06-14-2019 LETTING ITEM 230

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 945	15-00082 -00-RS	ALEXANDER	18	1
FED. ROAD DIST NO.		ILLINOIS	CONTRACT NO 99629	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED
SURFACE TRANSPORTATION PROGRAM
HIGHWAY SAFETY IMPROVEMENT PROJECT

ALEXANDER COUNTY
F.A.S. 945 /C.H. 4 / GRAPEVINE TRAIL
SECTION 15-00082-00-RS
RESURFACING
PROJECT UA5K(665)
JOB C-99-516-16

INDEX OF SHEETS

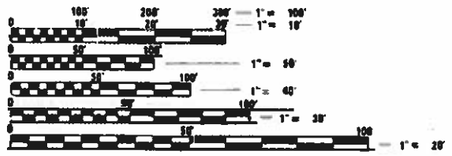
FOR HIGHWAY STANDARDS SEE SHT. 2

UTILITIES

AT&T DISTRIBUTION
1640 HAZEL DELL RD
SPRINGFIELD, IL 62703
JAMES DARR
21-789-8771

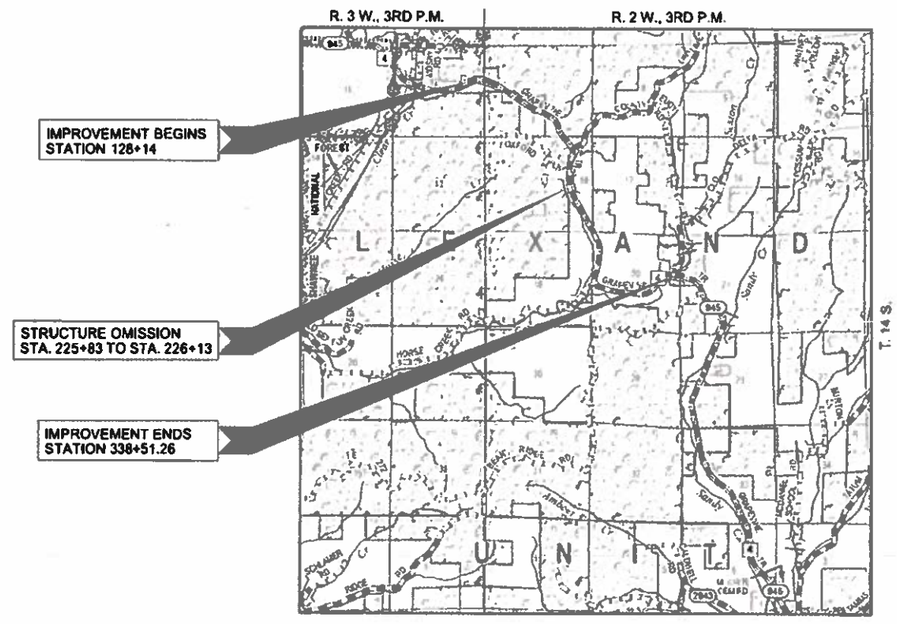
SOUTHWATER, INC.
27183 SANDY CREEK RD.
TAMMS, IL 62988
DEREK HOGUE
618-697-4432

ZITO MEDIA
BRIAN MCBELL
814-203-9683



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

FUNCTIONAL CLASSIFICATION:	MAJOR COLLECTOR
DESIGN SPEED:	50 MPH
DESIGN TRAFFIC:	1270 (2018)



LOCATION MAP

APPROXIMATE SCALE: 0 1 MILE

NET LENGTH OF SECTION = 20,813 FEET = 3.94 MILES
TOTAL LENGTH OF SECTION = 20,943 FEET = 3.95 MILES
OMISSIONS: 30 FEET = 0.006 MILES

WARNING

CALL JULIE TOLL FREE 1-800-892-0123

CALL 811 BEFORE YOU DIG

DIG NO: A2953629

ILLINOIS DEPARTMENT OF TRANSPORTATION

APPROVED 4-16-19
COUNTY ENGINEER

PASSED APRIL 16, 2019
DISTRICT NINE ENGINEER OF LOCAL ROADS & STREETS

Releasing for Bid Based on Limited Review APRIL 16, 2019
REGION FIVE ENGINEER

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DATE: 04/15/2019

ILLINOIS PROFESSIONAL ENGINEER — STATE OF ILLINOIS — EXPIRES: 11/30/2019

HAMPTON, LENZINI AND RENWICK, INC.
CIVIL ENGINEERS · STRUCTURAL ENGINEERS · LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
217 546.3400 www.hlrengineering.com
184.000958
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORPORATION

PROJECT NUMBER: 17.0252.330 DATE: 04/15/19

CONTRACT NO. 99629 PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

SUMMARY OF QUANTITIES

	CODE NO.	ITEM	UNIT	HSIP FUNDS CONSTRUCTION CODE 0021 TOTAL	STR FUNDS CONSTRUCTION CODE 0005 TOTAL
	20200100	EARTH EXCAVATION	CU YD		105
	20400800	FURNISHED EXCAVATION	CU YD		4100
	28000250	TEMPORARY EROSION CONTROL SEEDING	POUND		2000
	40200800	AGGREGATE SURFACE COURSE, TYPE B	TON		200
	40600275	BITUMINOUS MATERIALS (PRIME COAT)	POUND	41214	
	40600290	BITUMINOUS MATERIALS (TACK COAT)	POUND		34002
	40600625	LEVELING BINDER (MACHINE METHOD), N50	TON		4051
	40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD		295
	40600990	TEMPORARY RAMP	SQ YD		49
^	40603310	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50	TON		4988
	44000156	HOT-MIX ASPHALT SURFACE REMOVAL, 1 3/4"	SQ YD		80
	48203021	HOT-MIX ASPHALT SHOULDERS, 6"	SQ YD	18291	
	50800205	REINFORCEMENT BARS, EPOXY COATED	POUND		6850
	54002020	EXPANSION BOLTS 3/4 INCH	EACH		19
	54003000	CONCRETE BOX CULVERTS	CU YD		28.5
*	63000003	STEEL PLATE BEAM GUARDRAIL, TYPE A, 9 FOOT POSTS	FOOT	1616	
*	63100075	TRAFFIC BARRIER TERMINAL, TYPE 5A	EACH	8	
*	63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	20	
^	63200310	GUARDRAIL REMOVAL	FOOT	2604	
	64200108	SHOULDER RUMBLE STRIPS, 8 INCH	FOOT	37828	
	67100100	MOBILIZATION	L SUM	1	
	70300100	SHORT TERM PAVEMENT MARKING	FOOT	2042	
	70300150	SHORT TERM PAVEMENT MARKING REMOVAL	SQ FT	681	
	70300220	TEMPORARY PAVEMENT MARKING - LINE 4"	FOOT	78220	
*	72000100	SIGN PANEL - TYPE 1	SQ FT	406	
*	72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	18	
*	72800100	TELESCOPING STEEL SIGN SUPPORT	FOOT	840	
*	78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	78220	
*	78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH		257
*	78200005	GUARDRAIL REFLECTORS, TYPE A	EACH	32	
	78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH		257
^	X2070302	POROUS GRANULAR EMBANKMENT, SPECIAL	TON		140
^	X2140100	GRADING AND SHAPING DITCHES, SPECIAL	FOOT		2150

^ SEE SPECIAL PROVISIONS

SUMMARY OF QUANTITIES

	CODE NO.	ITEM	UNIT	HSIP FUNDS CONSTRUCTION CODE 0021 TOTAL	STR FUNDS CONSTRUCTION CODE 0005 TOTAL
^	X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE		5
^	X2810810	STONE DUMPED RIPRAP, CLASS A5 (SPECIAL)	TON		110
^	X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1	
* ^	Z0033700	LONGITUDINAL JOINT SEALANT	FOOT		20609

^ SEE SPECIAL PROVISIONS

* SPECIALTY ITEMS

GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE STATE OF ILLINOIS "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, ADOPTED APRIL 1, 2016," THESE PLANS AND THE SPECIAL PROVISIONS INCLUDED IN THE CONTRACT DOCUMENTS.

2. THE ROAD SHALL BE OPEN TO TRAFFIC AT ALL TIMES EXCEPT AS DISCUSSED IN THE SPECIAL PROVISIONS. THE CONTRACTOR SHALL PROVIDE ACCESS TO ABUTTING PROPERTY AT ALL TIMES DURING COSTRUCTION OF THE PROJECT.

3. THE LOCATION OF EXISTING GAS MAINS, ELECTRIC POWER LINES, TELEPHONE LINES AND OTHER UTILITIES AS SHOWN ON THE PLANS ARE BASED ON CAREFUL FIELD INVESTIGATIONS AND THE BEST INFORMATION AVAILABLE, BUT THE LOCATIONS ARE NOT GUARANTEED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ASCERTAIN THEIR EXACT LOCATION FROM THE INDIVIDUAL UTILITY COMPANIES AND BY FIELD INSPECTION.

4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE OWNERS OF ALL UTILITIES PRIOR TO CONSTRUCTION TO DETERMINE THE LOCATION OF ALL UTILITIES. THE CONTRACTOR SHALL COOPERATE WITH ALL UTILITY OWNERS AS PROVIDED FOR IN THE STANDARD SPECIFICATIONS IF UTILITY RELOCATION, ADJUSTMENT OR PROTECTION IS NECESSARY.

5. ALL EXCAVATED MATERIAL FROM THE PROJECT MAY BE USED IN THE PROPOSED EMBANKMENT AT THE APPROVAL OF THE ENGINEER.

6. THE FOLLOWING RATES OF APPLICATION HAVE BEEN USED IN CALCULATING PLAN QUANTITIES:

AGGREGATE SURFACE AND BASE COURSES	2.05 TON/CU.YD.
HOT-MIX ASPHALT	112 LBS/SQ.YD./INCH THICKNESS
STONE RIPRAP	1.75 TON/CU.YD.

BITUMINOUS MATERIALS RATES

SURFACE TYPE		RESIDUAL RATE
MILLED HMA OR PCC	(TACK COAT)	0.05 LB/SQ FT
EXISTING PAVEMENT	(TACK COAT)	0.05 LB/SQ FT
BETWEEN LIFTS	(TACK COAT)	0.025 LB/SQ FT
AGGREGATE	(PRIME COAT)	0.25 LB/SQ FT

HIGHWAY STANDARDS

000001-07	STANDARD SYMBOLS, ABBREVIATIONS, AND PATTERNS
280001-07	TEMPORARY EROSION CONTROL SYSTEMS
630301-09	SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
642006	SHOULDER RUMBLE STRIPS, 8 IN.
701006-05	OFF-RD OPERATIONS, 2L, 2W, 15' (4.5M) TO 24'' (600 MM) FROM PAVEMENT EDGE
701301-04	LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
701306-04	LANE CLOSURE, 2L, 2W, SLOW MOVING OPERATIONS DAY ONLY, FOR SPEEDS ≥ 45 MPH
701311-03	LANE CLOSURE 2L, 2W MOVING OPERATIONS-DAY ONLY
701336-07	LANE CLOSURE, 2L, 2W, WORK AREAS IN SERIES, FOR SPEEDS ≥ 45 MPH
701901-08	TRAFFIC CONTROL DEVICES
725001-01	OBJECT AND TERMINAL MARKERS
780001-05	TYPICAL PAVEMENT MARKINGS

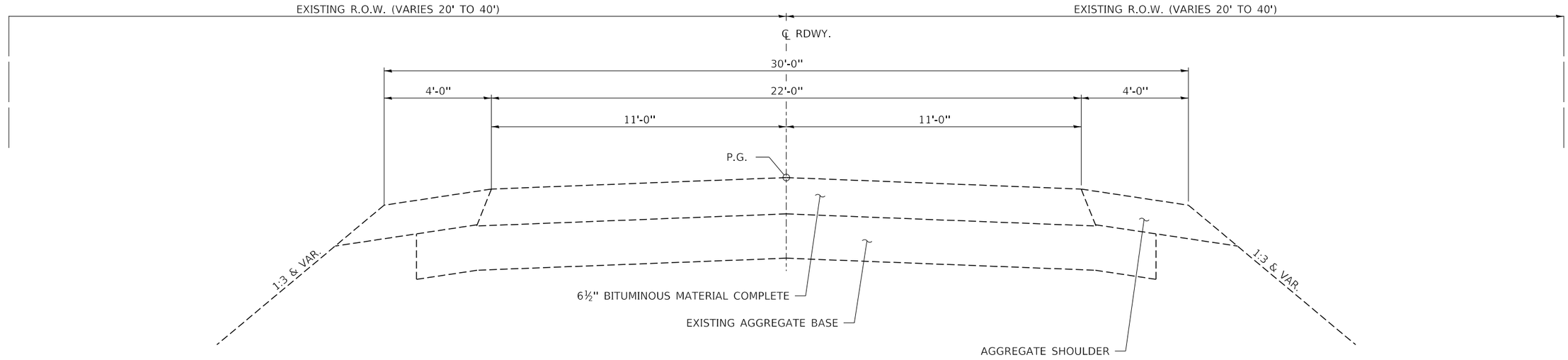
FILE NAME = 170252-sht-SOQ.dgn	USER NAME = rhoslck	DESIGNED - J.W.F.	REVISED -
HAMPTON, LENZINI AND RENWICK, INC. 3965 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.002959		DRAWN - T.W.K.	REVISED -
	PLOT SCALE = $SCALE$	CHECKED - S.W.M.	REVISED -
	PLOT DATE = 4/26/2019	DATE - 04/26/19	REVISED -

STATE OF ILLINOIS
ALEXANDER COUNTY HIGHWAY DEPARTMENT

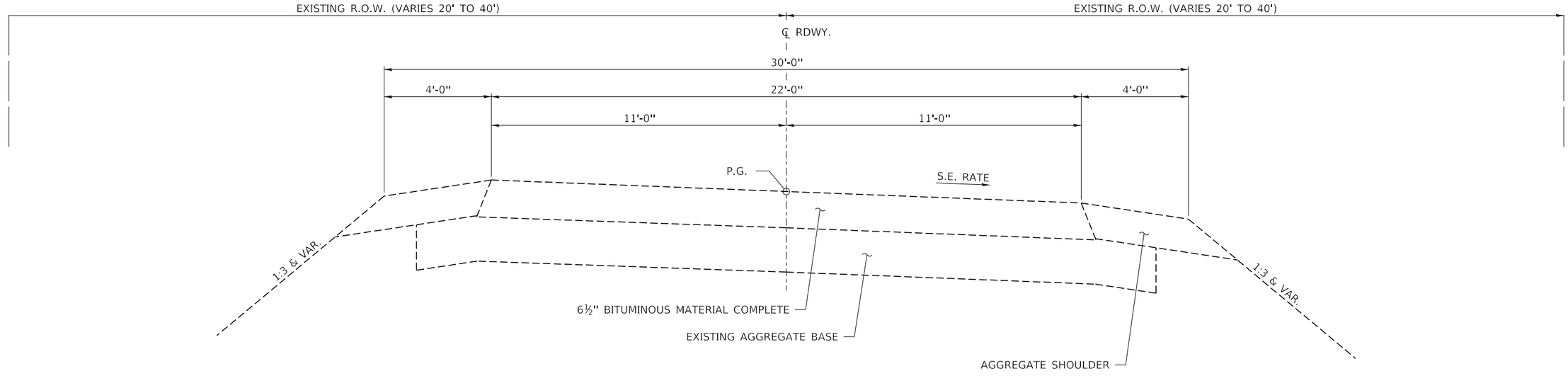
SUMMARY OF QUANTITIES AND GENERAL NOTES
GRAPEVINE TRAIL

SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
945	15-00082-00-RS	ALEXANDER	18	2
		CONTRACT NO. 99629		
	ILLINOIS	FED. AID PROJECT UA5K(665)		



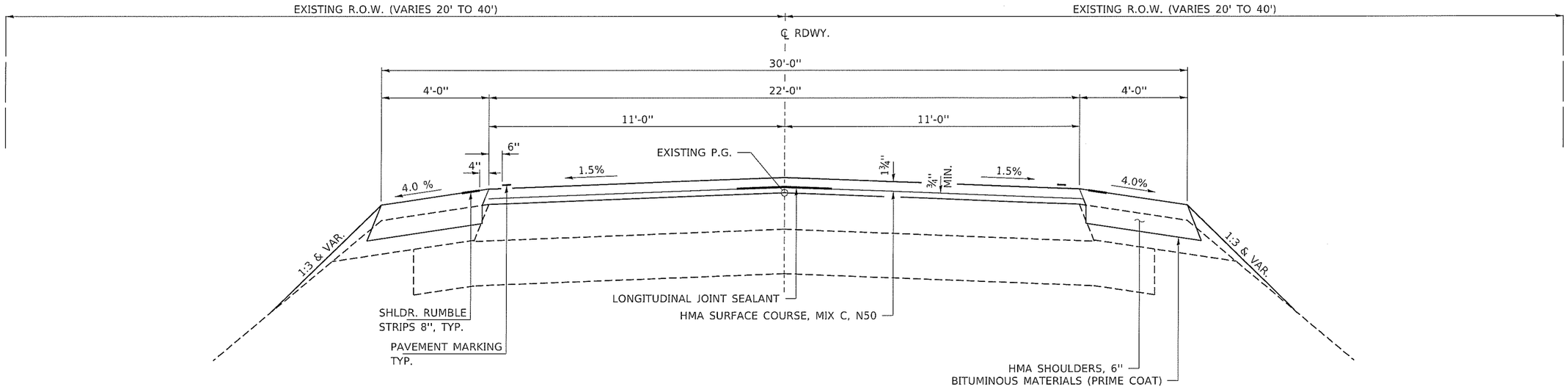
EXISTING TYPICAL CROSS SECTION



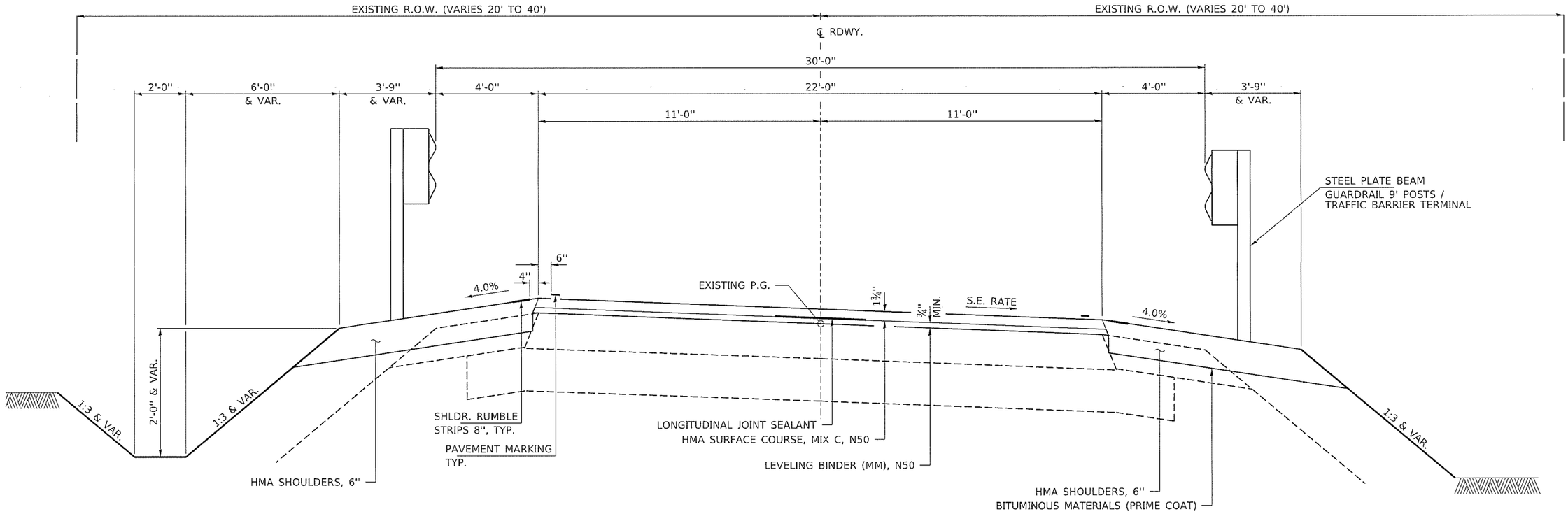
EXISTING TYPICAL CROSS SECTION SUPERELEVATED

FILE NAME = 170252-sht-typsections.dgn	USER NAME = rhosick	DESIGNED - J.W.F.	REVISED -	STATE OF ILLINOIS ALEXANDER COUNTY HIGHWAY DEPARTMENT	TYPICAL CROSS SECTIONS GRAPEVINE TRAIL
HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959		DRAWN - T.W.K.	REVISED -		SCALE: NONE | SHEET NO. 1 OF 2 SHEETS | STA. | TO STA.
	PLOT SCALE = $SCALE$	CHECKED - S.W.M.	REVISED -		
	PLOT DATE = 4/26/2019	DATE - 04/26/19	REVISED -		

F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
945	15-00082-00-RS	ALEXANDER	18	3
		CONTRACT NO. 99629		
	ILLINOIS	FED. AID PROJECT UA5K(665)		



PROPOSED TYPICAL CROSS SECTION



PROPOSED TYPICAL CROSS SECTION SUPERELEVATED

FILE NAME = 170252-sht-typsections.dgn	USER NAME = tlmk	DESIGNED - J.W.F.	REVISED -	**STATE OF ILLINOIS** **ALEXANDER COUNTY HIGHWAY DEPARTMENT**	**TYPICAL CROSS SECTIONS GRAPEVINE TRAIL**	F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
HAMPTON, LENZINI AND RENWICK, INC. 3045 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959		DRAWN - T.W.K.	REVISED -			945	15-00082-00-RS	ALEXANDER	18	4
	PLOT SCALE = $SCALE$	CHECKED - S.W.M.	REVISED -					CONTRACT NO. 99629		
	PLOT DATE = 5/1/2019	DATE - 04/26/19	REVISED -		SCALE: NONE SHEET NO. 2 OF 2 SHEETS STA. TO STA.			ILLINOIS FED. AID PROJECT UA5K(655)		

ASPHALT MIXTURE REQUIREMENTS

MIXTURE USE(S):	HOT-MIX ASPHALT SURFACE COURSE	LEVELING BINDER	HMA SHOULDERS (TOP LIFT)	HMA SHOULDERS (BOTTOM LIFTS)	INCIDENTAL HMA SURFACING
PG:	PG 64-22	PG 64-22	PG 64-22	PG 64-22	PG 64-22
DESIGN AIR VOIDS:	4% @ Ndes 50	4% @ Ndes 50	4% @ Ndes 50	4% @ Ndes 50	4% @ Ndes 50
MIXTURE COMPOSITION: (MIXTURE GRADATION):	IL 9.5	IL 19.0	IL 9.5	IL 19.0	IL 9.5
FRICTION AGGREGATE:	MIXTURE C	NONE	MIXTURE C	NONE	MIXTURE C
MIXTURE WEIGHTS:	112 LBS. / SQ. YD. / INCH	112 LBS. / SQ. YD. / INCH	112 LBS. / SQ. YD. / INCH	112 LBS. / SQ. YD. / INCH	112 LBS. / SQ. YD. / INCH
QUALITY CONTROL PROGRAM:	QC/QA	QC/QA	QC/QA	QC/QA	QC/QA

SIDE ROAD SCHEDULE

LOCATION	WIDTH	HMA SURFACE COURSE MIX "C", N70
		TON
LT. STA. 203+49.14	22	5
RT. STA. 211+94.99	16	4
RT. STA. 283+40.87	16	4
LT. STA. 335+00.32	22	5
TOTAL		18

ROADWAY SCHEDULE

LOCATION	AGGREGATE SURFACE COURSE TYPE B	BITUMINOUS MATERIALS (PRIME COAT)	BITUMINOUS MATERIALS (TACK COAT)	LEVELING BINDER (MACHINE METHOD) N50	HOT-MIX ASPHALT SURFACE REMOVAL BUTT JOINT	HOT-MIX ASPHALT SURFACE REMOVAL 1 3/4"	TEMPORARY RAMP	HOT-MIX ASPHALT SURFACE COURSE MIX C N50	HOT-MIX ASPHALT SHOULDERS 6"	SHOULDER RUMBLE STRIPS 8"	GRADING & SHAPING DITCHES SPECIAL	LONGITUDINAL JOINT SEALANT	RAISED REFLECTIVE PAVEMENT MARKER	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL
FAS 945 / CH 4 / GRAPEVINE TRAIL	TON	POUND	POUND	TON	SQ YD	SQ YD	SQ YD	TON	SQ YD	FOOT	FOOT	FOOT	EACH	EACH
STA. 128+14 TO STA. 151+00		4,570	3770	406	74		12	551	2,031	3,679	225	2,286	29	29
STA. 152+00 TO STA. 171+56.44		3,913	3,228	434				472	1,739	3,491	200	1,956	24	24
STA. 171+56.80 TO STA. 192+80.43		4,247	3,504	400				512	1,888	4,004	225	2,124	27	27
STA. 192+90.46 TO STA. 198+00		1,019	841	112				123	453	1,019	100	510	6	6
STA. 199+00 TO STA 287+63.62		17,727	14,625	1,731	147	80	25	2138	7,852	16,113	900	8,864	111	111
STA. 287+47 TO STA. 336+15		9,738	8,034	968	74		12	1174	4,328	9,522	500	4,869	60	60
ENTRANCES	200													
SIDE ROADS								18						
TOTAL	200	41214	34002	4051	295	80	49	4988	18291	37828	2150	20609	257	257

PAVEMENT MARKING SCHEDULE

LOCATION	PAINT PAVEMENT MARKING LINE, 4"			SHORT TERM PAVEMENT MARKING LINE, 4"	TEMPORARY PAVEMENT MARKING LINE, 4"			SHORT TERM PAVEMENT MARKING REMOVAL
	WHITE SOLID EDGE LINES	YELLOW SOLID NO PASSING	YELLOW SKIP-DASH CENTERLINE		WHITE SOLID EDGE LINES	YELLOW SOLID NO PASSING	YELLOW SKIP-DASH CENTERLINE	
FAS 945 / CH 4 / GRAPEVINE TRAIL	FOOT	FOOT	FOOT	FOOT	FOOT	FOOT	FOOT	SQ FT
LT. STA. 128+14.00 TO LT. STA. 338+51.26 (OMIT S.R.)	20,417				20,417			
RT. STA. 128+14.00 TO RT. STA. 338+51.26 (OMIT S.R.)	20,425				20,425			
LT. STA. 128+14.00 TO STA. 151+00.00		2,286				2,286		
LT. STA. 183+31.01 TO STA. 210+04.73		2,564				2,564		
LT. STA. 215+53.73 TO STA. 239+93.85		2,440				2,440		
LT. STA. 255+10.40 TO STA. 303+87.08		4,893				4,893		
LT. STA. 312+78.85 TO STA. 336+16		2,337				2,337		
CL. STA. 143+94.16 TO STA. 183+31.01			3,836				3,836	
CL. STA. 207+61.33 TO STA. 209+71.68			210				210	
CL. STA. 210+04.73 TO STA. 215+53.73			549				549	
CL. STA. 226+92.97 TO STA. 255+10.40			2,817				2,817	
CL. STA. 264+93.61 TO STA. 269+38.67			445				445	
CL. STA. 295+77.96 TO STA. 312+71.67			694				694	
CL. STA. 303+87.08 TO STA. 312+78.85			892				892	
RT. STA. 128+14.00 TO STA. 143+94.16		1,580				1,580		
RT. STA. 178+54.02 TO STA. 207+61.33		2,797				2,797		
RT. STA. 209+71.68 TO STA. 226+92.97		1,722				1,722		
RT. STA. 251+78.49 TO STA. 264+93.61		1,315				1,315		
RT. STA. 269+38.67 TO STA. 295+77.96		2,656				2,656		
RT. STA. 302+71.67 TO STA. 336+16		3,344				3,344		
CL. STA. 128+14.00 TO STA. 338+51.26				2,042				681
SUBTOTAL	40,842	27,934	9,444	2,042	40,842	27,934	9,444	681
TOTAL	78,220			2,042	78,220			681

SIGN SCHEDULE

CURVE	STATION	SIGN PANEL TYPE 1	STEEL SIGN SUPPORT
		SQ FT	FOOT
7	184+95.36	58	120
8	190+84.51	58	120
9	205+12.04	58	120
6	225+25.73	58	120
15	285+05.76	58	120
18	316+92.68	58	120
19	327+89.72	58	120
TOTAL		406	840

FILE NAME = 170252-sht-schedule.dgn
USER NAME = rhoslck
PLOT SCALE = $SCALE$
PLOT DATE = 4/26/2019

HAMPTON, LENZINI AND RENWICK, INC.
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
ILLINOIS PROFESSIONAL DESIGN FIRM
LS / PE / SE CORP. 184.000959

DESIGNED - J.W.F.
DRAWN - T.W.K.
CHECKED - S.W.M.
DATE - 04/26/19

REVISED -
REVISED -
REVISED -
REVISED -

STATE OF ILLINOIS
ALEXANDER COUNTY HIGHWAY DEPARTMENT

SCHEDULE OF QUANTITIES
GRAPEVINE TRAIL

SCALE: NONE | SHEET NO. 1 OF 2 SHEETS | STA. | TO STA.

F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
945	15-00082-00-RS	ALEXANDER	18	5
		CONTRACT NO. 99629		
	ILLINOIS FED. AID PROJECT UA5K(665)			

ENTRANCE SCHEDULE

LOCATION	TYPE	AGGREGATE SURFACE COURSE TYPE B
		TON
LT 127+69.92	PE	2.8
RT 131+60.41	FE	2.3
RT 133+10.94	PE	2.1
LT 133+28.62	PE	1.7
LT 133+96.21	PE	2.2
RT 134+29.04	PE	1.7
RT 135+36.65	PE	2.4
LT 136+55.94	PE	2.4
RT 137+80.91	PE	2.6
RT 139+71.57	PE	2.3
RT 141+39.64	PE	2.4
LT 141+89.51	PE	2.7
RT 142+28.64	PE	1.7
LT 143+98.82	PE	3.0
RT 144+86.99	FE	3.1
LT 145+58.77	PE	1.7
RT 146+52.75	PE	2.3
RT 148+32.81	FE	3.6
LT 148+07.69	PE	2.2
LT 148+23.00	FE	1.9
RT 154+76.85	PE	2.1
RT 157+15.97	FE	7.3
LT 160+01.13	PE	2.5
LT 165+60.49	PE	2.8
RT 165+67.79	PE	4.8
RT 166+36.30	PE	2.7
LT 168+10.22	PE	2.1

ENTRANCE SCHEDULE

LOCATION	TYPE	AGGREGATE SURFACE COURSE TYPE B
		TON
LT 169+95.73	PE	1.8
RT 172+85.90	FE	5.1
LT 173+71.71	PE	3.1
LT 174+54.73	FE	1.5
RT 176+37.92	FE	2.2
LT 184+76.37	FE	2.1
RT 204+22.21	FE	3.5
RT 207+39.56	FE	3.6
RT 208+72.46	FE	2.3
LT 211+18.00	FE	1.9
LT 212+77.58	PE	2.4
LT 226+81.42	PE	3.7
RT 227+32.27	PE	3.1
LT 229+44.47	FE	3.1
RT 230+45.90	FE	3.1
LT 230+52.25	FE	2.4
LT 238+09.02	FE	2.4
RT 246+03.69	PE	2.3
RT 247+69.20	PE	2.7
LT 249+37.18	FE	2.7
RT 253+27.01	PE	2.9
LT 253+67.49	FE	3.3
RT 255+22.69	PE	3.8
LT 258+27.73	FE	2.9
RT 258+62.57	PE	2.4

ENTRANCE SCHEDULE

LOCATION	TYPE	AGGREGATE SURFACE COURSE TYPE B
		TON
RT 259+90.65	PE	3.4
RT 261+55.32	PE	3.8
LT 263+15.85	PE	5.1
LT 264+63.34	PE	2.8
RT 265+40.00	PE	4.0
LT 270+96.05	PE	3.1
RT 273+51.20	PE	2.5
RT 281+44.10	PE	3.8
LT 286+65.34	PE	3.8
LT 294+25.16	PE	2.7
RT 308+89.63	FE	3.0
LT 309+20.26	PE	2.7
TOTAL		182.4
USE		200

GUARDRAIL SCHEDULE

LOCATION	STEEL PLATE BEAM GUARDRAIL TYPE A 9 FOOT POSTS	TRAFFIC BARRIER TERMINAL TYPE 5A	TRAFFIC BARRIER TERMINAL TYPE 1, SPECIAL (TANGENT)	GUARDRAIL REMOVAL	GUARDRAIL REFLECTORS TYPE A	TERMINAL MARKER DIRECT APPLIED
	FOOT	EACH	EACH	FOOT	EACH	EACH
LT STA 153+27.29 TO STA. 153+48.67			1	22	1	1
LT STA 153+73.65 TO STA 155+21.00	113		1	147	2	1
RT STA 150+70.04 TO STA 153+20.71	113		1	151	2	1
RT STA 153+45.70 TO STA 153+60.50			1	15	1	1
LT STA 166+34.87 TO STA 167+98.31				164		
LT STA 175+03.20 TO STA 176+68.52	88		2	165	2	1
RT STA 173+84.42 TO STA 175+49.85	88		2	165	2	1
LT STA 192+68.96 TO 197+06.30	350		2	425	5	2
RT STA 194+76.55 TO 200+78.62	425		2	502	6	2
LT STA 225+09.87 TO 225+74.49	13	1	1	65	1	1
LT STA 226+04.86 TO 226+56.11		1	1	51	1	1
RT STA 224+70.90 TO 225+94.27	75	1	1	123	2	1
RT STA 226+23.51 TO 226+87.01	13	1	1	64	1	1
LT STA 335+31.98 TO STA 336+19.64	38	1	1	89	1	1
LT STA 336+75.14 TO STA 338+51.26	125	1	1	177	2	1
RT STA 334+33.65 TO STA 336+12.16	125	1	1	177	2	1
RT STA 336+68.22 TO STA 337+71.54	50	1	1	102	1	1
TOTAL	1616	8	20	2604	32	18

FILE NAME = 170252-sht-schedule.dgn | USER NAME = rhoslck | DESIGNED - J.W.F. | REVISED -
DRAWN - T.W.K. | REVISED -
PLOT SCALE = $SCALE$ | CHECKED - S.W.M. | REVISED -
PLOT DATE = 4/26/19 | DATE - 04/26/19 | REVISED -

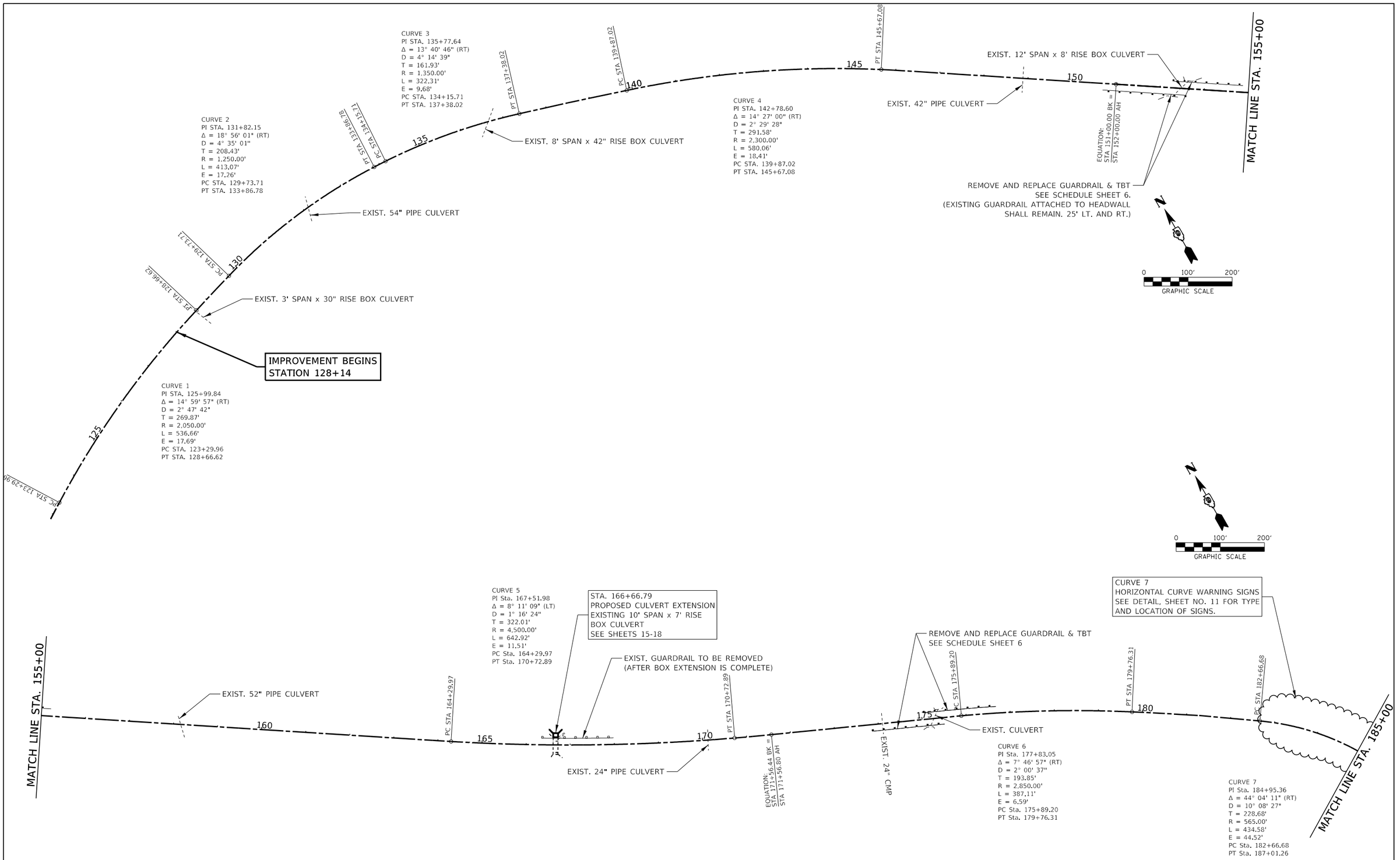
HAMPTON, LENZINI AND RENWICK, INC.
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
ILLINOIS PROFESSIONAL DESIGN FIRM
LS / PE / SE CORP. 184.000959

STATE OF ILLINOIS
ALEXANDER COUNTY HIGHWAY DEPARTMENT

SCHEDULE OF QUANTITIES
GRAPEVINE TRAIL

SCALE: NONE | SHEET NO. 2 OF 2 SHEETS | STA. | TO STA.

F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
945	15-00082-00-RS	ALEXANDER	18	6
		CONTRACT NO. 99629		
	ILLINOIS	FED. AID PROJECT UA5K(665)		



SEE SHEETS 12 THRU 14 FOR SUPERELEVATION RATES

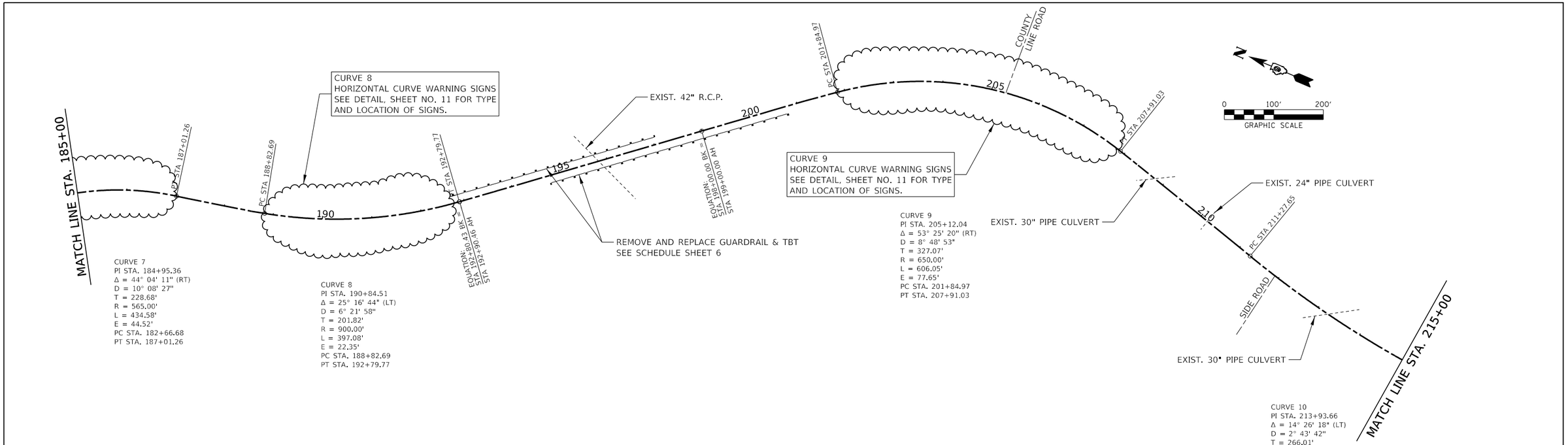
FILE NAME = 170252-shtalignr.dgn	USER NAME = rhoskk	DESIGNED - J.W.F.	REVISED -
HAMPTON, LENZINI AND RENWICK, INC.		DRAWN - T.W.K.	REVISED -
3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703	PLOT SCALE = $SCALE$	CHECKED - S.W.M.	REVISED -
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959	PLOT DATE = 4/26/2019	DATE - 04/26/19	REVISED -

STATE OF ILLINOIS
ALEXANDER COUNTY HIGHWAY DEPARTMENT

ALIGNMENT PLAN
GRAPEVINE TRAIL

SCALE: 1"=100' | SHEET NO. 1 OF 4 SHEETS | STA. 123+00 | TO STA. 185+00

F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
945	15-00082-00-RS	ALEXANDER	18	7
		CONTRACT NO. 99629		
		ILLINOIS	FED. AID PROJECT UA5K(665)	

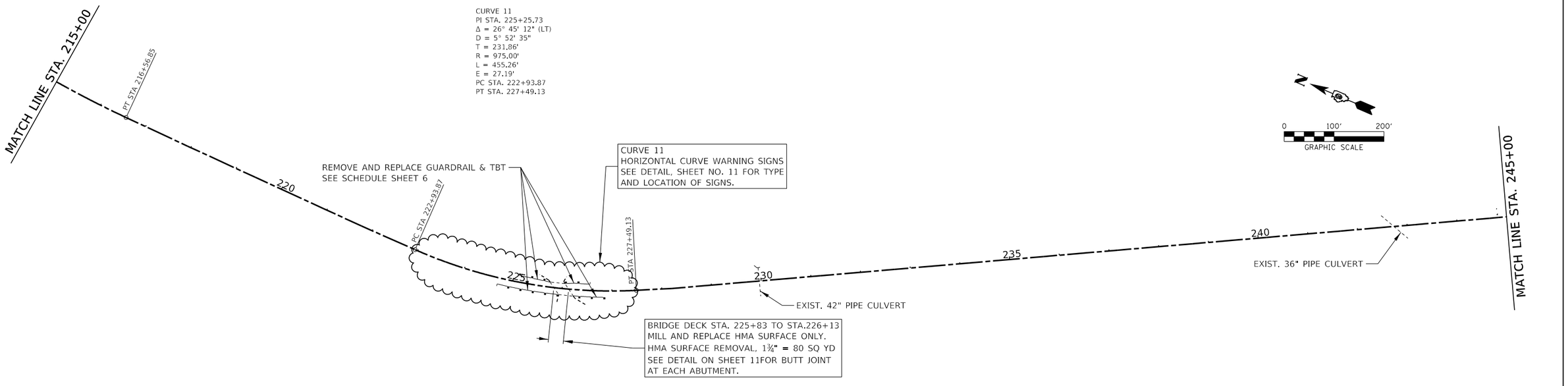


CURVE 7
PI STA. 184+95.36
Δ = 44° 04' 11" (RT)
D = 10° 08' 27"
T = 228.68'
R = 565.00'
L = 434.58'
E = 44.52'
PC STA. 182+66.68
PT STA. 187+01.26

CURVE 8
PI STA. 190+84.51
Δ = 25° 16' 44" (LT)
D = 6° 21' 58"
T = 201.82'
R = 900.00'
L = 397.08'
E = 22.35'
PC STA. 188+82.69
PT STA. 192+79.77

CURVE 9
PI STA. 205+12.04
Δ = 53° 25' 20" (RT)
D = 8° 48' 53"
T = 327.07'
R = 650.00'
L = 606.05'
E = 77.65'
PC STA. 201+84.97
PT STA. 207+91.03

CURVE 10
PI STA. 213+93.66
Δ = 14° 26' 18" (LT)
D = 2° 43' 42"
T = 266.01'
R = 2,100.00'
L = 529.19'
E = 16.78'
PC STA. 211+27.65
PT STA. 216+56.85



SEE SHEETS 12 THRU 14 FOR SUPERELEVATION RATES

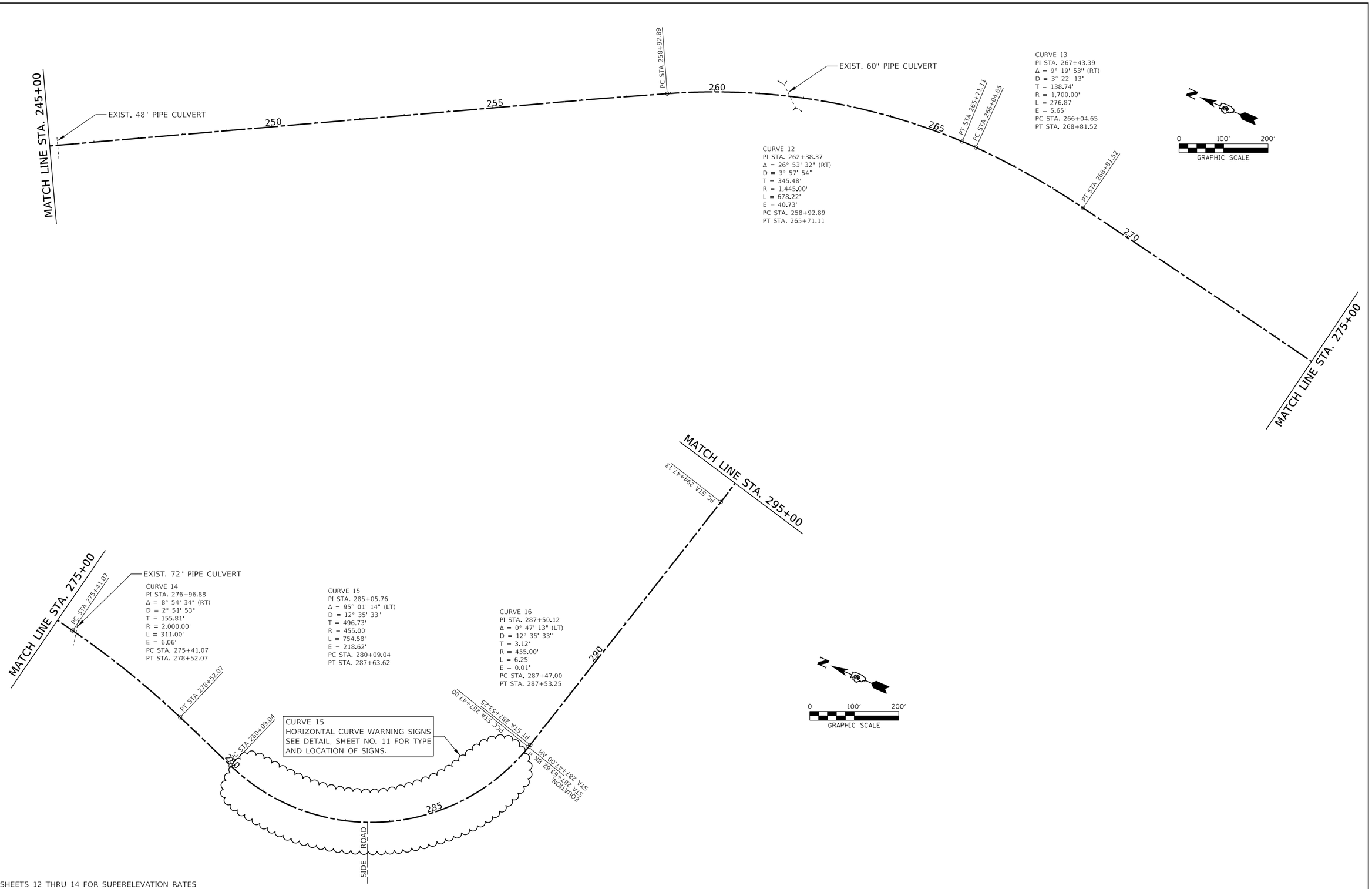
FILE NAME = 170252-sht-allgn.dgn	USER NAME = rhosick	DESIGNED - J.W.F.	REVISED -
HAMPTON, LENZINI AND RENWICK, INC.		DRAWN - T.W.K.	REVISED -
3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703	PLOT SCALE = $SCALE$	CHECKED - S.W.M.	REVISED -
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP: 184.000959	PLOT DATE = 4/26/2019	DATE - 04/26/19	REVISED -

STATE OF ILLINOIS
ALEXANDER COUNTY HIGHWAY DEPARTMENT

ALIGNMENT PLAN
GRAPEVINE TRAIL

SCALE: 1"=100' | SHEET NO. 2 OF 4 SHEETS | STA. 185+00 TO STA. 245+00

F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
945	15-00082-00-RS	ALEXANDER	18	8
		CONTRACT NO. 99629		
	ILLINOIS	FED. AID PROJECT UA5K(665)		



SEE SHEETS 12 THRU 14 FOR SUPERELEVATION RATES

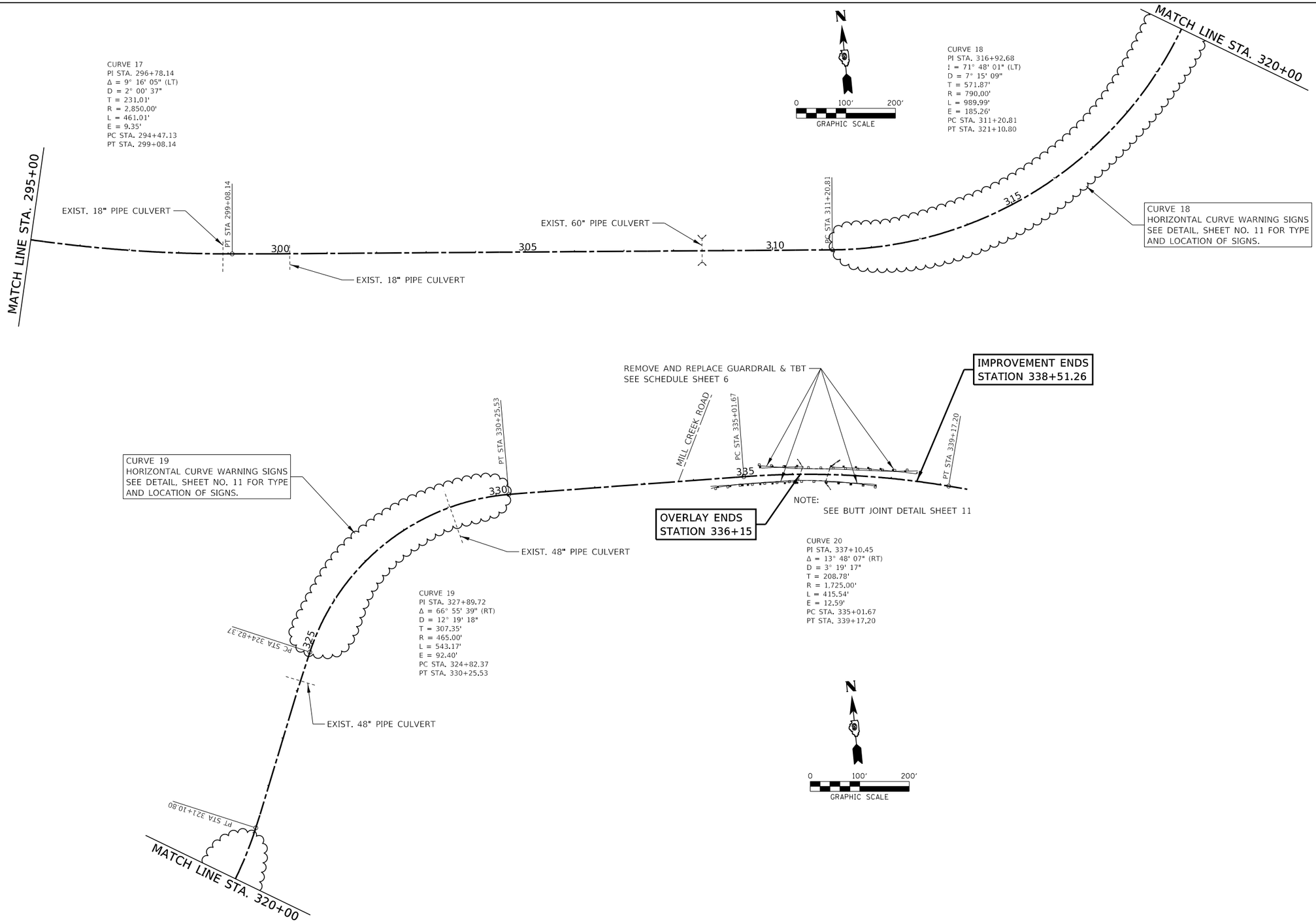
FILE NAME = 170252-sht-allgn.dgn	USER NAME = rhosick	DESIGNED - J.W.F.	REVISED -
HAMPTON, LENZINI AND RENWICK, INC.		DRAWN - T.W.K.	REVISED -
3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703	PLOT SCALE = $SCALE$	CHECKED - S.W.M.	REVISED -
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959	PLOT DATE = 4/26/2019	DATE - 04/26/19	REVISED -

STATE OF ILLINOIS
ALEXANDER COUNTY HIGHWAY DEPARTMENT

ALIGNMENT PLAN
GRAPEVINE TRAIL

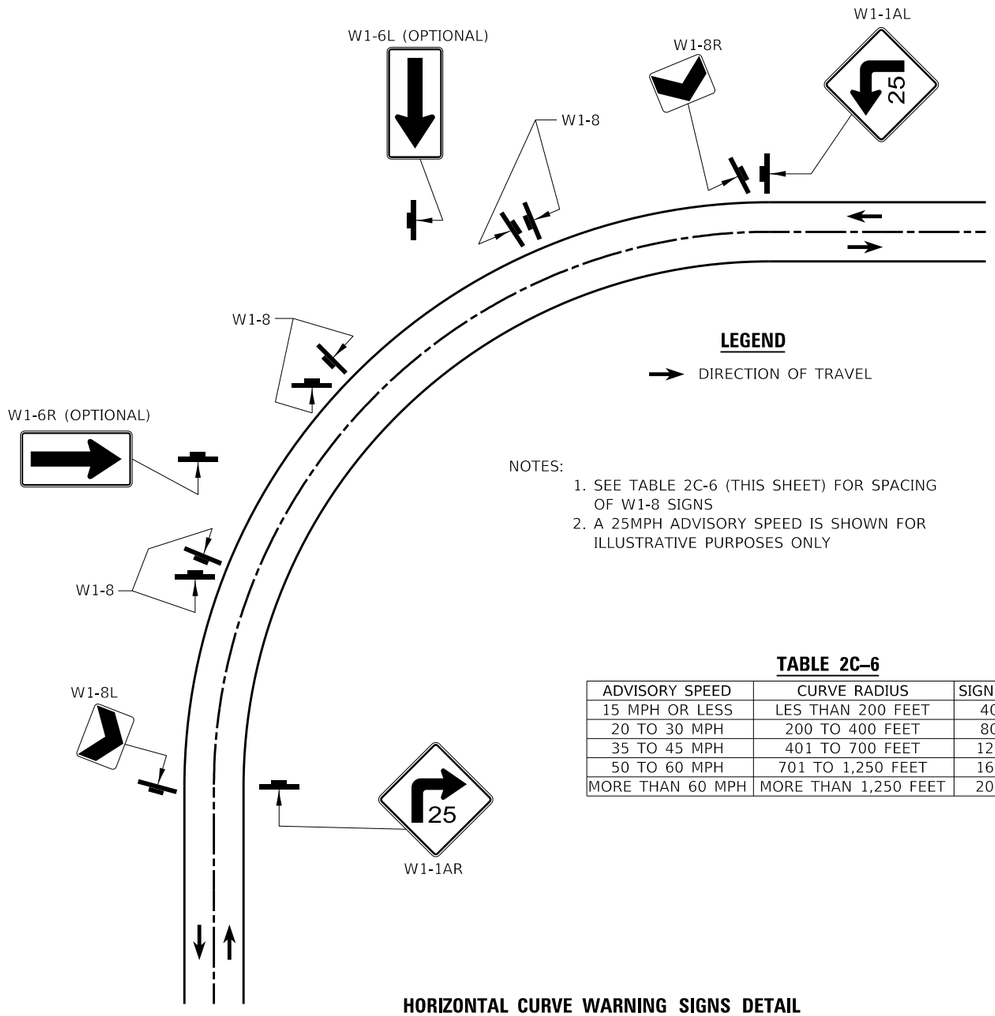
SCALE: 1"=100' | SHEET NO. 3 OF 4 SHEETS | STA. 245+00 | TO STA. 290+00

F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
945	15-00082-00-RS	ALEXANDER	18	9
		CONTRACT NO. 99629		
	ILLINOIS FED. AID PROJECT UA5K(665)			



SEE SHEETS 12 THRU 14 FOR SUPERELEVATION RATES

FILE NAME = 170252-sht-allgn.dgn	USER NAME = rhosick	DESIGNED - J.W.F.	REVISED -	STATE OF ILLINOIS ALEXANDER COUNTY HIGHWAY DEPARTMENT	ALIGNMENT PLAN GRAPEVINE TRAIL	F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959		DRAWN - T.W.K.	REVISED -			945	15-00082-00-RS	ALEXANDER	18	10
	PLOT SCALE = $SCALE$	CHECKED - S.W.M.	REVISED -						CONTRACT NO. 99629	
	PLOT DATE = 4/26/2019	DATE - 04/26/19	REVISED -		SCALE: 1"=100' SHEET NO. 4 OF 4 SHEETS STA. 295+00 TO STA. 334+00			ILLINOIS	FED. AID PROJECT UA5K(665)	



LEGEND

DIRECTION OF TRAVEL

NOTES:

1. SEE TABLE 2C-6 (THIS SHEET) FOR SPACING OF W1-8 SIGNS
2. A 25MPH ADVISORY SPEED IS SHOWN FOR ILLUSTRATIVE PURPOSES ONLY

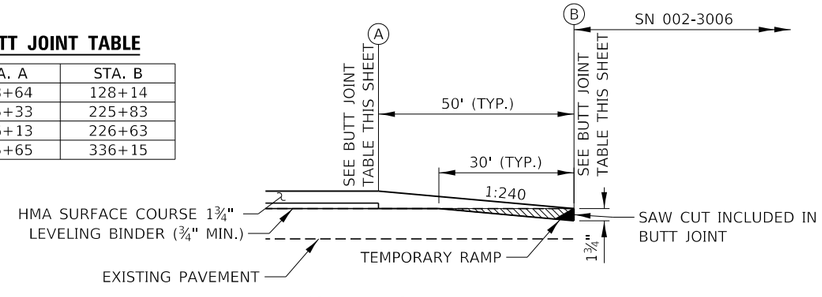
TABLE 2C–6

ADVISORY SPEED	CURVE RADIUS	SIGN SPACING
15 MPH OR LESS	LES THAN 200 FEET	40 FEET
20 TO 30 MPH	200 TO 400 FEET	80 FEET
35 TO 45 MPH	401 TO 700 FEET	120 FEET
50 TO 60 MPH	701 TO 1,250 FEET	160 FEET
MORE THAN 60 MPH	MORE THAN 1,250 FEET	200 FEET

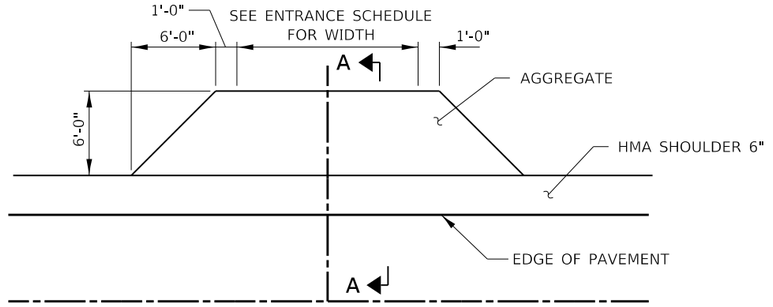
HORIZONTAL CURVE WARNING SIGNS DETAIL

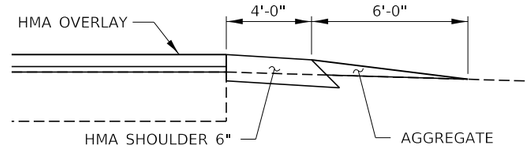
BUTT JOINT TABLE

STA. A	STA. B
128+64	128+14
225+33	225+83
226+13	226+63
335+65	336+15



BUTT JOINT DETAIL



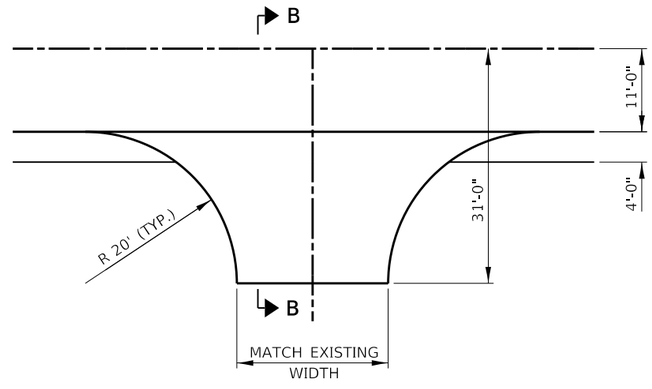


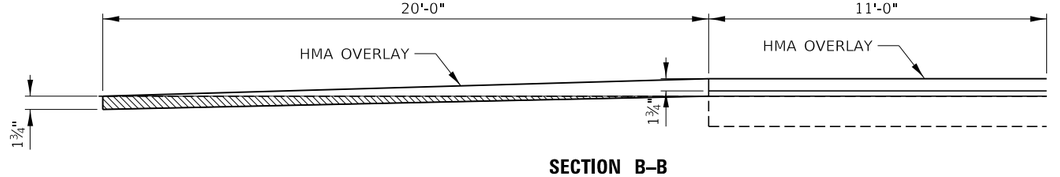
SECTION A–A

TYPICAL ENTRANCE DETAIL

NOTE:

OMIT RUMBLE STRIPS ACROSS ENTRANCES AND SIDEROADS PER STD. 642006



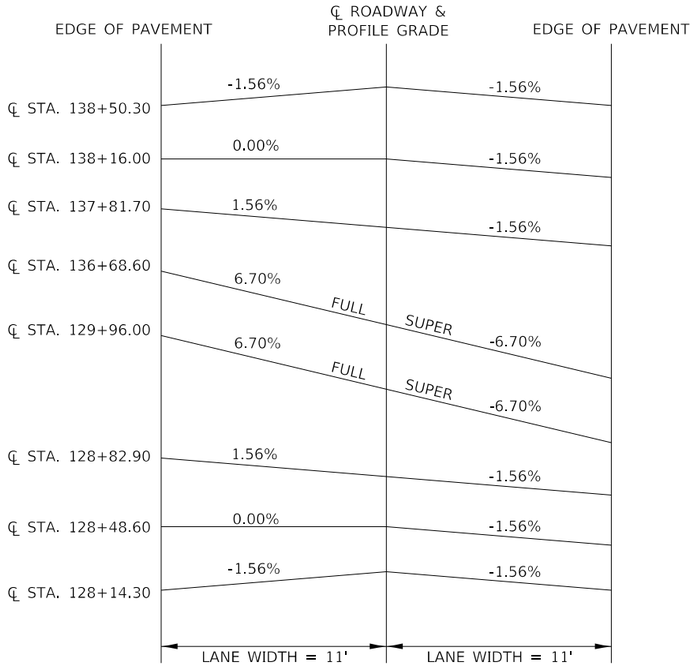


SECTION B–B

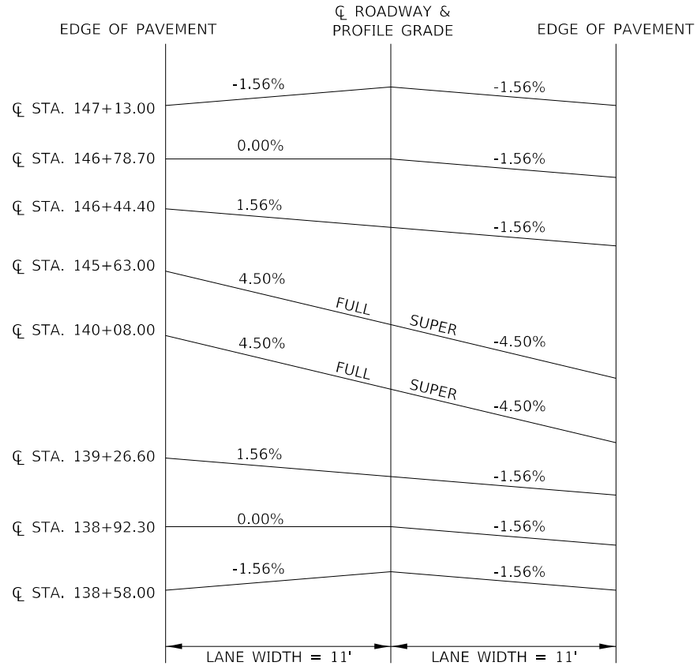
TYPICAL SIDEROAD DETAIL

FILE NAME = 170252-sht-misc-details.dgn	USER NAME = rhostck	DESIGNED - J.W.F.	REVISED -	STATE OF ILLINOIS ALEXANDER COUNTY HIGHWAY DEPARTMENT	MISCELLANEOUS DETAILS GRAPEVINE TRAIL					
HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959		DRAWN - T.W.K.	REVISED -							
	PLOT SCALE = $SCALES	CHECKED - S.W.M.	REVISED -		SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.		
	PLOT DATE = 4/26/2019	DATE - 04/26/19	REVISED -							

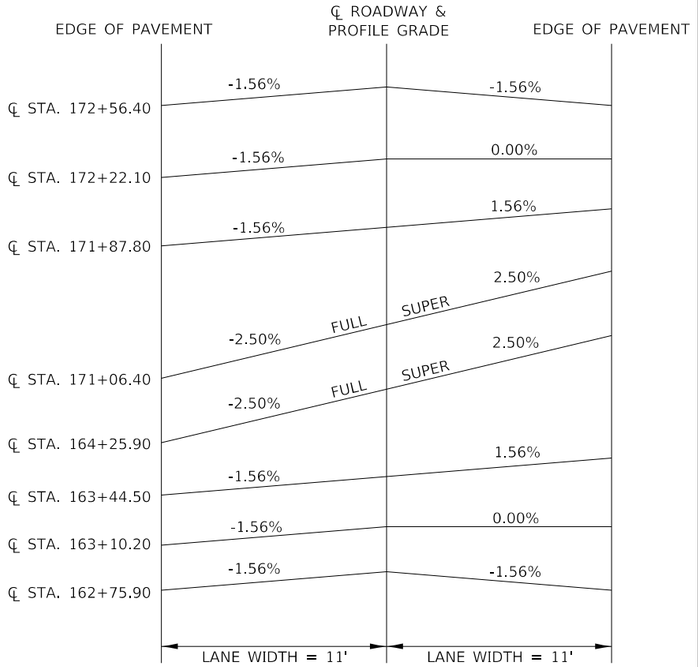
F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
945	15-00082-00-RS	ALEXANDER	18	11
		CONTRACT NO. 99629		
	ILLINOIS	FED. AID PROJECT UA5K(665)		



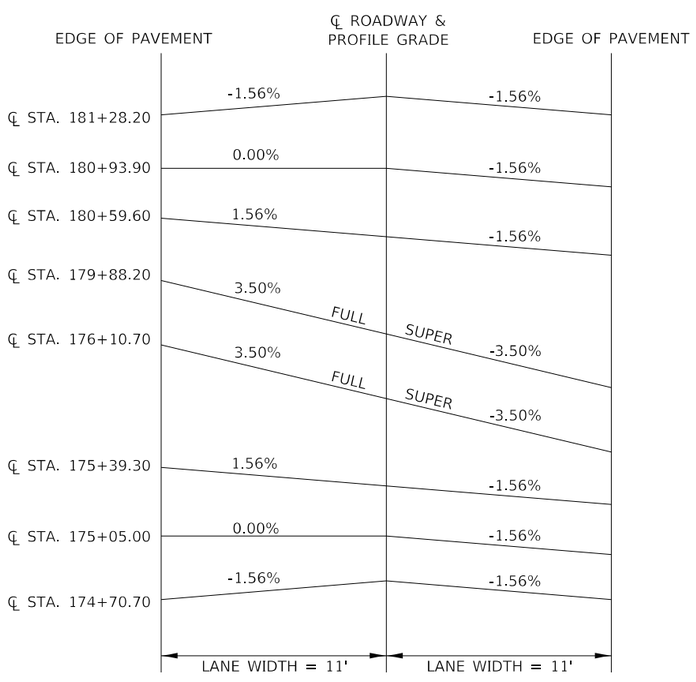
CURVE 2 SUPERELEVATION TRANSITION



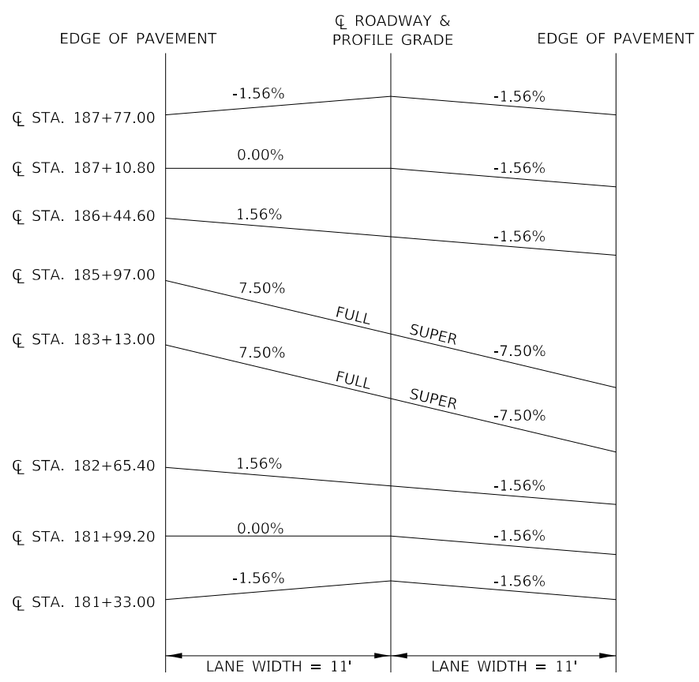
CURVE 4 SUPERELEVATION TRANSITION



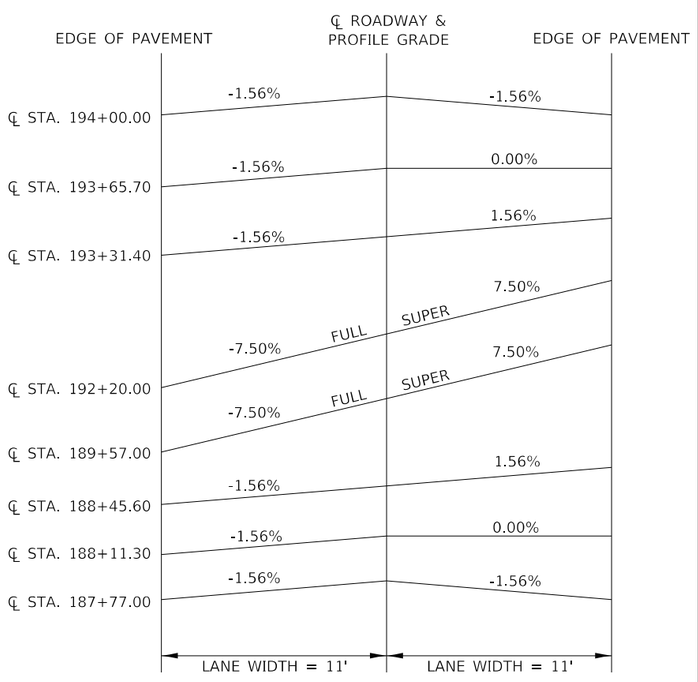
CURVE 5 SUPERELEVATION TRANSITION



CURVE 6 SUPERELEVATION TRANSITION



CURVE 7 SUPERELEVATION TRANSITION



CURVE 8 SUPERELEVATION TRANSITION

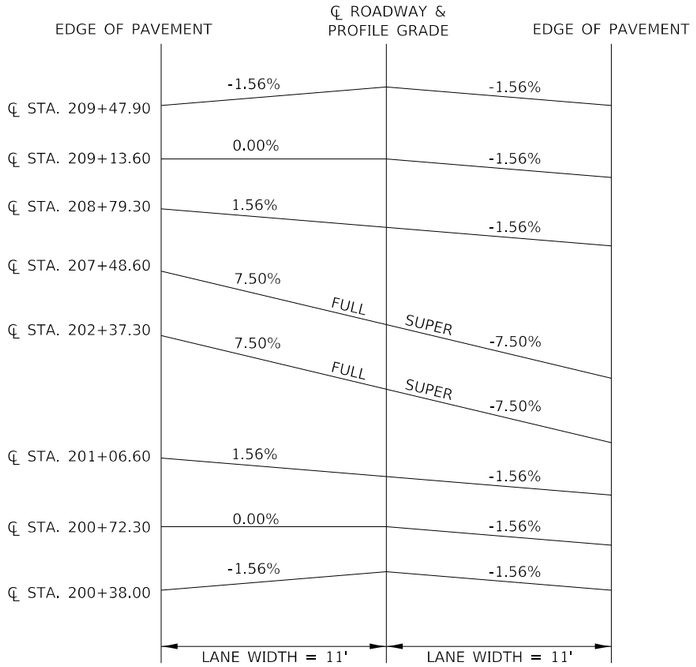
FILE NAME = 170252-sht-superelev.dgn	USER NAME = rhosick	DESIGNED - J.W.F.	REVISED -
HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703		DRAWN - T.W.K.	REVISED -
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP: 184.000959	PLOT SCALE = $SCALE$	CHECKED - S.W.M.	REVISED -
	PLOT DATE = 4/26/2019	DATE - 04/26/19	REVISED -

STATE OF ILLINOIS
ALEXANDER COUNTY HIGHWAY DEPARTMENT

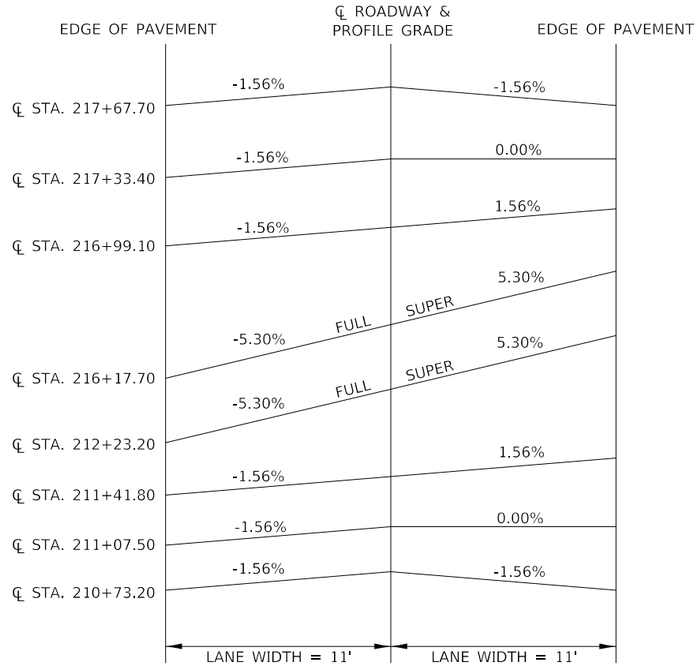
SUPERELEVATION TRANSITIONS
GRAPEVINE TRAIL

SCALE: NONE | SHEET NO. 1 OF 3 SHEETS | STA. | TO STA.

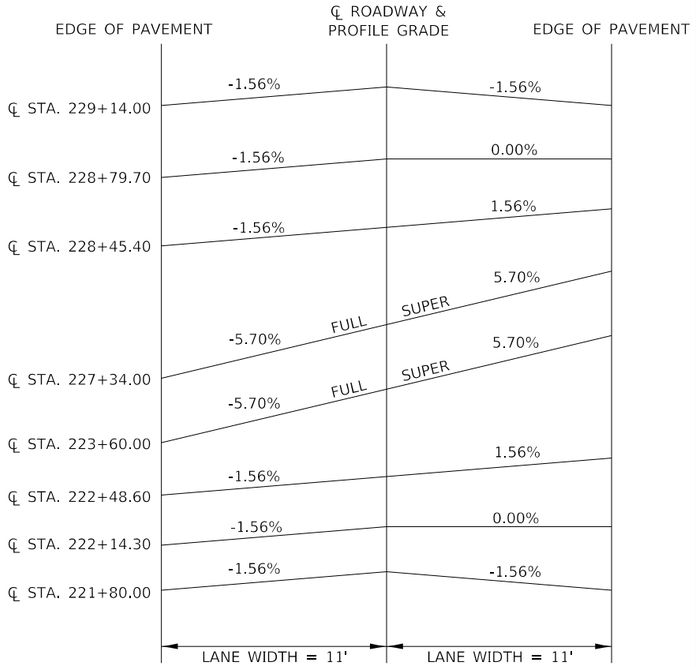
F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
945	15-00082-00-RS	ALEXANDER	18	12
		CONTRACT NO. 99629		
	ILLINOIS	FED. AID PROJECT UA5K(665)		



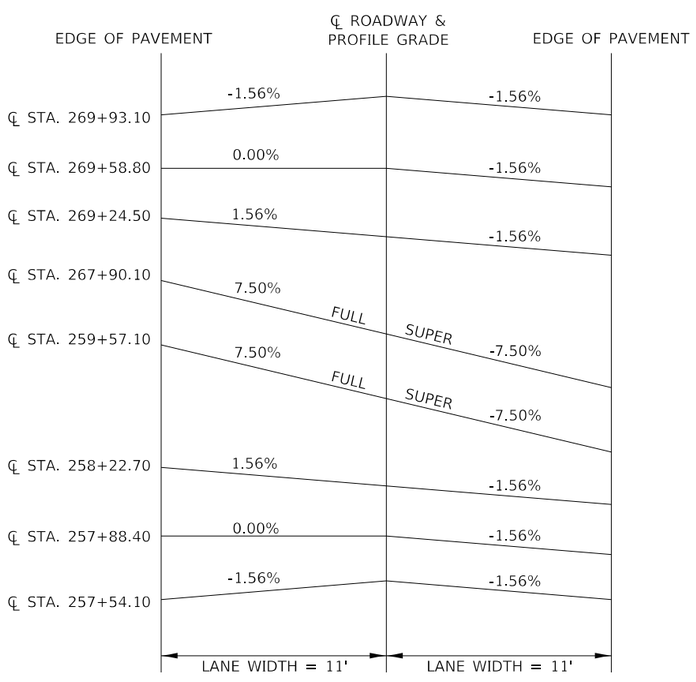
CURVE 9 SUPERELEVATION TRANSITION



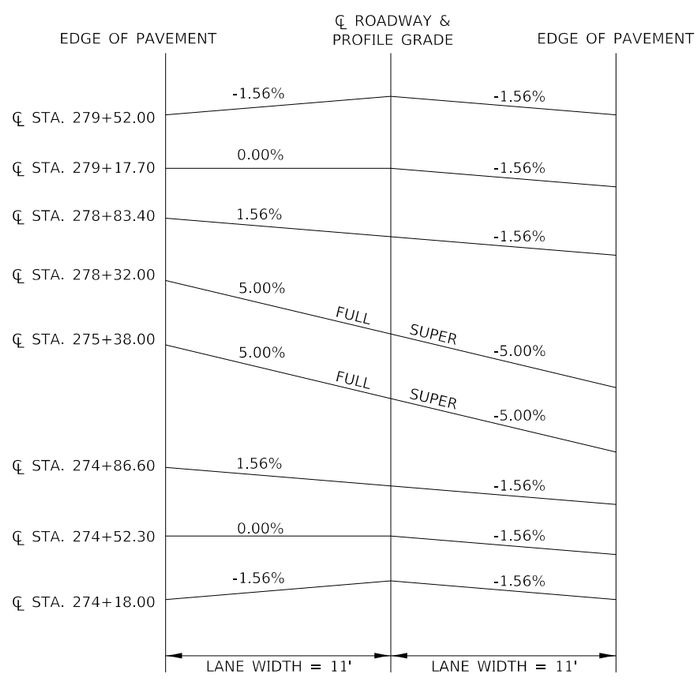
CURVE 10 SUPERELEVATION TRANSITION



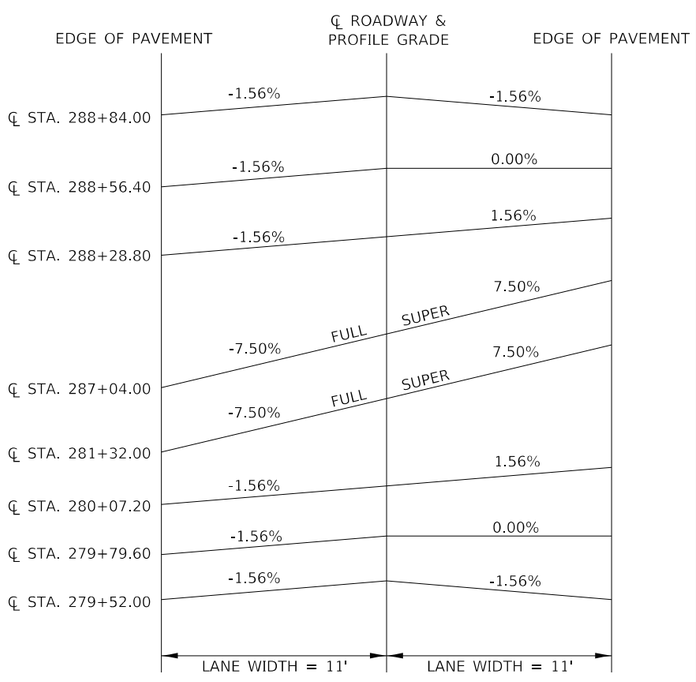
CURVE 11 SUPERELEVATION TRANSITION



CURVE 12 & 13 SUPERELEVATION TRANSITION



CURVE 14 SUPERELEVATION TRANSITION



CURVE 15 & 16 SUPERELEVATION TRANSITION

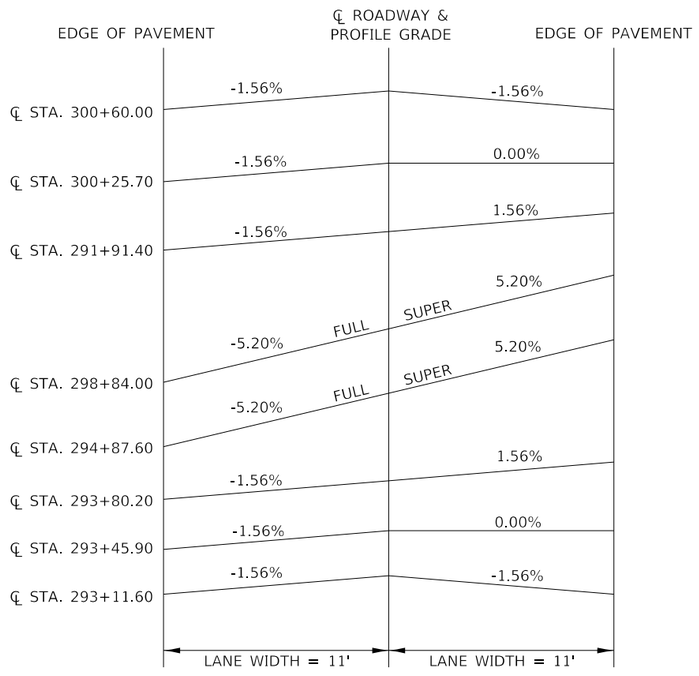
FILE NAME = 170252-sht-superelev.dgn	USER NAME = rhosick	DESIGNED - J.W.F.	REVISED -
HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703		DRAWN - T.W.K.	REVISED -
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP: 184.000959	PLOT SCALE = $SCALE$	CHECKED - S.W.M.	REVISED -
	PLOT DATE = 4/26/2019	DATE - 04/26/19	REVISED -

STATE OF ILLINOIS
ALEXANDER COUNTY HIGHWAY DEPARTMENT

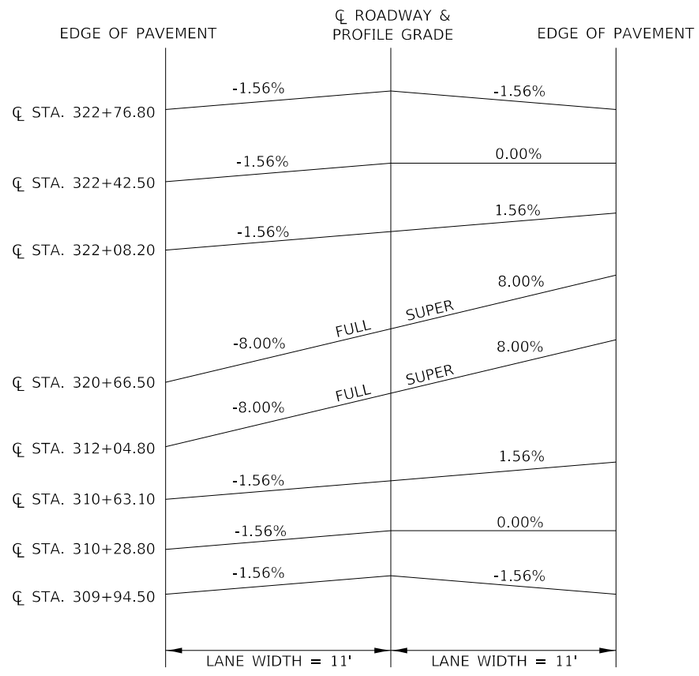
SUPERELEVATION TRANSITIONS
GRAPEVINE TRAIL

SCALE: NONE | SHEET NO. 2 OF 3 SHEETS | STA. | TO STA.

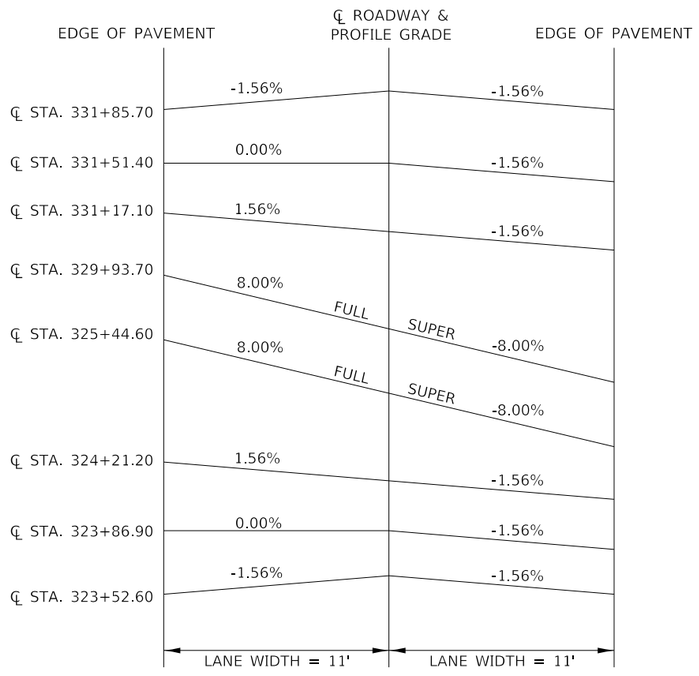
F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
945	15-00082-00-RS	ALEXANDER	18	13
		CONTRACT NO. 99629		
	ILLINOIS	FED. AID PROJECT UA5K(665)		



CURVE 17 SUPERELEVATION TRANSITION

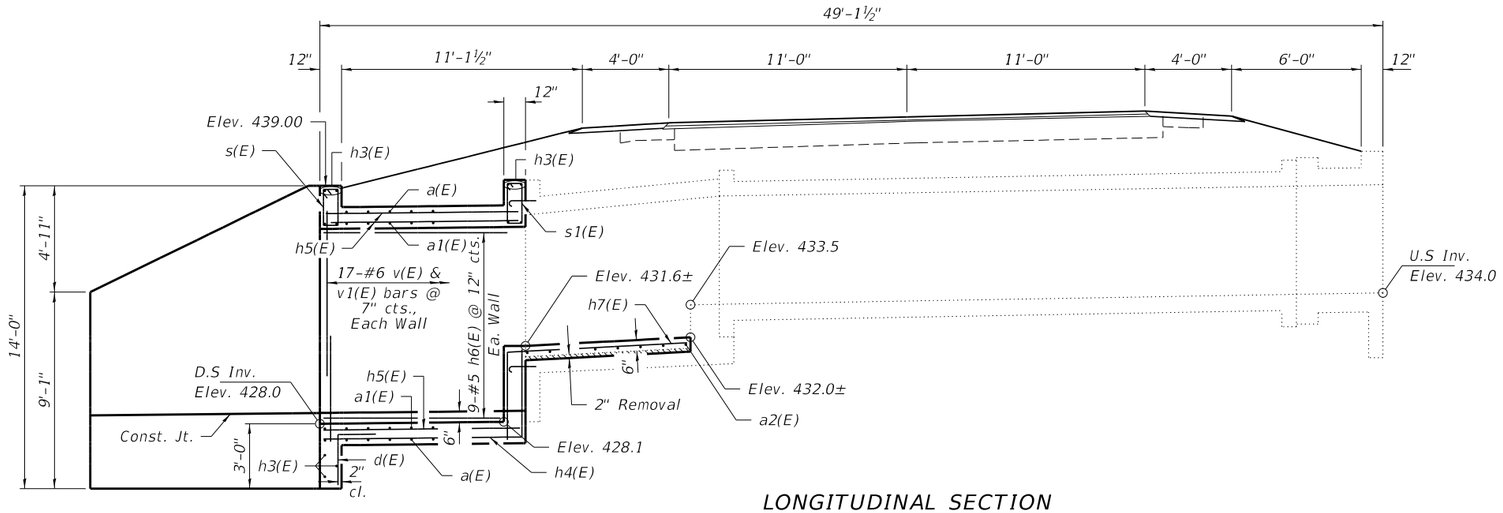


CURVE 18 SUPERELEVATION TRANSITION

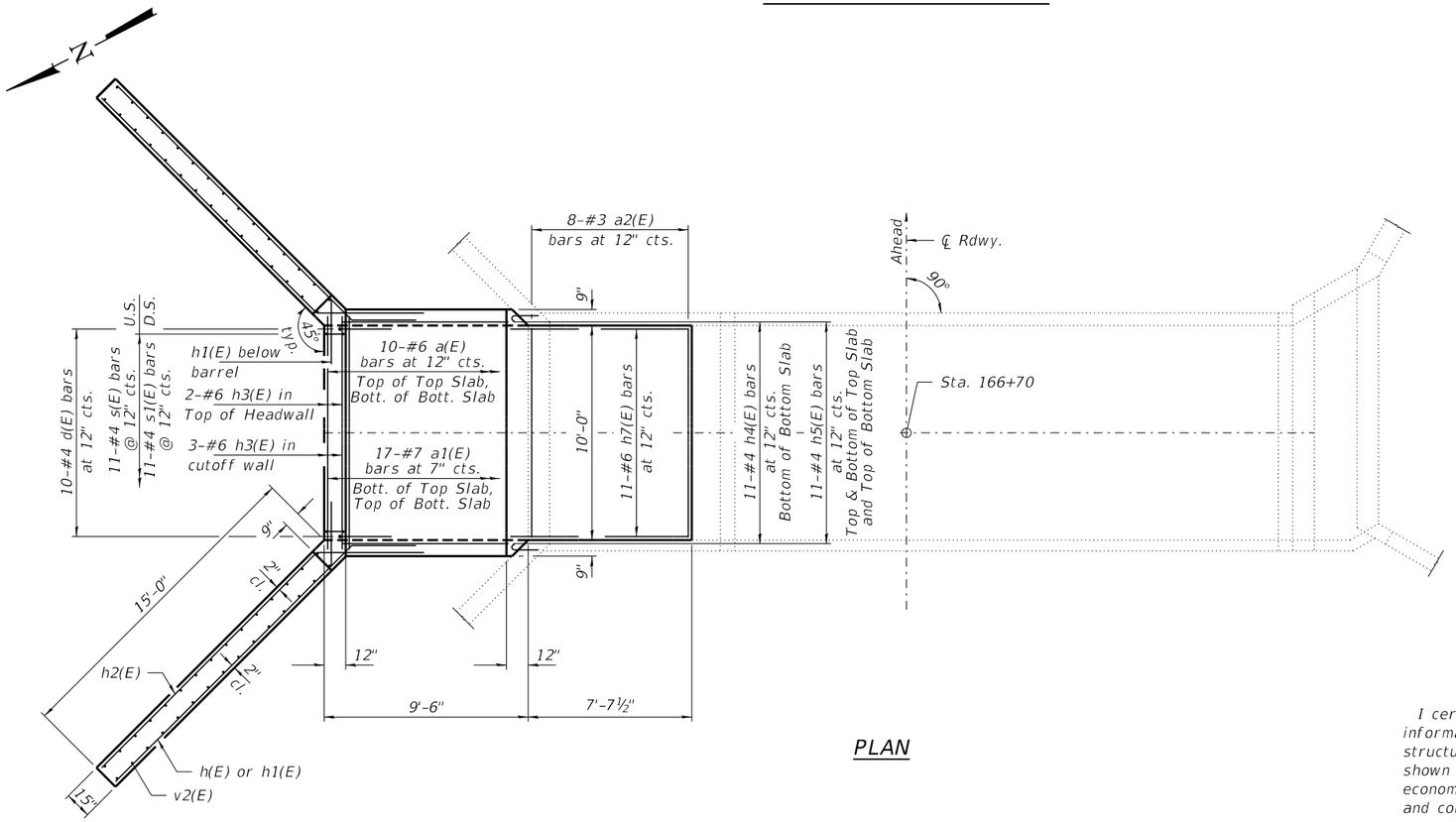


CURVE 19 SUPERELEVATION TRANSITION

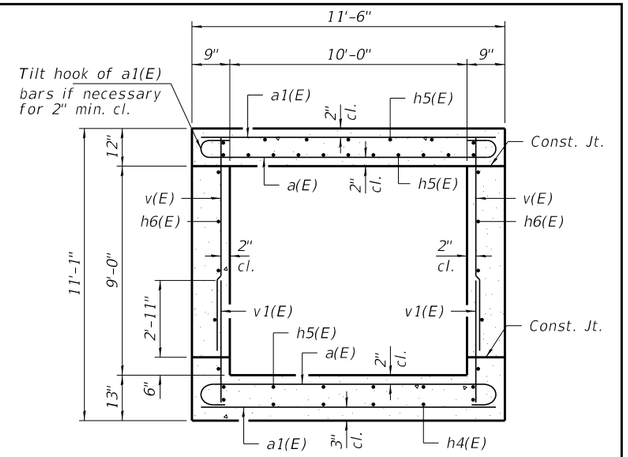
FILE NAME = 170252-sht-superelev.dgn	USER NAME = rhostck	DESIGNED - J.W.F.	REVISED -	STATE OF ILLINOIS ALEXANDER COUNTY HIGHWAY DEPARTMENT	SUPERELEVATION TRANSITIONS GRAPEVINE TRAIL			F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959		DRAWN - T.W.K.	REVISED -					945	15-00082-00-RS	ALEXANDER	18	14
	PLOT SCALE = $SCALE$	CHECKED - S.W.M.	REVISED -							CONTRACT NO. 99629		
	PLOT DATE = 4/26/2019	DATE - 04/26/19	REVISED -		SCALE: NONE	SHEET NO. 3 OF 3 SHEETS	STA. TO STA.			ILLINOIS FED. AID PROJECT UA5K(665)		



LONGITUDINAL SECTION



PLAN



SECTION THRU BARREL

INDEX OF STRUCTURE SHEETS

NOTES

Exposed edges shall be beveled ¾".

For backfilling and embankment, see Standard Specifications, except that Granular Backfill shall be placed as shown in backfill detail for the full length of the culvert.

Reinforcement bars shall conform to the requirements of ASTM A 706 Grade 60. See Special Provisions.

It shall be the responsibility of the Contractor to divert flow during construction in order to keep construction areas free of water. The method of water diversion shall subject to the approval of the Engineer and shall be included in the cost of Concrete Box Culverts.

All construction joints shall be bonded.

Precast concrete box culverts will not be allowed.

All reinforcement bars shall be epoxy coated.

The barrel shall be poured monolithically with the wingwalls.

At the Contractor's option, a longer v(E) bar may be ordered to replace the v1(E) bar. No reduction in quantities shall be made for this substitution.

Removal of the existing riprap and concrete required to construct the proposed culvert shall be included in cost of Concrete Box Culverts. All suitable material shall be incorporated into the slope protection layout.

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	20	#6	12'-6"	
a1(E)	34	#7	11'-2"	
a2(E)	8	#3	9'-9"	
d(E)	10	#4	4'-1"	
h(E)	28	#9	18'-6"	
h1(E)	8	#9	17'-2"	
h2(E)	24	#5	19'-2"	
h3(E)	7	#6	11'-0"	
h4(E)	11	#4	13'-4"	
h5(E)	33	#6	9'-2"	
h6(E)	18	#5	9'-2"	
h7(E)	11	#4	12'-5"	
s(E)	11	#4	5'-7"	
s1(E)	11	#4	5'-11"	
v(E)	34	#6	9'-8"	
v1(E)	34	#6	4'-1"	
v2(E)	60	#6	13'-6"	
Stone Dumped Riprap, Class A4 (Special)		Ton	110	
Reinf. Bars, Epoxy Coated		Pounds	6,850	
Expansion Bolts ¾"		Each	19	
Concrete Box Culverts		Cu. Yd.	28.5	
Porous Granular Embankment, Special		Ton	140	

DESIGN STRESSES

f'c = 3,500 psi
fy = 60,000 psi (Reinf.)

LOADING HL-93

Design Specifications: 2018 AASHTO LRFD with all interims.
50#/Sq. Ft. included in dead load for future wearing surface.

I certify that to the best of my knowledge, information and belief, this culvert design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the current "AASHTO LRFD Specifications."

LICENSED STRUCTURAL ENGINEER
STEVEN W. MEGGINSON
081-6064
SPRINGFIELD, IL
STATE OF ILLINOIS

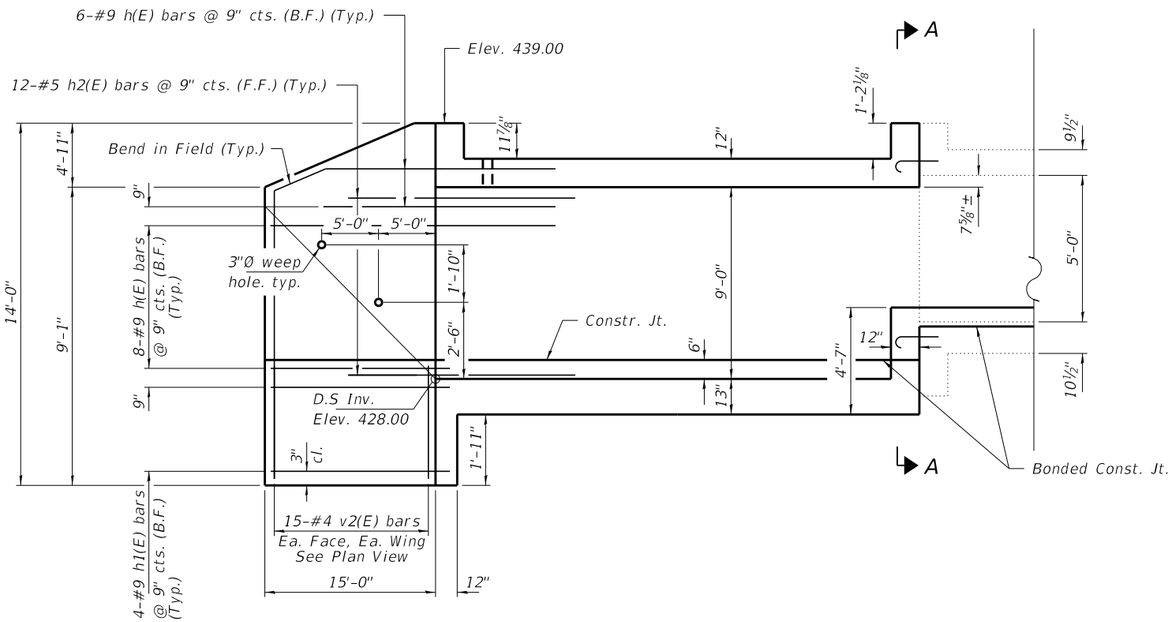
Steven W. Megginson 04/26/2019
ILLINOIS STRUCTURAL ENGINEER NO. 081-6064 Expires 11-30-2020

FILE NAME = 170252-shl-culvert.dgn	USER NAME = rhoslck	DESIGNED - P.S.	REVISED -
HAMPTON, LENZINI AND RENWICK, INC.		CHECKED - S.W.M.	REVISED -
3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703	PLOT SCALE = $SCALE$	DRAWN - R.D.H.	REVISED -
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959	PLOT DATE = 4/26/2019	CHECKED - S.W.M.	REVISED -

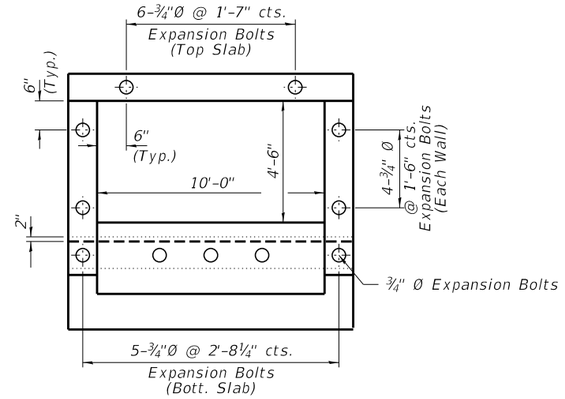
STATE OF ILLINOIS
ALEXANDER COUNTY HIGHWAY DEPARTMENT

CULVERT DETAILS
CULVERT STA. 166+70
SHEET NO. 1 OF 4 SHEETS

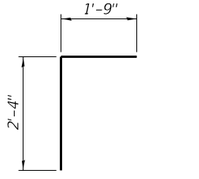
F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
945	15-00082-00-RS	ALEXANDER	18	15
		CONTRACT NO. 99629		
		ILLINOIS	FED. AID PROJECT U45K(665)	



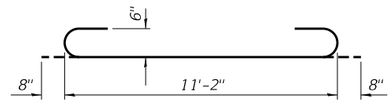
NORTHWEST AND NORTHEAST WINGWALL ELEVATION



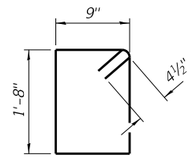
SECTION A-A
SHOWING EXPANSION BOLTS



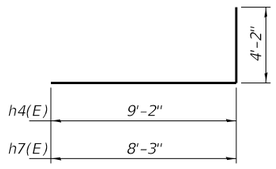
BAR d(E)



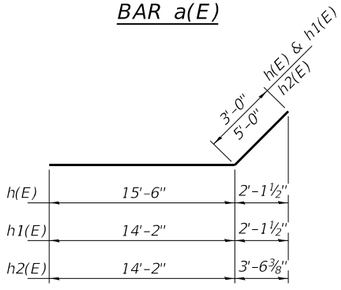
BAR a(E)



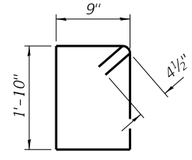
BAR s(E)



BARS h4(E) & h7(E)



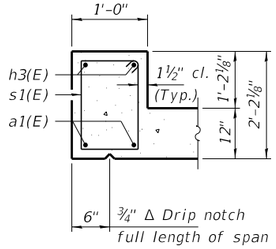
BARS h(E), h1(E) & h2(E)



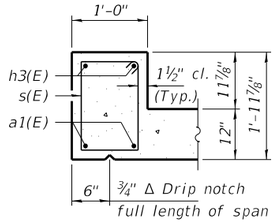
BAR s1(E)

FILE NAME = 170252-shl-culvert.dgn	USER NAME = rhoslck	DESIGNED - P.S.	REVISED -	STATE OF ILLINOIS ALEXANDER COUNTY HIGHWAY DEPARTMENT	CULVERT DETAILS CULVERT STA. 166+70
HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703		CHECKED - S.W.M.	REVISED -		
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959	PLOT SCALE = $SCALE$	DRAWN - R.D.H.	REVISED -		
	PLOT DATE = 4/26/2019	CHECKED - S.W.M.	REVISED -		SHEET NO. 2 OF 4 SHEETS

F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
945	15-00082-00-RS	ALEXANDER	18	16
		CONTRACT NO. 99629		
	ILLINOIS	FED. AID PROJECT UA5K(665)		



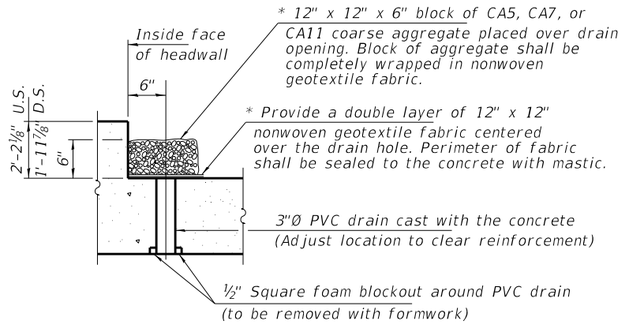
UPSTREAM



DOWNSTREAM

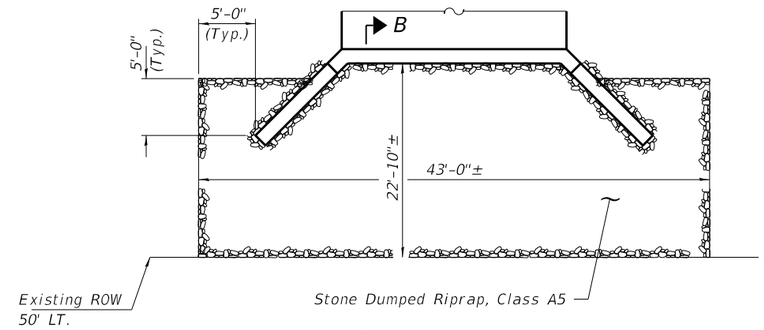
SECTION THRU HEADWALL

* Nonwoven geotextile fabric shall conform to the requirements of Article 1080.01 of the Standard Specifications. The minimum weight of the fabric shall be 6 ounces per square yard.

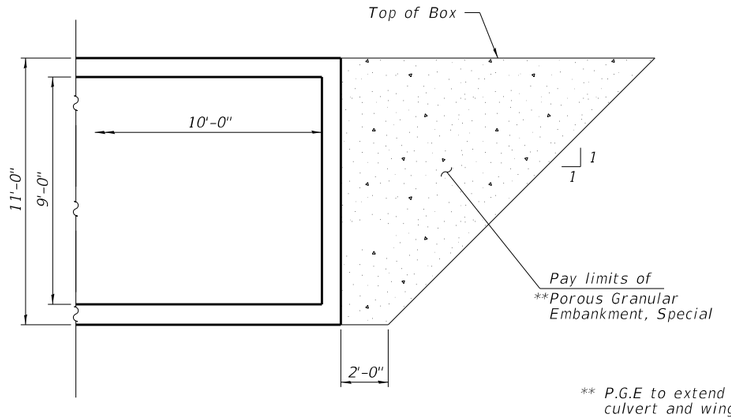


DRAIN DETAIL

(All costs associated with furnishing and constructing the above drain detail will not be measured for payment but shall be included in the contract unit price for Concrete Box Culverts.)

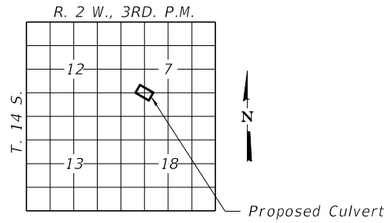


RIPRAP LAYOUT

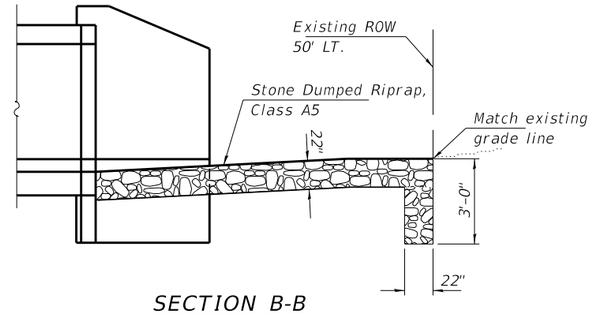


BACKFILL DETAIL

** P.G.E to extend the full length of culvert and wings. 18" earth cap to be placed at end of wings to cover the P.G.E.



LOCATION SKETCH

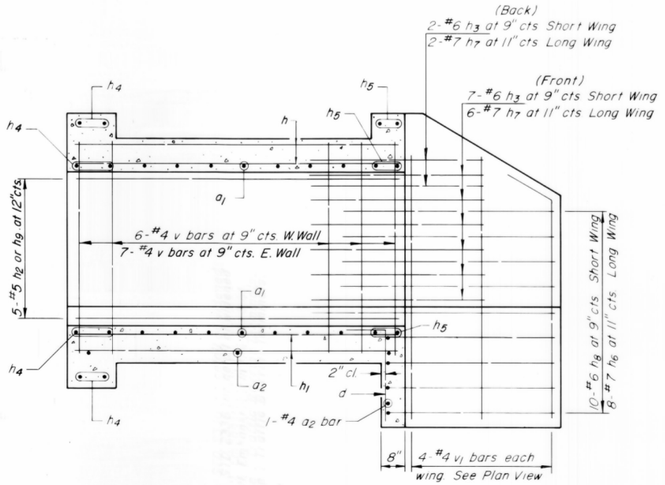


SECTION B-B

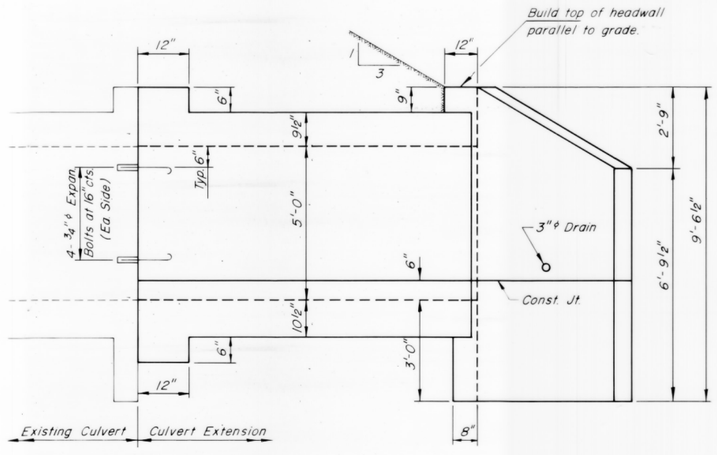
FILE NAME = 170252-shl-culvert.dgn	USER NAME = rhoslck	DESIGNED - P.S.	REVISED -	STATE OF ILLINOIS ALEXANDER COUNTY HIGHWAY DEPARTMENT	CULVERT DETAILS CULVERT STA. 166+70
HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959		CHECKED - S.W.M.	REVISED -		SHEET NO. 3 OF 4 SHEETS
	PLOT SCALE = $SCALE$	DRAWN - R.D.H.	REVISED -		
	PLOT DATE = 4/26/2019	CHECKED - S.W.M.	REVISED -		

F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
945	15-00082-00-RS	ALEXANDER	18	17
		CONTRACT NO. 99629		
	ILLINOIS	FED. AID PROJECT UA5K(665)		

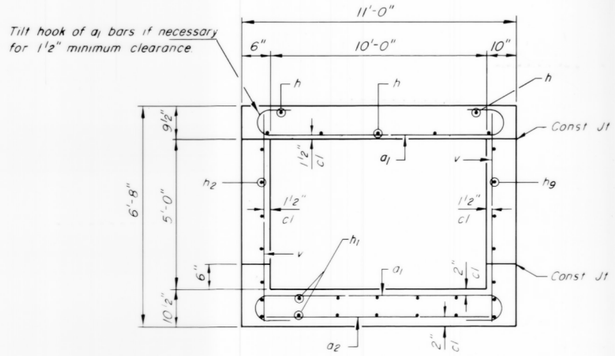
ROUTE	SECTION	COUNTY	SHEETS	NO
FAS 945	86-00060-00-RS	ALEXANDER	14	9
PROJECT NO. MA-SR-945(104)				



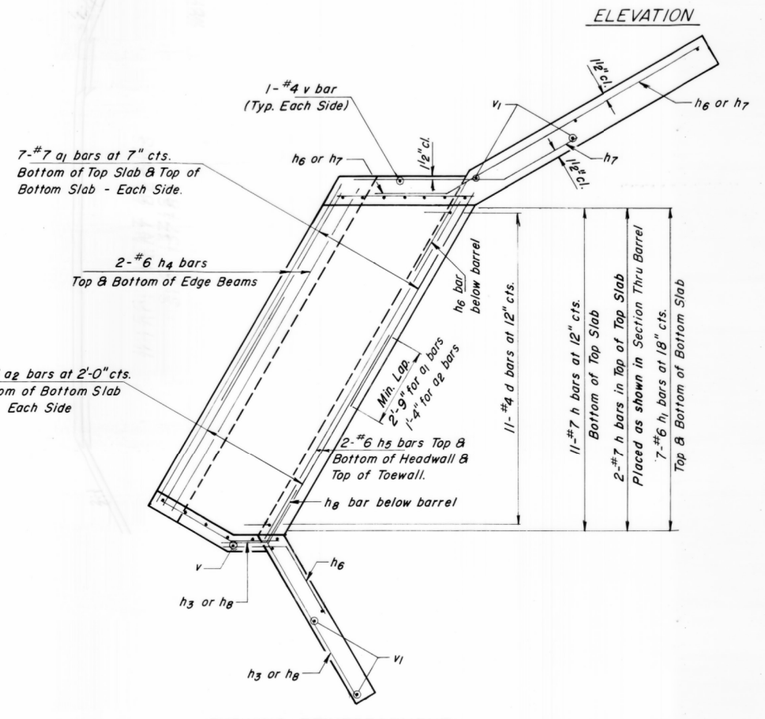
SHOWING REINFORCEMENT



SHOWING OUTLINE

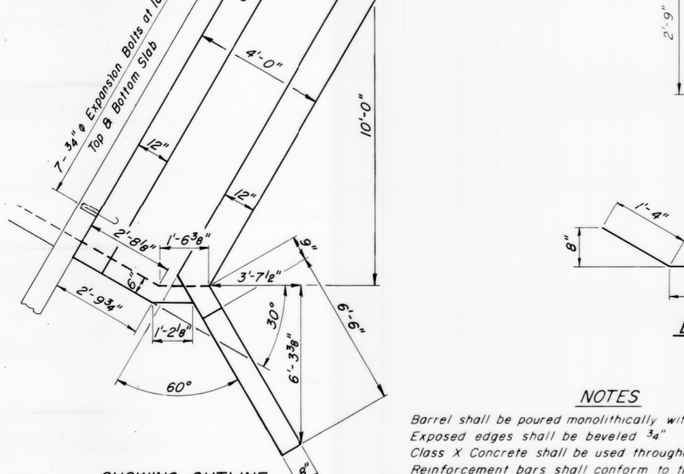


SECTION THRU BARREL
(Looking Downstream)

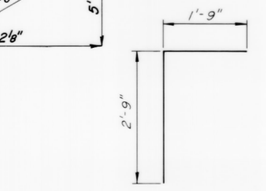


SHOWING REINFORCEMENT

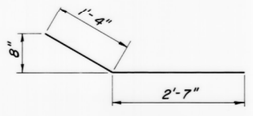
PLAN



SHOWING OUTLINE



BAR d



BAR h2

NOTES

Barrel shall be poured monolithically with wingwalls.
Exposed edges shall be beveled ¾".
Class X Concrete shall be used throughout.
Reinforcement bars shall conform to the requirements of AASHTO M-31 or M-53, Grade 60.
For backfilling and embankment see Standard Specifications.
Expansion bolts shall consist of self drilling expansion shields and ¾"ϕ hooked bolts. Bolts shall extend a minimum of 9" into new concrete.

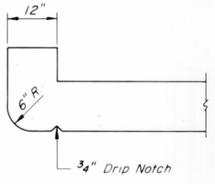
DESIGN STRESSES

fy = 60,000 psi
f'c = 3,500 psi

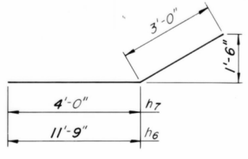
LOADING HS 20-44 & ALT.

BILL OF MATERIAL

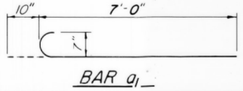
Bar	No.	Size	Length
a1	28	#7	7'-10"
a2	8	#4	6'-7"
d	11	#4	4'-6"
h	13	#7	4'-5"
h1	14	#6	4'-5"
h2	5	#5	3'-11"
h3	18	#6	7'-0"
h4	8	#6	10'-6"
h5	6	#6	12'-2"
h6	16	#7	14'-9"
h7	16	#7	7'-0"
h8	20	#6	10'-3"
h9	5	#5	4'-3"
v	15	#4	6'-1"
v1	8	#4	8'-6"
Class X Concrete Box Culverts		Cu Yds	10.7
Reinforcement Bars		Lbs	2316
Expansion Bolts		Each	22



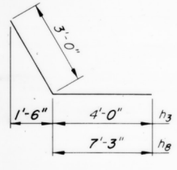
SECTION THRU HEADWALL



BARS h6 & h7



BAR a1



BARS h3 & h8

10'x 5' BOX CULVERT EXTENSION
STATION 166+70 RIGHT
FAS ROUTE 945
SECTION 86-00060-00-RS
PROJECT NO. MA-SR-945(104)
ALEXANDER COUNTY

FILE NAME = 170252-sht-culvert.dgn	USER NAME = rhoslck	DESIGNED - P.S.	REVISED -
HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703		CHECKED - S.W.M.	REVISED -
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959	PLOT SCALE = $SCALES	DRAWN - R.D.H.	REVISED -
	PLOT DATE = 4/26/2019	CHECKED - S.W.M.	REVISED -

STATE OF ILLINOIS
ALEXANDER COUNTY HIGHWAY DEPARTMENT

EXISTING PLANS
CULVERT STA. 166+70
SHEET NO. 4 OF 4 SHEETS

F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
945	15-00082-00-RS	ALEXANDER	18	18
		CONTRACT NO. 99629		
	ILLINOIS	FED. AID PROJECT UA5K(665)		