



**Environmental  
Protection**

CITY OF NEW YORK  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF GREEN INFRASTRUCTURE

# STANDARD DESIGNS AND GUIDELINES FOR GREEN INFRASTRUCTURE PRACTICES

CITY OF NEW YORK  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF GREEN INFRASTRUCTURE

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CITY OF NEW YORK  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF GREEN INFRASTRUCTURE

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**SHEET TITLE**

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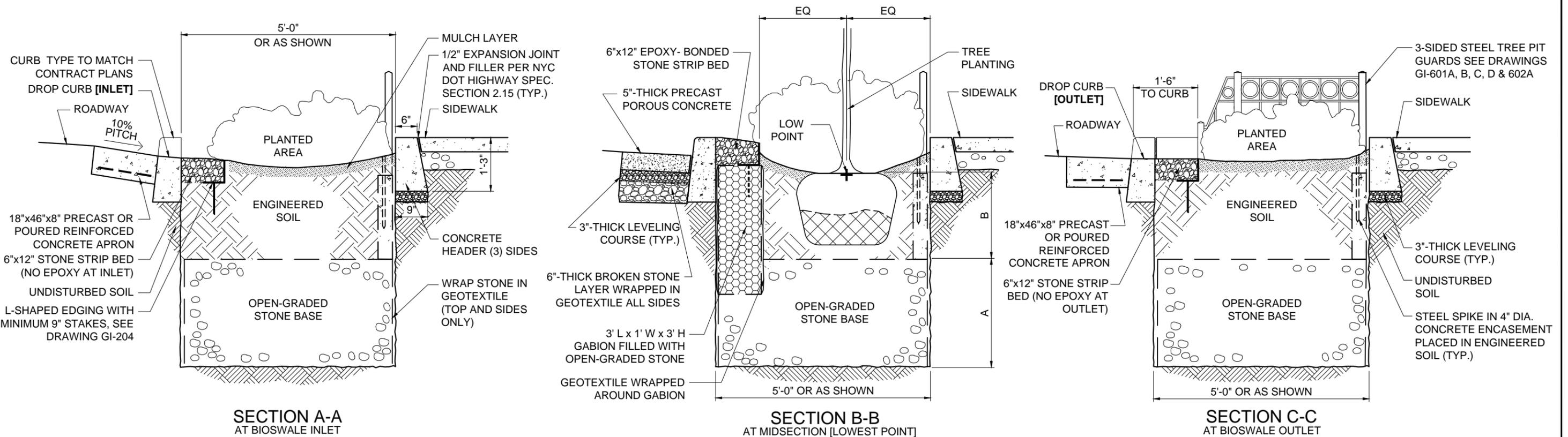
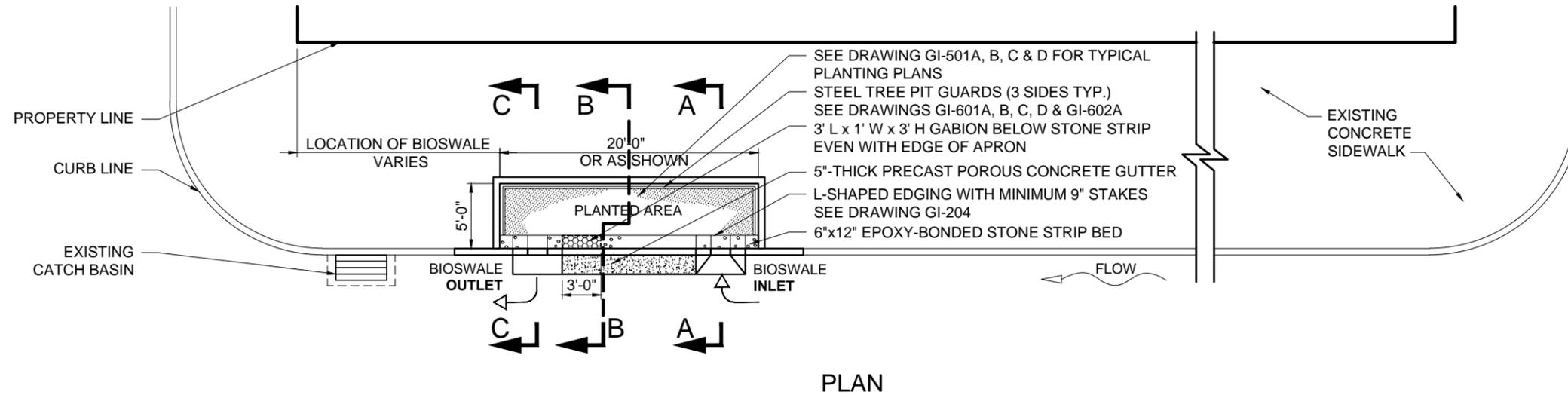
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**GI-100  
STANDARDS FOR  
RIGHT-OF-WAY GREEN INFRASTRUCTURE  
PRACTICES**

CITY OF NEW YORK  
 DEPARTMENT OF ENVIRONMENTAL PROTECTION  
 OFFICE OF GREEN INFRASTRUCTURE  
**STANDARD FOR 20'x5' R.O.W. BIOSWALE TYPE 1**  
 - NO CONNECTION TO SEWERS



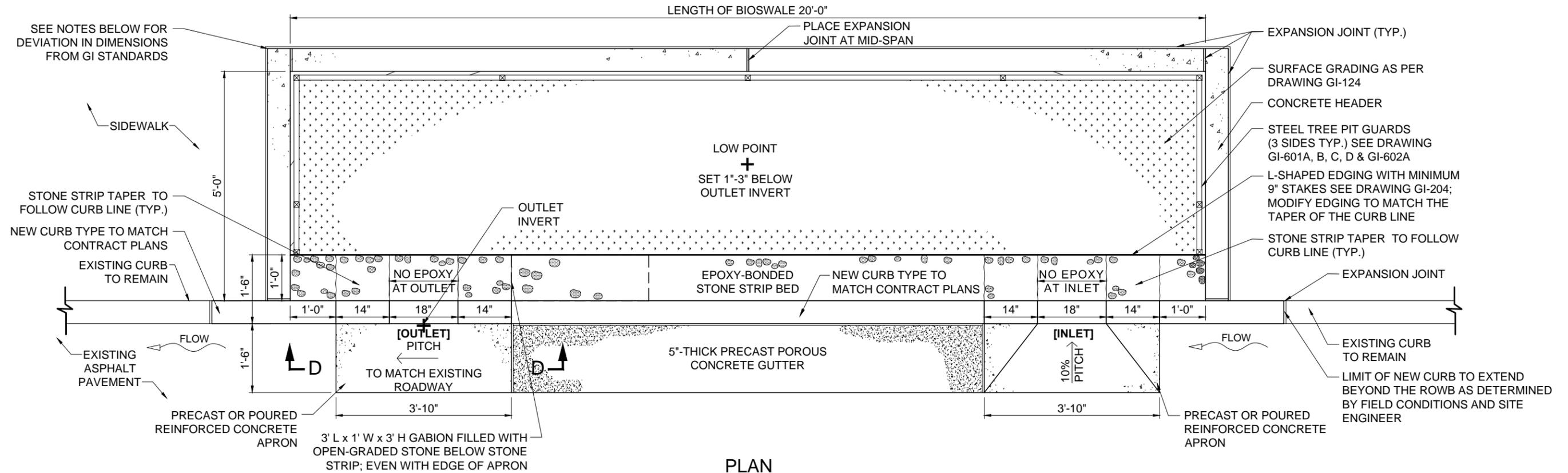
ROWB	A	B
WITH TREE	2'-6"	24" MIN
NO TREE	3'-0"	18" MIN

DEPTH SCHEDULE

*Maedi Tuma*  
 P.E., F. ASCE  
 ASSISTANT COMMISSIONER, OFFICE OF GREEN INFRASTRUCTURE  
 DEPARTMENT OF ENVIRONMENTAL PROTECTION

06-15-2016  
 DATE

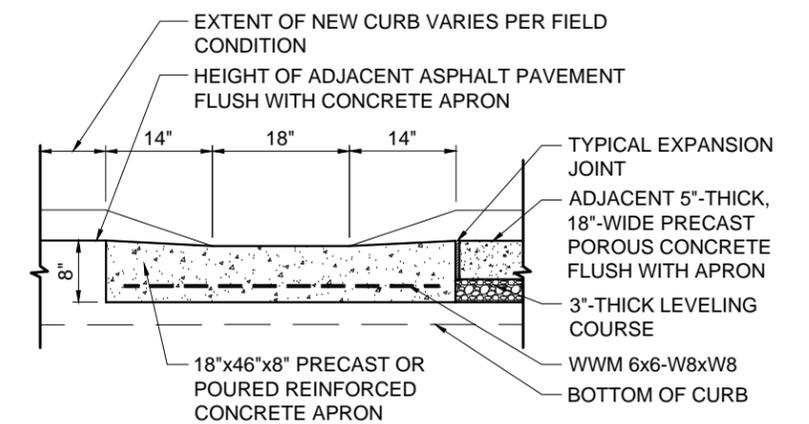
CITY OF NEW YORK  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF GREEN INFRASTRUCTURE  
**STANDARD FOR 20'x5' R.O.W. BIOSWALE TYPE 1**  
- NO CONNECTION TO SEWERS



PLAN

**NOTES:**

1. THE CONTRACTOR SHALL BE REQUIRED TO REMOVE AND REPLACE ALL EXISTING FULL SIDEWALK FLAGS ADJACENT TO THE PERIMETER OF THE BIOSWALE IN ADDITION TO ANY PARTIAL FLAG AREAS LEFTOVER DUE TO CONSTRUCTION. THE CONTRACTOR SHALL REPLACE THE SIDEWALK IN FULL COMPLIANCE WITH THE APPLICABLE SECTIONS OF THE STANDARD HIGHWAY SPECIFICATIONS.
2. THE CONTRACTOR SHALL REMOVE AND RESTORE ONE-AND-A-HALF (1 1/2) FOOT WIDTH OF THE WEARING COURSE AND ONE-AND-A-HALF (1 1/2) FOOT WIDTH OF ROADWAY CONCRETE PAVEMENT BASE ALONG THE CURB LINE AND ADJACENT TO THE CONCRETE APRONS, WHERE REQUIRED. ALL WORK MUST BE COMPLETED IN FULL COMPLIANCE WITH THE APPLICABLE SECTIONS OF THE STANDARD HIGHWAY SPECIFICATIONS.
3. THE CONTRACTOR SHALL OBTAIN THE NECESSARY TREE PLANTING PERMIT FROM THE NYC DEPARTMENT OF PARKS AND RECREATION (DPR) PRIOR TO THE START OF WORK. ALL NECESSARY TREE PLANTING SHALL BE SUPERVISED BY CERTIFIED ARBORISTS.
4. NO TREE SHALL BE REMOVED BY THE CONTRACTOR UNTIL SPECIFICALLY ORDERED IN WRITING TO DO SO BY THE ENGINEER AND WITH APPROVAL FROM DPR.
5. TREES SHALL BE STAKED AS PER DOT STANDARD DETAILS OF CONSTRUCTION. TREE STAKES ARE TO BE REMOVED BY THE CONTRACTOR NOT LESS THAN ONE YEAR AFTER PLANTING.
6. THE CONTRACTOR SHALL NOT BE PERMITTED TO OPERATE AUXILIARY EQUIPMENT WHICH GENERATES EXHAUST OR OTHER HEAT UPWARD (E.G., GENERATORS AND COMPRESSORS), UNDER THE BRANCHES OF TREES WHERE THE BRANCHES ARE LESS THAN 25' ABOVE THE GROUND, UNLESS APPROVED BY THE ENGINEER IN CONSULTATION WITH THE CERTIFIED ARBORIST.
7. THE CONTRACTOR SHALL NOT BE PERMITTED TO STORE, STOCKPILE, OR LAY DOWN, ANY CONSTRUCTION MATERIAL INCLUDING, BUT NOT LIMITED TO, LUMBER, FUEL, AND OIL CONTAINERS, PIPES, AND/OR PIPE FITTINGS, BARRICADES, HAND TOOLS, HOSES, RECEPTACLES, AND ASPHALT WITHIN ANY EXISTING TREE PIT OR R.O.W. BIOSWALE.
8. REPLACEMENT TREES SHALL BE PLANTED WITHIN THE PROJECT AS DIRECTED BY THE ENGINEER IN ACCORDANCE WITH STANDARD HIGHWAY SPECIFICATIONS.
9. STONE STRIP BED TO BE BONDED WITH EPOXY TO KEEP STONES IN PLACE. STONES IN FRONT OF INLETS AND OUTLETS ARE TO BE LEFT LOOSE AND UNBONDED.
10. FOR R.O.W. GI PRACTICES WITH DIMENSIONS THAT DEVIATE FROM THE GI STANDARDS AS SHOWN ON CONTRACT PLANS DUE TO FIELD CONDITIONS, REFER TO THE DIMENSION SCHEDULE ON GI-122 AND SPECIFICATIONS.



SECTION D-D

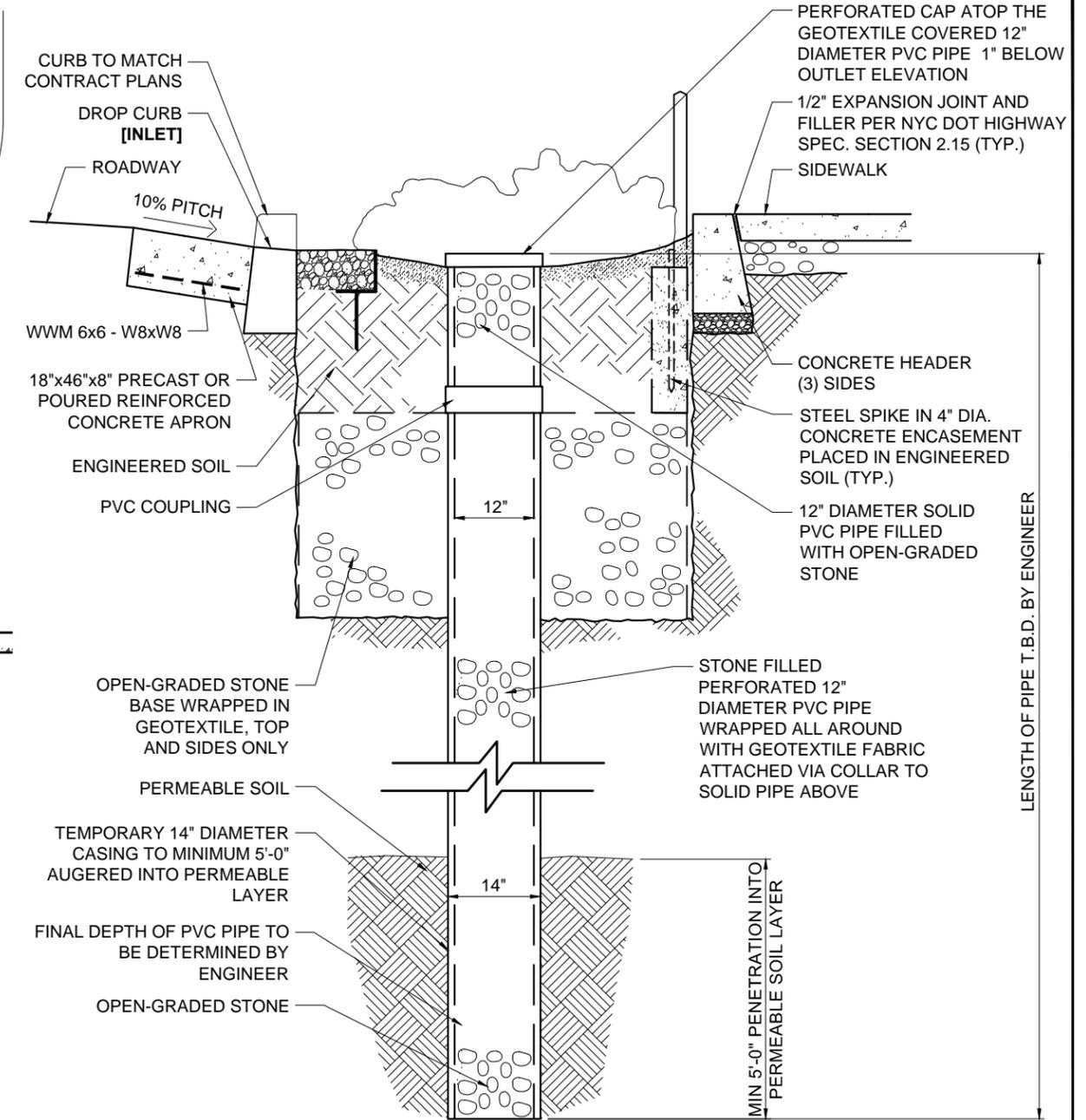
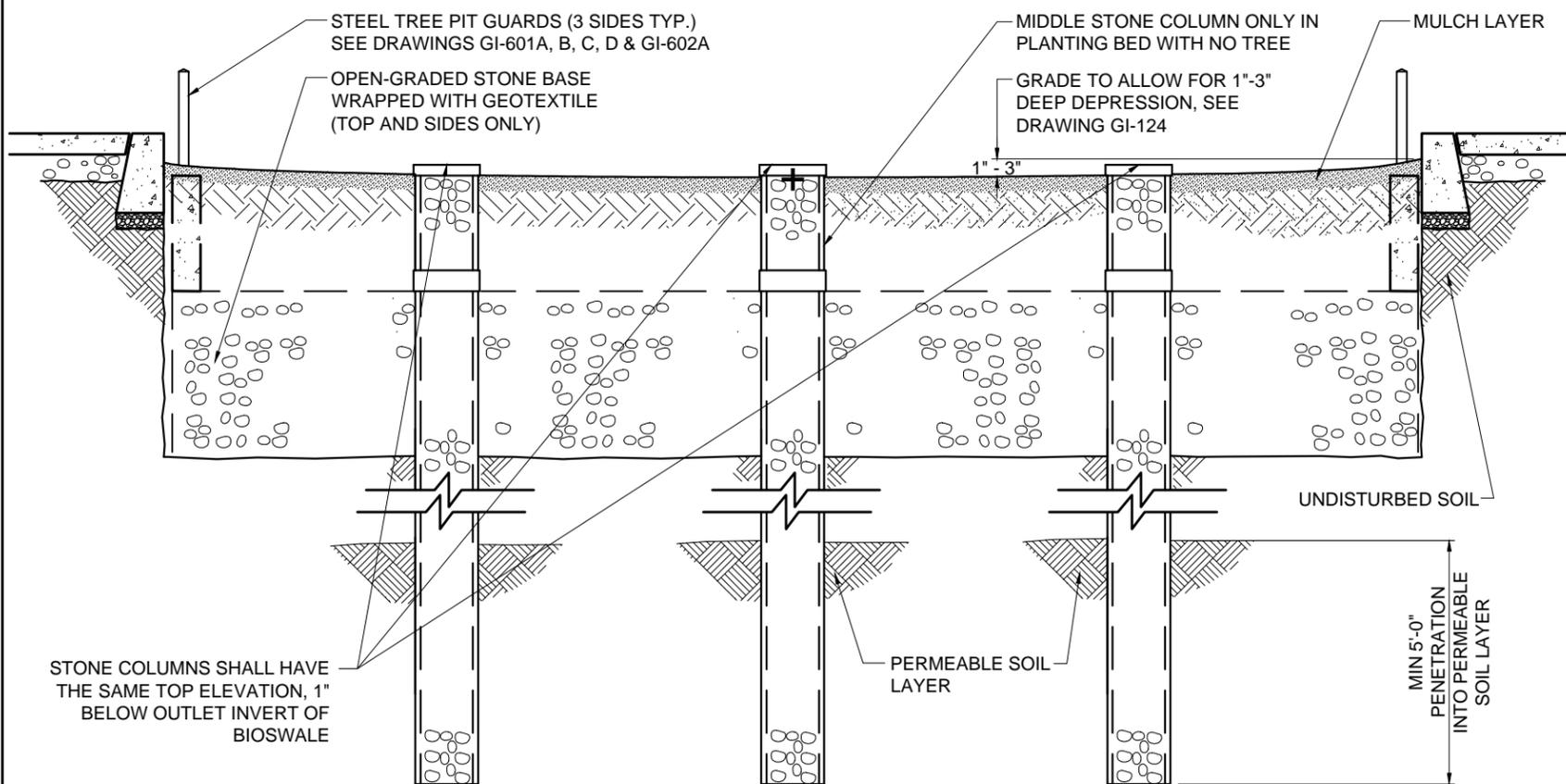
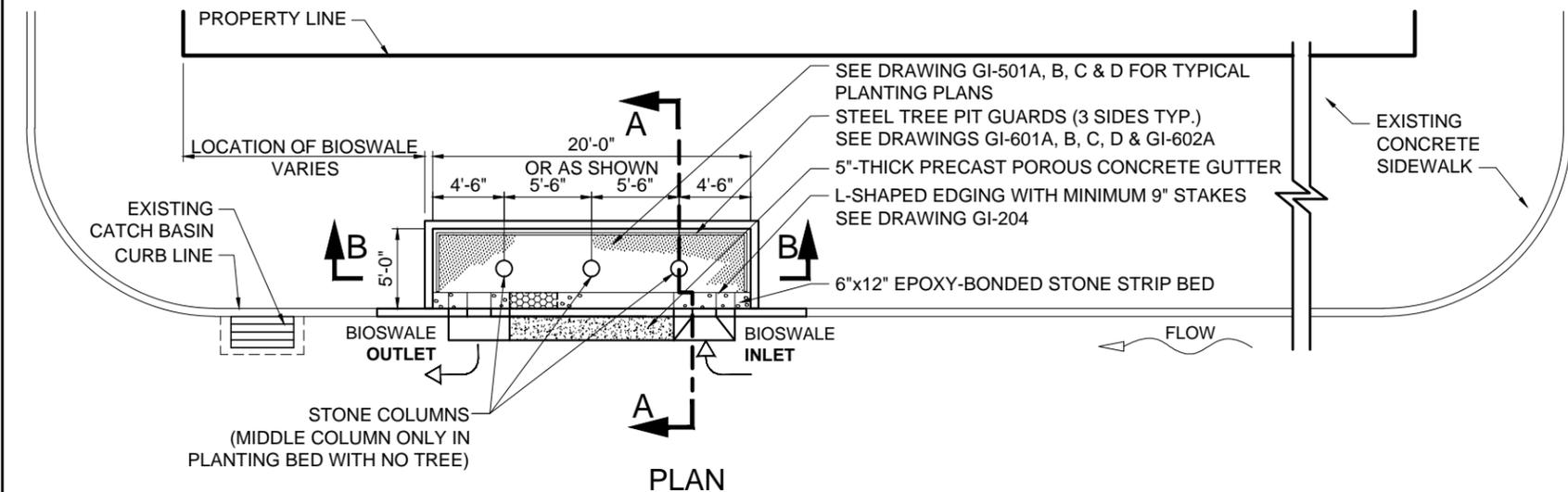
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DEPARTMENT OF ENVIRONMENTAL PROTECTION

06-15-2016  
DATE

CITY OF NEW YORK  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF GREEN INFRASTRUCTURE

# STANDARD FOR 20'X5' R.O.W. BIOSWALE TYPE 1A - WITH STONE COLUMNS

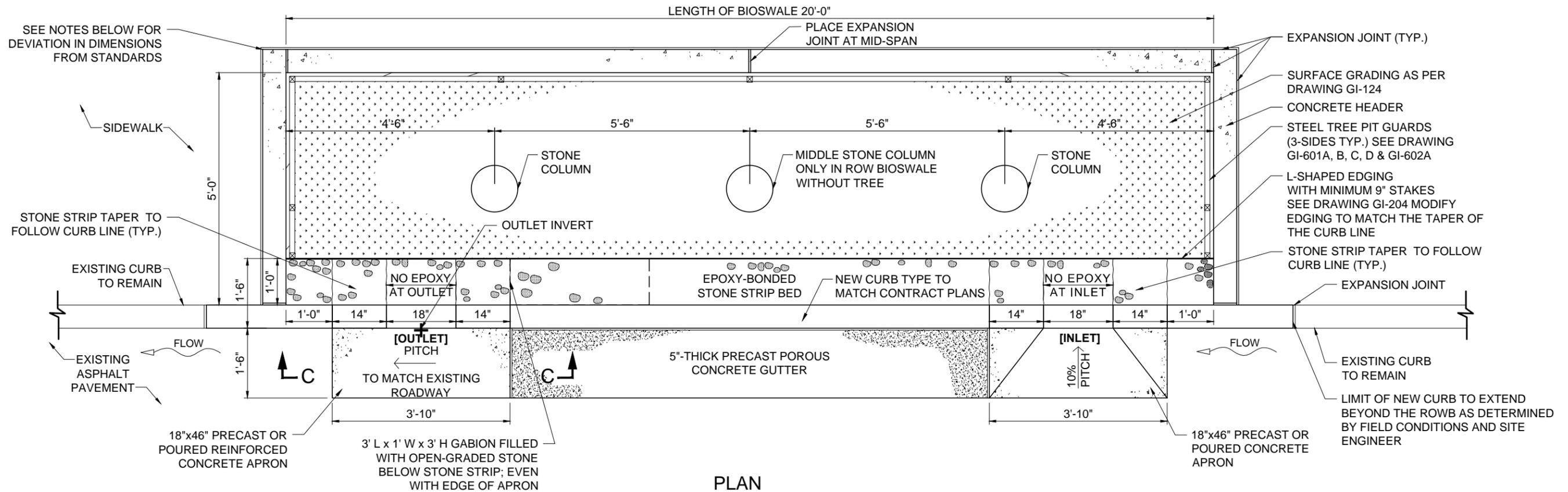
- NO CONNECTION TO SEWERS



*Maedi Tuna* P.E., F. ASCE  
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 DEPARTMENT OF ENVIRONMENTAL PROTECTION

06-15-2016  
 DATE

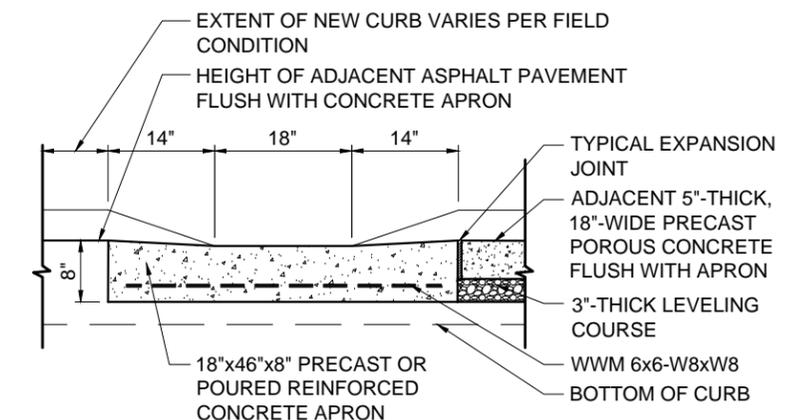
CITY OF NEW YORK  
 DEPARTMENT OF ENVIRONMENTAL PROTECTION  
 OFFICE OF GREEN INFRASTRUCTURE  
**STANDARD FOR 20'X5' R.O.W. BIOSWALE TYPE 1A - WITH STONE COLUMNS**  
 - NO CONNECTION TO SEWERS



PLAN

NOTES:

1. THE CONTRACTOR SHALL BE REQUIRED TO REMOVE AND REPLACE ALL EXISTING FULL SIDEWALK FLAGS ADJACENT TO THE PERIMETER OF THE BIOSWALE IN ADDITION TO ANY PARTIAL FLAG AREAS LEFTOVER DUE TO CONSTRUCTION. THE CONTRACTOR SHALL REPLACE THE SIDEWALK IN FULL COMPLIANCE WITH THE APPLICABLE SECTIONS OF THE STANDARD HIGHWAY SPECIFICATIONS.
2. THE CONTRACTOR SHALL REMOVE AND RESTORE ONE-AND-A-HALF (1 1/2) FOOT WIDTH OF THE WEARING COURSE AND ONE-AND-A-HALF (1 1/2) FOOT WIDTH OF ROADWAY CONCRETE PAVEMENT BASE ALONG THE CURB LINE AND ADJACENT TO THE CONCRETE APRONS, WHERE REQUIRED. ALL WORK MUST BE COMPLETED IN FULL COMPLIANCE WITH THE APPLICABLE SECTIONS OF THE STANDARD HIGHWAY SPECIFICATIONS.
3. THE CONTRACTOR SHALL OBTAIN THE NECESSARY TREE PLANTING PERMIT FROM THE NYC DEPARTMENT OF PARKS AND RECREATION (DPR) PRIOR TO THE START OF WORK. ALL NECESSARY TREE PLANTING SHALL BE SUPERVISED BY CERTIFIED ARBORISTS.
4. NO TREE SHALL BE REMOVED BY THE CONTRACTOR UNTIL SPECIFICALLY ORDERED IN WRITING TO DO SO BY THE ENGINEER AND WITH APPROVAL FROM DPR.
5. TREES SHALL BE STAKED AS PER DOT STANDARD DETAILS OF CONSTRUCTION. TREE STAKES ARE TO BE REMOVED BY THE CONTRACTOR NOT LESS THAN ONE YEAR AFTER PLANTING.
6. THE CONTRACTOR SHALL NOT BE PERMITTED TO OPERATE AUXILIARY EQUIPMENT WHICH GENERATES EXHAUST OR OTHER HEAT UPWARD (E.G., GENERATORS AND COMPRESSORS), UNDER THE BRANCHES OF TREES WHERE THE BRANCHES ARE LESS THAN 25' ABOVE THE GROUND, UNLESS APPROVED BY THE ENGINEER IN CONSULTATION WITH THE CERTIFIED ARBORIST.
7. THE CONTRACTOR SHALL NOT BE PERMITTED TO STORE, STOCKPILE, OR LAY DOWN, ANY CONSTRUCTION MATERIAL INCLUDING, BUT NOT LIMITED TO, LUMBER, FUEL, AND OIL CONTAINERS, PIPES, AND/OR PIPE FITTINGS, BARRICADES, HAND TOOLS, HOSES, RECEPTACLES, AND ASPHALT WITHIN ANY EXISTING TREE PIT OR R.O.W. BIOSWALE.
8. REPLACEMENT TREES SHALL BE PLANTED WITHIN THE PROJECT AS DIRECTED BY THE ENGINEER IN ACCORDANCE WITH STANDARD HIGHWAY SPECIFICATIONS.
9. STONE STRIP BED TO BE BONDED WITH EPOXY TO KEEP STONES IN PLACE. STONES IN FRONT OF INLETS AND OUTLETS ARE TO BE LEFT LOOSE AND UNBONDED
10. 14" DIAMETER CASING TO BE AUGERED TO DEPTH AS DIRECTED BY ENGINEER. 12" DIAMETER PVC PIPE WRAPPED ALL AROUND WITH GEOTEXTILE FABRIC INSERTED IN THE 14" CASING
11. FOR R.O.W. GI PRACTICES WITH DIMENSIONS THAT DEVIATE FROM THE GI STANDARDS AS SHOWN ON CONTRACT PLANS DUE TO FIELD CONDITIONS, REFER TO THE DIMENSION SCHEDULE ON GI-122 AND SPECIFICATIONS



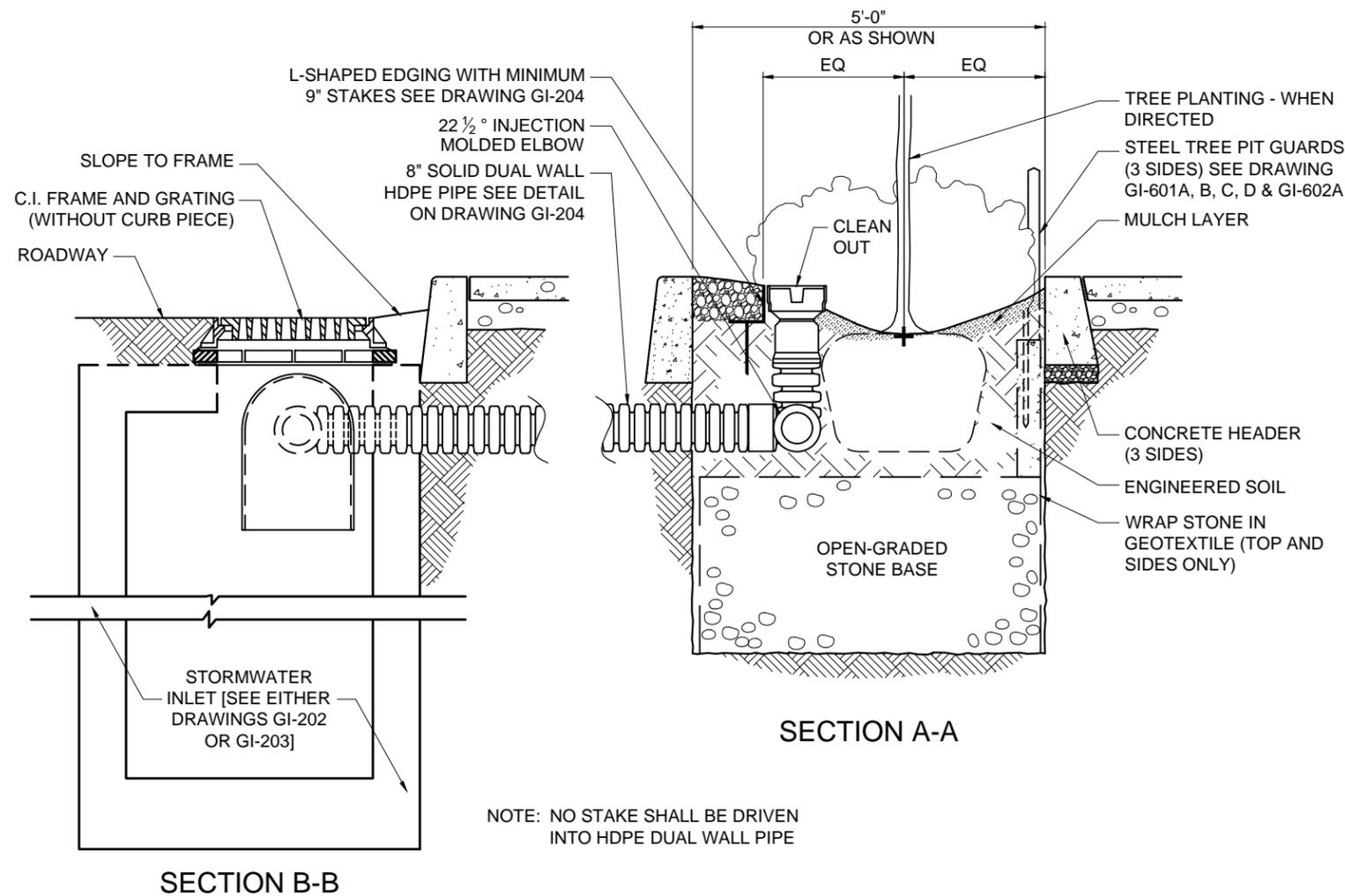
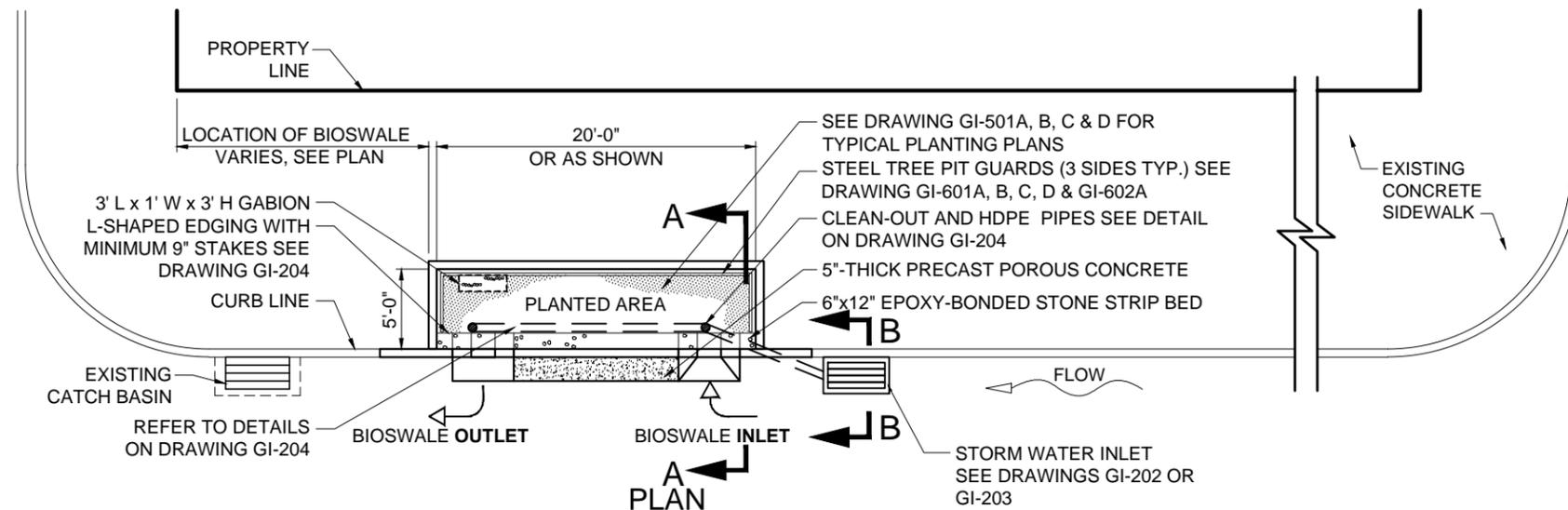
SECTION C-C

*Maedi Tuma*  
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 DEPARTMENT OF ENVIRONMENTAL PROTECTION

06-15-2016  
 DATE

CITY OF NEW YORK  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF GREEN INFRASTRUCTURE

STANDARD FOR 20'X5' R.O.W. BIOSWALE TYPE 1B - WITH STORMWATER INLET  
- NO CONNECTION TO SEWERS



NOTE: NO STAKE SHALL BE DRIVEN INTO HDPE DUAL WALL PIPE

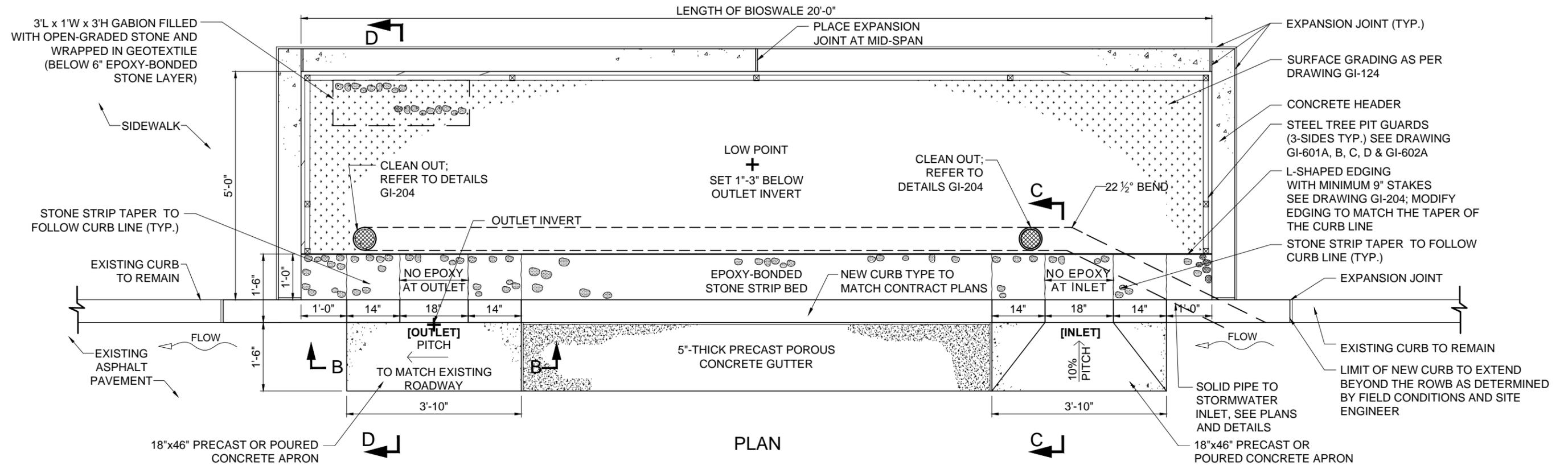
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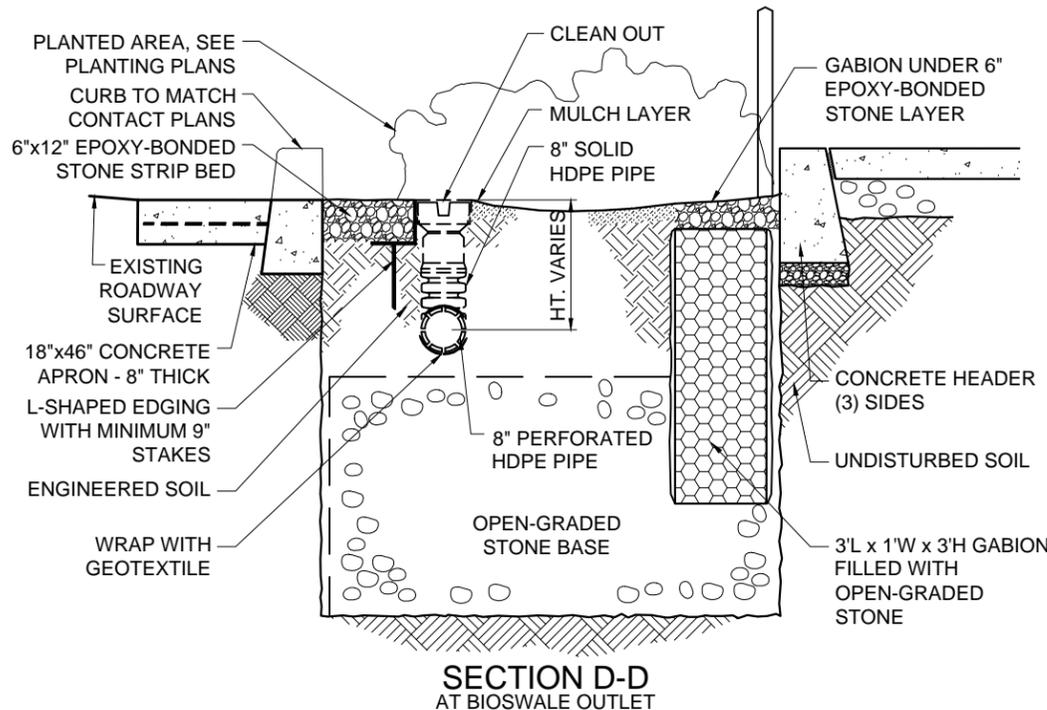
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DEPARTMENT OF ENVIRONMENTAL PROTECTION

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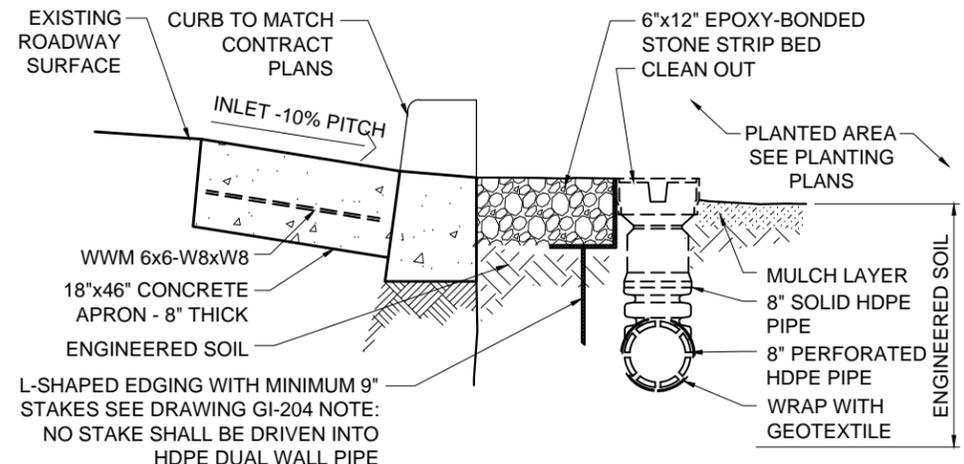
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**STANDARD FOR 20'X5' R.O.W. BIOSWALE TYPE 1B - WITH STORMWATER INLET**  
 - NO CONNECTION TO SEWERS



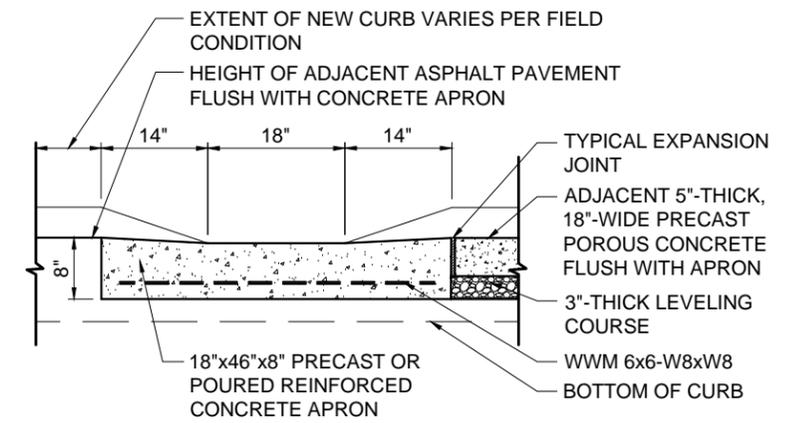
PLAN



SECTION D-D AT BIOSWALE OUTLET



SECTION C-C AT BIOSWALE INLET



SECTION B-B

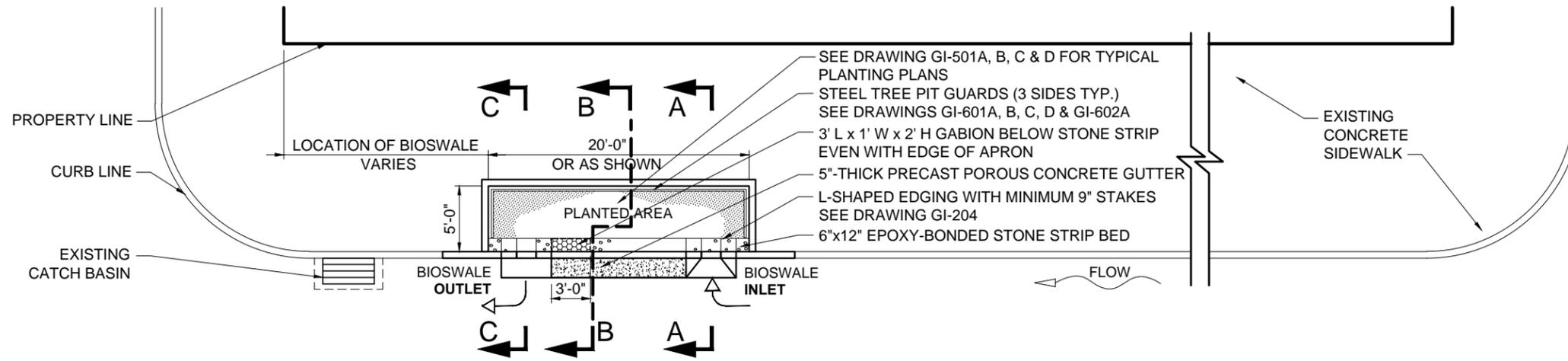
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 DEPARTMENT OF ENVIRONMENTAL PROTECTION

06-15-2016  
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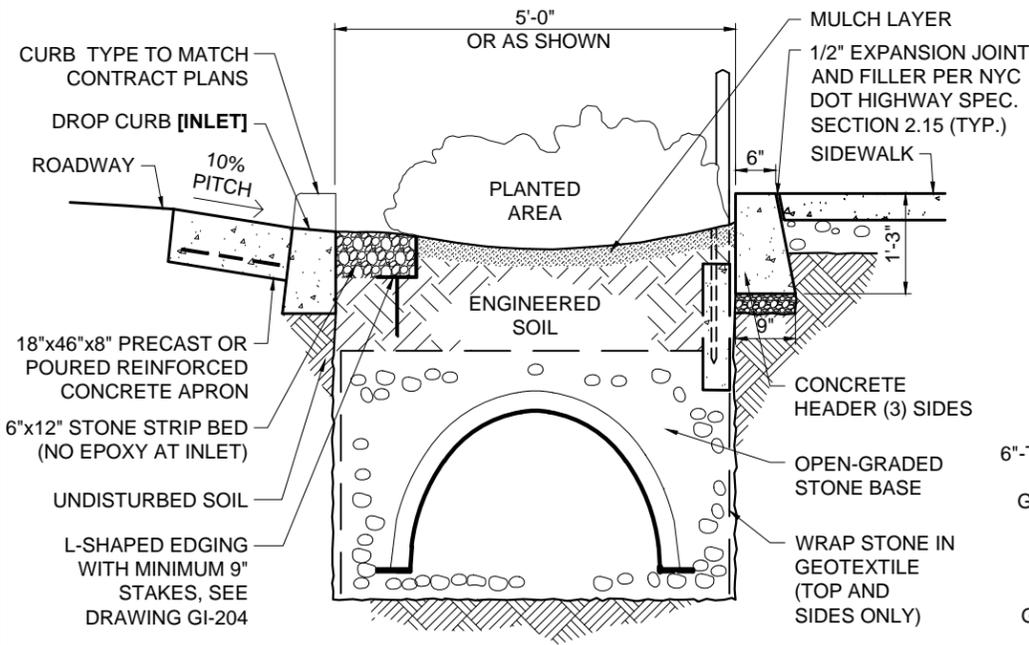
CITY OF NEW YORK  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF GREEN INFRASTRUCTURE

STANDARD FOR 20'x5' R.O.W. BIOSWALE TYPE 1C - WITH STORMWATER CHAMBER

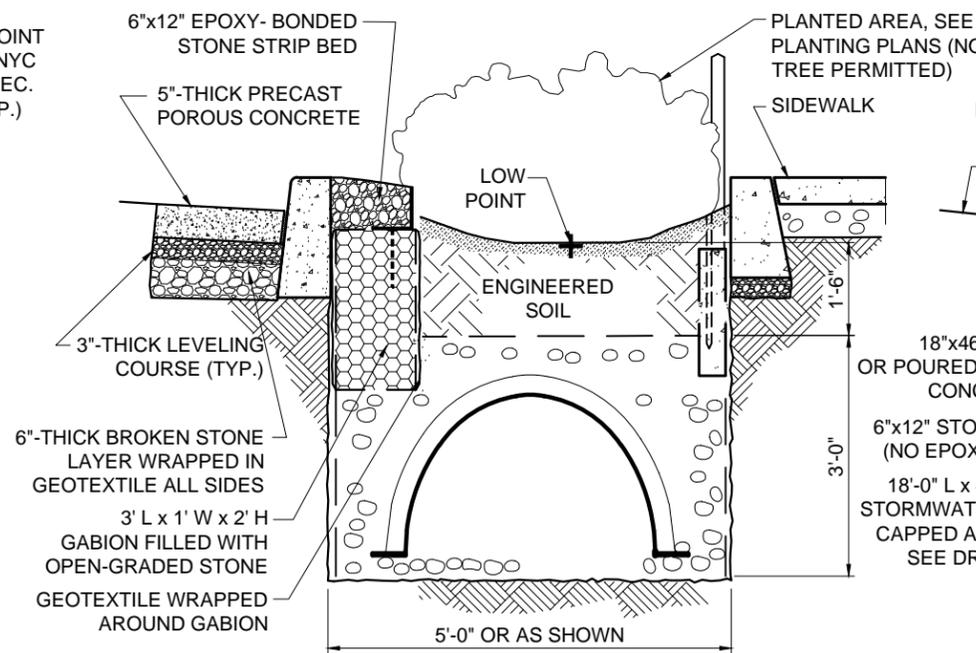
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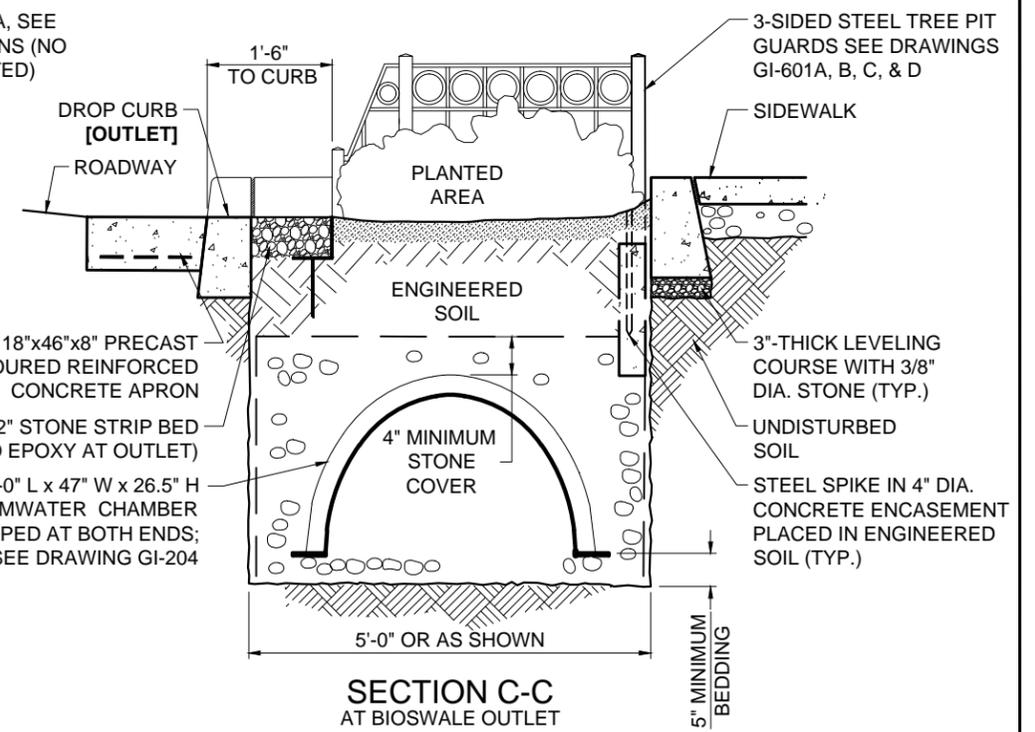
PLAN



SECTION A-A  
AT BIOSWALE INLET



SECTION B-B  
AT MIDSECTION [LOWEST POINT]



SECTION C-C  
AT BIOSWALE OUTLET

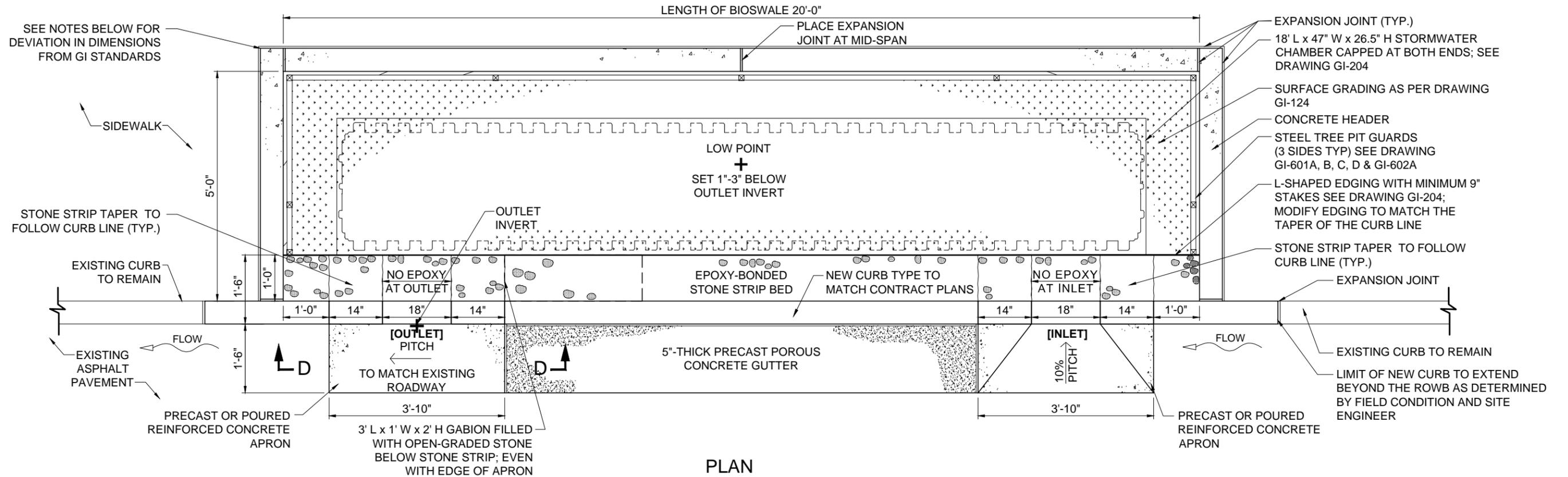
*Medi Tuna*  
P.E., F. ASCE  
ASSISTANT COMMISSIONER, OFFICE OF GREEN INFRASTRUCTURE  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

06-15-2016  
DATE

CITY OF NEW YORK  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF GREEN INFRASTRUCTURE

STANDARD FOR 20'x5' R.O.W. BIOSWALE TYPE 1C - WITH STORMWATER CHAMBER

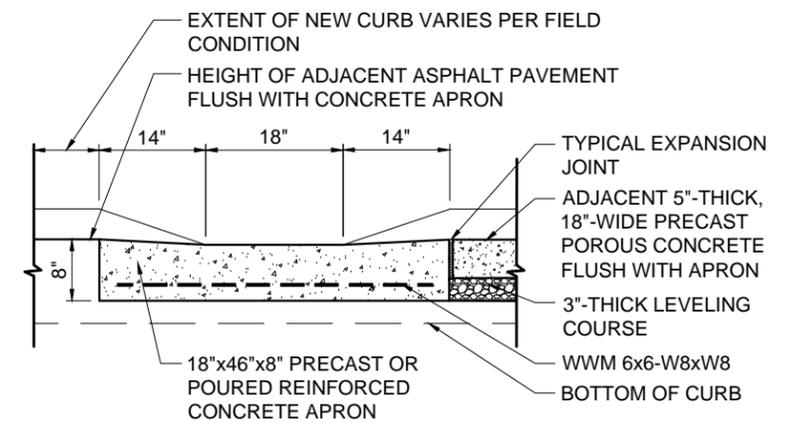
- NO CONNECTION TO SEWERS



PLAN

NOTES:

1. THE CONTRACTOR SHALL BE REQUIRED TO REMOVE AND REPLACE ALL EXISTING FULL SIDEWALK FLAGS ADJACENT TO THE PERIMETER OF THE BIOSWALE IN ADDITION TO ANY PARTIAL FLAG AREAS LEFTOVER DUE TO CONSTRUCTION. THE CONTRACTOR SHALL REPLACE THE SIDEWALK IN FULL COMPLIANCE WITH THE APPLICABLE SECTIONS OF THE STANDARD HIGHWAY SPECIFICATIONS.
2. THE CONTRACTOR SHALL REMOVE AND RESTORE ONE-AND-A-HALF (1 1/2) FOOT WIDTH OF THE WEARING COURSE AND ONE-AND-A-HALF (1 1/2) FOOT WIDTH OF ROADWAY CONCRETE PAVEMENT BASE ALONG THE CURB LINE AND ADJACENT TO THE CONCRETE APRONS, WHERE REQUIRED. ALL WORK MUST BE COMPLETED IN FULL COMPLIANCE WITH THE APPLICABLE SECTIONS OF THE STANDARD HIGHWAY SPECIFICATIONS.
3. THE CONTRACTOR SHALL OBTAIN THE NECESSARY TREE PLANTING PERMIT FROM THE NYC DEPARTMENT OF PARKS AND RECREATION (DPR) PRIOR TO THE START OF WORK. ALL NECESSARY TREE PLANTING SHALL BE SUPERVISED BY CERTIFIED ARBORISTS.
4. NO TREE SHALL BE REMOVED BY THE CONTRACTOR UNTIL SPECIFICALLY ORDERED IN WRITING TO DO SO BY THE ENGINEER AND WITH APPROVAL FROM DPR.
5. TREES SHALL BE STAKED AS PER DOT STANDARD DETAILS OF CONSTRUCTION. TREE STAKES ARE TO BE REMOVED BY THE CONTRACTOR NOT LESS THAN ONE YEAR AFTER PLANTING.
6. THE CONTRACTOR SHALL NOT BE PERMITTED TO OPERATE AUXILIARY EQUIPMENT WHICH GENERATES EXHAUST OR OTHER HEAT UPWARD (E.G., GENERATORS AND COMPRESSORS), UNDER THE BRANCHES OF TREES WHERE THE BRANCHES ARE LESS THAN 25' ABOVE THE GROUND, UNLESS APPROVED BY THE ENGINEER IN CONSULTATION WITH THE CERTIFIED ARBORIST.
7. THE CONTRACTOR SHALL NOT BE PERMITTED TO STORE, STOCKPILE, OR LAY DOWN, ANY CONSTRUCTION MATERIAL INCLUDING, BUT NOT LIMITED TO, LUMBER, FUEL, AND OIL CONTAINERS, PIPES, AND/OR PIPE FITTINGS, BARRICADES, HAND TOOLS, HOSES, RECEPTACLES, AND ASPHALT WITHIN ANY EXISTING TREE PIT OR R.O.W. BIOSWALE.
8. REPLACEMENT TREES SHALL BE PLANTED WITHIN THE PROJECT AS DIRECTED BY THE ENGINEER IN ACCORDANCE WITH STANDARD HIGHWAY SPECIFICATIONS.
9. STONE STRIP BED TO BE BONDED WITH EPOXY TO KEEP STONES IN PLACE. STONES IN FRONT OF INLETS AND OUTLETS ARE TO BE LEFT LOOSE AND UNBONDED.
10. FOR R.O.W. GI PRACTICES WITH DIMENSIONS THAT DEVIATE FROM THE GI STANDARDS AS SHOWN ON CONTRACT PLANS DUE TO FIELD CONDITIONS, REFER TO THE DIMENSION SCHEDULE ON GI-122 AND SPECIFICATIONS.

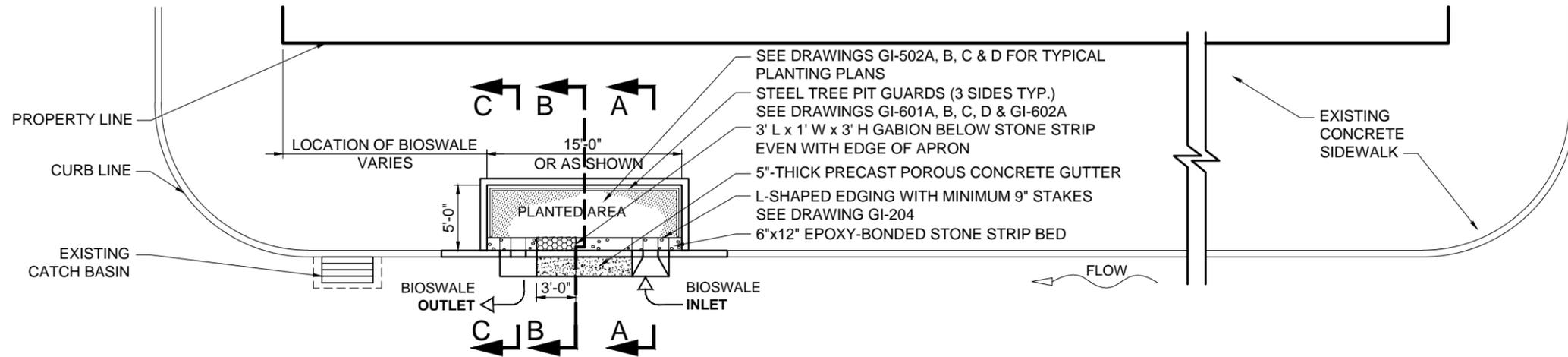


SECTION D-D

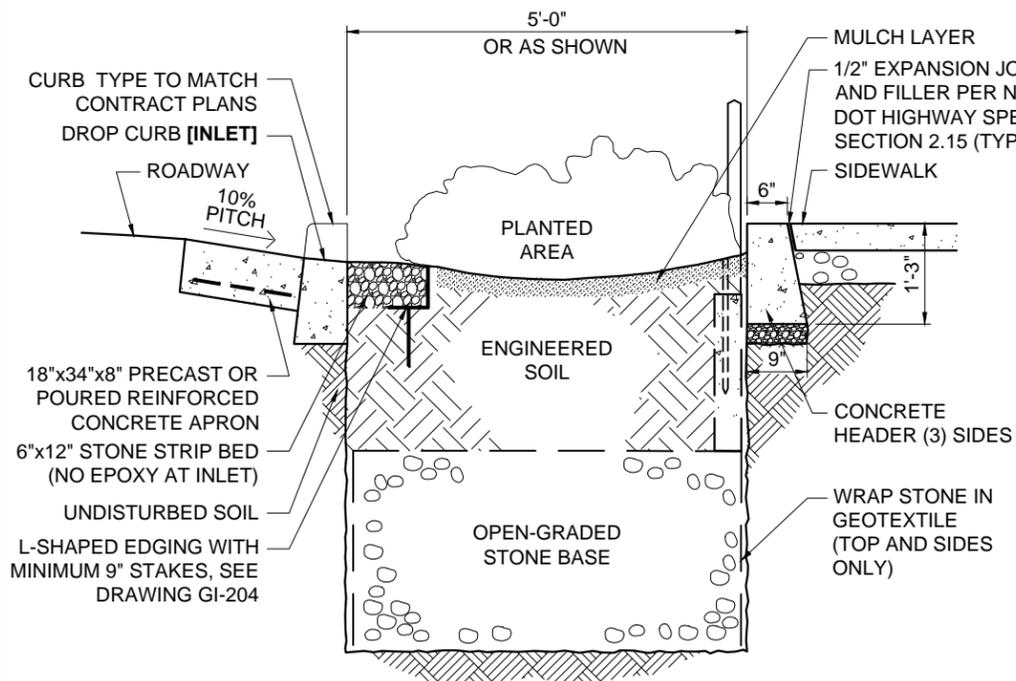
*Maedi Turaq*  
P.E., F. ASCE  
ASSISTANT COMMISSIONER, OFFICE OF GREEN INFRASTRUCTURE  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

06-15-2016  
DATE

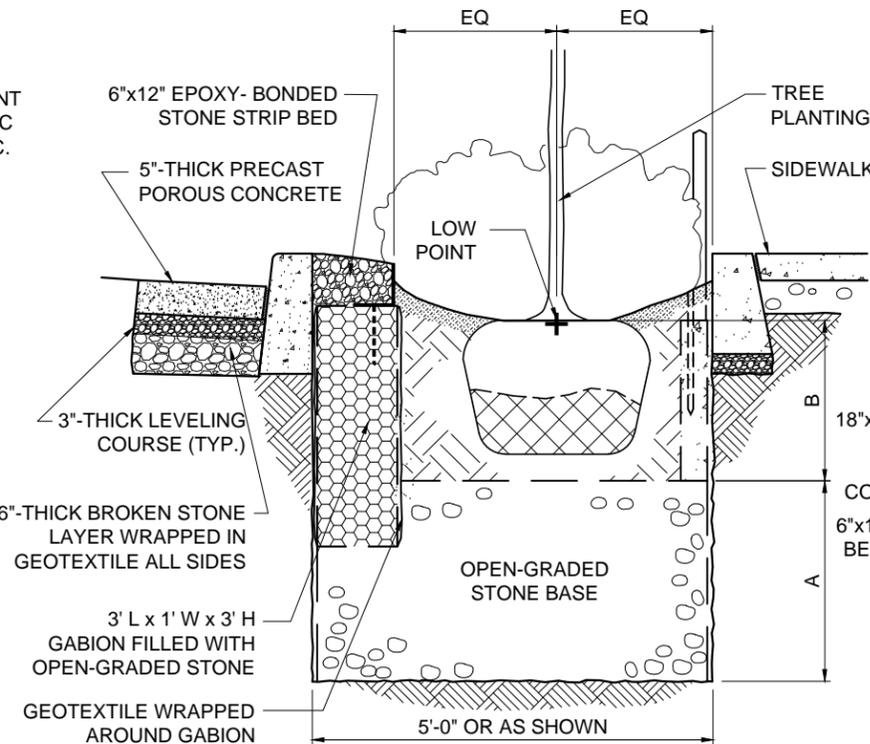
CITY OF NEW YORK  
 DEPARTMENT OF ENVIRONMENTAL PROTECTION  
 OFFICE OF GREEN INFRASTRUCTURE  
**STANDARD FOR 15'x5' R.O.W. BIOSWALE TYPE 2**  
 - NO CONNECTION TO SEWERS



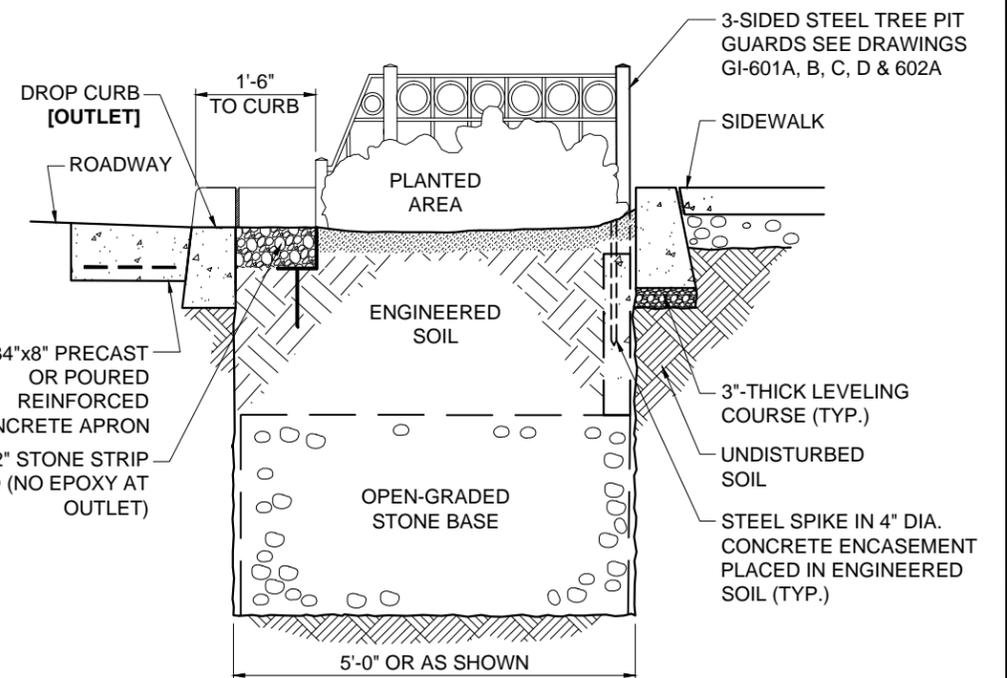
PLAN



SECTION A-A  
AT BIOSWALE INLET



SECTION B-B  
AT MIDSECTION [LOWEST POINT]



SECTION C-C  
AT BIOSWALE OUTLET

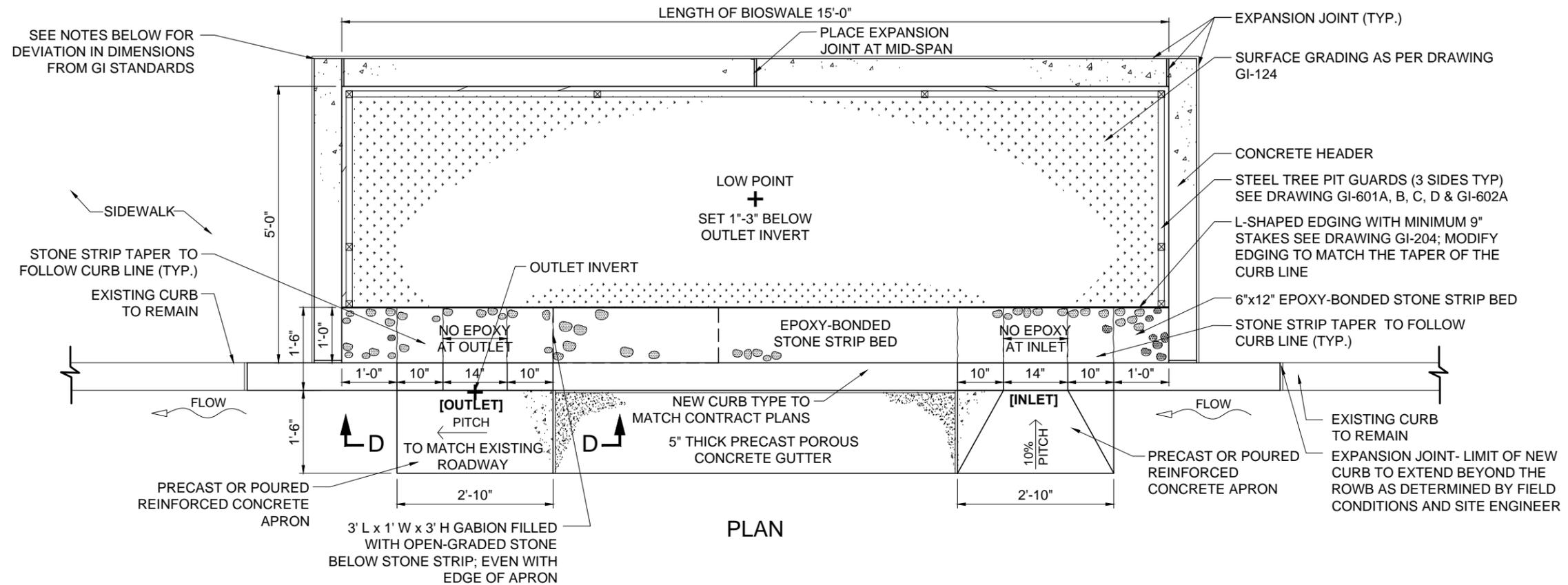
ROWB	A	B
WITH TREE	2'-6"	24" MIN
NO TREE	3'-0"	18" MIN

DEPTH SCHEDULE

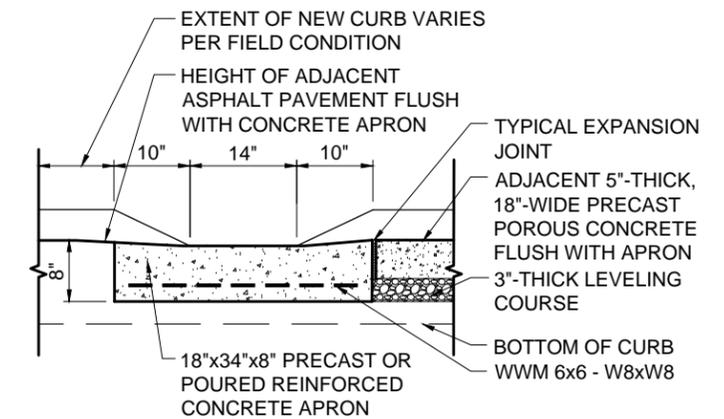
*Medi Tuna*  
 P.E., F. ASCE  
 ASSISTANT COMMISSIONER, OFFICE OF GREEN INFRASTRUCTURE  
 DEPARTMENT OF ENVIRONMENTAL PROTECTION

06-15-2016  
 DATE

CITY OF NEW YORK  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF GREEN INFRASTRUCTURE  
**STANDARD FOR 15'x5' R.O.W. BIOSWALE TYPE 2**  
- NO CONNECTION TO SEWERS



- NOTES:**
1. THE CONTRACTOR SHALL BE REQUIRED TO REMOVE AND REPLACE ALL EXISTING FULL SIDEWALK FLAGS ADJACENT TO THE PERIMETER OF THE BIOSWALE IN ADDITION TO ANY PARTIAL FLAG AREAS LEFTOVER DUE TO CONSTRUCTION. THE CONTRACTOR SHALL REPLACE THE SIDEWALK IN FULL COMPLIANCE WITH THE APPLICABLE SECTIONS OF THE STANDARD HIGHWAY SPECIFICATIONS.
  2. THE CONTRACTOR SHALL REMOVE AND RESTORE ONE-AND-A-HALF (1 1/2) FOOT WIDTH OF THE WEARING COURSE AND ONE-AND-A-HALF (1 1/2) FOOT WIDTH OF ROADWAY CONCRETE PAVEMENT BASE ALONG THE CURB LINE AND ADJACENT TO THE CONCRETE APRONS, WHERE REQUIRED. ALL WORK MUST BE COMPLETED IN FULL COMPLIANCE WITH THE APPLICABLE SECTIONS OF THE STANDARD HIGHWAY SPECIFICATIONS.
  3. THE CONTRACTOR SHALL OBTAIN THE NECESSARY TREE PLANTING PERMIT FROM THE NYC DEPARTMENT OF PARKS AND RECREATION (DPR) PRIOR TO THE START OF WORK. ALL NECESSARY TREE PLANTING SHALL BE SUPERVISED BY CERTIFIED ARBORISTS.
  4. NO TREE SHALL BE REMOVED BY THE CONTRACTOR UNTIL SPECIFICALLY ORDERED IN WRITING TO DO SO BY THE ENGINEER AND WITH APPROVAL FROM DPR.
  5. TREES SHALL BE STAKED AS PER DOT STANDARD DETAILS OF CONSTRUCTION. TREE STAKES ARE TO BE REMOVED BY THE CONTRACTOR NOT LESS THAN ONE YEAR AFTER PLANTING.
  6. THE CONTRACTOR SHALL NOT BE PERMITTED TO OPERATE AUXILIARY EQUIPMENT WHICH GENERATES EXHAUST OR OTHER HEAT UPWARD (E.G., GENERATORS AND COMPRESSORS), UNDER THE BRANCHES OF TREES WHERE THE BRANCHES ARE LESS THAN 25' ABOVE THE GROUND, UNLESS APPROVED BY THE ENGINEER IN CONSULTATION WITH THE CERTIFIED ARBORIST.
  7. THE CONTRACTOR SHALL NOT BE PERMITTED TO STORE, STOCKPILE, OR LAY DOWN, ANY CONSTRUCTION MATERIAL INCLUDING, BUT NOT LIMITED TO, LUMBER, FUEL, AND OIL CONTAINERS, PIPES, AND/OR PIPE FITTINGS, BARRICADES, HAND TOOLS, HOSES, RECEPTACLES, AND ASPHALT WITHIN ANY EXISTING TREE PIT OR R.O.W. BIOSWALE.
  8. REPLACEMENT TREES SHALL BE PLANTED WITHIN THE PROJECT AS DIRECTED BY THE ENGINEER IN ACCORDANCE WITH STANDARD HIGHWAY SPECIFICATIONS.
  9. STONE STRIP BED TO BE BONDED WITH EPOXY TO KEEP STONES IN PLACE. STONES IN FRONT OF INLETS AND OUTLETS ARE TO BE LEFT LOOSE AND UNBONDED.
  10. FOR R.O.W. GI PRACTICES WITH DIMENSIONS THAT DEVIATE FROM THE GI STANDARDS AS SHOWN ON CONTRACT PLANS DUE TO FIELD CONDITIONS, REFER TO THE DIMENSION SCHEDULE ON GI-122 AND SPECIFICATIONS.

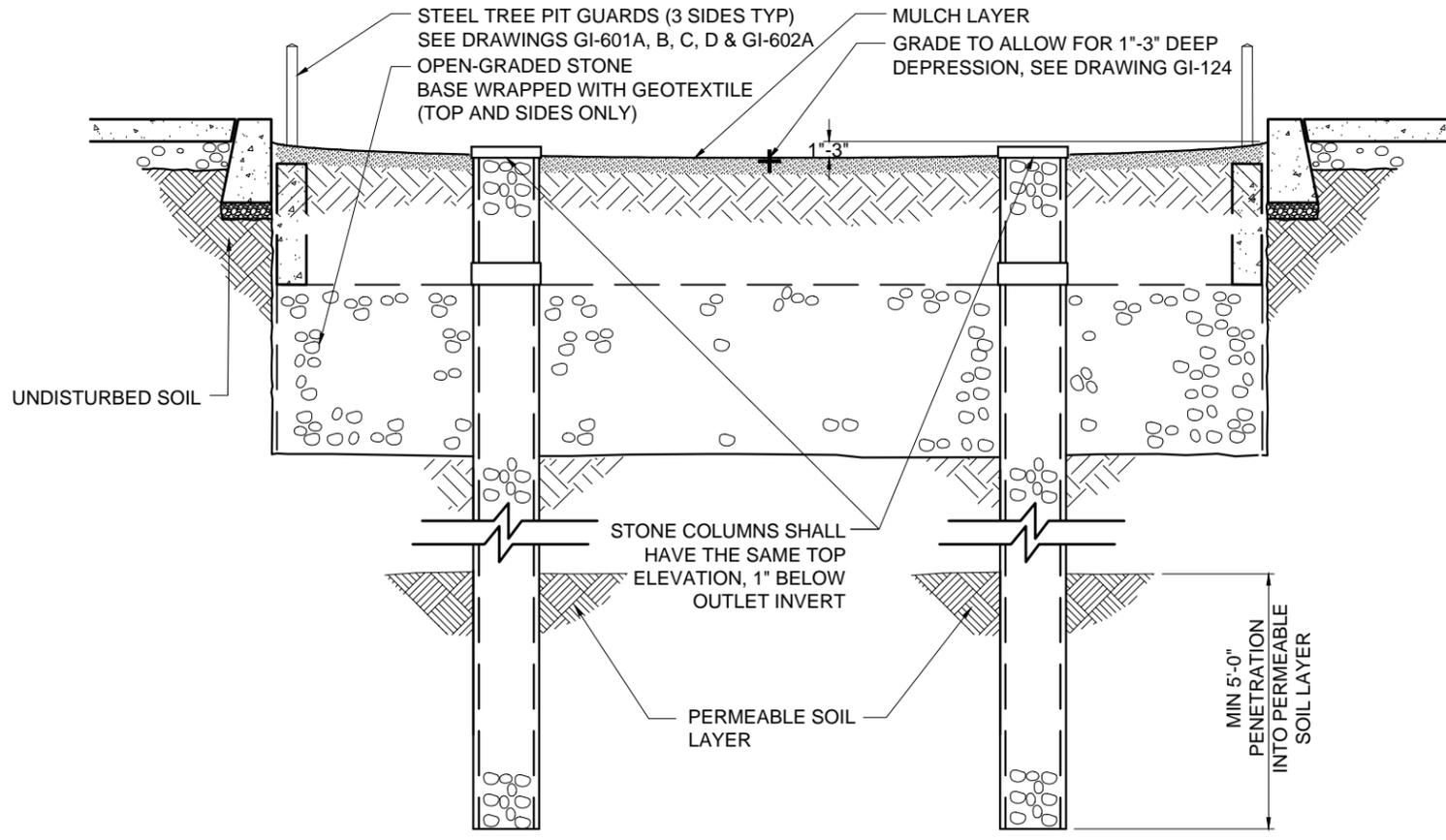
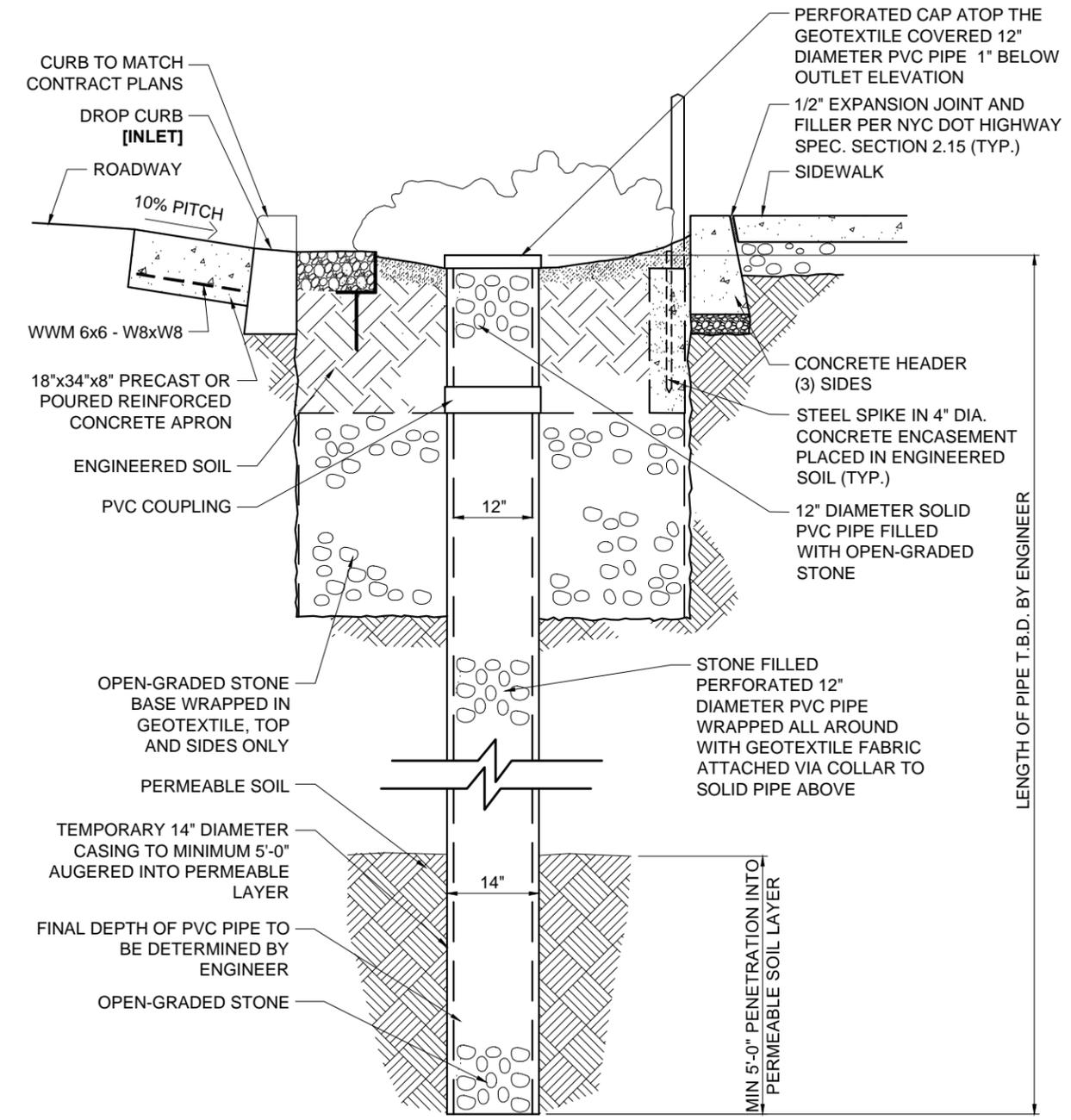
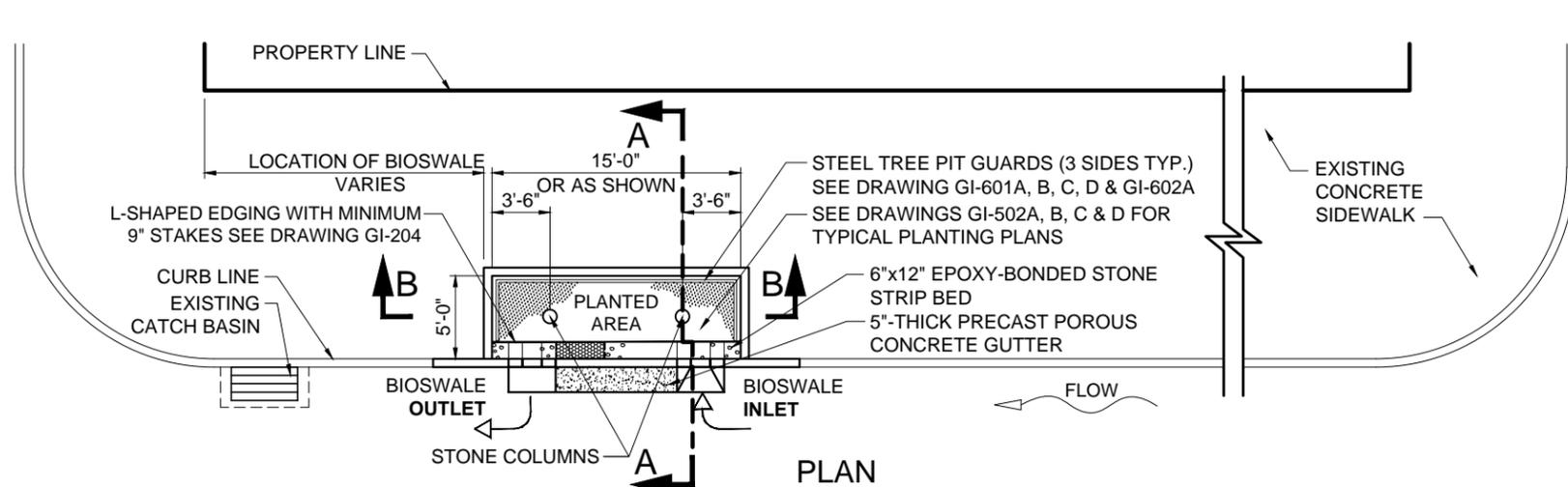


**SECTION D-D**

*M. A. T. T. T.*  
P.E., F. ASCE  
ASSISTANT COMMISSIONER, OFFICE OF GREEN INFRASTRUCTURE  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

06-15-2016  
DATE

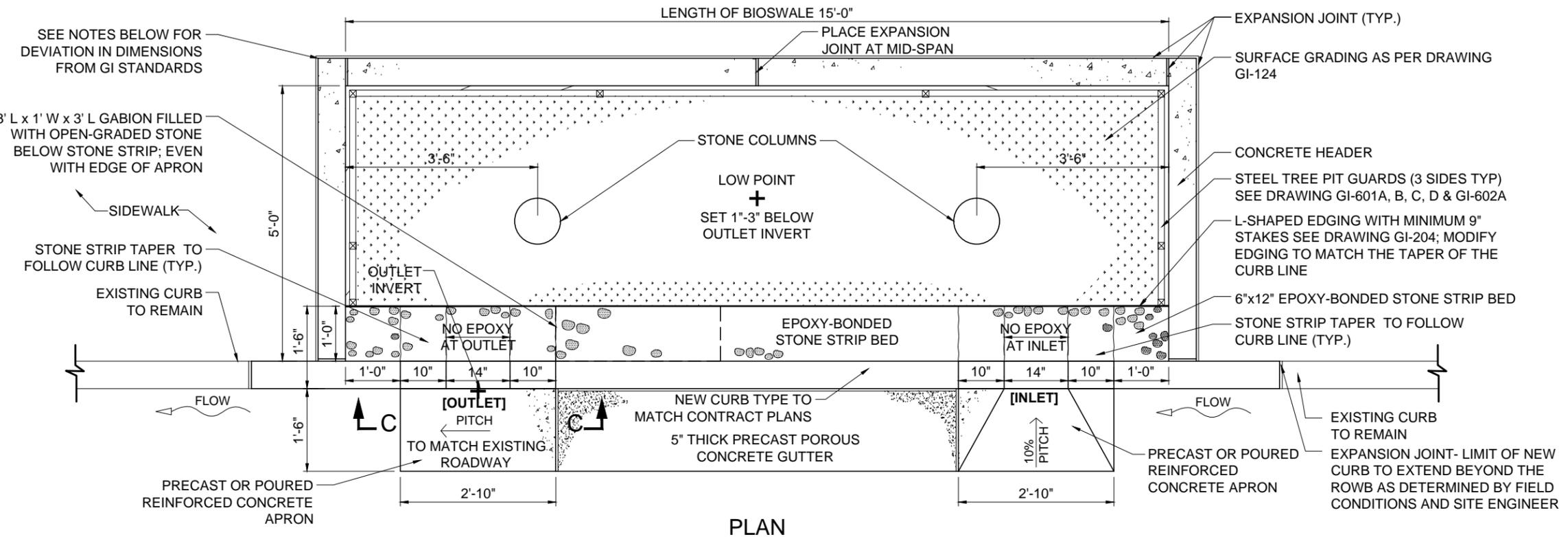
CITY OF NEW YORK  
 DEPARTMENT OF ENVIRONMENTAL PROTECTION  
 OFFICE OF GREEN INFRASTRUCTURE  
**STANDARD FOR 15'X5' R.O.W. BIOSWALE TYPE 2A - WITH STONE COLUMNS**  
 - NO CONNECTION TO SEWERS



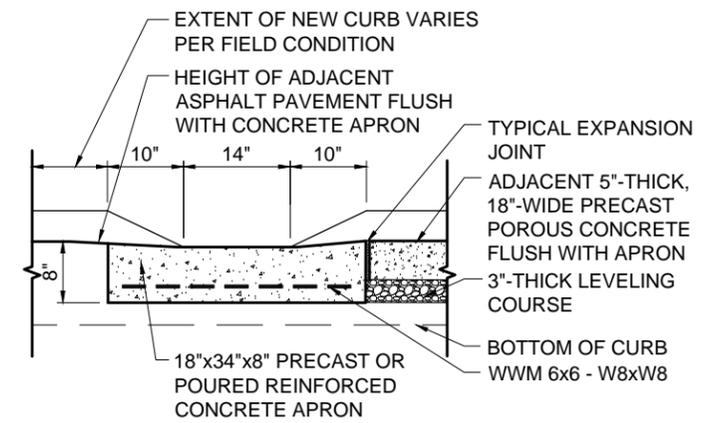
*Maedi Taha* P.E., F. ASCE  
 ASSISTANT COMMISSIONER, OFFICE OF GREEN INFRASTRUCTURE  
 DEPARTMENT OF ENVIRONMENTAL PROTECTION

06-15-2016  
 DATE

CITY OF NEW YORK  
 DEPARTMENT OF ENVIRONMENTAL PROTECTION  
 OFFICE OF GREEN INFRASTRUCTURE  
**STANDARD FOR 15'X5' R.O.W. BIOSWALE TYPE 2A - WITH STONE COLUMNS**  
 - NO CONNECTION TO SEWERS



- NOTES:**
1. THE CONTRACTOR SHALL BE REQUIRED TO REMOVE AND REPLACE ALL EXISTING FULL SIDEWALK FLAGS ADJACENT TO THE PERIMETER OF THE BIOSWALE IN ADDITION TO ANY PARTIAL FLAG AREAS LEFTOVER DUE TO CONSTRUCTION. THE CONTRACTOR SHALL REPLACE THE SIDEWALK IN FULL COMPLIANCE WITH THE APPLICABLE SECTIONS OF THE STANDARD HIGHWAY SPECIFICATIONS.
  2. THE CONTRACTOR SHALL REMOVE AND RESTORE ONE-AND-A-HALF (1 1/2) FOOT WIDTH OF THE WEARING COURSE AND ONE-AND-A-HALF (1 1/2) FOOT WIDTH OF ROADWAY CONCRETE PAVEMENT BASE ALONG THE CURB LINE AND ADJACENT TO THE CONCRETE APRONS, WHERE REQUIRED. ALL WORK MUST BE COMPLETED IN FULL COMPLIANCE WITH THE APPLICABLE SECTIONS OF THE STANDARD HIGHWAY SPECIFICATIONS.
  3. THE CONTRACTOR SHALL OBTAIN THE NECESSARY TREE PLANTING PERMIT FROM THE NYC DEPARTMENT OF PARKS AND RECREATION (DPR) PRIOR TO THE START OF WORK. ALL NECESSARY TREE PLANTING SHALL BE SUPERVISED BY CERTIFIED ARBORISTS.
  4. NO TREE SHALL BE REMOVED BY THE CONTRACTOR UNTIL SPECIFICALLY ORDERED IN WRITING TO DO SO BY THE ENGINEER AND WITH APPROVAL FROM DPR.
  5. TREES SHALL BE STAKED AS PER DOT STANDARD DETAILS OF CONSTRUCTION. TREE STAKES ARE TO BE REMOVED BY THE CONTRACTOR NOT LESS THAN ONE YEAR AFTER PLANTING.
  6. THE CONTRACTOR SHALL NOT BE PERMITTED TO OPERATE AUXILIARY EQUIPMENT WHICH GENERATES EXHAUST OR OTHER HEAT UPWARD (E.G., GENERATORS AND COMPRESSORS), UNDER THE BRANCHES OF TREES WHERE THE BRANCHES ARE LESS THAN 25' ABOVE THE GROUND, UNLESS APPROVED BY THE ENGINEER IN CONSULTATION WITH THE CERTIFIED ARBORIST.
  7. THE CONTRACTOR SHALL NOT BE PERMITTED TO STORE, STOCKPILE, OR LAY DOWN, ANY CONSTRUCTION MATERIAL INCLUDING, BUT NOT LIMITED TO, LUMBER, FUEL, AND OIL CONTAINERS, PIPES, AND/OR PIPE FITTINGS, BARRICADES, HAND TOOLS, HOSES, RECEPTACLES, AND ASPHALT WITHIN ANY EXISTING TREE PIT OR R.O.W. BIOSWALE.
  8. REPLACEMENT TREES SHALL BE PLANTED WITHIN THE PROJECT AS DIRECTED BY THE ENGINEER IN ACCORDANCE WITH STANDARD HIGHWAY SPECIFICATIONS.
  9. STONE STRIP BED TO BE BONDED WITH EPOXY TO KEEP STONES IN PLACE. STONES IN FRONT OF INLETS AND OUTLETS ARE TO BE LEFT LOOSE AND UNBONDED
  10. 14" DIAMETER CASING TO BE AUGERED TO DEPTH AS DIRECTED BY ENGINEER. 12" DIAMETER PVC PIPE WRAPPED ALL AROUND WITH GEOTEXTILE FABRIC INSERTED IN THE 14" CASING
  11. FOR R.O.W. GI PRACTICES WITH DIMENSIONS THAT DEVIATE FROM THE GI STANDARDS AS SHOWN ON CONTRACT PLANS DUE TO FIELD CONDITIONS, REFER TO THE DIMENSION SCHEDULE ON GI-122 AND SPECIFICATIONS



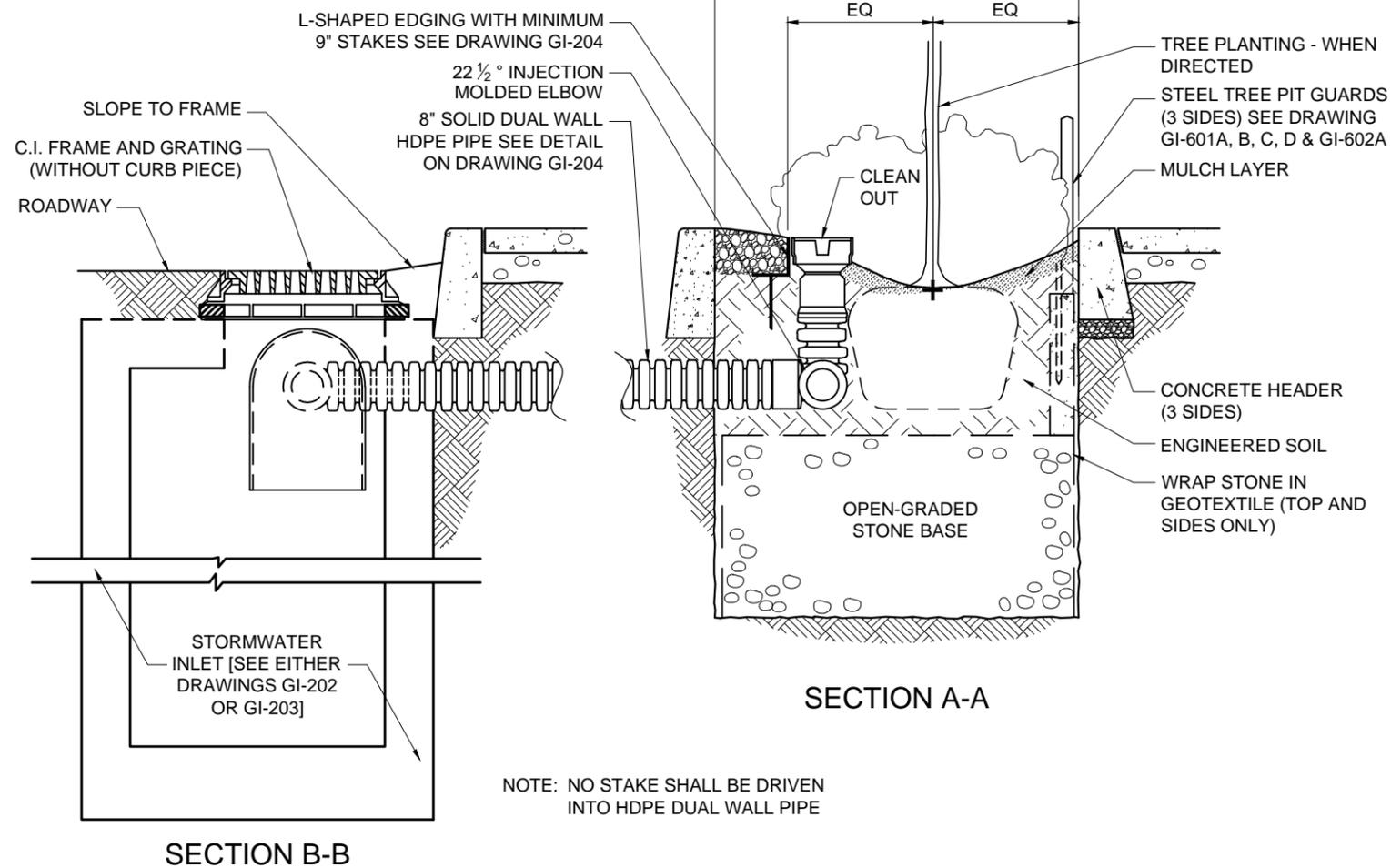
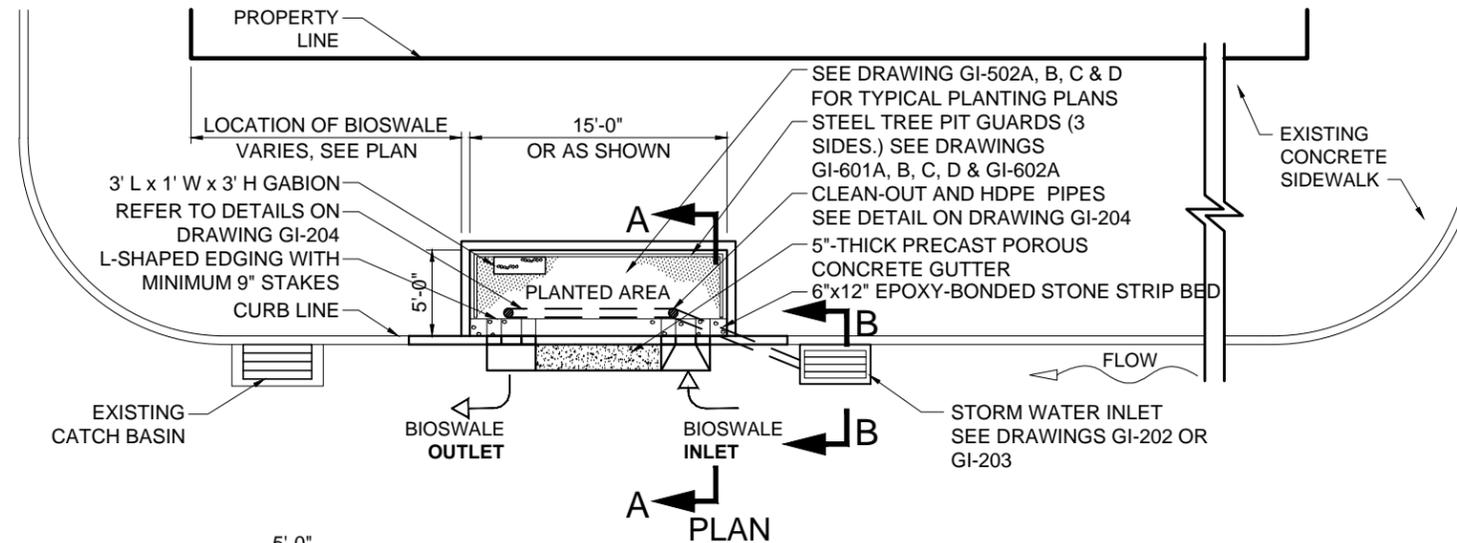
SECTION C-C

*Maedi Tana*  
 P.E., F. ASCE  
 ASSISTANT COMMISSIONER, OFFICE OF GREEN INFRASTRUCTURE  
 DEPARTMENT OF ENVIRONMENTAL PROTECTION

06-15-2016  
 DATE

CITY OF NEW YORK  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF GREEN INFRASTRUCTURE

STANDARD FOR 15'X5' R.O.W. BIOSWALE TYPE 2B - WITH STORMWATER INLET  
- NO CONNECTION TO SEWERS



NOTES:

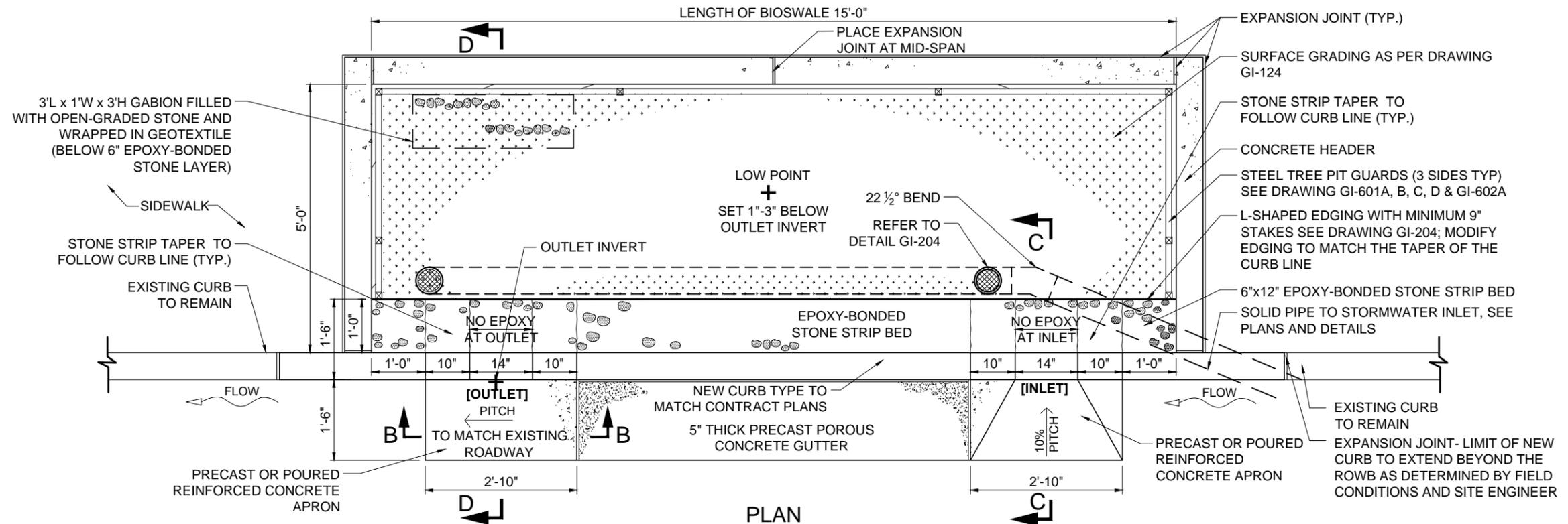
1. THE CONTRACTOR SHALL BE REQUIRED TO REMOVE AND REPLACE ALL EXISTING FULL SIDEWALK FLAGS ADJACENT TO THE PERIMETER OF THE BIOSWALE IN ADDITION TO ANY PARTIAL FLAG AREAS LEFTOVER DUE TO CONSTRUCTION. THE CONTRACTOR SHALL REPLACE THE SIDEWALK IN FULL COMPLIANCE WITH THE APPLICABLE SECTIONS OF THE STANDARD HIGHWAY SPECIFICATIONS.
2. THE CONTRACTOR SHALL REMOVE AND RESTORE ONE-AND-A-HALF (1 1/2') FOOT WIDTH OF THE WEARING COURSE AND ONE-AND-A-HALF (1 1/2') FOOT WIDTH OF ROADWAY CONCRETE PAVEMENT BASE ALONG THE CURB LINE AND ADJACENT TO THE CONCRETE APRONS, WHERE REQUIRED. ALL WORK MUST BE COMPLETED IN FULL COMPLIANCE WITH THE APPLICABLE SECTIONS OF THE STANDARD HIGHWAY SPECIFICATIONS.
3. THE CONTRACTOR SHALL OBTAIN THE NECESSARY TREE PLANTING PERMIT FROM THE NYC DEPARTMENT OF PARKS AND RECREATION (DPR) PRIOR TO THE START OF WORK. ALL NECESSARY TREE PLANTING SHALL BE SUPERVISED BY CERTIFIED ARBORISTS.
4. NO TREE SHALL BE REMOVED BY THE CONTRACTOR UNTIL SPECIFICALLY ORDERED IN WRITING TO DO SO BY THE ENGINEER AND WITH APPROVAL FROM DPR.
5. TREES SHALL BE STAKED AS PER DOT STANDARD DETAILS OF CONSTRUCTION. TREE STAKES ARE TO BE REMOVED BY THE CONTRACTOR NOT LESS THAN ONE YEAR AFTER PLANTING.
6. THE CONTRACTOR SHALL NOT BE PERMITTED TO OPERATE AUXILIARY EQUIPMENT WHICH GENERATES EXHAUST OR OTHER HEAT UPWARD (E.G., GENERATORS AND COMPRESSORS), UNDER THE BRANCHES OF TREES WHERE THE BRANCHES ARE LESS THAN 25' ABOVE THE GROUND, UNLESS APPROVED BY THE ENGINEER IN CONSULTATION WITH THE CERTIFIED ARBORIST.
7. THE CONTRACTOR SHALL NOT BE PERMITTED TO STORE, STOCKPILE, OR LAY DOWN, ANY CONSTRUCTION MATERIAL INCLUDING, BUT NOT LIMITED TO, LUMBER, FUEL, AND OIL CONTAINERS, PIPES, AND/OR PIPE FITTINGS, BARRICADES, HAND TOOLS, HOSES, RECEPTACLES, AND ASPHALT WITHIN ANY EXISTING TREE PIT OR R.O.W. BIOSWALE.
8. REPLACEMENT TREES SHALL BE PLANTED WITHIN THE PROJECT AS DIRECTED BY THE ENGINEER IN ACCORDANCE WITH STANDARD HIGHWAY SPECIFICATIONS.
9. STONE STRIP BED TO BE BONDED WITH EPOXY TO KEEP STONES IN PLACE. STONES IN FRONT OF INLETS AND OUTLETS ARE TO BE LEFT LOOSE AND UNBONDED.
10. FOR R.O.W. GI PRACTICES WITH DIMENSIONS THAT DEVIATE FROM THE GI STANDARDS AS SHOWN ON CONTRACT PLANS DUE TO FIELD CONDITIONS, REFER TO THE DIMENSION SCHEDULE ON GI-122 AND SPECIFICATIONS.

*Maedi Tuna*  
P.E., F. ASCE  
ASSISTANT COMMISSIONER, OFFICE OF GREEN INFRASTRUCTURE  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

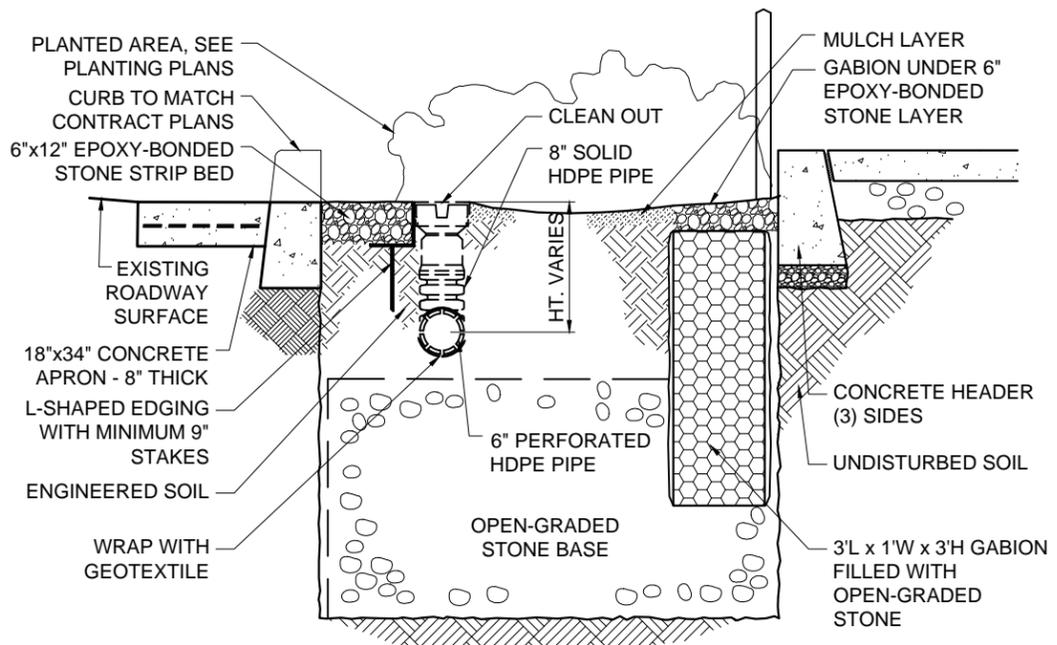
06-15-2016  
DATE

CITY OF NEW YORK  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF GREEN INFRASTRUCTURE

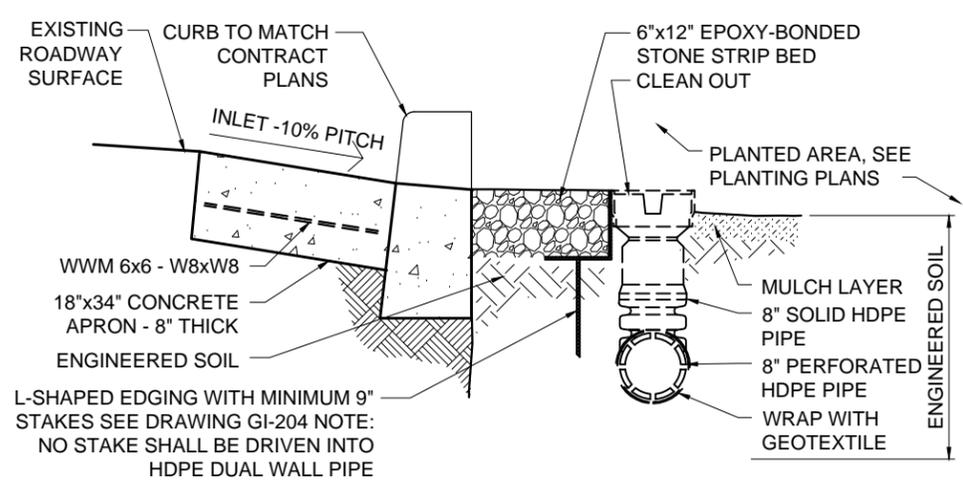
STANDARD FOR 15'X5' R.O.W. BIOSWALE TYPE 2B - WITH STORMWATER INLET  
- NO CONNECTION TO SEWERS



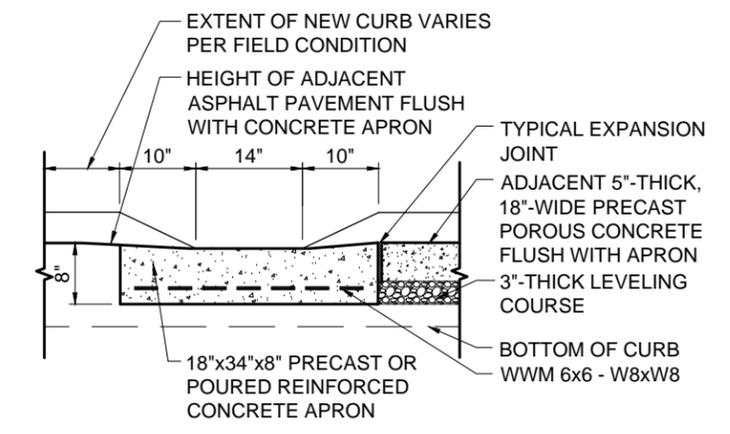
PLAN



SECTION D-D  
AT BIOSWALE OUTLET



SECTION C-C  
AT BIOSWALE INLET



SECTION B-B

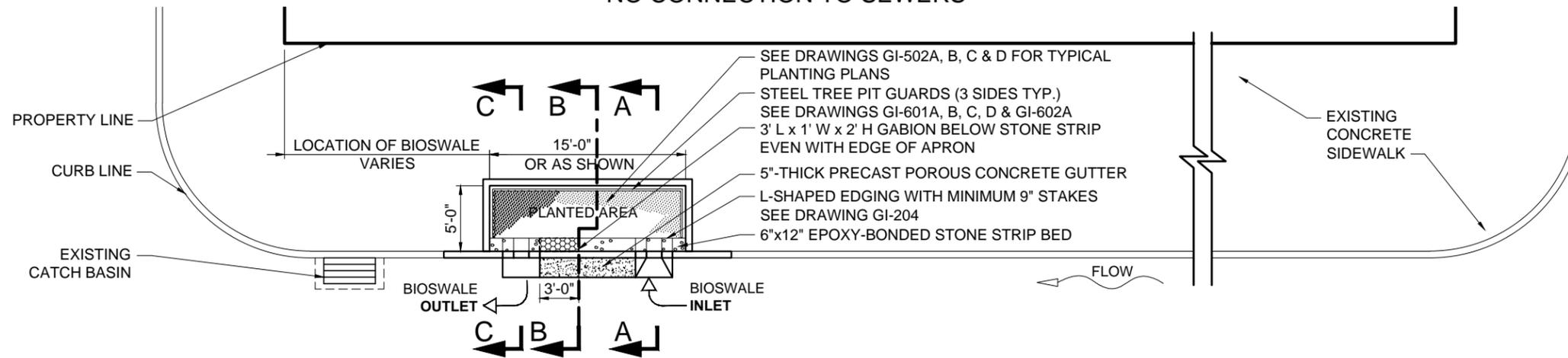
*Medi Taha*  
P.E., F. ASCE  
ASSISTANT COMMISSIONER, OFFICE OF GREEN INFRASTRUCTURE  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

06-15-2016  
DATE

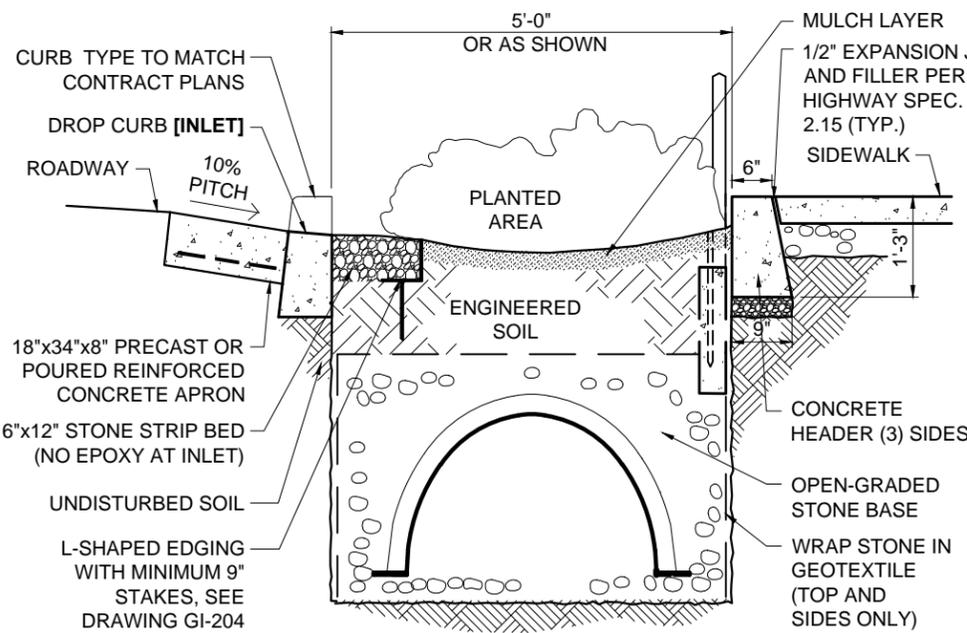
CITY OF NEW YORK  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF GREEN INFRASTRUCTURE

# STANDARD FOR 15'x5' R.O.W. BIOSWALE TYPE 2C - WITH STORMWATER CHAMBER

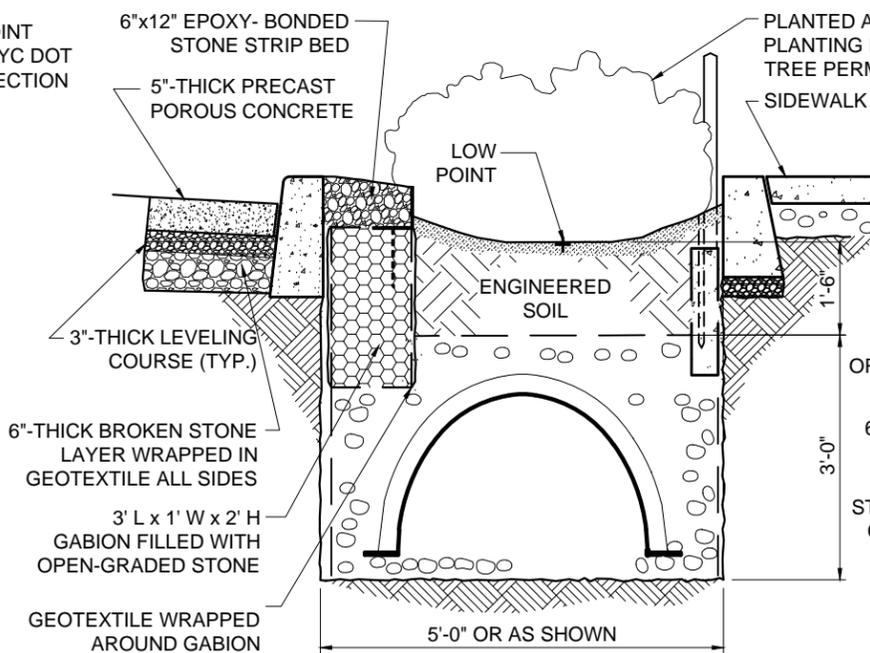
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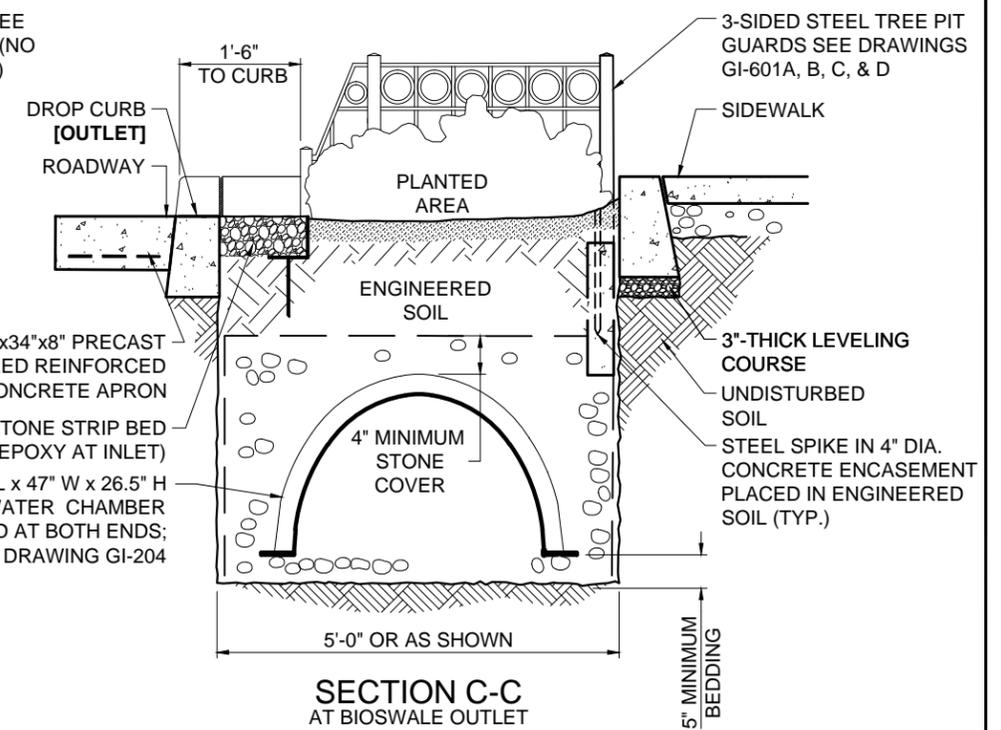
PLAN



SECTION A-A  
AT BIOSWALE INLET



SECTION B-B  
AT MIDSECTION [LOWEST POINT]



SECTION C-C  
AT BIOSWALE OUTLET

*Medi Tuna*

P.E., F. ASCE

ASSISTANT COMMISSIONER, OFFICE OF GREEN INFRASTRUCTURE  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

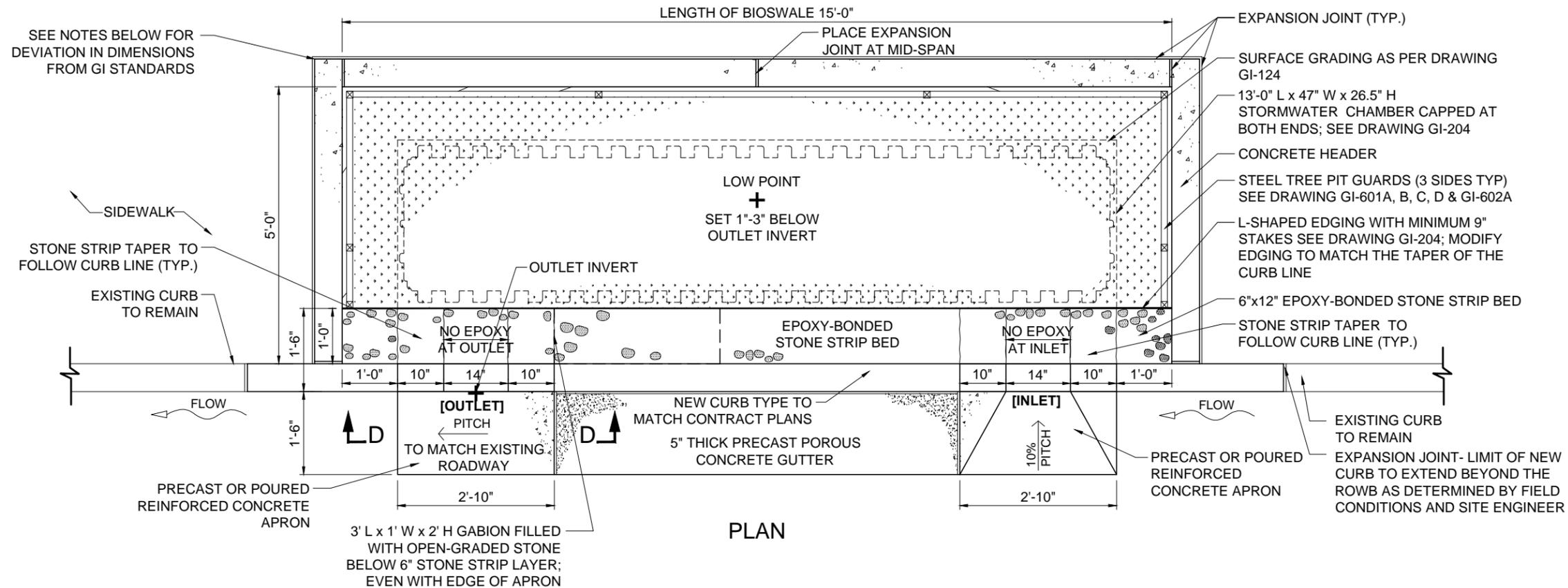
06-15-2016

DATE

CITY OF NEW YORK  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF GREEN INFRASTRUCTURE

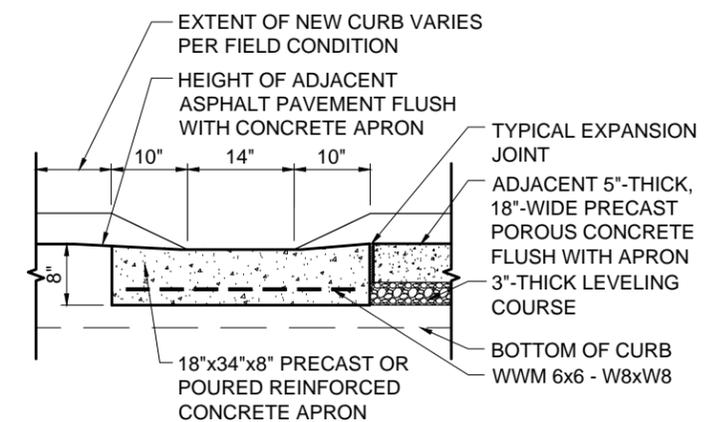
STANDARD FOR 15'x5' R.O.W. BIOSWALE TYPE 2C - WITH STORMWATER CHAMBER

- NO CONNECTION TO SEWERS



NOTES:

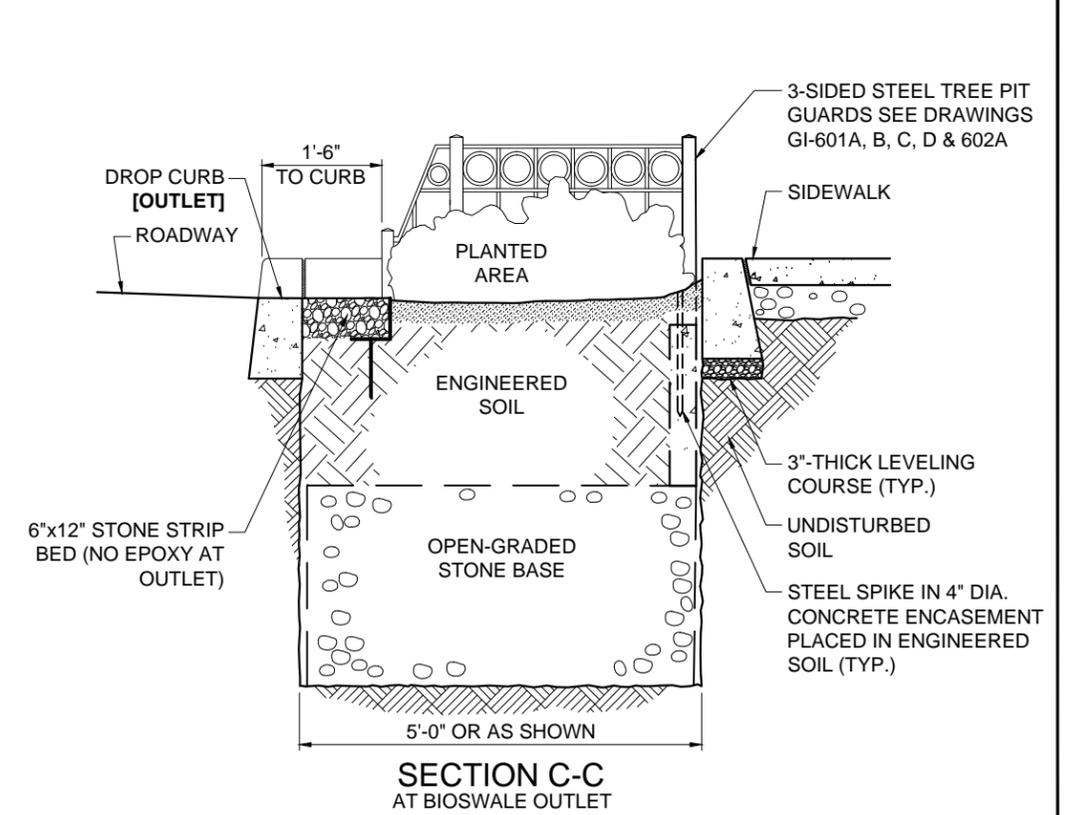
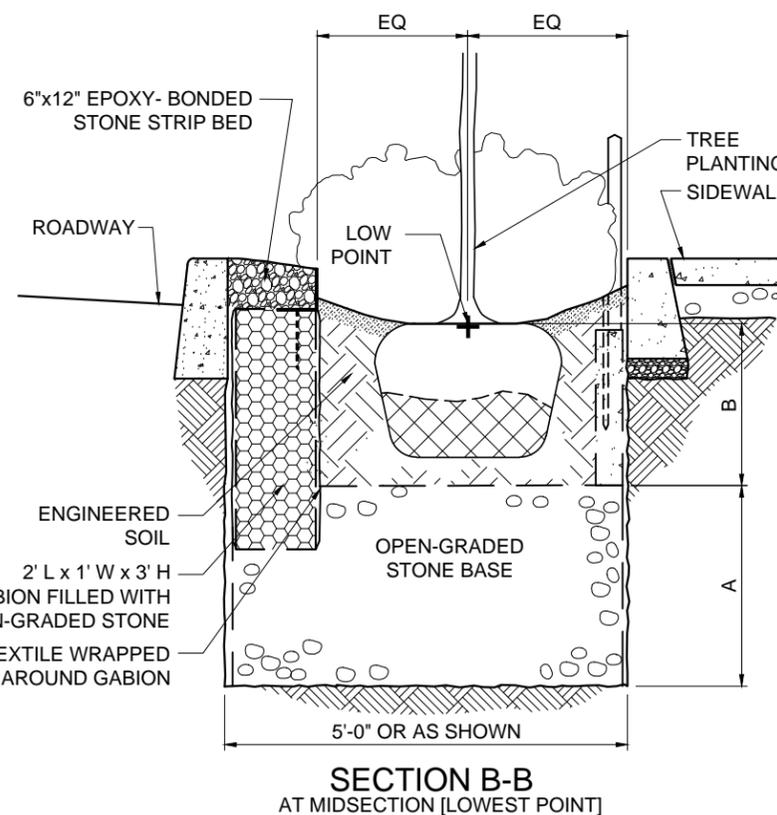
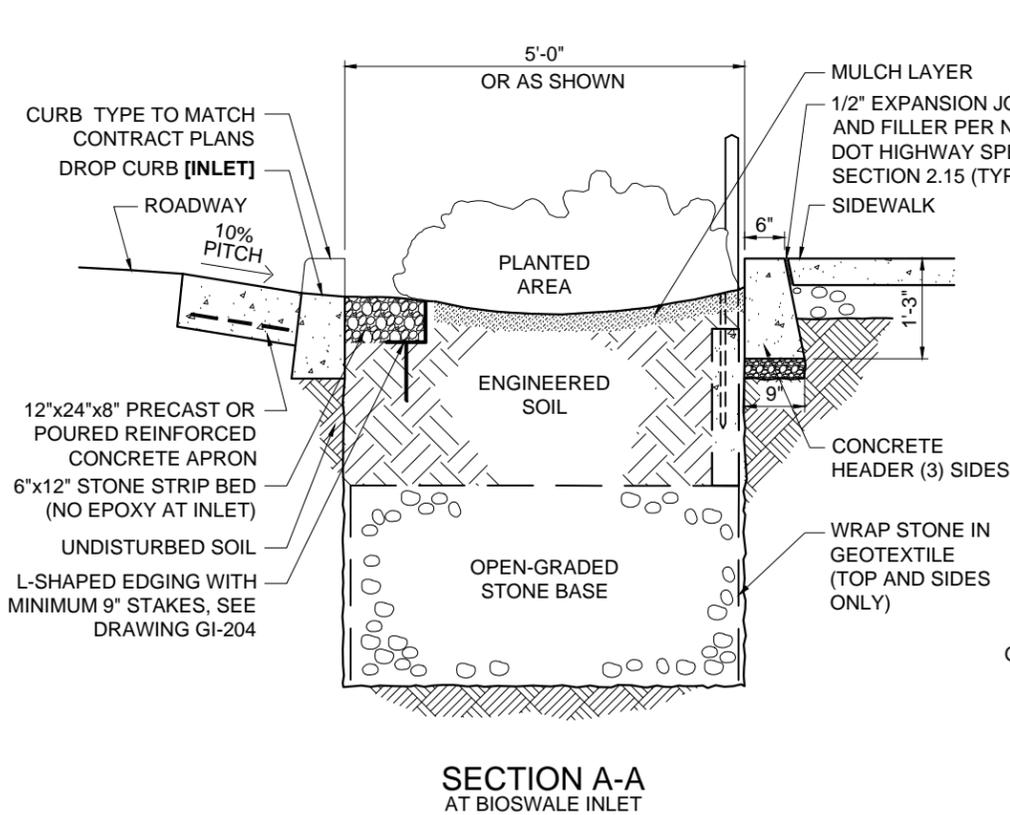
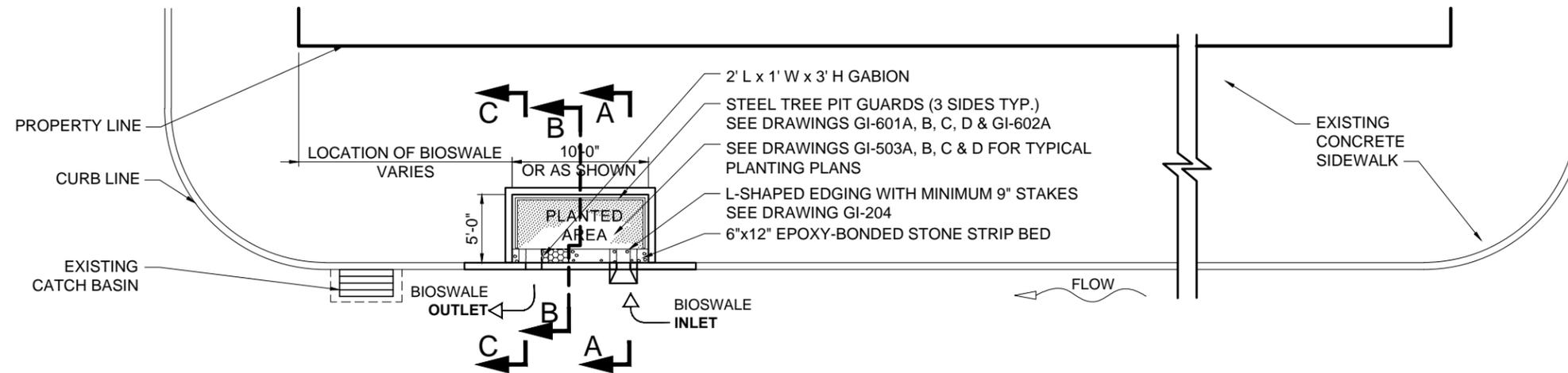
1. THE CONTRACTOR SHALL BE REQUIRED TO REMOVE AND REPLACE ALL EXISTING FULL SIDEWALK FLAGS ADJACENT TO THE PERIMETER OF THE BIOSWALE IN ADDITION TO ANY PARTIAL FLAG AREAS LEFTOVER DUE TO CONSTRUCTION. THE CONTRACTOR SHALL REPLACE THE SIDEWALK IN FULL COMPLIANCE WITH THE APPLICABLE SECTIONS OF THE STANDARD HIGHWAY SPECIFICATIONS.
2. THE CONTRACTOR SHALL REMOVE AND RESTORE ONE-AND-A-HALF (1 1/2') FOOT WIDTH OF THE WEARING COURSE AND ONE-AND-A-HALF (1 1/2') FOOT WIDTH OF ROADWAY CONCRETE PAVEMENT BASE ALONG THE CURB LINE AND ADJACENT TO THE CONCRETE APRONS, WHERE REQUIRED. ALL WORK MUST BE COMPLETED IN FULL COMPLIANCE WITH THE APPLICABLE SECTIONS OF THE STANDARD HIGHWAY SPECIFICATIONS.
3. THE CONTRACTOR SHALL OBTAIN THE NECESSARY TREE PLANTING PERMIT FROM THE NYC DEPARTMENT OF PARKS AND RECREATION (DPR) PRIOR TO THE START OF WORK. ALL NECESSARY TREE PLANTING SHALL BE SUPERVISED BY CERTIFIED ARBORISTS.
4. NO TREE SHALL BE REMOVED BY THE CONTRACTOR UNTIL SPECIFICALLY ORDERED IN WRITING TO DO SO BY THE ENGINEER AND WITH APPROVAL FROM DPR.
5. TREES SHALL BE STAKED AS PER DOT STANDARD DETAILS OF CONSTRUCTION. TREE STAKES ARE TO BE REMOVED BY THE CONTRACTOR NOT LESS THAN ONE YEAR AFTER PLANTING.
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7. THE CONTRACTOR SHALL NOT BE PERMITTED TO STORE, STOCKPILE, OR LAY DOWN, ANY CONSTRUCTION MATERIAL INCLUDING, BUT NOT LIMITED TO, LUMBER, FUEL, AND OIL CONTAINERS, PIPES, AND/OR PIPE FITTINGS, BARRICADES, HAND TOOLS, HOSES, RECEPTACLES, AND ASPHALT WITHIN ANY EXISTING TREE PIT OR R.O.W. BIOSWALE.
8. REPLACEMENT TREES SHALL BE PLANTED WITHIN THE PROJECT AS DIRECTED BY THE ENGINEER IN ACCORDANCE WITH STANDARD HIGHWAY SPECIFICATIONS.
9. STONE STRIP BED TO BE BONDED WITH EPOXY TO KEEP STONES IN PLACE. STONES IN FRONT OF INLETS AND OUTLETS ARE TO BE LEFT LOOSE AND UNBONDED.
10. FOR R.O.W. GI PRACTICES WITH DIMENSIONS THAT DEVIATE FROM THE GI STANDARDS AS SHOWN ON CONTRACT PLANS DUE TO FIELD CONDITIONS, REFER TO THE DIMENSION SCHEDULE ON GI-122 AND SPECIFICATIONS.



*Maedi Turaq*  
P.E., F. ASCE  
ASSISTANT COMMISSIONER, OFFICE OF GREEN INFRASTRUCTURE  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

06-15-2016  
DATE

CITY OF NEW YORK  
 DEPARTMENT OF ENVIRONMENTAL PROTECTION  
 OFFICE OF GREEN INFRASTRUCTURE  
**STANDARD FOR 10'x5' R.O.W. BIOSWALE TYPE 3**  
 - NO CONNECTION TO SEWERS



ROWB	A	B
WITH TREE	2'-6"	24" MIN
NO TREE	3'-0"	18" MIN

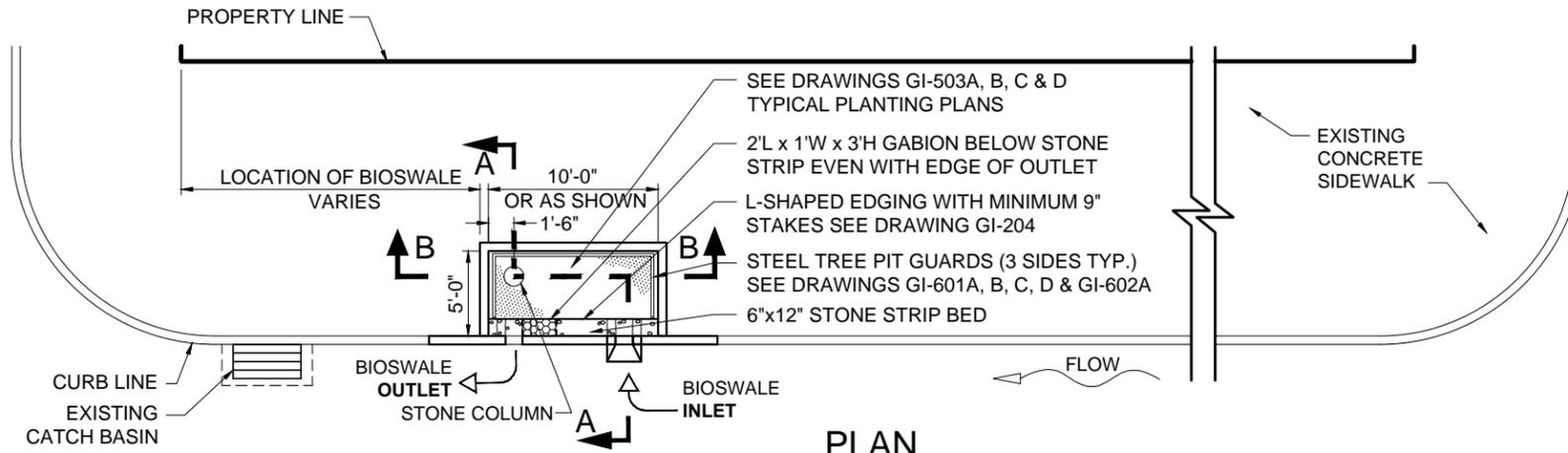
DEPTH SCHEDULE

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 DEPARTMENT OF ENVIRONMENTAL PROTECTION

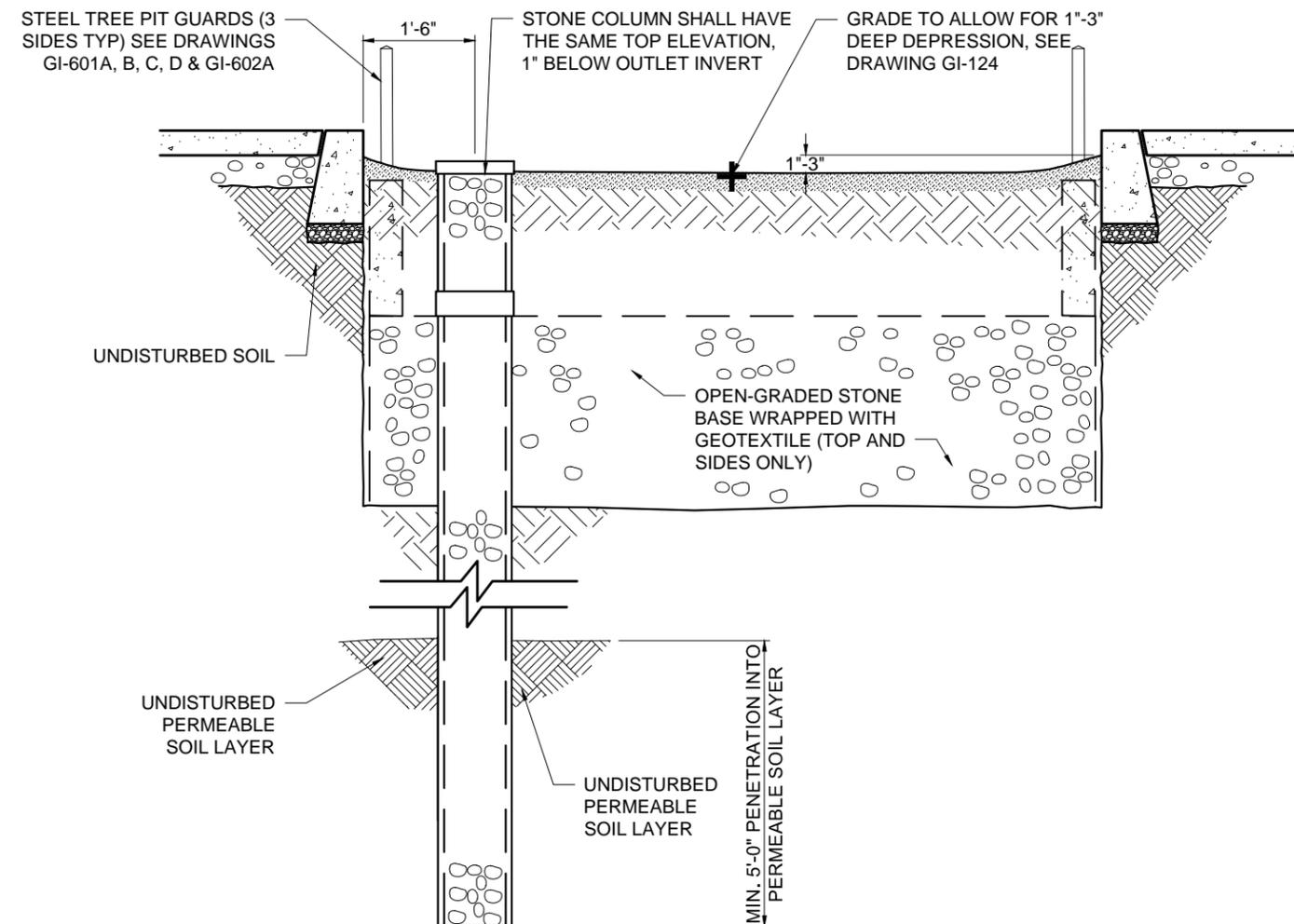
06-15-2016  
 DATE



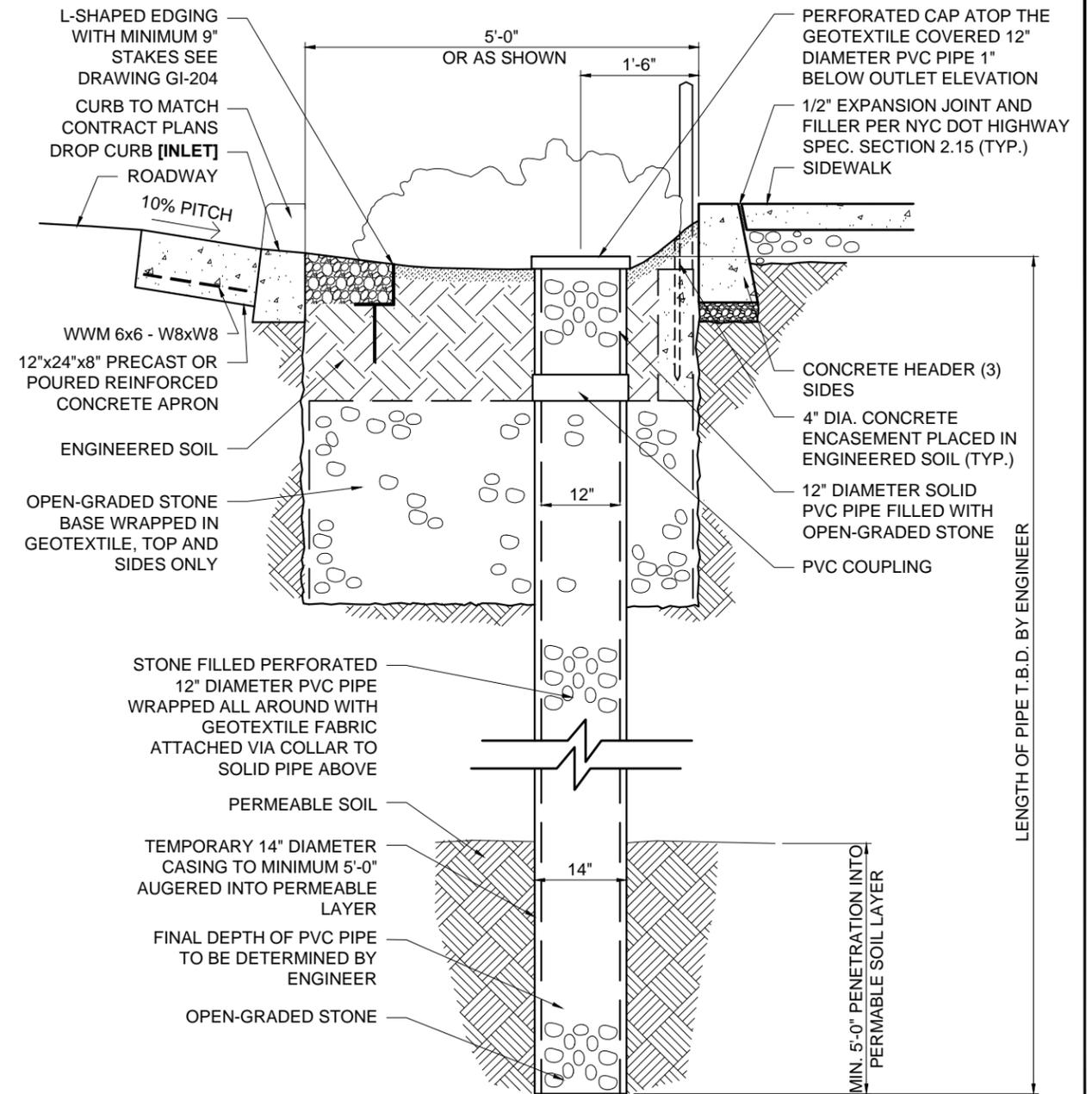
CITY OF NEW YORK  
 DEPARTMENT OF ENVIRONMENTAL PROTECTION  
 OFFICE OF GREEN INFRASTRUCTURE  
**STANDARD FOR 10'X5' R.O.W. BIOSWALE TYPE 3A - WITH STONE COLUMN**  
 - NO CONNECTION TO SEWERS



PLAN



SECTION B-B

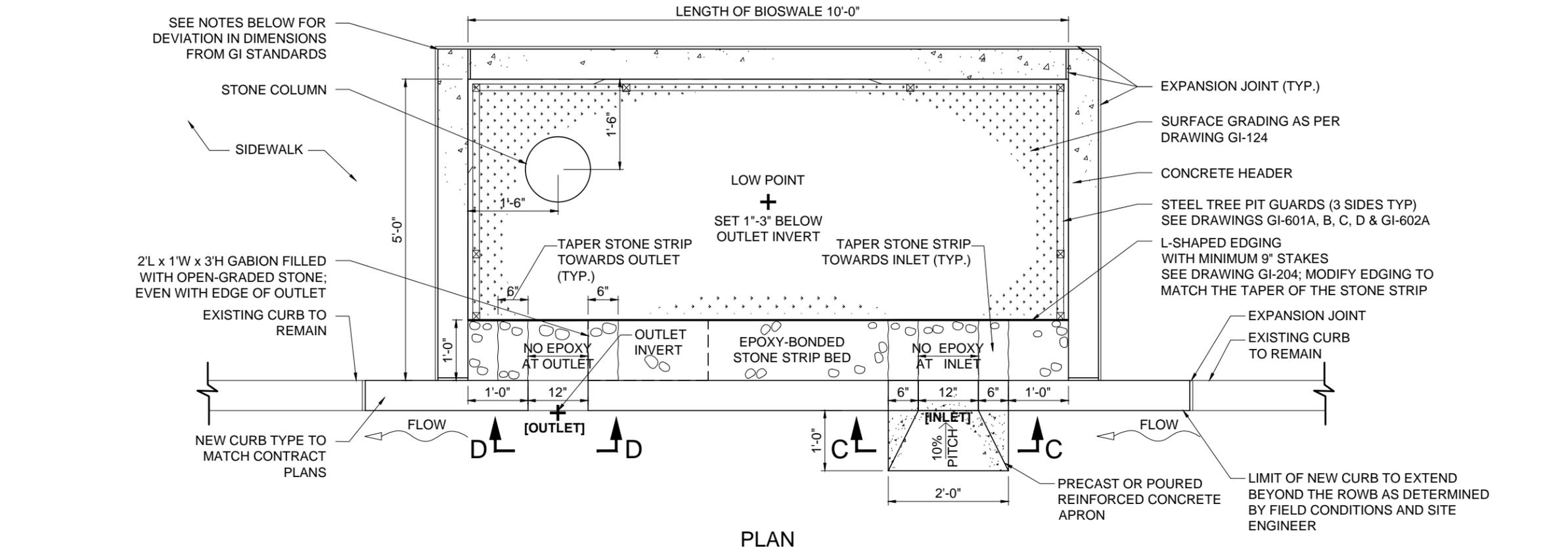


SECTION A-A AT BIOSWALE VERTICAL DRAIN

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 DEPARTMENT OF ENVIRONMENTAL PROTECTION

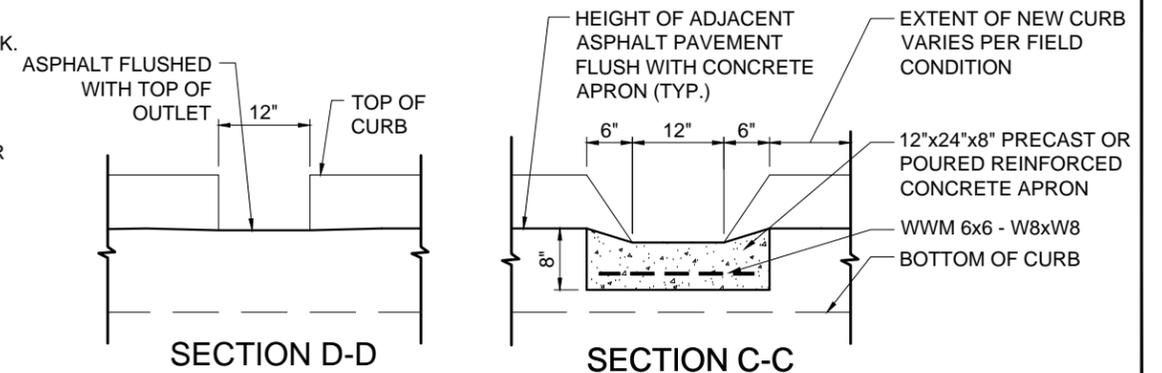
06-15-2016  
 DATE

CITY OF NEW YORK  
 DEPARTMENT OF ENVIRONMENTAL PROTECTION  
 OFFICE OF GREEN INFRASTRUCTURE  
**STANDARD FOR 10'X5' R.O.W. BIOSWALE TYPE 3A - WITH STONE COLUMNS**  
 - NO CONNECTION TO SEWERS



**NOTES:**

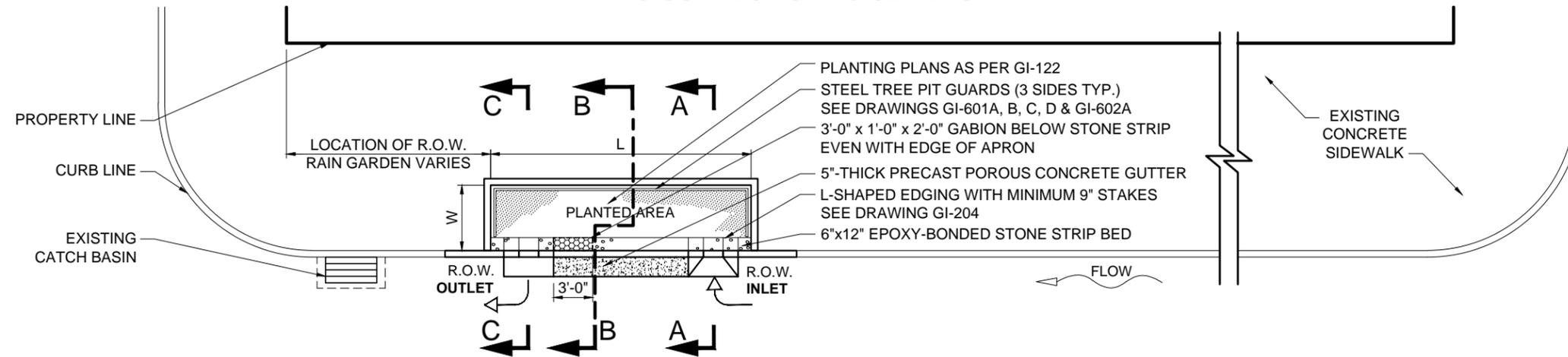
1. THE CONTRACTOR SHALL BE REQUIRED TO REMOVE AND REPLACE ALL EXISTING FULL SIDEWALK FLAGS ADJACENT TO THE PERIMETER OF THE BIOSWALE IN ADDITION TO ANY PARTIAL FLAG AREAS LEFTOVER DUE TO CONSTRUCTION. THE CONTRACTOR SHALL REPLACE THE SIDEWALK IN FULL COMPLIANCE WITH THE APPLICABLE SECTIONS OF THE STANDARD HIGHWAY SPECIFICATIONS.
2. THE CONTRACTOR SHALL REMOVE AND RESTORE ONE-AND-A-HALF (1 1/2) FOOT WIDTH OF THE WEARING COURSE AND ONE-AND-A-HALF (1 1/2) FOOT WIDTH OF ROADWAY CONCRETE PAVEMENT BASE ALONG THE CURB LINE AND ADJACENT TO THE CONCRETE APRONS, WHERE REQUIRED. ALL WORK MUST BE COMPLETED IN FULL COMPLIANCE WITH THE APPLICABLE SECTIONS OF THE STANDARD HIGHWAY SPECIFICATIONS.
3. THE CONTRACTOR SHALL OBTAIN THE NECESSARY TREE PLANTING PERMIT FROM THE NYC DEPARTMENT OF PARKS AND RECREATION (DPR) PRIOR TO THE START OF WORK. ALL NECESSARY TREE PLANTING SHALL BE SUPERVISED BY CERTIFIED ARBORISTS.
4. NO TREE SHALL BE REMOVED BY THE CONTRACTOR UNTIL SPECIFICALLY ORDERED IN WRITING TO DO SO BY THE ENGINEER AND WITH APPROVAL FROM DPR.
5. TREES SHALL BE STAKED AS PER DOT STANDARD DETAILS OF CONSTRUCTION. TREE STAKES ARE TO BE REMOVED BY THE CONTRACTOR NOT LESS THAN ONE YEAR AFTER PLANTING.
6. THE CONTRACTOR SHALL NOT BE PERMITTED TO OPERATE AUXILIARY EQUIPMENT WHICH GENERATES EXHAUST OR OTHER HEAT UPWARD (E.G., GENERATORS AND COMPRESSORS), UNDER THE BRANCHES OF TREES WHERE THE BRANCHES ARE LESS THAN 25' ABOVE THE GROUND, UNLESS APPROVED BY THE ENGINEER IN CONSULTATION WITH THE CERTIFIED ARBORIST.
7. THE CONTRACTOR SHALL NOT BE PERMITTED TO STORE, STOCKPILE, OR LAY DOWN, ANY CONSTRUCTION MATERIAL INCLUDING, BUT NOT LIMITED TO, LUMBER, FUEL, AND OIL CONTAINERS, PIPES, AND/OR PIPE FITTINGS, BARRICADES, HAND TOOLS, HOSES, RECEPTACLES, AND ASPHALT WITHIN ANY EXISTING TREE PIT OR R.O.W. BIOSWALE.
8. REPLACEMENT TREES SHALL BE PLANTED WITHIN THE PROJECT AS DIRECTED BY THE ENGINEER IN ACCORDANCE WITH STANDARD HIGHWAY SPECIFICATIONS.
9. STONE STRIP BED TO BE BONDED WITH EPOXY TO KEEP STONES IN PLACE. STONES IN FRONT OF INLETS AND OUTLETS ARE TO BE LEFT LOOSE AND UNBONDED
10. 14" DIAMETER CASING TO BE AUGERED TO DEPTH AS DIRECTED BY ENGINEER. 12" DIAMETER PVC PIPE WRAPPED ALL AROUND WITH GEOTEXTILE FABRIC INSERTED IN THE 14" CASING
11. FOR R.O.W. GI PRACTICES WITH DIMENSIONS THAT DEVIATE FROM THE GI STANDARDS AS SHOWN ON CONTRACT PLANS DUE TO FIELD CONDITIONS, REFER TO THE DIMENSION SCHEDULE ON GI-122 AND SPECIFICATIONS



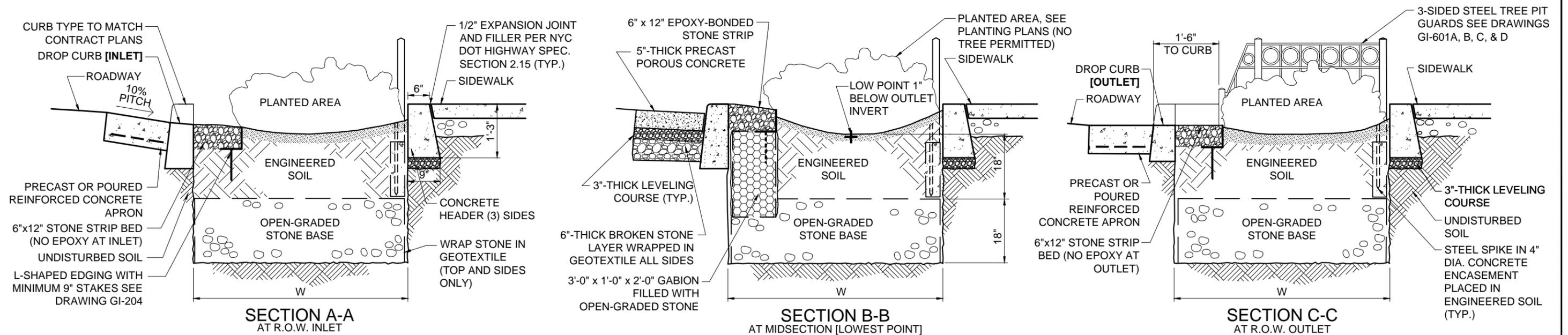
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06-15-2016  
 DATE

CITY OF NEW YORK  
 DEPARTMENT OF ENVIRONMENTAL PROTECTION  
 OFFICE OF GREEN INFRASTRUCTURE  
**STANDARD FOR R.O.W. RAIN GARDEN TYPE 1, TYPE 2, AND TYPE 3**  
 - NO CONNECTION TO SEWERS



PLAN



R.O.W. RAIN GARDEN DETAILS		
LENGTH (L), 1FT INCREMENT	WIDTH (W), 6 IN INCREMENT	TYPE
17' ≤ L ≤ 20'	4'-0" TO 6'-0"	TYPE 1
13' ≤ L ≤ 16'	4'-0" TO 6'-0"	TYPE 2
10' ≤ L ≤ 12'	4'-0" TO 6'-0"	TYPE 3

NOTE:  
 PLAN LAYOUT DIMENSIONS AND PLANTING PLAN AS PER GI-122 FOR THE R.O.W. RAIN GARDEN TYPE SPECIFIED.

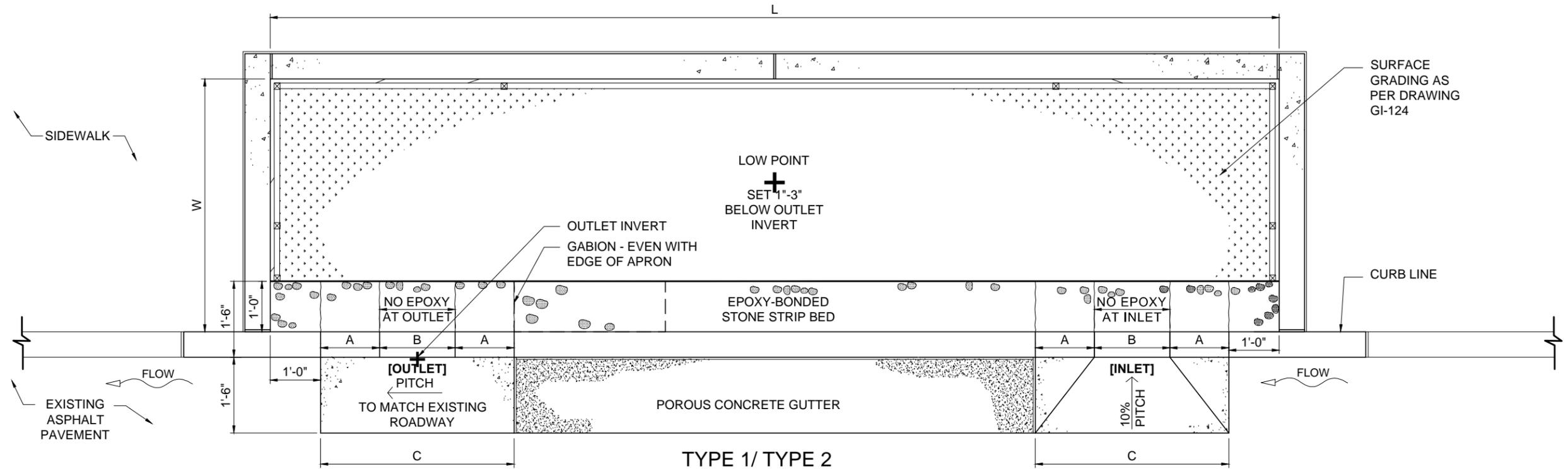
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06-15-2016  
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OFFICE OF GREEN INFRASTRUCTURE

**DIMENSION SCHEDULE FOR VARIABLE SIZE R.O.W. BIOSWALES AND R.O.W. RAIN GARDENS**

- NO CONNECTION TO SEWERS



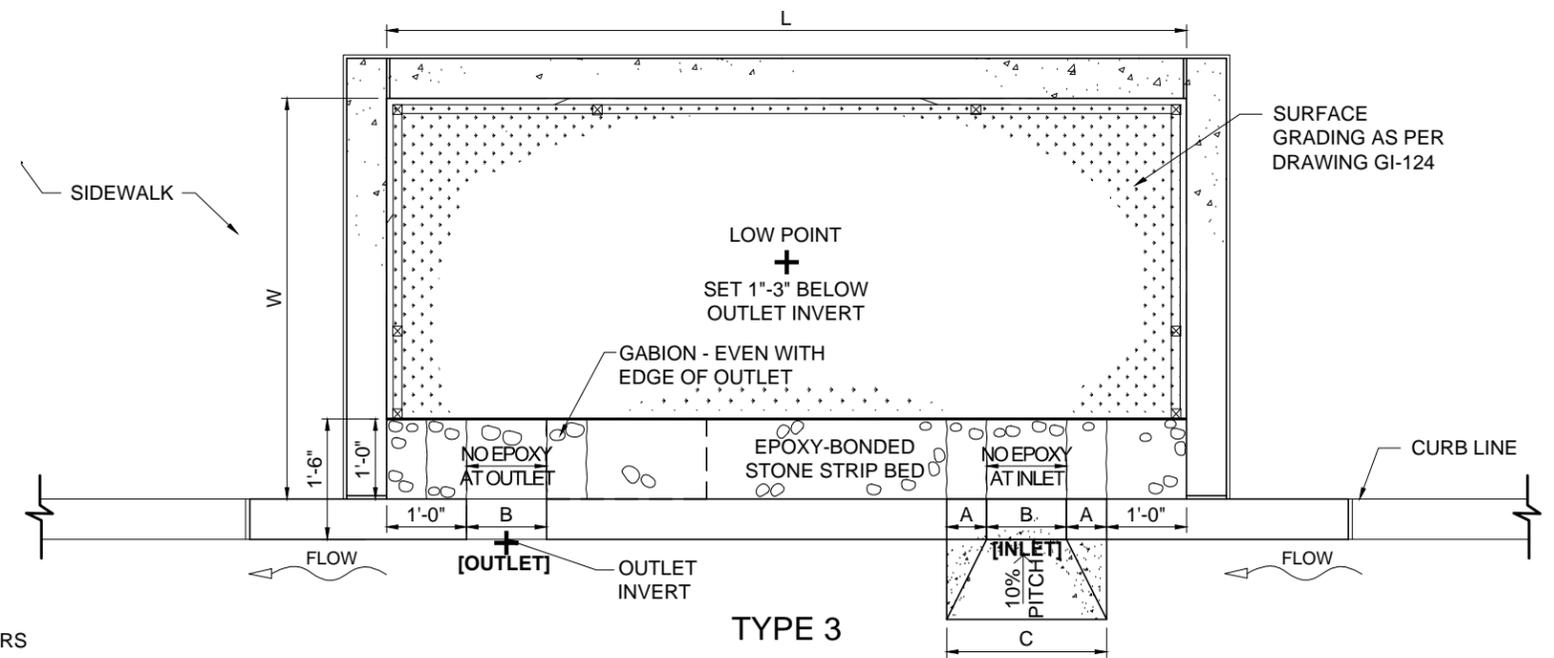
TYPE 1/ TYPE 2

R.O.W. BIOSWALE OR RAIN GARDEN DETAILS			INLET/OUTLET DIMENSIONS			PLANTING PLAN
LENGTH (L), 1FT. INCREMENT	WIDTH (W), 6 IN. INCREMENT	TYPE	A	B	C	TYPE / PAGE NUMBER
17' ≤ L ≤ 20'	4'-0" TO 6'-0"	TYPE 1	14"	18"	3'-10"	TYPE 1 / GI-501A-D
13' ≤ L ≤ 16'	4'-0" TO 6'-0"	TYPE 2	10"	14"	2'-10"	TYPE 2 / GI-502A-D
10' ≤ L ≤ 12'	4'-0" TO 6'-0"	TYPE 3	6" *	12"	2'-0" *	TYPE 3 / GI-503A-D

DIMENSION AND PLANTING PLAN SCHEDULE

NOTES:

- STANDARD CROSS-SECTIONAL DETAILS AND NOTES AS PER THE R.O.W. BIOSWALE OR R.O.W. RAIN GARDEN TYPE SPECIFIED.
- PRIOR TO CONSTRUCTION, THE CONTRACTOR WILL CONFIRM THE LEVELS OF THE R.O.W. BIOSWALE OR R.O.W. RAIN GARDEN TO PREVENT FLOODING.
- DOT APPROVAL REQUIRED FOR ALL WIDTHS GREATER THAN 5'.
- PLANTING QUANTITIES AND PLANS FOR VARIABLE WIDTH R.O.W. BIOSWALES AND R.O.W. RAIN GARDENS AS PER THE PAGE NUMBERS SPECIFIED, DISTRIBUTED EVENLY.
- TREES SPECIES AS DIRECTED BY DPR. TREES ARE ONLY PERMITTED IN R.O.W. BIOSWALES WITH AN ENGINEERED SOIL LAYER 24" DEEP.
- \* INLET DIMENSIONS ONLY



TYPE 3

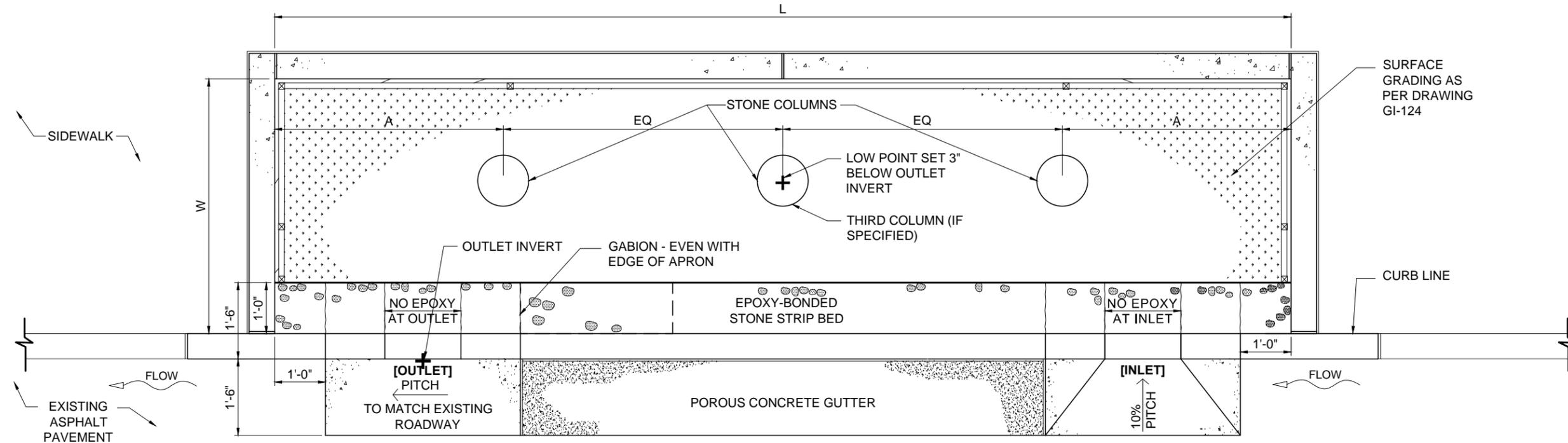
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DEPARTMENT OF ENVIRONMENTAL PROTECTION

06-15-2016  
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CITY OF NEW YORK  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF GREEN INFRASTRUCTURE

# STONE COLUMN SCHEDULE FOR VARIABLE SIZE R.O.W. BIOSWALE

- NO CONNECTION TO SEWERS



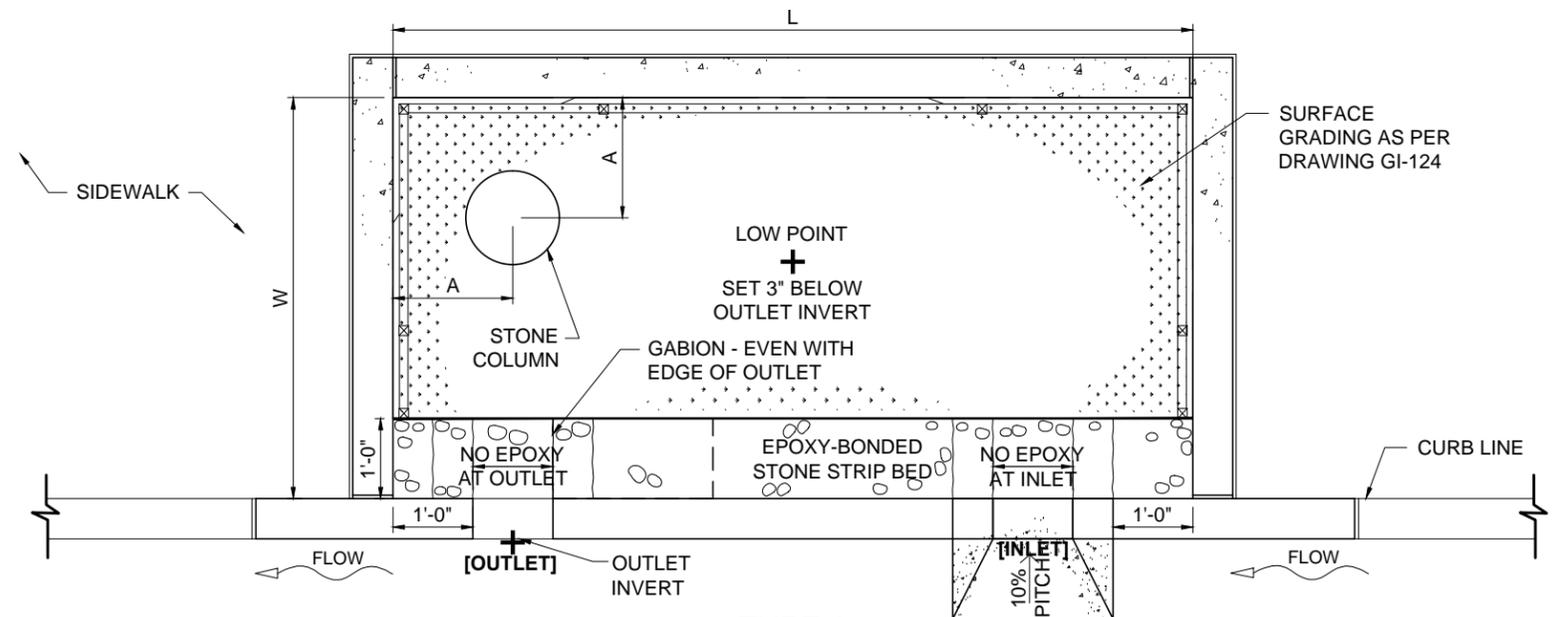
TYPE 1/ TYPE 2

R.O.W. BIOSWALE OR RAIN GARDEN DETAILS			STONE COLUMN DETAILS	
LENGTH (L), 1FT. INCREMENT	WIDTH (W), 6 IN. INCREMENT	TYPE	NUMBER OF COLUMNS	A
17' ≤ L ≤ 20'	4'-0" TO 6'-0"	TYPE 1	3	4'-6"
13' ≤ L ≤ 16'	4'-0" TO 6'-0"	TYPE 2	2	3'-6"
10' ≤ L ≤ 12'	4'-0" TO 6'-0"	TYPE 3	1	1'-6"

DIMENSION SCHEDULE

NOTES:

- STANDARD STONE COLUMN CROSS SECTIONAL DETAILS AS SPECIFIED.
- THIRD COLUMN LOCATED IN CENTER OF ROWB.
- ROWB WITH THREE COLUMNS WILL NOT CONTAIN A TREE.



TYPE 3

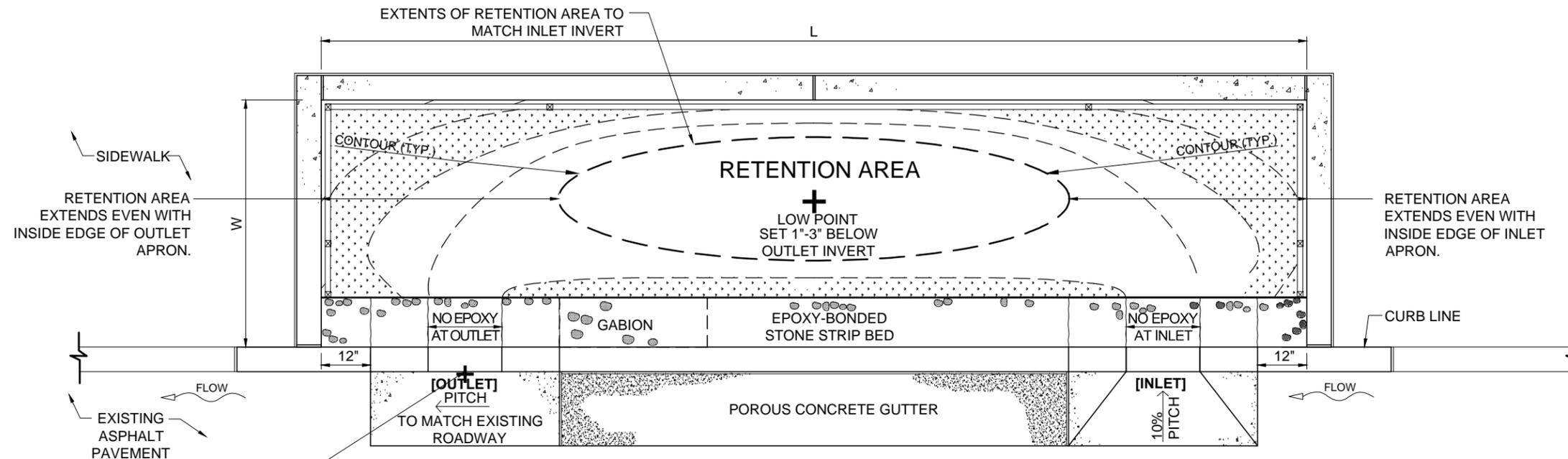
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DEPARTMENT OF ENVIRONMENTAL PROTECTION

06-15-2016  
DATE

CITY OF NEW YORK  
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OFFICE OF GREEN INFRASTRUCTURE

# SURFACE GRADING PLANS FOR R.O.W. BIOSWALES AND R.O.W. RAIN GARDENS

- NO CONNECTION TO SEWERS

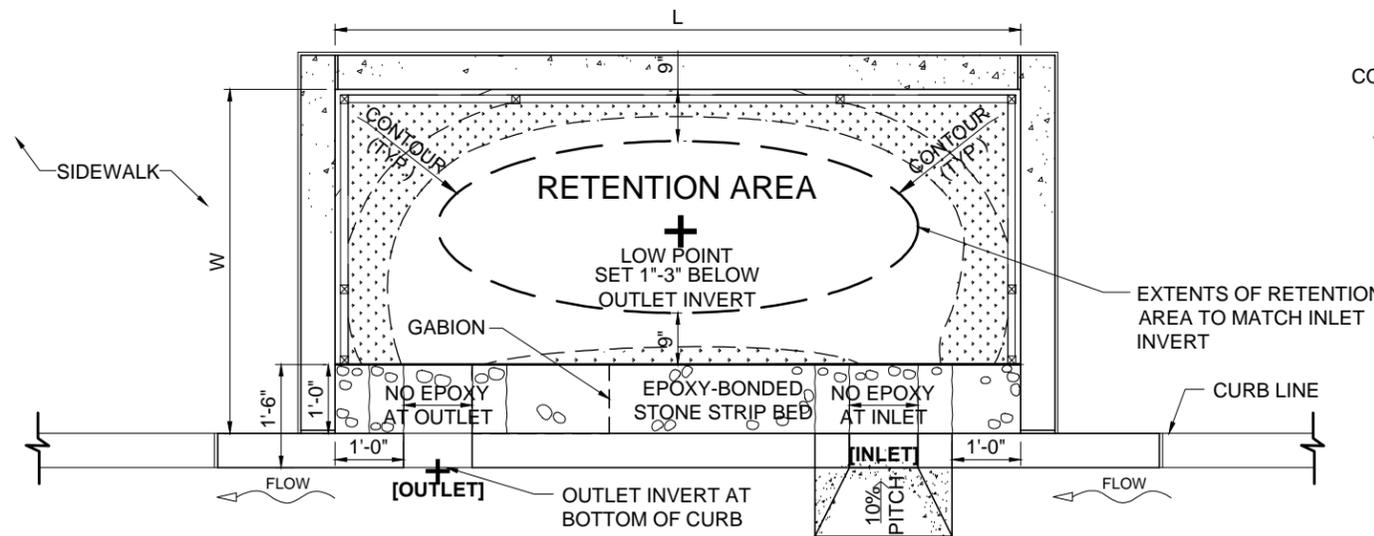


**GRADING PLAN 1**

FOR ALL ROWB WITH  
L = 13' OR GREATER

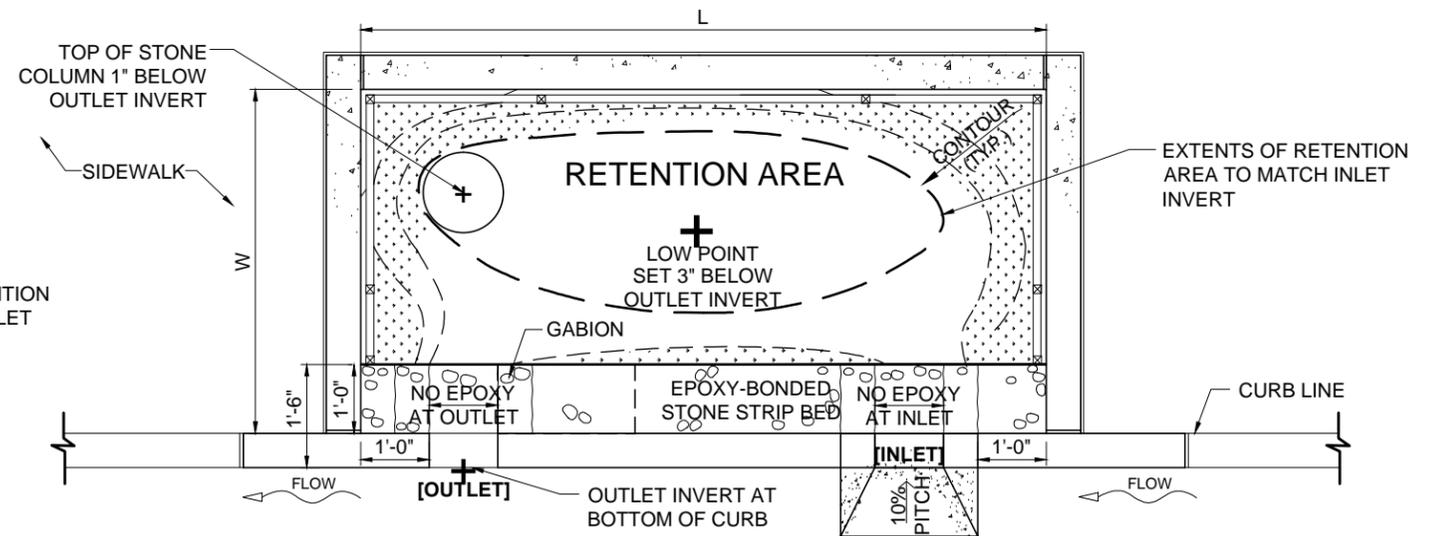
NOTES:

1. ALL SURFACE GRADING TO TAPER TOWARD THE LOW POINT.
2. CONTOUR LINES SHOWN ON THIS DRAWING ARE SCHEMATIC ONLY AND DEPEND ON THE STREET GRADE.



**GRADING PLAN 2**

FOR ROWB WITHOUT STONE COLUMN AND  
L = LESS THAN 13'



**GRADING PLAN 3**

FOR ROWB WITH STONE COLUMN AND  
L = LESS THAN 13'

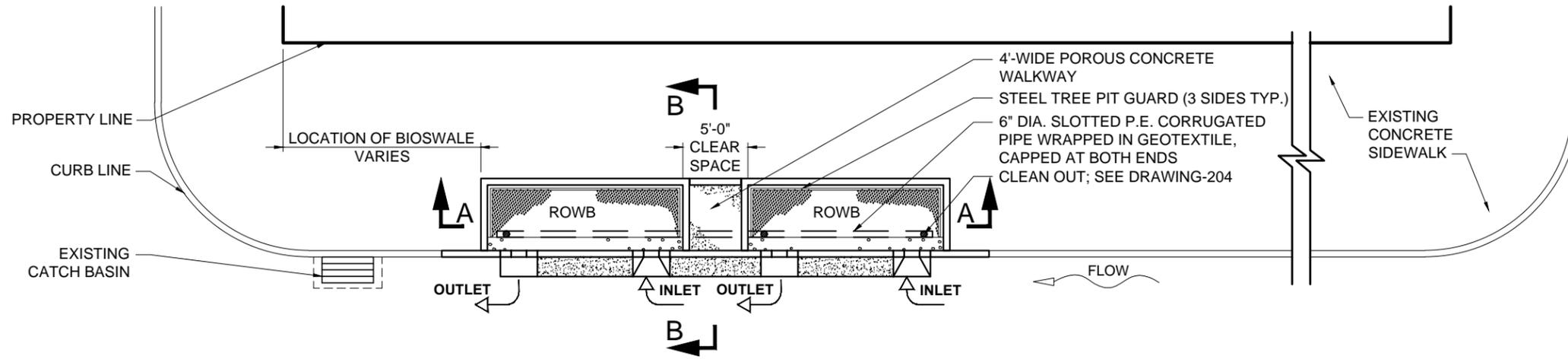
*Mae di Tura*  
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DEPARTMENT OF ENVIRONMENTAL PROTECTION

06-15-2016  
DATE

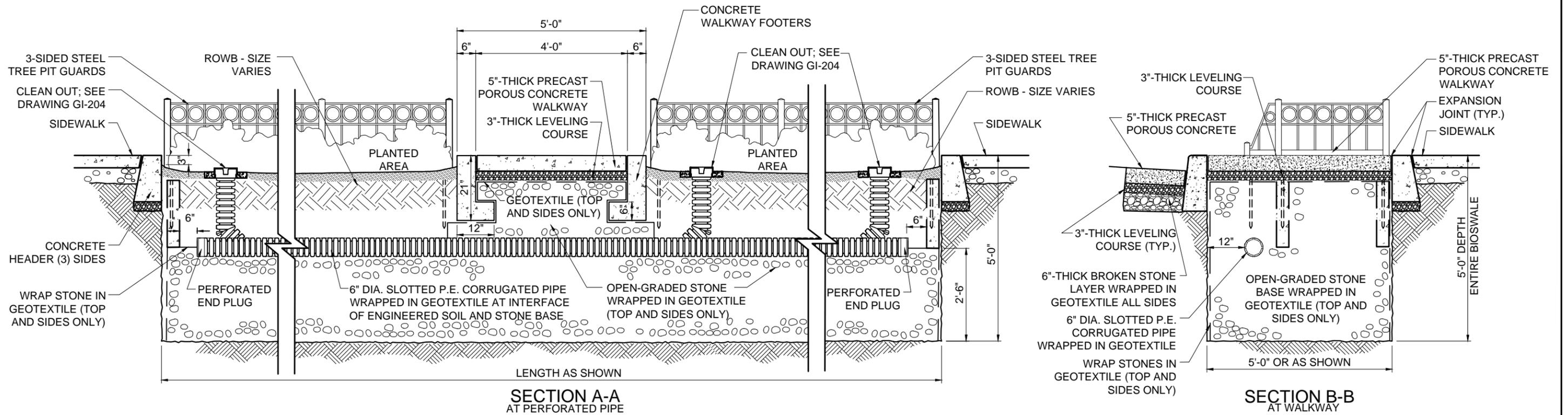
CITY OF NEW YORK  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF GREEN INFRASTRUCTURE

# STANDARD FOR HYDRAULICALLY CONNECTED R.O.W.B. - PERFORATED PIPE

- NO CONNECTION TO SEWERS



PLAN



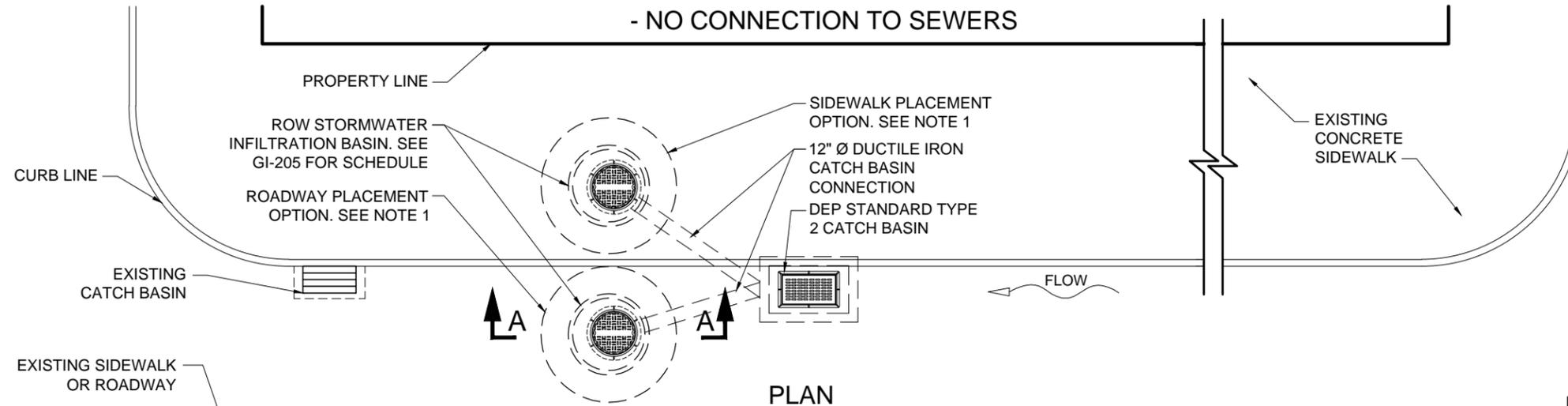
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06-15-2016  
DATE

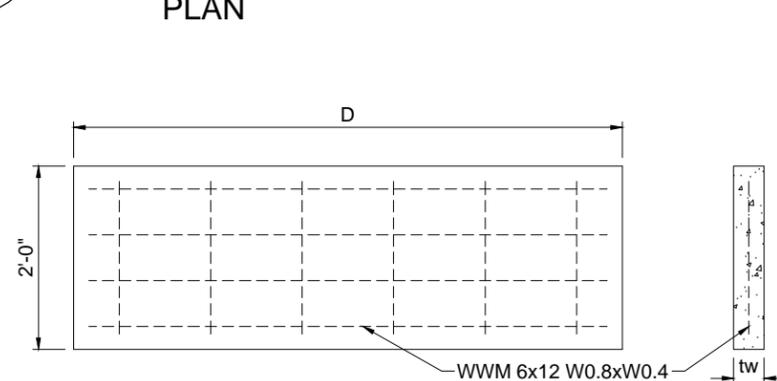
CITY OF NEW YORK  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF GREEN INFRASTRUCTURE

# STANDARD FOR R.O.W. STORMWATER INFILTRATION BASIN WITH TYPE 2 CATCH BASIN

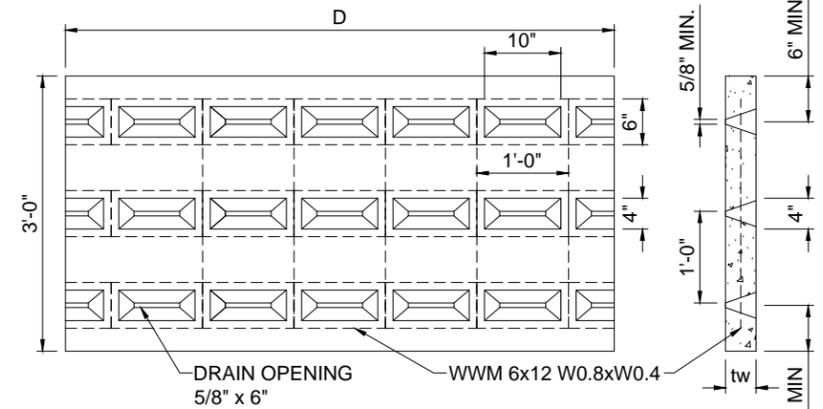
- NO CONNECTION TO SEWERS



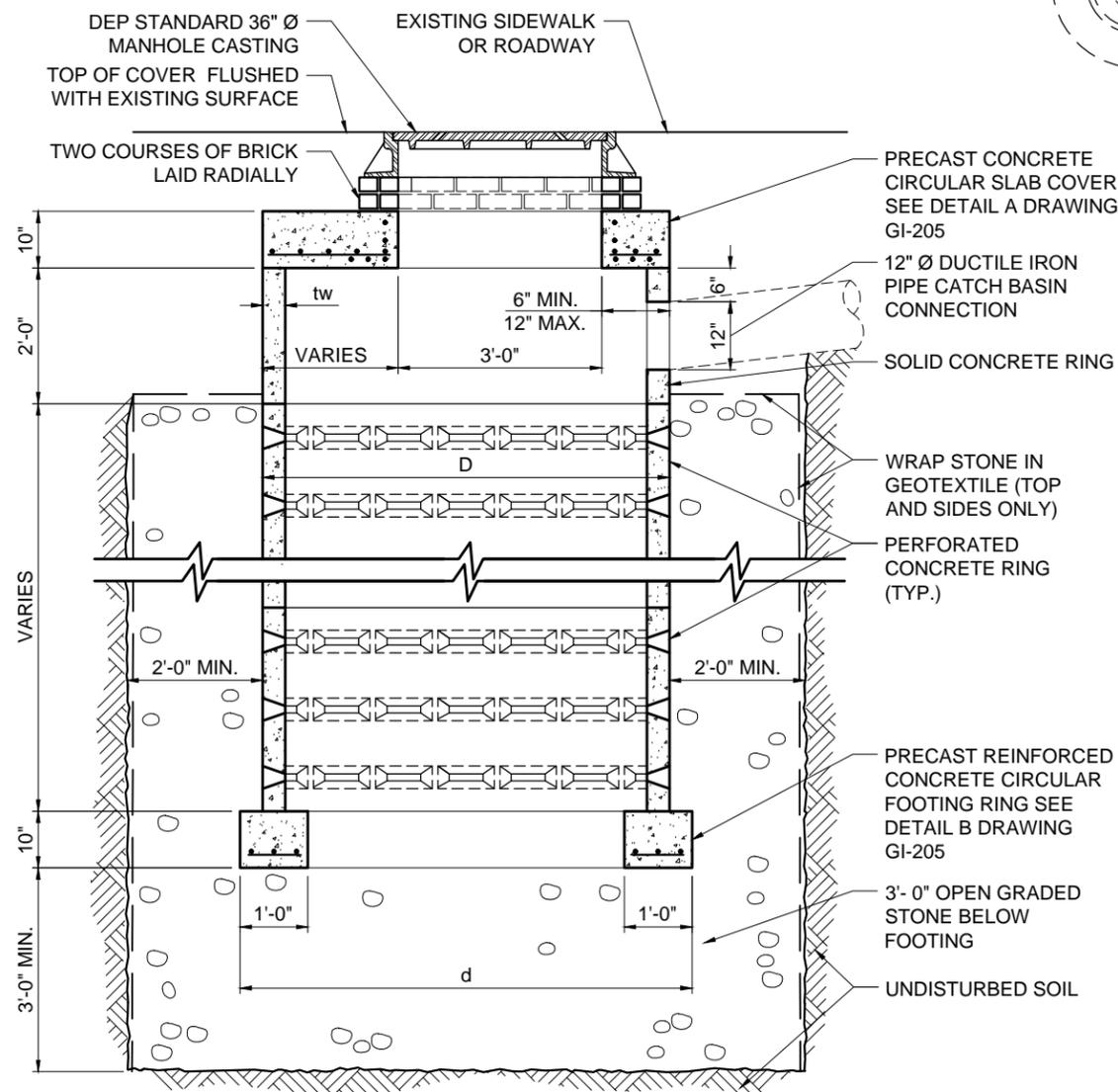
PLAN



PRECAST SOLID CONCRETE RING



PRECAST PERFORATED CONCRETE RING



SECTION A-A

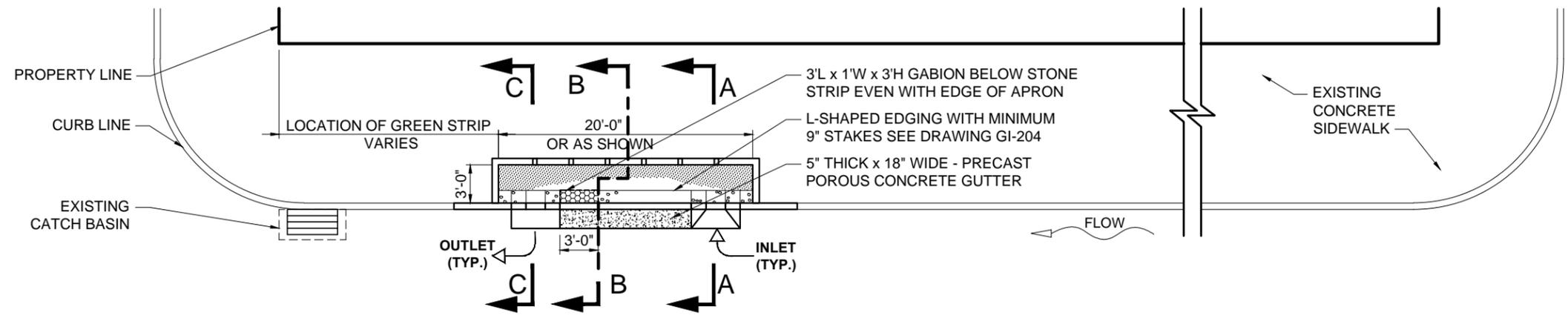
NOTES:

1. THE LOCATION OF THE ROW INFILTRATION BASIN SHALL BE SUCH THAT THE OPENING IN THE TOP SLAB TOGETHER WITH FRAME AND COVER SHALL BE ENTIRELY IN THE ROADWAY AREA OR ENTIRELY IN THE SIDEWALK AREA.
2. ALL SLABS AND RINGS SHALL BE PLACED ON A ONE HALF (1/2) INCH THICK FULL BED OF FRESH MORTAR.
3. INFILTRATION BASIN SOLID RING AND INFILTRATION RING REINFORCING COMPLIES WITH AREA REQUIREMENTS OF ASTM C478. EXCEPT THAT ALL WALL SECTIONS SHALL BE REINFORCED WITH WWM 6x12 W0.8xW0.4 PLACED IN CENTER OF WALL. IN SOLID RING 1-#4 HOOP SHALL BE PLACED AROUND ALL CAST PIPE OPENINGS. (THE 1-#4 HOOP WILL BE REQUIRED AT CORED OPENINGS FOR BASIN CONNECTIONS IN SOLID RINGS.) (ALL VALUES OF AREA OF STEEL (AS) ARE IN SQUARE INCHES AND ARE A MINIMUM.)
4. PRECAST PIPE OPENINGS AND CORED OPENINGS FOR CATCH BASIN CONNECTION WILL BE PLACED IN SOLID RING ONLY. NO CORED OPENING WILL BE ALLOWED IN SEEPAGE RINGS.
5. CORED OPENINGS IN SOLID RING WILL BE PERMITTED FOR UP TO 12" DIA. DUCTILE IRON CATCH BASIN CONNECTION ONLY.
6. PIPE OPENINGS WILL NOT BE PERMITTED THROUGH JOINTS. DISTANCE FROM TOP OR BOTTOM OF ANY SOLID RING SECTION SHALL BE A MINIMUM OF 6" FOR CORED OPENINGS FOR BASIN CONNECTIONS.
7. CONCRETE DESIGN MIX = 5,000 PSI (MIN. 28 DAY STRENGTH=4,000 PSI; MAX. W/C=0.47). REBARS - FS = 60,000 PSI. WWM - FS=65,000 PSI.
8. OPENINGS FOR SPACING AND HANDLING WILL BE ALLOWED IN UPPER PORTION OF SOLID RING. HOWEVER, THE CONTRACTOR SHALL FILL ALL SUCH OPENINGS WITH NON SHRINK GROUT IMMEDIATELY AFTER INSTALLATION.
9. IN NO CASE SHALL THE AREA OF THE DRAIN OPENING BE LESS THAN 3.0 SQ. IN.

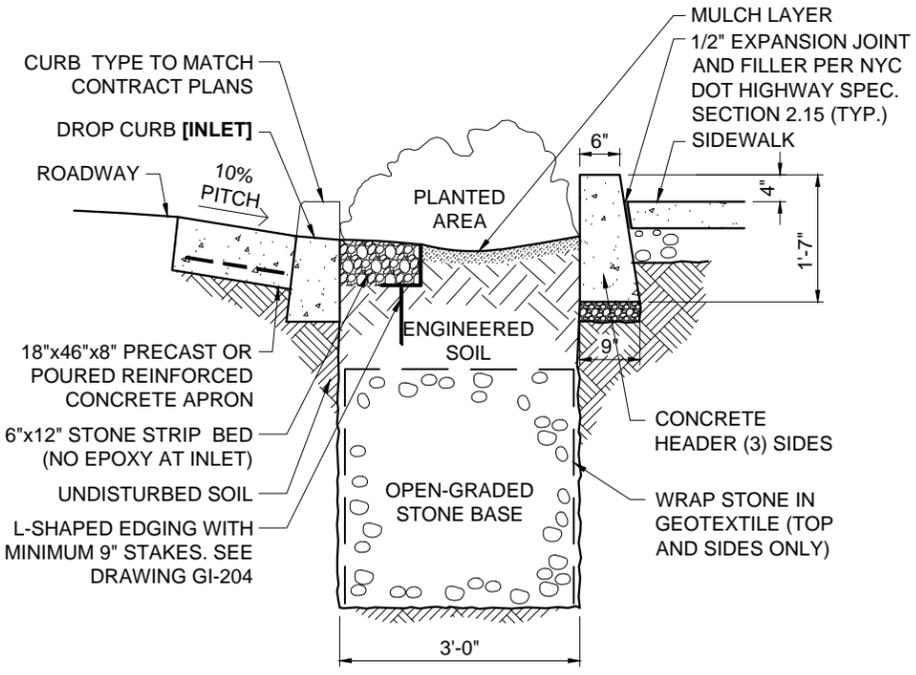
*Mehdi Taha*  
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DEPARTMENT OF ENVIRONMENTAL PROTECTION

06-15-2016  
DATE

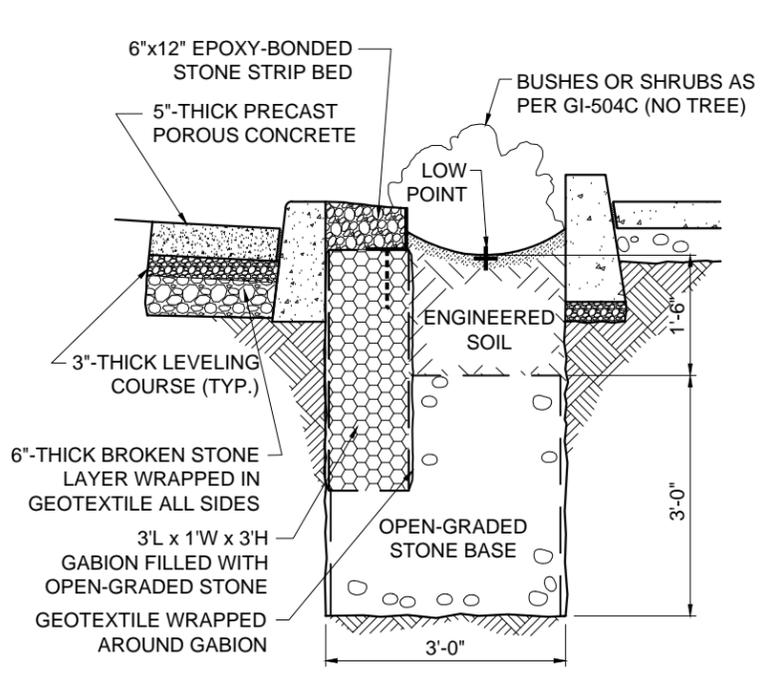
CITY OF NEW YORK  
 DEPARTMENT OF ENVIRONMENTAL PROTECTION  
 OFFICE OF GREEN INFRASTRUCTURE  
**STANDARD FOR 20'x3' R.O.W. GREENSTRIP TYPE 1**  
 - NO CONNECTION TO SEWERS



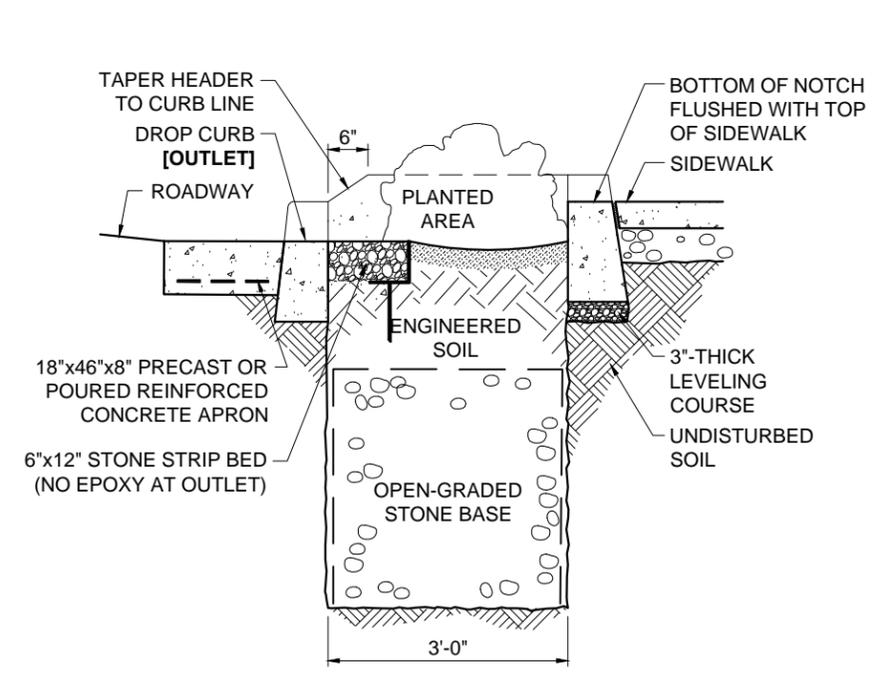
PLAN



SECTION A-A AT GREEN STRIP INLET



SECTION B-B AT MIDSECTION [LOWEST POINT]

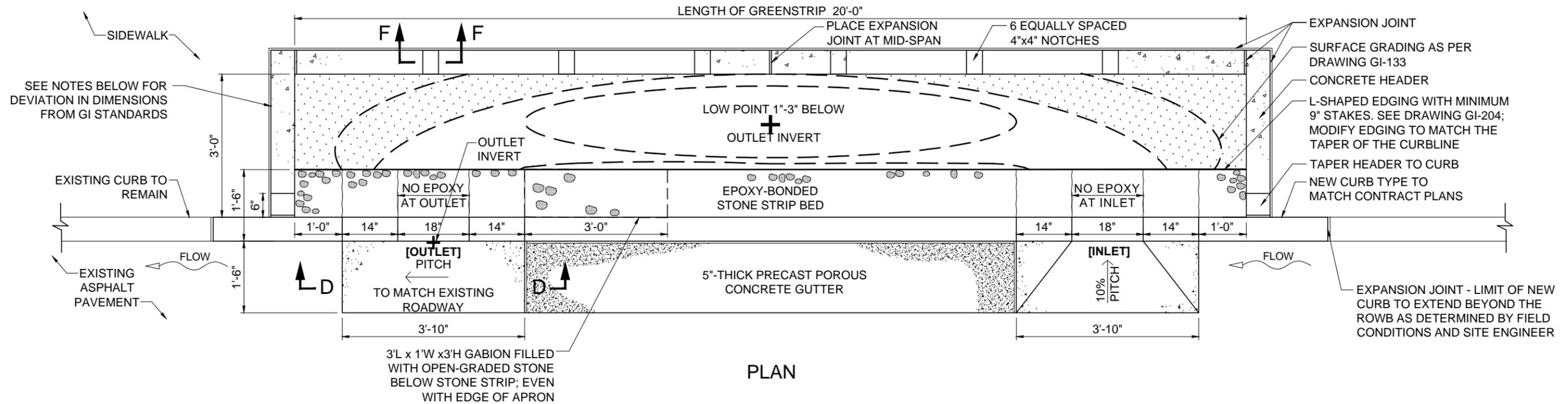


SECTION C-C AT GREEN STRIP OUTLET

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06-15-2016  
 DATE

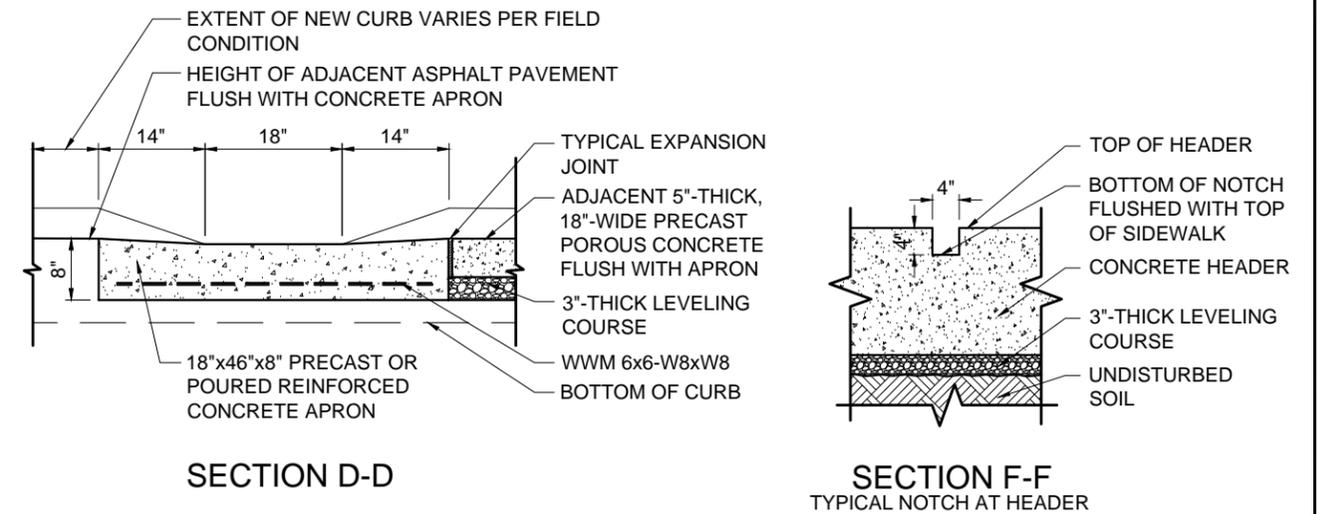
CITY OF NEW YORK  
 DEPARTMENT OF ENVIRONMENTAL PROTECTION  
 OFFICE OF GREEN INFRASTRUCTURE  
**STANDARD FOR 20'x3' R.O.W. GREENSTRIP TYPE 1**  
 - NO CONNECTION TO SEWERS



PLAN

**NOTES:**

1. THE CONTRACTOR SHALL BE REQUIRED TO REMOVE AND REPLACE THE ADJACENT EXISTING SIDEWALK FLAG TO NEAREST SIDEWALK JOINT BEYOND THE LIMITS OF THE BIOSWALE. THE CONTRACTOR SHALL REPLACE THAT SIDEWALK IN KIND IN FULL COMPLIANCE WITH THE APPLICABLE SECTIONS OF STANDARD HIGHWAY SPECIFICATION.
2. THE CONTRACTOR SHALL REMOVE AND RESTORE ONE-AND-A-HALF (1 1/2) FOOT WIDTH OF THE WEARING COURSE AND ONE-AND-A-HALF (1 1/2) FOOT WIDTH OF ROADWAY CONCRETE PAVEMENT BASE ALONG THE CURB LINE AND ADJACENT TO THE CONCRETE APRONS, WHERE REQUIRED. ALL WORK MUST BE COMPLETED IN FULL COMPLIANCE WITH THE APPLICABLE SECTIONS OF THE STANDARD HIGHWAY SPECIFICATIONS.
3. THE CONTRACTOR SHALL OBTAIN THE NECESSARY PLANTING PERMITS FROM THE NYC DEPARTMENT OF PARKS AND RECREATION (DPR) AND NYC DEPARTMENT OF TRANSPORTATION (DOT) PRIOR TO THE START OF WORK.
4. NO TREE SHALL BE REMOVED BY THE CONTRACTOR UNTIL SPECIFICALLY ORDERED IN WRITING TO DO SO BY THE ENGINEER AND WITH APPROVAL FROM DPR.
5. THE CONTRACTOR SHALL NOT BE PERMITTED TO OPERATE AUXILIARY EQUIPMENT WHICH GENERATES EXHAUST OR OTHER HEAT UPWARD (E.G., GENERATORS AND COMPRESSORS), UNDER THE BRANCHES OF TREES WHERE THE BRANCHES ARE LESS THAN 25' ABOVE THE GROUND, UNLESS APPROVED BY THE ENGINEER IN CONSULTATION WITH THE CERTIFIED ARBORIST.
6. THE CONTRACTOR SHALL NOT BE PERMITTED TO STORE, STOCKPILE, OR LAY DOWN, ANY CONSTRUCTION MATERIAL INCLUDING, BUT NOT LIMITED TO, LUMBER, FUEL, AND OIL CONTAINERS, PIPES, AND/OR PIPE FITTINGS, BARRICADES, HAND TOOLS, HOSES, RECEPTACLES, AND ASPHALT WITHIN ANY EXISTING R.O.W. GREEN STRIP
7. FOR R.O.W. GI PRACTICES WITH DIMENSIONS THAT DEVIATE FROM THE GI STANDARDS AS SHOWN ON CONTRACT PLANS DUE TO FIELD CONDITIONS, REFER TO THE DIMENSION SCHEDULE ON GI-133 AND SPECIFICATIONS



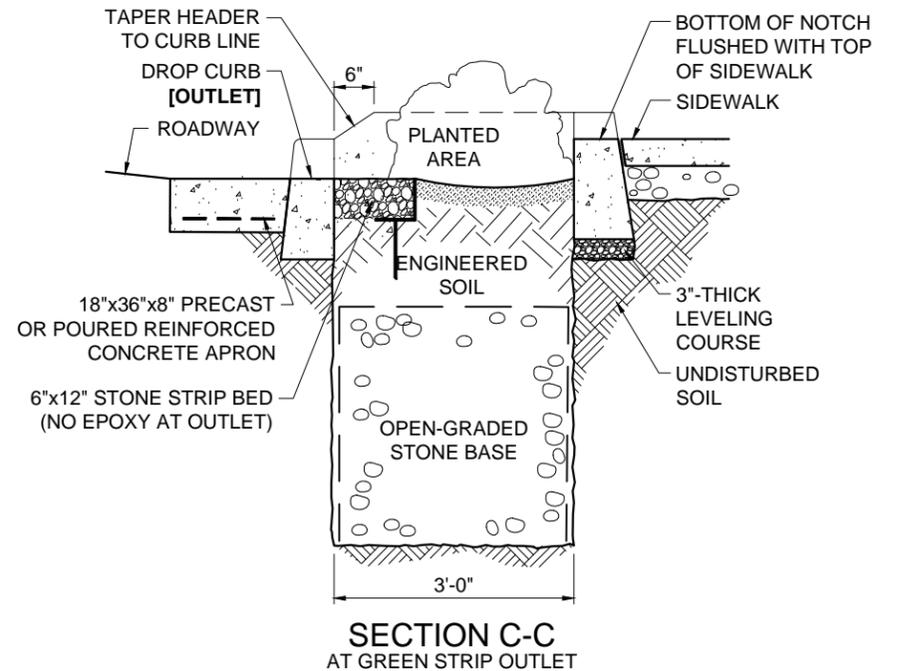
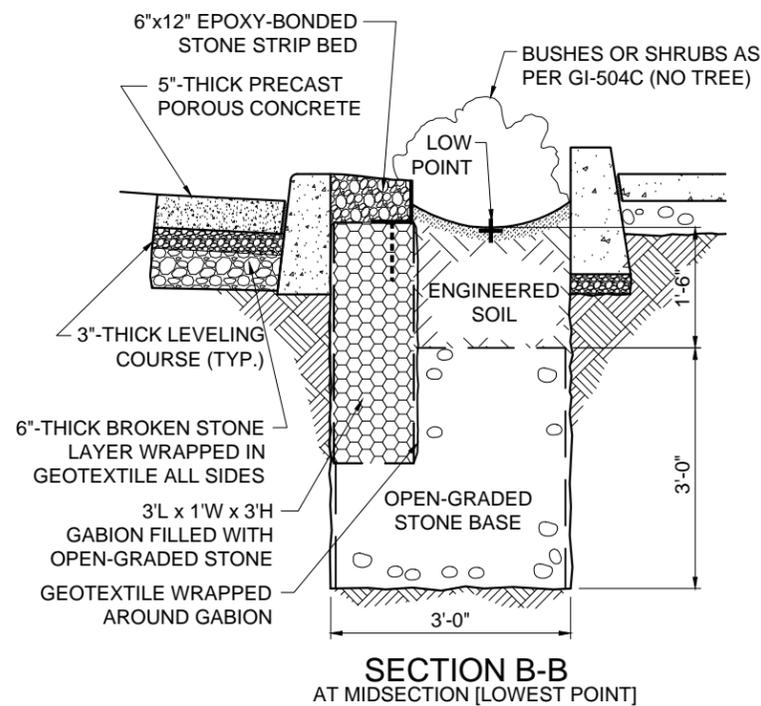
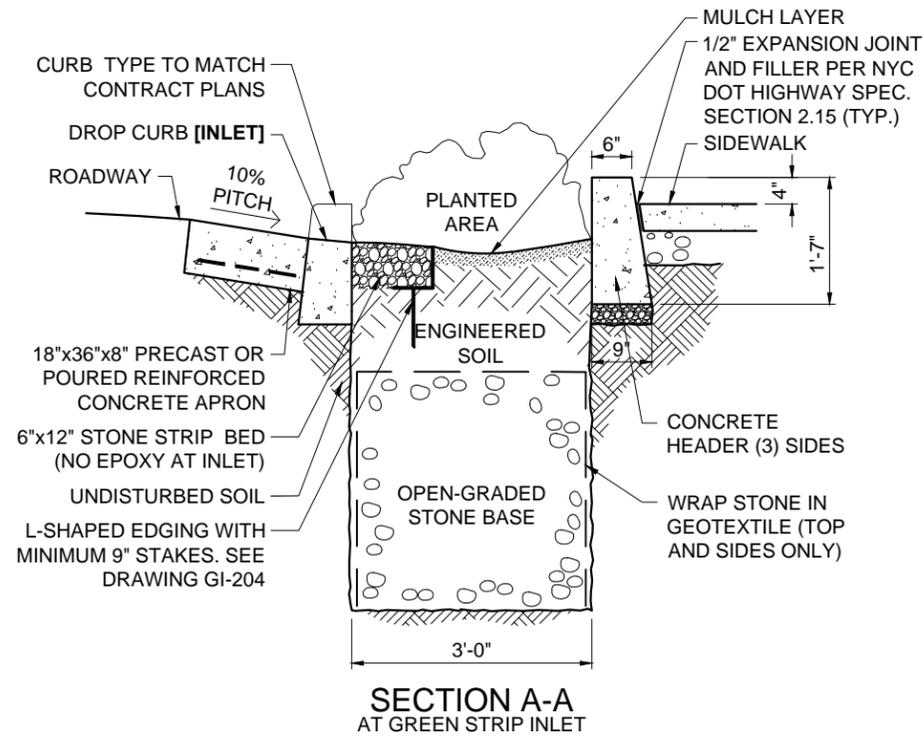
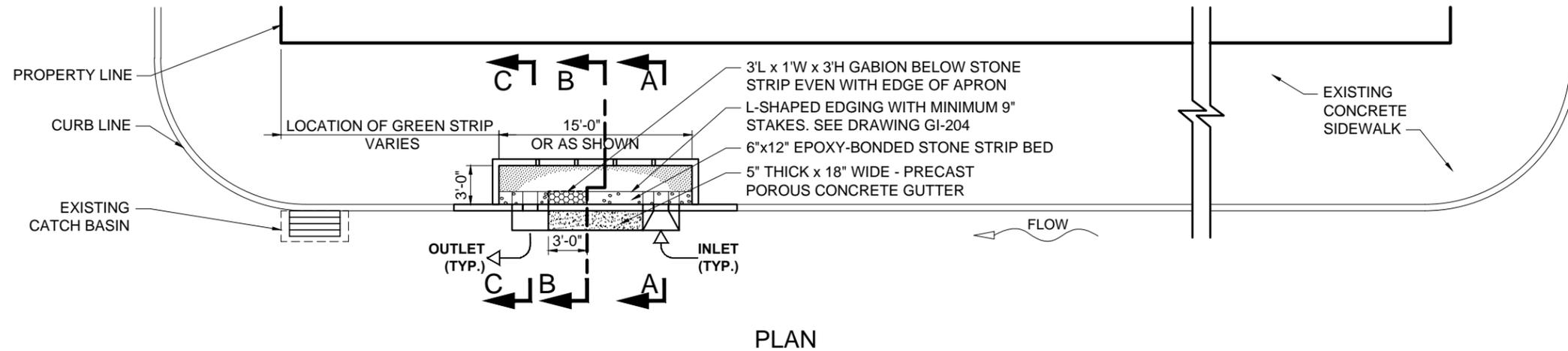
SECTION D-D

SECTION F-F  
TYPICAL NOTCH AT HEADER

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06-15-2016  
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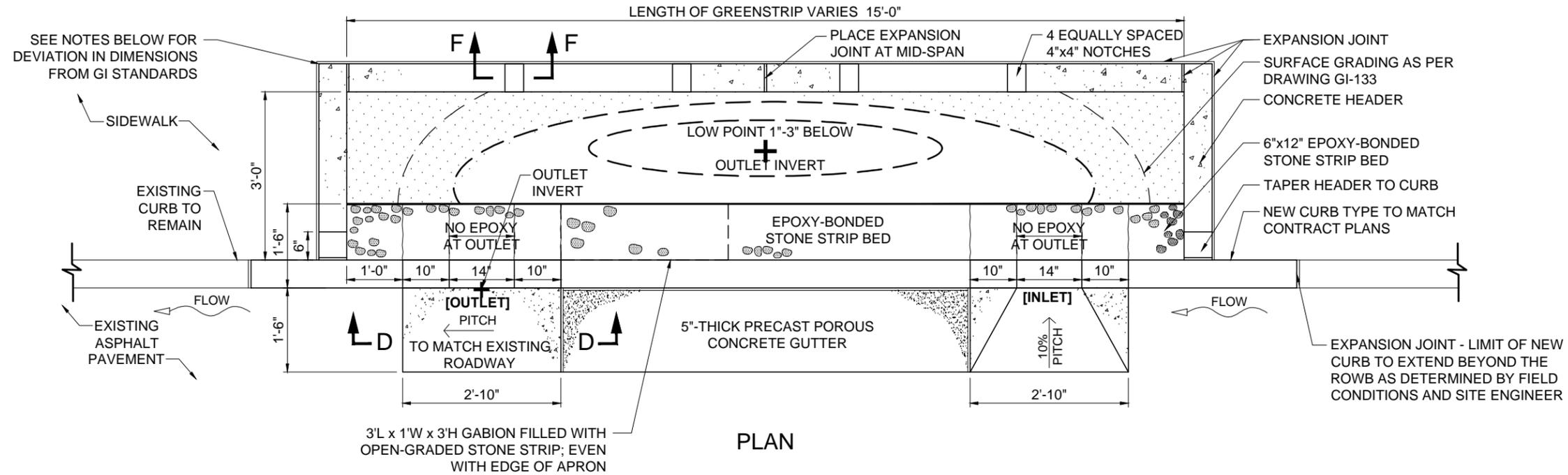
CITY OF NEW YORK  
 DEPARTMENT OF ENVIRONMENTAL PROTECTION  
 OFFICE OF GREEN INFRASTRUCTURE  
**STANDARD FOR 15'x3' R.O.W. GREENSTRIP TYPE 2**  
 - NO CONNECTION TO SEWERS



*Maedi Tuma*  
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 DEPARTMENT OF ENVIRONMENTAL PROTECTION

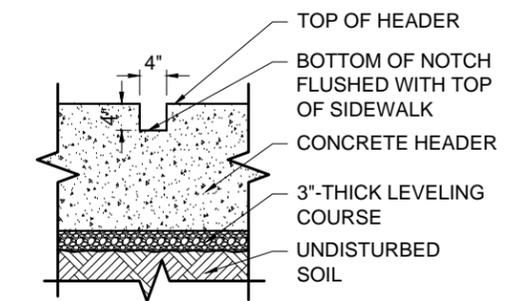
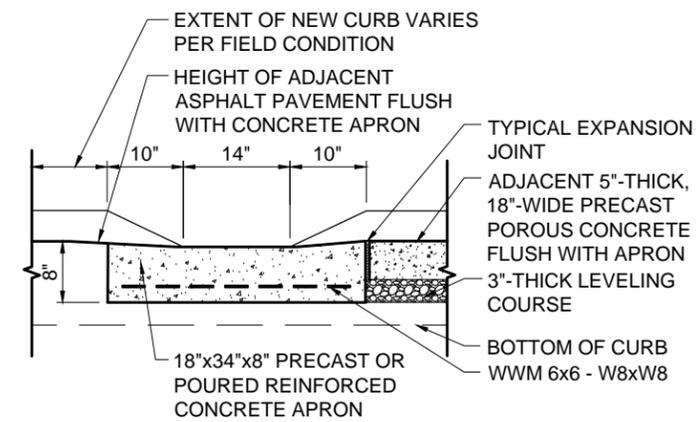
06-15-2016  
 DATE

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DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF GREEN INFRASTRUCTURE  
**STANDARD FOR 15'x3' R.O.W. GREENSTRIP TYPE 2**  
- NO CONNECTION TO SEWERS



**NOTES:**

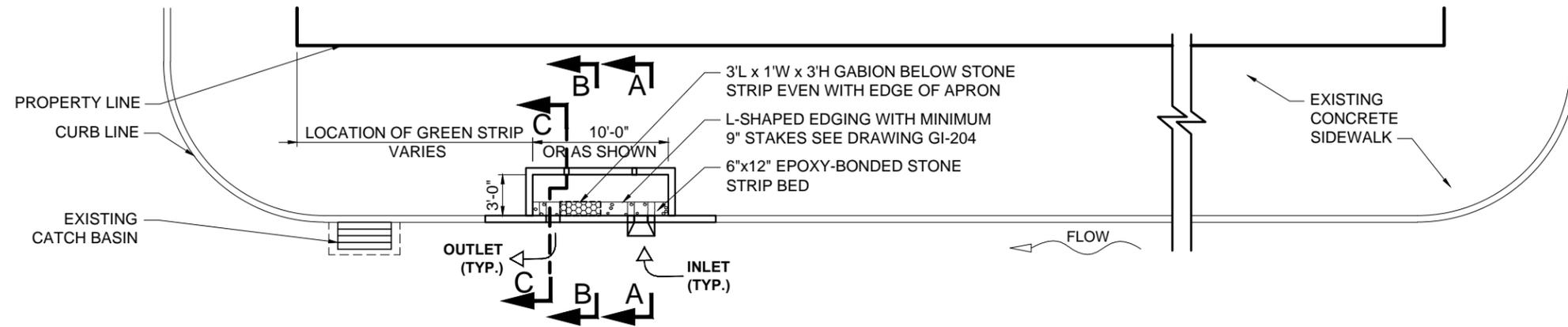
1. THE CONTRACTOR SHALL BE REQUIRED TO REMOVE AND REPLACE THE ADJACENT EXISTING SIDEWALK FLAG TO NEAREST SIDEWALK JOINT BEYOND THE LIMITS OF THE BIOSWALE. THE CONTRACTOR SHALL REPLACE THAT SIDEWALK IN KIND IN FULL COMPLIANCE WITH THE APPLICABLE SECTIONS OF STANDARD HIGHWAY SPECIFICATION.
2. THE CONTRACTOR SHALL REMOVE AND RESTORE ONE-AND-A-HALF (1 1/2) FOOT WIDTH OF THE WEARING COURSE AND ONE-AND-A-HALF (1 1/2) FOOT WIDTH OF ROADWAY CONCRETE PAVEMENT BASE ALONG THE CURB LINE AND ADJACENT TO THE CONCRETE APRONS, WHERE REQUIRED. ALL WORK MUST BE COMPLETED IN FULL COMPLIANCE WITH THE APPLICABLE SECTIONS OF THE STANDARD HIGHWAY SPECIFICATIONS.
3. THE CONTRACTOR SHALL OBTAIN THE NECESSARY PLANTING PERMITS FROM THE NYC DEPARTMENT OF PARKS AND RECREATION (DPR) AND NYC DEPARTMENT OF TRANSPORTATION (DOT) PRIOR TO THE START OF WORK.
4. NO TREE SHALL BE REMOVED BY THE CONTRACTOR UNTIL SPECIFICALLY ORDERED IN WRITING TO DO SO BY THE ENGINEER AND WITH APPROVAL FROM DPR.
5. THE CONTRACTOR SHALL NOT BE PERMITTED TO OPERATE AUXILIARY EQUIPMENT WHICH GENERATES EXHAUST OR OTHER HEAT UPWARD (E.G., GENERATORS AND COMPRESSORS), UNDER THE BRANCHES OF TREES WHERE THE BRANCHES ARE LESS THAN 25' ABOVE THE GROUND, UNLESS APPROVED BY THE ENGINEER IN CONSULTATION WITH THE CERTIFIED ARBORIST.
6. THE CONTRACTOR SHALL NOT BE PERMITTED TO STORE, STOCKPILE, OR LAY DOWN, ANY CONSTRUCTION MATERIAL INCLUDING, BUT NOT LIMITED TO, LUMBER, FUEL, AND OIL CONTAINERS, PIPES, AND/OR PIPE FITTINGS, BARRICADES, HAND TOOLS, HOSES, RECEPTACLES, AND ASPHALT WITHIN ANY EXISTING R.O.W. GREEN STRIP
7. FOR R.O.W. GI PRACTICES WITH DIMENSIONS THAT DEVIATE FROM THE GI STANDARDS AS SHOWN ON CONTRACT PLANS DUE TO FIELD CONDITIONS, REFER TO THE DIMENSION SCHEDULE ON GI-133 AND SPECIFICATIONS



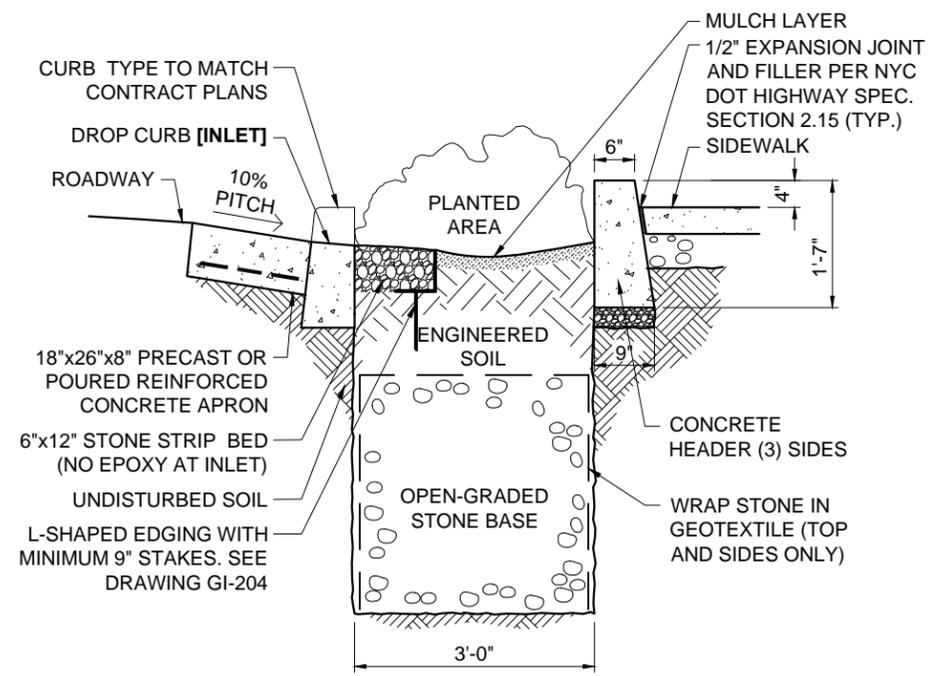
*Maedi Turaq*  
P.E., F. ASCE  
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DEPARTMENT OF ENVIRONMENTAL PROTECTION

06-15-2016  
DATE

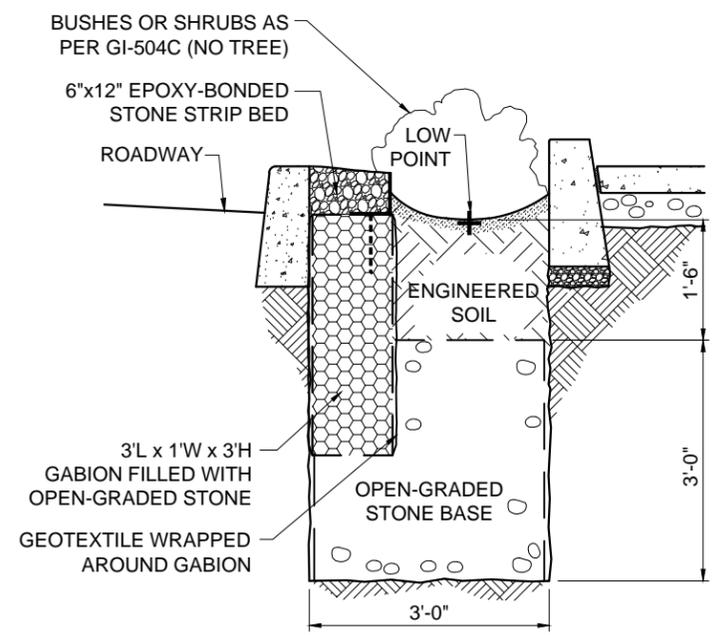
CITY OF NEW YORK  
 DEPARTMENT OF ENVIRONMENTAL PROTECTION  
 OFFICE OF GREEN INFRASTRUCTURE  
**STANDARD FOR 10'x3' R.O.W. GREENSTRIP TYPE 3**  
 - NO CONNECTION TO SEWERS



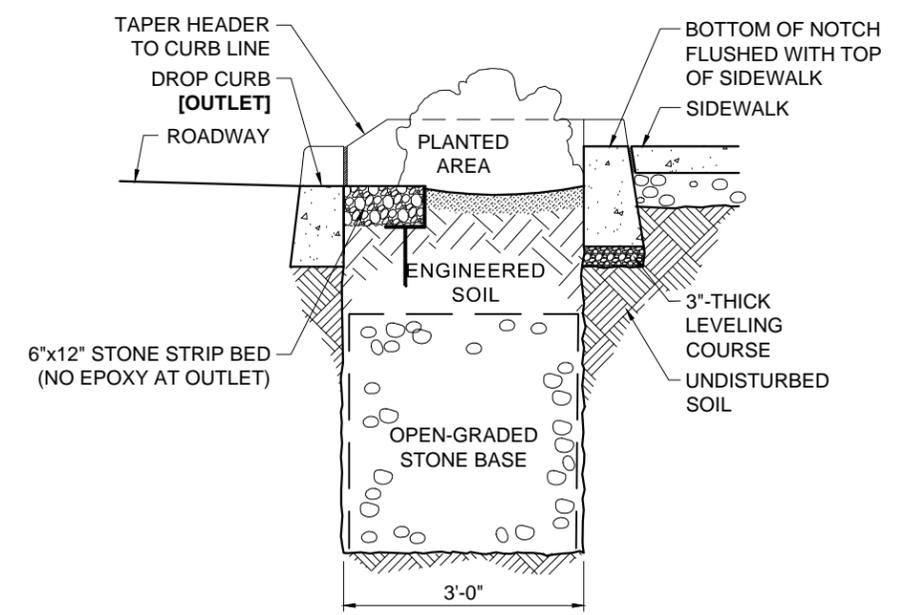
PLAN



SECTION A-A  
AT GREEN STRIP INLET



SECTION B-B  
AT MIDSECTION [LOWEST POINT]



SECTION C-C  
AT GREEN STRIP OUTLET

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 DEPARTMENT OF ENVIRONMENTAL PROTECTION

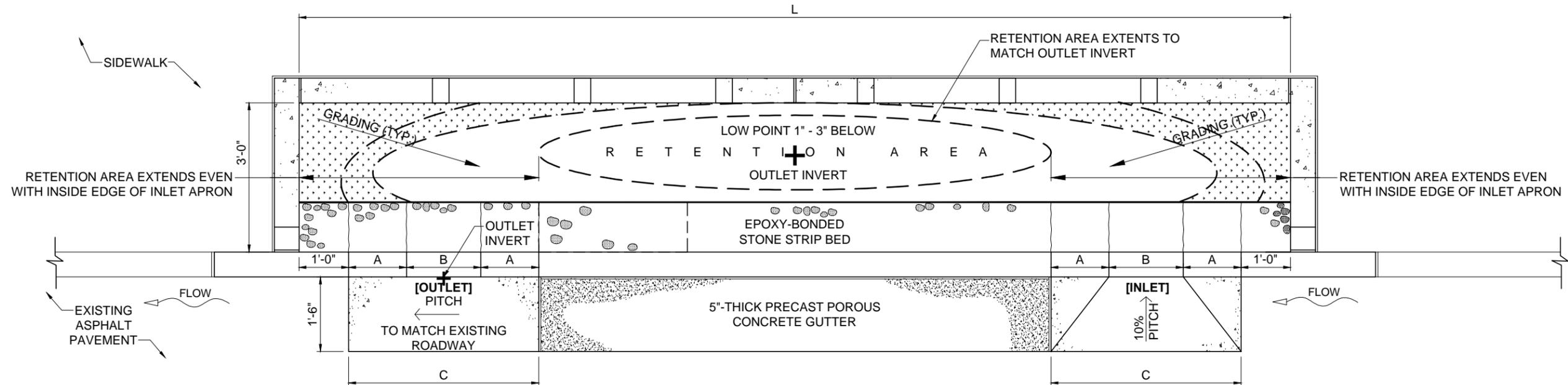
06-15-2016  
 DATE



CITY OF NEW YORK  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF GREEN INFRASTRUCTURE

# SURFACE GRADING & DIMENSION SCHEDULE PLANS FOR R.O.W. GREENSTRIPS

- NO CONNECTION TO SEWERS



TYPE 1 & TYPE 2 GRADING PLAN

GRADING NOTES:

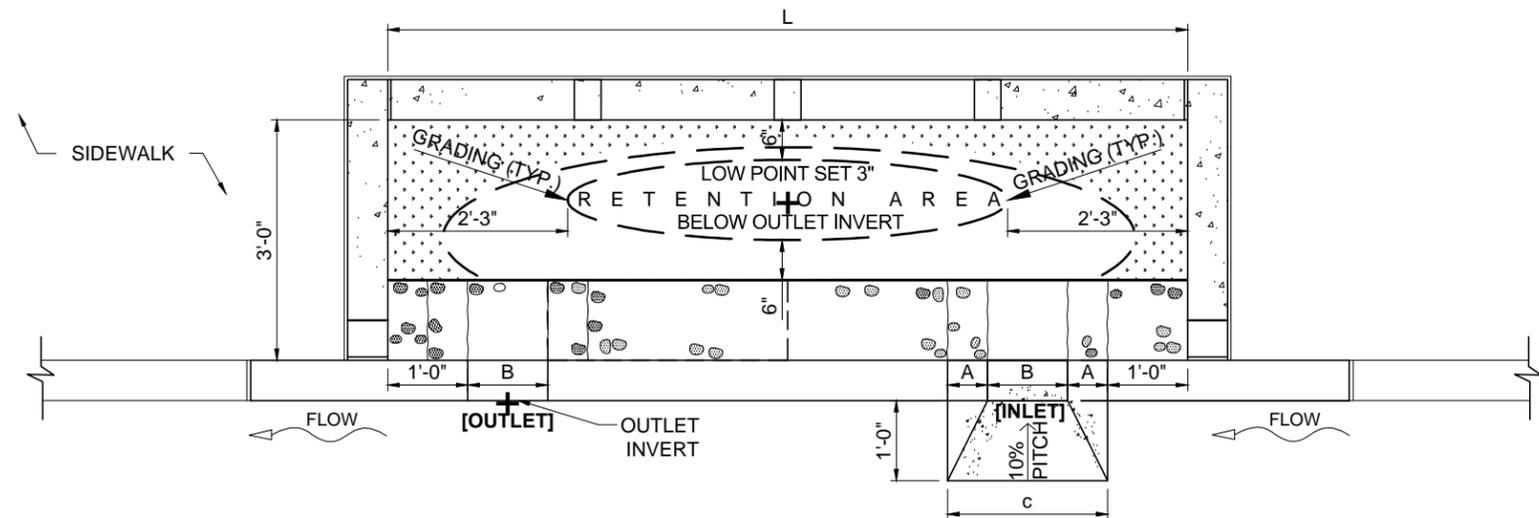
1. ALL SURFACE GRADING TO TAPER TOWARDS THE LOW POINT.
2. CONTOUR LINES SHOWN ON THIS DRAWING ARE SCHEMATIC ONLY AND DEPEND ON THE STREET GRADE.

R.O.W. GREEN STRIP		INLET/OUTLET DIMENSIONS			PLANTING PLAN
LENGTH (L), 1FT. INCREMENT	TYPE	A	B	C	TYPE / PAGE NUMBER
17' ≤ L ≤ 20'	TYPE 1	14"	18"	3'-10"	GI-504A & B
13' ≤ L ≤ 16'	TYPE 2	10"	14"	2'-10"	GI-504A & B
10' ≤ L ≤ 12'	TYPE 3	6" *	12"	6" *	504C

DIMENSION AND PLANTING PLAN SCHEDULE

DIMENSION AND PLANTING NOTES:

1. STANDARD CROSS-SECTIONAL DETAILS AND NOTES AS PER THE R.O.W. GREENSTRIP TYPE SPECIFIED.
2. PRIOR TO CONSTRUCTION, THE CONTRACTOR WILL CONFIRM THE LEVELS OF THE R.O.W. GREEN STRIP TO PREVENT FLOODING.
3. \* INLET DIMENSIONS ONLY



TYPE 3 GRADING PLAN

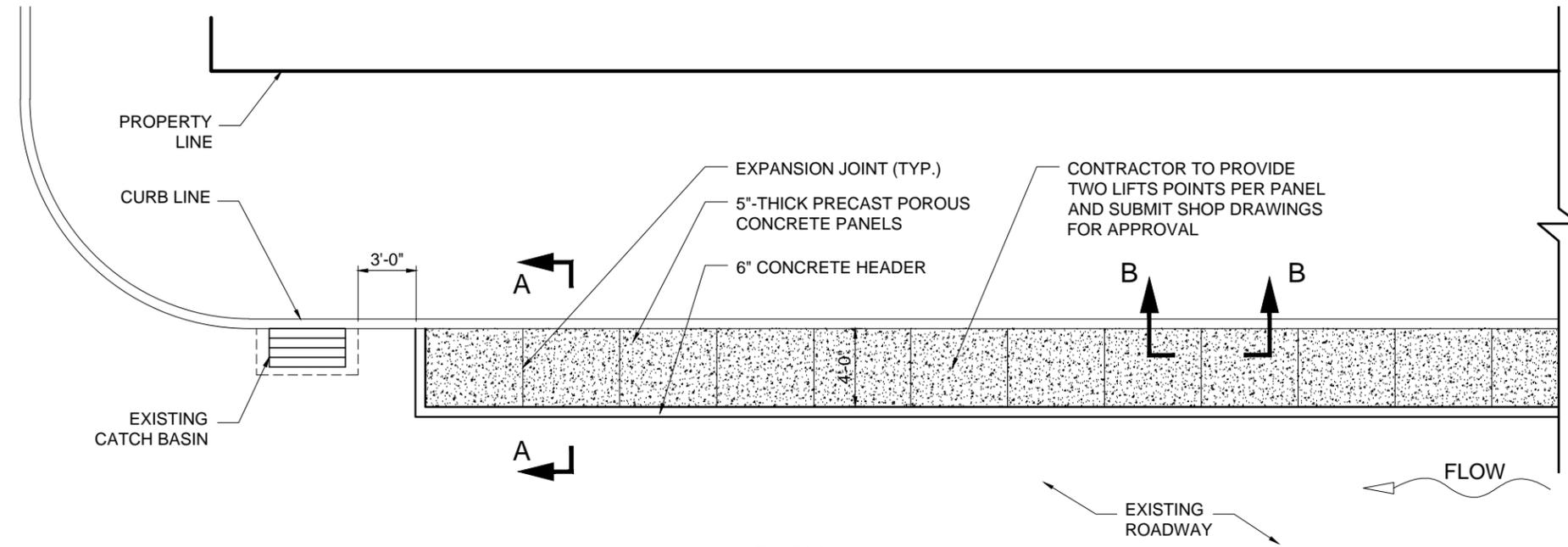
*Mae di Tura*  
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DEPARTMENT OF ENVIRONMENTAL PROTECTION

06-15-2016  
DATE

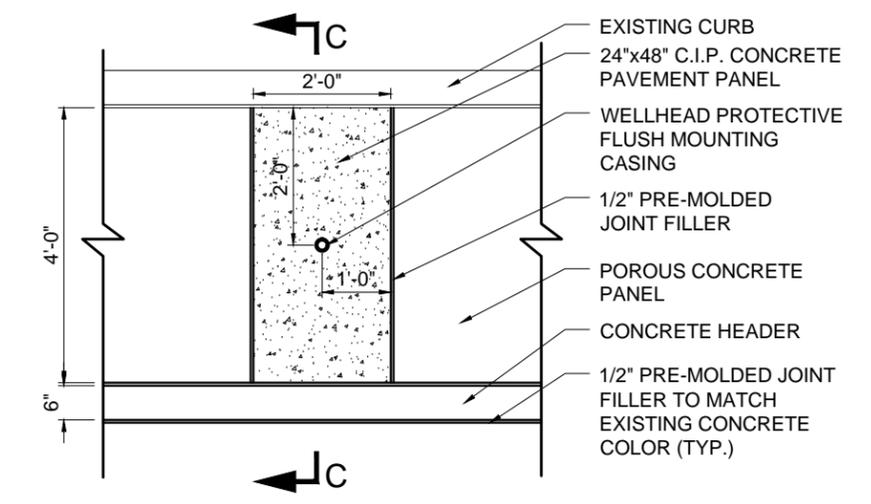
CITY OF NEW YORK  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF GREEN INFRASTRUCTURE

# STANDARD FOR R.O.W. PRECAST CONCRETE PANEL POROUS PAVEMENT

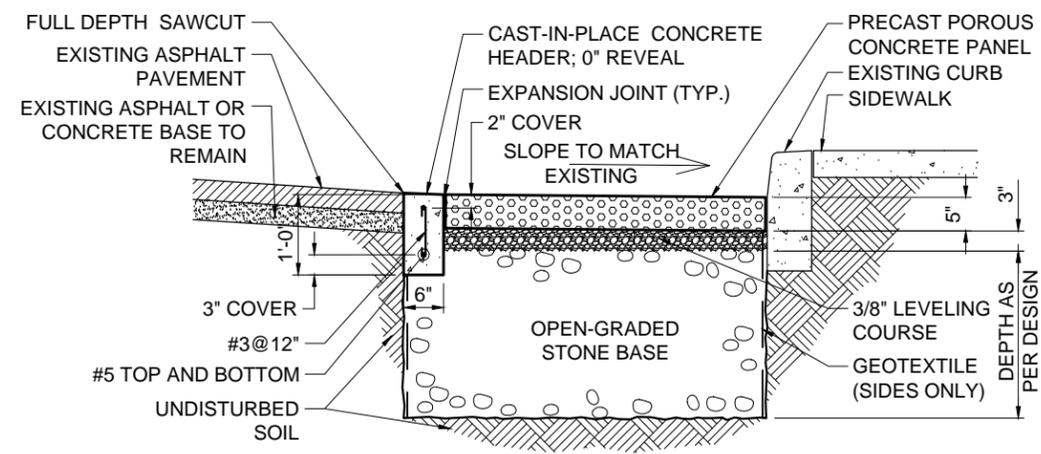
- NO CONNECTION TO SEWERS



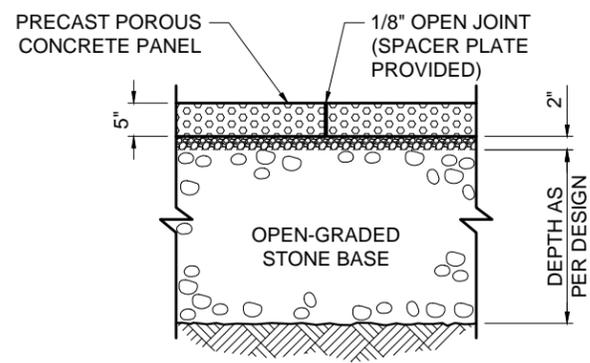
PLAN



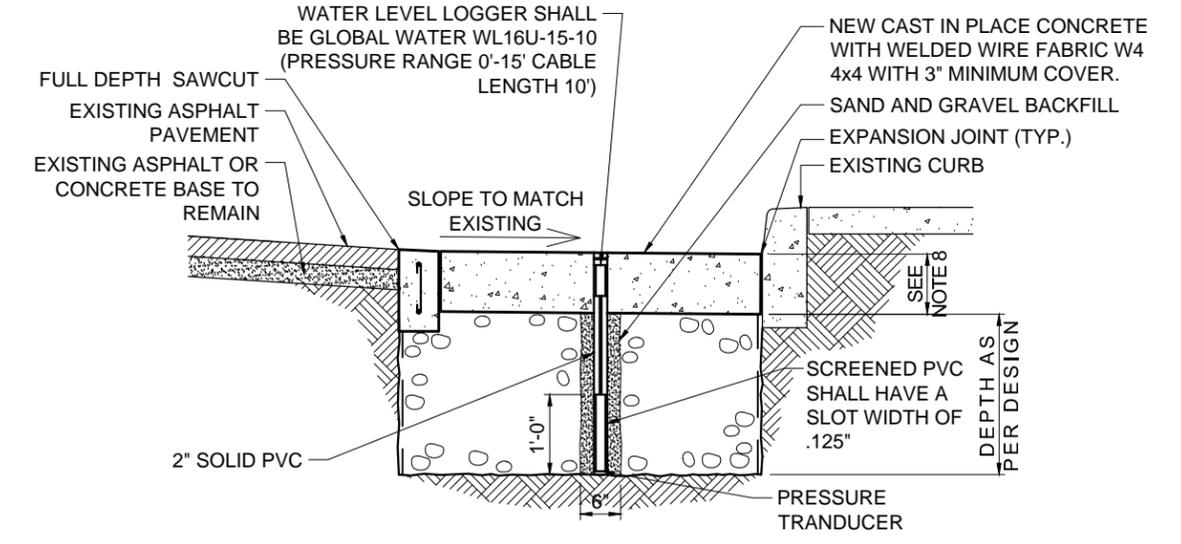
TYPICAL CAST IN PLACE CONCRETE AT PIEZOMETER PART PLAN



SECTION A-A



SECTION B-B



TYPICAL CAST IN PLACE CONCRETE AT PIEZOMETER SECTION C-C

- NOTES:
1. MAXIMUM JOINT SPACE IS 1"
  2. CONTRACTOR SHALL TRIM (VIA SAWCUT) POROUS CONCRETE PANELS TO NO MORE THAN 6" ON ANY END
  3. NO POROUS CONCRETE PANEL SHALL BE LESS THAN 4FT IN LENGTH WITHOUT THE ENGINEER'S APPROVAL
  4. ADJUST THE LIMIT OF WORK TO AVOID END PANELS LESS THAN 4' IN LENGTH
  5. CONTRACTOR SHALL INSTALL 3/4" STONE IN LIFTS OF 12" (MAX.) AND SHALL MAKE TWO PASSES OF A PLATE COMPACTOR (200 LBS MIN.) OVER EACH LIFT PRIOR TO INSTALLATION OF 3/8" LEVELING COURSE
  6. AT THE DIRECTION OF THE ENGINEER, CONTRACTOR TO REPLACE ANY CURB OR DRIVEWAY APRON THAT IS DAMAGED DURING CONSTRUCTION AS PER NYCDOT STANDARDS.
  7. SEAL EDGES OF ANY SAWCUTS IN THE WEARING COURSE WITH LIQUID ASPHALT CEMENT AS PER TITLE 34 NYCDOT HIGHWAY RULES (PAGE 71, SECTION 2-11(E)(VIII))
  8. CAST IN PLACE CONCRETE TO BE INSTALLED TO A DEPTH OF 9" IF THE EXISTING PAVEMENT BASE IS ASPHALT AND TO A DEPTH OF 12" IF THE EXISTING BASE IS CONCRETE

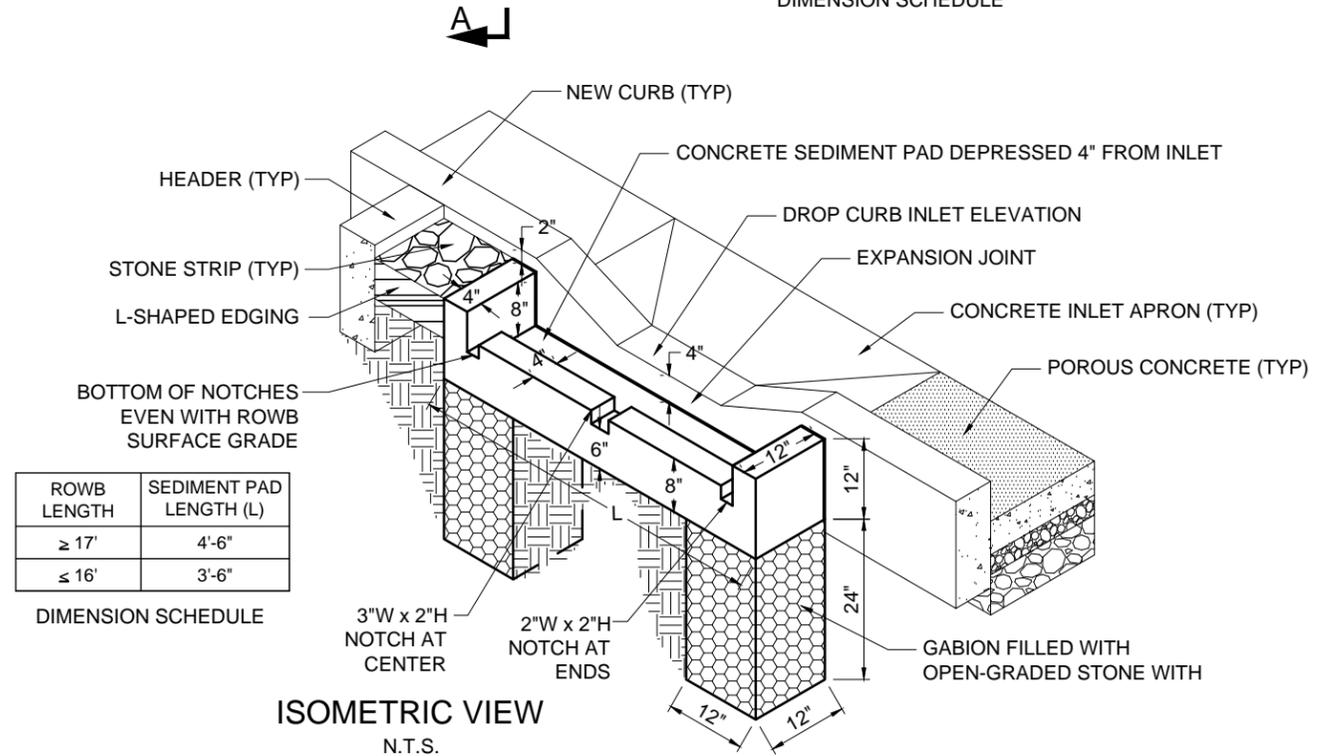
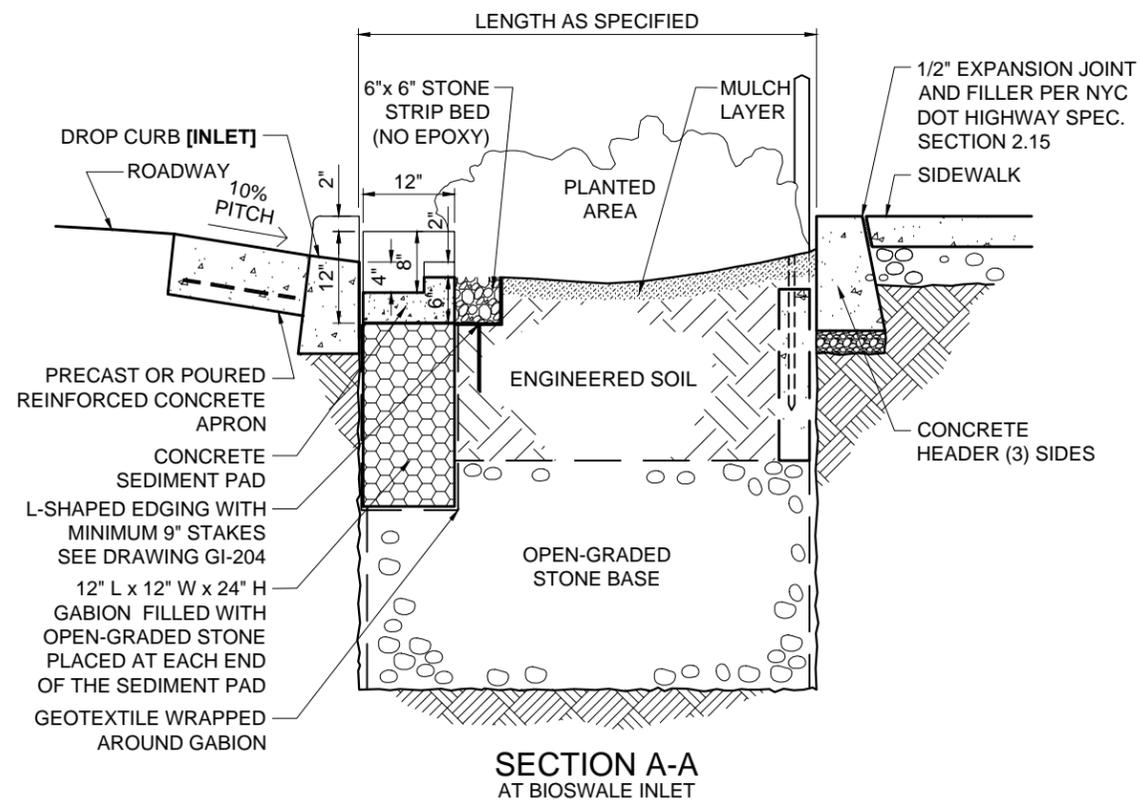
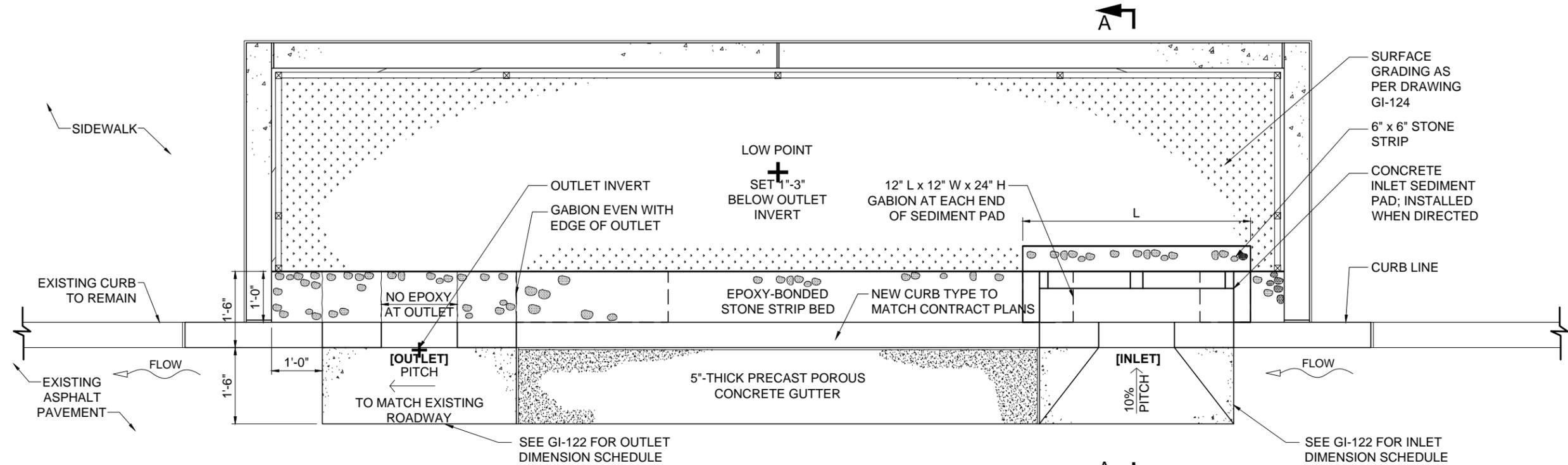
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DEPARTMENT OF ENVIRONMENTAL PROTECTION

06-15-2016  
DATE

**GI-200  
MISCELLANEOUS DETAILS FOR  
RIGHT-OF-WAY GREEN INFRASTRUCTURE  
PRACTICES**

CITY OF NEW YORK  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF GREEN INFRASTRUCTURE

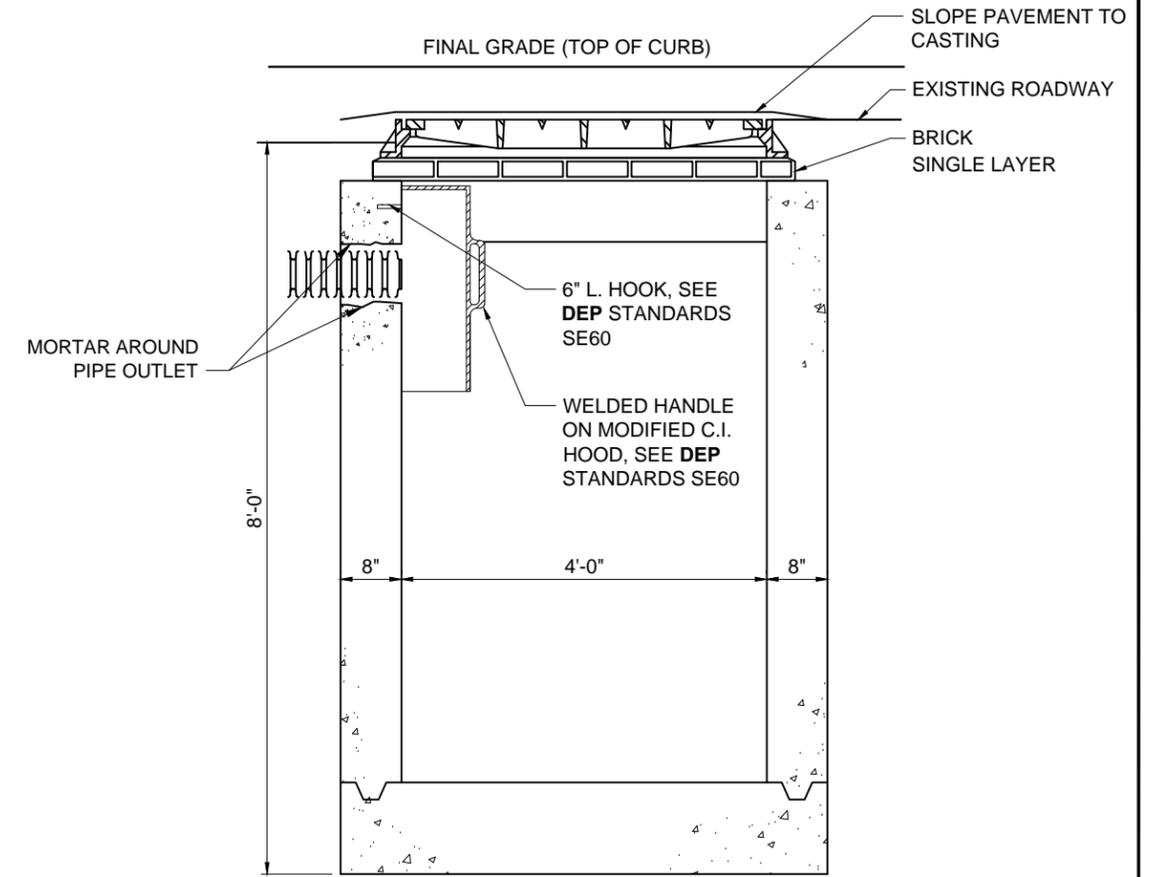
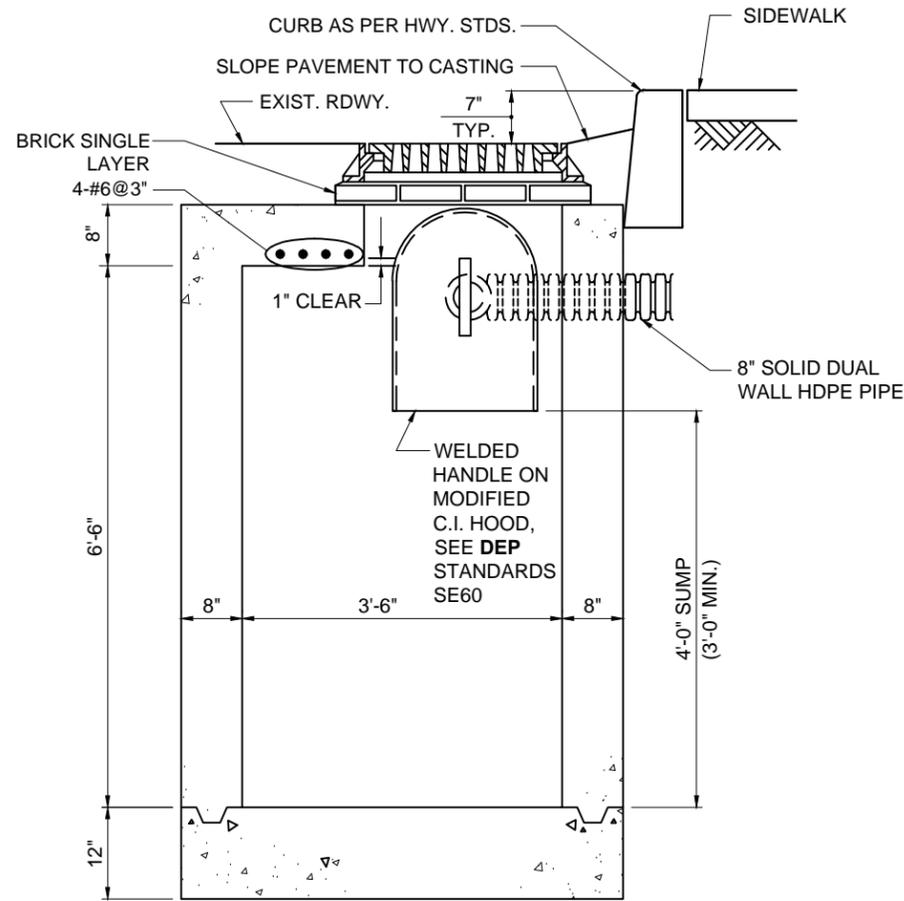
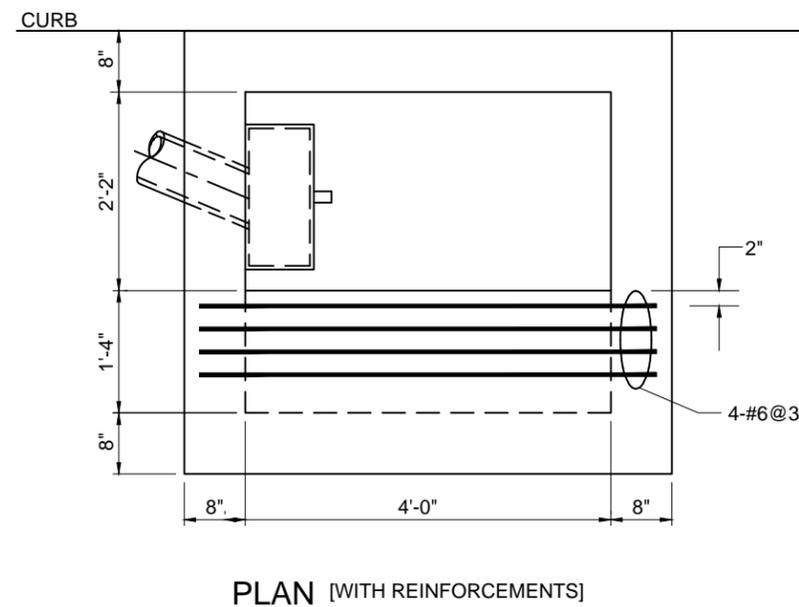
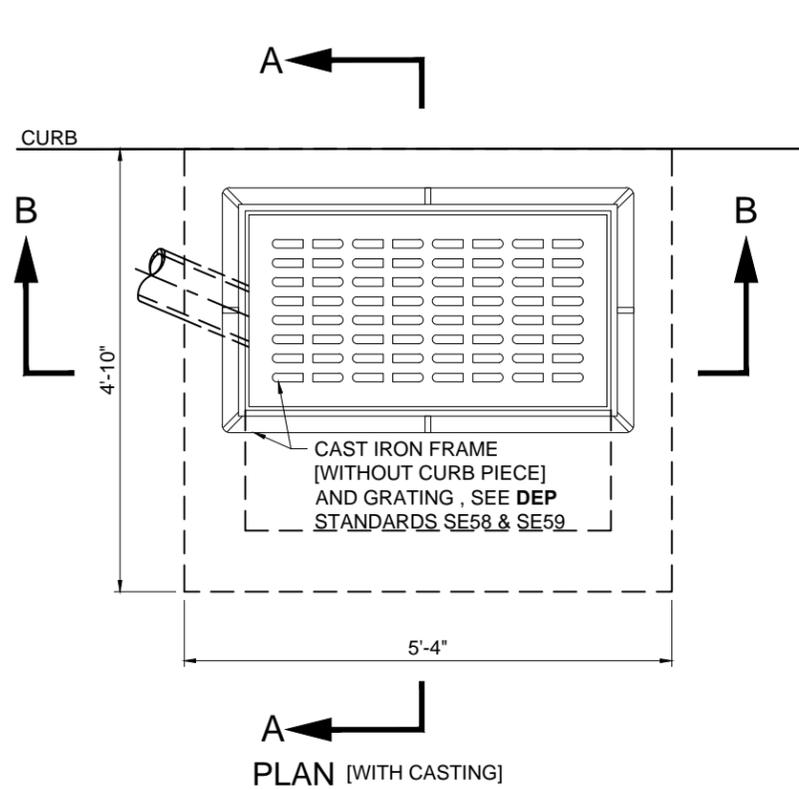
# STANDARD FOR R.O.W. BIOSWALE INLET WITH SEDIMENT PAD



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DEPARTMENT OF ENVIRONMENTAL PROTECTION

06-24-2016  
DATE

CITY OF NEW YORK  
 DEPARTMENT OF ENVIRONMENTAL PROTECTION  
 OFFICE OF GREEN INFRASTRUCTURE  
**STANDARD FOR STORMWATER INLET**  
 FOR R.O.W. BIOSWALE TYPE 1B AND TYPE 2B - NO CONNECTION TO SEWERS



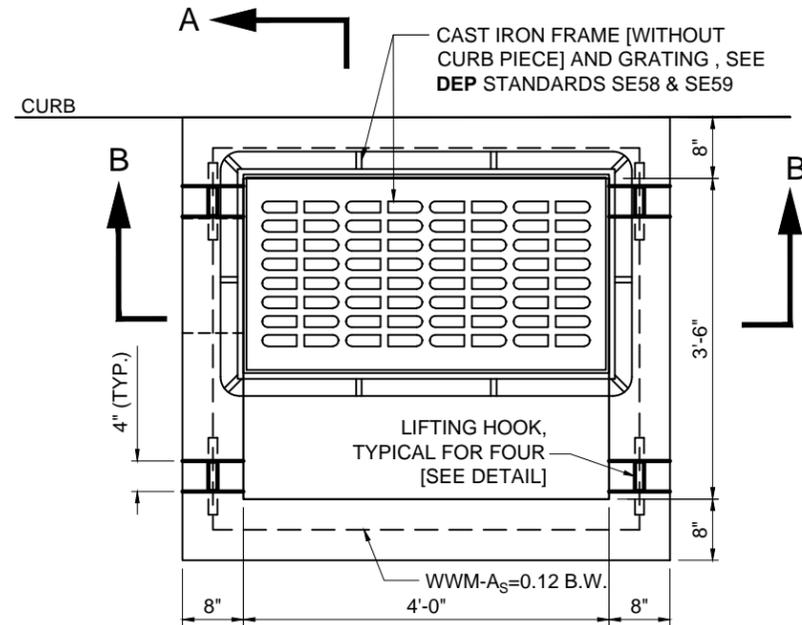
**NOTES:**

- (1) LOCATION OF CURB SHALL BE AS SHOWN UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- (2) LOCATION AND ANGLE OF 6" PVC OUTLET PIPE MAY BE VARIED TO SUIT FIELD CONDITIONS.
- (3) KEYED CONSTRUCTION JOINTS ARE REQUIRED BETWEEN ANY SUCCESSIVE POURS.
- (4) CONCRETE IS TO BE CLASS 40. REBARS-GRADE 60.

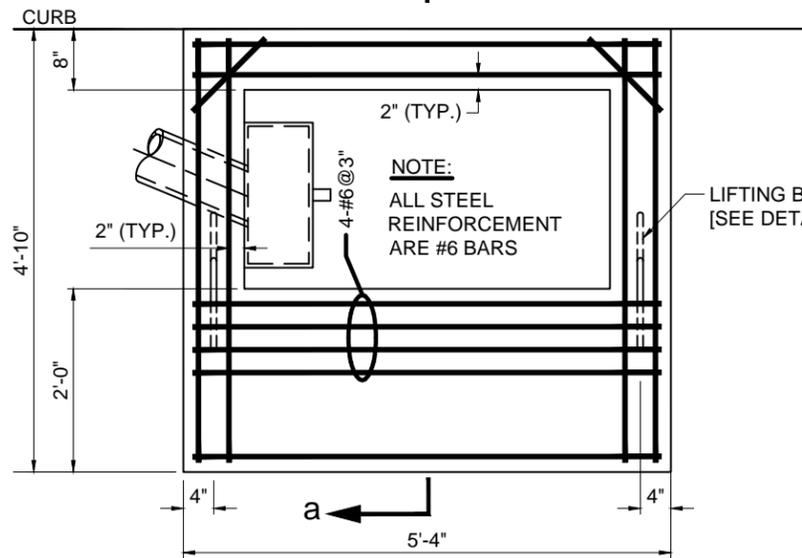
*Maedi Taha*  
 P.E., F. ASCE  
 ASSISTANT COMMISSIONER, OFFICE OF GREEN INFRASTRUCTURE  
 DEPARTMENT OF ENVIRONMENTAL PROTECTION

06-15-2016  
 DATE

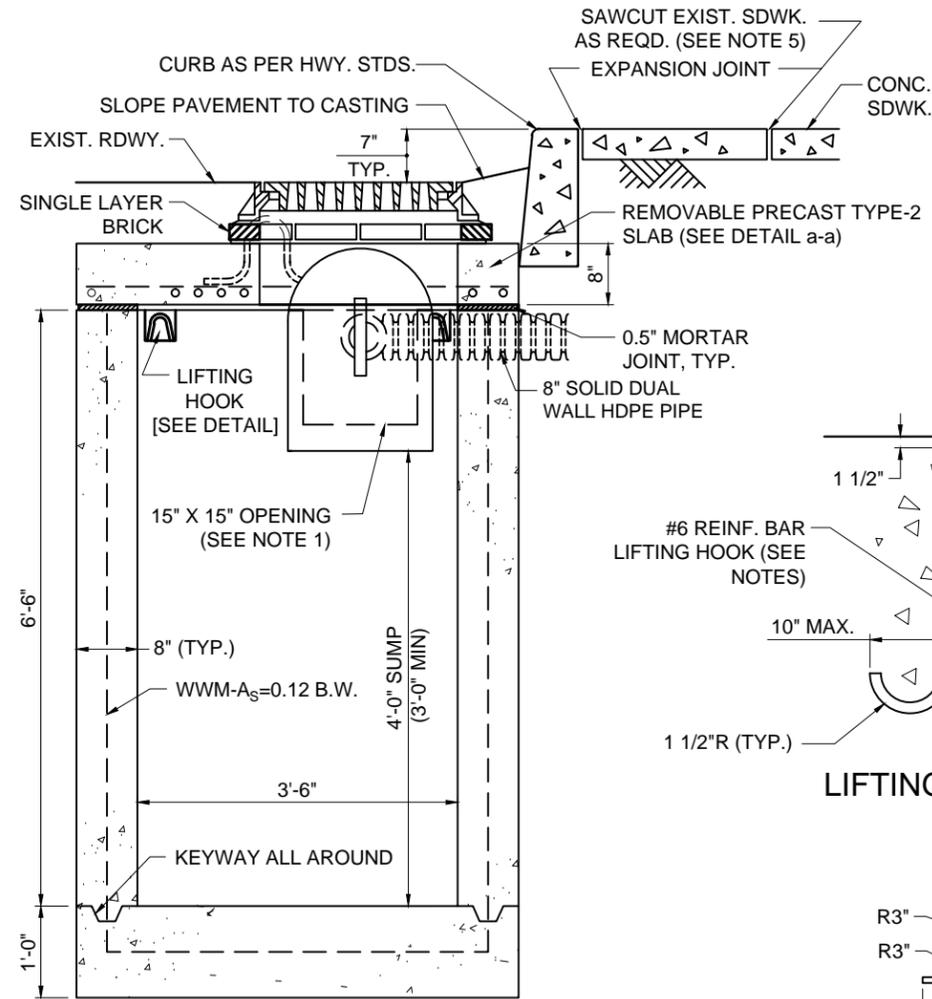
CITY OF NEW YORK  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF GREEN INFRASTRUCTURE  
**STANDARD FOR PRECAST STORMWATER INLET**  
FOR R.O.W. BIOSWALE TYPE 1B AND 2B - NO CONNECTION TO SEWERS



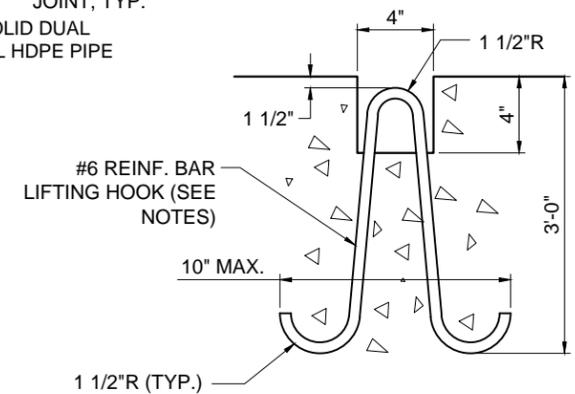
PLAN



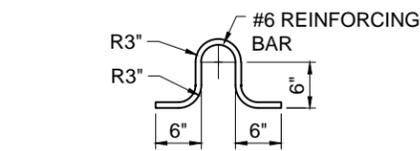
REINFORCEMENT PLAN  
[REMOVABLE PRECAST TYPE 2 SLAB]



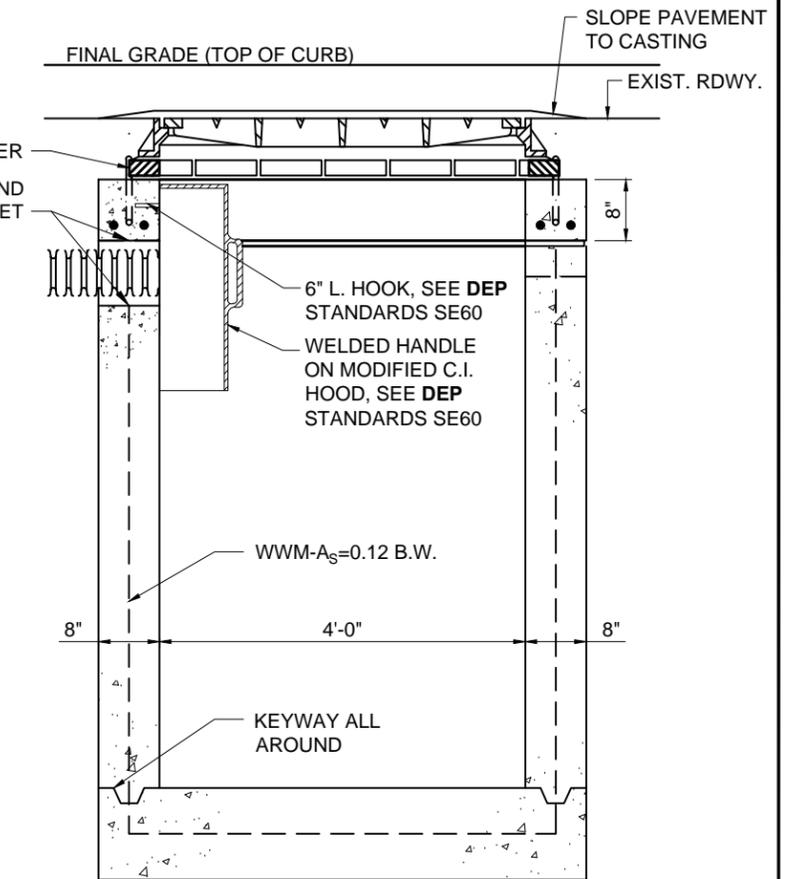
SECTION A-A



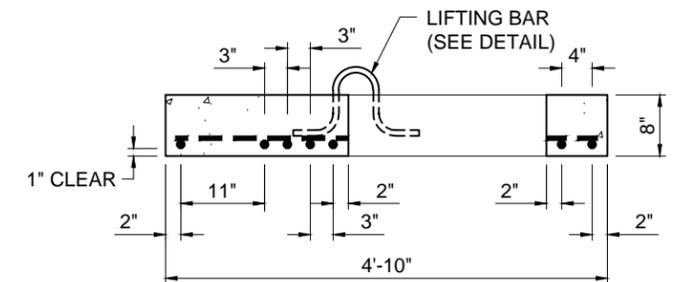
LIFTING HOOK DETAIL  
(N.T.S.)



LIFTING BAR DETAIL  
[IN REMOVABLE PRECAST TYPE 2 SLAB]



SECTION B-B



DETAIL a-a

NOTES:

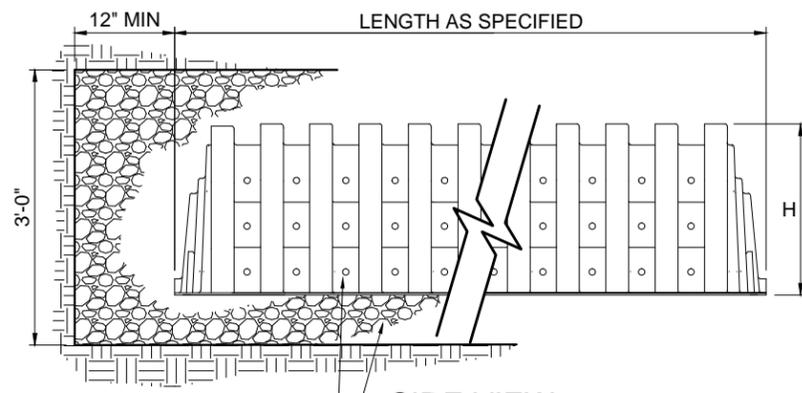
1. LOCATION OF OPENING SHALL BE DETERMINED PRIOR TO THE MANUFACTURING OF BASIN BY FIELD MEASUREMENTS.
2. LOCATION OF CURB SHALL BE AS SHOWN UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
3. LOCATION AND ANGLE OF 6" PVC OUTLET PIPE MAY BE VARIED TO SUIT FIELD CONDITIONS.
4. LIFTING HOOKS SHALL BE LOCATED IN THE SECTION AS PER MANUFACTURERS RECOMMENDATIONS AND GROUTED PRIOR TO BACKFILLING. (FOUR (4) LIFTING HOOKS SHALL BE PROVIDED FOR EACH SECTION AND SHALL BE PLACED SYMMETRICALLY AND IN SUCH A MANNER AS TO PROVIDE FOR THE EVEN LIFTING OF THE SECTION.)
5. LIFTING BAR TO BE CUT FLUSH TO SURFACE AFTER PLACEMENT OF PRECAST TYPE 2 SLAB.
6. CONCRETE IS TO BE CLASS 40 AND 5% AIR ENTRAINED. REBARS-GRADE 60. WWM-F<sub>s</sub> = 65,000 PSI.
7. MODIFY STANDARD CAST IRON HOOD AND HOOKS [SE60] AS PER DRAWING

*Maedi Taha*  
P.E., F. ASCE

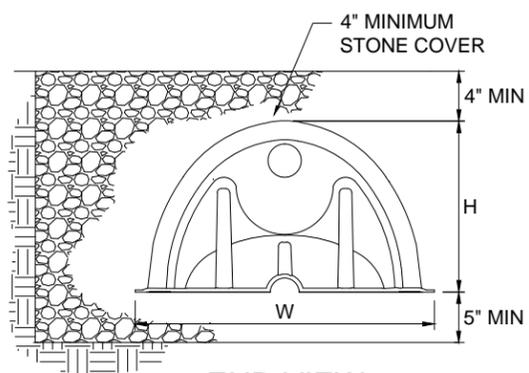
ASSISTANT COMMISSIONER, OFFICE OF GREEN INFRASTRUCTURE  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

06-15-2016  
DATE

CITY OF NEW YORK  
 DEPARTMENT OF ENVIRONMENTAL PROTECTION  
 OFFICE OF GREEN INFRASTRUCTURE  
**STANDARD R.O.W. BIOSWALE DETAILS**



**SIDE VIEW**  
 BOTH ENDS OF STORMWATER CHAMBER TO BE SEALED WITH END CAPS  
 5" MINIMUM STONE BEDDING

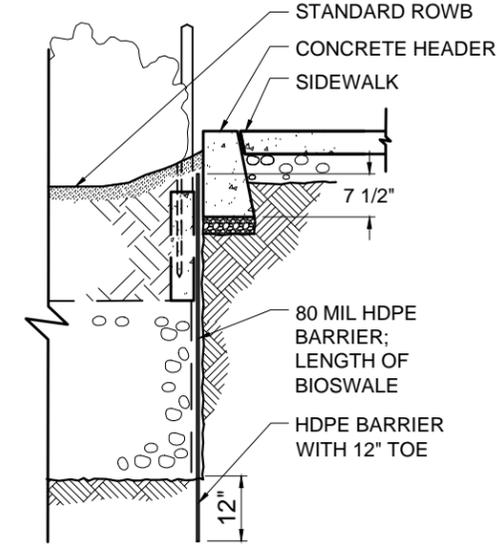


**END VIEW**

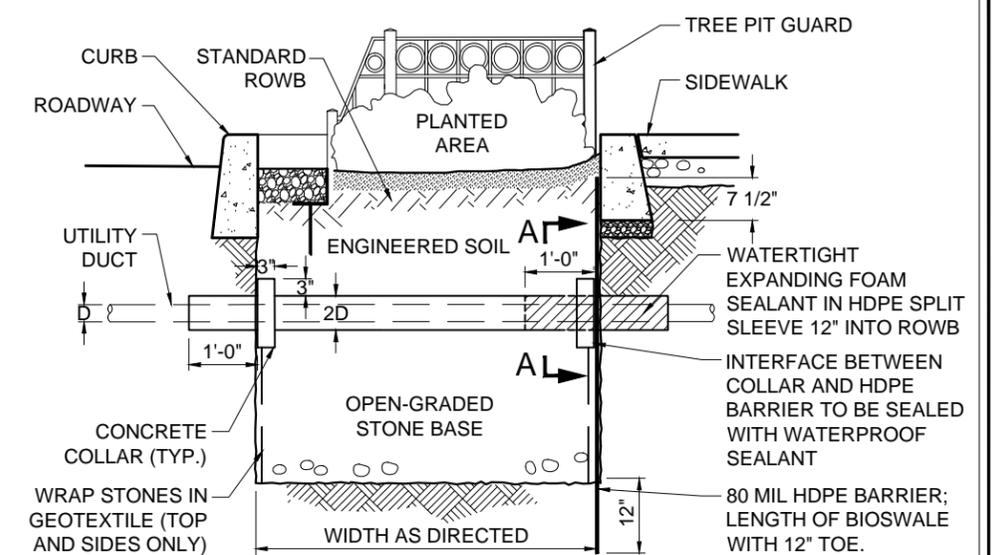
ROWB WIDTH	W	H
≥ 5'	47"	26.5"
≤ 4'-6"	36"	20.5"

**DIMENSION SCHEDULE**

**STORMWATER CHAMBER**  
 N.T.S.

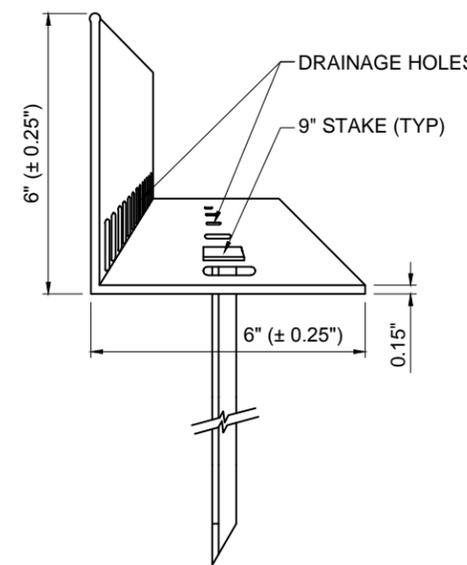


**CROSS-SECTION AT MIDSECTION (LOWEST POINT) HDPE BARRIER DETAILS**  
 AGAINST SIDEWALK (ONLY IF DIRECTED)  
 N.T.S.

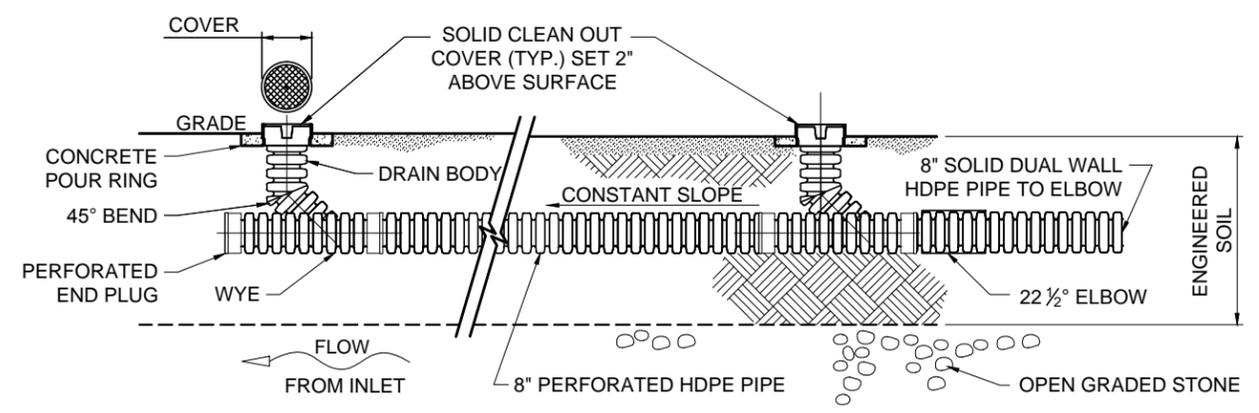


**CROSS-SECTION**  
 NOTE: ANY SEAMS IN THE HDPE BARRIER MUST HAVE A 1'-0" OVERLAP AND BE SEALED WITH WATERTIGHT SEALANT

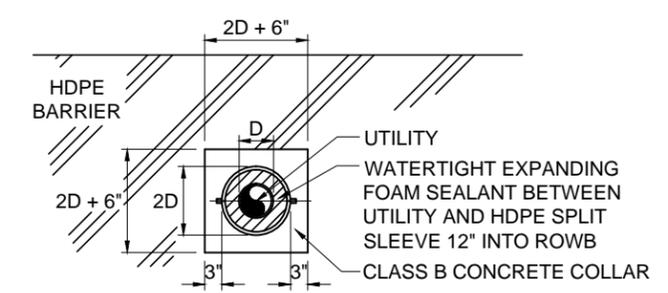
**CROSS-SECTION**



**L-SHAPED EDGING**  
 N.T.S.



**CLEAN-OUT DETAIL - HDPE PIPE**  
 N.T.S.



**CROSS SECTION A-A**  
**UTILITY CROSSING DETAIL**  
 N.T.S.

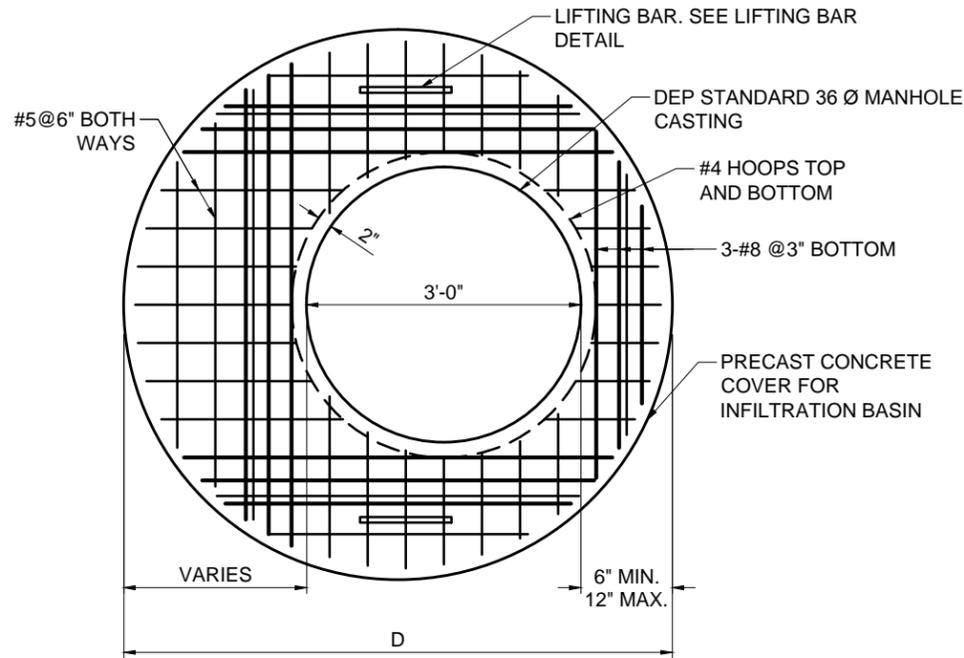
*Maedi Taha*  
 P.E., F. ASCE  
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 DEPARTMENT OF ENVIRONMENTAL PROTECTION

06-15-2016  
 DATE

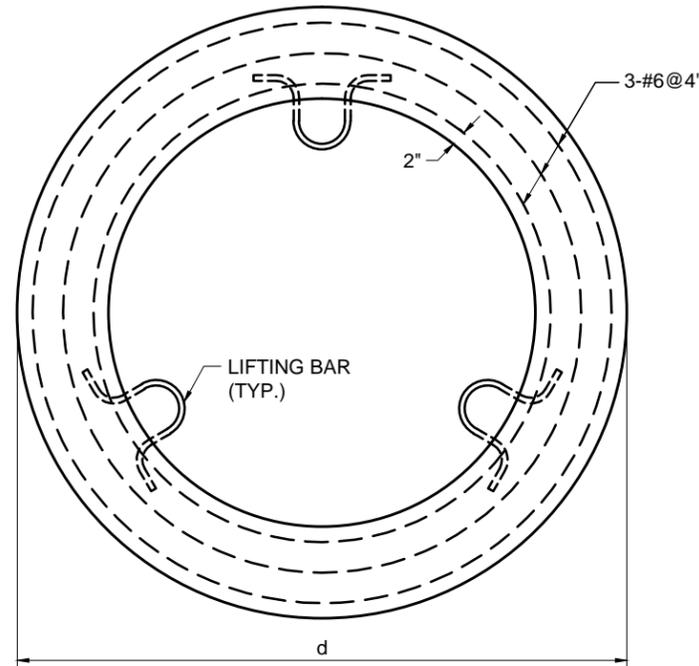
CITY OF NEW YORK  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF GREEN INFRASTRUCTURE

# STANDARD DETAILS FOR R.O.W. STORMWATER INFILTRATION BASIN

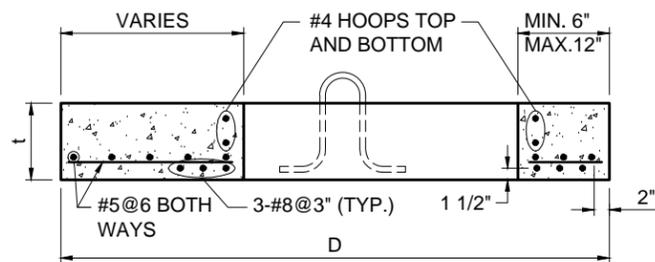
## CIRCULAR REINFORCED CONCRETE SLAB AND FOOTING



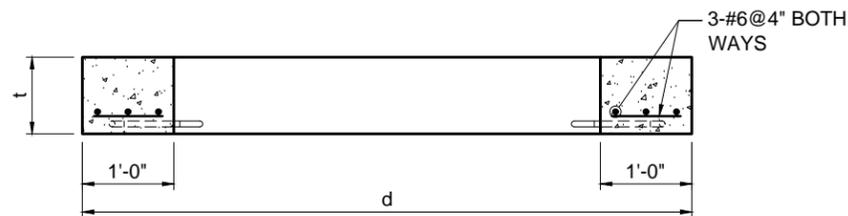
PLAN OF CIRCULAR SLAB



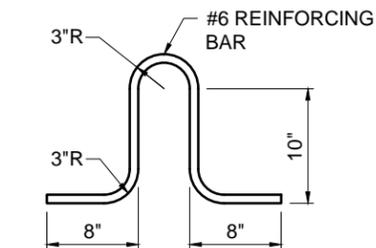
PLAN OF PRECAST CIRCULAR FOOTING RING



SECTION IN CIRCULAR SLAB  
DETAIL A



SECTION IN PRECAST CIRCULAR FOOTING RING  
DETAIL B



LIFTING BAR DETAIL

PRECAST INFILTRATION BASIN SCHEDULE				
PRECAST RING TYPE	HEIGHT	VOLUME, CF	VOLUME, GAL	tw, IN
D = 4'- 0" O.D.				
SOLID	2'-0"	17.4	130	4"
PERFORATED*	3'-0"	26.2	195	4"
D = 6'- 0" O.D.				
SOLID	2'-0"	45.0	337	4"
PERFORATED*	3'-0"	67.0	496	4"
D = 8'- 0" O.D.				
SOLID	2'-0"	84.4	631	4"
PERFORATED*	3'-0"	126.7	947	4"

\* REFER TO THE MANUFACTURER'S SPECIFICATIONS FOR OPENING DETAILS

PRECAST INFILTRATION BASIN SCHEDULE

PRECAST CIRCULAR SLAB (FT)	PRECAST CIRCULAR FOOTING RING (FT)	THICKNESS (IN)
<u>D</u>	<u>d</u>	<u>t</u>
4'-0"	4'-8"	10"
6'-0"	6'-8"	10"
8'-0"	8'-8"	10"

NOTE: IN NO CASE SHALL "d" BE LESS THAN THE OUTSIDE DIAMETER OF THE INFILTRATION BASIN

CIRCULAR SLAB AND FOOTING SCHEDULE

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

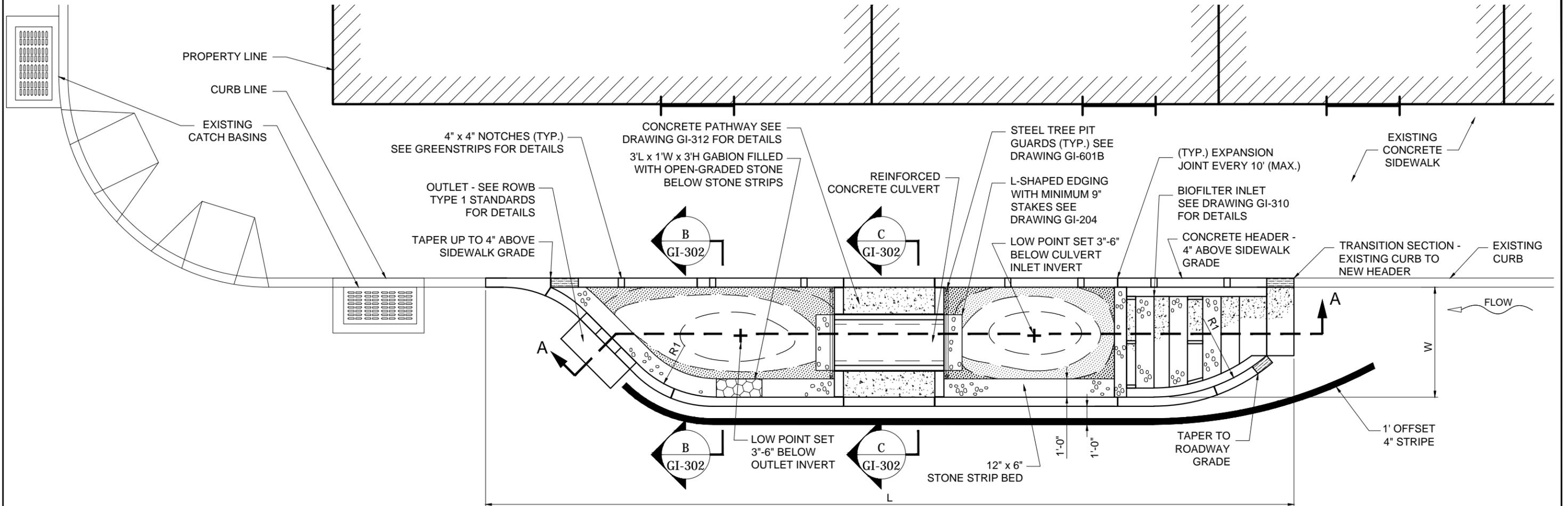
06-15-2016  
DATE

**GI-300**  
**STORMWATER GREENSTREETS**  
**SUGGESTED LAYOUT GUIDELINES FOR**  
**RIGHT-OF-WAY GREEN INFRASTRUCTURE**  
**PRACTICES**

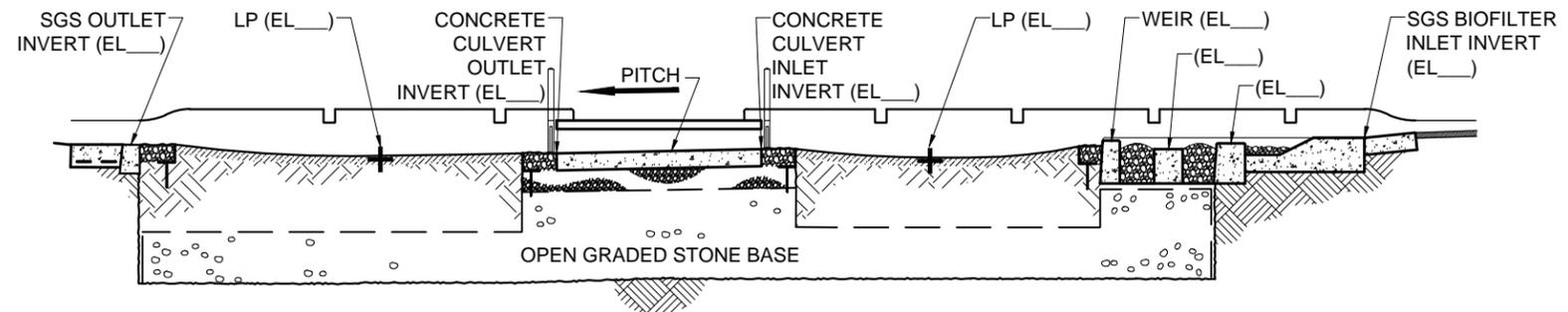
CITY OF NEW YORK  
 DEPARTMENT OF ENVIRONMENTAL PROTECTION  
 OFFICE OF GREEN INFRASTRUCTURE

# R.O.W. STORMWATER GREENSTREET (ROWSGS) TYPE 1 LAYOUT GUIDELINES

- NO CONNECTION TO SEWERS



GRADING PLAN



SECTION A-A

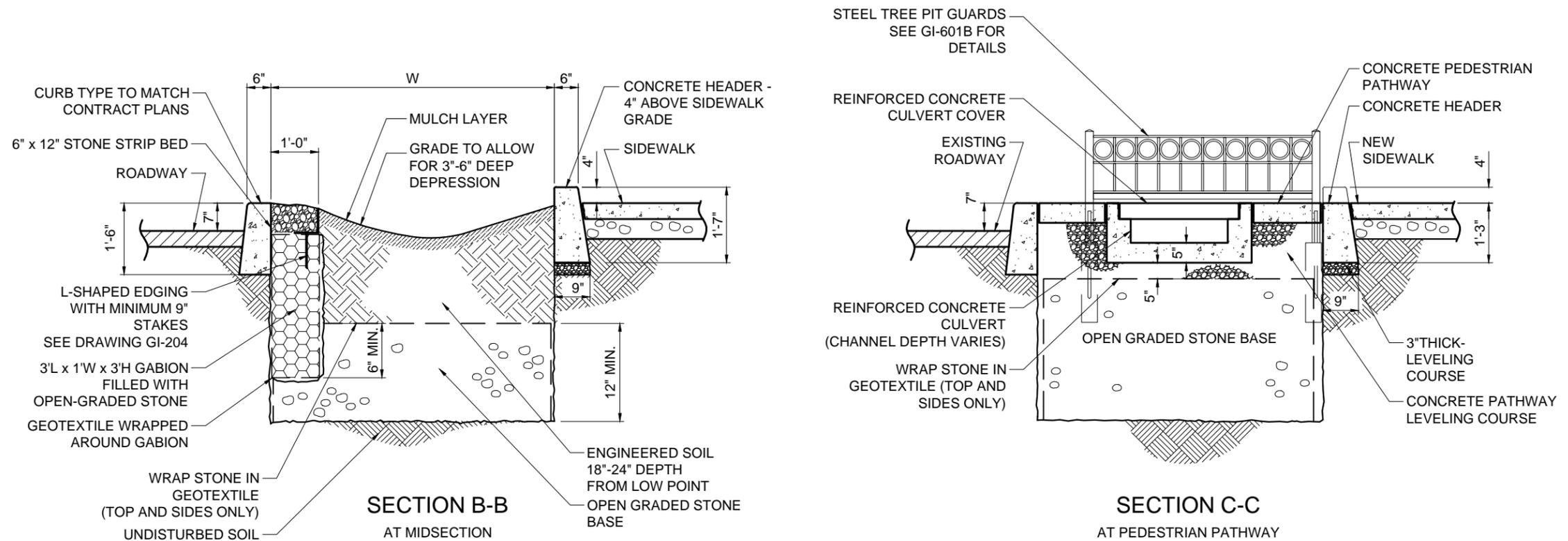
NOTES:

1. DEPTH OF SOIL AND STONE SHALL BE DIMENSIONED IN ACCORDANCE WITH STORMWATER GREENSTREET CALCULATIONS.
2. ENGINEERED SOIL DEPTH TO BE 18", AND 24" IF TREE IS PRESENT. STONE DEPTH VARIES. TOTAL DEPTH NOT TO EXCEED 60".
3. DEPTH AND MATERIALS MAY CHANGE DUE TO FIELD CONDITIONS UNDER THE DIRECTION OF THE ENGINEER.
4. IF DEEPER LOW POINT (LP) IS REQUIRED, OGI APPROVAL WILL BE REQUIRED.
5. PEDESTRIAN PATHWAY WHEN REQUIRED.
6. WHERE (EL. \_\_\_) IS INDICATED, ELEVATION TO BE SHOWN IN CONTRACT PLANS.
7. HEADER NOTCHES ARE PLACED EQUALLY SPACED 4' TO 7' APART.

CITY OF NEW YORK  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF GREEN INFRASTRUCTURE

# R.O.W. STORMWATER GREENSTREET (ROWSGS) TYPE 1 LAYOUT GUIDELINES

- NO CONNECTION TO SEWERS



NOTES:

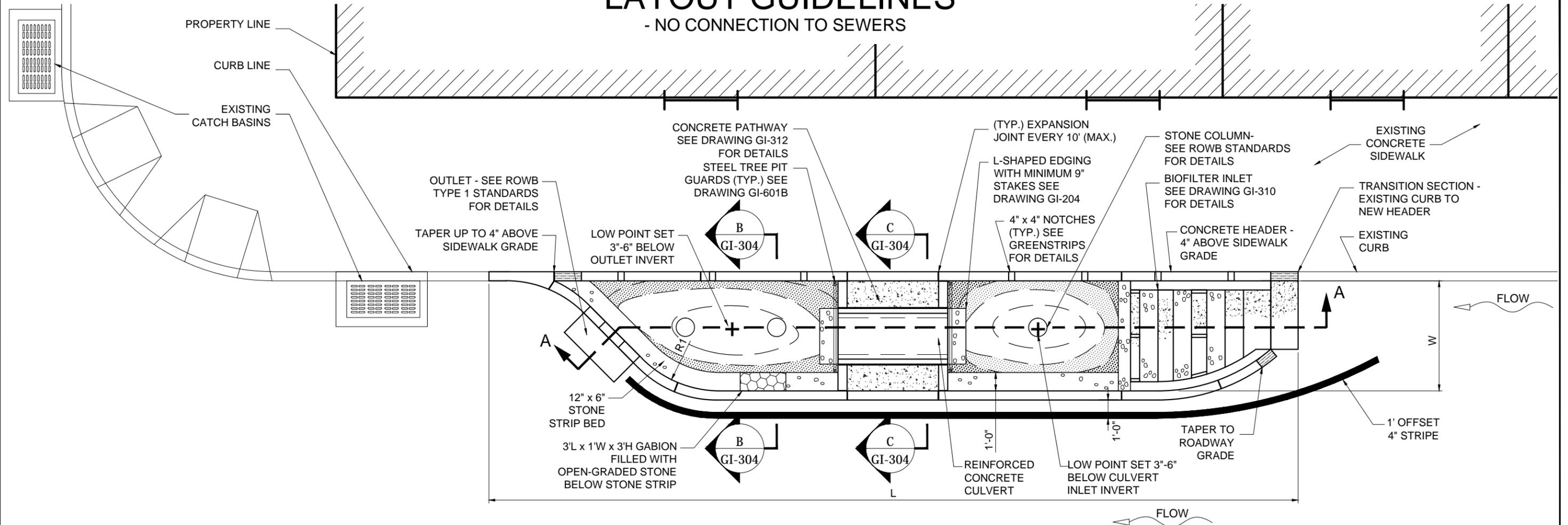
1. DEPTH OF SOIL AND STONE SHALL BE DIMENSIONED IN ACCORDANCE WITH STORMWATER GREENSTREET CALCULATIONS.
2. IMPERVIOUS ROW AREA IS CALCULATED IN TDA ANALYSIS SPREADSHEET.
3. ENGINEERED SOIL DEPTH TO BE 18", AND 24" IF TREE IS PRESENT. STONE DEPTH VARIES. TOTAL DEPTH NOT TO EXCEED 60".
4. DEPTH AND MATERIALS MAY CHANGE DUE TO FIELD CONDITIONS UNDER THE DIRECTION OF THE ENGINEER.
5. IF DEEPER LOW POINT (LP) IS REQUIRED, OGI APPROVAL WILL BE REQUIRED.
6. PEDESTRIAN PATHWAY WHEN REQUIRED.
7. WHERE (EL\_\_\_) IS INDICATED. ELEVATION TO BE SHOWN IN CONTRACT PLANS.
8. PEDESTRIAN PATHWAY CULVERT COVER TO BE CONCRETE WHEN ELEVATION AT SIDEWALK CURB IS HIGHER THAN ELEVATION AT ROADWAY CURB; OTHERWISE, CULVERT COVER TO BE METAL GRATED WITH PATHWAY SLOPING TOWARDS GRATING ON EITHER SIDE.

CITY OF NEW YORK  
 DEPARTMENT OF ENVIRONMENTAL PROTECTION  
 OFFICE OF GREEN INFRASTRUCTURE

# R.O.W. STORMWATER GREENSTREET (ROWSGS) TYPE 1A-WITH STONE COLUMNS

## LAYOUT GUIDELINES

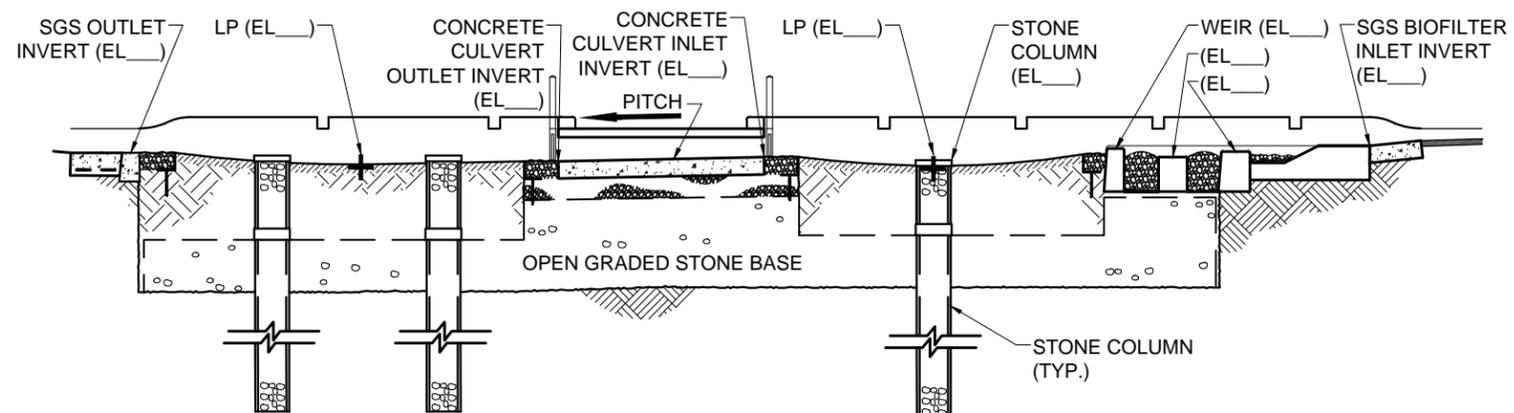
- NO CONNECTION TO SEWERS



GRADING PLAN

NOTES:

1. DEPTH OF SOIL AND STONE SHALL BE DIMENSIONED IN ACCORDANCE WITH STORMWATER GREENSTREET CALCULATIONS.
2. ENGINEERED SOIL DEPTH TO BE 18", AND 24" IF TREE IS PRESENT. STONE DEPTH VARIES. TOTAL DEPTH NOT TO EXCEED 60".
3. DEPTH AND MATERIALS MAY CHANGE DUE TO FIELD CONDITIONS UNDER THE DIRECTION OF THE ENGINEER.
4. IF DEEPER LOW POINT (LP) IS REQUIRED, OGI APPROVAL WILL BE REQUIRED.
5. STONE COLUMN AND/OR PEDESTRIAN PATHWAY WHEN REQUIRED.
6. TOP OF DOWNSTREAM STONE COLUMN(S) TO BE 1" LOWER THAN OUTLET INVERT (TYP.). TOP OF UPSTREAM STONE COLUMN(S) TO BE 1" LOWER THAN CONCRETE CULVERT INLET INVERT (TYP.).
7. WHERE (EL\_\_\_) IS INDICATED, ELEVATION TO BE SHOWN IN CONTRACT PLANS.
8. HEADER NOTCHES ARE PLACED EQUALLY SPACED 4' TO 7' APART.
9. 5' (MIN.) DISTANCE BETWEEN STONE COLUMNS; NUMBER OF STONE COLUMNS AS REQUIRED BY OGI.

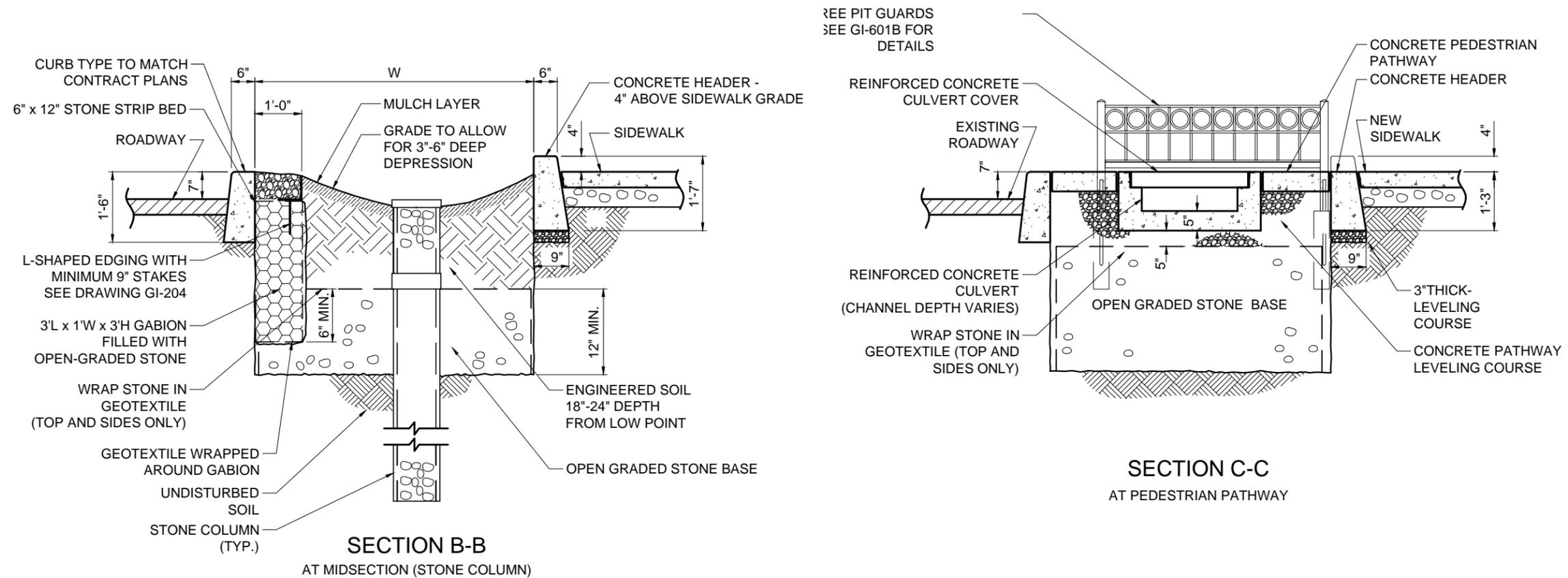


SECTION A-A

CITY OF NEW YORK  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF GREEN INFRASTRUCTURE

# R.O.W. STORMWATER GREENSTREET (ROWSGS) TYPE 1A-WITH STONE COLUMNS LAYOUT GUIDELINES

- NO CONNECTION TO SEWERS



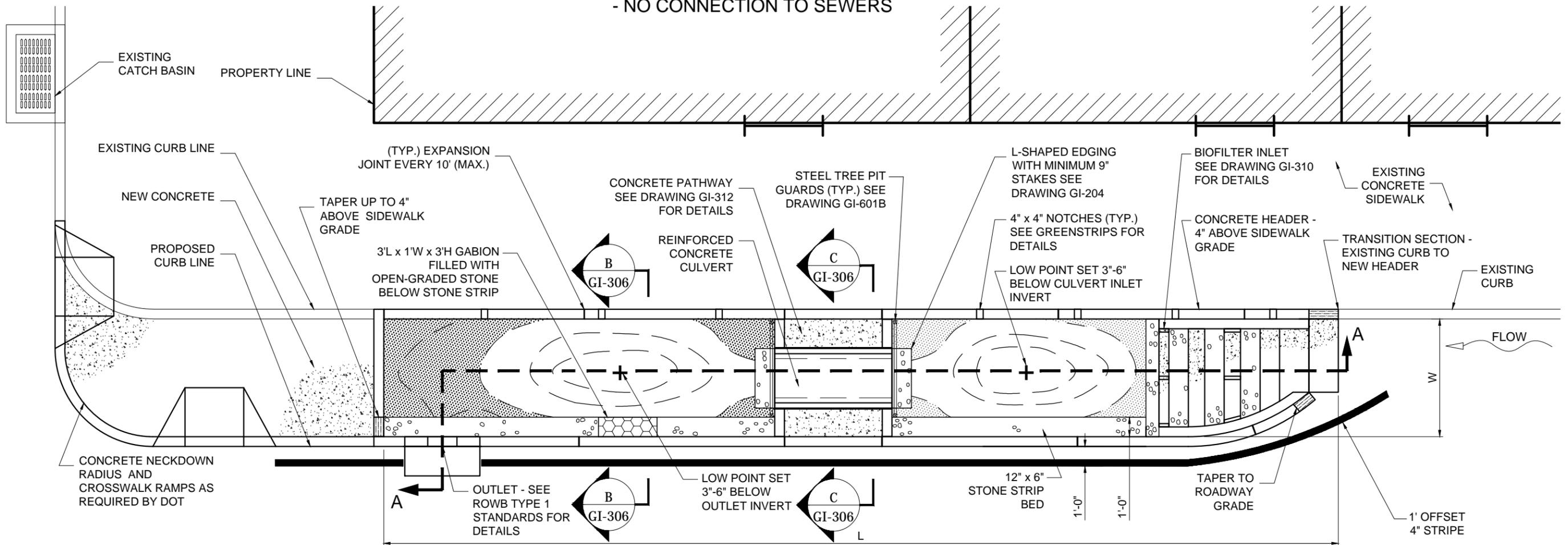
NOTES:

1. DEPTH OF SOIL AND STONE SHALL BE DIMENSIONED IN ACCORDANCE WITH STORMWATER GREENSTREET CALCULATIONS.
2. IMPERVIOUS ROW AREA IS CALCULATED IN TDA ANALYSIS SPREADSHEET.
3. ENGINEERED SOIL DEPTH TO BE 18", AND 24" IF TREE IS PRESENT. STONE DEPTH VARIES. TOTAL DEPTH NOT TO EXCEED 60".
4. DEPTH AND MATERIALS MAY CHANGE DUE TO FIELD CONDITIONS UNDER THE DIRECTION OF THE ENGINEER.
5. IF DEEPER LOW POINT (LP) IS REQUIRED, OGI APPROVAL WILL BE REQUIRED.
6. STONE COLUMN AND/OR PEDESTRIAN PATHWAY WHEN REQUIRED.
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8. WHERE (EL\_\_\_) IS INDICATED. ELEVATION TO BE SHOWN IN CONTRACT PLANS.
9. PEDESTRIAN PATHWAY CULVERT COVER TO BE CONCRETE WHEN ELEVATION AT SIDEWALK CURB IS HIGHER THAN ELEVATION AT ROADWAY CURB; OTHERWISE, CULVERT COVER TO BE METAL GRATED WITH PATHWAY SLOPING TOWARDS GRATING ON EITHER SIDE.

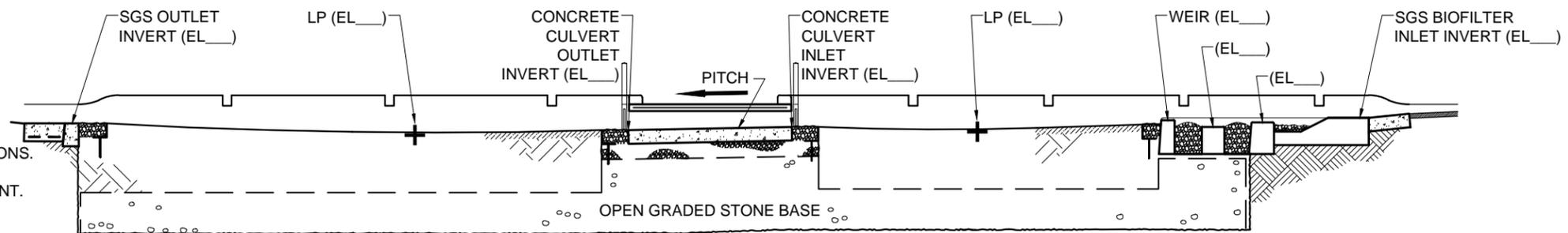
CITY OF NEW YORK  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF GREEN INFRASTRUCTURE

# R.O.W. STORMWATER GREENSTREET (ROWSGS) TYPE 2 LAYOUT GUIDELINES

- NO CONNECTION TO SEWERS



GRADING PLAN



SECTION A-A

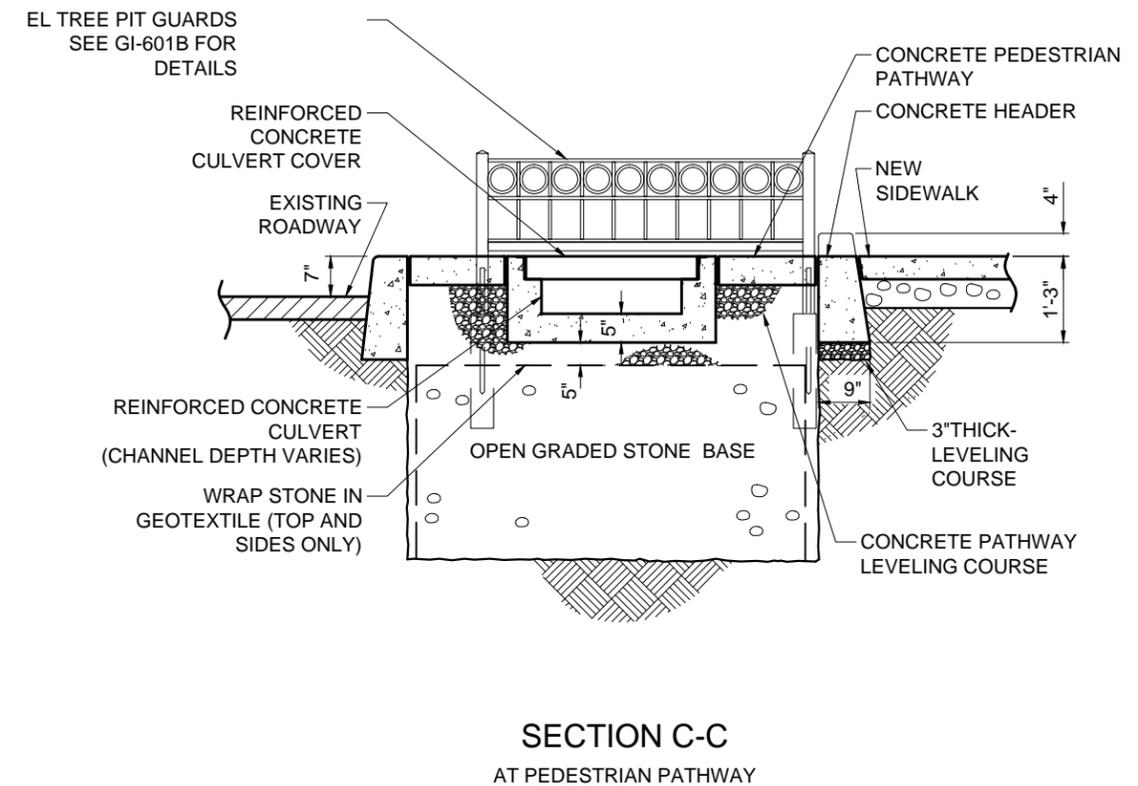
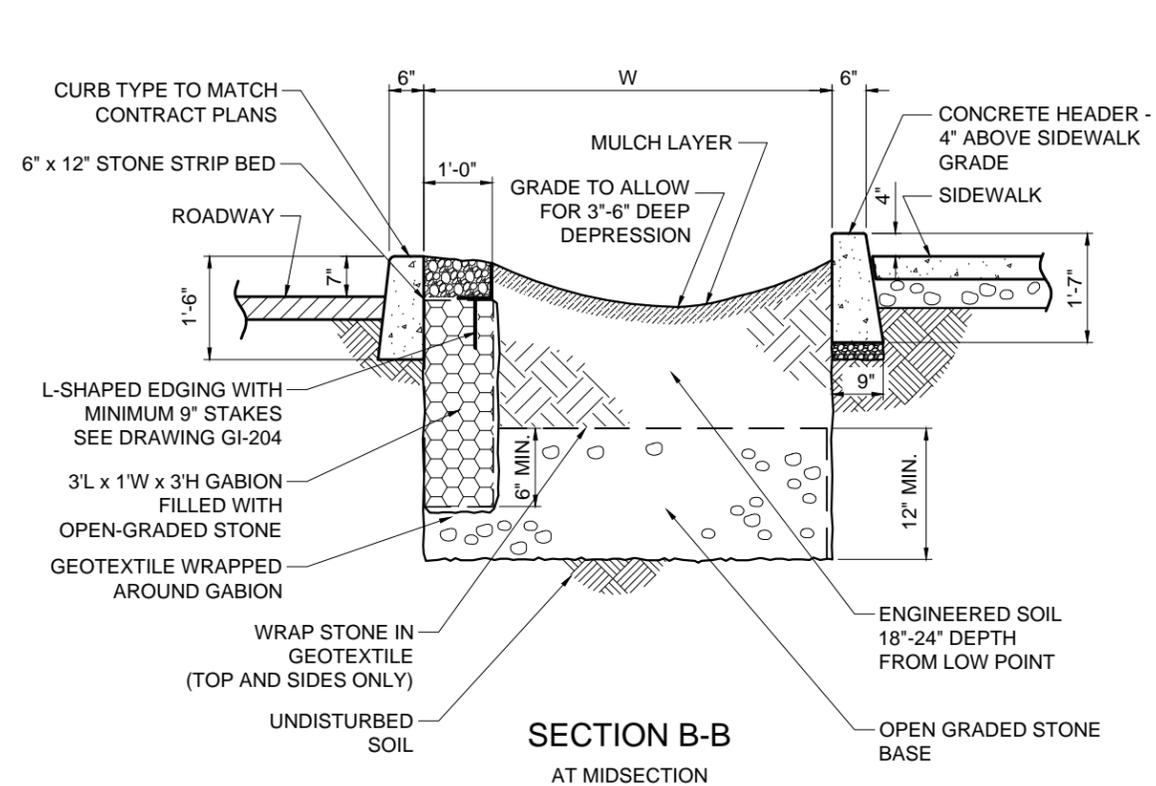
NOTES:

1. DEPTH OF SOIL AND STONE SHALL BE DIMENSIONED IN ACCORDANCE WITH STORMWATER GREENSTREET CALCULATIONS.
2. ENGINEERED SOIL DEPTH TO BE 18", AND 24" IF TREE IS PRESENT. STONE DEPTH VARIES. TOTAL DEPTH NOT TO EXCEED 60".
3. DEPTH AND MATERIALS MAY CHANGE DUE TO FIELD CONDITIONS UNDER THE DIRECTION OF THE ENGINEER.
4. IF DEEPER LOW POINT (L.P.) IS REQUIRED, OGI APPROVAL WILL BE REQUIRED.
5. PEDESTRIAN PATHWAY WHEN REQUIRED.
6. WHERE (EL \_\_) IS INDICATED, ELEVATION TO BE SHOWN IN CONTRACT PLANS.
7. HEADER NOTCHES ARE PLACED EQUALLY SPACED 4' TO 7' APART.

CITY OF NEW YORK  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF GREEN INFRASTRUCTURE

# R.O.W. STORMWATER GREENSTREET (ROWSGS) TYPE 2 LAYOUT GUIDELINES

- NO CONNECTION TO SEWERS

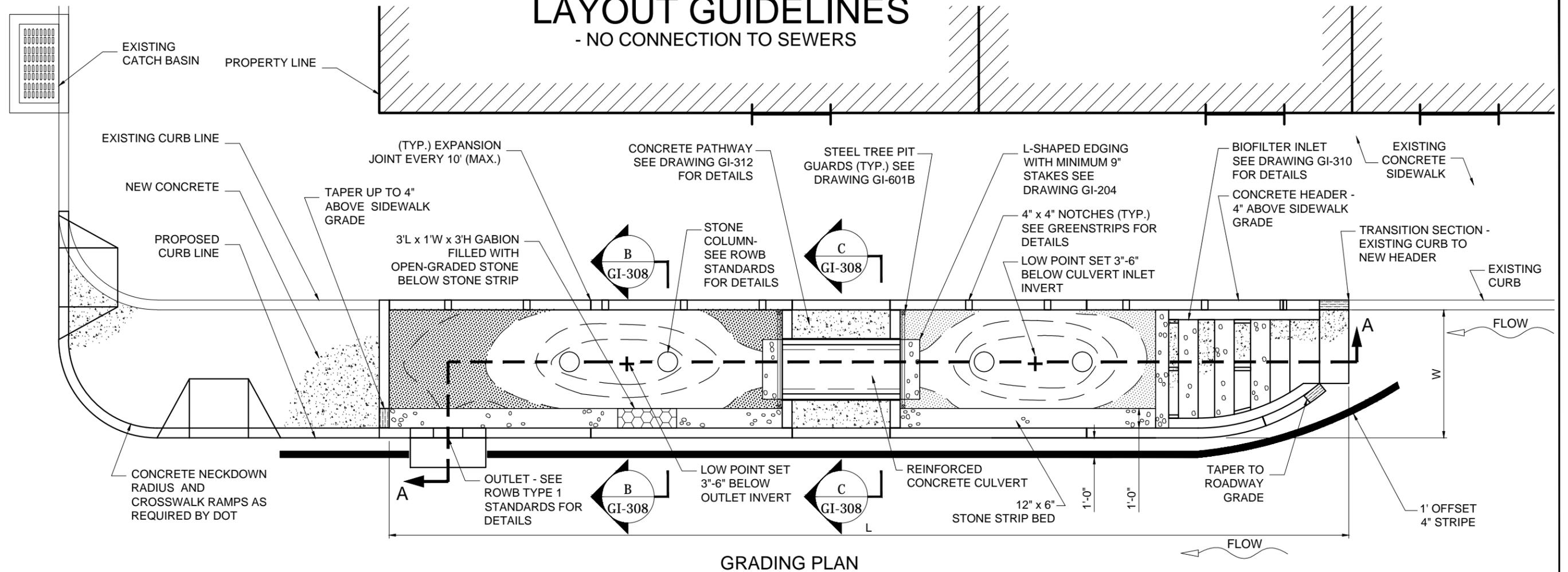


NOTES:

1. DEPTH OF SOIL AND STONE SHALL BE DIMENSIONED IN ACCORDANCE WITH STORMWATER GREENSTREET CALCULATIONS.
2. IMPERVIOUS ROW AREA IS CALCULATED IN TDA ANALYSIS SPREADSHEET.
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5. IF DEEPER LOW POINT (LP) IS REQUIRED, OGI APPROVAL WILL BE REQUIRED.
6. PEDESTRIAN PATHWAY WHEN REQUIRED.
7. WHERE (EL\_\_\_) IS INDICATED. ELEVATION TO BE SHOWN IN CONTRACT PLANS.
8. PEDESTRIAN PATHWAY CULVERT COVER TO BE CONCRETE WHEN ELEVATION AT SIDEWALK CURB IS HIGHER THAN ELEVATION AT ROADWAY CURB; OTHERWISE, CULVERT COVER TO BE METAL GRATED WITH PATHWAY SLOPING TOWARDS GRATING ON EITHER SIDE.

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OFFICE OF GREEN INFRASTRUCTURE

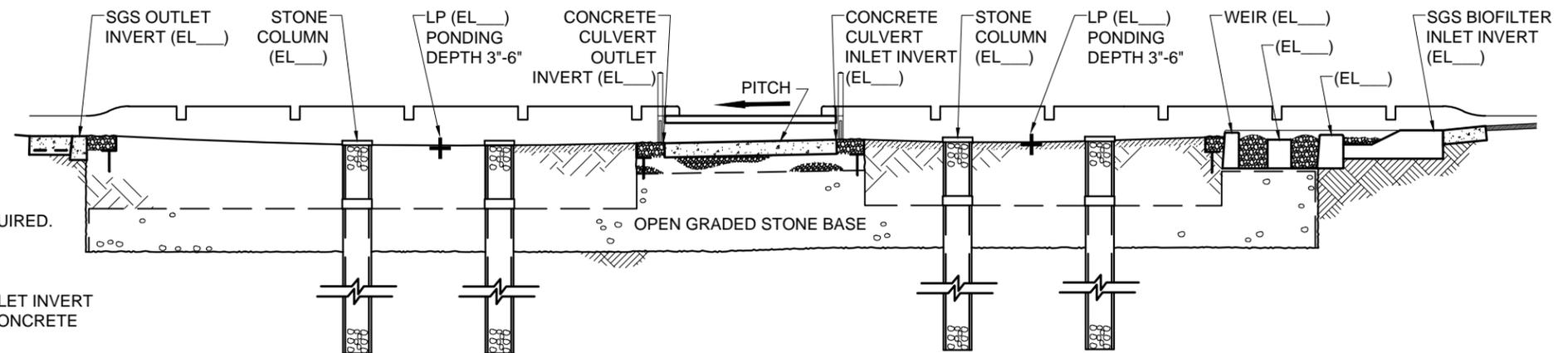
**R.O.W. STORMWATER GREENSTREET (ROWSGS) TYPE 2A-WITH STONE COLUMNS**  
**LAYOUT GUIDELINES**  
- NO CONNECTION TO SEWERS



GRADING PLAN

NOTES:

1. DEPTH OF SOIL AND STONE SHALL BE DIMENSIONED IN ACCORDANCE WITH STORMWATER GREENSTREET CALCULATIONS.
2. ENGINEERED SOIL DEPTH TO BE 18", AND 24" IF TREE IS PRESENT. STONE DEPTH VARIES. TOTAL DEPTH NOT TO EXCEED 60".
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4. IF DEEPER LOW POINT (LP) IS REQUIRED, OGI APPROVAL WILL BE REQUIRED.
5. STONE COLUMN AND/OR PEDESTRIAN PATHWAY WHEN REQUIRED.
6. TOP OF DOWNSTREAM STONE COLUMN(S) TO BE 1" LOWER THAN OUTLET INVERT (TYP.) TOP OF UPSTREAM STONE COLUMN(S) TO BE 1" LOWER THAN CONCRETE CULVERT INLET INVERT (TYP.).
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9. 5' (MIN.) DISTANCE BETWEEN STONE COLUMNS; NUMBER OF STONE COLUMNS AS REQUIRED BY OGI.

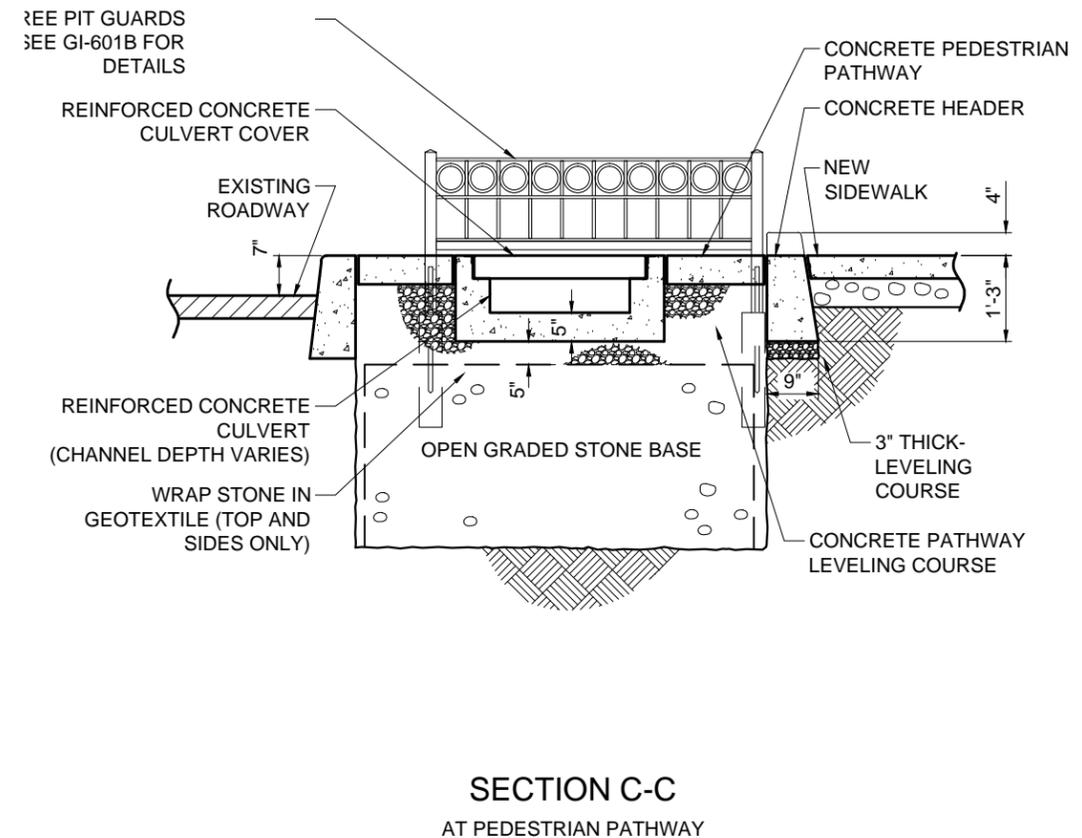
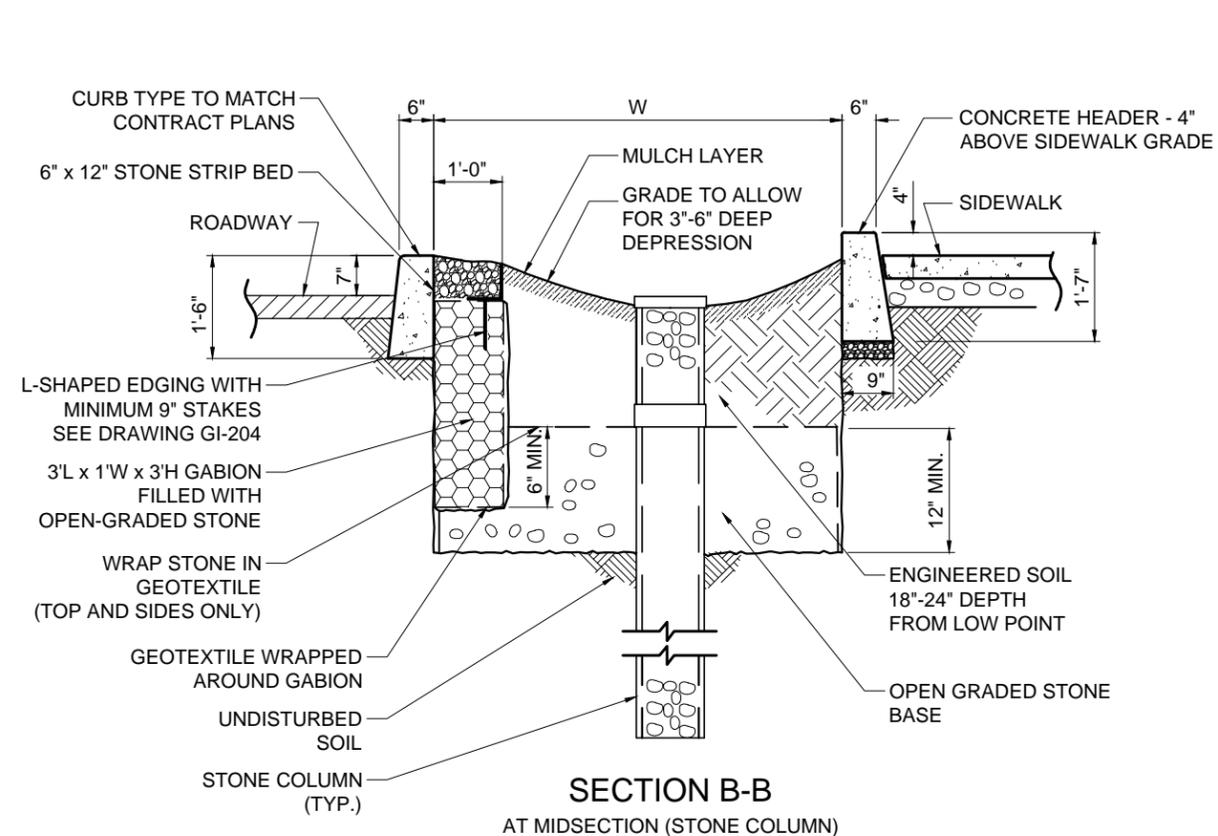


SECTION A-A

CITY OF NEW YORK  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF GREEN INFRASTRUCTURE

# R.O.W. STORMWATER GREENSTREET (ROWSGS) TYPE 2A-WITH STONE COLUMNS LAYOUT GUIDELINES

- NO CONNECTION TO SEWERS



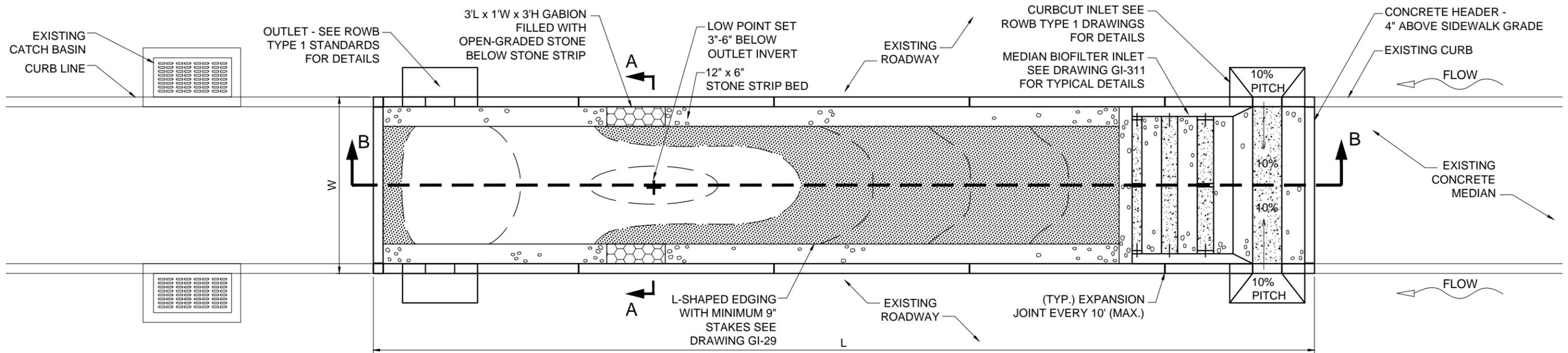
## NOTES:

1. DEPTH OF SOIL AND STONE SHALL BE DIMENSIONED IN ACCORDANCE WITH STORMWATER GREENSTREET CALCULATIONS.
2. IMPERVIOUS ROW AREA IS CALCULATED IN TDA ANALYSIS SPREADSHEET.
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5. IF DEEPER LOW POINT (LP) IS REQUIRED, OGI APPROVAL WILL BE REQUIRED..
6. STONE COLUMN AND/OR PEDESTRIAN PATHWAY WHEN REQUIRED.
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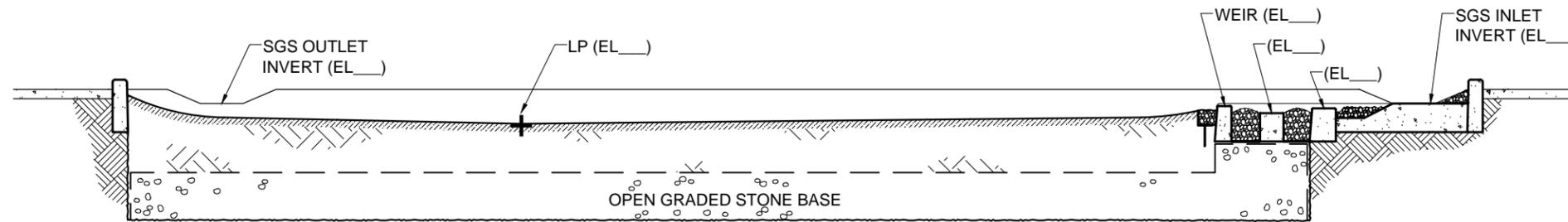
CITY OF NEW YORK  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF GREEN INFRASTRUCTURE

# R.O.W. STORMWATER GREENSTREET (ROWSGS) TYPE 3 LAYOUT GUIDELINES

- NO CONNECTION TO SEWERS



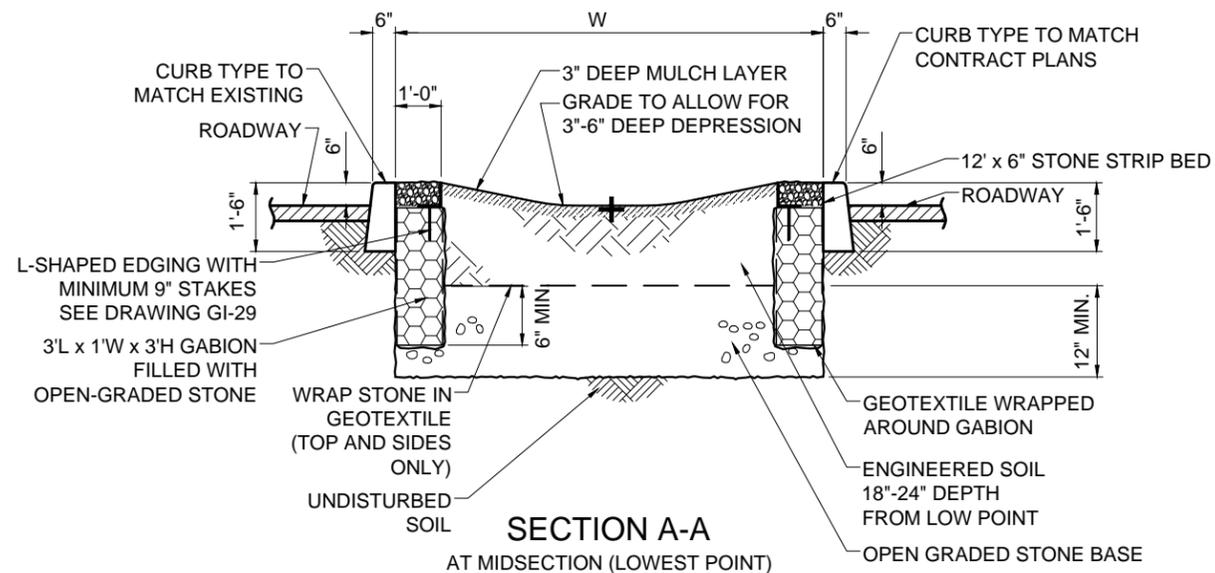
GRADING PLAN



SECTION B-B

NOTES:

1. DEPTH OF SOIL AND STONE SHALL BE DIMENSIONED IN ACCORDANCE WITH STORMWATER GREENSTREET CALCULATIONS.
2. ENGINEERED SOIL DEPTH TO BE 18", AND 24" IF TREE IS PRESENT. STONE DEPTH VARIES. TOTAL DEPTH NOT TO EXCEED 60".
3. DEPTH AND MATERIALS MAY CHANGE DUE TO FIELD CONDITIONS UNDER THE DIRECTION OF THE ENGINEER.
4. IF DEEPER LOW POINT (LP) IS REQUIRED, OGI APPROVAL WILL BE REQUIRED.
5. PEDESTRIAN PATHWAY WHEN REQUIRED.
6. WHERE (EL \_\_\_) IS INDICATED. ELEVATION TO BE SHOWN IN CONTRACT PLANS.



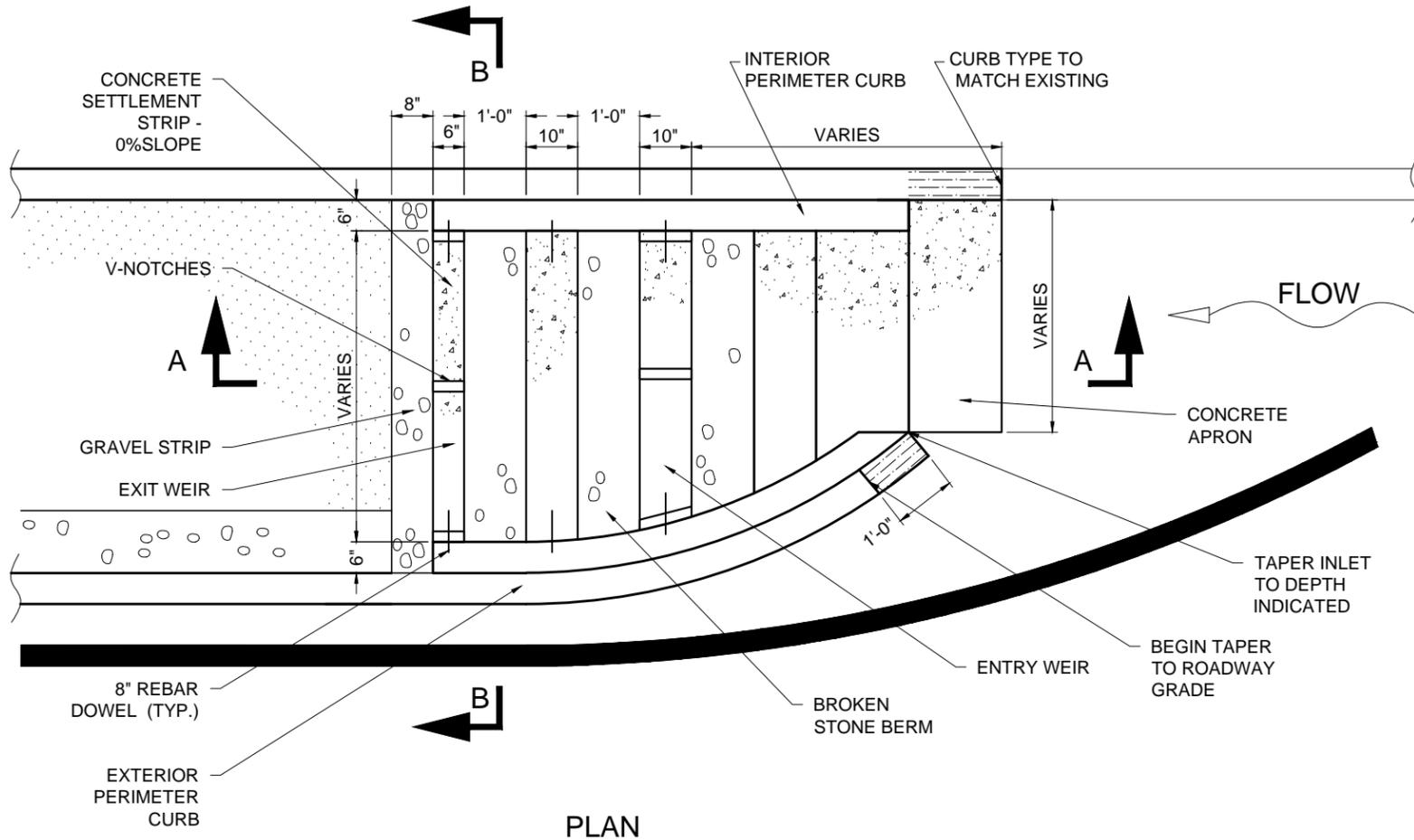
SECTION A-A

AT MIDSECTION (LOWEST POINT)

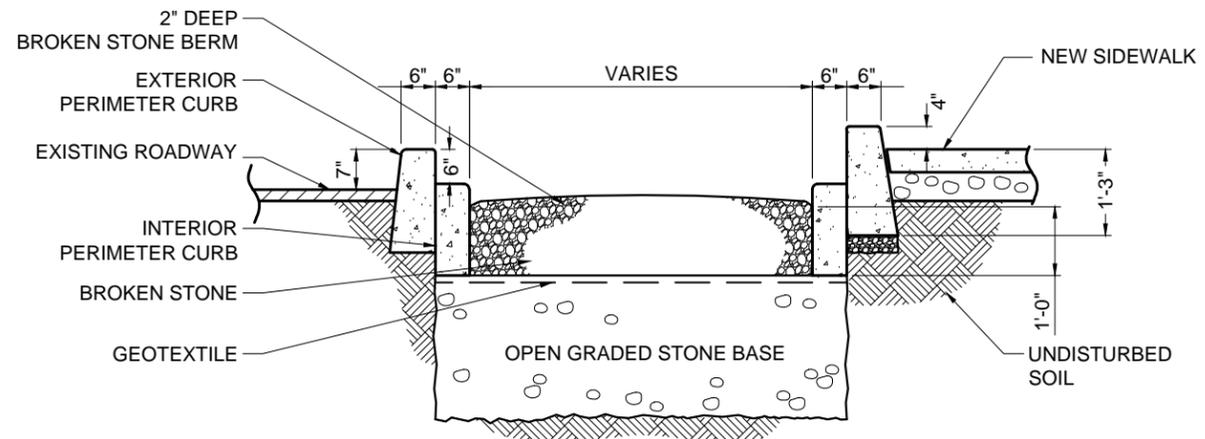
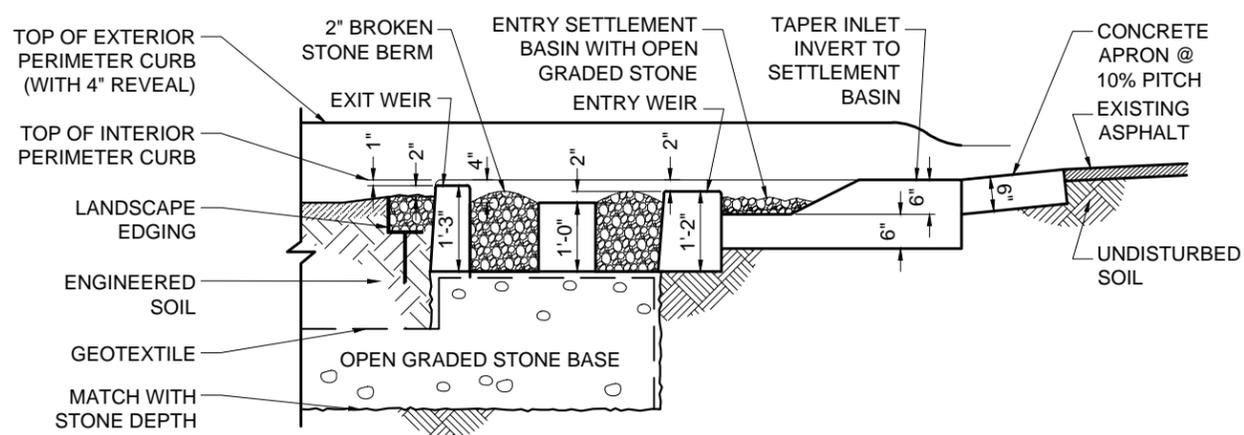
CITY OF NEW YORK  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF GREEN INFRASTRUCTURE

# R.O.W. STORMWATER GREENSTREET (ROWSGS) BIOFILTER INLET

- NO CONNECTION TO SEWERS



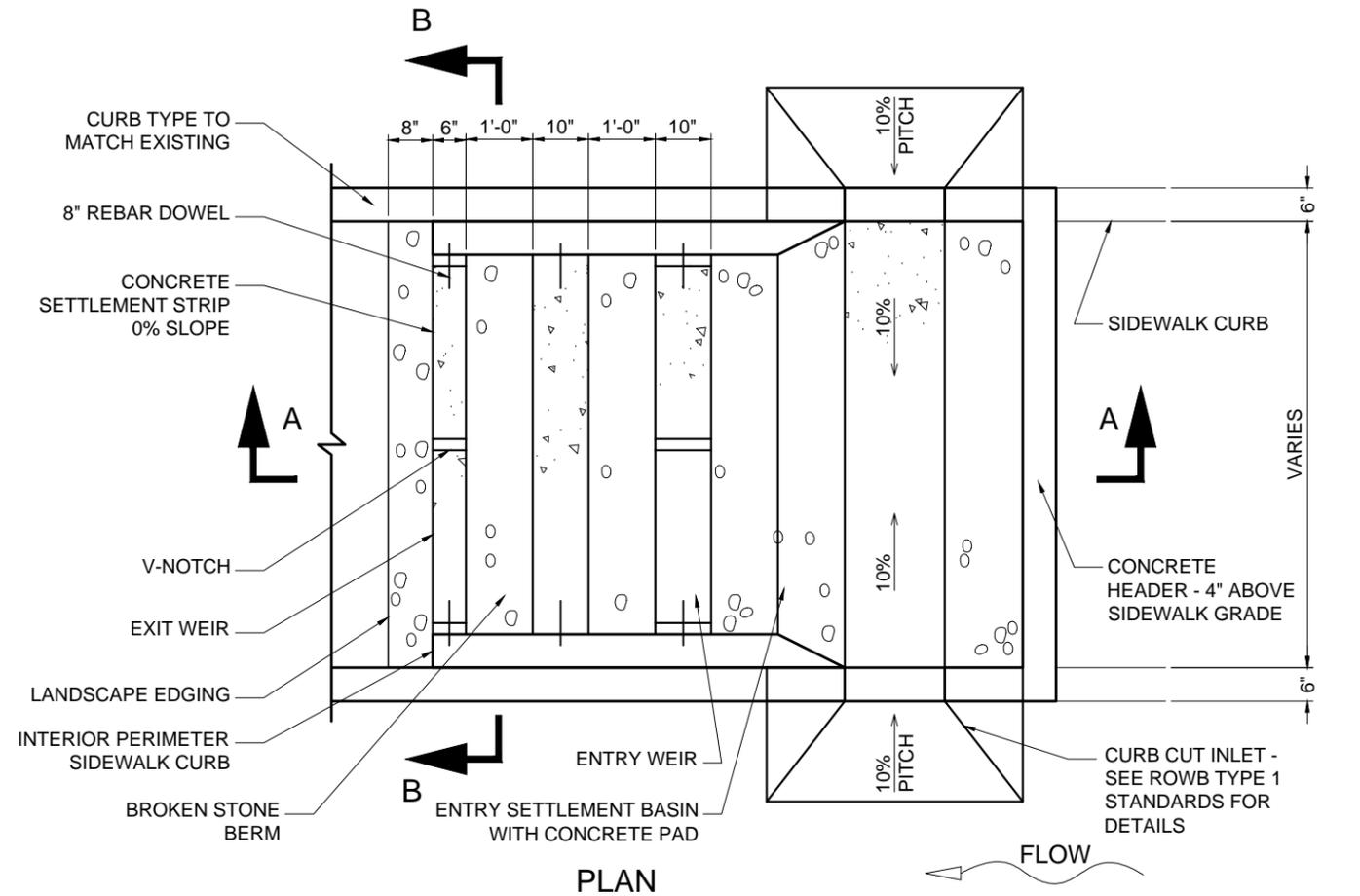
NOTES:  
1. NUMBER OF BROKEN STONE BERMS MAY VARY AS REQUIRED BY OGI.



CITY OF NEW YORK  
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OFFICE OF GREEN INFRASTRUCTURE

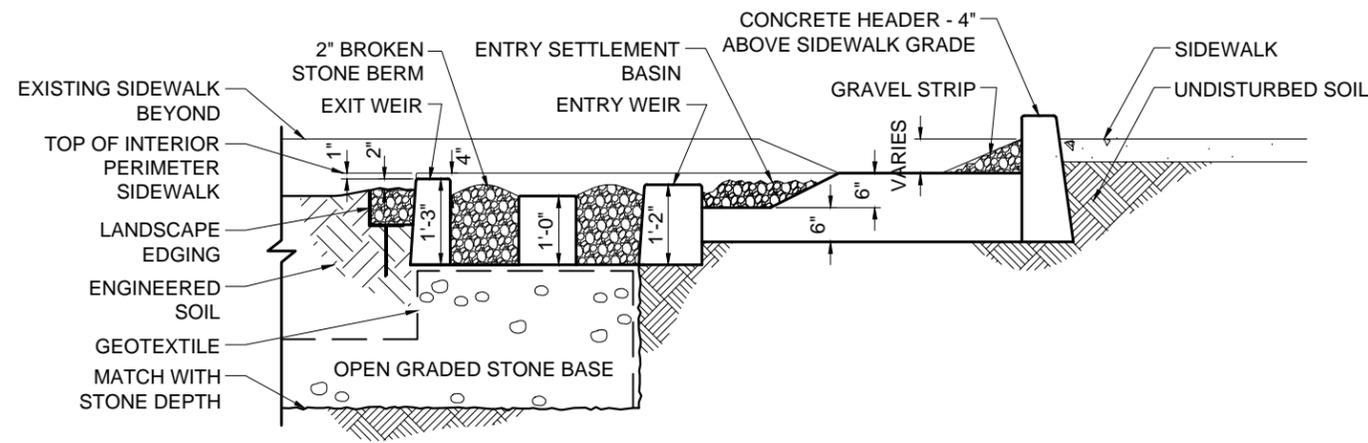
# R.O.W. STORMWATER GREENSTREET (ROWSGS) MEDIAN BIOFILTER INLET

- NO CONNECTION TO SEWERS

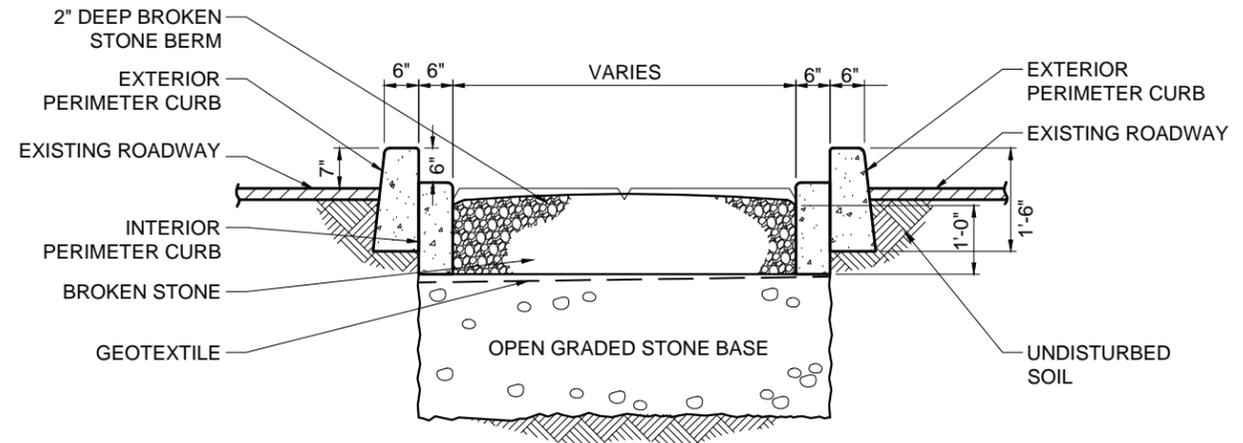


PLAN

- NOTES:  
1. NUMBER OF BROKEN STONE BERMS MAY VARY AS REQUIRED BY OGI.



SECTION A-A

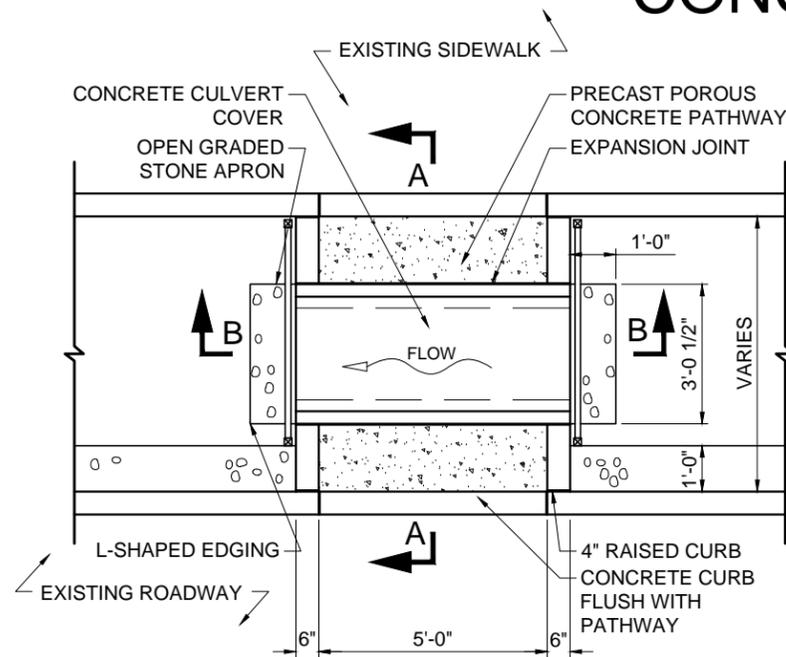


SECTION B-B

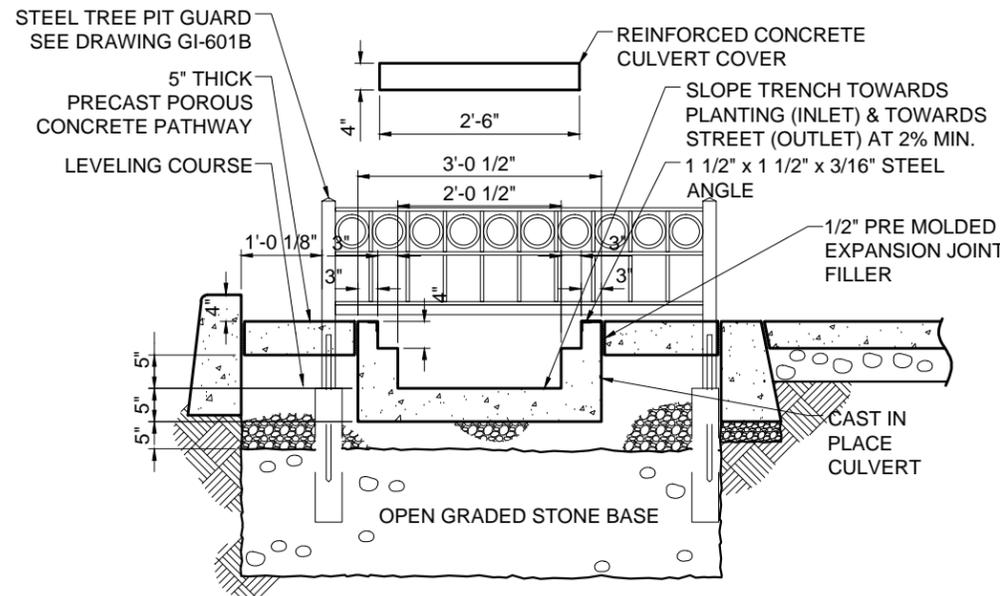
CITY OF NEW YORK  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF GREEN INFRASTRUCTURE

# R.O.W. STORMWATER GREENSTREET (ROWSGS) CONCRETE AND GRATED PEDESTRIAN PATHWAYS

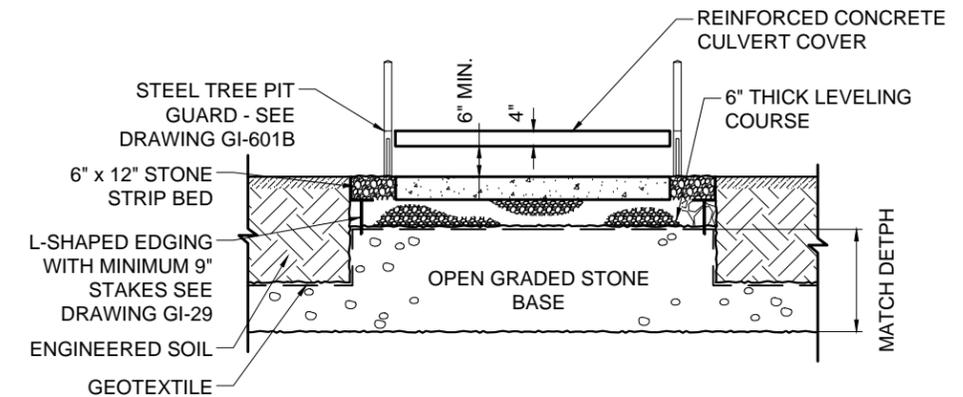
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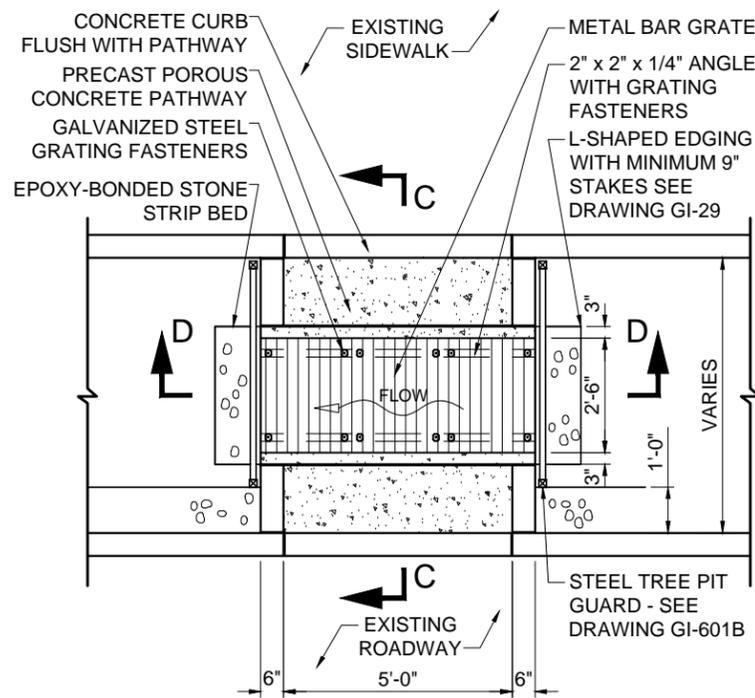
CONCRETE PATHWAY  
PLAN



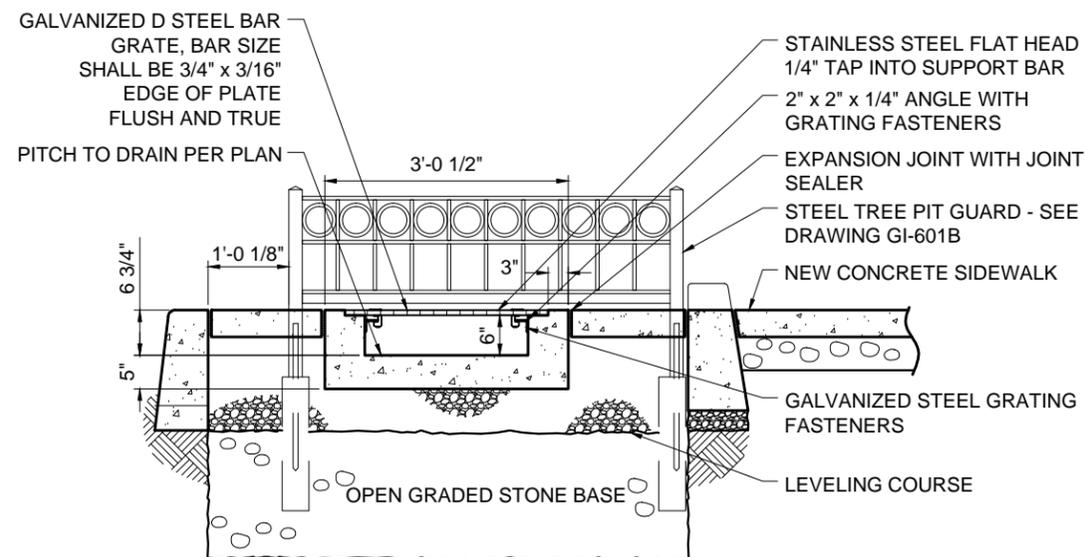
CONCRETE PATHWAY  
SECTION A-A



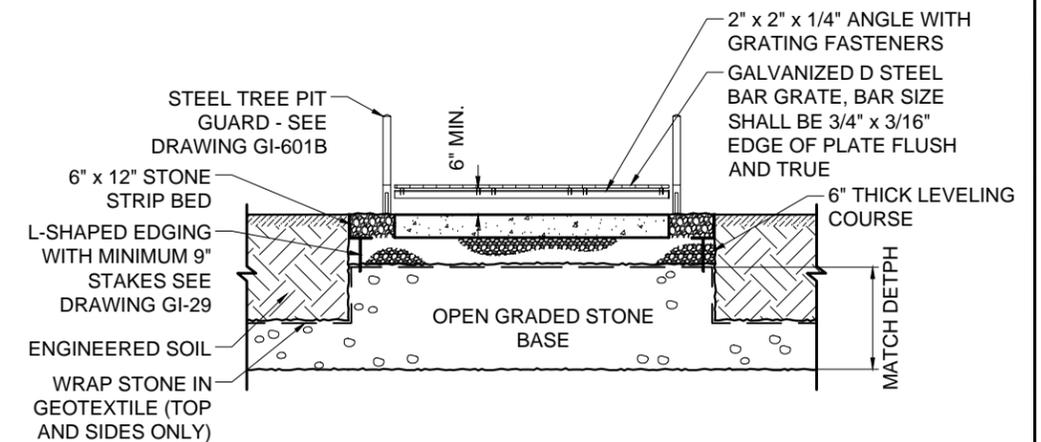
CONCRETE PATHWAY  
SECTION B-B



METAL GRATE  
PATHWAY PLAN



METAL GRATE PATHWAY  
SECTION C-C



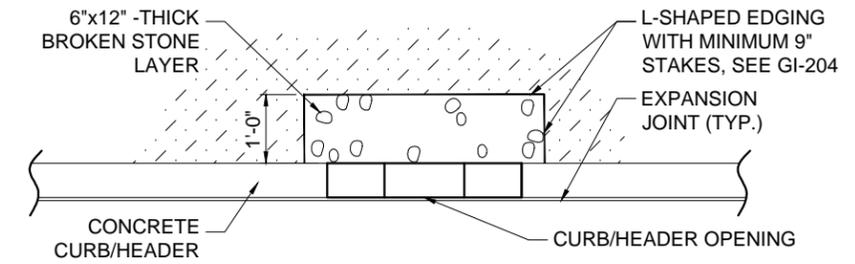
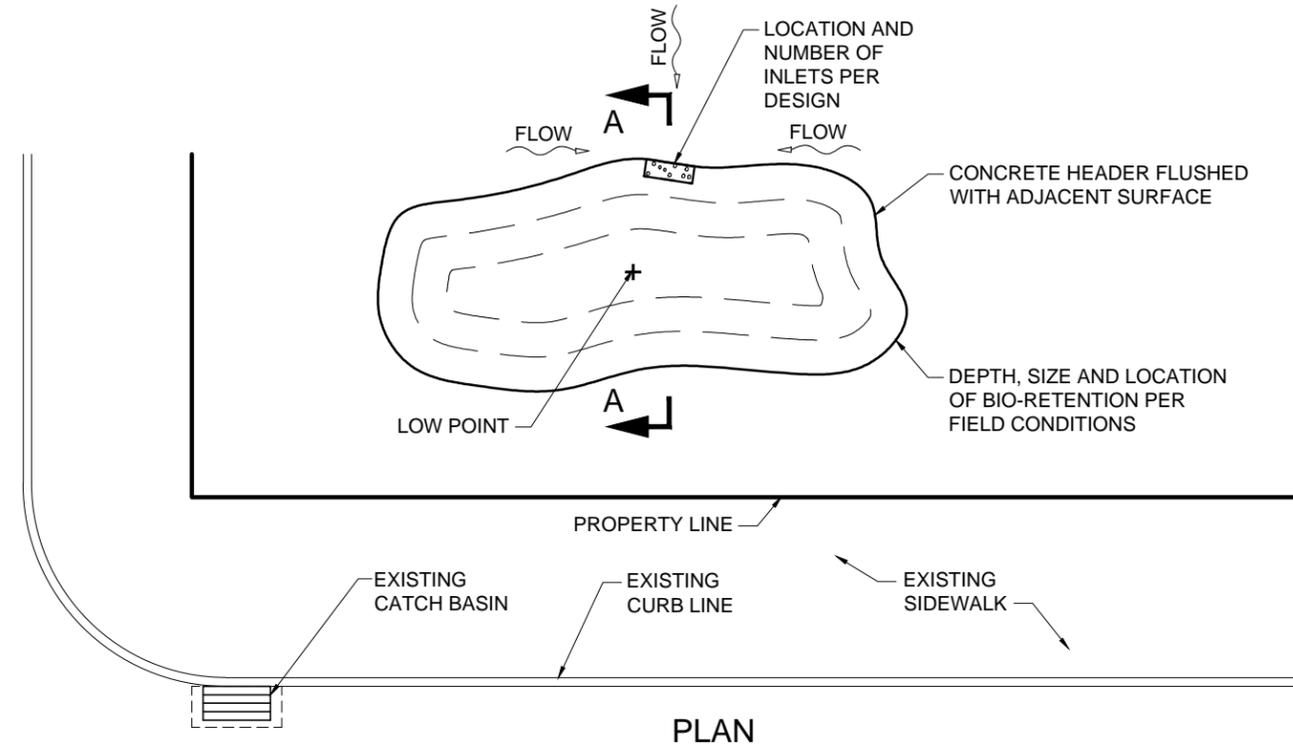
METAL GRATE PATHWAY  
SECTION D-D

**GI-400  
GUIDELINES FOR ON-SITE  
GREEN INFRASTRUCTURE  
PRACTICES**

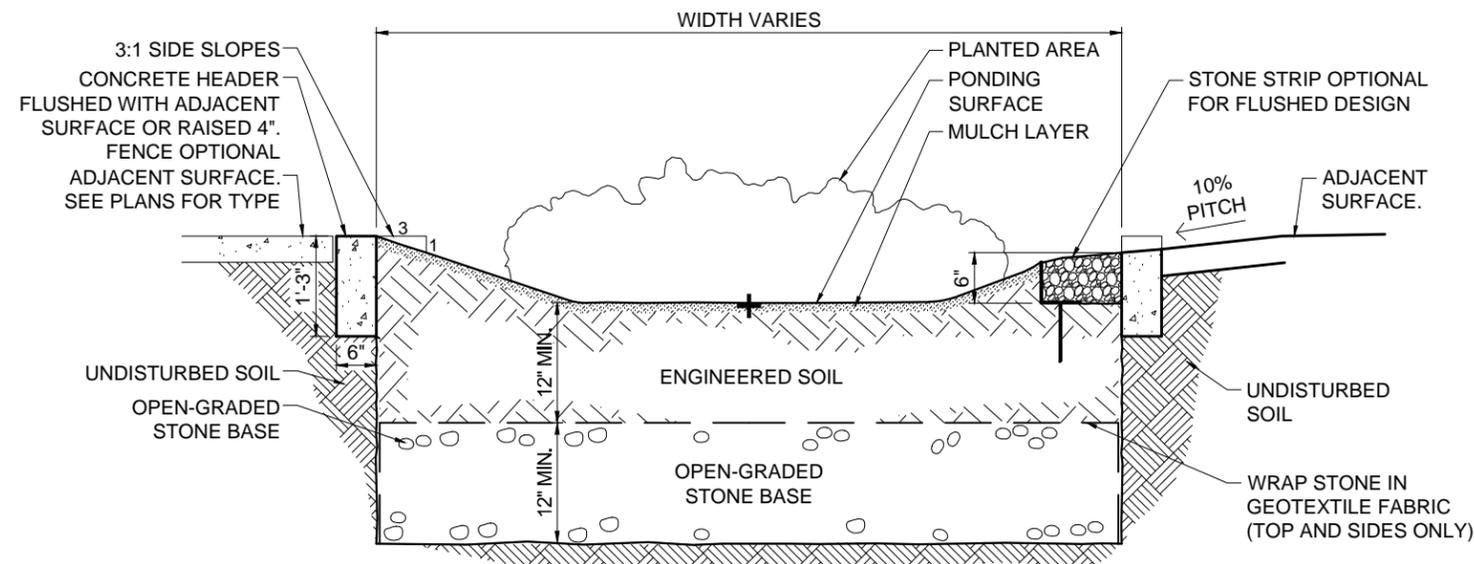
CITY OF NEW YORK  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF GREEN INFRASTRUCTURE

# GUIDELINES FOR LAYOUT OF ON-SITE BIORETENTION RAIN GARDEN

- NO CONNECTION TO SEWERS



NOTES:  
SUBMIT X-SECTION AND PLAN FOR ALTERNATE DESIGN.

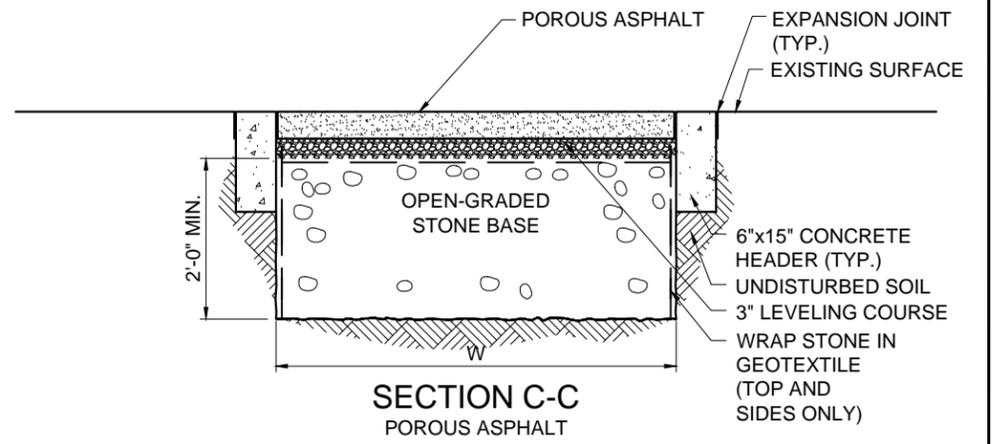
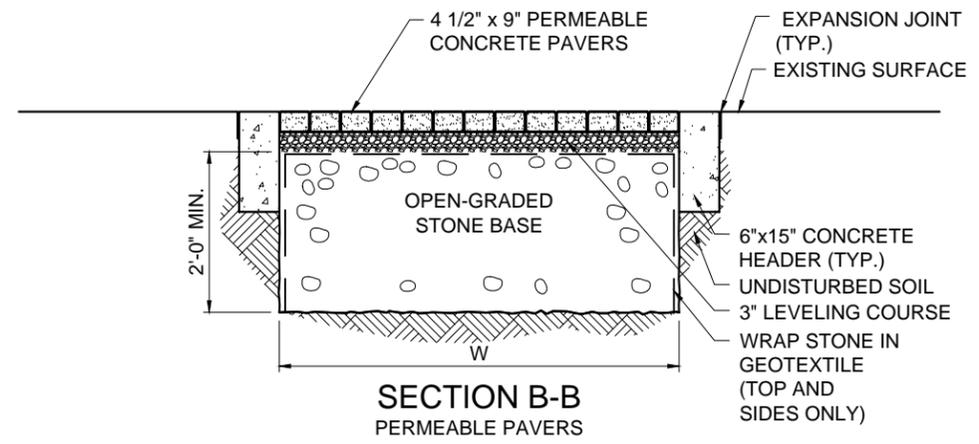
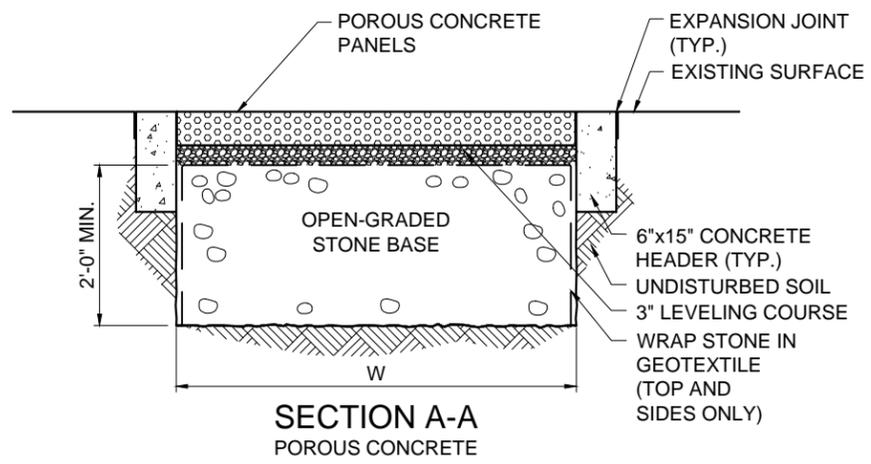
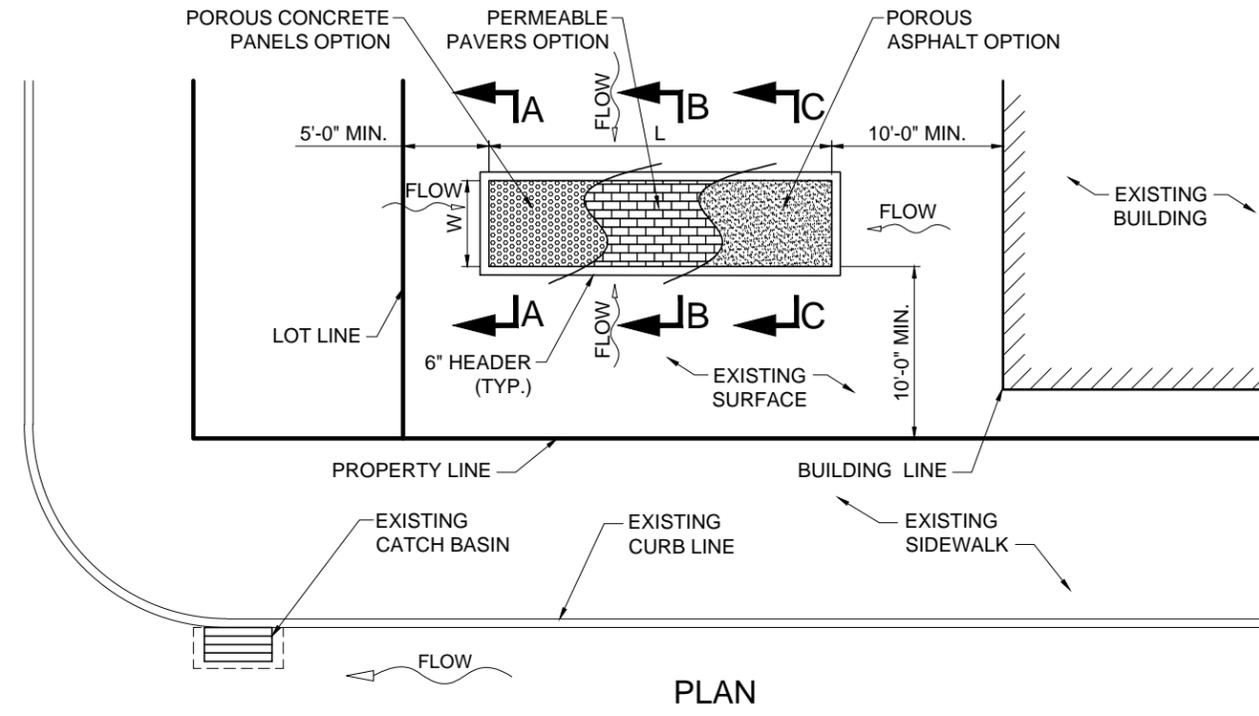


- GENERAL NOTES:
1. USE OFFICE OF GREEN INFRASTRUCTURE SPECIFICATIONS WHERE APPLICABLE UNLESS OTHERWISE DIRECTED/ PER OWNER AGENCY
  2. CLEARANCE TO: BUILDINGS, STRUCTURES/ FOUNDATIONS, VAULTS, RETAINING WALLS AND OTHERS AS REQUIRED
  3. PLANTING PLAN PER OWNER AGENCY REQUIREMENTS

CITY OF NEW YORK  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF GREEN INFRASTRUCTURE

# GUIDELINES FOR ON-SITE POROUS AND PERMEABLE SURFACES

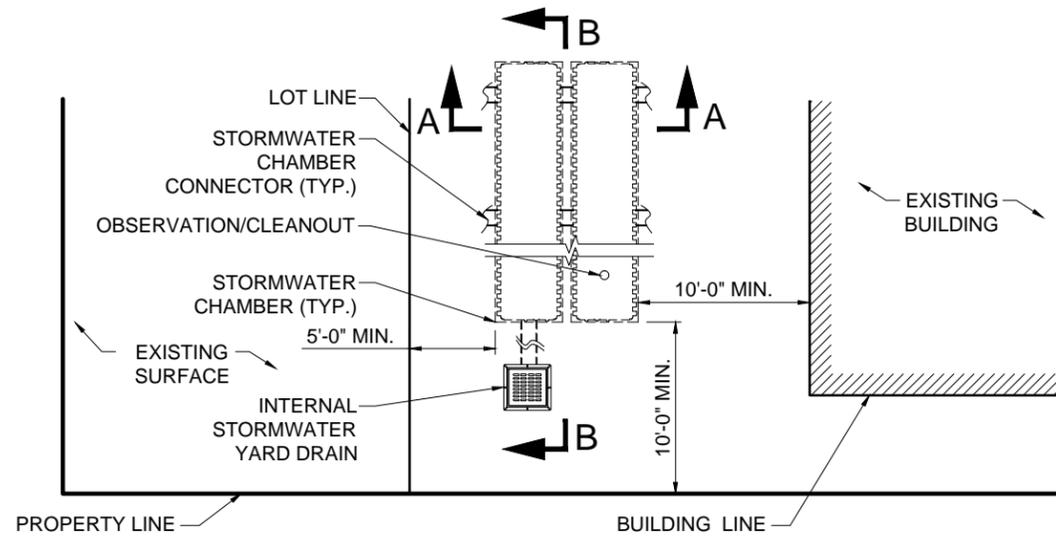
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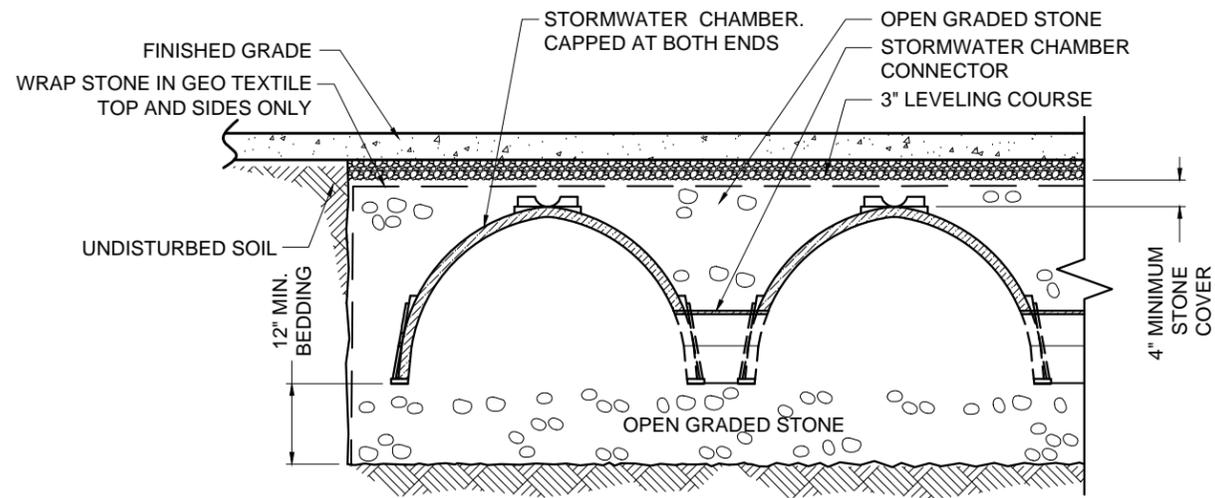
CITY OF NEW YORK  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF GREEN INFRASTRUCTURE

# GUIDELINES FOR ON-SITE SUBSURFACE STORMWATER RETENTION CHAMBER

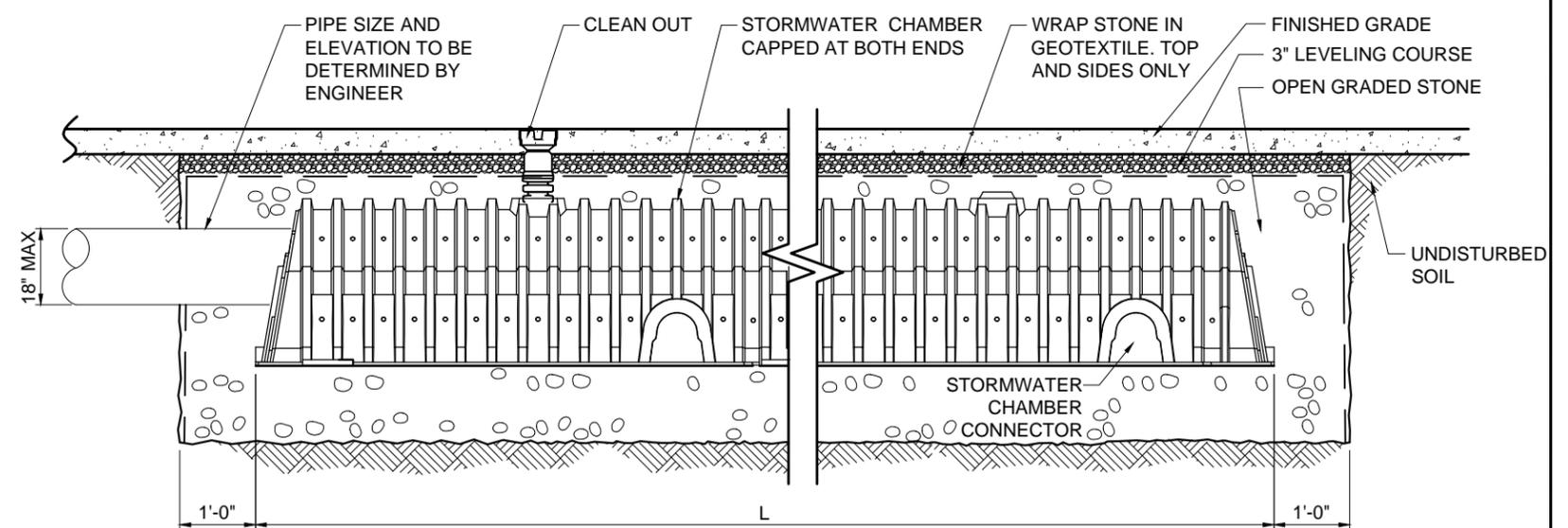
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PLAN



SECTION A-A



SECTION B-B

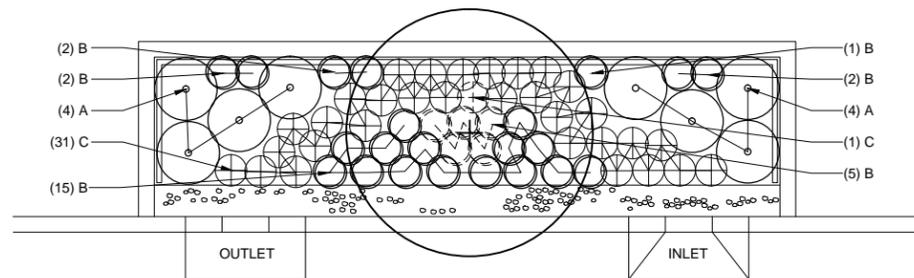
**GI-500  
PLANTING PLANS FOR  
RIGHT-OF-WAY GREEN INFRASTRUCTURE  
PRACTICES**

CITY OF NEW YORK  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF GREEN INFRASTRUCTURE

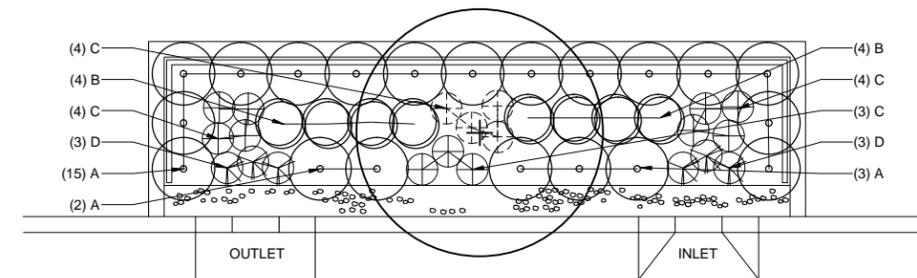
# STANDARD PLANTING PLANS FOR TYPE 1 R.O.W. BIOSWALES AND R.O.W. RAIN GARDENS

RESIDENTIAL PLAN 1 PLANT SCHEDULE							
QUAN	KEY	PLAN VERSION	TYPE	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
8	A	A	SHRUB	ILEX GLABRA 'SHAMROCK'	INKBERRY	#5 CONT. OR B&B	2' O.C.
		B	ROSE	ROSA 'RADRAZZ' KNOCK OUT	SHRUB ROSE	#5 CONT. OR B&B	
22	B	A	PERENNIAL	COREOPSIS 'REDSHIFT'	TICKSEED	#2 CONT.	12" O.C.
		B	PERENNIAL	NEPETA X FAASSENII 'WALKER'S LOW'	CATMINT	#2 CONT.	
31	C	A	GROUNDCOVER	LIRIOPE SPICATA	LILY TURF	#1 CONT.	12" O.C.
		B	GROUNDCOVER	LIRIOPE MUSCARI 'MONROE WHITE'	LILY TURF	#1 CONT.	
ONLY PLANTED IN R.O.W. RAIN GARDEN OR R.O.W. BIOSWALE WITH NO TREE							
5	B	A	PERENNIAL	COREOPSIS 'REDSHIFT'	TICKSEED	#2 CONT.	12" O.C.
		B	PERENNIAL	NEPETA X FAASSENII 'WALKER'S LOW'	CATMINT	#2 CONT.	
1	C	A	GROUNDCOVER	LIRIOPE SPICATA	LILY TURF	#1 CONT.	12" O.C.
		B	GROUNDCOVER	LIRIOPE MUSCARI 'MONROE WHITE'	LILY TURF	#1 CONT.	

RESIDENTIAL PLAN 2 PLANT SCHEDULE							
QUAN	KEY	PLAN VERSION	TYPE	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
20	A	A	SHRUB	ILEX GLABRA 'SHAMROCK'	INKBERRY	#5 CONT. OR B&B	2' O.C.
		B	SHRUB	ILEX GLABRA 'SHAMROCK'	INKBERRY	#5 CONT. OR B&B	
8	B	A	ROSE	ROSA PALUSTRIS	SWAMP ROSE	#2/#3 CONT.	18" O.C.
		B	SHRUB	CLETHRA ANIFOLIA 'HUMMINGBIRD'	SWEET PEPPERBUSH	#5 CONT. OR B&B	
11	C	A	PERENNIAL	ECHINACEA PURPUREA 'KIM'S KNEEE HIGH'	PURPLE CONE FLOWER	#2 CONT.	12" O.C.
		B	PERENNIAL	RUDBECKIA SUBTOMENTOSA 'HENRY EILERS'	SWEET CONEFLOWER	#2 CONT.	
6	D	A	GRASSES	ACORUS CALAMUS 'VARIEGATUS'	SWEETFLAG	#2 CONT.	12" O.C.
		B	GRASSES	ACORUS CALAMUS 'VARIEGATUS'	SWEETFLAG	#2 CONT.	
ONLY PLANTED IN R.O.W. RAIN GARDEN OR R.O.W. BIOSWALE WITH NO TREE							
4	C	A	PERENNIAL	ECHINACEA PURPUREA 'KIM'S KNEEE HIGH'	PURPLE CONE FLOWER	#2 CONT.	12" O.C.
		B	PERENNIAL	RUDBECKIA SUBTOMENTOSA 'HENRY EILERS'	SWEET CONEFLOWER	#2 CONT.	



**RESIDENTIAL PLAN 1**  
ROWBS IN RESIDENTIAL NEIGHBORHOODS WITH LOW VOLUME CIRCULATION



**RESIDENTIAL PLAN 2**  
ROWBS IN RESIDENTIAL NEIGHBORHOODS WITH LOW VOLUME CIRCULATION

**NOTES:**

1. PLANTING LOCATIONS ARE SPECIFIC TO THE INLET AND OUTLET ORIENTATION SHOWN. IF THE INLET AND OUTLET ORIENTATION IS REVERSED, THE PLANTING LOCATIONS MUST BE MIRRORED.
2. TREES TO BE INCLUDED IN PLANTING PLANS UPON DIRECTION OF DPR.
3. THE AREA DIRECTLY ABOVE THE TREE ROOTBALL IS NOT TO BE PLANTED WITH SHRUBS, PERENNIALS, OR GRASSES.
4. PLANTING PLANS FOR VARIABLE SIZE R.O.W. BIOSWALES AND R.O.W. RAIN GARDENS ARE DETERMINED AS PER THE SCHEDULE ON GI-122.

R.L.A., LEED AP

DIRECTOR OF GREEN INFRASTRUCTURE  
DEPARTMENT OF PARKS AND RECREATION

03-07-2016

DATE

P.E., F. ASCE

ASSISTANT COMMISSIONER, OFFICE OF GREEN INFRASTRUCTURE  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

03-07-2016

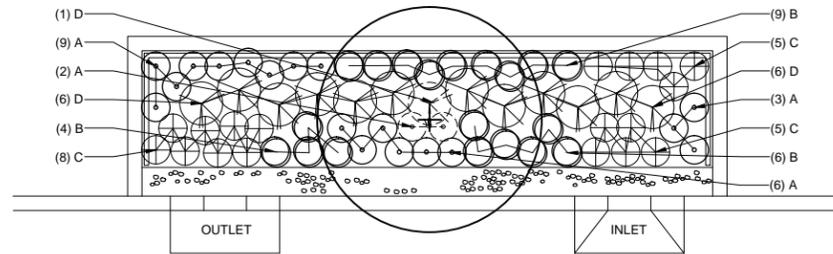
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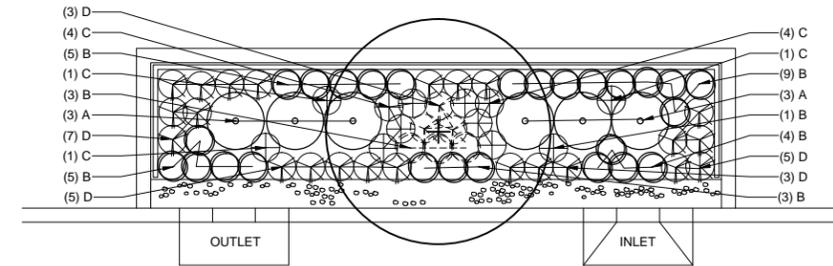
STANDARD PLANTING PLANS FOR TYPE 1 R.O.W. BIOSWALES AND R.O.W. RAIN GARDENS

URBAN PLAN 3 PLANT SCHEDULE							
QUAN	KEY	PLAN VERSION	TYPE	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
18	A	A	PERENNIAL	COREOPSIS 'REDSHIFT'	TICKSEED	#2 CONT.	12" O.C.
		B	PERENNIAL	RUDBECKIA FULGIDA 'GOLDSTURM'	BLACK-EYED SUSAN	#2 CONT.	
19	B	A	PERENNIAL	NEPETA X FAASSENII 'WALKER'S LOW'	CATMINT	#2 CONT.	12" O.C.
		B	PERENNIAL	HYLOTELEPHIUM 'VERA JAMESON'	STONECROP	#2 CONT.	
18	C	A	PERENNIAL	HEMEROCALIS 'SCARLET OAK'	DAYLILY	#2 CONT.	12" O.C.
		B	GRASSES	HELICTOTRICHON SEMPERVIRENS	BLUE OAT GRASS	#2 CONT.	
12	D	A	GRASSES	CHASMANTHIUM LATIFOLIUM	NORTHERN SEA OATS	#2 CONT.	18" O.C.
		B	GRASSES	PANICUM VIRGATUM 'SHENANDOAH'	SWITCH GRASS	#2 CONT.	
ONLY PLANTED IN R.O.W. RAIN GARDEN OR R.O.W. BIOSWALE WITH NO TREE							
2	A	A	PERENNIAL	COREOPSIS 'REDSHIFT'	TICKSEED	#2 CONT.	12" O.C.
		B	PERENNIAL	RUDBECKIA FULGIDA 'GOLDSTURM'	BLACK-EYED SUSAN	#2 CONT.	
1	D	A	GRASSES	CHASMANTHIUM LATIFOLIUM	NORTHERN SEA OATS	#2 CONT.	18" O.C.
		B	GRASSES	PANICUM VIRGATUM 'SHENANDOAH'	SWITCH GRASS	#2 CONT.	



**URBAN PLAN 3**  
ROWBS IN COMMERCIAL AND INDUSTRIAL AREAS WITH HIGHER VOLUME CIRCULATION

SHADY PLAN PLANT SCHEDULE							
QUAN	KEY	PLAN VERSION	TYPE	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
6	A	A	SHRUB	ITEA VIRGINICA 'LITTLE HENRY'	VIRGINIA SWEETSPIRE	#5 CONT. OR B&B	2' O.C.
		B	SHRUB	CLETHRA ANIFOLIA 'HUMMINGBIRD'	SWEET PEPPERBUSH	#5 CONT. OR B&B	
27	B	A	GRASSES	CAREX 'ICE DANCE'	SEDGE	#2 CONT.	12" O.C.
		B	GRASSES	HAKONECHLOA MACRA 'ALL GOLD'	JAPANESE FOREST GRASS	#2 CONT.	
11	C	A	PERENNIAL	ASTILBE 'DEUTSCHLAND'	ASTILBE	#2 CONT.	12" O.C.
		B	PERENNIAL	ASTILBE CHINENSIS 'VISION IN RED'	CHINESE ASTILBE	#2 CONT.	
20	D	A	GROUNDCOVER	AJUGA REPTANS 'CATLIN'S GIANT'	BUGLEWEED	#1 CONT.	12" O.C.
		B	GROUNDCOVER	AJUGA REPTANS 'CATLIN'S GIANT'	BUGLEWEED	#1 CONT.	
ONLY PLANTED IN R.O.W. RAIN GARDEN OR R.O.W. BIOSWALE WITH NO TREE							
3	B	A	GRASSES	CAREX 'ICE DANCE'	SEDGE	#2 CONT.	12" O.C.
		B	GRASSES	HAKONECHLOA MACRA 'ALL GOLD'	JAPANESE FOREST GRASS	#2 CONT.	
3	D	A	GROUNDCOVER	AJUGA REPTANS 'CATLIN'S GIANT'	BUGLEWEED	#1 CONT.	12" O.C.
		B	GROUNDCOVER	AJUGA REPTANS 'CATLIN'S GIANT'	BUGLEWEED	#1 CONT.	



**ESPECIALLY SHADY PLAN**  
ROWBS WITH PARTLY SUNNY OR SHADY LIGHT CONDITIONS

**NOTES:**

1. PLANTING LOCATIONS ARE SPECIFIC TO THE INLET AND OUTLET ORIENTATION SHOWN. IF THE INLET AND OUTLET ORIENTATION IS REVERSED, THE PLANTING LOCATIONS MUST BE MIRRORED.
2. TREES TO BE INCLUDED IN PLANTING PLANS UPON DIRECTION OF DPR.
3. THE AREA DIRECTLY ABOVE THE TREE ROOTBALL IS NOT TO BE PLANTED WITH SHRUBS, PERENNIALS, OR GRASSES.
4. PLANTING PLANS FOR VARIABLE SIZE R.O.W. BIOSWALES AND R.O.W. RAIN GARDENS ARE DETERMINED AS PER THE SCHEDULE ON GI-122.

R.L.A., LEED AP

DIRECTOR OF GREEN INFRASTRUCTURE  
DEPARTMENT OF PARKS AND RECREATION

03-07-2016

DATE

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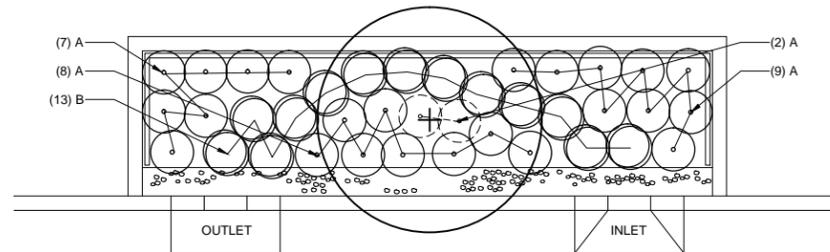
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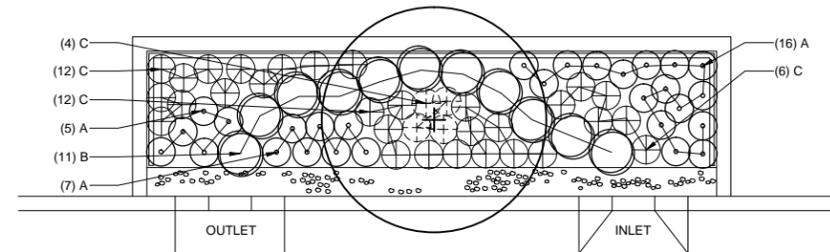
# STANDARD PLANTING PLANS FOR TYPE 1 R.O.W. BIOSWALES AND R.O.W. RAIN GARDENS

DRY PLAN PLANT SCHEDULE							
QUAN	KEY	PLAN VERSION	TYPE	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
24	A	A	GRASSES	PENNISETUM ALOPECURIOIDES 'HAMELN'	FOUNTAIN GRASS	#2 CONT.	18" O.C.
		B	GRASSES	HELICTOTRICHON SEMPERVIRENS	BLUE OAT GRASS	#2 CONT.	
13	B	A	GRASSES	PENNISETUM ALOPECURIOIDES 'HAMELN'	FOUNTAIN GRASS	#2 CONT.	18" O.C.
		B	GRASSES	PANICUM VIRGATUM 'SHENANDOAH'	SWITCH GRASS	#2 CONT.	
ONLY PLANTED IN R.O.W. RAIN GARDEN OR R.O.W. BIOSWALE WITH NO TREE							
2	A	A	GRASSES	PENNISETUM ALOPECURIOIDES 'HAMELN'	FOUNTAIN GRASS	#2 CONT.	18" O.C.
		B	GRASSES	HELICTOTRICHON SEMPERVIRENS	BLUE OAT GRASS	#2 CONT.	

WET PLAN PLANT SCHEDULE							
QUAN	KEY	PLAN VERSION	TYPE	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
28	A	A	PERENNIAL	BRUNNERA MACROPHYLLA 'JACK FROST'	SIBERIAN BUGLOSS	#2 CONT.	12" O.C.
		B	PERENNIAL	ACHEMILLA MOLLIS	LADY'S MANTLE	#2 CONT.	
11	B	A	PERENNIAL	IRIS VERSICOLOR	BLUE FLAG	#2 CONT.	18" O.C.
		B	GRASSES	PANICUM VIRGATUM 'SHENANDOAH'	SWITCH GRASS	#2 CONT.	
30	C	A	GRASSES	ACORUS CALAMUS 'VARIEGATUS'	SWEETFLAG	#2 CONT.	12" O.C.
		B	PERENNIAL	HEMEROCALLIS 'LADY FLORENCE'	DAYLILY	#2 CONT.	
ONLY PLANTED IN R.O.W. RAIN GARDEN OR R.O.W. BIOSWALE WITH NO TREE							
4	C	A	GRASSES	ACORUS CALAMUS 'VARIEGATUS'	SWEETFLAG	#2 CONT.	12" O.C.
		B	PERENNIAL	HEMEROCALLIS 'LADY FLORENCE'	DAYLILY	#2 CONT.	



**ESPECIALLY DRY PLAN**  
ROWBS WITH LESS THAN 15% STORMWATER RUNOFF MANAGED



**ESPECIALLY WET PLAN**  
ROWBS WITH GREATER THAN 30% STORMWATER RUNOFF MANAGED

- NOTES:**
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  2. TREES TO BE INCLUDED IN PLANTING PLANS UPON DIRECTION OF DPR.
  3. THE AREA DIRECTLY ABOVE THE TREE ROOTBALL IS NOT TO BE PLANTED WITH SHRUBS, PERENNIALS, OR GRASSES.
  4. PLANTING PLANS FOR VARIABLE SIZE R.O.W. BIOSWALES AND R.O.W. RAIN GARDENS ARE DETERMINED AS PER THE SCHEDULE ON GI-122.

  
R.L.A., LEED AP  
DIRECTOR OF GREEN INFRASTRUCTURE  
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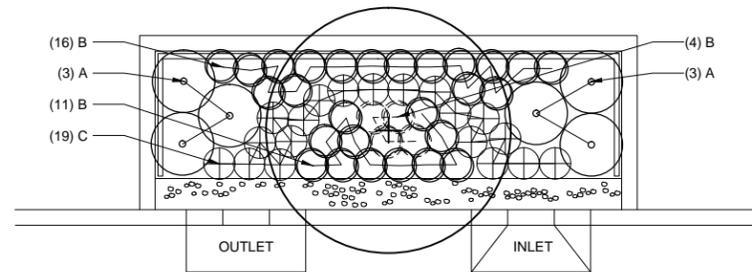
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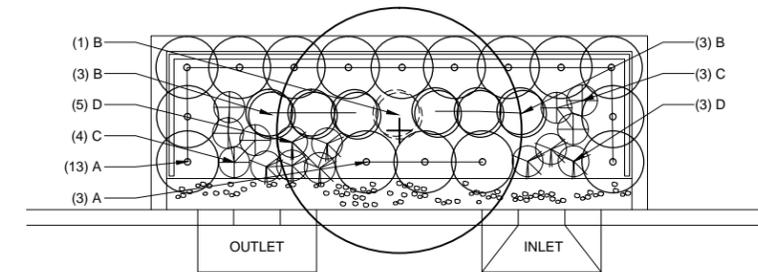
# STANDARD PLANTING PLANS FOR TYPE 2 R.O.W. BIOSWALES AND R.O.W. RAIN GARDENS

RESIDENTIAL PLAN 1 PLANT SCHEDULE							
QUAN	KEY	PLAN VERSION	TYPE	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
6	A	A	SHRUB	ILEX GLABRA 'SHAMROCK'	INKBERRY	#5 CONT. OR B&B	2' O.C.
		B	ROSE	ROSA 'RADRAZZ' KNOCK OUT	SHRUB ROSE	#5 CONT. OR B&B	
27	B	A	PERENNIAL	COREOPSIS 'REDSHIFT'	TICKSEED	#2 CONT.	12" O.C.
		B	PERENNIAL	NEPETA X FAASSENII 'WALKER'S LOW'	CATMINT	#2 CONT.	
19	C	A	GROUNDCOVER	LIRIOPE SPICATA	LILY TURF	#1 CONT.	12" O.C.
		B	GROUNDCOVER	LIRIOPE MUSCARI 'MONROE WHITE'	LILY TURF	#1 CONT.	
ONLY PLANTED IN R.O.W. RAIN GARDEN OR R.O.W. BIOSWALE WITH NO TREE							
4	B	A	PERENNIAL	COREOPSIS 'REDSHIFT'	TICKSEED	#2 CONT.	12" O.C.
		B	PERENNIAL	NEPETA X FAASSENII 'WALKER'S LOW'	CATMINT	#2 CONT.	

RESIDENTIAL PLAN 2 PLANT SCHEDULE							
QUAN	KEY	PLAN VERSION	TYPE	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
16	A	A	SHRUB	ILEX GLABRA 'SHAMROCK'	INKBERRY	#5 CONT. OR B&B	2' O.C.
		B	SHRUB	ILEX GLABRA 'SHAMROCK'	INKBERRY	#5 CONT. OR B&B	
6	B	A	ROSE	ROSA PALUSTRIS	SWAMP ROSE	#2/#3 CONT.	18" O.C.
		B	SHRUB	CLETHRA ANIFOLIA 'HUMMINGBIRD'	SWEET PEPPERBUSH	#5 CONT. OR B&B	
7	C	A	PERENNIAL	ECHINACEA PURPUREA 'KIM'S KNEEE HIGH'	PURPLE CONE FLOWER	#2 CONT.	12" O.C.
		B	PERENNIAL	RUDBECKIA SUBTOMENTOSA 'HENRY EILERS'	SWEET CONEFLOWER	#2 CONT.	
8	D	A	GRASSES	ACORUS CALAMUS 'VARIEGATUS'	SWEETFLAG	#2 CONT.	12" O.C.
		B	GRASSES	ACORUS CALAMUS 'VARIEGATUS'	SWEETFLAG	#2 CONT.	
ONLY PLANTED IN R.O.W. RAIN GARDEN OR R.O.W. BIOSWALE WITH NO TREE							
1	B	A	ROSE	ROSA PALUSTRIS	SWAMP ROSE	#2/#3 CONT.	18" O.C.
		B	SHRUB	CLETHRA ANIFOLIA 'HUMMINGBIRD'	SWEET PEPPERBUSH	#5 CONT. OR B&B	



**RESIDENTIAL PLAN 1**  
ROWBS IN RESIDENTIAL NEIGHBORHOODS WITH LOW VOLUME CIRCULATION



**RESIDENTIAL PLAN 2**  
ROWBS IN RESIDENTIAL NEIGHBORHOODS WITH LOW VOLUME CIRCULATION

**NOTES:**

1. PLANTING LOCATIONS ARE SPECIFIC TO THE INLET AND OUTLET ORIENTATION SHOWN. IF THE INLET AND OUTLET ORIENTATION IS REVERSED, THE PLANTING LOCATIONS MUST BE MIRRORED.
2. TREES TO BE INCLUDED IN PLANTING PLANS UPON DIRECTION OF DPR.
3. THE AREA DIRECTLY ABOVE THE TREE ROOTBALL IS NOT TO BE PLANTED WITH SHRUBS, PERENNIALS, OR GRASSES.
4. PLANTING PLANS FOR VARIABLE SIZE R.O.W. BIOSWALES AND R.O.W. RAIN GARDENS ARE DETERMINED AS PER THE SCHEDULE ON GI-122.

R.L.A., LEED AP

DIRECTOR OF GREEN INFRASTRUCTURE  
DEPARTMENT OF PARKS AND RECREATION

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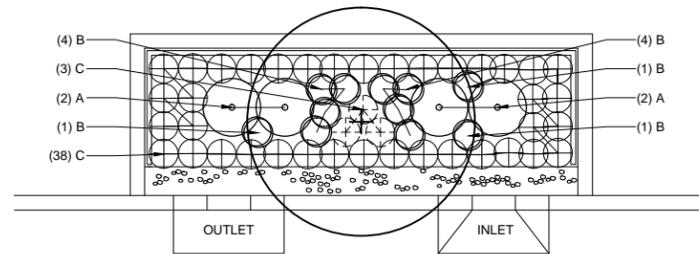
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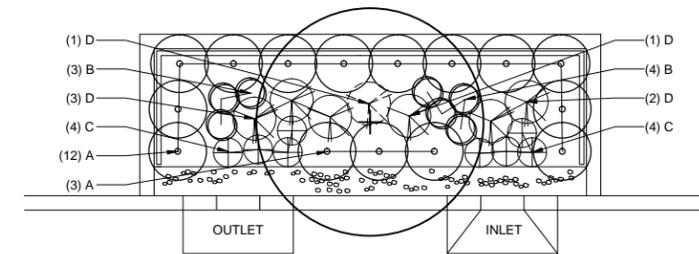
# STANDARD PLANTING PLANS FOR TYPE 2 R.O.W. BIOSWALES AND R.O.W. RAIN GARDENS

URBAN PLAN 1 PLANT SCHEDULE							
QUAN	KEY	PLAN VERSION	TYPE	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
4	A	A	SHRUB	ILEX GLABRA 'SHAMROCK'	INKBERRY	#5 CONT. OR B&B	2' O.C.
		B	ROSE	ROSA PALUSTRIS	SWAMP ROSE	#2/#3 CONT.	
11	B	A	PERENNIAL	HIBISCUS MOSCHEUTOS 'LUNA PINK'	HARDY HIBISCUS	#2 CONT.	12" O.C.
		B	PERENNIAL	RUDBECKIA SUBTOMENTOSA 'HENRY EILERS'	SWEET CONEFLOWER	#2 CONT.	
38	C	A	GRASSES	PENNISETUM ALOPECUROIDES 'LITTLE BUNNY'	FOUNTAIN GRASS	#2 CONT.	12" O.C.
		B	GRASSES	CAREX 'ICE DANCE'	SEDGE	#2 CONT.	
ONLY PLANTED IN R.O.W. RAIN GARDEN OR R.O.W. BIOSWALE WITH NO TREE							
3	C	A	GRASSES	PENNISETUM ALOPECUROIDES 'LITTLE BUNNY'	FOUNTAIN GRASS	#2 CONT.	12" O.C.
		B	GRASSES	CAREX 'ICE DANCE'	SEDGE	#2 CONT.	

URBAN PLAN 2 PLANT SCHEDULE							
QUAN	KEY	PLAN VERSION	TYPE	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
15	A	A	SHRUB	ILEX GLABRA 'SHAMROCK'	INKBERRY	#5 CONT. OR B&B	2' O.C.
		B	SHRUB	ILEX GLABRA 'SHAMROCK'	INKBERRY	#5 CONT. OR B&B	
7	B	A	PERENNIAL	ECHINACEA SIMULATA	GLADE PURPLE CONEFLOWER	#2 CONT.	12" O.C.
		B	PERENNIAL	RUDBECKIA FULGIDA 'GOLDSTURM'	BLACK-EYED SUSAN	#2 CONT.	
8	C	A	GRASSES	PENNISETUM ALOPECUROIDES 'HAMELN'	FOUNTAIN GRASS	#2 CONT.	12" O.C.
		B	GRASSES	PENNISETUM ALOPECUROIDES 'HAMELN'	FOUNTAIN GRASS	#2 CONT.	
6	D	A	GRASSES	CHASMANTHIUM LATIFOLIUM	NORTHERN SEA OATS	#2 CONT.	18" O.C.
		B	GRASSES	PANICUM VIRGATUM 'HEAVY METAL'	SWITCH GRASS	#2 CONT.	
ONLY PLANTED IN R.O.W. RAIN GARDEN OR R.O.W. BIOSWALE WITH NO TREE							
1	D	A	GRASSES	CHASMANTHIUM LATIFOLIUM	NORTHERN SEA OATS	#2 CONT.	18" O.C.
		B	GRASSES	PANICUM VIRGATUM 'HEAVY METAL'	SWITCH GRASS	#2 CONT.	



**URBAN PLAN 1**  
ROWBS IN COMMERCIAL AND INDUSTRIAL AREAS WITH HIGHER VOLUME CIRCULATION



**URBAN PLAN 2**  
ROWBS IN COMMERCIAL AND INDUSTRIAL AREAS WITH HIGHER VOLUME CIRCULATION

- NOTES:**
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  2. TREES TO BE INCLUDED IN PLANTING PLANS UPON DIRECTION OF DPR.
  3. THE AREA DIRECTLY ABOVE THE TREE ROOTBALL IS NOT TO BE PLANTED WITH SHRUBS, PERENNIALS, OR GRASSES.
  4. PLANTING PLANS FOR VARIABLE SIZE R.O.W. BIOSWALES AND R.O.W. RAIN GARDENS ARE DETERMINED AS PER THE SCHEDULE ON GI-122.

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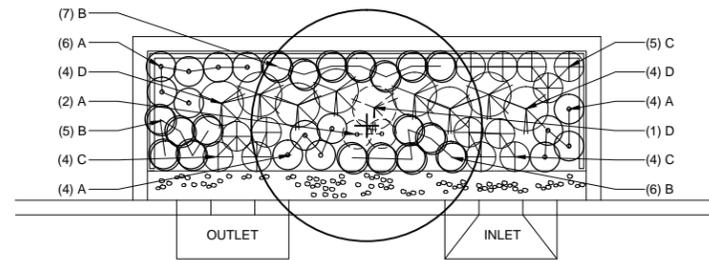
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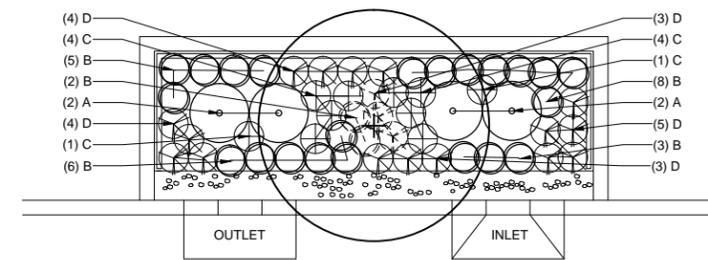
# STANDARD PLANTING PLANS FOR TYPE 2 R.O.W. BIOSWALES AND R.O.W. RAIN GARDENS

URBAN PLAN 3 PLANT SCHEDULE							
QUAN	KEY	PLAN VERSION	TYPE	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
14	A	A	PERENNIAL	COREOPSIS 'REDSHIFT'	TICKSEED	#2 CONT.	12" O.C.
		B	PERENNIAL	RUDBECKIA FULGIDA 'GOLDSTURM'	BLACK-EYED SUSAN	#2 CONT.	
18	B	A	PERENNIAL	NEPETA X FAASSENII 'WALKER'S LOW'	CATMINT	#2 CONT.	12" O.C.
		B	PERENNIAL	HYLOTELEPHIUM 'VERA JAMESON'	STONECROP	#2 CONT.	
13	C	A	PERENNIAL	HEMEROCALIS 'SCARLET OAK'	DAYLILY	#2 CONT.	12" O.C.
		B	GRASSES	HELICTOTRICHON SEMPERVIRENS	BLUE OAT GRASS	#2 CONT.	
8	D	A	GRASSES	CHASMANTHIUM LATIFOLIUM	NORTHERN SEA OATS	#2 CONT.	18" O.C.
		B	GRASSES	PANICUM VIRGATUM 'SHENANDOAH'	SWITCH GRASS	#2 CONT.	
ONLY PLANTED IN ROWB WITH NO TREE							
2	A	A	PERENNIAL	COREOPSIS 'REDSHIFT'	TICKSEED	#2 CONT.	12" O.C.
		B	PERENNIAL	RUDBECKIA FULGIDA 'GOLDSTURM'	BLACK-EYED SUSAN	#2 CONT.	
1	D	A	GRASSES	CHASMANTHIUM LATIFOLIUM	NORTHERN SEA OATS	#2 CONT.	18" O.C.
		B	GRASSES	PANICUM VIRGATUM 'SHENANDOAH'	SWITCH GRASS	#2 CONT.	



**URBAN PLAN 3**  
ROWBS IN COMMERCIAL AND INDUSTRIAL AREAS WITH HIGHER VOLUME CIRCULATION

SHADY PLAN PLANT SCHEDULE							
QUAN	KEY	PLAN VERSION	TYPE	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
4	A	A	SHRUB	ITEA VIRGINICA 'LITTLE HENRY'	VIRGINIA SWEETSPIRE	#5 CONT. OR B&B	2' O.C.
		B	SHRUB	CLETHRA ANIFOLIA 'HUMMINGBIRD'	SWEET PEPPERBUSH	#5 CONT. OR B&B	
22	B	A	GRASSES	CAREX 'ICE DANCE'	SEDGE	#2 CONT.	12" O.C.
		B	GRASSES	HAKONECHLOA MACRA 'ALL GOLD'	JAPANESE FOREST GRASS	#2 CONT.	
10	C	A	PERENNIAL	ASTILBE 'DEUTSCHLAND'	ASTILBE	#2 CONT.	12" O.C.
		B	PERENNIAL	ASTILBE CHINENSIS 'VISION IN RED'	CHINESE ASTILBE	#2 CONT.	
16	D	A	GROUNDCOVER	AJUGA REPTANS 'CATLIN'S GIANT'	BUGLEWEED	#1 CONT.	12" O.C.
		B	GROUNDCOVER	AJUGA REPTANS 'CATLIN'S GIANT'	BUGLEWEED	#1 CONT.	
ONLY PLANTED IN R.O.W. RAIN GARDEN OR R.O.W. BIOSWALE WITH NO TREE							
2	B	A	GRASSES	CAREX 'ICE DANCE'	SEDGE	#2 CONT.	12" O.C.
		B	GRASSES	HAKONECHLOA MACRA 'ALL GOLD'	JAPANESE FOREST GRASS	#2 CONT.	
3	D	A	GROUNDCOVER	AJUGA REPTANS 'CATLIN'S GIANT'	BUGLEWEED	#1 CONT.	12" O.C.
		B	GROUNDCOVER	AJUGA REPTANS 'CATLIN'S GIANT'	BUGLEWEED	#1 CONT.	



**ESPECIALLY SHADY PLAN**  
ROWBS WITH PARTLY SUNNY OR SHADY LIGHT CONDITIONS

**NOTES:**

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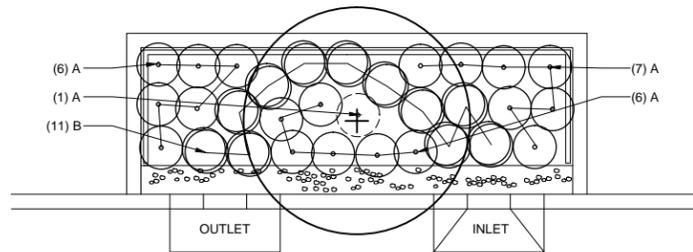
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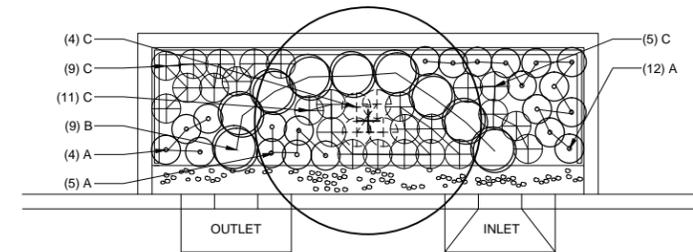
# STANDARD PLANTING PLANS FOR TYPE 2 R.O.W. BIOSWALES AND R.O.W. RAIN GARDENS

DRY PLAN PLANT SCHEDULE							
QUAN	KEY	PLAN VERSION	TYPE	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
19	A	A	GRASSES	PENNISETUM ALOPECURIODES 'HAMELN'	FOUNTAIN GRASS	#2 CONT.	18" O.C.
		B	GRASSES	HELICTOTRICHON SEMPERVIRENS	BLUE OAT GRASS	#2 CONT.	
11	B	A	GRASSES	PENNISETUM ALOPECURIODES 'HAMELN'	FOUNTAIN GRASS	#2 CONT.	18" O.C.
		B	GRASSES	PANICUM VIRGATUM 'SHENANDOAH'	SWITCH GRASS	#2 CONT.	
ONLY PLANTED IN R.O.W. RAIN GARDEN OR R.O.W. BIOSWALE WITH NO TREE							
1	A	A	GRASSES	PENNISETUM ALOPECURIODES 'HAMELN'	FOUNTAIN GRASS	#2 CONT.	18" O.C.
		B	GRASSES	HELICTOTRICHON SEMPERVIRENS	BLUE OAT GRASS	#2 CONT.	

WET PLAN PLANT SCHEDULE							
QUAN	KEY	PLAN VERSION	TYPE	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
21	A	A	PERENNIAL	BRUNNERA MACROPHYLLA 'JACK FROST'	SIBERIAN BUGLOSS	#2 CONT.	12" O.C.
		B	PERENNIAL	ACHEMILLA MOLLIS	LADY'S MANTLE	#2 CONT.	
9	B	A	PERENNIAL	IRIS VERSICOLOR	BLUE FLAG	#2 CONT.	18" O.C.
		B	GRASSES	PANICUM VIRGATUM 'SHENANDOAH'	SWITCH GRASS	#2 CONT.	
25	C	A	GRASSES	ACORUS CALAMUS 'VARIEGATUS'	SWEETFLAG	#2 CONT.	12" O.C.
		B	PERENNIAL	HEMEROCALLIS 'LADY FLORENCE'	DAYLILY	#2 CONT.	
ONLY PLANTED IN ROWB WITH NO TREE							
4	C	A	GRASSES	ACORUS CALAMUS 'VARIEGATUS'	SWEETFLAG	#2 CONT.	12" O.C.
		B	PERENNIAL	HEMEROCALLIS 'LADY FLORENCE'	DAYLILY	#2 CONT.	



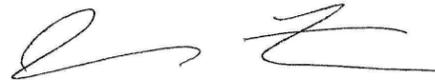
**ESPECIALLY DRY PLAN**  
ROWBS WITH LESS THAN 15% STORMWATER RUNOFF MANAGED



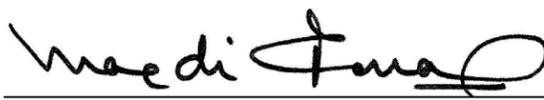
**ESPECIALLY WET PLAN**  
ROWBS WITH GREATER THAN 30% STORMWATER RUNOFF MANAGED

**NOTES:**

1. PLANTING LOCATIONS ARE SPECIFIC TO THE INLET AND OUTLET ORIENTATION SHOWN. IF THE INLET AND OUTLET ORIENTATION IS REVERSED, THE PLANTING LOCATIONS MUST BE MIRRORED.
2. TREES TO BE INCLUDED IN PLANTING PLANS UPON DIRECTION OF DPR.
3. THE AREA DIRECTLY ABOVE THE TREE ROOTBALL IS NOT TO BE PLANTED WITH SHRUBS, PERENNIALS, OR GRASSES.
4. PLANTING PLANS FOR VARIABLE SIZE R.O.W. BIOSWALES AND R.O.W. RAIN GARDENS ARE DETERMINED AS PER THE SCHEDULE ON GI-122.

  
R.L.A., LEED AP  
DIRECTOR OF GREEN INFRASTRUCTURE  
DEPARTMENT OF PARKS AND RECREATION

03-07-2016  
DATE

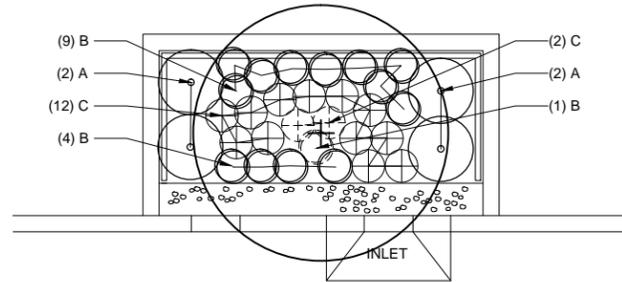
  
P.E., F. ASCE  
ASSISTANT COMMISSIONER, OFFICE OF GREEN INFRASTRUCTURE  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

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CITY OF NEW YORK  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF GREEN INFRASTRUCTURE

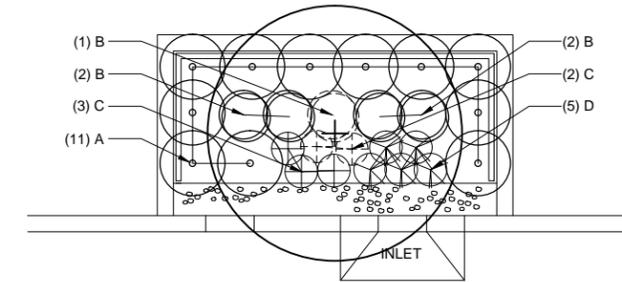
# STANDARD PLANTING PLANS FOR TYPE 3 R.O.W. BIOSWALES AND R.O.W. RAIN GARDENS

RESIDENTIAL PLAN 1 PLANT SCHEDULE							
QUAN	KEY	PLAN VERSION	TYPE	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
4	A	A	SHRUB	ILEX GLABRA 'SHAMROCK'	INKBERRY	#5 CONT. OR B&B	2' O.C.
		B	ROSE	ROSA 'RADRAZZ' KNOCK OUT	SHRUB ROSE	#5 CONT. OR B&B	
13	B	A	PERENNIAL	COREOPSIS 'REDSHIFT'	TICKSEED	#2 CONT.	12" O.C.
		B	PERENNIAL	NEPETA X FAASSENII 'WALKER'S LOW'	CATMINT	#2 CONT.	
12	C	A	GROUNDCOVER	LIRIOPE SPICATA	LILY TURF	#1 CONT.	12" O.C.
		B	GROUNDCOVER	LIRIOPE MUSCARI 'MONROE WHITE'	LILY TURF	#1 CONT.	
ONLY PLANTED IN R.O.W. RAIN GARDEN OR R.O.W. BIOSWALE WITH NO TREE							
1	B	A	PERENNIAL	COREOPSIS 'REDSHIFT'	TICKSEED	#2 CONT.	12" O.C.
		B	PERENNIAL	NEPETA X FAASSENII 'WALKER'S LOW'	CATMINT	#2 CONT.	
2	C	A	GROUNDCOVER	LIRIOPE SPICATA	LILY TURF	#1 CONT.	12" O.C.
		B	GROUNDCOVER	LIRIOPE MUSCARI 'MONROE WHITE'	LILY TURF	#1 CONT.	



**RESIDENTIAL PLAN 1**  
ROWBS IN RESIDENTIAL NEIGHBORHOODS WITH LOW VOLUME CIRCULATION

RESIDENTIAL PLAN 2 PLANT SCHEDULE							
QUAN	KEY	PLAN VERSION	TYPE	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
11	A	A	SHRUB	ILEX GLABRA 'SHAMROCK'	INKBERRY	#5 CONT. OR B&B	2' O.C.
		B	SHRUB	ILEX GLABRA 'SHAMROCK'	INKBERRY	#5 CONT. OR B&B	
4	B	A	ROSE	ROSA PALUSTRIS	SWAMP ROSE	#2/#3 CONT.	18" O.C.
		B	SHRUB	CLETHRA ANIFOLIA 'HUMMINGBIRD'	SWEET PEPPERBUSH	#5 CONT. OR B&B	
3	C	A	PERENNIAL	ECHINACEA PURPUREA 'KIM'S KNEEE HIGH'	PURPLE CONE FLOWER	#2 CONT.	12" O.C.
		B	PERENNIAL	RUDBECKIA SUBTOMENTOSA 'HENRY EILERS'	SWEET CONEFLOWER	#2 CONT.	
5	D	A	GRASSES	ACORUS CALAMUS 'VARIEGATUS'	SWEETFLAG	#2 CONT.	12" O.C.
		B	GRASSES	ACORUS CALAMUS 'VARIEGATUS'	SWEETFLAG	#2 CONT.	
ONLY PLANTED IN R.O.W. RAIN GARDEN OR R.O.W. BIOSWALE WITH NO TREE							
1	B	A	ROSE	ROSA PALUSTRIS	SWAMP ROSE	#2/#3 CONT.	18" O.C.
		B	SHRUB	CLETHRA ANIFOLIA 'HUMMINGBIRD'	SWEET PEPPERBUSH	#5 CONT. OR B&B	
2	C	A	PERENNIAL	ECHINACEA PURPUREA 'KIM'S KNEEE HIGH'	PURPLE CONE FLOWER	#2 CONT.	12" O.C.
		B	PERENNIAL	RUDBECKIA SUBTOMENTOSA 'HENRY EILERS'	SWEET CONEFLOWER	#2 CONT.	



**RESIDENTIAL PLAN 2**  
ROWBS IN RESIDENTIAL NEIGHBORHOODS WITH LOW VOLUME CIRCULATION

- NOTES:**
1. PLANTING LOCATIONS ARE SPECIFIC TO THE INLET AND OUTLET ORIENTATION SHOWN. IF THE INLET AND OUTLET ORIENTATION IS REVERSED, THE PLANTING LOCATIONS MUST BE MIRRORED.
  2. TREES TO BE INCLUDED IN PLANTING PLANS UPON DIRECTION OF DPR.
  3. THE AREA DIRECTLY ABOVE THE TREE ROOTBALL IS NOT TO BE PLANTED WITH SHRUBS, PERENNIALS, OR GRASSES.
  4. PLANTING PLANS FOR VARIABLE SIZE R.O.W. BIOSWALES AND R.O.W. RAIN GARDENS ARE DETERMINED AS PER THE SCHEDULE ON GI-122.

  
R.L.A., LEED AP  
DIRECTOR OF GREEN INFRASTRUCTURE  
DEPARTMENT OF PARKS AND RECREATION

03-07-2016  
DATE

  
P.E., F. ASCE  
ASSISTANT COMMISSIONER, OFFICE OF GREEN INFRASTRUCTURE  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

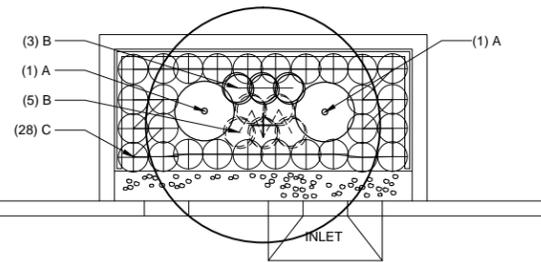
03-07-2016  
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CITY OF NEW YORK  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF GREEN INFRASTRUCTURE

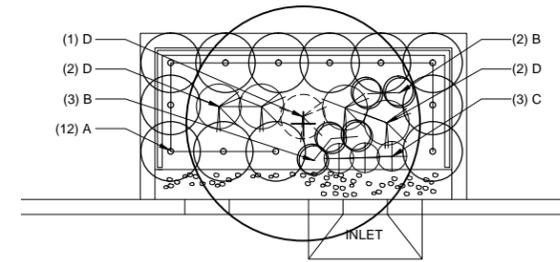
# STANDARD PLANTING PLANS FOR TYPE 3 R.O.W. BIOSWALES AND R.O.W. RAIN GARDENS

URBAN PLAN 1 PLANT SCHEDULE							
QUAN	KEY	PLAN VERSION	TYPE	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
2	A	A	SHRUB	ILEX GLABRA 'SHAMROCK'	INKBERRY	#5 CONT. OR B&B	2' O.C.
		B	ROSE	ROSA PALUSTRIS	SWAMP ROSE	#2/#3 CONT.	
3	B	A	PERENNIAL	HIBISCUS MOSCHEUTOS 'LUNA PINK'	HARDY HIBISCUS	#2 CONT.	12" O.C.
		B	PERENNIAL	RUDBECKIA SUBTOMENTOSA 'HENRY EILERS'	SWEET CONEFLOWER	#2 CONT.	
28	C	A	GRASSES	PENNISETUM ALOPECUROIDES 'LITTLE BUNNY'	FOUNTAIN GRASS	#2 CONT.	12" O.C.
		B	GRASSES	CAREX 'ICE DANCE'	SEDGE	#2 CONT.	
ONLY PLANTED IN R.O.W. RAIN GARDEN OR R.O.W. BIOSWALE WITH NO TREE							
5	B	A	PERENNIAL	HIBISCUS MOSCHEUTOS 'LUNA PINK'	HARDY HIBISCUS	#2 CONT.	12" O.C.
		B	PERENNIAL	RUDBECKIA SUBTOMENTOSA 'HENRY EILERS'	SWEET CONEFLOWER	#2 CONT.	

URBAN PLAN 2 PLANT SCHEDULE							
QUAN	KEY	PLAN VERSION	TYPE	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
12	A	A	SHRUB	ILEX GLABRA 'SHAMROCK'	INKBERRY	#5 CONT. OR B&B	2' O.C.
		B	SHRUB	ILEX GLABRA 'SHAMROCK'	INKBERRY	#5 CONT. OR B&B	
5	B	A	PERENNIAL	ECHINACEA SIMULATA	GLADE PURPLE CONEFLOWER	#2 CONT.	12" O.C.
		B	PERENNIAL	RUDBECKIA FULGIDA 'GOLDSTURM'	BLACK-EYED SUSAN	#2 CONT.	
3	C	A	GRASSES	PENNISETUM ALOPECUROIDES 'HAMELN'	FOUNTAIN GRASS	#2 CONT.	12" O.C.
		B	GRASSES	PENNISETUM ALOPECUROIDES 'HAMELN'	FOUNTAIN GRASS	#2 CONT.	
4	D	A	GRASSES	CHASMANTHIUM LATIFOLIUM	NORTHERN SEA OATS	#2 CONT.	18" O.C.
		B	GRASSES	PANICUM VIRGATUM 'HEAVY METAL'	SWITCH GRASS	#2 CONT.	
ONLY PLANTED IN R.O.W. RAIN GARDEN OR R.O.W. BIOSWALE WITH NO TREE							
1	D	A	GRASSES	CHASMANTHIUM LATIFOLIUM	NORTHERN SEA OATS	#2 CONT.	18" O.C.
		B	GRASSES	PANICUM VIRGATUM 'HEAVY METAL'	SWITCH GRASS	#2 CONT.	



**URBAN PLAN 1**  
ROWBS IN COMMERCIAL AND INDUSTRIAL AREAS WITH HIGHER VOLUME CIRCULATION



**URBAN PLAN 2**  
ROWBS IN COMMERCIAL AND INDUSTRIAL AREAS WITH HIGHER VOLUME CIRCULATION

**NOTES:**

1. PLANTING LOCATIONS ARE SPECIFIC TO THE INLET AND OUTLET ORIENTATION SHOWN. IF THE INLET AND OUTLET ORIENTATION IS REVERSED, THE PLANTING LOCATIONS MUST BE MIRRORED.
2. TREES TO BE INCLUDED IN PLANTING PLANS UPON DIRECTION OF DPR.
3. THE AREA DIRECTLY ABOVE THE TREE ROOTBALL IS NOT TO BE PLANTED WITH SHRUBS, PERENNIALS, OR GRASSES.
4. PLANTING PLANS FOR VARIABLE SIZE R.O.W. BIOSWALES AND R.O.W. RAIN GARDENS ARE DETERMINED AS PER THE SCHEDULE ON GI-122.

R.L.A., LEED AP

DIRECTOR OF GREEN INFRASTRUCTURE  
DEPARTMENT OF PARKS AND RECREATION

03-07-2016

DATE

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ASSISTANT COMMISSIONER, OFFICE OF GREEN INFRASTRUCTURE  
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03-07-2016

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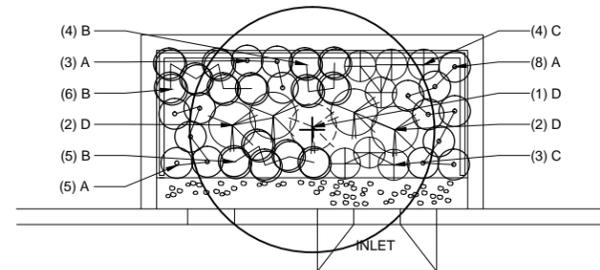
CITY OF NEW YORK  
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 OFFICE OF GREEN INFRASTRUCTURE

# STANDARD PLANTING PLANS FOR TYPE 3 R.O.W. BIOSWALES AND R.O.W. RAIN GARDENS

URBAN PLAN 3 PLANT SCHEDULE							
QUAN	KEY	PLAN VERSION	TYPE	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
16	A	A	PERENNIAL	COREOPSIS 'REDSHIFT'	TICKSEED	#2 CONT.	12" O.C.
		B	PERENNIAL	RUDBECKIA FULGIDA 'GOLDSTURM'	BLACK-EYED SUSAN	#2 CONT.	
15	B	A	PERENNIAL	NEPETA X FAASSENII 'WALKER'S LOW'	CATMINT	#2 CONT.	12" O.C.
		B	PERENNIAL	HYLOTELEPHIUM 'VERA JAMESON'	STONECROP	#2 CONT.	
7	C	A	PERENNIAL	HEMEROCALIS 'SCARLET OAK'	DAYLILY	#2 CONT.	12" O.C.
		B	GRASSES	HELIOTRICHON SEMPERVIRENS	BLUE OAT GRASS	#2 CONT.	
4	D	A	GRASSES	CHASMANTHIUM LATIFOLIUM	NORTHERN SEA OATS	#2 CONT.	18" O.C.
		B	GRASSES	PANICUM VIRGATUM 'SHENANDOAH'	SWITCH GRASS	#2 CONT.	
ONLY PLANTED IN ROWB WITH NO TREE							
1	D	A	GRASSES	CHASMANTHIUM LATIFOLIUM	NORTHERN SEA OATS	#2 CONT.	18" O.C.
		B	GRASSES	PANICUM VIRGATUM 'SHENANDOAH'	SWITCH GRASS	#2 CONT.	

**NOTES:**

1. PLANTING LOCATIONS ARE SPECIFIC TO THE INLET AND OUTLET ORIENTATION SHOWN. IF THE INLET AND OUTLET ORIENTATION IS REVERSED, THE PLANTING LOCATIONS MUST BE MIRRORED.
2. TREES TO BE INCLUDED IN PLANTING PLANS UPON DIRECTION OF DPR.
3. THE AREA DIRECTLY ABOVE THE TREE ROOTBALL IS NOT TO BE PLANTED WITH SHRUBS, PERENNIALS, OR GRASSES.
4. PLANTING PLANS FOR VARIABLE SIZE R.O.W. BIOSWALES AND R.O.W. RAIN GARDENS ARE DETERMINED AS PER THE SCHEDULE ON GI-122.



**URBAN PLAN 3**  
 ROWBS IN COMMERCIAL AND INDUSTRIAL AREAS WITH HIGHER VOLUME CIRCULATION

R.L.A., LEED AP

DIRECTOR OF GREEN INFRASTRUCTURE  
 DEPARTMENT OF PARKS AND RECREATION

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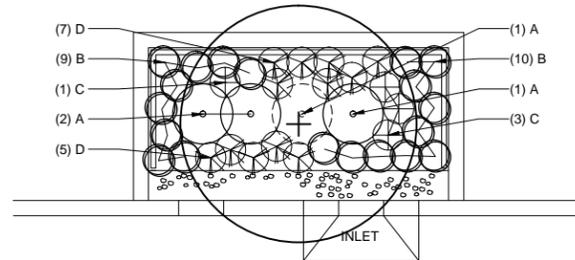
03-07-2016

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CITY OF NEW YORK  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF GREEN INFRASTRUCTURE

# STANDARD PLANTING PLANS FOR TYPE 3 R.O.W. BIOSWALES AND R.O.W. RAIN GARDENS

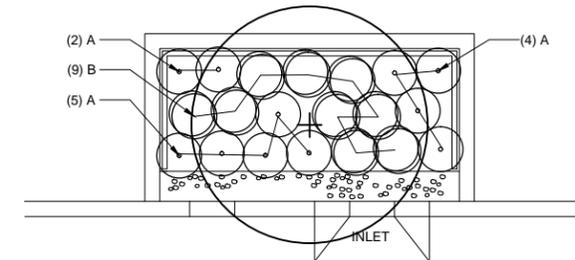
SHADY PLAN PLANT SCHEDULE							
QUAN	KEY	PLAN VERSION	TYPE	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
3	A	A	SHRUB	ITEA VIRGINICA 'LITTLE HENRY'	VIRGINIA SWEETSPIRE	#5 CONT. OR B&B	2' O.C.
		B	SHRUB	CLETHRA ANIFOLIA 'HUMMINGBIRD'	SWEET PEPPERBUSH	#5 CONT. OR B&B	
19	B	A	GRASSES	CAREX 'ICE DANCE'	SEDGE	#2 CONT.	12" O.C.
		B	GRASSES	HAKONECHLOA MACRA 'ALL GOLD'	JAPANESE FOREST GRASS	#2 CONT.	
4	C	A	PERENNIAL	ASTILBE 'DEUTSCHLAND'	ASTILBE	#2 CONT.	12" O.C.
		B	PERENNIAL	ASTILBE CHINENSIS 'VISION IN RED'	CHINESE ASTILBE	#2 CONT.	
12	D	A	GROUNDCOVER	AJUGA REPTANS 'CATLIN'S GIANT'	BUGLEWEED	#1 CONT.	12" O.C.
		B	GROUNDCOVER	AJUGA REPTANS 'CATLIN'S GIANT'	BUGLEWEED	#1 CONT.	
ONLY PLANTED IN R.O.W. RAIN GARDEN OR R.O.W. BIOSWALE WITH NO TREE							
1	A	A	SHRUB	ITEA VIRGINICA 'LITTLE HENRY'	VIRGINIA SWEETSPIRE	#5 CONT. OR B&B	2' O.C.
		B	SHRUB	CLETHRA ANIFOLIA 'HUMMINGBIRD'	SWEET PEPPERBUSH	#5 CONT. OR B&B	



**ESPECIALLY SHADY PLAN**  
ROWBS WITH PARTLY SUNNY OR SHADY LIGHT CONDITIONS

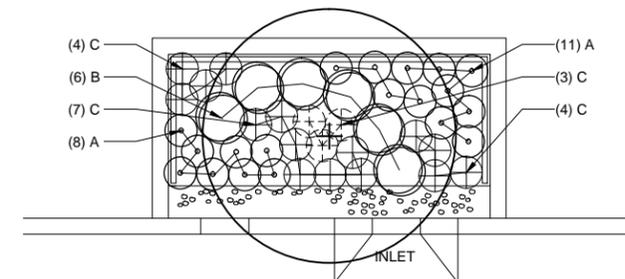
- NOTES:**
1. PLANTING LOCATIONS ARE SPECIFIC TO THE INLET AND OUTLET ORIENTATION SHOWN. IF THE INLET AND OUTLET ORIENTATION IS REVERSED, THE PLANTING LOCATIONS MUST BE MIRRORED.
  2. TREES TO BE INCLUDED IN PLANTING PLANS UPON DIRECTION OF DPR.
  3. THE AREA DIRECTLY ABOVE THE TREE ROOTBALL IS NOT TO BE PLANTED WITH SHRUBS, PERENNIALS, OR GRASSES.
  4. PLANTING PLANS FOR VARIABLE SIZE R.O.W. BIOSWALES AND R.O.W. RAIN GARDENS ARE DETERMINED AS PER THE SCHEDULE ON GI-122.

DRY PLAN PLANT SCHEDULE							
QUAN	KEY	PLAN VERSION	TYPE	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
11	A	A	GRASSES	PENNISETUM ALOPECURIODES 'HAMELN'	FOUNTAIN GRASS	#2 CONT.	18" O.C.
		B	GRASSES	HELICTOTRICHON SEMPERVIRENS	BLUE OAT GRASS	#2 CONT.	
9	B	A	GRASSES	PENNISETUM ALOPECURIODES 'HAMELN'	FOUNTAIN GRASS	#2 CONT.	18" O.C.
		B	GRASSES	PANICUM VIRGATUM 'SHENANDOAH'	SWITCH GRASS	#2 CONT.	



**ESPECIALLY DRY PLAN**  
ROWBS WITH LESS THAN 15% STORMWATER RUNOFF MANAGED

WET PLAN PLANT SCHEDULE							
QUAN	KEY	PLAN VERSION	TYPE	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
19	A	A	PERENNIAL	BRUNNERA MACROPHYLLA 'JACK FROST'	SIBERIAN BUGLOSS	#2 CONT.	12" O.C.
		B	PERENNIAL	ACHEMILLA MOLLIS	LADY'S MANTLE	#2 CONT.	
6	B	A	PERENNIAL	IRIS VERSICOLOR	BLUE FLAG	#2 CONT.	18" O.C.
		B	GRASSES	PANICUM VIRGATUM 'SHENANDOAH'	SWITCH GRASS	#2 CONT.	
15	C	A	GRASSES	ACORUS CALAMUS 'VARIEGATUS'	SWEETFLAG	#2 CONT.	12" O.C.
		B	PERENNIAL	HEMEROCALLIS 'LADY FLORENCE'	DAYLILY	#2 CONT.	
ONLY PLANTED IN R.O.W. RAIN GARDEN OR R.O.W. BIOSWALE WITH NO TREE							
3	C	A	GRASSES	ACORUS CALAMUS 'VARIEGATUS'	SWEETFLAG	#2 CONT.	12" O.C.
		B	PERENNIAL	HEMEROCALLIS 'LADY FLORENCE'	DAYLILY	#2 CONT.	



**ESPECIALLY WET PLAN**  
ROWBS WITH GREATER THAN 30% STORMWATER RUNOFF MANAGED

  
R.L.A., LEED AP  
DIRECTOR OF GREEN INFRASTRUCTURE  
DEPARTMENT OF PARKS AND RECREATION

03-07-2016  
DATE

  
P.E., F. ASCE  
ASSISTANT COMMISSIONER, OFFICE OF GREEN INFRASTRUCTURE  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

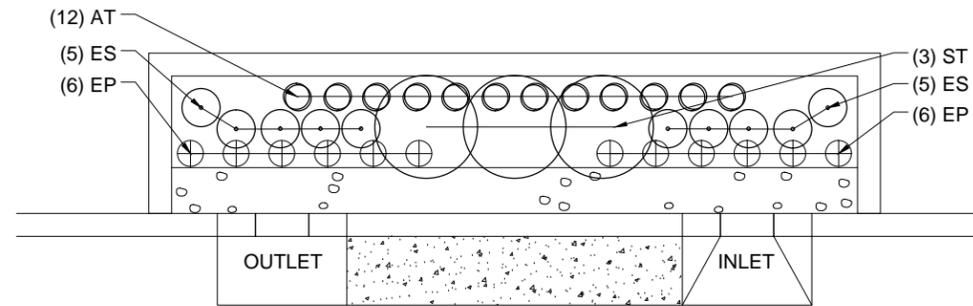
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CITY OF NEW YORK  
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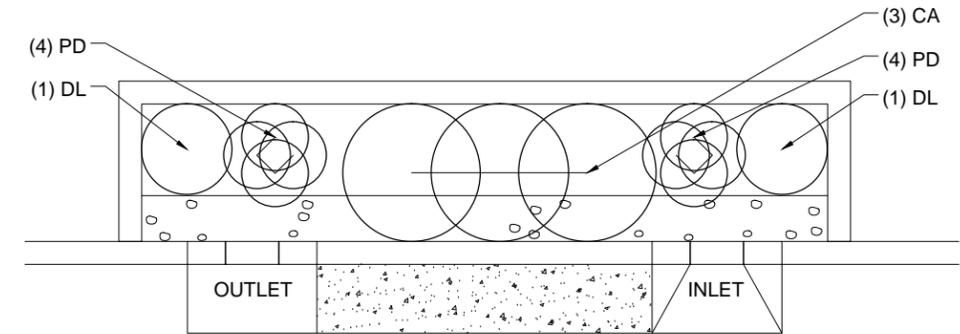
# STANDARD PLANTING PLANS FOR TYPES 1 & TYPE 2 R.O.W. GREENSTRIPS

FULL SUN PLANT SCHEDULE					
QTY.	KEY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
3	ST	SPIREA TOMENTOSA	MEADOW SWEET	#3 CONT.	2' O.C.
10	ES	ERAGROTIS SPECTABILIS	PURPLE LOVEGRASS	#2 CONT.	12" O.C.
12	AT	ASCLEPIAS TUBEROSA	BUTTERFLY WEED	#2 CONT.	12" O.C.
12	EP	ECHINACEA PURPUREA	PURPLE CONEFLOWER	#2 CONT.	12" O.C.

SUN/PART SHADE PLANT SCHEDULE					
QTY.	KEY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
3	CA	CEANOTHUS AMERICANUS	NEW JERSEY TEA	#3 CONT.	2' O.C.
2	DL	DIERVILLA LONICERA	DWARF BUSH HONEYSUCKLE	#3 CONT.	2' O.C.
8	PD	PENSTEMON DIGITALIS	WHITE BEARD TONGUE	PLUGS	12" O.C.



FULL SUN PLAN 1



SUN/SHADE PLAN 1

**NOTES:**

1. PLANTING LOCATIONS ARE SPECIFIC TO THE INLET AND OUTLET ORIENTATION SHOWN. IF THE INLET AND OUTLET ORIENTATION IS REVERSED, THE PLANTING LOCATIONS MUST BE MIRRORED.
2. PLANTING PLANS FOR VARIABLE SIZE R.O.W. GREEN STRIPS DETERMINED AS PER THE SCHEDULE ON GI-133.

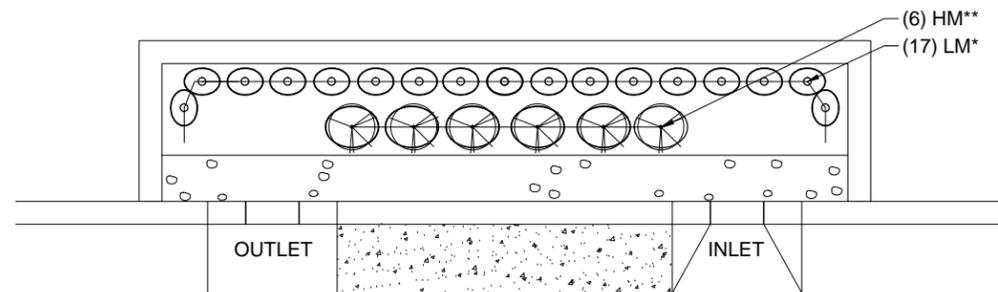
*Maedi Tana*  
 P.E., F. ASCE  
 ASSISTANT COMMISSIONER, OFFICE OF GREEN INFRASTRUCTURE  
 DEPARTMENT OF ENVIRONMENTAL PROTECTION

06-15-2016  
 DATE

CITY OF NEW YORK  
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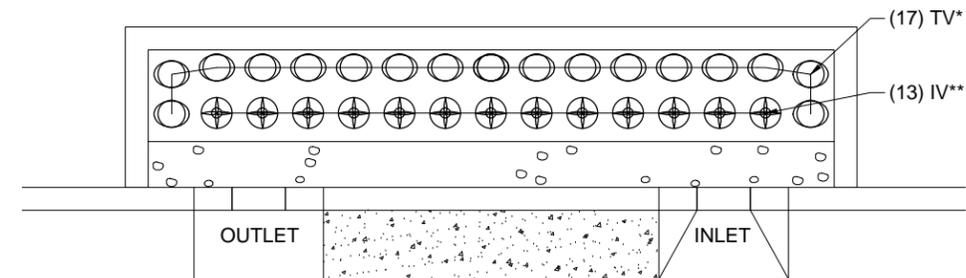
# STANDARD PLANTING PLANS FOR TYPES 1 & TYPE 2 R.O.W. GREENSTRIPS

FULL SUN PLANT SCHEDULE					
QTY.	KEY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
17	LM	LIRIOPE MUSCARI 'BIG BLUE'	BIG BLUE LILY TURF	#2 CONT.	12" O.C.
6	HM	HIBISCUS MOSCHEUTOS 'SOUTHERN BELLE'	SWAMP ROSE MALLOW	#2 CONT.	3' O.C.



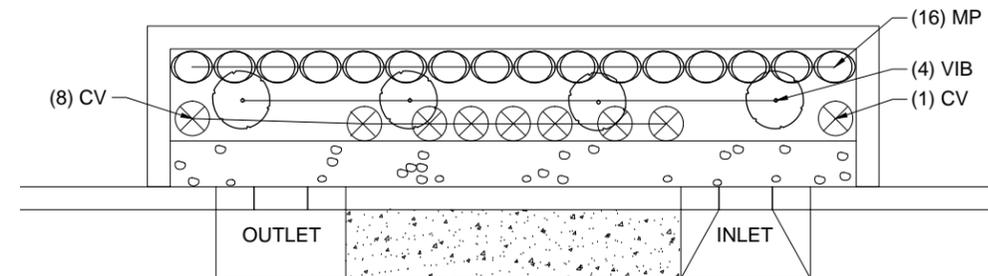
FULL SUN PLAN 2

SUN/PART SHADE PLANT SCHEDULE					
QTY.	KEY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
17	TV	TRADESCANTIA VIRGINIANA	VIRGINIA SPIDERWORT	#2 CONT.	12" O.C.
13	IV	IRIS VERSICOLOR	BLUE FLAG	#2 CONT.	12" O.C.



SUN/PART SHADE PLAN 2

RESIDENTIAL PLAN, WET, SUN TO PART SHADE					
QTY.	KEY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
16	MP	MONARDA DIDYMA 'PARDON MY PURPLE'	PARDON MY PURPLE - BEE BALM	#2 CONT.	12" O.C.
4	VIB	VERNONIA LETTERMANNII 'IRON BUTTERFLY'	NARROWLEAF IRONWEED	#2 CONT.	2' O.C.
9	CV	CAREX VULPINOIDEA	FOX SEDGE	#2 CONT.	18" O.C.



RESIDENTIAL PLAN, WET, SUN TO PART SHADE

**NOTES:**

1. PLANTING LOCATIONS ARE SPECIFIC TO THE INLET AND OUTLET ORIENTATION SHOWN. IF THE INLET AND OUTLET ORIENTATION IS REVERSED, THE PLANTING LOCATIONS MUST BE MIRRORED.
2. PLANTING PLANS FOR VARIABLE SIZE R.O.W. GREEN STRIPS DETERMINED AS PER THE SCHEDULE ON GI-133.
3. \* AROUND THE PERIMETER ON SLOPE.
4. \*\* EVENLY SPACED IN THE LOWEST, FLAT PORTION OF GREEN STRIP.

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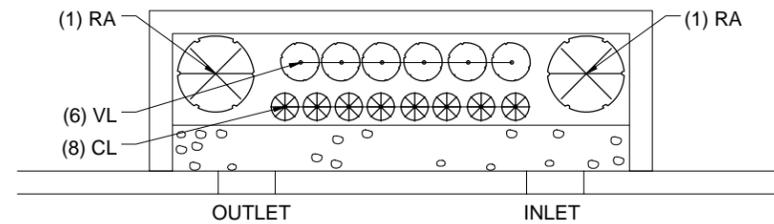
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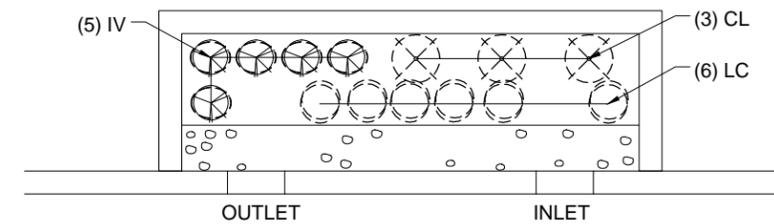
# STANDARD PLANTING PLANS FOR TYPE 3 R.O.W. GREENSTRIPS

PLANT SCHEDULE: SUN & DRY - OPTION 1					
QTY.	KEY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
SHRUBS					
2	RA	RHUS AROMATICA 'GRO LO'	DWARF BUSH HONEYSUCKLE	#3	8"
PERENNIALS					
6	VL	VERNONIA LETTERMANNII 'IRON BUTTERFLY'	NARROWLEAF IRONWEED	#2	1"
GRASSES					
8	CL	CAREX LURIDA	SHALLOW SEDGE	#2	1"

PLANT SCHEDULE: SUN & DRY - OPTION 2					
QTY.	KEY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
PERENNIALS					
5	IV	IRIS VERSICOLOR	NORTHERN BLUE FLAG	#2	12"
6	LC	LOBELIA CARDINALIS	CARDINAL FLOWER	#2	18"
GRASSES					
3	CL	CHASMANTHIUM LATIFOLIUM	INDIAN WOOD	#2	18"-24"



RESIDENTIAL PLAN SUN AND DRY - OPTION 1



RESIDENTIAL PLAN SUN AND DRY - OPTION 2

**NOTES:**

1. PLANTING LOCATIONS ARE SPECIFIC TO THE INLET AND OUTLET ORIENTATION SHOWN. IF THE INLET AND OUTLET ORIENTATION IS REVERSED, THE PLANTING LOCATIONS MUST BE MIRRORED.
2. PLANTING PLANS FOR VARIABLE SIZE R.O.W. GREEN STRIPS DETERMINED AS PER THE SCHEDULE ON GI-133.

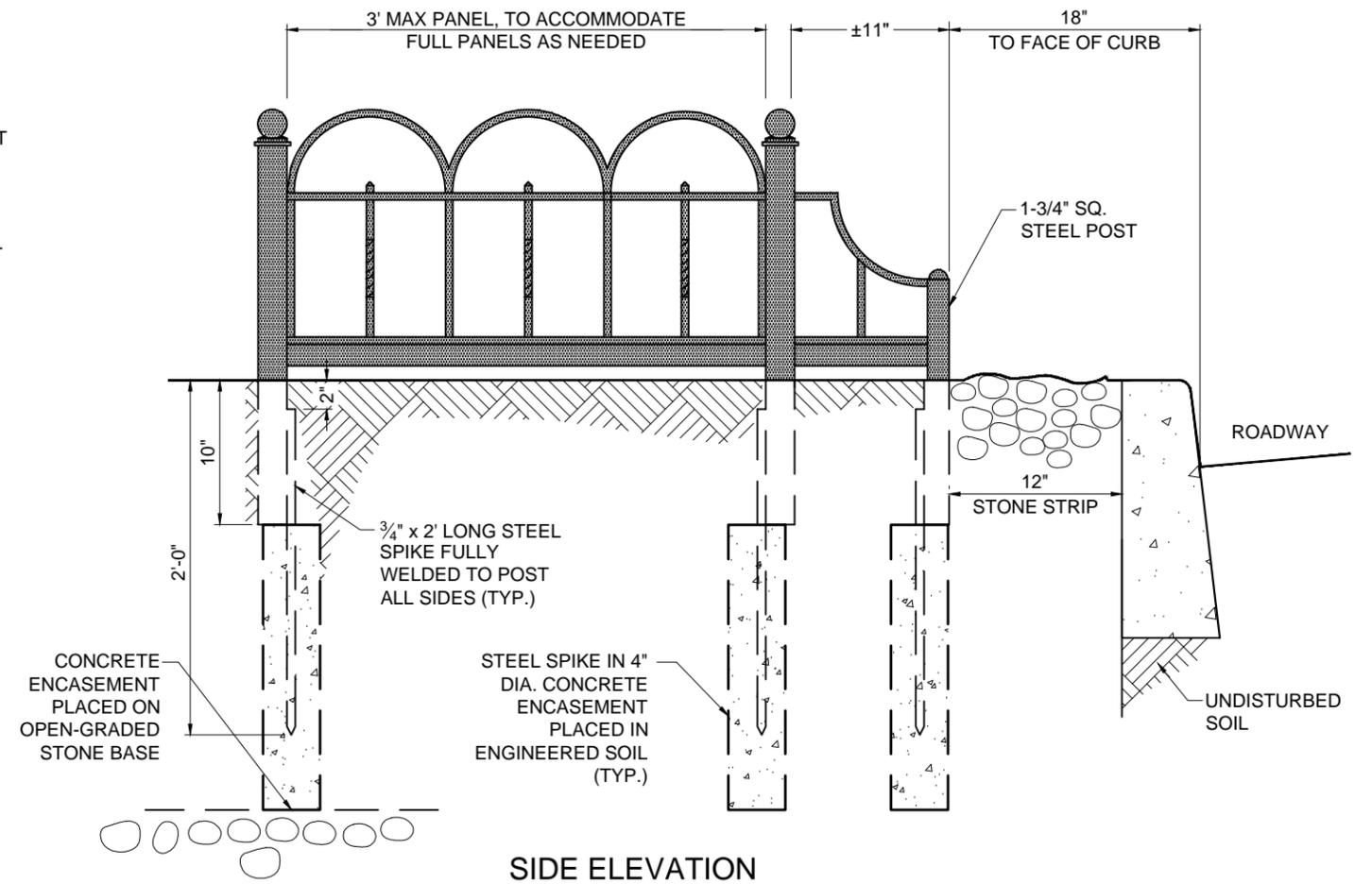
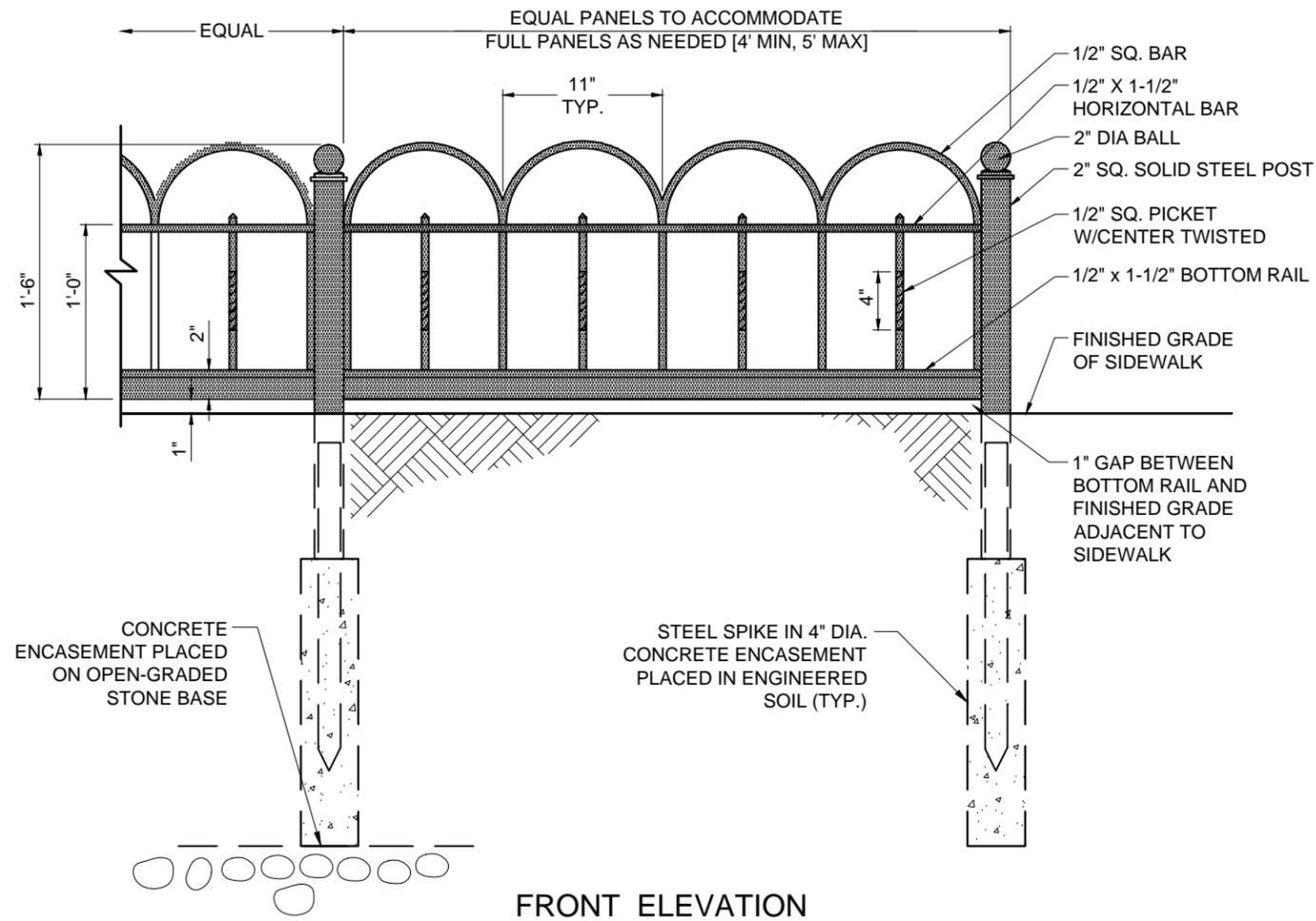
*Maedi Tava*  
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**GI-600**  
**STEEL GUARDS STANDARDS FOR**  
**RIGHT-OF-WAY GREEN INFRASTRUCTURE**  
**PRACTICES**

CITY OF NEW YORK  
 DEPARTMENT OF ENVIRONMENTAL PROTECTION  
 OFFICE OF GREEN INFRASTRUCTURE

STANDARD FOR R.O.W. BIOSWALES - TYPE 'A' WELDED STEEL GUARD



NOTES:

\*\* FINAL DESIGN OF GUARDS TO BE SELECTED BY DPR/DOT UPON REVIEW OF NEIGHBORHOOD'S CONTEXT

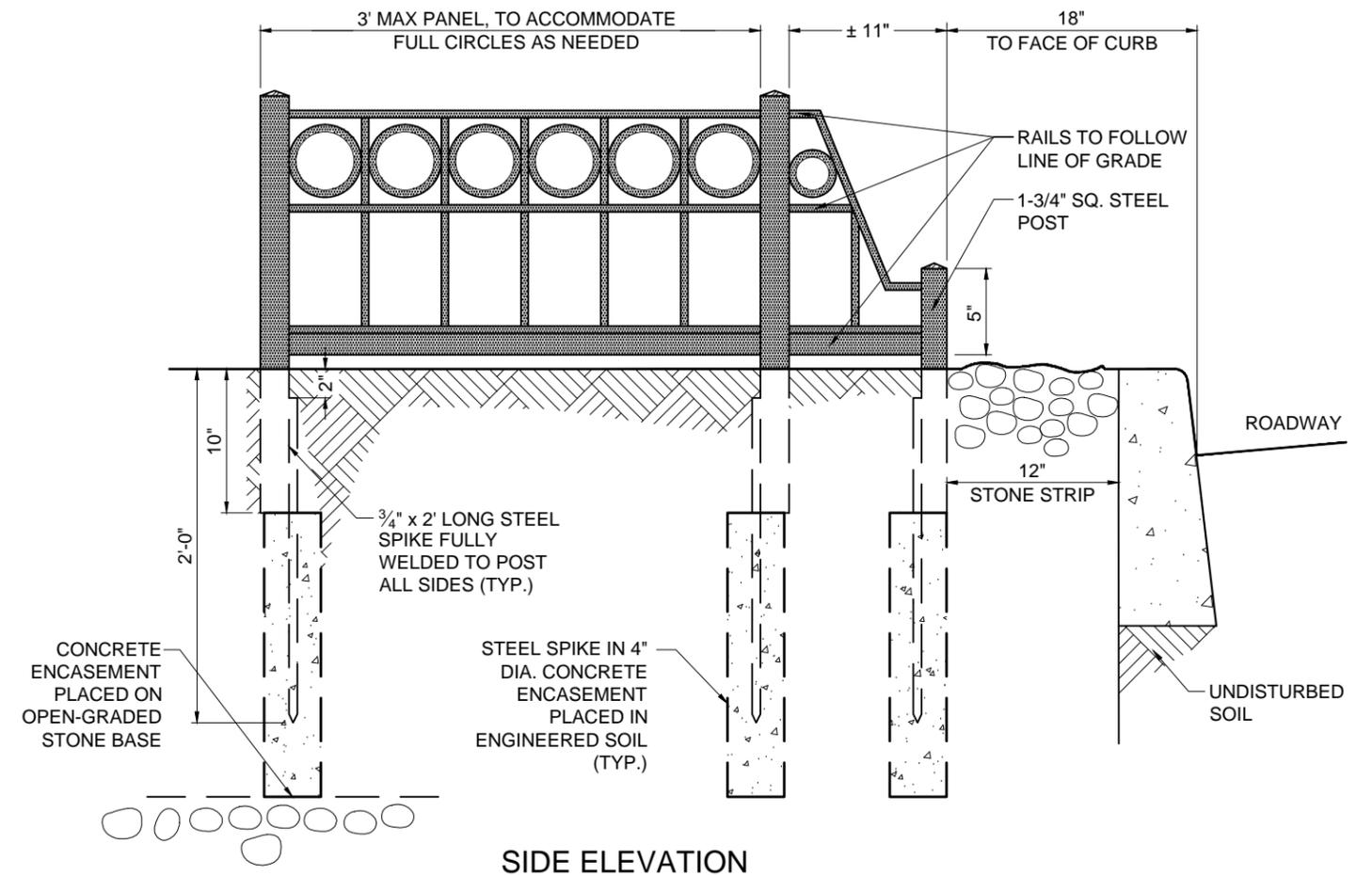
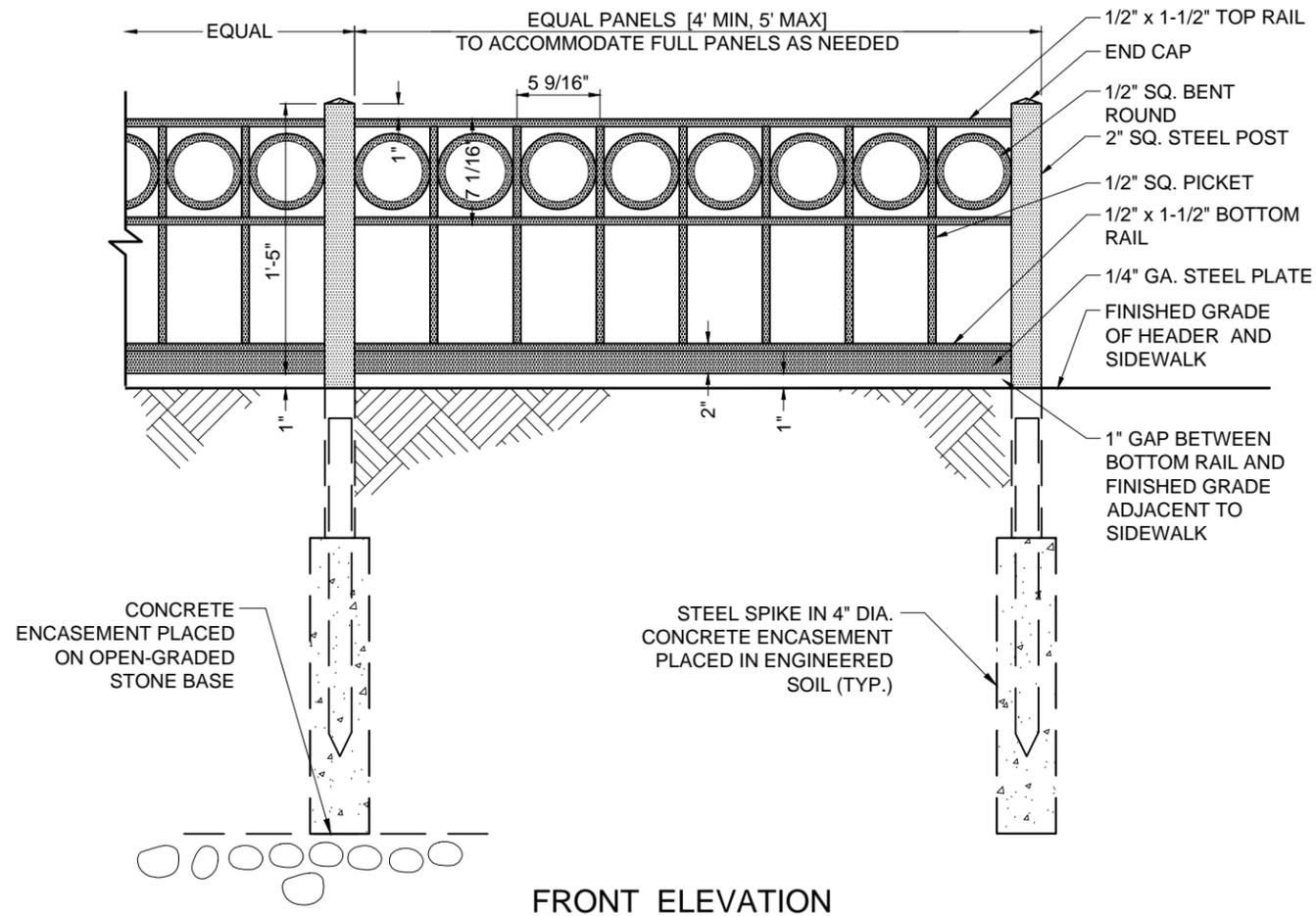
1. FIELD MEASUREMENTS MUST BE TAKEN PRIOR TO FABRICATION.
2. ALL STEEL SHALL CONFORM TO SPECIFICATION C1015 OF THE A.I.S.I.
3. ALL JOINTS TO BE WELDED UNLESS NOTED OTHERWISE.
4. ALL STEEL TO BE PAINTED WITH ONE (1) SHOP COAT OF PRIMER AND ONE (1) SHOP COAT OF INTERMEDIATE AND ONE (1) SHOP COAT (OR ROLLED FIELD COAT) OF FINISH TOP COAT IN COMPLIANCE WITH THE REQUIREMENTS OF SUBSECTION 2.13.4 OF THE NYC DOT STANDARD HIGHWAY SPECIFICATIONS. THE COLOR OF TOP COAT SHALL BE BLACK.
5. RAILS TO FOLLOW LINE OF GRADE.
6. ALL STEEL TO BE SOLID STEEL.
7. ALL SPIKES OF TREE GUARD TO BE EMBEDDED IN CONCRETE PIERS AS PER STANDARD DRAWINGS

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# STANDARD FOR R.O.W. BIOSWALES - TYPE 'B' WELDED STEEL GUARD



**NOTES:**

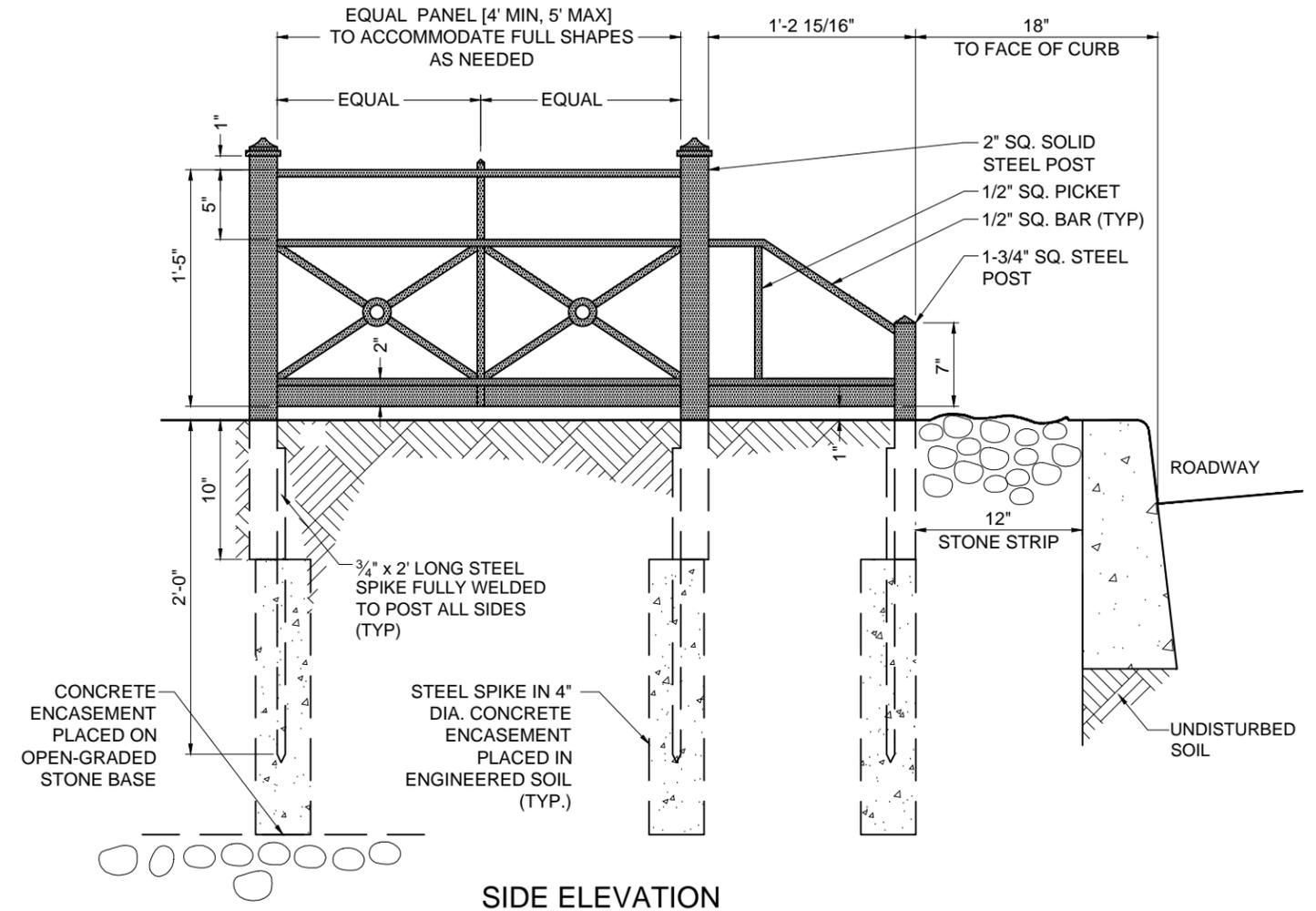
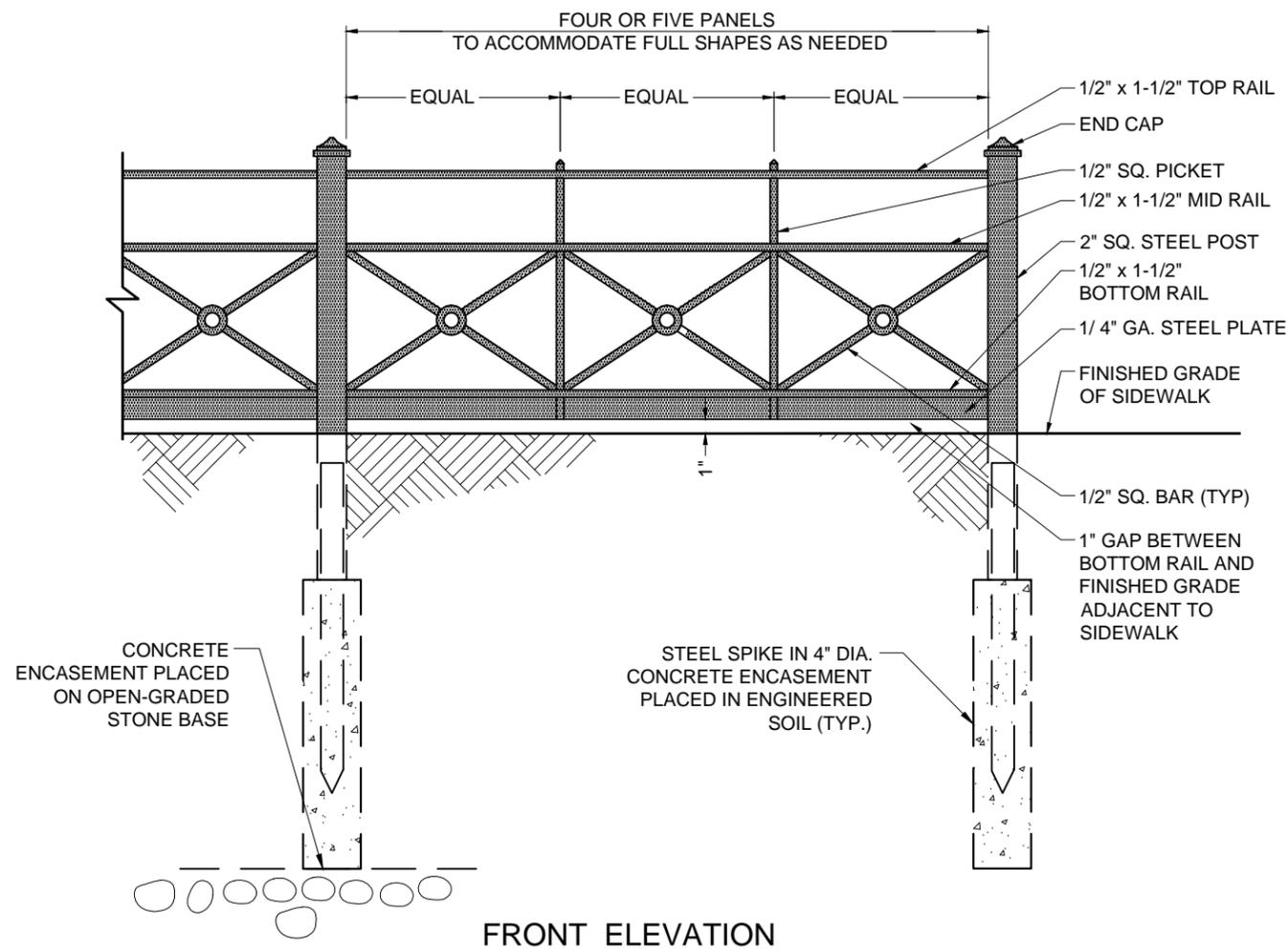
- \*\* FINAL DESIGN OF GUARDS TO BE SELECTED BY DPR/DOT UPON REVIEW OF NEIGHBORHOOD'S CONTEXT
- 1. FIELD MEASUREMENTS MUST BE TAKEN PRIOR TO FABRICATION.
- 2. ALL STEEL SHALL CONFORM TO SPECIFICATION C1015 OF THE A.I.S.I.
- 3. ALL JOINTS TO BE WELDED UNLESS NOTED OTHERWISE.
- 4. ALL STEEL TO BE PAINTED WITH ONE (1) SHOP COAT OF PRIMER AND ONE (1) SHOP COAT OF INTERMEDIATE AND ONE (1) SHOP COAT (OR ROLLED FIELD COAT) OF FINISH TOP COAT IN COMPLIANCE WITH THE REQUIREMENTS OF SUBSECTION 2.13.4 OF THE NYC DOT STANDARD HIGHWAY SPECIFICATIONS. THE COLOR OF TOP COAT SHALL BE BLACK.
- 5. RAILS TO FOLLOW LINE OF GRADE.
- 6. ALL STEEL TO BE SOLID STEEL.
- 7. ALL SPIKES OF TREE GUARD TO BE EMBEDDED IN CONCRETE PIERS AS PER STANDARD DRAWINGS

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# STANDARD FOR R.O.W. BIOSWALES - TYPE 'C' WELDED STEEL GUARD



**NOTES:**

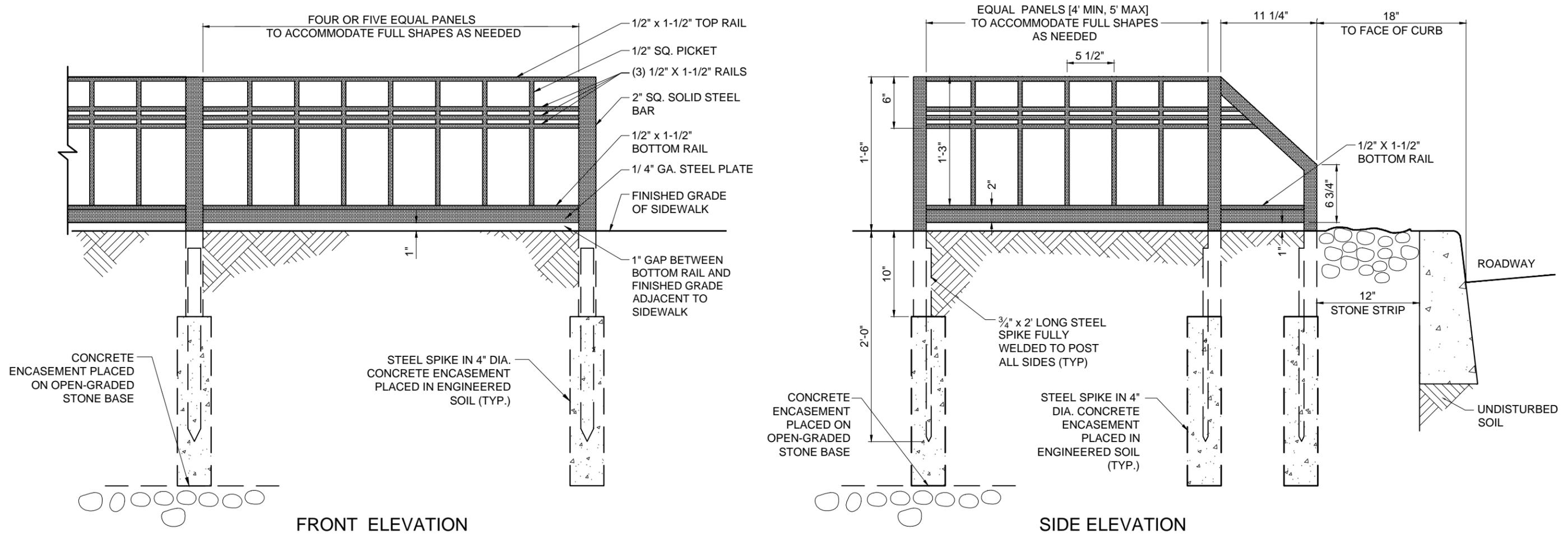
- \*\* FINAL DESIGN OF GUARDS TO BE SELECTED BY DPR/DOT UPON REVIEW OF NEIGHBORHOOD'S CONTEXT
1. FIELD MEASUREMENTS MUST BE TAKEN PRIOR TO FABRICATION.
  2. ALL STEEL SHALL CONFORM TO SPECIFICATION C1015 OF THE A.I.S.I.
  3. ALL JOINTS TO BE WELDED UNLESS NOTED OTHERWISE.
  4. ALL STEEL TO BE PAINTED WITH ONE (1) SHOP COAT OF PRIMER AND ONE (1) SHOP COAT OF INTERMEDIATE AND ONE (1) SHOP COAT (OR ROLLED FIELD COAT) OF FINISH TOP COAT IN COMPLIANCE WITH THE REQUIREMENTS OF SUBSECTION 2.13.4 OF THE NYC DOT STANDARD HIGHWAY SPECIFICATIONS. THE COLOR OF TOP COAT SHALL BE BLACK.
  5. RAILS TO FOLLOW LINE OF GRADE.
  6. ALL STEEL TO BE SOLID STEEL.
  7. ALL SPIKES OF TREE GUARD TO BE EMBEDDED IN CONCRETE PIERS AS PER STANDARD DRAWINGS

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# STANDARD FOR R.O.W. BIOSWALES - TYPE 'D' WELDED STEEL GUARD



**NOTES:**

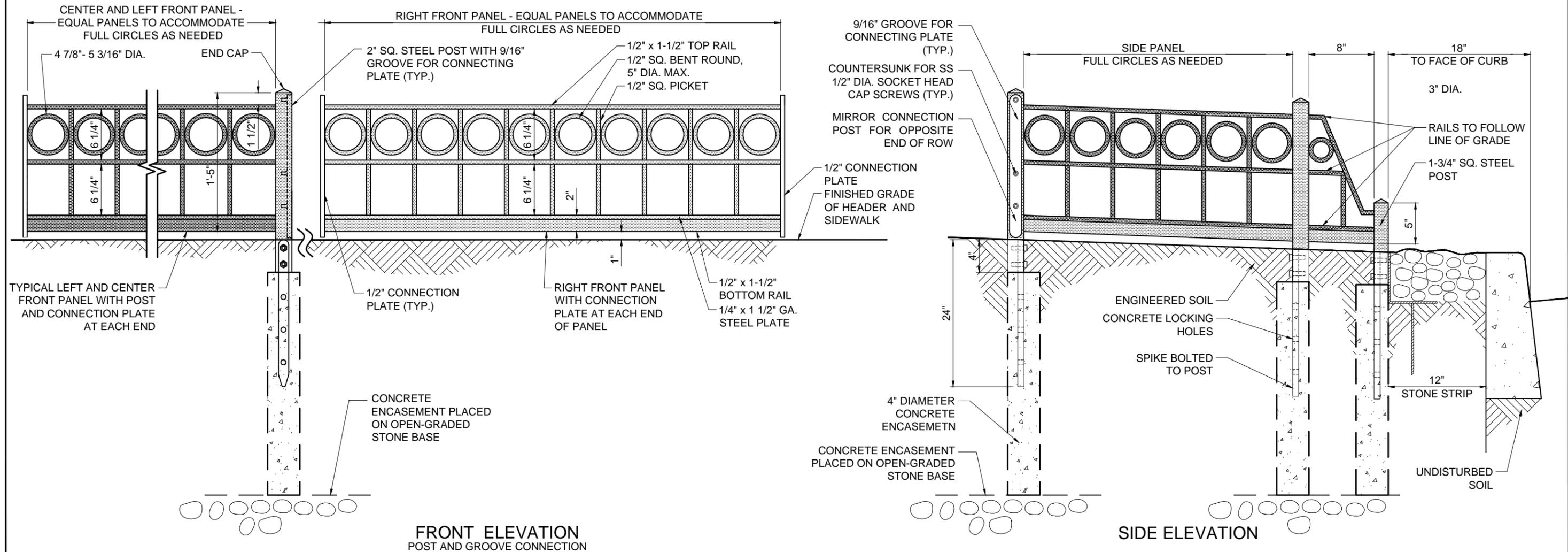
- \*\* FINAL DESIGN OF GUARDS TO BE SELECTED BY DPR/DOT UPON REVIEW OF NEIGHBORHOOD'S CONTEXT
- 1. FIELD MEASUREMENTS MUST BE TAKEN PRIOR TO FABRICATION.
- 2. ALL STEEL SHALL CONFORM TO SPECIFICATION C1015 OF THE A.I.S.I.
- 3. ALL JOINTS TO BE WELDED UNLESS NOTED OTHERWISE.
- 4. ALL STEEL TO BE PAINTED WITH ONE (1) SHOP COAT OF PRIMER AND ONE (1) SHOP COAT OF INTERMEDIATE AND ONE (1) SHOP COAT (OR ROLLED FIELD COAT) OF FINISH TOP COAT IN COMPLIANCE WITH THE REQUIREMENTS OF SUBSECTION 2.13.4 OF THE NYC DOT STANDARD HIGHWAY SPECIFICATIONS. THE COLOR OF TOP COAT SHALL BE BLACK.
- 5. RAILS TO FOLLOW LINE OF GRADE.
- 6. ALL STEEL TO BE SOLID STEEL.
- 7. ALL SPIKES OF TREE GUARD TO BE EMBEDDED IN CONCRETE PIERS AS PER STANDARD DRAWINGS

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# STANDARD FOR R.O.W. BIOSWALES - TYPE 'B-1' STEEL GUARD WITH BOLTED PANELS



**NOTES:**

\*\* FINAL DESIGN OF GUARDS TO BE SELECTED BY DPR/DOT UPON REVIEW OF NEIGHBORHOOD'S CONTEXT

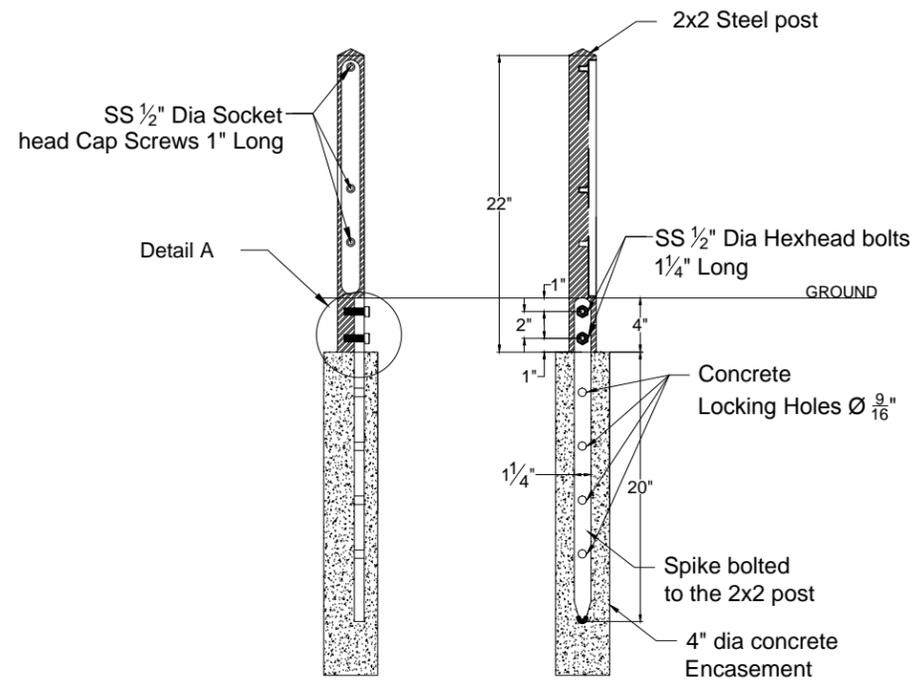
1. FIELD MEASUREMENTS MUST BE TAKEN PRIOR TO FABRICATION.
2. ALL STEEL SHALL CONFORM TO ASTM - A36 SPECIFICATION
3. ALL JOINTS TO BE WELDED UNLESS NOTED OTHERWISE.
4. ALL POST AND GROOVE CONNECTIONS TO BE BOLTED.
5. ALL VISIBLE BOLTS TO BE COUNTERSUNK AND FLUSHED WITH THE POSTS
6. ALL STEEL TO BE PAINTED WITH ONE (1) SHOP COAT OF PRIMER AND ONE (1) SHOP COAT OF INTERMEDIATE AND ONE (1) SHOP COAT (OR ROLLED FIELD COAT) OF FINISH TOP COAT IN COMPLIANCE WITH THE REQUIREMENTS OF SUBSECTION 2.13.4 OF THE NYC DOT STANDARD HIGHWAY SPECIFICATIONS. THE COLOR OF TOP COAT SHALL BE BLACK.
7. RAILS TO FOLLOW LINE OF GRADE.
8. ALL SPIKES OF TREE GUARD TO BE EMBEDDED IN CONCRETE PIERS AS PER STANDARD DRAWINGS

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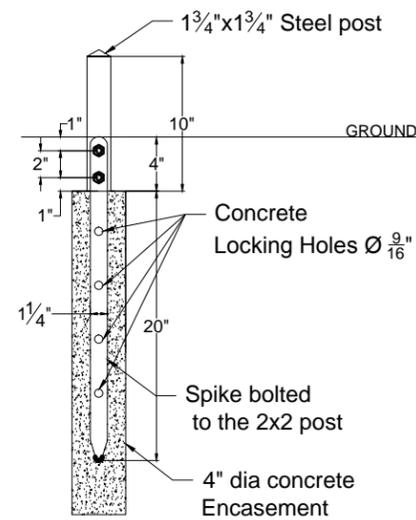
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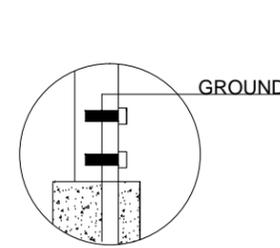
# STANDARD DETAILS FOR R.O.W. BIOSWALES - TYPE 'B-1' STEEL GUARD WITH BOLTED PANELS



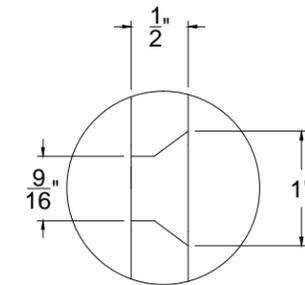
STEEL POST 2"X2"



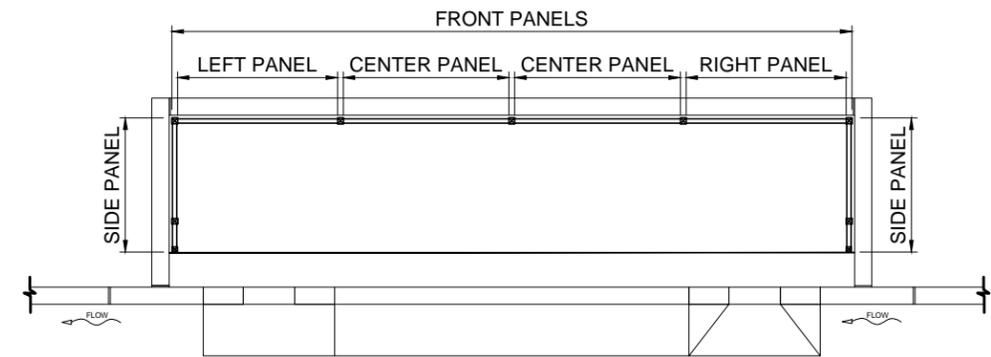
STEEL POST 1 3/4"X1 3/4"



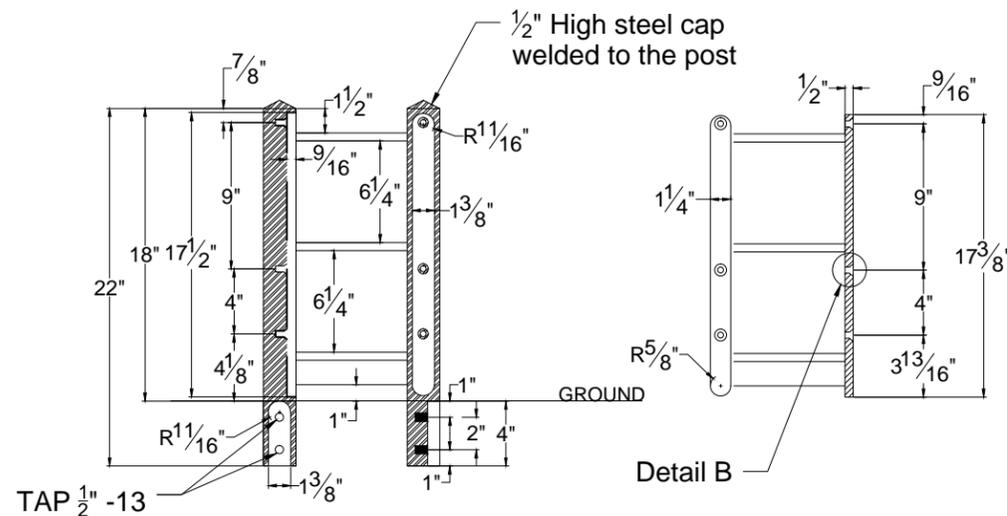
**Detail - A**  
Spike Embedded in machined groove of the post for additional strength and support



**Detail - B**  
Countersunk for Socket Head Cap Screws

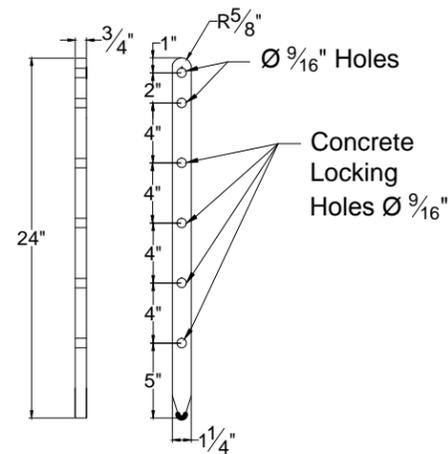


FRONT AND SIDE PANELS - PLAN



POST AND GROOVE

CONNECTION PLATE



SPIKE

ROW TYPE	ROWB, ROWRG LENGTH, FT	PANELS REQUIRED	LENGTH OF FRONT PANELS, IN			
			LEFT	CENTER	CENTER	RIGHT
TYPE 1	20	4	56	58	58	56
	19	4	56	52	52	56
	18	4	50	52	52	50
	17	4	50	46	46	50
TYPE 2	16	3	62	58	N/A	62
	15	3	56	58	N/A	56
	14	3	50	58	N/A	50
TYPE 3	13	3	50	46	N/A	50
	12	3	44	46	N/A	44
	11	2	62	N/A	N/A	62
	10	2	56	N/A	N/A	56

FRONT PANELS SCHEDULE

ROWB, ROWRG WIDTH, FT	SIDE PANEL LENGTH, IN
4'-0"	36
4'-6"	42
5'-0"	48

SIDE PANELS SCHEDULE

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