TERRACE INSTALLED ON CONTOURS

EXISTING GROUND

15' MAX SPACING

TERRACE HEIGHT ≤ TERRACE WIDTH

8" MAX FILL HEIGHT

2' MIN TERRACE CUT WIDTH

SLOPE < 2:1

RUNOFF REDUCTION MEASURE
BOVINE TERRACE

SCALE: NONE DATE: 04/06/17
DWN. D/T CHK. HM SHEET 1 of 1 RRM - 01
Sheet flow from impervious surface

Optional infiltration trench

Inlet to storm drain system (High flow bypass)

Cutoff swale

15' minimum width
15% maximum slope

Typical section

Optional infiltration trench to achieve volume capture

Cutoff swale

15' min. buffer strip

Runoff reduction measure
Vegetated buffer strip

Scale: None
Date: 03/28/17
DWN. D/T CHK. HM SHEET 1 of 1 RRM-02

Not to scale
NOTES:
1. IF SWALE PROVIDES TREATMENT, LENGTH SHALL BE DESIGNED TO PROVIDE 12 MINUTES OF CONTACT TIME IF FLOW ENTERS UNIFORMLY ALONG LENGTH. LENGTH SHALL PROVIDE 5 MINUTES OF CONTACT TIME IF 90% OR MORE OF THE FLOW ENTERS AT THE UPSTREAM END.
2. SOIL TO BE SPECIFIED BY DESIGN ENGINEER TO MEET VOLUME CAPTURE AND GOVERNING AGENCY REQUIREMENTS. IF NON-STRUCTURAL SOIL IS SELECTED A CUTOFF WALL IS REQUIRED IN PLACE OF A MOISTURE BARRIER.
3. SWALE MUST CONVEY HIGH FLOWS PER GOVERNING AGENCY DESIGN STANDARDS.

NOTED 2:
10 MIL PLASTIC MOISTURE BARRIER AS REQUIRED. SEE NOTE 2.

PRIORITY 1
ROADSIDE BIORETENTION
- NO CURB AND GUTTER

SCALE: NONE DATE: 03/29/17
DWN. D/T CHK. HM
P1-02

Not to Scale
NOTES:
1. STRUCTURAL SOIL UNLESS OTHERWISE APPROVED BY GEOTECHNICAL ENGINEER AND ACCEPTED BY GOVERNING AGENCY.
2. SWALE MUST CONVEY FLOOD DESIGN FLOWS PER GOVERNING AGENCY DESIGN STANDARDS.
3. PARKING ISLAND WIDTH PER APPLICABLE GOVERNING AGENCY STANDARDS.
NOTES:
1. DEPTH SHALL NOT EXCEED WIDTH OR LENGTH.
2. TO BE USED AS PART OF A TREATMENT TRAIN.
3. ALL SURFACE WATER MUST DRAIN WITHIN 72 HOURS.
NOTES:
1. SIDEWALK, GUTTER AND PLANTER WIDTHS PER APPLICABLE GOVERNING AGENCY STANDARDS (TYP).

PRIORITY 2
ROADSIDE BIORETENTION
- FLUSH DESIGN

SCALE: NONE
DATE: 04/06/17
DWN. D/T CHK. HM SHEET 1 of 2 P2-02
SECTION A-A

SIDEWALK, SEE NOTE 1

10 MIL PLASTIC MOISTURE BARRIER

STRUCTURAL SOIL (TYP)

PERVIOUS CONCRETE GUTTER

BOTTOM OF ROAD STRUCTURAL SECTION

AC

AB2

NATIVE SOIL, TYP.

10 MIL PLASTIC MOISTURE BARRIER.

SECTION B-B

6" PERFORATED PIPE, SEE NOTE 2

TREATMENT AREA

STRUCTURAL SOIL (TYP)

VOLUME CAPTURE AREA

DEPTH TO BE CALCULATED

TO STORM DRAIN SYSTEM

HIGH FLOW BYPASS

GUTTER

OVERFLOW

NOTES:

1. SIDEWALK, GUTTER AND PLANTER WIDTHS PER APPLICABLE GOVERNING AGENCY STANDARDS (TYP).

2. TOP OF 6" PERFORATED PIPE TO BE SET 6" BELOW BOTTOM OF ROAD STRUCTURAL SECTION, MIN.

PRIORITY 2
ROADSIDE BIoretENTION
- FLUSH DESIGN

SCALE: NONE  DATE: 04/06/17
DWN. D/T CHK. HM  SHEET 2 of 2  P2-02

Not to Scale
**SECTION A-A**

**PLAN**

- **HIGH FLOW BYPASS**
- **6" PERFORATED PIPE, TYP**
- **J OINT TRENCH ZONE**
- **VOLUME CAPTURE AND TREATMENT AREA**
- **10 MIL PLASTIC MOISTURE BARRIER**
- **SIDEWALK PER NOTE 1**
- **GUTTER PER NOTE 1**

**SIDEWALK, PER NCTE 1**

- **PERVIOUS CONCRETE GUTTER**
- **BOTTOM OF ROAD STRUCTURAL SECTION**

**TREATMENT AREA**

- **6" PERFORATED PIPE PER NOTE 2**
- **TO BE CALculated VOLUME CAPTURE AREA**
- **10 MIL PLASTIC MOISTURE BARRIER**
- **STRUCTURAL SOIL (TYP)**

**NOTE:**

1. SIDEWALK AND CURB AND GUTTER WIDTHS PER APPLICABLE GOVERNING AGENCY STANDARDS (TYP).
2. TOP OF 6" PERFORATED PIPE TO BE SET 6" BELOW BOTTOM OF ROAD STRUCTURAL SECTION, MIN.

**PRIORITY 2 ROADSIDE BIRETENTION - CONTIGUOUS SIDEWALK**

<table>
<thead>
<tr>
<th>SCALE: NONE</th>
<th>DATE: 04/06/17</th>
</tr>
</thead>
<tbody>
<tr>
<td>DWN, D/T</td>
<td>CHK, HM</td>
</tr>
<tr>
<td>SHEET 1 of 1</td>
<td></td>
</tr>
<tr>
<td>P2-03</td>
<td></td>
</tr>
</tbody>
</table>
Plan

Type A - Curb Opening at Low Point

Length to be calculated

Thickened Edge (Typ)

Sidewalk per Note 1

2:1 max 1.4' Min Flat

6" Perforated Pipe (Typ)

5' Planter Strip (Min) per Note 1

Curb Transition

Opening (Typ)

Gutter, see Note 1

Note:
1. Sidewalk, gutter and planter widths per applicable municipal standards (Typ).
2. Top of 6" perforated pipe to be set 6" below road structural section, min.
3. Type A minimum dimensions and grades apply to Type B.

Type B - Curb Opening along a Slope

Not to Scale
SECTION A-A

FIELD DRAIN
HIGH FLOW BYPASS

SIDEWALK PER NOTE 1

THICKENED
EDGE (TYP)

JOINT
TRENCH ZONE

TREATMENT

VOLUME CAPTURE

6" PERF PIPE PER NOTE 2

STORM DRAIN PER PLAN

DEPRESS FLOWLINE 0.17"

AB2

MOISTURE BARRIER (TYP)

TRENCH PLUG

TRENCH BACKFILL

BOTTOM OF STRUCTURAL SECTION

NOTES:
1. SIDEWALK AND PLANTER WIDTHS
   PER APPLICABLE GOVERNING
   AGENCY STANDARDS (TYP).
2. TOP OF 6" PERFORATED PIPE TO BE
   SET 6" BELOW BOTTOM OF ROAD
   STRUCTURAL SECTION.

SECTION B-B

FIELD DRAIN
HIGH FLOW BYPASS

FLAT

6" PERF PIPE (TYP)

STORM DRAIN PER PLAN

FLAT

5' (TYP)

10 MIL
PLASTIC
MOISTURE
BARRIER
(TYP)

NOT TO SCALE
NOTES:
1. SOIL TO BE SPECIFIED BY DESIGN ENGINEER TO PROVIDE VOLUME CAPTURE AND MEET GOVERNING AGENCY REQUIREMENTS. IF NON STRUCTURAL SOIL IS SELECTED A CUT-OFF WALL IS REQUIRED IN PLACE OF A MOISTURE BARRIER.
2. SWALE MUST CONvey DESIGN FLOWS PER GOVERNING AGENCY DESIGN STANDARDS.
3. TOP OF 6" PERFORATED PIPE TO BE SET 6" BELOW BOTTOM OF ROAD STRUCTURAL SECTION.

ROADSIDE BIORETENTION
- NO CURB AND GUTTER

SECTION A-A
NOTES:
1 SIDEWALK, GUTTER AND PLANTER WIDTHS PER APPLICABLE GOVERNING AGENCY STANDARDS (TYP).

SIMILAR TO P2-02 WITH A MOISTURE BARRIER LINER, NO INFILTRATION.

PRIORITY 3
ROADSIDE BIORETENTION
- FLUSH DESIGN

SCALE: NONE   DATE: 04/06/17
DWN. D/T CHK. HM SHEET 1 of 2 P3-02
SECTION A-A

NOTES:
1. SIDEWALK, GUTTER AND PLANter WIDTHS PER APPLICABLE GOVERNING AGENCY STANDARDS (TYP).
2. 6” PERFORATED PIPE TO BE SET IN BOTTOM OF TREATMENT AREA.

SECTION B-B

NOTES:

SIMILAR TO P2-02 WITH A MOISTURE BARRIER LINER, NO INFILTRATION.

PRIORITY 3 ROADSIDE BIORETENTION FLUSH DESIGN

SCALE: NONE DATE: 04/06/17
DWN. D/T CHK. HM SHEET 2 of 2 P3-02
NOTE:
1. SIDEWALK AND CURB AND GUTTER WIDTHS PER APPLICABLE GOVERNING AGENCY STANDARDS (TYP).
2. 6" PERFORATED PIPE TO BE SET IN BOTTOM OF TREATMENT AREA.

SMALLER TO P2-03 WITH A MOISTURE BARRIER LINER, NO INFILTRATION.
**NOTE:**
1. SIDEWALK, GUTTER AND PLANTER WIDTHS PER APPLICABLE GOVERNING AGENCY STANDARDS (TYP).
2. 6" PERFORATED PIPE TO BE SET IN BOTTOM OF TREATMENT AREA.
3. TYPE A MINIMUM DIMENSIONS AND GRADES APPLY TO TYPE B.

**SIMILAR TO P2-04 WITH A MOISTURE BARRIER LINER, NO INFILTRATION.**
SECTION A-A

NOTES:
1. SIDEWALK, GUTTER AND PLANTER WIDTHS PER APPLICABLE GOVERNING AGENCY STANDARDS (TYP).
2. 6" PERFORATED PIPE TO BE SET IN BOTTOM OF TREATMENT AREA.

SECTION B-B

NOTES:
- SIMILAR TO P2-04 WITH A MOISTURE BARRIER LINER, NO INFILTRATION.

PRIORITY 3
ROADSIDE BIORETENTION - CURB OPENING
SECTION A-A & B-B

SCALE: NONE DATE: 04/06/17
DWN. D/T CHK. HM SHEET 2 of 2 P3-04

Not to Scale
NOTE:
1. ALL SURFACE WATER MUST DRAIN WITHIN 72 HOURS.

SEPARATION MUST BE APPROVED BY GEOTECHNICAL ENGINEER

DOWNSPOUT OR OTHER SOURCE

SPASH BLOCK OR OTHER DISSIPATER

HIGH FLOW BYPASS

6" MAX, SEE NOTE 1

OVERFLOW NOTCH

6"

BIORETENTION SOIL MIX

18"

12" GRAVEL LAYER

TO STORM DRAIN

4" PERFORATED PIPE, MIN, CENTERED IN GRAVEL LAYER

TO STORM DRAIN INLET

PRIORITY 3
FLOW THROUGH PLANTER

SCALE: NONE DATE: 04/06/17
DWN. D/T CHK. HM SHEET 1 of 1 P3-05

Not to Scale