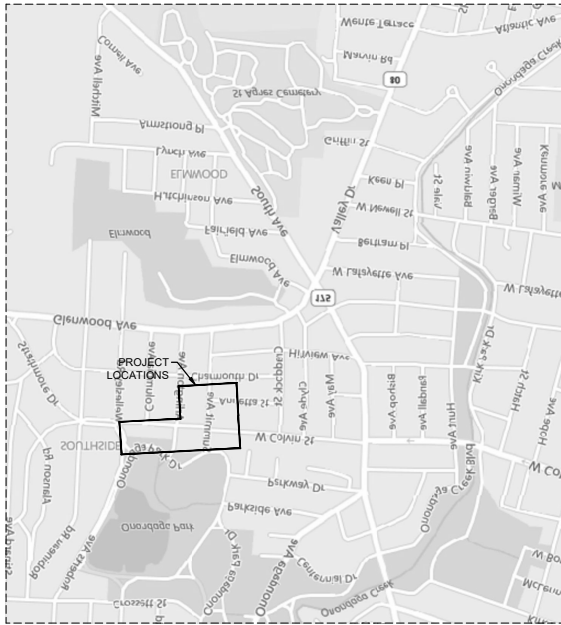


CONTRACT DRAWINGS



SITE LOCATION MAP
NOT TO SCALE

CSO-052 GREEN STREETS
CONTRACT NO. 1
BID REF. NO. ONGOV-004-0019

FAIRFIELD, HUTCHINSON, FLETCHER AND EDGEWOOD AVENUES

Save the Rain
ONONDAGA COUNTY DEPARTMENT OF
WATER ENVIRONMENT PROTECTION
SYRACUSE, NEW YORK

JANUARY 2019



O'BRIEN & GERE ENGINEERS, INC.

333 WEST WASHINGTON STREET
SYRACUSE, NY 13202
PHONE: (315) 956-6100
FAX: (315) 463-7554



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INDEX TO DRAWINGS

| | |
|-------|---|
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RECORD DRAWINGS

To the best of our knowledge, information and belief, these record drawings substantially represent the project as constructed.

O'BRIEN & GERE ENGINEERS, INC.

By:



FRANK MENTO, COMMISSIONER
ONONDAGA COUNTY
DEPARTMENT OF WATER ENVIRONMENT PROTECTION
650 HIAWATHA BLVD., W
SYRACUSE, NY 13204

SURVEY NOTES:

1. THIS TOPOGRAPHIC SURVEY WAS PREPARED BY BRYANT ASSOCIATES, P.C., (SYRACUSE, NY).
2. HORIZONTAL DATUM: NEW YORK STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE, NAD 83.
3. VERTICAL DATUM: NAVD 88
4. BENCHMARKS AS SHOWN ON THE DRAWINGS.
5. LOCATE, PROTECT, AND MAINTAIN ALL EXISTING CITY OF SYRACUSE SURVEY MONUMENTS AT ALL TIMES DURING CONSTRUCTION. EXISTING SURVEY MONUMENTS SHALL NOT BE DISTURBED OR DAMAGED. INQUIRIES REGARDING SURVEY MONUMENTS SHALL BE DIRECTED TO THE CITY OF SYRACUSE DEPARTMENT OF ENGINEERING, MAPPING DIVISION, AT (315) 448-4600.

ABBREVIATIONS

| | |
|--------|---|
| CB | CATCH BASIN |
| CBP | CAST IRON PIPE |
| COMM | COMMUNICATION |
| CONC | CONCRETE |
| DA | DRAINAGE AREA |
| DA | DAMETER |
| DWG | DRAWING |
| EL | ELEVATION |
| ELEC | ELECTRIC |
| EXST | EXISTING |
| FT | FOOT, FEET |
| FH | FIRE HYDRANT |
| G | NATURAL GAS |
| HDPE | HIGH-DENSITY POLYETHYLENE |
| HORIZ | HORIZONTAL |
| INVT | INVERT |
| LF | LINEAR FOOT, LINEAR FEET |
| MAX | MAXIMUM |
| MH | MANHOLE |
| MIN | MINIMUM |
| MON | CITY OF SYRACUSE MONUMENT |
| No. | NUMBER |
| NTS | NOT TO SCALE |
| NYSOT | NEW YORK STATE DEPARTMENT OF TRANSPORTATION |
| OHE | OVERHEAD ELECTRIC |
| OHT | OVERHEAD TELEPHONE |
| QC | ON CENTER |
| PC | POINT OF CURVATURE |
| PERF | PERFORATED |
| PT | POINT OF TANGENCY |
| PVC | POLYVINYL CHLORIDE |
| R/W | RIGHT-OF-WAY |
| RCP | REINFORCED CONCRETE PIPE |
| R.O.C. | RUN-OF-CRUISHER |
| SAN | SANITARY |
| ST | STORM |
| TOC | TOP OF CURB, OR TOP OF CASTING |
| TYP | TYPICAL |
| UNK | UNKNOWN |
| US | UNDERGROUND |
| VSP | VITRIFIED CLAY PIPE |
| VERT | VERTICAL |
| w | POTABLE WATER |

LEGEND

| | |
|--|-------------------------------------|
| | PROPOSED INFILTRATION TRENCH |
| | PROPOSED TREE OR SHRUB |
| | EXISTING CONTOUR |
| | EXISTING SIGN |
| | EXISTING CATCH BASIN |
| | PROPOSED CATCH BASIN |
| | EXISTING SANITARY MANHOLE |
| | PROPOSED STORM MANHOLE |
| | PROPOSED CLEANOUT MANHOLE |
| | EXISTING COMBINED SEWER |
| | PROPOSED PERFORATED HDPE STORM PIPE |
| | PROPOSED SOLID HDPE STORM PIPE |
| | PROPOSED SAW CUT |

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GENERAL CONSTRUCTION NOTES:

1. EXISTING TOPOGRAPHY, STRUCTURES, AND SITE FEATURES ARE SHOWN SCREENED AND/OR LIGHT-LINED, NEW FINISH GRADE, STRUCTURES, AND SITE FEATURES ARE SHOWN HEAVY-LINED.
2. NOTIFY DIG SAFELY NEW YORK (811) AT LEAST 72 HOURS PRIOR TO CONSTRUCTION.
3. CONTRACTOR SHALL NOTIFY THE CITY OF SYRACUSE DEPT. OF WATER, SYRACUSE POLICE AND FIRE DEPTS. AND CENTRO BUS SERVICE AT LEAST 48 HOURS PRIOR TO BEGINNING CONSTRUCTION.
4. ALL DISTURBED SIGNS SHALL BE RE-INSTALLED PER THE STANDARD DETAILS, ACCORDING TO THE MOST CURRENT CODE IN THE SAME LOCATION, UNLESS OTHERWISE NOTED.
5. COORDINATES AND DIMENSIONS SHOWN FOR ROADWAY IMPROVEMENTS ARE TO FACE OF CURB OR EDGE OF PAVEMENT.
6. PROVIDE TEMPORARY FENCING TO MAINTAIN SAFETY AND SECURITY AT ALL TIMES.
7. ELEVATIONS GIVEN ARE TO FINISH GRADE UNLESS OTHERWISE NOTED.
8. SLOPE UNIFORMLY BETWEEN CONTOURS AND SPOT ELEVATIONS SHOWN.
9. UNLESS SHOWN, ALL DISTURBED AREAS NOT RECEIVING A HARD SURFACE SHALL BE RESTORED WITH GRASS AS SPECIFIED.
10. PROVIDE EROSION AND SEDIMENT CONTROL MEASURES WHERE AND WHEN APPROPRIATE AS PER THE NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL (NOVEMBER 2016). PROTECT EXISTING SITE FEATURES UNLESS OTHERWISE NOTED. CONSULT ENGINEER PRIOR TO INFILTRATION TRENCH INSTALLATION.
11. CONTRACTOR SHALL TAKE ALL OTHER MEASURES TO POSITIVELY PRECLUDE ERODED MATERIALS FROM LEAVING THE SITE. CONTRACTOR TO SUBMIT EROSION CONTROL PLAN.
12. EROSION CONTROLS MUST BE CONSTRUCTED, STABILIZED, AND FUNCTIONAL BEFORE SITE DISTURBANCE BEGINS WITHIN THE TRIBUTARY AREAS OF THOSE CONTROLS.
13. AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY EROSION CONTROLS MUST BE REMOVED. AREAS DISTURBED DURING REMOVAL OF THE CONTROLS MUST BE STABILIZED IMMEDIATELY.
14. UNTIL THE SITE IS STABILIZED, ALL EROSION CONTROLS MUST BE MAINTAINED PROPERLY. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL EROSION CONTROLS AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, RE-GRADING, RE-SEEDING, RE-MULCHING AND RE-NETTING, MUST BE PERFORMED IMMEDIATELY IF EROSION CONTROLS FAIL TO PERFORM AS EXPECTED, REPLACEMENT CONTROLS, OR MODIFICATIONS OF THOSE INSTALLED WILL BE REQUIRED.
15. PROTECT INFILTRATION TRENCH SUBGRADE FROM SEDIMENT DEPOSITION AND/OR COMPACTION DURING CONSTRUCTION. DO NOT ALLOW CONSTRUCTION VEHICLES TO TREAD ON THE INFILTRATION BED SUBGRADE.
16. CONTRACTOR SHALL FOLLOW INFILTRATION TRENCH AND DRAINAGE CONTROL REQUIREMENTS AS SPECIFIED BY ENGINEER.
17. ALL CATCH BASINS, EXISTING AND PROPOSED, THAT ARE TRIBUTARY TO THE INFILTRATION PRACTICES SHALL BE FITTED WITH A CATCH BASIN FILTER INSERT (ADS FLEXSTORM PURE FX FILTER OR APPROVED EQUAL). FILTER INSERTS SHALL BE INSTALLED PRIOR TO CONNECTING CATCH BASIN TO INFILTRATION PRACTICE.
18. ALL CATCH BASINS CONNECTED TO SEWER NEED TO BE INSTALLED WITH A CAST IRON TRAP (EJ 5954 OR APPROVED EQUAL).
19. AGGREGATE FOR STORMWATER INFILTRATION TRENCHES SHALL BE CLEAN-WASHED PRIOR TO PLACEMENT.
20. MAINTAIN LOOSE AND UNDISTURBED STORMWATER INFILTRATION TRENCH SUBGRADE. SCARIFY TOP 6 INCHES. DO NOT ALLOW CONSTRUCTION EQUIPMENT ON TRENCH BOTTOM SURFACE.
21. VERIFY ALL EXISTING UTILITIES AND OTHER IMPROVEMENTS PRIOR TO START OF WORK AND IMMEDIATELY NOTIFY ENGINEER OF POTENTIAL CONFLICTS WITH PROPOSED WORK.

22. WATER/SEWER CROSSING SHALL MEET REQUIREMENTS SHOWN ON DETAIL SHEET C-501.
23. CONTRACTOR SHALL NOTIFY THE CITY OF SYRACUSE DEPT. OF PUBLIC WORKS AT LEAST 48 HOURS IN ADVANCE OF CONNECTING TO SEWER MAINS OR LATERALS. CITY DPW MUST WITNESS THE CONNECTION. IF CITY DPW DOES NOT WITNESS CONNECTION, THE CONTRACTOR WILL BE RESPONSIBLE FOR RE-EXCAVATING AROUND THE CONNECTION FOR CITY DPW APPROVAL. CONNECTION TO SEWER MAIN OR LATERALS MUST BE PERFORMED BY A NYS LICENSED PLUMBER AND REQUIRES A PLUMBING PERMIT THROUGH ONONDAGA COUNTY.
24. CONNECTIONS TO THE COMBINED SEWER THAT HAVE BEEN DESIGNATED TO BE PLUGGED, SHALL BE ABANDONED IN THE FOLLOWING MANNER:
 - AT EXISTING CATCH BASIN: PLUG OPENING WITH BRICK AND MORTAR.
 - AT EXISTING PIPE: PLUG WITH A FERROD QUIK CAP OR EQUAL, ENCASED IN CONCRETE.
25. PROTECT EXISTING TREES DURING CONSTRUCTION, AND CRITICAL ROOT ZONES (CRZ) UNDER DRIP LINES OFF TREE CANOPY FROM COMPACTION BY EQUIPMENT. CONSTRUCTION MATERIAL NOT TO BE STORED ON GRASS IN TREE DRIP LINE.
26. UNLESS OTHERWISE NOTED, EXISTING GRANITE CURBING IS TO BE LEFT IN PLACE OR REPLACED TO THE NEAREST JOINT FROM THE DISTURBED AREA. ANY NEW OR RESET CURBING MUST HAVE THE JOINTS MORTARED.
27. WHEN ENCOUNTERED WITHIN THE REQUIRED STORMWATER FACILITY EXCAVATION, CONTRACTOR SHALL WRAP EXISTING UTILITIES WITH 40 MIL GEOMEMBRANE SHEETING AND SECURE WITH PVC TAPE AT 2 FT OC (MAX.). OVERLAP SHEETING BY 2 FT (MIN.); EXTEND SHEETING 12 INCHES BEYOND BOTH ENDS OF STORMWATER FACILITY OVERLAP GEOMEMBRANE SHEETING A MINIMUM OF 1/4 OF THE PIPE CIRCUMFERENCE AND ENSURE OVERLAP RUNS ALONG CROWN OF PIPE. SLEEVES AND CASINGS SHALL BE MOISTURE-FREE BEFORE SEALING.
28. WHERE DISTURBED DURING CONSTRUCTION, ALL EXISTING MANHOLE AND CATCH BASIN FRAMES AND COVERS SHALL BE REINSTALLED UPON A MINIMUM OF 2 COURSES OF BRICK, WHICH SHALL BE REPLACED IN KIND. THIS WORK SHALL BE PERFORMED AT THE CONTRACTOR'S EXPENSE.
29. CONTRACTOR SHALL PREPARE A TRAFFIC CONTROL PLAN FOR VEHICULAR AND PEDESTRIAN TRAFFIC IN ACCORDANCE WITH THE FEDERAL HIGHWAY ADMINISTRATION MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS (MUTCD). TRAFFIC CONTROL PLAN SHALL BE APPROVED BY THE CITY OF SYRACUSE PRIOR TO THE COMMENCEMENT OF ALL CONSTRUCTION ACTIVITIES. ALL TRAFFIC CONTROL DEVICES SHALL REMAIN IN PLACE AND PROPERLY MAINTAINED FOR THE DURATION OF THE WORK.
30. WHERE DISTURBED, CONCRETE SIDEWALK TO BE REPLACED IN FULL WIDTH TO CLOSEST JOINT FROM DISTURBED AREA.
31. ADJUST TOPS OF EXISTING DRAINAGE STRUCTURES TO ENSURE POSITIVE DRAINAGE, IN ACCORDANCE WITH NYSOT STANDARD SHEET 604-2.
32. AT CLOSE OF PROJECT, AS-BUILT RECORD DRAWINGS VERIFYING ALL STRUCTURE ELEVATIONS SHALL BE COMPLETED BY A NYS LICENSED SURVEYOR. GPS COORDINATES ARE REQUIRED FOR ALL CLEANOUT TOPS.
33. AT CLOSE OF PROJECT, CONTRACTOR SHALL VACUUM ALL STRUCTURES CONNECTED TO GI PRACTICES AND CLEAN FILTER INSERTS WITHIN PROJECT AREA.
34. ALL WATER VALVE BOXES, SEWER CLEANOUTS, AND SEWER VENTS SHALL BE RESET TO MATCH NEW GRADES.
35. LEAD WATER SERVICES ENCOUNTERED DURING THE PROJECT WILL NEED TO BE REPLACED FROM THE MAIN TO THE CURB BOX. COORDINATE LEAD SERVICE REPLACEMENT WITH SYRACUSE WATER DEPARTMENT FOR PRIVATE SIDE REPLACEMENT. REFERENCE DETAIL TU 01.
- 35.1. RECORD INFORMATION FROM THE CITY OF SYRACUSE LISTS LEAD SERVICES AT: 125 FAIRFIELD AVE., 129 FAIRFIELD AVE., 131 FAIRFIELD AVE., 135 FAIRFIELD AVE., AND 116 HUTCHINSON AVE.
- 35.2. LEAD WATER SERVICE REPLACEMENTS: 129, 131, 135 FAIRFIELD AVE., 200, 300 HUTCHINSON AVE. REPLACED. 116 HUTCHINSON AVE. (PRIVATE SIDE LEAD REPLACED, MAIN TO CURB BOX EXISTING COPPER), 125 FAIRFIELD AVE. NOT REPLACED.
36. ALL STORM SEWER STRUCTURES AND LATERALS WITHIN WORK AREA TO BE CLEANED AND INSPECTED PRIOR TO CONNECTING OVERFLOWS.
37. IF A LATERAL IS FOUND DAMAGED, CONTACT THE ENGINEER IMMEDIATELY.
38. IF FIRE HYDRANT/WATER MAIN LEAKS ARE FOUND CONTACT THE ENGINEER AND SYRACUSE WATER DEPT IMMEDIATELY.
39. ALL ADA SIDEWALK RAMP INSTALLATIONS SHALL MEET THE CURRENT NYSOT STANDARDS. ALL SIDEWALKS SHALL BE ADA COMPLIANT. SEE BELOW NOTES REGARDING CITY OF SYRACUSE SIDEWALK/ADA REPLACEMENT.
40. CONTRACTOR MUST MAINTAIN 18-INCHES OF SEPARATION FROM GAS MAINS. ALL GAS MAIN CROSSINGS NEED TO BE LIMITED TO 3-FEET IN WIDTH. NATIONAL GRID MUST BE PRESENT TO WITNESS CROSSINGS.
41. ASPHALT TO BE MILLED FROM THE INSIDE EDGE OF TRENCHES TO THE EDGE OF ASPHALT.
42. ANTI-SEEP COLLARS SHALL BE PLACED IN LOCATIONS WHERE PIPE IS LEAVING AN INFILTRATION TRENCH AND HAS GREATER THAN 10-FEET DISTANCE TO CATCH BASIN OR MANHOLE.

CITY OF SYRACUSE SIDEWALK/ADA RAMP REPLACEMENT NOTES:

1. ADA RAMP REPLACEMENT IS REQUIRED IF ADA RAMPS ARE DIRECTLY DISTURBED, OR IF ROADWAY MILLING AND PAVING OPERATIONS EXTEND INTO INTERSECTIONS AND AROUND ADA RAMPS. IF ONE ADA RAMP IS DISTURBED, THE REMAINING ADA RAMPS WITHIN THE INTERSECTION ARE ALSO REQUIRED TO BE REPLACED AND BROUGHT INTO ADA COMPLIANCE, IF NOT ALREADY COMPLIANT.
2. WHEN REPLACING ADA RAMPS, THE CONTRACTOR IS REQUIRED TO EXTEND INSTALLATION OF ADA COMPLIANT SIDEWALK A MAXIMUM OF 15 FEET BEYOND THE ADA RAMP TO TIE INTO THE EXISTING SIDEWALK. THE LAST FLAG OF SIDEWALK REPLACEMENT MAY BE PLACED OUT OF ADA COMPLIANCE TO FACILITATE TYING INTO EXISTING SIDEWALK.
3. AT MID-BLOCK SIDEWALK REPLACEMENTS (I.E. NOT AT ADA RAMPS) THE CONTRACTOR SHALL REPLACE THE DISTURBED SIDEWALK FLAGS AND ONE ADDITIONAL NON-COMPLIANT FLAG ON EITHER SIDE OF REPLACED FLAGS TO TIE INTO THE EXISTING SIDEWALK.
4. WHEN INSTALLING NEW SIDEWALK THAT REPLACES SIDEWALK THAT WAS PREVIOUSLY LESS THAN THE STANDARD 5' WIDTH, THE CONTRACTOR SHALL MAINTAIN THE BACK EDGE OF THE SIDEWALK AND EXTEND THE ADDED SIDEWALK WIDTH TOWARD CURB, UNLESS OTHERWISE APPROVED BY THE ENGINEER.
5. WHEN NEW SIDEWALK ENCLOSED UPON EXISTING MATURE TREES, THE SIDEWALK WIDTH IS ALLOWED TO DECREASE TO MINIMUM 4' WIDTH AROUND THE TREE. THE TEMPORARY DECREASE IN SIDEWALK WIDTH AROUND TREES MUST BE APPROVED BY THE ENGINEER PRIOR TO PLACEMENT.

RECORD DRAWINGS
To the best of our knowledge, information and belief, these record drawings substantially represent the project as constructed.

O'BRIEN & GERE ENGINEERS, INC.

By: *[Signature]*



| | | | | | |
|--------------|-------------|------------|-----------------|----------|-----|
| IN CHARGE OF | R. GANLEY | | | | |
| DESIGNED BY | M. LASELL | | | | |
| CHECKED BY | C. FIORELLO | 11/06/2020 | RECORD DRAWINGS | JER | |
| DRAWN BY | S. JOHNSON | 01/24/2019 | ISSUED FOR BID | RCG | |
| | | NO | DATE | REVISION | INT |


O'BRIEN & GERE ENGINEERS, INC
333 WEST WASHINGTON ST. SYRACUSE, NY 13221

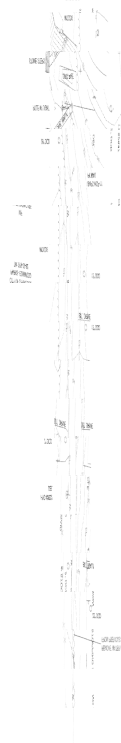
ONONDAGA COUNTY DEPARTMENT OF WATER ENVIRONMENT PROTECTION
GREEN STREETS - CSO-052
SYRACUSE, NEW YORK

GENERAL NOTES, LEGEND & ABBREVIATIONS

| | |
|----------|----------------|
| FILE NO. | 115 63990 -022 |
| DATE | JANUARY 2019 |

C-001

EXISTING SURVEY PROVIDED FOR FAIRFIELD AND HUTCHINSON AREA



EXISTING SURVEY PROVIDED FOR FAIRFIELD AND HUTCHINSON AREA

| STATION | DESCRIPTION | ELEV. (FT) |
|---------|----------------|------------|
| 10+00 | FAIRFIELD AVE | 551.34 |
| 10+00 | HUTCHINSON AVE | 551.91 |
| 10+00 | EDGEWOOD AVE | 552.92 |
| 10+00 | ... | ... |

| TABLE OF STRUCTURES | | | | | | | |
|--|-----------|--------------|----------|-----------------|---------------------|------------------|---|
| PRACTICE | CLEANOUTS | STRUCTURE ID | STATUS | TYPE | CONNECTION TO C.S. | CB FILTER INSERT | COMMENTS |
| FAIRFIELD IT #1 BIORETENTION | 0 | CB-2647 | EXISTING | N/A | U-PIPE | NO | |
| | | CB-FA1 | NEW | TYPE A (DR. 04) | HOOD & WEIR | YES | LOCKABLE DOMED GRATE |
| | | NEW-CB | NEW | TYPE A (DR.04) | NO | YES | |
| FAIRFIELD IT #2 STORMWATER CHAMBERS | 2 | CB-FA2 | NEW | TYPE A (DR.04) | NO | YES | |
| | | CB-FA3 | NEW | TYPE A (DR.04) | HOOD & WEIR | YES | NEW CONNECTION TO C.S. |
| FLETCHER IT #1 | 4 | CB-1794 | REPLACE | TYPE A (DR.04) | HOOD & WEIR | YES | |
| | | CB-2011 | REPLACE | TYPE A (DR.04) | NO | YES | |
| | | CB-FL1 | NEW | TYPE A (DR.04) | NO | YES | |
| EDGEWOOD IT #1 | 4 | CB-1504 | REPLACE | TYPE A (DR.04) | NO | YES | |
| | | CB-1649 | EXISTING | N/A | U-PIPE DOWN PIPE | YES | DOUBLE UNDERDRAINS FOR DRAIN DOWN CONNECTION TO SAN MH-0005 |
| | | CB-1656 | REPLACE | TYPE A (DR.04) | NO | YES | |
| | | STORMMH-E-1 | NEW | ROUND (DR.07) | NO | NO | SOLID COVER |
| | | CB-1385 | EXISTING | N/A | NO | YES | |
| | | CB-1622 | REPLACE | TYPE A (DR.04) | HOOD & WEIR | YES | |
| | | STORMMH-E-2 | NEW | ROUND (DR.07) | NO | NO | SOLID COVER |
| HUTCHINSON IT #1A GRASSED INFILTRATION | 2 | CB-2212 | REPLACE | TYPE A (DR.04) | NO | YES | CONTRACTOR SHALL DIG TEST PIT AND CONSULT WITH ENGINEER PRIOR TO CONSTRUCTION |
| | | CB-2356 | REPLACE | TYPE A (DR.04) | HOOD | YES | |
| HUTCHINSON IT #1B PAVED INFILTRATION TRENCH | 4 | CB-HA-1 | NEW | TYPE A (DR.04) | NO | YES | DOUBLE UNDERDRAINS FOR DRAIN DOWN CONNECTION TO SAN MH-2139 |
| | | CB-2382 | EXISTING | N/A | U-PIPE | YES | |
| | | STORMMH-H-1 | NEW | ROUND (DR.07) | HOOD | NO | SOLID COVER |
| HUTCHINSON IT #2 PAVED INFILTRATION TRENCH | 1 | CB-2221 | REPLACE | TYPE A (DR.04) | HOOD & WEIR | YES | |
| HUTCHINSON IT #3 | 0 | STORMMH-H-2 | NEW | ROUND (DR.07) | WEIR | NO | SOLID COVER |
| | | CB-HA-3 | NEW | TYPE A (DR.04) | NO | YES | |

FAIRFIELD AND HUTCHINSON AREA

| TABLE OF BENCHMARKS | | |
|---------------------|---|------------|
| BM # | DESCRIPTION | ELEV. (FT) |
| BM#1 | IRK SPIKE IN UTILITY POLE N615 AT THE NW CORNER OF FAIRFIELD AVE AND EDGEWOOD AVE | 551.34 |
| BM#2 | IRK ON N615 FOR HYDRA-ANT AT THE SE CORNER OF HUTCHINSON AVE AND EDGEWOOD AVE | 551.91 |
| BM#3 | IRK SPIKE IN UTILITY POLE N612 AT THE SW CORNER OF HUTCHINSON AVE AND RUSSELL BL | 552.92 |

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O'BRIEN & GERE ENGINEERS, INC.
By: _____



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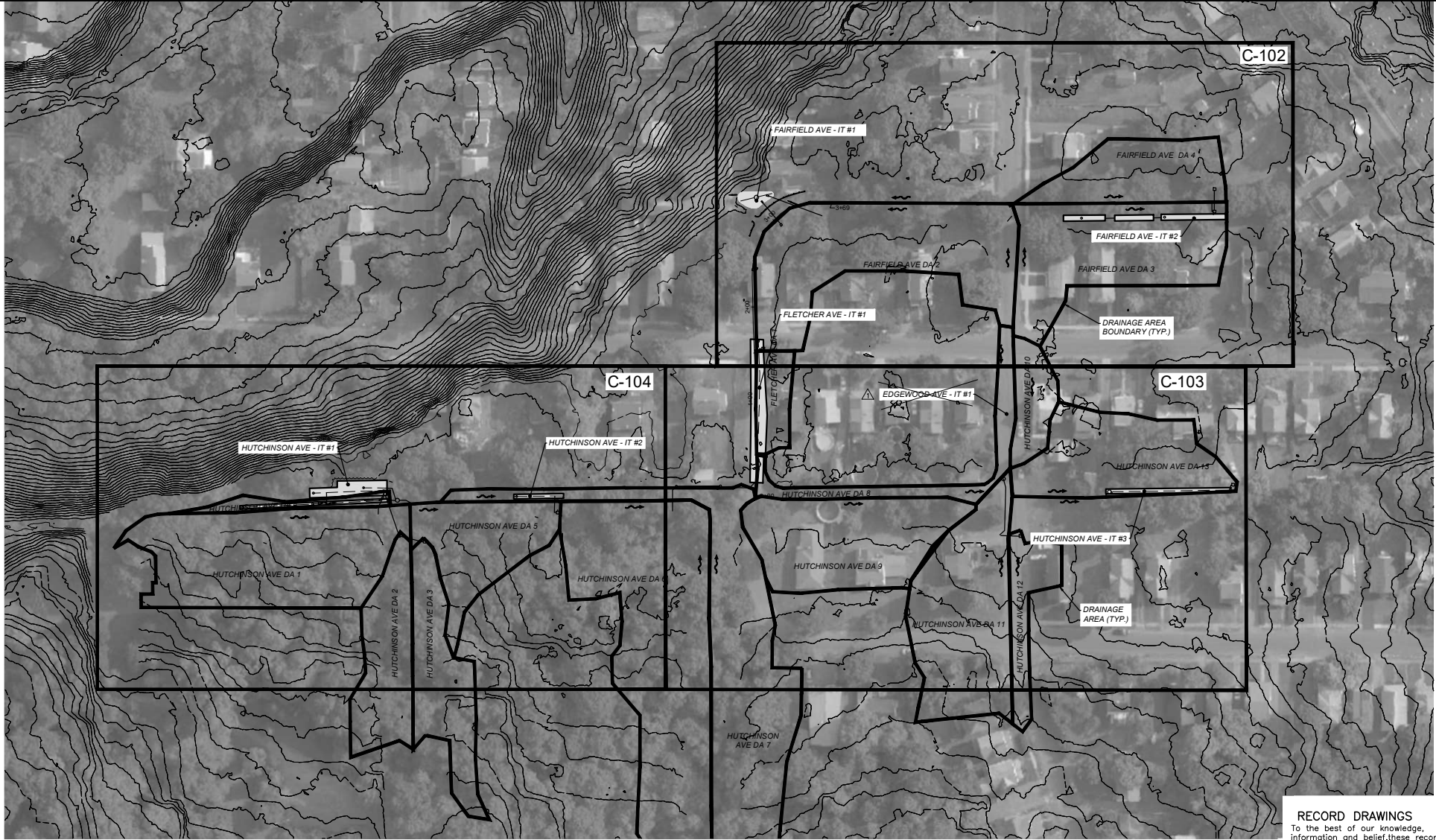
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|--------------|-------------|------------|-----------------|----------|-----|
| IN CHARGE OF | R. GANLEY | | | | |
| DESIGNED BY | M. LASELL | | | | |
| CHECKED BY | C. FIORELLO | 11/06/2020 | RECORD DRAWINGS | JEB | |
| DRAWN BY | S. JOHNSON | 01/24/2019 | ISSUED FOR BID | RCG | |
| | | NO | DATE | REVISION | INT |

O'BRIEN & GERE ENGINEERS, INC.
333 WEST WASHINGTON ST. SYRACUSE, NY 13221

ONONDAGA COUNTY DEPARTMENT OF WATER ENVIRONMENT PROTECTION
GREEN STREETS - CS0-052
SYRACUSE, NEW YORK

CIVIL
TABLE OF STRUCTURES AND EXISTING RIMS & INVERTS

FILE NO. 115 63990-023
DATE JANUARY 2019
C-002



RECORD DRAWINGS
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O'BRIEN & GERE ENGINEERS, INC.

By: _____



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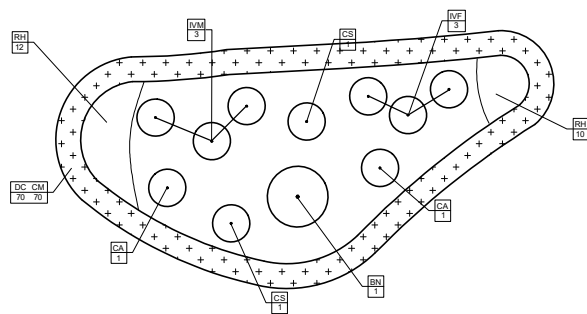
O'BRIEN & GERE ENGINEERS, INC.
 333 WEST WASHINGTON ST. SYRACUSE, NY 13221

ONONDAGA COUNTY DEPARTMENT OF
 WATER ENVIRONMENT PROTECTION
 GREEN STREETS - CSO-052
 SYRACUSE, NEW YORK

CIVIL
OVERALL PLAN

| | | |
|----------|---------------|-------|
| FILE NO. | 115 63990-006 | C-101 |
| DATE | JANUARY 2019 | |

SAVED: 11/09/2019 10:00 PM



VEGETATED INFILTRATION AREA - PLANTING PLAN

SCALE: 1"=40'

NOTE: PLANTS FURNISHED AND INSTALLED BY OTHERS

**PLANTING SCHEDULE - FOR REFERENCE ONLY
PLANTS SUPPLIED AND INSTALLED BY OTHERS**

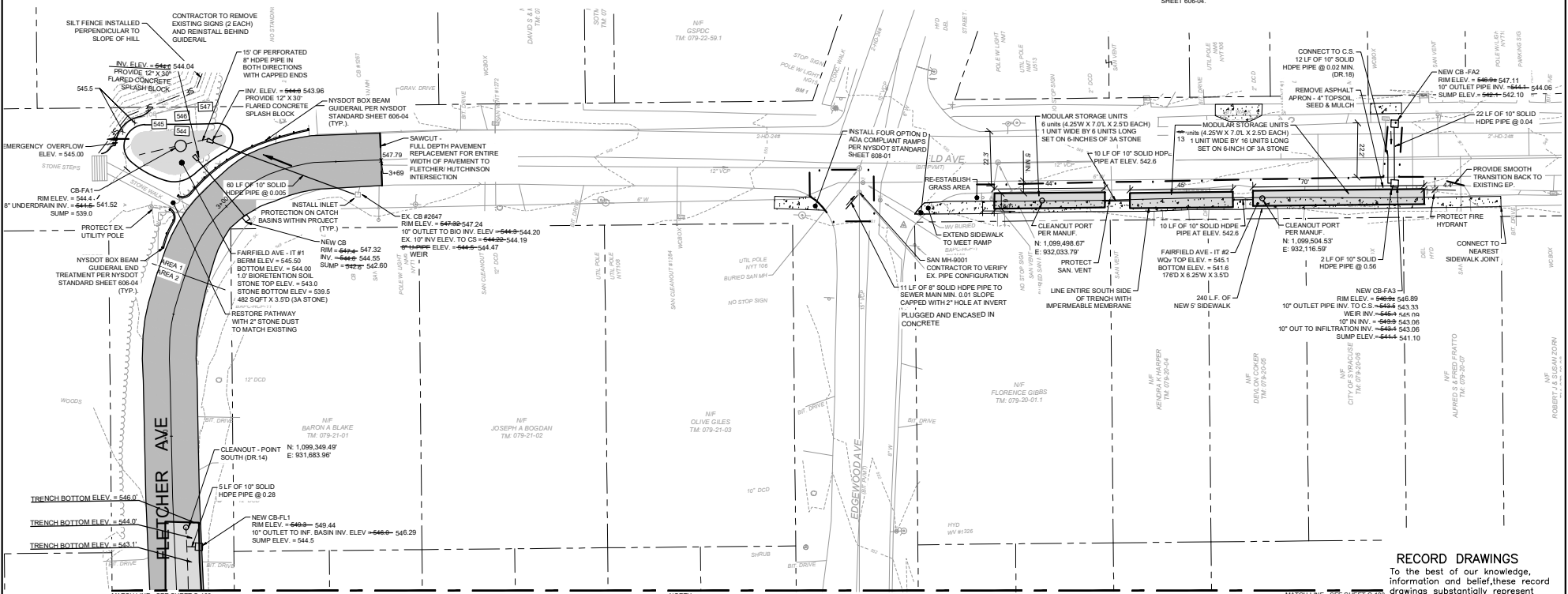
GRASSES, SEDGES AND PERENNIALS

| KEY | BOTANICAL NAME COMMON NAME | SIZE | ROOT | REMARKS |
|-----|---|-------|------|---------|
| CM | CAREX MUSKINGSUMENSIS PALM SEDGE | DP 50 | PLUG | 12" OC |
| DC | DESCHAMPSIA CAESPITOSA TUFTED HAIR GRASS | DP 50 | PLUG | 12" OC |
| RH | RUDEBECKIA HIRTA BLACK-EYED SUSAN | DP 32 | PLUG | 12" OC |

SHRUBS

| KEY | BOTANICAL NAME COMMON NAME | SIZE | ROOT | REMARKS |
|-----|--|--------|------|---------|
| BN | BETULA NIGRA 'LITTLE KING' FOX VALLEY RIVER BIRCH | 6' HGT | B-B | 6' OC |
| CA | CORNUS AMOMUM SILKY DOGWOOD | 2' HGT | CG | 4' OC |
| CS | CORNUS SERICEA 'SILVER AND GOLD' SILVER AND GOLD RED-OSIER DOGWOOD | 2' HGT | CG | 4' OC |
| IVF | ILEX VERTICILLATA 'WINTER RED' WINTER RED WINTERBERRY | 2' HGT | CG | 4' OC |
| IWM | ILEX VERTICILLATA 'SOUTHERN GENTLEMAN' SOUTHERN GENTLEMAN WINTERBERRY | 2' HGT | CG | 4' OC |

KEY IDENTIFIER OF PLANT SPECIES QUANTITY OF PLANTS REQUIRED ABBREVIATIONS: HGT (HEIGHT) CG (CONTAINER GROWN)



PLAN NOTES:
1. GUTTER RAIL TO BE INSTALLED IN ITS ENTIRETY PER NYS DOT STANDARD SHEET 606-04.

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| | | | | | |
|--------------|-------------|--------------------------------|-----|-----|-----|
| IN CHARGE OF | R. GANLEY | | | | |
| DESIGNED BY | M. LASELL | | | | |
| CHECKED BY | C. FIORELLO | | | | |
| DRAWN BY | S. JOHNSON | | | | |
| NO. | DATE | REVISION | JER | RCG | INT |
| 0 | 01/24/2019 | RECORD DRAWINGS ISSUED FOR BID | | | |



RECORD DRAWINGS
To the best of our knowledge, information and belief, these record drawings substantially represent the project as constructed.
O'BRIEN & GERE ENGINEERS, INC.
By: [Signature]

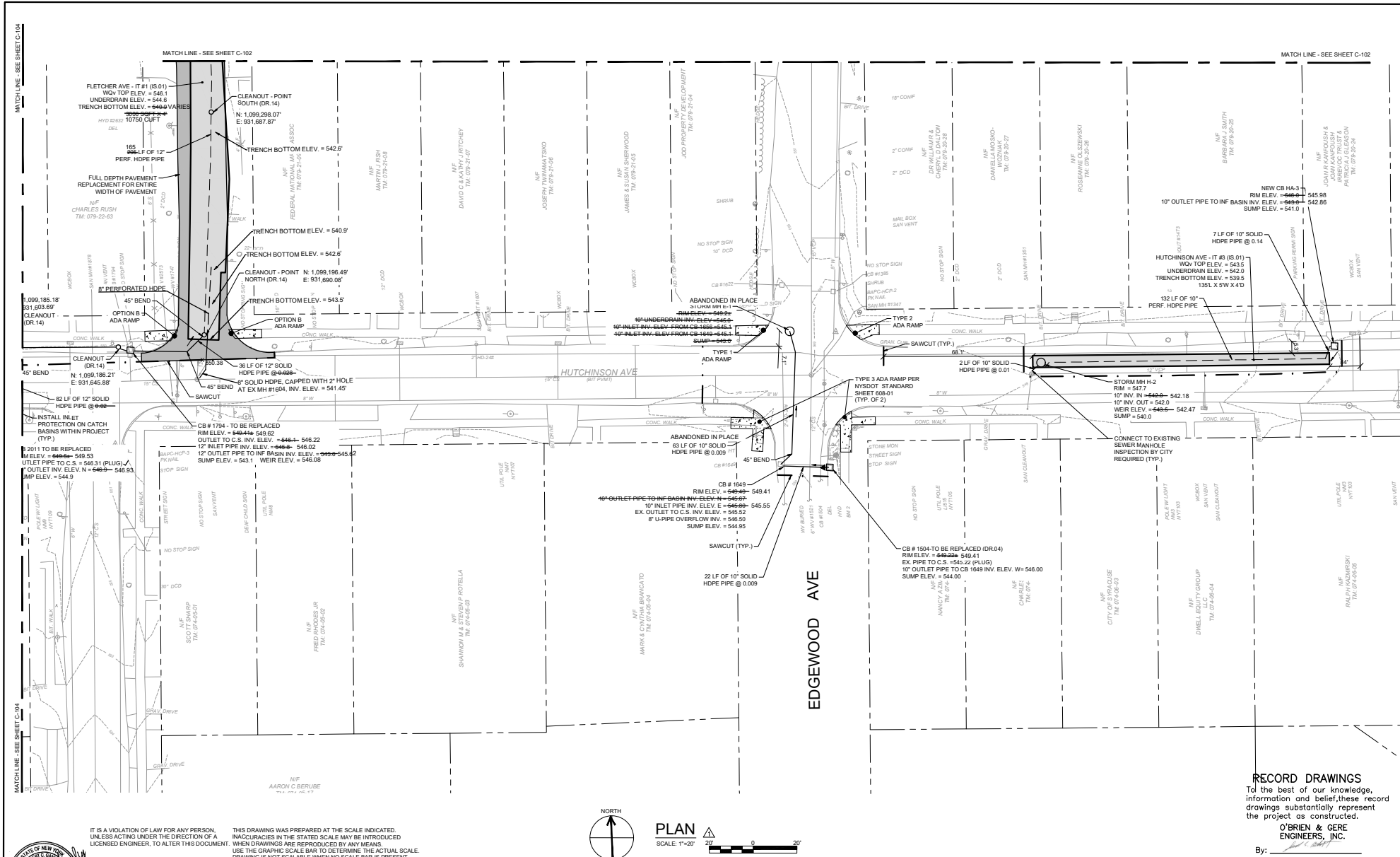
MODIFIED: 11/09/2019 09:00 AM BY: C:\DESIGN\WORKSHEETS\FAIRFIELD & HUTCHINSON\99049-C-102_001.DWG

O'BRIEN & GERE ENGINEERS, INC.
333 WEST WASHINGTON ST. SYRACUSE, NY 13221

ONONDAGA COUNTY DEPARTMENT OF WATER ENVIRONMENT PROTECTION
GREEN STREETS - CSO-052
SYRACUSE, NEW YORK

CIVIL FAIRFIELD AVE & HUTCHINSON AVE
PRACTICE AREA

| | | |
|----------|---------------|--------------|
| FILE NO. | 115.63990-007 | C-102 |
| DATE | JANUARY 2019 | |



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|--------------|-------------|------------|-----------------|----------|------|
| IN CHARGE OF | R. GANLEY | | | | |
| DESIGNED BY | M. LASELL | | | | |
| CHECKED BY | C. FIORELLO | 11/06/2020 | RECORD DRAWINGS | JEB | |
| DRAWN BY | S. JOHNSON | 01/24/2019 | ISSUED FOR BID | RCG | |
| | | NO. | DATE | REVISION | INT. |

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333 WEST WASHINGTON ST. SYRACUSE, NY 13221

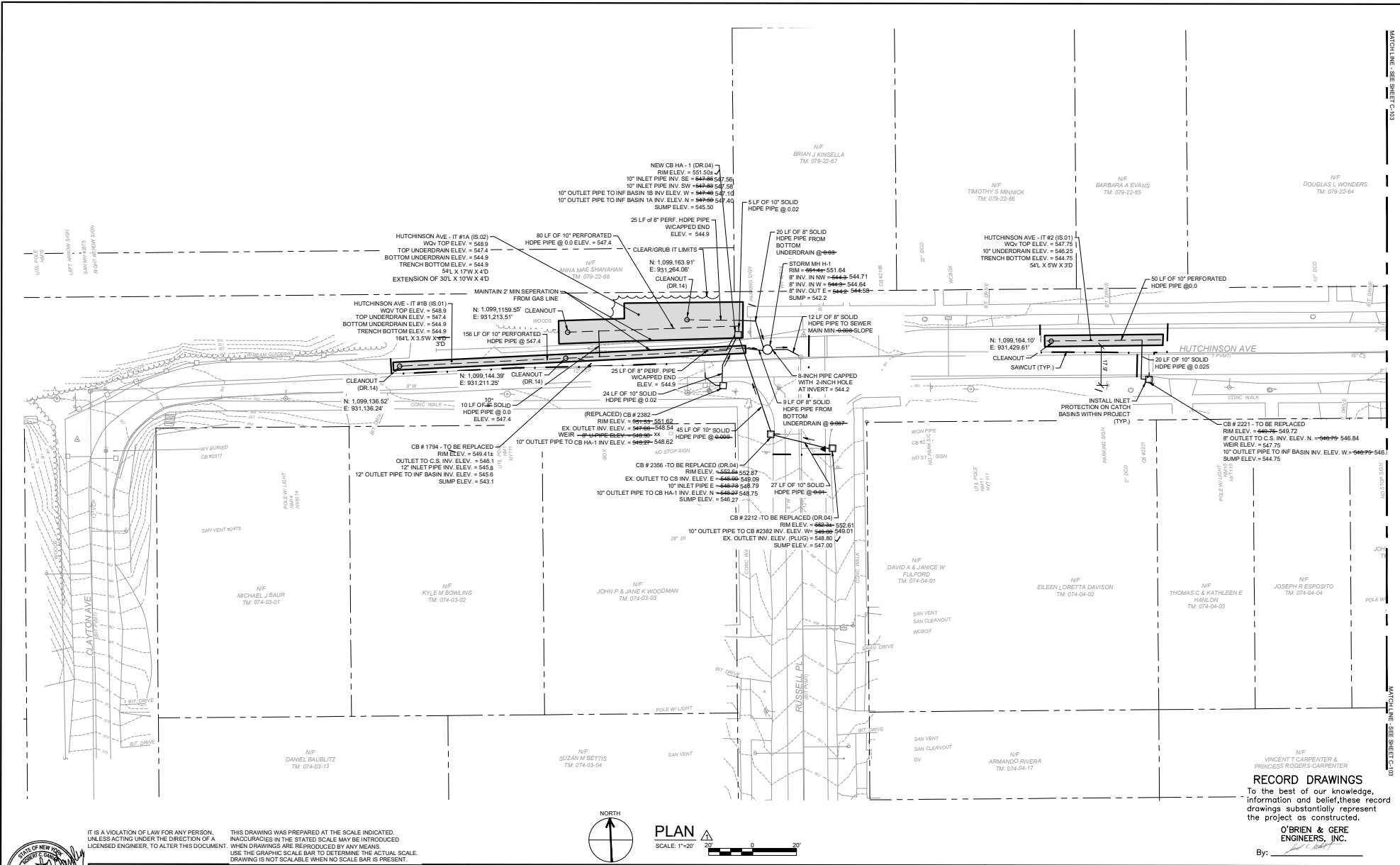
ONONDAGA COUNTY DEPARTMENT OF WATER ENVIRONMENT PROTECTION
GREEN STREETS - CSO-052
SYRACUSE, NEW YORK

CIVIL
FAIRFIELD AVE & HUTCHINSON AVE
PRACTICE AREA

| | | |
|----------|---------------|-------|
| FILE NO. | 115.63990-009 | C-103 |
| DATE | JANUARY 2019 | |
| BY: | | |

RECORD DRAWINGS
To the best of our knowledge, information and belief, these record drawings substantially represent the project as constructed.

O'BRIEN & GERE ENGINEERS, INC.



PLAN
SCALE: 1"=20'

RECORD DRAWINGS
To the best of our knowledge, information and belief, these record drawings substantially represent the project as constructed.

O'BRIEN & GERE ENGINEERS, INC.
By: *[Signature]*



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| DESIGNED BY | M. LASELL | | | | |
| CHECKED BY | C. FIORELLO | 11/06/2020 | RECORD DRAWINGS | JEB | |
| DRAWN BY | S. JOHNSON | 01/24/2019 | ISSUED FOR BID | RCG | |
| | | NO. | DATE | REVISION | INT. |

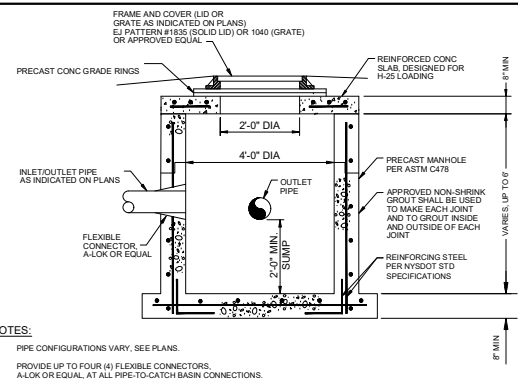
O'BRIEN & GERE ENGINEERS, INC.
333 WEST WASHINGTON ST. SYRACUSE, NY 13221

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GREEN STREETS - CSO-052
SYRACUSE, NEW YORK

CIVIL
FAIRFIELD AVE & HUTCHINSON AVE
PRACTICE AREA

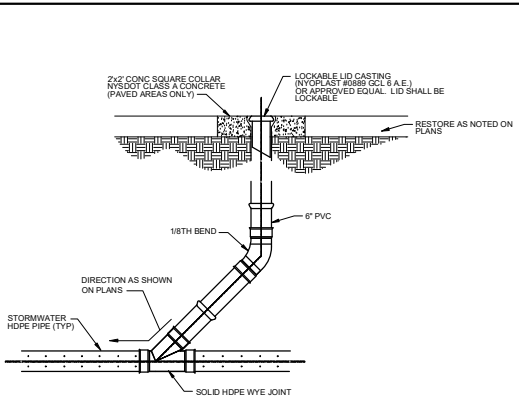
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| FILE NO. | 115.63990-008 | C-104 |
| DATE | JANUARY 2019 | |

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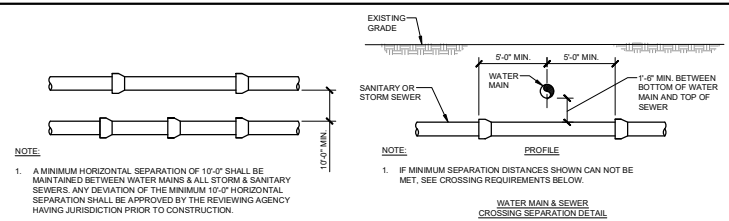


- NOTES:**
- PIPE CONFIGURATIONS VARY. SEE PLANS.
 - PROVIDE UP TO FOUR (4) FLEXIBLE CONNECTORS, A-LOK OR EQUAL, AT ALL PIPE-TO-CATCH BASIN CONNECTIONS.

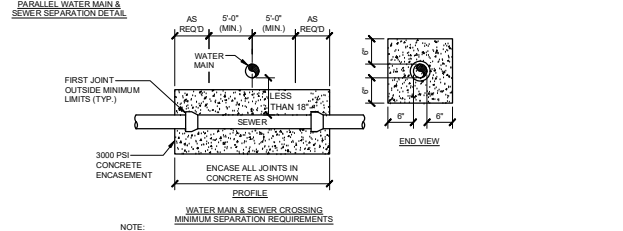
48" DIAMETER PRECAST CONCRETE MANHOLE WITH FRAME AND LID OR GRATE
 (A) NOT TO SCALE



6" PVC CLEANOUT WITH CONCRETE COLLAR AND LOCKABLE COVER (DR.14)
 (B) NOT TO SCALE

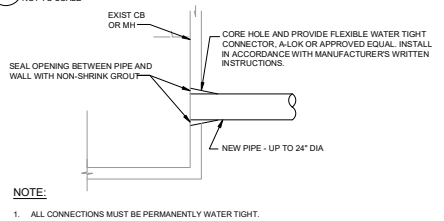


- NOTE:**
- A MINIMUM HORIZONTAL SEPARATION OF 10'-0" SHALL BE MAINTAINED BETWEEN WATER MAINS & ALL STORM & SANITARY SEWERS. ANY DEVIATION OF THE MINIMUM 10'-0" HORIZONTAL SEPARATION SHALL BE APPROVED BY THE REVIEWING AGENCY HAVING JURISDICTION PRIOR TO CONSTRUCTION.
 - IF MINIMUM SEPARATION DISTANCES SHOWN CAN NOT BE MET, SEE CROSSING REQUIREMENTS BELOW.



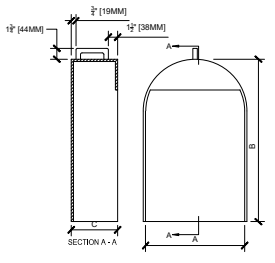
- NOTE:**
- ENCASE IN CONCRETE ALL SEWER JOINTS WITHIN 10 FT. OF WATER CROSSING.

TYPICAL WATER MAIN AND SEWER SEPARATION DETAIL
 (C) NOT TO SCALE



- NOTE:**
- ALL CONNECTIONS MUST BE PERMANENTLY WATER TIGHT.

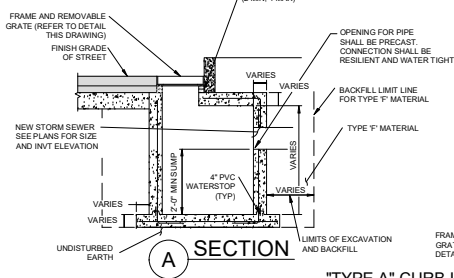
PIPE CONNECTION TO EXISTING STRUCTURE (DR.17)
 (D) NOT TO SCALE



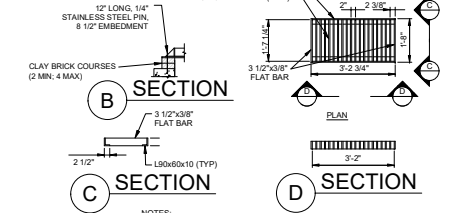
- NOTES:**
- MATERIAL SHALL BE GRAY CAST IRON CONFORMING TO A.S.T.M. A48 (LATEST REVISION) CLASS 30B.
 - TRAP SHALL BE MOUNTED AND INSTALLED WITH MATERIALS PROVIDED BY MANUFACTURER AND INSTALLED PER MANUFACTURER'S WRITTEN INSTRUCTIONS.
 - MANUFACTURER: EJ OR APPROVED EQUAL.

| PATTERN # | OUTLET | DIM. "A" | DIM. "B" | DIM. "C" |
|-----------|--------|----------|----------|----------|
| 2561 | 8"Ø | 11-1/2" | 20-1/2" | 5-1/2" |
| 2562 | 10"Ø | 13-1/4" | 23-1/2" | 6-1/2" |
| 2563 | 12"Ø | 15-3/4" | 25" | 7-1/2" |
| 2564 | 15"Ø | 18" | 27" | 9" |

CAST IRON TRAP DETAIL
 (G) NOT TO SCALE

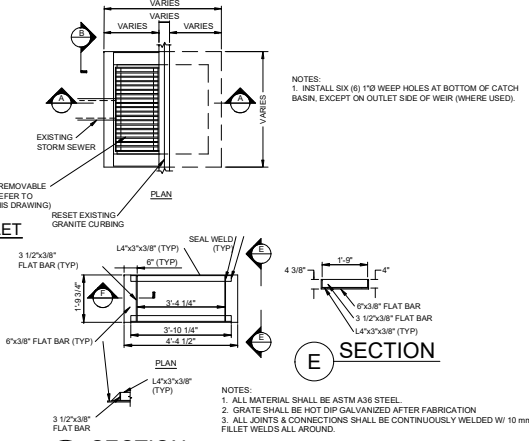


"TYPE A" CURB INLET
 (A) SECTION



- NOTES:**
- ALL MATERIAL SHALL BE ASTM A36 STEEL.
 - GRATE SHALL BE HOT DIP GALVANIZED AFTER FABRICATION.
 - ALL JOINTS & CONNECTIONS SHALL BE FULLY WELDED W/ 3/8" FILLET WELDS.

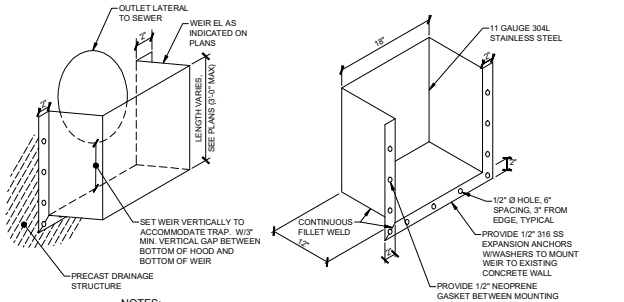
CURB INLET GRATE DETAIL
 (E) NOT TO SCALE



- NOTES:**
- ALL MATERIAL SHALL BE ASTM A36 STEEL.
 - GRATE SHALL BE HOT DIP GALVANIZED AFTER FABRICATION.
 - ALL JOINTS & CONNECTIONS SHALL BE CONTINUOUSLY WELDED W/ 10 mm FILLET WELDS ALL AROUND.

CURB INLET FRAME DETAIL
 (F) NOT TO SCALE

RECORD DRAWINGS
 To the best of our knowledge, information and belief, these record drawings substantially represent the project as constructed.
 O'BRIEN & GERE ENGINEERS, INC.
 By: *[Signature]*



- NOTES:**
- WEIR SHALL BE SHOP FABRICATED. FIELD WELDS ARE NOT ACCEPTABLE UNLESS APPROVED IN ADVANCE BY THE ENGINEER IN WRITING.
 - SHOP GRIND ALL EDGES (WELDS AS NECESSARY) TO REMOVE ALL BURRS AND CUTTING HAZARDS.
 - PROVIDE (2) SS LIFTING HANDLES ON EITHER SIDE OF WEIR IF WEIGHT EXCEEDS 50 LBS.

STAINLESS STEEL WEIR DETAIL (DR.10)
 (F) NOT TO SCALE

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| IN CHARGE OF | R. GANLEY | | | | |
| DESIGNED BY | M. LASELL | | | | |
| CHECKED BY | C. FIORELLO | 11/09/2020 | RECORD DRAWINGS | | JEB |
| DRAWN BY | S. JOHNSON | 01/24/2019 | ISSUED FOR BID | | RCG |
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 333 WEST WASHINGTON ST. SYRACUSE, NY 13221

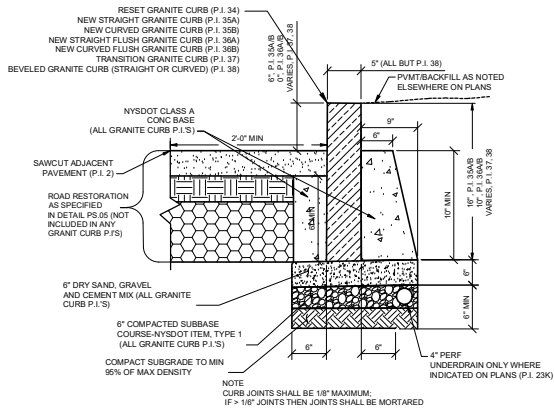
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 GREEN STREETS - CSO-052
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CIVIL
DETAILS

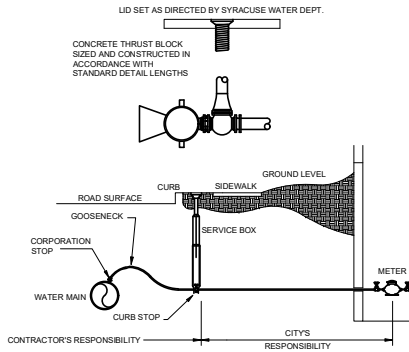
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| FILE NO. | 115 63990 - |
| DATE | JANUARY 2019 |

C-501

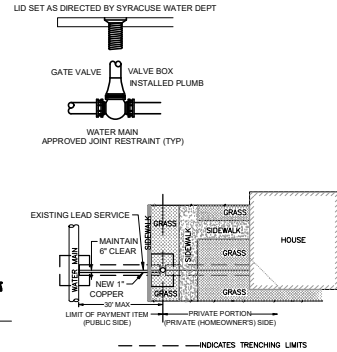
MODIFIED: 11/09/2019 GREEN STREETS CSO-052 DRAWING SHEET: 51/PAIRFIELD & HITCHCOCK/CSO-052_02.DWG



TAPPING SLEEVE AND VALVE DETAIL



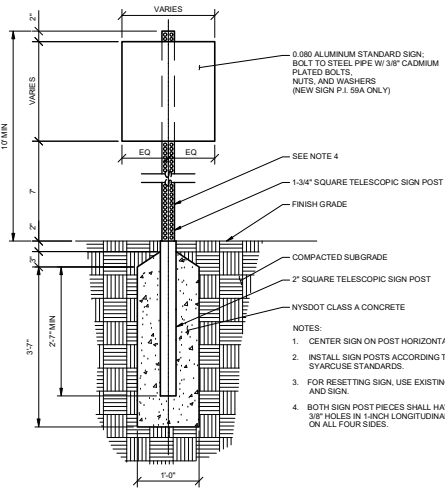
VALVE BOX DETAIL



- DETAIL NOTES:**
- RESTORATION REQUIRED. ANY DAMAGE OUTSIDE OF TRENCHING LIMITS MUST BE RESTORED BY CONTRACTOR AT NO ADDITIONAL COST.
 - TUNNEL UNDER CURBLINE AND SIDEWALK AS REQUIRED. RESET, OR REPLACE IF DAMAGED.
 - EXISTING LEAD PIPE TO BE ABANDONED IN PLACE.
 - MAINTAIN 6' CLEAR SEPARATION BETWEEN EXISTING LEAD SERVICE, AND NEW COPPER SERVICE. BACKFILL AND COMPACT BETWEEN EXISTING, AND NEW PIPES FIRST TO SECURE, AND TO PREVENT HORIZONTAL MOVEMENT.

TYPICAL SECTION GRANITE CURB (NEW OR RESET) WITH PERFORATED UNDERDRAIN (WHERE INDICATED)

(A) NOT TO SCALE

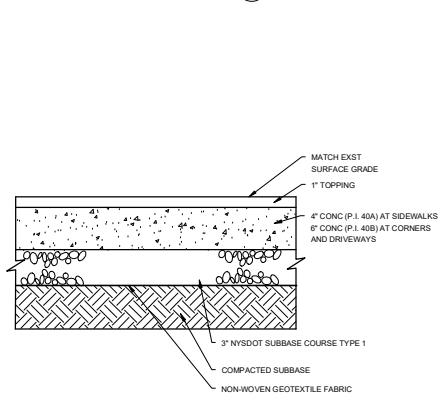


(C) SIGN POST FOUNDATION (TU.04)

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(B) NEW 1" WATER SERVICE - CURB BOX TO MAIN (TU.01)

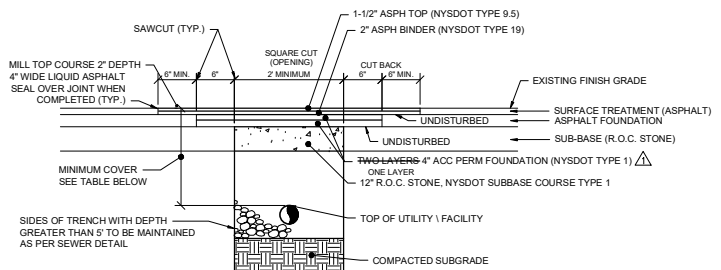
NOT TO SCALE



- NOTES:**
- SAWCUT AT EXST JOINT. INSTALL 1/2" EXPANSION JOINT. REPLACE FULL PANELS.

(E) TYPICAL CONCRETE SIDEWALK DETAIL

NOT TO SCALE



NOTES:

ON UNIMPROVED STREETS IF THE EXISTING GRADE IS ABOVE THE ESTABLISHED GRADE THE COVER REQUIREMENT SHALL BE MEASURED FROM THE ESTABLISHED GRADE. IN ALL OTHER INSTANCES THE EXISTING GRADE SHALL APPLY UNLESS THE ESTABLISHED GRADE IS SCHEDULED TO BE LOWERED.

PRIVATE UTILITY STREET CUT REPAIR.

| MINIMUM COVER | GAS, ELECTRIC, CABLE, TV, TELECOMMUNICATIONS |
|---------------|--|
| 3'-0" | WATER |
| 5'-0" | ALL OTHERS |

- WHEN 30% OR MORE OF THE PAVEMENT IS EXCAVATED BY PRIVATE UTILITY WORK, THE CITY, AT ITS DISCRETION, MAY REQUIRE RECONSTRUCTION FROM THE CENTERLINE TO THE EDGE / CURB OF THE ENTIRE SECTION.
- WHEN 60% OR MORE OF THE PAVEMENT LANE AREA IS EXCAVATED BY PRIVATE UTILITY THE ENTIRE AREA FROM CENTERLINE OF THE STREET TO THE EDGE / CURB MUST BE RECONSTRUCTED.
- IF ANY PAVEMENT DISTURBANCE OCCURS WITHIN 2 FEET OF THE EDGE / CURB, PAVEMENT RECONSTRUCTION MUST BE COMPLETED TO THE EDGE / CURB.
- IN AREAS WHERE TRENCH WIDTH VARIES THE PERCENTAGES SHALL BE DETERMINED PER 100 LINEAR FEET ALONG THE CENTERLINE OF THE STREET. IN INTERSECTIONS THE AREA WILL BE PER QUADRANT OF THE INTERSECTION.
- EXISTING PAVEMENT IS TO BE SAW CUT FULL DEPTH TO OBTAIN A STRAIGHT AND NEAT EDGE FOR PAVING. SAW CUT IS TO BE MADE AFTER BACKFILLING THE TRENCH TO BOTTOM OF NEW PAVEMENT SECTION.
- SECONDARY SAW CUTS (WHERE THE TOP 2" IS TO BE MILLED AND HAVE A NEW TOP COURSE INSTALLED) ARE TO BE AT THE CENTERLINE OF ROAD UNLESS OTHERWISE SHOWN.

(D) TYPICAL ROAD RESTORATION AND REQUIRED CUT BACK DETAIL

NOT TO SCALE

RECORD DRAWINGS
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O'BRIEN & GERE ENGINEERS, INC.
By: *[Signature]*



| | | | |
|--------------|-------------|-------------|------------|
| IN CHARGE OF | R. GANLEY | DESIGNED BY | M. LASELL |
| CHECKED BY | C. FIORELLO | DATE | 11/06/2020 |
| DRAWN BY | S. JOHNSON | DATE | 01/24/2019 |

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333 WEST WASHINGTON ST. SYRACUSE, NY 13221

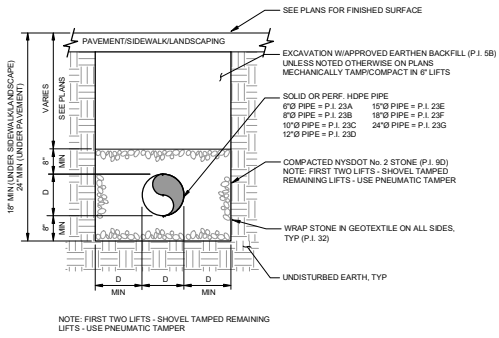
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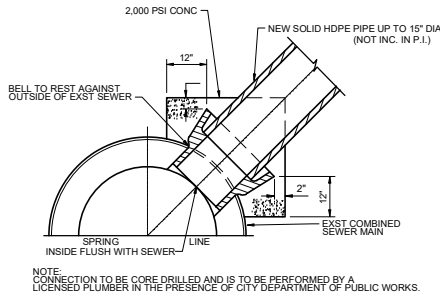
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| DATE | JANUARY 2019 |

C-502

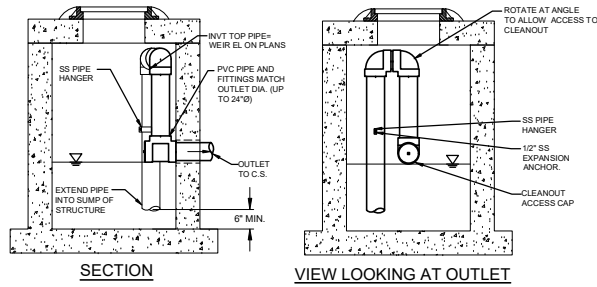
DETAILS



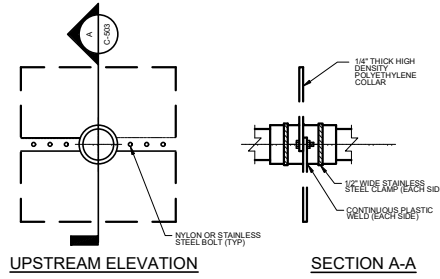
A HDPE PIPE BEDDING NOT IN INFILTRATION TRENCH
NOT TO SCALE



C PVC U-PIPE (DR.09)
NOT TO SCALE

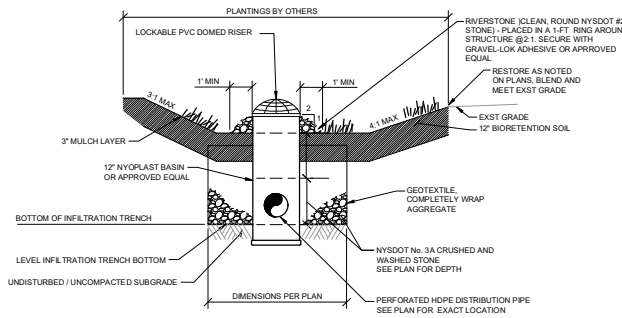


C PVC U-PIPE (DR.09)
NOT TO SCALE



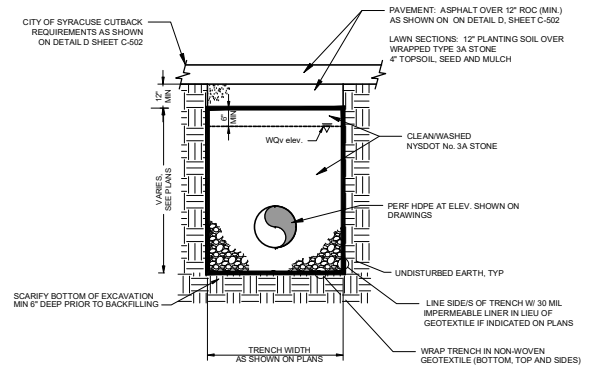
- NOTES:**
1. DIMENSION "W" SHALL BE THREE TIMES THE DIAMETER OF THE INTERSECTING PIPE.
 2. CONNECTING BAND SHALL BE SEALED AT BOTH ENDS WITH NON-SHRINK GROUT.
 3. COLLAR MATERIAL SHALL BE RIGID POLYETHYLENE SHEET MATERIAL.
 4. STAINLESS STEEL SHALL BE GRADE 304 OR BETTER.
 5. AS MANUFACTURED BY LANE ENTERPRISES, OR APPROVED EQUAL.
 6. TO BE INSTALLED PER MANUFACTURERS RECOMMENDATIONS.

F TYPICAL ANTI-SEEP COLLAR
NOT TO SCALE



- DETAIL NOTES:**
1. UPON COMPLETION OF SUBGRADE WORK, THE OWNER AND OWNER'S REPRESENTATIVE SHALL BE NOTIFIED AND SHALL INSPECT AT THEIR DISCRETION BEFORE PROCEEDING WITH INFILTRATION BED INSTALLATION.
 2. NON-WOVEN GEOTEXTILE AND BED AGGREGATE SHALL BE PLACED IMMEDIATELY AFTER APPROVAL OF SUBGRADE PREPARATION. ANY ACCUMULATION OF DEBRIS OR SEDIMENT WHICH HAS TAKEN PLACE AFTER APPROVAL OF NON-WOVEN GEOTEXTILE AT NO EXTRA COST TO THE OWNER.
 3. PLACE NON-WOVEN GEOTEXTILE IN ACCORDANCE WITH MANUFACTURER'S STANDARDS AND RECOMMENDATIONS. ADJACENT STRIPS OF NON-WOVEN GEOTEXTILE SHALL OVERLAP A MINIMUM OF SIXTEEN INCHES (16\"). SECURE NON-WOVEN GEOTEXTILE AT LEAST FOUR FEET (4') OUTSIDE OF BED AND TAKE STEPS NECESSARY TO PREVENT ANY RUNOFF OR SEDIMENT FROM ENTERING THE BED. THIS GEOTEXTILE EDGE STRIP SHALL REMAIN IN PLACE UNTIL ALL BARE SOILS CONTIGUOUS TO INFILTRATION BED HAVE BEEN STABILIZED. WHEN THE SITE IS FULLY STABILIZED, EXCESS NON-WOVEN GEOTEXTILE ALONG BED EDGES CAN BE CUT BACK TO GRAVEL EDGE.
 4. SHOULD THE OWNER OR OWNER'S REPRESENTATIVE DETERMINE THAT CONTAMINATION OF THE INFILTRATION BED HAS OCCURRED, THE CONTRACTOR SHALL REPLACE THE INFILTRATION BED STONE AT NO ADDITIONAL COST TO THE OWNER.
 5. CONSTRUCTION SHALL BE UNDERTAKEN IN SUCH A WAY AS TO PREVENT CONTAMINATION OF THE STONE AND PLANTING SOIL WITH SEDIMENT AND FINES FROM THE SITE OR EQUIPMENT.
 6. PROTECT NEWLY GRADED AREAS FROM TRAFFIC, FREEZING AND EROSION. KEEP FREE OF TRASH, DEBRIS OR CONSTRUCTION MATERIALS.
 7. WITHIN THE INSTALLATION WARRANTY PERIOD REPAIR AND RE-ESTABLISH TOLERANCES WHERE COMPLETED OR PARTIALLY COMPLETED SURFACES BECOME ERODED, RUTTED, SETTLED, OR COMPACTED DUE TO SUBSEQUENT CONSTRUCTION OPERATIONS OR WEATHER CONDITIONS.
 8. SCARIFY A MINIMUM OF 6\"/>
 - 9. CONTRACTOR IS RESPONSIBLE TO ESTABLISH GRASS TURF OUTSIDE OF THE INFILTRATION AREA.

D VEGETATED INFILTRATION AREA FAIRFIELD AVE IT #1
NOT TO SCALE



- DETAIL NOTES:**
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 2. NON-WOVEN GEOTEXTILE AND BED AGGREGATE SHALL BE PLACED IMMEDIATELY AFTER APPROVAL OF SUBGRADE PREPARATION. ANY ACCUMULATION OF DEBRIS OR SEDIMENT WHICH HAS TAKEN PLACE AFTER APPROVAL OF SUBGRADE SHALL BE REMOVED PRIOR TO INSTALLATION OF NON-WOVEN GEOTEXTILE AT NO EXTRA COST TO THE OWNER.
 3. PLACE NON-WOVEN GEOTEXTILE IN ACCORDANCE WITH MANUFACTURER'S STANDARDS AND RECOMMENDATIONS. ADJACENT STRIPS OF NON-WOVEN GEOTEXTILE SHALL OVERLAP A MINIMUM OF SIXTEEN INCHES (16\"). SECURE NON-WOVEN GEOTEXTILE AT LEAST FOUR FEET (4') OUTSIDE OF BED AND TAKE STEPS NECESSARY TO PREVENT ANY RUNOFF OR SEDIMENT FROM ENTERING THE BED. THIS GEOTEXTILE EDGE STRIP SHALL REMAIN IN PLACE UNTIL ALL BARE SOILS CONTIGUOUS TO INFILTRATION BED HAVE BEEN STABILIZED. WHEN THE SITE IS FULLY STABILIZED, EXCESS NON-WOVEN GEOTEXTILE ALONG BED EDGES CAN BE CUT BACK TO GRAVEL EDGE.
 4. INSTALL INFILTRATION BED AGGREGATE TO GRADES INDICATED ON THE DRAWINGS. INSTALL COARSE AGGREGATE IN 8 INCH MAXIMUM LIFTS. LIGHTLY COMPACT EACH LAYER WITH EQUIPMENT, KEEPING EQUIPMENT MOVEMENT OVER STORAGE BED SUBGRADES TO A MINIMUM. INSTALL PERFORATED PIPE, CLEANOUT/OBSERVATION WELLS AS INDICATED ON THE PLANS.
 5. SHOULD THE OWNER OR OWNER'S REPRESENTATIVE DETERMINE THAT CONTAMINATION OF THE INFILTRATION BED HAS OCCURRED, THE CONTRACTOR SHALL REPLACE THE INFILTRATION BED STONE AT NO ADDITIONAL COST TO THE OWNER.

E INFILTRATION BASIN TRENCH UNDER PAVEMENT (IS.01) UNDER LAWN (IS.02)
NOT TO SCALE

RECORD DRAWINGS
To the best of our knowledge, information and belief, these record drawings substantially represent the project as constructed.

O'BRIEN & GERE ENGINEERS, INC.

By: _____

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| IN CHARGE OF | R. GANLEY | | | | |
| DESIGNED BY | M. LASELL | | | | |
| CHECKED BY | C. FIORELLO | 11/06/2019 | RECORD DRAWINGS | JEB | |
| DRAWN BY | S. JOHNSON | 01/24/2019 | ISSUED FOR BID | RCG | |
| | | NO | DATE | REVISION | INT |



O'BRIEN & GERE ENGINEERS, INC.
333 WEST WASHINGTON ST. SYRACUSE, NY 13221

ONONDAGA COUNTY DEPARTMENT OF WATER ENVIRONMENT PROTECTION
GREEN STREETS - CSO-052
SYRACUSE, NEW YORK

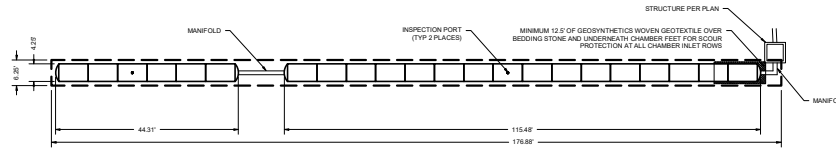
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| DATE | JANUARY 2019 | |
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STORMWATER CHAMBER SPECIFICATIONS

- 1. CHAMBERS SHALL BE STORMTECH SC-740 OR APPROVED EQUAL.
2. CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
3. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418-16a, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
4. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPIDE FLOW OR LIMIT ACCESS FOR INSPECTION.
5. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
6. CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER; 2) MAXIMUM PERMANENT (75-100) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
7. REQUIREMENTS FOR HANDLING AND INSTALLATION:
- TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
- TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
- TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.3 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 550 LBS/IN^2, AND 1) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES ABOVE 75° F; 2) 20° C, CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
8. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
- THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
- THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.56 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
- THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2418 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75% R MODULUS USED FOR DESIGN.
9. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

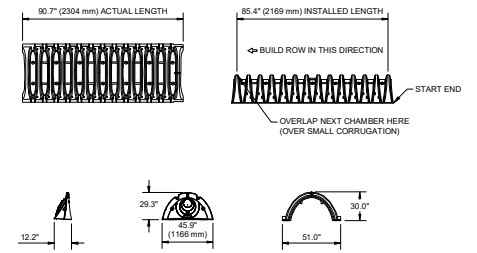


ACCEPTABLE FILL MATERIALS

Table with 4 columns: MATERIAL LOCATION, DESCRIPTION, AASHTO MATERIAL CLASSIFICATIONS, COMPACTION / DENSITY REQUIREMENT. Rows include: D FINIAL FILL, C INITIAL FILL, B EMBEDMENT STONE, A FOUNDATION STONE.

PLEASE NOTE:

- 1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #3A STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 3A (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN (6") LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.

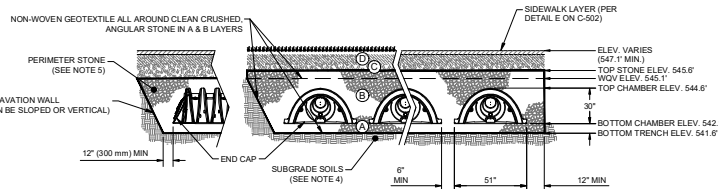


INSTALLATION NOTES:

- 1. CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. ACCEPTABLE BACKFILL METHODS:
- STONE SHOOTER LOCATED OFF THE CHAMBER BED.
- BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
- BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM .6" SPACING BETWEEN THE CHAMBER ROWS.
7. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE #3A-2".
8. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE ENGINEER.
9. INLETS SHALL NOT BE CONNECTED UNTIL THE CHAMBER BED IS COMPLETE AND THE FILTER BASKETS HAVE BEEN INSTALLED.

NOMINAL CHAMBER SPECIFICATIONS

SEE 6" X 12" X INSTALLED LENGTH) CHAMBER STORAGE: 45.9 CUBIC FEET MINIMUM INSTALLED STORAGE*: 74.9 CUBIC FEET WEIGHT: 76.0 lbs. *ASSUMES 6" ABOVE, BELOW, AND BETWEEN CHAMBERS



NOTES:

- 1. CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS", OR ASTM F2922 "STANDARD SPECIFICATION FOR POLYETHYLENE (PE) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
4. SCARIFY SUBGRADE.
5. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
6. ONCE LAYER 'C' IS PLACED, ANY SOLID MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE.

PROPOSED LAYOUT

Table with 2 columns: QUANTITY, DESCRIPTION. Rows include: 22 CHAMBERS, 4 END CAPS, 6 STONE ABOVE (IN), 5 STONE BELOW (IN), 40 % STONE VOID, 2154 INSTALLED SYSTEM VOLUME (CF) (PERIMETER STONE INCLUDED), 1105 SYSTEM AREA (SQ FT), 386 SYSTEM PERIMETER (FT).

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STORMWATER CHAMBER DETAIL FOR FAIRFIELD AVE IT#2

RECORD DRAWINGS To the best of our knowledge, information and belief, these record drawings substantially represent the project as constructed.

O'BRIEN & GERE ENGINEERS, INC.

By: [Signature]



Table with columns: IN CHARGE OF, DESIGNED BY, CHECKED BY, DRAWN BY, DATE, REVISION. Includes entries for R. GANLEY, M. LASELL, C. FIORELLO, S. JOHNSON.

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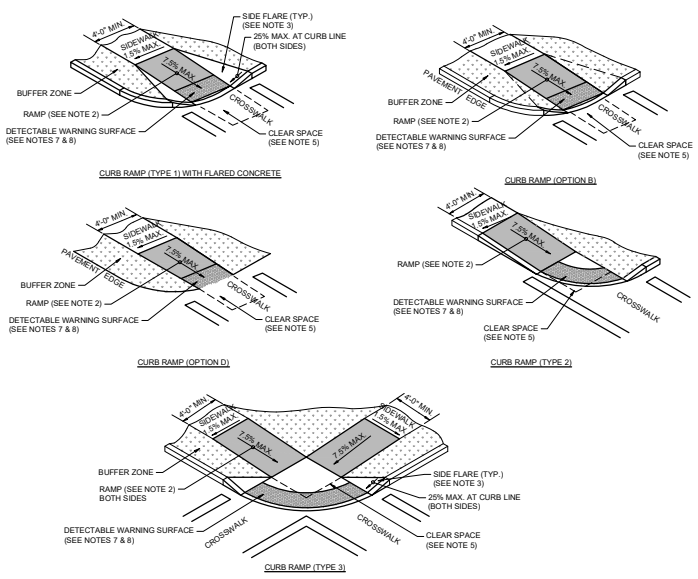
ONONDAGA COUNTY DEPARTMENT OF WATER ENVIRONMENT PROTECTION GREEN STREETS - CSO-052 SYRACUSE, NEW YORK

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Table with columns: FILE NO., DATE, JANUARY 2019. Includes project number C-504.

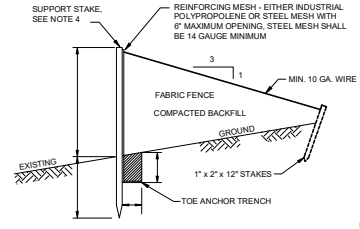
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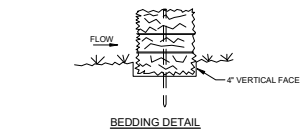
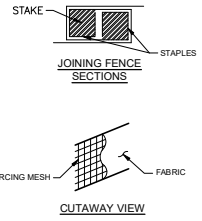
- NOTES:**
1. THE MINIMUM WIDTH OF A CURB RAMP SHALL BE 4'-0".
 2. THE GRADE (RUNNING SLOPE) OF A CURB RAMP SHALL BE A MINIMUM OF 5%. THE GRADE FOR DESIGN AND LAYOUT SHALL BE A MAXIMUM OF 7.5%. THE GRADE FOR ADA ACCESSIBILITY AND WORK ACCEPTANCE SHALL BE A MAXIMUM OF 8.3%.
 3. WHERE A PEDESTRIAN CIRCULATION PATH CROSSES THE CURB RAMP, FLARED SIDES SHALL BE INSTALLED WITH A MAXIMUM SLOPE OF 8.5% FOR DESIGN AND LAYOUT, AND 10% MAXIMUM FOR WORK ACCEPTANCE. THE SLOPE OF FLARED SIDES IS MEASURED PARALLEL TO THE CURB LINE.
 4. WHERE A CHANGE IN DIRECTION IS REQUIRED TO UTILIZE A CURB RAMP, A TURNING SPACE SHALL BE PROVIDED AT THE BASE OR AT THE TOP OF CURB RAMP AS APPLICABLE. TURNING SPACES SHALL BE PERMITTED TO OVERLAP CLEAR SPACES.
 5. BEYOND THE BOTTOM GRADE BREAK A CLEAR SPACE OF 4'-0" X 4'-0" MINIMUM SHALL BE PROVIDED WITHIN THE WIDTH OF THE PEDESTRIAN CROSSWALK, AND OUTSIDE THE PARALLEL VEHICLE TRAVEL LANE. THE CLEAR SPACE MAY OVERLAP TURNING SPACES, DETECTABLE WARNING SURFACES, AND DROP CURBS.
 6. TURNING SPACES SHALL NOT BE DESIGNED WITH CROSS SLOPE GREATER THAN 1.5% IN ANY DIRECTION, WHILE PROVIDING POSITIVE DRAINAGE. THE MAXIMUM CROSS SLOPE FOR WORK ACCEPTANCE IS 2.0%. A NONSTANDARD FEATURE JUSTIFICATION IS REQUIRED WHERE TURNING SPACES EXCEED 2.0% IN ANY DIRECTION.
 7. THE DETAILS PROVIDED ARE NOT DRAWN TO SCALE. THE QUANTITY OF DOMES DEPICTED IN THE DETECTABLE WARNING SURFACE (DWS) IS FOR ILLUSTRATION ONLY. THE SIZE OF THE DETECTABLE WARNING FIELD SHALL BE 24" MINIMUM IN THE DIRECTION OF TRAVEL AND SHALL EXTEND THE FULL WIDTH OF THE CURB RAMP OR FLUSH SURFACE, EXCLUDING ANY FLARED SIDES. THE WIDTH OF THE DETECTABLE WARNING FIELD INCLUDES A CONCRETE BORDER IF PROVIDED.
 8. ON SLOPES OF 2% OR GREATER, THE ROWS OF DOMES SHALL BE ALIGNED TO BE PERPENDICULAR OR RADIAL TO THE LOWER GRADE BREAK ON THE RAMP RUN.

(A) SIDEWALK CURB RAMP DETAIL
NOT TO SCALE

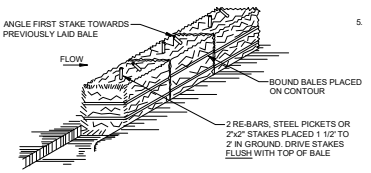


- DETAIL NOTES:**
1. FILTER FABRIC FENCE MUST BE INSTALLED AT EXISTING LEVEL GRADE. BOTH ENDS OF EACH FENCE SECTION MUST BE EXTENDED AT LEAST 8 FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT.
 2. SEDIMENT MUST BE REMOVED WHERE ACCUMULATIONS REACH 1/2 THE ABOVE GROUND HEIGHT OF THE FENCE.
 3. ANY FENCE SECTION WHICH HAS BEEN UNDERMINED OR TOPPED MUST BE IMMEDIATELY REPLACED.
 3. STAKES SPACE AT 8 FEET MAXIMUM. USE 2" X 2" WOOD OR EQUIVALENT STEEL STAKES.

(B) TYPICAL SILT FENCE DETAIL (TU.16)
NOT TO SCALE

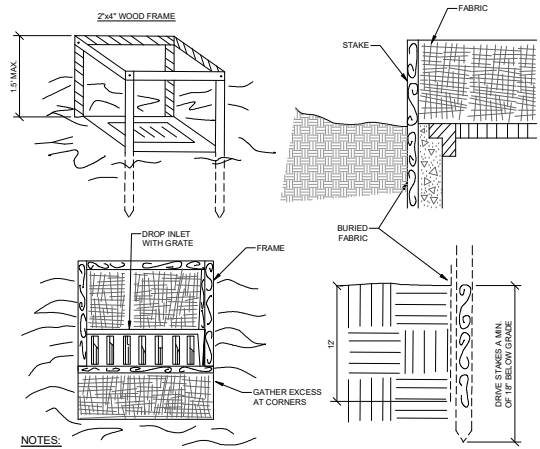


DRAINAGE AREA NO MORE THAN 1/4 ACRE PER 100 FEET OF STRAW BALE DIKE FOR SLOPES LESS THAN 25%



ANCHORING DETAIL

(D) STRAW BALE DIKE DETAIL
NOT TO SCALE



- NOTES:**
1. FABRIC SHALL HAVE AN EOS OF 40-85. BURLAP MAY BE USED FOR SHORT TERM APPLICATIONS.
 2. CUT FABRIC FROM A CONTINUOUS ROLL TO ELIMINATE JOINTS. IF JOINTS ARE NEEDED THEY WILL BE OVERLAPPED TO THE NEXT STAKE.
 3. STAKE MATERIALS WILL BE STANDARD 2" X 4" WOOD OR EQUIVALENT METAL WITH A MINIMUM LENGTH OF 3 FEET.
 4. SPACE STAKES EVENLY AROUND INLET 3 FEET APART AND DRIVE A MINIMUM 18 INCHES DEEP. SPANS GREATER THAN 3 FEET MAY BE BRIDGED WITH THE USE OF WIRE MESH BEHIND THE FILTER FABRIC FOR SUPPORT.
 5. FABRIC SHALL BE EMBEDDED 1 FOOT MINIMUM BELOW GROUND AND BACKFILLED. IT SHALL BE SECURELY FASTENED TO THE STAKES AND FRAME.
 6. A 2x4" WOOD FRAME SHALL BE COMPLETED AROUND THE CREST OF THE FABRIC FOR OVER FLOW STABILITY.
 7. MAXIMUM DRAINAGE AREA 1 ACRE.

(E) FILTER FABRIC DROP INLET PROTECTION (TU.19)
NOT TO SCALE

CONSTRUCTION SPECIFICATIONS:

1. BALES SHALL BE PLACED AT THE TOE OF A SLOPE OR ON THE CONTOUR AND IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
2. EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF (4) INCHES, AND PLACED SO THE BINDINGS ARE HORIZONTAL.
3. BALES SHALL BE SECURELY ANCHORED IN PLACE BY EITHER TWO STAKES OR RE-BARS DRIVEN THROUGH THE BALE. THE FIRST STAKE IN EACH BALE SHALL BE DRIVEN TOWARD THE PREVIOUSLY LAID BALE AT AN ANGLE TO FORCE THE BALES TOGETHER. STAKES SHALL BE DRIVEN FLUSH WITH THE BALE.
4. INSPECTION SHALL BE FREQUENT AND REPAIR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
5. BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

RECORD DRAWINGS
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O'BRIEN & GERE ENGINEERS, INC.

By: *[Signature]*



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DETAILS

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