

NEW DRAINAGE STRUCTURE SCHEDULE

- 1 10" INLINE DRAIN, MANUF. BY ADS
PRODUCT NUMBER 2710AGBN, W/ STANDARD GRATE
TOP OF GRATE 117.00
INV. 6" HDPE PIPE BEND 113.83
- 2 10" NEW 6" HDPE PIPE @ 8.31%
- 3 10" INLINE DRAIN, MANUF. BY ADS
PRODUCT NUMBER 2710AGBN, W/ STANDARD GRATE
TOP OF GRATE 116.00
INV. 6" HDPE PIPE TEE 113.00
- 4 65" NEW 6" HDPE PIPE @ 8.31%
- 5 10" INLINE DRAIN, MANUF. BY ADS
PRODUCT NUMBER 2710AGBN, W/ STANDARD GRATE
TOP OF GRATE 111.00
INV. 8" HDPE PIPE BEND 108.50
- 6 25" NEW 8" HDPE PIPE @ 1.00%
- 7 10" INLINE DRAIN, MANUF. BY ADS
PRODUCT NUMBER 2710AGBN, W/ STANDARD GRATE
TOP OF GRATE 111.00
INV. 8" HDPE PIPE TEE 108.25
- 8 10" NEW 8" HDPE PIPE @ 1.00%
- 9 10" INLINE DRAIN, MANUF. BY ADS
PRODUCT NUMBER 2710AGBN, W/ STANDARD GRATE
TOP OF GRATE 113.00
INV. 8" HDPE PIPE TEE 108.15
- 10 55" NEW 8" HDPE PIPE @ 1.00%
- 11 18" DRAINAGE BASIN, MANUF. BY ADS
PRODUCT NUMBER 2818AG, W/ STANDARD GRATE
TOP OF GRATE 113.00
INV.(IN) 6" HDPE PIPE 107.60
INV.(IN) 8" HDPE PIPE 107.60
INV.(OUT) 12" HDPE PIPE 107.60
ANGLE BETWEEN PIPES=90 DEG.
- 12 58" NEW 12" HDPE PIPE @ 1.00%
- 13 24" INLINE DRAIN, MANUF. BY ADS
PRODUCT NUMBER 2718AG12N, W/ STANDARD GRATE
TOP OF GRATE 116.00
INV. 12" HDPE PIPE BEND 112.00
- 14 35" NEW 12" HDPE PIPE @ 2.86%
- 15 18" DRAINAGE BASIN, MANUF. BY ADS
PRODUCT NUMBER 2818AG, W/ STANDARD GRATE
TOP OF GRATE 117.00
INV.(IN) 12" HDPE PIPE 111.00
INV.(OUT) 12" HDPE PIPE 111.00
ANGLE BETWEEN PIPES=122 DEG.
- 16 125" NEW 12" HDPE PIPE @ 2.40%
- 17 12" INLINE DRAIN, MANUF. BY ADS
PRODUCT NUMBER 2712AGBN, W/ STANDARD GRATE
TOP OF GRATE 119.00
INV. 8" HDPE PIPE BEND 116.00
- 18 36" NEW 8" HDPE PIPE @ 3.33%
- 19 10" INLINE DRAIN, MANUF. BY ADS
PRODUCT NUMBER 2710AGBN, W/ STANDARD GRATE
TOP OF GRATE 119.00
INV. 8" HDPE PIPE TEE 114.80
- 20 47" NEW 8" HDPE PIPE @ 6.49%
- 21 15" DRAINAGE BASIN, MANUF. BY ADS
PRODUCT NUMBER 2815AG, W/ STANDARD GRATE
TOP OF GRATE 117.00
INV.(IN) 8" HDPE PIPE 111.75
INV.(OUT) 8" PVC PIPE 111.75
ANGLE BETWEEN PIPES=100 DEG.
- 22 163" NEW 8" SDR35 PVC PIPE @ 3.99%
- 23 VDOT STD DROP INLET, DI-1
TOP 113.00
INV.(IN) 12" HDPE PIPE 107.02 (FROM INLET 6)
INV.(IN) 12" HDPE PIPE 108.00 (FROM INLET 8)
INV.(IN) 8" PVC PIPE 105.25 (FROM INLET 12)
INV.(OUT) 15" RCP 105.15
- 24 82" NEW 15" RCP @ 1.40%
- 25 15" END-SECTION, VDOT STD ES-1
INV. (OUT) 104.00
- 26 VDOT STD CURB INLET, DI-3B, L=12'
TOP 107.50
INV. (OUT) 103.00
- 27 32" NEW 15" HDPE PIPE @ 1.88%
- 28 15" END-SECTION, MANUF. BY ADS
INV. (OUT) 102.40
- 29 CAST-IN-PLACE ENDWALL
VDOT STD EW-1
18" RCP, INV. 101.80
BOLT A RESTRICTOR PLATE WITH
AN 7 3/4" DIA. HOLE OVER THE END
OF THE PIPE, INV. OF HOLE 101.80
- 30 35" NEW 18" RCP @ 1.14%
- 31 VDOT STD DROP INLET, DI-1
TOP 105.00
INV.(IN) 6" PVC 101.50
INV.(IN) 18" RCP 101.40
INV.(OUT) 101.30
- 32 10" NEW 18" RCP @ 5.00%
- 33 18" END-SECTION, VDOT STD ES-1
INV. (OUT) 100.80
- 34 NEW VDOT STD ES-1
END-SECTION FOR 18" PIPE
INV. (IN) 101.50
- 35 62" NEW 18" CLASS III RCP
@ 1.61%
- 36 NEW VDOT STD ES-1
END-SECTION FOR 18" PIPE
INV. (OUT) 100.50
- 37 NEW 8" CLEANOUT STACK
TOP 116.50
INV. (OUT) 103.00
- 38 50" NEW 6" HDPE PIPE @ 10.00%
- 39 NEW 8" CLEANOUT STACK
TOP 111.00
INV. (OUT) 101.50
- 40 INVERT OUT 6" PIPE 104.50
- 41 NEW TRENCH DRAIN, FRAME AND COVER
BY NEENAH FOUNDRY,
CATALOG #R-4990-CX W/ TYPE "C" GRATE
TRENCH TO BE CONC. 22' LONG x 10" WIDE x 12" DEEP
TOP OF GRATE (HIGH END) 105.25
TOP OF GRATE (LOW END) 104.20
INV. 6" OUTFALL PIPE 103.20
(SEE DETAIL ON THIS SHEET)
- 42 24" NEW 6" SDR35 PVC @ 7.08%
INV. (OUT) 101.50

REFER TO SHEET SP-6
FOR NEW STORM SEWER PROFILES

BENCHMARK SET
P.K. NAIL IN 12" CHERRY
ELEVATION = 126.02 (ASSUMED)

15" END-SECTION, MANUF. BY ADS
INV. (OUT) 102.40

CAST-IN-PLACE ENDWALL
VDOT STD EW-1
18" RCP, INV. 101.80
BOLT A RESTRICTOR PLATE WITH
AN 7 3/4" DIA. HOLE OVER THE END
OF THE PIPE, INV. OF HOLE 101.80

35" NEW 18" RCP @ 1.14%

VDOT STD DROP INLET, DI-1
TOP 105.00
INV.(IN) 6" PVC 101.50
INV.(IN) 18" RCP 101.40
INV.(OUT) 101.30

10" NEW 18" RCP @ 5.00%

18" END-SECTION, VDOT STD ES-1
INV. (OUT) 100.80

NEW VDOT STD ES-1
END-SECTION FOR 18" PIPE
INV. (IN) 101.50

62" NEW 18" CLASS III RCP
@ 1.61%

NEW VDOT STD ES-1
END-SECTION FOR 18" PIPE
INV. (OUT) 100.50

NEW 8" CLEANOUT STACK
TOP 116.50
INV. (OUT) 103.00

50" NEW 6" HDPE PIPE @ 10.00%

24" NEW 6" SDR35 PVC @ 7.08%
INV. (OUT) 101.50

NEW TRENCH DRAIN, FRAME AND COVER
BY NEENAH FOUNDRY,
CATALOG #R-4990-CX W/ TYPE "C" GRATE
TRENCH TO BE CONC. 22' LONG x 10" WIDE x 12" DEEP
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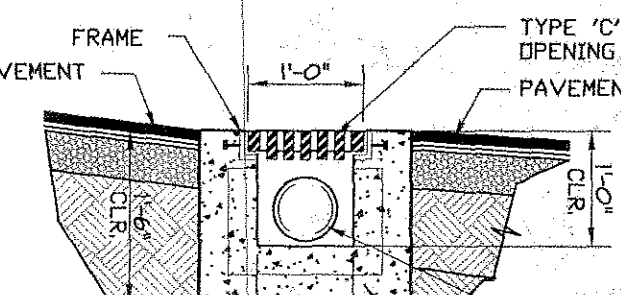
(PIPE LENGTHS SHOWN DO NOT INCLUDE FITTINGS.
FIELD ADJUSTMENTS MAY BE NECESSARY)
HOPE PIPING TO BE HIGH DENSITY POLYETHYLENE
N-12 DUAL-WALL PIPE MANUFACTURED BY
ADVANCE DRAINAGE SYSTEM.
ROOF DRAINS SHALL CONNECT TO DOWNSPOUTS
WITH DOWNSPOUT ADAPTERS BY ADS, OR AN
APPROVED EQUIVALENT.
ROOF DRAINS TO BE 6" HDPE PIPE AT A 2.00%
MIN. GRADE. ROOF DRAINS TO CONNECT TO STORM
PIPE WITH FABRICATED WYES OR BENDS.
PIPING SHALL BE INSTALLED IN STRICT ACCORDANCE
WITH MANUFACTURER'S RECOMMENDATIONS.



TRENCH DRAIN SECTION

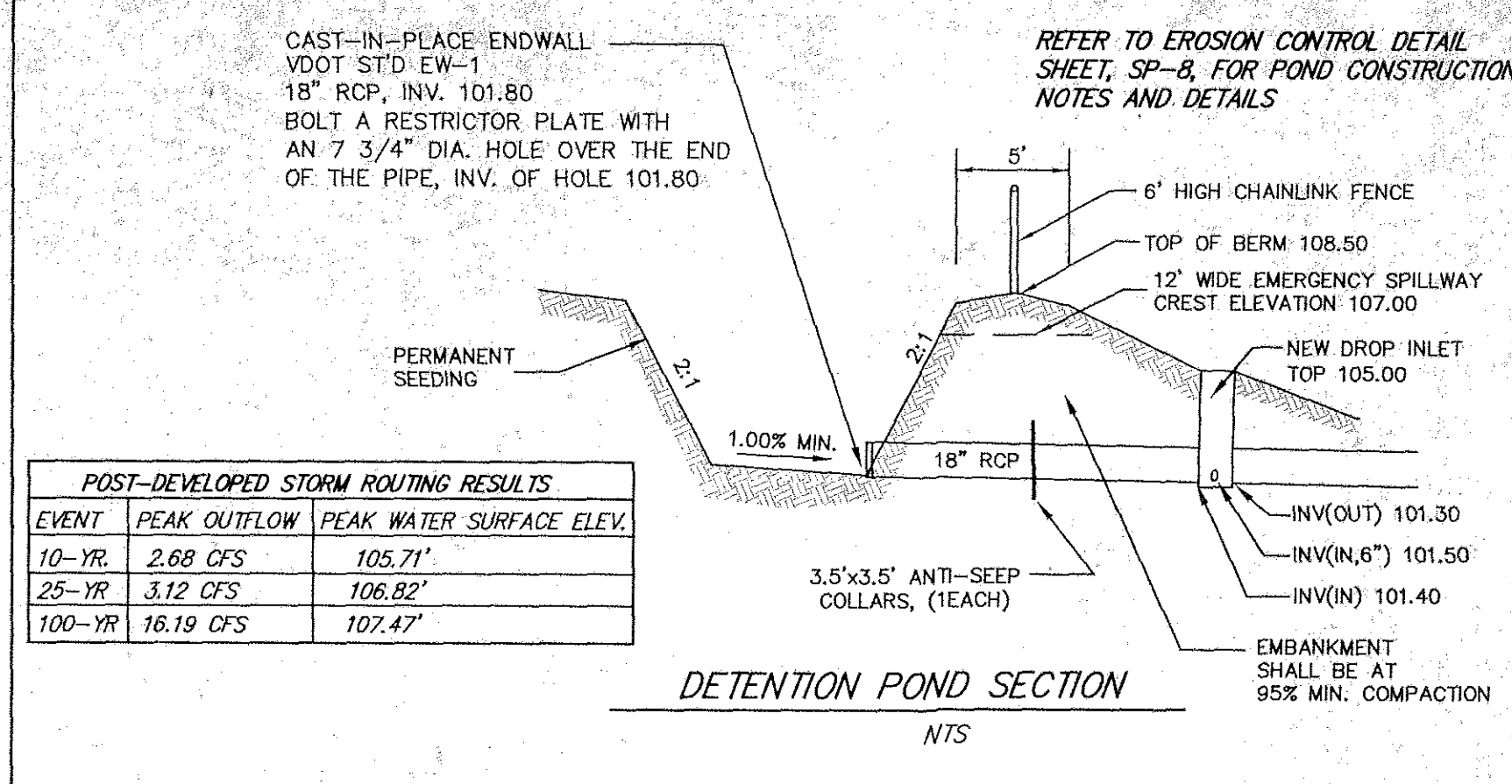
SCALE: 3/4" = 1'-0"

TRENCH FRAME & GRATE TO BE
MANUFACTURED BY NEENAH - CATALOG
NO. R-4990-CX W/TYPE "C" GRATE



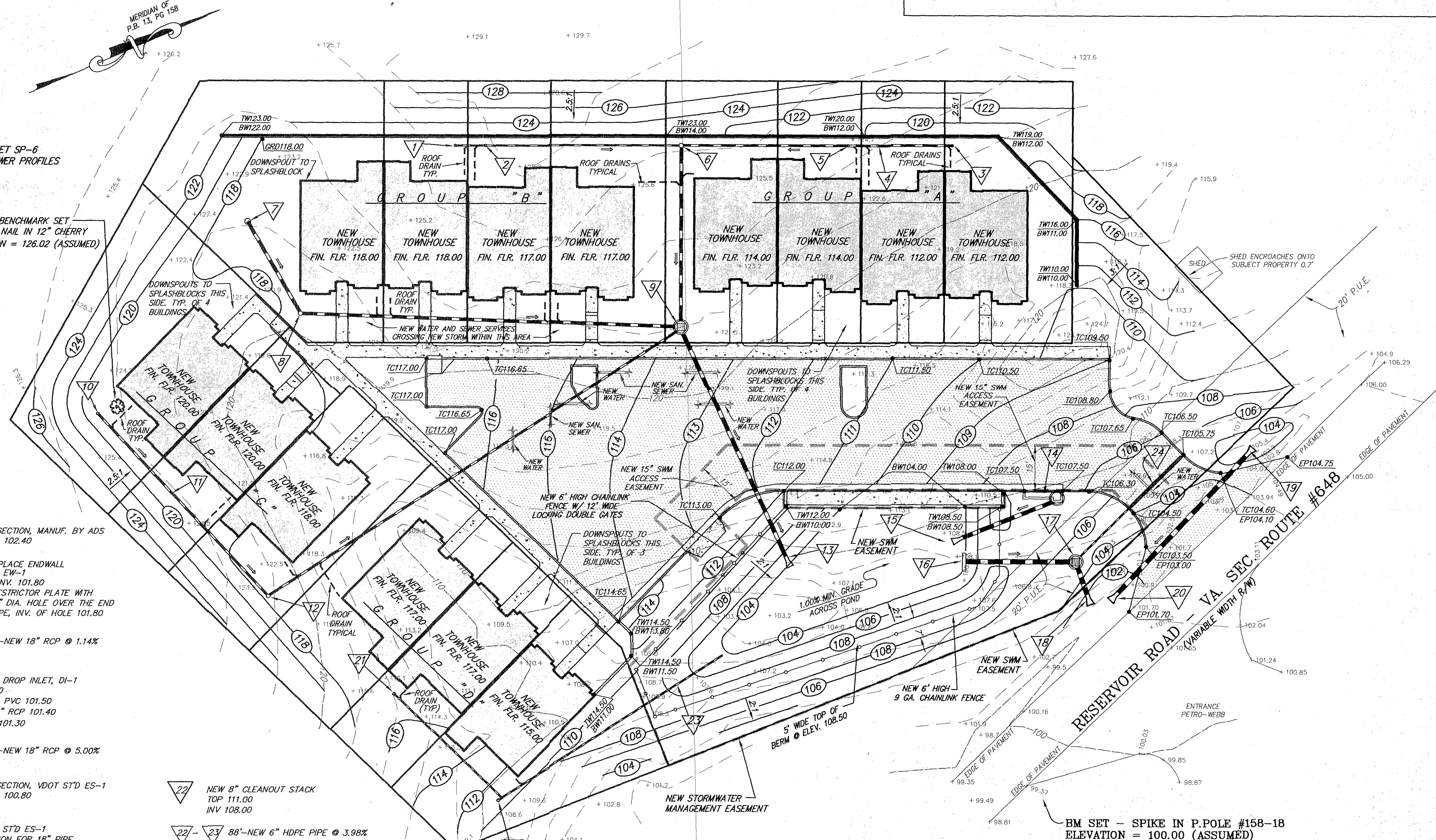
TRENCH DRAIN DETAIL

SCALE: 3/4" = 1'-0"



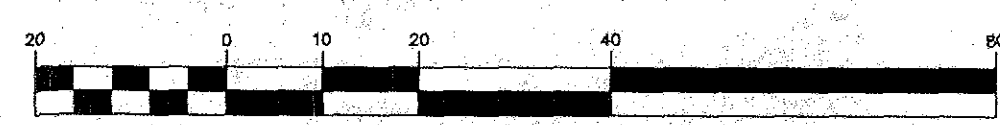
DETENTION POND SECTION

NTS



NOTES
CONTRACTOR TO HAVE AN AS-BUILT SURVEY OF
THE DETENTION POND, PREPARED BY A LICENSED
SURVEYOR & APPROVED BY ROANOKE COUNTY
ENGINEERING DEPARTMENT, PRIOR TO SEEDING
THE POND.
OWNER TO PROVIDE STORMWATER MANAGEMENT
PLAN & MAINTENANCE AGREEMENT FOR NEW
DETENTION POND AND ASSOCIATED STORM
DRAINAGE STRUCTURES AND PIPING.

GRAPHIC SCALE



(IN FEET)
1 inch = 20 ft.

BOUNDARY & TOPOGRAPHIC SURVEY
OF
LOT 8, EMERALD COURT (1.709 AC.)
PLAT BOOK 13, PAGE 158
TAX MAP 27.08-02-27, ZONED R3C
RESERVOIR ROAD, VA. SEC. RTE. #648
HOLLINS MAGISTERIAL DISTRICT, ROANOKE COUNTY, VA

PERFORMED BY
LUMSDEN ASSOCIATES, P.C.
ENGINEERS - SURVEYORS - PLANNERS
ROANOKE, VIRGINIA
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DATE: JULY 9, 2002 COMM NO. 02-185

DATE: JULY 9, 2002

REVISIONS

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HUGHES ASSOCIATES ARCHITECTS
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**GARDEN TOWNHOMES
EMERALD COURT HOMES**
ROANOKE COUNTY, VIRGINIA

GRADING & DRAINAGE PLAN

COMMISSION NO.
02024

SHEET
SP-4

No. 4 of 6