STA 0 + 00

GREEN MEADOWS ROAD

746.9

744.8

STA 2 + 00

746.5

STA 4 + 00

OUTER ROADWAY

STATE HIGHWAY 163

742.3

STA 6 + 00

Install 40 L.F. Fiber Log Sediment Control

STA 6 + 50

740.9

RG-1
STA 7 + 93

STA 8 + 00

CORTEZ DRIVE

737.3

RG-2
STA 9 + 45

Matchline A

1. Remove sediment and excavate at pipe inlet. Place 15 S.Y. "6x12" rip rap around pipe inlet. Berm edges of rip rap area to catch sediment.
2. Reconstruct RG-1 per detail 5-2. Place one boulder and 27 S.Y. of 3" decorative rock per TS-4 in flowline area.
3. Remove sediment from inlet and outlet pipes. Place 4" tall berm around pipe inlet per detail 5-6 and TS-4 using 2 S.Y. 3" decorative rock, include work in rock costs.
4. Regrade 85 L.F. swale per detail 5-3.
5. Prepare RG-2 per detail 5-1.

STA 9 + 45

Matchline A

STA 10 + 00

737

STA 12 + 00

STA 14 + 00

RG-3
STA 10 + 85

STA 11 + 31

RG-4
STA 13 + 69

STA 14 + 01

740

PROVIDENCE ROAD

751.0

RG-5
STA 15 + 21

STA 15 + 78

STA 16 + 00

STA 18 + 00

STA 18 + 50

RG-6
STA 18 + 98

Matchline B

6. Regrade 75 L.F. swale per detail 5-3.
7. Prepare RG-3 per detail 5-1. Ensure level raingarden surface.
8. Remove rock and re-use in other raingardens. Grade area smooth and seed and mulch (removing raingarden).
9. Prepare RG-5 per detail 5-1. Ensure final raingarden surface is 18" lower than road.
10. Regrade 160 L.F. of swale per detail 5-3.
11. Prepare RG-6 per detail 5-1. Ensure final raingarden surface is 18" lower than road.

STA 18 + 98

Matchline B

750.6

STA 20 + 00

750.3

STA 22 + 00

NIFONG BOULEVARD

STA 24 + 00

742.5

STA 25 + 14

STA 25 + 67

RG-7

740

STA 26 + 00

739.3

RG-8
STA 26 + 70

STA 27 + 60

STA 28 + 00

STA 28 + 20

STA 28 + 72

RG-9

742.9

Matchline C

12. Prepare RG-7 per detail 5-1. Ensure level surface in raingarden and grade area around raingarden to drain to raingarden.
13. Reconstruct RG-8 per detail 5-2. Ensure final raingarden surface is 18" lower than road. Regrade and extend berm from road to trail with low spot in middle. Ensure surrounding area drains to raingarden. Place boulder and 18 S.Y. of 3" decorative rock in flowline through raingarden per TS-4.
14. Prepare RG-9 per detail 5-1.

No.	Revision	By	Date

PROVIDENCE BIKEWAY SOUTH BIORETENTION

Plan Sheet

City of Columbia, Missouri

Department of Public Works

STATE OF MISSOURI
JOHN D. GLASSCOCK
NUMBER E-26800
REGISTERED PROFESSIONAL ENGINEER

Drawing No.	XX-XX-XX
Scale:	1:50
Date:	5/21/12
Des.	E.K.K.
Dwn.	S.C.B.
Chk.	S.H.K.

Sheet 2 of 8

c:\pwtdocs\ projects\providence bikeway south rain gardens\bioretention plans.dwg

Matchline C

STA 30 + 00

1

2

Install 50 L.F.
Fiber Log
Sediment Control

RG-10

STA 31 + 84

STA 32 + 00

3

STA 32 + 45

1 Use 2 S.Y. 6" clean rock. Place in berms across flowline to slow water and catch sediment. Berm 6" above flowline per detail 5–6 and TS–4.

2 Place 5 S.Y. 6" clean rock in rip rap to fill gaps as necessary.

3 Prepare RG–10 per detail 5–1. Ensure surrounding area drains to raingarden.

4 Remove rock and re–use in other raingardens. Grade area smooth and seed and mulch (Removing raingarden).

STA 34 +00

STA 36 + 00

RG-11

STA 36 + 20

STA 36 + 63

4

STA 38 + 00

Matchline D

Matchline D

STA 40 + 00

STA 42 + 00

5 Prepare RG–12 per detail 5–1. Ensure final raingarden surface is 18" lower than road.

6 Regrade 20 L.F. of swale to raingarden per detail 5–3.

STA 44 + 00

RG-12

STA 44 + 74

5

STA 45 + 25

6

STA 46 + 00

STA 48 + 00

Matchline E

Matchline E

STA 50 + 00

7 Remove sediment from inlet and outlet pipes. Place 4" tall berm around pipe inlet, per detail 5–6 and TS–4, using 2 S.Y. 3" decorative rock, include work in rock costs.

8 Regrade 40 L.F. of swale per detail 5–3.

9 Prepare RG–13 per detail 5–1. Ensure positive drainage to raingarden.

STA 52 + 00

7

8

STA 53 + 48

9

STA 54 + 00

RG-13

STA 54 + 00

STA 56 + 00

STA 58 + 00

Matchline F

No.	Date	By	Revision

PROVIDENCE BIKEWAY SOUTH BIORETENTION

Plan Sheet

City of Columbia, Missouri

Department of Public Works

REGISTERED STATE OF MISSOURI JOHN D. GLASSCOCK NUMBER PE-26800 PROFESSIONAL ENGINEER

FIMATBo.	XX–XX–XX
Scale:	1:50
Date:	5/21/12
Des.	E.K.K.
Dwn.	S.C.B.
Chk.	S.H.K.

Sheet 3 of 8

o:\getabout projects\providence bikeway south rain gardens\bioretention plans.dwg

STA 58 + 00

Matchline F

STA 60 + 00

AMPTON DRIVE

Perfrom item 1 to act as sediment control.

STA 61 + 68

STA 62 + 00

STA 62 + 15

RG-14

PROVIDENCE ROAD

STA 64 + 00

STA 64 + 22

STA 64 + 68

RG-15

PORATE PLAZA DRIVE

STA 66 + 00

Matchline G

RG-16

STA 67 + 77

(1) Excavate sediment and rock at pipe inlet. Re-use rock and add 2 S.Y. 3" decorative rock as necessary to create rock berm around pipe inlet, per detail 5-6 and TS-4, and 6" above final raingarden surface. Include work costs in rock costs.

(2) Prepare RG-14 per detail 5-1. Create sinuous flow path through raingarden with 25 S.Y. 3" decorative rock per TS-4. Place 3 large boulders in raingarden. For level raingarden surface, it may be necessary to have two tiers or gentle slope for surface.

(3) Prepare RG-15 per detail 5-1. Ensure positive drainage to raingarden. Ensure final raingarden surface is 18" lower than road.

Matchline G

RG-16

STA 67 + 77

STA 68 + 00

STA 68 + 25

AR LAKE DRIVE

STA 70 + 00

STA 72 + 00

6 L.F. Log ent Control

RG-17

STA 73 + 75

STA 74 + 00

STA 74 + 49

STATE HIGHWAY 163

RG-18

STA 75 + 21

STA 75 + 49

E LAKE DRIVE

STA 76 + 00

Matchline H

(4) Remove sediment around pipe inlet. Place 15 S.Y. "6x12" rip rap around pipe inlet. Berm at outer edges of rip rap area, per TS-4, to catch sediment. Seed and mulch disturbed areas and unvegetated areas of RG-16 (Removing raingarden).

(5) Prepare RG-17 per detail 5-1. Ensure level raingarden surface and final surface elevation is 18" lower than road.

(6) Prepare RG-18 per detail 5-1. Ensure positive drainage to raingarden. Extend berms on south side and east side approximately 15'.

Matchline H

STA 78 + 00

RG-19

STA 77 + 98

STA 78 + 26

Install 6 L.F. Fiber Log Sediment Control

STA 80 + 00

STA 81 + 28

STA 82 + 00

STA 81 + 75

RG-20

STA 83 + 20

PROVIDENCE ROAD

(7) Prepare RG-19 per detail 5-1. Ensure swale drains to raingarden.

(8) Repair rock berm with 1 S.Y. 6" clean rock and per detail 5-6 and TS-4. Place 10 S.Y. "6x12" rip rap below rock berm to match and fill in existing rip rap.

(9) Prepare RG-20 per detail 5-1. Install 15 S.Y. of 3" decorative rock as sinuous flow path through raingarden per TS-5.

No.	Date	By	Revision

PROVIDENCE BIKEWAY SOUTH BIORETENTION

Plan Sheet

City of Columbia, Missouri

Department of Public Works

STATE OF MISSOURI
JOHN D. GLASCOCK
NUMBER E-26800
REGISTERED PROFESSIONAL ENGINEER

File No.	XX-XX-XX
Scale:	1:50
Date:	5/21/12
Des.	E.K.K.
Dwn.	S.C.B.
Chk.	S.H.K.

Sheet 4 of 8

c:\getabout projects\providence bikeway south rain gardens\bioretention plans.dwg