



PROJECT NAME  
**JIM ELLIS  
 CADILLAC**

5880 PEACHTREE BLVD  
 LL 323, 18th DISTRICT  
 CITY OF CHAMBLEE  
 GEORGIA

DATE:  
**03-22-18**

DESIGN BY: JME  
 DRAWN BY: JME  
 CHECKED BY: JME

Not Released For Construction  
 Released For Construction

OWNER/DEVELOPER

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REVISIONS	
1	10-16-2018 FIRST SUBMITTAL
2	11-16-2018 CITY COMMENTS

JOB NUMBER:  
**18-011**

SHEET TITLE  
**CONSTRUCTION  
 DETAILS**

**C-14**

**Notes**

1. MANHOLE WALL AND SLAB THICKNESSES ARE NOT TO SCALE.
2. CONTACT HYDRO INTERNATIONAL FOR A BOTTOM OF STRUCTURE ELEVATION PRIOR TO SETTING FIRST DEFENSE MANHOLE.
3. CONTRACTOR TO CONFIRM RIM, PIPE INVERTS, PIPE DIA. AND PIPE ORIENTATION PRIOR TO RELEASE OF UNIT TO FABRICATION.

NO.	DATE	DESCRIPTION
A	JL 11/5/15	SUMP DEPTH

REVISION HISTORY

Date: 11/25/14 Scale: 1/4" = 1'0"  
 Drawn: RC Checked: Approved

Title: 4-FT DIAMETER FIRST DEFENSE® HC

HIGH CAPACITY GENERAL ARRANGEMENT

**Hydro International**

Stormwater Solutions  
 94 Hutchins Drive  
 Portland, Maine 04102  
 Tel: (207) 756-6200  
 Fax: (207) 756-6212  
 stormwaterinquiry@hydro-int.com

CAD Ref: F4HC-MAX  
 Project No. XX-XXXX  
 Drawing No. F4HCS1 Rev. A

**Parts List**

ITEM	SIZE (in)	DESCRIPTION
1	48	I.D. PRECAST MANHOLE
2		LEDGER SUPPORT
3		SEPARATION MODULE
4	24	INLET PIPE (BY OTHERS)
5	24	OUTLET PIPE (BY OTHERS)
6	30	FRAME AND COVER (OR GRATE) (ROUND)

GENERAL NOTES:

1. General Arrangement drawings only. Contact Hydro International for site specific fabrication drawings.
2. The diameter of the inlet & outlet pipes may be no more than 24".
3. Multiple inlet pipes possible (refer to project plans).
4. Inlet/outlet pipe angle can vary to align with drainage network (refer to project plans).
5. Peak flow rate and minimum height limited by available cover and pipe diameter.
6. Larger sediment storage capacity may be provided with a deeper sump depth.

PRODUCT SPECIFICATIONS:

- A. The treatment system shall use an induced vortex to separate pollutants from stormwater runoff.
- B. The treatment system shall fit within the limits of excavation (area and depth) as shown in the project plans and will not exceed the dimensions for the design flow rates specified herein.
- C. The treatment system shall remove greater than or equal to 90% of TSS based on the Target Particle Size (TPS) of 106 microns and/or 80% of TSS based on the TPS of 230 microns at 0.7 cfs and 1.2 cfs, respectively.
- D. The treatment system shall convey the Peak On-line Flow Rates of up to 18 cfs without causing upstream surcharge conditions. Full-scale independent laboratory scour testing shall demonstrate effluent control of less than or equal to 5 mg/L for all flows up to 200% of MTRF-106.
- E. The treatment system shall be capable of capturing and retaining fine silt and sand size particles. Analysis of captured sediment from full-scale field installations shall demonstrate particle sizes predominately in the 20-micron range.

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**Notes**

1. MANHOLE WALL AND SLAB THICKNESSES ARE NOT TO SCALE.
2. CONTACT HYDRO INTERNATIONAL FOR A BOTTOM OF STRUCTURE ELEVATION PRIOR TO SETTING FIRST DEFENSE MANHOLE.
3. CONTRACTOR TO CONFIRM RIM, PIPE INVERTS, PIPE DIA. AND PIPE ORIENTATION PRIOR TO RELEASE OF UNIT TO FABRICATION.

NO.	DATE	DESCRIPTION
D	JB 8/24/16	PRODUCT SPEC. NOTES

REVISION HISTORY

Date: 11/25/14 Scale: 1/4" = 1'0"  
 Drawn: RC Checked: Approved

Title: 6-FT DIAMETER FIRST DEFENSE

HIGH CAPACITY GENERAL ARRANGEMENT

**Hydro International**

Stormwater Solutions  
 94 Hutchins Drive  
 Portland, Maine 04102  
 Tel: (207) 756-6200  
 Fax: (207) 756-6212  
 stormwaterinquiry@hydro-int.com

CAD Ref: F6HC-MAX  
 Project No. XX-XXXX  
 Drawing No. F6HCS1 Rev. D

**Parts List**

ITEM	SIZE (in)	DESCRIPTION
1	48	I.D. PRECAST MANHOLE
2		LEDGER SUPPORT
3		SEPARATION MODULE
4	30	INLET PIPE (BY OTHERS)
5	30	OUTLET PIPE (BY OTHERS)
6	30	FRAME AND COVER (OR GRATE) (ROUND)

GENERAL NOTES:

1. General Arrangement drawings only. Contact Hydro International for site specific fabrication drawings.
2. The maximum diameter of the inlet & outlet pipes is 30". For pipes larger than 30", please contact Hydro International for additional design assistance.
3. Multiple inlet pipes possible (refer to project plans).
4. Inlet/outlet pipe angle can vary to align with drainage network (refer to project plans).
5. Peak flow rate and minimum height limited by available cover and pipe diameter.
6. Larger sediment storage capacity may be provided with a deeper sump depth.

PRODUCT SPECIFICATIONS:

- A. The treatment system shall use an induced vortex to separate pollutants from stormwater runoff.
- B. The treatment system shall fit within the limits of excavation (area and depth) as shown in the project plans and will not exceed the dimensions for the design flow rates specified herein.
- C. The treatment system shall remove greater than or equal to 90% of TSS based on the Target Particle Size (TPS) of 106 microns and/or 80% of TSS based on the TPS of 230 microns at 0.7 cfs and 1.2 cfs, respectively.
- D. The treatment system shall convey the Peak On-line Flow Rates of up to 32 cfs without causing upstream surcharge conditions. Full-scale independent laboratory scour testing shall demonstrate effluent control of less than or equal to 5 mg/L for all flows up to 200% of MTRF-106.
- E. The treatment system shall be capable of capturing and retaining fine silt and sand size particles. Analysis of captured sediment from full-scale field installations shall demonstrate particle sizes predominately in the 20-micron range.

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**CAPACITIES:**

1. PEAK HYDRAULIC FLOW: 18.0 cfs (610 l/s)
2. TREATMENT FLOW: 0.7 cfs (20 l/s)
3. SEDIMENT STORAGE CAPACITY: 0.5 cu. yd. (0.5 cu. m.)
4. OIL STORAGE CAPACITY: 150 gal. (568 l)
5. MAXIMUM INLET/OUTLET PIPE DIAMETERS: 24 in. (600 mm)

**CAPACITIES:**

1. PEAK HYDRAULIC FLOW: 32.0 cfs (708 l/s)
2. TREATMENT FLOW: 2.2 cfs (63 l/s)
3. SEDIMENT STORAGE CAPACITY: 1.8 cu. yd. (1.2 cu. m.)
4. OIL STORAGE CAPACITY: 486 gal. (1,878 liters)
5. MAXIMUM INLET/OUTLET PIPE DIAMETERS: 30 in. (760 mm)