

STATE OF OHIO DEPARTMENT OF TRANSPORTATION

CUY-90-16.28

INNERBELT CONTRACT GROUP 3A

CITY OF CLEVELAND

CUYAHOGA COUNTY

FEDERAL PROJECT NUMBER

E070 (498)

RAILROAD INVOLVEMENT

NONE

PROJECT DESCRIPTION

RECONSTRUCTION OF 0.73 MILES OF I.R. 90 BETWEEN EAST 9TH STREET AND PROSPECT AVENUE, REALIGNMENT AND RECONSTRUCTION OF SEVERAL RAMPS IN THE CENTRAL INTERCHANGE BETWEEN I.R. 90 AND I.R. 77, AND RECONSTRUCTION OF SEVERAL LOCAL STREETS.

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA: 10.4 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: 1.0 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA: 11.4 ACRES

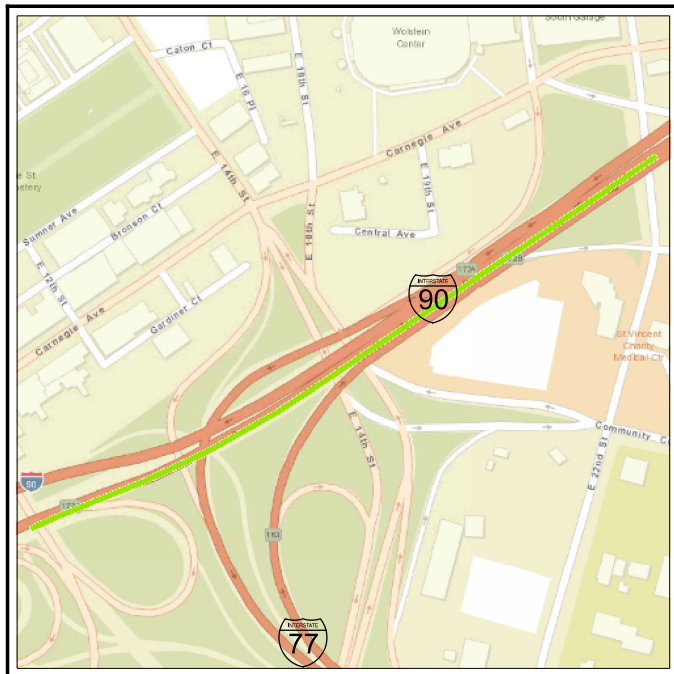
62.9 ACRES OF PROJECT EARTH DISTURBED AREA DRAINS TO CITY OF CLEVELAND COMBINED SEWERS

LIMITED ACCESS

THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02 OF THE OHIO REVISED CODE.

2019 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PLANS AND CHANGES LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.



LOCATION MAP

LATITUDE: 41° 29' 40" LONGITUDE: -81° 40' 54"



PORTION TO BE IMPROVED	-----	=====
INTERSTATE HIGHWAY	-----	=====
FEDERAL ROUTES	-----	=====
STATE ROUTES	-----	=====
COUNTY & TOWNSHIP ROADS	-----	=====
OTHER ROADS	-----	=====

DESIGN DESIGNATION

SEE SHEET 3

DESIGN EXCEPTIONS

SEE SHEET 3

ADA DESIGN WAIVERS

SEE SHEET 3

INDEX OF SHEETS:
SEE SHEET 2

STAGE 2 SUBMITTAL
6/24/2022
NOT FOR CONSTRUCTION

ENGINEER'S SEAL:	ENGINEER'S SEAL:	ENGINEER'S SEAL:	ENGINEER'S SEAL:	ENGINEER'S SEAL:
SIGNED: _____ DATE: _____	SIGNED: _____ DATE: _____	SIGNED: _____ DATE: _____	SIGNED: _____ DATE: _____	SIGNED: _____ DATE: _____

STANDARD CONSTRUCTION DRAWINGS										SUPPLEMENTAL SPECIFICATIONS		CITY OF CLEVELAND STD. DRAWINGS					
BP-1.1	7/28/00	I-3B, 3B1	7/16/21	AS-1-15	7/17/15	HL-30.21	4/17/20	MT-98.10	1/17/20	TC-21.11	7/16/21	TC-84.20	10/18/13	800-2019	1/15/21	A-503	07/08/08
BP-2.1	1/21/22	I-3C, 3C1	7/16/21	AS-2-15	1/18/19	HL-30.22	1/15/21	MT-98.11	1/17/20	TC-21.21	7/16/21	TC-84.21	10/18/13	804	1/21/22	A-605	07/08/08
BP-2.2	1/15/21	I-3D	7/16/21	BR-2-15	1/21/22	HL-30.31	4/17/20	MT-98.20	4/19/19	TC-21.50	4/17/20	TC-85.10	4/17/20	809	1/21/22	A-695	07/08/08
BP-2.3	7/18/14			EXJ-2-81	7/19/02	HL-30.32	4/17/20	MT-98.21	1/17/20	TC-22.20	1/17/14	TC-85.20	7/20/18	813	10/19/18	MB-1C	07/08/08
BP-2.4	7/19/13	LA-1.1	10/15/10	EXJ-4-87	1/19/18	HL-30.33	1/21/22	MT-98.22	1/17/20	TC-41.10	7/19/13			821	4/20/12	CONC-1	07/08/08
BP-3.1	1/21/22	LA-1.2	1/16/09	GSD-1-19	1/15/21	HL-30.41	1/21/22	MT-98.28	1/17/20	TC-41.20	10/18/13			831	10/21/16	ASPH-1	07/08/08
BP-3.2	1/18/19			ICD-1-20	1/21/22	HL-40.10	7/17/20	MT-98.29	1/17/20	TC-41.30	10/18/13			832	10/19/18	BP-1	04/14/08
BP-4.1	7/19/13	MGS-1.1	7/16/21	ICD-2-18	1/21/22	HL-40.20	7/17/20	MT-98.30	7/16/21	TC-41.40	10/18/13			836	1/19/18	PR-1	04/14/08
BP-5.1	1/21/22	MGS-2.1	1/19/18	PCB-91	7/17/20	HL-50.21	1/15/21	MT-99.20	4/19/19	TC-41.41	7/19/19			837	7/19/19	CR-1	04/14/08
BP-6.1	7/19/13	MGS-3.1	1/19/18	RB-1-55	7/19/13	HL-60.11	7/21/17	MT-99.30	1/17/20	TC-41.50	10/18/13			839	7/16/21	CD-1	04/14/08
BP-9.1	1/18/19	MGS-3.2	1/18/13	SBR-1-20	7/17/20	HL-60.12	7/16/21	MT-99.50	1/17/20	TC-42.10	10/18/13			840	4/16/21	146-ME	07/08/08
		MGS-4.2	7/19/13	SBR-2-20	1/15/21	HL-60.21	7/20/18	MT-99.60	7/15/16	TC-42.20	10/18/13			867	1/15/21	MH-1	07/08/08
CB-1	7/16/21	MGS-4.3	1/18/13	SBR-3-20	7/17/20	HL-60.31	1/17/20	MT-100.00	7/16/21	TC-51.11	1/15/16			873	4/16/21	CB-1	07/08/08
CB-2-2A, 2B, 2C	7/16/21	MGS-5.2	7/15/16	SICD-1-21	1/21/22			MT-101.60	1/17/20	TC-51.12	1/15/16			895	4/18/14		
CB-3	7/16/21	MGS-6.1	1/19/18	SICD-1-96	7/18/14	ITS-14.50	1/21/22	MT-101.70	1/17/20	TC-52.10	10/18/13			896	7/21/17		
CB-3A	7/16/21			SICD-2-14	1/15/21			MT-101.75	1/17/20	TC-52.20	1/15/21			939	1/17/20		
CB-6	1/21/22	MH-1	7/16/21	VPF-1-90	7/20/18	MT-95.30	7/19/19	MT-101.80	1/17/20	TC-61.10	1/17/20			995	7/17/15		
CB-8	7/16/21	MH-3	7/16/21			MT-95.31	7/19/19	MT-101.90	7/17/20	TC-61.30	7/19/19			996	7/15/16		
				HL-10.11	1/15/21	MT-95.32	4/19/19	MT-102.10	1/17/20	TC-65.10	1/17/14						
DM-1.1	7/17/20	RM-4.3	1/21/22	HL-10.12	1/20/17	MT-95.40	1/17/20	MT-105.10	1/17/20	TC-65.11	7/21/17						
DM-1.2	7/16/21	RM-4.4	7/19/19	HL-10.13	4/17/20	MT-95.41	1/17/20	MT-110.10	7/19/13	TC-71.10	7/16/21						
DM-2.1	1/18/13	RM-4.5	7/21/17	HL-10.15	7/17/15	MT-95.50	7/21/17	MT-120.00	1/19/18	TC-72.20	7/20/18						
DM-4.1	7/17/20	RM-4.6	7/19/13	HL-10.31	4/17/20	MT-95.60	4/19/19			TC-73.20	1/17/20						
				HL-20.11	1/15/21	MT-95.61	4/19/19	TC-9.11	7/16/21	TC-74.10	1/21/22						
F-1.1	7/19/13	WQ-1.1	1/18/13	HL-20.13	4/17/20	MT-95.70	1/17/20	TC-9.31	7/16/21	TC-81.22	7/16/21						
F-3.1	7/19/13	WQ-1.2	1/15/16	HL-20.14	4/17/20	MT-95.71	1/17/20	TC-12.31	4/15/22	TC-82.10	7/19/19						
F-3.3	7/19/13			HL-20.21	1/15/21	MT-95.72	1/17/20	TC-15.116	7/16/21	TC-83.10	1/17/20						
A-1-20	1/21/22			HL-30.11	1/15/21	MT-95.73	1/17/20	TC-16.22	7/16/21	TC-83.20	7/21/17						

UNDERGROUND UTILITIES

Contact Two Working Days
Before You Dig

OHIO811.org
Before You Dig

OHIO811, 8-1-1, or 1-800-362-2764
(Non members must be called directly)

PLAN PREPARED BY:



CUY-90-16.28 (CCG3A)

MODEL: Sheet PAPER: 17x11 (in.) DATE: 6/22/2022 TIME: 11:24:20 PM USER: Kathy Johnson
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TITLE SHEET

DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	---
REVIEWER	---
PROJECT ID	82382
SHEET	1
TOTAL	2339

APPROVED _____
DATE _____ DISTRICT DEPUTY DIRECTOR

APPROVED _____
DATE _____ DIRECTOR, DEPARTMENT OF TRANSPORTATION

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INTERIM I.R. 90 EB	561 - 575	CUY-90-1640 (BRIDGE E5)	1956 - 1962
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INTERIM I.R. 90 WB	601 - 615	CUY-E14TH-0002SN (BRIDGE E10)	1966 - 1967
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DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	---
REVIEWER	---
PROJECT ID	82382
SHEET	2
TOTAL	2339

DESIGN DESIGNATION

	I.R. 90	RAMP A1	RAMP A2	RAMP A3	RAMP B5	RAMP B6	RAMP IH4	RAMP IH5	RAMP IH6	RAMP IJ3
CURRENT ADT (2015)	138,000	5,600	22,200	6,900	7,600	6,400	10,900	18,300	3,700	8,700
DESIGN YEAR ADT (2035)	148,000	6,000	23,500	7,800	7,800	7,500	11,300	19,200	3,800	8,100
DESIGN HOURLY VOLUME (AM)	12,740	200	1,770	390	890	710	1,600	1,790	600	570
DESIGN HOURLY VOLUME (PM)	13,840	880	2,460	1,020	520	640	440	1,660	80	990
DIRECTIONAL DISTRIBUTION	52%	100%	100%	100%	100%	100%	100%	100%	100%	100%
TRUCKS (24 HOUR B&C)	9%	6%	4%	3%	3%	8%	4%	6%	6%	6%
DESIGN SPEED	50/60 MPH	30 (MIN)/45 MPH	45 (MIN)/50 MPH	30 (MIN)/40/50 MPH	25 (MIN) MPH	30 (MIN)/45/50 MPH	30 MPH (MIN)	45 (MIN)/50 MPH	30 (MIN)/45/50 MPH	30 (MIN)/45/50 MPH
LEGAL SPEED	50 MPH	VARIABLES	VARIABLES	VARIABLES	VARIABLES	VARIABLES	VARIABLES	VARIABLES	VARIABLES	VARIABLES
DESIGN FUNCTIONAL CLASSIFICATION:	URBAN INTERSTATE	DIAMOND RAMP	DIRECTIONAL RAMP	DIRECTIONAL RAMP	LOOP RAMP	DIAMOND RAMP	DIAMOND RAMP	DIRECTIONAL RAMP	DIAMOND RAMP	DIAMOND RAMP
NHS PROJECT	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO

DESIGN DESIGNATION

	CARNEGIE AVENUE	MIDTOWN CONNECTOR	CEDAR AVENUE	E 14TH STREET	E 18TH STREET	E 21ST STREET	E 22ND STREET
CURRENT ADT (2015)	25,700	8,300	8,300	17,200	12,100	5,100	13,400
DESIGN YEAR ADT (2035)	30,500	8,700	8,700	19,100	14,500	6,400	15,300
DESIGN HOURLY VOLUME (AM)	2,650	630	630	1,590	1,410	160	1,550
DESIGN HOURLY VOLUME (PM)	2,830	540	540	1,860	1,190	1,000	1,200
DIRECTIONAL DISTRIBUTION	56%	75%	75%	53%	63%	100%	57%
TRUCKS (24 HOUR B&C)	6%	8%	6%	3%	3%	7%	7%
DESIGN SPEED	30/40 MPH	30 MPH	30 MPH	30 MPH	30 MPH	30 MPH	30 MPH
LEGAL SPEED	25/35 MPH	25 MPH	25 MPH	25 MPH	N/A	25 MPH	25 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	URBAN ARTERIAL	URBAN COLLECTOR	URBAN COLLECTOR	URBAN COLLECTOR	URBAN ARTERIAL	URBAN COLLECTOR	URBAN COLLECTOR
NHS PROJECT	NO	NO	NO	NO	NO	NO	NO

DESIGN EXCEPTIONS

DESIGN FEATURE	APPROVAL DATE	PAGE NUMBERS
SHOULDER WIDTH (RAMP A2 RIGHT SHOULDER)	06/08/2021	43
HORIZONTAL STOPPING SIGHT DISTANCE (RAMP A2)	06/08/2021	390 , 392 , 394 , 396
SHOULDER WIDTH (RAMP IH4 RIGHT SHOULDER)	09/28/2021	61
HORIZONTAL CURVE RADIUS (RAMP IH5)	09/28/2021	430 , 432 , 434 , 436
HORIZONTAL STOPPING SIGHT DISTANCE (RAMP A1)	05/11/2022	380 , 382
SHOULDER WIDTH (I.R. 90 EB MEDIAN SHOULDER)	05/11/2022	34 , 35
SHOULDER WIDTH (I.R. 90 WB MEDIAN SHOULDER)	05/11/2022	36

BENCHMARKS

PT#	EASTING (GROUND)	NORTHING (GROUND)	EASTING (GRID)	NORTHING (GRID)	ELEVATION
BM 40	666008.280	2194485.268	665968.455	2194354.047	681.08
BM 42	665631.191	2195958.577	665591.389	2195827.268	682.44
BM 43	665502.004	2196732.509	665462.210	2196601.153	679.84
BM 44	665736.659	2197340.224	665696.851	2197208.832	678.79
BM 45	665452.068	2198015.182	665412.277	2197883.750	679.35
BM 46	664565.471	2197773.810	664525.733	2197642.392	673.05
BM 47	664493.751	2196879.902	664454.017	2196748.538	664.08
BM 48	664874.417	2196171.893	664834.660	2196040.571	664.55
BM 49	665993.407	2196561.471	665953.583	2196430.126	678.19
BM 51	666305.197	2195052.178	666265.355	2194920.923	677.38
BM 54	668287.508	2194966.836	668247.547	2194835.586	672.54
BM 55	667191.120	2195668.995	667151.225	2195537.703	676.72
BM 56	667019.791	2196500.215	666979.906	2196368.873	676.54
BM 57	666516.092	2196668.619	666476.237	2196537.267	686.50
BM 58	666937.584	2194098.086	666897.704	2193966.888	672.27
BM 59	667530.015	2194073.332	667490.099	2193942.135	660.15
BM 61	667831.746	2193125.694	667791.812	2192994.554	674.03
BM 62	668319.804	2193736.464	668279.841	2193605.288	672.11
BM 64	668848.397	2193352.640	668808.403	2195221.367	671.25
BM 65	668904.261	2196154.051	668864.263	2196022.730	668.92
BM 66	667357.878	2192473.891	667317.973	2192342.790	671.90
BM 67	666724.612	2192972.503	666684.745	2192841.372	674.82
BM 68	666206.308	2193741.485	666166.472	2193610.308	678.92
BM 69	665827.642	2195196.523	665787.828	2195065.259	682.24
BM 70	666145.900	2195631.830	666106.067	2195500.540	677.38
BM 71	666626.643	2194623.535	666586.781	2194492.305	678.72
BM 72	667366.315	2194725.034	667326.409	2194593.798	674.06
BM 73	668616.319	2194466.337	668576.338	2194335.117	671.90

DESIGN AGENCY

Michael Baker INTERNATIONAL

DESIGNER

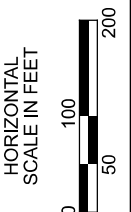
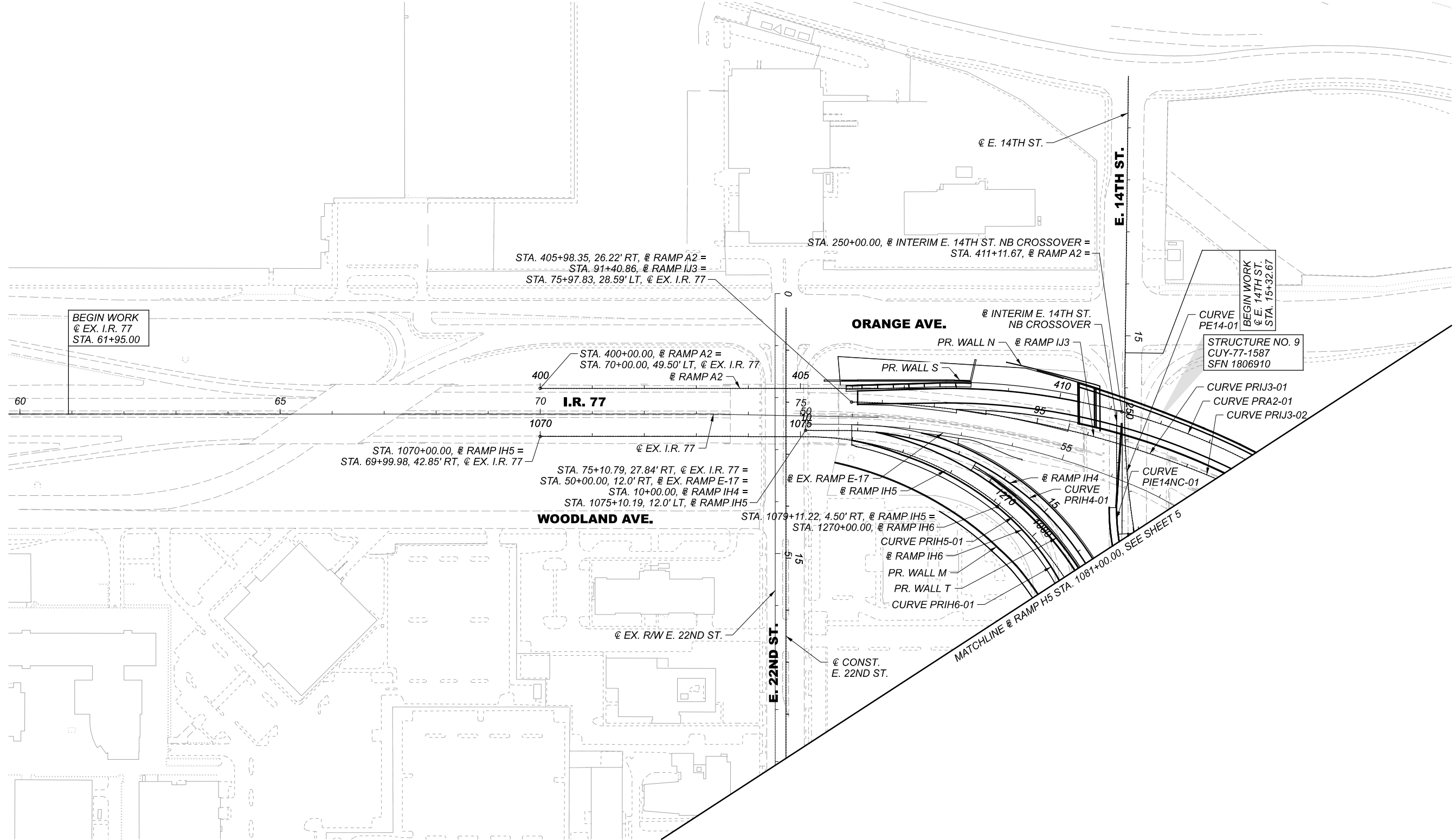
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PROJECT ID

82382

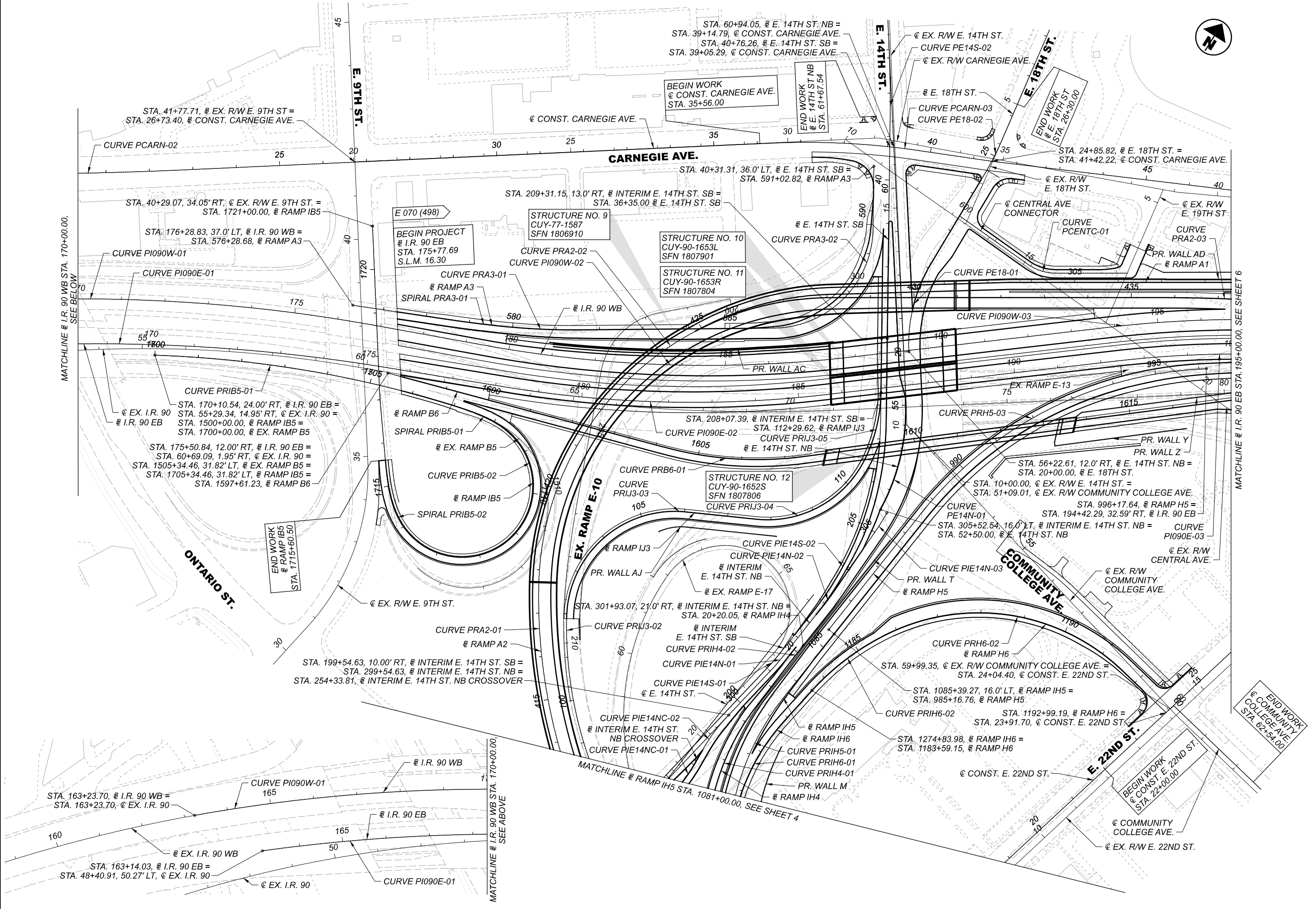
SHEET TOTAL

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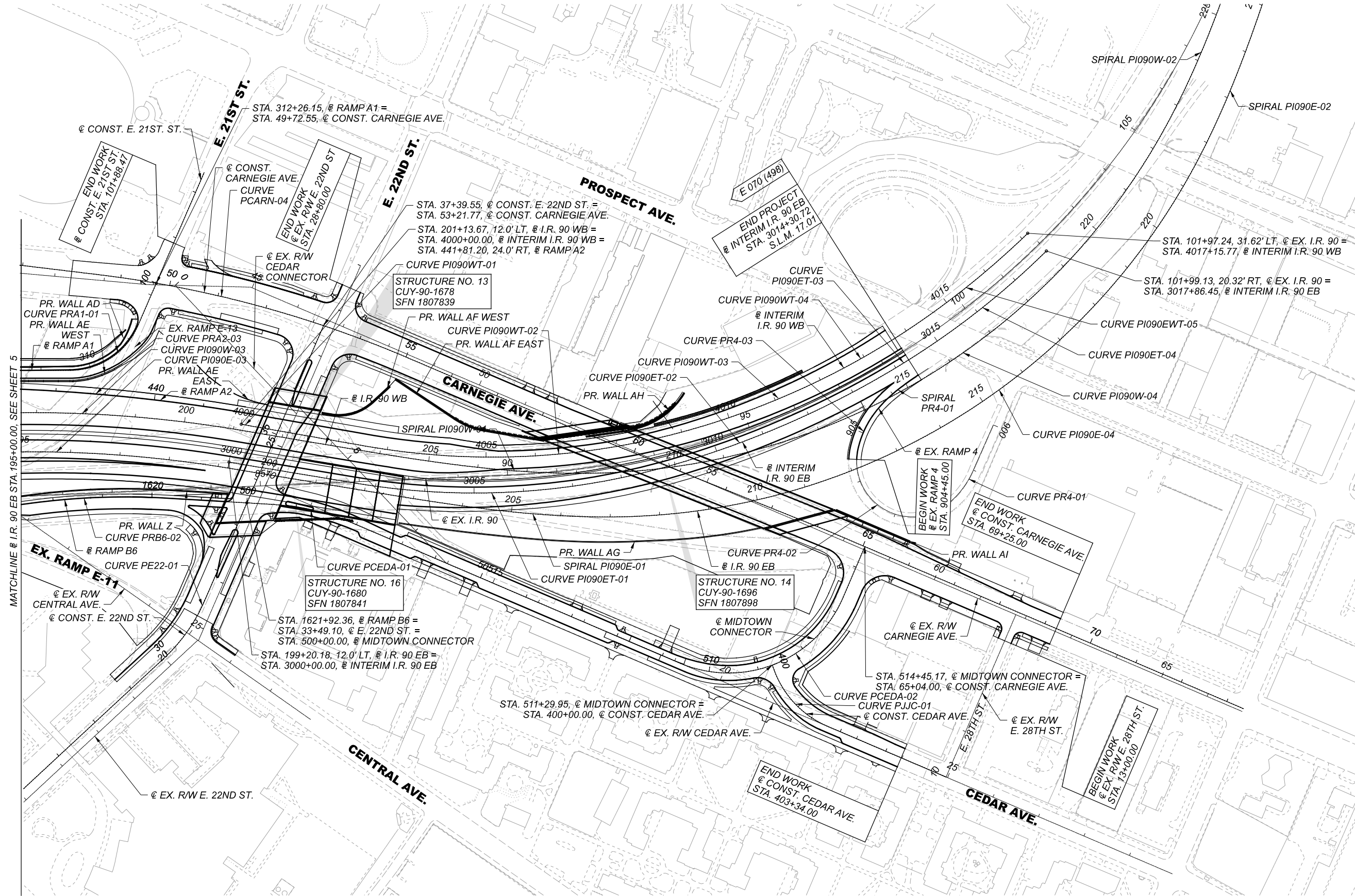
SCHEMATIC PLAN - CCG3A BUILD

DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	—
REVIEWER	—
PROJECT ID	82382
SHEET	4
TOTAL	2339



SCHEMATIC PLAN - CCG3A BUILD

DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	—
REVIEWER	—
PROJECT ID	82382
SHEET	5
TOTAL	2339



MATCHLINE @ I.R. 90 EB STA. 195+00.00. SEE SHEET 5



SCHEMATIC PLAN - CCG3A BUILD

DESIGN AGENCY

Michael Baker INTERNATIONAL

DESIGNER

REVIEWER

PROJECT ID

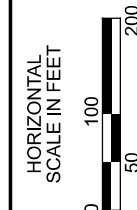
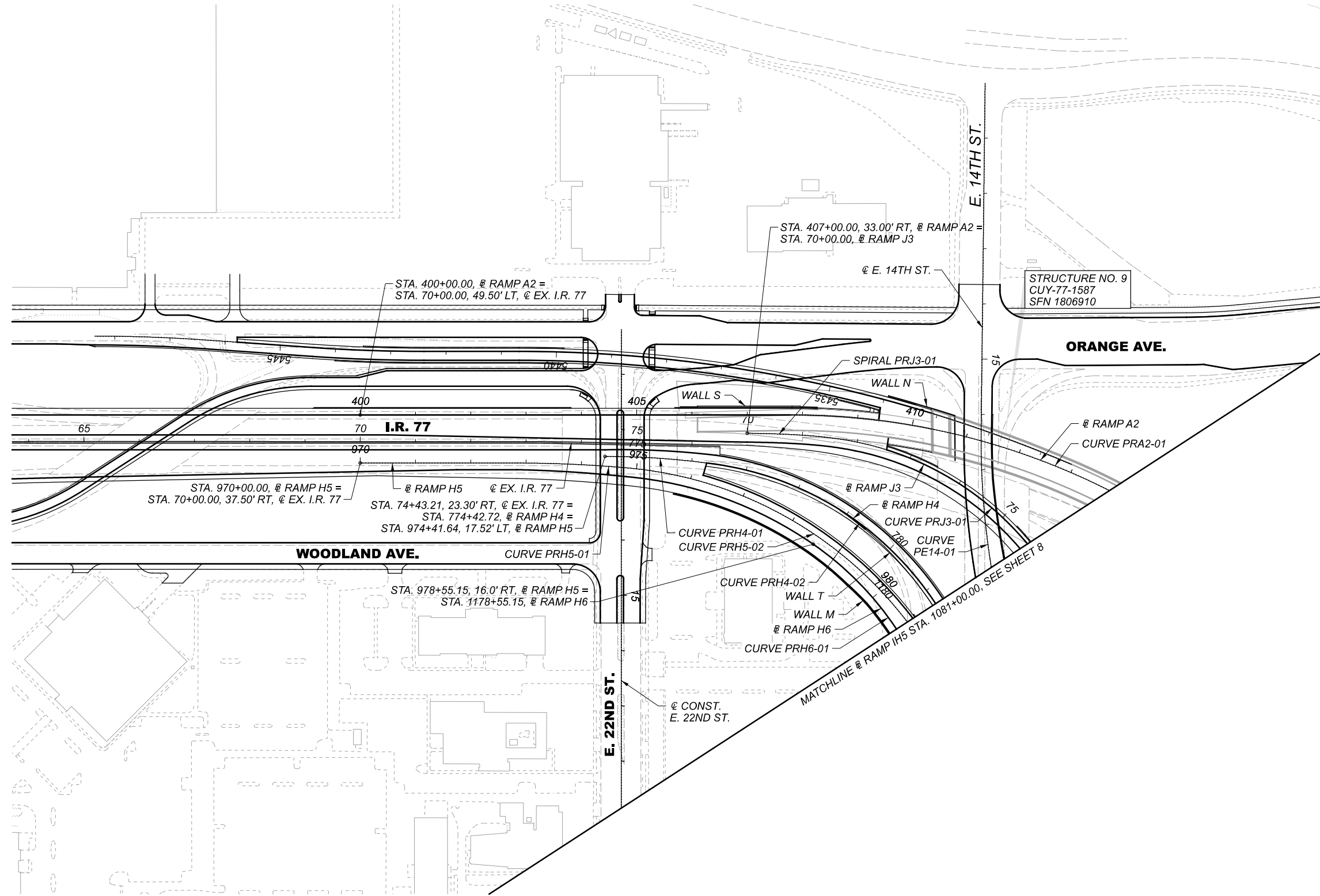
82382

SHEET

6

TOTAL

2339



SCHEMATIC PLAN - FUTURE INNERBELT PROJECTS

DESIGN AGENCY

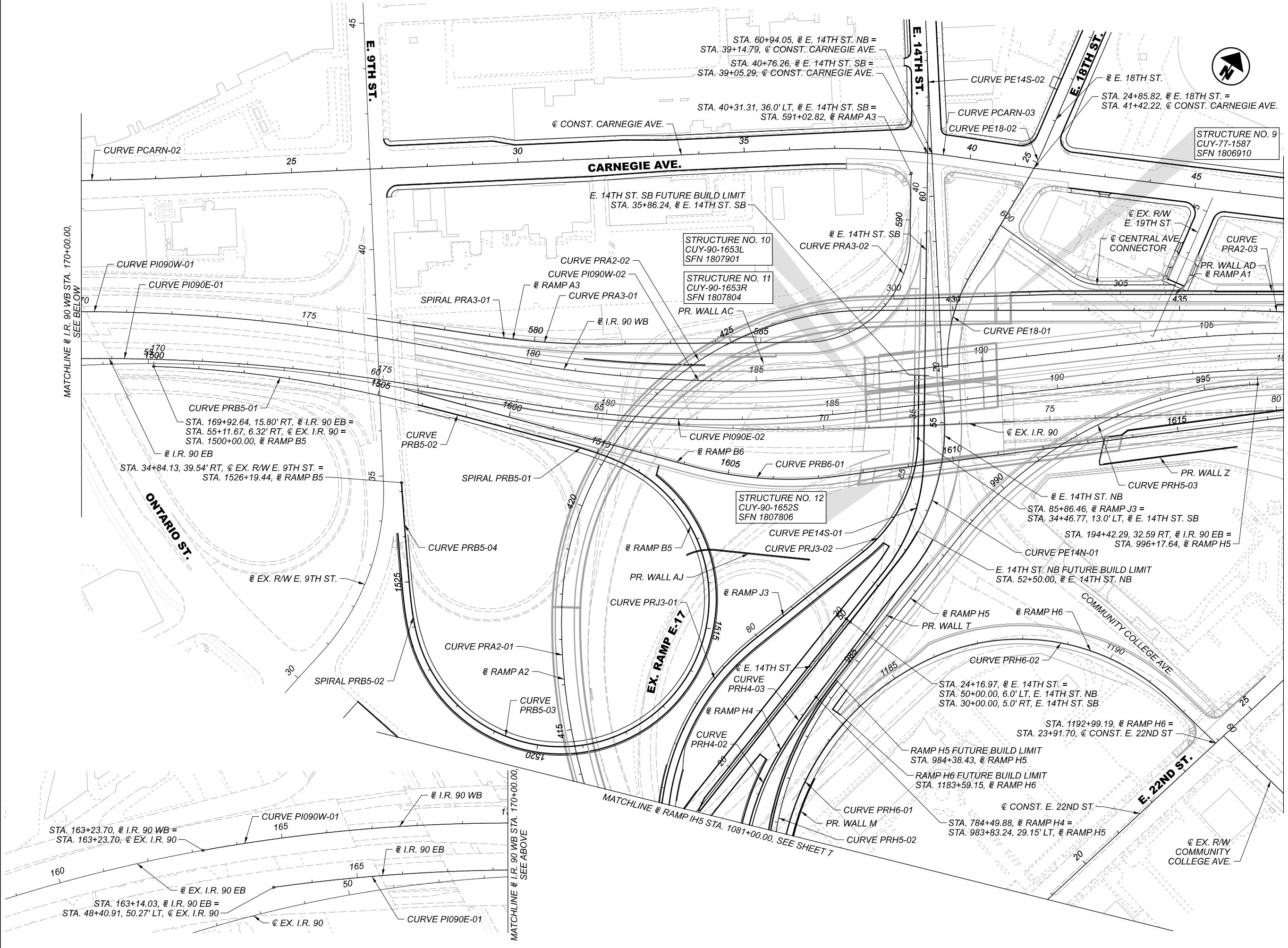
Michael Baker
INTERNATIONAL

DESIGNER

REVIEWER

PROJECT ID
82382

SHEET	TOTAL
7	2339

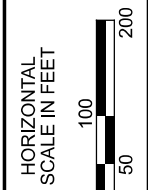


MATCHLINE @ I.R. 90 WB STA. 170+00.00. SEE BELOW

MATCHLINE @ I.R. 90 EB STA. 195+00.00. SEE SHEET 9

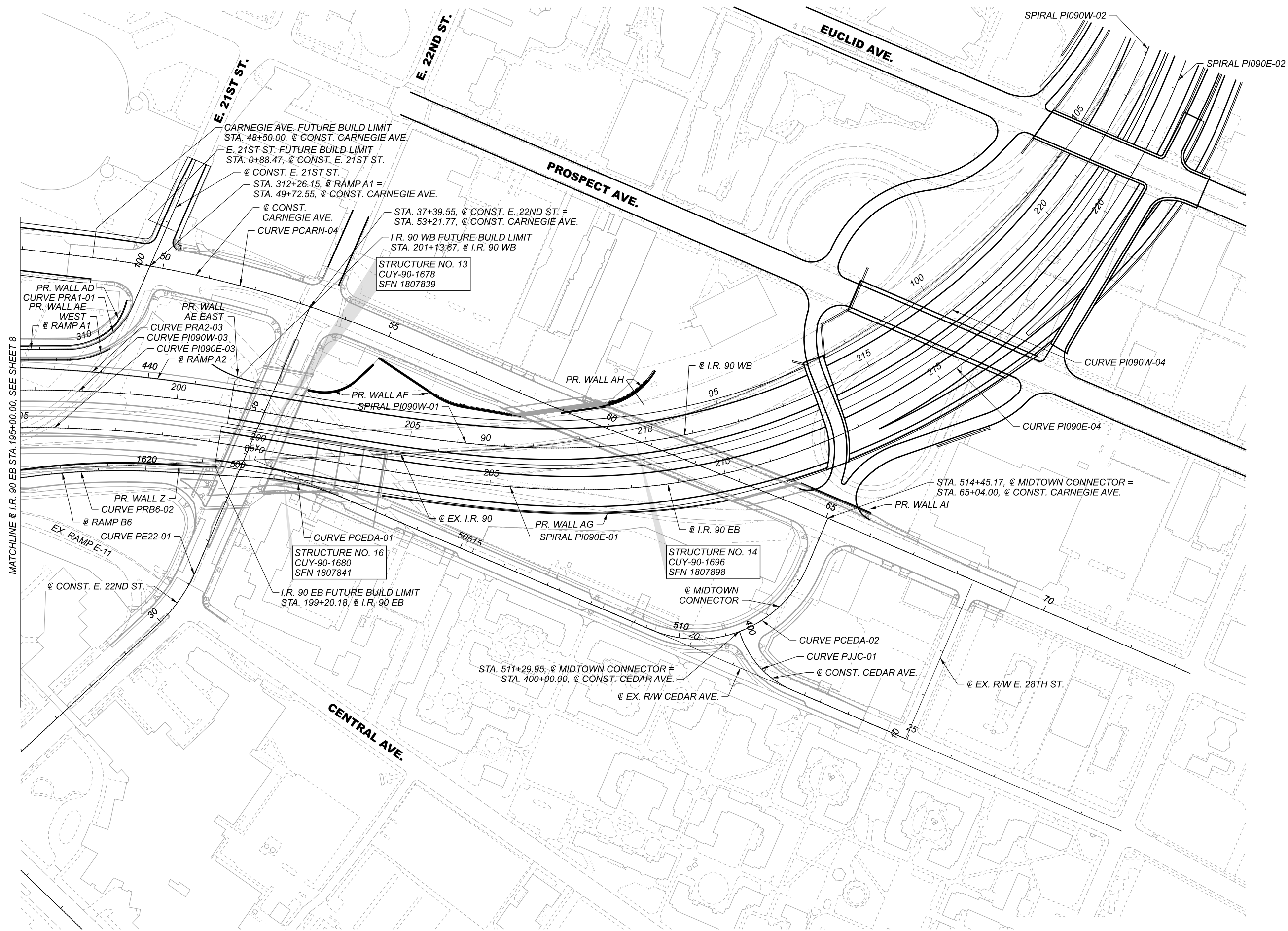
MATCHLINE @ RAMP IH5 STA. 1081+00.00. SEE SHEET 7

MATCHLINE @ I.R. 90 WB STA. 170+00.00. SEE ABOVE

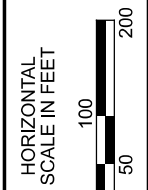


SCHEMATIC PLAN - FUTURE INNERBELT PROJECTS

DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	
REVIEWER	
PROJECT ID	82382
SHEET	8
TOTAL	2339



MATCHLINE @ I.R. 90 EB STA. 195+00.00, SEE SHEET 8



SCHEMATIC PLAN - FUTURE INNERBELT PROJECTS

DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	—
REVIEWER	—
PROJECT ID	82382
SHEET	9
TOTAL	2339

INTERIM I.R. 90 EB

CURVE PI090ET-01
P.I. = Sta. 3005+92.95
 $\Delta = 25^\circ 41' 03''$ LT
Dc = 03°57'00"
R = 1,450.53'
T = 330.67'
L = 650.23'
E = 37.21'
emax = 0.052
V = 50 mph

CURVE PI090ET-02
P.I. = Sta. 3011+11.18
 $\Delta = 11^\circ 52' 39''$ LT
Dc = 03°00'00"
R = 1,909.86'
T = 198.67'
L = 395.92'
E = 10.31'
emax = 0.045
V = 50 mph

CURVE PI090ET-03
P.I. = Sta. 3013+87.85
 $\Delta = 05^\circ 13' 23''$ LT
Dc = 03°17'26"
R = 1,741.18'
T = 79.42'
L = 158.72'
E = 1.81'
emax = 0.047 *
V = 50 mph

CURVE PI090ET-04
P.I. = Sta. 3016+27.30
 $\Delta = 11^\circ 09' 29''$ LT
Dc = 03°29'41"
R = 1,639.54'
T = 160.15'
L = 319.29'
E = 7.80'
emax = 0.048

NOTE: CURVE OCCURS BEYOND PROPOSED WORK LIMITS

INTERIM I.R. 90 WB

CURVE PI090WT-01
P.I. = Sta. 4000+08.58
 $\Delta = 00^\circ 23' 03''$ RT
Dc = 02°14'22"
R = 2,558.48'
T = 8.58'
L = 17.15'
E = .01
emax = 0.038 **
V = 50 mph

CURVE PI090WT-02
P.I. = Sta. 4006+44.80
 $\Delta = 29^\circ 30' 01''$ LT
Dc = 03°52'30"
R = 1,478.60'
T = 389.29'
L = 761.30'
E = 50.39'
emax = 0.051
V = 50 mph

CURVE PI090WT-03
P.I. = Sta. 4011+01.10
 $\Delta = 05^\circ 49' 40''$ LT
Dc = 03°27'36"
R = 1,655.91'
T = 84.29'
L = 168.43'
E = 2.14'
emax = 0.048
V = 50 mph

CURVE PI090WT-04
P.I. = Sta. 4012+91.76
 $\Delta = 08^\circ 03' 06''$ LT
Dc = 03°47'08"
R = 1,513.56'
T = 106.52'
L = 212.70'
E = 3.74'
emax = 0.050
V = 50 mph

CURVE PI090WT-05
P.I. = Sta. 4015+57.32
 $\Delta = 10^\circ 40' 45''$ LT
Dc = 03°21'36"
R = 1,705.21'
T = 159.38'
L = 317.83'
E = 7.43'

NOTE: CURVE OCCURS BEYOND PROPOSED WORK LIMITS

I.R. 90 EB

CURVE PI090E-01
P.I. = Sta. 169+30.01
 $\Delta = 17^\circ 07' 08''$ RT
Dc = 01°24'00"
R = 4,092.56'
T = 615.98'
L = 1,222.78'
E = 46.1'
emax = 0.035
V = 60 mph

CURVE PI090E-02
P.I. = Sta. 181+96.50
 $\Delta = 15^\circ 51' 10''$ LT
Dc = 02°00'00"
R = 2,644.42'
T = 368.19'
L = 731.67'
E = 25.51'
emax = 0.047
V = 60 mph

CURVE PI090E-03
P.I. = Sta. 195+79.88
 $\Delta = 15^\circ 59' 07''$ RT
Dc = 02°20'00"
R = 2,455.53'
T = 344.78'
L = 685.09'
E = 24.09'
emax = 0.049
V = 60 mph

SPIRAL PI090E-01
P.I. = Sta. 205+66.41
Ls = 555.00'
 $\theta_s = 11^\circ 47' 37''$
LT = 370.82'
ST = 185.75'
x = 552.65'
y = 37.97'
k = 277.11'
p = 9.51'
C = 553.96'
Start = Sta. 201+95.58
End = Sta. 207+50.58
C.B. = N63°24'20"E
V = 60 mph

CURVE PI090E-04
P.I. = Sta. 215+02.02
 $\Delta = 58^\circ 16' 12''$ LT
Dc = 04°15'00"
R = 1,348.14'
T = 751.44'
L = 1,371.06'
E = 195.28'
emax = 0.060
V = 60 mph

SPIRAL PI090E-02
P.I. = Sta. 223+07.39
Ls = 555.00'
 $\theta_s = 11^\circ 47' 38''$
LT = 370.82'
ST = 185.75'
x = 548.75'
y = 75.79'
k = 277.11'
p = 9.51'
C = 553.96'
Start = Sta. 221+21.64
End = Sta. 226+76.64
C.B. = N10°46'08"W
V = 60 mph

I.R. 90 WB

CURVE PI090W-01
P.I. = Sta. 170+12.43
 $\Delta = 20^\circ 26' 46''$ RT
Dc = 01°30'01"
R = 3,819.00'
T = 688.73'
L = 1,362.81'
E = 61.61'
emax = 0.042
V = 60 mph

CURVE PI090W-02
P.I. = Sta. 183+70.18
 $\Delta = 16^\circ 51' 04''$ LT
Dc = 02°00'00"
R = 2,864.79'
T = 424.34'
L = 842.55'
E = 31.26'
emax = 0.045
V = 60 mph

CURVE PI090W-03
P.I. = Sta. 197+56.92
 $\Delta = 16^\circ 09' 43''$ RT
Dc = 02°15'00"
R = 2,546.48'
T = 361.55'
L = 718.3'
E = 25.54'
emax = 0.048
V = 60 mph

SPIRAL PI090W-01
P.I. = Sta. 206+76.49
Ls = 555.00'
 $\theta_s = 11^\circ 47' 37''$
LT = 370.82'
ST = 185.75'
x = 552.65'
y = 37.97'
k = 277.11'
p = 9.51'
C = 553.96'
Start = Sta. 203+05.67
End = Sta. 208+60.67
C.B. = N63°24'20"E
V = 60 mph

CURVE PI090W-04
P.I. = Sta. 216+14.84
 $\Delta = 58^\circ 26' 48''$ LT
Dc = 04°15'00"
R = 1,348.14'
T = 754.17'
L = 1,375.21'
E = 196.61'
emax = 0.060
V = 60 mph

SPIRAL PI090W-02
P.I. = Sta. 224+21.63
Ls = 555.00'
 $\theta_s = 11^\circ 47' 38''$
LT = 370.82'
ST = 185.75'
x = 548.75'
y = 75.79'
k = 277.11'
p = 9.51'
C = 553.96'
Start = Sta. 222+35.88
End = Sta. 227+90.88
C.B. = N10°46'08"W
V = 60 mph

RAMP A1

CURVE PRA1-01
P.I. = Sta. 310+56.73
 $\Delta = 66^\circ 35' 38''$ LT
Dc = 38°11'50"
R = 150.00'
T = 98.52'
L = 174.34'
E = 29.46'
emax = 0.060
V = 25 mph

RAMP A2

CURVE PRA2-01
P.I. = Sta. 413+02.39
 $\Delta = 44^\circ 30' 41''$ RT
Dc = 04°30'00"
R = 1,273.24'
T = 521.04'
L = 989.14'
E = 102.49'
emax = 0.049
V = 45 mph

CURVE PRA2-02
P.I. = Sta. 424+26.19
 $\Delta = 88^\circ 25' 03''$ RT
Dc = 08°30'00"
R = 674.07'
T = 655.7'
L = 1,040.21'
E = 266.31'
emax = 0.060
V = 45 mph

CURVE PRA2-03
P.I. = Sta. 438+79.71
 $\Delta = 09^\circ 34' 10''$ RT
Dc = 01°35'00"
R = 3,618.68'
T = 302.9'
L = 604.39'
E = 12.65'
emax = 0.048

RAMP A3

SPIRAL PRA3-01
P.I. = Sta. 579+31.81
Ls = 200.00'
 $\theta_s = 03^\circ 30' 00''$
LT = 133.36'
ST = 66.69'
x = 199.93'
y = 4.07'
k = 99.99'
p = 1.02'
C = 199.97'
Start = Sta. 577+98.45
End = Sta. 579+98.45
C.B. = N65°05'00"E

CURVE PRA3-01
P.I. = Sta. 580+77.01
 $\Delta = 05^\circ 29' 42''$ LT
Dc = 03°30'00"
R = 1,637.02'
T = 78.56'
L = 157.00'
E = 1.88'
emax = 0.048
V = 50 mph

CURVE PRA3-02
P.I. = Sta. 588+26.63
 $\Delta = 88^\circ 45' 09''$ LT
Dc = 24°45'00"
R = 231.50'
T = 226.51'
L = 358.60'
E = 92.38'
emax = 0.060
V = 30 mph

RAMP IBS

CURVE PRIB5-01
P.I. = Sta. 1703+50.98
 $\Delta = 15^\circ 21' 03''$ RT
Dc = 02°12'00"
R = 2,604.35'
T = 350.98'
L = 697.76'
E = 23.54'

SPIRAL PRIB5-01

P.I. = Sta. 1707+98.87
Ls = 150.00'
 $\theta_s = 26^\circ 03' 45''$
LT = 101.11'
ST = 51.01'
x = 146.93'
y = 22.41'
k = 74.49'
p = 5.64'
C = 148.63'
Start = Sta. 1706+97.76
End = Sta. 1708+47.76
C.B. = N83°40'53"E

CURVE PRIB5-02
P.I. = Sta. 1720+55.32
 $\Delta = 195^\circ 33' 01''$ RT
Dc = 34°45'00"
R = 164.88'
T = 1,207.55'
L = 562.73'
E = 1,053.88'
emax = 0.060
V = 25 mph

SPIRAL PRIB5-02
P.I. = Sta. 1714+61.51
Ls = 150.00'
 $\theta_s = 26^\circ 03' 45''$
LT = 101.11'
ST = 51.01'
x = 141.83'
y = 44.42'
k = 74.49'
p = 5.64'
C = 148.63'
Start = Sta. 1714+10.50
End = Sta. 1715+60.50
C.B. = N45°59'16"W
emax = 0.060
V = 25 mph

RAMP B6

CURVE PRB6-01
P.I. = Sta. 1605+84.05
 $\Delta = 22^\circ 30' 15''$ LT
Dc = 07°00'00"
R = 818.51'
T = 162.84'
L = 321.49'
E = 16.04'
emax = 0.058
V = 45 mph

CURVE PRB6-02

P.I. = Sta. 1618+94.83
 $\Delta = 10^\circ 51' 58''$ RT
Dc = 04°00'00"
R = 1,432.39'
T = 136.24'
L = 271.65'
E = 6.46'
emax = 0.028
V = 30 mph

EX. RAMP 4

CURVE PR4-01
P.I. = Sta. 901+46.94
 $\Delta = 28^\circ 07' 01''$ RT
Dc = 32°00'00"
R = 179.05'
T = 44.84'
L = 87.87'
E = 5.53'
emax = MATCH EXISTING (NO ROADWAY WORK)
V = MATCH EXISTING

CURVE PR4-02
P.I. = Sta. 905+02.99
 $\Delta = 140^\circ 30' 49''$ RT
Dc = 51°00'00"
R = 112.34'
T = 313.02'
L = 275.52'
E = 220.23'
emax = MATCH EXISTING (0.059)
V = MATCH EXISTING

CURVE PR4-03
P.I. = Sta. 905+02.70
 $\Delta = 22^\circ 02' 57''$ RT
Dc = 30°00'00"
R = 190.99'
T = 37.21'
L = 73.5'
E = 3.59'
emax = MATCH EXISTING (0.033)
V = MATCH EXISTING

SPIRAL PR4-01
P.I. = Sta. 905+89.73
Ls = 150.00'
 $\theta_s = 22^\circ 30' 00''$
LT = 100.82'
ST = 50.75'
x = 143.89'
y = 38.58'
k = 143.89'
p = 38.58'
C = 148.97'
Start = Sta. 905+38.99
End = Sta. 906+88.99
C.B. = N17°17'08"E

RAMP IH4

CURVE PRIH4-01
P.I. = Sta. 15+38.01
 $\Delta = 80^\circ 19' 38''$ RT
Dc = 10°30'00" (NDC = 9°00'00")
R = 545.67' (NDC = 637.00')
T = 460.54'
L = 765.02'
E = 168.37'
emax = 0.054
V = 35 mph

CURVE PRIH4-02
P.I. = Sta. 19+95.29
 $\Delta = 00^\circ 56' 28''$ RT
Dc = 01°54'00"
R = 3,015.57'
T = 24.76'
L = 49.53'
E = .010'
emax = 0.020
V = 30 mph

RAMP IH5

CURVE PRIH5-01
P.I. = Sta. 1080+20.78
 $\Delta = 81^\circ 16' 06''$ RT
Dc = 09°37'46" (NDC = 9°00'00")
R = 595.00' (NDC = 637.00')
T = 510.59'
L = 843.95'
E = 189.05'
emax = 0.058
V = 40 mph

RAMP H5

CURVE PRH5-03
P.I. = Sta. 992+53.42
 $\Delta = 48^\circ 11' 11''$ RT
Dc = 06°30'00"
R = 881.47'
T = 394.18'
L = 741.33'
E = 84.12'
emax = 0.057
V = 45 mph

RAMP IH6

CURVE PRIH6-01
P.I. = Sta. 1272+05.44
 $\Delta = 46^\circ 23' 19''$ RT
Dc = 11°57'00"
R = 479.46'
T = 205.44'
L = 388.19'
E = 42.16'
emax = 0.053
V = 35 mph

CURVE PRIH6-02
P.I. = Sta. 1184+72.89
 $\Delta = 22^\circ 27' 19''$ RT
Dc = 10°00'00"
R = 572.96'
T = 113.74'
L = 224.55'
E = 11.18'
emax = 0.053
V = 35 mph

RAMP H6

CURVE PRH6-02
P.I. = Sta. 1189+12.52
 $\Delta = 69^\circ 06' 30''$ RT
Dc = 12°00'00"
R = 477.46'
T = 328.82'
L = 575.9'
E = 102.27'
emax = 0.057
V = 35 mph

RAMP IJ3

CURVE PRIJ3-01
P.I. = Sta. 94+88.28
 $\Delta = 20^\circ 37' 12''$ RT
Dc = 03°00'00"
R = 1,909.86'
T = 347.42'
L = 687.33'
E = 31.34'

CURVE PRIJ3-02

P.I. = Sta. 100+12.53
 $\Delta = 22^\circ 30' 40''$ RT
Dc = 06°11'08"
R = 926.27'
T = 184.34'
L = 363.93'
E = 18.16'
emax = 0.060
V = 30 mph

CURVE PRIJ3-03

P.I. = Sta. 104+62.29
 $\Delta = 94^\circ 38' 42''$ RT
Dc = 23°00'00"
R = 249.11'
T = 270.17'
L = 411.5'
E = 118.38'
emax = 0.060
V = 30 mph

CURVE PRIJ3-04

P.I. = Sta. 109+39.13
 $\Delta = 69^\circ 22' 21''$ LT
Dc = 23°00'00"
R = 249.11'
T = 172.40'
L = 301.62'
E = 53.84'
emax = 0.060
V = 30 mph

CURVE PRIJ3-05

P.I. = Sta. 111+50.37
 $\Delta = 25^\circ 48' 24''$ LT
Dc = 16°00'08"
R = 358.05'
T = 82.03'
L = 161.27'
E = 9.28'
emax = 0.055
V = 30 mph

NOTES:

* emax = 0.051 WHEN MATCHING INTO EXISTING

** THEORETICAL emax. SEE SUPERELEVATION TABLE FOR ACHIEVED emax.

DESIGN AGENCY

Michael Baker INTERNATIONAL

DESIGNER

REVIEWER

PROJECT ID

82382

SHEET TOTAL

10 2339

☒ CONST. CEDAR AVE.

CURVE PJJC-01
 P.I. = Sta. 400+96.67
 $\Delta = 46^\circ 16' 18''$ LT
 $Dc = 29^\circ 00' 00''$
 $R = 197.57'$
 $T = 84.42'$
 $L = 159.56'$
 $E = 17.28'$
 $emax = NC$
 $V = 25$ mph

☒ CONST. CARNEGIE AVE.

CURVE PCARN-01
 (NOT SHOWN)
 P.I. = Sta. 12+70.80
 $\Delta = 07^\circ 47' 04''$ RT
 $Dc = 04^\circ 00' 00''$
 $R = 1,432.39'$
 $T = 97.46'$
 $L = 194.61'$
 $E = 3.31'$
 $emax = 0.020$
 $V = 30$ mph

CURVE PCARN-02
 P.I. = Sta. 20+17.53
 $\Delta = 03^\circ 09' 08''$ LT
 $Dc = 00^\circ 34' 23''$
 $R = 10,000.00'$
 $T = 275.15'$
 $L = 550.16'$
 $E = 3.78'$
 $emax = 0.020$
 $V = 30$ mph

CURVE PCARN-03
 P.I. = Sta. 38+03.24
 $\Delta = 10^\circ 57' 52''$ RT
 $Dc = 03^\circ 15' 00''$
 $R = 1,762.95'$
 $T = 169.2'$
 $L = 337.37'$
 $E = 8.1'$
 $emax = 0.020$
 $V = 30$ mph

CURVE PCARN-04
 P.I. = Sta. 51+80.05
 $\Delta = 16^\circ 18' 44''$ RT
 $Dc = 02^\circ 30' 00''$
 $R = 2,291.83'$
 $T = 328.47'$
 $L = 652.49'$
 $E = 23.42'$
 $emax = 0.020$
 $V = 30$ mph

☒ MIDTOWN CONNECTOR

CURVE PCEDA-01
 P.I. = Sta. 501+37.60
 $\Delta = 19^\circ 47' 58''$ RT
 $Dc = 11^\circ 00' 00''$
 $R = 520.87'$
 $T = 90.9'$
 $L = 180'$
 $E = 7.87'$
 $emax = 0.020$
 $V = 30$ mph

CURVE PCEDA-02
 P.I. = Sta. 511+89.61
 $\Delta = 90^\circ 00' 15''$ LT
 $Dc = 22^\circ 45' 00''$
 $R = 251.85'$
 $T = 251.87'$
 $L = 395.62'$
 $E = 104.33'$
 $emax = NC$
 $V = 30$ mph

☒ INTERIM E. 14TH ST. NB CROSSOVER

CURVE PIE14NC-01
 P.I. = Sta. 252+47.68
 $\Delta = 17^\circ 25' 21''$ LT
 $Dc = 15^\circ 00' 00''$
 $R = 381.97'$
 $T = 58.53'$
 $L = 116.15'$
 $E = 4.46'$
 $emax = 0.020$
 $V = 25$ mph

CURVE PIE14NC-02
 P.I. = Sta. 253+88.60
 $\Delta = 13^\circ 37' 43''$ RT
 $Dc = 15^\circ 00' 00''$
 $R = 381.97'$
 $T = 45.64'$
 $L = 90.86'$
 $E = 2.72'$
 $emax = 0.020$
 $V = 25$ mph

☒ INTERIM E. 14TH ST. SB

CURVE PIE14S-01
 P.I. = Sta. 201+23.23
 $\Delta = 04^\circ 52' 17''$ LT
 $Dc = 10^\circ 29' 37''$
 $R = 546.00'$
 $T = 23.23'$
 $L = 46.42'$
 $E = 0.49'$
 $emax = 0.020$
 $V = 25$ mph

CURVE PIE14S-02
 P.I. = Sta. 205+12.19
 $\Delta = 37^\circ 45' 18''$ LT
 $Dc = 08^\circ 00' 08''$
 $R = 716.00'$
 $T = 244.83'$
 $L = 471.81'$
 $E = 40.70'$
 $emax = 0.020$
 $V = 25$ mph

☒ INTERIM E. 14TH ST. NB

CURVE PIE14N-01
 P.I. = Sta. 301+23.65
 $\Delta = 04^\circ 52' 17''$ LT
 $Dc = 10^\circ 18' 18''$
 $R = 556.00'$
 $T = 23.65'$
 $L = 47.27'$
 $E = 0.50'$
 $emax = 0.020$
 $V = 25$ mph

CURVE PIE14N-02
 P.I. = Sta. 303+16.02
 $\Delta = 03^\circ 51' 04''$ LT
 $Dc = 10^\circ 54' 49''$
 $R = 525.00'$
 $T = 17.65'$
 $L = 35.29'$
 $E = 0.30'$
 $emax = 0.020$
 $V = 25$ mph

CURVE PIE14N-03
 P.I. = Sta. 305+27.02
 $\Delta = 5^\circ 55' 57''$ LT
 $Dc = 11^\circ 36' 39''$
 $R = 493.46'$
 $T = 25.57'$
 $L = 51.09'$
 $E = 0.66'$
 $emax = 0.020$
 $V = 25$ mph

☒ E. 14TH ST. SB

CURVE PE14S-02
 P.I. = Sta. 42+23.78
 $\Delta = 03^\circ 12' 46''$ LT
 $Dc = 02^\circ 00' 00''$
 $R = 2,864.79'$
 $T = 80.34'$
 $L = 160.64'$
 $E = 1.13'$
 $emax = 0.020$
 $V = 30$ mph

☒ E. 14TH ST. NB

CURVE PE14N-01
 P.I. = Sta. 53+48.32
 $\Delta = 41^\circ 09' 46''$ LT
 $Dc = 12^\circ 00' 00''$
 $R = 477.46'$
 $T = 179.29'$
 $L = 343.02'$
 $E = 32.55'$
 $emax = 0.02$
 $V = 30$ mph

☒ E. 18TH ST.

CURVE PE18-01
 P.I. = Sta. 21+08.75
 $\Delta = 33^\circ 37' 07''$ RT
 $Dc = 15^\circ 54' 56''$
 $R = 360.00'$
 $T = 108.75'$
 $L = 211.23'$
 $E = 16.07'$
 $emax = 0.020$
 $V = 30$ mph

CURVE PE18-02
 P.I. = Sta. 24+94.95
 $\Delta = 07^\circ 31' 32''$ LT
 $Dc = 07^\circ 42' 00''$
 $R = 744.10'$
 $T = 48.94'$
 $L = 97.73'$
 $E = 1.61'$
 $emax = 0.020$
 $V = 30$ mph

☒ CONST. E. 22ND ST.

CURVE PE22-01
 P.I. = Sta. 30+62.88
 $\Delta = 23^\circ 42' 46''$ LT
 $Dc = 16^\circ 30' 00''$
 $R = 100.28'$
 $T = 72.90'$
 $L = 143.71'$
 $E = 7.57'$
 $emax = 0.068$
 $V = 30$ mph

☒ CONST. CENTRAL AVE. CONNECTOR

CURVE PCENTC-01
 P.I. = Sta. 602+27.88
 $\Delta = 35^\circ 19' 31''$ LT
 $Dc = 50^\circ 00' 00''$
 $R = 114.59'$
 $T = 36.49'$
 $L = 70.65'$
 $E = 5.67'$
 $emax = 0.020$
 $V = 20$ mph

☒ RAMP B5 (FUTURE BUILD)

CURVE PRB5-01
 P.I. = Sta. 1502+67.34
 $\Delta = 11^\circ 32' 43''$ RT
 $Dc = 02^\circ 10' 00''$
 $R = 2,644.42'$
 $T = 267.34'$
 $L = 532.86'$
 $E = 13.48'$

CURVE PRB5-02
 P.I. = Sta. 1506+50.49
 $\Delta = 01^\circ 34' 05''$ RT
 $Dc = 00^\circ 40' 00''$
 $R = 8,594.37'$
 $T = 117.62'$
 $L = 235.23'$
 $E = .8'$

SPIRAL PRB5-01
 P.I. = Sta. 1510+39.92
 $Ls = 200.00'$
 $\theta s = 17^\circ 30' 00''$
 $LT = 133.99'$
 $ST = 67.26'$
 $x = 198.14'$
 $y = 20.23'$
 $k = 99.69'$
 $p = 5.07'$
 $C = 199.17'$
 $Start = Sta. 1509+05.93$
 $End = Sta. 1511+05.93$
 $C.B. = N78^\circ 36' 35'' E$

CURVE PRB5-03
 P.I. = Sta. 1520+18.95
 $\Delta = 219^\circ 27' 19''$ RT
 $Dc = 17^\circ 30' 00''$
 $R = 327.40'$
 $T = 913.02'$
 $L = 1,254.03'$
 $E = 642.54'$

SPIRAL PRB5-02
 P.I. = Sta. 1524+10.21
 $Ls = 150.00'$
 $\theta s = 13^\circ 07' 30''$
 $LT = 100.28'$
 $ST = 50.25'$
 $x = 147.91'$
 $y = 22.77'$
 $k = 147.91'$
 $p = 22.77'$
 $C = 149.65'$
 $Start = Sta. 1523+59.96$
 $End = Sta. 1525+09.96$
 $C.B. = N41^\circ 30' 43'' W$

CURVE PRB5-04
 P.I. = Sta. 1526+14.70
 $\Delta = 01^\circ 02' 50''$ RT
 $Dc = 00^\circ 30' 00''$
 $R = 11,462.06'$
 $T = 104.74'$
 $L = 209.48'$
 $E = .48'$

☒ RAMP H4 (FUTURE BUILD)

CURVE PRH4-01
 P.I. = Sta. 775+42.88
 $\Delta = 08^\circ 00' 00''$ RT
 $Dc = 04^\circ 00' 00''$
 $R = 1,432.39'$
 $T = 100.16'$
 $L = 200'$
 $E = 3.5'$
 $V = 30$ mph

CURVE PRH4-02
 P.I. = Sta. 780+12.79
 $\Delta = 65^\circ 42' 59''$ RT
 $Dc = 10^\circ 00' 00''$
 $R = 572.96'$
 $T = 370.07'$
 $L = 657.16'$
 $E = 109.12'$
 $V = 30$ mph

CURVE PRH4-03
 P.I. = Sta. 783+74.95
 $\Delta = 06^\circ 00' 00''$ RT
 $Dc = 04^\circ 00' 00''$
 $R = 1,432.39'$
 $T = 75.07'$
 $L = 150'$
 $E = 1.97'$
 $V = 30$ mph

☒ RAMP H5 (FUTURE BUILD)

CURVE PRH5-01
 P.I. = Sta. 973+83.24
 $\Delta = 05^\circ 00' 00''$ RT
 $Dc = 02^\circ 30' 00''$
 $R = 2,291.83'$
 $T = 100.06'$
 $L = 200.00'$
 $E = 2.18'$

CURVE PRH5-02
 P.I. = Sta. 980+46.97
 $\Delta = 76^\circ 25' 13''$ RT
 $Dc = 08^\circ 00' 00''$
 $R = 716.20'$
 $T = 563.8'$
 $L = 955.25'$
 $E = 195.29'$

☒ RAMP H6 (FUTURE BUILD)

CURVE PRH6-01
 P.I. = Sta. 1182+78.00
 $\Delta = 72^\circ 51' 20''$ RT
 $Dc = 10^\circ 00' 00''$
 $R = 572.96'$
 $T = 422.85'$
 $L = 728.56'$
 $E = 139.14'$
 $emax = 0.053$
 $V = 35$ mph

☒ RAMP J3 (FUTURE BUILD)

SPIRAL PRJ3-01
 P.I. = Sta. 71+33.57
 $Ls = 200.00'$
 $\theta s = 10^\circ 30' 00''$
 $LT = 133.57'$
 $ST = 66.88'$
 $x = 199.33'$
 $y = 12.19'$
 $k = 99.89'$
 $p = 3.05'$
 $C = 199.70'$
 $Start = Sta. 70+00.00$
 $End = Sta. 72+00.00$
 $C.B. = N70^\circ 31' 06'' W$

CURVE PRJ3-01
 P.I. = Sta. 76+77.77
 $\Delta = 82^\circ 24' 31''$ RT
 $Dc = 10^\circ 30' 00''$
 $R = 545.67'$
 $T = 477.77'$
 $L = 784.84'$
 $E = 179.6'$

CURVE PRJ3-02
 P.I. = Sta. 84+52.55
 $\Delta = 50^\circ 23' 21''$ LT
 $Dc = 17^\circ 30' 00''$
 $R = 327.40'$
 $T = 154.03'$
 $L = 287.94'$
 $E = 34.42'$

☒ E. 14TH ST. SB (FUTURE BUILD)

CURVE PE14S-01
 P.I. = Sta. 32+71.61
 $\Delta = 37^\circ 41' 15''$ LT
 $Dc = 14^\circ 00' 00''$
 $R = 409.26'$
 $T = 139.67'$
 $L = 269.20'$
 $E = 23.18'$
 $V = 30$ mph

☒ E. 14TH ST. (FUTURE BUILD)

CURVE PE14-01
 P.I. = Sta. 17+47.21
 $\Delta = 09^\circ 18' 12''$ LT
 $Dc = 04^\circ 00' 00''$
 $R = 1,432.39'$
 $T = 116.55'$
 $L = 232.59'$
 $E = 4.73'$
 $V = 30$ mph

DESIGN AGENCY

Michael Baker INTERNATIONAL

DESIGNER

REVIEWER

PROJECT ID

82382

SHEET TOTAL

11 2339

CURVE	CONTROL POINT	NORTHING	EASTING	STATION	BEARING
BL INTERIM I.R. 90 EB					
	POB	668377.495	2194839.551	3000+00.00	
	PC	668479.305	2195081.261	3002+62.28	N67°9'32"E
PI090ET-01	PI	668607.664	2195386.003	3005+92.95	
	PCC	668855.419	2195605.004	3009+12.51	N41°28'29"E
PI090ET-02	PI	669004.274	2195736.582	3011+11.18	
	PCC	669177.024	2195834.706	3013+08.43	N29°35'49"E
PI090ET-03	PI	669246.078	2195873.930	3013+87.85	
	PCC	669318.416	2195906.704	3014+67.15	N24°22'27"E
PI090ET-04	PI	669464.295	2195972.798	3016+27.30	
	PT	669620.207	2196009.413	3017+86.45	N13°12'58"E
BL INTERIM I.R. 90 WB					
	PC	668455.473	2194819.359	4000+00.00	N67°20'07"E
PI090WT-01	PI	668458.777	2194827.273	4000+08.58	
	PT	668462.029	2194835.209	4000+17.15	N67°43'10"E
	PC	668552.403	2195055.778	4002+55.52	N67°43'10"E
PI090WT-02	PI	668699.998	2195415.999	4006+44.80	
	PCC	669005.840	2195656.840	4010+16.81	N38°13'09"E
PI090WT-03	PI	669072.059	2195708.985	4011+01.10	
	PCC	669143.230	2195754.136	4011+85.24	N32°23'30"E
PI090WT-04	PI	669233.180	2195811.202	4012+91.76	
	PCC	669330.236	2195855.106	4013+97.94	N24°20'24"E
PI090WT-05	PI	669475.448	2195920.794	4015+57.32	
	PT	669630.318	2195958.434	4017+15.77	N13°39'38"E
BL I.R. 90 EB					
	PC	666467.711	2191799.368	163+14.03	N49°54'26"E
PI090E-01	PI	666864.419	2192270.596	169+30.01	
	PT	667104.842	2192837.720	175+36.81	N67°01'35"E
	PC	667218.616	2193106.098	178+28.31	N67°01'35"E
PI090E-02	PI	667362.322	2193445.081	181+96.50	
	PT	667593.161	2193731.915	185+59.98	N51°10'25"E
	PC	668016.433	2194257.862	192+35.09	N51°10'25"E
PI090E-03	PI	668232.599	2194526.463	195+79.88	
	PT	668366.436	2194844.209	199+20.18	N67°09'32"E
	TS	668473.341	2195098.016	201+95.58	N67°09'32"E
SPIRAL PI090E-01	PI	668617.287	2195439.762	205+66.41	
	SC	668722.857	2195592.595	207+50.58	N55°21'54"E
PI090E-04	PI	669149.936	2196210.875	215+02.03	
	CS	669900.413	2196172.792	221+21.64	N02°54'18"E
SPIRAL PI090E-02	PI	670085.924	2196163.378	223+07.39	
	ST	670444.613	2196069.287	226+76.64	N14°41'55"W
	POT	672500.995	2195529.854	248+02.60	N14°41'55"W
BL I.R. 90 WB					
	PC	666453.640	2191624.133	163+23.70	N47°34'43"E
PI090W-01	PI	666918.241	2192132.555	170+12.43	
	PT	667175.970	2192771.245	176+86.51	N68°01'29"E
	PC	667273.014	2193011.735	179+45.84	N68°01'29"E
PI090W-02	PI	667431.806	2193405.245	183+70.18	
	PT	667697.852	2193735.827	187+88.40	N51°10'25"E
	PC	668078.400	2194208.685	193+95.37	N51°10'25"E
PI090W-03	PI	668305.080	2194490.352	197+56.92	
	PT	668444.399	2194823.983	201+13.67	N67°20'07"E
	TS	668518.384	2195001.156	203+05.67	
SPIRAL PI090W-01	PI	668661.276	2195343.344	206+76.49	
	SC	668766.375	2195496.502	208+60.67	N55°32'30"E
PI090W-04	PI	669193.089	2196118.341	216+14.84	
	CS	669946.286	2196080.120	222+35.88	N02°54'18"W
SPIRAL PI090W-02	PI	670131.797	2196070.706	224+21.63	
	ST	670490.486	2195976.614	227+90.88	N14°41'55"W
	POT	672476.522	2195455.635	248+44.11	N14°41'55"W
BL RAMP A1					
	POB	667843.423	2193663.077	300+00.00	
	PI	668038.565	2193953.799	303+50.14	N56°07'46"E
	PC	668362.897	2194468.150	309+58.21	N57°45'57"E
PRA1-01	PI	668415.446	2194551.486	310+58.73	
	PT	668512.799	2194536.366	311+32.55	N08°49'41"W
	POT	668605.281	2194522.003	312+26.15	N08°49'41"W

CURVE	CONTROL POINT	NORTHING	EASTING	STATION	BEARING
BL RAMP A2					
	POB	666095.129	2194930.590	400+00.00	
	PC	666295.208	2194175.297	407+81.34	N75°09'47"W
PRA2-01	PI	666428.633	2193671.626	413+02.39	
	PCC	666876.878	2193405.990	417+70.49	N30°39'06"W
PRA2-02	PI	667440.968	2193071.702	424+26.19	
	PT	667790.706	2193626.345	428+10.69	N57°45'57"E
	PC	668199.342	2194274.391	435+76.82	N57°45'57"E
PRA2-03	PI	668360.901	2194530.605	438+79.71	
	PT	668477.619	2194810.111	441+81.20	N67°20'07"E
BL RAMP A3					
	POB	667188.082	2192703.560	576+28.68	
	TS	667256.457	2192858.955	577+98.45	N66°15'00"E
SPIRAL PRA3-01	PI	667310.168	2192981.020	579+31.81	
	SC	667340.704	2193040.309	579+98.45	N62°45'00"E
PRA3-01	PI	667376.674	2193110.150	580+77.01	
	PT	667419.168	2193176.226	581+55.45	N57°15'18"E
	PC	667659.687	2193550.224	586+00.11	N57°15'18"E
PRA3-02	PI	667782.208	2193740.740	588+26.63	
	PT	667975.346	2193622.396	589+58.71	N31°29'52"W
	POT	668098.218	2193547.106	591+02.82	N31°29'52"W
BL RAMP B5 (FUTURE BUILD)					
	PC	666846.207	2192360.326	1500+00.00	N59°40'03"E
PRB5-01	PI	666981.217	2192591.067	1502+67.34	
	PCC	667067.315	2192844.161	1505+32.86	N71°12'46"E
PRB5-02	PI	667105.195	2192955.516	1506+50.49	
	PT	667140.014	2193067.866	1507+68.09	N72°46'51"E
	TS	667180.817	2193199.523	1509+05.93	
SPIRAL PRB5-01	SPI	667220.482	2193327.508	1510+39.92	
	SC	667220.152	2193394.772	1511+05.93	S89°43'09"E
	CS	666640.979	2193183.872	1523+59.96	N50°15'50"W
SPIRAL PRB5-02	SPI	666673.102	2193145.229	1524+10.21	
	SC	666753.040	2193084.687	1525+09.96	N37°08'20"W
PRB5-03	PI	666836.539	2193021.448	1526+14.70	
	PT	666921.180	2192959.746	1527+19.44	N36°05'30"W
BL RAMP B6					
	POB	667099.268	2192855.318	1597+61.23	
	PC	667294.636	2193485.708	1604+21.20	N72°46'51"E
PRB6-01	PI	667342.842	2193641.252	1605+84.05	
	PT	667446.911	2193766.500	1607+42.69	N50°16'37"E
	PC	668096.153	2194547.876	1617+58.59	N50°16'37"E
PRB6-02	PI	668183.218	2194652.660	1618+94.83	
	PT	668248.968	2194771.979	1620+30.25	N61°08'35"E
	POT	668327.208	2194913.961	1621+92.36	
BL RAMP H4 (FUTURE BUILD)					
	POB/PC	666280.996	2194521.836	774+42.72	N75°09'47"W
PRH4-01	PI	666306.645	2194425.013	775+42.88	
	PCC	666345.519	2194332.702	776+42.88	N67°09'47"W
PRH4-02	PI	666489.148	2193991.641	780+12.79	
	PCC	666859.099	2193982.298	782+99.88	N01°26'48"W
PRH4-03	PI	666934.144	2193980.403	783+74.95	
	PT	667008.976	2193986.362	784+49.88	N04°33'12"E
BL RAMP H5 (FUTURE BUILD)					
	POB	666179.229	2194952.868	970+00.00	
	PC	666251.742	2194679.134	972+83.18	N75°09'47"W
PRH5-01	PI	666277.365	2194582.407	973+83.24	
	PCC	666311.321	2194488.281	974+83.18	N70°09'47"W
PRH5-02	PI	666502.644	2193957.938	980+46.97	
	PT	667063.083	2194019.389	984+38.43	N06°15'27"E
	PC	667481.386	2194065.256	988+59.24	N06°15'27"E
PRH5-03	PI	667873.215	2194108.219	992+53.42	
	PT	668102.429	2194428.901	996+00.57	N54°26'38"E

CURVE	CONTROL POINT	NORTHING	EASTING	STATION	BEARING
BL RAMP H6 (FUTURE BUILD)					
	POB/PC	666531.161	2194198.133	1178+55.15	N40°24'18"W
PRH6-01	PI	666853.154	2193924.046	1182+78.00	
	PCC	667209.978	2194150.936	1185+83.71	N32°27'02"E
PRH6-02	PI	667487.453	2194327.370	1189+12.52	
	PT	667421.566	2194649.519	1191+59.61	S78°26'28"E
	POT	667393.597	2194786.270	1192+99.19	
BL RAMP IB5					
	PC	666848.174	2192379.833	1700+00.00	N59°39'30"E
PRIB5-01	PI	667025.475	2192682.743	1703+50.98	
	CS	667116.261	2193021.782	1706+97.76	N75°00'33"E
SPIRAL PRIB5-01	SPI	667142.414	2193119.447	1707+98.87	
	SC	667132.619	2193169.505	1708+47.76	S78°55'42"E
	CS	666823.408	2193063.958	1714+10.50	N63°22'41"W
SPIRAL PRIB5-02	SPI	666846.264	2193018.359	1714+61.51	
	ST	666926.674	2192957.068	1715+60.50	N37°18'56"W
PRIB5-02	PI	667039.061	2192871.404	1717+01.81	
	POT	667366.494	2192644.814	1721+00.00	N34°41'03"W
BL RAMP IH4					
	POB	666303.968	2194458.116	10+00.00	
	PC	666324.007	2194383.275	10+77.48	N75°00'39"W
PRIH4-01	PI	666443.117	2193938.409	15+38.01	
	PT	666901.672	2193981.078	18+42.50	N05°18'58"E
	PC	667029.149	2193992.940	19+70.52	N05°18'58"E
PRIH4-02	PI	667053.806	2193995.235	19+95.29	
	PT	667078.422	2193997.934	20+20.05	N06°15'26"E
BL RAMP IH5					
	POB	666184.398	2194954.262	1070+00.00	
	PI	666263.379			

CURVE	CONTROL POINT	NORTHING	EASTING	STATION	BEARING
CL CONST. CARNEGIE AVE.					
	POB	666518.610	2191157.649	10+00.00	
	PC	666632.757	2191288.102	11+73.34	N48°48'51"E
PCARN-01	PI	666696.932	2191361.445	12+70.80	
	PT	666750.581	2191442.804	13+67.95	N56°35'55"E
	PI	666811.415	2191535.057	14+78.46	
PCARN-02	PC	666950.044	2191759.639	17+42.38	N58°18'50"E
	PI	667094.571	2191993.773	20+17.53	
	PT	667251.753	2192219.606	22+92.54	N55°09'42"E
PCARN-03	PC	668018.106	2193320.666	36+34.04	N55°09'42"E
	PI	668114.765	2193459.542	38+03.24	
	PT	668183.245	2193614.267	39+71.41	N66°07'34"E
PCARN-04	PI	668252.375	2193770.460	41+42.22	
	PC	668556.355	2194411.396	48+51.59	N64°37'34"E
	PI	668697.110	2194708.175	51+80.06	
CEDA-01	PT	668748.843	2195032.541	55+04.08	N80°56'18"E
	PI	668803.137	2195372.969	58+48.81	
	PI	668905.706	2195936.717	64+21.81	N79°41'18"E
POT	669049.777	2196840.049	73+36.56	N80°56'18"E	
CL MIDTOWN CONNECTOR					
	POT	668327.208	2194913.961	500+00.00	
	PC	668349.745	2194954.860	500+46.70	N61°08'35"E
CEDA-01	PI	668393.618	2195034.477	501+37.60	
	PT	668407.928	2195124.248	502+26.69	N80°56'33"E
	PC	668519.864	2195826.431	509+37.74	N80°56'33"E
CEDA-02	PI	668559.514	2196075.159	511+89.61	
	PT	668808.239	2196035.490	513+33.37	N09°03'42"W
	POT	668918.651	2196017.881	514+45.17	
CL CONST. CEDAR AVE.					
	POB	668616.255	2195987.351	400+00.00	
	PC	668608.845	2195997.109	400+12.25	S52°47'08"E
PJJC-01	PI	668557.789	2196064.338	400+96.67	
	PT	668571.079	2196147.702	401+71.81	N80°56'33"E
	POT	668612.145	2196405.318	404+32.68	
BL INTERIM E. 14TH ST. SB					
	POB	666646.986	2193887.559	197+50.00	
	PC	666990.405	2193955.113	201+00.00	N11°07'43"E
PIES14S-01	PI	667013.194	2193959.596	201+23.23	
	PT	667036.280	2193962.127	201+46.42	N06°15'26"E
	PC	667156.499	2193975.309	202+67.36	N06°15'26"E
PIES14S-02	PI	667399.868	2194001.993	205+12.19	
	PT	667608.622	2193874.079	207+39.17	N31°29'52"W
	POT	667772.316	2193773.777	209+31.15	N31°29'52"W
MATCHLINE					
BL E. 14TH ST. SB					
MATCHLINE					
PE14S-01	PI	667772.316	2193773.777	36+35.00	
	PC	668212.630	2193519.221	41+43.44	N31°29'52"W
PE14S-02	PI	668281.135	2193477.245	42+23.78	
	PT	668347.180	2193431.495	43+04.08	N34°42'38"W
	POT	668404.597	2193391.722	43+73.93	N34°42'38"W

CURVE	CONTROL POINT	NORTHING	EASTING	STATION	BEARING
BL INTERIM E. 14TH ST. NB					
	POB	666645.056	2193897.371	297+50.00	
	PC	666988.475	2193964.925	301+00.00	N11°07'43"E
PIE14N-01	PI	667011.681	2193969.490	301+23.65	
	PT	667035.191	2193972.068	301+47.27	N06°15'26"E
	PC	667185.387	2193988.536	302+98.37	N06°15'26"E
PIE14N-02	PI	667202.932	2193990.460	303+16.02	
	PT	667220.567	2193991.201	303+33.66	N02°24'22"E
	PC	667388.209	2193998.245	305+01.45	N02°24'22"E
PIE14N-03	PI	667413.756	2193999.318	305+27.02	
		667439.277	2193997.745	305+52.54	N03°31'35"W
	MATCHLINE				
BL E. 14TH ST. NB					
MATCHLINE					
PE14N-01	PCC	667439.277	2193997.745	52+50.00	N03°31'35"W
	PI	667572.458	2193973.508	53+84.42	
	PT	667682.605	2193896.459	55+12.06	N34°58'24"W
POT	668359.639	2193422.865	63+38.29	N34°58'24"W	
BL INTERIM E. 14TH ST. NB CROSSOVER					
	POB	666420.041	2193870.463	250+00.00	
	PC	666602.817	2193919.172	251+89.16	N14°55'21"E
PIE14NC-01	PI	666659.369	2193934.243	252+47.68	
	PT	666717.840	2193931.690	253+05.31	N02°30'00"W
	PC	666755.453	2193930.048	253+42.95	N02°30'00"W
PIE14NC-02	PI	666801.054	2193928.057	253+88.60	
	PT	666845.840	2193936.867	254+33.81	N11°07'43"E
	BL E. 18TH ST.				
PE18-01	POB/PC	667780.073	2193842.923	20+00.00	N34°58'24"W
	PI	667869.189	2193780.585	21+08.76	
	PT	667977.913	2193778.015	22+11.23	N01°21'16"W
PE18-02	PC	668212.631	2193772.465	24+46.02	N01°21'16"W
	PI	668261.554	2193771.308	24+94.95	
	PT	668309.905	2193763.754	25+43.75	N08°52'48"W
POT	668978.949	2193659.223	32+20.91	N08°52'48"W	
CL CONST. E. 22ND ST.					
	POB	666066.809	2194434.335	10+19.03	
	PC	667971.877	2194939.661	29+89.98	N14°51'21"E
PE22-01	PI	668042.341	2194958.351	30+62.88	
	PT	668114.372	2194947.127	31+33.69	N08°51'25"W
	POT	668718.293	2194853.020	37+44.90	N08°51'25"W
CENTRAL AVE. CONNECTOR					
	POB	668106.644	2193774.971	600+00.00	
	PC	668096.324	2193966.080	601+91.39	S86°54'32"E
PCENTC-01	PI	668094.356	2194002.515	602+27.88	
	PT	668113.819	2194033.380	602+62.04	N57°45'5"E
	POT	668200.908	2194171.493	604+25.32	
CL COMMUNITY COLLEGE AVE					
	POB	667416.349	2194792.305	60+00.00	S78°26'28"E
	POT	667005.307	2196802.060	80+51.36	S78°26'28"E
CL INTERIM E. 14TH ST. (FUTURE BUILD)					
	POB	665804.715	2193684.145	10+01.14	
	PC	666411.365	2193852.305	16+30.66	N15°29'35"E
PE14-01	PI	666523.68	2193883.438	17+47.21	
	PT	666639.55	2193896.004	18+63.25	N06°11'23"E
	POT	667190.043	2193955.706	24+16.97	N06°11'23"E

CENTERLINE DATA
LOCAL ROADS

DESIGN AGENCY

Michael Baker
INTERNATIONAL

DESIGNER

REVIEWER

PROJECT ID
82382

SHEET TOTAL
13 2339

CURVE	CONTROL POINT	NORTHING	EASTING	STATION	BEARING
BL EX. RAMP 4					
	POB	669265.469	2196106.287	900+00.00	
	PC	669164.460	2196121.210	901+02.11	S08°24'14"E
PR4-01	PI	669120.105	2196127.762	901+46.94	
	PCC	669077.897	2196112.639	901+89.97	S19°42'47"W
PR4-02	PI	668783.220	2196007.053	905+02.99	
	PCC	669077.786	2195901.157	904+65.49	N19°46'24"W
PR4-03	PI	669112.801	2195888.570	905+02.70	
	CS	669149.981	2195890.047	905+38.99	N02°16'33"E
SPIRAL PR4-01	PI	669200.687	2195892.062	905+89.73	
	ST	669292.227	2195934.313	906+88.99	N24°46'33"E
BL EX. RAMP B5					
	PC	666848.174	2192379.833	1500+00.00	N59°39'30"E
	PI	667017.751	2192669.547	1503+35.69	
	CS	667108.319	2192992.793	1506+67.71	N74°20'53"E
	PI	667149.473	2193139.673	1508+20.24	
	SC	667127.631	2193213.835	1508+92.71	S73°35'22"E
	PI	667070.735	2193407.021	1510+94.10	
	PCC	666877.649	2193349.787	1512+08.85	S16°30'39"W
	PI	666727.360	2193305.238	1513+65.60	
	PT	666756.367	2193151.193	1514+63.86	N79°20'10"W
BL EX. RAMP E-17					
	POB	667663.400	2193430.120	200+00.00	
	PC	667549.599	2193309.226	201+66.03	S46°43'53"W
	PI	667470.615	2193225.318	202+81.27	
	PT	667363.655	2193268.198	203+68.31	S21°50'45"E
	PC	667091.032	2193377.493	206+62.02	S21°50'45"E
	PI	667000.675	2193413.717	207+59.37	
	PCC	666913.409	2193456.857	208+56.62	S26°18'21"E
	PI	666787.729	2193517.692	209+96.25	
	PT	666685.358	2193612.646	211+33.82	S42°50'50"E
CL EX. R/W CARNEGIE AVE					
	POB	667468.290	2192529.403	20+00.00	
	PI	668159.227	2193522.111	32+09.49	N55°09'42"E
	PI	668420.341	2194170.452	39+08.44	N68°03'48"E
	PI	668593.657	2194509.049	42+88.81	N62°53'37"E
	PI	668700.133	2194687.446	44+96.57	N59°10'09"E
	POT	669043.614	2196841.093	66+77.43	N80°56'18"E
CL EX. R/W CEDAR CONNECTOR					
	POB	668622.155	2194556.797	0+00.00	
	PI	668533.026	2194902.720	3+57.22	S75°33'06"E
	PI	668547.173	2194900.516	3+57.22	
	POT	668439.117	2195319.896	7+90.30	S75°33'06"E
CL EX. R/W CEDAR AVE					
	POB	668376.503	2194927.114	10+00.00	N80°56'33"E
	POT	668690.521	2196896.977	29+94.74	N80°56'33"E
CL EX. R/W CENTRAL AVE					
	POB	668115.270	2193458.955	10+00.00	S87°08'09"E
	PI	668039.184	2194979.683	25+22.63	
	POT	668025.324	2195256.706	28+00.00	S87°08'09"E
CL EX. R/W COMMUNITY COLLEGE AVE					
	POB	667634.905	2193929.151	51+09.01	S75°05'37"E
	PI	667400.675	2194809.052	60+19.55	
	POT	667100.147	2196278.460	75+19.38	S78°26'28"E

CURVE	CONTROL POINT	NORTHING	EASTING	STATION	BEARING
CL EX. R/W E. 9TH ST					
	POB	665459.945	2191638.262	11+54.79	
	PC	665561.763	2191819.870	13+62.99	N60°43'22"E
	PI	665701.449	2192069.020	16+48.63	
	PT	665734.884	2192352.692	19+26.87	N83°16'40"E
	PC	665751.436	2192493.121	20+68.27	N83°16'40"E
	PI	665798.278	2192890.546	24+68.44	
	PT	666192.991	2192956.442	27+54.78	N09°28'40"E
	PI	666434.864	2192996.821	30+00.00	
	PC	666505.778	2193009.674	30+72.07	N10°16'22"E
	PI	666722.839	2193049.014	32+92.67	
	PT	666904.211	2192923.446	34+90.38	N34°41'44"W
	POT	667792.494	2192308.468	45+70.77	N34°41'44"W
CL EX. R/W E. 14TH ST					
	POB	667634.905	2193929.151	10+00.00	
	POT	668539.147	2193302.776	21+00.00	N34°42'38"W
CL EX. R/W E. 18TH ST					
	POB	668098.366	2193796.804	2+00.00	
	POT	668493.572	2193735.058	6+00.00	N08°52'48"W
CL EX. R/W E. 19TH ST					
	POB	668078.660	2194190.682	2+00.00	
	POT	668407.688	2194139.034	5+33.06	N08°55'15"W
CL EX. R/W E. 21ST ST					
	POB	668057.312	2194617.356	2+00.00	
	POT	668847.767	2194494.141	10+00.00	N08°51'35"W
CL EX. R/W E. 22ND ST N					
	POB	668039.184	2194979.683	20+73.81	N08°51'29"W
	PI	668729.581	2194872.088	27+72.55	
	POT	668855.516	2194852.462	29+00.00	N08°51'29"W
CL EX. R/W E. 22ND ST S					
	POB	666034.466	2194447.493	0+00.00	
	PI	666440.698	2194554.895	4+20.19	N14°48'33"E
	PI	667400.675	2194809.052	14+13.24	N14°49'44"E
	POT	668039.266	2194978.044	20+73.81	N14°49'21"E
CL EX. R/W E. 28TH ST					
	POB	668612.145	2196405.318	10+00.00	
	POT	668965.204	2196349.454	13+57.45	N08°59'29"W

CENTERLINE DATA
EXISTING

DESIGN AGENCY

Michael Baker
INTERNATIONAL

DESIGNER

REVIEWER

PROJECT ID
82382

SHEET TOTAL
14 2339

LEGEND:

EXISTING

- (A) ASPHALT PAVEMENT
- (B) CONCRETE PAVEMENT
- (C) BRICK PAVERS
- (D) AGGREGATE BASE
- (E) SANDSTONE
- (F) BALLAST

PROPOSED

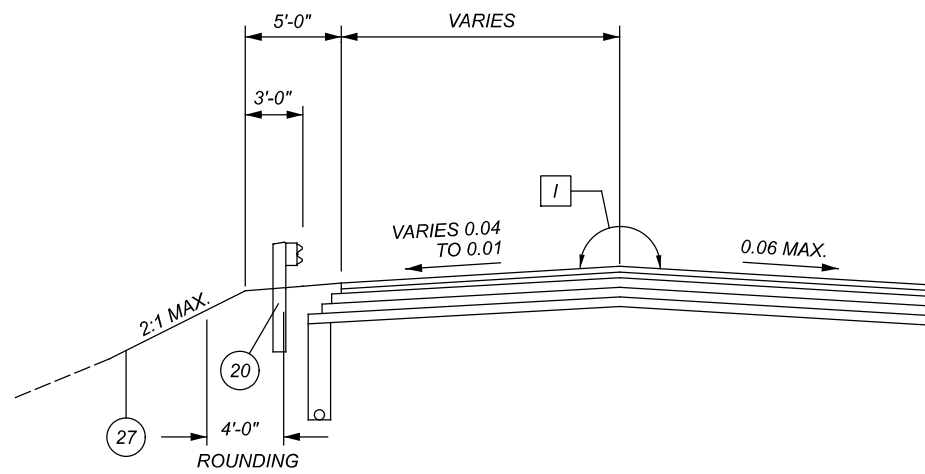
- ① ITEM 442 - 1-1/2" ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A (446)
- ② ITEM 441 - 1-1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG70-22M
- ③ ITEM 407 - NON-TRACKING TACK COAT
- ④ ITEM 442 - 1-3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (446)
- ⑤ ITEM 441 - 1-3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448), PG64-22
- ⑥ ITEM 452 - 10" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P
- ⑦ ITEM 302 - 9" ASPHALT CONCRETE BASE, PG 64-22
- ⑧ ITEM 304 - 6" AGGREGATE BASE
- ⑨ ITEM 204 - SUBGRADE COMPACTION
- ⑩ ITEM 605 - 6" BASE PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC
- ⑪ ITEM 609 - CURB, TYPE 6
- ⑫ ITEM 609 - CURB, TYPE 2-A
- ⑬ ITEM 609 - CURB, TYPE 4-A
- ⑭ ITEM 609 - CURB, TYPE 4-C
- ⑮ ITEM 622 - PORTABLE BARRIER, UNANCHORED, AS PER PLAN
- ⑯ ITEM 441 - 1-1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22
- ⑰ ITEM 452 - 8" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P
- ⑱ ITEM 304 - 8" AGGREGATE BASE
- ⑲ ITEM 608 - 6" CONCRETE WALK, ITEM 304 - 2.5" AGGREGATE BASE
- ⑳ ITEM 606 - GUARDRAIL, TYPE MGS
- ㉑ ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE D, AS PER PLAN
- ㉒ ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE C
- ㉓ ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE C, AS PER PLAN
- ㉔ ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE C1, AS PER PLAN
- ㉕ ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE D

EXISTING ROAD	EXISTING PAVEMENT THICKNESS			
	ASPHALT	CONCRETE	BRICK	AGGREGATE BASE
CARNEGIE AVENUE	3" ±	12" ±		6" ±
CEDAR AVENUE	3" ±	9" ±		6" ±
CENTRAL AVENUE	3" ±	9" ±		6" ±
COMMUNITY COLLEGE AVENUE	3.25" ±	9" ±		4" ±
E. 9TH STREET	3" ±	9" ±		6" ±
E. 14TH STREET	3" ±	8" ±	4" ±	4" ±
E. 18TH STREET	3" ±	8" ±		
E. 19TH STREET	3" ±	9" ±		
E. 22ND STREET	3" ±	9" ±		2" ±
RAMP B5		9" ±		6" ±
RAMP E-10	3" ±	9" ±		6" ±
RAMP E-11	3" ±	9" ±		6" ±
RAMP E-13	3" ±	9" ±		6" ±
I-77	5" ±	9" ±		
I-90 (EAST LIMITS)		10" ±		6" ±
I-90 (WEST LIMITS)		10" ±		6" ±

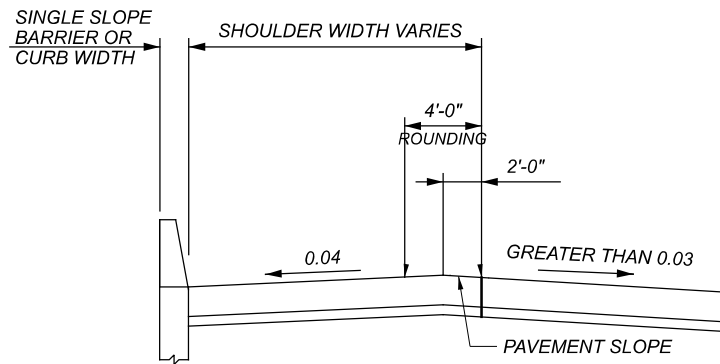
- ⑳ ITEM 609 - CONCRETE MEDIAN
- ㉑ ITEM 659 - SEEDING AND MULCHING
- ㉒ ITEM 526 - REINFORCED CONCRETE APPROACH SLAB
- ㉓ ITEM 605 - 6" SHALLOW PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC
- ㉔ ITEM 202 - REMOVAL, MISC.: EXISTING BURIED TRACK REMOVAL
- ㉕ ITEM 305 - 9" CONCRETE BASE, CLASS QC 1P
- ㉖ ITEM 601 - PAVED GUTTER, TYPE 1-2, AS PER PLAN
- ㉗ ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE B1
- ㉘ ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE C1
- ㉙ ITEM 452 - 6" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P
- ㉚ ITEM 203 - EMBANKMENT, AS PER PLAN
- ㉛ ITEM 452 - 8" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P

TYPICAL SECTION LEGEND

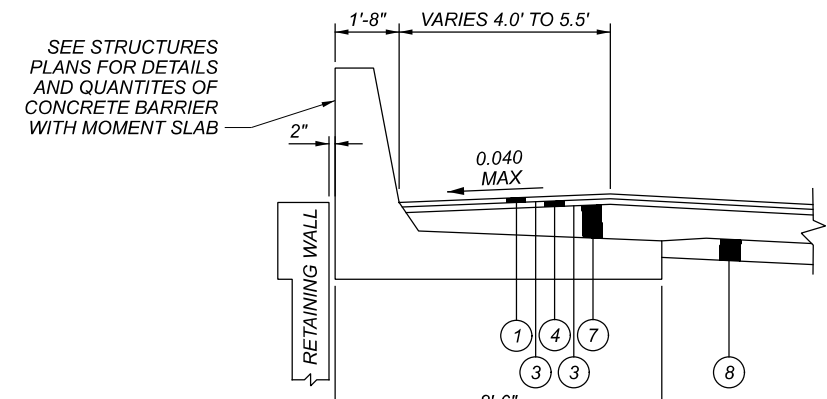
DESIGN AGENCY	
Michael Baker INTERNATIONAL	
DESIGNER	--
REVIEWER	--
PROJECT ID	82382
SHEET	15
TOTAL	2339



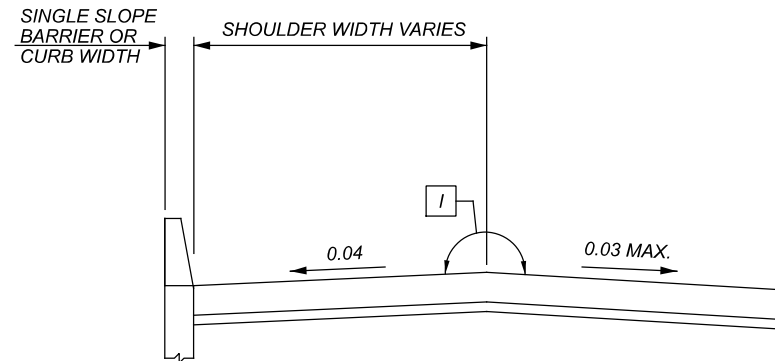
DETAIL 1 - UN-CURBED-HIGH SIDE OF SUPERELEVATED SECTION



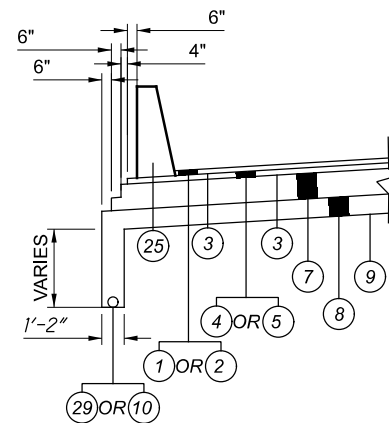
DETAIL 4 - CURBED-HIGH SIDE OF SUPERELEVATED SECTION FOR SHOULDER WIDTHS OF 4' TO 6'



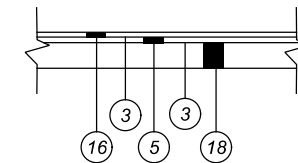
DETAIL 7 - TYPICAL SINGLE SLOPE CONCRETE BARRIER WITH MOMENT SLAB DETAIL



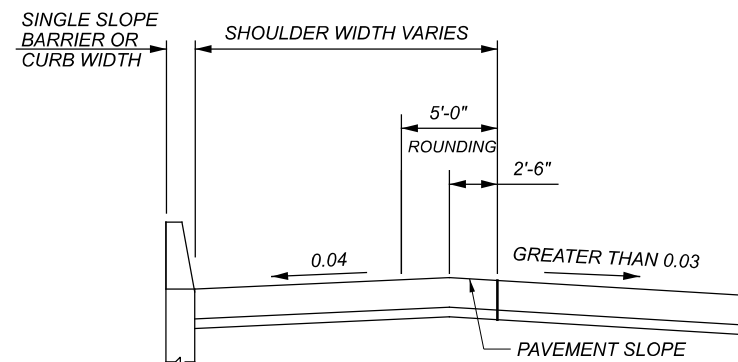
DETAIL 2 - CURBED-HIGH SIDE OF SUPERELEVATED SECTION



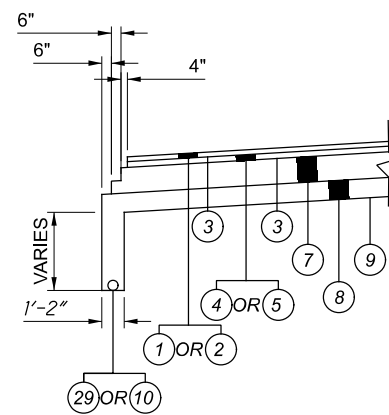
DETAIL 5 - TYPICAL ASPHALT PAVEMENT WITH BARRIER EDGE COURSE



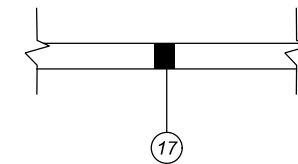
DETAIL 8 - TYPICAL ASPHALT PAVEMENT COMPOSITION FOR COMMERCIAL DRIVEWAYS



DETAIL 3 - CURBED-HIGH SIDE OF SUPERELEVATED SECTION FOR SHOULDER WIDTHS 8' GREATER



DETAIL 6 - TYPICAL ASPHALT PAVEMENT STEPPING WITHOUT BARRIER



DETAIL 9 - TYPICAL CONCRETE PAVEMENT COMPOSITION FOR COMMERCIAL DRIVEWAYS AND DRIVE APRONS

FOR LEGEND, SEE SHEET 15

DESIGN AGENCY

Michael Baker INTERNATIONAL

DESIGNER

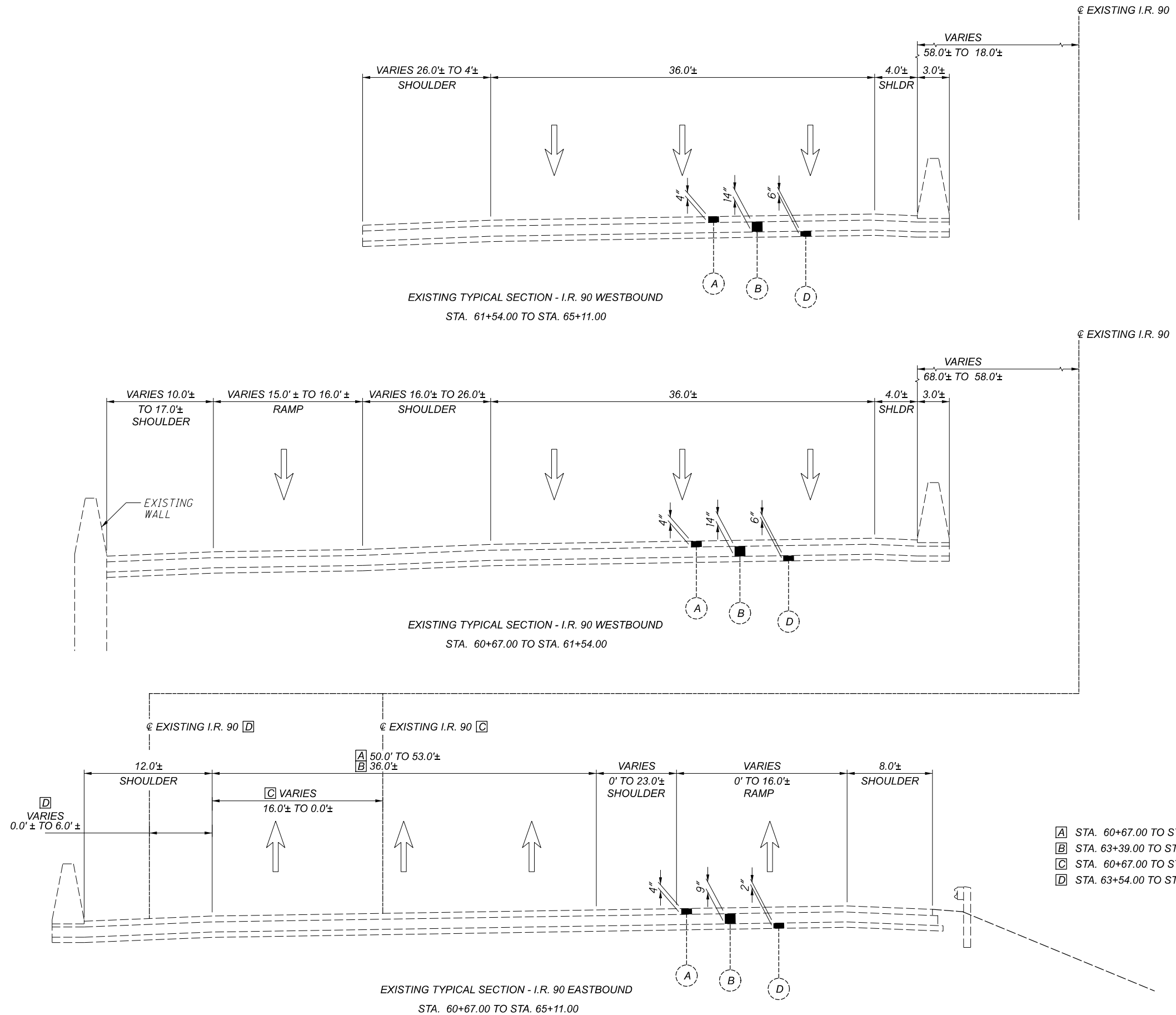
REVIEWER

PROJECT ID

82382

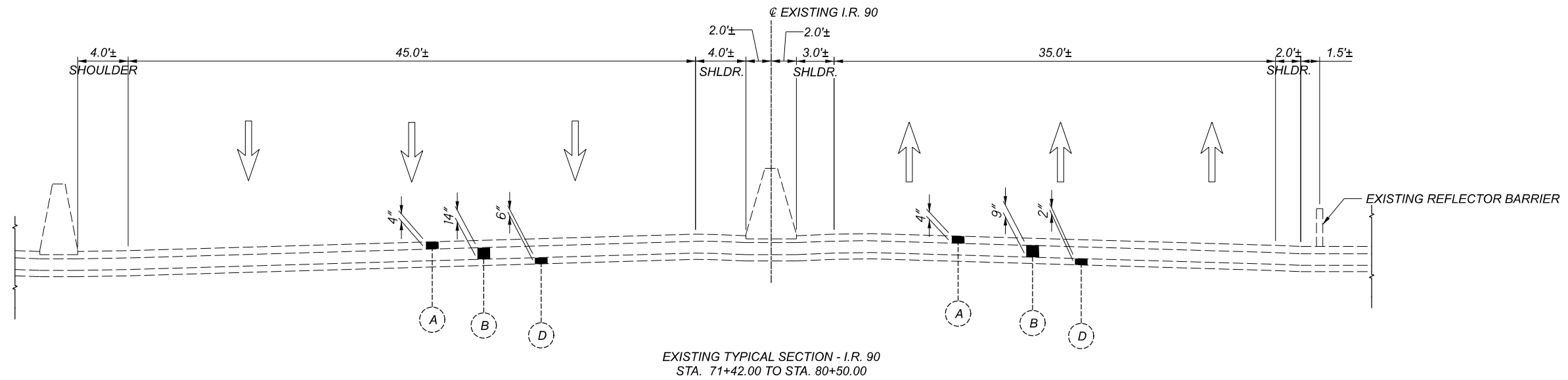
SHEET TOTAL

16 2339

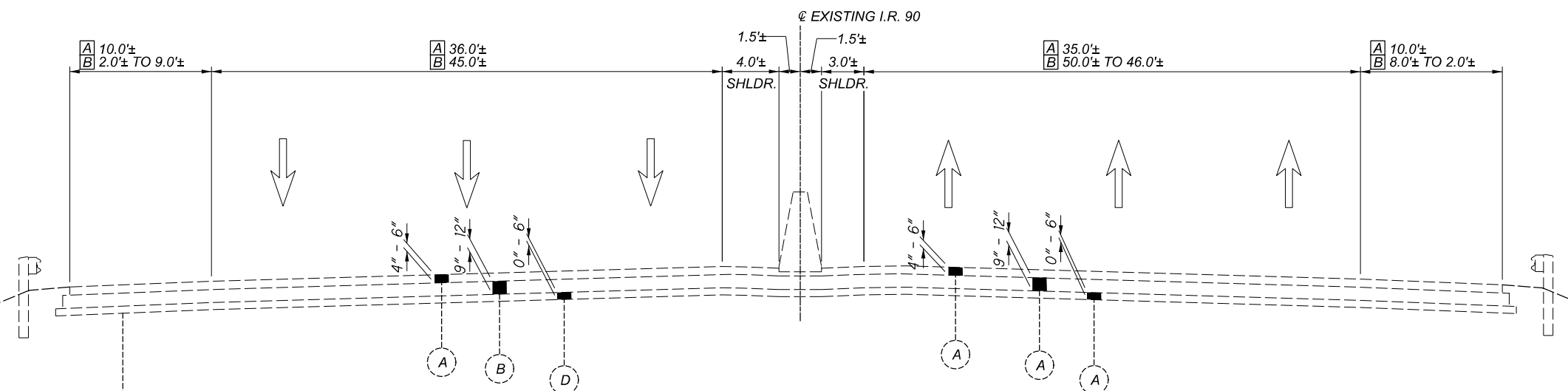


- A STA. 60+67.00 TO STA. 63+39.00
- B STA. 63+39.00 TO STA. 65+11.00
- C STA. 60+67.00 TO STA. 63+54.00
- D STA. 63+54.00 TO STA. 65+11.00

FOR LEGEND AND EXISTING PAVEMENT THICKNESSES, SEE SHEET 15



EXISTING TYPICAL SECTION - I.R. 90
 STA. 71+42.00 TO STA. 80+50.00



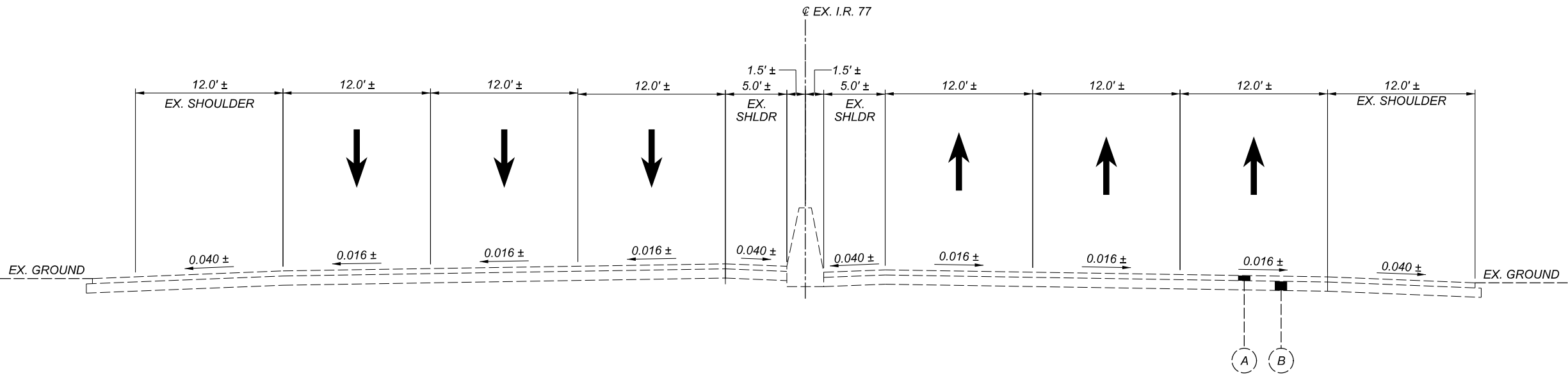
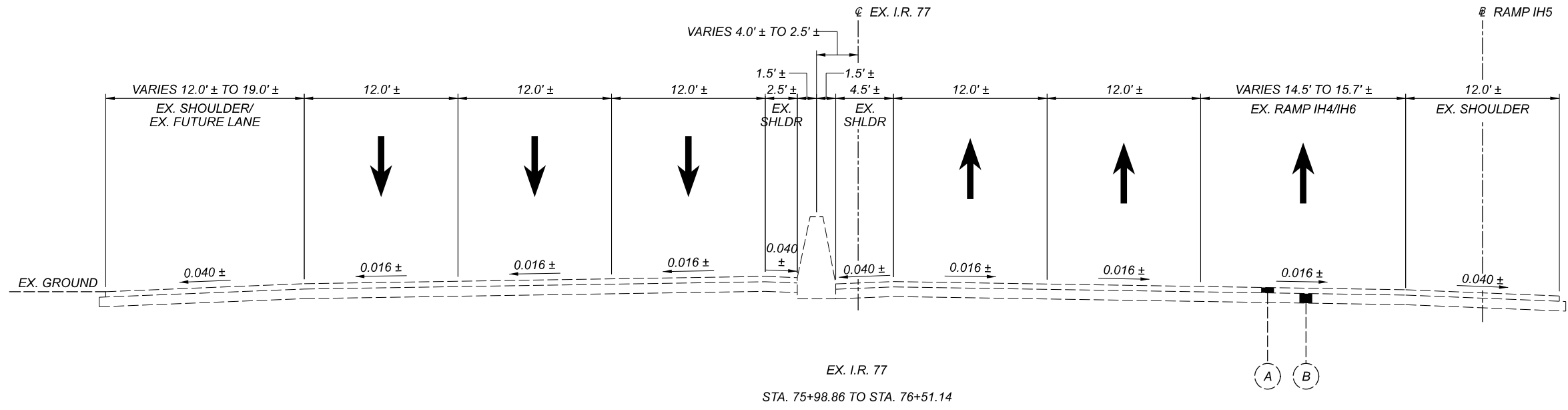
EXISTING TYPICAL SECTION - I.R. 90
 STA. 68+18.00 TO STA. 71+42.00
 STA. 80+50.00 TO STA. 98+00.00

- A STA. 68+18.00 TO STA. 71+42.00
- B STA. 80+50.00 TO STA. 98+00.00
- C STA. 92+95.00 TO STA. 98+00.00

FOR LEGEND AND EXISTING PAVEMENT THICKNESSES, SEE SHEET 15

EXISTING TYPICAL SECTIONS
 I.R. 90

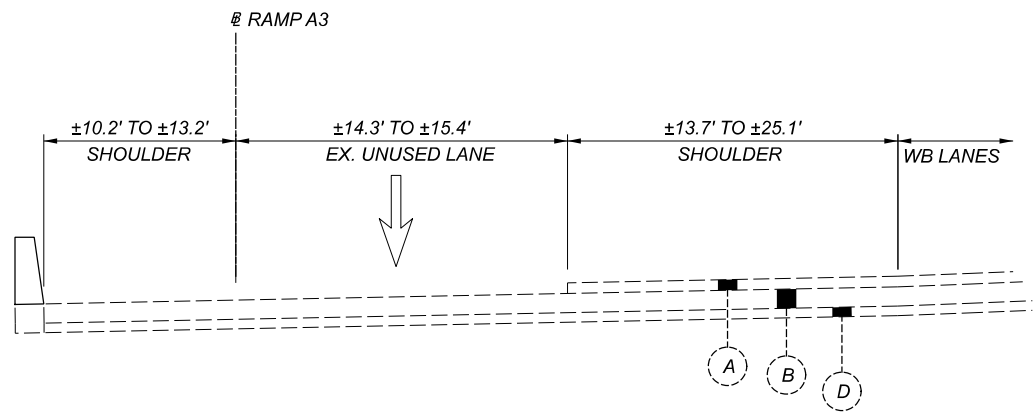
DESIGN AGENCY	
BURGESS & NIPLE 100 WEST EIRE STREET PAINESVILLE, OHIO 44077	
DESIGNER	
REVIEWER	
PROJECT ID	82382
SHEET	TOTAL
18	2339



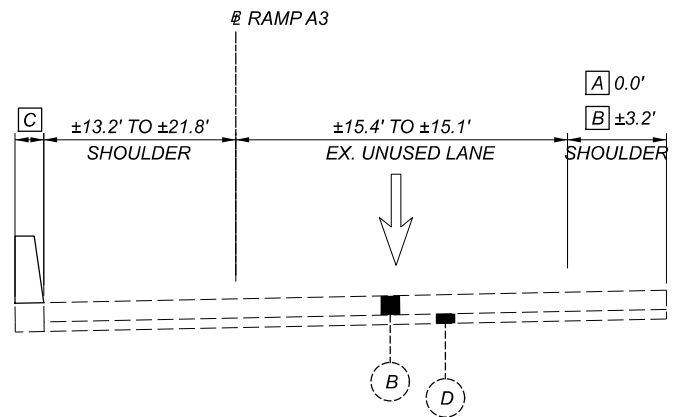
EXISTING TYPICAL SECTIONS
 I.R. 77

DESIGN AGENCY	
DESIGNER	Michael Baker INTERNATIONAL
REVIEWER	
PROJECT ID	82382
SHEET	19
TOTAL	2339

FOR LEGEND AND EXISTING PAVEMENT THICKNESSES, SEE SHEET 15



RAMP A3
 STA. 577+01.94 TO STA. 578+17.27
 EXISTING SUBBASE 6" - SEE EXISTING PLAN CUY-42-18.42



RAMP A3
 STA. 578+17.27 TO STA. 581+93.35
 EXISTING SUBBASE 6" - SEE EXISTING PLAN CUY-42-18.42

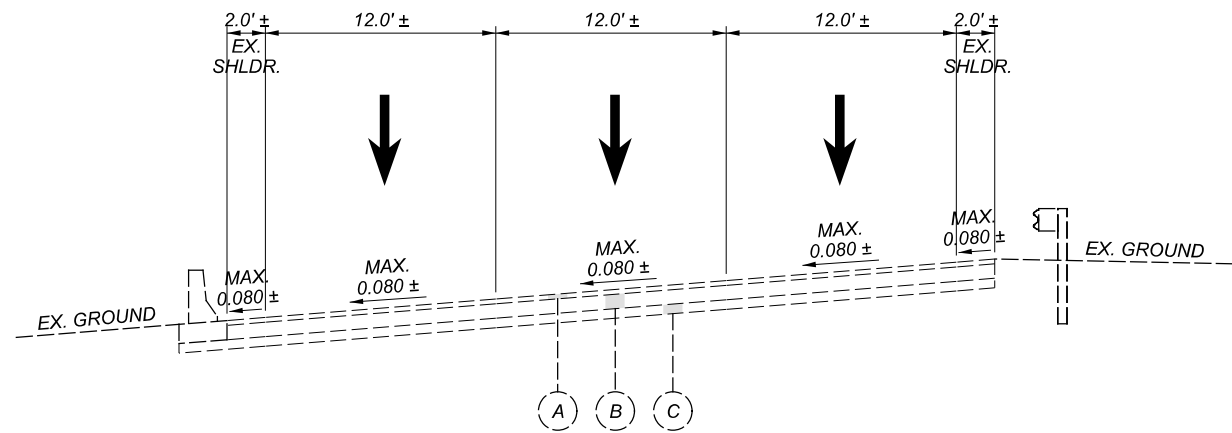
- A STA. 578+15.52 TO STA. 578+59.37
- B STA. 578+59.37 TO STA. 581+93.35
- C WALL ENDS AT STA. 581+51.74

FOR LEGEND AND EXISTING PAVEMENT THICKNESSES, SEE SHEET 15

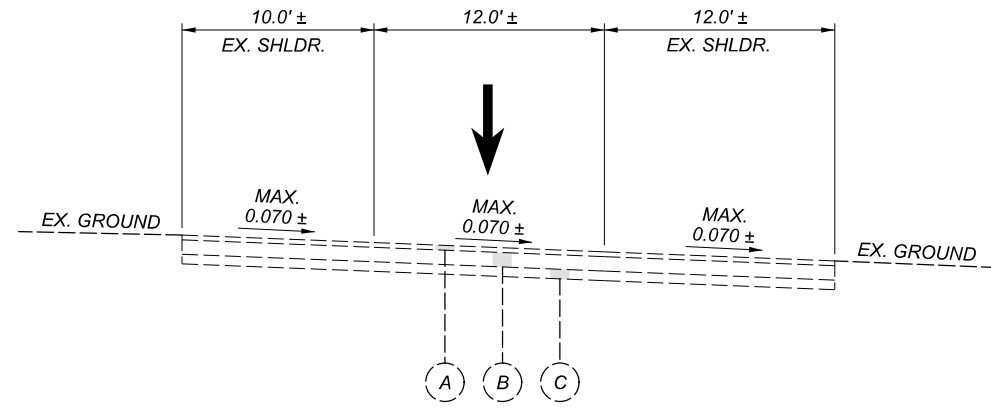
EXISTING TYPICAL SECTIONS
 RAMP A3

DESIGN AGENCY	
DESIGNER	—
REVIEWER	—
PROJECT ID	82382
SHEET	TOTAL
20	2339

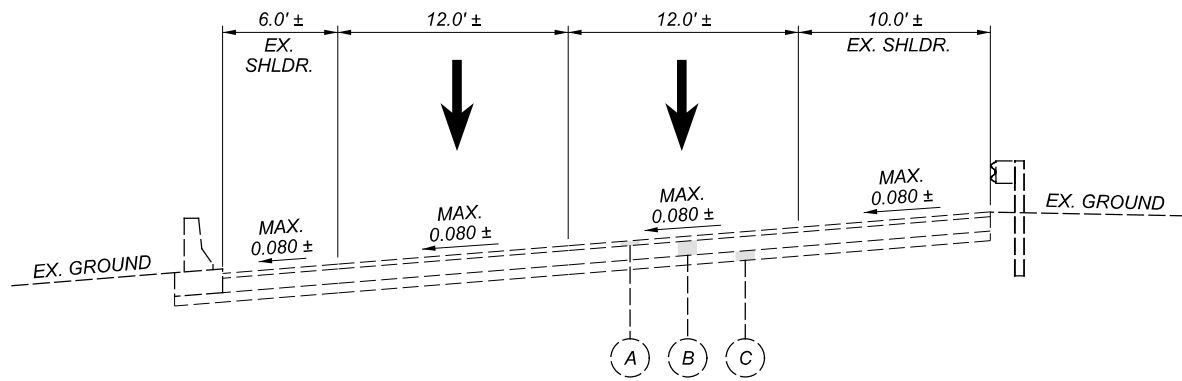
BURGESS & NIPLÉ
 100 WEST ERIE STREET
 PAINESVILLE, OHIO 44077



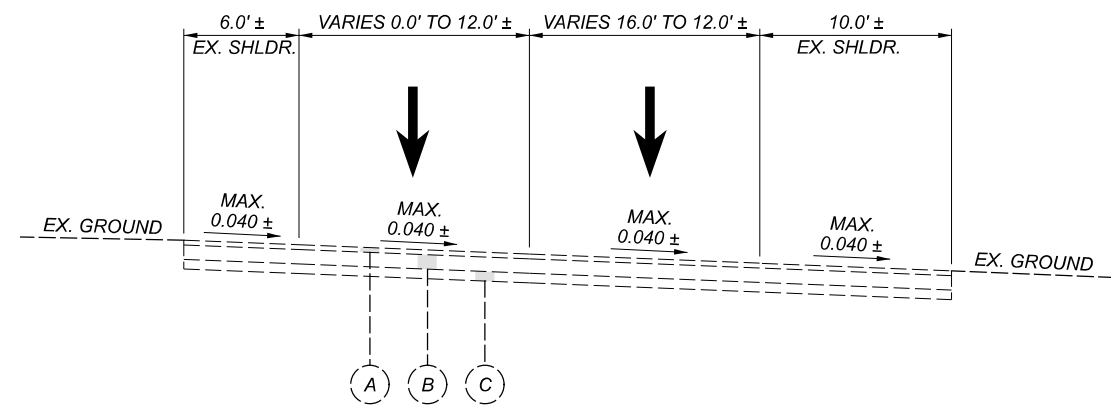
EX. RAMP E-10 (I.R. 90 WB TO I.R. 77 SB)
 3 LANE SECTION



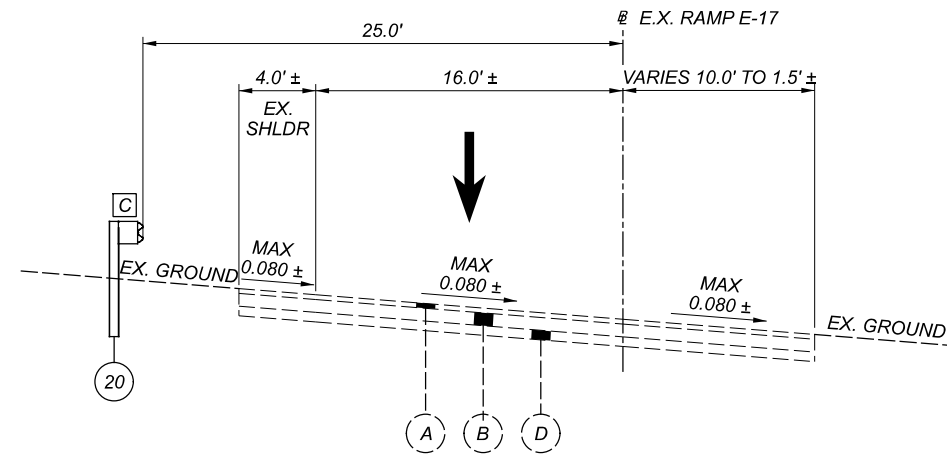
EX. RAMP E-13 (E. 21ST ST. TO I.R. 90 WB)



EX. RAMP E-10 (I.R. 90 WB TO I.R. 77 SB)
 2 LANE SECTION

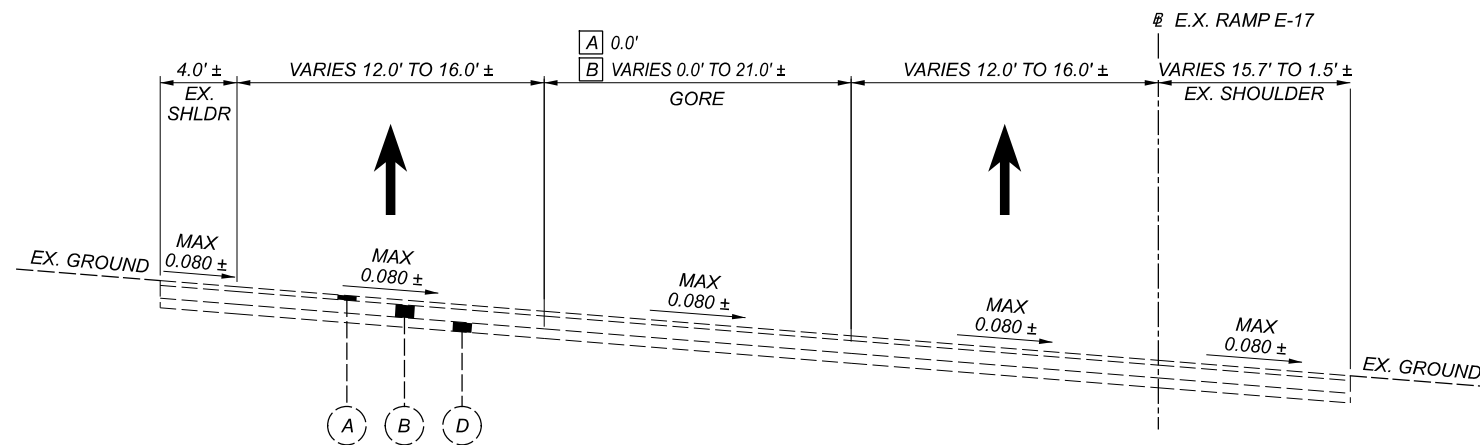


EX. RAMP E-11 (I.R. 90 EB TO E. 22ND ST.)



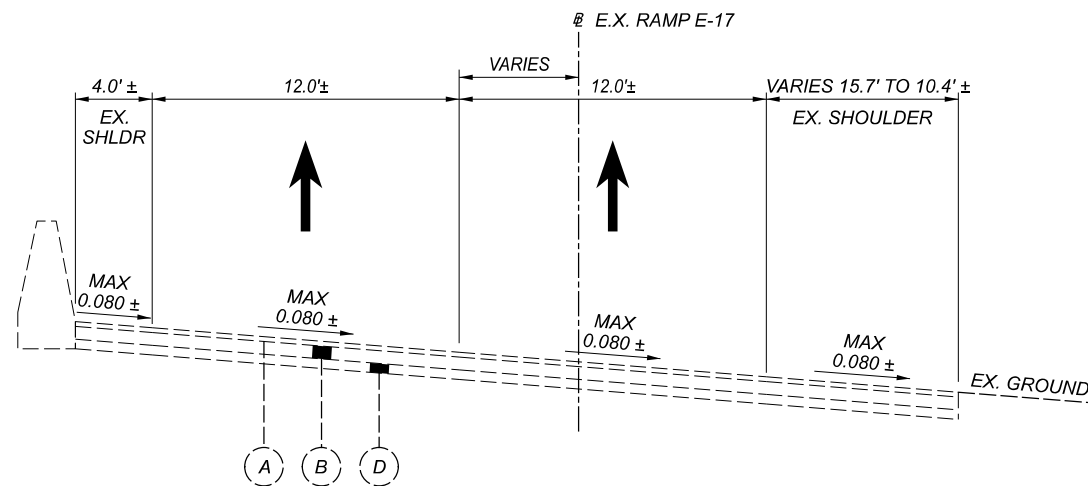
EX. RAMP E-17 (I-77NB TO ONTARIO ST.)
 STA. 62+90.00 TO STA. 66+50.00

C INSTALL PR. GUARDRAIL FROM STA. 62+90.00 TO STA. 63+87.10



EX. E-17 RAMP (I-77NB TO ONTARIO ST.)
 STA. 57+47.94 TO STA. 62+90.00

A STA. 57+47.94 TO STA. 62+13.44
 B STA. 62+13.44 TO STA. 63+00.00



EX. E-17 RAMP (I-77NB TO ONTARIO ST.)
 STA. 53+36.63 TO STA. 55+17.39

FOR LEGEND AND EXISTING PAVEMENT THICKNESSES, SEE SHEET 15

DESIGN AGENCY

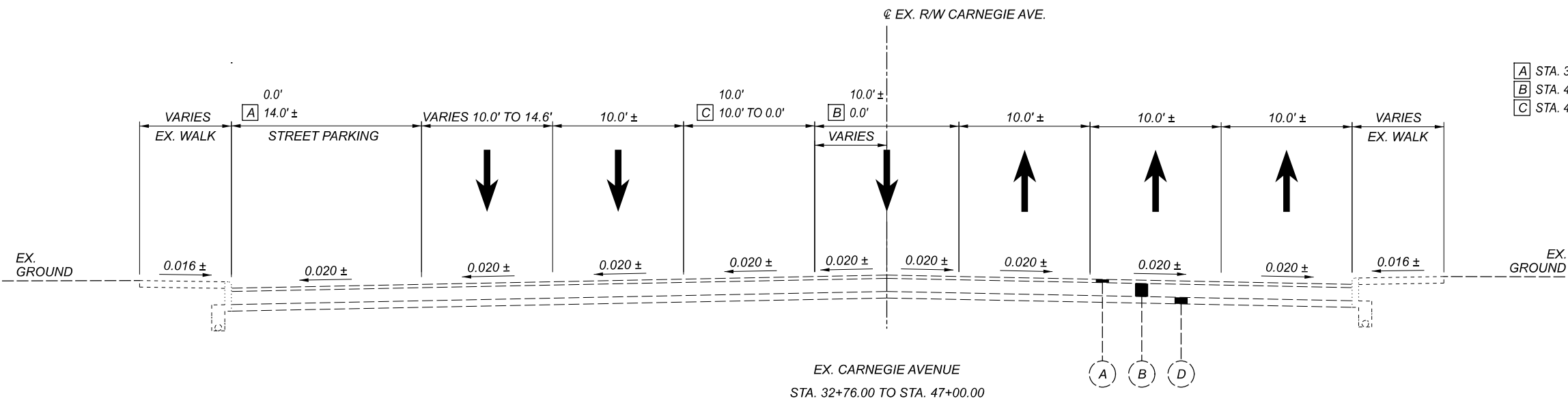
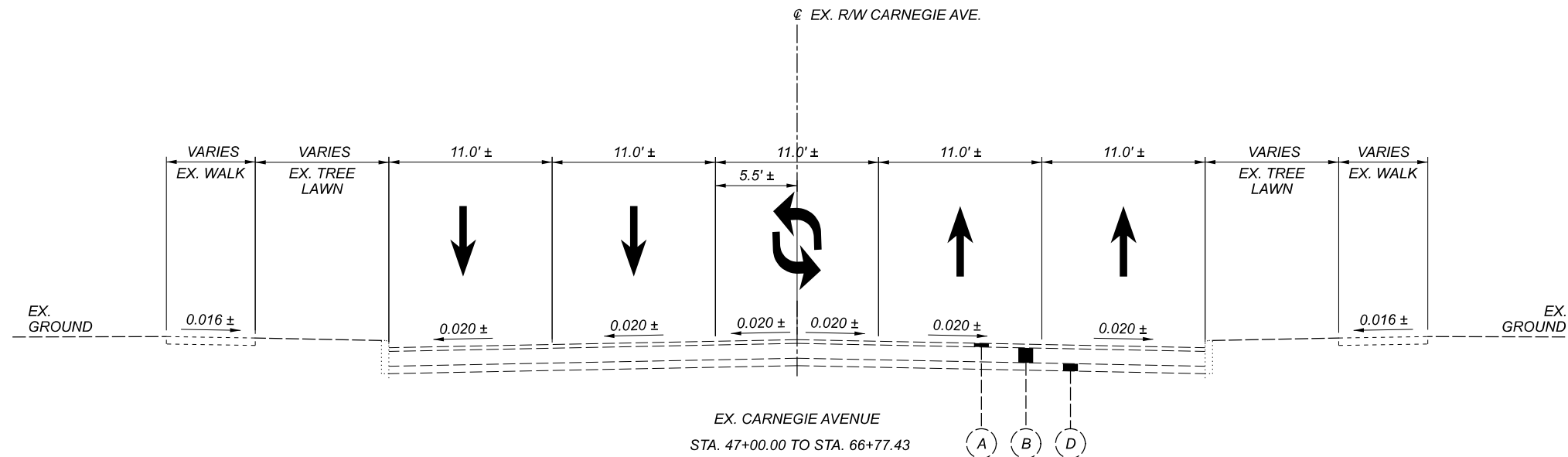
Michael Baker
 INTERNATIONAL

DESIGNER

REVIEWER

PROJECT ID
 82382

SHEET	TOTAL
22	2339



- A STA. 37+51.57 TO STA. 41+14.01
- B STA. 42+50.00 TO STA. 47+00.00
- C STA. 44+00.00 TO STA. 47+00.00

STATIONING FROM THE ALIGNMENT EX. @ R/W CARNEGIE AVE. WAS USED.
 FOR LEGEND AND EXISTING PAVEMENT THICKNESSES, SEE SHEET 15

EXISTING TYPICAL SECTIONS
 CARNEGIE AVE.

DESIGN AGENCY

Michael Baker
 INTERNATIONAL

DESIGNER

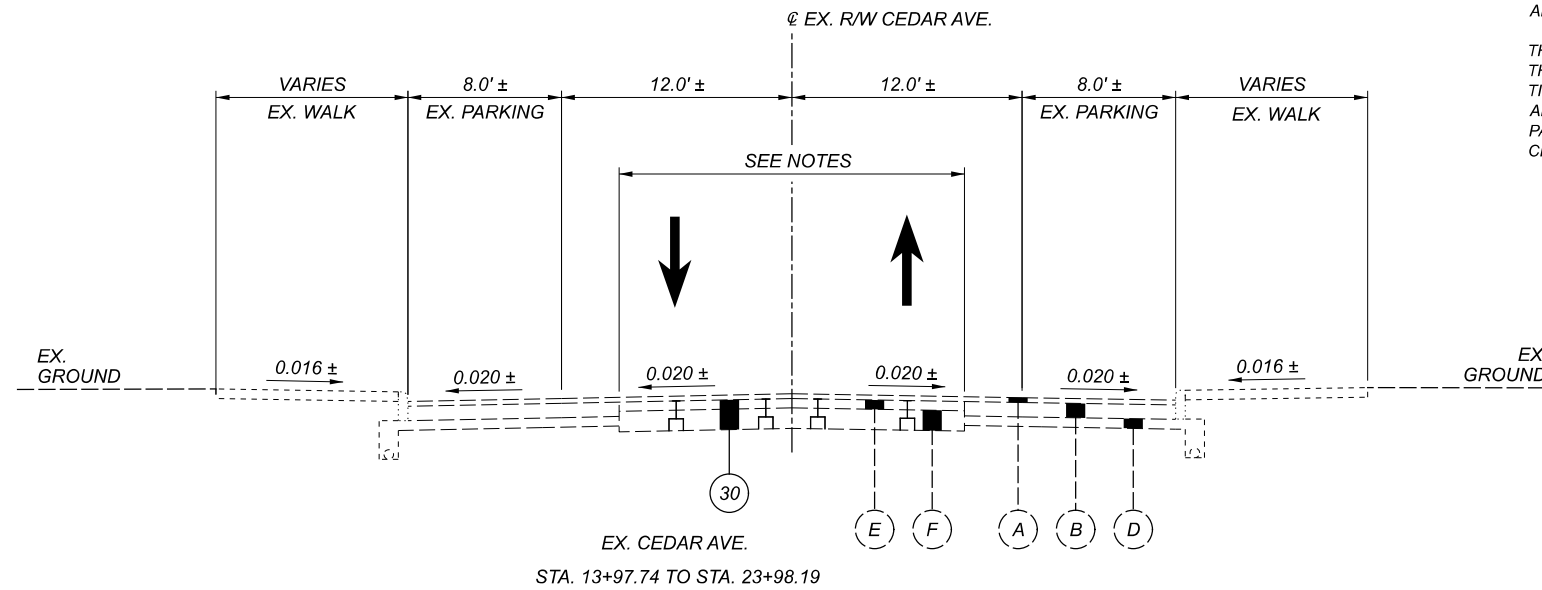
REVIEWER

PROJECT ID

82382

SHEET TOTAL

23 2339

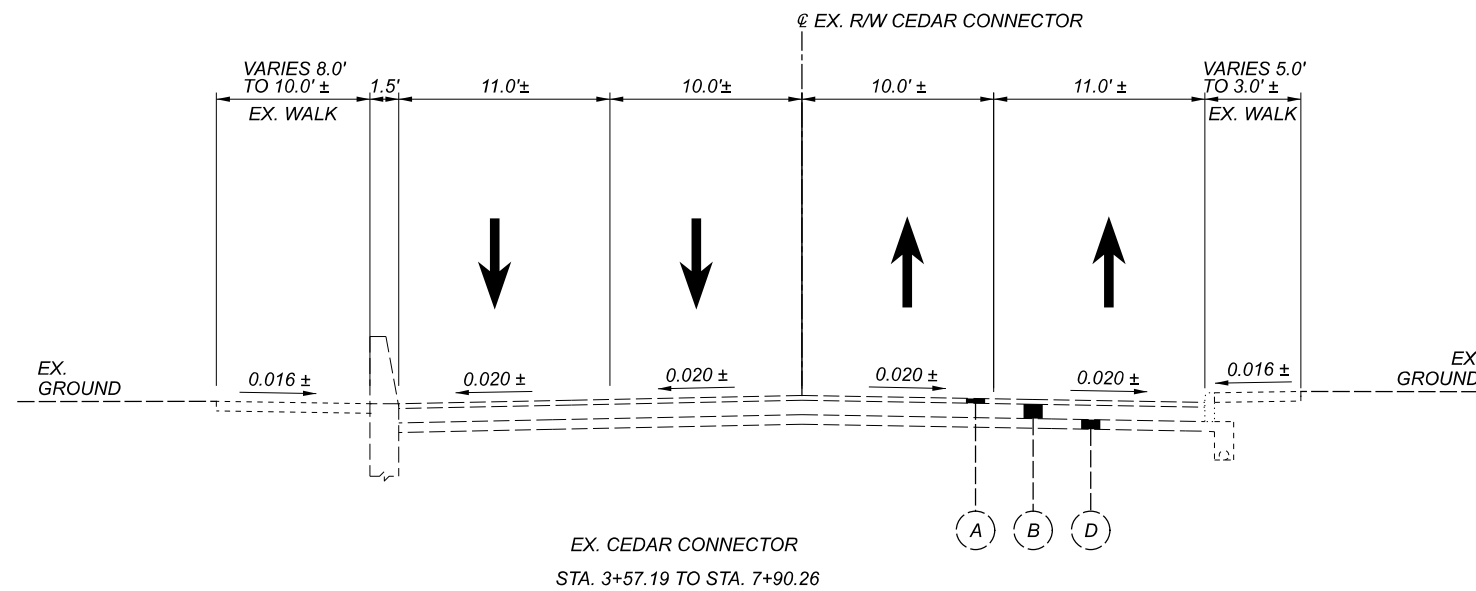


NOTES:

ITEM 202 - REMOVAL, MISC.: EXISTING BURIED TRACK REMOVAL

IT IS ANTICIPATED THAT OLD STREETCAR TRACKS ARE BURIED UNDER THE EXISTING ASPHALT AND PORTIONS OF TRACK WILL REQUIRE REMOVAL AS PART OF THE PROJECT. THE EXACT LOCATION, LIMITS AND TYPE OF TRACK IS UNKNOWN BUT RECORDS INDICATE THE TRACKS RUN ALONG CEDAR AVE. WITHIN THE PROJECT LIMITS.

THE UNIT PRICE BID PER LINEAR FOOT FOR THIS ITEM SHALL INCLUDE THE REMOVAL AND DISPOSAL OF SANDSTONE, BRICK OR PAVEMENT BASE, TIES, TIE PLATES, SPIKES, ANGLES, RAILS, BALLAST, AND ALL APPURTENANCES ASSOCIATED WITH THIS ITEM. THE LIMITS OF PAYMENT SHALL BE FROM STA. 13+97.74 TO STA. 23+98.19, @ EX. RW CEDAR AVE.



EXISTING TYPICAL SECTIONS
CEDAR AVE. & CEDAR CONNECTOR

DESIGN AGENCY

Michael Baker
INTERNATIONAL

DESIGNER

REVIEWER

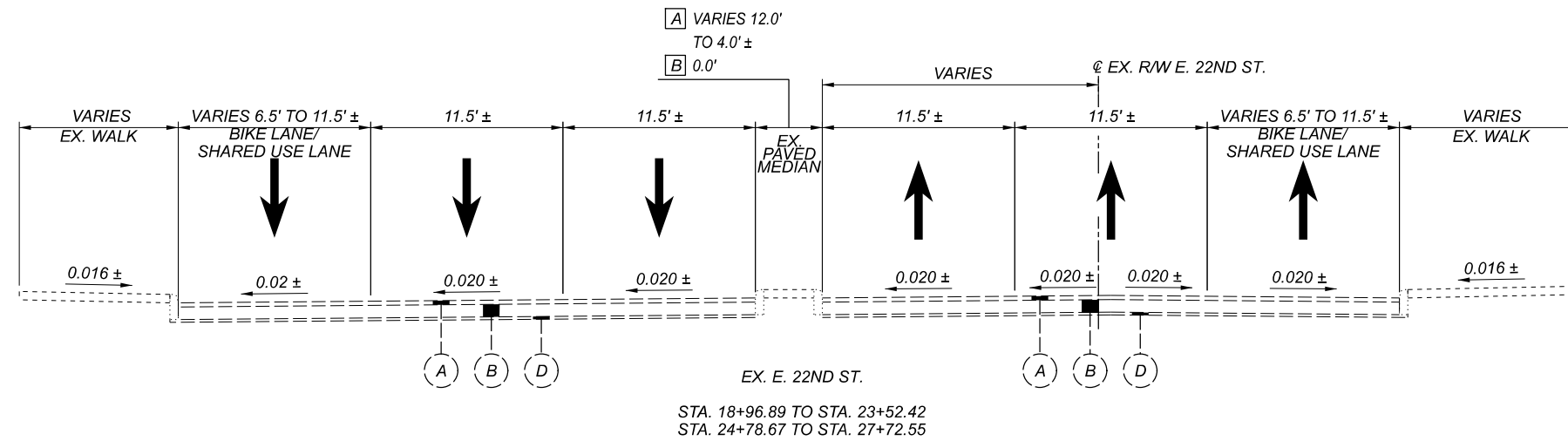
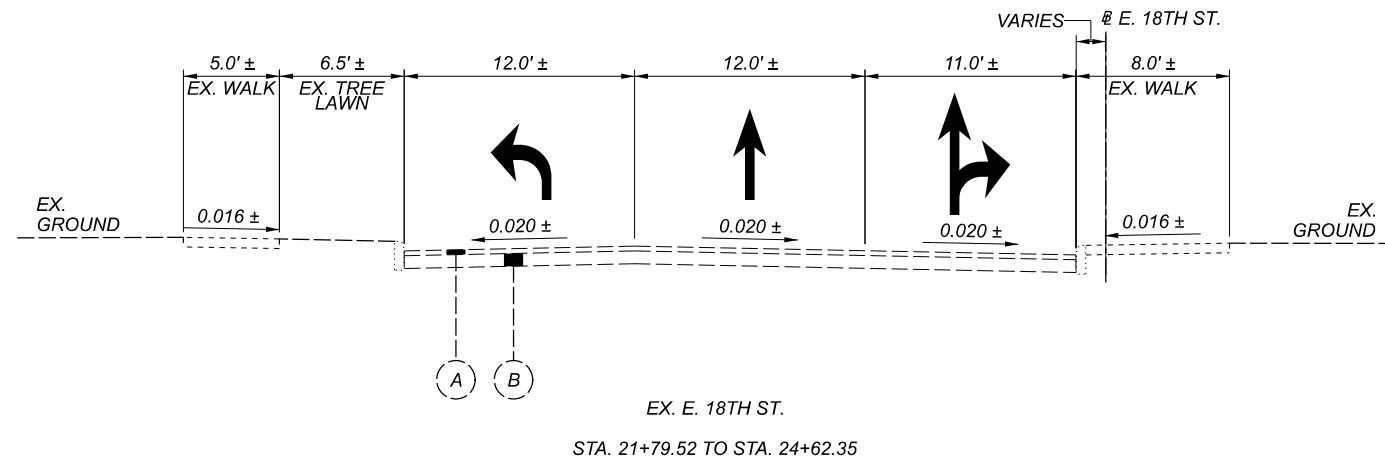
PROJECT ID

82382

SHEET TOTAL

24 2339

FOR LEGEND AND EXISTING PAVEMENT THICKNESSES, SEE SHEET 15



A STA. 18+96.89 TO STA. 25+36.10
 B STA. 25+36.10 TO STA. 27+72.55

EXISTING TYPICAL SECTIONS
 E. 18TH ST. & E. 22ND ST.

DESIGN AGENCY

Michael Baker
 INTERNATIONAL

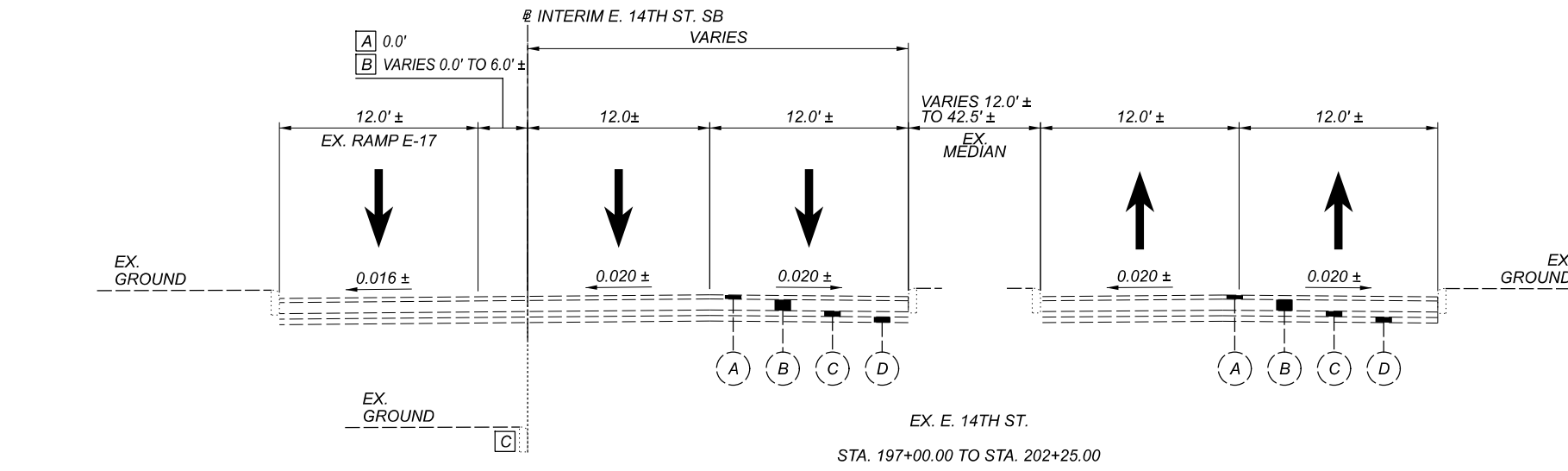
DESIGNER

REVIEWER

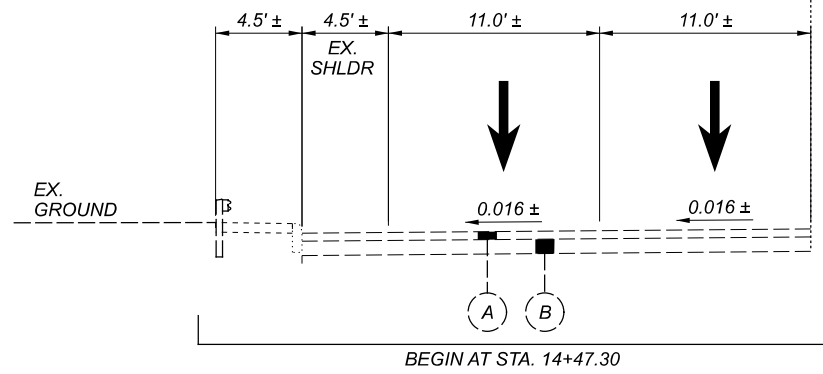
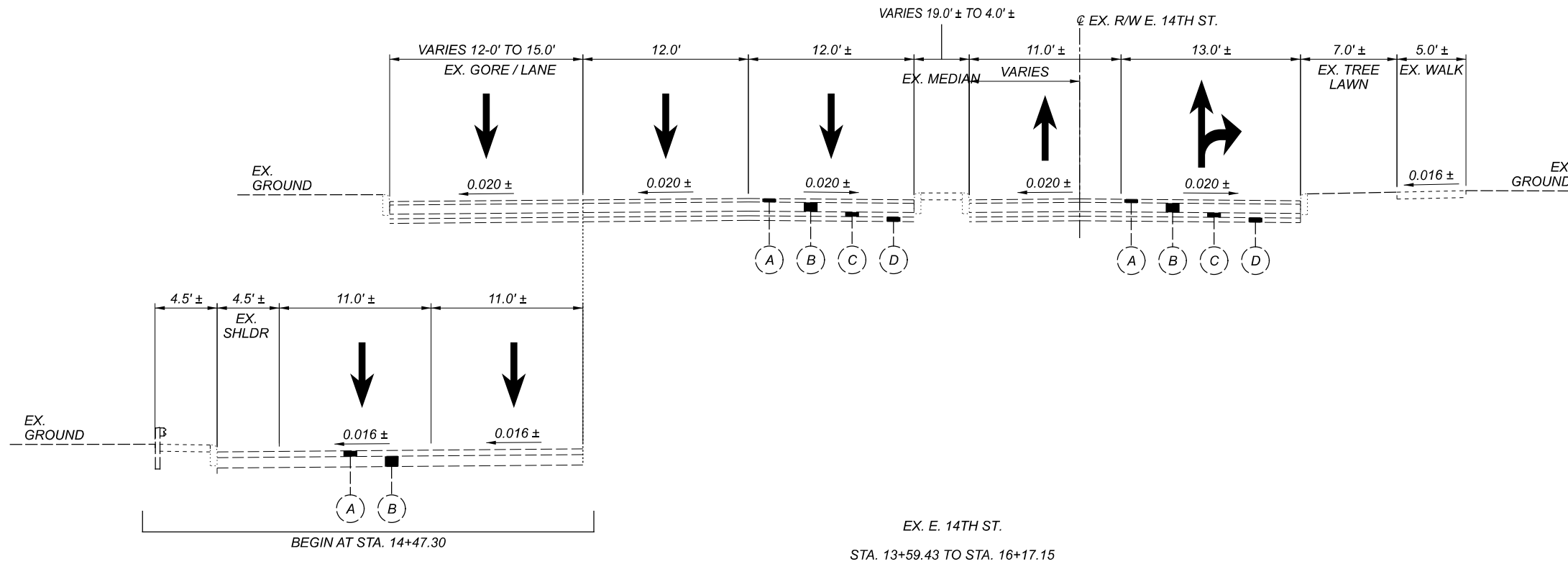
PROJECT ID
 82382

SHEET	TOTAL
25	2339

FOR LEGEND AND EXISTING PAVEMENT THICKNESSES, SEE SHEET 15



- A STA. 199+50.00 TO STA. 201+24.39
- B STA. 201+24.39 TO STA. 201+77.42
- C STA. 201+77.42 TO STA. 202+25.00



FOR LEGEND AND EXISTING PAVEMENT THICKNESSES, SEE SHEET 15

EXISTING TYPICAL SECTIONS
 E. 14TH ST.

DESIGN AGENCY

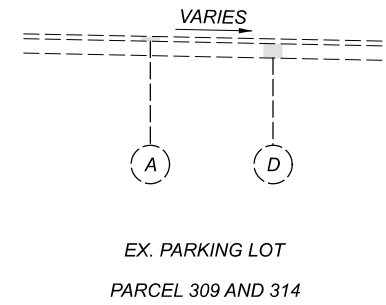
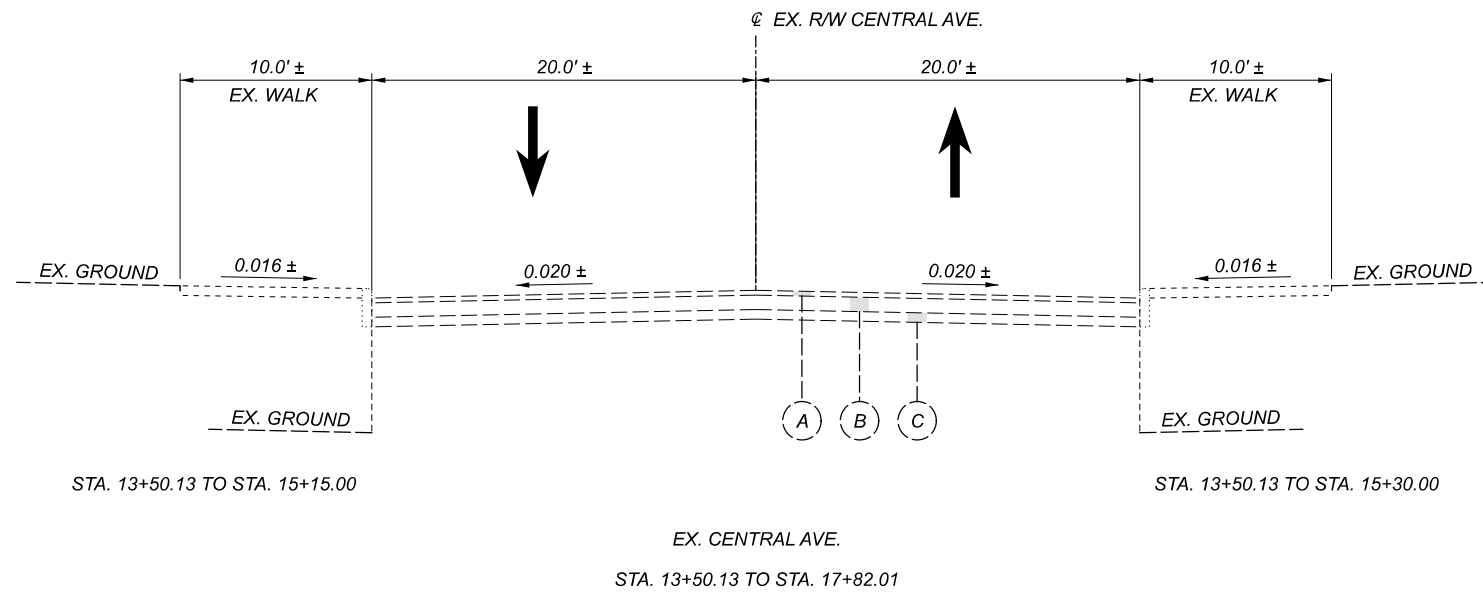
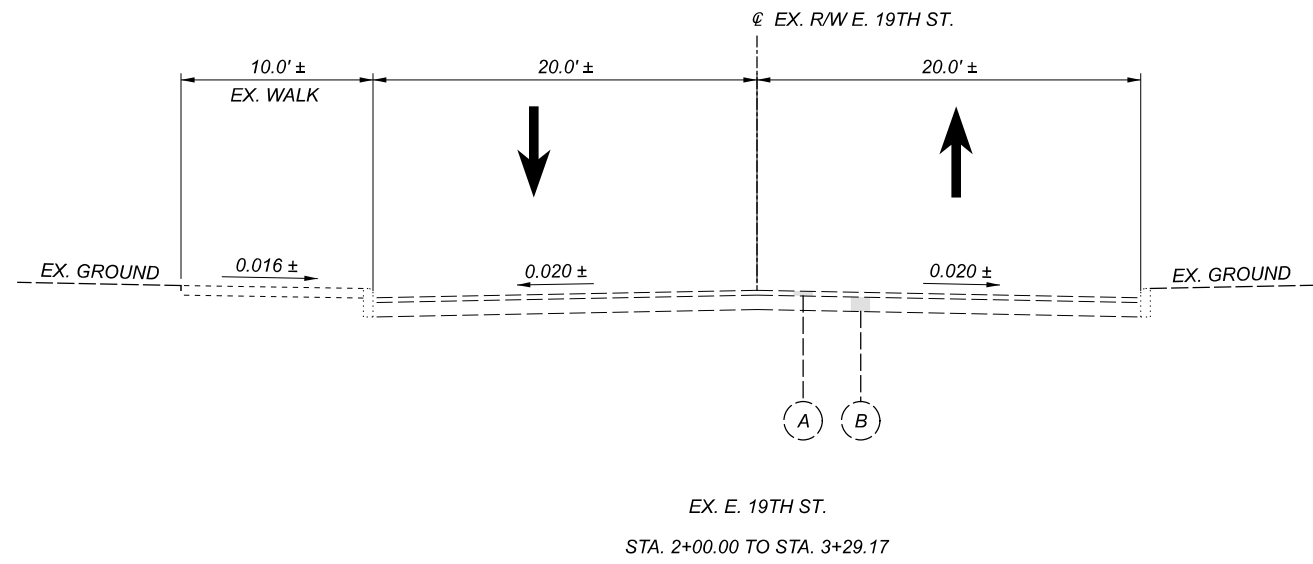
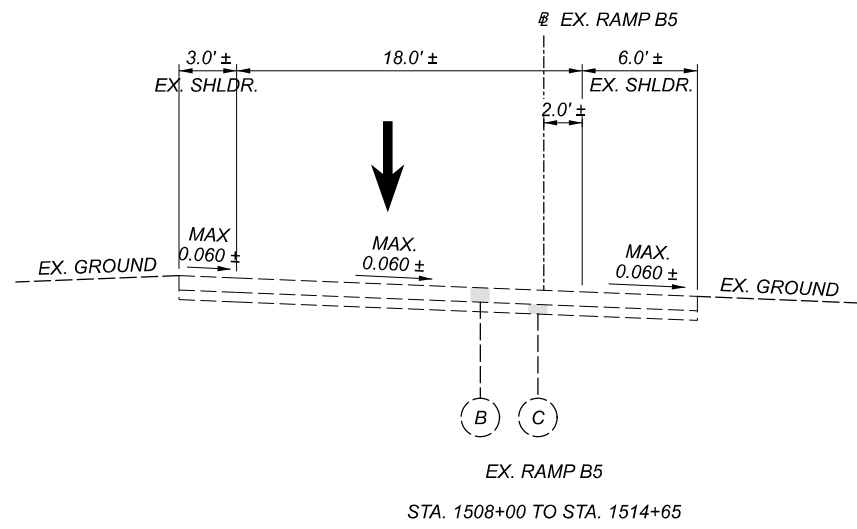
Michael Baker
 INTERNATIONAL

DESIGNER

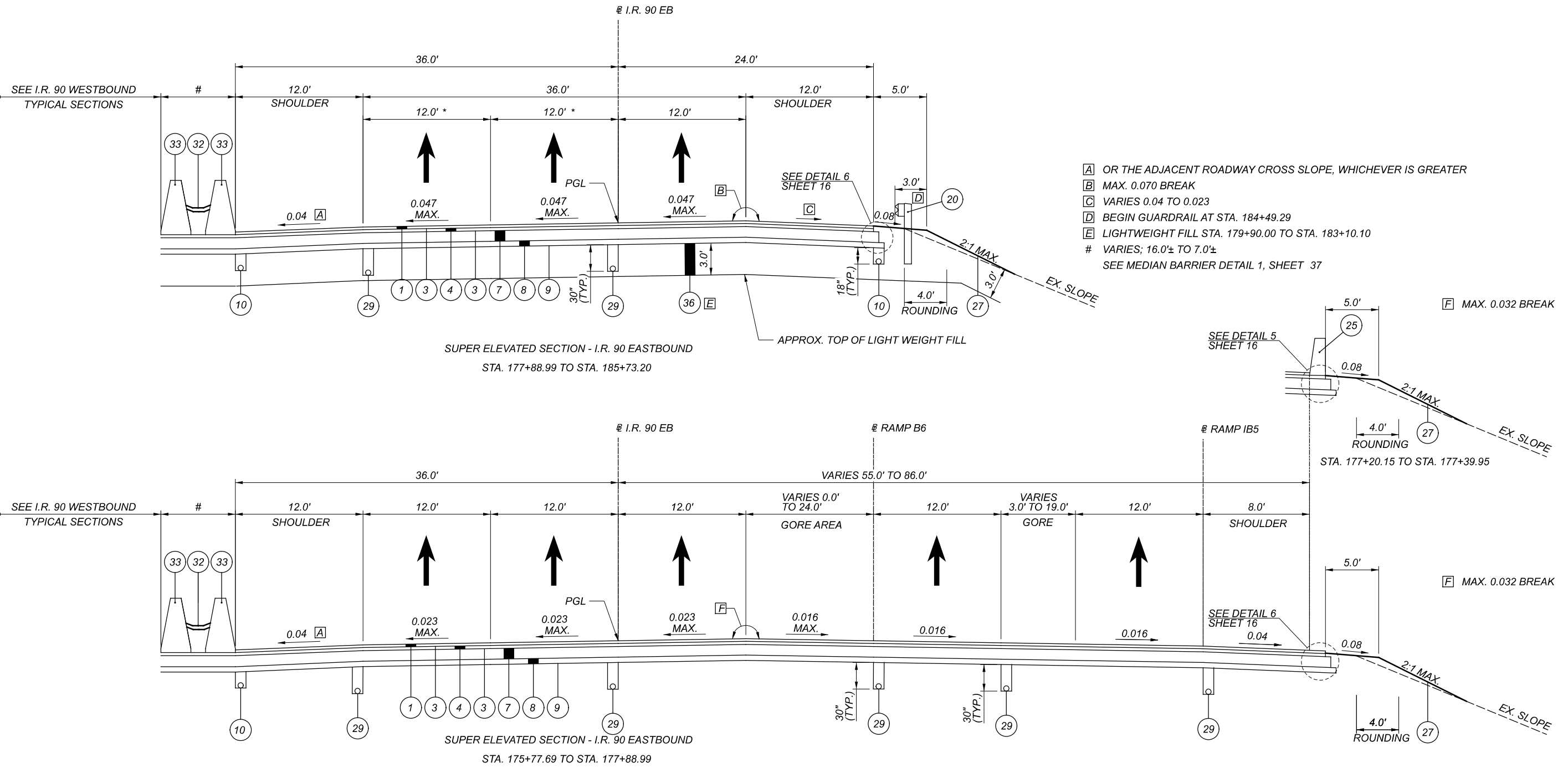
REVIEWER

PROJECT ID
 82382

SHEET	TOTAL
26	2339



DESIGNER	—
REVIEWER	—
PROJECT ID	82382
SHEET	TOTAL
27	2339



FOR LEGEND, SEE SHEET 15

DESIGN AGENCY

BURGESS & NIPLE
100 WEST ERIE STREET
PARMA, OHIO 44137

DESIGNER

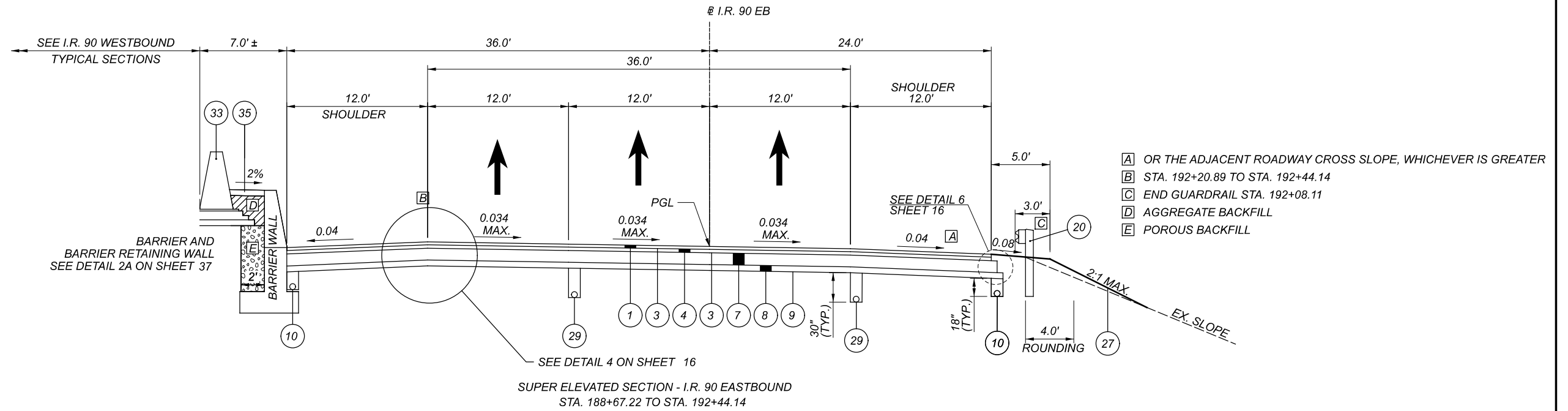
REVIEWER

PROJECT ID

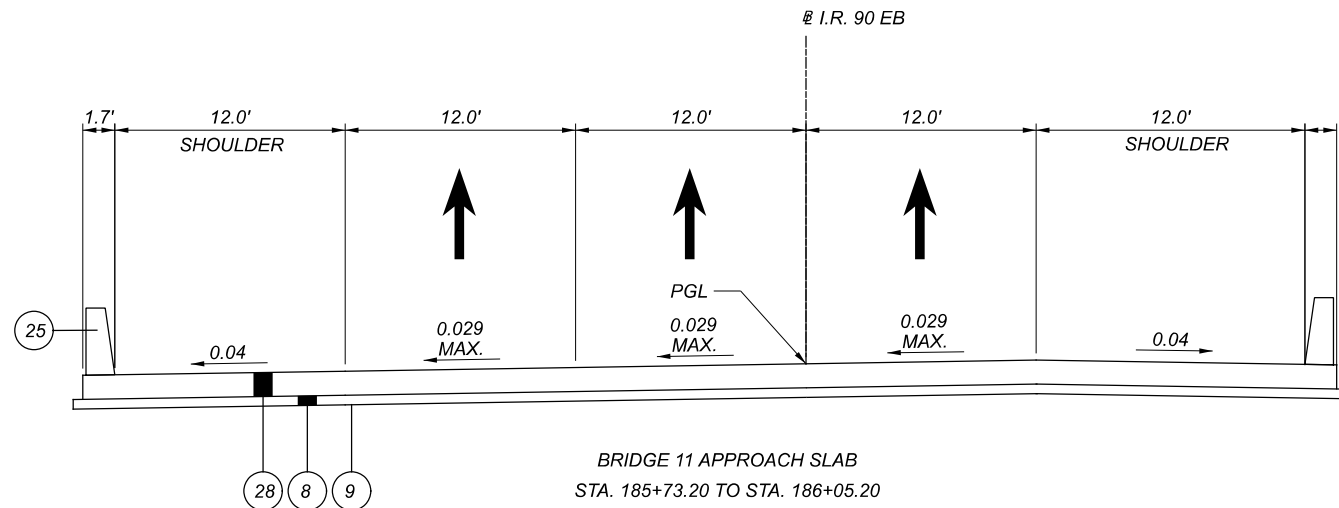
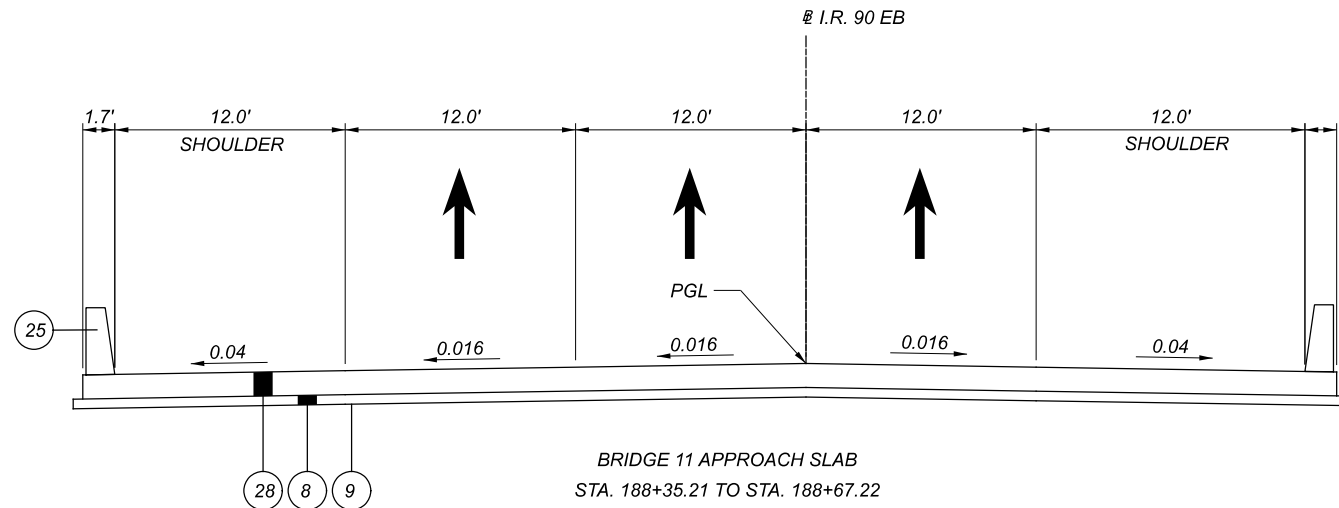
82382

SHEET TOTAL

28 2339



- A OR THE ADJACENT ROADWAY CROSS SLOPE, WHICHEVER IS GREATER
- B STA. 192+20.89 TO STA. 192+44.14
- C END GUARDRAIL STA. 192+08.11
- D AGGREGATE BACKFILL
- E POROUS BACKFILL

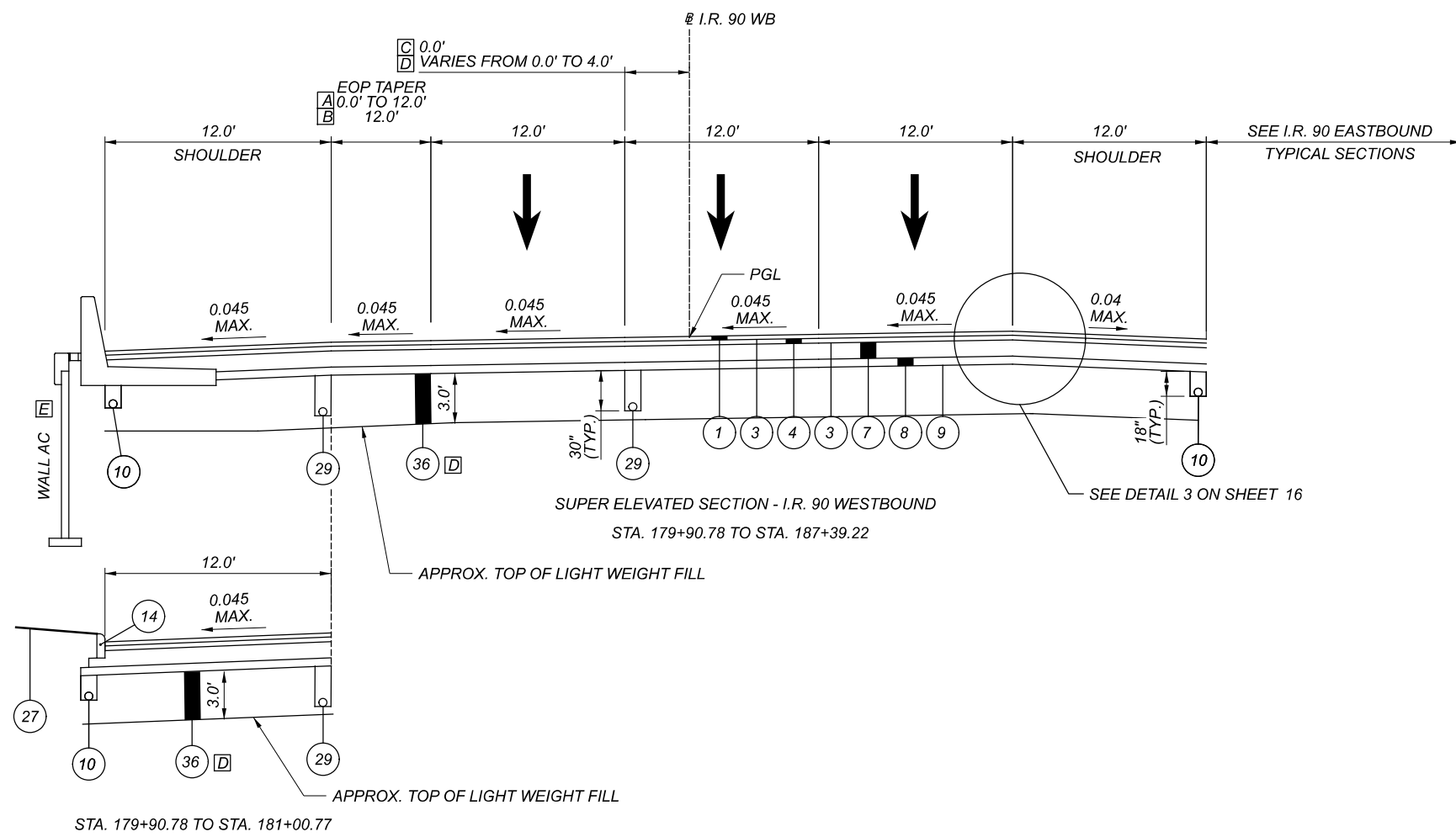


NOTES:
 DETAIL 3 - CURBED-HIGH SIDE OF SUPERELEVATED SECTION
 SEE SHEET 16
 APPROACH SLAB TYPICAL SECTIONS INCLUDE SLEEPER SLABS

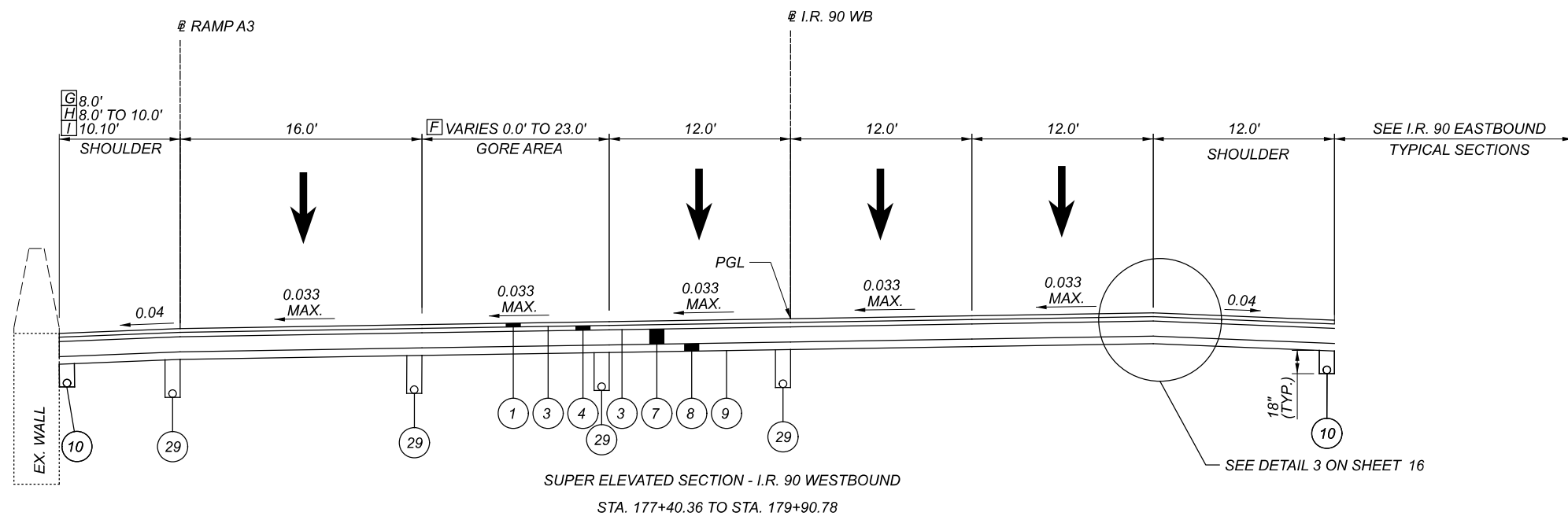
FOR LEGEND, SEE SHEET 15

PROPOSED TYPICAL SECTIONS
 I.R. 90 EB

DESIGN AGENCY	
BURGESS & NIPLE 100 WEST ERIE STREET PAINESVILLE, OHIO 44077	
DESIGNER	—
REVIEWER	—
PROJECT ID	82382
SHEET	29
TOTAL	2339



- [A] STA. 179+90.78 TO STA. 185+90.78
- [B] STA. 185+90.78 TO STA. 187+41.88
- [C] STA. 179+90.78 TO STA. 185+00.00
- [D] STA. 185+00.00 TO STA. 187+41.88
- [E] BEGIN WALL STA. 181+15.91



- [F] STA. 171+78.99 TO STA. 179+90.78
- [G] STA. 577+30.22 TO STA. 577+98.45
- [H] STA. 577+98.45 TO STA. 578+48.45
- [I] STA. 578+48.45 TO STA. 579+89.59

FOR LEGEND, SEE SHEET 15

PROPOSED TYPICAL SECTIONS
 I.R. 90 WB

DESIGN AGENCY

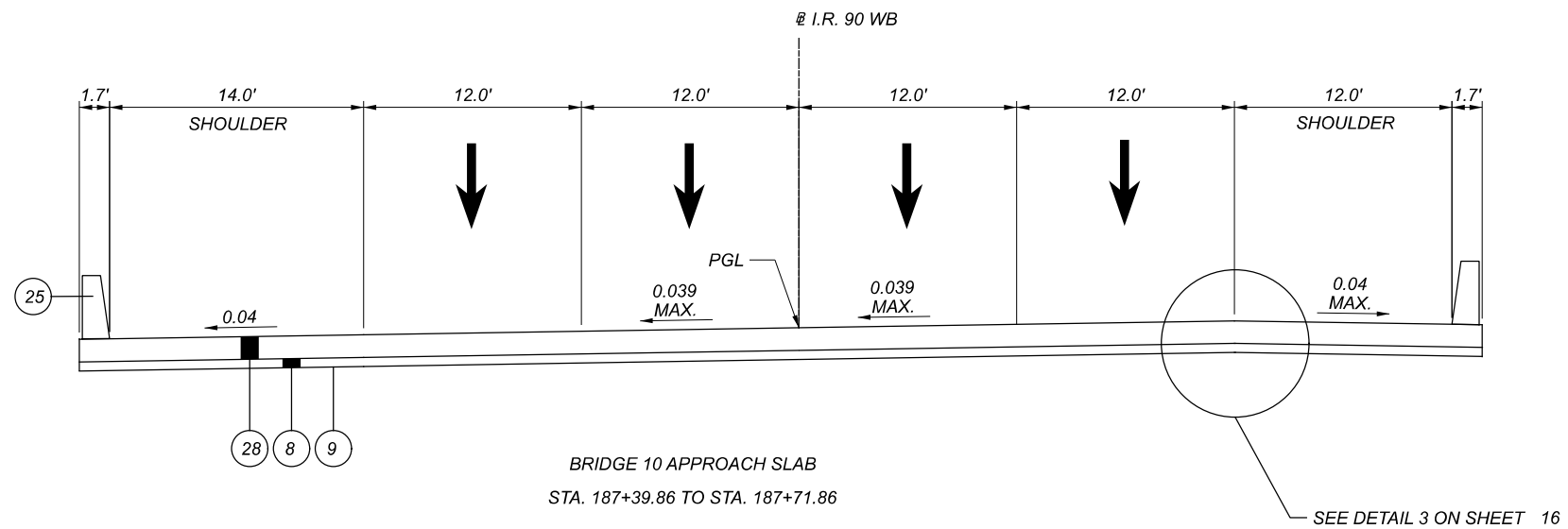
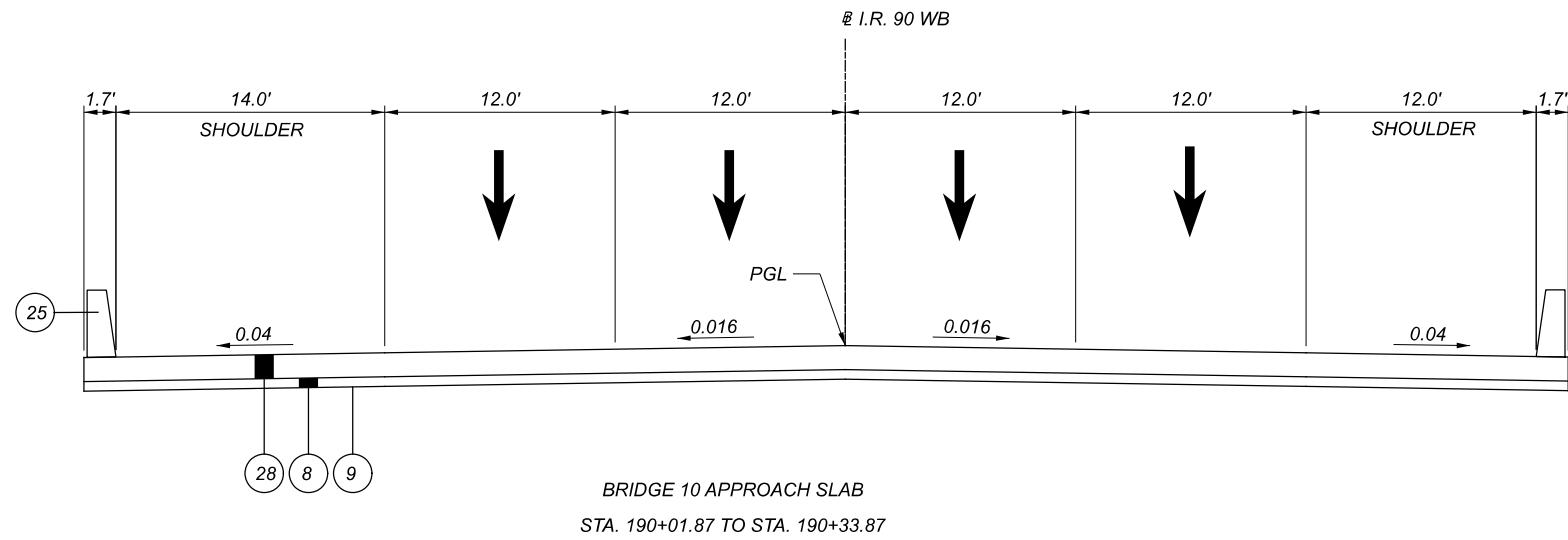
BURGESS & NIPLE
 100 WEST ERIE STREET
 PAINESVILLE, OHIO 44077

DESIGNER

REVIEWER

PROJECT ID
 82382

SHEET	TOTAL
31	2339



NOTES:

FOR LEGEND, SEE SHEET 15

LANE CONFIGURATIONS SHOWN ARE ACCURATE
 AFTER CONSTRUCTION OF CONTRACT GROUP 5

APPROACH SLAB TYPICAL SECTIONS INCLUDE SLEEPER SLABS

PROPOSED TYPICAL SECTIONS
 I.R. 90 WB

DESIGN AGENCY

**BURGESS
 & NIPLÉ**
 100 WEST EIRE STREET
 PAINESVILLE, OHIO 44077

DESIGNER

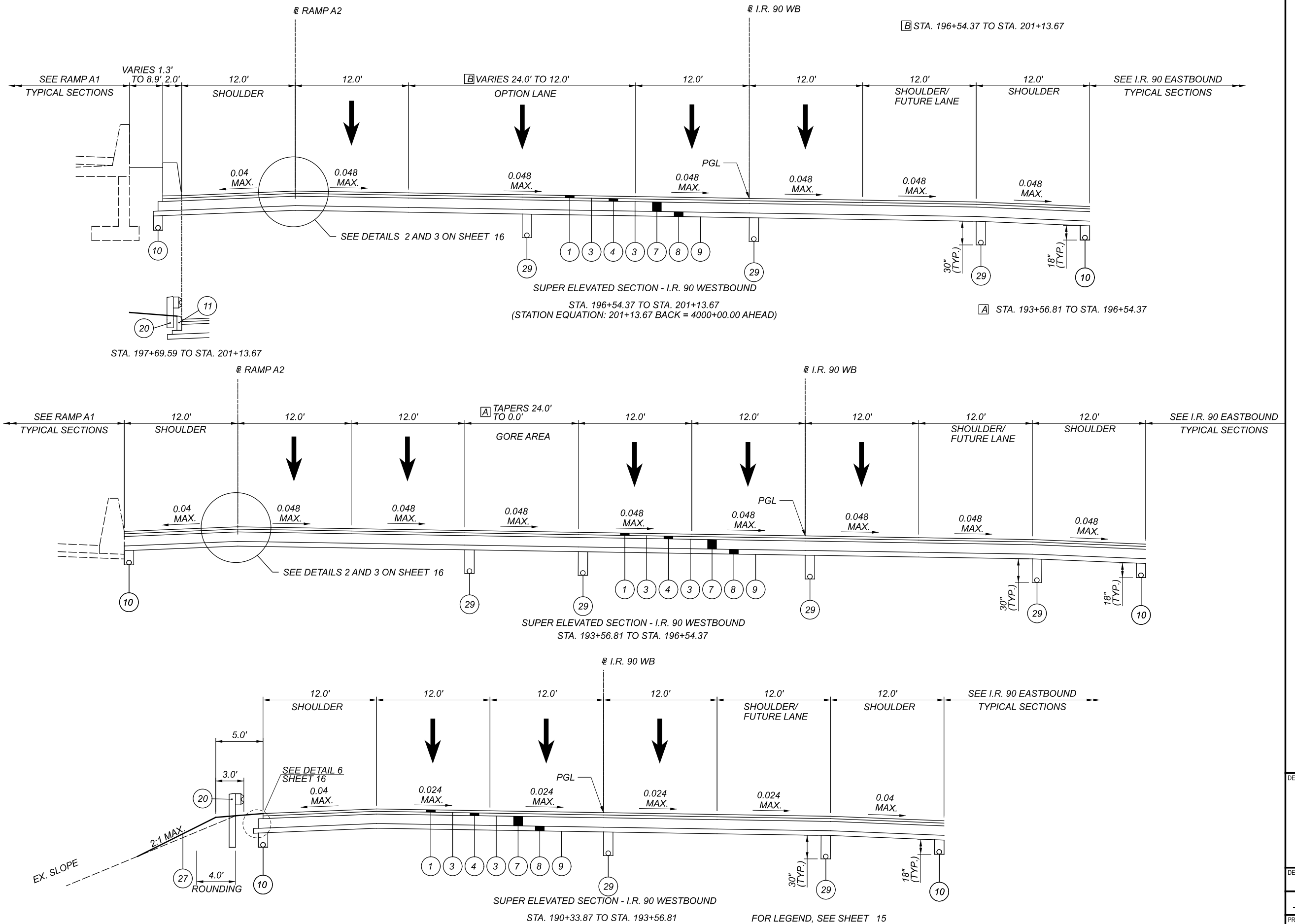
REVIEWER

PROJECT ID

82382

SHEET TOTAL

32 2339



PROPOSED TYPICAL SECTIONS
 I.R. 90 WB

DESIGN AGENCY

BURGESS & NIPLÉ
 100 WEST EIRE STREET
 PAINESVILLE, OHIO 44077

DESIGNER

REVIEWER

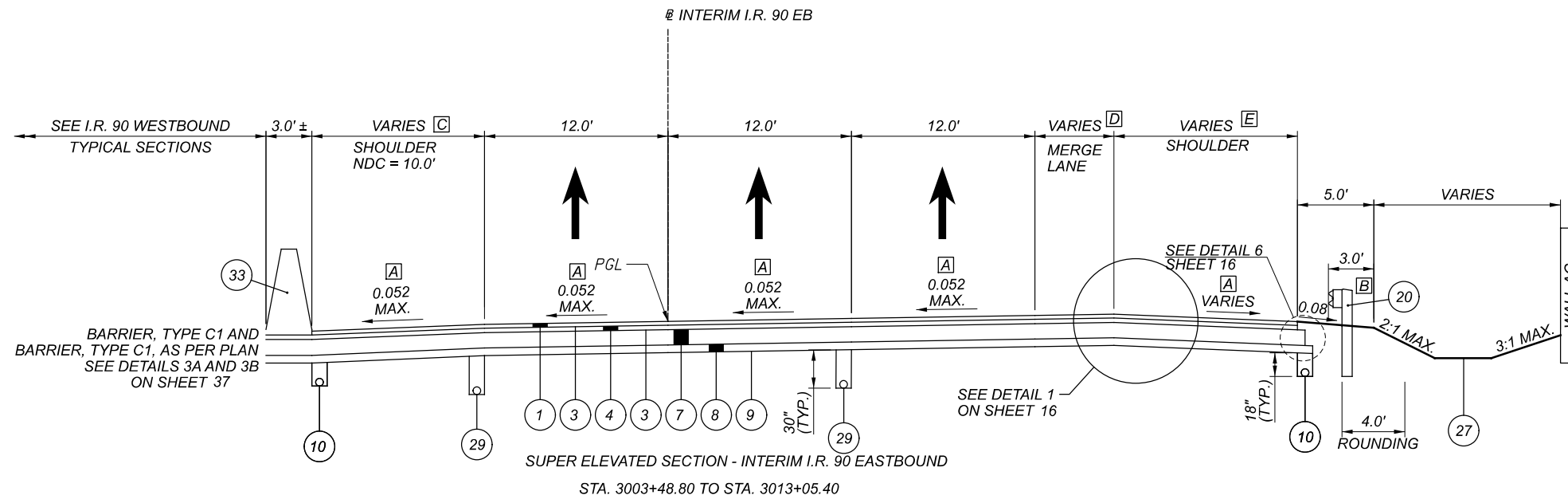
PROJECT ID

82382

SHEET TOTAL

33 2339

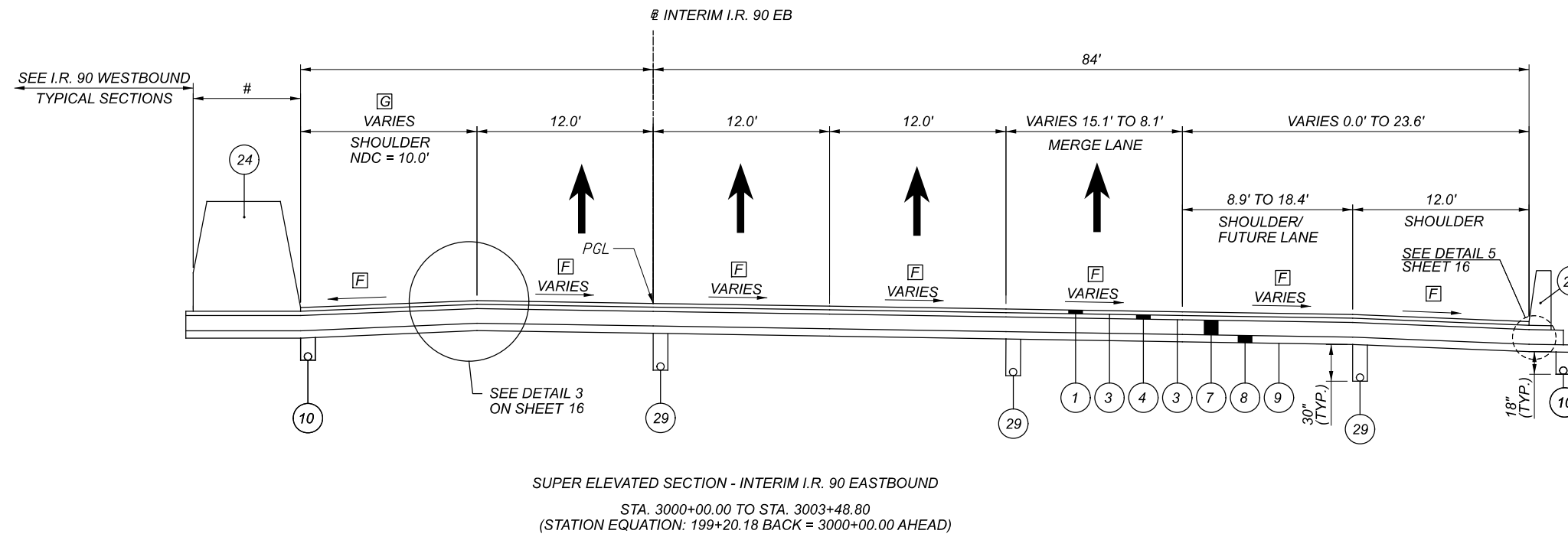
FOR LEGEND, SEE SHEET 15



- A SEE SUPERELEVATION TABLES FOR FULL SUPERELEVATION RATES AND TRANSITIONS
- B GUARDRAIL - STA. 3006+69.07 TO STA. 3009+61.97
- C VARIES 9.5' TO 11.0' STA. 3003+48.80 TO STA. 3004+50.00
11.0' STA. 3004+50.00 TO STA. 3008+00.00
VARIES 11.0' TO 6.5' STA. 3008+00.00 TO STA. 3010+00.00
- D VARIES 8.1' TO 0.0' STA. 3003+48.80 TO STA. 3007+54.98
- E 8.0' STA. 3003+48.80 TO STA. 3005+54.97
VARIES 8.0' TO 12.0' STA. 3005+54.97 TO STA. 3007+54.98
12.0' STA. 3007+54.98 TO STA. 3013+05.40

- F SEE SUPERELEVATION TABLES FOR FULL SUPERELEVATION RATES AND TRANSITIONS
- G 12.0' STA. 3000+00.00 TO STA. 3002+75.69
VARIES 12.0' TO 9.5' STA. 3002+75.69 TO STA. 3003+48.80

VARIES; 7.0' ± TO 3.0' ±



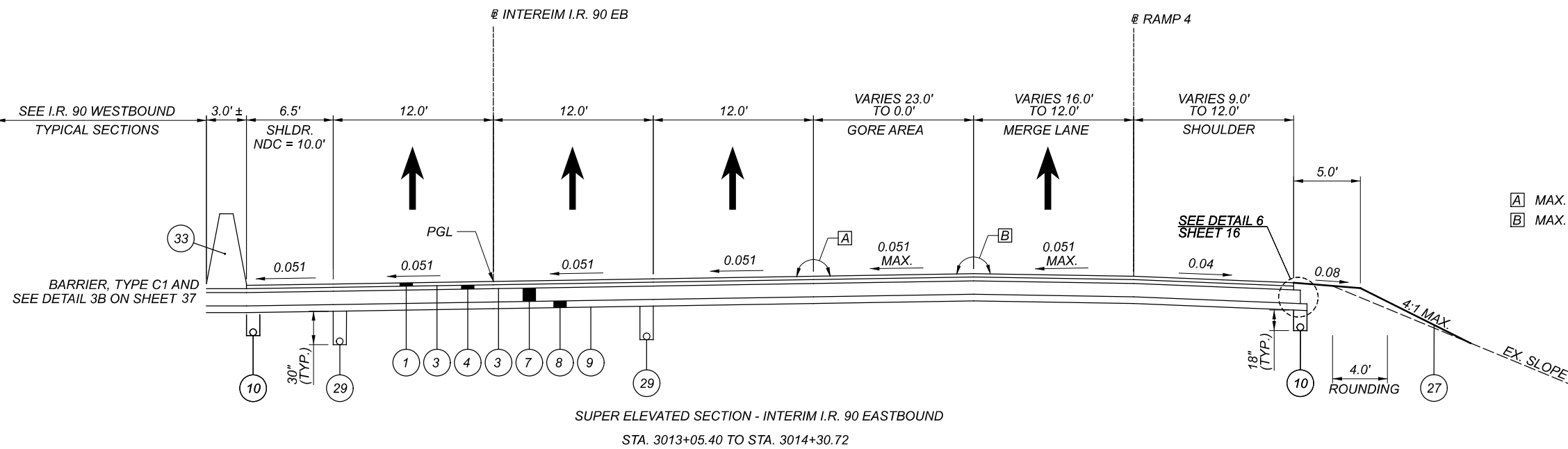
SUPER ELEVATED SECTION - INTERIM I.R. 90 EASTBOUND
 STA. 3000+00.00 TO STA. 3003+48.80
 (STATION EQUATION: 199+20.18 BACK = 3000+00.00 AHEAD)

FOR LEGEND, SEE SHEET 15

PROPOSED TYPICAL SECTIONS
 INTERIM I.R. 90 EB

DESIGN AGENCY	
DESIGNER	
REVIEWER	
PROJECT ID	82382
SHEET	34
TOTAL	2339

BURGESS & NIPLE
 100 WEST ERIE STREET
 CLEVELAND, OHIO 44107



- A MAX. 0.032 BREAK
- B MAX. 0.050 BREAK

FOR LEGEND, SEE SHEET 15

LANE CONFIGURATIONS SHOWN ARE ACCURATE BEFORE CONSTRUCTION OF CONTRACT GROUP 5

PROPOSED TYPICAL SECTIONS
 INTERIM I.R. 90 EB

DESIGN AGENCY

BURGESS & NIPILE
 100 WEST EIRE STREET
 PAINESVILLE, OHIO 44077

DESIGNER

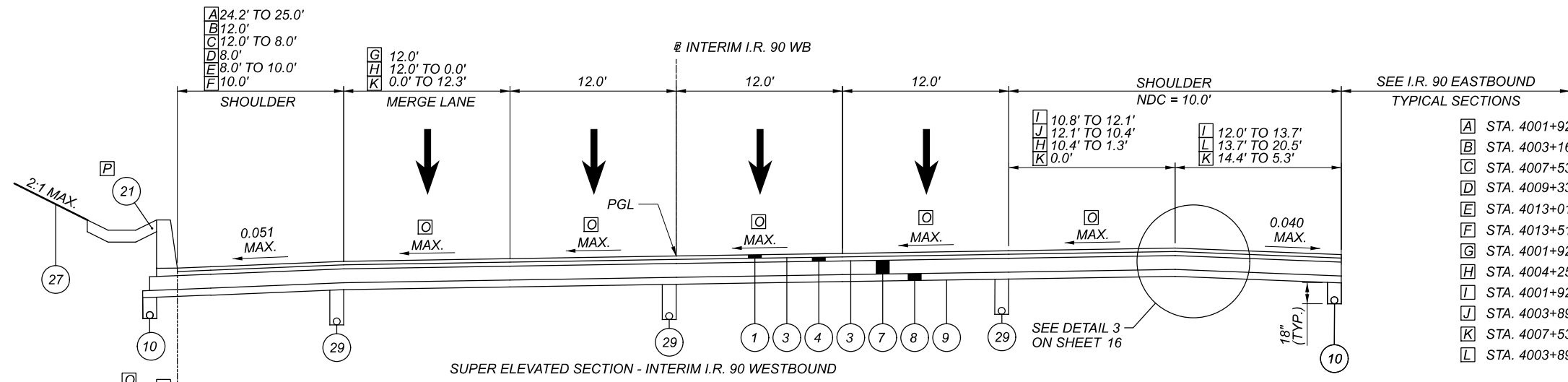
REVIEWER

PROJECT ID

82382

SHEET TOTAL

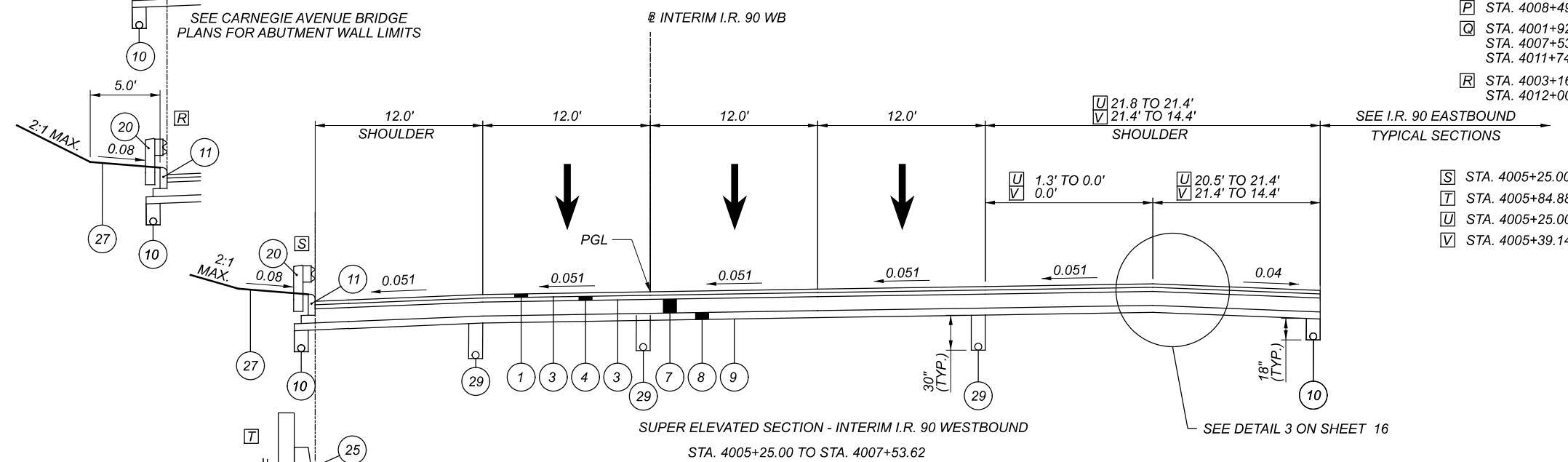
35 2339



SUPER ELEVATED SECTION - INTERIM I.R. 90 WESTBOUND
 STA. 4001+92.00 TO STA. 4005+25.00
 STA. 4007+53.62 TO STA. 4013+65.00

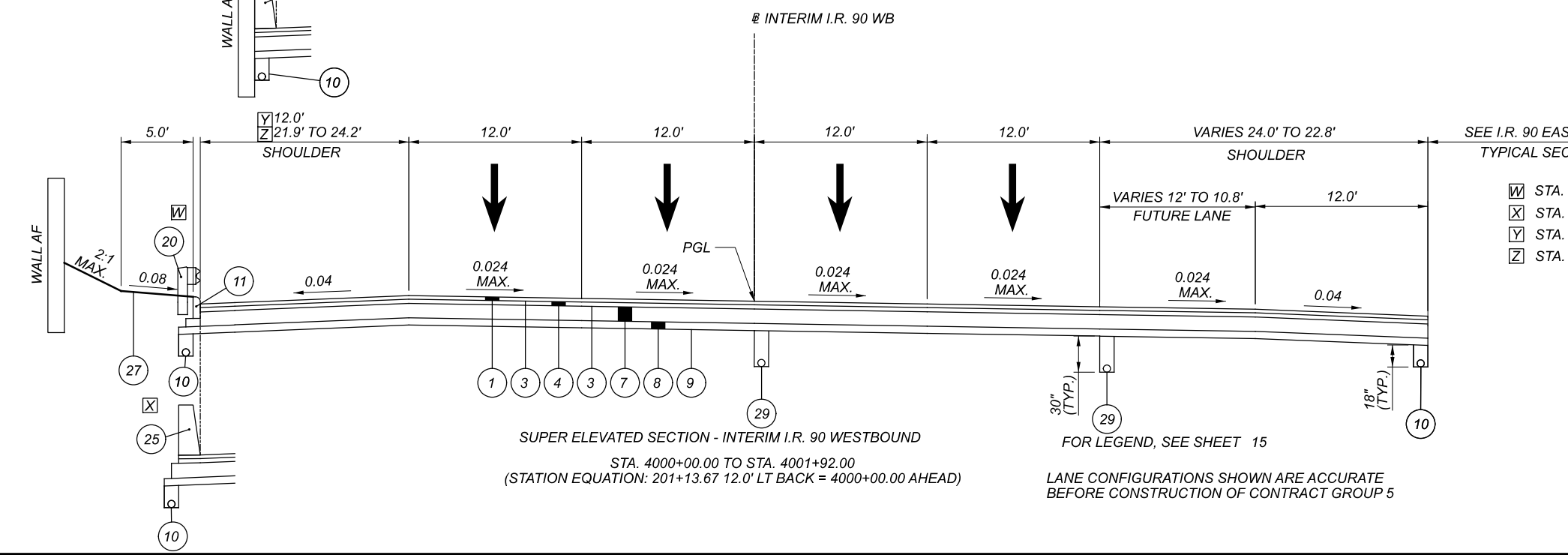
- TYPICAL SECTIONS
- A STA. 4001+92.00 TO STA. 4003+16.98
 - B STA. 4003+16.98 TO STA. 4005+25.00
 - C STA. 4007+53.62 TO STA. 4009+33.62
 - D STA. 4009+33.62 TO STA. 4013+01.07
 - E STA. 4013+01.07 TO STA. 4013+51.81
 - F STA. 4013+51.81 TO STA. 4013+65.00
 - G STA. 4001+92.00 TO STA. 4004+25.00
 - H STA. 4004+25.00 TO STA. 4005+25.00
 - I STA. 4001+92.00 TO STA. 4003+89.24
 - J STA. 4003+89.24 TO STA. 4004+25.00
 - K STA. 4007+53.62 TO STA. 4013+65.00
 - L STA. 4003+89.24 TO STA. 4005+25.00

- Q SEE SUPERELEVATION TABLES FOR FULL SUPERELEVATION RATES AND TRANSITIONS
- P STA. 4008+49.67 TO STA. 4011+74.42
- Q STA. 4001+92.00 TO STA. 4003+16.98
 STA. 4007+53.62 TO STA. 4008+49.67
 STA. 4011+74.42 TO STA. 4012+00.00
- R STA. 4003+16.98 TO STA. 4005+25.00
 STA. 4012+00.00 TO STA. 4013+51.81



SUPER ELEVATED SECTION - INTERIM I.R. 90 WESTBOUND
 STA. 4005+25.00 TO STA. 4007+53.62

- TYPICAL SECTIONS
- S STA. 4005+25.00 TO STA. 4005+84.88
 - T STA. 4005+84.88 TO STA. 4007+53.62
 - U STA. 4005+25.00 TO STA. 4005+39.14
 - V STA. 4005+39.14 TO STA. 4007+53.62



SUPER ELEVATED SECTION - INTERIM I.R. 90 WESTBOUND
 STA. 4000+00.00 TO STA. 4001+92.00
 (STATION EQUATION: 201+13.67 12.0' LT BACK = 4000+00.00 AHEAD)

- TYPICAL SECTIONS
- W STA. 4000+00.00 TO STA. 4000+02.69
 - X STA. 4000+02.69 TO STA. 4001+92.00
 - Y STA. 4000+00.00 TO STA. 4002+02.69
 - Z STA. 4000+02.69 TO STA. 4001+92.00

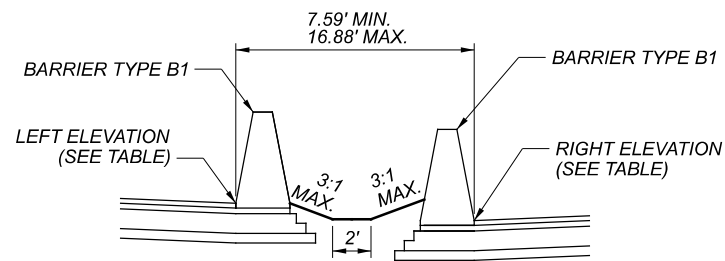
PROPOSED TYPICAL SECTIONS
 INTERIM I.R. 90 WB

DESIGN AGENCY	
DESIGNER	
REVIEWER	
PROJECT ID	82382
SHEET	36
TOTAL	2339

BURGESS & NIPLÉ
 100 WEST ERIE STREET
 PAINESVILLE, OHIO 44077

1*

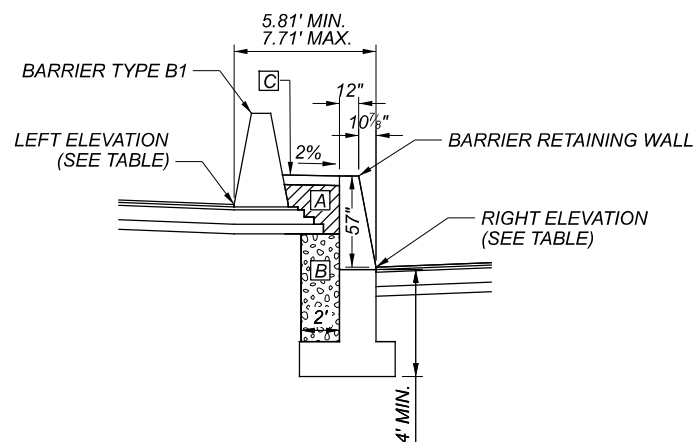
TYPE B1 BARRIERS, GRADING BETWEEN
I.R. 90 EB STA. 175+77.69 TO 185+76.35



2A*

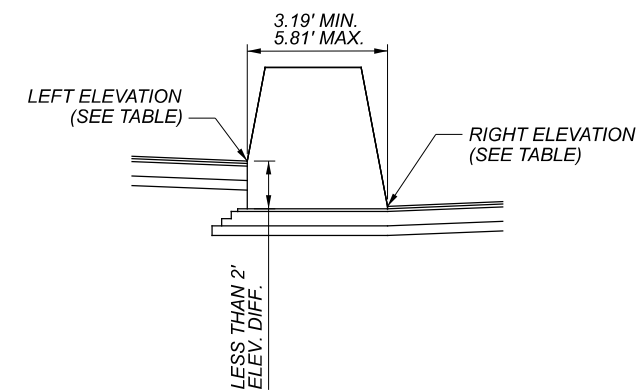
TYPE B1 BARRIER AND BARRIER RETAINING WALL, CAP AND FILL
I.R. 90 EB STA. 188+70.99 TO I.R. 90 EB STA. 192+75.00

- [A] AGGREGATE BACKFILL
- [B] POROUS BACKFILL
- [C] 4" CONCRETE CAP



3A*

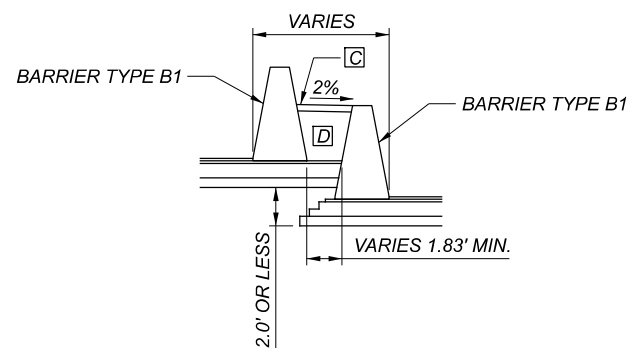
BARRIER, TYPE C1, AS PER PLAN
INTERIM I.R. 90 EB STA. 3003+73.50 TO 3004+04.33



2B*

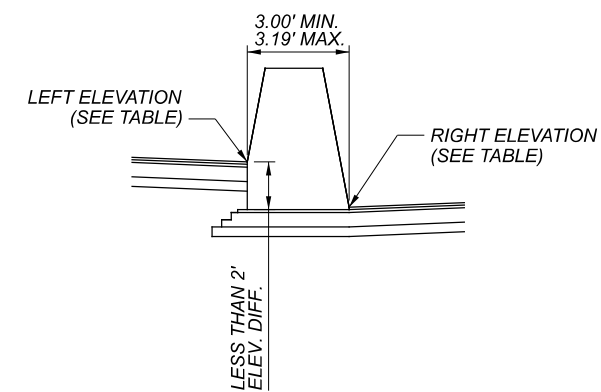
TYPE B1 BARRIERS WITH LIGHTWEIGHT FILL
I.R. 90 EB STA. 192+75.00 TO INTERIM I.R. 90 EB STA. 3003+75.14

- [C] 4" CONCRETE CAP
- [D] LIGHTWEIGHT FILL



3B*

BARRIER, TYPE C1
INTERIM I.R. 90 EB STA. 3004+04.33 TO 3014+30.72



* SEE NEXT SHEET FOR MEDIAN BARRIER INFORMATION

STATION	LEFT ELEVATION	RIGHT ELEVATION	ELEVATION DIFFERENCE	OUT TO OUT WIDTH	DETAIL USED
I.R. 90 EB STATIONING					
176+50.00	694.71	697.56	2.85	16.88	DETAIL 1
176+75.00	694.56	697.41	2.85	16.44	
177+00.00	694.41	697.30	2.89	16.00	
177+25.00	694.26	697.24	2.98	15.57	
177+50.00	694.15	697.22	3.07	15.13	
177+75.00	694.10	697.25	3.15	14.73	
178+00.00	694.04	697.28	3.24	14.51	
178+25.00	693.96	697.31	3.35	14.50	
178+50.00	693.90	697.29	3.39	14.63	
178+75.00	693.85	697.24	3.39	14.73	
179+00.00	693.70	697.09	3.39	14.80	
179+25.00	693.58	696.96	3.38	14.85	
179+50.00	693.46	696.90	3.44	14.87	
179+75.00	693.34	696.79	3.45	14.88	
180+00.00	693.22	696.64	3.42	14.85	
180+25.00	693.09	696.46	3.37	14.81	
180+50.00	692.97	696.23	3.26	14.73	
180+75.00	692.85	695.96	3.11	14.64	
181+00.00	692.73	695.65	2.92	14.51	
181+25.00	692.61	695.31	2.70	14.37	
181+50.00	692.49	694.98	2.49	14.20	
181+75.00	692.37	694.64	2.27	14.01	
182+00.00	692.25	694.30	2.05	13.78	
182+25.00	692.13	693.96	1.83	13.54	
182+50.00	692.01	693.62	1.61	13.27	
182+75.00	691.89	693.29	1.40	12.98	
183+00.00	691.76	692.95	1.19	12.66	
183+25.00	691.64	692.61	0.97	12.32	
183+50.00	691.52	692.27	0.75	11.95	
183+75.00	691.40	691.94	0.54	11.57	
184+00.00	691.28	691.60	0.32	11.15	
184+25.00	691.16	691.26	0.10	10.71	
184+50.00	691.04	690.92	-0.12	10.24	
184+75.00	690.92	690.58	-0.34	9.76	
185+00.00	690.80	690.38	-0.42	9.24	
185+25.00	690.67	690.12	-0.55	8.71	
185+50.00	690.54	689.81	-0.73	8.15	
185+75.00	690.29	689.46	-0.83	7.59	
STRUCTURE NO. 10 & 11					
188+75.00	684.70	681.81	-2.89		DETAIL 2A
189+00.00	684.10	680.95	-3.15	7.10	
189+25.00	683.46	680.07	-3.39	7.10	
189+50.00	682.78	679.20	-3.58	7.10	
189+75.00	682.05	678.32	-3.73	7.10	
190+00.00	681.29	677.56	-3.73	7.10	
190+25.00	680.49	676.79	-3.70	7.10	
190+50.00	679.64	676.03	-3.61	7.10	
190+75.00	678.77	675.27	-3.50	7.10	
191+00.00	677.89	674.51	-3.38	7.10	
191+25.00	677.02	673.74	-3.28	7.10	
191+50.00	676.14	672.98	-3.16	7.10	
191+75.00	675.15	672.24	-2.91	7.10	
192+00.00	674.09	671.56	-2.53	7.10	
192+25.00	673.10	670.87	-2.23	7.11	
192+50.00	672.10	670.12	-1.98	7.11	
192+75.00	671.08	669.37	-1.71	7.12	
193+00.00	670.05	668.62	-1.43	7.12	DETAIL 2B
193+25.00	669.05	667.85	-1.20	7.13	

NOTE:
SEE PREVIOUS SHEET FOR BARRIER DETAILS

STATION	LEFT ELEVATION	RIGHT ELEVATION	ELEVATION DIFFERENCE	OUT TO OUT WIDTH	DETAIL USED
193+50.00	668.15	666.98	-1.17	7.14	DETAIL 2B
193+75.00	667.24	666.10	-1.14	7.16	
194+00.00	666.34	665.23	-1.11	7.16	
194+25.00	665.44	664.35	-1.09	7.18	
194+50.00	664.53	663.48	-1.05	7.19	
194+75.00	663.63	662.60	-1.03	7.22	
195+00.00	662.73	661.73	-1.00	7.23	
195+25.00	661.82	660.86	-0.96	7.25	
195+50.00	660.92	659.98	-0.94	7.27	
195+75.00	660.02	659.10	-0.92	7.29	
196+00.00	659.11	658.23	-0.88	7.31	
196+25.00	658.21	657.35	-0.86	7.34	
196+50.00	657.31	656.48	-0.83	7.36	
196+75.00	656.41	655.60	-0.81	7.39	
197+00.00	655.50	654.73	-0.77	7.41	
197+25.00	654.60	653.85	-0.75	7.45	
197+50.00	653.71	653.00	-0.71	7.47	
197+75.00	652.93	652.19	-0.74	7.51	
198+00.00	652.14	651.43	-0.71	7.53	
198+25.00	651.30	650.64	-0.66	7.57	
198+50.00	650.50	649.88	-0.62	7.60	
198+75.00	649.67	649.17	-0.50	7.64	
199+00.00	648.85	648.50	-0.35	7.68	
BEGIN INTERIM I.R. 90 EB STATIONING					
3000+00.00	648.18	648.00	-0.18	7.71	DETAIL 3A
3000+25.00	647.44	647.41	-0.03	7.66	
3000+50.00	646.76	646.79	0.03	7.58	
3000+75.00	646.12	646.22	0.10	7.51	
3001+00.00	645.52	645.77	0.25	7.42	
3001+25.00	644.95	645.35	0.40	7.35	
3001+50.00	644.41	644.98	0.57	7.27	
3001+75.00	643.91	644.62	0.71	7.20	
3002+00.00	643.44	644.26	0.82	7.12	
3002+25.00	643.01	643.90	0.89	7.04	
3002+50.00	642.66	643.54	0.88	6.98	
3002+75.00	642.39	643.19	0.80	6.97	
3003+00.00	642.11	642.84	0.73	7.01	
3003+25.00	641.85	642.52	0.67	7.11	
3003+50.00	641.64	642.21	0.57	7.25	
3003+75.00	641.48	641.81	0.33	5.70	DETAIL 3B
3004+00.00	641.30	641.38	0.08	3.59	
3004+25.00	640.98	640.99	0.01	3.00	
3004+50.00	640.62	640.67	0.05	3.00	
3004+75.00	640.17	640.37	0.20	3.00	
3005+00.00	639.71	640.08	0.37	3.00	
3005+25.00	639.24	639.78	0.54	3.00	
3005+50.00	638.78	639.49	0.71	3.00	
3005+75.00	638.38	639.19	0.81	3.00	
3006+00.00	638.15	638.90	0.75	3.00	
3006+25.00	637.99	638.60	0.61	3.00	
3006+50.00	637.89	638.34	0.45	3.00	
3006+75.00	637.86	638.13	0.27	3.00	
3007+00.00	637.88	638.00	0.12	3.00	
3007+25.00	637.96	637.92	-0.04	3.00	
3007+50.00	638.10	637.91	-0.19	3.00	
3007+75.00	638.31	637.96	-0.35	3.00	
3008+00.00	638.58	638.07	-0.51	3.00	
3008+25.00	638.88	638.28	-0.60	3.00	

STATION	LEFT ELEVATION	RIGHT ELEVATION	ELEVATION DIFFERENCE	OUT TO OUT WIDTH	DETAIL USED
3008+50.00	639.25	638.54	-0.71	3.00	DETAIL 3B
3008+75.00	639.68	638.88	-0.80	3.00	
3009+00.00	640.17	639.37	-0.80	3.00	
3009+25.00	640.73	639.88	-0.85	3.00	
3009+50.00	641.35	640.39	-0.96	3.00	
3009+75.00	642.02	640.97	-1.05	3.00	
3010+00.00	642.76	641.62	-1.14	3.00	
3010+25.00	643.60	642.32	-1.28	3.00	
3010+50.00	644.40	643.03	-1.37	3.00	
3010+75.00	645.12	643.77	-1.35	3.00	
3011+00.00	645.84	644.50	-1.34	3.00	
3011+25.00	646.49	645.17	-1.32	3.00	
3011+50.00	647.07	645.77	-1.30	3.00	
3011+75.00	647.58	646.30	-1.28	3.00	
3012+00.00	648.02	646.75	-1.27	3.00	
3012+25.00	648.39	647.13	-1.26	3.00	
3012+50.00	648.73	647.43	-1.30	3.00	
3012+75.00	648.96	647.67	-1.29	3.00	
3013+00.00	649.11	647.75	-1.36	3.00	
3013+25.00	649.19	647.45	-1.74	3.00	
3013+50.00	649.20	647.82	-1.38	3.00	
3013+75.00	649.14	647.76	-1.38	3.00	
3014+00.00	649.02	647.63	-1.39	3.09	

DESIGN AGENCY

BURGESS & NIPLE
100 WEST EIRE STREET
PAINESVILLE, OHIO 44077

DESIGNER

REVIEWER

PROJECT ID

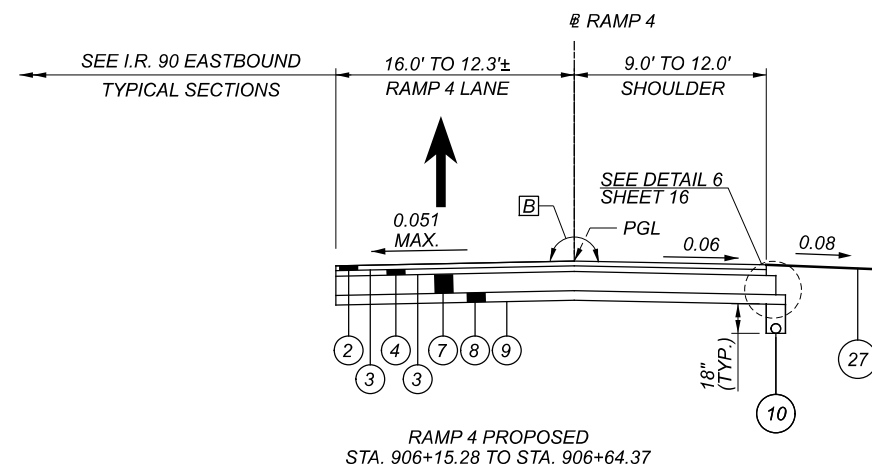
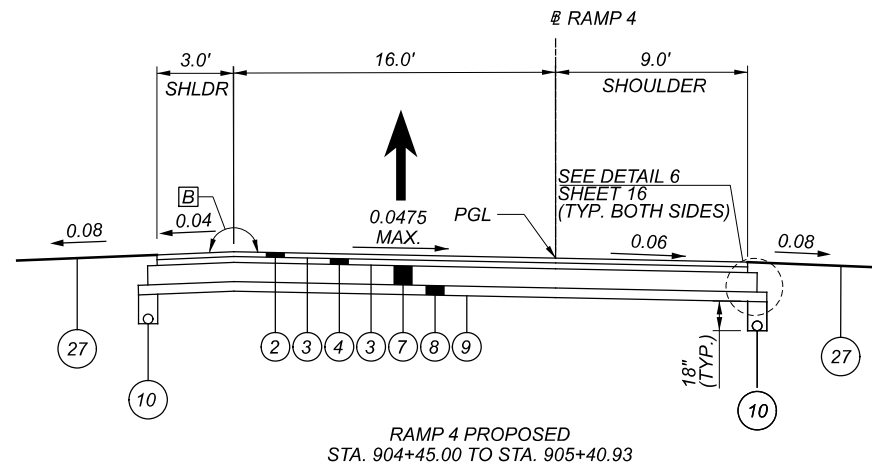
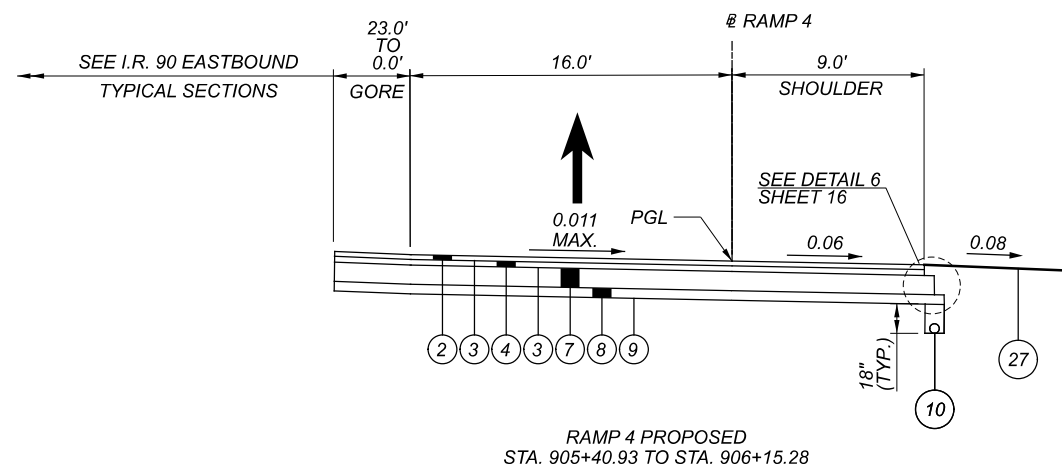
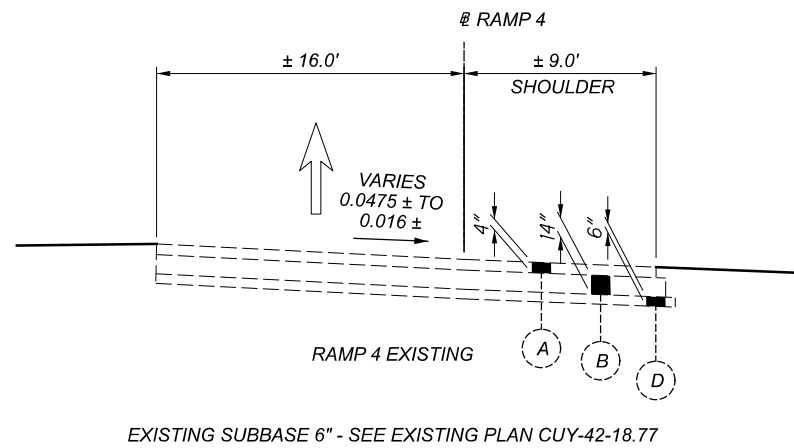
82382

SHEET

TOTAL

38 2339

PROPOSED TYPICAL SECTIONS
I.R. 90 MEDIAN BARRIER DETAILS



MAX. 0.070 BREAK

FOR LEGEND, SEE SHEET 15

EXISTING & PROPOSED TYPICAL SECTIONS
 RAMP 4

DESIGN AGENCY

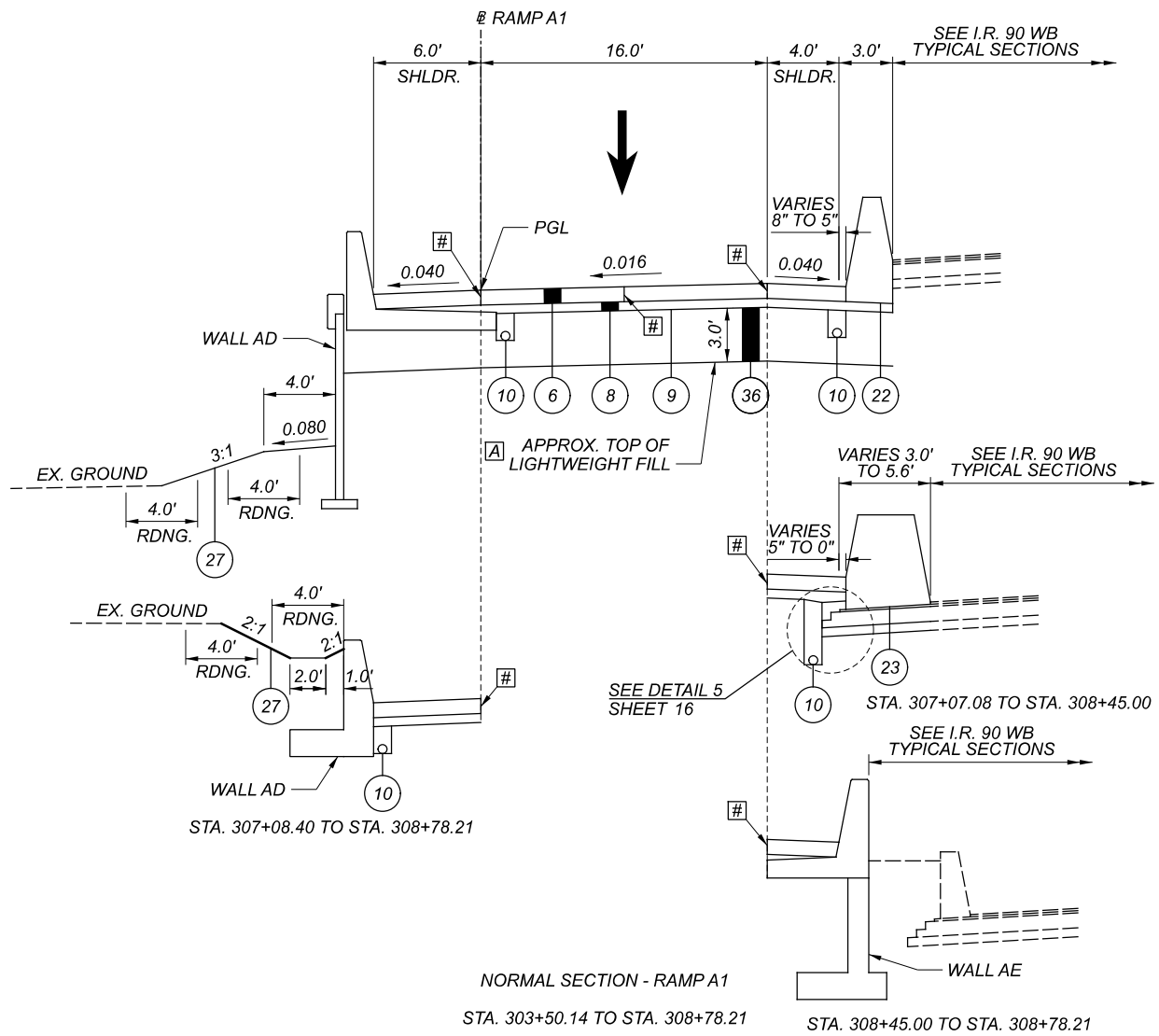
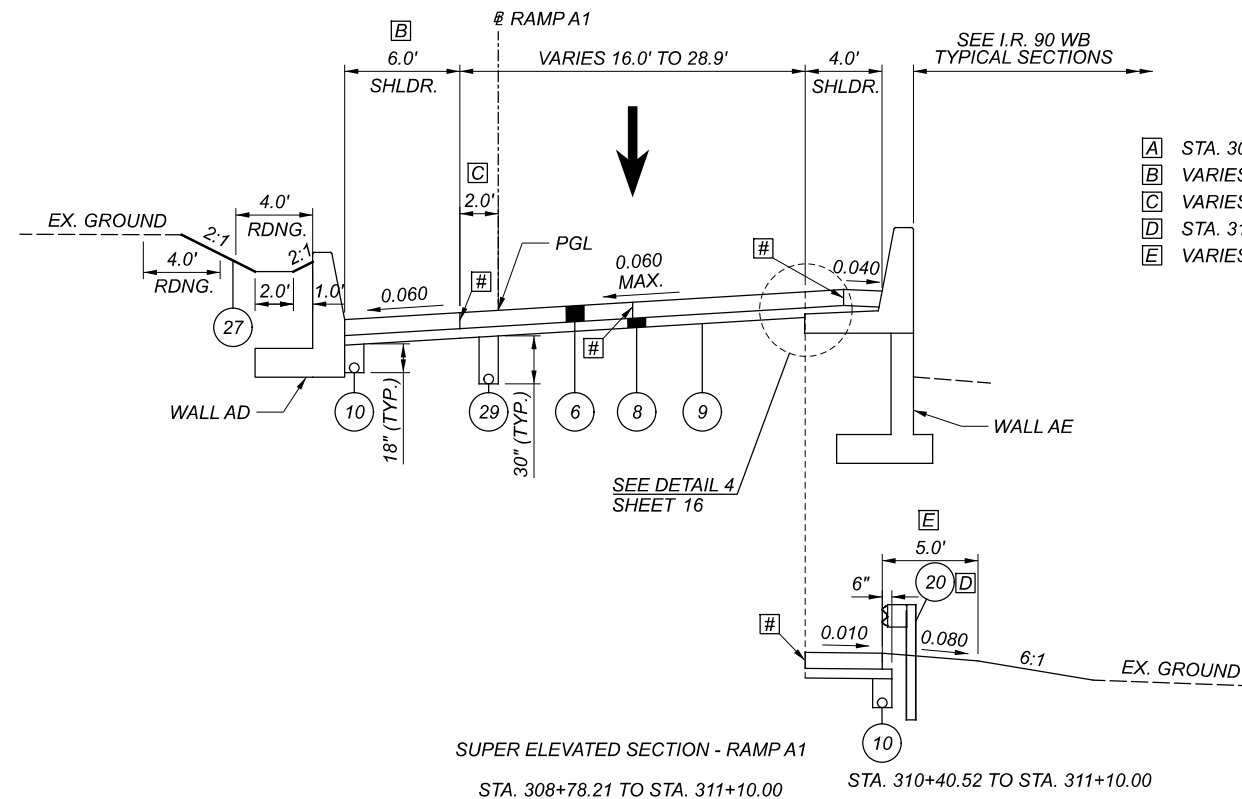
BURGESS & NIPLE
 100 WEST ERIE STREET
 PAINESVILLE, OHIO 44077

DESIGNER

REVIEWER

PROJECT ID
 82382

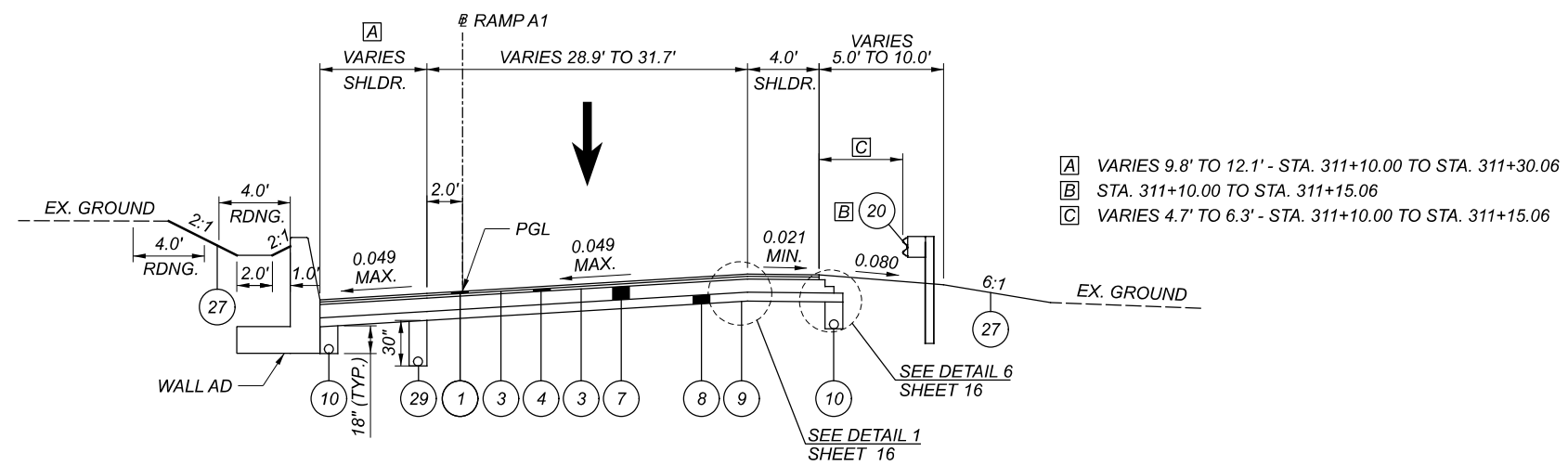
SHEET TOTAL
 39 2339



LONGITUDINAL JOINT PER BP-2.1
 SEE JOINT DETAILS FOR MORE INFORMATION
 FOR LEGEND, SEE SHEET 15

PROPOSED TYPICAL SECTIONS
 RAMP A1

DESIGN AGENCY	HR
DESIGNER	—
REVIEWER	—
PROJECT ID	82382
SHEET	40
TOTAL	2339



SUPER ELEVATED SECTION - RAMP A1

STA. 311+10.00 TO STA. 311+30.06

STA. 311+30.06 TO STA. 312+26.15
 - SEE INTERSECTION DETAILS

PROPOSED TYPICAL SECTIONS
 RAMP A1

DESIGN AGENCY



DESIGNER

REVIEWER

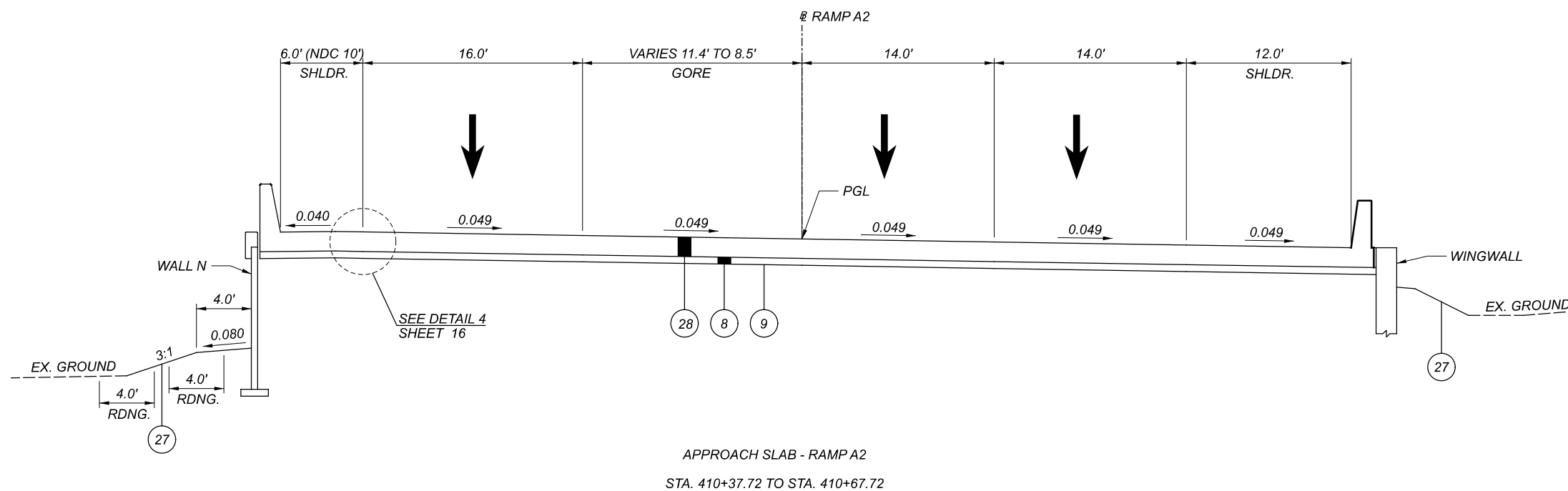
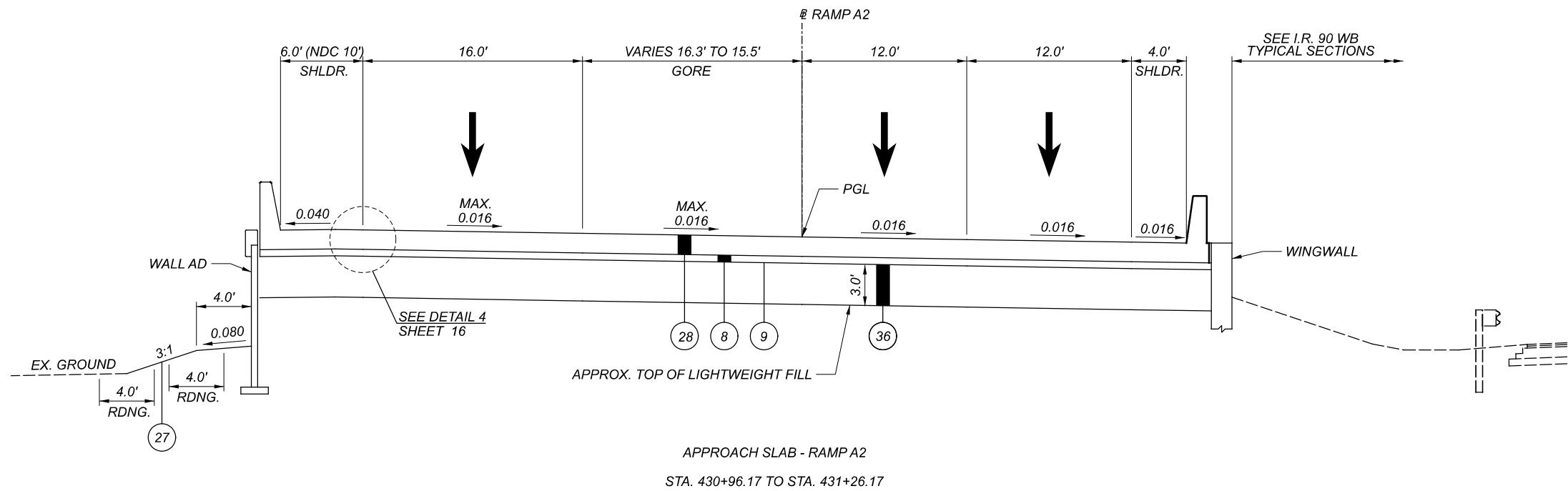
PROJECT ID

82382

SHEET TOTAL

41 2339

FOR LEGEND, SEE SHEET 15



PROPOSED TYPICAL SECTIONS
 RAMP A2

DESIGN AGENCY



DESIGNER

REVIEWER

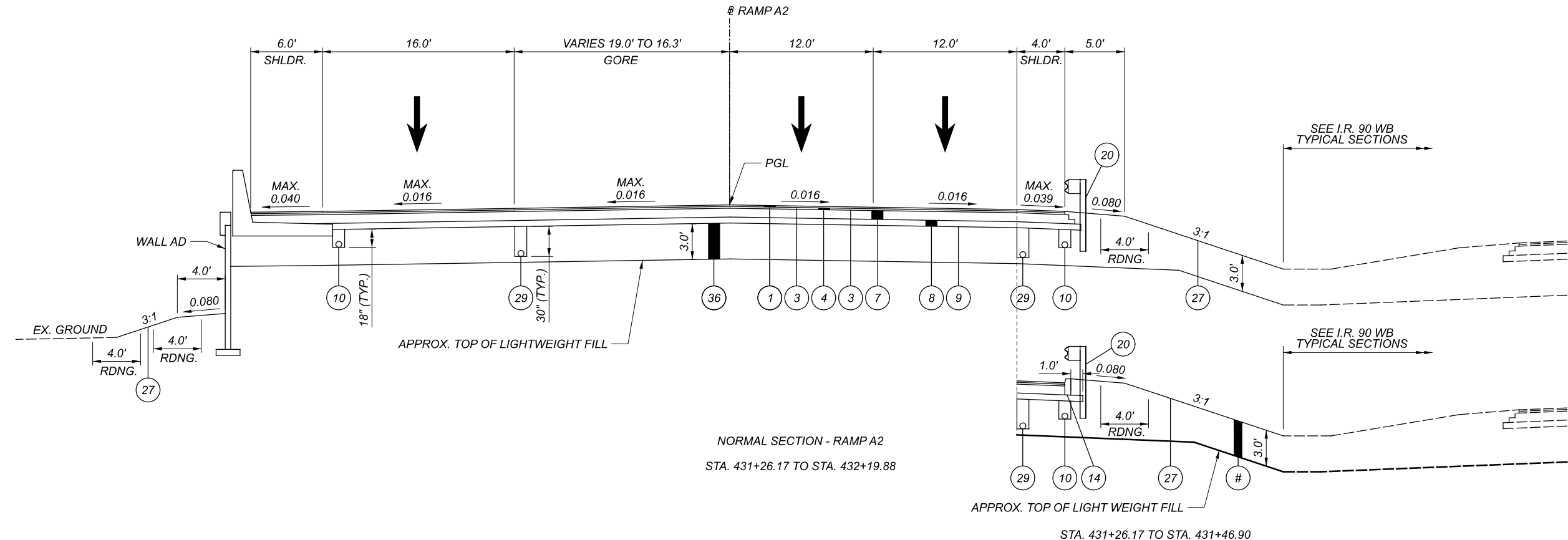
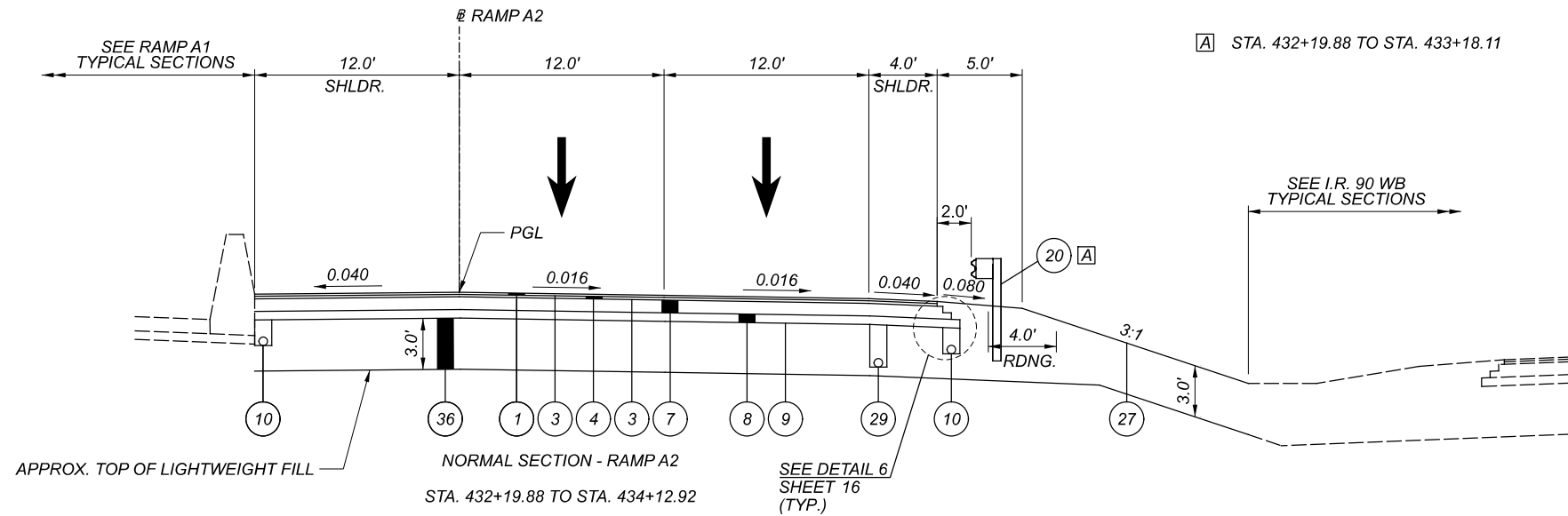
PROJECT ID

82382

SHEET TOTAL

43 2339

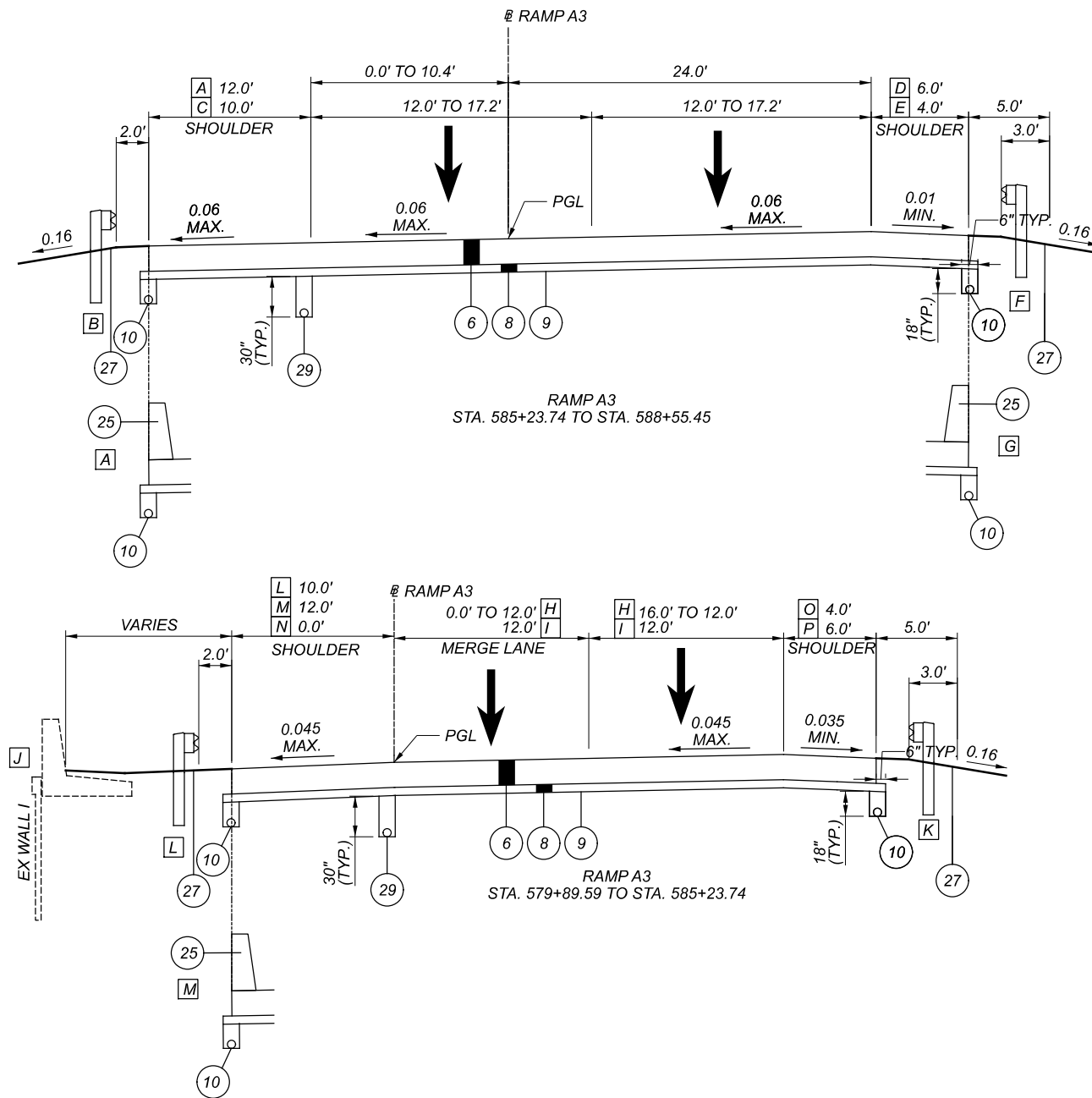
FOR LEGEND, SEE SHEET 15



PROPOSED TYPICAL SECTIONS
RAMP A2

DESIGN AGENCY	
DESIGNER	—
REVIEWER	—
PROJECT ID	82382
SHEET	44
TOTAL	2339

FOR LEGEND, SEE SHEET 15



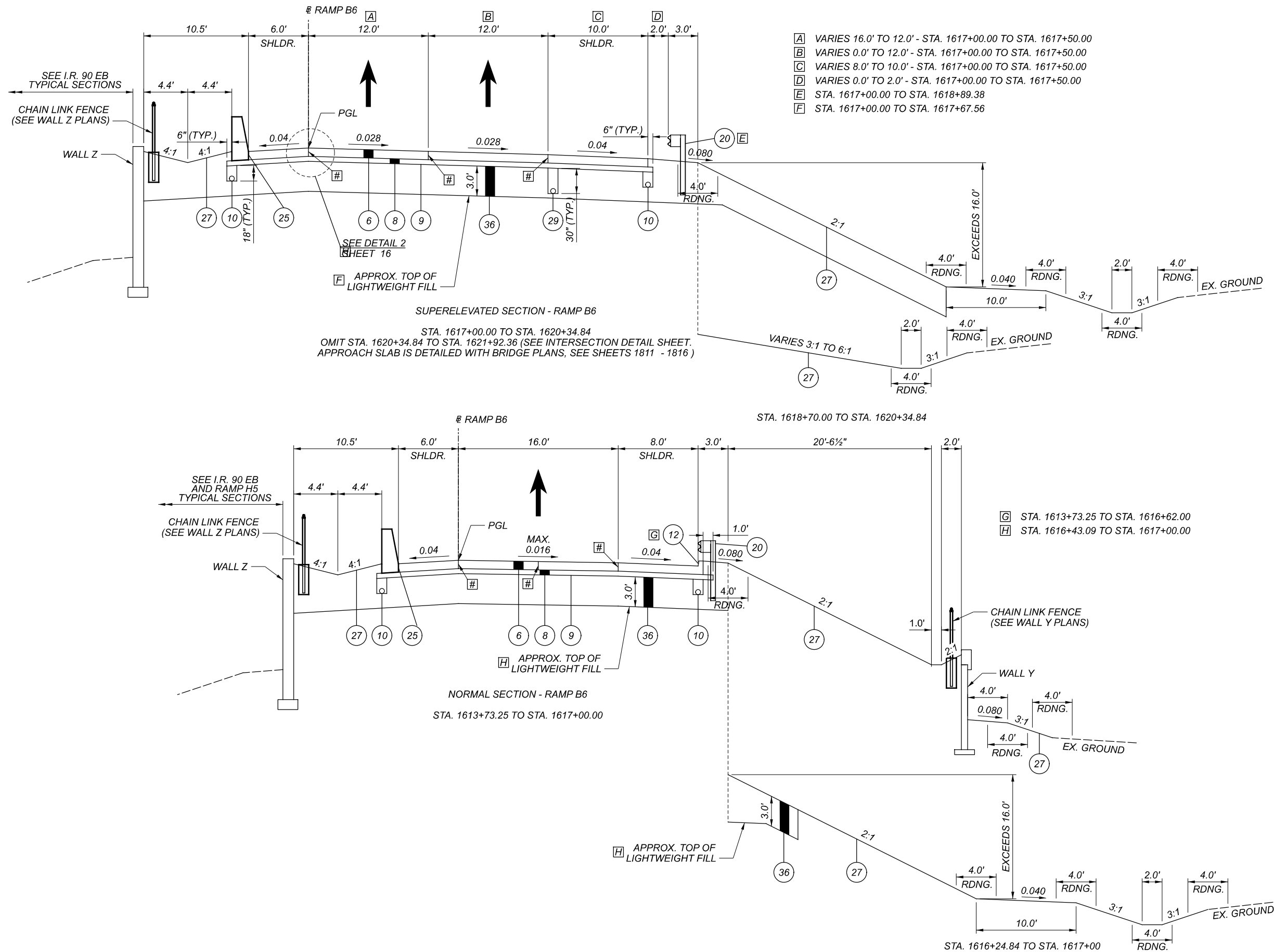
- A STA. 585+23.74 TO STA. 586+40.48
- B STA. 586+40.48 TO STA. 587+36.67
- C STA. 586+40.48 TO STA. 588+54.52
- D STA. 585+23.74 TO STA. 585+33.00
- E STA. 585+33.00 TO STA. 585+54.52
- F STA. 585+33.00 TO STA. 588+14.40
- G STA. 588+14.40 TO STA. 588+55.45

- H STA. 579+89.59 TO STA. 583+89.59
- I STA. 583+89.59 TO STA. 585+23.74
- J STA. 579+89.59 TO STA. 581+52.23
- K STA. 580+98.32 TO STA. 584+35.00
- L STA. 579+89.59 TO STA. 584+05.00
- M STA. 584+89.00 TO STA. 585+23.74
- N STA. 584+05.00 TO STA. 585+23.74
- O STA. 579+89.59 TO STA. 584+35.00
- P STA. 584+35.00 TO STA. 585+23.74

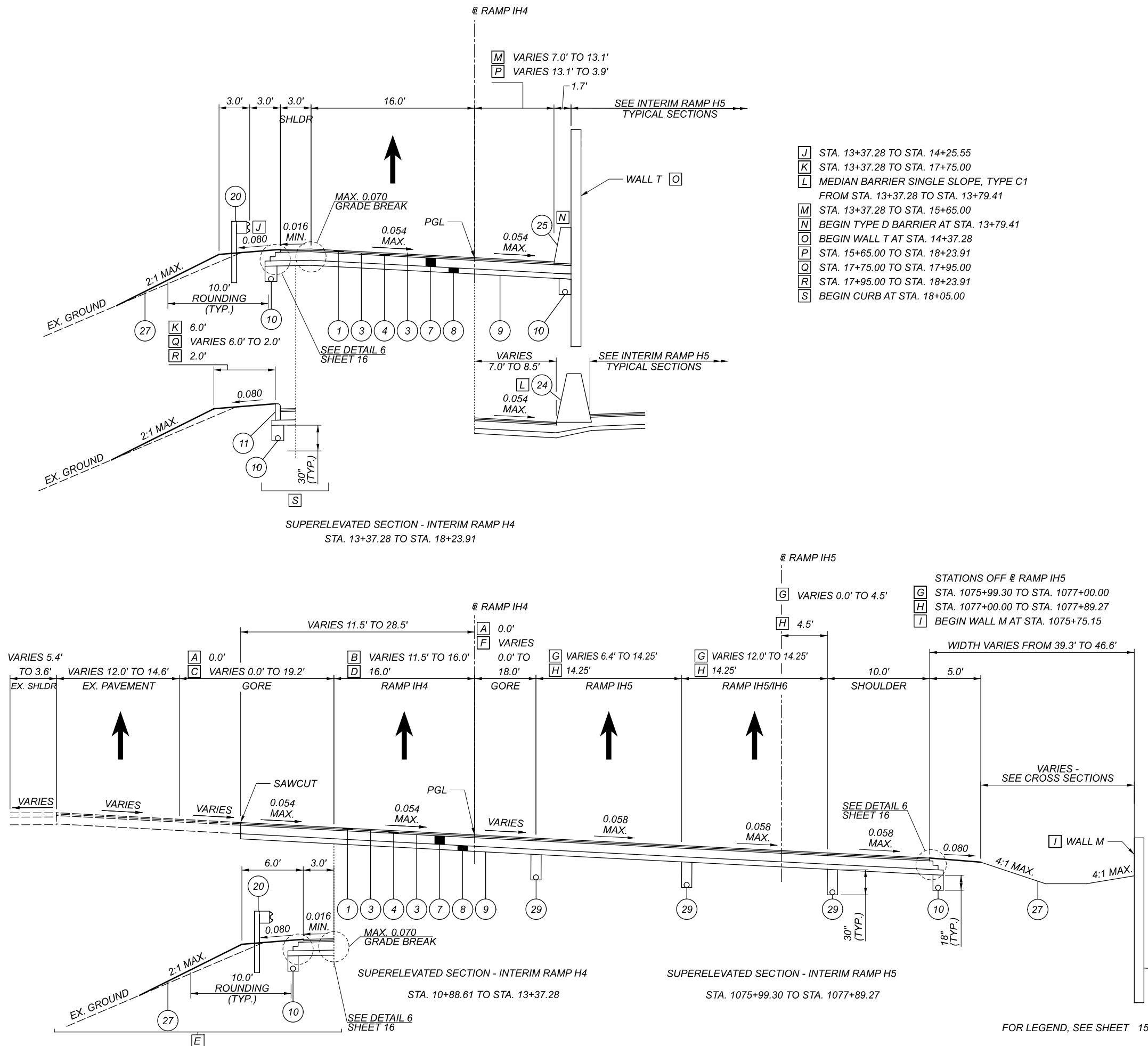
FOR LEGEND, SEE SHEET 15

PROPOSED TYPICAL SECTIONS
 RAMP A3

DESIGN AGENCY	
BURGESS & NIPLÉ	
100 WEST ERIE STREET PAINESVILLE, OHIO 44077	
DESIGNER	--
REVIEWER	--
PROJECT ID	82382
SHEET	45
TOTAL	2339



- STATIONS OFF @ RAMP IH4
- A STA. 10+86.61 TO STA. 11+35.71
 - B STA. 10+88.28 TO STA. 12+56.72
 - C STA. 11+35.71 TO STA. 13+05.43
 - D STA. 12+56.72 TO STA. 13+37.28
 - E STA. 13+05.43 TO STA. 13+37.28
 - F STA. 11+35.71 TO STA. 13+37.28



- J STA. 13+37.28 TO STA. 14+25.55
- K STA. 13+37.28 TO STA. 17+75.00
- L MEDIAN BARRIER SINGLE SLOPE, TYPE C1 FROM STA. 13+37.28 TO STA. 13+79.41
- M STA. 13+37.28 TO STA. 15+65.00
- N BEGIN TYPE D BARRIER AT STA. 13+79.41
- O BEGIN WALL T AT STA. 14+37.28
- P STA. 15+65.00 TO STA. 18+23.91
- Q STA. 17+75.00 TO STA. 17+95.00
- R STA. 17+95.00 TO STA. 18+23.91
- S BEGIN CURB AT STA. 18+05.00

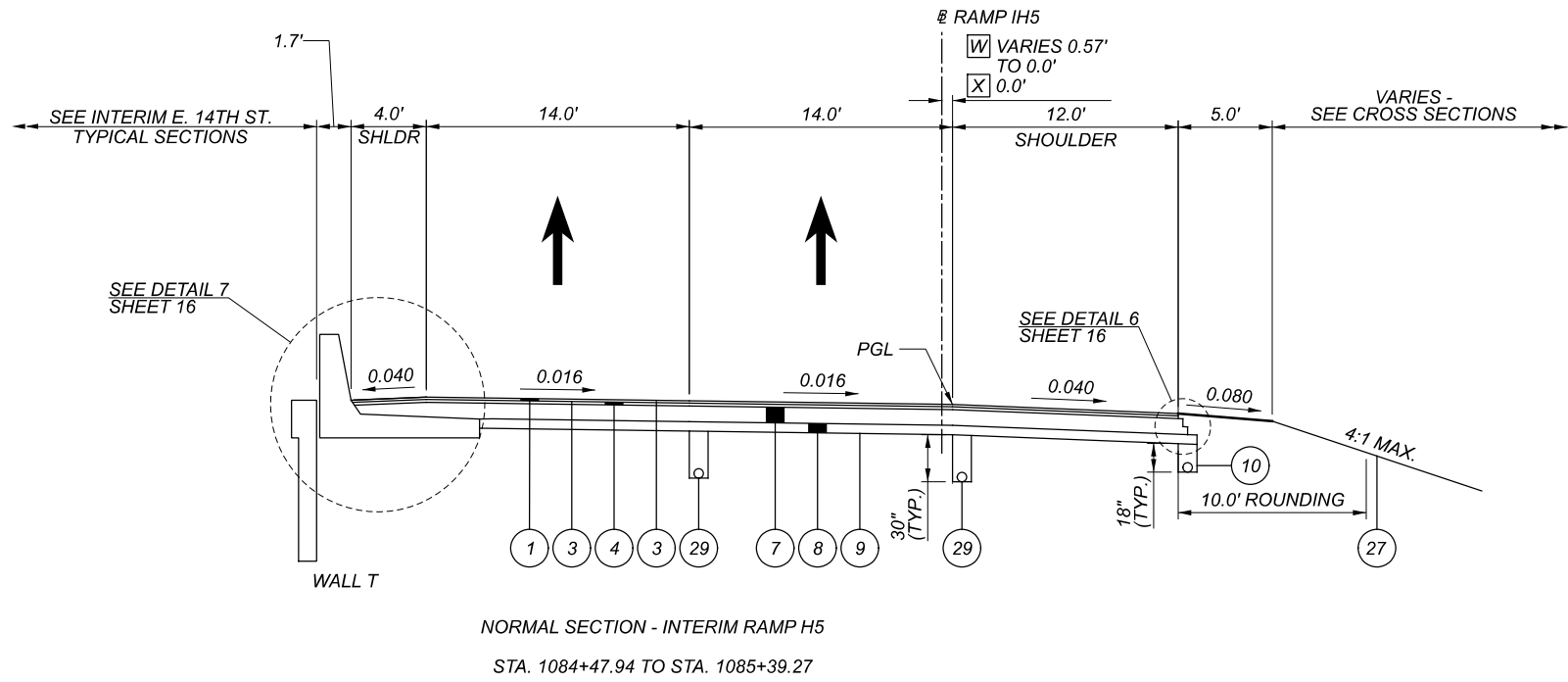
- STATIONS OFF @ RAMP IH5
- G STA. 1075+99.30 TO STA. 1077+00.00
 - H STA. 1077+00.00 TO STA. 1077+89.27
 - I BEGIN WALL M AT STA. 1075+75.15

FOR LEGEND, SEE SHEET 15

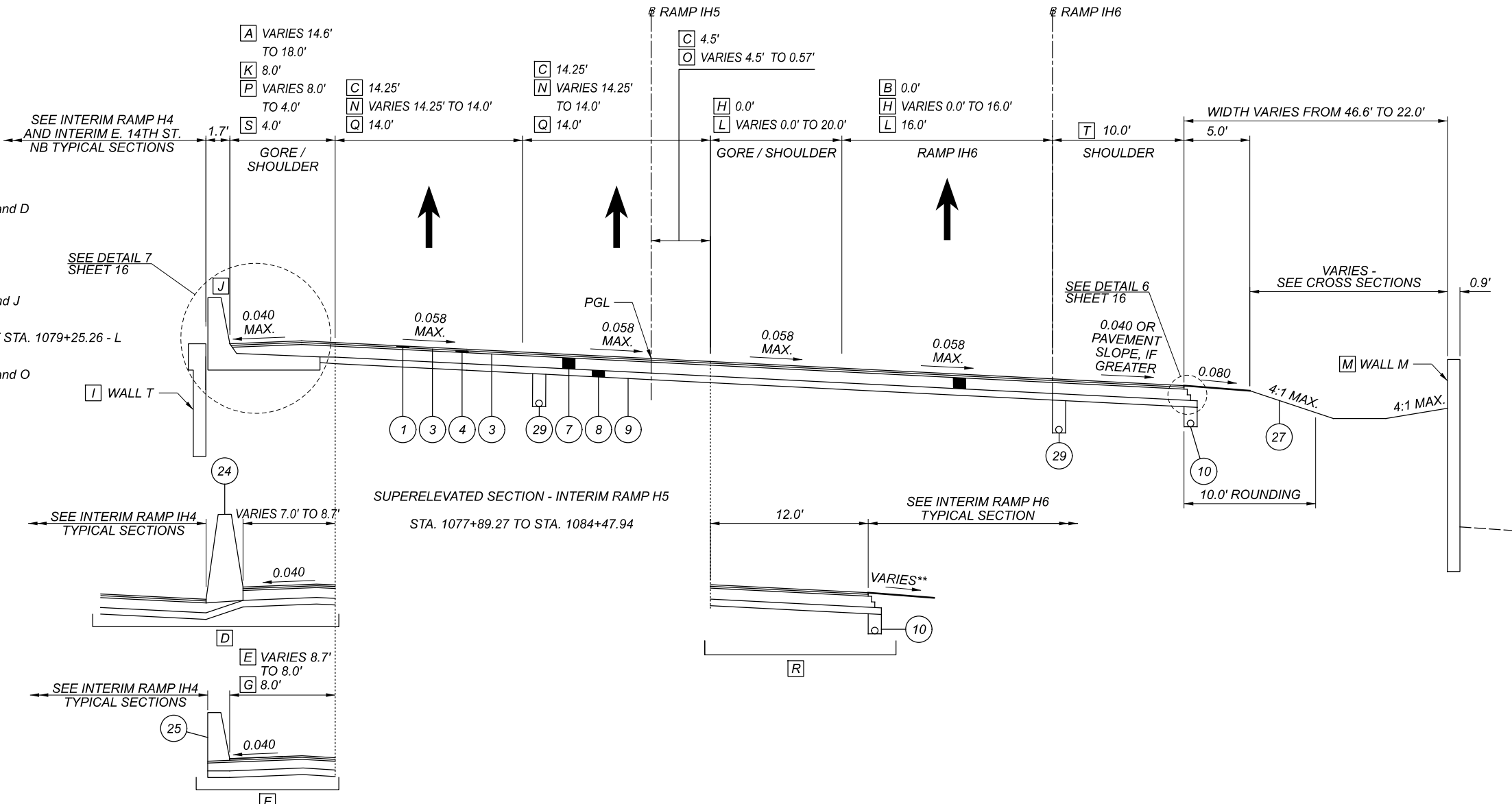
PROPOSED TYPICAL SECTIONS
 RAMP IH4 & RAMP IH5

DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	—
REVIEWER	—
PROJECT ID	82382
SHEET	50
TOTAL	2339

- W STA. 1084+47.94 TO STA. 1084+70.00
- X STA. 1084+70.00 TO STA. 1085+39.27



- A STA. 1077+89.27 TO STA. 1078+31.57 - A
- B STA. 1077+89.27 TO STA. 1079+11.22 - B
- C STA. 1077+89.27 TO STA. 1082+96.21 - C and D
- D STA. 1078+31.57 TO STA. 1078+71.28 - E
- E STA. 1078+71.28 TO STA. 1078+88.50 - F
- F STA. 1078+88.50 TO STA. 1079+25.26 - G
- G STA. 1078+88.50 TO STA. 1079+25.26 - H
- H STA. 1079+11.22 TO STA. 1082+04.39 - I and J
- J BEGIN WALL T AT STA. 1079+25.26 - K
- K STA. 1079+25.26 TO STA. 1083+15.52 - M
- L STA. 1082+04.39 TO STA. 1083+68.08 - N and O
- M END WALL M AT STA. 1082+49.99 - P
- N STA. 1082+96.21 TO STA. 1083+15.52 - Q
- O STA. 1082+96.21 TO STA. 1084+47.94 - R
- P STA. 1083+15.52 TO STA. 1084+13.98 - S
- Q STA. 1083+15.52 TO STA. 1084+47.94 - T
- R STA. 1083+68.08 TO STA. 1084+47.94 - U
- S STA. 1084+13.98 TO STA. 1084+47.94 - V
- T STA. 1077+89.27 TO STA. 1083+68.08

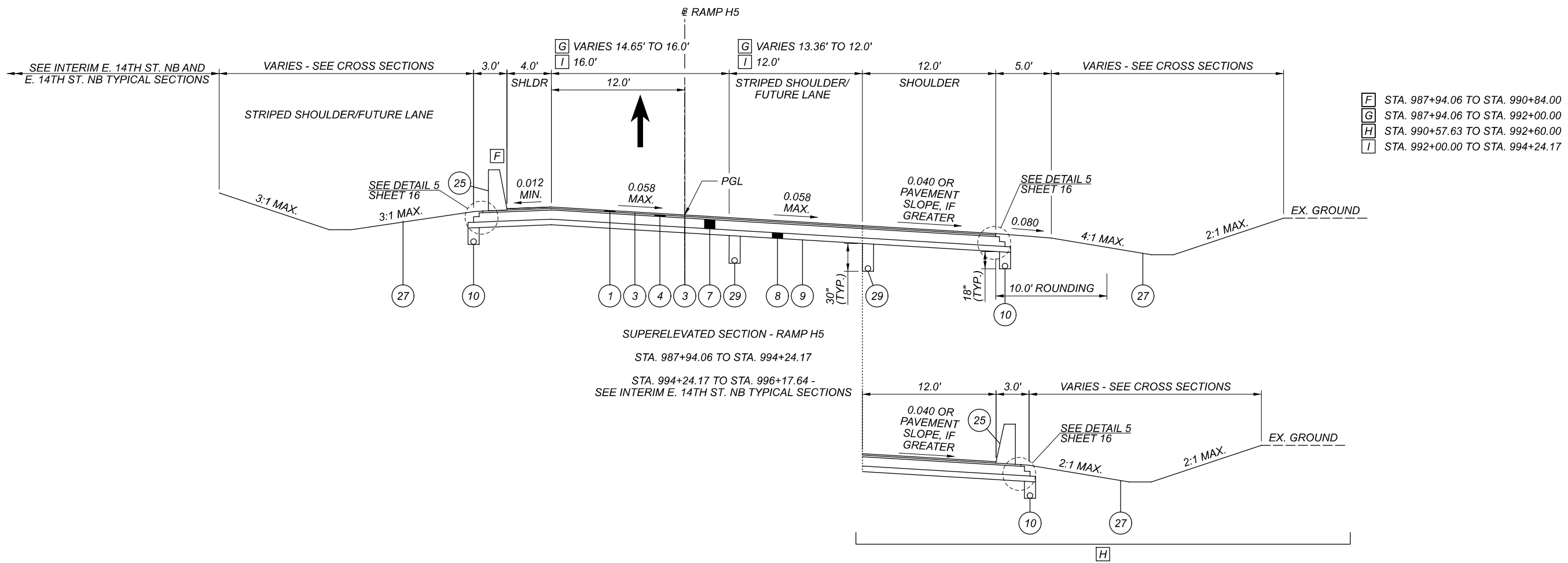


** SEE DETAIL 6, SHEET 16

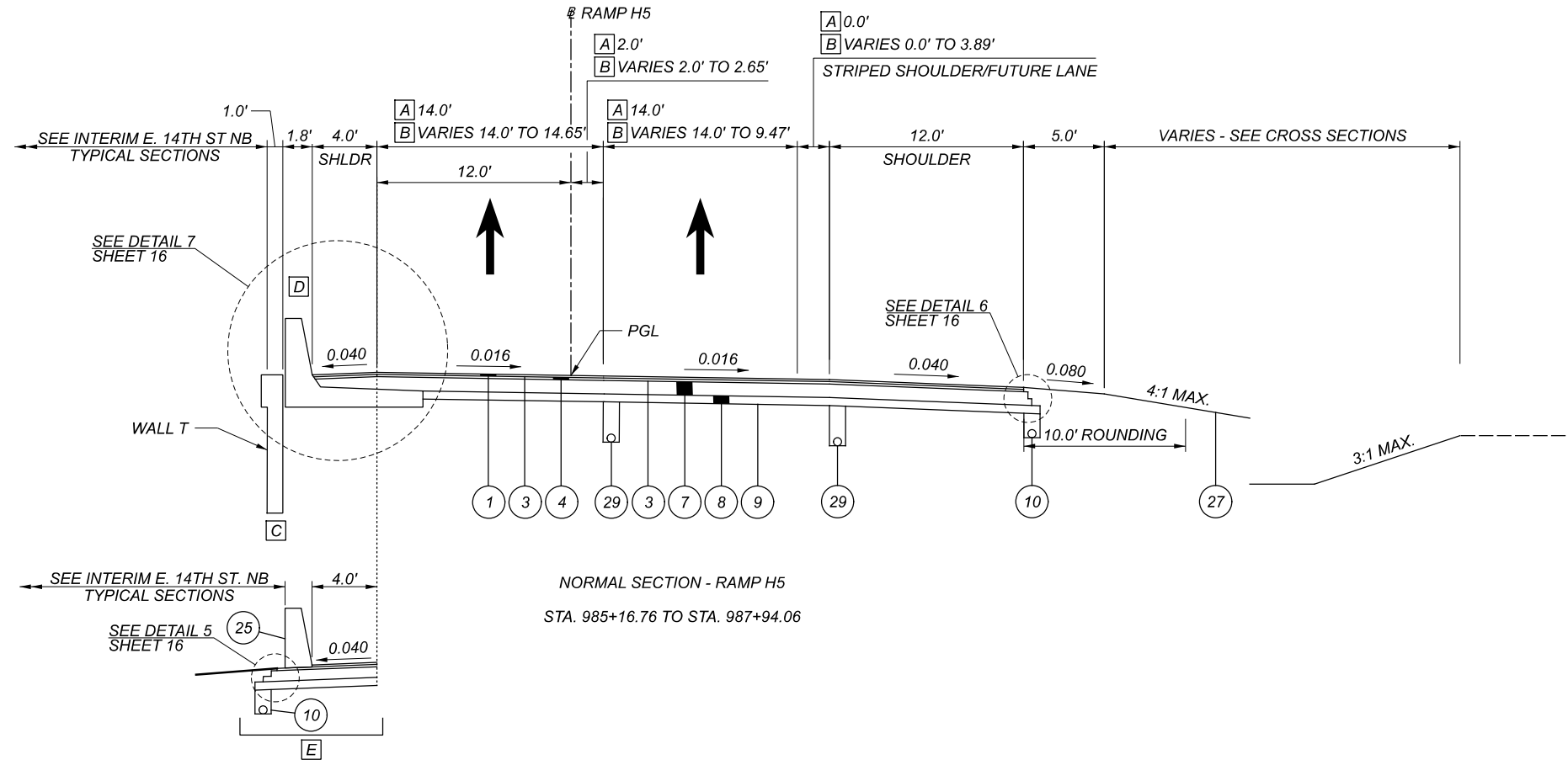
PROPOSED TYPICAL SECTIONS
RAMP IH5

DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	—
REVIEWER	—
PROJECT ID	82382
SHEET	51
TOTAL	2339

FOR LEGEND, SEE SHEET 15



- [F] STA. 987+94.06 TO STA. 990+84.00
- [G] STA. 987+94.06 TO STA. 992+00.00
- [H] STA. 990+57.63 TO STA. 992+60.00
- [I] STA. 992+00.00 TO STA. 994+24.17

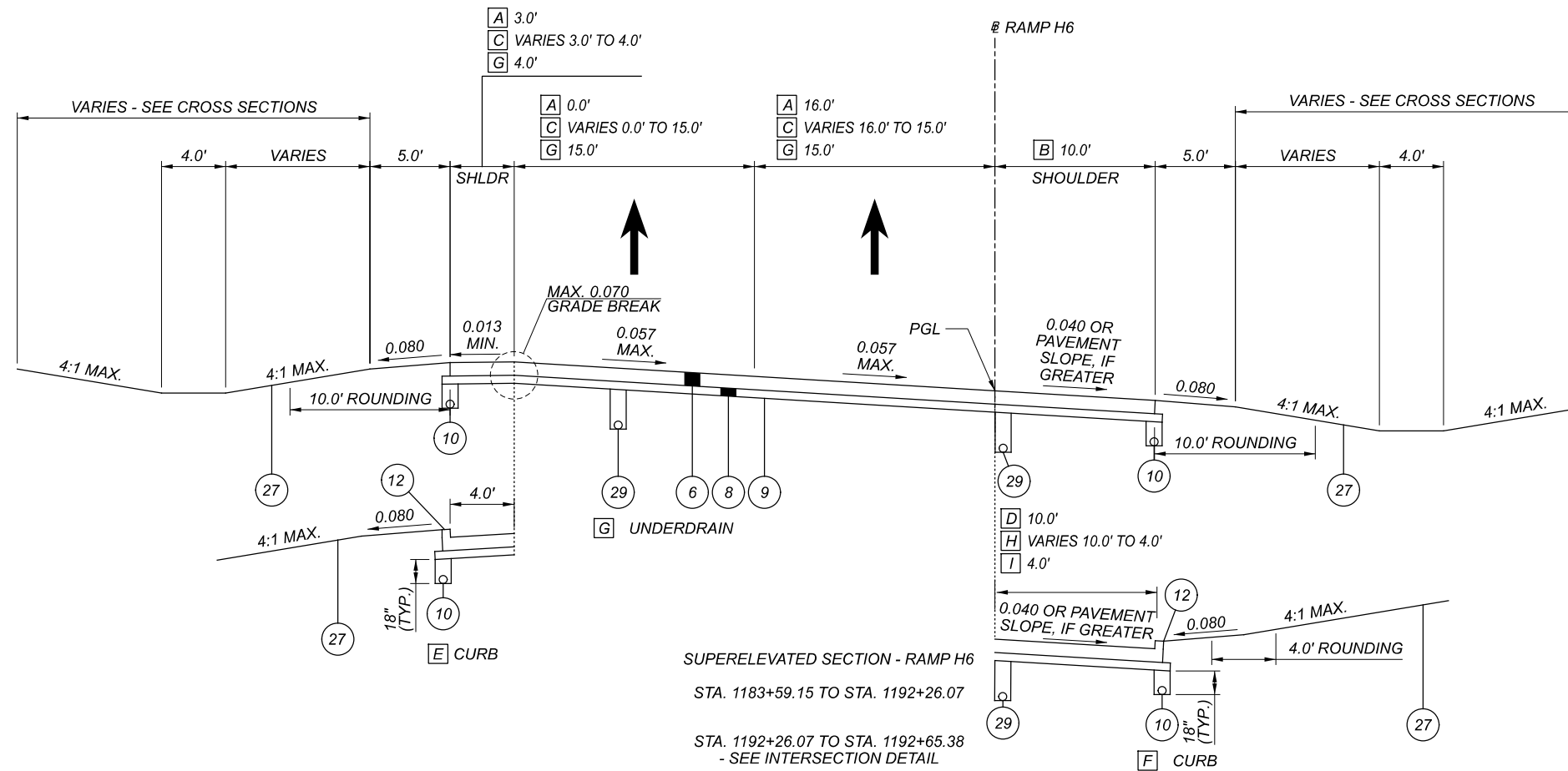


- [A] STA. 985+16.76 TO STA. 986+00.00
- [B] STA. 986+00.00 TO STA. 987+94.06
- [C] WALL T ENDS AT STA. 987+65.00
- [D] CONCRETE BARRIER WITH MOMENT SLAB ENDS AT STA. 987+65.00
- [E] STA. 987+65.00 TO STA. 987+94.06

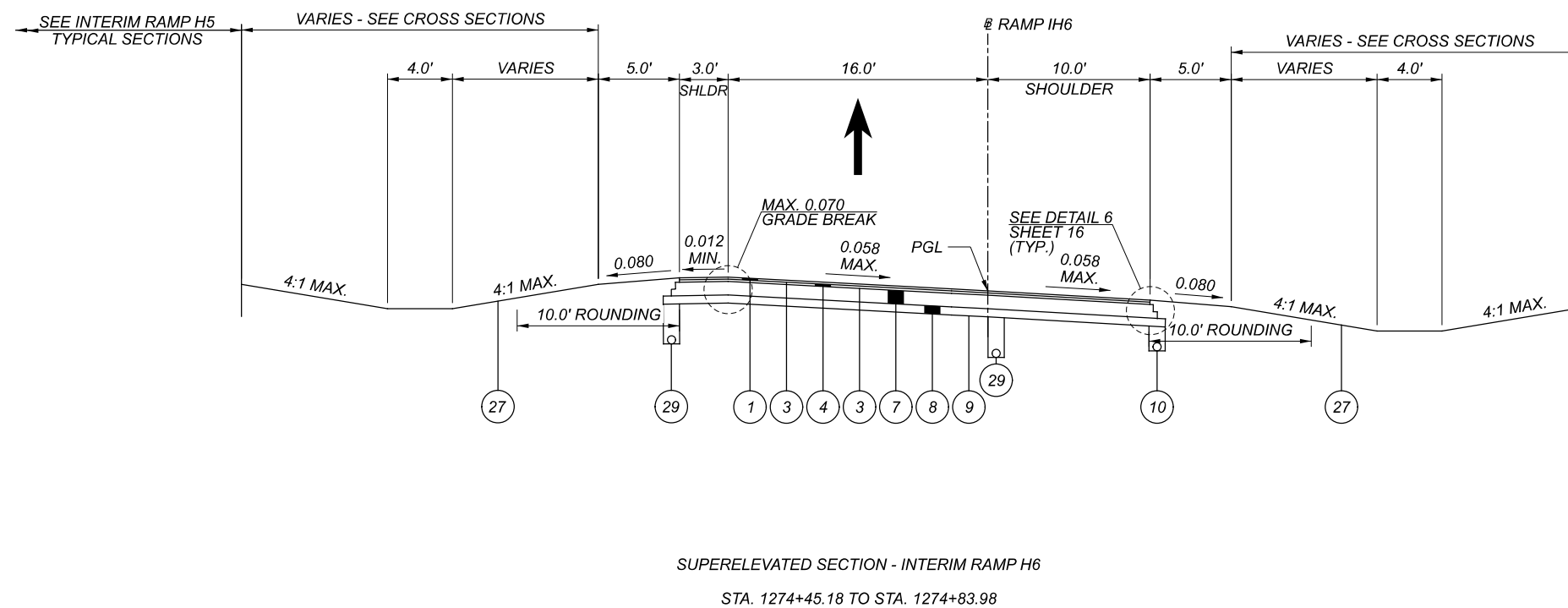
PROPOSED TYPICAL SECTIONS
 RAMP H5

DESIGN AGENCY	
Michael Baker INTERNATIONAL	
DESIGNER	
REVIEWER	
PROJECT ID	82382
SHEET	52
TOTAL	2339

FOR LEGEND, SEE SHEET 15



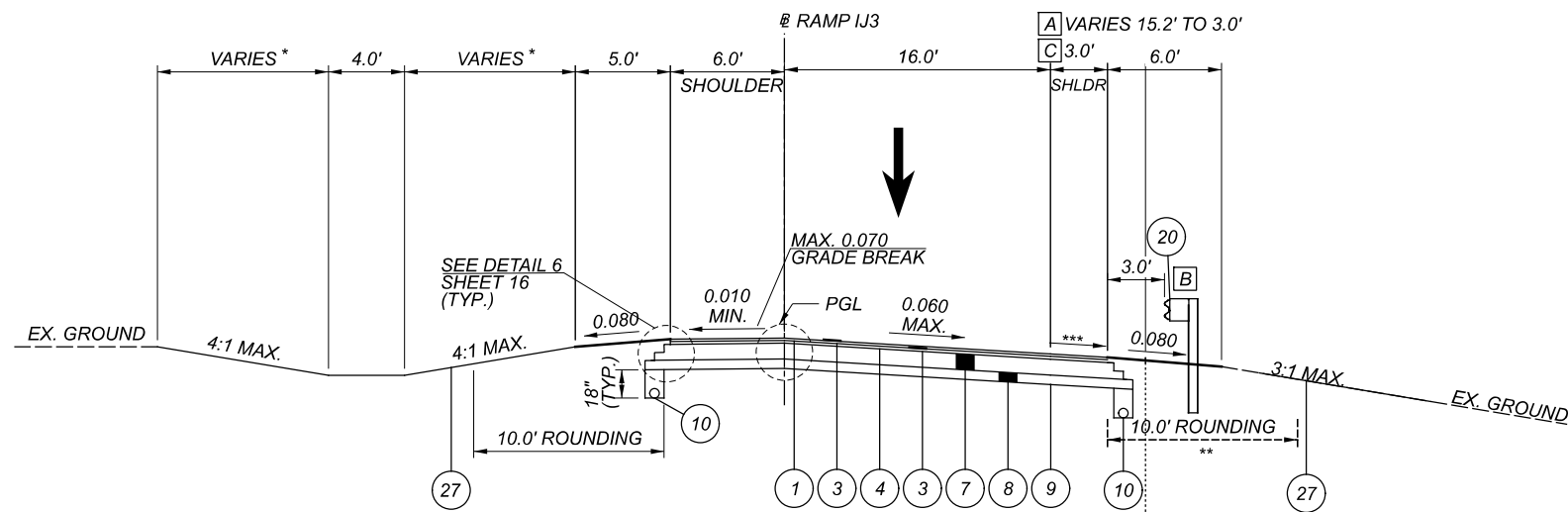
- A STA. 1183+59.15 TO STA. 1185+50.00
- B STA. 1183+59.15 TO STA. 1185+90.00
- C STA. 1185+50.00 TO STA. 1186+00.00
- D STA. 1185+90.00 TO STA. 1190+50.00
- E STA. 1192+15.00 TO STA. 1192+26.07
- F STA. 1185+90.00 TO STA. 1192+26.07
- G STA. 1186+00.00 TO STA. 1192+26.07
- H STA. 1190+50.00 TO STA. 1192+00.00
- I STA. 1192+00.00 TO STA. 1192+26.07



- NOTES:
- FOR RAMP IH6 TYPICAL SECTION DATA PRIOR TO STA. 1274+45.18, SEE RAMP IH5 TYPICAL SECTION.
 - STA. 1274+83.98 BK = END RAMP IH6
 = STA. 1183+59.15 AH = BEGIN RAMP H6

PROPOSED TYPICAL SECTIONS
 RAMPS IH6 & H6

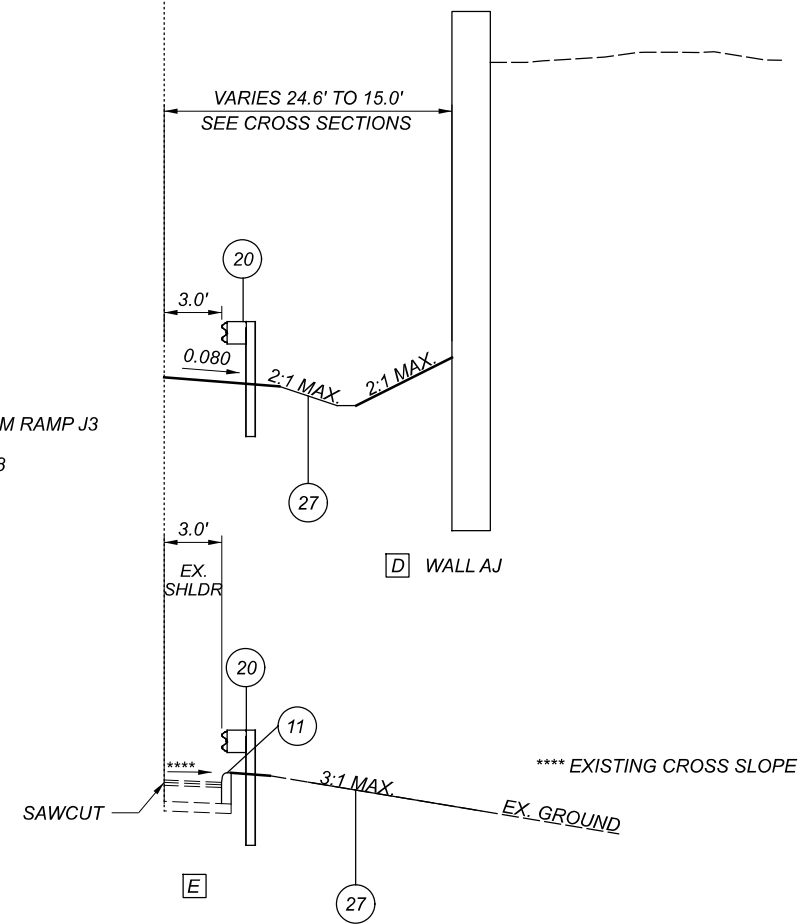
DESIGN AGENCY	
Michael Baker INTERNATIONAL	
DESIGNER	
REVIEWER	
PROJECT ID	82382
SHEET	53
TOTAL	2339



- A** STA. 101+89.00 TO STA. 102+86.50
- B** GUARDRAIL STA. 101+89.00 TO 102+16.52
BEGIN GUARDRAIL AT STA. 106+03.62
- C** STA. 102+86.50 TO STA. 106+85.18
- D** BEGIN WALL AJ AT STA. 105+30.00
- E** STA. 101+40.00 TO STA. 101+89.00

* SEE CROSS SECTIONS FOR DITCH GRADING
 ** 4.0' ROUNDING WHERE GUARDRAIL IS USED
 *** 0.040 OR PVMT SLOPE, IF GREATER

SUPERELEVATED RIGHT SECTION - INTERIM RAMP J3
 STA. 101+89.00 TO STA. 106+85.18



FOR LEGEND, SEE SHEET 15

PROPOSED TYPICAL SECTIONS
 RAMP IJ3

DESIGN AGENCY

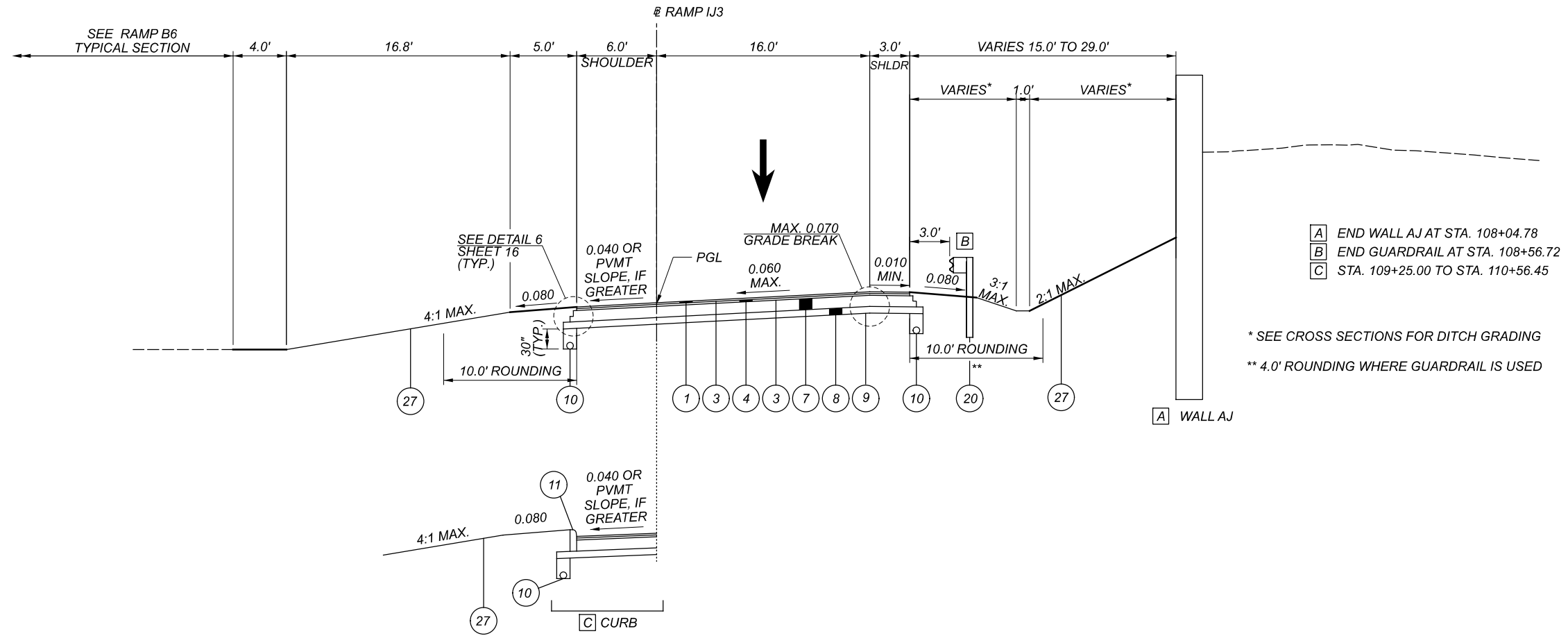
Michael Baker
 INTERNATIONAL

DESIGNER

REVIEWER

PROJECT ID
 82382

SHEET	TOTAL
54	2339



SUPERELEVATED LEFT SECTION - INTERIM RAMP IJ3
 STA. 106+85.18 TO STA. 110+56.45

- [A] END WALL AJ AT STA. 108+04.78
- [B] END GUARDRAIL AT STA. 108+56.72
- [C] STA. 109+25.00 TO STA. 110+56.45

* SEE CROSS SECTIONS FOR DITCH GRADING
 ** 4.0' ROUNDING WHERE GUARDRAIL IS USED

PROPOSED TYPICAL SECTIONS
 RAMP IJ3

DESIGN AGENCY

Michael Baker
 INTERNATIONAL

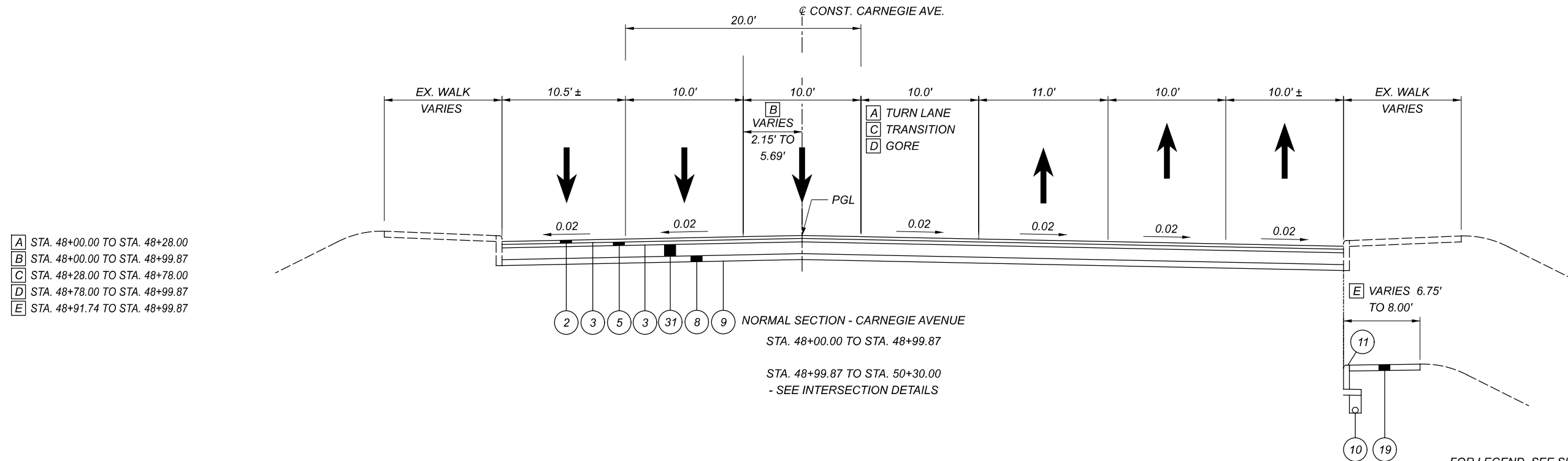
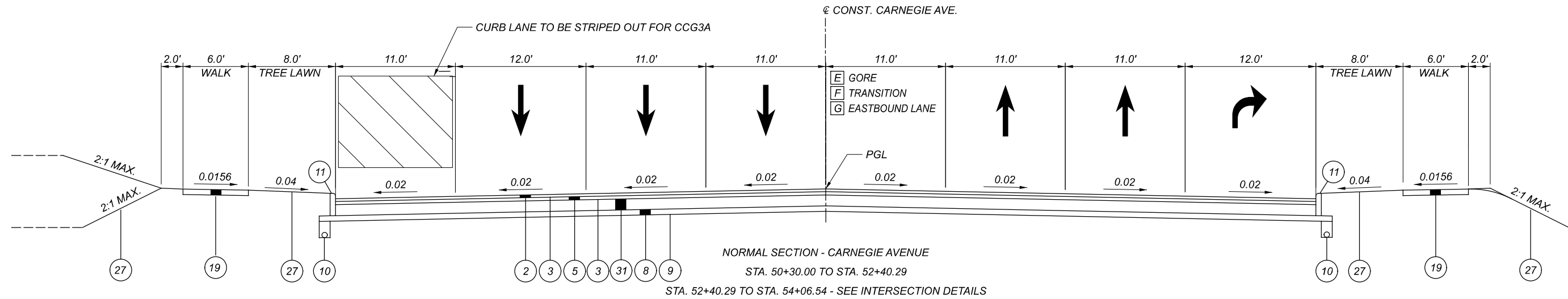
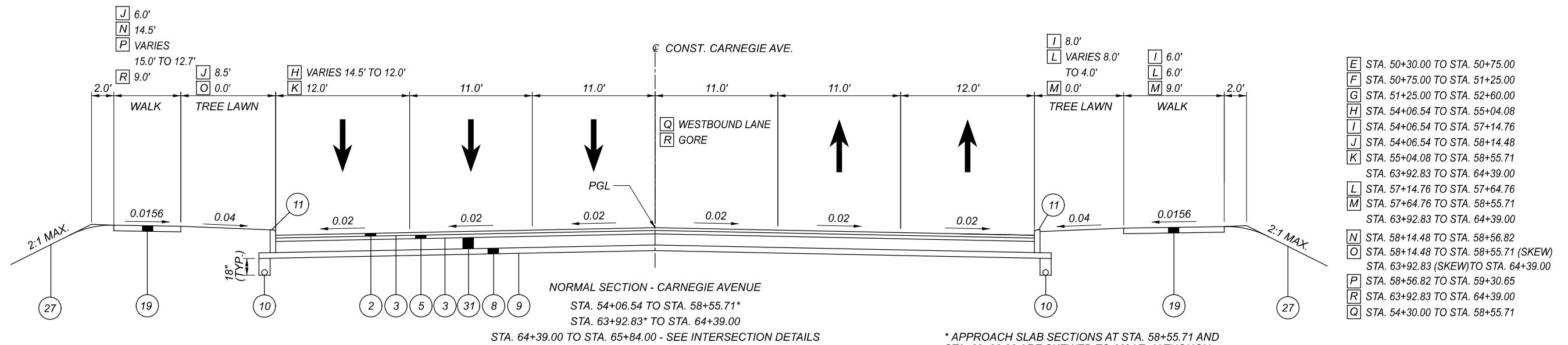
DESIGNER

REVIEWER

PROJECT ID
 82382

SHEET	TOTAL
55	2339

FOR LEGEND, SEE SHEET 15



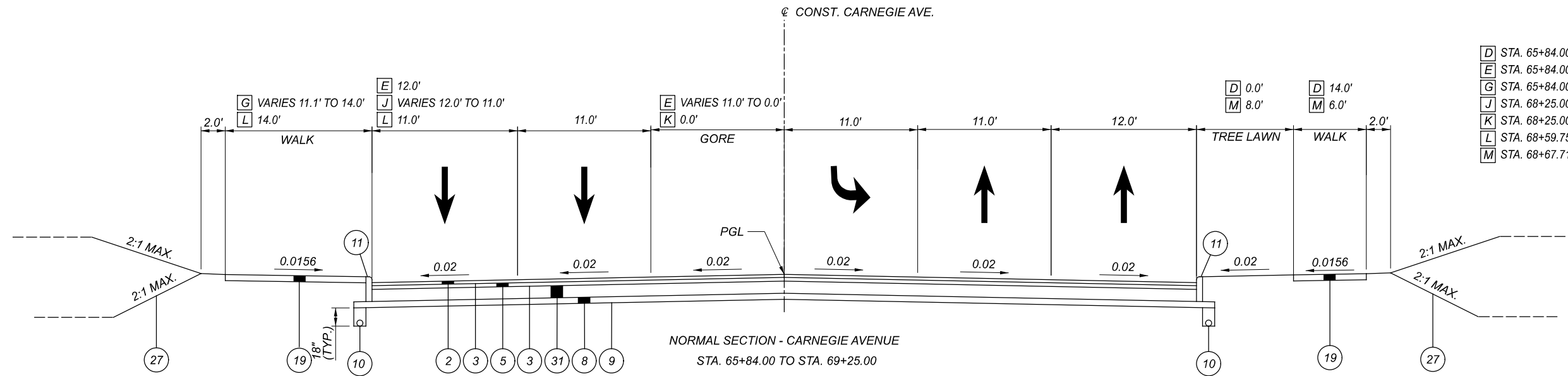
- A STA. 48+00.00 TO STA. 48+28.00
- B STA. 48+00.00 TO STA. 48+99.87
- C STA. 48+28.00 TO STA. 48+78.00
- D STA. 48+78.00 TO STA. 48+99.87
- E STA. 48+91.74 TO STA. 48+99.87

- E STA. 50+30.00 TO STA. 50+75.00
- F STA. 50+75.00 TO STA. 51+25.00
- G STA. 51+25.00 TO STA. 52+60.00
- H STA. 54+06.54 TO STA. 55+04.08
- I STA. 54+06.54 TO STA. 57+14.76
- J STA. 54+06.54 TO STA. 58+14.48
- K STA. 55+04.08 TO STA. 58+55.71
- L STA. 57+14.76 TO STA. 57+64.76
- M STA. 57+64.76 TO STA. 58+55.71
- N STA. 58+14.48 TO STA. 58+56.82
- O STA. 58+14.48 TO STA. 58+55.71 (SKEW)
- P STA. 58+56.82 TO STA. 59+30.65
- R STA. 63+92.83 TO STA. 64+39.00
- Q STA. 54+30.00 TO STA. 58+55.71

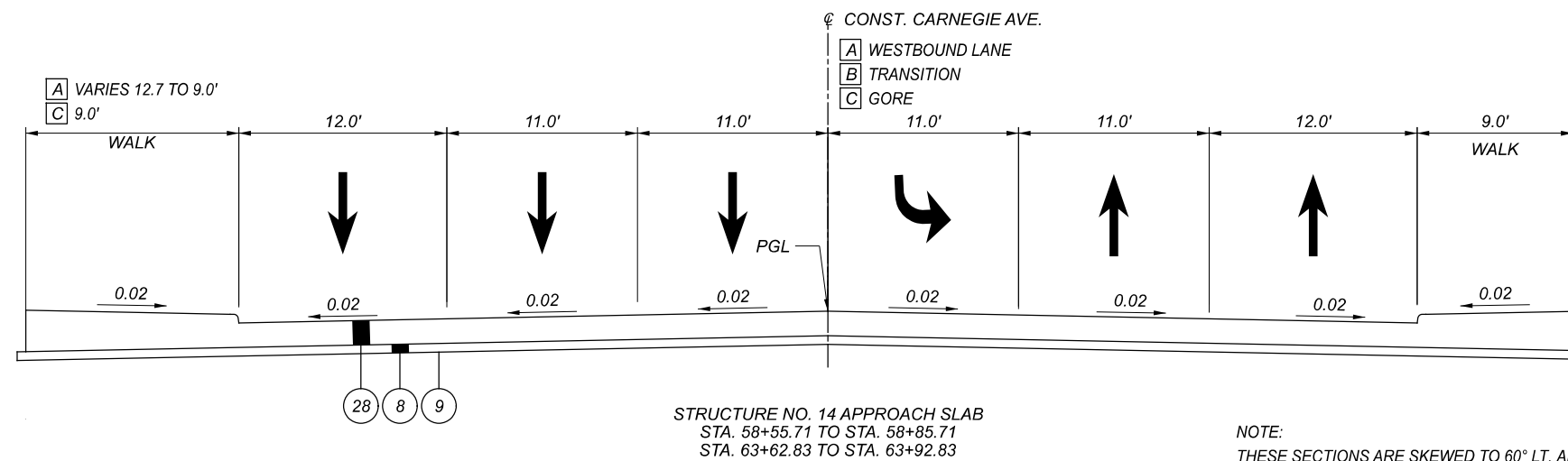
PROPOSED TYPICAL SECTIONS
 CARNEGIE AVE.

DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	—
REVIEWER	—
PROJECT ID	82382
SHEET	56
TOTAL	2339

FOR LEGEND, SEE SHEET 15



- D STA. 65+84.00 TO STA. 68+09.71
- E STA. 65+84.00 TO STA. 68+25.00
- G STA. 65+84.00 TO STA. 68+59.75
- J STA. 68+25.00 TO STA. 68+59.75
- K STA. 68+25.00 TO STA. 69+25.00
- L STA. 68+59.75 TO STA. 69+25.00
- M STA. 68+67.71 TO STA. 69+25.00



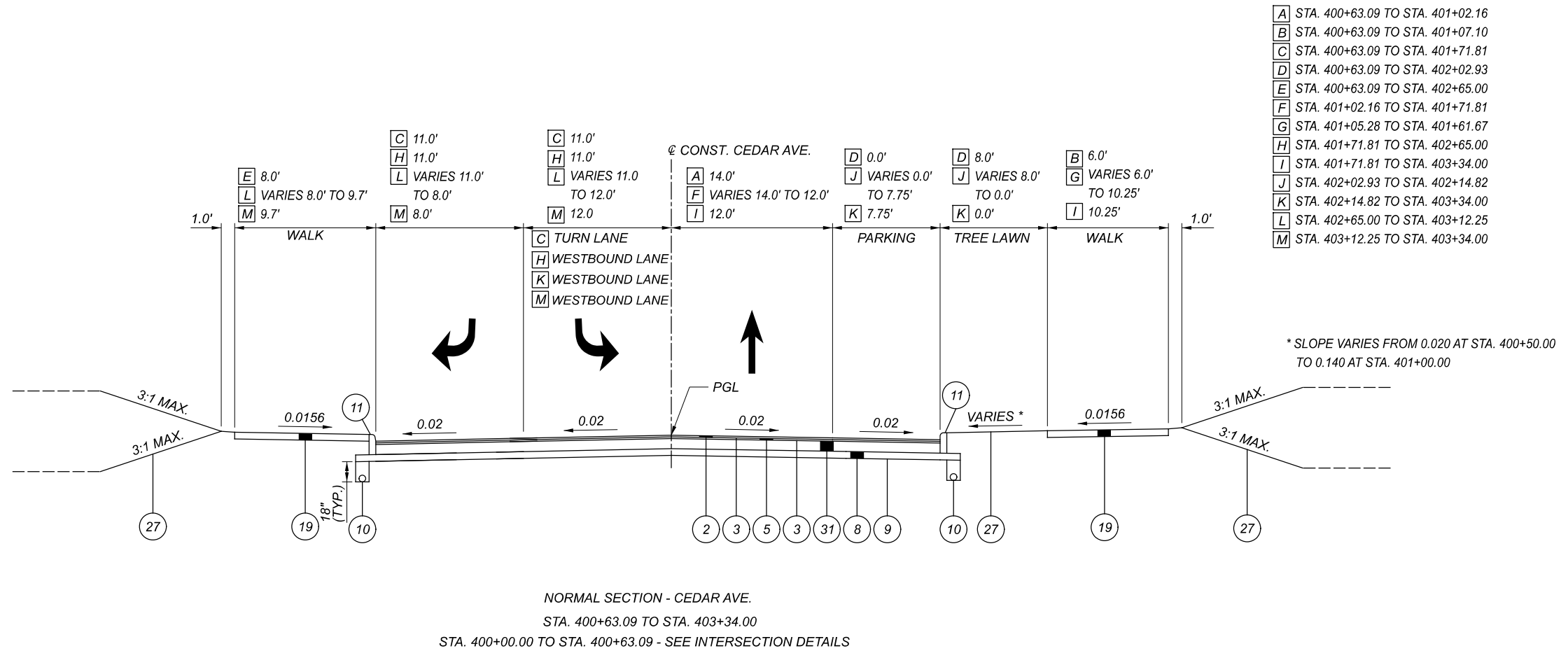
- A STA. 58+55.71 TO STA. 58+60.00
- B STA. 58+60.00 TO STA. 58+85.71
- C STA. 63+62.83 TO STA. 63+92.83

NOTE:
 THESE SECTIONS ARE SKEWED TO 60° LT, ALTHOUGH
 DIMENSIONS AND SLOPES SHOWN ARE MEASURED
 PERPENDICULAR TO CL.

PROPOSED TYPICAL SECTIONS
 CARNEGIE AVE.

DESIGN AGENCY	
Michael Baker INTERNATIONAL	
DESIGNER	—
REVIEWER	—
PROJECT ID	82382
SHEET	57
TOTAL	2339

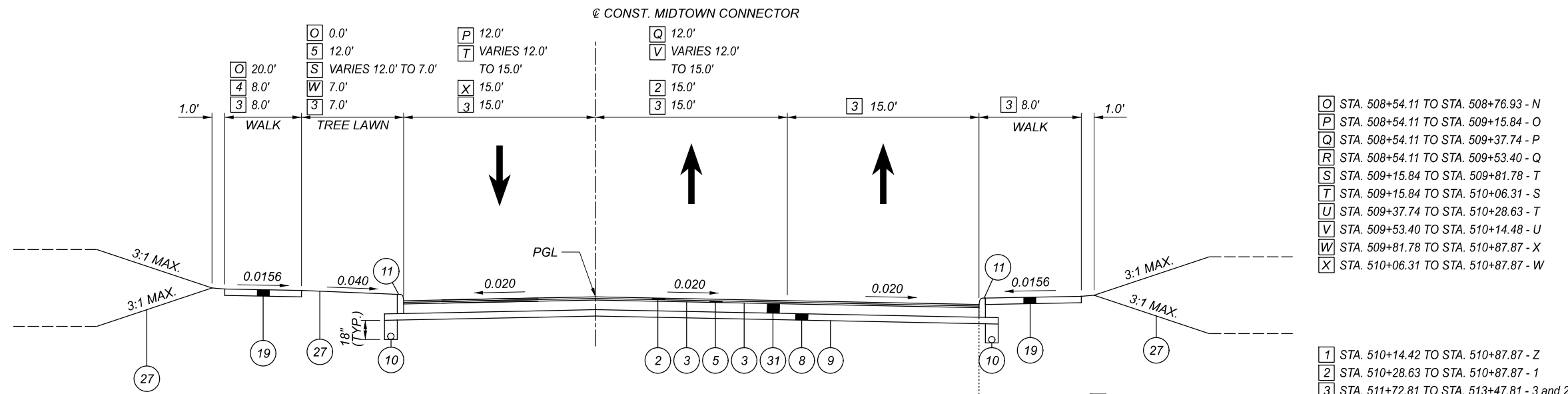
FOR LEGEND, SEE SHEET 15



PROPOSED TYPICAL SECTIONS
CEDAR AVE.

DESIGN AGENCY	
Michael Baker INTERNATIONAL	
DESIGNER	--
REVIEWER	--
PROJECT ID	82382
SHEET	58
TOTAL	2339

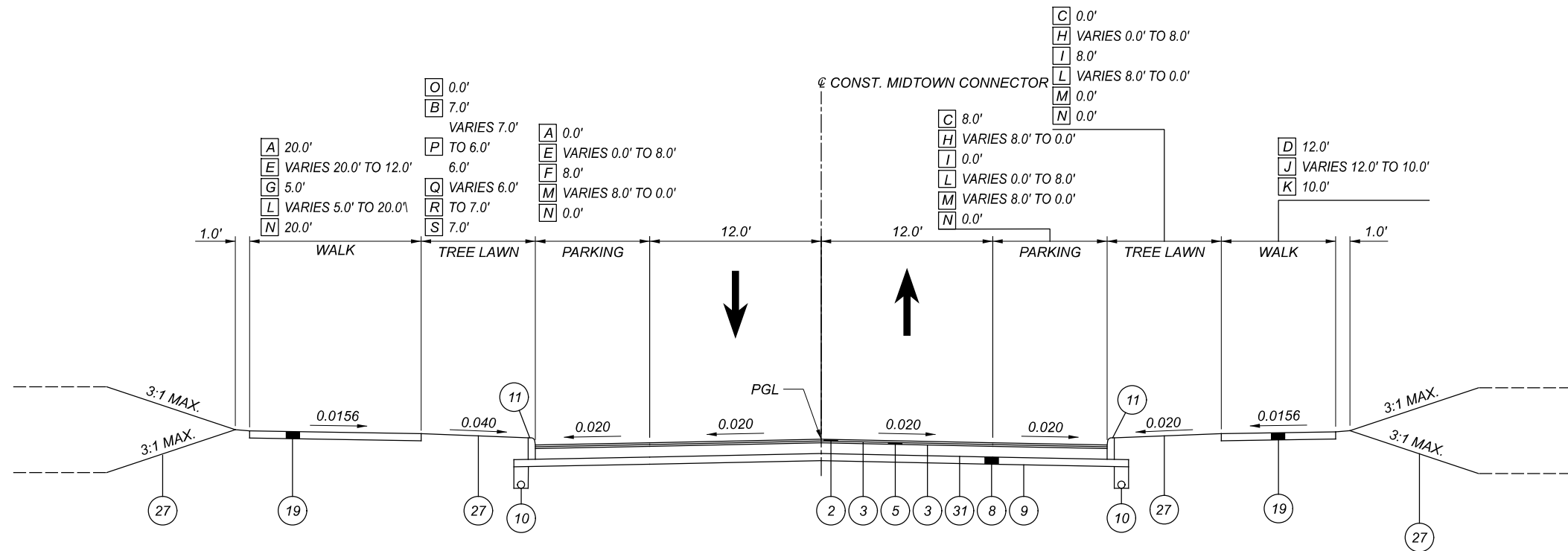
FOR LEGEND, SEE SHEET 15



NORMAL SECTION - MIDTOWN CONNECTOR
 STA. 508+54.11 TO STA. 510+87.87
 STA. 510+87.87 TO STA. 511+72.81
 SEE INTERSECTION DETAILS
 STA. 511+72.81 TO STA. 513+47.81
 STA. 513+47.81 TO STA. 514+45.17
 SEE INTERSECTION DETAILS

- O STA. 508+54.11 TO STA. 508+76.93 - N
- P STA. 508+54.11 TO STA. 509+15.84 - O
- Q STA. 508+54.11 TO STA. 509+37.74 - P
- R STA. 508+54.11 TO STA. 509+53.40 - Q
- S STA. 509+15.84 TO STA. 509+81.78 - T
- T STA. 509+15.84 TO STA. 510+06.31 - S
- U STA. 509+37.74 TO STA. 510+28.63 - T
- V STA. 509+53.40 TO STA. 510+14.48 - U
- W STA. 509+81.78 TO STA. 510+87.87 - X
- X STA. 510+06.31 TO STA. 510+87.87 - W

- 1 STA. 510+14.42 TO STA. 510+87.87 - Z
- 2 STA. 510+28.63 TO STA. 510+87.87 - 1
- 3 STA. 511+72.81 TO STA. 513+47.81 - 3 and 2
- 4 STA. 508+76.93 TO STA. 510+87.87
- 5 STA. 508+76.93 TO STA. 509+15.84



NORMAL SECTION - MIDTOWN CONNECTOR
 STA. 503+06.30 TO STA. 508+54.11
 STA. 500+00.00 TO STA. 501+14.00
 SEE INTERSECTION DETAILS
 STA. 500+00.00 TO STA. 503+06.30
 SEE BRIDGE DECK DETAILS

- A STA. 503+06.30 TO STA. 503+17.93
- B STA. 503+30.07 TO STA. 505+30.00
- C STA. 505+07.07 TO STA. 507+86.93
- D STA. 503+06.30 TO STA. 503+86.93
- E STA. 503+17.93 TO STA. 503+30.07
- F STA. 503+30.07 TO STA. 507+86.93
- G STA. 503+30.07 TO STA. 508+54.11
- H STA. 503+51.93 TO STA. 503+64.07
- I STA. 503+64.07 TO STA. 504+94.93
- J STA. 503+79.00 TO STA. 503+97.00
- K STA. 503+97.00 TO STA. 508+54.11
- L STA. 504+94.93 TO STA. 505+07.07
- M STA. 507+86.93 TO STA. 507+99.07
- N STA. 507+99.07 TO STA. 508+54.11
- O STA. 503+06.30 TO STA. 503+30.07
- P STA. 505+30.00 TO STA. 505+35.00
- Q STA. 505+35.00 TO STA. 506+80.00
- R STA. 506+80.00 TO STA. 506+85.00
- S STA. 506+85.00 TO STA. 507+86.93

PROPOSED TYPICAL SECTIONS
 MIDTOWN CONNECTOR

DESIGN AGENCY

Michael Baker
 INTERNATIONAL

DESIGNER

REVIEWER

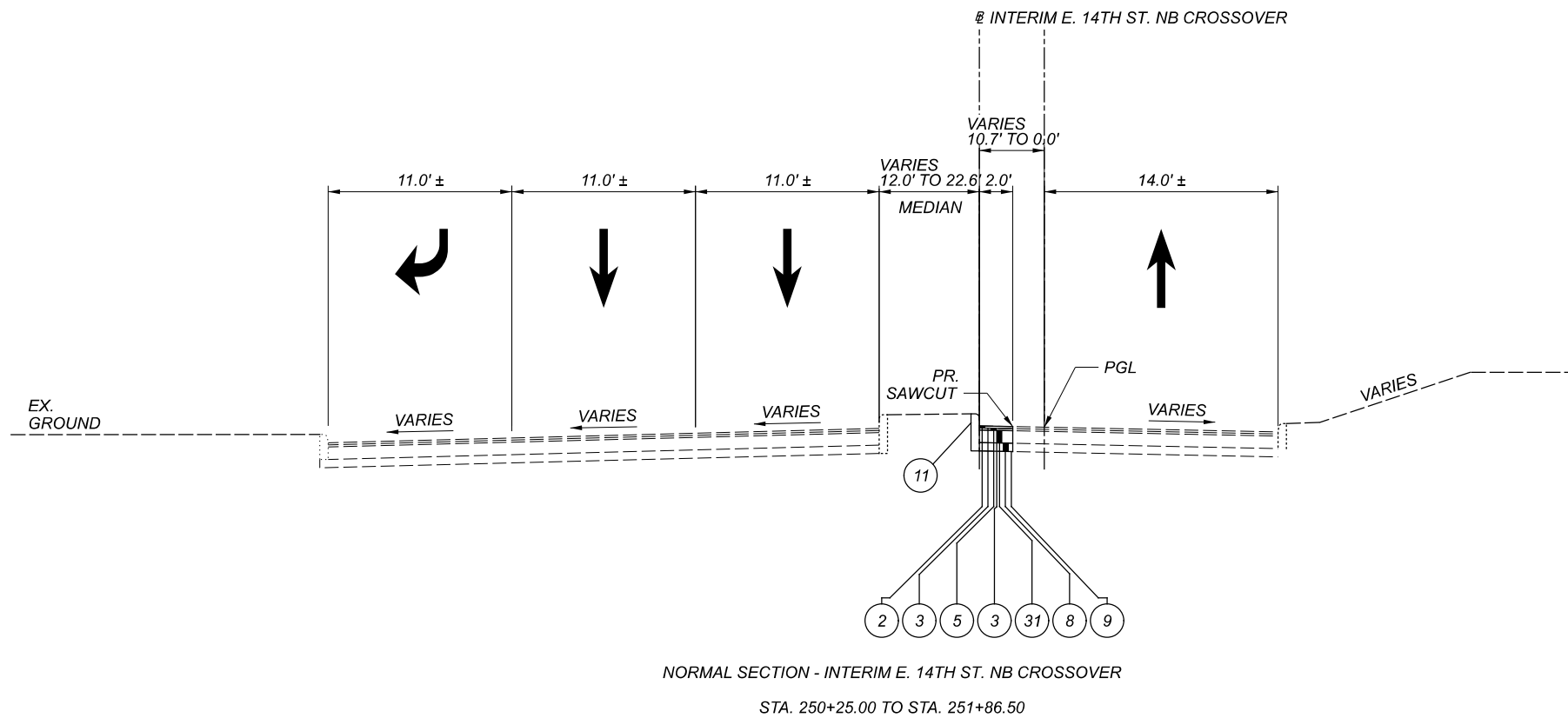
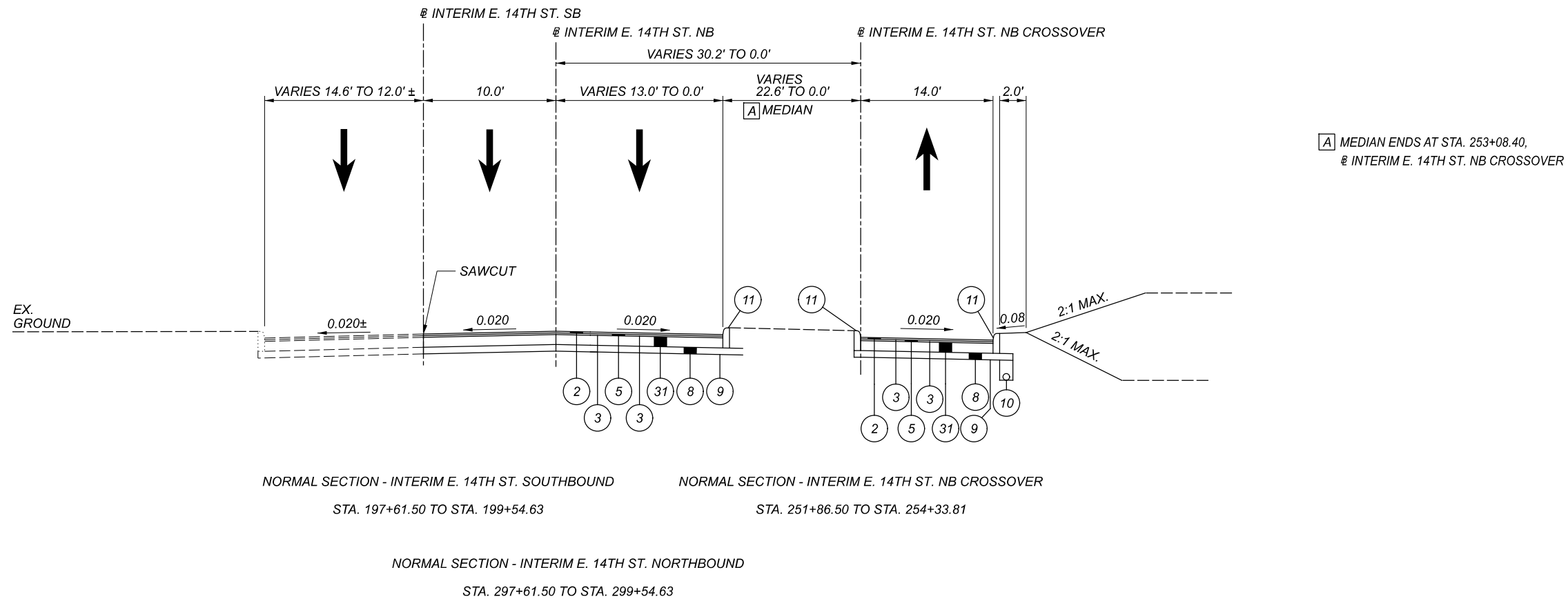
PROJECT ID

82382

SHEET TOTAL

59 2339

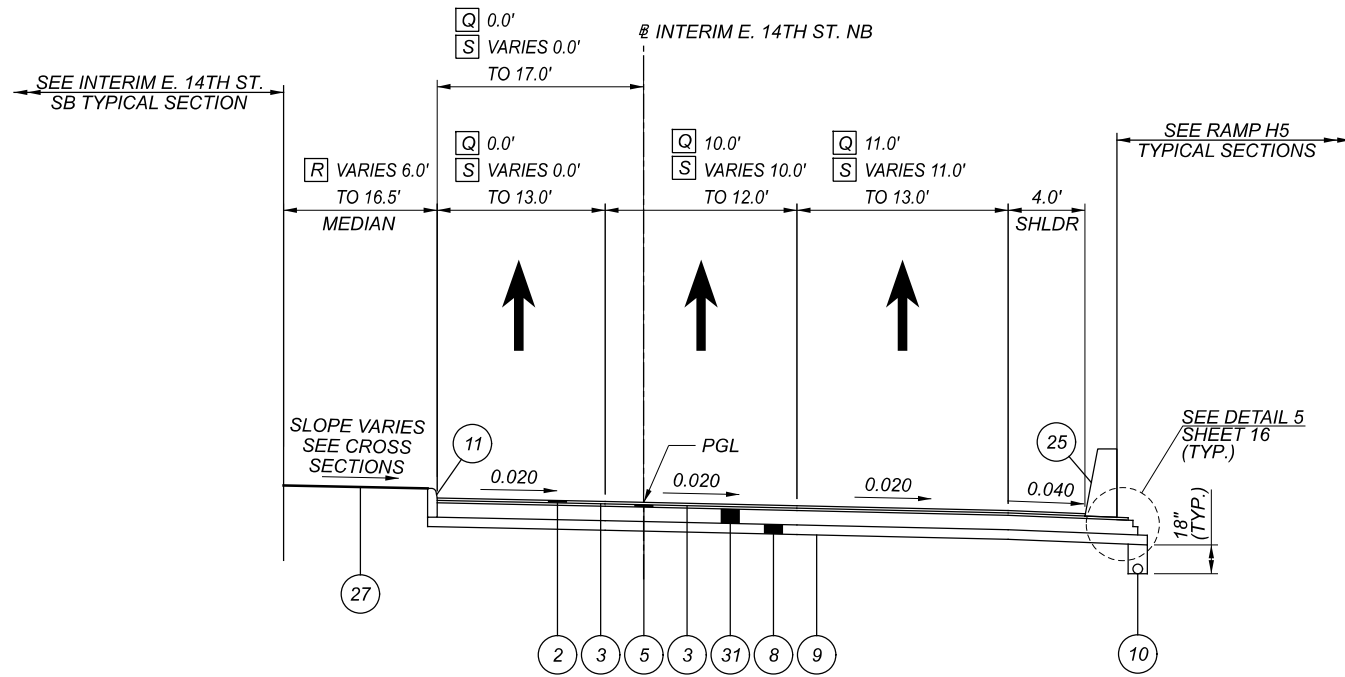
FOR LEGEND, SEE SHEET 15



PROPOSED TYPICAL SECTIONS
 INTERIM E. 14TH ST. SB & NB AND NB CROSSOVER

DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	—
REVIEWER	—
PROJECT ID	82382
SHEET	TOTAL
60	2339

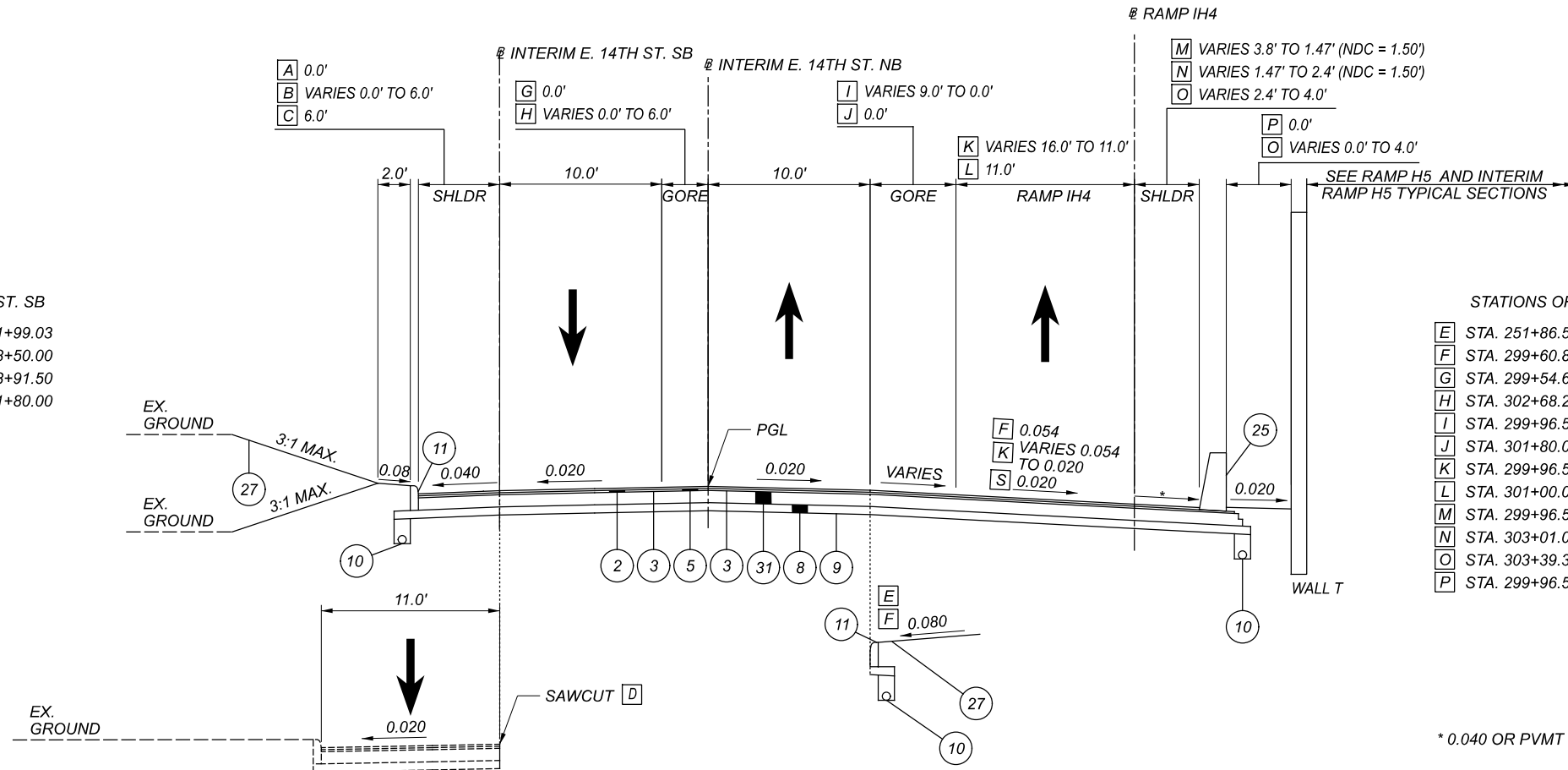
FOR LEGEND, SEE SHEET 15



- Q STA. 303+94.31 TO STA. 304+52.50
- R STA. 303+94.31 TO STA. 305+52.54
- S STA. 304+52.50 TO STA. 305+52.54

NORMAL SECTION - INTERIM E. 14TH ST. NB
 STA. 303+94.31 TO STA. 305+52.54

- STATIONS OFF @ E. 14TH ST. SB
- A STA. 199+54.63 TO STA. 201+99.03
 - B STA. 201+99.03 TO STA. 203+50.00
 - C STA. 203+50.00 TO STA. 203+91.50
 - D STA. 199+54.63 TO STA. 201+80.00



- STATIONS OFF @ E. 14TH ST. NB
- E STA. 251+86.50 TO STA. 254+35.97
 - F STA. 299+60.83 TO STA. 299+96.53
 - G STA. 299+54.63 TO STA. 302+68.21
 - H STA. 302+68.21 TO STA. 303+94.31
 - I STA. 299+96.53 TO STA. 301+80.06
 - J STA. 301+80.06 TO STA. 303+94.31
 - K STA. 299+96.53 TO STA. 301+00.00
 - L STA. 301+00.00 TO STA. 303+94.31
 - M STA. 299+96.53 TO STA. 303+01.00
 - N STA. 303+01.00 TO STA. 303+39.35
 - O STA. 303+39.35 TO STA. 303+94.31
 - P STA. 299+96.53 TO STA. 303+39.35

NORMAL SECTION - INTERIM E. 14TH ST. SB
 STA. 199+54.63 TO STA. 201+91.50

NORMAL SECTION - INTERIM E. 14TH ST. NB
 STA. 299+54.63 TO STA. 303+94.31

* 0.040 OR PVMT SLOPE, IF GREATER

DESIGN AGENCY

Michael Baker
 INTERNATIONAL

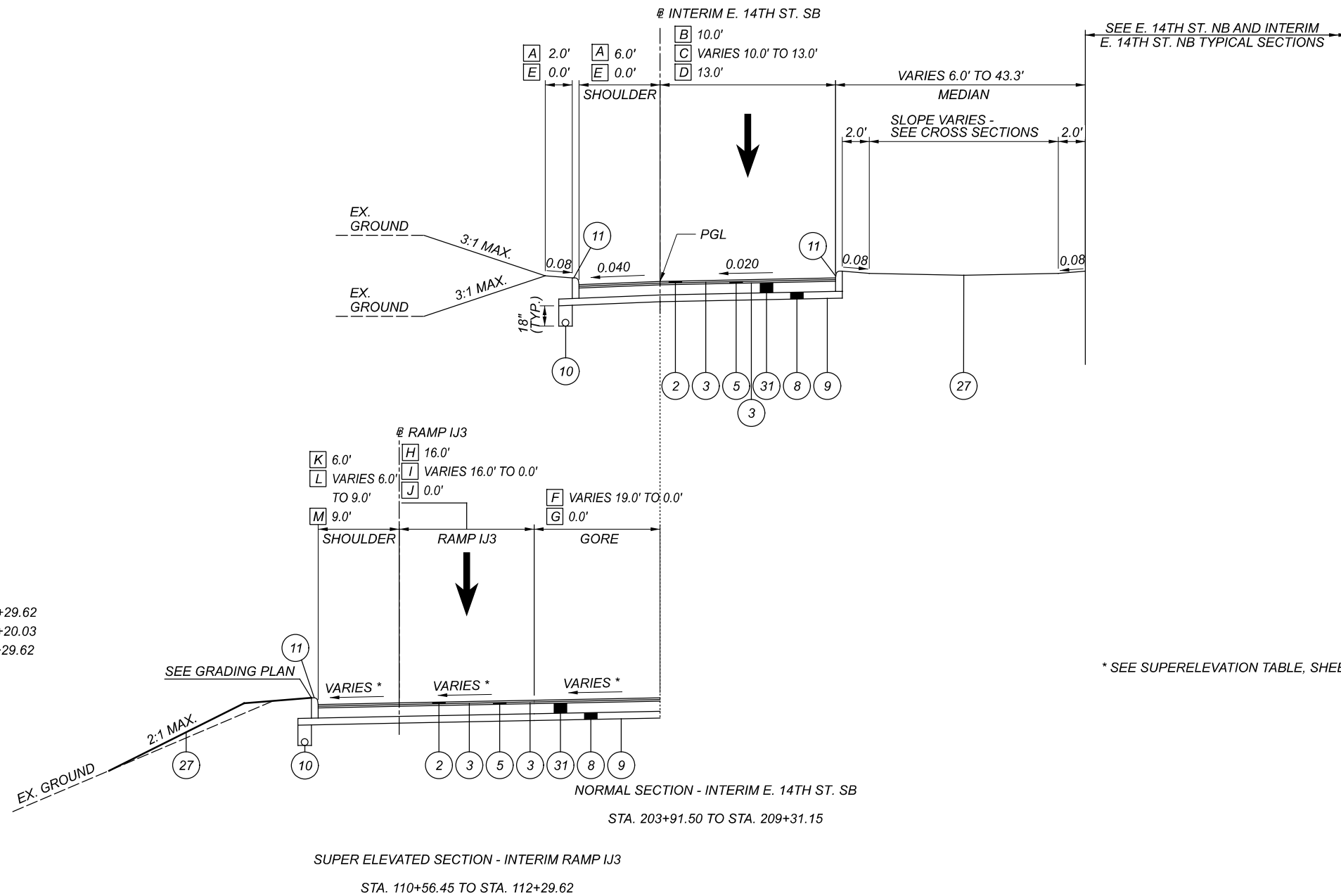
DESIGNER

REVIEWER

PROJECT ID
 82382

SHEET TOTAL
 61 2339

STATIONS OFF @ RAMP IJ3
K STA. 110+56.45 TO STA. 112+29.62
H STA. 110+56.45 TO STA. 111+20.03
I STA. 111+20.03 TO STA. 112+29.62



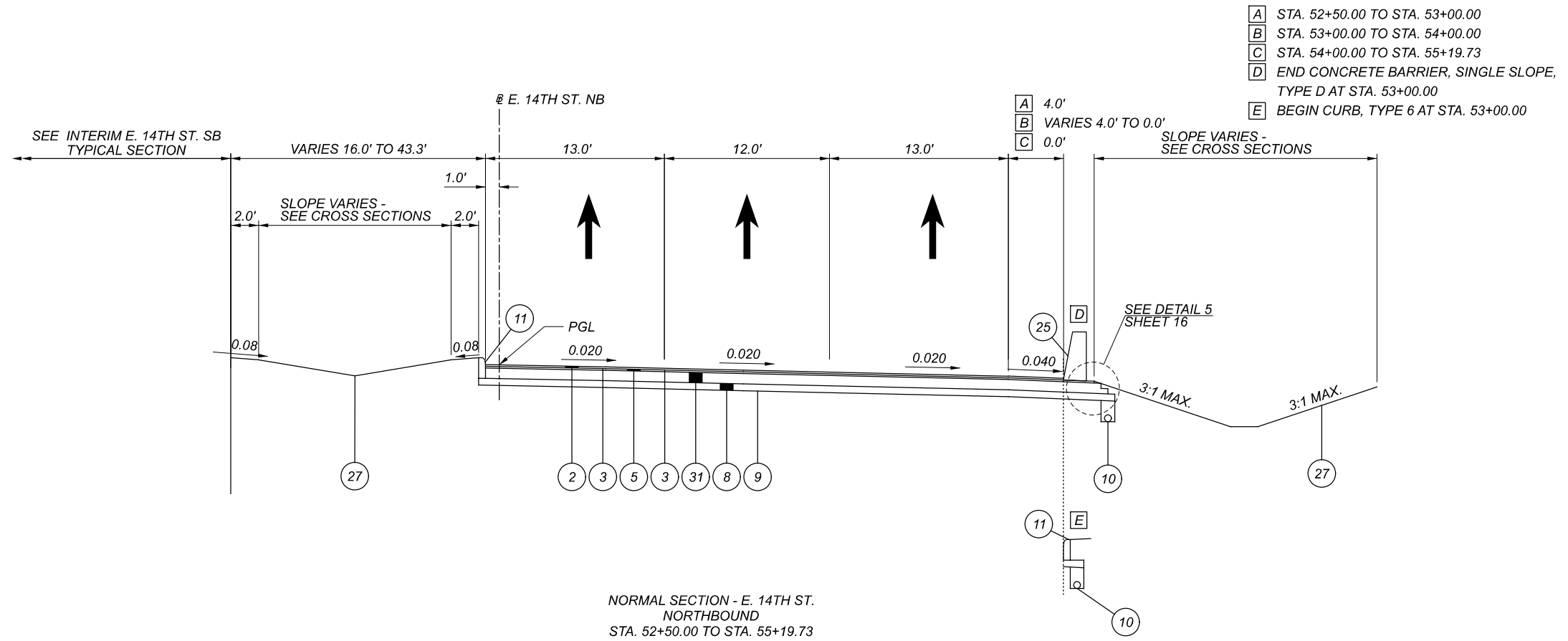
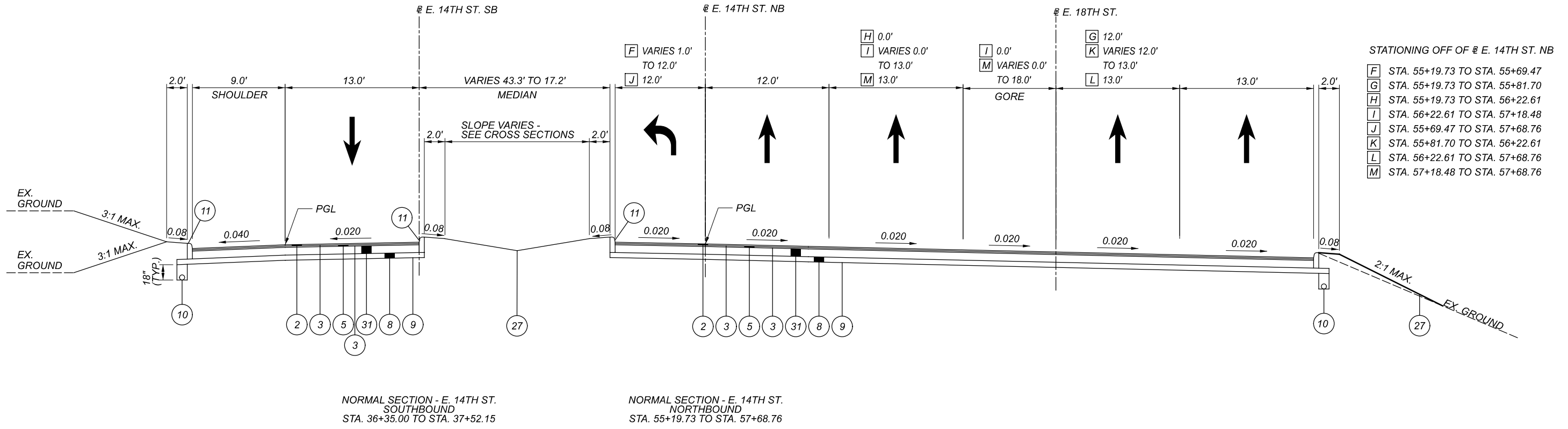
- A** STA. 203+91.50 TO STA. 206+29.98
- B** STA. 203+91.50 TO STA. 203+95.00
- C** STA. 203+95.00 TO STA. 204+76.00
- D** STA. 204+76.00 TO STA. 209+31.15
- E** STA. 206+29.98 TO STA. 209+31.15
- L** STA. 208+07.39 TO STA. 208+82.39
- M** STA. 208+82.39 TO STA. 209+31.15
- F** STA. 206+29.98 TO STA. 206+94.66
- G** STA. 206+94.66 TO STA. 209+31.15
- J** STA. 208+06.80 TO STA. 209+31.15

* SEE SUPERELEVATION TABLE, SHEET 813 FOR FULL SUPERELEVATION ROTATIONS

PROPOSED TYPICAL SECTIONS
 INTERIM E. 14TH ST. SB AND RAMP IJ3

DESIGN AGENCY	
DESIGNER	Michael Baker INTERNATIONAL
REVIEWER	
PROJECT ID	82382
SHEET	62
TOTAL	2339

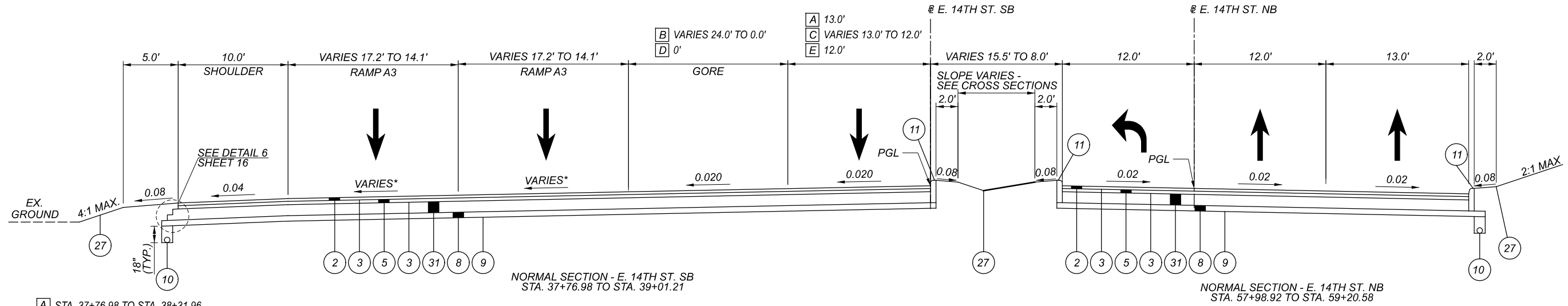
FOR LEGEND, SEE SHEET 15



PROPOSED TYPICAL SECTIONS
 E. 14TH ST. SB & NB AND E. 18TH ST.

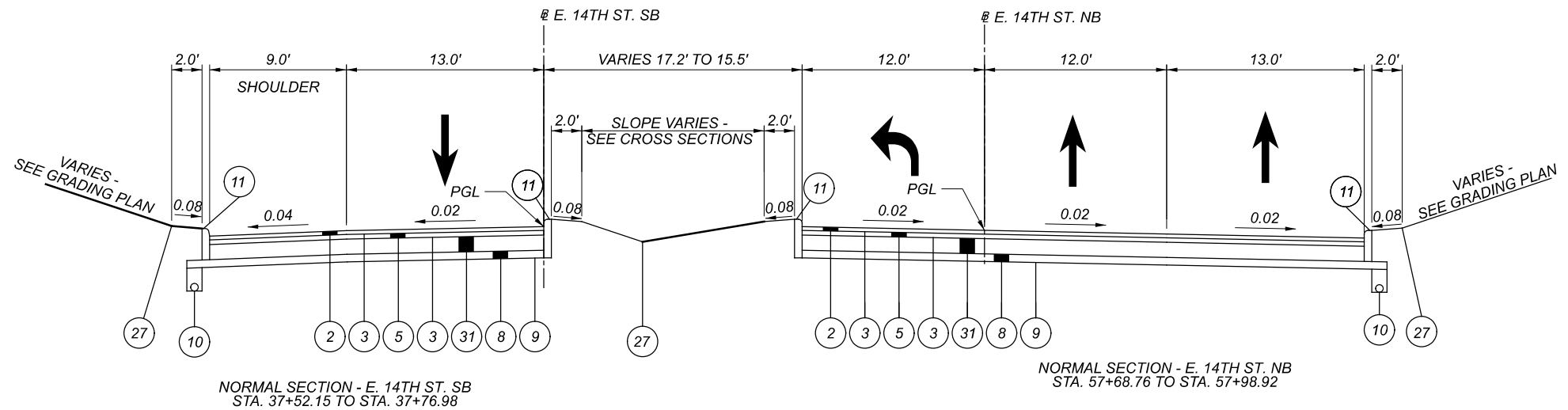
DESIGN AGENCY	
Michael Baker INTERNATIONAL	
DESIGNER	
REVIEWER	
PROJECT ID	82382
SHEET	63
TOTAL	2339

FOR LEGEND, SEE SHEET 15



- A STA. 37+76.98 TO STA. 38+31.96
- B STA. 37+76.98 TO STA. 38+86.94
- C STA. 38+31.96 TO STA. 39+86.94
- D STA. 38+86.94 TO STA. 39+01.21
- E STA. 38+86.94 TO STA. 39+10.21

* SEE SUPERELEVATION TABLES, SHEET 807 FOR RAMP A3 SUPERELEVATION DATA



PROPOSED TYPICAL SECTIONS
 E. 14TH ST. SB & NB

DESIGN AGENCY

Michael Baker
 INTERNATIONAL

DESIGNER

REVIEWER

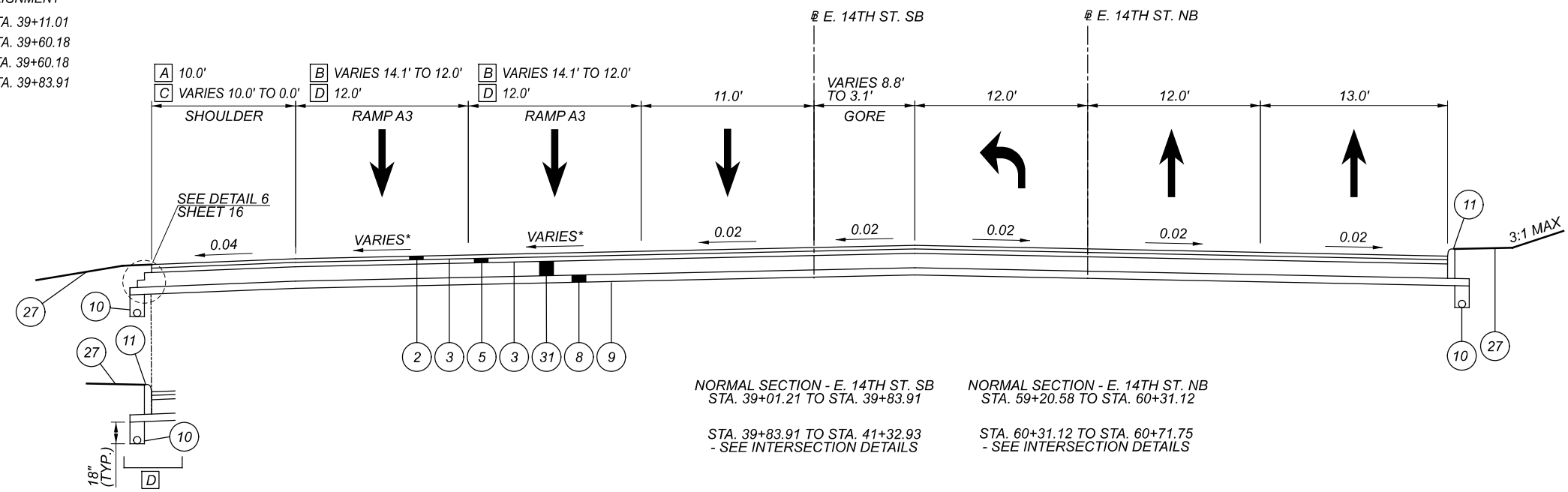
PROJECT ID
 82382

SHEET TOTAL
 64 2339

FOR LEGEND, SEE SHEET 15

STATIONING FROM
 @ E. 14TH ST. SB ALIGNMENT

A	STA. 39+01.21 TO STA. 39+11.01
B	STA. 39+01.21 TO STA. 39+60.18
C	STA. 39+11.01 TO STA. 39+60.18
D	STA. 39+60.18 TO STA. 39+83.91



* SEE SUPERELEVATION TABLES, SHEET 807 FOR RAMP A3 SUPERELEVATION DATA

NORMAL SECTION - E. 14TH ST. SB
 STA. 39+01.21 TO STA. 39+83.91
 STA. 39+83.91 TO STA. 41+32.93
 - SEE INTERSECTION DETAILS

NORMAL SECTION - E. 14TH ST. NB
 STA. 59+20.58 TO STA. 60+31.12
 STA. 60+31.12 TO STA. 60+71.75
 - SEE INTERSECTION DETAILS

PROPOSED TYPICAL SECTIONS
 E. 14TH ST. SB & NB

DESIGN AGENCY

Michael Baker
 INTERNATIONAL

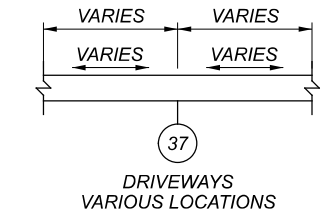
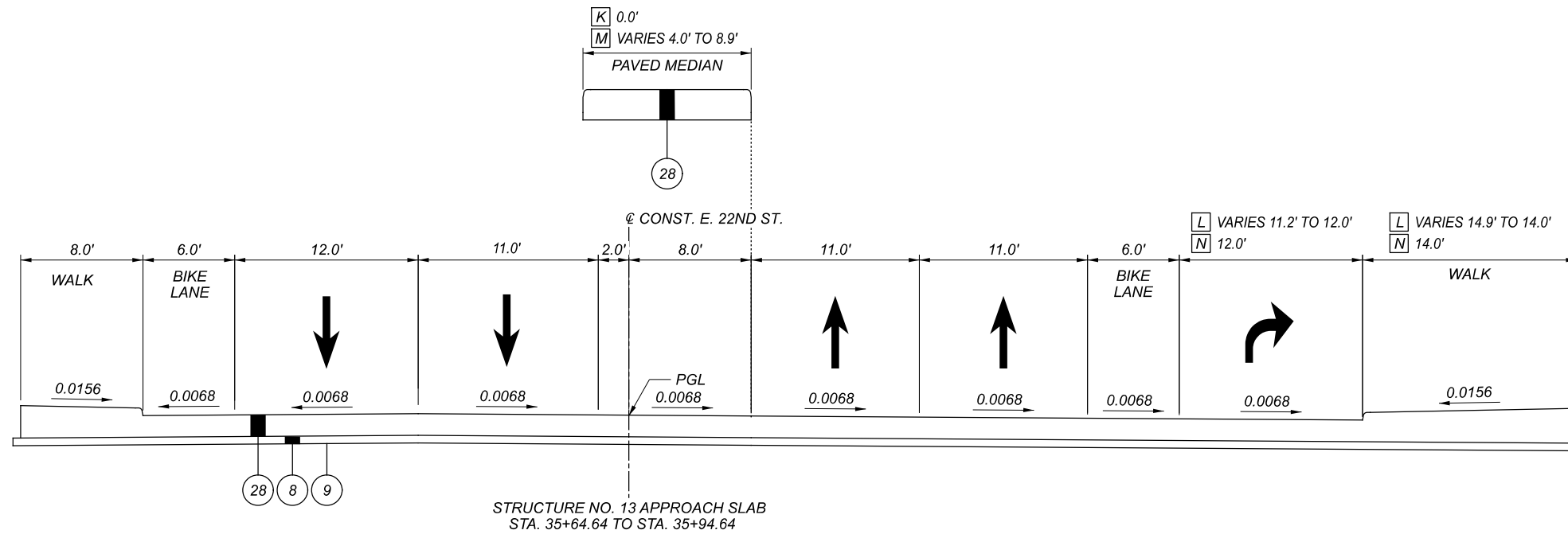
DESIGNER

REVIEWER

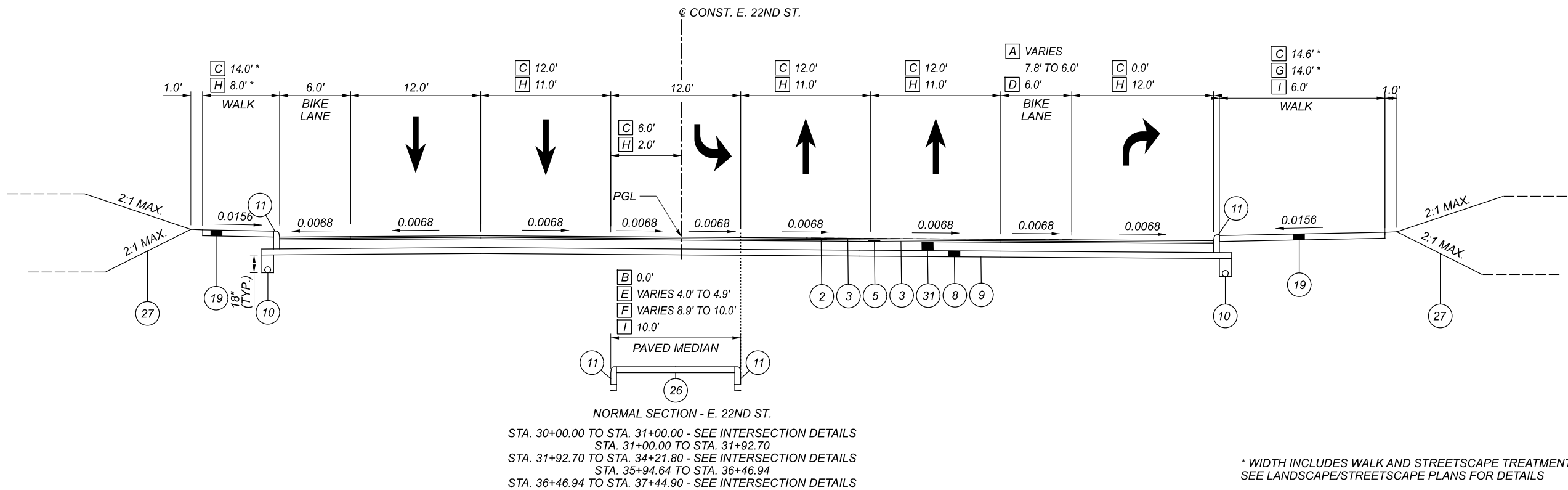
PROJECT ID
 82382

SHEET	TOTAL
65	2339

FOR LEGEND, SEE SHEET 15



- K STA. 35+64.64 TO STA. 35+68.21
- L STA. 35+64.64 TO STA. 35+78.81
- M STA. 35+68.21 TO STA. 35+94.64
- N STA. 35+78.81 TO STA. 35+94.64



NORMAL SECTION - E. 22ND ST.
 STA. 30+00.00 TO STA. 31+00.00 - SEE INTERSECTION DETAILS
 STA. 31+00.00 TO STA. 31+92.70
 STA. 31+92.70 TO STA. 34+21.80 - SEE INTERSECTION DETAILS
 STA. 35+94.64 TO STA. 36+46.94
 STA. 36+46.94 TO STA. 37+44.90 - SEE INTERSECTION DETAILS

* WIDTH INCLUDES WALK AND STREETSCAPE TREATMENTS.
 SEE LANDSCAPE/STREETSCAPE PLANS FOR DETAILS

- A STA. 31+00.00 TO STA. 31+33.69
- B STA. 31+00.00 TO STA. 31+86.86
- C STA. 31+00.00 TO STA. 31+92.70
- D STA. 31+33.69 TO STA. 31+92.70
- E STA. 31+86.86 TO STA. 31+92.70
- F STA. 35+94.64 TO STA. 36+00.00
- G STA. 35+94.64 TO STA. 36+08.40
- H STA. 35+94.64 TO STA. 36+46.94
- I STA. 36+00.00 TO STA. 36+46.94

PROPOSED TYPICAL SECTIONS
 E. 22ND ST. AND DRIVEWAYS

DESIGN AGENCY	
DESIGNER	Michael Baker INTERNATIONAL
REVIEWER	
PROJECT ID	82382
SHEET	67
TOTAL	2339

FOR LEGEND, SEE SHEET 15

GENERAL

ROUNDING

THE ROUNDING AT SLOPE BREAKPOINTS SHOWN ON THE TYPICAL SECTIONS APPLIES TO ALL CROSS-SECTIONS, EVEN THOUGH OTHERWISE SHOWN.

UTILITIES

EXISTING UTILITIES ARE SHOWN IN ACCORDANCE WITH THE BEST INFORMATION AVAILABLE AND ARE FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. THE CORRECTNESS AND COMPLETENESS OF THIS INFORMATION IS NOT GUARANTEED.

IT IS REQUIRED OF THE ODOT CONTRACTOR TO SCHEDULE A FIELD REVIEW A MINIMUM OF 2 WEEKS PRIOR TO EQUIPMENT INSTALLATION TO INSURE ALL UTILITIES ARE CLEAR AND ALL CURRENT LOCATIONS ARE KNOWN. IF ANY UTILITY ISSUES ARISE IT IS THE RESPONSIBILITY OF THE ODOT CONTRACTOR TO WORK OUT AN ACCEPTABLE SOLUTION WITH THE UTILITY AND ODOT TO KEEP THE PROJECT MOVING FORWARD. OHIO811.ORG: 1-800-362-2764

LISTED BELOW ARE ALL UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS:

GAS

DOMINION EAST OHIO
ATTN: MICHAEL NORTH
320 SPRINGSIDE DR., SUITE 320
AKRON, OH 44333
(330) 664-2575

WATER

CITY OF CLEVELAND
DIVISION OF WATER
ATTN: FRED ROBERTS, P.E.
1201 LAKESIDE AVE.
CLEVELAND, OH 44114
(216) 664-2444 EXT. 75590

TELEPHONE:

WINDSTREAM
ATTN: LEON TAYLOR
2165 STATE ROUTE 133 S
BLANCHESTER, OHIO 45107
(937) 725-5358

VERIZON
ATTN: DANIEL ARZ
12300 RIDGE RD.
NORTH ROYALTON, OH 44133
(440) 457-4832

LUMEN (CENTURY LINK COMMUNICATIONS)
ATTN: DOUG HOLLOWAY
4000 CHESTER AVE.
CLEVELAND, OH 44103
(216) 906-6284

AT&T
ATTN: JAMES JANIS
13630 LORAIN AVE.
CLEVELAND, OH 44111
(216) 476-6142

UTILITIES (CONT'D)

TELEPHONE (CONT'D):

WESTERN RESERVE COMMUNICATIONS
ATTN: RYAN WIEGNER
3867 WEST MARKET ST.
AKRON, OH 44333
(330) 865-3778

EVERSTREAM
ATTN: TOM TRUSNICK
800 WEST ST. CLAIR AVE.
CLEVELAND, OH 44113
(216) 372-6502

CROWN CASTLE
ATTN: JON TARNOWSKI
15565 NEO PKWY.
GARFIELD HTS, OH 44128
(614) 940-2462

STEAM

CORIX
ATTN: SCOTT TEMPLETON
1921 HAMILTON AVE.
CLEVELAND, OH 44114
(216) 241-4192

CATV:

CHARTER COMMUNICATIONS
ATTN: RICK PALENCAR
8179 DOW CIRCLE
STRONGSVILLE, OH 44136
(216) 575-8016, EXT. 216.555.5032

O.D.O.T. LIGHTING & TRAFFIC CONTROL:

O.D.O.T. - DISTRICT 12
ATTN: KEITH HAMILTON
5500 TRANSPORTATION BLVD.
GARFIELD HEIGHTS, OH 44125
(216) 584-2127

CITY OF CLEVELAND TRAFFIC CONTROL:

CITY OF CLEVELAND
DIVISION OF TRAFFIC ENGINEERING
ATTN: ANDREW CROSS
601 LAKESIDE AVE., RM 25
CLEVELAND, OH 44114
(216) 664-3197

SEWER:

CITY OF CLEVELAND
DIVISION OF WATER POLLUTION CONTROL
ATTN: ALAN SCHIELY, P.E.
12302 KIRBY AVE.
CLEVELAND, OH 44108
(216) 664-3638

N.E.O.R.S.D.
ATTN: ROBERT STOERKEL
3900 EUCLID AVE.
CLEVELAND, OH 44115
(216) 881-6600 EXT. 6802

UTILITIES (CONT'D)

ODOT ITS:

TRAFFIC MONITORING SECTION ODOT
ATTN: ED NEWMAYER
1980 WEST BROAD ST.
COLUMBUS, OH 43223
614-204-0914

ELECTRIC:

CLEVELAND PUBLIC POWER
ATTN: CHRISTOPHER HIRZEL, P.E. P.S.
1300 LAKESIDE AVE.
CLEVELAND, OH 44114
(216) 664-3922, EXT. 76115

CLEVELAND ILLUMINATING CO.
ATTN: JOHN ZASSICK (OVERHEAD)
DEAN CHATFIELD (UNDERGROUND)
6896 MILLER RD.
BRECKSVILLE, OH 44114
(440) 546-8706
(440) 717-6846

EXISTING PLANS

EXISTING PLANS MAY BE INSPECTED IN THE ODOT DISTRICT 12 OFFICE.

SURVEYING PARAMETERS

PRIMARY PROJECT CONTROL MONUMENTS GOVERN ALL POSITIONING ON ODOT PROJECTS. SEE SHEETS 3 OF THE PLANS FOR A TABLE CONTAINING PROJECT CONTROL INFORMATION.

USE THE FOLLOWING PROJECT CONTROL, VERTICAL POSITIONING, AND HORIZONTAL POSITIONING PARAMETERS FOR ALL SURVEYING:

PROJECT CONTROL

POSITIONING METHOD: STATIC GPS/ODOT VRS RTK GPS / CONVENTIONAL
MONUMENT TYPE: MAG NAILS / IRON PINS

VERTICAL POSITIONING

ORTHOMETRIC HEIGHT DATUM: NAVD 88
GEOID: GEOID 12A

HORIZONTAL POSITIONING

REFERENCE FRAME: NAD83 (2011)
ELLIPSOID: GRS80
MAP PROJECTION: LAMBERT CONFORMAL CONIC
COORDINATE SYSTEM: OHIO STATE PLANE, NORTH ZONE (3401)
COMBINED SCALE FACTOR: 0.99994020409
ORIGIN OF COORDINATE SYSTEM: (0,0)

USE THE POSITIONING METHODS AND MONUMENT TYPE USED IN THE ORIGINAL SURVEY TO RESTORE ALL MONUMENTS RELATED TO PRIMARY PROJECT CONTROL THAT ARE DAMAGED OR DESTROYED BY CONSTRUCTION ACTIVITIES. RESTORE THE DAMAGED OR DESTROYED MONUMENTS IN ACCORDANCE WITH CMS 623.

UNITS ARE IN U.S. SURVEY FEET.

MONUMENT ASSEMBLIES

CONSTRUCT MONUMENT ASSEMBLIES IN ACCORDANCE WITH THE DETAILS SHOWN ON THE STANDARD CONSTRUCTION DRAWINGS AND AT THE LOCATIONS SHOWN ON SHEET NO. ____.

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. PROVIDE THE INSTALLATION AND OPERATION OF ALL WORK ZONE TRAFFIC CONTROL AND WORK ZONE TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

PROTECTION OF RIGHT-OF-WAY LANDSCAPING

PRIOR TO BEGINNING WORK, THE CONTRACTOR, THE PROJECT ENGINEER, AND A REPRESENTATIVE OF THE MAINTAINING AGENCY WILL REVIEW AND RECORD ALL LANDSCAPING ITEMS WITHIN THE RIGHT-OF-WAY (BOTH WITHIN AND OUTSIDE THE CONSTRUCTION LIMITS). A RECORD OF THIS REVIEW WILL BE KEPT IN THE PROJECT ENGINEER'S FILES. PRIOR TO FINAL ACCEPTANCE, A FINAL REVIEW OF LANDSCAPING ITEMS WILL BE MADE.

CONSTRUCT ALL ACTIVITIES, EQUIPMENT STORAGE, AND STAGING TO WITHIN THE CONSTRUCTION LIMITS. UNLESS OTHERWISE IDENTIFIED IN THE PLANS OR PROPOSAL, THE CONSTRUCTION LIMITS ARE IDENTIFIED AS 30 FEET FROM THE EDGE OF PAVEMENT.

SUBMIT A WRITTEN REQUEST TO THE PROJECT ENGINEER TO USE ANY AREA OUTSIDE THESE LIMITS. THE DOCUMENT SUBMITTED MUST CLEARLY IDENTIFY THE AREA AND EXPLAIN THE PROPOSED USE AND RESTORATION OF THE AREA. EXCEPT AS INDICATED ON SHEET ____, USE OF THESE AREAS FOR DISPOSAL OF WASTE MATERIAL AND CONSTRUCTION DEBRIS, EXCAVATION OF BORROW MATERIAL AND PLACEMENT OF PORTABLE PLANTS IS PROHIBITED. THE REQUEST MUST BE APPROVED, IN WRITING, BEFORE THE CONTRACTOR HAS PERMISSION TO USE THE AREA.

ANY ITEMS DAMAGED BEYOND THE CONSTRUCTION LIMITS, AS DEFINED ABOVE, WILL BE REPLACED IN KIND OR AS APPROVED BY THE PROJECT ENGINEER.

CLEARING AND GRUBBING

ALTHOUGH THERE ARE NO TREES OR STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE LIMITS OF THE PROJECT, A LUMP SUM QUANTITY IS INCLUDED IN THE GENERAL SUMMARY FOR ITEM 201, CLEARING AND GRUBBING. ALL PROVISIONS AS SET FORTH IN THE SPECIFICATIONS UNDER THIS ITEM ARE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING.

SEE LANDSCAPE PLANS FOR TREES TO REMAIN WITHIN THE CONSTRUCTION LIMITS.

SYMBOL LEGEND

- UTILITY LINE REMOVED/ABANDONED
- ⊗ STRUCTURE REMOVED/ABANDONED
- ⓐ ATG STORM MH
- ⓑ ATG SANITARY MH
- Ⓒ ATG WATER MH
- Ⓓ ATG WATER METER
- Ⓔ ATG WATER SERVICE STOP
- Ⓕ ATG HDYDRANT
- Ⓖ ATG TELECOM MH
- Ⓗ ATG GAS MH
- Ⓙ ATG GAS METER
- Ⓚ ATG GAS VALVE
- Ⓛ ATG GAS SERVICE STOP
- Ⓜ ATG ELECTRIC MH
- Ⓝ ATG ELECTRIC METER

ITEM 204 - PROOF ROLLING

THE FOLLOWING QUANTITY IS PROVIDED IN THE GENERAL SUMMARY TO ADDRESS LOCATIONS REQUIRING PROOF ROLLING. SEE PLAN SHEET NO. ____ FOR ADDITIONAL INFORMATION.

ITEM 204 - PROOF ROLLING _____ HOUR.

DESIGN AGENCY

Michael Baker INTERNATIONAL

DESIGNER

REVIEWER

PROJECT ID

82382

SHEET TOTAL

68 2339

AIRWAY/HIGHWAY CLEARANCE FOR AIRPORTS AND HELIPORTS

THIS PROJECT HAS BEEN IDENTIFIED AS BEING WITHIN THE INFLUENCE AREA OF A PUBLIC USE AIRPORT OR HELIPORT. NO TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT AT MAXIMUM OPERATING HEIGHT SHALL EXCEED A HEIGHT OF ___ FT. IF ANY TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT WILL EXCEED THIS HEIGHT, FURTHER COORDINATION WITH THE FEDERAL AVIATION ADMINISTRATION (FAA), AND ODOT OFFICE OF AVIATION, WILL BE NECESSARY PRIOR TO ERECTING SUCH TEMPORARY STRUCTURES OR OPERATING SUCH EQUIPMENT ON THE PROJECT. THE CONTRACTOR WILL BE REQUIRED TO SUBMIT FORM 7460-1 TO THE FAA. NOTIFY THE ODOT OFFICE OF AVIATION WHEN SUBMITTING FAA FORM 7460-1.

NO TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT SHALL EXCEED THE PERMISSIBLE HEIGHT, UNTIL A COPY OF THE FAA APPROVAL AND THE ODOT OFFICE OF AVIATION PERMIT HAS BEEN FURNISHED TO THE PROJECT ENGINEER.

FEDERAL AVIATION ADMINISTRATION
 SOUTHWEST REGIONAL OFFICE
 OBSTRUCTION EVALUATION GROUP
 10101 HILLWOOD PARKWAY
 FORT WORTH, TX 76177
 FAX: (817) 222-5920
 HTTP://CEAAA.FAA.GOV

OHIO DEPARTMENT OF TRANSPORTATION
 OFFICE OF AVIATION
 2829 WEST DUBLIN-GRANVILLE ROAD
 COLUMBUS, OHIO 43235
 OHIO.AIRPORT.PROTECTION@DOT.OHIO.GOV

FENCE LENGTHS

THE LENGTHS OF FENCE SHOWN IN THE PLANS ARE HORIZONTAL DIMENSIONS. MEASUREMENTS OF THE FINAL QUANTITIES WILL BE IN ACCORDANCE WITH ITEM 607.

COOPERATION BETWEEN CONTRACTORS

THE CONTRACTOR SHALL COOPERATE AND COORDINATE OPERATIONS WITH THE CONTRACTORS ON OTHER PROJECTS THAT MAY BE IN FORCE DURING THE LIFE OF THIS CONTRACT. NO WAIVER OF ANY PROVISIONS OF 105.08 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS IS INTENDED.

CONTRACTORS EQUIPMENT AND OPERATION

ALL VEHICLES AND EQUIPMENT MUST BE EQUIPPED WITH AT LEAST ONE FLASHING, ROTATING, OR OSCILLATING AMBER LIGHT THAT IS VISIBLE IN ALL DIRECTIONS OF TRAFFIC FOR AT LEAST ONE QUARTER MILE, DAY OR NIGHT. THIS INCLUDES TRUCKS HAULING ASPHALT AND CONCRETE. UNLESS BEHIND CONCRETE BARRIER, THE CONTRACTOR'S EQUIPMENT SHALL BE OPERATED IN THE DIRECTION OF TRAFFIC ONLY.

ITEM 204 - SUBGRADE COMPACTION AND PROOF ROLLING

CONSTRUCT THE SUBGRADE AS FOLLOWS AND IN THE FOLLOWING SEQUENCE:

- SHAPE THE SUBGRADE TO WITHIN 0.2 FEET OF THE PLAN SUBGRADE ELEVATION.
- AN ESTIMATED QUANTITY OF XX CY TO ADDRESS UNKNOWN EXISTING CONDITIONS HAS BEEN INCLUDED IN GENERAL SUMMARY.
- COMPACT THE SUBGRADE ACCORDING TO C&MS 204.03.
- APPROXIMATE LIMITS FOR EXCAVATION OF UNSTABLE SUBGRADE ARE SHOWN AND LABELED ON THE CROSS SECTIONS AS UNSTABLE SUBGRADE. THE ENGINEER WILL IDENTIFY THE ACTUAL LIMITS OF EXCAVATION FOR UNSTABLE SUBGRADE BASED ON THE PROOF ROLLING RESULTS AND VISUAL OBSERVATIONS.

PROOF ROLL THE COMPACTED SUBGRADE ACCORDING TO C&MS 204.06.

- EXCAVATE UNSTABLE SUBGRADE AS DIRECTED BY THE ENGINEER AND STABILIZE BY REPLACING WITH THE SPECIFIED MATERIALS ACCORDING TO C&MS 204.07. EXCAVATIONS WILL EXTEND 18 INCHES BEYOND THE EDGE OF THE SURFACE OF THE PAVEMENT, PAVED SHOULDERS, OR PAVED MEDIANS.
- PROOF ROLL THE STABILIZED AREAS ACCORDING TO C&MS 204.06 TO VERIFY STABILITY.

ITEM 204 - SUBGRADE COMPACTION AND PROOF ROLLING (CONT'D)

- FINE GRADE THE SUBGRADE TO THE SPECIFIED GRADE.

THE QUANTITIES FOR EXCAVATING THE UNSUITABLE SUBGRADE AND UNSTABLE SUBGRADE ARE BOTH PAID UNDER ITEM 204, EXCAVATION OF SUBGRADE.

ROADWAY

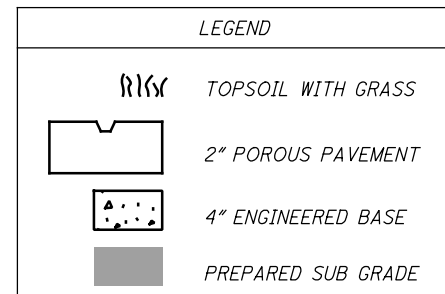
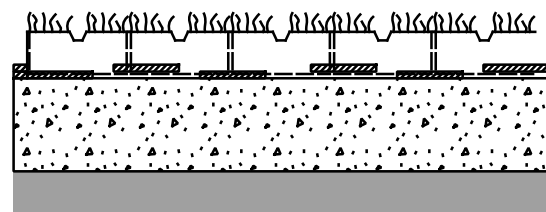
ITEM 203 - ROADWAY, MISC.: REINFORCED TURF

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING REINFORCED TURF.

THE REINFORCED TURF SHALL BE A PERMEABLE, PLANTABLE, AND FLEXIBLE PAVEMENT CAPABLE OF SUPPORTING AN H-20 LOADING. THE PRODUCT SHALL BE ONE OF THE FOLLOWING OR APPROVED EQUAL:

1. **GEOBLOCK 5150**
 MANUFACTURED BY:
 PRESTO GEOSYSTEMS
 670 N PERKINS STREET, PO BOX 2399
 APPLETON, WI 54912-2399
 800-548-3424
 www.prestogeo.com
2. **DRIVEABLE GRASS**
 MANUFACTURED BY:
 SOIL RETENTION
 1265 CARLSBAD VILLAGE DRIVE, SUITE 100
 CARLSBAD, CA 92008
 800-346-7995
 www.soilretention.com
3. **TUFFTRACK GRASS PAVER**
 MANUFACTURED BY:
 NDS
 851 NORTH HARVARD AVENUE
 LINDSAY, CA 93247
 888-825-4716
 www.ndspro.com

THE COMPOSITION, DEPTH, AND PREPARATION OF TOPSOIL, POROUS PAVEMENT, ENGINEERED BASE, AND PREPARED SUBGRADE SHALL MEET MANUFACTURER SPECIFICATIONS. ALL COST FOR THIS ITEM OF WORK INCLUDING SUBGRADE PREPARATION, AND BASE MATERIAL, ALL LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS, PER MANUFACTURER REQUIREMENTS SHALL BE INCLUDED IN THE UNIT BID PRICE PER SY FOR: ITEM 203 - ROADWAY, MISC.: REINFORCED TURF.



ITEM 606 - ANCHOR ASSEMBLY, MGS TYPE B

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE GUARDRAIL END TERMINALS FOR TYPE MGS GUARDRAIL AS LISTED ON ROADWAY ENGINEERING'S WEB PAGE UNDER ROADSIDE SAFETY DEVICES FOR APPROVED GUARDRAIL END TREATMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

REFER TO THE MANUFACTURER'S INSTRUCTIONS REGARDING THE INSTALLATION OF, AND THE GRADING AROUND, THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4 INCHES ABOVE THE GROUND. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 31 INCHES FROM THE EDGE OF THE SHOULDER.

ON-SITE GRADING IS REQUIRED IF THE TOP OF THE FOUNDATION TUBES OR TOP OF THE GROUND STRUT DOES PROJECT MORE THAN 4 INCHES ABOVE THE GROUND LINE.

THE FACE OF THE TYPE B IMPACT HEAD SHALL BE COVERED WITH TYPE G REFLECTIVE SHEETING, PER CMS 730.19.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, MGS TYPE B, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING REFLECTIVE SHEETING AND ALL RELATED HARDWARE, GRADING, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

ITEM 606 - ANCHOR ASSEMBLY, MGS TYPE E

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE GUARDRAIL END TERMINALS FOR TYPE MGS GUARDRAIL AS LISTED ON ROADWAY ENGINEERING'S WEB PAGE UNDER ROADSIDE SAFETY DEVICES FOR APPROVED GUARDRAIL END TREATMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

THE FACE OF THE TYPE E IMPACT HEAD SHALL BE COVERED WITH A SHEET OF TYPE G REFLECTIVE SHEETING, PER CMS 730.19.

REFER TO THE MANUFACTURER'S INSTRUCTIONS REGARDING THE INSTALLATION OF, AND THE GRADING AROUND THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4 INCHES ABOVE THE GROUND. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 31 INCHES FROM THE EDGE OF THE SHOULDER.

ON-SITE GRADING IS REQUIRED IF THE TOP OF THE FOUNDATION TUBES OR TOP OF THE GROUND STRUT DOES PROJECT MORE THAN 4 INCHES ABOVE THE GROUND LINE.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, MGS TYPE E, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING ALL RELATED TRANSITIONS, REFLECTIVE SHEETING, HARDWARE, GRADING, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL

WHEN IT IS NECESSARY TO SPLICE PROPOSED GUARDRAIL TO EXISTING GUARDRAIL, ONLY THE EXISTING GUARDRAIL SHALL BE CUT, DRILLED, OR PUNCHED. THE CONNECTION SHALL BE MADE USING A W-BEAM, BEAM SPLICE AS SHOWN IN AASHTO M 180-12, EXCEPT THE BEAM WASHERS ARE NOT TO BE USED. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

PAVING UNDER GUARDRAIL

THIS OPERATION SHALL INCLUDE PREPARATION OF THE GRADED SHOULDER USING ITEM 209, LINEAR GRADING, AS PER PLAN AND PAVING UNDER THE GUARDRAIL USING 441 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (448), UNDER GUARDRAIL, AS PER PLAN.

ITEM 209, LINEAR GRADING, AS PER PLAN SHALL CONSIST OF EXCAVATING TOPSOIL, AND PLACING GRANULAR MATERIAL.

ALL COLLECTED DEBRIS AND TOPSOIL, INCLUDING RHIZOMES, ROOTS AND OTHER VEGETATIVE PLANT MATERIAL SHALL BE REMOVED AND DISPOSED OF AS SPECIFIED IN 105.17.

THE REMOVED MATERIAL SHALL BE REPLACED WITH COMPACTABLE GRANULAR MATERIAL CONFORMING TO 703.16 PLACED TO GRADE AS DETAILED ON THE TYPICAL SECTION OR AS APPROVED BY THE ENGINEER.

ALL EQUIPMENT, MATERIALS AND LABOR REQUIRED TO PERFORM THE WORK OUTLINED ABOVE SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 209, LINEAR GRADING, AS PER PLAN.

PAVING UNDER GUARDRAIL SHALL CONSIST OF PLACING ITEM 441 TO THE DEPTH SPECIFIED USING ONE OF THE FOLLOWING METHODS:

- METHOD A:
- SET GUARDRAIL POSTS
 - PLACE ITEM 441

- METHOD B:
- PLACE ITEM 441
 - BORE ASPHALT AT POST LOCATIONS (MAY BE OMITTED IF STEEL POSTS ARE USED)
 - SET GUARDRAIL POSTS
 - PATCH AROUND POSTS. THE MATERIALS USED FOR PATCHING SHALL BE AN ASPHALT CONCRETE APPROVED BY THE ENGINEER. PATCHED AREAS SHALL BE COMPACTED USING EITHER HAND OR MECHANICAL METHODS. FINISHED SURFACES SHALL BE SMOOTH AND SLOPED TO DRAIN AWAY FROM THE POSTS.

ALL EQUIPMENT, MATERIALS AND LABOR REQUIRED TO PERFORM THE WORK OUTLINED ABOVE, WITH THE EXCEPTION OF SETTING GUARDRAIL POSTS, SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 441, ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 1 (448), UNDER GUARDRAIL, AS PER PLAN.

ITEM 606 - IMPACT ATTENUATOR, TYPE 1 (UNIDIRECTIONAL OR BIDIRECTIONAL)

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY ONE OF THE TYPE 1 IMPACT ATTENUATORS AS LISTED ON THE OFFICE OF ROADWAY ENGINEERING'S WEB PAGE. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, IMPACT ATTENUATOR, TYPE 1 (UNIDIRECTIONAL OR BIDIRECTIONAL), EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED TRANSITIONS, HARDWARE, REFLECTIVE SHEETING AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

ITEM 606 - IMPACT ATTENUATOR, TYPE 2 (UNIDIRECTIONAL OR BIDIRECTIONAL)

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE TYPE 2 IMPACT ATTENUATORS AS LISTED ON THE OFFICE OF ROADWAY ENGINEERING'S WEB PAGE (REFER TO THE POSTED SHOP DRAWINGS FOR THE MOST CURRENT APPROVED PRODUCT MODELS). WHEN BI-DIRECTIONAL DESIGNS ARE SPECIFIED, THE CONTRACTOR SHALL SUPPLY APPROPRIATE TRANSITIONS.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, IMPACT ATTENUATOR, TYPE 2 [(SPEED (IN MPH), HAZARD WIDTH (IN INCHES)), (UNIDIRECTIONAL OR BIDIRECTIONAL)], EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED BACKUPS/BACKSTOPS, TRANSITIONS, HARDWARE AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

DESIGN AGENCY

Michael Baker INTERNATIONAL

DESIGNER

REVIEWER

PROJECT ID

82382

SHEET TOTAL

69 2339

ITEM 203 - ROADWAY MISC.: EPS GEOFOAM FILL

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING, TRIMMING AND PLACING BLOCK-MOLDED EXPANDED POLYSTYRENE (EPS) FOR USE AS A GEOFOAM GEOSYNTHETIC PRODUCT IN APPLICATIONS REQUIRING LIGHTWEIGHT FILL MATERIAL.

FURNISH EPS GEOFOAM BLOCKS PRODUCED BY A MANUFACTURER WITH A QUALITY CONTROL PROGRAM WHICH IS MONITORED AND CERTIFIED BY AN ACCREDITED, THIRD PARTY TESTING ORGANIZATION. SUBMIT TO THE ENGINEER THE FOLLOWING DOCUMENTS:

1. EPS GEOFOAM MANUFACTURERS PRODUCT LITERATURE AND TECH DATA INCLUDING PHYSICAL PROPERTIES IN COMPLIANCE WITH ASTM D 6817 TYPE SPECIFIED AND ASTM C 578 TYPE SPECIFIED.
2. SHOP DRAWINGS SHOWING BLOCK THICKNESS, WIDTH, LENGTH, AND LAYING PATTERN OR SCHEDULE.
3. A SIGNED/NOTARIZED CERTIFICATION FROM THE MANUFACTURER THAT THEIR EPS GEOFOAM MATERIAL MEETS THE PLAN REQUIREMENTS.
4. PRODUCT CERTIFICATE SHOWING EVIDENCE OF THIRD-PARTY QUALITY CONTROL.
5. SUMMARY OF TEST COMPLIANCE WITH SPECIFIED PERFORMANCE CHARACTERISTICS AND PHYSICAL PROPERTIES.

FURNISH EPS GEOFOAM CONFORMING TO ASTM D6817 TYPE EPS 29 GEOFOAM AND ASTM C-578 TYPE IX, RIGID CELLULARPOLYSTYRENE GEOFOAM ACCORDING TO THE GEOFOAM TYPE INDICATED IN THE PLANS AND THE TABLE BELOW.

ASTM TYPE	EPS29
MINIMUM DENSITY, LB/CU.FT.	1.8
COMPRESSIVE RESISTANCE AT 1% STRAIN, PSI	10.9
AT 5% STRAIN, PSI	24.7
AT 10% STRAIN, PSI	29.0
FLEXURAL STRENGTH, PSI	50.0

ALL EPS GEOFOAM BLOCKS SHALL BE TREATED BY THE MANUFACTURER WITH A TESTED AND PROVEN TERMITE TREATMENT FOR BELOW GRADE APPLICATIONS. THE TREATMENT SHALL BE EPA REGISTERED, MEET REQUIREMENTS OF ICC ES AC239, AND BE RECOGNIZED IN AN ICC ES REPORT.

FURNISH BLOCKS THAT ARE SMOOTH AND FLAT ON ALL SURFACES AND HAVE A DIMENSIONAL TOLERANCE OF +/-0.5 PERCENT.

BEFORE SHIPPING TO THE SITE, ENDURE BLOCKS ARE SEASONED BY STORING THEM AT THE MANUFACTURER'S FACILITY FOR AT LEAST 72 HOURS AT NORMAL AMBIENT ROOM TEMPERATURE AFTER BEING RELEASED FROM THE MOLD. DURING SEASONING, ALLOW ADEQUATE SPACE BETWEEN THE BLOCKS TO ALLOW AIR CIRCULATION SO AS TO FOSTER THE OUTGASSING OF BLOWING AGENT AND TRAPPED CONDENSATE FROM WITHIN THE BLOCKS.

LABEL EACH BLOCK WITH THE MANUFACTURER'S NAME, ASTM EPS TYPE, THE DATE THE BLOCK WAS MOLDED, THE WEIGHT AND THE DENSITY OF THE BLOCK AS MEASURED AFTER SEASONING.

PORTIONS OF THE GEOFOAM FILL THAT ARE NOT BENEATH A CONCRETE DISTRIBUTION SLAB OR CONCRETE APPROACH SLAB MUST BE PROTECTED FROM HYDROCARBON SPILLS (E.G. DIESEL OR GASOLINE) BY COVERING THE GEOFOAM BLOCKS ON THE TOP AND SIDES WITH A GEOMEMBRANE. FURNISH A GEOMEMBRANE MANUFACTURED FROM A TRI-POLYMER MATERIAL CONSISTING OF POLYVINYL CHLORIDE, ETHYLENE INTERPOLYMER ALLOY, AND A POLYURETHANE OR A COMPARABLE POLYMER COMBINATION. THE MATERIAL SHALL MEET THE FOLLOWING PHYSICAL AND CHEMICAL REQUIREMENTS:

- THICKNESS: MIN. 28 MILS (ATSM D 751)
- UNLEADED GASOLINE VAPOR MAXIMUM 0.40 TRANSMISSION RATE, OZ. PER SQUARE PER 24 HOURS (ASTM D 814)
- GRAB TENSILE STRENGTH: MIN. 600 LBS BOTH MACHINE AND CROSS DIRECTION (1" GRIP 4' x 8' SAMPLE ASTM D 571)
- ELONGATION AT BREAK: 20% MIN. (ASTM D 571)
- TOUGHNESS: 14,000 POUNDS MIN. (GRAB TENSILE x PERCENT ELONGATION)
- PUNCTURE RESISTANCE: 800 LB. MIN. (ASTM D 751 BALL TIP)
- COLD CRACK: PASS -30° FAHRENHEIT (ASTM D 2136 1" MANDREL, 4 HR)
- FACTORY SEAMS: 2 INCH MIN. BONDED WIDTH
- SHEAR: 320 LBS. MIN. (ASTM D 751)

A SIGNED/NOTARIZED CERTIFICATION OF COMPLIANCE SHALL BE FURNISHED BY THE MANUFACTURER STATING THE SELECTED GEOMEMBRANE HAS BEEN TESTED AND MEETS THE ABOVE REQUIREMENTS. JOINTS IN THE GEOMEMBRANE WRAP SHALL BE LAPPED A MINIMUM OF 18 INCHES. PLACE THE BEGINNING OF EACH NEW ROLL BENEATH THE END OF THE PREVIOUS ROLL TO PREVENT THE ADVANCING FILL FROM LIFTING THE GEOMEMBRANE. STAGGER END OVERLAPS AT LEAST 5 FEET FROM THE OTHER END OVERLAPS IN ADJACENT ROLLS.

CARE SHALL BE TAKEN TO PROTECT THE GEOFOAM BLOCKS FROM EXPOSURE TO GASOLINE, SOLVENT NAPHTHA, FUEL OIL, MINERAL OIL, TURPENTINE, OR ANY OTHER ORGANIC OR PETROLEUM BASED SOLVENT. THE BLOCKS SHALL ALSO BE PROTECTED FROM EXPOSURE TO ANY HEAT SOURCE WHICH WOULD REACH 175 DEGREES (F). GEOFOAM SHALL BE STORED ABOVE GROUND AND PROTECTED FROM MOISTURE AND SUNLIGHT PRIOR TO INSTALLATION.

DAMAGE TO GEOFOAM SHALL BE CORRECTED AS FOLLOWS:

-SLIGHT DAMAGE (< 0.12 CU FEET) WITH NO LINEAR DIMENSION GREATER THAN 1 FOOT MAY BE LEFT IN PLACE AS IS.

- MODERATE DAMAGE (< 0.35 CU FEET) WITH NO LINEAR DIMENSION GREATER THAN 1 FOOT SHALL BE FILLED IN WITH SAND.

-GEOFOAM BLOCKS WITH EXCESSIVE DAMAGE (I.E. EXCEEDING THE MODERATE CATEGORY) SHALL BE REPLACED WITH GEOFOAM BLOCKS WHICH MEET THE DAMAGE CRITERIA. GEOFOAM BLOCKS NOT MEETING THE CRITERIA MAY BE CUT TO ELIMINATE THE EXCESSIVE DAMAGE AND THE REMAINING UNDAMAGED PORTION OF THE BLOCK MAY BE USED WITHIN THE FILL, PROVIDED THE UNDAMAGED PORTION OF THE BLOCK MEETS ALL OTHER REQUIREMENTS.

PREPARE THE SURFACE ON WHICH THE FIRST LAYER OF BLOCKS WILL BE PLACED BY STRIPPING ALL VEGETATION AND GRADING SO THAT IT IS LEVEL WITHIN A TOLERANCE OF 1/2" OVER 10 FT DISTANCE. THE GEOFOAM FILL SHALL BE PLACED ON A GRANULAR BASE OF GRANULAR MATERIAL CONFORMING TO SIZE NO. 9 OF TABLE 703.01-1 OF THE CMS. THE GRANULAR BASE SHALL ALSO BE PLACED ALONG THE SIDES OF THE GEOFOAM FILL THAT ARE IN CONTACT WITH SOIL.

PROVIDE TIE DOWN STRAPS, SANDBAGS OR OTHER FLEXIBLE WEIGHTS TO PREVENT BLOCKS FROM BEING DISLODGED BY WIND. DO NOT STORE BLOCKS WHERE THERE IS A POTENTIAL FOR FLOODING.

SEE SHEETS XX & XX FOR SITE PREPARATION, AREA OF APPLICATION, AND EMBANKMENT TO BE PLACED ON TOP OF THE GEOFOAM BLOCKS.

DESIGN

CONTRACTOR SHALL SUPPLY PROPERLY SCALED SHOP DRAWINGS INDICATING THE PROPOSED LOCATION AND LAYOUT OF EACH EPS BLOCK. IN ADDITION, THE DRAWINGS SHALL INDICATE THE PROPOSED LOCATION AND LAYOUT OF GEOFORM GRIPPER PLATES AND ALL ACCESSORY ITEMS TO BE USED. SUBMITTED PLANS SHALL INCLUDE, BUT NOT BE LIMITED TO, PLANS AND ELEVATION VIEWS WITH ENOUGH DETAIL TO CLEARLY DESCRIBE THE PROPOSED INSTALLATION.

PLACEMENT

PLACE BLOCKS AS INDICATED ON THE PLANS AND SHOP DRAWINGS. ALL BLOCKS SHALL BE ACCURATELY FIT RELATIVE TO ADJACENT BLOCKS SO THAT ALL VERTICAL AND HORIZONTAL JOINTS BETWEEN BLOCKS ARE TIGHT. GAPS SHALL NOT EXCEED 1 INCH. AVOID CONTINUOUS VERTICAL JOINTS BY OFFSETTING AND ROTATING SUCCESSIVE LAYERS OF BLOCKS. EACH SUBSEQUENT LAYER OF BLOCKS SHALL BE ROTATED ON THE HORIZONTAL PLANE 90 DEGREES FROM THE DIRECTION OF PLACEMENT OF THE PREVIOUS LAYER. OFFSET BLOCKS AT LEAST 2 FEET BETWEEN LAYERS.

THE SURFACE OF EACH LAYER OF BLOCKS ON WHICH ANOTHER LAYER WILL BE PLACED MUST BE LEVEL TO WITHIN 0.5 INCH OVER ANY 10 FOOT INTERVAL. THE CORNER OR EDGE FORMED BY ANY TWO FACES OF A BLOCK SHALL BE PERPENDICULAR. THE DEVIATION OF ANY FACE OF THE BLOCK FROM A THEORETICAL PERPENDICULAR PLANE SHALL NOT EXCEED 1/8 INCH OVER A DISTANCE OF 20 INCHES. ANY ONE FACE OF A BLOCK SHALL NOT DEVIATE FROM A THEORETICAL PLANE BY MORE THAN 1/4 INCH WHEN MEASURED USING A STRAIGHTEDGE WITH A LENGTH OF 10 FEET.

CONSTRUCT THE SURFACE OF THE UPPERMOST LAYER OF BLOCKS TO THE GRADE SHOWN ON THE PLANS TO A TOLERANCE OF ZERO TO MINUS 2.5 INCHES OF THE INDICATED GRADE. THE LONGITUDINAL AXES OF THE UPPERMOST LAYER OF BLOCKS MUST BE PERPENDICULAR TO THE LONGITUDINAL AXIS OF THE ROAD ALIGNMENT.

A MINIMUM OF TWO LAYERS OF BLOCKS SHALL BE USED FOR LIGHTWEIGHT FILL BENEATH ROADWAYS.

CONNECTOR PLATES SHALL BE PLACED BETWEEN HORIZONTAL LAYERS OF BLOCK. A MINIMUM OF TWO CONNECTOR PLATES SHALL BE USED BETWEEN BLOCKS.

CONNECTORS SHALL BE GALVANIZED STEEL OR STAINLESS STEEL TWO SIDED MULTI-BARBED CONNECTORS. EACH CONNECTOR SHALL HAVE A LATERAL HOLDING STRENGTH OF AT LEAST 60 LBS. PROVIDE A SIGNED/NOTARIZED CERTIFICATION FROM THE MANUFACTURER THAT THE CONNECTOR PLATES MEET MATERIAL, DESIGN AND STRENGTH REQUIREMENTS OF THESE PLANS.

BLOCKS SHALL BE CUT USING A SAW OR HOT WIRE.

NO VEHICLE OR CONSTRUCTION EQUIPMENT SHALL TRAVERSE DIRECTLY ON THE EPS BLOCKS OR ON ANY SEPARATION MATERIAL PLACED BETWEEN THE EPS BLOCKS AND THE PAVEMENT SYSTEM. SOIL FOR THE PAVEMENT SYSTEM SHALL BE PUSHED ONTO THE EPS BLOCKS OR SEPARATION LAYER USING APPROPRIATE EQUIPMENT. A MINIMUM OF 12 INCHES OF FILL SHALL COVER THE TOP OF THE GEOFOAM BLOCK OR SEPARATION LAYER BEFORE COMPACTION COMMENCES. THE CONTRACTORS EQUIPMENT USED DURING COMPACTION SHALL NOT PLACE A PRESSURE GREATER THAN 18 PSI ON THE GEOFOAM BLOCKS AT ANY TIME DURING CONSTRUCTION. ANY DAMAGE TO THE GEOFOAM BLOCKS RESULTING FROM THE CONTRACTORS VEHICLES, EQUIPMENT, OR OPERATIONS SHALL BE REPLACED BY THE CONTRACTOR.

PAYMENT FOR THIS ITEM OF WORK SHALL BE PAID FOR BY THE UNIT PRICE BID PER CUBIC YARD OF ITEM SPECIAL ROADWAY MISC.: EPS GEOFOAM FILL, WHICH PRICE AND PAYMENT INCLUDE ALL MATERIALS, SITE PREPARATION(EXCLUDING EXCAVATION), GRANULAR BASE, GEOMEMBRANE WRAP, TOOLS, EQUIPMENT, AND LABOR TO COMPLETE THIS ITEM OF WORK IN PLACE.

ITEM 203 - EXCAVATION, AS PER PLAN

PREPARATION OF THE FOUNDATION FOR THE GEOFOAM BRIDGE APPROACH EMBANKMENTS SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 10 OF THE RECOMMENDED EPS-BLOCK GEOFOAM STANDARD FOR LIGHTWEIGHT FILL IN ROADWAY EMBANKMENTS AND BRIDGE APPROACH FILLS ON SOFT GROUND IN NCHRP 529.

THE DEPARTMENT WILL MEASURE FOUNDATION EXCAVATION ACCORDING TO 203.09.

THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITY AT THE CONTRACT PER CUBIC YARD FOR ITEM 203 - EXCAVATION, AS PER PLAN

ITEM 203 - EMBANKMENT, AS PER PLAN

THE MATERIAL USED FOR THIS ITEM SHALL BE RESTRICTED TO NATURAL SOILS WITH CLASSIFICATIONS A-6-a, A-6-b OR A-7-6 TO PROVIDE A COHESIVE SOIL CAP FOR THE GEOFOAM.

BENCHING OF FOUNDATION SLOPES

ALTHOUGH CROSS-SECTIONS INDICATE SPECIFIC DIMENSIONS FOR PROPOSED BENCHING OF THE EMBANKMENT FOUNDATIONS IN CERTAIN AREAS, NO WAIVER OF THE SPECIFICATIONS IS INTENDED. BENCH ALL OTHER SLOPED EMBANKMENT AREAS AS SET FORTH IN 203.05. NO ADDITIONAL PAYMENT WILL BE MADE FOR BENCHING REQUIRED UNDER THE PROVISIONS OF 203.05.

ITEM 202 - REMOVAL MISC.: TRACK REMOVED

IT IS ANTICIPATED THAT OLD STREETCAR TRACKS ARE BURIED UNDER THE EXISTING ASPHALT ON CEDAR AVE AND E. 22ND AVE AND WILL REQUIRE REMOVAL AS PART OF THIS PROJECT. THE EXACT LOCATION, LIMITS AND TYPE OF TRACK IS UNKNOWN.

THE UNIT PRICE PER FOOT FOR THIS ITEM SHALL INCLUDE THE REMOVAL AND DISPOSAL OF THE FULL DEPTH OF TRACK. PAYMENT WILL INCLUDE REMOVAL OF BRICK PAVERS, UNDERDRAINS, TIES AND ANGLES OR OTHER HARDWARE, RAIL, BALLAST AND THE BASE, COMPLETE.

ANY PART OF THE TRACK WHICH IS BELOW THE PROPOSED SUBGRADE SHALL BE REMOVED BACKFILLED PER CMS 202.02. ANY ADDITIONAL EXCAVATION OR EMBANKMENT REQUIRED BETWEEN THE BOTTOM OF THE TRACK BASE AND THE PROPOSED SUBGRADE WILL ALSO BE INCLUDED IN THE UNIT PRICE PER FOOT FOR THIS ITEM.

THE FOLLOWING CONTINGENCY ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER. PAYMENT FOR ACTUALLY COMPETED AND ACCEPTED QUANTITIES SHALL BE MADE AT THE CONTRACT UNIT PRICE BID FOR:

ITEM 202 - REMOVAL MISC.: TRACK REMOVED FT

DESIGN AGENCY

Michael Baker
INTERNATIONAL

DESIGNER

REVIEWER

PROJECT ID

82382

SHEET TOTAL

70 2339

EROSION CONTROL

SEEDING AND MULCHING

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS:

- 659, SOIL ANALYSIS TEST _____ EACH
- 659, TOPSOIL _____ CU. YD.
- 659, SEEDING AND MULCHING _____ SQ. YD.
- 659, REPAIR SEEDING AND MULCHING _____ SQ. YD.
- 659, INTER-SEEDING _____ SQ. YD.
- 659, COMMERCIAL FERTILIZER _____ TON
- 659, LIME _____ ACRES
- 659, WATER _____ M. GAL.
- 659, MOWING _____ M. SQ.FT.

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES, AND WITHIN THE CONSTRUCTION LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS.

ENVIRONMENTAL

ARCHAEOLOGICAL SITES / HISTORIC PROPERTIES ADJACENT TO RIGHT-OF-WAY

AS A RESULT OF A CULTURAL RESOURCE SURVEY, ARCHAEOLOGICALLY OR HISTORICALLY SENSITIVE AREAS HAVE BEEN IDENTIFIED ADJACENT TO THE PROPOSED RIGHTS-OF-WAY. THESE ARCHAEOLOGICALLY [OR HISTORICALLY] SENSITIVE AREAS HAVE BEEN DENOTED ON MAPPING THAT IS AVAILABLE FOR REVIEW AT THE STATE HISTORIC PRESERVATION OFFICE, (OHIO HISTORICAL SOCIETY, 800 EAST 17TH AVENUE, COLUMBUS, OHIO 43211-2474), ODOT'S OFFICE OF ENVIRONMENTAL SERVICES, AND THE DISTRICT 12 OFFICE (5500 E 98TH ST, GARFIELD HEIGHTS, OH 44125) THESE IDENTIFIED AREAS CANNOT BE USED FOR BORROW AREAS, WASTE, OR ANY OTHER PROJECT RELATED ACTIVITIES, SUCH AS TEMPORARY OFF-SITE STORAGE OR FIELD OFFICE PLACEMENT, PORTABLE PLANT LOCATIONS, ETC., UNLESS PRIOR APPROVAL IS OBTAINED, IN WRITING, FROM THE OHIO HISTORIC PRESERVATION OFFICE IN COLUMBUS.

ENDANGERED BAT HABITAT REMOVAL

THIS PROJECT IS LOCATED WITHIN THE KNOWN HABITAT RANGES OF THE FEDERALLY LISTED AND PROTECTED INDIANA BAT, AND NORTHERN LONG-EARED BAT. NO TREES SHALL BE REMOVED UNDER THIS PROJECT FROM APRIL 1 THROUGH SEPTEMBER 30. ALL NECESSARY TREE REMOVAL SHALL OCCUR FROM OCTOBER 1 THROUGH MARCH 31. THIS REQUIREMENT IS NECESSARY TO AVOID AND MINIMIZE IMPACTS TO THESE SPECIES AS REQUIRED BY THE ENDANGERED SPECIES ACT (ESA). FOR THE PURPOSES OF THIS NOTE, A TREE IS DEFINED AS: A LIVE, DYING, OR DEAD WOODY PLANT, WITH A TRUNK 3 INCHES OR GREATER IN DIAMETER AT A HEIGHT OF 4.5 FEET ABOVE THE GROUND SURFACE, AND WITH A MINIMUM HEIGHT OF 13 FEET.

ENVIRONMENTAL COMMITMENTS

HISTORIC ARCHITECTURE SITES/ SECTION 4(F)/SECTION 106 CONSULTATION

BASED UPON COORDINATION WITH THE OHIO HISTORIC PRESERVATION OFFICE, THE FOLLOWING COMMITMENTS ARE KNOWN FOR THE FOLLOWING PROPERTIES WHERE THERE IS "NO ADVERSE EFFECT":

WALKER WEEKS BUILDING – NO ADVERSE EFFECT, NO USE – MAINTAIN DESIGN TO NOT PERMANENTLY INCORPORATE PROPERTY WITHIN PROJECT; TEMPORARY RIGHT-OF-WAY FOR THE CONSTRUCTION OF RETAINING WALL AND SIDEWALKS.

CUYAHOGA COUNTY JUVENILE JUSTICE CENTER - NO ADVERSE EFFECT, DE MINIMIS SECTION 4(F) – RELOCATE APPROXIMATELY 200 FEET OF THE STONE WALL AND MAINTAIN ACCESS TO COURTYARD.

PUBLIC NOTIFICATIONS

THE CONTRACTOR WILL ADVISE THE PROJECT ENGINEER A MINIMUM OF FOURTEEN (14) DAYS PRIOR TO THE FOLLOWING: THE START OF CONSTRUCTION ACTIVITIES, LANE CLOSURES, AND ROAD CLOSURES. THE PIO WILL, IN TURN, NOTIFY THE PUBLIC, THE LOCAL EMERGENCY SERVICES, AFFECTED SCHOOLS AND BUSINESSES, AND ANY OTHER IMPACTED LOCAL PUBLIC AGENCY OF ANY OF THE ABOVE MENTIONED ITEMS VIA MEDIA SOURCES.

PETROLEUM CONTAMINATED SOIL RM-006

ENVIRONMENTAL STUDIES INDICATED THAT PETROLEUM CONTAMINATED SOIL (PCS) MAY BE ENCOUNTERED DURING EXCAVATIONS WITHIN THE PROJECT LIMITS IN PARCEL 331 AT 2350 E. 22ND STREET FROM STA 24+50 TO STA 26+00 LEFT. ENVIRONMENTAL STUDIES ARE AVAILABLE AT _____. THE CONTRACTOR MUST DETERMINE APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT FOR THOSE WHO CONDUCT WORK WITHIN THE LIMITS OF THE PCS.

ALL EXCAVATED PCS THAT CANNOT BE REUSED AS PROJECT FILL PER CMS 203.03(J), SHALL BE MANAGED AND DISPOSED OF AT A LICENSED LANDFILL. THE ENGINEER MAY PERMIT THE CONTRACTOR TO DIRECT LOAD THE EXCAVATED PCS INTO TRUCKS FOR TRANSPORT AND DISPOSAL. AS AN ALTERNATE, THE ENGINEER MAY PERMIT THE CONTRACTOR TO TEMPORARILY STOCKPILE THE EXCAVATED PCS ON AN IMPERMEABLE MEMBRANE, IN AN AREA PROVIDE BY THE CONTRACTOR AND APPROVED BY THE ENGINEER. THE STOCKPILE SHOULD BE SURROUNDED BY STRAW BALES TO REDUCE RUNOFF. THE CONTRACTOR WILL PROVIDE COMPLETED LOG FORMS AND MANIFESTS FOR TRANSPORT AND DISPOSAL TO THE ENGINEER FOR SIGNATURE. THE CONTRACTOR IS RESPONSIBLE FOR ANY ADDITIONAL TESTING THAT THE LANDFILL MAY REQUIRE FOR DISPOSAL.

IF EXCAVATIONS WITHIN THE PCS REQUIRE DEWATERING FOR CONSTRUCTION PURPOSES, THE CONTRACTOR SHALL DEWATER, CONTAINERIZE AND DISPOSE OF WATERS BY METHOD APPROVED BY THE ENGINEER. THE CONTRACTOR SHALL OBTAIN ALL THE NECESSARY PERMITS NEEDED TO STORE, TRANSPORT AND DISPOSE OF WATER IN ACCORDANCE WITH APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS. THE CONTRACTOR IS RESPONSIBLE FOR ANY ADDITIONAL TESTING REQUIRED FOR DISPOSAL. ALL EXCAVATED AREAS SHALL BE BACKFILLED WITH SUITABLE MATERIAL IN ACCORDANCE WITH PROJECT PLANS, APPLICABLE ODOT SPECIFICATIONS OR AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL FURNISH ALL THE LABOR, EQUIPMENT AND MATERIALS NECESSARY TO PROPERLY MANAGE, STORE (IF NECESSARY), TEST FOR DISPOSAL, TRANSPORT AND DISPOSE OF REGULATED MATERIALS, INCLUDING ANY REQUIRED PERMITS OR FEES WITHIN THE IDENTIFIED LIMITS. PAYMENT FOR THIS WORK SHALL BE MADE AT THE CONTRACT PRICE BID. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY.

- 690E65000 – WORK INVOLVING NON-REGULATED MATERIAL _____ TON
- 690E65016 – WORK INVOLVING PCS _____ TON
- 690E67000 – REGULATED UNDERGROUND STORAGE TANK REMOVED _____ EACH
- 690E65022 – NON-REGULATED WATER _____ GALLON
- 690E65024 – REGULATED WATER _____ GALLON

PETROLEUM CONTAMINATED SOIL RM-042

ENVIRONMENTAL STUDIES INDICATED THAT PETROLEUM CONTAMINATED SOIL (PCS) MAY BE ENCOUNTERED DURING EXCAVATIONS WITHIN THE PROJECT LIMITS IN PARCEL 303 AT 1802 CENTRAL AVENUE STA 13+25 TO STA 17+27 RIGHT. ENVIRONMENTAL STUDIES ARE AVAILABLE AT _____. THE CONTRACTOR MUST DETERMINE APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT FOR THOSE WHO CONDUCT WORK WITHIN THE LIMITS OF THE PCS.

ALL EXCAVATED PCS THAT CANNOT BE REUSED AS PROJECT FILL PER CMS 203.03(J), SHALL BE MANAGED AND DISPOSED OF AT A LICENSED LANDFILL. THE ENGINEER MAY PERMIT THE CONTRACTOR TO DIRECT LOAD THE EXCAVATED PCS INTO TRUCKS FOR TRANSPORT AND DISPOSAL. AS AN ALTERNATE, THE ENGINEER MAY PERMIT THE CONTRACTOR TO TEMPORARILY STOCKPILE THE EXCAVATED PCS ON AN IMPERMEABLE MEMBRANE, IN AN AREA PROVIDE BY THE CONTRACTOR AND APPROVED BY THE ENGINEER. THE STOCKPILE SHOULD BE SURROUNDED BY STRAW BALES TO REDUCE RUNOFF. THE CONTRACTOR WILL PROVIDE COMPLETED LOG FORMS AND MANIFESTS FOR TRANSPORT AND DISPOSAL TO THE ENGINEER FOR SIGNATURE. THE CONTRACTOR IS RESPONSIBLE FOR ANY ADDITIONAL TESTING THAT THE LANDFILL MAY REQUIRE FOR DISPOSAL.

IF EXCAVATIONS WITHIN THE PCS REQUIRE DEWATERING FOR CONSTRUCTION PURPOSES, THE CONTRACTOR SHALL DEWATER, CONTAINERIZE AND DISPOSE OF WATERS BY METHOD APPROVED BY THE ENGINEER. THE CONTRACTOR SHALL OBTAIN ALL THE NECESSARY PERMITS NEEDED TO STORE, TRANSPORT AND DISPOSE OF WATER IN ACCORDANCE WITH APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS. THE CONTRACTOR IS RESPONSIBLE FOR ANY ADDITIONAL TESTING REQUIRED FOR DISPOSAL. ALL EXCAVATED AREAS SHALL BE BACKFILLED WITH SUITABLE MATERIAL IN ACCORDANCE WITH PROJECT PLANS, APPLICABLE ODOT SPECIFICATIONS OR AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL FURNISH ALL THE LABOR, EQUIPMENT AND MATERIALS NECESSARY TO PROPERLY MANAGE, STORE (IF NECESSARY), TEST FOR DISPOSAL, TRANSPORT AND DISPOSE OF REGULATED MATERIALS, INCLUDING ANY REQUIRED PERMITS OR FEES WITHIN THE IDENTIFIED LIMITS. PAYMENT FOR THIS WORK SHALL BE MADE AT THE CONTRACT PRICE BID. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY.

- 690E65000 – WORK INVOLVING NON-REGULATED MATERIAL _____ TON
- 690E65016 – WORK INVOLVING PCS _____ TON
- 690E67000 – REGULATED UNDERGROUND STORAGE TANK REMOVED _____ EACH
- 690E65022 – NON-REGULATED WATER _____ GALLON
- 690E65024 – REGULATED WATER _____ GALLON

DESIGN AGENCY	
DESIGNER	Michael Baker INTERNATIONAL
REVIEWER	— —
PROJECT ID	82382
SHEET	TOTAL
71	2339

DRAINAGE

CROSSINGS AND CONNECTIONS TO EXISTING PIPES AND UTILITIES

WHERE PLANS PROVIDE FOR A PROPOSED CONDUIT TO BE CONNECTED TO, OR CROSS OVER OR UNDER AN EXISTING SEWER OR UNDERGROUND UTILITY, THE CONTRACTOR SHALL LOCATE THE EXISTING PIPES OR UTILITIES BOTH AS TO LINE AND GRADE BEFORE STARTING TO LAY THE PROPOSED CONDUIT.

IF IT IS DETERMINED THAT THE ELEVATION OF THE EXISTING CONDUIT, OR EXISTING APPURTENANCE TO BE CONNECTED, DIFFERS FROM THE PLAN ELEVATION OR RESULTS IN A CHANGE IN THE PLAN CONDUIT SLOPE, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WILL BE AFFECTED BY THE VARIANCE IN THE EXISTING ELEVATIONS.

IF IT IS DETERMINED THAT THE PROPOSED CONDUIT WILL INTERSECT AN EXISTING SEWER OR UNDERGROUND UTILITY IF CONSTRUCTED AS SHOWN ON THE PLAN, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WOULD BE AFFECTED BY THE INTERFERENCE WITH AN EXISTING FACILITY.

PAYMENT FOR ALL THE OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 611 CONDUIT ITEM.

DIVISION OF WATER POLLUTION CONTROL (WPC) NOTES

THE CONTRACTOR SHOULD NOTIFY THE DIVISION OF WATER POLLUTION CONTROL (WPC) PRIOR TO START OF CONSTRUCTION OF ANY CITY OF CLEVELAND SEWERS. CALL THE ENGINEERING OFFICE AT (216) 664-2756 OR (216) 664-3638 TO COORDINATE THE SEWER WORK.

THE CONTRACTOR IS REQUIRED TO SUBMIT SEWER SHOP DRAWINGS TO WPC PRIOR TO ANY CITY SEWER INSTALLATION. THE DRAWINGS SHOULD INCLUDE THE SEWER PIPES, MANHOLES, CATCH BASINS AND OTHER SEWER APPURTENANCES.

ANY PROPOSED CITY OF CLEVELAND SEWERS SHOULD BE CONSTRUCTED IN ACCORDANCE TO THE PLANS AND SPECIFICATIONS APPROVED BY WPC. ANY DEVIATIONS FROM THE APPROVED PLANS OR SPECIFICATIONS REQUIRE A NEW PLAN SUBMITTAL REFLECTING THE CHANGES. UPON REVIEW OF THE REVISED ITEMS, WPC WILL RE-ISSUE A NEW APPROVAL. IT IS STRICTLY PROHIBITED TO CONSTRUCT ANY CITY OF CLEVELAND SEWERS UNLESS THEY ARE APPROVED BY WPC.

UPON COMPLETION OF ANY CITY OF CLEVELAND SEWER INSTALLATION, THE CONTRACTOR IS REQUIRED TO SUBMIT A HARD COPY AND AN ELECTRONIC COPY OF AS-BUILT PLANS, AND A CCTV COPY OF THE NEW CITY SEWERS. WPC RESERVES THE RIGHT NOT TO APPROVE ANY SEWER THAT DOES NOT MEET THE CITY REQUIREMENTS.

ALL DISTURBED/DAMAGED SEWER CONNECTIONS CONNECTION SHOULD BE REPAIRED ACCORDING TO THE FOLLOWING CITY STANDARDS.

- USE VCP FOR ALL REPAIRED/RELOCATED SEWER CONNECTIONS.
- ALL SEWER REPAIRED/RELOCATED SEWER CONNECTIONS SHOULD BE LAID AT NO LESS THAN 1% GRADE.
- THE MINIMUM SIZE FOR A SEWER CONNECTION SHOULD BE 6".
- A MINIMUM COVER OF 3 FT IS REQUIRED FOR ALL PROPOSED SEWER CONNECTIONS.
- NO HORIZONTAL BENDS ARE ALLOWED FOR SEWER CONNECTIONS.
- USE A VCP WYE OR TEE FOR SEWER CONNECTIONS THAT TIE TO A VCP MAIN SEWER.
- USE A SADDLE FOR SEWER CONNECTIONS THAT TIE TO A BRICK OR RCP MAIN SEWER.
- IT IS PROHIBITED TO TIE THE SEWER CONNECTION TO THE BOTTOM, OR NEAR THE BOTTOM, OF THE CITY MAIN SEWER.

ITEM 611 - CONDUIT BORED OR JACKED

WHERE IT IS SPECIFIED THAT A CONDUIT BE INSTALLED BY THE METHOD OF BORING OR JACKING, NO TRENCH EXCAVATION SHALL BE CLOSER THAN 30 FEET TO THE EDGE OF PAVEMENT. PROVIDE A STEEL CASING PIPE CONFORMING TO 748.06. JOINTS WITH A CIRCUMFERENTIAL FULLY PENETRATING B-U4B WELD THAT IS PERFORMED BY AN ODOT APPROVED FIELD WELDER OR MACHINED INTERLOCKING JOINTS ARE PERMITTED. THE INSTALLED CASING PIPE IS THE STORM WATER CONVEYANCE CARRIER UNLESS OTHERWISE SPECIFIED IN THE PLANS. HYDROSTATIC TESTING IS NOT REQUIRED FOR THE CASING PIPE.

**ITEM 611 – 15" CONDUIT, AS PER PLAN
 ITEM 611 - 18" CONDUIT, AS PER PLAN**

CONSTRUCT CONDUIT ACCORDING TO CMS 611 EXCEPT THAT THE CONDUIT MATERIAL MUST BE REINFORCED CONCRETE PIPE PER 706.02. PROVIDE PREMIUM JOINTS PER 706.11 AND WRAP THE PIPE JOINTS IN GEOTEXTILE FABRIC, TYPE A PER 712.09. ENCASE THE PIPE IN A STEEL CASING PIPE ACCORDING TO 748.06 PER THE SIZE PRESCRIBED IN THE PLANS AND FOR THE LENGTH SHOWN THROUGH THE LIMITS OF THE MSE WALL SELECT GRANULAR BACKFILL AND LIGHTWEIGHT GEOFOAM.

PAYMENT FOR REINFORCED CONCRETE PIPE, PREMIUM JOINTS AND GEOTEXTILE FABRIC, INCLUDING ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 611 – 15" CONDUIT, AS PER PLAN AND ITEM 611 - 18" CONDUIT, AS PER PLAN. STEEL CASING PIPE SHALL BE PAID FOR UNDER ITEM 638.

**ITEM 611 – MANHOLE, AS PER PLAN 2
 ITEM 611 – CATCH BASIN, AS PER PLAN 2
 ITEM 611 – INLET, AS PER PLAN 2**

CONSTRUCT MANHOLES, CATCH BASINS AND INLETS AS PER PLAN 2 PER CMS 611 AND APPLICABLE STANDARD CONSTRUCTION DRAWINGS EXCEPT THAT A SAND AND TRAP SHALL BE PROVIDED PER CITY OF CLEVELAND FILE NO. CB-1 SHEET 1/7.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 611 MANHOLES, CATCH BASINS, AND INLETS AS PER PLAN 2, EACH, AND SHALL INCLUDE ALL MATERIALS, LABOR, AND TOOLS NECESSARY.

ITEM 611 8'X3' CONDUIT, TYPE B, FOR UNDERGROUND DETENTION, AS PER PLAN

PROVIDE AN UNDERGROUND DETENTION SYSTEM MEETING REQUIREMENTS AS OUTLINED IN THIS NOTE AND AS DETAILED IN THE PLANS. THE UNDERGROUND DETENTION CONDUITS AND STRUCTURES SHOWN IN THE PLANS ARE DESIGNED FOR HYDRAULIC CAPACITY AND THE AVAILABLE PROJECT SPACE. AN UNDERGROUND DETENTION SYSTEM DESIGNED BY A VENDOR MAY BE USED IN LIEU OF THE BOX CULVERTS AS SHOWN IN THE PLANS AS LONG AS IT MEETS THE PERFORMANCE REQUIREMENTS OF CMS 611. THIS NOTE, MEETS THE HYDRAULIC CAPACITY SPECIFIED IN THE PLANS, AND FITS IN THE LOCATIONS SPECIFIED WITHOUT EXTENDING BENEATH THE TRAVELLED LANES.

MATERIAL REQUIREMENTS: PROVIDE A SYSTEM CONSISTING OF A COMBINATION OF DRAINAGE CONDUITS AND STRUCTURES. CONDUIT MATERIALS SHALL BE LIMITED TO 706.02, 706.04, 706.05, 707.04, OR 707.42. DRAINAGE STRUCTURES SHALL MEET CMS 611. ONLY A CLOSED SYSTEM WITH THE ENTIRE REQUIRED STORAGE VOLUME BEING HELD WITHIN THE CONDUITS AND STRUCTURES WILL BE PERMITTED. ALL JOINTS AND CONNECTIONS SHALL BE ADEQUATELY SEALED TO PREVENT INFILTRATION OR EXFILTRATION OF WATER.

SYSTEM ACCESS: PROVIDE A MINIMUM OF TWO MANHOLE ACCESS POINTS ON EACH RUN OF CONDUIT THAT IS USED TO PROVIDE THE STORAGE VOLUME. LENGTHS EXCEEDING 200' REQUIRE ADDITIONAL MANHOLE ACCESS POINTS. ACCESS POINTS ARE NOT REQUIRED ON SHORT RUNS OF SMALL CONDUITS USED TO CONNECT THE LARGER SYSTEM. PROVIDE MANHOLE RISERS AT THE ACCESS POINTS MEETING THE REQUIREMENTS OF STANDARD CONSTRUCTION DRAWING MH-3 AND PROVIDE A MINIMUM OPENING DIAMETER OF 30 INCHES FOR FRAMES AND COVERS.

OUTLET CONTROL STRUCTURE: CONTROL THE RELEASE RATE USING A PASSIVE SYSTEM CONSISTING OF WEIR WALLS WITH ORIFICES. THE OUTLET CONDUIT SIZE MAY NOT EXCEED WHAT IS SHOWN IN THE PLANS. A MANHOLE ACCESS POINT SHALL BE LOCATED IMMEDIATELY ABOVE THE OUTLET CONTROL DEVICE TO ALLOW FOR MAINTENANCE, INSPECTION AND CLEANING.

HYDRAULIC REQUIREMENTS: REQUIRED STORAGE VOLUME MUST MEET OR EXCEED 9600 CUBIC FEET FOR DETENTION 1 AND 8400 CUBIC FEET FOR DETENTION 2. THE MAXIMUM RELEASE RATES MAY NOT EXCEED THE VALUES PRESENTED IN THE TABLE BELOW.

DESIGN YEAR	DETENTION 1 (CFS)	DETENTION 2 (CFS)
10-YEAR	7.1	7.2
25 YEAR	7.9	8.8
50-YEAR	8.5	10.1

SUBMITTAL REQUIREMENTS: PROVIDE ALL OF THE FOLLOWING DOCUMENTATION PRIOR TO SHIPPING ANY MATERIALS TO THE PROJECT. ALLOW A MINIMUM OF FOUR WEEKS FOR APPROVAL.

- A. SHOP DRAWINGS: ENSURE THE SHOP DRAWINGS INCLUDE THE FOLLOWING:
- a. ALL MATERIAL SPECIFICATIONS.
 - b. THE MANUFACTURER'S RECOMMEND INSTALLATION PROCEDURES.
 - c. PLAN VIEW OF DETENTION SYSTEM, ADDITIONAL ACCESS MANHOLES, AND THE CONDUIT CONNECTIONS TO THE MANHOLES. LABEL THE STATION AND OFFSET AT ALL ENDS OF CONDUIT RUNS, ACCESS POINTS AND STRUCTURES UTILIZING THE PROJECT ALIGNMENT STATIONING.
 - d. ELEVATION VIEWS SHOWING ELEVATION LABELS (CORRELATED TO THE PROJECT PLAN DATUM) OF THE DETENTION SYSTEM, ADDITIONAL MANHOLES, AND THE CONDUIT CONNECTIONS TO THE MANHOLES.
 - e. ALL DIMENSIONS. MANHOLE DIMENSIONS SHOWN IN THE SHOP DRAWINGS THAT DIFFER FROM THE MANHOLE DIMENSIONS IN THE PLANS REQUIRE APPROVAL FROM THE DISTRICT ENGINEERING OFFICE.

IF THE CONTRACTOR UTILIZES A VENDOR DESIGNED DETENTION SYSTEM IN LIEU OF THE BOX CULVERTS SHOWN IN THE PLANS, ADDITIONAL SUBMITTAL REQUIREMENTS SHALL INCLUDE:

- A. HYDRAULIC CALCULATIONS: PROVIDE TWO SETS OF HYDRAULIC CALCULATIONS STAMPED AND SIGNED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER. SHOW THAT THE MINIMUM STORAGE VOLUME IS BEING PROVIDED AND THAT THE ALLOWABLE RELEASE RATE IS NOT BEING EXCEEDED.
- B. MAINTENANCE PROCEDURES: PROVIDE RECOMMENDED ROUTING CLEANING/MAINTENANCE PROCEDURES FROM THE SYSTEM MANUFACTURER ADDRESSING HOW THE SYSTEM IS ACCESSED, ESTIMATED NUMBER OF LABORERS, EQUIPMENT NEEDED, AND HOW DEBRIS AND SEDIMENTS ARE TO BE REMOVED.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 611 - 8'X3' CONDUIT, TYPE B, FOR UNDERGROUND DETENTION, AS PER PLAN, FT. THIS WORK SHALL INCLUDE ALL CONDUIT, MANHOLES, ACCESS POINTS, EXCAVATION, BACKFILL, LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY.

ITEM 611 – WATER QUALITY BASIN, DETENTION, AS PER PLAN

CONSTRUCT A WATER QUALITY BASIN PER CMS 611 AND SCD WQ-1.1 EXCEPT THAT THE STRUCTURE SHALL NOT INCORPORATE A PVC RISER PIPE. CUT OUTLET HOLES AS SHOWN IN THE PLAN THROUGH THE WALL OF THE BASIN. PROVIDE A TRASH SKIMMER PER SCD WQ-1.1 THAT SURROUNDS THE HOLES AND EXTENDS FROM 6" BELOW THE HOLES TO THE TOP OF THE BASIN.

ALL MATERIALS AND LABOR, INCLUDING EXCAVATION AND BACKFILL, ARE PAID FOR AT THE CONTRACT PRICE FOR ITEM 611 – WATER QUALITY BASIN, DETENTION, AS PER PLAN

REVIEW OF DRAINAGE FACILITIES

PRIOR TO THE START OF EACH PHASE OF WORK AND AGAIN BEFORE FINAL ACCEPTANCE, PERFORM AN INSPECTION WITH REPRESENTATIVES OF THE DEPARTMENT, CONTRACTOR AND LOCALS OF ALL EXISTING DRAINAGE FACILITIES THAT ARE TO REMAIN IN SERVICE WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCES IS DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE INSPECTION ARE MAINTAINED BY THE DEPARTMENT.

CONFIRM ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE-MENTIONED PARTIES ARE MAINTAINED AND LEFT IN A CONDITION COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. THE CONTRACTOR IS RESPONSIBLE TO CORRECT ANY CHANGE IN THE CONDITION RESULTING FROM THEIR OPERATIONS AS DIRECTED AND APPROVED BY THE ENGINEER.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE IS INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 611 CONDUIT ITEMS.

ITEM SPECIAL - MISCELLANEOUS METAL

EXISTING CASTINGS MAY PROVE TO BE UNSUITABLE FOR REUSE, AS DETERMINED BY THE ENGINEER. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE CASTINGS OF THE REQUIRED TYPE, SIZE AND STRENGTH (HEAVY OR LIGHT DUTY) FOR THE PARTICULAR STRUCTURE IN QUESTION. ALL MATERIAL SHALL MEET ITEM 611 OF THE SPECIFICATIONS AND SHALL HAVE THE PRIOR APPROVAL OF THE ENGINEER.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER.

SPECIAL, MISCELLANEOUS METAL _____ POUNDS

THE CONTRACTOR IS CAUTIONED TO USE EXTREME CARE IN THE REMOVAL, STORAGE AND REPLACEMENT OF ALL EXISTING CASTINGS. CASTINGS DAMAGED BY THE NEGLIGENCE OF THE CONTRACTOR, AS DETERMINED BY THE ENGINEER, SHALL BE REPLACED WITH THE PROPER NEW CASTINGS AT THE EXPENSE OF THE CONTRACTOR.

DESIGN AGENCY

Michael Baker INTERNATIONAL

DESIGNER

REVIEWER

PROJECT ID
82382

SHEET TOTAL
72 | 2339

ITEM SPECIAL - FILL AND PLUG EXISTING CONDUIT

THIS ITEM SHALL CONSIST OF THE CONSTRUCTION OF BULKHEADS IN AN EXISTING 12 IN DIAMETER CONDUIT AND FILLING THE AREA THUS SEALED OFF WITH ITEM 613, OR OTHER MATERIAL APPROVED BY THE ENGINEER.

BULKHEADS SHALL BE LOCATED AT THE LIMITS OF THE AREA TO BE FILLED AS INDICATED ON THE PLANS. THE BULKHEADS SHALL CONSIST OF BRICK OR CONCRETE MASONRY WITH A MINIMUM THICKNESS OF 12 INCHES.

THE FILL MATERIAL SHALL BE PUMPED INTO PLACE, OR PLACED BY OTHER MEANS APPROVED BY THE ENGINEER, SO THAT, AFTER SETTLEMENT, AT LEAST 90 PERCENT OF THE CROSS-SECTIONAL AREA OF THE CONDUIT, FOR ITS ENTIRE LENGTH, SHALL BE FILLED. THE LENGTH OF FILLED AND PLUGGED CONDUIT TO BE PAID FOR SHALL BE THE ACTUAL NUMBER OF FEET (MEASURED ALONG THE CENTERLINE OF EACH CONDUIT FROM OUTER FACE TO OUTER FACE OF BULKHEADS) FILLED AND PLUGGED AS DESCRIBED ABOVE.

IN LIEU OF FILLING AND PLUGGING THE EXISTING CONDUIT, THE PIPE MAY BE CRUSHED AND BACKFILLED IN ACCORDANCE WITH THE PROVISIONS OF 203, OR IT MAY BE REMOVED. THE LENGTH, MEASURED AS PROVIDED ABOVE, SHALL BE PAID FOR AT THE CONTRACT PRICE PER FOOT FOR, ITEM SPECIAL, FILL AND PLUG EXISTING CONDUIT.

TEMPORARY DRAINAGE ITEMS

TEMPORARY DRAINAGE ITEMS LABELED ON THE MAINTENANCE OF TRAFFIC PLAN ARE ITEMIZED ON THE MOT PLANS AND CARRIED TO THE GENERAL SUMMARY.

POST CONSTRUCTION STORM WATER TREATMENT

THIS PLAN UTILIZES STRUCTURAL BEST MANAGEMENT PRACTICES (BMP'S) FOR POST CONSTRUCTION STORM WATER TREATMENT.

MANUFACTURED WATER QUALITY STRUCTURE

THIS PLAN UTILIZES MANUFACTURED WATER QUALITY STRUCTURES FOR WATER QUALITY TREATMENT. AREAS HAVE BEEN SHOWN IN THE PLANS FOR PLACEMENT OF AN OFF-LINE SYSTEM. CONTRACTOR TO FILL OUT SUPPLEMENTAL SPECIFICATION 995 FORMS PAYMENT FOR THESE DEVICES SHALL BE MADE AT THE CONTRACT UNIT PRICE FOR ITEM 895, MANUFACTURED WATER QUALITY STRUCTURE, TYPE 4, AS PER PLAN.

EXTENDED DETENTION BASIN

THIS PLAN UTILIZES EXTENDED DETENTION BASIN(S) FOR POST CONSTRUCTION STORM WATER TREATMENT. DETENTION BASINS MAY BE USED AS SEDIMENT CONTROL DEVICES DURING CONSTRUCTION. FOLLOWING STABILIZATION OF THE TRIBUTARY AREA, FINAL GRADING OF THE DETENTION BASIN MUST MATCH THE PLANS. THE DETENTION BASIN OUTLET STRUCTURE FOR CONSTRUCTION SEDIMENT CONTROL MUST BE REMOVED AND THE OUTLET STRUCTURE MUST BE MADE TO MATCH THE DESIGN SHOWN IN THE PLANS.

ITEM 895 MANUFACTURED WATER QUALITY STRUCTURE, TYPE 4, AS PER PLAN

CONSTRUCT A PRECAST WATER QUALITY STRUCTURE PER SS 895 EXCEPT THAT THE CONTRACTOR SHALL FURNISH A PRECAST WATER QUALITY STRUCTURE THAT IS ON FILE WITH THE OFFICE OF MATERIALS MANAGEMENT THAT ALSO HAS A DEPTH THAT DOES NOT EXCEED 48" BELOW THE INLET AND OUTLET PIPE FLOWLINE ELEVATIONS SUCH AS THE BIO CLEAN DSBB-6-12, THE CONTECH VORTECHS 11000 OR AN APPROVED EQUAL.

PAVEMENT

CONTRACTION AND/OR EXPANSION JOINTS

ALTHOUGH SPECIFIC LOCATIONS OF CERTAIN CONTRACTION AND EXPANSION JOINTS HAVE BEEN DETAILED ON THIS PLAN, NO WAIVER OF THE SPECIFICATIONS IS INTENDED. IN ALL CASES, THE PROVISION OF EXPANSION JOINTS AT ALL MAJOR STRUCTURES INCLUDING THE MAXIMUM SPACING BETWEEN CONTRACTION JOINTS IS IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWING BP-2.2 AND THE SPECIFICATIONS.

CONTRACTION JOINTS IN CONCRETE PAVEMENT OR BASE WIDENING

WHERE NEW CONCRETE IS PLACED ADJACENT TO EXISTING CONCRETE, PROVIDE CONTRACTION JOINTS IN THE NEW CONCRETE TO FORM CONTINUOUS JOINTS WITH THOSE IN THE EXISTING CONCRETE.

THE MAXIMUM DISTANCE BETWEEN THE JOINTS IN THE NEW CONCRETE ARE IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWING BP-2.2, IF NECESSARY, ADDITIONAL JOINTS MAY BE PROVIDED IN THE NEW CONCRETE AT APPROXIMATELY EQUAL INTERVALS BETWEEN EXISTING JOINTS THAT EXCEED THE MAXIMUM SPACING.

PART-WIDTH CONSTRUCTION

BECAUSE OF THE NECESSITY TO BUILD THIS PROJECT UNDER TRAFFIC AND TO CONSTRUCT THE FULL PAVEMENT WIDTH IN STAGES, EXERCISE CARE TO PREVENT THE CONSTRUCTION OF A BUTT JOINT IN THE BASE COURSES. LAP LONGITUDINAL JOINTS AS SHOWN ON STANDARD CONSTRUCTION DRAWING BP-3.1. CONSTRUCT LONGITUDINAL JOINTS PER CMS 401.17.

MEDIAN AND/OR CURBING ON APPROACH SLABS

WITHIN THE LIMITS OF THE APPROACH SLAB, TRANSITION THE SHAPE OF THE MEDIAN AND/OR CURBING ON APPROACH SLABS FROM THE STANDARD SECTION ON THE APPROACHES TO THE SECTION USED ON THE BRIDGE.

ITEM 202 BARRIER, MISC.: PORTABLE BARRIER REMOVED

THIS ITEM SHALL MEET ALL THE SPECIFICATIONS OF ITEM 202 EXCEPT THAT THE EXISTING BARRIER TO BE REMOVED IS PORTABLE BARRIER INSTEAD OF CONCRETE BARRIER

ITEM 606 – MGS BRIDGE TERMINAL ASSEMBLY, TYPE 2, AS PER PLAN

THIS ITEM SHALL MEET ALL THE SPECIFICATIONS OF ITEM 606 EXCEPT THAT THE BRIDGE TERMINAL ASSEMBLY SHALL BE THRIE-BEAM PER SCD-3.1 THE BRIDGE TERMINAL ASSEMBLY SHALL BE LOCATED AT END OF PROPOSED CONCRETE PARAPET PER SCD MGS-3.2. NESTED THRIE-BEAM SHALL CONNECT THE BRIDGE TERMINAL ASSEMBLY TO THE EXISTING THRIE-BEAM BRIDGE RAILING AT THE FIRST EXISTING POST AND SHALL BE INCIDENTAL TO THIS ITEM.

ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE C, AS PER PLAN

THIS ITEM SHALL MEET ALL THE SPECIFICATIONS OF ITEM 622 EXCEPT THAT THE CONCRETE BARRIER SHALL WIDEN FROM 31" AT STA 307+07.08 TO 67 ½" AT STA 308+45.00 AS SHOWN BY THE TYPICAL SECTION ON SHEET 40. CONCRETE BARRIER FACE SLOPE AND HEIGHT SHALL BE PER SCD RM-4.3.

ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE D, AS PER PLAN

THIS ITEM SHALL MEET ALL THE SPECIFICATIONS OF ITEM 622 EXCEPT THE CONCRETE BARRIER SHALL BE PLACED ON TOP OF PROPOSED CONCRETE PAVEMENT AND BE DOWELED. SEE SCD RM-4.5 AND TYPICAL SECTION ON SHEET 48 FOR DETAILS.

ITEM 622 – PORTABLE BARRIER, UNANCHORED, AS PER PLAN

THIS ITEM SHALL MEET ALL THE SPECIFICATIONS OF ITEM 622 EXCEPT THE PORTABLE BARRIER SHALL BE LEFT IN PLACE AFTER CONSTRUCTION AND BECOME PROPERTY OF THE DEPARTMENT.

CONCRETE DESIGN MIX (CLEVELAND 650)

ALL CAST-IN-PLACE CONCRETE ON THE CITY OF CLEVELAND STREETS SHALL BE PROVIDED IN ACCORDANCE WITH THE ODOT CMS, EXCEPT THAT THE MINIMUM CEMENT CONTENT OF THE MIX SHALL BE 650 LBS PER CUBIC YARD.

DESIGN AGENCY	
DESIGNER	Michael Baker INTERNATIONAL
REVIEWER	---
PROJECT ID	82382
SHEET	73
TOTAL	2339