

VERNON ODOM BLVD.

I-77 AND FREDERICK BLVD. INTERSECTION IMPROVEMENTS CITY OF AKRON

STANDARD DRAWINGS AND SPECIFICATIONS

THE STANDARD CONSTRUCTION DRAWINGS, LATEST REVISIONS AND THE "CONSTRUCTION AND MATERIAL SPECIFICATIONS" OF THE CITY OF AKRON, OHIO, DEPARTMENT OF PUBLIC SERVICE, AKRON ENGINEERING BUREAU, 2008 EDITION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.



DANIEL HARRIGAN, MAYOR

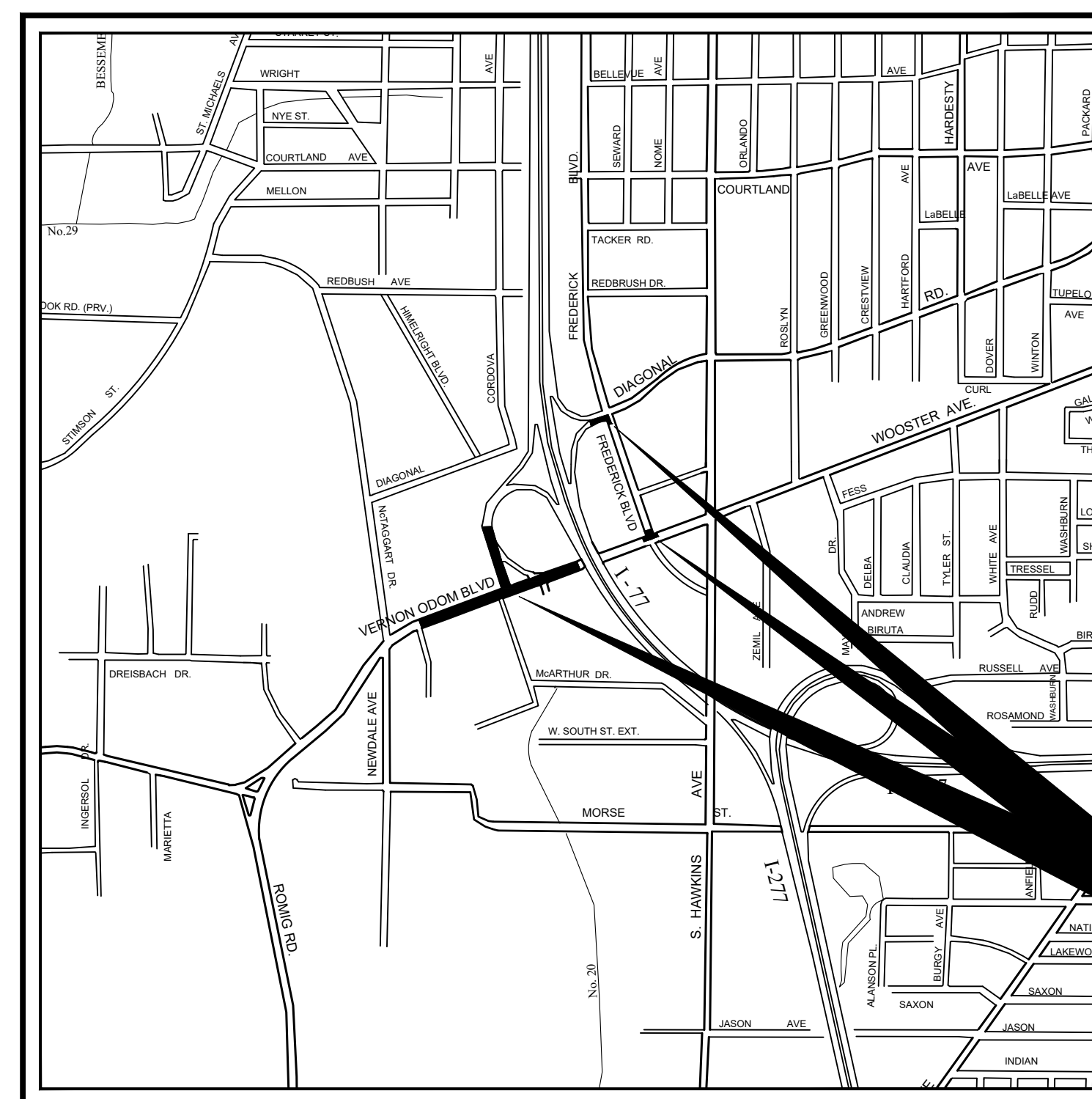
CITY OF AKRON
DEPARTMENT OF PUBLIC SERVICE
AKRON ENGINEERING BUREAU

166 SOUTH HIGH STREET
AKRON, OHIO 44308

DIRECTOR OF PUBLIC SERVICE: JOHN O. MOORE
MAYOR: DANIEL M. HARRIGAN
CITY ENGINEER: JAMES A. HEWITT, PE

LEGEND

- Ex. Dbl. No. 2 Inlet
- Ex. Dbl. No. 5 Inlet
- Ex. Electric Manhole
- Ex. Electric Pullbox
- Ex. Gas Valve
- Ex. Guy Wire
- Ex. Handhole
- Ex. Hydrant
- Ex. Iron Pin
- Ex. Light Pole
- Ex. Manhole
- Ex. Monument
- Ex. No. 2 Inlet
- Ex. No. 3 Inlet
- Ex. No. 5 Inlet
- Ex. Parking Lot Light
- Ex. Power Pole
- Ex. Property Pin Found
- Ex. Street Light
- Ex. Street Light Pullbox
- Ex. Traffic Signal Pole
- Ex. Utility Pole
- Ex. Water Box or Pit
- Ex. Water Valve
- Ex. I/PROP. Traffic Sign
- ADJ. GAS VALVE
- ADJ. MANHOLE
- ADJ. WATER VALVE
- PROP. DBL. NO. 5 INLET
- PROP. NO. 5 INLET
- PROP. ODOT NO. 5 OR NO. 6 CATCH BASIN
- PROP. PEDESTRIAN SIGNAL POLE
- PROP. TRAFFIC SIGNAL POLE
- PROPERTY PIN SET

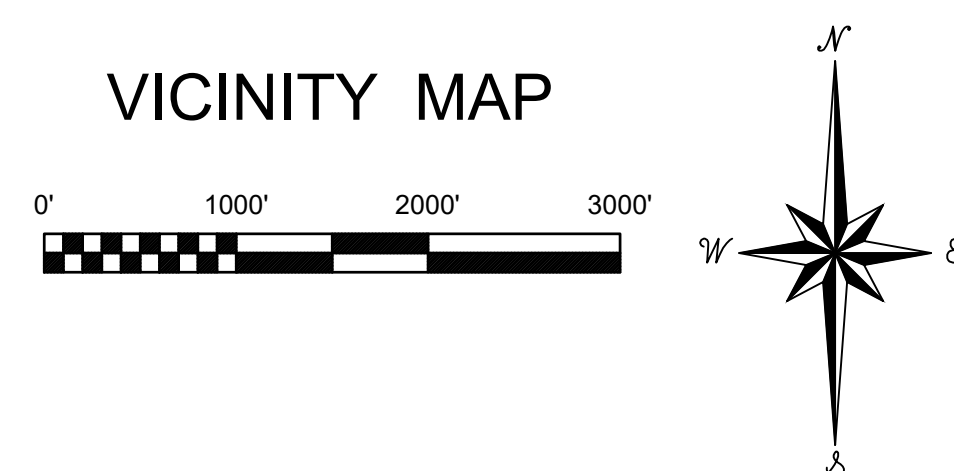


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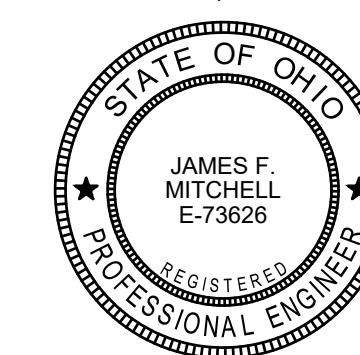
PROJECT LOCATION

VICINITY MAP



- CONSTRUCTION LIMITS
- Ex. Chain Link Fence
- Ex. Contours
- PROP. CONTOURS
- Ex. Guardrail
- Ex. Vegetation
- Ex. Concrete Sidewalk
- WEARING COURSE REMOVAL AREA
- PAVEMENT REMOVAL AREA INCLUDING CURB
- PROPOSED OR RECONSTRUCTED CONCRETE SIDEWALK, 6" THICK
- PROPOSED OR RECONSTRUCTED CONCRETE SIDEWALK OR DRIVE APRON, 8" THICK

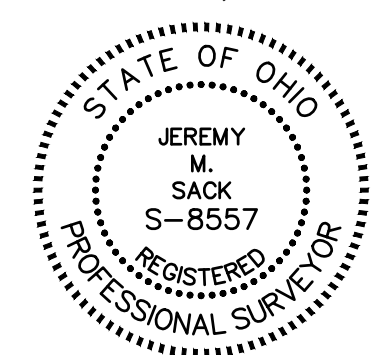
PROJECT ENGINEER
PRIME AE GROUP, INC.



JAMES F. MITCHELL, P.E.

DATE

PROJECT SURVEYOR
TGC ENGINEERING, LLC



JEREMY M. SACK, P.S.

DATE

PROJECT DESCRIPTION

WIDENING OF VERNON ODOM BLVD AT THE INTERSECTION OF THE SB I-77 ENTRANCE AND EXIT RAMP TO ACCOMMODATE DUAL LEFT TURNS FOR THE ENTRANCE RAMP. REMOVAL OF SB I-77 SLIP RAMP AND REPLACEMENT WITH A DEDICATED RIGHT TURN LANE FROM WB VERNON ODOM BLVD. INSTALLATION OF NEW SIGNALIZATION.

WIDENING OF FREDERICK BLVD RETURNS AT VERNON ODOM BLVD TO ACCOMMODATE TRUCK TURNING MOVEMENTS. ADJUSTMENTS TO EXISTING SIGNALIZATION.

WIDENING OF NB I-77 EXIT RAMP RETURN ONTO SB FREDERICK BLVD TO ACCOMMODATE TRUCK TURNING MOVEMENTS.

VERNON ODOM BLVD.
I-77 AND FREDERICK BLVD. INTERSECTION IMPROVEMENTS

PLANS PREPARED BY:
PRIME AE
540 WHITE POND DRIVE
AKRON, OHIO 44320
(330) 864-7755

2018-032-01
1
26

Survey Point Table				
Point #	Northing	Easting	Elevation	Full Description
1	509652.1160	2222562.8380	1001.23	Mon Box 1
2	509850.3550	2222709.2290	985.32	Mon Box 1
3	509868.7590	2222729.4220	983.70	Mon Box 1
4	510004.2660	2222956.0820	980.50	Mon Box EMPTY
5	510871.7520	2225307.0260	993.73	Mon Box DISC
6	511588.8630	2224239.1050	978.44	Mon Box DISC
7	510085.8680	2223048.2440	979.86	Mag Nail Set
9	510287.1990	2223612.8330	978.44	Mag Nail Set
10	510310.0630	2223784.3070	975.91	Mon Box 1
11	510728.3110	2223369.9680	985.88	Mag Nail Set
12	510995.7080	2223007.8080	978.58	5/8" Iron Pin
13	511095.2110	2223316.1160	972.09	1/2" Iron Pipe
14	510192.8220	2222823.8900	982.56	5/8" Iron Pin
15	509972.6310	2223027.4770	980.11	3/4" Iron Pin
16	510020.7020	2222887.4770	980.92	1" Iron Pipe
17	510055.8440	2222980.6090	979.99	1" Iron Pipe
18	510177.3420	2223309.5160	979.62	5/8" Iron Pin
19	510255.4440	2223521.6280	978.22	5/8" Iron Pin
20	510486.9710	2224410.0570	979.76	5/8" Iron Pin
21	510477.5830	2224412.6770	979.79	5/8" Iron Pin

Survey Point Table				
Point #	Northing	Easting	Elevation	Full Description
22	510634.0760	2224547.4340	981.45	1/2" Iron Pin
23	511293.5200	2224090.6090	980.20	5/8" Iron Pin
24	510340.5720	2223974.3090	976.55	Mag Nail Set
25	510539.6340	2224286.1130	979.37	Mag Nail Set
26	510679.8910	2224600.1430	982.13	Mag Nail Set
27	511511.2460	2224221.5120	979.52	Mag Nail Set
730	510296.8160	2223800.4150	976.70	" Iron Pin
1661	510804.6670	2224485.2090	981.00	5/8" Iron Pin
1662	510793.6650	2224574.6090	981.91	5/8" Iron Pin
1663	511138.0440	2224447.3490	979.62	3/4" Iron Pipe
1664	511239.0170	2224410.6460	980.38	3/4" Iron Pipe
1665	511344.8290	2224371.8890	980.37	1/2" Iron Pin

SPIRAL S1
 $\Theta_s = 15^{\circ}04'40"$
 $LT = 100.37'$
 $ST = 50.33'$
 $Ls = 150.00'$

CURVE C1
 $PI = STA. 1+08.78, B.L. RAMP "L"$
 $\Delta = 47^{\circ}01'48" LT$
 $Dc = 22^{\circ}55'06"$
 $R = 250.00'$
 $T = 108.78'$
 $L = 205.20'$
 $E = 22.64'$

CURVE C2
 $PI = STA. 1+83.83, B.L. RAMP "N"$
 $\Delta = 14^{\circ}37'12" RT$
 $Dc = 4^{\circ}00'00"$
 $R = 1432.63'$
 $T = 183.83'$
 $L = 365.66'$
 $E = 11.74'$

CURVE C3
 $PI = STA. 5+15.21, B.L. RAMP "N"$
 $\Delta = 20^{\circ}42'36" RT$
 $Dc = 7^{\circ}00'00"$
 $R = 818.51'$
 $T = 149.55'$
 $L = 295.84'$
 $E = 13.55'$

SPIRAL S2
 $\Delta 1 + \Delta 2 = 26^{\circ}44'09"$
 $T1 = 91.67'$
 $T2 = 61.11'$
 $La = 150.00'$

CURVE C4
 $PI = STA. 8+73.59, B.L. RAMP "N"$
 $\Delta = 34^{\circ}29'24" RT$
 $Dc = 28^{\circ}38'52"$
 $R = 200.00'$
 $T = 62.09'$
 $L = 120.41'$
 $E = 9.41'$

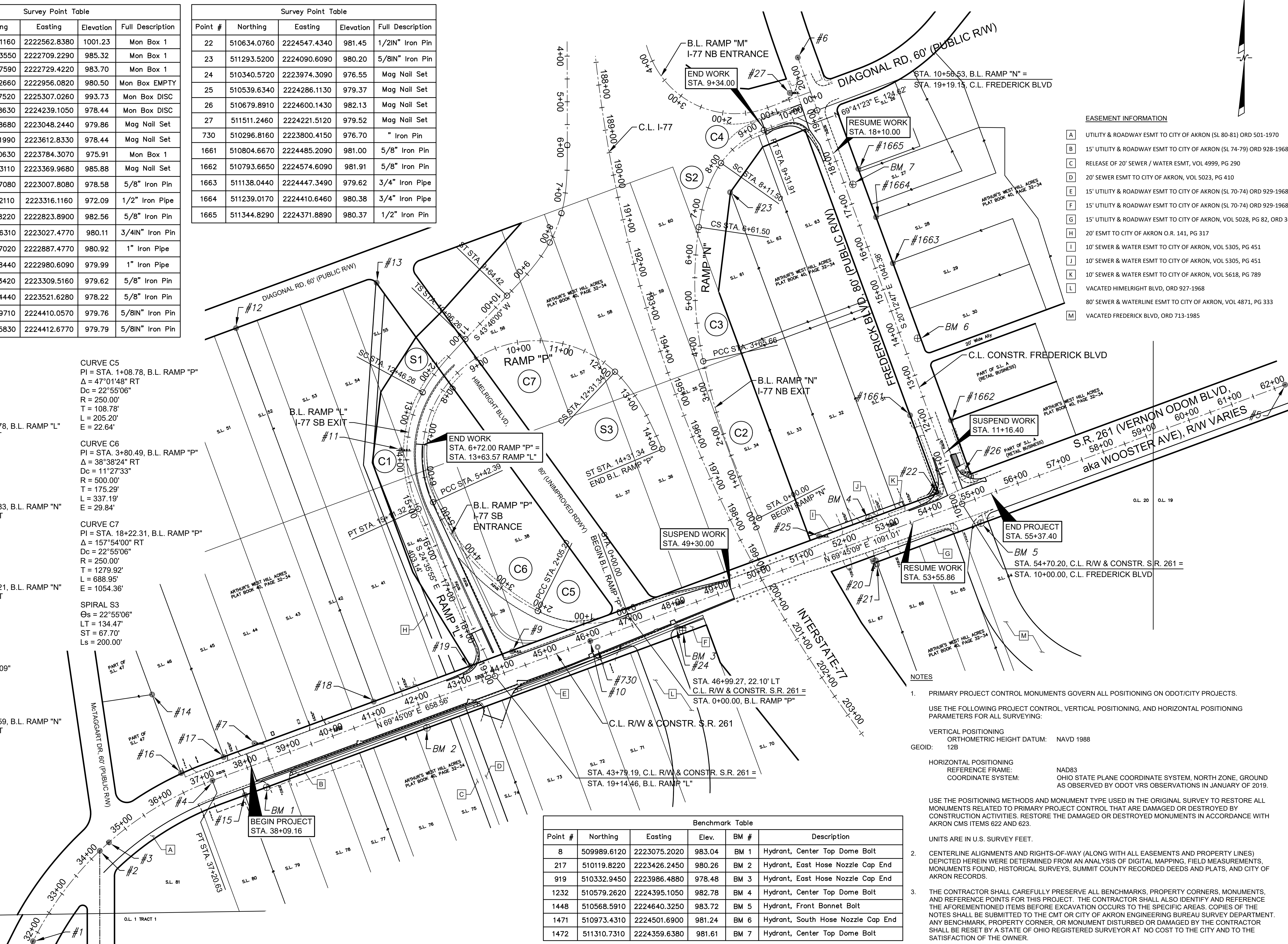
CURVE C5
 $PI = STA. 1+08.78, B.L. RAMP "P"$
 $\Delta = 47^{\circ}01'48" RT$
 $Dc = 22^{\circ}55'06"$
 $R = 250.00'$
 $T = 108.78'$
 $L = 205.20'$
 $E = 22.64'$

CURVE C6
 $PI = STA. 3+80.49, B.L. RAMP "P"$
 $\Delta = 38^{\circ}38'24" RT$
 $Dc = 11^{\circ}27'33"$
 $R = 500.00'$
 $T = 175.29'$
 $L = 337.19'$
 $E = 29.84'$

CURVE C7
 $PI = STA. 18+22.31, B.L. RAMP "P"$
 $\Delta = 157^{\circ}54'00" RT$
 $Dc = 22^{\circ}55'06"$
 $R = 250.00'$
 $T = 1279.92'$
 $L = 688.95'$
 $E = 1054.36'$

SPIRAL S3
 $\Theta_s = 22^{\circ}55'06"$
 $LT = 134.47'$
 $ST = 67.70'$
 $Ls = 200.00'$

- EASEMENT INFORMATION**
- A UTILITY & ROADWAY ESMT TO CITY OF AKRON (SL 80-81) ORD 501-1970
 - B 15' UTILITY & ROADWAY ESMT TO CITY OF AKRON (SL 74-79) ORD 928-1968
 - C RELEASE OF 20' SEWER / WATER ESMT, VOL 4999, PG 290
 - D 20' SEWER ESMT TO CITY OF AKRON, VOL 5023, PG 410
 - E 15' UTILITY & ROADWAY ESMT TO CITY OF AKRON (SL 70-74) ORD 929-1968
 - F 15' UTILITY & ROADWAY ESMT TO CITY OF AKRON (SL 70-74) ORD 929-1968
 - G 15' UTILITY & ROADWAY ESMT TO CITY OF AKRON, VOL 5028, PG 82, ORD 369-1970
 - H 20' ESMT TO CITY OF AKRON O.R. 141, PG 317
 - I 10' SEWER & WATER ESMT TO CITY OF AKRON, VOL 5305, PG 451
 - J 10' SEWER & WATER ESMT TO CITY OF AKRON, VOL 5305, PG 451
 - K 10' SEWER & WATER ESMT TO CITY OF AKRON, VOL 5618, PG 789
 - L VACATED HIMELRIGHT BLVD, ORD 927-1968
 - M 80' SEWER & WATERLINE ESMT TO CITY OF AKRON, VOL 4871, PG 333
 - N VACATED FREDERICK BLVD, ORD 713-1985

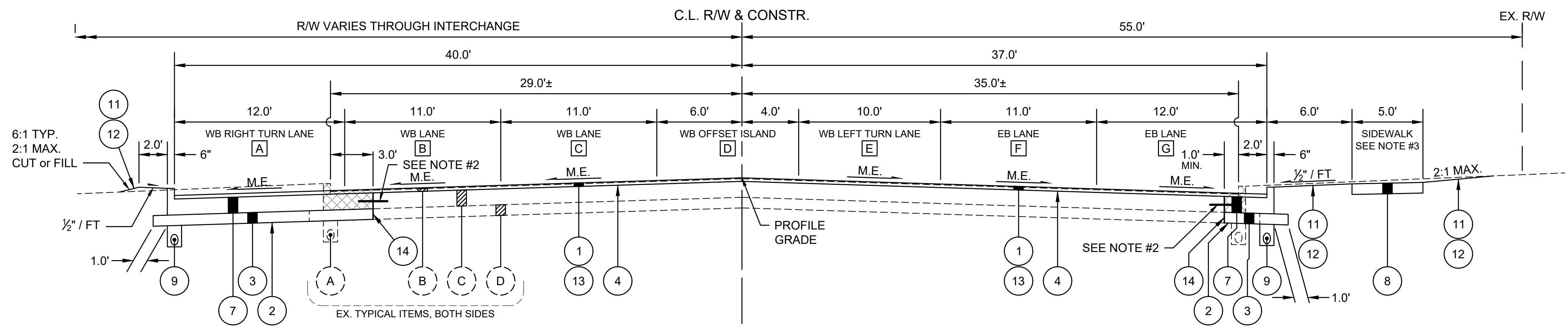


NOTES

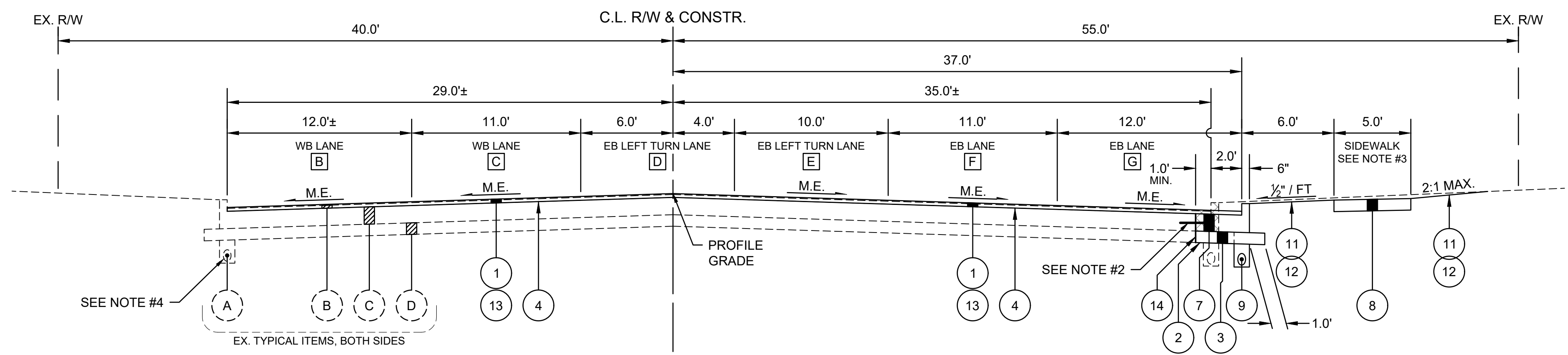
- PRIMARY PROJECT CONTROL MONUMENTS GOVERN ALL POSITIONING ON ODOT/CITY PROJECTS. USE THE FOLLOWING PROJECT CONTROL, VERTICAL POSITIONING, AND HORIZONTAL POSITIONING PARAMETERS FOR ALL SURVEYING:
 VERTICAL POSITIONING
 ORTHOMETRIC HEIGHT DATUM: NAVD 1988
 GEOID: 12B
 HORIZONTAL POSITIONING
 REFERENCE FRAME: NAD83
 COORDINATE SYSTEM: OHIO STATE PLANE COORDINATE SYSTEM, NORTH ZONE, GROUND AS OBSERVED BY ODOT VRS OBSERVATIONS IN JANUARY OF 2019.
- 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 AKRON CMS ITEMS 622 AND 623.
- UNITS ARE IN U.S. SURVEY FEET.
- CENTERLINE ALIGNMENTS AND RIGHTS-OF-WAY (ALONG WITH ALL EASEMENTS AND PROPERTY LINES) DEPICTED HEREIN WERE DETERMINED FROM AN ANALYSIS OF DIGITAL MAPPING, FIELD MEASUREMENTS, MONUMENTS FOUND, HISTORICAL SURVEYS, SUMMIT COUNTY RECORDED DEEDS AND PLATS, AND CITY OF AKRON RECORDS.
- THE CONTRACTOR SHALL CAREFULLY PRESERVE ALL BENCHMARKS, PROPERTY CORNERS, MONUMENTS, AND REFERENCE POINTS FOR THIS PROJECT. THE CONTRACTOR SHALL ALSO IDENTIFY AND REFERENCE THE AFOREMENTIONED ITEMS BEFORE EXCAVATION OCCURS TO THE SPECIFIC AREAS. COPIES OF THE NOTES SHALL BE SUBMITTED TO THE CMT OR CITY OF AKRON ENGINEERING BUREAU SURVEY DEPARTMENT. ANY BENCHMARK, PROPERTY CORNER, OR MONUMENT DISTURBED OR DAMAGED BY THE CONTRACTOR SHALL BE RESET BY A STATE OF OHIO REGISTERED SURVEYOR AT NO COST TO THE CITY AND TO THE SATISFACTION OF THE OWNER.

Benchmark Table					
Point #	Northing	Easting	Elev.	BM #	Description
8	509989.6120	2223075.2020	983.04	BM 1	Hydrant, Center Top Dome Bolt
217	510119.8220	2223426.2450	980.26	BM 2	Hydrant, East Hose Nozzle Cap End
919	510332.9450	2223986.4880	978.48	BM 3	Hydrant, East Hose Nozzle Cap End
1232	510579.2620	2224395.1050	982.78	BM 4	Hydrant, Center Top Dome Bolt
1448	510568.5910	2224640.3250	983.72	BM 5	Hydrant, Front Bonnet Bolt
1471	510973.4310	2224501.6900	981.24	BM 6	Hydrant, South Hose Nozzle Cap End
1472	511310.7310	2224359.6380	981.61	BM 7	Hydrant, Center Top Dome Bolt

2018-032-01
 CITY OF AKRON
 DEPARTMENT OF PUBLIC SERVICE
 AKRON ENGINEERING BUREAU
 SCHEMATIC PLAN
 VERNON ODOM BLVD.
 DATE: 05/09/2019
 CHECKED: JFM
 DRAWN: JPL
 SCALE: 1" = 100'
 REVISIONS:



S.R. 261 (VERNON ODOM BLVD) - NORMAL SECTION
 STA. 43+79.19 TO STA. 49+30.00



S.R. 261 (VERNON ODOM BLVD) - NORMAL SECTION
 STA. 38+09.16 TO STA. 43+79.19

A				B				C				D				E				F				G			
FROM	TO	W 1	W 2	FROM	TO	W 1	W 2	FROM	TO	W 1	W 2	FROM	TO	W 1	W 2	FROM	TO	W 1	W 2	FROM	TO	W 1	W 2	FROM	TO	W 1	W 2
47+80.00	49+30.00	12.00'	0.00'	38+09.16	40+00.00	12.73'	12.00'	38+09.16	40+00.00	14.97'	11.00'	38+09.16	39+59.00	0.00'	8.63'	38+09.16	39+59.00	8.96'	10.00'	38+09.16	39+59.00	14.20'	11.00'	38+09.16	39+00.00	13.85'	12.30'
				47+80.00	49+30.00	11.00'	10.68'	47+80.00	49+30.00	11.00'	11.52'	39+59.00	40+00.00	8.63'	10.00'	45+00.00	45+80.00	10.00'	0.00'	45+80.00	47+80.00	17.51'	11.29'	45+00.00	49+30.00	11.00'	11.05'
												45+80.00	49+30.00	n/a	n/a	47+80.00	49+30.00	11.29'	0.00'					39+00.00	39+59.00	12.30'	12.00'
																								45+00.00	49+30.00	12.00'	11.56'

LEGEND

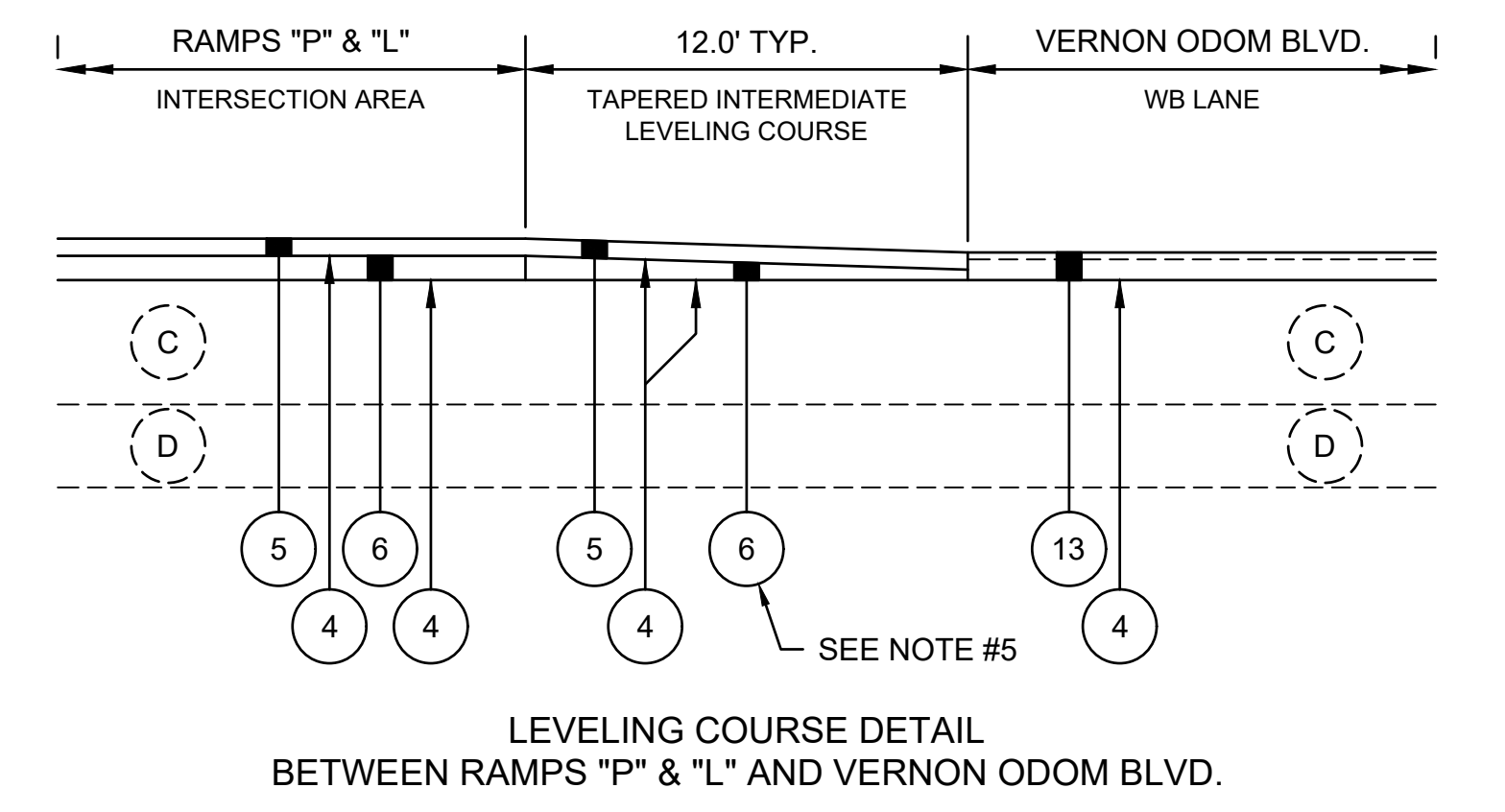
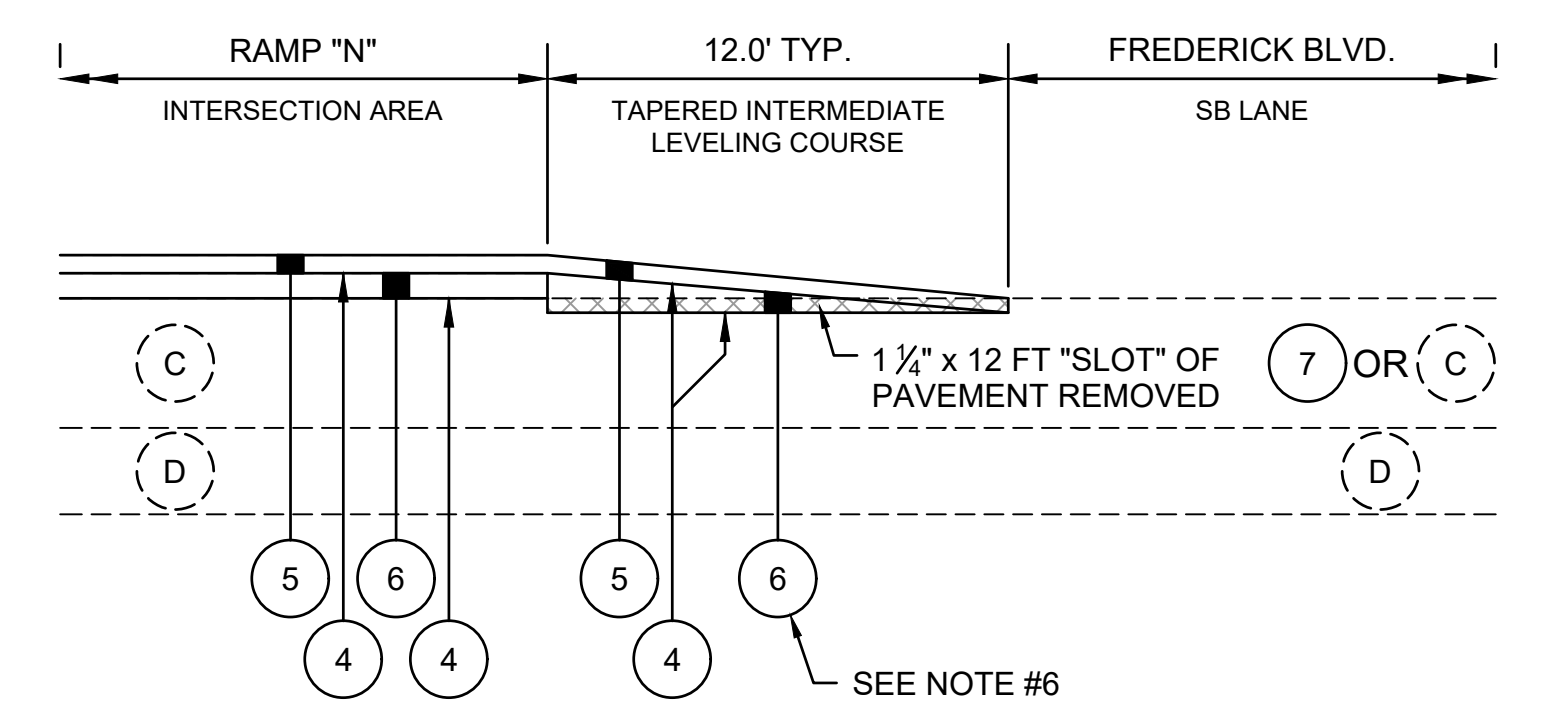
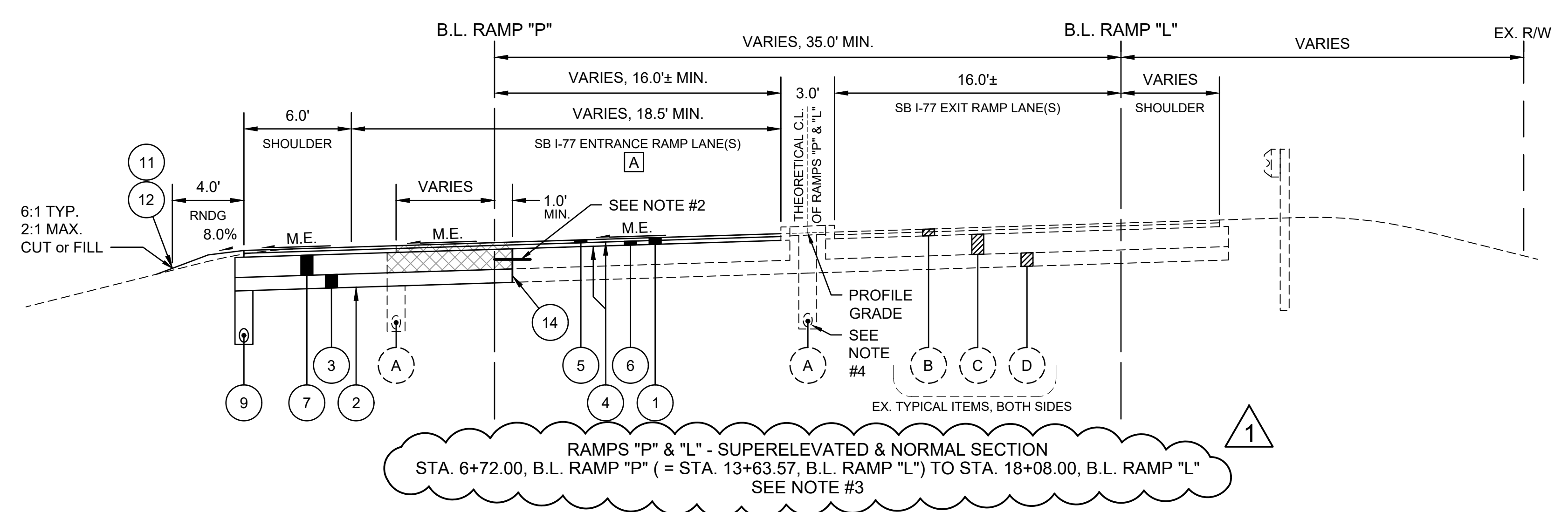
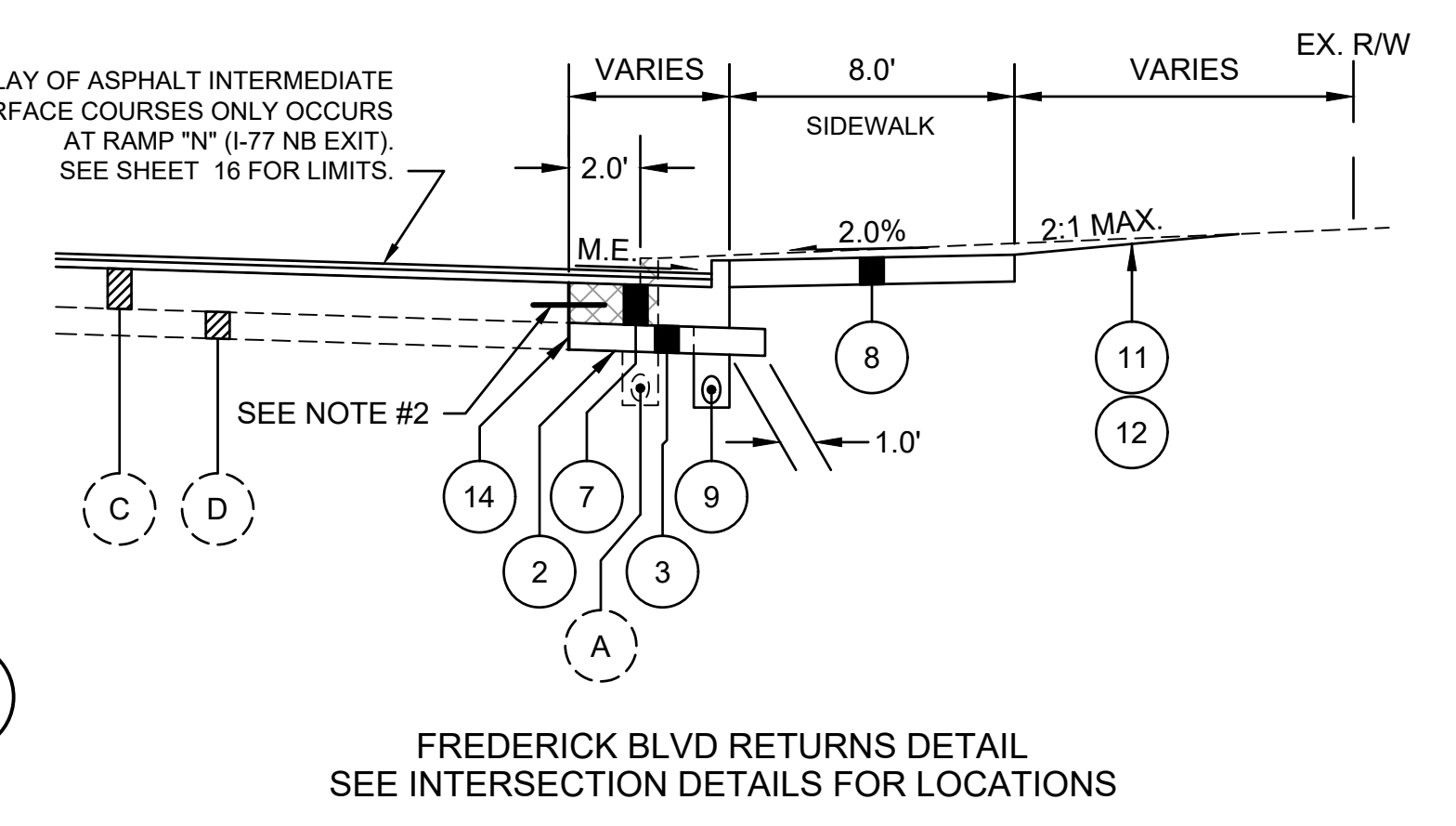
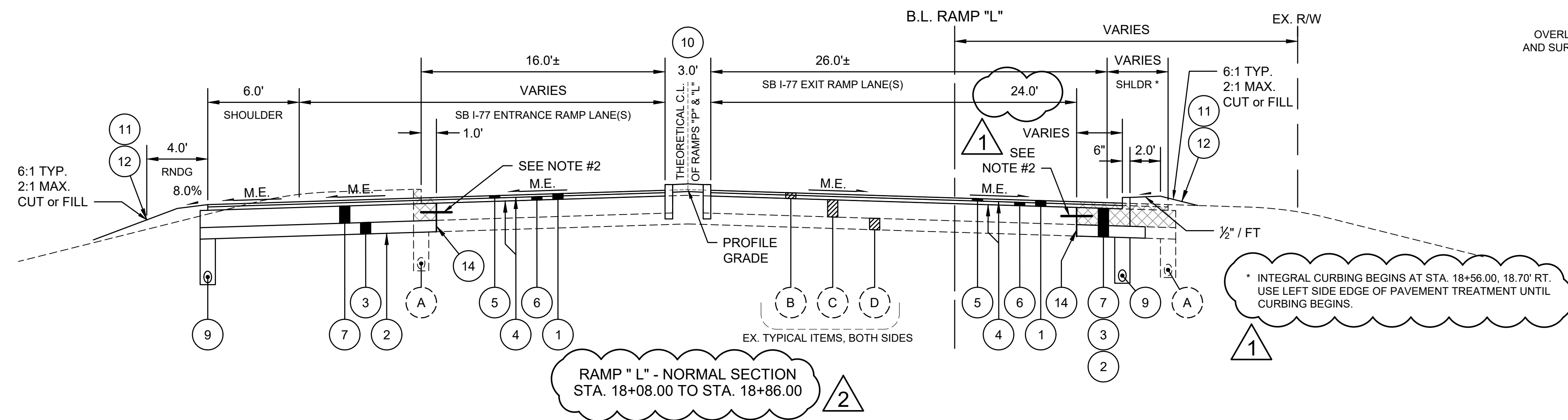
NOTE: DESCRIPTIONS LISTED BELOW MAY NOT BE USED ON THIS PARTICULAR SHEET.

- (A) EXISTING UNDERDRAIN, TO BE REMOVED
- (B) EXISTING ASPHALT COURSE (1 1/2"± THICK)
- (C) EXISTING REINFORCED CONCRETE PAVEMENT (9"± THICK)
- (D) EXISTING SUBBASE (6"± THICK)
- (E) PAVEMENT REMOVED
- (1) ITEM 202 - WEARING COURSE REMOVED OR ITEM 254 - PAVEMENT PLANING, PORTLAND CEMENT CONCRETE (1 1/2" TYP. THICKNESS)
- (2) ITEM 203 - SUBGRADE COMPACTION
- (3) ITEM 304 - AGGREGATE BASE, 6" THICK (LIMESTONE ONLY)
- (4) ITEM 407 - TACK COAT
- (5) ITEM 441 - ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22, 1 1/4" THICK
- (6) ITEM 441 - ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (448), 1 3/4" THICK
- (7) ITEM 451 - 9" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT WITH OR WITHOUT INTEGRAL CURBING, AS PER PLAN
- (8) ITEM 456 - CONCRETE WALK, 6" THICK
- (9) ITEM 564 - 6" PIPE UNDERDRAINS
- (10) ITEM 609 - CONCRETE MEDIAN PER ODOT SCD RM-3.1
- (11) ITEM 653 - TOPSOIL FURNISHED AND PLACED, 4" THICK
- (12) ITEM 659 - LAWN SEEDING AND MULCHING
- (13) ITEM 826 - ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), FIBER TYPE C, AS PER PLAN, 2" THICK
- (14) FULL DEPTH SAW CUT

NOTES

1. "M.E." DENOTES THAT THE PROPOSED CROSS SLOPE SHALL MATCH THE EXISTING CROSS SLOPE OF THE EXISTING PAVEMENT. FOR PROPOSED WIDENING SECTIONS, MATCH THE CROSS SLOPE OF ADJACENT EXISTING PAVEMENT. SEE INTERSECTION DETAILS FOR VARIANCES.
2. TYPE D LONGITUDINAL JOINT PER ODOT SCD BP-2.1.
3. SIDEWALK FROM STA. 38+82.32 TO STA. 48+52.38 ONLY.
4. THE UNDERDRAIN ON THE NON-WIDENED SIDE SHALL REMAIN IN SERVICE.

P:\Projects\2018\04\03\05-18413-SUM Main Street Corridor & State Street Bridge PID 104042\Design\Roadway\EngData\Scratch\Roadway\Sheets\Roadway\18317-03_GY001.dwg: 10/6/2019 2:48 PM: jim michell



FROM	TO	W 1	W 2
13+63.57	15+63.50	18.50'	25.85'
15+63.50	18+08.00	25.85'	28.25'

LEGEND

NOTE: DESCRIPTIONS LISTED BELOW MAY NOT BE USED ON THIS PARTICULAR SHEET.

- (A) EXISTING UNDERDRAIN, TO BE REMOVED
- (B) EXISTING ASPHALT SURFACE & INTERMEDIATE COURSES (3"± THICK)
- (C) EXISTING REINFORCED CONCRETE PAVEMENT (9"± THICK)
- (D) EXISTING SUBBASE (6"± THICK)
- PAVEMENT REMOVED
- (1) ITEM 202 - WEARING COURSE REMOVED (3" TYP. THICKNESS)
- (2) ITEM 203 - SUBGRADE COMPACTION
- (3) ITEM 304 - AGGREGATE BASE, 6" THICK (LIMESTONE ONLY)
- (4) ITEM 407 - TACK COAT
- (5) ITEM 441 - ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22, 1 1/4" THICK
- (6) ITEM 441 - ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (448), 1 3/4" THICK
- (7) ITEM 451 - 9" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT WITH OR WITHOUT INTEGRAL CURBING, AS PER PLAN
- (8) ITEM 456 - CONCRETE WALK, 6" THICK
- (9) ITEM 564 - 6" PIPE UNDERDRAINS
- (10) ITEM 609 - CONCRETE MEDIAN PER ODOT SCD RM-3.1
- (11) ITEM 653 - TOPSOIL FURNISHED AND PLACED, 4" THICK
- (12) ITEM 659 - LAWN SEEDING AND MULCHING
- (13) ITEM 826 - ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), FIBER TYPE C, AS PER PLAN, 2" THICK
- (14) FULL DEPTH SAW CUT

NOTES

1. "M.E." DENOTES THAT THE PROPOSED CROSS SLOPE SHALL MATCH THE EXISTING CROSS SLOPE OF THE EXISTING PAVEMENT. FOR PROPOSED WIDENING SECTIONS, MATCH THE CROSS SLOPE OF ADJACENT EXISTING PAVEMENT. SEE INTERSECTION DETAILS FOR VARIANCES.
2. TYPE D LONGITUDINAL JOINT PER ODOT SCD BP-2.1.
3. ALTHOUGH SHOWN SUPERELEVATED, THIS TYPICAL APPLIES TO THE NORMAL SECTION AS WELL.
4. THE UNDERDRAIN UNDER THE CONCRETE MEDIAN SHALL REMAIN.
5. ITEM 441, ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (448), IS TO BE USED AS A LEVELING COURSE TO ESTABLISH A SMOOTH PAVEMENT TRANSITION BETWEEN THE RAMP SURFACE COURSE LAYERS AND THE VERNON ODOM SURFACE COURSE LAYER. THE INTERMEDIATE LAYER SHALL VARY FROM 1 1/4" TO 3/4" OVER TWELVE (12) FEET.
6. AS ABOVE, BUT BETWEEN THE RAMP SURFACE COURSE LAYERS AND THE PROPOSED OR EXISTING CONCRETE SURFACE OF FREDERICK BLVD. THE INTERMEDIATE LAYER SHALL VARY FROM 3" TO 0" OVER TWELVE (12) FEET.

P:\Projects\2018\04\03\05-18413-SUM Main Street Corridor & State Street Bridge PID 104042\Design\Roadway\EngData\Scratch\Roadway\Sheets\Roadway\18317-03_GY001.dwg: 10/6/2019 2:48 PM: jim michell

GENERAL NOTES

- DETAILS AND DIMENSIONS SHOWN ON THIS PLAN PERTAINING TO THE EXISTING UTILITIES HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING FACILITIES AND DO NOT NECESSARILY REPRESENT AS BUILT CONDITIONS. THE CONTRACTOR SHALL BE REFERRED TO THE "CONSTRUCTION AND MATERIAL SPECIFICATIONS" SECTIONS 102.04, 105.02, AND 105.07. CONTRACT BID PRICES SHALL BE BASED ON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON AN EXAMINATION OF THE WORK SITE BY THE CONTRACTOR. ALL PROJECT WORK SHALL BE BASED UPON THE ACTUAL DETAILS AND DIMENSIONS PRESENTED ON THIS PLAN AND SPECIFICATIONS WHICH HAVE BEEN VERIFIED BY THE CONTRACTOR IN THE FIELD.
- CONTACT THE OHIO UTILITIES PROTECTION SERVICE, 1-800-362-2764, TWO DAYS (48 HOURS) BEFORE BEGINNING WORK.
- THE WORK LIMITS SHOWN ON THE 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.
- THE COST OF REMOVING ANY EXISTING INLETS SHALL BE INCLUDED IN THE COST OF PROPOSED INLETS, UNLESS OTHERWISE SHOWN ON THE PLANS.
- THE DRIVEWAY LOCATIONS AND CURB CUTS MAY BE VARIED FROM THAT SHOWN ON THE PLANS AS DIRECTED BY THE ENGINEER.
- THE ROUNDING AT SLOPE BREAKPOINTS SHOWN ON THE TYPICAL SECTIONS APPLIES TO ALL CROSS-SECTIONS, EVEN THOUGH OTHERWISE SHOWN.
- 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 ITEMIZED ESTIMATE 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.
- THE FOLLOWING QUANTITY IS PROVIDED IN THE ITEMIZED ESTIMATE TO ADDRESS LOCATIONS REQUIRING PROOF ROLLING.
ITEM 203, PROOF ROLLING 2 HOUR
- ITEM 203 - EXCAVATION INCLUDING EMBANKMENT CONSTRUCTION, AS PER PLAN
INCLUSIVE OF THE RELEVANT REQUIREMENTS OF AKRON CMS 203, MATERIALS REMOVED AS PART OF THIS ITEM SHALL INCLUDE CATCH BASINS, CONCRETE MEDIANS, INLETS, STORM SEWER PIPES, SIDEWALKS, CURBS, AND CURB RAMPS.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE LATERAL AND SUBJACENT SUPPORT OF DOMINION ENERGY OHIO'S (DEO) PIPELINES, IN COMPLIANCE TO 29 CFR, PART 1926, SUBPART P, (SAFE EXCAVATION AND SHORING), ONE-FOOT MINIMUM VERTICAL AND HORIZONTAL CLEARANCE MUST BE MAINTAINED BETWEEN DEO'S EXISTING PIPELINES AND ALL OTHER IMPROVEMENTS. EXTREME CARE SHOULD BE TAKEN NOT TO HARM ANY DEO FACILITY (PIPELINES, ETC.) OR APPURTENANCE (PIPE COATING, TRACER WIRE, CATHODIC PROTECTION TEST STATION WIRE & DEVICES, VALVE BOXES, ETC.). THE CONTRACTOR WILL BE RESPONSIBLE AND LIABLE FOR ENSURING THAT ALL DEO FACILITIES, ABOVE AND BELOW GROUND, REMAIN UNDAMAGED, ACCESSIBLE, AND IN WORKING ORDER. THE CROSSING OF DEO'S PIPELINE WITH ANOTHER STEEL FACILITY MAY CREATE A POTENTIAL CORROSION ISSUE FOR THE PROPOSED FACILITY AND THE EXISTING DEO FACILITY. PLEASE CONTACT DOMINION ENERGY OHIO'S CORROSION DEPARTMENT: DAVID CUTLIP AT (330) 478-3757, RICK McDONALD AT (330) 266-2122, OR AL HUMRICHOUER AT (330) 478-3757.
- THE CONTRACTOR IS TO LAYOUT THE NEW CURB LINE AS SOON AS POSSIBLE ONCE THE CONTRACT IS AWARDED TO AFFORD UTILITIES TIME TO PLAN AND PERFORM RELOCATION OF THEIR POLES AND FACILITIES.
- THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES INCLUDING BUT NOT LIMITED TO DETOURS, HAUL ROUTES, AND SITE ACCESS WITH THE VARIOUS PROJECTS BEING CONSTRUCTED DURING THIS PROJECT'S SCHEDULE. BELOW IS A LIST OF POTENTIAL PROJECTS FOR CONTRACTOR COORDINATION. ADDITIONAL PROJECTS MAY BE ADDED TO THIS LIST DURING CONSTRUCTION AND THE LIST IS NOT MEANT TO BE ALL-INCLUSIVE.

ROMIG ROAD RECONSTRUCTION -- CONSTRUCTION TO BEGIN IN JUNE 2019.

REDEVELOPMENT OF THE ROLLING ACRES MALL PROPERTIES -- CONSTRUCTION TO BEGIN SUMMER 2019.

OHIO EDISON -- MISCELLANEOUS REPAIRS / POLE RELOCATIONS / ETC.

LIGHTING

SEVERAL STAND-ALONE STREETLIGHT POLES WITHIN THE PROJECT AREA WILL BE RELOCATED BY OHIO EDISON FORCES. IN PREPARATION FOR THESE RELOCATIONS, THE CONTRACTOR SHALL SET NEW POLE FOUNDATIONS AND RUN NEW CONDUITS (WITH PULL STRINGS) TO THE NEW FOUNDATIONS. THE CONTRACTOR SHALL POT-HOLE THE NEW FOUNDATIONS' PROPOSED LOCATIONS FOR POTENTIAL UNDERGROUND UTILITY CONFLICTS PRIOR TO EXCAVATION. IF CONFLICTS ARE FOUND, NEW STREETLIGHT POLE LOCATIONS WILL BE AS DIRECTED BY THE ENGINEER.

STREETLIGHT POLE RELOCATIONS ARE NOTED ON THE PLAN SHEETS. LISTED BELOW ARE THE LOCATIONS OF THE EXISTING STAND-ALONE STREETLIGHT POLES:

STA. 39+57, 39' RT
STA. 41+58, 38' RT
STA. 47+76, 38' LT

OTHER STREETLIGHTS WILL BE REMOVED AS PART OF THE PROPOSED TRAFFIC SIGNAL INSTALLATION WORK. ONCE OHIO EDISON DE-ENERGIZES THESE LIGHTS, THE CONTRACTOR MAY REMOVE THEM.

LISTED BELOW ARE THE LOCATIONS OF THE EXISTING STREETLIGHTS BEING REMOVED AS PART OF THE PROPOSED SIGNAL WORK:

STA. 43+10, 37' LT
STA. 44+17, 45' RT
STA. 55+12, 42' LT

GENERAL NOTES FOR WORK AGREEMENTS

DISTURBED AREAS OF WORK ON PRIVATE PROPERTY SHALL BE RECONSTRUCTED OR OTHERWISE TREATED AS LISTED BELOW. PLEASE NOTE THAT THIS LIST IS INTENDED TO BE GENERAL IN NATURE, AND SOME OF THE LISTED ITEMS MAY NOT APPLY TO THIS PARTICULAR PROJECT.

RECONNECT DOWNSPOUT DRAINS ON ALL PARCELS, WHERE APPLICABLE.

IN DISTURBED AREAS ALONG PLANT BEDS AND AREAS NOT TO BE SODDED OR SEEDED, THE CONTRACTOR SHALL PLACE 4" OF TOPSOIL WITH 2" OF HARDWOOD MULCH AT THE DIRECTION OF THE ENGINEER.

ALL PLANT BEDS DISTURBED BY THE CONTRACTOR SHALL BE RESTORED BY THE CONTRACTOR. THE COST TO DO THIS WORK SHALL BE PAID FOR IN THE ITEM REQUIRING RESTORATION.

THE CONTRACTOR SHALL EXERCISE CAUTION WHEN REMOVING AND RECONSTRUCTING SIDEWALK ADJACENT TO EXISTING PLANTERS, WALLS, ROCK GARDENS OR STRUCTURES. ANY DISTURBANCE TO THESE ITEMS BY THE CONTRACTOR SHALL REQUIRE THE CONTRACTOR TO RESTORE THESE ITEMS TO PRE-CONSTRUCTION LIKE CONDITION AT THE CONTRACTOR'S EXPENSE, UNLESS THE ADJACENT ITEMS ARE SHOWN ON THE PLANS TO BE RECONSTRUCTED.

- RECONSTRUCT UNPAVED DRIVEWAYS WITH ITEM 603 - SLAG OR LIMESTONE FOR DRIVEWAY RECONSTRUCTION, 6 INCHES THICK.
- RECONSTRUCT ASPHALT DRIVEWAYS WITH ITEM 448 - ASPHALT CONCRETE SURFACE COURSE, TYPE 1, 4 INCHES THICK, DRIVEWAY RECONSTRUCTION AND ITEM 410 - DRIVE AND WALKWAY SEALCOAT AS DIRECTED BY THE ENGINEER.
- RECONSTRUCT CONCRETE DRIVEWAYS WITH ITEM 456 - CONCRETE DRIVEWAY RECONSTRUCTION, 6 INCHES THICK.
- RECONSTRUCT HOUSEWALKS WITH ITEM 456 - CONCRETE WALK, 4 INCHES THICK.
- RECONSTRUCT STEPS PER STANDARD DRAWING No. LA-3, ITEM 456 - CONCRETE STEPS, UNLESS OTHERWISE NOTED.
- REMOVE AND RECONSTRUCT FENCE AS DIRECTED BY THE ENGINEER, ITEM 608 - FENCE REMOVAL AND RECONSTRUCTION.
- TREES UNDER 12" DIAMETER, WALLS, SHRUBBERY, OR OTHER LANDSCAPING FEATURE MARKED FOR REMOVAL SHALL BE REMOVED BY THE CONTRACTOR IF NOT REMOVED BY THE PROPERTY OWNER. COST TO BE INCLUDED IN THE PRICE BID FOR ITEM 203 - EXCAVATION INCLUDING EMBANKMENT CONSTRUCTION. TREES 12" DIAMETER AND LARGER MARKED FOR REMOVAL, SHALL BE REMOVED BY THE CONTRACTOR, ITEM 201.
- CONSTRUCTION OF A NEW RETAINING WALL OR RECONSTRUCTION OF AN EXISTING RETAINING WALL AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER, ITEM 611. ALL COSTS ASSOCIATED WITH THE REMOVAL OR UTILIZATION OF THE EXISTING RETAINING WALL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 611.
- RECONSTRUCT BRICK HOUSEWALK WITH EXISTING BRICK, ITEM 460 - BRICK WALK RELAID.
- THE COST OF RECONSTRUCTING BRICK DRIVEWAYS SHALL BE PAID UNDER THE PRICE BID FOR ITEM 461 - BRICK PAVEMENT RECONSTRUCTED (SALVAGED BRICKS). THIS SHALL INCLUDE ANY BASE REPAIR, CRUSHED LIMESTONE LEVELING COURSE (VARIABLE THICKNESS) AND NECESSARY REPLACEMENT BRICKS. THIS WORK SHALL BE AS DIRECTED BY THE ENGINEER.
- REPAIR LAWN AREAS USING LAWN RESTORATION ITEMS SHOWN IN THE TYPICAL SECTION, OR AS DIRECTED BY THE ENGINEER.

UTILITIES

LISTED BELOW ARE UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS. UTILITY CONTACT INFORMATION CAN CHANGE AND WITHOUT NOTICE. THE CONTRACTOR IS TO CHECK WITH THE UTILITY COMPANIES FOR LATEST CONTACT INFORMATION:

AKRON SEWER MAINTENANCE
2460 AKRON PENINSULA RD
AKRON OH 44313
(330) 375-2666
ATTN: JOE HARBESON

AKRON WATER DISTRIBUTION
1460 TRIPLETT BLVD
AKRON OH 44306
(330) 375-2420
ATTN: TONY PUGLIA

AKRON TRAFFIC ENGINEERING
1420 TRIPLETT BLVD BLDG 2
AKRON OH 44306
(330) 375-2851
ATTN: ADAM STALLER

AKRON COMMUNICATIONS
1240 TRIPLETT BLVD
AKRON OH 44306
(330) 375-2685
ATTN: MALCOLM VALENTINE

AKRON METRO RTA
416 KENMORE BLVD
AKRON OH 44301
(330) 957-0157
ATTN: TIM SMITH

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS AS REQUIRED BY SECTION 153.64 O.R.C.

DOMINION ENERGY (EAST OHIO GAS)
ENGINEERING REVIEW & RESPONSE TEAM
320 SPRINGSIDE DR STE 320
AKRON OH 44333
(330) 664-2477
(330) 644-2529
ATTN: DOUG SMITH

FIRSTENERGY (OHIO EDISON)
1910 W MARKET ST
AKRON OH 44313
(330) 436-4014
ATTN: RYAN GIVLER

FIRSTENERGY (OHIO EDISON, LIGHTS)
(330) 436-4059
ATTN: NATHAN SMABY

AT&T
50 W BOWERY ST 6TH FLOOR
AKRON OH 44308
(330) 384-3247
ATTN: JEFF ZEHNNOR

CHARTER COMMUNICATIONS (SPECTRUM)
1200 BROWNSTONE AVE
AKRON OH 44310
(330) 622-4106
ATTN: JAMES LONG

GIOMARE GROUP (MCI)
275 SPRINGSIDE DR STE 280
AKRON OH 44333
(330) 815-3492
ATTN: ANDREW GRUEBER

PAVEMENT NOTES

- PLACE THE PROPOSED PAVEMENT TO FOLLOW THE ALIGNMENT AND PROFILE OF THE EXISTING PAVEMENT. PLACE THE PROPOSED ASPHALT CONCRETE OVERLAY WITH A UNIFORM THICKNESS OF THREE (3) INCHES AS SHOWN ON THE TYPICAL SECTIONS.
- 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 ODOT STANDARD CONSTRUCTION DRAWING BP-2.2 AND THE SPECIFICATIONS. A LINK TO THIS DRAWING MAY BE FOUND AT:

http://www.dot.state.oh.us/Divisions/Engineering/Pavement/Standard_Drawings_PDF/Forms/AllItems.aspx

- WHERE NEW CONCRETE IS PLACED ADJACENT TO AND TIED TO EXISTING CONCRETE, THE CONTRACTION JOINT SPACING REQUIRED IN ODOT STANDARD CONSTRUCTION DRAWING BP-2.2 WILL BE WAIVED. CONSTRUCT CONTRACTION JOINTS IN THE NEW CONCRETE PAVEMENT TO FORM A CONTINUOUS LINE WITH ALL CONTRACTION JOINTS IN THE EXISTING CONCRETE PAVEMENT. INSTALL EXPANSION JOINTS IN THE NEW CONCRETE PAVEMENT TO FORM A CONTINUOUS LINE WITH ALL EXPANSION JOINTS IN THE EXISTING CONCRETE PAVEMENT.

- ITEM 826 - ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), FIBER TYPE C, AS PER PLAN, 2 INCHES THICK

THE REQUIREMENTS OF ODOT SUPPLEMENTAL SPECIFICATION 826 SHALL GOVERN THIS ITEM EXCEPT IN THE FOLLOWING MANNER:

THE FIBERS SHALL BE ACE XP FIBER™ AS MANUFACTURED BY SURFACE TECH AND SUPPLIED BY SITE SUPPLY, INC., WAX-COATED, AND BE ONE AND ONE-HALF (1 1/2) INCHES LONG.

SURFACE TECH 111 SW 6TH AVE S1940 PORTLAND OR 97204 STEVE SANTA CRUZ (619) 750-1851 steve@surface-tech.com	SITE SUPPLY, INC 713 STIMMEL RD COLUMBUS OH 43223 DAVE RASMUSSEN (614) 443-4545 dave@sitefabric.com
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THE FIBERS SHALL BE ADDED AT A RATE OF 2.1 OUNZES (+/- 5%) PER TON OF HOT- OR WARM-MIX ASPHALT (HMA/WMA).

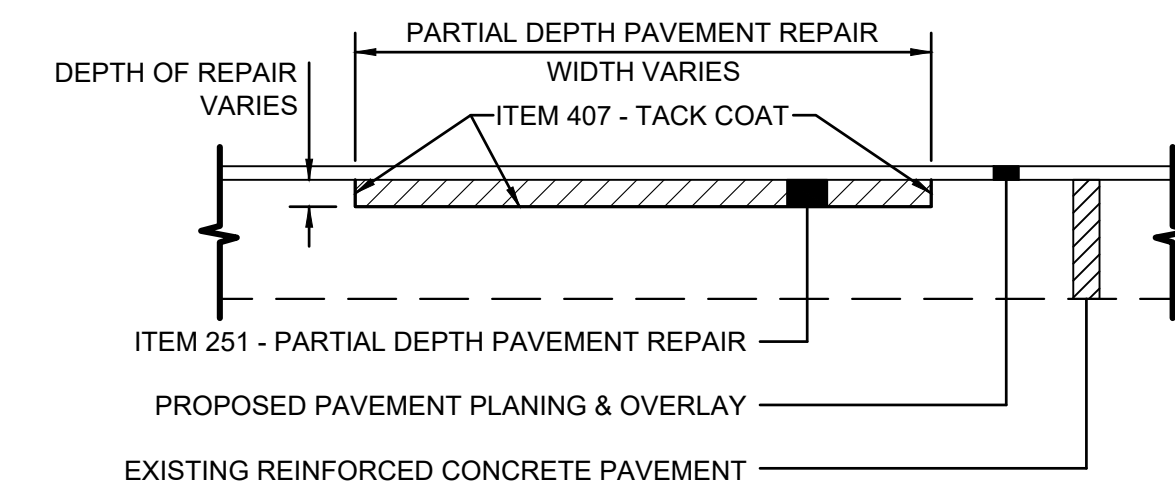
STORAGE, MIXING, INSPECTION, PLACEMENT, AND ACCEPTANCE REQUIREMENTS SHALL BE PER THE MANUFACTURER'S/SUPPLIER'S OWN SPECIFICATIONS.

EACH TON OF FIBER-REINFORCED HMA/WMA PLACED ACCORDING TO THIS PLAN WILL BE MEASURED AND PAID FOR AT THE CONTRACT UNIT BID PRICE PER TON, AND SHALL INCLUDE FULL COMPENSATION FOR FURNISHING ALL MATERIAL, LABOR, TOOLS, EQUIPMENT, QA/QC MIXING AND REPORTING, AND INCIDENTALS FOR DOING ALL THE WORK INVOLVED IN METERING AND FEEDING THE FIBER, AND PLACEMENT AND COMPACTION OF THE FIBER-REINFORCED HMA/WMA.

- ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR (441), AS PER PLAN

A QUANTITY OF THIS ITEM SHALL BE PROVIDED FOR USE AS DIRECTED BY THE ENGINEER. THE ITEM SHALL CONSIST OF REPAIRING EXISTING CONCRETE PAVEMENT LOCATIONS EXHIBITING DETERIORATION AND PLACING ITEM 441 ASPHALT CONCRETE, TYPE 2. THE ASPHALT CONCRETE SHALL BE COMPACTED WITH A TYPE 1 PNEUMATIC TIRE ROLLER AND A STEEL WHEEL ROLLER AS PER ODOT CMS 401.13. IT IS NOT THE INTENT TO REPAIR EVERY DETERIORATED AREA WITHIN THE PROJECT. THE ENGINEER SHALL DETERMINE WHICH AREAS ARE TO BE REPAIRED. UNLESS OTHERWISE DIRECTED BY THE ENGINEER, THIS ITEM SHALL BE PERFORMED AFTER THE COMPLETION OF MAINLINE PAVEMENT PLANING. ALSO, THIS ITEM SHALL COMMENCE WITHIN 7 DAYS OF THE COMPLETION OF MAINLINE PAVEMENT PLANING. PAYMENT SHALL BE BASED ON THE ACTUAL NUMBER OF SQUARE YARDS OF PAVEMENT REPAIR. THE FOLLOWING ESTIMATED QUANTITY SHALL BE INCLUDED FOR PAYMENT UNDER:

ITEM 251, PARTIAL DEPTH PAVEMENT REPAIR (441), AS PER PLAN 865 SY



- ITEM 451 - 9" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT WITH OR WITHOUT INTEGRAL CURBING, AS PER PLAN

THE SPECIFICATIONS OF AKRON CMS ITEM 451 SHALL GOVERN THIS ITEM EXCEPT THAT THE FINAL SURFACE FINISHING REQUIREMENTS OF 451.10 (BROOMING, ARTIFICIAL TURF DRAG, GROOVING, ETC.) SHALL BE WAIVED AND ANY INTEGRAL CURB (6 INCHES IN HEIGHT PER AKRON CONSTRUCTION STANDARD DRAWING BP-2) SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THIS ITEM.

DATE	05/09/2019
CHECKED	JFM
DRAWN	JPL
SCALE:	NO SCALE
DATE	
REVISIONS	

GENERAL NOTES

VERNON ODOM BLVD.

CITY OF AKRON
DEPARTMENT OF PUBLIC SERVICE
AKRON ENGINEERING BUREAU

STORM & SANITARY SEWER NOTES

- ALL SANITARY SEWERS, THEIR MANHOLES AND APPURTENANCES SHALL BE WATER TIGHT AND NOT PERMIT THE INFILTRATION OF WATER, OR THE INFILTRATION OF SEWAGE THEREFROM.
- CONTRACTOR IS TO EXERCISE CAUTION WHEN EXCAVATING NEAR EXISTING OR PROPOSED STORM AND SANITARY STRUCTURES AS EXISTING WATER MAINS ARE IN CLOSE PROXIMITY. EXISTING CLEARANCES ARE UNKNOWN UNTIL THE AREA AROUND THE STRUCTURES IS EXPOSED.
- THE CASTING ELEVATION SHOWN ON THE PLAN FOR THE RIM IS APPROXIMATE. THE FINAL RIM ELEVATION IS TO BE ADJUSTED IN THE FIELD AS DIRECTED BY THE ENGINEER.
- ALL SANITARY SEWER ITEMS DISTURBED BY THE CONSTRUCTION OF THE PROJECT SHALL BE RECONSTRUCTED ACCORDING TO THEIR RESPECTIVE SPECIFICATION ITEM AT NO ADDITIONAL COST TO THE CITY.
- NOTE TO CCTV CONTRACTORS: (FOR ALL SEWERS TO BE CONSTRUCTED OR RECONSTRUCTED BY ANY METHOD)

IN ADDITION TO 551.12(C), PLEASE PROVIDE THE FOLLOWING INFORMATION TO THE CITY OF AKRON PRIOR TO SUB-FINAL ACCEPTANCE ON ONE LABELED (PROJECT NAME INCLUDING AEB FILE NUMBER, PROJECT CONTRACTOR'S NAME, AND CCTV CONTRACTOR'S NAME) PORTABLE HARD DRIVE OR THUMB DRIVE:

- DATABASE FILE WITH ALL INSPECTION EVENTS AND DEFECT RECORDS IN MICROSOFT ACCESS (.MDB) (GRANITE NATIVE EXPORT DATABASE, PACP VERSION 7.0, OR NEWER, SCHEMA-COMPLIANT DATABASE, OR APPROVED EQUAL). A SAMPLE DATABASE FILE MUST BE SUBMITTED TEN (10) WORKING DAYS PRIOR TO FIRST PROPOSED INSPECTION DATE TO VERIFY COMPATIBILITY.
- VIDEO FILE: MPEG (.MPG) OR WINDOWS MEDIA FILE (.WMV). ONE VIDEO FILE PER PIPE INSPECTION.
- INSPECTION REPORT: ONE REPORT IN ADOBE ADOBE ADOBE PDF FORMAT PER PIPE INSPECTION. REPORT SHOULD INCLUDE:
 - INSPECTION HEADER INFO (WHO, WHAT, WHERE, WHEN)
 - DEFECT LOG
 - PHOTOS OF DEFECTS
- DEFECT PHOTOS: SCREEN CAPTURES FROM THE VIDEO (.JPG).
- PRIOR TO CONDUCTING THE POST CONSTRUCTION CCTV INSPECTIONS, EACH PIPE SEGMENT, MANHOLE, AND INLET MUST HAVE AN ASSIGNED "ASSET ID". THE CONTRACTOR SHALL NOTIFY THE ENGINEER AT LEAST FIVE WORKING DAYS PRIOR TO PROPOSED INSPECTION DATE. THE ENGINEER SHALL CONTACT THE GIS DEPARTMENT TO VERIFY EXISTING ASSET ID'S AND/OR TO OBTAIN NEW ASSET ID'S. ONCE ALL ID'S ARE VERIFIED/OBTAINED FROM THE GIS DEPARTMENT, INSPECTION OF THE SEWERS CAN BEGIN. THE ASSET ID'S MUST BE USED WHEN REFERENCING THE "START MANHOLE", "END MANHOLE", "PIPE SEGMENT", AND/OR "INLET" IN BOTH THE INSPECTION DATABASE AND THE FILENAMES.
- BEFORE ANY WORK IS STARTED ON THE PROJECT AND AGAIN BEFORE FINAL ACCEPTANCE OF ANY WORKED PERFORMED IN AREAS MAINTAINED BY THE STATE, REPRESENTATIVES OF THE STATE AND THE CONTRACTOR, ALONG WITH LOCAL REPRESENTATIVES, SHALL MAKE AN INSPECTION OF ALL EXISTING SEWERS WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCE SHALL BE DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE INSPECTION SHALL BE KEPT IN WRITING BY THE STATE.

ALL NEW CONDUITS, INLETS, CATCH BASINS, AND MANHOLES CONSTRUCTED AS A PART OF THE PROJECT WITHIN AREAS MAINTAINED BY THE STATE SHALL BE FREE OF ALL FOREIGN MATTER AND IN A CLEAN CONDITION BEFORE THE PROJECT WILL BE ACCEPTED BY THE STATE.

ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE MENTIONED PARTIES SHALL BE MAINTAINED AND LEFT IN A CONDITION REASONABLY COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. ANY NEGATIVE CHANGE IN THE CONDITION RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR PERTINENT CITY OF AKRON CMS ITEMS AND/OR ODOT CMS ITEMS.

- THE CONTRACTOR SHALL STORE ON SITE ALL REMOVED INLET CASTINGS FOR INSPECTION BY CITY SEWER MAINTENANCE PERSONNEL. ONCE APPROVED FOR SALVAGE, THE CONTRACTOR IS DELIVER THEM TO THE CITY OF AKRON SEWER MAINTENANCE DIVISION LOCATED AT 2460 AKRON-PENINSULA ROAD. CONTACT JIM AITKEN, (330) 375-2666. FOR FURTHER DIRECTION AND COORDINATION. PAYMENT FOR THE ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 202 ITEM.
- ITEM SPECIAL - PIPE CLEANOUT, 24" AND UNDER

THIS WORK SHALL CONSIST OF REMOVING SEDIMENT AND DEBRIS FROM EXISTING DRAINAGE CONDUITS EXTENDED TO NEW INLETS AS SPECIFIED IN THE PLANS. ALL MATERIAL REMOVED SHALL BE DISPOSED OF AS PER AKRON CMS 105.17 AND ODOT CMS 105.17. ALL SEWERS SHALL BE CLEANED OUT TO ACHIEVE A LEVEL OF APPROXIMATELY 95% CONVEYANCE AND TO THE SATISFACTION OF THE ENGINEER.

CLEANOUT OF THE PIPE SHALL BE PAID FOR AT THE UNIT PRICE BID FOR ITEM SPECIAL - PIPE CLEANOUT, 24" AND UNDER. THIS PRICE SHALL INCLUDE THE COST FOR MATERIAL, EQUIPMENT, LABOR, AND ALL INCIDENTALS REQUIRED TO COMPLETE THE CLEANOUT.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE ITEMIZED ESTIMATE FOR THE ABOVE NOTED WORK:

ITEM SPECIAL, PIPE CLEANOUT, 24" AND UNDER 365 FT

TRAFFIC SIGNS

- THE CONTRACTOR SHALL INSTALL GROUND MOUNTED TRAFFIC SIGNS IN ACCORDANCE WITH ITEM 630 - TRAFFIC SIGNS WITHIN THE LIMITS OF THE PROJECT, AS DESIGNATED ON THESE PLANS, OR AS DIRECTED BY THE ENGINEER.
- SIGN DESIGNS SHALL COMPLY WITH THE LATEST EDITION OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD) AND THE SIGN DESIGNS AND MARKINGS MANUAL (SDMM). PRIOR TO ANY SIGNS BEING FABRICATED, A TRAFFIC SIGN SUBMITTAL SHALL BE PROVIDED TO THE CITY OF AKRON TRAFFIC ENGINEERING DIVISION FOR REVIEW AND APPROVAL. THE SUBMITTAL SHALL INCLUDE ALL SIGN DETAILS SUCH AS SIGN DESIGNATION, SYMBOLS, ARROWS, DIMENSIONS, AND ALPHABET.
- THE PREFERRED MOUNTING LOCATION FOR GROUND MOUNTED TRAFFIC SIGNS IS ON A UTILITY OR LIGHT POLE IF THE FOLLOWING CONDITIONS ARE SATISFIED: (1) THE LOCATION OF THE POLE IS SUITABLE FOR THE INTENDED LOCATION OF THE SIGN (LONGITUDINALLY AND LATERALLY), (2) THE POLE ITSELF IS IN AN ACCEPTABLE CONDITION, (3) THE POLE IS IN A RELATIVELY PLUMB ORIENTATION, AND (4) THE SIGN, WHEN MOUNTED USING THE INTENDED BOLT HOLES, IS ORIENTED CORRECTLY WITH PROPER CLEARANCES MAINTAINED PER OMUTCD CHAPTER 2A. WHERE THESE CONDITIONS ARE NOT SATISFIED, SIGNS SHALL BE MOUNTED ON THEIR OWN GROUND MOUNTED SUPPORT PER ODOT TRAFFIC ENGINEERING MANUAL PART 2 (SECTIONS 221 AND 240), STANDARD CONSTRUCTION DRAWING (SCD) TC-41.20, AND OMUTCD CHAPTER 2A.
- SIGNS SHALL BE MOUNTED AT THE LOCATIONS SPECIFIED IN THE PLANS UNLESS OTHERWISE APPROVED BY THE CITY OF AKRON TRAFFIC ENGINEERING DIVISION.
- THE CONTRACTOR SHALL NOT POST ANY NEW SIGNS UNTIL ALL SURFACE RESTORATION HAS BEEN COMPLETED, BUT PRIOR TO SUB-FINAL INSPECTION.
- ALL COSTS REQUIRED TO PERFORM THIS WORK SHALL BE PAID FOR UNDER THE PRICE BID FOR ITEM 630 - TRAFFIC SIGN, PAYABLE FOR EACH TRAFFIC SIGN.
- SIGNS SHALL BE OF ALUMINUM FLATSHEET MATERIAL PER ODOT C&MS 730 (0.080 INCH THICKNESS) AND OF THE DIMENSIONS SPECIFIED IN THE PLANS. BOLT HOLES ARE TO BE DRILLED OR PUNCHED AND LOCATED PER ODOT SCDs TC-52.10 AND TC-52-20. REFLECTIVE SHEETING SHALL MEET OR EXCEED TYPE G PER ASTM D 4956 IV.

VEGETATION AND LANDSCAPING NOTES

- EXISTING EMBANKMENTS WITH IVY, ROCK GARDENS, OR OTHER GROUND COVERS DISTURBED DUE TO INSTALLATION OF SIDEWALK FORMS, ETC., SHALL BE RESTORED IN KIND. ALL COSTS TO BE INCLUDED IN THE COST OF ITEM 456, SIDEWALK.
- IF SO DIRECTED BY THE ENGINEER, THE CONTRACTOR SHALL PROVIDE MEANS OF TEMPORARY EROSION CONTROL PER AKRON CMS 207. COST OF THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 203, EXCAVATION INCLUDING EMBANKMENT CONSTRUCTION, AS PER PLAN.
- 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 ITEM 653 - TOPSOIL FURNISHED AND PLACED, 4" THICK AND ITEM 659 - LAWN SEEDING AND MULCHING ARE BASED ON THESE LIMITS.


MAINTENANCE OF TRAFFIC NOTES

THE CONTRACTOR SHALL SUBMIT A DETAILED MOT PLAN TO THE CITY OF AKRON TRAFFIC ENGINEERING DIVISION AT LEAST SEVEN (7) DAYS PRIOR TO THE PRECONSTRUCTION MEETING FOR REVIEW. THE MOT PLAN SHALL INCLUDE ALL PHASES OF WORK AND CONTAIN ALL PERTINENT DETAILS WITH RESPECT TO LANE AND ROAD CLOSURES, DETOUR ROUTES, AND SIGNS AND MARKINGS IN COMPLIANCE WITH THE CURRENT EDITION OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD) AND LATEST REVISION OF ODOT'S MAINTAINING TRAFFIC (MT SERIES) STANDARD CONSTRUCTION DRAWINGS. THE CONTRACTOR SHALL NOT BEGIN MOBILIZATION OR PERFORM ANY WORK UNTIL THE MOT PLAN HAS BEEN APPROVED.

FOR MORE INFORMATION ON DEVELOPING THIS PLAN SEE ODOT'S MAINTENANCE OF TRAFFIC STANDARD DRAWINGS. A LINK TO THESE DRAWINGS MAY BE FOUND AT:
[http://www.dot.state.oh.us/Divisions/Engineering/Roadway/DesignStandards/traffic/SCD/Pages/CurrentMaintainingTraffic\(MT\)SCDs.aspx](http://www.dot.state.oh.us/Divisions/Engineering/Roadway/DesignStandards/traffic/SCD/Pages/CurrentMaintainingTraffic(MT)SCDs.aspx)

ALL COSTS ASSOCIATED WITH THIS WORK SHALL BE INCLUDED IN ITEM 614 - MAINTAINING TRAFFIC.

- THE CONTRACTOR SHALL FURNISH, ERECT AND MAINTAIN ALL TRAFFIC CONTROL DEVICES AS REQUIRED HEREIN AND IN COMPLIANCE WITH THE LATEST EDITION OF THE O.M.U.T.C.D., ACCORDING TO PLACEMENT, SIZE, SHAPE, COLOR, AND REFLECTORIZATION.
- THE CONTRACTOR SHALL PROVIDE REGULAR SCHEDULE AND WORK PROGRESSION UPDATES TO THE TRAFFIC ENGINEERING DIVISION AT E-MAIL traffic@akronohio.gov FOR USE IN THE TRAFFIC WEEKLY TRAFFIC DISRUPTION NOTICE UPDATES. THE COST FOR THIS WORK SHALL BE INCLUDED IN ITEM 614 - MAINTAINING TRAFFIC. THE FREQUENCY OR PLAN OF THESE REGULAR UPDATES SHALL BE DETERMINED BY THE CITY OF AKRON TRAFFIC ENGINEERING DIVISION PRIOR TO THE START OF CONSTRUCTION BASED ON THE SCOPE OF WORK AND COMPLEXITY OF THE MOT PLAN. THE TRAFFIC ENGINEERING DIVISION MAY REVISE THESE FREQUENCIES THROUGH THE COURSE OF THE PROJECT AS DEEMED NECESSARY.
- THE CONTRACTOR SHALL MAINTAIN TRAFFIC IN ACCORDANCE WITH THE SUBMITTED AND APPROVED PROJECT MOT PLAN. ANY ALTERNATE MEANS OF MAINTAINING TRAFFIC MUST BE APPROVED BY THE CITY OF AKRON TRAFFIC ENGINEER.
- THE CONTRACTOR SHALL BE RESPONSIBLE AT ALL TIMES FOR PROVIDING AND MAINTAINING LIGHTS, SIGNS, AND BARRICADES IN A CLEAN, WORKING, AND HIGHLY VISIBLE CONDITION FOR THE MAINTENANCE OF TRAFFIC, PUBLIC SAFETY, AND THE SAFETY OF HIS WORK AND WORKERS AS REQUIRED HEREIN AND IN COMPLIANCE WITH O.M.U.T.C.D. AND AS DIRECTED BY THE ENGINEER.
- THE CONTRACTOR SHALL GIVE THE CITY OF AKRON, TRAFFIC ENGINEERING DIVISION A MINIMUM OF SEVEN (7) DAYS NOTICE PRIOR TO STARTING WORK. CONTACT ADAM STALLER IN THE TRAFFIC ENGINEERING OFFICE, AT 330-375-2851 OR E-MAIL traffic@akronohio.gov.
- THE CONTRACTOR SHALL INFORM THE ODOT DISTRICT 4 OFFICE (330) 786-2208, EIGHTEEN (18) DAYS PRIOR TO THE BEGINNING OF WORK.
- IN ADDITION TO CONTAINING LAYOUTS FOR LANE CLOSURES, ROAD CLOSURES, AND DETOUR ROUTES, THE MOT PLAN SHALL DEPICT ALL ADVANCE WARNING SIGNAGE (SUCH AS 'ROAD WORK AHEAD,' 'ROAD CLOSED AHEAD,' 'LEFT LANE CLOSED AHEAD,' ETC.) FOR ALL PHASES OF CONSTRUCTION. THIS INCLUDES ALL STREETS LEADING INTO THE WORK ZONE. NOTE: STREET NAME PLACARDS ARE REQUIRED TO BE PLACED WITH ALL CLOSURE AND DETOUR SIGNS IN RESPECT TO THE ROAD NAME(S) OF CLOSURE.
- THE CONTRACTOR IS REQUIRED TO MAINTAIN ALL STREET NAME SIGNS, STOP SIGNS, YIELD SIGNS AND ALL OTHER EXISTING SIGNS AT ALL TIMES DURING THE CONSTRUCTION DURATION. SUCH SIGNAGE MAY CONSIST OF TEMPORARY SIGNS IN ACCORDANCE WITH THE O.M.U.T.C.D.; AND THE "CONSTRUCTION AND MATERIAL SPECIFICATIONS", LATEST EDITION, OF THE CITY OF AKRON, DEPARTMENT OF PUBLIC SERVICE, AKRON ENGINEERING BUREAU; AND THESE PLANS.
- THE CONTRACTOR SHALL PURSUE THE PROJECT IN SUCH A MANNER AS TO MINIMIZE BOTH THE EXTENT AND THE DURATION OF THE DISRUPTION OF TRAFFIC. ANY TEMPORARY ROAD CLOSURES WHICH ARE REQUIRED DURING CONSTRUCTION OF THIS PROJECT WILL BE APPROVED ONLY BY THE CITY OF AKRON TRAFFIC ENGINEER WITH THE ACCEPTANCE OF THE SERVICE DIRECTOR. A MINIMUM OF 72 HOURS NOTICE IS REQUIRED.
- THE CONTRACTOR SHALL SECURE HIS WORK AREA AT ALL TIMES AND PROHIBIT UNAUTHORIZED ACCESS INTO THE WORK AREA BY THE GENERAL PUBLIC.
- ALL STREET CROSSINGS AND EXCAVATIONS SHALL BE PLATED FOR TRAFFIC MAINTENANCE DURING EXTENDED PERIODS OF INACTIVITY AND DURING NON-WORKING HOURS.
- THE CONTRACTOR SHALL PROVIDE, AT ALL TIMES, A SAFE PEDESTRIAN WALKWAY AROUND THE WORK AREA FOR ACCESS WHEN WORKING ACROSS SIDEWALKS.
- THE CONTRACTOR SHALL BE RESPONSIBLE AT ALL TIMES FOR MAINTAINING, REMOVING, AND INSTALLING ANY TRAFFIC SIGNAL/FLASHER AS PER PLAN AND SPECIFICATION, UNLESS NOTED OTHERWISE.
- THE NAMES AND PHONE NUMBERS OF ALL PERSONNEL WHO ARE AUTHORIZED BY THE CONTRACTOR TO MANAGE PROJECT-RELATED EMERGENCIES SHALL BE PROVIDED BY THE CONTRACTOR TO THE AKRON ENGINEERING BUREAU AT THE PRECONSTRUCTION MEETING.
- THE CONTRACTOR SHALL ENSURE THAT SOMEONE IS AVAILABLE 24 HOURS OF THE DAY TO RESPOND ACCORDINGLY IN THE EVENT OF AN AFTER HOURS TRAFFIC ACCIDENT, ANY LAMP OUTAGES, TRAFFIC-CONTROLLER MALFUNCTIONS, SIGNAL PROBLEMS, OR OTHER INCIDENTS WITHIN THE PROJECT LIMITS THAT MAY BE RELATED TO CONSTRUCTION ACTIVITIES THAT IS ASSOCIATED TO "THE WORK" OF THE CONTRACTOR DURING THE DURATION OF THIS PROJECT.
- IN THE EVENT OF A TRAFFIC-CONTROLLER MALFUNCTION OR SIGNAL-RELATED PROBLEM WITHIN THE CONSTRUCTION LIMITS, THE CONTRACTOR SHALL IMMEDIATELY CONTACT THE CITY OF AKRON'S TRAFFIC SIGNAL EMERGENCY CONTACT NUMBER AT (330) 812-7881 OR TRAFFIC SIGNALTECHNICAN SUPERVISOR AT (330) 812-9091.
- LIGHT WEIGHT FLEXIBLE DRUMS CONFORMING TO SECTION 6F.67 OF THE O.M.U.T.C.D., SHALL BE PROVIDED WITHIN 100 FEET OF ALL INTERSECTIONS AND ALL TRANSITION AREAS FOR NIGHT TIME CHANNELIZATION. THE MAXIMUM SPACING SHALL BE 25 FEET, CENTER TO CENTER. DURING HOURS OF DARKNESS A FLASHING WARNING LIGHT SHALL BE PLACED ON DRUMS USED SINGLY AND STEADY BURN WARNING LIGHTS SHALL BE PLACED ON DRUMS USED IN A SERIES FOR TRAFFIC CHANNELIZATION.
- ALL APPROVED "ROAD CLOSED" SIGNS SHALL BE POSTED ON A TYPE III BARRICADE WITH THE FOLLOWING WARNING: "WARNING: THE PENALTY FOR DISTURBING THIS TYPE III BARRICADE IS A FINE UP TO \$500 DOLLARS AND/OR IMPRISONMENT FOR UP TO SIXTY DAYS."
- A FULL CLOSURE OF ANY I-77 RAMP IS NOT PERMITTED. SINGLE LANES ON MULTIPLE-LANE RAMPS MAY BE CLOSED FOR NECESSARY LENGTHS OF TIME TO PERFORM THE PROPOSED WORK. A SINGLE 10-FOOT RAMP LANE SHALL REMAIN OPEN FOR PUBLIC USE AT ALL TIMES. THE CONTRACTOR IS TO COORDINATE RAMP LANE CLOSURES WITH ODOT DISTRICT 4 (330) 786-3148.
- FOR LANE CLOSURES ON ARTERIAL AND COLLECTOR STREETS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING AND MAINTAINING ARROW BOARDS (O.M.U.T.C.D. 6F.61) AND DRUMS (O.M.U.T.C.D. 6F.67) TO CHANNELIZE TRAFFIC. CONES, TUBULAR MARKERS AND VERTICAL PANELS SHALL NOT BE USED.
- ANY TEMPORARY CLOSINGS OR SHUT DOWNS OF ALL TRAFFIC ACCESS FOR ANY STREET SHALL BE APPROVED BY THE CITY OF AKRON TRAFFIC ENGINEER. A MINIMUM OF 72 HOURS NOTICE IS REQUIRED.
- WHENEVER POSSIBLE, MAINTAIN ACCESS TO THE EXISTING BUS STOPS DURING CONSTRUCTION. HOWEVER, WHEN THAT IS NOT POSSIBLE, A TEMPORARY BUS STOP LOCATION SHOULD BE IDENTIFIED AND DISCUSSED WITH METRO RTA FOR APPROVAL. ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT (ADA) INCLUDING PROVISIONS FOR TEMPORARY ACCESS TO AND FROM BUS STOPS AND PROVIDING TEMPORARY BUS STOP LOCATIONS. THE CONTRACTOR SHOULD ALLOW FOR TEMPORARY BUS STOPS TO BE LOCATED NEAR THE BEGINNING AND ENDING OF THE BUS DETOUR ROUTE TO MAXIMIZE PEDESTRIAN ACCESS DURING CONSTRUCTION.
- THE CONTRACTOR MAY NOT REMOVE ANY BUS STOP SIGNS WITHOUT PRIOR AUTHORIZATION FROM METRO. THE CONTRACTOR SHALL NOTIFY METRO AT LEAST FIVE (5) BUSINESS DAYS IN ADVANCE OF CONSTRUCTION COMPLETION SO THAT PERMANENT BUS STOP SIGNS CAN BE INSTALLED BY METRO.

DATE	05/09/2019
CHECKED	JFM
DRAWN	JPL
SCALE:	NO SCALE
DATE	
REVISIONS	
GENERAL NOTES	
VERNON ODOM BLVD.	
CITY OF AKRON DEPARTMENT OF PUBLIC SERVICE AKRON ENGINEERING BUREAU	
	
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1569 VERNON ODOM BLVD
6841715
SHARON & PILISTA ENTERPRISES LLC
PART OF S.L. 47

1557 VERNON ODOM BLVD
6832202
WOOSTER AVE PROF CNTR INC
S.L. 46

1535 VERNON ODOM BLVD
6762792
M T REALTY LIMITED
S.L. 44

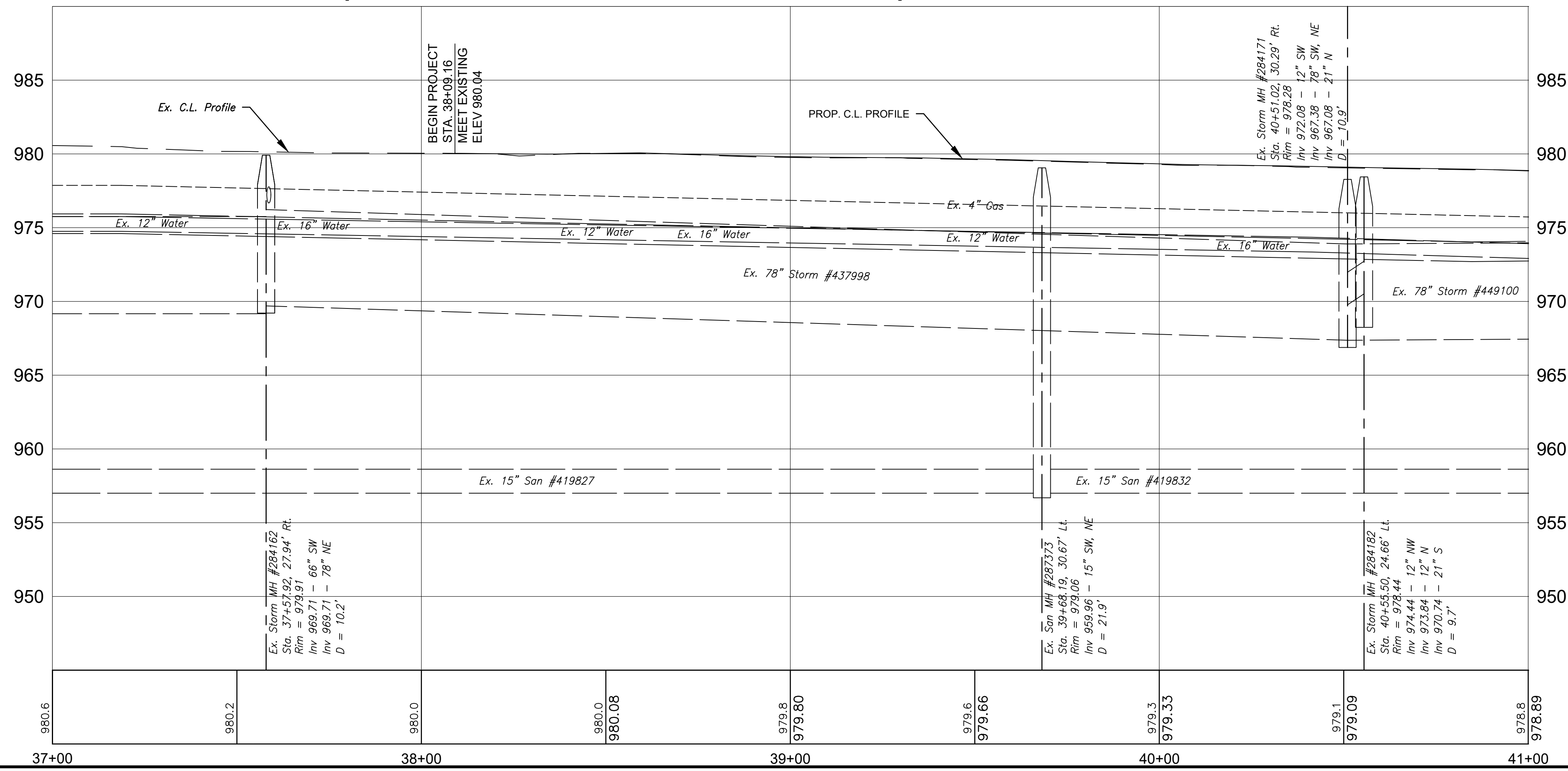
1570 VERNON ODOM BLVD
6716075
AREC 1 LLC
S.L. 80

1520 VERNON ODOM BLVD
6859641
1520 WOOSTER AVE ASSOC LLC
S.L. 78

BENCH MARK 1:
STA. 38+25.38, 55.24' RT.
HYDRANT, CENTER TOP DOME BOLT
ELEV = 983.04

S.R. 261 (VERNON ODOM BLVD), 95'

MATCHLINE STA. 41+00
SEE SHEET 8



CROSS REFERENCES	
SHEET NO.	DESCRIPTION
2	SCHEMATIC PLAN (BENCHMARK INFORMATION)
3	TYPICAL SECTIONS
10, 11	CROSS SECTIONS - VERNON ODOM BLVD.

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
17	SIGNING & PAVEMENT MARKING PLAN

2018-032-01

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CITY OF AKRON
DEPARTMENT OF PUBLIC SERVICE
AKRON ENGINEERING BUREAU

VERNON ODOM BLVD.

PLAN & PROFILE - VERNON ODOM BLVD.

DATE	REVISIONS
05/09/2019 <td>JPL </td>	JPL
11'-20" <td>HOR.</td>	HOR.
1'-5" <td>VERT.</td>	VERT.

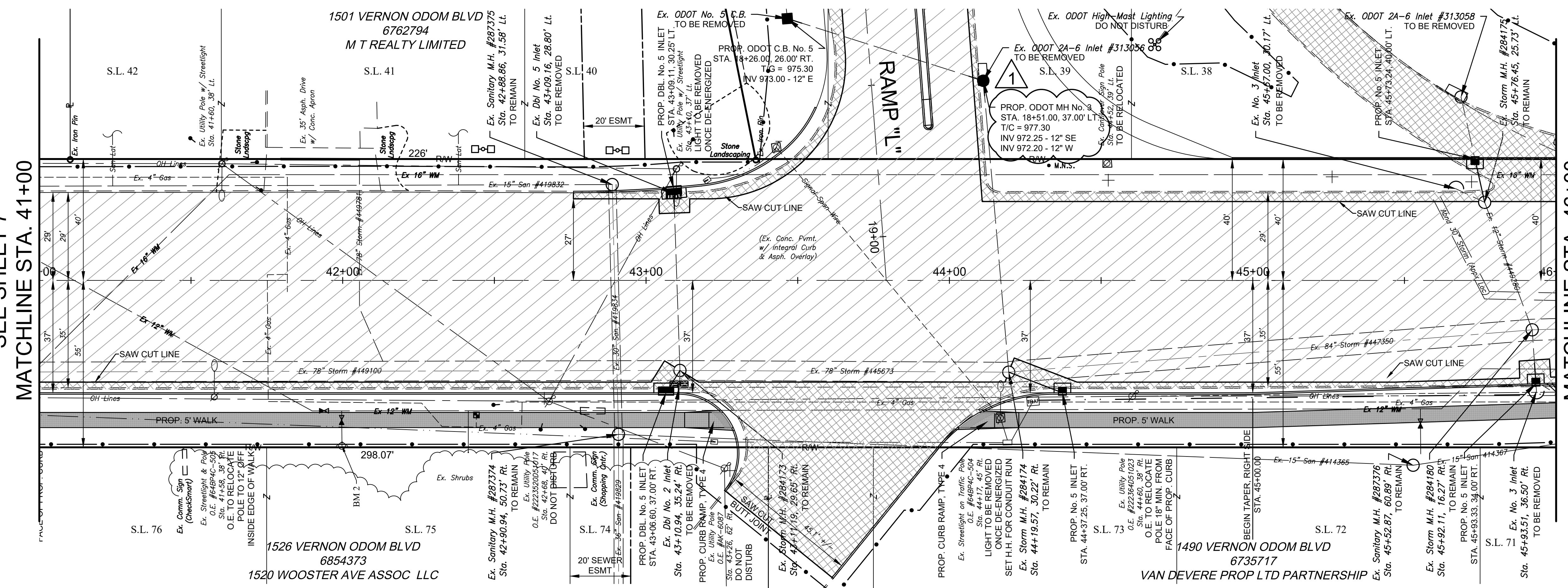
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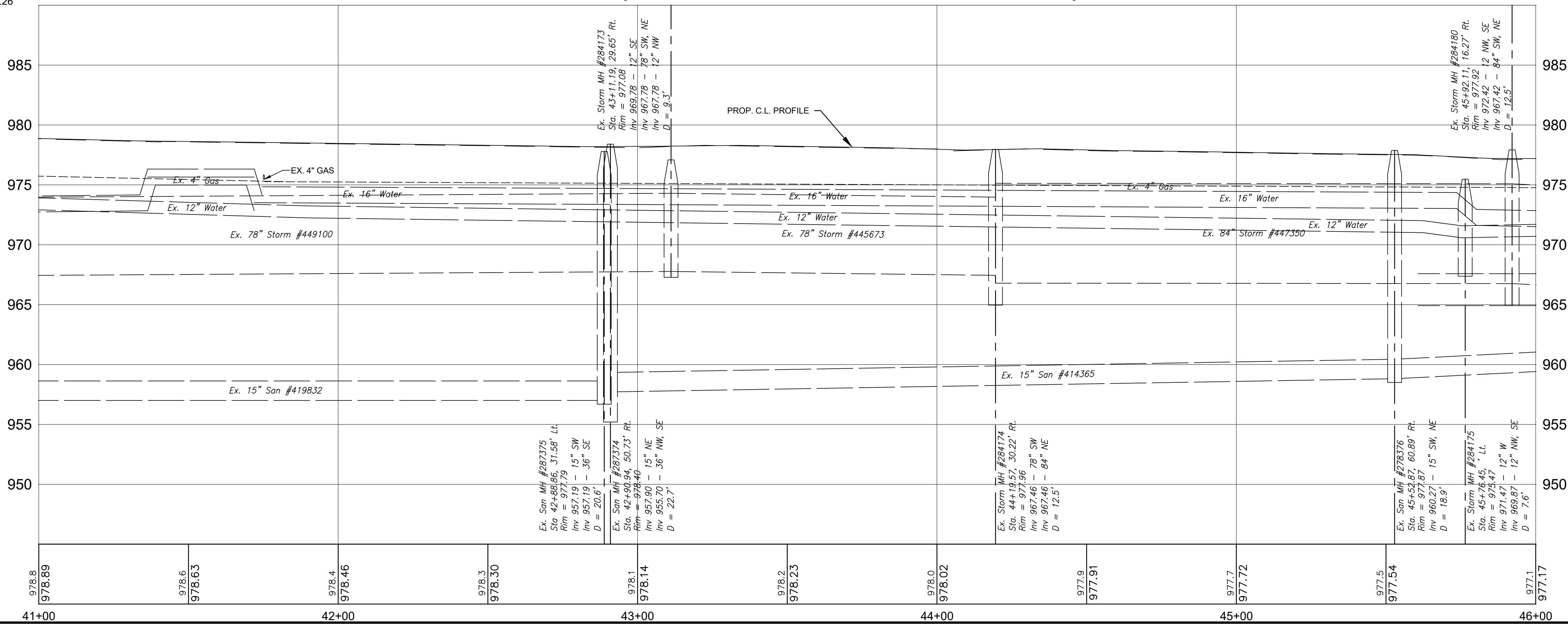
BENCH MARK 2:
STA. 41+99.79, 54.57' RT.
HYDRANT, EAST HOSE NOZZLE CAP END
ELEV = 980.26

SEE SHEET 7
MATCHLINE STA. 41+00

MATCHLINE STA. 46+00
SEE SHEET 9



S.R. 261 (VERNON ODOM BLVD), 95'



CROSS REFERENCES	
SHEET NO.	DESCRIPTION
15	INTERSECTION DETAILS
17	SIGNING & PAVEMENT MARKING PLAN
20 - 24	TRAFFIC SIGNAL PLANS

2018-032-01

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CITY OF AKRON
DEPARTMENT OF PUBLIC SERVICE
AKRON ENGINEERING BUREAU

VERNON ODOM BLVD.

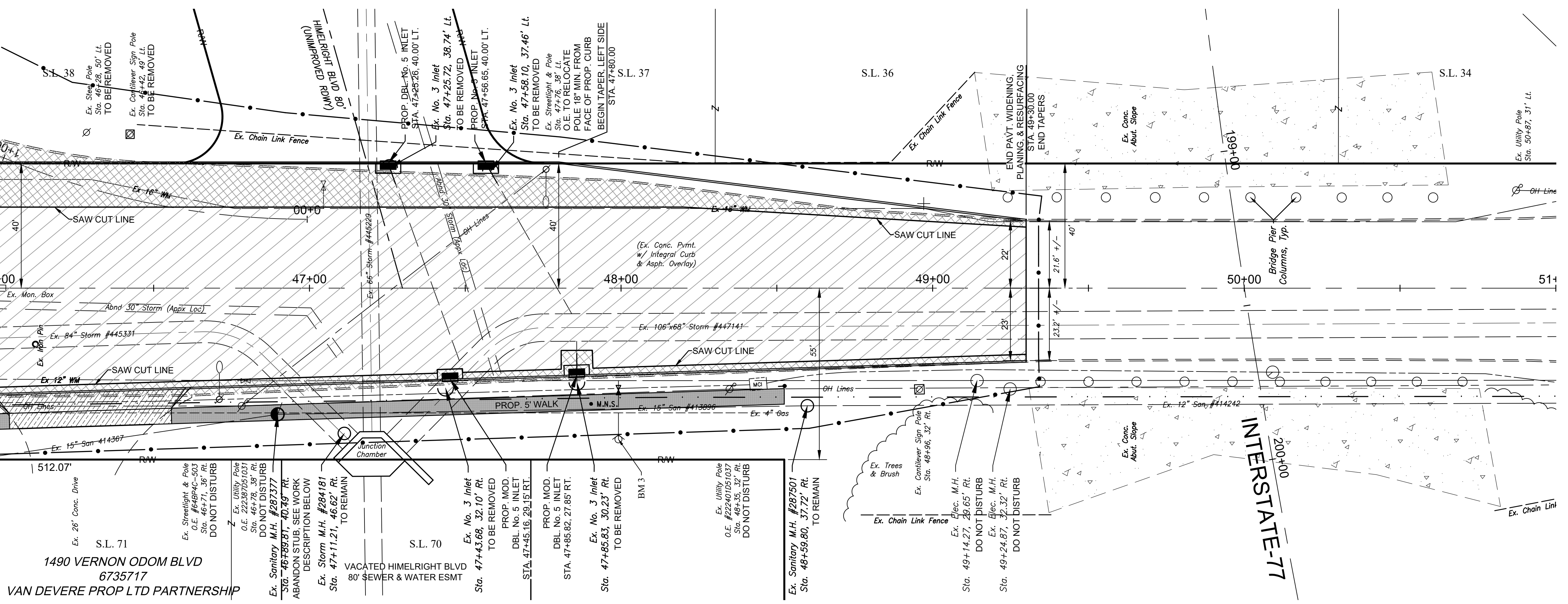
PLAN & PROFILE - VERNON ODOM BLVD.

DATE	09/24/19
CHECKED	JPL
DRAWN	JPL
DATE	05/09/2019
HOR.	1"=20'
VERT.	1"=5'

REVISIONS

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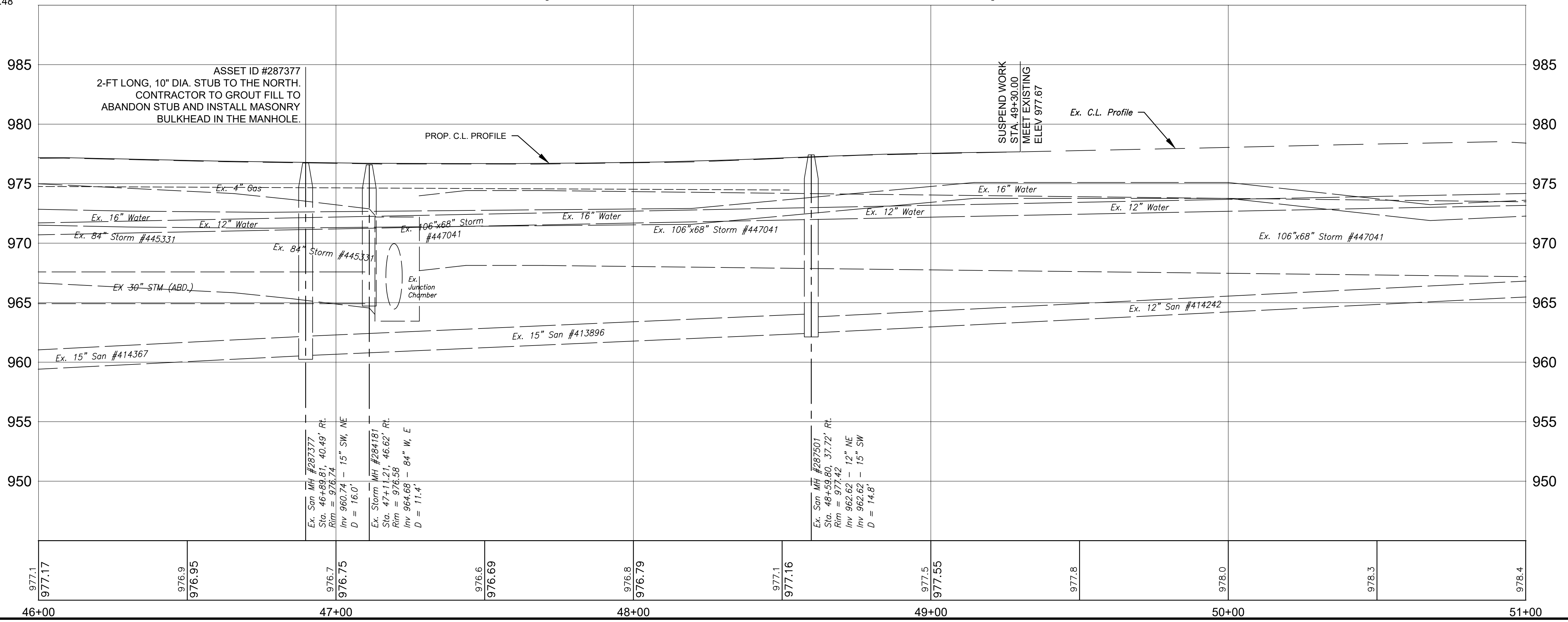
SEE SHEET 8
MATCHLINE STA. 46+00



1490 VERNON ODOM BLVD
6735717
VAN DEVERE PROP LTD PARTNERSHIP

S.R. 261 (VERNON ODOM BLVD), 95'

BENCH MARK 3:
STA. 47+99.17, 48.50' RT.
HYDRANT, EAST HOSE NOZZLE CAP END
ELEV = 978.48



CROSS REFERENCES	
SHEET NO.	DESCRIPTION
2	SCHEMATIC PLAN (BENCHMARK INFORMATION)
3	TYPICAL SECTIONS
10, 11	CROSS SECTIONS - VERNON ODOM BLVD.

SHEET NO.		DESCRIPTION	
17		SIGNING & PAVEMENT MARKING PLAN	

2018-032-01

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CITY OF AKRON
DEPARTMENT OF PUBLIC SERVICE
AKRON ENGINEERING BUREAU

VERNON ODOM BLVD.

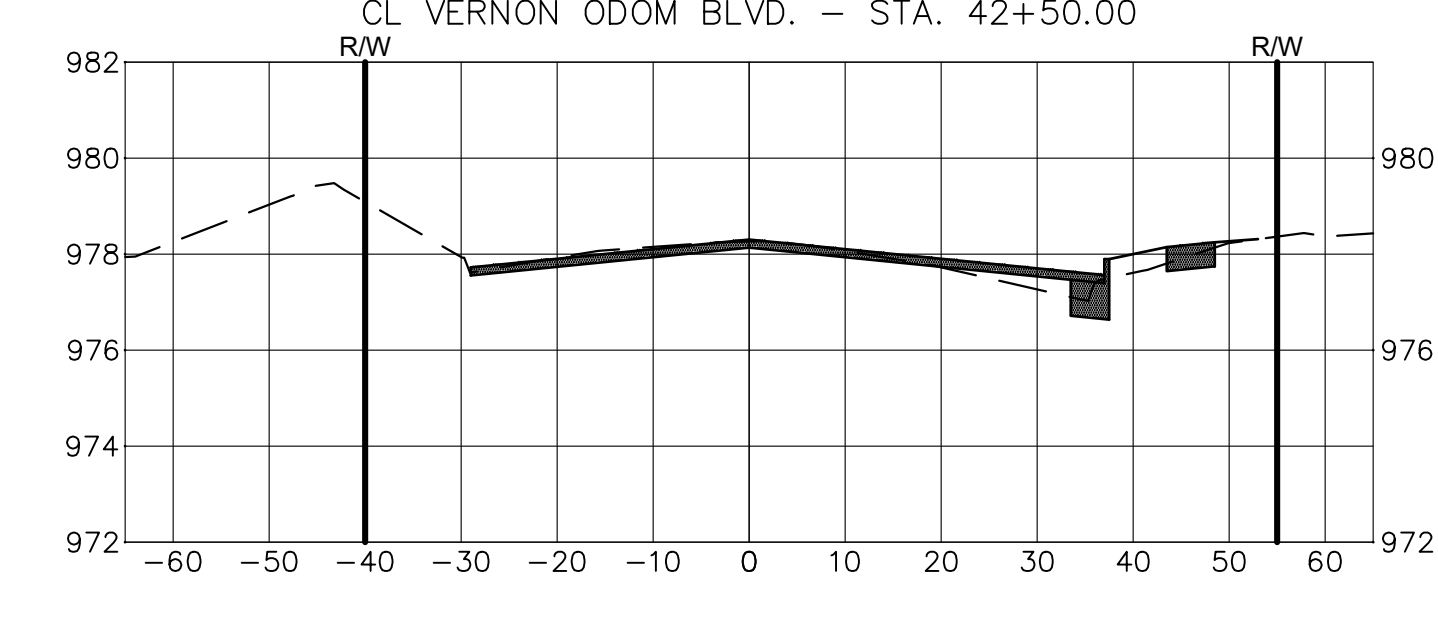
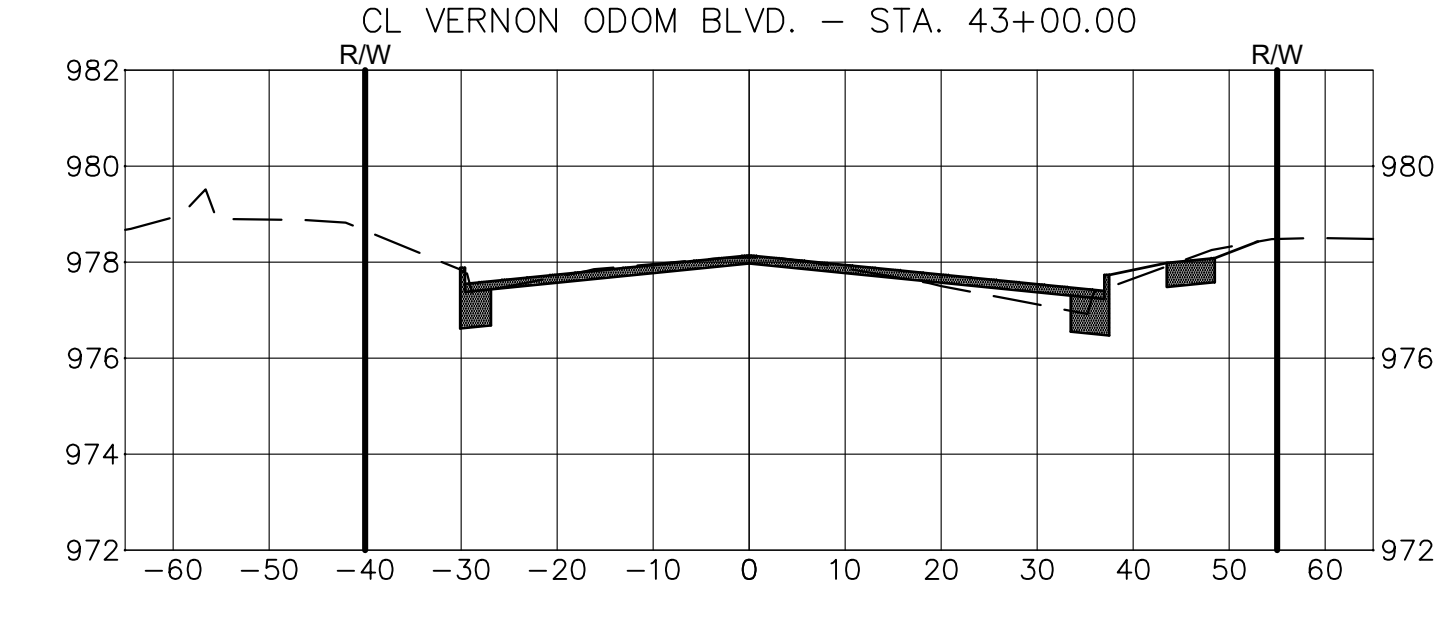
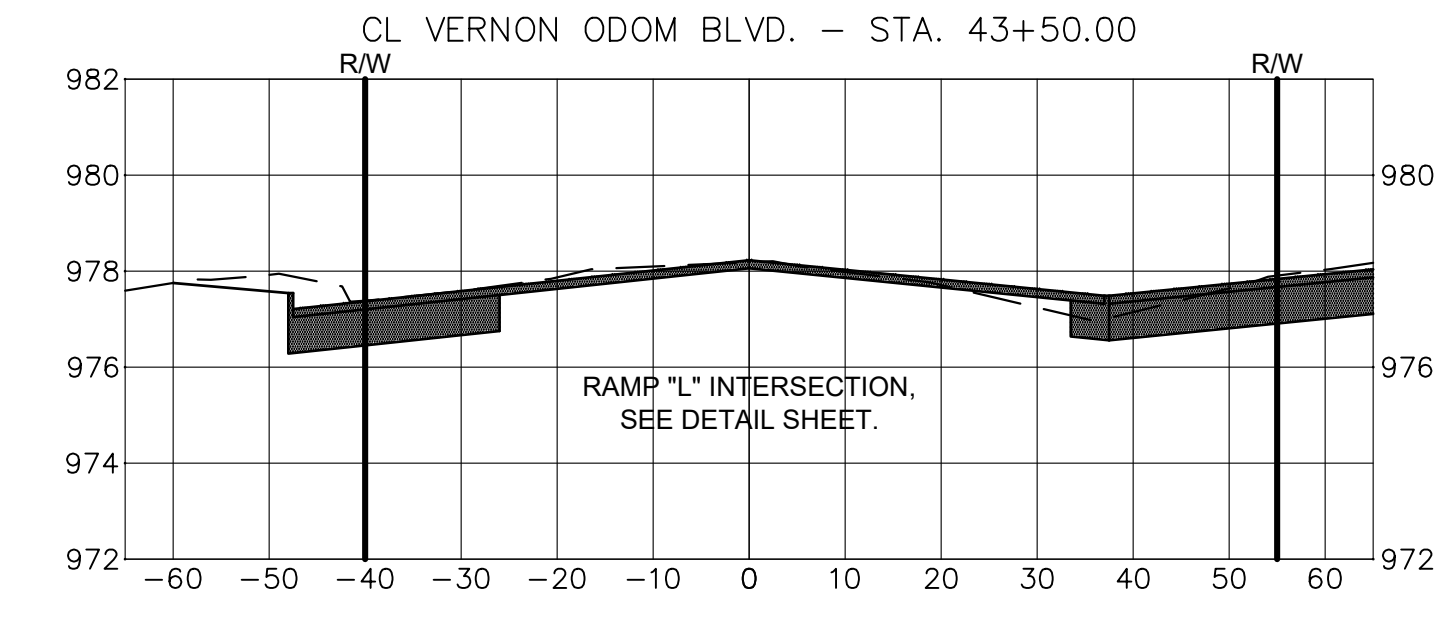
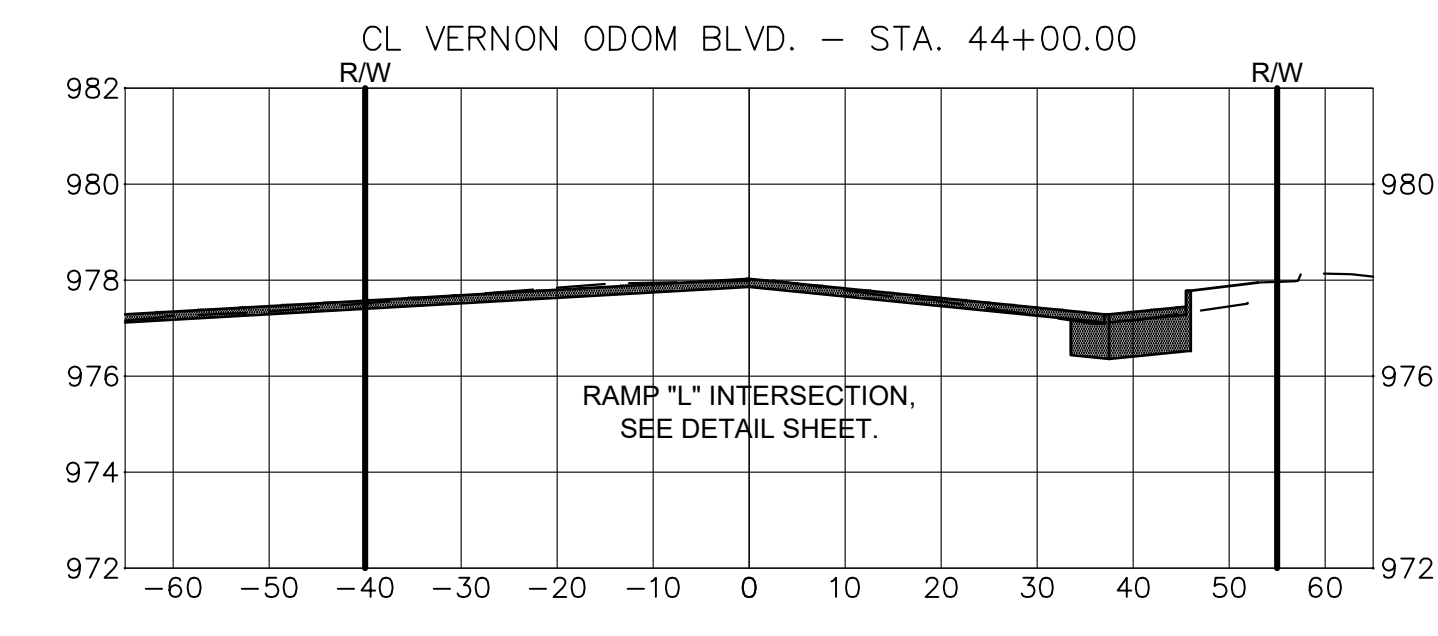
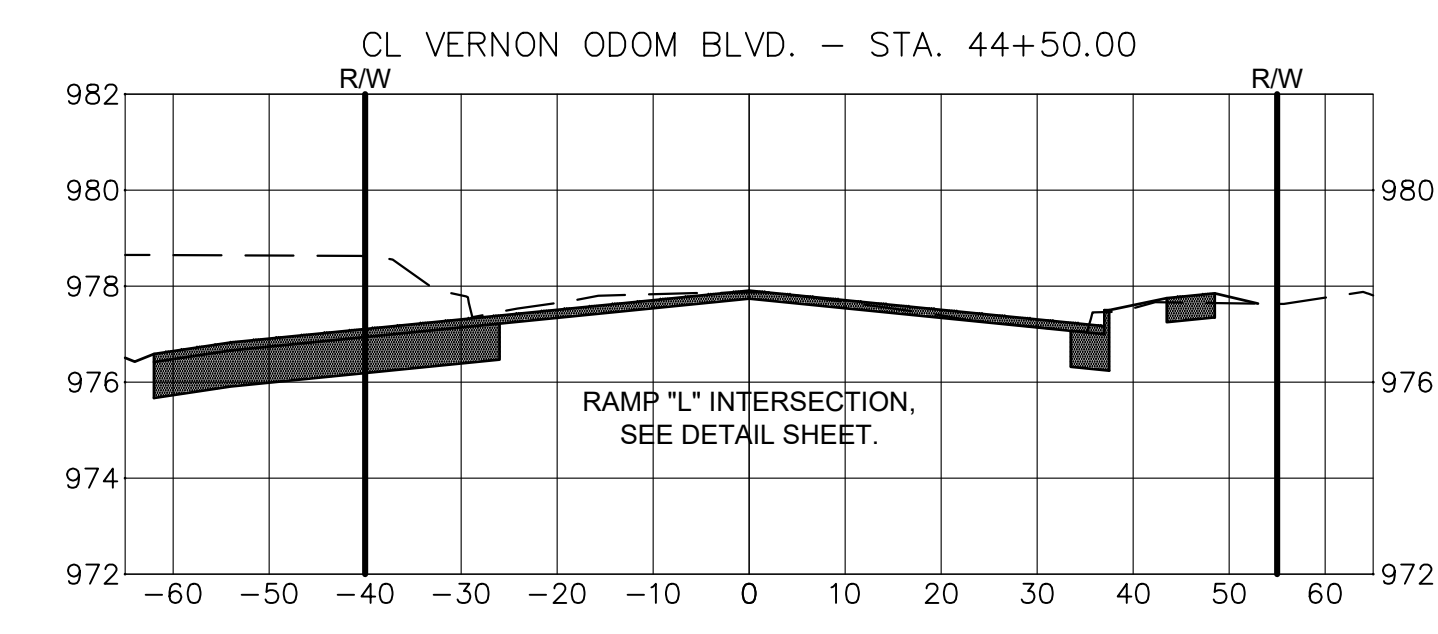
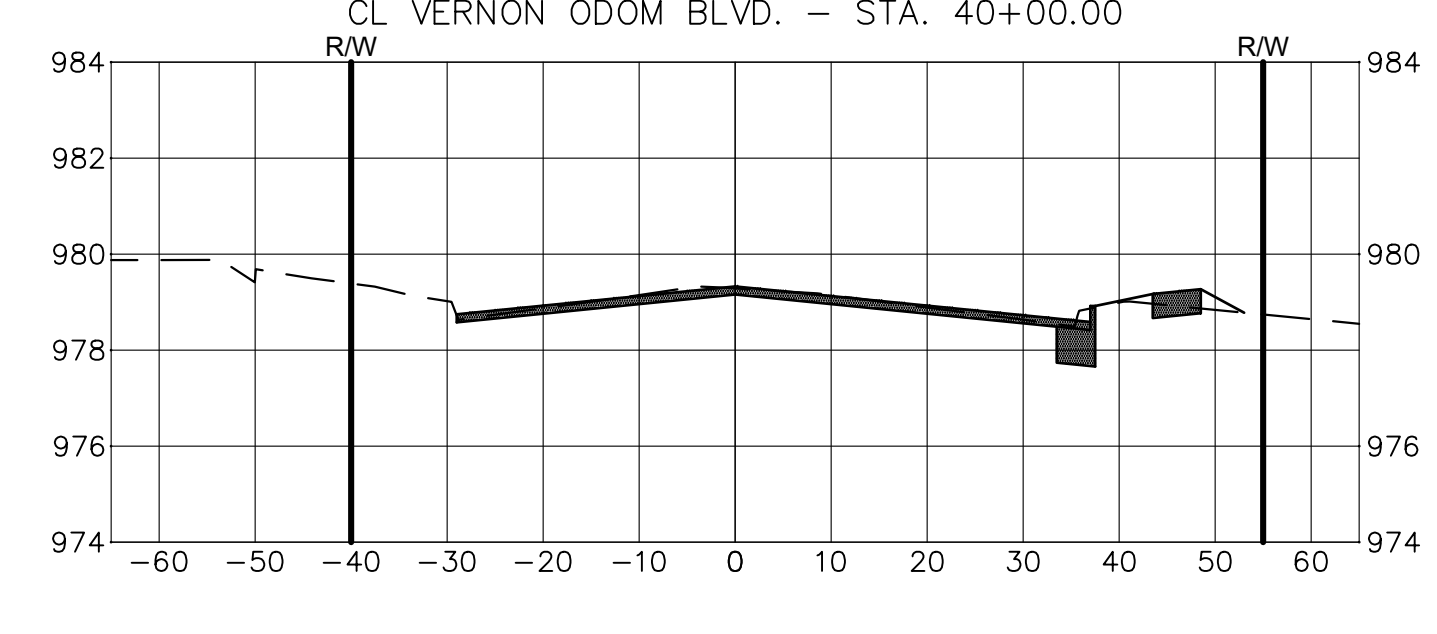
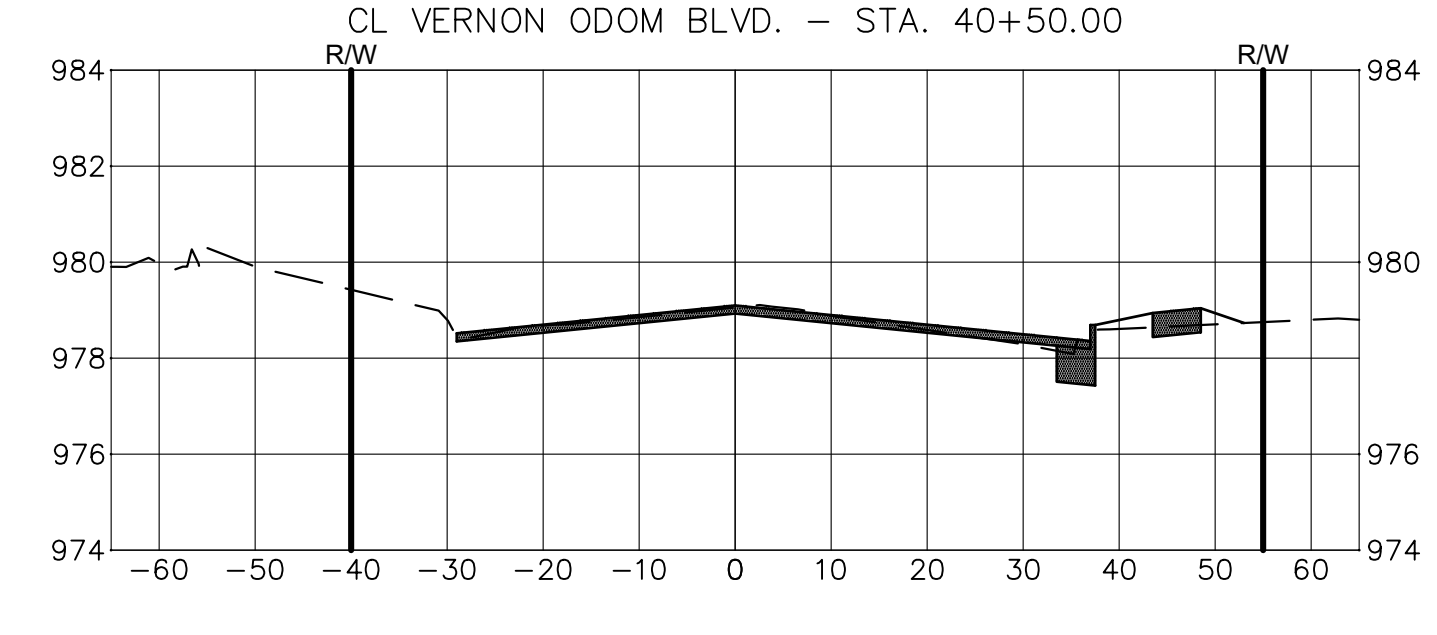
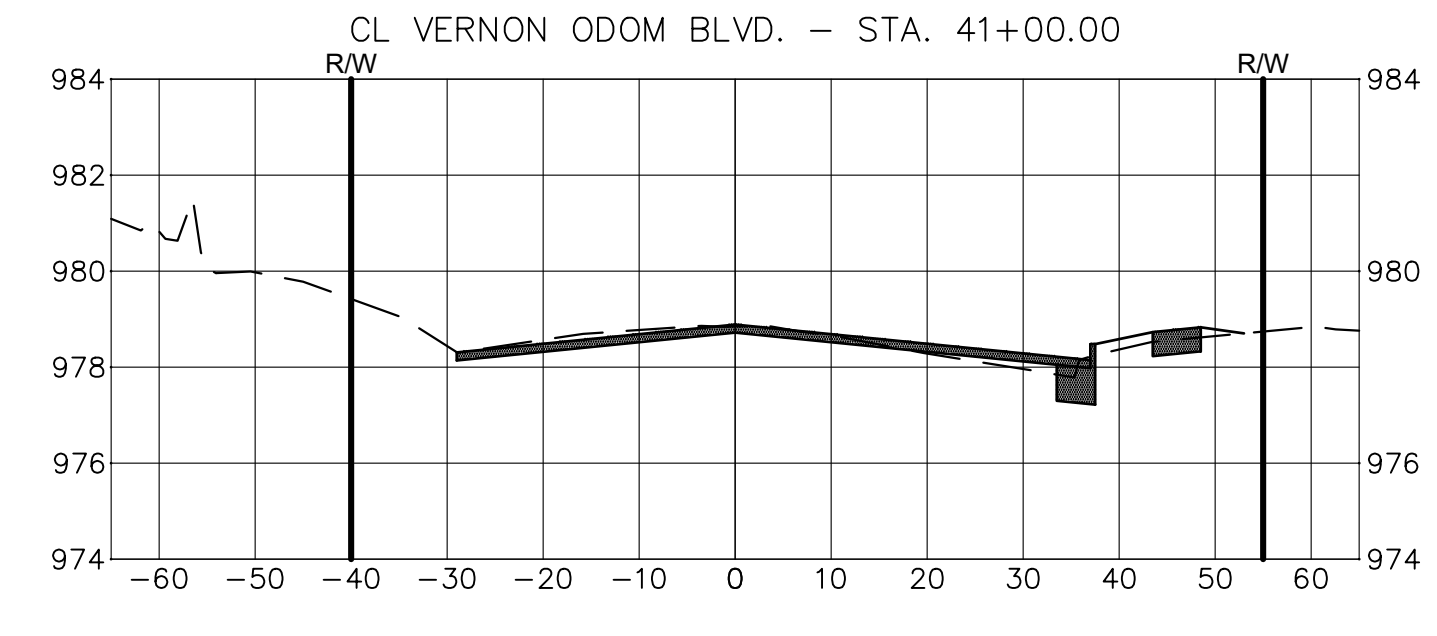
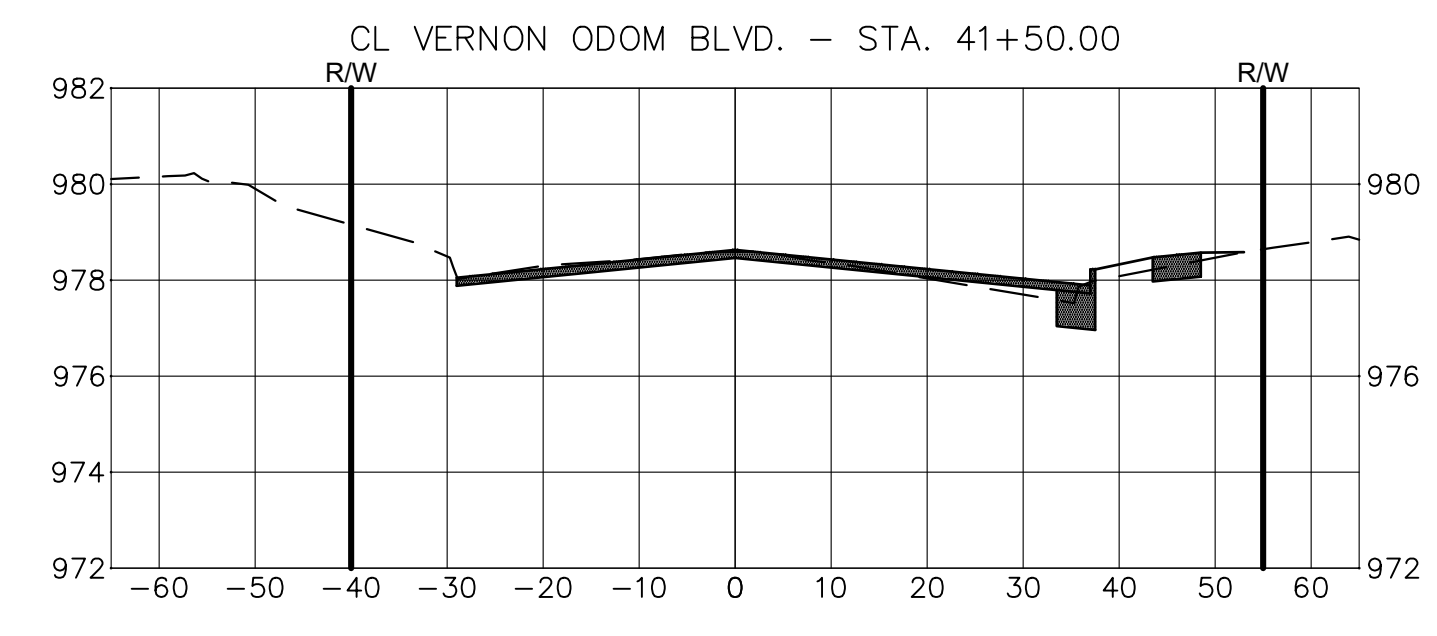
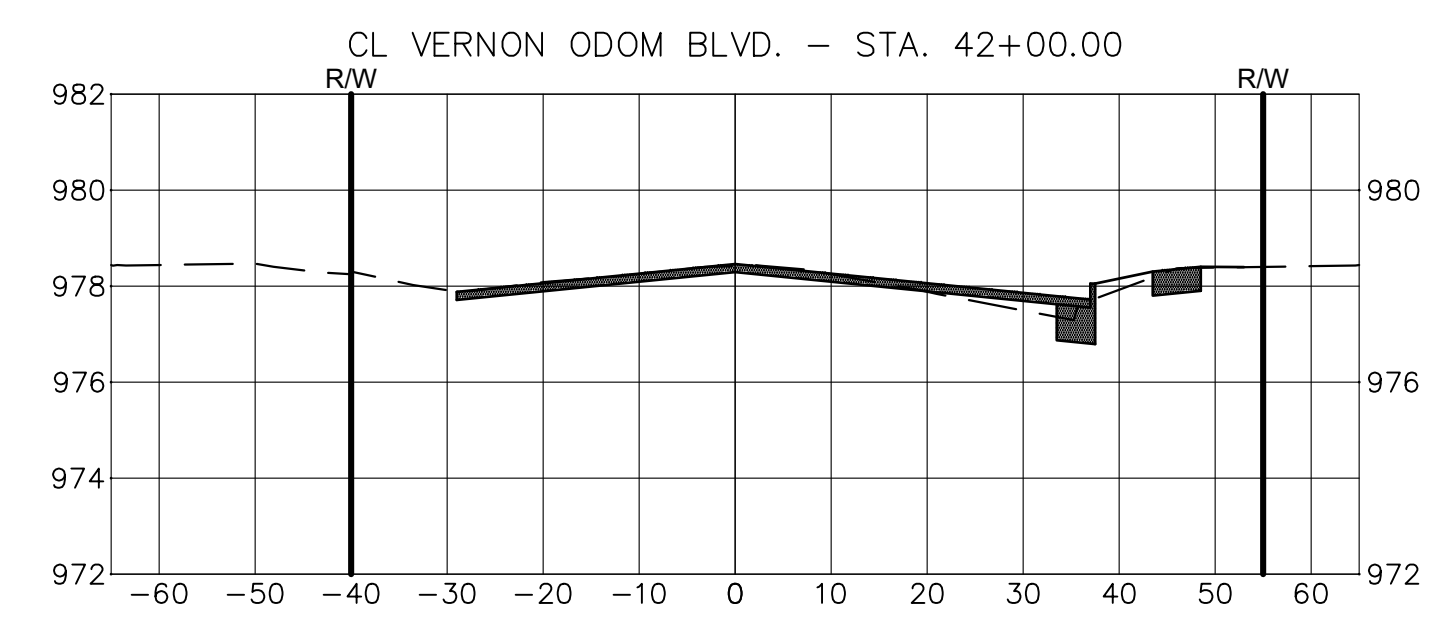
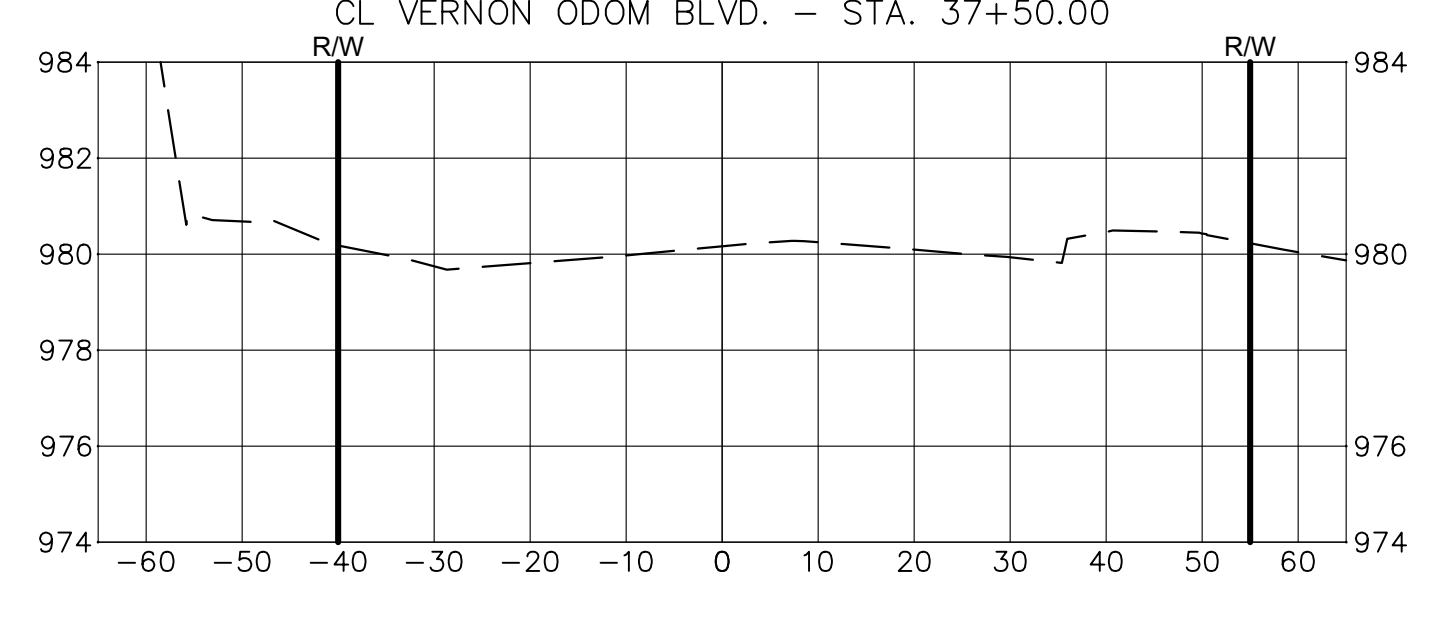
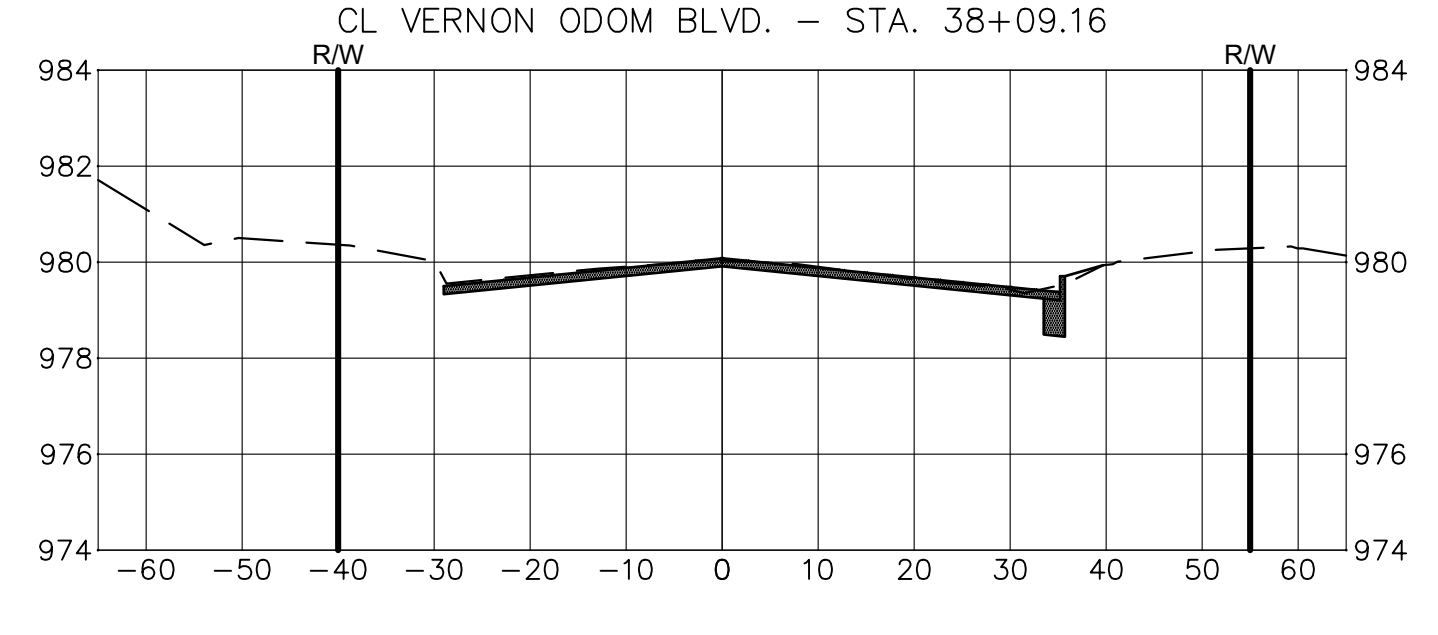
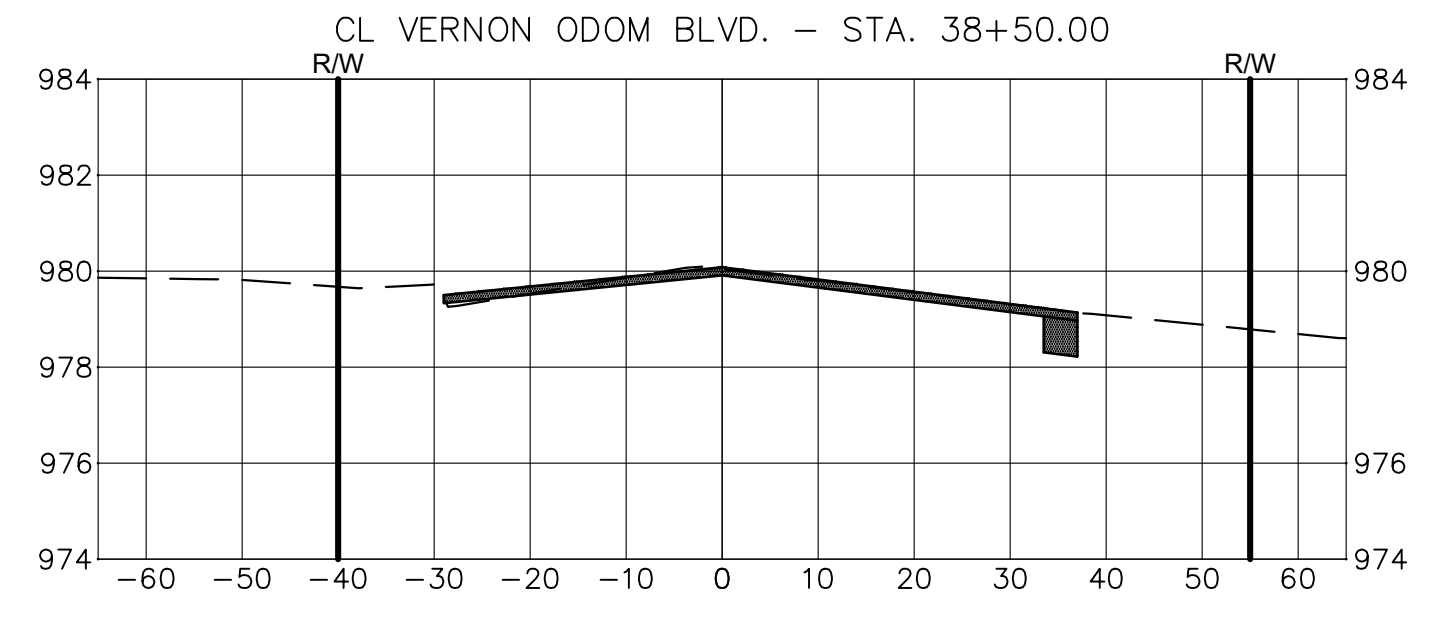
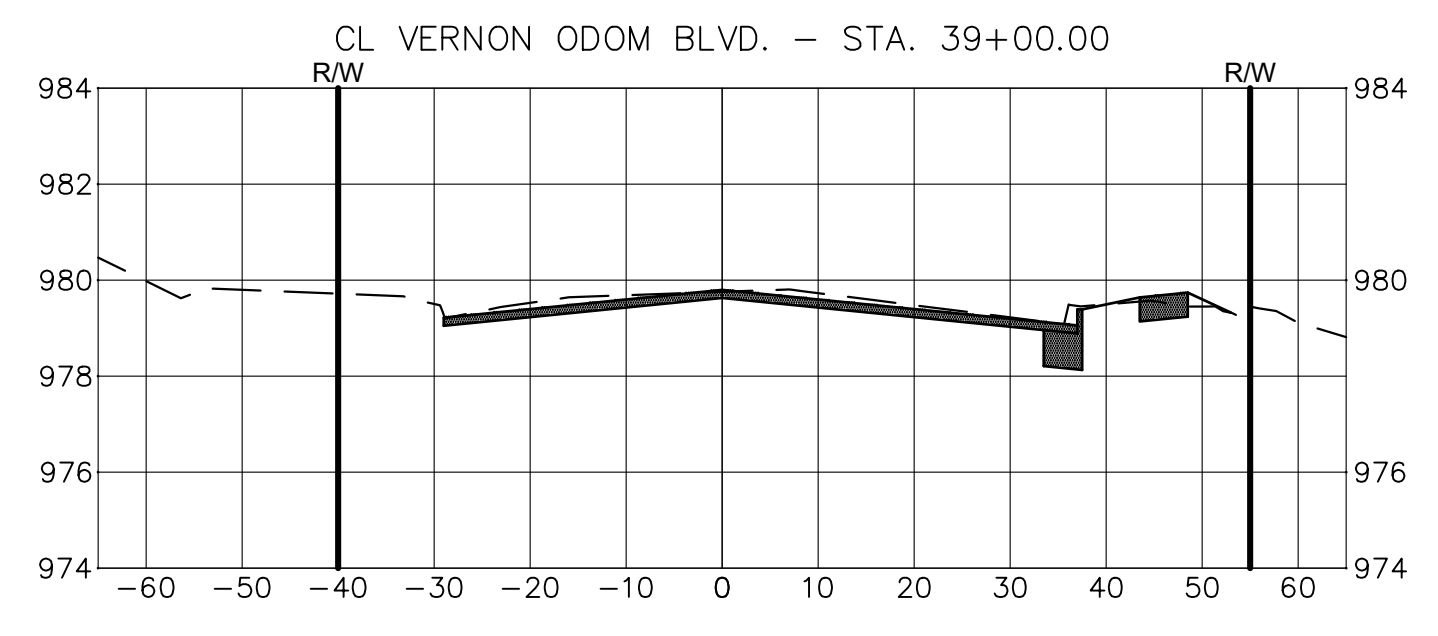
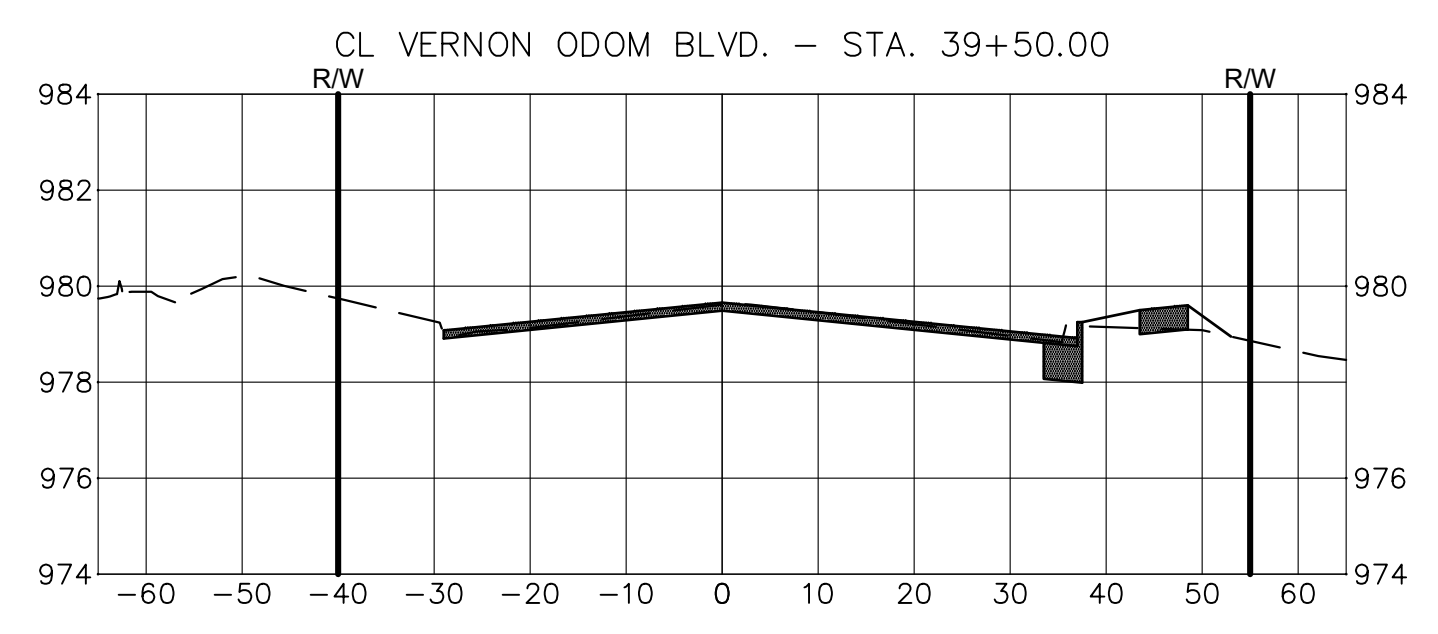
PLAN & PROFILE - VERNON ODOM BLVD.

REVISIONS		DATE

SCALE:	HOR.	VERT.
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DRAWN	CHECKED	DATE
JPL	JFM	05/09/2019

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2018-032-01

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CITY OF AKRON
DEPARTMENT OF PUBLIC SERVICE
AKRON ENGINEERING BUREAU

VERNON ODOM BLVD.

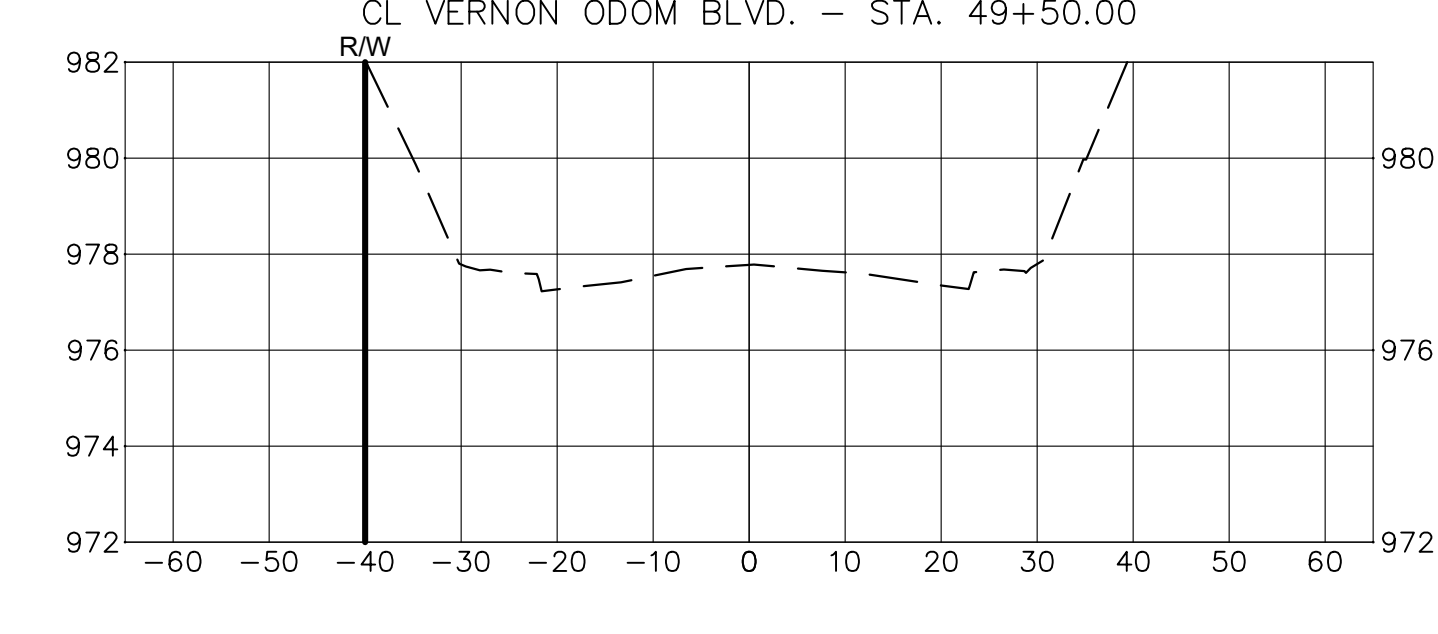
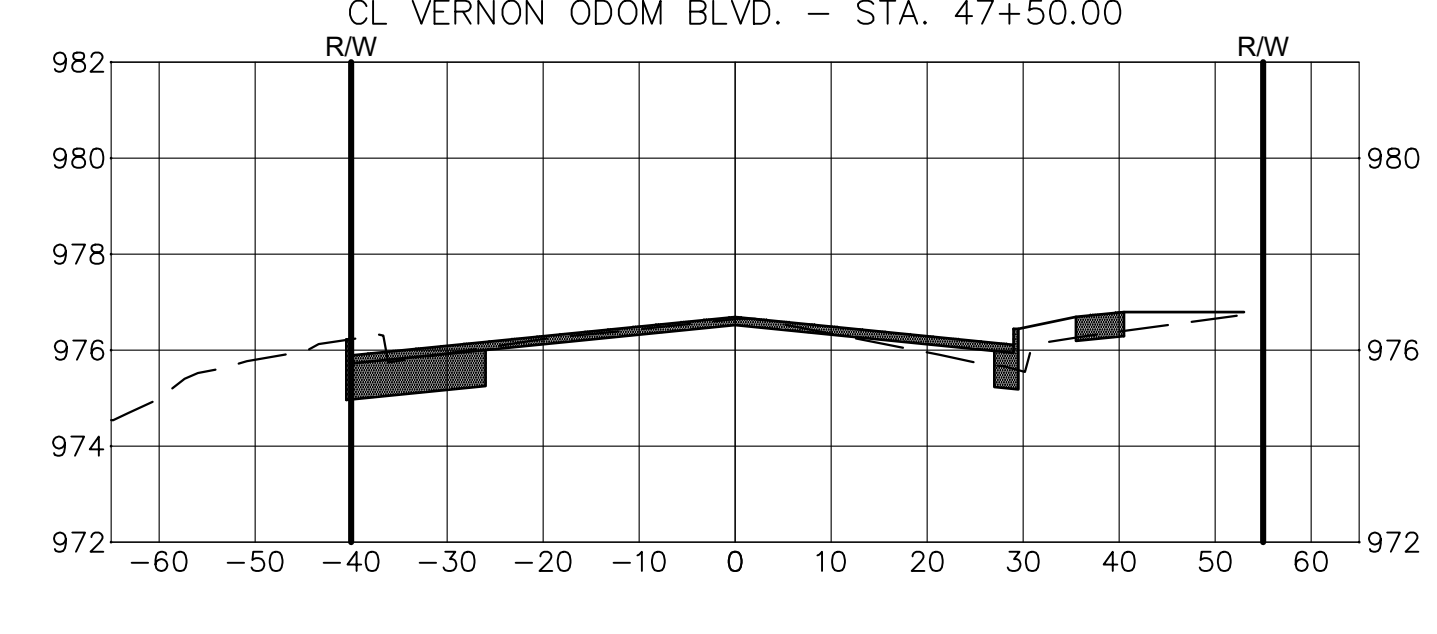
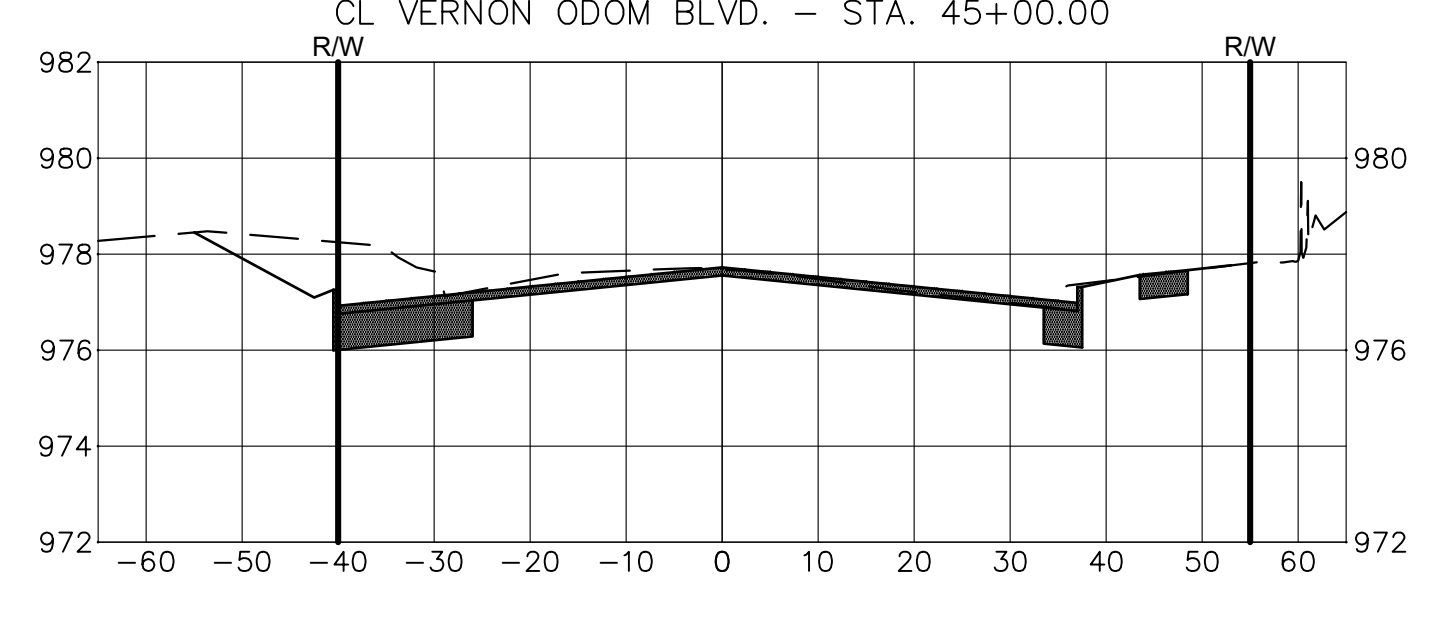
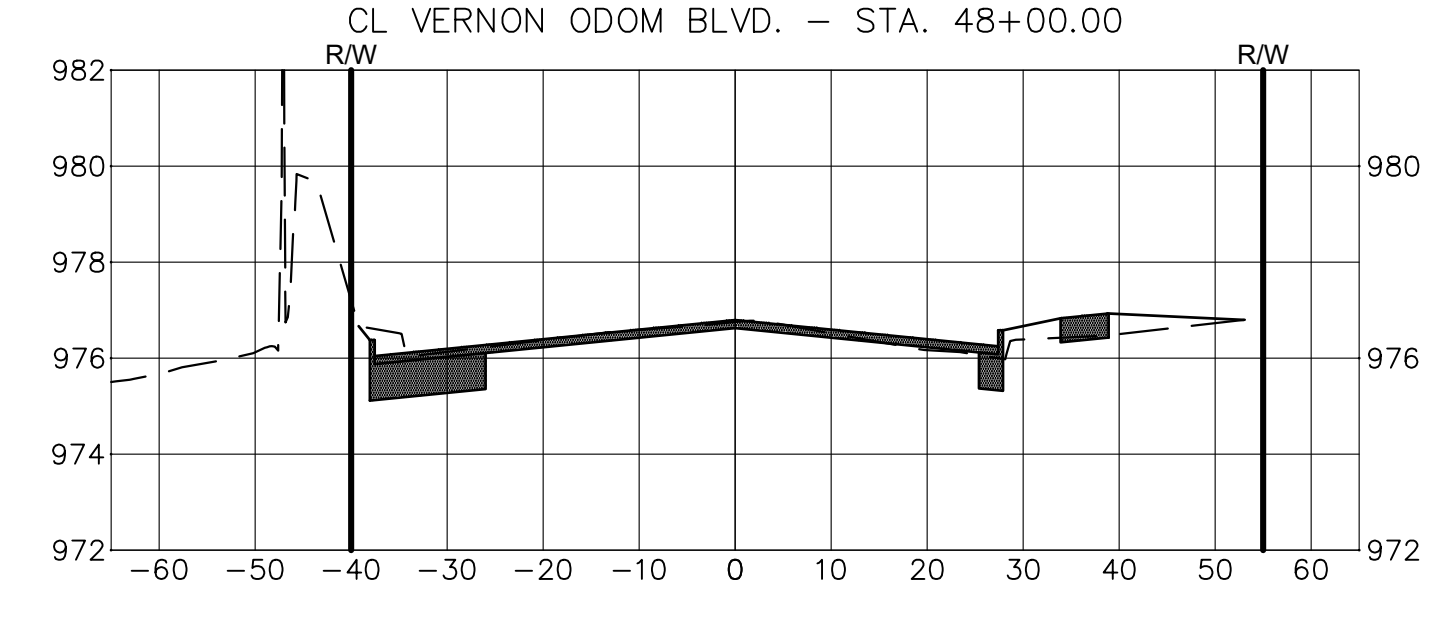
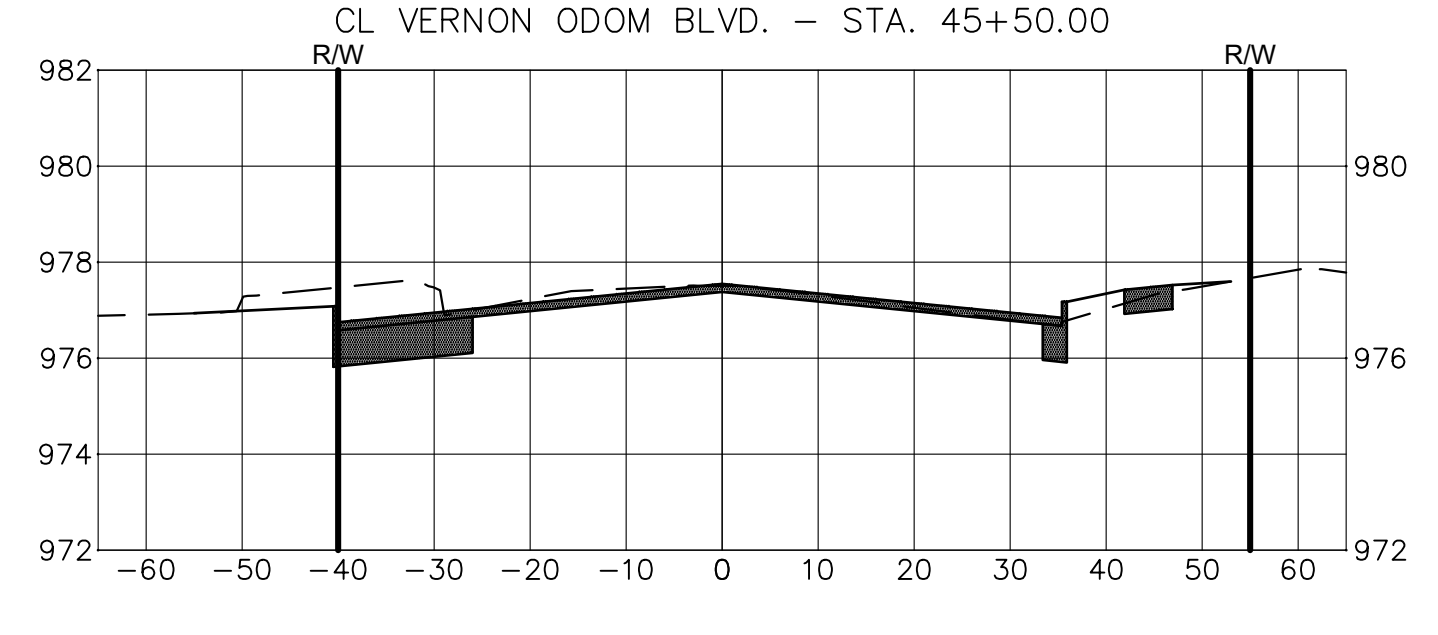
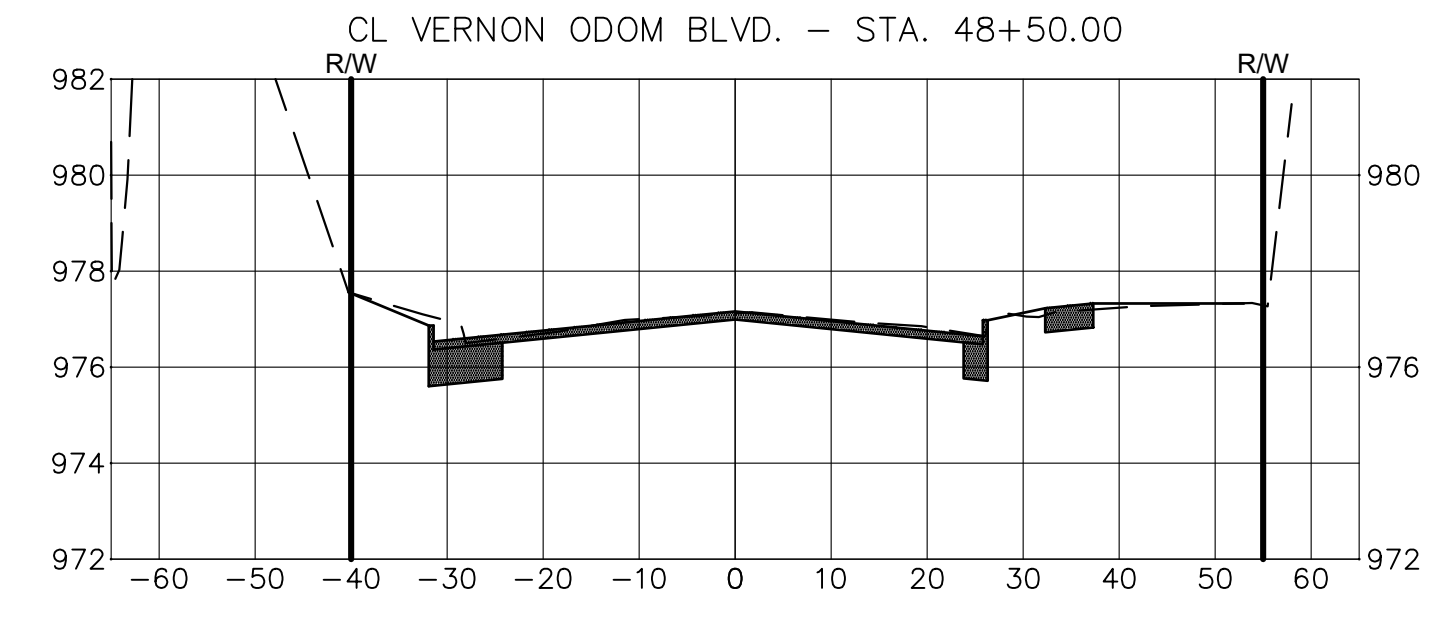
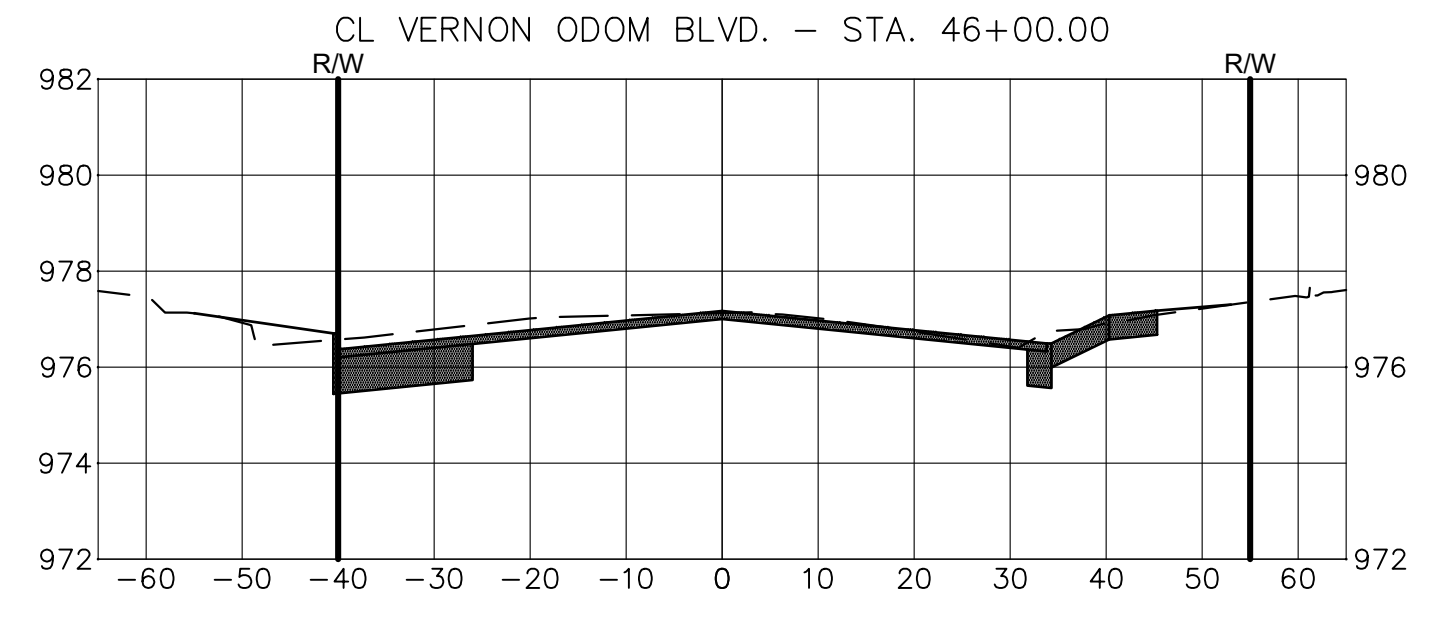
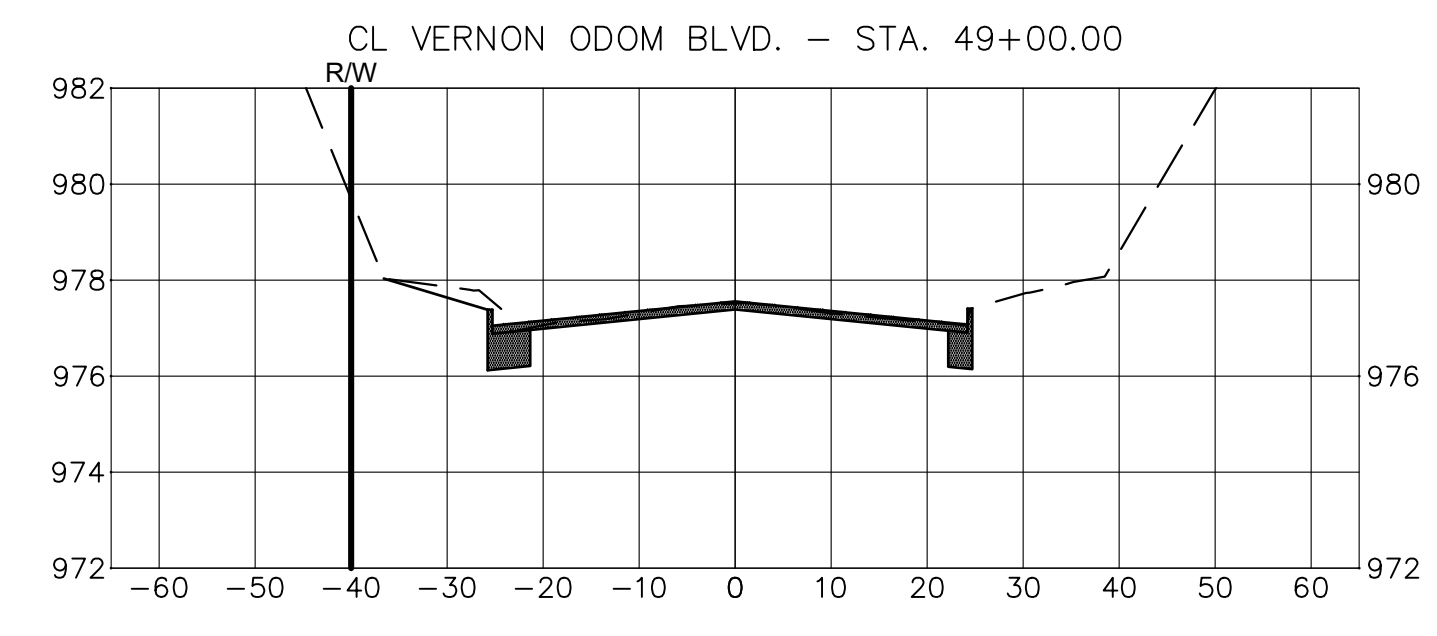
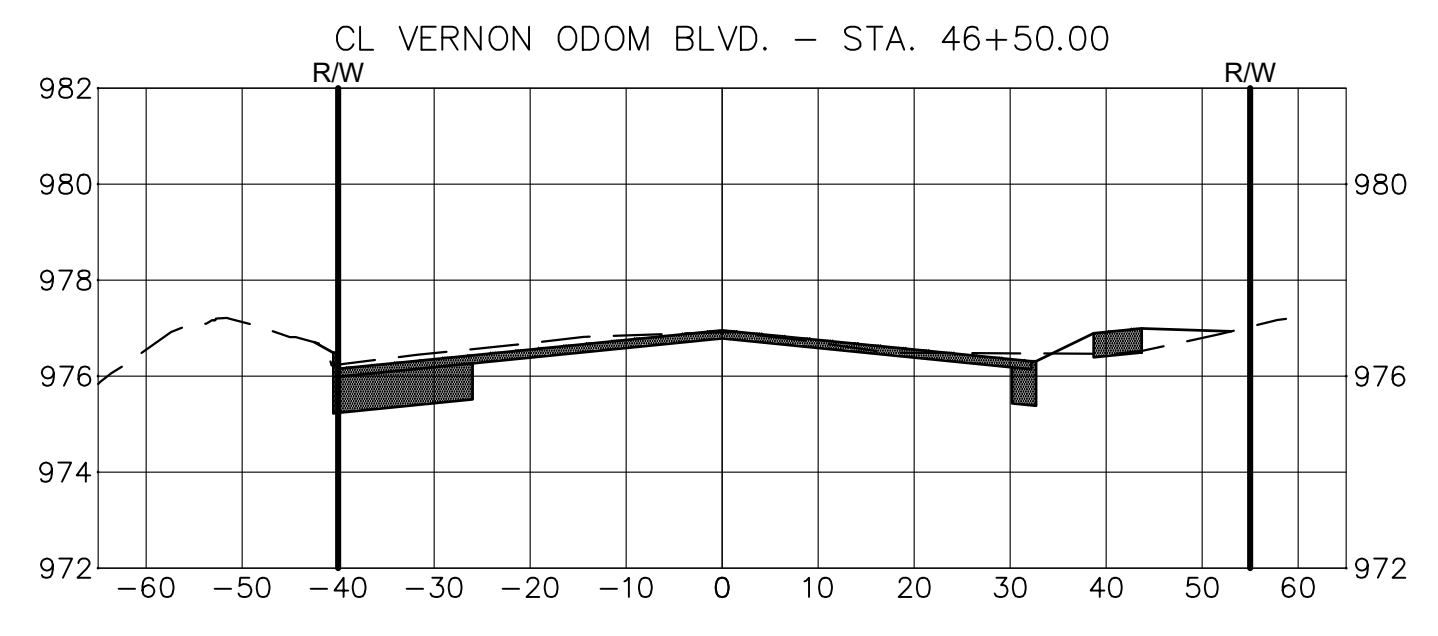
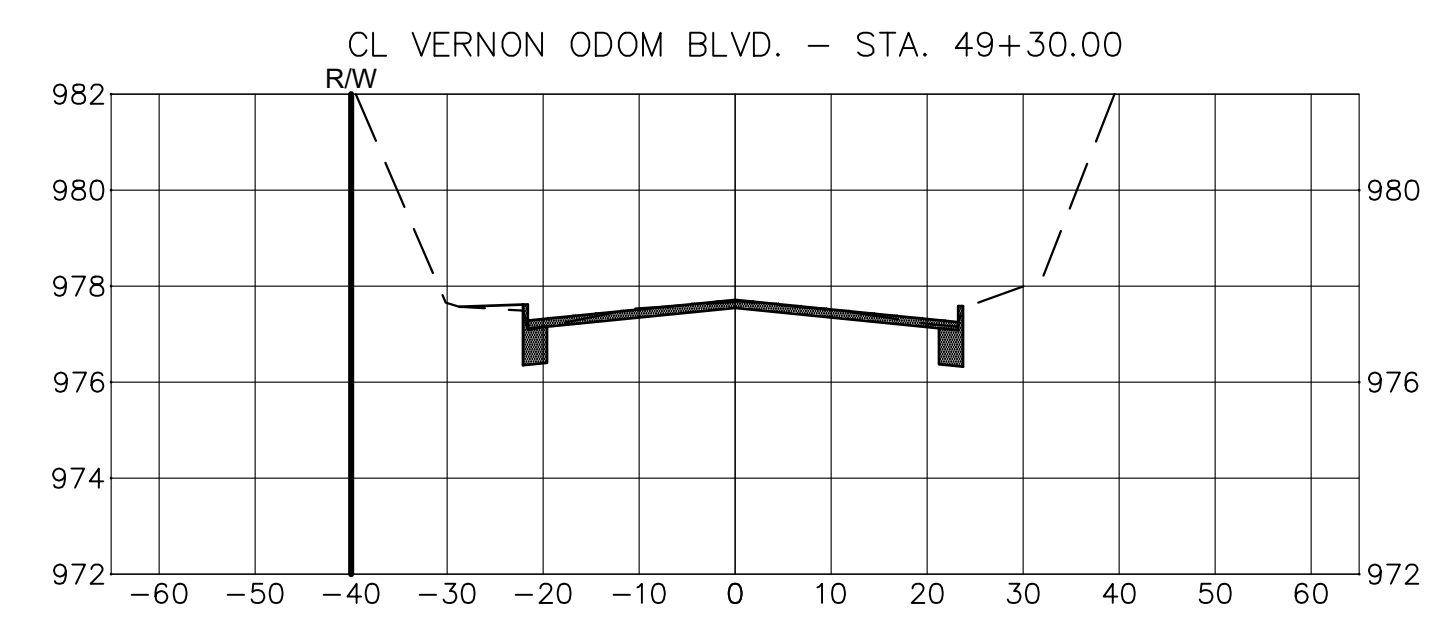
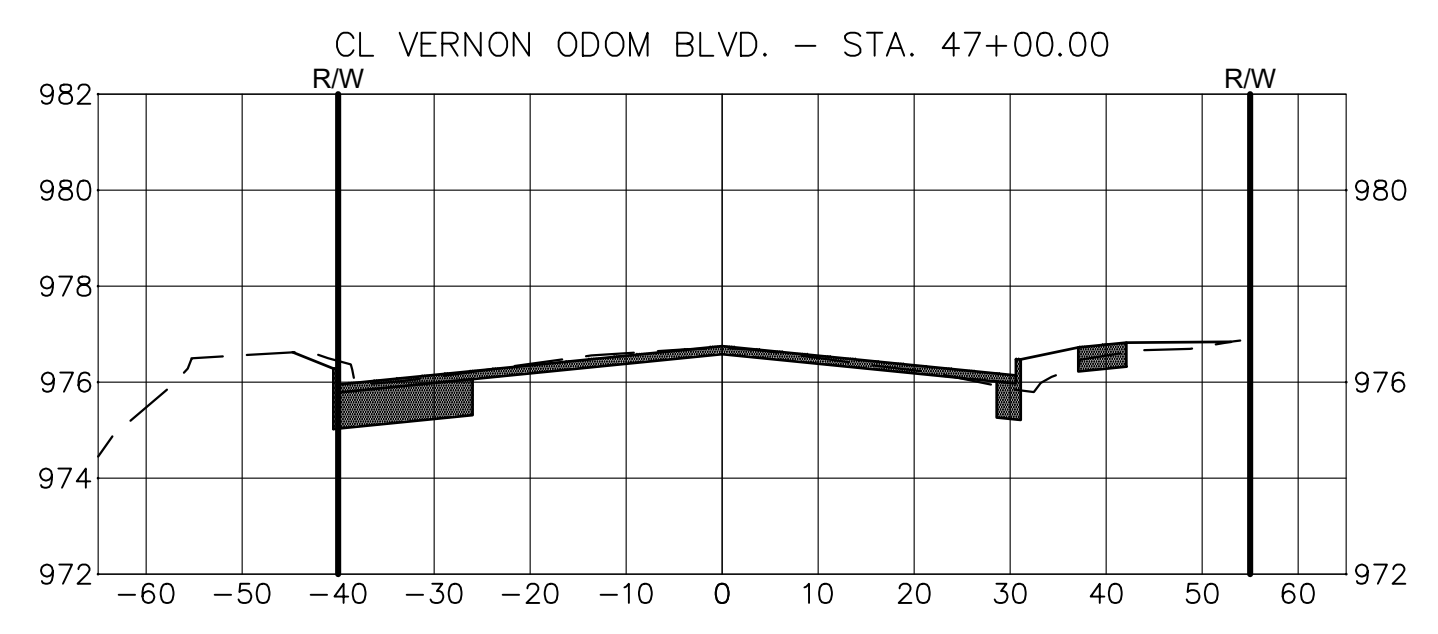
CROSS SECTIONS - VERNON ODOM BLVD.

NO.	REVISIONS	DATE

DRAWN	CHECKED	DATE
JPL	JFM	05/09/2019

SCALE: 1" = 10'

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2018-032-01

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CITY OF AKRON
DEPARTMENT OF PUBLIC SERVICE
AKRON ENGINEERING BUREAU

VERNON ODOM BLVD.

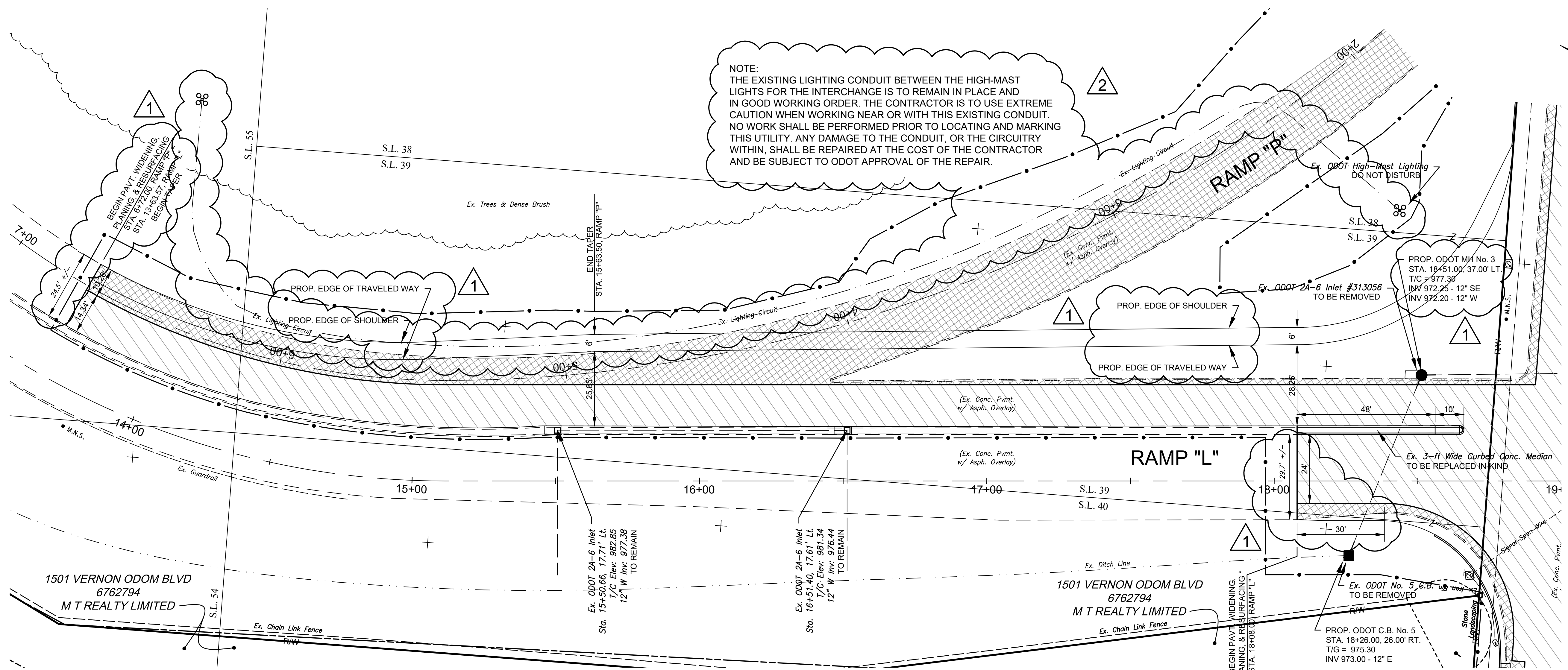
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REVISIONS	DATE

DRAWN	CHECKED	DATE
JPL	JFM	05/09/2019

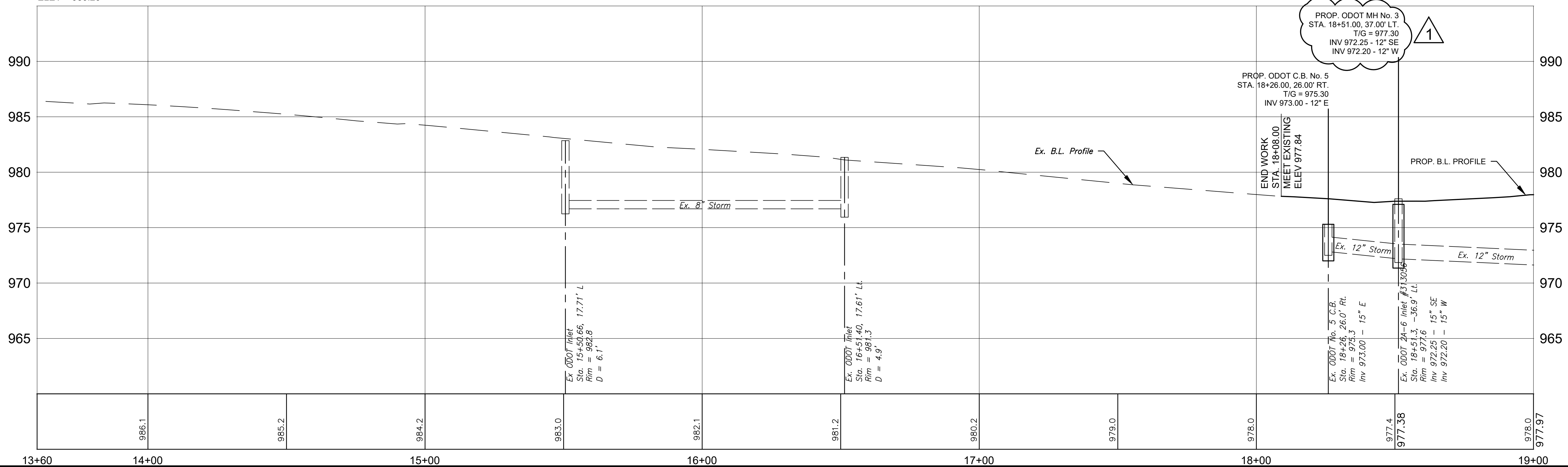
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BENCH MARK 2:
STA. 41+99.79, 54.57' RT. (C.L. VERNON ODOM BLVD)
HYDRANT, EAST HOSE NOZZLE CAP END
ELEV = 980.26

RAMP "L", R/W VARIES



CROSS REFERENCES	
SHEET NO.	DESCRIPTION
18	SIGNING & PAVEMENT MARKING PLAN
2	SCHEMATIC PLAN (BENCHMARK INFORMATION)
4	TYPICAL SECTIONS
13	CROSS SECTIONS - RAMP L

2018-032-01

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CITY OF AKRON
DEPARTMENT OF PUBLIC SERVICE
AKRON ENGINEERING BUREAU

VERNON ODOM BLVD.

PLAN & PROFILE - RAMP L

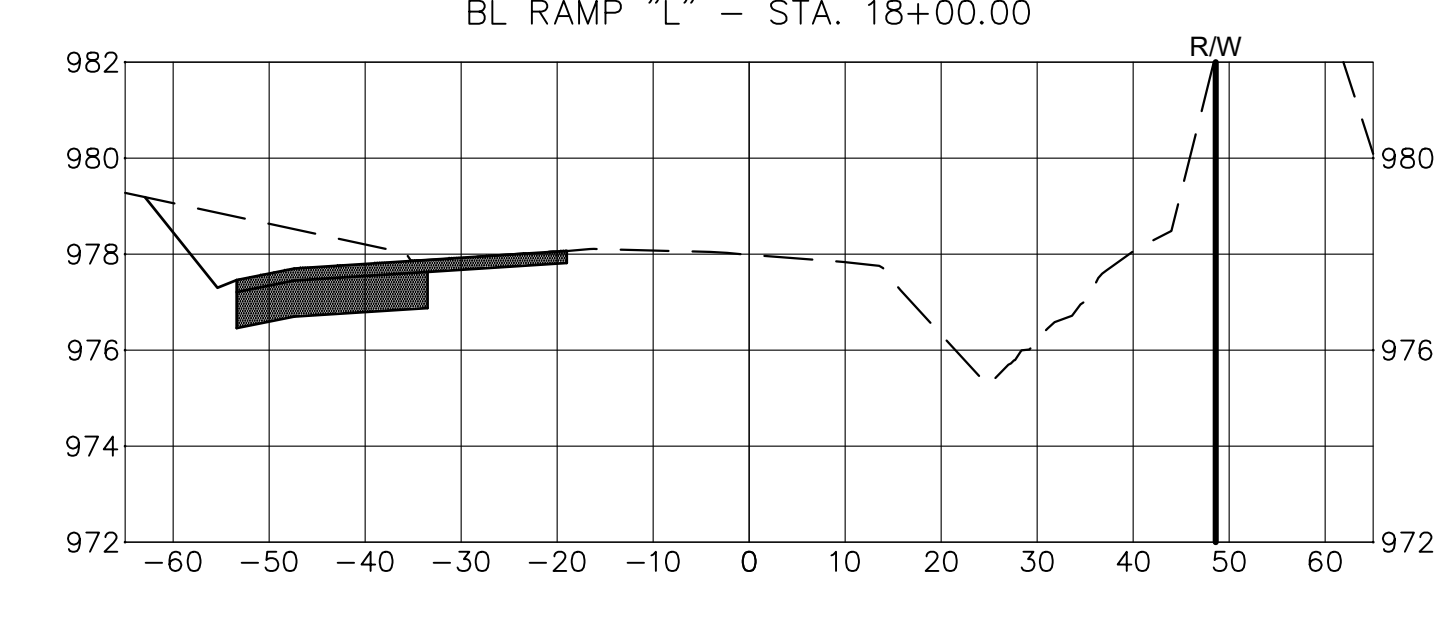
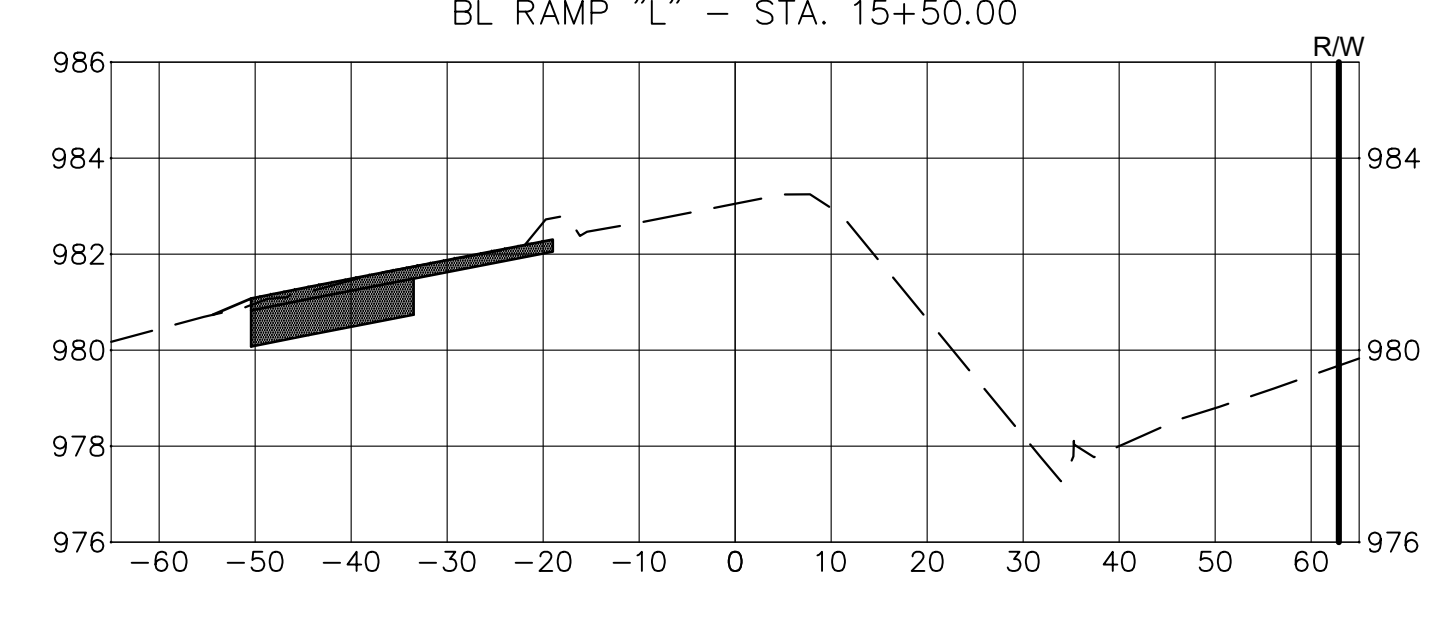
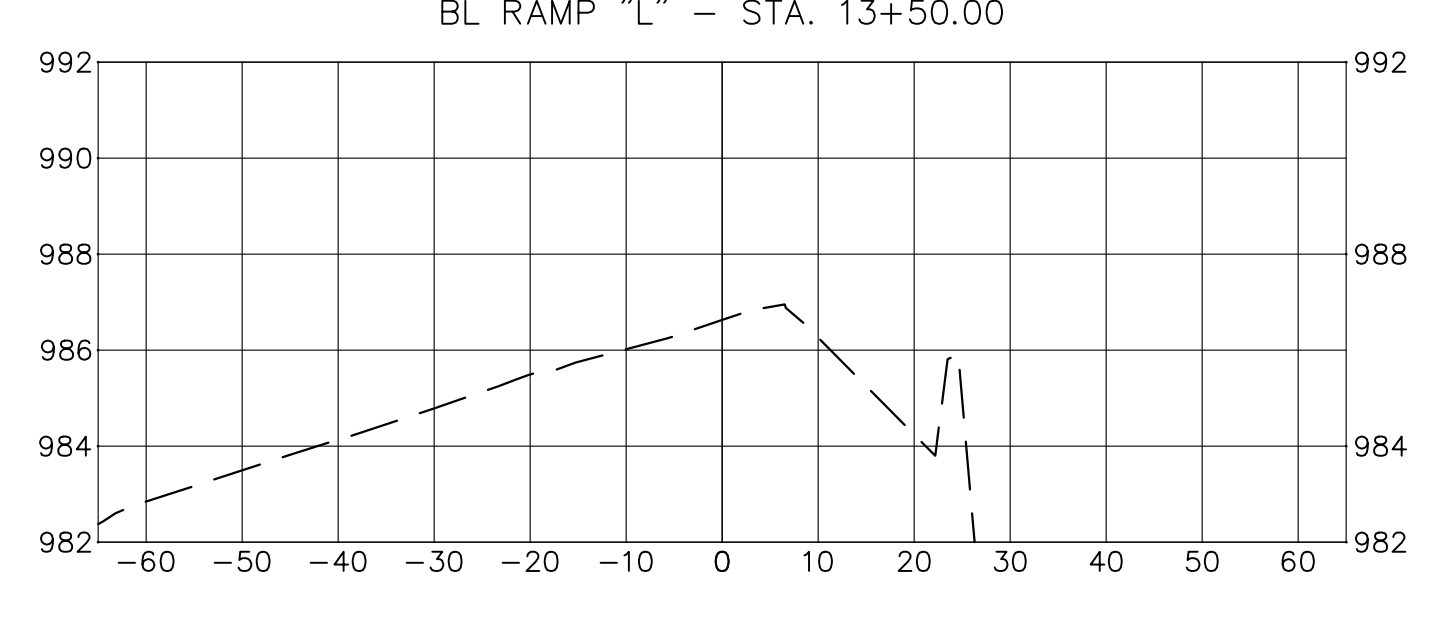
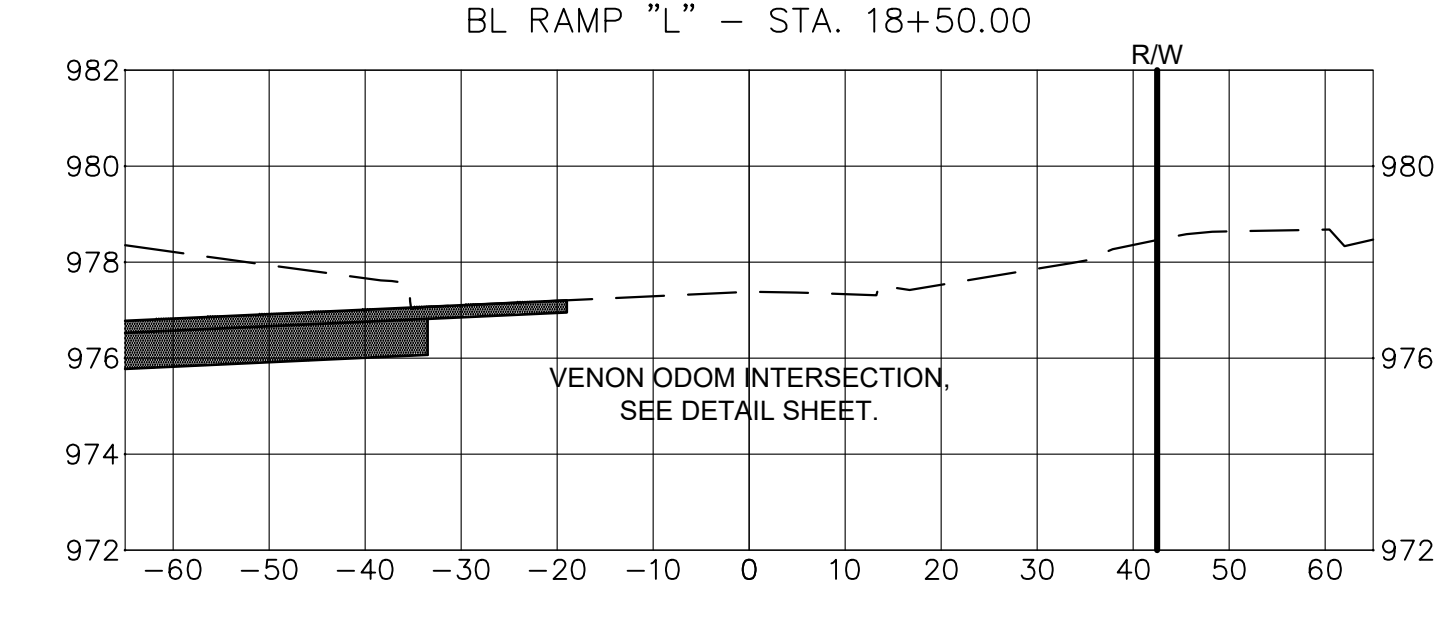
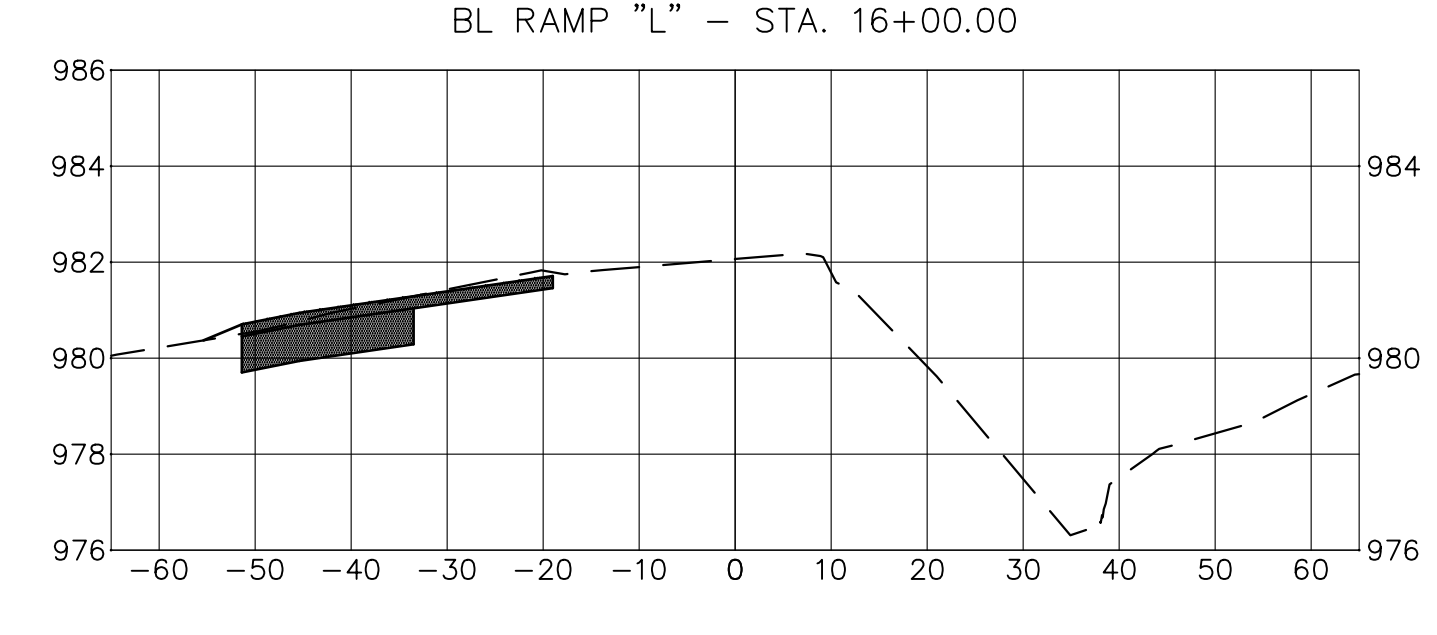
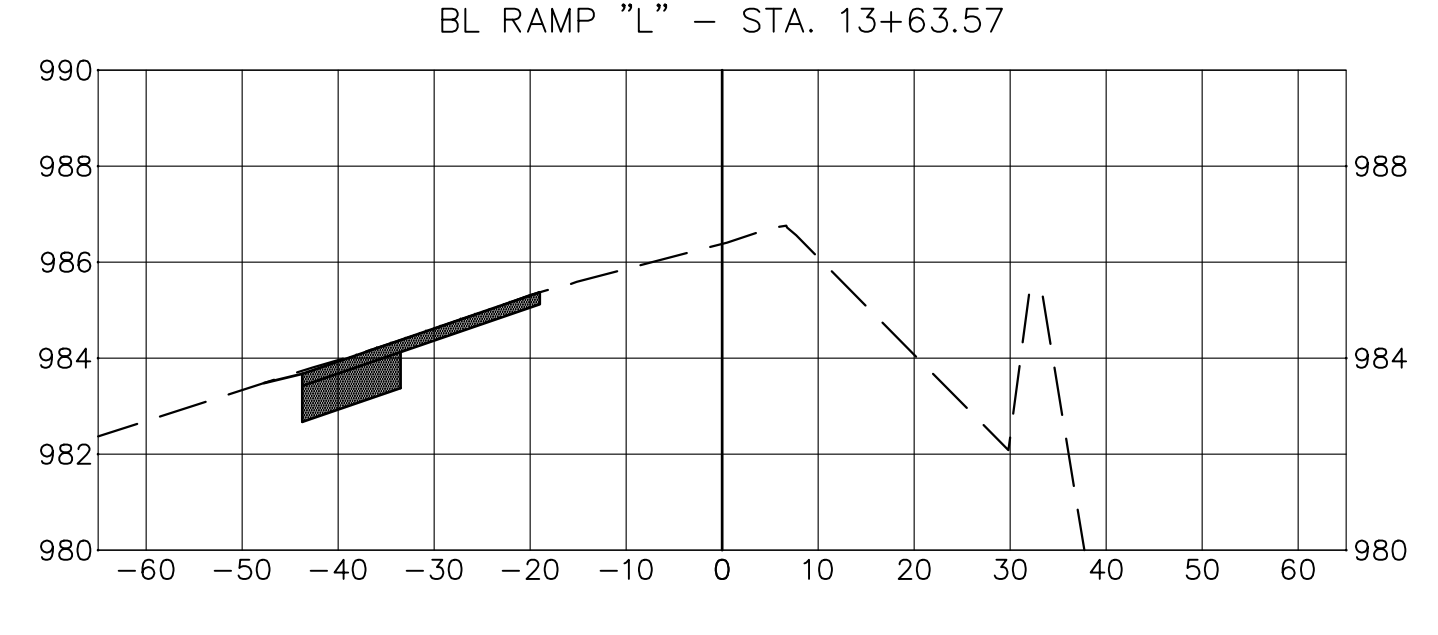
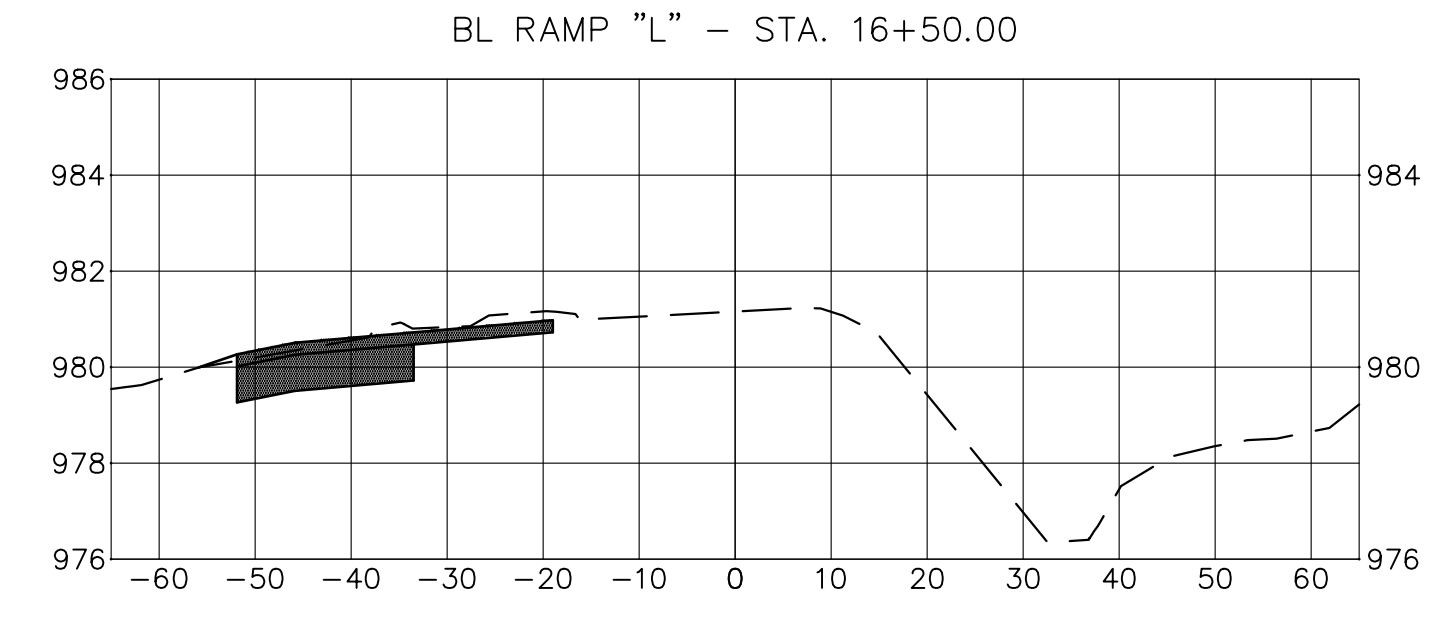
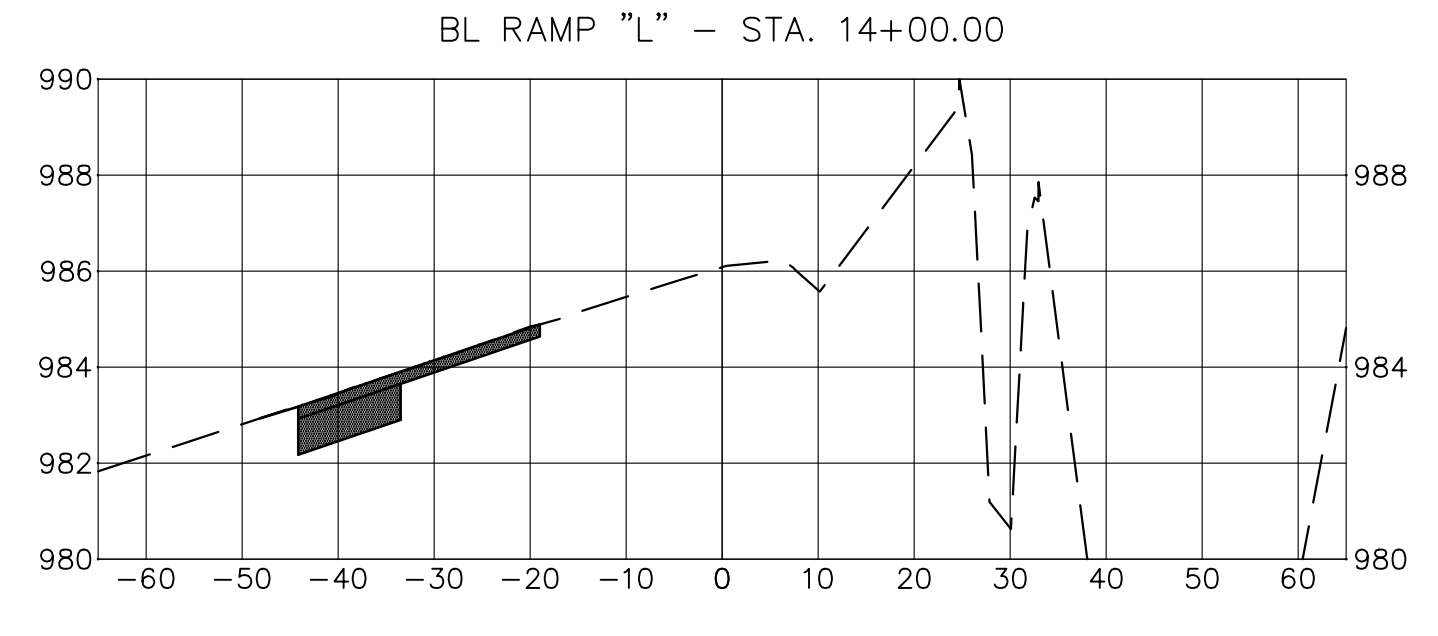
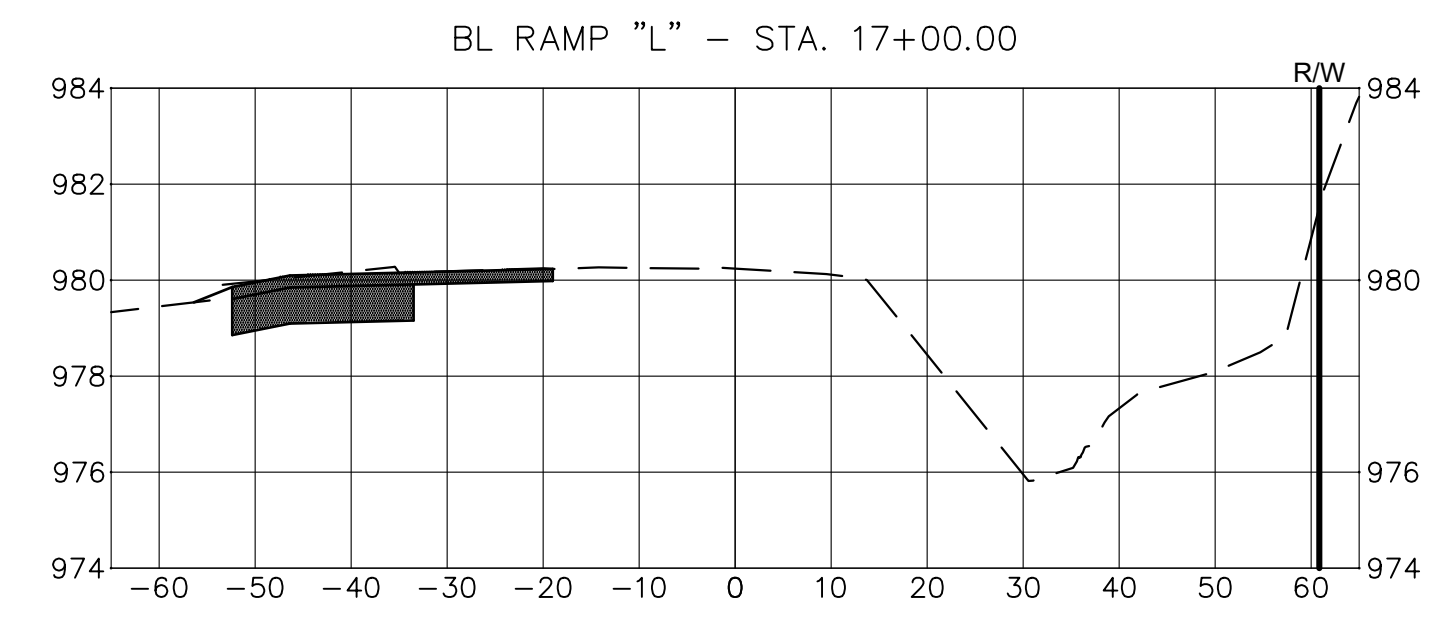
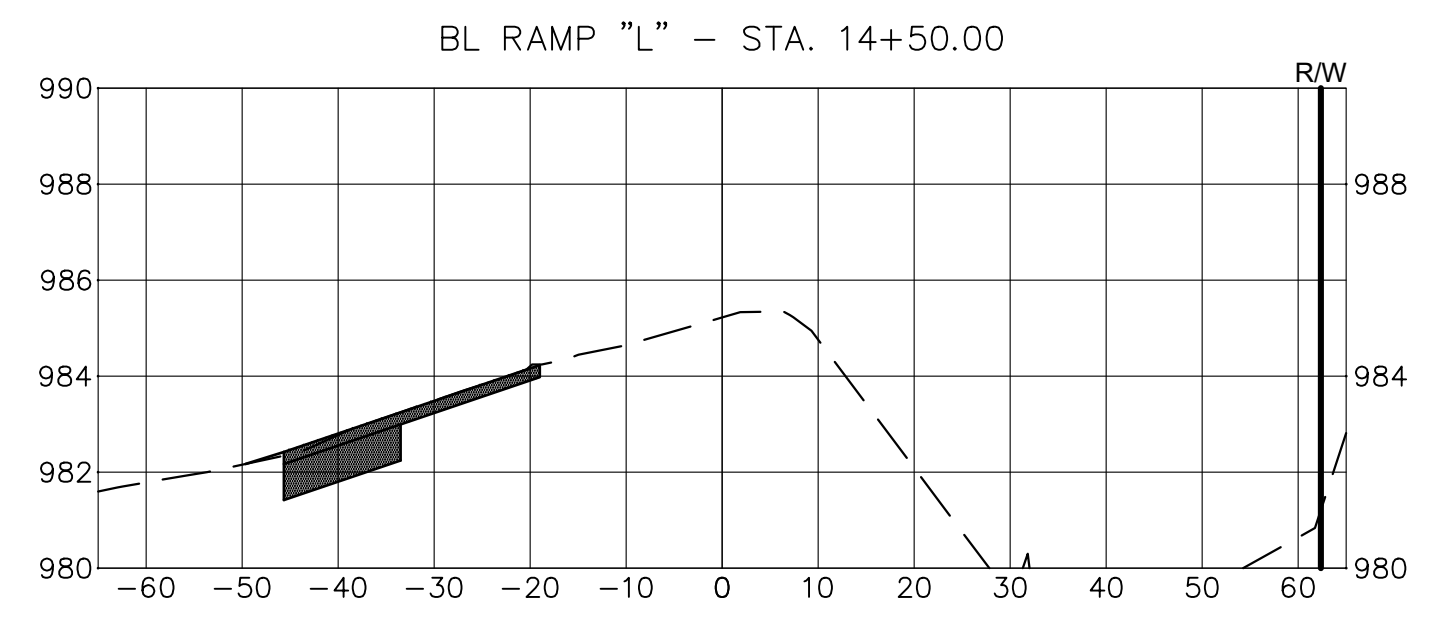
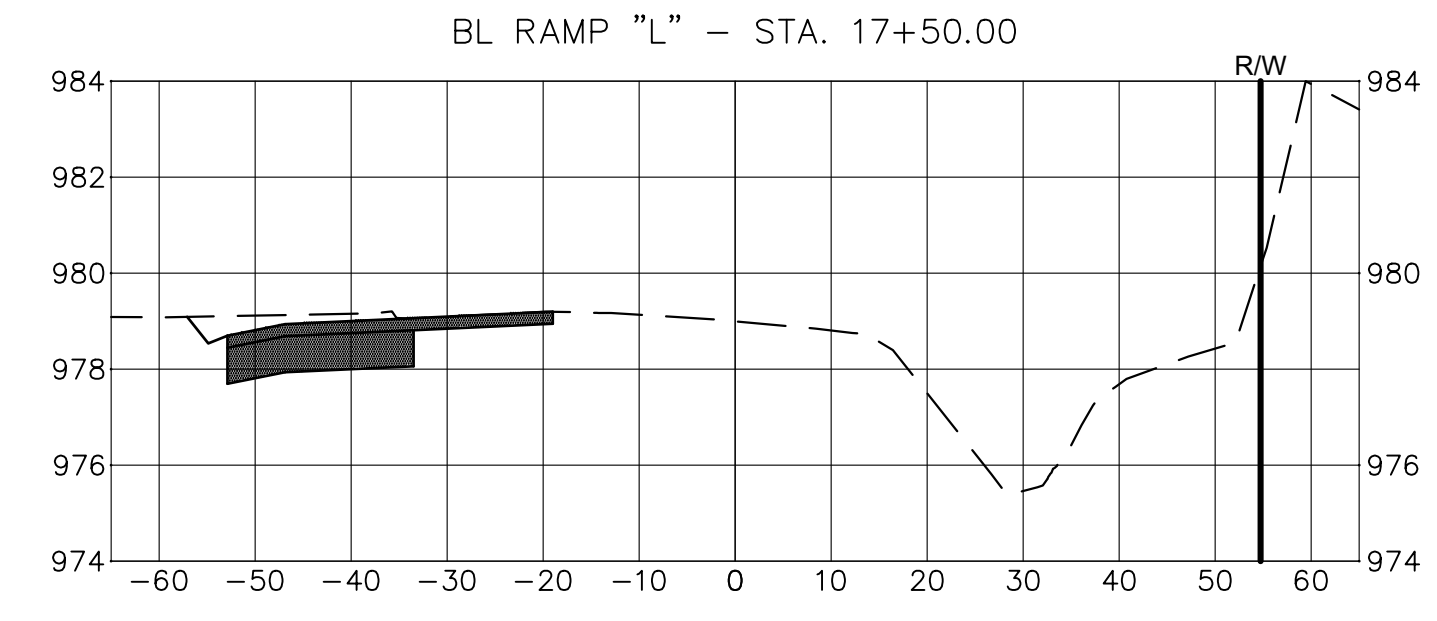
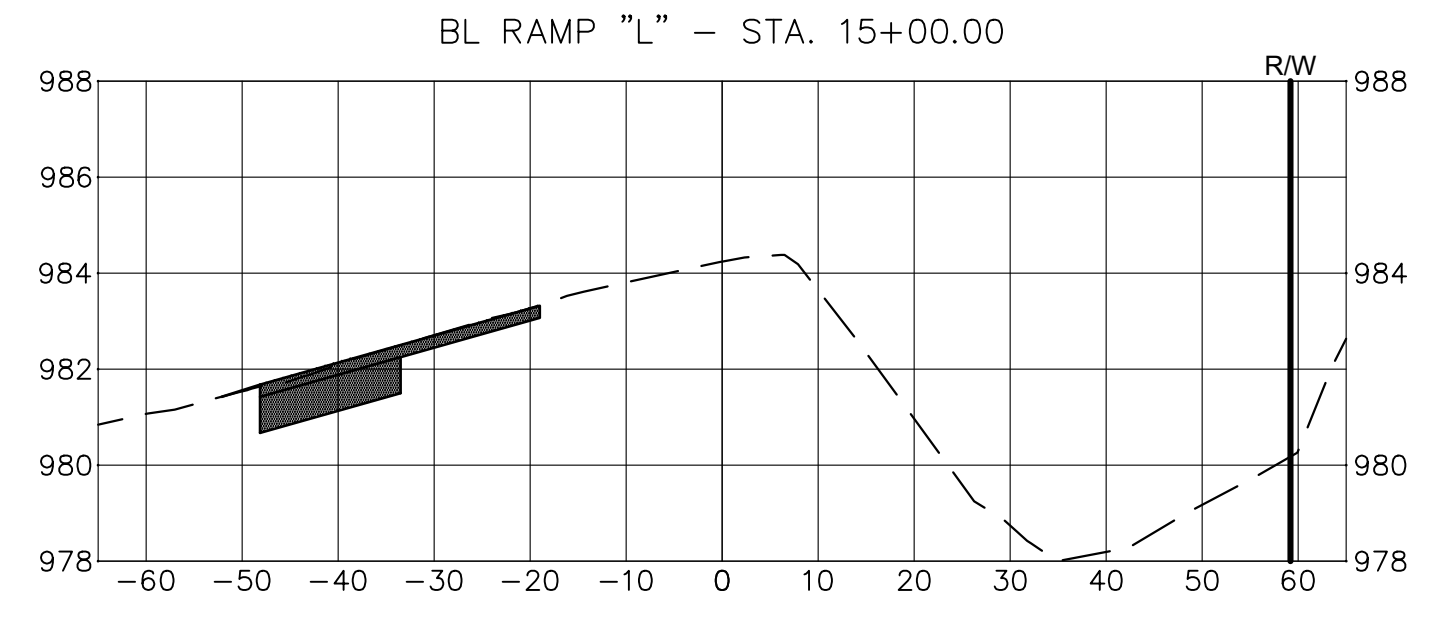
DATE	REVISIONS
10/09/19	JPL
09/09/2019	JFM

1 - Labels, Dimensions, Manhole
2 - Ex Lighting Circuit & Note

CHECKED: JFM
DRAWN: JPL
DATE: 10/09/19

SCALE: HOR. 1"=20'
VERT. 1"=5'

P:\Projects\2018\20180305-18413-SUM Main Street Corridor & State Street Bridge PID 104042\Design\Roadway\EngData\Scratch\Roadway\Design\Roadway\Sheets\Roadway\18317-03_XS01_SB_RAMP.dwg: 10/9/2019 2:56 PM: jim.mitchell



DATE	05/09/2019
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SCALE:	1" = 10'

REVISIONS	DATE

CROSS SECTIONS - RAMP L

VERNON ODOM BLVD.

CITY OF AKRON
DEPARTMENT OF PUBLIC SERVICE
AKRON ENGINEERING BUREAU

2018-032-01

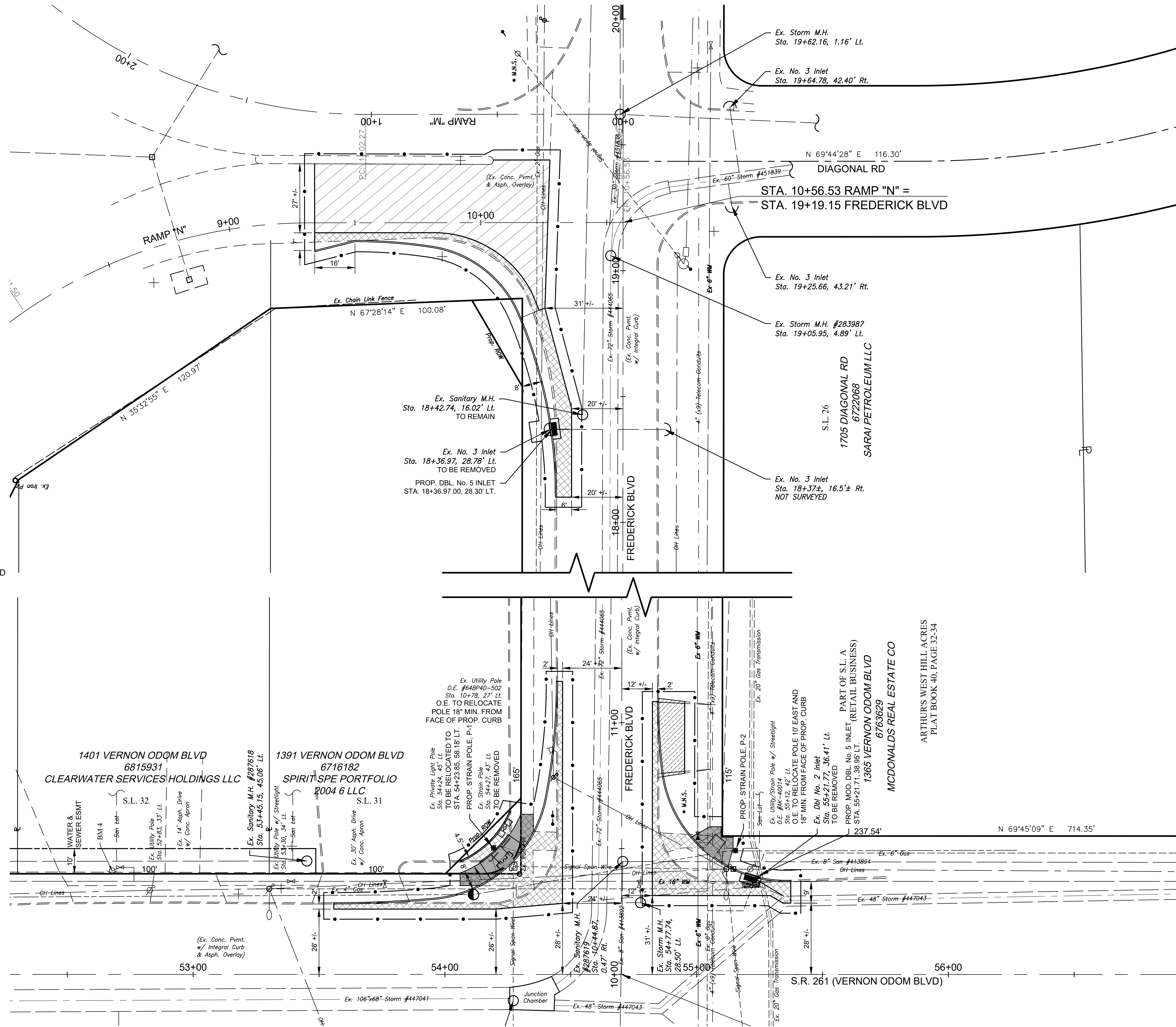
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BENCH MARK 4:
STA. 52+67.79, 41.18' LT.
HYDRANT, CENTER TOP DOME BOLT
ELEV = 982.78

BENCH MARK 5:
STA. 54+94.16, 53.70' RT.
HYDRANT, FRONT BONNET BOLT
ELEV = 983.72

BENCH MARK 6:
STA. 13+74.13, 33.78' RT.
HYDRANT, SOUTH HOSE NOZZLE CAP END
ELEV = 981.24

BENCH MARK 7:
STA. 17+39.73, 17.01' RT.
HYDRANT, CENTER TOP DOME BOLT
ELEV = 981.61



CROSS REFERENCES	
SHEET NO.	DESCRIPTION
2	SCHEMATIC PLAN (BENCHMARK INFORMATION)
4	TYPICAL SECTIONS
16	INTERSECTION DETAILS

SHEET NO.		DESCRIPTION	
18	19 - 21, 25, 26	SIGNING & PAVEMENT MARKING PLAN	TRAFFIC SIGNAL PLANS

2018-032-01

14
26

CITY OF AKRON
DEPARTMENT OF PUBLIC SERVICE
AKRON ENGINEERING BUREAU

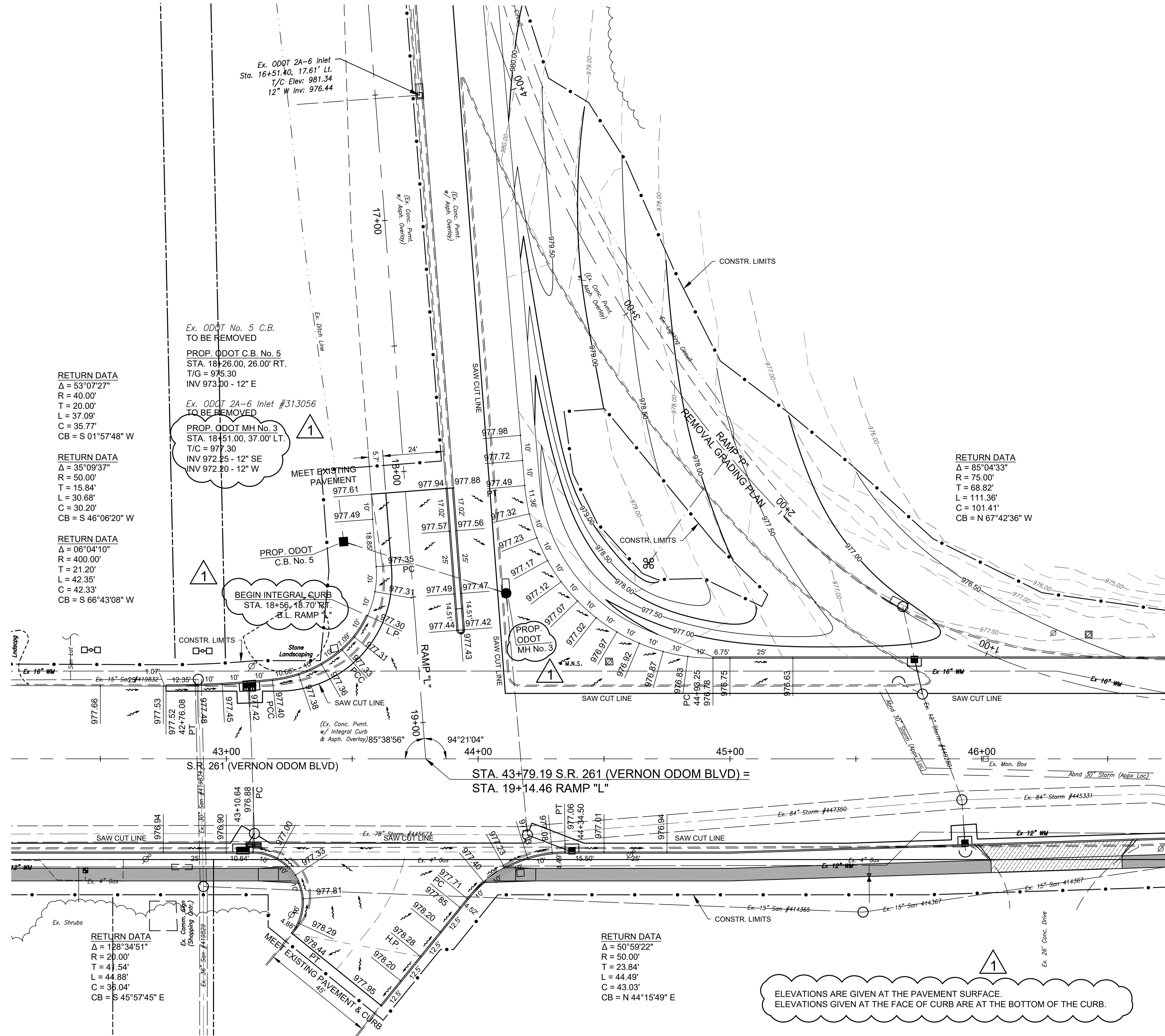
VERNON ODOM BLVD.

PLAN - FREDERICK BLVD.

DATE
05/09/2019
CHECKED
JFM
DRAWN
JPL
SCALE:
1" = 20'

REVISIONS	
DATE	DESCRIPTION

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RETURN DATA
 $\Delta = 35^\circ 09' 37''$
 $R = 50.00'$
 $T = 15.84'$
 $L = 30.68'$
 $C = 30.20'$
 $CB = S 46^\circ 06' 20'' W$

RETURN DATA
 $\Delta = 06^\circ 04' 10''$
 $R = 400.00'$
 $T = 21.20'$
 $L = 42.35'$
 $C = 42.33'$
 $CB = S 66^\circ 43' 08'' W$

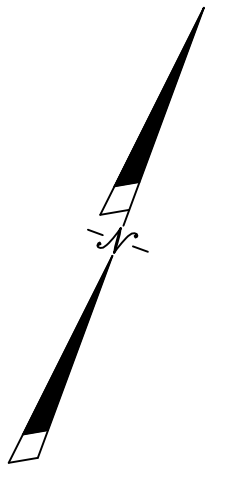
Ex. ODOT 2A-6 Inlet #313056
TO BE REMOVED
 PROP. ODOT MH No. 3
 STA. 18+51.00, 37.00' LT.
 T/C = 977.30
 INV 972.25 - 12" SE
 INV 972.20 - 12" W

RETURN DATA
 $\Delta = 85^\circ 04' 33''$
 $R = 75.00'$
 $T = 68.82'$
 $L = 111.36'$
 $C = 101.41'$
 $CB = N 67^\circ 42' 36'' W$

RETURN DATA
 $\Delta = 128^\circ 34' 51''$
 $R = 20.00'$
 $T = 41.54'$
 $L = 44.88'$
 $C = 36.04'$
 $CB = S 45^\circ 57' 45'' E$

RETURN DATA
 $\Delta = 50^\circ 59' 22''$
 $R = 50.00'$
 $T = 23.84'$
 $L = 44.49'$
 $C = 43.03'$
 $CB = N 44^\circ 15' 49'' E$

ELEVATIONS ARE GIVEN AT THE PAVEMENT SURFACE.
 ELEVATIONS GIVEN AT THE FACE OF CURB ARE AT THE BOTTOM OF THE CURB.



2018-032-01

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26

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VERNON ODOM BLVD.

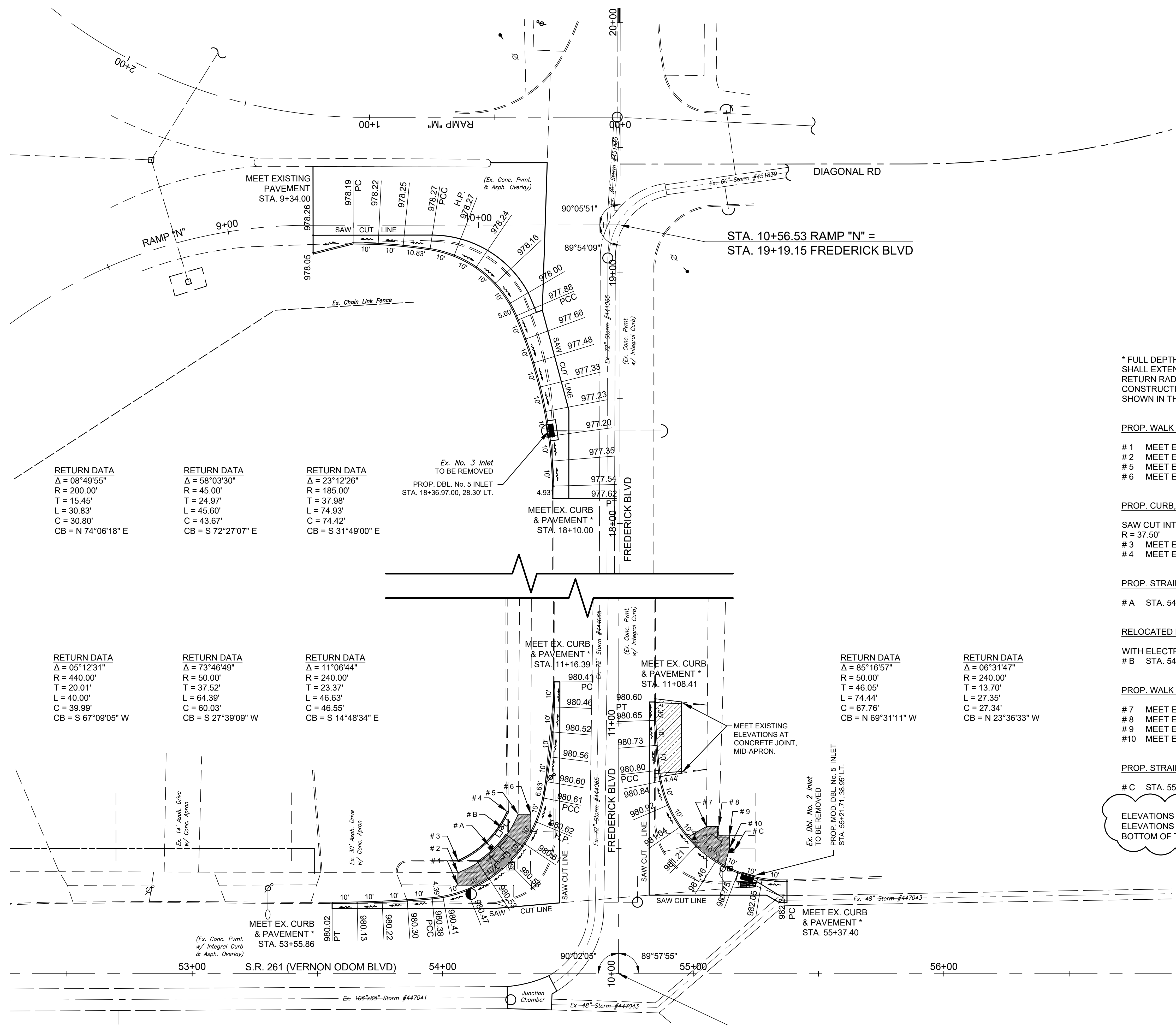
INTERSECTION DETAILS

DATE	REVISIONS
05/09/2019	JFM
09/24/19	JPL

1 - Note: Curb Station, Manhole

SCALE: 1" = 20'

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RETURN DATA
 $\Delta = 08^{\circ}49'55''$
 $R = 200.00'$
 $T = 15.45'$
 $L = 30.83'$
 $C = 30.80'$
 $CB = N 74^{\circ}06'18'' E$

RETURN DATA
 $\Delta = 58^{\circ}03'30''$
 $R = 45.00'$
 $T = 24.97'$
 $L = 45.60'$
 $C = 43.67'$
 $CB = S 72^{\circ}27'07'' E$

RETURN DATA
 $\Delta = 23^{\circ}12'26''$
 $R = 185.00'$
 $T = 37.98'$
 $L = 74.93'$
 $C = 74.42'$
 $CB = S 31^{\circ}49'00'' E$

RETURN DATA
 $\Delta = 05^{\circ}12'31''$
 $R = 440.00'$
 $T = 20.01'$
 $L = 40.00'$
 $C = 39.99'$
 $CB = S 67^{\circ}09'05'' W$

RETURN DATA
 $\Delta = 73^{\circ}46'49''$
 $R = 50.00'$
 $T = 37.52'$
 $L = 64.39'$
 $C = 60.03'$
 $CB = S 27^{\circ}39'09'' W$

RETURN DATA
 $\Delta = 11^{\circ}06'44''$
 $R = 240.00'$
 $T = 23.37'$
 $L = 46.63'$
 $C = 46.55'$
 $CB = S 14^{\circ}48'34'' E$

RETURN DATA
 $\Delta = 85^{\circ}16'57''$
 $R = 50.00'$
 $T = 46.05'$
 $L = 74.44'$
 $C = 67.76'$
 $CB = N 69^{\circ}31'11'' W$

RETURN DATA
 $\Delta = 06^{\circ}31'47''$
 $R = 240.00'$
 $T = 13.70'$
 $L = 27.35'$
 $C = 27.34'$
 $CB = N 23^{\circ}36'33'' W$

* FULL DEPTH PAVEMENT REPLACEMENT SHALL EXTEND TANGENTIALLY OFF THE RETURN RADIUS TO THE NEXT CONCRETE CONSTRUCTION JOINT PAST WHAT IS SHOWN IN THESE PLANS.

PROP. WALK & CURB RAMP, TYPE 2

- # 1 MEET EXISTING WALK, 981.15
- # 2 MEET EXISTING WALK, 981.42
- # 5 MEET EXISTING WALK, 981.84
- # 6 MEET EXISTING WALK, 981.67

PROP. CURB, 6" x 18", WITHOUT UNDERDRAIN

- SAW CUT INTO EXISTING PARKING LOT
 $R = 37.50'$
- # 3 MEET EXISTING CURB, STA. 54+06.06, 45.16' LT
- # 4 MEET EXISTING CURB, STA. 10+64.71, 44.54' LT.

PROP. STRAIN POLE P-1, SEE SHEET 25

- # A STA. 54+19.30, 50.30' LT.

RELOCATED PRIVATE LIGHT POLE

- WITH ELECTRIC REROUTE & NEW FOUNDATION
- # B STA. 54+23.80, 58.20' LT.

PROP. WALK & CURB RAMP, TYPE 3 DIAGONAL

- # 7 MEET EXISTING WALK, 982.15
- # 8 MEET EXISTING WALK, 982.31
- # 9 MEET EXISTING WALK, 982.48
- # 10 MEET EXISTING WALK, 982.35

PROP. STRAIN POLE P-2, SEE SHEET 25

- # C STA. 55+15.40, 49.20' LT.

ELEVATIONS ARE GIVEN AT THE PAVEMENT SURFACE. ELEVATIONS GIVEN AT THE FACE OF CURB ARE AT THE BOTTOM OF THE CURB.



2018-032-01

DATE	09/24/19	CHECKED	JFM	SCALE:	1" = 20'
DATE		DATE		DATE	
REVISIONS		REVISIONS		REVISIONS	

INTERSECTION DETAILS

VERNON ODOM BLVD.

CITY OF AKRON
 DEPARTMENT OF PUBLIC SERVICE
 AKRON ENGINEERING BUREAU

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PAVEMENT MARKING LEGEND

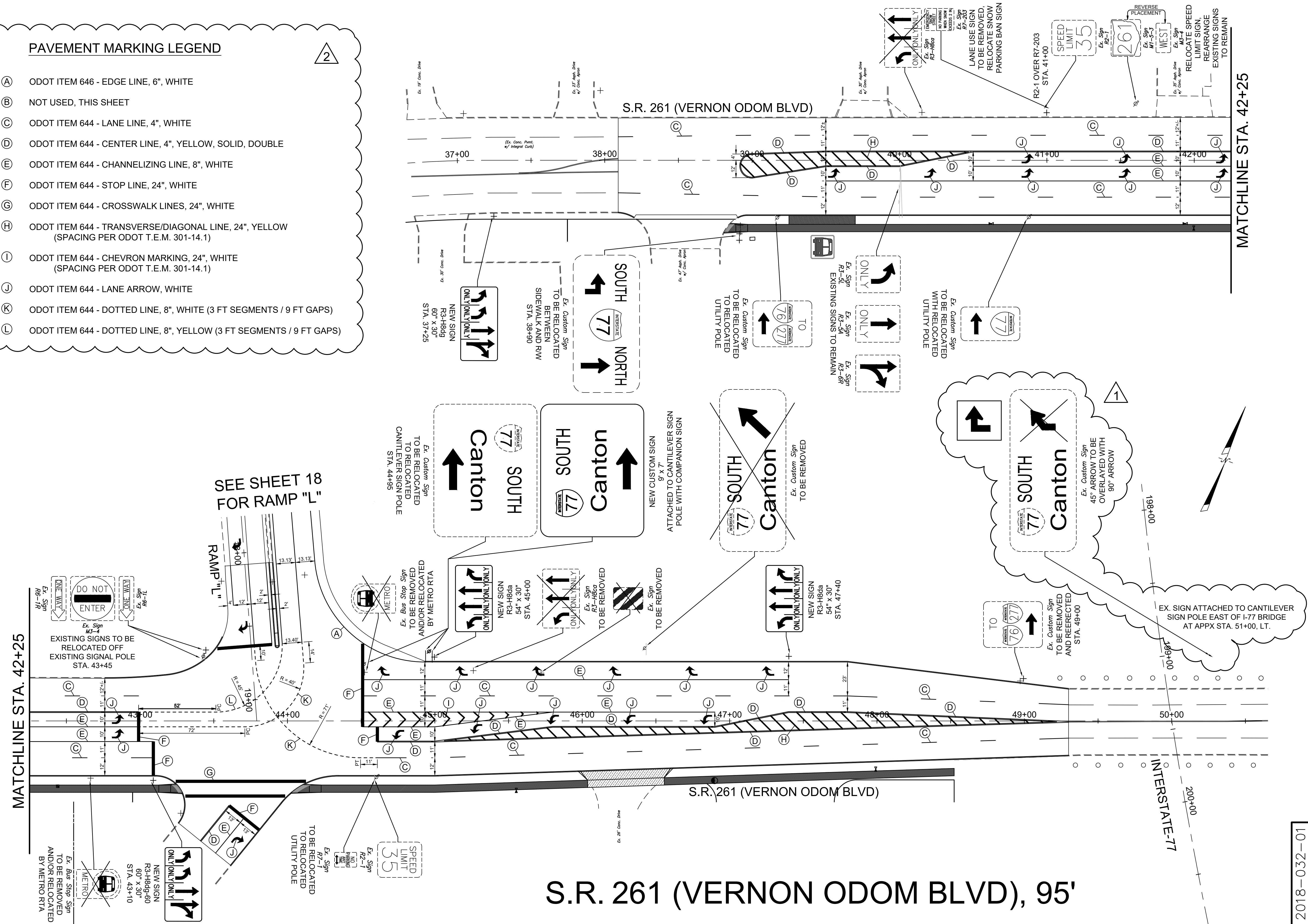
- (A) ODOT ITEM 646 - EDGE LINE, 6", WHITE
- (B) NOT USED, THIS SHEET
- (C) ODOT ITEM 644 - LANE LINE, 4", WHITE
- (D) ODOT ITEM 644 - CENTER LINE, 4", YELLOW, SOLID, DOUBLE
- (E) ODOT ITEM 644 - CHANNELIZING LINE, 8", WHITE
- (F) ODOT ITEM 644 - STOP LINE, 24", WHITE
- (G) ODOT ITEM 644 - CROSSWALK LINES, 24", WHITE
- (H) ODOT ITEM 644 - TRANSVERSE/DIAGONAL LINE, 24", YELLOW (SPACING PER ODOT T.E.M. 301-14.1)
- (I) ODOT ITEM 644 - CHEVRON MARKING, 24", WHITE (SPACING PER ODOT T.E.M. 301-14.1)
- (J) ODOT ITEM 644 - LANE ARROW, WHITE
- (K) ODOT ITEM 644 - DOTTED LINE, 8", WHITE (3 FT SEGMENTS / 9 FT GAPS)
- (L) ODOT ITEM 644 - DOTTED LINE, 8", YELLOW (3 FT SEGMENTS / 9 FT GAPS)

2

MATCHLINE STA. 42+25

MATCHLINE STA. 42+25

S.R. 261 (VERNON ODOM BLVD), 95'



2018-032-10

CITY OF AKRON
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VERNON ODOM BLVD.

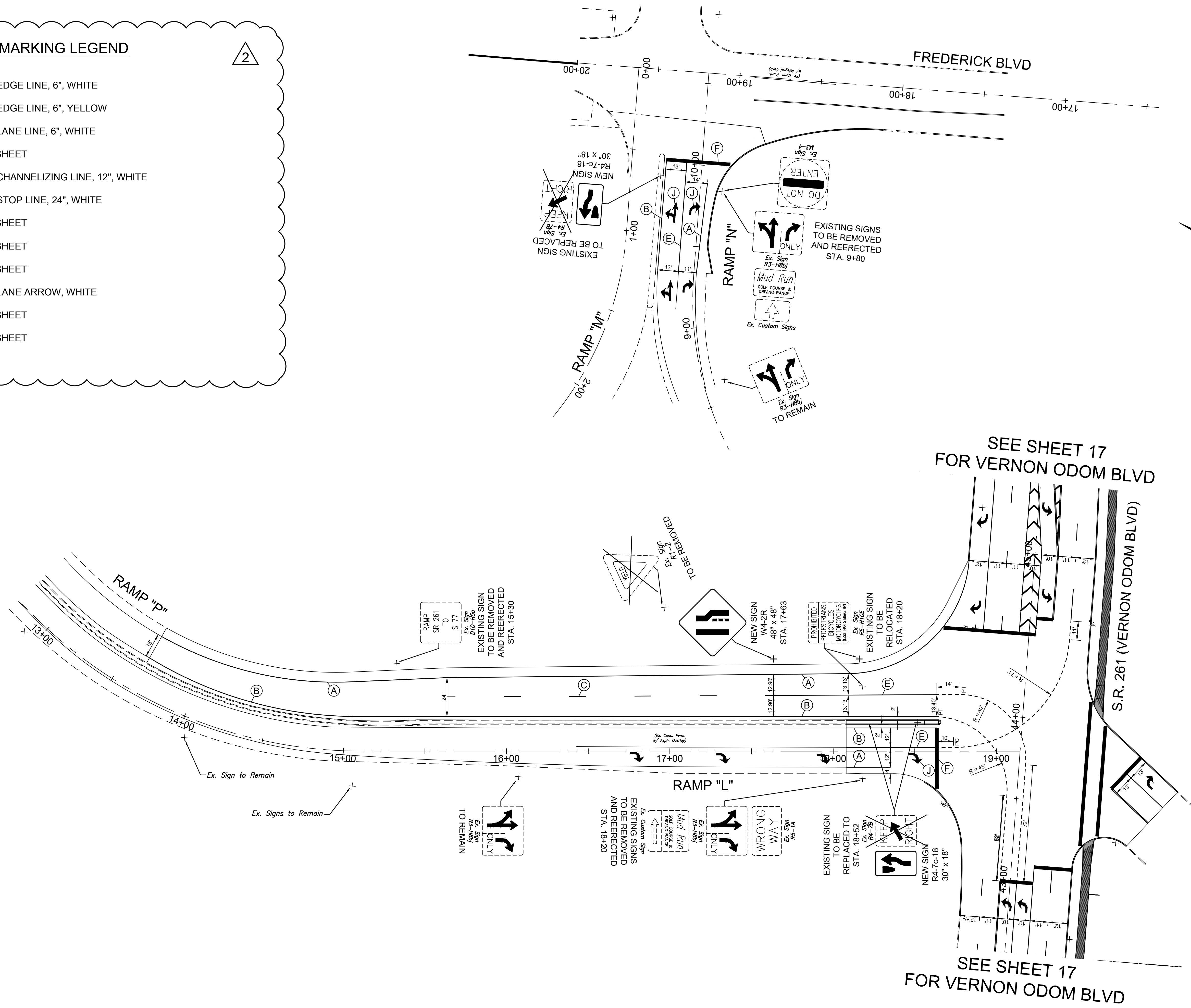
SIGNING & PAVEMENT MARKING PLAN

1 - Sign Arrow Overlay	09/24/19	DRAWN	JPL	CHECKED	JFM	DATE
2 - Paint Type & Line Widths	10/09/19	DATE	REVISIONS		HOR.	VERT.
					1"=30'	N/A

PAVEMENT MARKING LEGEND

2

- (A) ODOT ITEM 646 - EDGE LINE, 6", WHITE
- (B) ODOT ITEM 646 - EDGE LINE, 6", YELLOW
- (C) ODOT ITEM 646 - LANE LINE, 6", WHITE
- (D) NOT USED, THIS SHEET
- (E) ODOT ITEM 646 - CHANNELIZING LINE, 12", WHITE
- (F) ODOT ITEM 646 - STOP LINE, 24", WHITE
- (G) NOT USED, THIS SHEET
- (H) NOT USED, THIS SHEET
- (I) NOT USED, THIS SHEET
- (J) ODOT ITEM 646 - LANE ARROW, WHITE
- (K) NOT USED, THIS SHEET
- (L) NOT USED, THIS SHEET



SEE SHEET 17 FOR VERNON ODOM BLVD

SEE SHEET 17 FOR VERNON ODOM BLVD

2018-032-01	CITY OF AKRON DEPARTMENT OF PUBLIC SERVICE AKRON ENGINEERING BUREAU	VERNON ODOM BLVD.	SIGNING & PAVEMENT MARKING PLAN
18 26		REVISIONS DATE	SCALE: 1"=30' DATE: 10/09/19 DRAWN: JPL CHECKED: JFM DATE: 05/09/2019

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TRAFFIC SIGNAL MAINTENANCE RESPONSIBILITY

WITHIN 2 WEEKS PRIOR TO THE START OF TRAFFIC SIGNAL WORK AT A GIVEN INTERSECTION ("INTERSECTION"), ALL TRAFFIC FACILITIES SHALL BE LOCATED AND A VISUAL INSPECTION OF THE EXISTING TRAFFIC SIGNAL SHALL BE MADE BY A CITY OF AKRON TRAFFIC ENGINEERING DIVISION REPRESENTATIVE ("CITY") AND THE CONTRACTOR. DURING THIS INSPECTION, THE EXISTING CONDITION OF THE INTERSECTION SHALL BE DOCUMENTED BY THE CITY.

THE COMPLETED REPORT SHALL BE SIGNED BY THE CITY AND THE CONTRACTOR, AT WHICH TIME OWNERSHIP OF THE INTERSECTION SHALL TRANSFER TO THE CONTRACTOR FROM THE BEGIN WORK DATE (DATE ON WHICH THE CONTRACTOR MOBILIZES INTO THE INTERSECTION'S WORK ZONE) UNTIL THE END WORK DATE (DATE ON WHICH THE CITY FORMALLY ACCEPTS THE WORK PERFORMED AT THE INTERSECTION).

UPON TRANSFER OF OWNERSHIP, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE AND PROTECTION OF THE INTERSECTION (INCLUDING ABOVE GROUND AND BELOW GROUND FACILITIES), INCLUDING (BUT NOT LIMITED TO) THE MARKING OF ALL UTILITIES AS OFTEN AS REQUIRED THROUGHOUT THE DURATION OF THE WORK.

FOR EACH INTERSECTION, THE CONTRACTOR SHALL BE REQUIRED TO: (A) DOCUMENT THE BEGIN/END WORK DATES AND THE ELECTRIC UTILITY SERVICE DEACTIVATION/ACTIVATION DATES AND (B) SUBMIT A SCANNED COPY OF THE "TRAFFIC SIGNAL MAINTENANCE RESPONSIBILITY" DOCUMENT (INCLUDED IN THE BID BOOK) TO THE CITY DIVISION OF TRAFFIC ENGINEERING VIA EMAIL TO TRAFFIC@AKRONOHIO.GOV WITHIN TEN (10) DAYS OF EACH OF THE FOUR (4) INTERSECTION WORK STAGE DATES (SEE DOCUMENT).

ITEM 633 - CONTROLLER ITEM, MISC.: SIGNAL CONTROLLER WITH CABINET

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AN ACTUATED, SOLID STATE DIGITAL MICROPROCESSOR TYPE TRAFFIC CONTROLLER WITH MENU DRIVEN PROMPTS, INTERNAL TBC, FSK TELEMETRY MODULE FOR CLOSED LOOP COMMUNICATIONS AND ALL OTHER ACCESSORIES THAT ARE REQUIRED TO MAKE THE CONTROLLER COMPLETELY FUNCTIONAL AND OPERATIONAL AS SHOWN IN THE PLANS.

THE CONTROLLER SHALL BE EITHER: (A) AN ECONOLITE, CURRENT MODEL (PATH MASTER, INC) OR (B) AN INTELIGHT, CURRENT MODEL (TRAFFIC CONTROL PRODUCTS, INC), TO BE COMPATIBLE WITH ALL OTHER CONTROLLER EQUIPMENT. THIS PAY ITEM SHALL INCLUDE ALL MATERIALS AND LABOR REQUIRED TO INSTALL AND TEST THIS EQUIPMENT.

THE PROVISIONS OF ITEMS 633 AND 733 SHALL FURTHER INCLUDE THE FOLLOWING:

THE CONTROLLER ASSEMBLY SHALL INCLUDE A NEMA TS2 TYPE 2 CONTROLLER UNIT AND A NEMA TS2 TYPE 16 MALFUNCTION MANAGEMENT UNIT COMPLETE IN A NEMA TS1 CABINET ASSEMBLY.

THE CONTROLLER UNIT AND CABINET SHALL CONFORM TO ODOT SPECIFICATIONS 633 AND 733 AND SHALL HAVE THE FOLLOWING FEATURES:

- 1. LOAD SWITCHES AND FLASH TRANSFER RELAYS SHALL BE SUPPLIED IN SUFFICIENT QUANTITY TO PERFORM THE OPERATION AS SHOWN IN THE PLANS. THE LOAD SWITCHES SHALL PROVIDE INDICATORS ON BOTH THE INPUTS AND OUTPUTS OF EACH CIRCUIT.
A. EIGHT (8) PHASE P44 CABINETS SHALL INCLUDE A 12 POSITION NEMA TS1 BACK PANEL WITH A FULL COMPLIMENT OF LOAD SWITCHES (12), FLASHER (1) AND FLASH TRANSFER RELAYS (4).
2. THE CONTROLLER UNIT SHALL BE 16 PHASE FULLY ACTUATED AND SHALL MEET ALL REQUIREMENTS FOR A NEMA TS2 TYPE 2 INCLUDING SDLC (PORT1), RS-232 (PORT 2), AND FSK (PORT 3) PORTS. ADDITIONAL MANUFACTURE SPECIFIC "D" CONNECTORS, 10/100 ETHERNET PORT AND REMOVABLE DATAKEY SHALL BE INCLUDED. ADDITIONAL FEATURES SHALL BE AS FOLLOWS:
A. THE LCD DISPLAY SHALL BE ALPHANUMERIC AND INCLUDE 16 LINES BY 40 CHARACTERS WITH BACK-LIGHTING AND MULTIPLE LEVELS OF CONTRAST AND A HEATER FOR CONTINUED OPERATION DURING EXTENDED PERIODS BELOW 0° F.
B. ALL DATA SHALL BE STORED ON AN EASILY REMOVABLE, SOCKET MOUNTED EEPROM SUB-MODULE. WRITE PROTECTION SHALL BE PROVIDED FOR THE PORTION OF THE EEPROM USED TO STORE INTERSECTION CONFIGURATION DATA.
C. THE CONTROLLER SHALL HAVE THE ABILITY TO ASSIGN INPUT OR OUTPUT FUNCTION TO ANY INPUT OR OUTPUT PIN RESPECTIVELY.
D. THE CONTROLLER SHALL BE CAPABLE OF AN ADDITIONAL 16 STANDARD OVERLAPS BY ASSIGNING EACH PHASE OUTPUT TO AN OVERLAP.
E. THE CONTROLLER SHALL INCLUDE "TIME-OF-DAY" AND "COORDINATION" CAPABILITIES.
F. THE CONTROLLER SHALL INCLUDE "PREEMPTION" CAPABILITIES INCLUDING 10 RAILROAD, FIRE AND EMERGENCY VEHICLE HIGH-PRIORITY PREEMPTORS. THE CONTROLLER SHALL ALSO BE CAPABLE OF 4 LOW-PRIORITY "BUS-PREEMPTORS".
G. THE CONTROLLER SHALL BE PROGRAMMABLE TO ALLOW FOR FLASHING "DON'T WALK" THROUGH THE YELLOW SIGNAL PHASE.
3. THE NEMA TS2 TYPE 16 MALFUNCTION MANAGEMENT UNIT SHALL BE PROVIDED WITH EXTENDED MONITORING IN ACCORDANCE WITH 733.03, PART A. SECTION C. THE CABINET SHALL BE WIRED FOR APPROACH MONITORING. AN SDLC CABLE ASSEMBLY AND TWO RS-485 SDLC CABLES SHALL BE PROVIDED. THE CABLES SHALL CONNECT PORT 1 OF THE CONTROLLER TO PORT 1 OF THE MMU. THIS WILL ENABLE THE ADVANCED ERROR CHECKING, REPORTING AND LOGGING FEATURES AS DEFINED BY NEMA. THE MMU SHALL PASS ALL TESTS AS PERFORMED BY AN AUTOMATIC MONITOR TESTER. TEST RESULTS SHALL BE PRINTED AND SUPPLIED WITH EACH CABINET.
4. THE FOLLOWING SWITCHES SHALL BE ACCESSIBLE VIA THE POLICE PANEL:
A. SIGNAL ON/OFF
B. FLASH CONTROL
C. AUTOMATIC/MANUAL TRANSFER
D. MANUAL PUSH-BUTTON AND 10' COILED HAND CORD
5. THE FOLLOWING SWITCHES SHALL BE MOUNTED ON A TECHNICIANS SWITCH PANEL ON THE INSIDE OF THE MAIN CABINET DOOR:

ITEM 633 - CONTROLLER ITEM, MISC.: SIGNAL CONTROLLER WITH CABINET (CONT.)

- A. STOP TIME ON/OFF
B. FLASH CONTROL
C. TIMER POWER ON/OFF
D. DETECTOR TEST, MOMENTARY PUSH-BUTTON
6. THE MAINTENANCE PANEL AND POLICE PANEL SHALL BE INSTALLED AS A COMPLETE AND INDEPENDENT ASSEMBLY. A SINGLE MULTI-PIN CONNECTOR ASSEMBLY SHALL BE USED TO INTERFACE TO THE MAIN BACK PANEL. DIRECT WIRING FROM THE BACK PANEL TO THE MAINTENANCE/POLICE PANEL WILL NOT BE ALLOWED.
THE MAINTENANCE/POLICE PANEL ASSEMBLY SHALL BE EASILY REPLACED WITHOUT HAVING TO DISTURB ANY OTHER WIRING IN THE CABINET. THE MAINTENANCE PANEL SHALL BE HINGED WITH A STAINLESS STEEL HINGE TO THE POLICE PANEL TO ALLOW EASY ACCESS TO THE WIRING WITHIN THE ASSEMBLY.
7. A FLOURESCENT LAMP WITH DOOR ACTIVATED PUSH-BUTTON SHALL BE PROVIDED.
8. A FLEXIBLE GOOSENECK LAMP SHALL BE PROVIDED, WIRED TO THE LOAD SIDE OF THE GFI AND MOUNTED TO THE DOOR SUCH THAT THE ENTIRE BACK PANEL AREA CAN BE EASILY ILLUMINATED.
9. THE CABINET SHALL BE ALUMINUM, WITH A NATURAL SATIN FINISH OF THE REQUIRED SIZE TO INCLUDE ALL EQUIPMENT, UNLESS SPECIFIED OTHERWISE, AND SHALL COMPLY WITH THE REQUIREMENTS OF 733.03.
A. EIGHT (8) PHASE CABINETS SHALL BE A MINIMUM OF 55"Hx44"Wx26"D UNLESS OTHERWISE SPECIFIED
B. EIGHT (8) PHASE CABINETS WITH BATTERY BACK-UP SYSTEMS SHALL BE DOUBLE DOOR CABINETS MEASURING 55"Hx60"Wx26"D, INCLUDE A SEPARATE AND ISOLATED COMPARTMENT FOR THE UPS EQUIPMENT UNLESS OTHERWISE SPECIFIED.
10. THE CONTRACTOR SHALL FURNISH, FOR APPROVAL, TWO CABINET PLANS SHOWING COMPONENT LAYOUT, AND A COPY IN AUTO CAD FORMAT. IN ADDITION AN OPERATION MANUAL SHALL BE INCLUDED THAT PROVIDES INFORMATION REQUIRED FOR INSTALLATION, OPERATION AND MAINTENANCE OF THE CONTROLLER.
11. THE MAIN POWER SURGE PROTECTOR SHALL BE PLUG-IN TYPE, INCLUDE A FAILURE INDICATOR AND A SET OF DRY CONTACTS TO INDICATE THE UNIT HAS FAILED. THE FAIL CONTACTS OF THE SURGE PROTECTOR SHALL BE WIRED TO AN ALARM INPUT FOR REPORTING A FAILED DEVICE TO A CENTRAL COMPUTER.
12. THE FOLLOWING LIST OF FEATURES SHALL BE INCORPORATED INTO THE CABINET AND TERMINALS FACILITY:
A. THE FIELD TERMINALS FOR SIGNAL HOOKUP SHALL BE MOUNTED TO A PANEL AND ANGLED AT 45° FOR EASE OF INSTALLATION AND MAINTENANCE. THE BACKBOARD SHALL BE MOUNTED AT LEAST 6" ABOVE THE BASE OF THE CABINET. NO WIRES LUGGED OR OTHERWISE, SHALL BE PERMITTED ON THE SIGNAL HOOKUP SIDE OF THE FIELD TERMINAL BLOCKS.
B. WIRE CONNECTIONS TO THE BACK PANEL SHALL BE MADE WITH CRIMP TERMINALS AND THREADED FASTENERS. QUICK-CONNECT TERMINALS ARE NOT ACCEPTABLE. SOLDER CONNECTIONS MAY BE USED ON THE BACKSIDE OF A PANEL THAT UTILIZES FEED THRU STYLE TERMINAL BLOCKS. PRINTED CIRCUIT BOARDS SHALL NOT BE USED AS ANY PART OF THE MAIN BACK PANEL ASSEMBLY.
C. ALL WIRES FASTENED TO THE LOAD SWITCH, FLASHER AND FLASH TRANSFER RELAY SOCKETS SHALL BE SOLDERED IN PLACE. A GOOD MECHANICAL CONNECTION MUST BE MADE PRIOR TO SOLDERING.
D. THE BACK PANEL SHALL BE PROVIDED WITH A UNITIZED SELF-LEVELING/SELF ADJUSTING HINGED MOUNTING MECHANISM TO ALLOW EASY ACCESS TO ALL WIRING ON THE REAR PANEL. THE BACK PANEL SHALL SLIDE ONTO THE HINGE SUPPORT BRACKETS AND BE SECURED IN THE CABINET WITH STAINLESS STEEL MOUNTING HARDWARE SECURELY FASTENED AT NO MORE THAN TWO (2) POINTS. COMPLETE REMOVAL AND REPLACEMENT OF THE MAIN BACK PANEL ASSEMBLY SHALL BE ACCOMPLISHED WITH THE USE OF SIMPLE HAND TOOLS.
E. THE BACK PANEL SHALL BE DESIGNED SUCH THAT IT CAN BE EASILY REMOVED AND REPLACED WITHIN THE CABINET. CONNECTORS SHALL BE USED TO CONNECT ALL SIDE PANELS TO THE BACK PANEL INCLUDING THE DETECTOR PANEL, MAINTENANCE/POLICE PANEL, CABINET FAN PLATE AND ANY AUXILIARY PANEL. THE MAIN BACK PANEL ASSEMBLY SHALL BE EASILY REMOVED AND REPLACED WITHOUT REMOVING OR REWIRING ANY OF THE SIDEWALL MOUNTED PANELS.
F. ALL WIRING OF HARNESSES AND INTER-PANEL WIRING, INCLUDING WIRING TO THE POLICE PANEL SHALL BE PROTECTED WITH A NYLON MESH OR "SNAKE SKIN". ANY EXPOSED WIRES, OR THE USE OF CABLE TIES TO HOLD THE WIRE BUNDLES TOGETHER SHALL NOT BE ALLOWED.
G. ALL BACK PANEL TERMINALS AND COMPONENTS SHALL HAVE SILK-SCREENED TERMINAL/SOCKET FUNCTION IDENTIFICATION LABELS SUCH AS AC COM, PHASE 3 GREEN, ETC. SILK-SCREENED TERMINAL REFERENCE NUMBERS SHALL ALSO BE PROVIDED. LOAD SWITCH FIELD TERMINALS SHALL BE LABELED WITH THE LOAD SWITCH NUMBER, COLOR AND TERMINAL REFERENCE NUMBER.
H. ALL WIRING FOR PEDESTRIAN OUTPUTS AND OVERLAPS SHALL BE BROUGHT TO TERMINALS ON THE FRONT OF THE BACKBOARD FOR EASY MODIFICATION.
I. ALL SWITCHES SHALL BE IDENTIFIED WITH PERMANENT TYPE LABELS. THE USE OF PLASTIC MARKING TAPE OR "CROY" TYPE TAPE IS NOT ACCEPTABLE.
J. ALL MAIN POWER PANEL DEVICES SHALL BE AFFIXED TO THE LOWER RIGHT PORTION OF THE MAIN PANEL, INCLUDING ALL CIRCUIT BREAKERS, LINE FILTERS AND LOAD RELAYS. AS AN ALTERNATE, A SEPARATE POWER PANEL MOUNTED TO THE RIGHT SIDE WALL OF THE CABINET WILL BE PERMITTED.
K. ALL EQUIPMENT HARNESSES SHALL BE ATTACHED TO THE UNDERSIDE OF THE FIELD TERMINATION FOR LOOPS, AND PEDESTRIAN PUSH BUTTONS SHALL BE ON THE LEFT SIDEWALL. THE TERMINAL BLOCK FOR THESE ITEMS SHALL BE MOUNTED VERTICALLY. TERMINATING OF FIELD WIRES OVER TOP OF OTHER TERMINAL BLOCKS SHALL NOT BE ALLOWED.
L. SHELVES WITH APPROPRIATE CABLE TIE MOUNTING BLOCKS, FOR EASE OF MAINTENANCE, ALL HARNESSES SHALL BE OF SUFFICIENT LENGTH TO PLACE THE EQUIPMENT ON TOP OF THE CABINET AND BE OPERATIONAL.
M. THE CABINET SHALL BE WIRED READY FOR USE IN A "CLOSED LOOP SYSTEM". MEANING A 6 PAIR SYSTEM, RADIO OR FIBER OPTIC SYSTEM CAN BE INSTALLED WITH A MINIMUM OF FIELD WIRING.

ITEM 633 - CONTROLLER ITEM, MISC.: SIGNAL CONTROLLER WITH CABINET (CONT.)

- N. A COLOR-CODED WIRING SYSTEM SHALL BE USED THROUGHOUT THE WIRING OF THE CABINET. THE WIRING COLOR-CODE SHALL BE AS FOLLOWS:
a. CONTROLLER UNIT - BLUE 22 GAUGE
b. MMU - VIOLET 22 GAUGE
c. RED LOAD SWITCH OUTPUT - RED 16 GAUGE
d. YELLOW LOAD SWITCH OUTPUT -YELLOW 16 GAUGE
e. GREEN LOAD SWITCH OUTPUT - BROWN 16 GAUGE
f. AC LINE POWER - BLACK VARIES*
g. AC NEUTRAL - WHITE VARIES*
h. EARTH GROUND - GREEN VARIES*
i. LOGIC GROUND - GRAY 22 GAUGE
j. FLASH PROGRAMMING - ORANGE 16 GAUGE
*SIZED APPROPRIATELY TO HANDLE THE VARYING CURRENT REQUIREMENTS
13. A DETECTOR TERMINATION PANEL SHALL BE INSTALLED AND MOUNTED ON THE LEFT-SIDE WALL OF THE CABINET. A SINGLE MULTI-PIN CONNECTOR SHALL BE USED TO INTERFACE THE DETECTOR PANEL TO THE MAIN BACK PANEL. DIRECT WIRING FROM THE MAIN BACK PANEL TO THE DETECTOR PANEL WILL NOT BE ALLOWED, EXCEPT FOR THE AC SERVICE TO THE PANEL.
A. ALL LOOP DETECTOR HARNESSES SHALL INCLUDE AN APPROPRIATE 10-PIN LOCKING TYPE CONNECTOR TO PLUG INTO THE DETECTOR TERMINATION PANEL. THE LOOP HARNESS SHALL LOCK INTO A MATING CONNECTOR ON THE DETECTOR TERMINATION PANEL.
B. THE PANEL SHALL BE PROVIDED WITH PROVISIONS AND FULLY WIRED FOR A MINIMUM OF EIGHT (8) LOOP DETECTORS INCLUDING CONNECTORS AND LOOP TERMINATION BLOCKS. CONNECTORIZED PLUG-IN STYLE LOOP DETECTOR HARNESSES SHALL BE PROVIDED IN SUFFICIENT QUANTITY TO PERFORM THE REQUIRED SEQUENCE.
C. THE DETECTOR TERMINATION PANEL SHALL BE FULLY PROGRAMMABLE. ALL DETECTOR FUNCTIONS SHALL BE PROGRAMMABLE ON THE DETECTOR PANEL INCLUDING PHASE CALLS, DELAY DEFEAT AND DETECTOR COUNT OUTPUTS.
D. TERMINATION POINTS SHALL BE PROVIDED FOR FOUR (4) PEDESTRIAN PUSHBUTTONS.
E. PROVISIONS FOR INTERFACING SYSTEM DETECTORS AND ADDITIONAL DETECTOR INPUTS SHALL BE INCLUDED ON THE PANEL.
F. THE DETECTOR TERMINATION PANEL SHALL ALLOW FOR EASY EXPANSION. ADDITIONAL DETECTOR TERMINATION PANELS SHALL BE ADDED BY MEANS OF A SINGLE CONNECTING HARNESS ASSEMBLY THAT INCLUDES ALL FUNCTIONS AS REQUIRED TO ACHIEVE THE DESIRED SEQUENCE AND OPERATION INCLUDING PHASE CALLS, PHASE GREENS AND AUXILIARY SYSTEM FUNCTIONS.
G. A MINIMUM OF EIGHT (8) SURGE PROTECTION DEVICES SHALL BE SUPPLIED AND TERMINATED ON THE DETECTOR TERMINATION PANEL I FOR EACH LOOP INPUT.
14. PROVIDE AN ETHERNET COMMUNICATIONS MODULE FOR THE CONTROLLER THAT FULLY SUPPORTS AN IEEE 802.3 COMPLIANT GIGABIT ETHERNET AUTO SENSING PORT FOR ADVANCED SYSTEMS COMMUNICATIONS. THE ETHERNET PORT SHALL PROVIDE AN UPSTREAM CONNECTION TO OTHER ETHERNET DEVICES IN THE CABINET. AN INDUSTRY STANDARD RJ-45 TYPE CONNECTOR SHALL BE INCLUDED THAT SUPPORTS A SIMPLE CAT5E PATCH CABLE INTERFACE. THE ETHERNET PORT SHALL BE FACTORY PRE-CONFIGURED WITH A UNIQUE PRIVATE IP ADDRESS AND CLASS B SUBNET MASK.
15. A SYSTEMS INTERFACE PANEL SHALL BE MOUNTED ON THE LEFT SIDEWALL, ABOVE THE DETECTOR TERMINATION PANEL(S). TERMINAL BLOCKS SHALL BE FEED-THRU TYPE AND MOUNTED VERTICALLY. ALL SYSTEMS FUNCTIONS OF THE CONTROLLER SHALL BE TERMINATED ON A SINGLE PANEL. AT A MINIMUM, THE SYSTEMS PANELS SHALL INCLUDE TERMINATION POINTS FOR 16 ADDITIONAL DETECTOR INPUTS, 6 PREEMPT INPUTS, 6 PREEMPT OUTPUTS AND 4 SPECIAL FUNCTION OUTPUTS. THE SYSTEMS INTERFACE PANEL SHALL CONNECT TO THE MAIN BACK PANEL ASSEMBLY AND THE DETECTOR PANEL WITH THE USE OF MULTI-PIN CONNECTORS. DIRECT WIRING FROM THE MAIN BACK PANEL TO THE CLOSED LOOP SYSTEMS INTERFACE PANEL WILL NOT BE ALLOWED.
A. ONE (1) SEICOR MODEL WICO12 WALL MOUNT INTERCONNECT CENTER WITH 12 "SC" COMPATIBLE SINGLE-MODE COUPLERS WITH CERAMIC INSERT SHALL BE INSTALLED ON THE RIGHT SIDE WALL OF THE CABINET. TWO (2) SINGLE-MODE DUPLEX PATCH CORDS WITH "SC" CONNECTORS AND COLOR-CODED BOOTS SHALL BE PROVIDED.
B. CONNECT THE ETHERNET PORT FROM THE CONTROLLER TO THE OPTICAL ETHERNET TRANSCEIVER INSTALLED USING PROPERLY RATED CAT5e CABLES AND RJ45 CONNECTORS.
16. THE CONTROLLERS SHALL HAVE ALL COMMUNICATIONS AND INTERFACE EQUIPMENT IN PLACE IN ORDER TO INTERFACE WITH THE CITY OF AKRON'S CENTRACS TRAFFIC MANAGEMENT SYSTEM.
17. THE CABINET SHALL BE FULLY WIRED TO ACCOMMODATE THE EMERGENCY VEHICLE PREEMPTION EQUIPMENT INCLUDING A FULLY WIRED RACK AND TERMINATION PANEL. THE RACK SHALL BE WIRED TO ACCOMMODATE TWO (2) NEMA LOAD SWITCHES FOR CONFIRMATION LIGHT CONTROL. CONFIRMATION LIGHTS SHALL BE WIRED TO THE PREEMPT TERMINATION PANEL.
18. THE CABINET ASSEMBLY SHALL BE FULLY TESTED, WITH ALL COMPONENTS INSTALLED, AT THE FACTORY PRIOR TO SHIPMENT. THE CONTROLLER, MONITOR AND DETECTORS SHALL BE FULLY PROGRAMMED PER THE PLANS AND SPECIFICATIONS, BY A TRAINED FACTORY REPRESENTATIVE. THE COMPLETE AND FULLY PROGRAMMED CABINET ASSEMBLY SHALL BE FACTORY TESTED FOR A MINIMUM OF 24 HOURS, PRIOR TO SHIPMENT. THE SUPPLIER SHALL CERTIFY IN WRITING THAT THE TESTS HAVE BEEN SUCCESSFULLY PERFORMED PRIOR TO INSTALLATION IN THE FIELD. A REGISTERED PROFESSIONAL ENGINEER SHALL SUPERVISE ALL TESTING.

PAYMENT FOR ITEM 633 - CONTROLLER ITEM, MISC.: SIGNAL CONTROLLER WITH CABINET SHALL BE MADE AT THE CONTRACT PRICE BID. PAYMENT SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, TOOLS, EQUIPMENT, TESTING, CERTIFICATIONS AND OTHER INCIDENTALS NECESSARY TO FURNISH THE CONTROLLER AND WIRING COMPLETE, TESTED AND ACCEPTED.

THE CONTRACTOR SHALL PROVIDE THE EDCO SRA-6LC SURGE PROTECTION DEVICE IN THE DETECTOR TERMINATION PANEL, TO BE COMPATIBLE WITH ALL OTHER CONTROLLER EQUIPMENT. THIS PAY ITEM SHALL INCLUDE ALL MATERIALS AND LABOR REQUIRED TO INSTALL AND TEST THIS EQUIPMENT.

ITEM 633 - UNINTERRUPTIBLE POWER SUPPLY (UPS), AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF CMS 633 AND 733, THE CONTRACTOR SHALL FURNISH, INSTALL AND TEST UNINTERRUPTIBLE POWER SUPPLY (UPS) STATUS INDICATOR LAMPS THAT ALLOW MAINTENANCE PERSONNEL AND LAW ENFORCEMENT TO QUICKLY ASSESS WHETHER A TRAFFIC SIGNAL CABINET IS BEING POWERED BY A UPS. A 1-INCH (25 MM) WATERPROOF NEMA 4X OR IP66

2018-032-01
TRAFFIC SIGNAL NOTES
VERNON ODOM BLVD.
CITY OF AKRON
DEPARTMENT OF PUBLIC SERVICE
AKRON ENGINEERING BUREAU
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26
REVISIONS
SCALE: NO SCALE
DATE
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ITEM 633 – UNINTERRUPTIBLE POWER SUPPLY (UPS), AS PER PLAN (CONT.)

LAMP WITH A DOMED RED LENS SHALL BE USED TO INDICATE THE CABINET IS OPERATING UNDER UPS POWER (THE "BACKUP" OPERATING CONDITION). THIS LAMP SHALL BE WIRED USING MINIMUM 20GA STRANDED, INSULATED HOOKUP WIRE TO THE STATUS RELAY OUTPUTS OF THE UPS. THE WIRED SHALL BE TERMINATED BY LUGS AT THE DISPLAY END AND PERMANENTLY LABELED "BACKUP POWER STATUS DISPLAY" WITH WIRE POLARITY INDICATED. THIS ITEM INCLUDES PROGRAMMING THE UPS STATUS RELAY OUTPUTS TO PRODUCE THE LAMP STATUS DISPLAYS. THE STATUS DISPLAY SHALL BE SOLID 100% DUTY CYCLE (NOT FLASHING). THE LAMP SHALL BE PLACED IN THE UPS CABINET WALL (NOT THE ROOF) IN SUCH A MANNER AS TO BE SEALED FROM WATER INTRUSION AND VISIBLE FROM A VEHICLE AT THE STOP LINE IN THE CLOSEST LANE OF AT LEAST ONE APPROACH TO THE SIGNALIZED INTERSECTION. THE OPERATING VOLTAGE OF THE LED LAMP SHALL BE 120V AC.

IN ADDITION TO SECTION 633.18 AND 733.09 OF THE ODOT CMS, THE UNINTERRUPTIBLE POWER SERVICE SHALL BE INSTALLED IN THE CONTROLLER CABINET HAVING DOUBLE DOORS. BATTERY BACKUP SHALL PROVIDE A MINIMUM OF 8 HOURS OF OPERATING TIME.

THE CONTRACTOR SHALL PROVIDE EITHER: (A) THE CLARY SP1250LX-R/N (PATH MASTER, INC) OR (B) THE SIGNAL SENSE SSSC-1500 UPS (TRAFFIC CONTROL PRODUCTS, INC), TO BE COMPATIBLE WITH ALL OTHER CONTROLLER EQUIPMENT. THIS PAY ITEM SHALL INCLUDE ALL MATERIALS AND LABOR REQUIRED TO INSTALL AND TEST THIS EQUIPMENT.

TESTING AND CERTIFICATION OF MALFUNCTION MANAGEMENT UNITS

PRIOR TO THE 10-DAY PERFORMANCE TEST OF A NEW SOLID-STATE TRAFFIC SIGNAL CONTROLLER AND CONTINGENT UPON ACCEPTANCE BY THE CITY OF AKRON, THE CONTRACTOR SHALL TEST AND CERTIFY THE MALFUNCTION MANAGEMENT UNIT (MMU). CERTIFICATION TEST REPORTS OF THE MMU ARE TO BE INCLUDED IN THE CABINET PAPERWORK MOUNTED ON THE INSIDE OF THE CABINET DOOR. TESTING AND CERTIFICATION SHOULD BE COMPLETED NO MORE THAN TWO WEEKS PRIOR TO THE 10-DAY PERFORMANCE TEST. FACTORY CERTIFICATION IS NOT ACCEPTABLE.

ITEM 633 – CONTROLLER ITEM, MISC.: FIBER OPTIC ETHERNET TRANSCEIVER

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING AN INDUSTRY HARDENED, FULLY MANAGED ETHERNET SWITCH PROVIDING DUAL FIBER OPTICAL GIGABIT ETHERNET (1000BASEX) PORTS USING INDUSTRY STANDARD SC FIBER OPTIC CONNECTORS AND 8 FAST ETHERNET (10/100BASE TX) RJ45 COPPER PORTS. THE TRANSCEIVER SHALL OPERATE ON 120VAC, 10 WATTS AND SHALL MEET AND/OR EXCEED NEMA TS2 ENVIRONMENTAL REQUIREMENTS.

THE FIBER OPTIC TRANSCEIVER SHALL INTERFACE TO SINGLE-MODE (8/125) FIBER OPTIC CABLE WITH AN OPTICAL WAVELENGTH OF 1310NM USING SC CONNECTORS. IT SHALL BE CAPABLE OF OPERATING OVER A DISTANCE OF AT LEAST 10KM WITH AN OPTICAL POWER BUDGET OF 17DB. THE TRANSCEIVER SHALL BE CAPABLE OF OPERATING IN A FAULT TOLERANT FIBER OPTIC LOOP.

PROVIDE A TRANSCEIVER THAT IS FULLY COMPLIANT WITH IEEE 802.3, 802.3U & 802.3Z. THE TRANSCEIVER SHALL PROVIDE FULL-DUPLEX OPERATION AND FLOW CONTROL.

PROVIDE A SIMPLE INTUITIVE USER INTERFACE FOR CONFIGURATION AND MONITORING OF THE TRANSCEIVER VIA STANDARD HTML GRAPHICAL WEB BROWSER, INCLUDING DETAILED ONLINE HELP. EVENT LOGGING AND RECORDING SHALL BE INCLUDED. ALL SIGNIFICANT EVENTS SHALL BE STORED IN A NON-VOLATILE SYSTEM LOG.

THE OPTICAL ETHERNET TRANSCEIVER SHALL CONNECT TO ALL ETHERNET DEVICES IN THE CONTROLLER CABINET INCLUDING THE CONTROLLER (IF APPLICABLE), VIDEO DETECTION COMMUNICATIONS INTERFACE PANEL AND VIDEO SERVERS AND ANY OTHER ETHERNET DEVICES USING PROPERLY RATED CAT5E CABLES WITH RJ45 CONNECTORS.

PAYMENT FOR ITEM 633 CONTROLLER, MISC: FIBER OPTIC ETHERNET TRANSCEIVER SHALL BE MADE AT THE CONTRACT PRICE BID. PAYMENT SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, TOOLS, EQUIPMENT, TESTING, CERTIFICATIONS, AND ALL OTHER INCIDENTALS NECESSARY TO FURNISH COMPLETE IN PLACE, INCLUDING ALL CONNECTIONS MADE AND WIRING COMPLETE, TESTED AND ACCEPTED.

ITEM 633 – CONTROLLER ITEM, MISC.: PREEMPTION PRIORITY CONTROL

THE PREEMPTION SHALL CONFORM TO O.D.O.T. SPECIFICATION 633 AND SHALL UTILIZE COMMUNICATIONS TO IDENTIFY THE PRESENCE OF AN EMERGENCY PRIORITY VEHICLE. IT SHALL CAUSE THE TRAFFIC SIGNAL CONTROLLER TO SELECT A PRE-PROGRAMMED, PREEMPTION PLAN THAT WILL DISPLAY AND HOLD THE DESIRED SIGNAL PHASE FOR THE DIRECTION OF THE EMERGENCY VEHICLE.

THE COMMUNICATIONS MEDIUM SHALL EMPLOY SIREN ACTIVATED DETECTION TECHNIQUES TO DETERMINE AND LOG THE PRESENCE OF THE EMERGENCY VEHICLE. THE SYSTEM SHALL DETECT THE PRESENCE OF THE VEHICLE THROUGH A SIREN LOCATED ON THE EMERGENCY VEHICLE. THE SYSTEM SHALL ACTIVATE THE PREEMPTION SEQUENCE BY APPLYING A SIGNAL TO ONE OF THE CONTROLLER'S PREEMPT DISCRETE INPUTS. THE SYSTEM SHALL BE COMPLETELY COMPATIBLE WITH THE NEMA SPECIFIED CONTROLLER.

THE EQUIPMENT SHALL BE RACK-MOUNTED AND EASILY REMOVABLE AND REPLACEABLE WITHIN THE CABINET. THE EQUIPMENT SHALL BE SUPPLIED COMPLETELY WIRED IN THE CONTROLLER CABINET AND TESTED.

THE SYSTEM SHALL BE CAPABLE OF PREEMPTING AND RECEIVING PRIORITY FOR EACH APPROACH TO THE INTERSECTION. IT SHALL BE POSSIBLE TO DETECT THE EMERGENCY VEHICLE UP TO 1200 FEET FROM THE INTERSECTION.

EACH INTERSECTION SHOWN IN THE PLANS SHALL BE SUPPLIED WITH THE FOLLOWING COMPONENTS:
 1. PREEMPT DETECTORS
 2. PREEMPTION DETECTOR CABLE
 3. PREEMPT PHASE SELECTOR ASSEMBLY AND INTERFACE WIRING PANEL
 4. CONFIRMATION LIGHT AND CABLE
 5. PREEMPT POWER CABLES

THE PREEMPTION DETECTORS SHALL CONSIST OF FURNISHING AND INSTALLING A LIGHTWEIGHT, WEATHERPROOF, FOUR CHANNEL DIRECTIONAL PREEMPTION DETECTOR ASSEMBLY AS SHOWN IN THE PLANS. THE DETECTOR SHALL BE CAPABLE OF SENDING THE PROPER ELECTRICAL SIGNAL TO THE TRAFFIC SIGNAL CONTROLLER VIA THE PREEMPTION DETECTOR HOME RUN CABLE. DETECTORS SHALL BE SUPPLIED WITH MAST ARM MOUNTING HARDWARE. THE DETECTORS WILL FACE OUTBOUND TO

ITEM 633 – CONTROLLER ITEM, MISC.: PREEMPTION PRIORITY CONTROL (CONT.)

MINIMIZE FALSE CALLS FROM TURNING EMERGENCY VEHICLES) MOUNTED AS TO POINT DOWN THE CENTER OF ROADWAY. AT TEE INTERSECTIONS, THE LOCATION OF THE DETECTORS MAY BE MOUNTED INBOUND.

THE PREEMPTION DETECTOR CABLE SHALL CONSIST OF FURNISHING AND INSTALLING A HOME RUN CABLE FROM EACH DETECTOR TO THE PHASE SELECTORS IN THE CONTROLLER CABINETS. THE PREEMPTION DETECTOR CABLE SHALL CONFORM TO O.D.O.T. SPECIFICATION 632. THE CABLE SHALL BE APPROVED FOR BOTH OVERHEAD AND UNDERGROUND USE. THE JACKET SHALL WITHSTAND EXPOSURE TO SUNLIGHT AND ATMOSPHERIC TEMPERATURES AND STRESSES REASONABLY EXPECTED IN NORMAL INSTALLATIONS.

PREEMPTION PHASE SELECTIONS SHALL BE INSTALLED AND FURNISHED IN THE CONTROLLER CABINETS AND SHALL INCLUDE WIRING INTERFACE PANELS AND OTHER ACCESSORIES THAT ARE NECESSARY TO MAKE THE PREEMPT PHASE SELECTIONS COMPLETELY FUNCTIONAL AND OPERATIONAL AS SHOWN IN THE PLANS. THIS ITEM SHALL INCLUDE THE EXTRA CABINET SPACE NECESSARY TO BE LOCATED IN THE LOCAL CONTROLLER CABINETS WHERE INDICATED IN THE PLANS. THE PHASE SELECTORS SHALL CONSIST OF A MODULE OR MODULES THAT WILL PROVIDE THE NECESSARY INPUTS TO THE CONTROLLER. PHASE SELECTORS SHALL BE SUPPLIED WITH SUFFICIENT QUANTITIES OF CHANNELS TO PROVIDE PREEMPTION FOR ALL APPROACHES TO THE INTERSECTION SEPARATELY. POWER SHALL BE OBTAINED FROM THE PHASE SELECTOR OR PHASE SELECTOR POWER SUPPLY AND NOT FROM THE LOCAL CONTROLLER TIMER. THE PHASE SELECTORS SHALL HAVE FRONT PANEL INDICATORS FOR ACTIVE PREEMPT CHANNEL STATUS. IT SHALL HAVE TEST SWITCHES TO ACTIVATE ALL PREEMPT CHANNELS.

PREEMPT CONFIRMATION LIGHTS SHALL BE FURNISHED AND INSTALLED INCLUDING MOUNTING HARDWARE, WIRE AND ALL OTHER ACCESSORIES THAT ARE NECESSARY TO MAKE THE PREEMPT CONFIRMATION LIGHT COMPLETELY FUNCTIONAL AND OPERATIONAL AS SHOWN IN THE PLANS.

A CONFIRMATION LIGHT SHALL BE SUPPLIED FOR EACH APPROACH TO INDICATE THAT THE EMERGENCY VEHICLE HAS ACHIEVED CONTROL OF THE TRAFFIC SIGNAL. THE CONFIRMATION LIGHT SHALL BE A VAPOR TIGHT ALUMINUM LIGHTING FIXTURE. IT SHALL BE SUPPLIED WITH A BLUE COLORED GLOBE, A 150 WATT PENDANT CONFIRMATION LAMP AND MOUNTING HARDWARE TO ATTACH TO THE TRAFFIC SIGNAL MAST ARM. A LOAD SWITCH IN THE TRAFFIC SIGNAL CONTROLLER SHALL POWER THE CONFIRMATION LIGHT.

THE CONTRACTOR SHALL THOROUGHLY CHECK OUT THE INSTALLED SYSTEM. AS A MINIMUM, THE CONTRACTOR SHALL VERIFY THAT ALL CONNECTIONS ARE PROPERLY MADE TO THE CONTROLLER CABINETS. THE CONTRACTOR SHALL CHECK THAT THE RANGE SETTING IS PROPER FOR EACH INTERSECTION. THE CONTRACTOR SHALL DETERMINE THAT ALL PHASE SELECTORS ARE SELECTING THE PROPER PHASE AND TIMING ACCURATELY. THE CONTRACTOR SHALL VERIFY THAT ALL VEHICLE EMITTERS ARE BEING PROPERLY DETECTED.

ALL CABLES, CONNECTORS, TERMINALS, AND INTERFACE RACKS TO PROVIDE A COMPLETE PRIORITY CONTROL SYSTEM SHALL BE INCIDENTAL TO THIS ITEM. PAYMENT SHALL BE MADE AT THE CONTRACT UNIT PRICE FOR EACH INTERSECTION FULLY OPERATIONAL ITEM 633 – CONTROLLER MISC., PREEMPTION PRIORITY CONTROL, IN PLACE AND FULLY OPERATIONAL AS SHOWN IN THE PLANS.

THE CONTRACTOR SHALL PROVIDE EITHER: (A) THE SONEM 2000 (PATH MASTER, INC) OR (B) THE RIGHT O'WAY (TRAFFIC CONTROL PRODUCTS, INC) EMERGENCY PREEMPTION SYSTEM, TO BE COMPATIBLE WITH ALL OTHER CONTROLLER EQUIPMENT. THIS PAY ITEM SHALL INCLUDE ALL MATERIALS AND LABOR REQUIRED TO INSTALL AND TEST THIS EQUIPMENT.

ITEM 632 – SIGNALIZATION, MISC.: VIDEO DETECTION SYSTEM

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING A VIDEO DETECTION SYSTEM CAPABLE OF INTERSECTION DETECTION CONTROL, FREEWAY MANAGEMENT DETECTION, INCIDENT VERIFICATION, TRAFFIC SURVEY DATA COLLECTION AND TEMPORARY DETECTION DURING CONSTRUCTION. REAL-TIME POLLING, DIAL-OUT OR STORED TRAFFIC DATA TO INCLUDE: VOLUME, OCCUPANCY, SPEED, DENSITY, HEADWAY AND 5 VEHICLE CLASSIFICATIONS EITHER BY PHASE OR PROGRAMMED TIMED INTERVALS RANGING FROM 1 SECOND TO 60 MINUTES. EXTENSIVE BOOLEAN LOGIC CAPABILITIES SHALL BE PROVIDED FOR FLEXIBLE DETECTOR LAYOUTS AND CAN BE USED TO HELP VALIDATE AN EVENT OR INCIDENT. THE DETECTION SYSTEM SHALL INCLUDE THE FOLLOWING LIST OF FEATURES AND CAPABILITIES:

PROVIDE A DETECTION SYSTEM THAT INCLUDES AN INTEGRATED COLOR CAMERA, 22X ZOOM LENS, AND MACHINE VISION PROCESSOR IN ONE UNIT. THE CAMERA SHALL BE IP ADDRESSABLE, SHALL INCORPORATE A WEB SERVER INTERFACE FOR EASY SETUP AND PROVIDE MPEG4 STREAMING VIDEO OUTPUT.

PROVIDE A SYSTEM THAT INCORPORATES SIMPLE SETUP AND CONFIGURATION OF THE INTERSECTION STOP BAR DETECTION APPLICATIONS WITH MINIMAL NUMBER OF DETAILED STEP-BY-STEP INSTRUCTIONS.

PROVIDE A COMMUNICATIONS INTERFACE THAT FULLY SUPPORTS AN ETHERNET IEEE 802.3 COMPLIANT 10/100BASE T AUTO SENSING PORT FOR ADVANCED SYSTEMS COMMUNICATIONS. THE ETHERNET PORT SHALL PROVIDE AN UPSTREAM CONNECTION TO OTHER ETHERNET DEVICES IN THE CABINET. AN INDUSTRY STANDARD RJ-45 TYPE CONNECTOR SHALL BE INCLUDED THAT SUPPORTS A SIMPLE CAT5E PATCH CABLE INTERFACE. THE ETHERNET PORT SHALL SUPPORT HIGH SPEED SERIAL COMMUNICATIONS UP TO 230,400 BPS. THE ETHERNET PORT SHALL BE CONFIGURED USING A STATIC IP OR DHCP AND SHALL BE FACTORY PRE-CONFIGURED WITH A PRIVATE IP ADDRESS AND CALLS C SUBNET MASK.

PROVIDE A DETECTOR STATION THAT COLLECTS AND REPORTS TRAFFIC DATA GATHERED OVER SPECIFIC TIME INTERVALS.

PROVIDE CONTRACT LOSS DETECTORS THAT MONITOR THE QUALITY OF THE VIDEO IMAGE THAT IS BEING PROCESSED.

PROVIDE A VIDEO DETECTION SYSTEM THAT INSTALLS WITH ONLY 3-WIRES FROM THE INTERFACE PANEL TO EACH CAMERA THAT COMBINES STATE-OF-THE-ART ADVANCES IN DIGITAL IMAGE SIGNAL PROCESSING AND BROADBAND COMMUNICATIONS.

PROVIDE A COMMUNICATIONS PORT THAT WILL ALLOW THE USER TO UPDATE THE EMBEDDED SOFTWARE WITH A NEW SOFTWARE RELEASE AND INTERACT WITH A PC CLIENT/SERVER APPLICATION FOR ALL OF THE VARIOUS DETECTION REQUESTS THAT ARE SUPPORTED BY THE SENSOR.

ITEM 632 – SIGNALIZATION, MISC.: VIDEO DETECTION SYSTEM (CONT.)

PROVIDE A CAMERA AND PROCESSOR THAT WILL CONSUME A MAXIMUM OF 15 WATTS INCLUDING A THERMOSTATICALLY CONTROLLED FACEPLATE HEATER.

THE DETECTOR SYSTEM SHALL MAINTAIN A NONVOLATILE OPERATIONS LOG WHICH MINIMALLY CONTAINS: REVISION NUMBERS FOR THE CURRENT DETECTOR HARDWARE AND SOFTWARE COMPONENTS IN OPERATION; TITLE AND COMMENTS FOR THE DETECTOR CONFIGURATION; DATE AND TIME THE LAST DETECTOR CONFIGURATION WAS DOWNLOADED TO THE SENSOR; DATE AND TIME THE OPERATION LOG WAS LAST CLEARED; DATE AND TIME COMMUNICATIONS WERE OPENED OR CLOSED WITH THE SENSOR; DATE AND TIME OF THE LAST POWER-UP, AND TIME-STAMPED, SELF-DIAGNOSED HARDWARE AND SOFTWARE ERRORS THAT AID IN SYSTEM MAINTENANCE AND TROUBLESHOOTING.

PROVIDE EXTENSION ARM AND CAMERA JUNCTION BOX AS PER COLOR AND TYPE PROVIDED UNDER SPECIFICATION FOR ALL DECORATIVE TRAFFIC SIGNAL SUPPORTS.

PROVIDE A VIDEO SYSTEM THAT WILL ALLOW FOR COMPLETE CONTROL OF THE CAMERAS, DETECTION PROGRAMMING, ZOOM CAPABILITIES, AND VIEWING A LIVE VIDEO IMAGE.

PROVIDE A VIDEO DETECTION SYSTEM THAT INCORPORATES A VIDEO SERVER THAT CONNECTS DIRECTLY TO A 10/100BT ETHERNET NETWORK AND ACCOMMODATES ALL MPEG4 VIDEO STREAMS UP TO 5 MB/SECOND. ALL VIDEO DETECTION SENSORS SHALL BE CONNECTED TO NETWORK FOR REMOTE VIEWING AND MONITORING.

PROVIDE AND INSTALL IN THE CABINET AN INTERFACE PANEL (ATIP) THAT SUPPORTS 3-WIRE BRANCH CABLE CONNECTIONS TO EACH SENSOR. THE PANEL SHALL SUPPORT AND INTERFACE UP TO 8 IMAGE SENSORS VIA BROADBAND OVER POWER (BOP) TECHNOLOGY.

CONNECT THE ETHERNET PORTS FROM THE INTERFACE PANEL (ATIP) TO THE OPTICAL ETHERNET TRANSCEIVER INSTALLED IN THE CONTROLLER CABINET USING PROPERLY RATED CAT5E AND RJ45 CONNECTORS.

PROVIDE AND INSTALL IN EACH CABINET AN ACCESS POINT (ATAP) DETECTOR PORT MASTER THAT FULLY SUPPORTS UP TO 8 IMAGE SENSORS AND PROVIDES THE INTERFACE FROM EACH SENSOR TO THE TRAFFIC CONTROLLER. THE ACCESS POINT (ATAP) SHALL INCLUDE 24 CONTACT CLOSURE OUTPUTS, 16 CONTACT CLOSURE INPUTS AND FULLY SUPPORT NEMATS2 SDLC DETECTOR COMMUNICATIONS.

PROVIDE ADDITIONAL INTERFACE PANELS (ATIP) AND ACCESS POINTS (ATAP) AS NEEDED TO FULLY SUPPORT THE REQUIRED NUMBER OF SENSORS AS SHOWN IN THE PLANS.

CONSTRUCTION – LOCATE AND MOUNT DETECTOR IN ACCORDANCE WITH MANUFACTURE SPECIFICATIONS. PROVIDE SUFFICIENT NUMBER OF VIDEO SENSORS TO PROCESS VEHICLE PRESENCE, PASSAGE, AND SYSTEM DETECTOR ZONES AS INDICATED IN THE PLANS. RELOCATION OF SENSORS, ADDITIONAL JUNCTION BOXES, CONDUIT, AND CABLE NEEDED TO DETECT PULSE, PASSAGE AND SYSTEM DETECTION ZONES ARE INCIDENTAL TO THE COST OF THE PROJECT.

THE CONTRACTOR SHALL SET UP EACH DETECTION UNIT FOR VEHICLE DETECTION. THE SYSTEM SHALL BE SET UP BY THE MANUFACTURER TO RETRIEVE COUNT INFORMATION FROM EACH DETECTION UNIT ON 15 MINUTE INTERVALS, AND MAKE SUCH REPORTS TO THE INTERSECTION TIMER. THE CONTRACTOR SHALL SET THE TIMER UP TO RETRIEVE THE VEHICLE DETECTION REPORTS AND LOG ALL SUCH INFORMATION PRIOR TO THE 10-DAY PERFORMANCE TEST.

PAYMENT FOR ITEM 632 – SIGNALIZATION MISC: VIDEO DETECTION SYSTEM SHALL BE MADE AT THE CONTRACT PRICE BID FOR ALL EQUIPMENT NEEDED FOR EACH INTERSECTION COMPLETE AND IN PLACE TESTED AND ACCEPTED INCLUDING PRICE FOR NECESSARY COMMUNICATION PANELS, MINI-HUBS, DETECTOR INTERFACE CARD/DETECTOR PORTS, AND ALL ASSOCIATED WIRING AND CONNECTIONS INSTALLED IN THE CABINET TO MAKE A COMPLETE FUNCTIONING SYSTEM. PAYMENT SHALL ALSO INCLUDE SOFTWARE INSTALLED ON THE CITY'S TRAFFIC ENGINEERING COMPUTERS.

THE CONTRACTOR SHALL PROVIDE EITHER: (A) THE ECONOLITE AUTOSCOPE VISION (PATH MASTER, INC) OR (B) THE FLIR FC-SERIES THERMAL IMAGING CAMERA (TRAFFIC CONTROL PRODUCTS, INC), TO BE COMPATIBLE WITH ALL OTHER CONTROLLER EQUIPMENT. THIS PAY ITEM SHALL INCLUDE ALL MATERIALS AND LABOR REQUIRED TO INSTALL AND TEST THIS EQUIPMENT.

SIGNAL PERFORMANCE TEST AND SYSTEM CHECKS

THE CITY OF AKRON TRAFFIC ENGINEERING DIVISION REQUIRES THAT ALL TRAFFIC CONTROL SIGNAL COMPONENTS AND THE ENTIRE SYSTEM SHALL BE TESTED BY THE CONTRACTOR ACCORDING TO SPECIFICATIONS TO ASSURE PROPER OPERATION BEFORE ACCEPTANCE. GROUND ROD SHALL BE TESTED FOR SATISFACTORY LOW RESISTANCE GROUND. A CHECK SHALL BE PERFORMED ON ALL CONDUCTION TO ASSURE THERE ARE NO SHORTS, CROSSES AND HIGH RESISTANCE OR IMPROPER CONNECTIONS. ALL TRAFFIC CONTROL EQUIPMENT IN THE CONTROLLER CABINET SHALL BE CHECKED FOR CORRECT SETTINGS AND MANIPULATION AND OPERATION.

THE CITY OF AKRON TRAFFIC ENGINEERING DIVISION REQUIRES A TEN DAY PERFORMANCE TEST TO START AFTER ABOVE MENTIONED TESTS ARE CONDUCTED AND PROPERLY LOGGED ON TEST REPORT FORMS AS REQUIRED BY CMS 632.26 (ODOT 632.28). THE CONTRACTOR SHALL SUBMIT A WRITTEN REQUEST TO THE TRAFFIC ENGINEERING DIVISION STATING THAT SIGNAL INSTALLATION IS 100% COMPLETE AND THE TEN DAY TEST IS REQUESTED. THE TRAFFIC SIGNAL ENGINEER OR HIS ASSIGNEE SHALL MONITOR THE TESTS TO ACCEPT THE SIGNAL INSTALLATION ON BEHALF OF THE CITY OF AKRON. ANY DISCREPANCY DETECTED SHALL BE REPAIRED AND THE TEN DAY TEST SHALL BE RESTARTED.

ALL COST OF PERSONNEL, EQUIPMENT, ELECTRICAL ENERGY AND INCIDENTALS REQUIRED TO PERFORM THE TESTS ARE TO HAVE BEEN INCLUDED IN THE CONTRACT UNIT PRICE OF NEW OR UPGRADED SIGNAL ITEMS.

ITEM 632 – SIGNALIZATION, MISC.: EXPANSION OF CENTRACS SYSTEM

THE CONTRACTOR SHALL EXPAND THE EXISTING SYSTEM TO ACCOMMODATE ALL SIGNALS INCLUDED IN THIS PROJECT.

PAYMENT FOR THIS ITEM SHALL BE AT THE CONTRACT LUMP SUM FOR ITEM 632 – SIGNALIZATION, MISC.: EXPANSION OF CENTRACS SYSTEM COMPLETELY FURNISHED, INSTALLED, WIRED, TESTED AND ACCEPTED.

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	REVISIONS
TRAFFIC SIGNAL NOTES	
VERNON ODOM BLVD.	
CITY OF AKRON	DEPARTMENT OF PUBLIC SERVICE
AKRON ENGINEERING BUREAU	AKRON ENGINEERING BUREAU
20	26

2018-032-01

ITEM 625 – PULL BOX, MISC.: PULL BOX, 24"x36"x24" REINFORCED POLYMER CONCRETE

PULL BOXES SHALL HAVE NOMINAL OPENING DIMENSIONS OF 24 INCHES X 36 INCHES AS MANUFACTURED BY: OLD CASTLE SYNERTECH WITH A 20,000 LB LID MODEL# S2436B24FA, BOX# S2436HCBOA WITH INSERTS FOR BOLTS MODEL# 1001, QUAZITE LID, MODEL PG2436HA00, BOX PG2436BA24, OR ARMORCAST, ASSEMBLY A6001974TAPCX24. THE WORD "TRAFFIC" OR "TRAFFIC SIGNAL" SHALL BE INTEGRALLY CAST AS PART OF THE COVER OR SECURELY FASTENED WITH CORROSION RESISTANT HARDWARE. THE SUPPLIED PULL BOXES SHALL BE ABLE TO SUPPORT A 20,000 LB. MINIMUM VERTICAL LOADING WITHOUT PERMANENT DAMAGE OR DEFLECTION TO THE UNIT. THIS ITEM SHALL INCLUDE BUT IS NOT LIMITED TO THE DISPOSAL OF SURPLUS MATERIAL AND THE RESTORATION OF DISTURBED FACILITIES AND SURFACES.

THE LARGEST BEND RADIUS POSSIBLE SHALL BE MAINTAINED FOR THE FIBER OPTIC CABLE AS SPECIFIED BY THIS SPECIFICATION. ALL COSTS RESULTING FROM THE ABOVE REQUIREMENT SHALL BE INCLUDED IN THE PRICE BID OF ITEM 625 – PULL BOX, MISC.: PULL BOX, 24"x36"x24" REINFORCED POLYMER CONCRETE.

ITEM 625 – PULL BOX, MISC.: PULL BOX 30"x48"x24" REINFORCED POLYMER CONCRETE

PULL BOXES SHALL HAVE NOMINAL OPENING DIMENSIONS OF 30 INCHES X 48 INCHES AS MANUFACTURED BY: OLD CASTLE SYNERTECH WITH A 20,000 LB LID MODEL# S3048B24FA, BOX# S3048HCBOA WITH INSERTS FOR BOLTS MODEL# 1001, QUAZITE LID, MODEL PG3048HA00, BOX PG3048BA24 OR ARMORCAST, ASSEMBLY A6001430TAPCX24. THE WORD "TRAFFIC SIGNAL" SHALL BE INTEGRALLY CAST AS PART OF THE COVER OR SECURELY FASTENED WITH CORROSION RESISTANT HARDWARE. THE SUPPLIED PULL BOXES SHALL BE ABLE TO SUPPORT A 20,000 LB. MINIMUM VERTICAL LOADING WITHOUT PERMANENT DAMAGE OR DEFLECTION TO THE UNIT. THIS ITEM SHALL INCLUDE BUT IS NOT LIMITED TO THE DISPOSAL OF SURPLUS MATERIAL AND THE RESTORATION OF DISTURBED FACILITIES AND SURFACES.

THE LARGEST BEND RADIUS POSSIBLE SHALL BE MAINTAINED FOR THE FIBER OPTIC CABLE AS SPECIFIED BY THIS SPECIFICATION. ALL COSTS RESULTING FROM THE ABOVE REQUIREMENT SHALL BE INCLUDED IN THE PRICE BID OF ITEM 625 – PULL BOX, MISC.: PULL BOX, 30"x48"x24" REINFORCED POLYMER CONCRETE.

ITEM 632 – PEDESTRIAN SIGNAL HEAD (LED), TYPE D2, COUNTDOWN, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF CMS 632 AND 732, THE FOLLOWING REQUIREMENTS SHALL APPLY:

- 1. SIGNAL HEADS AND VISORS SHALL BE CONSTRUCTED OF BLACK POLYCARBONATE PLASTIC AND MEET ITC SPECIFICATIONS.
2. BLACK-FINISH ALUMINUM PIPE, SPACERS, AND FITTINGS SHALL BE USED, INCLUDING 1-1/2-INCH UPPER AND LOWER SUPPORT.
3. PROPER EXTERIOR COLORS SHALL BE OBTAINED BY USE OF COLORED PLASTIC MATERIAL RATHER THAN PAINTING.
4. NO CLAM SHELL MOUNTING HARDWARE WILL BE ACCEPTED.

THE DEPARTMENT WILL MEASURE "PEDESTRIAN SIGNAL HEAD (LED), TYPE D2, COUNTDOWN, AS PER PLAN" BY THE NUMBER OF COMPLETE UNITS FURNISHED AND INSTALLED, AND WILL INCLUDE ALL SUPPORT AND MOUNTING HARDWARE, CLOSURE CAPS, AND LAMPS SPECIFIED.

ITEM 632 – VEHICULAR SIGNAL HEAD (LED), YELLOW, ()-SECTION, 12" LENS, 1-WAY, POLYCARBONATE WITH BACKPLATE, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF CMS 632 AND 732, THE FOLLOWING REQUIREMENTS SHALL APPLY:

- 1. SIGNAL HEADS AND VISORS SHALL BE CONSTRUCTED OF YELLOW POLYCARBONATE PLASTIC AND MEET ITC SPECIFICATIONS.
2. PLASTIC LENS SHALL BE USED.
3. PIPE, SPACERS AND FITTINGS CONSTRUCTED OF POLYCARBONATE PLASTIC MAY BE USED IN LIEU OF GALVANIZED STEEL OR ALUMINUM.
4. ALL SIGNAL HEADS SHALL BE RIGIDLY MOUNTED TO THE MAST ARM WITH THE RED LENS LOCATED IN FRONT OF THE MAST ARM.
5. ALL UPPER SIGNAL SUPPORT HARDWARE AND PIPING UP TO AND INCLUDING THE WIRE INLET FITTING SHALL BE FERROUS METAL FOR SIGNAL DISPLAYS OF TWO OR MORE SECTIONS.
6. THE ENTRANCE FITTING SHALL BE OF TRI-STUD DESIGN WITH SERRATED RINGS IN ORDER TO ACHIEVE POSITIVE LOCKING.
7. ALL SIGNAL HEADS SHALL HAVE BACKPLATES.

THE CITY WILL MEASURE "VEHICULAR SIGNAL HEAD, (LED), COLOR, BY TYPE, AS PER PLAN" BY THE NUMBER OF COMPLETE UNITS FURNISHED AND INSTALLED, AND WILL INCLUDE ALL SUPPORT AND MOUNTING HARDWARE, DISCONNECT HANGERS, CLOSURE CAPS, DIMMERS, AND LAMPS SPECIFIED.

ITEM 632 – SIGNAL SUPPORT, TYPE TC-81.21, DESIGN 3, AS PER PLAN

ITEM 632 – COMBINATION SIGNAL SUPPORT, TYPE TC-12.30 DESIGN 9 POLE, WITH MAST ARMS TC-81.21 DESIGN 13, AS PER PLAN

THESE ITEMS SHALL CONFORM TO 625.15 AND 732.11, EXCEPT THAT POLES SHALL BE TAPERED TUBES OF CONTINUOUS TAPER. POLES CONSISTING OF STRAIGHT SECTIONS WITH A TAPERED EFFECT ACCOMPLISHED BY THE USE OF REDUCERS SHALL NOT BE PERMITTED. POLES SHALL BE ROUND IN SHAPE. OCTAGON SHAPED POLES ARE NOT PERMITTED.

ITEM 632 – SIGNALIZATION, MISC.: TEST HOLE PERFORMED

IT IS ANTICIPATED THAT THE CONTRACTOR MAY ENCOUNTER UNDERGROUND UTILITIES WHILE EXCAVATING FOR SIGNAL SUPPORT FOUNDATIONS. THE CONTRACTOR SHALL PERFORM TEST HOLES PRIOR TO THE EXCAVATION OF ANY FOUNDATIONS AND APPROVAL OF SIGNAL POLE AND FOUNDATION SUBMITTALS. IF, AFTER ACCURATELY IDENTIFYING THE PROPOSED LOCATION OF THE FOUNDATION, AS SHOWN IN THE PLAN, AND AFTER MODIFYING THAT LOCATION, IF NECESSARY, BASED ON THE FIELD MARKING OF UNDERGROUND UTILITY LOCATION, THE CONTRACTOR DISCOVERS A UTILITY CONFLICT DURING HIS EXCAVATION OPERATION, HE WILL BE COMPENSATED FOR THE LABOR AND EQUIPMENT COST ASSOCIATED FOR EACH PARTIAL FOUNDATION EXCAVATION ACCORDING TO HIS BID PRICE.

BEFORE THE CONTRACTOR BEGINS EXCAVATION AT THE MODIFIED LOCATION, HE SHALL VERIFY THAT THERE WILL BE NO OVERHEAD UTILITY CONFLICTS RESULTING FROM THE NEW SIGNAL SUPPORT LOCATION.

EXCAVATIONS SHALL NOT BE LEFT OPEN OVERNIGHT.

THE CONTRACTOR'S WORK UNDER THIS BID ITEM SHALL INCLUDE BACKFILLING, COMPACTING, AND RESTORATION OF THE EXCAVATION TO ITS ORIGINAL CONDITION.

PAYMENT FOR THIS ITEM SHALL BE AT THE UNIT PRICE BID PER EACH ITEM 632 – SIGNALIZATION, MISC.: TEST HOLE PERFORMED. A QUANTITY OF 5 HAS BEEN ALLOCATED FOR THE PROJECT. TO BE USED AS DIRECTED BY THE ENGINEER.

GUARANTEE

THE CONTRACTOR SHALL GUARANTEE THE TRAFFIC CONTROL SYSTEM AS PART OF THIS CONTRACT SHALL OPERATE SATISFACTORILY FOR A PERIOD OF 90 DAYS FOLLOWING COMPLETION OF THE 10-DAY PERFORMANCE TEST. IN THE EVENT OF UNSATISFACTORY OPERATION THE CONTRACTOR SHALL CORRECT THE FAULTY INSTALLATIONS, MAKE REPAIRS AND REPLACE DEFECTIVE PARTS WITH NEW PARTS OF EQUAL OR BETTER QUALITY. EQUIPMENT, MATERIAL AND LABOR COSTS INCURRED IN CORRECTING AN UNSATISFACTORY OPERATION SHALL BE BORNE BY THE CONTRACTOR.

THE GUARANTEE SHALL COVER THE FOLLOWING ITEMS OF THE TRAFFIC CONTROL SYSTEM: CONTROLLERS AND ASSOCIATED EQUIPMENT, DETECTOR SYSTEM AND INTERCONNECT ITEMS.

CUSTOMARY MANUFACTURER'S GUARANTEES FOR THE FOREGOING ITEMS SHALL BE TURNED OVER TO THE CITY FOLLOWING ACCEPTANCE OF THE EQUIPMENT.

THE COST OF GUARANTEEING THE TRAFFIC CONTROL SYSTEM WILL BE INCIDENTAL TO AND INCLUDED IN THE CONTRACT UNIT PRICE OF THE VARIOUS ITEMS MAKING UP THE SYSTEM.

GROUNDING AND BONDING

THE REQUIREMENTS OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS (CMS) AND THE HL AND TC SERIES OF ODOT STANDARD CONSTRUCTION DRAWINGS ARE MODIFIED AS FOLLOWS:

- 1. ALL METALLIC PARTS CONTAINING ELECTRICAL CONDUCTORS SHALL BE PERMANENTLY JOINED TO FORM AN EFFECTIVE GROUND FAULT CURRENT PATH BACK TO THE GROUNDED CONDUCTOR IN THE POWER SERVICE DISCONNECT SWITCH.
A. PROVIDE AN EQUIPMENT GROUNDING CONDUCTOR IN METALLIC CONDUITS (725.04) IN ADDITION TO THE CONDUCTORS SPECIFIED AND BOND THE CONDUIT TO THIS GROUNDING PATH.
B. WHEN AN EQUIPMENT GROUNDING CONDUCTOR IS REQUIRED IN PLASTIC CONDUIT (725.05), THE INSTALLATION SHALL INCLUDE A SEPARATE EQUIPMENT GROUNDING CONDUCTOR IN ADDITION TO THE CONDUCTORS SPECIFIED.
C. METALLIC CONDUIT CARRYING THE LOOP WIRES FROM IN THE PAVEMENT TO THE PULL BOX SPLICE LOCATION WILL ONLY BE BONDED AT THE PULL BOX END, AND WILL NOT CONTAIN AN EQUIPMENT GROUNDING CONDUCTOR.
D. METAL PULL BOX LIDS SHALL BE BONDED BY ATTACHMENT OF THE EQUIPMENT GROUNDING CONNECTOR TO THE FRAME DIAGONAL AS PROVIDED ON HL-30.11.
E. IF MULTIPLE CONDUIT RUNS BEGIN AND END AT THE SAME POINTS, ONLY ONE EQUIPMENT GROUNDING CONDUCTOR IS REQUIRED.
F. IF AN EQUIPMENT GROUNDING CONDUCTOR IS NEEDED IN CONDUIT BETWEEN SIGNALIZED INTERSECTIONS FOR UNDERGROUND INTERCONNECT CABLE, THE GROUNDING SYSTEM FOR EACH SIGNALIZED INTERSECTION WILL BE SEPERATED ABOUT MIDWAY BETWEEN THE INTERSECTIONS.
G. THE MESSENGER WIRE AT SIGNALIZED INTERSECTIONS WILL BE USED AS THE CONDUCTIVE PATH FROM CORNER TO CORNER IF CONDUIT IS NOT PROVIDED UNDER THE ROADWAY. WHEN CONDUIT CONNECTS THE CORNERS OF AN INTERSECTION, AND EQUIPMENT GROUNDING CONDUCTOR SHALL BE USED IN THE CONDUIT.
2. CONDUITS.
A. THE 725.04 CONDUIT SHALL HAVE GROUNDING BUSHINGS INSTALLED AT ALL TERMINATION POINTS. THE BUSHING MATERIAL SHALL BE COMPATIBLE GALVANIZED STEEL CONDUIT AND THE GROUNDING LUG MATERIAL SHALL BE COMPATIBLE FOR USE WITH COPPER WIRE. THREADED OR COMPRESSION TYPE BUSHINGS MAY BE USED.
B. THE 725.05 CONDUIT SHALL HAVE THE INSIDE AND OUTSIDE DIAMETERS OF THE CONDUIT DEBURRED AT ALL TERMINATION POINTS.

GROUNDING AND BONDING (CONT.)

- C. BOTH ENDS OF METALLIC CONDUIT SHALL BE BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR.
D. METALLIC CONDUIT MAY BE BONDED TO METALLIC BOXES THROUGH THE USE OF CONDUIT FITTINGS UL APPROVED FOR THIS TYPE OF CONNECTION, WITH THE BOX GROUNDED TO THE EQUIPMENT GROUNDING CONDUCTOR.
3. WIRE FOR GROUNDING AND BONDING.
A. USE INSULATED, COPPER WIRE FOR THE EQUIPMENT GROUNDING CONDUCTOR. BONDING JUMPERS IN BOXES AND ENCLOSURES MAY BE BARE OR INSULATED COPPER WIRE. WIRE SIZES SHALL BE AS FOLLOWS:
a. USE 4 AWG BETWEEN THE POWER SERVICE AND SUPPORTS, POLES, PEDESTALS, CONTROLLER OR FLASHER CABINETS.
b. USE A MINIMUM 8 AWG BETWEEN LOOP DETECTOR PULL BOXES AND THE FIRST CONDUIT THAT REQUIRES A LARGER SIZE AS SPECIFIED IN 3.A.I ABOVE.
c. USE A MINIMUM 8 AWG BETWEEN THE "PREPARE TO STOP WHEN FLASHING" INSTALLATION (INCLUDING SUPPORT) AND THE FIRST CONDUIT THAT REQUIRES A LARGER SIZE AS SPECIFIED IN 3.A.I ABOVE.
d. THE INSULATION SHALL BE GREEN OR GREEN WITH YELLOW STRIPE(S). FOR 4 AWG OR LARGER, INSULATION MAY ALSO BE BLACK WITH GREEN TAPE/LABELS INSTALLED AT ALL ACCESS POINTS.
B. IN A HIGHWAY LIGHTING SYSTEM, THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE THE SAME WIRE SIZE AS THE DUCT CABLE OR DISTRIBUTION CABLE CIRCUIT CONDUCTORS, WITH THE MINIMUM SIZE OF 4 AWG. BONDING JUMPERS WILL BE MINIMUM SIZE 4 AWG.
4. GROUND ROD.
A. A 3/4 INCH SCHEDULE 40 PVC CONDUIT WILL BE USED IN FOUNDATIONS AND CONCRETE WALLS FOR THE GROUNDING CONDUCTOR (GROUND WIRE) RACEWAY TO THE GROUND ROD. SHOULD METALLIC CONDUIT BE USED, BOTH ENDS OF THE CONDUIT SHALL BE BONDED TO THE GROUNDING CONDUCTOR.
B. THE TYPICAL GROUNDING CONDUCTOR (GROUND WIRE) SHALL BE 4 AWG INSULATED, COPPER.
5. THE GREEN CONDUCTOR IN SIGNAL CABLES (CONDUCTOR #4) SHALL NOT BE USED TO SUPPLY POWER TO A SIGNAL INDICATION. IT WILL BE CONNECTED TO THE SIGNAL BODY AS AN EQUIPMENT GROUND IN ALUMINUM HEADS AND IT WILL BE UNUSED IN PLASTIC HEADS. UNUSED CONDUCTORS SHALL BE GROUNDED IN THE CABINET. TYPICAL USE OF CONDUCTORS IS AS FOLLOWS:

Table with 4 columns: COND. NO., COLOR, VEHICLE SIGNAL, PEDESTRIAN SIGNAL. Rows include colors like BLACK, WHITE, RED, GREEN, ORANGE, BLUE, WHITE/BLACK STRIPE and their corresponding signals like GREEN BALL, AC NEUTRAL, RED BALL, EQUIPMENT GROUND, YELLOW BALL, GREEN ARROW, YELLOW ARROW.

- 6. POWER SERVICE AND DISCONNECT SWITCH
A. AT THE POWER SERVICE LOCATION, THE GROUNDING CONDUCTOR (GROUND WIRE) FROM THE DISCONNECT SWITCH NEUTRAL (AC-) BAR TO THE GROUND ROD SHALL BE A CONTINUOUS, UNSPLICED CONDUCTOR. IF SPLICED, IT SHALL BE AN EXOTHERMIC WELD BUTT SPLICE.
B. THE SERVICE NEUTRAL (AC-) SHALL ONLY BE CONNECTED TO GROUND AT THE PRIMARY SERVICE DISCONNECT SWITCH.
a. NEMA CONTROLLER CABINETS : IF A POWER SERVICE DISCONNECT SWITCH IS LOCATED BEFORE THE CONTROLLER CABINET, THE NEUTRAL (AC-) AND THE GROUNDING BARS IN THE CONTROLLER CABINET SHALL NOT BE CONNECTED TOGETHER AS SHOWN IN NEMA TS-2, FIGURE 5-4.
b. IF SECONDARY DISCONNECT SWITCHES ARE CONNECTED AFTER THE PRIMARY DISCONNECT SWITCH, THE NEUTRAL (AC-) SHALL ONLY BE GROUNDED AT THE PRIMARY SWITCH. EQUIPMENT GROUNDING CONDUCTORS SHALL BE BROUGHT TO THE PRIMARY SWITCH, BUT SHALL BE GROUNDED TO BOTH SECONDARY AND PRIMARY SWITCHES.
7. STRUCTURE GROUNDING: HL-50.21 SHOWS A 1/0 AWG STRANDED COPPER CABLE USED FOR STRUCTURE GROUNDING. ADDITIONALLY, THIS SAME CABLE SHALL BE INSULATED AND ANY CONNECTIONS AND BARE COPPER STRANDS EXPOSED TO CONCRETE SHALL BE COVERED WITH MASTIC TO PREVENT CONTACT WITH THE CONCRETE.
8. PAYMENT.
A. ALL MATERIALS AND WORK REQUIRED TO COMPLETE THE EFFECTIVE GROUND FAULT CURRENT PATH SYSTEM ARE INCIDENTAL TO THE CONDUCTORS INSTALLED BY CONTRACT.
B. WORK ON BRIDGES MAY BE INCLUDED IN THE BID ITEM FOR "ITEM 625, GROUNDING AND BONDING."
C. IN A 3-WIRE HIGHWAY LIGHTING SYSTEM, THE THIRD CONDUCTOR OF THE DUCT CABLE OR DISTRIBUTION CABLE WILL BE USED AS THE EQUIPMENT GROUNDING CONNECTOR AND MAY AS BE PART OF THE CABLE BID ITEM.

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Vertical sidebar containing: DATE 05/09/2019, CHECKED EWS, DRAWN SMM, SCALE: NO SCALE, TRAFFIC SIGNAL NOTES, VERNON ODOM BLVD., CITY OF AKRON DEPARTMENT OF PUBLIC SERVICE AKRON ENGINEERING BUREAU, 2018-032-01, and a circular stamp with '21' and '26'.

ITEM 632 – POWER SERVICE, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF ODOT 632.24, THE CONTRACTOR SHALL PROVIDE THE METER, DISCONNECT SWITCH, POWER SERVICE CABLE #6 AWG, CONDUIT, CONDUIT RISER, WEATHERHEAD, AND PULL BOXES AS NECESSARY TO PROVIDE POWER TO THE PROPOSED INSTALLATION. POWER SERVICE SHALL BE MOUNTED AS INDICATED IN THE PLANS PER ODOT STANDARD CONSTRUCTION DRAWING TC-83.10 (POLE MOUNTED) OR IN A GROUND MOUNTED ENCLOSURE WITH APPROVAL FROM THE TRAFFIC ENGINEER AND SHALL BE CONTAINED IN SEPARATE CONDUIT WITH NO OTHER CABLES. POWER CABLE SHALL NOT RUN IN THE SAME CONDUIT AS ANY SIGNAL CABLE. THE PADLOCK SHALL BE A WILSON BOHANNA, GENERAL PURPOSE, ALL-WEATHER, SOLID BRASS, 5-PIN, 1.5" SOLID BRASS BODY LOCK, MODEL #14110-1-80160A KEYPED TO THE CITY OF AKRON STANDARDS. THE DISCONNECT SHALL BE LABELED 'TRAFFIC' WITH ENGRAVED PLASTIC TABS. THE POWER SOURCE LOCATION SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER. THE CONTRACTOR SHALL COORDINATE RELATED WORK WITH THE ELECTRIC COMPANY WHO WILL MAKE THE ELECTRICAL CONNECTION. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR SPLICE THE POWER CABLE INTO ELECTRIC COMPANY CIRCUITRY. ANY FEES ASSOCIATED WITH OBTAINING POWER SHALL BE RESPONSIBILITY OF THE CONTRACTOR. POWER SUPPLIED SHALL BE 120 VOLTS.

THE COST FOR SHALL NECESSARY ITEMS AND ASSOCIATED LABOR SHALL BE INCLUDED IN THE CONTRACT BID PRICE FOR ITEM 632 – POWER SERVICE, AS PER PLAN.

ITEM 632 – REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN

TRAFFIC SIGNAL INSTALLATIONS, INCLUDING SIGNAL HEADS, CABLE, MESSENGER WIRE, STRAIN POLES, CABINET, CONTROLLER, ETC., SHALL BE REMOVED IN ACCORDANCE WITH CMS ITEM 632.26 AND AS INDICATED ON THE PLANS. REMOVED ITEMS SHALL BE STORED ON THE PROJECT FOR SALVAGE BY THE CITY OF AKRON. THE CONTRACTOR SHALL CONTACT RICK DAVIS AT (330) 375-2851 TO ARRANGE A MUTUALLY AGREEABLE TIME TO DELIVER THE SIGNAL MATERIALS TO 1420 TRIPLETT BOULEVARD, AKRON, OHIO.

ALL SIGNAL HEADS AND HANGERS, VEHICLE AND PEDESTRIAN, SUPPORTS, MAST ARMS AND LUMINAIRE ARMS, ALL CABINETS, CONTROLS, PREEMPTION AND VIDEO DETECTION EQUIPMENT ARE TO BE STORED FOR SALVAGE, ALL OTHER ITEMS REMOVED ARE TO BE DISPOSED OF BY THE CONTRACTOR.

IN THE EVENT THE ITEMS STORED ON THE PROJECT FOR SALVAGE BY THE LOCAL AGENCY ARE NOT REMOVED, THE CONTRACTOR SHALL, WHEN DIRECTED BY THE ENGINEER IN WRITING, REMOVE AND DISPOSE OF THE ITEMS AT NO ADDITIONAL COST TO THE CITY.

2018-032-01



CITY OF AKRON
DEPARTMENT OF PUBLIC SERVICE
AKRON ENGINEERING BUREAU

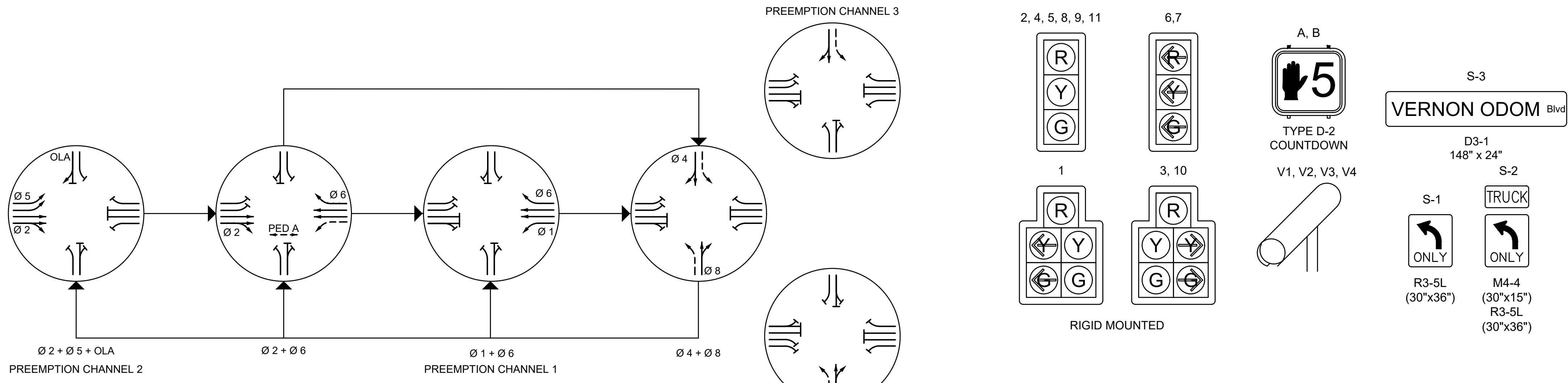
VERNON ODOM BLVD.

TRAFFIC SIGNAL NOTES

DATE	CHECKED	DATE
	EWS	05/09/2019
REVISIONS	DRAWN	SCALE: NO SCALE
	SMM	
		DATE

22
26

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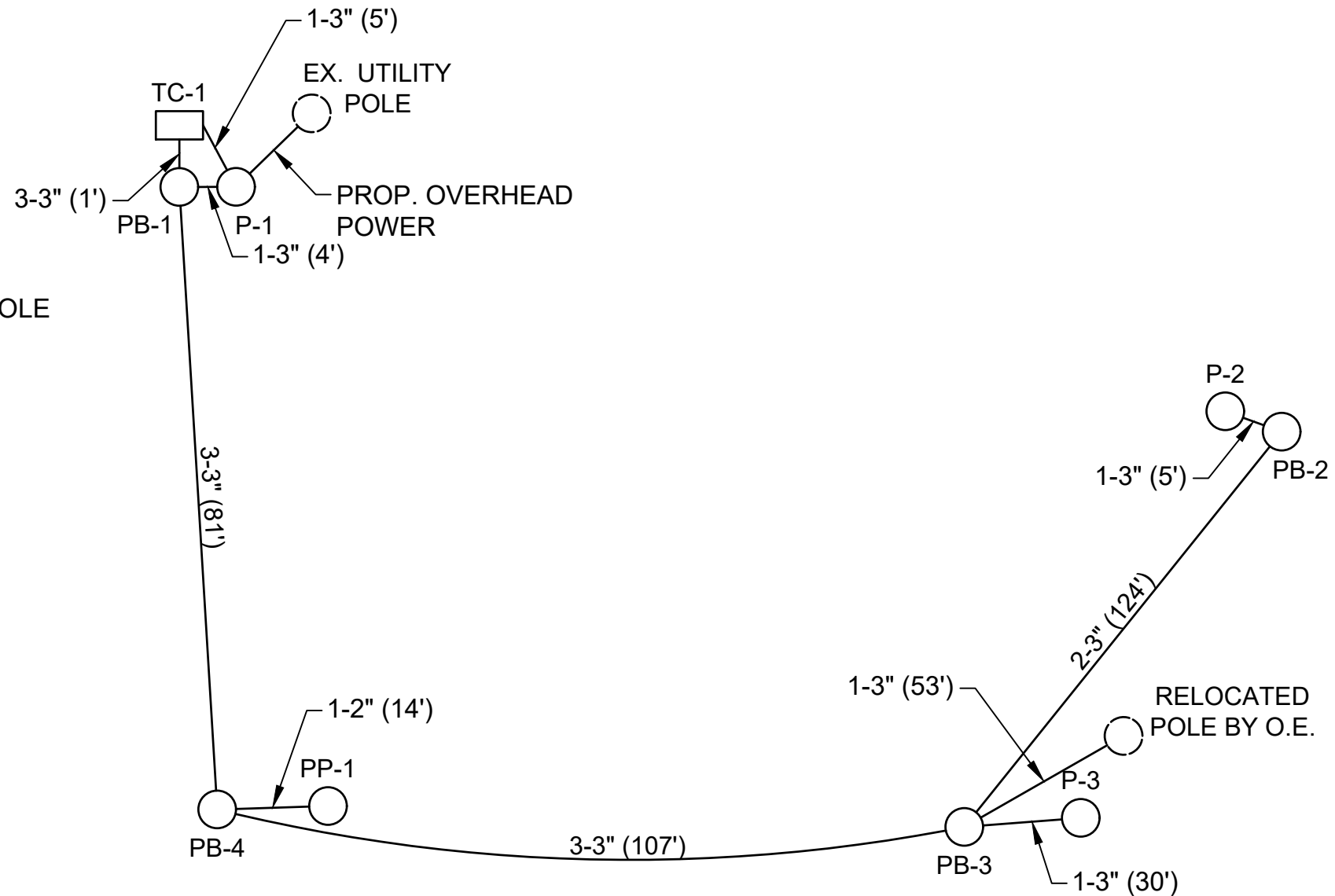
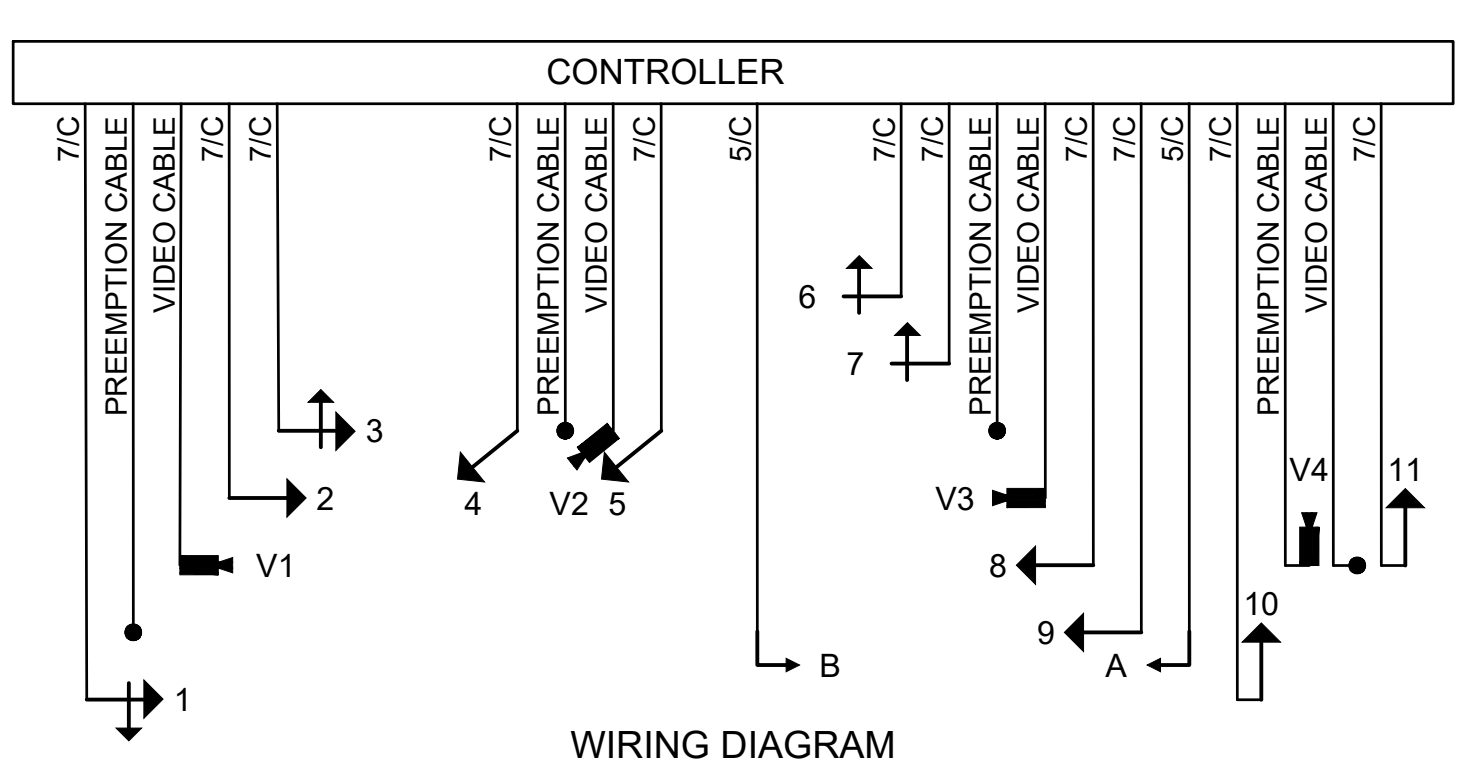
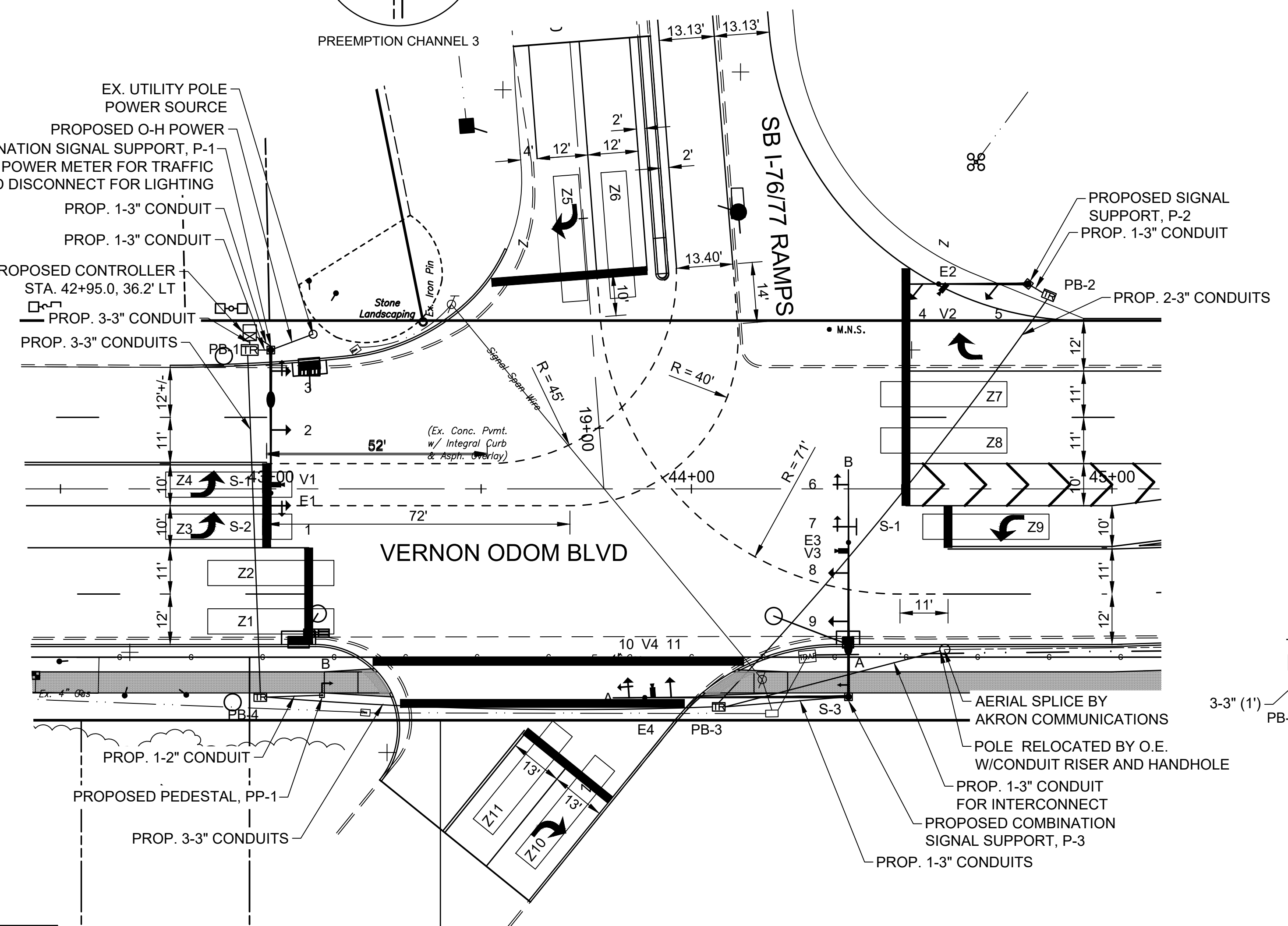


ITEM 632 - REMOVAL OF EXISTING TRAFFIC SIGNAL INSTALLATION, AS PER PLAN			
QUANTITY	REMOVED ITEM DESCRIPTION	DELIVERED TO CITY	DISPOSED OF BY PROJECT
8	TRAFFIC SIGNAL HEAD	X	
LUMP	TRAFFIC SIGNAL WIRES		X
2	SIGNAL SUPPORTS	X	
-	PEDESTRIAN SIGNAL HEADS		
1	CABINET (ALL ITEMS INSIDE)	X	
1	SIGNAL SUPPORT FOUNDATION		X
-	SIGNAL MAST ARM		
1	STREET LIGHT ARM AND LUMINAIRE	X	
3	POLE AND SPAN WIRE MOUNTED SIGNS	X	
2	PULL BOX		X

- LEGEND**
- PROPOSED SIGNAL POLE
 - ⊙ EXISTING SIGNAL POLE
 - PROPOSED PEDESTAL
 - ➔ PROPOSED SIGNAL HEAD
 - ➔ PROPOSED PEDESTRIAN SIGNAL HEAD
 - PROPOSED VIDEO DETECTION CAMERA
 - ▭ PROPOSED VIDEO DETECTION ZONE
 - ▭ PROPOSED 24"x36" SIGNAL PULL BOX
 - ▭ PROPOSED 30"x48" SIGNAL PULL BOX
 - ▭ EXISTING SIGNAL PULL BOX
 - ▭ PROPOSED SIGNAL CONTROLLER
 - ▭ EXISTING SIGNAL CONTROLLER

PULLBOXES			
PB NO.	STA.	OFFSET	SIZE
PB-1	42+95	33' LT.	30" X 48" X 24"
PB-2	44+85	46' LT.	24" X 36" X 24"
PB-3	44+06	52' RT.	24" X 36" X 24"
PB-4	42+97	50' RT.	24" X 36" X 24"

VIDEO DETECTION CHART					
DETECTION ZONE	SIZE	TYPE	PHASE	DELAY (SEC)	DELAY INHIBITED DURING
Z-1	6' X 30'	PRESENCE	2	-	-
Z-2	6' X 30'	PRESENCE	2	-	-
Z-3	6' X 30'	PRESENCE	5	-	-
Z-4	6' X 30'	PRESENCE	5	-	-
Z-5	6' X 30'	PRESENCE	4	-	-
Z-6	6' X 30'	PRESENCE	4	-	-
Z-7	6' X 30'	PRESENCE	6	-	-
Z-8	6' X 30'	PRESENCE	6	-	-
Z-9	6' X 30'	PRESENCE	1	-	-
Z-10	6' X 30'	PRESENCE	8	8	-
Z-11	6' X 30'	PRESENCE	8	-	-



CONDUIT LAYOUT

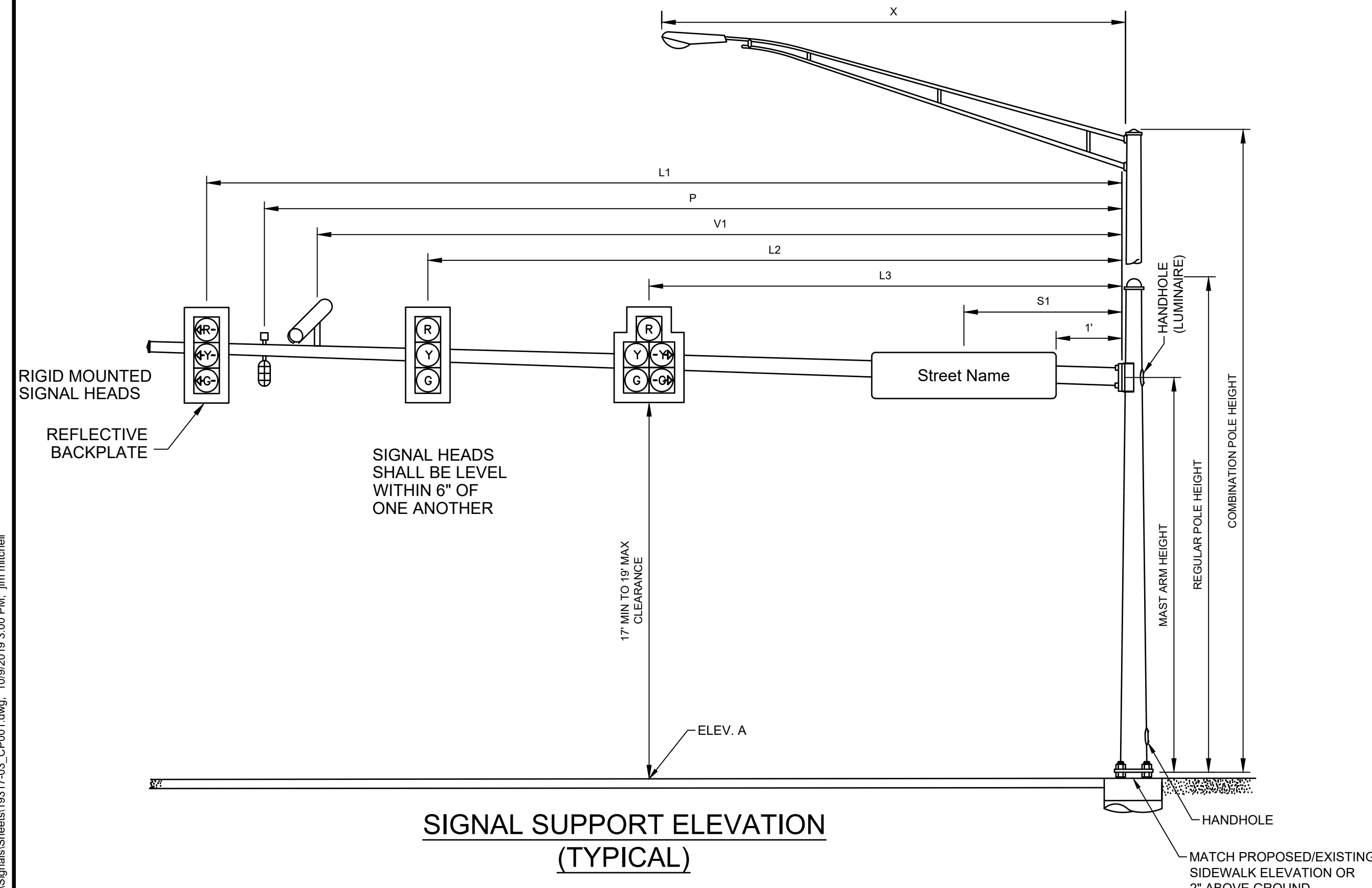
ALL COSTS ASSOCIATED WITH CONSTRUCTING THE POWER SERVICE AND METER SHALL BE INCLUDED IN THE COST FOR POWER SERVICE.

DATE: 05/09/2019
 CHECKED: EWS
 DRAWN: SMM
 SCALE: 1" = 20'
 REVISIONS: DATE:

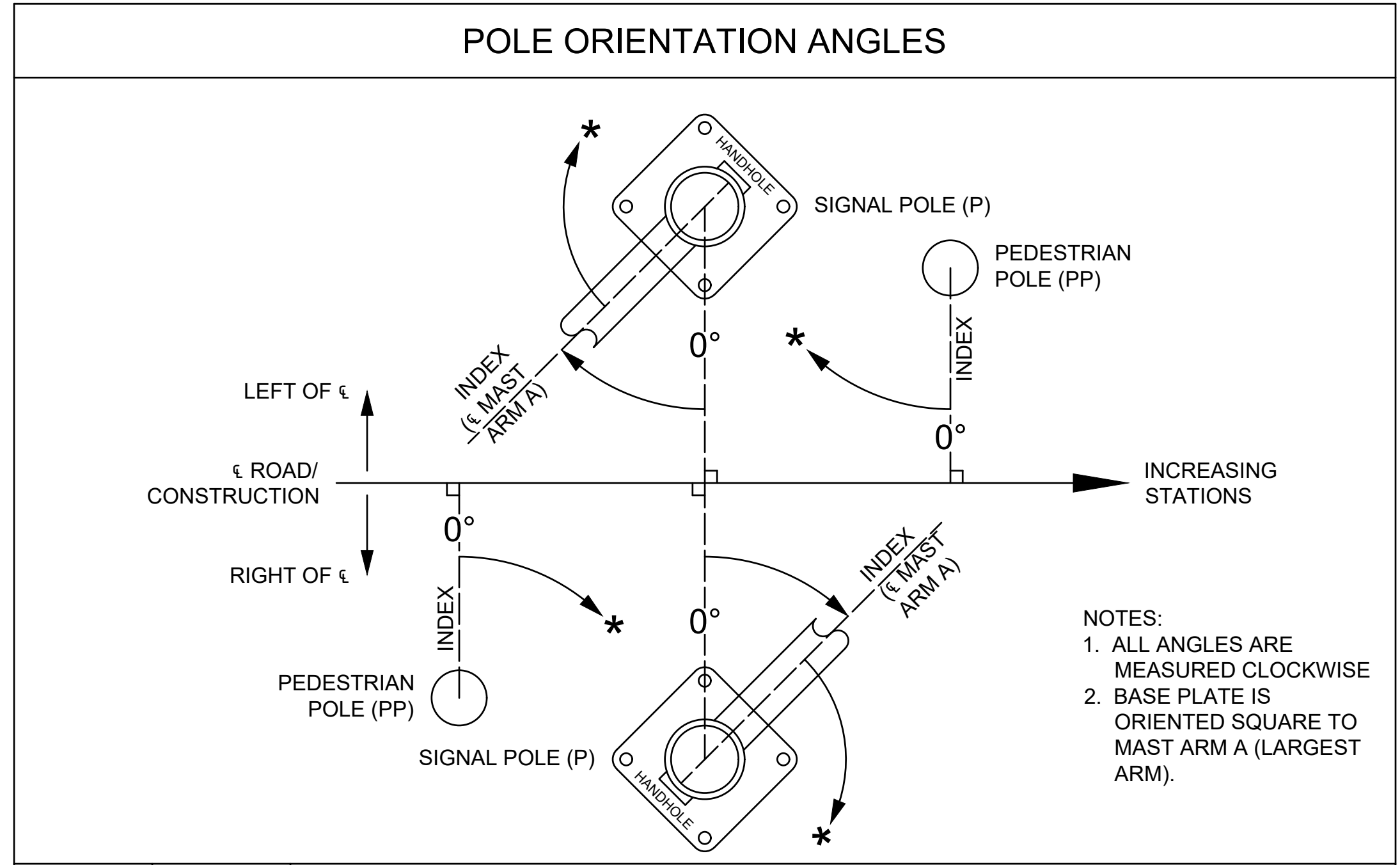
TRAFFIC SIGNAL PLAN
 VERNON ODOM BLVD.
 CITY OF AKRON
 DEPARTMENT OF PUBLIC SERVICE
 AKRON ENGINEERING BUREAU

2018-032-01
 23
 26

SIGNAL POLE TABLE												
SUPPORT NO. (P-SIGNAL POLE; PP-PED POLE; SIP-SIGN POLE)	DESIGN TYPE (TC-...)	DESIGN NO.	ELEVATION		STATION	OFFSET (LEFT/RIGHT)	POLE HEIGHT	DEPTH	WIDTH	FOUNDATION		
			A CRITICAL PAVEMENT ELEVATION	B TOP OF FOUNDATION						ANCHOR BOLTS		
										SIZE (DIAM. X LENGTH)	BOLT CIRCLE	P (LENGTH EXPOSED ABOVE TOP OF FOUNDATION)
FT	FT	FT	IN	IN	IN							
P-1	81.21	11	977.46	978.25	43+00.0	33.0' LT	34.5	10	36	1-3/4x57	20	7-3/4
P-2	81.21	3	976.94	977.82	44+80.0	48.7' LT	22	9	30	1-1/2x56	16	6-3/4
P-3	12.30	9	977.75	977.59	44+37.3	49.4' RT	34.5	15	36	2-1/2x59	23-1/2	9-3/4
PP-1	-	-	-	978.20	43+12.2	49.0' RT	11	3	24	3/4x26	8	3



**SIGNAL SUPPORT ELEVATION
(TYPICAL)**



SUPPORT NO. (P-SIGNAL POLE; PP-PED POLE; SIP-SIGN POLE)	INDEX (MAST ARM A ANGLE FOR SP; 0 FOR PP)	* ORIENTATION ANGLE AS MEASURED FROM INDEX							
		MAST ARM B	PEDESTRIAN SIGNAL	PEDESTRIAN PUSHBUTTON	POWER SERVICE	CONTROLLER	BRACKET ARM	HANDHOLE	CABLE ENTRANCE 12" FROM TOP
		DEG	DEG	DEG	DEG	DEG	DEG	DEG	DEG
P-1	0	-	-	-	-	-	0	180	-
P-2	90	-	-	-	-	-	-	180	-
P-3	270	90	0	-	-	-	90	180	-
PP-1	0	-	90	-	-	-	-	-	-

INTERSECTION: VERNON ODOM BOULEVARD AND I-77								
INTERVAL OR FEATURE	OVERLAP				PHASES			
	A	B	C	D				
INTERSECTION MOVEMENT (PHASE)	1	2	3	4	5	6	7	8
DIRECTION	WBL	EB	-	SB	EBL	WB	-	NB
MINIMUM GREEN (INITIAL) (SEC.)	7	15	-	10	10	15	-	10
PASSAGE TIME (PRESET GAP) (SEC.)	-	-	-	-	-	-	-	-
MAXIMUM GREEN I (SEC.)	12	27	-	27	25	27	-	27
MAXIMUM GREEN II (SEC.)	-	-	-	-	-	-	-	-
YELLOW CHANGE (SEC.)	-	3.0	-	4.0	-	3.0	-	4.0
ALL RED CLEARANCE (SEC.)	-	2.0	-	2.0	-	2.0	-	2.0
WALK (SEC.)	-	7	-	7	-	7	-	7
PEDESTRIAN CLEARANCE (SEC.)	-	20	-	19	-	20	-	19
RECALL	MAXIMUM (ON/OFF)	-	-	-	-	-	-	-
	MINIMUM (ON/OFF)	-	-	-	-	-	-	-
	PEDESTRIAN (ON/OFF)	-	-	-	-	-	-	-

NOTES:
1. FREE OPERATION
2. NEVER FLASH

SUPPORT NO. (P-SIGNAL POLE; PP-PED POLE; SIP-SIGN POLE)	MAST ARM (A OR B)	LENGTH FT	HEIGHT FT	ITEMS MOUNTED TO MAST ARMS										
				SIGNAL HEADS				SIGNS			VIDEO DETECTION CAMERAS (V) & PREEMPTION DEVICE (P)			BRACKET ARM
				L1	L2	L3	L4	S1	S2	S3	V1	V2	P	X
P-1	-	45	21	37	19	5	-	42	32	-	32	-	34	10
P-2	-	28	20.5	25	7	-	-	-	-	-	19	-	21	-
P-3	A	55	20.5	52	42	-	-	6.17	-	-	46	-	48	-
	B	54	21	51	40	30	18	40	-	-	34	-	36	10

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TRAFFIC SIGNAL DETAILS

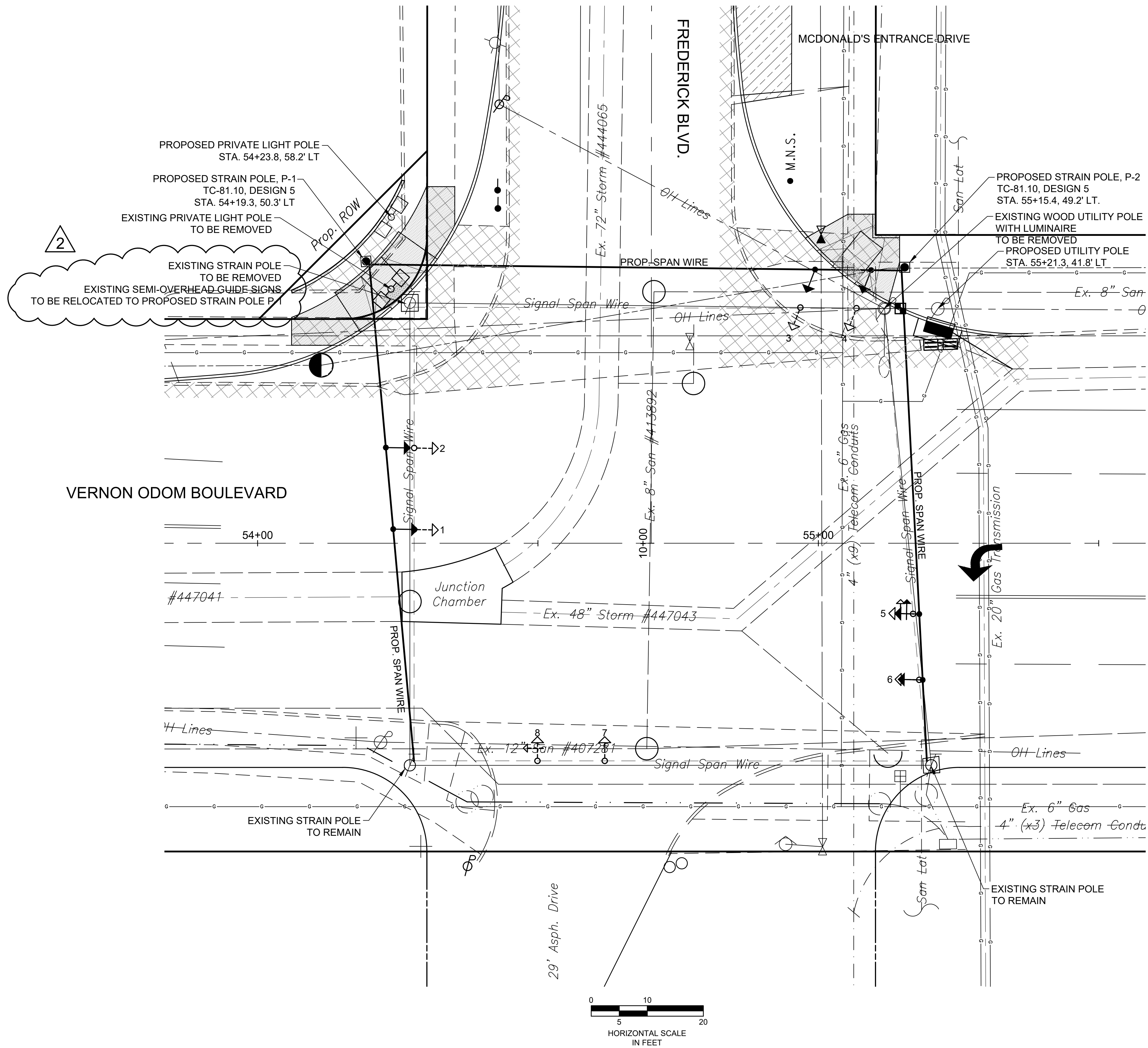
VERNON ODOM BLVD.

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2018-032-01

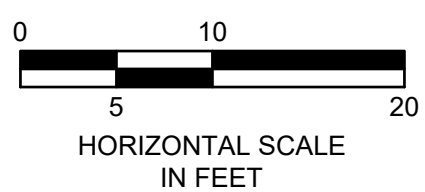
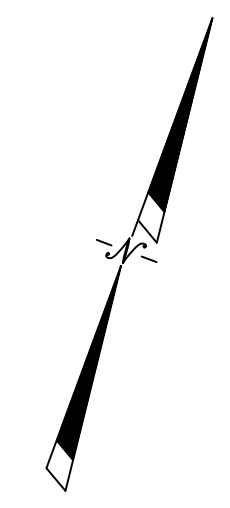
DATE	05/09/2019
CHECKED	EWS
SCALE	NO SCALE
REVISIONS	DATE

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ITEM 632 - REMOVAL OF EXISTING TRAFFIC SIGNAL INSTALLATION, AS PER PLAN

QUANTITY	REMOVED ITEM DESCRIPTION	DELIVERED TO CITY	DISPOSED OF BY PROJECT
-	TRAFFIC SIGNAL HEAD		
-	TRAFFIC SIGNAL WIRES		
1	SIGNAL SUPPORTS	X	
-	PEDESTRIAN SIGNAL HEADS		
-	CABINET (ALL ITEMS INSIDE)		
1	SIGNAL SUPPORT FOUNDATION		X
-	SIGNAL MAST ARM		
2	STREET LIGHT ARM AND LUMINAIRE		
-	POLE AND SPAN WIRE MOUNTED SIGNS	X	
-	PULL BOX		



2018-032-01



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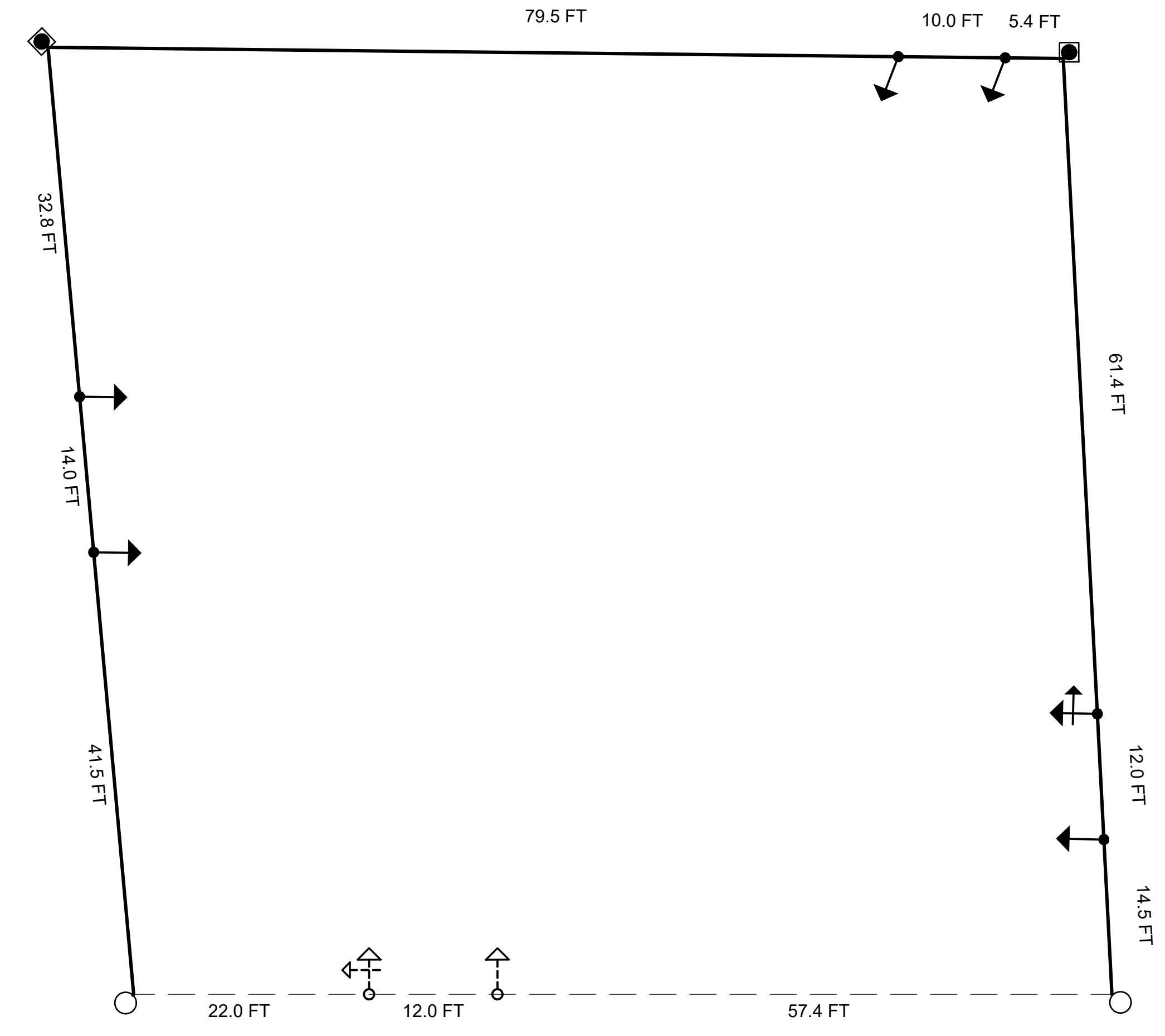
VERNON ODOM BLVD.

TRAFFIC SIGNAL PLAN

DATE	REVISIONS	SCALE:
10/09/19	2 - Remounting Existing Signs	
05/09/2019		

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SIGNAL POLE TABLE												
SUPPORT NO. (P-SIGNAL POLE; PP-PED POLE; SIP-SIGN POLE)	DESIGN TYPE (TC-...)	DESIGN NO.	TOP OF FOUNDATION	SPAN WIRE ATTACHMENT HEIGHT	STATION	OFFSET (LEFT/RIGHT)	POLE HEIGHT	DEPTH	WIDTH	FOUNDATION		
										ANCHOR BOLTS	SIZE (DIAM. X LENGTH)	BOLT CIRCLE
						FT	FT	FT	IN	IN	IN	IN
P-1	81.10	5	981.69	23.16	54+19.3	50.3' LT	30	9	36	1-3/4 x 57	16	7-3/4
P-2	81.10	5	982.36	22.49	55+15.4	49.2' LT	30	9	36	1-3/4 x 57	16	7-3/4



POLE ORIENTATION ANGLES

NOTES:
 1. ALL ANGLES ARE MEASURED CLOCKWISE
 2. THE INDEX LINE GOES THROUGH THE CENTER OF THE HANDHOLE.

SUPPORT NO. (P-SIGNAL POLE; PP-PED POLE; SIP-SIGN POLE)	INDEX ANGLE HANDHOLE ANGLE	* ORIENTATION ANGLE AS MEASURED FROM INDEX							
		PEDESTRIAN SIGNAL	PEDESTRIAN PUSHBUTTON	POWER SERVICE	CONTROLLER	BRACKET ARM	HANDHOLE	CABLE ENTRANCE 12" FROM TOP	
	DEG	DEG	DEG	DEG	DEG	DEG	DEG	DEG	
P-1	135	-	-	-	-	-	0	-	
P-2	225	-	-	-	-	-	0	-	