Green Streets
Standard Drawings

County of San Diego
Department of Public Works

Revised March 2021
Green Streets Standard Drawings

ERRATA

Original Drawings (October 2019)

UPDATE #1 (MARCH 2021):

- UPDATED THE DESIGN OF CONCRETE FOOTINGS AND STEEL REINFORCEMENT FOR ELEMENTS ADJACENT TO UNCOMPACTED BMPs;
- REDUCED MAXIMUM CHECK DAM INTERVALS WHEN USED AS A STRUCTURAL ELEMENT;
- CLARIFIED SOIL DEPTHS FOR BIOFILTRATION BASINS AND TREE WELLS;
- REVISED CALLOUTS TO BE CONSISTENT ON ALL SHEETS;
- MISCELLANEOUS FORMATTING REVISIONS FOR CLARITY.
- UPDATED BMP STANDARDS WITH PARKING RESTRICTIONS.
- UPDATED ALL REBAR CALLOUTS TO USE A #4 REBAR INSTEAD OF A #3.
- UPDATED THE DEFINITION OF STRUCTURAL SOILS.
- ADDED DEEPENED SHEAR KEY AND REBAR TO VARIOUS SIDEWALK AND CURB DETAILS.
### GREEN STREET STANDARD DRAWINGS

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<td>GS-1.00</td>
<td>TREE WELL GENERAL DESIGN GUIDANCE</td>
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<tr>
<td>GS-1.01</td>
<td>SMALL TREE WELL</td>
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<tr>
<td>GS-1.02</td>
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<td>GS-1.04a</td>
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**GS-2**  **DISPERSSION AREA**

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<td>GS-2.01</td>
<td>DISPERSION AREA ADJACENT TO ROADWAY</td>
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<td>GS-2.07</td>
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<td>GS-2.08</td>
<td>DISPERSION AREA FILTER STRIP</td>
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**GS-3**  **BIOFILTRATION**

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<td>GS-3.00</td>
<td>BIOFILTRATION GENERAL DESIGN GUIDANCE</td>
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<td>GS-3.01</td>
<td>BIOFILTRATION PLANTER ADJACENT TO ROADWAY  (12&quot; MAX PONDING DEPTH)</td>
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<td>GS-3.02</td>
<td>BIOFILTRATION PLANTER ADJACENT TO ROADWAY  (PONDING DEPTH&gt;12&quot;)</td>
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<tr>
<td>GS-3.03</td>
<td>BIOFILTRATION ADJACENT TO ROADWAY (WITH STEP OUT ZONE)</td>
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<tr>
<td>GS-3.04</td>
<td>BIOFILTRATION ADJACENT TO RIGHT-OF-WAY</td>
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<tr>
<td>GS-3.05</td>
<td>CURB EXTENSION ADJACENT TO SIDEWALK W/ BIOFILTRATION</td>
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<tr>
<td>GS-3.06</td>
<td>CURB EXTENSION ADJACENT TO PLANTING STRIP W/ BIOFILTRATION</td>
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<td>BIOFILTRATION IN OPEN AREA</td>
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<td>GS-3.09</td>
<td>CURB BULBOUT WITH BIOFILTRATION</td>
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<tr>
<td>GS-3.10</td>
<td>BIOFILTRATION SUBSURFACE DRAINAGE TYPES</td>
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**GS-4**  **PERMEABLE PAVEMENT**

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<td>GS-4.00</td>
<td>PERMEABLE PAVEMENT GENERAL DESIGN GUIDANCE</td>
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<td>GS-4.01</td>
<td>PERMEABLE PAVEMENT ELEVATIONS</td>
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<td>GS-4.02</td>
<td>PERMEABLE PAVEMENT ELEVATIONS W/ UNDERDRAIN</td>
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<td>GS-4.03</td>
<td>PERMEABLE PAVEMENT SUBSURFACE DRAINAGE TYPES</td>
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<td>GS-5</td>
<td>MISCELLANEOUS</td>
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<td>GS-5.01</td>
<td>DISPERSION AREA CURB CUT</td>
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<td>GS-5.02</td>
<td>BIOFILTRATION BASIN CURB CUT</td>
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<tr>
<td>GS-5.03</td>
<td>CURB CUT WITH FLUME</td>
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<tr>
<td>GS-5.04a</td>
<td>SIDEWALK UNDERDRAIN</td>
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<tr>
<td>GS-5.04b</td>
<td>SIDEWALK UNDERDRAIN</td>
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<td>TYPICAL STEP OUT ZONES</td>
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<tr>
<td>GS-5.06</td>
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<td>GS-5.07</td>
<td>GRAVITY WALL</td>
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<td>GS-5.08</td>
<td>INLET AND OUTLET DETAILS FOR CURB EXTENSIONS &amp; BULBOUTS</td>
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<tr>
<td>GS-5.09</td>
<td>CLEANOUTS &amp; OBSERVATION WELLS</td>
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<tr>
<td>GS-5.10</td>
<td>CLEANOUTS, OBSERVATION WELLS, &amp; OVERFLOW RISERS ADJACENT TO BMP LIMITS</td>
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<tr>
<td>GS-5.11</td>
<td>PERMEABLE PAVEMENT CLEANOUTS AND OBSERVATION WELLS</td>
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<tr>
<td>GS-5.12</td>
<td>DOWNSTREAM STORMWATER FACILITY CONNECTION DETAIL (L≤10)</td>
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<tr>
<td>GS-5.13</td>
<td>DOWNSTREAM STORMWATER FACILITY CONNECTION DETAIL (L&gt;10)</td>
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<tr>
<td>GS-5.14a</td>
<td>CONCRETE CHECK DAM</td>
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<tr>
<td>GS-5.14b</td>
<td>CONCRETE CHECK DAM</td>
</tr>
<tr>
<td>GS-5.15</td>
<td>IMPERMEABLE LINER FASTENING DETAIL</td>
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DESIGN NOTES:

1. STREET IMPROVEMENTS AND DRAINAGE STRUCTURES SHALL BE CONSTRUCTED ACCORDING TO THE LATEST SAN DIEGO REGIONAL STANDARD DRAWINGS AND CALTRANS STANDARD PLANS.
2. CONCRETE SHALL BE 520-C-2500 UNLESS OTHERWISE SPECIFIED.
3. SEE SDRSD DWG L-01 THROUGH L-06 FOR LANDSCAPING DETAILS NOT SPECIFIED HEREIN.
   (TREE GRATE PER SDRSD L-04).
4. MINIMUM OPEN TREE PLANTING SPACE DIMENSION 4'x6'.
5. PROVIDE 30 MIL PLASTIC LINER WHERE CONCRETE WILL BE POURED ON TOP OF STRUCTURAL SOIL
6. SEAL PLASTIC LINER TO ADJACENT IMPROVEMENTS AND EDGE RESTRAINTS PER GS-5.15.
7. WHEN SAND FILTER LAYER IS OMITTED, PROVIDE GEOTEXTILE BENEATH THE STRUCTURAL SOIL LAYER PER PROJECT-SPECIFIC GEOTECHNICAL RECOMMENDATIONS.
8. PROPOSED SIDEWALK LOCATIONS & INTENDED ADA ROUTES PER PROJECT-SPECIFIC DESIGN PLANS.
9. FOR TREE WELL SUBSURFACE DRAINAGE TYPES, SEE DWG GS-1.05.
10. ALL STRUCTURAL SOILS ARE COMPACTED TO 95% RELATIVE COMPACTION.

SAN DIEGO COUNTY DESIGN STANDARD

TREE WELL
GENERAL DESIGN GUIDANCE

DRAWING NOT TO SCALE

SAN DIEGO COUNTY DESIGN STANDARD

REVISIONS APPROVED DATE
ORIGINAL 10-01-2019
REVISI 03-08-2021
DRAWING NUMBER GS-1.00
NOTES:
1. REFER TO GS-1.00 FOR ALL DETAILS NOT SHOWN HERE.
2. TREE SIZE & TYPE PER DESIGN PLANS.

SAN DIEGO COUNTY DESIGN STANDARD

SMALL TREE
WELL

REVISIONS  APPROVED  DATE
ORIGINAL   10-01-2019
REVISED    03-08-2021

DRAWING NUMBER  GS-1.01

DRAWN BY  CHECKED BY  RECOMMENDED BY  APPROVED BY COUNTY ENGINEER
WILLIAM P. MORGAN, P.E.  W. P. MORGAN, P.E.  CHARLES MORGAN, P.E.
R.C.E. NO. 49452, EXP 3/30/2022
NOTES:
1. REFER TO GS-1.00 FOR ALL DETAILS NOT SHOWN HERE.
2. TREE SIZE & TYPE PER DESIGN PLANS.

SAN DIEGO COUNTY DESIGN STANDARD

LARGE TREE WELL

DRAWING NOT TO SCALE

DRAWN BY NIK
CHECKED BY NIK
RECOMMENDED BY: CHARLES MORLOCK, P.E
APPROVED BY COUNTY ENGINEER
WILLIAM P. MORGAN, P.E
R.C.E. NO. 49452, EXP 3/30/2022
NOTES:
1. REFER TO GS-1.00 FOR ALL DETAILS NOT SHOWN HERE.
2. TREE SIZE & TYPE PER DESIGN PLANS.

SAN DIEGO COUNTY DESIGN STANDARD

TREE WELL ADJACENT TO RIGHT-OF-WAY

DRAWING NOT TO SCALE

REVISIONS | APPROVED | DATE
---|---|---
ORIGINAL | 10-01-2019
REVISED | 03-08-2021

DRAWING NUMBER GS-1.03
NOTES:
1. REFER TO GS-1.00 FOR ALL DETAILS NOT SHOWN HERE.
2. TREE SIZE & TYPE PER DESIGN PLANS.
3. PARALLEL STREET PARKING PROHIBITED WITH THIS BMP.

SAN DIEGO COUNTY DESIGN STANDARD

TREE WELL WITHOUT STRUCTURAL SOIL
NOTES:
1. REFER TO GS-1.04a FOR ALL DETAILS NOT SHOWN HERE.
2. TREE SIZE & TYPE PER DESIGN PLANS.
3. AS AN ALTERNATIVE TO THE DEEPENED SHEAR KEY/CUTOFF WALL, CONCRETE CHECK DAMS (DETAIL 5.14) AT 12'-MAX INTERVALS MAY BE SUBSTITUTED.
4. PARALLEL STREET PARKING PROHIBITED WITH THIS BMP.
1. IF NRCS HYDROLOGIC SOIL GROUP "A" OR "B" IS ENCOUNTERED, OR IF THE DESIGN SUBSOIL INFILTRATION RATE IS 0.2 IN/HR OR GREATER; STRUCTURAL SOIL MAY BE PLACED OVER UNCOMPACTED SUBGRADE.

2. IF NRCS HYDROLOGIC SOIL GROUP "C" IS ENCOUNTERED, OR IF THE DESIGN SUBSOIL INFILTRATION RATE IS BETWEEN 0.1 AND 0.2 IN/HR; STRUCTURAL SOIL SHALL BE PLACED OVER 6 INCHES OF SAND OVER UNCOMPACTED SUBGRADE.

- WHERE IN-SITU SOILS ARE NOT CONducIVE TO INFILTRATION OF DESIGN STORM VOLUMES WITHIN 96 HOURS; UNDERDRAIN SYSTEMS SHALL BE CONSIDERED THROUGH COORDINATION WITH THE COUNTY.

3. IF NRCS HYDROLOGIC SOIL GROUP "D" IS ENCOUNTERED, OR IF THE DESIGN SUBSOIL INFILTRATION RATE IS LESS THAN 0.1 IN/HR; AN UNDERDRAIN PIPE SHALL BE EMBEDDED WITHIN THE STRUCTURAL SOIL & CONNECTED TO A NEARBY STORM DRAIN SYSTEM PER GS-5.12 & GS-5.13.

- WHERE IN-SITU SOILS ARE NOT CONducive TO INFILTRATION OF DESIGN STORM VOLUMES WITHIN 96 HOURS; UNDERDRAIN SYSTEMS SHALL BE CONSIDERED THROUGH COORDINATION WITH THE COUNTY.

NOTES:
1. REFER TO GS-1.00 FOR ALL DETAILS NOT SHOWN HERE.
2. THE DESIGN SUBSOIL INFILTRATION RATE IS EQUAL TO THE MEASURED INFILTRATION RATE MULTIPLIED BY A FACTOR OF SAFETY. SEE COUNTY BMP DESIGN MANUAL APPENDIX D FOR FURTHER DETAILS.
TYPICAL DISPERSION AREA SECTION

NOTES:

1. STREET IMPROVEMENTS AND DRAINAGE STRUCTURES SHALL BE CONSTRUCTED ACCORDING TO THE LATEST SAN DIEGO REGIONAL STANDARD DRAWINGS AND CALTRANS STANDARD PLANS.

2. CONCRETE SHALL BE 520-C-2500 UNLESS OTHERWISE SPECIFIED.

3. SEAL PLASTIC LINER TO ADJACENT IMPROVEMENTS AND EDGE RESTRAINTS PER GS-5.15. LINER TO EXTEND THE FULL DEPTH OF THE BMP AS SHOWN.

4. BOTTOM OF DISPERSION AREA SHALL BE AT LEAST 10' ABOVE THE SEASONAL HIGH WATER TABLE OR 2' ABOVE THE BEDROCK ELEVATION (AS DETERMINED BY THE GEOTECHNICAL INVESTIGATION).

5. HYDRAULIC DESIGN MANUAL DESIGN CRITERIA SHOULD BE MET IN CONVENTIONAL CONVEYANCE, WHERE POSSIBLE.

6. PARALLEL STREET PARKING PROHIBITED WITH THIS BMP.
NOTES:
1. REFER TO GS-2.00 FOR ALL DETAILS NOT SHOWN HERE.
2. CURB CUT WIDTH PER DESIGN PLANS.
3. PARALLEL STREET PARKING PROHIBITED WITH THIS BMP.
NOTES:
1. REFER TO GS-2.00 FOR ALL DETAILS NOT SHOWN HERE.
2. STEP OUT ZONE DIMENSIONS TO MEET PROJECT-SPECIFIC REQUIREMENTS AND PARAMETERS RELATED TO ONSITE PARKING.
3. CURB CUT WIDTH PER DESIGN PLANS.

PLAN VIEW

DISPERSION AREA WITH STEP OUT ZONE

SECTION A-A

MATERIAL AND COMPACTION PER PROJECT PLANS AND SPECIFICATIONS
3" SHREDDED HARDWOOD MULCH OR ROCK LAYER PER DESIGN PLANS
AMENDED SOIL
6" SCARIFIED SOIL

SIDEWALK UNDERDRAIN PER GS-5.04 TYPE PER DESIGN PLANS
Curb or railing per GS-5.05
Step out zone 30" min
18" #4@18" O.C.
SIDEWALK UNDERDRAIN PER GS-5.04 TYPE PER DESIGN PLANS
Street flow
Roadway structural section per plan
Splash pad per GS-5.06
Undisturbed subgrade
30 MIL PLASTIC LINER
MATERIAL AND COMPACTION PER PROJECT PLANS AND SPECIFICATIONS

SAN DIEGO COUNTY DESIGN STANDARD

DISPERSION AREA WITH STEP OUT ZONE

DRAWING NOT TO SCALE

DRAWN BY N/A CHECKED BY N/A
RECOMMENDED BY: CHARLES MORLOCK, P.E
APPROVED BY COUNTY ENGINEER
WILLIAM P. MORGAN, P.E
R.C.E NO. 49452, EXP 9/30/2022

REVISIONS APPROVED DATE
ORIGINAL 10-01-2019
REVISED 03-06-2021
DRAWING NUMBER GS-2.02
NOTES:
1. REFER TO GS-2.00 FOR ALL DETAILS NOT SHOWN HERE.
2. CURB CUT WIDTH PER DESIGN PLANS.
NOTES:
1. REFER TO GS-2.00 FOR ALL DETAILS NOT SHOWN HERE.
2. PARALLEL STREET PARKING PROHIBITED WITH THIS BMP.

SAN DIEGO COUNTY DESIGN STANDARD
CURB EXTENSION ADJACENT TO SIDEWALK

DRAWING NOT TO SCALE
REVISIONS APPROVED DATE
ORIGINAL 10-01-2019
REVISED 03-08-2021
DRAWING NUMBER GS-2.04
NOTES:
1. REFER TO GS-2.00 FOR ALL DETAILS NOT SHOWN HERE.
2. PARALLEL STREET PARKING PROHIBITED WITH THIS BMP.
NOTES:
1. REFER TO GS-2.00 FOR ALL DETAILS NOT SHOWN HERE.
2. OVERFLOW ELEVATION IS REQUIRED TO BE 4" MIN BELOW RELATED SIDEWALK ELEVATION (WHERE APPLICABLE).
3. OPEN AREA PARAMETERS (I.E. GRADING AND SURFACE TREATMENT) TO BE PROJECT-SPECIFIC PER THE DESIGN ENGINEER'S RECOMMENDATIONS AND SPECIFICATIONS.
NOTES:
1. REFER TO GS-2.00 FOR ALL DETAILS NOT SHOWN HERE.
2. CURB CUT WIDTH PER DESIGN PLANS.

DRAWING NOT TO SCALE

SAN DIEGO COUNTY DESIGN STANDARD

DISPERSION SWALES

DRAWING NUMBER GS-2.07
NOTES:
1. REFER TO GS-2.00 FOR ALL DETAILS NOT SHOWN HERE.
2. DESIGN BEYOND BROW DITCH PER PROJECT.
3. MINIMUM FILTER STRIP WIDTH IS 10 FEET PER FACT SHEET SD-8 OF THE COUNTY BMP DESIGN MANUAL.
TYPICAL UNDERDRAIN AND BEDDING SECTION

- DEEPENED CURB W/ SHEAR KEY
- PER PLAN
- WIDTH PER PLANS
- VARIES
- 2’ MIN
- 6’ MAX
- 3’ SHREDDED HARDWOOD MULCH OR ROCK LAYER
- (DESIGN OPTION)
- #4 BARS (TYP.)
- #4 @ 18” O.C.
- 2” MIN

TYPICAL BIOFILTRATION BASIN SECTION

- MATERIAL AND COMPACTION PER PROJECT PLANS AND SPECIFICATIONS
- 30 MIL PLASTIC LINER
- 8” MIN PERFORATED SCH 40 PVC PIPE PER PLAN
- INFILTRATION SUMP
- ROADWAY STRUCTURAL SECTION PER PLAN
- PER PROJECT DESIGN PLANS SEE NOTE 4

NOTES:
1. STREET IMPROVEMENTS AND DRAINAGE STRUCTURES PER PROJECT PLAN.
2. REFERENCE COUNTY BMP DESIGN MANUAL FACT SHEET BF-1 “BIOFILTRATION” FOR DESIGN APPROACH.
3. REFER TO GS-3.10 FOR BIOFILTRATION BASIN SUBSURFACE DRAINAGE TYPES.
4. DEPTH OF BIOFILTRATION SOIL MEDIA, RESERVOIR LAYER & INFILTRATION SUMP (PER THE DESIGN PLANS) SHALL ADDRESS STORMWATER RETENTION AND DRAW-DOWN REQUIREMENTS.
5. BOTTOM OF RESERVOIR LAYER SHALL BE AT LEAST 10’ ABOVE THE SEASONAL HIGH WATER TABLE OR 2’ ABOVE THE BEDROCK ELEVATION (AS DETERMINED BY THE GEOTECHNICAL INVESTIGATION).
6. SEAL PLASTIC LINER TO ADJACENT IMPROVEMENTS AND EDGE RESTRAINTS PER GS-5.15. LINER TO EXTEND THE FULL DEPTH OF THE BMP AS SHOWN.
7. DESIGN ENGINEER SHALL DETERMINE WHETHER A CHOKER LAYER IS REQUIRED BASED ON GEOTECHNICAL RECOMMENDATIONS AND SHALL SPECIFY THESE REQUIREMENTS IN THE PLANS.
8. HYDRAULIC DESIGN MANUAL DESIGN CRITERIA SHOULD BE MET IN CONVENTIONAL CONVEYANCE, WHERE POSSIBLE.
9. CONCRETE SHALL BE 520-C-2500 UNLESS OTHERWISE SPECIFIED.
10. PARALLEL STREET PARKING PROHIBITED WITH THIS BMP.

SAN DIEGO COUNTY DESIGN STANDARD

BIOFILTRATION GENERAL
DESIGN GUIDANCE

DRAWING NOT TO SCALE

DRAWN BY: N/A
CHECKED BY: N/A
RECOMMENDED BY: CHARLES MHLLOK, P.E
APPROVED BY: COUNTY ENGINEER
WILLIAM P. MORGAN, P.E
R.E. NO. 49452, EXP 3/30/2022

REVISIONS
APPROVED
DATE
ORIGINAL
10-01-2019
REVISED
03-08-2021
DRAWING NUMBER
GS-3.00
NOTES:
1. REFER TO GS-3.00 FOR ALL DETAILS NOT SHOWN HERE.
2. AS AN ALTERNATIVE TO THE DEEPRVED SHEAR KEY/CUTOFF WALL, CONCRETE CHECK DAMS (DETAIL 5.14) AT 20' MAX INTERVALS MAY BE SUBSTITUTED.
3. IF SURFACE PONDING DEPTH EXCEEDS 12", REFER TO GS3.02 FOR RETAINING WALL ALTERNATIVE.
4. PARALLEL STREET PARKING PROHIBITED WITH THIS BMP.
NOTES:
1. REFER TO GS-3.00 FOR ALL DETAILS NOT SHOWN HERE.
2. AS AN ALTERNATIVE TO THE DEEPENED CURB KEY/CUTOFF WALL, CONCRETE CHECK DAMS (DETAIL 5.14) AT 20' MAX INTERVALS MAY BE SUBSTITUTED.
3. PARALLEL STREET PARKING PROHIBITED WITH THIS BMP.
NOTES:

1. REFER TO GS-3.03 FOR ALL DETAILS NOT SHOWN HERE.

2. STEP OUT ZONE DIMENSIONS TO MEET PROJECT-SPECIFIC REQUIREMENTS AND PARAMETERS RELATED TO ONSITE PARKING.

3. AS AN ALTERNATIVE TO THE DEEPENED SHEAR KEY/CUTOFF WALL, CONCRETE CHECK DAMS (DETAIL 5.14) AT 20' MAX INTERVALS MAY BE SUBSTITUTED.
NOTES:
1. REFER TO GS-3.00 FOR ALL DETAILS NOT SHOWN HERE.
2. AS AN ALTERNATIVE TO THE DEEPENED SHEAR KEY/CUTOFF WALL, CONCRETE CHECK DAMS (DETAIL 5.14) AT 20' MAX INTERVALS MAY BE SUBSTITUTED.
NOTES:
1. REFER TO GS-3.00 FOR ALL DETAILS NOT SHOWN HERE.
2. CURB EXTENSION SUBJECT TO APPROVAL OF TRAFFIC ENGINEERING.
3. REFER TO GS-5.08 FOR RELATED DETAIL AND REQUIRED DESIGN PLAN INFORMATION.
4. AS AN ALTERNATIVE, TO THE DEEPENED SHEAR KEY/CUTOFF WALL, CONCRETE CHECK DAMS (DETAIL 5.14) AT 20' MAX INTERVALS MAY BE SUBSTITUTED.
5. DESIGNER SHALL VERIFY THAT SIDEWALK DOES NOT POND IN THE 100-YR STORM.
6. PARALLEL STREET PARKING PROHIBITED WITH THIS BMP.

SAN DIEGO COUNTY DESIGN STANDARD
CURB EXTENSION ADJACENT TO SIDEWALK W/ BIOFILTRATION

DRAWING NOT TO SCALE

REVISIONS
ORIGINAL 10-01-2019
REvised 03-08-2021

DRAWING NUMBER GS-3.05

DRAWN BY NIK
CHECKED BY NIK
RECOMMENDED BY CHARLES MOLROCK, P.E
APPROVED BY COUNTY ENGINEER
WILLIAM P. MORGAN, P.E
R.C.C. NO. 49452, EXP 3/30/2022
CURB EXTENSION ADJACENT TO PLANTING STRIP W/ BIOFILTRATION

NOTES:
1. REFER TO GS-3.00 FOR ALL DETAILS NOT SHOWN HERE.
2. CURB EXTENSION, PER GS-2.04, SUBJECT TO APPROVAL OF TRAFFIC ENGINEERING.
3. REFER TO GS-5.08 FOR RELATED DETAIL AND REQUIRED DESIGN PLAN INFORMATION.
4. AS AN ALTERNATIVE TO THE DEEPPENED SHEAR KEY/CUTOFF WALL, CONCRETE CHECK DAMS (DETAIL 5.14) AT 20' MAX INTERVALS MAY BE SUBSTITUTED.
5. DESIGNER SHALL VERIFY THAT SIDEWALK DOES NOT POND IN THE 100-YR STORM.
6. PARALLEL STREET PARKING PROHIBITED WITH THIS BMP.
NOTES:
1. REFER TO GS-3.00 FOR ALL DETAILS NOT SHOWN HERE.
2. OVERFLOW ELEVATION IS REQUIRED TO BE 4" MIN BELOW RELATED SIDEWALK ELEVATION (WHERE APPLICABLE).
3. OPEN AREA PARAMETERS (I.E. GRADING AND SURFACE TREATMENT) TO BE PROJECT-SPECIFIC PER THE DESIGN ENGINEER’S RECOMMENDATIONS AND SPECIFICATIONS.
NOTES:
1. REFER TO GS-3.00 FOR ALL DETAILS NOT SHOWN HERE.
2. AS AN ALTERNATIVE TO THE DEEPENED SHEAR KEY/CUTOFF WALL, CONCRETE CHECK DAMS (DETAIL 5.14) AT 20' MAX INTERVALS MAY BE SUBSTITUTED.
NOTES:
1. REFER TO GS-3.00 FOR ALL DETAILS NOT SHOWN HERE.
2. THE DESIGN SUBSOIL INFILTRATION RATE IS EQUAL TO THE MEASURED INFILTRATION RATE MULTIPLIED BY A FACTOR OF SAFETY. SEE COUNTY BMP DESIGN MANUAL APPENDIX D FOR FURTHER DETAILS.

1. IF NRCS HYDROLOGIC SOIL GROUP "A" OR "B" IS ENCOUNTERED, OR IF THE DESIGN SUBSOIL INFILTRATION RATE IS 0.2 IN/HR OR GREATER, SUBSURFACE LAYERS MAY BE PLACED OVER UNDISTURBED SUBGRADE.

2. IF NRCS HYDROLOGIC SOIL GROUP "C" IS ENCOUNTERED, OR IF THE DESIGN SUBSOIL INFILTRATION RATE IS BETWEEN 0.1 AND 0.2 IN/HR, SUBSURFACE LAYERS SHALL BE PLACED OVER 6 INCHES OF SAND OVER UNDISTURBED SUBGRADE.
   • WHERE IN-SITU SOILS ARE NOT CONducive TO INFILTRATION OF DESIGN STORM VOLUMES WITHIN 96 HOURS, UNDERDRAIN SYSTEMS SHALL BE CONSIDERED THROUGH COORDINATION WITH THE COUNTY.

3. IF NRCS HYDROLOGIC SOIL GROUP "D" IS ENCOUNTERED, OR IF THE DESIGN SUBSOIL INFILTRATION RATE IS LESS THAN 0.1 IN/HR, AN UNDERDRAIN PIPE SHALL BE EMBEDDED WITHIN THE RESERVOIR LAYER & CONNECTED TO A NEARBY STORM DRAIN SYSTEM PER GS-5.12 & GS-5.13.
   • WHERE IN-SITU SOILS ARE NOT CONducive TO INFILTRATION OF DESIGN STORM VOLUMES WITHIN 96 HOURS, UNDERDRAIN SYSTEMS SHALL BE CONSIDERED THROUGH COORDINATION WITH THE COUNTY.
NOTES:

1. STREET IMPROVEMENTS AND DRAINAGE STRUCTURES SHALL BE CONSTRUCTED ACCORDING TO THE LATEST SAN DIEGO REGIONAL STANDARD DRAWINGS AND CALTRANS STANDARD PLANS.

2. REFERENCE COUNTY BMP DESIGN MANUAL FACT SHEETS SD-D & INF-3 "PERMEABLE PAVEMENT" FOR DESIGN APPROACH.

3. THE CALTRANS PERVIOUS PAVEMENT DESIGN GUIDANCE DOCUMENT (DATED MAY 2016) SHALL BE REFERENCED WHERE APPROPRIATE FOR DESIGNS INVOLVING PERVIOUS ASPHALT & PERVIOUS CONCRETE PAVEMENTS.

4. REFER TO GS-4.03 FOR PERMEABLE PAVEMENT SUBSURFACE DRAINAGE TYPES.

5. DEPTH OF RESERVOIR LAYER (PER THE DESIGN PLANS) SHALL ADDRESS STORMWATER RETENTION REQUIREMENTS AS WELL AS THE STRUCTURAL PAVEMENT DESIGN REQUIREMENTS. ENGINEER TO DESIGN SYSTEM TO ACHIEVE STORAGE, DRAWS-DOWN, AND STRUCTURAL REQUIREMENTS.

6. AN ENHANCED DESIGN CONTAINS A WATER STORAGE LAYER AND AN INFILTRATION SUMP BENEATH THE UNDERDRAIN PIPE (SEE GS-4.03) WHICH IS SIZED TO DRAIN THE DESIGN STORM WITHIN 96 HOURS.

7. WHERE IN-SITU SOILS ARE NOT CONDUCIVE TO INFILTRATION OF DESIGN STORM VOLUMES WITHIN 96 HOURS: UNDERDRAIN SYSTEMS SHALL BE CONSIDERED THROUGH COORDINATION WITH THE COUNTY.

8. BOTTOM OF RESERVOIR LAYER SHALL BE AT LEAST 10' ABOVE THE SEASONAL HIGH WATER TABLE OR 2' ABOVE THE BEDROCK ELEVATION (AS DETERMINED BY THE GEOTECHNICAL INVESTIGATION).

9. WHEN SAND FILTER LAYER IS OMITTED, PROVIDE GEOTEXTILE BENEATH THE RESERVOIR LAYER PER PROJECT-SPECIFIC GEOTECHNICAL RECOMMENDATIONS.

10. SEAL PLASTIC LINER TO ADJACENT IMPROVEMENTS AND EDGE RESTRAINTS PER GS-5.15. LINER TO EXTEND THE FULL DEPTH OF THE BPA AS SHOWN.

11. OTHER DESIGN ALTERNATIVES MAY BE CONSIDERED SUCH AS MODULAR PERVIOUS PAVEMENT, PERMEABLE CONCRETE PAVING SLABS & POROUS GUTTER SYSTEMS WHERE APPROPRIATE PENDING APPROVAL BY THE COUNTY.

12. CONCRETE SHALL BE S20-C-2500 UNLESS OTHERWISE SPECIFIED.

SAN DIEGO COUNTY DESIGN STANDARD

PERMEABLE PAVEMENT

GENERAL DESIGN GUIDANCE

DRAWING NUMBER GS-4.00
NOTES:
1. REFER TO GS-4.00 FOR ALL DETAILS NOT SHOWN HERE.
2. DISTANCE "D" IS DETERMINED BY THE SURFACE SLOPE, WHICH RESULTS IN 12" MAX STEPS.
3. CHECK DAMS TO BE USED FOR INSTALLATIONS WITH SURFACE SLOPES GREATER THAN 2% OR AS DIRECTED BY THE PROJECT-SPECIFIC DESIGN PLANS.
4. SURFACE SLOPES GREATER THAN 5% ARE NOT RECOMMENDED AND REQUIRE APPROVAL BY THE COUNTY.
5. ALTHOUGH PERVIOUS PAVERS ARE DEPICTED, THE SAME DESIGN CONCEPTS CAN BE UTILIZED FOR PERVIOUS ASPHALT & CONCRETE PAVEMENT. REFERENCE THE CALTRANS PERMEABLE PAVEMENT DESIGN GUIDANCE DOCUMENT (DATED MAY 2016) WHERE APPROPRIATE.

SAN DIEGO COUNTY DESIGN STANDARD

PERMEABLE PAVEMENT ELEVATIONS

DRAWING NOT TO SCALE

DRAWN BY WPM
CHECKED BY WPM
RECOMMENDED BY: CHARLES MORGAN, P.E.
APPROVED BY COUNTY ENGINEER: WILLIAM P. MORGAN, P.E.
R.C.E. NO. 49452, EXP 3/30/2022

REVISIONS APPROVED DATE
ORIGINAL 10-01-2019
REVISED 03-08-2021
DRAWING NUMBER GS-4.01
NOTES:

1. REFER TO GS-4.00 FOR ALL DETAILS NOT SHOWN HERE.
2. DISTANCE "D" IS DETERMINED BY THE SURFACE SLOPE, WHICH RESULTS IN 12" MAX STEPS.
3. CHECK DAMS TO BE USED FOR INSTALLATIONS WITH SURFACE SLOPES GREATER THAN 2% OR AS DIRECTED BY THE PROJECT-SPECIFIC DESIGN PLANS.
4. SURFACE SLOPES GREATER THAN 5% ARE NOT RECOMMENDED AND REQUIRE APPROVAL BY THE COUNTY.
5. ALTHOUGH PERVIOUS PAVERS ARE DEPICTED, THE SAME DESIGN CONCEPTS CAN BE UTILIZED FOR PERVIOUS ASPHALT & CONCRETE PAVEMENTS. REFERENCE THE CALTRANS PERVIOUS PAVEMENT DESIGN GUIDANCE DOCUMENT (DATED MAY 2016) WHERE APPROPRIATE.
6. AVERAGE STORAGE DEPTH "Z" SHALL BE MAINTAINED PER TERRACE ELEVATION TO ACHIEVE PROJECT-SPECIFIC STORMWATER RETENTION REQUIREMENTS.
1. IF NRCS HYDROLOGIC SOIL GROUP "A" OR "B" IS ENCOUNTERED, OR IF THE DESIGN SUBSOIL INFILTRATION RATE IS 0.2 IN/HR OR GREATER; SUBSURFACE LAYERS MAY BE PLACED OVER UNCOMPACTED SUBGRADE.

2. IF NRCS HYDROLOGIC SOIL GROUP "C" IS ENCOUNTERED, OR IF THE DESIGN SUBSOIL INFILTRATION RATE IS BETWEEN 0.1 AND 0.2 IN/HR; SUBSURFACE LAYERS SHALL BE PLACED OVER 6 INCHES OF SAND OVER UNCOMPACTED SUBGRADE:
   - WHERE IN-SITU SOILS ARE NOT CONDUCTIVE TO INFILTRATION OF DESIGN STORM VOLUMES WITHIN 96 HOURS; UNDERDRAIN SYSTEMS SHALL BE CONSIDERED THROUGH COORDINATION WITH THE COUNTY.
   - INFILTRATION SMP "Z" TO BE DESIGNED PER PLANS.

3. IF NRCS HYDROLOGIC SOIL GROUP "D" IS ENCOUNTERED, OR IF THE DESIGN SUBSOIL INFILTRATION RATE IS LESS THAN 0.1 IN/HR; AN UNDERDRAIN PIPE SHALL BE EMBEDDED WITHIN THE RESERVOIR LAYER & CONNECTED TO A NEARBY STORM DRAIN SYSTEM PER GS-5.12 & GS-5.13.
   - WHERE IN-SITU SOILS ARE NOT CONDUCTIVE TO INFILTRATION OF DESIGN STORM VOLUMES WITHIN 96 HOURS; UNDERDRAIN SYSTEMS SHALL BE CONSIDERED THROUGH COORDINATION WITH THE COUNTY.
   - INFILTRATION SMP "Z" TO BE DESIGNED PER PLANS.

NOTES:
1. REFER TO GS-4.00 FOR ALL DETAILS NOT SHOWN HERE.
2. THE DESIGN SUBSOIL INFILTRATION RATE IS EQUAL TO THE MEASURED INFILTRATION RATE MULTIPLIED BY A FACTOR OF SAFETY. SEE COUNTY BMP DESIGN MANUAL APPENDIX D FOR FURTHER DETAILS.
3. FULLY-LINED PERMEABLE PAVEMENT SYSTEMS ARE CONSIDERED FLOW-THROUGH TREATMENT DEVICES AND CAN ONLY BE USED FOR HMP FLOW CONTROL. NO POLLUTANT CONTROL CREDITS CAN BE CLAIMED.
NOTES:
1. PONDING DEPTH PER DESIGN PLANS, 4" MAX.
2. WHERE APPLICABLE, REMOVE EXISTING CURB & GUTTER. CONSTRUCT CURB & GUTTER MONOLITHIC.
3. CURB & GUTTER TO BE CONSTRUCTED PER SORSG G-02.
4. ELEVATIONS SHALL BE SHOWN ON PLANS WHERE INDICATED BY "O" SYMBOL.
5. SEAL PLASTIC LINER TO ADJACENT IMPROVEMENTS AND EDGE RESTRAINTS PER GS-5.15.
6. CONCRETE SHALL BE 520-C-2500 UNLESS OTHERWISE SPECIFIED.
7. GUTTER TRANSITION LENGTH PER DESIGN PLANS; AN ADDITIONAL 2.5-FT CURB TRANSITION LENGTH IS RECOMMENDED FOR EVERY 1" OF ADDITIONAL GUTTER DEPRESSION.
8. PARALLEL STREET PARKING PROHIBITED FOR BMP’S WITH TREE WELL WITHOUT STRUCTURAL SOIL AND DISPERSION AREAS.

SAN DIEGO COUNTY DESIGN STANDARD

REVISIONS

APPROVED

DATE

ORIGINAL

03-06-2021

REVISED

03-06-2021

DRAWING NUMBER

GS-5.01

TREET WELL & DISPERSION

AREA CURB CUTS

WILLIAM P. MORGAN, P.E.
R.E. NO. 49452, EXP. 3/30/2022

APPROVED BY COUNTY ENGINEER

RECOMMENDED BY: CHARLES MORGAN, P.E.

CHECKED BY: N/A

DRAWN BY: N/A

3/15/21

3/15/21
NOTES:

1. PONDING DEPTH PER DESIGN PLANS.
2. WHERE APPLICABLE, REMOVE EXISTING CURB & GUTTER. CONSTRUCT CURB & GUTTER MONOLITHIC.
3. ELEVATIONS SHALL BE SHOWN ON PLANS WHERE INDICATED BY "O" SYMBOL.
4. SEAL PLASTIC LINER TO ADJACENT IMPROVEMENTS AND EDGE RESTRAINTS PER GS-5.15.
5. GUTTER TRANSITION LENGTH PER DESIGN PLANS; AN ADDITIONAL 2.5-FT CURB TRANSITION LENGTH IS RECOMMENDED FOR EVERY 1" OF ADDITIONAL GUTTER DEPRESSION.
6. CONCRETE SHALL BE 520-C-2500 UNLESS OTHERWISE SPECIFIED.
7. PARALLEL STREET PARKING PROHIBITED WITH THIS BMP.

SAN DIEGO COUNTY DESIGN STANDARD

BIOFILTRATION BASIN
CURB CUT

DRAWING NOT TO SCALE

REVISIONS APPROVED DATE
ORIGINAL 10-01-2019
REVISED 03-08-2021

DRAWING NUMBER GS-5.02
NOTES:
1. PONDING DEPTH PER DESIGN PLANS, 18" MAX.
2. FLUME CUTOFF WALL TO EXTEND FULL DEPTH OF SPLASH PAD.
3. SEAL PLASTIC LINER TO ADJACENT IMPROVEMENTS AND EDGE RESTRAINTS PER GS-5.15.
4. CONCRETE SHALL BE 520-C-2500 UNLESS OTHERWISE SPECIFIED.

SECTION A-A

DRAWING NOT TO SCALE

SAN DIEGO COUNTY DESIGN STANDARD

CURB CUT WITH FLUME

REVISIONS		APPROVED		DATE

ORIGINAl		10-01-2019

REViSED		03-08-2021

DRAWING NUMBER	GS-5.03
NOTES:
1. CONCRETE SHALL BE 520-C-2500 UNLESS OTHERWISE SPECIFIED.
2. SECTION TO BE SLOPED LATERALLY WITH TOP CONFORMING TO GRADES OF THE EXISTING SIDEWALK & CURB.
3. TROWEL FINISH TOP SURFACE & FLOOR OUTLET. REPRODUCE MARKINGS OF EXISTING SIDEWALK AND CURB.
4. OPENING WIDTHS IN EXCESS OF 3-FT (TO CONVEY THE 10-YR STORM EVENT) SHALL REQUIRE APPROVED STRUCTURAL CALCULATIONS.
5. GUTTER TRANSITION LENGTH PER DESIGN PLANS; AN ADDITIONAL 2.5-FT CURB TRANSITION LENGTH IS RECOMMENDED FOR EVERY 1" OF ADDITIONAL GUTTER DEPRESSION.
6. ELEVATIONS SHALL BE SHOWN ON PLANS WHERE INDICATED BY "O" SYMBOL.
NOTES:

1. CONCRETE SHALL BE 520-C-2500 UNLESS OTHERWISE SPECIFIED.
2. SECTION TO BE SLOPED LATERALLY WITH TOP CONFORMING TO THE GRADES OF THE EXISTING SIDEWALK AND CURB.
3. TROWEL FINISH TOP SURFACE & FLOOR OUTLET. REPRODUCE MARKINGS OF EXISTING SIDEWALK AND CURB.
4. STEEL PLATE MUST BE ADA COMPLIANT WHEN LOCATED WITHIN THE SIDEWALK.
5. OPENING WIDTHS IN EXCESS OF 3-FT (TO CONVEY THE 10-YR STORM EVENT) SHALL REQUIRE APPROVED STRUCTURAL CALCULATIONS.
6. GUTTER TRANSITION LENGTH PER DESIGN PLANS; AN ADDITIONAL 2.5-FT CURB TRANSITION LENGTH IS RECOMMENDED FOR EVERY 1" OF ADDITIONAL GUTTER DEPRESSION.
7. ELEVATIONS SHALL BE SHOWN ON PLANS WHERE INDICATED BY "O" SYMBOL.

SAN DIEGO COUNTY DESIGN STANDARD

SIDEWALK UNDERRAIN WITH CHECKERED PLATE

DRAWING NOT TO SCALE

REVISIONS APPROVED DATE
ORIGINAL 10-01-2019
REVISED 03-08-2021

DRAWING NUMBER GS-5.04b
NOTES:
1. CONCRETE SHALL BE 520-C-2500 UNLESS OTHERWISE SPECIFIED.
2. SECTION TO BE SLOPED LATERALLY WITH TOP CONFORMING TO THE GRADES OF THE EXISTING SIDEWALK AND CURB.
3. TROWEL FINISH TOP SURFACE AND REPRODUCE MARKING OF EXISTING SIDEWALK AND CURB.
4. TROWEL FINISH FLOOR OF OUTLET.
5. STEEL PLATE MUST BE ADA COMPLIANT WHEN LOCATED WITHIN THE SIDEWALK.

DRAWING NOT TO SCALE
NOTES:

1. FOR ANY ELEVATION DIFFERENCES GREATER THAN 4 INCHES BETWEEN THE SOIL SURFACE AND THE SIDEWALK THAT ARE NOT CONSIDERED ISOLATED AREAS, PROVIDE CURB OR RAILING PER THE DESIGN PLANS. FENCE TYPE, MOUNTING, AND INSTALLATION REQUIREMENTS PER SDSDD M-24. OTHER DESIGNS ARE SUBJECT TO APPROVAL BY THE COUNTY.

2. OTHER EQUIVALENT WALL DESIGNS MAY BE ALLOWED. THE DESIGNER SHALL INCLUDE PROJECT-SPECIFIC DETAILS, STRUCTURAL CALCULATIONS, AND GETOTECHNICAL RECOMMENDATIONS WITH DESIGN PLAN SUBMITTAL.

3. CONCRETE SHALL BE 520-C-2500 UNLESS OTHERWISE SPECIFIED.
NOTES:
1. REGARDING TYPE 1 SPLASH PADS, THE STONE SHALL REQUIRE AN EPOXY/GROUT BINDING TO AVOID WASHOUT PER THE PROJECT–SPECIFIC DESIGN PLANS AND SPECIFICATIONS.
2. CONCRETE SHALL BE 520–C–2500 UNLESS OTHERWISE SPECIFIED.
NOTES:
1. FOR ANY ELEVATION DIFFERENCES GREATER THAN 4 INCHES BETWEEN THE SOIL SURFACE AND THE SIDEWALK THAT ARE NOT CONSIDERED ISOLATED AREAS, PROVIDE CURB OR RAILING PER THE DESIGN PLANS, FENCE TYPE, MOUNTING, AND INSTALLATION REQUIREMENTS PER SDRSD M-24. OTHER DESIGNS ARE SUBJECT TO APPROVAL BY THE COUNTY.
2. OTHER EQUIVALENT WALL DESIGNS MAY BE ALLOWED. THE DESIGNER SHALL INCLUDE PROJECT-SPECIFIC DETAILS, STRUCTURAL CALCULATIONS, AND GEOTECHNICAL RECOMMENDATIONS WITH DESIGN PLAN SUBMITTAL.
3. SEAL PLASTIC LINER TO ADJACENT IMPROVEMENTS AND EDGE RESTRAINTS PER GS-5.15.
2. CONCRETE SHALL BE 520-C-2500 UNLESS OTHERWISE SPECIFIED.

SIDEWALK SIDE GRAVITY WALL WITH CURB

CURB CUT ELEVATION

RAILING DESIGN
(MOUNTING & INSTALLATION PER SDRSD M-24)

R= 1/2" (TYP.)

SIDEWALK

SIDEWALK ELEVATION

4" CURB CUTS FOR SIDEWALK DRAINAGE AS NECESSARY AT LOW POINTS AND TO PREVENT SIDEWALK PONDING (10' MAX, 5' MIN GC)

R= 1/2" (TYP.)

-1/2" PREFORMED EXPANSION JOINT

SUSTAINABLE AREA OR BIOFILTRATION

30 MIL PLASTIC LINER

PER PLANS

TOP OF CURB ELEVATION

SIDEWALK

TOP OF FOOTING

#4@18"

(2)#4 BARS CONTINUOUS

10' MAX, 5' MIN

DIAGRAM NOT TO SCALE
NOTES:

1. OBSERVATION WELL & CLEANOUT CAP ELEVATIONS ARE INDEPENDENT OF THE BMP PONDING DEPTHS.
2. REFER TO SDRSD SC-01 FOR ANY OMITTED DIMENSIONS OR CALLOUTS RELATED TO CLEANOUT DESIGN CRITERIA.
3. RECOMMENDED MAX CLEANOUT SPACING = 150-FT O.C.
4. PLACE OBSERVATION WELLS STRATEGICALLY AS TO MEASURE BMP PERFORMANCE; PER DESIGN PLANS.
5. DISTANCE "L" IS DEPENDENT ON STREET SLOPE AND DESIGN PONDING DEPTH; DESIGN ENGINEER SHALL SPECIFY THIS DIMENSION IN THE PROJECT-SPECIFIC PLANS.
6. CONCRETE SHALL BE 520-C-2500 UNLESS OTHERWISE SPECIFIED.

SAN DIEGO COUNTY DESIGN STANDARD

CLEANOUTS & OBSERVATION WELLS ADJACENT TO CHECK DAMS

DRAWING NOT TO SCALE

REVISIONS APPROVED DATE
ORIGINAL 10-01-2019
REVISED 08-03-2021

DRAWING NUMBER GS-5.09

DRAWN BY M.W.B. CHECKED BY M.W.B.
RECOMMENDED BY: CHARLES MOHLOCK, P.E.
APPROVED BY COUNTY ENGINEER

WILLIAM P. MORGAN, P.E.
R.C.E. NO. 49452, EXP 9/30/2022
NOTES:
1. OBSERVATION WELL & CLEANOUT CAP ELEVATIONS ARE INDEPENDENT OF THE BMP PONDING DEPTHS.
2. REFER TO SDRSD SC-01 FOR ANY OMITTED DIMENSIONS OR CALLOUTS RELATED TO CLEANOUTS.
3. RECOMMENDED MAX CLEANOUT SPACING = 150-FT O.C.
4. PLACE OBSERVATION WELLS STRATEGICALLY AS TO MEASURE BMP PERFORMANCE; PER DESIGN PLANS.
5. OVERFLOW RISER MATERIAL AS SPECIFIED PER PROJECT-SPECIFIC DESIGN PLANS.
6. OVERFLOW RISERS LARGER THAN 12-INCH DIAMETER SHALL DRAIN DIRECTLY TO PUBLIC STREET FACILITIES PER GS-5.12 & GS-5.13 (WHERE APPLICABLE).
7. MINIMUM OVERFLOW RISER GRATE OPENING SIZE SHALL BE 1-1/4"; GRATE SHALL FIT SNUG AND BE REMOVABLE FOR MAINTENANCE PURPOSES.
8. DISTANCE "L" IS DEPENDENT ON STREET SLOPE AND DESIGN PONDING DEPTH; REFER TO PROJECT-SPECIFIC DESIGN PLANS FOR SAID DIMENSION.

SAN DIEGO COUNTY DESIGN STANDARD

CLEANOUTS, OBSERVATION WELLS, & OVERFLOW RISERS ADJACENT TO BMP LIMITS

REVISIONS
ORIGINAL 10-01-2019
REVISED 03-06-2021

DRAWING NUMBER GS-5.10
NOTES:
1. REFER TO SDORSD SC-01 FOR ANY OMITTED DIMENSIONS OR CALLOUTS RELATED TO CLEANOUT DESIGN CRITERIA.
2. RECOMMENDED MAX CLEANOUT SPACING = 150-FT O.C.
3. PLACE OBSERVATION WELLS STRATEGICALLY AS TO MEASURE BMP PERFORMANCE; PER DESIGN PLANS.
4. FIELD CUT PAVERS AS NECESSARY FOR PLACEMENT OF CONCRETE RINGS.
5. CONCRETE APRONS ARE RECOMMENDED TO BE INSTALLED AROUND CLEANOUTS AND OBSERVATION WELLS SUBJECT TO VEHICULAR LOADING; PER DESIGN PLANS.
6. FOR AREAS SUBJECT TO VEHICULAR TRAFFIC, LOCKABLE CAPS SHALL BE BRASS AND RATED FOR HS-20 LOADING.
7. LOCKABLE CAPS SHALL BE MOUNTED FLUSH TO GRADE, WITH MATERIAL AS APPROVED BY AGENCY.
NOTES:
1. STREET IMPROVEMENTS AND DRAINAGE STRUCTURES SHALL BE CONSTRUCTED ACCORDING TO THE LATEST SAN DIEGO REGIONAL STANDARD DRAWINGS AND CALTRANS STANDARD PLANS.
2. SEAL PLASTIC LINER TO ADJACENT IMPROVEMENTS AND EDGE RESTRAINTS PER GS-5.15.
3. LINER PENETRATION MATERIALS, MEANS & METHODS TO BE SPECIFIED PER PROJECT-SPECIFIC DESIGN PLANS & SPECIFICATIONS.
NOTES:
1. STREET IMPROVEMENTS AND DRAINAGE STRUCTURES SHALL BE CONSTRUCTED ACCORDING TO THE LATEST SAN DIEGO REGIONAL STANDARD DRAWINGS AND CALTRANS STANDARD PLANS.
2. SEAL PLASTIC LINER TO ADJACENT IMPROVEMENTS AND EDGE RESTRAINTS PER GS-5.15.
3. LINER PENETRATION MATERIALS, MEANS & METHODS TO BE SPECIFIED PER MANUFACTURER'S RECOMMENDATIONS.
4. WHEN "L" IS LESS THAN 20', PLACE CLEANOUT AT MIDWAY POINT (I.E. L/2).
5. WHEN "L" EXCEEDS 20', PLACE CLEANOUT 10' DOWNSTREAM OF STORMWATER BMP AND EXTEND 18" RCP SD TO CATCH BASIN CONNECTION POINT.

SAN DIEGO COUNTY DESIGN STANDARD

DOWNSTREAM STORMWATER FACILITY CONNECTION DETAIL (LX10)

DRAWING NOT TO SCALE

REVISIONS

ORIGINAL
10-01-2019

REVISED
03-08-2021

DRAWING NUMBER GS-5.13

WILLIAM P. MORGAN, P.E.
R.C.E. NO. 49452, EXP 3/30/2022
PLAN VIEW

SECTION A-A (TYPE 1 CHECK DAM)

SECTION A-A (TYPE 2 CHECK DAM)

NOTEs:
1. location, height, and width of check dams per the design plans.
2. concrete check dam shall be a continuous pour (no joints).
3. concrete shall be 520–C–2500 unless otherwise specified.
4. parallel street parking prohibited with this BMP.

SAN DIEGO COUNTY DESIGN STANDARD

CONCRETE CHECK DAM

DRAWING NOT TO SCALE

DRAWN BY NICK  CHECKED BY NICK

RECOMMENDED BY: CHARLES MOHRLOCK, P.E.

APPROVED BY COUNTY ENGINEER

WILLIAM P. MORGAN, P.E.

REVISIONS  APPROVED  DATE
ORIGINAL  10–01–2019
REVISED  03–08–2021

DRAWING NUMBER GS-5.14a
NOTES:
1. LOCATION, HEIGHT, AND WIDTH OF CHECK DAMS PER THE DESIGN PLANS.
2. CONCRETE CHECK DAM SHALL BE A CONTINUOUS POUR (NO JOINTS).
3. CONCRETE SHALL BE 520-C-2500 UNLESS OTHERWISE SPECIFIED.
4. PARALLEL STREET PARKING PROHIBITED WITH THIS BMP.

CONCRETE CHECK DAM

SANDIEGO COUNTY DESIGN STANDARD

DRAWN BY NHR
CHECKED BY NHR
RECOMMENDED BY: CHARLES MORGAN, P.E
APPROVED BY COUNTY ENGINEER
WILLIAM P. MORGAN, P.E
R.C.E. NO. 40452, EXP 3/30/2022

SAN DIEGO COUNTY DESIGN STANDARD

CONCRETE CHECK DAM

DRAWN NUMBER GS-5.14b

REVISIONS
APPROVED
DATE

ORIGINAL 10-01-2019
REvised 03-06-2021

DRAWING NOT TO SCALE
NOTES:
1. On clean concrete surface, adhere liner to concrete with silicone sealant or equivalent per manufacturer recommendations to top 3/8" of liner.
2. Secure liner to concrete with 2" aluminum or stainless steel flat bar as directed per plan.
3. As an alternative, hit anchors can be substituted with stainless steel anchors at 24" O.C. or powder actuated fasteners at 12" O.C.
4. Trim excess liner to be flush with surface elevation.
5. Contractor means and methods should avoid/minimize wrinkles to the liner.
6. Parallel street parking prohibited with this BMP.