HIGHWAY TRACING AID SHEET
PLATE 3-FULL CROSS SECTION-FULL LINE
NATIONAL PRINTING
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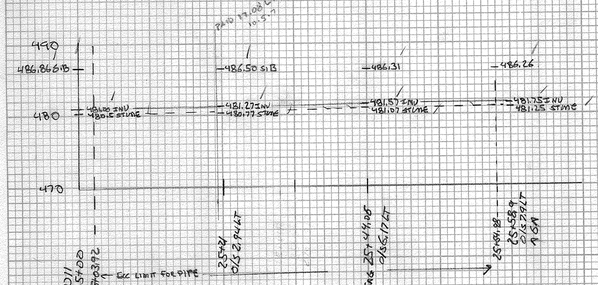
(22) 44+83.5 ℄ HARTFORD AVE = 25+00 SAUNDERS AVE TO 25+58.9 LT SAUNDERS AVE (58 L.F.)
MAS D11 ℄ 8" SDR S=.013 FT/FT
SMH AGA 7.9' LT



ITEM 204.20 TRENCH EXCAVATION OF EARTH

STATION	HEIGHT	AVG HT	≤ 5	+5	WIDTH	LENGTH	C.Y	150%
25+03.92	6.35							
		6.04	5		2.7	17.08	8.54	
				1.04	2.7	17.08		2.66
25+21	5.73							
		5.49	5		2.7	23.06	11.53	
				.49	2.7	23.06		1.69
25+44.06	5.24							
		5.13	5		2.7	14.84	7.42	
				.13	2.7	14.84		.29
25+58.9	5.01						27.49	4.64 → 32.13 C.Y. BL 5/18/07

EXCAVATION FOR MNS AGA TO BE BASED ON SNOP DRAWINGS
ITEM 204.30 GRANULAR BACKFILL FOR STRUCTURES
(54.98+.5+1+.5+1) x 2.7 x .85 x 1/27 = 4.93 C.Y.
UNDER MNS AGA = 1.20 C.Y.

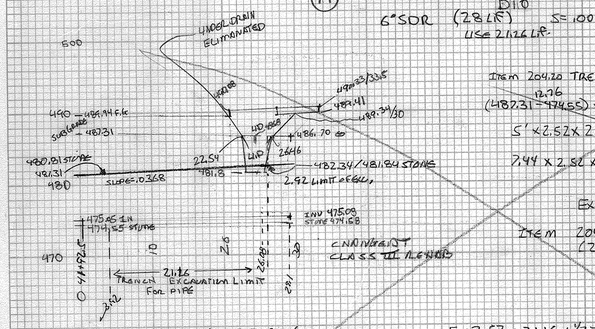
EXCAVATION OF MNS AGA
SUBGRADE 486.26
IN 481.75
4.51 + 1.4+.5 = 6.41
5' x (.84/2)² π x 1/27 = 8.94 C.Y.
1.41 x (.84/2)² π x 1/27 x 150% = 3.78 C.Y.
12.72 C.Y. 10/30/07
12.72 − 3.18 = 9.54 C.Y.

REMOVAL EXISTING STRUCTURE 10/29/07
FROM 5' Ø x 7.5' RT
2.63 x (5/2)² π x 1/27 = SOLID ROCK 1.91 C.Y.
(7.5 − 2.63) x (5/2)² π x 1/27 = TRENCH ROCK 3.18 C.Y.

3.13 C.Y. TRENCH + 9.54 C.Y. = 12.67 C.Y.
PAID 10/29/07

CPH 02/11/08

(19) HARTFORD AVE 41+97.5 RT 0/S 1.8' TO 41+96.1 0/S 2.9' RT
D10 B91
6" SDR (28 L.F.) S=.001
USE 2.126 L.F.



SEE CALC BINDER CGB 05/04/10

ITEM 204.20 TRENCH EXCAVATION OF EARTH
(487.31 − 474.55) + (486.70 − 475.68) / 2 = AVGNT 12.44
5' x 2.52 x 21.26 x 1/27 = 9.82 C.Y. ← UNDERDRAIN: 16.15 S.F. x 2.52 TRENCH WIDTH x 1/27 = 8.38 C.Y.
7.44 x 2.52 x 21.26 x 1/27 x 150% = 22.56 C.Y.
22.56 − 8.38 = 30.94 C.Y. BL 5/19/07

EXCAVATION FOR SMH BSI TO BE BASED ON SNOP DRAWING DEPTH → CHANGED TO CLASS III REQ'D.

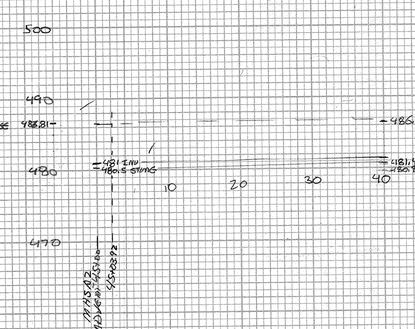
ITEM 204.30 GRANULAR BACKFILL FOR STRUCTURES
(21.26+.5+1+1.5) x 2.52 x .76 x 1/27 = 1.72 C.Y. CRUSHED STONE USED
UNDER MNS B91 = 1.20 C.Y.

CHANGED TO CLASS III REQ'D

487.31 − 480.81 = 6.5
486.70 − 478.84 = 7.86 } AVG = 5.68

5 x 2.52 x 21.16 x 1/27 = 9.87
.68 x 2.52 x 21.16 x 1/27 x 150% = 2.01
11.88 C.Y. BL 4/7/08

(51) ADVENT LAW STATION 45+00
58+00 HARTFORD AVE TO 45+41.1 RT (40 L.F.) 8" SDR.
MNSA2 OS 3.1 RT (ADVENT LANE)



TRENCH LENGTH = 40 − 3.92 + 1 = 37.08

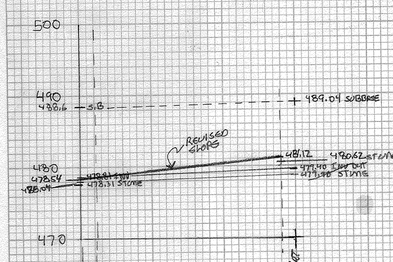
ITEM 204.20 TRENCH EXCAVATION OF EARTH
(486.81 − 480.5) + (486.56 − 480.9) / 2 = AVGNT OF 5.99
37.08 x 5.00 x 2.7 x 1/27 = 18.54 C.Y.
37.08 x .99 x 2.7 x 1/27 x 150% = 5.51 C.Y.
24.05 C.Y. BL 5/18/07

END IS LAP NO MANHOLE.

ITEM 204.30 GRANULAR BACK FILL FOR STRUCTURES
(37.08 + .5 + 1 + 1) x 2.7 x .85 x 1/27 = 3.36 C.Y.

CPH 02/11/08

(39) HARTFORD AVE 52+00 ℄ TO 35+29.9 RT GOULDREW ST (30 L.F.)
(GOULDREW ST = 35+00) 0/S 5'
D14 B96 S=.0292 FT/FT



ITEM 204.20 TRENCH EXCAVATION OF EARTH
(488.6 − 478.31) + (489.04 − 479.90) / 2 = 9.715 AVG HT
5 x 2.7 x 22.06 x 1/27 = 11.03 C.Y.
4.715 x 2.7 x 22.06 x 1/27 x 150% = 15.60 C.Y.
26.63 C.Y. BL 5/18/07

EXCAVATION INCLUDES REMOVAL OF EXISTING SMH

EXCAVATION FOR B96 TO BE BASED ON SNOP DRAWING ~ CHANGED TO CLASS III REQ'D

ITEM 204.30 GRANULAR BACKFILL FOR STRUCTURE
(22.06 + .5 + 1 + .5 + 1) x 2.7 x .85 x 1/27 = 2.13 C.Y.
UNDER MNS B96 = 1.20 C.Y.

488.6 − 478.04 = 10.56 ~~9.67~~
489.04 − 480.6 = 8.44 ~~8.78~~
5 x 2.7 x 22.06 x 1/27 = 11.03 C.Y.
4.67 x 2.7 x 22.06 x 1/27 x 150% = ~~15.49 C.Y.~~ 14.86
~~26.08 C.Y.~~ 25.89 BL 4/7/08

CGB 05/12/10

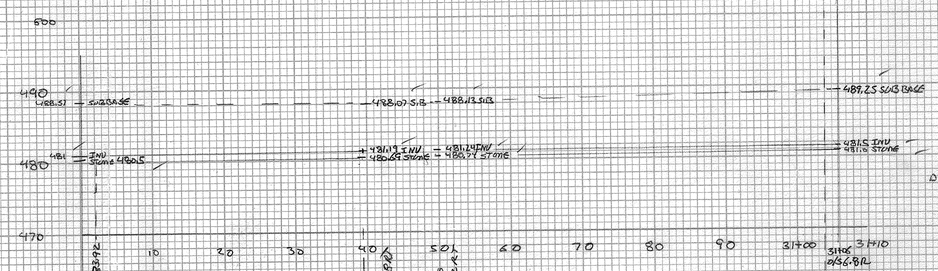
CONNECT EXISTING 8" SEWER PIPE TO TO REHABBED DI
LENGTH = 10.9' − 1.42 = 9.48'
WIDTH = 2.7' FOR 8" PVC
DEPTH = 8.42'

TRENCH EARTH
VOL = (8 x 2.7 x 9.48) + (3.42 x 1.5 x 2.7 x 9.48) = 9.60 C.Y.
27
CGB 05/12/10

TOTAL = 25.89 + 9.60 = 35.49 C.Y.

CGB 05/12/10
RVD 1/31/11

(29) HART AVE 49+10 ℄ TO PIERCE ST 31+05 RT (106 L.F.)
HARTFORD AVE 49+10 = PIERCE ST 30+00 RT ℄
D13 ℄ D130 0/S 6.8' RT
15" SDR S= .005 FT/FT



PAID 10/25/07

STRUCTURE D13A 7.84' ℄ EX. LIMIT
DEPTH = (489.25 − 481.5) + 1.4 + .5 9.65 DEPTH
5' x (7.84/2)² π x 1/27 = 8.94 C.Y.
(4.65) (7.84/2)² π x 1/27 x 150% = 12.47 C.Y.
21.41 C.Y. BL 10/26/07

ITEM 204.30 GRANULAR BACKFILL FOR STRUCTURES.
(98.16 + .5 + 1 + .5 + 1) x 3.28 x 1.13 x 1/27 = 13.89 C.Y.
UNDER MNS D13A = 1.20 C.Y.

ITEM 204.20 TRENCH EXCAVATION OF EARTH

STATION	HEIGHT	AVG HT	≤ 5	+5	WIDTH	LENGTH	C.Y	150%
30+03.92	8.07							
		7.73	5		3.28	34.81	21.14	
				2.73	3.28	34.81		17.32
30+38.73	7.38							
		7.385	5		3.28	11.27	6.85	
				2.385	3.28	11.27		4.90
30+50	7.39							
		7.82	5		3.28	91.08 ~~52.08~~	44.47 ~~31.03~~	29.33
					3.28	91.08 ~~52.08~~		~~36.25~~ 114.21
31+02.08	8.25						62.66 ~~59.63~~	~~58.49~~ → 118.09 C.Y. BL 5/18/06

PIPE WAS EXTENDED 5' DUE TO SPRUCE
CGB 05/12/10

EXCAVATION FOR MNS D13A TO BE BASED ON SNOP DWG 51.55
+ 21.41 MNS 13A
135.62 C.Y.
CGB 05/12/10 RVD 1/31/11

CPH 02/11/08

HARTFORD RS0113(49)
SEWER SECTIONS