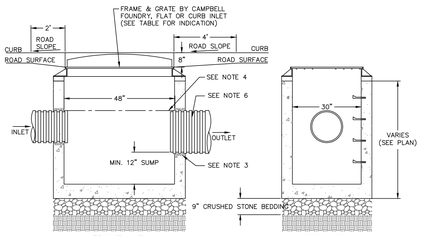
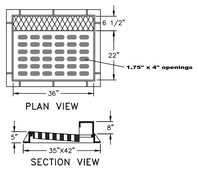



FRONT VIEW SIDE VIEW

NOTES:
1. PRECAST CONCRETE CATCH BASIN WITH CONCRETE STRENGTH OF 4,000 PSI @ 28 DAYS.
2. THE ENDS OF ALL PIPES SHALL BE CUT OFF FLUSH WITH THE INSIDE SURFACE OF THE CATCH BASIN AND PARGED AROUND.
3. PIPES SHALL BE PARGED AROUND INTERIOR AND EXTERIOR PRIOR TO BACKFILLING OF STRUCTURE. CONNECTIONS MADE WITHIN 10 FEET OF A WATER MAIN (OR SERVICE LINE) OR A SEWER MAIN (OR SERVICE LATERAL) SHALL BE MADE WATERTIGHT.
4. PROVIDE A MINIMUM 0.1' DROP BETWEEN INLET AND OUTLET INVERTS (MATCH CROWNS FOR PIPES WITH DIFFERENT SIZE) UNLESS OTHERWISE NOTED ON THE PLAN.
5. CATCH BASINS WITH AN INTERIOR DEPTH OF 4' AND GREATER SHALL BE FURNISHED WITH STEEL REINFORCED POLYPROPYLENE PLASTIC STEPS AT 12" INTERVALS.
6. HDPE PIPE SHALL BE PROVIDED WITH WATERTIGHT CONNECTIONS. ADS MODEL N12 WT IB OR APPROVED EQUAL.

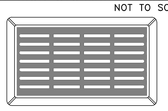
## CATCH BASIN DETAIL
NOT TO SCALE



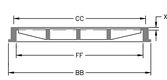

PLAN VIEW SECTION VIEW

NOTES:
1. HEAVY DUTY RECTANGULAR STORMWATER INLET GRATE TO BE CAMPBELL FOUNDRY MODEL 2541, OR APPROVED EQUAL.
2. CATCH BASINS TO RECEIVE CURB INLETS ARE: CB 1–3, CB 5–7, AND CB 10 & 11.

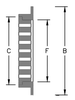
## CAST IRON STORMWATER CURB INLET GRATE DETAIL
NOT TO SCALE



PLAN VIEW




SECTION VIEW 1



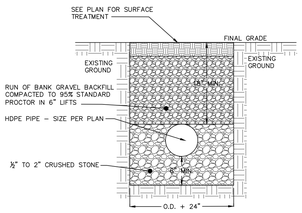

SECTION VIEW 2

DIMENSION TABLE:

| B | C | E | F | X | BB | CC | FF |
|---|---|---|---|---|---|---|---|
| 30" | 24" | 4" | 22" | 1" | 48" | 36" | 34" |

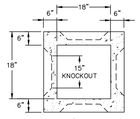
NOTES:
1. HEAVY DUTY RECTANGULAR STORMWATER INLET GRATE TO BE CAMPBELL FOUNDRY MODEL 3433, OR APPROVED EQUAL.
2. CATCH BASINS TO RECEIVE FLAT INLETS ARE: CB 4, CB 8 & 9, DMH 2, WQI 1 AND WQI 2.
3. DMH 1 AND DMH 3 RECEIVE SOLID CAST IRON COVERS.

## CAST IRON STORMWATER FLAT INLET GRATE DETAIL
NOT TO SCALE

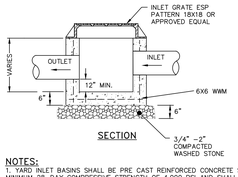



NOTES:
1. EXCAVATION AND TRENCHING SHALL MEET ALL OSHA REQUIREMENTS.

## STORMWATER PIPE IN TRENCH DETAIL
NOT TO SCALE



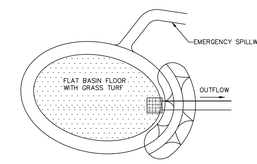

PLAN



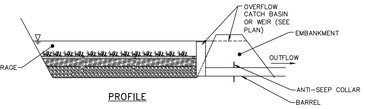

SECTION

NOTES:
1. YARD INLET BASINS SHALL BE PRE CAST REINFORCED CONCRETE SHALL HAVE A MINIMUM 28–DAY COMPRESSIVE STRENGTH OF 4,000 PSI AND SHALL BE IN CONFORMANCE WITH ASTM 478–68. WALLS AND BASE SHALL BE ONE PIECE CONSTRUCTION. YARD INLET BASIN SHOWN BY EXPANDED SUPPLY PRODUCTS (ESP), 3330 ROUTE 9, COLD SPRING, NY (845) 265–3771.
2. BACKFILL USING SELECT MATERIAL, COMPACTED IN 6" LIFTS.
3. SUMP SHALL BE 12".
4. FRAMES AND GRATES SHALL BE SET IN A FULL BED OF MORTAR.

## PRE–CAST CONCRETE YARD INLET DETAIL
NOT TO SCALE



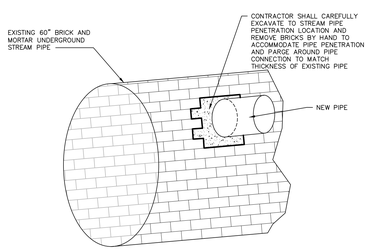

PLAN VIEW




PROFILE

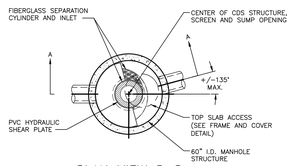
NOTES:
1. THE INFILTRATION BASIN SHALL NOT SERVE AS A SEDIMENT TRAP DURING CONSTRUCTION AND SHALL BE PROTECTED FROM CONSTRUCTION ACTIVITY.
2. RELATIVELY LIGHT TRACKED EQUIPMENT IS RECOMMENDED FOR CONSTRUCTION PURPOSES TO AVOID COMPACTION OF THE BASIN FLOOR.
3. A HIGHLY POROUS SURFACE TEXTURE SHALL BE RETAINED ALONG THE BASIN FLOOR, ESPECIALLY WITHIN THE AREA IDENTIFIED AS BEING USED FOR INFILTRATION.
4. ESTABLISH DENSE VEGETATION ON THE BASIN SIDE SLOPES AND FLOOR TO PREVENT EROSION AND SLOUGHING AND TO PROVIDE A NATURAL MEANS OF MAINTAINING RELATIVELY HIGH INFILTRATION RATES. GRASSES OF THE FESCUE FAMILY (ALTAI FESCUE, WESTERN FESCUE OR RED FESCUE) ARE SPECIFIED ON THIS PLAN, PRIMARILY DUE TO THEIR ADAPTABILITY TO DRY SANDY SOILS, DROUGHT RESISTANCE, HARDINESS, AND ABILITY TO WITHSTAND BRIEF INUNDATIONS. FESCUE WILL ALSO ALLOW FOR LONG INTERVALS BETWEEN MOWINGS. WHICH SHALL OCCUR TWICE PER YEAR MINIMUM, TYPICALLY IN JUNE AND SEPTEMBER IS SATISFACTORY.
5. THE BERMS SHALL BE SUFFICIENTLY COMPACTED AND OF SUCH MATERIAL TO PREVENT SEEPAGE.

## TYPICAL INFILTRATION BASIN DETAIL
NOT TO SCALE

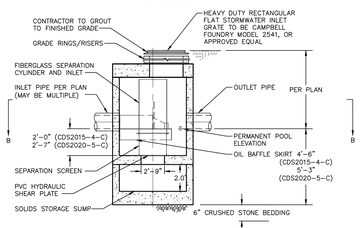



NOTES:
1. EXCAVATION AND TRENCHING SHALL MEET ALL OSHA REQUIREMENTS.
2. SUITABLE RUN OF TRENCH SHALL NOT INCLUDE FROZEN MATERIALS, DEBRIS, ORGANIC MATERIALS, LARGE STONES OR OTHER UNSUITABLE MATERIALS. IF THE RUN OF TRENCH MATERIAL IS FOUND TO BE UNSUITABLE, A SUITABLE BACKFILL MATERIAL SHALL BE IMPORTED AND USED.

## STORMWATER PIPE CONNECTION TO U.G. STREAM DETAIL
NOT TO SCALE




## PLAN VIEW B–B
NOT TO SCALE

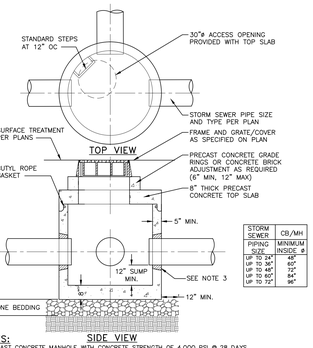



## SECTION VIEW A–A
NOT TO SCALE

| WQI ID | CDS MODEL |
|---|---|
| 2 | CDS2015–4–C |
| | |
| | |

NOTES:
1. STORMWATER TREATMENT SYSTEM (SWTS) SHALL BE DESIGNED TO MEET PERFORMANCE GOALS BASED ON FULL SCALE LABORATORY PERFORMANCE DATA.
2. SWTS SHALL BE DESIGNED TO RETAIN FLOATABLES AND TRAPPED SEDIMENT AT FLOW RATES UP TO AND INCLUDING PEAK TREATMENT CAPACITY.
3. SWTS INVERTS IN AND OUT SHALL BE AT THE SAME ELEVATION.
4. SWTS SHALL NOT BE COMPROMISED BY EFFECTS OF DOWNSTREAM TAILWATER.
5. SWTS SHALL HAVE NO INTERNAL COMPONENTS THAT OBSTRUCT MAINTENANCE ACCESS.
6. PIPE ORIENTATION MAY VARY. SEE SITE PLAN FOR SIZE AND LOCATION.
7. PURCHASER SHALL NOT BE RESPONSIBLE FOR ASSEMBLY OF INTERNAL COMPONENTS.
8. ONE MANHOLE FRAME AND COVER SUPPLIED WITH SYSTEM, NOT INSTALLED.
9. PURCHASER TO PREPARE EXCAVATION AND PROVIDE LIFTING EQUIPMENT.
10. STRUCTURE SHALL MEET AASHTO H520 AND CASTINGS SHALL MEET AASHTO M306 LOAD RATING, ASSUMING GROUNDWATER AT, OR BELOW THE OUTLET PIPE INVERT ELEVATION.
11. PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESARRY DURING MAINTENACE CLEANING.
12. SEE GRADING & UTILITY PLAN FOR PIPE ORIENTATION, INVERTS AND SIZES.

## WQ2 CDS® PRE–TREATMENT UNIT DETAIL
NOT TO SCALE

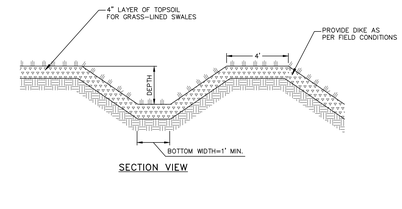



| STORM SEWER PIPING SIZE | CB/MH MINIMUM INSIDE ø |
|---|---|
| UP TO 24" | 60" |
| UP TO 36" | 72" |
| UP TO 48" | 78" |
| UP TO 60" | 84" |
| UP TO 72" | 96" |

SIDE VIEW

NOTES:
1. PRECAST CONCRETE MANHOLE WITH CONCRETE STRENGTH OF 4,000 PSI @ 28 DAYS.
2. THE ENDS OF ALL PIPES SHALL BE CUT OFF FLUSH WITH THE INSIDE SURFACE OF THE MANHOLE AND PARGED AROUND.
3. PIPES SHALL BE PARGED AROUND INTERIOR AND EXTERIOR PRIOR TO BACKFILLING OF STRUCTURE. 4. CONCRETE STRUCTURE AND CASTING SHALL BE RATED FOR H20 TRAFFIC LOADING.
5. INLET FRAME SHALL BE FULLY SUPPORTED ON THE CONCRETE STRUCTURE FOR H20 LOADING.
6. MANHOLES WITH AN INTERIOR DEPTH OF 4' AND GREATER SHALL BE FURNISHED WITH STEEL REINFORCED POLYPROPYLENE PLASTIC STEPS AT 12" INTERVALS.

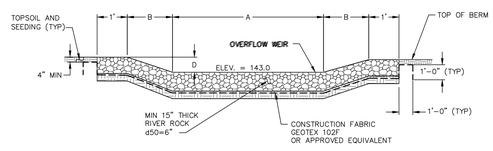
## STORMWATER MANHOLE DETAIL
NOT TO SCALE




SECTION VIEW

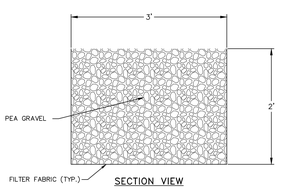
NOTES:
1. MINIMUM 1' DEPTH AND 1' WIDTH FOR ALL SWALES.
2. SWALE SHALL BE SEEDED WITH FAST GERMINATING RYE 15 TO 25 POUNDS PER 1,000 SQUARE FEET AND MULCHED.

## TEMPORARY GRASS LINED SWALE/DIKE DETAIL
NOT TO SCALE




NOTES:
1. RIP RAP OUTLET PROTECTION SHALL BE 15" OF LIGHT STONE FILLING. STONE FILLING SIZE d50=6", RIVER ROCK MAY BE SUBSTITUTED FOR ANGULAR STONE.

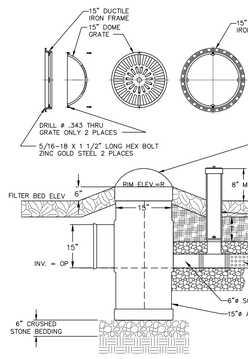
## OVERFLOW WEIR DETAIL
NOT TO SCALE




SECTION VIEW

NOTES:
1. SEE PLANS FOR LENGTH AND TABLE BELOW FOR REQUIRED WIDTH AND DEPTH.
2. APPROXIMATELY 6" OF THE TOP OF THE STONE DIAPHRAGM CAN BE DECORATIVE STONE.

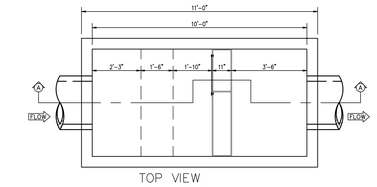
## PEA–GRAVEL DIAPHRAGM DETAIL
NOT TO SCALE

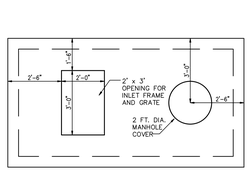



| OUTLET CONTROL STRUCTURE DATA | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| OCS ID | STRUCTURE DIMENSIONS | UNDERDRAIN PIPE REQ'D | "UD" (FT) | R (FT) | "T" (FT) | "FB" (FT) | OUTLET PIPE ø (IN) | "OP" (FT) | MIN. BERM ELEV. (FT) |
| A | 24"X18" I.D. | YES* | 140.5 | 144.5 | 2.5 | 144 | 15 | 140.5 | 145.0 |

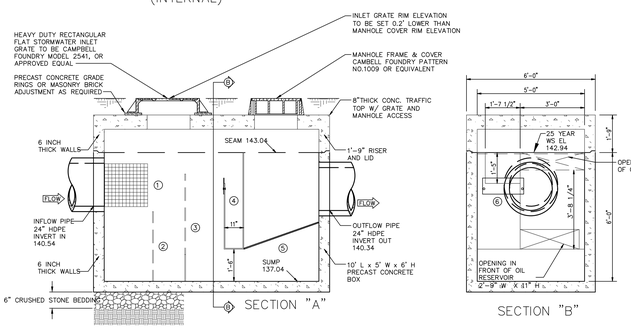
NOTES:
* UNDERDRAIN PIPE TO BE PROVIDED FOR DEWATERING PURPOSES ONLY. GATE VALVE TO REMAIN CLOSED.

## ADS DRAIN BASIN BIORETENTION OUTLET CONTROL STRUCTURE DETAIL
NOT TO SCALE

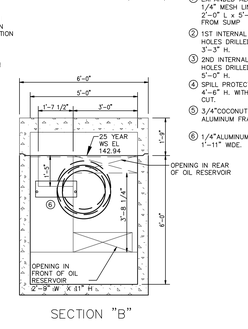



LEGEND
1. EXPANDED ALUMINUM BASKET W/ 1/4" MESH LINING, 2'–0" H x 2'–0" L x 5'–0" W, Upfit 3'–6" FROM SUMP
2. 1ST INTERNAL BAFFLE W/ 1" HOLES DRILLED AT 1–1/4" O.C., 3'–3" H.
3. 2ND INTERNAL BAFFLE W/ 1" HOLES DRILLED AT 1 1/4" O.C., 5'–0" H.
4. SPILL PROTECTION RESERVOIR 4'–6" H. WITH A 1'–5" FRONT CUT.
5. 3/4"COCONUT FIBER FILTER IN ALUMINUM FRAME 3'–8" LONG.
6. 1/4"ALUMINUM PLATE, 9" H., 1'–11" WIDE.



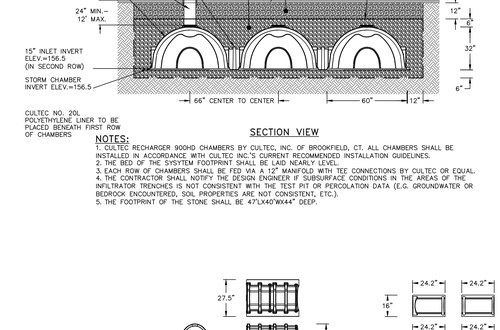

SECTION "A"




SECTION "B"

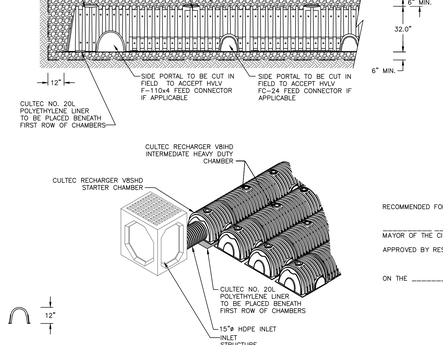
NOTES:
1. WATER QUALITY INLET SHOWN IS "CRYSTAL CLEAN" MODEL # 1056 BY CRYSTAL STREAM TECHNOLOGIES, INC. OF LAWRENCEVILLE, GA., 1–800–648–6945.
2. ALL PIPES SHALL BE CONSTRUCTED TO BE FLUSH WITH THE INSIDE WALLS.
3. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL PIPES AND STRUCTURES BETWEEN AND AROUND THE WATER QUALITY VAULTS.
4. ALL VAULT LIFTING CONNECTIONS SHALL BE LOCATED ON THE OUTSIDE OF THE VAULT WALLS.
5. CONCRETE VAULT PRE–CASTER IS RESPONSIBLE FOR THE STRUCTURAL INTEGRITY OF THE CONCRETE VAULTS. WALL AND SLAB THICKNESSES SHALL BE ALTERED ACCORDINGLY.

## WQI 1 DETAIL
NOT TO SCALE



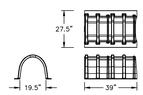

SECTION VIEW

NOTES:
1. CULTEC RECHARGER 900HD CHAMBERS BY CULTEC, INC. OF BROOKFIELD, CT. ALL CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH CULTEC INC.'S CURRENT RECOMMENDED INSTALLATION GUIDELINES.
2. THE BED OF THE SYSYTEM FOOTPRINT SHALL BE LAID NEARLY LEVEL.
3. EACH ROW OF CHAMBERS SHALL BE FED VIA A 12" MANIFOLD WITH TEE CONNECTIONS BY CULTEC OR EQUAL.
4. THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER IF SUBSURFACE CONDITIONS IN THE AREAS OF THE INFILTRATOR TRENCHES IS NOT CONSISTENT WITH THE TEST PIT OR PERCOLATION DATA (E.G. GROUNDWATER OR BEDROCK ENCOUNTERED, SOIL PROPERTIES ARE NOT CONSISTENT, ETC.).
5. THE FOOTPRINT OF THE STONE SHALL BE 47'LX40'WX44" DEEP.

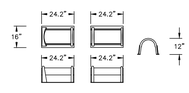






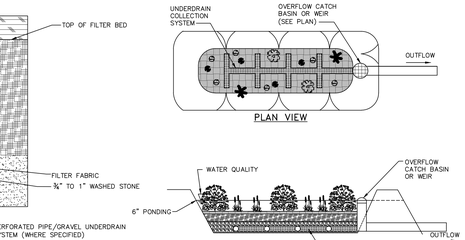



CULTEC HVLV F–110x4 FEED CONNECTOR CHAMBER MAY BE USED ON V8SHD STARTER AND V8EHD END UNITS. STORAGE = 1.968 CF/FT [0.18 m3/m]




CULTEC HVLV FC–24 FEED CONNECTOR CHAMBER MAY BE USED ON V8HD INTERMEDIATE UNITS. STORAGE = 0.913 CF/FT [0.08 m3/m]

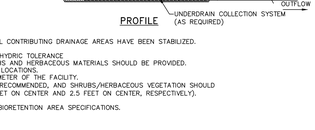
## UNDERGROUND DETENTION SYSTEM DETAIL
NOT TO SCALE




TYPICAL SECTION




PLAN VIEW




PROFILE

NOTES:
1. NO RUNOFF IS TO ENTER THE BIORETENTION AREA UNTIL ALL CONTRIBUTING DRAINAGE AREAS HAVE BEEN STABILIZED.
2. LANDSCAPING TO BE PROVIDED AS FOLLOWS:
   - NATIVE PLANT SPECIES BASED ON SPECIFIED ZONE OF HYDRIC TOLERANCE
   - SELECTIONS OF TREES WITH AN UNDERSTORY OF SHRUBS AND HERBACEOUS MATERIALS SHOULD BE PROVIDED.
   - WOODY VEGETATION SHALL NOT BE PLACED AT INFLOW LOCATIONS.
   - TREES SHALL BE PLANTED PRIMARILY ALONG THE PERIMETER OF THE FACILITY.
   - A TREE DENSITY OF 1 TREE PER 100 SQUARE FEET IS RECOMMENDED, AND SHRUBS/HERBACEOUS VEGETATION SHOULD GENERALLY BE PLANTED AT HIGHER DENSITIES (FIVE FEET ON CENTER AND 2.5 FEET ON CENTER, RESPECTIVELY).
3. SEE PLAN FOR PRETREATMENT.
4. REFER TO STORMWATER POLLUTION PREVENTION PLAN FOR BIORETENTION AREA SPECIFICATIONS.

## BIORETENTION AREA DETAIL
NOT TO SCALE

RECOMMENDED FOR APPROVAL:

_____ _____
MAYOR OF THE CITY OF BEACON DATE

APPROVED BY RESOLUTION OF THE CITY COUNCIL OF THE CITY OF BEACON

ON THE _____ DAY OF _____, 20_____

APPROVED BY RESOLUTION OF THE PLANNING BOARD OF THE CITY OF BEACON, NEW YORK, ON THE _____ DAY OF _____, 20_____, SUBJECT TO ALL REQUIREMENTS AND CONDITIONS OF SAID RESOLUTION. ANY CHANGE, ERASURE, MODIFICATION OR REVISION OF THIS PLAT, AS APPROVED, SHALL VOID THIS APPROVAL.

SIGNED THIS _____ DAY OF _____, 20_____ BY

_____ CHAIRMAN

_____ SECRETARY

IN ABSENCE OF THE CHAIRMAN OR SECRETARY, THE ACTING CHAIRMAN OR ACTING SECRETARY RESPECTIVELY MAY SIGN IN THIS PLACE.

SEAL

JON D. BODENDORF, P.E.
NYS LICENSE NO. 076245
DANIEL G. KOEHLER, P.E.
NYS LICENSE NO. 082716

| REVISIONS: | | | |
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| NO. | DATE | DESCRIPTION | BY |
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# Amendment to Special Use Permit
# Stormwater Details
Sheet 9 of 10

*Owner:*
**Beacon HIP Lofts, LLC**
39 Front Street
Beacon, NY 12508

*Architect:*
**Aryeh Siegel, Architect**
514 Main Street
Beacon, New York 12508

*Site/Civil Engineer:*
**Hudson Land Design**
174 Main Street
Beacon, New York 12508

*Landscape Design:*
**LQ Design**
P.O. Box 244
Beacon, NY 12508

*Surveyor:*
**TEC Land Surveying**
Main Street
Beacon, New York 12508

**Beacon HIP Lofts**
Beacon, New York
Scale: As Noted
July 25, 2017