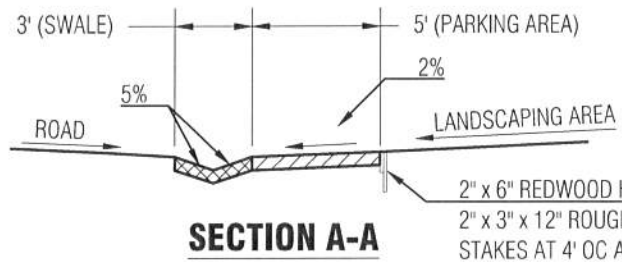


**PLAN VIEW**



**SECTION A-A**

**LEGEND:**

- AC ASPHALT CONCRETE
- P PROPERTY LINE
- C CENTERLINE
- F EXISTING OR NEW LANDSCAPING
- STREET TREE (NEW OR EXISTING)
- BIOSWALE/RAIN GARDEN
- NEW PERMEABLE SURFACE
- NEW DRAINAGE SWALE
- FLOWPATH
- NOTES, SEE SU-20B

SEE STANDARD DETAIL SU-20B FOR NOTES RELATED TO THE STREET SHOULDER IMPROVEMENT POLICY.

Approved, *[Signature]* 12/12/18  
 City Engineer Date



REVISION	
Description	Date

**ENGINEERING DIVISION**

**STREET SHOULDER IMPROVEMENT POLICY (SHEET 1 OF 3)**

**SU-20A**

NOTES:

1. IF THE STREET PAVEMENT WIDTH IS 36 FEET OR GREATER, NO SHOULDER IMPROVEMENTS ARE PERMITTED WITH THE EXCEPTION OF LANDSCAPING AND IRRIGATION.
2. POLICY DOES NOT APPLY FOR REPAIRS, RESEALING, AND REPAVING IN KIND OF EXISTING SHOULDERS, NOR DOES IT REQUIRE THAT SHOULDERS MUST BE PAVED.
3. THE SHOULDER OF A NEWLY CONSTRUCTED OR 50% OR GREATER SQUARE FOOTAGE REMODELED RESIDENCE IS REQUIRED TO BE BROUGHT INTO COMPLIANCE WITH THIS POLICY.
4. DRAINAGE SWALE:
  - a. 3' WIDE;
  - b. MAXIMUM CROSS SLOPE 5%;
  - c. DRAINAGE SWALE SHALL BE CONSTRUCTED USING PERMEABLE MATERIALS PER DETAIL SU-20C.
5. PARKING AREA SHALL FEATURE ONE OF THE FOLLOWING MATERIALS:
  - a. PERMEABLE CONCRETE PAVERS AND OPEN CELL CONCRETE BLOCKS:  
 CONCRETE PAVER BLOCKS BOTH SOLID AND GRIDDED SYSTEMS (WITH OPEN CELLS FOR AGGREGATE, GRAVEL, OR GRASS) HAVE BEEN DEVELOPED IN A LARGE VARIETY OF SHAPES, TEXTURES, PATTERNS, AND COLORS. THE CONCRETE PAVERS AND OPEN CELL CONCRETE BLOCKS SHALL BE INSTALLED PER MANUFACTURE'S RECOMMENDATIONS. GAPS OF CONCRETE PAVERS, IF FEATURED BY THE TYPE OF PAVER, SHALL BE FILLED WITH SAND. OPEN CELL CONCRETE BLOCKS VARY IN SIZE BASED ON BLOCK TYPE AND SHALL BE FILLED IN WITH GRAVEL OR GRASS, ALLOWING WATER TO ENTER THE SUBGRADE. CONCRETE PAVERS AND OPEN CELL CONCRETE BLOCKS SHALL BE INSTALLED OVER A SAND BEDDING COURSE (MINIMUM 1" THICK OR PER PAVER MANUFACTURER'S RECOMMENDATION). FURTHER WATER RESERVOIR CAPACITY CAN BE ADDED BY INSTALLING OPEN GRADED BASE AND STONE SUBBASE WITH AN OPTIONAL UNDERDRAIN (TO BE ROUTED TO THE BIOSWALE/RAIN GARDEN), WITH GEOTEXTILE ON BOTTOM AND SIDES. TYPICALLY AN EDGE CONSTRAINT IS INSTALLED AT THE PERIMETER OF THE PAVERS OR LOCATIONS SUBJECT TO LATERAL LOADING. SUBGRADE EXCAVATION DEPTH REQUIRED IS 8-12 INCHES, BUT CAN BE GREATER IN DEPTH IF ADDITIONAL RESERVOIR CAPACITY IS DESIRED.
  - b. COMPACTED AGGREGATE BASE (AB):  
 1-1/2 INCH OR 3/4 INCH CLASS 2 AGGREGATE BASE (6 INCHES THICK ON COMPACTED NATIVE SOIL)
  - c. COMPACTED STABILIZED DECOMPOSED GRANITE (DG):  
 SMALL SIZED GRANITE AGGREGATE MIXED WITH A STABILIZING AGENT, COMPACTED AND PLACED OVER EXISTING PERMEABLE SURFACES AND 6 INCHES OF AGGREGATE BASE IF SUBGRADE IS LESS SUITABLE. SUBGRADE EXCAVATION REQUIRED IS 8-12 INCHES, BUT CAN BE GREATER IN DEPTH IF ADDITIONAL RESERVOIR CAPACITY IS CONSIDERED. DG LAYER SHALL BE MINIMUM 4 INCHES THICK. GRADE TO DRAIN.
6. BIOSWALE/RAIN GARDEN IN LANDSCAPE AREA DESIGNED TO RECEIVE RUNOFF FROM DRAINAGE SWALE/PARKING AREA. DESIGN AND SHAPE OF BIOSWALE/RAIN GARDEN BY ARCHITECT OR ENGINEER. MINIMUM DEPTH SHALL BE 2.5'. REFER TO THE C.3 STORMWATER HANDBOOK FOR DESIGN PARAMETERS AND SPECIFICATIONS OF SOILS OR PLANTS. AREA SHALL BE DEPENDING ON LENGTH OF FRONTAGE (DISTANCE MEASURED PARALLEL TO EDGE OF ROAD BETWEEN PROPERTY LINES) AS FOLLOWS:
  - a. FRONTAGE < 75': 50 SF MINIMUM
  - b. 75' < FRONTAGE < 100' 100 SF MINIMUM
  - c. 100' < FRONTAGE < 150' 200 SF MINIMUM
  - d. FRONTAGE > 150': 300 SF MINIMUM
7. LOTS LOCATED ALONG SUGGESTED ROUTES TO SCHOOL MAY REQUIRE MODIFICATION TO THIS STANDARD DETAIL AS APPROVED BY THE CITY ENGINEER. OTHER MODIFICATIONS MAY BE MADE AS APPROVED BY THE CITY ENGINEER.

Approved.  12/12/18  
 City Engineer Date

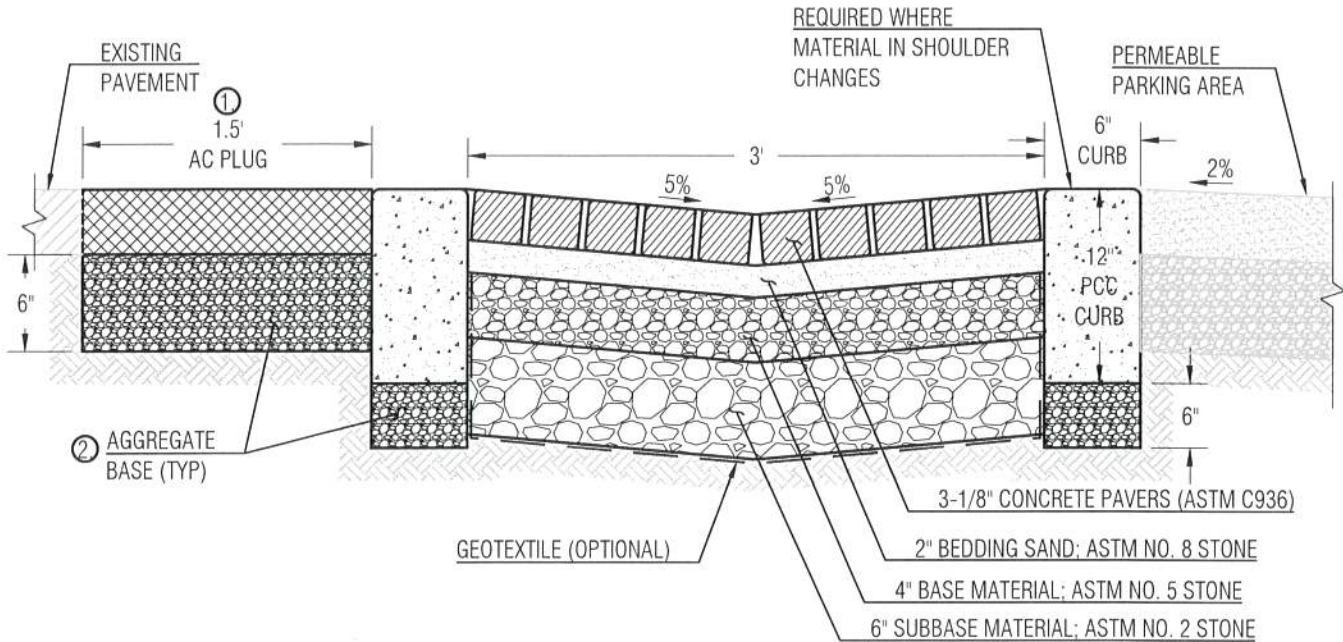


REVISION	
Description	Date

<b>ENGINEERING DIVISION</b>	
<b>STREET SHOULDER IMPROVEMENT POLICY (SHEET 2 OF 3)</b>	<b>SU-20B</b>



## PERMEABLE DRAINAGE SWALE



**NOTES:**

1. AC PLUG SHALL BE 4" THICK OR MATCH EXISTING PAVEMENT THICKNESS, WHICHEVER IS GREATER.
2. AGGREGATE BASE SHALL BE COMPACTED TO 95% OF MAXIMUM DRY DENSITY.
3. INSTALL PAVERS AND ALL BASE MATERIALS PER MANUFACTURER'S RECOMMENDATIONS.
4. ALTERNATE DRAINAGE SWALE MAY BE CONSTRUCTED WITH 1-1/2 INCH OR 3/4 INCH COMPACTED CLASS 2 AB (6 INCH THICK ON COMPACTED NATIVE SOIL).

**LEGEND:**

- |  |                                                                       |  |                        |
|--|-----------------------------------------------------------------------|--|------------------------|
|  | CONCRETE PAVERS, OR APPROVED PERMEABLE MATERIAL FROM SU-20B NOTE 5.a. |  | AGGREGATE BASE         |
|  |                                                                       |  | AC PLUG                |
|  | BEDDING SAND                                                          |  | EXISTING PAVEMENT      |
|  | BASE MATERIAL                                                         |  | PERMEABLE PARKING AREA |
|  | SUBBASE MATERIAL                                                      |  | NATIVE MATERIAL        |
|  | PCC                                                                   |  | NOTES                  |

Approved: 12/12/18  
Date  
City Engineer



REVISION	
Description	Date

<b>ENGINEERING DIVISION</b>	
<b>STREET SHOULDER IMPROVEMENT POLICY (SHEET 3 OF 3)</b>	<b>SU-20C</b>