What Do We Look For During Construction?

Key Elements to Inspect and Common Issues

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Construction Inspection Prep:

1. The purpose of the Inspection is to ensure that the System is built per approved plans.
2. Review Civil Drawings with Site Superintendent and Project Civil Engineer in Construction Trailer before inspecting systems. Confirm built sq.ft. of all systems.
3. "Follow the water from roof to street"
4. Hold Pre-Con meeting with Landscape Contractors when they come on board and review Landscape Drawings with L. Arch.

Common Construction Problems

1. Perf Pipe/Cleanout Missing
2. Wrong Rock
3. Subgrade Soil Compacted
4. Poor Grading
5. Overflow in wrong place or wrong height
6. Erosion of soil during construction
7. Conveyances and Curb Cuts
8. Other problems

1. Perf Pipe (Underdrain) & Cleanout

a) For infiltration systems, perf pipe should be installed at top of the drain rock section

b) For systems with impervious barrier at bottom, perf pipe should be installed at the bottom of the drain rock section

c) No filter fabric around the perf pipe

d) No Holes on top of perf pipe

e) Check for Cleanout Installation

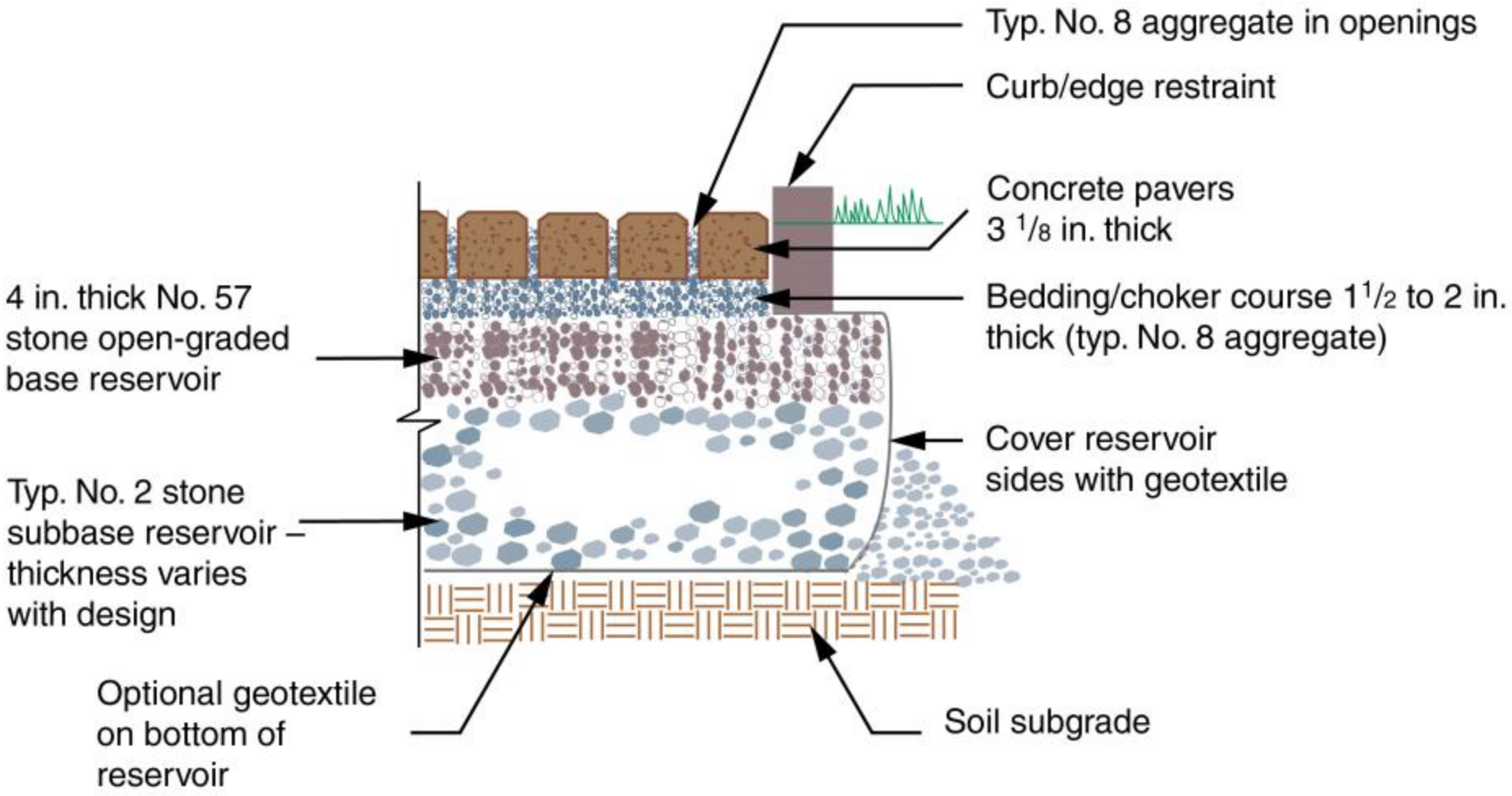

12/04/2006

2. Wrong Drain Rock

a) Use Class 2 Permeable (Caltrans) Drain Rock for underdrain section
b) No filter fabric
c) For Pervious Pavers see graphic for layers


Perm-A-Barrier

Permeable Interlocking Paver Cross Section



3. Subgrade Soil Compaction

a) Scarify subgrade
b) Don't smear soil with equipment
c) No mechanical compaction.
d) Exception: large scale projects may use specially equipped machinery.

Proper Infiltration Area Excavation

Avoid surface sealing and/or smearing of soil.

Surface Sealing-
compaction at the soil surface, rendering it impermeable.

Smearing / Glazing-
Impermeability caused by the bottom of a backhoe bucket sliding across the soil surface under pressure.

San Francisco Water Power Sewer

Courtesy of the San Francisco Public Utilities Commission

4. Grading

a) Parking Lot projects with over 5,000 sq.ft. of created/replaced impervious surface are Regulated projects even when they don't need a Building or Use permit.
b) Designs don't always turn out the way you think
c) Construction folks always want to slope to drain – not to treatment measure
d) Water tends to flow down hill.

5. Overflow in Wrong Place or Wrong Height

a) Wrong drain cover
b) Not in direct flow path
c) Floating Mulch
d) Signage is good
e) Set at correct height above final grade

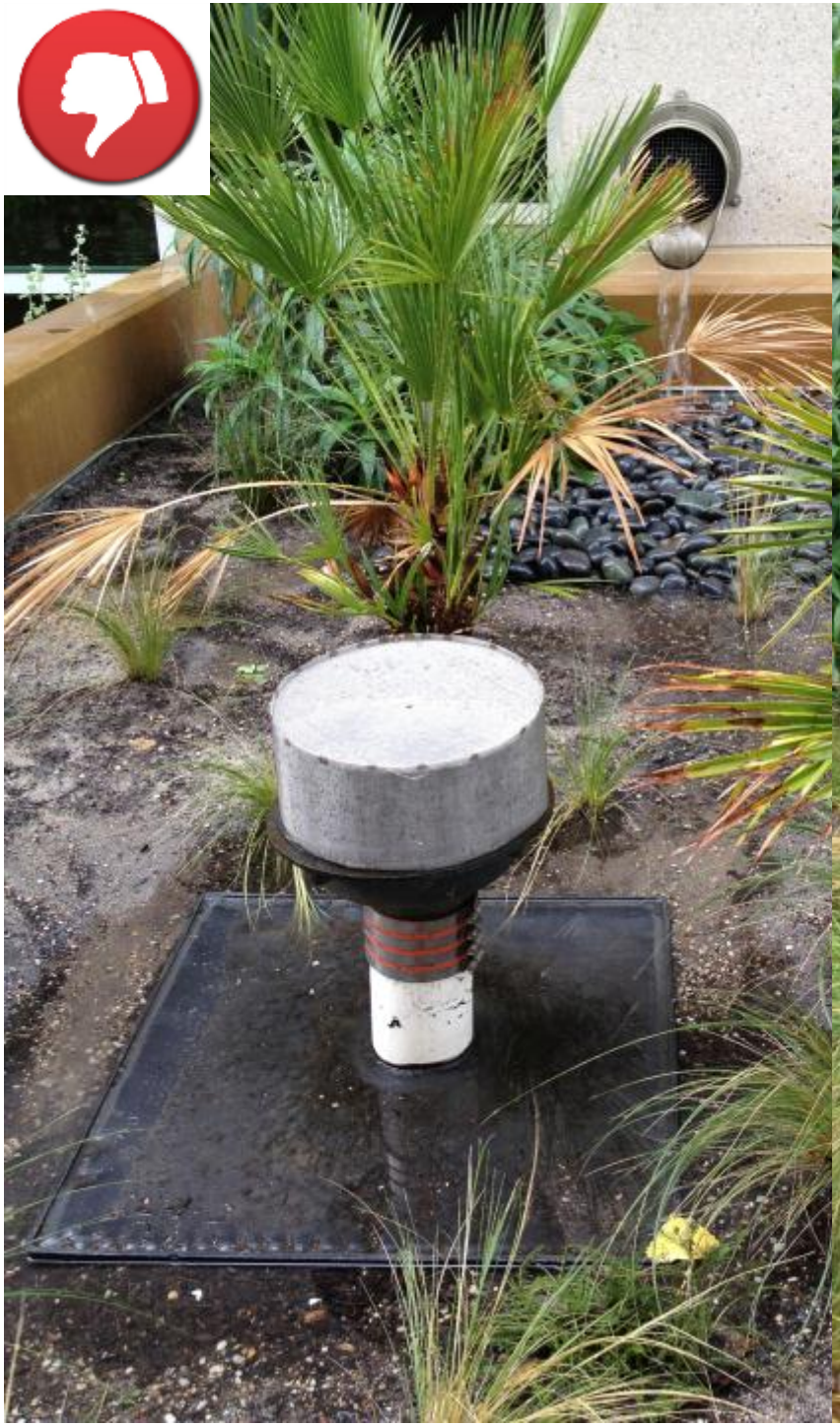

NO DUMPING!
DRAINS TO BAY

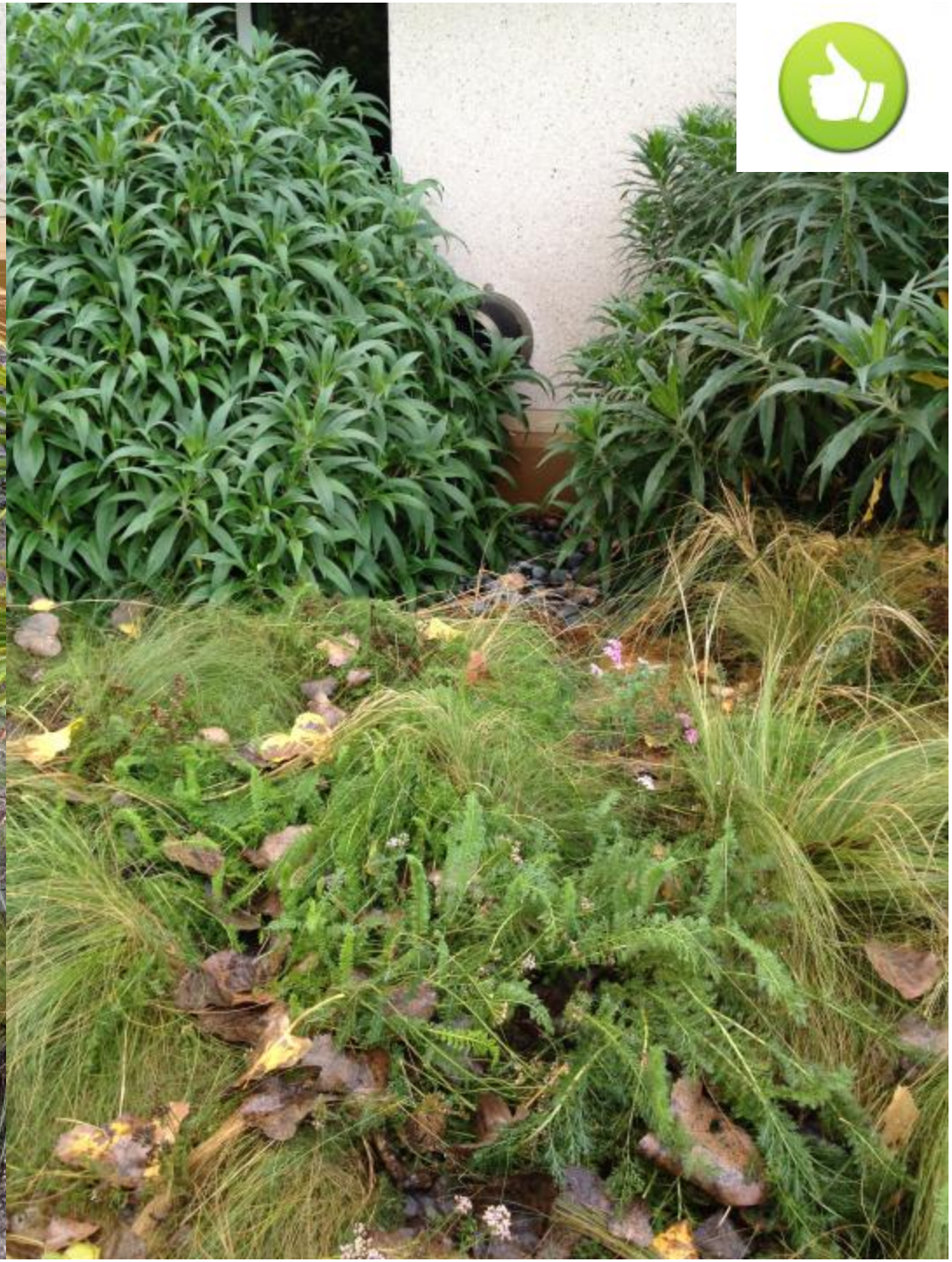
6. Erosion of soil

"Slow it, Spread it, Sink it"

Prevent Erosion with these measures:

a) 3" of aged/composted Mulch
b) Splash block/cobble
c) Plants at entry points
d) Forebay
e) Weirs
f) Steps
g) Rock mulch in concentrated flow lines





7. Conveyances and Curb Cuts

a) Flush Curbs better than Cuts when possible
b) Minimum 18” width on Curb Cuts
c) Check for Sufficient drop to system
d) Valley gutters can be problematic:
    a) Concentrates flow
    b) Manholes and lids must be sealed
    c) Sediment buildup


NO PARKING
FIRE LANE

8. Other problems

a) Design Team not communicating
b) Inexperienced Contractors
c) Confusion between SWPPP and C3
d) Construction Phasing – When do you "turn on" the C3 system?

Questions?

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