

STORMWATER STANDARD DRAWING INDEX

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STORMWATER STANDARD DRAWING

STORMWATER STANDARD DRAWING INDEX

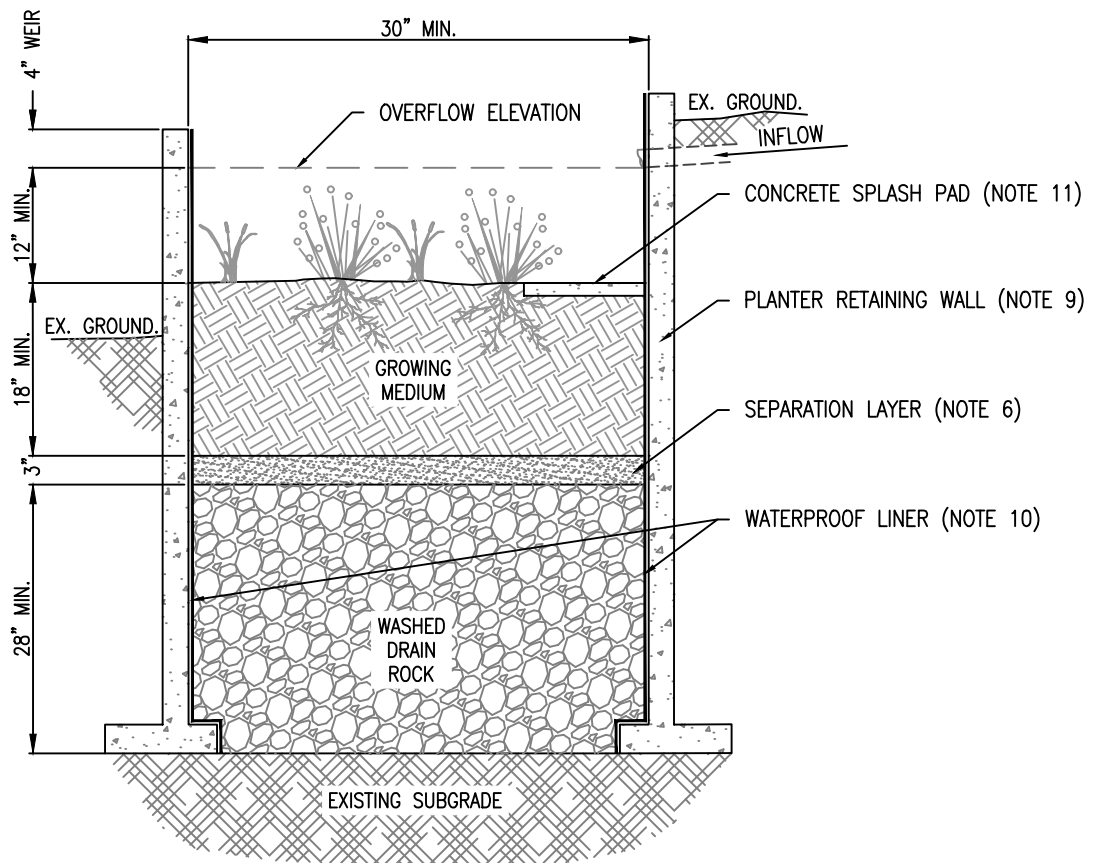
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1	TITLE CHANGE, UPDATED DRAWING LIST	8/8/2024	TAP
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DRAWING NO.

200

DATE: 02/18/2020

SCALE: NTS



NOTES:

1. PROVIDE PROTECTION FROM ALL VEHICLE TRAFFIC, EQUIPMENT STAGING, AND FOOT TRAFFIC IN PROPOSED INFILTRATION AREAS PRIOR TO, DURING, AND AFTER CONSTRUCTION.
2. DIMENSIONS:
 - WIDTH: 30" MINIMUM
 - DEPTH OF PLANTER (FROM TOP OF GROWING MEDIUM TO OVERFLOW WEIR ELEVATION): 12"
 - SLOPE OF PLANTER: 0.5% OR LESS
3. PLANTER MUST BE SETBACK A MINIMUM OF 5 FEET FROM PROPERTY LINE.
4. OVERFLOW WEIR ELEVATION MUST ALLOW FOR 4" OF FREEBOARD, MINIMUM. SIZE OVERFLOW WEIR FOR THE 100 YEAR DESIGN STORM. IDENTIFY EMERGENCY OVERFLOW ROUTE ON THE STORMWATER MANAGEMENT PLAN.
5. DRAIN ROCK SIZE: 1 1/2" - 3/4" WASHED WITH MINIMUM 28" DEPTH.
6. SEPARATION BETWEEN DRAIN ROCK AND GROWING MEDIUM SHALL BE A 3" LAYER OF 3/4" - 1/4" OPEN GRADED AGGREGATE.
7. GROWING MEDIUM WILL BE A MINIMUM 18" DEPTH. FACILITY SURFACE AREA MAY BE REDUCED BY 20% WHEN GROWING MEDIA DEPTH IS INCREASED TO 30" OR MORE.
8. VEGETATION WILL FOLLOW THE LANDSCAPE PLANS.
9. PLANTER WALL MATERIAL SHALL BE STONE, BRICK, CONCRETE OR OTHER DURABLE MATERIAL AND SHALL BE INCLUDED ON FOUNDATION PLANS. INSTALL INVERTED CURB AS NEEDED BETWEEN PLANTERS AND ROAD SUBGRADE. WALL HEIGHTS GREATER THAN 24" ABOVE GRADE REQUIRE HANDRAILS. SUBMIT RETAINING WALL DESIGN IN ACCORDANCE WITH APPLICABLE STRUCTURAL CODES FOR REVIEW AND APPROVAL.
10. WATERPROOF LINER SHALL BE 30 MIL PVC OR EQUIVALENT. A WATERPROOF LINER IS NOT REQUIRED IF THE WALL MATERIAL IS WATERPROOF REINFORCED CONCRETE OR APPROVED EQUAL.
11. INSTALL CONCRETE SPLASH PAD TO TRANSITION FROM INLET TO GROWING MEDIUM. SIZE OF PAD SHALL BE 1 FT X 1 FT.
12. SEASONAL HIGH GROUNDWATER SEPARATION DISTANCE AS REQUIRED.

PLANTER INFILTRATION

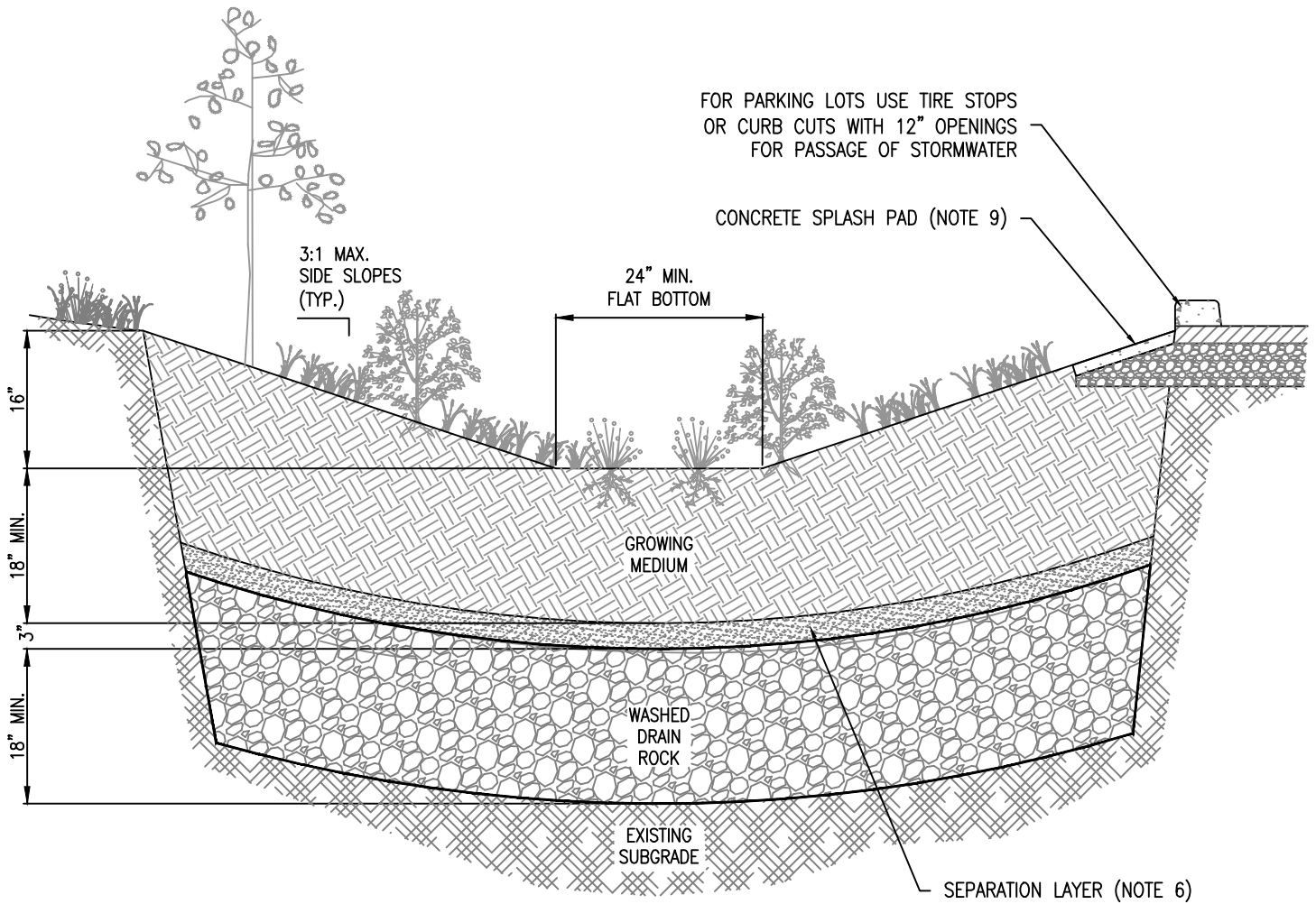
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DATE: 4/10/2024

SCALE: NTS



FOR PARKING LOTS USE TIRE STOPS
OR CURB CUTS WITH 12" OPENINGS
FOR PASSAGE OF STORMWATER

CONCRETE SPLASH PAD (NOTE 9)

3:1 MAX.
SIDE SLOPES
(TYP.)

24" MIN.
FLAT BOTTOM

16"

18" MIN.

3"

18" MIN.

GROWING
MEDIUM

WASHED
DRAIN
ROCK

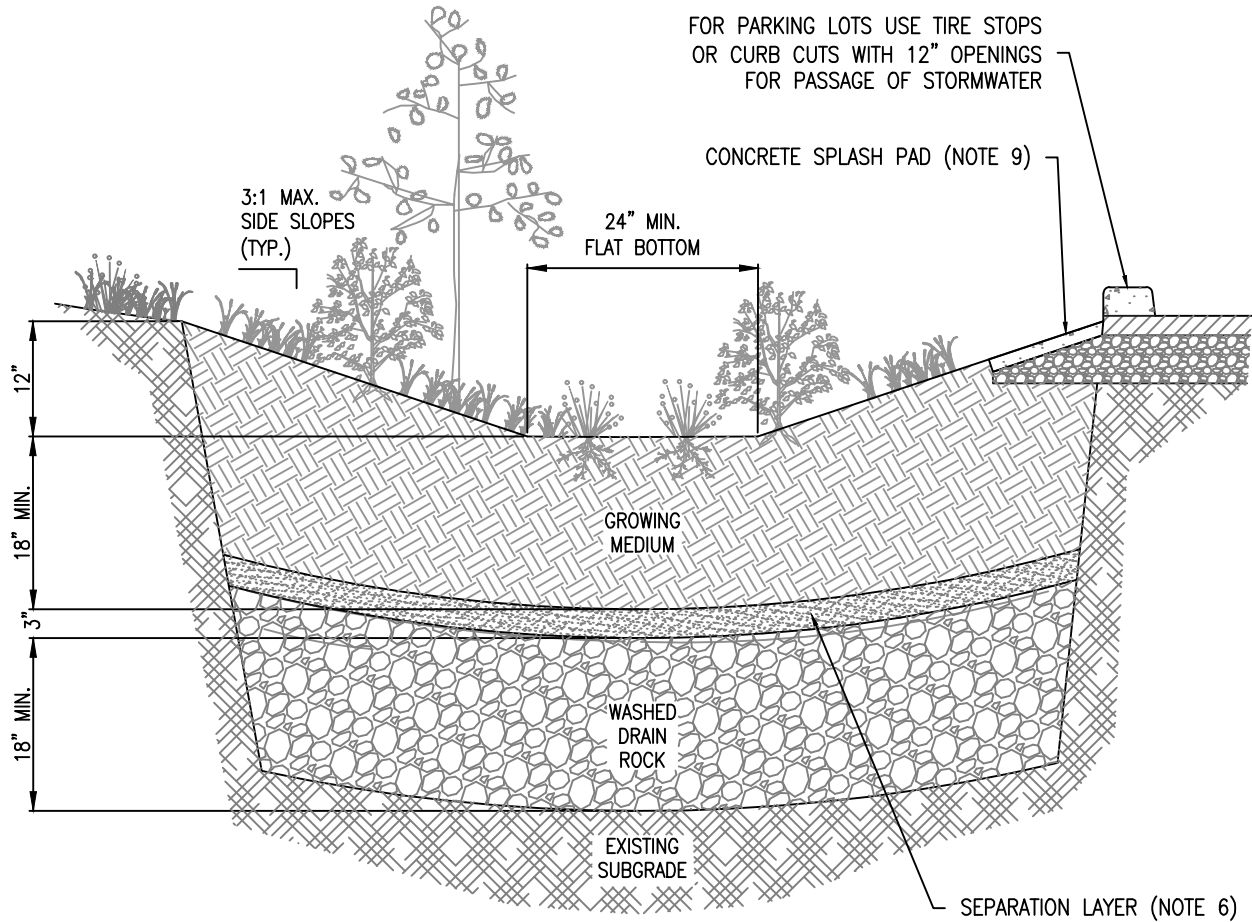
EXISTING
SUBGRADE

SEPARATION LAYER (NOTE 6)

NOTES:

1. PROVIDE PROTECTION FROM ALL VEHICLE TRAFFIC, EQUIPMENT STAGING, AND FOOT TRAFFIC IN PROPOSED INFILTRATION AREAS PRIOR TO, DURING, AND AFTER CONSTRUCTION.
2. DIMENSIONS:
 - DEPTH OF BASIN (FROM TOP OF GROWING MEDIUM TO OVERFLOW ELEVATION): 16"
 - FLAT BOTTOM WIDTH: 24" MINIMUM
 - SIDE SLOPES OF BASIN: 3:1 MAXIMUM
 - SLOPE OF RAINGARDEN: 0.5% OR LESS
3. INFILTRATION RAINGARDEN MUST BE SETBACK A MINIMUM OF 10 FEET FROM FOUNDATIONS AND 5 FEET FROM PROPERTY LINE.
4. IDENTIFY EMERGENCY OVERFLOW ROUTE FOR THE 100 YEAR DESIGN STORM ON THE STORMWATER MANAGEMENT PLAN.
5. DRAIN ROCK SIZE: 1 1/2" - 3/4" WASHED WITH 18" DEPTH.
6. SEPARATION BETWEEN DRAIN ROCK AND GROWING MEDIUM SHALL BE A 3" LAYER OF 3/4" - 1/4" OPEN GRADED AGGREGATE.
7. GROWING MEDIUM WILL BE A MINIMUM 18" DEPTH. FACILITY SURFACE AREA MAY BE REDUCED BY 20% WHEN GROWING MEDIA DEPTH IS INCREASED TO 30" OR MORE.
8. VEGETATION WILL FOLLOW THE LANDSCAPE PLANS.
9. INSTALL CONCRETE SPLASH PAD TO TRANSITION FROM INLET TO GROWING MEDIUM.
10. SEASONAL HIGH GROUNDWATER SEPARATION DISTANCE AS REQUIRED.

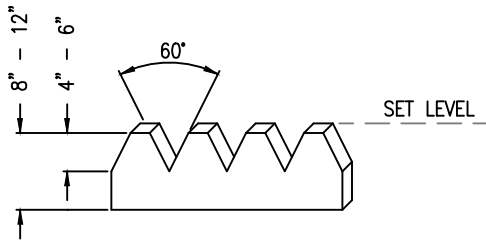
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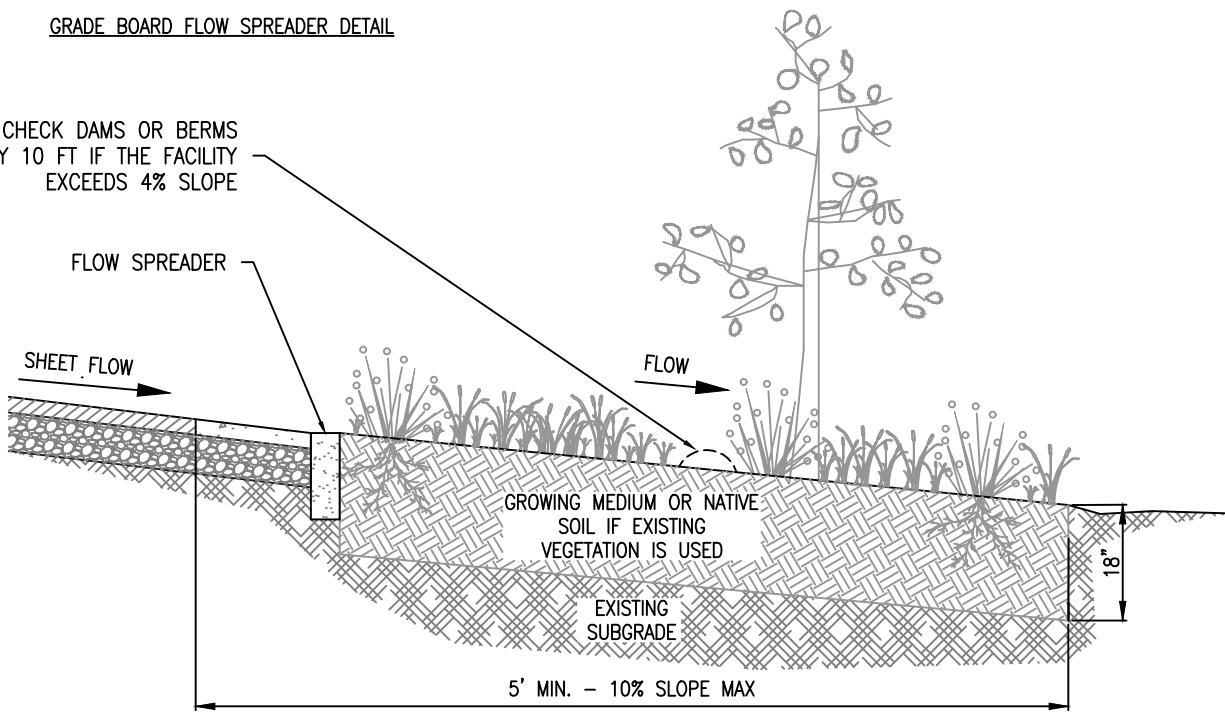
1. PROVIDE PROTECTION FROM ALL VEHICLE TRAFFIC, EQUIPMENT STAGING, AND FOOT TRAFFIC IN PROPOSED INFILTRATION AREAS PRIOR TO, DURING, AND AFTER CONSTRUCTION.
2. DIMENSIONS:
 - DEPTH OF SWALE (FROM TOP OF GROWING MEDIUM TO OVERFLOW ELEVATION): 12"
 - FLAT BOTTOM WIDTH: 24" MINIMUM
 - SIDE SLOPES OF SWALE: 3:1 MAXIMUM
 - LONGITUDINAL SLOPE OF SWALE: 6% OR LESS
3. INFILTRATION VEGETATED SWALES MUST BE SETBACK A MINIMUM OF 10 FEET FROM FOUNDATIONS AND 5 FEET FROM PROPERTY LINE.
4. IDENTIFY EMERGENCY OVERFLOW ROUTE FOR THE 100 YEAR DESIGN STORM ON THE STORMWATER MANAGEMENT PLAN.
5. DRAIN ROCK SIZE: 1 1/2" - 3/4" WASHED WITH 18" DEPTH.
6. SEPARATION BETWEEN DRAIN ROCK AND GROWING MEDIUM SHALL BE A 3" LAYER OF 3/4" - 1/4" OPEN GRADED AGGREGATE.
7. GROWING MEDIUM WILL BE A MINIMUM 18" DEPTH. FACILITY SURFACE AREA MAY BE REDUCED BY 20% WHEN GROWING MEDIA DEPTH IS INCREASED TO 30" OR MORE.
8. VEGETATION WILL FOLLOW THE LANDSCAPE PLANS.
9. INSTALL CONCRETE SPLASH PAD TO TRANSITION FROM INLET TO GROWING MEDIUM.
10. CHECK DAMS ARE REQUIRED FOR LONGITUDINAL SLOPES OVER 4% AND SHALL BE SPACED AT A MAXIMUM OF 2-FOOT ELEVATION INTERVALS. MAINTAIN 4-10 INCH DEEP ROCK CHECK DAMS AT DESIGN INTERVALS.
11. SEASONAL HIGH GROUNDWATER SEPARATION DISTANCE AS REQUIRED.

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GRADE BOARD FLOW SPREADER DETAIL

CHECK DAMS OR BERMS EVERY 10 FT IF THE FACILITY EXCEEDS 4% SLOPE



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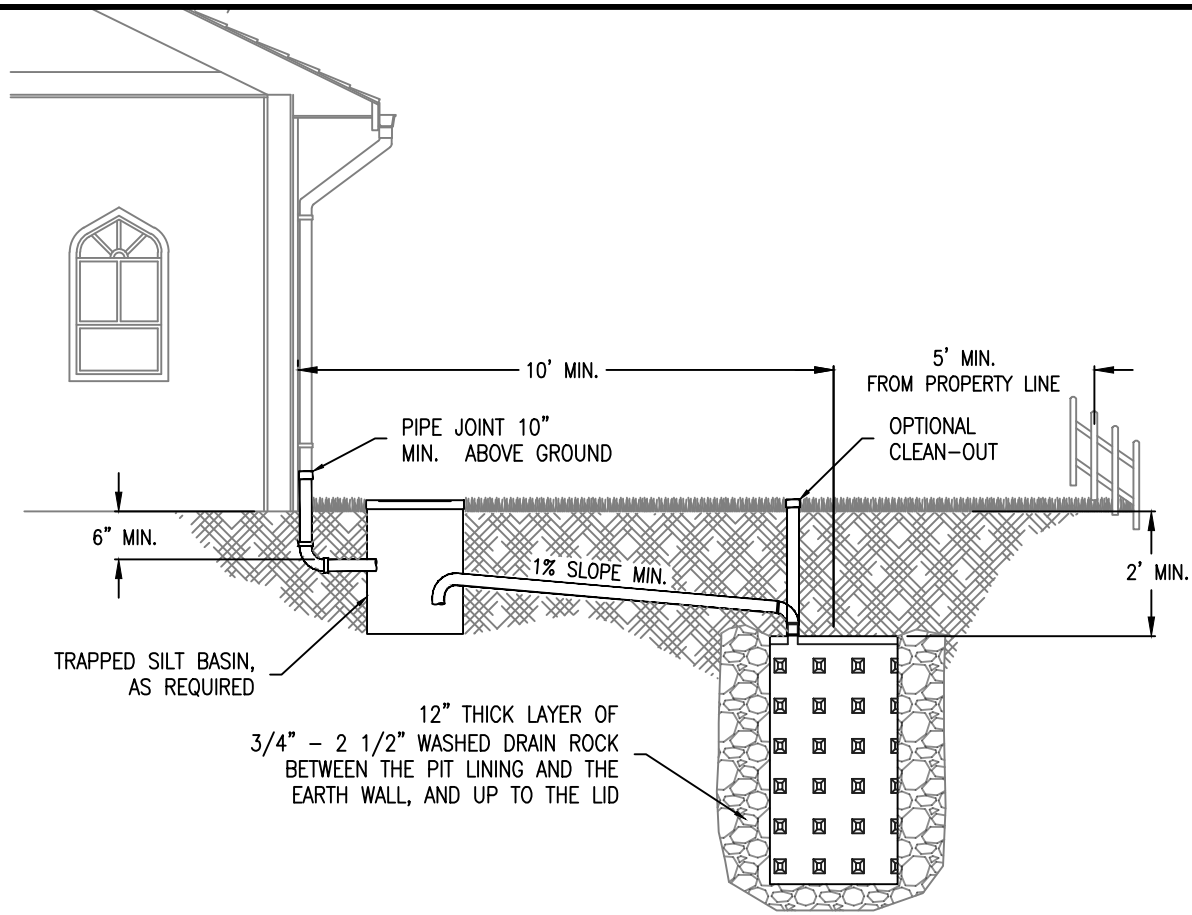
1. PROVIDE PROTECTION FROM ALL VEHICLE TRAFFIC, EQUIPMENT STAGING, AND FOOT TRAFFIC IN PROPOSED INFILTRATION AREAS PRIOR TO, DURING, AND AFTER CONSTRUCTION.
2. DIMENSIONS:
 - LENGTH: 5' MINIMUM
 - LONGITUDINAL SLOPE OF PLANTER: 0.5% TO 10%
3. FILTER STRIP MUST BE SETBACK A MINIMUM OF 5 FEET FROM PROPERTY LINE, 10 FEET FROM BUILDINGS, 50 FEET FROM WETLANDS, RIVERS, STREAMS AND CREEKS.
4. COLLECTION AND CONVEYANCE TO APPROVED DISCHARGE POINT MAY BE REQUIRED DEPENDING ON DESIGN AND SHALL BE SPECIFIED ON PLANS ACCORDING TO OLWS STANDARDS.
5. UNLESS EXISTING VEGETATED AREAS ARE USED FOR THE FILTER STRIP, GROWING MEDIUM SHALL BE USED WITHIN THE TOP 18". USE SAND/LOAM/COMPOST 3-WAY MIX OR APPROVED MIX THAT WILL SUPPORT HEALTHY PLANTS.
6. THE ENTIRE FILTER STRIP MUST HAVE 100% COVERAGE BY NATIVE GRASSES, NATIVE WILDFLOWER BLENDS, NATIVE GROUND COVERS, OR ANY COMBINATION THEREOF.
7. A GRADE BOARD OR SAND/GRAVEL TRENCH MAY BE REQUIRED AS A FLOW SPREADER TO DISPERSE THE RUNOFF EVENLY ACROSS THE FILTER STRIP TO PREVENT A POINT OF DISCHARGE. THE TOP OF THE LEVEL SPREADER MUST BE HORIZONTAL AND AT AN APPROPRIATE HEIGHT TO PROVIDE SHEETFLOW DIRECTLY TO THE SOIL WITHOUT SCOUR. LEVEL SPREADERS SHALL NOT HOLD A PERMANENT VOLUME OF RUNOFF. GRADE BOARDS CAN BE MADE OF ANY MATERIAL THAT WILL WITHSTAND WEATHER AND SOLAR DEGRADATION, TRENCHES USED AS LEVEL SPREADERS CAN BE FILLED WITH WASHED CRUSHED ROCK, PEA GRAVEL, OR SAND.
8. CHECK DAMS ARE REQUIRED FOR LONGITUDINAL SLOPES OVER 4% AND SHALL BE SPACED AT A MAXIMUM OF 2-FOOT ELEVATION INTERVALS. MAINTAIN 4-10 INCH DEEP ROCK CHECK DAMS AT DESIGN INTERVALS.

OAK LODGE
 WATER SERVICES
 STORMWATER STANDARD DRAWING

FILTER STRIP			
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DRAWING NO.
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DATE: 4/10/2024
 SCALE: NTS



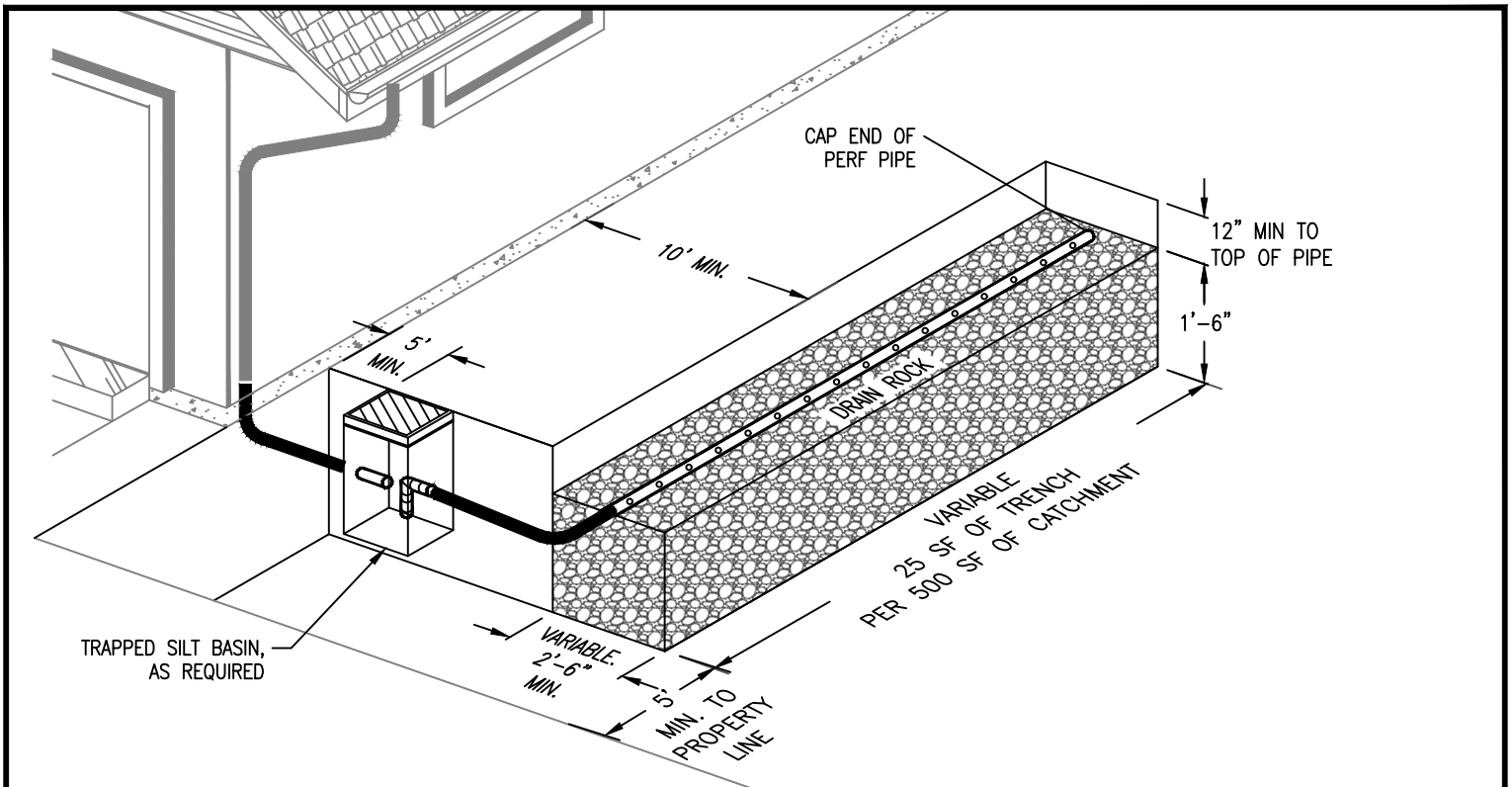
1. SIZING: SEE ADJACENT TABLE TO SIZE THE DRYWELL(S) BASED ON IMPERVIOUS AREA.
2. SITING CRITERIA: THE BASE OF THE DRYWELL MUST BE AT LEAST 5' ABOVE SEASONAL HIGH GROUNDWATER.
3. SETBACKS: MEASURED FROM THE CENTER, THE DRYWELL MUST BE 10' FROM FOUNDATIONS AND 5' FROM PROPERTY LINES EXCEPT NEXT TO THE RIGHT-OF-WAY WHERE NO SETBACK IS REQUIRED BETWEEN THE EDGE OF THE DRYWELL DRAIN ROCK AND THE PROPERTY LINE. THE FOUNDATION SETBACK IS 8" FOR PLASTIC MINI-DRYWELLS.
4. PIPING: CONFORM WITH OREGON PLUMBING SPECIALTY CODE (OPSC) REQUIREMENTS.
5. ACCESS: IN RESIDENTIAL SETTINGS, AN ACCESS CLEANOUT IS OPTIONAL BUT HIGHLY RECOMMENDED.
6. PRE-TREATMENT: A TRAPPED SILT BASIN SUCH AS A SUMPED CATCH BASIN IS REQUIRED EXCEPT FOR DRYWELLS MANAGING ROOF RUNOFF AND RUNOFF FROM PEDESTRIAN-ONLY AREAS.
7. THE TOP OF THE PERFORATED DRYWELL SECTIONS MUST BE LOWER THAN NEIGHBORING FOUNDATIONS.

Drywell Depth	Maximum Catchment Area Managed by One Drywell	
	28" diameter	48" diameter
5'	1000 sf	2500 sf
10'	2500 sf	4500 sf
15'	3500 sf	5000 sf
2x2 plastic mini-drywell (maximum of 2 drywells per catchment)	500 sf	

CONSTRUCTION REQUIREMENTS

SMEARING THE SOIL SURFACE DURING EXCAVATION CAN LIMIT INFILTRATION RATES. IF SMOOTH EXCAVATION TOOLS ARE USED, ROUGHEN THE SIDES AND BOTTOM OF THE EXCAVATION WITH A SHARP POINTED TOOL. REMOVE LOOSE MATERIAL FROM THE BOTTOM OF THE EXCAVATION.

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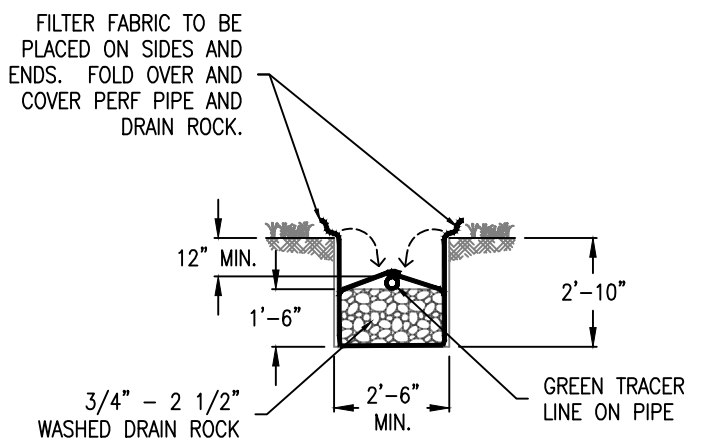


1. SITING CRITERIA: THE BASE OF THE SOAKAGE TRENCH MUST BE AT LEAST 5' ABOVE SEASONAL HIGH GROUNDWATER.
2. SIZING: 1'-6" TALL, 2'-6" WIDE MINIMUM. 25 SQUARE FEET OF TRENCH PER 500 SQUARE FEET OF CATCHMENT AREA.
3. SETBACKS: MEASURED FROM THE EDGE, THE SOAKAGE TRENCH MUST BE 10' FROM FOUNDATIONS AND 5' FROM PROPERTY LINES, EXCEPT NEXT TO THE RIGHT-OF-WAY.
4. PRE-TREATMENT: A TRAPPED SILT BASIN SUCH AS A SUMPED CATCH BASIN IS REQUIRED EXCEPT FOR SOAKAGE TRENCHES MANAGING ROOF RUNOFF AND RUNOFF FROM PEDESTRIAN-ONLY AREAS.
5. PIPING: CONFORM WITH OREGON PLUMBING SPECIALTY CODE (OPSC) REQUIREMENTS.
6. THE TOP OF THE SOAKAGE TRENCH MUST BE LOWER THAN FOUNDATIONS, INCLUDING BASEMENTS WITHIN 10 FEET OF THE SOAKAGE TRENCH.

CONSTRUCTION REQUIREMENTS

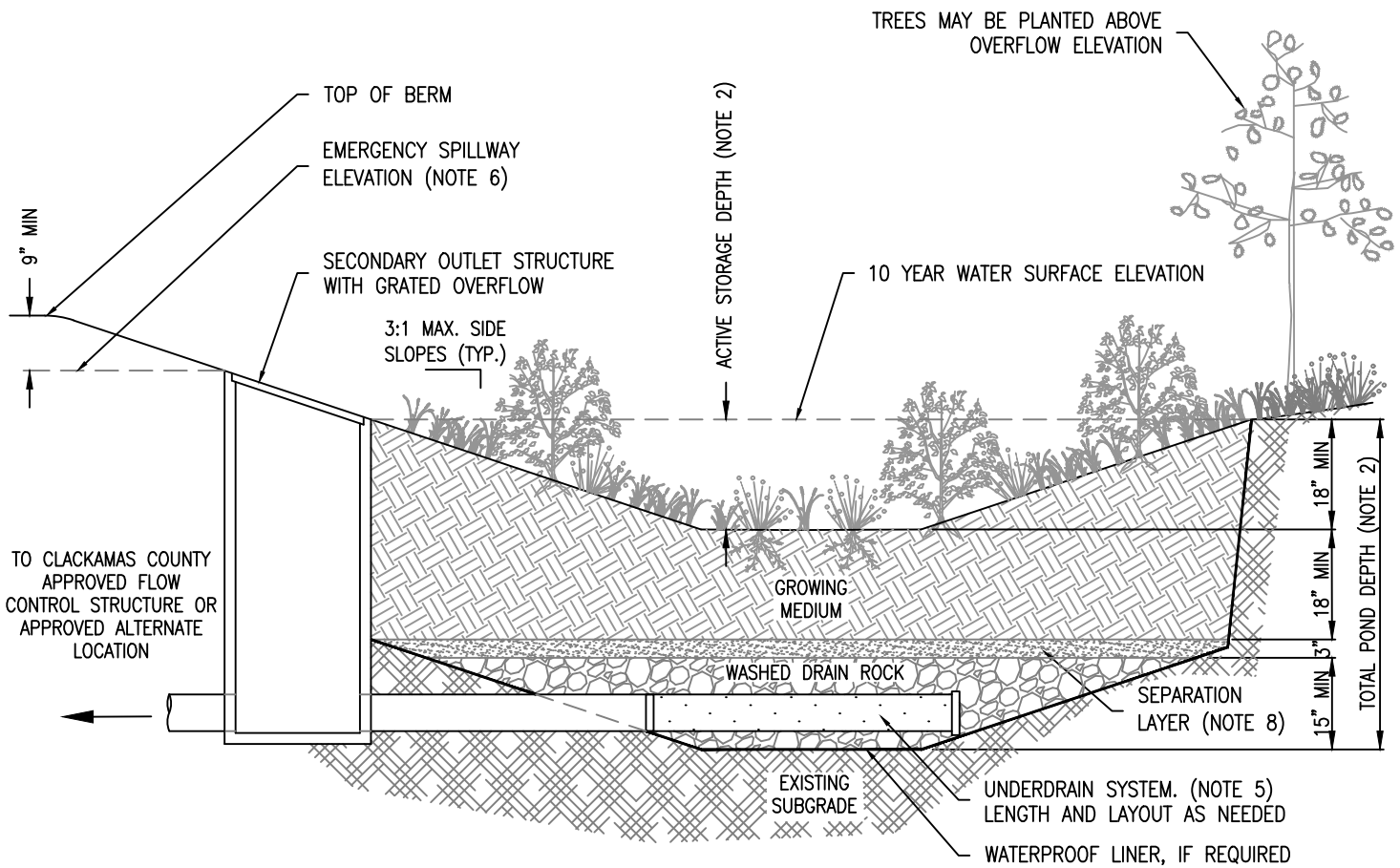
THE OUTLINE OF THE FACILITY MUST BE CLEARLY MARKED BEFORE SITE WORK BEGINS TO AVOID SOIL DISTURBANCE. USE OF HEAVY EQUIPMENT SHOULD BE MINIMIZED WITHIN 10 FEET OF SOAKAGE TRENCH AREAS. THE BOTTOM OF THE SOAKAGE TRENCH AND THE PERFORATED PIPE MUST BE LEVEL. CLAY CHECK DAMS MAY BE USED TO PREVENT WATER FROM COLLECTING NEAR THE DOWNSTREAM END. SMEARING THE SOIL SURFACE DURING EXCAVATION CAN POTENTIALLY LIMIT INFILTRATION RATES; IF SMOOTH EXCAVATION TOOLS ARE USED, ROUGHEN THE SIDES AND BOTTOM OF THE EXCAVATION WITH A SHARP POINTED TOOL. REMOVE LOOSE MATERIAL FROM THE BOTTOM OF THE EXCAVATION.

SECTION



LINE TRENCH SIDES WITH PERMEABLE FILTER FABRIC AS SHOWN, ADD 18" OF DRAIN ROCK. PLACE PERF. PIPE AND COVER ALL.

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NOTES:

1. PROVIDE PROTECTION FROM ALL VEHICLE TRAFFIC, EQUIPMENT STAGING, AND FOOT TRAFFIC IN PROPOSED INFILTRATION AREAS PRIOR TO, DURING, AND AFTER CONSTRUCTION. UNLESS REQUIRED BY SITE CONDITIONS, UNLINED PONDS ARE PREFERRED TO ALLOW MAXIMUM INFILTRATION
2. DIMENSIONS:
 - ACTIVE STORAGE DEPTH (FROM TOP OF GROWING MEDIUM TO OVERFLOW ELEVATION): PER FACILITY SIZING MODEL
 - TOTAL POND DEPTH: 4" MINIMUM, PER FACILITY SIZING MODEL
 - BOTTOM SLOPE: 2.0% OR LESS OF
3. -SIDE SLOPE OF DETENTION POND: 3:1 MAXIMUM
4. DETENTION POND MUST BE SETBACK A MINIMUM OF 10 FEET FROM FOUNDATIONS AND 5 FEET FROM PROPERTY LINE.
5. PERFORATED UNDERDRAIN PIPING SHALL BE A MINIMUM OF 6" DIAMETER AND MATERIAL SHALL BE ABS SCH. 40, DUCTILE IRON, OR PVC SCH. 40. PIPING MUST HAVE 1% GRADE AND FOLLOW THE UNIFORM PLUMBING CODE. PVC PIPING NOT ALLOWED ABOVE GROUND.
6. EMERGENCY SPILLWAY TO BE SIZED TO CONVEY THE 100 YEAR DESIGN STORM. PROVIDE 6" MINIMUM FREEBOARD ABOVE THE 100-YEAR DESIGN STORM.
7. DRAIN ROCK SIZE: 1 1/2" - 3/4" WASHED WITH 15" DEPTH.
8. SEPARATION BETWEEN DRAIN ROCK AND GROWING MEDIUM SHALL BE A 3" LAYER OF 3/4" - 1/4" OPEN GRADED AGGREGATE.
9. GROWING MEDIUM WILL BE A MINIMUM 18" DEPTH.
10. VEGETATION WILL FOLLOW THE LANDSCAPE PLANS.
11. WATERPROOF LINE, IF REQUIRED, SHALL BE 30 MIL PVC OR EQUIVALENT FOR DETENTION POND.
12. SEASONAL HIGH GROUNDWATER SEPARATION DISTANCE AS REQUIRED.

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