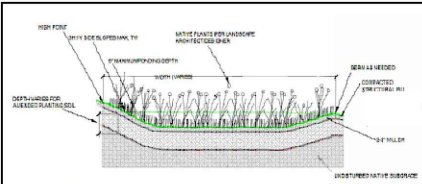


VICINITY MAP



- CONSTRUCTION STEPS:
1. Locate rain garden(s) where downspouts or driveway runoff can enter garden flowing away from the home. Locate at least 10 feet from foundations, not within the public right of way, away from utility lines, not over septic tanks, and not near a steep bank edge.
 2. Measure the area draining to the planned garden and determine required rain garden surface area from the table on the next page and your planned excavation depth.
 3. Optionally, perform infiltration test according to Appendix A. If the rate is less than 0.25 in/hr an underdrain will be necessary. If the rate is more than 0.50 in/hr the size of the garden may be decreased 10% for every 0.50 in/hr infiltration rate increase above 0.50 in/hr.
 4. Measure elevations and stake out the garden to the required dimensions insuring positive flow into garden, the overflow elevation allows for six inches of ponding, and the perimeter of the garden is higher than the overflow point. If the garden is on a gentle slope a berm at least two feet wide can be constructed on the downhill side and/or the garden can be dug into the hillside taking greater care for erosion control at the garden inlet(s).
 5. Remove turf or other vegetation in the area of the rain garden. Excavate garden being careful not to compact soils in the bottom of the garden. Level bottom of garden as much as possible to maximize infiltration area.
 6. Mix compost, topsoil, and some of the excavated subsoil together to make the "amended soil". The soil mix should be 2/3 compost, 2/3 native soil (topsoil and subsoil combined).
 7. Fill rain garden with the amended soil, leaving the surface eight inches below your highest surrounding surface. Eight inches allows for 6 inches ponding and 2" of mulch. The surface of the rain garden should be as close to level as possible.
 8. Build a berm at the downhill edge and sides of the rain garden with the remaining subsoil. The top of the berm needs to be level, and set at the maximum ponding elevation.
 9. Plant the rain garden using a selection of plants from elsewhere in this manual.
 10. Mulch the surface of the rain garden with two to three inches of non-floating organic mulch. The best choice is finely shredded hardwood mulch. Plastic mulch is also an option.
 11. Water all plants thoroughly. As in any new garden or flower bed, regular watering will likely be needed to establish plants during the first growing season.
 12. During construction build the inlet feature as a pipe directly connected to a downspout or use a rock lined swale with a gentle slope. Use of an impermeable liner under the rocks at the end of the swale near the house is recommended to keep water from soaking in at that point. Test the drainage of water from the source to the garden prior to finishing.
 13. Create an overflow at least 10 feet from your property edge and insure it is protected from erosion.

SKETCH LAYOUT
PROVIDE PLAN VIEWS OF RAIN GARDEN AND HOUSE SHOWING DRAINAGE AREA DIRECTED TO RAIN GARDEN AND KEY DIMENSIONS AND OVERFLOW AREA RELATIVE TO PROPERTY LINE.

SIZING CALCULATION:

| Contributing Drainage Area (square feet) | Depth of Amended Soil (inches) | | | |
|--|--------------------------------|------|-------|-------|
| | 12 | 14 | 30 | 36 |
| 512 | 12 | 12 | 51 | 60 |
| 513 | 12 | 12 | 51 | 60 |
| 1024 | 24 | 24 | 102 | 120 |
| 1536 | 36 | 36 | 153 | 180 |
| 2048 | 48 | 48 | 205 | 240 |
| 2560 | 60 | 60 | 256 | 300 |
| 3072 | 72 | 72 | 307 | 360 |
| 3584 | 84 | 84 | 358 | 420 |
| 4096 | 96 | 96 | 409 | 480 |
| 4608 | 108 | 108 | 460 | 540 |
| 5120 | 120 | 120 | 512 | 600 |
| 5632 | 132 | 132 | 563 | 660 |
| 6144 | 144 | 144 | 614 | 720 |
| 6656 | 156 | 156 | 665 | 780 |
| 7168 | 168 | 168 | 716 | 840 |
| 7680 | 180 | 180 | 768 | 900 |
| 8192 | 192 | 192 | 819 | 960 |
| 8704 | 204 | 204 | 870 | 1020 |
| 9216 | 216 | 216 | 921 | 1080 |
| 9728 | 228 | 228 | 972 | 1140 |
| 10240 | 240 | 240 | 1024 | 1200 |
| 10752 | 252 | 252 | 1075 | 1260 |
| 11264 | 264 | 264 | 1126 | 1320 |
| 11776 | 276 | 276 | 1177 | 1380 |
| 12288 | 288 | 288 | 1228 | 1440 |
| 12800 | 300 | 300 | 1280 | 1500 |
| 13312 | 312 | 312 | 1331 | 1560 |
| 13824 | 324 | 324 | 1382 | 1620 |
| 14336 | 336 | 336 | 1433 | 1680 |
| 14848 | 348 | 348 | 1484 | 1740 |
| 15360 | 360 | 360 | 1536 | 1800 |
| 15872 | 372 | 372 | 1587 | 1860 |
| 16384 | 384 | 384 | 1638 | 1920 |
| 16896 | 396 | 396 | 1689 | 1980 |
| 17408 | 408 | 408 | 1740 | 2040 |
| 17920 | 420 | 420 | 1792 | 2100 |
| 18432 | 432 | 432 | 1843 | 2160 |
| 18944 | 444 | 444 | 1894 | 2220 |
| 19456 | 456 | 456 | 1945 | 2280 |
| 19968 | 468 | 468 | 1996 | 2340 |
| 20480 | 480 | 480 | 2048 | 2400 |
| 20992 | 492 | 492 | 2099 | 2460 |
| 21504 | 504 | 504 | 2150 | 2520 |
| 22016 | 516 | 516 | 2201 | 2580 |
| 22528 | 528 | 528 | 2252 | 2640 |
| 23040 | 540 | 540 | 2304 | 2700 |
| 23552 | 552 | 552 | 2355 | 2760 |
| 24064 | 564 | 564 | 2406 | 2820 |
| 24576 | 576 | 576 | 2457 | 2880 |
| 25088 | 588 | 588 | 2508 | 2940 |
| 25600 | 600 | 600 | 2560 | 3000 |
| 26112 | 612 | 612 | 2611 | 3060 |
| 26624 | 624 | 624 | 2662 | 3120 |
| 27136 | 636 | 636 | 2713 | 3180 |
| 27648 | 648 | 648 | 2764 | 3240 |
| 28160 | 660 | 660 | 2816 | 3300 |
| 28672 | 672 | 672 | 2867 | 3360 |
| 29184 | 684 | 684 | 2918 | 3420 |
| 29696 | 696 | 696 | 2969 | 3480 |
| 30208 | 708 | 708 | 3020 | 3540 |
| 30720 | 720 | 720 | 3072 | 3600 |
| 31232 | 732 | 732 | 3123 | 3660 |
| 31744 | 744 | 744 | 3174 | 3720 |
| 32256 | 756 | 756 | 3225 | 3780 |
| 32768 | 768 | 768 | 3276 | 3840 |
| 33280 | 780 | 780 | 3328 | 3900 |
| 33792 | 792 | 792 | 3379 | 3960 |
| 34304 | 804 | 804 | 3430 | 4020 |
| 34816 | 816 | 816 | 3481 | 4080 |
| 35328 | 828 | 828 | 3532 | 4140 |
| 35840 | 840 | 840 | 3584 | 4200 |
| 36352 | 852 | 852 | 3635 | 4260 |
| 36864 | 864 | 864 | 3686 | 4320 |
| 37376 | 876 | 876 | 3737 | 4380 |
| 37888 | 888 | 888 | 3788 | 4440 |
| 38400 | 900 | 900 | 3840 | 4500 |
| 38912 | 912 | 912 | 3891 | 4560 |
| 39424 | 924 | 924 | 3942 | 4620 |
| 39936 | 936 | 936 | 3993 | 4680 |
| 40448 | 948 | 948 | 4044 | 4740 |
| 40960 | 960 | 960 | 4096 | 4800 |
| 41472 | 972 | 972 | 4147 | 4860 |
| 41984 | 984 | 984 | 4198 | 4920 |
| 42496 | 996 | 996 | 4249 | 4980 |
| 43008 | 1008 | 1008 | 4300 | 5040 |
| 43520 | 1020 | 1020 | 4352 | 5100 |
| 44032 | 1032 | 1032 | 4403 | 5160 |
| 44544 | 1044 | 1044 | 4454 | 5220 |
| 45056 | 1056 | 1056 | 4505 | 5280 |
| 45568 | 1068 | 1068 | 4556 | 5340 |
| 46080 | 1080 | 1080 | 4608 | 5400 |
| 46592 | 1092 | 1092 | 4659 | 5460 |
| 47104 | 1104 | 1104 | 4710 | 5520 |
| 47616 | 1116 | 1116 | 4761 | 5580 |
| 48128 | 1128 | 1128 | 4812 | 5640 |
| 48640 | 1140 | 1140 | 4864 | 5700 |
| 49152 | 1152 | 1152 | 4915 | 5760 |
| 49664 | 1164 | 1164 | 4966 | 5820 |
| 50176 | 1176 | 1176 | 5017 | 5880 |
| 50688 | 1188 | 1188 | 5068 | 5940 |
| 51200 | 1200 | 1200 | 5120 | 6000 |
| 51712 | 1212 | 1212 | 5171 | 6060 |
| 52224 | 1224 | 1224 | 5222 | 6120 |
| 52736 | 1236 | 1236 | 5273 | 6180 |
| 53248 | 1248 | 1248 | 5324 | 6240 |
| 53760 | 1260 | 1260 | 5376 | 6300 |
| 54272 | 1272 | 1272 | 5427 | 6360 |
| 54784 | 1284 | 1284 | 5478 | 6420 |
| 55296 | 1296 | 1296 | 5529 | 6480 |
| 55808 | 1308 | 1308 | 5580 | 6540 |
| 56320 | 1320 | 1320 | 5632 | 6600 |
| 56832 | 1332 | 1332 | 5683 | 6660 |
| 57344 | 1344 | 1344 | 5734 | 6720 |
| 57856 | 1356 | 1356 | 5785 | 6780 |
| 58368 | 1368 | 1368 | 5836 | 6840 |
| 58880 | 1380 | 1380 | 5888 | 6900 |
| 59392 | 1392 | 1392 | 5939 | 6960 |
| 59904 | 1404 | 1404 | 5990 | 7020 |
| 60416 | 1416 | 1416 | 6041 | 7080 |
| 60928 | 1428 | 1428 | 6092 | 7140 |
| 61440 | 1440 | 1440 | 6144 | 7200 |
| 61952 | 1452 | 1452 | 6195 | 7260 |
| 62464 | 1464 | 1464 | 6246 | 7320 |
| 62976 | 1476 | 1476 | 6297 | 7380 |
| 63488 | 1488 | 1488 | 6348 | 7440 |
| 63999 | 1500 | 1500 | 6399 | 7500 |
| 64511 | 1512 | 1512 | 6451 | 7560 |
| 65023 | 1524 | 1524 | 6502 | 7620 |
| 65535 | 1536 | 1536 | 6553 | 7680 |
| 66047 | 1548 | 1548 | 6604 | 7740 |
| 66559 | 1560 | 1560 | 6655 | 7800 |
| 67071 | 1572 | 1572 | 6707 | 7860 |
| 67583 | 1584 | 1584 | 6758 | 7920 |
| 68095 | 1596 | 1596 | 6809 | 7980 |
| 68607 | 1608 | 1608 | 6860 | 8040 |
| 69119 | 1620 | 1620 | 6911 | 8100 |
| 69631 | 1632 | 1632 | 6963 | 8160 |
| 70143 | 1644 | 1644 | 7014 | 8220 |
| 70655 | 1656 | 1656 | 7065 | 8280 |
| 71167 | 1668 | 1668 | 7116 | 8340 |
| 71679 | 1680 | 1680 | 7167 | 8400 |
| 72191 | 1692 | 1692 | 7219 | 8460 |
| 72703 | 1704 | 1704 | 7270 | 8520 |
| 73215 | 1716 | 1716 | 7321 | 8580 |
| 73727 | 1728 | 1728 | 7372 | 8640 |
| 74239 | 1740 | 1740 | 7423 | 8700 |
| 74751 | 1752 | 1752 | 7475 | 8760 |
| 75263 | 1764 | 1764 | 7526 | 8820 |
| 75775 | 1776 | 1776 | 7577 | 8880 |
| 76287 | 1788 | 1788 | 7628 | 8940 |
| 76799 | 1800 | 1800 | 7679 | 9000 |
| 77311 | 1812 | 1812 | 7731 | 9060 |
| 77823 | 1824 | 1824 | 7782 | 9120 |
| 78335 | 1836 | 1836 | 7833 | 9180 |
| 78847 | 1848 | 1848 | 7884 | 9240 |
| 79359 | 1860 | 1860 | 7935 | 9300 |
| 79871 | 1872 | 1872 | 7987 | 9360 |
| 80383 | 1884 | 1884 | 8038 | 9420 |
| 80895 | 1896 | 1896 | 8089 | 9480 |
| 81407 | 1908 | 1908 | 8140 | 9540 |
| 81919 | 1920 | 1920 | 8191 | 9600 |
| 82431 | 1932 | 1932 | 8243 | 9660 |
| 82943 | 1944 | 1944 | 8294 | 9720 |
| 83455 | 1956 | 1956 | 8345 | 9780 |
| 83967 | 1968 | 1968 | 8396 | 9840 |
| 84479 | 1980 | 1980 | 8447 | 9900 |
| 84991 | 1992 | 1992 | 8499 | 9960 |
| 85503 | 2004 | 2004 | 8550 | 10020 |
| 86015 | 2016 | 2016 | 8601 | 10080 |
| 86527 | 2028 | 2028 | 8652 | 10140 |
| 87039 | 2040 | 2040 | 8703 | 10200 |
| 87551 | 2052 | 2052 | 8755 | 10260 |
| 88063 | 2064 | 2064 | 8806 | 10320 |
| 88575 | 2076 | 2076 | 8857 | 10380 |
| 89087 | 2088 | 2088 | 8908 | 10440 |
| 89599 | 2100 | 2100 | 8959 | 10500 |
| 90111 | 2112 | 2112 | 9011 | 10560 |
| 90623 | 2124 | 2124 | 9062 | 10620 |
| 91135 | 2136 | 2136 | 9113 | 10680 |
| 91647 | 2148 | 2148 | 9164 | 10740 |
| 92159 | 2160 | 2160 | 9215 | 10800 |
| 92671 | 2172 | 2172 | 9267 | 10860 |
| 93183 | 2184 | 2184 | 9318 | 10920 |
| 93695 | 2196 | 2196 | 9369 | 10980 |
| 94207 | 2208 | 2208 | 9420 | 11040 |
| 94719 | 2220 | 2220 | 9471 | 11100 |
| 95231 | 2232 | 2232 | 9523 | 11160 |
| 95743 | 2244 | 2244 | 9574 | 11220 |
| 96255 | 2256 | 2256 | 9625 | 11280 |
| 96767 | 2268 | 2268 | 9676 | 11340 |
| 97279 | 2280 | 2280 | 9727 | 11400 |
| 97791 | 2292 | 2292 | 9779 | 11460 |
| 98303 | 2304 | 2304 | 9830 | 11520 |
| 98815 | 2316 | 2316 | 9881 | 11580 |
| 99327 | 2328 | 2328 | 9932 | 11640 |
| 99839 | 2340 | 2340 | 9983 | 11700 |
| 100351 | 2352 | 2352 | 10035 | 11760 |
| 100863 | 2364 | 2364 | 10086 | 11820 |
| 101375 | 2376 | 2376 | 10137 | 11880 |
| 101887 | 2388 | 2388 | 10188 | 11940 |
| 102399 | 2400 | 2400 | 10239 | 12000 |
| 102911 | 2412 | 2412 | 10291 | 12060 |
| 103423 | 2424 | 2424 | 10342 | 12120 |
| 103935 | 2436 | 2436 | 10393 | 12180 |
| 104447 | 2448 | 2448 | 10444 | 12240 |
| 104959 | 2460 | 2460 | 10495 | 12300 |
| 105471 | 2472 | 2472 | 10547 | 12360 |
| 105983 | 2484 | 2484 | 10598 | 12420 |
| 106495 | 2496 | 2496 | 10649 | 12480 |
| 107007 | 2508 | 2508 | 10700 | 12540 |
| 107519 | 2520 | 2520 | 10751 | 12600 |

MEASURE CONTRIBUTING DRAINAGE AREA AND READ AREA FOR GIVEN MEDIA DEPTH.

CONTRIBUTING DRAINAGE AREA = 816 SQ FT
 DEPTH OF SOIL MEDIA = 24 INCHES
 AREA OF RAIN GARDEN = 80 SQ FT

MAINTENANCE:

1. IRRIGATE VEGETATION AS REQUIRED IN FIRST SEASON
2. REMOVE WEEDS
3. REPLACE UNSUCCESSFUL PLANTINGS
4. REPLACE MULCH
5. REPAIR ERODED AREAS
6. RAKE COLOURED SURFACE TO RESTORE INFILTRATION
7. MONITOR RAIN GARDEN FOR APPROPRIATE GROWTH TIMES IF PLANTS DO NOT GROW IN UNDERDRAIN MAY BE NECESSARY