

CITY OF DOVER

DOVER, NEW HAMPSHIRE

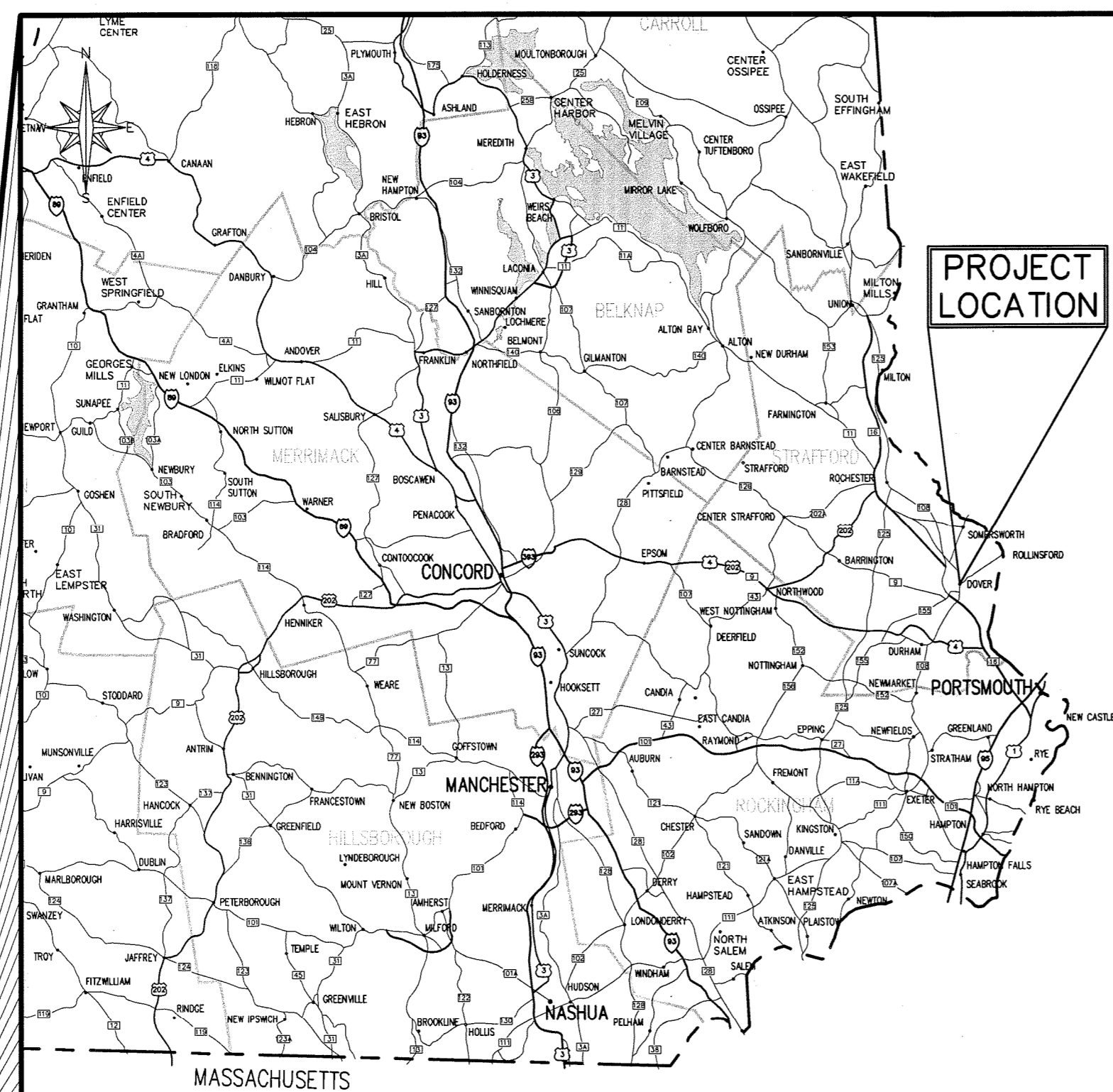
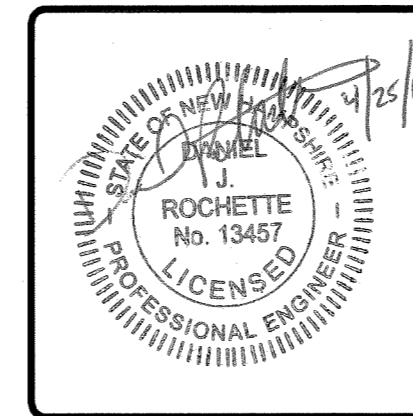
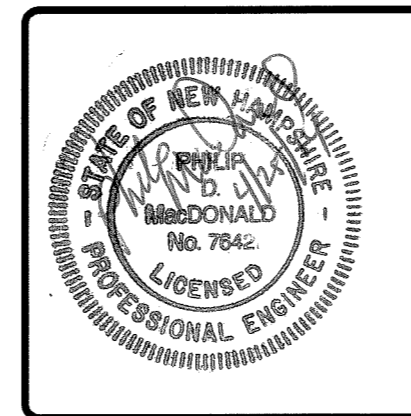
FOR CONSTRUCTION

SILVER STREET RECONSTRUCTION

PREPARED BY

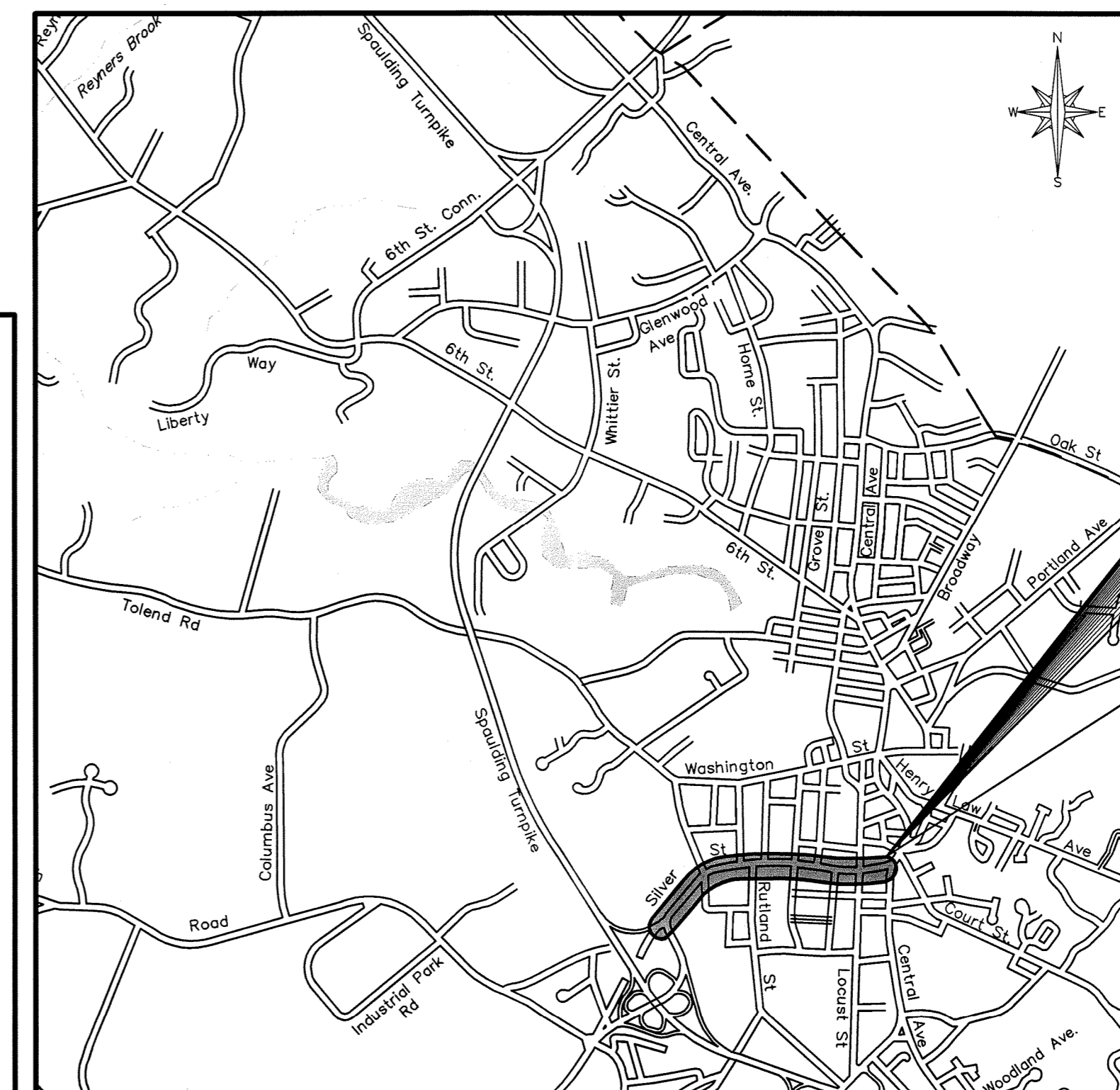
UNDERWOOD ENGINEERS
PORTSMOUTH, NEW HAMPSHIRE

APRIL 2014



LOCATION PLAN

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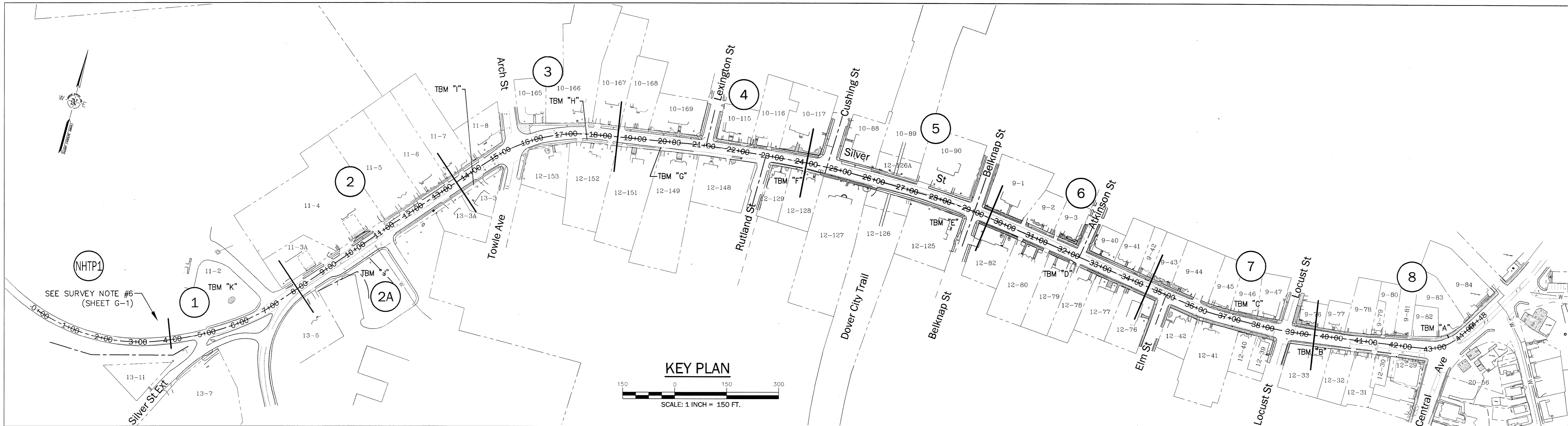
VICINITY MAP

SCALE: 1" = 2000'

UE #1725



H:\Rail\Nashua\UE#1725 - Silver Street\CD\High Silver Street\1725Cover.dwg, COVER, 4/26/2014 11:41:11 AM



LEGEND:

EXISTING	PROPOSED	EXISTING	PROPOSED

ABBREVIATIONS:

APPROX	APPROXIMATE
ARCH	ARCHITECTURAL
AVG	AVERAGE
B	BORING
BL	BASELINE
BLDG	BUILDING
BIT.	BITUMINOUS
BSL	BROKEN SOLID LINE
CB	CATCH BASIN
CFS	CUBIC FEET PER SECOND
CI	CAST IRON PIPE
CL	CENTERLINE
CMP	CORRUGATED METAL PIPE
CONC	CONCRETE
CONST	CONSTRUCT
CONT	CONTINUOUS, CONTINUATION
CPDT	CORRUGATED POLYETHYLENE DRAINAGE TUBING
CPE	CORRUGATED POLYETHYLENE
D	DRAIN
DEC	DECIDUOUS
DHF	DRILL HOLE FOUND
DI	DUCTILE IRON
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
DMH	DRAINAGE MANHOLE
DN	DOWN
DSL	DOUBLE SOLID LINE
DSYL	DASHED SINGLE YELLOW LINE
DYL	DOUBLE YELLOW LINE
EL	ELEVATION
ENGR	ENGINEER
EOG	EDGE OF GRAVEL
EOP/EP	EDGE OF PAVEMENT
EXIST	EXISTING
FDN	FOUNDATION
FF	FINISHED FLOOR
FM	FORCE MAIN
FT	FOOT OR FEET
GAS	PROPANE OR LIQUID GAS
GEN	GENERATOR
GND	GROUND
GPM	GALLONS PER MINUTE
H.B.P.	HOT BITUMINOUS PAVEMENT
HW	HEADWALL
IN	INCH
INV	INVERT ELEVATION
LB	POUND
LF	LINEAR FEET
LGT	LIGHT
LP	LIGHT POLE
MJ	MECHANICAL JOINT
NA OR N/A	NOT APPLICABLE
NET	NEW ENGLAND TELEPHONE COMPANY
NGVD	NATIONAL GEODETIC VERTICAL DATUM
N/F	NOW OR FORMERLY
N/R	NO REFUSAL
OD	OUTSIDE DIAMETER
OS	OUTLET STRUCTURE
PCF	POUNDS PER CUBIC FOOT
PE	POLYETHYLENE
PK	SURVEYOR'S NAIL
PL	PROPERTY LINE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSNH	PUBLIC SERVICE COMPANY OF N.H.
PT	PRESSURE TREATED
PVC	POLYVINYL CHLORIDE SDR 35
PVMT	PAVEMENT
R	REFUSAL
R (RAD)	RADIUS
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
REF	REFER OR REFERENCE
REQD	REQUIRED
RET	RETAINING WALL
ROW	RIGHT OF WAY
S	SEWER
S	SLOPE (I.E., FT. PER FT.) IN PROFILES
SCH	SCHEDULE
SED	SEDIMENTATION
SF	SQUARE FEET
SGC	SLOPED GRANITE CURB
SHT	SHEET
SMH	SEWER MANHOLE
SSL	SINGLE SOLID LINE
ST	STEEL
S.TK	SEPTIC TANK
STA	STATION
STD	STANDARD
STR	STRUCTURAL
STRS	STAIRS
SWL	SINGLE WHITE LINE (EXIST)
SYL	SINGLE YELLOW LINE (EXIST)
S/W	SIDEWALK
SYMM	SYMMETRICAL
TBD	TO BE DETERMINED
TBM	TEMPORARY BENCH MARK
THK	THICKNESS
TRANS	TRANSFORMER
TYP	TYPICAL
U/D	UNDER DRAIN
U/P	UTILITY POLE
V	VENT
VCC	VERTICAL CONCRETE CURB
VCD	VC DRAIN
VCP	VITRIFIED CLAY PIPE
VERT	VERTICAL
VGC	VERTICAL GRANITE CURB
(Y)	YELLOW
(W)	WHITE
W	WATER
W	WALL
WD	WOOD
W/	WITH

TBM TABLE

BENCHMARK TABLE	
TBM "A"	CHISLED BOX ON SOUTHEASTERLY CORNER OF TRANSFORMER PAD ELEV.=85.94'
TBM "B"	MAG NAIL SET UP 6" IN UP #PSNH32 ELEV.=95.57'
TBM "C"	MAG NAIL SET UP 6" IN UP #PSNH3/5 ELEV.=103.26'
TBM "D"	MAG NAIL SET UP 6" IN UP #PSNH3/10 ELEV.=111.51'
TBM "E"	MAG NAIL SET UP 6" IN UP #PSNH3/13 ELEV.=116.88'
TBM "F"	MAG NAIL SET UP 6" IN UP #PSNH3/18 ELEV.=117.63'
TBM "G"	MAG NAIL SET UP 6" IN UP #PSNH3/21 ELEV.=121.65'
TBM "H"	MAG NAIL SET UP 6" IN UP #PSNH3/23 ELEV.=126.89'
TBM "I"	MAG NAIL SET UP 6" IN UP #PSNH3/27 ELEV.=119.97'
TBM "J"	MAG NAIL SET UP 6" IN UP #PSNH3/30 ELEV.=112.15'
TBM "K"	"X" IN BONNET BOLT OVER MAIN OUTLET ELEV.=105.87"

1. THIS IS A STANDARD LEGEND SHEET, THEREFORE SOME ABBREVIATIONS MAY APPEAR ON THIS SHEET AND NOT ON THE DRAWINGS.
 2. CONTACT ENGINEER FOR ABBREVIATIONS USED BUT NOT SHOWN ON THIS DRAWING.

	<p>ISSUE FOR APPROVAL</p> <p>Date 4/7/14</p> <p>By PDM</p> <p>CONSTRUCTION</p> <p>Date 4/18/14</p> <p>RECORD DRAWING</p> <p>Date</p>
<p>Drawn/Chk. RMG</p> <p>Designed DJR/PDM</p> <p>Checked</p> <p>Approved APRIL 18, 2014</p> <p>Book No.</p> <p>Project No. 1725</p> <p>Dwg. ID 1725base.dwg</p> <p>Scale AS SHOWN</p>	<p>REVISIONS</p> <p>NO.</p> <p>APP'D</p>
<p>INDEX, LEGEND, ABBREVIATION & TBM SHEET</p> <p>SILVER STREET RECONSTRUCTION</p> <p>CITY OF DOVER, NEW HAMPSHIRE</p>	<p>DWG NO G-2</p> <p>SHEET 2 OF 56</p>

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CURB SCHEDULE

Curb ID	Radius	Item No.'s. - Granite Curb		
		609.01 Straight (LF)	609.02 Radius (LF)	609.5 Reset (LF)
G1		46.0		
G2		50.0		
G3	30		11.0	
G4		71.6		
G4A		34.0		
G4B	55		11.0	
G4C		26.0		
G5		17.4		
G6	30		10.8	
G7		5.2		
G8		32.8		
G9		6.0		
G10		132.4		
G11		75.8		
G11A		34.0		
G11B	55		11.0	
G11C		30.0		
G13	20		9.0	
G14	20		15.0	
G15		11.1		
G16	20		3.8	
G17	20		20.7	
G18		4.4		
G19		18.7		
G20		34.9		
G21		153.8		
G22		46.2		
G23		76.4		
G24		39.2		
G25		93.9		
G26		50.9		
G27		53.3		
G28		6.6		
G29	16		10.0	
G30	16		20.0	
G31		42.0		
G32		15.2		
G33	30		20.4	
G34	30		5.0	
G35				48.0
G36				8.7
G37	30		18.0	
G38	30		2.5	
G39				17.5
G40	25		22.1	
G41	25		14.7	
G42	476	69.0		
G44	120	29.0		
G45	434	142.0		
G46		66.0		
G47	434	27.0		
G48	466	17.0		
G49		48.4		
G50		55.3		
G51		29.2		
G52		4.4		
G53	30		18.2	
G54		4.7		
G55		60.9		
G56		89.0		
G57		3.0		
G58	30		18.2	
G59	12		7.0	
G60		3.5		
G61		64.0		
G62		80.9		
G63		10.9		
G64	11		6.7	
G64A		4.2		
G65	1316	28.1		
G66		3.0		
G67	5		7.9	
G68	15		5.3	
G69	15		9.4	
G70				50.0
G71	30			9.4
G72	30			9.3
G73				21.3
G74				8.4
G75	30			9.5
G76	30			9.3
G77				45.5
G78	15		11.3	
G79	15		6.7	
G80	1284	67.2		
G80A		10.0		
G81	1339	21.6		
G81A		46.7		
G82		62.5		

Curb ID	Radius	Item No.'s. - Granite Curb		
		609.01 Straight (LF)	609.02 Radius (LF)	609.5 Reset (LF)
G83		57.6		
G84	20		11.3	
G85	20		15.7	
G86				49.1
G87				55.2
G88	20		12.7	
G89	20		8.7	
G90		52.7		
G91		62.5		
G91A		8.2		
G92	2016	73.3		
G93	1984	28.9		
G94	15		9.0	
G95	15		7.0	
G96				70.7
G97	30			13.2
G98	30.92			14.9
G99	30			14.6
G100	30			13.7
G101				66.7
G102	15		9.2	
G103	15		8.3	
G104	1984	155.0		
G105	2016	97.0		
G106		138.8		
G107	6963	23.0		
G111		146.6		
G112		13.9		
G113	1499	112.6		
G114	1484	114.4		
G115	18		11.4	
G116	18		9.1	
G117				35.8
G118	30			10.9
G119	30			12.9
G120	30			12.3
G121	30			10.3
G122				42.6
G123	15		4.0	
G124	15		13.4	
G125	15		8.5	
G126	15		8.4	
G127				62.7
G128	30			8.3
G129	30			8.0
G130	30			8.0
G131	30			8.3
G132				36.9
G133	15		9.8	
G134	15		8.5	
G135	1516	14.3		
G136	1484	10.4		
G137		97.5		
G138		106.5		
G139		55.3		
G139A		8.4		
G140		65.0		
G141		6.9		
G142		11.0		
G143		50.4		
G144		64.0		
G145		10.0		
G146	15		15.8	
G147				48.0
G148	30			9.9
G149	30			7.6
G150	15		15.6	
G151		7.0		
G152	2.5		1.5	
G153		12.4		
G154		57.0		
G155		54.5		
G156		11.3		
G157	5		3.0	
G158		50.8		
G159		4.3		
G160		41.6		
G161		26.7		
G162		136.4		
G163		60.5		
G164		8.0		
G165	16		21.6	
G166	484	2.0		
G167	16.8		5.4	
G168				38.5
G169	30			10.9
G170	30			10.6
G171	30			10.6
G172	30			10.9
G173				34.0

Curb ID	Radius	Item No.'s. - Granite Curb		
		609.01 Straight (LF)	609.02 Radius (LF)	609.5 Reset (LF)
G174	15		9.6	
G175	15		8.4	
G176		61.2		
G178	225	6.6		
G179	484	22.0		
G180		58.0		
G181		46.8		
G184		42.4		
G185		113.1		
G186		27.2		
G187		11.7		
G188		36.2		
G189	1225	45.1		
G190	15		6.7	
G191	15		10.4	
G192				13.9
G193				5.7
G194	10		2.4	
G195	10		2.3	
G196	15		6.4	
G197				12.8
G198				8.7
G199	15		9.1	
G200	15		8.3	
G201	1185	36.1		
G202	1225	47.2		
G203		89.4		
G204		124.2		
G205	3785	52.9		
G206	3834	49.3		
G207	3785	30.0		
G208		41.0		
G209		65.0		
G210		67.0		
G211	30		19.8	
G212		16.0		
G213	150	24.8	1.0	
G214	30		9.5	
G214A	10		11.1	
G215				11.0
G216				88.0
G217	150			55.0
G219		10.0		
G220	3		4.7	
G221		1.0		
G222	3		4.7	
G223		10.0		
Sub-total		5446.1	625.5	1168.1
Rounding*		53.9	44.5	531.9
Total		5,500	670	1,700

*Owner reserves the right to increase quantity of Item 609.5 (reset granite curb). Increase of quantity will be dependant on review of condition of existing curb removed and stock piled from Silver Street. Increase of quantity for Item 609.5 will result in and decrease in quantity for Item 609.01 (New Granite Curb).

DRIVEWAY SCHEDULE

ID No.	Address/Location	Area (SY)	Item #203.1	Item #304.35	Item #403.12
			Common Excav. - 6" Depth (CY)	Grav. (Driveways) - 4" Depth (CY)	H.B.P-Hand Meth. 2.5" Depth (TON)
1	#178 Silver Street	9	1.5	1.0	1.4
2	#171 Silver Street	28	4.7	3.1	4.2
3	#169 Silver Street	44	7.3	4.9	6.6
4	#169 Silver Street	36	6.0	4.0	5.4
5	#161 Silver Street	9	1.5	1.0	1.4
6	#161 Silver Street	9	1.5	1.0	1.4
7	#3 Towle Ave	34	5.7	3.8	5.1
8	#157 Silver Street	11	1.8	1.2	1.7
9	#155 Silver Street	12	2.0	1.3	1.8
10	#144 Silver Street	17	2.8	1.9	2.6
11	#145 Silver Street	14	2.3	1.6	2.1
12	#136 Silver Street	14	2.3	1.6	2.1
13	#137 Silver Street	21	3.5	2.3	3.2
14	#129 Silver Street	28	4.7	3.1	4.2
15	#136 Silver Street	12	2.0	1.3	1.8
16	#125 Silver Street	24	4.0	2.7	3.6
17	#120 Silver Street	20	3.3	2.2	3.0
18	#116 Silver Street	9	1.5	1.0	1.4
19	#118 Silver Street	16	2.7	1.8	2.4
20	#114 Silver Street	19	3.2	2.1	2.9
21	109/111 Silver Street	21	3.5	2.3	3.2
22	#107 Silver Street	14	2.3	1.6	2.1
23	#102 Silver Street	12	2.0	1.3	1.8
24	#98 Silver Street	20	3.3	2.2	3.0
25	Silver Street	19	3.2	2.1	2.9
26	#65 Silver Street	38	6.3	4.2	5.7
27	#80 Silver Street	33	5.5	3.7	5.0
28	#73 Silver Street	23	3.8	2.6	3.5
29	#72 Silver Street	13	2.2	1.4	2.0
30	#73 Silver Street	17	2.8	1.9	2.6
31	#74 Silver Street	18	3.0	2.0	2.7
32	#69 Silver Street	21	3.5	2.3	3.2
33	#70 Silver Street	13	2.2	1.4	2.0
34	#64 Silver Street	12	2.0	1.3	1.8
35	#60 Silver Street	21	3.5	2.3	3.2
36	#62 Silver Street	20	3.3	2.2	3.0
37	#61 Silver Street	20	3.3	2.2	3.0
38	#59 Silver Street	13	2.2	1.4	2.0
39	#53 Silver Street	22	3.7	2.4	3.3
40	#52 Silver Street	11	1.8	1.2	1.7
41	#50 Silver Street	8	1.3	0.9	1.2
42	#43/45 Silver Street	9	1.5	1.0	1.4
43	#37 Silver Street	7	1.2	0.8	1.1
44	#33/35 Silver Street	9	1.5	1.0	1.4
45	#25 Silver Street	17	2.8	1.9	2.6
46	#24 Silver Street	10	1.7	1.1	1.5
47	#17 Silver Street	14	2.3	1.6	2.1
48	#20/22 Silver Street	9	1.5	1.0	1.4
49	#11/13 Silver Street	14	2.3	1.6	2.1
50	#206 Silver Street	15	2.5	1.7	2.3
51	#9 Silver Street	32	5.3	3.6	4.8
52	Rutland St.	28	4.7	3.1	4.2
Permanent Trench Repairs					70.0
Subtotal			156.3	104.3	210.9
Rounding			43.7	15.7	39.1
TOTAL			200.0	120.0	250.0

SIDEWALK SCHEDULE

Location	From Dwy. ID No.	To Dwy./ ID	Item No.			
			608.44 4" Fiber Rein. Conc. Sidewalk (SY)	608.46 6" Fiber Rein. Conc. Sidewalk (SY)	608.52 Dect. Warning Devices (C1-SF)	608.5 Brick Sidewalk (SY)
						Item #304.35 Cr. Gravel (9" depth - CY)
7+81		1	25			6.3
1	Clifford St		134	3	8	36.3
8+28		2	40			10.0
2		3	19			4.8
3		4	42			10.5
Clifford St	</					

ROADWAY SCHEDULE

Full Depth Reconstruction - Silver Street

Binder Course =	4.0 in	0.33 ft
Wearing Course =	1.5 in	0.13 ft
Crushed =	8.0 in	0.67 ft
Bank Run =	16.0 in	1.33 ft
TOTAL Rb:		2.46 ft

Silver Street	Length	Width	Existing Centerline Grade	Centerline Grade	Centerline Δ (EG-FG)*	Depth of Excavation (Δ+Rb)	ITEM#203.1 Common Excavation	ITEM#304.2 Bank Run Gravel	ITEM#304.3 Crushed Gravel	ITEM#403.11A H.B.P (4" Binder)	ITEM#403.11B H.B.P. (1.5" Wearing)
Station	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(CY)	(CY)	(CY)	(TON)	(TON)
8+00		43	107.8	107.80	0.00	2.46	0	0	0	0	15
8+50	50	43	108.5	108.50	0.00	2.46	205	111	56	54	22
9+00	50	45	109.2	109.24	-0.04	2.42	208	114	57	55	22
9+50	50	53	110.1	110.20	-0.10	2.36	226	126	63	61	25
10+00	50	53	111.1	111.20	-0.10	2.36	240	136	68	66	27
10+50	50	53	112.1	112.20	-0.10	2.36	240	136	68	66	27
11+00	50	57	113.1	113.20	-0.10	2.36	249	141	70	68	28
11+20	20	43	113.5	113.60	-0.10	2.36	91	51	26	25	10
11+50	30	43	114.1	114.20	-0.10	2.36	118	67	37	36	14
12+00	50	43	115.1	115.20	-0.10	2.36	197	111	56	54	22
12+50	50	43	116.0	116.20	-0.20	2.26	192	111	56	54	22
13+00	50	43	117.1	117.20	-0.10	2.36	192	111	56	54	22
13+50	50	43	118.0	118.00	0.00	2.46	201	111	56	54	22
14+00	50	43	119.0	119.00	0.00	2.66	213	111	56	54	22
14+50	50	43	119.8	119.60	0.20	2.66	222	111	56	54	22
15+00	50	50	120.4	120.40	0.00	2.46	230	120	60	58	23
15+50	50	70	121.1	121.20	-0.10	2.36	277	153	77	75	30
16+00	50	42	122.2	122.20	0.00	2.46	259	143	72	70	28
16+50	50	42	123.1	123.40	-0.30	2.16	188	109	54	52	21
17+00	50	37	124.1	124.58	-0.48	1.98	159	102	51	49	20
17+50	50	32	125.0	125.23	-0.23	2.23	142	90	45	43	17
18+00	50	32	125.4	125.08	0.32	2.78	158	84	42	40	16
18+50	50	32	124.4	124.15	0.25	2.71	173	84	42	40	16
18+80	30	33	123.4	123.23	0.17	2.63	102	51	26	24	10
19+00	20	40	122.8	122.56	0.24	2.70	76	38	18	20	8
19+50	50	39	121.6	121.10	0.50	2.96	217	102	51	49	20
20+00	50	39	120.6	120.21	0.39	2.85	220	101	51	49	20
20+10	10	39	120.4	120.08	0.32	2.78	43	20	10	10	4
20+50	40	40	119.8	119.51	0.29	2.75	170	82	41	39	16
20+85	35	32	119.3	119.02	0.28	2.74	135	66	34	32	13
21+00	15	37	119.1	118.81	0.29	2.75	56	27	14	14	5
21+50	50	32	118.6	118.11	0.49	2.95	193	90	45	43	17
22+00	50	32	118.1	117.41	0.69	3.15	192	84	42	40	16
22+50	50	33	117.6	116.95	0.65	3.11	200	85	43	40	16
23+00	50	35	117.1	116.69	0.41	2.87	199	89	44	42	17
23+50	50	32	116.9	116.44	0.46	2.92	190	88	44	42	17
24+00	50	32	116.7	116.19	0.51	2.97	185	84	42	40	16
24+50	50	39	116.5	116.00	0.50	2.96	206	93	46	44	18
25+00	50	32	116.8	116.25	0.55	3.01	207	93	46	44	18
25+50	50	32	117.0	116.50	0.50	2.96	188	84	42	40	16
26+00	50	32	117.3	116.75	0.55	3.01	188	84	42	40	16
26+50	50	32	117.4	117.00	0.40	2.86	185	84	42	40	16
27+00	50	32	117.6	117.25	0.35	2.81	178	84	42	40	16
27+50	50	32	117.5	117.20	0.30	2.76	175	84	42	40	16
28+00	50	32	117.4	116.95	0.45	2.91	178	84	42	40	16
28+50	50	32	117.2	116.70	0.50	2.96	185	84	42	40	16
29+00	50	50	116.9	116.45	0.45	2.91	234	106	53	51	21
29+50	50	32	116.5	116.15	0.35	2.81	228	106	53	51	21
30+00	50	32	115.9	115.55	0.35	2.81	177	84	42	40	16
30+50	50	32	115.3	114.90	0.40	2.86	178	84	42	40	16
31+00	50	32	114.6	114.25	0.35	2.81	178	84	42	40	16
31+50	50	32	113.6	113.49	0.11	2.57	169	84	42	40	16
32+00	50	32	112.5	112.20	0.30	2.76	168	84	42	40	16
32+50	50	36	111.2	110.80	0.40	2.86	187	89	44	42	17
33+00	50	39	109.8	109.40	0.40	2.86	209	98	49	47	19
33+40	40	36	108.8	108.38	0.42	2.88	168	78	39	37	15
33+50	10	32	108.6	108.17	0.43	2.89	38	18	9	9	4
34+00	50	39	107.8	107.43	0.37	2.83	198	93	46	44	18
34+50	50	39	107.1	106.83	0.27	2.73	211	101	51	49	20
35+00	50	43	106.4	106.23	0.17	2.63	213	106	53	51	21
35+50	50	37	105.8	105.63	0.17	2.63	204	104	52	50	20
36+00	50	40	105.2	105.03	0.17	2.63	197	100	50	48	19
36+50	50	40	104.4	104.40	0.00	2.46	198	104	52	50	20
37+00	50	40	103.2	103.27	-0.07	2.39	188	104	52	50	20
37+50	50	40	101.8	101.97	-0.17	2.29	182	104	52	50	20
38+00	50	41	100.6	100.67	-0.07	2.39	184	105	52	50	20
38+50	50	60	99.2	99.35	-0.15	2.31	228	130	65	63	25
39+00	50	40	97.8	97.80	0.00	2.46	230	128	64	62	25
39+50	50	40	95.8	96.00	-0.20	2.26	183	104	55	53	21
40+00	50	40	93.9	94.15	-0.25	2.21	174	104	52	50	20
40+50	50	40	92.1	92.30	-0.20	2.26	174	104	52	50	20
41+00	50	40	90.4	90.48	-0.08	2.38	180	104	52	50	20
41+50	50	40	88.9	88.95	-0.05	2.41	186	104	52	50	20
42+00	50	40	87.7	87.73	-0.03	2.43	188	104	52	50	20
42+50	50	40	86.6	86.58	0.02	2.48	191	104	52	50	20
43+00	50	65	85.4	85.43	-0.03	2.43	248	135	62	60	24
Silver St.	3,500					Subtotal	13939	7166	3585	3442	1398

Street	Length	Width	Existing Centerline Grade	Centerline Grade	Centerline Δ (EG-FG)*	Depth of Excavation (Δ+Rb)	ITEM#203.1 Common Excavation	ITEM#304.2 Bank Run Gravel	ITEM#304.3 Crushed Gravel	ITEM#403.11A H.B.P (2.5" Binder)	ITEM#403.11B H.B.P. (1.5" Wearing)	
Towle Ave (Notes 1 & 2)	60	40				2.20	205	89	60	37	24	
Arch Street (Notes 1 & 2)	50	40				2.20	171	74	50	31	20	
Lexington Street (Notes 1 & 2)	100	24				2.20	212	89	60	37	24	
Rutland Street (Notes 1 & 2)	90	24				2.20	191	80	54	34	22	
Cushing Street(Notes 1 & 2)	110	24				2.20	233	98	66	41	26	
Belknap Street (Notes 1 & 2)	170	24				2.20	360	151	101	63	41	
Atkinson Street (Notes 1 & 2)	80	24				2.20	169	71	48	30	19	
Elm Street (Notes 1 & 2)	70	24				2.20	148	62	42	26	17	
Locust Street (Notes 1 & 2)	40	32				2.20	111	47	32	20	13	
							Subtotals	15740	7927	4095	3762	1603
							Rounding	260	173	105	238	197
							Total	16000	8100	4200	4000	1800

Notes:

- The exact limits of excavation on side streets will be as determined in the field by the Engineer prior to commencement of side street work.
- Pay limits for side street work described in the table above are based on the following:
 - Total depth of excavation = 26" (Excavation width is 1 foot outside curb)
 - Depth of bank run gravel = 12"
 - Depth of crushed gravel = 8"
 - Nominal depth of pavement = 4" (2.5" binber, 1.5" wearing)

ISSUE FOR APPROVAL	By: P.M.	Date: 4/4/14
CONSTRUCTION	By: P.M.	Date: 4/18/14
RECORD DRAWING	By: P.M.	Date: 4/18/14
REVISIONS	NO.	
Drawn/Chk. RMG	Checked DJR/PDM	Approved: APRIL 18, 2014
Book No.	Project No. 1725	Dwg. ID 1725base.dwg
Scale	AS SHOWN	
<p>SUMMARY OF QUANTITIES</p> <p>SILVER STREET RECONSTRUCTION</p> <p>CITY OF DOVER, NEW HAMPSHIRE</p>		
DWG NO	SHEET	
G-4	4 OF 56	

H:\Ball\Hampshire\Drawn1725 - Silver Street\DWG\Drawn_Silver Street1725General.dwg, CA, 4/2/2014 9:20:26 AM, IP

DRAINAGE STRUCTURES SCHEDULE

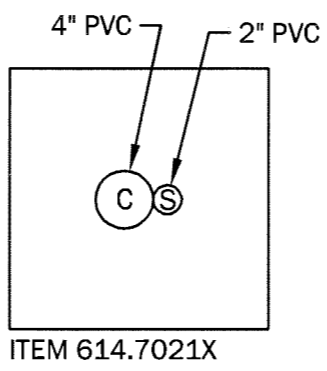
ID No.	Sta.	604.242			DMH No.	Sta.	604.324		604.325	
		2' Dia. DI	4' Dia. CB	5' Dia. CB			4' Dia. DMH	5' Dia. DMH		
CB1	6+75		1		DMH1	5+62.	1			
CB2	8+53		1		DMH2	5+89	1			
CB3	9+29		1		DMH6	11+05	1			
CB4	9+68		1		DMH7	14+94	1			
CB5	7+97		1		DMH8	Cushing	1			
CB6	9+61		1		DMH9	Cushing	1			
CB6A	10+46		1		DMH10	24+65	1			
CB7	11+23		1		DMH11	22+91	1			
CB8	11+23		1		DMH12	21+23	1			
CB9	13+43		1		DMH13	42+82			1	
CB10	13+43		1		DMH14	Central			1	
CB11	Towle		1		DMH15	40+20	1			
CB12	Towle		1		DMH16	38+40	1			
CB13	16+03		1		DMH17	8+70RT	1			
CB14	16+03		1		DMH18	35+19	1			
CB15	Rutland		1		DMH19	Elm	1			
CB16	Rutland		1							
CB17	22+95		1							
CB18	22+52		1							
CB19	20+63		1							
CB20	Lexington		1							
CB21	Lexington		1							
CB22	Cushing		1							
CB22A	Cushing		1							
CB23	24+57		1							
CB24	Central		1							
CB25	42+74		1							
CB26	42+78		1							
CB27	40+20		1							
CB28	40+19		1							
CB29	38+33		1							
CB30	38+38		1							
CB31	Elm		1							
CB32	Elm		1							
CB33	34+63		1							
CB34	34+60		1							
CB35	32+24		1							
CB35A	Atkinson		1							
CB36	31+17		1							
CB37	31+17		1							
CB38	28+84		1							
CB39	28+84		1							
Sub-Total:			42				14		2	
Rounding:		2	2	1			1			
TOTAL		2	44	1			15		2	

DRAINAGE PIPE SCHEDULE

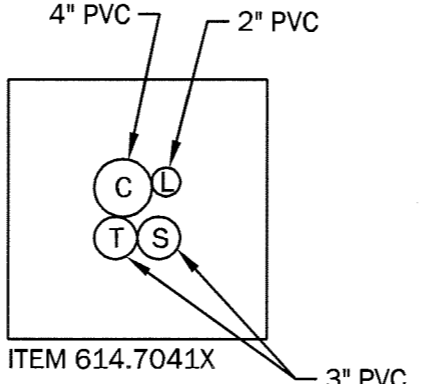
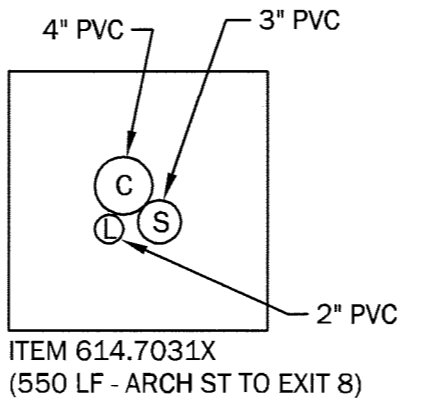
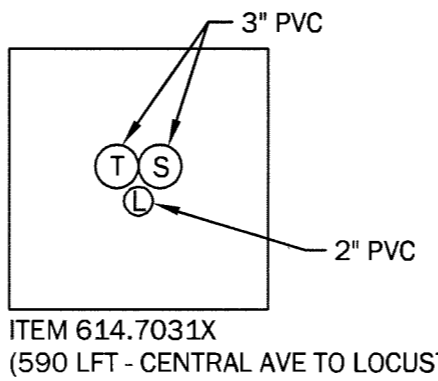
LOCATION				603.82212					603.82215					603.82218					603.82224					603.80215					
STRUCT. ID No.	Sta.	STRUCT. ID No.	Sta.	12" PE	15" PE	18" PE	24" PE	15" (Cont. Choice)	12" PE	15" PE	18" PE	24" PE	15" (Cont. Choice)	12" PE	15" PE	18" PE	24" PE	15" (Cont. Choice)	12" PE	15" PE	18" PE	24" PE	15" (Cont. Choice)	12" PE	15" PE	18" PE	24" PE	15" (Cont. Choice)	
OUTFALL	102+82	CB6646	100+50			230																							
DMH1	5+62	DMH2	5+89		44																								
DMH2	5+89	CB1	6+75		86																								
CB1	6+75	CB2	8+53		176																								
CB2	8+53	CB3	9+29		73																								
CB3	9+29	CB4	9+68		39																								
CB4	9+68	HW1	9+68		13																								
DMH17	8+70RT	FES2	9+68		94																								
CB5	7+97	CB6	9+61		160																								
CB6	9+61	CB6A	10+46		81																								
CB6A	10+46	TIE-IN	10+53		10																								
FES1	10+45	DMH6	11+05			61																							
CB7	11+23	CB8	11+23		37																								
DMH6	11+05	CB8	11+23																										
CB8	11+23	CB9	13+43		216																								
CB9	13+43	CB10	13+43		35																								
CB9	13+43	DMH7	14+94		146																								
DMH7	14+94	CB11	Towle		16																								
CB11	Towle	CB12	Towle		32																								
DMH7	14+94	CB13	16+03		101																								
CB13	16+03	CB14	16+03		36																								
CB19	20+63	DMH12	21+23		56																								
DMH12	21+23	CB20	21+21		30																								
CB20	21+21	CB21	20+85		33																								
DMH12	21+23	DMH11	22+91		163																								
CB18	22+52	DMH11	22+91		36																								
CB17	22+95	DMH11	22+91		21																								
DMH11	22+91	CB15	Rutland		51																								
CB15	Rutland	CB16	Rutland		18																								
DMH11	22+91	DMH10	24+65		170																								
DMH10	24+65	CB23	24+57		8																								
DMH10	24+65	DMH9	24+65			26																							
DMH9	24+65	CB22A	24+82		12																								
DMH9	24+65	CB22	24+40		23																								
DMH9	24+65	DMH8	Cushing			81																							
CB39	28+84	CB38	28+84		30																								
CB38	28+84	CB36	31+17		228																								
CB36	31+17	CB37	31+17		29																								
CB36	31+17	CB35	32+24		103																								
CB35	32+24	CB35A	Atkinson		30																								
CB35	32+24	CB33	34+63		235																								
CB33	34+63	CB34	34+61		33																								
CB33	34+63	DMH18	35+19		53																								
DMH18	35+19	DMH19	Elm		86																								
DMH19	Elm	CB31	Elm		3																								
DMH19	Elm	CB32	Elm		22																								
DMH18	35+19	DMH16	38+40			318																							
DMH16	38+40	CB30	38+36		17																								
DMH16	38+40	CB29	38+33		18																								
DMH16	38+40	DMH15	40+20																										
DMH15	40+20	CB28	40+20		26																								
DMH15	40+20	CB27	40+20		4																								
DMH15	40+20	DMH13	42+82																										
DMH13	42+82	DMH14	Central																										
DMH13	42+82	CB26	42+77		35																								
DMH13	42+82	CB25	42+74		7																								
DMH14	Central	CB24	Central		7																								
CB25	42+74	Tuttle Sq.	42+58		17																								
Rain Garden LT	2+21	Rain Garden LT	2+45		24																								
Rain Garden RT	2+21	Rain Garden RT	2+45		24																								
Sub Total					2668		824		291		30		438																

ELECTRICAL CONDUIT SCHEDULE

FROM	TO	614.72114	614.72118	614.73114	614.73118	614.74114	614.72218	614.70214	614.70218	614.70314	614.70318	614.70414	614.70418
		1-2" Sched 40 PVC	1-2" Sched 80 PVC	1-3" Sched 40 PVC	1-3" Sched 80 PVC	1-4" Sched 40 PVC	2-2" Sched 80 PVC	2-Various Sized Sched 40 PVC	2-Various Sized Sched 80 PVC	3 - Various Sized Sched 40 PVC	3 - Various Sized Sched 80 PVC	4 - Various Sized Sched 40 PVC	4 - Various Sized Sched 80 PVC
L 1	PB 1	5											
PB 1	PB 2	128											
L 2	PB 2	5											
PB 2	PB 3	180											
L 3	PB 3	5											
PB 3	PB 4							90					
L 4	PB 4	5											
PB 4	PB 5	10											
L 5	PB 5	10											
PB 5	PB 6							135					
L 6	PB 6	10											
PB 6	PB 7							157					
PB 7	PB 8								55				
L 9	PB 9	12											
L 7	PB 7	15											
L 8	PB 8	10											
PB 7	PB 9												87
PB 9	PB 10												62
L 10	PB 10	10											
PB 10	PB 11											290	
L 11	PB 11	5											
PB 11	PB 12											205	
L 12	PB 12	15											
PB 12	PB 13		40										
L 13	PB 13	5											
PB 12	PB 12A												167
PB 12A	PB 14							50					
PB 12A	PB 15											190	
L 14	PB 14	5											
PB 15	PB 17												500
PB 17	PB 16		65										
PB 16	PB 16A	15											
L 15	PB 15	5											
PB 16A	U/P 34/1		40										
L 16	PB 16	5											
L 17	PB 17	5											
PB 17	PB 19A											289	
PB 19A	PB 19		50										
L 18	PB 18	5											
PB 18	PB 19		55										
L 19	PB 19	10											
PB 19	PB 20											155	
L 20	PB 20	5											
PB 20	PB 21A											60	
PB 21A	PC #2							65					
L 21	PB 21	5											
PC #2	PB 21	25											
PC #2	New Pole	10											
L 22	PB 22	5											
PB 21A	PB 23											357	
L 23	PB 23	5											
L 24	PB 24	10											
PB 22	PB 24A										50		
L 25	PB 25	5											
PB 24A	PB 24								60				
PB 24	PB 25								95				
L 26	PB 26	5											
PB 25	PB 26								95				
L 27	PB 27	5											
PB 26	PB 27								100				
L 28	PB 28	10											
PB 27	PB 28							50					
L 29	PB 29	10											
PB 28	PB 29		60										
PB 8	Sig. Mast			25									
PB 9	CP #1									13			
PB 22	PB 23						52						
PB 23	PB 23A			50									
PB 22	PB 22A				20								
PB 27	Sig. Cab.			80									
PB 28	Sig. Cab.			30									
Sub-total:		550	310	135	50	20	52	432	295	363	50	1546	816
Rounding:		50	30	15	10	30	8	48	25	37	10	54	34
TOTAL:		600	340	150	60	50	60	480	320	400	60	1600	850



- (C) = COMMUNICATION (4" CONDUIT)
- (L) = ORNAMENTAL LIGHTING (2" & 3" CONDUIT)
- (T) = TRAFFIC SIGNAL (3" CONDUIT)
- (S) = SPARE (3" CONDUIT)



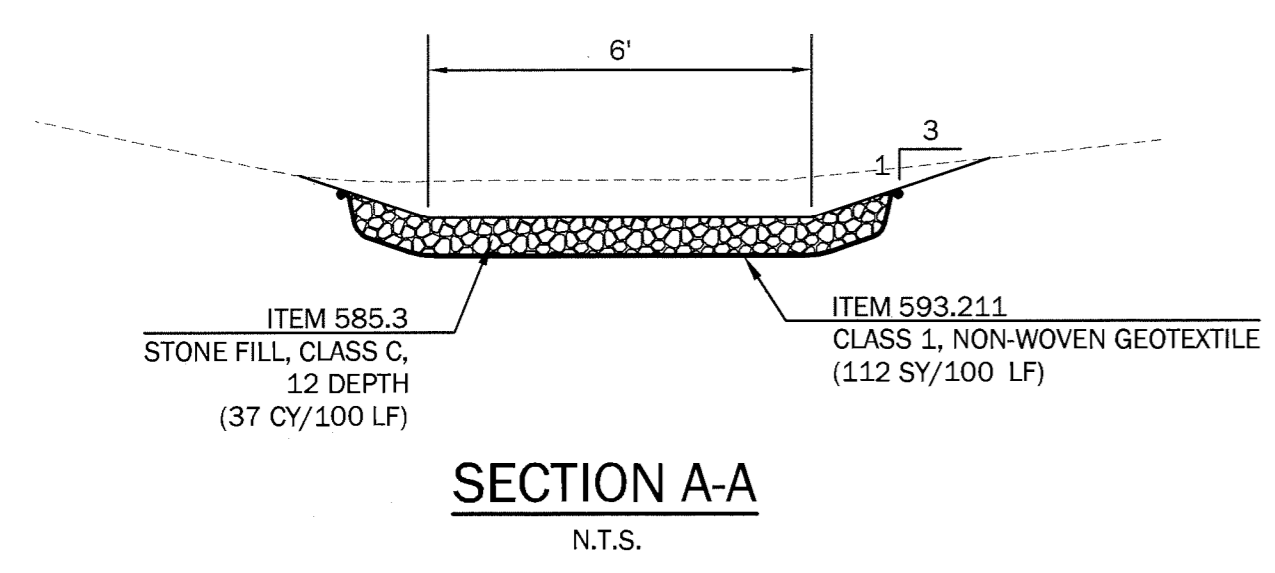
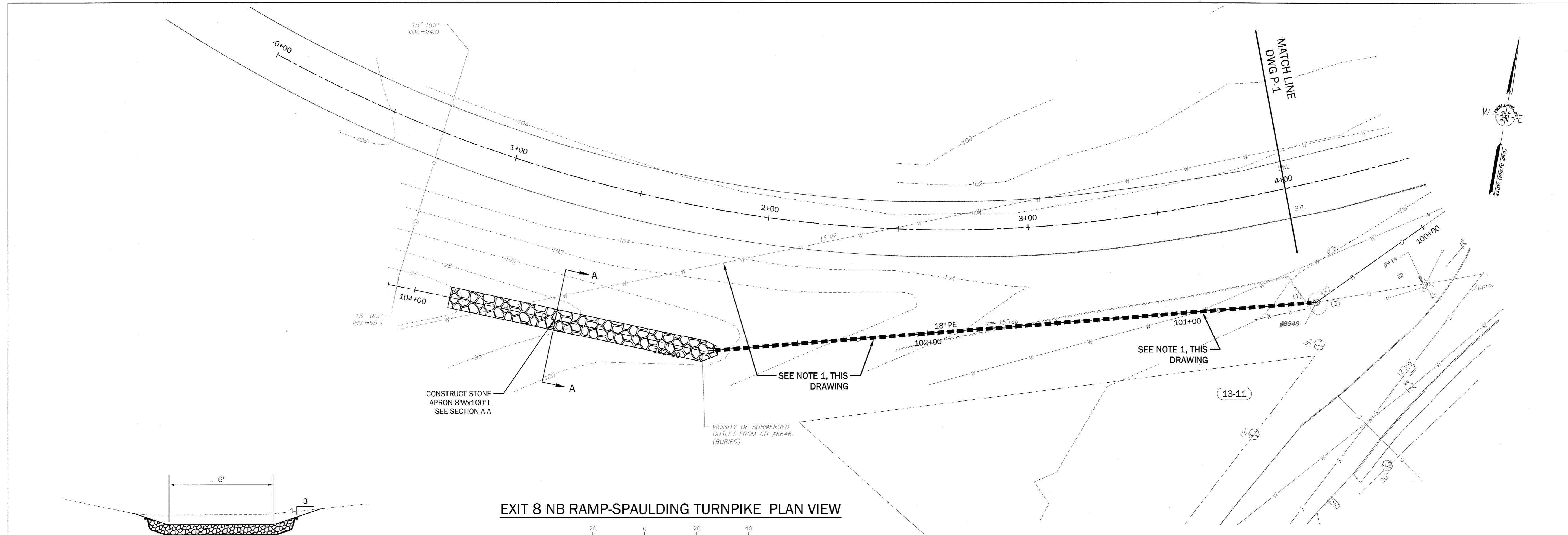
BIO-RETENTION TREETWAYS & SILVA CELL PLANTING SCHEDULE

Bio Retention Treeway ID No.	Location	ITEM NO.						
		02800-2.06	02940-2.03	02940-2.04B	02940-2.04C	605.79	605.82146	608.9
		Silva Cell Units including Excavation, Compacted Gravel Base, Geotextiles, Planting Mix for Structural Sub-Surface Root Zone (Unit)	Linear Treeway Planting Area including Excavation, Crushed Stone, Peastone, Concrete Sand, Standard Planting Mix, Non-Woven geotextile and Street Tree Aeration Tubing (lin. feet)	Smooth Riverstone Mulch (4" depth) (Ton) - Note 1	Wood Chip Mulch - Hardwood (4" depth) (Cubic Yard) - Note 1	Underdrain Flushing Basins (Each)	18" Aggregate Underdrain, Type 2, w/6" Perf. PVC Pipe (lin. feet)	Rein. Conc. Deposition Pad including Gravel (Each)
BR# 1	19+20 to 19+70		50	7	3	1	140	1
BR# 2	21+85 to 22+45		60	9	4	1	64	1
BR# 3	23+75 to 24+35	9	60	9	4	1	62	1
BR# 4	24+65 to 25+55	11	90	13	6	2	101	1
BR# 5	24+95 to 25+35	3	40	6	3	1	50	1
BR# 6	30+75 to 31+10	3	35	5	2		28	1
	41+70 LT	6						
	42+15 LT	6						
	42+60 LT	6						
	42+80 RT	6						
	Total	50	335	50	22	6	445	6

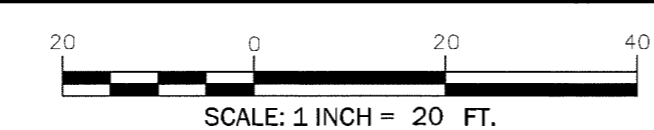
Notes:
1 BIO-RETENTION TREETWAY MULCH WILL BE EITHER RIVERSTONE MULCH (ITEM 02940-2.04B), HARDWOOD CHIPS (ITEM 02940-2.04C) OR A COMBINATION OF BOTH, AS DETERMINED BY OWNER'S REPRESENTATIVE.

DWG NO G-6	SHEET 6 OF 56	SUMMARY OF QUANTITIES SILVER STREET RECONSTRUCTION CITY OF DOVER, NEW HAMPSHIRE	UNDERWOOD engineers 25 Vaughan Mall, Portsmouth, N.H. 03801 Tel. 603-436-6192 Fax. 603-431-4733	Drawn/Chk. RMG Designed DJR/PPM Checked - Approved - Date APRIL 18, 2014 Book No. - Project No. 11725 Dwg. ID 11725base.dwg Scale AS SHOWN	ISSUE FOR APPROVAL Date 4/1/14 By PDM CONSTRUCTION Date 4/18/14 By PDM RECORD DRAWING Date - By -
				REVISIONS NO.	APP'D

H:\Plan Numbers\Drawn\1725 - Silver Street\DWG\Design - Silver Street\1725General.dwg, G-6, 4/24/2014 12:25:47 PM, gp



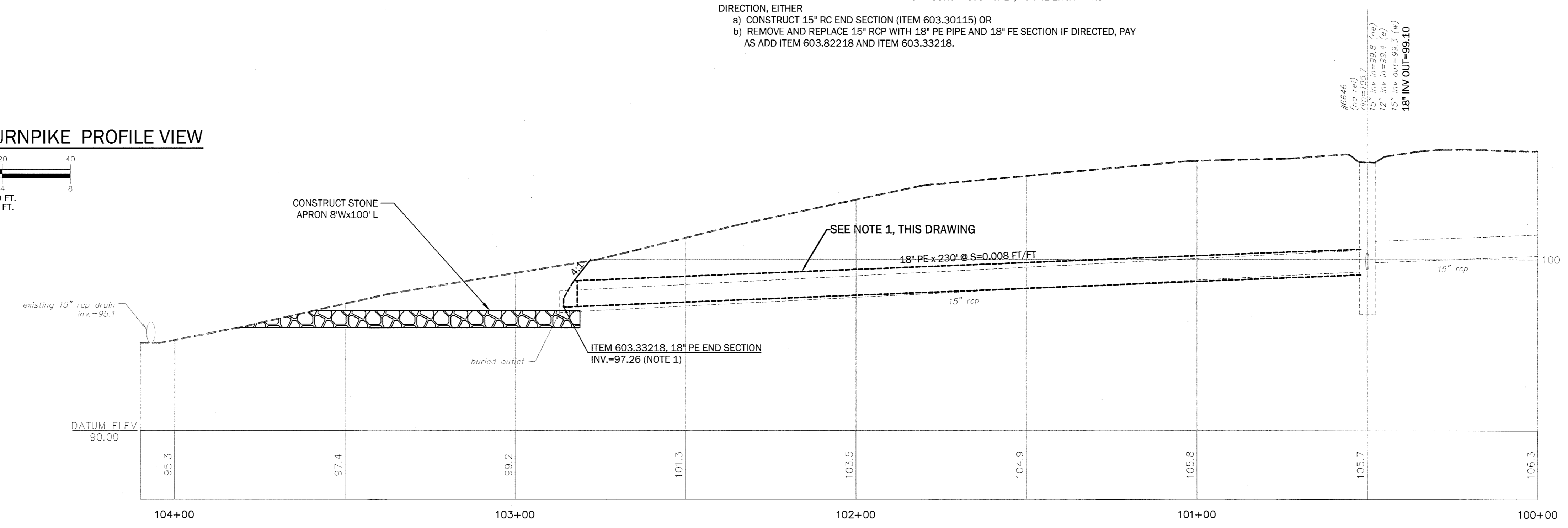
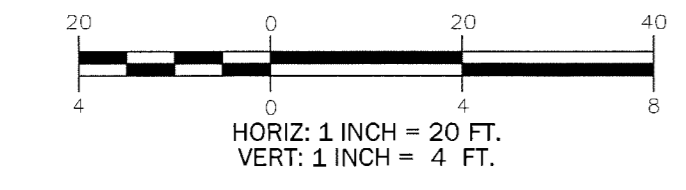
EXIT 8 NB RAMP-SPAULDING TURNPIKE PLAN VIEW



NOTES:

- DRAINAGE WORK ON THIS DRAWING SHALL BE COMPLETED AS FOLLOWS:
 - LOCATE 8" AND 16" AC WATER MAINS, REPORT LOCATION & DEPTH TO ENGINEER.
 - LOCATE THE EXISTING OUTLET OF 15" RCP
 - CLEAN, FLUSH AND CCTV THE EXISTING 15" RCP, (HEAVY CLEANING) PAY AS ITEM 603.0002.
 - SUBMIT CCTV VIDEO TO ENGINEER, INCLUDING LOG AND INSPECTION REPORT.
 - CONSTRUCT STONE APRON AT OR BELOW THE 15" RCP OUTLET.
 - PENDING ENGINEER'S REVIEW OF CCTV REPORT CONTRACTOR WILL, AT THE ENGINEERS DIRECTION, EITHER
 - CONSTRUCT 15" RC END SECTION (ITEM 603.30115) OR
 - REMOVE AND REPLACE 15" RCP WITH 18" PE PIPE AND 18" FE SECTION IF DIRECTED, PAY AS ADD ITEM 603.82218 AND ITEM 603.33218.

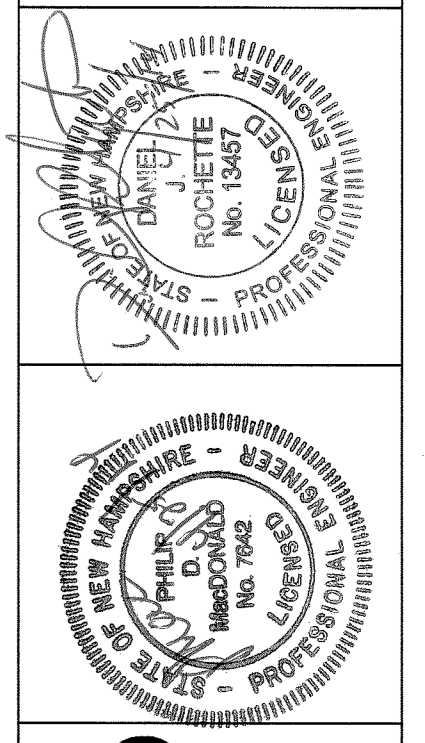
EXIT 8 NB RAMP-SPAULDING TURNPIKE PROFILE VIEW



ISSUE FOR	APPROVAL	DATE	BY
CONSTRUCTION	[Signature]	4/18/14	PDM
RECORD DRAWING	[Signature]	4/18/14	PDM

NO.	REVISIONS	APP'D

Drawn/Chk	DESIGNED	DATE	PROJECT NO.	SCALE



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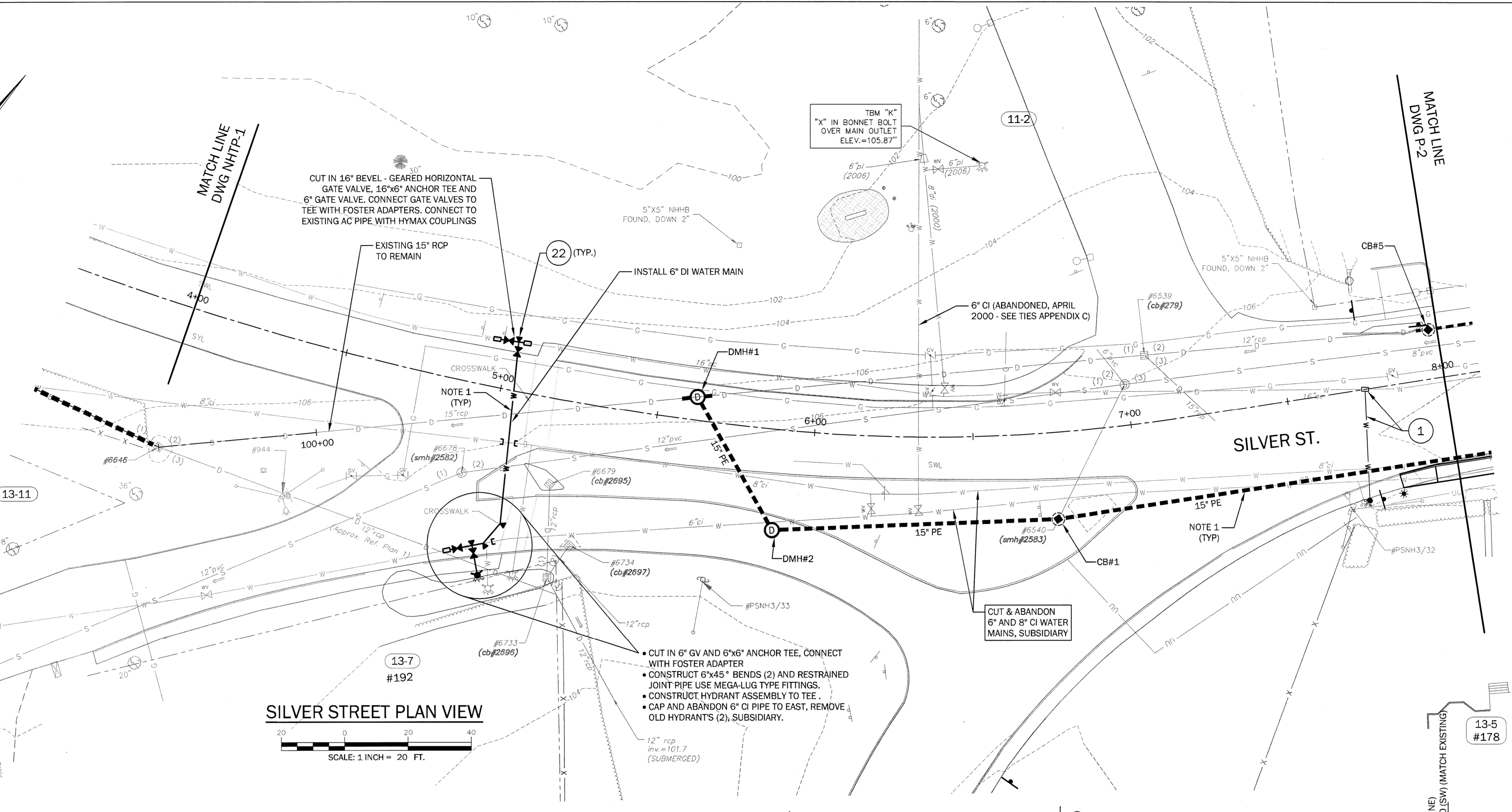
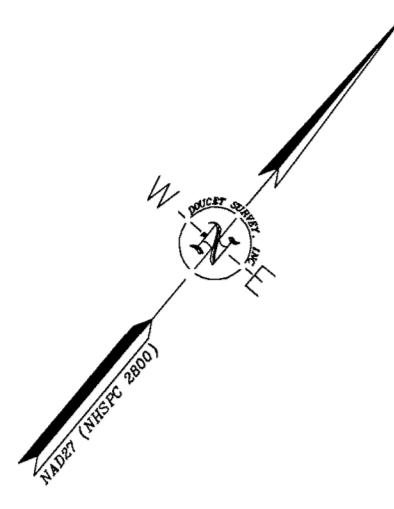
25 Vaughan Mall, Portsmouth, N.H. 03801
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DRAINAGE IMPROVEMENTS
EXIT 8 NB RAMP - SPAULDING TURNPIKE
SILVER STREET RECONSTRUCTION
CITY OF DOVER, NEW HAMPSHIRE

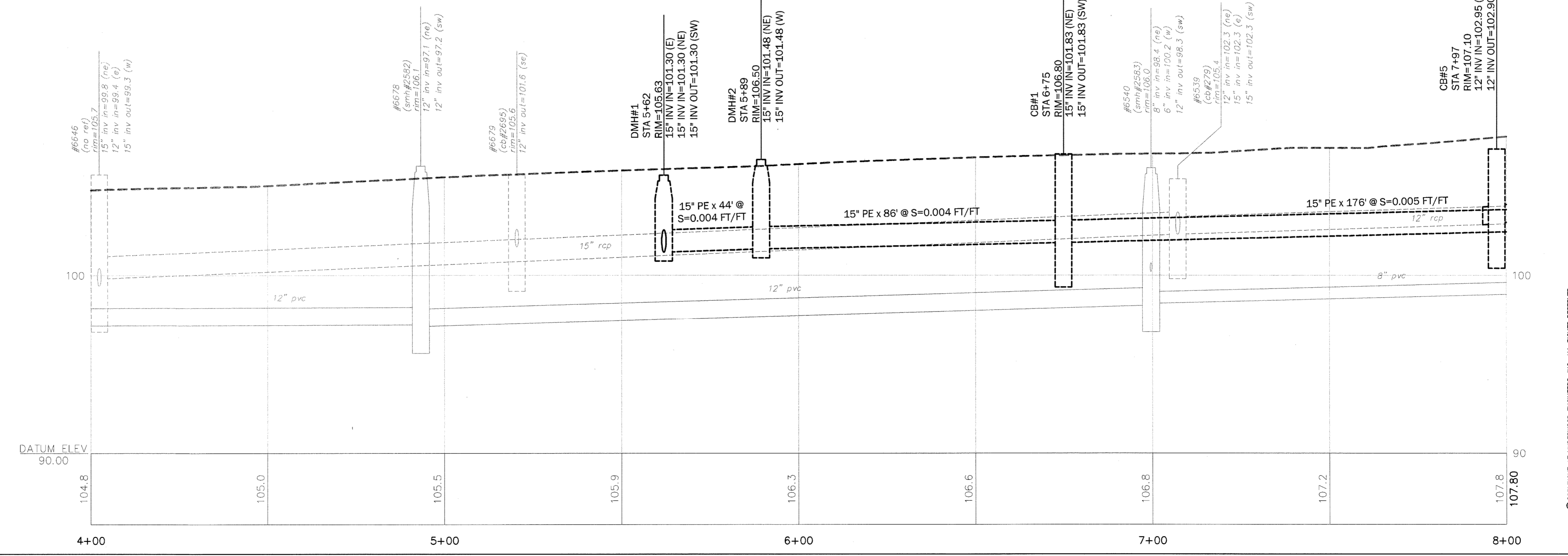
DWG NO
NHTP-1

SHEET
8 OF 56

NOTES:
 1. CONSTRUCT TEMPORARY AND PERMANENT TRENCH REPAIRS FOLLOWING COMPLETION OF UTILITY INSTALLATION OUTSIDE LIMITS OF FULL DEPTH RECONSTRUCTION (STA 4+00 TO STA 8+00). DETAILS 8 RD-1 9 RD-1



SILVER STREET PROFILE VIEW
 HORIZ: 1 INCH = 20 FT.
 VERT: 1 INCH = 4 FT.



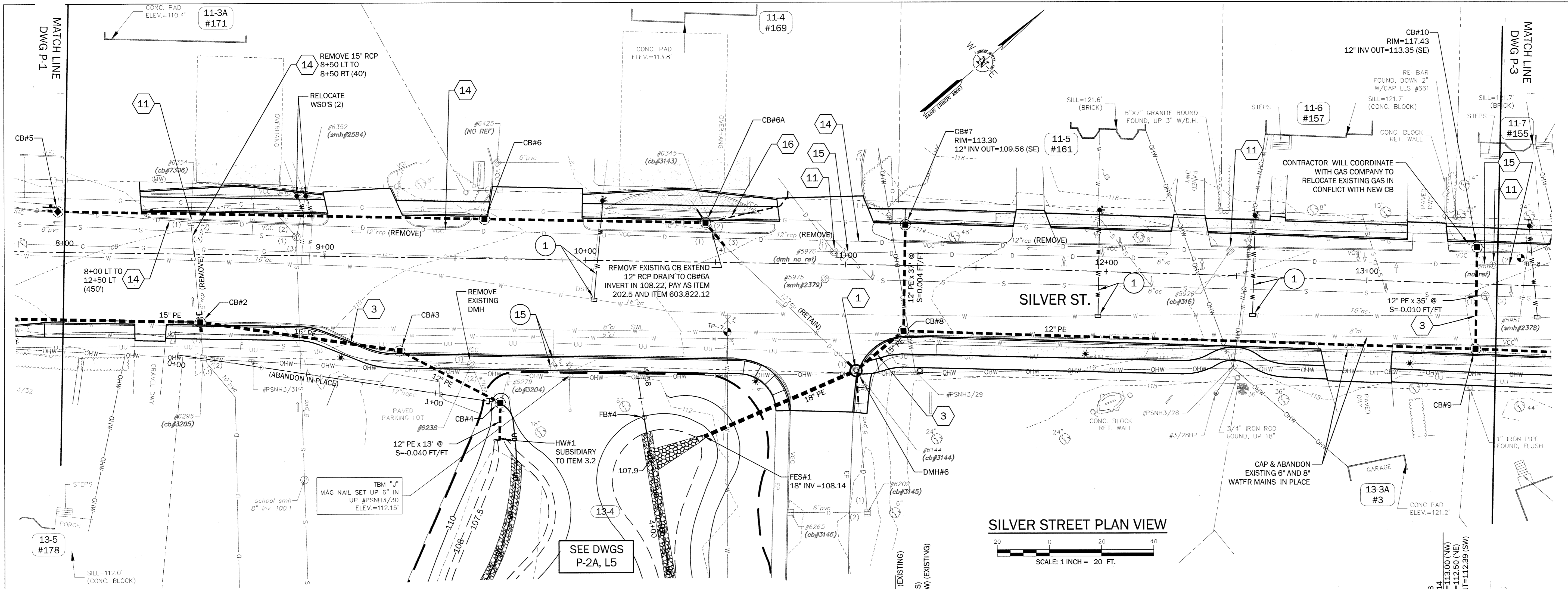
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APPROVAL	By PDM	4/4/14
CONSTRUCTION	By PDM	4/18/14
RECORD DRAWING	By PDM	4/18/14

Drawn/Chk	RMG
Designed	DJE/PDM
Checked	JM
Approved	APRIL 18, 2014
Date	APRIL 18, 2014
Book No.	-
Project No.	1725
Dwg. ID	1725base.dwg
Scale	AS SHOWN

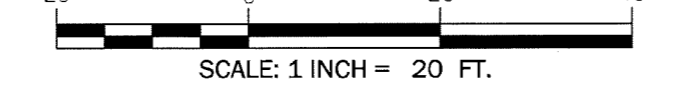
UNDERWOOD engineers
 25 Vaughan Mall, Portsmouth, N.H. 03801
 Tel. 603-436-6192 Fax. 603-431-4733

UTILITIES PLAN & PROFILE
SILVER STREET RECONSTRUCTION
CITY OF DOVER, NEW HAMPSHIRE

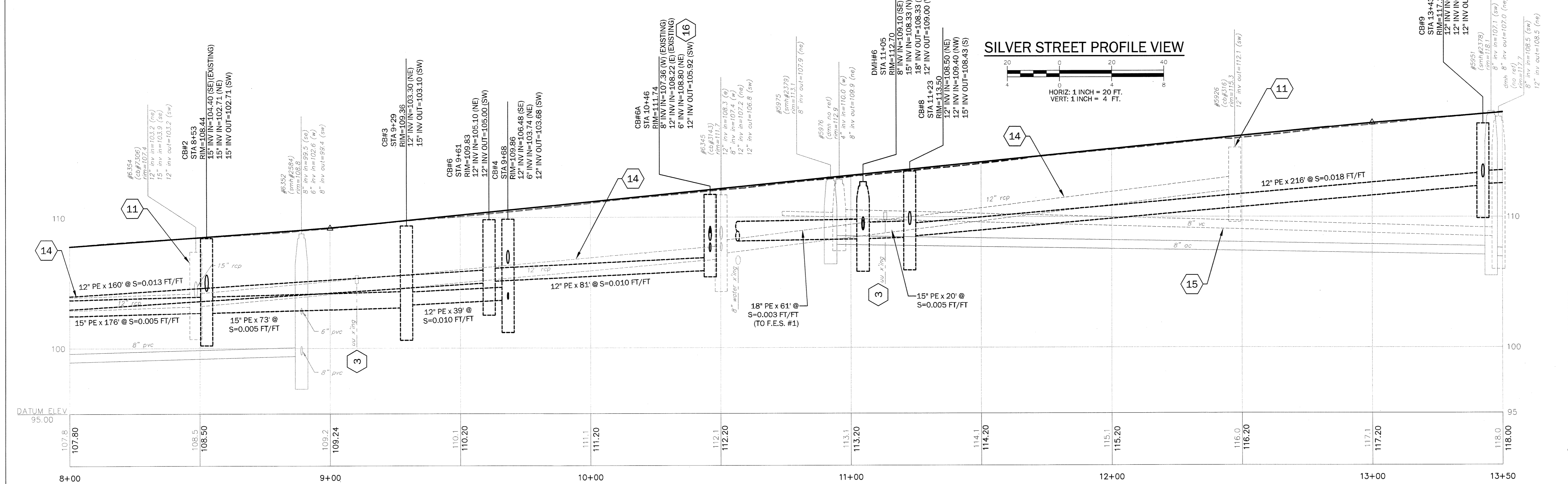
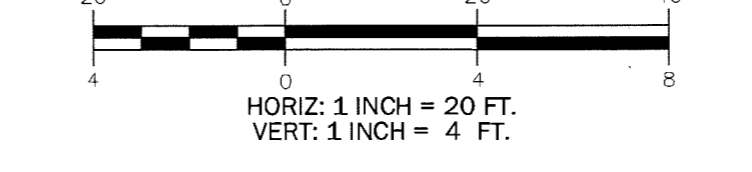
DWG NO: P-1
 SHEET: 9 OF 56



SILVER STREET PLAN VIEW



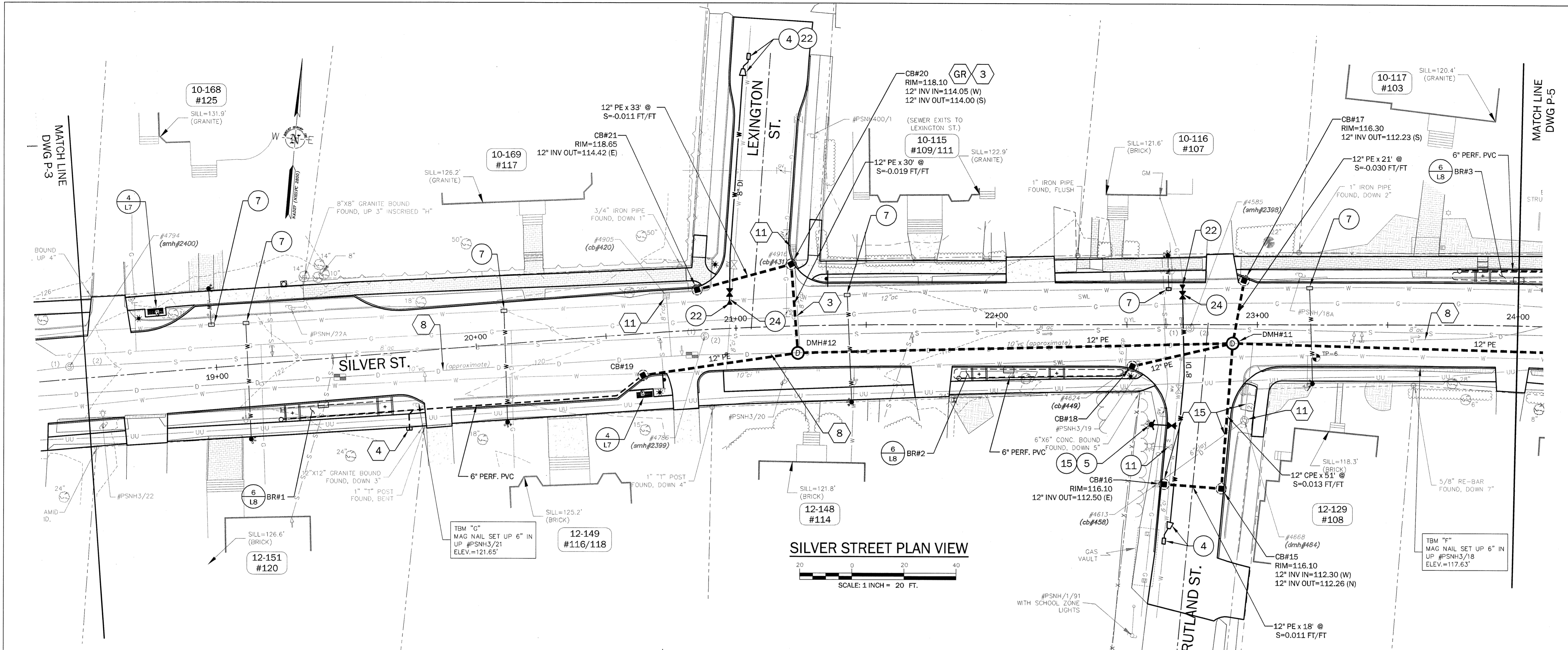
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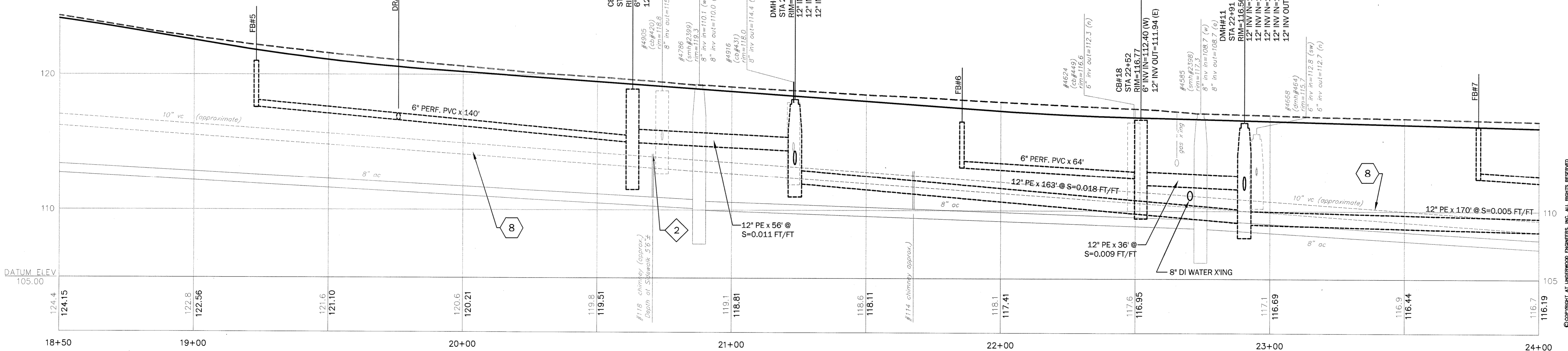
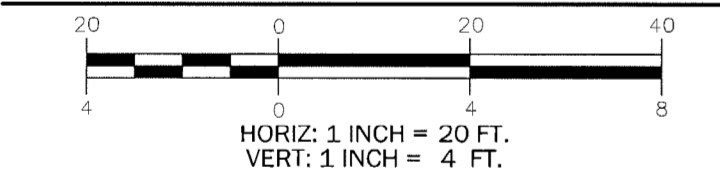
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APPROVAL	By	4/4/14	
CONSTRUCTION	By	4/18/14	
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REVISIONS	NO.		
Drawn/Chk.	RMG	Designed	DRJ/PDM
Checked		Approved	
Date	APRIL 18, 2014	Book No.	
Project No.	1725	Dwg. ID	125B000006
Scale	AS SHOWN		

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UTILITIES PLAN & PROFILE SILVER STREET RECONSTRUCTION CITY OF DOVER, NEW HAMPSHIRE	
DWG NO	SHEET
P-2	10 OF 56

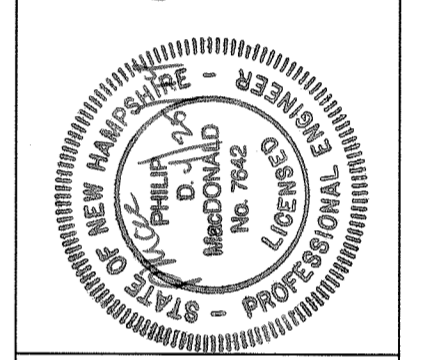
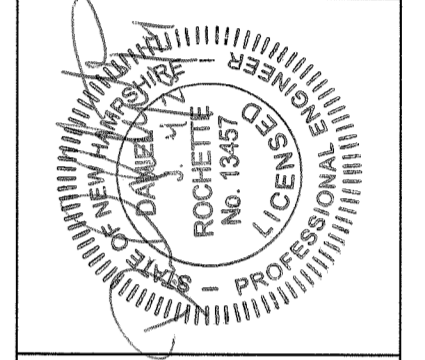
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SILVER STREET PROFILE VIEW



ISSUE FOR		APPROVAL	By	Date
DESIGNED	DR/PDM			4/4/14
CHECKED				
APPROVED				APRIL 15, 2014
BOOK NO.				13457
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SCALE				AS SHOWN

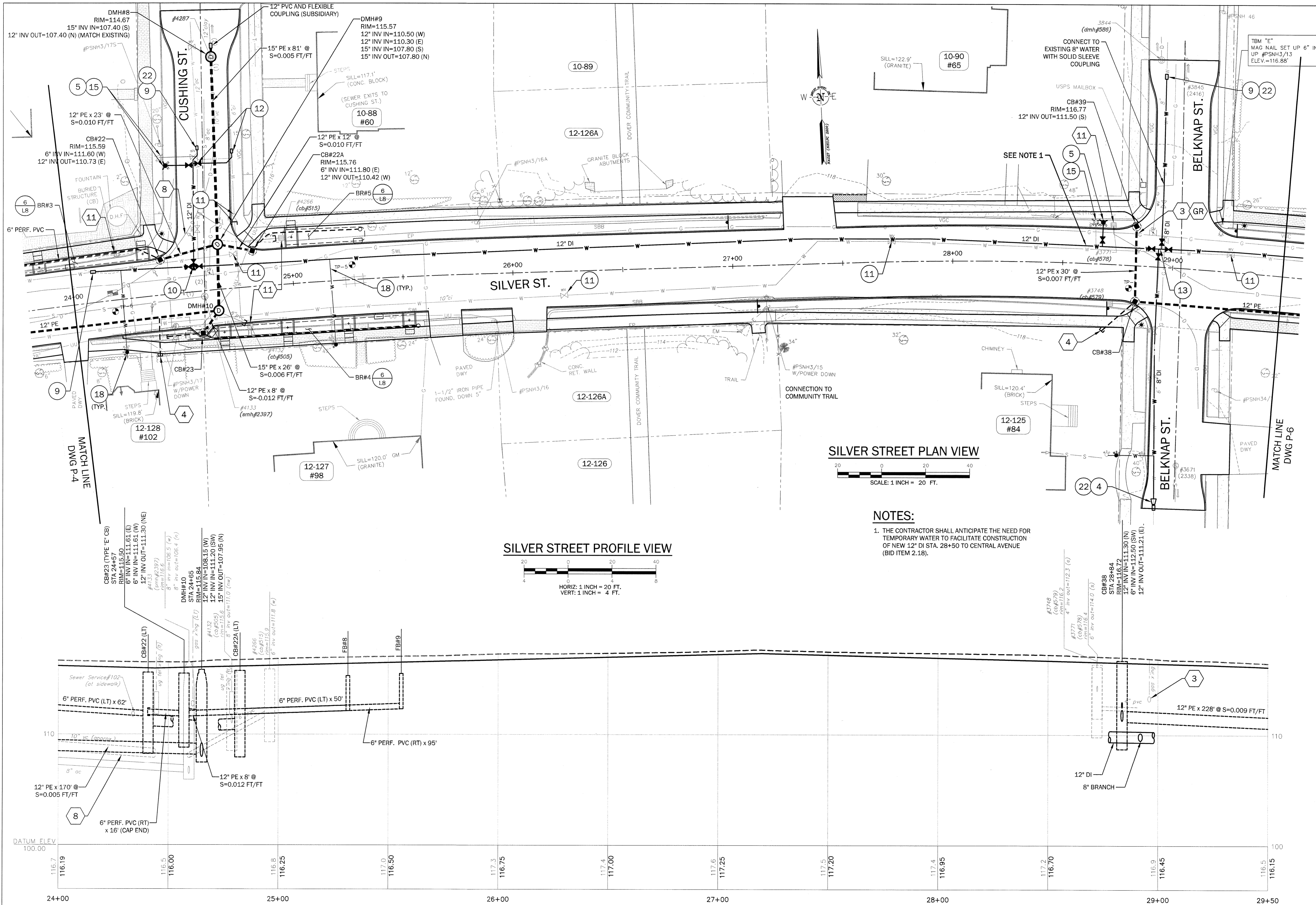


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UTILITIES PLAN & PROFILE	DWG NO	P-4
SILVER STREET RECONSTRUCTION	SHEET	12 OF 56
CITY OF DOVER, NEW HAMPSHIRE		

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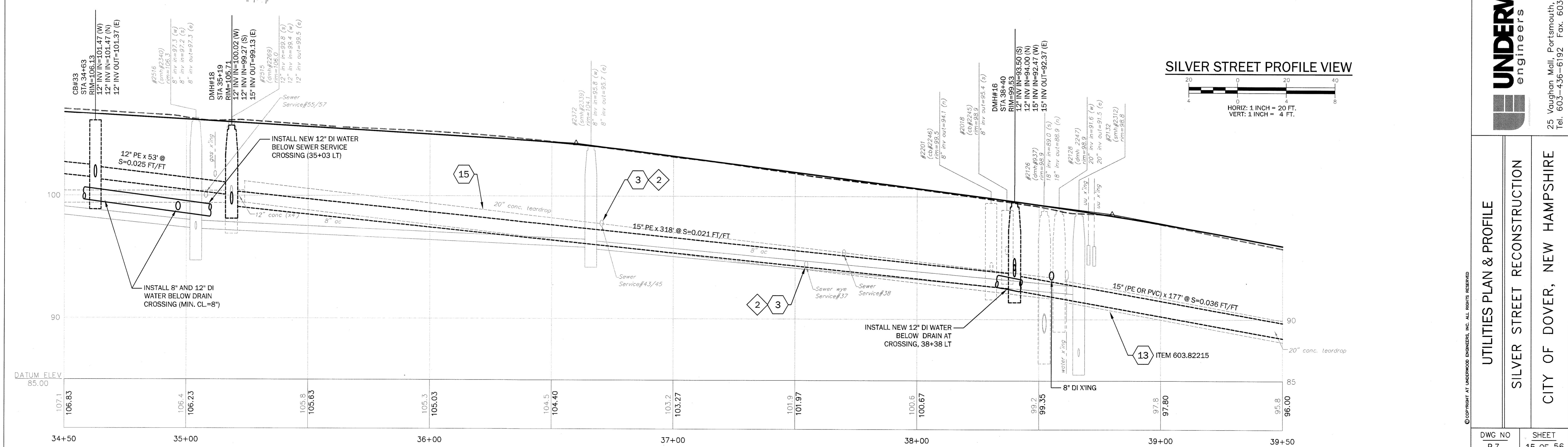
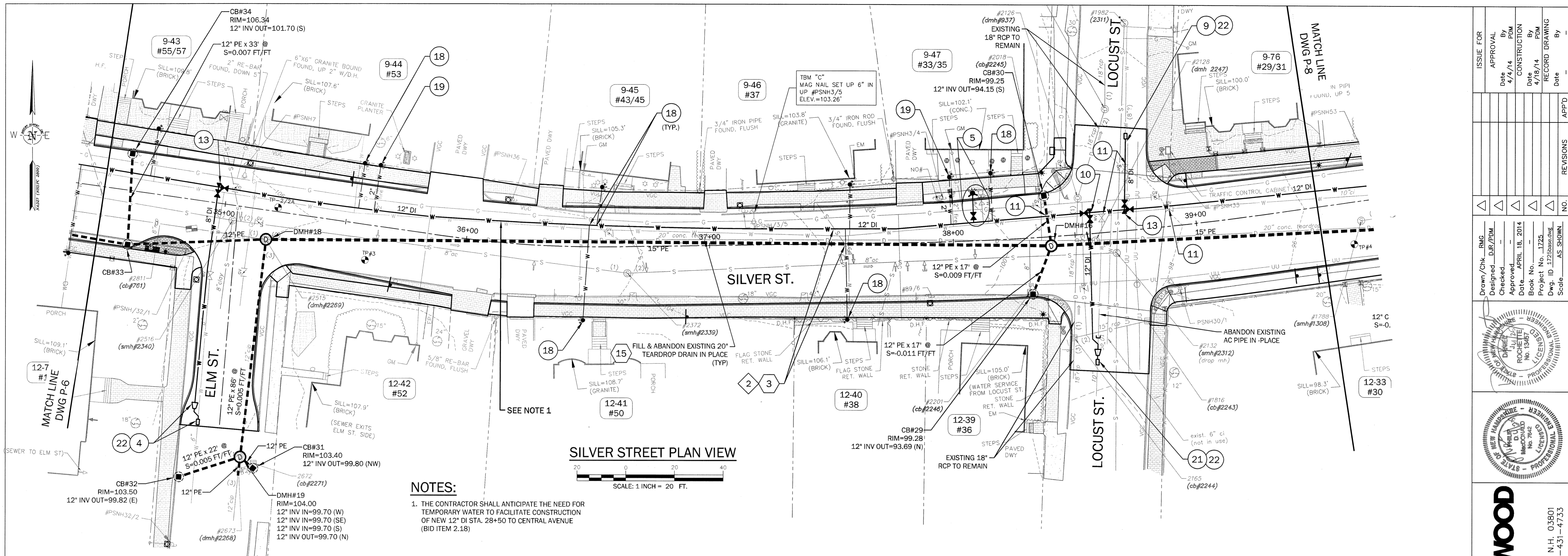


SILVER STREET PLAN VIEW
 SCALE: 1 INCH = 20 FT.

SILVER STREET PROFILE VIEW
 HORIZ: 1 INCH = 20 FT.
 VERT: 1 INCH = 4 FT.

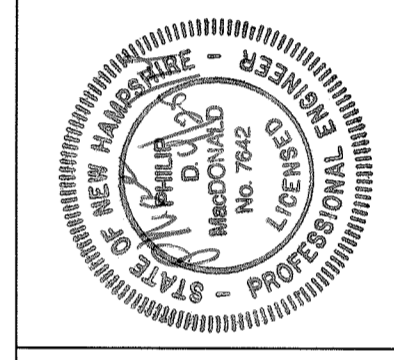
NOTES:
 1. THE CONTRACTOR SHALL ANTICIPATE THE NEED FOR TEMPORARY WATER TO FACILITATE CONSTRUCTION OF NEW 12" DI STA. 28+50 TO CENTRAL AVENUE (BID ITEM 2.18).

UTILITIES PLAN & PROFILE SILVER STREET RECONSTRUCTION CITY OF DOVER, NEW HAMPSHIRE		UNDERWOOD engineers 25 Vaughan Mall, Portsmouth, N.H. 03801 Tel. 603-436-6192 Fax. 603-431-4733	
DWG NO	P-5	SHEET	13 OF 56
ISSUE FOR APPROVAL Date 4/4/14 By PDM		REVISIONS NO. DATE DESCRIPTION 1 4/18/14 PDM 2 4/18/14 PDM 3 4/18/14 PDM 4 4/18/14 PDM 5 4/18/14 PDM 6 4/18/14 PDM 7 4/18/14 PDM 8 4/18/14 PDM 9 4/18/14 PDM 10 4/18/14 PDM 11 4/18/14 PDM 12 4/18/14 PDM 13 4/18/14 PDM 14 4/18/14 PDM 15 4/18/14 PDM 16 4/18/14 PDM 17 4/18/14 PDM 18 4/18/14 PDM 19 4/18/14 PDM 20 4/18/14 PDM 21 4/18/14 PDM 22 4/18/14 PDM	
Drawn/Chk.	RMG	Project No.	11725
Designed	DJF/PDM	Dwg. ID	11725Submittal
Checked		Scale	AS SHOWN
Approved		AS SHOWN	
Date	APRIL 18, 2014	APPROVED	
By	ROCHETTE	DATE	4/18/14
	No. 13457	BY	PDM
		RECORD DRAWING	
		Date	
		By	
		Date	
		By	
		Date	



NO.	REVISIONS	APPD	By

Drawn/Chk. RMC
Designed DJF/PDM
Checked
Approved
Date APRIL 18, 2014
Book No.
Project No. 1725
Dwg. ID 1725base.dwg
Scale AS SHOWN

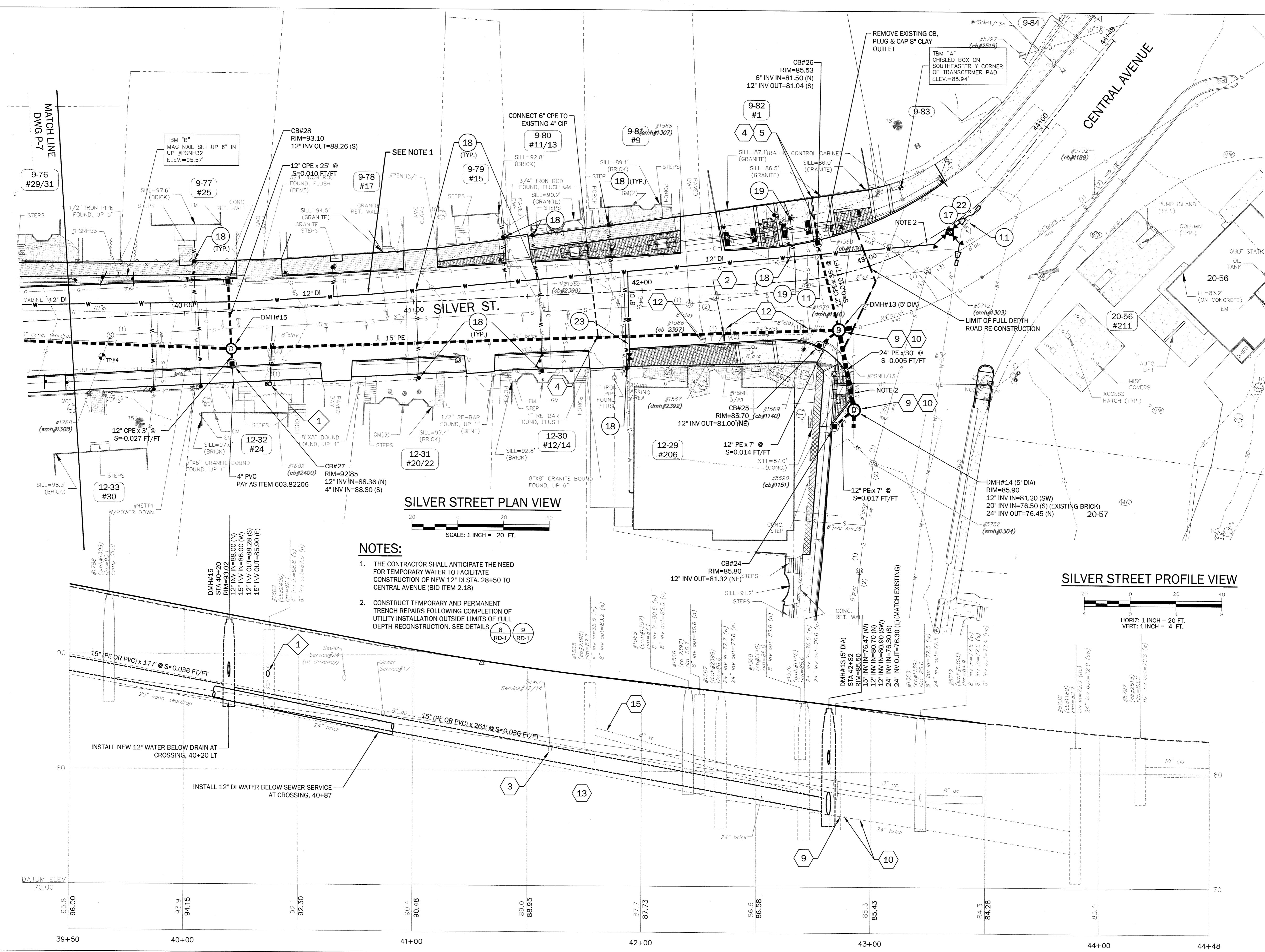
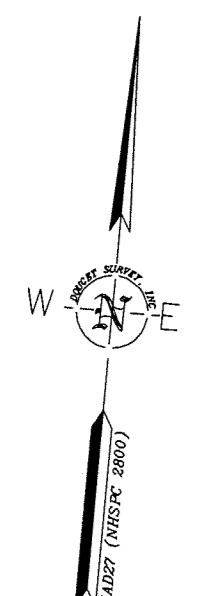


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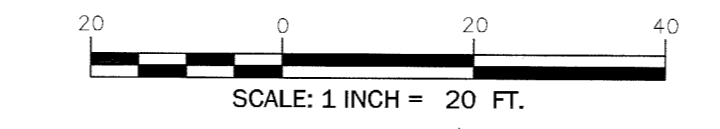
25 Vaughan Mall, Portsmouth, N.H. 03801
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UTILITIES PLAN & PROFILE
SILVER STREET RECONSTRUCTION
CITY OF DOVER, NEW HAMPSHIRE

DWG NO P-7 SHEET 15 OF 56

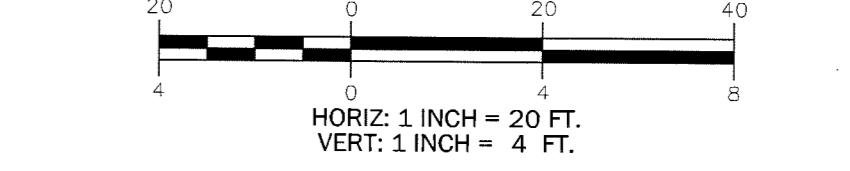


SILVER STREET PLAN VIEW

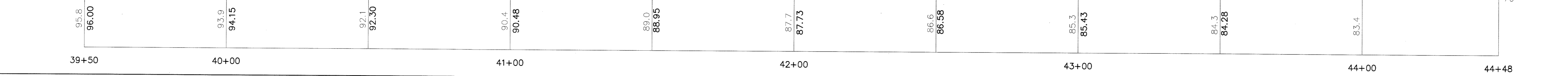


- NOTES:**
1. THE CONTRACTOR SHALL ANTICIPATE THE NEED FOR TEMPORARY WATER TO FACILITATE CONSTRUCTION OF NEW 12" DI STA. 28+50 TO CENTRAL AVENUE (BID ITEM 2.18)
 2. CONSTRUCT TEMPORARY AND PERMANENT TRENCH REPAIRS FOLLOWING COMPLETION OF UTILITY INSTALLATION OUTSIDE LIMITS OF FULL DEPTH RECONSTRUCTION. SEE DETAILS.

SILVER STREET PROFILE VIEW



DATUM ELEV 70.00



ISSUE FOR	APPROVAL	By	Date
APPROVAL	By	Date	4/4/14
CONSTRUCTION	By	Date	4/18/14
RECORD DRAWING	By	Date	

Drawn/Chk	RMG
Designed	JR/PDM
Checked	
Approved	
Date	APRIL 18, 2014
Book No.	
Project No.	1725
Dwg. ID	1725base.dwg
Scale	AS SHOWN

REVISIONS

NO.	REVISIONS	APP'D

Professional Engineer Seal: **ROCHETTE**, No. 19487, State of New Hampshire

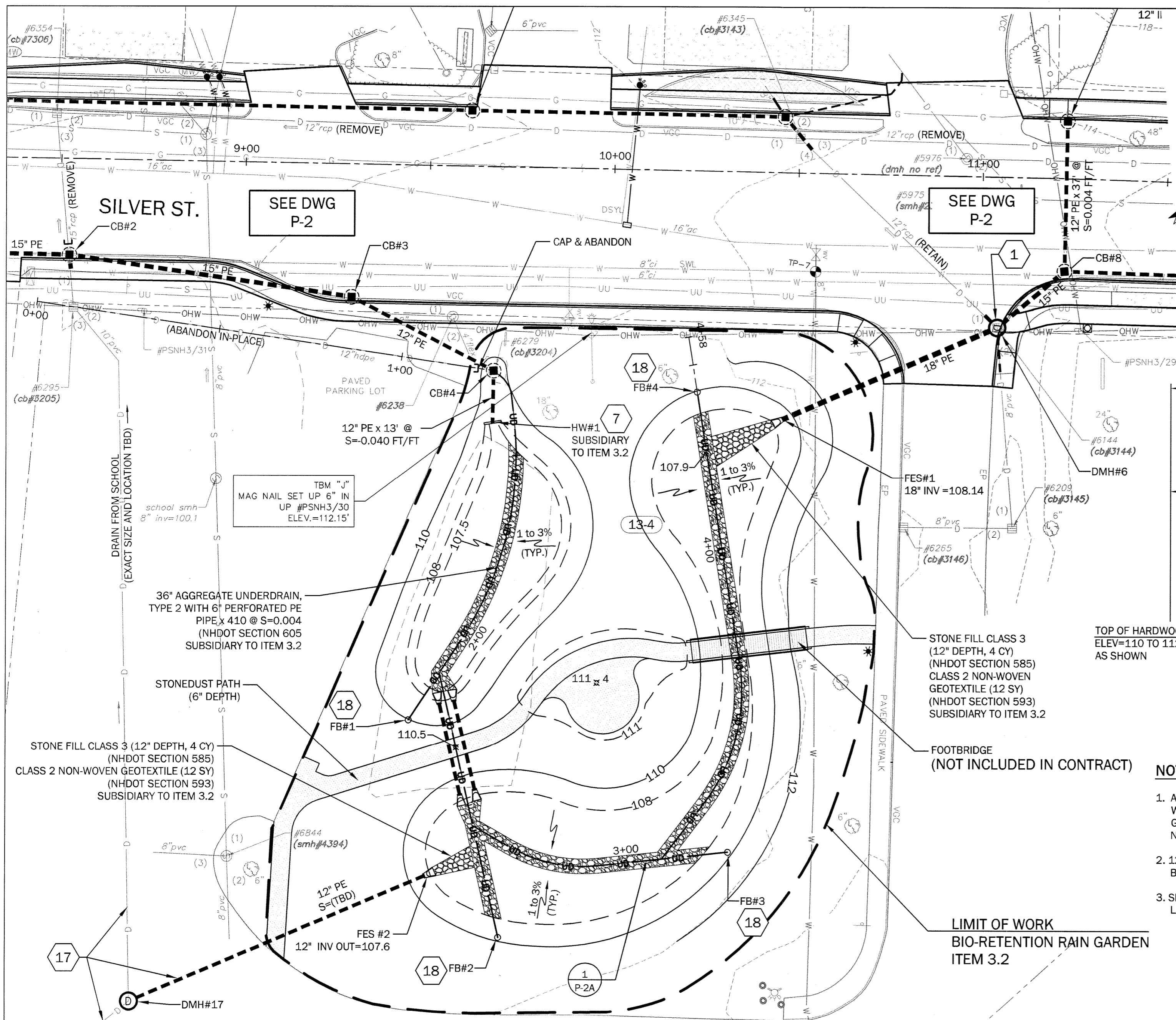
Professional Engineer Seal: **UNDERWOOD**, No. 7942, State of New Hampshire

UNDERWOOD engineers

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Tel. 603-436-6192 Fax. 603-431-4733

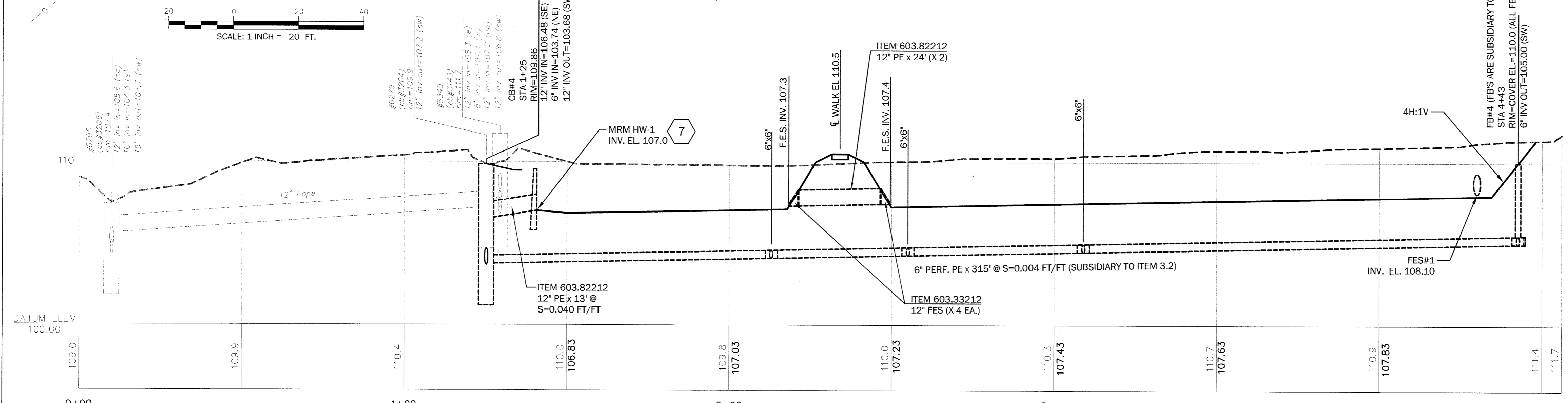
UTILITIES PLAN & PROFILE
SILVER STREET RECONSTRUCTION
CITY OF DOVER, NEW HAMPSHIRE

DWG NO P-8 SHEET 16 OF 56



SILVER STREET RAIN GARDEN PLAN VIEW

SCALE: 1 INCH = 20 FT.



SILVER ST. RAIN GARDEN PROFILE VIEW

HORIZ: 1 INCH = 20 FT.
VERT: 1 INCH = 4 FT.

NOTES:

1. ALL WORK SHOWN ON THIS DRAWING AND DWG L-5 WITHIN LIMIT OF WORK FOR THE BIO-RETENTION RAIN GARDEN IS INCLUDED WITHIN ITEM 3.2, EXCEPT AS NOTED (NOTE 2, BELOW)
2. 12\"/>

RAIN GARDEN W/ AGGREGATE UNDERDRAIN AND BIO-RETENTION PLANTING MIX
ITEM 3.2

ISSUE FOR	APPROVAL	By	Date
APPROVAL	By	Date	4/4/14
CONSTRUCTION	By	Date	4/18/14
RECORD DRAWING	By	Date	

Drawn/Chk.	RMG
Designed	JUR/PDM
Checked	
Approved	
Date	APRIL 18, 2014
Book No.	
Project No.	11225
Dwg. ID	11225raingarden
Scale	AS SHOWN

UNDERWOOD engineers

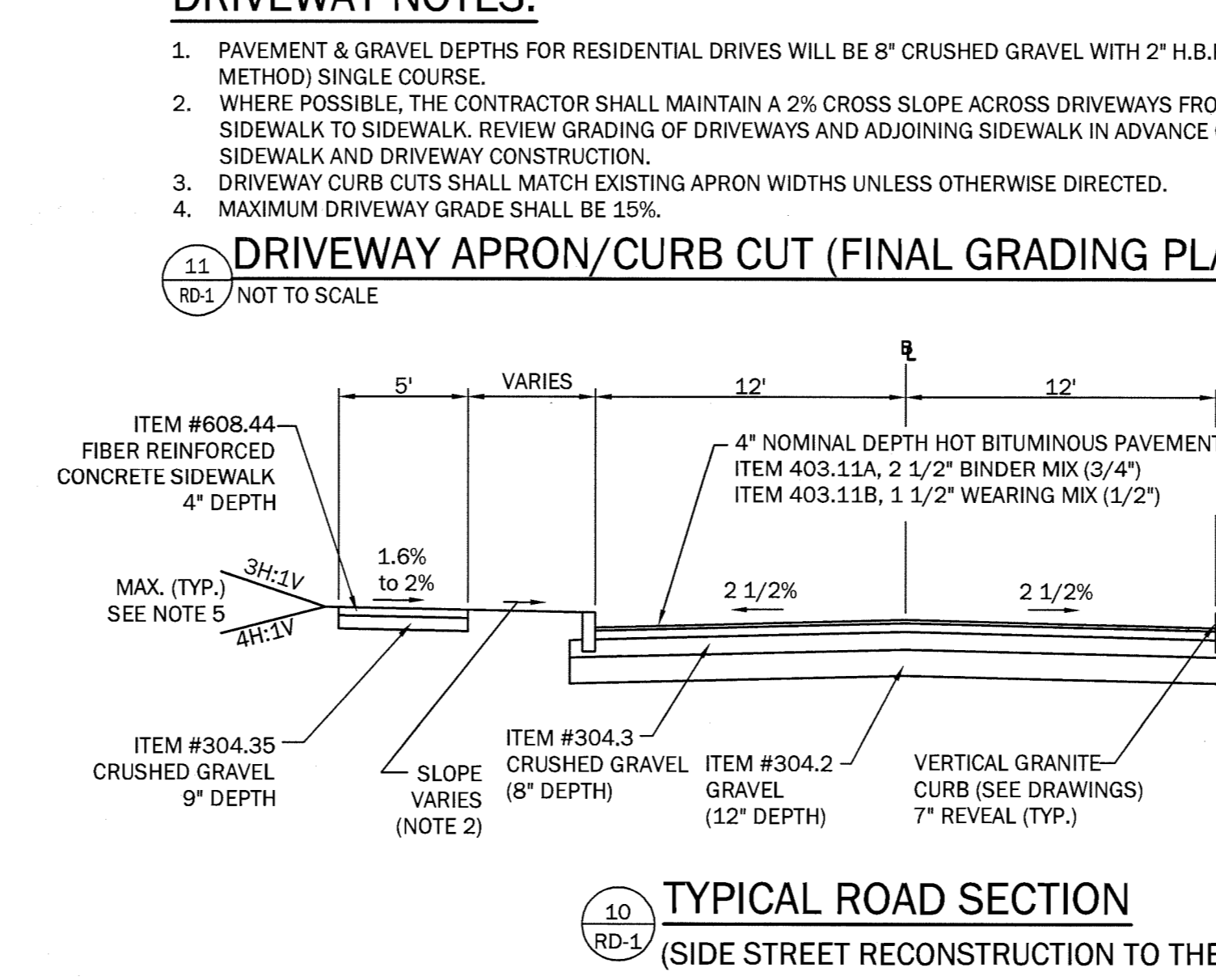
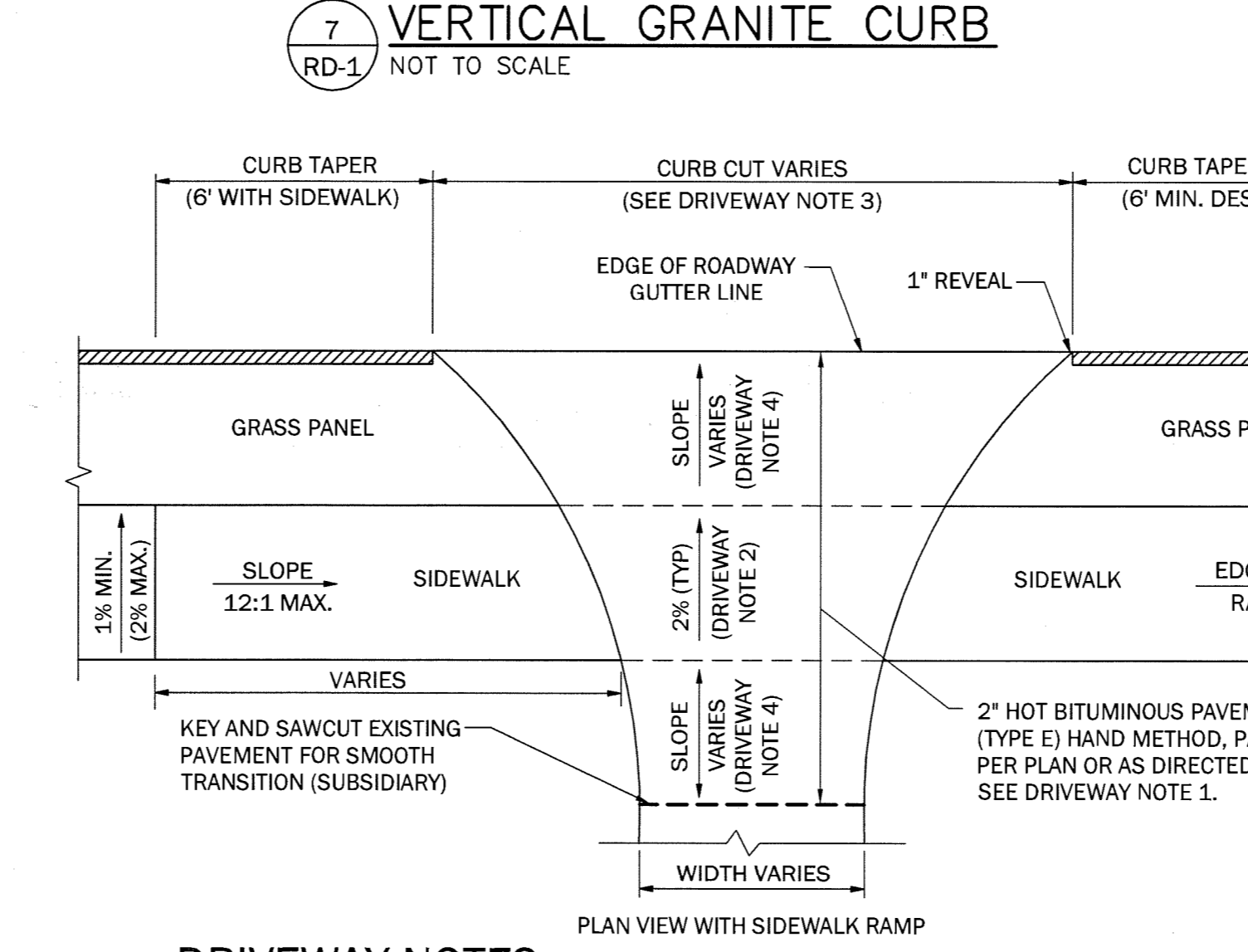
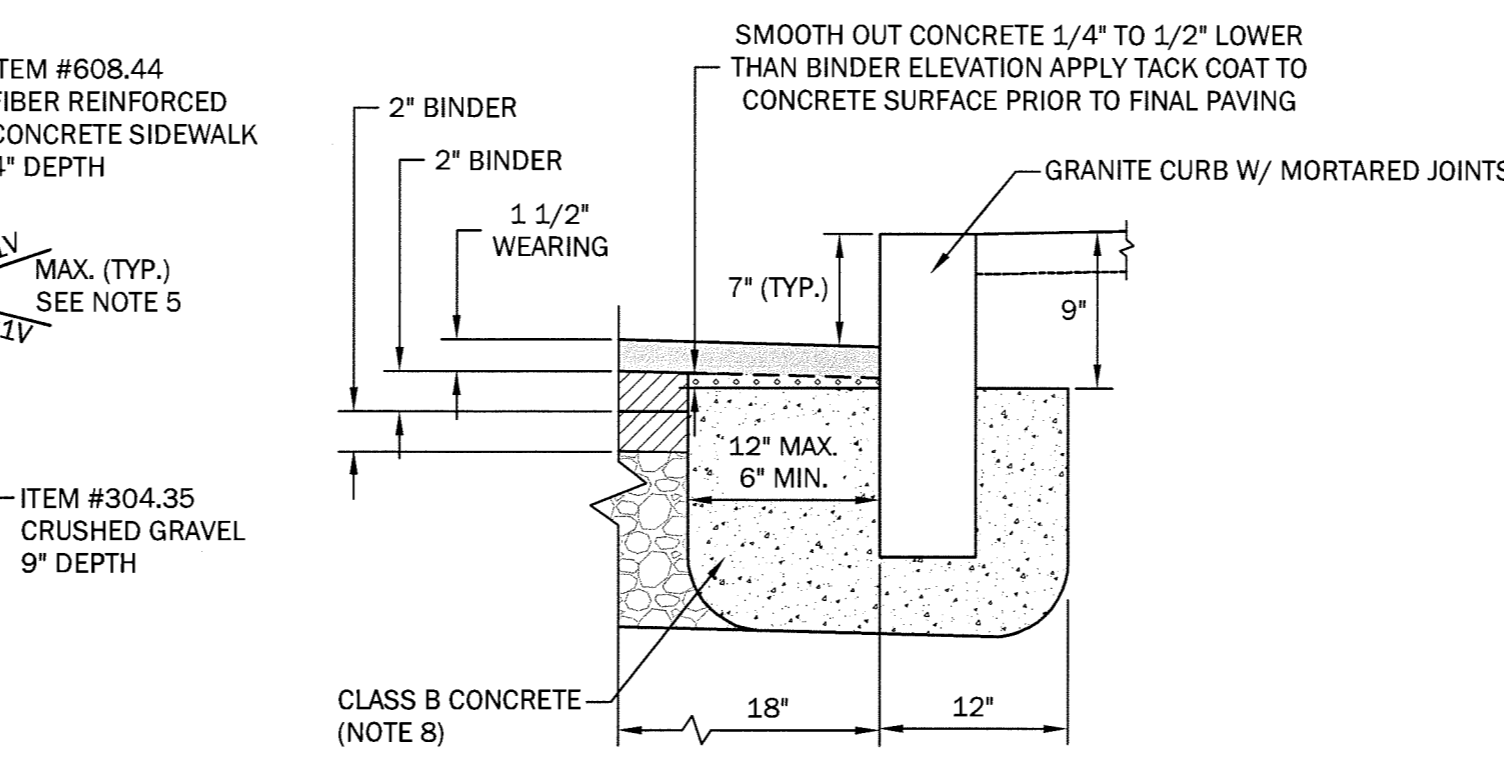
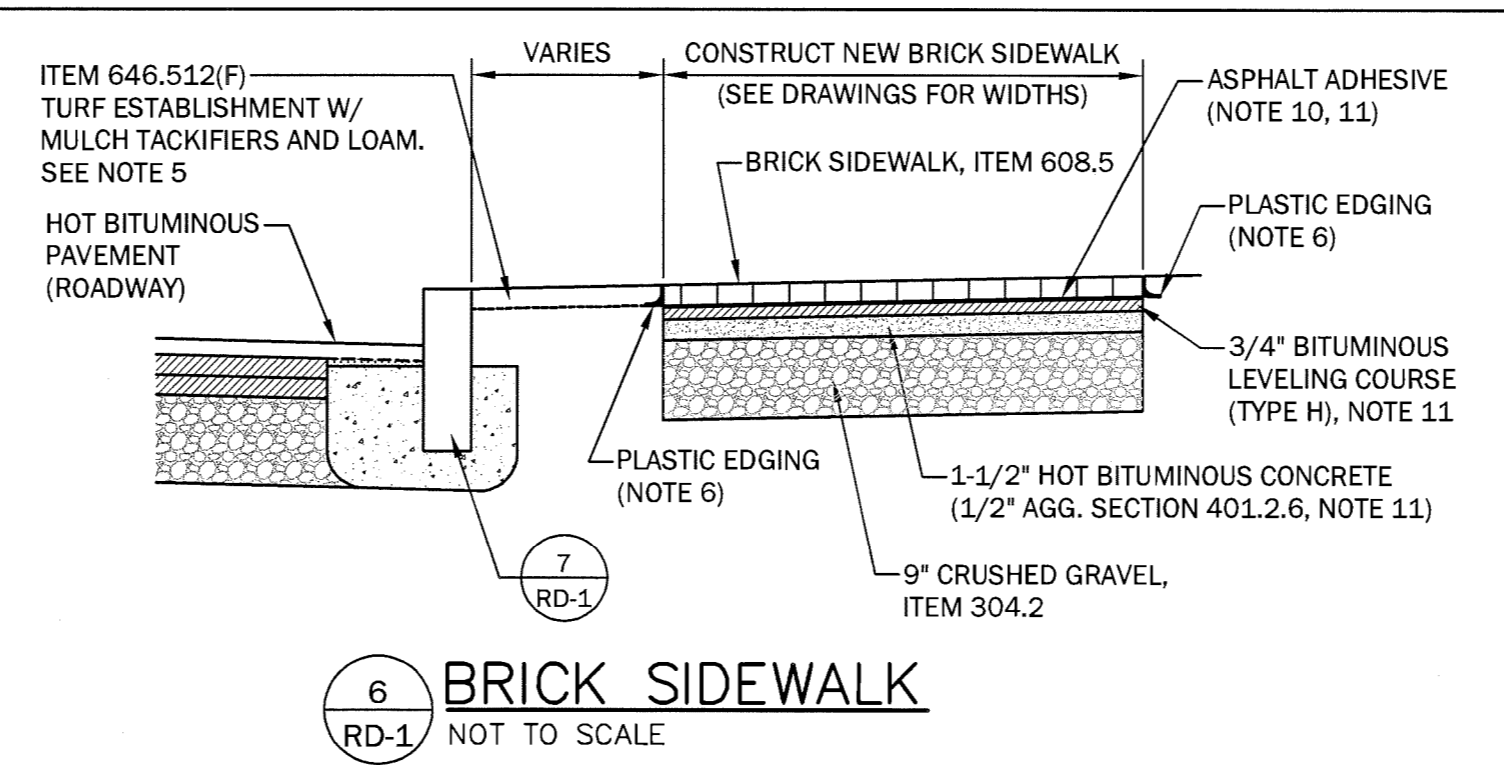
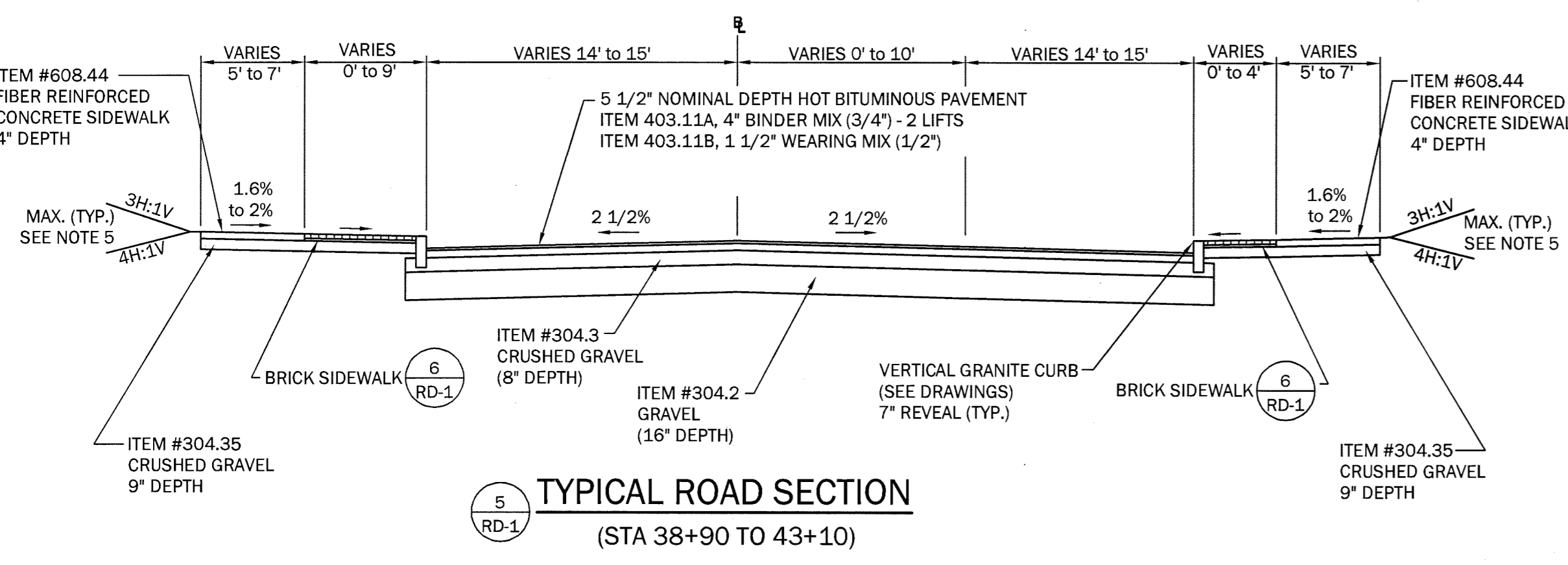
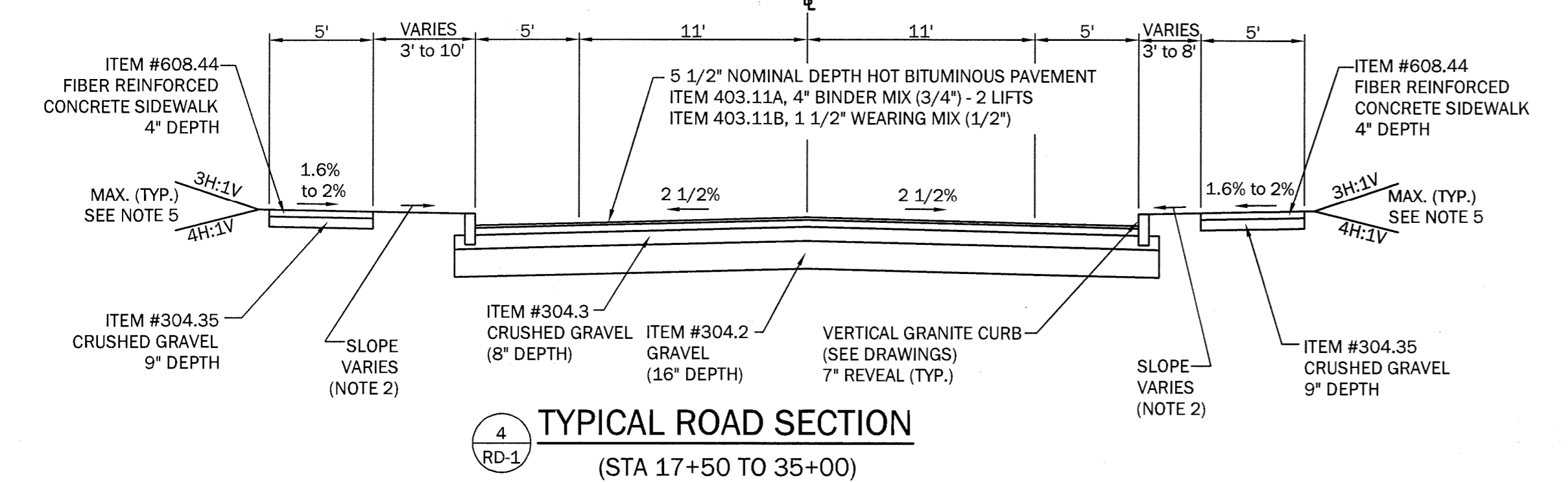
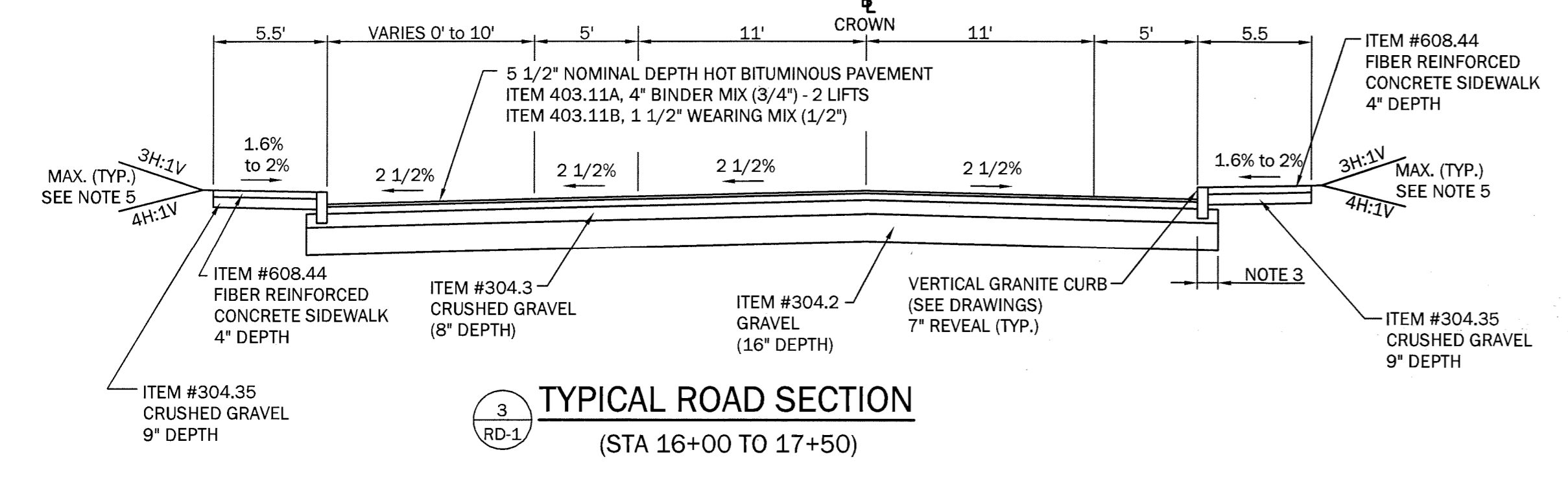
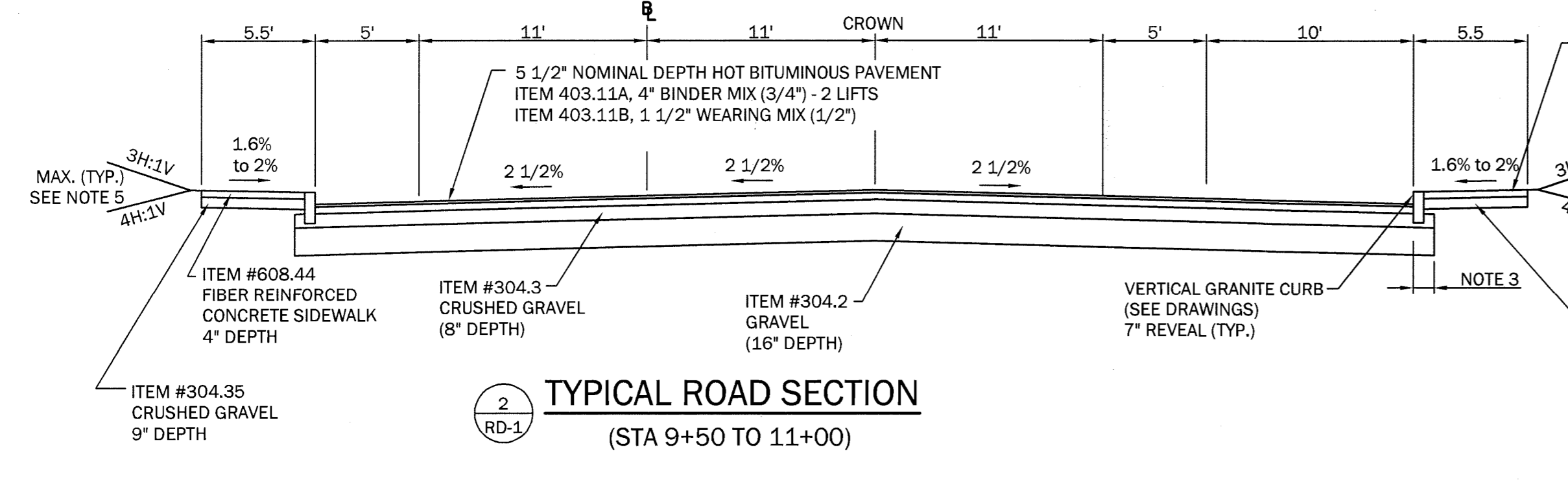
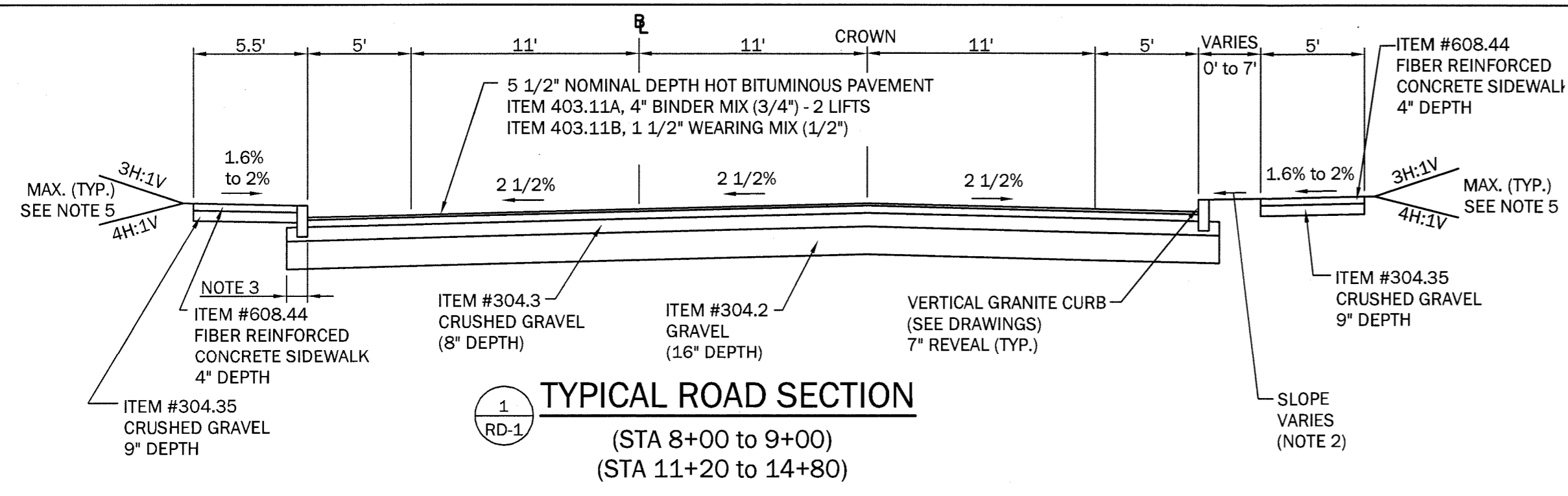
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SILVER STREET RAIN GARDEN PLAN

SILVER STREET RECONSTRUCTION

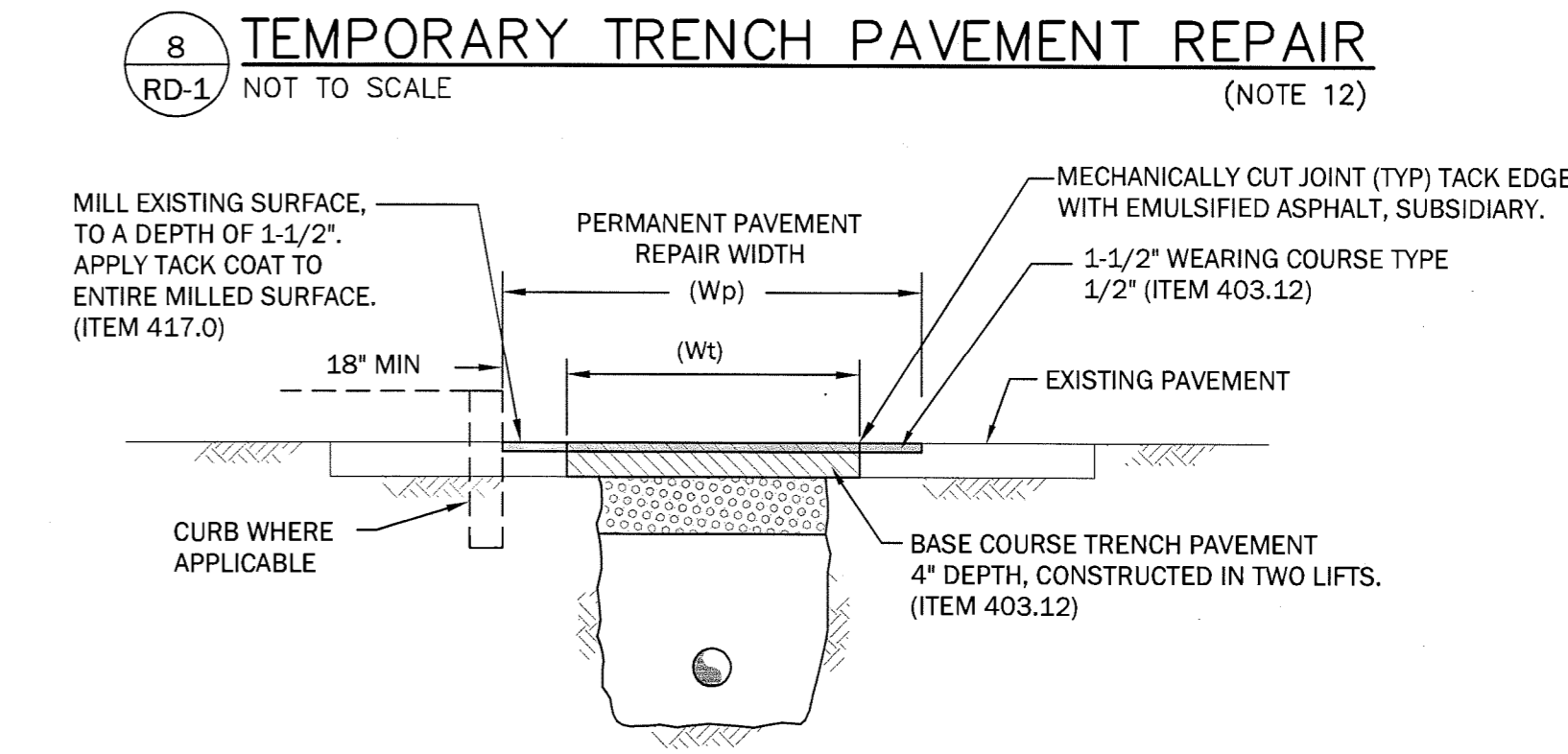
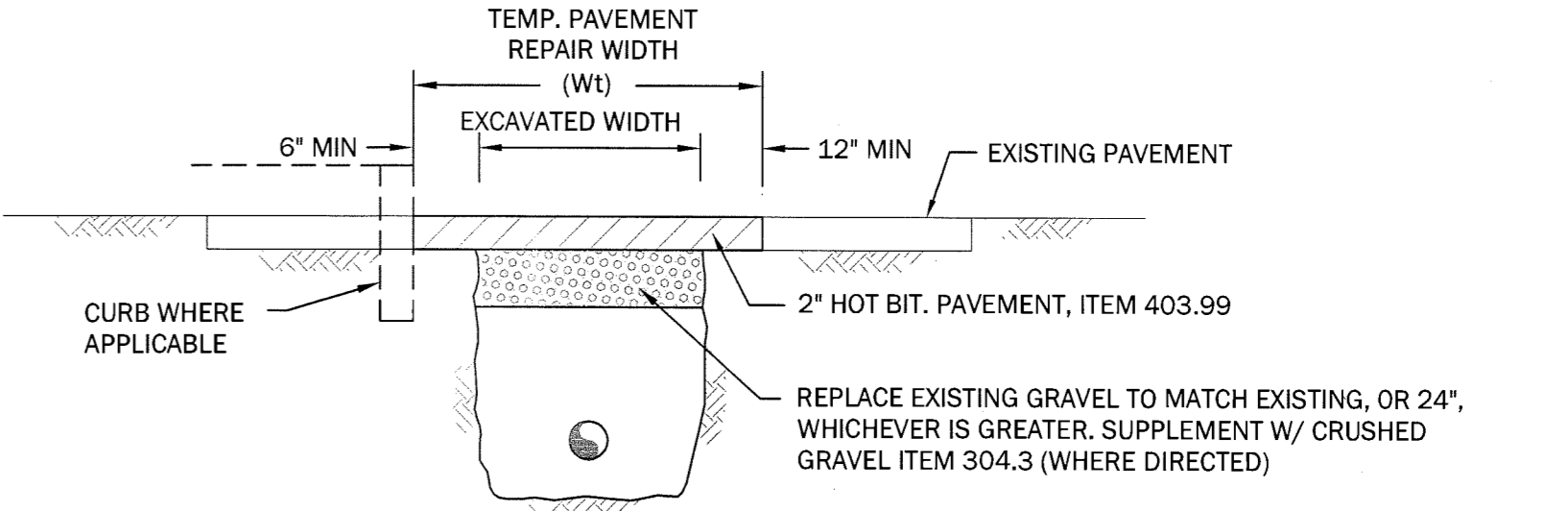
CITY OF DOVER, NEW HAMPSHIRE

DWG NO: P-2A SHEET: 17 OF 56



MINIMUM TRENCH PAVEMENT WIDTHS (SEE NOTE)

PIPE I.D.	Wt (INCHES)	Wp (INCHES)
1-21 INCHES	72	96
24-30 INCHES	84	108
> 30 INCHES	96	120



- NOTES:**
- RECLAIMED STABILIZED BASE MATERIAL MAY BE USED IN LIEU OF CRUSHED GRAVEL FOR ROADWAY, SIDEWALKS AND DRIVEWAYS PROVIDING IT MEETS THE REQUIREMENTS OF NHDOT SECTION 304.35.1.
 - SLOPE VARIES, 2% (MIN.) TO 25% (MAX.). SEE CROSS SECTIONS FOR GRADES. INSTALL LOAM, SEED, FERTILIZER, LIME STONE, MULCH & TACKIFIERS. PAY AS ITEM 646.512(F), MINIMUM LOAM DEPTH=4 INCHES. TURF ESTABLISHMENT WILL EXTEND FROM THE CURB TO THE LIMIT OF GRADING OR TO THE LIMITS OF THE DISTURBED AREA BEYOND THE SIDEWALK, UNLESS OTHERWISE DIRECTED.
 - GRAVEL AND EXCAVATION LIMITS FOR ROAD BOX EXTEND ONE (1) FOOT BEYOND FACE OF CURB (TYPICAL ALL SECTIONS).
 - EXCAVATION OF PAVEMENT, DRIVEWAYS AND SIDEWALKS, OUTSIDE ROAD BOX WILL NOT BE MEASURED FOR PAYMENT, REGARDLESS OF MATERIAL WHETHER BRICK, CONCRETE OR PAVEMENT. ALL OTHER EXCAVATION, EXCEPT EXPLORATORY EXCAVATION WILL BE SUBSIDIARY AND NOT MEASURED FOR PAYMENT. EXPLORATORY EXCAVATION WILL BE INCLUDED FOR PAYMENT UNDER ITEM 206.19.
 - RESTORATION OF WALLS, LANDSCAPING, STEPS, WALKWAYS, TURF ESTABLISHMENT, ETC., LOCATED ALONG THE BACK OF WALKS IS SUBSIDIARY TO SIDEWALK CONSTRUCTION. THE CONTRACTOR SHALL EXERCISE SPECIAL CARE DURING EXCAVATION AND CONSIDER CONSTRUCTION IMPACTS IN PREPARATION OF THEIR BID. GRADES MAY BE ADJUSTED TO MINIMIZE IMPACTS TO PRIVATE PROPERTY WHERE NECESSARY, PENDING ENGINEER'S APPROVAL. FINE GRADING AND TURF ESTABLISHMENT BEHIND SIDEWALKS WILL BE SUBSIDIARY.
 - INSTALL PLASTIC EDGING WHERE BRICK ADJOINS LOAM OR PLANTED MATERIALS, SUBSIDIARY TO ITEM 608.5.
 - CURB DAMAGED OR IMPACTED BY CONTRACTOR'S OPERATIONS (WHETHER GRANITE OR CONCRETE) IS TO BE REPLACED AT THE CONTRACTORS OWN EXPENSE, UNLESS OTHERWISE NOTED ON PLAN.
 - CLASS B CONCRETE AT BOTTOM AND SIDES OF CURB AS SHOWN SHALL BE PLACED TO FILL VOIDS. CONCRETE ADJOINING CURB WILL BE PAID AS ITEM 520.2 AT 4 CY PER 100 LF OF CURB INSTALLED.
 - CURB TIP DOWNS SHALL BE INSTALLED WHERE SIDEWALKS INTERSECT DRIVEWAY APRONS AND CROSSWALKS. TIP DOWNS AT DRIVEWAYS AND CROSS WALKS SHALL BE REVIEWED ON THE GROUND WITH THE ENGINEER AND OWNERS REPRESENTATIVE BEFORE CURB INSTALLATIONS.
 - MODIFIED ASPHALT ADHESIVE SHALL BE APPLIED TO BITUMINOUS LEVELING COURSE PRIOR TO INSTALLATION OF BRICK, IN ACCORDANCE TO MANUFACTURE INSTRUCTIONS.
 - BITUMINOUS CONCRETE BASE, LEVELING COURSE AND MODIFIED ASPHALT ADHESIVE ARE SUBSIDIARY TO ITEM 608.5.
 - THE CONTRACTOR SHALL SEQUENCE HIS WORK TO MINIMIZE THE NEED FOR TEMPORARY TRENCH PAVEMENT REPAIRS. PAVEMENT SHOULD NOT BE DISTURBED UNLESS THE CONTRACTOR CAN COMPLETE ENTIRE ROAD CONSTRUCTION (AS SHOWN ON TYPICAL SECTIONS, THIS DRAWING). AREAS TO RECEIVE TEMPORARY PAVEMENT SHALL BE APPROVED IN ADVANCE TO BE CONSIDERED FOR PAYMENT, AND THE CONTRACTOR WILL NEED TO CONSIDER THIS IN PREPARATION AT BID.
 - ALL TEMPORARY, DAMAGED OR DEFECTIVE PAVEMENT SHALL BE REMOVED PRIOR TO PLACEMENT OF PERMANENT TRENCH REPAIRS.
 - SEE TABLE IN "TEMPORARY TRENCH PAVEMENT REPAIRS" FOR MINIMUM TRENCH WIDTHS.

ISSUE FOR APPROVAL

By: [Signature] Date: 4/4/14

CONSTRUCTION

By: [Signature] Date: 4/18/14

RECORD DRAWING

By: [Signature] Date: []

APPROVAL

REVISIONS

NO.

Drawn/Chk: RMG
Designed: DLR/PDM
Checked: []
Approved: []
Date: APRIL 18, 2014
Book No.: 1725
Project No.: 1725
Dwg. ID: 1725.NYS.sdw
Scale: AS SHOWN

UNDERWOOD engineers

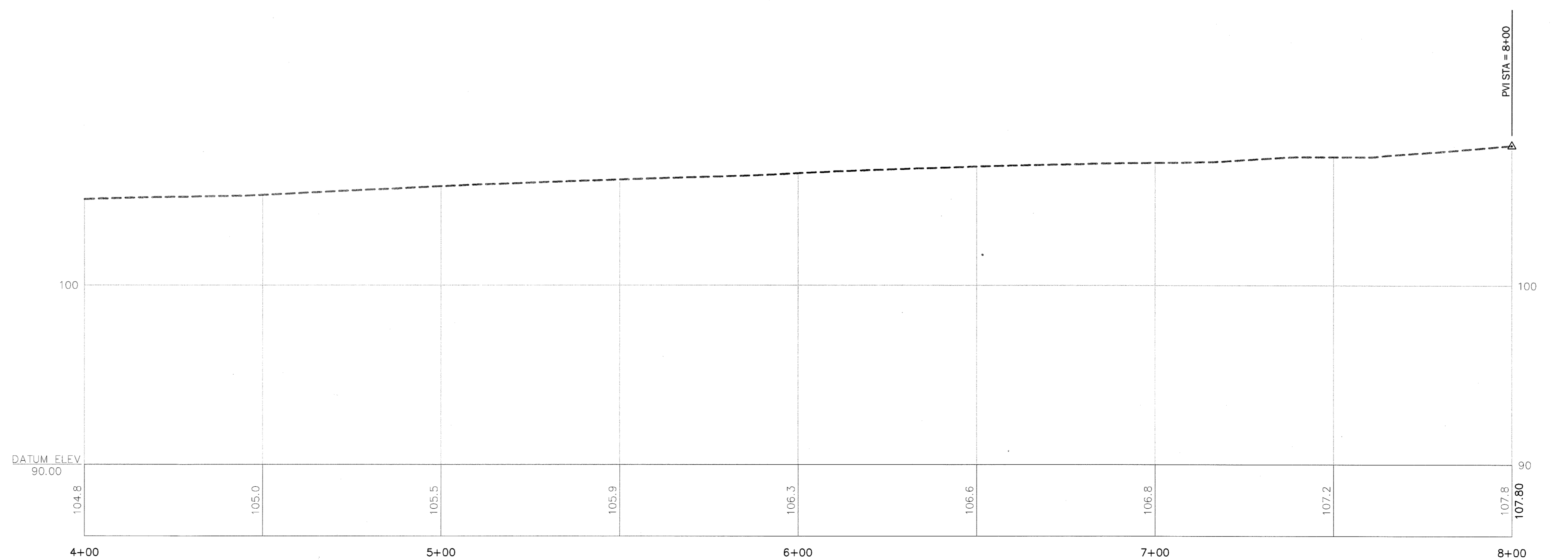
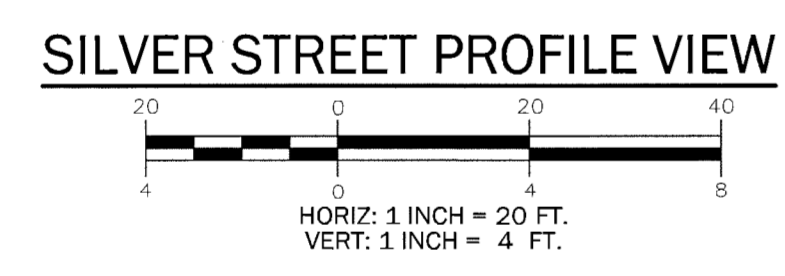
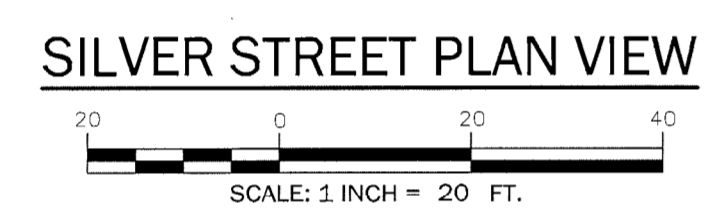
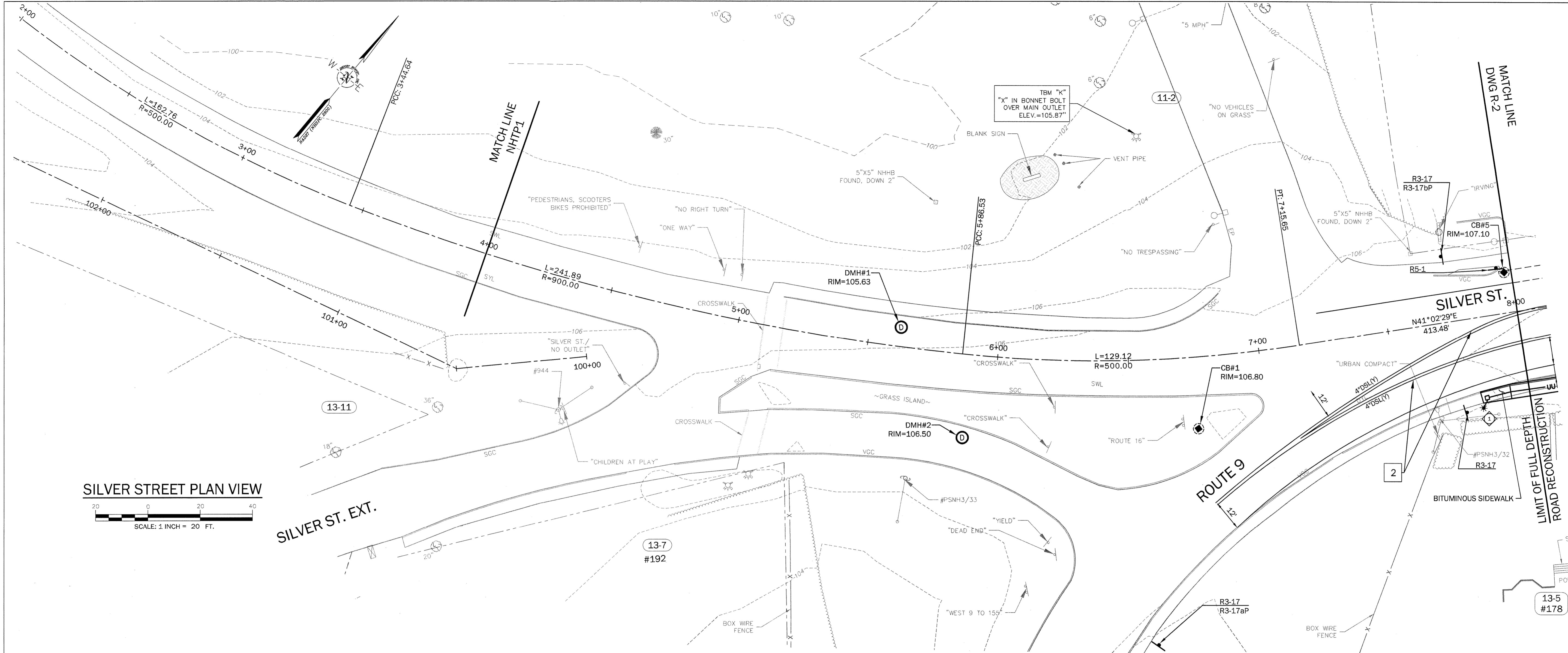
25 Vaughan Mall, Portsmouth, N.H. 03801
Tel. 603-436-6192 Fax. 603-431-4733

TYPICAL ROAD SECTION

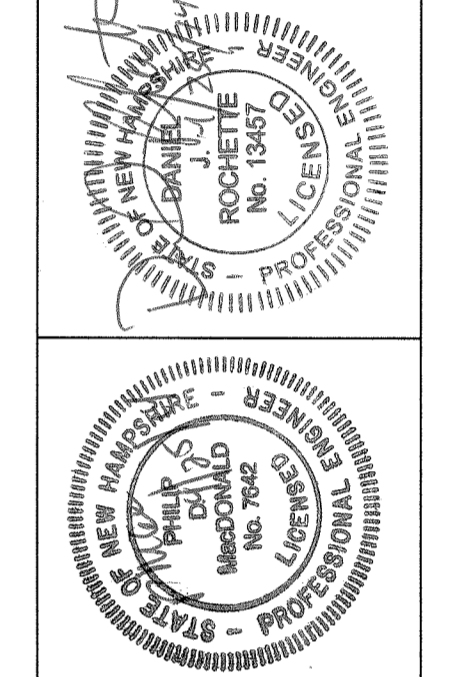
SILVER STREET RECONSTRUCTION

CITY OF DOVER, NEW HAMPSHIRE

DWG NO: RD-1
SHEET: 18 OF 56

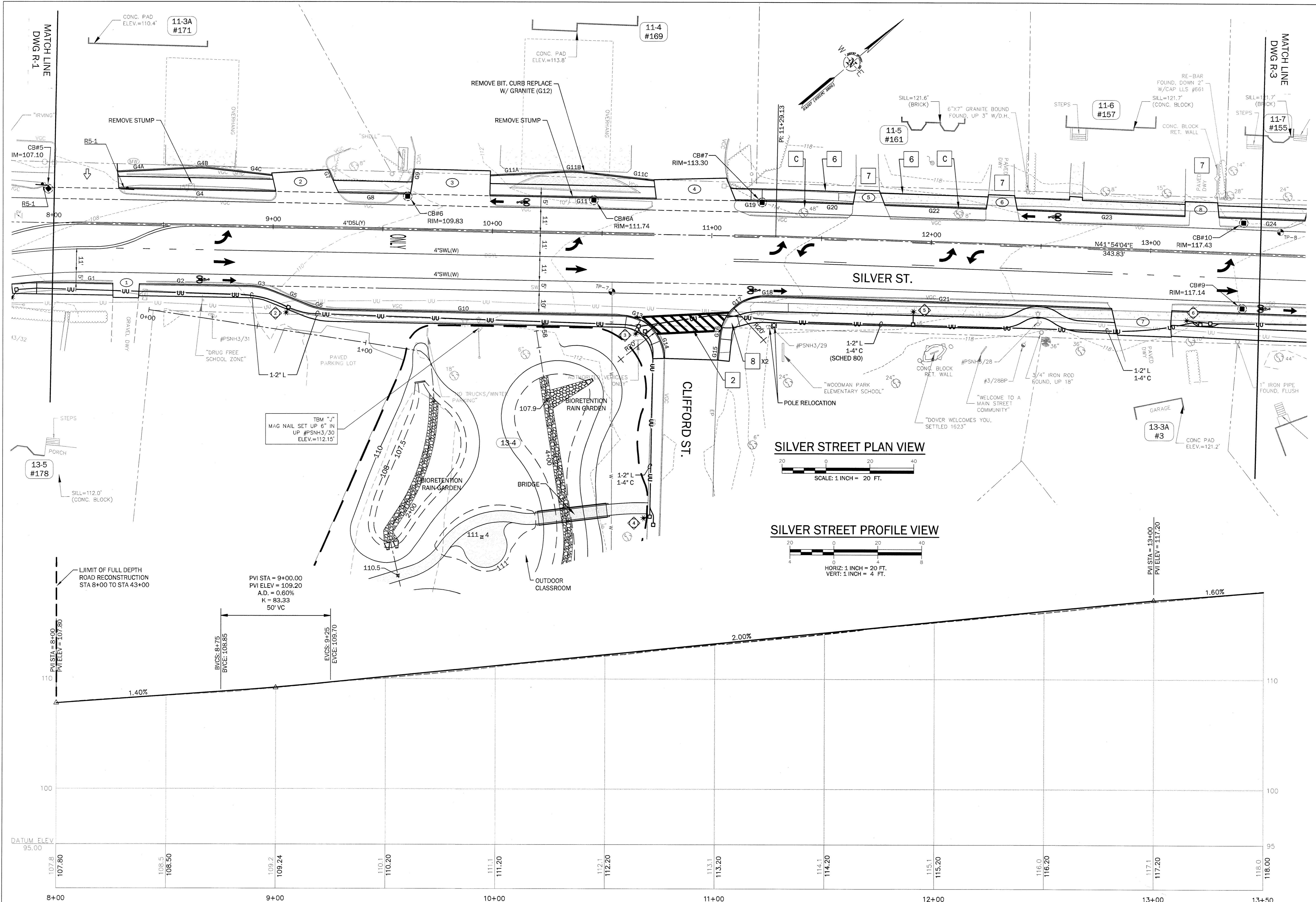


UNDERWOOD engineers 25 Vaughan Mall, Portsmouth, N.H. 03801 Tel. 603-436-6192 Fax. 603-431-4733	ROADWAY PLAN & PROFILE SILVER STREET RECONSTRUCTION CITY OF DOVER, NEW HAMPSHIRE	DWG NO R-1	SHEET 19 OF 56
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Drawn/Chk	RMG
Designed	DJR/PDM
Checked	
Approved	
Date	APRIL 18, 2014
Book No.	
Project No.	1725
Dwg. ID	1725suba.dwg
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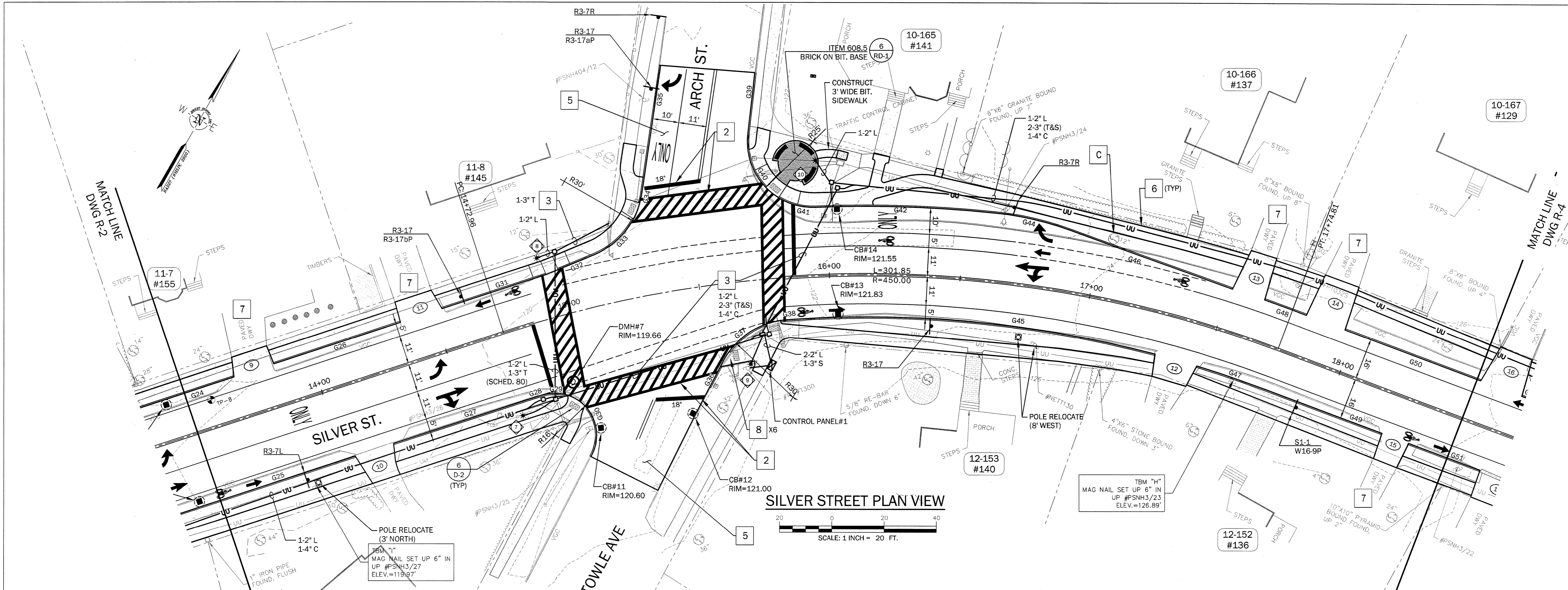
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Designed	DJR/PJM	
Checked		
Approved		
Date	APRIL 18, 2014	
Book No.		
Project No.	1725	
Dwg. ID	1725base.dwg	
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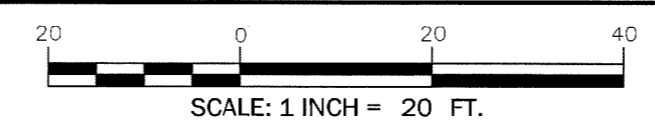
25 Vaughan Mall, Portsmouth, N.H. 03801
Tel. 603-436-6192 Fax. 603-431-4733

ROADWAY PLAN & PROFILE	SHEET
SILVER STREET RECONSTRUCTION	20 OF 56
CITY OF DOVER, NEW HAMPSHIRE	
DWG NO. R-2	

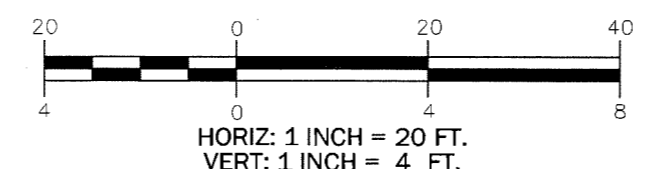
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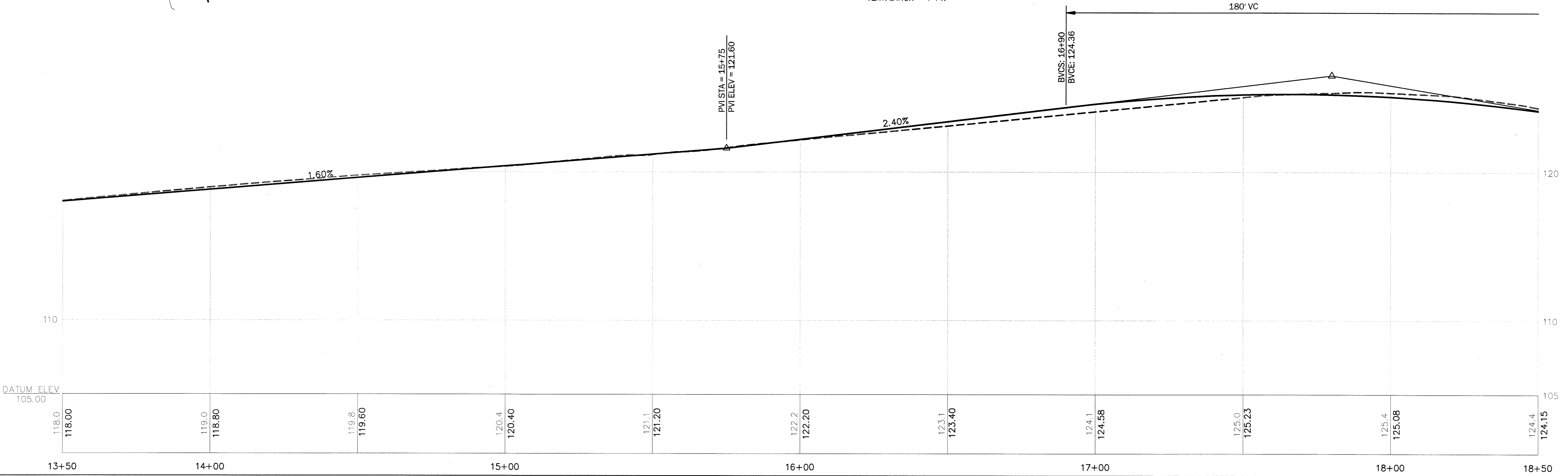
SILVER STREET PLAN VIEW



SILVER STREET PROFILE VIEW

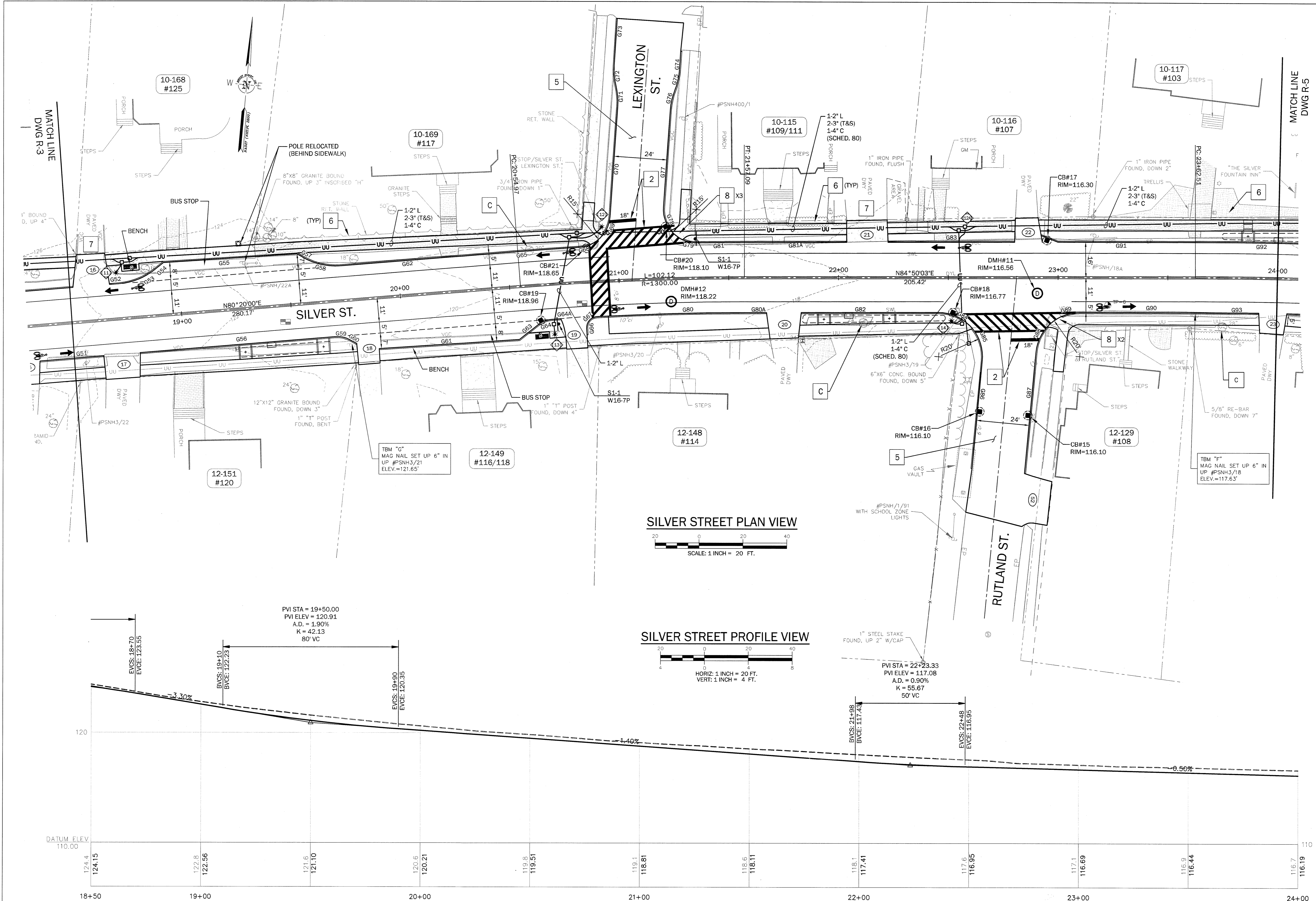


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 PVI ELEV = 126.52
 HP: STA = 17+65.79
 HP: ELEV = 125.27
 A.D. = -5.70%
 K = 31.58
 180' VC



Drawn/Chk. RMG Designed D.R./PDM Checked APRIL 18, 2014 Approved APRIL 18, 2014 Date APRIL 18, 2014 Book No. 1725 Project No. 1725 Dwg. ID 1725base.dwg Scale AS SHOWN	ISSUE FOR APPROVAL Date 4/7/14 By PDM
	REVISIONS NO. 1 APP'D DATE BY
UNDERWOOD engineers 25 Vaughan Mall, Portsmouth, N.H. 03801 Tel. 603-436-6192 Fax. 603-431-4733	
ROADWAY PLAN & PROFILE SILVER STREET RECONSTRUCTION CITY OF DOVER, NEW HAMPSHIRE	
DWG NO R-3	SHEET 21 OF 56

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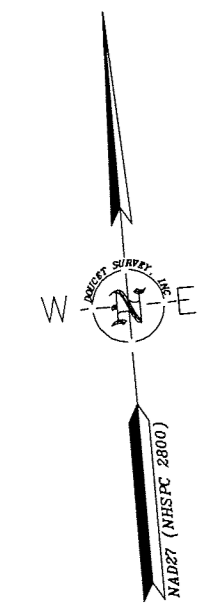
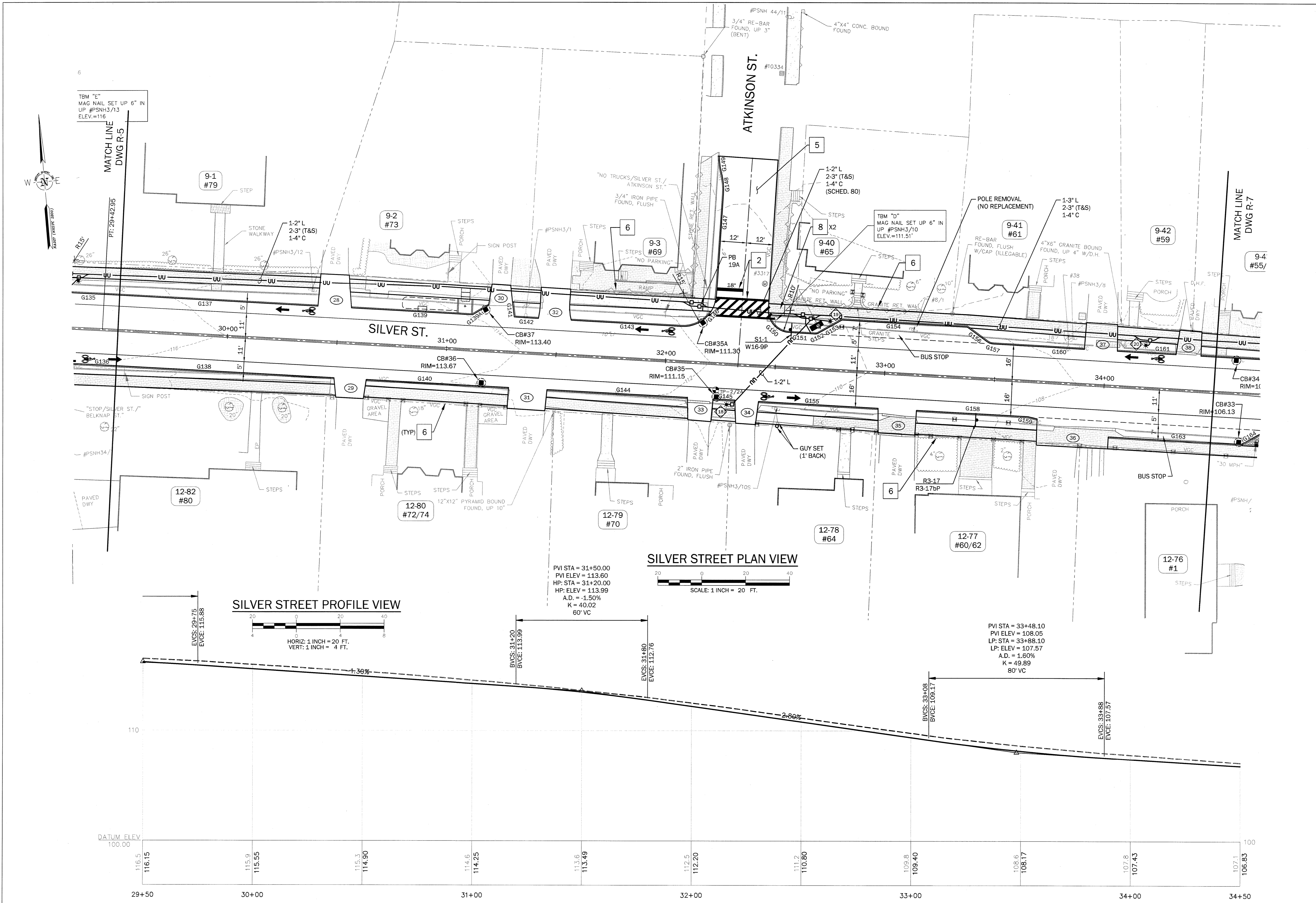
SILVER STREET PLAN VIEW

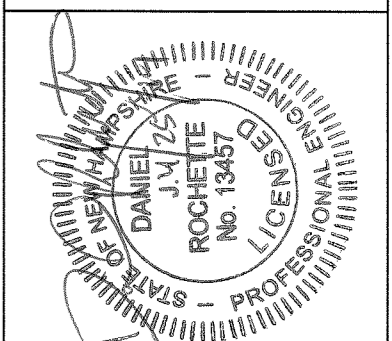
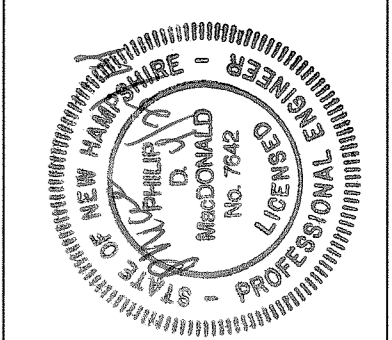
SILVER STREET PROFILE VIEW

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NO.	REVISIONS				
<p>APP'D</p> <p>NO. </p>					

<p>UNDERWOOD engineers</p> <p>25 Vaughan Mall, Portsmouth, N.H. 03801</p> <p>Tel. 603-436-6192 Fax. 603-431-4733</p>	<p>ROADWAY PLAN & PROFILE</p> <p>SILVER STREET RECONSTRUCTION</p> <p>CITY OF DOVER, NEW HAMPSHIRE</p>
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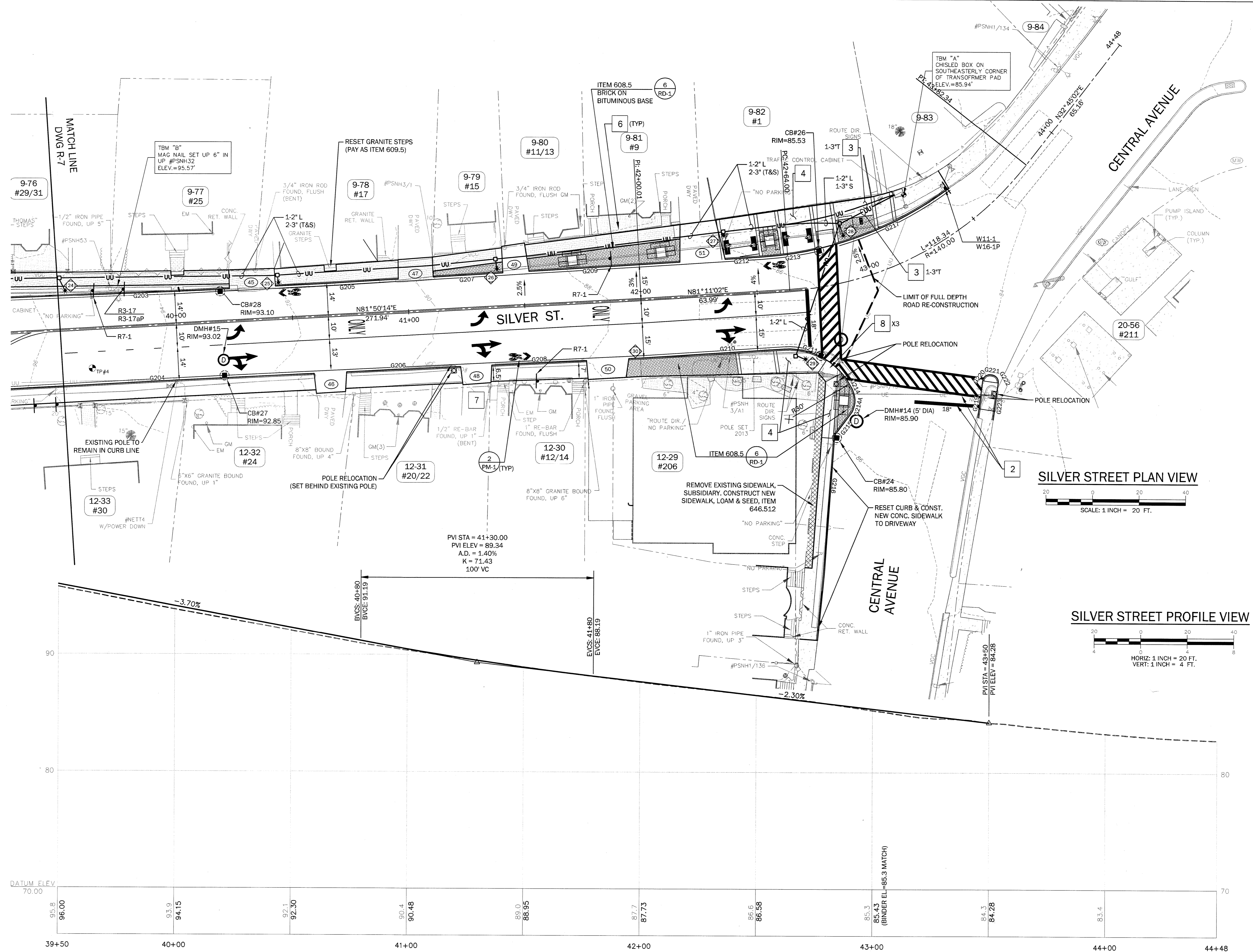
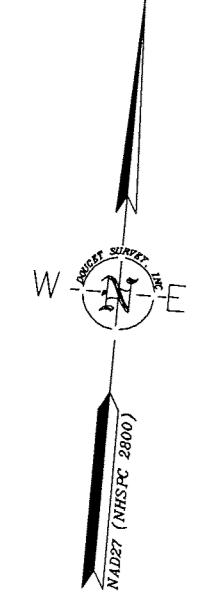
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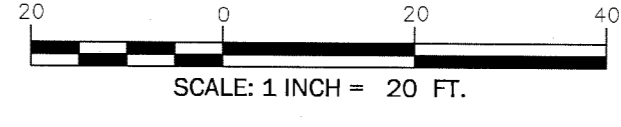
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<p>UNDERWOOD engineers</p> <p>25 Vaughan Mall, Portsmouth, N.H. 03801 Tel. 603-436-6192 Fax. 603-431-4733</p>																			
<p>ROADWAY PLAN & PROFILE</p> <p>SILVER STREET RECONSTRUCTION</p> <p>CITY OF DOVER, NEW HAMPSHIRE</p>																			
DWG NO R-6	SHEET 24 OF 56																		

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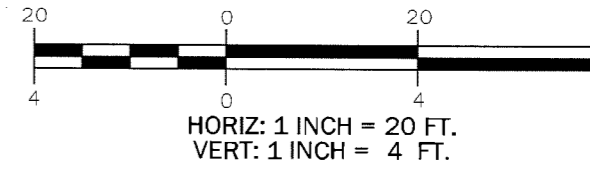
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SILVER STREET PLAN VIEW



SILVER STREET PROFILE VIEW



ISSUE FOR APPROVAL Date: 4/7/14 By: PDM CONSTRUCTION Date: 4/16/14 By: PDM RECORD DRAWING Date: _____ By: _____	REVISIONS NO. _____ APP'D _____
Drawn/Chk./RMS: _____ Designed: _____ Checked: _____ Approved: _____ Date: APRIL 18, 2014 Book No.: _____ Project No.: 1725 Dwg. ID: 1725base.dwg Scale: AS SHOWN	
<p>UNDERWOOD engineers</p> <p>25 Vaughan Mall, Portsmouth, N.H. 03801 Tel. 603-436-6192 Fax. 603-431-4733</p>	
ROADWAY PLAN & PROFILE SILVER STREET RECONSTRUCTION CITY OF DOVER, NEW HAMPSHIRE	
DWG NO: R-8	SHEET: 26 OF 56

PLANT SCHEDULE *FOR BIORETENTION AND TREEWAY AREAS PLANT SCHEDULE SEE SHEET L5

DECIDUOUS TREES

QTY.	ABRV.	SCIENTIFIC NAME	COMMON NAME	SIZE	REMARKS
4	AG	ACER GINNALA 'FLAME'	FLAME AMUR MAPLE	2.5" C.	B&B
3	ACF	AESCULUS CARNEA 'FORT MCNAIR'	FORT MCNAIR HORSECHESTNUT	2.5" C.	B&B
13	ARB	ACER RUBRUM 'BURGUNDY BELLE'	BURGUNDY BELLE RED MAPLE	3.5" C.	B&B
8	CM	CORNUS MAS	CORNELIAN CHERRY	2.5" C.	B&B
3	CS	CORNUS x 'STELLAR PINK'	STELLAR PINK DOGWOOD	2.5" C.	B&B
14	MSS	MALUS SPRING SNOW	SPRING SNOW CRABAPPLE	2.5" C.	B&B
6	ME	MAGNOLIA X 'ELIZABETH'	ELIZABETH MAGNOLIA	2.5" C.	B&B
3	OA	OXYDENDRON ARBOREUM	SOURWOOD	2.5" C.	B&B
15	SR	SYRINGA RETICULATA 'IVORY SILK'	IVORY SILK JAPANESE LILAC TREE	2.5" C.	B&B
17	UA	ULMUS AMERICANA 'LIBERTY'	LIBERTY AMERICAN ELM	4" CAL.	B&B/ AVAIL. FROM ELM RESEARCH KEENE, NH
11	ZS	ZELKOVA SERRATA 'GREEN VASE'	GREEN VASE ZELKOVA	3.5" C.	

SHRUBS

7	JCG	JUNIPER CHINENSIS 'GOLD STAR'	GOLD STAR JUNIPER	3SPD	CONTAINER
5	IGS	ILEX GLABRA SHAMROCK	SHAMROCK INKBERRY	3SPD	CONTAINER
1	RNZ	RHODODENDRON 'NOVA ZEMBLA'	NOVA ZEMBLA RHODODENDRON	3' HT	B&B
8	STMY	SPIREA TRILOBATA 'MELLOW YELLOW'	MELLOW YELLOW SPIREA	3SPD	CONTAINER
17	WFMW	WEIGELA FLORIDA 'MIDNIGHT WINE'	MIDNIGHT WINE WIGELA	2-SPD	CONTAINER



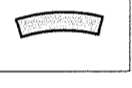

PERENNIALS AND GROUNDCOVERS

600	VM	VINCA MINOR	MYRTLE	2 QT	PLANT 1' O.C.
635	HB	HEDERA HELIX 'BALTICA'	BALTIC IVY	2 QT	PLANT 1' O.C.
98	PT	PACHYSANDRA TERMINALIS	COMMON SPURGE	2 QT	PLANT 1' O.C.
12	HMS	HAKONECHLOA MACRO 'STRIATA'	VARIEGATED JAP. FOREST GRASS	2 QT	PLANT 1' O.C.


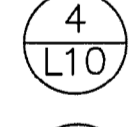
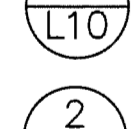






LANDSCAPE NOTES

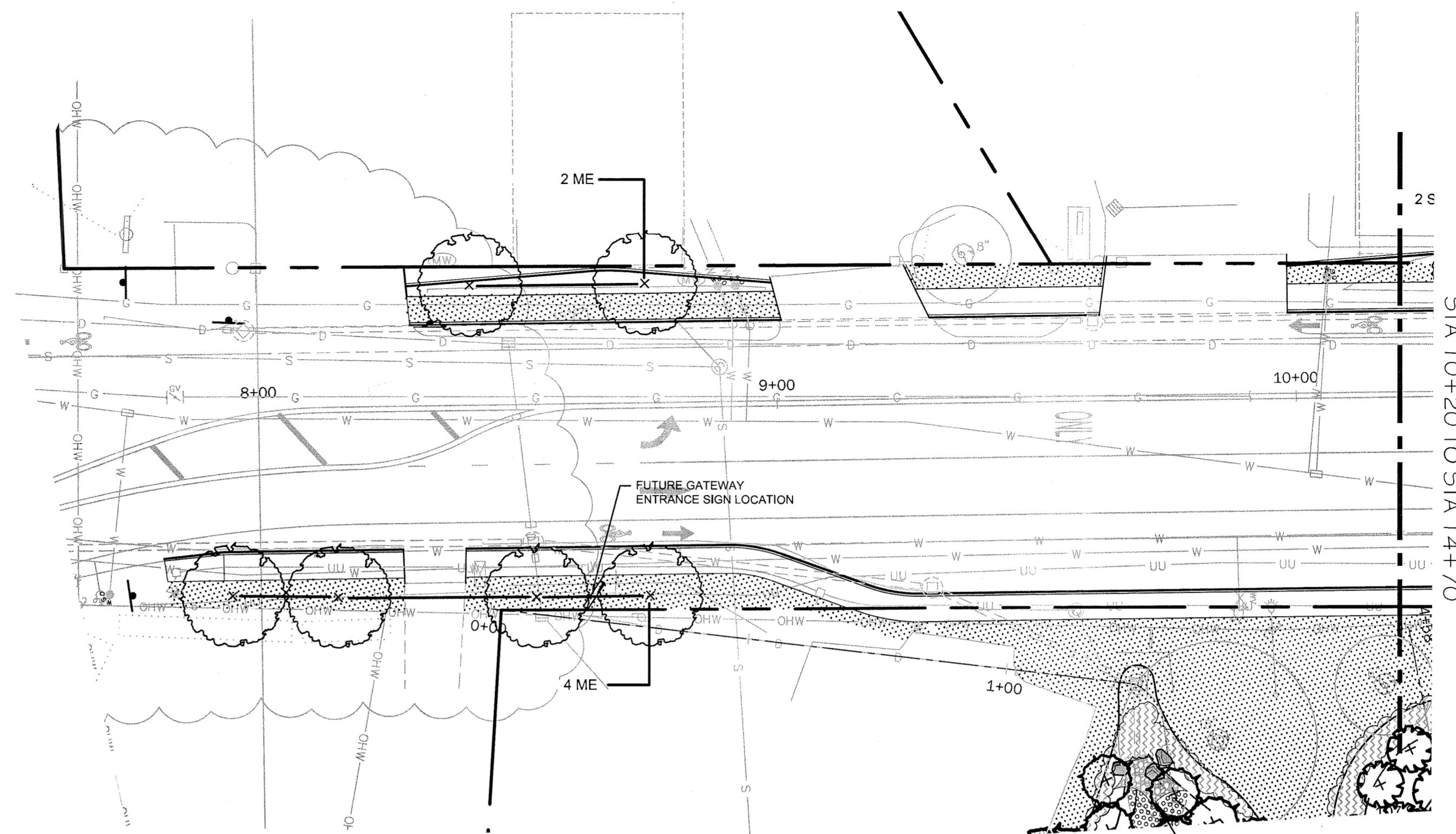
- CONTRACTOR TO MARK ALL UNDERGROUND UTILITIES ON THE GROUND PRIOR TO CONSTRUCTION.
- CONTRACTOR IS TO REVIEW TREE LOCATIONS WITH LANDSCAPE ARCHITECT AND OWNERS REPRESENTATIVES PRIOR TO ORDERING AND INSTALLING TREES.

BENCH TABLE FOR SHEETS L1-L6

- BENCH A  1/7
- BENCH B  4/7
- BENCH C  6/7
- BENCH D  SEE NOTE 3 ON SHEET L5

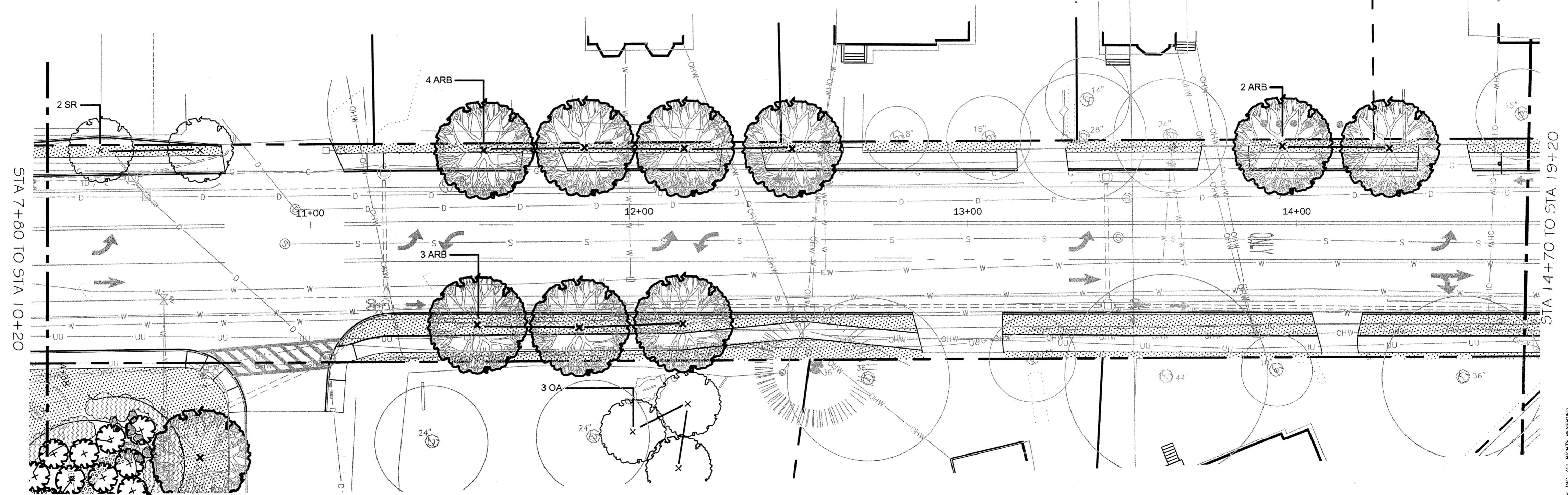
LANDSCAPE LEGEND

-  4 L10 Deciduous Shade Tree
-  4 L10 Deciduous Flowering Tree
-  1 L10 Shrub Planting
-  2 L10 Groundcover Planting
-  Turf Establishment w/mulch tackifiers & Loam in accordance with section Item 646, subsidiary to item 3.2
-  Existing Tree
-  5 L7 Trash & Recycling Receptacles
-  Matchline
-  Bio Retention Treeway



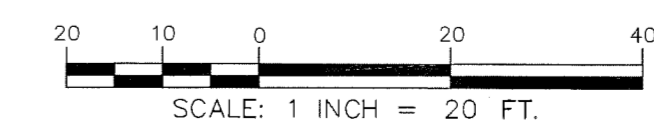
STA 7+80 TO STA 10+20

SCALE: 1"=20'



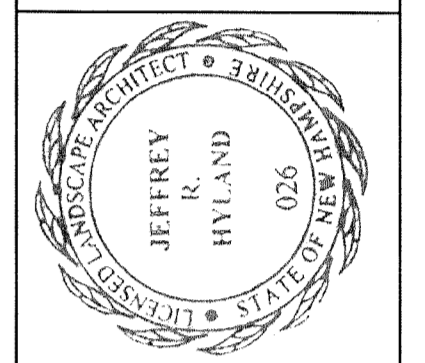
STA 10+20 TO STA 14+70

SCALE: 1"=20'



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	Date		Date		Date	

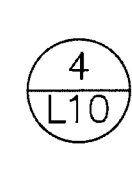
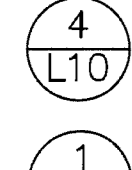
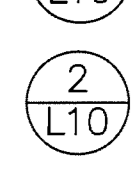

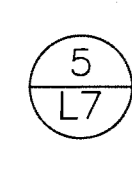






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APRIL 17, 2014

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LANDSCAPE PLAN
SILVER STREET RECONSTRUCTION
CITY OF DOVER
DOVER, NEW HAMPSHIRE

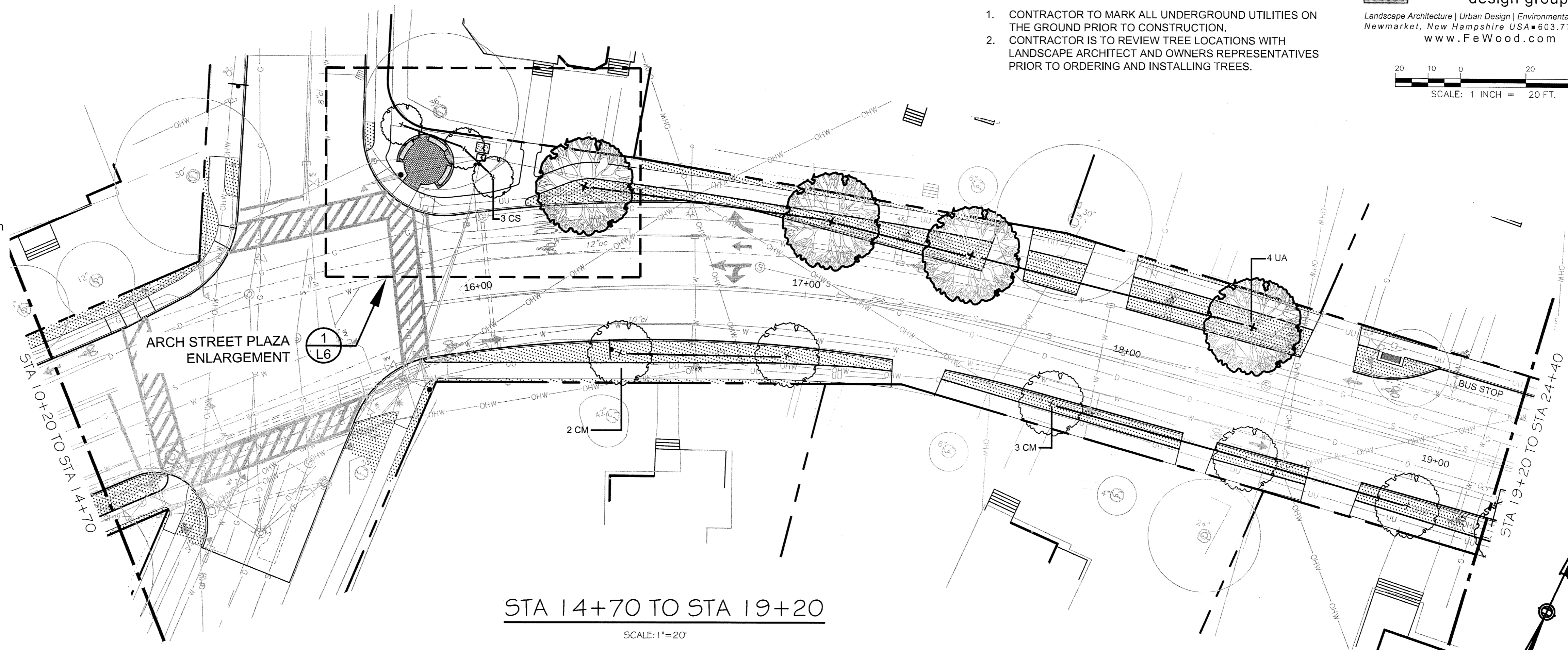
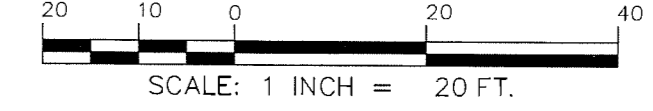
LANDSCAPE LEGEND

-  4 L10 Deciduous Shade Tree
-  4 L10 Deciduous Flowering Tree
-  1 L10 Shrub Planting
-  2 L10 Groundcover Planting
-  Turf Establishment w/mulch tackifiers & Loam in accordance with section Item 646, subsidiary to item 3.2
-  Existing Tree
-  5 L7 Trash & Recycling Receptacles
-  Matchline
-  Bio Retention Treeway

LANDSCAPE NOTES

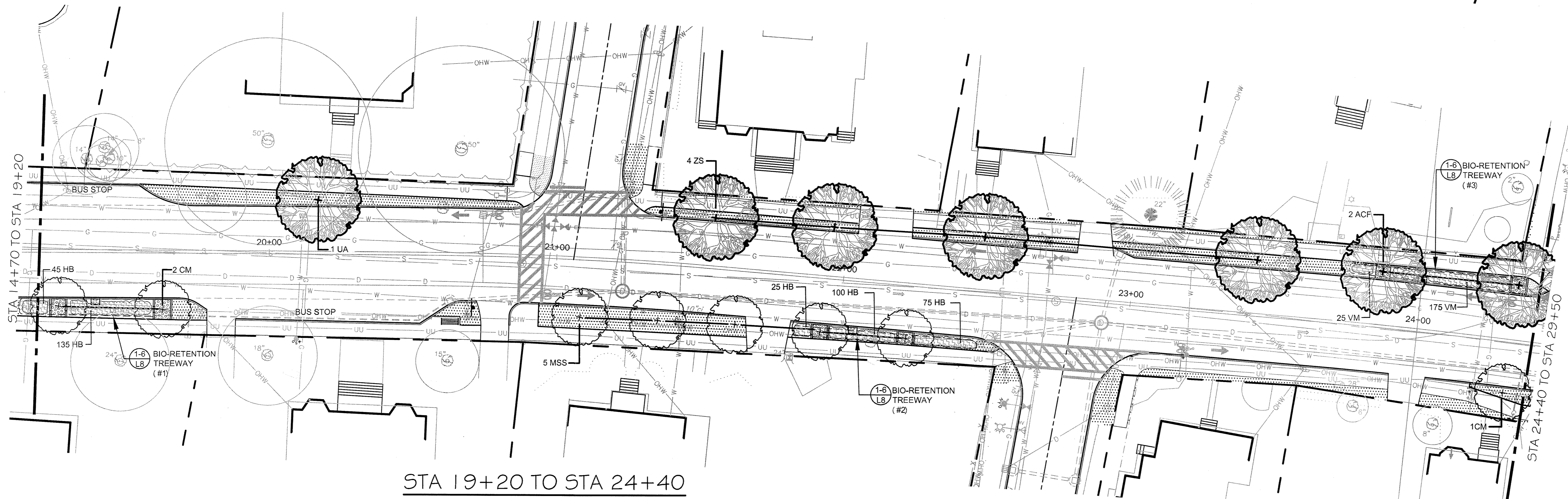
1. CONTRACTOR TO MARK ALL UNDERGROUND UTILITIES ON THE GROUND PRIOR TO CONSTRUCTION.
2. CONTRACTOR IS TO REVIEW TREE LOCATIONS WITH LANDSCAPE ARCHITECT AND OWNERS REPRESENTATIVES PRIOR TO ORDERING AND INSTALLING TREES.

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STA 14+70 TO STA 19+20

SCALE: 1"=20'

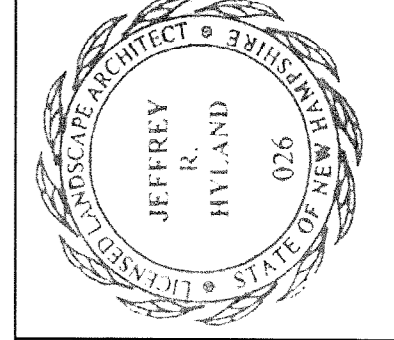


STA 19+20 TO STA 24+40

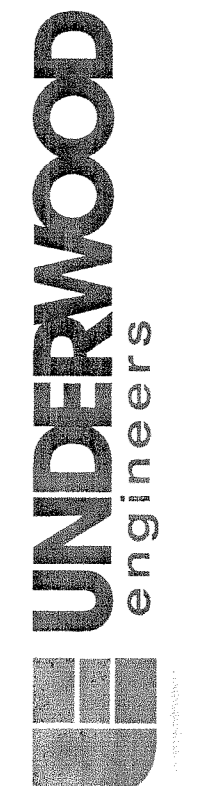
SCALE: 1"=20'

ISSUE FOR				
APPROVAL	By	Date	CONSTRUCTION	By
RECORD DRAWING	By	Date	NO.	REVISIONS
APP'D				

Drawn/Chk	KW/JRH	Designed	JRH	Checked	JRH
Approved	JRH	Date	2/2013	Book No.	12012
Project No.	026	Dwg. ID	AS-SHOW	Scale	



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APRIL 17, 2014



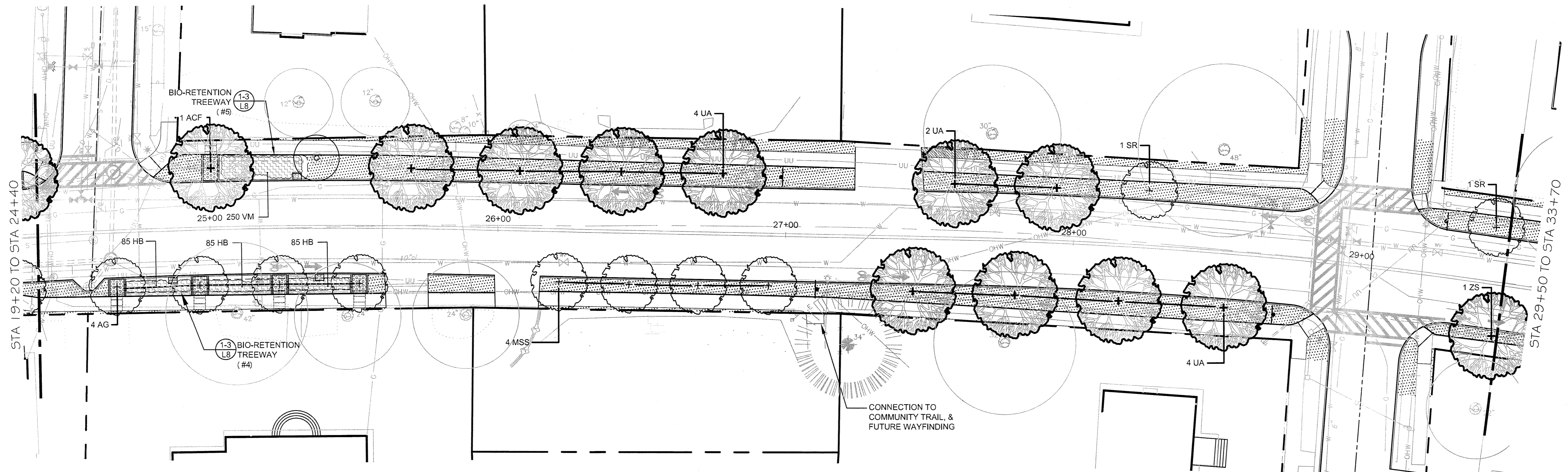
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Tel. 603-436-6192 Fax. 603-431-4733

LANDSCAPE PLAN
SILVER STREET
RECONSTRUCTION
CITY OF DOVER
DOVER, NEW HAMPSHIRE

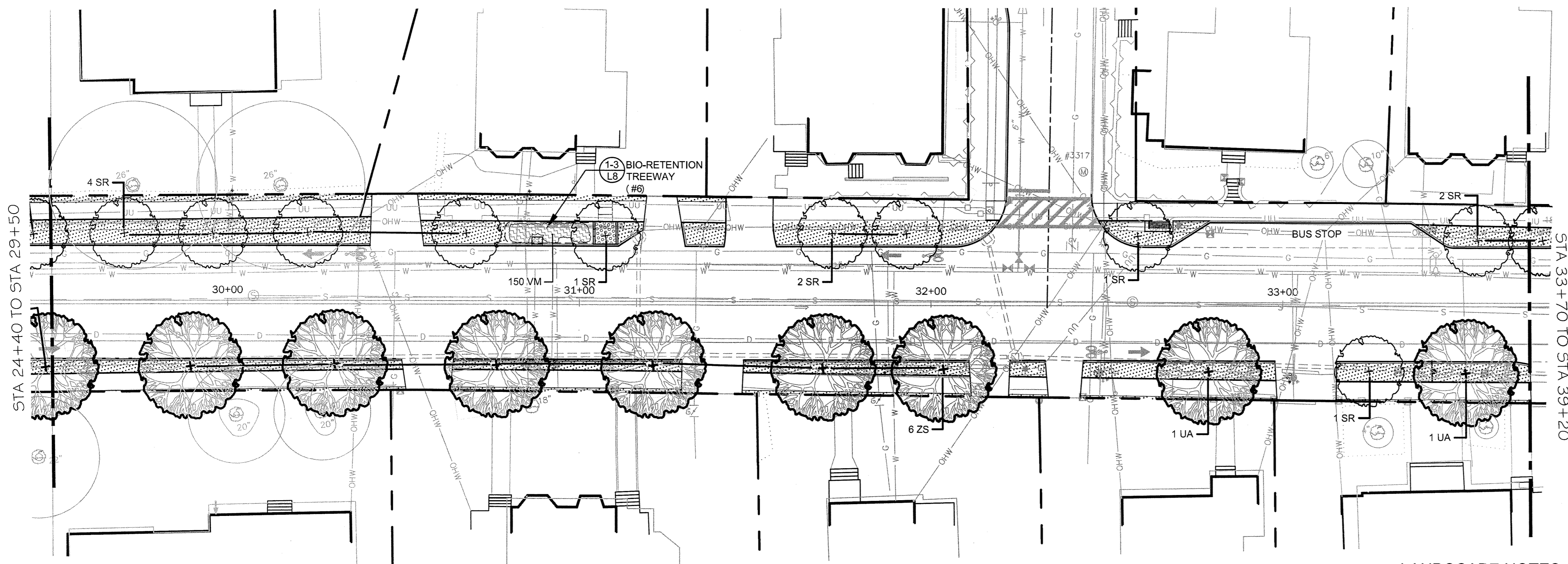
DWG NO	SHEET
L-2	28 OF 56

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STA 24+40 TO STA 29+50

SCALE: 1"=20'

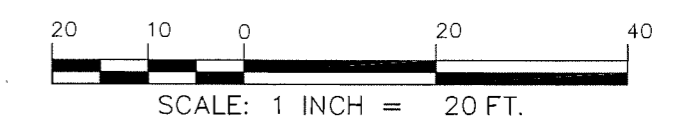


STA 29+50 TO STA 33+70

SCALE: 1"=20'

LANDSCAPE LEGEND

- Deciduous Shade Tree
- Deciduous Flowering Tree
- Shrub Planting
- Groundcover Planting
- Turf Establishment w/mulch tackifiers & Loam in accordance with section Item 646, subsidiary to item 3.2
- Existing Tree
- Trash & Recycling Receptacles
- Matchline
- Bio Retention Treeway



LANDSCAPE NOTES

1. CONTRACTOR TO MARK ALL UNDERGROUND UTILITIES ON THE GROUND PRIOR TO CONSTRUCTION.
2. CONTRACTOR IS TO REVIEW TREE LOCATIONS WITH LANDSCAPE ARCHITECT AND OWNERS REPRESENTATIVES PRIOR TO ORDERING AND INSTALLING TREES.

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CONSTRUCTION	By	By
RECORD DRAWING	Date	By
NO.	REVISIONS	APP'D

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APRIL 17, 2014

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LANDSCAPE PLAN
SILVER STREET RECONSTRUCTION
CITY OF DOVER
DOVER, NEW HAMPSHIRE

DWG NO: L-3
SHEET: 29 OF 56

LANDSCAPE LEGEND

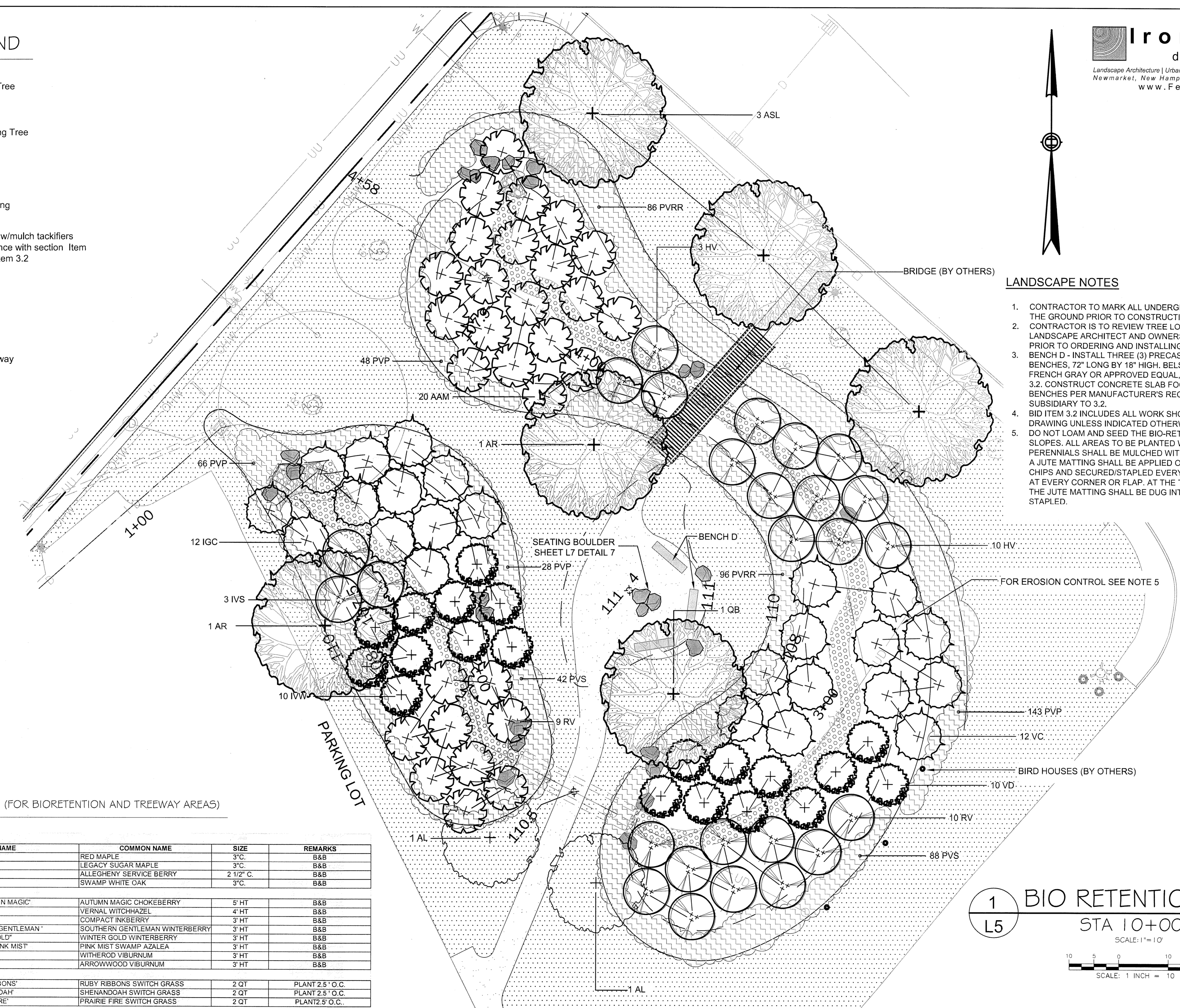
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- 5 L7 Trash & Recycling Receptacles
- Matchline
- Bio Retention Treeway

BENCH TABLE FOR SHEETS L1-L6

- BENCH A 1 L7
- BENCH B 4 L7
- BENCH C 6 L7
- BENCH D SEE NOTE 3 ON SHEET L5

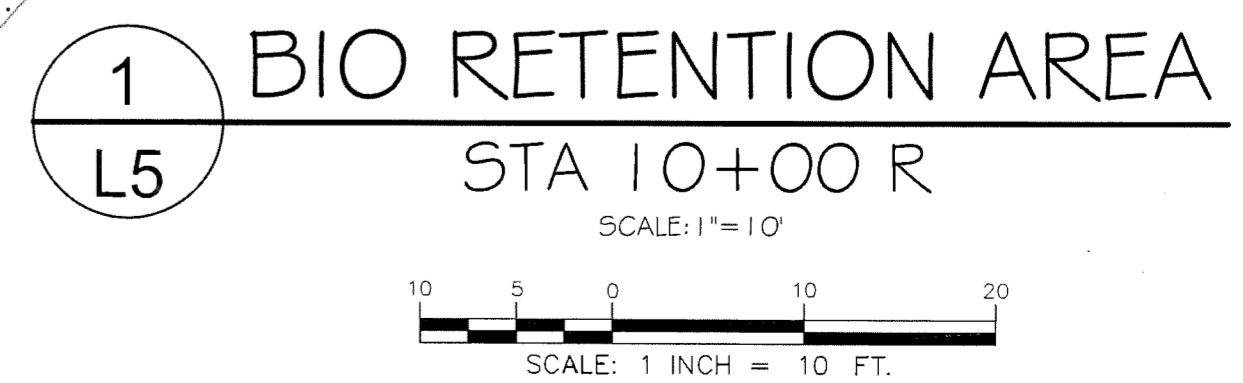
PLANT SCHEDULE (FOR BIORETENTION AND TREEWAY AREAS)

DECIDUOUS TREES					
QTY.	ABRV.	SCIENTIFIC NAME	COMMON NAME	SIZE	REMARKS
2	AR	ACER RUBRUM	RED MAPLE	3" C.	B&B
3	ASL	ACER SACCHARUM 'LEGACY'	LEGACY SUGAR MAPLE	3" C.	B&B
2	AL	AMELANCHIER LAEVIS	ALLEGHENY SERVICE BERRY	2 1/2" C.	B&B
1	QB	QUERCUS BICOLOR	SWAMP WHITE OAK	3" C.	B&B
SHRUBS					
20	AAM	ARONIA MELANOCARPA 'AUTUMN MAGIC'	AUTUMN MAGIC CHOKEBERRY	5' HT	B&B
13	HV	HAMAMELIS VERNALIS	VERNAL WITCHHAZEL	4' HT	B&B
12	IGC	ILEX GLABRA COMPACTA	COMPACT INKBERRY	3' HT	B&B
3	IVS	ILEX VERTICILLATA 'SOUTHERN GENTLEMAN'	SOUTHERN GENTLEMAN WINTERBERRY	3' HT	B&B
10	IVW	ILEX VERTICILLATA 'WINTER GOLD'	WINTER GOLD WINTERBERRY	3' HT	B&B
19	RV	RHODODENDRON VISCOSUM 'PINK MIST'	PINK MIST SWAMP AZALEA	3' HT	B&B
12	VC	VIBURNUM CASSINOIDES	WITHEROD VIBURNUM	3' HT	B&B
10	VD	VIBURNUM DENTATUM	ARROWWOOD VIBURNUM	3' HT	B&B
ORNAMENTAL GRASSES					
182	PVRR	PANICUM VIRGATUM 'RUBY RIBBONS'	RUBY RIBBONS SWITCH GRASS	2 QT	PLANT 2.5' O.C.
130	PVS	PANICUM VIRGATUM 'SHENANDOAH'	SHENANDOAH SWITCH GRASS	2 QT	PLANT 2.5' O.C.
285	PVP	PANICUM VIRGATUM 'PRAIRIE FIRE'	PRAIRIE FIRE SWITCH GRASS	2 QT	PLANT 2.5' O.C.



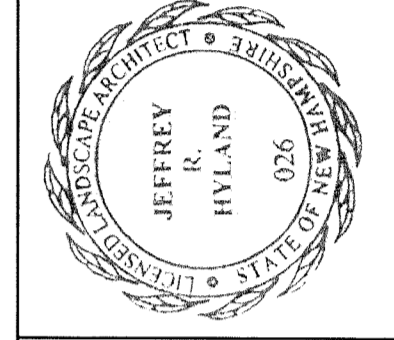
LANDSCAPE NOTES

- CONTRACTOR TO MARK ALL UNDERGROUND UTILITIES ON THE GROUND PRIOR TO CONSTRUCTION.
- CONTRACTOR IS TO REVIEW TREE LOCATIONS WITH LANDSCAPE ARCHITECT AND OWNERS REPRESENTATIVES PRIOR TO ORDERING AND INSTALLING TREES.
- BENCH D - INSTALL THREE (3) PRECAST CONCRETE BENCHES, 72" LONG BY 18" HIGH, BELSON WEATHERSTAYE, FRENCH GRAY OR APPROVED EQUAL, SUBSIDIARY TO ITEM 3.2. CONSTRUCT CONCRETE SLAB FOOTING TO SUPPORT BENCHES PER MANUFACTURER'S RECOMMENDATIONS, SUBSIDIARY TO 3.2.
- BID ITEM 3.2 INCLUDES ALL WORK SHOWN ON THIS DRAWING UNLESS INDICATED OTHERWISE. DO NOT LOAM AND SEED THE BIO-RETENTION SIDE SLOPES. ALL AREAS TO BE PLANTED WITH SHRUBS AND PERENNIALS SHALL BE MULCHED WITH A HARDWOOD CHIP. A JUTE MATTING SHALL BE APPLIED OVER THE TOP OF THE CHIPS AND SECURED/STAPLED EVERY 3' ON CENTER AND AT EVERY CORNER OR FLAP. AT THE TOP OF THE SLOPE, THE JUTE MATTING SHALL BE DUG INTO A TRENCH AND STAPLED.



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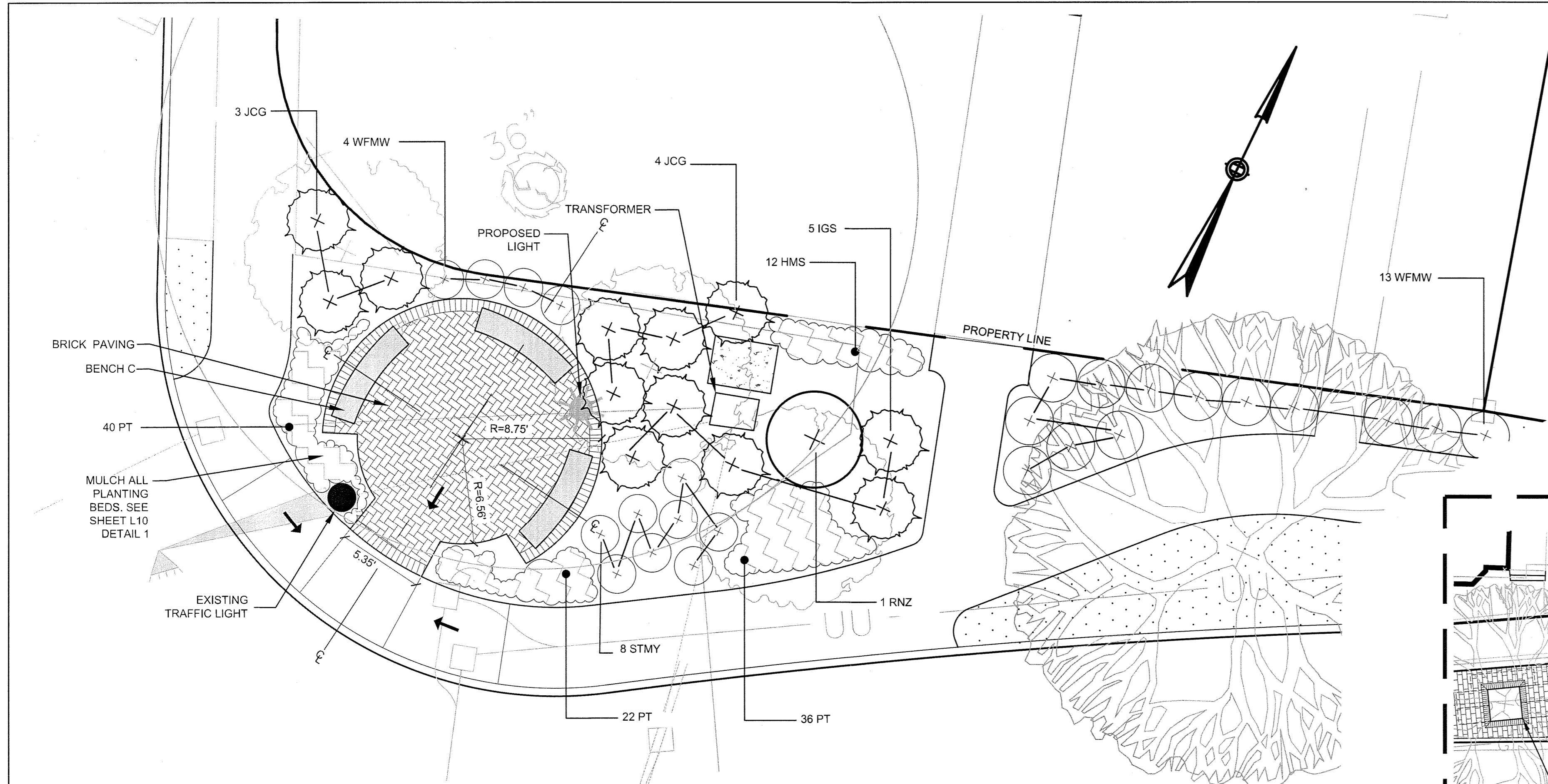


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LANDSCAPE PLAN
SILVER STREET RECONSTRUCTION
CITY OF DOVER
DOVER, NEW HAMPSHIRE

DWG NO L-5 SHEET 31 OF 56



LANDSCAPE NOTES

1. CONTRACTOR TO MARK ALL UNDERGROUND UTILITIES ON THE GROUND PRIOR TO CONSTRUCTION.
2. CONTRACTOR IS TO REVIEW TREE LOCATIONS WITH LANDSCAPE ARCHITECT AND OWNERS REPRESENTATIVES PRIOR TO ORDERING AND INSTALLING TREES.

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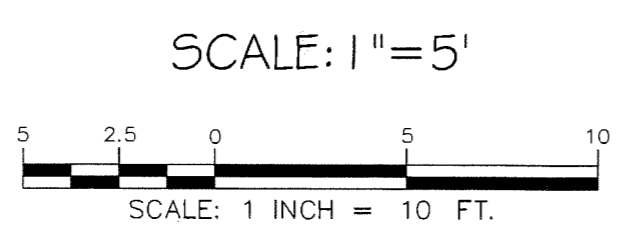


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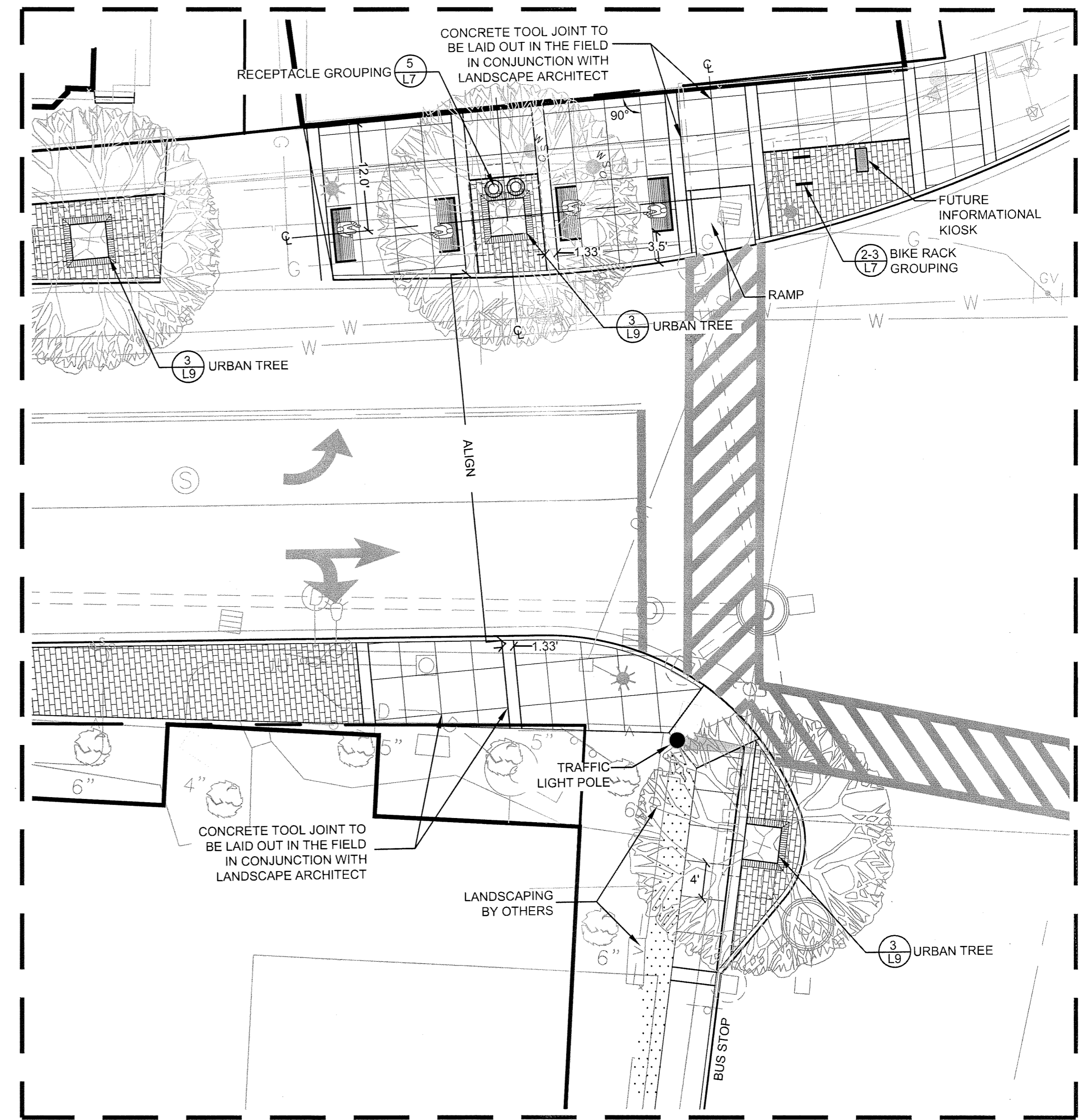
- BENCH TABLE FOR SHEETS L1-L6**
- BENCH A: [Symbol] 1 L7
 - BENCH B: [Symbol] 4 L7
 - BENCH C: [Symbol] 6 L7
 - BENCH D: [Symbol] SEE NOTE 3 ON SHEET L5

1 ARCH STREET PLAZA ENLARGEMENT

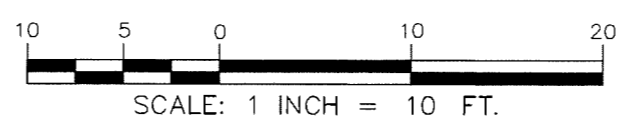


LANDSCAPE LEGEND

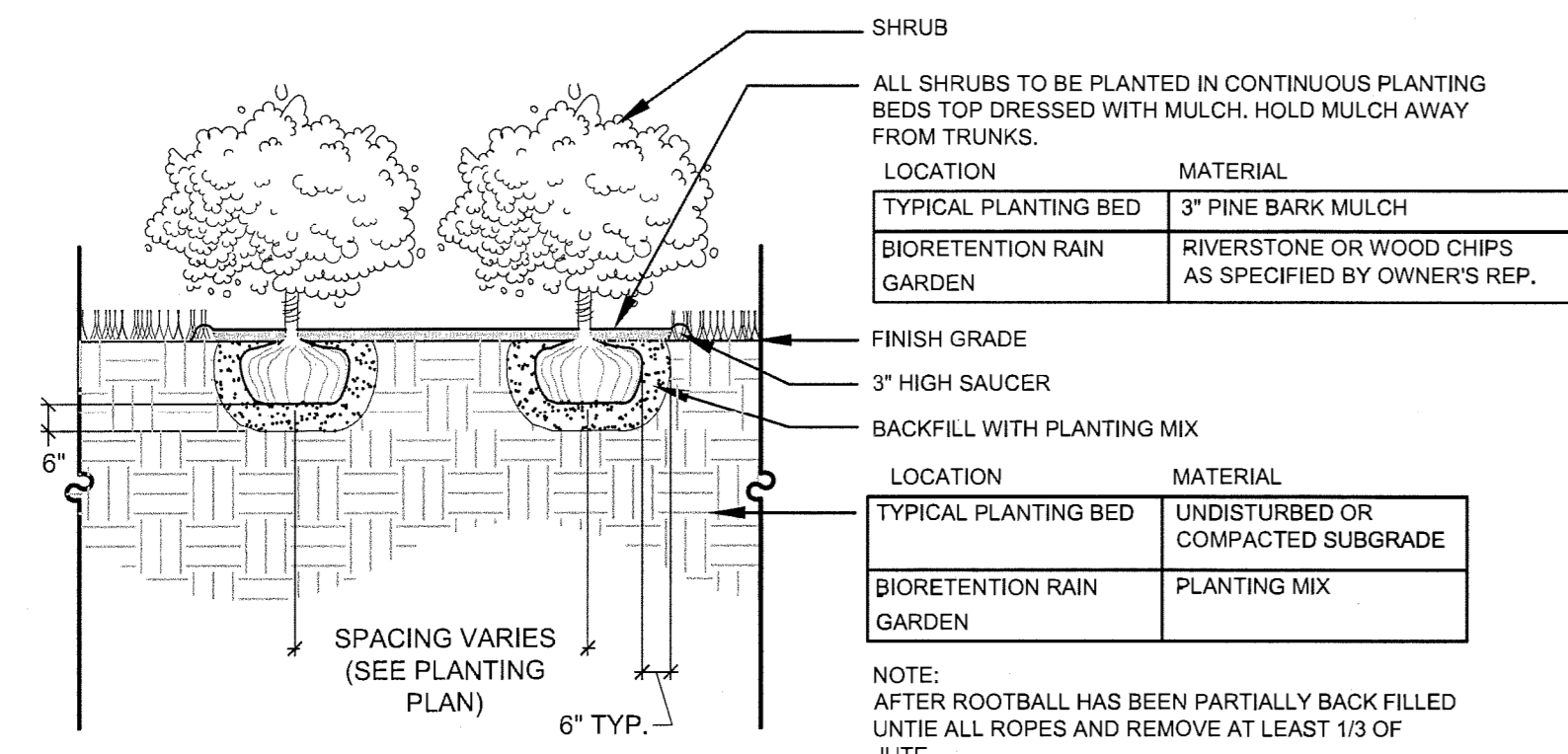
- 4 L10: Deciduous Shade Tree
- 4 L10: Deciduous Flowering Tree
- 1 L10: Shrub Planting
- 2 L10: Groundcover Planting
- [Symbol]: Turf Establishment w/mulch tackifiers & Loam in accordance with section Item 646, subsidiary to item 3.2
- [Symbol]: Existing Tree
- 5 L7: Trash & Recycling Receptacles
- [Symbol]: Matchline
- [Symbol]: Bio Retention Treeway



2 TUTTLE SQUARE ENLARGEMENT



LANDSCAPE PLAN
SILVER STREET
RECONSTRUCTION
CITY OF DOVER
DOVER, NEW HAMPSHIRE



Shrub Planting

Not to Scale

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1
L10

PLEASE SEE THE PREPARED CONSTRUCTION SPECIFICATIONS FOR MORE DETAIL.

PLANTING NOTES:

- ALL GENERAL NOTES SHALL BE INCLUDED AS PART OF THE PLANTING NOTES.
- THE CONTRACTOR SHALL LOCATE AND VERIFY ALL EXISTING AND NEW UTILITY LINE LOCATIONS PRIOR TO PLANTING, AND SHALL REPORT ANY CONFLICT TO THE ENGINEER AND LANDSCAPE ARCHITECT.
- ALL PLANT MATERIAL SHALL CONFORM TO THE GUIDELINES ESTABLISHED BY THE "AMERICAN STANDARD FOR NURSERY STOCK" PUBLISHED BY THE AMERICAN SOCIETY OF NURSERY MEN, INC. LATEST EDITION.
- THE CONTRACTOR SHALL STAKE THE LOCATION OF ALL THE PROPOSED PLANT MATERIAL FOR APPROVAL BY THE LANDSCAPE ARCHITECT PRIOR TO PLANTING. NO PLANTS SHALL BE PLANTED BEFORE THE ACCEPTANCE OF ROUGH GRADING. THE BASE OF THE FLARE OF THE TREE TRUNK SHALL BE EXPOSED, IF NECESSARY, AND PLACED 2" ABOVE FINISH GRADE.
- ANY PROPOSED SUBSTITUTIONS OF PLANT SPECIES WILL BE PLANTS WITH EQUIVALENT OVERALL FORM, HEIGHT, BRANCHING HABIT, FLOWER COLOR, LEAF COLOR, FRUIT COLOR, AND TIME OF BLOOM, AS APPROVED BY THE LANDSCAPE ARCHITECT.
- EXISTING LOAM: STOCKPILING OF EXISTING LOAM IS SPECIFIED ELSEWHERE. REMOVE CLAY LUMPS, BRUSH, LITTER, ROOTS, STONES 1" AND LARGER, AND OTHER FOREIGN MATERIALS.
- ADDITIONAL LOAM: IF STOCKPILED LOAM QUANTITY IS INSUFFICIENT, PROVIDE LOAM, WHICH IS A "FINE SANDY LOAM", OR A "SANDY LOAM" DETERMINED BY MECHANICAL ANALYSIS AND BASED ON THE "U.S.D.A. CLASSIFICATION SYSTEM." IT SHALL BE OF UNIFORM COMPOSITION, WITHOUT ADMIXTURE OF SUBSOIL. LOAM SHALL HAVE AN ACIDITY RANGE OF PH 5.5 TO PH 7.0 AND SHALL CONTAIN NOT LESS THAN 4% NOR MORE THAN 10% ORGANIC MATTER AS DETERMINED BY THE LOSS OF IGNITION OF OVEN DRIED SAMPLES. PROVIDE NATURALLY OCCURRING LOAM WHICH IS FERTILE, FRIABLE, AND FREE FROM SUBSOIL, CLAY LUMPS, BRUSH, LITTER, ROOTS, STONES 1" AND LARGER, AND OTHER FOREIGN MATERIALS.
- MULCHES: PROVIDE PARTIALLY DECOMPOSED (MINIMUM SIX-MONTH AGED), FINELY SHREDDED PINE BARK MULCH. MULCH SHALL BE A DARK BROWN COLOR AND FREE OF WEEDS, EXCESSIVELY FINE PARTICLES, STRINGY MATERIAL, AND CHUNKS OF WOOD THICKER THAN 1/2". PROVIDE BARK MULCH APPROVED BY LANDSCAPE ARCHITECT. APPLY TACKIFIED MULCH TO ALL SEEDED AREAS.
- ALL PLANTS SHALL BE PLUM VERTICALLY AFTER SETTLING.
- ALL PLANT MATERIAL SHALL BE MULCHED WITH A 3-INCH THICK LAYER OF MULCH AFTER PLANTING.
- BACKFILLING: UNLESS OTHERWISE INDICATED, DICTATED BY CONDITIONS AT THE SITE, AND DIRECTED BY LANDSCAPE ARCHITECT, BACKFILL SHALL CONSIST OF UNAMENDED SOIL EXCAVATED FROM THE PLANTING PIT. BACKFILL IN 3-4" LAYERS AND CONSOLIDATE EACH LAYER WITH WATER TO ELIMINATE VOIDS AND AIR POCKETS BEFORE PLACING ON SUBSEQUENT LAYERS. CONTINUE UNTIL BACKFILL HAS REACHED FINISHED GRADE. WATER THOROUGHLY WHEN EXCAVATION IS BACK FILLED AND CONTINUE WATERING UNTIL SATURATED. IF EXISTING UNAMENDED SOIL IS NOT ACCEPTED, PROVIDE PLANTING SOIL MIXTURE CONSISTING OF 7 PARTS LOAM AND 1 PART HUMUS. MIX QUANTITY OF FERTILIZER AND SOIL AMENDMENTS AS RECOMMENDED BY SOIL ANALYSIS.
- WATERING: FLOOD ALL PLANTS WITH WATER TWICE WITHIN THE FIRST 24 HOURS AFTER PLANTING.
- LOAMING: LOOSEN SUBGRADE AND EXISTING LOAM AREAS BY DISCING OR ROTOTILLING TO MINIMUM DEPTH OF 6". REMOVE STONES GREATER THAN 2" AND ALL RUBBISH AND DEBRIS. PLACE LOAM IN TWO EQUAL LIFTS MIXING FIRST APPLICATION INTO LOOSENED SUBGRADE THEN PLACE SECOND LIFT TO BRING LOAM AFTER SETTLING AND COMPACTING TO THE LINES AND GRADES SHOWN IN THE CONTRACT DOCUMENTS, TO A MINIMUM DEPTH OF 6". DO NOT HANDLE LOAM OR SUBSOIL IF IT IS WET OR FROZEN.
- AFTER LOAM HAS BEEN SPREAD, IT SHALL BE CAREFULLY PREPARED BY SCARIFYING AND HAND RAKING. ALL LARGE STIFF CLODS, LUMPS, BRUSH, ROOTS, STUMPS, LITTER AND OTHER FOREIGN MATTER, AND STONES OVER ONE INCH IN DIAMETER SHALL BE REMOVED FROM THE LOAM. LOAM SHALL ALSO BE FREE OF SMALLER STONES IN EXCESSIVE QUANTITIES.
- FINE GRADING: SET SUFFICIENT GRADE STAKES FOR CHECKING THE FINISHED GRADES. STAKES MUST BE SET AT THE BOTTOM AND TOP OF SLOPES. GRADES SHALL BE ESTABLISHED WHICH ARE ACCURATE TO 1/10TH OF A FOOT EITHER WAY. CONNECT CONTOURS AND SPOT ELEVATIONS WITH AN EVEN SLOPE. ALL GRADING WILL INSURE DRAINAGE AWAY FROM STRUCTURES.
- FINE GRADE SEEDED AREAS TO SMOOTH, FREE DRAINING, EVEN SURFACES WITH FINE TEXTURE. ROLL, RAKE AND DRAW SEEDED AREAS TO FLATTEN RIDGES AND FILL DEPRESSIONS, EXCEPT AT ANY SELECT AREAS SHOW ON THE DRAWINGS. CONTROL MOISTURE CONTENT TO MAINTAIN OPTIMUM CONDITIONS, BUT DO NOT CREATE A MUDDY CONDITION.
- ROLLING - TYPICAL: ROLL THE ENTIRE AREA WITH A HAND ROLLER WEIGHING NOT MORE THAN 100 POUNDS PER FOOT OF WIDTH. DURING THE ROLLING, ALL DEPRESSIONS CAUSED BY SETTLEMENT OF ROLLING SHALL BE FILLED WITH ADDITIONAL LOAM AND THE SURFACE SHALL BE REGRADED AND ROLLED UNTIL PRESENTING A SMOOTH AND EVEN FINISH TO THE REQUIRED GRADE OR TO THE SHAPES AND CONFIGURATIONS AS SHOWN ON THE DETAILS.
- LIMIT OF WORK LINE SHALL BE LIMIT OF SEEDING AND SODDING UNLESS OTHERWISE INDICATED ON THE DRAWINGS. ALL AREAS DISTURBED OUTSIDE THE LIMIT OF WORK SHALL BE SEEDED OR SODDED AS INDICATED ON THE DRAWINGS.
- IN CASE OF DISCREPANCIES BETWEEN THE QUANTITIES SHOWN ON THE PLANT SCHEDULE AND THE QUANTITIES SHOWN ON THE PLANTING PLAN, THE QUANTITIES ON THE PLANTING PLAN SHALL BE PROVIDED.

SOIL NOTES:

- SOIL PRODUCTS TO BE USED FOR MAKING PLANTING MIXES FOR BIORETENTION AREAS, AND DISTURBED AREAS TO BE RESEED ARE DESCRIBED BELOW. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING SAMPLES FOR EACH OF THE PRODUCTS DESCRIBED BELOW, SUBMITTING EACH FOR TESTING AND PROVIDING ALL REQUIRED CERTIFICATIONS.
- LOAM USED FOR THE PLANTING MIXES IS DEFINED AS: A MIXTURE OF SAND, SILT AND CLAY AND ORGANIC PARTICLES EITHER EXISTING OR THOROUGHLY MIXED WITH AMENDMENTS TO MEET THE REQUIREMENTS OF "SANDY LOAM." SANDY LOAM IS DETERMINED BY MECHANICAL ANALYSIS AND BASED ON THE USDA TEXTURAL CLASSIFICATION. IT SHALL CONFORM TO THE FOLLOWING GRAIN SIZE DISTRIBUTION FOR MATERIAL PASSING THE #4 SIEVE:

TEXTURAL CLASSIFICATION	% TOTAL WEIGHT
SAND (0.05 - 2.0 MM DIA. RANGE)	>52
SILT (0.002 - 0.05 MM DIA. RANGE)	28-50
CLAY (LESS THAN 0.002 MM DIA.)	7-27

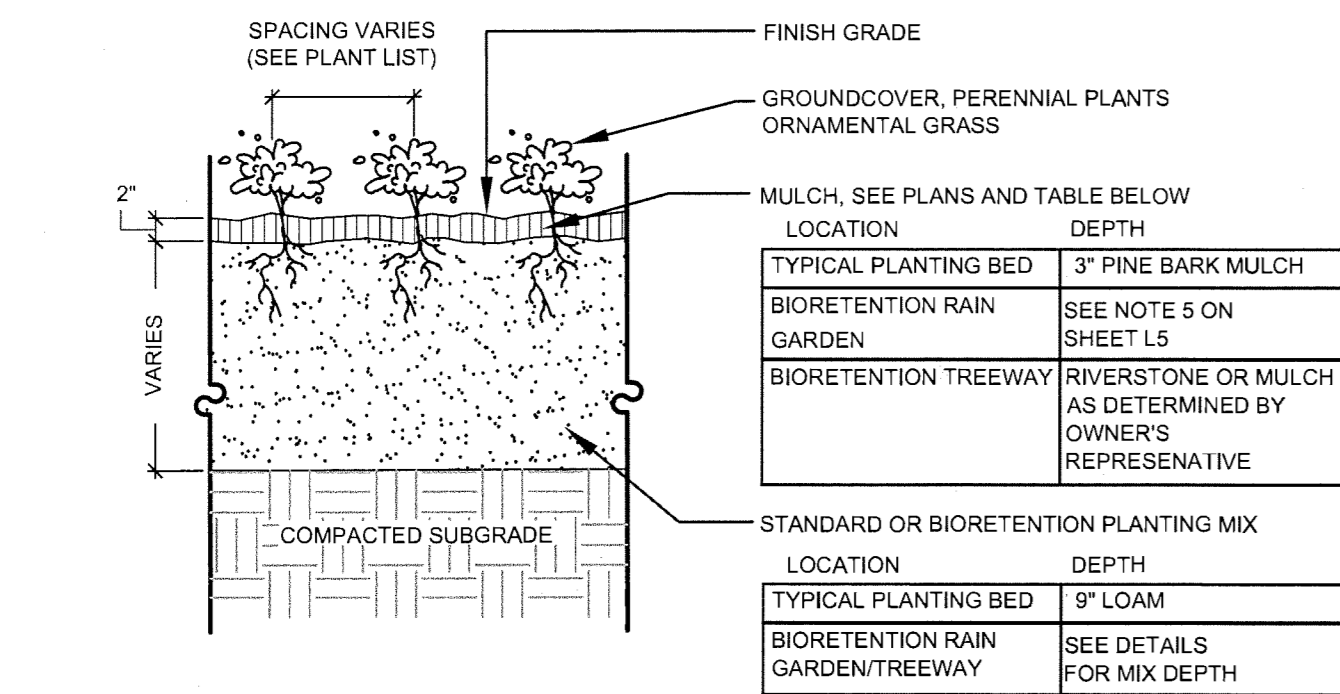
- LOAM SHALL BE FREE OF STUMPS, ROOTS, HEAVY OR STIFF CLAY, STONES EQUAL OR LARGER THAN 1-IN IN ANY DIMENSION, LUMPS, COARSE SAND, NOXIOUS WEEDS, STICKS, BRUSH OR OTHER LITTER.
- TEST REPORTS FOR LOAM SHALL INCLUDE: MECHANICAL SIEVE ANALYSIS WITH SOIL CLASSIFICATION, ORGANIC CONTENT AND CATION EXCHANGE CAPACITY (CEC), PH (1:1 SOIL-WATER RATIO), BUFFER PH, SOLUBLE SALTS (1:2 SOIL-WATER RATIO), NITRATE NITROGEN, AMMONIUM NITROGEN, PHOSPHORUS, POTASSIUM, CALCIUM, ALUMINUM, MAGNESIUM, MANGANESE, FERRIC IRON, SULFATE.
- TESTS SHOULD INCLUDE A REPORT OF ANY TOXIC ELEMENTS.
- SOIL TEST REPORT SHALL CLEARLY RECOMMEND APPROPRIATE LIMESTONE, FERTILIZER AND OTHER ADDITIVES REQUIRED TO ADJUST LOAM TO USE FOR NEW SEEDING OF TURF. ORGANIC FERTILIZERS ARE RECOMMENDED.
- LOAM AS AMENDED SHALL CONTAIN BETWEEN 4% AND 8% ORGANIC MATTER AS SHOWN IN THE TEST RESULT.
- COMPOST USED FOR THE PLANTING MIXES SHALL BE PRODUCED BY A NIDES OR EPA APPROVED COMPOSTING VENDOR OF 'FEEDSTOCK' FROM MATURE LEAF COMPOST, MATURE COMPOSTED ANIMAL MANURE, OTHER AGED, COMPOSTED VEGETABLE MATERIALS, OR CHEMICALLY TESTED TOXIN-FREE PROCESSED SLUDGE PRODUCTS SAFE FOR PLANTS, HUMANS AND SOIL ORGANISMS.
- SAND USED FOR THE PLANTING MIXES MUST BE CLEAN, NATURAL, UNWASHED SAND DEPOSITS MAY NOT BE USED. LIKEWISE, SAND THAT HAS BECOME CONTAMINATED BY IMPROPER STORAGE OR INSTALLATION PRACTICES WILL BE REJECTED.
- SAND MUST BE CLASSIFIED AS COARSE CONCRETE SAND AND MEET THE FOLLOWING PARTICLE SIZE DISTRIBUTION:

SIEVE NO. (#)	% PASSING
3/8" (9.5 MM)	100
NO. 4 (4.75 MM)	95-100
NO. 8 (2.36 MM)	80-100
NO. 16 (1.18 MM)	50-85
NO. 30 (0.60 MM)	25-60
NO. 50 (0.30 MM)	10-30
NO. 100 (0.15 MM)	2-10

PLANTING MIX FOR BIORETENTION AREAS	% BY VOLUME
MIX FOR BIORETENTION AREAS	
COMPOST	30
COARSE SAND	40
LOAM	30

PLANTING MIX FOR DISTURBED AREAS TO BE RESEED	% BY VOLUME
MIX FOR DISTURBED AREAS TO BE RESEED	
COMPOST	-
COARSE SAND	-
LOAM	100

- MINIMUM DEPTH OF PLANTING MIX FOR DISTURBED AREAS TO BE RESEED SHALL BE 6".
- USE JUTE EROSION CONTROL MATTING FOR ALL SLOPES EXCEEDING A SLOPE OF 3:1.

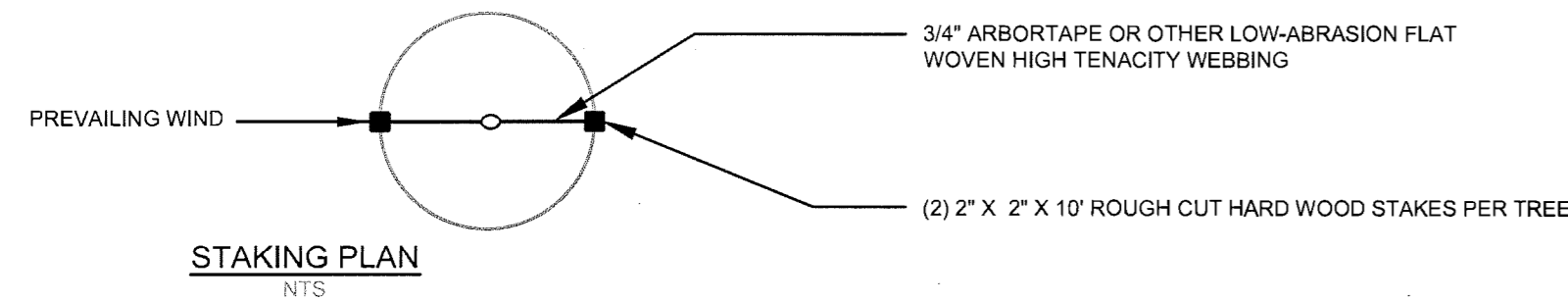


Groundcover / Perennial Planting

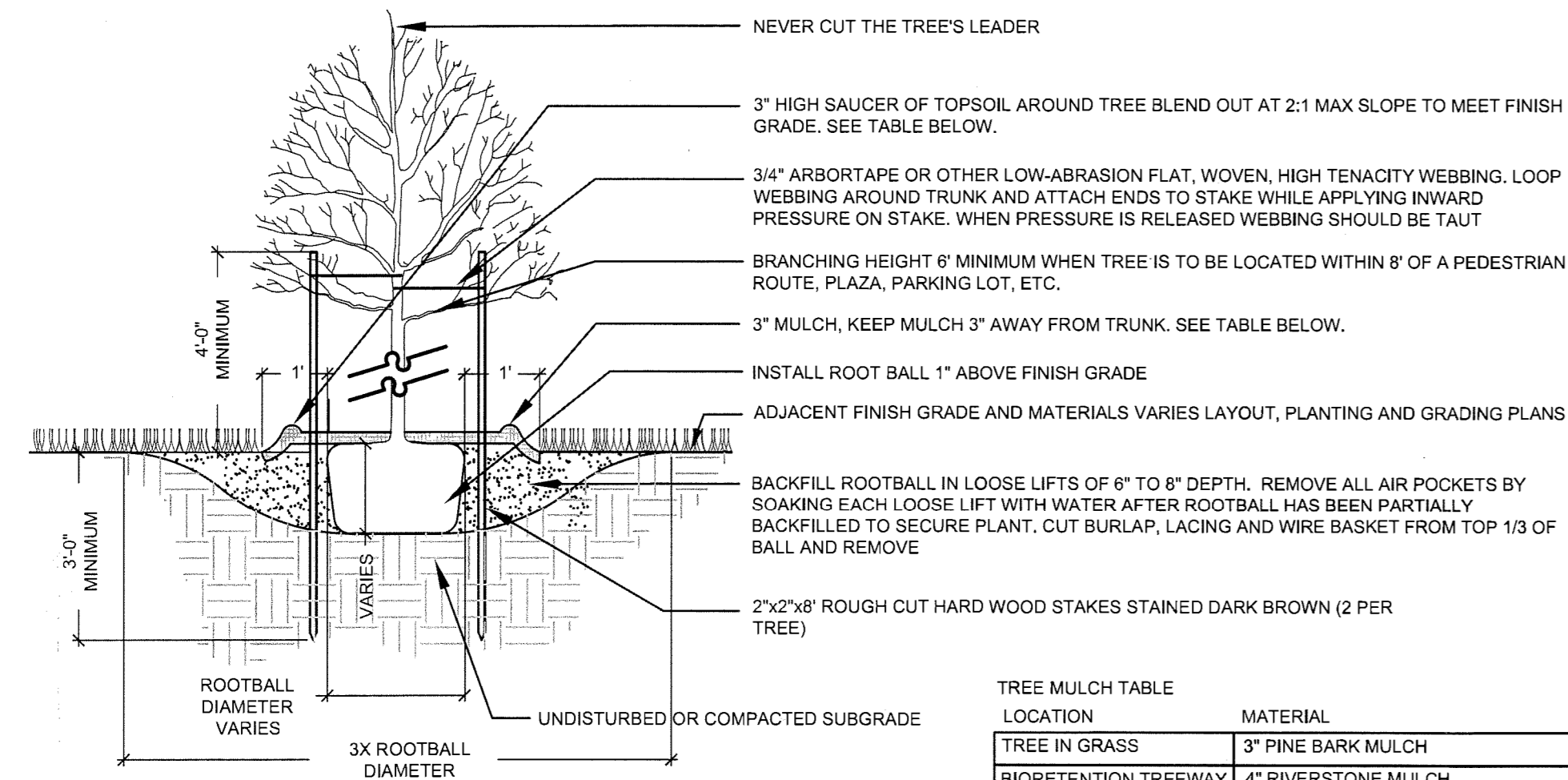
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STAKING PLAN



LOCATION	MATERIAL
TREE IN GRASS	3" PINE BARK MULCH
BIORETENTION TREEWAY	4" RIVERSTONE MULCH
TREE GRATE	3/8" PEASTONE, 2" DEPTH

Deciduous Tree Planting

Not to Scale

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L10

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RECORD DRAWING	By <td>Date</td>	Date
APPROVAL	By <td>Date</td>	Date
REVISIONS	By <td>Date</td>	Date

Drawn/Chk	Desig	Appr	Book	Project	Dwg. ID	Scale
KW	KW	JRH	2/2013	12012	AS-SHOWN	

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LANDSCAPE DETAILS

SILVER STREET RECONSTRUCTION

CITY OF DOVER

DOVER, NEW HAMPSHIRE

DWG NO	SHEET
L-10	36 OF 56

CONSTRUCTION SEQUENCE (GENERAL)

PERFORM WORK IN ACCORDANCE WITH AN APPROVED SCHEDULE. OPERATIONS INVOLVING TEMPORARY INTERRUPTIONS ARE SUBJECT TO THE OWNER'S APPROVAL. IN GENERAL, CONTRACTOR SHALL MINIMIZE INTERRUPTIONS TO WATER AND PROVIDE GENERAL WORK SEQUENCE AS FOLLOWS:

1. COORDINATE WATER SHUT DOWNS NOTIFICATIONS IN ADVANCE.
2. ISOLATE SEGMENTS OF WATER MAIN WHERE WORK IS TO OCCUR.
3. FIELD LOCATE AND EXPOSE THREE OR MORE LOCATIONS WHERE REPLACEMENT OF SADDLES AND CORPORATIONS WILL OCCUR.
4. REMOVE ALL EARTHEN MATERIAL FROM AROUND THE WATER MAIN (3 OR MORE LOCATIONS).
5. CLEAN AND PREP SURFACE OF AC PIPE AROUND THE EXISTING CORPORATIONS, PROVIDING A CLEAN WORKING SURFACE.
6. ASSEMBLE THE NEW SERVICE SADDLE ADJACENT TO THE EXISTING CORPORATION ON THE MAIN.
7. INSTALL NEW CORPORATION INTO SERVICE SADDLE.
8. BEGIN ISOLATED SHUT DOWN OF THE WATER MAIN TO REDUCE WATER PRESSURE. THE WATER MAIN SHOULD REMAIN FULL.
9. REMOVE EXISTING CORPORATION. EXERCISE CARE TO PREVENT DAMAGE TO THE AC MAIN.
10. SLIDE THE NEW SERVICE SADDLE SO THAT IT IS CENTERED OVER THE EXISTING TAP.
11. SECURE THE SADDLE TO MANUFACTURER'S SPECIFICATIONS.
12. CONNECT COPPER SERVICE PIPE.
13. RE-PRESSURIZE WATER MAIN AND CHECK ALL NEW COMPONENTS FOR LEAKS.
14. WHEN VISUAL INSPECTION IS COMPLETE AND NO LEAKS ARE PRESENT BACK FILL WITH FLOWABLE FILL TO A DEPTH 18" ABOVE TOP OF MAIN. PAY AS ITEM 202.31 (MAX. 3 CY PER CONNECTION).

1 D-1 INSTALLATION OF SADDLES & CORPORATIONS AT EXISTING AC MAIN
NOT TO SCALE

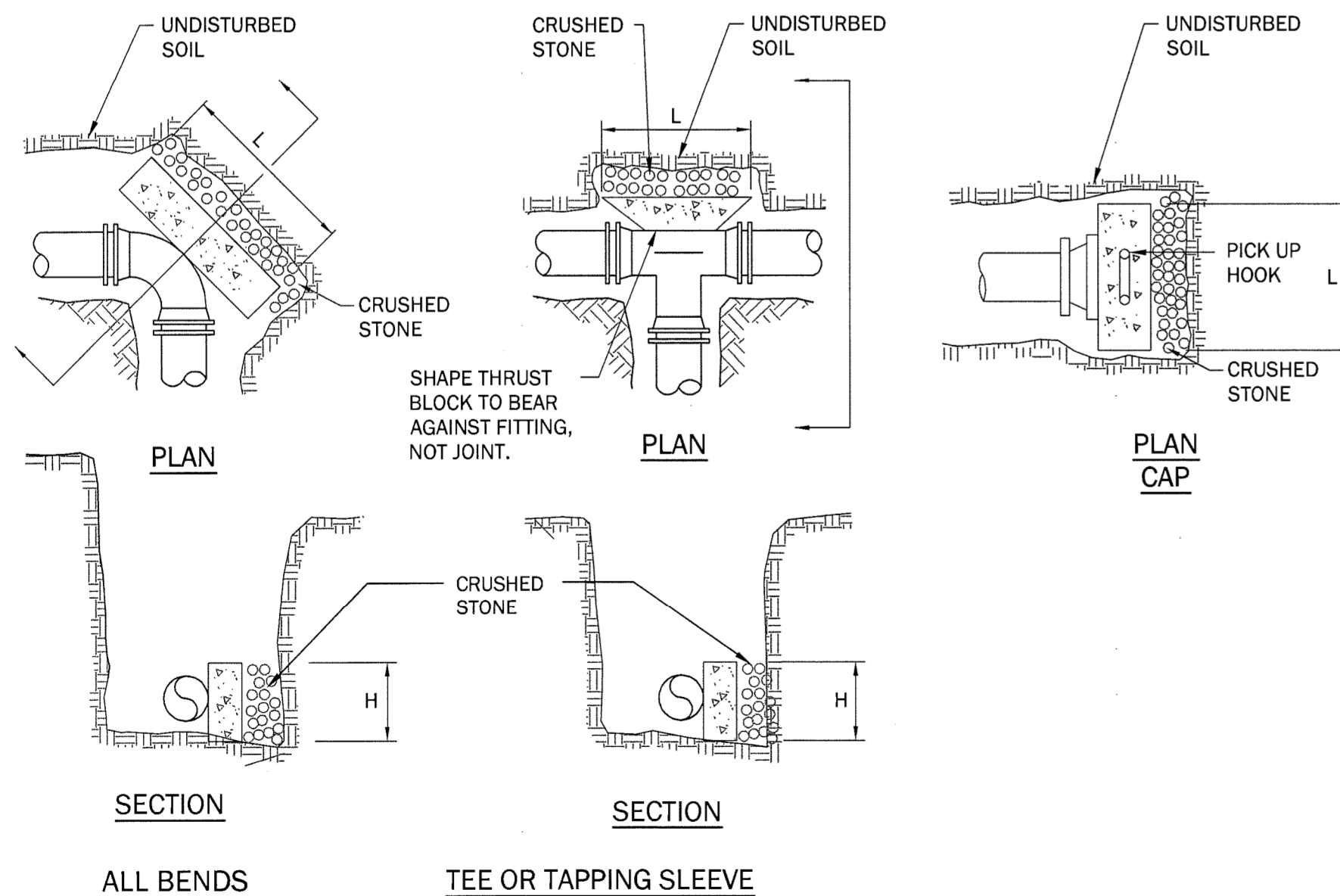
NOTES:

1. ALL THRUST BLOCKS SHALL BE PRE-CAST CONCRETE.
2. THE MINIMUM BEARING AREAS SHOWN IN THE THRUST BLOCK SCHEDULE ARE BASED ON A SYSTEM PRESSURE OF 100 PSI. IF THE SYSTEM PRESSURE IS ABOVE 100 PSI, INCREASE THE NOTED AREAS PROPORTIONAL TO THE ACTUAL SYSTEM PRESSURE. FOR EXAMPLE, IF THE ACTUAL SYSTEM PRESSURE IS 160 PSI, MULTIPLY THE ABOVE VALUES BY 160%.
3. SELECT THRUST BLOCKS SUCH THAT THE LENGTH (L) OF THE BLOCK IS APPROX. TWICE AS LONG AS THE DEPTH (H).
4. PLACE CRUSHED STONE BEHIND THRUST BLOCKS AGAINST UNDISTURBED SOIL.
5. PLACE THRUST BLOCKS ALONG THE FULL LENGTH OF THE FITTING TO MAXIMIZE BEARING AREA.
6. PLACE 2 LAYERS OF POLYETHYLENE OR ROOFING PAPER AROUND FITTINGS AS PROTECTION AGAINST DAMAGE FROM CONCRETE BLOCK.
7. PLACE A 12" LONG STEEL HORSESHOE-SHAPED PICKUP HOOK IN ALL PLUG AND CAP THRUST BLOCKS. DIAMETER OF HOOK SHALL BE A MINIMUM OF 5/8".
8. COAT ALL THREADED RODS, NUTS, AND BOLTS WITH BITUMINOUS PAINT.
9. PLACE ANTI-SEIZE LUBRICANT ON ALL BOLTS.
10. CONCRETE COMPRESSIVE STRENGTH: 2,000 PSI MINIMUM.
11. USE OF THRUST BLOCKS DOES NOT ELIMINATE THE REQUIREMENT OF OTHER RESTRAINTS. ALL VALVES AND FITTINGS SHALL BE RESTRAINED MJ.

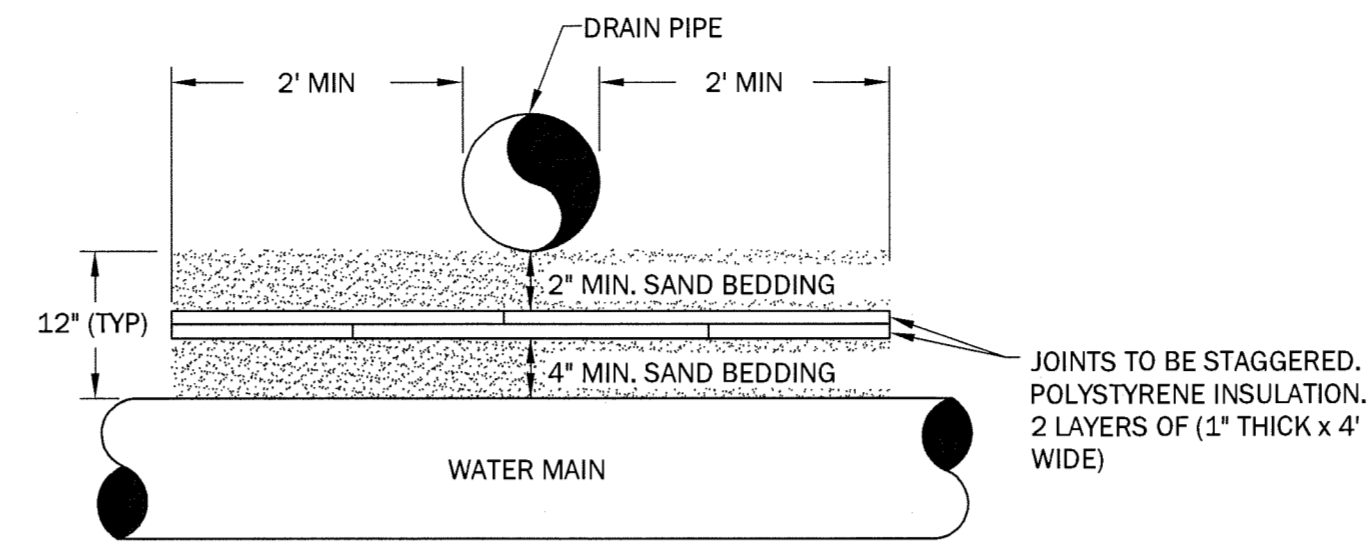
THRUST BLOCK SCHEDULE
MINIMUM BEARING AREA (SQUARE FEET)

Nominal Dia. (in)	PIPE SIZE					
	4	6	8	10	12	16
Tees, Caps, Plugs, & Tapping Sleeves	1.05	2.32	4.15	6.37	9.15	16.23
90 Degree Bends	1.48	3.29	5.86	9.01	12.93	22.96
45 Degree Bends	0.80	1.78	3.17	4.88	7.00	12.42
22-1/2 Degree Bends	0.41	0.91	1.62	2.49	3.57	6.33
11-1/4 Degree Bends	0.21	0.46	0.81	1.25	1.79	3.18

System Pressure: 100 psi
Safety Factor: 1.5
Soil Bearing Capacity: 2,000 psf



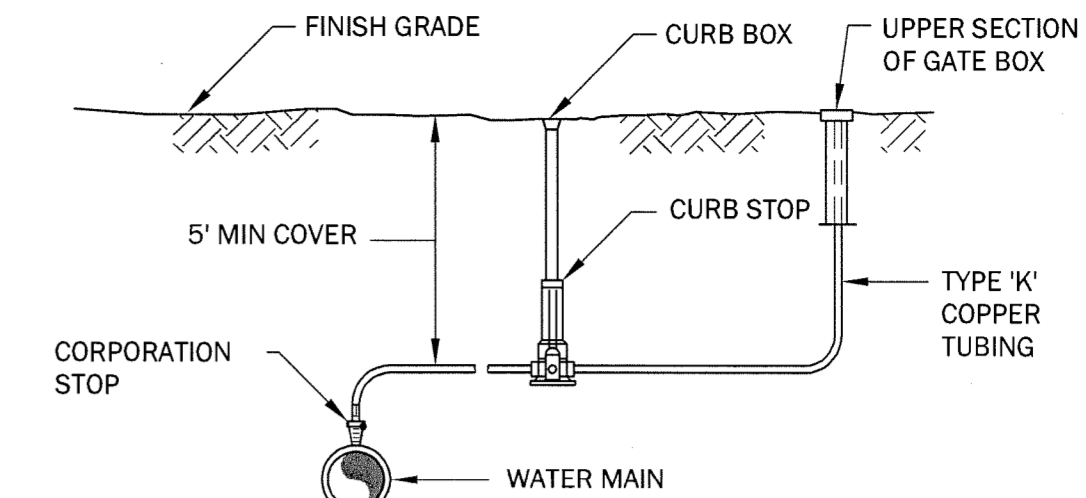
2 D-1 PRECAST CONCRETE THRUST BLOCKS AND ANCHORS
NOT TO SCALE



NOTES:

1. INSULATION TO BE USED WHERE PIPE SEPARATION IS LESS THAN 12", SUBSIDIARY.

3 D-1 DRAIN PIPE CROSSING DETAIL
NOT TO SCALE



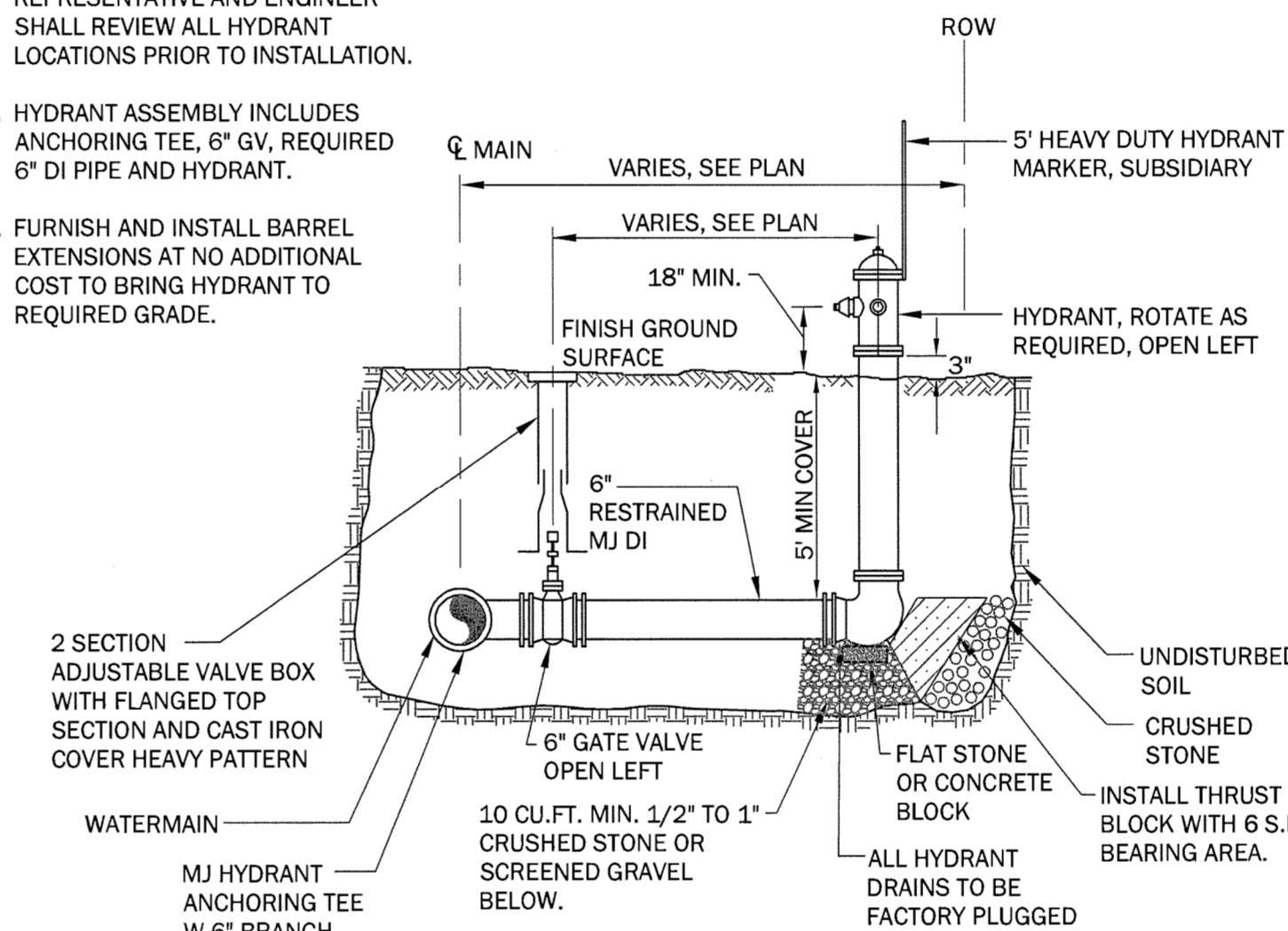
NOTES:

1. DIRECT PIPING AWAY FROM ROADWAY.
2. CHLORINE INJECTION AND MANUAL AIR RELEASE ASSEMBLIES ARE TO BE REMOVED IMMEDIATELY FOLLOWING A SUCCESSFUL BACTERIA TEST. LEAVE THE CORPORATION STOP AND 12" LENGTH OF TUBING (WITH A CRIMPED END) IN PLACE.
3. SIZE AS NOTED ON PLAN OR 1" MINIMUM.
4. INCIDENTAL TO WATER MAIN PAY ITEM.

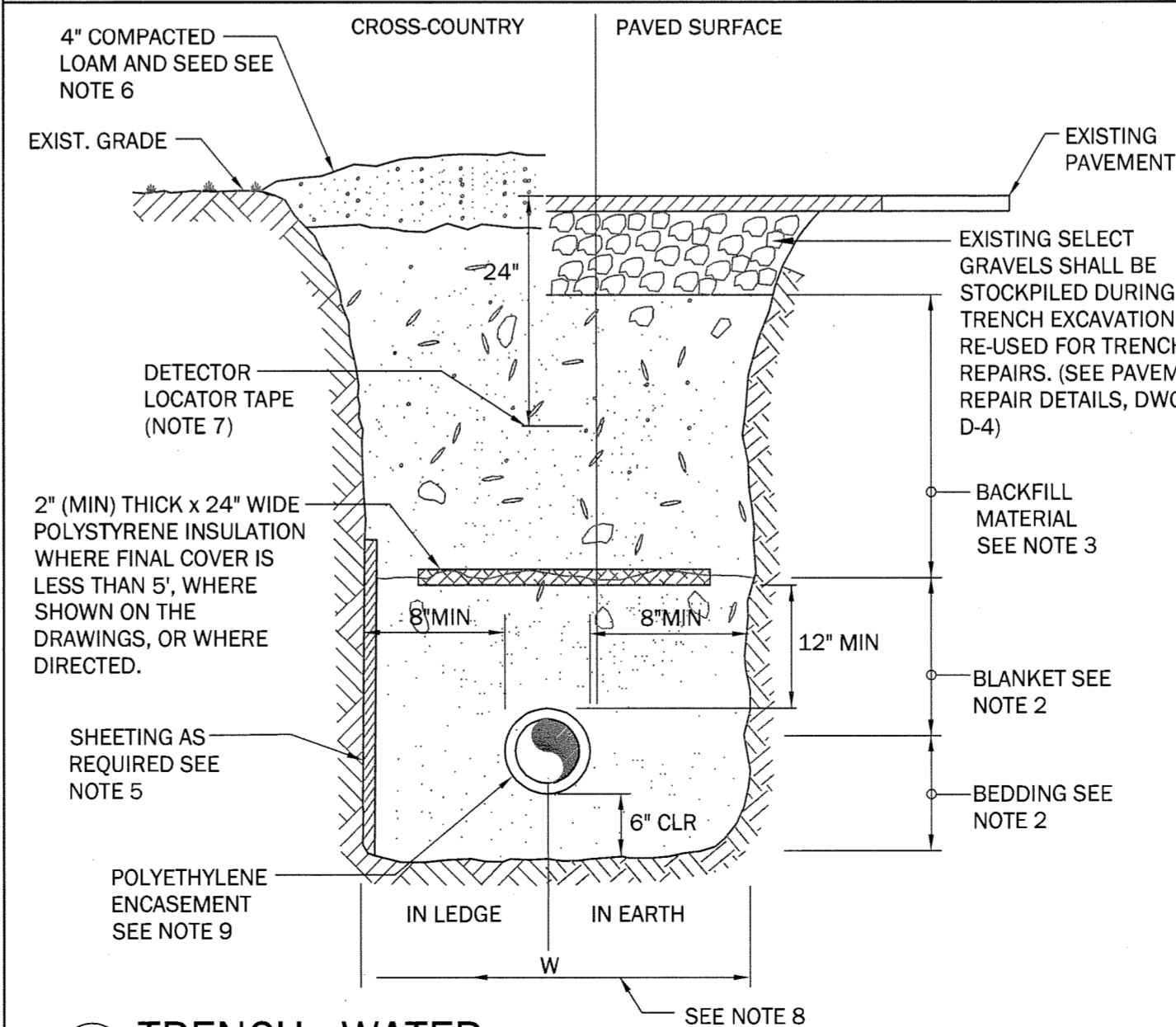
6 D-1 TYPICAL CHLORINE INJECTION TAP AND/OR MANUAL AIR RELEASE ASSEMBLY
NOT TO SCALE

NOTES:

1. CONTRACTOR WITH OWNER'S REPRESENTATIVE AND ENGINEER SHALL REVIEW ALL HYDRANT LOCATIONS PRIOR TO INSTALLATION.
2. HYDRANT ASSEMBLY INCLUDES ANCHORING TEE, 6" GV, REQUIRED 6" DI PIPE AND HYDRANT.
3. FURNISH AND INSTALL BARREL EXTENSIONS AT NO ADDITIONAL COST TO BRING HYDRANT TO REQUIRED GRADE.



4 D-1 HYDRANT ASSEMBLY
NOT TO SCALE



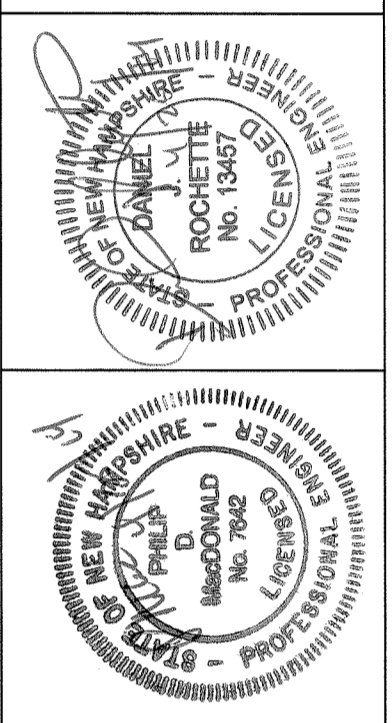
5 D-1 TRENCH - WATER
NOT TO SCALE

WATER TRENCH NOTES:

1. ORDERED EXCAVATION OF UNSUITABLE MATERIAL BELOW GRADE; BACKFILL AS STATED IN THE TECHNICAL SPECIFICATIONS OR AS SHOWN ON THE DRAWINGS.
2. BEDDING AND BLANKET: CLEAN SAND FREE FROM ORGANIC MATTER (SECTION 02200).
3. BACKFILL MATERIAL: IN ROADS, ROAD SHOULDERS, WALKWAYS AND TRAVELED WAYS, SUITABLE MATERIAL FOR TRENCH BACKFILL SHALL BE THE NATURAL MATERIAL EXCAVATED DURING THE COURSE OF CONSTRUCTION, BUT SHALL EXCLUDE DEBRIS; PIECES OF PAVEMENT; ORGANIC MATTER; TOP SOIL; ALL WET OR SOFT MUCK, PEAT, OR CLAY; ALL EXCAVATED LEDGE MATERIAL; ALL ROCKS OVER 6 INCHES IN LARGEST DIMENSION; AND ANY MATERIAL WHICH, AS DETERMINED BY THE ENGINEER, WILL NOT PROVIDE SUFFICIENT SUPPORT OR MAINTAIN THE COMPLETED CONSTRUCTION IN A STABLE CONDITION.

IN CROSS-COUNTRY CONSTRUCTION, SUITABLE MATERIAL SHALL BE AS DESCRIBED ABOVE, EXCEPT THAT THE ENGINEER MAY PERMIT THE USE OF TOP SOIL, LOAM, MUCK, OR PEAT, IF ENGINEER IS SATISFIED THAT THE COMPLETED CONSTRUCTION WILL BE ENTIRELY STABLE AND PROVIDED THAT EASY ACCESS TO THE PIPE LINE, FOR MAINTENANCE AND POSSIBLY RECONSTRUCTION, WILL BE PRESERVED.
4. MINIMUM COVER NOT LESS THAN 5 FEET, AND TO AVOID EXISTING AND PROPOSED STRUCTURES. PIPE TO BE DEEPER THAN 5' IF NECESSARY TO AVOID CONFLICTS WITH EXISTING AND PROPOSED DRAINAGE OR OTHER UTILITIES.
5. SHEETING, IF REQUIRED: WHERE SHEETING IS PLACED ALONGSIDE THE PIPE AND EXTENDS BELOW MID-DIAMETER, IT SHALL BE CUT OFF AND LEFT IN PLACE TO AN ELEVATION 1 FOOT ABOVE THE TOP OF PIPE. WHERE SHEETING IS ORDERED BY THE ENGINEER TO BE LEFT IN PLACE, IT SHALL BE CUT OFF AT LEAST 3 FEET BELOW FINISHED GRADE, BUT NOT LESS THAN 1 FOOT ABOVE THE TOP OF THE PIPE.
6. FOR CROSS COUNTRY CONSTRUCTION, BACKFILL OR FILL SHALL BE MOUNDED TO A HEIGHT OF 6 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
7. LOCATOR TAPE TO BE TERRA TAPE SENTRY LINE 1350 OR EQUAL.
8. W = MAXIMUM ALLOWABLE TRENCH PAYMENT WIDTH: FOR ROCK EXCAVATION, FOR ORDERED EXCAVATION BELOW GRADE AND HANDLING OF EXCAVATED CONTAMINATED SOILS. FOR PIPES 16 INCHES NOMINAL DIAMETER OR LESS, W SHALL BE NO MORE THAN 36 INCHES. FOR PIPES GREATER THAN 16 INCHES IN NOMINAL DIAMETER, W SHALL BE 24 INCHES PLUS PIPE OUTSIDE DIAMETER (O.D.).
9. ALL DUCTILE IRON WATER MAIN, FITTINGS AND GATE VALVES SHALL BE ENCASED IN POLYETHYLENE IN ACCORDANCE WITH SPECIFICATIONS SECTION 02611. SHEETS OR TUBES SHALL BE TIGHTLY WRAPPED AROUND THE PIPE & SECURED AT 2' INTERVALS.

ISSUE FOR	APPROVAL	By	Date
APPROVAL	By	4/4/14	PDM
CONSTRUCTION	By	4/18/14	PDM
RECORD DRAWING	By		

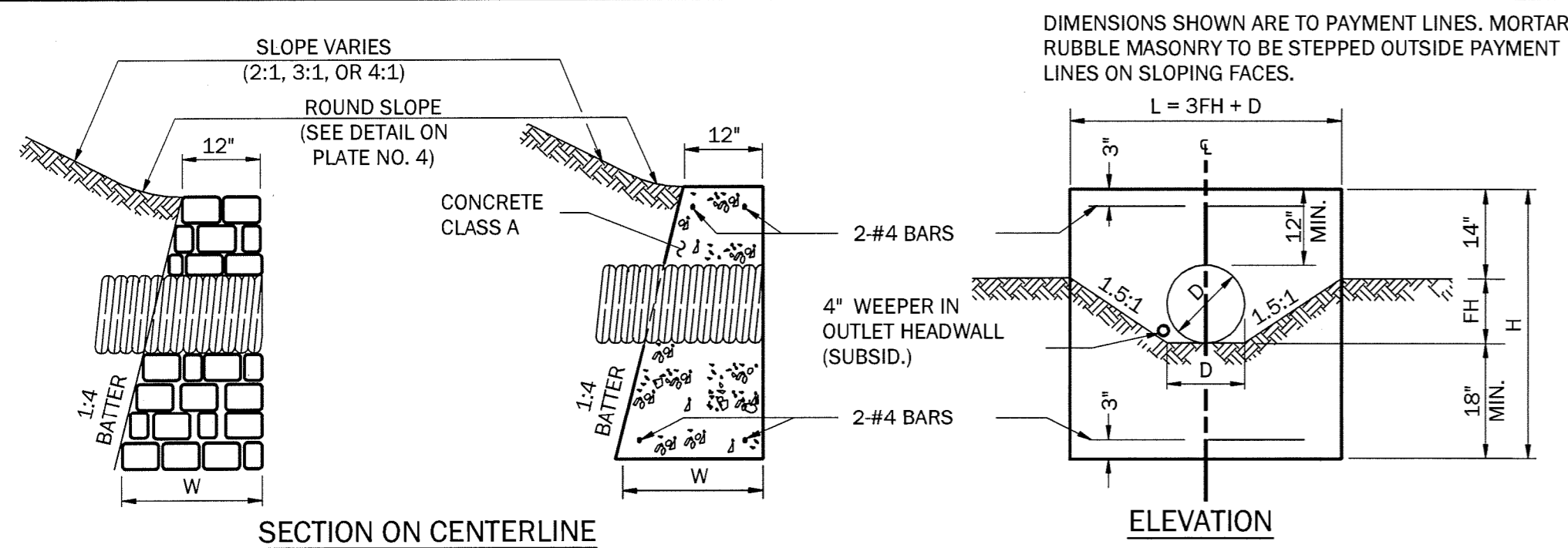


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WATER DETAILS
SILVER STREET RECONSTRUCTION
CITY OF DOVER, NEW HAMPSHIRE

DWG NO D-1 SHEET 37 OF 56

H:\Road Number\Drawn\1725 - Silver Street\DWG\Design-Silver Street\1725\Main.dwg, D:\4620214 8 0300.AAM, IP



DIMENSIONS SHOWN ARE TO PAYMENT LINES. MORTAR RUBBLE MASONRY TO BE STEPPED OUTSIDE PAYMENT LINES ON SLOPING FACES.

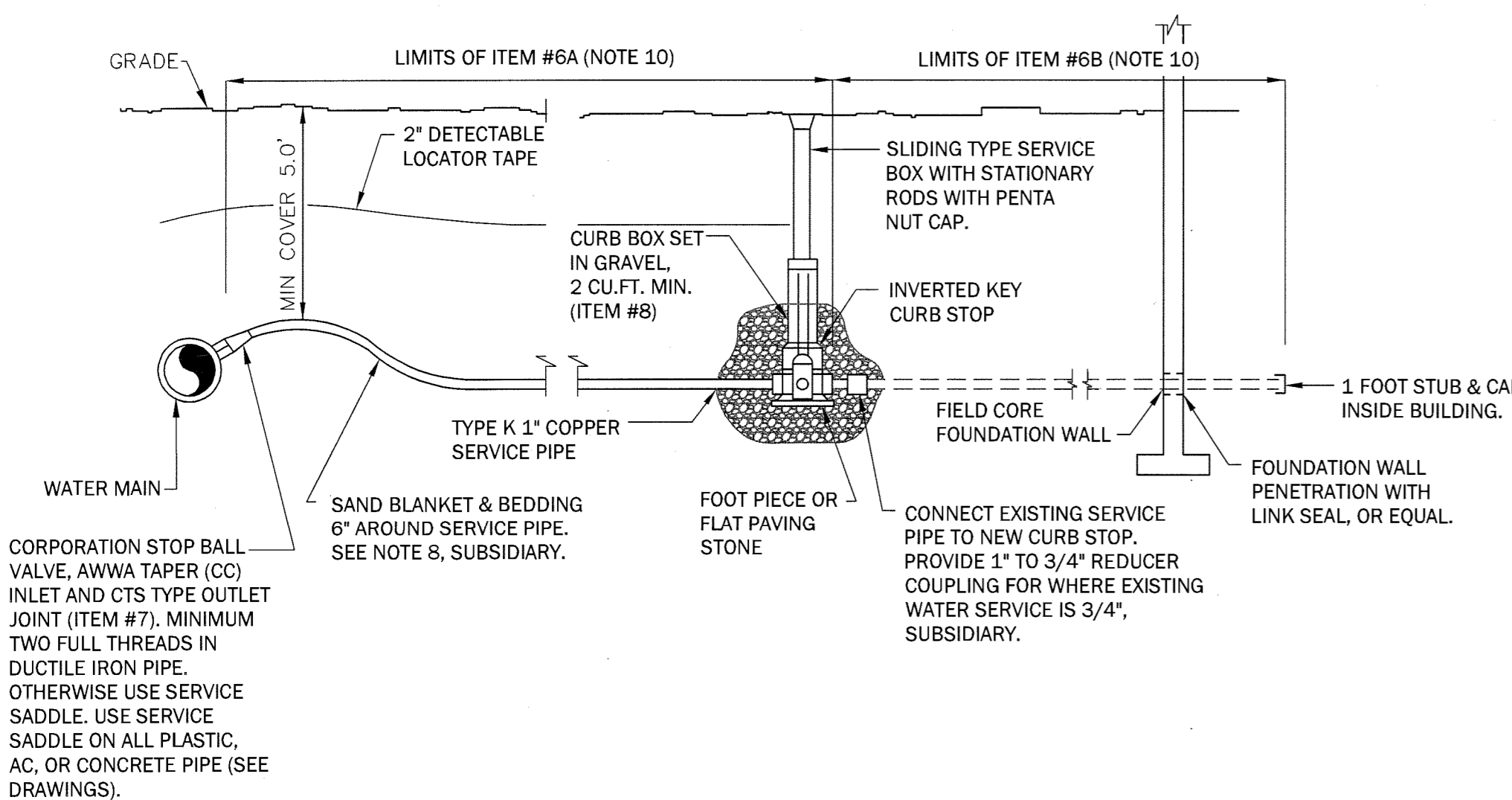
NOTE: STEEL QUANTITIES ARE FOR CONCRETE HEADWALLS ONLY.

DIAMETER D INCHES	MASONRY PER FOOT OF WALL CU. YD.	MASONRY PER STANDARD HEADER CU. YD.	STEEL PER STANDARD HEADER LB.	LENGTH OF BARS	EXC. FOR 1' DEPTH CU. YD.	HEADER LENGTH L	HEADER HEIGHT H	FILL HEIGHT FH	WIDTH AT BOTTOM OF HEADER W	*L* HEADWALL	
										MASONRY IN CORNER FRUSTUM CU. YD.	EXC. FOR 1' DEPTH CU. YD.
12	0.186	0.61	9	3'-2"	0.789	3'-6"	3'-6"	0'-10"	0'-10 1/2"	0.28	1.057
15	0.202	0.85	11	3-10	0.947	4-6	3-9	1-1	1-11 1/4	0.31	1.232
18	0.222	1.13	14	5-2	1.111	5-6	4-0	1-4	2-0	0.35	1.406
24	0.260	1.78	20	7-2	1.451	7-6	4-6	1-10	2-11 1/2	0.42	1.776
30	0.301	2.58	25	9-2	1.810	9-6	5-0	2-4	2-3	0.51	2.164
36	0.344	3.53	31	11-2	2.187	11-6	5-6	2-10	2-4 1/2	0.61	2.572
42	0.389	4.65	36	13-2	2.581	13-6	6-0	3-4	2-6	0.72	3.000
48	0.436	5.95	42	15-2	3.000	15-6	6-6	3-10	2-7 1/2	0.84	3.447
54	0.486	7.44	47	17-2	3.432	17-6	7-0	4-4	2-9	0.98	3.914
60	0.538	9.13	52	19-2	3.882	19-6	7-6	4-10	2-10 1/2	1.12	4.401
66	0.593	11.04	58	21-2	4.350	21-6	8-0	5-4	3-0	1.28	4.907
72	0.649	13.17	63	23-2"	4.638	23'-6"	8'-6"	5'-10"	3'-11 1/2"	1.46	5.433

3 CONCRETE HEADWALL/MORTAR RUBBLE MASONRY HEADWALL
D-2 NOT TO SCALE

NOTES:

- PROVIDE NEW LINE USING CONTINUOUS LENGTHS OF TYPE K COPPER. COUPLING NOT ALLOWED BETWEEN CORPORATION AND CURB STOP WITHOUT APPROVAL OF ENGINEER.
- TAPS TO BE MADE AT APPROX. 2:00 AND 10:00.
- PROVIDE FOR SERVICE LINE CONTRACTION AND EXPANSION BY INSTALLING "S" IN SERVICE LINE NEAR MAIN.
- PROVIDE 5' MINIMUM COVER, UNLESS DIRECTED OTHERWISE.
- INSTALL NEW CURB STOP AT PROPERTY LINE OR AT LOCATION APPROVED BY THE ENGINEER. CONNECT EXISTING SERVICE LINE TO NEW CURB STOP AFTER PRESSURE TESTING AND DISINFECTION.
- REMOVE EXISTING CURB STOP.
- SHUT OFF EXISTING CORPORATION (EXCEPT WHERE EXISTING MAIN WILL BE ABANDONED) AND REMOVE OR ABANDON EXISTING SERVICE LINE.
- BLANKET AROUND SERVICE PIPE TO BE SAND ONLY.
- ALL SERVICES SHALL BE 1". PROVIDE 1" TO 3/4" REDUCER COUPLING WHERE EXISTING SERVICES ARE 3/4", SUBSIDIARY.
- SERVICE PIPE SHALL BE PAID AS ITEM #6A OR #6B DEPENDING ON WHETHER IT IS LOCATED WITHIN THE CITY RIGHT-OF-WAY (#6A) OR PRIVATE PROPERTY (#6B).
- ALL SADDLES USED AS SPECIFIED SHALL HAVE DOUBLE STAINLESS STEEL STRAPS.

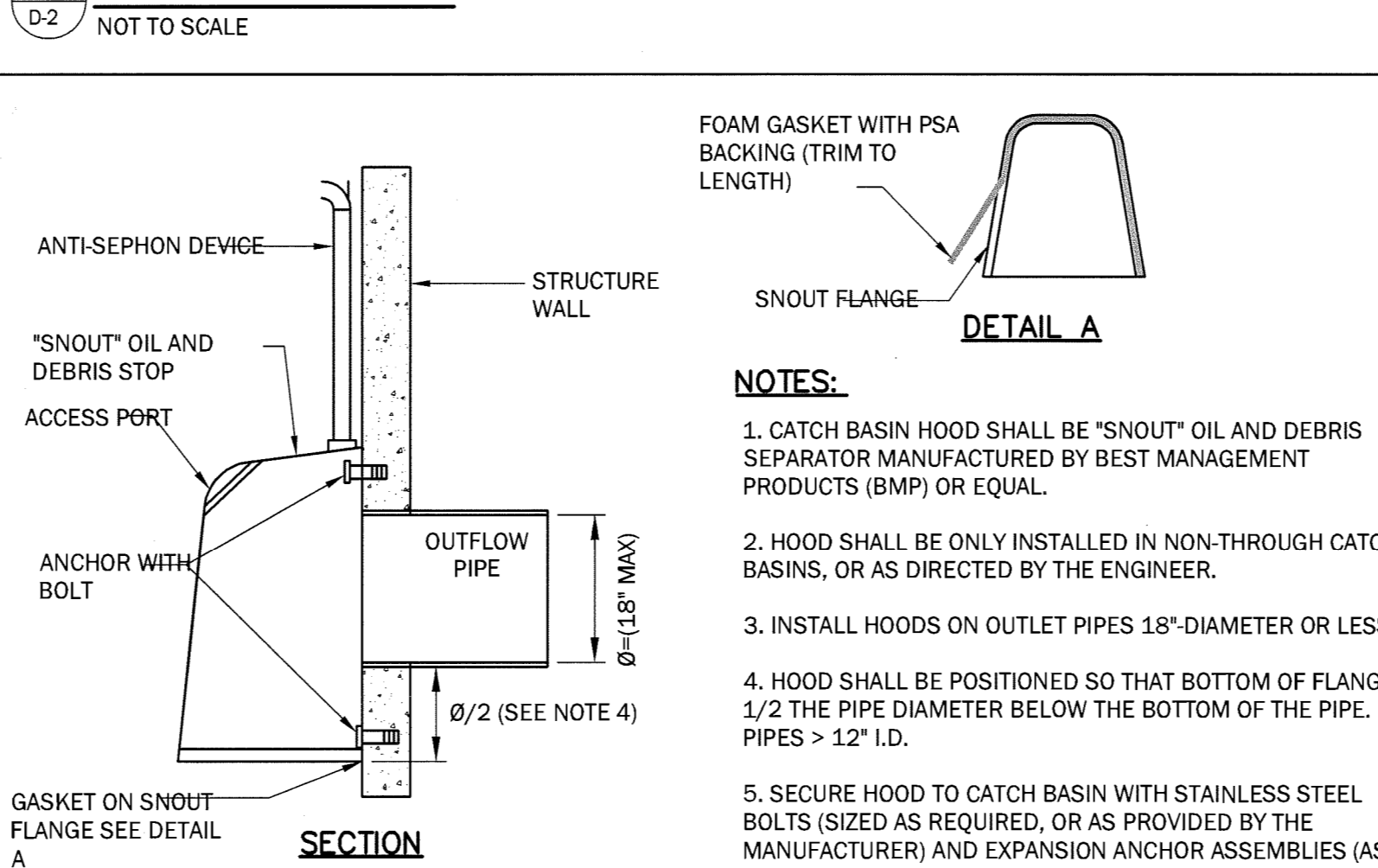


2 NEW SERVICE CONNECTION
D-2 NOT TO SCALE

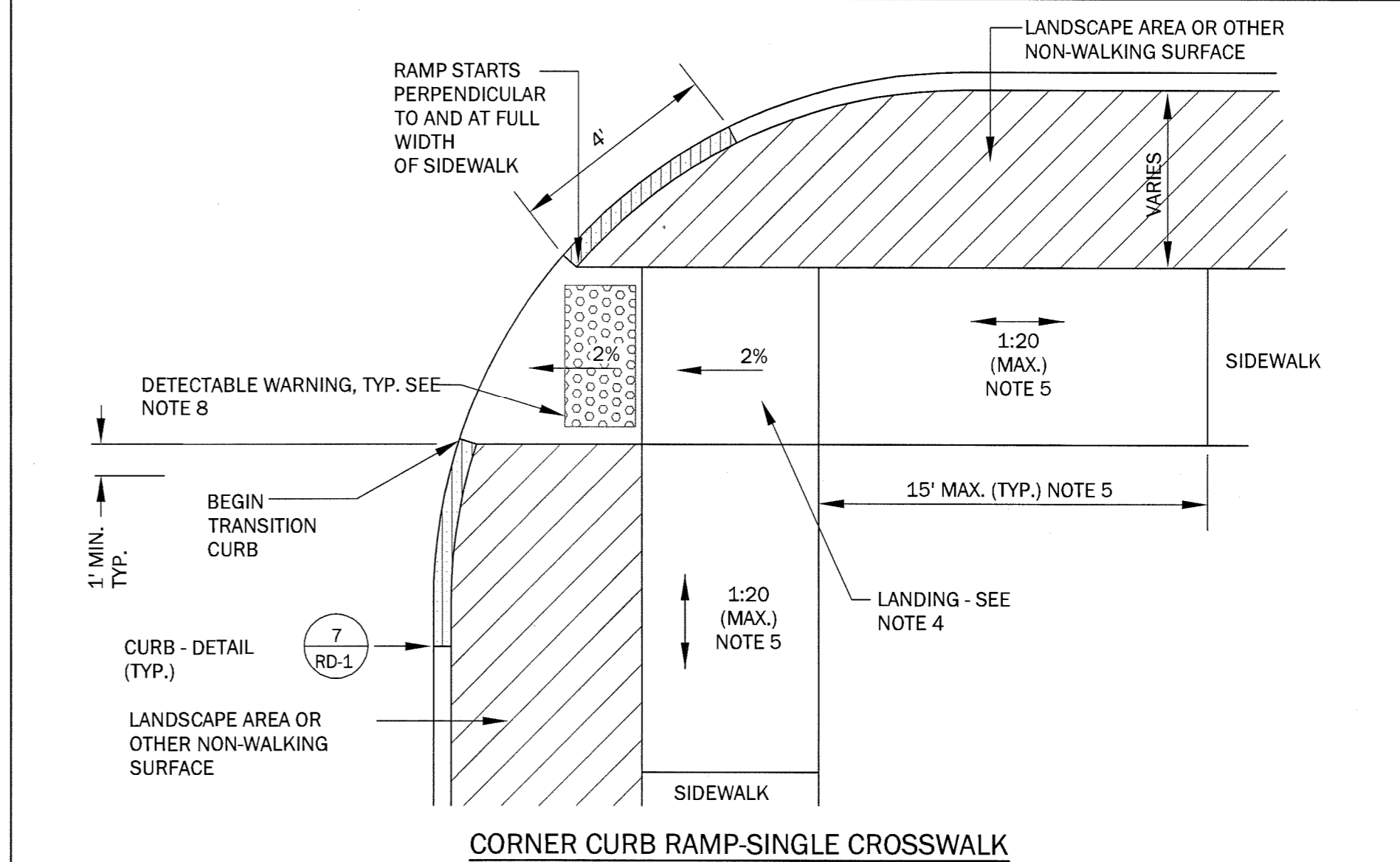
NOTES:

- HEADWALL CONSTRUCTION AT RAIN GARDEN (DWG P-2A) IS SUBSIDIARY TO ITEM #3.2.
- CONSTRUCT HEADWALL IN ACCORDANCE TO NHDOT SECTION 570.

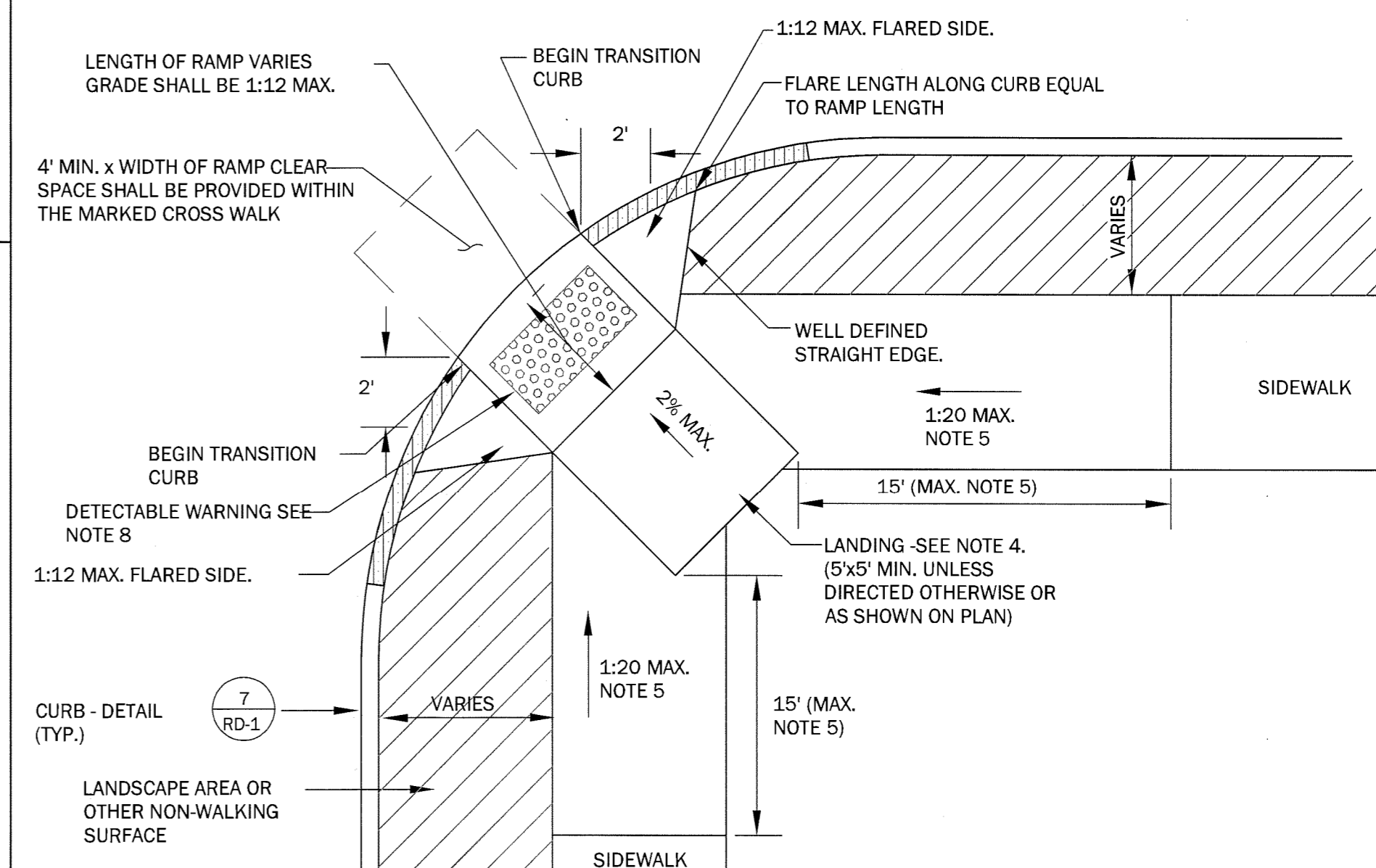
4 FLUSHING BASIN
D-2 NOT TO SCALE



5 HOODED CATCH BASIN OUTLET (ITEM 604.8)
D-2 NOT TO SCALE



CORNER CURB RAMP-SINGLE CROSSWALK



CORNER CURB RAMP-DIAGONAL, VARIABLE LANDING HEIGHT

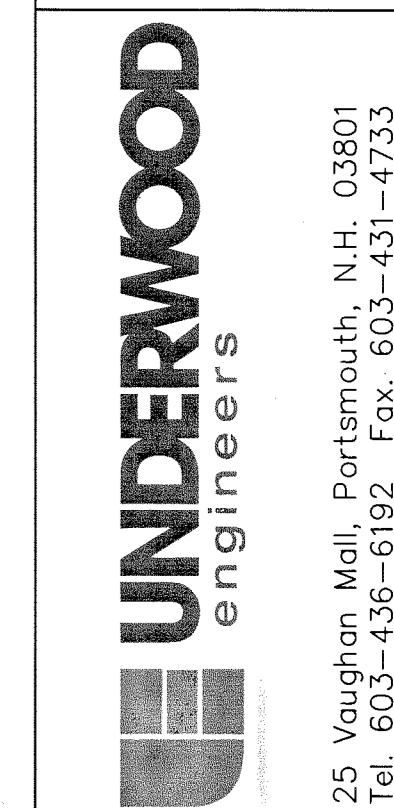
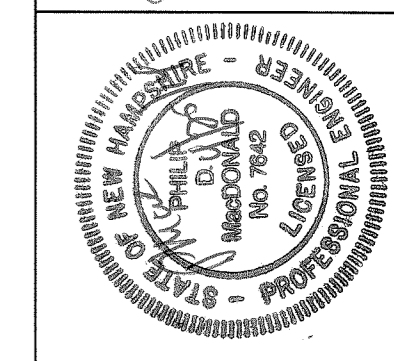
CURB RAMP NOTES

- CURB RAMP AND FLARES SHALL BE CONSTRUCTED USING 6" THICK REINFORCED CONCRETE (4000 PSI, CLASS A), ITEM 608.46. SUBBASE SHALL CONSIST OF 9" THICK OF CRUSHED GRAVEL (ITEM 304.35).
- RAMP WIDTH SHALL MATCH WIDTH OF PROPOSED SIDEWALK, (3' MIN.).
- MAX. SLOPE OF CURB RAMP SHALL BE 1:12.
- LANDING SHALL HAVE A MAX. SLOPE OF 2% IN ANY DIRECTION. LANDINGS SHALL BE 5' LONG (MIN.) AND MATCH WIDTH OF PROPOSED SIDEWALK (3' MIN.).
- SIDEWALK SHALL HAVE A MAXIMUM GRADE OF 1:20 (5%) AND TIE INTO EXISTING SIDEWALK GRADES WITHIN 15' OF THE RAMP LANDING. IF EXISTING GRADE CANNOT BE MET, A MAXIMUM GRADE OF 1:12 (8.33%) (CONSIDERED A RAMP) WILL BE ALLOWED FOR A MAXIMUM LENGTH OF 30'. IF A GRADE GREATER THAN 5% IS USED, A LANDING AS DESCRIBED IN NOTE 4 SHALL BE CONSTRUCTED AT THE TOP OF THE RAMP. GRADES GREATER THAN 1:12 ARE NOT PERMITTED.
- TRANSITIONS FROM RAMP TO WALKS, GUTTERS OR STREETS SHALL BE FLUSH AND FREE OF ABRUPT CHANGES.
- INTERCEPT DRAINAGE ALONG THE CURB BEFORE CURB RAMP. CATCH BASINS, MANHOLES, ETC. SHALL NOT BE LOCATED AT BASE OF CURB RAMP OR IN LANDING.
- DETECTABLE WARNING (TRUNCATED DOMES) SHALL BE FULL WIDTH OF CURB RAMP OR LANDING AND 24" MINIMUM IN THE DIRECTION OF TRAVEL. DOMES SHALL BE ALIGNED ON A SQUARE GRID IN ROWS PERPENDICULAR TO DIRECTION OF TRAVEL. IN THIS ALIGNMENT, OFFSET EDGE OF DETECTABLE WARNING 6-8" FROM INSIDE FACE OF CURB IF POSSIBLE. MATERIAL AND COLOR PER LOCAL REQUIREMENTS AND SHALL VISUALLY CONTRAST ADJOINING WALKING SURFACES, EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT. ITEM 608.52
- PROVIDE ANY ADDITIONAL STATE AND LOCAL CURB RAMP REQUIREMENTS.

6 CURB RAMP DETAILS
D-2 NOT TO SCALE

ISSUE FOR APPROVAL	DATE	BY
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CONSTRUCTION	7/8/14	PDM
RECORD DRAWING		

Drawn/Chk. RMG
Designed. DJR/PDM
Checked. JLM
Approved. JLM
Date. APRIL 18, 2014
Book No. 1725
Project No. ID172505E/RA/LS/DWG
Dwg. ID172505E/RA/LS/DWG
Scale. AS SHOWN

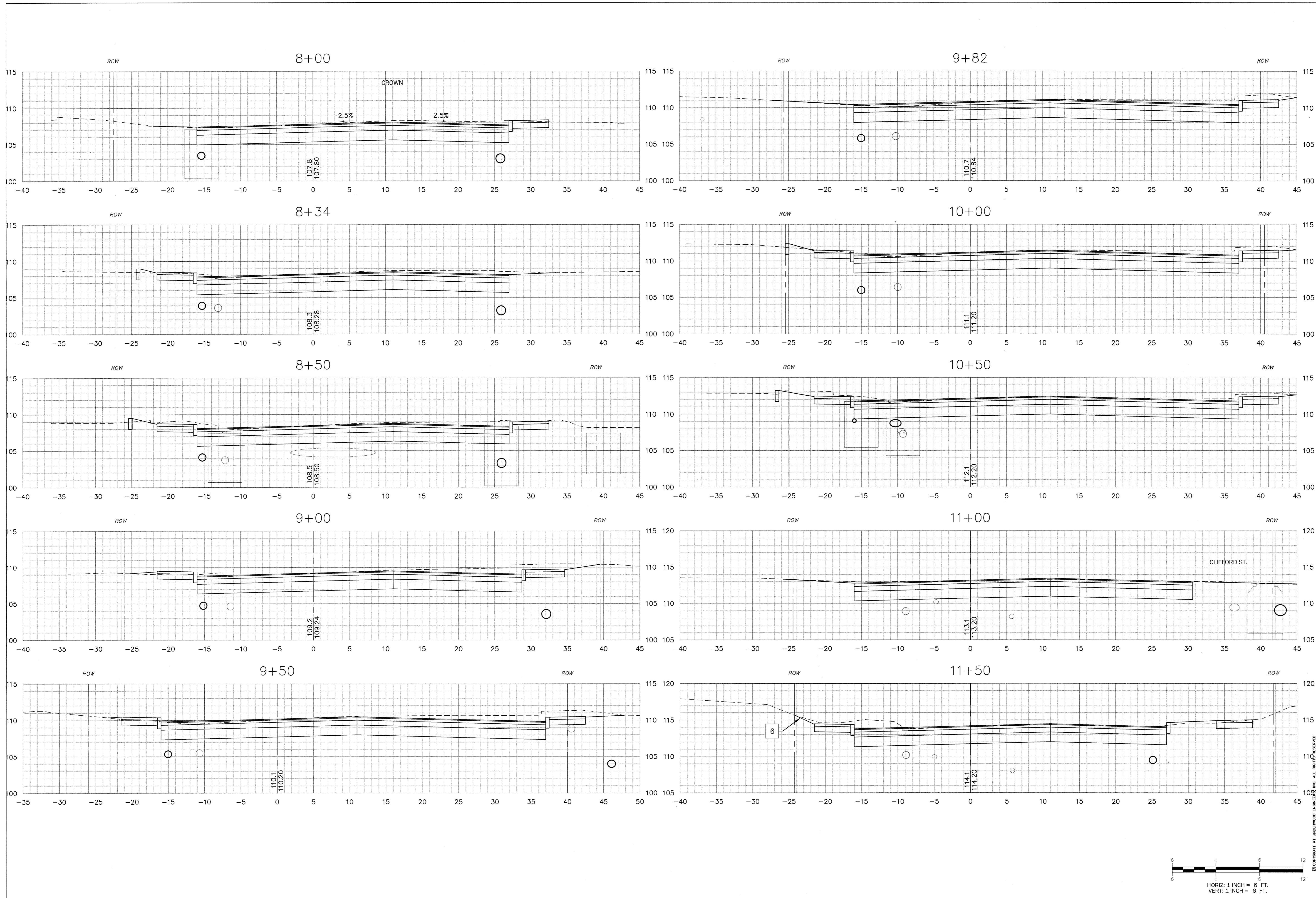


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WATER, DRAINAGE & MISC. DETAILS
SILVER STREET RECONSTRUCTION
CITY OF DOVER, NEW HAMPSHIRE

DWG NO	SHEET
D-2	38 OF 56

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REVISIONS	NO.	APPD

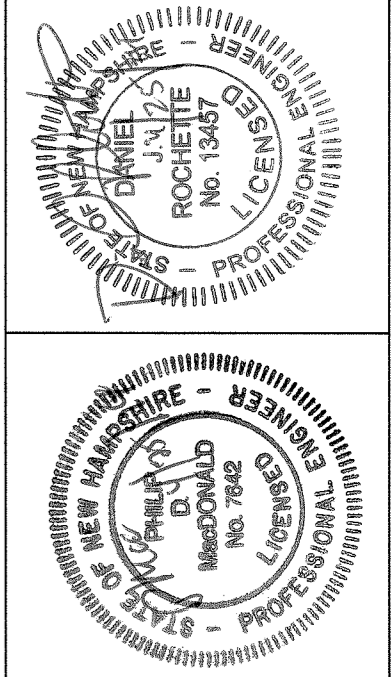
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Checked	Approved
Date: APRIL 18, 2014	Book No. 1725
Project No. 1725	Dwg. ID 1725base.dwg
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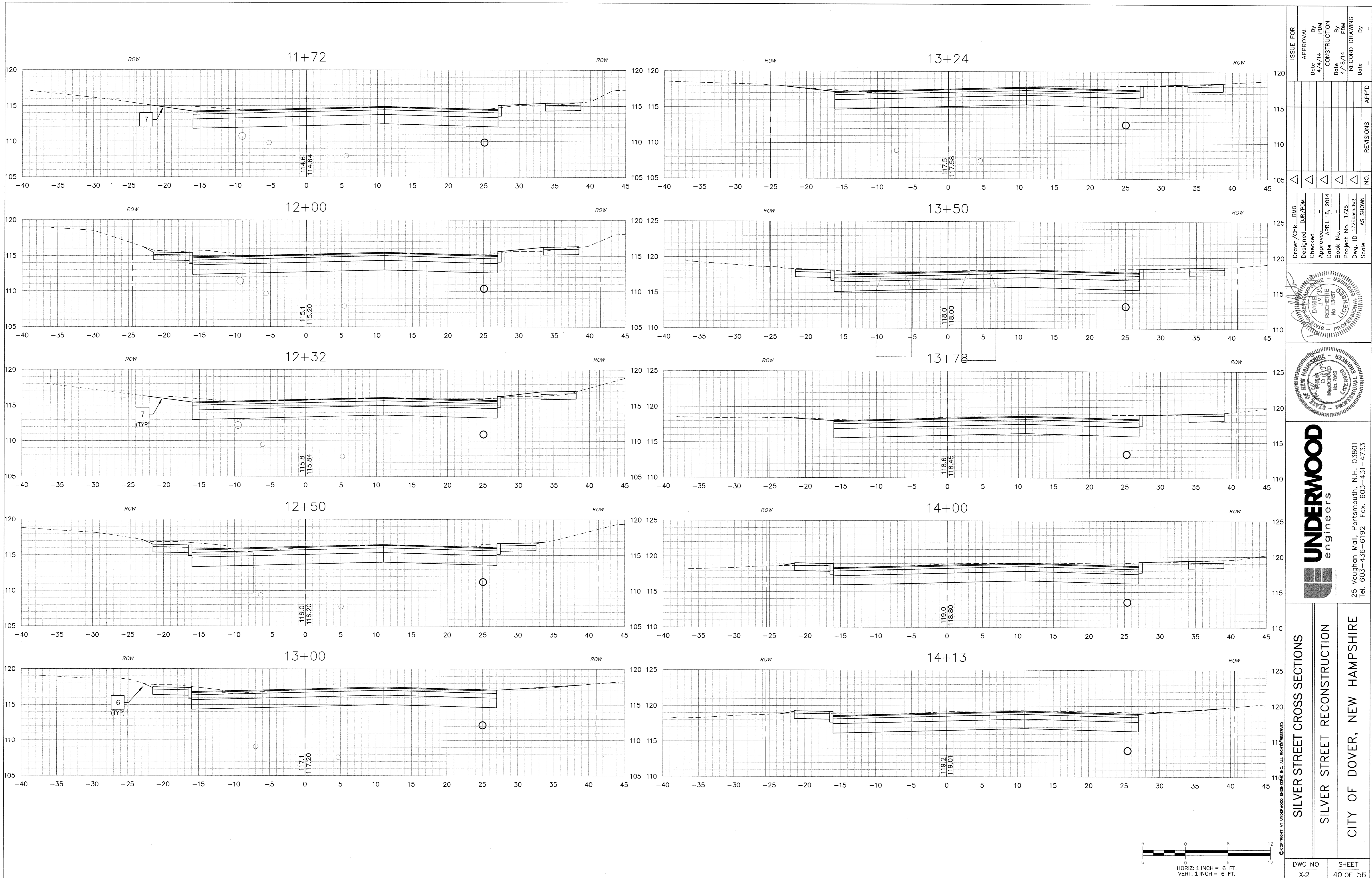
SILVER STREET CROSS SECTIONS
SILVER STREET RECONSTRUCTION
CITY OF DOVER, NEW HAMPSHIRE

DWG NO X-1 SHEET 39 OF 58

HORIZ: 1 INCH = 6 FT.
VERT: 1 INCH = 6 FT.



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Approved
Date APRIL 15, 2014
Book No.
Project No. 1725
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DANIEL W. ROBERTS
No. 1847
LICENSED PROFESSIONAL ENGINEER
STATE OF NEW HAMPSHIRE

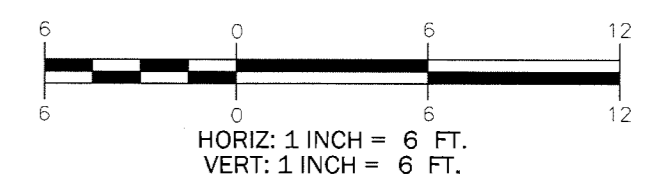
DONALD W. ROBERTS
No. 7062
LICENSED PROFESSIONAL ENGINEER
STATE OF NEW HAMPSHIRE

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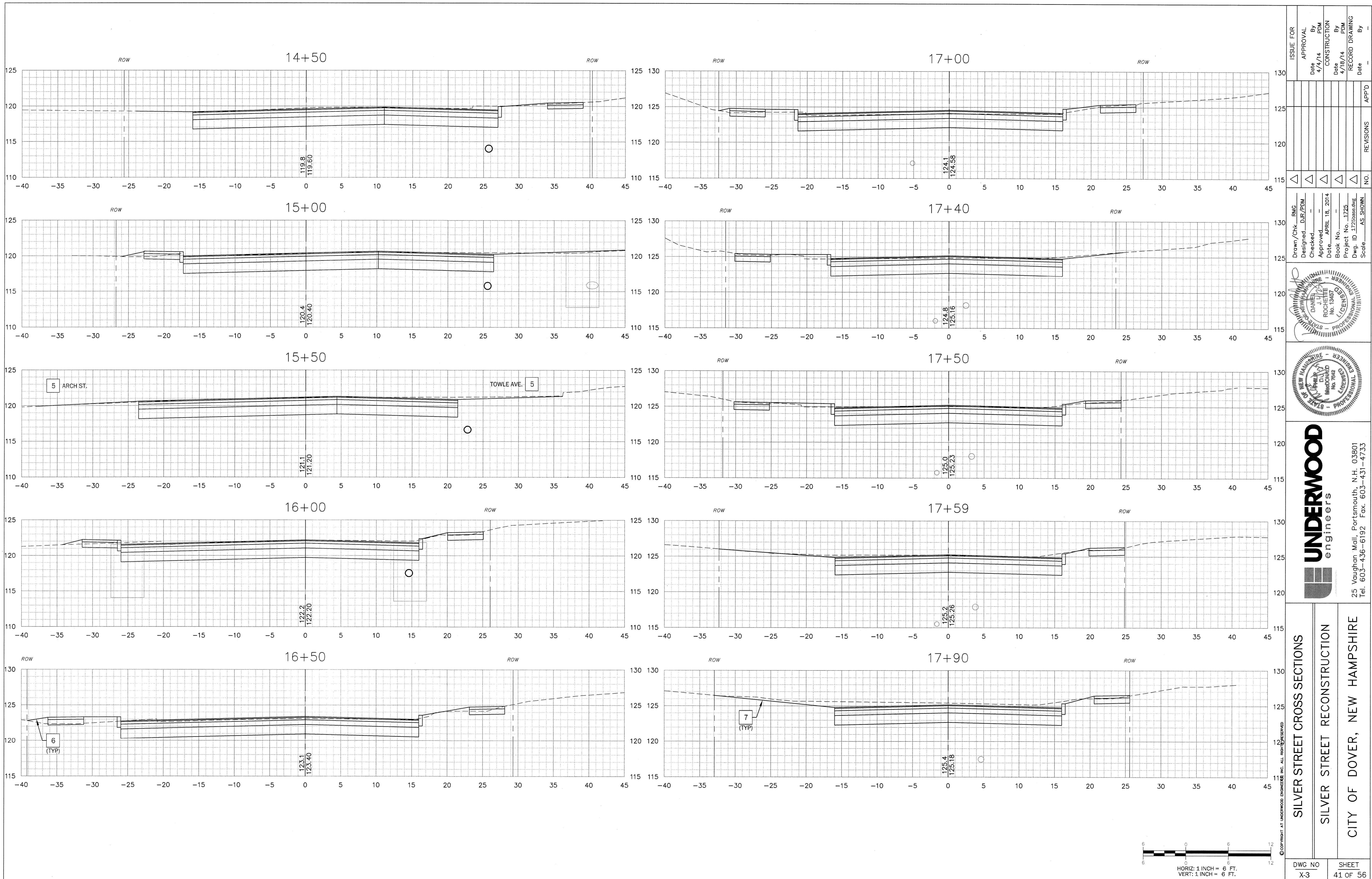
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SILVER STREET CROSS SECTIONS
SILVER STREET RECONSTRUCTION
CITY OF DOVER, NEW HAMPSHIRE

DWG NO X-2
SHEET 40 OF 56



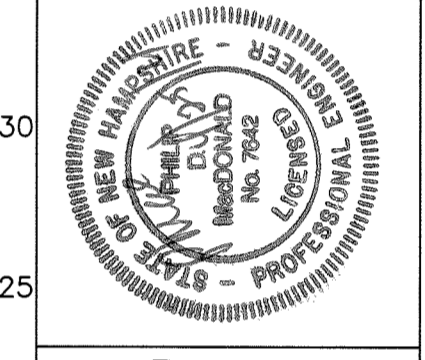
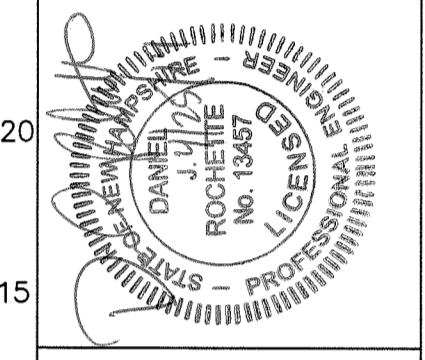
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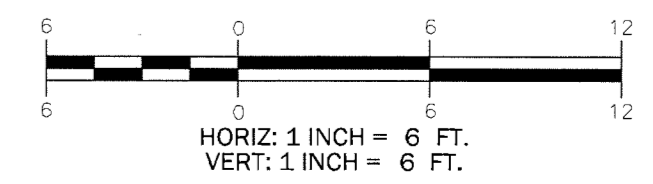


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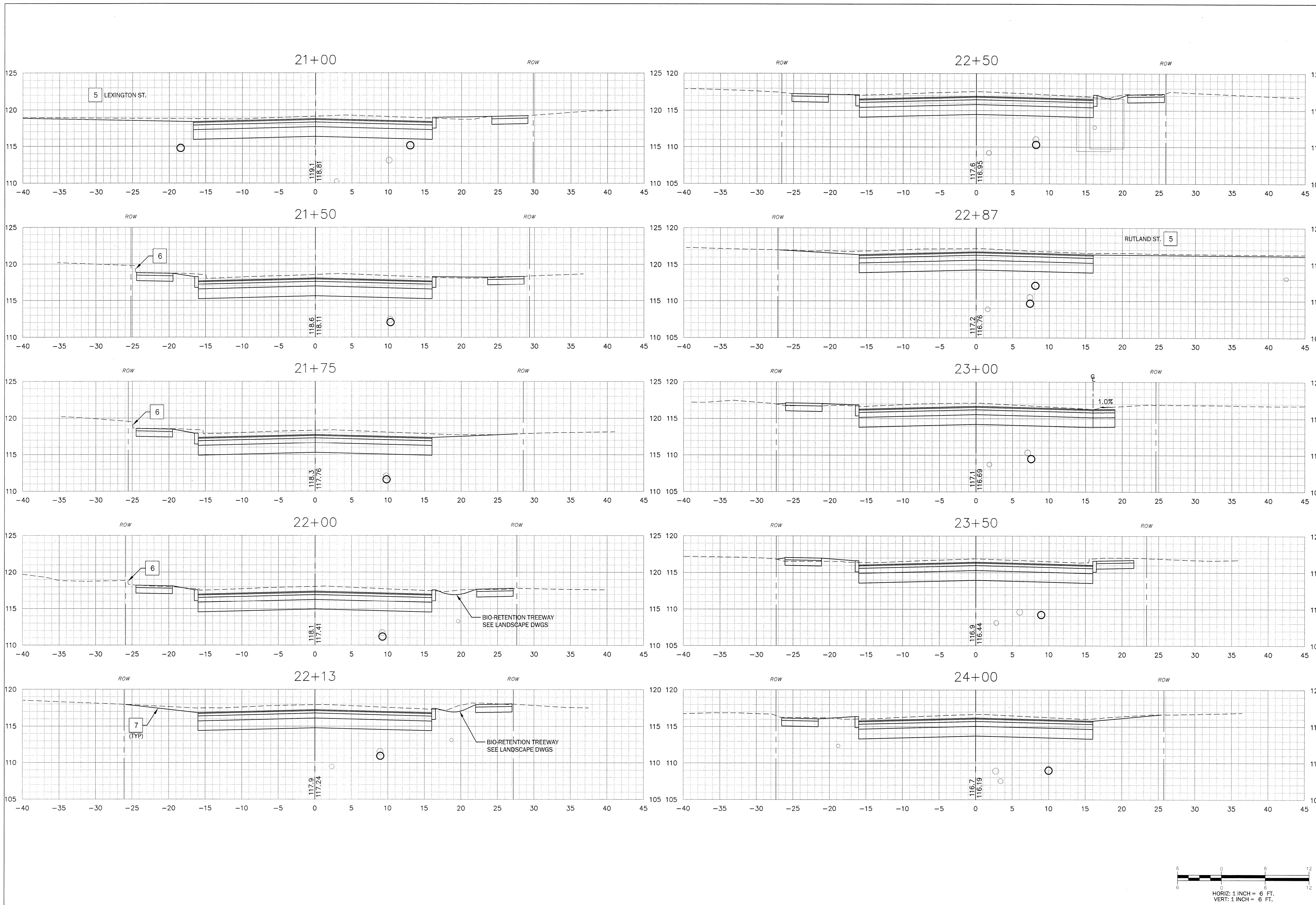
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SILVER STREET CROSS SECTIONS
SILVER STREET RECONSTRUCTION
CITY OF DOVER, NEW HAMPSHIRE

DWG NO	X-3
SHEET	41 OF 56



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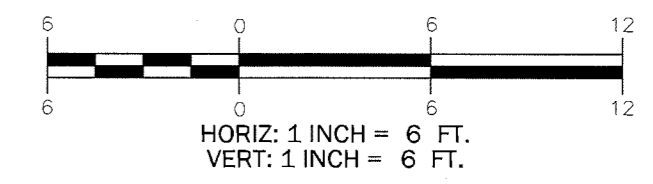
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Project No.	1725
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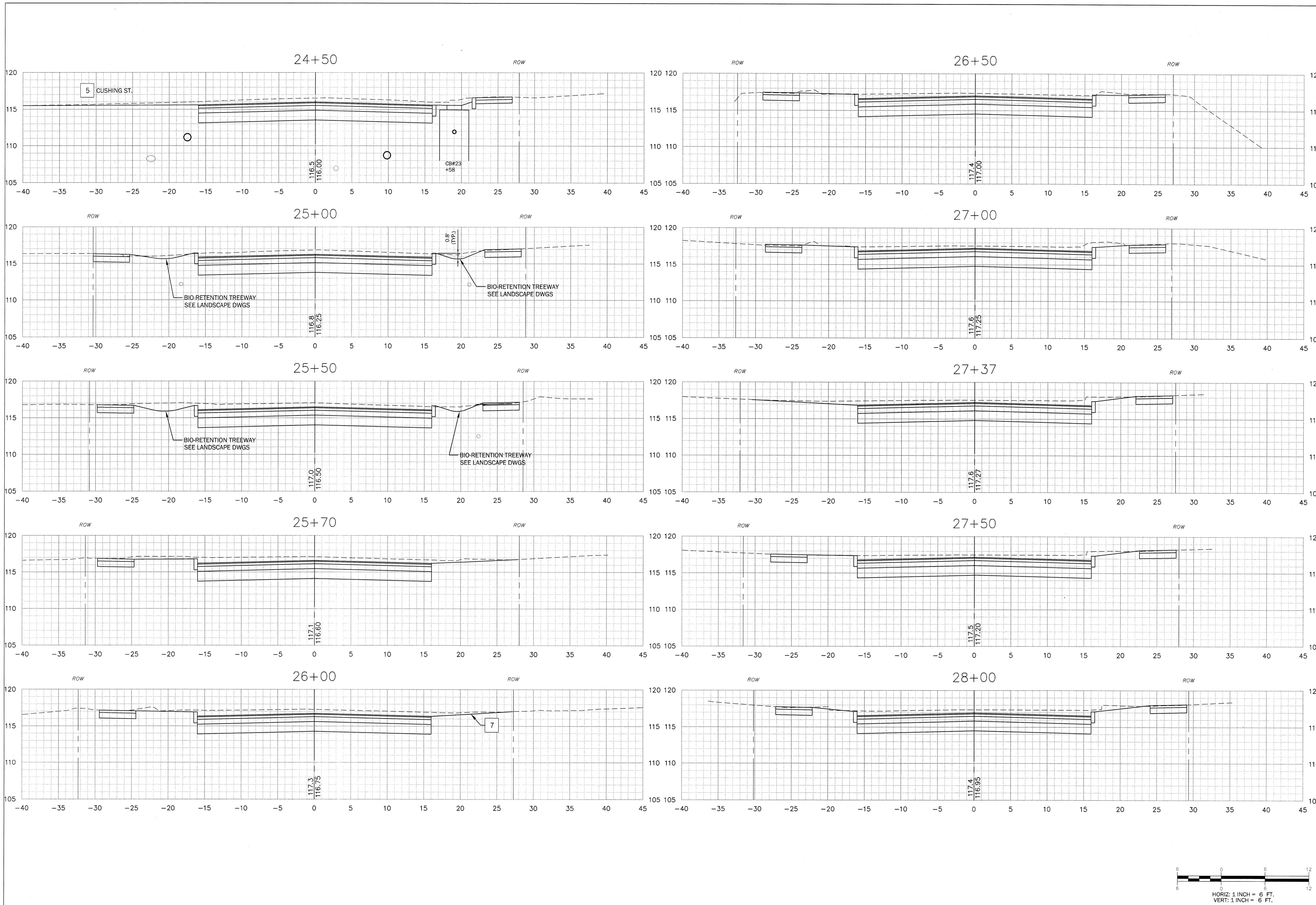
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SILVER STREET RECONSTRUCTION
CITY OF DOVER, NEW HAMPSHIRE

DWG NO X-5 SHEET 43 OF 56

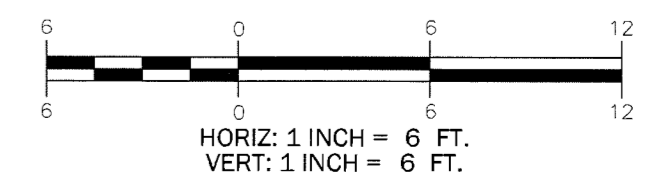


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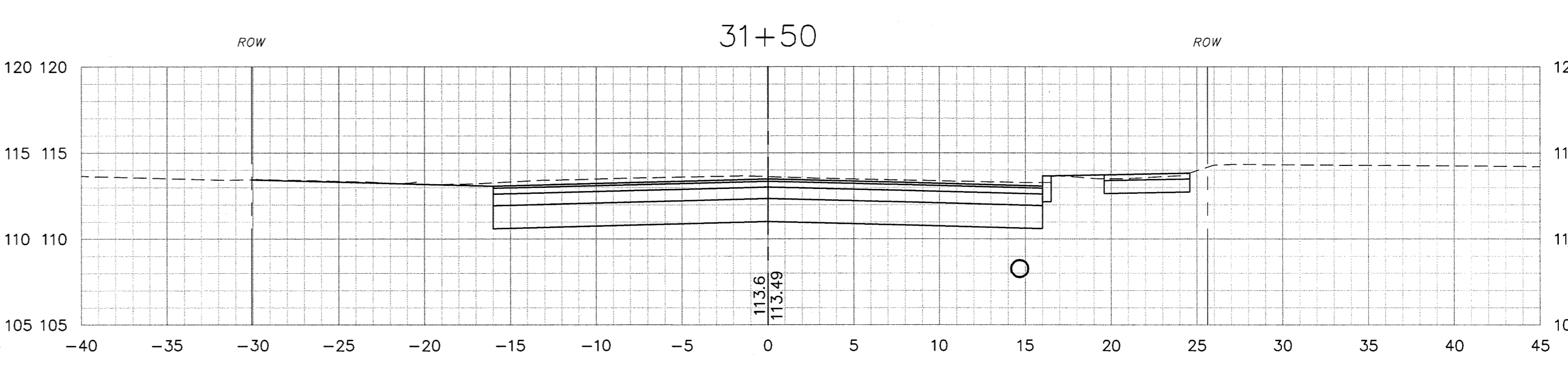
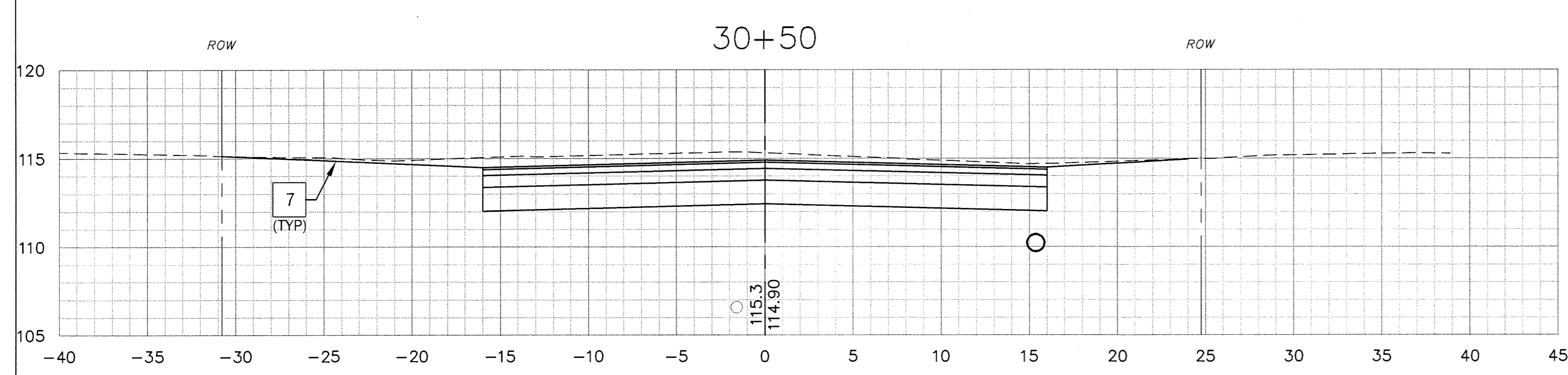
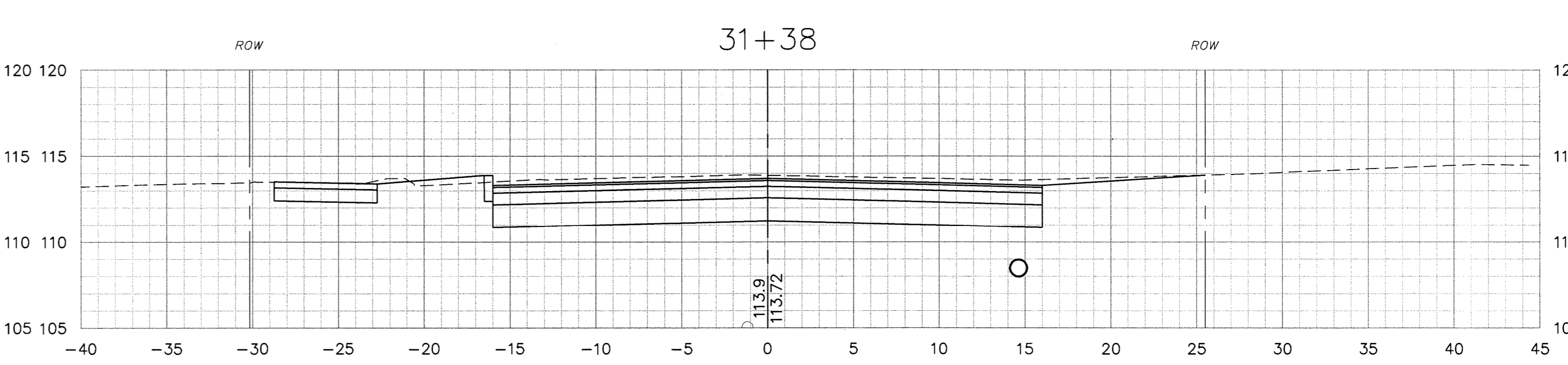
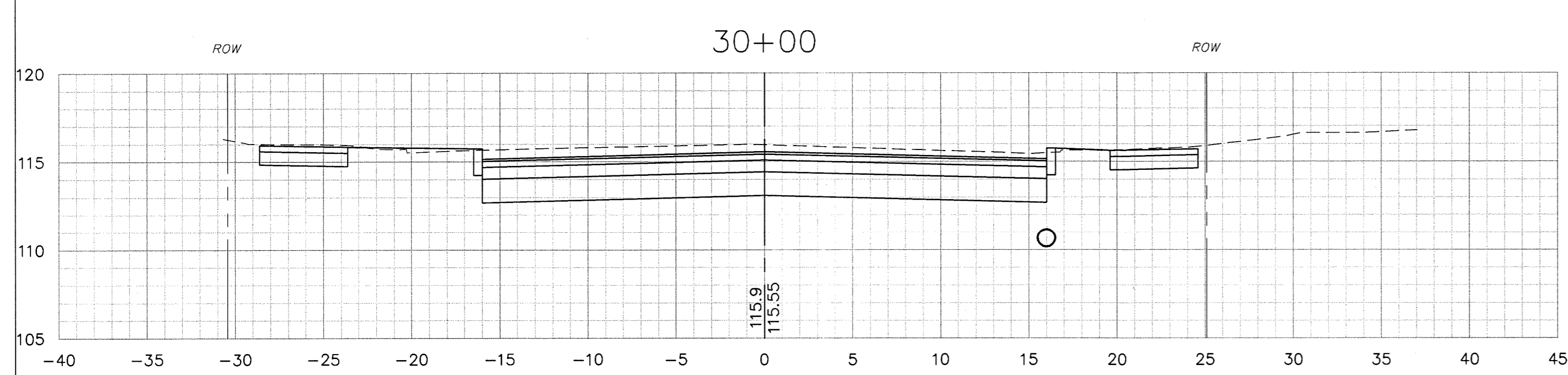
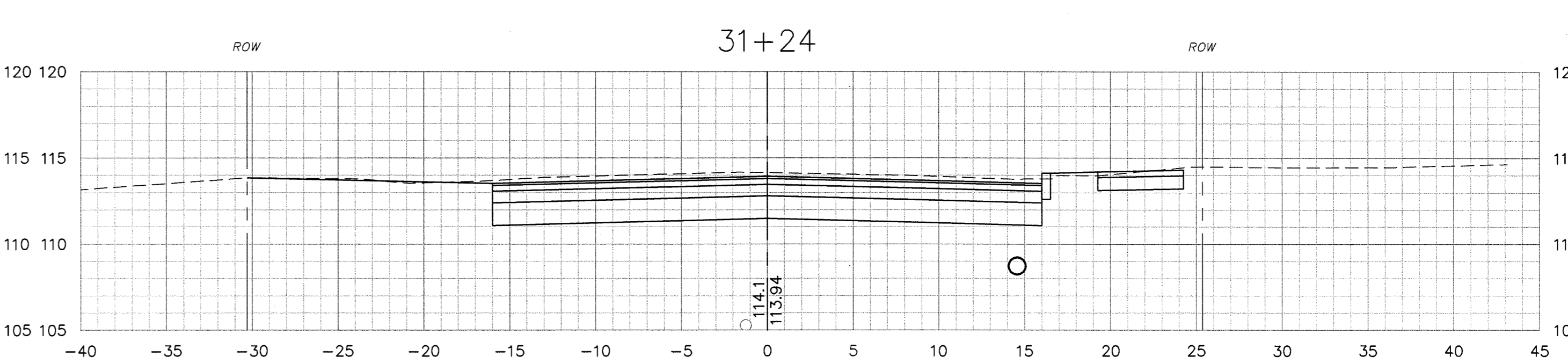
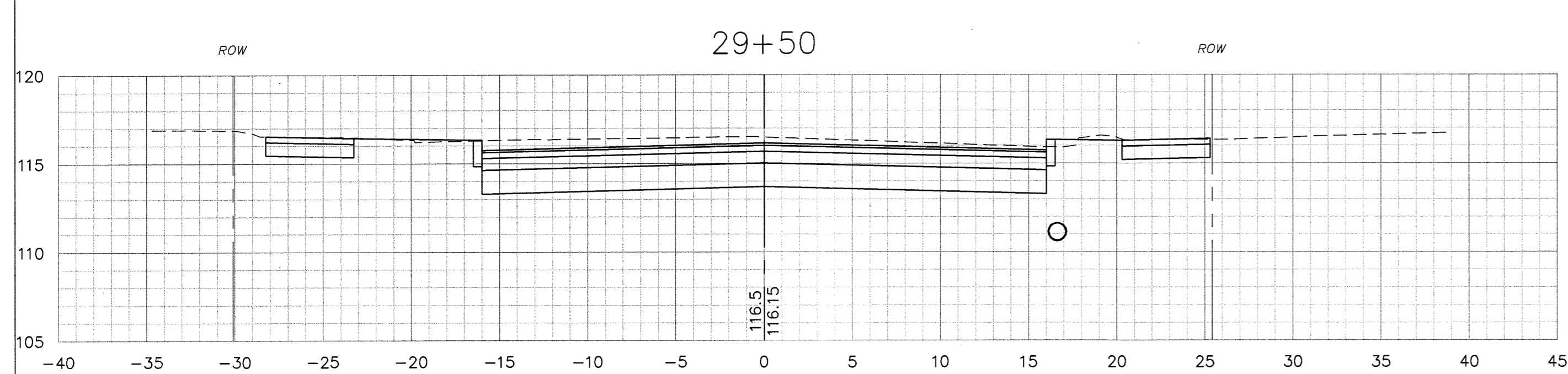
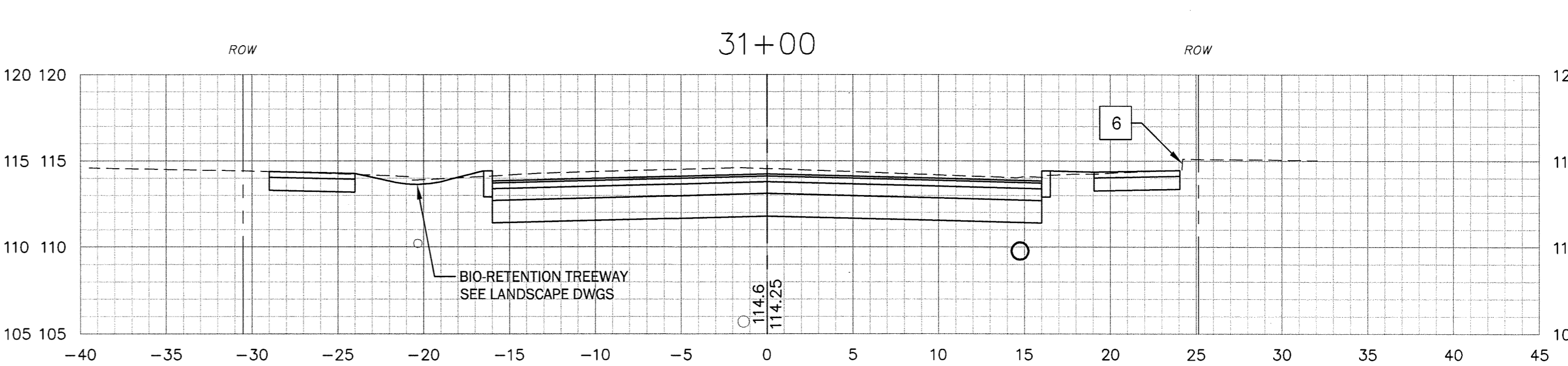
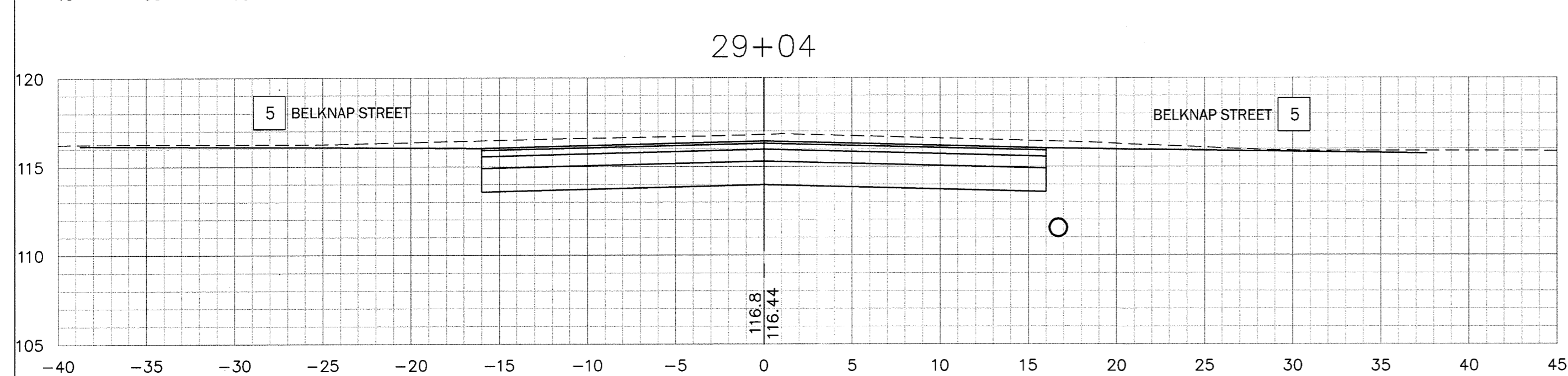
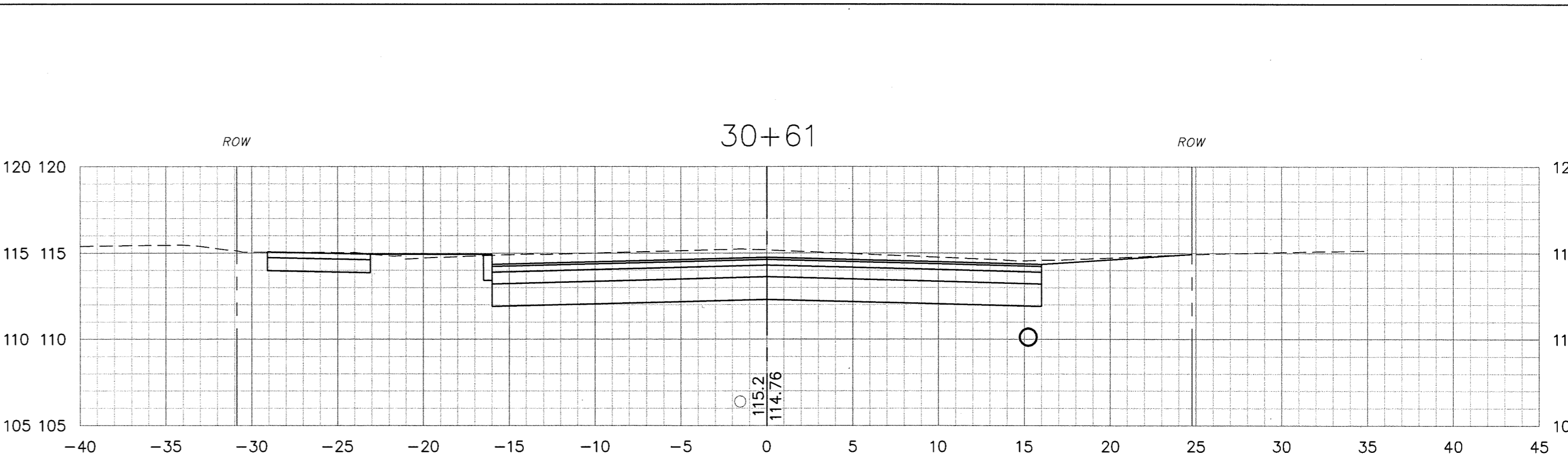
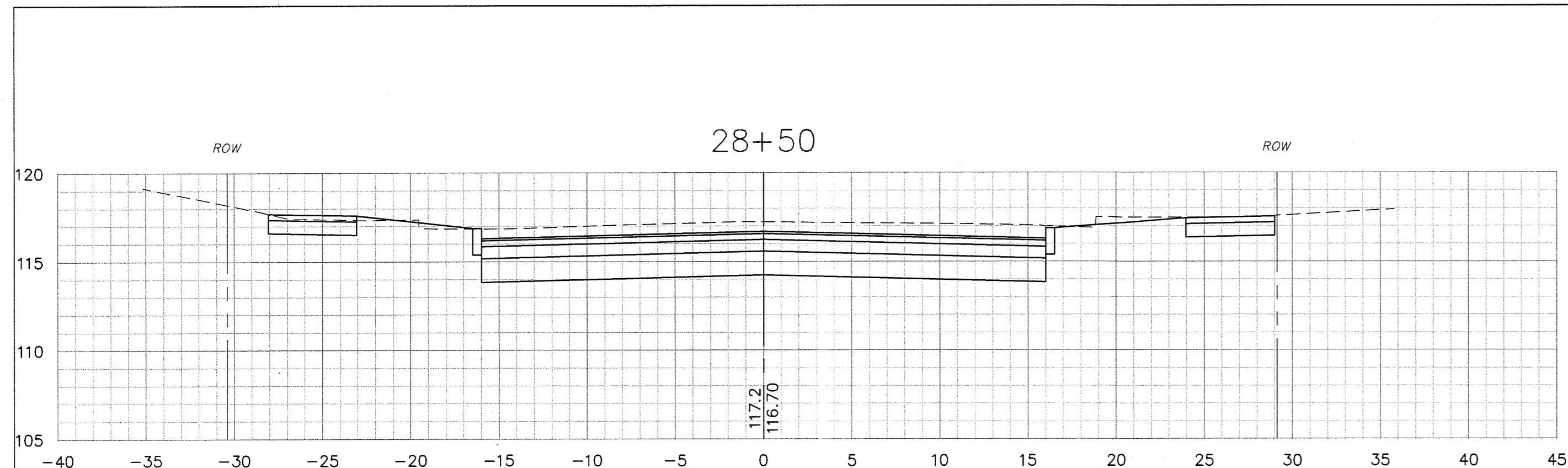


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SILVER STREET CROSS SECTIONS SILVER STREET RECONSTRUCTION CITY OF DOVER, NEW HAMPSHIRE																	
DWG NO X-6	SHEET 44 OF 56																



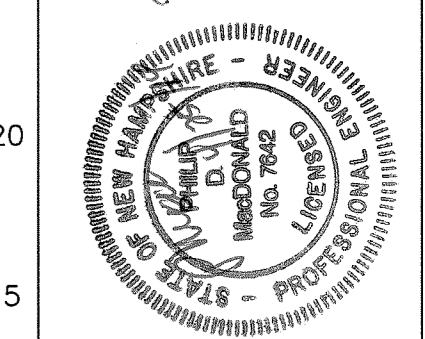
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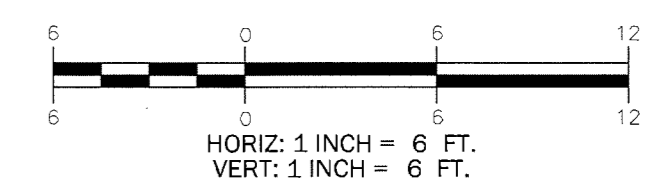


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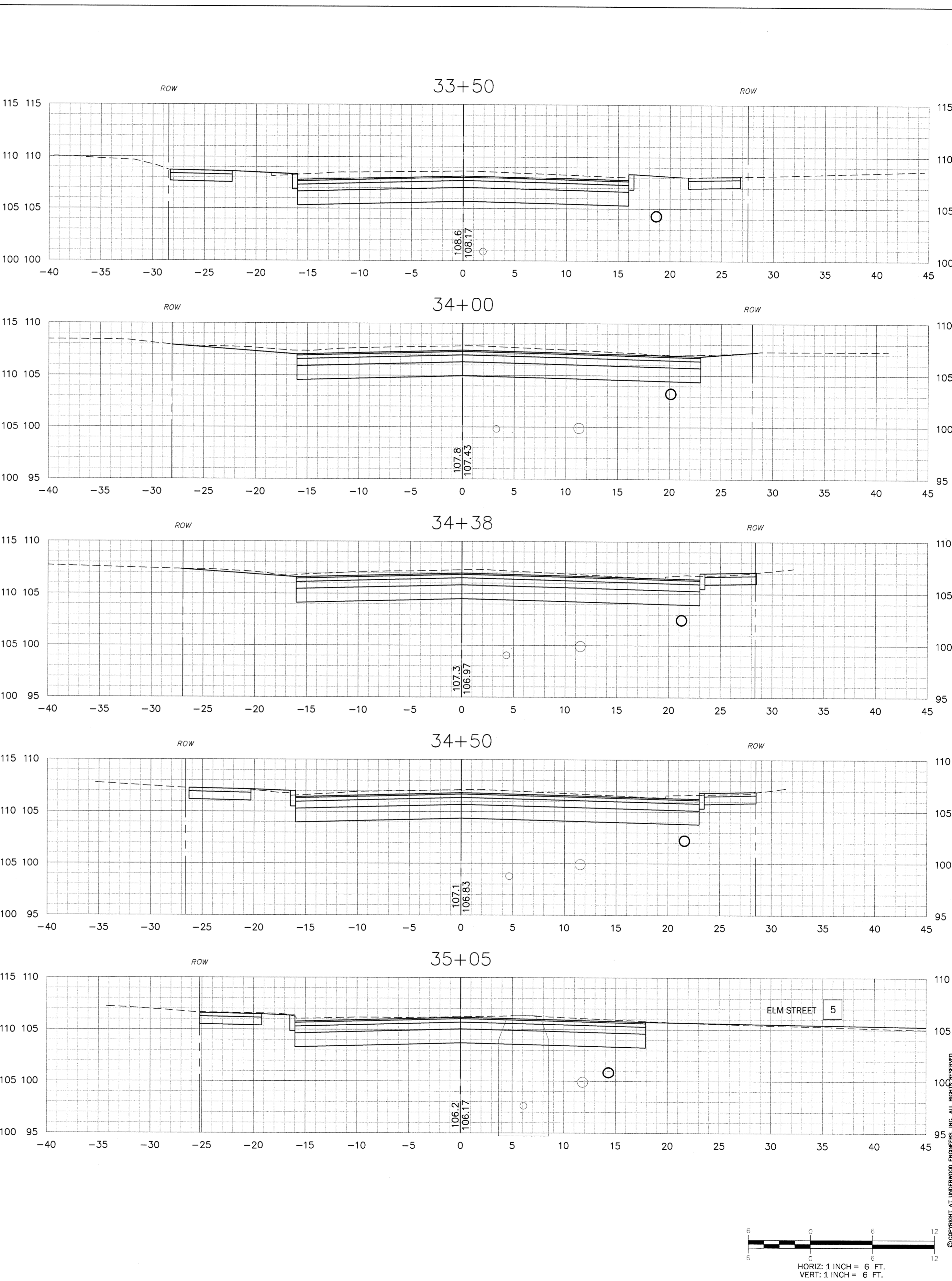
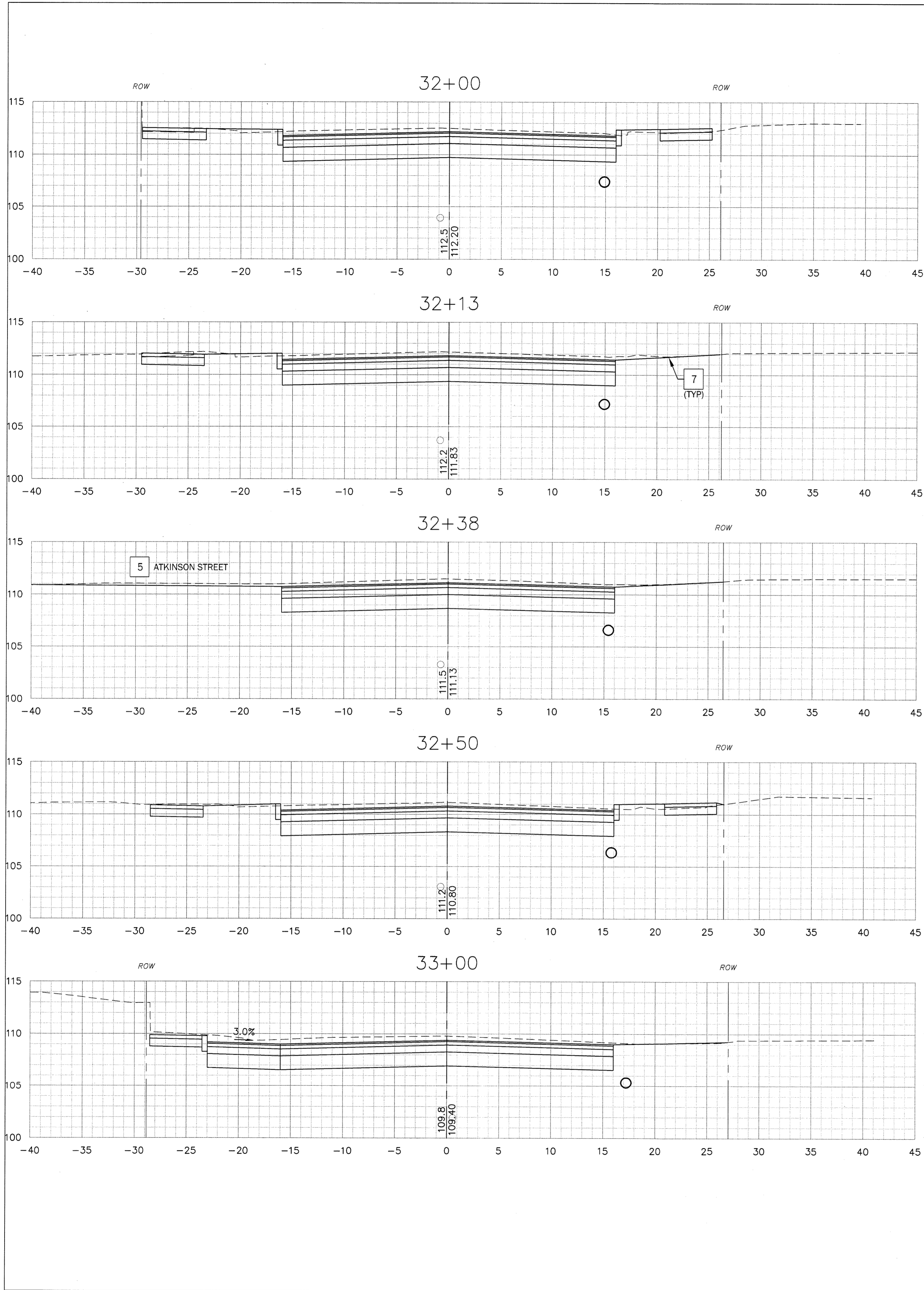
25 Vaughan Mall, Portsmouth, N.H. 03801
Tel. 603-436-6192 Fax. 603-431-4733

SILVER STREET CROSS SECTIONS
SILVER STREET RECONSTRUCTION
CITY OF DOVER, NEW HAMPSHIRE

DWG NO	SHEET
X-7	45 OF 56



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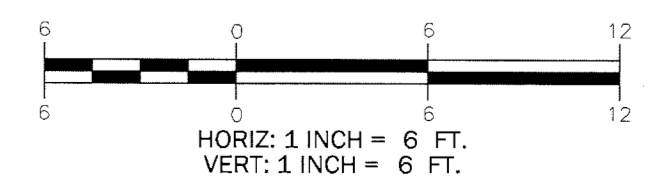
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△	△	△	PJM	4/7/14
△	△	△	PJM	CONSTRUCTION
△	△	△	PJM	4/18/14
△	△	△	PJM	RECORD DRAWING
△	△	△	By	Date

Drawn/Chk.	RMG	Checked	DMR/PDM
Designed	DMR/PDM	Approved	DMR/PDM
Date	APRIL 18, 2014	Date	APRIL 18, 2014
Book No.	1725	Project No.	1725
Dwg. ID	1725base.dwg	Scale	AS SHOWN

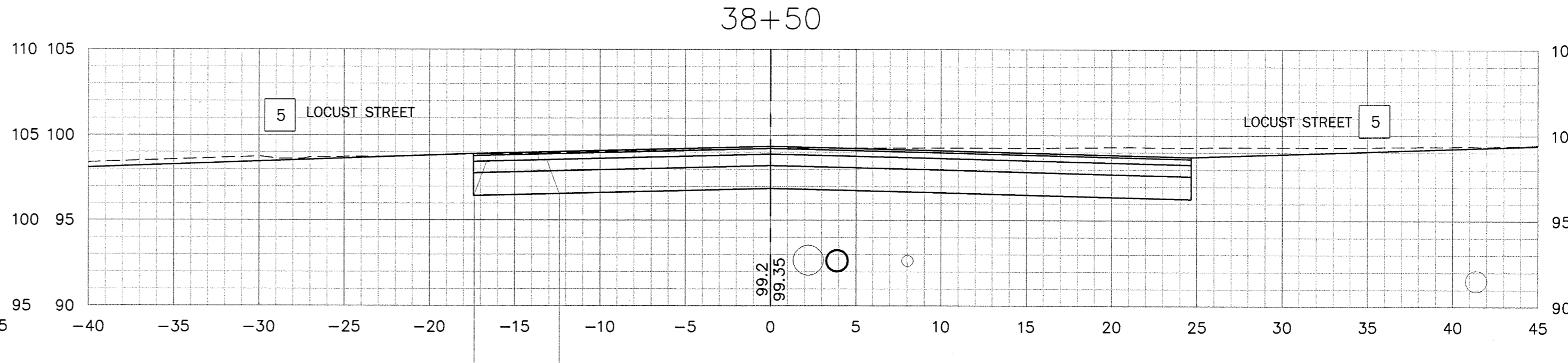
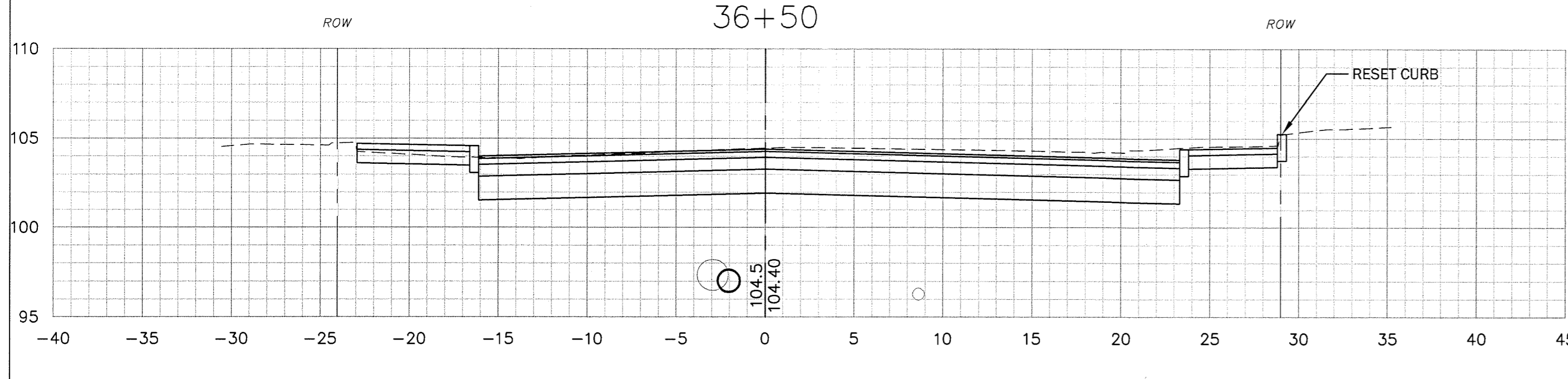
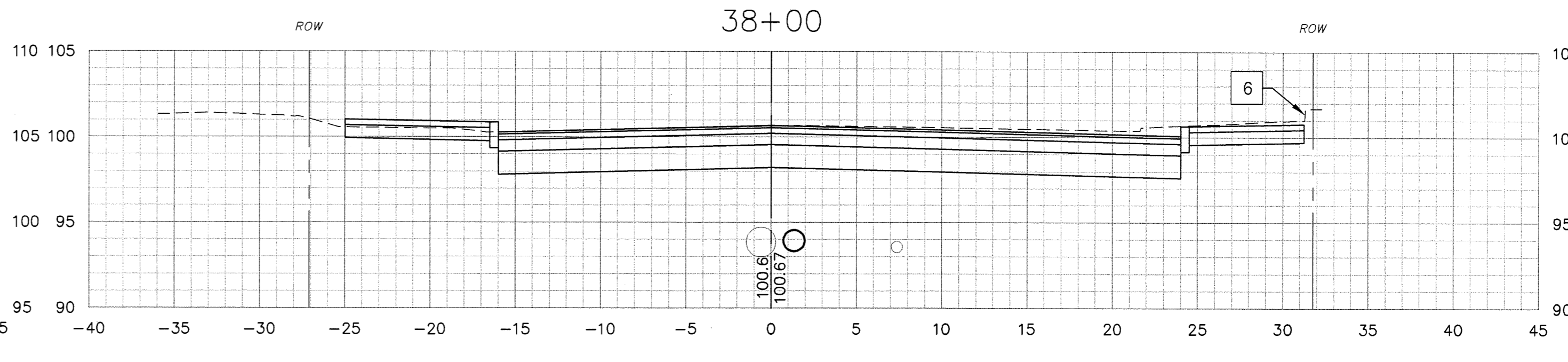
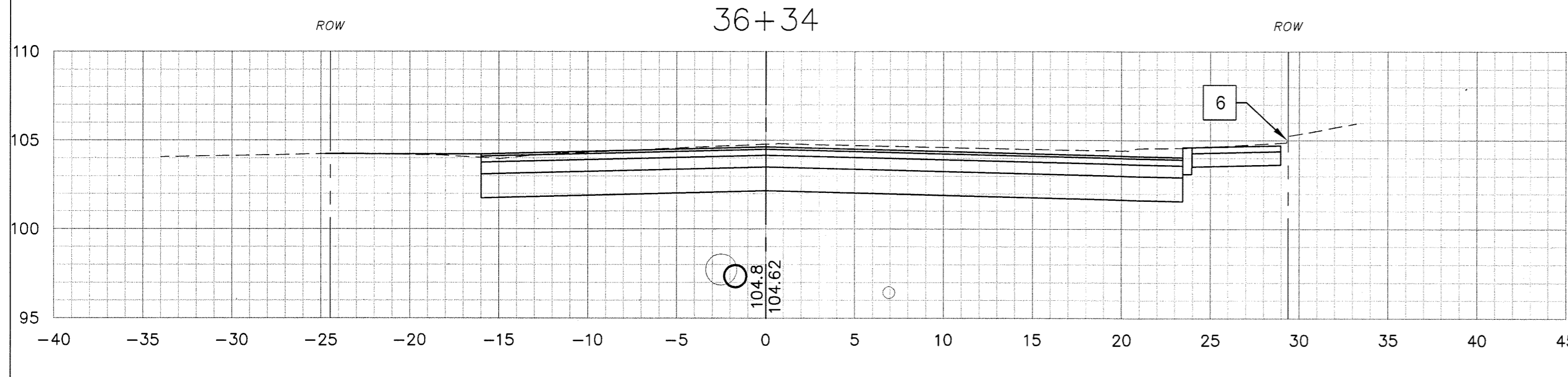
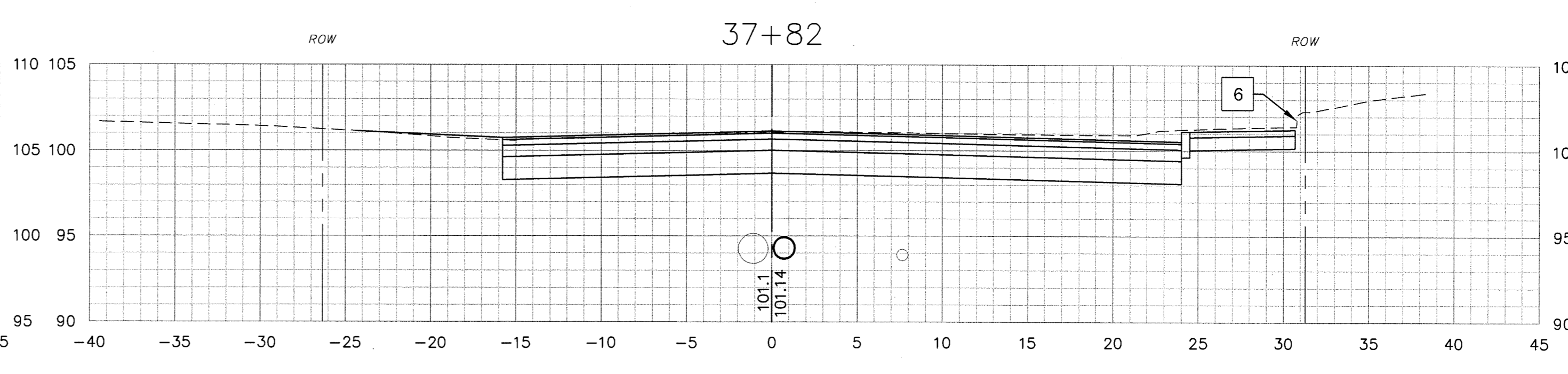
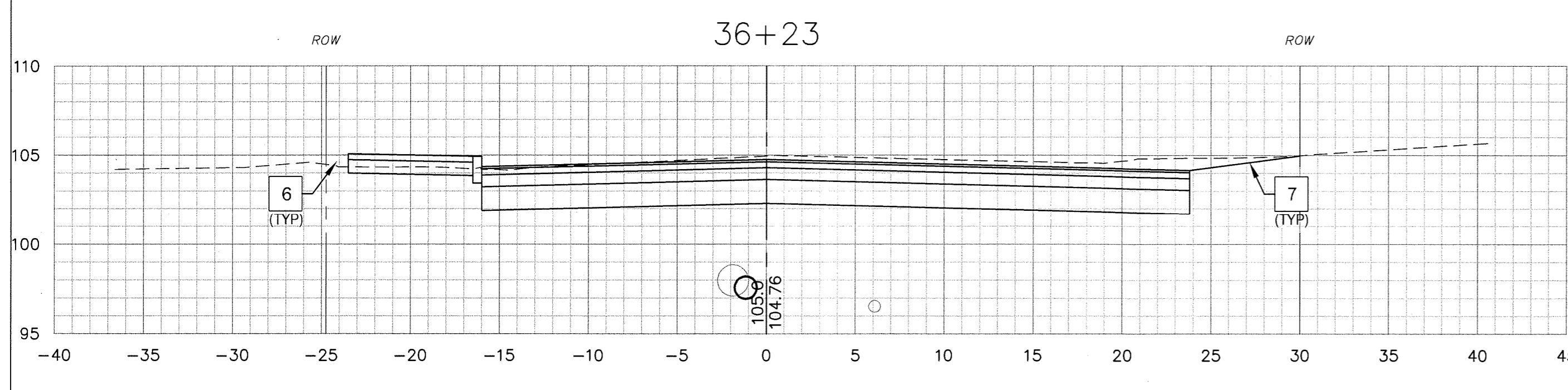
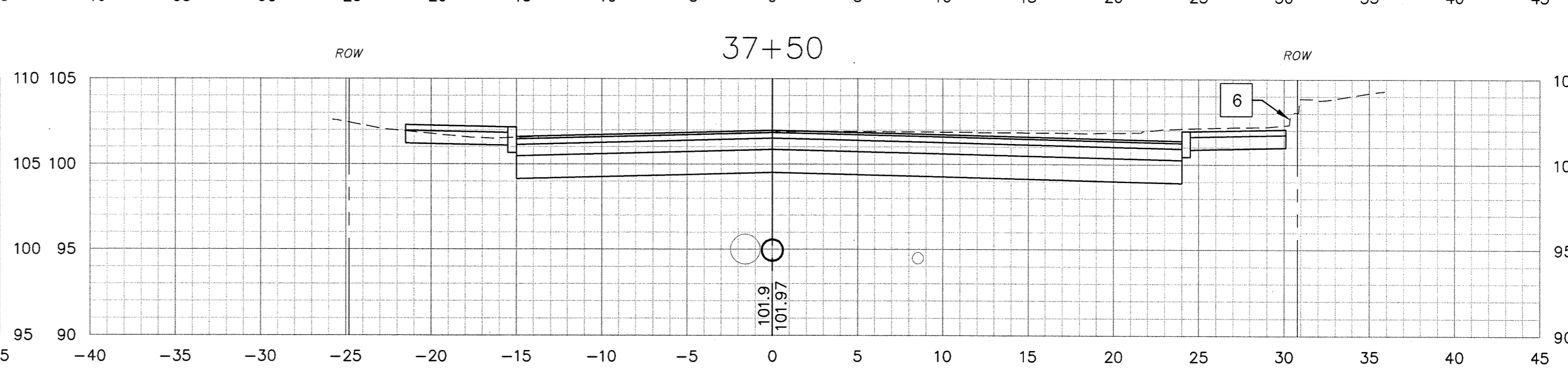
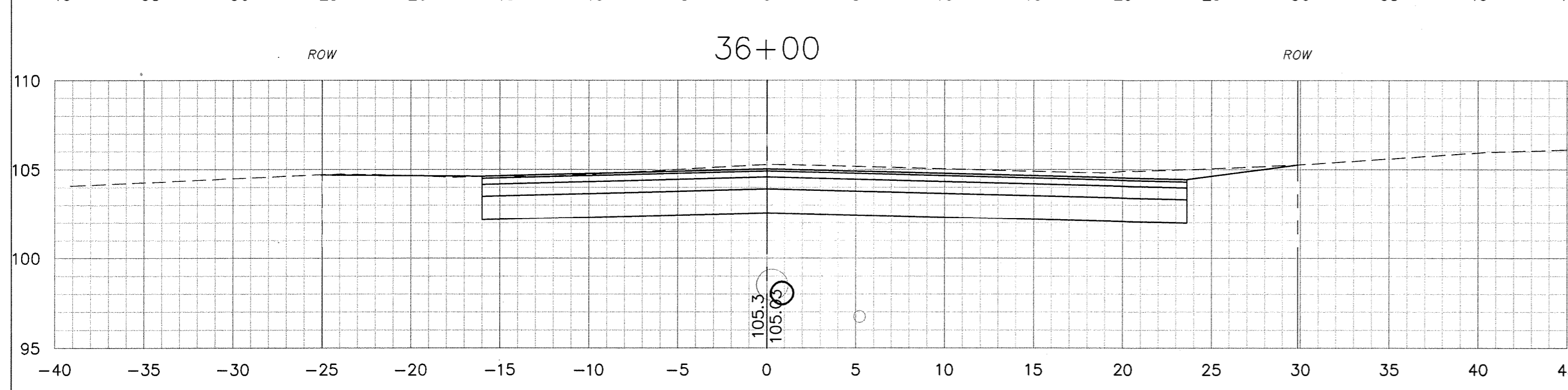
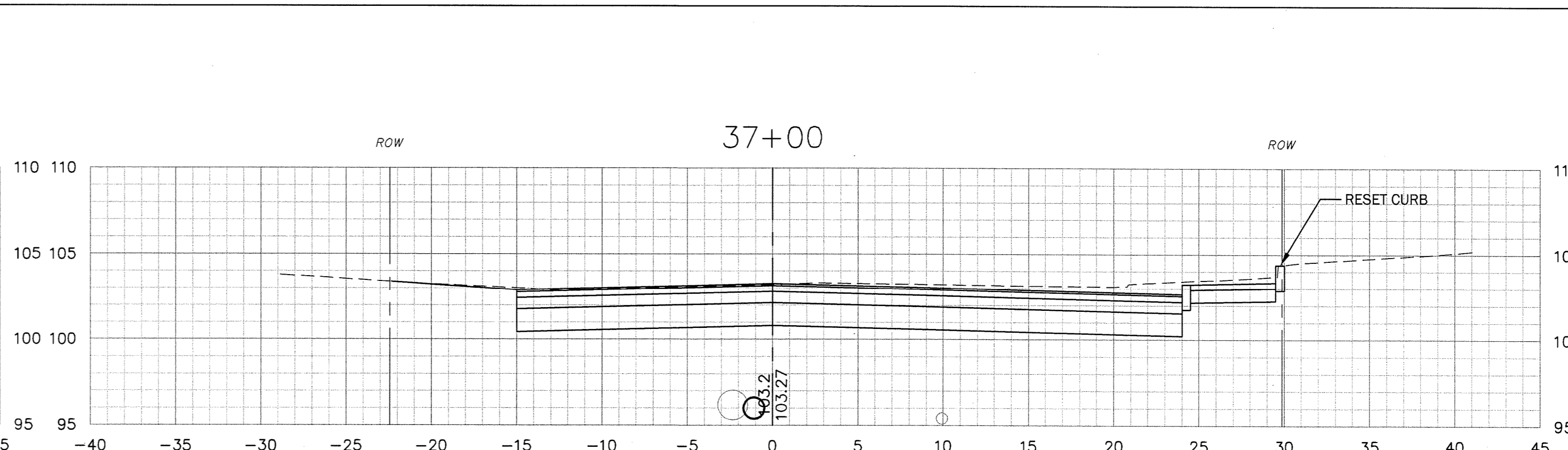
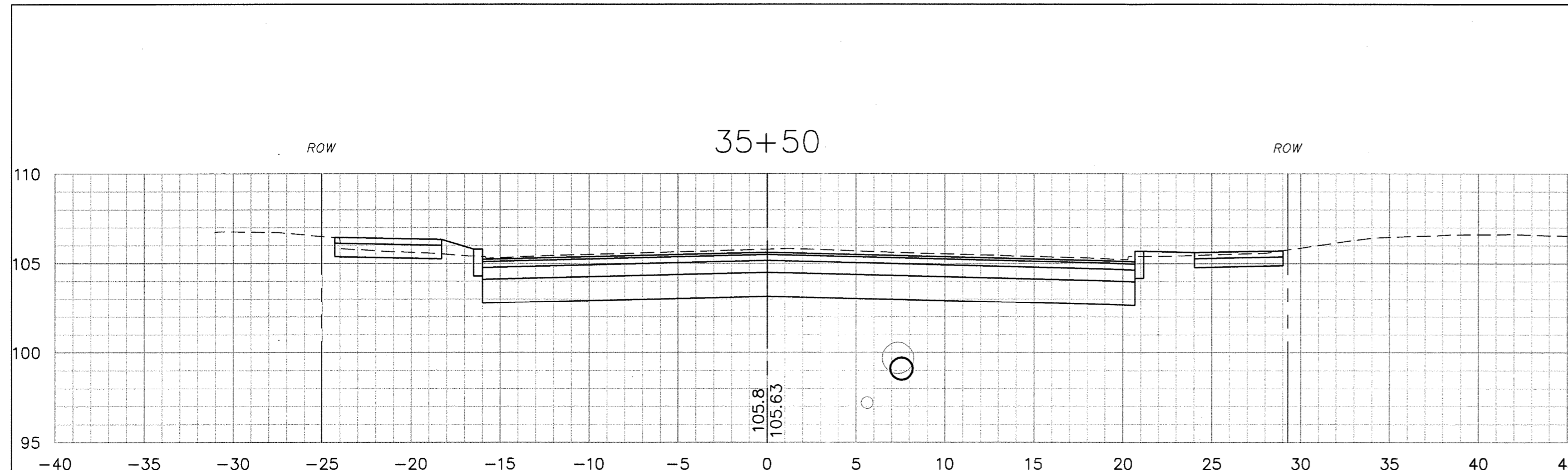
UNDERWOOD
 engineers
 25 Vaughan Mall, Portsmouth, N.H. 03801
 Tel. 603-436-6192 Fax. 603-431-4733

SILVER STREET CROSS SECTIONS
 SILVER STREET RECONSTRUCTION
 CITY OF DOVER, NEW HAMPSHIRE

DWG NO. X-8
 SHEET 46 OF 56



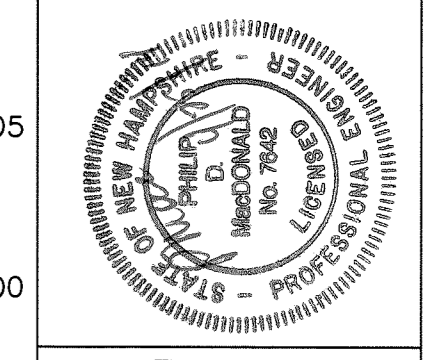
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ISSUE FOR		Date	By
APPROVAL	CONSTRUCTION		
	RECORD DRAWING	4/19/14	PJM

NO.	REVISIONS	APP'D

Drawn/Chk. RMG
 Designed DJR/PJM
 Checked
 Approved
 Date APRIL 18, 2014
 Project No. 1725
 Dwg. ID 1725BSS.DWG
 Scale AS SHOWN

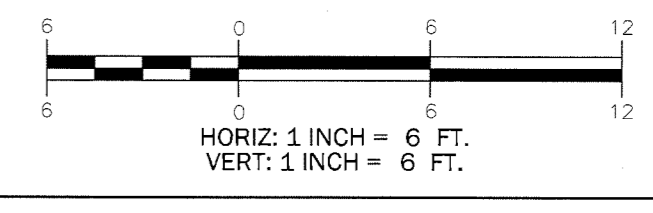


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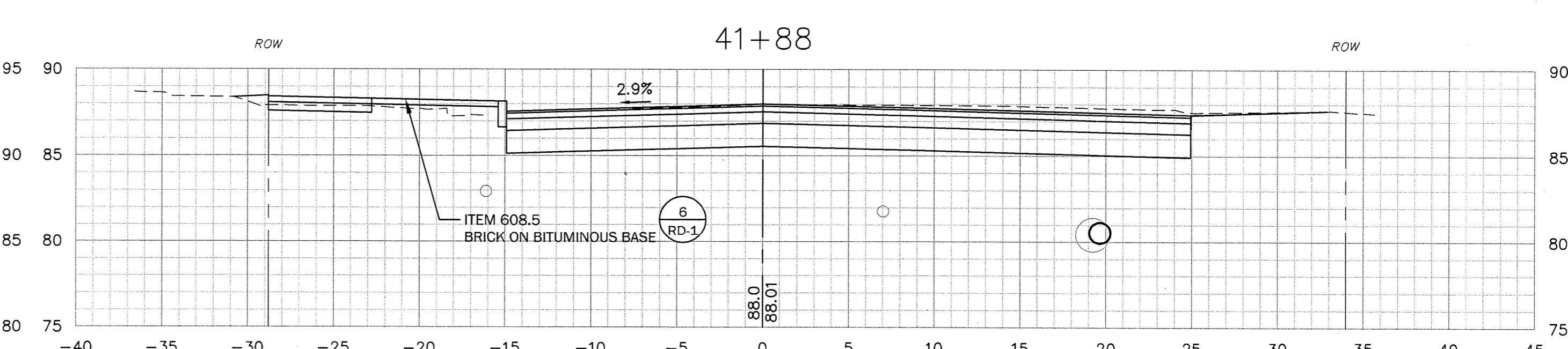
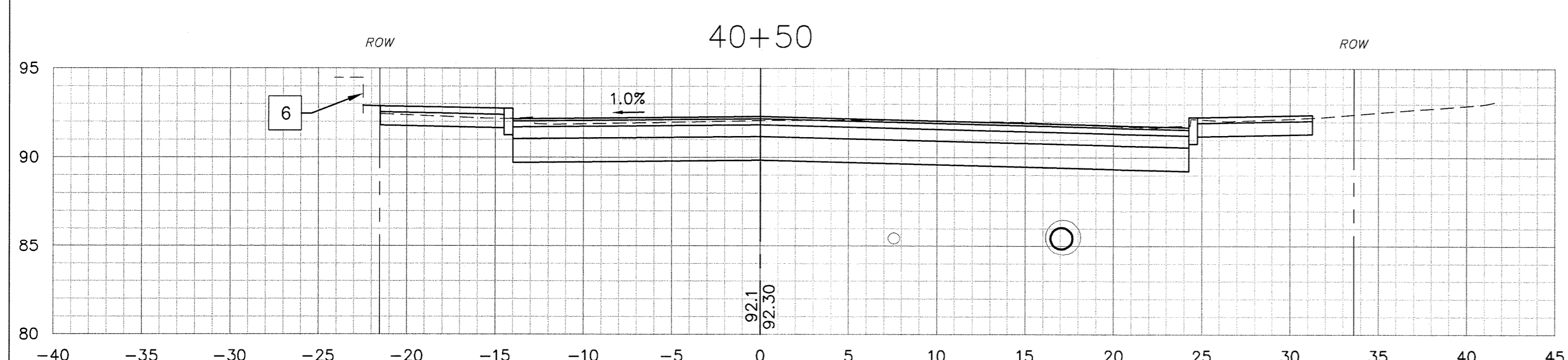
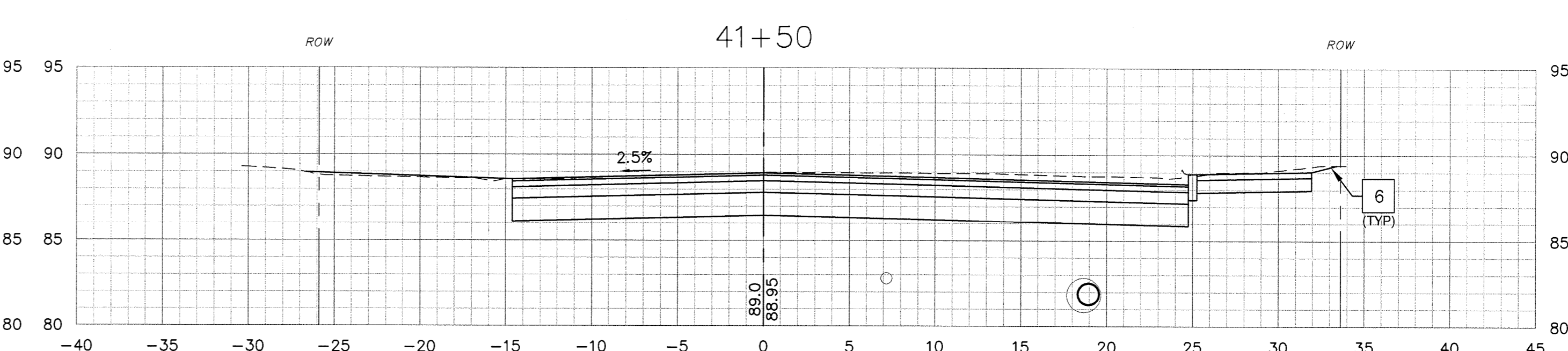
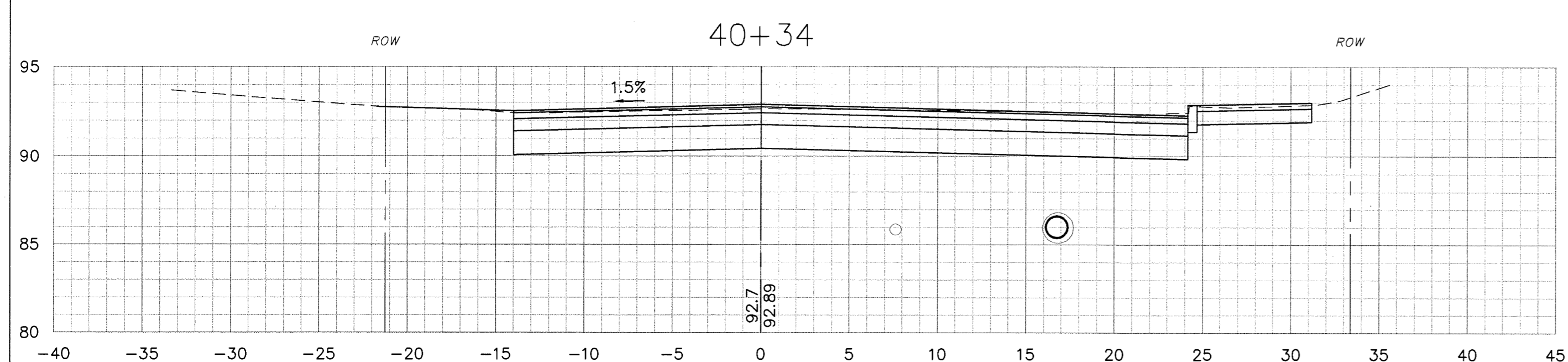
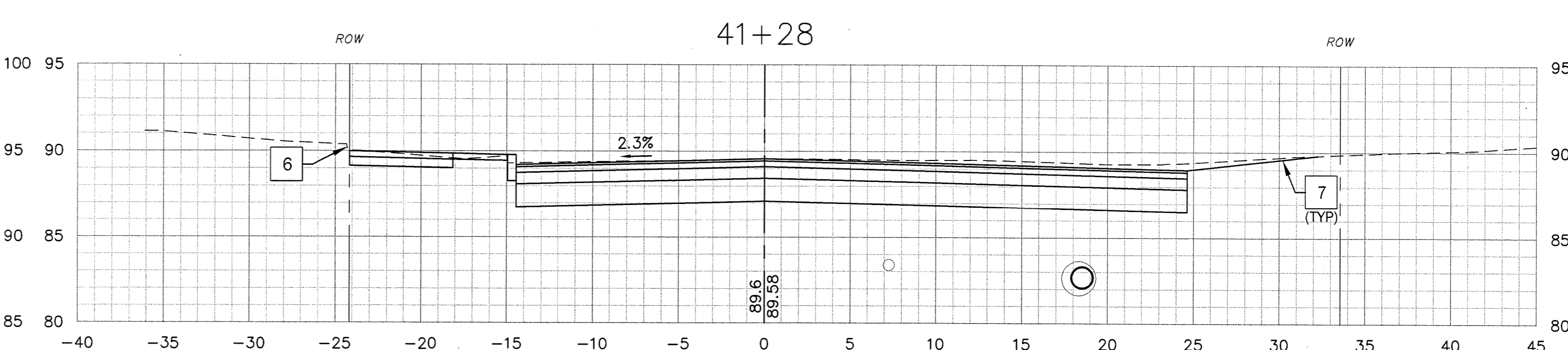
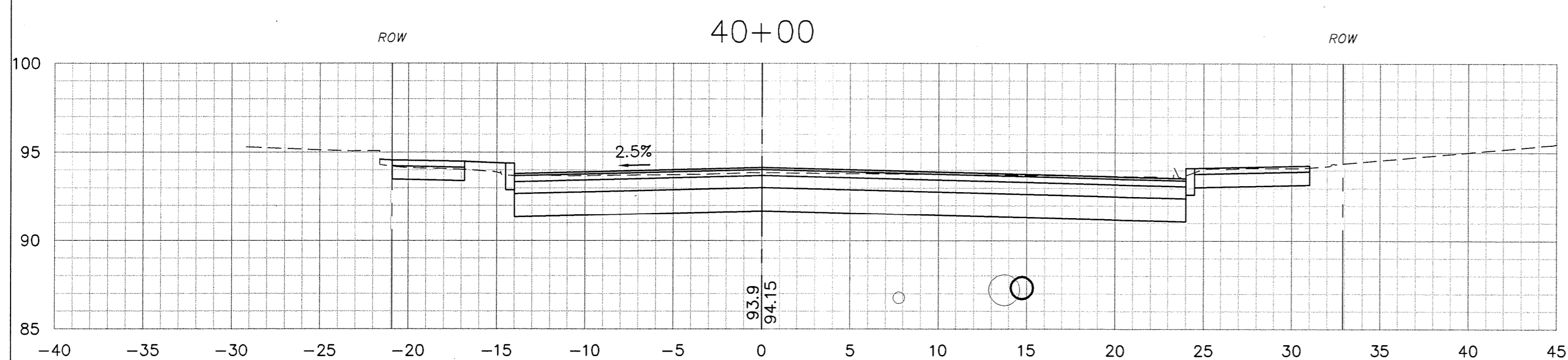
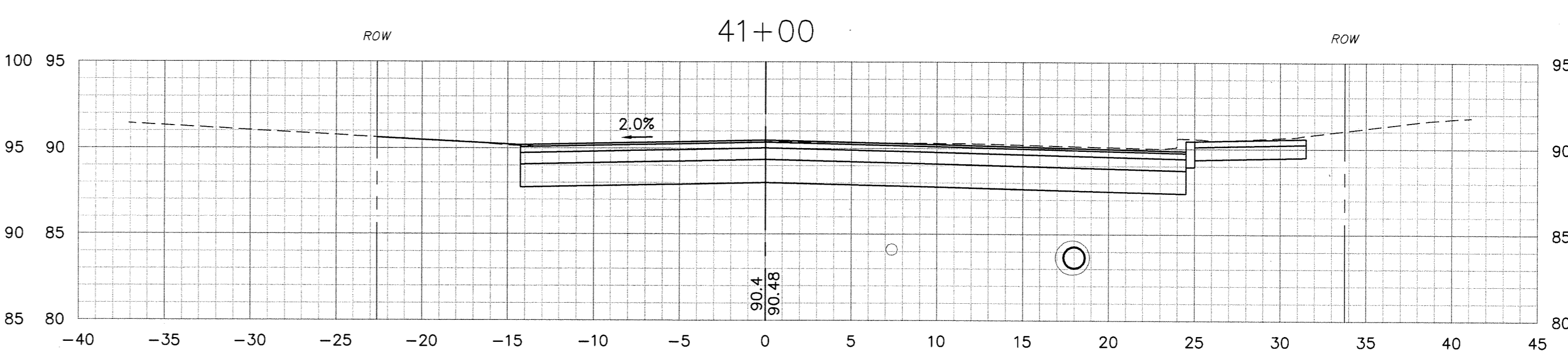
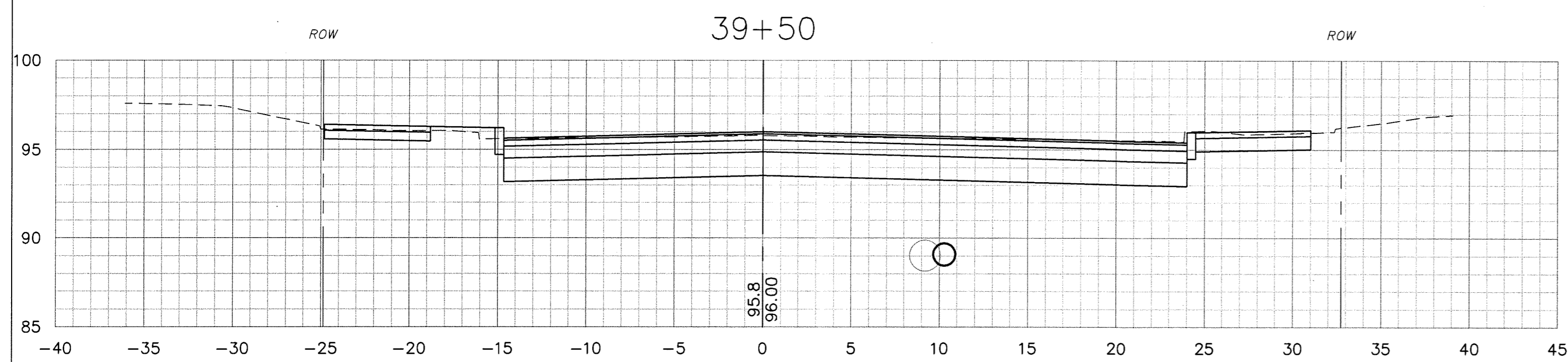
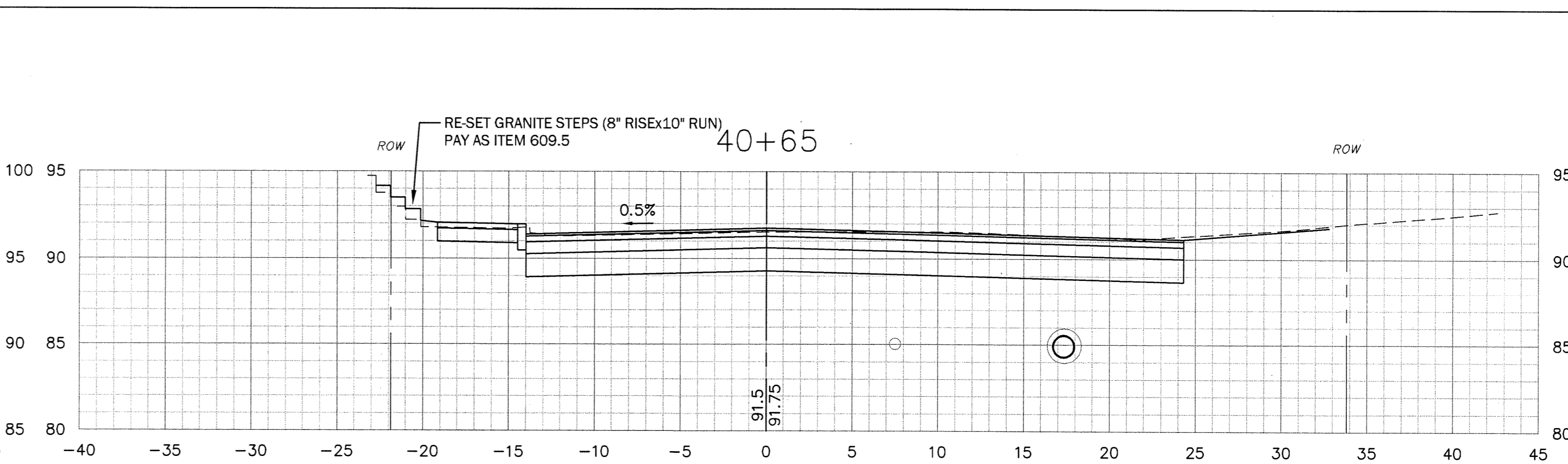
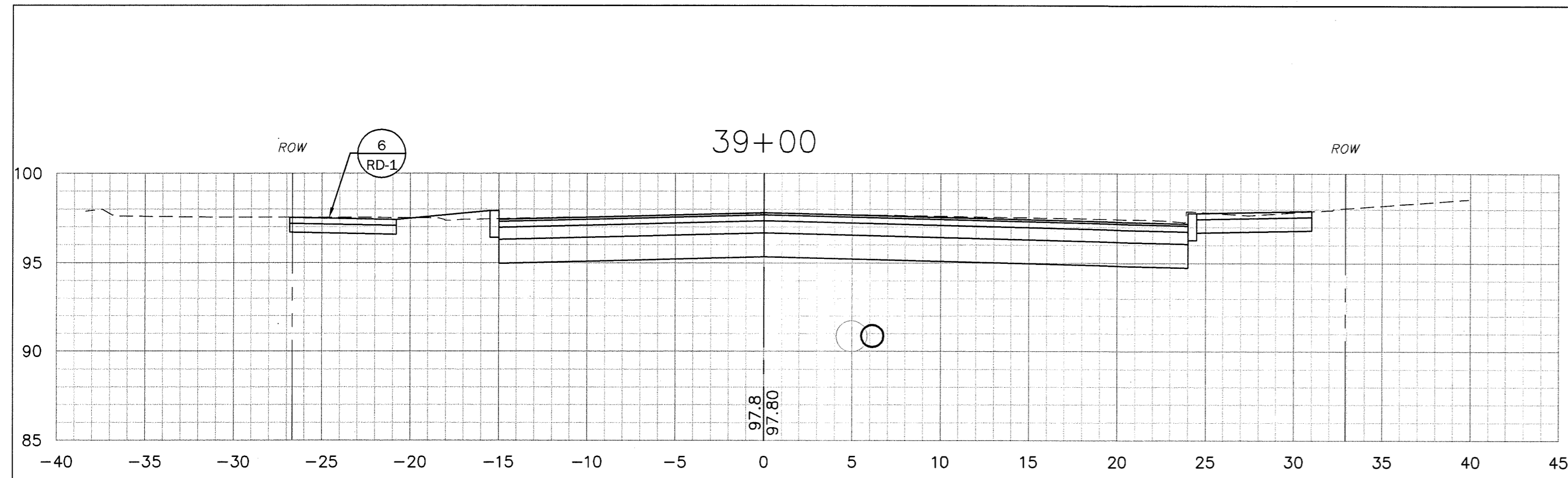
25 Vaughan Mall, Portsmouth, N.H. 03801
 Tel. 603-436-6192 Fax. 603-431-4733

SILVER STREET CROSS SECTIONS
 SILVER STREET RECONSTRUCTION
 CITY OF DOVER, NEW HAMPSHIRE

DWG NO X-9
 SHEET 47 OF 56

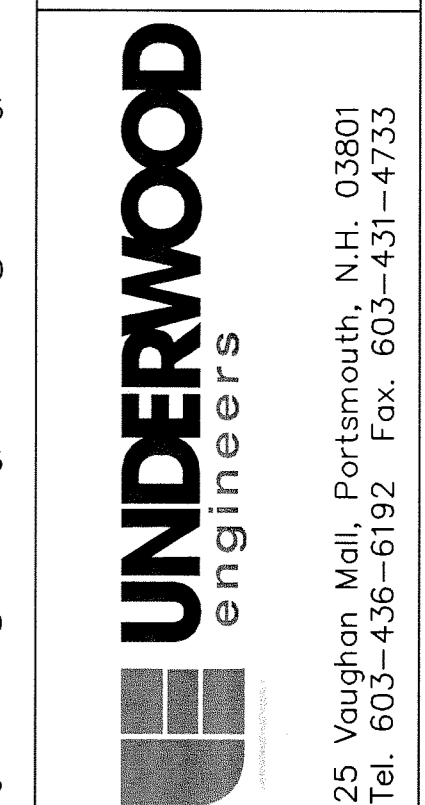
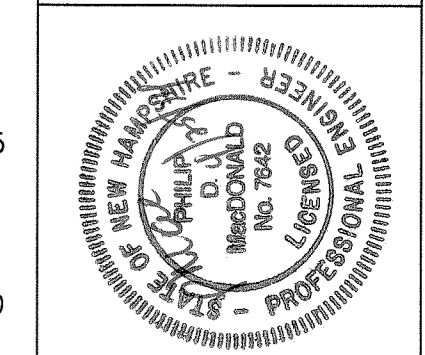


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ISSUE FOR		APPROVAL	
Date	By	Date	By
4/7/14	PDM		
	CONSTRUCTION		
4/19/14	PDM		
	RECORD DRAWING		

Drawn/Chk.	RMC	Checked	DJR/PDM
Designed		Approved	
Date	APRIL 18, 2014	Project No.	1725
Book No.		Dwg. ID	1725base.dwg
Scale	AS SHOWN		

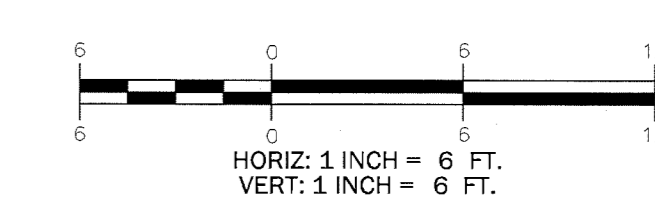


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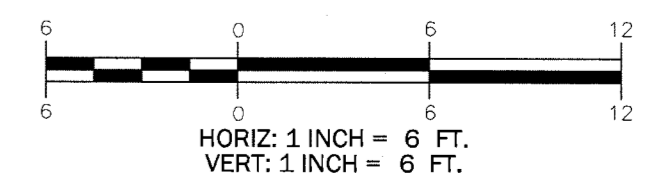
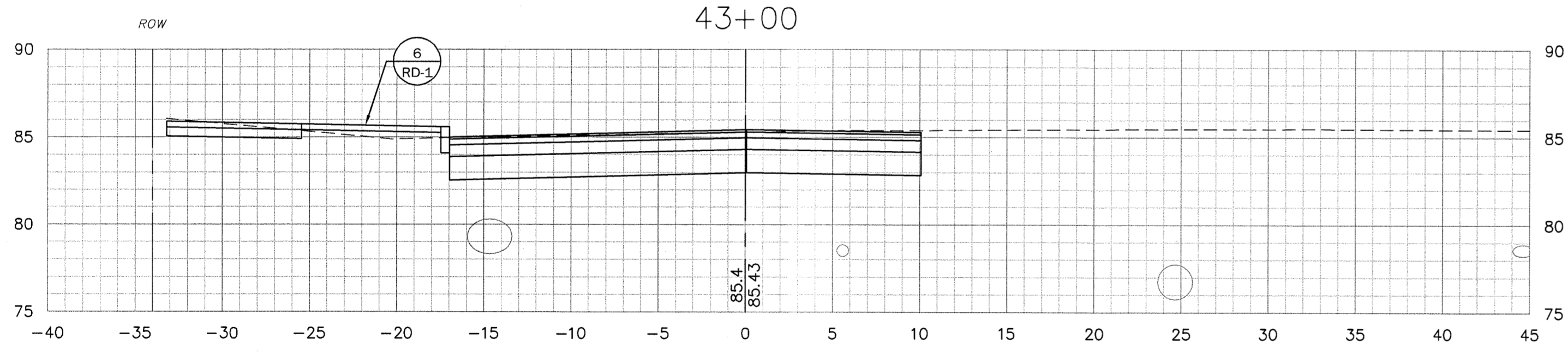
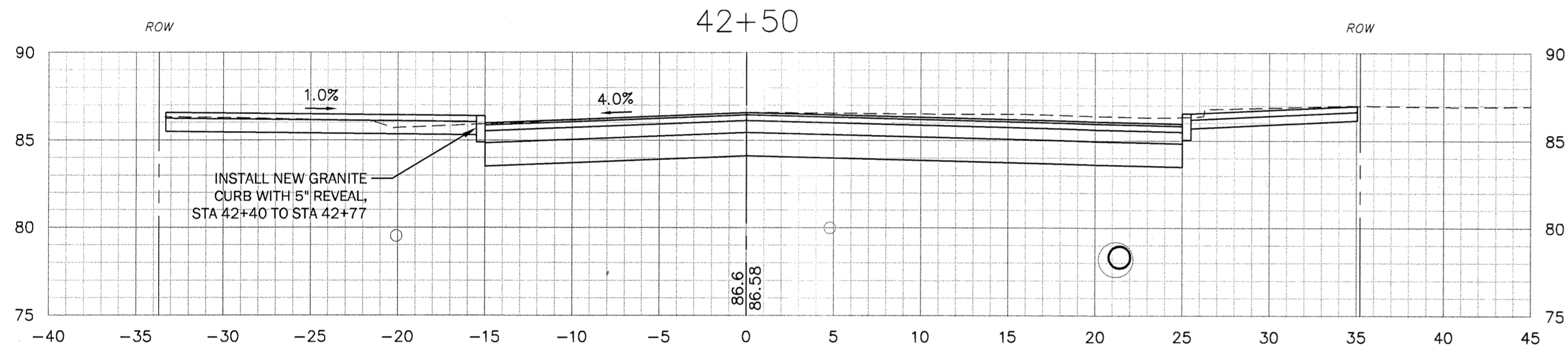
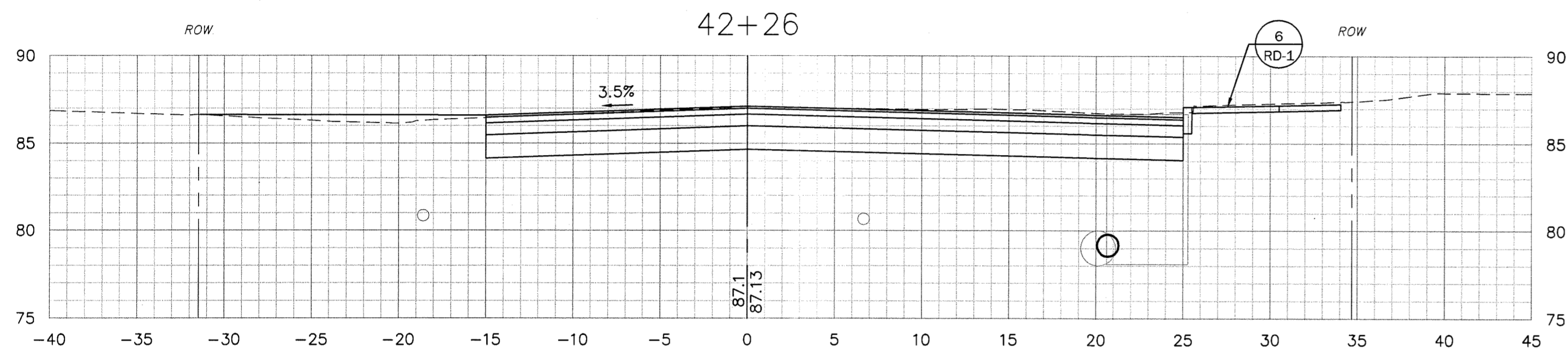
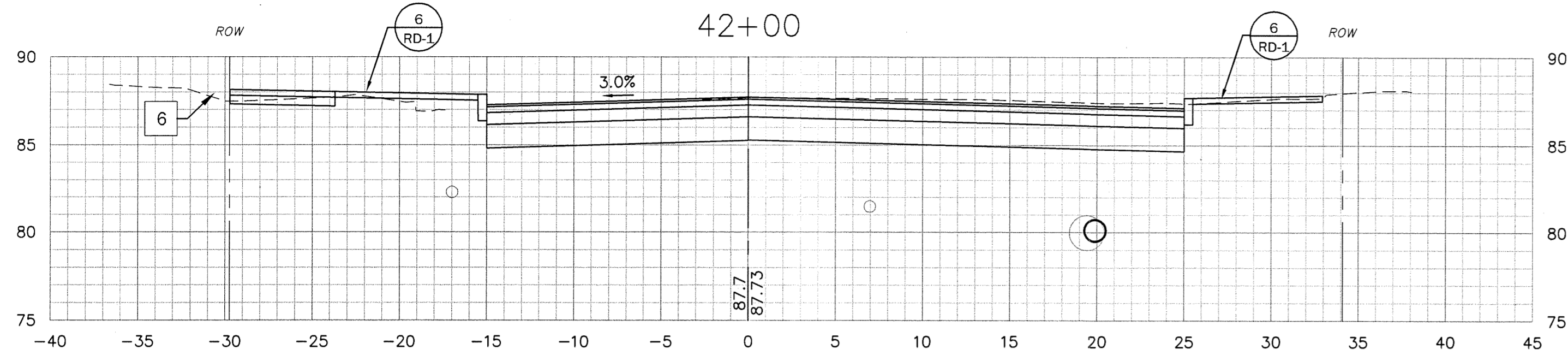
25 Vaughan Mall, Portsmouth, N.H. 03801
Tel. 603-436-6192 Fax. 603-431-4733

SILVER STREET CROSS SECTIONS
SILVER STREET RECONSTRUCTION
CITY OF DOVER, NEW HAMPSHIRE

DWG NO	X-10	SHEET	48 OF 58
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SILVER STREET CROSS SECTIONS
SILVER STREET RECONSTRUCTION
CITY OF DOVER, NEW HAMPSHIRE

DWG NO X-11	SHEET 49 OF 56
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Drawn/Chk. RMG
 Designed DLR/PDM
 Checked _____
 Approved _____
 Date APRIL 15, 2014
 Book No. _____
 Project No. 1725
 Dwg. ID. 1725base.dwg
 Scale AS SHOWN

ISSUE FOR
 APPROVAL
 By PDM
 Date 4/7/14
 CONSTRUCTION
 By PDM
 Date 4/18/14
 RECORD DRAWING
 By PDM
 Date _____

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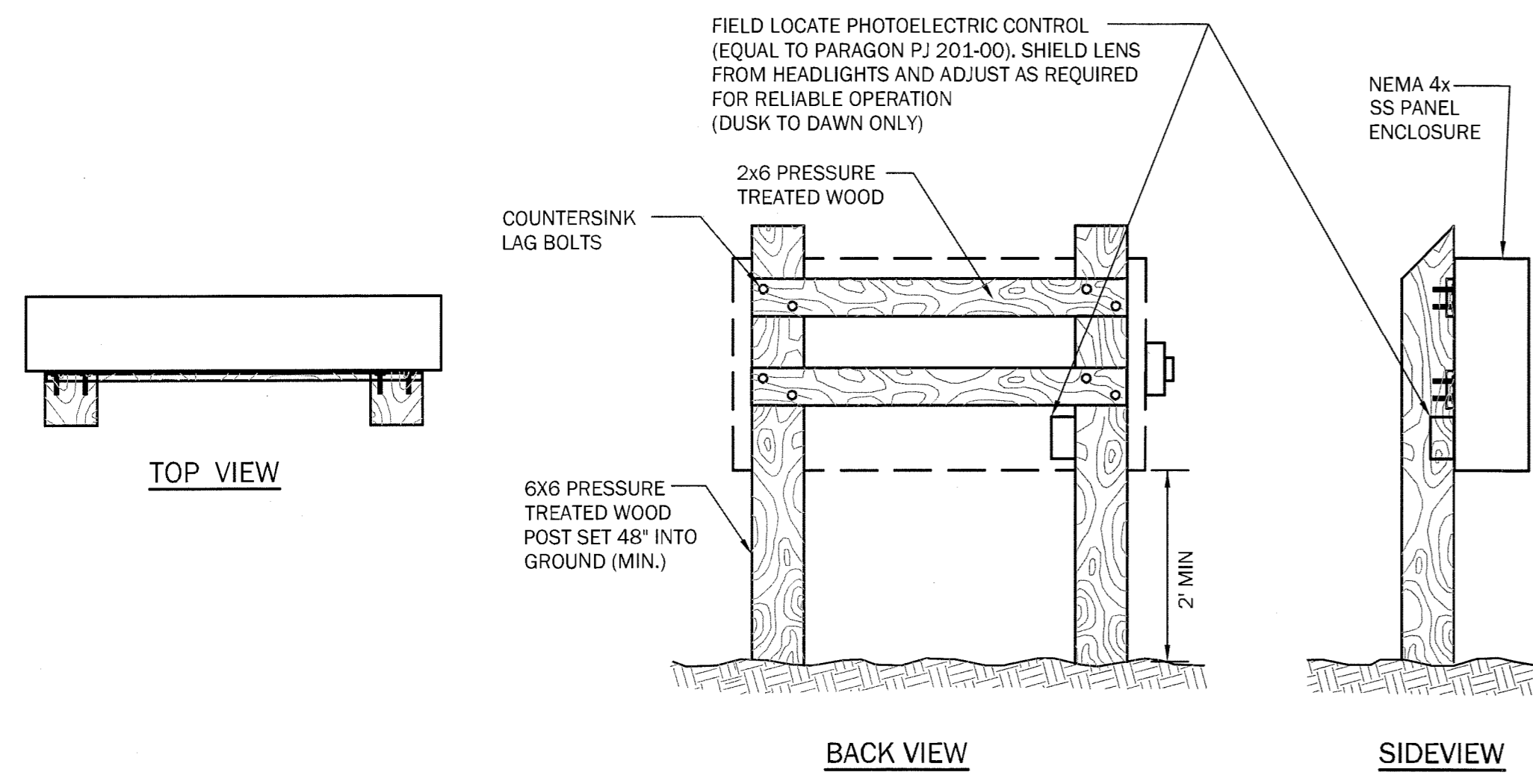
25 Vaughan Mall, Portsmouth, N.H. 03801
 Tel. 603-436-6192 Fax. 603-431-4733

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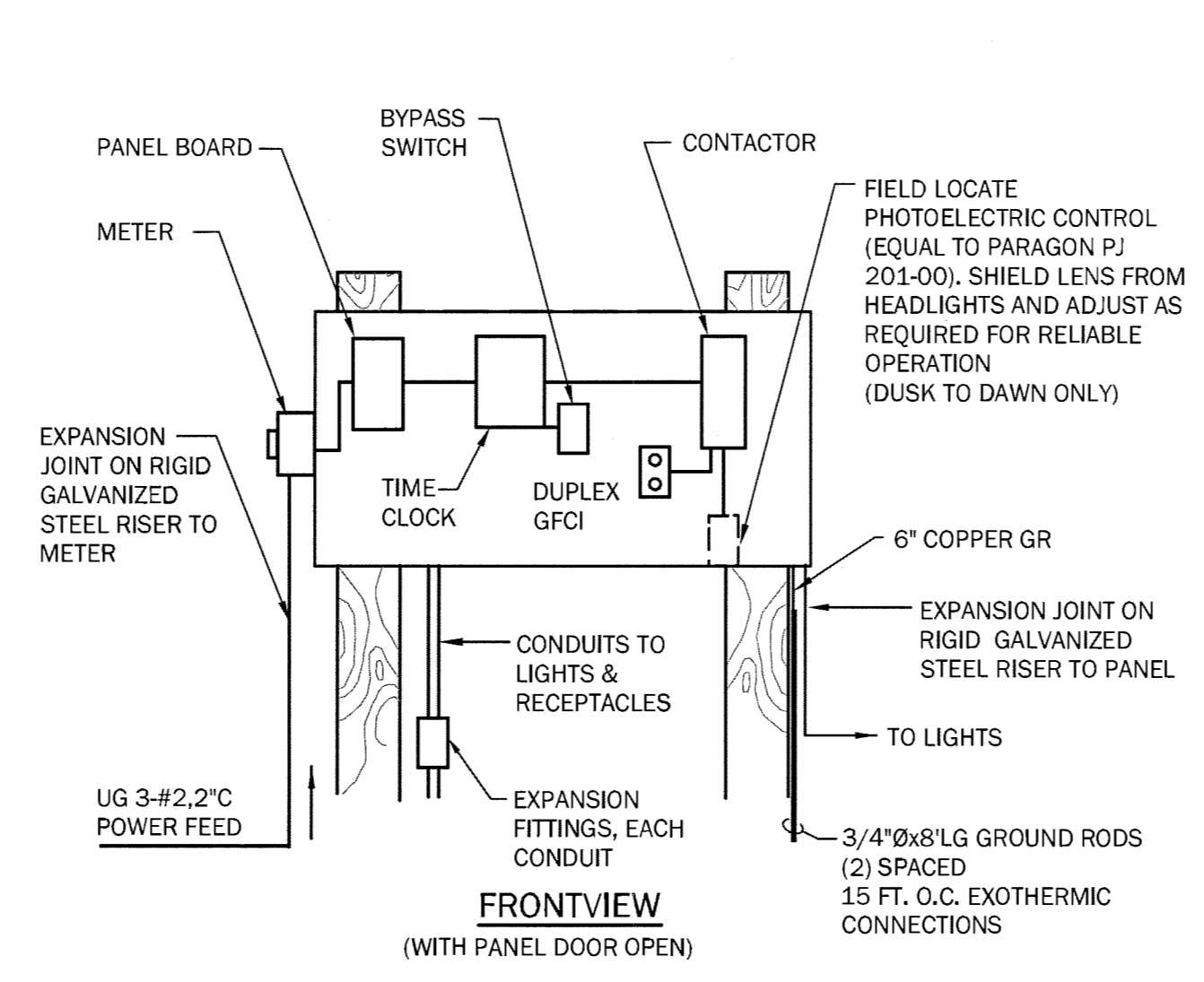
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				UC	LC	CAPS					Nom.	Total	Breakaway	Steel I-Beam	Concrete Base	U-Channel Galv						
615.06	W16-7pl		24	12				*	4	2	8							Black/Flourescent Yellow Green (mounted below S1-1)	20+70 RT 21+35 LT 28+70 RT 29+27 LT			
615.06	W16-7pl		24	12					4	2	8							Black/Flourescent Yellow Green (mounted below S1-1)	17+90 RT 24+50 RT 24+95 LT 32+60 LT			
615.03	S1-1		30	30					8	4.7	37.6				1			Black/Flourescent Yellow Green	20+70 RT 21+35 LT 28+70 RT 29+27 LT 17+90 RT 24+50 RT 24+95 LT 32+60 LT			
615.03	R3-17		30	24					11	5	55				1			Black/White Retroreflective	Route 9 7+75 RT 7+75 LT 14+63 LT Arch St 16+40 RT 26+98 LT 27+10 RT 33+42 RT 38+03 LT 39+80 LT			
615.06	R3-17aP		30	12					3	2.5	7.5							Black/White Retroreflective (mounted below R3-17)	Route 9 Arch St 39+80 LT			
615.06	R3-17bP		30	12					3	2.5	7.5							Black/White Retroreflective (mounted below R3-17)	7+75 LT 14+63 RT 33+42 RT			
615.03	R5-1		30	30					2	6.3	12.6				1			Red/White	7+95 LT 8=33 LT			
615.06	R16-1P		18	24					3	3	9							Black/Flourescent Yellow Green (mounted below W11-1)	35+70 RT 39+40 RT 43+50 LT			
615.03	W11-1		34	34					3	4	12				1			Black/Flourescent Yellow Green	35+70 RT 39+40 RT 43+50 LT			
615.03	R1-1		30	30					7	4.9	34.3				1			Red/White	Installed for intersection of side streets or as directed			
615.03	R3-7L		30	30					3	6.25	18.75				1			Black/White	16+70 LT 36+90 RT 39+45 RT			
615.03	R3-7R		30	30					1	6.25	6.25				1			Black/White	13+80 RT			
615.06	R10-12		30	24					1	5	5							Black/White	Installed on signal mast arm at Locust St			
615.03	R7-1		18	12					3	1.5	4.5				1			Red/White	39+65 LT 41+50 RT 41+85 LT			
615.03	R3-2		24	24					1	4	4				1			Red/Black/White	39+00 RT			
										Item 615.03	185											
										Rounding:	15.0											
										Total Quantity:	200.0											
										Item 615.06	Subtotal:	45										
										Rounding:	5											
										Total Quantity:	50.0											

ISSUE FOR APPROVAL	By PDM	Date 4/7/14	CONSTRUCTION	By PDM	Date 4/18/14	RECORD DRAWING	By	
APPROVAL								
REVISIONS								
NO.								
Drawn/Chk. RMG	DESIGNED	CHK'D	APPROVED	DATE	PROJECT NO.	DWG. ID	SCALE	
	DESIGNED			APRIL 18, 2014	1725	1725SSR04E	AS SHOWN	
<p align="center">UNDERWOOD engineers</p> <p>25 Vaughan Mall, Portsmouth, N.H. 03801 Tel. 603-436-6192 Fax. 603-431-4733</p>								
<p align="center">SIGN SCHEDULE</p> <p align="center">SILVER STREET RECONSTRUCTION</p> <p align="center">CITY OF DOVER, NEW HAMPSHIRE</p>								
DWG NO	SS-1	SHEET	51 OF 56					

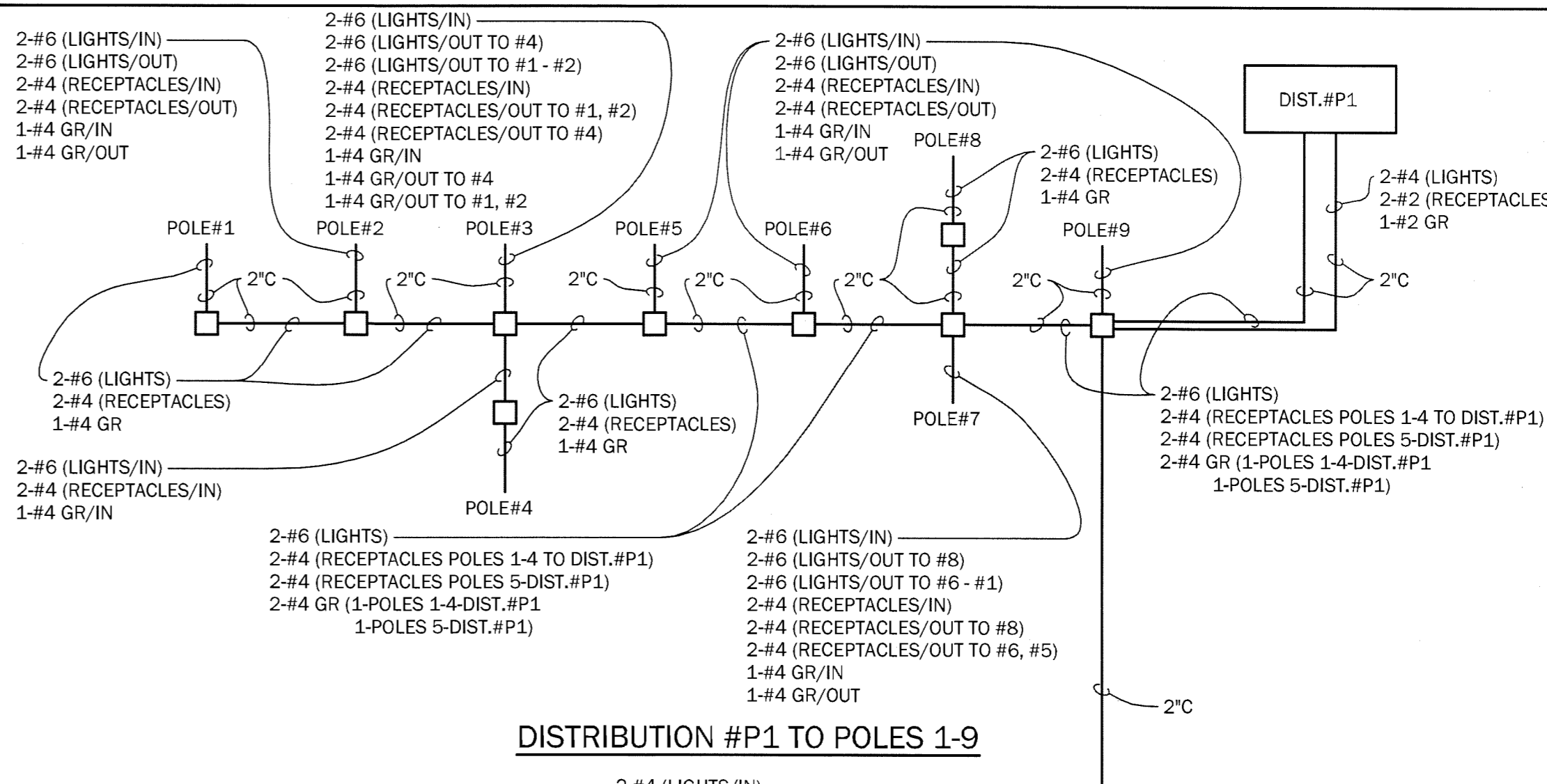
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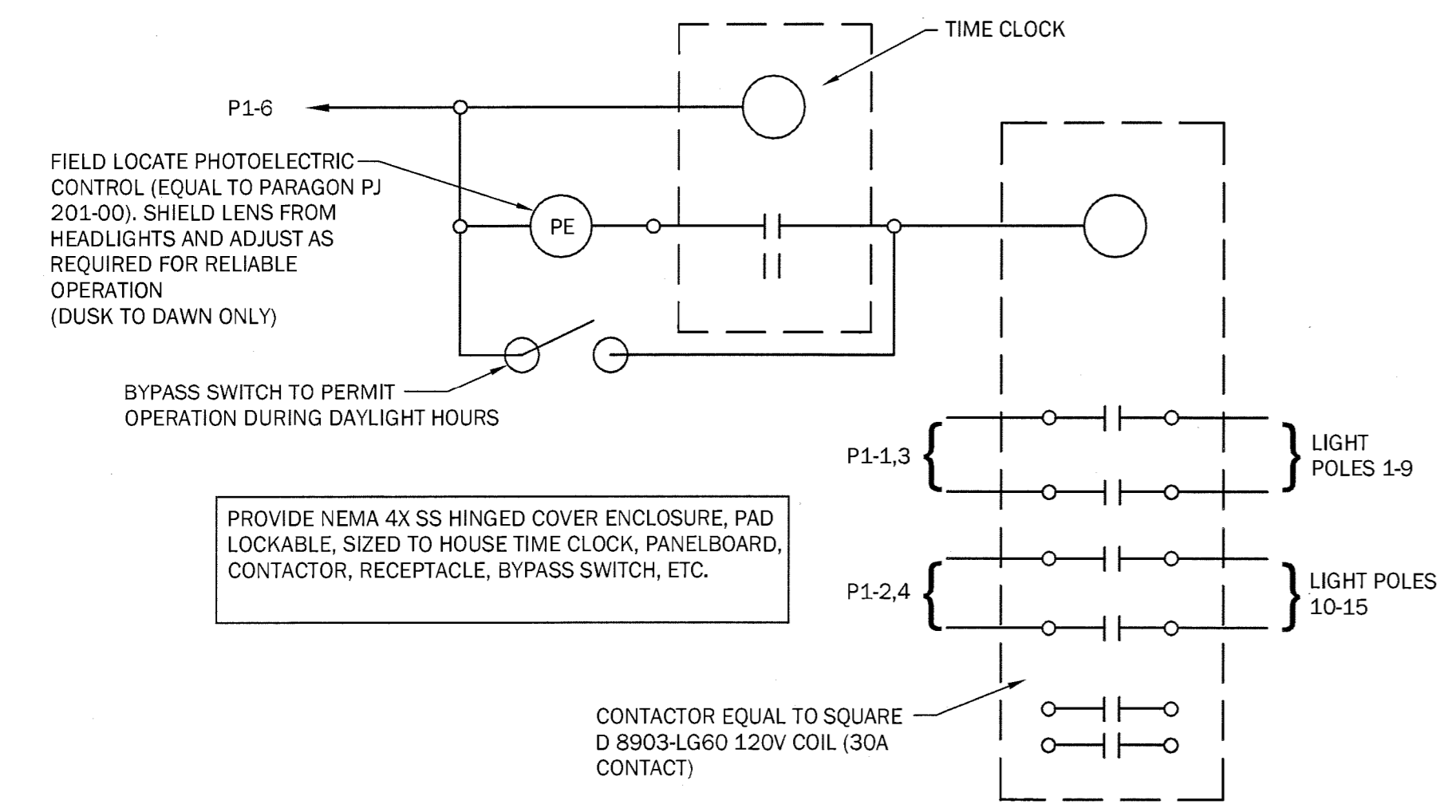
1 LIGHTING CONTROL PANEL - DETAIL



FRONTVIEW (WITH PANEL DOOR OPEN)



DISTRIBUTION #P1 TO POLES 1-9



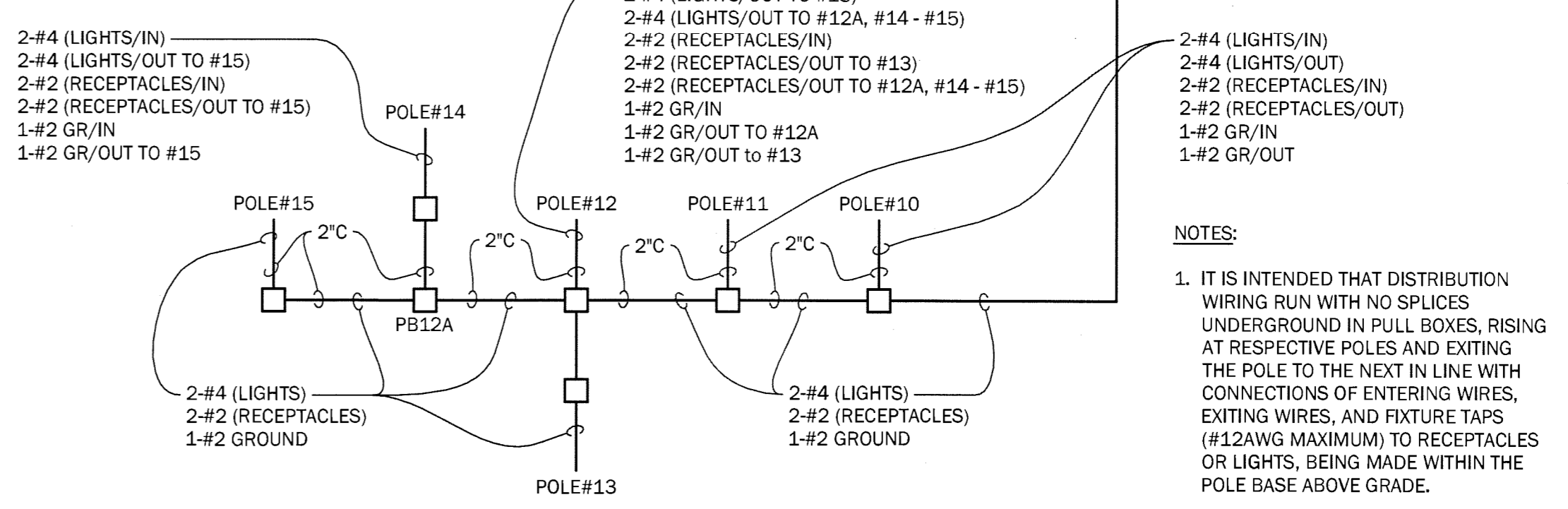
2 CONTROL PANEL WIRING - P1

CONTROL PANEL #P1 (STA 15+17 RT)

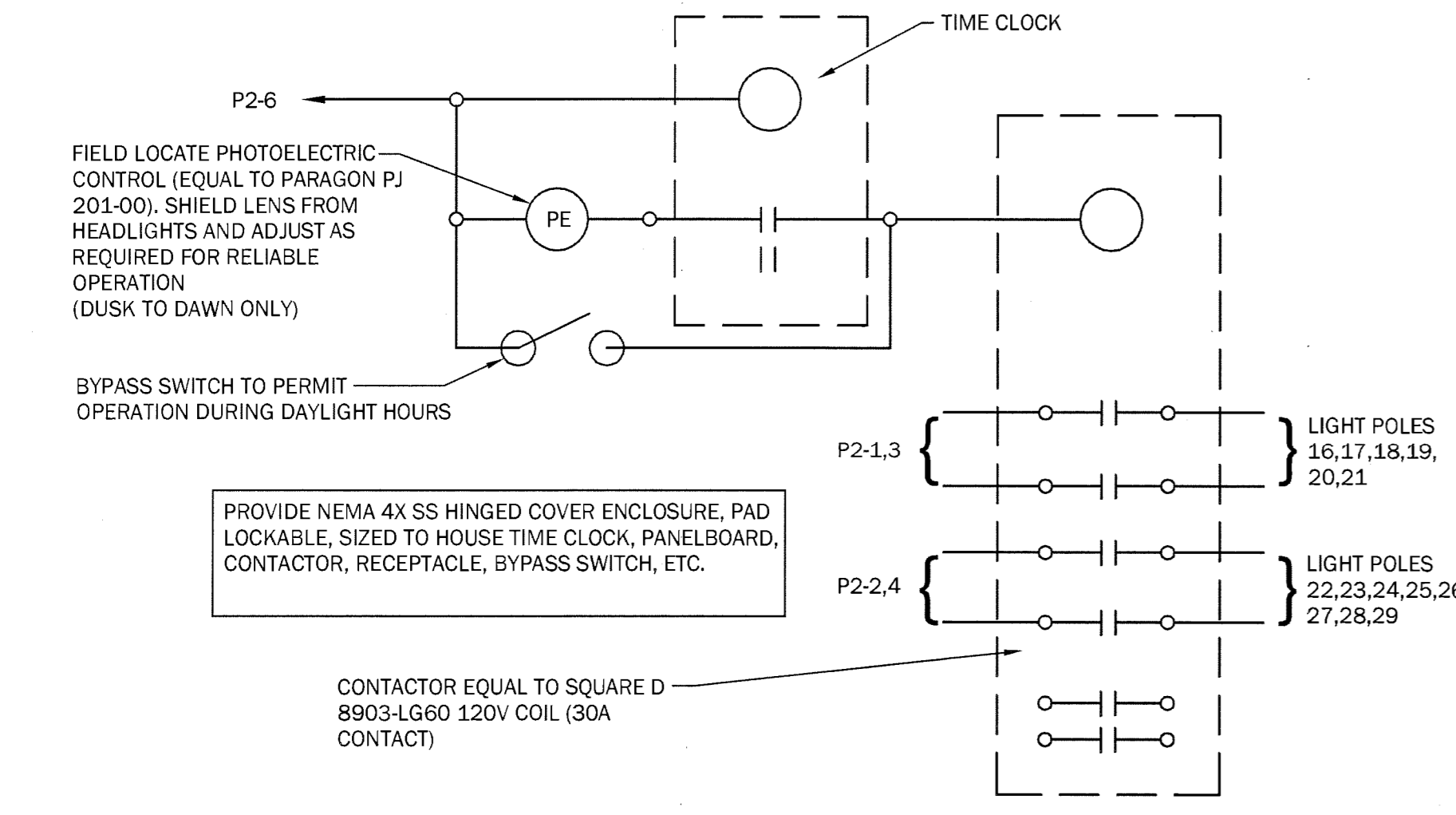
SURFACE MOUNTED
100A, MCB, 240/120 VOLT, 1 PHASE, 3 WIRE, 60 HERTZ

CIRCUIT NO.	NO. POLES	RATING	DESCRIPTION	LOAD
1,3	2	20	FIXTURES POLES 1-9	1.0
2,4	2	20	FIXTURES POLES 10-15	0.6
5	1	20	RECEPTACLE AT DISTRIBUTION	0.2
6	1	15	CONTROLS	
7	1	20	RECEPTACLE, POLES 1-14	1.0
8	1	20	RECEPTACLE, POLES 5-9	1.25
9	1	20	RECEPTACLE, POLES 10-15	1.75
10	1	20	SPARE	
11-16	1	-	SPACE	

* PROVIDE HANDLE LOCK ON CIRCUITS #6



DISTRIBUTION #P1 TO POLES 10-15



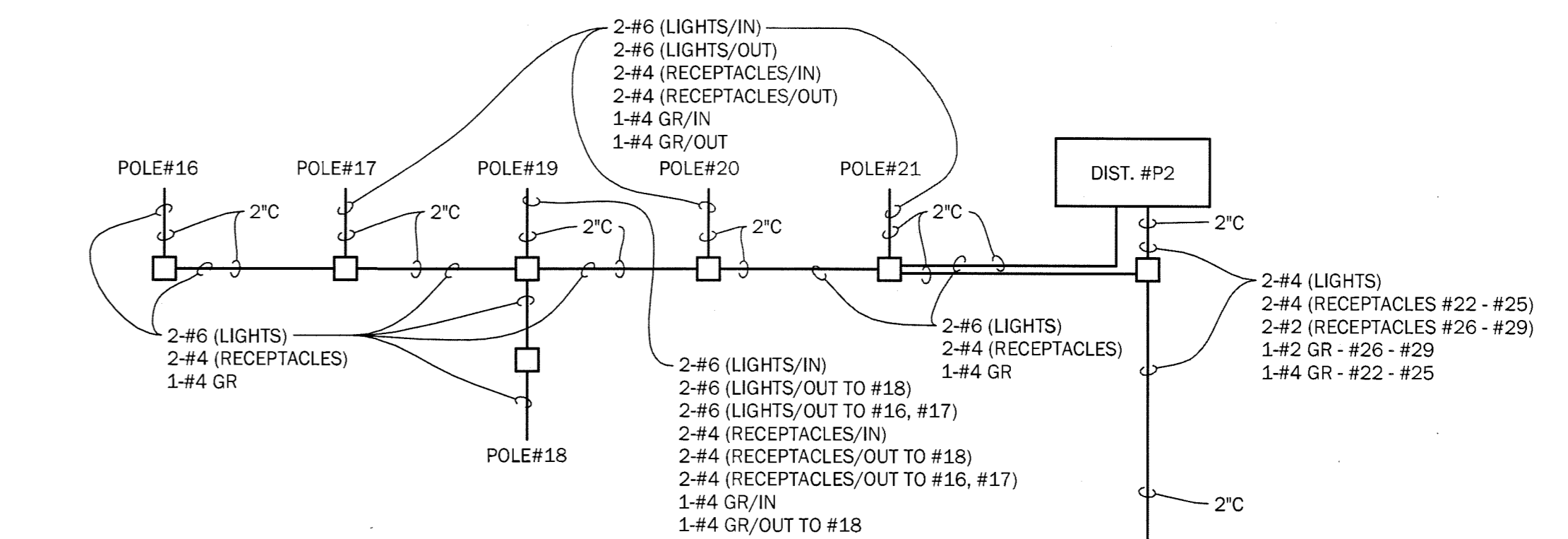
3 CONTROL PANEL WIRING - P2

CONTROL PANEL #P2 (STA 32+17 LT)

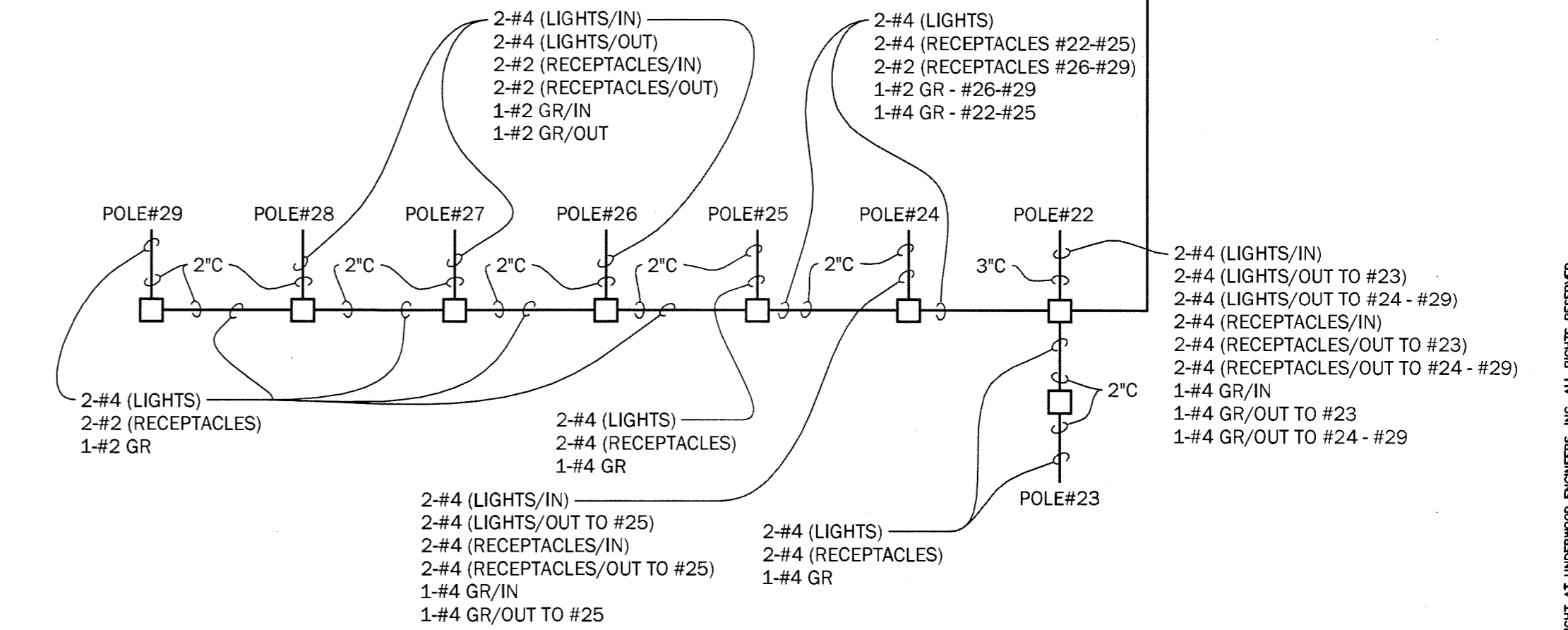
SURFACE MOUNTED
100A, MCB, 240/120 VOLT, 1 PHASE, 3 WIRE, 60 HERTZ

CIRCUIT NO.	NO. POLES	RATING	DESCRIPTION	LOAD
1,3	2	20	FIXTURES POLES 16, 21	0.6
2,4	2	20	FIXTURES POLES 22 - 29	0.8
5,7	2	20	FIXTURES POLES 22 - 29	
6	1	15	CONTROLS	
8	1	20	RECEPTACLE, POLES 16, 21	1.5
9	1	20	RECEPTACLE, POLES 22-25	1.0
10	1	20	RECEPTACLE, POLES 26 - 29	1.0
11	1	20	SPARE	
12	1	20	RECEPTACLE AT DISTRIBUTION	0.2
13	1	20	SPARE	
14-16	1	-	SPACE	

* PROVIDE HANDLE LOCK ON CIRCUITS #6



DISTRIBUTION #P2 TO POLES 16-21



DISTRIBUTION #P2 TO POLES 22-29

4 INTERCONNECTION WIRING DIAGRAMS

ISSUE FOR APPROVAL

NO.	REVISIONS	DATE	BY
1		4/4/14	PDM
2		4/16/14	PDM

Drawn/Chk. - RUC
Designed - DJR/PDM
Checked -
Approved - APRIL 18, 2014
Date -
Book No. -
Project No. 1725
Dwg. ID 1725B/ELE/ELF
Scale - AS SHOWN

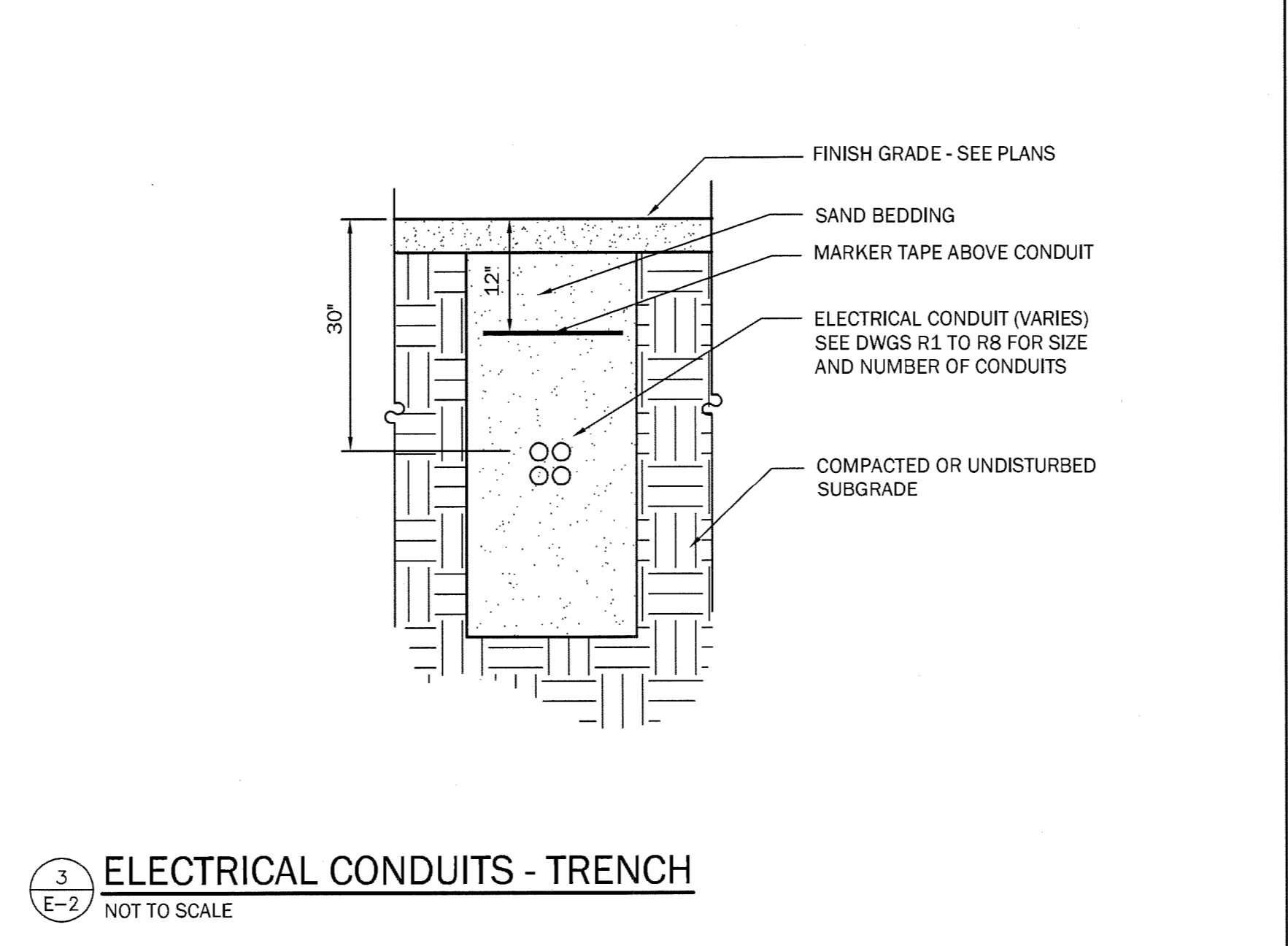
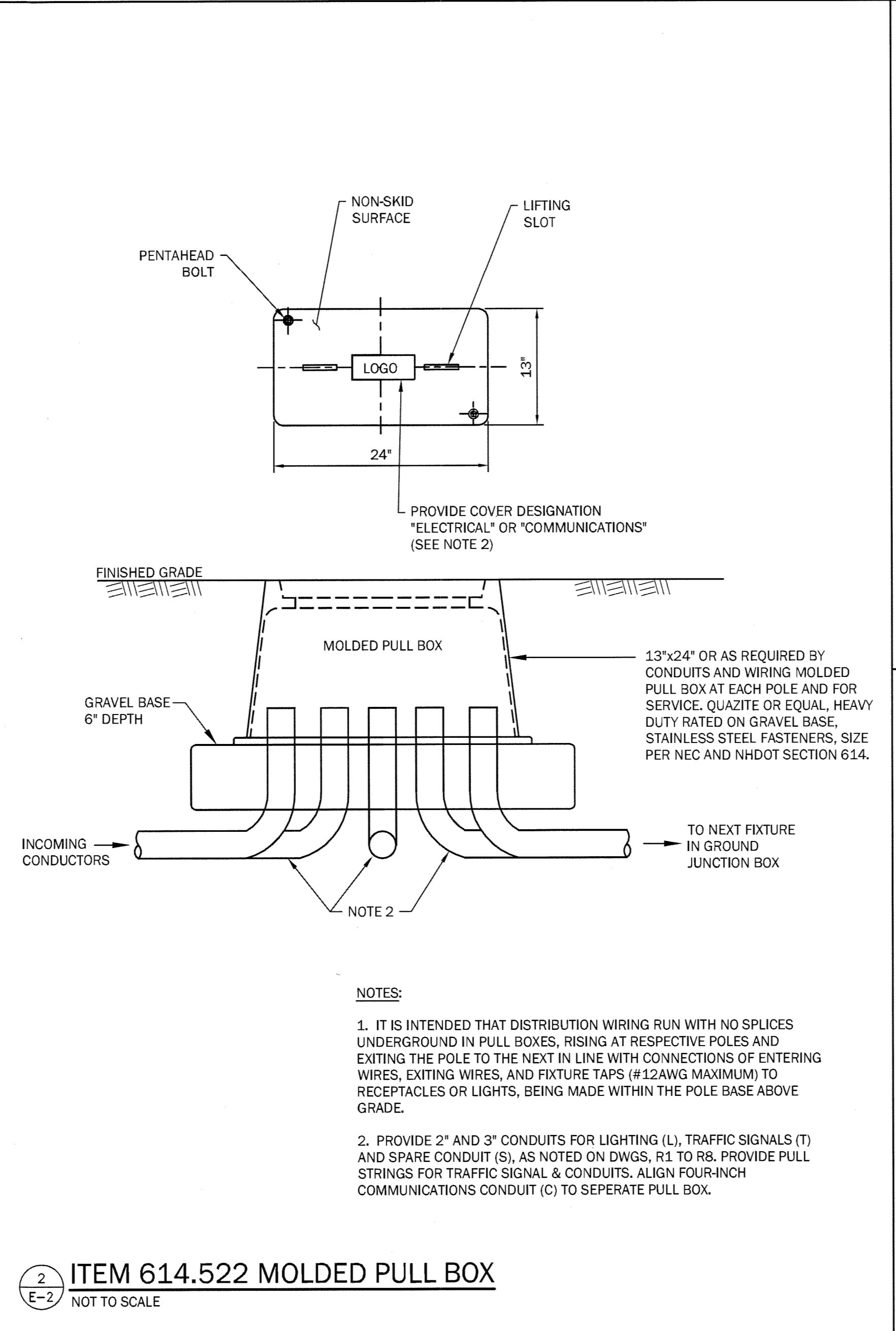
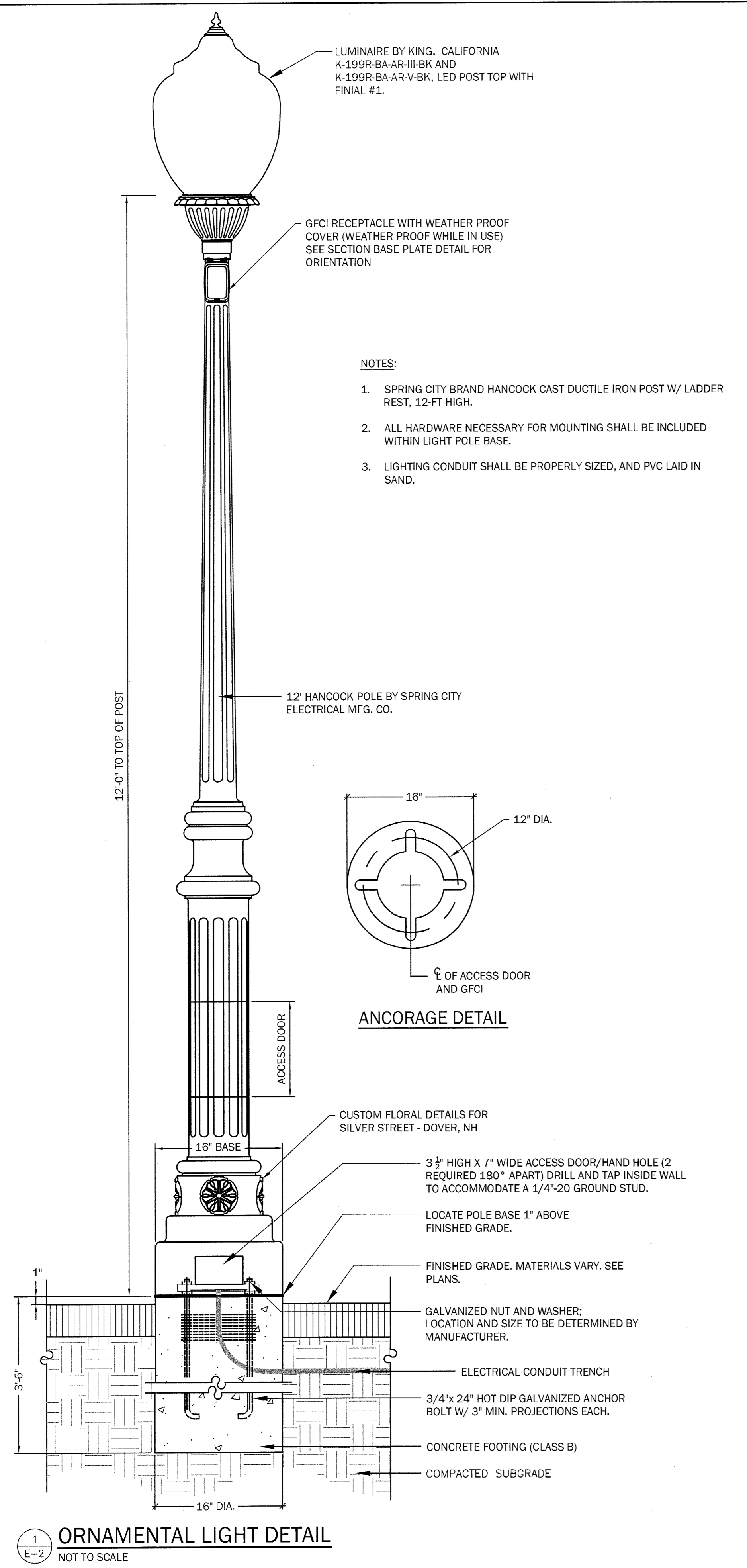
APPROVED

UNDERWOOD engineers

25 Vaughan Mall, Portsmouth, N.H. 03801
Tel. 603-436-6192 Fax. 603-431-4733

LIGHTING & ELECTRICAL DETAILS
SILVER STREET RECONSTRUCTION
CITY OF DOVER, NEW HAMPSHIRE

DWG NO E-1 SHEET 52 OF 56



LIGHT FIXTURE SCHEDULE

FIXTURE NUMBER	Location/Station	IES DIST. TYPE	Incl. House Side Shield	Nearest Res. Struct. (feet)
1	7+80 RT	V		60+
2	9+10 RT	V		60+
3	10+65 RT	V		60+
4	10+70 RT	V		60+
5	11+95 RT	V		60+
6	13+20 RT	V		60
7	14+70 RT	V		60+
8	14+95 LT	III		30
9	15+65 RT	V		60+
10	15+95 LT	III		30
11	18+70 LT	V		60
12	20+95 LT	V		55
13	20+65 RT	III		35
14	22+55 RT	V		60+
15	24+40 LT	V		60+
16	28+80 RT	V		47
17	29+30 LT	V		50
18	32+25 RT	V		45
19	32+70 LT	III		22
20	34+20 LT	III		20
21	34+80 RT	V		37
22	38+35 LT	III	x	12
23	38+35 RT	III	x	14
24	39+50 LT	III		18
25	40+45 LT	III	x	8
26	41+40 LT	III		20
27	42+40 LT	III	x	8
28	42+90 LT	III		14
29	42+10 RT	III		16

Totals

Dist. Type III 9 ea.

Dist. Type III w/ House Shield 4 ea.

Dist. Type V 16 ea.

ISSUE FOR APPROVAL

By PDM

Date 4/7/14

CONSTRUCTION

By PDM

Date 4/18/14

RECORD DRAWING

By PDM

Date -

REVISIONS

NO.

Drawn/Chk. RMG

Designed DLR/PDM

Checked -

Approved -

Date APRIL 18, 2014

Book No. -

Project No. 1725

Dwg. ID 1725BENRIS-EEG

Scale AS SHOWN

APPD

UNDERWOOD engineers

25 Vaughan Mall, Portsmouth, N.H. 03801

Tel. 603-436-6192 Fax. 603-431-4733

LIGHTING & ELECTRICAL DETAILS

SILVER STREET RECONSTRUCTION

CITY OF DOVER, NEW HAMPSHIRE

DWG NO E-2

SHEET 53 OF 56

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TRAFFIC SIGNAL NOTES:

- IF THE ASSIGNED RIGHT-OF-WAY FOR ANY TRAFFIC MOVEMENT IS TO CHANGE DURING THE NEXT CALLED PHASE, THE SIGNAL INDICATIONS FOR THAT TRAFFIC MOVEMENT WILL DISPLAY THE APPROPRIATE CLEARANCE INTERVALS.
- IF THE ASSIGNED RIGHT-OF-WAY FOR ANY TRAFFIC MOVEMENT IS TO REMAIN IN EFFECT DURING THE NEXT CALLED PHASE, THE SIGNAL INDICATIONS FOR THAT TRAFFIC MOVEMENT WILL NOT CHANGE DURING THE CLEARANCE INTERVAL.
- THE SIGNAL SHALL PROVIDE STOP AND GO OPERATION 24 HOURS A DAY. FLASHING OPERATION IS FOR EMERGENCY ONLY.
- THE CONTROLLER SHALL OPERATE IN THE STANDARD NEMA DUAL CONFIGURATION.
- ALL DETECTOR SETTINGS SHALL BE MADE IN THE CONTROLLER.
- Ø1, Ø3 AND Ø7 ARE NOT USED.
- EXCLUSIVE PEDESTRIAN PHASE (Ø9) TO BE ACTIVATED BY PEDESTRIAN PUSHBUTTON ONLY.
- ALL EXISTING SIGNAL EQUIPMENT SHALL BE RETAINED UNLESS OTHERWISE NOTED.
- ALL EXISTING CONDUIT AND PULL BOXES SHALL BE RETAINED UNLESS OTHERWISE NOTED.
- ALL EXISTING PEDESTRIAN PUSH BUTTONS SHALL BE REPLACED WITH PEDESTRIAN INSTRUCTIONAL SIGN AND PUSH BUTTONS.
- THE ACCURACY AND COMPLETENESS OF UNDERGROUND UTILITIES AS SHOWN ON THE PLANS ARE NOT GUARANTEED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE EXACT LOCATION, SIZE, TYPE ETC. OF ALL UNDERGROUND UTILITIES THAT MAY BE AFFECTED BY THE WORK.
- ALL TRAFFIC SIGNAL CONDUIT SHALL BE 3" PVC SCHEDULE 80.
- ALL SPLICES WILL BE MADE IN THE CABINETS/JUNCTION BOXES AND MEET NHDOT SPECIFICATIONS.
- ALL MATERIALS AND WORK COMPLETED UNDER THIS CONTRACT SHALL CONFORM TO THE NHDOT STANDARD SPECIFICATIONS, SUPPLEMENTAL SPECIFICATIONS, STANDARD DETAILS AND THE FEDERAL HIGHWAY ADMINISTRATION "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".
- CONTRACTOR SHALL PROVIDE, INSTALL AND RELOCATE ALL NECESSARY JUNCTION BOXES AND ASSOCIATED CONDUIT AND WIRING.
- UTILITY LOCATIONS SHOWN ARE APPROXIMATE ONLY AND THE CONTRACTOR IS RESPONSIBLE FOR FINDING EXACT LOCATIONS OF UTILITIES PRIOR TO CONSTRUCTION.
- CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING DIG SAFE PRIOR TO ANY EXCAVATION.
- LOCATIONS OF EXISTING CONDUIT ARE APPROXIMATE ONLY BASED ON AVAILABLE RECORD DRAWINGS AND FIELD REVIEW.
- NEW TRAFFIC SIGNAL CONTROLLER SHALL BE NEMA TS2 TYPE I. THE INTERSECTIONS SHALL BE PROGRAMMED TO OPERATE WITHIN A CLOSED LOOP SYSTEM.

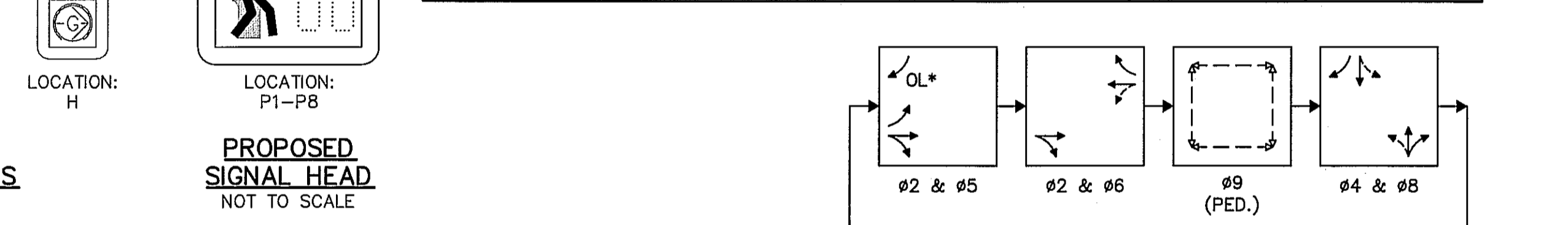
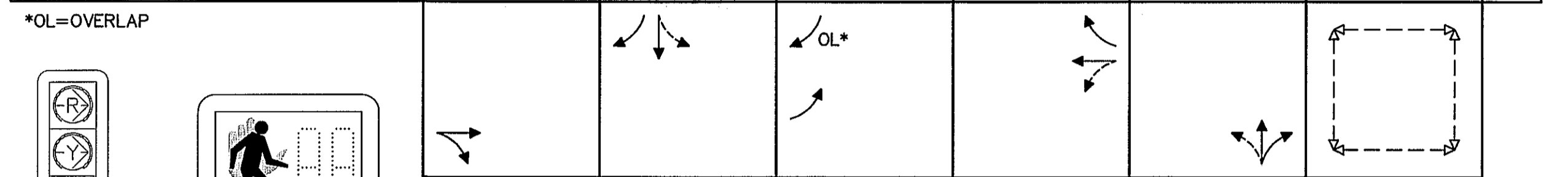
MAJOR ITEMS	
QUANTITY	DESCRIPTION
1	TRAFFIC SIGNAL CONTROLLER NEMA TS2, TYPE 1, LOCATED IN TS2, TYPE 1 BASE MOUNTED CABINET (GREEN EXTERIOR) W/RECONSTRUCTED FOUNDATION
1	GRID SMART VEHICLE DETECTION SYSTEM W/COUNT MODULE
8	PEDESTRIAN SIGNAL HEAD W/ COUNTDOWN TIMER, SINGLE SECTION, 16" LED
4	PULL BOX, 12 X 12" (SD2-031)
3	TRAFFIC SIGNAL POST & BASE STANDARD - 8 FOOT (ALUMINUM)
6	PEDESTRIAN PUSH BUTTON, SIGN & SADDLE

PLUS ALL MISCELLANEOUS EQUIPMENT, LABOR AND MATERIAL NECESSARY TO PROVIDE A COMPLETE OPERATING TRAFFIC CONTROL SIGNAL.

VIDEO DETECTOR DATA				
DETECTOR ZONE NO.	NO. ZONES/ SIZE	OPERATIONS	CALL DELAY (SECONDS)	CALL PHASE
▲	1 - 10' X 50'	PRESENCE	10	Ø4
▲	1 - 10' X 50'	PRESENCE	0	Ø4
▲	1 - 10' X 50'	PRESENCE	10	Ø6
▲	1 - 4' X 50'	PRESENCE	0	Ø6
▲	1 - 10' X 50'	PRESENCE	0	Ø6
▲	1 - 15' X 50'	PRESENCE	0	Ø8
▲	1 - 15' X 50'	PRESENCE	0	Ø2
▲	1 - 10' X 50'	PRESENCE	0	Ø5

SEQUENCE AND TIMING FOR FULLY ACTUATED CONTROL (ISOLATED)																					
STREET	DIRECTION	HOUSINGS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	FLASH OPER.
SILVER STREET	WB	A,B	R	R	R	R	R	R	R	R	G	Y	R	R	R	R	R	R	R	R	FY
SILVER STREET	EB	C	←R	←R	←R	←R	←R	←R	←G	←Y	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	F←R
SILVER STREET	EB	D,E	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	FY
TOWLE AVENUE	NB	F,G	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	R	R	R	FR
ARCH STREET	SB	H	←R	←R	←R	←G	←Y	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	F←R
ARCH STREET	SB	J,K	R	R	R	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	FR
PEDESTRIAN	ALL	P1-P8	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	OUT

TIMING (IN SECONDS)																					
MINIMUM GREEN			10			7			7			10			7						
PASSAGE			3			2			2			3			2						
MAXIMUM GREEN 1 (ALL OTHER TIMES)			30			15			15			30			15						
MAXIMUM GREEN 2 (15:00 TO 19:00)			40			20			20			40			20						
YELLOW CLEARANCE				4			4			4											
RED CLEARANCE					2			2			2										
WALK INTERVAL/CLEARANCE																		7	17	1	



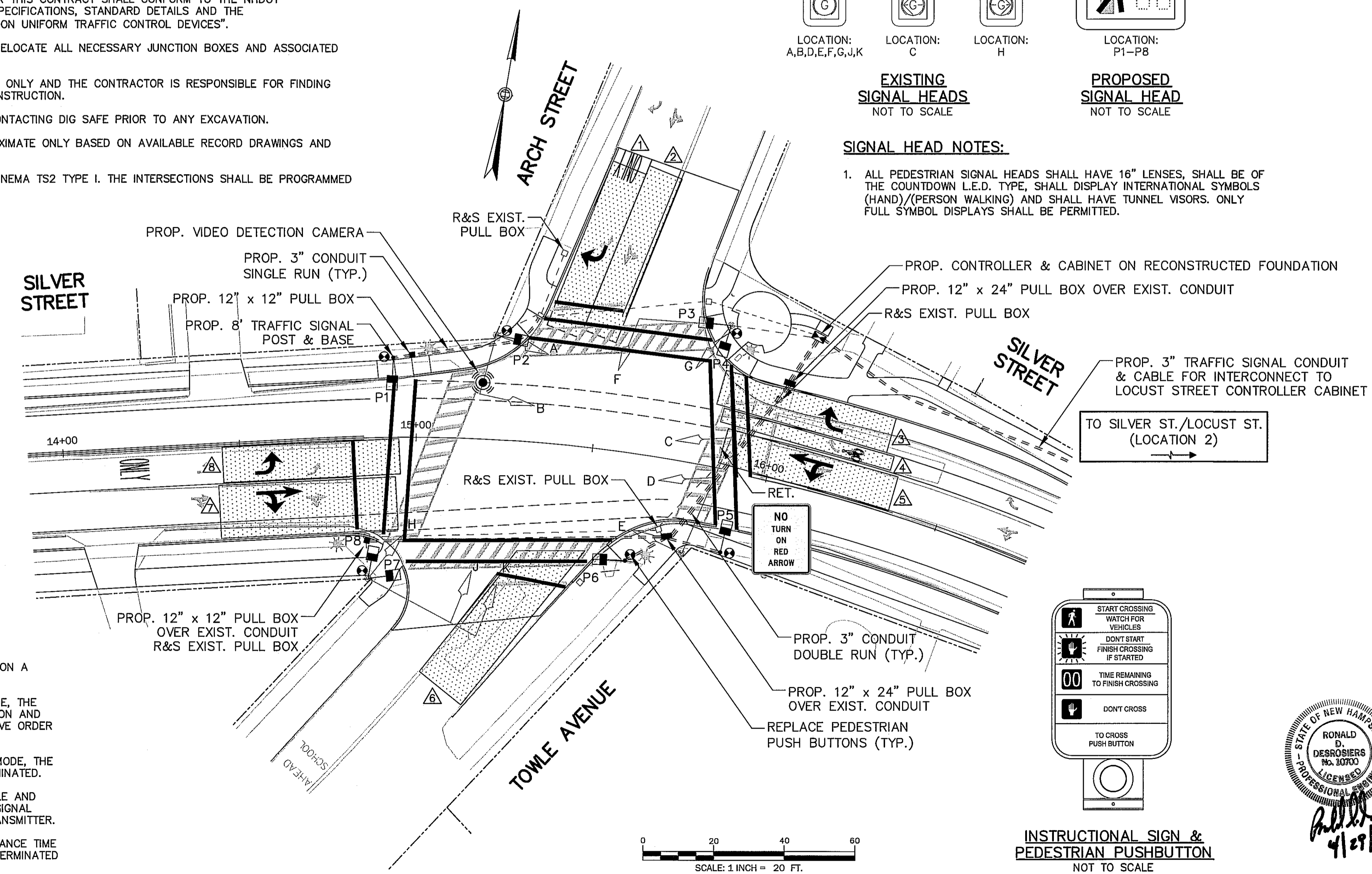
PREFERENTIAL SIGNAL PHASING

- SIGNAL HEAD NOTES:**
- ALL PEDESTRIAN SIGNAL HEADS SHALL HAVE 16" LENSES, SHALL BE OF THE COUNTDOWN L.E.D. TYPE, SHALL DISPLAY INTERNATIONAL SYMBOLS (HAND)/(PERSON WALKING) AND SHALL HAVE TUNNEL VISORS. ONLY FULL SYMBOL DISPLAYS SHALL BE PERMITTED.

EMERGENCY VEHICLE PREEMPTION		
DIRECTION	MOVEMENT	PHASE CALL
SB - REC #1	↔	Ø2 & Ø5
NB - REC #2	↔	Ø6
EB - REC #3	↕	Ø8
WB - REC #4	↕	Ø4

EMERGENCY PREEMPTION NOTES

- OPTICOM EMERGENCY PREEMPTION SHALL BE ON A FIRST COME, FIRST SERVE BASIS.
- UPON TERMINATION OF FIRE PREEMPTION MODE, THE SIGNALS SHALL RETURN TO NORMAL OPERATION AND SERVICE PREFERENTIAL PHASING IN SUCCESSIVE ORDER BASED ON DEMAND.
- UPON ACTUATION OF THE FIRE PREEMPTION MODE, THE CONFIRMATION STROBE LIGHT SHALL BE ILLUMINATED.
- PRE-EMPTION GREEN TIME SHALL BE VARIABLE AND BASED ON DURATION OF FLASHING OPTICAL SIGNAL FROM APPROACHING EMERGENCY VEHICLE TRANSMITTER.
- MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE TIME SHALL BE PROVIDED ON PHASES THAT ARE TERMINATED BY EMERGENCY PREEMPTION DEMAND.



TRAFFIC SIGNAL SYMBOLS	
EXISTING	PROPOSED
☒	☒ ☒ CONTROL CABINET GROUND MOUNTED (WITH & WITHOUT CONCRETE PAD)
→	→ VEHICULAR SIGNAL HEAD (ALPHA-NUMERIC DESIGNATION NOTED)
—	— PEDESTRIAN SIGNAL HEAD
⊕	⊕ PEDESTRIAN PUSH BUTTON
□	■ PULL BOX 12" x 12" OR HANDHOLE
□	■ PULL BOX 12" x 24" OR HANDHOLE
	Ø2 CONTROLLER PHASE
	📷 VIDEO DETECTION CAMERA (VDC)
	▨ VIDEO DETECTION ZONE
---	==== CONDUIT (SINGLE RUN)
	===== CONDUIT (DOUBLE RUN)

TRAFFIC SIGNAL PLAN - LOCATION 1

SILVER STREET RECONSTRUCTION PROJECT
SILVER STREET AT ARCH STREET/TOWLE AVENUE
 PREPARED FOR:
CITY OF DOVER
 288 CENTRAL AVENUE
 DOVER, NH 03820

MDM TRANSPORTATION CONSULTANTS, INC.
 PLANNERS & ENGINEERS
 28 Lord Road, Suite 280
 Marlborough, MA 01752
 Tel: (508) 303-0370

Project No. 672	File: 672 Traffic Signal Plan (4-29-2014).dwg
Date: April 29, 2014	Scale: As Noted
	Drawing TS 1

TRAFFIC SIGNAL NOTES:

- IF THE ASSIGNED RIGHT-OF-WAY FOR ANY TRAFFIC MOVEMENT IS TO CHANGE DURING THE NEXT CALLED PHASE, THE SIGNAL INDICATIONS FOR THAT TRAFFIC MOVEMENT WILL DISPLAY THE APPROPRIATE CLEARANCE INTERVALS.
- IF THE ASSIGNED RIGHT-OF-WAY FOR ANY TRAFFIC MOVEMENT IS TO REMAIN IN EFFECT DURING THE NEXT CALLED PHASE, THE SIGNAL INDICATIONS FOR THAT TRAFFIC MOVEMENT WILL NOT CHANGE DURING THE CLEARANCE INTERVAL.
- THE SIGNAL SHALL PROVIDE STOP AND GO OPERATION 24 HOURS A DAY. FLASHING OPERATION IS FOR EMERGENCY ONLY.
- THE CONTROLLER SHALL OPERATE IN THE STANDARD NEMA DUAL CONFIGURATION.
- ALL DETECTOR SETTINGS SHALL BE MADE IN THE CONTROLLER.
- Ø1, Ø3, Ø5 AND Ø7 ARE NOT USED.
- EXCLUSIVE PEDESTRIAN PHASE (Ø9) TO BE ACTIVATED BY PEDESTRIAN PUSHBUTTON ONLY.
- ALL EXISTING SIGNAL EQUIPMENT SHALL BE RETAINED UNLESS OTHERWISE NOTED.
- ALL EXISTING CONDUIT AND PULL BOXES SHALL BE RETAINED UNLESS OTHERWISE NOTED.
- ALL EXISTING PEDESTRIAN PUSH BUTTONS SHALL BE REPLACED WITH PEDESTRIAN INSTRUCTIONAL SIGN AND PUSH BUTTONS.
- THE ACCURACY AND COMPLETENESS OF UNDERGROUND UTILITIES AS SHOWN ON THE PLANS ARE NOT GUARANTEED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE EXACT LOCATION, SIZE, TYPE ETC. OF ALL UNDERGROUND UTILITIES THAT MAY BE AFFECTED BY THE WORK.
- ALL TRAFFIC SIGNAL CONDUIT SHALL BE 3" PVC SCHEDULE 80.
- ALL SPLICES WILL BE MADE IN THE CABINETS/JUNCTION BOXES AND MEET NHDOT SPECIFICATIONS.
- ALL MATERIALS AND WORK COMPLETED UNDER THIS CONTRACT SHALL CONFORM TO THE NHDOT STANDARD SPECIFICATIONS, SUPPLEMENTAL SPECIFICATIONS, STANDARD DETAILS AND THE FEDERAL HIGHWAY ADMINISTRATION "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".
- CONTRACTOR SHALL PROVIDE, INSTALL AND RELOCATE ALL NECESSARY JUNCTION BOXES AND ASSOCIATED CONDUIT AND WIRING.
- UTILITY LOCATIONS SHOWN ARE APPROXIMATE ONLY AND THE CONTRACTOR IS RESPONSIBLE FOR FINDING EXACT LOCATIONS OF UTILITIES PRIOR TO CONSTRUCTION.
- CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING DIG SAFE PRIOR TO ANY EXCAVATION.
- LOCATIONS OF EXISTING CONDUIT ARE APPROXIMATE ONLY BASED ON AVAILABLE RECORD DRAWINGS AND FIELD REVIEW.
- NEW TRAFFIC SIGNAL CONTROLLER SHALL BE NEMA TS2 TYPE I. THE INTERSECTIONS SHALL BE PROGRAMMED TO OPERATE WITHIN A CLOSED LOOP SYSTEM.

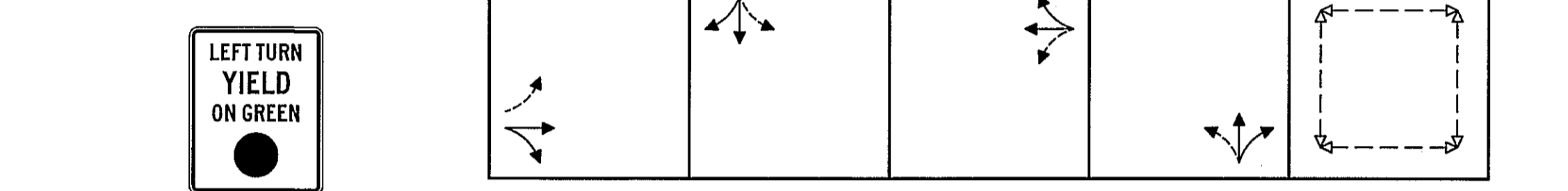
MAJOR ITEMS	
QUANTITY	DESCRIPTION
1	TRAFFIC SIGNAL CONTROLLER NEMA TS2, TYPE 1, LOCATED IN TS2, TYPE 1 BASE MOUNTED CABINET (GREEN EXTERIOR) W/RECONSTRUCTED FOUNDATION
1	GRID SMART VEHICLE DETECTION SYSTEM W/COUNT MODULE
8	PEDESTRIAN SIGNAL HEAD W/ COUNTDOWN TIMER, SINGLE SECTION, 16" LED
8	PEDESTRIAN PUSH BUTTON, SIGN & SADDLE (3 SPARE FOR FUTURE USE)
2	PULL BOX, 12 X 12" (SD2-031)
1	POINT TO POINT WIRELESS ETHERNET SYSTEM

PLUS ALL MISCELLANEOUS EQUIPMENT, LABOR AND MATERIAL NECESSARY TO PROVIDE A COMPLETE OPERATING TRAFFIC CONTROL SIGNAL.

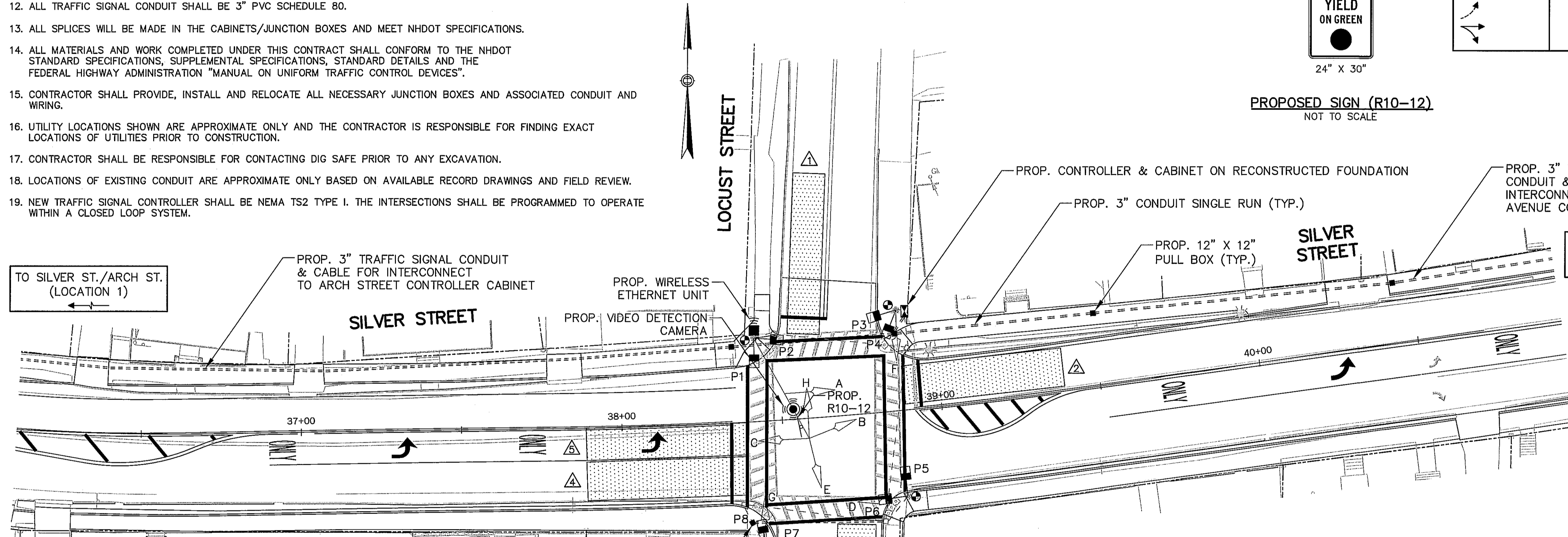
VIDEO DETECTOR DATA				
DETECTOR ZONE NO.	NO. ZONES/ SIZE	OPERATIONS	CALL DELAY (SECONDS)	CALL PHASE
△	1 - 10' X 50'	PRESENCE	0	Ø4
△	1 - 10' X 50'	PRESENCE	0	Ø6
△	1 - 12' X 50'	PRESENCE	0	Ø8
△	1 - 12' X 50'	PRESENCE	0	Ø2
△	1 - 12' X 50'	PRESENCE	0	Ø2

SEQUENCE AND TIMING FOR FULLY ACTUATED CONTROL (ISOLATED)																
STREET	DIRECTION	HOUSINGS	Ø2		Ø4		Ø6		Ø8		Ø9		Ø15		FLASH OPER.	
SILVER STREET	WB	A,B	R	R	R	R	R	G	Y	R	R	R	R	R	FY	
SILVER STREET	EB	C,D	G	Y	R	R	R	R	R	R	R	R	R	R	FY	
LOCUST STREET	NB	E,F	R	R	R	R	R	R	R	G	Y	R	R	R	FR	
LOCUST STREET	SB	G,H	R	R	R	R	G	Y	R	R	R	R	R	R	FR	
PEDESTRIAN	ALL	P1-P8	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	

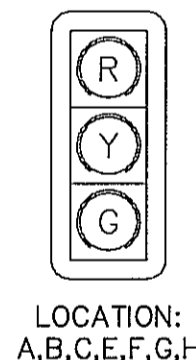
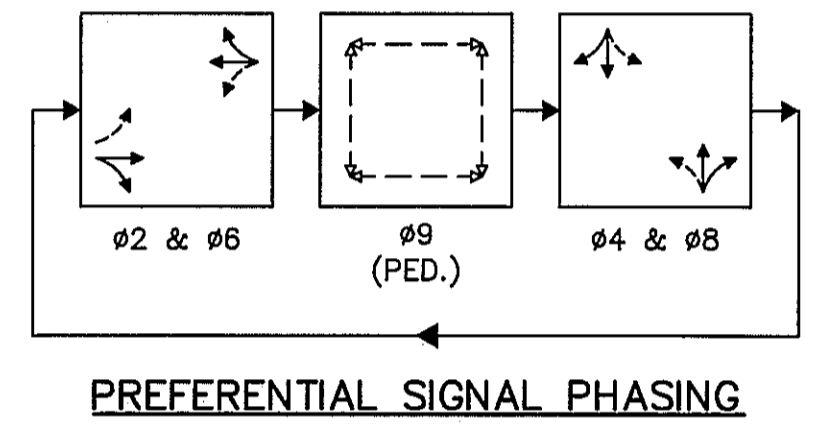
TIMING (IN SECONDS)																
MINIMUM GREEN			10			7			10			7				
PASSAGE			4			3			4			3				
MAXIMUM GREEN 1 (ALL OTHER TIMES)			30			25			30			25				
MAXIMUM GREEN 2 (15:00 TO 19:00)			35			35			35			35				
YELLOW CLEARANCE				4			4						4			
RED CLEARANCE					2			2						2		
WALK INTERVAL/CLEARANCE														7	14	1



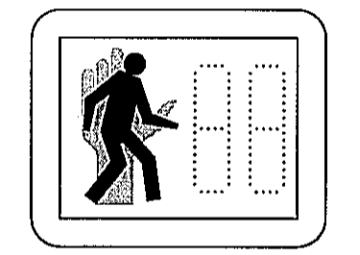
TO SILVER ST./ARCH ST. (LOCATION 1)



TO SILVER ST./CENTRAL AVE. (LOCATION 3)



EXISTING SIGNAL HEADS NOT TO SCALE

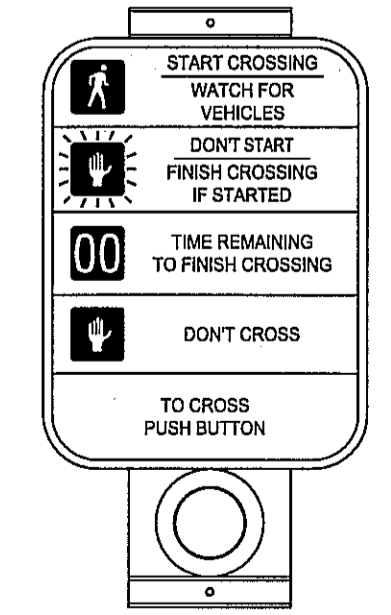


PROPOSED SIGNAL HEAD NOT TO SCALE

EMERGENCY VEHICLE PREEMPTION		
DIRECTION	MOVEMENT	PHASE CALL
SB - REC #1	↗ ↘	Ø2
NB - REC #2	↖ ↙	Ø6
EB - REC #3	↖ ↙	Ø8
WB - REC #4	↗ ↘	Ø4

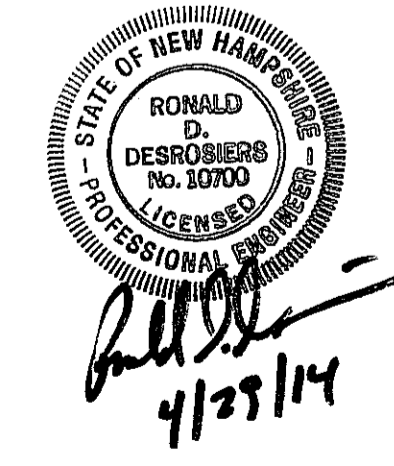
EMERGENCY PREEMPTION NOTES

- OPTICOM EMERGENCY PREEMPTION SHALL BE ON A FIRST COME, FIRST SERVE BASIS.
- UPON TERMINATION OF FIRE PREEMPTION MODE, THE SIGNALS SHALL RETURN TO NORMAL OPERATION AND SERVICE PREFERENTIAL PHASING IN SUCCESSIVE ORDER BASED ON DEMAND.
- UPON ACTUATION OF THE FIRE PREEMPTION MODE, THE CONFIRMATION STROBE LIGHT SHALL BE ILLUMINATED.
- PRE-EMPTION GREEN TIME SHALL BE VARIABLE AND BASED ON DURATION OF FLASHING OPTICAL SIGNAL FROM APPROACHING EMERGENCY VEHICLE TRANSMITTER.
- MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE TIME SHALL BE PROVIDED ON PHASES THAT ARE TERMINATED BY EMERGENCY PREEMPTION DEMAND.



INSTRUCTIONAL SIGN & PEDESTRIAN PUSHBUTTON NOT TO SCALE

TRAFFIC SIGNAL SYMBOLS		
EXISTING	PROPOSED	
⊠	⊠	CONTROL CABINET GROUND MOUNTED (WITH & WITHOUT CONCRETE PAD)
→	→	VEHICULAR SIGNAL HEAD (ALPHA-NUMERIC DESIGNATION NOTED)
⊠	⊠	PEDESTRIAN SIGNAL HEAD
⊕	⊕	PEDESTRIAN PUSH BUTTON
□	□	PULL BOX 12" x 12" OR HANDHOLE
□	□	PULL BOX 12" x 24" OR HANDHOLE
○	○	Ø2 CONTROLLER PHASE
⊙	⊙	VIDEO DETECTION CAMERA (VDC)
⊙	⊙	VIDEO DETECTION ZONE
---	---	CONDUIT (SINGLE RUN)
==	==	CONDUIT (DOUBLE RUN)



- SIGNAL HEAD NOTES:**
- ALL PEDESTRIAN SIGNAL HEADS SHALL HAVE 16" LENSES, SHALL BE OF THE COUNTDOWN L.E.D. TYPE, SHALL DISPLAY INTERNATIONAL SYMBOLS (HAND)/(PERSON WALKING) AND SHALL HAVE TUNNEL VISORS. ONLY FULL SYMBOL DISPLAYS SHALL BE PERMITTED.

TRAFFIC SIGNAL PLAN - LOCATION 2

SILVER STREET RECONSTRUCTION PROJECT
SILVER STREET AT LOCUST STREET
 PREPARED FOR:
CITY OF DOVER
 288 CENTRAL AVENUE
 DOVER, NH 03820

MDM TRANSPORTATION CONSULTANTS, INC.
 PLANNERS & ENGINEERS
 28 Lord Road, Suite 280
 Marlborough, MA 01752
 Tel: (508) 303-0370

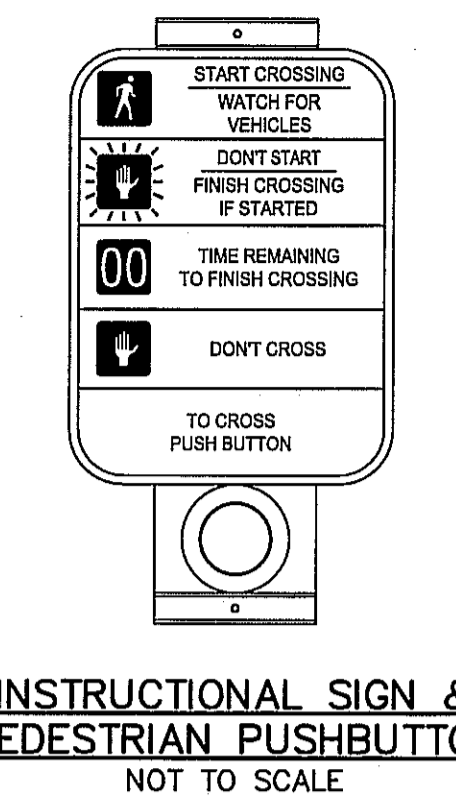
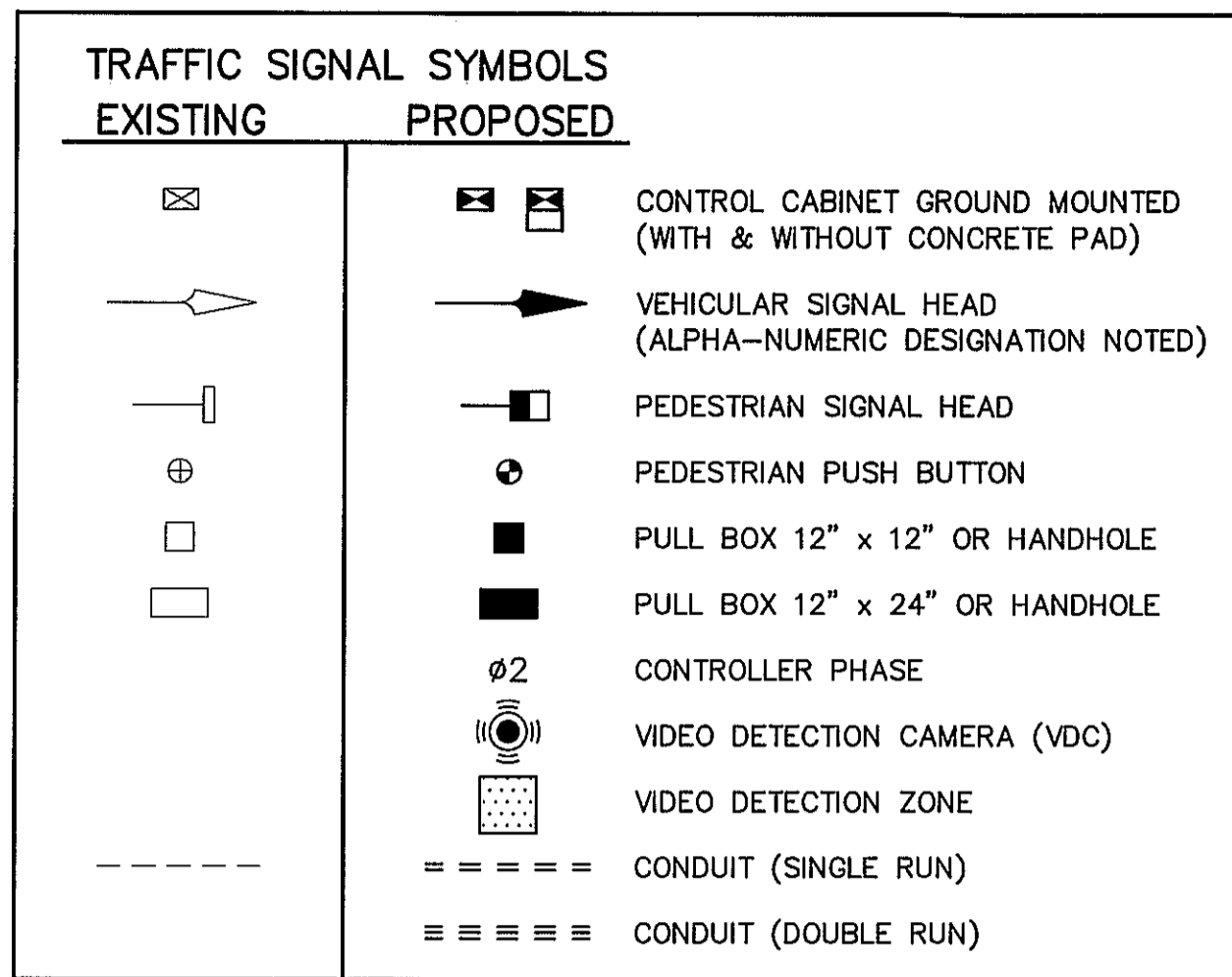
Project No. 672	File: 672 Traffic Signal Plan (4-29-2014).dwg
Date: April 29, 2014	Scale: As Noted
	Drawing TS 2

SEQUENCE AND TIMING FOR FULLY ACTUATED CONTROL (ISOLATED)																		
STREET	DIRECTION	HOUSINGS	Ø2		Ø4		Ø5		Ø6		Ø8		Ø9		FLASH OPER.			
			1	2	3	4	5	6	7	8	9	10	11	12		13	14	15
SILVER STREET	EB	H,J	R	R	R	G	Y	R	R	R	R	R	R	R	FR			
SILVER STREET	EB	G	<R-	<R-	<R-	<G-	<Y-	<R-	<R-	<R-	<R-	<R-	<R-	<R-	FR			
CENTRAL AVENUE	SB	D	R	R	R	R	R	R	R	R	G	Y	R	R	FY			
CENTRAL AVENUE	SB	E	R	R	R	R	R	R	R	R	R	R	R	R	FY			
CENTRAL AVENUE	SB	F	R	R	R	<G-	<Y-	R	R	R	G	Y	R	R	FY			
CENTRAL AVENUE	NB	A	G	Y	R	R	R	R	<G-	<Y-	R	R	R	R	FY			
CENTRAL AVENUE	NB	B,C	G	Y	R	R	R	R	R	R	R	R	R	R	FY			
DRIVEWAY	WB	K,L	R	R	R	R	R	R	R	R	G	Y	R	R	FR			
PEDESTRIAN	ALL	P1-P6	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OUT			

TIMING (IN SECONDS)																			
MINIMUM GREEN			10			7					5								
PASSAGE			3			2					2								
MAXIMUM GREEN 1 (ALL OTHER TIMES)			25			15					10								
MAXIMUM GREEN 2 (15:00 TO 19:00)			35			20					15								
YELLOW CLEARANCE				4			4					4							
RED CLEARANCE					2			2					2						
WALK INTERVAL/CLEARANCE																7	19	1	

RECALL (SOFT)	ON	OFF	OFF	ON	OFF	OFF
MEMORY	NON-LOCK	NON-LOCK	NON-LOCK	NON-LOCK	NON-LOCK	NON-LOCK

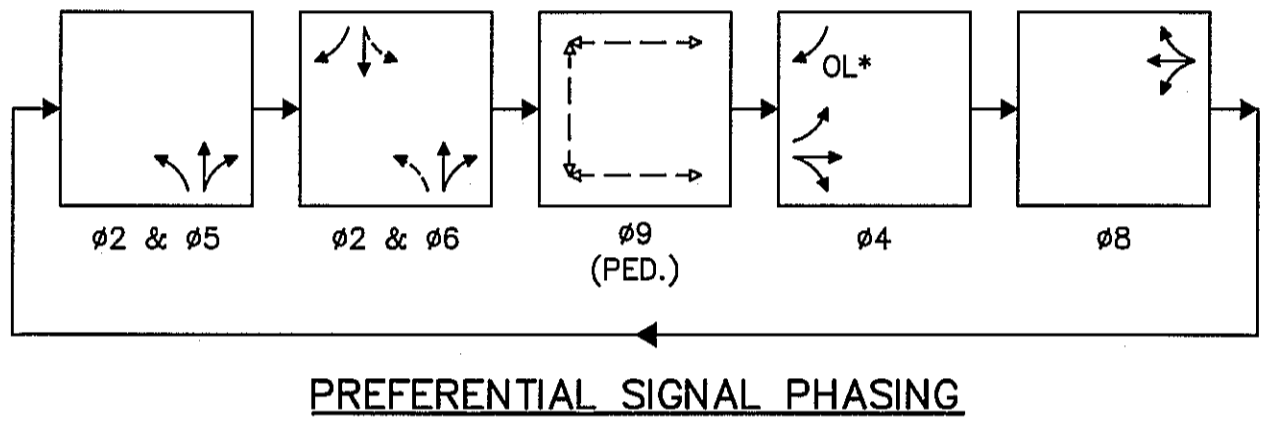
*OL=OVERLAP



EMERGENCY VEHICLE PREEMPTION

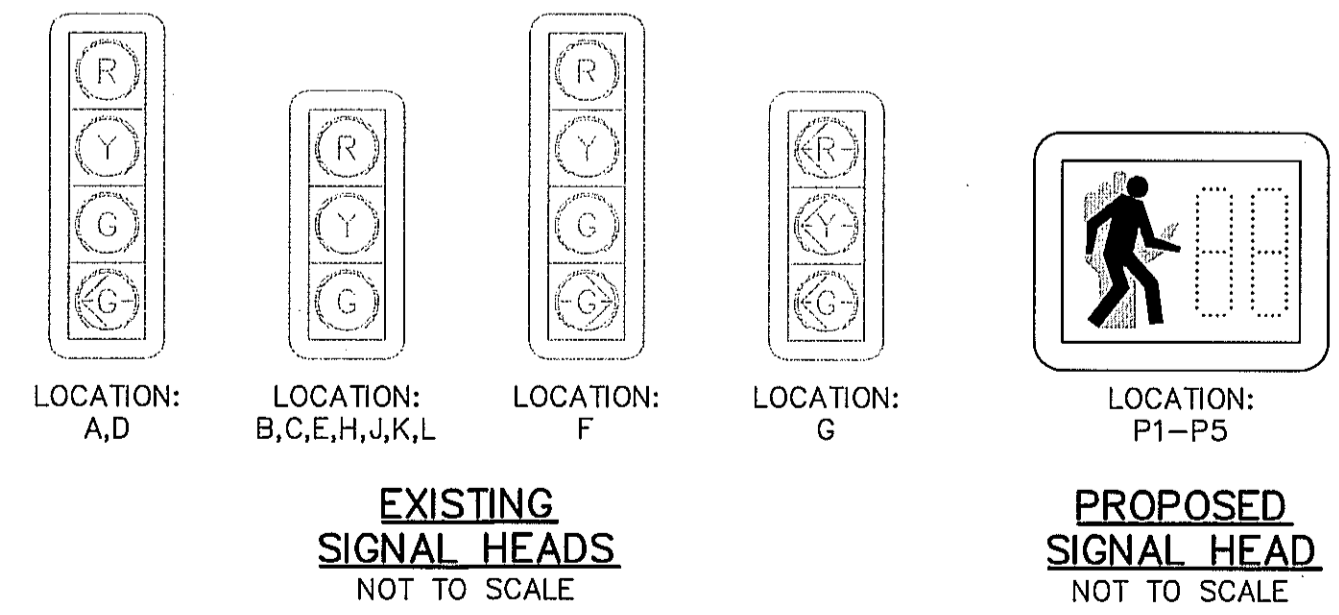
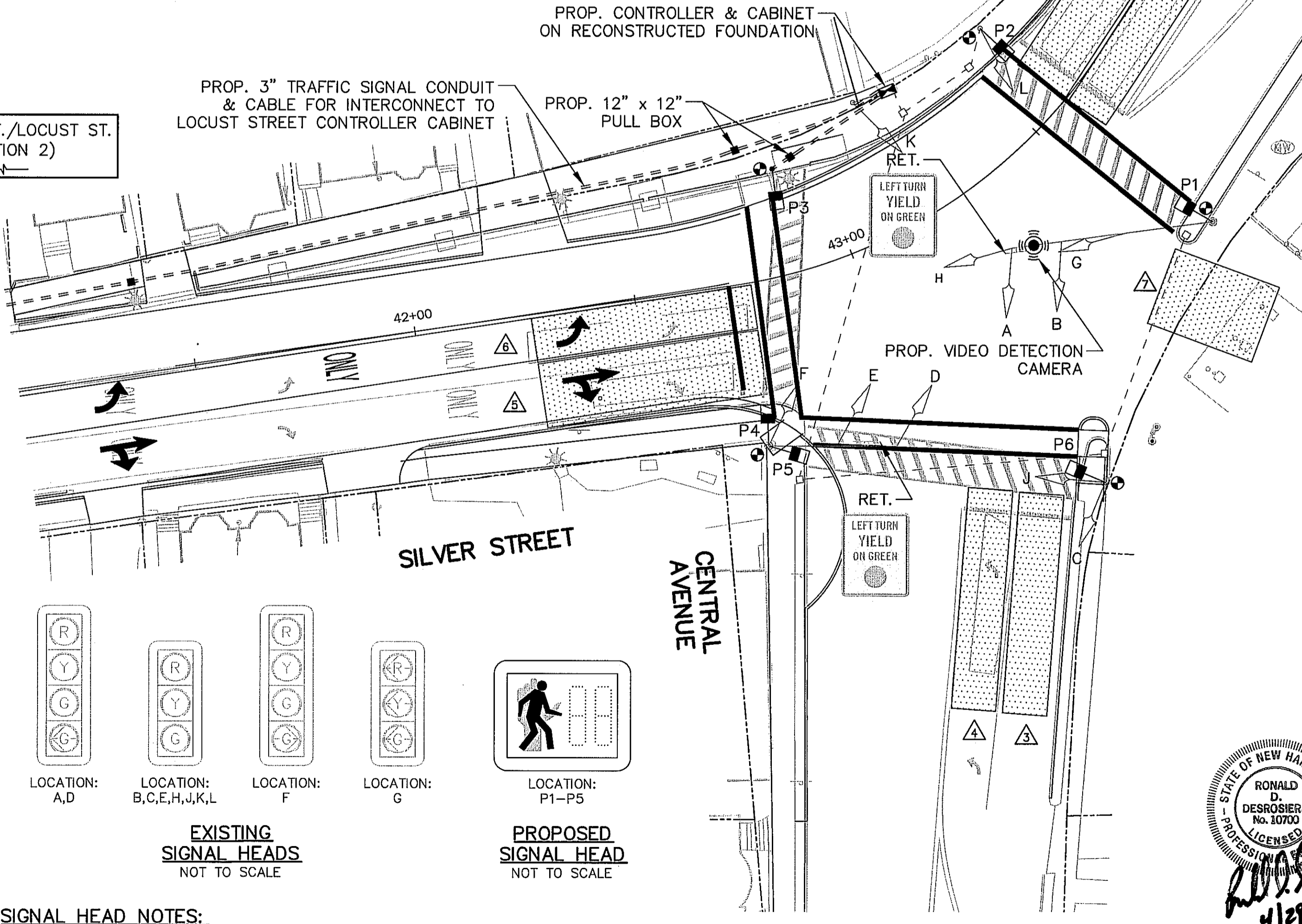
DIRECTION	MOVEMENT	PHASE CALL
SB - REC #1	↓	Ø2
NB - REC #2	↑	Ø6
EB - REC #3	↘	Ø4

- ### EMERGENCY PREEMPTION NOTES
- OPTICOM EMERGENCY PREEMPTION SHALL BE ON A FIRST COME, FIRST SERVE BASIS.
 - UPON TERMINATION OF FIRE PREEMPTION MODE, THE SIGNALS SHALL RETURN TO NORMAL OPERATION AND SERVICE PREFERENTIAL PHASING IN SUCCESSIVE ORDER BASED ON DEMAND.
 - UPON ACTUATION OF THE FIRE PREEMPTION MODE, THE CONFIRMATION STROBE LIGHT SHALL BE ILLUMINATED.
 - PRE-EMPTION GREEN TIME SHALL BE VARIABLE AND BASED ON DURATION OF FLASHING OPTICAL SIGNAL FROM APPROACHING EMERGENCY VEHICLE TRANSMITTER.
 - MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE TIME SHALL BE PROVIDED ON PHASES THAT ARE TERMINATED BY EMERGENCY PREEMPTION DEMAND.



- ### TRAFFIC SIGNAL NOTES:
- IF THE ASSIGNED RIGHT-OF-WAY FOR ANY TRAFFIC MOVEMENT IS TO CHANGE DURING THE NEXT CALLED PHASE, THE SIGNAL INDICATIONS FOR THAT TRAFFIC MOVEMENT WILL DISPLAY THE APPROPRIATE CLEARANCE INTERVALS.
 - IF THE ASSIGNED RIGHT-OF-WAY FOR ANY TRAFFIC MOVEMENT IS TO REMAIN IN EFFECT DURING THE NEXT CALLED PHASE, THE SIGNAL INDICATIONS FOR THAT TRAFFIC MOVEMENT WILL NOT CHANGE DURING THE CLEARANCE INTERVAL.
 - THE SIGNAL SHALL PROVIDE STOP AND GO OPERATION 24 HOURS A DAY. FLASHING OPERATION IS FOR EMERGENCY ONLY.
 - THE CONTROLLER SHALL OPERATE IN THE STANDARD NEMA DUAL CONFIGURATION.
 - ALL DETECTOR SETTINGS SHALL BE MADE IN THE CONTROLLER.
 - Ø1, Ø3 AND Ø7 ARE NOT USED.
 - EXCLUSIVE PEDESTRIAN PHASE (Ø9) TO BE ACTIVATED BY PEDESTRIAN PUSHBUTTON ONLY.
 - ALL EXISTING SIGNAL EQUIPMENT SHALL BE RETAINED UNLESS OTHERWISE NOTED.
 - ALL EXISTING CONDUIT AND PULL BOXES SHALL BE RETAINED UNLESS OTHERWISE NOTED.
 - ALL EXISTING PEDESTRIAN PUSH BUTTONS SHALL BE REPLACED WITH PEDESTRIAN INSTRUCTIONAL SIGN AND PUSH BUTTONS.
 - THE ACCURACY AND COMPLETENESS OF UNDERGROUND UTILITIES AS SHOWN ON THE PLANS ARE NOT GUARANTEED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE EXACT LOCATION, SIZE, TYPE ETC. OF ALL UNDERGROUND UTILITIES THAT MAY BE AFFECTED BY THE WORK.
 - ALL TRAFFIC SIGNAL CONDUIT SHALL BE 3" PVC SCHEDULE 80.
 - ALL SPLICES WILL BE MADE IN THE CABINETS/JUNCTION BOXES AND MEET NHDOT SPECIFICATIONS.
 - ALL MATERIALS AND WORK COMPLETED UNDER THIS CONTRACT SHALL CONFORM TO THE NHDOT STANDARD SPECIFICATIONS, SUPPLEMENTAL SPECIFICATIONS, STANDARD DETAILS AND THE FEDERAL HIGHWAY ADMINISTRATION "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".
 - CONTRACTOR SHALL PROVIDE, INSTALL AND RELOCATE ALL NECESSARY JUNCTION BOXES AND ASSOCIATED CONDUIT AND WIRING.
 - UTILITY LOCATIONS SHOWN ARE APPROXIMATE ONLY AND THE CONTRACTOR IS RESPONSIBLE FOR FINDING EXACT LOCATIONS OF UTILITIES PRIOR TO CONSTRUCTION.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING DIG SAFE PRIOR TO ANY EXCAVATION.
 - LOCATIONS OF EXISTING CONDUIT ARE APPROXIMATE ONLY BASED ON AVAILABLE RECORD DRAWINGS AND FIELD REVIEW.
 - NEW TRAFFIC SIGNAL CONTROLLER SHALL BE NEMA TS2 TYPE I. THE INTERSECTIONS SHALL BE PROGRAMMED TO OPERATE WITHIN A CLOSED LOOP SYSTEM.

TO SILVER ST./LOCUST ST. (LOCATION 2)



- ### SIGNAL HEAD NOTES:
- ALL PEDESTRIAN SIGNAL HEADS SHALL HAVE 16" LENSES, SHALL BE OF THE COUNTDOWN L.E.D. TYPE, SHALL DISPLAY INTERNATIONAL SYMBOLS (HAND)/(PERSON WALKING) AND SHALL HAVE TUNNEL VISORS. ONLY FULL SYMBOL DISPLAYS SHALL BE PERMITTED.

VIDEO DETECTOR DATA

DETECTOR ZONE NO.	NO. ZONES/ SIZE	OPERATIONS	CALL DELAY (SECONDS)	CALL PHASE
1	1 - 13' x 50'	PRESENCE	0	Ø6
2	1 - 10' x 50'	PRESENCE	0	Ø6
3	1 - 10' x 50'	PRESENCE	0	Ø2
4	1 - 10' x 50'	PRESENCE	0	Ø5
5	1 - 14.5' x 50'	PRESENCE	0	Ø4
6	1 - 10' x 50'	PRESENCE	0	Ø4
7	1 - 18' x 25'	PRESENCE	0	Ø8

MAJOR ITEMS

QUANTITY	DESCRIPTION
1	TRAFFIC SIGNAL CONTROLLER NEMA TS2, TYPE 1, LOCATED IN TS2, TYPE 1 BASE MOUNTED CABINET (GREEN EXTERIOR) W/RECONSTRUCTED FOUNDATION
1	GRID SMART VEHICLE DETECTION SYSTEM W/COUNT MODULE
6	PEDESTRIAN PUSH BUTTON, SIGN & SADDLE
1	TRAFFIC SIGNAL POST & BASE STANDARD - 8 FOOT (ALUMINUM)
1	PULL BOX, 12 X 12" (SD2-D31)
6	PEDESTRIAN SIGNAL HEAD W/ COUNTDOWN TIMER, SINGLE SECTION, 16" LED

PLUS ALL MISCELLANEOUS EQUIPMENT, LABOR AND MATERIAL NECESSARY TO PROVIDE A COMPLETE OPERATING TRAFFIC CONTROL SIGNAL.

TRAFFIC SIGNAL PLAN - LOCATION 3

SILVER STREET RECONSTRUCTION PROJECT
SILVER STREET AT CENTRAL AVENUE

PREPARED FOR:
CITY OF DOVER
288 CENTRAL AVENUE
DOVER, NH 03820

MDM TRANSPORTATION CONSULTANTS, INC.
PLANNERS & ENGINEERS

28 Lord Road, Suite 280
Marlborough, MA 01752
Tel: (608) 303-0370

Project No. 672	File: 672 Traffic Signal Plan (4-29-2014).dwg
Date: April 29, 2014	Scale: As Noted
	Drawing TS 3

CITY OF DOVER

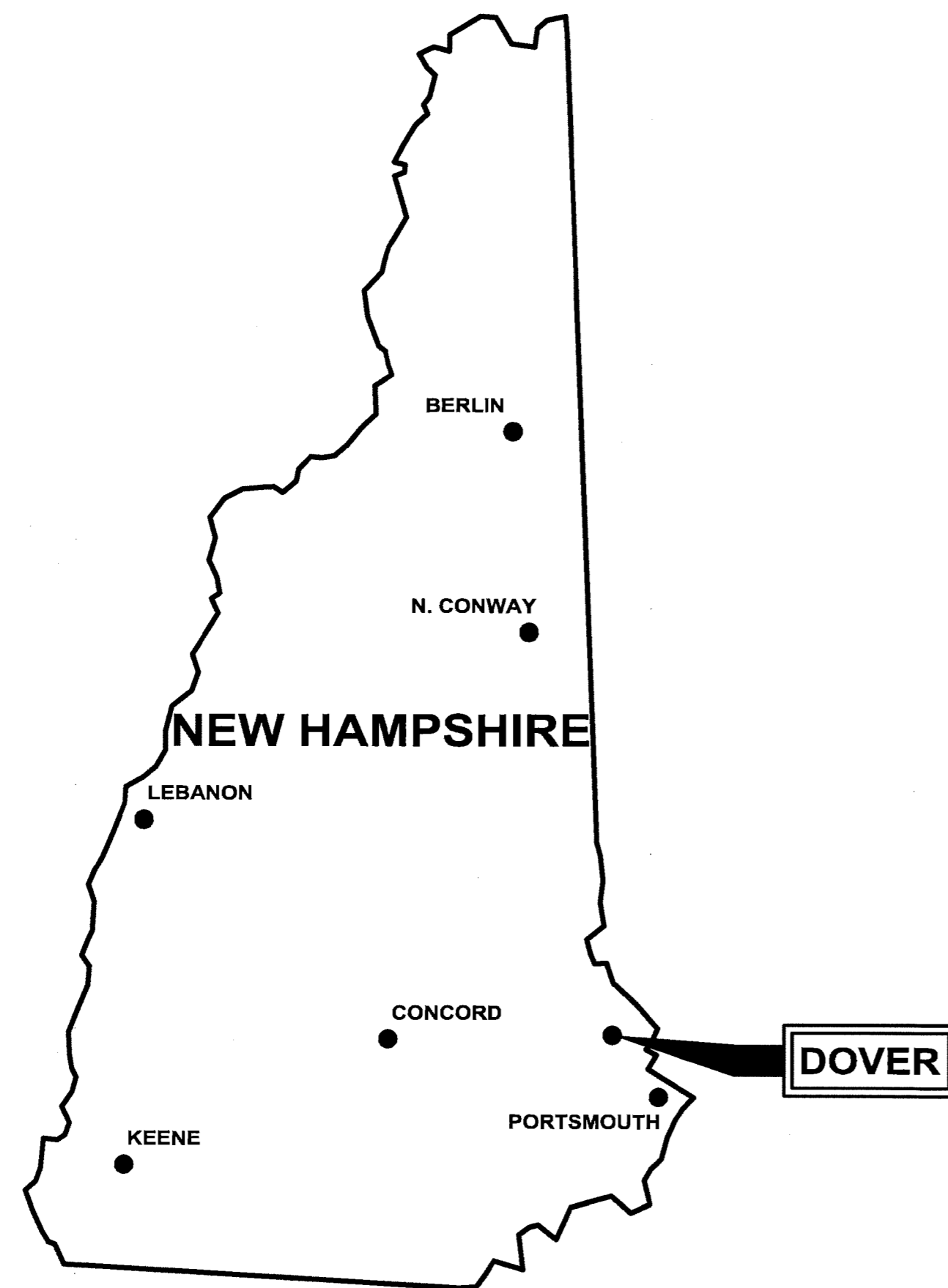
CONTRACT DRAWINGS FOR

SILVER STREET WATER MAIN REPLACEMENT

DOVER, NH

FEBRUARY 2012

SILVER STREET RE-CONSTRUCTION FOR APPROVAL NOVEMBER 2013
ADD ALTERNATES N°. 1 & 2



DRAWING INDEX

GENERAL

- COVER SHEET

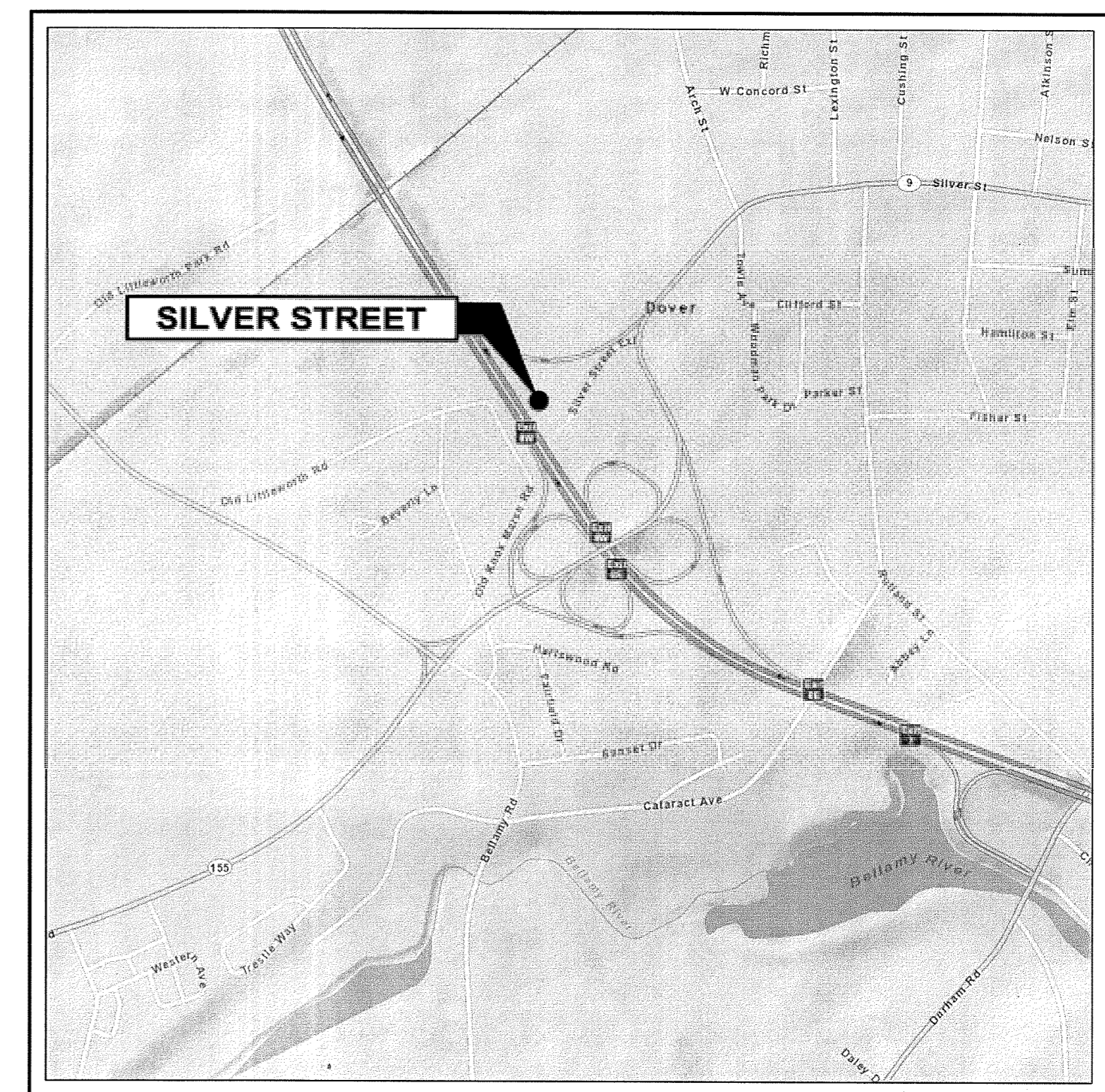
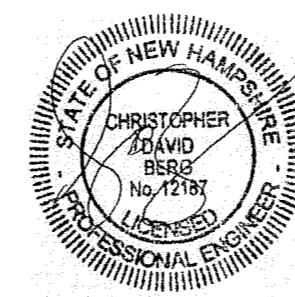
CIVIL

C-1 GENERAL NOTES, LEGEND & ABBREVIATIONS

C-2 PLAN-A & PROFILE: STA 1+00 TO STA 5+82
PLAN-B-ALTERNATE-A: SILVER STREET EXTENSION
PLAN-C-ALTERNATE-B: WEST KNOX MARSH ROAD

C-3 DETAILS I

C-4 EROSION CONTROL NOTES & DETAILS



LOCATION PLAN
NTS

WRIGHT-PIERCE

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FOR REVIEW 2/3/12

FOR BIDDING 2/22/12

WP PROJECT No. 12383A

H:\Rural Number\Drawn\1725 - Silver Street\DWG\Design\Silver Street\22024 - Wright-Pierce.dwg (1725 - Wright-Pierce.dwg) 4/22/2014 8:52:21 AM, BP

GENERAL NOTES

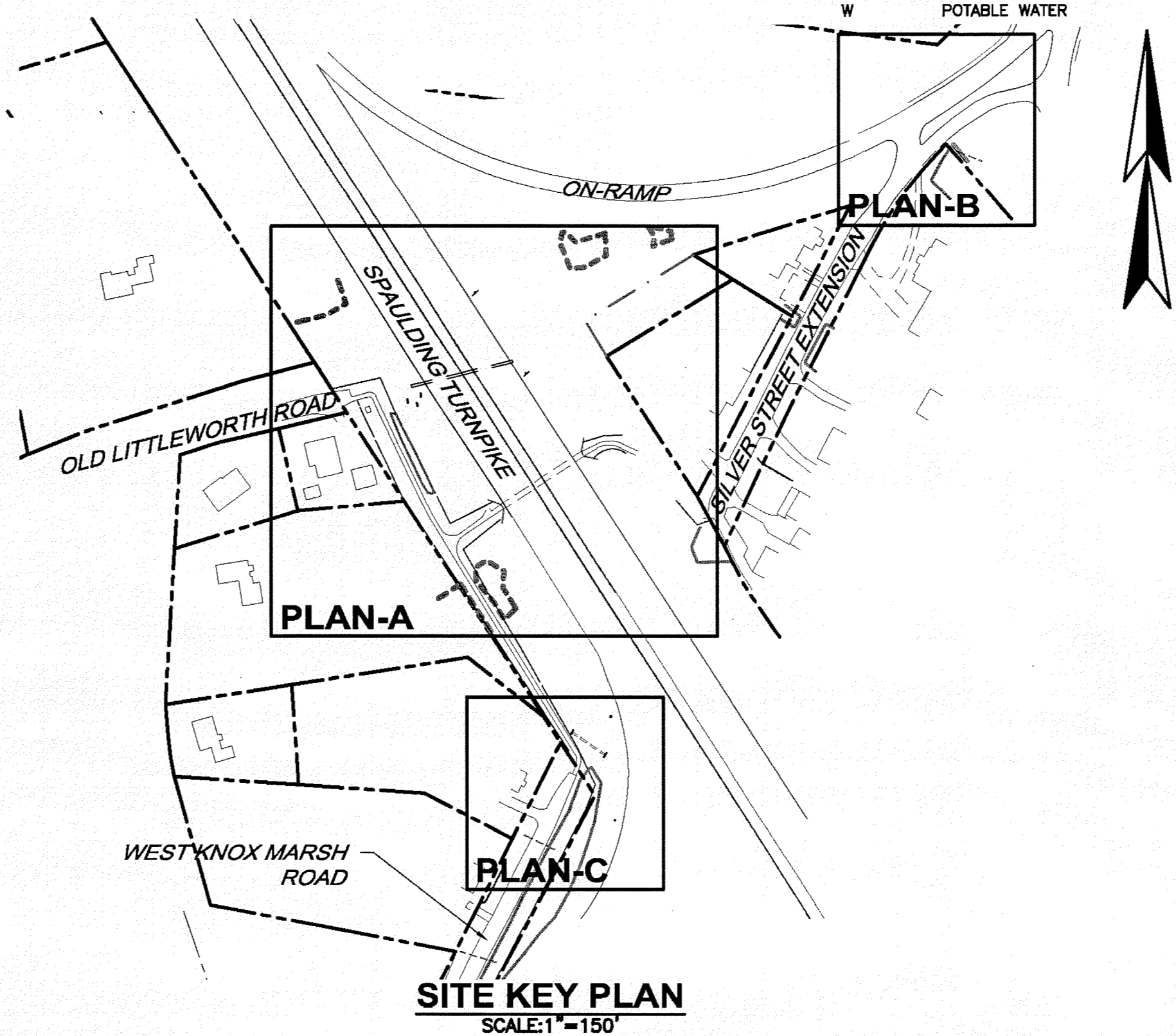
- 1. THE LOCATIONS OF ALL EXISTING DRAINS, SEWERS, WATER MAINS, POWER LINES, TELEPHONE CABLES AND OTHER UTILITIES ARE APPROXIMATE ONLY. FIELD LOCATIONS SHALL BE OBTAINED BY THE CONTRACTOR PRIOR TO STARTING THE WORK. TEST PITS SHALL BE MADE AS NECESSARY TO VERIFY LOCATION AND DEPTH.
2. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHERS. REFER TO SPECIFICATION SECTION 01050.
3. UNDERGROUND STRUCTURES, CABLES, PIPELINES AND POWER POLES LOCATED ADJACENT TO THE TRENCH EXCAVATIONS SHALL BE PROTECTED AND FIRMLY SUPPORTED BY THE CONTRACTOR UNTIL THE TRENCH IS BACKFILLED. DAMAGE TO ANY SUCH STRUCTURES, CABLES, AND PIPELINES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE AND TO THE SATISFACTION OF THE OWNERS OF THE STRUCTURES, CABLES, PIPELINES, AND POWER POLES.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LAYOUT OF THE NEW WATER MAIN. LAYOUT SHALL BE REVIEWED AND ACCEPTED BY OWNER AND ENGINEER.
5. MINIMUM DEPTH OF COVER FOR WATER MAINS SHALL BE 5'-0" AND MAXIMUM DEPTH OF COVER SHALL BE 6'-6" UNLESS SHOWN OTHERWISE ON THE DRAWINGS. THE NEW WATER MAINS SHALL GENERALLY FOLLOW THE GROUND CONTOUR. ABRUPT CHANGES IN GRADE SHALL BE AVOIDED.
6. NEW MAINS SHALL BE DUCTILE IRON PIPE WITH RESTRAINED PUSH-ON JOINTS AND BE WRAPPED IN ANTICORROSION WATER MAIN ENCASEMENT (POLY WRAP). ALL FITTINGS SHALL BE DUCTILE IRON MECHANICAL JOINT, UNLESS OTHERWISE REQUIRED FOR JOINT RESTRAINT OR SHOWN ON THE DRAWINGS.
7. ALL BENDS, TEES, REDUCERS, HYDRANTS AND PLUGS SHALL BE RESTRAINED BY USING CONCRETE THRUST BLOCKS AND MECHANICAL JOINT RESTRAINTS, OR OTHER METHODS AS SHOWN ON THE DRAWINGS. ONLY MEGA-LUG SHALL BE ACCEPTED. ANCHOR TEES SHALL BE USED FOR ALL HYDRANT BRANCHES EXCEPT IN LOCATIONS WHERE GATE VALVES CAN NOT BE CONNECTED DIRECTLY TO TEE, IN WHICH CASE RODS SHALL BE USED.
8. TEST PRESSURE FOR THE COMBINED PRESSURE AND LEAKAGE TEST SHALL BE 150 PSI MINIMUM. TEST DURATION SHALL BE 2 HOURS, MINIMUM. ENGINEER SHALL BE PRESENT TO OBSERVE PRESSURE TEST.
9. THE OWNER SHALL BE RESPONSIBLE FOR OBTAINING TEMPORARY CONSTRUCTION EASEMENTS OUTSIDE OF THE NHDOT ROW. THE OWNER SHALL BE RESPONSIBLE FOR OBTAINING THE ENCROACHMENT PERMIT AND MAINTENANCE AGREEMENT FOR CONSTRUCTION WITHIN THE NHDOT ROW LIMITS. THE CONTRACTOR SHALL VERIFY TO HIS OWN SATISFACTION THAT ALL EASEMENTS HAVE BEEN OBTAINED.
10. THE CONTRACTOR SHALL REPAIR ALL PAVEMENT DISTURBED BY THE CONSTRUCTION WORK. THE CONTRACTOR SHALL MAINTAIN AND REPAIR THE ROADWAYS UNTIL THE FINAL PAVEMENT IS PLACED AND ACCEPTED. ANY SETTLEMENT OF PAVEMENT OR OTHER AREAS WITHIN THE NHDOT ROW SHALL BE ADDRESSED BY THE CONTRACTOR FOR A PERIOD OF TWO YEARS FROM SUBSTANTIAL COMPLETION AS A CONDITION OF THE NHDOT EXCAVATION PERMIT AND BOND.
11. TRENCHES SHALL NOT BE LEFT OPEN DURING NON-WORKING HOURS. ALL OPEN PIPES SHALL BE SECURED WITH A WATER-TIGHT PLUG WHEN THE PIPE IS TEMPORARILY BACKFILLED AND WHEN PIPE LAYING IS NOT IN PROGRESS.
12. WHERE A NEW WATER MAIN PASSES BELOW OR ABOVE A SANITARY OR STORM SEWER, A FULL LENGTH OF WATER MAIN SHALL BE CENTERED ABOVE/BELOW THE SEWER. MAINTAIN A MINIMUM SEPARATION DISTANCE OF 18 INCHES.
13. CONNECTIONS TO EXISTING WATER MAIN SHALL BE COORDINATED WITH THE OWNER.
14. ALL WATER MAINS THAT ARE TO BE ABANDONED WILL BE CUT & CAPPED WITH AN MJ CAP. ALL VALVE BOXES ON ABANDONED WATER MAINS SHALL BE REMOVED. ALL VALVES ABANDONED IN PLACE SHALL BE LEFT IN THE CLOSED POSITION. ALL EXISTING WATER MAIN PIPING CURRENTLY LOCATED WITHIN THE PEDESTRIAN TUNNEL UNDER THE SPAULDING TURNPIKE SHALL BE REMOVED.
15. WHERE NEW PIPING IS TO BE CONNECTED TO EXISTING PIPING, THE CONTRACTOR SHALL FURNISH AND INSTALL ALL ADAPTERS, FITTINGS, AND ADDITIONAL PIPE AS REQUIRED TO COMPLETE THE CONNECTION. CONTRACTOR SHALL VERIFY LOCATION, ELEVATION, ORIENTATION AND MATERIAL OF CONSTRUCTION. TEST PITS SHALL BE USED AS REQUIRED.
16. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING TRAFFIC FLOW AT ALL TIMES AS SPECIFIED BY THE ENGINEER AND AS CONTAINED IN THE CONTRACTOR SUPPLIED TRAFFIC CONTROL PLAN. THE TRAFFIC CONTROL PLAN SHALL BE DEVELOPED AND STAMPED BY NH LICENSED PROFESSIONAL ENGINEER. THE TRAFFIC CONTROL PLAN SHALL BE REVIEWED AND APPROVED BY THE NHDOT, OWNER AND ENGINEER PRIOR TO THE CONTRACTOR CONDUCTING ANY WORK IN THE NHDOT ROW. TRAFFIC CONTROL SIGNS SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH OWNER AND NHDOT REQUIREMENTS. THE FREE FLOW OF TRAFFIC ON THE SPAULDING TURNPIKE SHALL NOT BE IMPACTED AT ANY TIME.
17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PREVENTION OF EROSION. ALL DISTURBED EARTH SURFACES ARE TO BE STABILIZED IN THE SHORTEST PRACTICAL TIME AND TEMPORARY EROSION CONTROL DEVICES SHALL BE EMPLOYED UNTIL SUCH TIME AS ADEQUATE SOIL STABILIZATION HAS BEEN ACHIEVED. TEMPORARY STORAGE OF EXCAVATED MATERIAL IS TO BE IN A MANNER THAT WILL MINIMIZE EROSION. THE CONTRACTOR SHALL DISPOSE OF UNSUITABLE EXCAVATED MATERIAL AT A SITE PROVIDED BY HIM WHICH IS IN COMPLIANCE WITH ALL STATE AND LOCAL ORDINANCES AND REGULATIONS. MATERIALS AND METHODS USED FOR TEMPORARY EROSION CONTROL SHALL BE AS SPECIFIED BY THE "STORMWATER MANAGEMENT AND EROSION AND SEDIMENT CONTROL HANDBOOK FOR URBAN AND DEVELOPING AREAS IN NEW HAMPSHIRE" PREPARED BY THE NEW HAMPSHIRE NATURAL RESOURCES CONSERVATION COMMISSION.
18. COMPACTION TESTS SHALL BE PERFORMED IN ACCORDANCE WITH SPECIFICATION SECTION 02200. ANY SETTLEMENT OCCURRING WITHIN ONE YEAR OF SUBSTANTIAL COMPLETION OF THE PROJECT WILL BE CORRECTED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER.
19. CONTRACTOR SHALL CONTROL DUST TO A TOLERABLE LIMIT AS DETERMINED BY THE ENGINEER, OR AS OUTLINED IN SPECIFICATION SECTION 01562. CONTRACTOR SHALL NOT TRACK OR SPILL EARTH AND DEBRIS ON PUBLIC STREETS, HIGHWAYS, OR RAMPS OUTSIDE THE IMMEDIATE PROJECT AREA. STREETS OPENED TO THE PUBLIC SHALL BE KEPT SWEEPED AND FREE OF DEBRIS.
20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESETTling ALL EXISTING PROPERTY MONUMENTATION THAT IS DISTURBED BY HIS OPERATIONS AT NO EXPENSE TO THE OWNER. THIS WORK IS TO BE DONE BY A LAND SURVEYOR REGISTERED IN THE STATE OF NEW HAMPSHIRE.
21. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA).
22. HAY OR STRAW MULCH SHALL BE USED TO COVER NEWLY SEEDED AREAS. MULCH SHALL BE USED IN ACCORDANCE WITH SPEC SECTION 02441.
23. THE CONTRACTOR MAY ENCOUNTER ASBESTOS CEMENT PIPE DURING EXECUTION OF THE WORK. CONTRACTOR SHALL CONFORM TO ALL APPLICABLE PROVISIONS OF OSHA & ALL OTHER FEDERAL, STATE & LOCAL REGULATIONS WHEN HANDLING, REMOVING & DISPOSING OF ASBESTOS CEMENT PIPE. A BID ITEM HAS BEEN INCLUDED IN THE BID FORM TO ESTABLISH A UNIT PRICE FOR THE REMOVAL & DISPOSAL OF ASBESTOS CEMENT PIPE.
24. PROVIDE 2 INCHES RIGID INSULATION OVER WATER LINES WHEN COVER IS ALLOWED, BY THE ENGINEER, TO BE LESS THAN 5.0 FEET OVER MAINS AND SERVICES. DETAIL DRAWING C-3.
25. DO NOT SCALE DRAWINGS UNLESS OTHERWISE NOTED.
26. EXISTING SIGNS THAT ARE IMPACTED SHALL BE RESET IN ACCORDANCE WITH NHDOT STANDARDS.
27. AS BUILT PLANS SHALL BE PROVIDED TO THE OWNER PRIOR TO APPROVAL OF SUBSTANTIAL COMPLETION. NHDOT BOND SHALL REMAIN IN EFFECT FROM START OF CONSTRUCTION UNTIL 2 YEARS AFTER DATE OF SUBSTANTIAL COMPLETION.
28. AFTER THE 12" WATER MAIN IS REMOVED FROM THE PEDESTRIAN TUNNEL CONTRACTOR TO GRIND ALL ANCHOR BOLTS AND CONNECTORS FLUSH WITH THE TUNNEL SURFACE. CONTRACTOR SHALL PATCH EXISTING SURFACES TO PROVIDE A SMOOTH TUNNEL SURFACE.

CIVIL ABBREVIATIONS

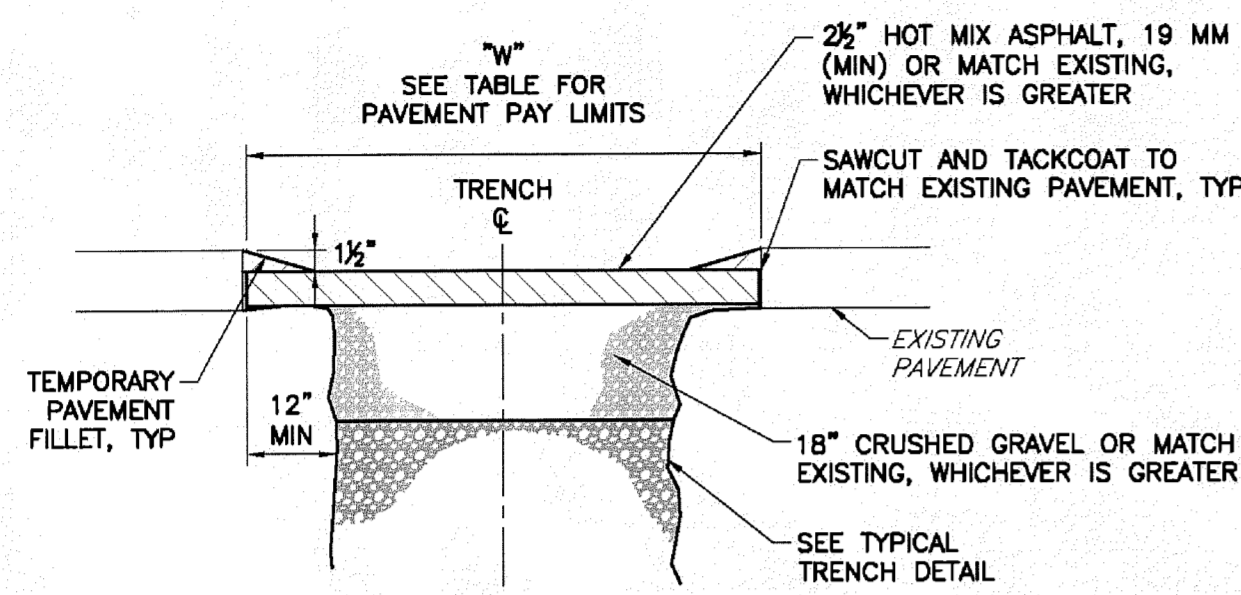
Table listing civil abbreviations such as DIA (DIAMETER), NO (NUMBER), AC (ASBESTOS CEMENT), APP'D (APPROVED), BLDG (BUILDING), CB (CATCH BASIN), CEN (CENTER), CFS (CUBIC FEET PER SECOND), CI (CAST IRON), CL (CENTERLINE), CMP (CORRUGATED METAL PIPE), CO (CLEANOUT), CONC (CONCRETE), COR (CORNER), CY (CUBIC YARD), DEMO (DEMOLITION), DMH (DRAIN MANHOLE), DI (DUCTILE IRON), DR (DRAIN), DWG (DRAWING), EL (ELEVATION), EMH (ELECTRIC MANHOLE), FM (FORCE MAIN), FT (FEET), G (GAS), GV (GATE VALVE), HYD (HYDRANT), IN (INCH), INF (INFLUENT), INV (INVERT), LBS (POUNDS), MAX (MAXIMUM), MH (MANHOLE), MIN (MINIMUM), MW (MONITORING WELL), N (NORTH), NGVD (NATIONAL GEODETIC VERTICAL DATUM), N/A (NOT AVAILABLE/APPLICABLE), NTS (NOT TO SCALE), OD (OUTSIDE DIAMETER), PC (PERFORATED CLAY), PSF (POUNDS PER SQUARE FOOT), PSI (POUNDS PER SQUARE INCH), PS (PRIMARY SLUDGE), PT (POINT OF TANGENCY), PVC (POLYVINYL CHLORIDE), RCP (REINFORCED CONCRETE PIPE), RD (ROOF DRAIN), REQ'D (REQUIRED), S (SLOPE, SEWER), SD (STORM DRAIN), SF (SQUARE FEET), SMH (SANITARY SEWER MANHOLE), SQ (SQUARE), STA (STATION), T, XFMR (TRANSFORMER), TBM (TEMPORARY BENCH MARK), THK (THICKNESS), TOS (TOP OF STRUCTURE), TYP (TYPICAL), UD (UNDERDRAIN), UG (UNDERGROUND), UGE (UNDERGROUND ELECTRIC), VC (VITRIFIED CLAY), W/ (WITH), W (POTABLE WATER).

LEGEND

Legend table with columns for EXISTING and PROPOSED symbols. Includes symbols for PROPERTY/ROW LINE, SETBACK LINE, EASEMENT LINE, CENTERLINE, EDGE OF PAVEMENT, CURBING, EDGE OF GRAVEL, EDGE OF CONCRETE, CONTOUR, BUILDING, CORNER, STONEWALL, TREETLINE, CHAIN LINK FENCE, STOCKADE FENCE, BARB WIRE FENCE, RETAINING WALL, GUARDRAIL, SEWER, SEWER FORCE MAIN, GATE VALVE, WATER, STORM DRAIN, UNDERDRAIN, CULVERT, UNDERGROUND ELECTRIC, OVERHEAD ELECTRIC, IRON PIPE/REBAR, DRILLHOLE, MONUMENT, SURVEY CONTROL POINT, SPOT ELEVATION, SEWER MANHOLE, DRAINAGE MANHOLE, CATCH BASIN, ELECTRIC MANHOLE, TELEPHONE MANHOLE, SHUTOFF VALVE, WATER SERVICE SHUTOFF, YARD HYDRANT, HYDRANT, UTILITY POLE, UTILITY POLE W/ GUY, UTILITY POLE W/ LIGHT, LIGHT POLE, BOLLARD, FLAGPOLE, CONIFEROUS TREE, DECIDUOUS TREE, SHRUB, EDGE OF WATER, STREAM, EDGE OF WETLANDS, FLOODPLAIN, WETLANDS, DRAINAGE FLOW, DRAINAGE SWALE, PAVEMENT MARKINGS, SIGN, MAILBOX, TEMPORARY BENCH MARK, TEST PIT, TEST BORING, TEST PROBE, MONITORING WELL, LIMIT OF WORK, SILT FENCE, RIPRAP, RAILROAD, MATCHLINE, ROCK OUTCROP.



Project information and title block. Includes: CITY OF DOVER, SILVER STREET WATER MAIN REPLACEMENT DOVER, NH; WRIGHT-PIERCE Engineering a Better Environment; Offices Throughout New England 888.621.8156 | www.wright-pierce.com; GENERAL NOTES, LEGEND & ABBREVIATIONS; DRAWING C-1. Submission/Revision table with columns for DATE, APP'D, and CDB.

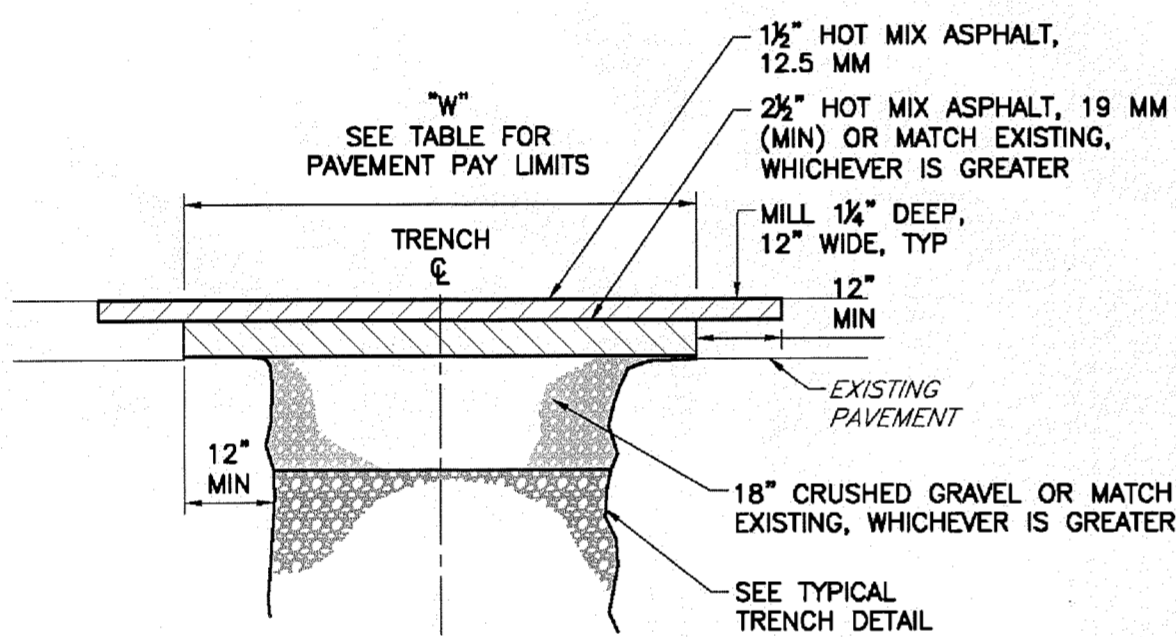


PAVEMENT PAY LIMITS

PIPE I.D. (FOR 0' - 10' DEEP)	"W"
6" - 15"	7'-0"
16" - 21"	8'-0"

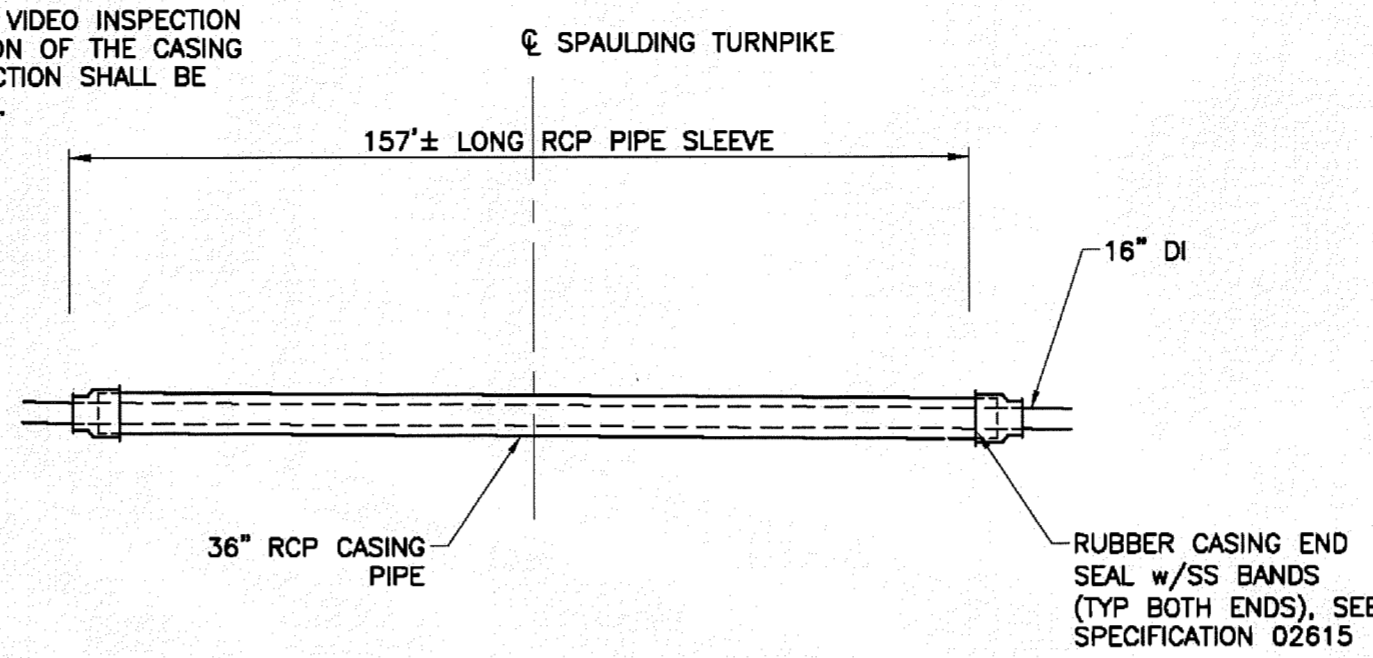
"W" SHALL BE INCREASED BY 1'-0" FOR TRENCHES 10' - 15', AND BY 2'-0" FOR TRENCHES 15' - 20' DEEP.

INITIAL TRENCH PAVING
NTS

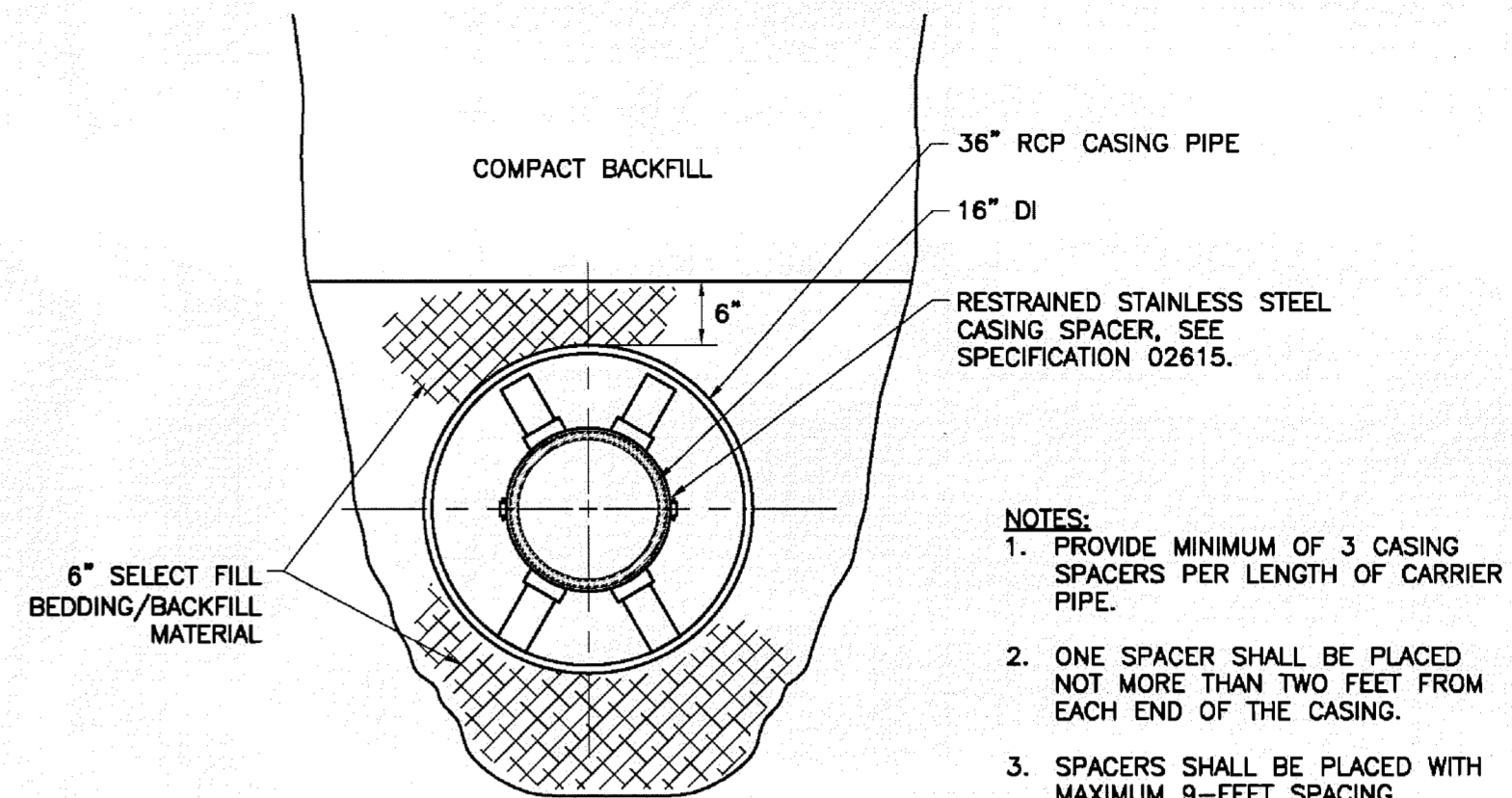


FINAL TRENCH PAVING
NTS

- NOTES:**
- PRIOR TO ORDERING THE PROPOSED RCP CASING EXTENSIONS CONTRACTOR SHALL VERIFY EXISTING CASING DIMENSIONS AND CONFIRM THAT CASING TO BE INSTALLED WILL BE COMPATIBLE WITH EXISTING.
 - CONTRACTOR TO CLEAN EXISTING PIPE SLEEVE AFTER EXISTING 8" WATER MAIN IS REMOVED FROM THE SLEEVE BY THE CONTRACTOR.
 - CONTRACTOR SHALL PERFORM A TELEVIEWED VIDEO INSPECTION OF THE PIPE SLEEVE PRIOR TO INSTALLATION OF THE CASING EXTENSION. A COPY OF THE VIDEO INSPECTION SHALL BE GIVEN TO THE OWNER FOR THEIR RECORDS.

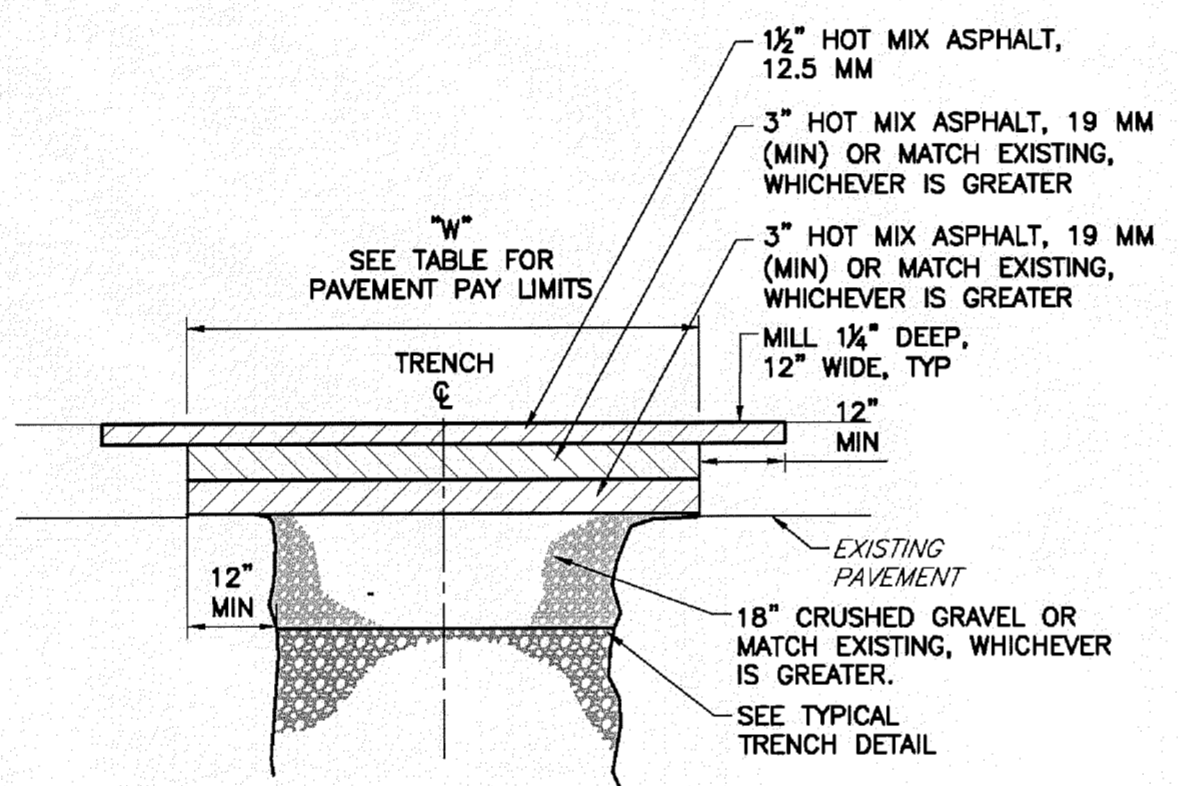


WATER MAIN PROFILE
NTS



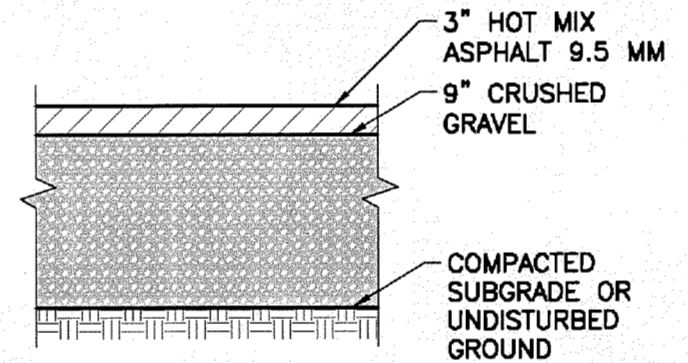
- NOTES:**
- PROVIDE MINIMUM OF 3 CASING SPACERS PER LENGTH OF CARRIER PIPE.
 - ONE SPACER SHALL BE PLACED NOT MORE THAN TWO FEET FROM EACH END OF THE CASING.
 - SPACERS SHALL BE PLACED WITH MAXIMUM 9'-FEET SPACING INTERVALS.
 - MATCH EXISTING PIPE SLEEVE GRADE.

WATER MAIN SECTION
NTS



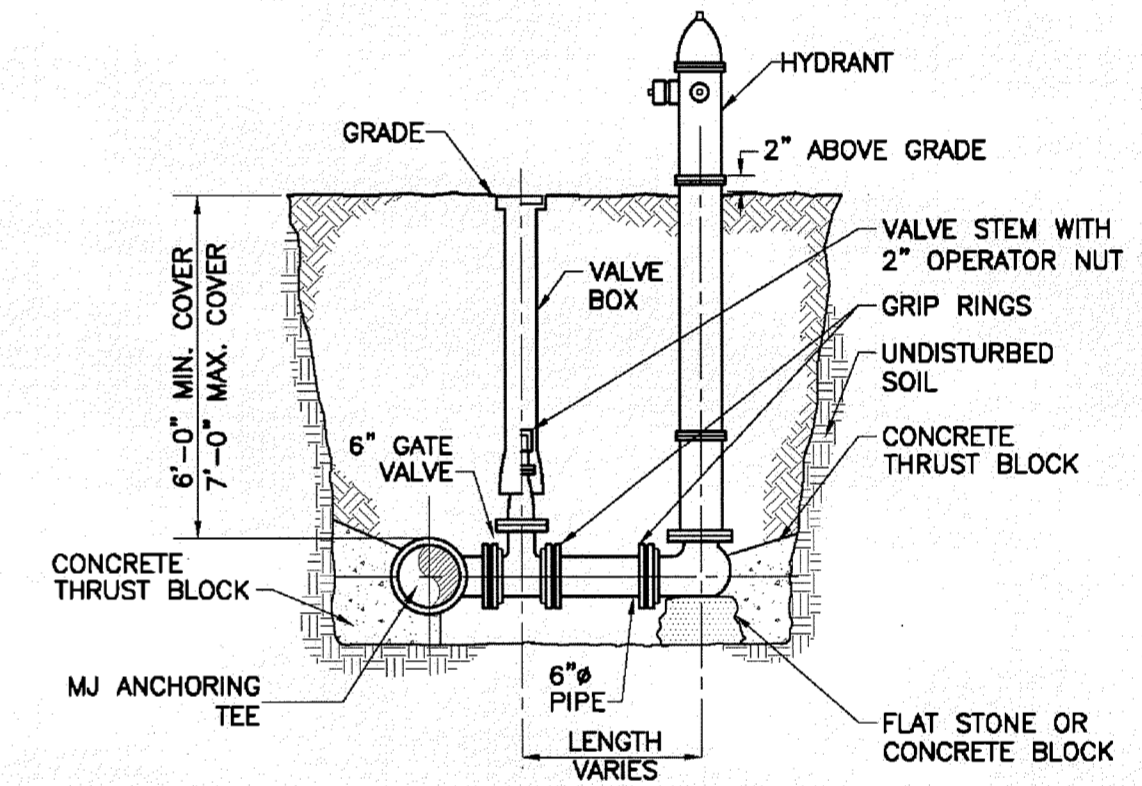
TRENCH PAVING-SPAULDING TURNPIKE
NTS

- NOTE:**
- 5FT MINIMUM WIDTH, MATCH EXISTING IF GREATER.

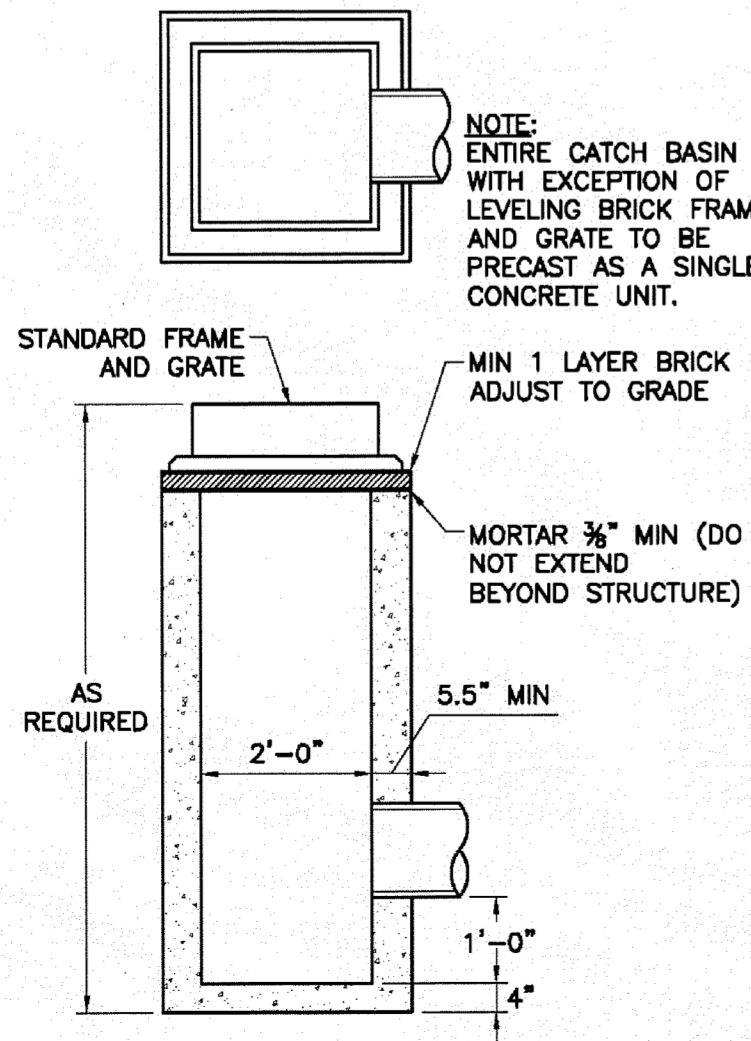


WALKWAY PAVEMENT
NTS

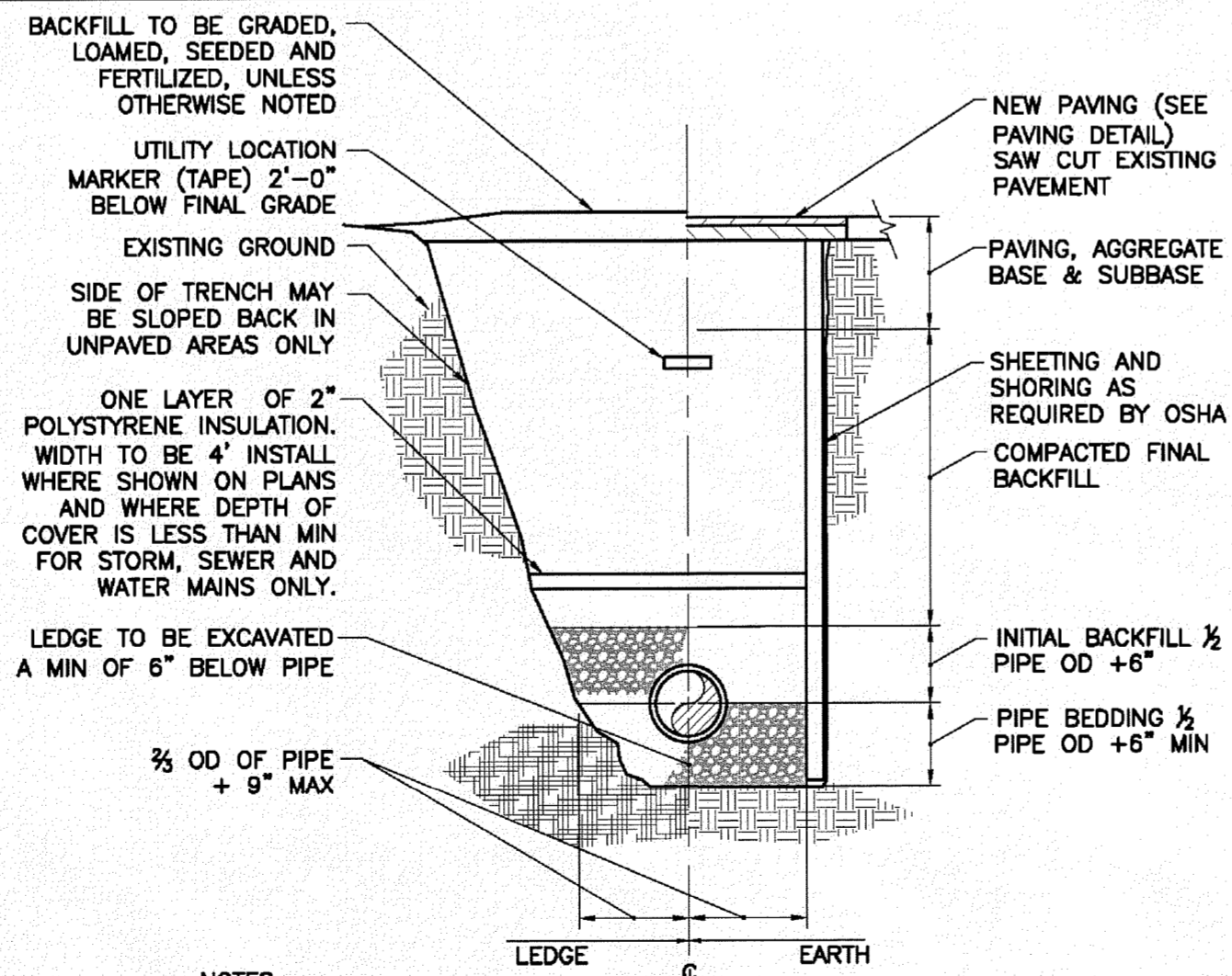
- NOTES:**
- HYDRANTS SHALL BE FIELD LOCATED BY OWNER.
 - HYDRANT DRAINS SHALL BE FACTORY PLUGGED.



HYDRANT CONNECTION
NTS

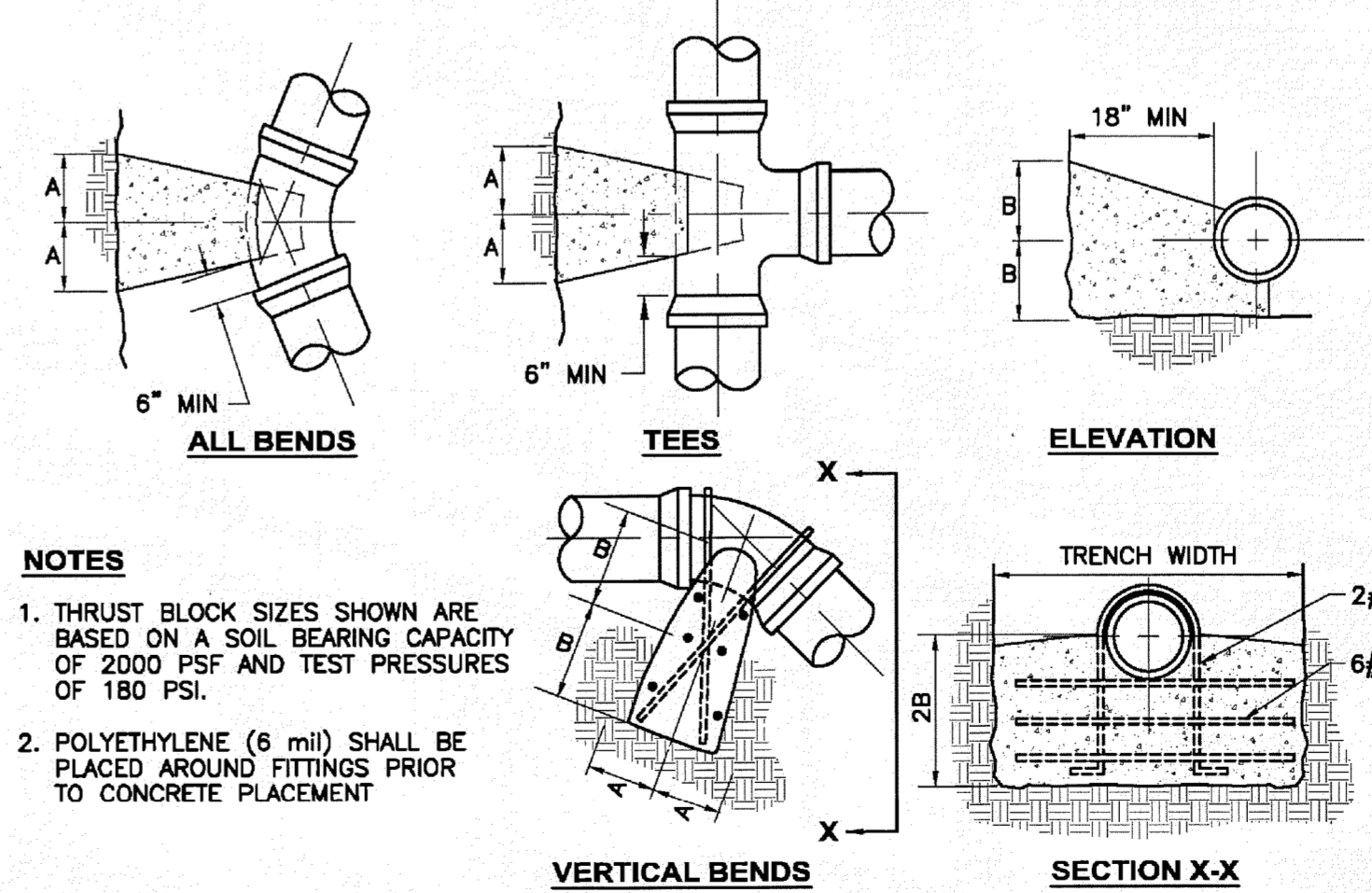


2'x2' CATCH BASIN (TYPE F)
NTS



- NOTES:**
- ALL EXCAVATION MUST MEET OSHA STANDARDS.
 - INSTALL 3 FOOT LONG IMPERVIOUS MATERIAL DAM IN BEDDING/INITIAL BACKFILL MATERIAL EVERY 100' AND WHERE SHOWN ON PLANS TO PREVENT TRENCH GROUNDWATER FROM BEING CHANNLED ALONG BEDDING/INITIAL BACKFILL.
 - SEE SPECIFICATIONS FOR BEDDING AND BACKFILL REQUIREMENTS.
 - PIPE BEDDING AT CONNECTION TO EXISTING AC SHALL BE FLOWABLE FILL.

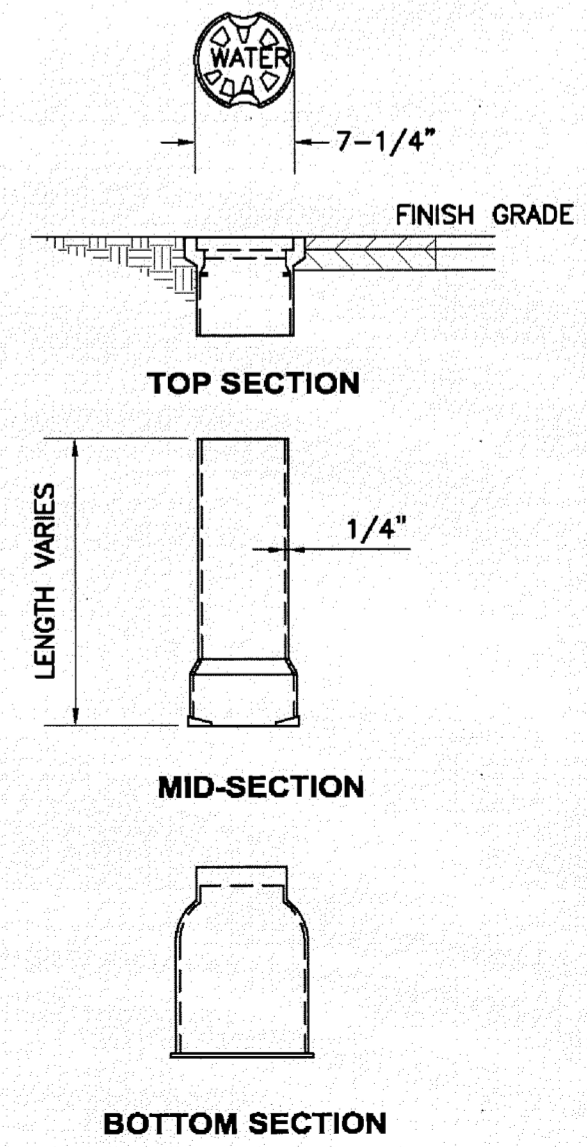
PIPE TRENCH
NTS



- NOTES:**
- THRUST BLOCK SIZES SHOWN ARE BASED ON A SOIL BEARING CAPACITY OF 2000 PSF AND TEST PRESSURES OF 180 PSI.
 - POLYETHYLENE (6 mil) SHALL BE PLACED AROUND FITTINGS PRIOR TO CONCRETE PLACEMENT

PIPE SIZE	90° BEND		45° BEND		22 1/2° BEND		11 1/4° BEND		TEE		VERTICAL BEND (DOWN)	
	A	B	A	B	A	B	A	B	A	B	A	B
6"	15"	12"	12"	9"	9"	6"	6"	6"	12"	12"	24"	21"
8"	20"	15"	14"	12"	9"	9"	9"	6"	18"	12"	33"	24"
10"	21"	21"	18"	15"	15"	9"	9"	9"	20"	18"	40"	27"
12"	27"	24"	23"	15"	15"	12"	12"	9"	25"	18"	48"	30"
16"	37"	30"	30"	21"	21"	15"	13"	12"	32"	24"	57"	36"

WATER MAIN THRUST BLOCK
NTS



VALVE BOX
NTS

NO.	DATE	BY	CHKD BY	APP'D	REVISIONS
1	2/22/12	JING	JING		DATE: 2/22/12
2	2/22/12	CGH	CGH		DATE: 2/22/12

SEAL OF THE STATE OF NEW HAMPSHIRE
Professional Engineer
No. 12385A
Exp. 12/31/15

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CITY OF DOVER
SILVER STREET WATER MAIN REPLACEMENT
DOVER, NH
DRAWING
C-3
DETAILS 1

