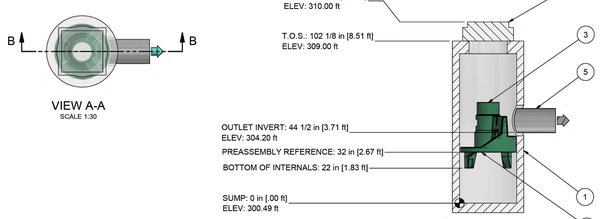

1. MANHOLE WALL AND SLAB THICKNESS ARE NOT TO SCALE.
2. CONTACT HYDRO INTERNATIONAL FOR A BOTTOM OF STRUCTURE ELEVATION PRIOR TO SETTING FIRST DEFENSE MANHOLE.
3. CONTRACTOR TO CONFIRM RIM, PIPE INVERTS, PIPE DIA. AND PIPE ORIENTATION PRIOR TO RELEASE OF UNIT TO FABRICATION.
4. CONTRACTOR IS RESPONSIBLE FOR MATERIALS AND LABOR TO BRING CASTINGS TO FINISHED GRADE
5. ACTUAL DEPTH OF STRUCTURE MAY VARY DEPENDING ON AVAILABLE PRECAST FORMS. CONTRACTOR TO MEASURE HEIGHT OF STRUCTURE TO ENSURE THAT DEPTH OF EXCAVATION IS CORRECT.
6. UNIT MUST BE INSTALLED ON A LEVEL BASE. MANUFACTURER RECOMMENDS A MINIMUM OF 6" LEVEL ROCK BASE UNLESS SPECIFIED. CONTRACTOR IS RESPONSIBLE TO VERIFY BASE SPECIFICATIONS.
7. ALL PIPES SHALL BE SEALED WATERTIGHT WITH A NON-SHRINK GROUT OR BOOTS AND SHALL MEET OR EXCEED REGIONAL PIPE CONNECTION STANDARDS.

REVISION HISTORY

REV.	BY	DESCRIPTION	DATE
-	EKM	FIRST RELEASE	1/9/2024

PROJECTION

IF IN DOUBT ASK

DATE:	SCALE:
1/9/2024	1:30

DRAWN BY:	CHECKED BY:	APPROVED BY:
EKM		

TITLE:
3-ft DIAMETER
FIRST DEFENSE OPTIMUM

MTD C3
IV2 ROCKLAND LOGISTICS
VILLAGE OF SUFFERN, NY

Patent: www.hydro-int.com/patents

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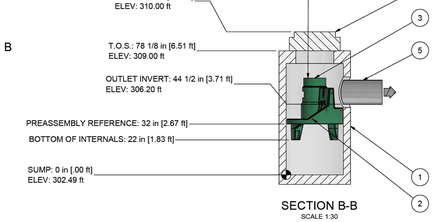
WEIGHT: | MATERIAL:
STOCK NUMBER: 1
DRAWING NO: 24_12_0026-3ftFDO-1
SHEET SIZE: B | SHEET: 1 OF 1 | Rev: -

CAPACITIES:
1. PEAK HYDRAULIC FLOW: 15.0 cfs (424 l/s)
2. SEDIMENT STORAGE CAPACITY: 0.4 cu. yd. (0.3 cu. m.)
3. MAXIMUM INLET/OUTLET PIPE DIAMETERS: 18 in. (450 mm)

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 convey the Peak On-line Flow Rates of up to 15 cfs without causing upstream surcharge conditions.
D. The treatment system shall be capable of capturing and retaining fine silt and sand size particles.
E. Unit shall conform to HS20-44 load ratings.

PARTS LIST

ITEM	QTY	SIZE (in)	DESCRIPTION	TYPE
1	1	36	I.D. PRECAST MANHOLE	
2	1		LEDGER SUPPORT	
3	1		SEPARATION MODULE	
4	1	24	FRAME AND GRATE (SQUARE)	
5	1	15	OUTLET PIPE (BY OTHERS)	HDPE



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REVISION HISTORY

REV.	BY	DESCRIPTION	DATE
-	EKM	FIRST RELEASE	1/9/2024

PROJECTION

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DATE:	SCALE:
1/9/2024	1:30

DRAWN BY:	CHECKED BY:	APPROVED BY:
EKM		

TITLE:
3-ft DIAMETER
FIRST DEFENSE OPTIMUM

MTD C4
IV2 ROCKLAND LOGISTICS
VILLAGE OF SUFFERN, NJ

Patent: www.hydro-int.com/patents

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WEIGHT: | MATERIAL:
STOCK NUMBER: 2
DRAWING NO: 24_12_0026-3ftFDO-2
SHEET SIZE: B | SHEET: 1 OF 1 | Rev: -

CAPACITIES:
1. PEAK HYDRAULIC FLOW: 15.0 cfs (424 l/s)
2. SEDIMENT STORAGE CAPACITY: 0.4 cu. yd. (0.3 cu. m.)
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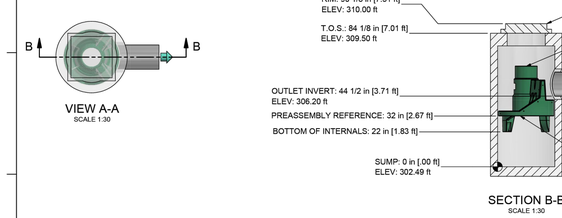
C. The treatment system shall convey the Peak On-line Flow Rates of up to 15 cfs without causing upstream surcharge conditions.
D. The treatment system shall be capable of capturing and retaining fine silt and sand size particles.
E. Unit shall conform to HS20-44 load ratings.

PARTS LIST

ITEM	QTY	SIZE (in)	DESCRIPTION	TYPE
1	1	36	I.D. PRECAST MANHOLE	
2	1		LEDGER SUPPORT	
3	1		SEPARATION MODULE	
4	1	24	FRAME AND GRATE (SQUARE)	
5	1	15	OUTLET PIPE (BY OTHERS)	HDPE



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REVISION HISTORY

REV.	BY	DESCRIPTION	DATE
-	EKM	FIRST RELEASE	1/9/2024

PROJECTION

IF IN DOUBT ASK

DATE:	SCALE:
1/9/2024	1:30

DRAWN BY:	CHECKED BY:	APPROVED BY:
EKM		

TITLE:
3-ft DIAMETER
FIRST DEFENSE OPTIMUM

MTD C5
IV2 ROCKLAND LOGISTICS
VILLAGE OF SUFFERN, NJ

Patent: www.hydro-int.com/patents

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WEIGHT: | MATERIAL:
STOCK NUMBER: 3
DRAWING NO: 24_12_0026-3ftFDO-3
SHEET SIZE: B | SHEET: 1 OF 1 | Rev: -

CAPACITIES:
1. PEAK HYDRAULIC FLOW: 15.0 cfs (424 l/s)
2. SEDIMENT STORAGE CAPACITY: 0.4 cu. yd. (0.3 cu. m.)
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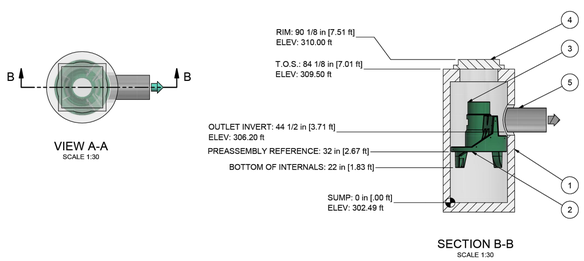
E. Unit shall conform to HS20-44 load ratings.

PARTS LIST

ITEM	QTY	SIZE (in)	DESCRIPTION	TYPE
1	1	36	I.D. PRECAST MANHOLE	
2	1		LEDGER SUPPORT	
3	1		SEPARATION MODULE	
4	1	24	FRAME AND GRATE (SQUARE)	
5	1	15	OUTLET PIPE (BY OTHERS)	HDPE



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REVISION HISTORY

REV.	BY	DESCRIPTION	DATE
-	EKM	FIRST RELEASE	1/9/2024

PROJECTION

IF IN DOUBT ASK

DATE:	SCALE:
1/9/2024	1:30

DRAWN BY:	CHECKED BY:	APPROVED BY:
EKM		

TITLE:
3-ft DIAMETER
FIRST DEFENSE OPTIMUM

MTD D5
IV2 ROCKLAND LOGISTICS
VILLAGE OF SUFFERN, NY

Patent: www.hydro-int.com/patents

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WEIGHT: | MATERIAL:
STOCK NUMBER: 5
DRAWING NO: 24_12_0026-3ftFDO-5
SHEET SIZE: B | SHEET: 1 OF 1 | Rev: -

CAPACITIES:
1. PEAK HYDRAULIC FLOW: 15.0 cfs (424 l/s)
2. SEDIMENT STORAGE CAPACITY: 0.4 cu. yd. (0.3 cu. m.)
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PARTS LIST

ITEM	QTY	SIZE (in)	DESCRIPTION	TYPE
1	1	36	I.D. PRECAST MANHOLE	
2	1		LEDGER SUPPORT	
3	1		SEPARATION MODULE	
4	1	24	FRAME AND GRATE (SQUARE)	
5	1	15	OUTLET PIPE (BY OTHERS)	HDPE

Plotted: 01/17/24 – 12:05 PM, By: areyes, – Product Ver: 24.3a (LMS Tech)
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Rev.	Date	Comments	By
5	01/17/24	REV. PER PLANNING BOARD SUBMISSION	CAM
4	06/13/23	REV. PER VILLAGE AND COUNTY COMMENTS	CAM
3	05/24/23	REV. PER ACOE COMMENTS	JMS/MK
2	09/01/22	REV. PER TOWNSHIP AND COUNTY COMMENTS	AJ-PH
1	04/25/22	REV. PER CLIENT AND COUNTY COMMENTS	CAM

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Allen, Texas T: 972.334.2100 | Austin, Texas T:512.646.2646 | Houston, Texas T: 281.789.6400 | Delray Beach, Florida T: 561.921.8370
Newtown, Pennsylvania T: 267.685.0276 | Philadelphia, Pennsylvania T: 215.233.4888 | Bethlehem, Pennsylvania T: 610.598.4400

TITLE:
HYDRO INTERNATIONAL DETAILS

PROJECT: **IV2 ROCKLAND LOGISTICS, LLC**
PROPOSED INDUSTRIAL PARK AT 25 OLD MILL ROAD
SECTION 55.22 BLOCK 1, LOT 1; SECTION 55.37, BLOCK 1, LOT 31
OLD MILL ROAD AND HEMION ROAD (CR 93)
VILLAGE OF SUFFERN, ROCKLAND COUNTY, NEW YORK

ZACHARY A. KAMM
PROFESSIONAL ENGINEER
NEW YORK LICENSE No. 107071

JOSHUA M. SCHWALD
STATE OF NEW YORK · LICENSED PROFESSIONAL ENGINEER · 087639
PROFESSIONAL ENGINEER
NEW YORK LICENSE No. 087639

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JOB No:	3709-99-004
DATE:	12/17/2021
DRAWN BY:	UV
SCALE: (H) NOT TO (V) SCALE	
DESIGNED BY:	JMS
CHECKED BY:	JMS
CHECKED BY:	ZAK
SHEET No:	125 OF 132
Rev. #	5