or an external coupler is used.
- The Strapping is important for stability of the Distribution depending upon the configuration used it should be supported by bundled pipes to each side or strapped within a bundle of MPS pipes.
- Check to see that the white line (or approved) Distribution marking line is at the 12 0”clock position and that the end of the run has a PTI end cap or is looped with PTI fittings
- Are the Distribution pipes securely connected?
- Check for any obvious grade reversal of the Distribution Pipe (running uphill) which might cause a premature failure.
- Make certain that any open ends of VOID pipes directly exposed to a soil interface are wrapped by PTI filter cloth to prevent infiltration of the soil
- Make certain that the filter cloth is flared OUT and to the sides rather than tucked under the void pipe bundles.

YOU SHOULD BE READY FOR INSPECTION- Thanks for choosing PTI

PTI FITTINGS AND TILEGUARD



"T"



**DOWNSPOUT
ADAPTOR**



REDUCER



UST



8" JUG



ENDCAP



"Y"



SNAP COUPLER



**INTERNAL
COUPLER**



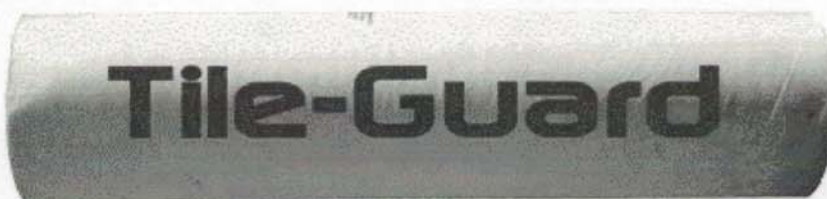
**DISTRIBUTION BOX
7-HOLE**



90 ELBOW



**DISTRIBUTION BOX
5-HOLE**



24" X 1500'
36" X 1500'
48" X 1500'
72" X 1500'

PLASTIC TUBING INDUSTRIES, INC.
TWO YEAR LIMITED WARRANTY
FLORIDA



PLASTIC TUBING INDUSTRIES INC. ("PTI") hereby extends the following limited warranty to the homeowner who acquires, through a PTI certified installer, a new **PTI Multi-Pipe Rockless Drainfield** for a single family residence.

PTI warrants the **PTI Multi-Pipe Rockless Drainfield** is free from defects in materials and workmanship for a period of two (2) years from the date of final inspection ___/___/___ by the Health Inspector. If the PTI Multi-Pipe Rockless Drainfield fails to function as designed for a period of two (2) years due to any defects in materials, PTI shall provide a replacement drain-field at no cost to the homeowner.

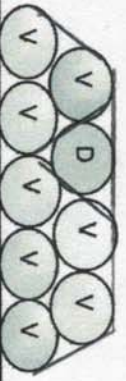
DISCLAIMER

PTI MAKES NO WARRANTIES OF MERCHANTABILITY OR FITNESS BEYOND THOSE SPECIFICALLY LISTED IN THIS LIMITED WARRANTY. REPLACEMENT OF THE DRAINFIELD IS THE BUYER'S EXCLUSIVE REMEDY IF THE DRAINFIELD FAILS TO FUNCTION AS DESIGNED. PTI WILL NOT BE LIABLE FOR ANY OTHER LOSS OR DAMAGE, OF ANY KIND, DUE TO THE FAILURE OF THE SYSTEM TO OPERATE AS DESIGNED.

This limited Warranty is subject to the following terms and conditions:

- 1) Claims under this Limited Warranty must be in writing and mailed postage prepaid to:
Plastic Tubing Industries, Inc.
PO Box 607356
Orlando, Fa.. 32860
- 2) Claims must include a copy of this Limited Warranty Certificate and homeowner must provide the original Certificate upon request by PTI.
- 3) The following is not covered by this Limited Warranty:
 - a. Improper Installation
 - b. Illegal installation
 - c. Failure due to abuse or excessive use or improper use, pursuant to the Georgia Administrative Code.
 - d. The Septic Tank
 - e. Effluent distribution boxes
 - f. Fines or penalties imposed by governmental authority
 - g. Landscaping costs
- 4) This Limited Warranty shall apply only if the **PTI Multi-Pipe Rockless Drainfield** is installed:
 - a. In accordance with all applicable state and local rules and regulations.
 - b. In accordance with the PTI factory specifications using only PTI manufactured products

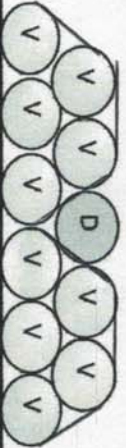
MPS-9 Pipe System



One bundle of 9 pipes (8 Void / 1D)

D.F.	Trench Linear Ft.	9-Pipe Bundles	Total Feet
150	50	5	450
180	60	6	540
210	70	7	630
240	80	8	720
270	90	9	810
300	100	10	900
330	110	11	990
360	120	12	1080
390	130	13	1170
420	140	14	1260
450	150	15	1350
480	160	16	1440
510	170	17	1530
540	180	18	1620
570	190	19	1710
600	200	20	1800
630	210	21	1890
660	220	22	1980
690	230	23	2070
720	240	24	2160
750	250	25	2250
780	260	26	2340
810	270	27	2430
840	280	28	2520
870	290	29	2610
900	300	30	2700
930	310	31	2790
960	320	32	2880
990	330	33	2970
1020	340	34	3060

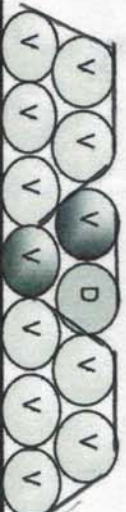
MPS-11 Pipe System



2 ea 5 pipe Void bundles & 1 Distribution pipe

D.F.	Trench Linear Ft.	D-Pipe Feet	5 Pipe Bundles	Total Feet
150	50	50	10	550
180	60	60	12	660
210	70	70	14	770
240	80	80	16	880
270	90	90	18	990
300	100	100	20	1100
330	110	110	22	1210
360	120	120	24	1320
390	130	130	26	1430
420	140	140	28	1540
450	150	150	30	1650
480	160	160	32	1760
510	170	170	34	1870
540	180	180	36	1980
570	190	190	38	2090
600	200	200	40	2200
630	210	210	42	2310
660	220	220	44	2420
690	230	230	46	2530
720	240	240	48	2640
750	250	250	50	2750
780	260	260	52	2860
810	270	270	54	2970
840	280	280	56	3080
870	290	290	58	3190
900	300	300	60	3300
930	310	310	62	3410
960	320	320	64	3520
990	330	330	66	3630
1020	340	340	68	3740

MPS-13 Pipe System



2 ea 5 pipe Void brnd / 1 ea 3 pipe Void brnd w D pipe

D.F.	D.F.	5-Pipe Bundle	3-Pipe Bundle	Total Feet
150	50	10	5	650
180	60	12	6	790
210	70	14	7	910
240	80	16	8	1040
270	90	18	9	1170
300	100	20	10	1300
330	110	22	11	1430
360	120	24	12	1560
390	130	26	13	1690
420	140	28	14	1820
450	150	30	15	1950
480	160	32	16	2080
510	170	34	17	2210
540	180	36	18	2340
570	190	38	19	2470
600	200	40	20	2600
630	210	42	21	2730
660	220	44	22	2860
690	230	46	23	2990
720	240	48	24	3120
750	250	50	25	3250
780	260	52	26	3380
810	270	54	27	3510
840	280	56	28	3640
870	290	58	29	3770
900	300	60	30	3900
930	310	62	31	4030
960	320	64	32	4160
990	330	66	33	4290
1020	340	68	34	4420

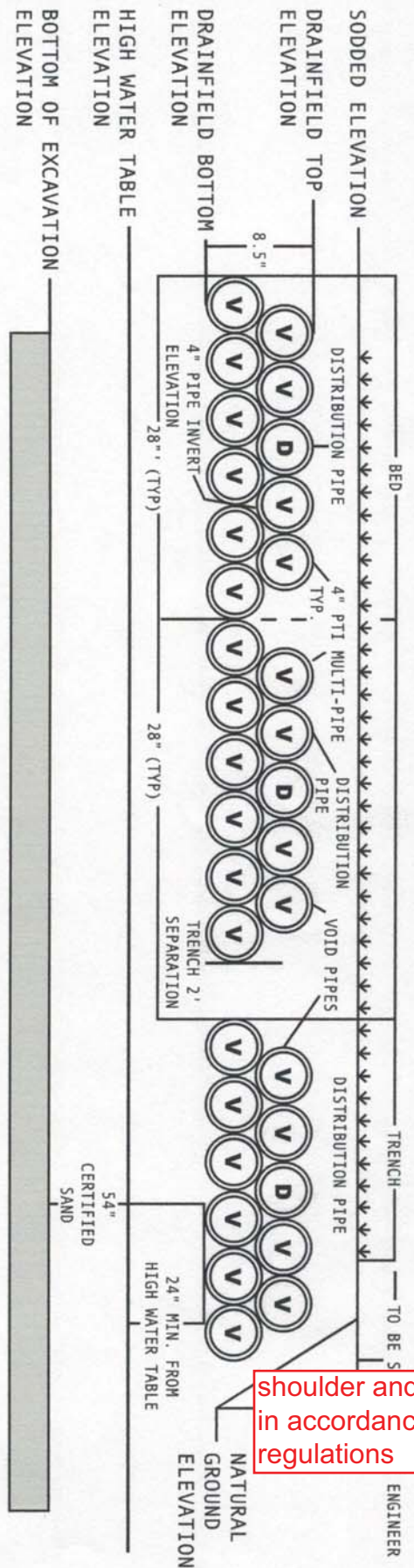
Sizing Chart for 10 foot Bundles

Sizing Chart for 10 foot Bundles

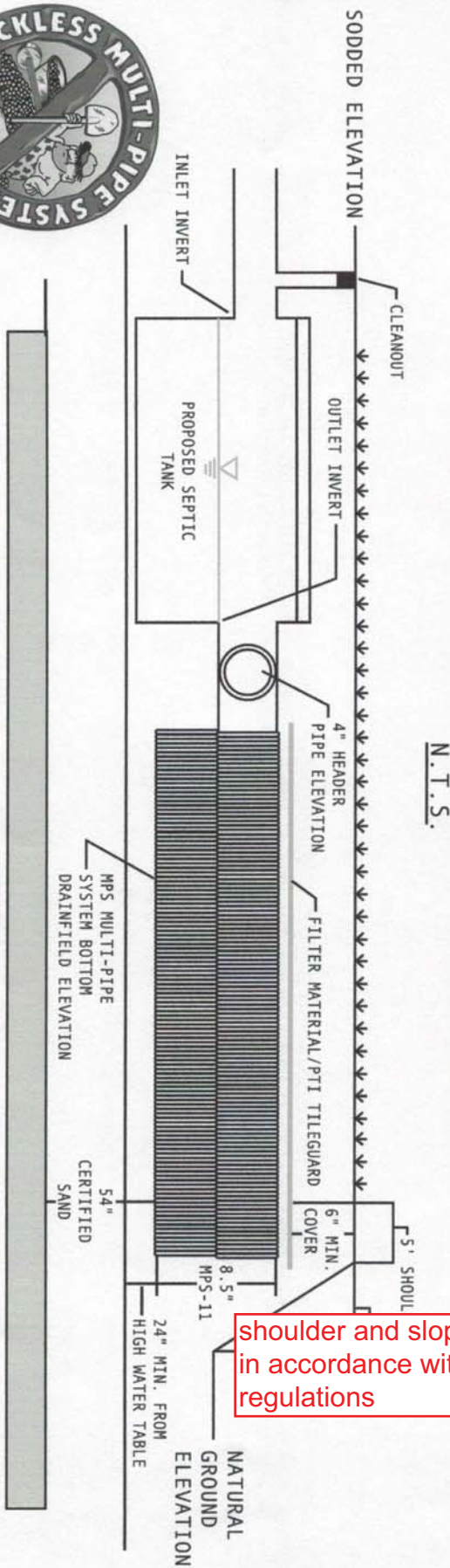
To determine the amount of MPS bundles to use divide the permitted square footage by 3. This will give you the running foot of system required. Take the first two numbers of the running footage to determine the bundles. The number of 9 pipe bundles will be the same as these first two numbers. For the MPS-11 or MPS-13 the number of 5 pipe VOID bundles will be **DOUBLE** the first two numbers of the running foot required. The required number of Distribution pipe (MPS-11) or 3 pipe bundles (MPS-13) will be the same as the first two number of running foot

MPS-11

FLA. TYPICAL PTI MULTI-PIPE LAYOUT



MPS-11 TYPICAL DRAINFIELD LAYOUT CROSS SECTION



SEPTIC SYSTEM TYPICAL CROSS SECTION

N.T.S.

PTI PLAN PRESENTATION DISCLAIMER: "PLASTIC TUBING INDUSTRIES INCORP HAS PREPARED THIS DRAWING BASED ON THE INFORMATION PROVIDED BY THE DESIGN ENGINEER FOR THE SPECIFIC PROJECT. THIS DRAWING IS INTENDED TO DEPICT THE NECESSARY PTI COMPONENTS FOR COMPLIANCE WITH THE ENGINEER'S DESIGN AND/OR LAYOUT. PTI HAS NOT PERFORMED ANY ENGINEERING SERVICES ON THIS PROJECT. NOR HAS PTI INDEPENDENTLY VERIFIED THE INFORMATION SUPPLIED BY THE DESIGN ENGINEER. THE DESIGN ENGINEER SHOULD REVIEW THE DRAWING TO INSURE THAT IT IS IN COMPLIANCE WITH THE SPECIFIC DESIGN PROJECT."

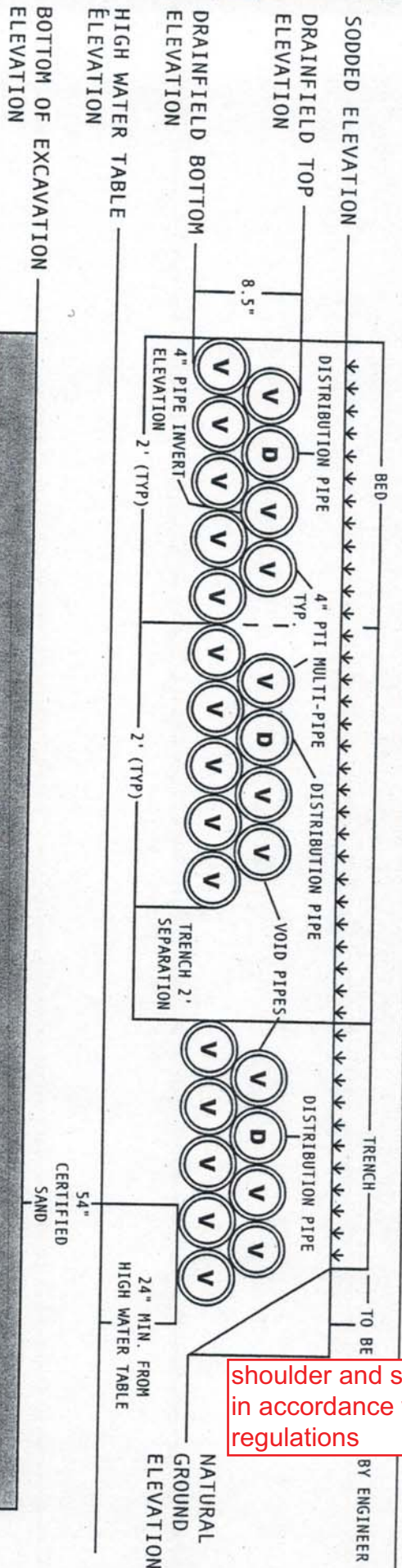
PLASTIC TUBING INDUSTRIES INC.
DRAWN BY: _____ APPROVED BY: _____

REVISIONS	
BY	DATE

DRAWING # **MPS-11**

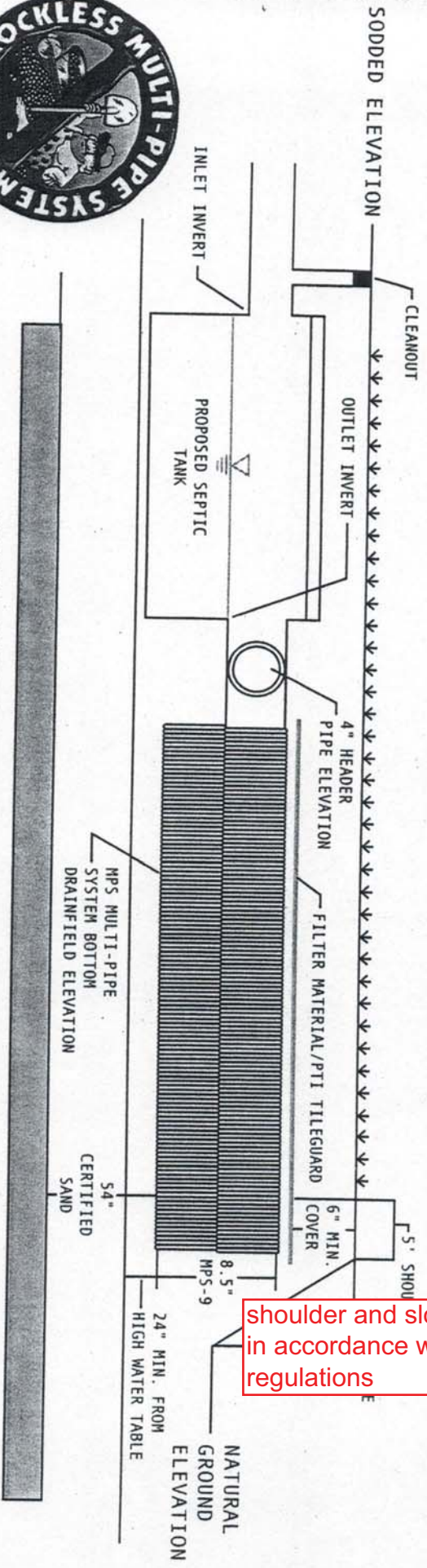
MPS-9

FLA. TYPICAL PTI MULTI-PIPE LAYOUT



shoulder and slope in accordance with regulations

MPS-9 TYPICAL DRAINFIELD LAYOUT CROSS SECTION
N.T.S.



shoulder and slope in accordance with regulations



SEPTIC SYSTEM TYPICAL CROSS SECTION
N.T.S.

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PLASTIC TUBING INDUSTRIES INC.
DRAWN BY: []
APPROVED BY: []

REVISIONS	BY	DATE

DRAWING # MPS-9



PTI Multi-Pipe Systems

Florida MPS-9 Sizing Chart

Rating 30 sq. ft. *per 10 foot bundle*

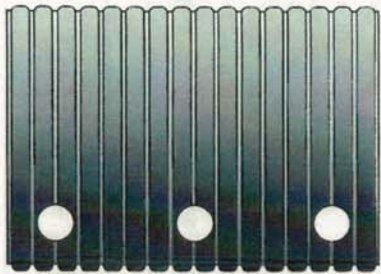
- BEDS are placed on 24" centers.
- Trenches 24" wide with 24" separation.
- MPS-9 bundles may be cut in length and/or curved in order to conform to set back limitations.
- MPS-9 pipe system may be utilized in all conventional applications; Dosed, pumped, gravity fed, in beds or trenches.
- MPS-9 is a single bundle of Multi-Pipe which consists of 8 Void pipes and 1 Distribution pipe.



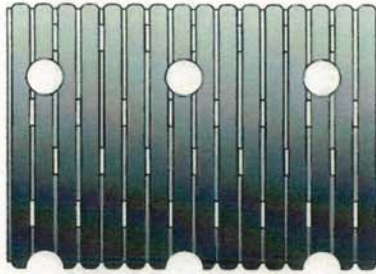
Bundles	Length	Rating
1	10 ft.	30 sq. ft.
2	20 ft.	60 sq. ft.
3	30 ft.	90 sq. ft.
4	40 ft.	120 sq. ft.
5	50 ft.	150 sq. ft.
6	60 ft.	180 sq. ft.
7	70 ft.	210 sq. ft.
8	80 ft.	240 sq. ft.
9	90 ft.	270 sq. ft.
10	100 ft.	300 sq. ft.
11	110 ft.	330 sq. ft.
12	120 ft.	360 sq. ft.
13	130 ft.	390 sq. ft.
14	140 ft.	420 sq. ft.
15	150 ft.	450 sq. ft.
16	160 ft.	480 sq. ft.
17	170 ft.	510 sq. ft.
18	180 ft.	540 sq. ft.
19	190 ft.	570 sq. ft.
20	200 ft.	600 sq. ft.
21	210 ft.	630 sq. ft.
22	220 ft.	660 sq. ft.
23	230 ft.	690 sq. ft.
24	240 ft.	720 sq. ft.
25	250 ft.	750 sq. ft.
26	260 ft.	780 sq. ft.
27	270 ft.	810 sq. ft.
28	280 ft.	840 sq. ft.
29	290 ft.	870 sq. ft.
30	300 ft.	900 sq. ft.
31	310 ft.	930 sq. ft.
32	320 ft.	960 sq. ft.
33	330 ft.	990 sq. ft.
34	340 ft.	1020 sq. ft.
35	350 ft.	1050 sq. ft.
36	360 ft.	1080 sq. ft.
37	370 ft.	1110 sq. ft.
38	380 ft.	1140 sq. ft.
39	390 ft.	1170 sq. ft.
40	400 ft.	1200 sq. ft.

DISTRIBUTION PIPE

TOP REFERENCE LINE

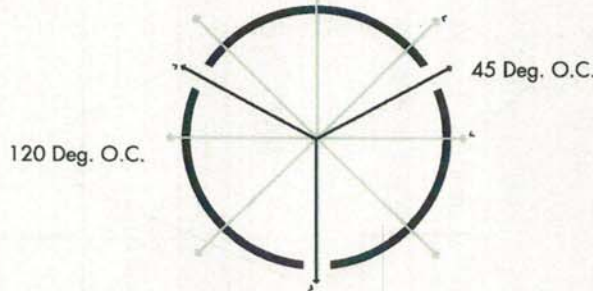


VOID PIPE



60 Deg. O.C.

2 HOLE CONFIGURATION



120 Deg. O.C.

45 Deg. O.C.

PLASTIC TUBING INDUSTRIES, Inc.®

Manufacturers of Corrugated Plastic Drainage Products

P.O. Box 607356 Orlando, Florida 32860-7356

407-298-5121 or 800-780-5121

Visit our website for more information

www.ptifla.com

