

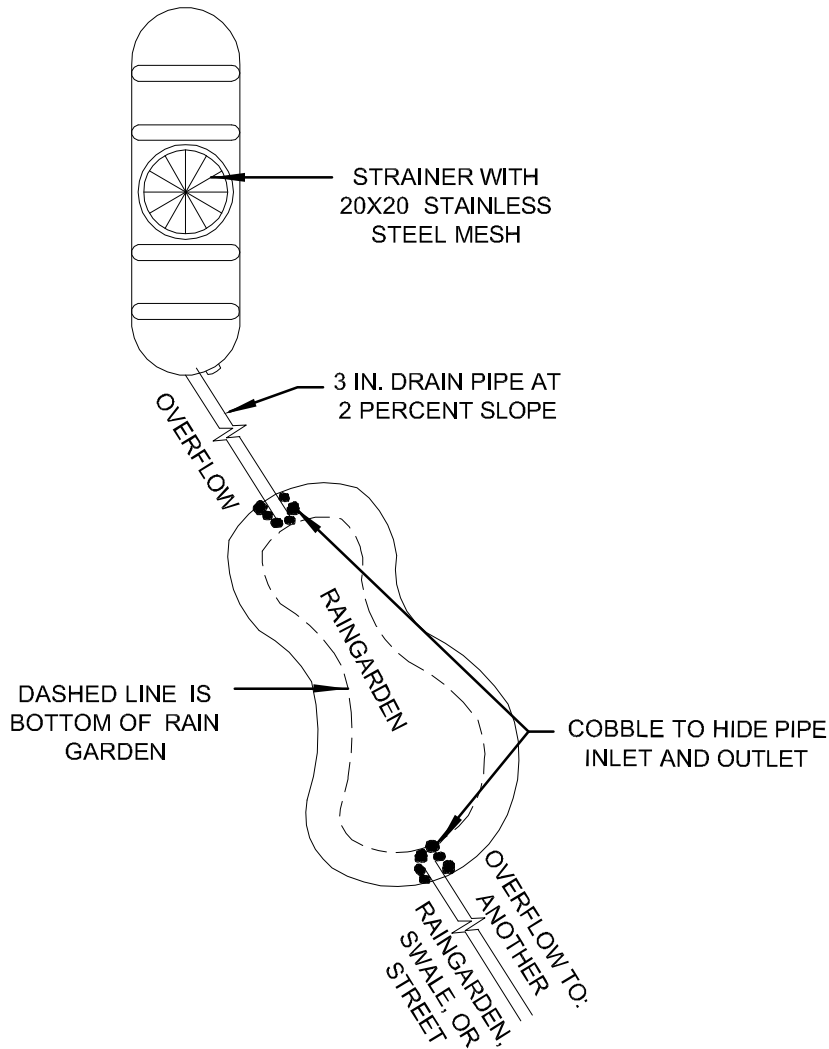
- ① EXTERIOR WALL
- ② DOWNSPOUT
- ③ SPLASH BLOCK
- ④ SLOPE AWAY FROM BLDG PER CODE.
- ⑤ 3" OF RIVER COBBLE MULCH (OPTIONAL)
- ⑥ STORMWATER FILTER PLANTINGS OR START SWALE

SLOPE AWAY FROM BLDG AT 5% INTO SWALE OR DRAINAGE ELEMENT

1

SCALE: N.T.S.

DOWNSPOUT SPLASHBLOCK TO OVERLAND FLOW (OPTIONAL)



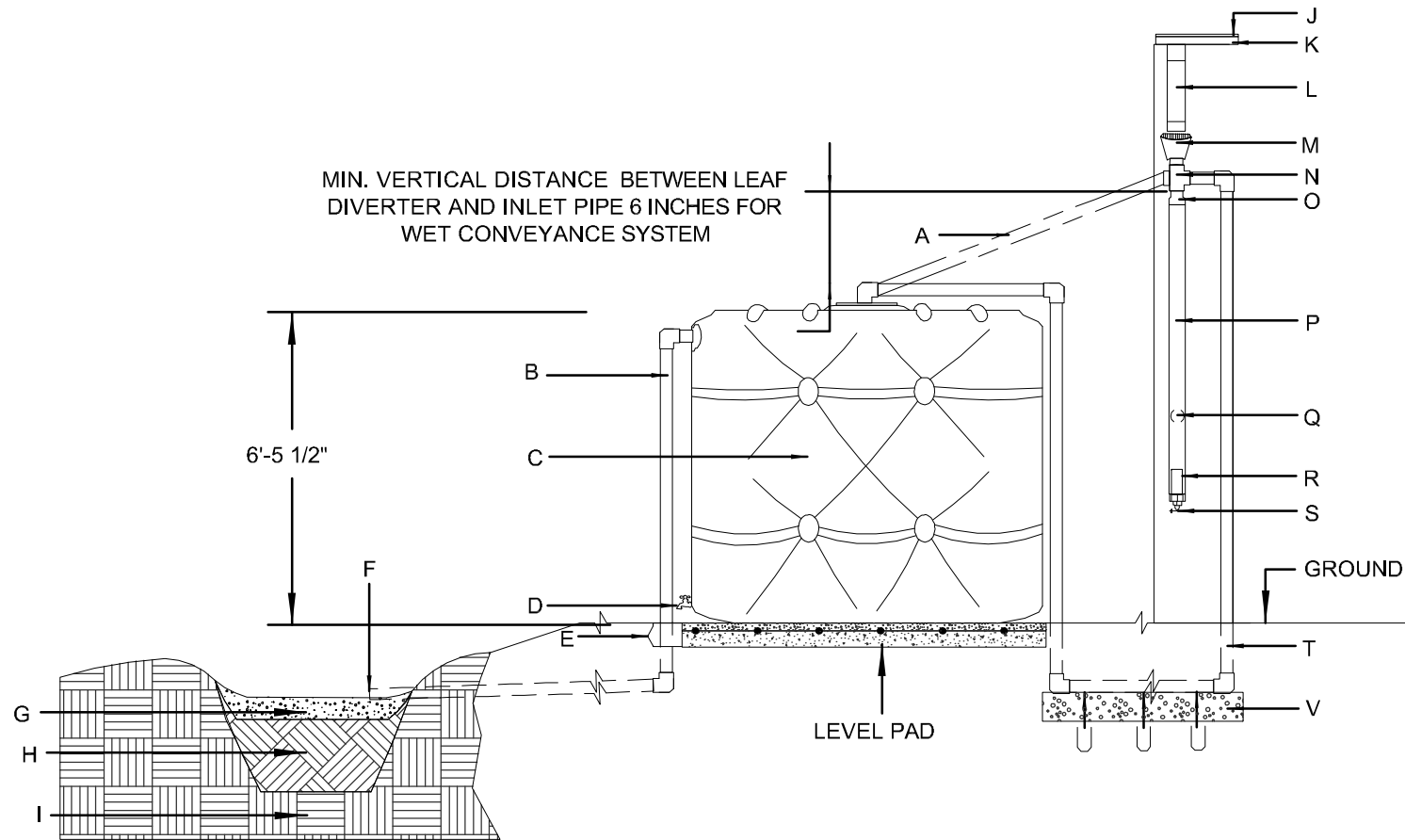
1a RAINWATER HARVESTING DETAIL (OPTIONAL)

SCALE: NONE

SHEET 1 OF 2

NOTES:

1. A RAINWATER CATCHMENT SYSTEM MAY NOT REQUIRE A BUILDING PERMIT PROVIDED ALL OF THE FOLLOWING ARE MET (CALIFORNIA PLUMBING CODE 1601.3 (I)):
 - WATER WILL BE USED FOR OUTDOOR NON-SPRAY IRRIGATION
 - MAXIMUM STORAGE CAPACITY OF 5,000 GALLONS
 - TANK IS SUPPORTED DIRECTLY UPON GRADE
 - RATIO OF HEIGHT TO DIAMETER OR WIDTH DOES NOT EXCEED 2 TO 1
 - DOES NOT REQUIRE ELECTRICAL POWER OR MAKEUP WATER SUPPLY CONNECTION (SEE NOTE 2 AND 3)
 ALL OTHER RAINWATER CATCHMENT SYSTEMS MUST BE SUBMITTED FOR BUILDING PERMIT.
2. PUMP AND PRESSURE TANK LIKELY REQUIRE INEXPENSIVE, OVER-THE-COUNTER, ELECTRICAL PERMIT.
3. IF CITY WATER PLUMBED TO TANK FOR MAKE UP USING FLOAT VALVE OR MANUALLY OPERATED VALVE, THEN A PERMIT IS REQUIRED AND AN AIR GAP IS REQUIRED BETWEEN RAINWATER HARVESTING SYSTEM AND DOMESTIC WATER SYSTEM.
4. TANKS CAN BE DAISY CHAINED AT POINT "D" USING FLEXIBLE PIPE ONLY TO REDUCE CHANCE OF LEAKAGE IN EARTHQUAKES.
5. THERE ARE NO REQUIRED SETBACKS FROM BUILDINGS OR SIDE/BACK PROPERTY LINES, THOUGH A CONVERSATION WITH YOUR NEIGHBOR COULD BE HELPFUL.

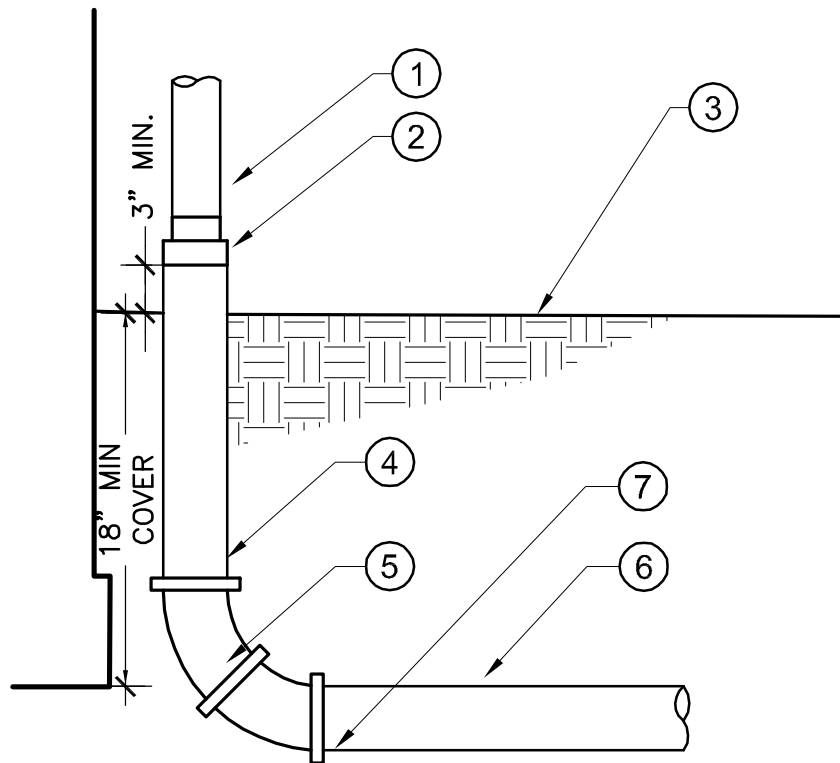


1b RAINWATER HARVESTING DETAIL (OPTIONAL)

SCALE: NONE

SHEET 2 OF 2

- A. PREFERRED DRY CONVEYANCE IF TANKS ARE NEXT TO DOWNSPOUT.
- B. OVERFLOW: 3 IN. DRAINAGE PIPE: SLOPED 2 PERCENT FOR HORIZONTAL SECTIONS.
- C. 530 GALLON BUSHMAN SLIMLINE RAIN HARVESTING TANK OR EQUIVALENT.
- D. HOSE BIB OR OPTIONAL CONNECTION TO PUMP AND PRESSURE TANK (SEE NOTE 2).
- E. 4 INCHES COMPACTED BASEROCK WITH 2 INCHES OF PEA GRAVEL ON TOP.
- F. OVERFLOW TO RAINGARDEN. (SHOWN)/SWALE/SPLASHBLOCK
- G. 5 INCHES OF DECORATIVE GRAVEL WITH 2 INCHES OF PONDED WATER ABOVE.
- H. 12 INCHES AMENDED SOIL: 1/2 COMPOST, 1/2 NATIVE SOIL
- I. UNDISTURBED NATIVE SOIL.
- J. FIRE SAFER LEAF GUARD.
- K. GUTTER.
- L. NORMAL DOWNSPOUT
- M. OPTIONAL BUSHMAN LEAF DIVERTER (WITH 20X20 SCREEN IF USING WET CONVEYANCE). (REDUNDANT WITH LEAF GUARD ON GUTTERS).
- N. 3 IN. PVC DRAINAGE TEE.
- O. 4 IN. TO 3 IN. PVC DRAINAGE REDUCER.
- P. 4 IN. DRAINAGE PIPE FOR THE FIRST FLUSH (THIS REMOVES THE FIRST, DIRTY WATER FROM A RAINSTORM).
- Q. BUSHMAN FLOAT BALL .
- R. BUSHMAN FIRST FLUSH FILTERS (TO KEEP EMITTER FROM CLOGGING).
- S. BUSHMAN DRIP EMITTER TO DRAIN DIRTY WATER BETWEEN STORMS.
- T. "WET" CONVEYANCE 3 IN. DRAINAGE PIPE (WATER STAYS IN PIPE BETWEEN STORMS).
- U. THREE SEPARATE 3/32 INCH HOLES TO DRAIN WATER FOR MOSQUITO CONTROL.
- V. CLEAN GRAVEL TO IMPROVE DRAINAGE FROM DRILLED HOLES.



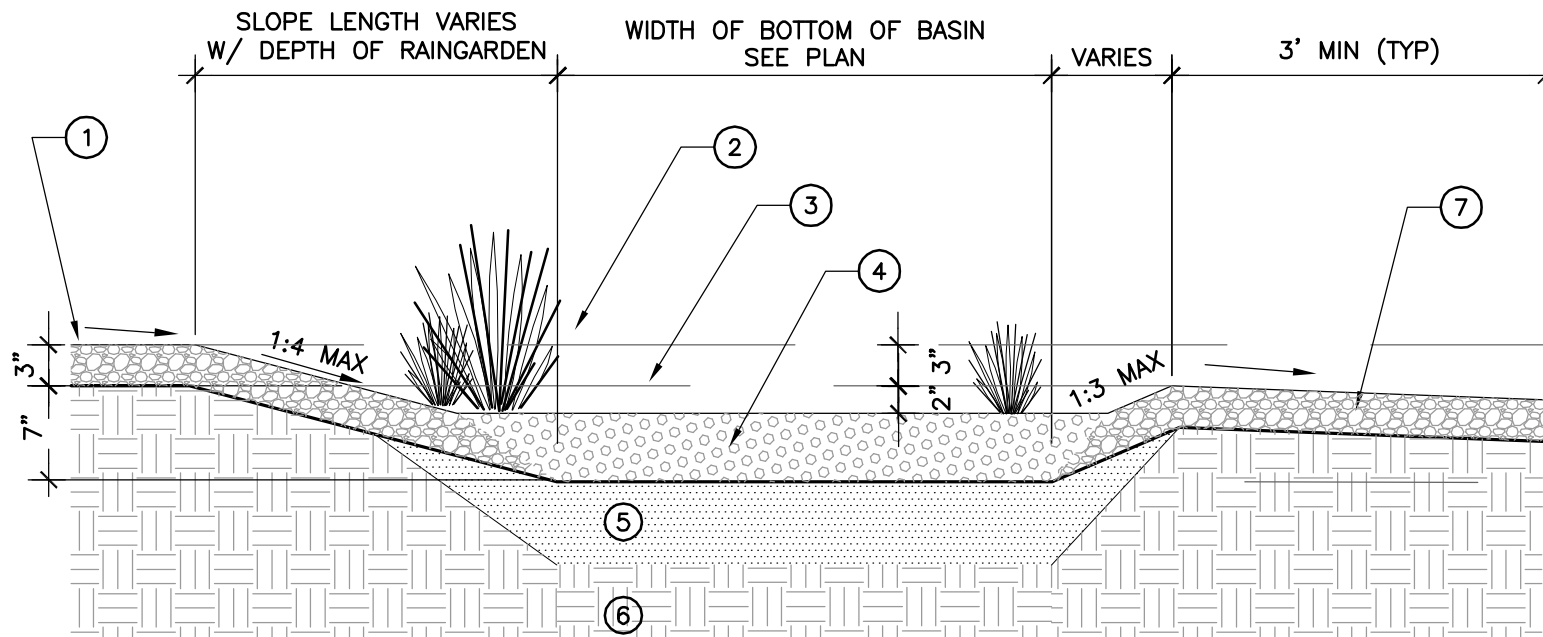
- ① DOWNSPOUT
- ② 2 X 3 X 3 DOWNSPOUT ADAPTER
- ③ FINISH GRADE
- ④ 3" RISER
- ⑤ 3" (2) 45 BENDS OR(1) 90 DEGREE (LONG RADIUS) ELL
- ⑥ 3" D2729 DRAIN PIPE
- ⑦ INVERT ELEVATION

2 DOWNSPOUT WITH PIPED OUTLET (OPTIONAL)
SCALE: N.T.S.

- ① SWALE OR SHEET FLOW INTO RAIN GARDEN FROM DS OR PAVING AREA. COVER SOIL W/ 3" OF RIVER COBBLE 1.5"-6" IN SIZE.
- ② TOP ELEVATION OF THE BERM AROUND RAIN GARDEN. 3" ABOVE MAX PONDING LEVEL.
- ③ ELEVATION OF MAX PONDING DURING STORM EVENT. PONDING OF 2" OF RAINWATER ABOVE PEA GRAVEL.
- ④ 5" PEA GRAVEL MULCH INSURES NO PONDING WITHIN 72 HRS FOR MOSQUITO CONTROL. TOTAL DEPTH INCLUDING PONDING IS 7".
- ⑤ SCARIFY & AMEND NATIVE SOIL AT BOTTOM OF RAIN GARDEN.
- ⑥ UNDISTURBED SUBGRADE.
- ⑦ 3" THICK OF 1.5-6" RIVER COBBLE. EXTEND 3' DOWNSLOPE FROM RAINGARDEN. INSTALL LEVEL SPREADER TO RETURN TO SHEET FLOW AS NEEDED BY DESIGN.

NOTES:

1. RAINWATER GARDEN DESIGNED FOR CLAY SOILS. MAX DEPTH 7" OF WHICH 5" HAS A PEA GRAVEL MULCH.
2. NO WOOD CHIP OR BARK MULCH IN RAINWATER SYSTEMS TO AVOID CLOGGING STORM DRAINS DOWNSTREAM.



3

VEGETATED RAINGARDEN W/ OVERLAND FLOW INLET AND OUTLET (OPTIONAL)

SCALE: NONE

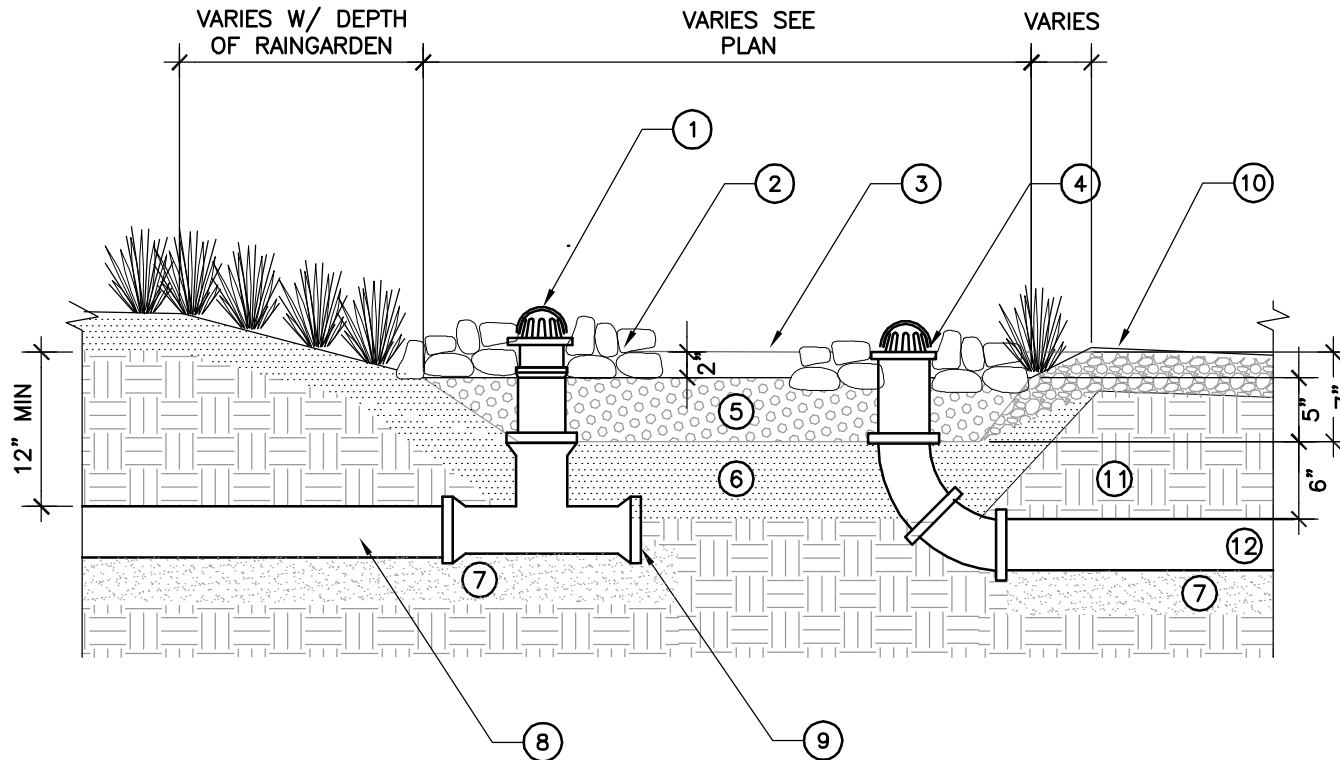
- ① ATRIUM DRAIN GRATE ON OUTLET BUBBLER CONNECTED TO DOWNSPOUT; BY NDS OR EQUAL
- ② COBBLE AROUND OUTLET PIPE (TYP.)
- ③ MAX WATER LEVEL 2" ABOVE PEA GRAVEL
- ④ DRAIN INLET STRUCTURE AT TOP PONDING ELEVATION (2" ABOVE PEA GRAVEL). PIPE TO OUTLET.
- ⑤ 5" PEA GRAVEL MULCH INSURES NO PONDING WITHIN 72 HRS FOR MOSQUITO CONTROL.

- ⑥ SCARIFY & AMEND NATIVE SOIL AT BOTTOM OF RAIN GARDEN
- ⑦ 6" SAND OR GRAVEL SETTING BED UNDER PIPE
- ⑧ 4" STORMDRAIN PIPE FROM ROOF DOWNSPOUT(S)
- ⑨ END PLUG W/ (1) 1/2" WEEP HOLE 1/2" ABOVE PIPE INVERT, SET END OF PIPE IN 12"X12" GRAVEL TRENCH FOR DRAINAGE
- ⑩ SECONDARY OVERFLOW SLIGHTLY HIGHER THAN PIPE INLET. COVER WITH 3" OF 1.5-6" RIVER COBBLE

- ⑪ UNDISTURBED SUBGRADE
- ⑫ OUTLET PIPE, OUTLET TO RAINWATER BASIN 6" MIN. DOWNSLOPE OR CONNECT TO EXISTING STORM DRAIN PIPE OR OUTLET AT CURB IF PRESENT.

NOTES:

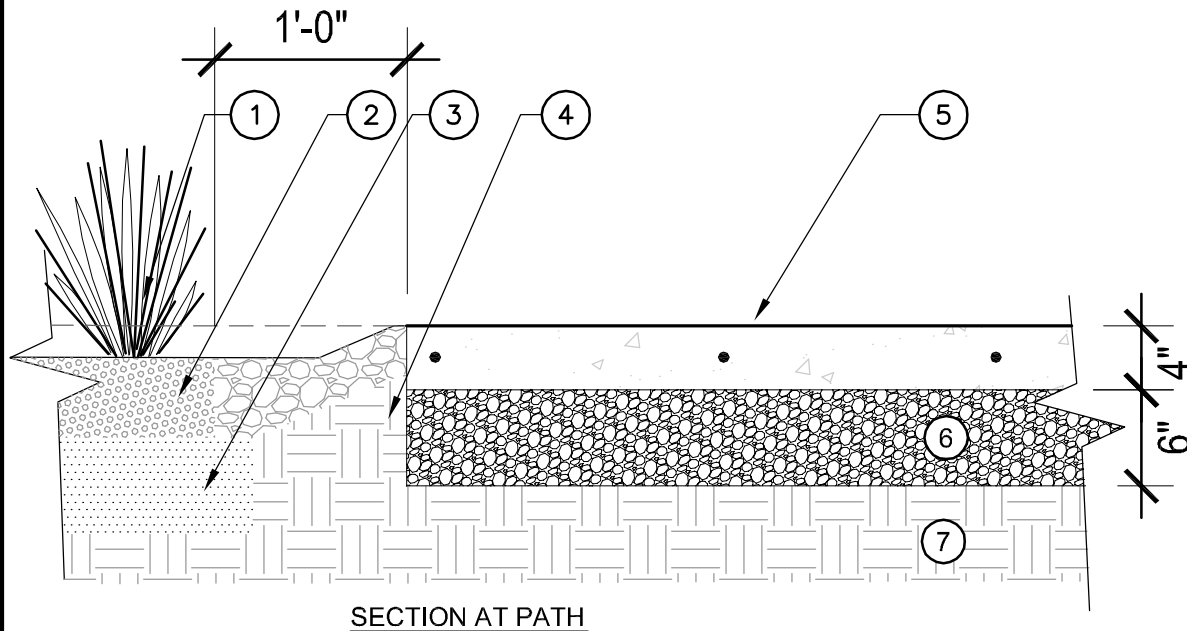
- 1. RAINWATER GARDEN DESIGNED FOR CLAY SOILS. MAX DEPTH 7" OF WHICH 5" HAS A PEA GRAVEL MULCH.
- 2. NO WOOD CHIP MULCH IN RAINWATER SYSTEMS TO AVOID CLOGGING STORM DRAINS. MAINTAIN GRAVEL MULCH THROUGHOUT SWALES AND RAINGARDENS TO SIDEWALK.



4

VEGETATED RAINGARDEN W/ PIPED INLET (OPTIONAL)

SCALE: N.T.S.



SECTION AT PATH

- ① PLANTING IN RAIN GARDEN.
- ② 5" PEA GRAVEL MULCH INSURES NO PONDING WITHIN 72 HRS FOR MOSQUITO CONTROL. TOTAL DEPTH INCLUDING PONDING IS 7".
- ③ RIVER COBBLE: 1.5–6" IN SIZE. FILL TO PAVEMENT EDGE
- ④ SCARIFY & AMEND NATIVE SOIL AT BOTTOM OF RAIN GARDEN.
- ⑤ CONCRETE OR OTHER IMPERVIOUS WALKWAY
- ⑥ CLASS II RECYCLED AGGREGATE BASE ROCK
- ⑦ UNDISTURBED SUBGRADE.

NOTES:

- 1. ENSURE NO MULCH OR SOIL WASHES ON TO PATH. USE RIVER COBBLE TO MAINTAIN CLEAN EDGE.
- 2. NO MULCH IN RAINWATER SYSTEMS TO AVOID CLOGGING STORM DRAINS.

5

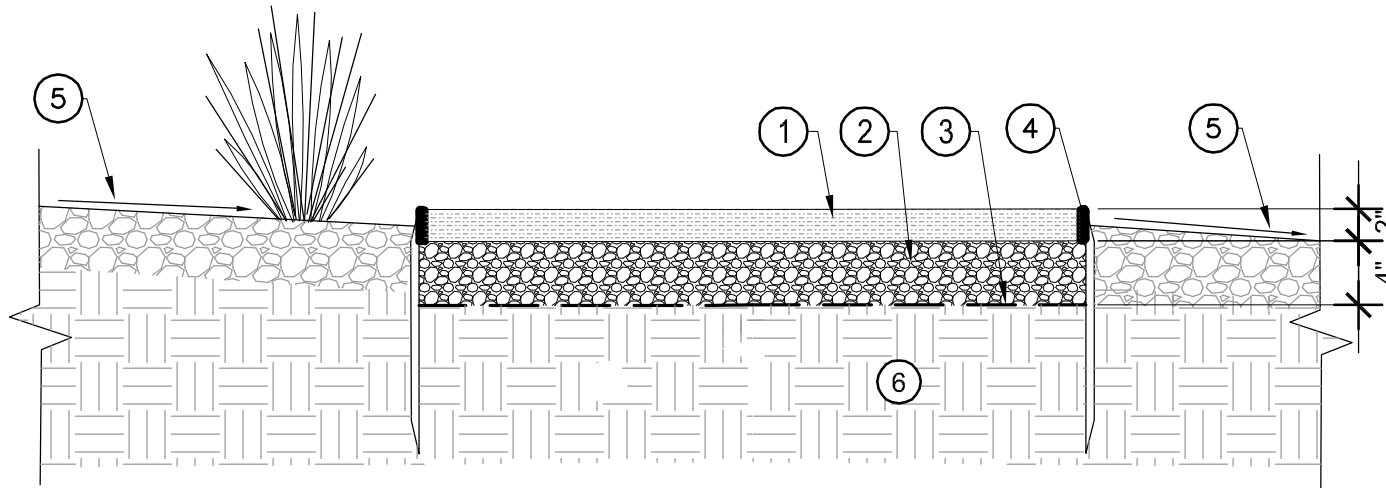
RAINGARDEN OVERFLOWING OVER PAVEMENT SECTION

SCALE: 1/2"=1'-0"

- ① PERMEABLE AGGREGATE PAVING: 2" THICK OF 3/8" OR SMALLER AGGREGATE (NO FINES)
- ② 4" CLASS II PERMEABLE AGGREGATE BASE ROCK, COMPACT TO 95%.
- ③ FILTER FABRIC
- ④ EDGING AND STAKE (OPTIONAL)
- ⑤ RAINWATER FLOWING WITHIN 4" OF 1.5"-6" RIVER COBBLE FROM DOWNPOUT OR RAINGARDEN
- ⑥ NATIVE SOIL; SCARIFY TOP 3" TO IMPROVE INFILTRATION UNDER COBBLE

NOTE:

- 1. REVIEW DETAIL WITH GEOTECH. & CIVIL ENGINEER
- 2. SITE 10' AWAY FROM FOUNDATION.



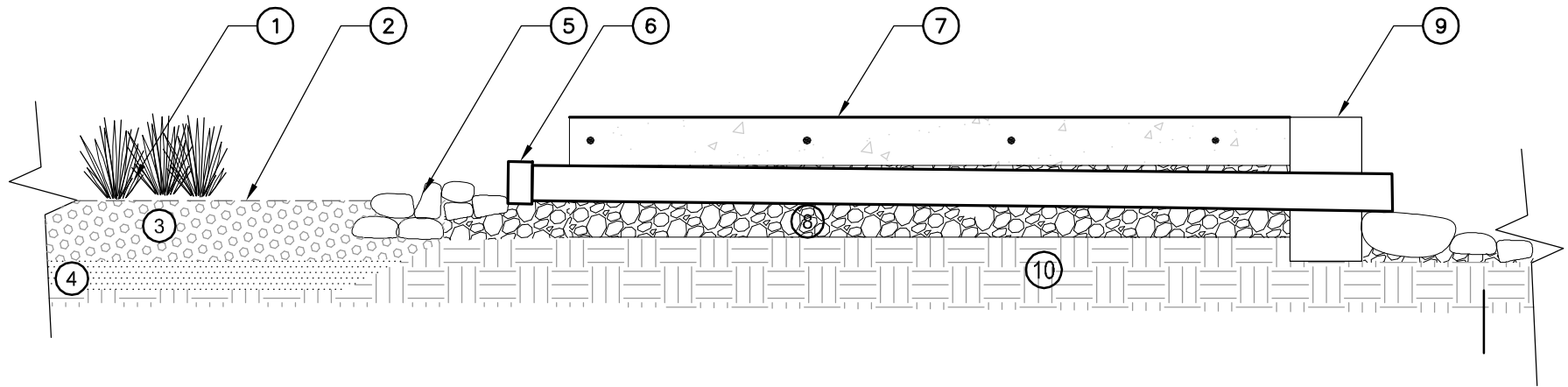
6

RAINWATER FLOW THRU PERMEABLE PAVING SECTION (OPTIONAL)

SCALE: 1"=1'-0"

- ① RAIN GARDEN OR SWALE
- ② MAX PONDING LEVEL
- ③ PEA GRAVEL
- ④ AMENDED SOIL UNDER RAINGARDEN
- ⑤ 1.5"-6" RIVER COBBLE (TYP.)
- ⑥ CURB OR LET INLET. SLOPE CURB OR LET SLEEVE AT 2% ($\frac{1}{4}$ " PER FOOT).
- ⑦ CONCRETE OR OTHER PAVING
- ⑧ CLASS II AGGREGATE BASE ROCK
- ⑨ OPTIONAL CURB
- ⑩ SUBGRADE, UNDISTURBED OR COMPACTED TO 95%

NOTES:
 1. REVIEW PAVING WITH CIVIL &
 GEOTECHNICAL ENGINEER
 SEE DETAIL #7 ON SHEET L3.2



7

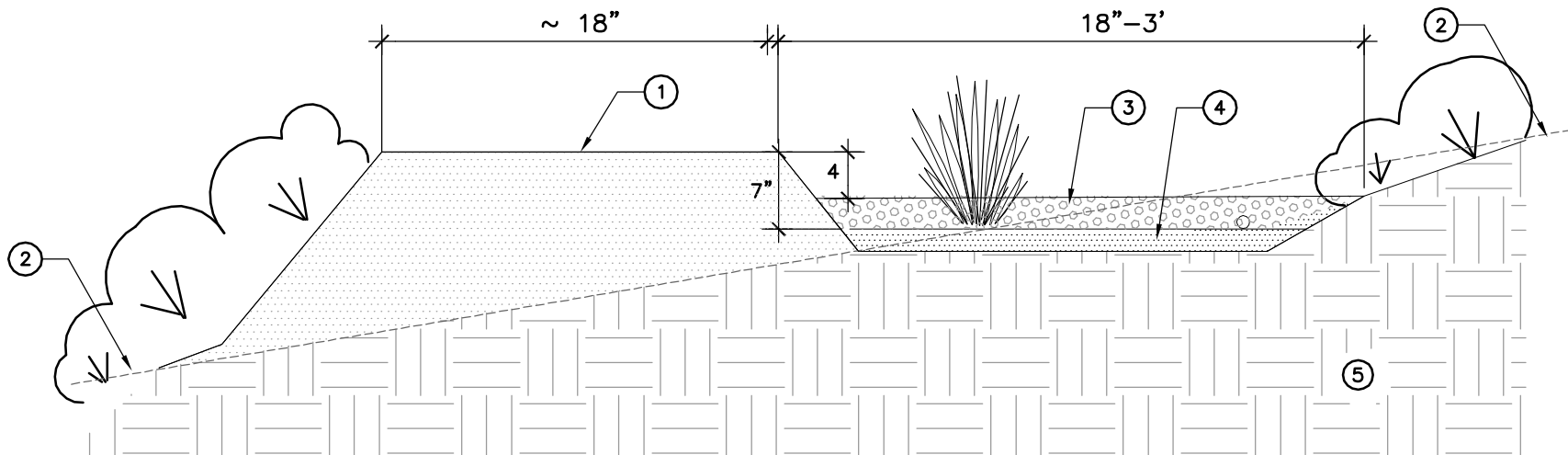
DRAIN SLEEVE THRU PATH FROM RAINGARDEN (OPTIONAL)

SCALE: N.T.S.

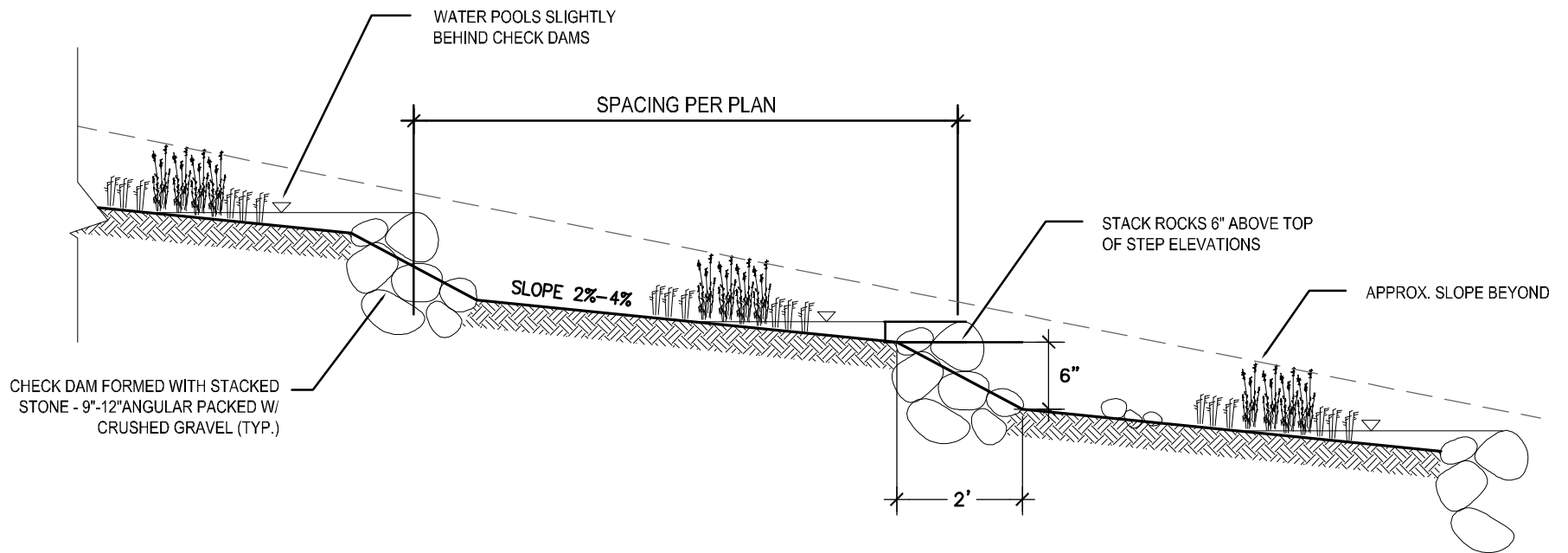
- ① BERM; CONSTRUCT WHILE DIGGING BASIN. CAN BE MADE WIDER TO BE A WALKING PATH
- ② EXISTING SLOPE 8% OR LESS
- ③ 3" PEA GRAVEL MULCH INSURES NO PONDING WITHIN 72 HRS FOR MOSQUITO CONTROL. TOTAL DEPTH INCLUDING PONDING IS 7". SEE DETAIL 9 FOR ROCK CHECK DAMS
- ④ SCARIFY & AMEND NATIVE SOIL AT BOTTOM OF RAIN GARDEN
- ⑤ UNDISTURBED SUBGRADE

NOTES:

- 1. MINIMUM SLOPE IN THE DIRECTION OF FLOW TO BE 0.5%. IF SLOPE EXCEEDS 2% STEP DOWN IN CASCADE PER DETAIL # 9 THIS PAGE.
- 2. NO WOOD CHIP OR BARK MULCH IN RAINWATER SYSTEMS TO AVOID CLOGGING STORM DRAINS.



8 SWALE/CASCADE ON SLOPE - SECTION (OPTIONAL)
SCALE: NONE



9 SWALE/CASCADE ON SLOPE - LONGITUDINAL SECTION (OPTIONAL)
 SCALE: N. T. S.