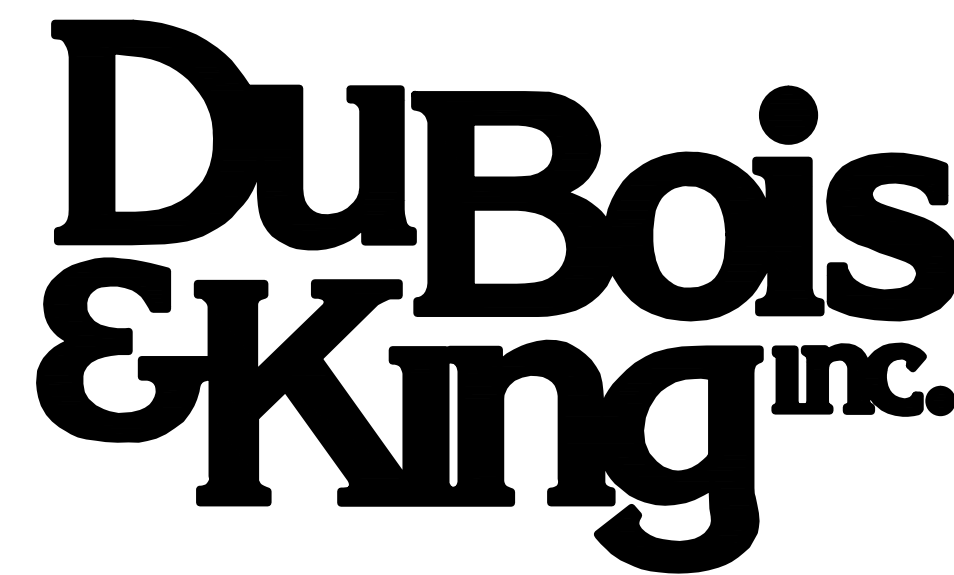
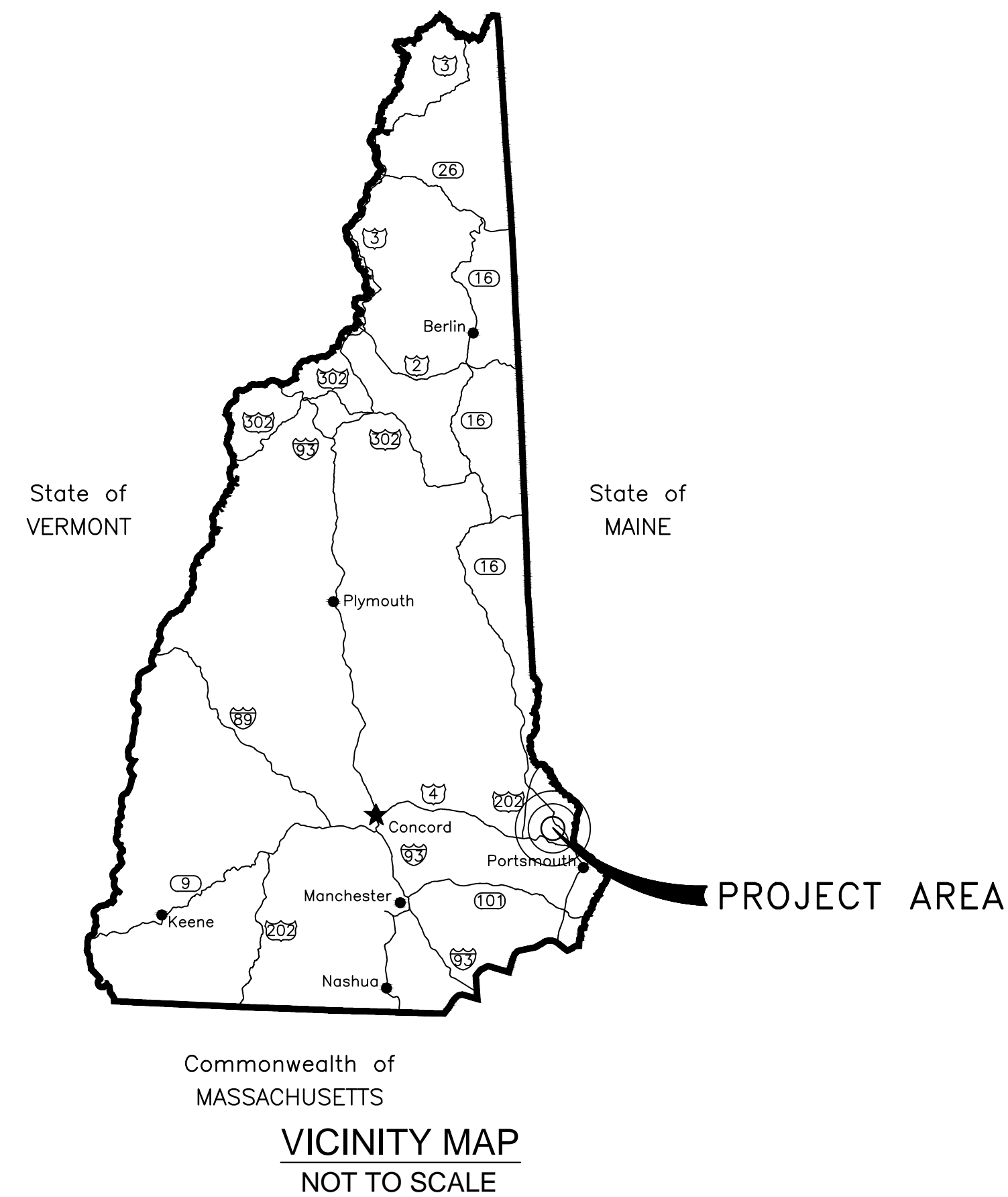


KEATING-BIRCHWOOD AREA RECONSTRUCTION

CITY OF DOVER 288 CENTRAL AVENUE DOVER, NH FEBRUARY 2017

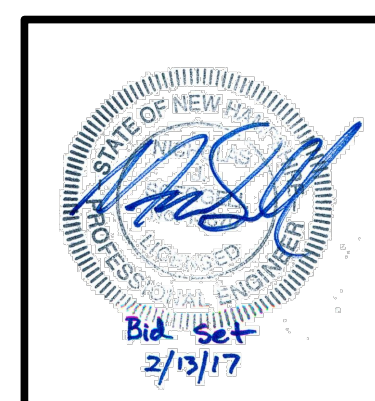
BID NUMBER: B17037
CWSRF # CS-330200-11 & CS-330200-12
DWSRF #0651010-03



831 UNION AVENUE, SUITE 2
LACONIA, NH 03246
TEL: (603) 524-1166
www.dubois-king.com

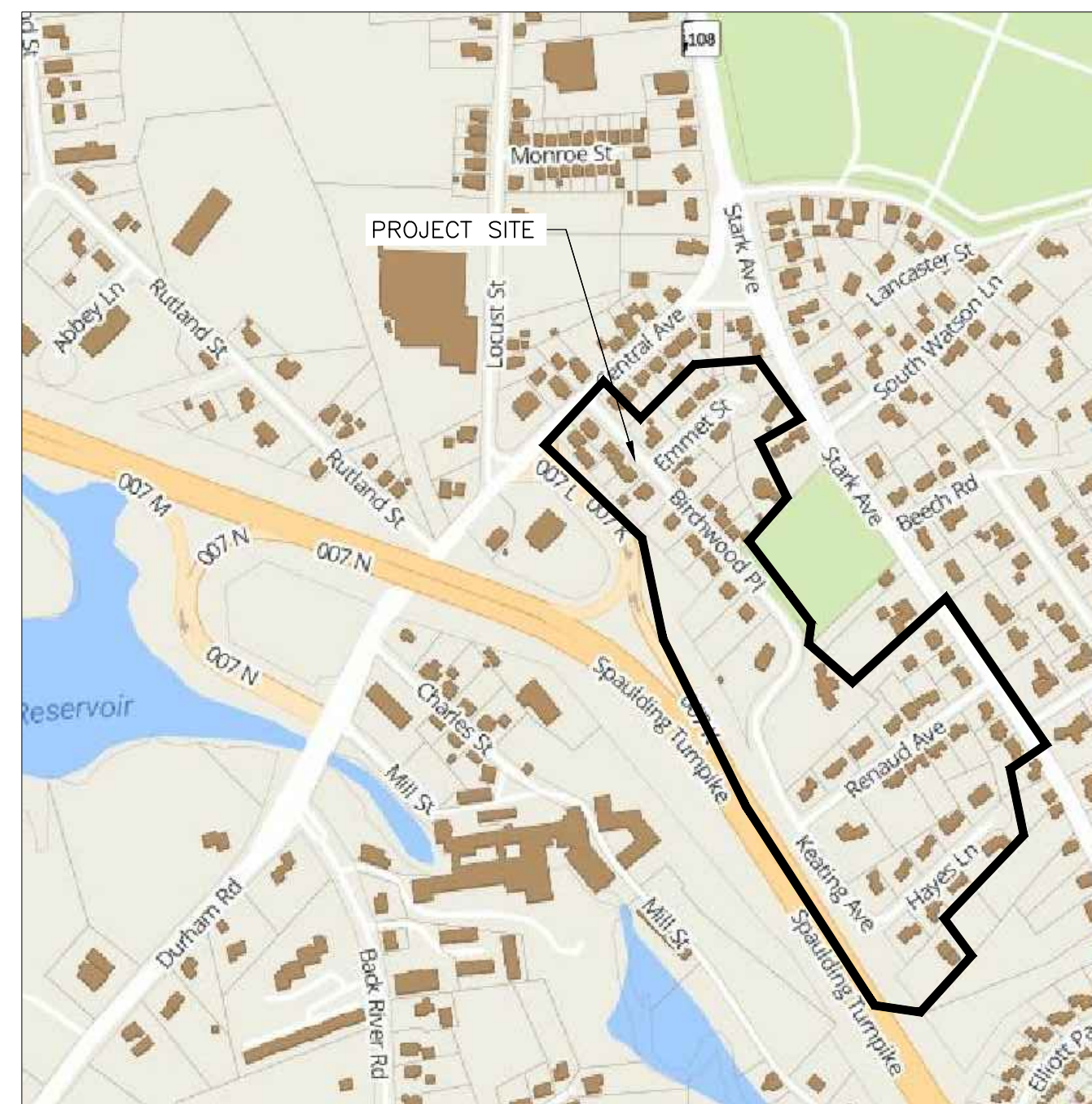
ENGINEERING • PLANNING • MANAGEMENT • DEVELOPMENT
© COPYRIGHT 2016 DUBOIS & KING INC.

BID SET
(NOT FOR CONSTRUCTION)



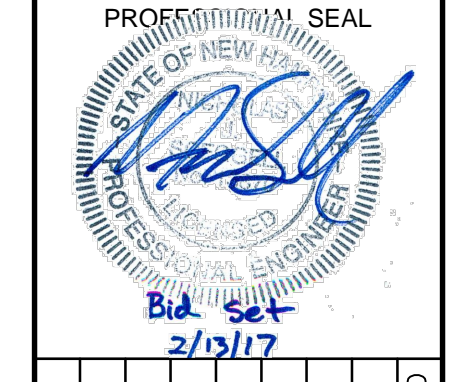
INDEX OF DRAWINGS

DRAWING NAME	DRAWING NO.	SHEET NO.
COVER		1
GENERAL PLAN	G-1	2
TYPICAL SECTIONS	C-1	3
EXISTING CONDITIONS PLANS	EX-1 TO EX-6	4-9
ROADWAY PLAN AND PROFILES	C-2 TO C-9	10-17
UTILITY PLANS AND PROFILES	C-10 TO C-19	18-27
CROSS SECTIONS	XS-1 TO XS-16	28-43
DETAILS	D1 TO D-4	44-47



LOCATION MAP
APPROX. SCALE: 1" = 500'

REVISION NO.	DATE	DESCRIPTION	PROJECT NO. 222952	SHEET 1 OF 47



NO.	DATE	BY	CK'D	DESCRIPTION

CITY OF DOVER
 288 CENTRAL AVE
 DOVER, NH 03820

CITY OF DOVER
 KEATING-
 BIRCHWOOD AREA
 RECONSTRUCTION

SHEET TITLE
 GENERAL PLAN

DRAWN BY KLL	DATE FEB 2017
CHECKED BY CKG	D&K PROJECT # 222952
PROJ. ENG. NJS	D&K ARCHIVE #

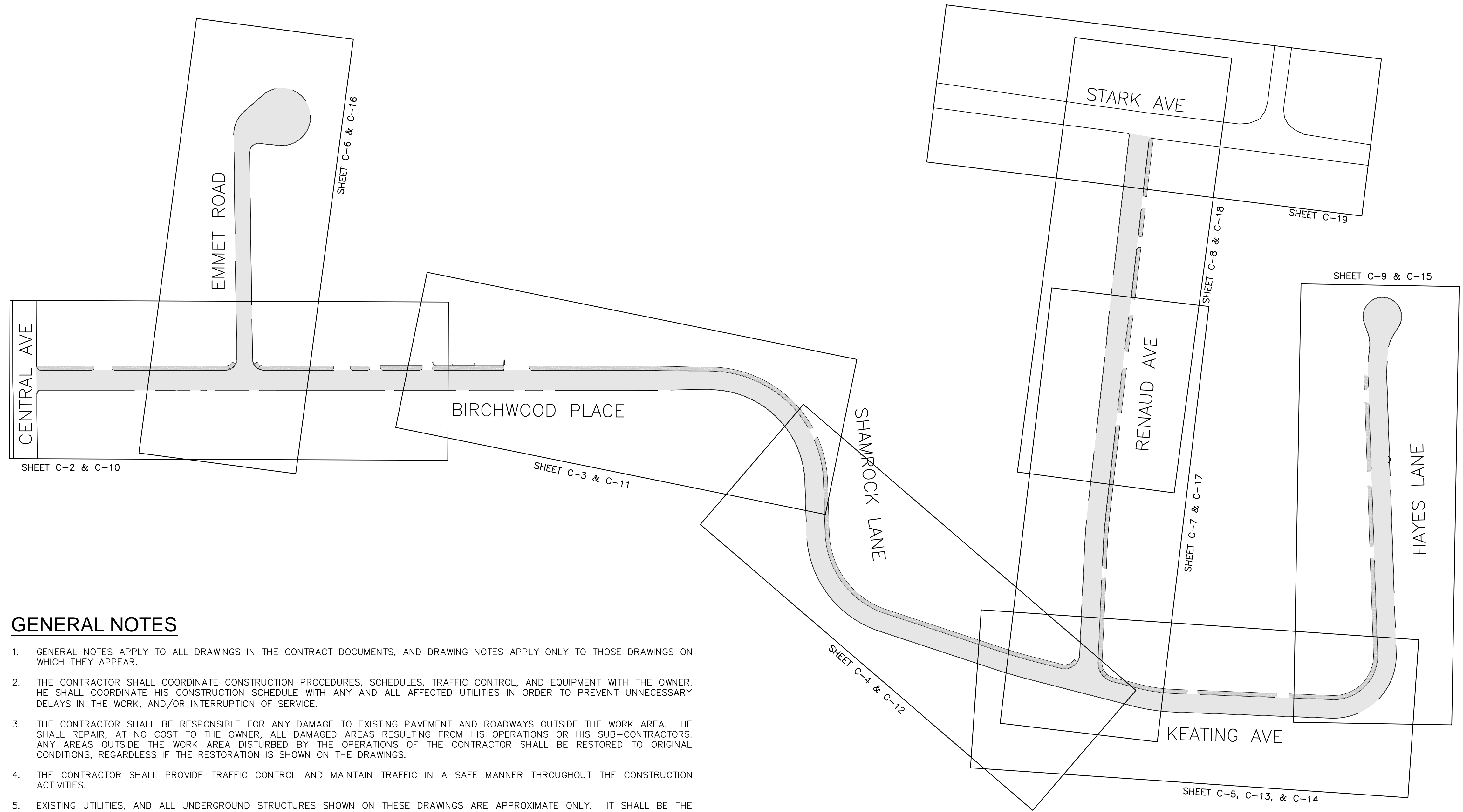
SHEET NUMBER
G-1
 SHEET 2 OF 47

LEGEND:

EXISTING	PROPOSED	
		TREE LINE
		MINOR CONTOUR
		MAJOR CONTOUR
		SPOT ELEVATION
		BORING LOCATION
		UNDERGROUND ELECTRIC
		DRAIN LINE
		SEWER LINE
		FORCE MAIN
		OVERHEAD WIRE
		WATER LINE
		GAS LINE
		CATCH BASIN
		SEWER MANHOLE
		DRAIN MANHOLE
		HEADWALL
		CURB STOP VALVE W/BOX
		FIRE HYDRANT
		GATE VALVE
		LIMIT OF GRADING
		SILT FENCE
		WATER SERVICE TO BE RECONNECTED
		SEWER SERVICE TO BE RECONNECTED

ABBREVIATIONS

ELEV	ELEVATION
EX	EXISTING
PROP	PROPOSED
BOS	BOTTOM OF SLOPE
TOS	TOP OF SLOPE
VGC	VERTICAL GRANITE CURB
SGC	SLOPED GRANITE CURB
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
TYP	TYPICAL
F&G	FRAME AND GRATE
F&C	FRAME AND COVER
RCP	REINFORCED CONCRETE PIPE
HDPE	POLYETHYLENE DRAIN PIPE
CLDIP	CEMENT LINED DUCTILE IRON PIPE
AC	ASBESTOS CEMENT PIPE
CTS	COPPER TUBE SIZED PIPE
HYD	HYDRANT
INV	INVERT
PP	UTILITY POLE
VIF	VERIFY IN THE FIELD
BGS	BELOW GROUND SURFACE

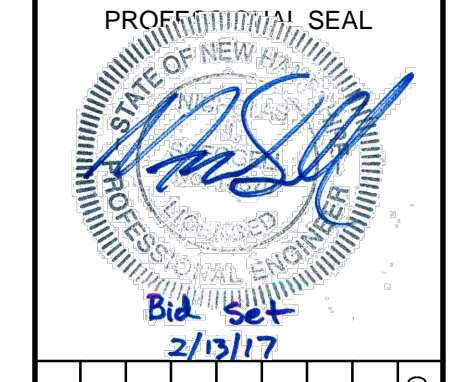


GENERAL NOTES

- GENERAL NOTES APPLY TO ALL DRAWINGS IN THE CONTRACT DOCUMENTS, AND DRAWING NOTES APPLY ONLY TO THOSE DRAWINGS ON WHICH THEY APPEAR.
- THE CONTRACTOR SHALL COORDINATE CONSTRUCTION PROCEDURES, SCHEDULES, TRAFFIC CONTROL, AND EQUIPMENT WITH THE OWNER. HE SHALL COORDINATE HIS CONSTRUCTION SCHEDULE WITH ANY AND ALL AFFECTED UTILITIES IN ORDER TO PREVENT UNNECESSARY DELAYS IN THE WORK, AND/OR INTERRUPTION OF SERVICE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING PAVEMENT AND ROADWAYS OUTSIDE THE WORK AREA. HE SHALL REPAIR, AT NO COST TO THE OWNER, ALL DAMAGED AREAS RESULTING FROM HIS OPERATIONS OR HIS SUB-CONTRACTORS. ANY AREAS OUTSIDE THE WORK AREA DISTURBED BY THE OPERATIONS OF THE CONTRACTOR SHALL BE RESTORED TO ORIGINAL CONDITIONS, REGARDLESS IF THE RESTORATION IS SHOWN ON THE DRAWINGS.
- THE CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL AND MAINTAIN TRAFFIC IN A SAFE MANNER THROUGHOUT THE CONSTRUCTION ACTIVITIES.
- EXISTING UTILITIES, AND ALL UNDERGROUND STRUCTURES SHOWN ON THESE DRAWINGS ARE APPROXIMATE ONLY. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY AND LOCATE ALL AFFECTED UTILITIES. THE ENGINEER NOR THE OWNER GUARANTEES THE LOCATION OF EXISTING UTILITIES SHOWN ON THESE DRAWINGS.
- ALL AREAS BEYOND THE LIMITS OF CONSTRUCTION WHICH ARE DISTURBED OR DAMAGED BY THE CONTRACTOR SHALL BE RESTORED TO THEIR ORIGINAL CONDITION BY THE CONTRACTOR AT NO COST TO THE OWNER.
- ANY PROPERTY LINES SHOWN ON THESE DRAWINGS ARE APPROXIMATE ONLY, AND SHOWN ONLY FOR REFERENCE.
- THE CONTRACTOR AND ALL HIS SUB-CONTRACTORS SHALL BECOME FAMILIAR WITH THE CONTRACT DOCUMENTS. ANY DISCREPANCIES SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH THE AFFECTED WORK. ANY VARIATIONS OR SUBSTITUTIONS MUST HAVE PRIOR APPROVAL OF THE ENGINEER.
- DUBOIS & KING WAIVES ALL LIABILITY AND RESPONSIBILITY FOR PROBLEMS WHICH ARISE FROM FAILURE TO FOLLOW THESE PLANS AND SPECIFICATIONS, AND THE DESIGN INTENT WHICH THEY CONVEY, OR FOR PROBLEMS WHICH ARISE FROM FAILURE TO OBTAIN AND/OR FOLLOW DUBOIS & KING GUIDANCE WITH RESPECT TO ANY ERRORS, OMISSIONS, AMBIGUITIES, OR CONFLICTS WHICH ARE ALLEGED.
- REFERENCES TO THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION (NHDT) SPECIFICATIONS SHALL REQUIRE THAT THE MATERIAL AND INSTALLATION COMPLY WITH THE CURRENT VERSION OF THE NHDT SPECIFICATIONS, FOR THE SECTION SPECIFIED.
- TOPOGRAPHIC SURVEY DATA FOR THIS PROJECT WAS PRODUCED BY DUBOIS & KING, INC, RANDOLPH, VT., AND DOUCET SURVEY, NEWMARKET, NH. SURVEY DATUM IS NH STATE PLANE COORDINATE FEET AND NAVD 88.
- PROTECT BENCH MARKS AND EXISTING WORK FROM DAMAGE OR DISPLACEMENT.
- THE CONTRACTOR SHALL IMPLEMENT ALL REASONABLE MEASURES TO MINIMIZE EROSION.
- SUBSOIL MATERIAL SUITABLE FOR REUSE SHALL INCLUDE EXCAVATED MATERIAL OR BORROW MATERIAL FREE FROM DEBRIS, PIECES OF PAVEMENT, FROZEN MATERIAL, ORGANIC MATTER, TOPSOIL, ALL WET OR SOFT MUCK, PEAT OR CLAY. REUSE OF EXISTING MATERIAL OR BORROW MATERIAL PRIOR TO BEING BROUGHT TO THE SITE SHALL BE APPROVED BY THE ENGINEER.
- EROSION CONTROL STRUCTURES SHALL BE INSPECTED AFTER EACH RAINSTORM OF 1 INCH OR MORE, AND BE MAINTAINED WHEN NECESSARY, BUT IN NO CASE LESS OFTEN THAN ONCE PER MONTH.

CONSTRUCTION NOTES

- ALL RIM ELEVATIONS ARE APPROXIMATE AND SHALL BE ADJUSTED BY THE CONTRACTOR TO THE ELEVATION OF THE PROPOSED PAVEMENT.
- CONTRACTOR TO BE RESPONSIBLE FOR MAINTAINING FUNCTION OF EXISTING UTILITIES (WATER, SEWER AND STORM DRAIN SYSTEMS) DURING INSTALLATION OF NEW UTILITIES, AND UNTIL NEW UTILITIES ARE INSTALLED, TESTED, ACCEPTED AND PLACED INTO SERVICE. THE COST ASSOCIATED WITH MAINTAINING EXISTING UTILITY FUNCTION SHALL BE PART OF THE UNIT PRICE OF UTILITY INSTALLED.
- CONTRACTOR SHALL VERIFY INVERT ELEVATIONS AT CONNECTIONS TO ALL EXISTING STORM DRAIN CATCH BASINS AND SANITARY MANHOLES PRIOR TO STARTING WORK, AND DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER.
- CONTRACTOR SHALL PROVIDE NEW GRAVEL AND CRUSHED GRAVEL AS SPECIFIED WITH THE TRENCH RESTORATION PRIOR TO PLACING TEMPORARY PAVEMENT.
- ALL LAWNS AND WALKS SHALL BE REPAIRED BY THE CONTRACTOR AS PART OF THE UNIT PRICE OF UTILITY INSTALLED.
- SEE SPECIFICATION SECTION 01100 FOR A SUGGESTED CONSTRUCTION SEQUENCE.
- TEMPORARY WATER SERVICE, IF INSTALLED, SHALL BE PROVIDED IN ACCORDANCE WITH SPECIFICATION SECTION 02710.
- CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING MANHOLE AND CATCH BASIN STRUCTURES, AND EXISTING PIPES ENCOUNTERED DURING INSTALLATION OF NEW UTILITIES. PORTIONS OF THE EXISTING BURIED UTILITIES THAT WILL REMAIN THAT ARE 12 INCHES IN DIAMETER OR LARGER, SHALL BE FILLED WITH FLOWABLE FILL.
- CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANIES AND PAY FOR TEMPORARY SUPPORT OF UTILITY POLES, IF NECESSARY FOR CONSTRUCTION.
- ALL EXISTING SIGNS WITHIN THE PROJECT LIMITS SHALL BE REMOVED AND RE-INSTALLED ON NEW POSTS PER THE DETAIL PROVIDED ON SHEET D-2.



NO.	DATE	DESCRIPTION	BY	CKD

CITY OF DOVER
 288 CENTRAL AVE
 DOVER, NH 03820

CITY OF DOVER
 KEATING-
 BIRCHWOOD AREA
 RECONSTRUCTION

SHEET TITLE

TYPICAL SECTIONS

DRAWN BY
 NJS

DATE
 FEB 2017

CHECKED BY
 CKG

D&K PROJECT #
 222952

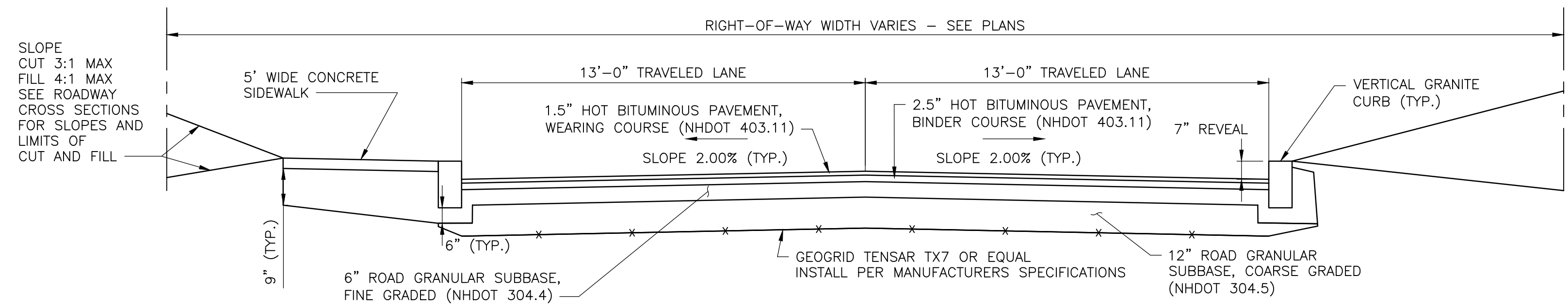
PROJ. ENG.
 NJS

D&K ARCHIVE #

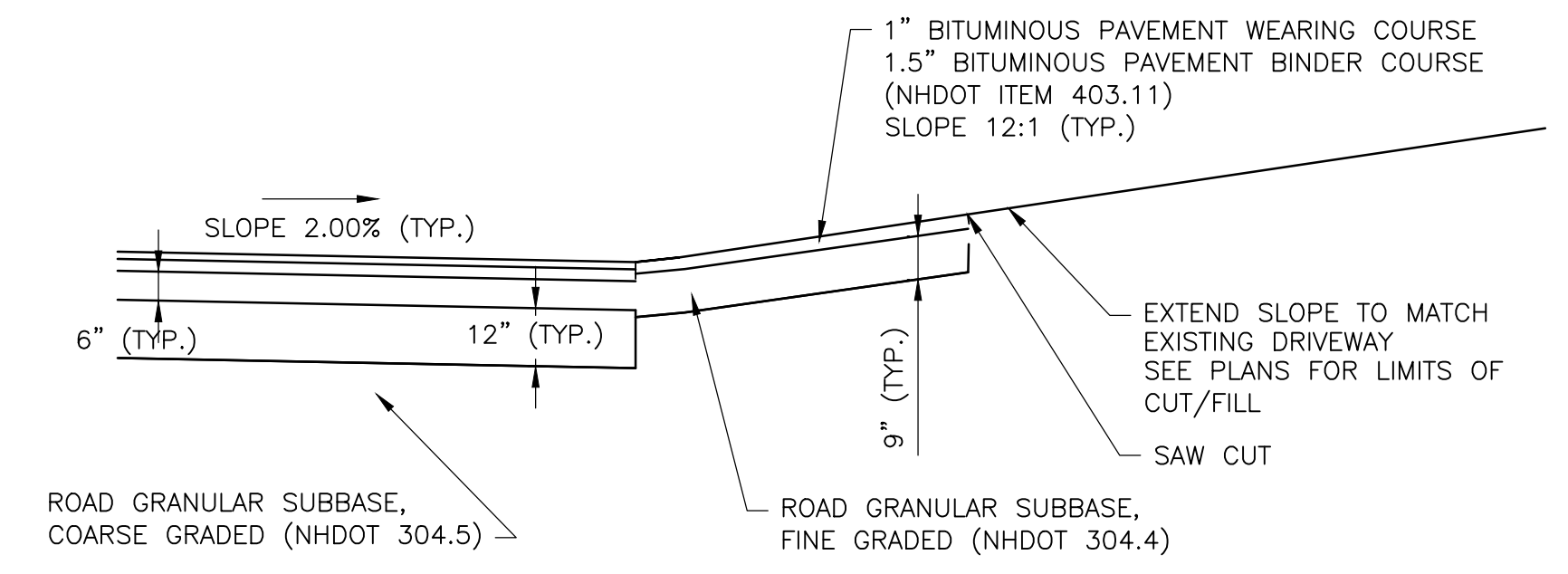
SHEET NUMBER

C-1

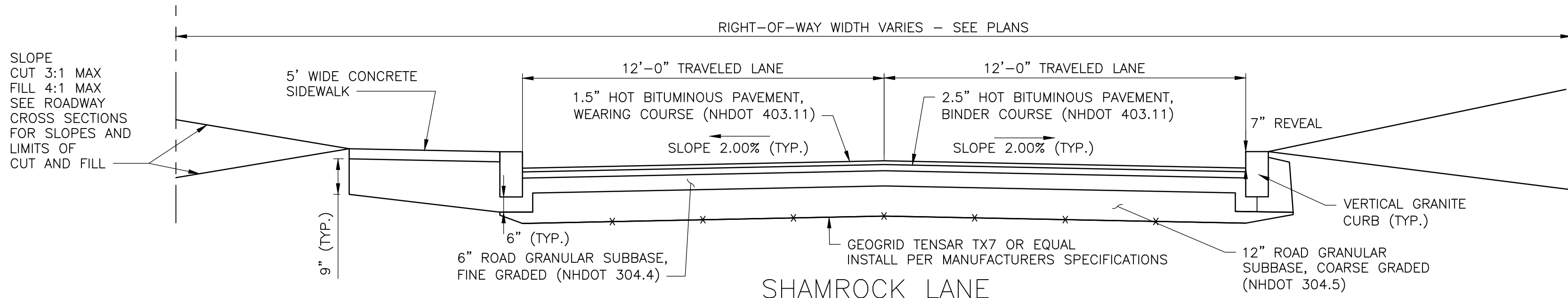
SHEET 3 OF 47



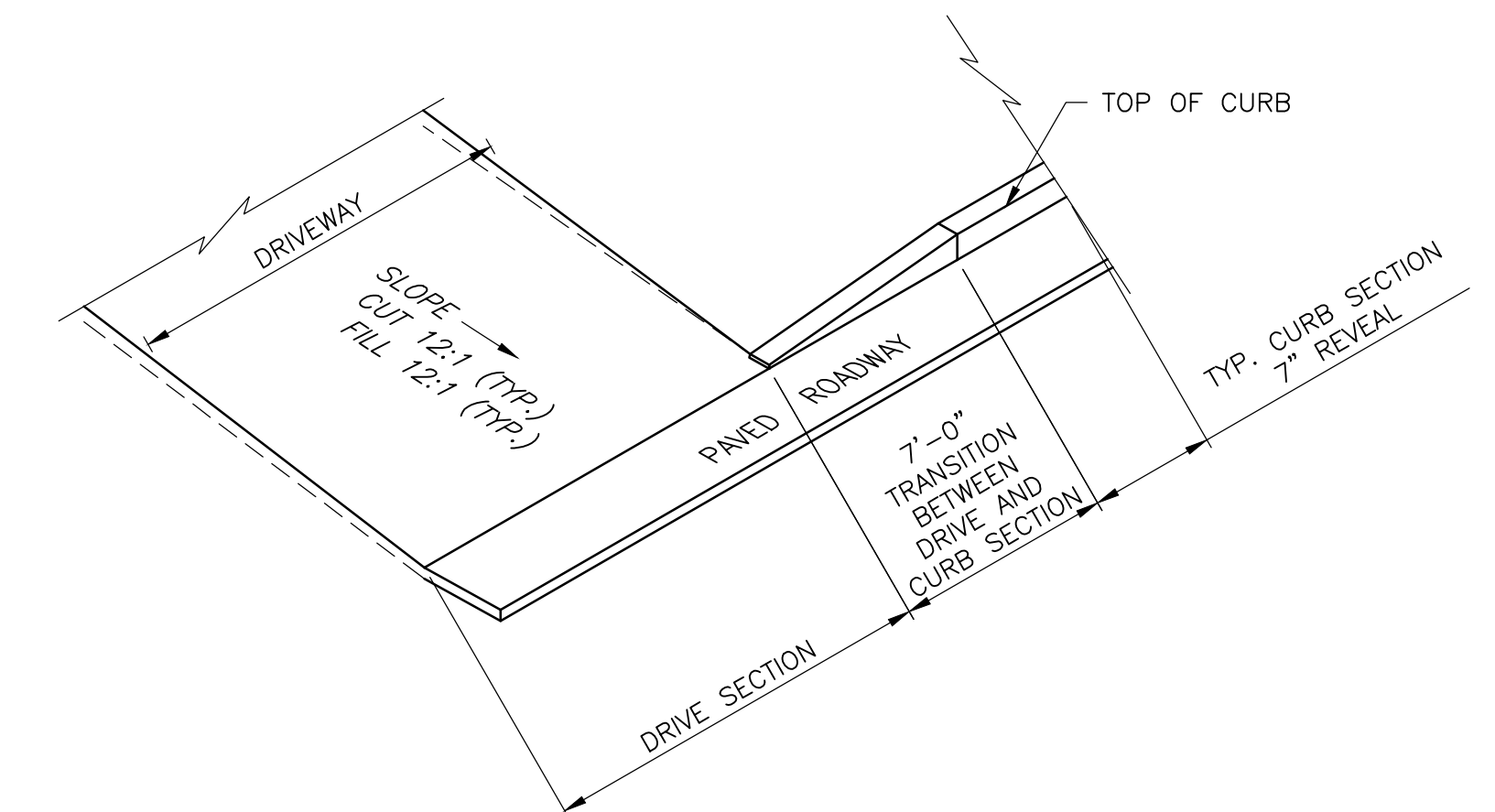
BIRCHWOOD PLACE STA 0+00 - 8+25
 RENAUD AVENUE STA 44+92 - 47+40
 TYPICAL SECTION
 NOT TO SCALE



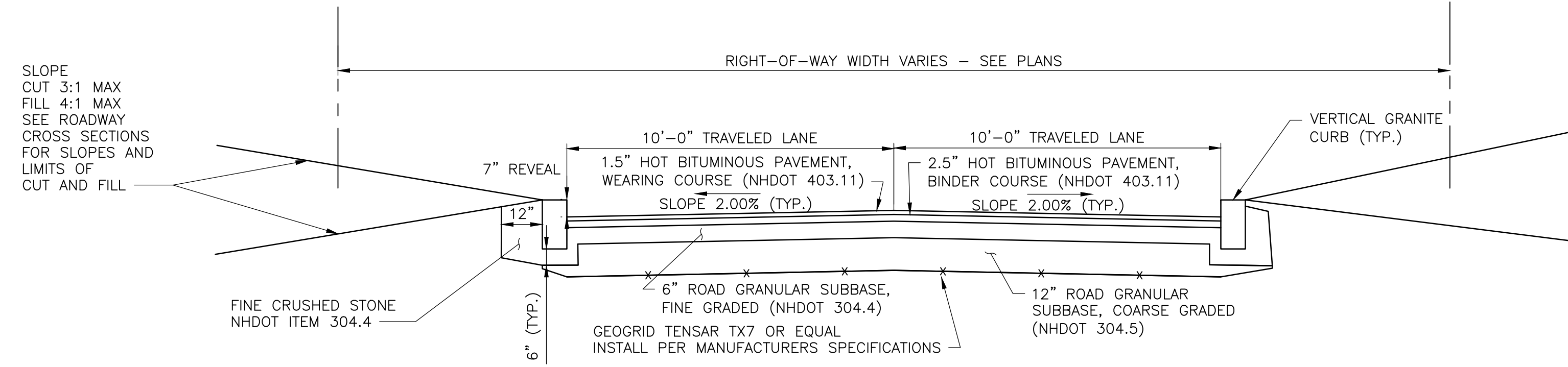
TYPICAL SECTION AT DRIVEWAY
 NOT TO SCALE



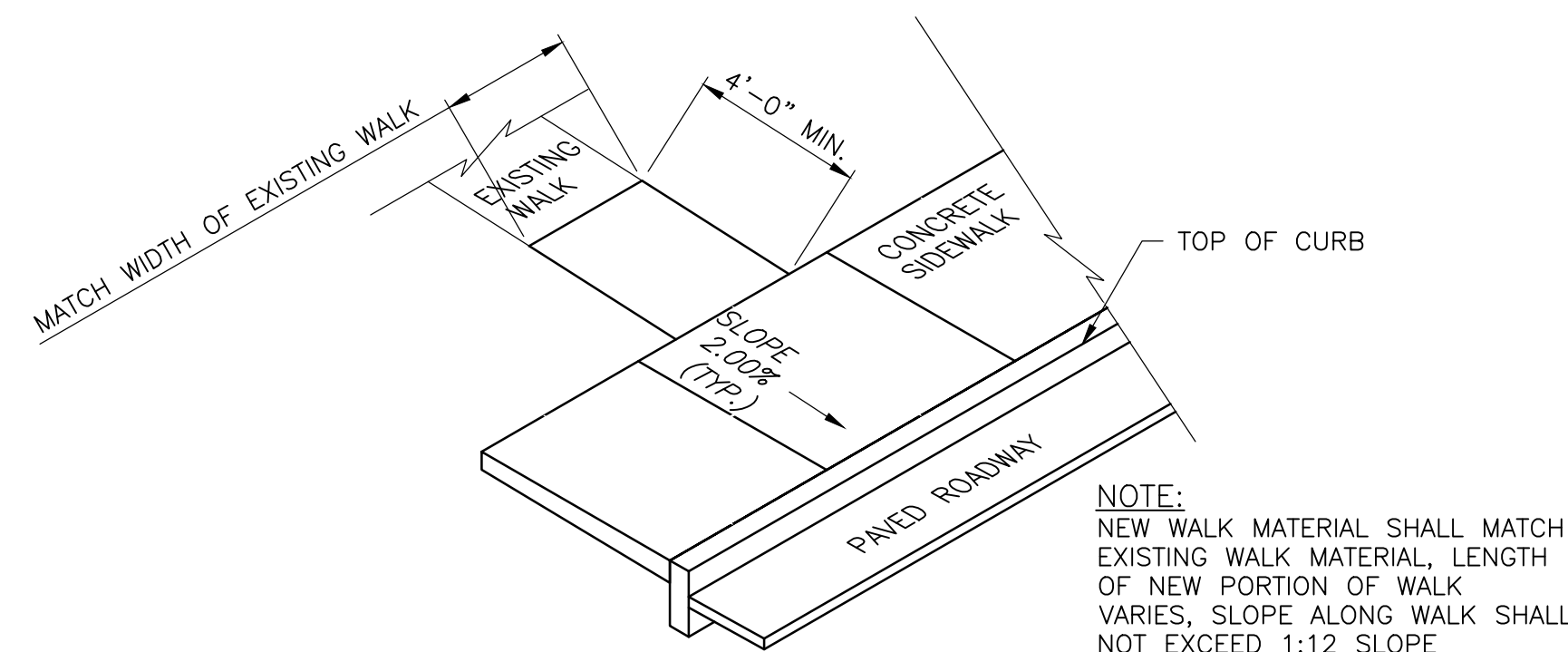
SHAMROCK LANE
 KEATING AVENUE
 HAYES AVENUE
 RENAUD AVENUE STA 40+00 - 44+42
 TYPICAL SECTION
 NOT TO SCALE



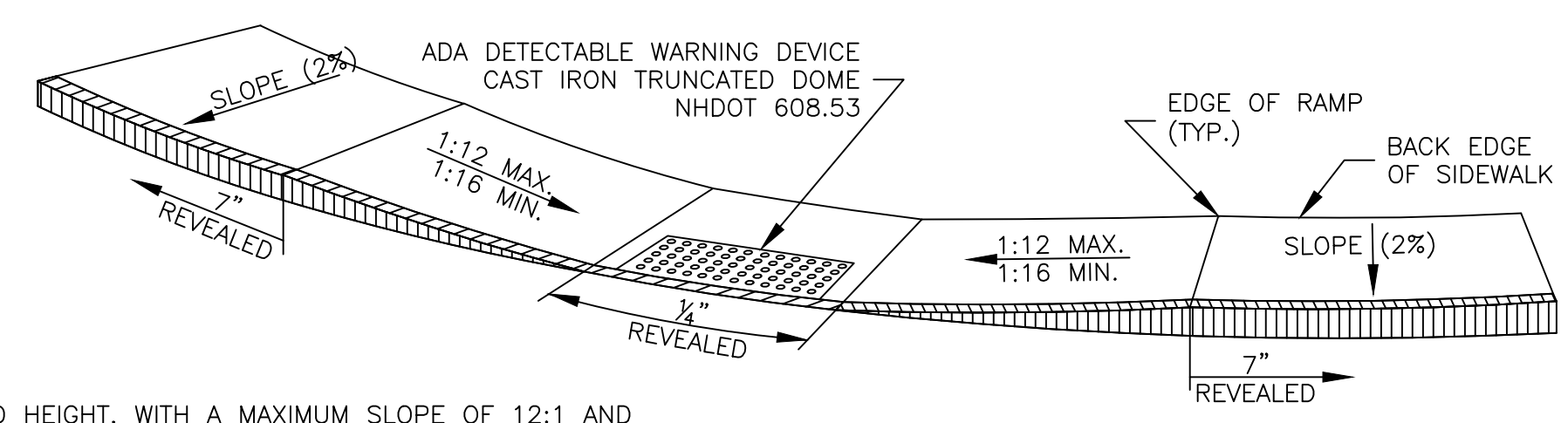
TYPICAL CURB AT DRIVEWAY (SCHEMATIC)
 NOT TO SCALE



EMMET ROAD
 TYPICAL SECTION
 NOT TO SCALE



TYPICAL SIDEWALK AT EXISTING WALK (SCHEMATIC)
 NOT TO SCALE

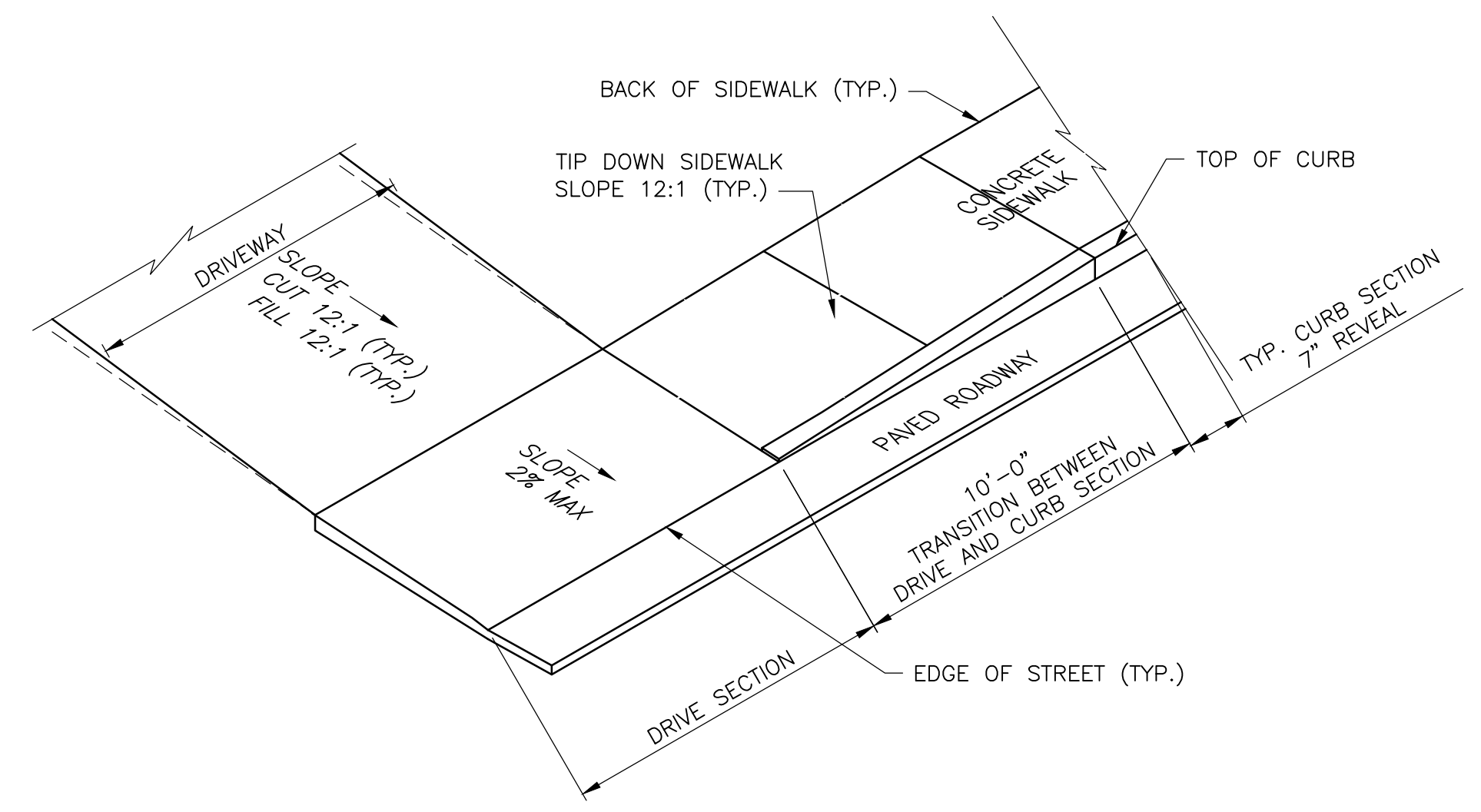


SIDEWALK CORNER DETAIL
 NOT TO SCALE

- NOTES:
1. SLOPE OF RAMP VARIES WITH SIDEWALK WIDTH AND HEIGHT, WITH A MAXIMUM SLOPE OF 12:1 AND MINIMUM SLOPE OF 16:1
 2. A BROOM FINISH TRANSVERSE TO THE SLOPE SHALL BE USED ON PORTLAND CEMENT CONCRETE RAMPS
 3. MAINTAIN THE NORMAL GUTTER PROFILE THROUGHOUT THE RAMP AREA
 4. INTERCEPT DRAINAGE ALONG THE CURB IN ADVANCE OF THE RAMP

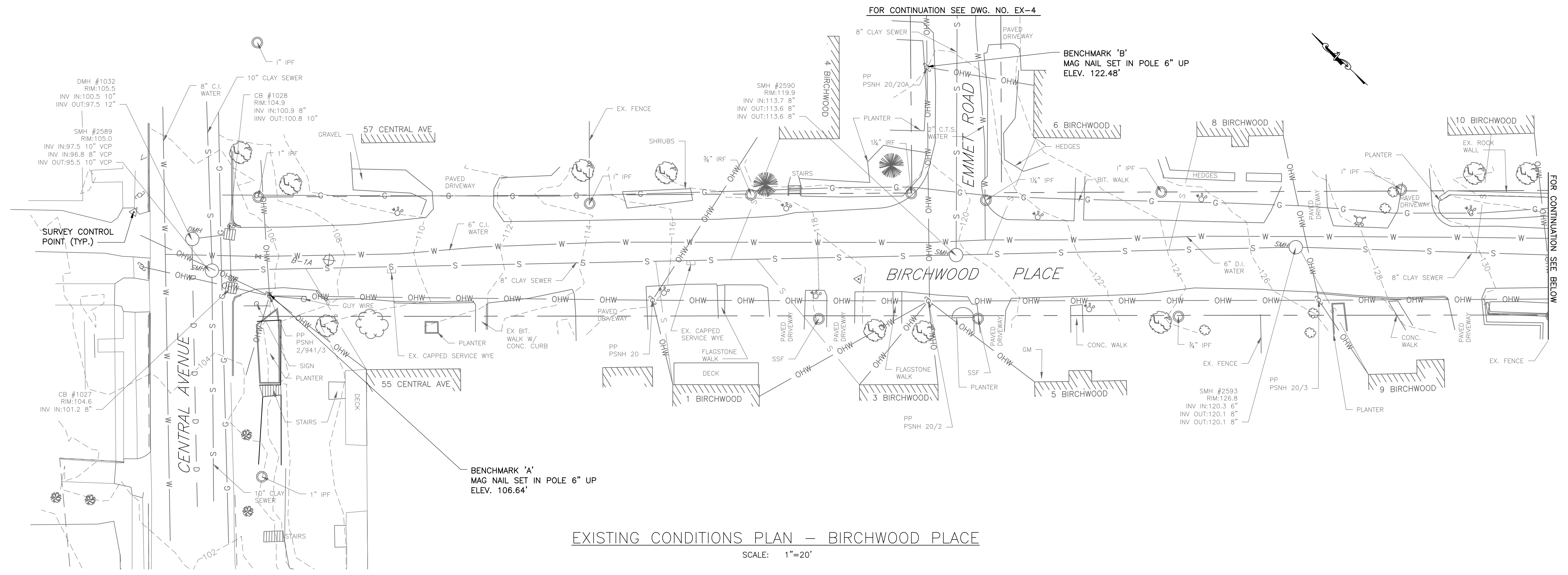
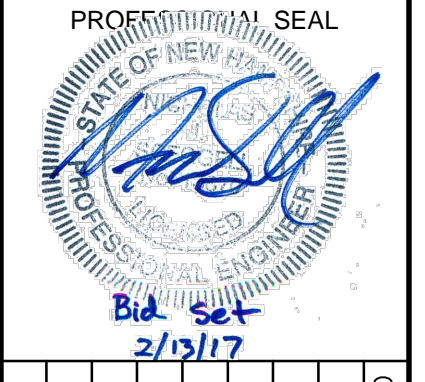
ROAD SECTION NOTES

- ROAD SECTION
- 1.5" HOT BITUMINOUS PAVEMENT WEARING COURSE (NHDOT ITEM 403.11)
 - 2.5" HOT BITUMINOUS PAVEMENT BINDER COURSE (NHDOT ITEM 403.11)
 - 6" ROAD GRANULAR SUBBASE, FINE GRADED (NHDOT ITEM 304.4)
 - 12" ROAD GRANULAR SUBBASE, COARSE GRADED (NHDOT ITEM 304.5)
 - GEOGRID LAYER TENSAR TX7 OR EQUAL

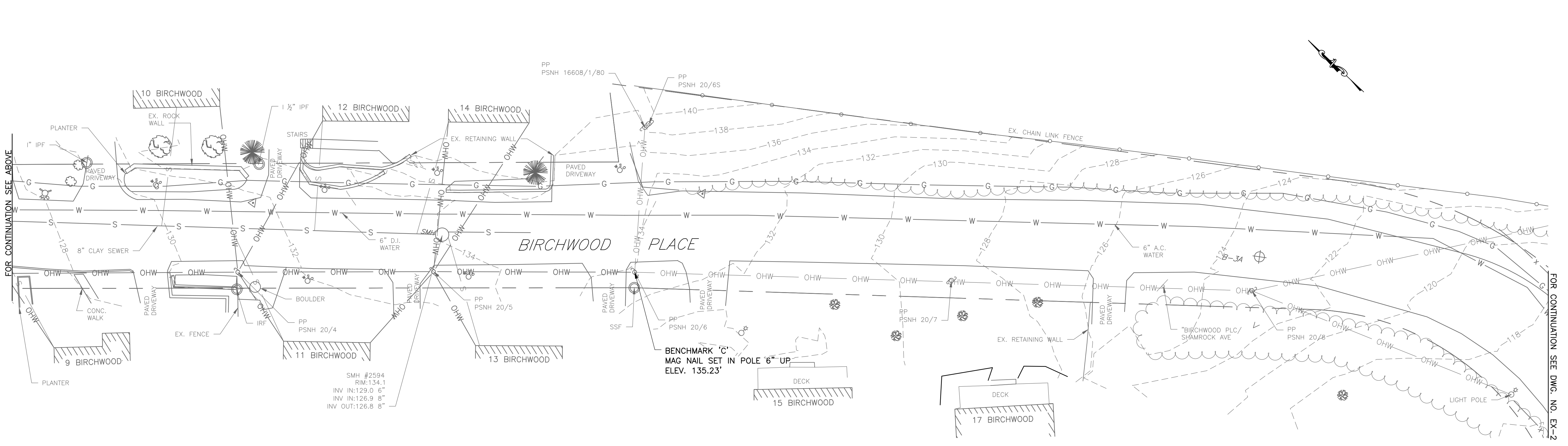


TYPICAL CURB W/ SIDEWALK AT DRIVEWAY (SCHEMATIC)
 NOT TO SCALE

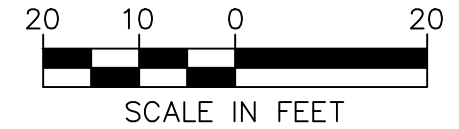
I:\222952-Dover-Keating-Birchwood\Drawings\C1-TYPICAL SECTIONS.dwg 2/13/2017 4:46 PM



EXISTING CONDITIONS PLAN - BIRCHWOOD PLACE
SCALE: 1"=20'



EXISTING CONDITIONS PLAN - BIRCHWOOD PLACE
SCALE: 1"=20'



NO.	DATE	DESCRIPTION	BY	CHKD

CITY OF DOVER
288 CENTRAL AVE
DOVER, NH 03820

CITY OF DOVER
KEATING-
BIRCHWOOD AREA
RECONSTRUCTION

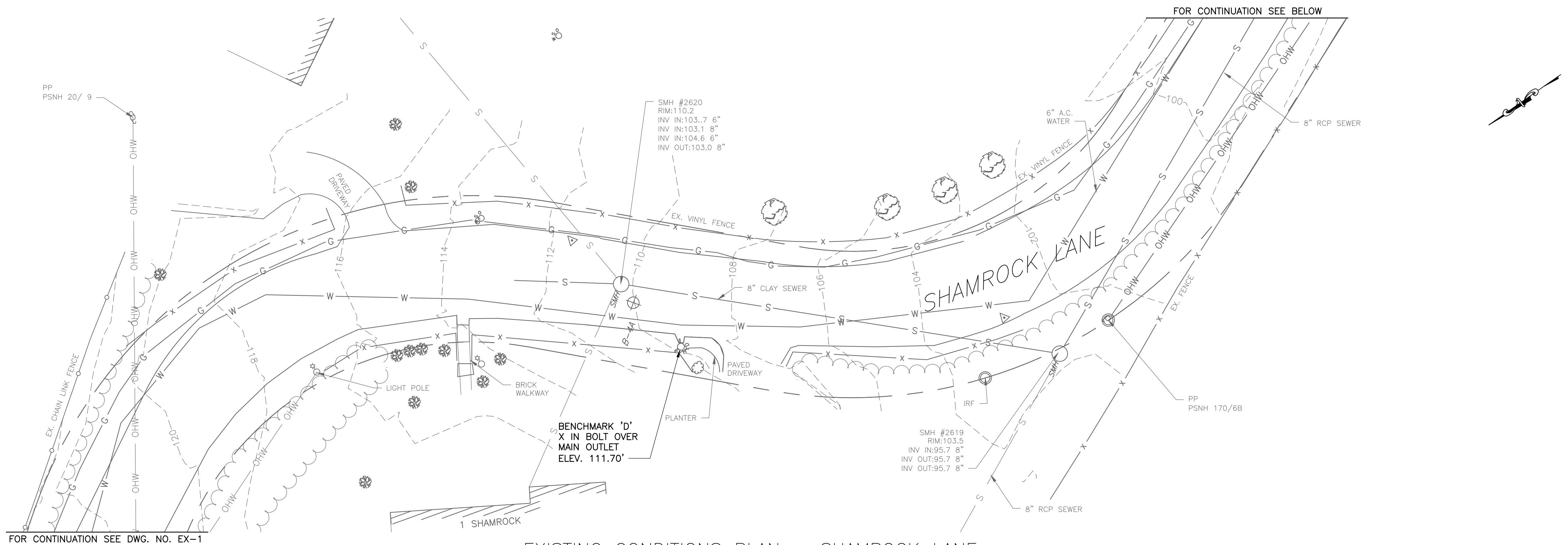
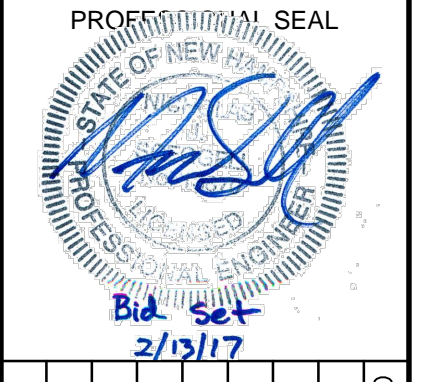
SHEET TITLE
**EXISTING
CONDITIONS
PLAN
SHEET 1**

DRAWN BY	DATE
TMG	FEB 2017
CHECKED BY	D&K PROJECT #
CKG	222952
PROJ. ENG.	D&K ARCHIVE #
NJS	

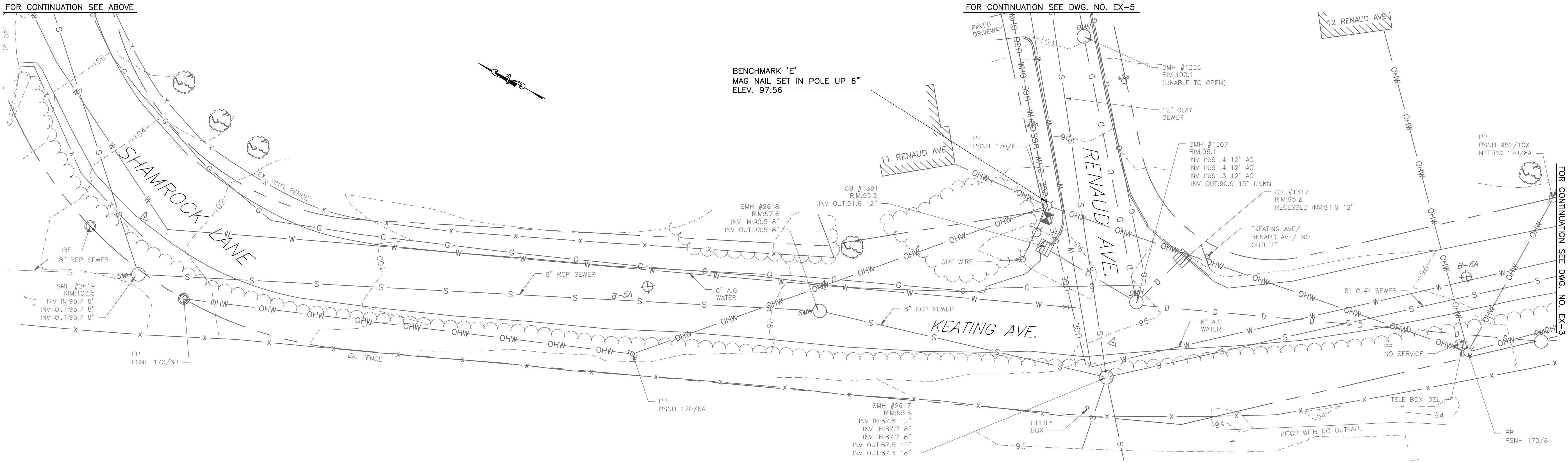
SHEET NUMBER

EX-1

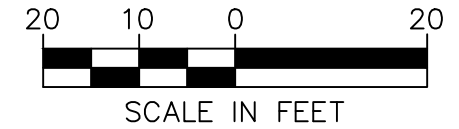
I:\222952-Dover-Keating-Birchwood\Drawings\EXISTING CONDITIONS.dwg 2/7/2017 4:21 PM



EXISTING CONDITIONS PLAN - SHAMROCK LANE
SCALE: 1"=20'



EXISTING CONDITIONS PLAN - KEATING AVENUE
SCALE: 1"=20'



NO.	DATE	DESCRIPTION	BY	CHKD

CITY OF DOVER
288 CENTRAL AVE
DOVER, NH 03820

CITY OF DOVER
KEATING-
BIRCHWOOD AREA
RECONSTRUCTION

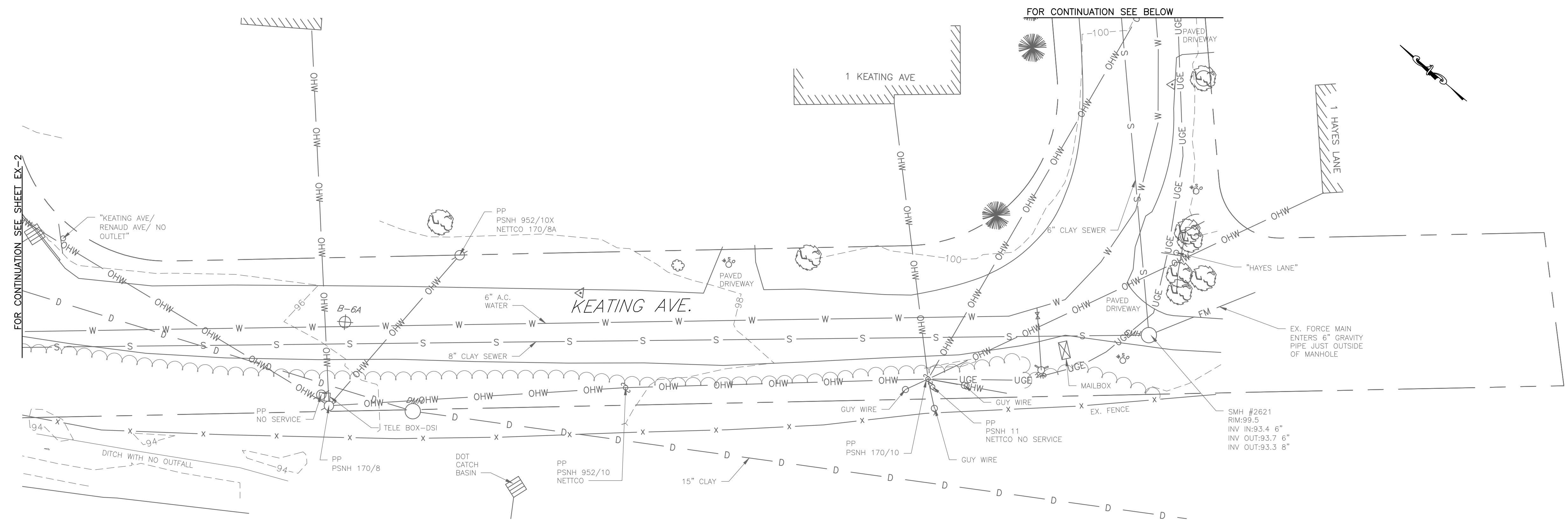
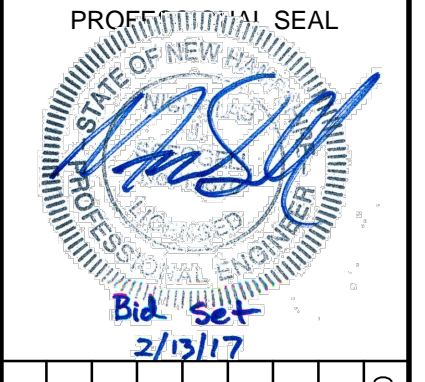
SHEET TITLE
**EXISTING
CONDITIONS
PLAN
SHEET 2**

DRAWN BY TMG	DATE FEB 2017
CHECKED BY CKG	D&K PROJECT # 222952
PROJ. ENG. NJS	D&K ARCHIVE #

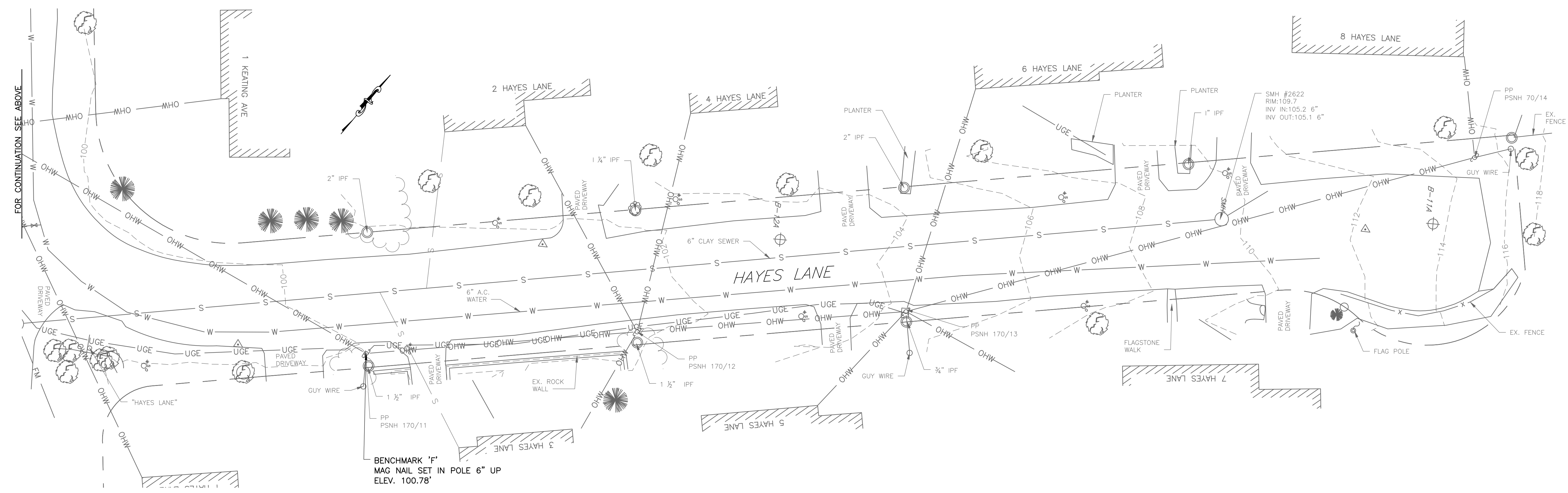
SHEET NUMBER

EX-2

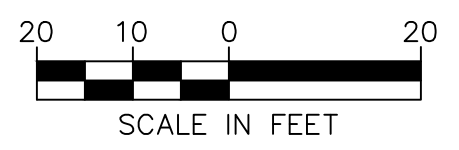
I:\222952-Dover-Keating Birchwood\Drawings\EXISTING CONDITIONS.dwg 2/16/2017 2:28 PM



EXISTING CONDITIONS PLAN - KEATING AVENUE
 SCALE: 1"=20'



EXISTING CONDITIONS PLAN - HAYES LANE
 SCALE: 1"=20'



NO.	DATE	DESCRIPTION	BY	CK'D

CITY OF DOVER
 288 CENTRAL AVE
 DOVER, NH 03820

CITY OF DOVER
 KEATING-
 BIRCHWOOD AREA
 RECONSTRUCTION

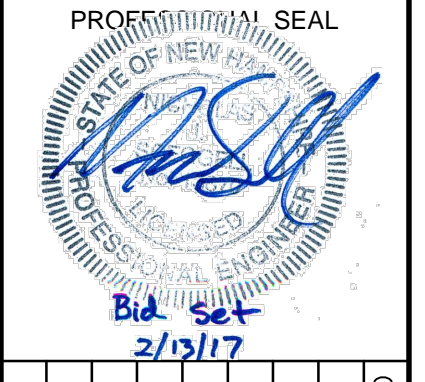
SHEET TITLE
 EXISTING
 CONDITIONS
 PLAN
 SHEET 3

DRAWN BY	DATE
TMG	FEB 2017
CHECKED BY	D&K PROJECT #
CKG	222952
PROJ. ENG.	D&K ARCHIVE #
NJS	

SHEET NUMBER

EX-3

I:\222952-Dover-Keating Birchwood\Drawings\EXISTING CONDITIONS.dwg 2/13/2017 4:34 PM



NO.	DATE	DESCRIPTION	BY	CK'D

CITY OF DOVER
288 CENTRAL AVE
DOVER, NH 03820

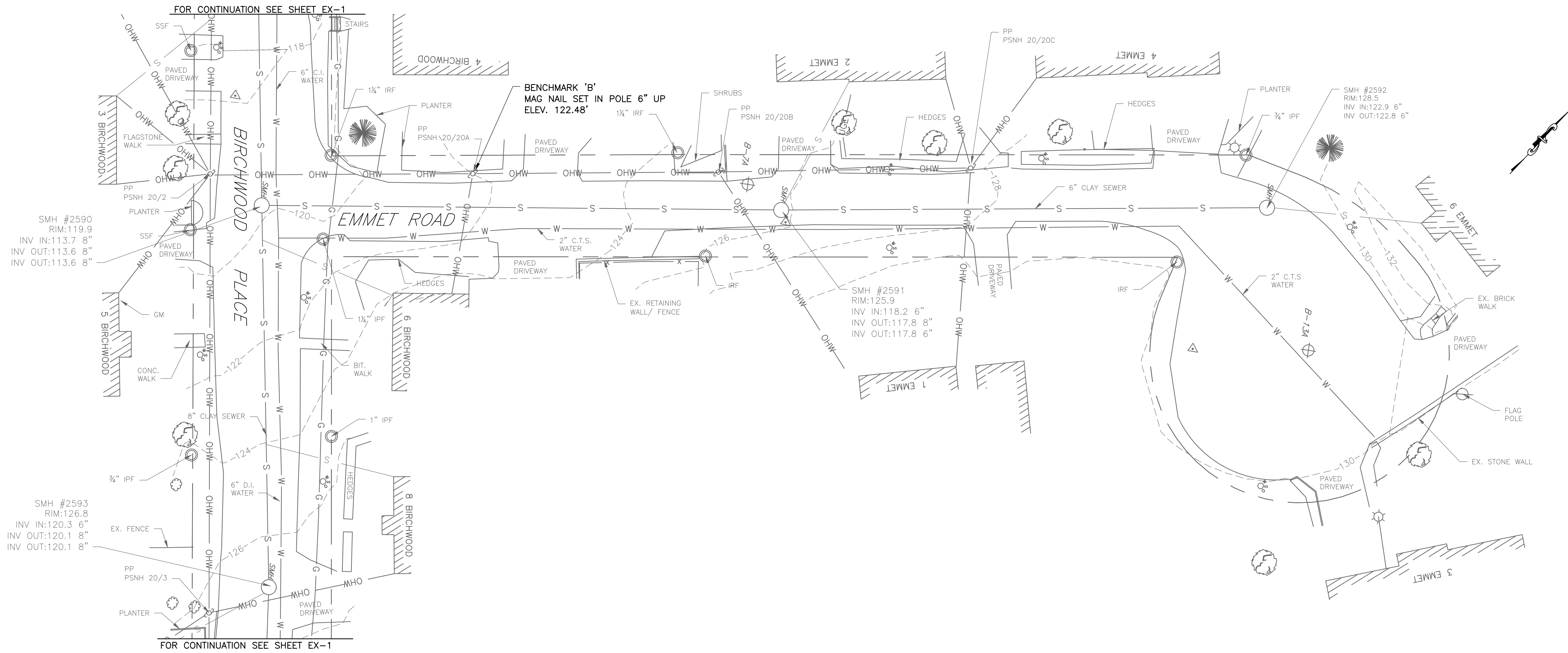
CITY OF DOVER
KEATING-
BIRCHWOOD AREA
RECONSTRUCTION

SHEET TITLE
**EXISTING
CONDITIONS
PLAN
SHEET 4**

DRAWN BY	DATE
TMG	FEB 2017
CHECKED BY	D&K PROJECT #
CKG	222952
PROJ. ENG.	D&K ARCHIVE #
NJS	

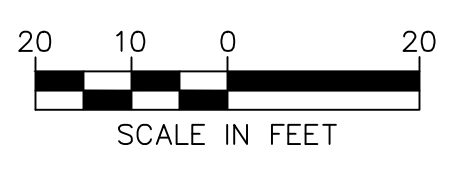
SHEET NUMBER

EX-4

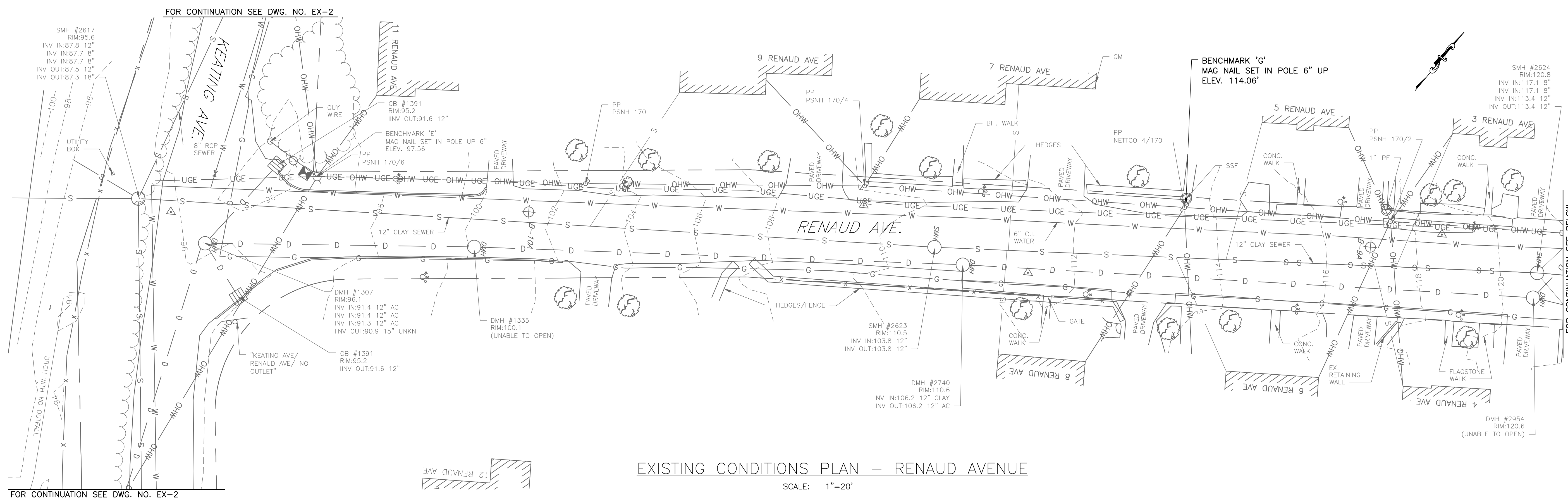
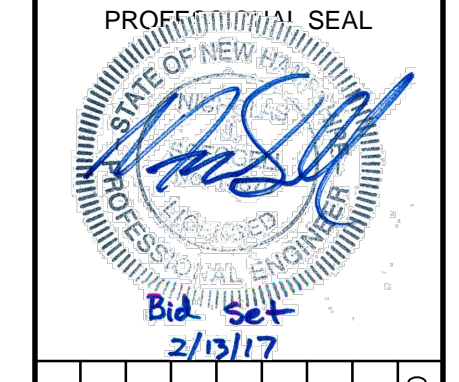


EXISTING CONDITIONS PLAN – EMMET ROAD

SCALE: 1"=20'



I:\222952-Dover-Keating-Birchwood\Drawings\EXISTING CONDITIONS.dwg 2/13/2017 4:28 PM

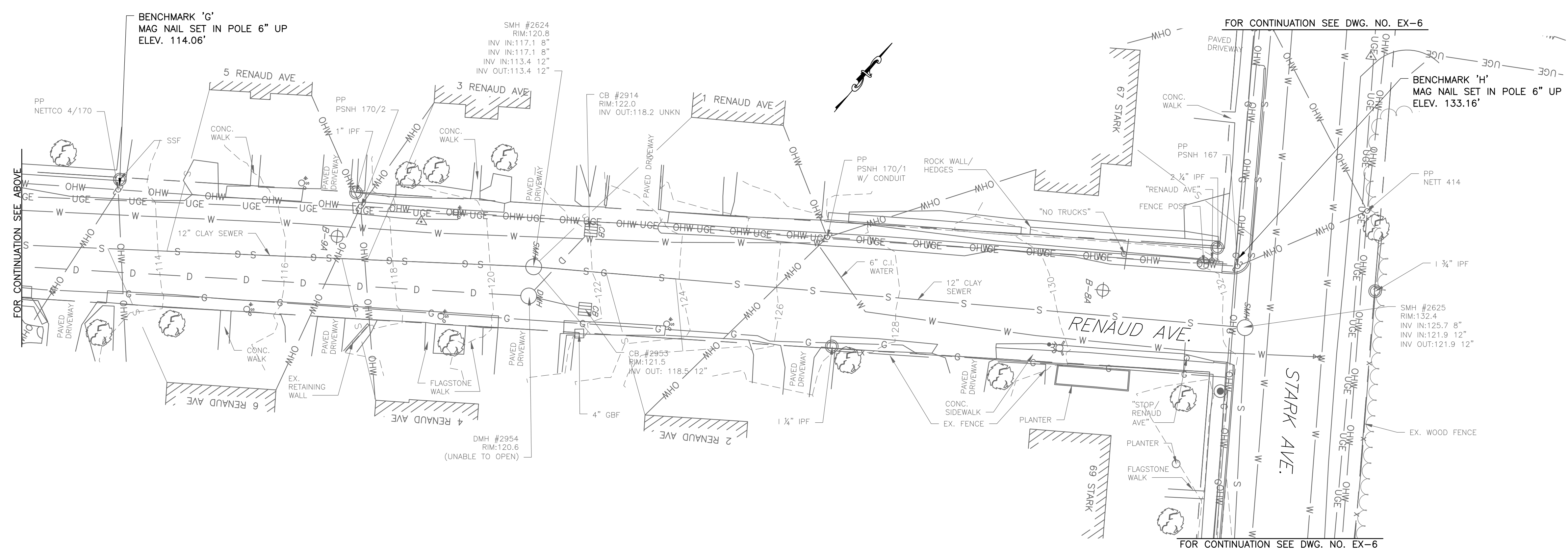


FOR CONTINUATION SEE DWG. NO. EX-2

FOR CONTINUATION SEE BELOW

EXISTING CONDITIONS PLAN - RENAUD AVENUE

SCALE: 1"=20'



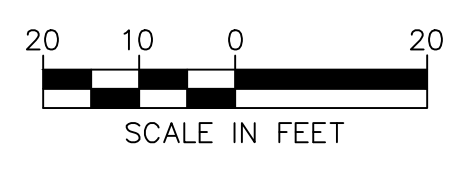
FOR CONTINUATION SEE ABOVE

FOR CONTINUATION SEE DWG. NO. EX-6

FOR CONTINUATION SEE DWG. NO. EX-6

EXISTING CONDITIONS PLAN - RENAUD AVENUE

SCALE: 1"=20'



NO.	DATE	DESCRIPTION	BY	CK'D

CITY OF DOVER
 288 CENTRAL AVE
 DOVER, NH 03820

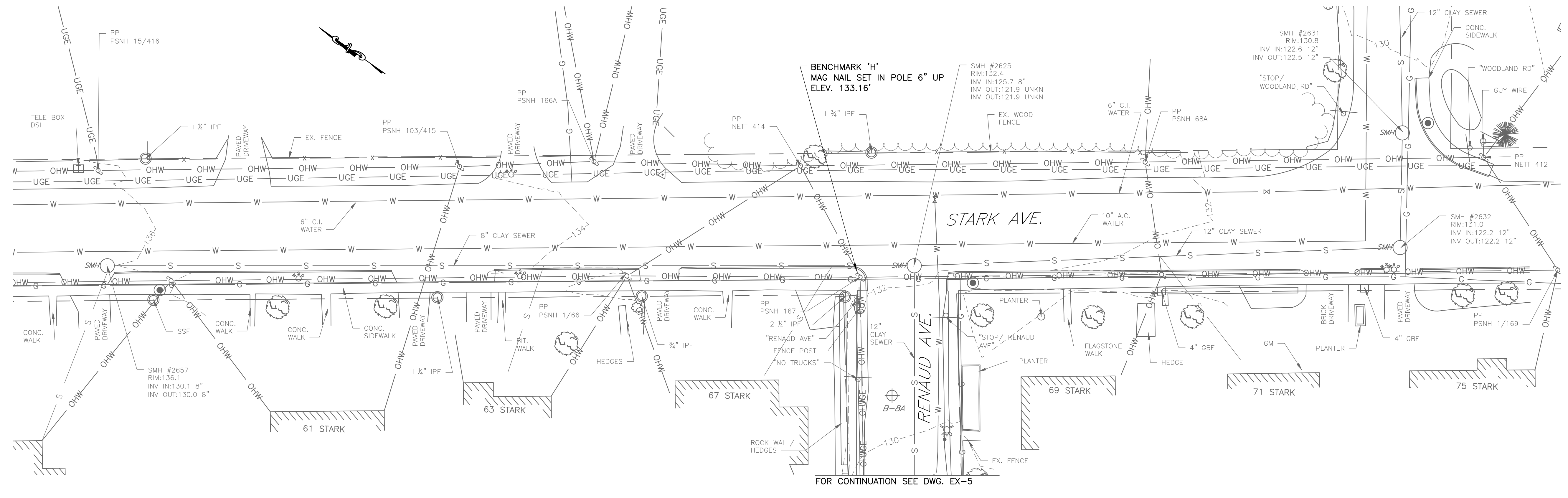
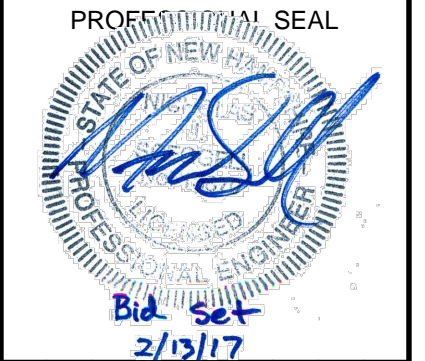
CITY OF DOVER
 KEATING-
 BIRCHWOOD AREA
 RECONSTRUCTION

SHEET TITLE
 EXISTING
 CONDITIONS
 PLAN
 SHEET 5

DRAWN BY TMG	DATE FEB 2017
CHECKED BY CKG	D&K PROJECT # 222952
PROJ. ENG. NJS	D&K ARCHIVE #

SHEET NUMBER

EX-5



EXISTING CONDITIONS PLAN – STARK AVENUE
 SCALE: 1"=20'

NO.	DATE	DESCRIPTION	BY	CHKD

CITY OF DOVER
 288 CENTRAL AVE
 DOVER, NH 03820

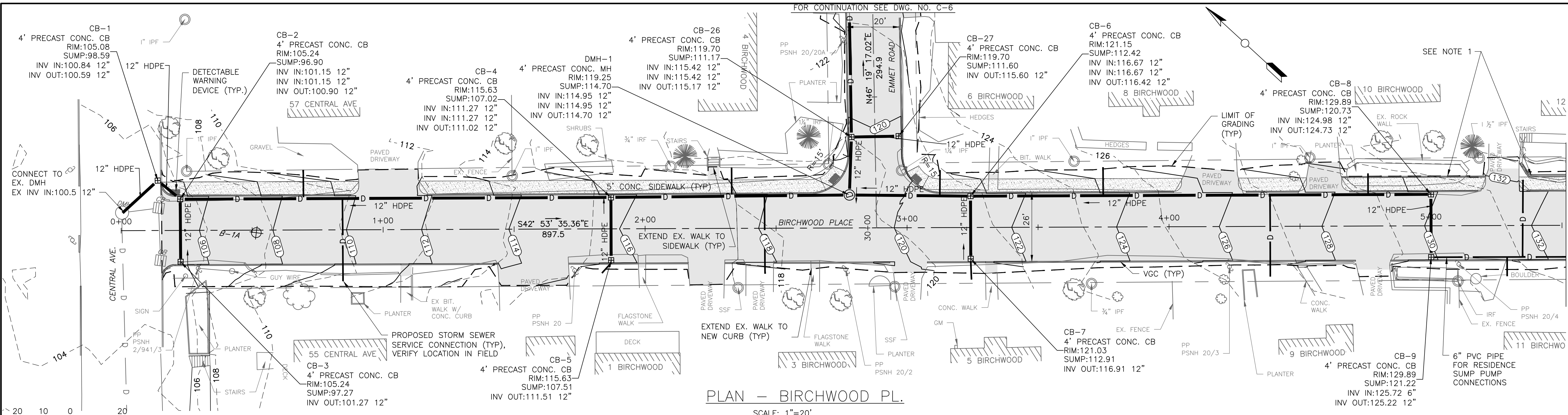
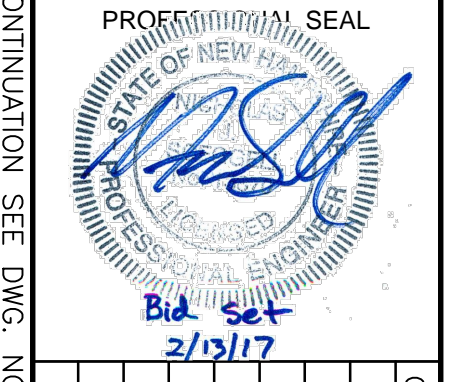
CITY OF DOVER
 KEATING-
 BIRCHWOOD AREA
 RECONSTRUCTION

SHEET TITLE
 EXISTING
 CONDITIONS
 PLAN
 SHEET 6

DRAWN BY	DATE
TMG	FEB 2017
CHECKED BY	D&K PROJECT #
CKG	222952
PROJ. ENG.	D&K ARCHIVE #
NJS	

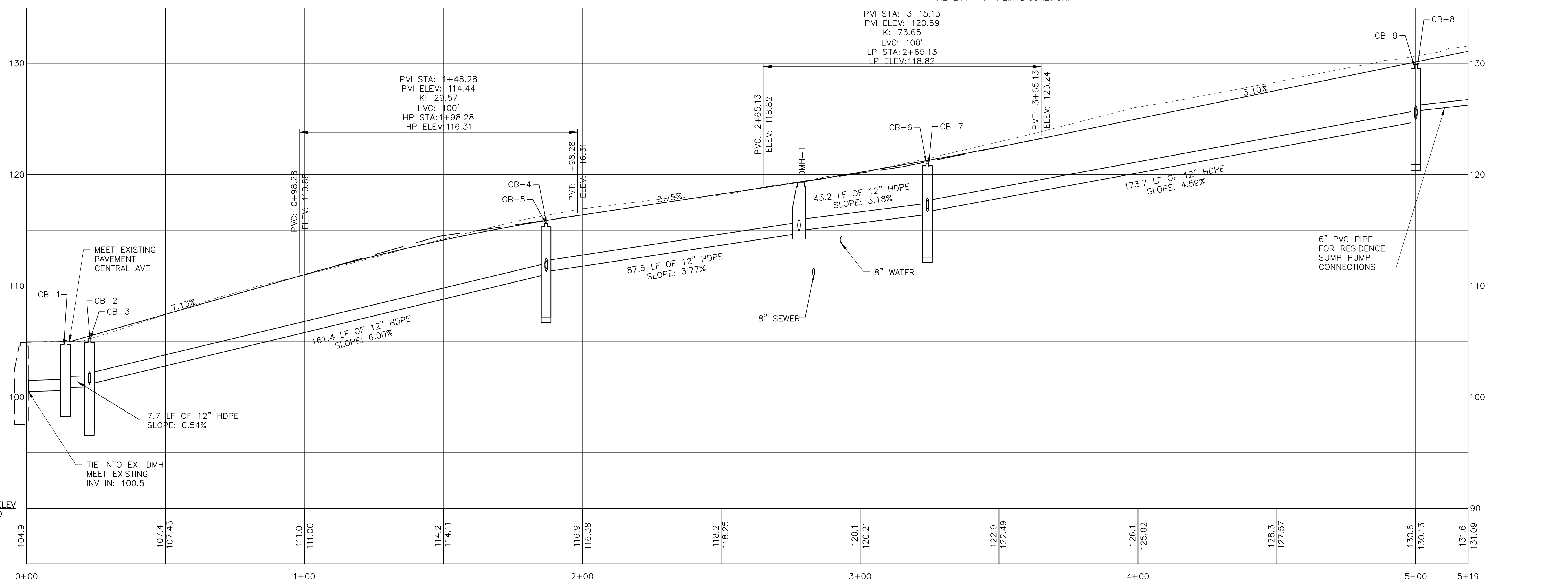
SHEET NUMBER

EX-6

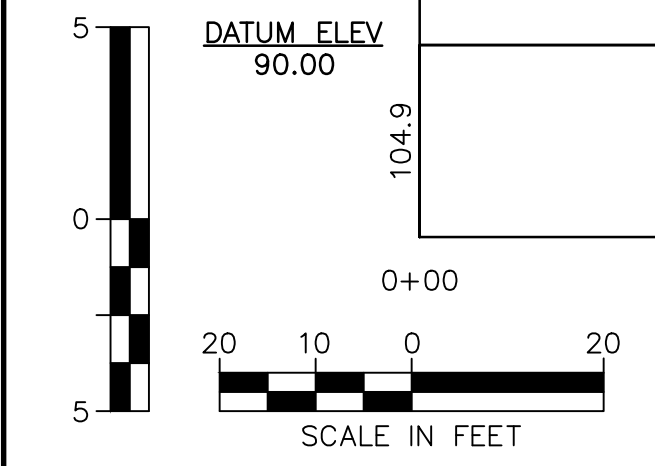


PLAN - BIRCHWOOD PL.
 SCALE: 1"=20'

NOTE:
 1. CONTRACTOR SHALL REMOVE AND REPLACE PORTIONS OF THE EXISTING PRECAST BLOCK RETAINING WALLS AT 12 AND 14 BIRCHWOOD PLACE. RELOCATED BLOCKS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. ANY BLOCKS DAMAGED SHALL BE REPLACED WITH MATCHING BLOCK FROM THE PRECAST MANUFACTURER. CONTRACTOR SHALL INSTALL VERTICAL GRANITE CURB ALONG BACK OF SIDEWALK BETWEEN 12 AND 14 BIRCHWOOD, AND AT 10 BIRCHWOOD PLACE. GRANITE CURB SHALL BE 48" TALL WITH 18" OF REVEAL. LANDSCAPE PLANTINGS SHALL BE PROTECTED TO THE EXTENT POSSIBLE OR TRANSPLANTED TO MIMIC EXISTING. WHERE TRANSPLANTING ALONG WALL IS NOT FEASIBLE, SAVE PLANTS FOR OWNER TO REPLANT AT THEIR DISCRETION.



PROFILE - BIRCHWOOD PL.
 SCALE: HORIZ 1"=20'
 VERT 1"=5'



NO.	DATE	DESCRIPTION	BY	CHKD

CITY OF DOVER
 288 CENTRAL AVE
 DOVER, NH 03820

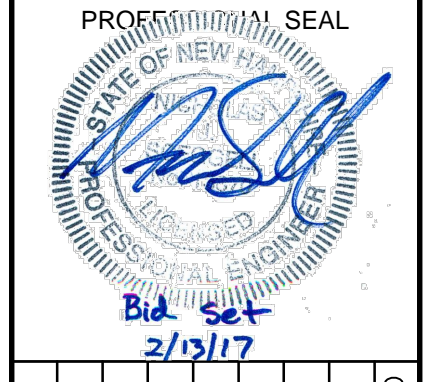
CITY OF DOVER
 KEATING-
 BIRCHWOOD AREA
 RECONSTRUCTION

SHEET TITLE
 ROADWAY
 PLAN AND PROFILE
 SHEET 1

DRAWN BY	DATE
KLL	FEB 2017
CHECKED BY	D&K PROJECT #
CKG	222952
PROJ. ENG.	D&K ARCHIVE #
NJS	

SHEET NUMBER
C-2
 SHEET 10 OF 47

I:\222952-Dover Keating Birchwood\Drawings\Plan and Profile-Roadway.dwg 2/3/2017 5:23 PM



NO.	DATE	DESCRIPTION	BY	CK'D

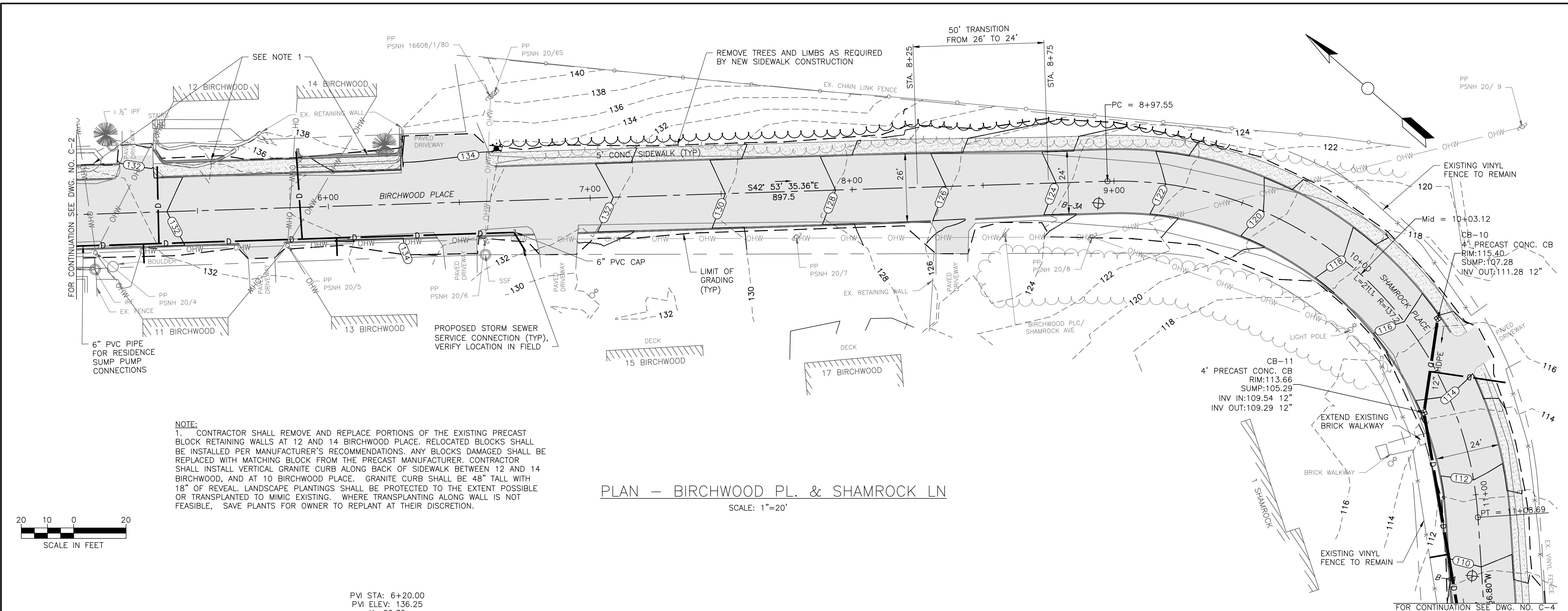
CITY OF DOVER
288 CENTRAL AVE
DOVER, NH 03820

CITY OF DOVER
KEATING-
BIRCHWOOD AREA
RECONSTRUCTION

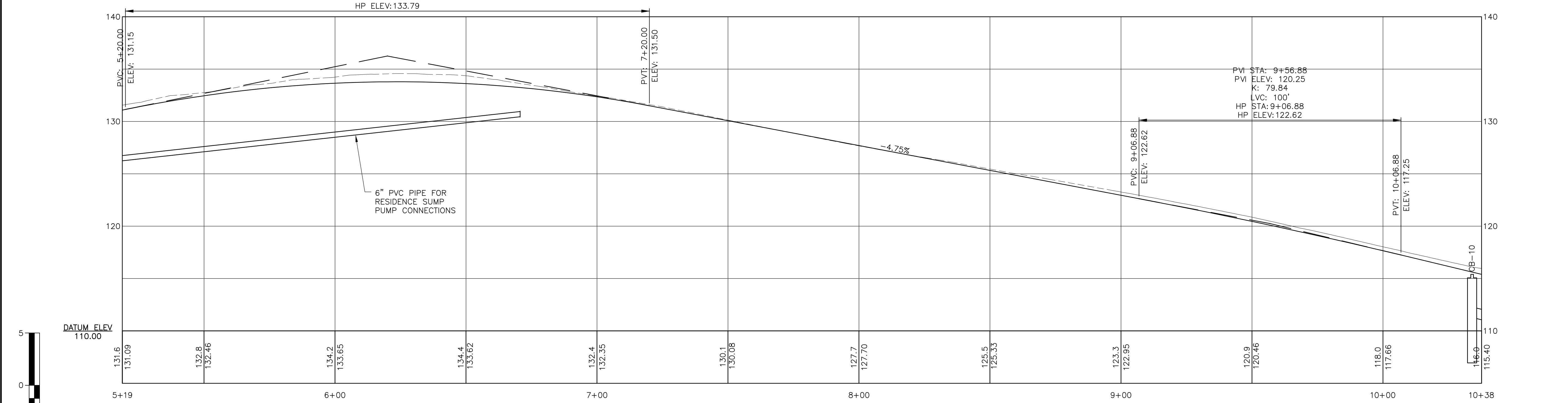
SHEET TITLE
**ROADWAY
PLAN AND PROFILE
SHEET 2**

DRAWN BY KLL	DATE FEB 2017
CHECKED BY CKG	D&K PROJECT # 222952
PROJ. ENG. NJS	D&K ARCHIVE #

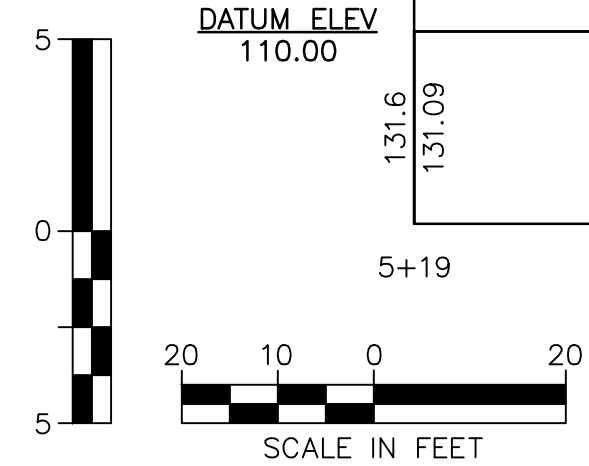
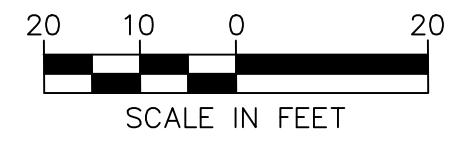
SHEET NUMBER
C-3
SHEET 11 OF 47



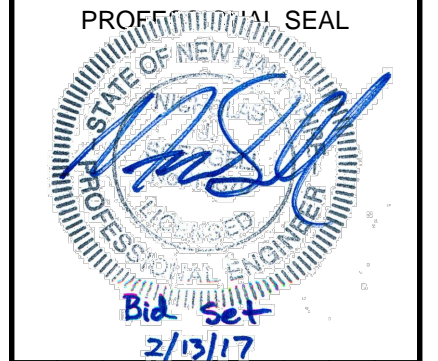
PLAN - BIRCHWOOD PL. & SHAMROCK LN
SCALE: 1"=20'



PROFILE - BIRCHWOOD PLACE & SHAMROCK LANE
SCALE: HORIZ 1"=20'
VERT 1"=5'



I:\222952-Dover Keating Birchwood\Drawings\Plan and Profile-Roadway.dwg 2/7/2017 2:56 PM



NO.	DATE	DESCRIPTION	BY	CK'D

CITY OF DOVER
288 CENTRAL AVE
DOVER, NH 03820

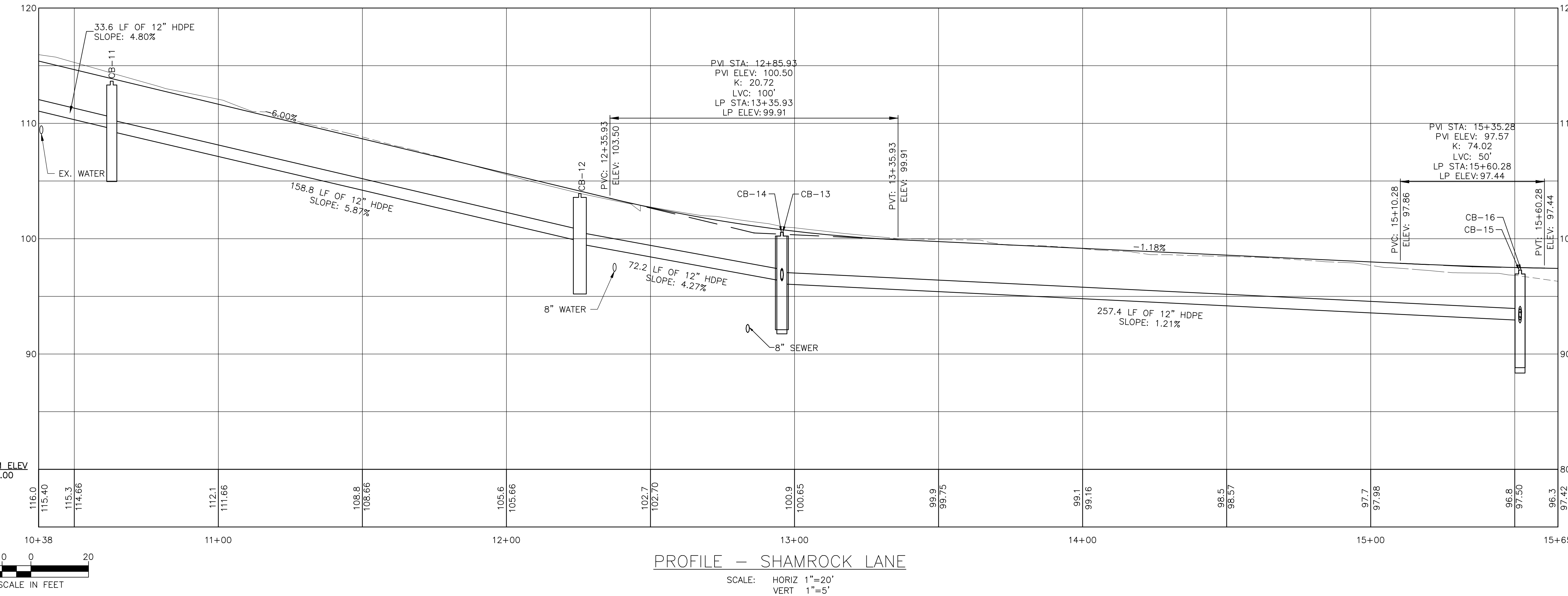
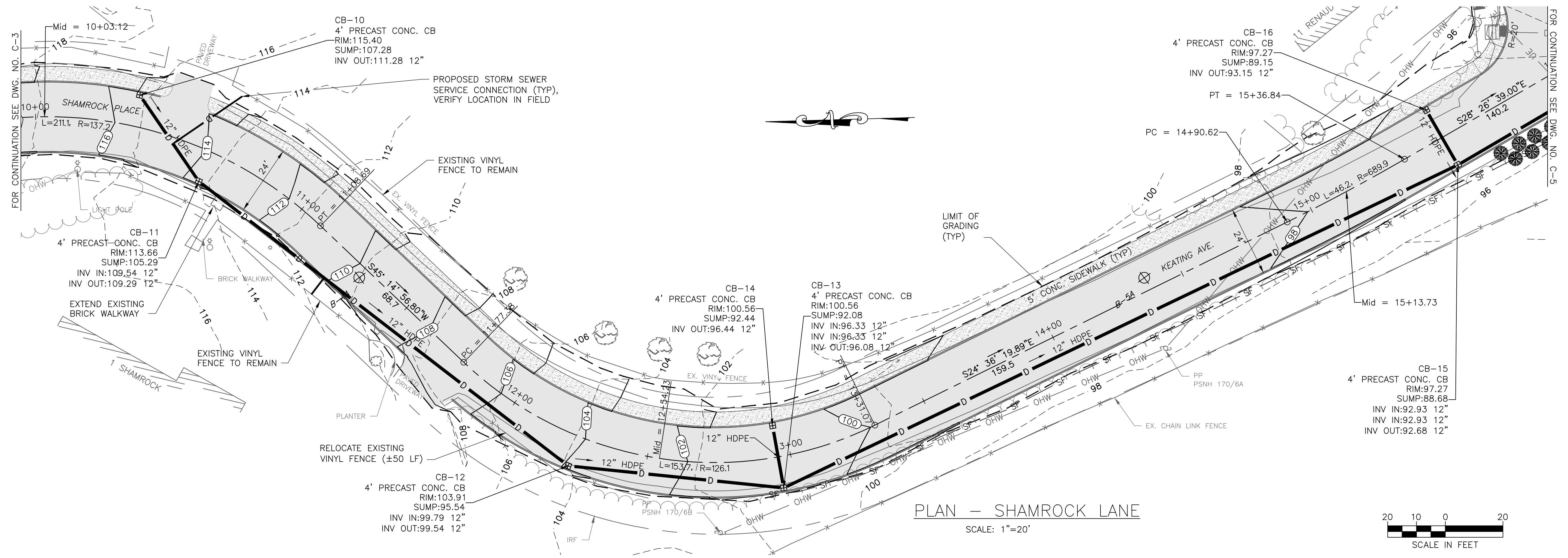
CITY OF DOVER
KEATING-
BIRCHWOOD AREA
RECONSTRUCTION

SHEET TITLE
ROADWAY
PLAN AND PROFILE
SHEET 3

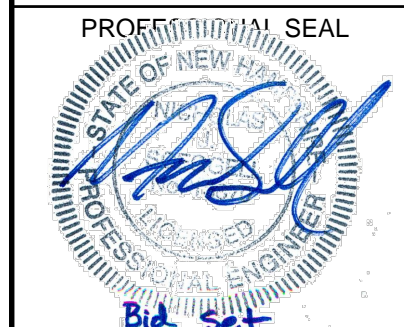
DRAWN BY	DATE
KLL	FEB 2017
CHECKED BY	D&K PROJECT #
CKG	222952
PROJ. ENG.	D&K ARCHIVE #
NJS	

SHEET NUMBER

C-4



I:\222952-Dover-Keating-Birchwood\Drawings\Plan and Profile-Roadway.dwg 2/7/2017 3:02 PM



NO.	DATE	DESCRIPTION	BY	CK'D

CITY OF DOVER
288 CENTRAL AVE
DOVER, NH 03820

CITY OF DOVER
KEATING-
BIRCHWOOD AREA
RECONSTRUCTION

SHEET TITLE

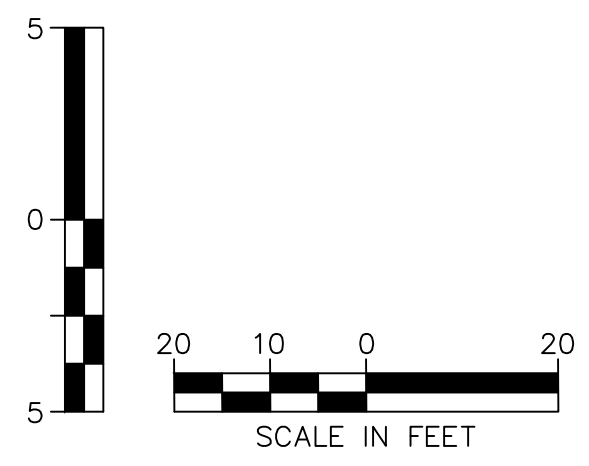
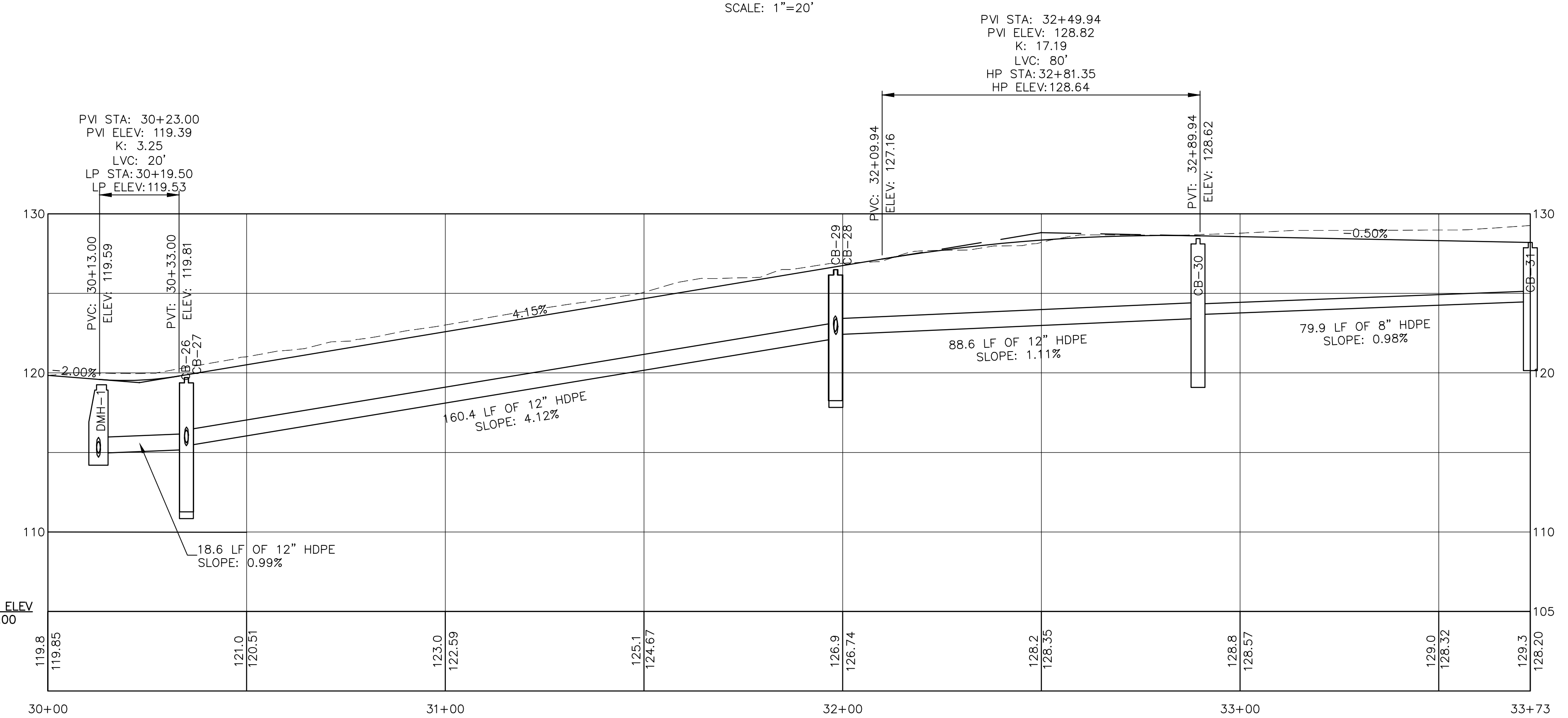
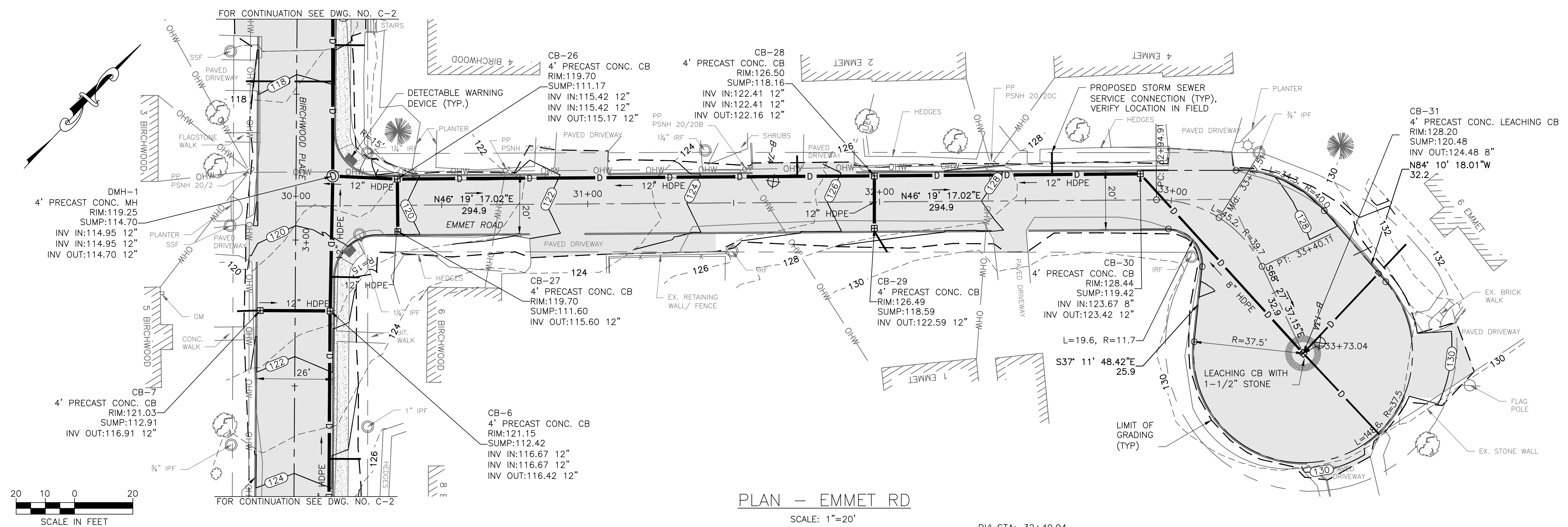
ROADWAY
PLAN AND PROFILE
SHEET 5

DRAWN BY	DATE
KLL	FEB 2017
CHECKED BY	D&K PROJECT #
CKG	222952
PROJ. ENG.	D&K ARCHIVE #
NJS	

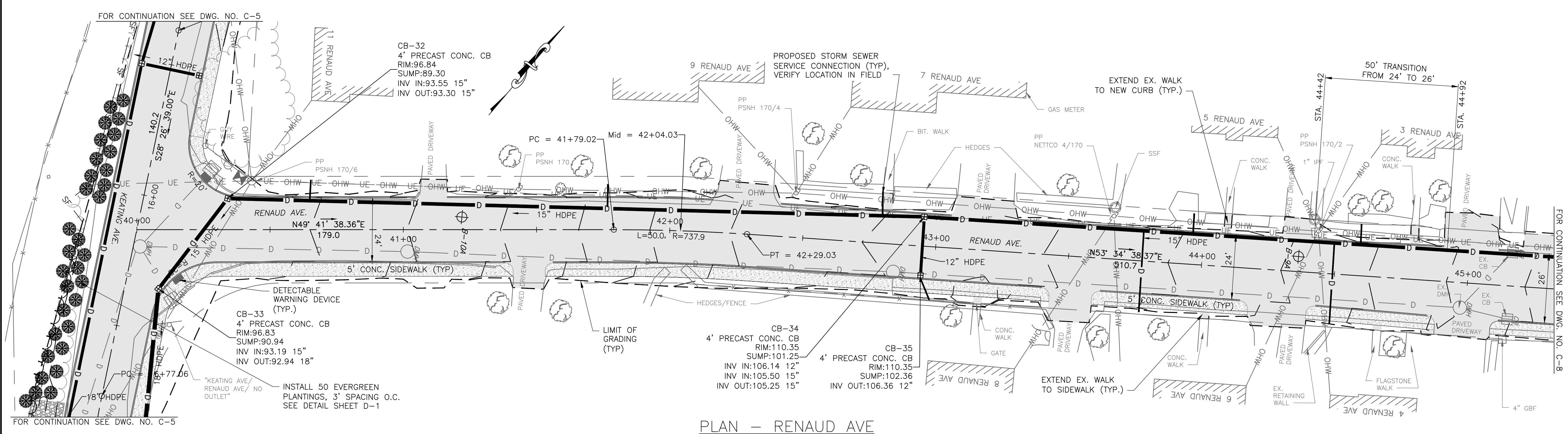
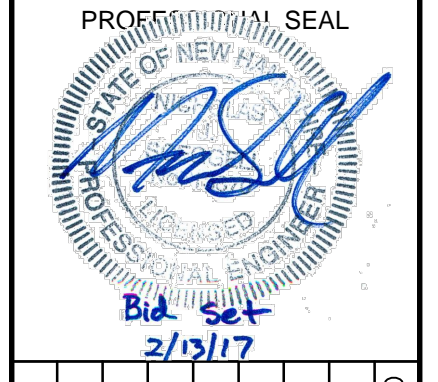
SHEET NUMBER

C-6

SHEET 14 OF 47

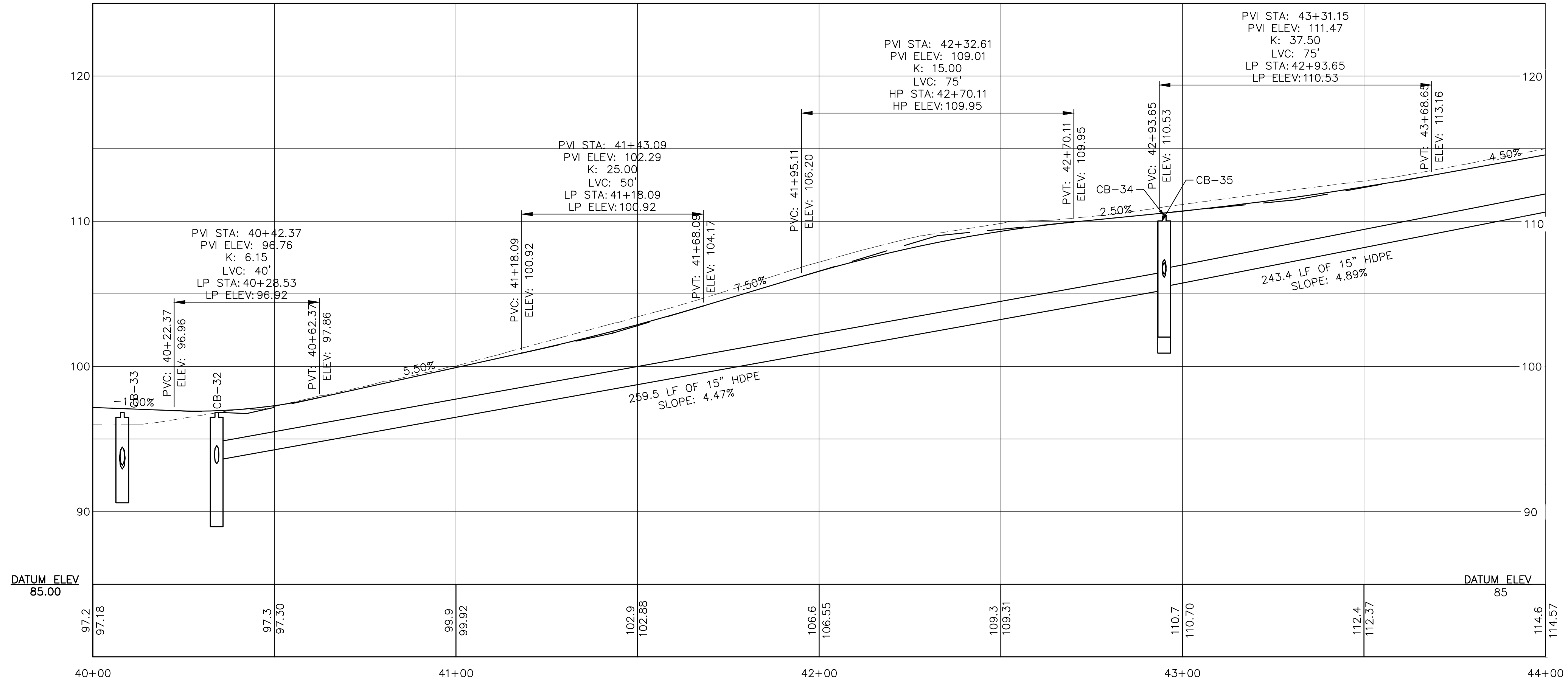
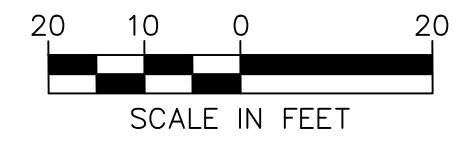


I:\222952-Dover Keating Birchwood\Drawings\Plan and Profile-Roadway.dwg 2/6/2017 12:55 PM



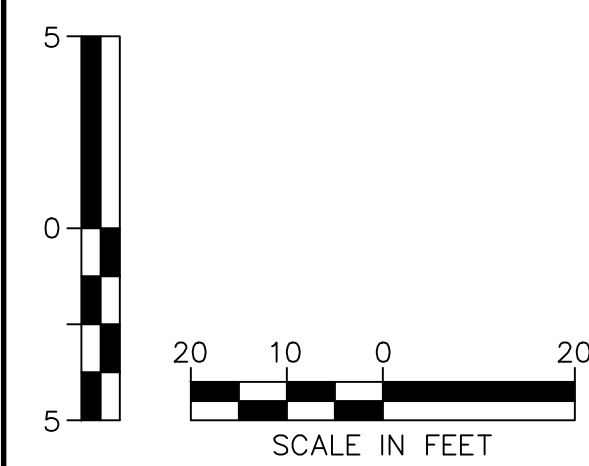
PLAN — RENAUD AVE

SCALE: 1"=20'



PROFILE — RENAUD AVE

SCALE: HORIZ 1"=20'
VERT 1"=5'



NO.	DATE	DESCRIPTION	BY	CKD

CITY OF DOVER
288 CENTRAL AVE
DOVER, NH 03820

CITY OF DOVER
KEATING-
BIRCHWOOD AREA
RECONSTRUCTION

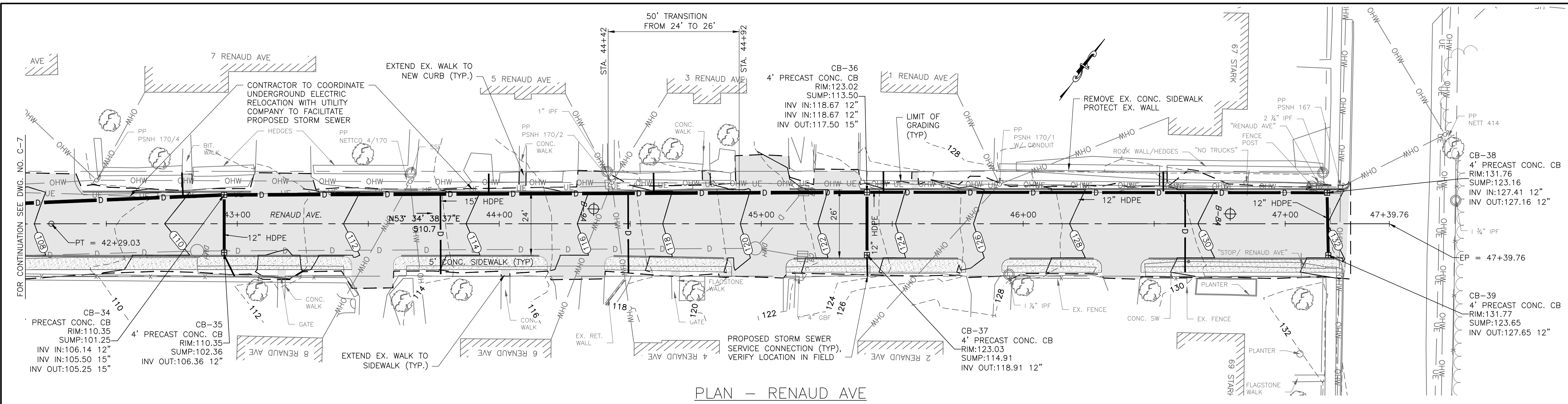
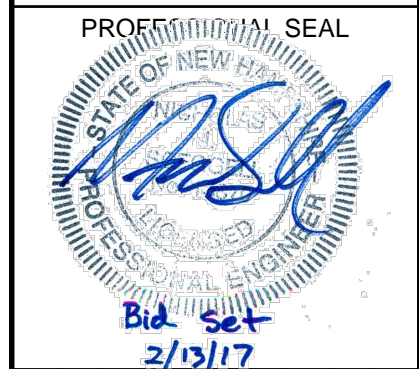
SHEET TITLE
**ROADWAY
PLAN AND PROFILE
SHEET 6**

DRAWN BY KLL	DATE FEB 2017
CHECKED BY CKG	D&K PROJECT # 222952
PROJ. ENG. NJS	D&K ARCHIVE #

SHEET NUMBER

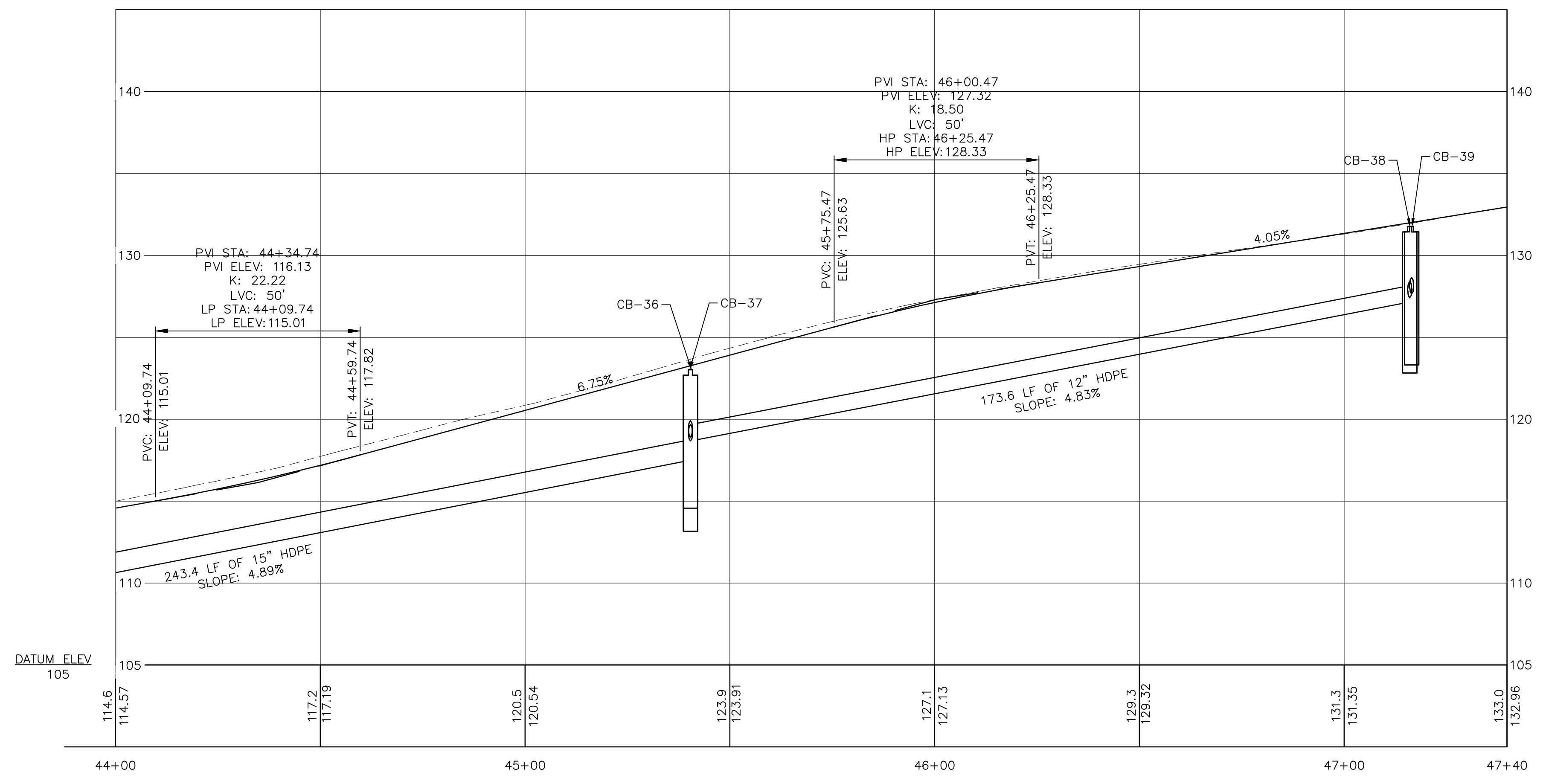
C-7

I:\222952-Dover-Keating_Birchwood\Drawings\Plan and Profile-Roadway.dwg 2/9/2017 11:27 AM



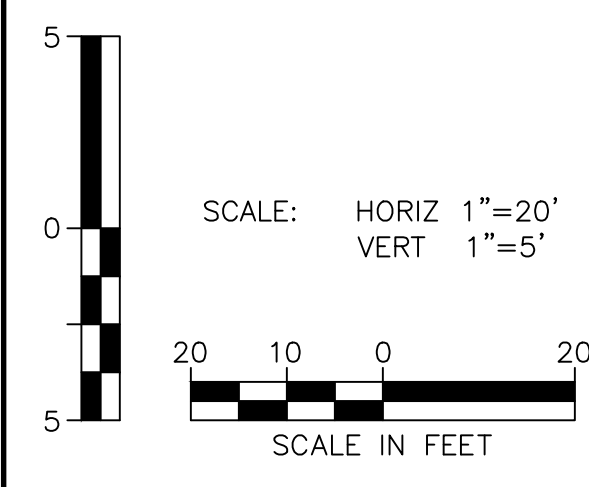
PLAN - RENAUD AVE

SCALE: 1"=20'



PROFILE - RENAUD AVE

SCALE: HORIZ 1"=20'
VERT 1"=5'



NO.	DATE	BY	CKD	DESCRIPTION

CITY OF DOVER
288 CENTRAL AVE
DOVER, NH 03820

CITY OF DOVER
KEATING-
BIRCHWOOD AREA
RECONSTRUCTION

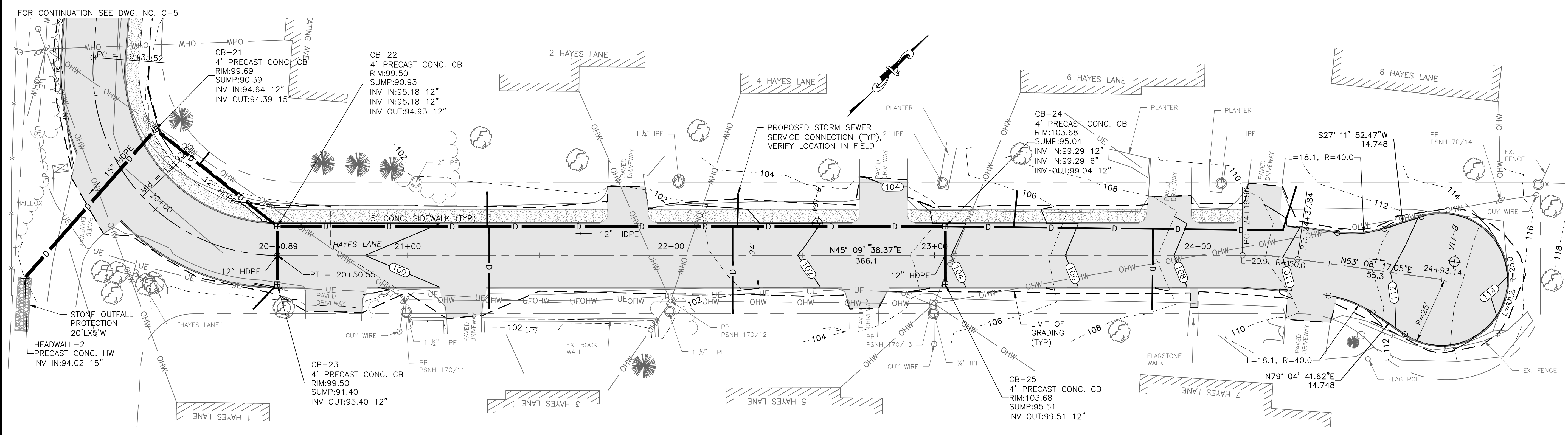
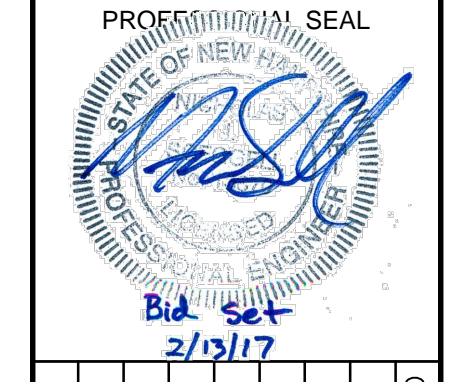
SHEET TITLE
**ROADWAY
PLAN AND PROFILE
SHEET 7**

DRAWN BY	DATE
KLL	FEB 2017
CHECKED BY	D&K PROJECT #
CKG	222952
PROJ. ENG.	D&K ARCHIVE #
NJS	

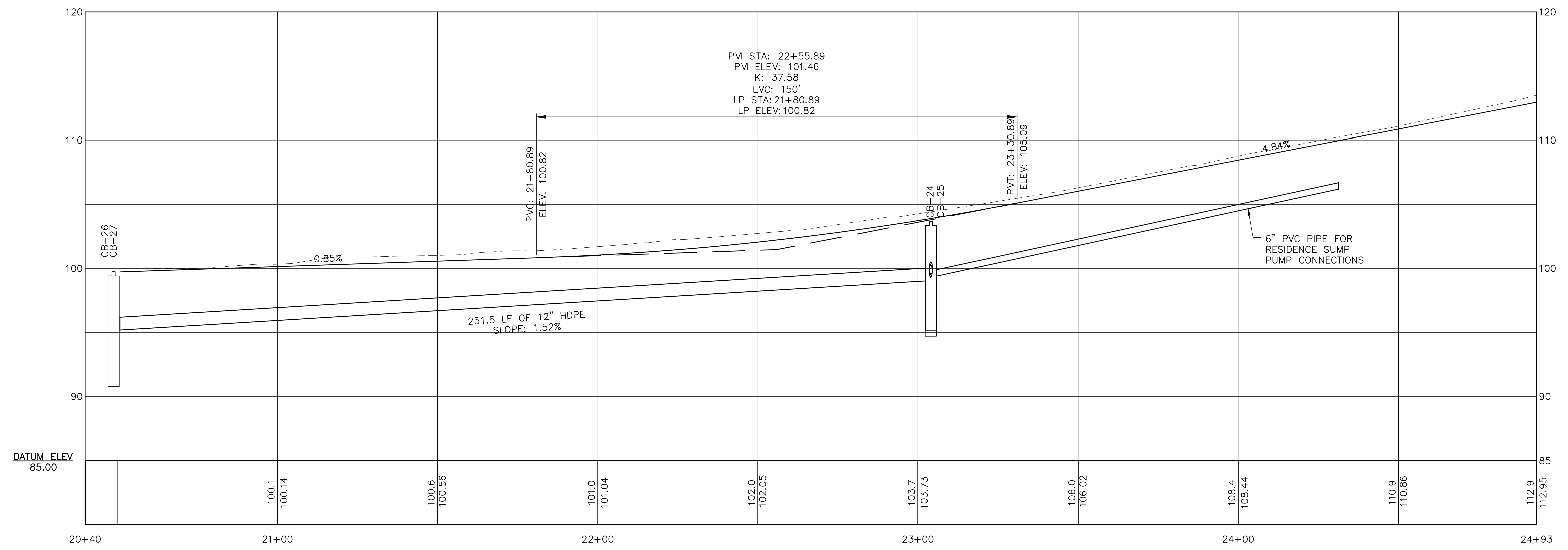
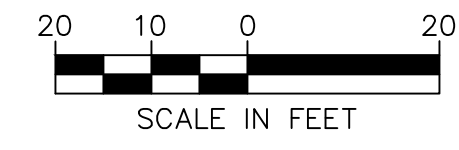
SHEET NUMBER

C-8

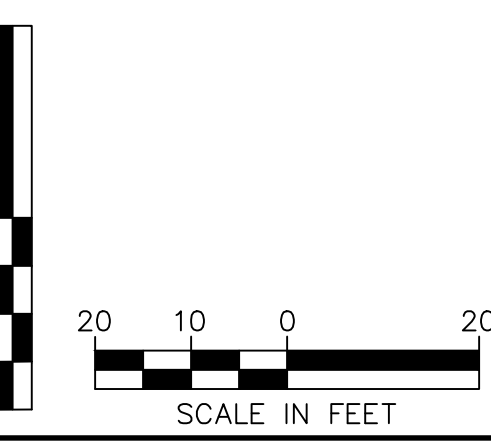
I:\222952-Dover Keating Birchwood\Drawings\Plan and Profile-Roadway.dwg 2/7/2017 4:17 PM



PLAN - HAYES LANE
 SCALE: 1"=20'



PROFILE - HAYES LANE
 SCALE: HORIZ 1"=20'
 VERT 1"=5'



NO.	DATE	DESCRIPTION	BY	CK'D

CITY OF DOVER
 288 CENTRAL AVE
 DOVER, NH 03820

CITY OF DOVER
 KEATING-
 BIRCHWOOD AREA
 RECONSTRUCTION

SHEET TITLE
 ROADWAY
 PLAN AND PROFILE
 SHEET 8

DRAWN BY KLL	DATE FEB 2017
CHECKED BY CKG	D&K PROJECT # 222952
PROJ. ENG. NJS	D&K ARCHIVE #

SHEET NUMBER

C-9

I:\222952-Dover Keating Birchwood\Drawings\Plan and Profile-Roadway.dwg 2/6/2017 12:57 PM

NO.	DATE	DESCRIPTION

NO.	DATE	DESCRIPTION

CITY OF DOVER
288 CENTRAL AVE
DOVER, NH 03820

CITY OF DOVER
KEATING-
BIRCHWOOD AREA
RECONSTRUCTION

SHEET TITLE

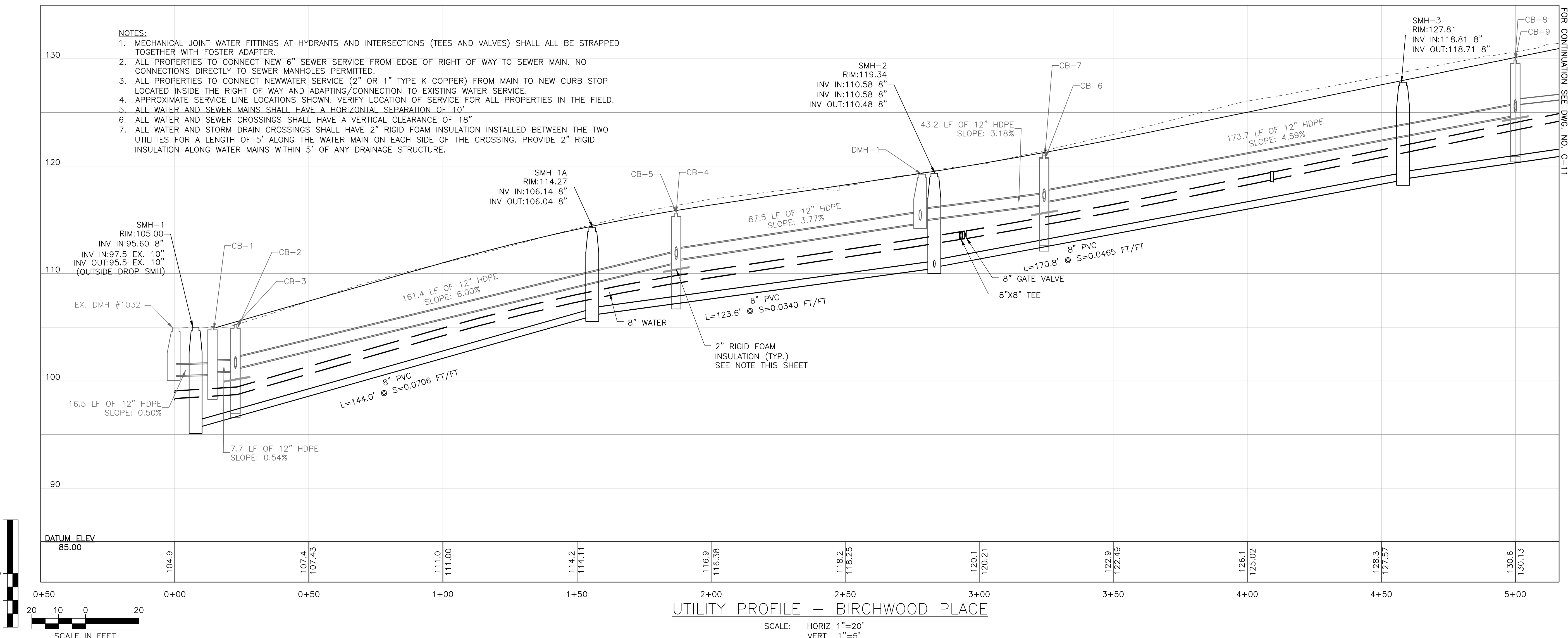
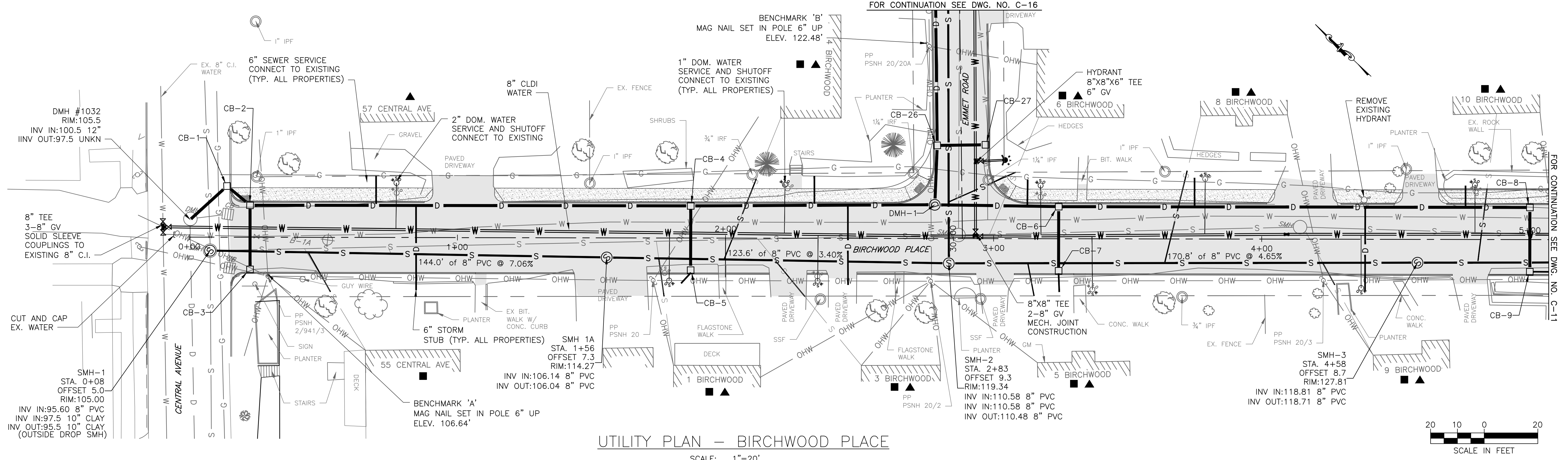
UTILITY
PLAN AND PROFILE
SHEET 1

DRAWN BY	DATE
TMG	FEB 2017
CHECKED BY	D&K PROJECT #
CKG	222952
PROJ. ENG.	D&K ARCHIVE #
NJS	

SHEET NUMBER

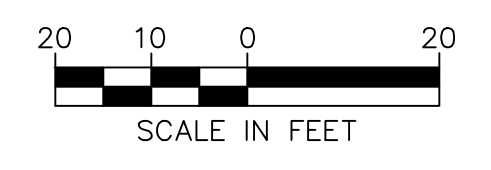
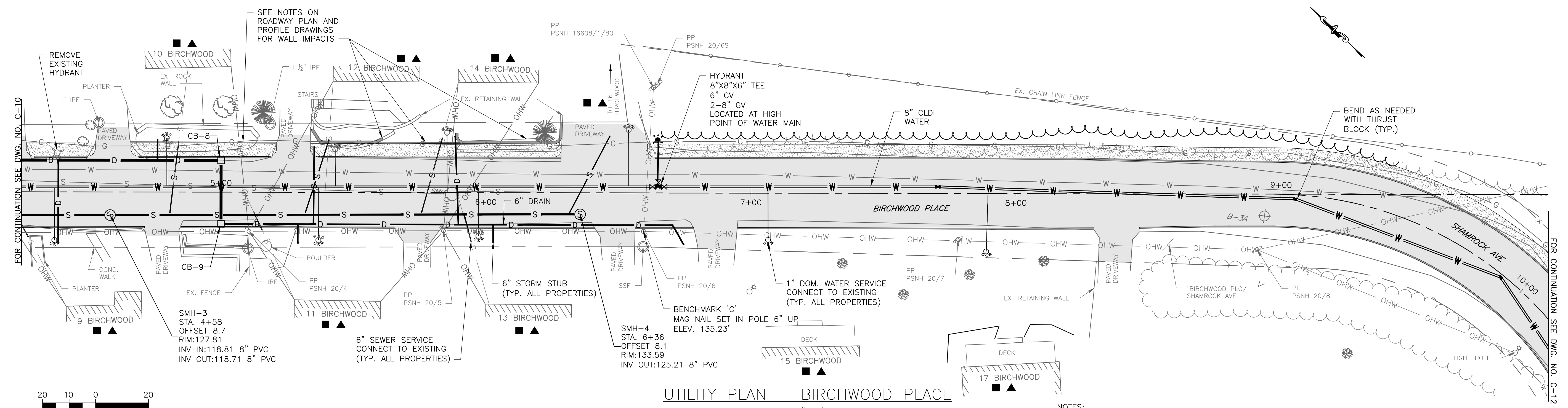
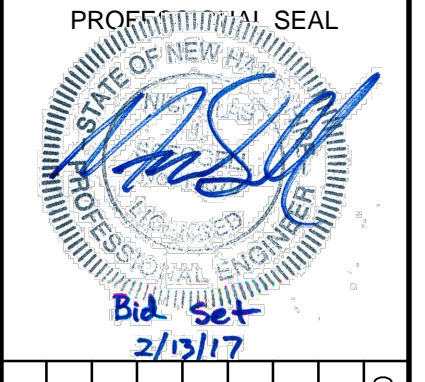
C-10

SHEET 18 OF 47



- NOTES:**
1. MECHANICAL JOINT WATER FITTINGS AT HYDRANTS AND INTERSECTIONS (TEES AND VALVES) SHALL ALL BE STRAPPED TOGETHER WITH FOSTER ADAPTER.
 2. ALL PROPERTIES TO CONNECT NEW 6" SEWER SERVICE FROM EDGE OF RIGHT OF WAY TO SEWER MAIN. NO CONNECTIONS DIRECTLY TO SEWER MANHOLES PERMITTED.
 3. ALL PROPERTIES TO CONNECT NEW WATER SERVICE (2" OR 1" TYPE K COPPER) FROM MAIN TO NEW CURB STOP LOCATED INSIDE THE RIGHT OF WAY AND ADAPTING/CONNECTION TO EXISTING WATER SERVICE.
 4. APPROXIMATE SERVICE LINE LOCATIONS SHOWN. VERIFY LOCATION OF SERVICE FOR ALL PROPERTIES IN THE FIELD.
 5. ALL WATER AND SEWER MAINS SHALL HAVE A HORIZONTAL SEPARATION OF 10'.
 6. ALL WATER AND SEWER CROSSINGS SHALL HAVE A VERTICAL CLEARANCE OF 18".
 7. ALL WATER AND STORM DRAIN CROSSINGS SHALL HAVE 2" RIGID FOAM INSULATION INSTALLED BETWEEN THE TWO UTILITIES FOR A LENGTH OF 5' ALONG THE WATER MAIN ON EACH SIDE OF THE CROSSING. PROVIDE 2" RIGID INSULATION ALONG WATER MAINS WITHIN 5' OF ANY DRAINAGE STRUCTURE.

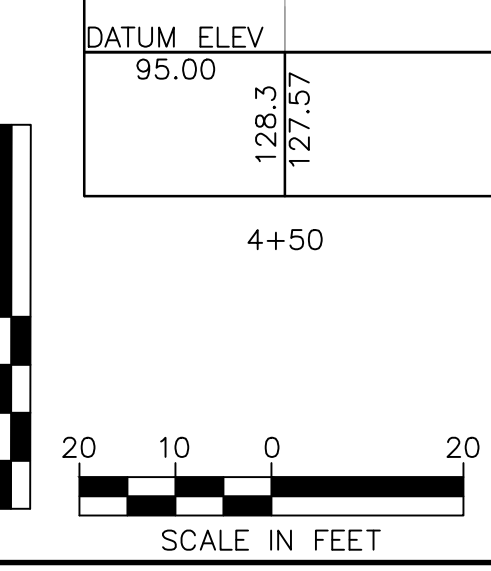
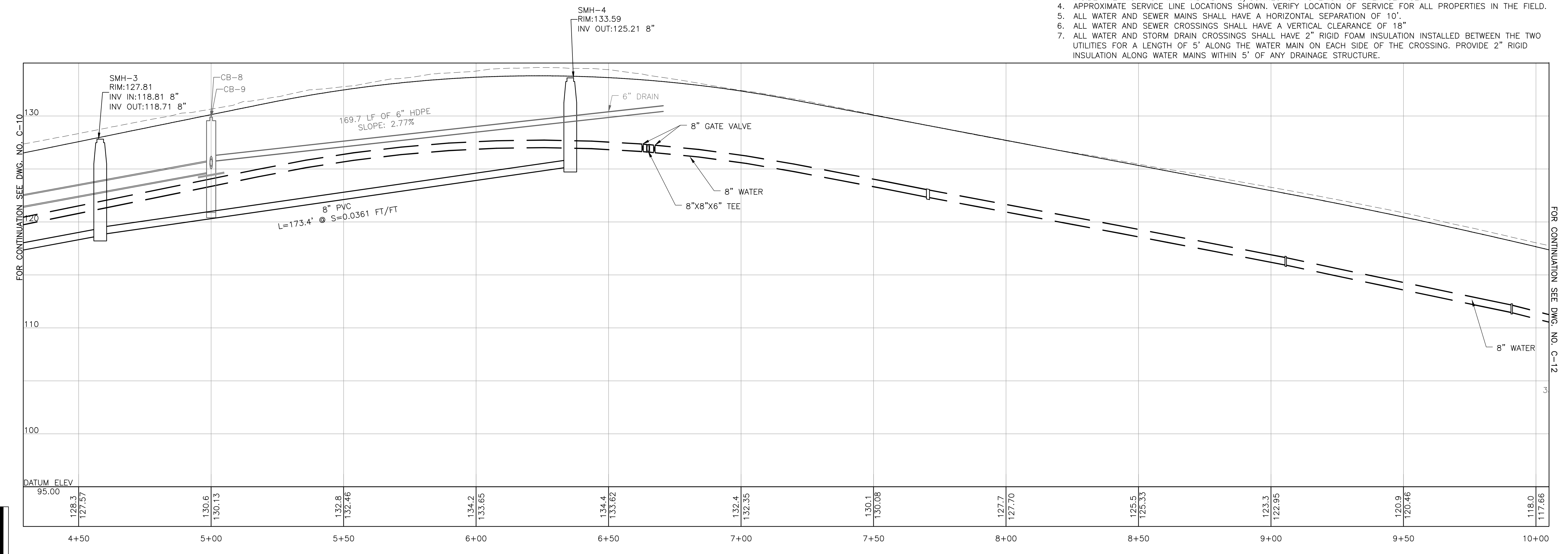
I:\222952-Dover-Keating-Birchwood\Drawings\C-UTILITY PLANS.dwg 2/7/2017 3:45 PM



UTILITY PLAN - BIRCHWOOD PLACE

SCALE: 1"=20'

- NOTES:**
- MECHANICAL JOINT WATER FITTINGS AT HYDRANTS AND INTERSECTIONS (TEES AND VALVES) SHALL ALL BE STRAPPED TOGETHER WITH FOSTER ADAPTER.
 - ALL PROPERTIES TO CONNECT NEW 6" SEWER SERVICE FROM EDGE OF RIGHT OF WAY TO SEWER MAIN. NO CONNECTIONS DIRECTLY TO SEWER MANHOLES PERMITTED.
 - ALL PROPERTIES TO CONNECT NEW TYPE K COPPER WATER SERVICE FROM MAIN TO NEW CURB STOP LOCATED INSIDE THE RIGHT OF WAY AND ADAPTING/CONNECTION TO EXISTING WATER SERVICE.
 - APPROXIMATE SERVICE LINE LOCATIONS SHOWN. VERIFY LOCATION OF SERVICE FOR ALL PROPERTIES IN THE FIELD.
 - ALL WATER AND SEWER MAINS SHALL HAVE A HORIZONTAL SEPARATION OF 10".
 - ALL WATER AND SEWER CROSSINGS SHALL HAVE A VERTICAL CLEARANCE OF 18"
 - ALL WATER AND STORM DRAIN CROSSINGS SHALL HAVE 2" RIGID FOAM INSULATION INSTALLED BETWEEN THE TWO UTILITIES FOR A LENGTH OF 5' ALONG THE WATER MAIN ON EACH SIDE OF THE CROSSING. PROVIDE 2" RIGID INSULATION ALONG WATER MAINS WITHIN 5' OF ANY DRAINAGE STRUCTURE.



UTILITY PROFILE - BIRCHWOOD PLACE

SCALE: HORIZ 1"=20'
VERT 1"=5'

NO.	DATE	DESCRIPTION

CITY OF DOVER
288 CENTRAL AVE
DOVER, NH 03820

CITY OF DOVER
KEATING-
BIRCHWOOD AREA
RECONSTRUCTION

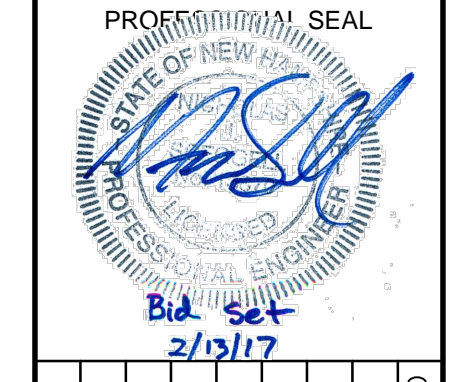
SHEET TITLE
**UTILITY
PLAN AND PROFILE
SHEET 2**

DRAWN BY TMG	DATE FEB 2017
CHECKED BY CKG	D&K PROJECT # 222952
PROJ. ENG. NJS	D&K ARCHIVE #

SHEET NUMBER

C-11

I:\222952-Dover Keating Birchwood Drawings\C-UTILITY PLANS.dwg 2/7/2017 3:50 PM



NO.	DATE	DESCRIPTION	BY	CHKD

CITY OF DOVER
 288 CENTRAL AVE
 DOVER, NH 03820

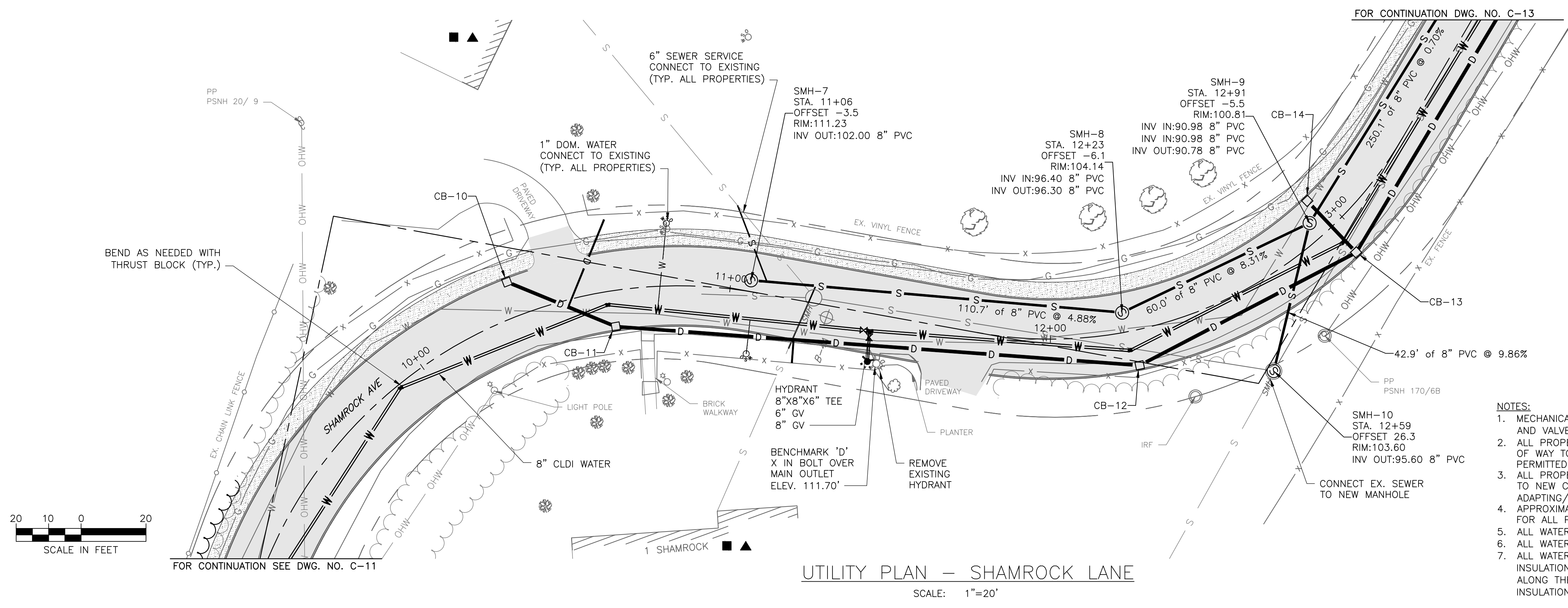
CITY OF DOVER
 KEATING-
 BIRCHWOOD AREA
 RECONSTRUCTION

SHEET TITLE
 UTILITY
 PLAN AND PROFILE
 SHEET 3

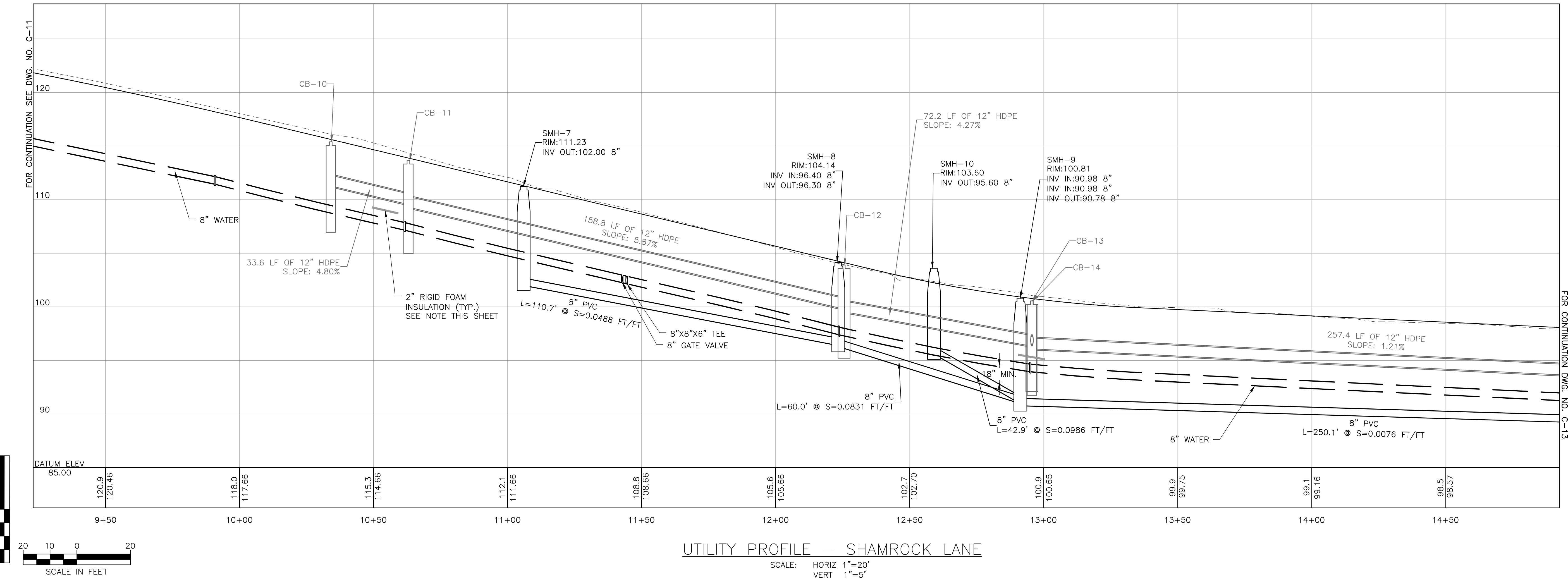
DRAWN BY TMG	DATE FEB 2017
CHECKED BY CKG	D&K PROJECT # 222952
PROJ. ENG. NJS	D&K ARCHIVE #

SHEET NUMBER

C-12

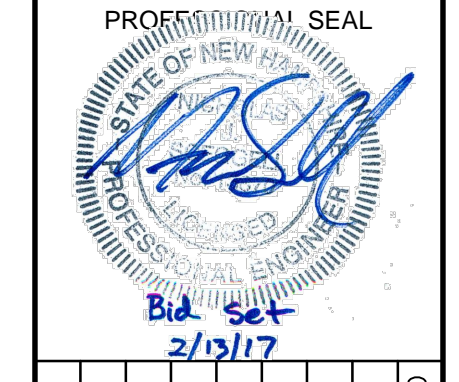


- NOTES:**
- MECHANICAL JOINT WATER FITTINGS AT HYDRANTS AND INTERSECTIONS (TEES AND VALVES) SHALL ALL BE STRAPPED TOGETHER WITH FOSTER ADAPTER.
 - ALL PROPERTIES TO CONNECT NEW 6" SEWER SERVICE FROM EDGE OF RIGHT OF WAY TO SEWER MAIN. NO CONNECTIONS DIRECTLY TO SEWER MANHOLES PERMITTED.
 - ALL PROPERTIES TO CONNECT NEW TYPE K COPPER WATER SERVICE FROM MAIN TO NEW CURB STOP LOCATED INSIDE THE RIGHT OF WAY AND ADAPTING/CONNECTION TO EXISTING WATER SERVICE.
 - APPROXIMATE SERVICE LINE LOCATIONS SHOWN. VERIFY LOCATION OF SERVICE FOR ALL PROPERTIES IN THE FIELD.
 - ALL WATER AND SEWER MAINS SHALL HAVE A HORIZONTAL SEPARATION OF 10'.
 - ALL WATER AND SEWER CROSSINGS SHALL HAVE A VERTICAL CLEARANCE OF 18".
 - ALL WATER AND STORM DRAIN CROSSINGS SHALL HAVE 2" RIGID FOAM INSULATION INSTALLED BETWEEN THE TWO UTILITIES FOR A LENGTH OF 5' ALONG THE WATER MAIN ON EACH SIDE OF THE CROSSING. PROVIDE 2" RIGID INSULATION ALONG WATER MAINS WITHIN 5' OF ANY DRAINAGE STRUCTURE.

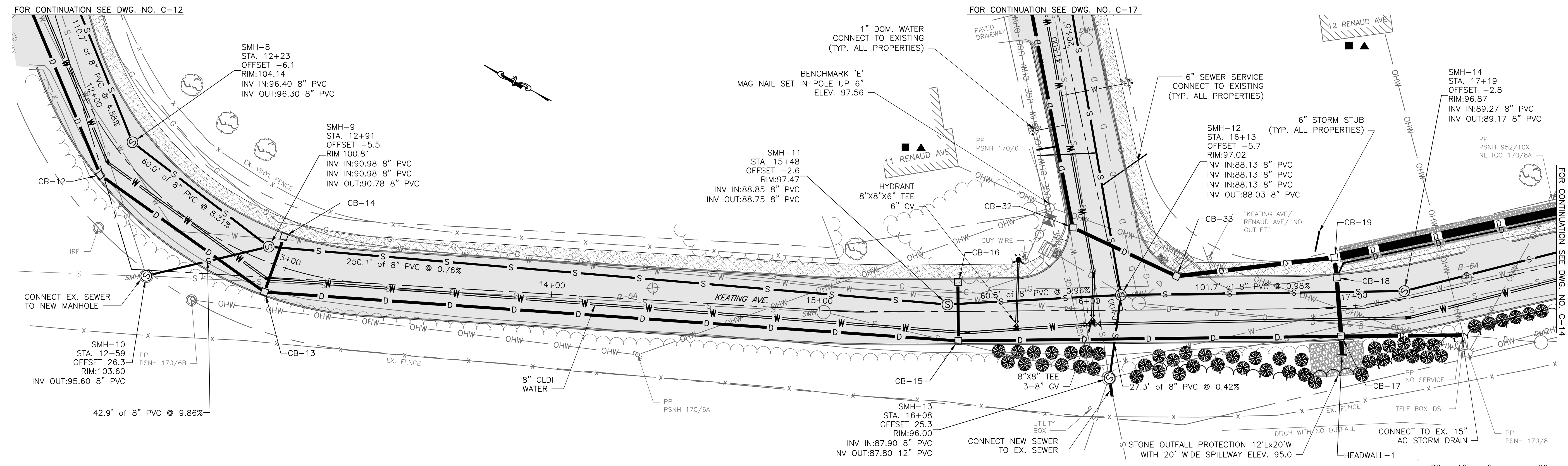


UTILITY PROFILE - SHAMROCK LANE
 SCALE: HORIZ 1"=20'
 VERT 1"=5'

I:\222952-Dover Keating Birchwood Drawings\C-UTILITY PLANS.dwg 2/7/2017 3:52 PM

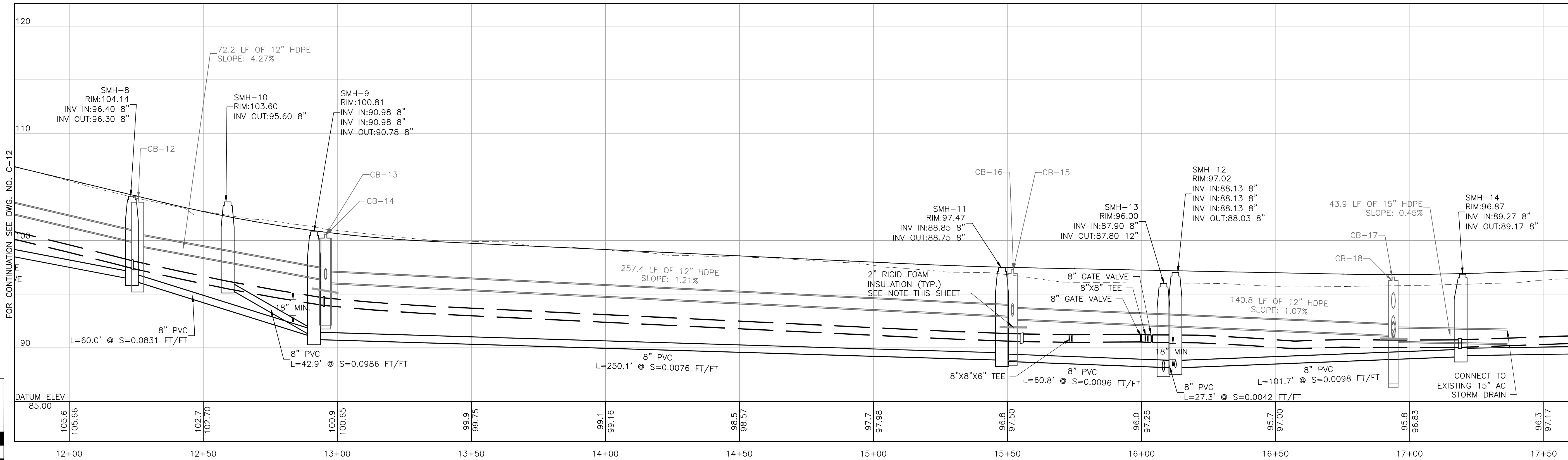
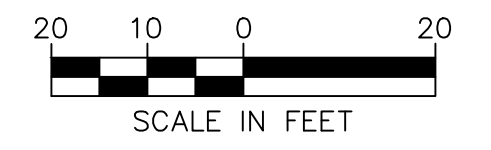


NO.	DATE	DESCRIPTION	BY	CKD



- NOTES:**
- MECHANICAL JOINT WATER FITTINGS AT HYDRANTS AND INTERSECTIONS (TEES AND VALVES) SHALL ALL BE STRAPPED TOGETHER WITH FOSTER ADAPTER.
 - ALL PROPERTIES TO CONNECT NEW 6" SEWER SERVICE FROM EDGE OF RIGHT OF WAY TO SEWER MAIN. NO CONNECTIONS DIRECTLY TO SEWER MANHOLES PERMITTED.
 - ALL PROPERTIES TO CONNECT NEW TYPE K COPPER WATER SERVICE FROM MAIN TO NEW CURB STOP LOCATED INSIDE THE RIGHT OF WAY AND ADAPTING/CONNECTION TO EXISTING WATER SERVICE.
 - APPROXIMATE SERVICE LINE LOCATIONS SHOWN. VERIFY LOCATION OF SERVICE FOR ALL PROPERTIES IN THE FIELD.
 - ALL WATER AND SEWER MAINS SHALL HAVE A HORIZONTAL SEPARATION OF 10'.
 - ALL WATER AND SEWER CROSSINGS SHALL HAVE A VERTICAL CLEARANCE OF 18".
 - ALL WATER AND STORM DRAIN CROSSINGS SHALL HAVE 2" RIGID FOAM INSULATION INSTALLED BETWEEN THE TWO UTILITIES FOR A LENGTH OF 5' ALONG THE WATER MAIN ON EACH SIDE OF THE CROSSING. PROVIDE 2" RIGID INSULATION ALONG WATER MAINS WITHIN 5' OF ANY DRAINAGE STRUCTURE.

UTILITY PLAN - KEATING AVENUE
SCALE: 1"=20'



UTILITY PROFILE - KEATING AVENUE
SCALE: HORIZ 1"=20'
VERT 1"=5'

CITY OF DOVER
288 CENTRAL AVE
DOVER, NH 03820

CITY OF DOVER
KEATING-
BIRCHWOOD AREA
RECONSTRUCTION

SHEET TITLE
UTILITY
PLAN AND PROFILE
SHEET 4

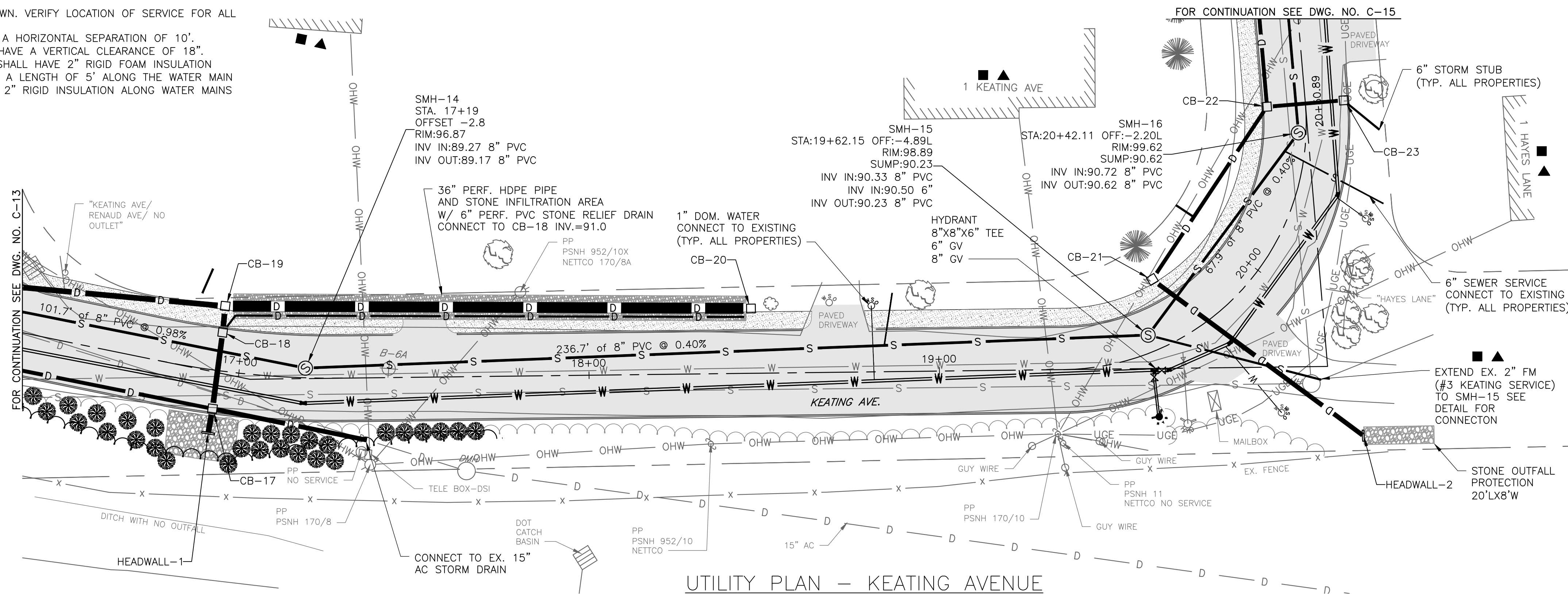
DRAWN BY	DATE
TMG	FEB 2017
CHECKED BY	D&K PROJECT #
CKG	222952
PROJ. ENG.	D&K ARCHIVE #
NJS	

SHEET NUMBER
C-13
SHEET 21 OF 47

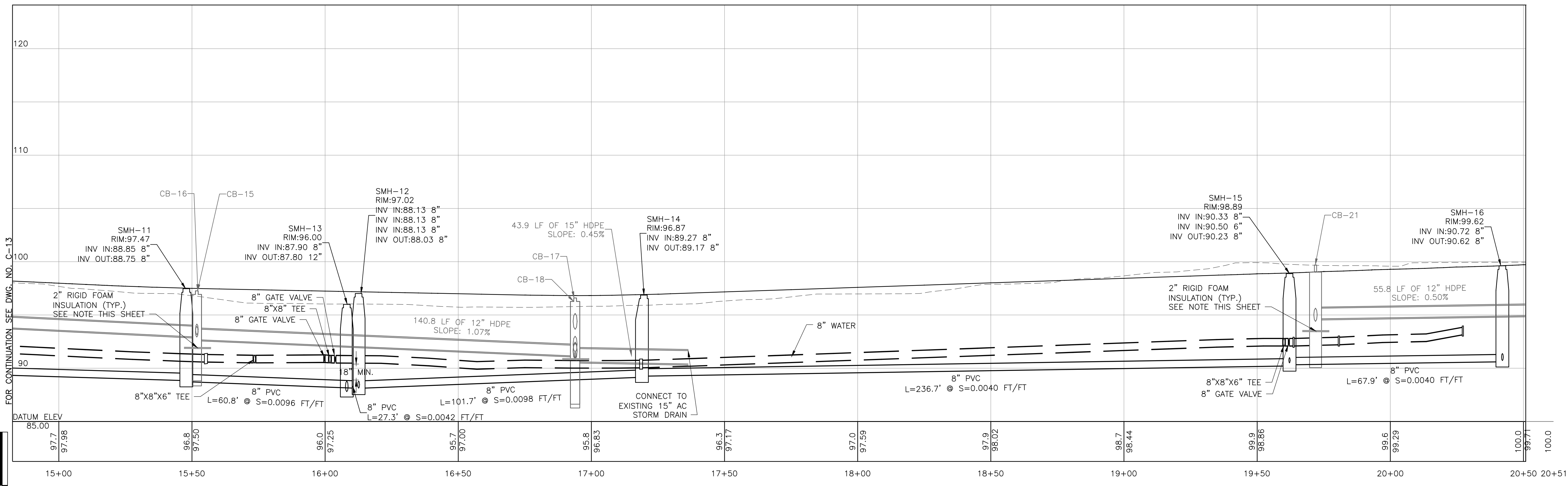
I:\222952-Dover-Keating-Birchwood\Drawings\C-UTILITY PLANS.dwg 2/7/2017 4:00 PM

NOTES:

- MECHANICAL JOINT WATER FITTINGS AT HYDRANTS AND INTERSECTIONS (TEES AND VALVES) SHALL ALL BE STRAPPED TOGETHER WITH FOSTER ADAPTER.
- ALL PROPERTIES TO CONNECT NEW 6" SEWER SERVICE FROM EDGE OF RIGHT OF WAY TO SEWER MAIN. NO CONNECTIONS DIRECTLY TO SEWER MANHOLES PERMITTED.
- ALL PROPERTIES TO CONNECT NEW TYPE K COPPER WATER SERVICE FROM MAIN TO NEW CURB STOP LOCATED INSIDE THE RIGHT OF WAY AND ADAPTING/CONNECTION TO EXISTING WATER SERVICE.
- APPROXIMATE SERVICE LINE LOCATIONS SHOWN. VERIFY LOCATION OF SERVICE FOR ALL PROPERTIES IN THE FIELD.
- ALL WATER AND SEWER MAINS SHALL HAVE A HORIZONTAL SEPARATION OF 10'.
- ALL WATER AND SEWER CROSSINGS SHALL HAVE A VERTICAL CLEARANCE OF 18".
- ALL WATER AND STORM DRAIN CROSSINGS SHALL HAVE 2" RIGID FOAM INSULATION INSTALLED BETWEEN THE TWO UTILITIES FOR A LENGTH OF 5' ALONG THE WATER MAIN ON EACH SIDE OF THE CROSSING. PROVIDE 2" RIGID INSULATION ALONG WATER MAINS WITHIN 5' OF ANY DRAINAGE STRUCTURE.

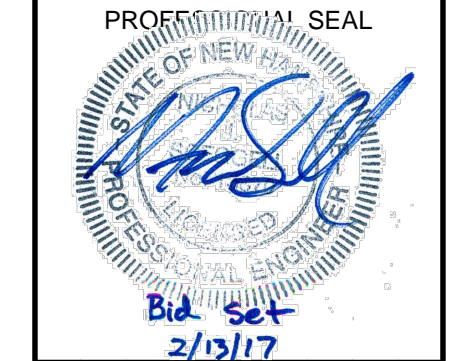


UTILITY PLAN - KEATING AVENUE
SCALE: 1"=20'



UTILITY PROFILE - KEATING AVENUE
SCALE: HORIZ 1"=20'
VERT 1"=5'

DuBois & King inc.
ENGINEERING • PLANNING •
CONSTRUCTION • DEVELOPMENT
831 UNION AVE
LACONIA, NH 03246
TEL: (603) 524-1166
FAX: (866) 783-7101
www.dubois-king.com
BEDFORD, NH
RANDOLPH, VT
SOUTH BURLINGTON, VT
SPRINGFIELD, VT
© Copyright 2016 Dubois & King Inc.



NO.	DATE	DESCRIPTION	BY	CHKD.

CITY OF DOVER
288 CENTRAL AVE
DOVER, NH 03820

CITY OF DOVER
KEATING-
BIRCHWOOD AREA
RECONSTRUCTION

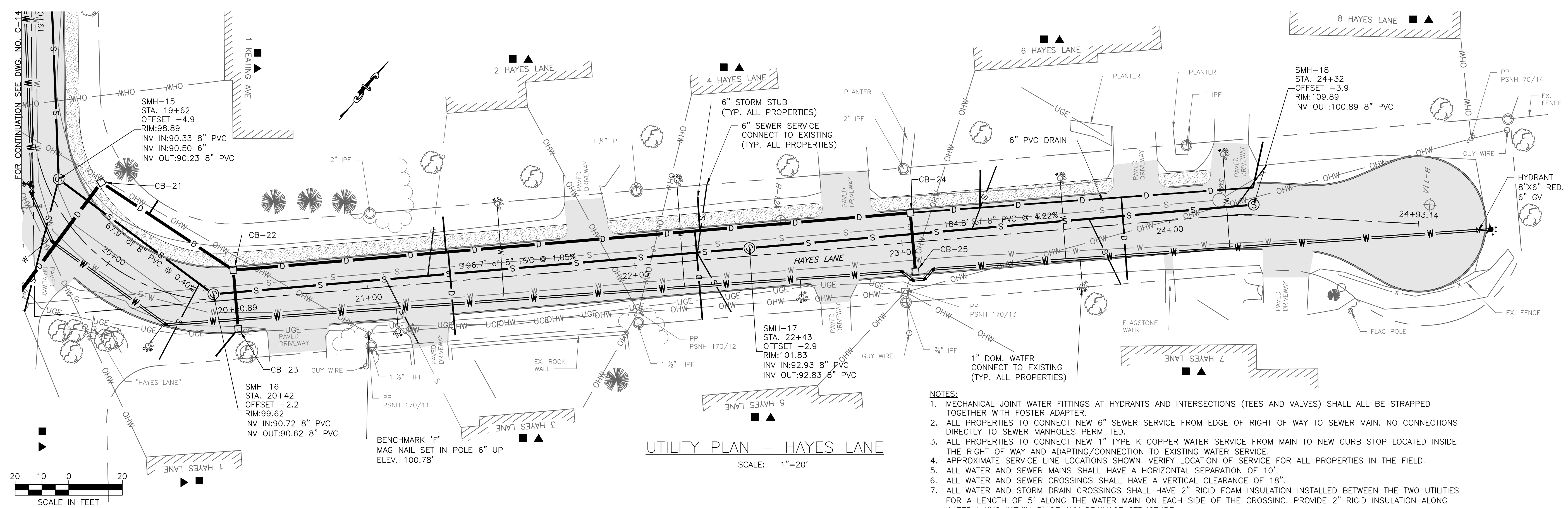
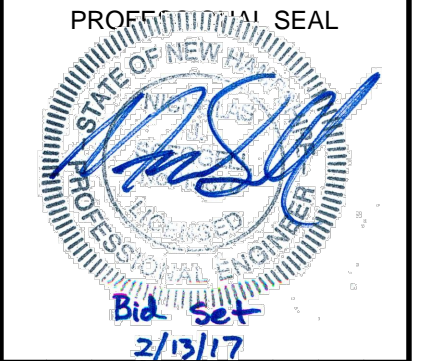
SHEET TITLE
UTILITY
PLAN AND PROFILE
SHEET 5

DRAWN BY	DATE
TMG	FEB 2017
CHECKED BY	D&K PROJECT #
CKG	222952
PROJ. ENG.	D&K ARCHIVE #
NJS	

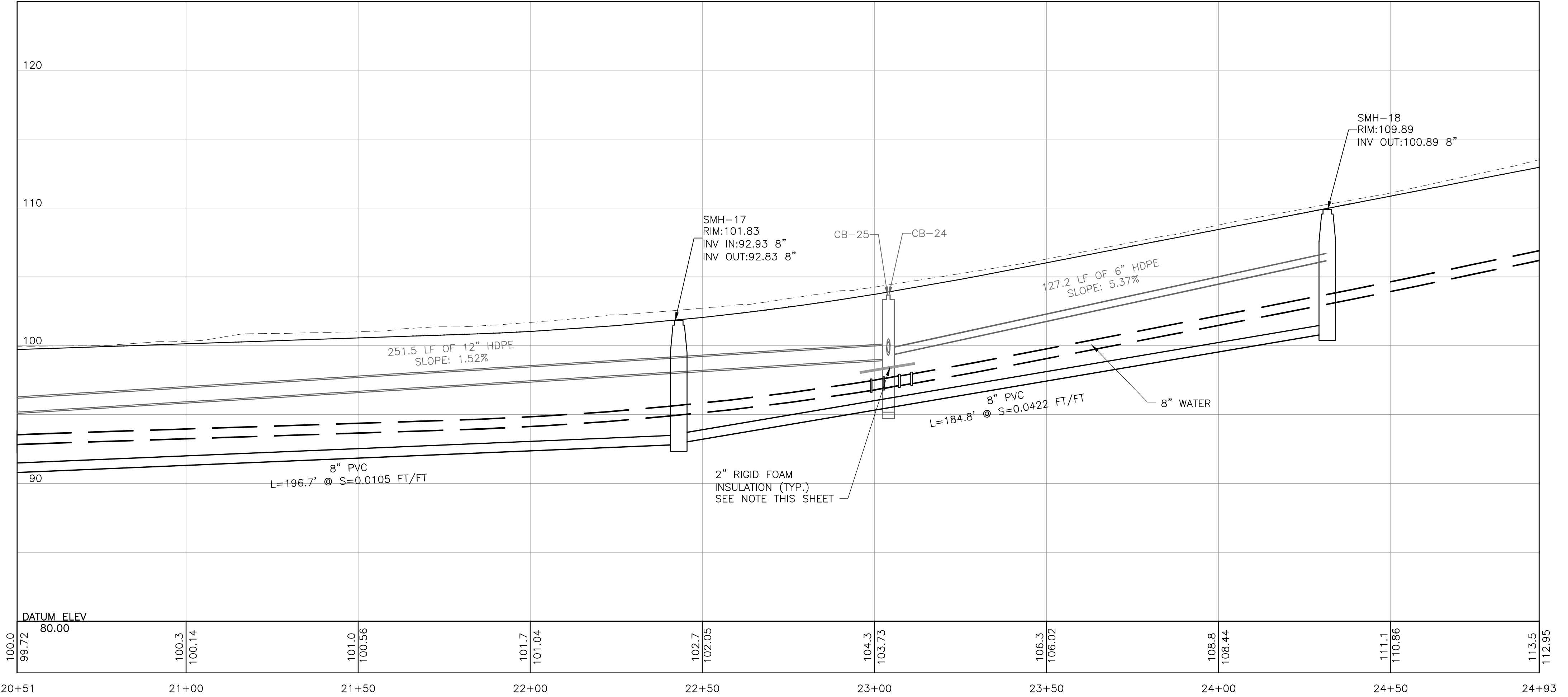
SHEET NUMBER

C-14

I:\222952-Dover-Keating-Birchwood\Drawings\C-UTILITY PLANS.dwg 2/7/2017 4:09 PM



- NOTES:**
- MECHANICAL JOINT WATER FITTINGS AT HYDRANTS AND INTERSECTIONS (TEES AND VALVES) SHALL ALL BE STRAPPED TOGETHER WITH FOSTER ADAPTER.
 - ALL PROPERTIES TO CONNECT NEW 6" SEWER SERVICE FROM EDGE OF RIGHT OF WAY TO SEWER MAIN. NO CONNECTIONS DIRECTLY TO SEWER MANHOLES PERMITTED.
 - ALL PROPERTIES TO CONNECT NEW 1" TYPE K COPPER WATER SERVICE FROM MAIN TO NEW CURB STOP LOCATED INSIDE THE RIGHT OF WAY AND ADAPTING/CONNECTION TO EXISTING WATER SERVICE.
 - APPROXIMATE SERVICE LINE LOCATIONS SHOWN. VERIFY LOCATION OF SERVICE FOR ALL PROPERTIES IN THE FIELD.
 - ALL WATER AND SEWER MAINS SHALL HAVE A HORIZONTAL SEPARATION OF 10'.
 - ALL WATER AND SEWER CROSSINGS SHALL HAVE A VERTICAL CLEARANCE OF 18".
 - ALL WATER AND STORM DRAIN CROSSINGS SHALL HAVE 2" RIGID FOAM INSULATION INSTALLED BETWEEN THE TWO UTILITIES FOR A LENGTH OF 5' ALONG THE WATER MAIN ON EACH SIDE OF THE CROSSING. PROVIDE 2" RIGID INSULATION ALONG WATER MAINS WITHIN 5' OF ANY DRAINAGE STRUCTURE.



NO.	DATE	DESCRIPTION	BY	CHKD

CITY OF DOVER
288 CENTRAL AVE
DOVER, NH 03820

CITY OF DOVER
KEATING-
BIRCHWOOD AREA
RECONSTRUCTION

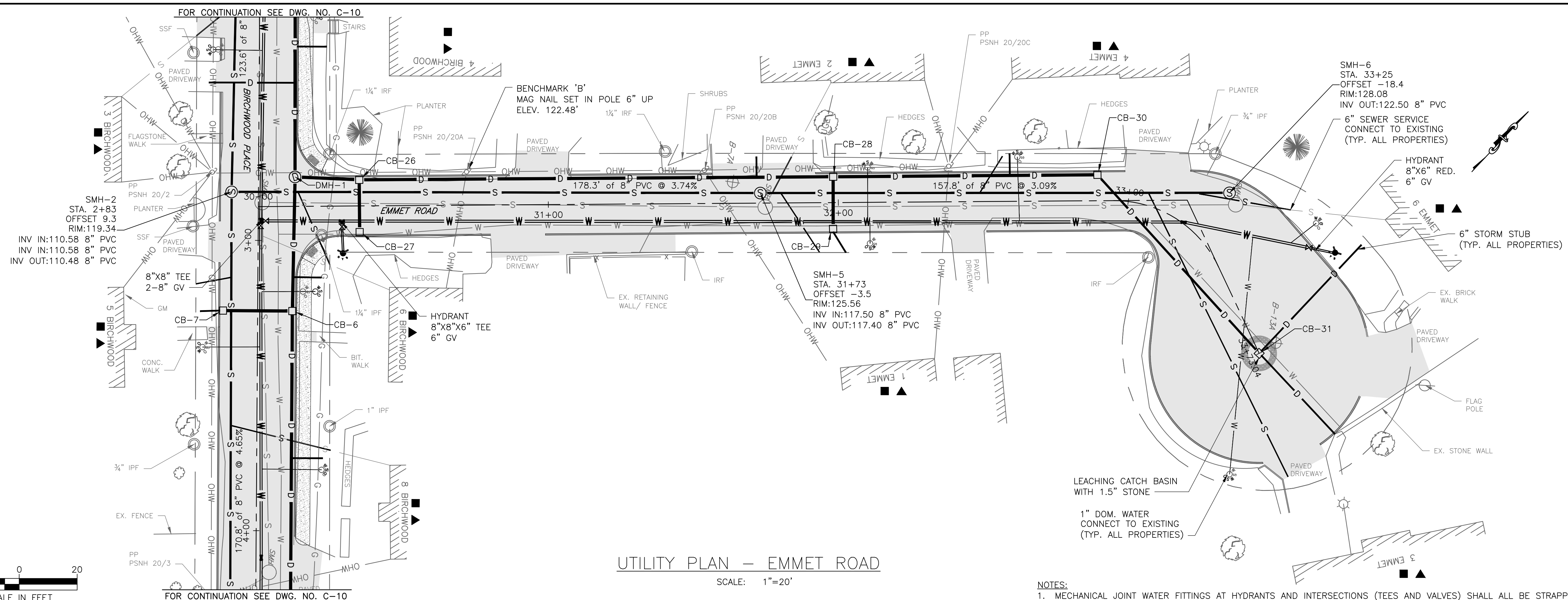
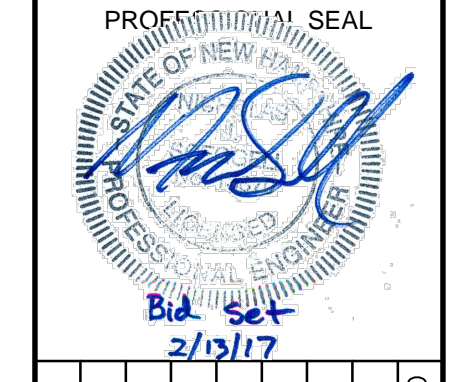
SHEET TITLE
**UTILITY
PLAN AND PROFILE
SHEET 6**

DRAWN BY TMG	DATE FEB 2017
CHECKED BY CKG	D&K PROJECT # 222952
PROJ. ENG. NJS	D&K ARCHIVE #

SHEET NUMBER

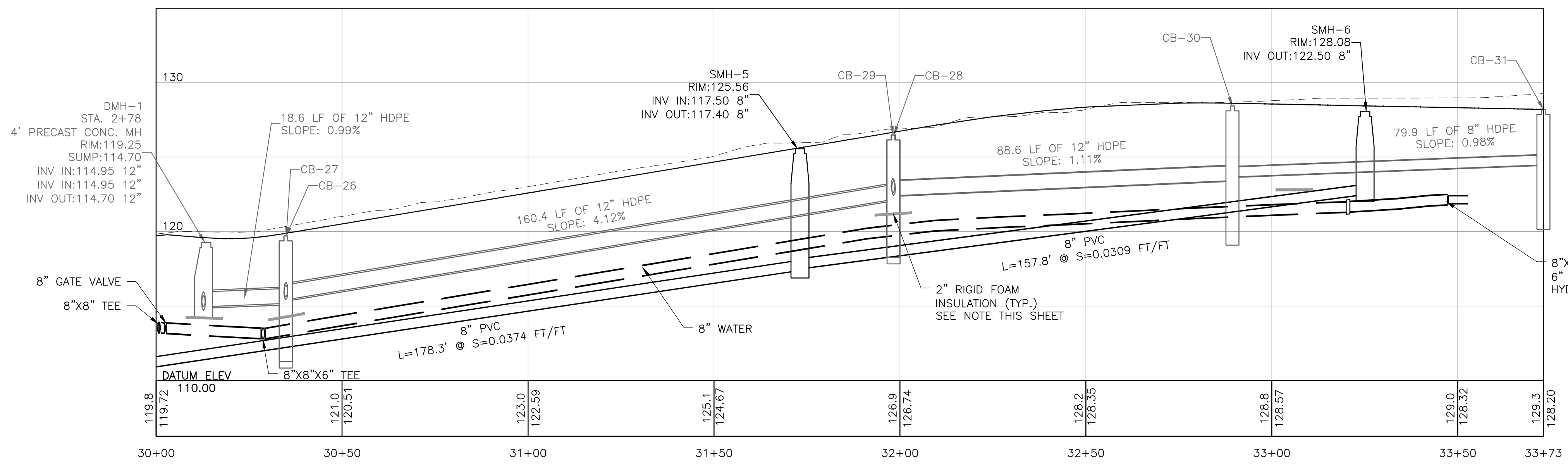
C-15

I:\222952-Dover-Keating-Birchwood\Drawings\C-UTILITY PLANS.dwg 2/7/2017 1:16 PM



UTILITY PLAN - EMMET ROAD
 SCALE: 1"=20'

- NOTES:
- MECHANICAL JOINT WATER FITTINGS AT HYDRANTS AND INTERSECTIONS (TEES AND VALVES) SHALL ALL BE STRAPPED TOGETHER WITH FOSTER ADAPTER.
 - ALL PROPERTIES TO CONNECT NEW 6" SEWER SERVICE FROM EDGE OF RIGHT OF WAY TO SEWER MAIN. NO CONNECTIONS DIRECTLY TO SEWER MANHOLES PERMITTED.
 - ALL PROPERTIES TO CONNECT NEW 1" TYPE K COPPER WATER SERVICE FROM MAIN TO NEW CURB STOP LOCATED INSIDE THE RIGHT OF WAY AND ADAPTING/CONNECTION TO EXISTING WATER SERVICE.
 - APPROXIMATE SERVICE LINE LOCATIONS SHOWN. VERIFY LOCATION OF SERVICE FOR ALL PROPERTIES IN THE FIELD.
 - ALL WATER AND SEWER MAINS SHALL HAVE A HORIZONTAL SEPARATION OF 10'.
 - ALL WATER AND SEWER CROSSINGS SHALL HAVE A VERTICAL CLEARANCE OF 18".
 - ALL WATER AND STORM DRAIN CROSSINGS SHALL HAVE 2" RIGID FOAM INSULATION INSTALLED BETWEEN THE TWO UTILITIES FOR A LENGTH OF 5' ALONG THE WATER MAIN ON EACH SIDE OF THE CROSSING. PROVIDE 2" RIGID INSULATION ALONG WATER MAINS WITHIN 5' OF ANY DRAINAGE STRUCTURE.



UTILITY PROFILE - EMMET ROAD
 SCALE: HORIZ 1"=20'
 VERT 1"=5'

NO.	DATE	DESCRIPTION	BY	CHKD

CITY OF DOVER
 288 CENTRAL AVE
 DOVER, NH 03820

CITY OF DOVER
 KEATING-
 BIRCHWOOD AREA
 RECONSTRUCTION

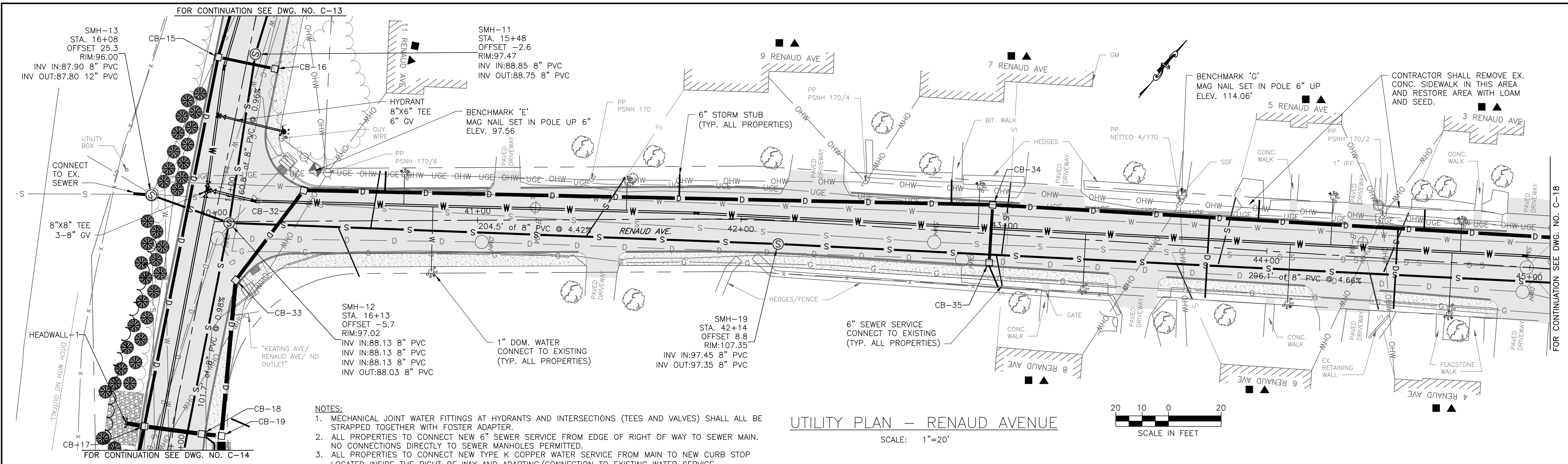
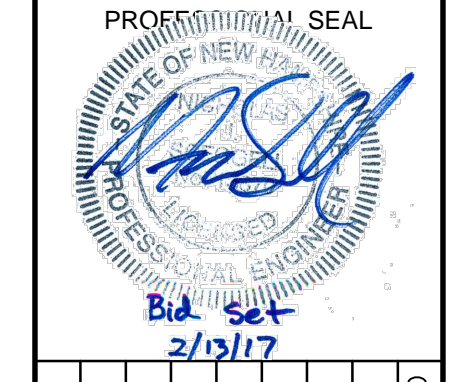
SHEET TITLE
 UTILITY
 PLAN AND PROFILE
 SHEET 7

DRAWN BY	DATE
TMG	FEB 2017
CHECKED BY	D&K PROJECT #
CKG	222952
PROJ. ENG.	D&K ARCHIVE #
NJS	

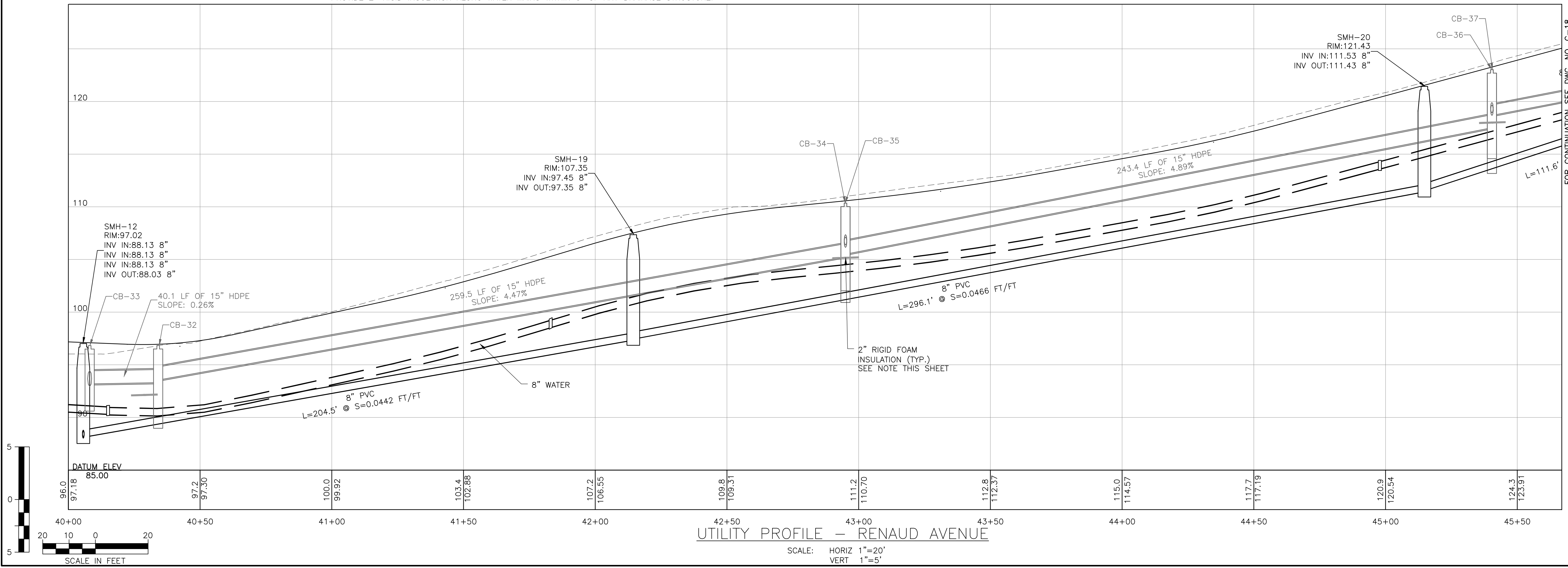
SHEET NUMBER

C-16

I:\222952-Dover-Keating-Birchwood\Drawings\C-UTILITY PLANS.dwg 2/7/2017 1:16 PM



- NOTES:**
- MECHANICAL JOINT WATER FITTINGS AT HYDRANTS AND INTERSECTIONS (TEES AND VALVES) SHALL ALL BE STRAPPED TOGETHER WITH FOSTER ADAPTER.
 - ALL PROPERTIES TO CONNECT NEW 6" SEWER SERVICE FROM EDGE OF RIGHT OF WAY TO SEWER MAIN. NO CONNECTIONS DIRECTLY TO SEWER MANHOLES PERMITTED.
 - ALL PROPERTIES TO CONNECT NEW TYPE K COPPER WATER SERVICE FROM MAIN TO NEW CURB STOP LOCATED INSIDE THE RIGHT OF WAY AND ADAPTING/CONNECTION TO EXISTING WATER SERVICE.
 - APPROXIMATE SERVICE LINE LOCATIONS SHOWN. VERIFY LOCATION OF SERVICE FOR ALL PROPERTIES IN THE FIELD.
 - ALL WATER AND SEWER MAINS SHALL HAVE A HORIZONTAL SEPARATION OF 10'.
 - ALL WATER AND SEWER CROSSINGS SHALL HAVE A VERTICAL CLEARANCE OF 18".
 - ALL WATER AND STORM DRAIN CROSSINGS SHALL HAVE 2" RIGID FOAM INSULATION INSTALLED BETWEEN THE TWO UTILITIES FOR A LENGTH OF 5' ALONG THE WATER MAIN ON EACH SIDE OF THE CROSSING. PROVIDE 2" RIGID INSULATION ALONG WATER MAINS WITHIN 5' OF ANY DRAINAGE STRUCTURE.



NO.	DATE	DESCRIPTION	BY	CHKD.

CITY OF DOVER
 288 CENTRAL AVE
 DOVER, NH 03820

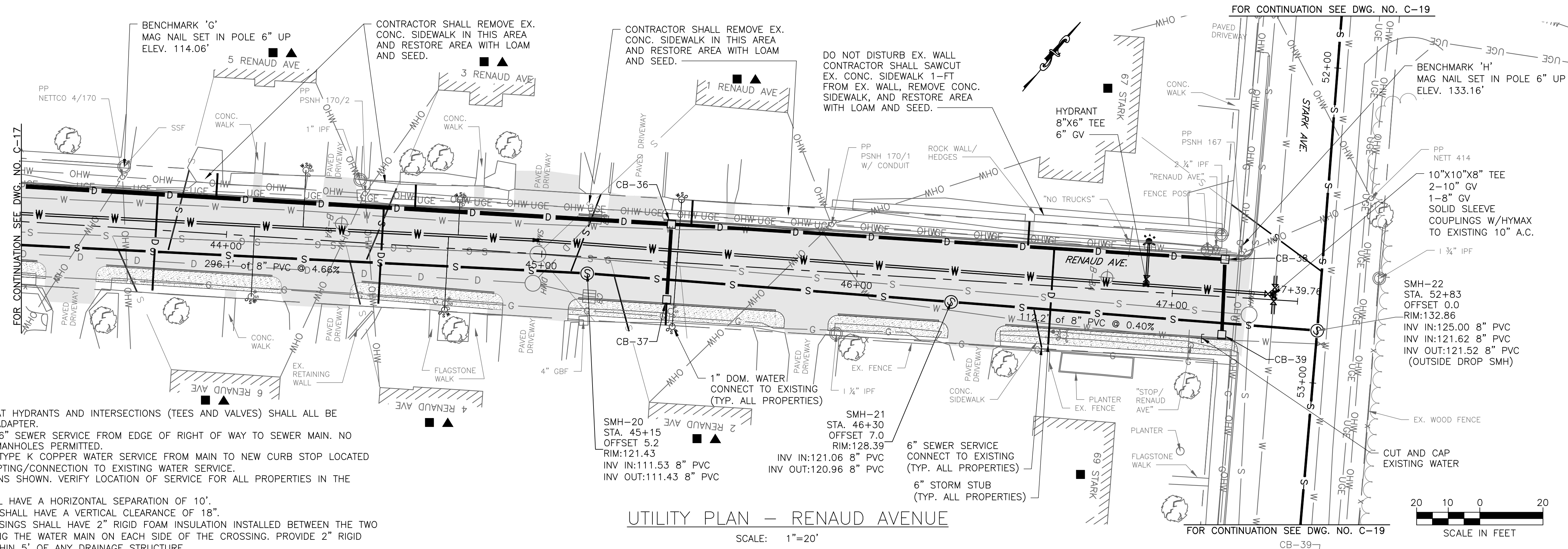
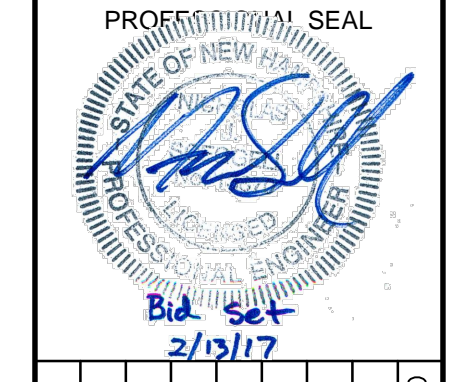
CITY OF DOVER
 KEATING-
 BIRCHWOOD AREA
 RECONSTRUCTION

SHEET TITLE
 UTILITY
 PLAN AND PROFILE
 SHEET 8

DRAWN BY	DATE
TMG	FEB 2017
CHECKED BY	D&K PROJECT #
CKG	222952
PROJ. ENG.	D&K ARCHIVE #
NJS	

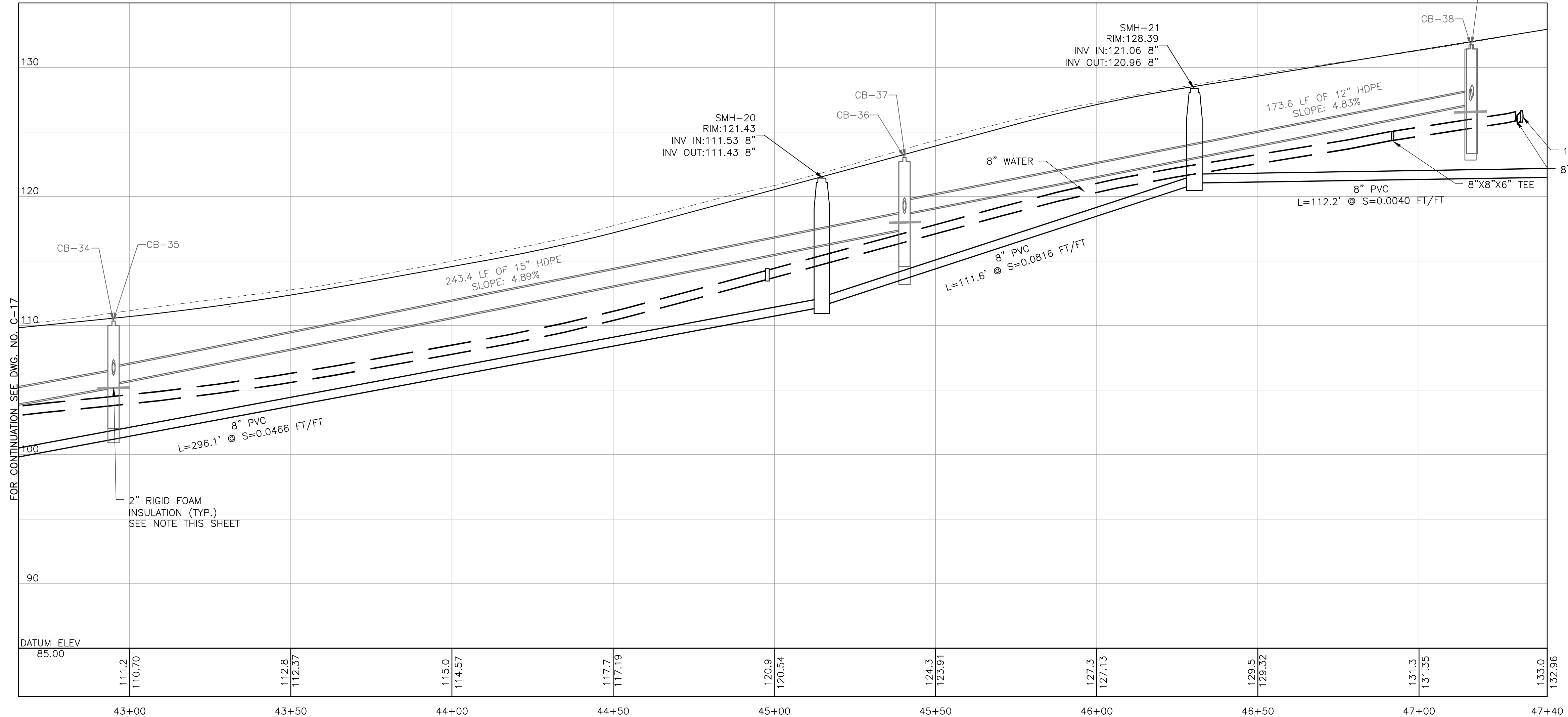
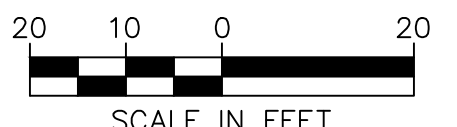
SHEET NUMBER
C-17
 SHEET 25 OF 47

I:\222952-Dover-Keating-Birchwood\Drawings\C-UTILITY PLANS.dwg 2/7/2017 4:12 PM



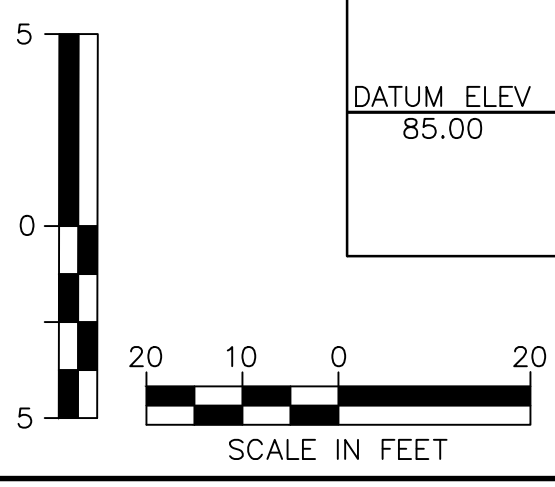
UTILITY PLAN - RENAUD AVENUE

SCALE: 1"=20'



UTILITY PROFILE - RENAUD AVENUE

SCALE: HORIZ 1"=20'
 VERT 1"=5'



NO.	DATE	DESCRIPTION	BY	CHKD

CITY OF DOVER
 288 CENTRAL AVE
 DOVER, NH 03820

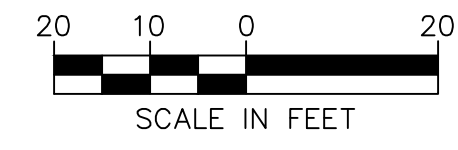
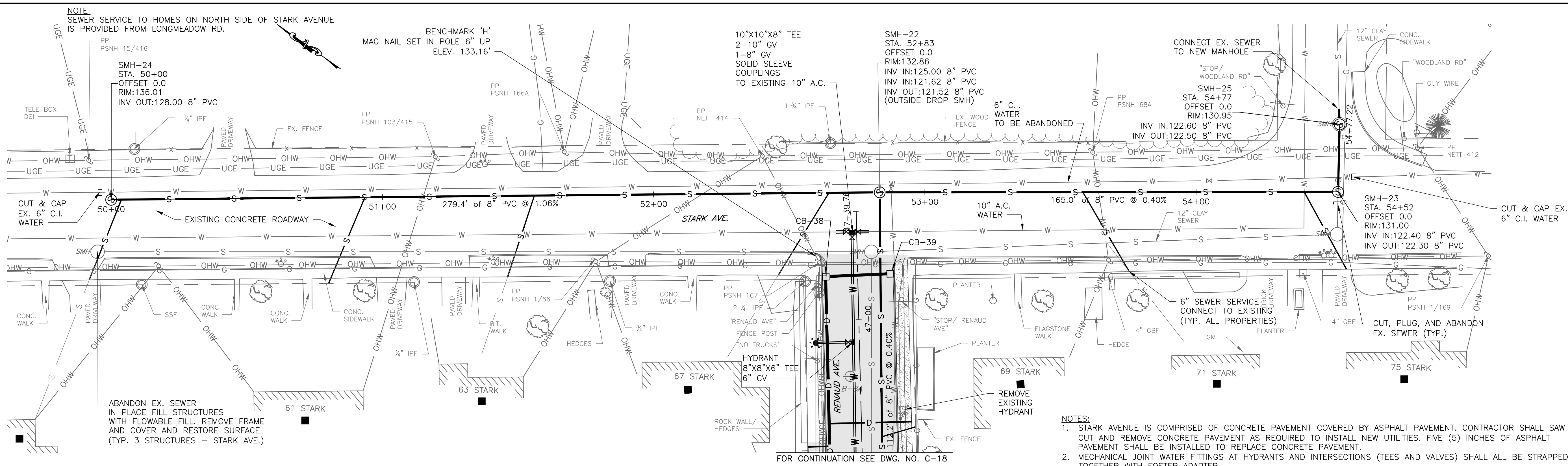
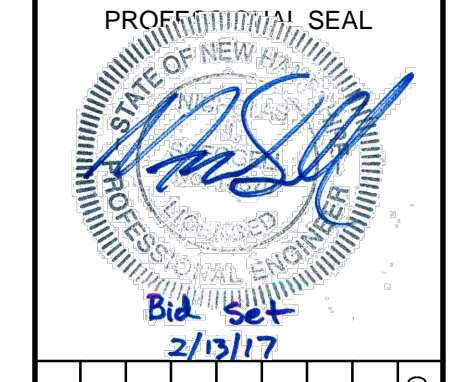
CITY OF DOVER
 KEATING-
 BIRCHWOOD AREA
 RECONSTRUCTION

SHEET TITLE
 UTILITY
 PLAN AND PROFILE
 SHEET 9

DRAWN BY TMG	DATE FEB 2017
CHECKED BY CKG	D&K PROJECT # 222952
PROJ. ENG. NJS	D&K ARCHIVE #

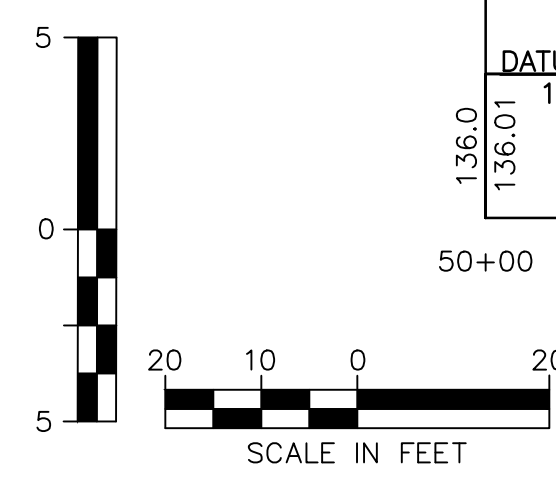
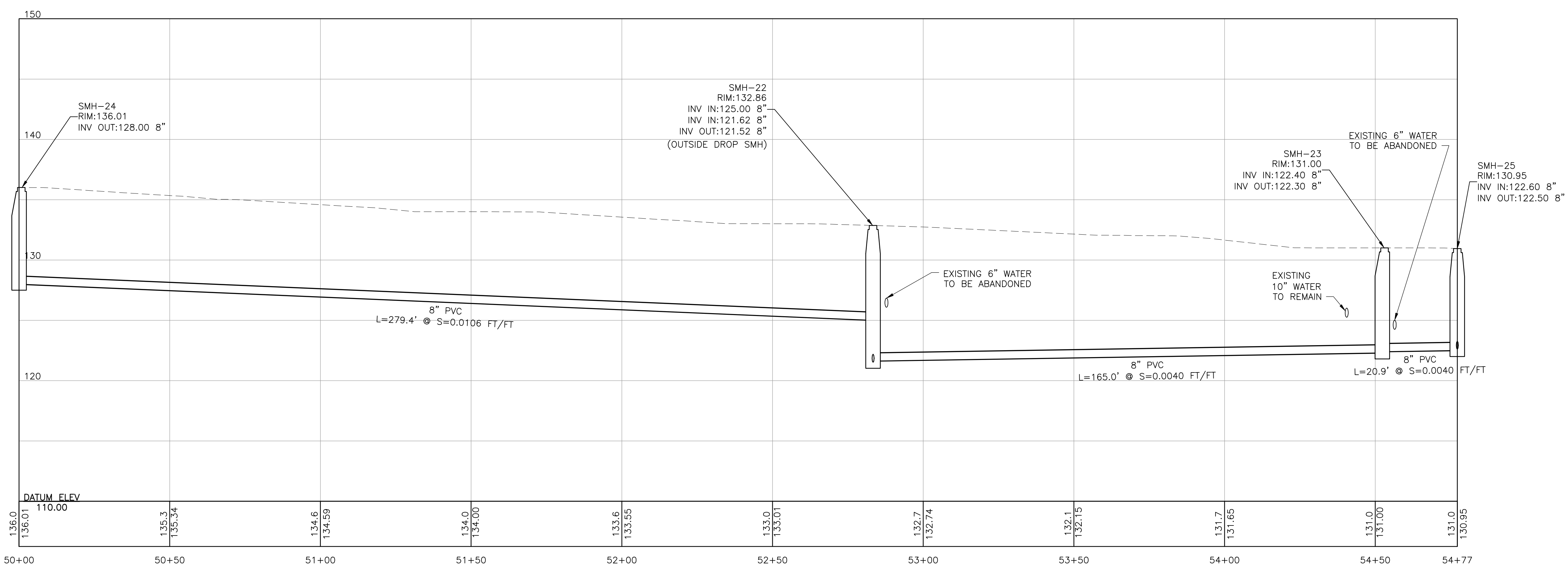
SHEET NUMBER
C-18
 SHEET 26 OF 47

I:\222952-Dover Keating Birchwood Drawings\C-UTILITY PLANS.dwg 2/7/2017 1:18 PM



UTILITY PLAN - STARK AVENUE
 SCALE: 1"=20'

- NOTES:**
1. STARK AVENUE IS COMPRISED OF CONCRETE PAVEMENT COVERED BY ASPHALT PAVEMENT. CONTRACTOR SHALL SAW CUT AND REMOVE CONCRETE PAVEMENT AS REQUIRED TO INSTALL NEW UTILITIES. FIVE (5) INCHES OF ASPHALT PAVEMENT SHALL BE INSTALLED TO REPLACE CONCRETE PAVEMENT.
 2. MECHANICAL JOINT WATER FITTINGS AT HYDRANTS AND INTERSECTIONS (TEES AND VALVES) SHALL ALL BE STRAPPED TOGETHER WITH FOSTER ADAPTER.
 3. ALL PROPERTIES TO CONNECT NEW 6" SEWER SERVICE FROM EDGE OF RIGHT OF WAY TO SEWER MAIN. NO CONNECTIONS DIRECTLY TO SEWER MANHOLES PERMITTED.
 4. ALL PROPERTIES TO CONNECT NEW TYPE K COPPER WATER SERVICE FROM MAIN TO NEW CURB STOP LOCATED INSIDE THE RIGHT OF WAY AND ADAPTING/CONNECTION TO EXISTING WATER SERVICE.
 5. APPROXIMATE SERVICE LINE LOCATIONS SHOWN. VERIFY LOCATION OF SERVICE FOR ALL PROPERTIES IN THE FIELD.
 6. ALL WATER AND SEWER MAINS SHALL HAVE A HORIZONTAL SEPARATION OF 10'.
 7. ALL WATER AND SEWER CROSSINGS SHALL HAVE A VERTICAL CLEARANCE OF 18"



UTILITY PROFILE - STARK AVENUE
 SCALE: HORIZ 1"=20'
 VERT 1"=5'

NO.	DATE	DESCRIPTION	BY	CK'D

CITY OF DOVER
 288 CENTRAL AVE
 DOVER, NH 03820

CITY OF DOVER
 KEATING-
 BIRCHWOOD AREA
 RECONSTRUCTION

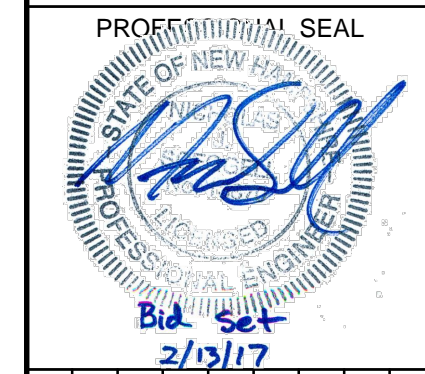
SHEET TITLE
 UTILITY
 PLAN AND PROFILE
 SHEET 10

DRAWN BY	DATE
TMG	FEB 2017
CHECKED BY	D&K PROJECT #
CKG	222952
PROJ. ENG.	D&K ARCHIVE #
NJS	

SHEET NUMBER

C-19

I:\222952-Dover Keating Birchwood Drawings\C-UTILITY PLANS.dwg 2/9/2017 11:33 AM



NO.	DATE	DESCRIPTION	BY	CK'D

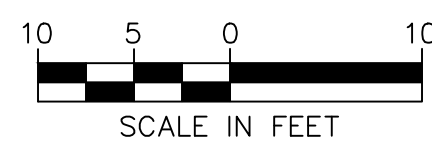
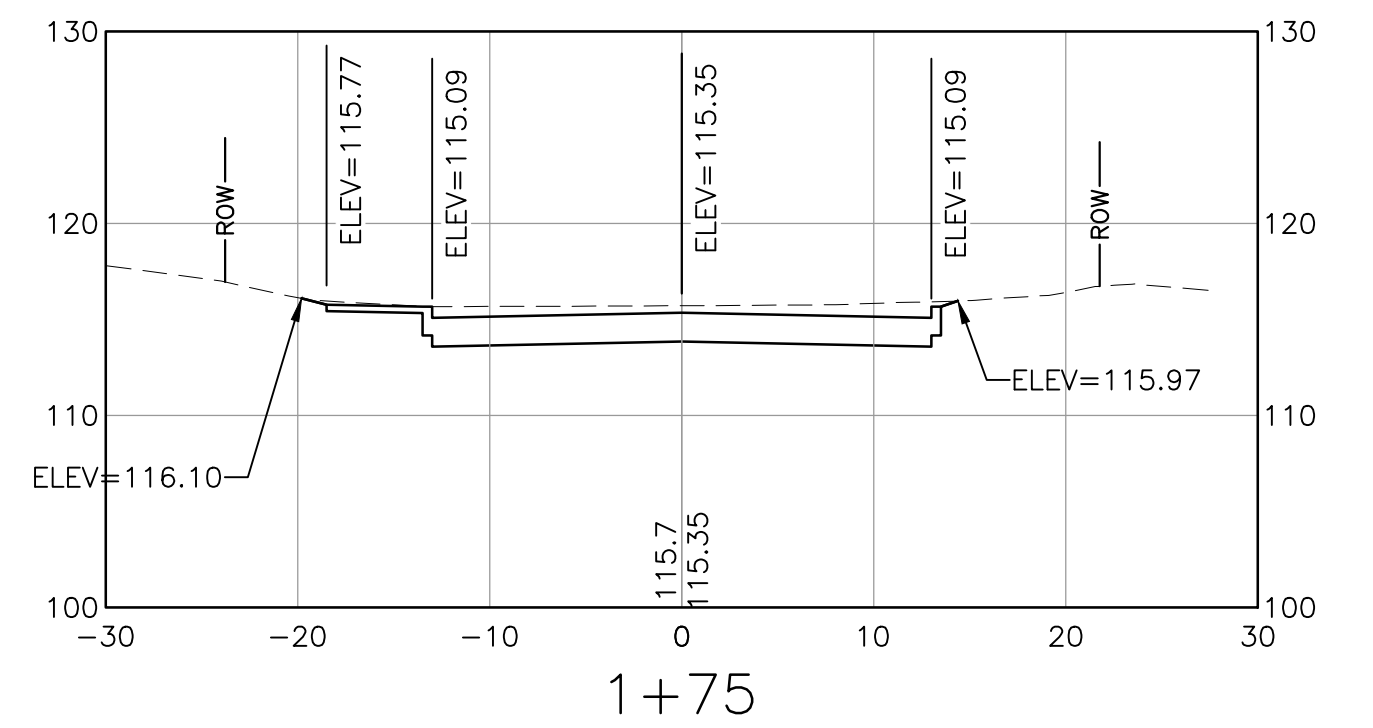
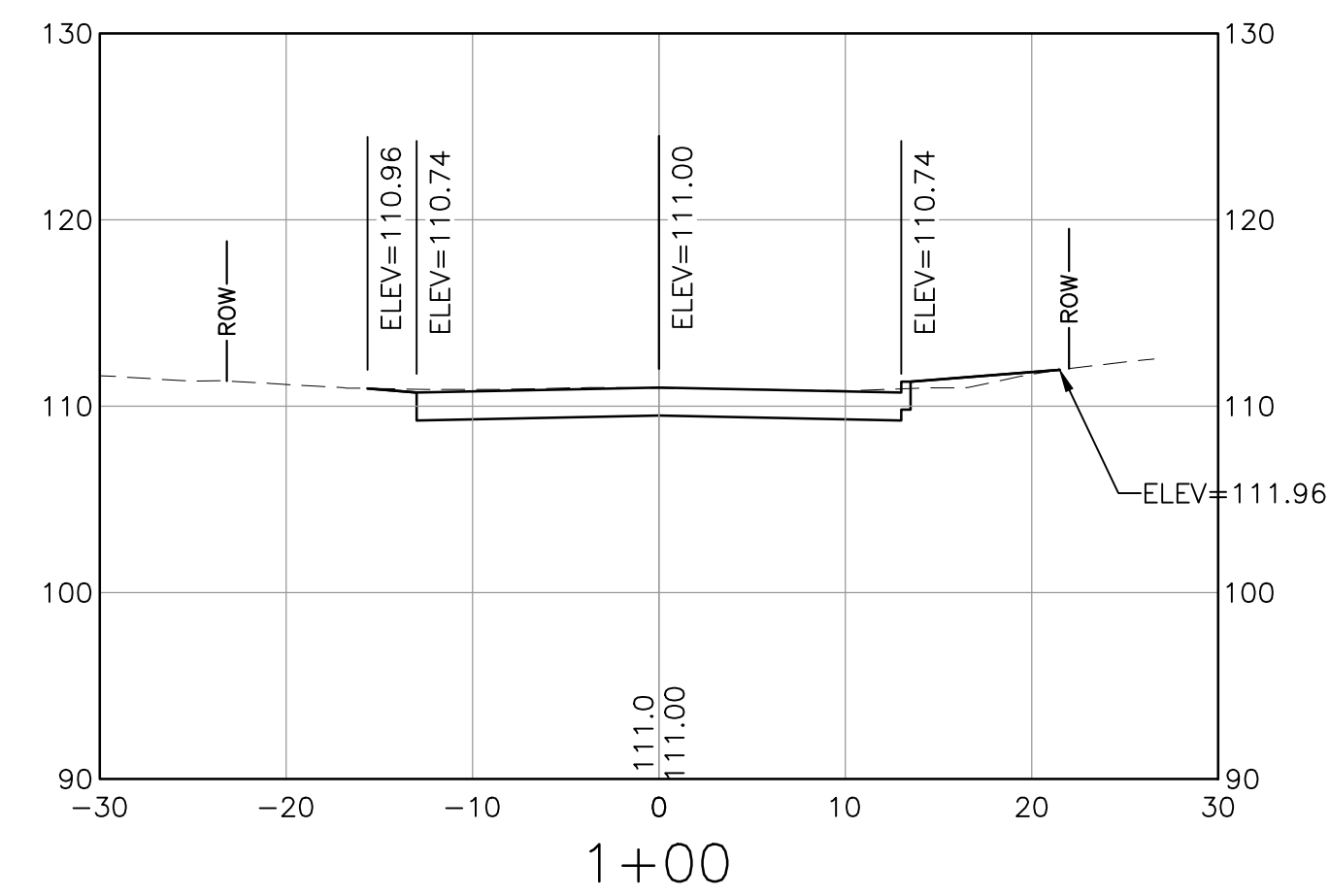
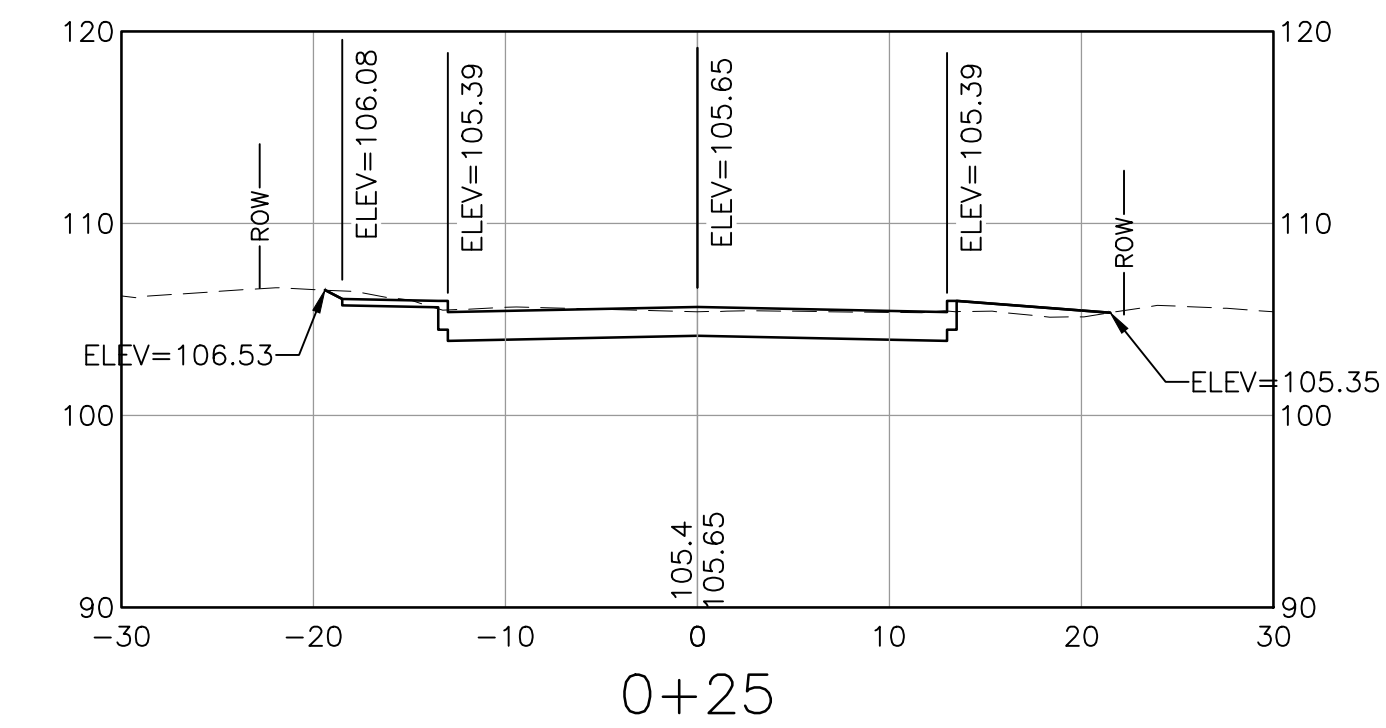
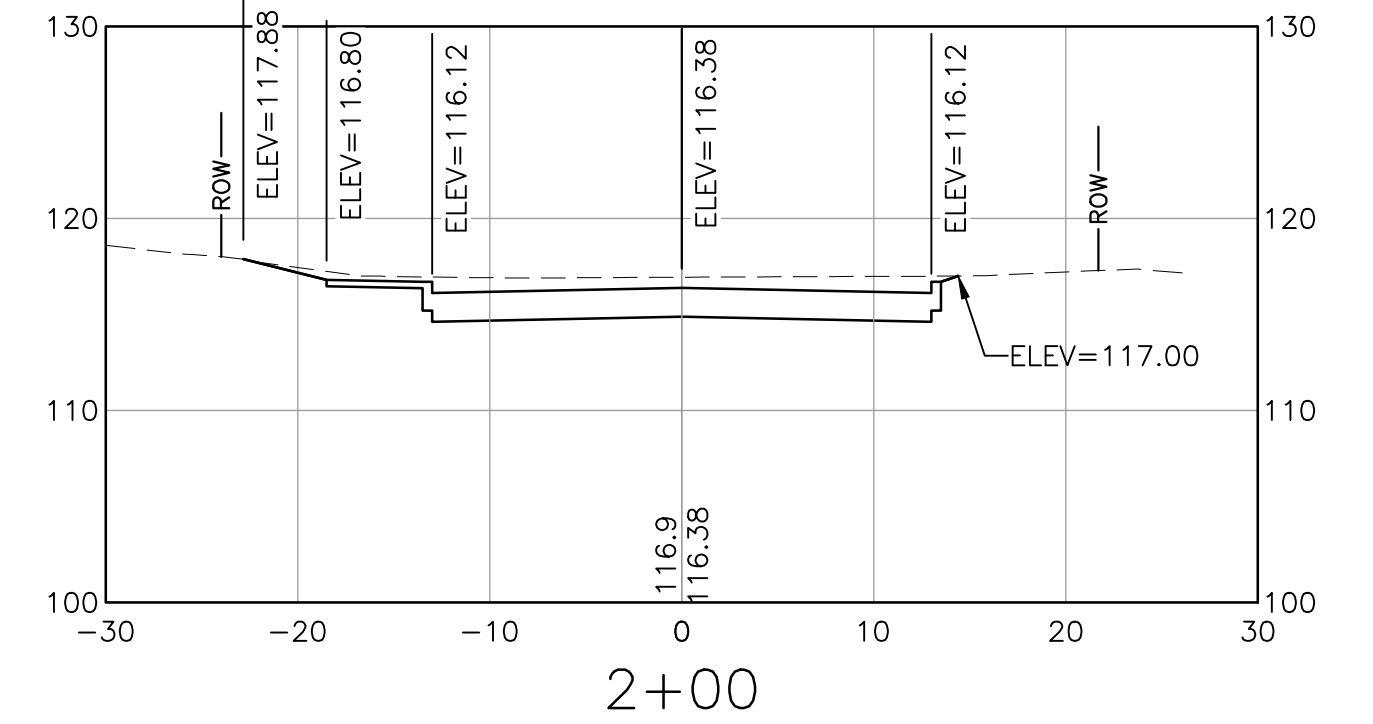
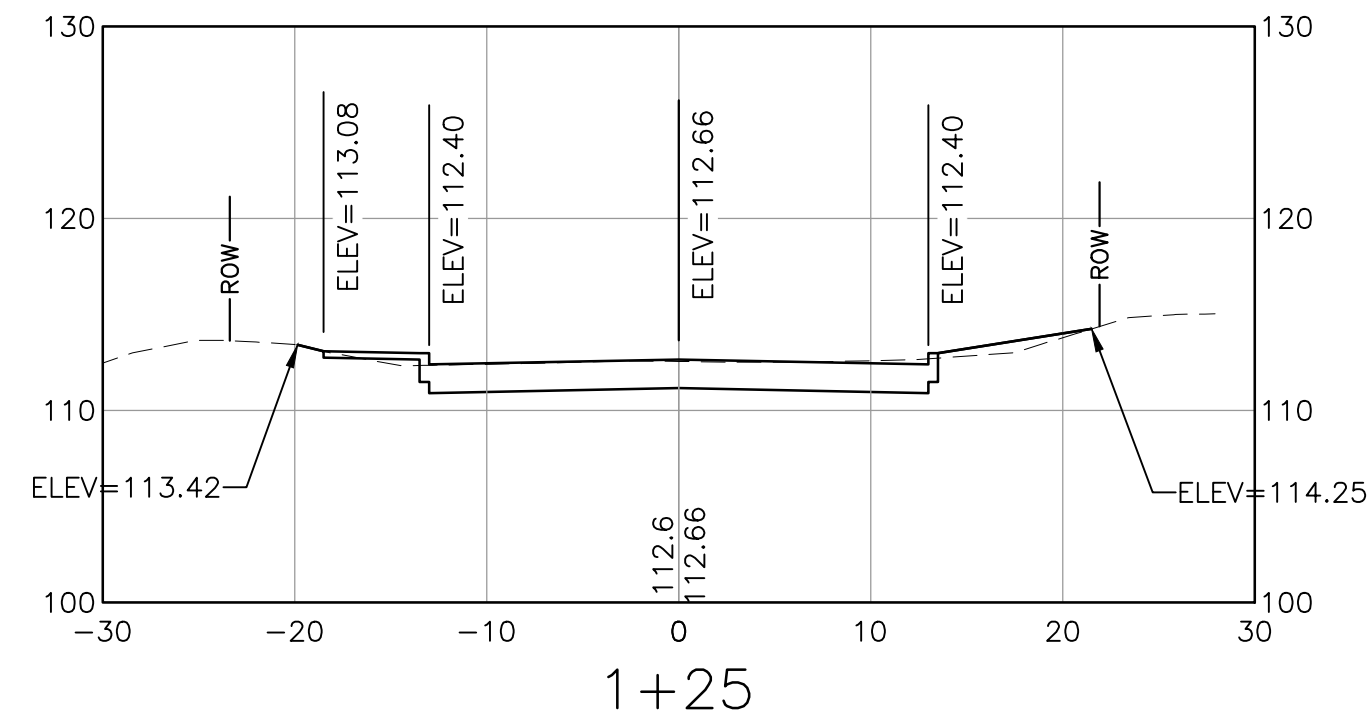
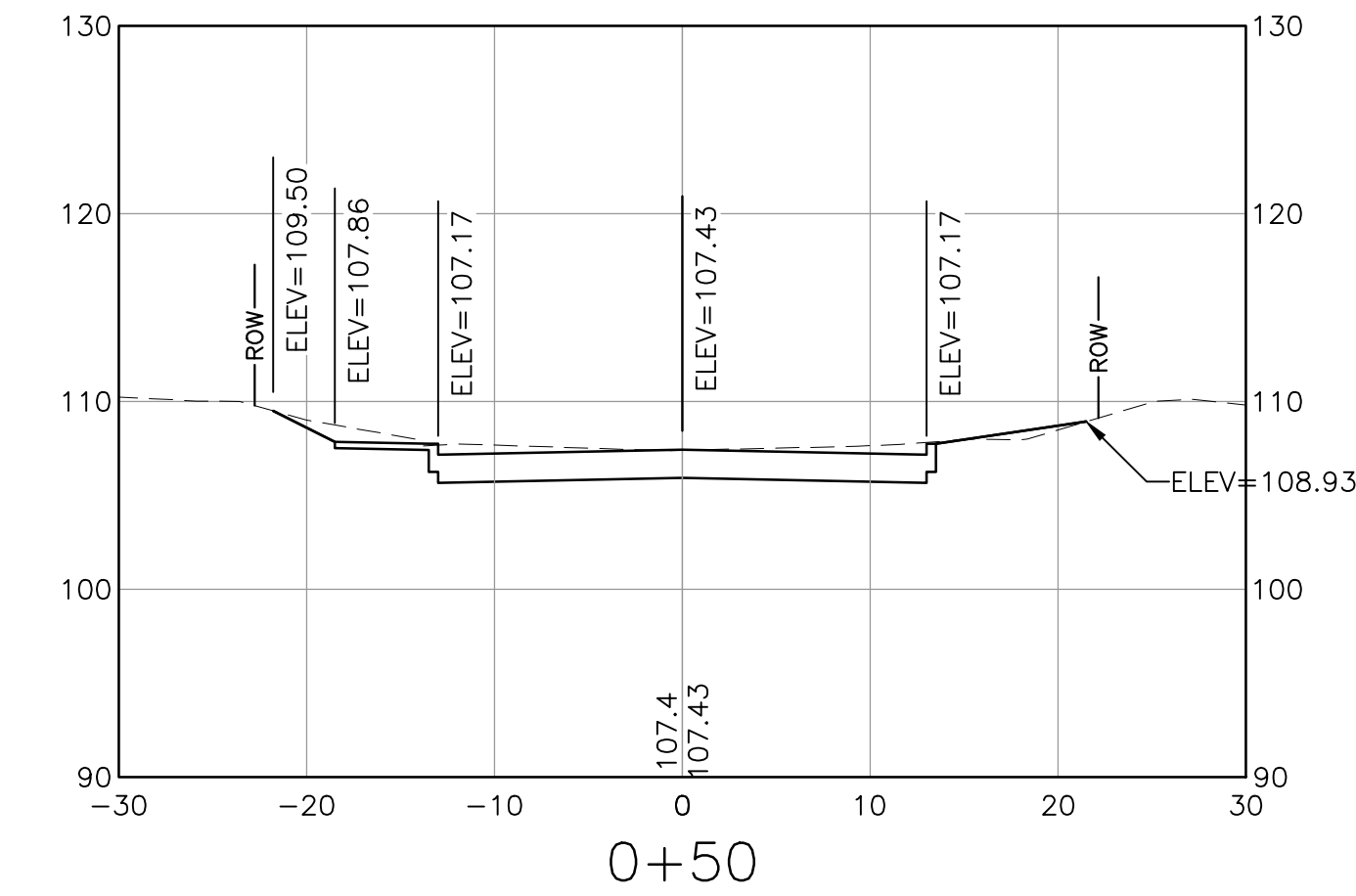
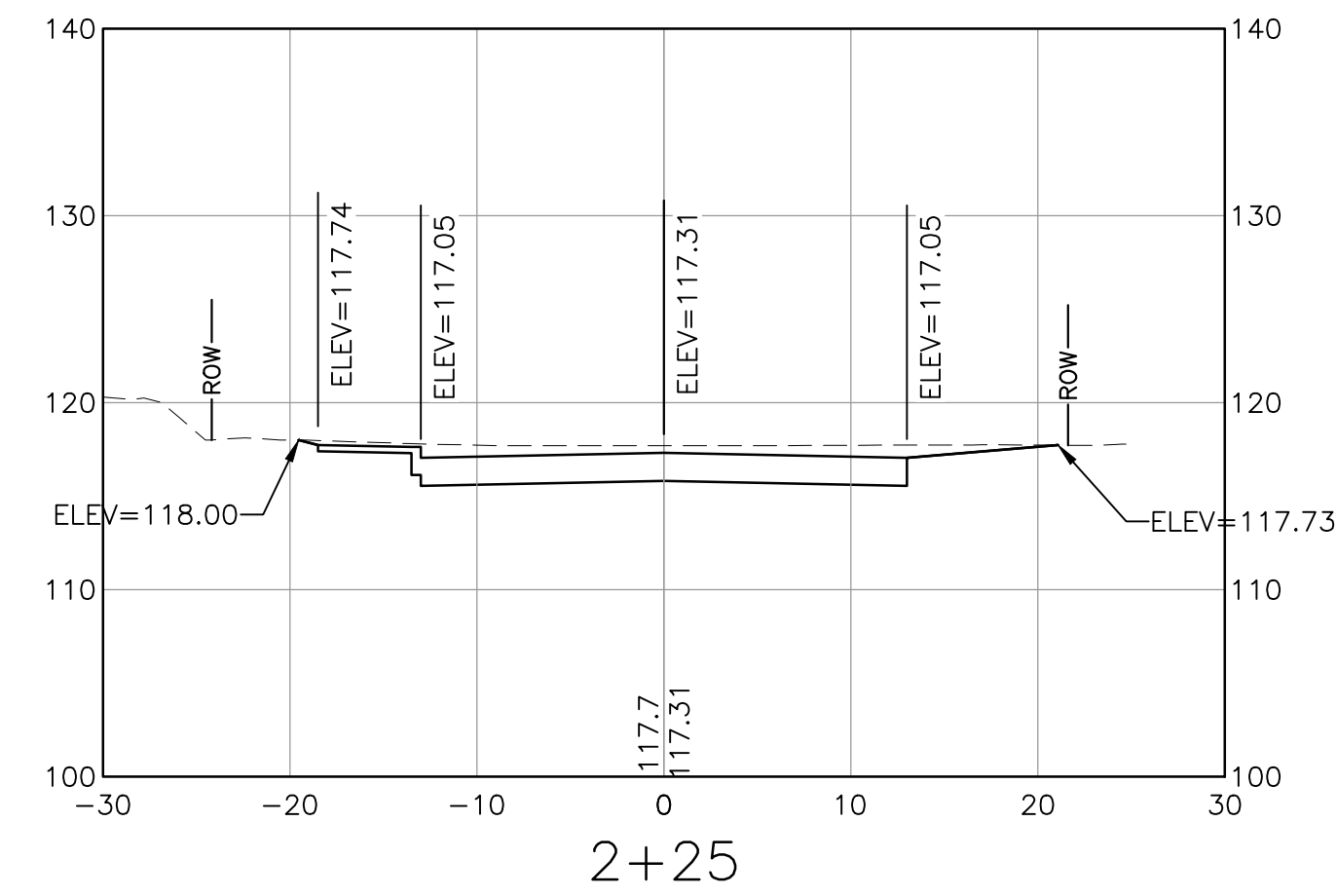
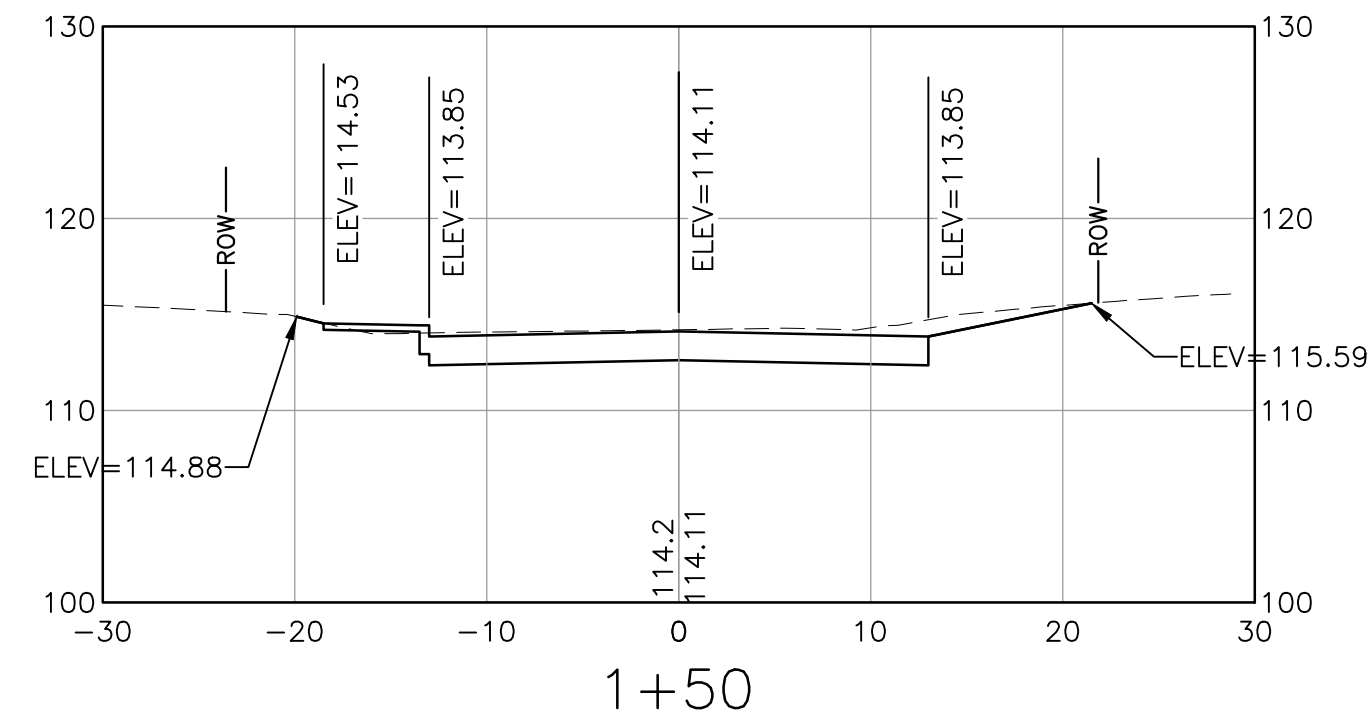
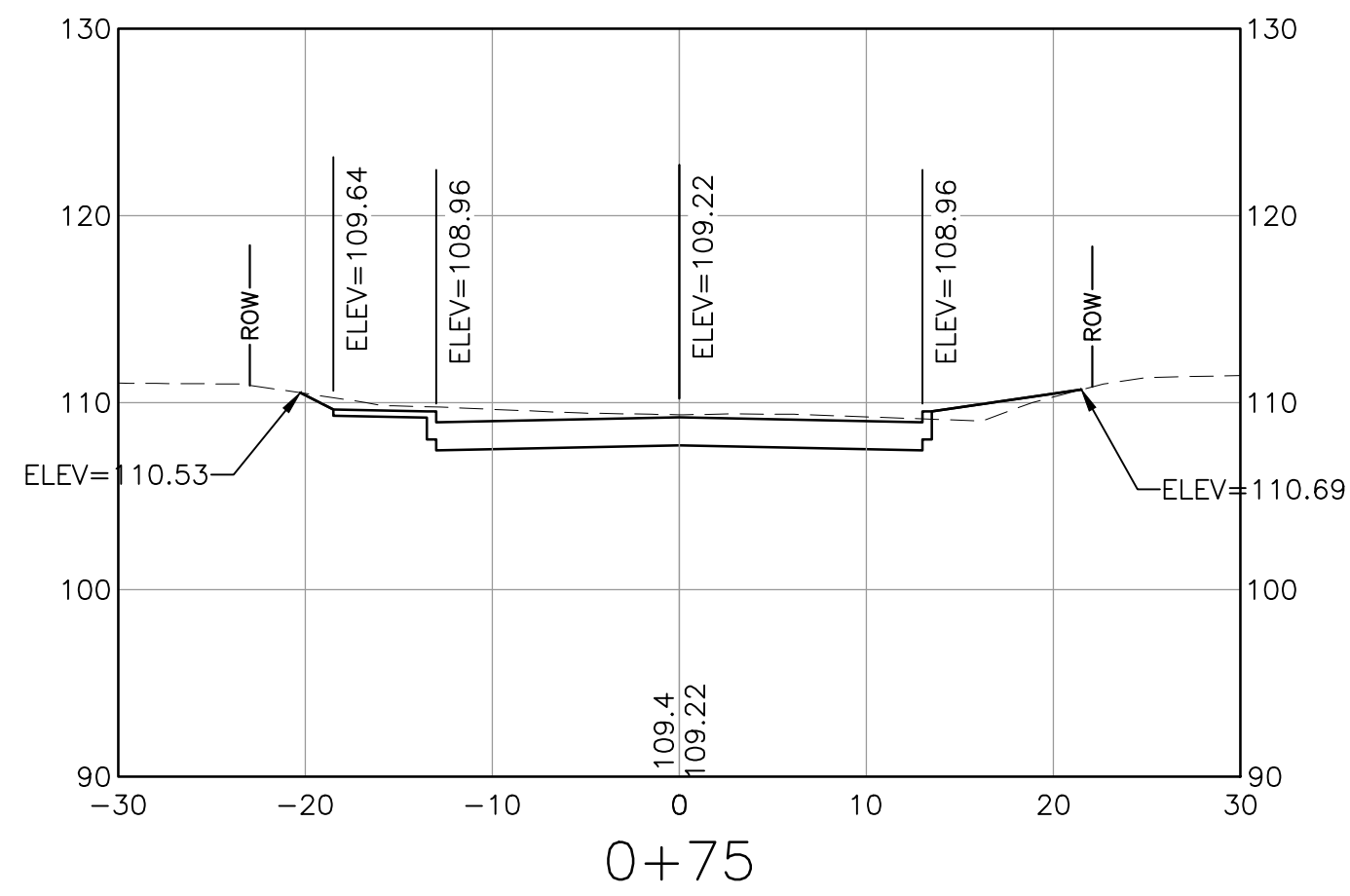
CITY OF DOVER
288 CENTRAL AVE
DOVER, NH 03820

CITY OF DOVER
KEATING-
BIRCHWOOD AREA
RECONSTRUCTION

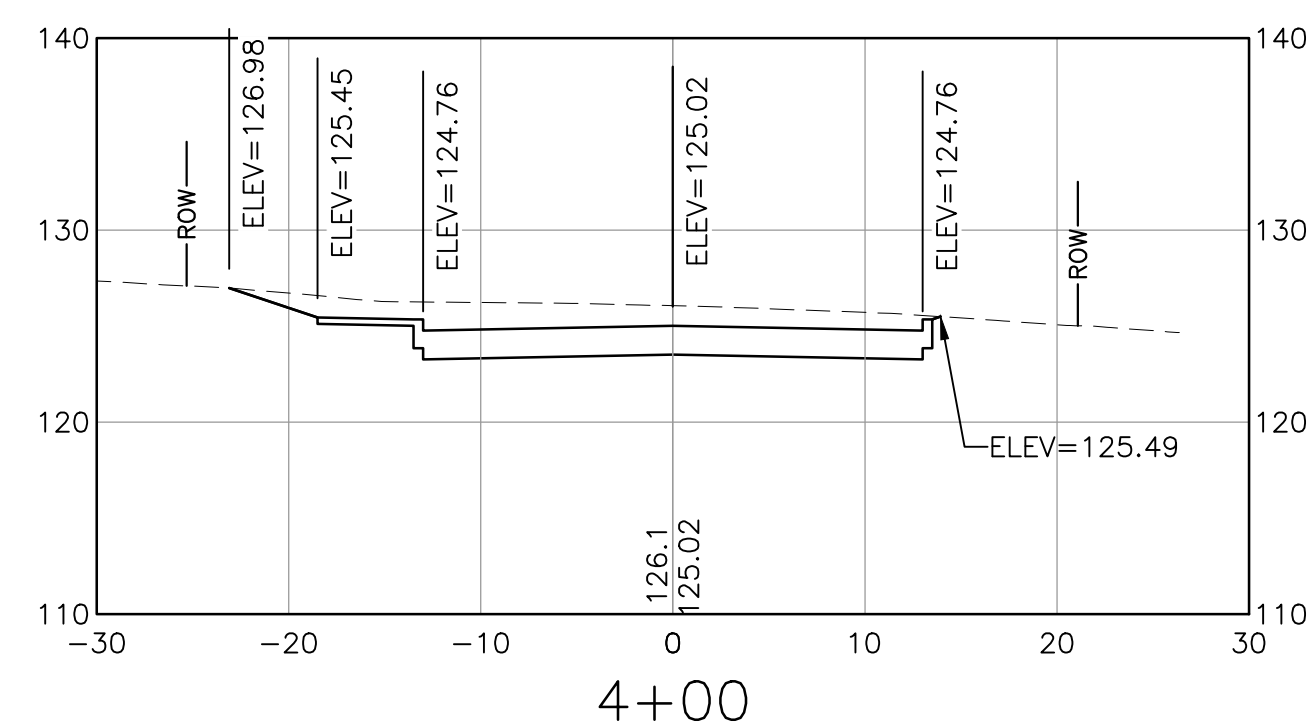
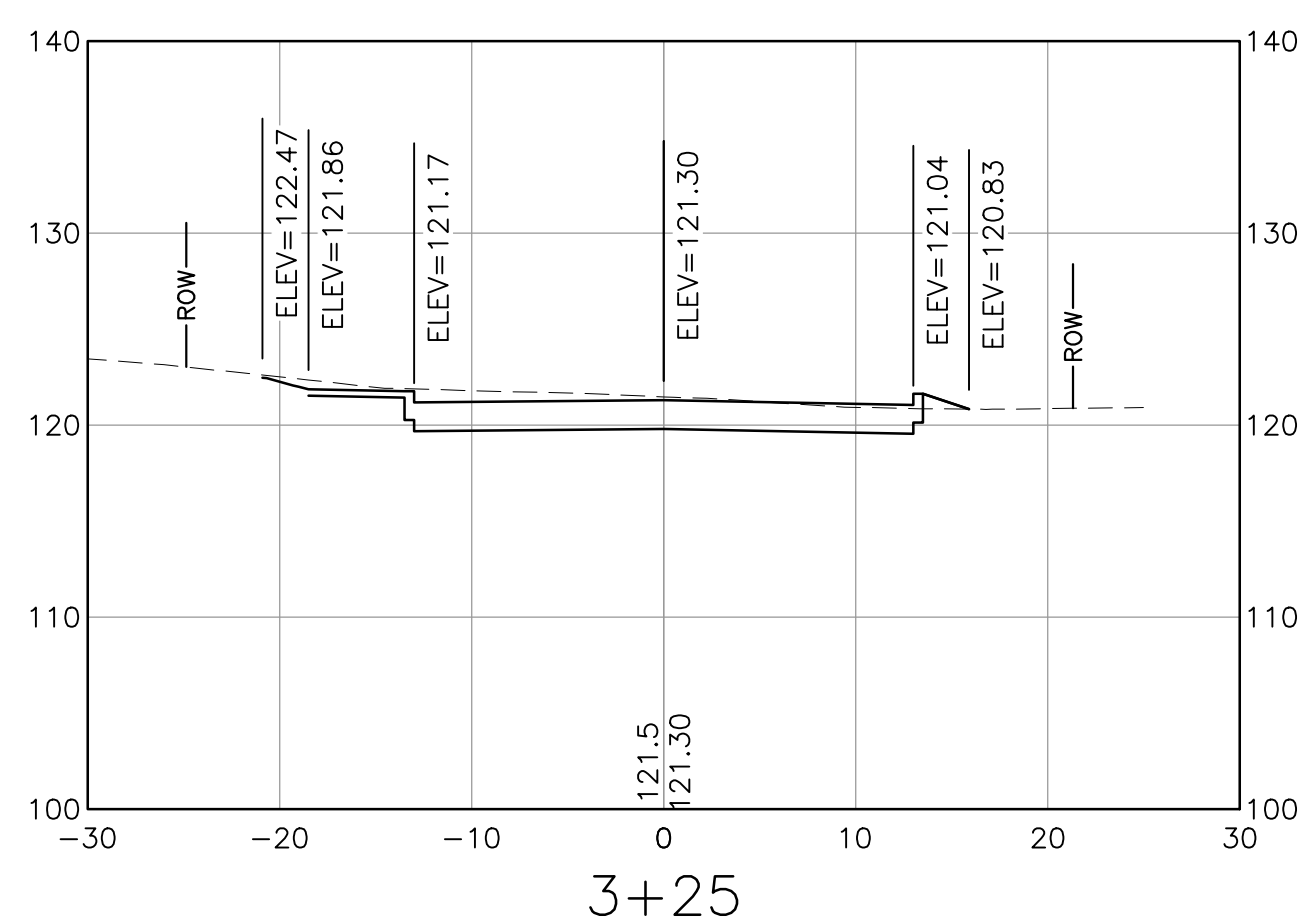
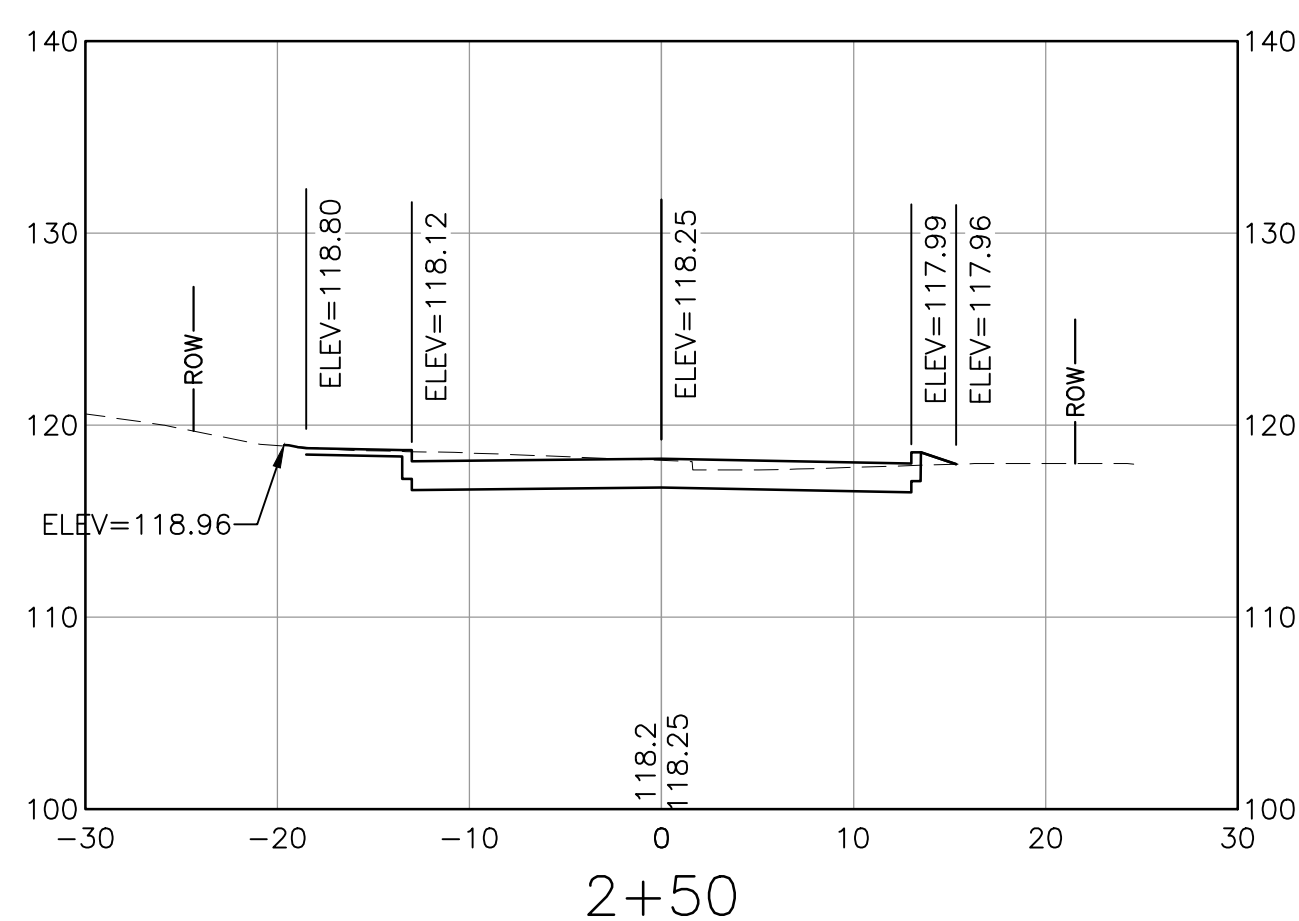
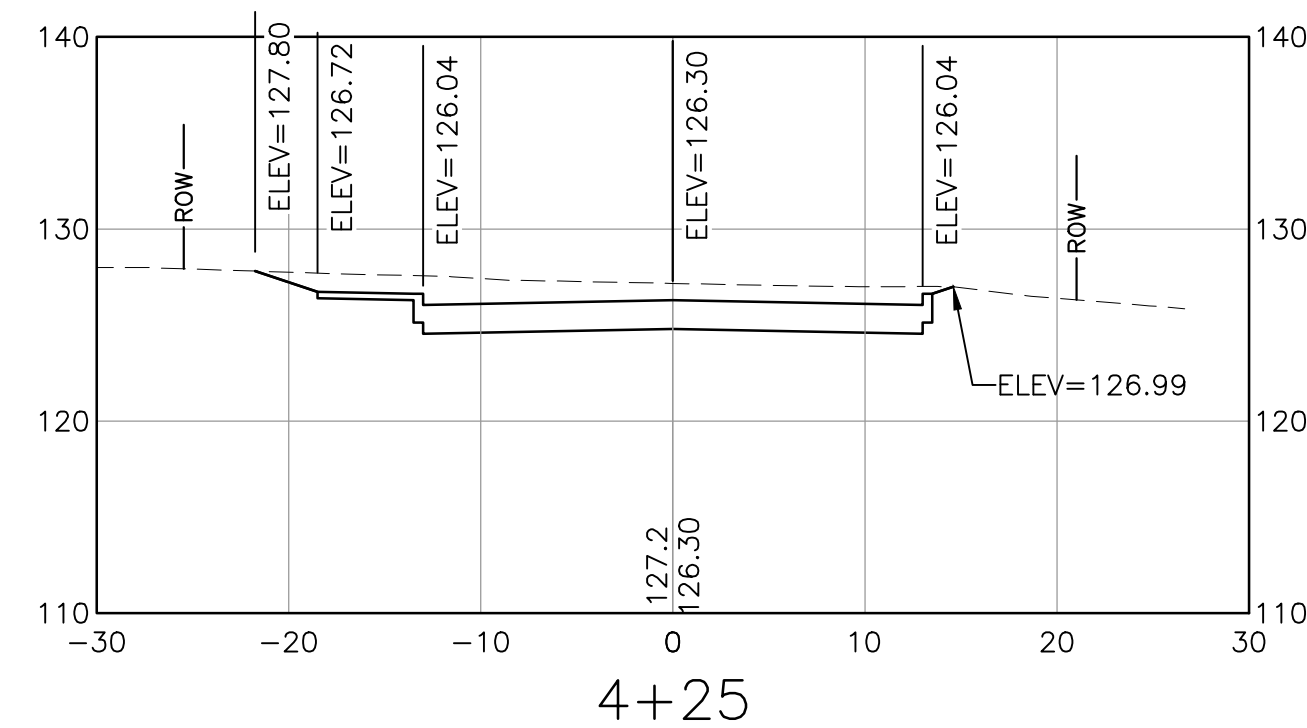
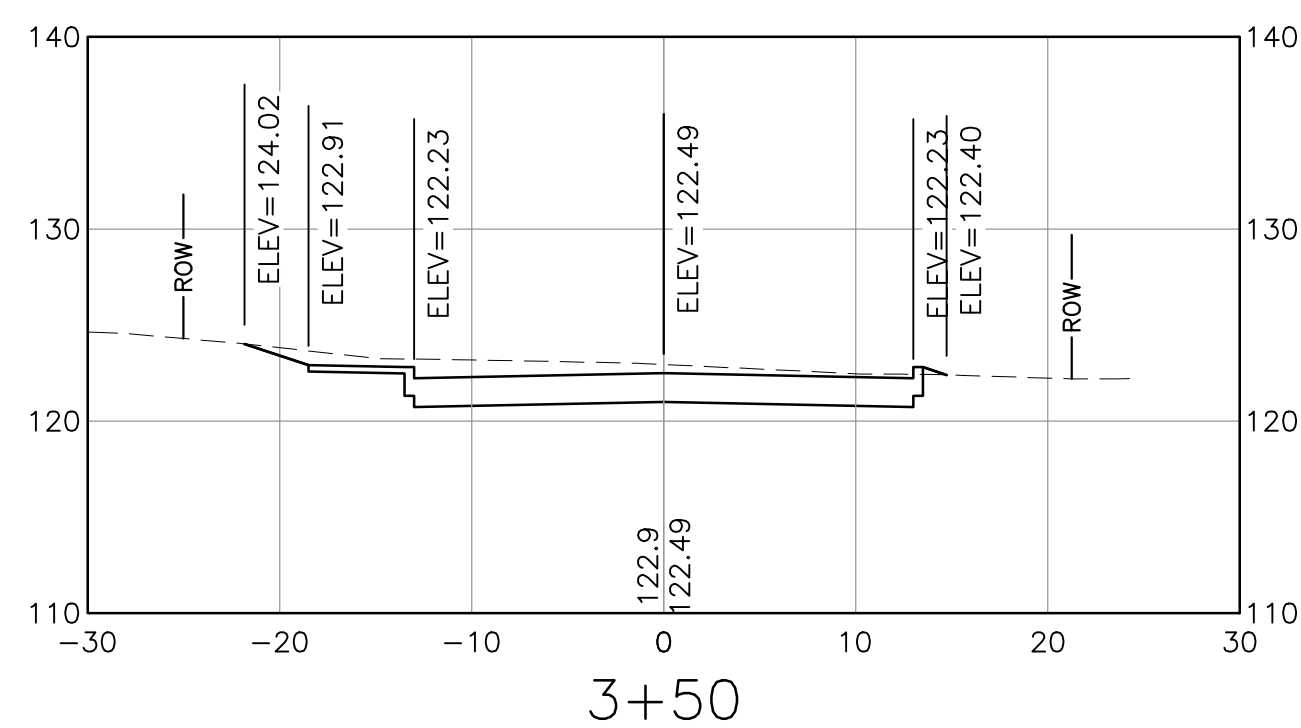
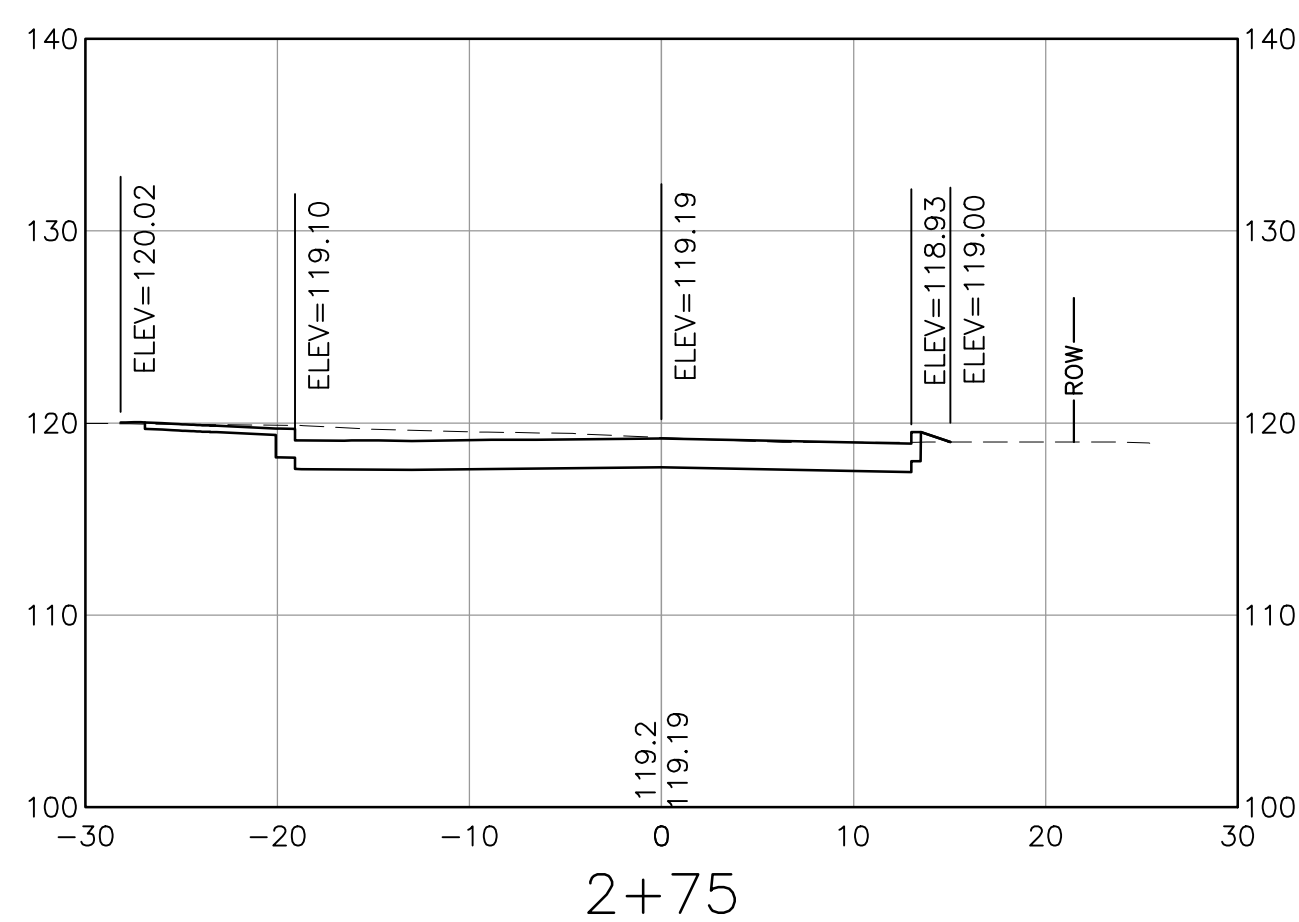
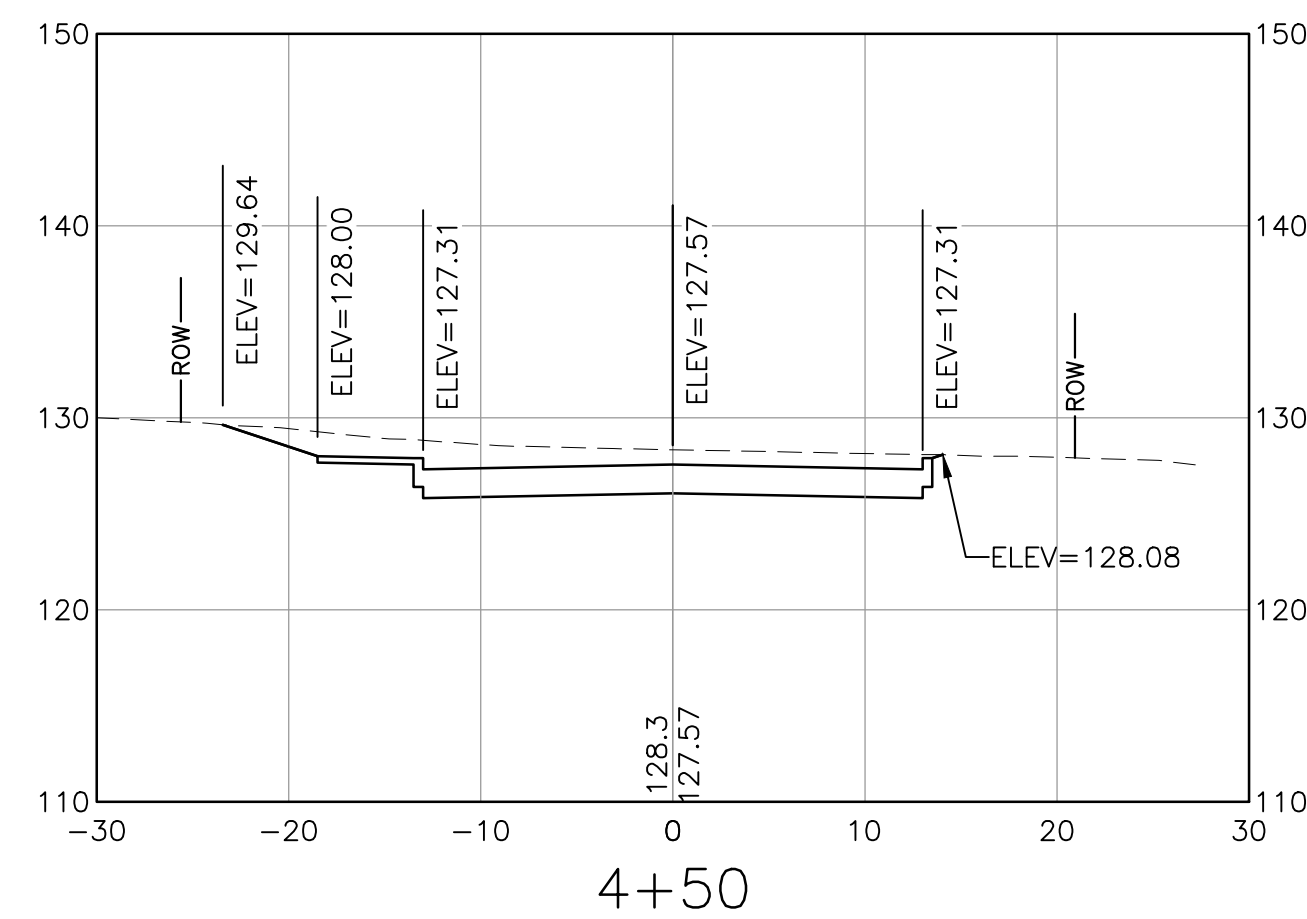
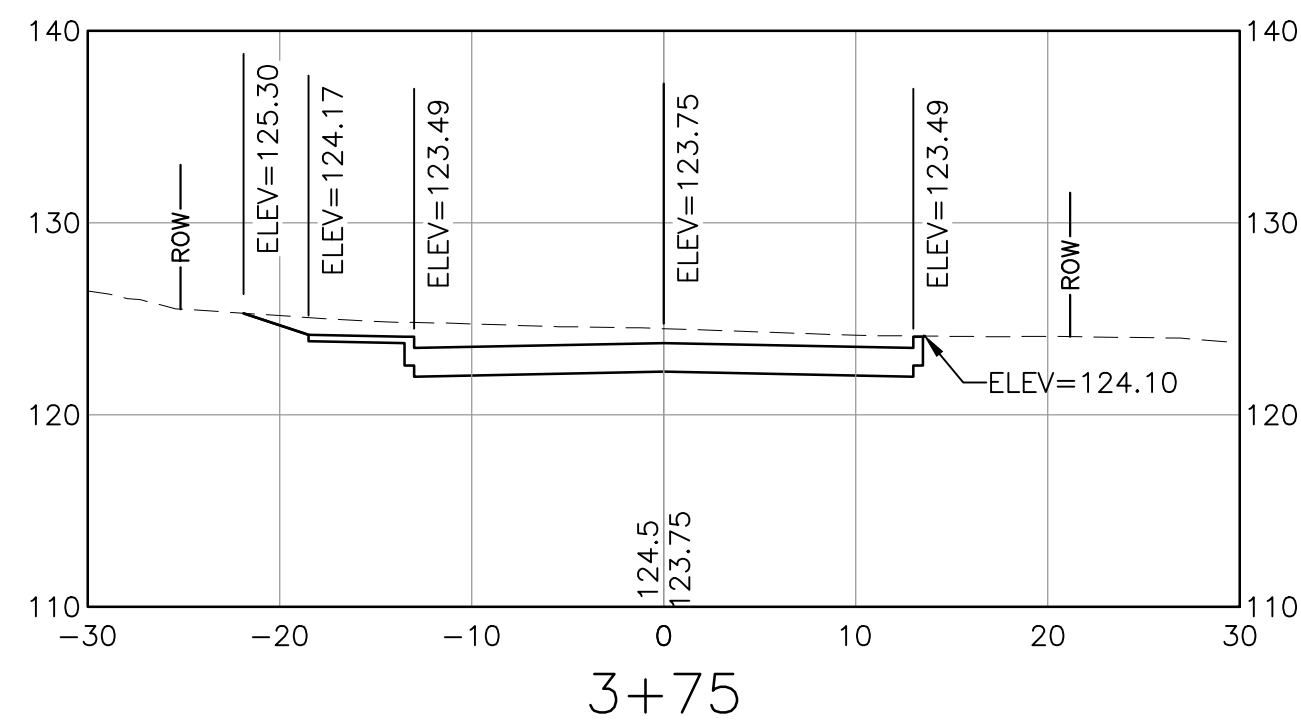
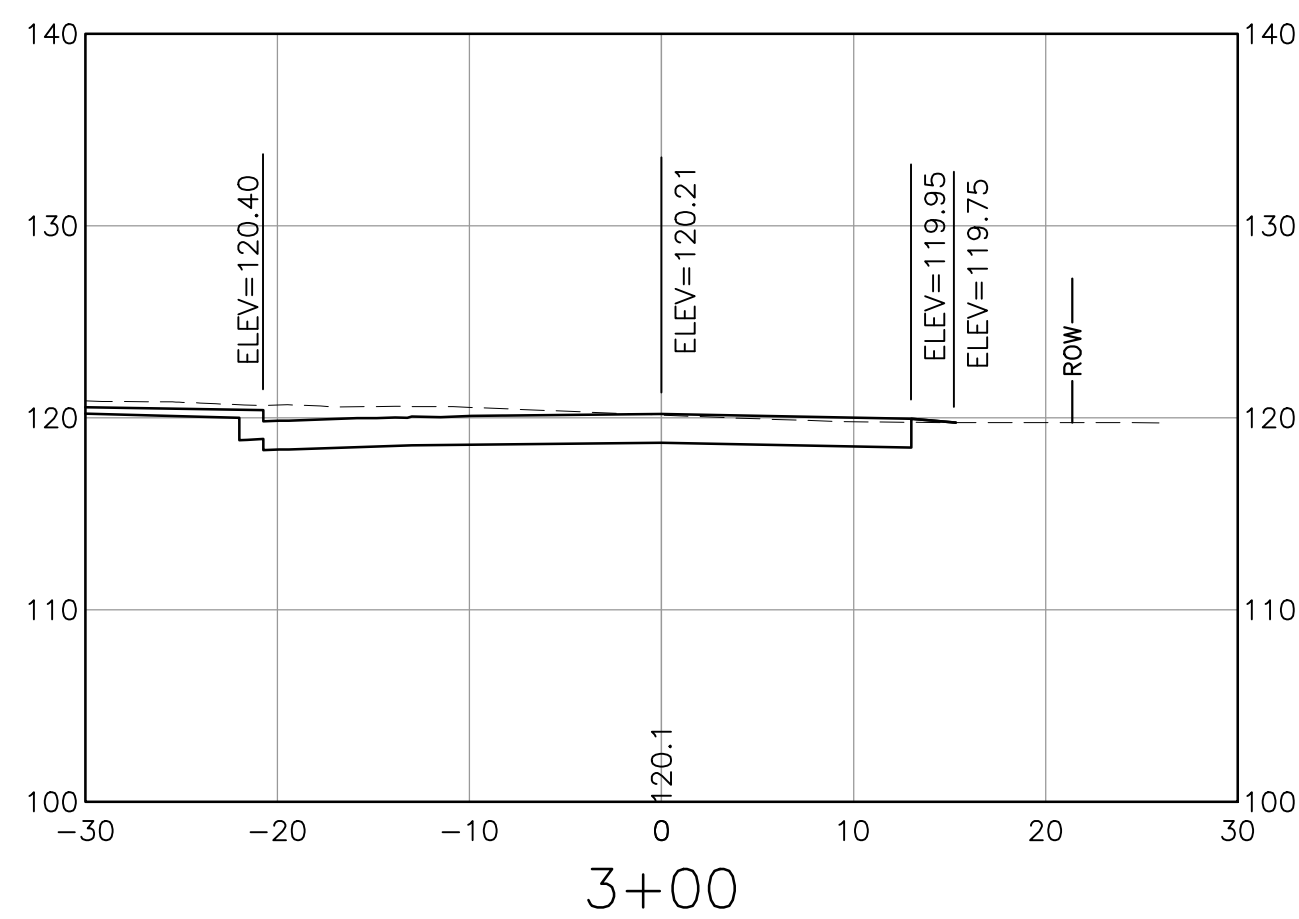
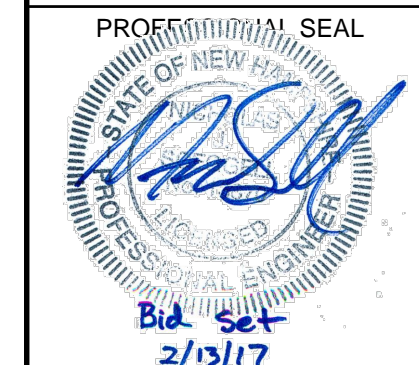
SHEET TITLE
BIRCHWOOD PLACE
CROSS SECTIONS
SHEET 1

DRAWN BY KLL	DATE FEB 2017
CHECKED BY CKG	D&K PROJECT # 222952
PROJ. ENG. NJS	D&K ARCHIVE #

SHEET NUMBER
XS-1



NOTE:
SPOT ELEVATIONS PROVIDED DEPICT ELEVATIONS FOR ROADWAY CROWN,
BOTTOM OF CURB, BACK OF SIDEWALK, AND TIE-IN TO EXISTING GROUND.



NO.	DATE	DESCRIPTION

CITY OF DOVER
288 CENTRAL AVE
DOVER, NH 03820

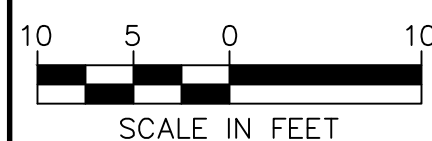
CITY OF DOVER
KEATING-
BIRCHWOOD AREA
RECONSTRUCTION

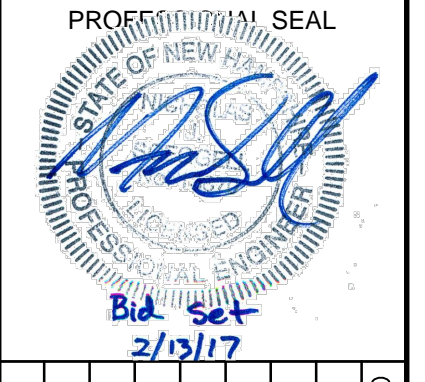
SHEET TITLE
BIRCHWOOD PLACE
CROSS SECTIONS
SHEET 2

DRAWN BY KLL	DATE FEB 2017
CHECKED BY CKG	D&K PROJECT # 222952
PROJ. ENG. NJS	D&K ARCHIVE #

SHEET NUMBER
XS-2

NOTE:
SPOT ELEVATIONS PROVIDED DEPICT ELEVATIONS FOR ROADWAY CROWN,
BOTTOM OF CURB, BACK OF SIDEWALK, AND TIE-IN TO EXISTING GROUND.





NO.	DATE	DESCRIPTION	BY	CK'D

CITY OF DOVER
288 CENTRAL AVE
DOVER, NH 03820

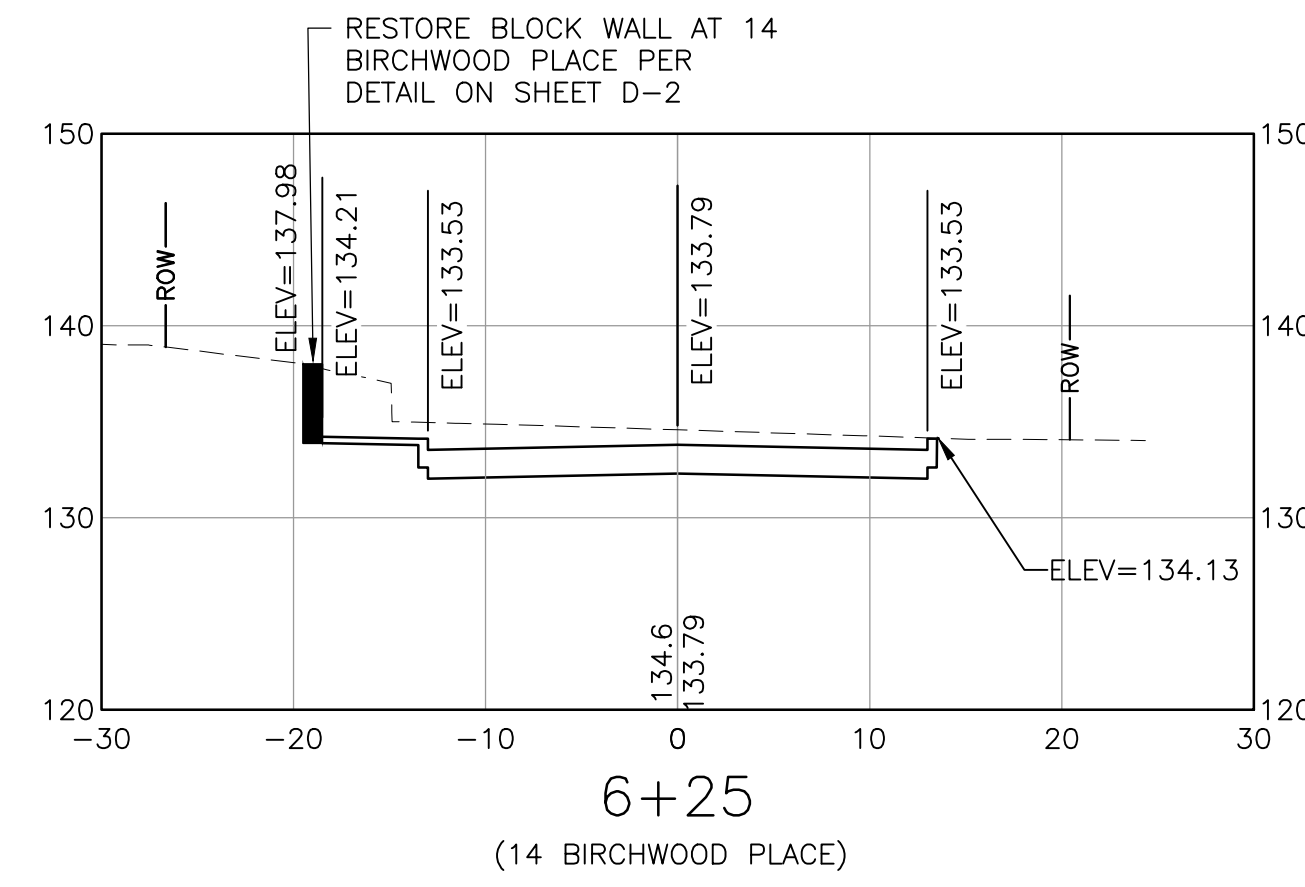
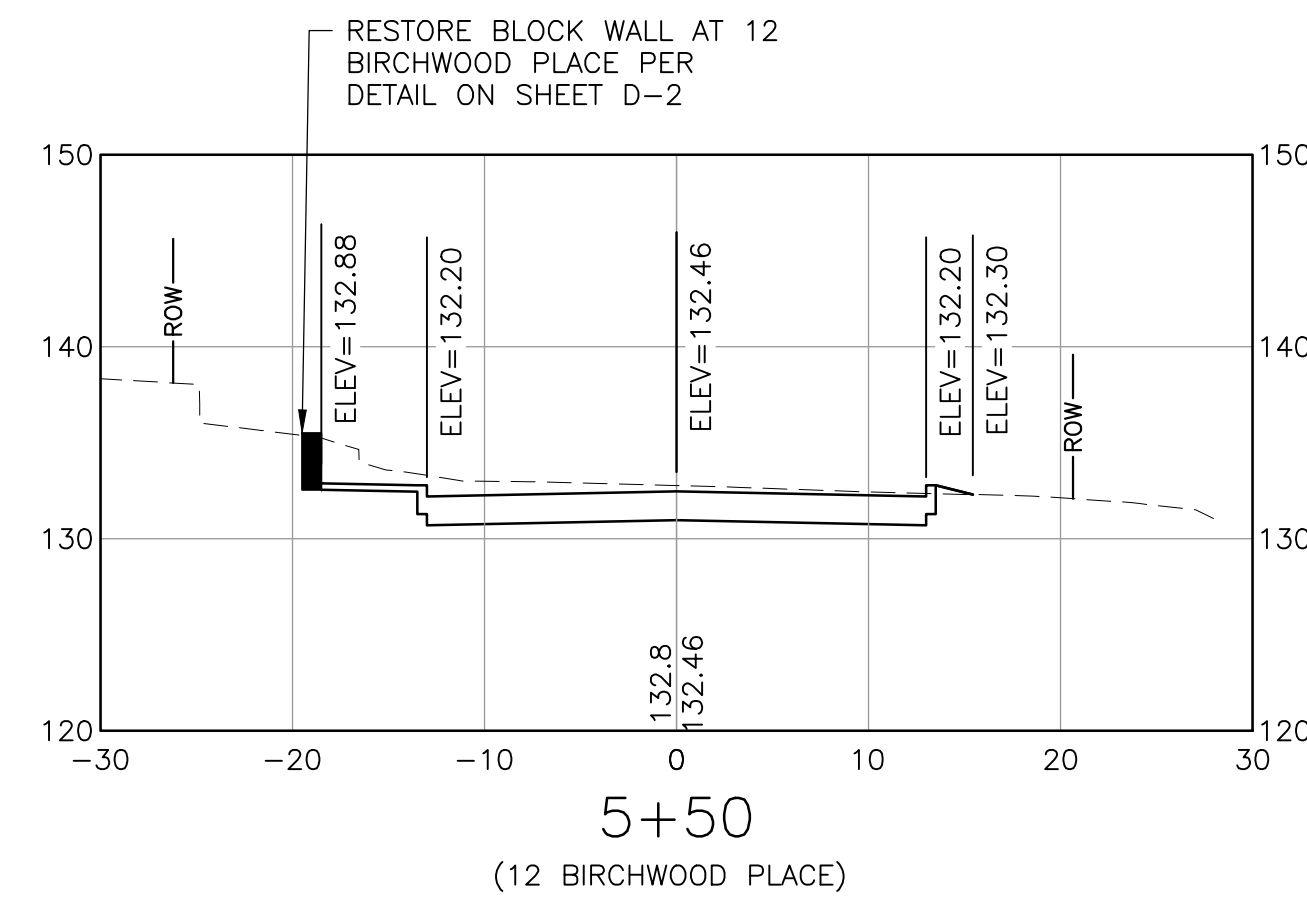
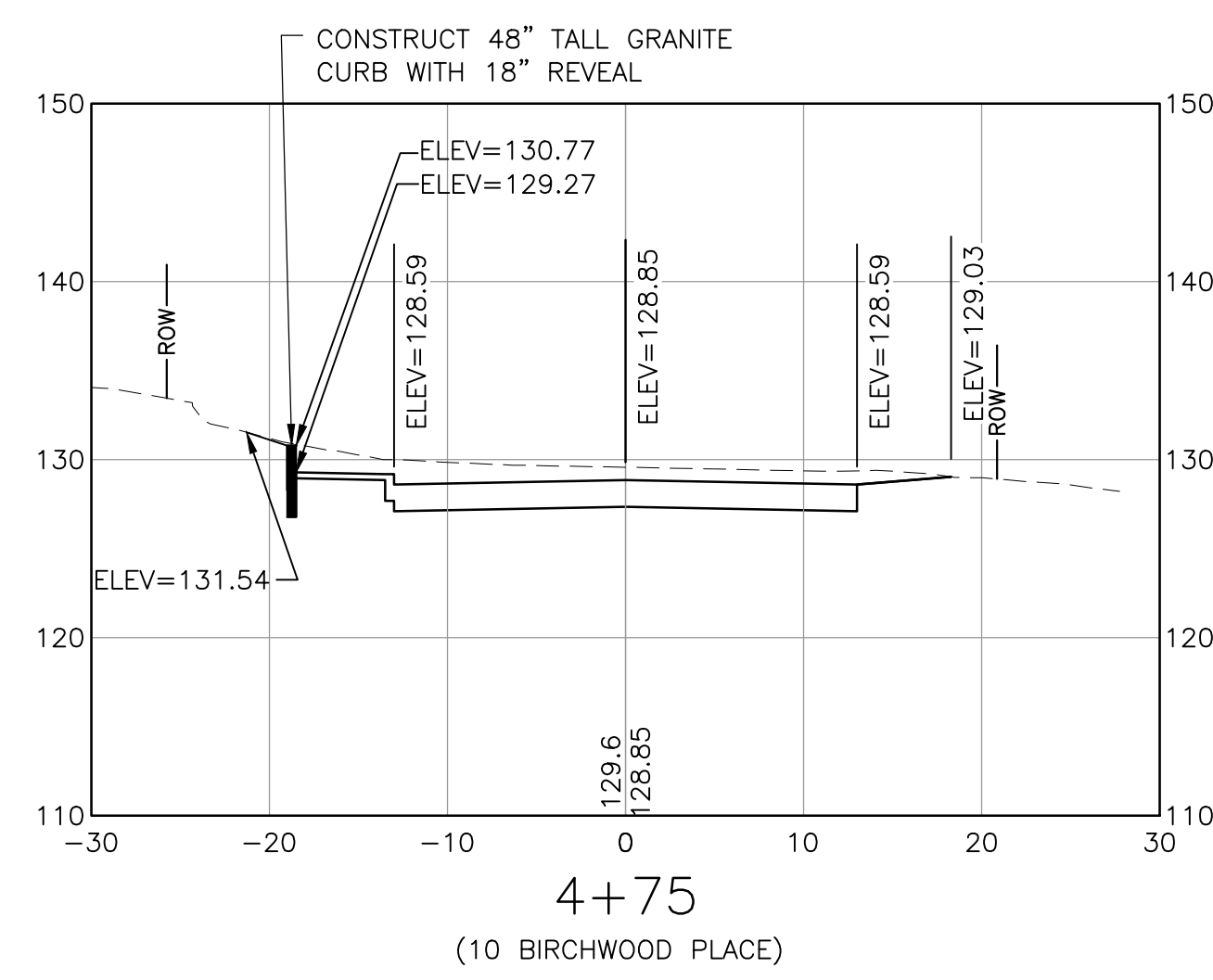
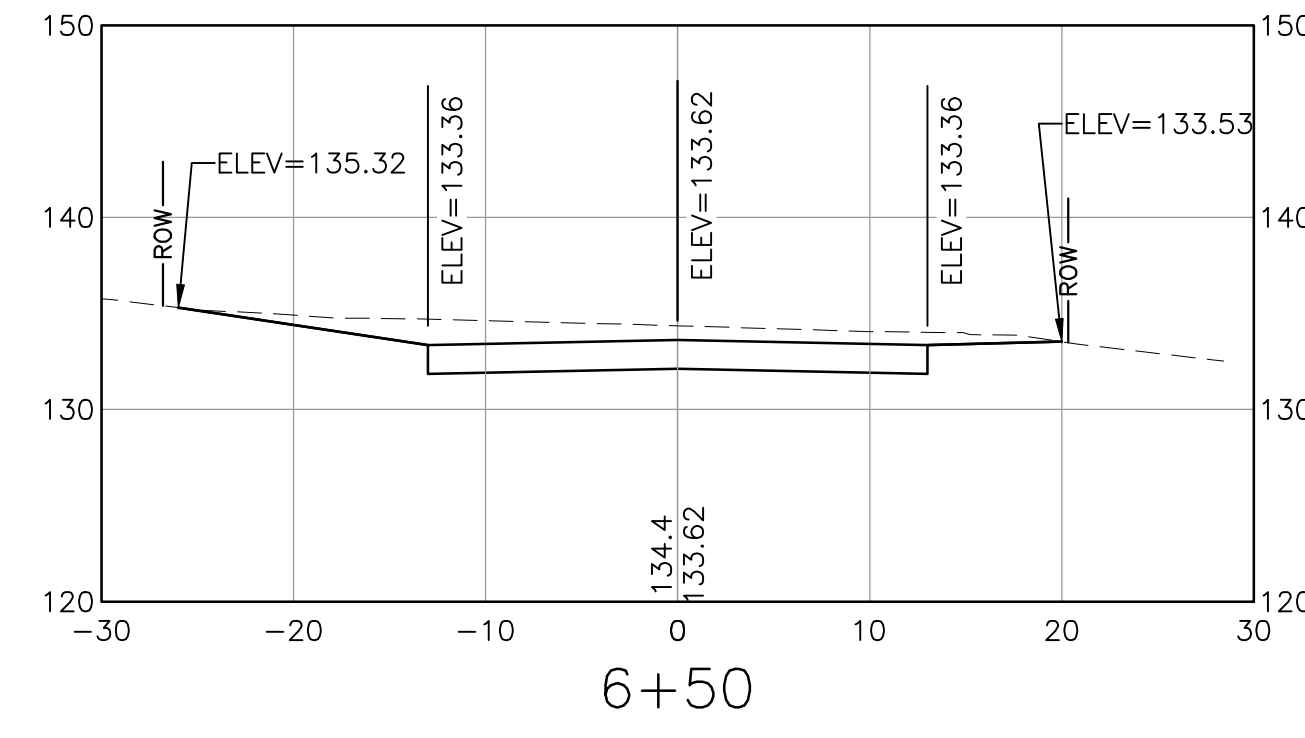
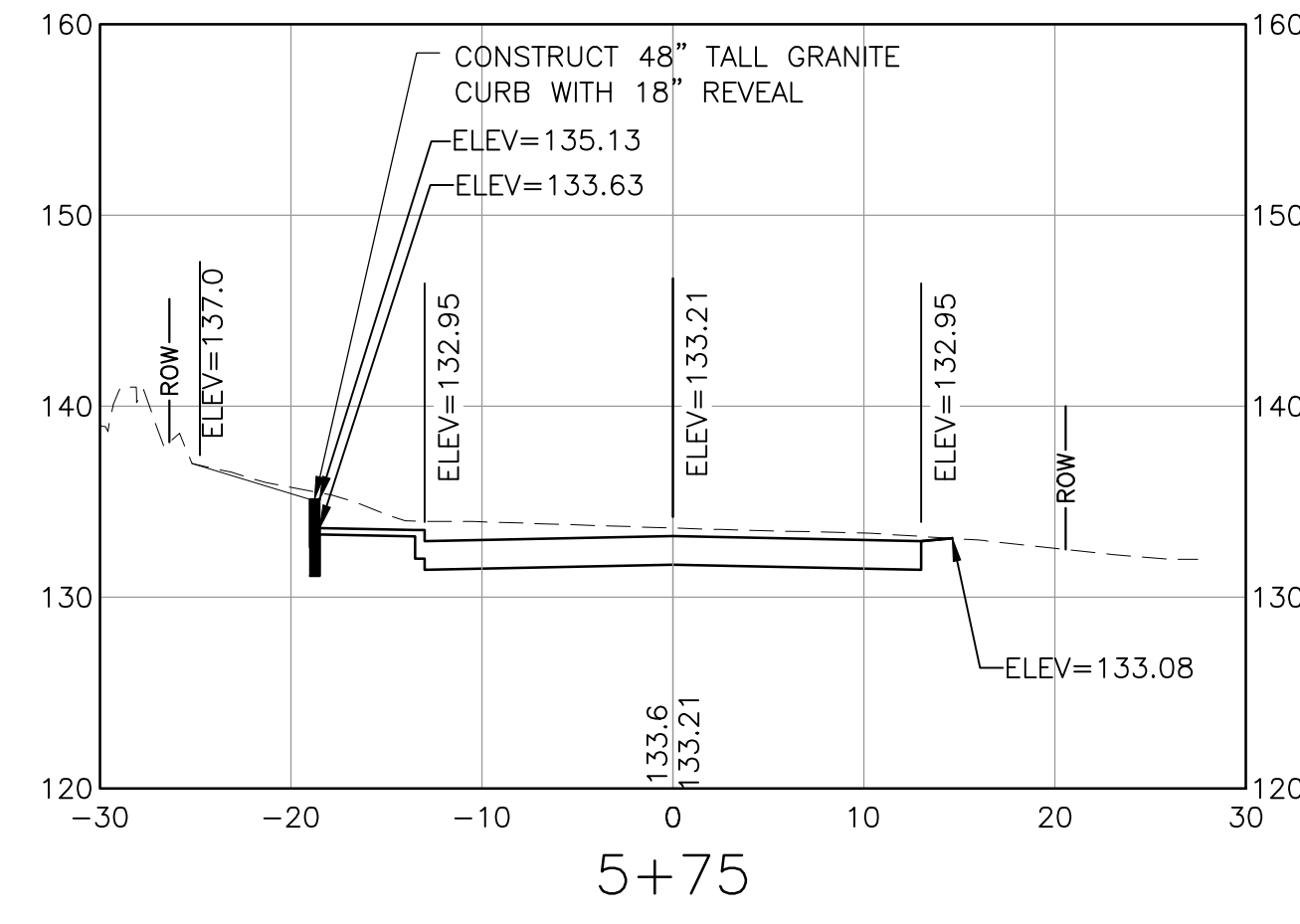
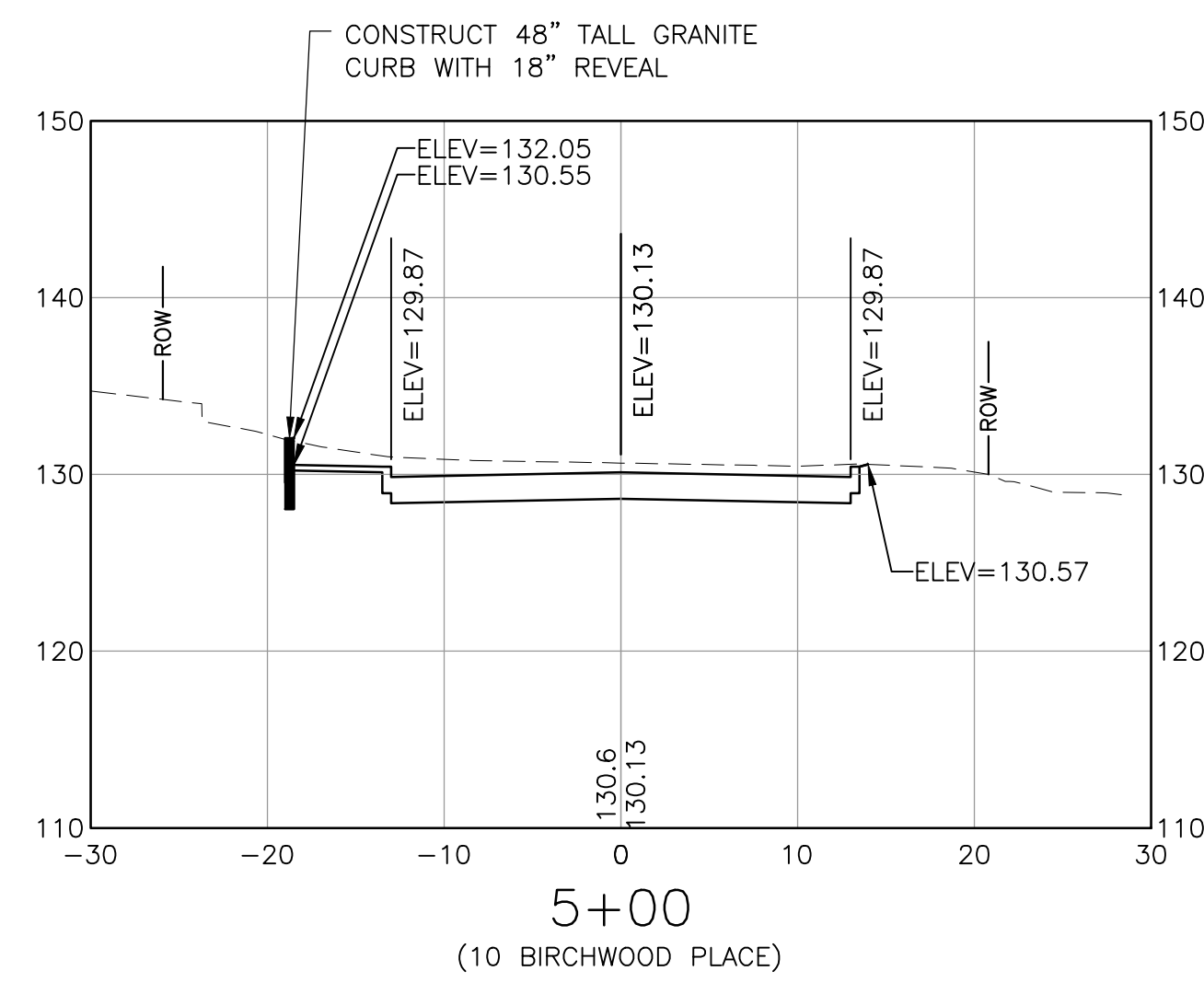
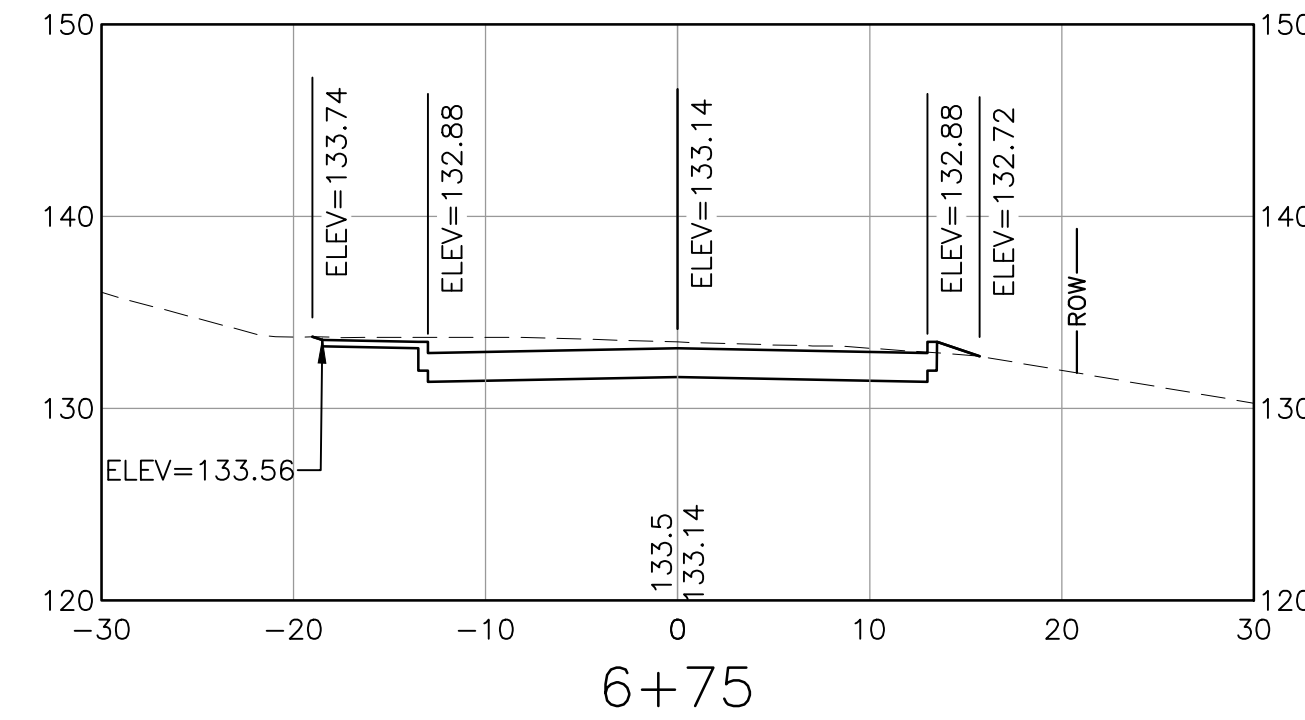
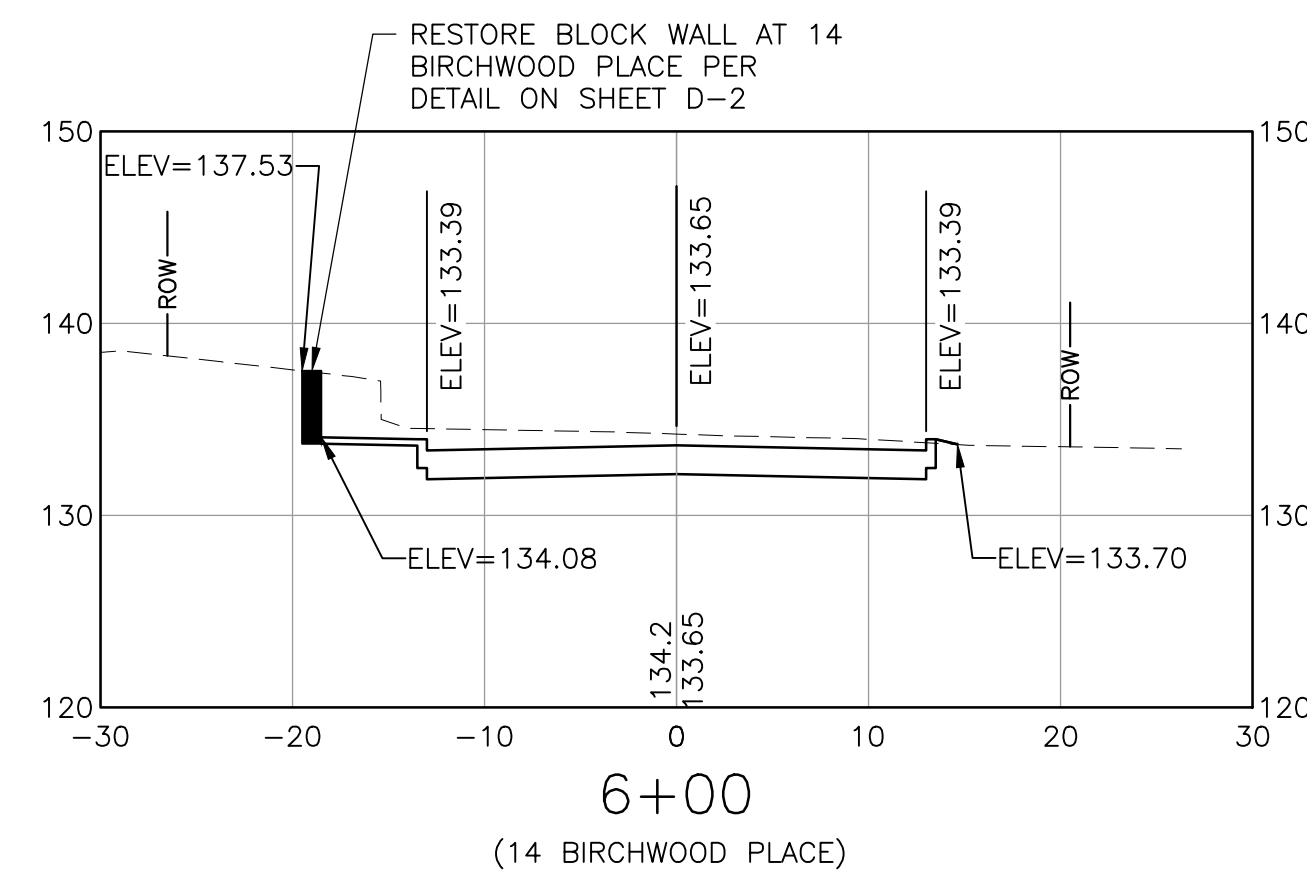
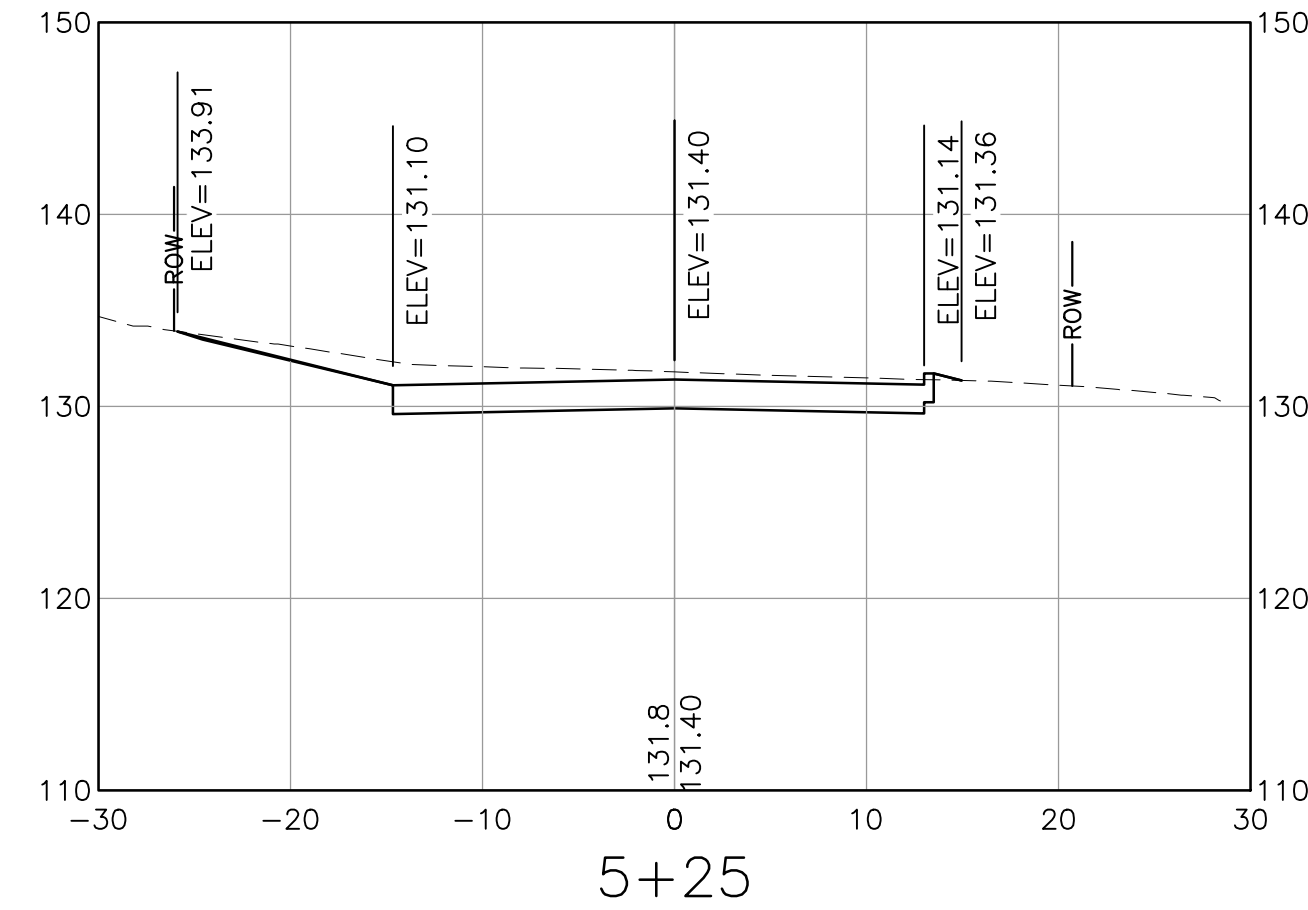
CITY OF DOVER
KEATING-
BIRCHWOOD AREA
RECONSTRUCTION

SHEET TITLE
BIRCHWOOD PLACE
CROSS SECTIONS
SHEET 3

DRAWN BY KLL	DATE FEB 2017
CHECKED BY CKG	D&K PROJECT # 222952
PROJ. ENG. NJS	D&K ARCHIVE #

SHEET NUMBER

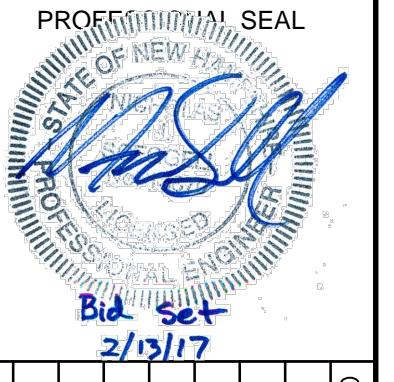
XS-3



I:\222952-Dover Keating Birchwood Drawings\Ver1\222952_X-CORR.dwg 2/6/2017 9:36 AM



NOTE:
SPOT ELEVATIONS PROVIDED DEPICT ELEVATIONS FOR ROADWAY CROWN,
BOTTOM OF CURB, BACK OF SIDEWALK, AND TIE-IN TO EXISTING GROUND.



NO.	DATE	DESCRIPTION	BY	CK'D

CITY OF DOVER
288 CENTRAL AVE
DOVER, NH 03820

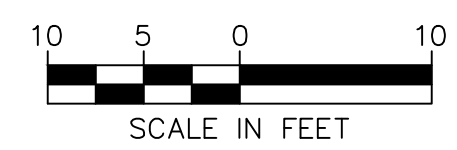
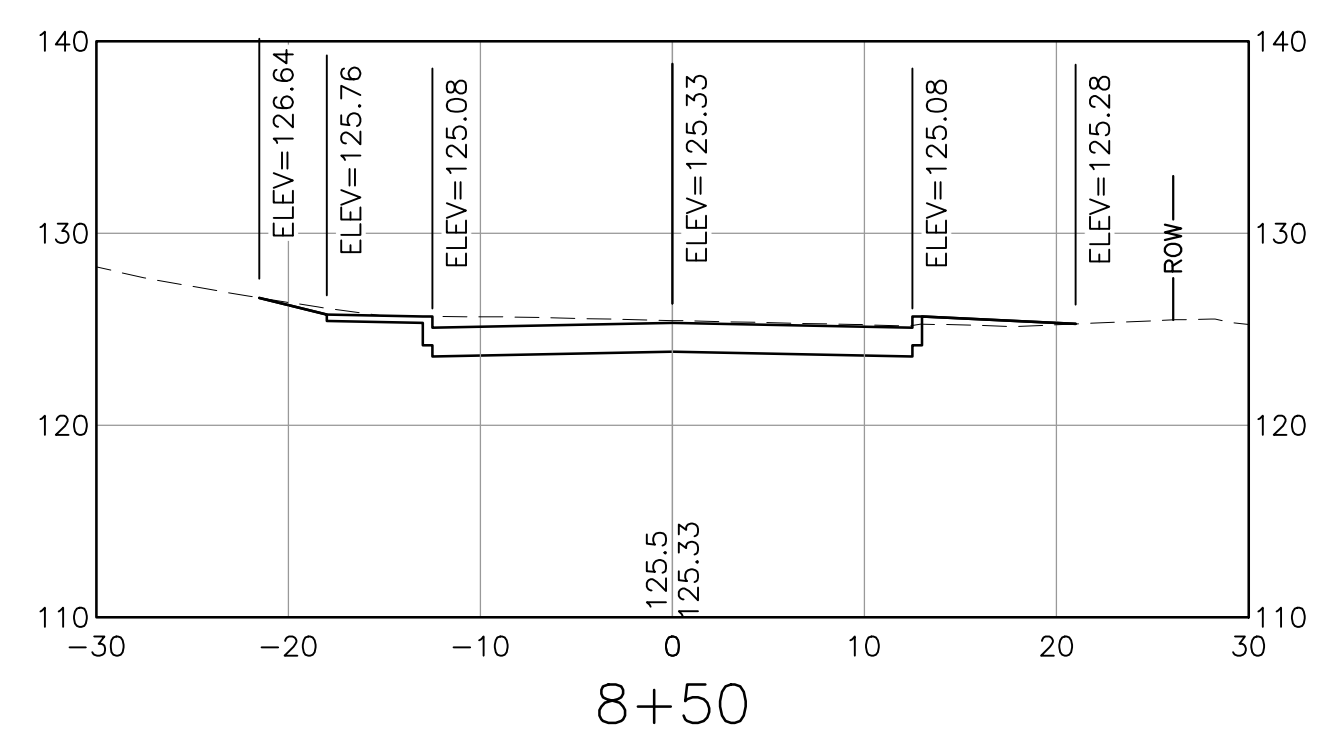
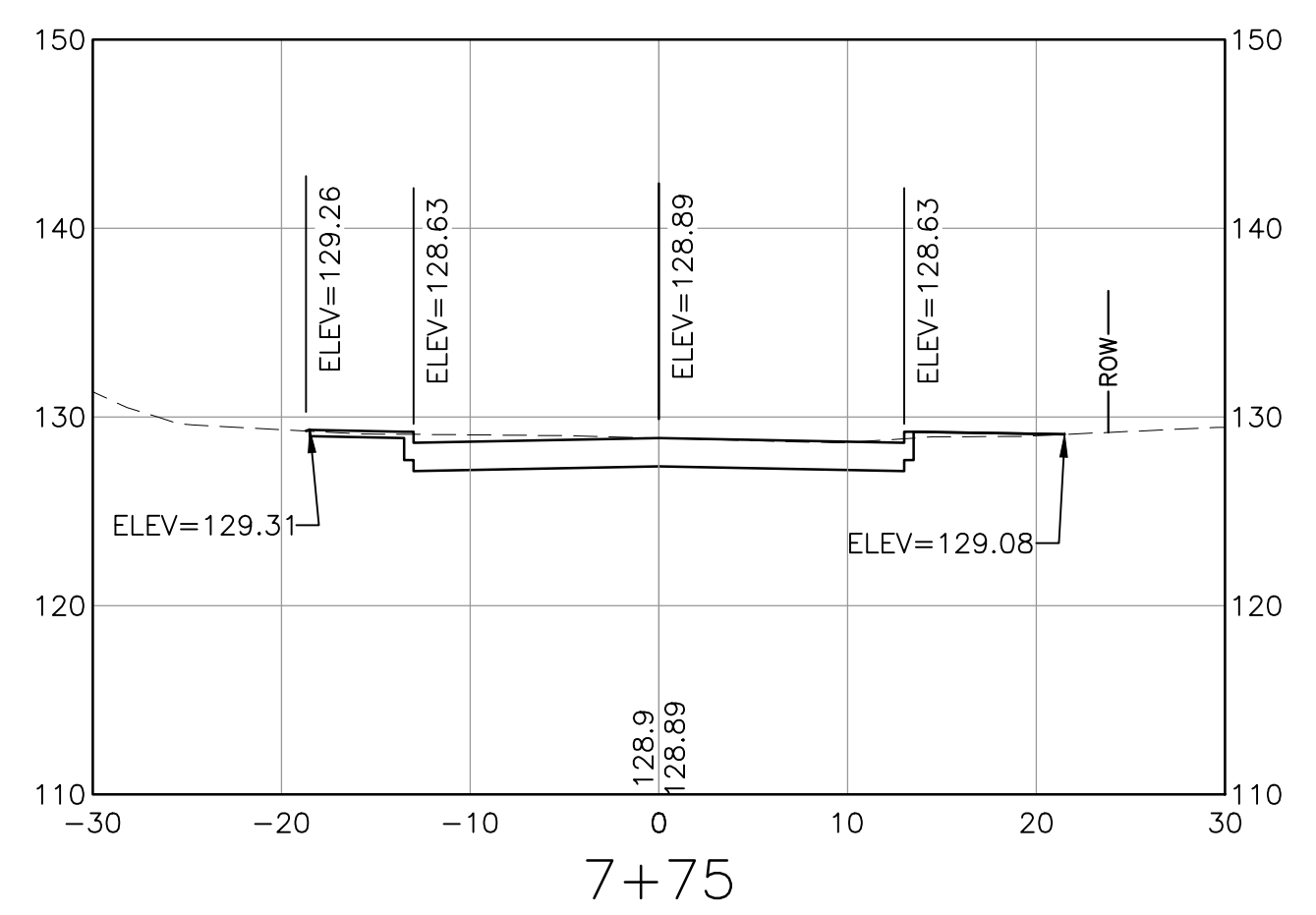
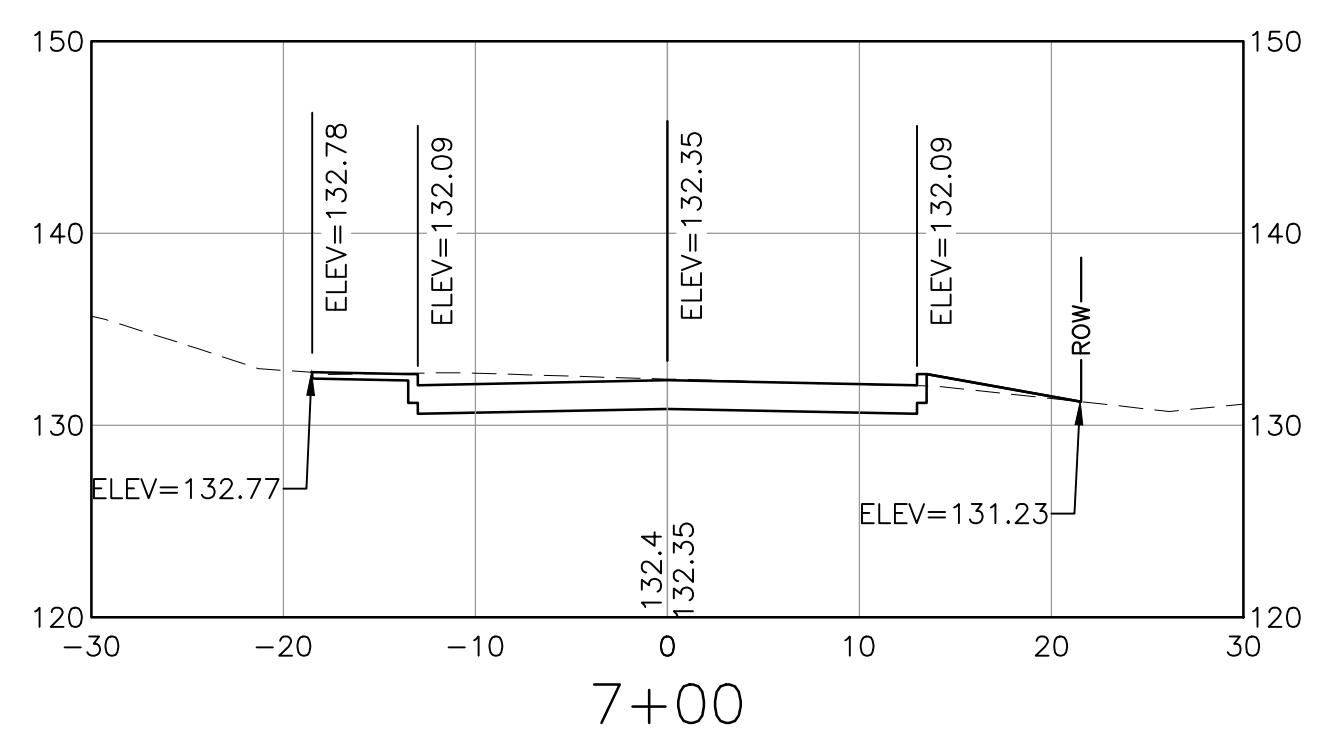
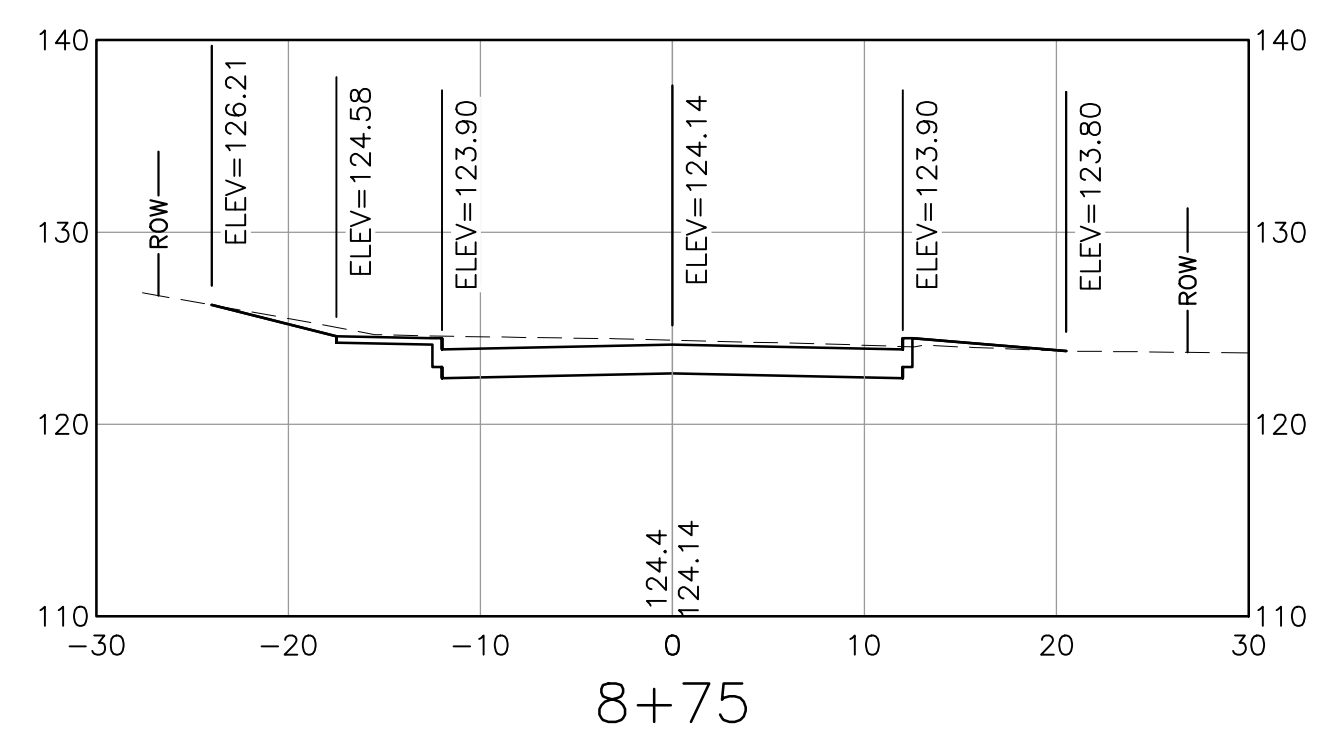
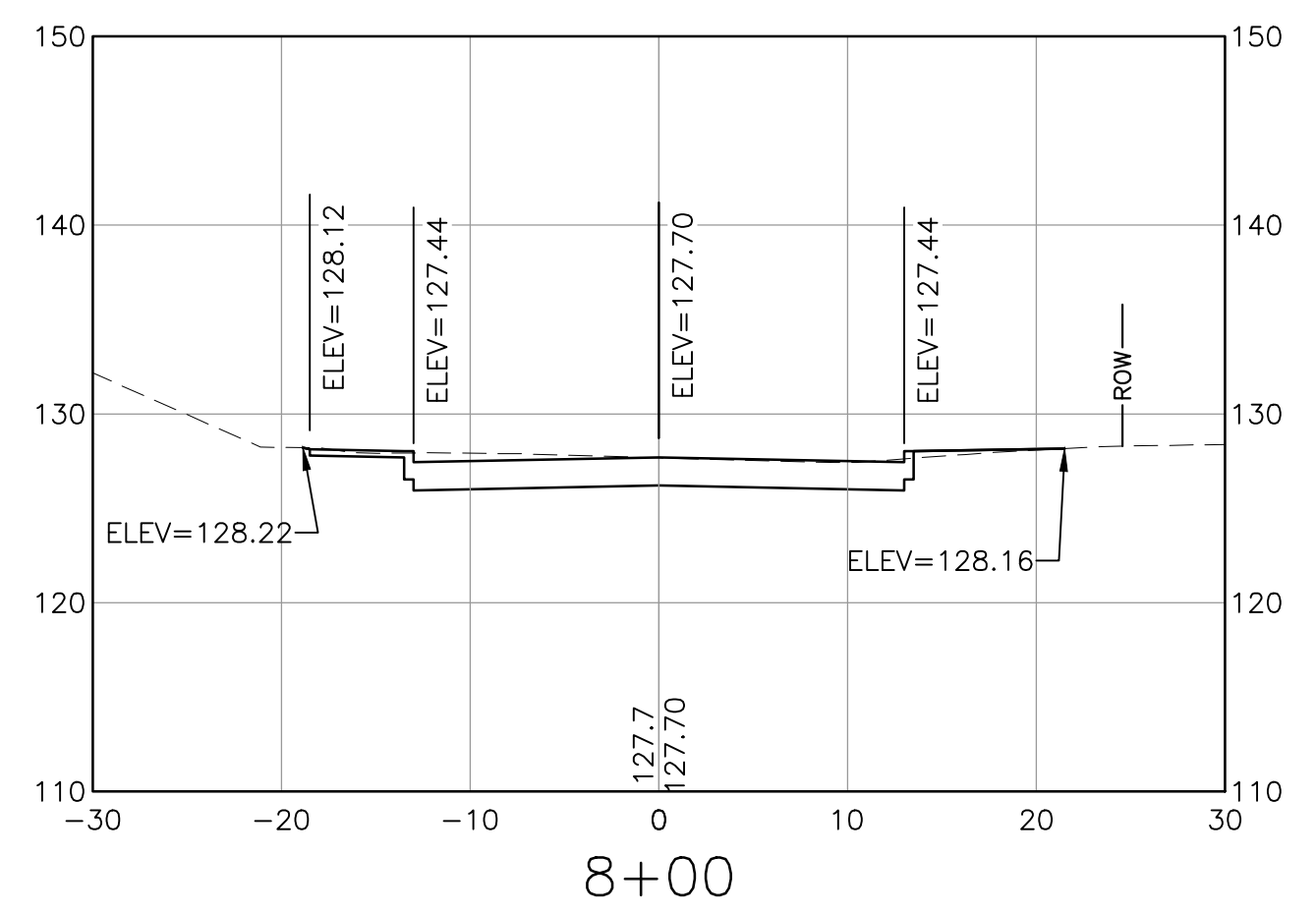
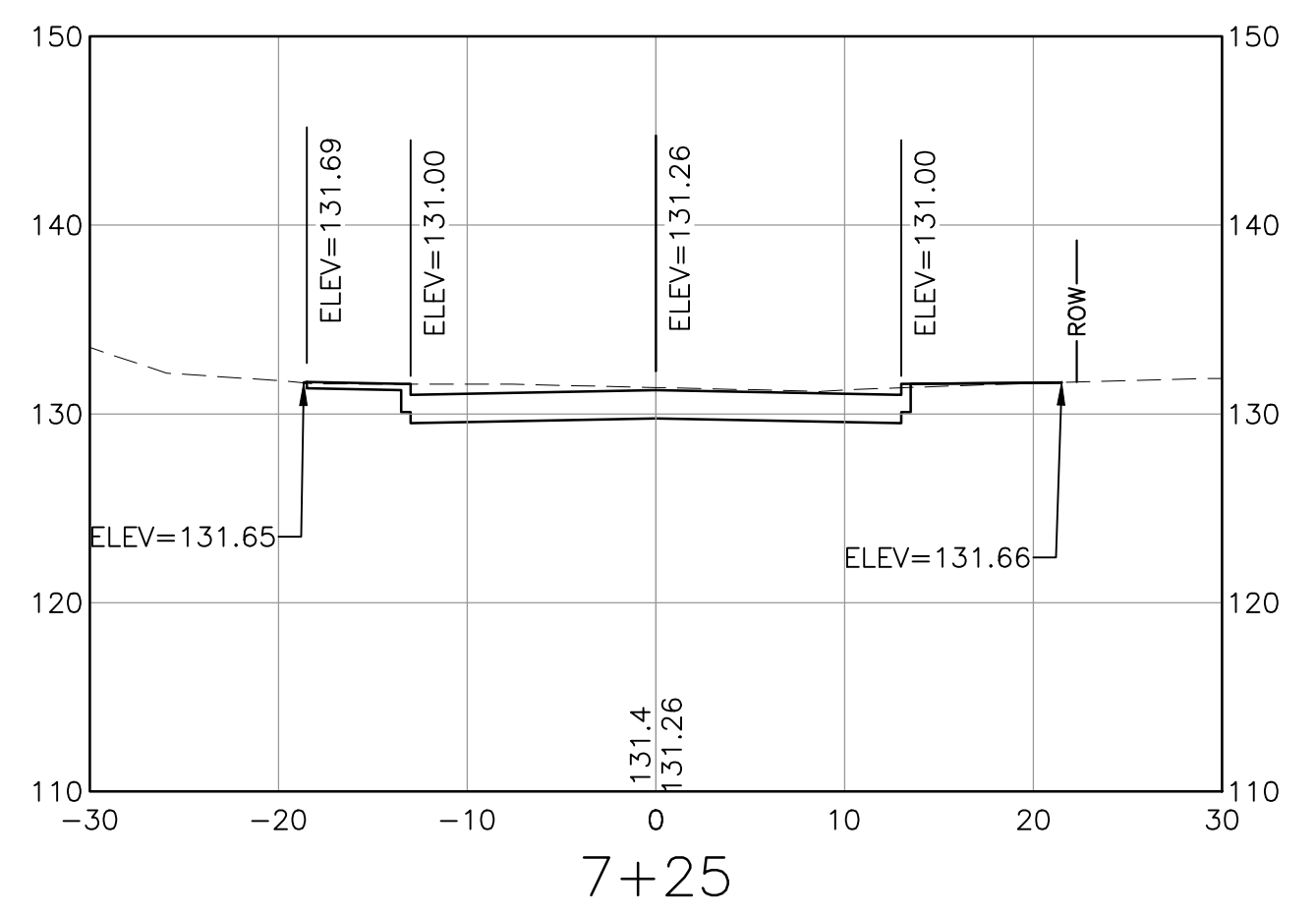
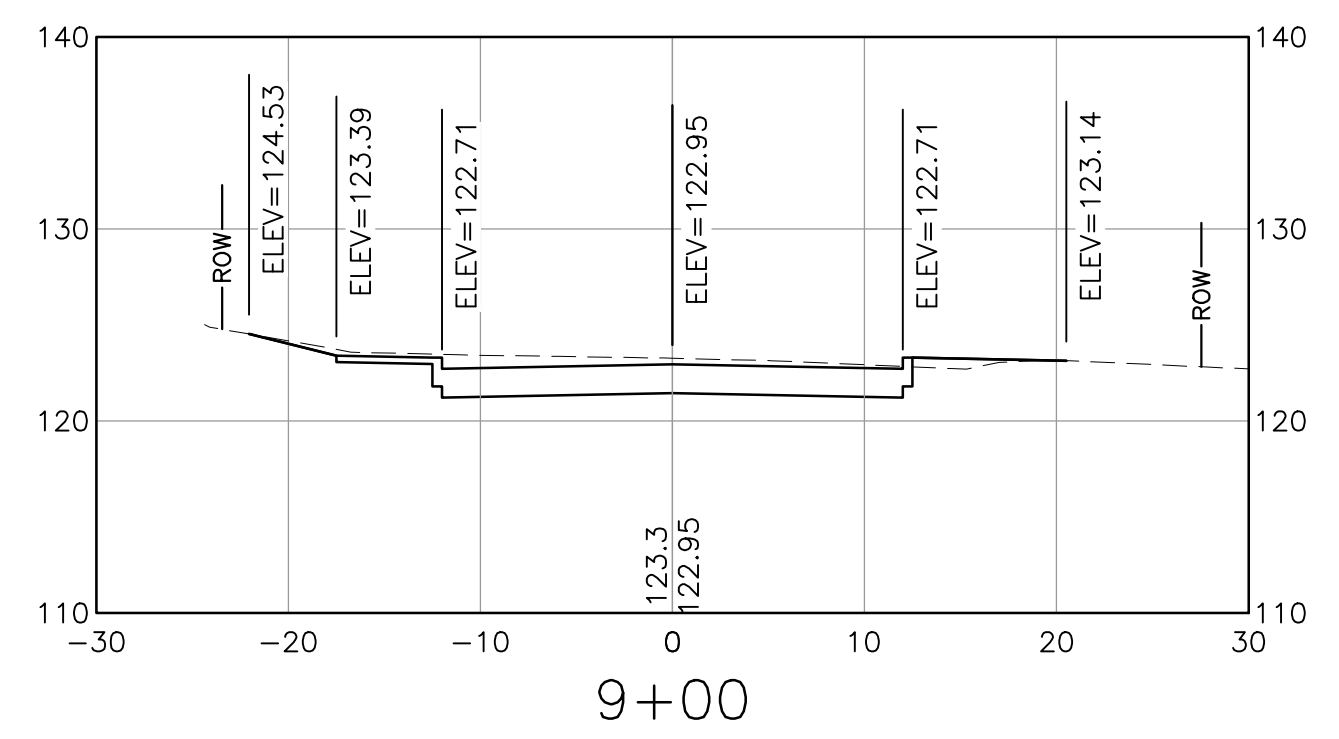
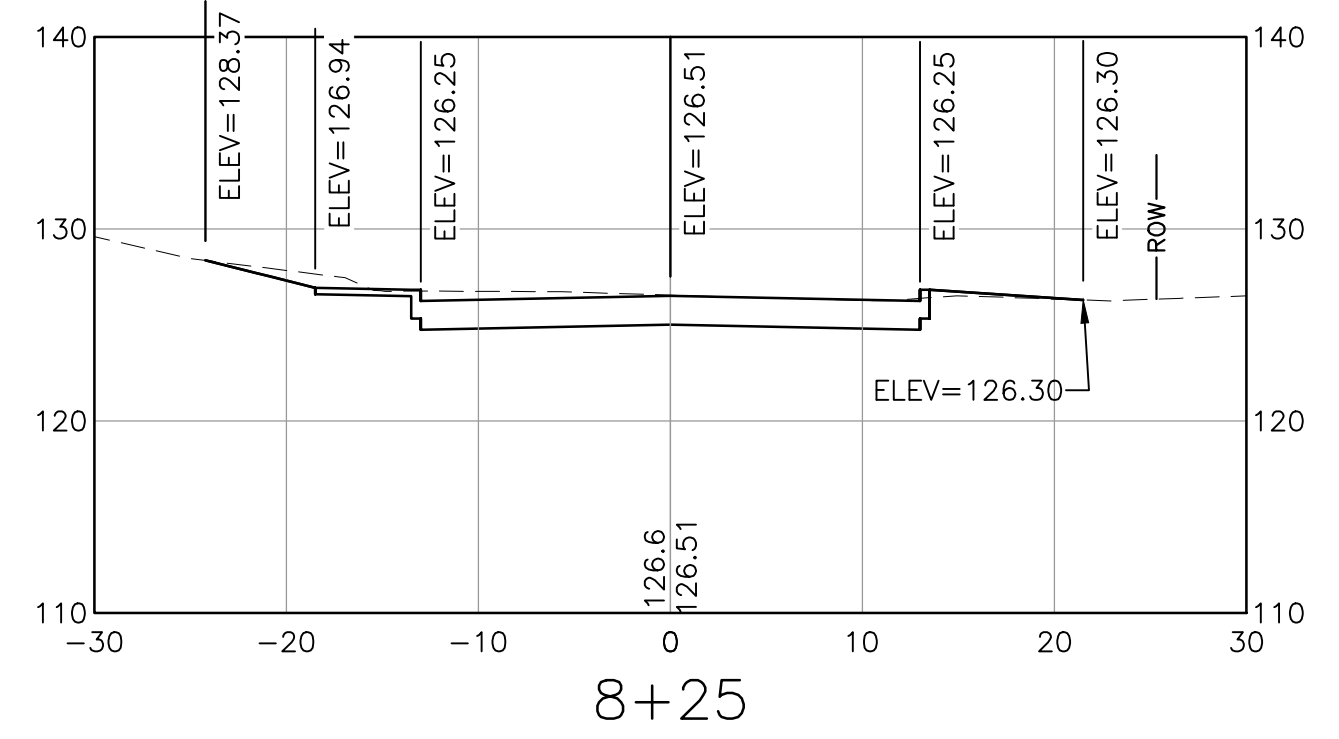
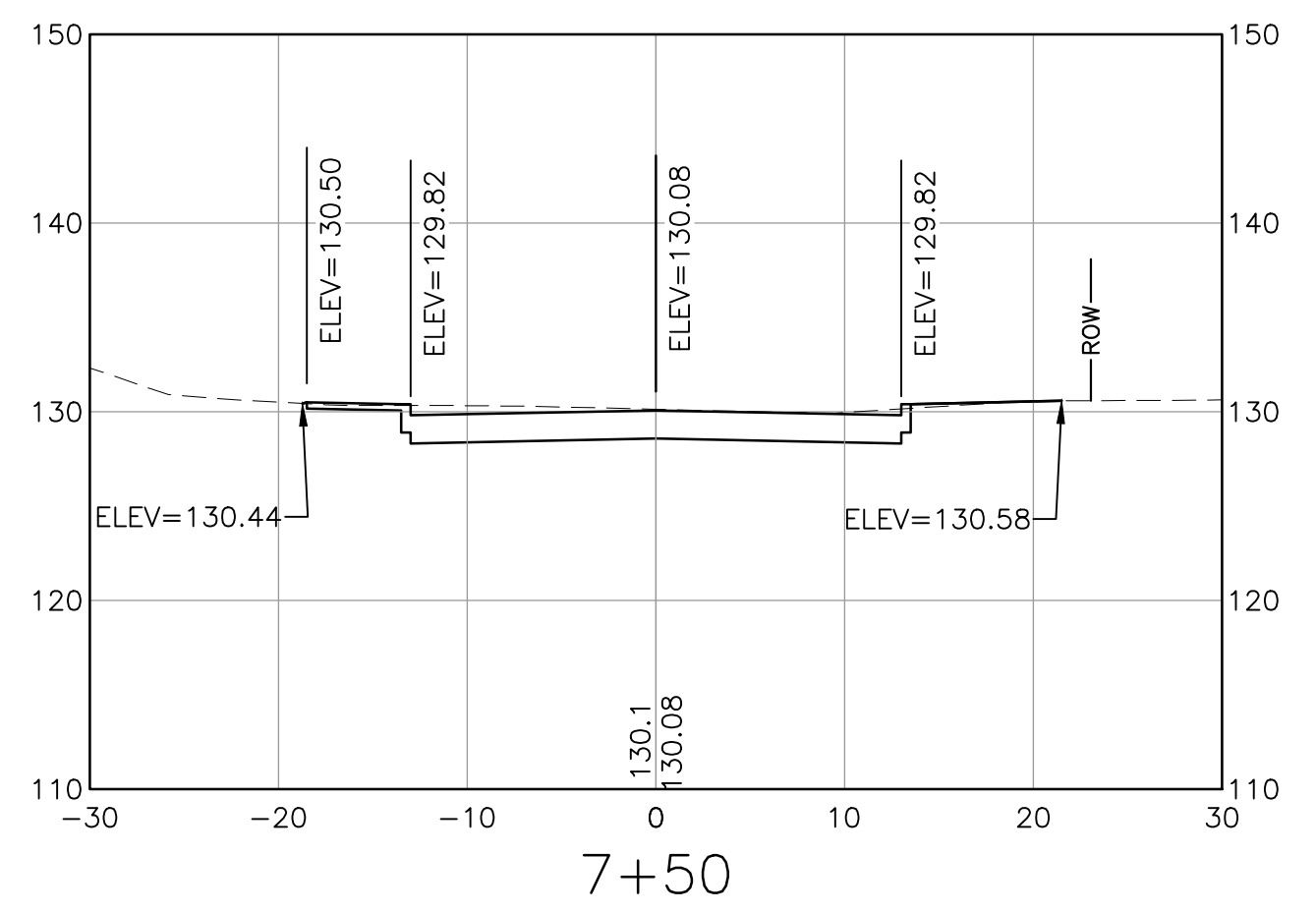
CITY OF DOVER
KEATING-
BIRCHWOOD AREA
RECONSTRUCTION

SHEET TITLE
BIRCHWOOD PLACE
CROSS SECTIONS
SHEET 4

DRAWN BY KLL	DATE FEB 2017
CHECKED BY CKG	D&K PROJECT # 222952
PROJ. ENG. NJS	D&K ARCHIVE #

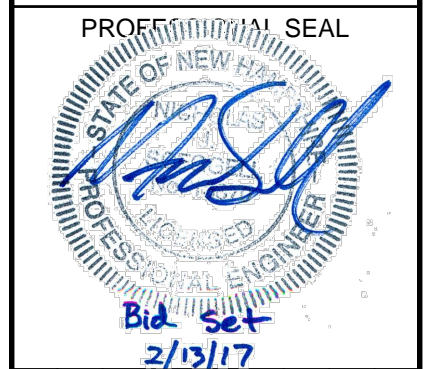
SHEET NUMBER

XS-4



NOTE:
SPOT ELEVATIONS PROVIDED DEPICT ELEVATIONS FOR ROADWAY CROWN,
BOTTOM OF CURB, BACK OF SIDEWALK, AND TIE-IN TO EXISTING GROUND.

I:\222952-Dover Keating Birchwood Drawings\Ver1\222952_X-CORR.dwg 2/6/2017 9:44 AM



NO.	DATE	DESCRIPTION	BY	CK'D

CITY OF DOVER
288 CENTRAL AVE
DOVER, NH 03820

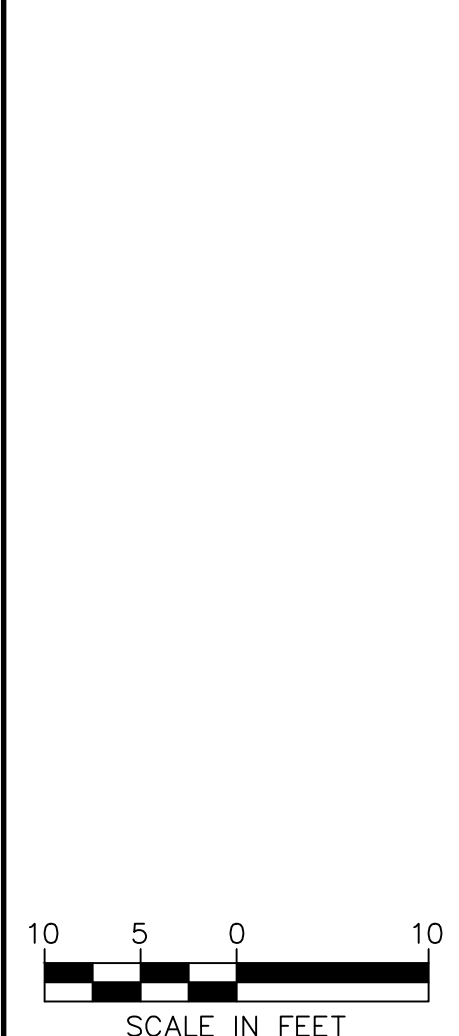
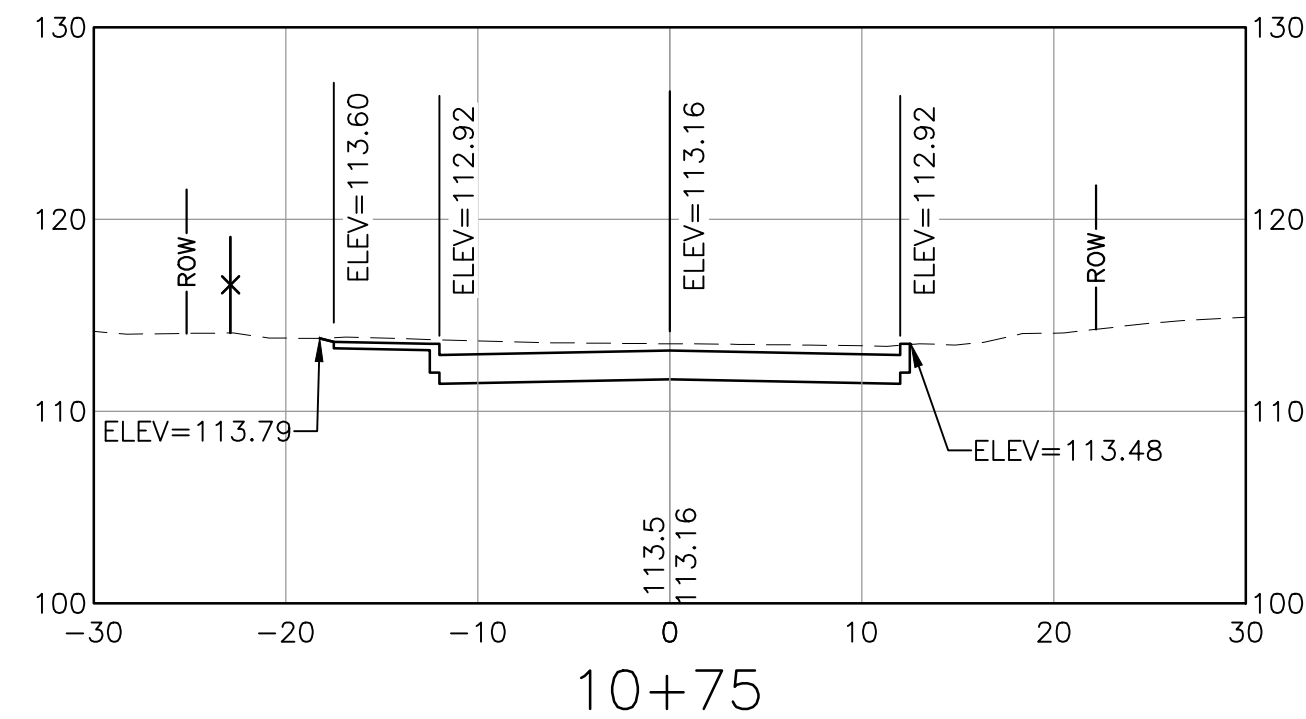
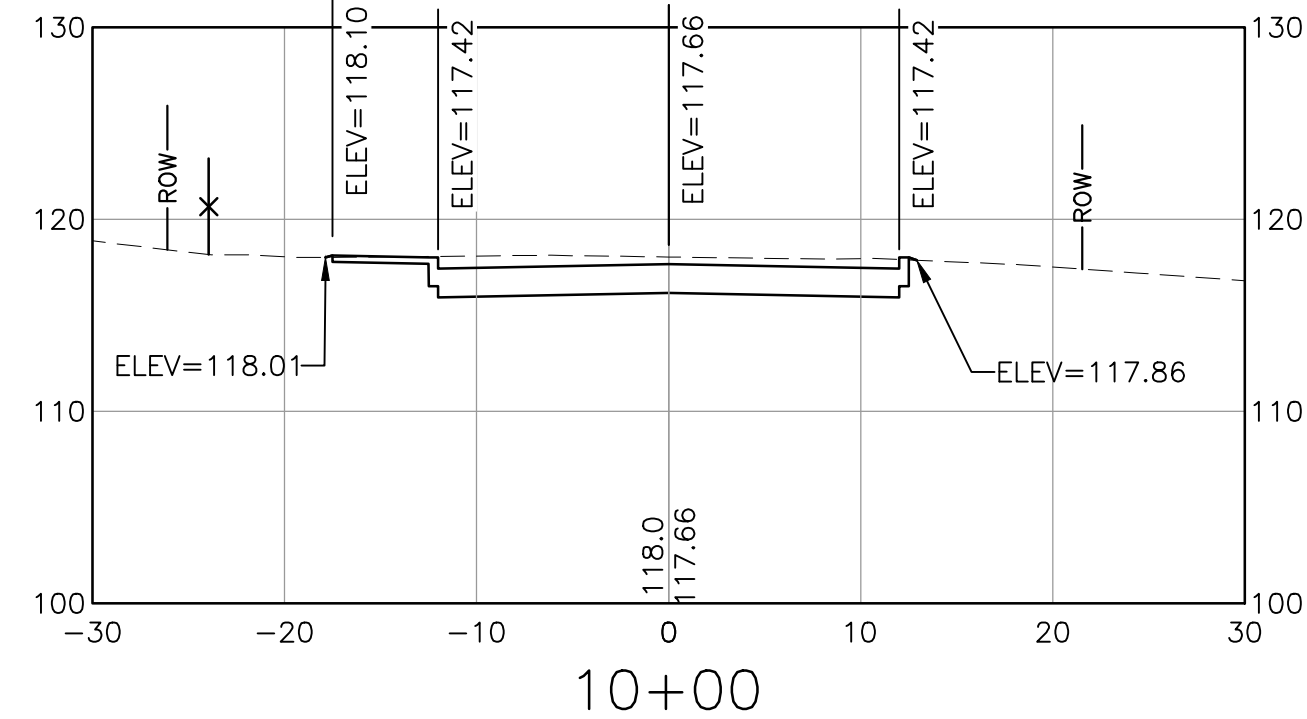
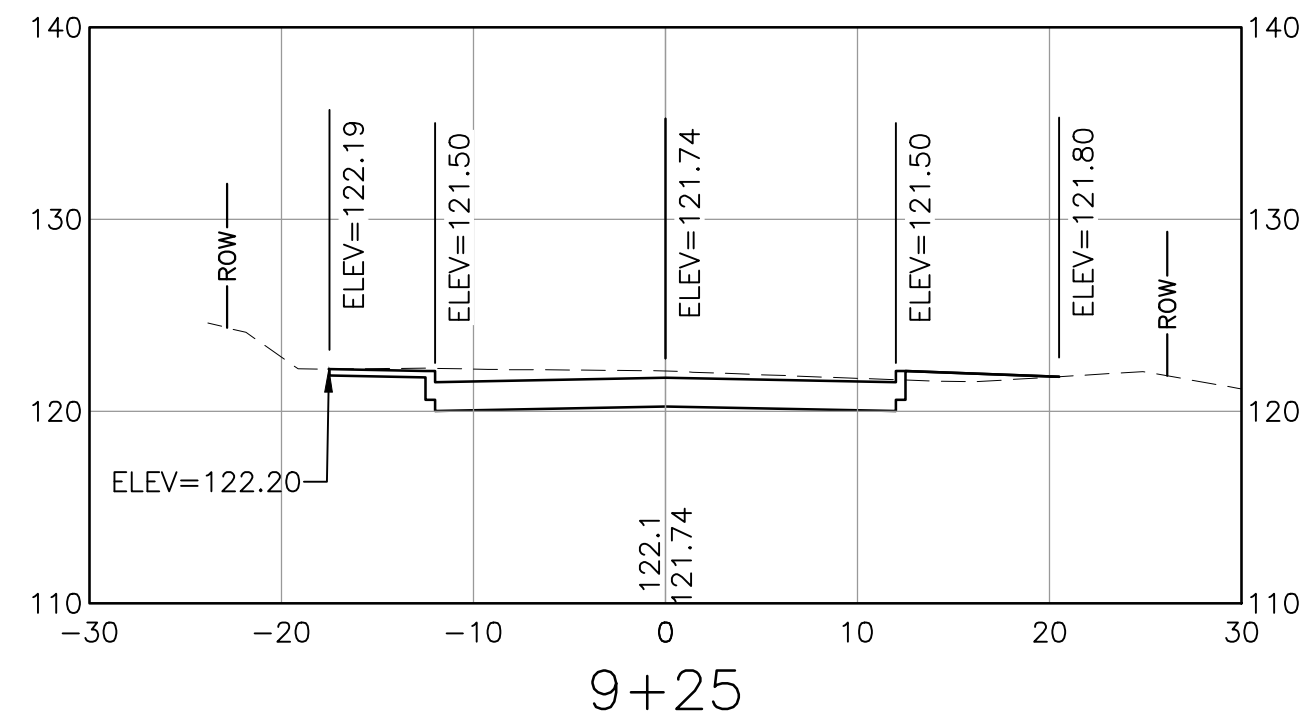
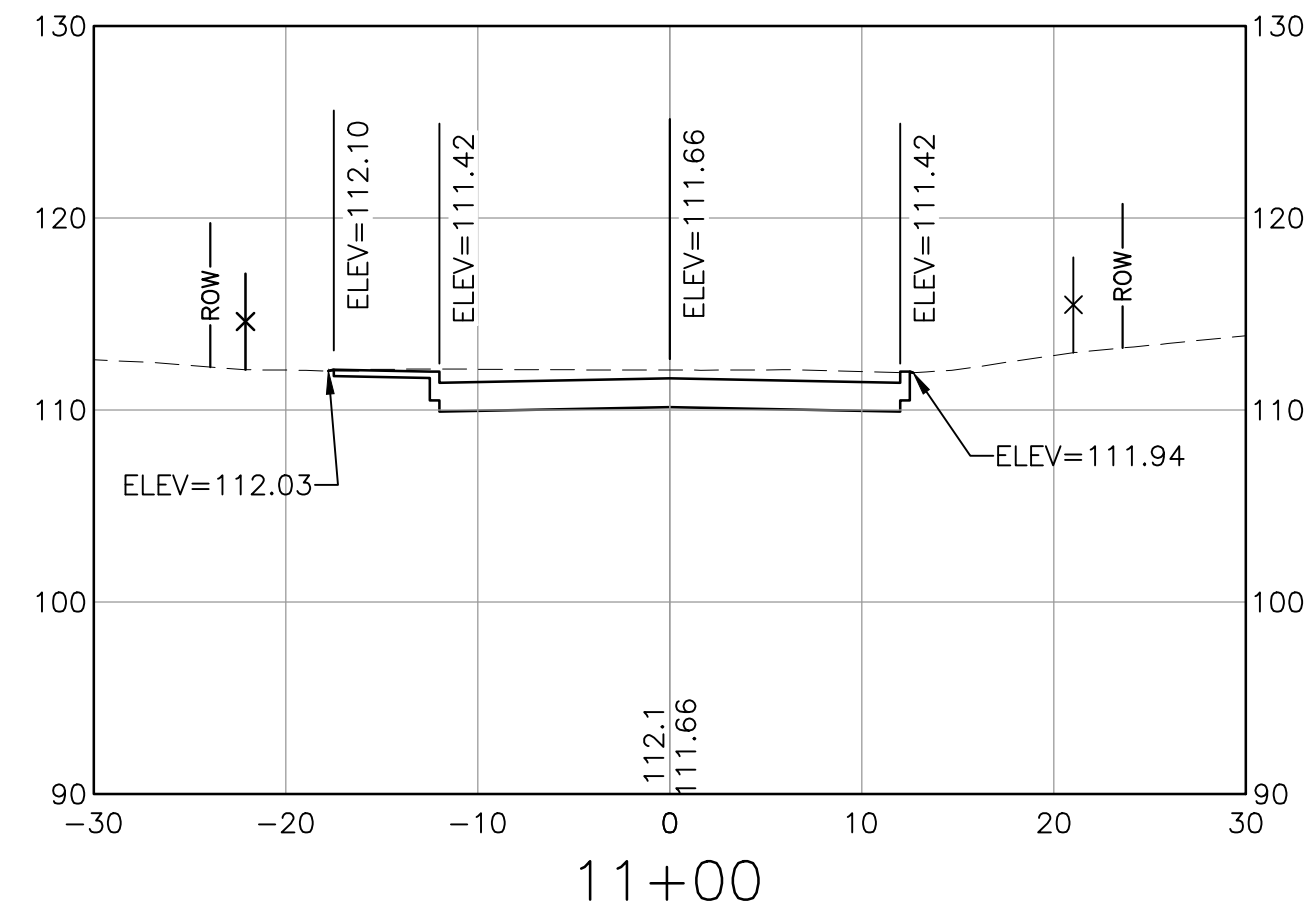
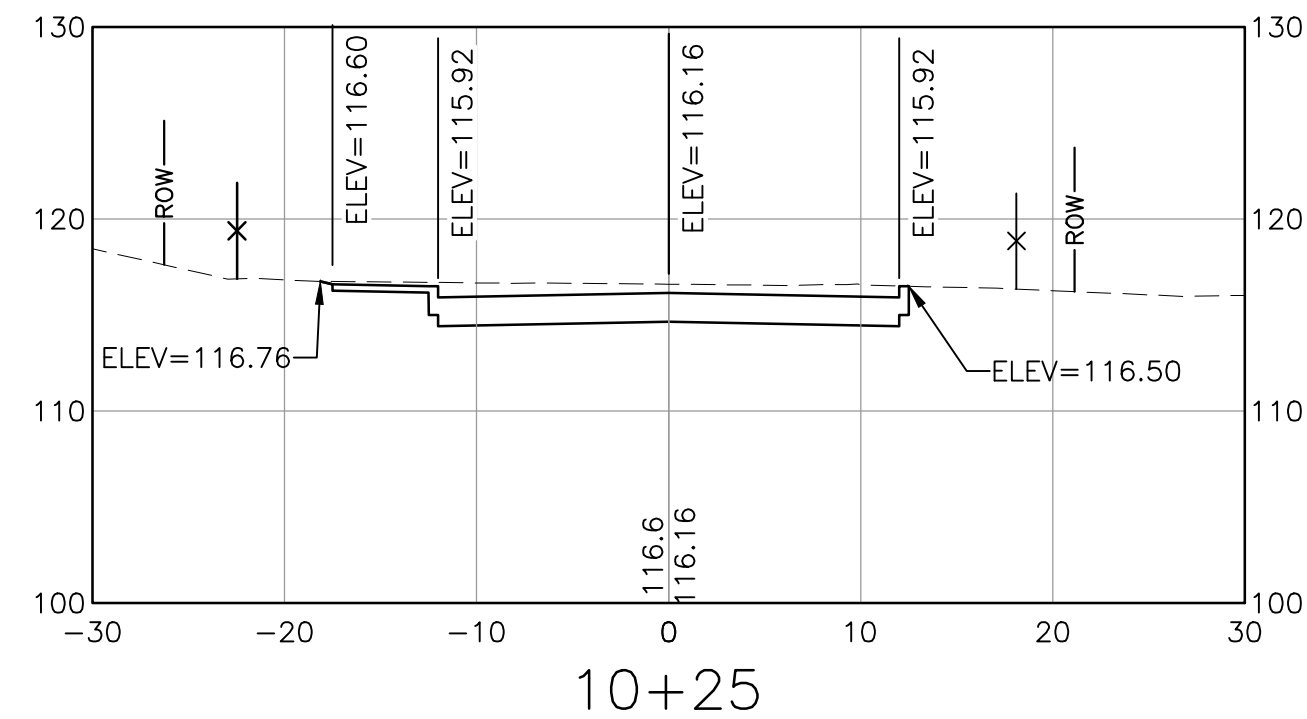
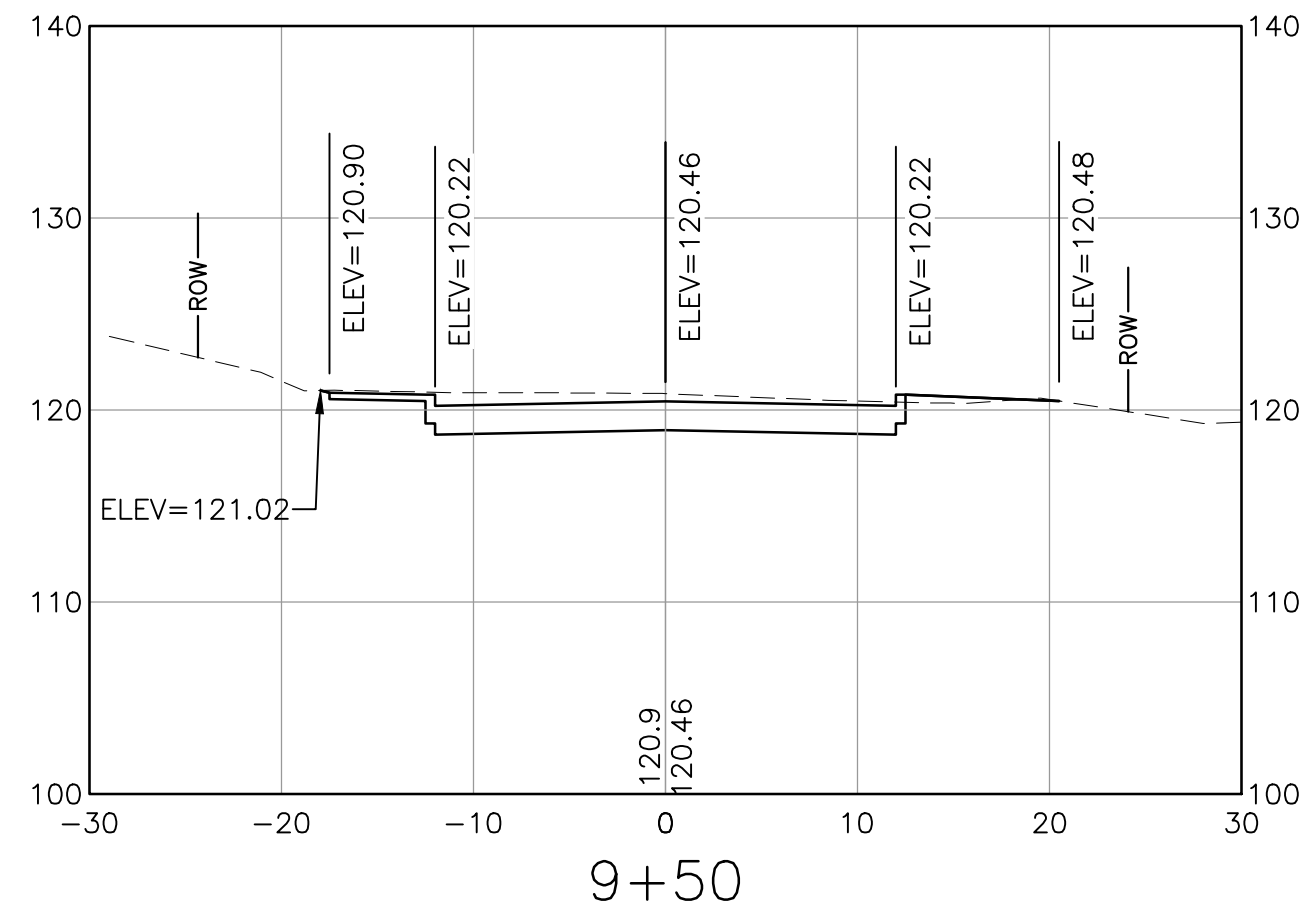
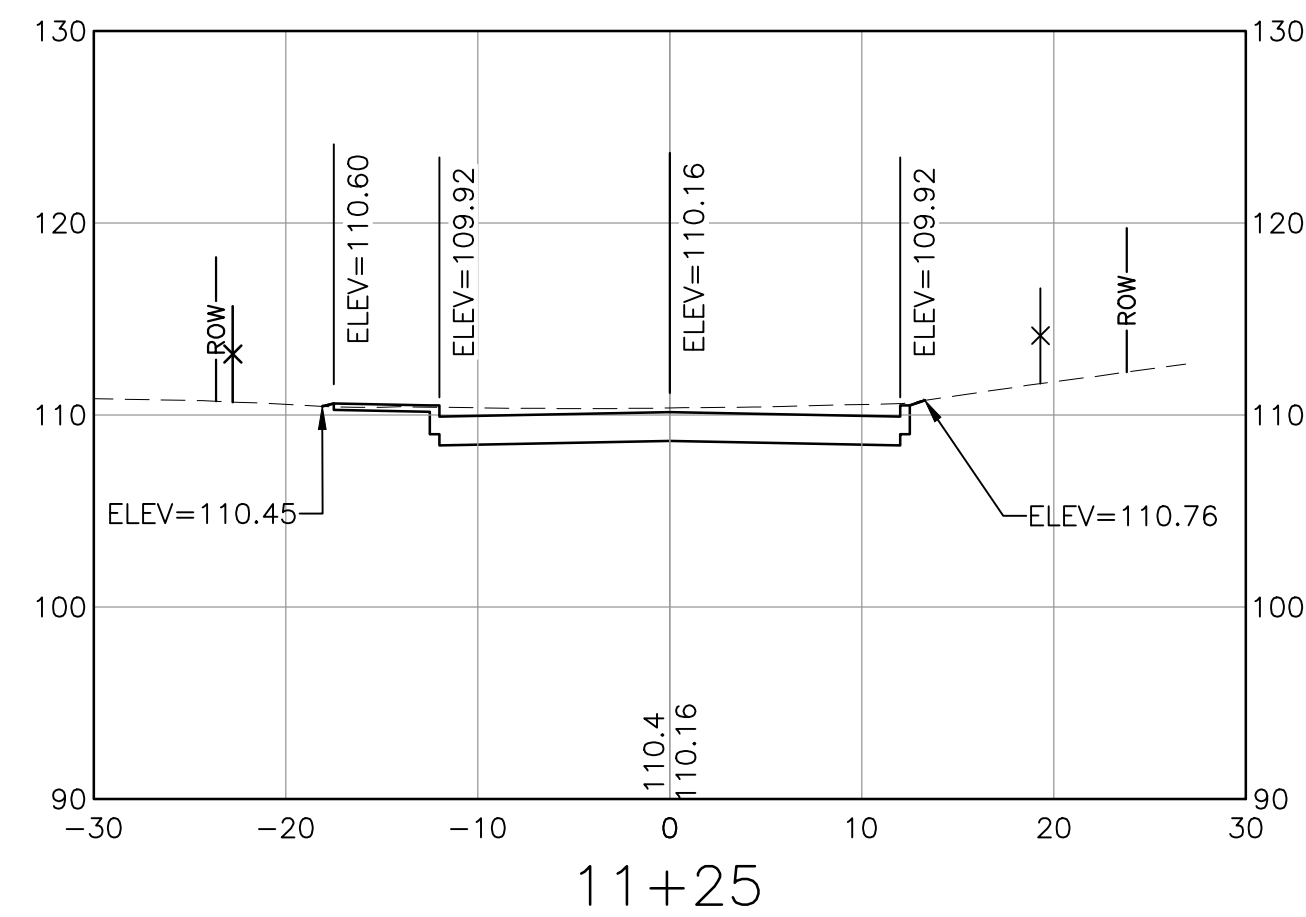
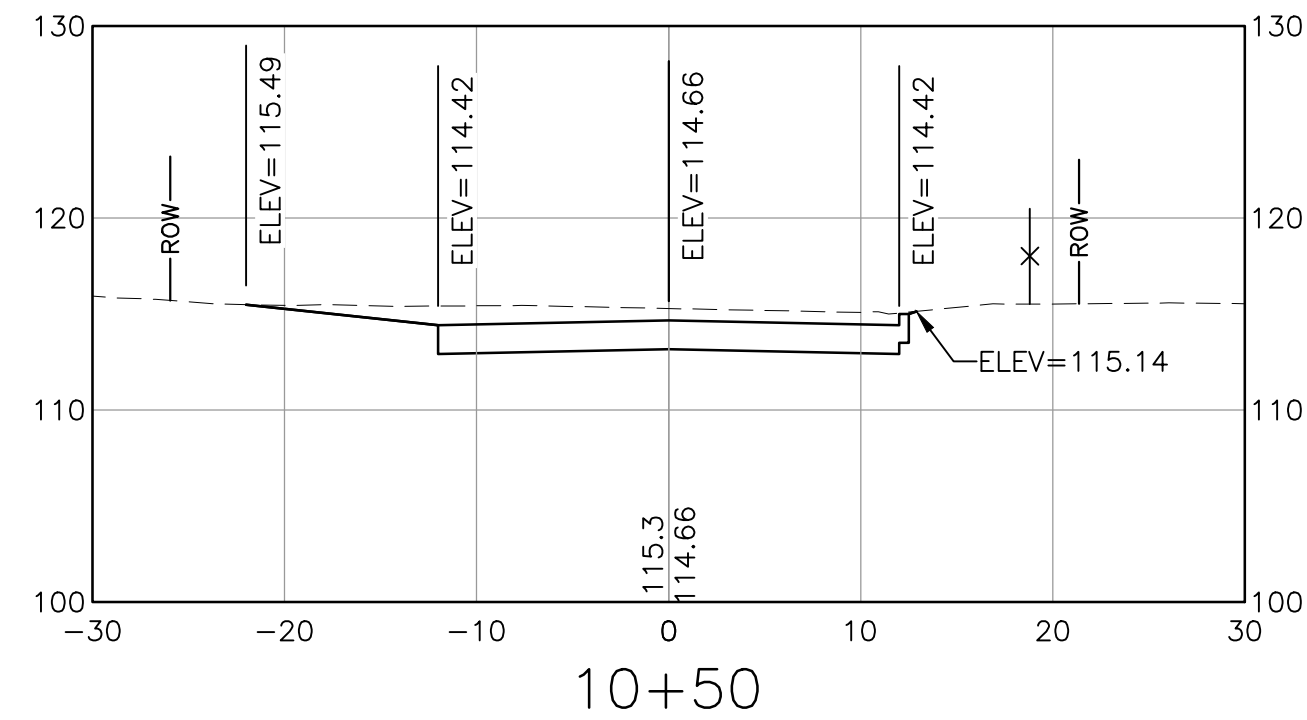
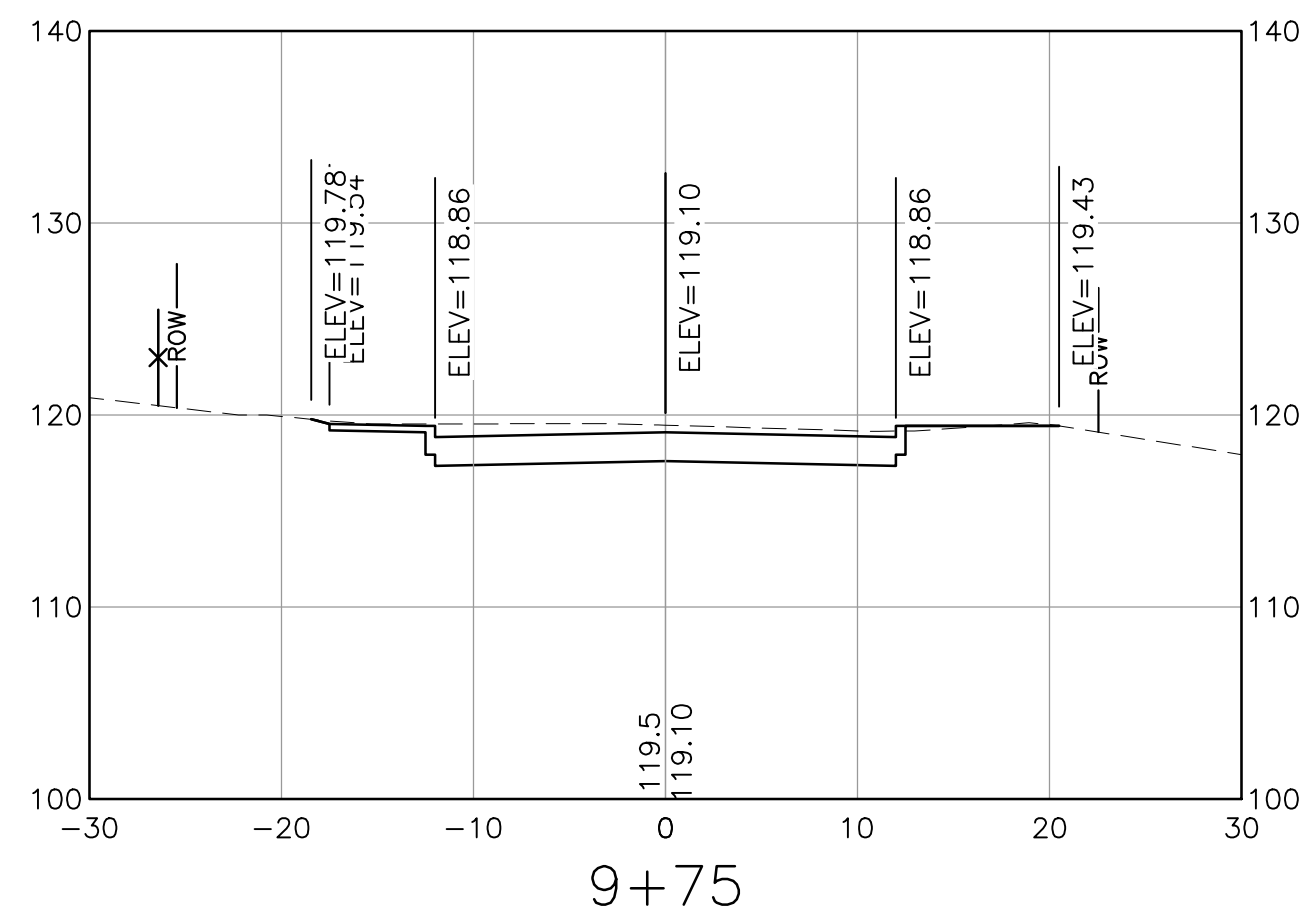
CITY OF DOVER
KEATING-
BIRCHWOOD AREA
RECONSTRUCTION

SHEET TITLE
SHAMROCK LANE
CROSS SECTIONS
SHEET 5

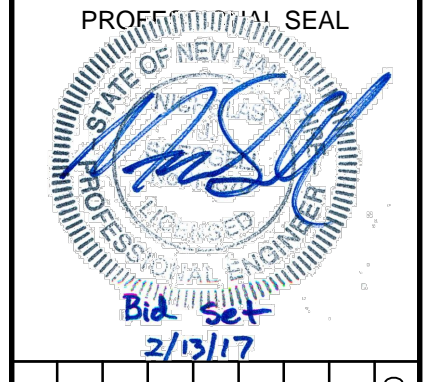
DRAWN BY KLL	DATE FEB 2017
CHECKED BY CKG	D&K PROJECT # 222952
PROJ. ENG. NJS	D&K ARCHIVE #

SHEET NUMBER

XS-5



NOTE:
SPOT ELEVATIONS PROVIDED DEPICT ELEVATIONS FOR ROADWAY CROWN,
BOTTOM OF CURB, BACK OF SIDEWALK, AND TIE-IN TO EXISTING GROUND.



NO.	DATE	DESCRIPTION	BY	CK'D

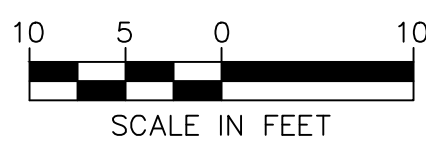
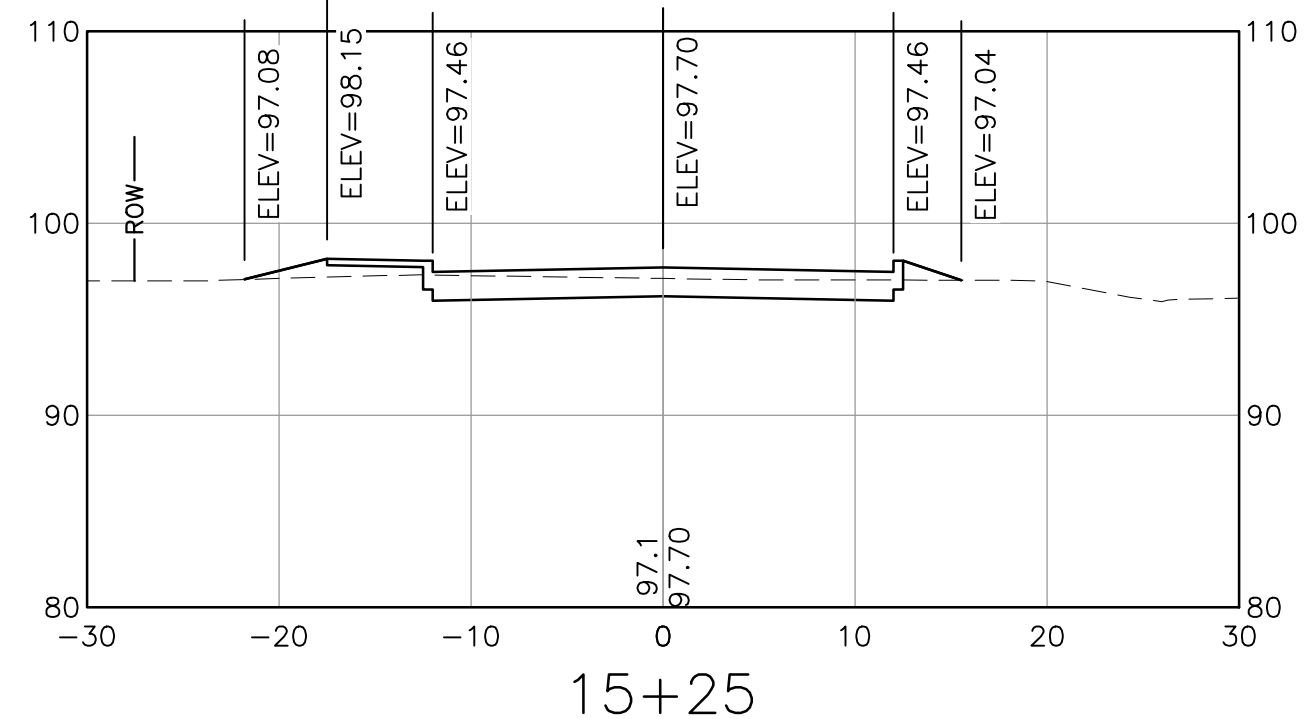
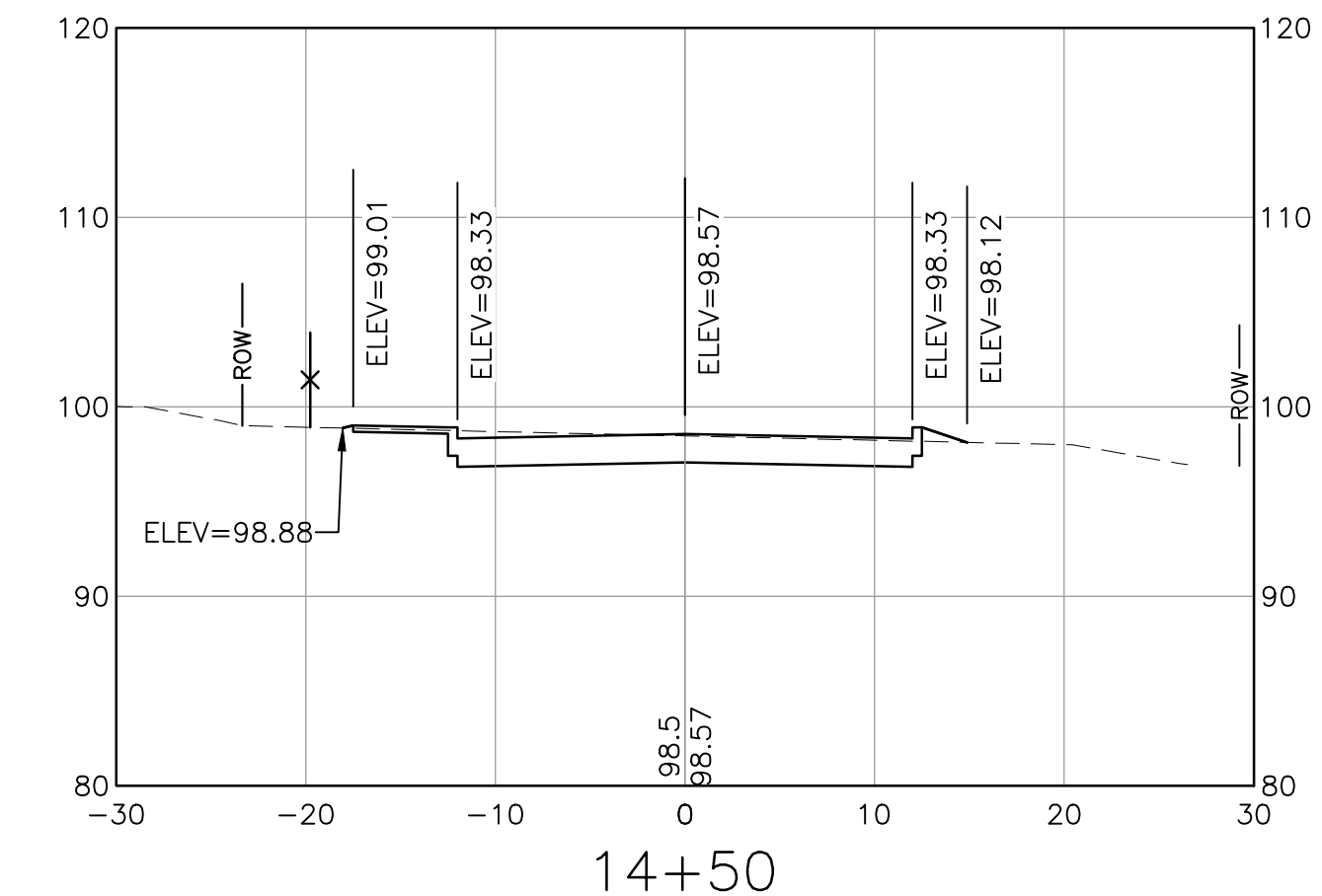
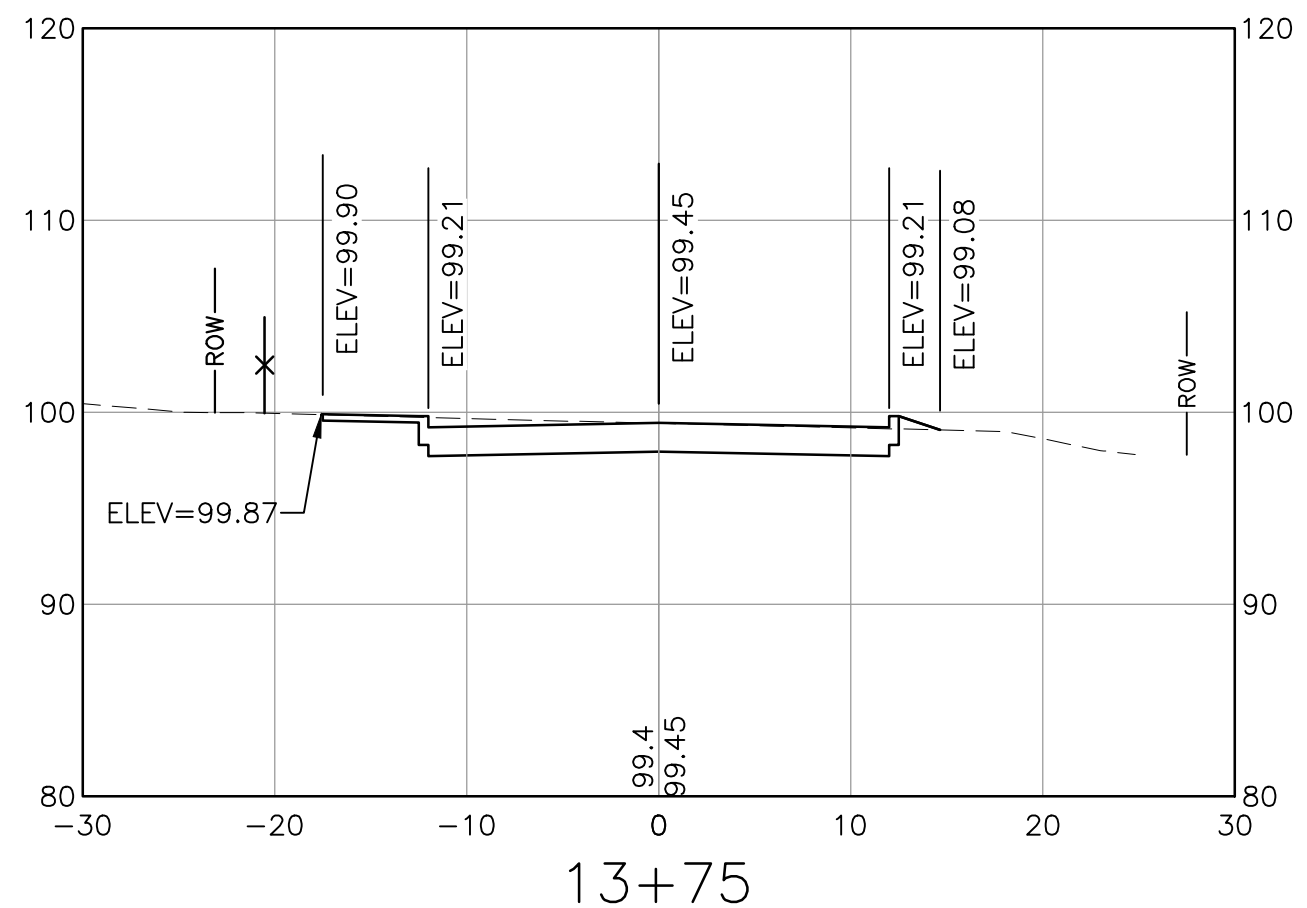
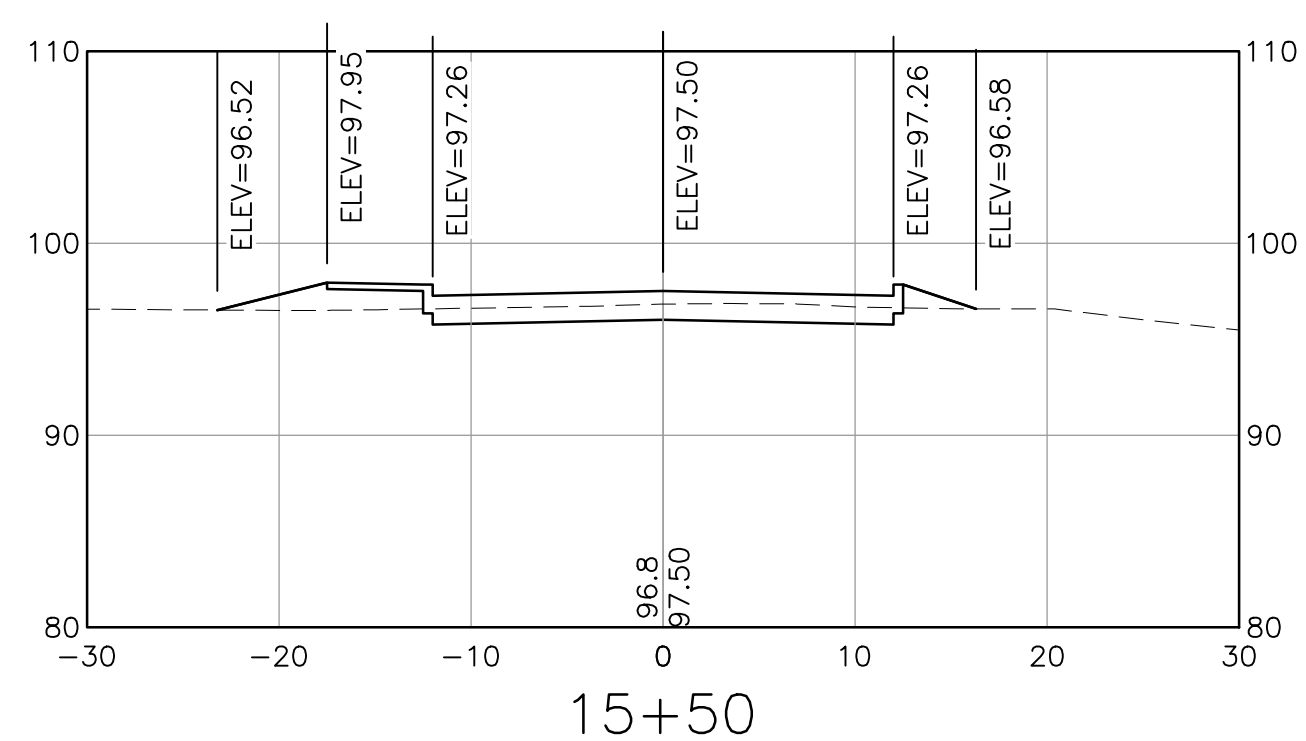
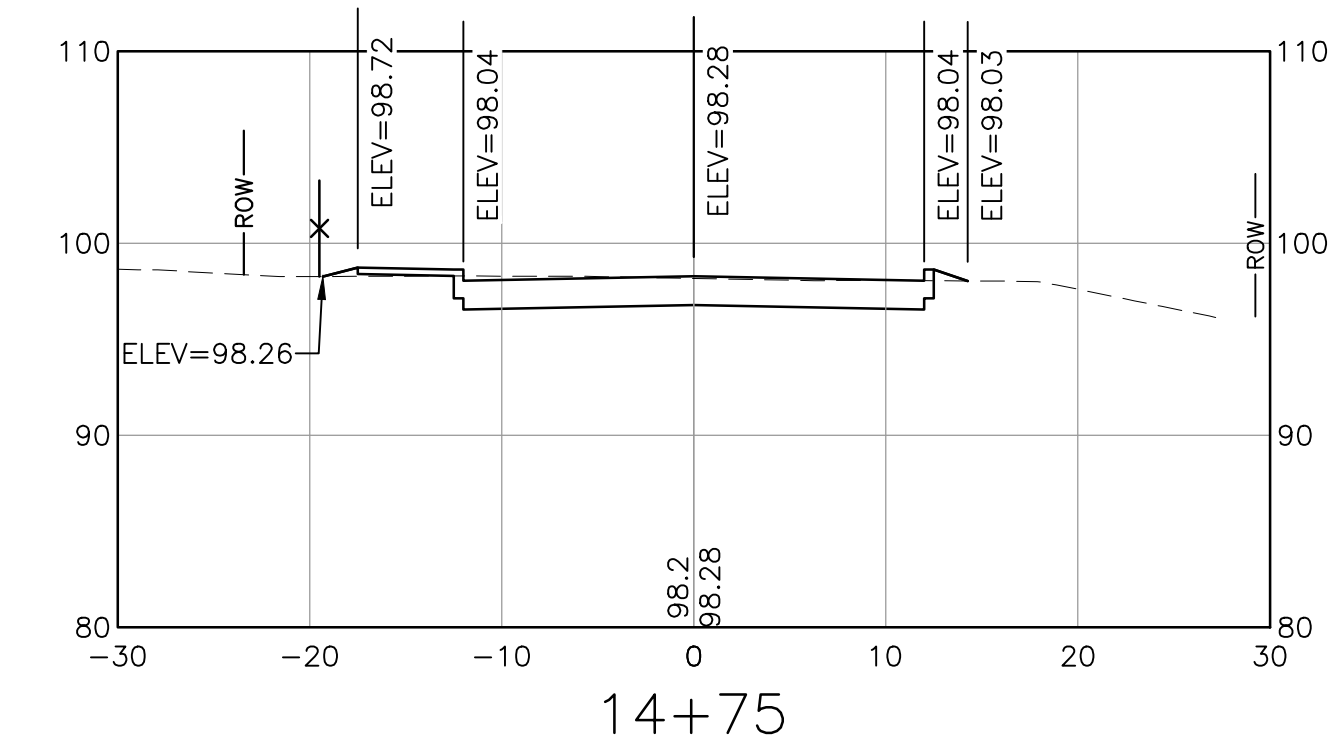
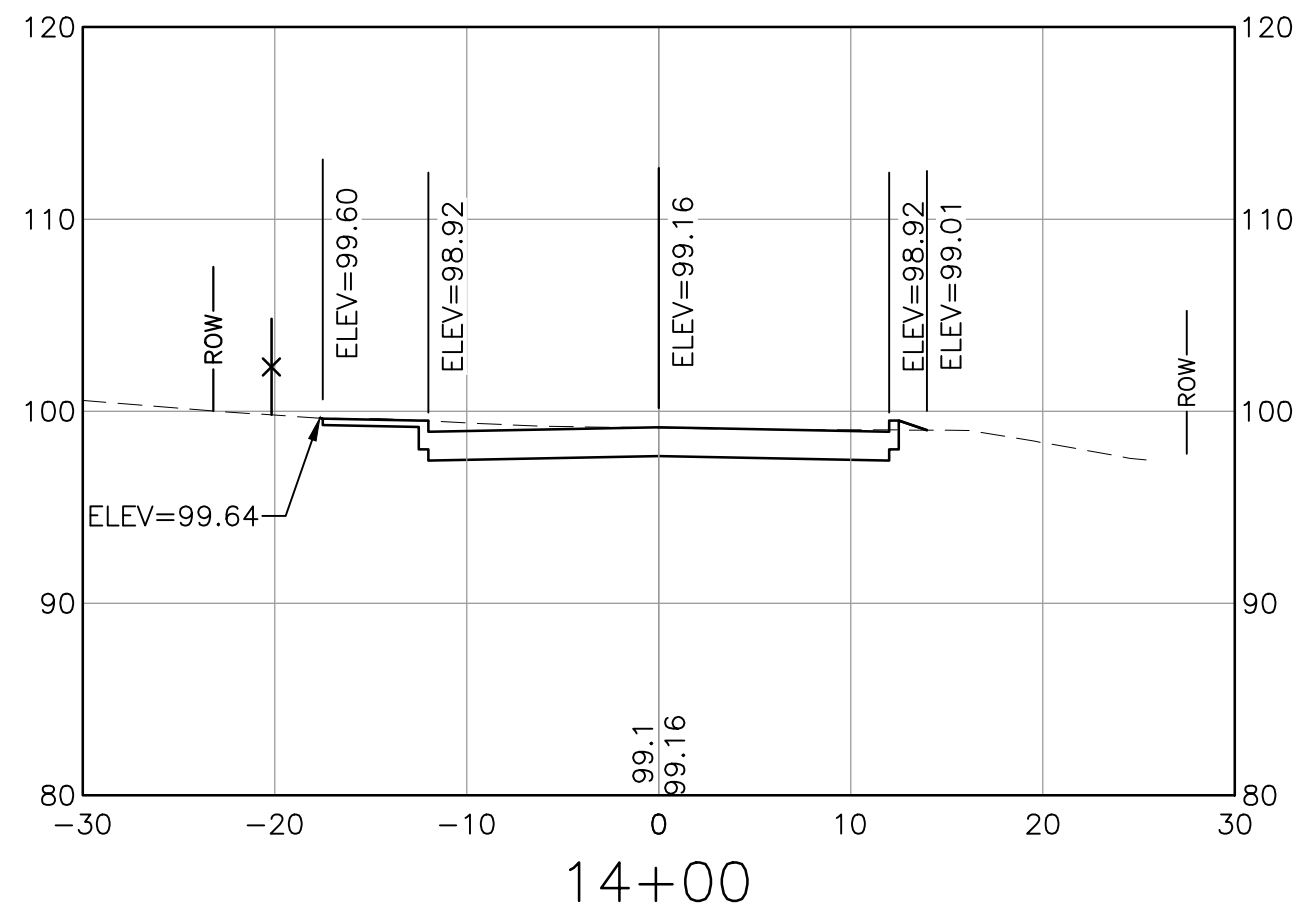
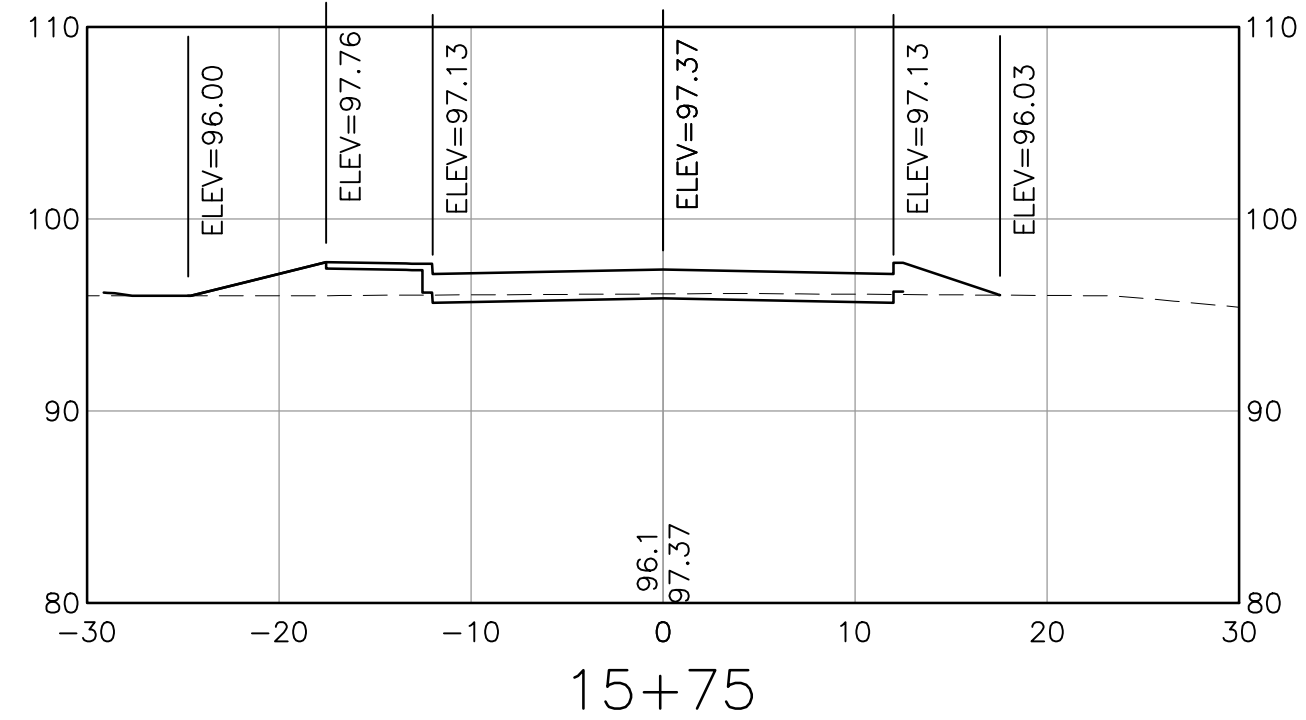
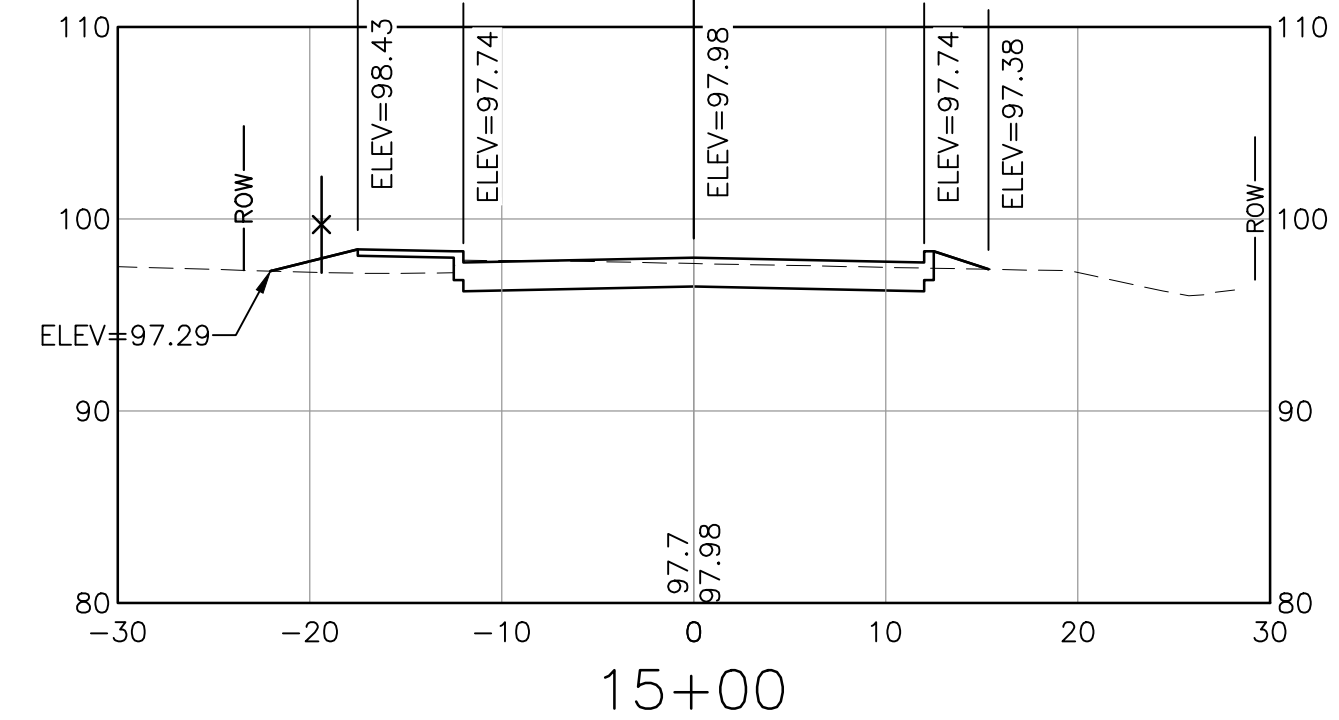
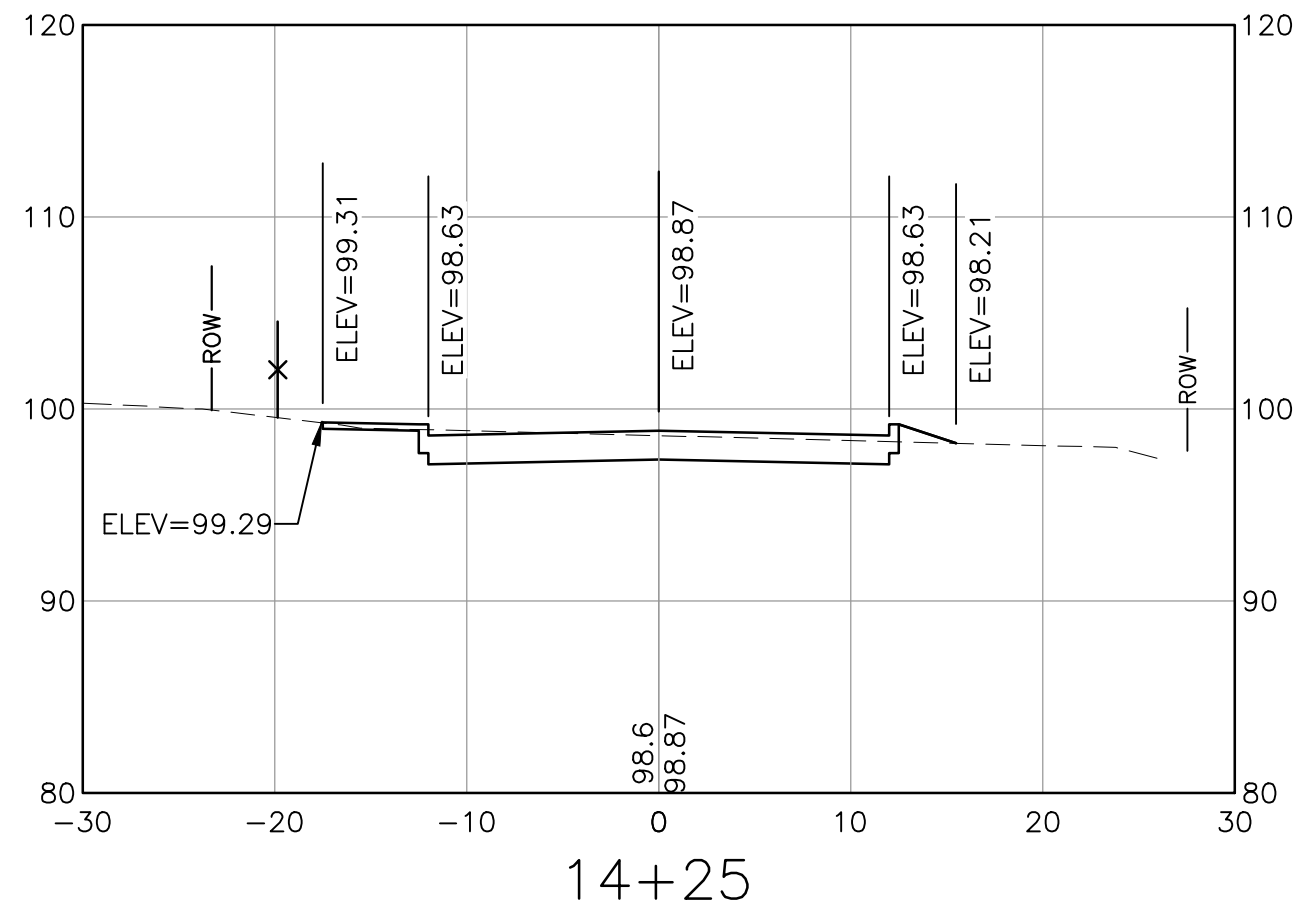
CITY OF DOVER
288 CENTRAL AVE
DOVER, NH 03820

CITY OF DOVER
KEATING-
BIRCHWOOD AREA
RECONSTRUCTION

SHEET TITLE
KEATING AVE
CROSS SECTIONS
SHEET 7

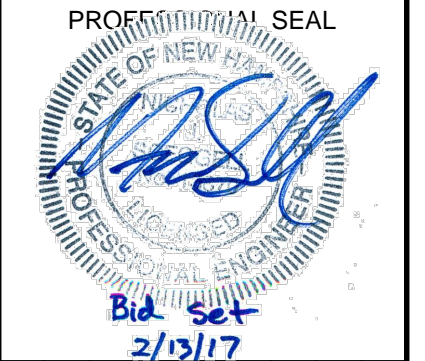
DRAWN BY KLL	DATE FEB 2017
CHECKED BY CKG	D&K PROJECT # 222952
PROJ. ENG. NJS	D&K ARCHIVE #

SHEET NUMBER
XS-7
SHEET 34 OF 47



NOTE:
SPOT ELEVATIONS PROVIDED DEPICT ELEVATIONS FOR ROADWAY CROWN,
BOTTOM OF CURB, BACK OF SIDEWALK, AND TIE-IN TO EXISTING GROUND.

I:\222952-Dover_Keating_Birchwood\Drawings\Ver1\222952_X-CORR.dwg 2/6/2017 9:48 AM



NO.	DATE	DESCRIPTION	BY	CK'D

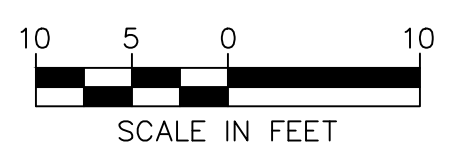
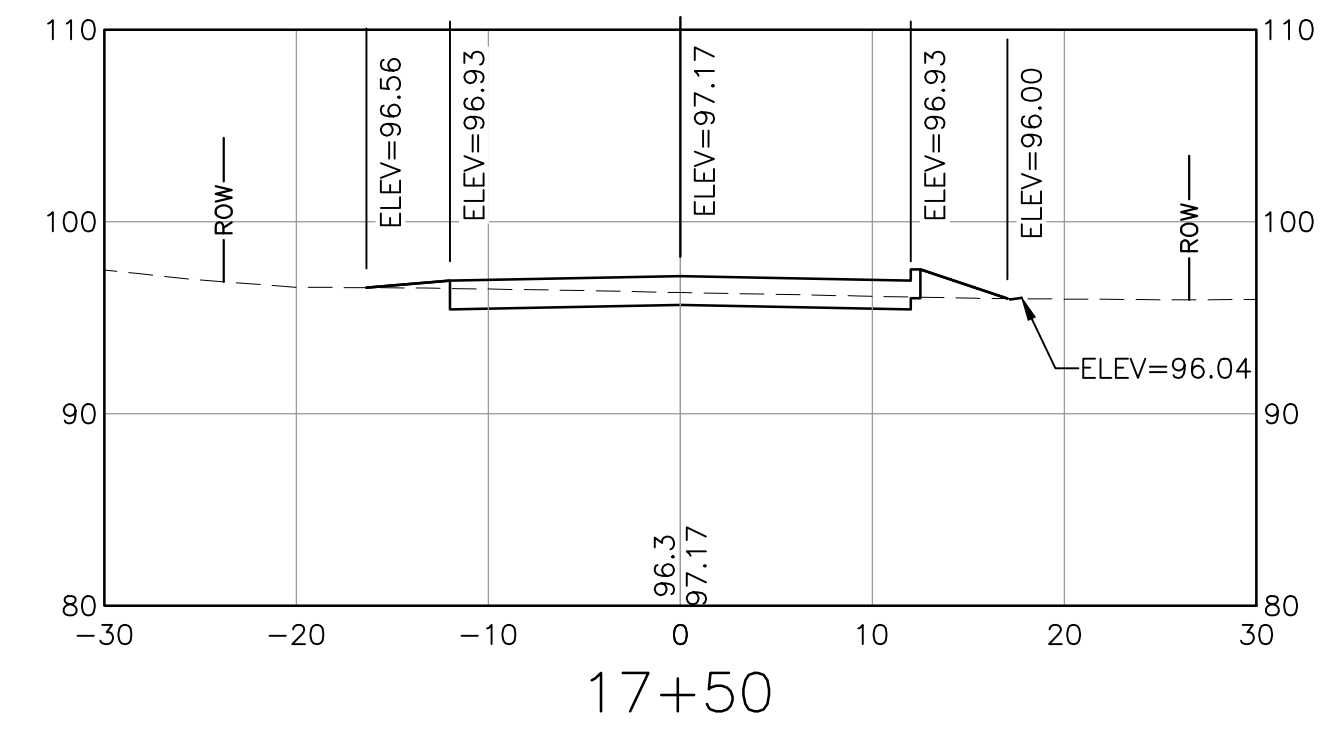
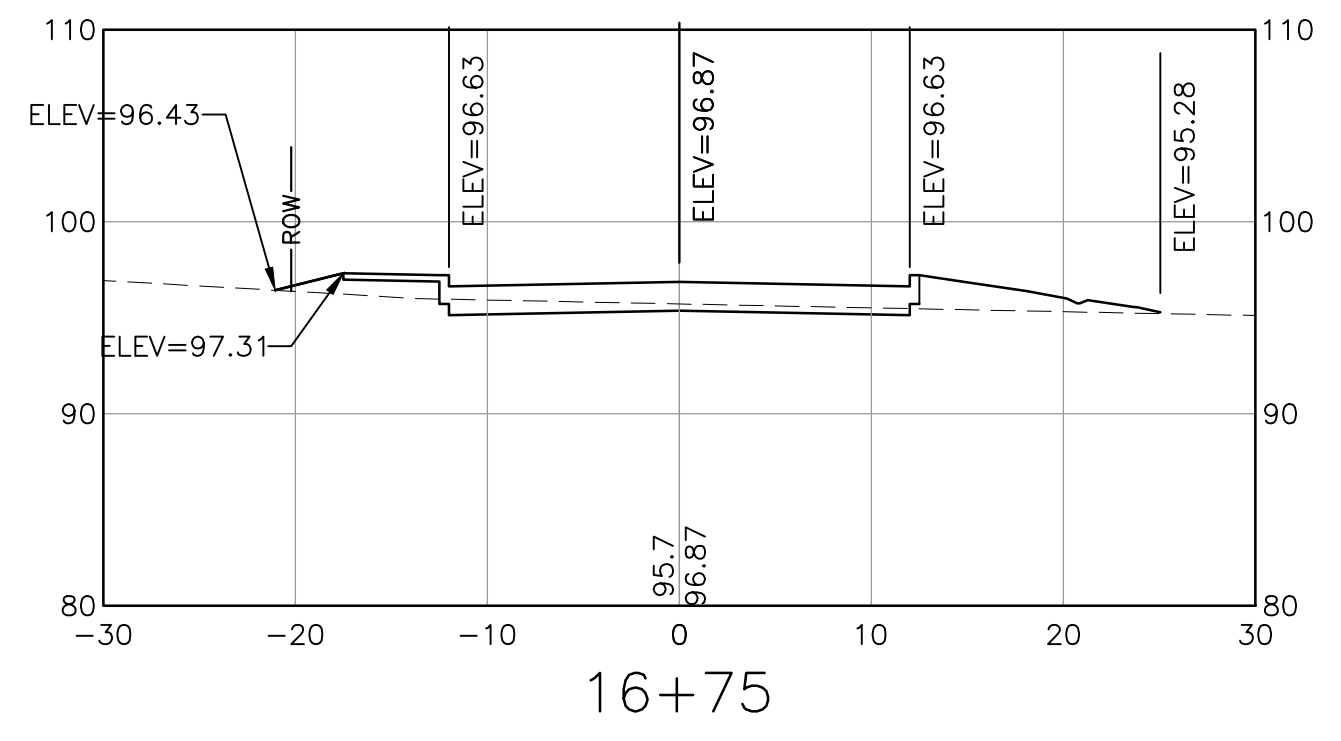
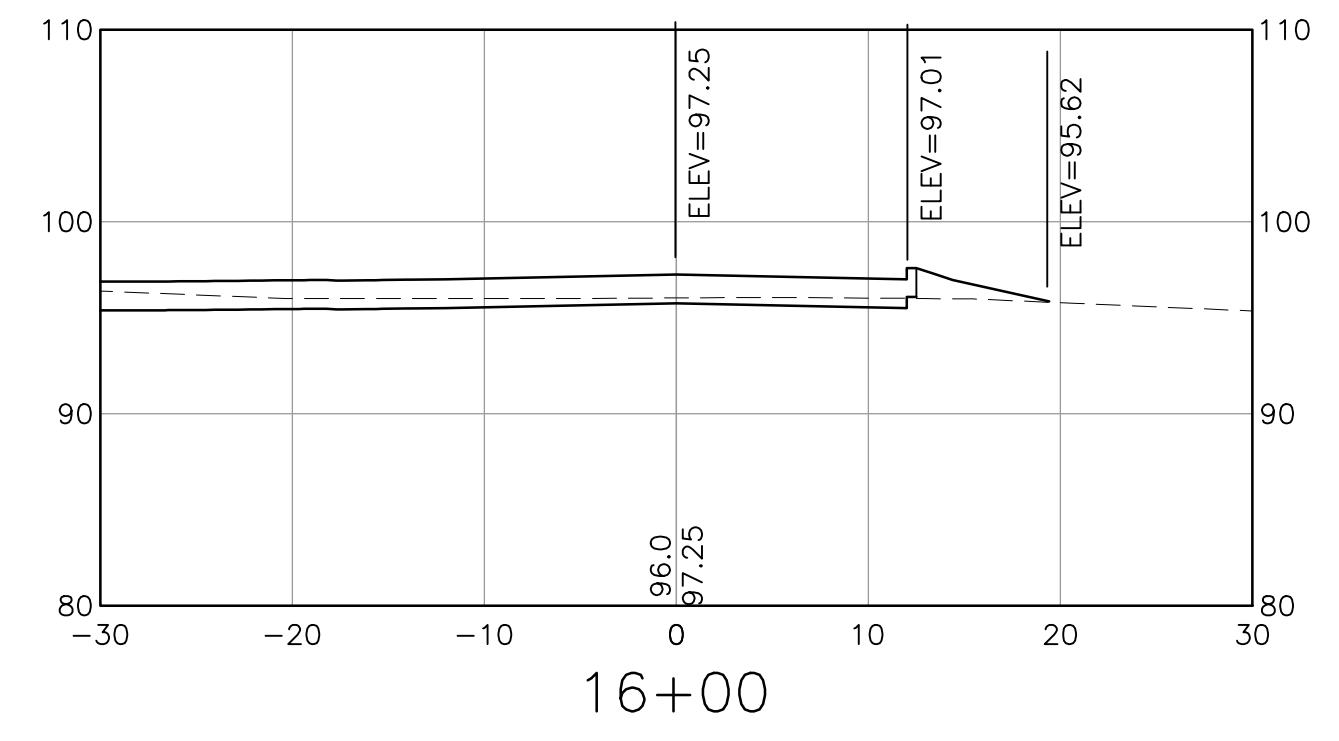
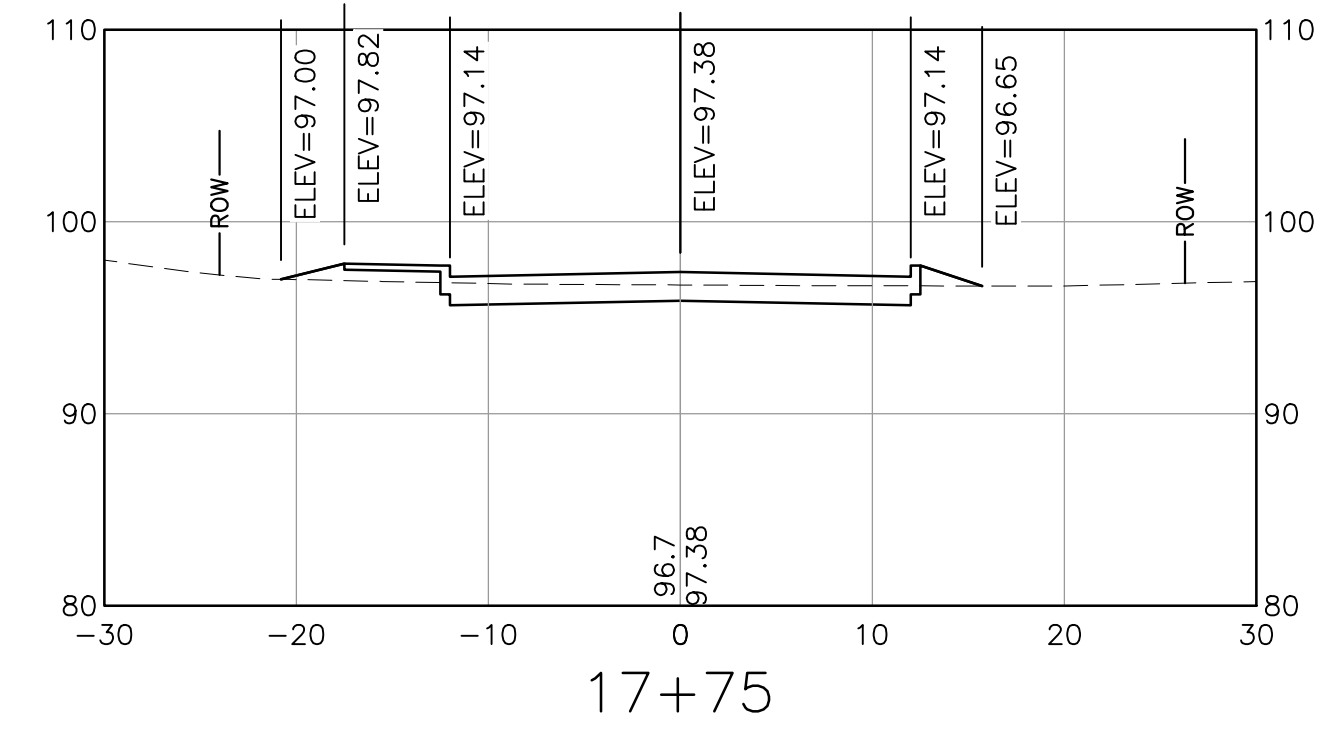
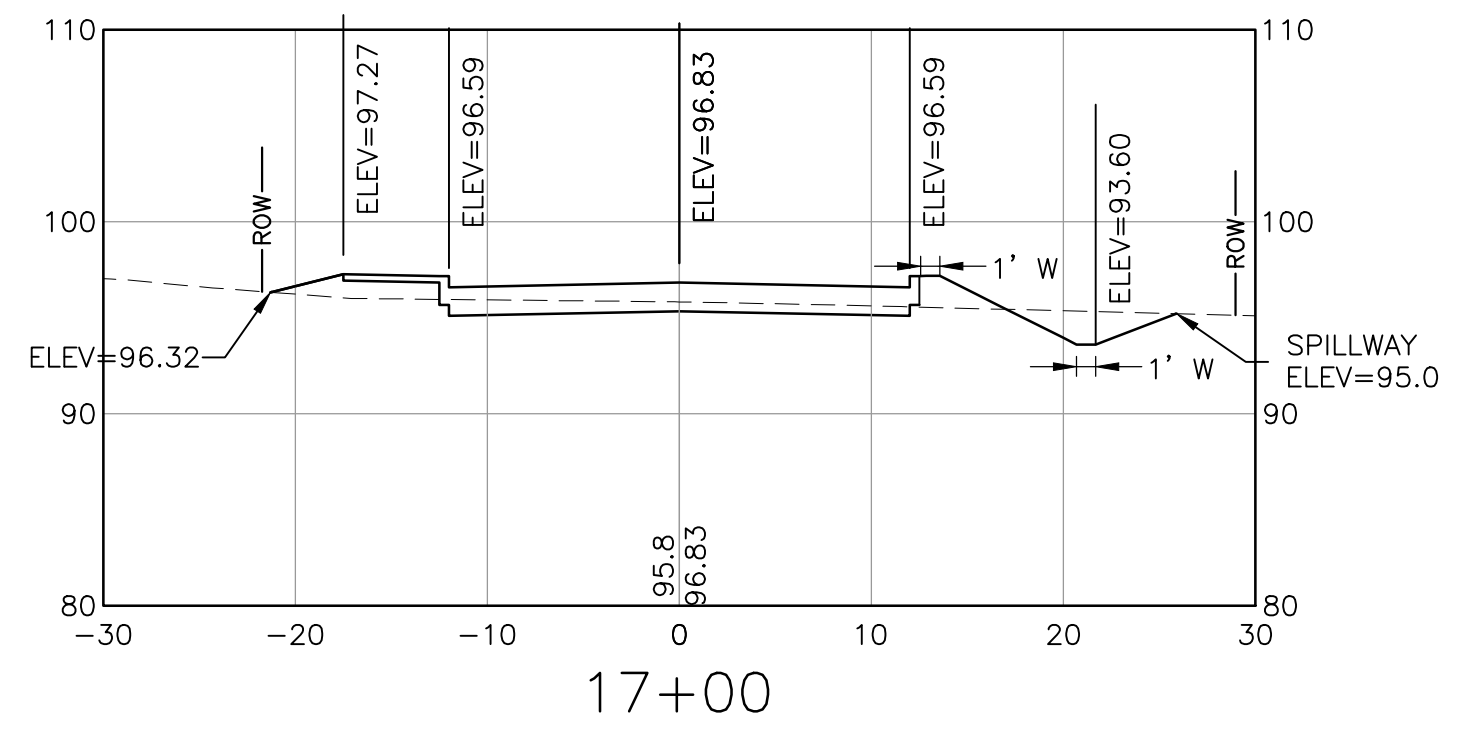
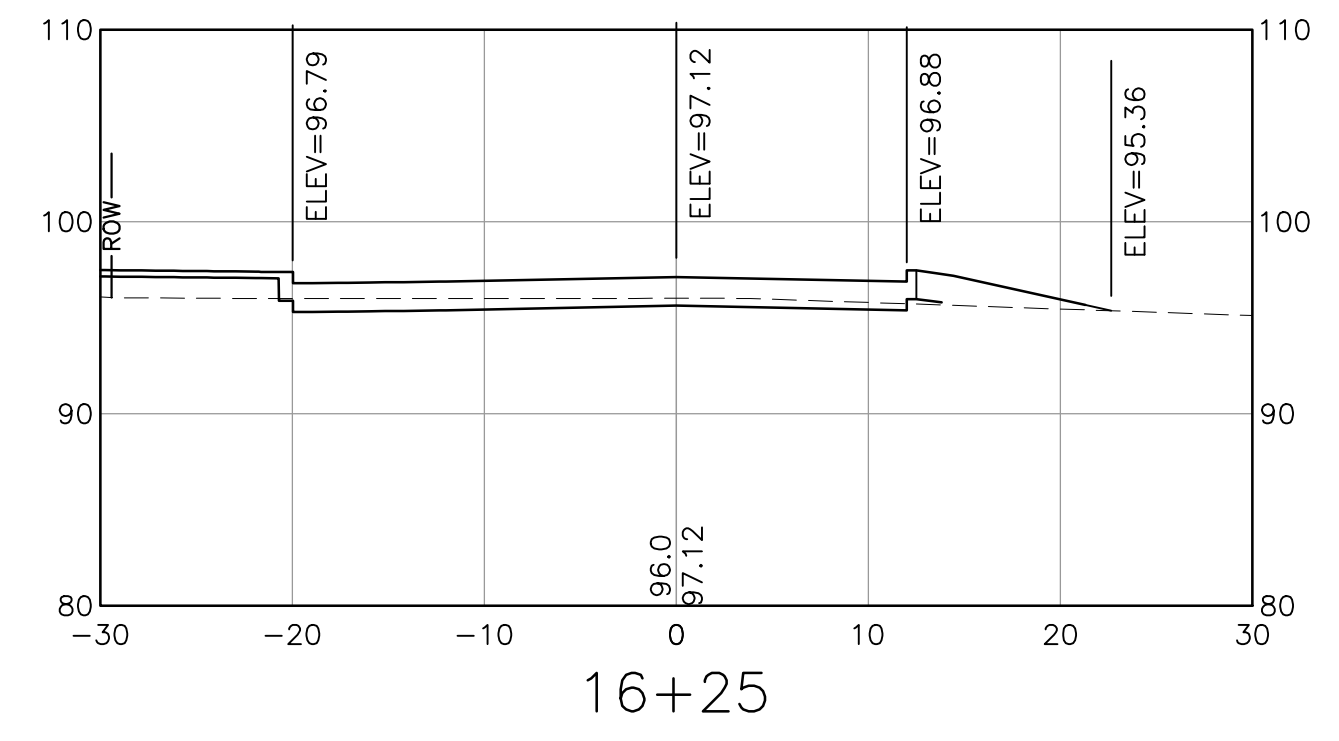
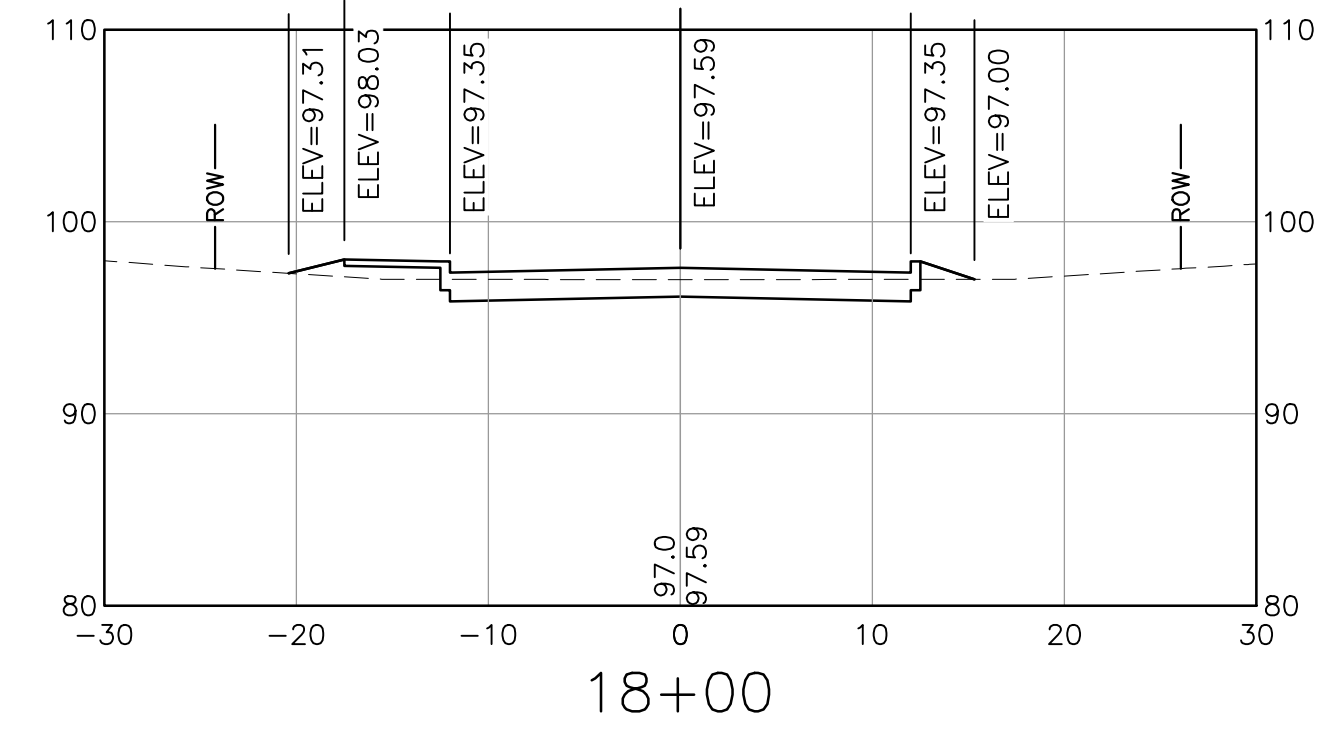
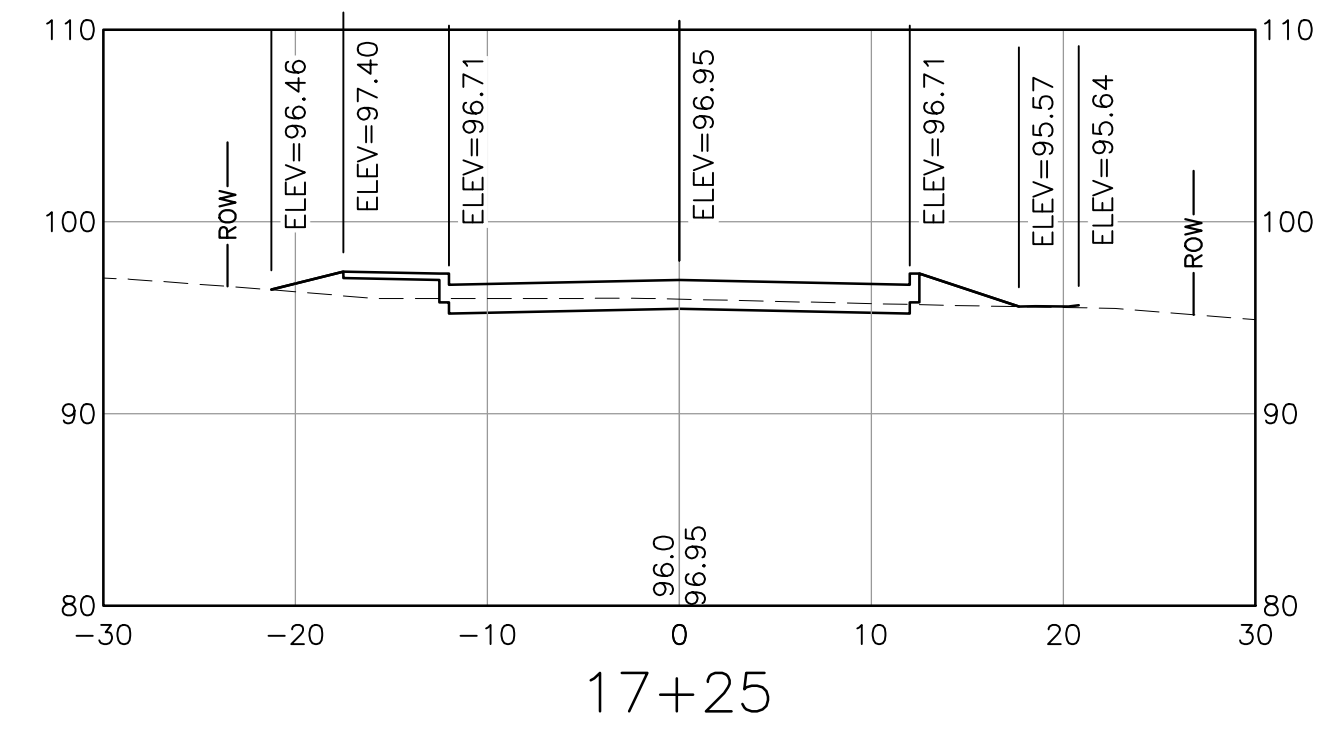
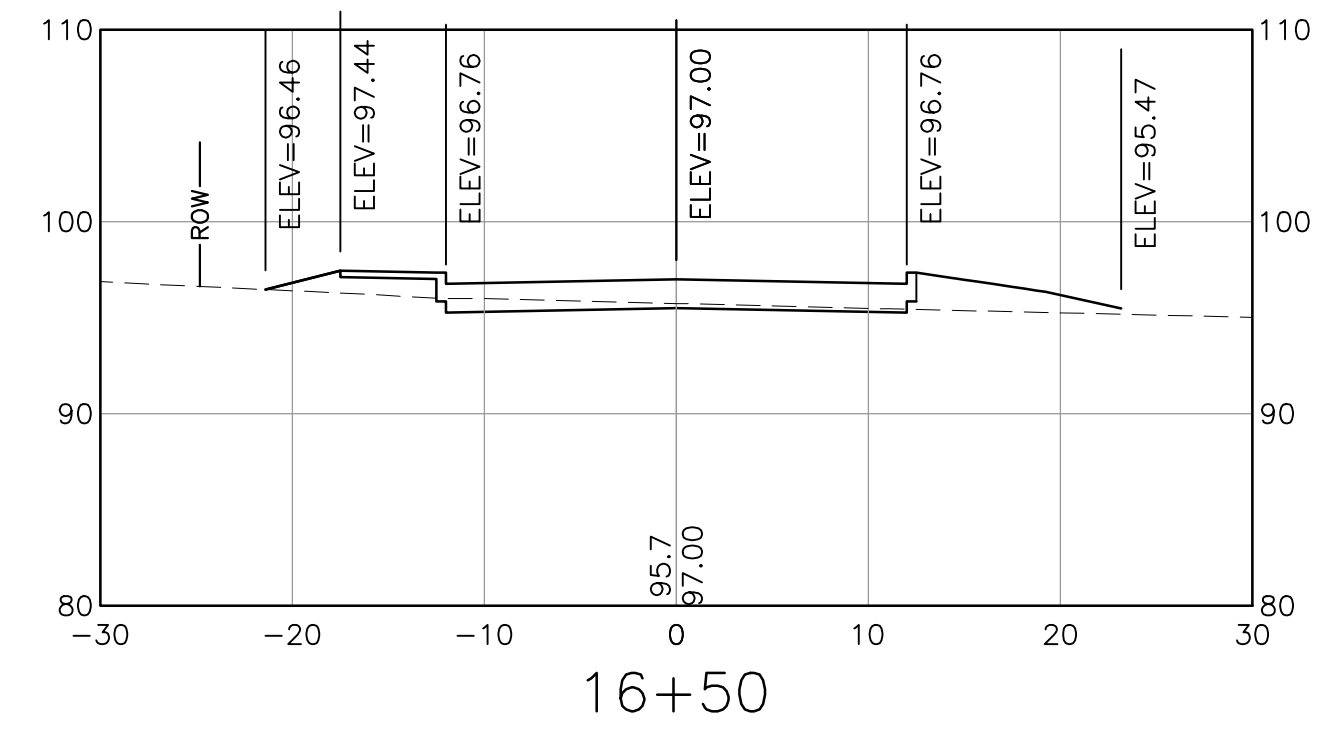
CITY OF DOVER
288 CENTRAL AVE
DOVER, NH 03820

CITY OF DOVER
KEATING-
BIRCHWOOD AREA
RECONSTRUCTION

SHEET TITLE
**KEATING AVE
CROSS SECTIONS
SHEET 8**

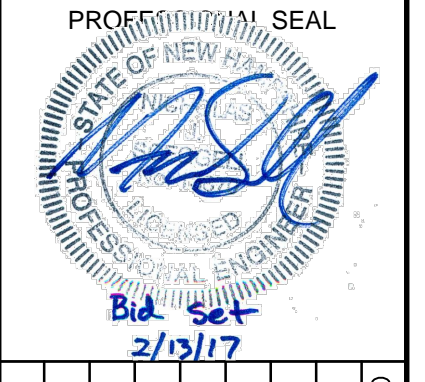
DRAWN BY KLL	DATE FEB 2017
CHECKED BY CKG	D&K PROJECT # 222952
PROJ. ENG. NJS	D&K ARCHIVE #

SHEET NUMBER
XS-8
SHEET 35 OF 47



NOTE:
SPOT ELEVATIONS PROVIDED DEPICT ELEVATIONS FOR ROADWAY CROWN,
BOTTOM OF CURB, BACK OF SIDEWALK, AND TIE-IN TO EXISTING GROUND.

I:\222952-Dover-Keating-Birchwood\Drawings\Ver1\222952_X-CORR.dwg 2/6/2017 9:51 AM



NO.	DATE	DESCRIPTION	BY	CK'D

CITY OF DOVER
288 CENTRAL AVE
DOVER, NH 03820

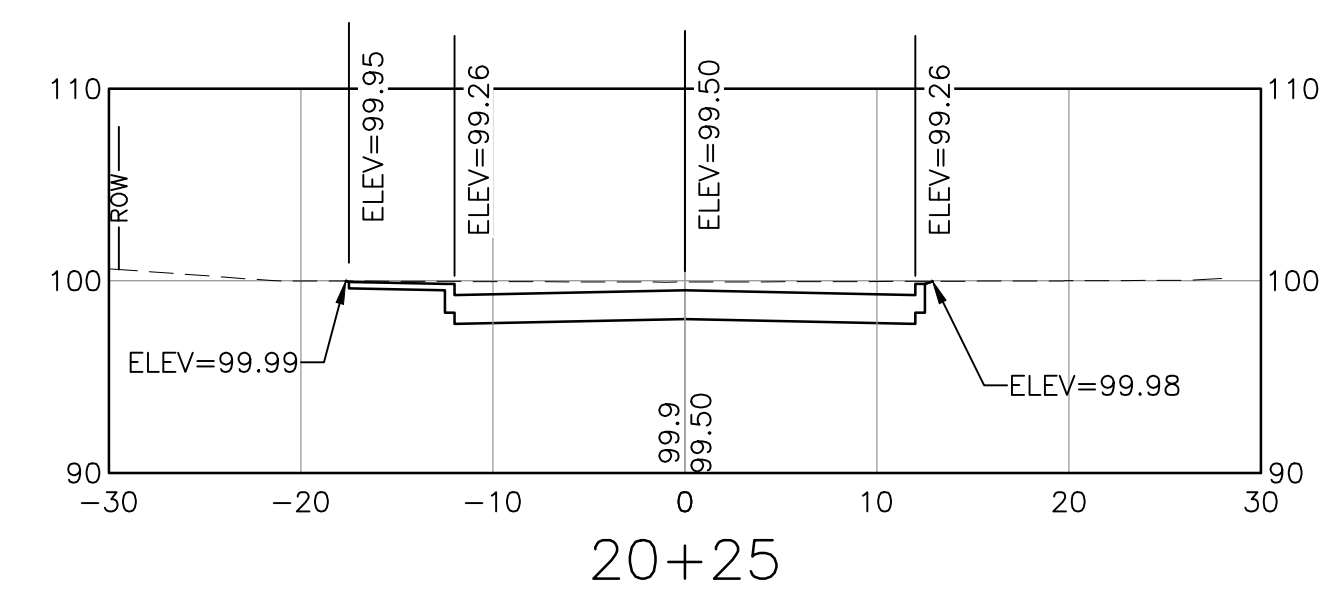
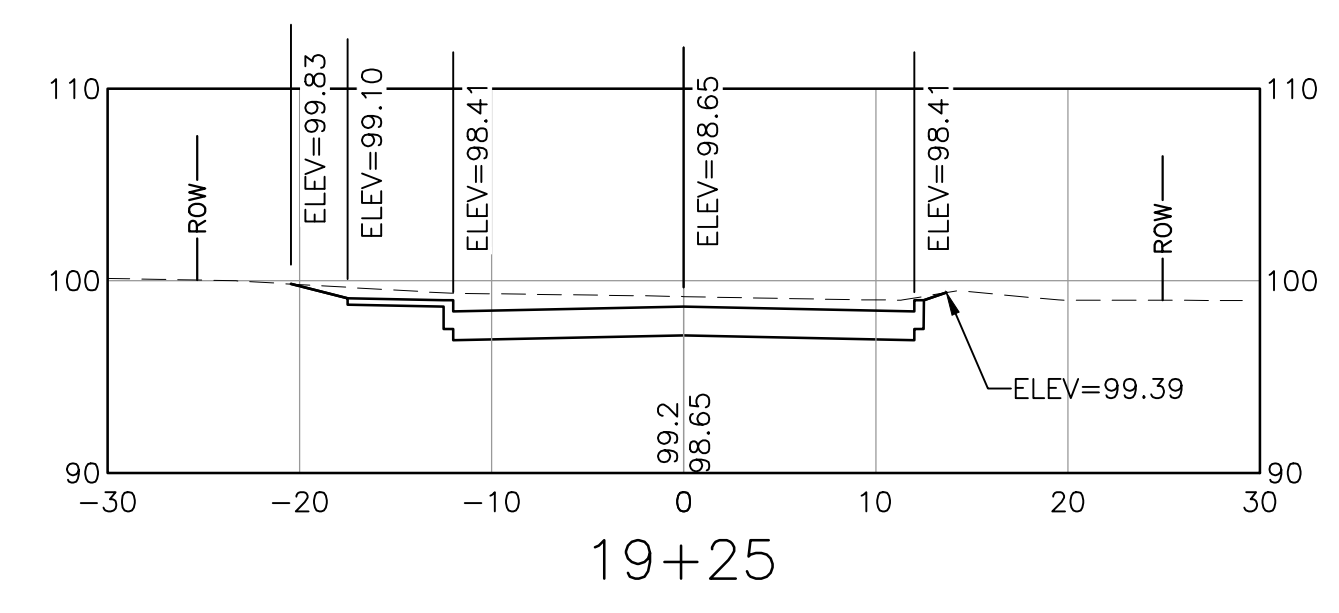
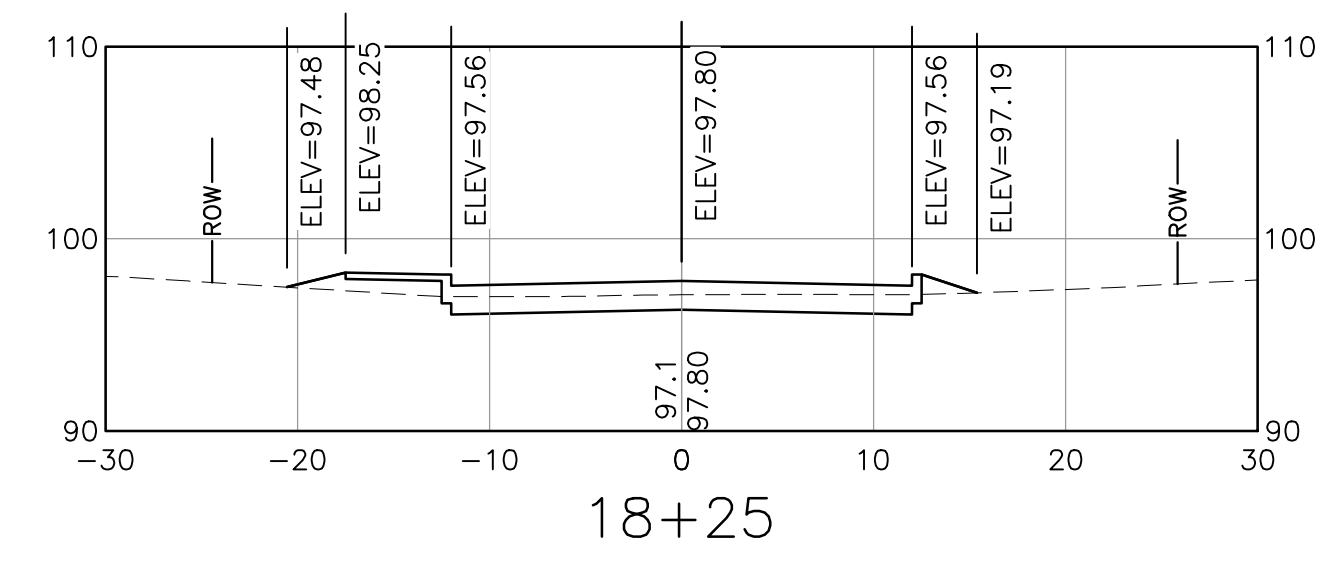
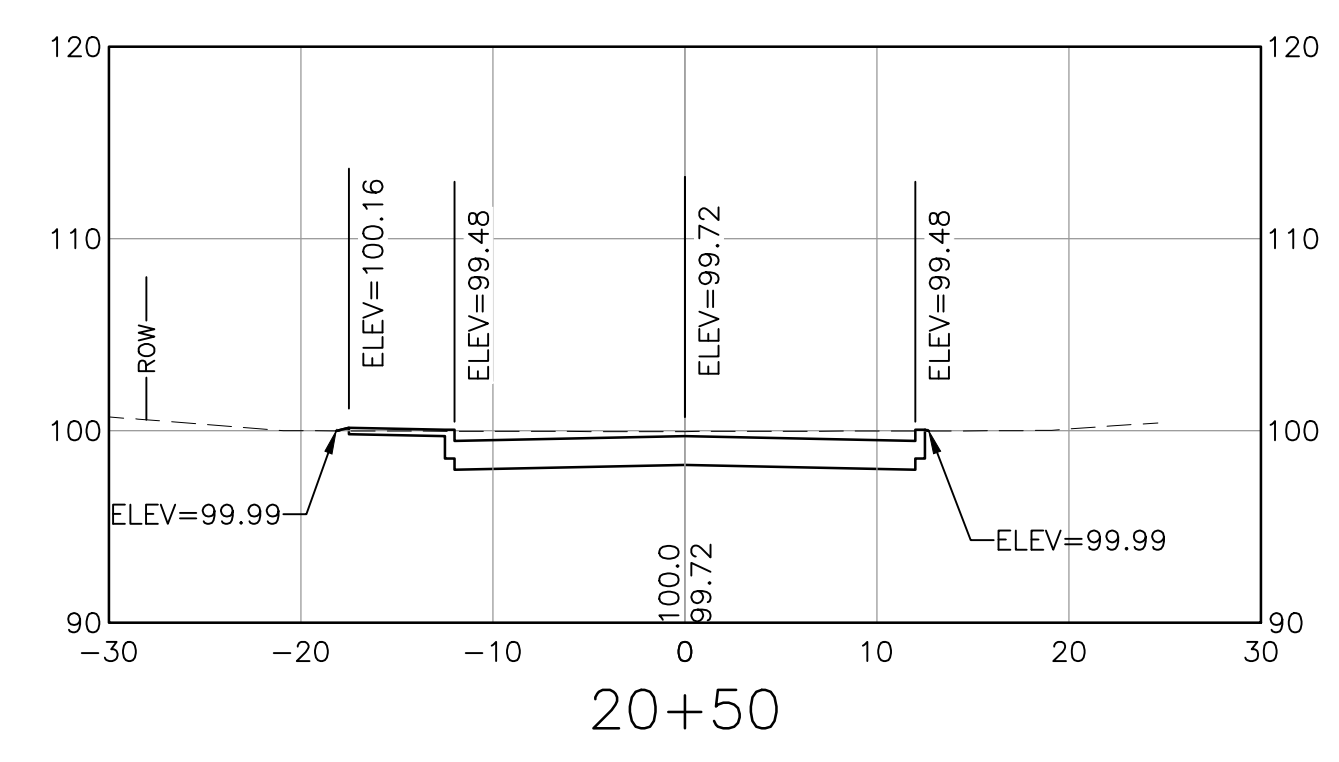
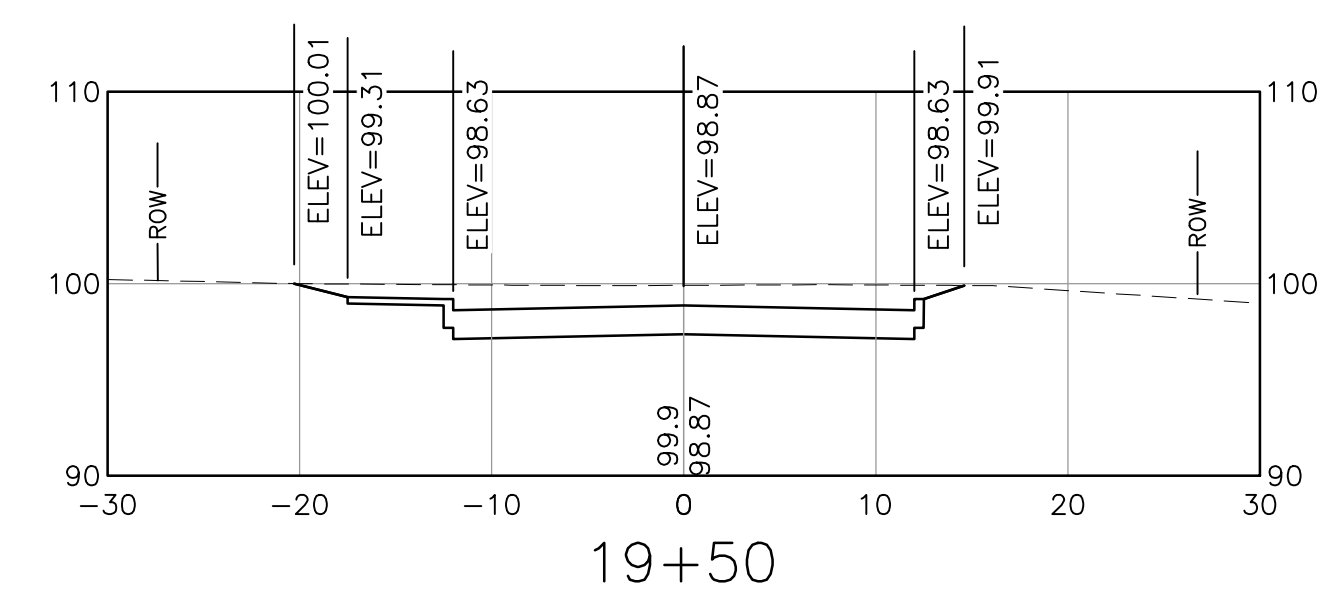
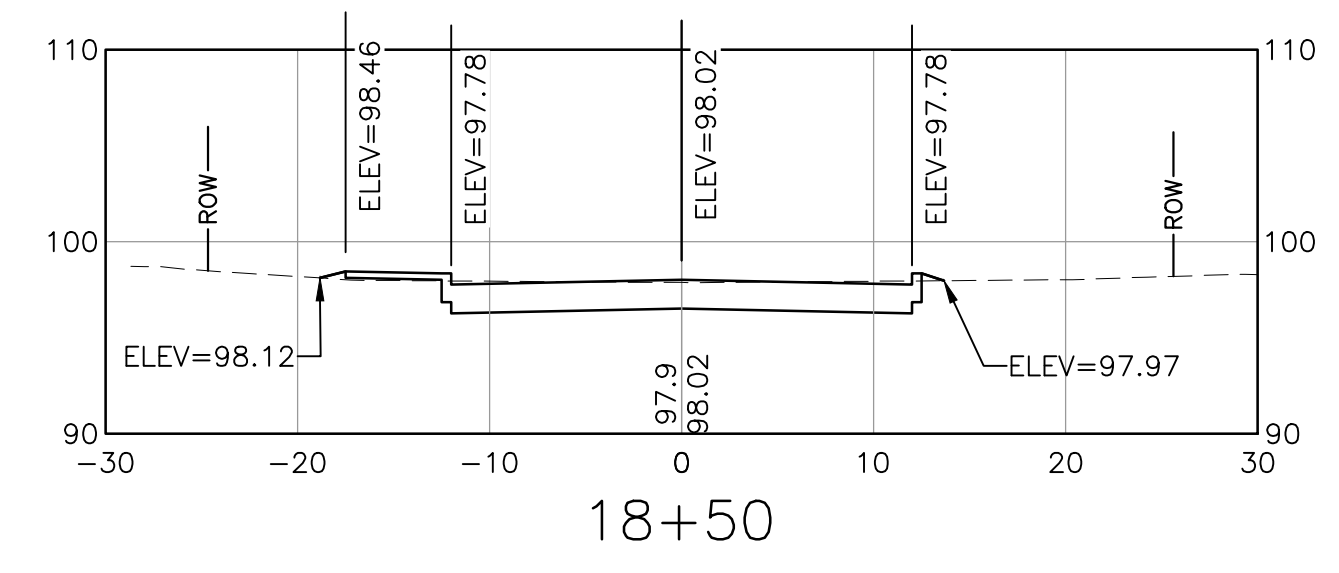
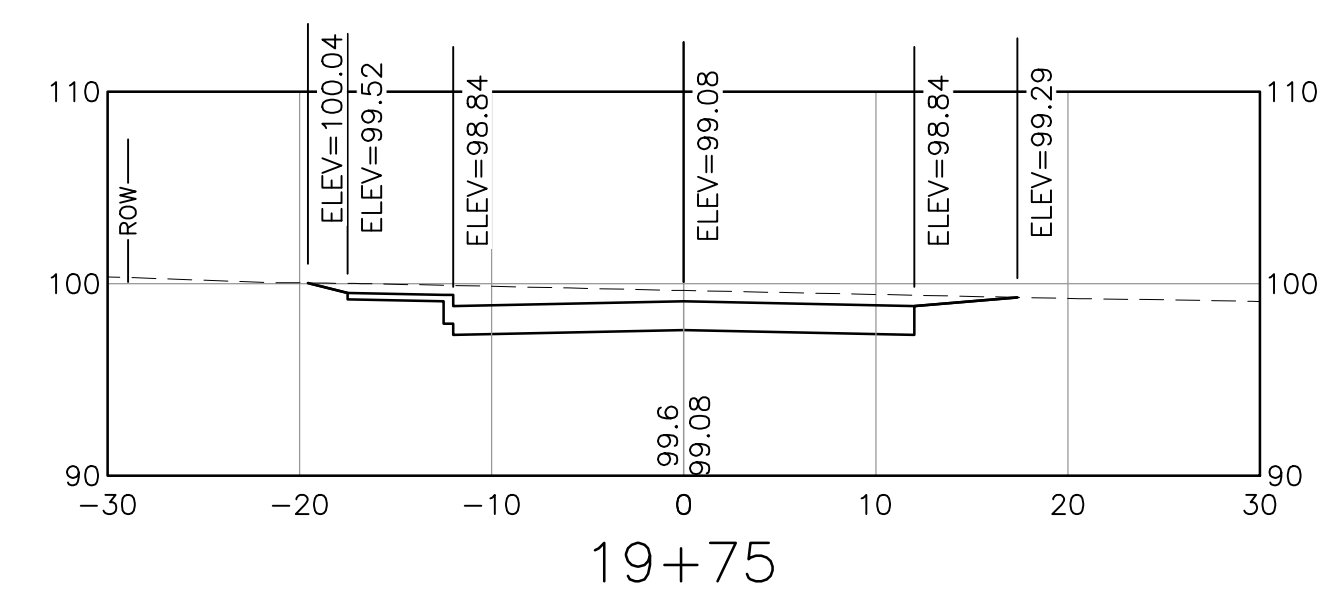
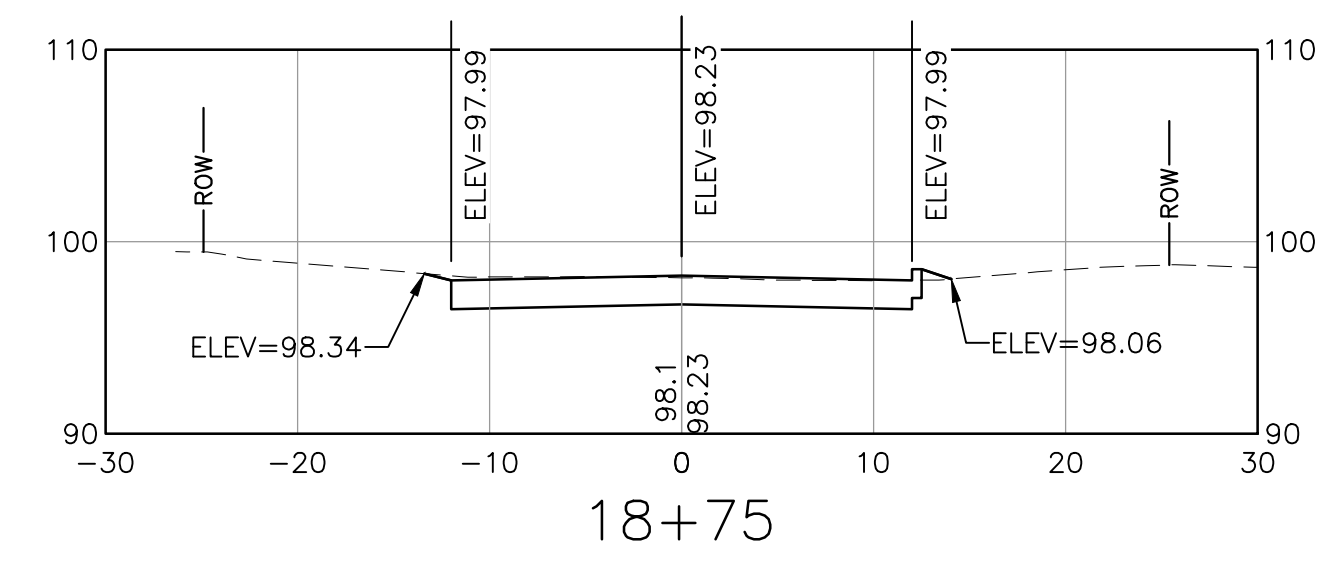
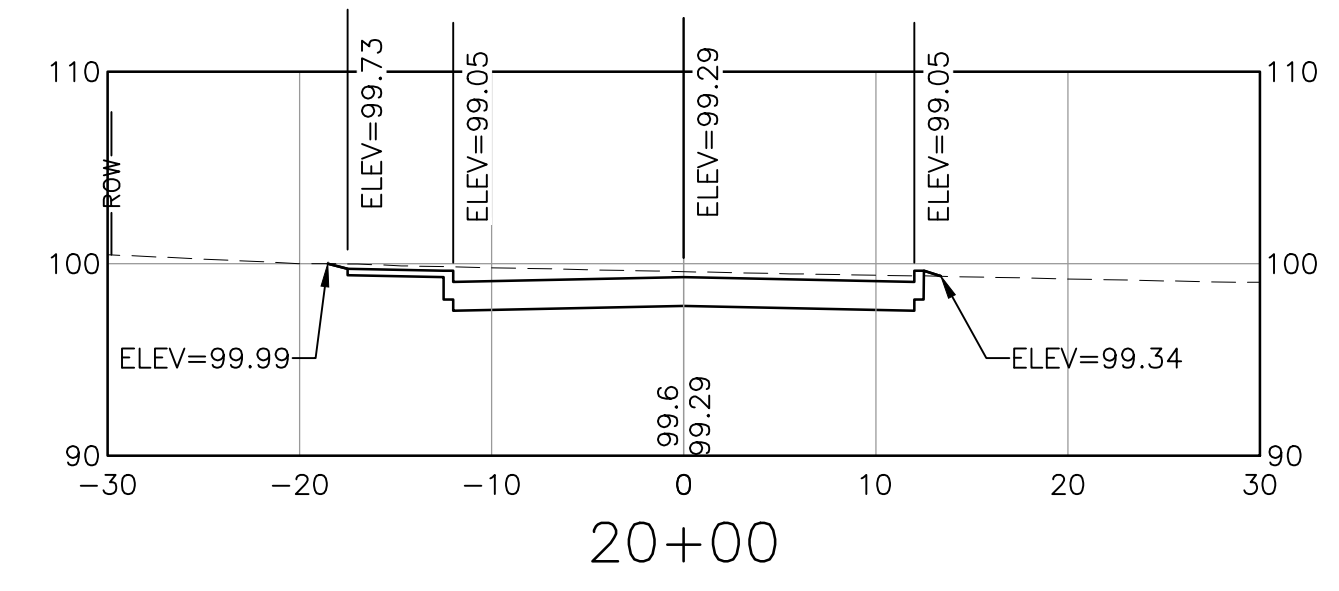
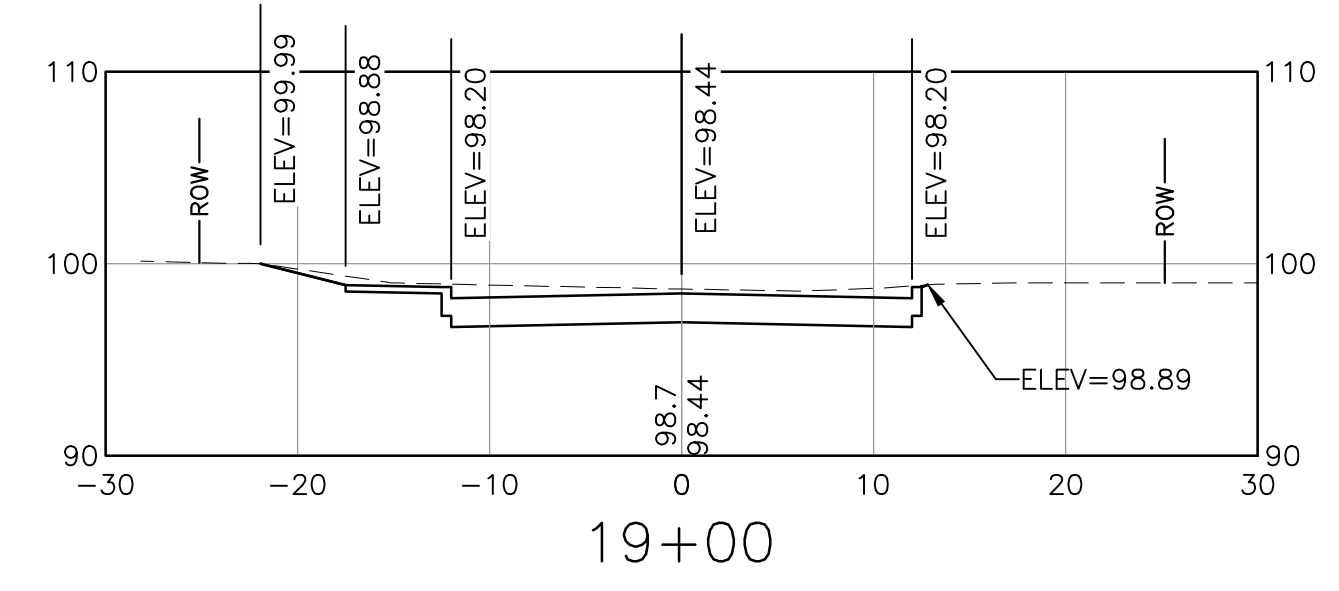
CITY OF DOVER
KEATING-
BIRCHWOOD AREA
RECONSTRUCTION

SHEET TITLE
KEATING AVE
CROSS SECTIONS
SHEET 9

DRAWN BY KLL	DATE FEB 2017
CHECKED BY CKG	D&K PROJECT # 222952
PROJ. ENG. NJS	D&K ARCHIVE #

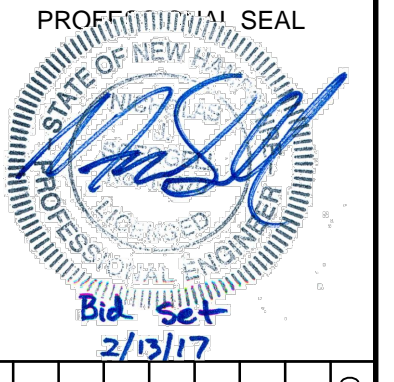
SHEET NUMBER

XS-9



NOTE:
SPOT ELEVATIONS PROVIDED DEPICT ELEVATIONS FOR ROADWAY CROWN,
BOTTOM OF CURB, BACK OF SIDEWALK, AND TIE-IN TO EXISTING GROUND.

I:\222952-Dover-Keating-Birchwood\Drawings\Ver1\222952_X-CORR.dwg 2/6/2017 9:53 AM



NO.	DATE	DESCRIPTION	BY	CK'D

CITY OF DOVER
288 CENTRAL AVE
DOVER, NH 03820

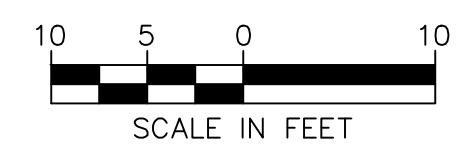
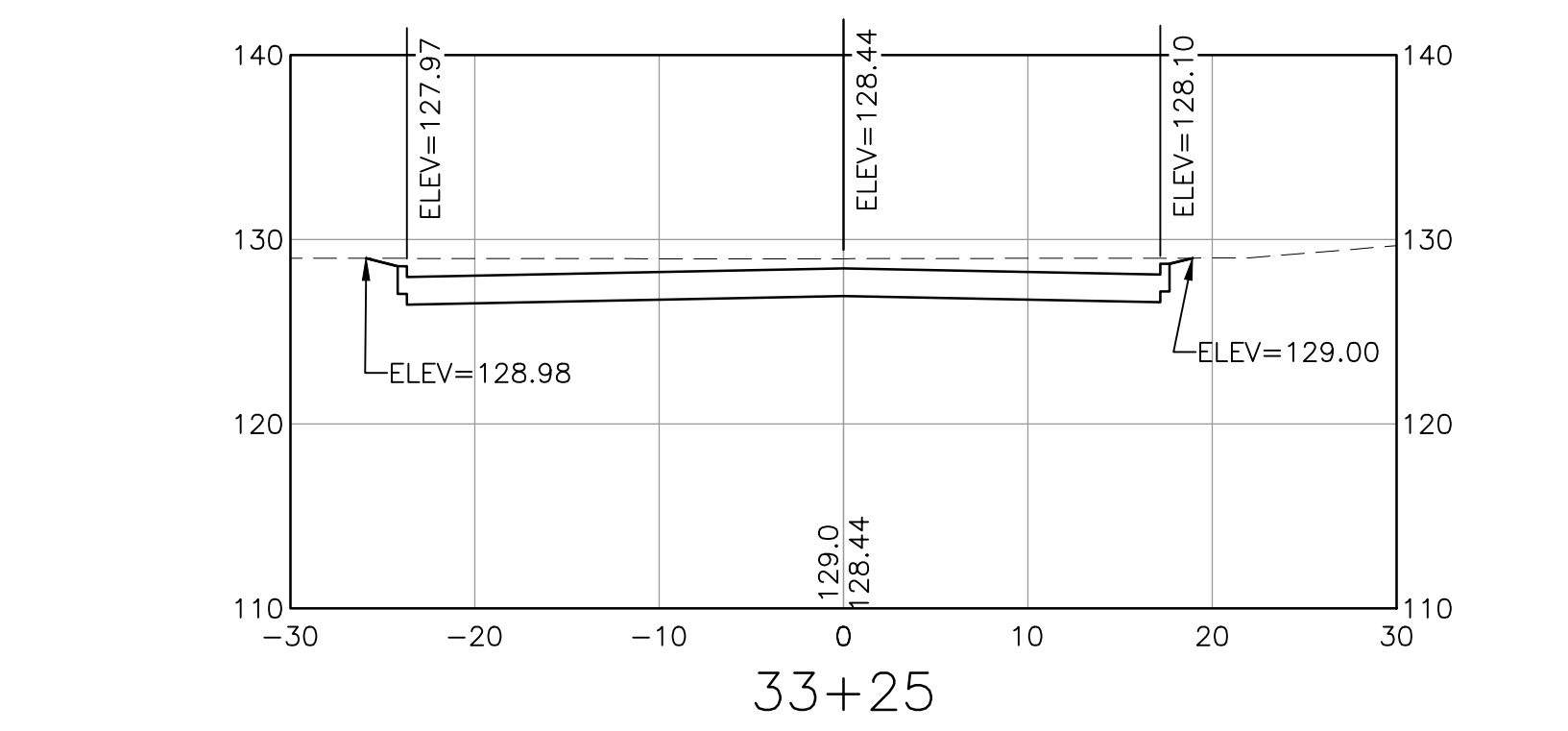
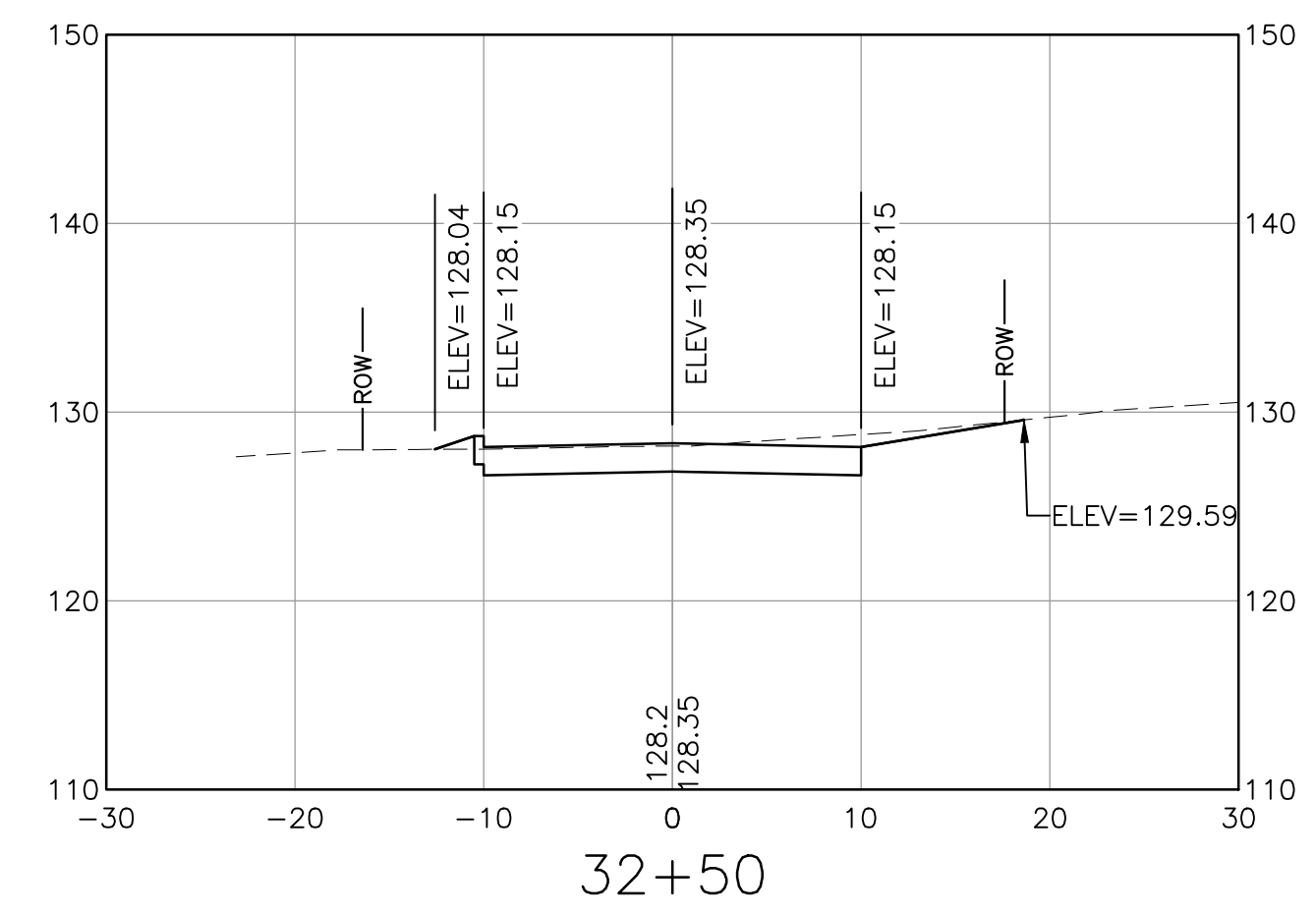
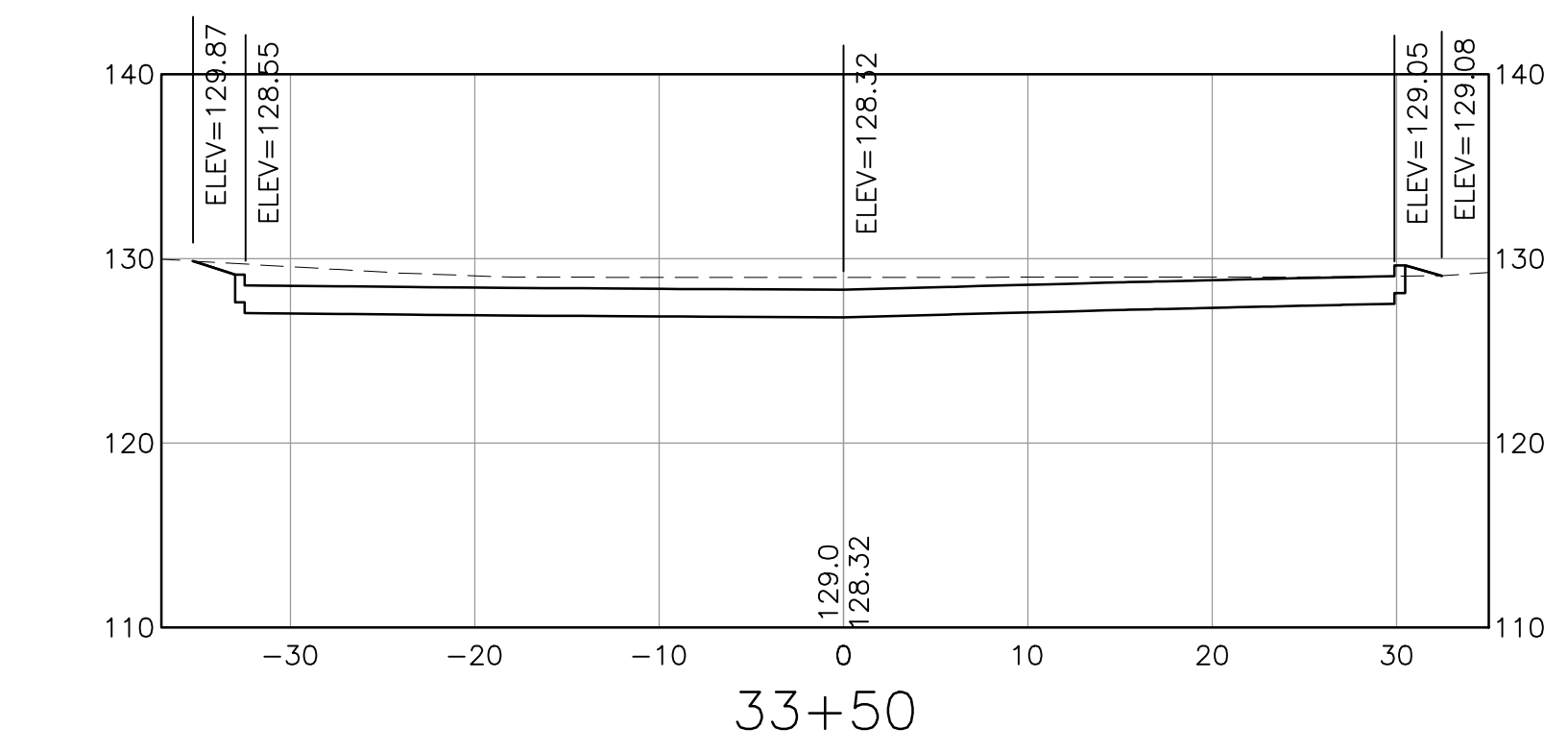
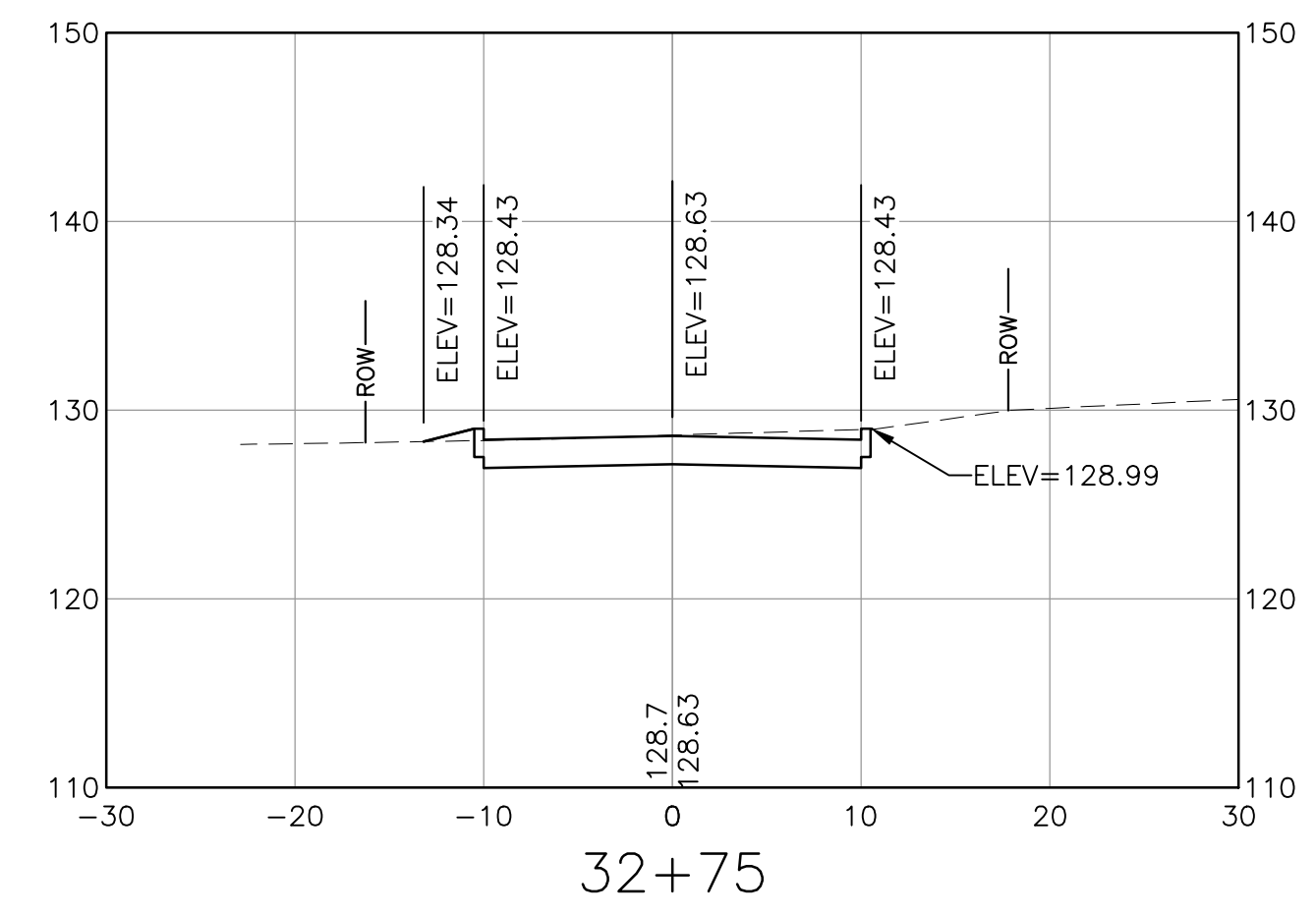
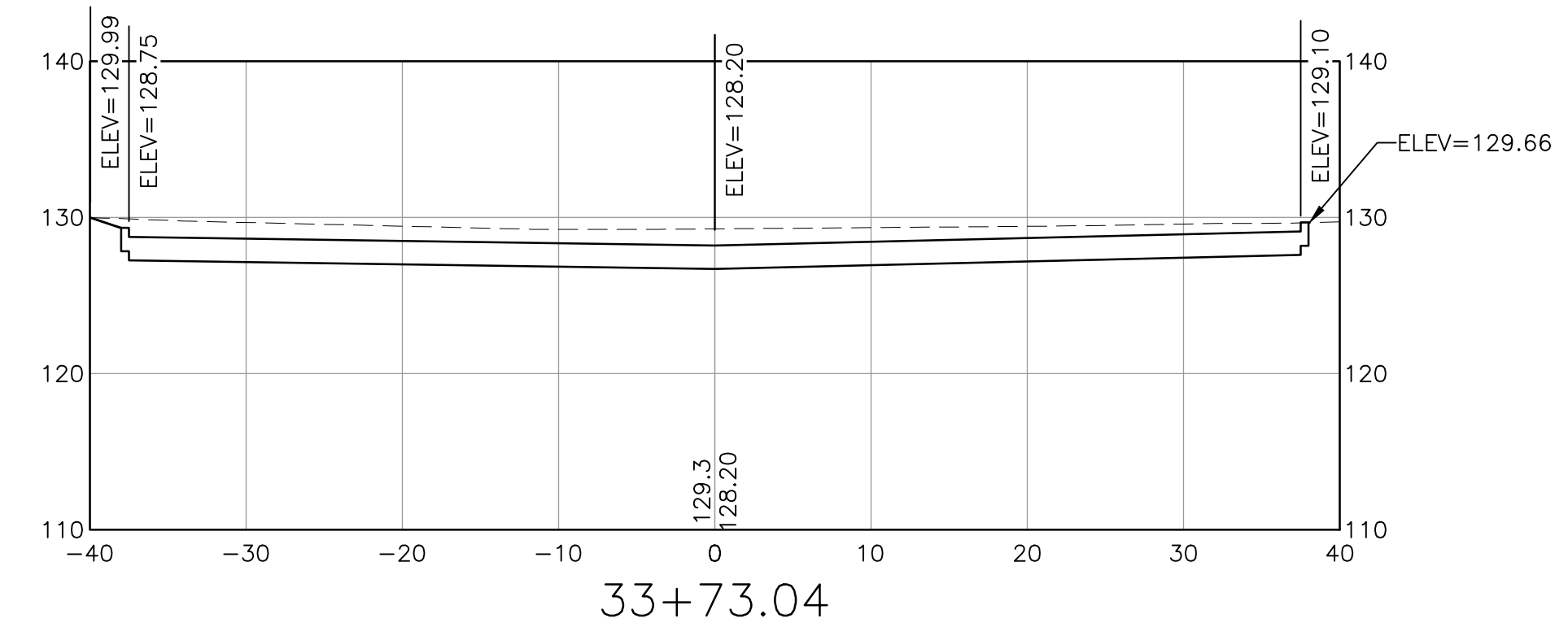
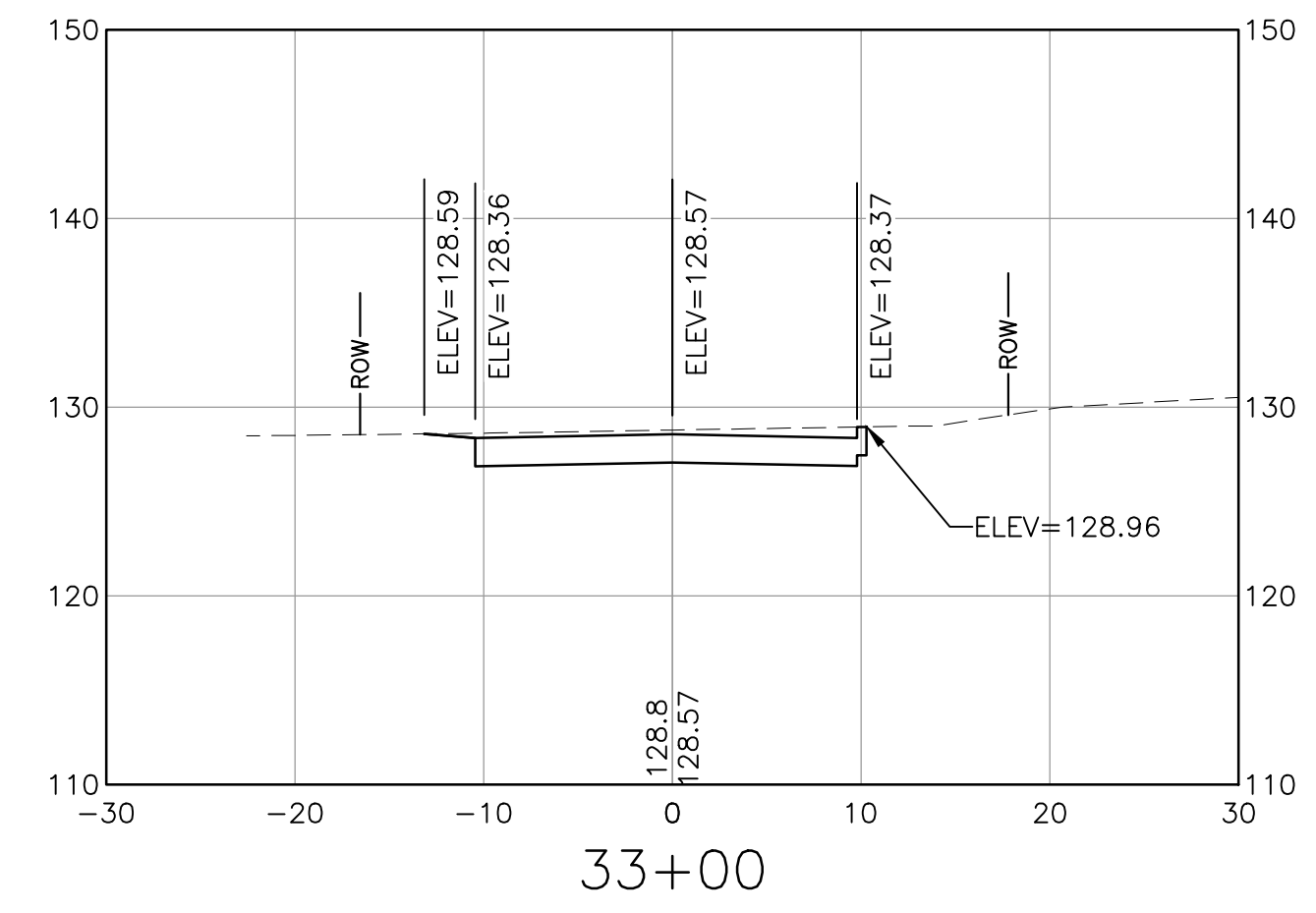
CITY OF DOVER
KEATING-
BIRCHWOOD AREA
RECONSTRUCTION

SHEET TITLE
**EMETT ROAD
CROSS SECTIONS
SHEET 11**

DRAWN BY KLL	DATE FEB 2017
CHECKED BY CKG	D&K PROJECT # 222952
PROJ. ENG. NJS	D&K ARCHIVE #

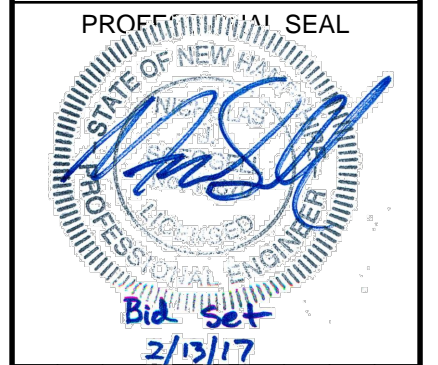
SHEET NUMBER

XS-11



NOTE:
SPOT ELEVATIONS PROVIDED DEPICT ELEVATIONS FOR ROADWAY CROWN,
BOTTOM OF CURB, BACK OF SIDEWALK, AND TIE-IN TO EXISTING GROUND.

I:\222952-Dover Keating Birchwood\Drawings\Ver1\222952_X-CORR.dwg 2/6/2017 9:56 AM



NO.	DATE	DESCRIPTION	BY	CK'D

CITY OF DOVER
288 CENTRAL AVE
DOVER, NH 03820

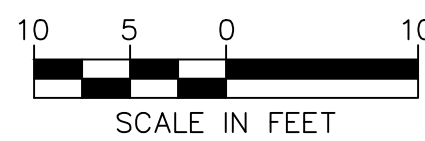
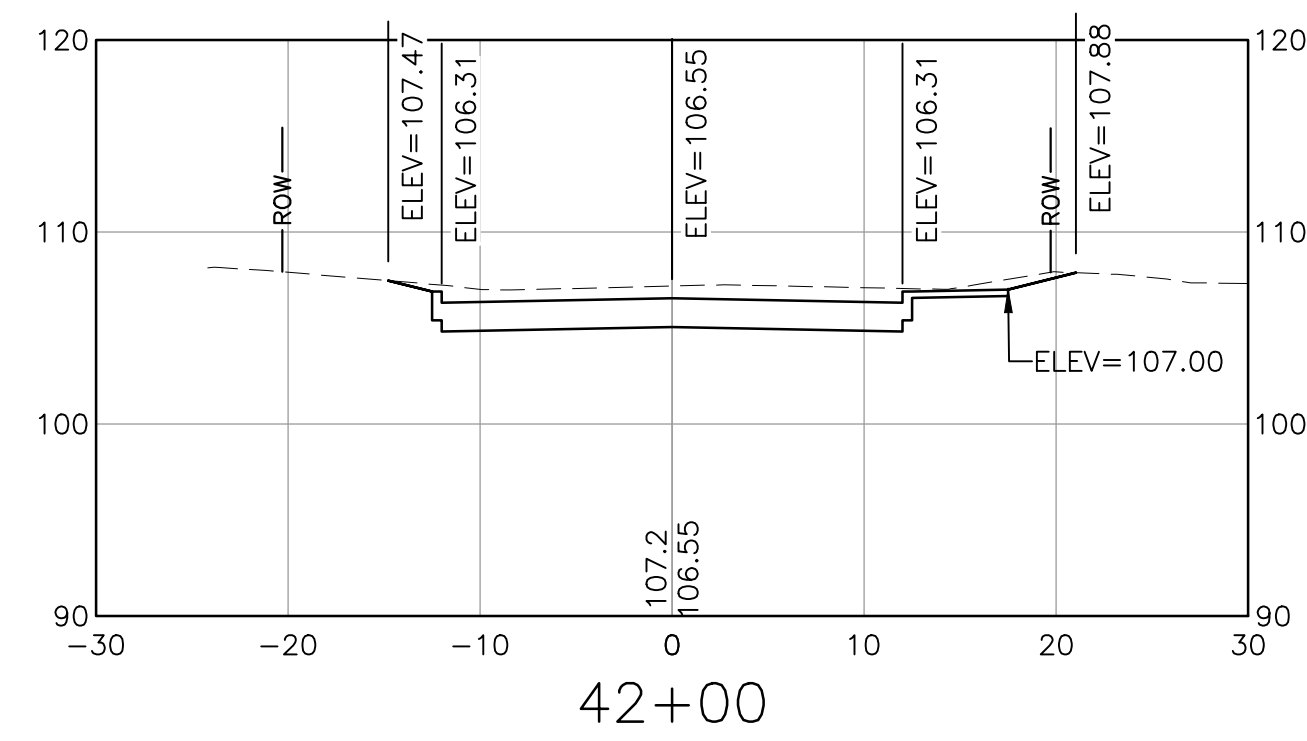
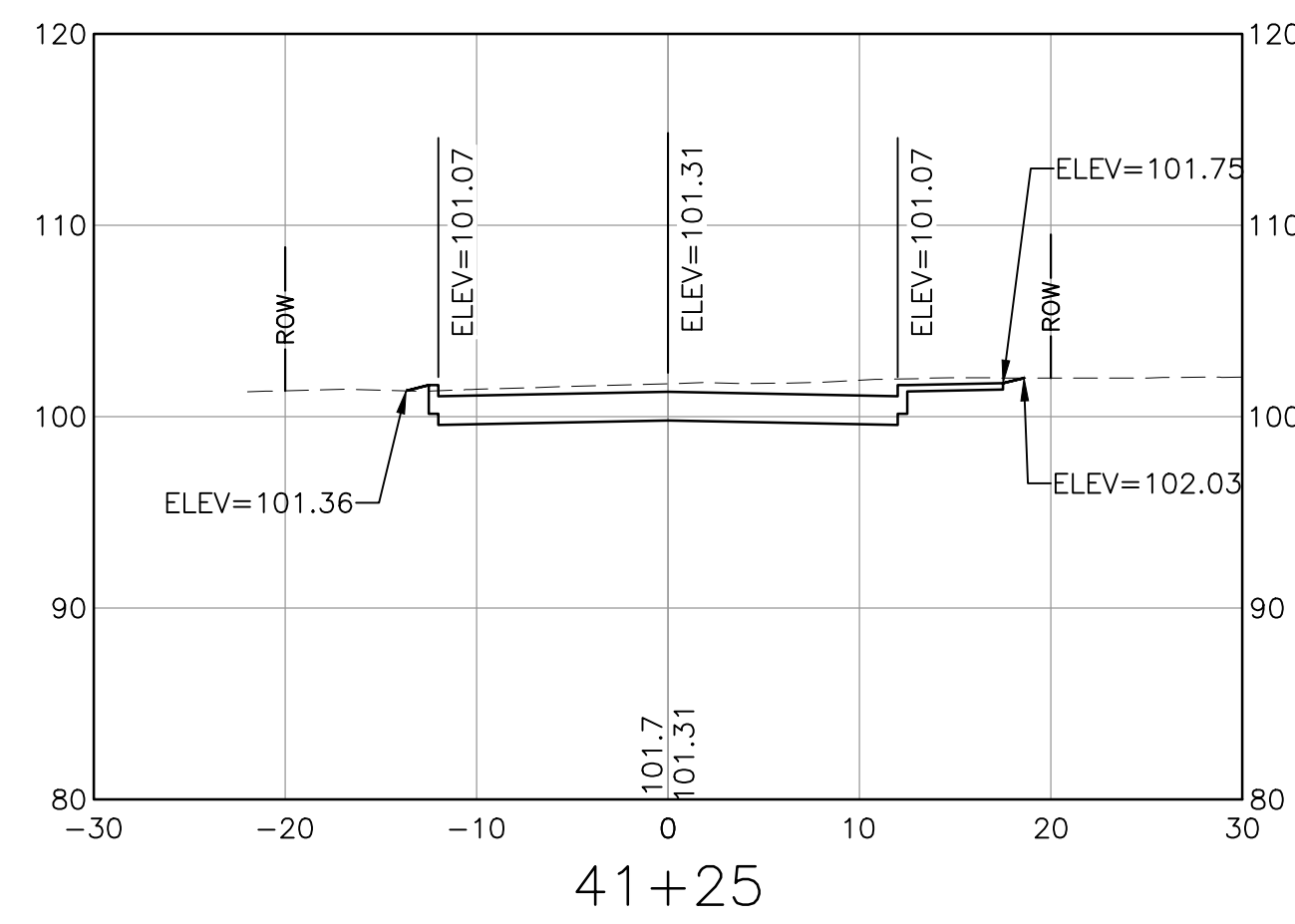
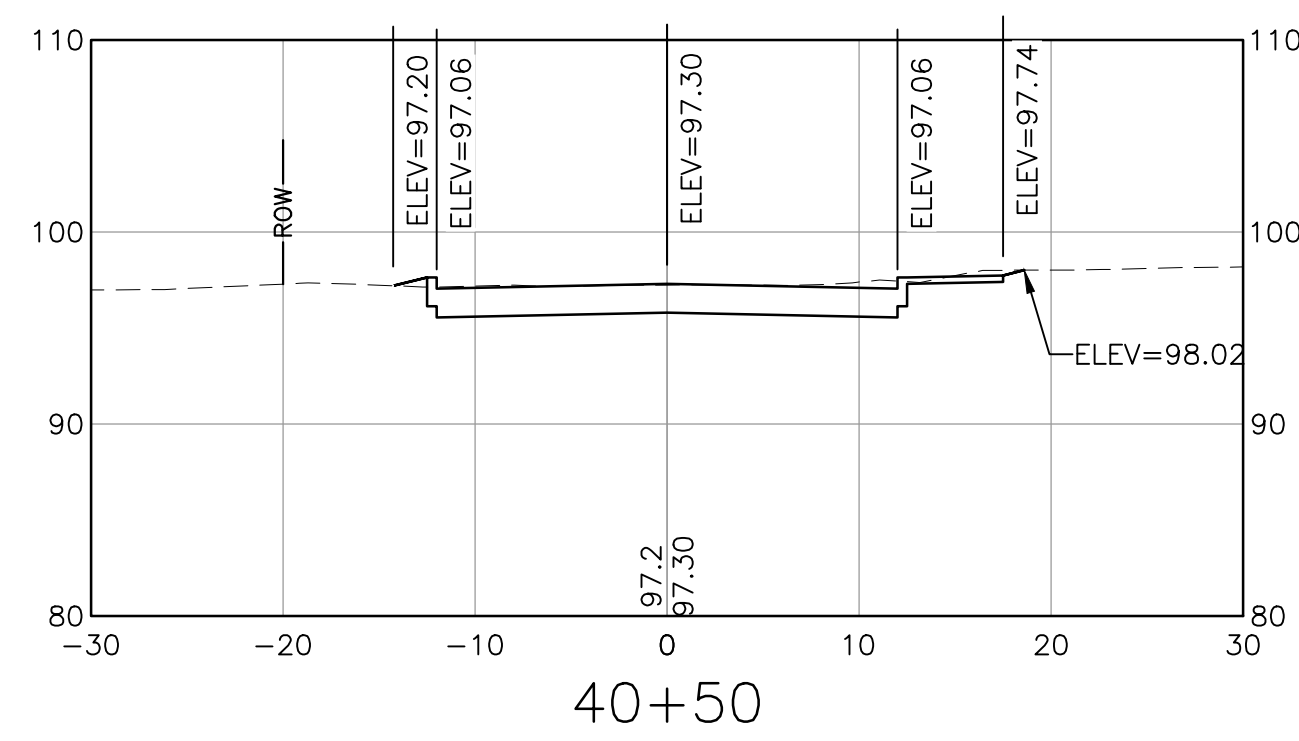
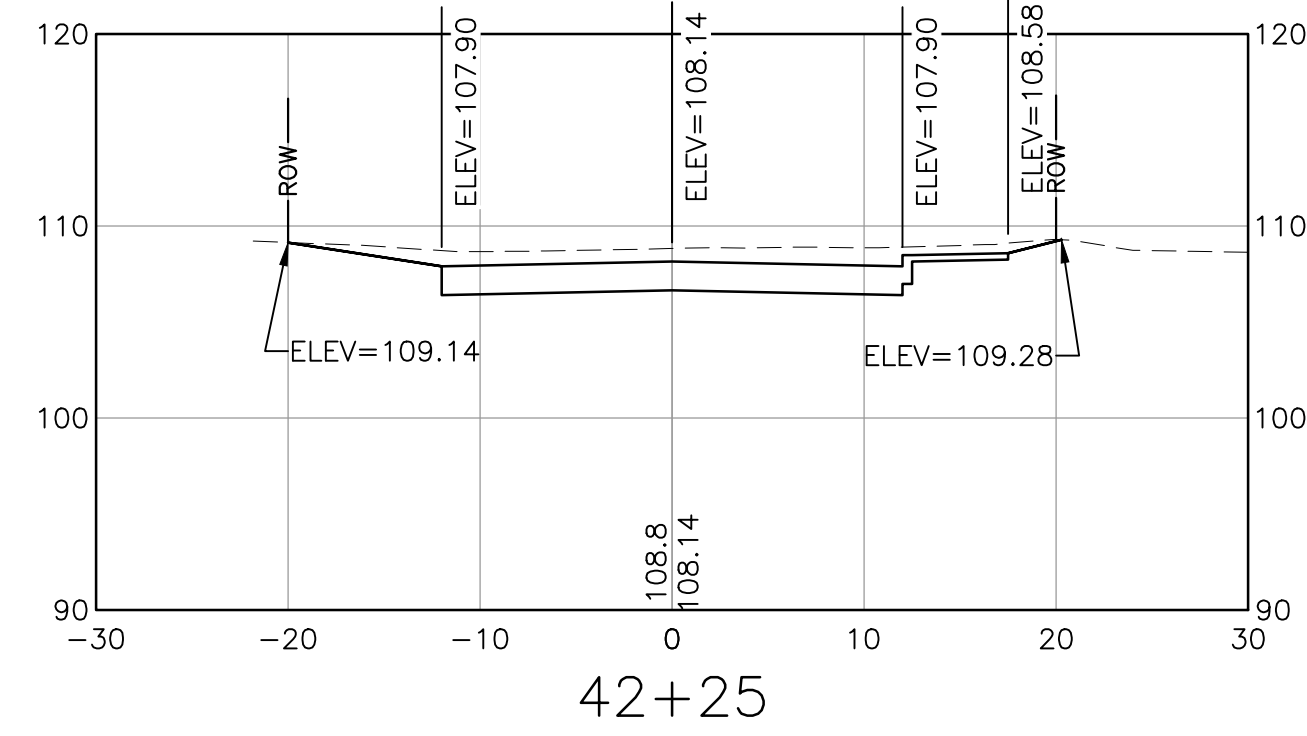
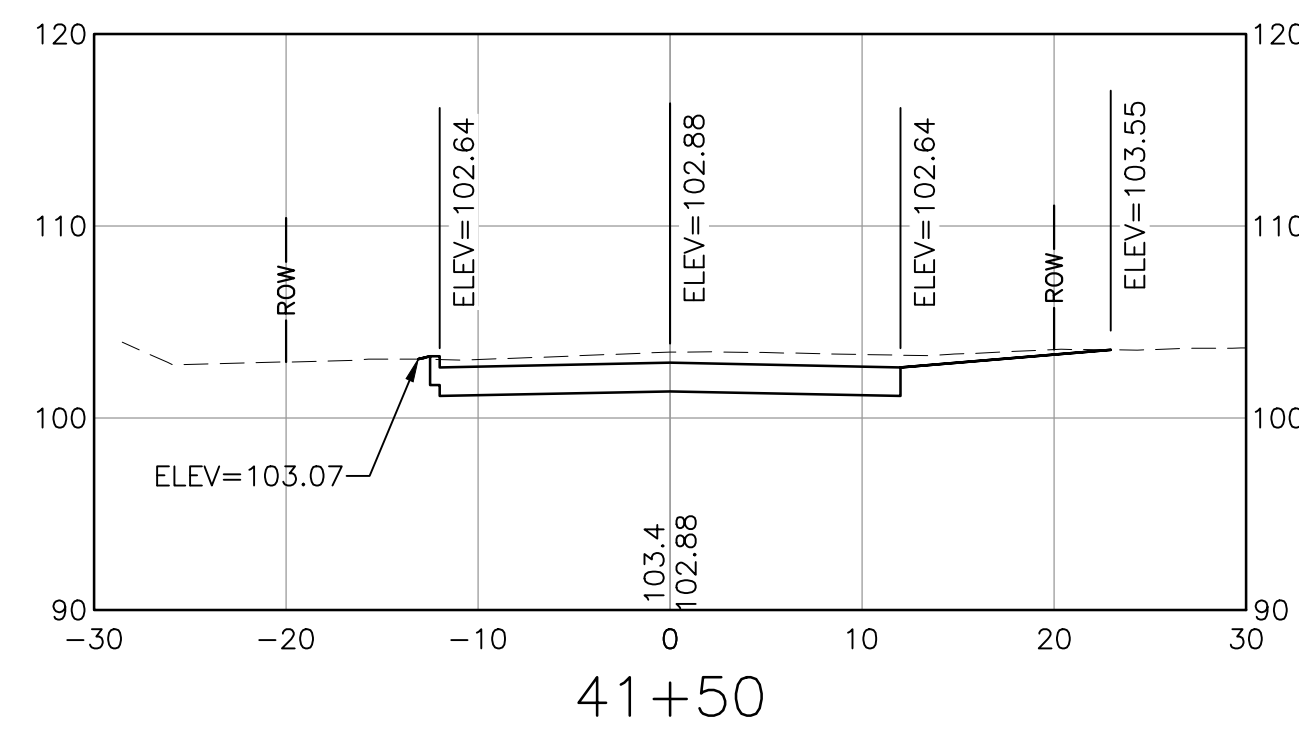
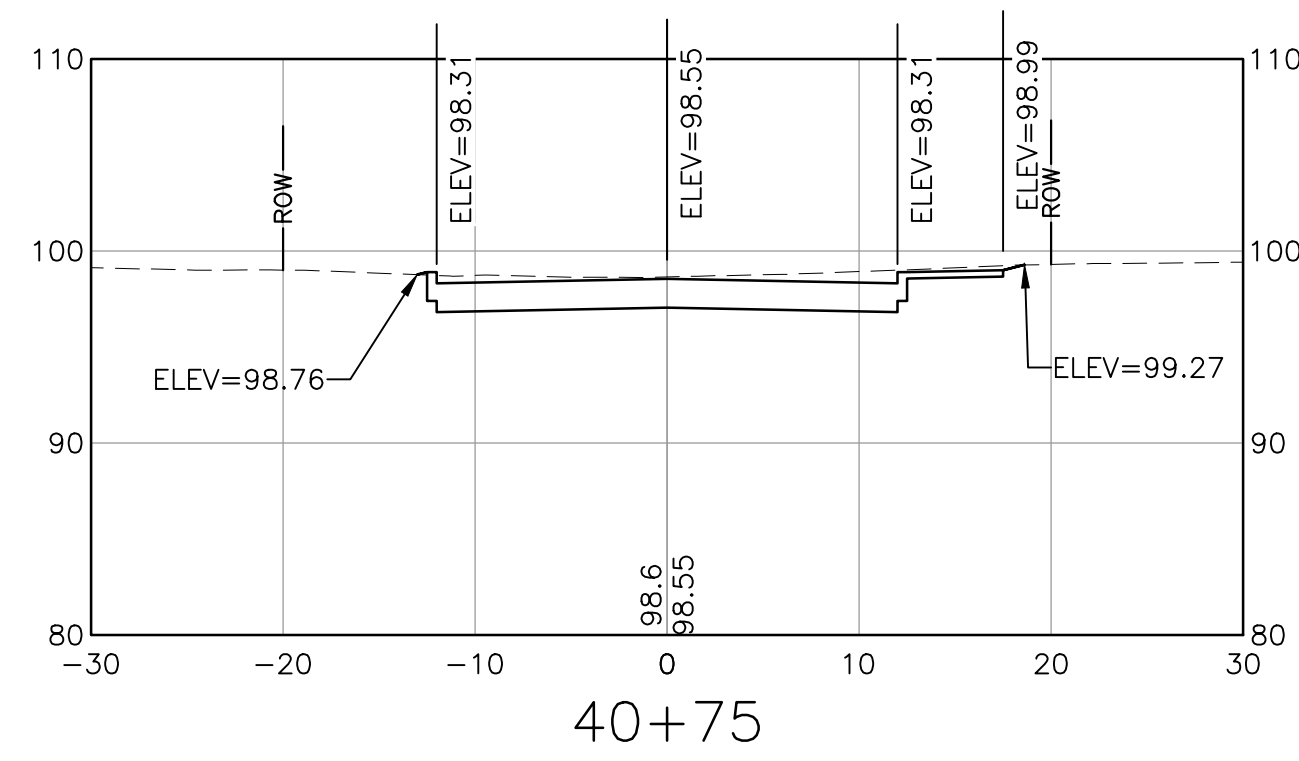
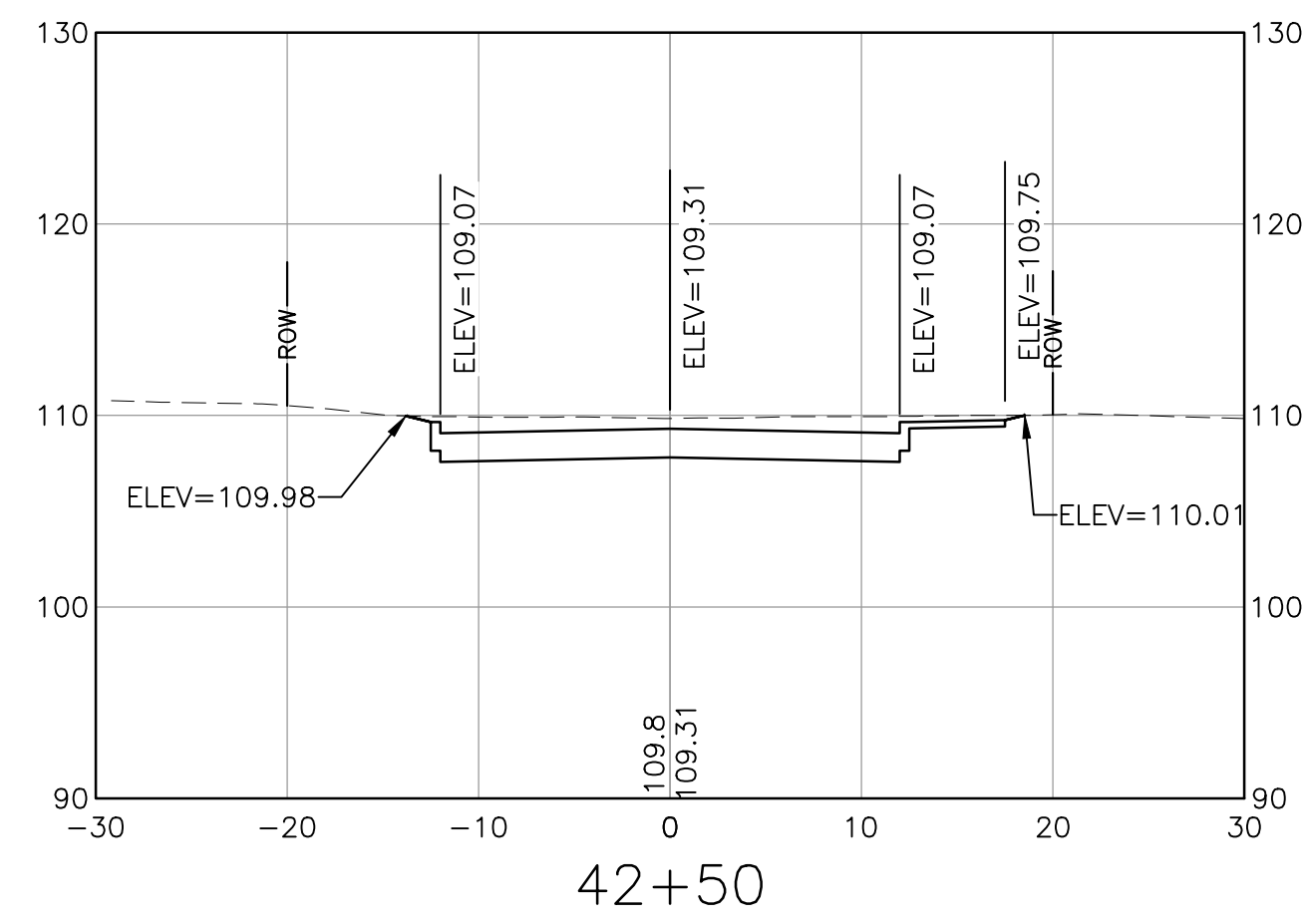
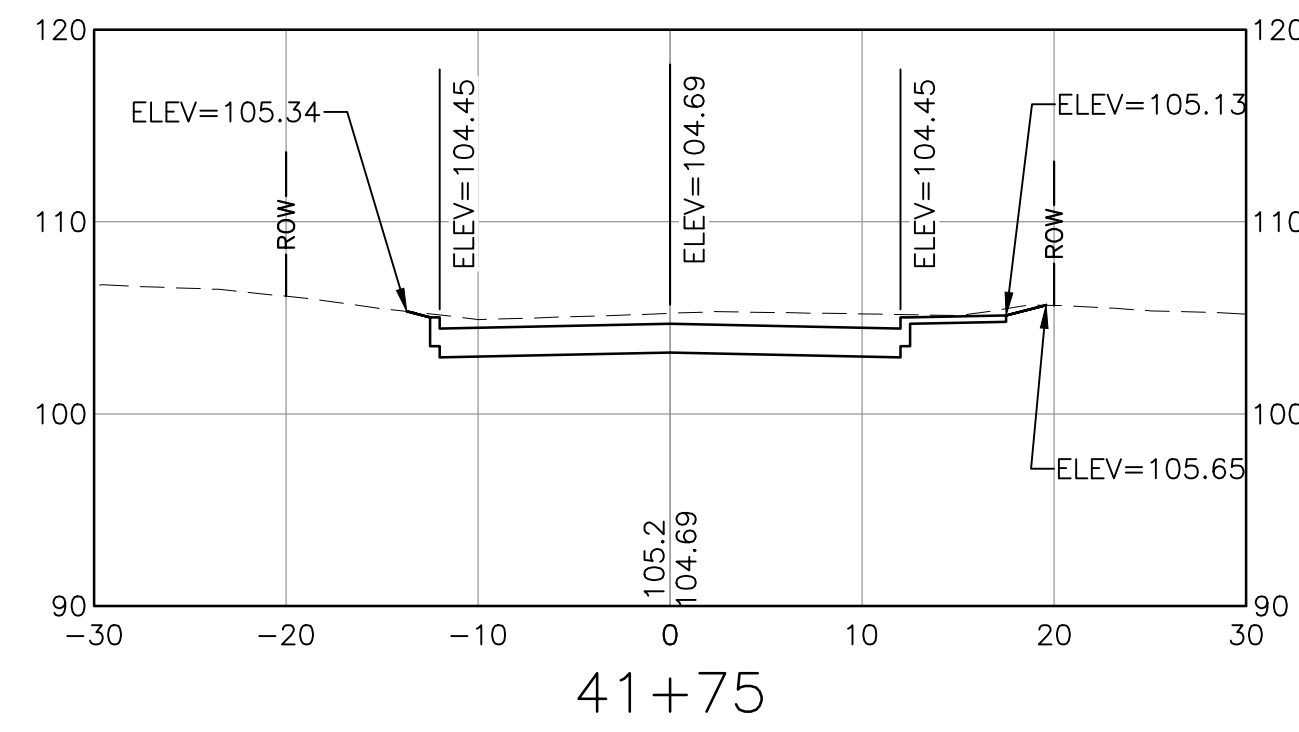
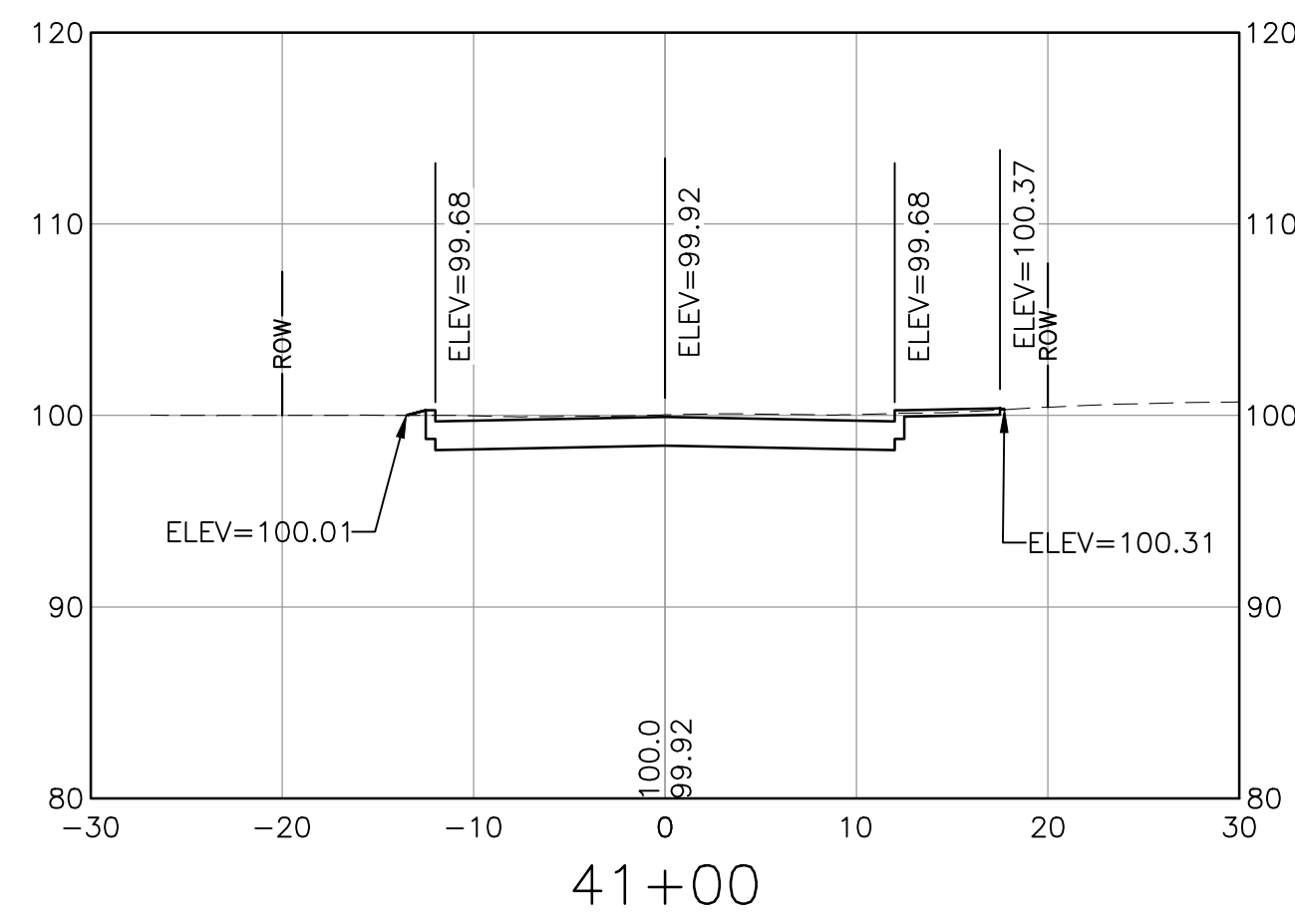
CITY OF DOVER
KEATING-
BIRCHWOOD AREA
RECONSTRUCTION

SHEET TITLE
**RENAUD AVE
CROSS SECTIONS
SHEET 12**

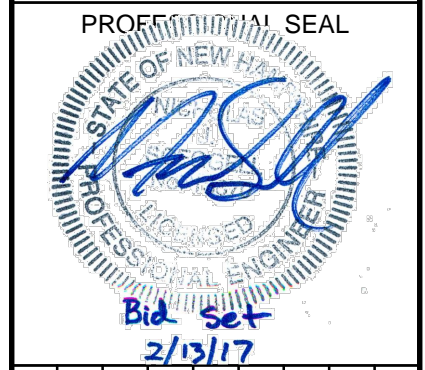
DRAWN BY KLL	DATE FEB 2017
CHECKED BY CKG	D&K PROJECT # 222952
PROJ. ENG. NJS	D&K ARCHIVE #

SHEET NUMBER

XS-12



NOTE:
SPOT ELEVATIONS PROVIDED DEPICT ELEVATIONS FOR ROADWAY CROWN,
BOTTOM OF CURB, BACK OF SIDEWALK, AND TIE-IN TO EXISTING GROUND.



NO.	DATE	DESCRIPTION	BY	CKD

CITY OF DOVER
288 CENTRAL AVE
DOVER, NH 03820

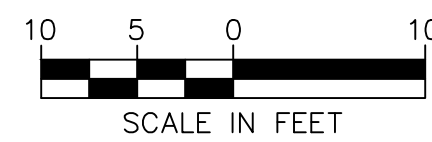
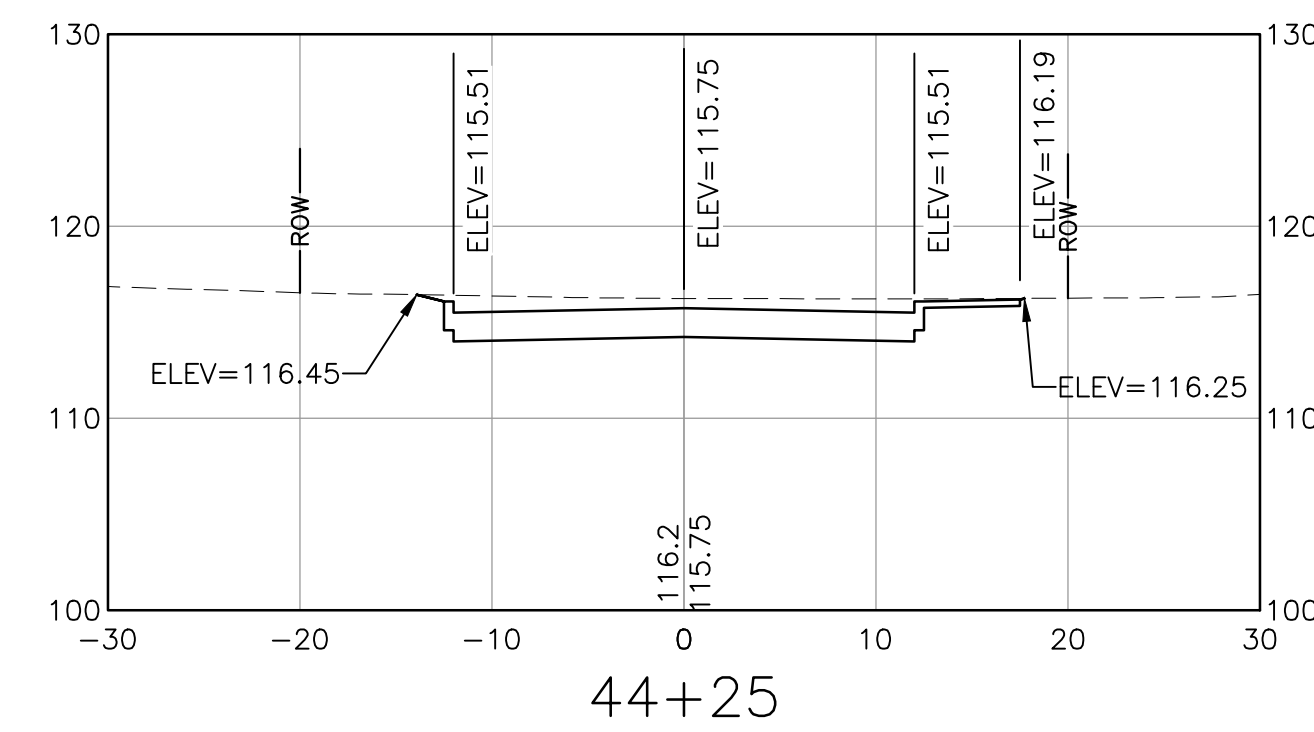
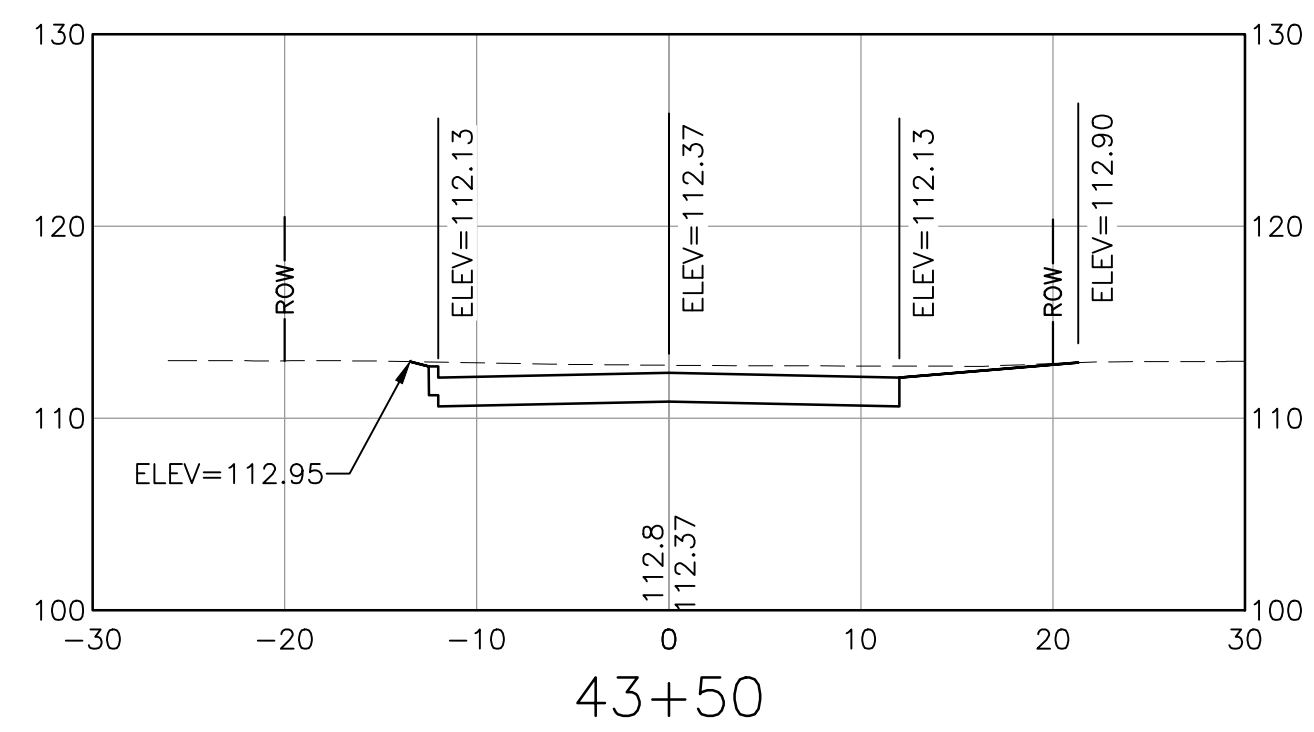
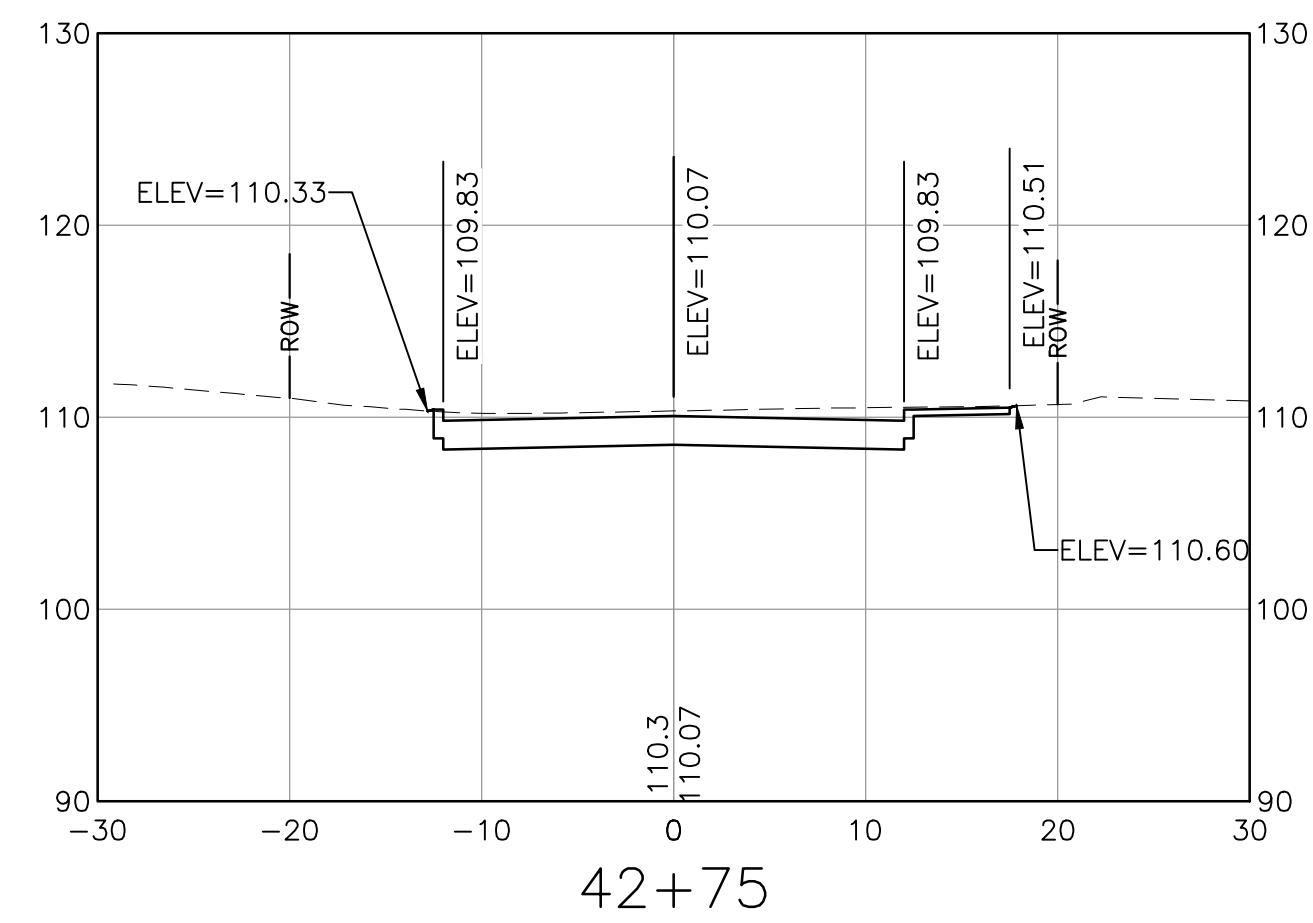
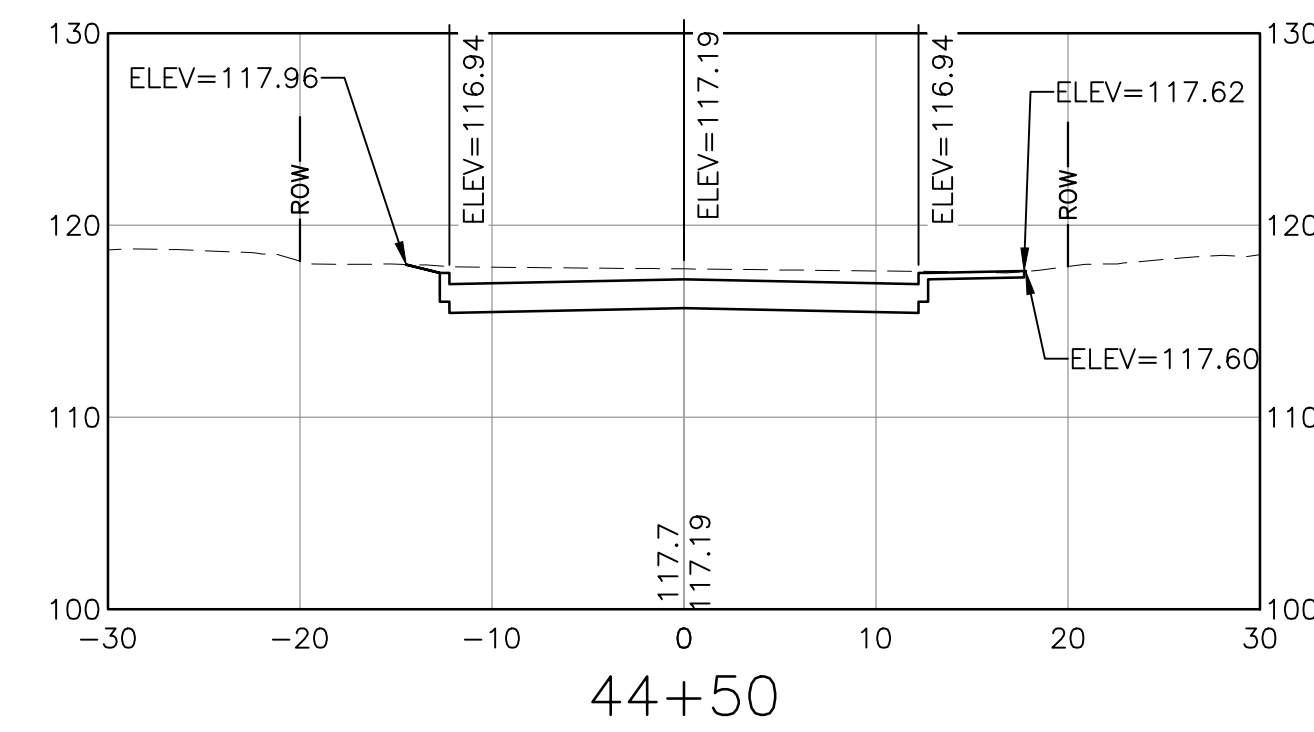
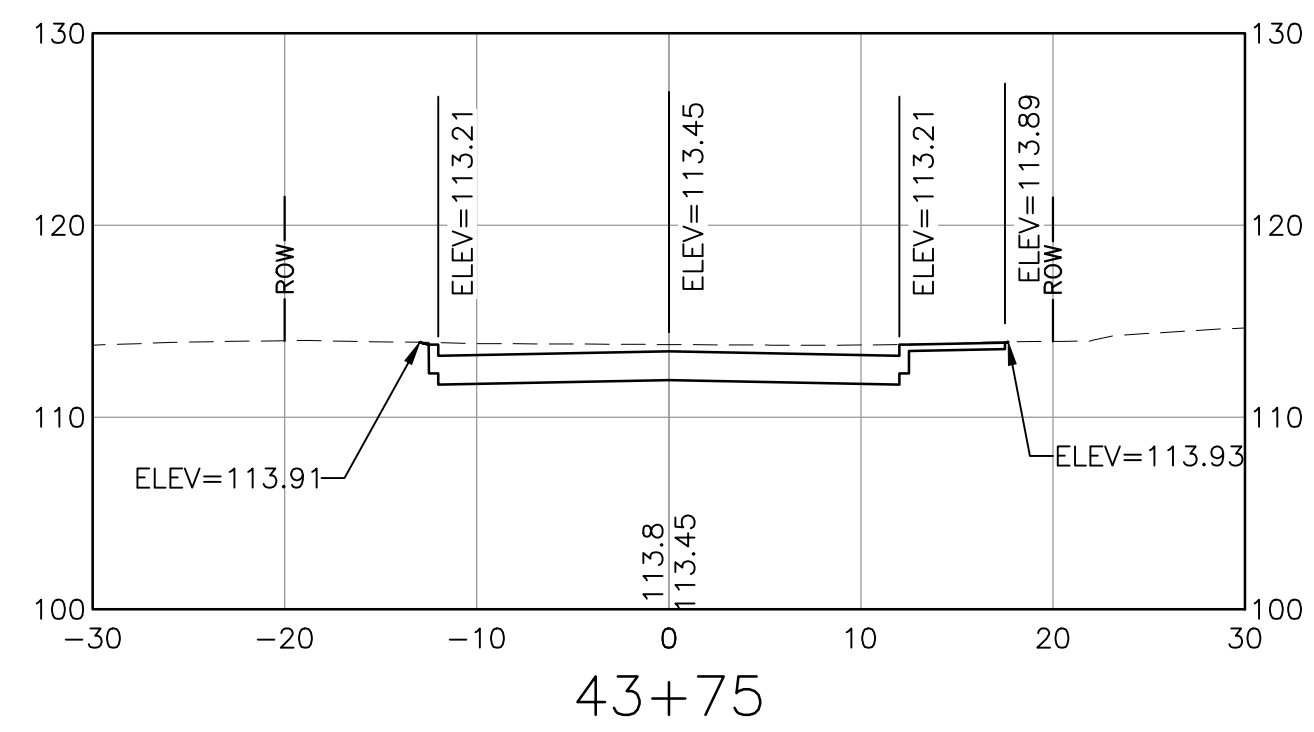
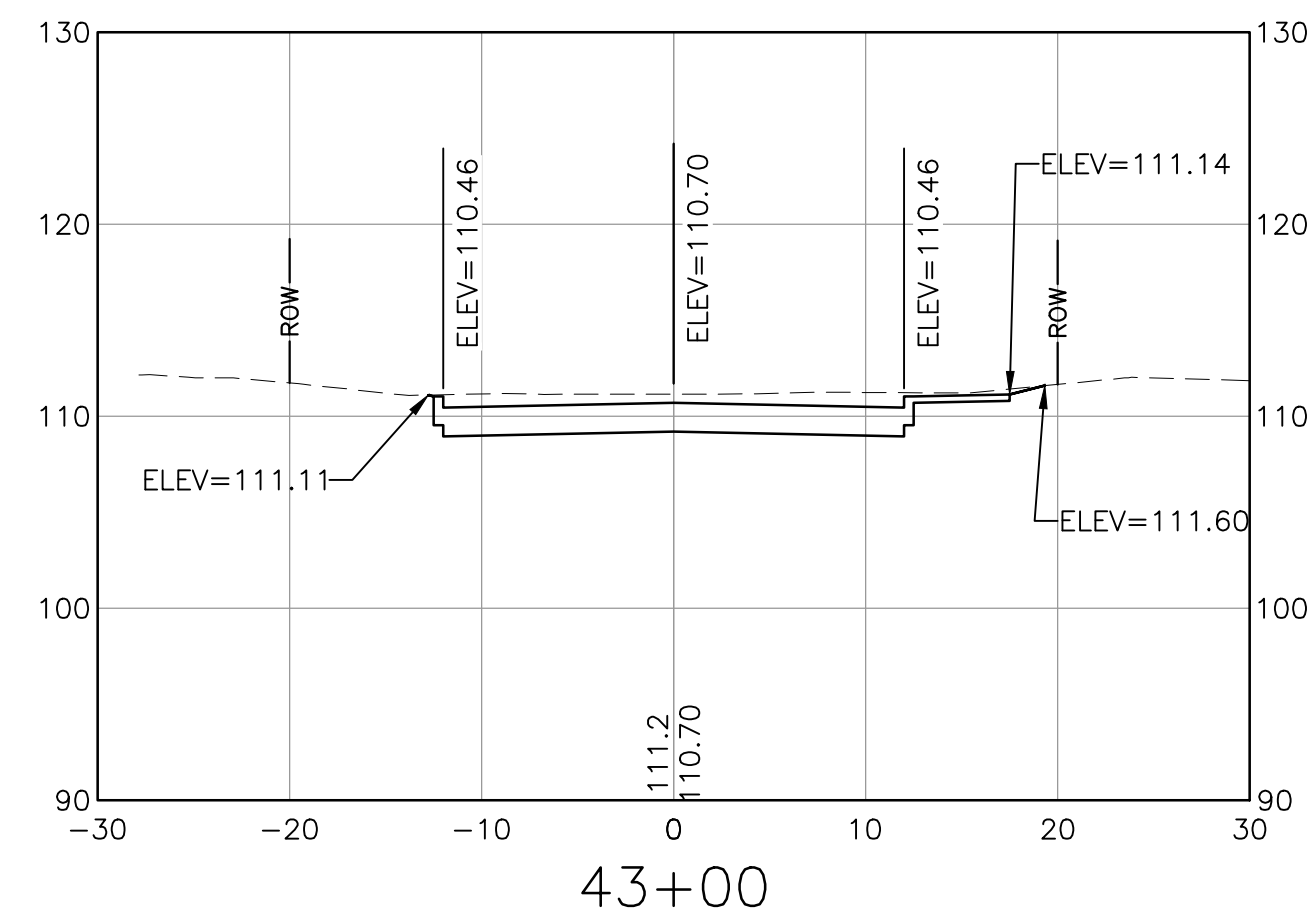
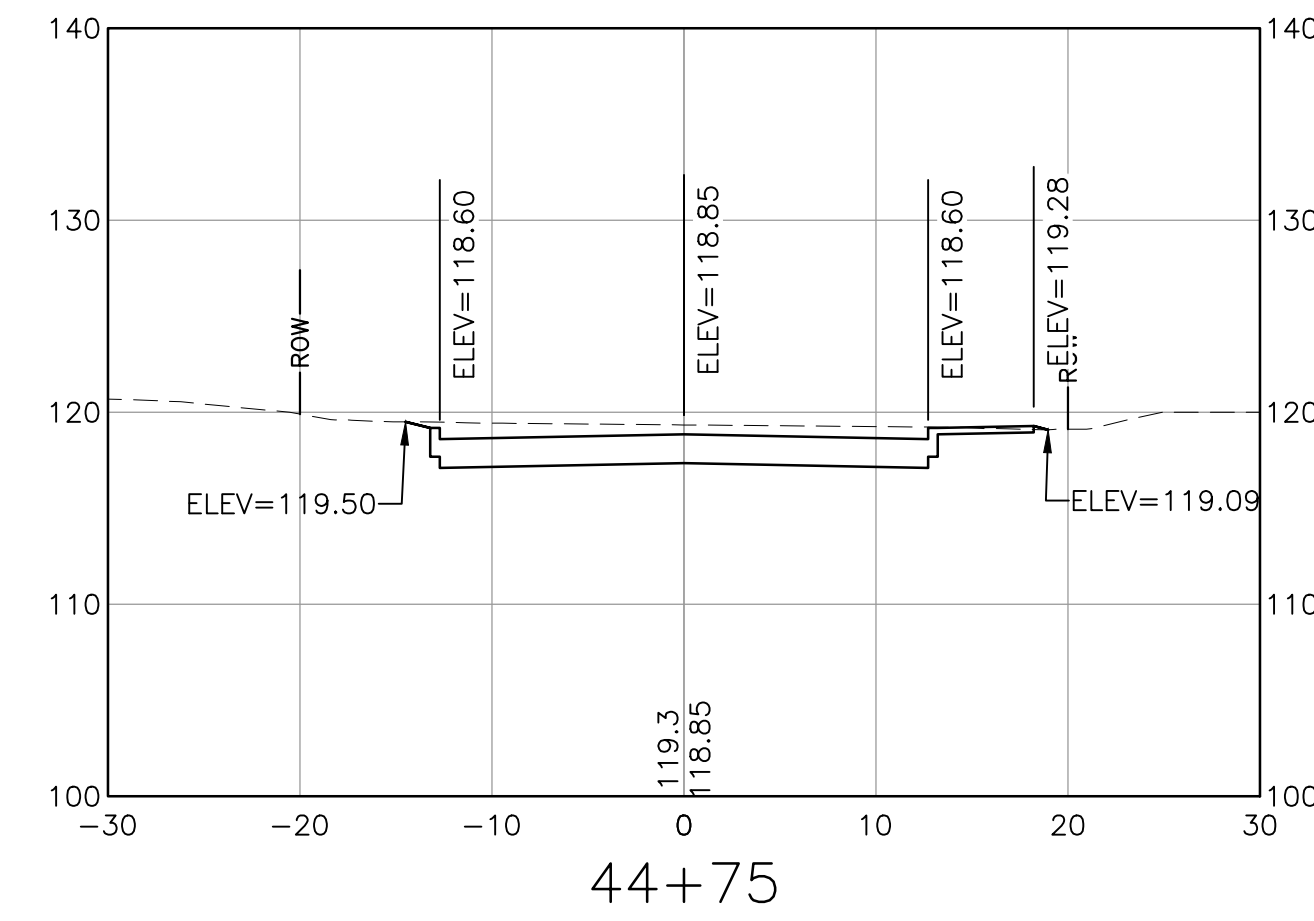
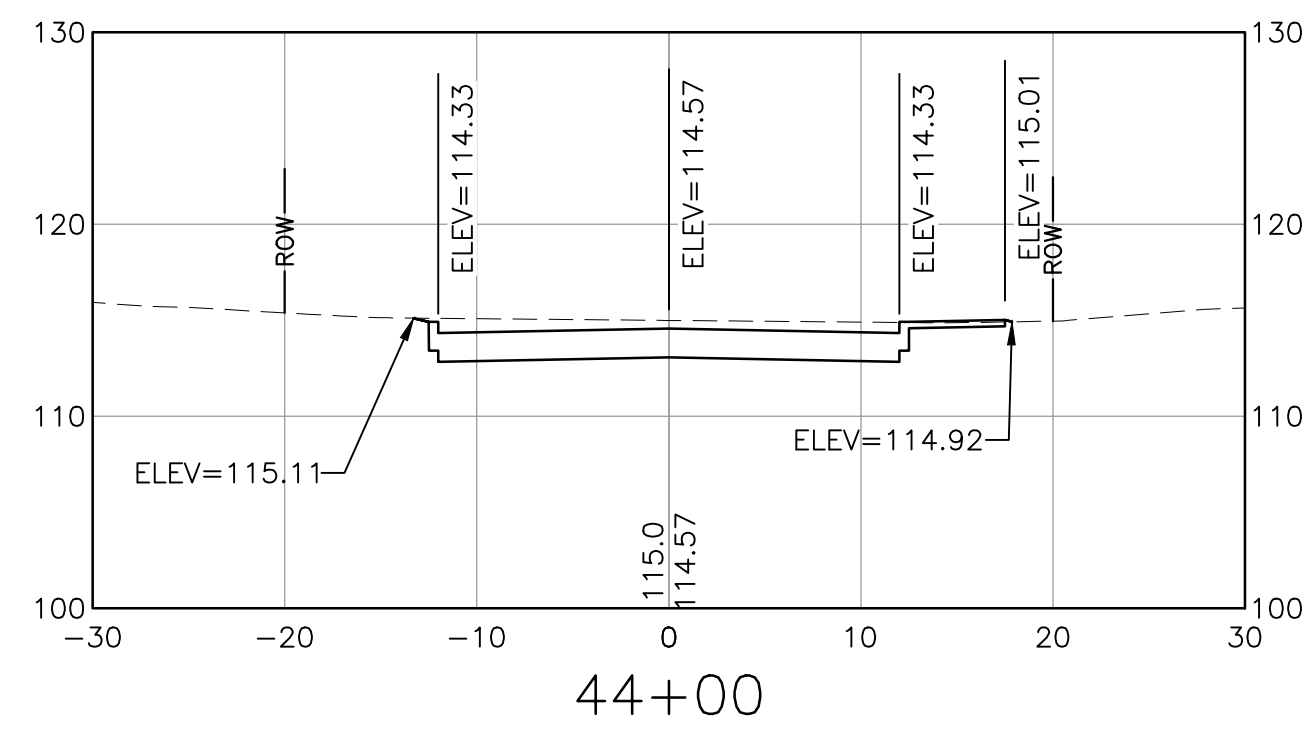
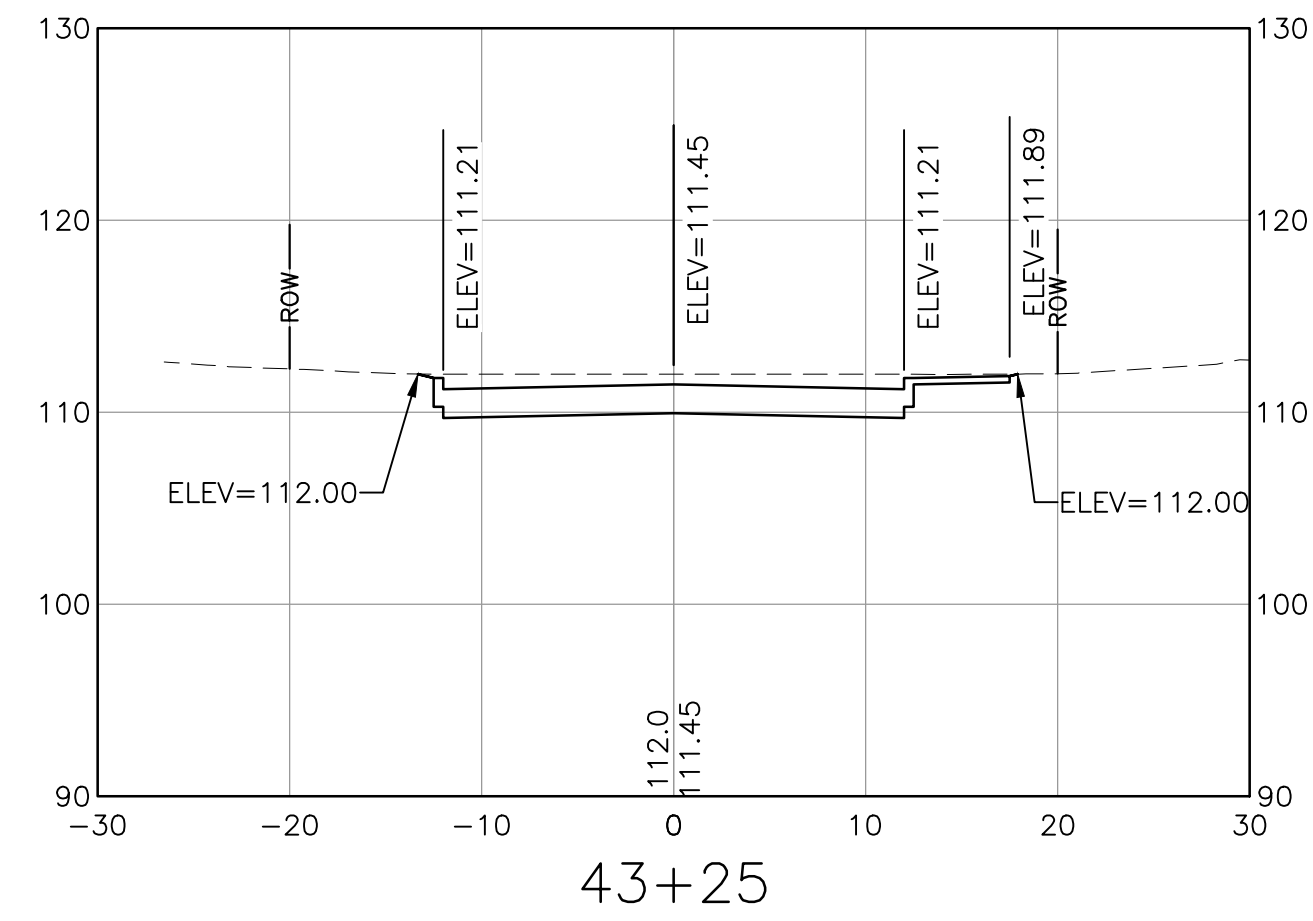
CITY OF DOVER
KEATING-
BIRCHWOOD AREA
RECONSTRUCTION

SHEET TITLE
**RENAUD AVE
CROSS SECTIONS
SHEET 13**

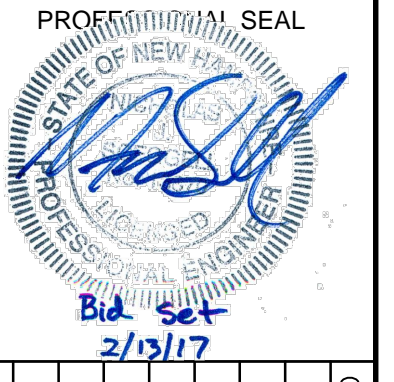
DRAWN BY KLL	DATE FEB 2017
CHECKED BY CKG	D&K PROJECT # 222952
PROJ. ENG. NJS	D&K ARCHIVE #

SHEET NUMBER

XS-13



NOTE:
SPOT ELEVATIONS PROVIDED DEPICT ELEVATIONS FOR ROADWAY CROWN,
BOTTOM OF CURB, BACK OF SIDEWALK, AND TIE-IN TO EXISTING GROUND.



NO.	DATE	DESCRIPTION	BY	CK'D

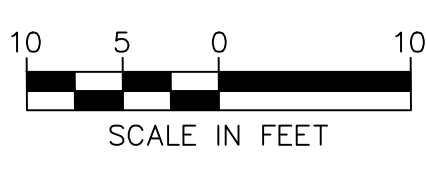
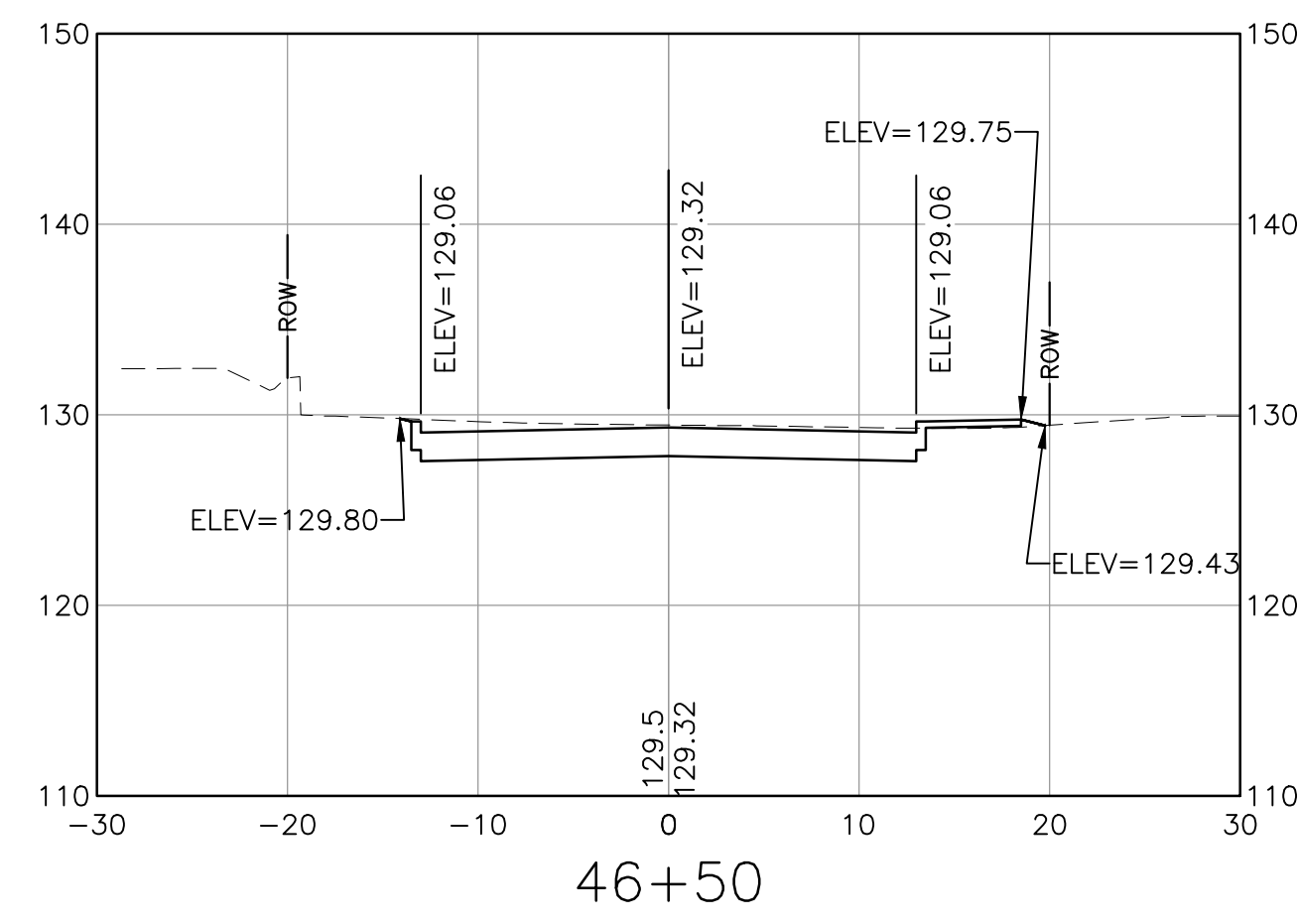
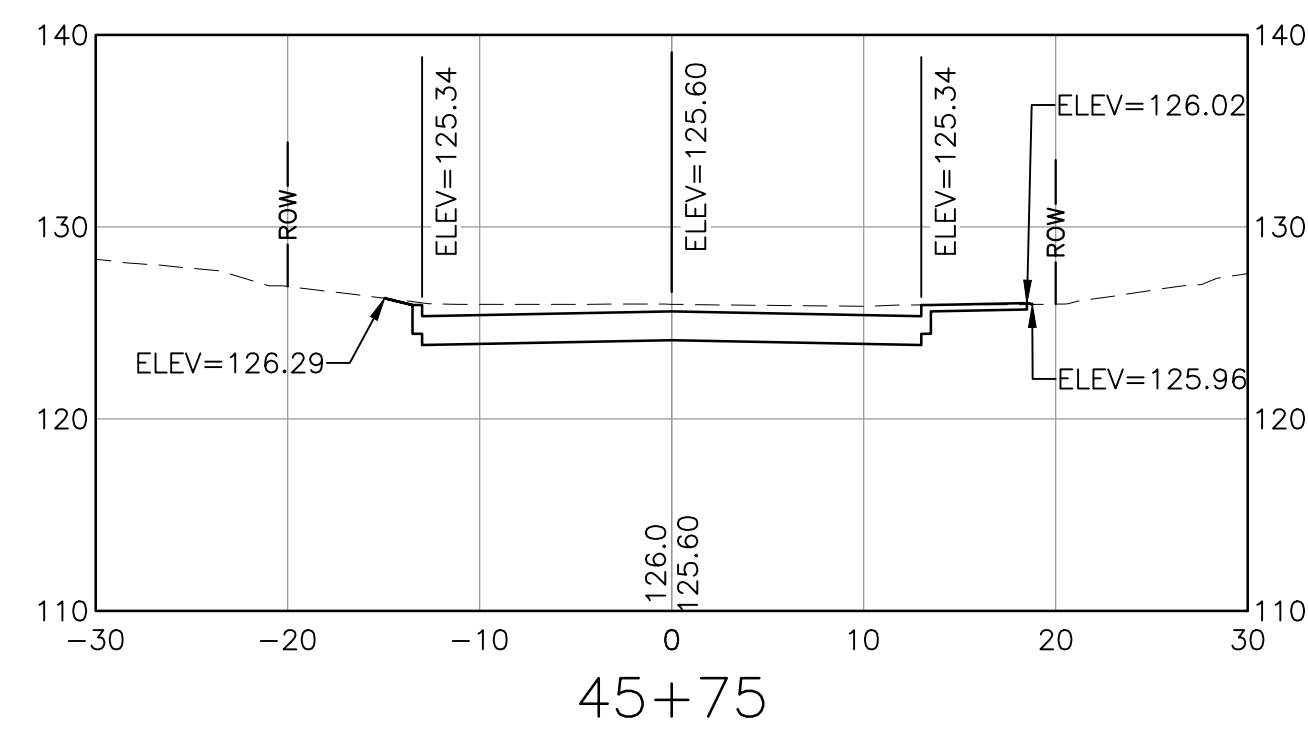
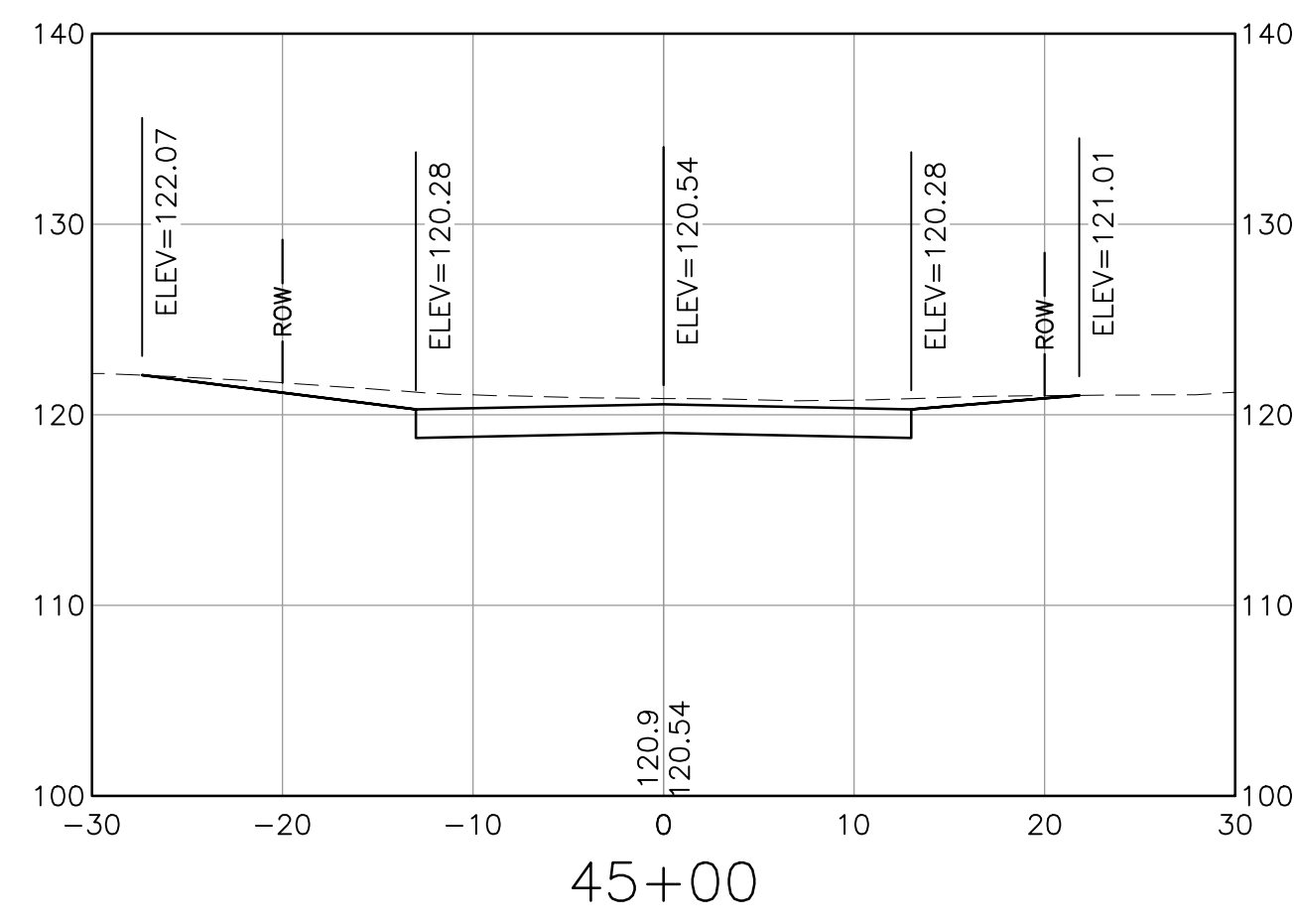
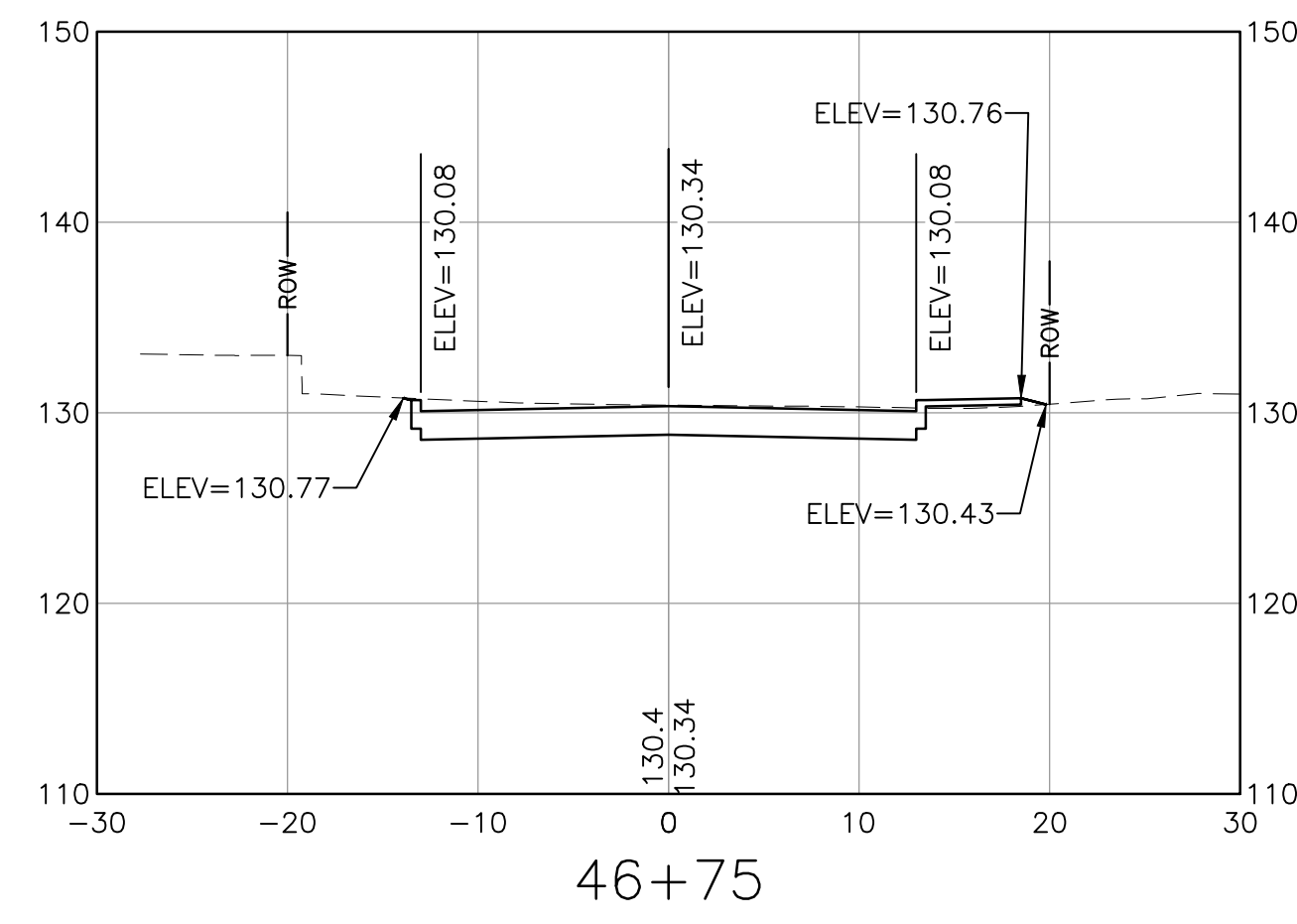
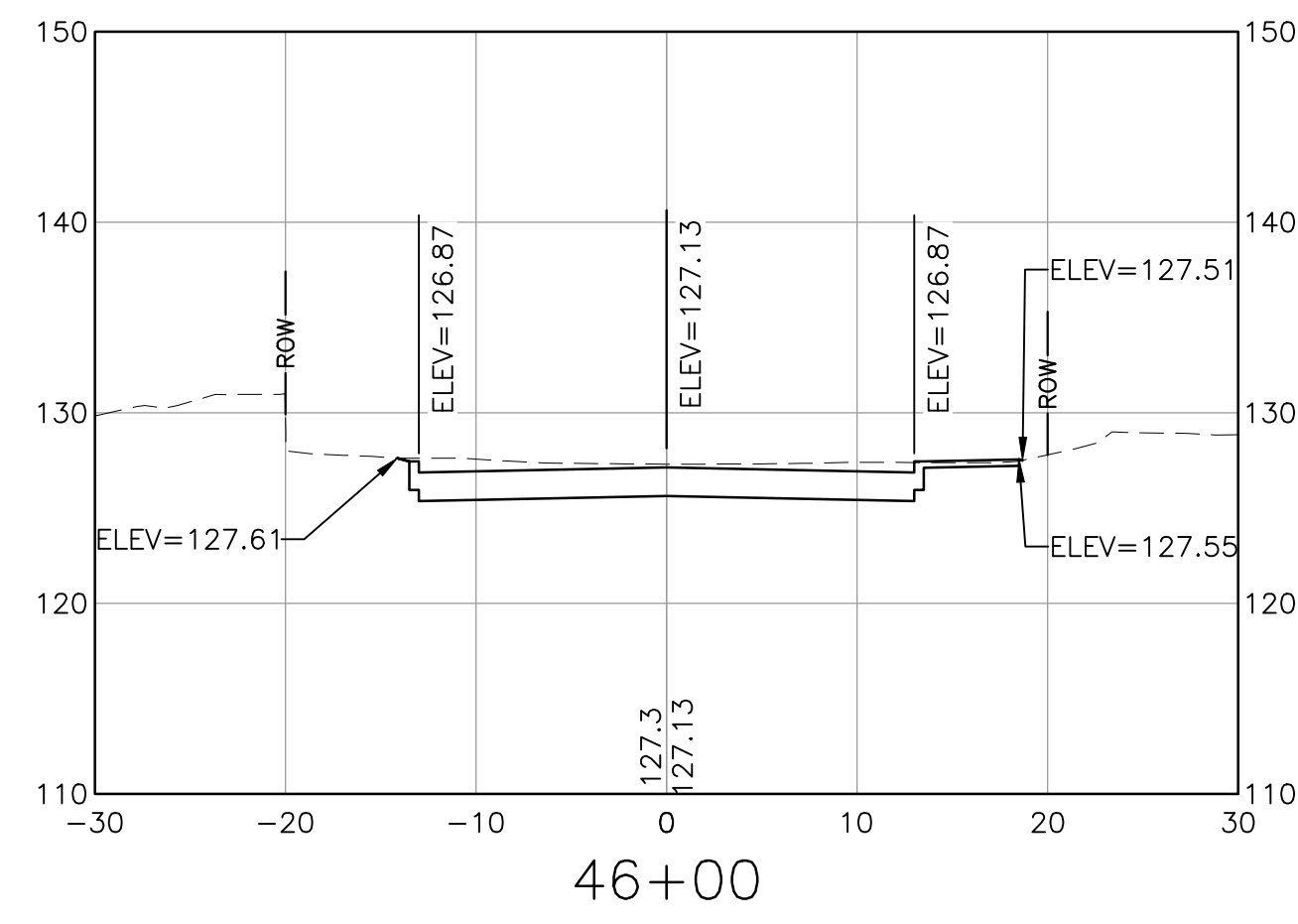
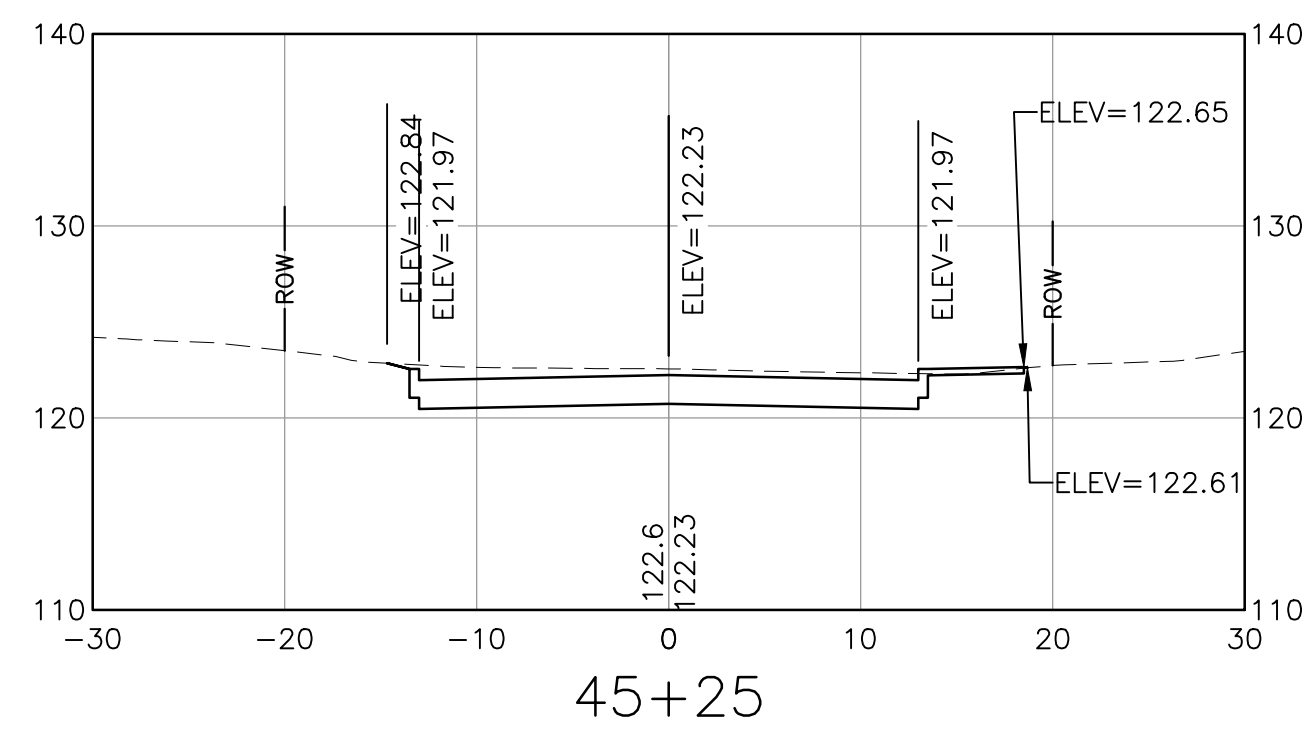
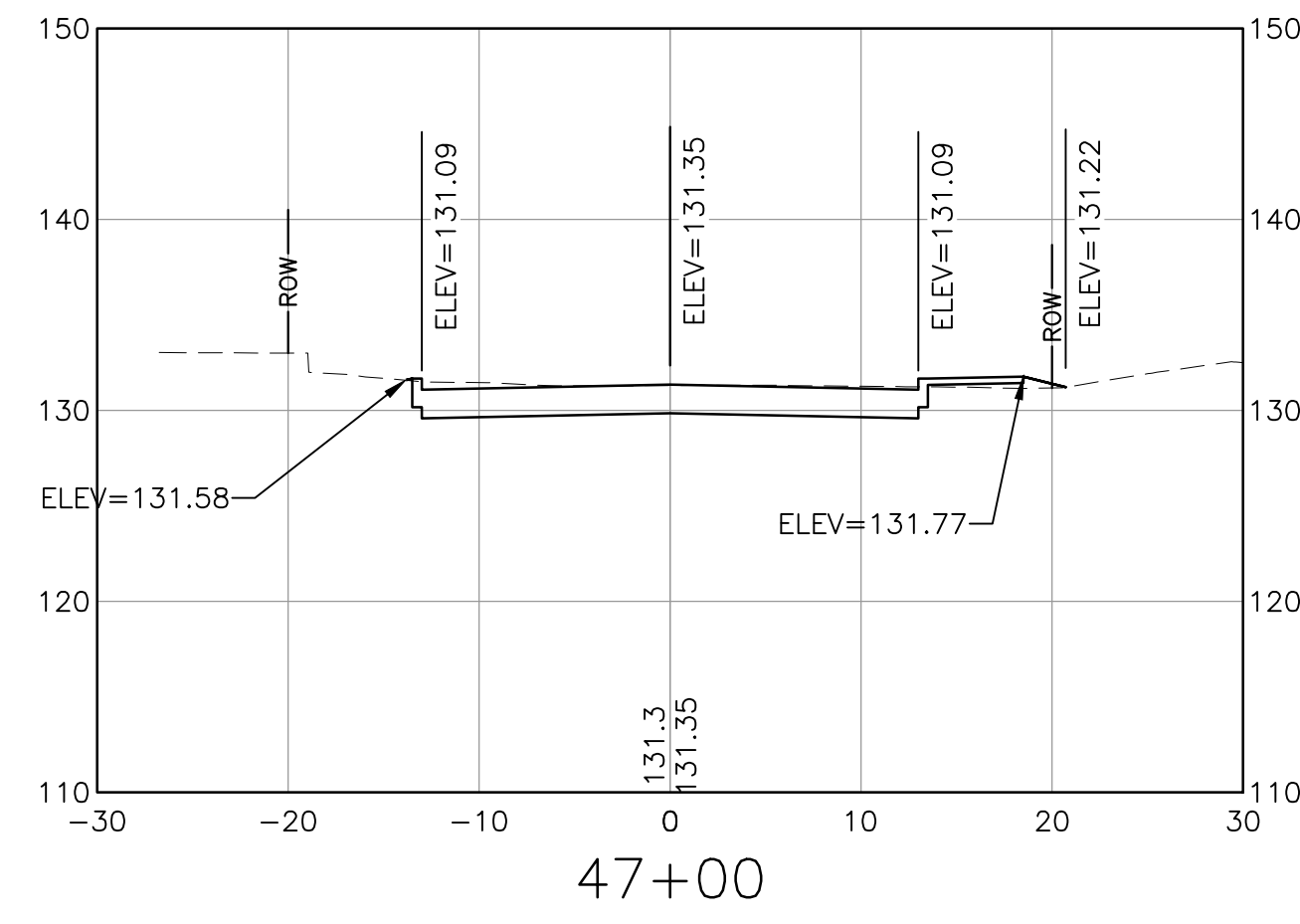
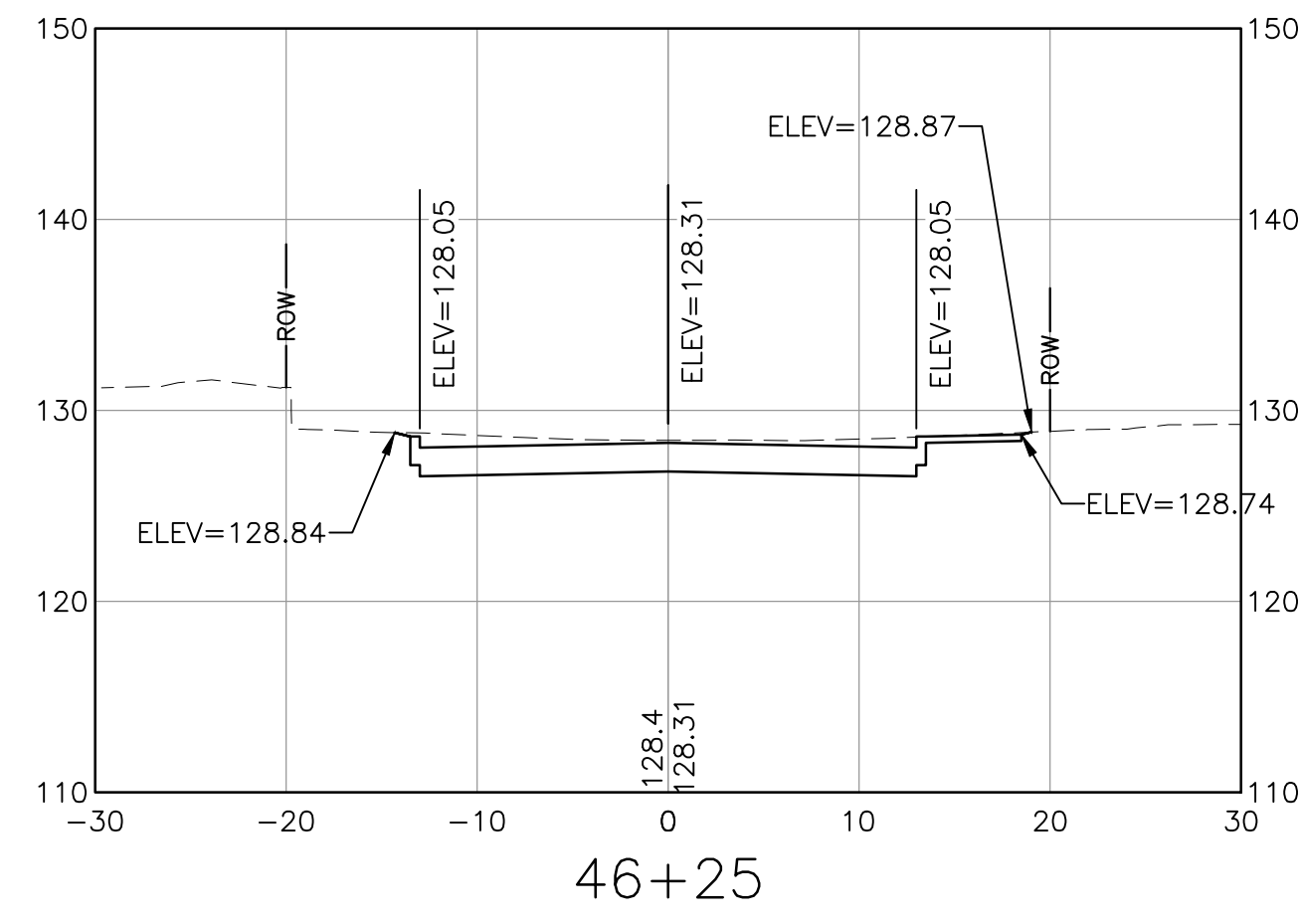
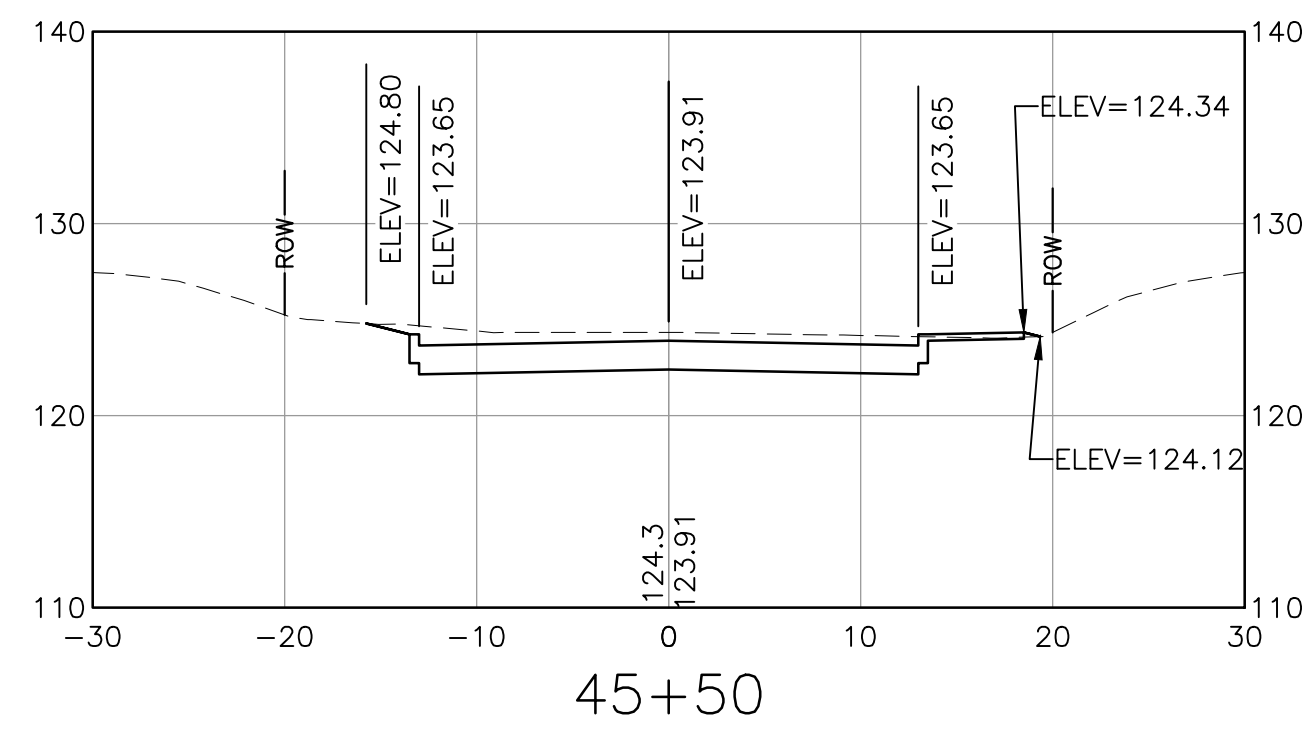
CITY OF DOVER
288 CENTRAL AVE
DOVER, NH 03820

CITY OF DOVER
KEATING-
BIRCHWOOD AREA
RECONSTRUCTION

SHEET TITLE
RENAUD AVE
CROSS SECTIONS
SHEET 14

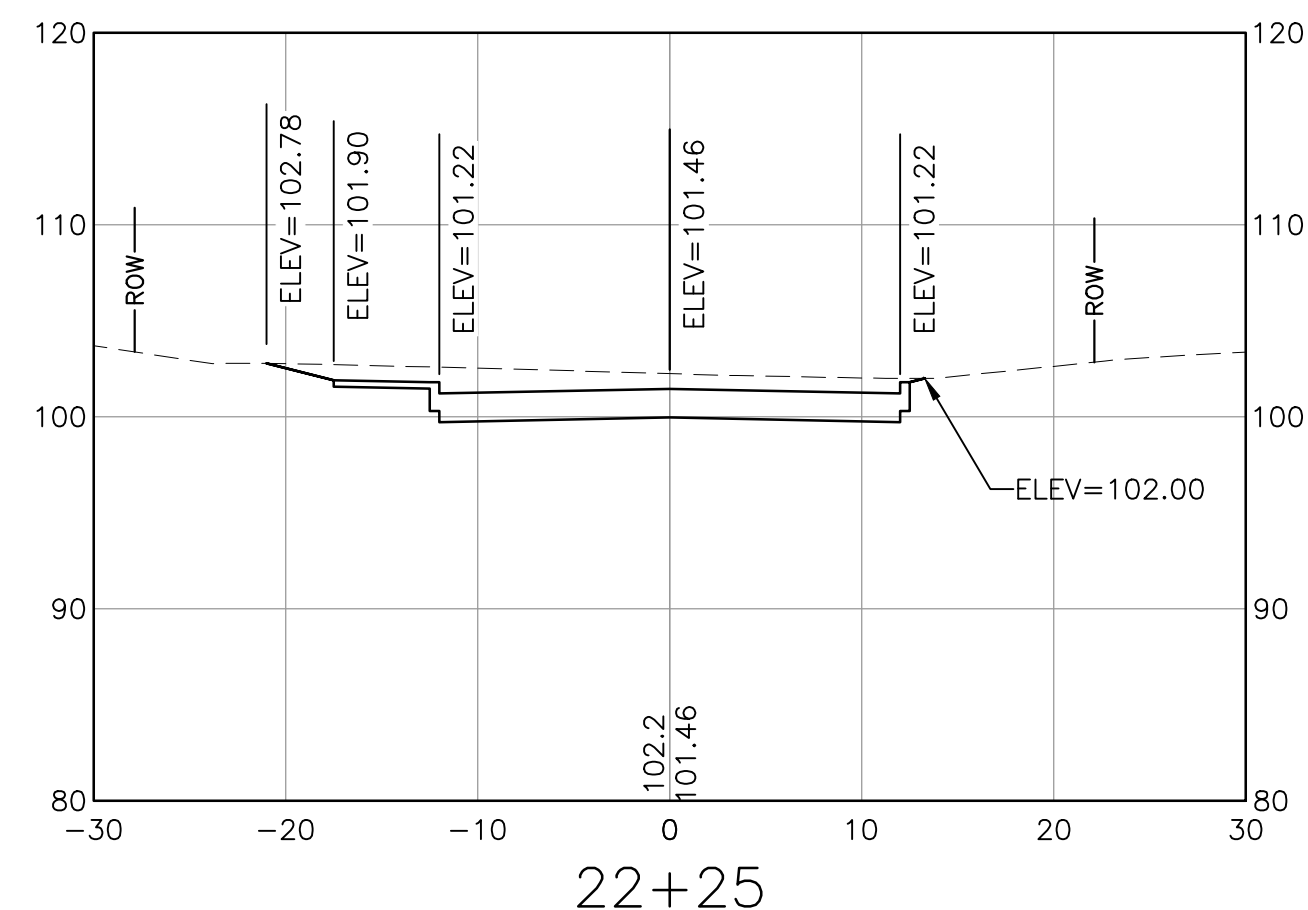
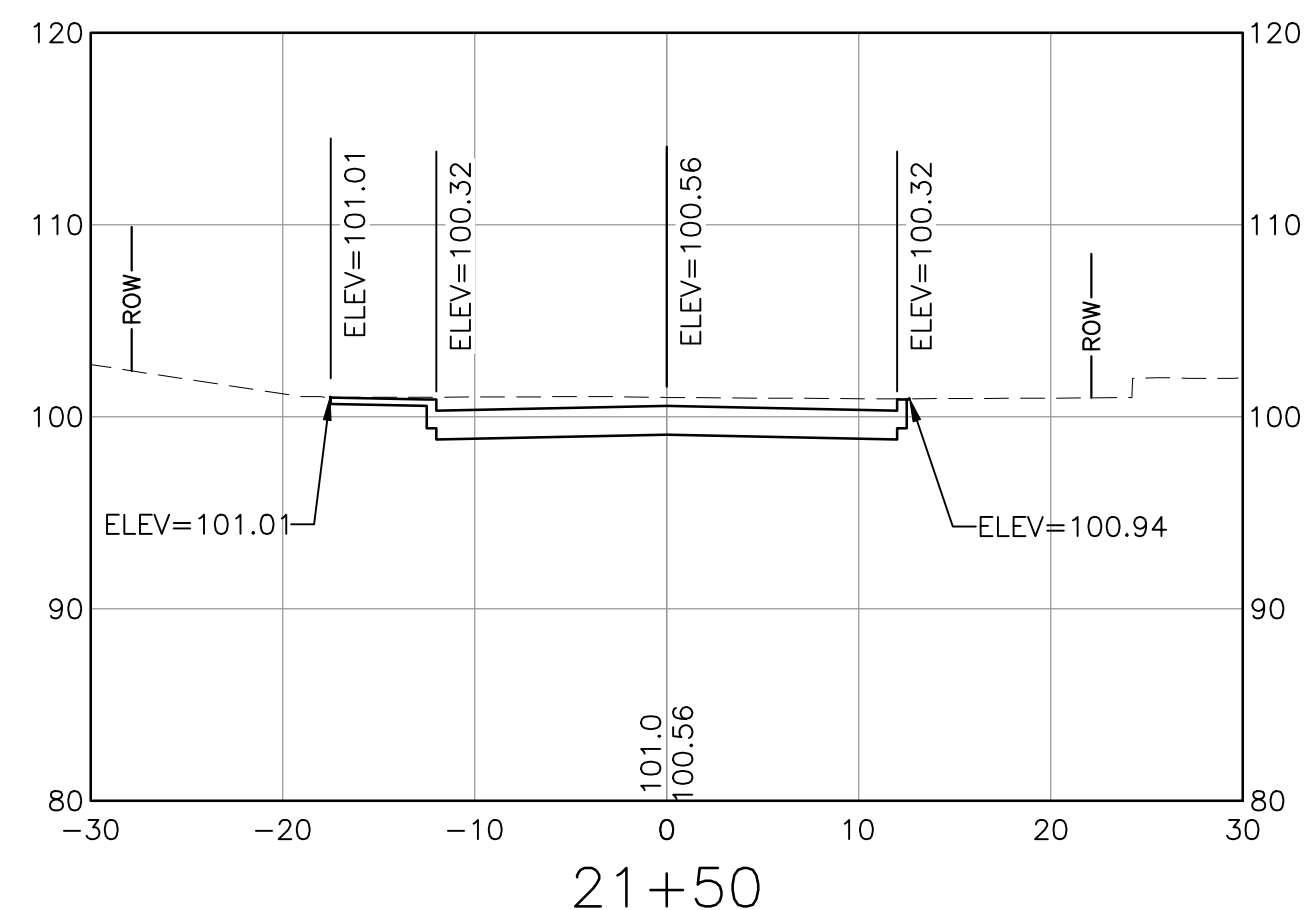
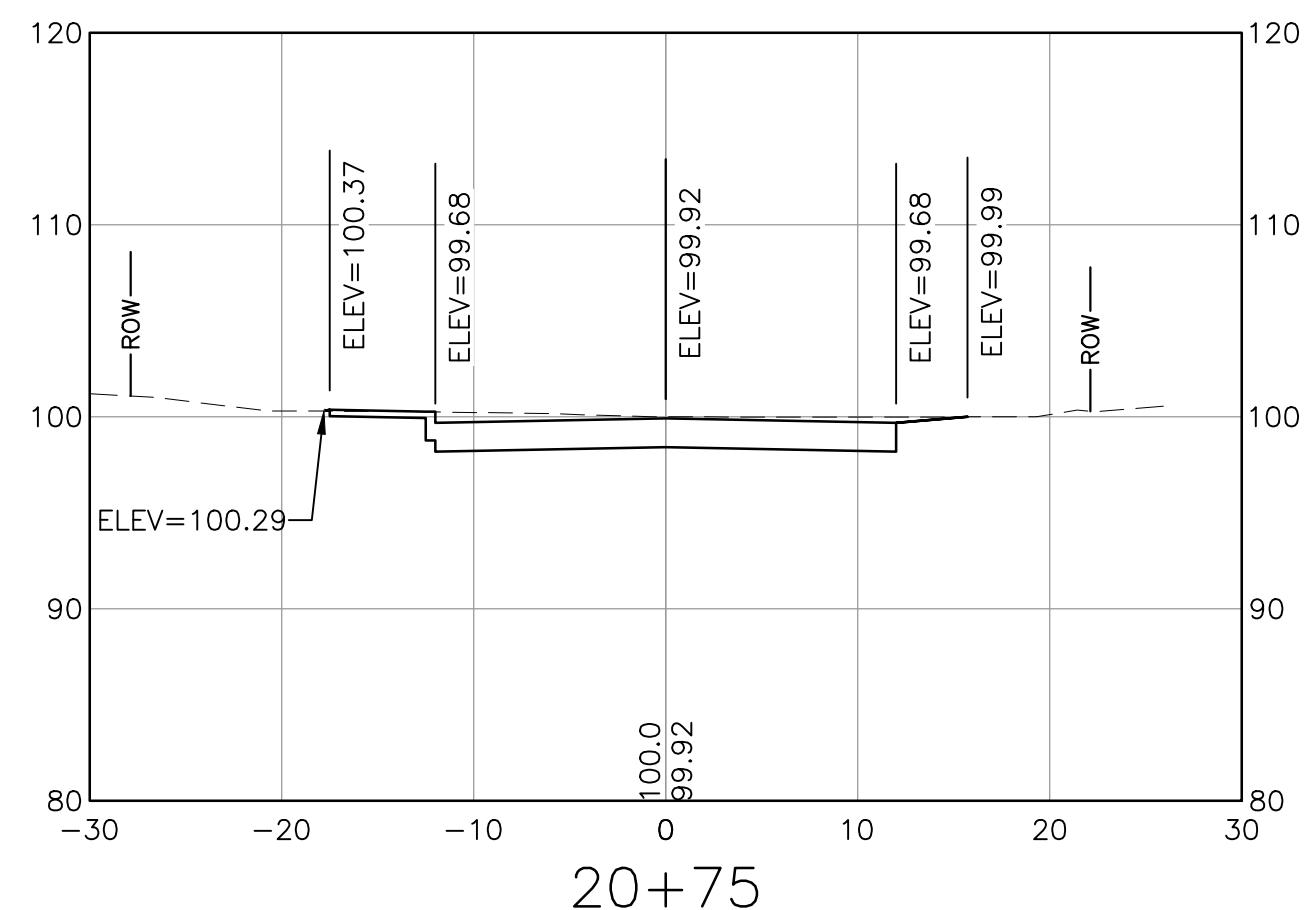
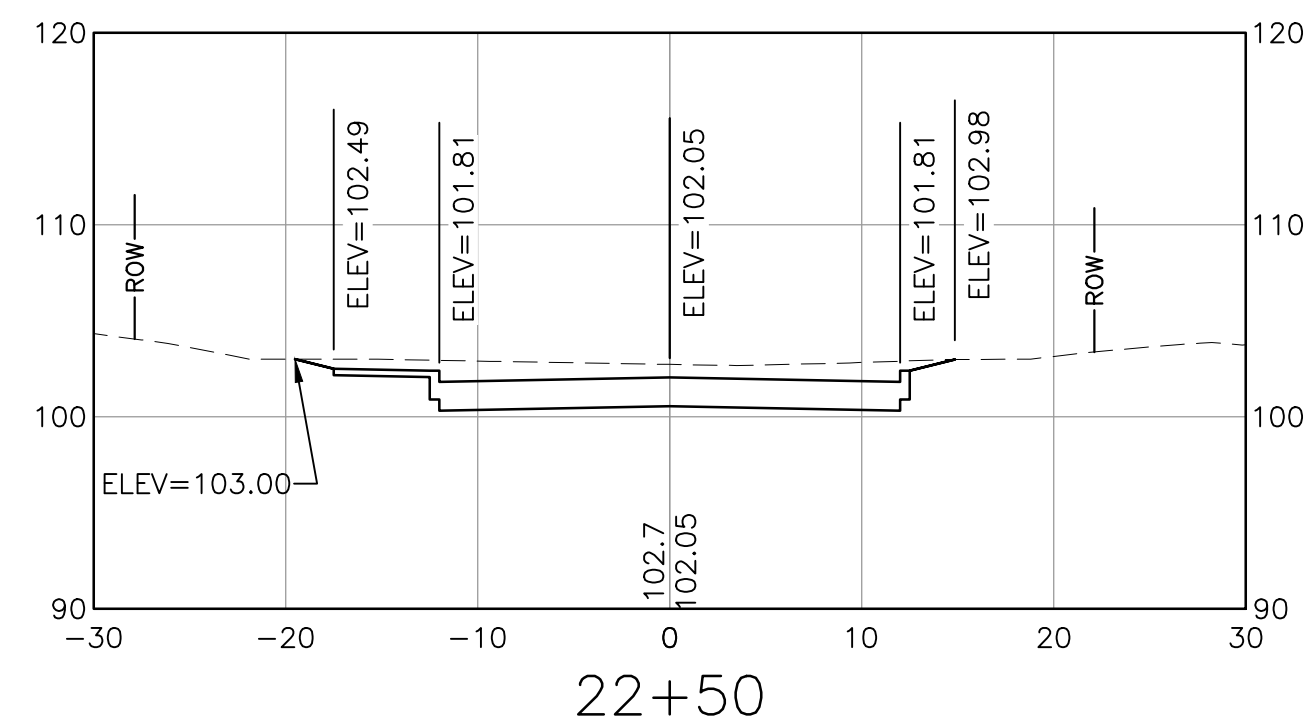
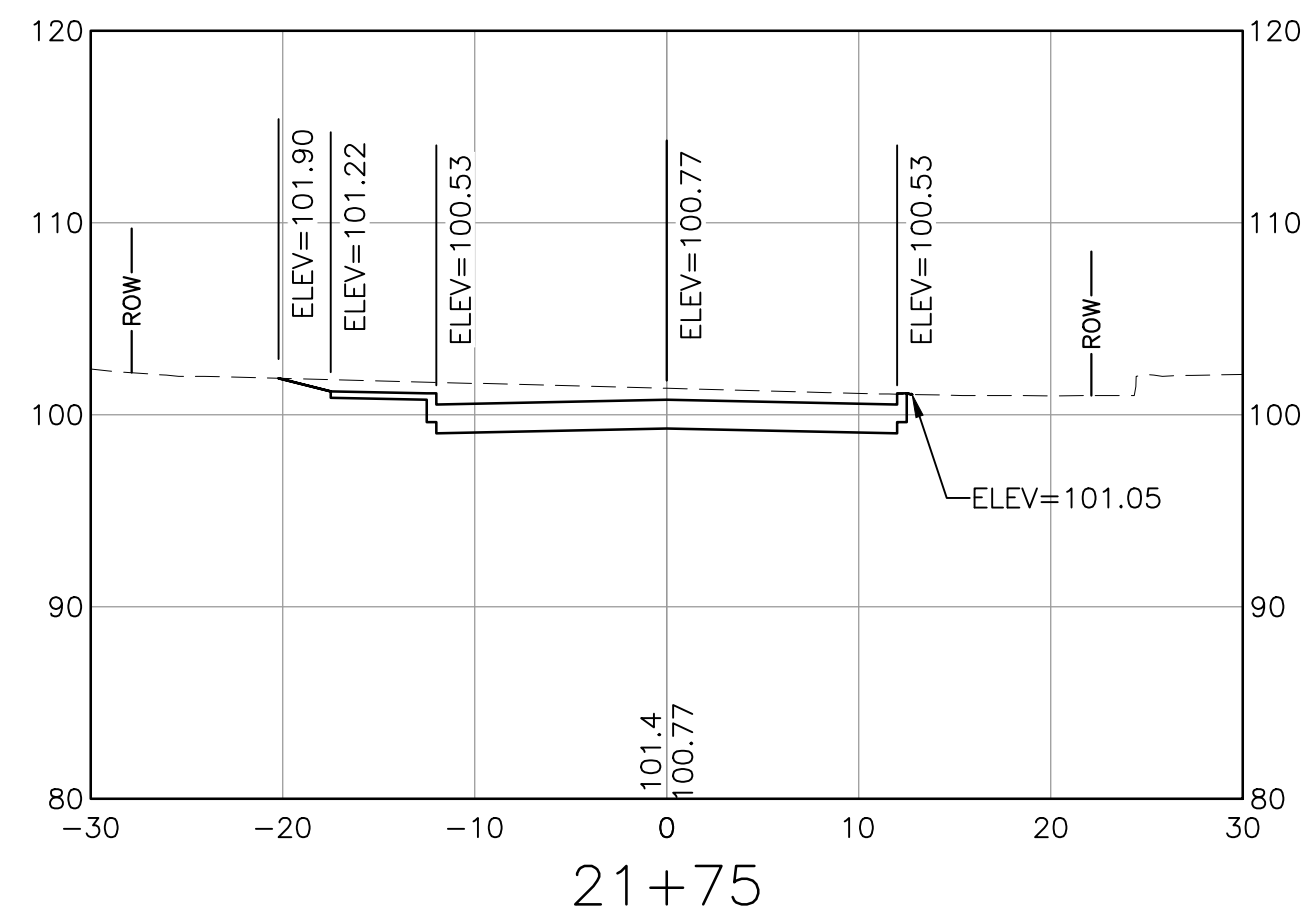
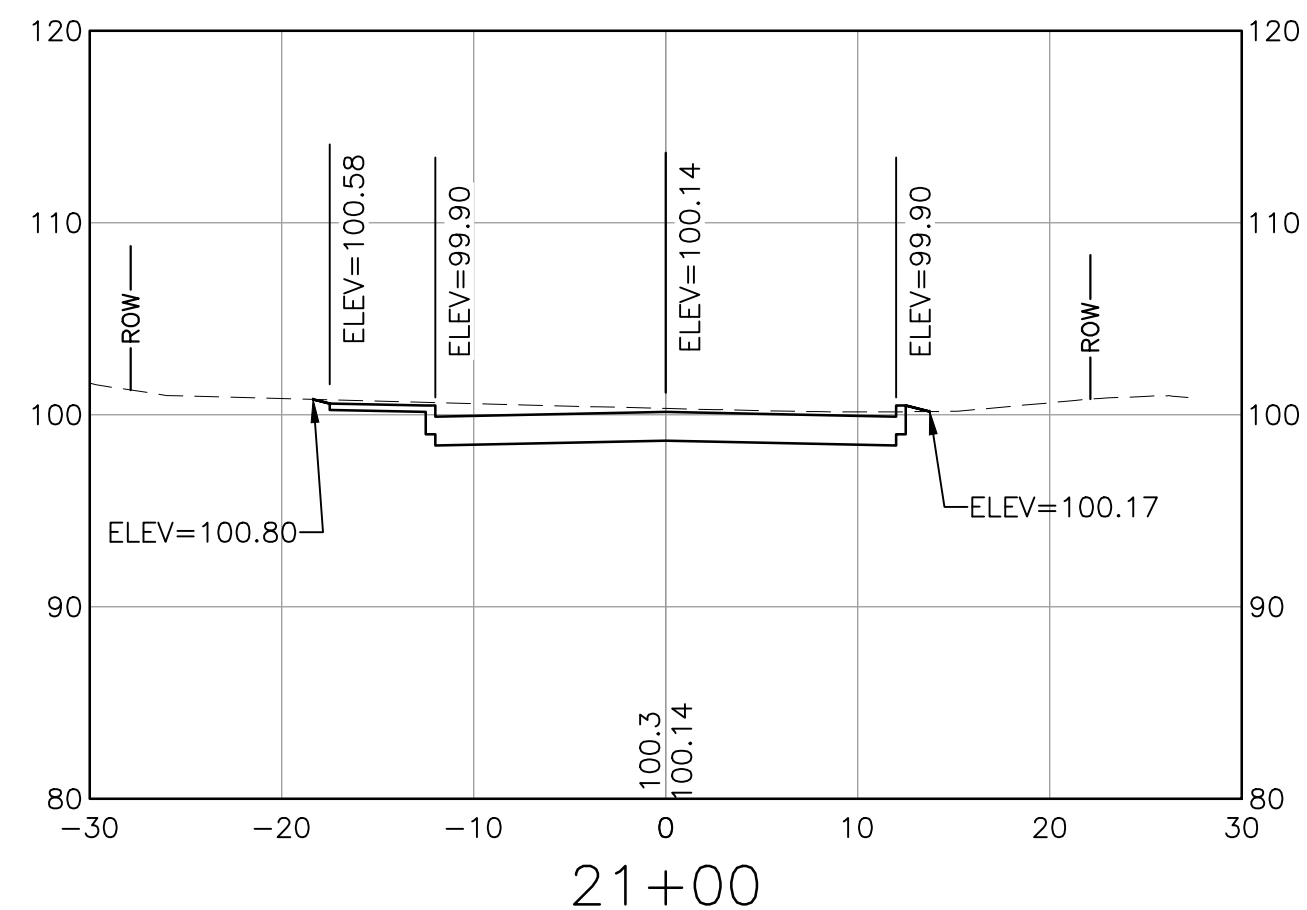
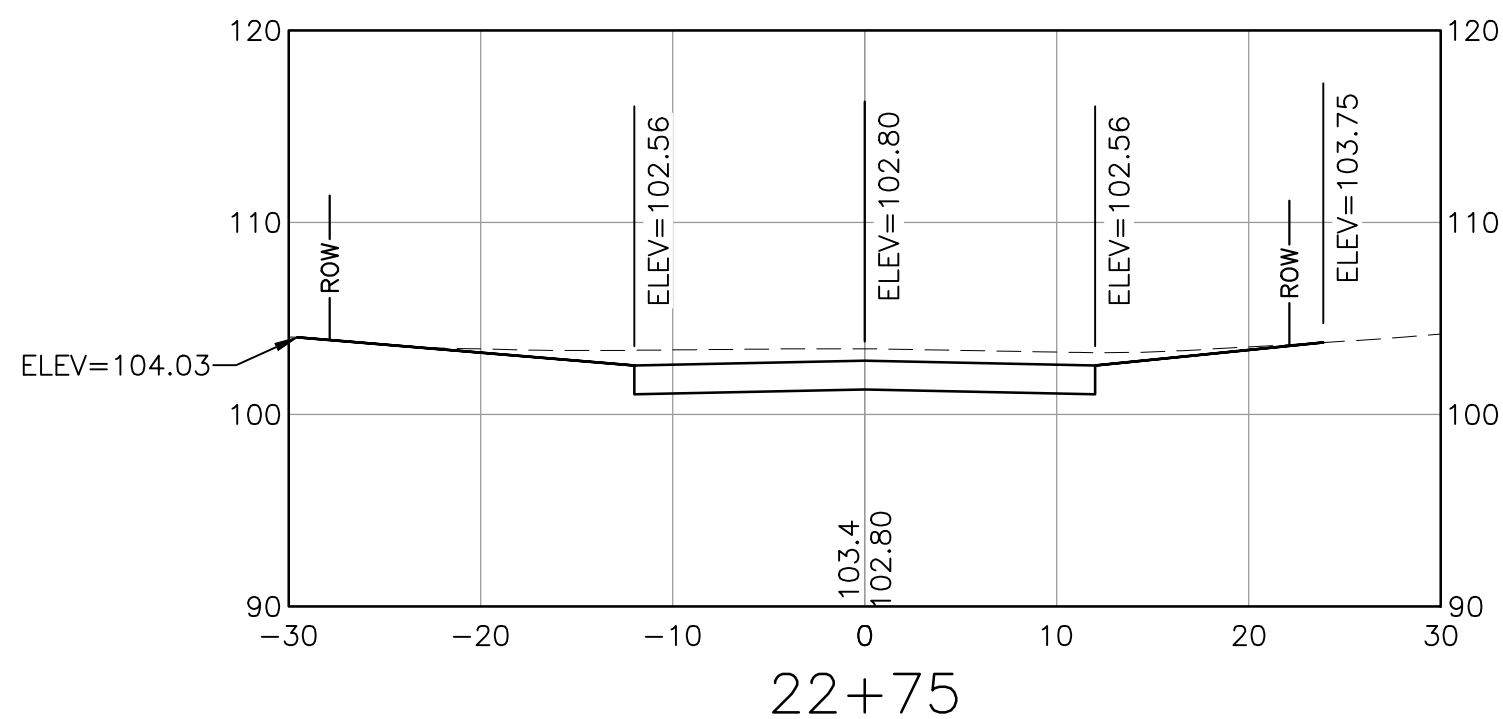
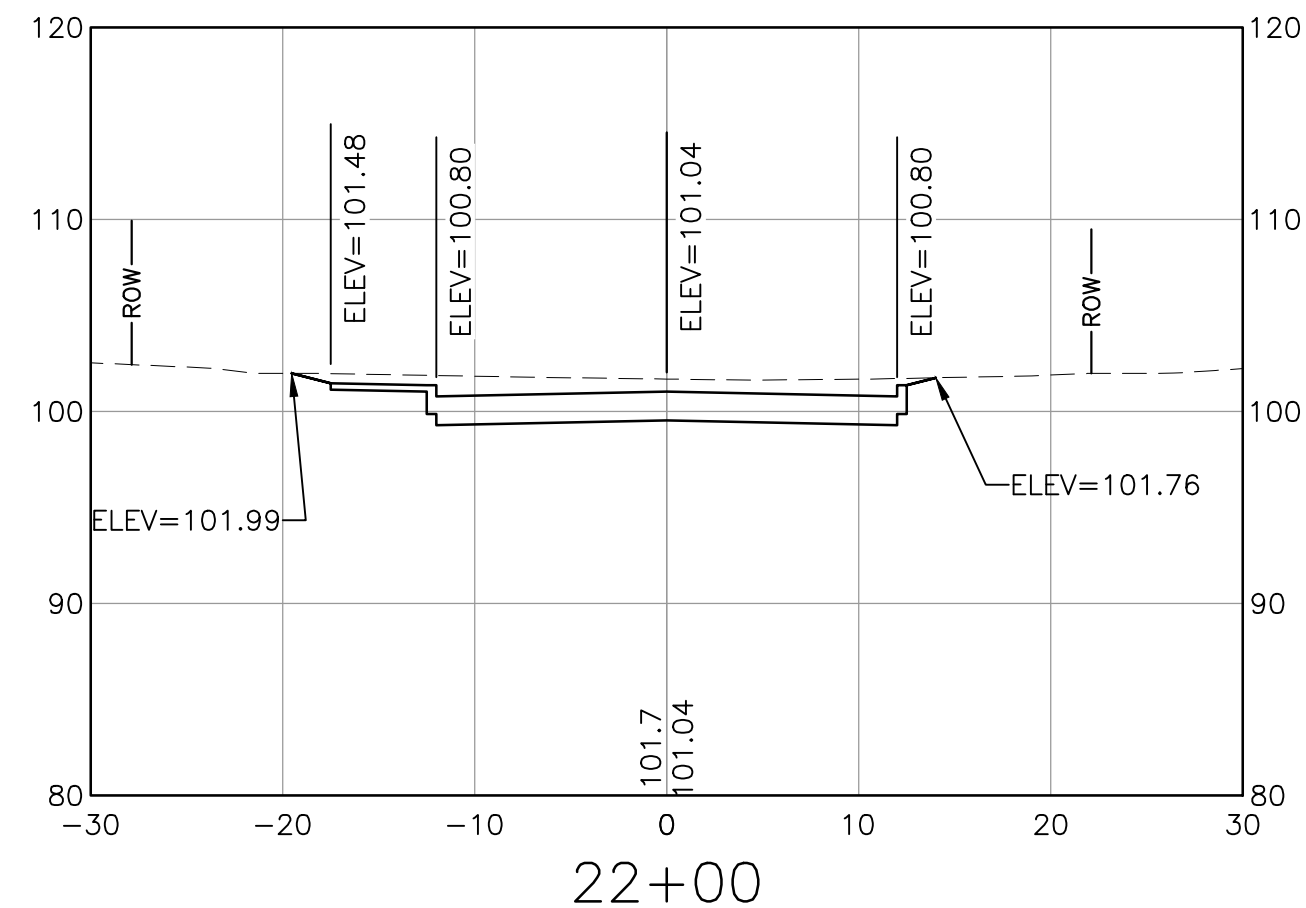
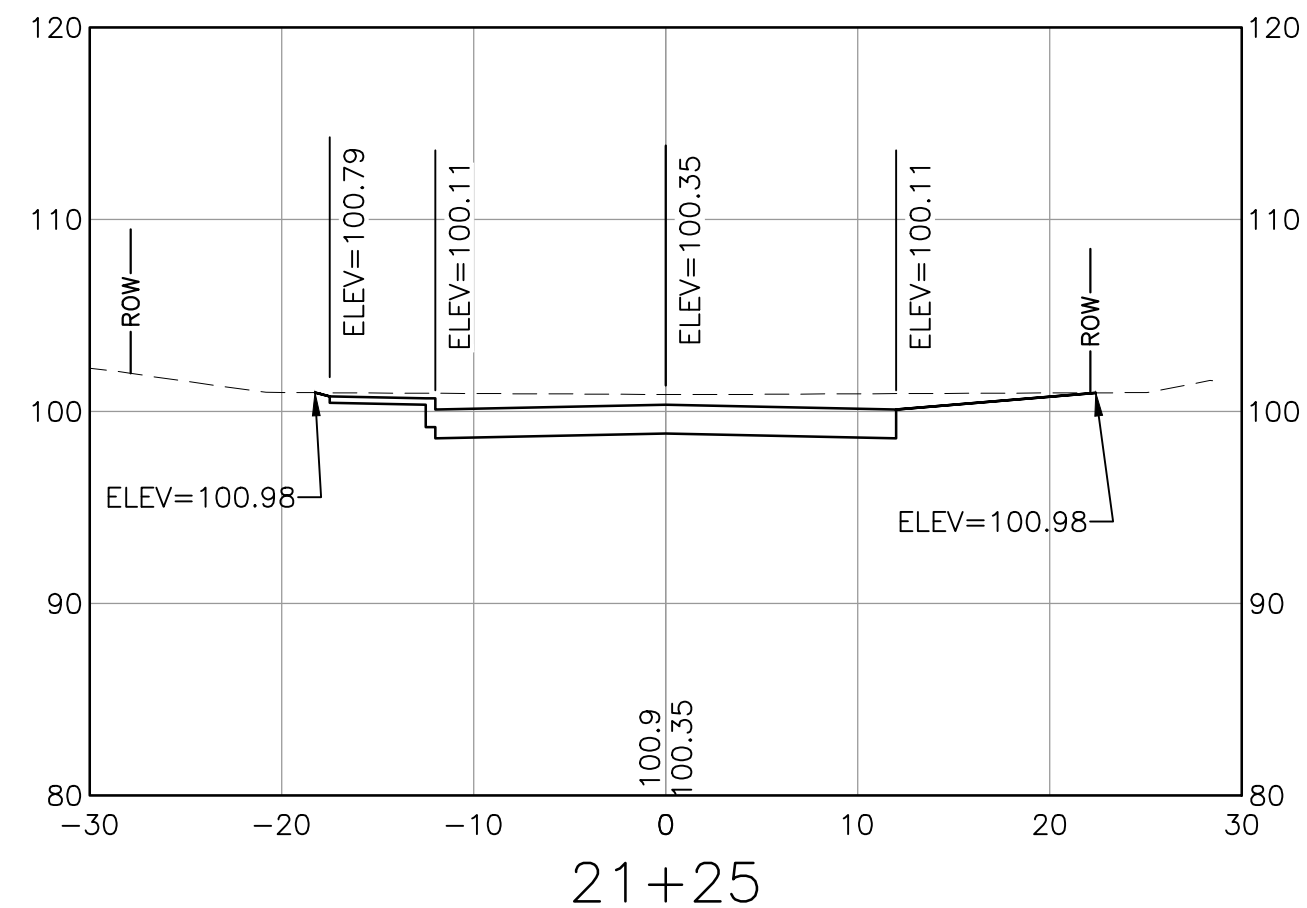
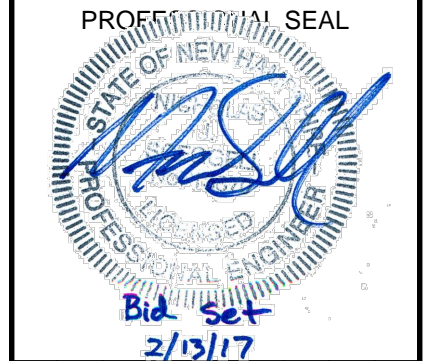
DRAWN BY KLL	DATE FEB 2017
CHECKED BY CKG	D&K PROJECT # 222952
PROJ. ENG. NJS	D&K ARCHIVE #

SHEET NUMBER
XS-14
SHEET 41 OF 47



NOTE:
SPOT ELEVATIONS PROVIDED DEPICT ELEVATIONS FOR ROADWAY CROWN,
BOTTOM OF CURB, BACK OF SIDEWALK, AND TIE-IN TO EXISTING GROUND.

I:\222952-Dover Keating Birchwood Drawings\Ver1\222952_X-CORR.dwg 2/6/2017 10:02 AM



NO.	DATE	DESCRIPTION	BY	CK'D

CITY OF DOVER
288 CENTRAL AVE
DOVER, NH 03820

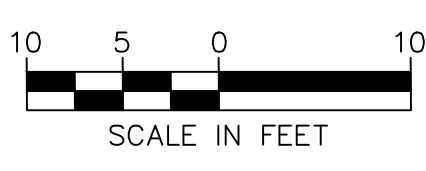
CITY OF DOVER
KEATING-
BIRCHWOOD AREA
RECONSTRUCTION

SHEET TITLE
**HAYES LANE
CROSS SECTIONS
SHEET 15**

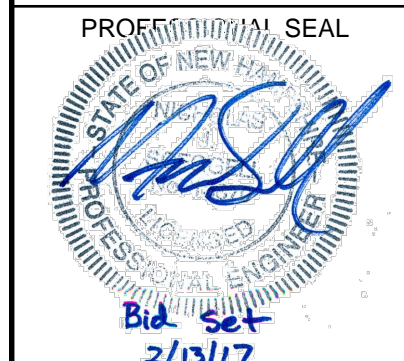
DRAWN BY KLL	DATE FEB 2017
CHECKED BY CKG	D&K PROJECT # 222952
PROJ. ENG. NJS	D&K ARCHIVE #

SHEET NUMBER
XS-15

I:\222952-Dover Keating Birchwood\Drawings\Ver1\222952_X-CORR.dwg 2/6/2017 10:04 AM



NOTE:
SPOT ELEVATIONS PROVIDED DEPICT ELEVATIONS FOR ROADWAY CROWN,
BOTTOM OF CURB, BACK OF SIDEWALK, AND TIE-IN TO EXISTING GROUND.



NO.	DATE	DESCRIPTION	BY	CK'D

CITY OF DOVER
288 CENTRAL AVE
DOVER, NH 03820

CITY OF DOVER
KEATING-
BIRCHWOOD AREA
RECONSTRUCTION

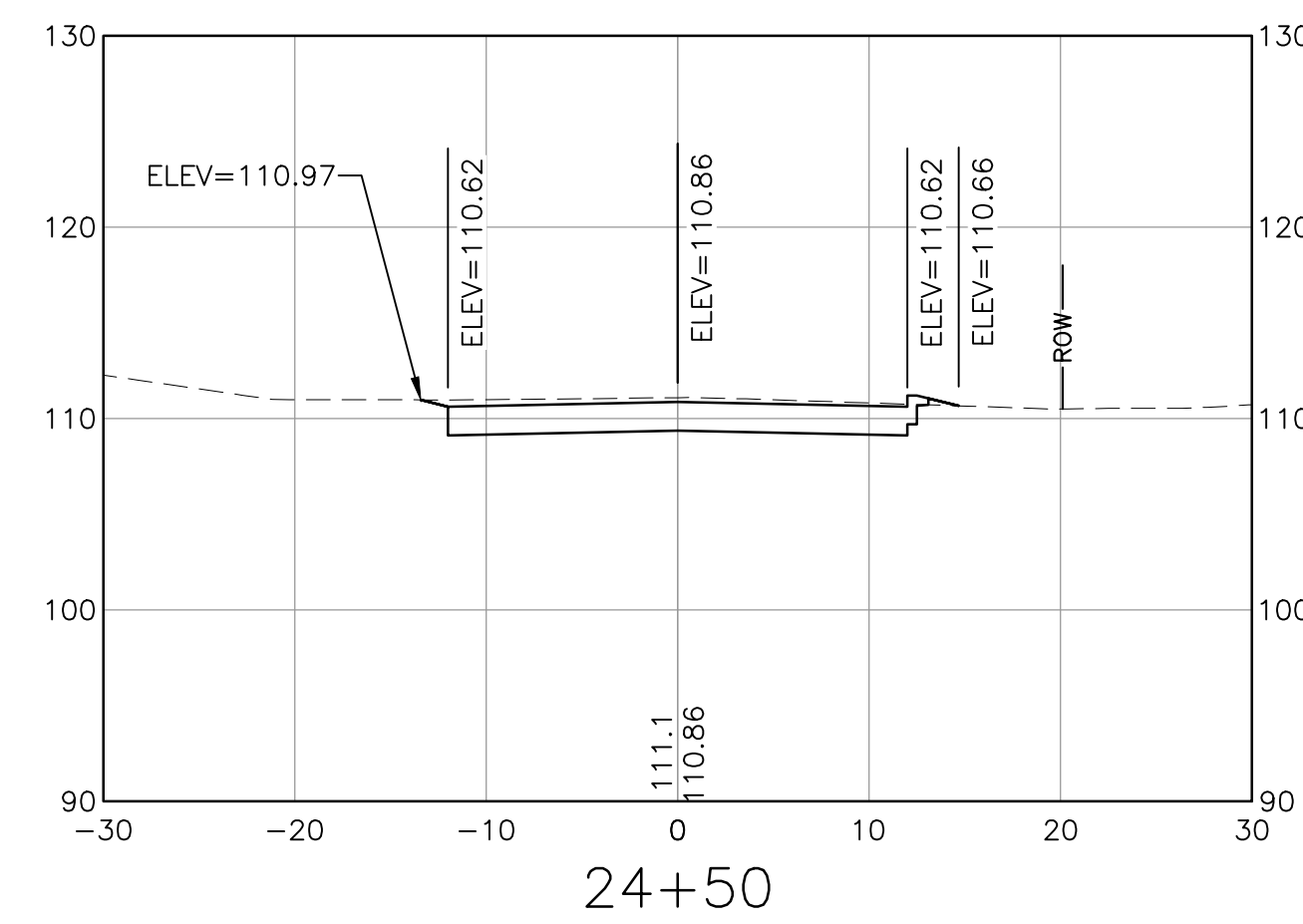
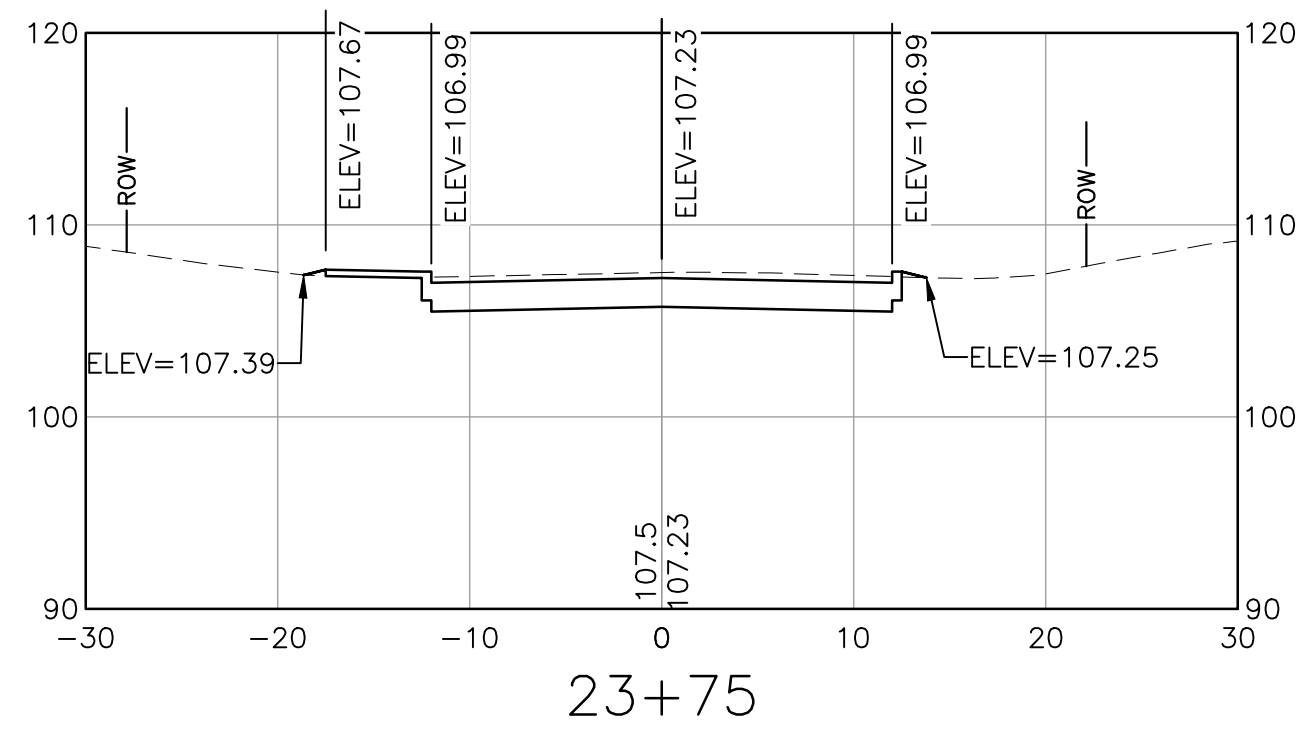
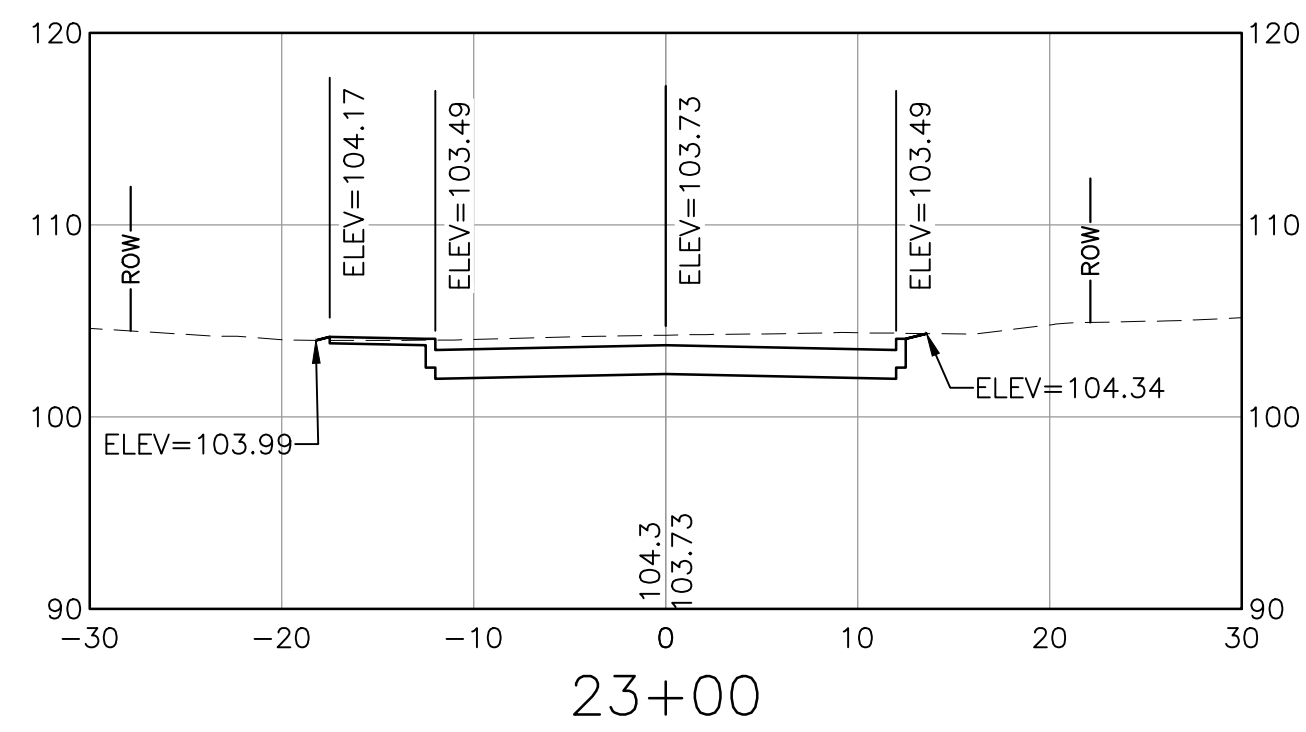
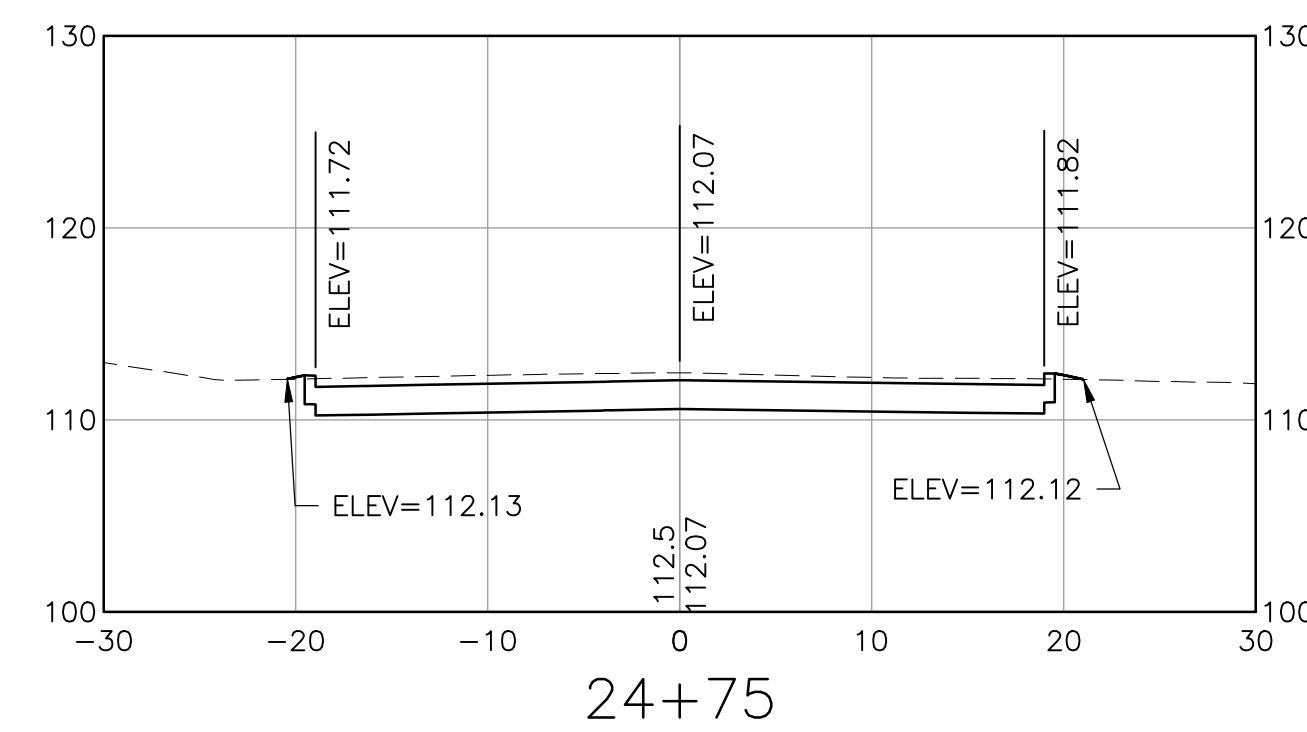
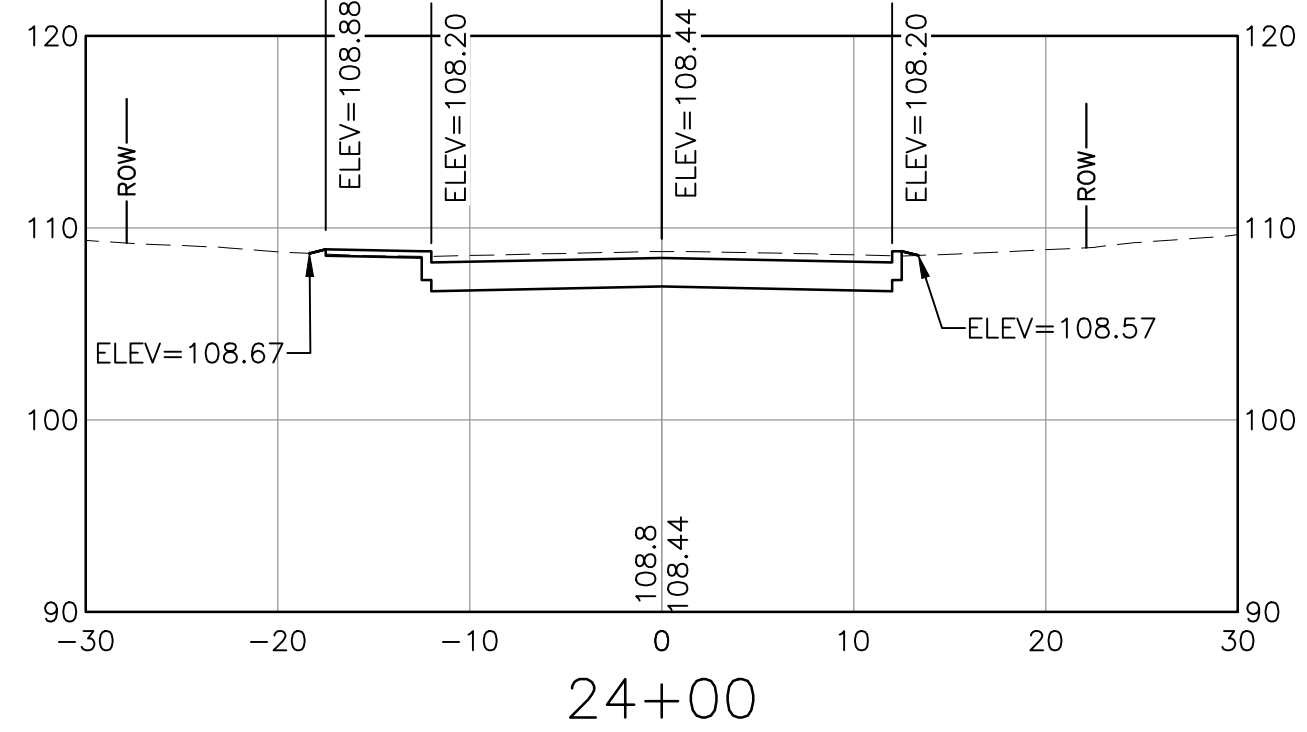
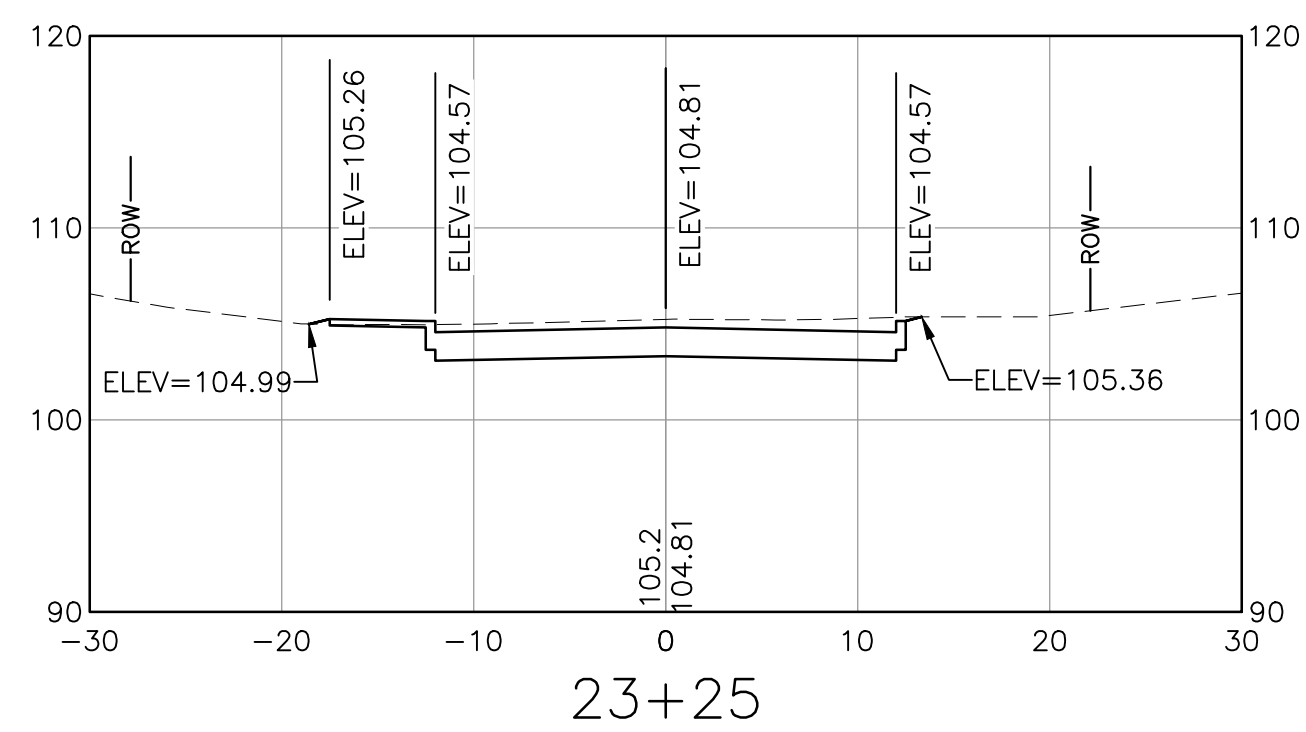
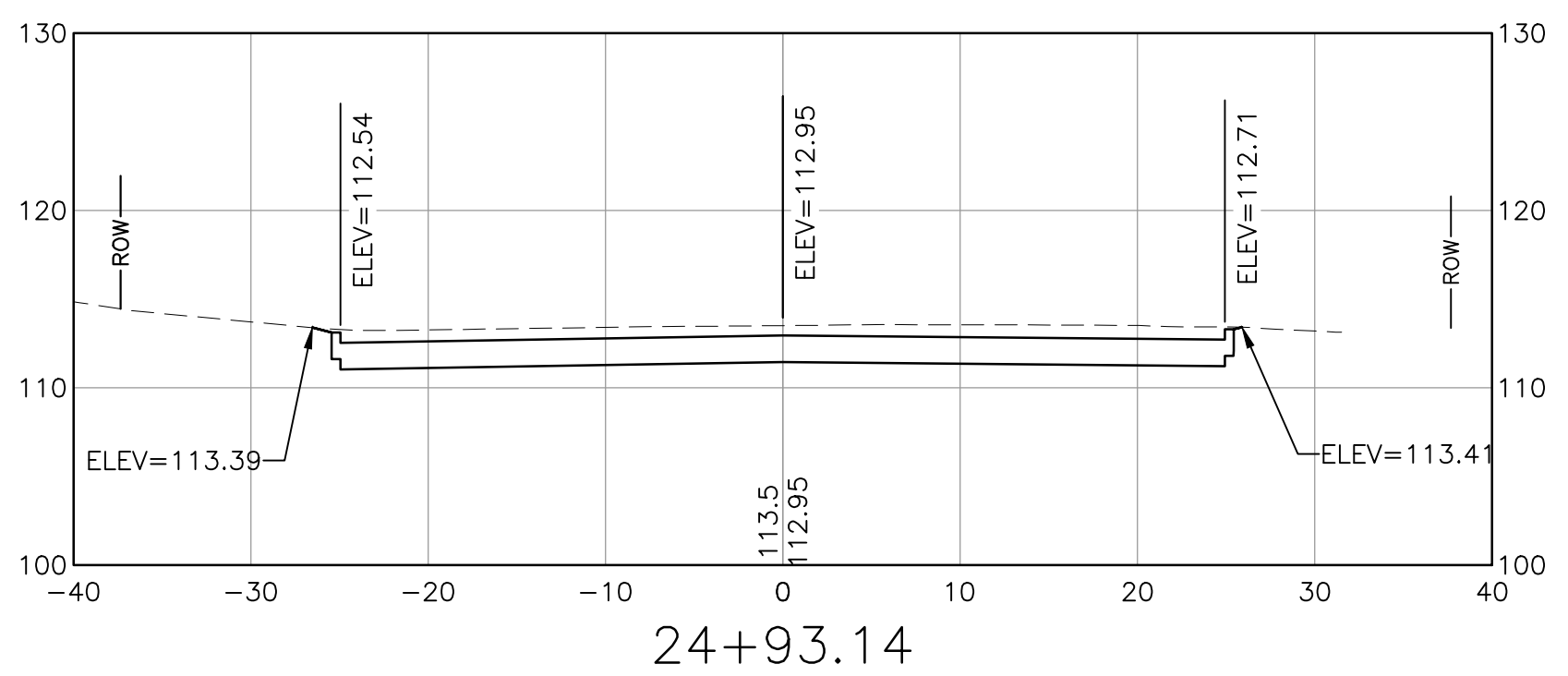
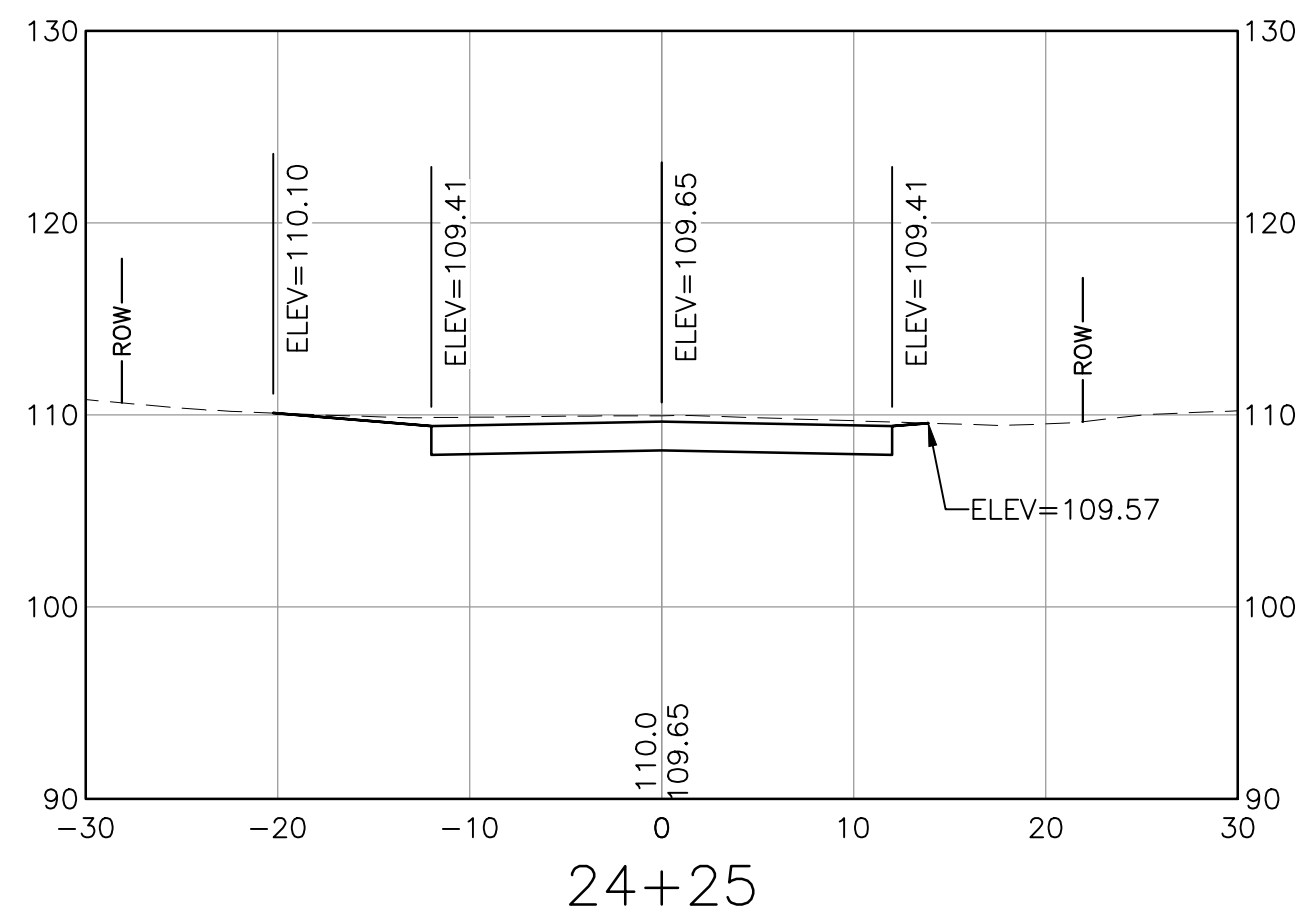
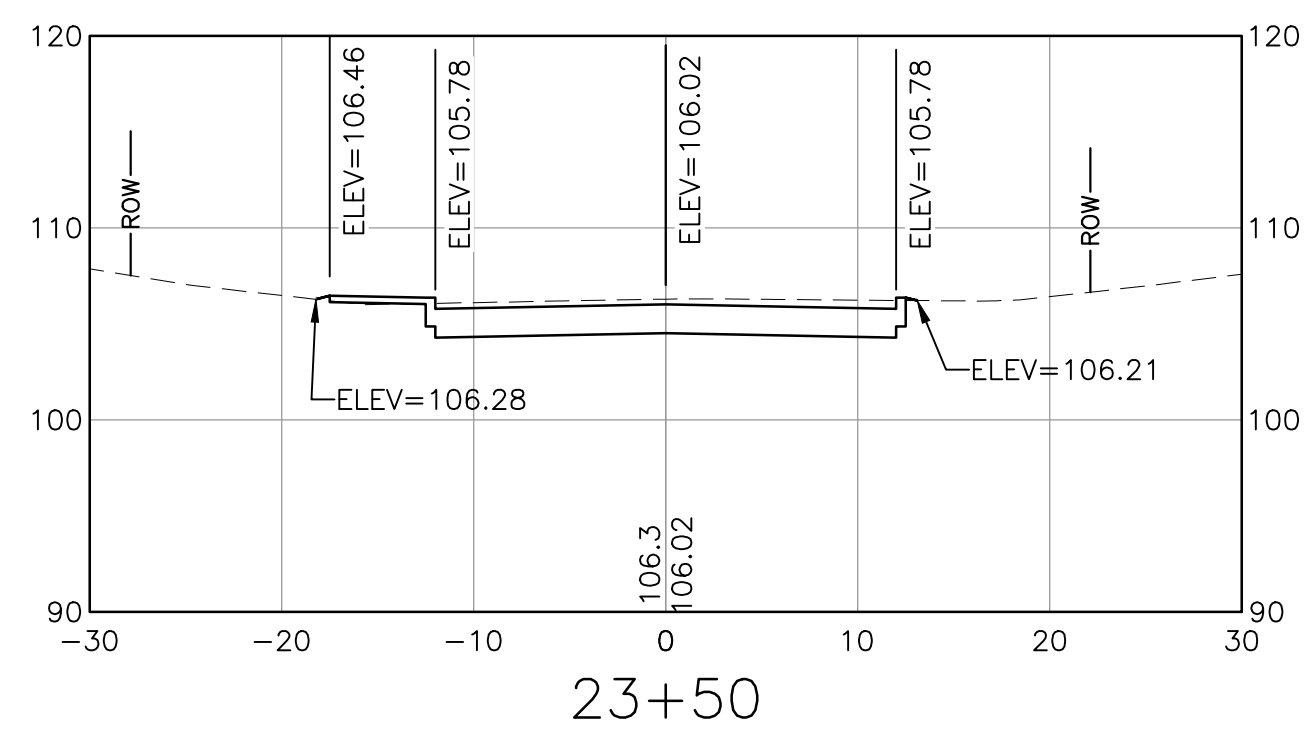
SHEET TITLE
**HAYES LANE
CROSS SECTIONS
SHEET 16**

DRAWN BY KLL	DATE FEB 2017
CHECKED BY CKG	D&K PROJECT # 222952
PROJ. ENG. NJS	D&K ARCHIVE #

SHEET NUMBER

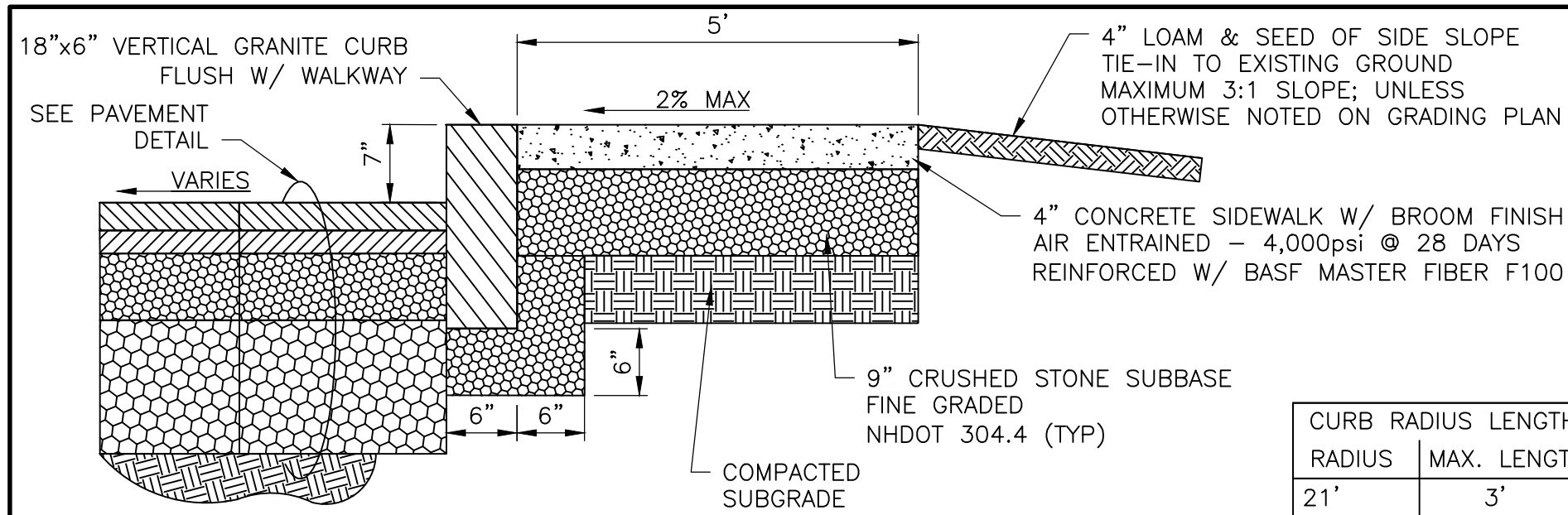
XS-16

SHEET 43 OF 47



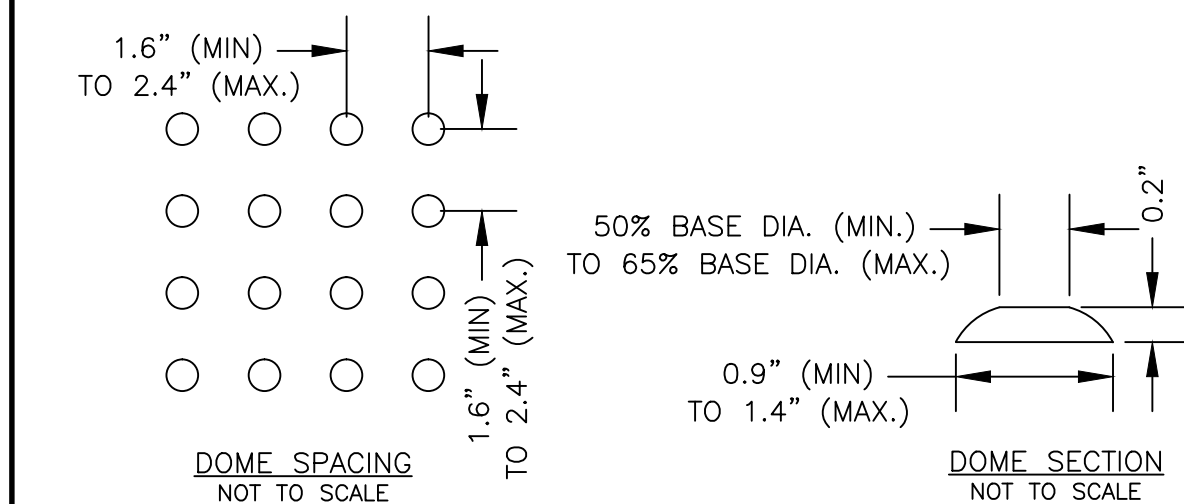
NOTE:
SPOT ELEVATIONS PROVIDED DEPICT ELEVATIONS FOR ROADWAY CROWN,
BOTTOM OF CURB, BACK OF SIDEWALK, AND TIE-IN TO EXISTING GROUND.

I:\222952-Dover-Keating-Birchwood\Drawings\Ver\222952_X-CORR.dwg 2/6/2017 10:08 AM



- NOTES:**
- SEE ROADWAY PLAN FOR LIMITS OF CURBING
 - MAXIMUM ALLOWABLE SIDEWALK SLOPE IN ALL DIRECTIONS SHALL BE IN ACCORDANCE WITH AMERICAN DISABILITY ACT (ADA) STANDARDS FOR ACCESSIBLE DESIGN; CROSS-SLOPE SHALL BE NO LESS THAN 1% AND NO GREATER THAN 2%
 - ALL MATERIALS AND WORKMANSHIP SHALL COMPLY WITH NHDOT STANDARD SPECIFICATIONS
 - ADJOINING STONES SHALL HAVE THE SAME (OR APPROX.) LENGTH
 - MINIMUM LENGTH OF CURB STONES = 3'
 - MAXIMUM LENGTH OF CURB STONES = 10'
 - MAXIMUM LENGTH OF STRAIGHT CURB STONES LAID ON CURVES - SEE CHART
 - REMOVE ALL UNSUITABLE MATERIAL TO THE SATISFACTION OF THE ENGINEER
 - IN THE EVENT BEDROCK IS ENCOUNTERED, EXCAVATE BEDROCK TO A MINIMUM OF 6" BELOW THE SUB-BASE MATERIAL AND REPLACE WITH BANKRUN GRAVEL
 - SUBGRADE MATERIAL SHALL BE SHAPED AND COMPACTED TO AN EVEN SURFACE. ALL SOFT AND YIELDING MATERIAL SHALL BE REMOVED AND REPLACED WITH ACCEPTABLE MATERIAL
 - 1/4" RADIUS x 1/2" WIDE x 1/2" DEPTH TOOLED CONTROL JOINTS SHALL BE LOCATED 5' O.C.
 - 1/2" EXPANSION JOINTS SHALL CONFORM TO AASHTO M153, TYPE III OR AASHTO M213 AND BE LOCATED 20' O.C.
 - PROTECTIVE COATING SHALL BE SILANE/SILOXANE AND APPLIED IN ACCORDANCE WITH NHDOT 534.2.2 AND 534.3; RESPECTIVELY

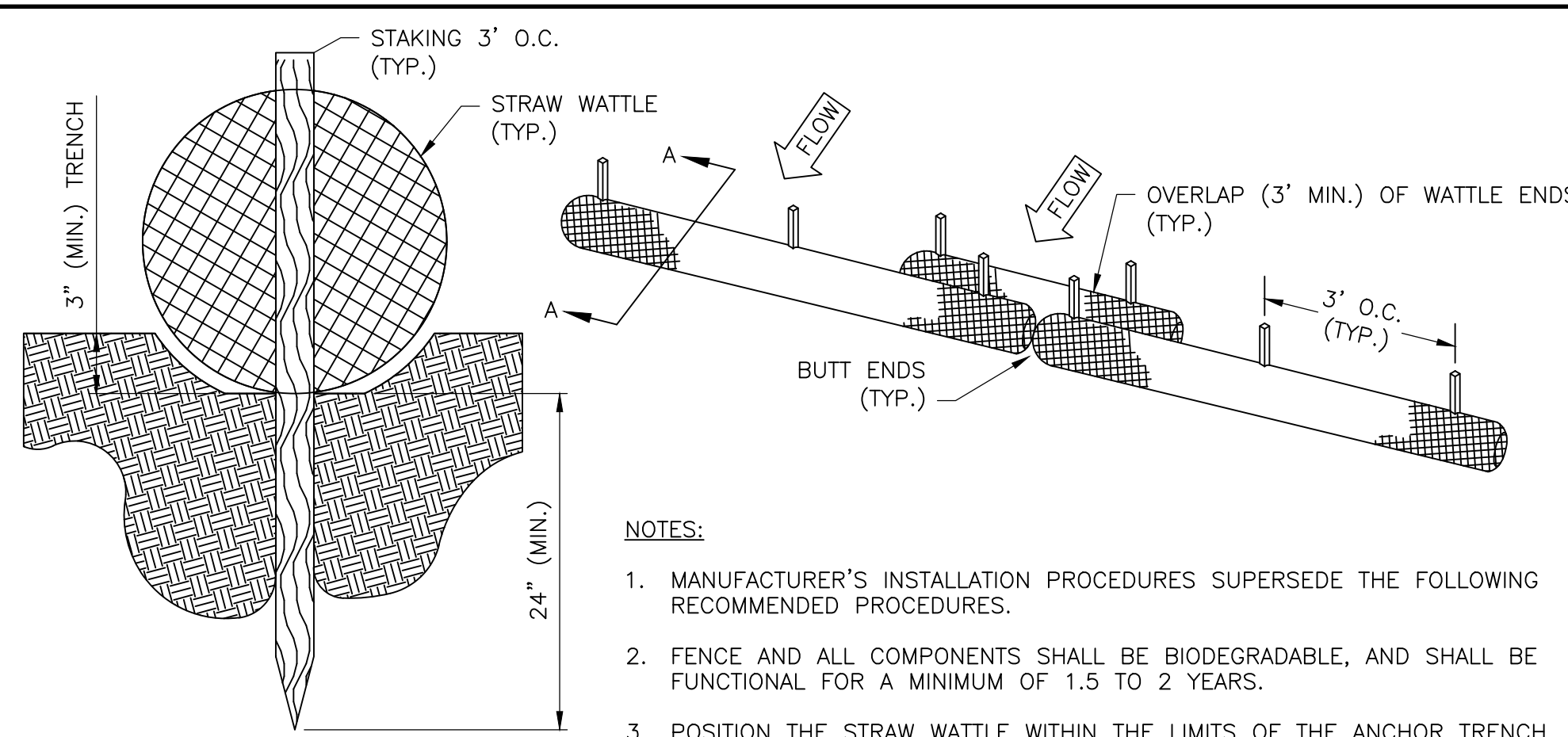
CONCRETE SIDEWALK W/ VERTICAL GRANITE CURB DETAIL
NOT TO SCALE



- NOTES:**
- ADA DETECTABLE WARNING DEVICES SHALL BE CAST IRON IN ACCORDANCE WITH NHDOT 608.54.
 - DEVICE SHALL BE 24" (MIN) IN WIDTH. LENGTH SHALL EQUAL THE CROSSWALK ACCESS.
 - INSTALLATION SHALL BE PER MANUFACTURER'S RECOMMENDATION.
 - DEVICES SHALL BE INSTALLED AT THE FOLLOWING INTERSECTIONS: BIRCHWOOD PL AND CENTRAL AVE, BIRCHWOOD PL AND EMMET ST, AND RENAUD AVE AND KEATING AVE.

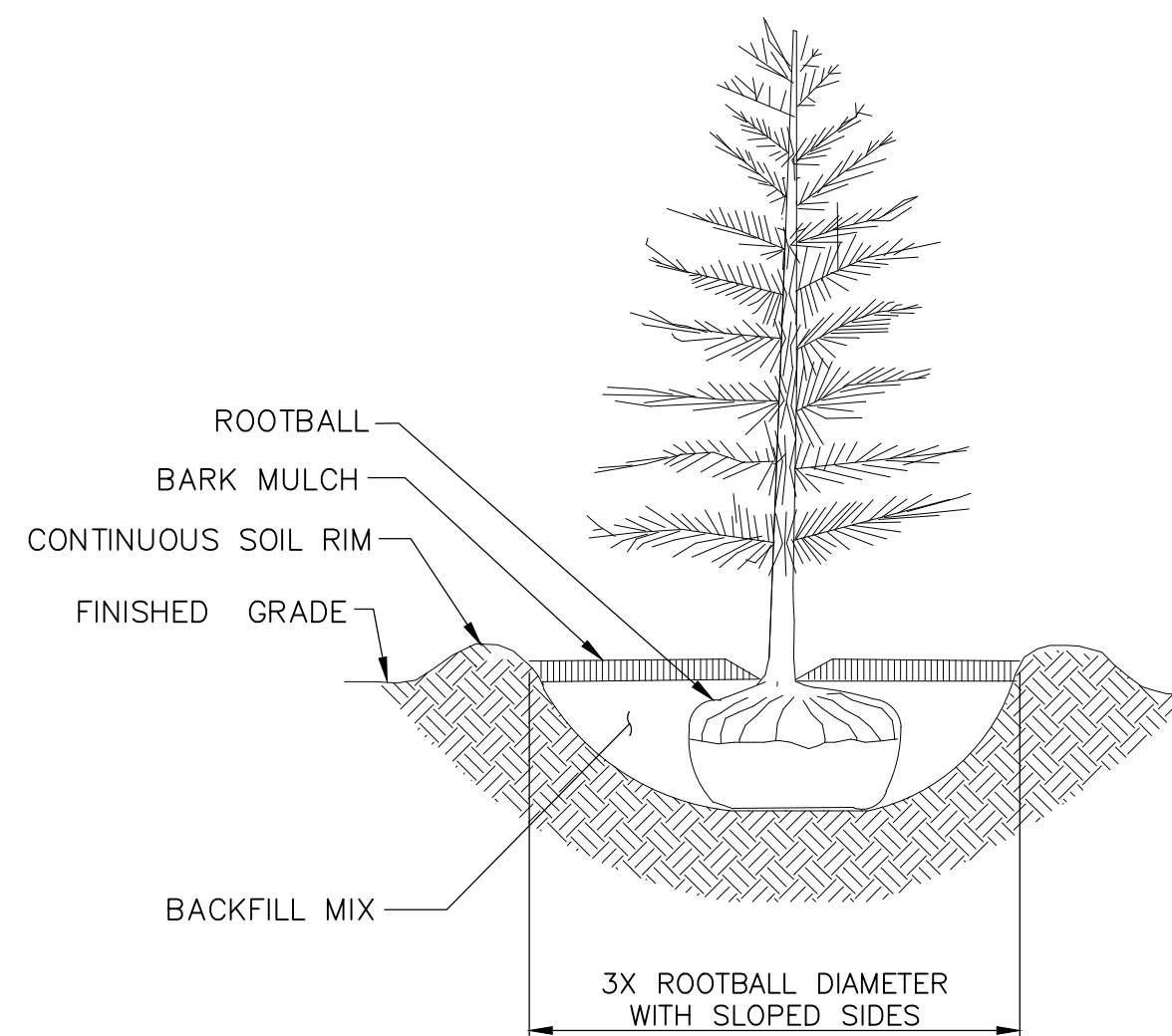
DETECTABLE WARNING DEVICE DETAIL
NOT TO SCALE

CURB RADIUS	RADIUS	MAX. LENGTH
21'		3'
22'-28'		4'
29'-35'		5'
36'-42'		6'
43'-49'		7'
50'-56'		8'
57'-60'		9'
OVER 60'		10'



- MAINTENANCE:**
- STRAW WATTLES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAILFALL AND AT LEAST DAILY DURING PROLONGED RAILFALL EVENTS. ALL REPAIRS, INCLUDING EVIDENCE OF FABRIC DECOMPOSITION OR INEFFECTIVENESS DURING THE EXPECTED LIFE OF THE WATTLE, SHALL BE MADE IMMEDIATELY.
 - SEDIMENT DEPOSITS LOCATED ALONG THE UP-HILL SIDE SHALL BE REMOVED AFTER EACH STORM EVENT OR WHEN DEPOSITS REACH APPROXIMATELY ONE HALF THE HEIGHT OF THE UP-HILL ORIGINAL INSTALLED BARRIER'S REVEAL. SEDIMENT CONTROL DEVICES SHALL REMAIN IN PLACE AND BE MAINTAINED BY THE CONTRACTOR UNTIL AREAS UPSLOPE ARE PERMANENTLY STABILIZED.
 - SEDIMENT DEPOSITS THAT ARE REMOVED SHALL BE GRADED TO CONFORM WITH THE EXISTING TOPOGRAPHY AND VEGETATED.

SILT SOCK/STRAW WATTLE DETAIL
NOT TO SCALE



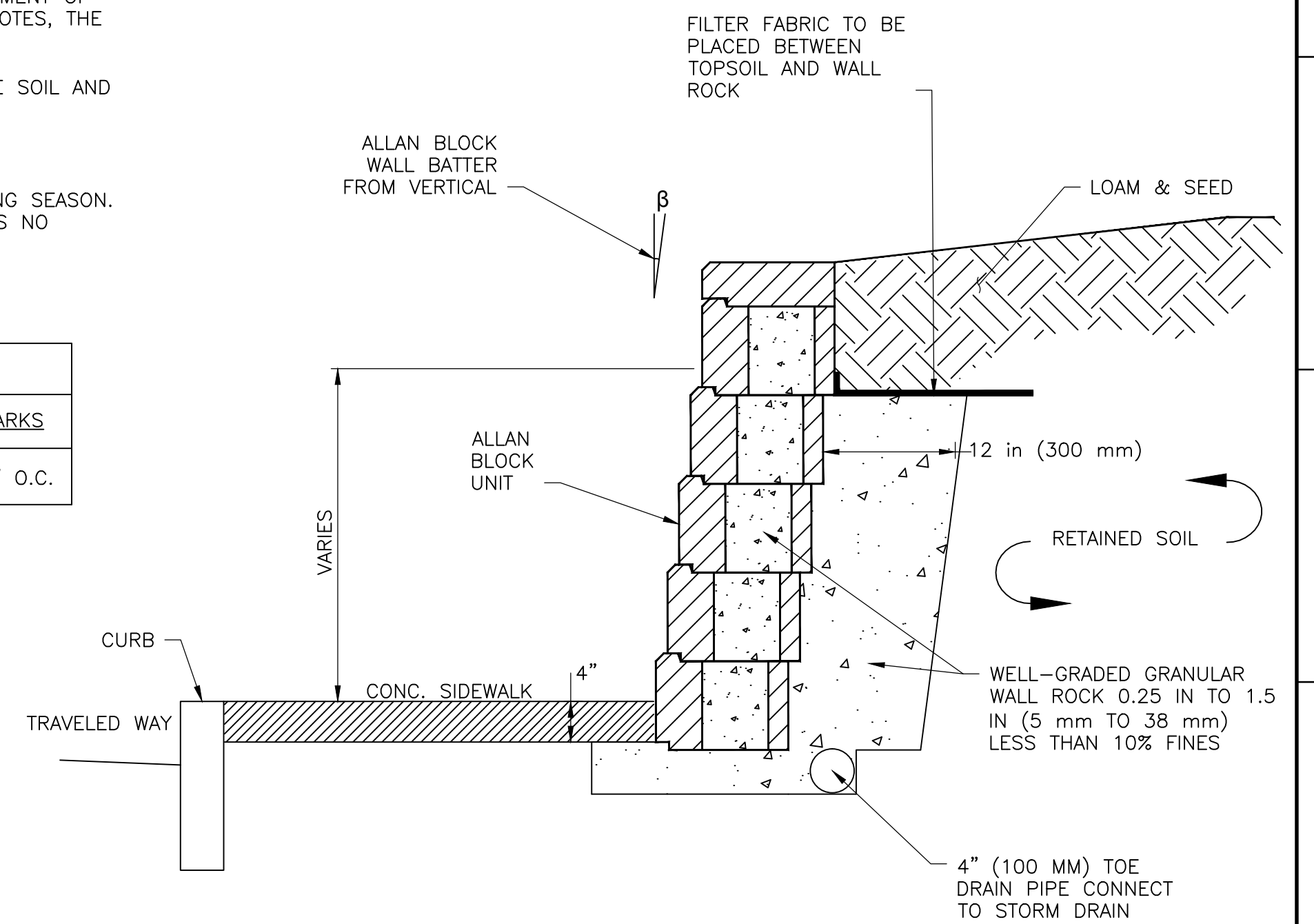
EVERGREEN (FOR CEDARS) TREE PLANTING DETAIL
NOT TO SCALE

- EVERGREEN PLANTINGS ON KEATING AVENUE NOTES:**
- A ROW OF EVERGREEN PLANTINGS SHALL BE INSTALLED ALONG A 150-FOOT SEGMENT OF KEATING AVENUE AS SHOWN ON THE PLANS, AND IN ACCORDANCE WITH THESE NOTES, THE PLANT LIST, AND PLANTING DETAIL.
 - AMEND THE BACKFILL/PLANTING SOIL WITH TOPSOIL, AT THE RATE OF 1/2 NATIVE SOIL AND 1/2 TOPSOIL.
 - REFER TO SECTION 02930 FOR ADDITIONAL INFORMATION.
 - WARRANTY ON ALL PLANTINGS SHALL EXTEND THROUGH ONE CONTINUOUS GROWING SEASON. DEAD OR NON-THRIVING PLANTINGS SHALL BE REPLACED BY THE CONTRACTOR AS NO ADDITIONAL COST TO THE PROJECT.
 - PLANTINGS SHALL BE INSTALLED BY A CERTIFIED ARBORIST.

PLANT LIST						
QUANTITY	KEY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	REMARKS
50	TT	Thuja O. 'Techny'	Mission Arborvitae	5' HT.	B&B	3'-0" O.C.

- GENERAL EROSION CONTROL NOTES:**
- CONTRACTOR SHALL CLEAR AND GRUB ONLY TO THE LIMITS OF CUT AND FILL.
 - CONTRACTOR SHALL CONSTRUCT TEMPORARY AND PERMANENT EROSION AND SEDIMENTATION CONTROL FACILITIES PRIOR TO THE COMMENCEMENT OF EARTHWORK OPERATIONS AND MAINTAIN SEDIMENTATION AND EROSION CONTROL DEVICES THROUGHOUT THE PROJECT SITE FOR THE DURATION OF THE CONSTRUCTION.
 - CONTRACTOR SHALL CONSTRUCT STORMWATER RUNOFF PONDS AND SWALES PRIOR TO ROUGH GRADING NEW SITE CONDITIONS.
 - ALL SWALES AND DITCHES WITH SLOPES EXCEEDING 5% SHALL BE PROTECTED FROM EROSION WITH MATTING. ALL MATTING SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION.
 - ALL SWALES AND DITCHES SHALL BE PROPERLY STABILIZED PRIOR TO DIRECTING FLOW TO THEM.
 - ALL DISTURBED AREAS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. ALL DISTURBED AREAS SHALL NOT BE LEFT BARE FOR MORE THAN 30 DAYS, SHALL BE STABILIZED IN A MANNER TO MITIGATE EROSION OR SEDIMENTATION FROM EXITING THE LIMIT OF WORK AND SHALL BE RESTORED IN-KIND UPON COMPLETION OF THE PROJECT. THE MAXIMUM AREA ALLOWED TO BE DISTURBED AND LEFT UNSTABILIZED IS TWO (2) ACRES AT ANY ONE TIME. SEE EROSION & SEDIMENTATION CONTROL NOTES SHEET FOR FURTHER DETAIL.
 - ALL SLOPES GREATER THAN 3:1 SHALL BE PROTECTED FROM EROSION WITH MATTING PRIOR TO SEEDING AND MULCHING WITHIN 72 HOURS OF COMPLETION. ALL MATTING SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION.
 - ALL ROADWAYS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISH GRADE.
 - ALL CUT AND FILL SLOPES SHALL BE SEEDED/LOAMED WITHIN 72 HOURS OF ACHIEVING FINISH GRADE.
 - THE CONTRACTOR SHALL NOT PLACE PERMANENT PLANTING AND SEEDING PRIOR TO MAY 1st AND AFTER SEPTEMBER 1st.
 - THE CONTRACTOR SHALL (WEEKLY AND EVERY 1/2-INCH OF RAINFALL) INSPECT AND RECORD FINDINGS OF ALL EROSION AND SEDIMENTATION CONTROL DEVICES TO ENSURE THAT ALL ITEMS ARE IN STABLE CONDITION. IN THE EVENT THAT SAID ITEMS ARE DETERMINED TO BE IN UNSATISFACTORY CONDITION, THE CONTRACTOR SHALL RECORD THE UNSATISFACTORY ISSUE, THE DATE OF THE UNSATISFACTORY FINDING, THE APPROPRIATE CORRECTIVE MEASURE AND THE DATE THE CORRECTIVE MEASURE WAS COMPLETED.

- DEFINITION:**
- STABLE SHALL BE DEFINED AS AREAS THAT DO NOT ERODE (I.E. WEARING AWAY OF LAND BY RUNNING WATER, WAVES, WIND, ICE, ABRASION AND/OR TRANSPORTATION). AN AREA SHALL BE CONSIDERED STABLE IS ONT OF THE FOLLOWING HAS OCCURED:
 - BASE COURSE GRAVELS HAVE BEEN PLACED AND COMPACTED IN AREAS TO BE PAVED.
 - VEGETATION GROWTH IS IN ACCORDANCE WITH SPECIFICATION 329200, SECTION 3.05.C.
 - A MINIMUM OF 3" OF NON-EROSIVE MATERIAL (STONE OR RIPRAP) HAS BEEN INSTALLED.
 - EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.



- NOTES:**
- ALL WORK SHALL BE COMPLETED BY PERSONAL WITH EXPERIENCE CONSTRUCTING SEGMENTAL RETAINING WALLS.
 - RETAINING WALL SHALL BE DESIGNED FOR THIS SPECIFIC APPLICATION BY A STRUCTURAL ENGINEER LICENSED IN THE STATE OF NEW HAMPSHIRE. CONTRACTOR TO PROVIDE STAMPED SHOP DRAWINGS.
 - IDENTIFY WALL BLOCK TYPE (TEXTURE, COLOR, SIZE, ETC) THAT IS SIMILAR TO EXISTING WALL CONDITIONS.
 - SUBMITTAL OF WALL DESIGN AND DETAILS IS REQUIRED.

ALLAN BLOCK GRAVITY WALL TYPICAL SECTION
NOT TO SCALE

I:\222952-Dover\Keating Birchwood\Drawings\222952-D.dwg 2/6/2017 12:05 PM

DuBois & King inc.
ENGINEERING • PLANNING • MANAGEMENT • DEVELOPMENT
831 UNION AVE
LACONIA, NH 03246
TEL: (603) 524-1166
FAX: (866) 783-7101
www.dubois-king.com
BEDFORD, NH
RANDOLPH, VT
SOUTH BURLINGTON, VT
SPRINGFIELD, VT
© Copyright 2016 Dubois & King Inc.

PROFESSIONAL SEAL
STATE OF NEW HAMPSHIRE
Professional Engineer
Bid Set
2/13/17

NO.	DATE	DESCRIPTION	BY	CK'D

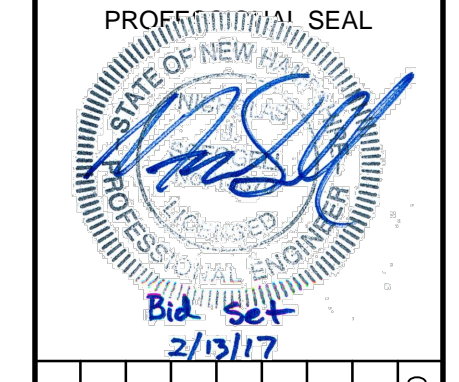
CITY OF DOVER
288 CENTRAL AVE
DOVER, NH 03820

CITY OF DOVER
KEATING-
BIRCHWOOD AREA
RECONSTRUCTION

SHEET TITLE
DETAILS

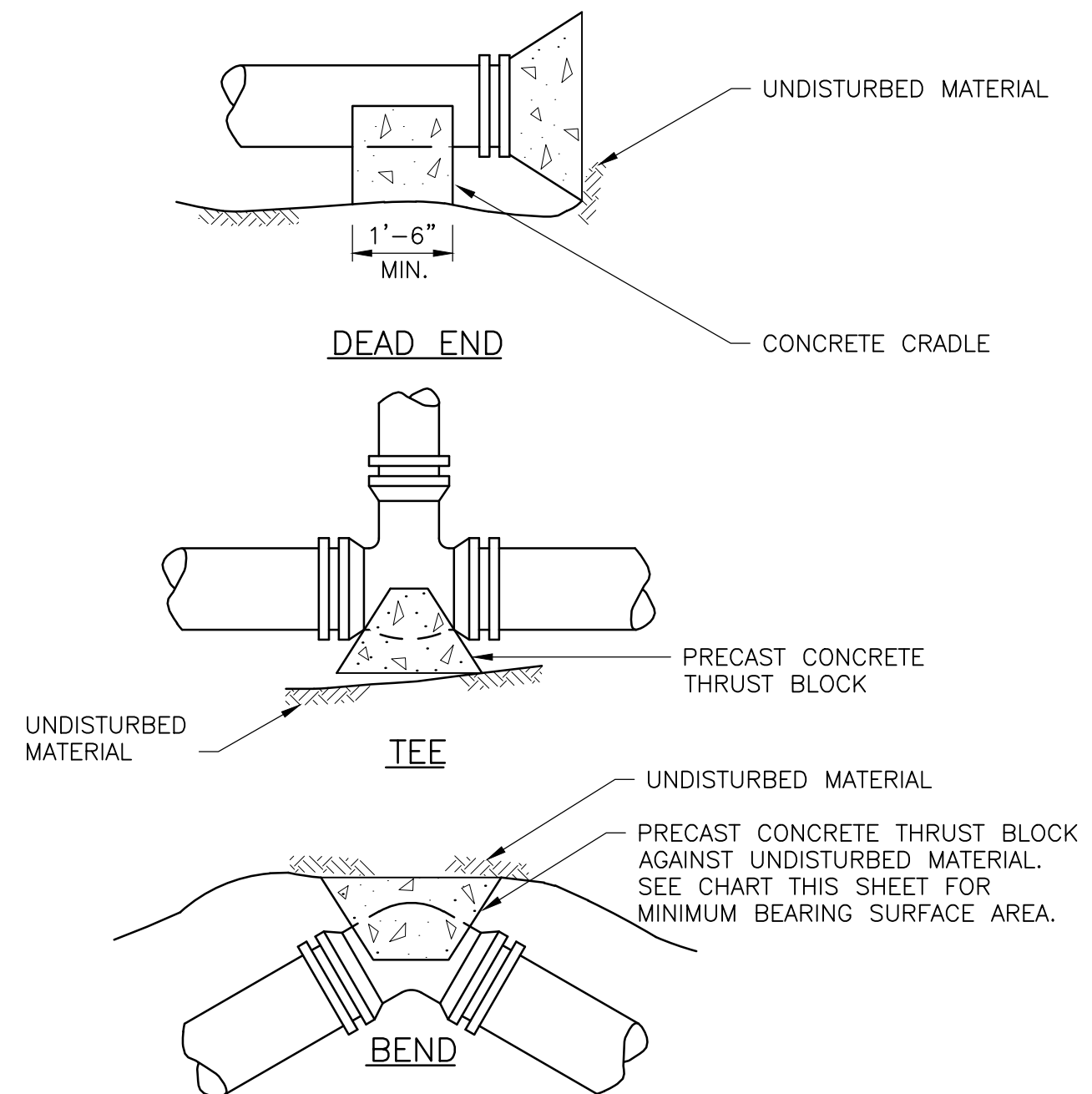
DRAWN BY KLL	DATE FEB 2017
CHECKED BY CKG	D&K PROJECT # 222952
PROJ. ENG. NJS	D&K ARCHIVE #

SHEET NUMBER
D-1
SHEET 44 OF 47



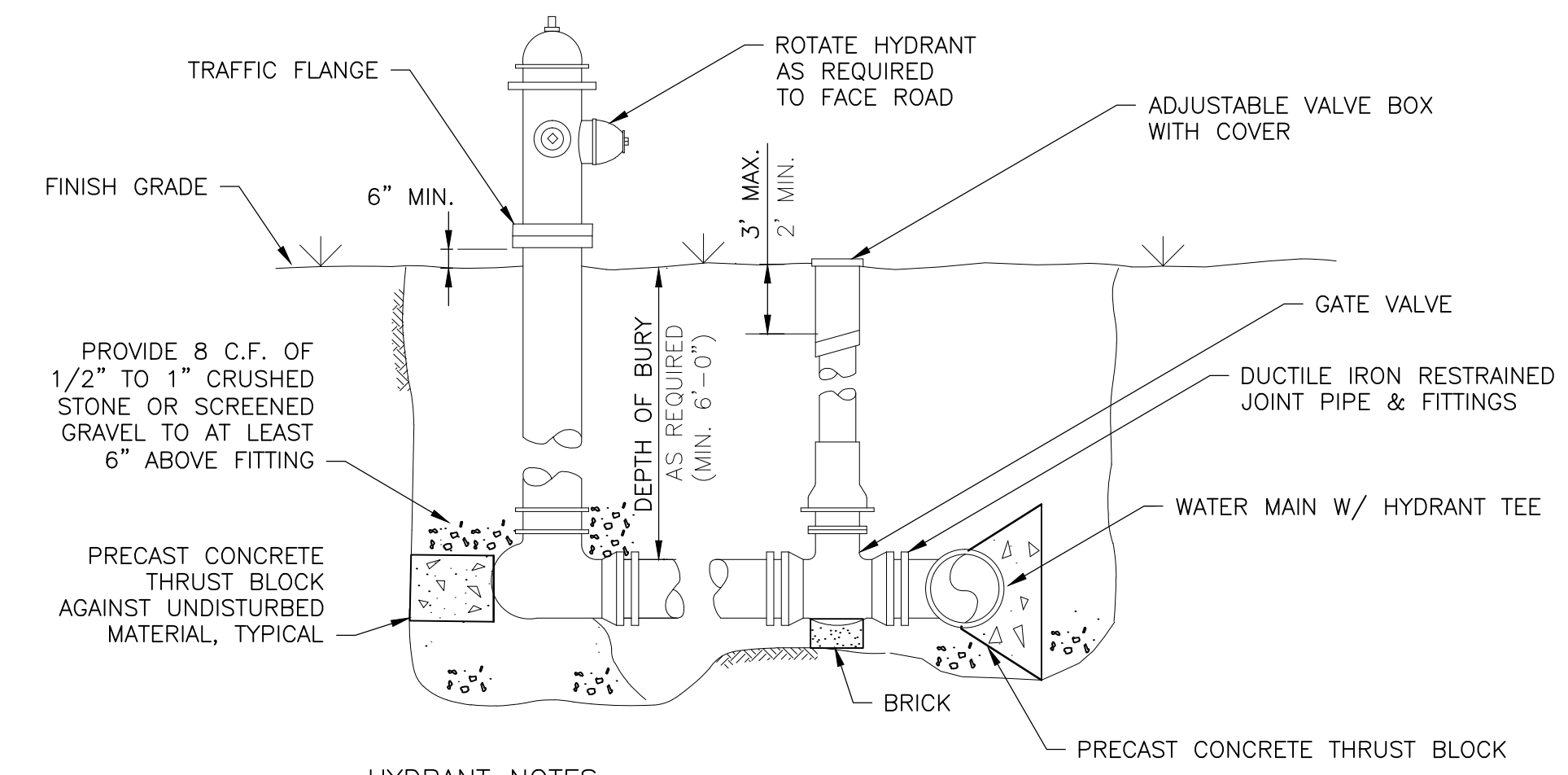
**AREA OF BEARING FACE OF CONCRETE
 THRUST BLOCKS IN SQUARE FEET**

PIPE SIZE (IN)	SOFT WET CLAY, SAND OR SILT	DRY SAND	COMPACT COARSE SAND OR GRAVEL HARDSAN
SOIL BEARING CAPACITIES (APPROXIMATE)			
	1,250 lbs/ft ²	4,000 lbs/ft ²	6,000 lbs/ft ²
DEAD END OR TEE			
8 OR LESS	15	5	4
12	34	11	8
1/4 BEND			
8 OR LESS	21	7	5
12	48	16	12
1/8 BEND			
8 OR LESS	12	4	3
12	26	9	7
1/16 BEND			
8 OR LESS	6	2	2
12	13	4	3



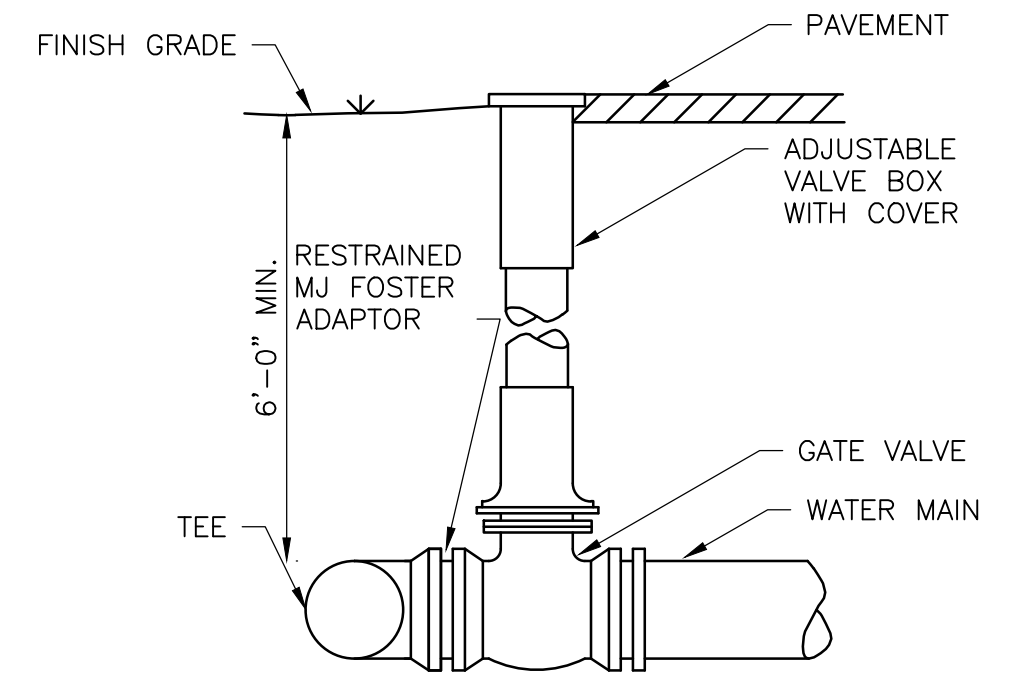
CONCRETE THRUST BLOCK DETAIL
 NOT TO SCALE

THRUST BLOCK TABLE NOTES
 1. SHALL BE PRECAST THRUST BLOCKS.
 2. FIGURES BASED ON 300 PSI.
 3. FOR PIPE SIZES NOT LISTED USE NEXT LARGER PIPE SIZE.
 4. WHEN MORE THAN ONE SOIL TYPE IS ENCOUNTERED, THE ONE WITH LEAST BEARING CAPACITY SHALL BE USED.
 5. RETAINING RODS OR RESTRAINED JOINT PIPE, AS APPROVED BY THE ENGINEER, SHALL BE USED IN PLACE OF THRUST BLOCKS WHEN MUCK IS ENCOUNTERED.

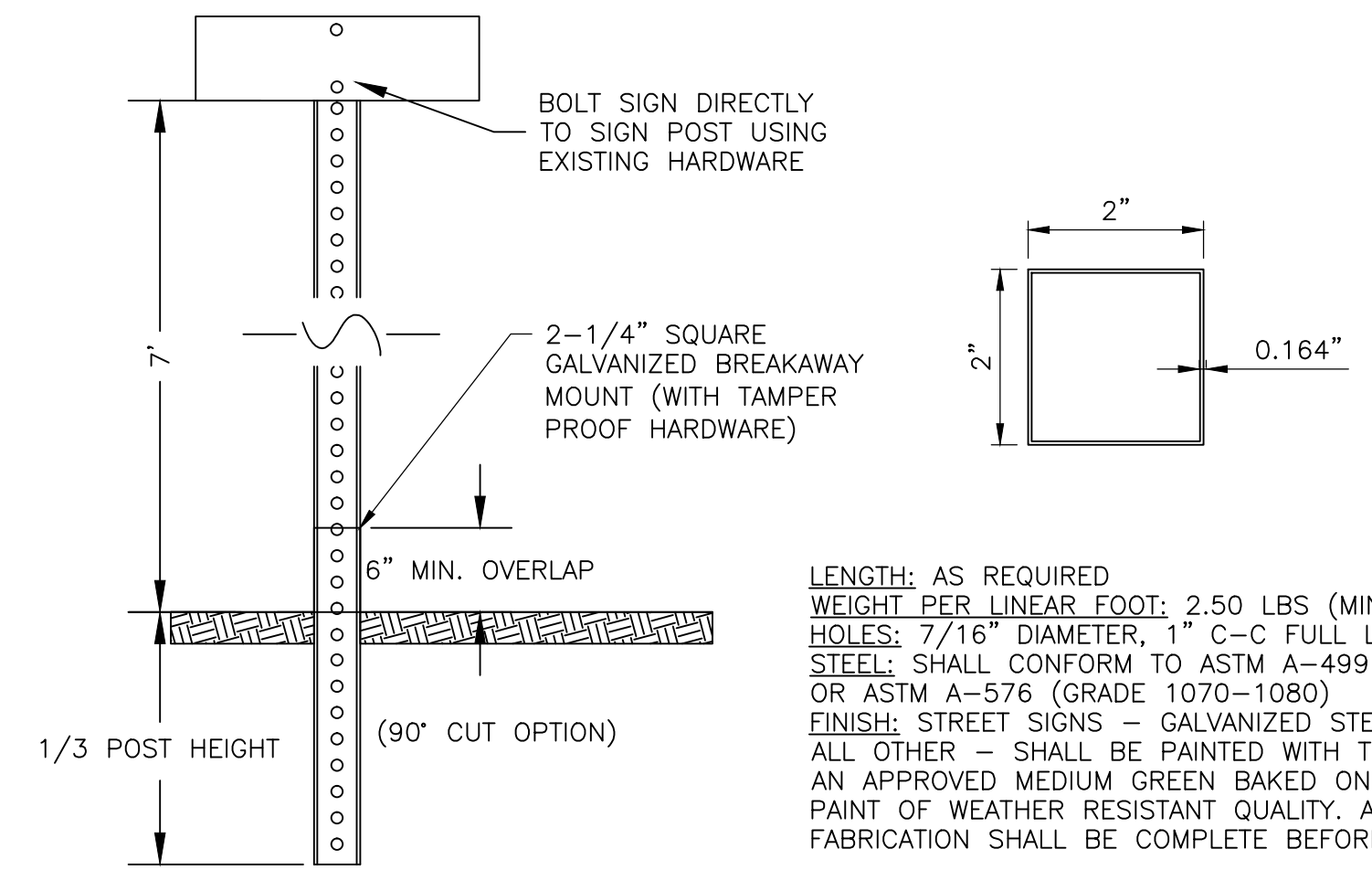


HYDRANT NOTES
 1. HYDRANT TO BE PLUMB.
 2. TRAFFIC FLANGE HEIGHT TO BE 6" MIN. ABOVE FINISH GRADE.
 3. ALL HYDRANTS TO BE COVERED WITH BURLAP BAGS UNTIL HYDRANTS ARE IN SERVICE AND UNDER OPERATION BY THE OWNER.
 4. SEE PROFILE FOR DEPTH OF WATER MAIN AT HYDRANT LOCATIONS. (HYDRANT EXTENSIONS MAY BE REQUIRED TO ALLOW TRAFFIC FLANGE TO BE AT PROPER DISTANCE ABOVE GROUND)
 5. HYDRANTS SHALL BE EDDY MODEL 2641, SHALL OPEN LEFT AND HAVE NO DRAIN.
 6. WRAP HYDRANT, BELOW GRADE AND ALL CONNECTING PIPING/FITTINGS IN 8 mil POLY.

HYDRANT WITH VALVE DETAIL
 NOT TO SCALE

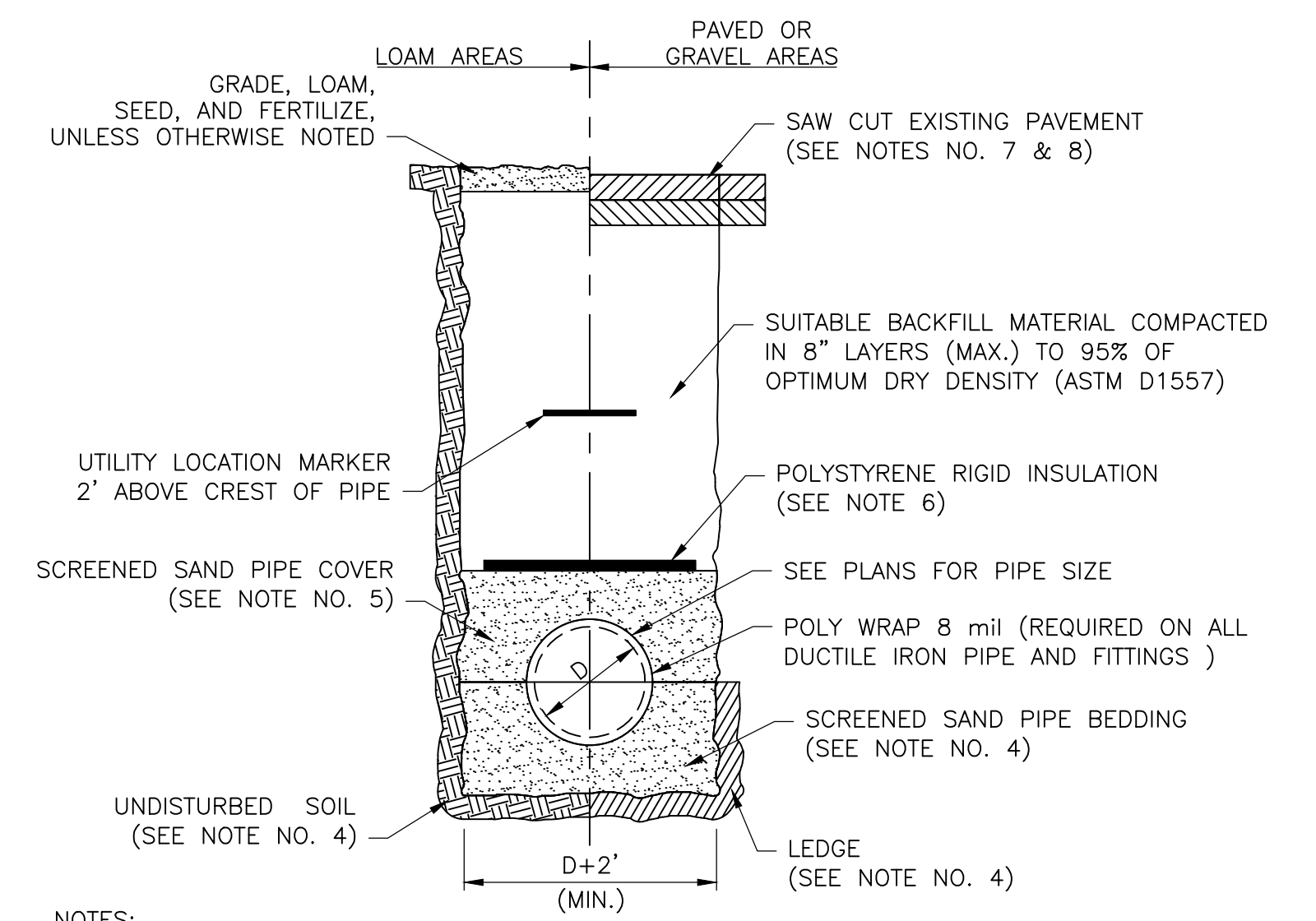


BURIED GATE VALVE DETAIL
 NOT TO SCALE



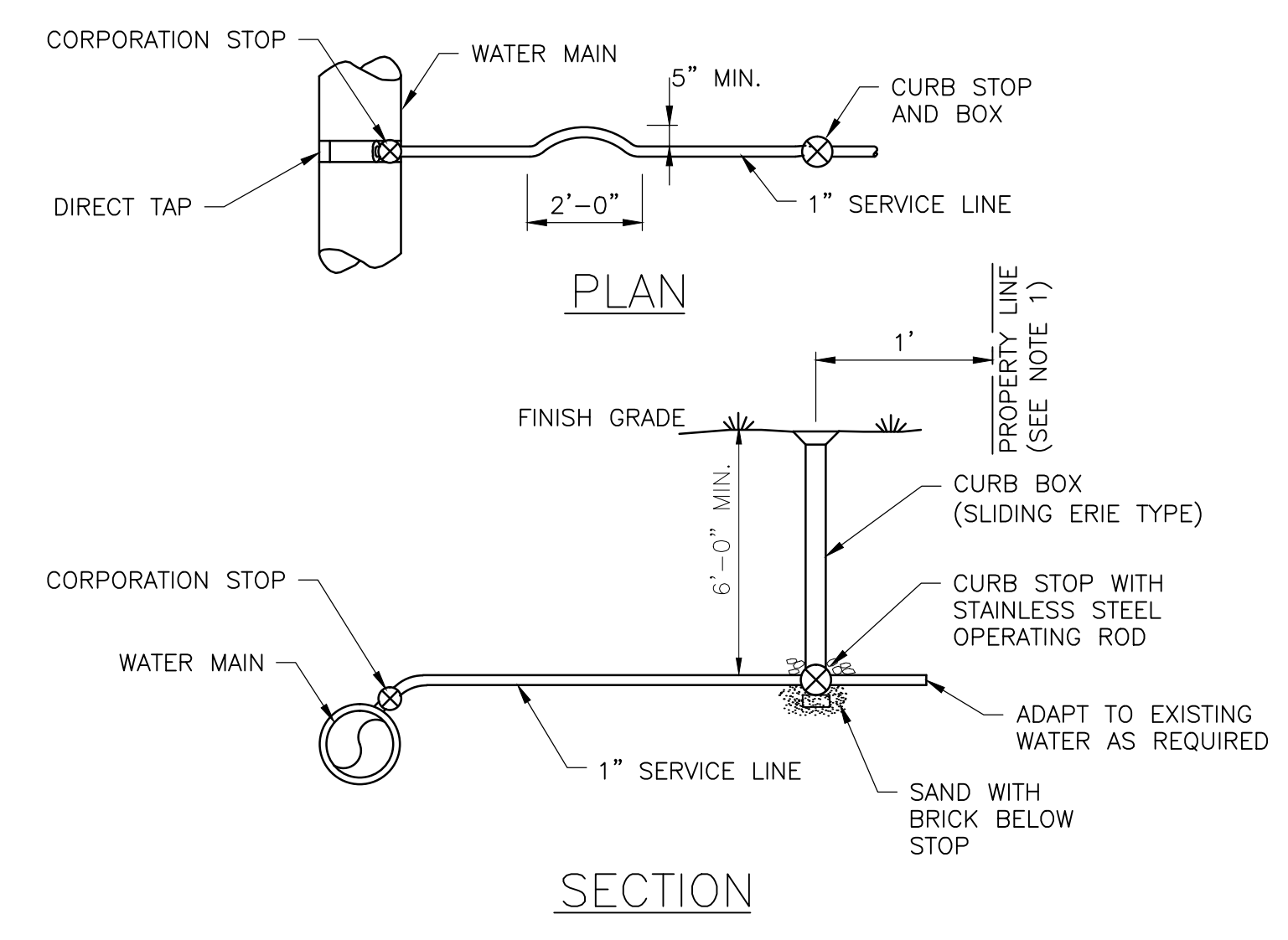
NOTES:
 1. ALL EXISTING SIGNS WITHIN THE PROJECT LIMITS SHALL BE REMOVED AND RE-INSTALLED ON NEW POSTS PER THIS DETAIL.
 2. ALL POSTS SHALL BE INSTALLED PLUMB AND DRIVEN TO DEPTH IDENTIFIED ABOVE.
 3. ALL SIGNS TO BE RE-INSTALLED PER THE LATEST EDITION OF THE FHWA STANDARD HIGHWAY SIGNS MANUAL AND INSTALLED AS INDICATED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.
 4. IN LEDGE DRILL & GROUT TO A MIN OF 2'.

SIGN POST DETAIL
 NOT TO SCALE



NOTES:
 1. ALL MATERIALS SHALL MEET APPLICABLE AWWA SPECIFICATIONS
 2. ALL EXCAVATION MUST MEET OSHA STANDARDS
 3. PIPE DIAMETERS EQUAL TO OR LESS THAN 2-INCHES SHALL BE TYPE "K" COPPER TUBING. PIPE DIAMETERS GREATER THAN 2-INCHES SHALL BE EITHER DUCTILE IRON PIPE CLASS 52 OR PVC C-900 CLASS 150 (DR18)
 4. BEDDING MATERIAL SHALL BE FULL WIDTH OF TRENCH. BEDDING MATERIAL SHALL BE 6" BELOW PIPE (IN EARTH) OR 12" BELOW PIPE (IN LEDGE) UP TO SPRING LINE OF PIPE.
 5. SAND COVER/CUSHION MATERIAL SHALL BE FULL WIDTH OF TRENCH. SAND MATERIAL SHALL BE FROM SPRING LINE UP TO 12" (MINIMUM) ABOVE CREST OF PIPE.
 6. ALL WATER MAINS AND SERVICES SHALL MAINTAIN A MINIMUM COVER OF 6'. IN THE EVENT THAT MINIMUM COVER IS NOT FEASIBLE, PIPES SHALL BE INSULATED WITH RIGID HIGH DENSITY EXTRUDED POLYSTYRENE (MINIMUM 60psi COMPRESSIVE STRENGTH), LOCATED 6" ABOVE CREST OF PIPE AND SHALL BE A MINIMUM WIDTH OF D+12", 1-INCH OF INSULATION PER FOOT OF COVER NOT ACHIEVED - MAXIMUM THICKNESS 2-INCH SHALL BE INSTALLED.
 7. PAVEMENT REPAIR SHALL CONFORM TO STREET OPENING REGULATIONS (WITHIN RIGHT-OF-WAY LIMITS), PAVEMENT SECTION DETAIL (OUTSIDE OF RIGHT-OF-WAY LIMITS) AND FOLLOW NOTE NO. 8.
 8. DURING PAVEMENT REPAIR, THE CONTRACTOR SHALL CUT-BACK SUBBASE MATERIAL AN ADDITIONAL 12-INCHES ON EITHER SIDE OF THE TRENCH AND PAVEMENT COLD PLANE MILL AREA TO A DEPTH OF 1-3/4" AN ADDITIONAL 24-INCHES ON EITHER SIDE OF SUBBASE MATERIAL CUT-BACK.

WATER MAIN/SERVICE PIPE TRENCH DETAIL
 NOT TO SCALE



NOTE:
 1. CURB BOX SHALL BE LOCATED BEHIND THE SIDEWALK. IN AREAS WHERE THIS IS NOT FEASIBLE USE A ROADWAY COVER SET IN THE CONCRETE WALK OR DRIVEWAY.

WATER SERVICE CONNECTION DETAIL
 NOT TO SCALE

NO.	DATE	DESCRIPTION	BY	CK'D

CITY OF DOVER
 288 CENTRAL AVE
 DOVER, NH 03820

CITY OF DOVER
 KEATING-
 BIRCHWOOD AREA
 RECONSTRUCTION

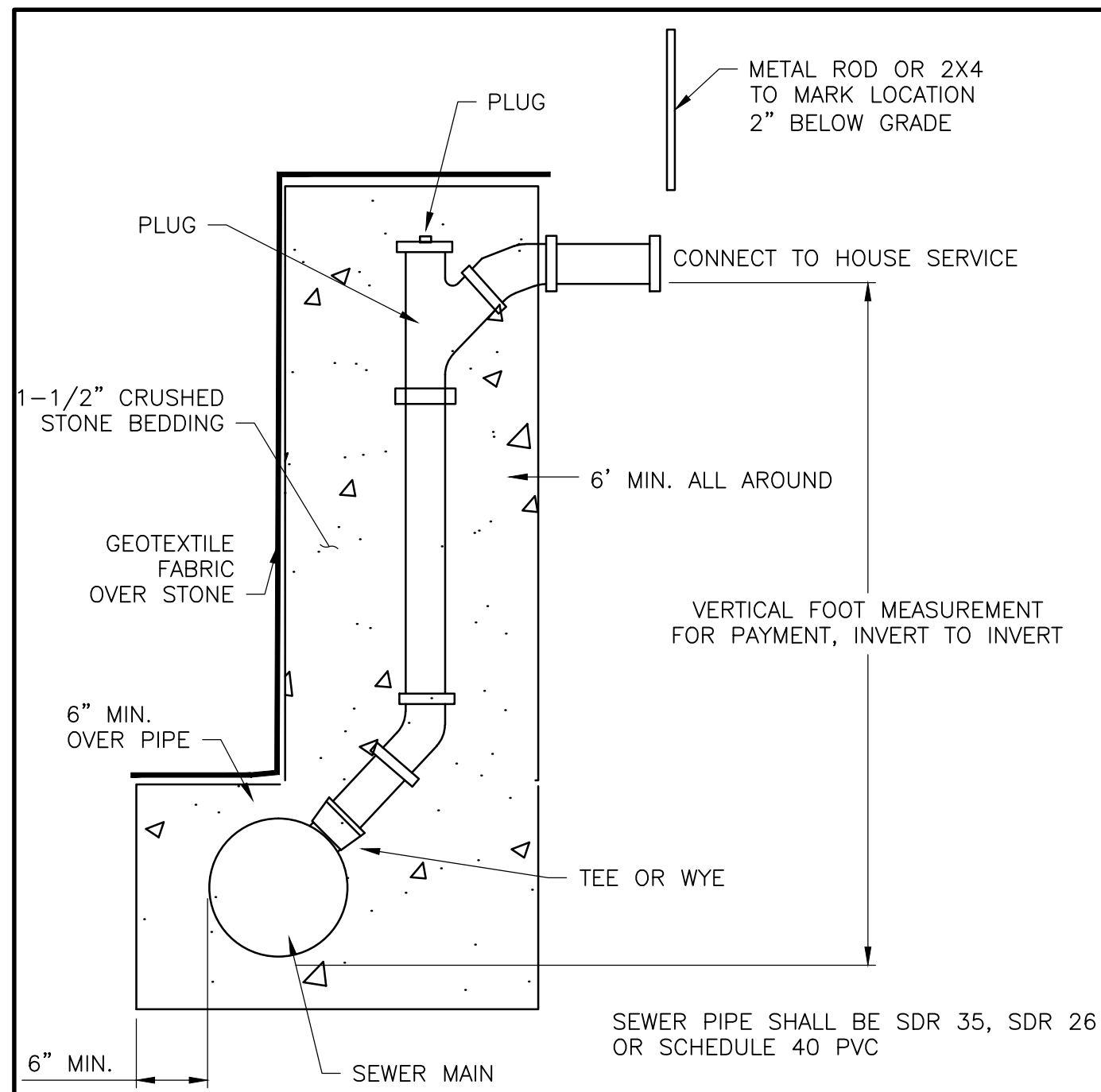
SHEET TITLE

DETAILS

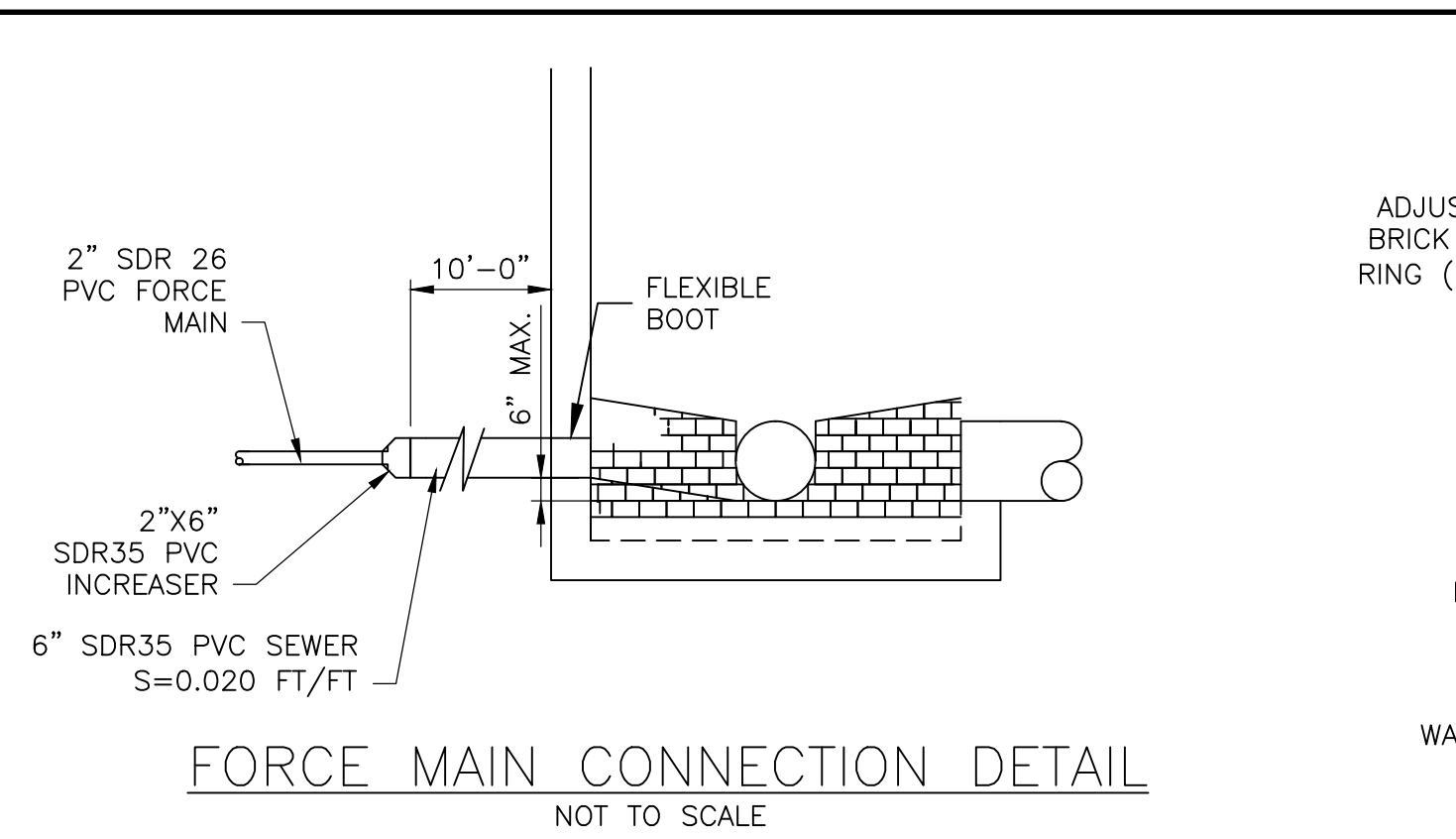
DRAWN BY KLL	DATE FEB 2017
CHECKED BY CKG	D&K PROJECT # 222952
PROJ. ENG. NJS	D&K ARCHIVE #

SHEET NUMBER

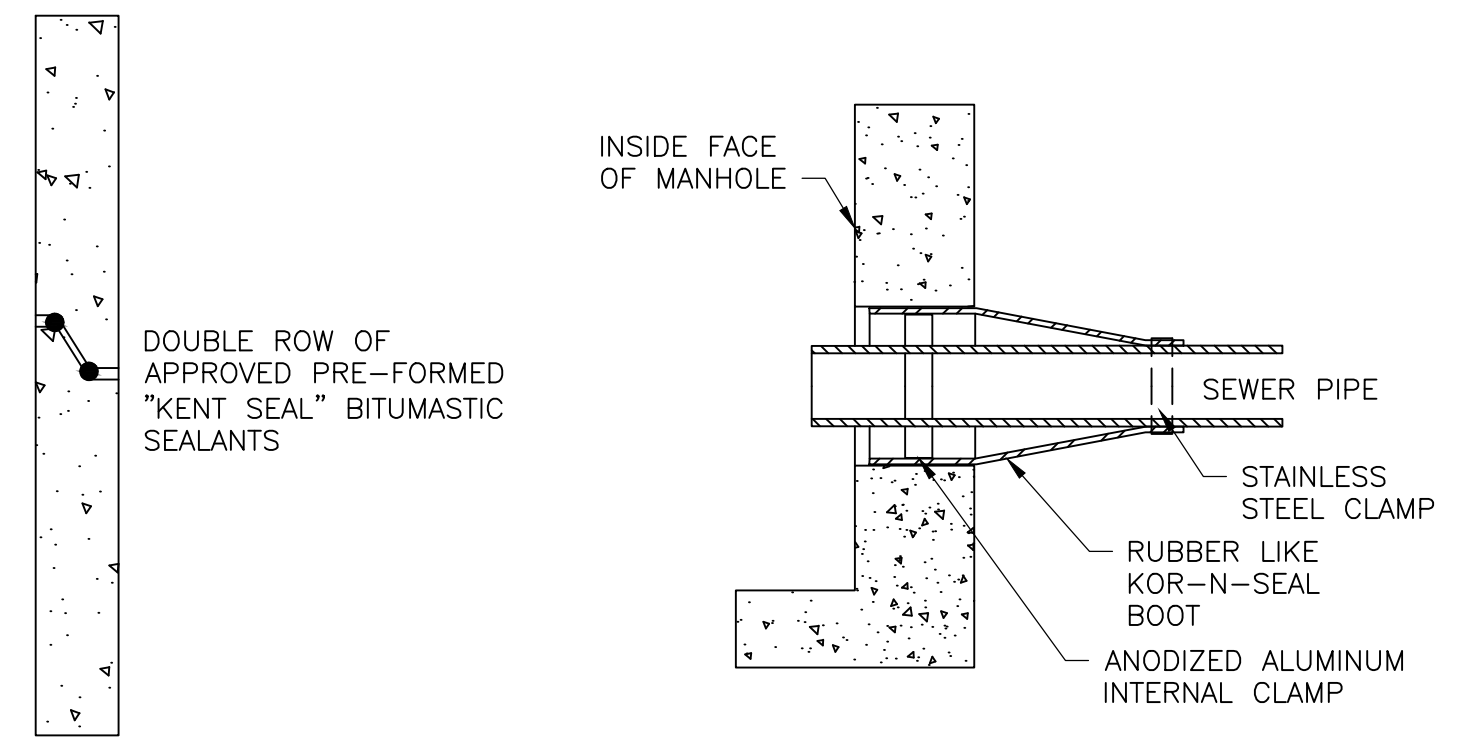
D-2



SEWER CHIMNEY DETAIL
NOT TO SCALE

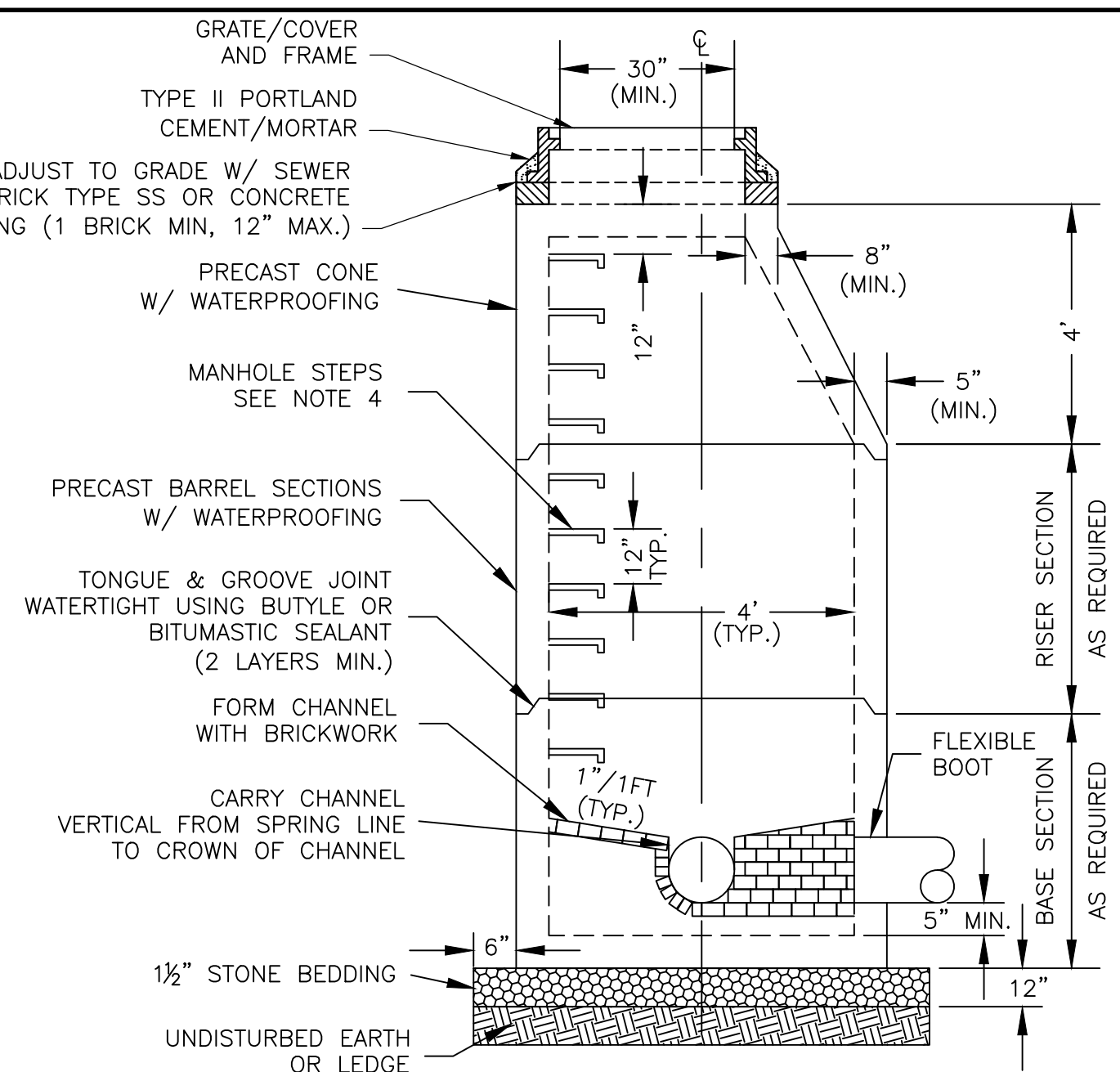


FORCE MAIN CONNECTION DETAIL
NOT TO SCALE



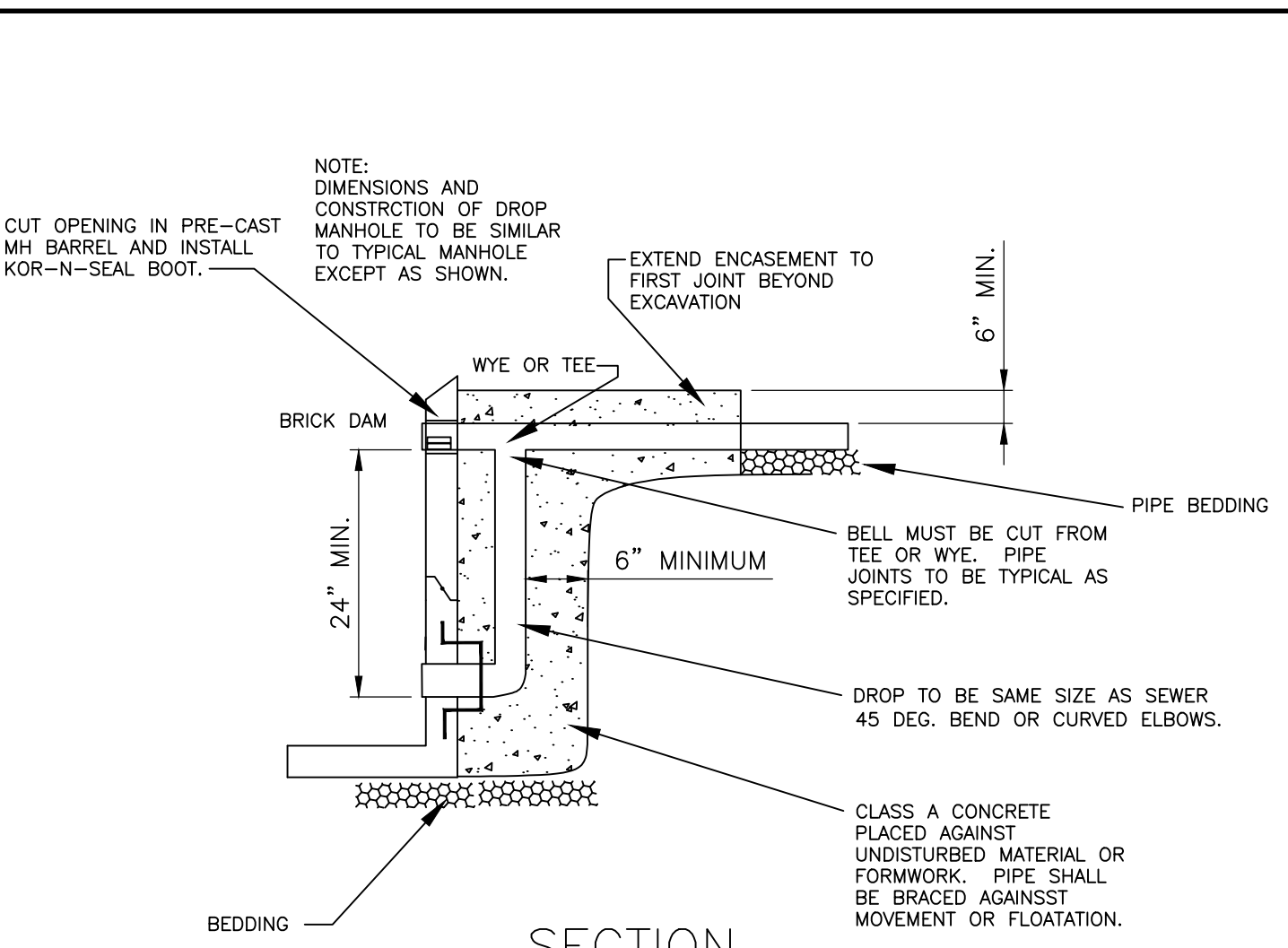
BITUMASTIC SEALANT DETAIL
NOT TO SCALE

KOR-N-SEAL JOINT SLEEVE
NOT TO SCALE

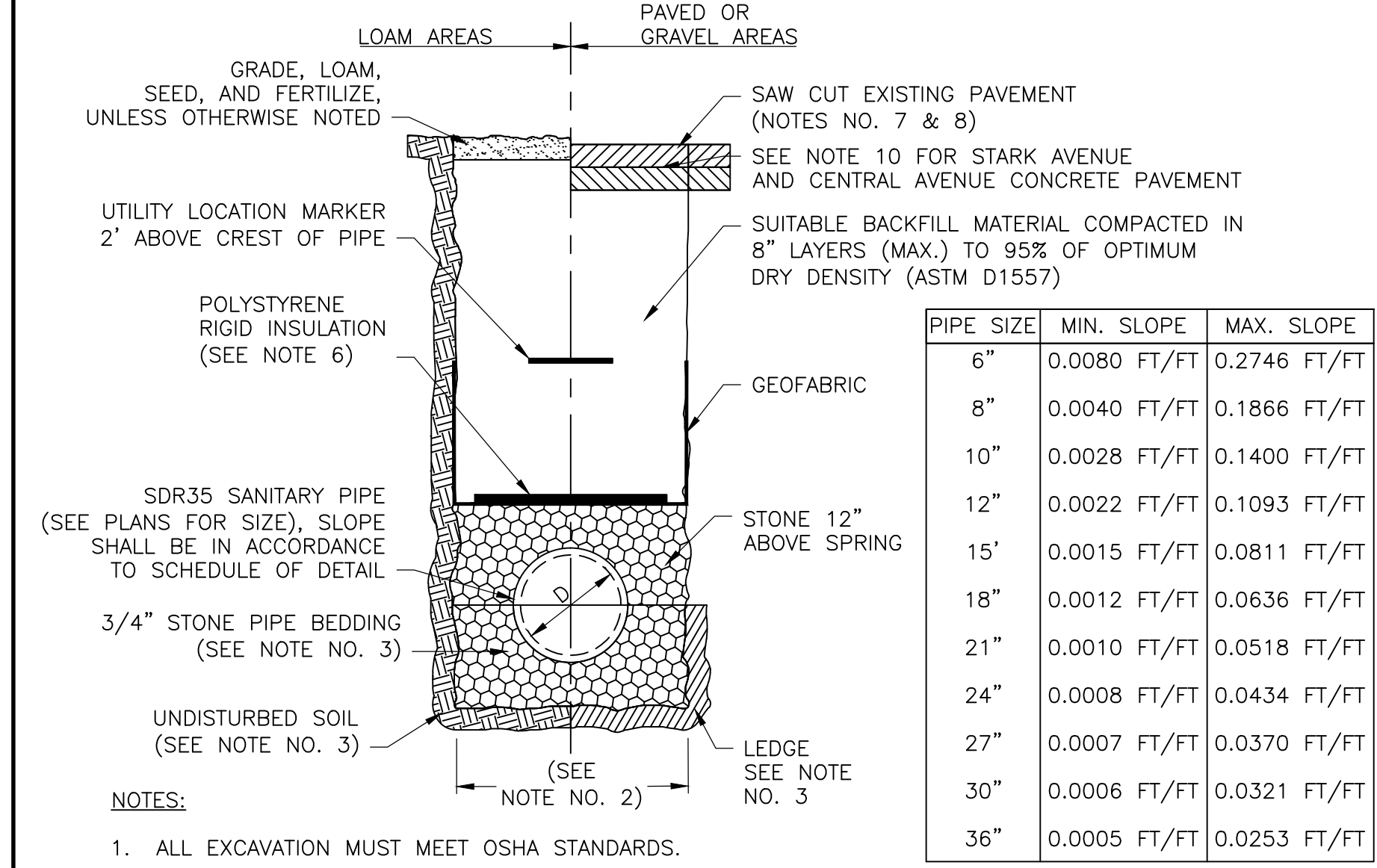


- NOTES:**
1. PRECAST SECTIONS SHALL MEET HS-20 LOADING, CONSIST OF CONCRETE THAT IS A MINIMUM OF 4000psi @28 DAYS AND SHALL BE MANUFACTURED IN ACCORDANCE WITH ASTM C-478; LATEST REVISION.
 2. ALL STRUCTURES WITH MULTIPLE PIPES SHALL HAVE A MINIMUM OF 300mm (11") OF OUTSIDE SURFACE BETWEEN HOLES AND NO MORE THAN 75% OF A HORIZONTAL CROSS-SECTION SHALL BE HOLES.
 3. MANHOLE LEAKAGE TESTING SHALL COMPLY WITH SPECIFICATIONS.
 4. MANHOLE STEPS SHALL MEET THE REQUIREMENTS OF ASTM C478 AND NHDES ENV.-WQ 704.14

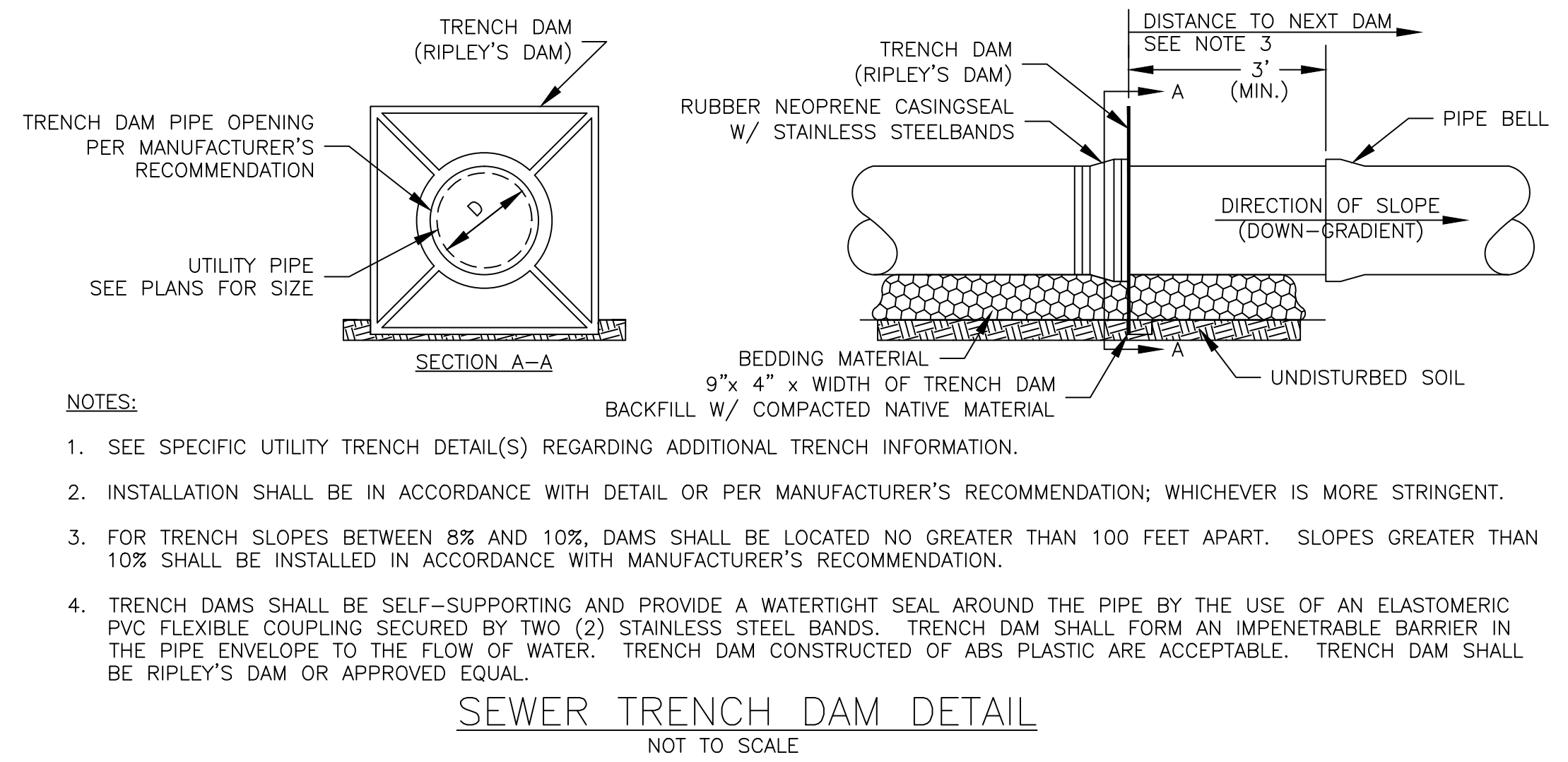
SANITARY MANHOLE DETAIL
NOT TO SCALE



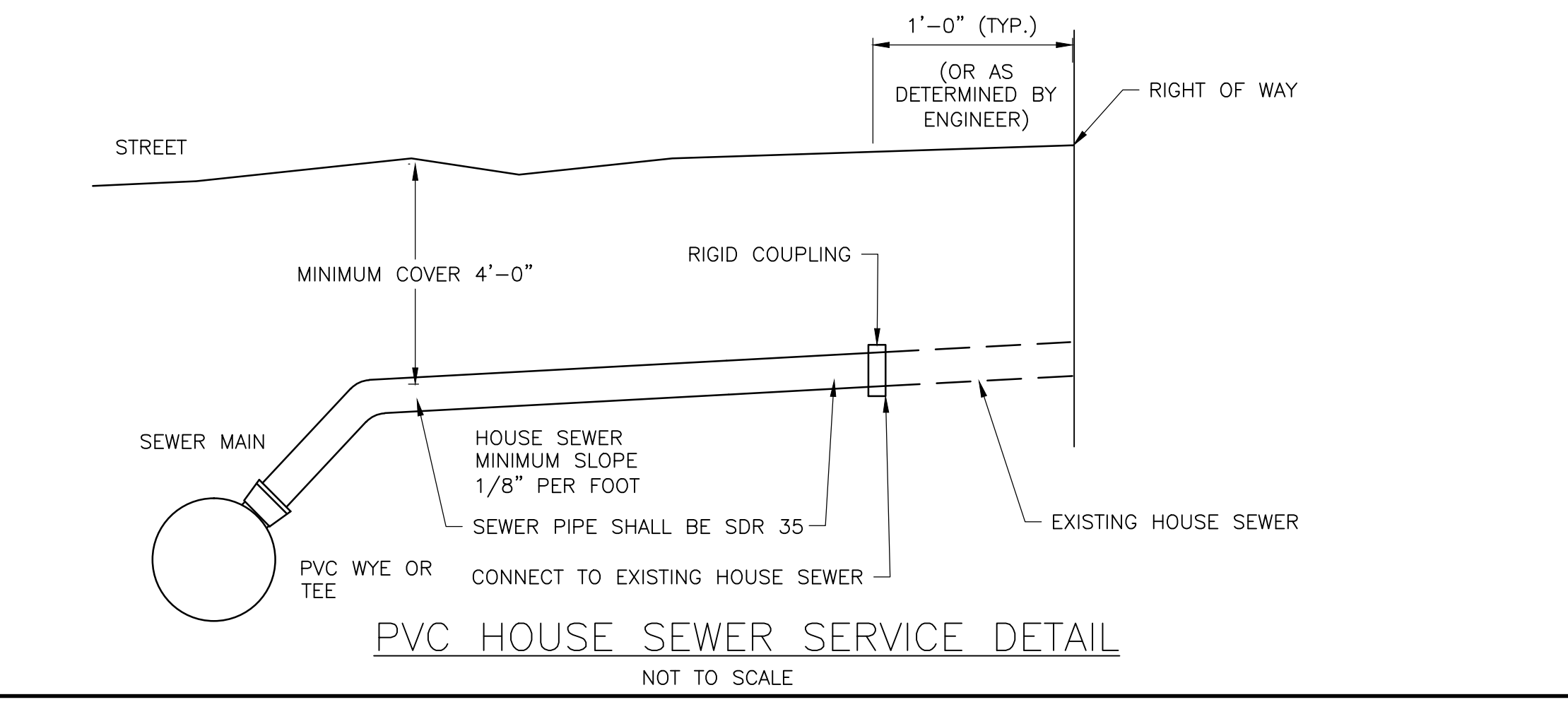
OUTSIDE DROP MANHOLE DETAIL
NOT TO SCALE



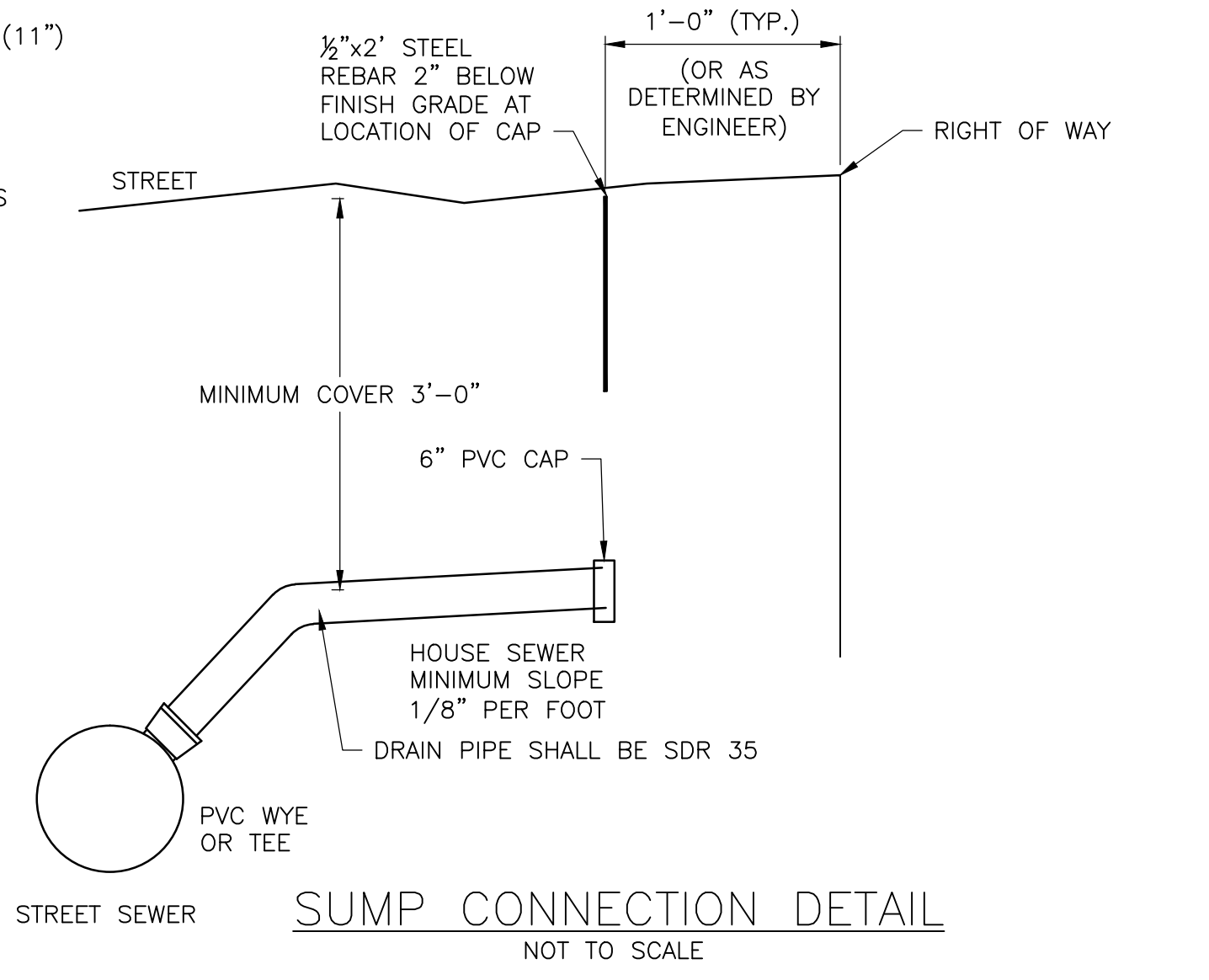
GRAVITY SEWER PIPE TRENCH DETAIL
NOT TO SCALE



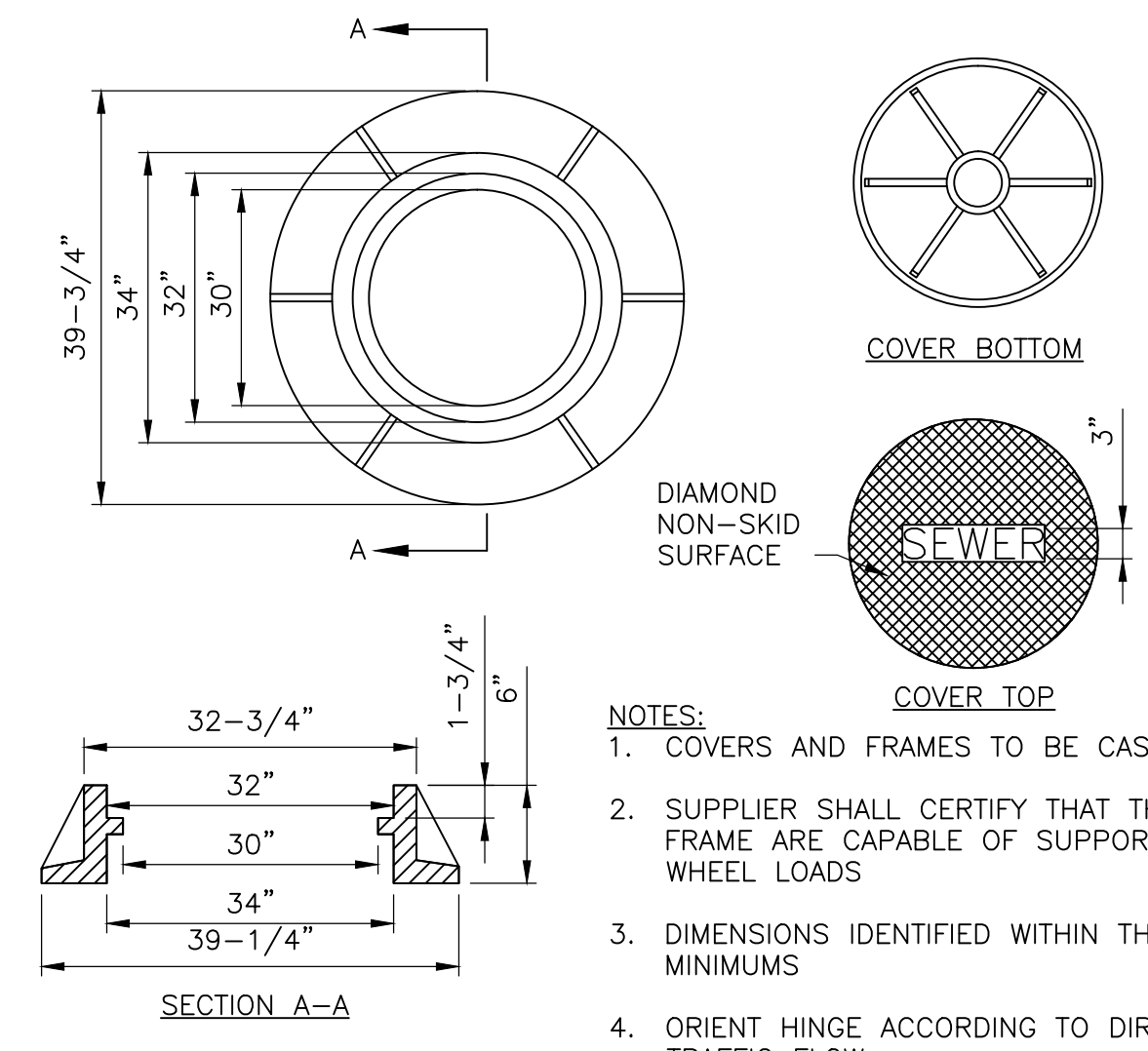
SEWER TRENCH DAM DETAIL
NOT TO SCALE



PVC HOUSE SEWER SERVICE DETAIL
NOT TO SCALE

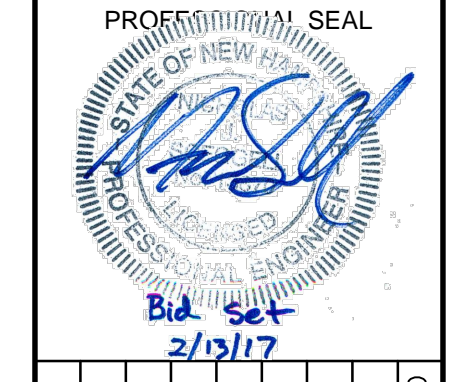


SUMP CONNECTION DETAIL
NOT TO SCALE



SANITARY MANHOLE COVER AND FRAME DETAIL
NOT TO SCALE

DuBois & King inc.
ENGINEERING • PLANNING • MANAGEMENT • DEVELOPMENT
831 UNION AVE
LACONIA, NH 03246
TEL: (603) 524-1166
FAX: (866) 783-7101
www.dubois-king.com
BEDFORD, NH
RANDOLPH, VT
SOUTH BURLINGTON, VT
SPRINGFIELD, VT
© Copyright 2016 Dubois & King Inc.



NO.	DATE	DESCRIPTION	BY	CK'D

CITY OF DOVER
288 CENTRAL AVE
DOVER, NH 03820

CITY OF DOVER
KEATING-
BIRCHWOOD AREA
RECONSTRUCTION

SHEET TITLE

DETAILS

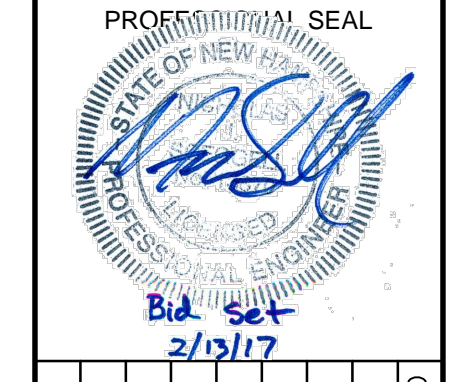
DRAWN BY	DATE
KLL	FEB 2017
CHECKED BY	D&K PROJECT #
CKG	222952
PROJ. ENG.	D&K ARCHIVE #
NJS	

SHEET NUMBER

D-3

SHEET 46 OF 47

I:\222952-Dover\Keating Birchwood\Drawings\222952-D.dwg 2/6/2017 12:09 PM



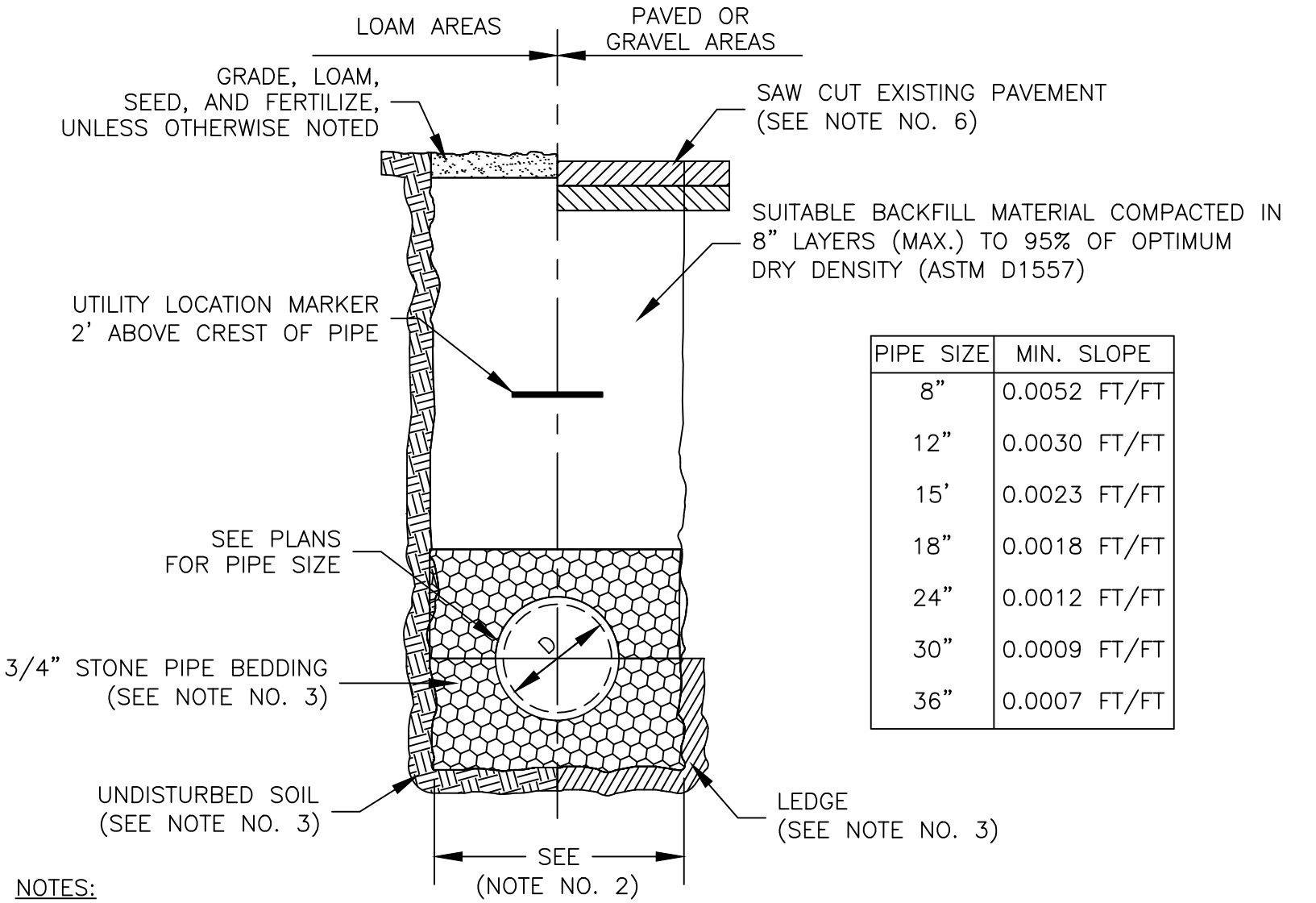
NO.	DATE	DESCRIPTION	BY	CK'D

CITY OF DOVER
 288 CENTRAL AVE
 DOVER, NH 03820

CITY OF DOVER
 KEATING-
 BIRCHWOOD AREA
 RECONSTRUCTION

SHEET TITLE	
DETAILS	
DRAWN BY	DATE
KLL	FEB 2017
CHECKED BY	D&K PROJECT #
CKG	222952
PROJ. ENG.	D&K ARCHIVE #
NJS	

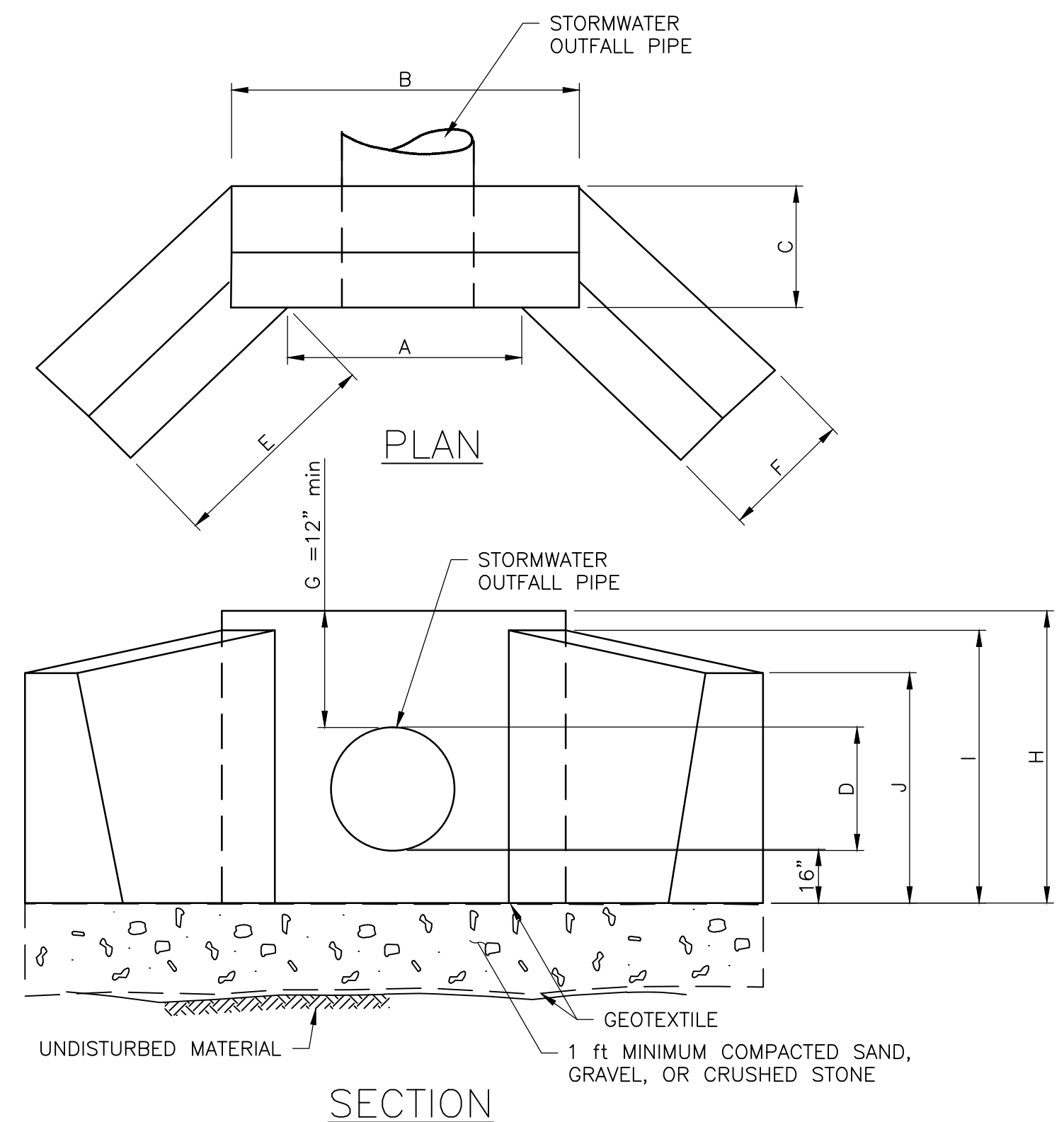
SHEET NUMBER
D-4
 SHEET 47 OF 47



PIPE SIZE	MIN. SLOPE
8"	0.0052 FT/FT
12"	0.0030 FT/FT
15"	0.0023 FT/FT
18"	0.0018 FT/FT
24"	0.0012 FT/FT
30"	0.0009 FT/FT
36"	0.0007 FT/FT

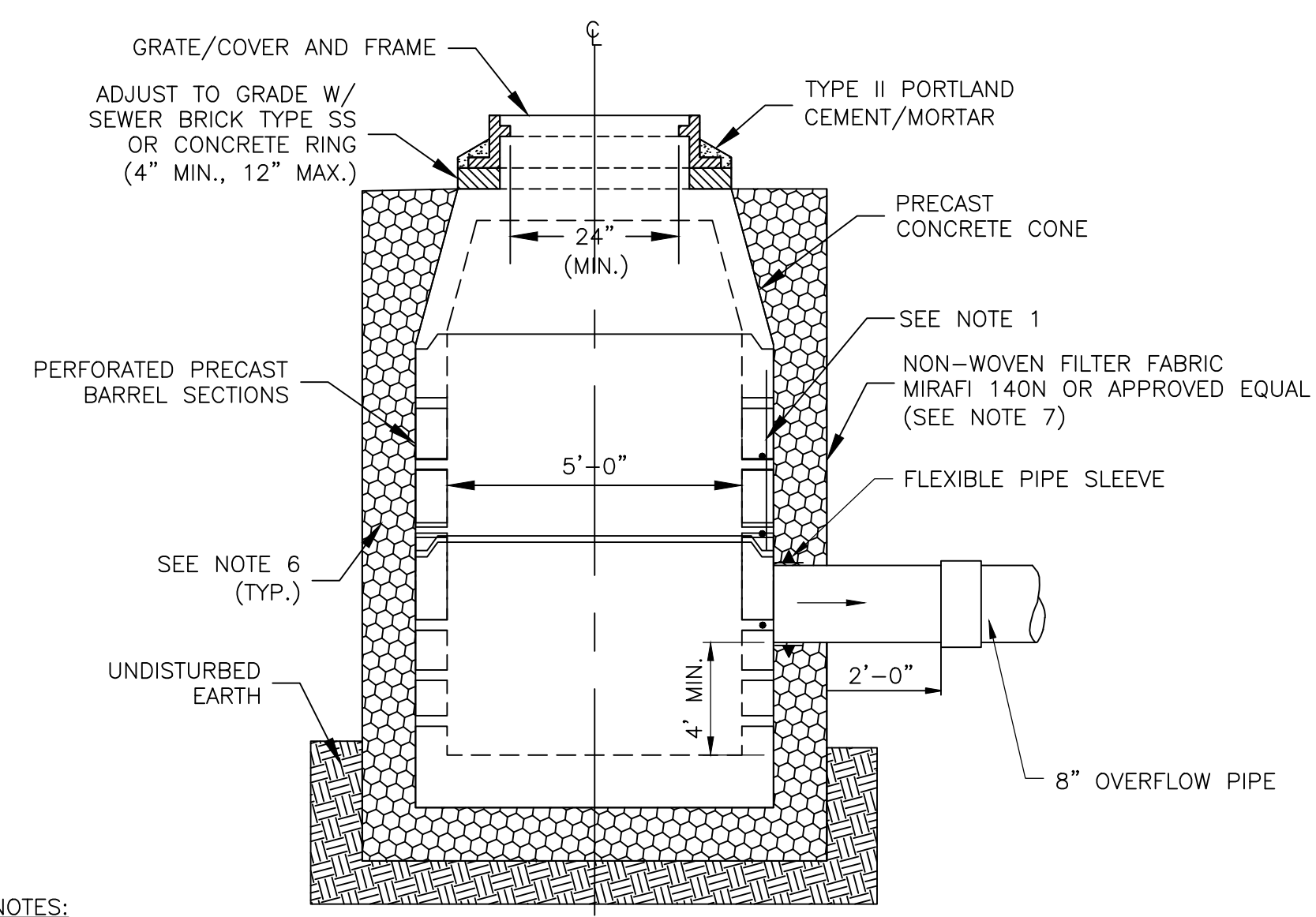
- NOTES:**
- ALL EXCAVATION MUST MEET OSHA STANDARDS.
 - STANDARD TRENCH WIDTH SHALL BE D+2' OR 3'; WHICHEVER IS GREATER.
 - BEDDING MATERIAL SHALL BE FULL WIDTH OF TRENCH. BEDDING MATERIAL SHALL BE 6" BELOW PIPE (IN EARTH) OR 12" BELOW PIPE (IN LEDGE) UP TO SPRING LINE OF PIPE.
 - STORM DRAIN LAYOUT PLAN PIPE SLOPES SHALL GOVERN OVER MINIMUM PIPE SLOPE SCHEDULE.
 - PAVEMENT REPAIR SHALL CONFORM TO STREET OPENING REGULATIONS (WITHIN RIGHT-OF-WAY LIMITS), PAVEMENT SECTION DETAIL (OUTSIDE OF RIGHT-OF-WAY LIMITS) AND FOLLOW NOTE NO. 7.
 - DURING PAVEMENT REPAIR, THE CONTRACTOR SHALL CUT-BACK SUBBASE MATERIAL AN ADDITIONAL 12-INCHES ON EITHER SIDE OF THE TRENCH AND PAVEMENT COLD PLANE MILL AREA TO A DEPTH OF 1-3/4" AN ADDITIONAL 24-INCHES ON EITHER SIDE OF SUBBASE MATERIAL CUT-BACK.

STORM DRAIN PIPE TRENCH DETAIL
 NOT TO SCALE



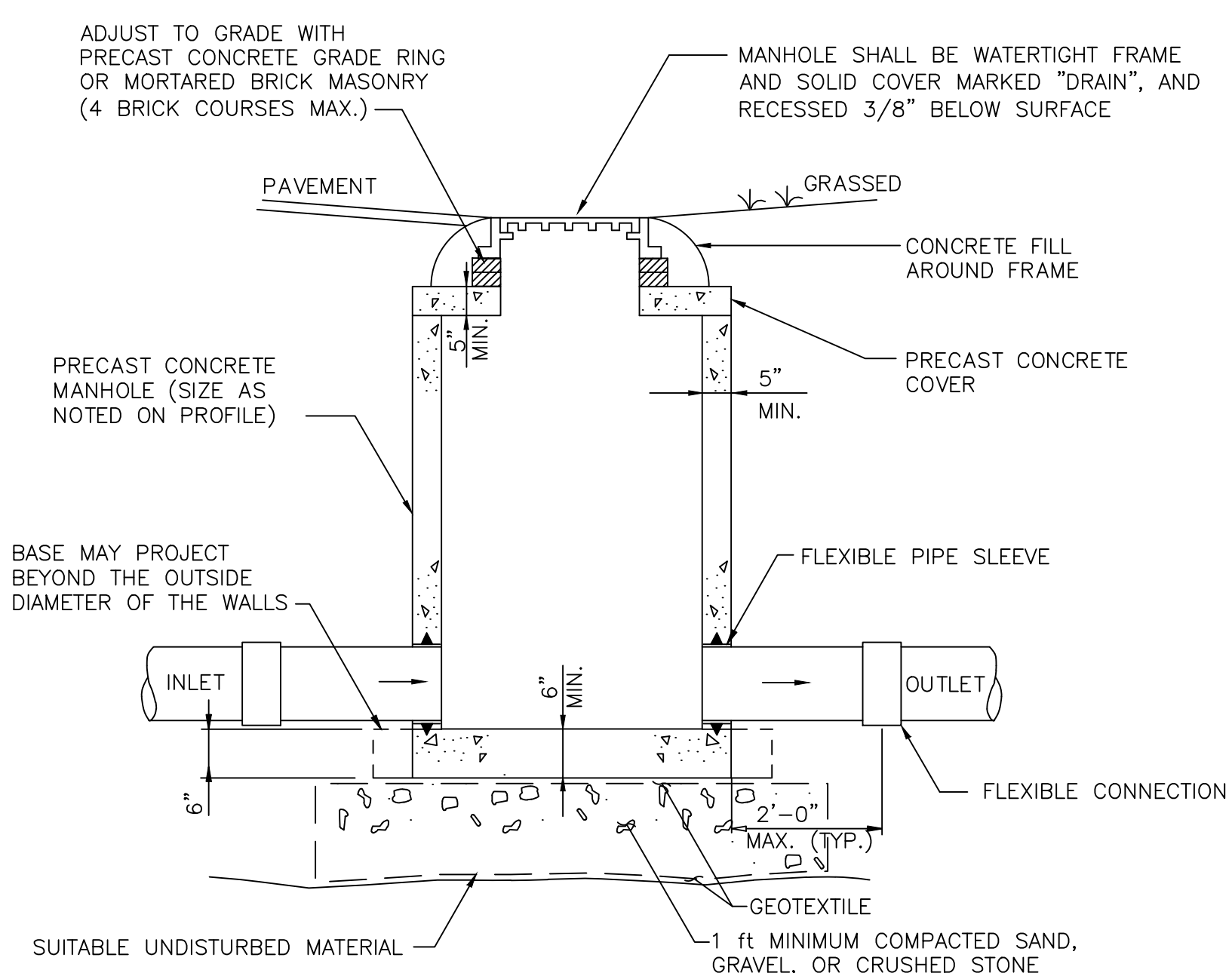
STORMWATER PIPE DIAMETER (INCHES)	DIMENSIONS FOR 2 : 1 FILL SLOPE SINGLE PIPE									
	A	B	C	E	F	G	H	I	J	
15	1'-6"	4'-6"	2'-2"	1'-6"	1'-11"	1'-0"	3'-11"	3'-3"	3'-0"	
18	2'-0"	4'-6"	2'-2"	2'-0"	1'-11"	1'-0"	4'-2"	3'-6"	3'-3"	

PRECAST CONCRETE HEADWALL DETAIL
 SINGLE ADS N12 PIPE WITH 45 DEGREE WINGS
 NOT TO SCALE



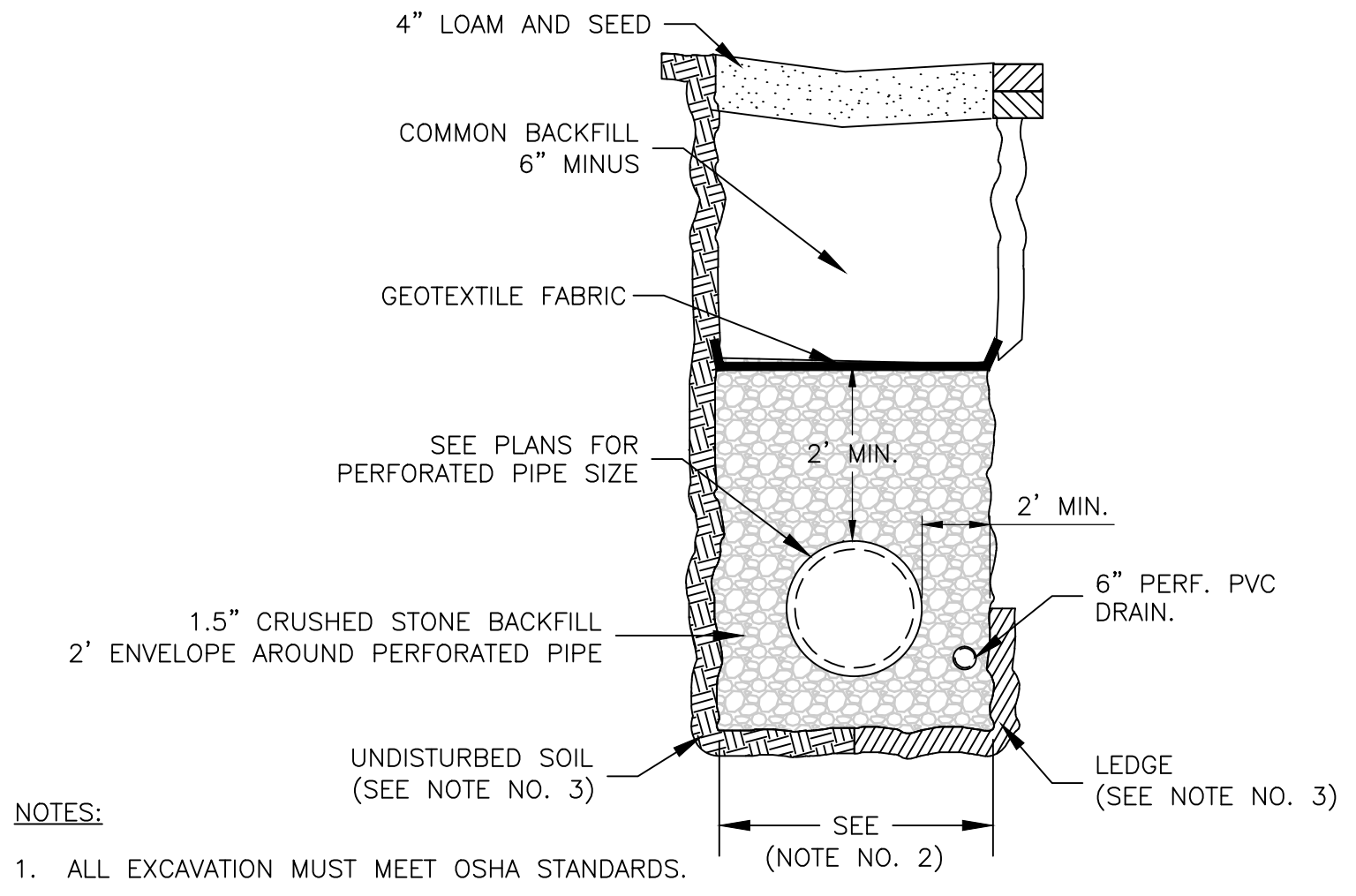
- NOTES:**
- PRECAST SECTIONS SHALL BE REINFORCED AND BE 5" THICK FOR A 4' DIAMETER STRUCTURE, 6" THICK FOR A 5' DIAMETER STRUCTURE, 7" THICK FOR A 6' DIAMETER STRUCTURE AND 9" THICK FOR A 8' DIAMETER STRUCTURE.
 - PRECAST BASE SECTIONS SHALL BE REINFORCED AND CONSIST OF A FLOOR THICKNESS OF 6" THICK FOR A 4' DIAMETER STRUCTURE, 8" THICK FOR A 5' DIAMETER STRUCTURE, 8" THICK FOR A 6' DIAMETER STRUCTURE AND 10" THICK FOR A 8' DIAMETER STRUCTURE.
 - PRECAST SECTIONS SHALL MEET HS-20 LOADING, CONSIST OF CONCRETE THAT IS A MINIMUM OF 4000psi @28 DAYS AND SHALL BE MANUFACTURED IN ACCORDANCE WITH ASTM C-478; LATEST REVISION.
 - PRECAST SECTIONS SHALL HAVE TONGUE AND GROOVE JOINT 4" HIGH AT AN 11-DEGREE ANGLE CENTERED IN THE WIDTH OF THE WALL AND SHALL BE ASSEMBLED USING AN APPROVED FLEXIBLE SEALANT IN JOINTS.
 - PRECAST CONE SECTIONS MAY BE EITHER CONCENTRIC, ECCENTRIC OR FLAT SLAB TOPS MAY BE USED WHERE PIPE WOULD OTHERWISE ENTER INTO THE CONE SECTION OF THE STRUCTURE AND WHERE PERMITTED.
 - PLACE 3/4" - 1" SCREENED GRAVEL AND/OR CRUSHED STONE AT A MINIMUM DEPTH OF 12" ALONG THE BOTTOM AND SIDES OF THE STRUCTURE.
 - PLACE NON-WOVEN FILTER FABRIC MIRAFI 140N OR APPROVED EQUAL AROUND STONE MATERIAL TO PREVENT EXISTING EARTH MATERIAL FROM IMPACTING POROUS STONE MATERIAL.
 - SEE PLANS FOR STRUCTURE SIZES.

LEACHING CATCH BASIN DETAIL
 NOT TO SCALE



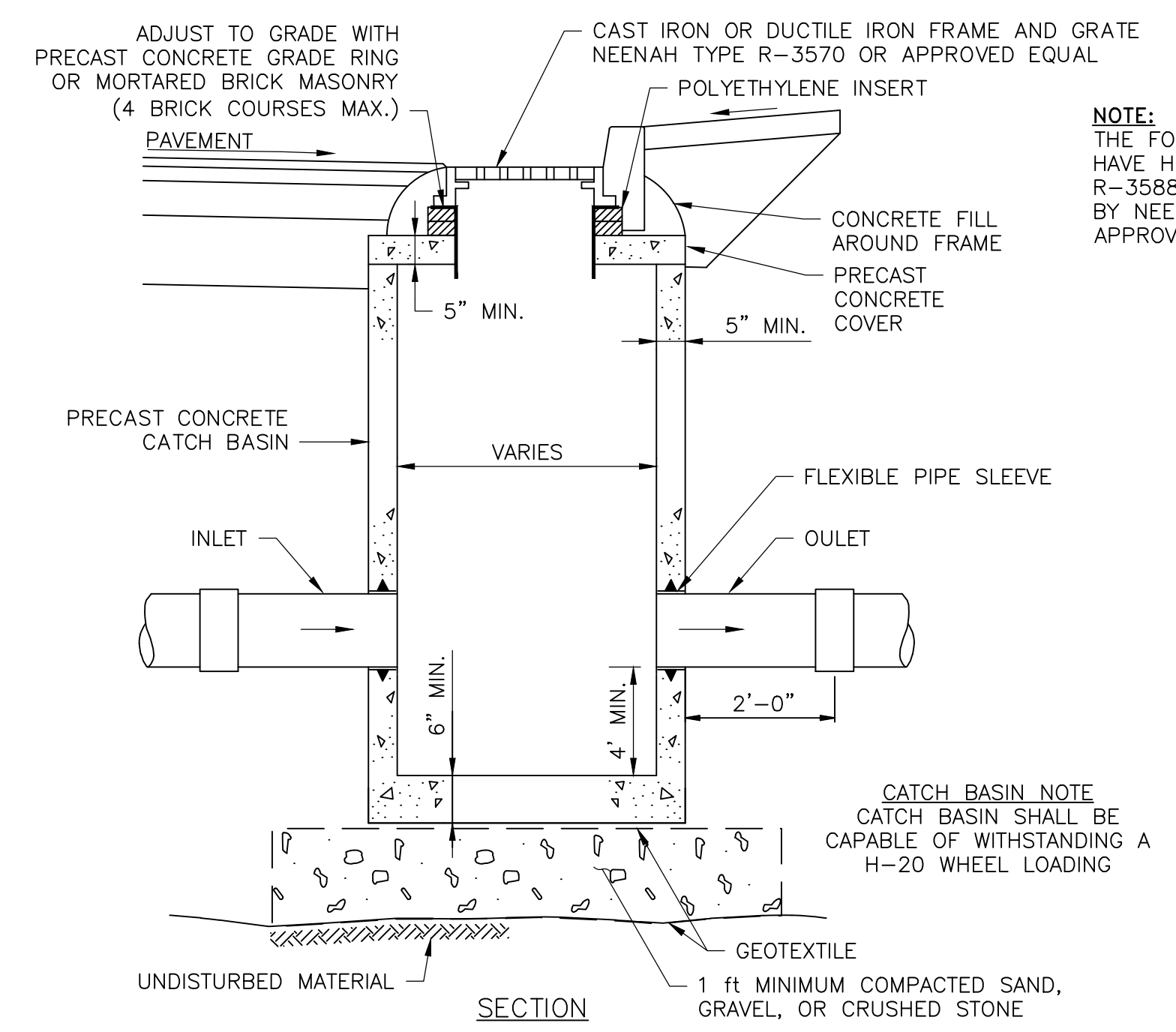
- NOTES:**
- WHEN MANHOLE DEPTH IS LESS THAN 6 FEET, A FLAT REINFORCED CONCRETE COVER WITH AN ECCENTRIC OPENING AND CAPABLE OF H-20 WHEEL LOADS MAY BE USED.
 - MANHOLES SHALL BE CAPABLE OF WITHSTANDING H-20 WHEEL LOADS. ADDITIONAL REINFORCING AND/OR WALL THICKNESS MAY BE REQUIRED TO MEET THE H-20 WHEEL LOAD.
 - MANHOLE FRAMES AND COVERS SHALL BE NEENAH "LIFTMATE" R-1743-LM 30" dia. CLEAR OPENING. TO BE WATERTIGHT WITH CAMLOCK OR EQUAL

STORM DRAIN MANHOLE DETAIL
 NOT TO SCALE



- NOTES:**
- ALL EXCAVATION MUST MEET OSHA STANDARDS.
 - STANDARD TRENCH WIDTH SHALL BE D+2' OR 3'; WHICHEVER IS GREATER.
 - BEDDING MATERIAL SHALL BE FULL WIDTH OF TRENCH. BEDDING MATERIAL SHALL BE 6" BELOW PIPE (IN EARTH) OR 12" BELOW PIPE (IN LEDGE) UP TO SPRING LINE OF PIPE.
 - STORM DRAIN LAYOUT PLAN PIPE SLOPES SHALL GOVERN OVER MINIMUM PIPE SLOPE SCHEDULE.

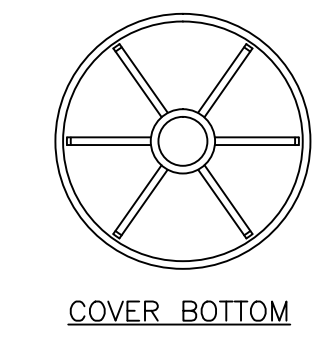
STORM DRAIN INFILTRATION PIPE TRENCH DETAIL
 NOT TO SCALE



- NOTE:**
 THE FOLLOWING CBS SHALL HAVE HIGH FLOW GRATE, MODEL R-3588-LL AS MANUFACTURED BY NEENAH FOUNDRY OR APPROVED EQUAL:
- CB-2
 - CB-3
 - CB-4
 - CB-5
 - CB-6
 - CB-7
 - CB-13
 - CB-14
 - CB-32
 - CB-33
 - CB-34
 - CB-35
 - CB-36
 - CB-37
 - CB-38

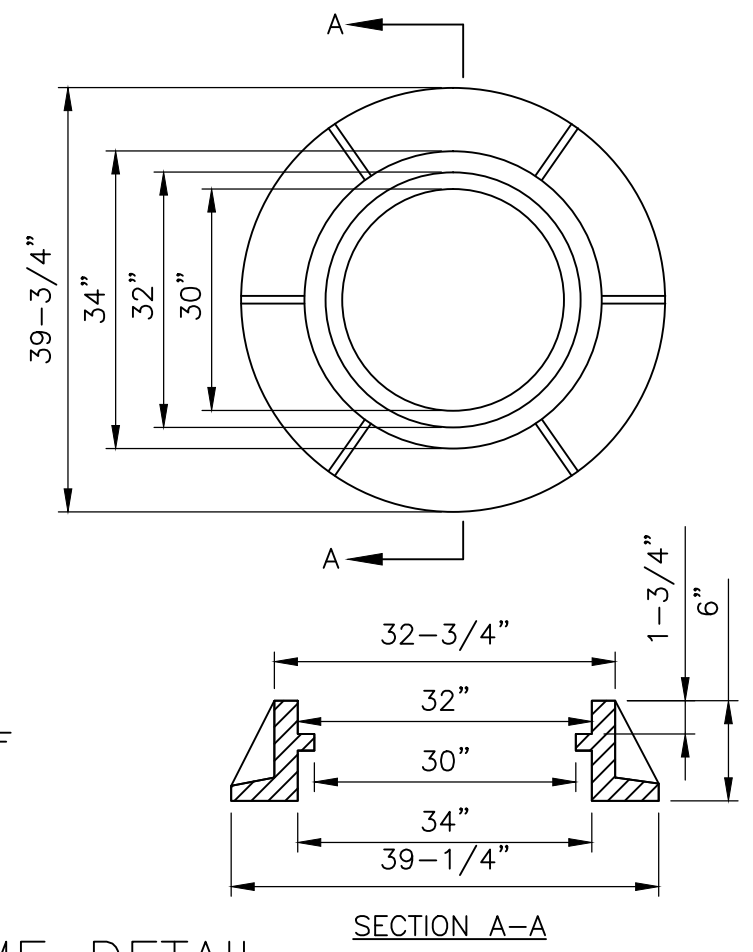
CATCH BASIN NOTE
 CATCH BASIN SHALL BE CAPABLE OF WITHSTANDING A H-20 WHEEL LOADING

PRECAST CONCRETE CATCH BASIN DETAIL
 NOT TO SCALE



- NOTES:**
- COVERS AND FRAMES TO BE CAST IRON
 - SUPPLIER SHALL CERTIFY THAT THE COVER AND FRAME ARE CAPABLE OF SUPPORTING H-20 WHEEL LOADS
 - DIMENSIONS IDENTIFIED WITHIN THIS DETAIL ARE MINIMUMS
 - ORIENT HINGE ACCORDING TO DIRECTION OF TRAFFIC FLOW
 - NEENAH "LIFTMATE" R-1743-LM

STORM DRAIN MANHOLE COVER AND FRAME DETAIL
 NOT TO SCALE



I:\222952-Dover Keating Birchwood Drawings\222952-D.dwg 2/6/2017 12:11 PM