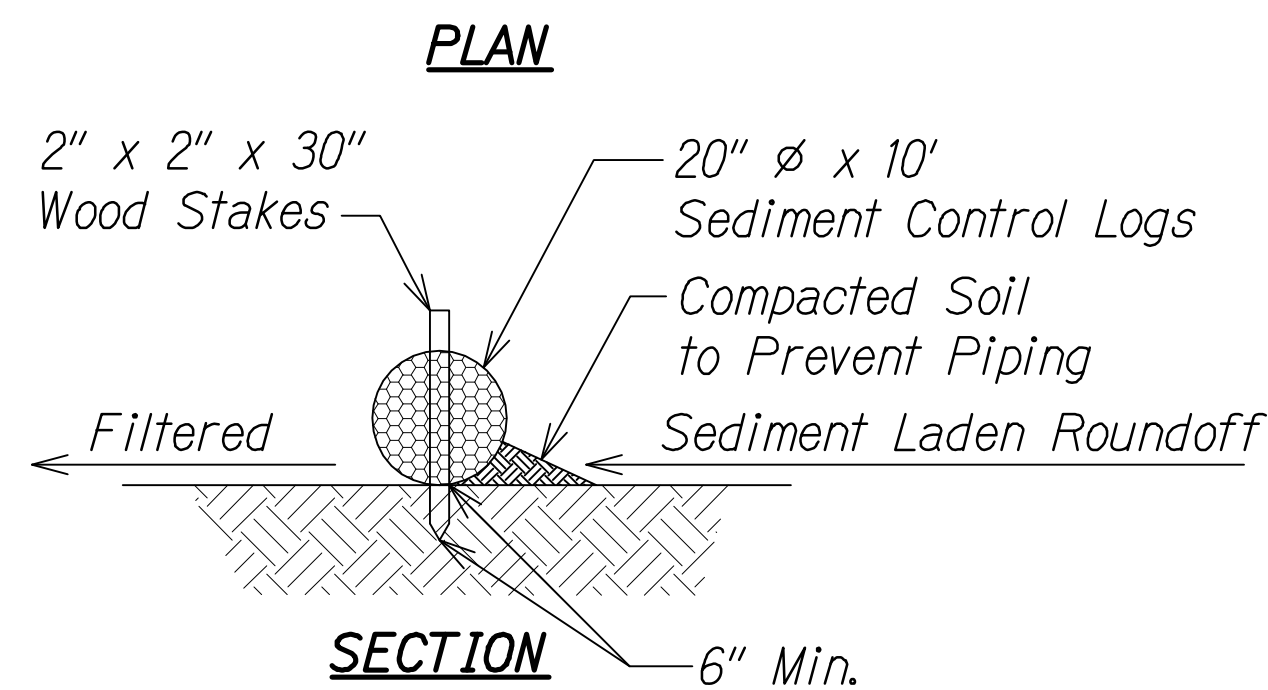


1. *The site-specific BMP measures (such as silt fencing) may be placed in phases as work progresses. The BMP measures required to protect each work area shall be in place before clear and grub or mass grading work may proceed in that work area. These measures shall be properly constructed and maintained throughout the construction period.*
2. *Construction shall be sequenced to minimize the exposure time of cleared surface area.*
3. *All control measures shall be checked and repaired as necessary.*
4. *Construct facilities to retain on-site concrete wash water and waste concrete per "concrete washdown area detail" on sheet 12.*
5. *Maintain sediment traps at discharge points during site work and until permanent erosion controls are in place.*
6. *Pre-construction vegetative ground cover shall not be destroyed, removed or disturbed more than twenty (20) calendar days prior to site disturbance.*
7. *Temporary slope stabilization will be applied where applicable in erodible material. Mulching and/or matting will only be applied where exposed finish slopes consists of significantly erodible material.*
8. *The Contractor, at his own expense, shall keep the project area and surrounding area free from dust nuisance. the work shall be done in conformance with the air pollution control standards of the local agency.*
9. *All grading work shall be done in accordance with local agency standards and the geotechnical soils report.*
10. *The Contractor shall maintain all temporary BMP measures until the entire area is completely stabilized. All BMP measures shall be removed immediately after the area is completely stabilized.*



BMP Measures presented are for known conditions. Additional BMP measures will be incorporated as conditions dictate prior to and during construction.

Slope stabilization to be applied as applicable

exist. ground

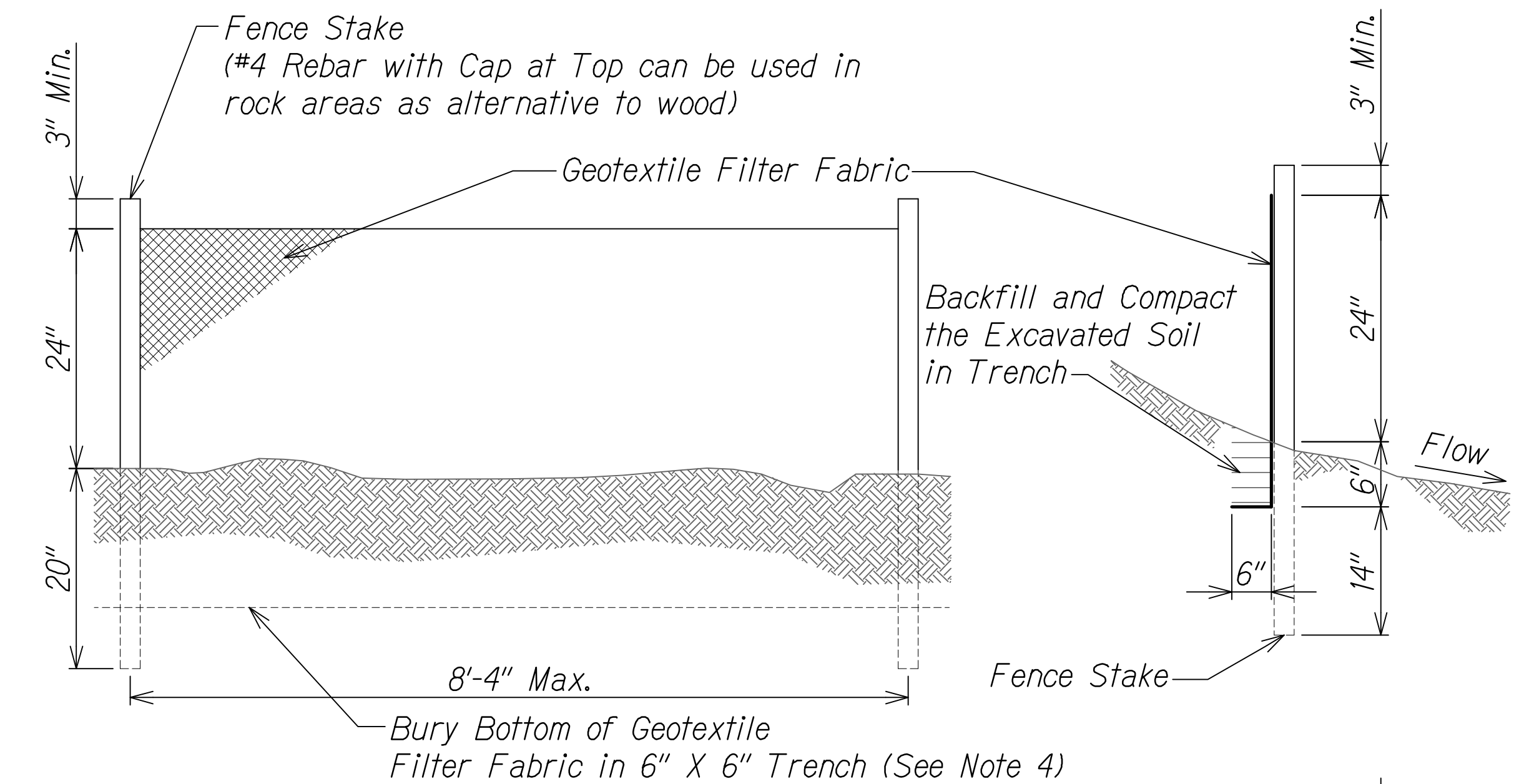
Finish Grade

2:1 Slope

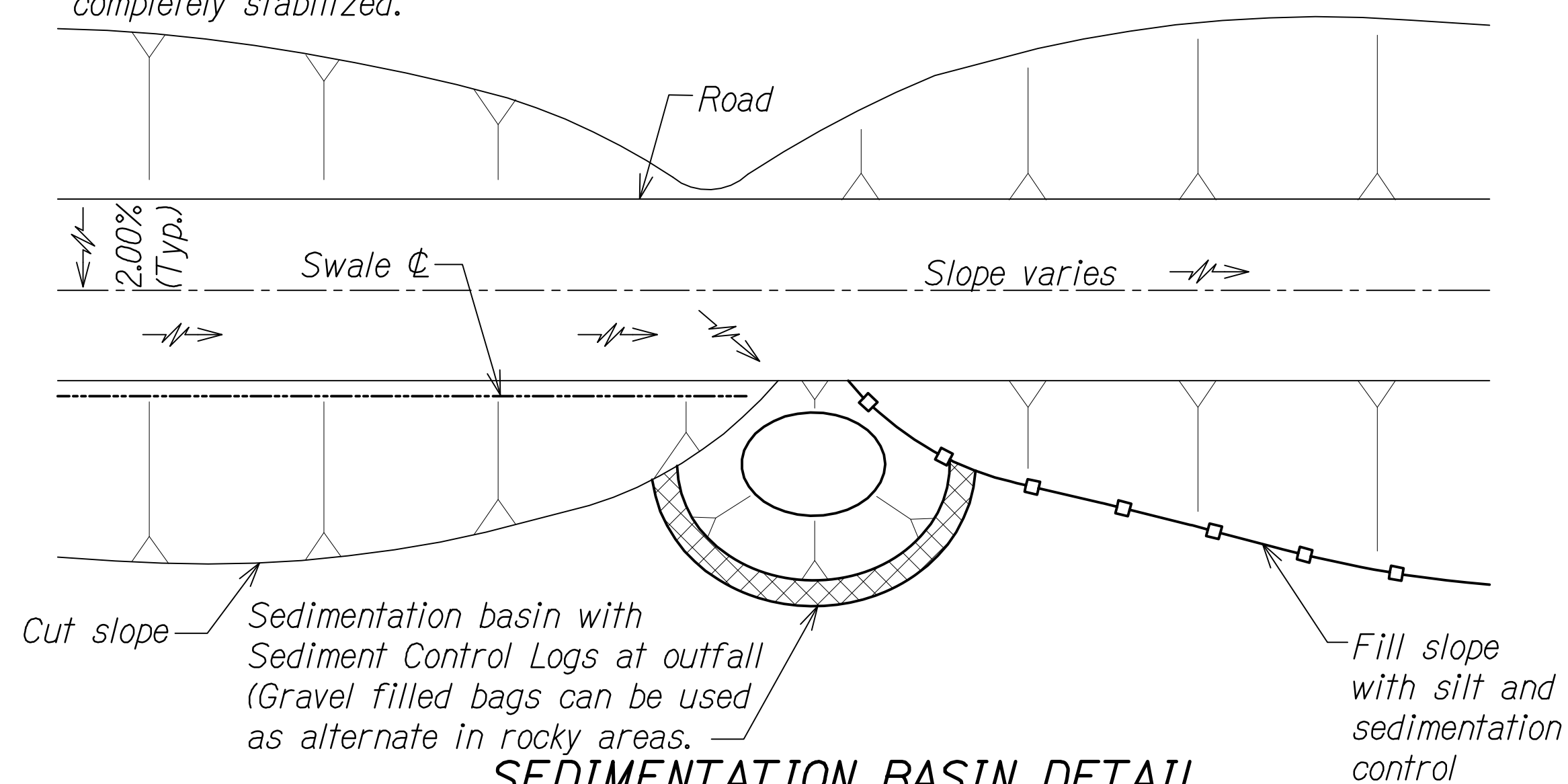
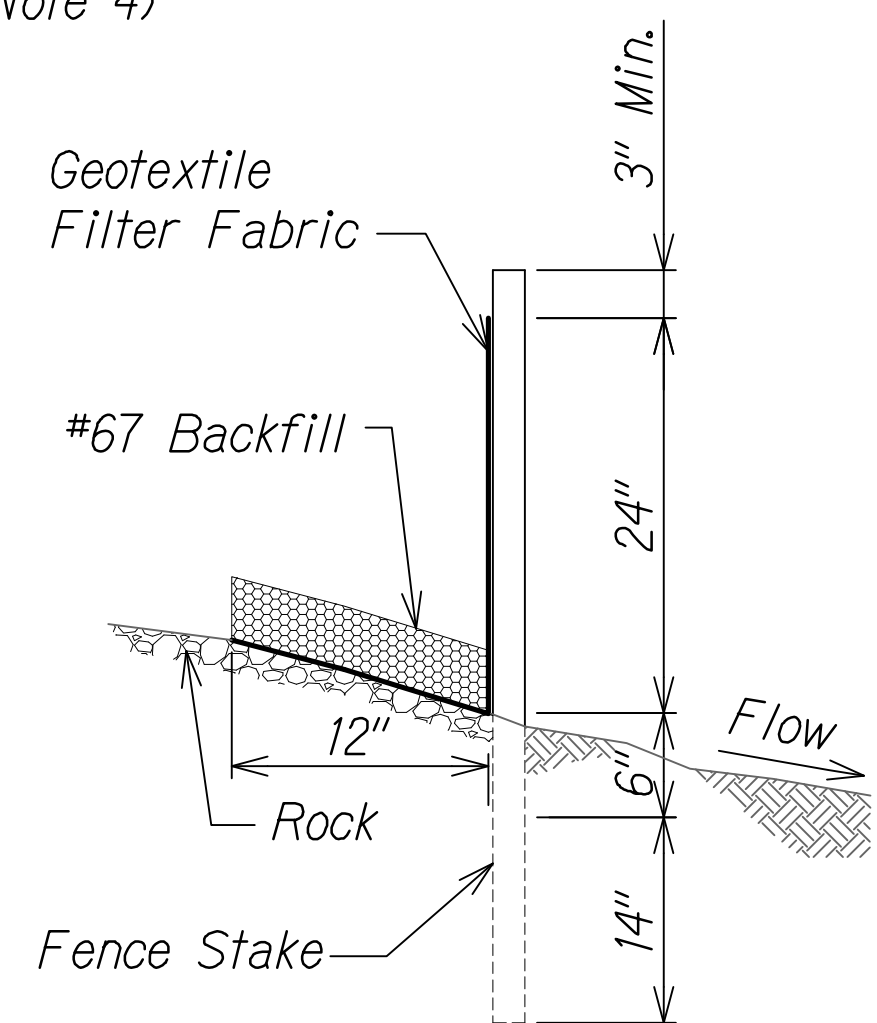
CONDITION AT CUT SECTION

A cross-sectional diagram of a slope. The existing ground is shown as a dashed line. A vertical line represents the 'Silt and Sedimentation Control' structure. The slope is labeled '3:1 Slope'. The area between the existing ground and the slope is hatched. The top of the slope is labeled 'Finish Grade'.

1. Stake sediment logs in place with 2"x2"x30" wood stakes space no less than 24" apart unless otherwise noted. Drive stakes into ground a minimum of 6".
2. Install sediment control logs directly on ground making sure bottom of log is in full contact with ground. Tamp soil backfill against upstream side of log to assure storm water is forced flow through log rather than under it.
3. Gravel filled bags can be used as alternate to sediment logs in rock areas.



1. *The filter fabric shall be a minimum of 36 inches wide.*
2. *If silt fence is obtained from manufacturer as a package (i.e. fabric attached to post) the manufacturer's installation instruction shall be adhered to.*
3. *Fence stakes may be wood or metal, must be capable of supporting anticipated loads.*
4. *In rock areas, as alternative to burying bottom of geotextile fabric in 6" X 6" trench, a 12" long flap can be place on top of the rock with #67 backfill placed on top to secure it.*



THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION AND
CONSTRUCTION OF THIS PROJECT
WILL BE UNDER MY OBSERVATION.

Justin W. Drake APRIL 30, 2018

SIGNATURE EXPIRATION DATE
OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

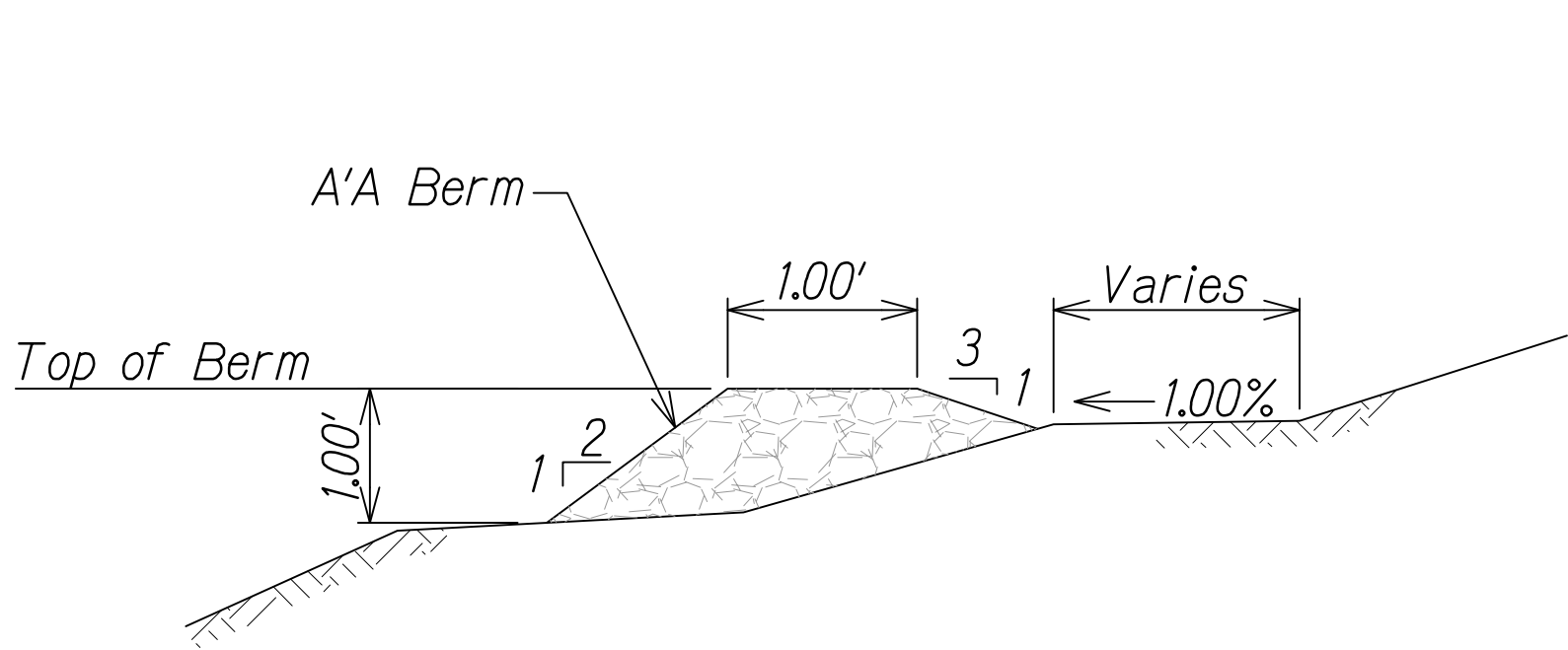
EROSION CONTROL
NOTES AND DETAILS

QUEEN KAAHUMANU HIGHWAY WIDENING
Kealakehe Pkwy. To Keahole Airport Rd.(Ph. 2)
Federal Aid Project No. NH-019-1(38)R

Scale: AS NOTED Date: MAY 2012

SHEET No. 1 OF 2 SHEETS

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|-----------------------|
| HAWAII | HAW. | NH-019-1(38)R | 2016 | C.O. 12 | 528 522 |

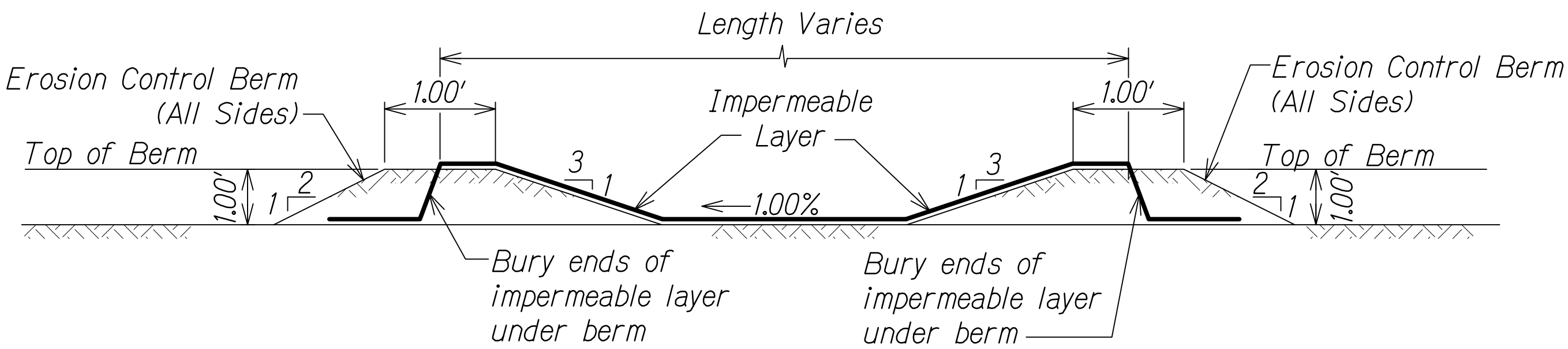


Note:

1. Temporary erosion control berm to consist of local a'a lava material.
2. The temporary erosion control berm is an alternate that can be used in lieu of the silt fence detail.

- 1
3. In areas where local a'a material is not readily available, berm material can be substituted with local rock and be treated as a diversion berm which routes water to a rock check dam.

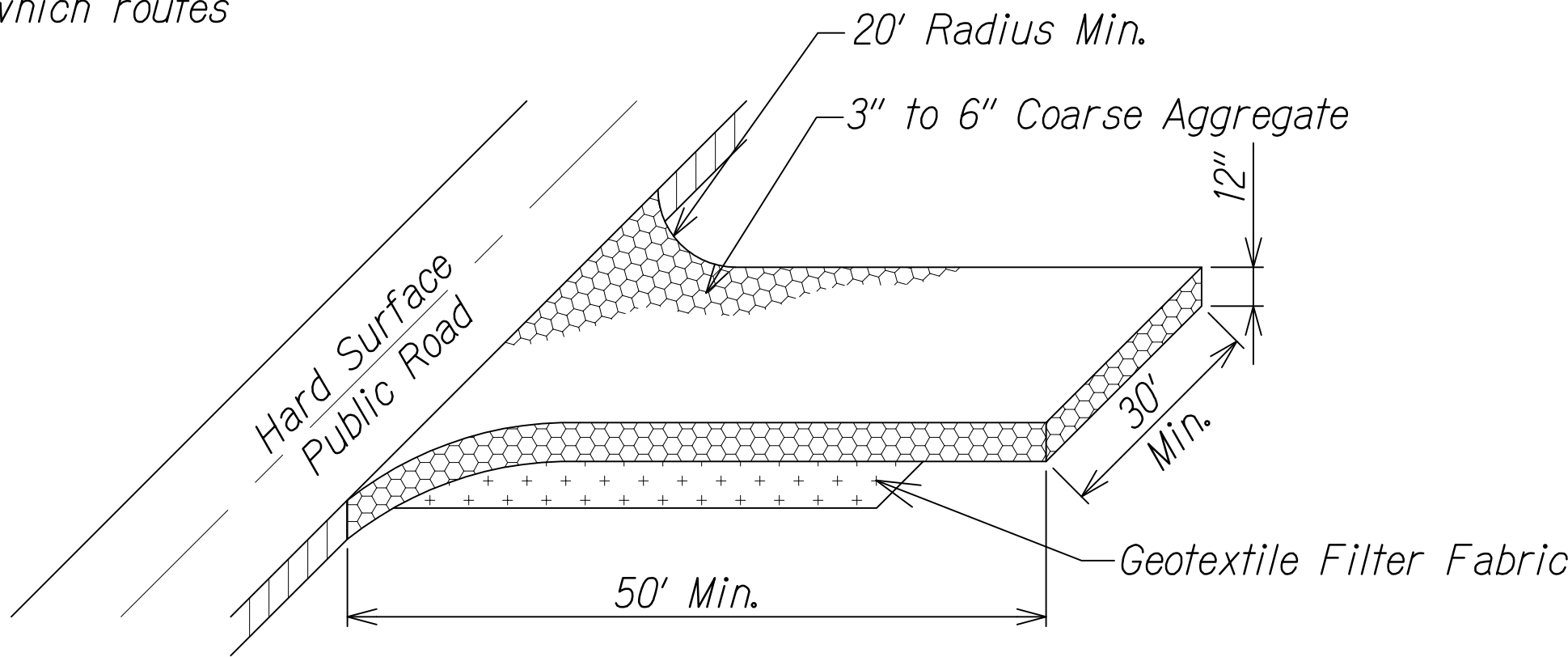
A'A BERM



Note:

Temporary wash down areas will be installed at locations convenient to the work in the area and will be removed when filled to capacity or when no longer needed.

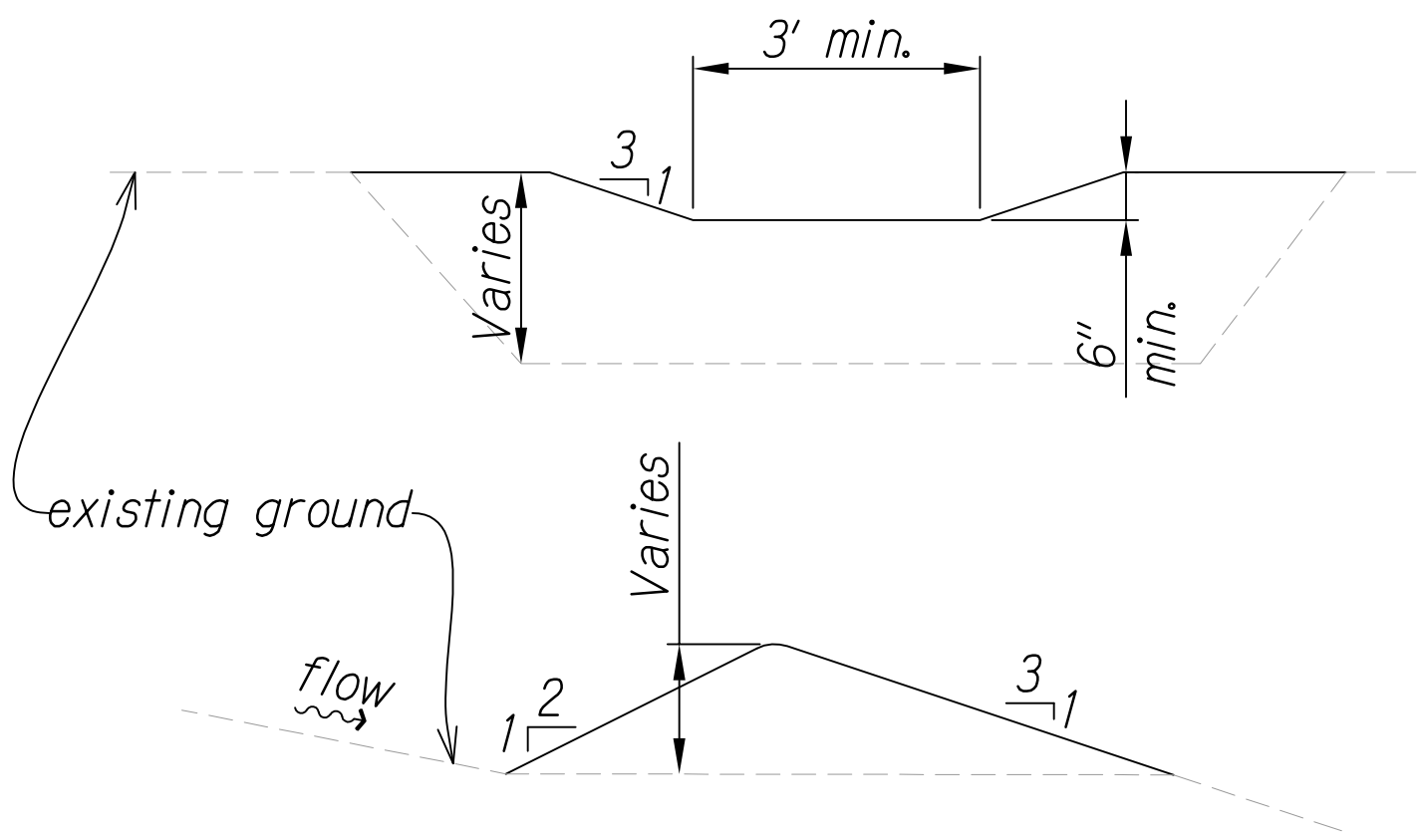
CONCRETE WASH DOWN AREA DETAIL



Notes:

1. All points of egress and ingress to the site shall be protected with a stabilized construction entrance.
2. A manufactured rumble strip covering the full width of the construction entrance may be used in place of coarse aggregate. A manufactured rumble strip shall be built on a stable base over geotextile fabric and will be of adequate length to encompass one full tire rotation of all vehicles entering and exiting the site. Rumble strips shall be maintained on at least a weekly basis and remain free of compacted rock.

STABILIZED CONSTRUCTION ENTRANCE DETAIL



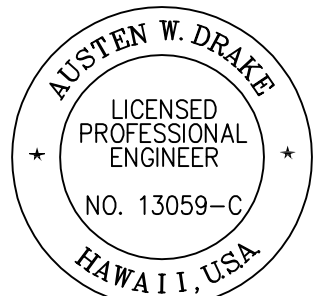
TEMPORARY CHECK DAM

LEGEND FOR AS-BUILT POSTINGS

- ~~~~~ Squiggly line for as-built deletion
~~100.00~~ Double line for as-built deletion
Roadway Text for as-built posting

| | | |
|---------|---|--|
| 1/22/16 | 1 | Added note #3 for berm, temp. check dam detail and note #2 for construction entrance |
|---------|---|--|

| | |
|------|----------|
| DATE | REVISION |
|------|----------|



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

Signature: Austen W. Drake
EXPIRATION DATE OF THE LICENSE: APRIL 30, 2018

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**EROSION CONTROL
NOTES AND DETAILS**

QUEEN KAAHUMANU HIGHWAY WIDENING
Kealahke Pkwy. To Keahole Airport Rd.(Ph. 2)
Federal Aid Project No. NH-019-1(38)R

Scale: AS NOTED Date: AUGUST 2016

SHEET No. 2 OF 2 SHEETS

"AS-BUILT"

C.O. 12

| | |
|---------------|------|
| ORIGINAL PLAN | DATE |
| NOTE BOOK | |
| QUANTITIES BY | |
| CHECKED BY | |

W:_CIVIL_3D PROJECTS\2008-003-001 GBI QUEEN K HWY WIDENING\01 CIVIL DRAWINGS\01-012 EROSION CONTROL NOTES AND DETAILS.DWG 4/12/2016 9:37 AM