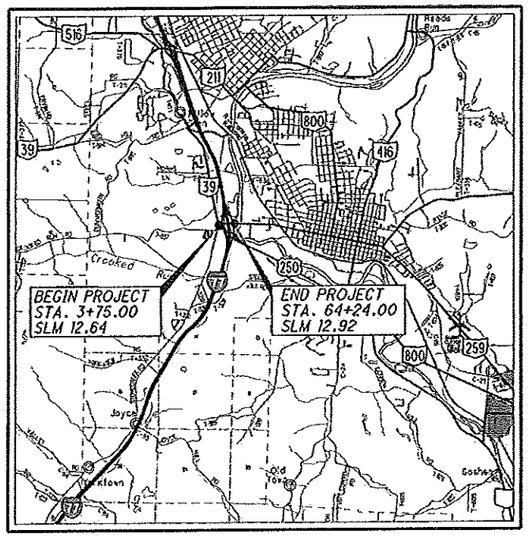
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
TUS-39-12.64
CITY OF NEW PHILADELPHIA
DOVER TOWNSHIP
TUSCARAWAS COUNTY



LOCATION MAP

LATITUDE: 40°29'35" LONGITUDE: 81°28'50"

SCALE IN MILES 0 1 2 3 4

N

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

DESIGN DESIGNATION

CURRENT ADT (2018)	6,600
DESIGN YEAR ADT (2038)	6,600
DESIGN HOURLY VOLUME (2038)	860
DIRECTIONAL DISTRIBUTION	50%
TRUCKS (24 HOUR B&C)	11%
DESIGN SPEED	35
LEGAL SPEED	35
DESIGN FUNCTIONAL CLASSIFICATION: URBAN MAJOR COLLECTOR	
NHS PROJECT	NO

DESIGN EXCEPTIONS

NONE REQUIRED

UNDERGROUND UTILITIES

CONTACT BOTH SERVICES TWO WORKING DAYS BEFORE YOU DIG.

OHIO Utilities Protection SERVICE — Call Before You Dig 1-800-362-2764
(Non-members must be called directly)

OIL & GAS PRODUCERS UNDERGROUND PROTECTION SERVICE 1-800-925-0988

PLAN PREPARED BY:
ODOT DISTRICT 11
PLANNING AND ENGINEERING
NEW PHILADELPHIA, OH

ENGINEERS SEAL:
(ROADWAY AND SIGNALS)
STATE OF OHIO — JEREMY A. CESSNA E-78993 — REGISTERED PROFESSIONAL ENGINEER
SIGNED:
DATE 1/5/18

ENGINEERS SEAL:
(LIGHTING)
SEE SHEET 79

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PROJECT DESCRIPTION

INTERSECTION IMPROVEMENTS AT S.R. 39 / C.R. 21 AND S.R. 39 / IR 77, US 250 NB OFF RAMP. WORK INCLUDES RIGHT TURN CONSTRUCTION AT THE S.R. 39/ C.R. 21 INTERSECTION, LEFT TURN LANE CONSTRUCTION AT THE S.R. 39/ IR 77, US 250 NB OFF RAMP INTERSECTION AND SIGNAL HARDWARE UPGRADES. IN ADDITION, INTERCHANGE HIGHMAST LIGHTING ALONG U.S. 250 AND I.R. 77 IS TO BE REPLACED.

EARTH DISTURBED AREAS:

PROJECT EARTH DISTURBED AREA:	1.27 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	0.50 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	4.99 ACRES

LIMITED ACCESS

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

2016 SPECIFICATIONS

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

I HEREBY APPROVED THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

STANDARD CONSTRUCTION DRAWINGS										SUPPLEMENTAL SPECIFICATIONS		SPECIAL PROVISIONS
BP-1.1	7/28/00	CB-2.2	1/15/16	HW-2.1	7/21/17	TC-21.20	7/21/17	TC-83.10	7/15/16	800	1/19/18	
BP-2.1	7/17/15			HW-2.2	7/21/17	TC-41.10	7/19/13	TC-83.20	7/21/17	832	1/17/14	
BP-2.2	7/18/08	DM-1.1	7/21/17			TC-41.20	10/18/13	TC-84.20	10/18/13	809	7/21/17	
BP-3.1	7/18/14	DM-1.2	1/18/13	MT-95.31	7/21/17	TC-41.30	10/18/13	TC-84.21	10/18/13	902	12/31/12	
BP-5.1	7/19/13	DM-4.3	1/15/16	MT-95.41	7/21/17	TC-41.50	10/18/13	TC-85.10	7/21/17			
BP-7.1	7/18/14	DM-4.4	1/15/16	MT-95.45	7/21/17	TC-42.10	10/18/13	TC-85.21	1/20/17			
				MT-97.10	7/18/14	TC-42.20	10/18/13	TC-85.22	7/15/16			
F-1.1	7/19/13	HL-10.31	7/21/17	MT-97.12	1/20/17	TC-51.11	1/15/16					
F-3.4	7/19/13	HL-20.21	7/21/17	MT-99.20	7/21/17	TC-52.10	10/18/13	RM-4.2	4/18/14			
		HL-30.11	7/21/17	MT-101.70	1/17/14	TC-52.20	7/21/17					
MGS-1.1	7/21/17	HL-30.21	1/17/14	MT-101.75	7/15/16	TC-61.30	1/20/17					
MGS-2.1	7/19/13	HL-30.22	1/17/14	MT-101.90	7/21/17	TC-65.10	1/17/14					
MGS-3.1	7/21/17	HL-40.10	1/20/17	MT-105.10	7/19/13	TC-65.11	7/21/17					
MGS-4.2	7/19/13	HL-50.11	1/16/15	MT-101.60	1/20/17	TC-71.10	1/20/17					
MGS-4.3	1/18/13	HL-60.21	1/16/15	MT-110.10	7/19/13	TC-73.20	7/21/17					
MGS-5.3	7/15/16	HL-60.31	7/21/17			TC-81.10	7/15/16					

APPROVED RoxAnne Kane, Acting DDD
DATE 1/8/18 DISTRICT DEPUTY DIRECTOR

APPROVED Jerry Wray
DATE 2-5-18 DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. E150(721)
PID NO. 99976
CONSTRUCTION PROJECT NO.
RAILROAD INVOLVEMENT NONE
TUS-39-12.64
1/92

TUS - SR 39-12.64
180236 PID - 99976
Dist 11 4/5/2018

Contract Proposal Available @ www.contracts.dot.state.oh.us/home

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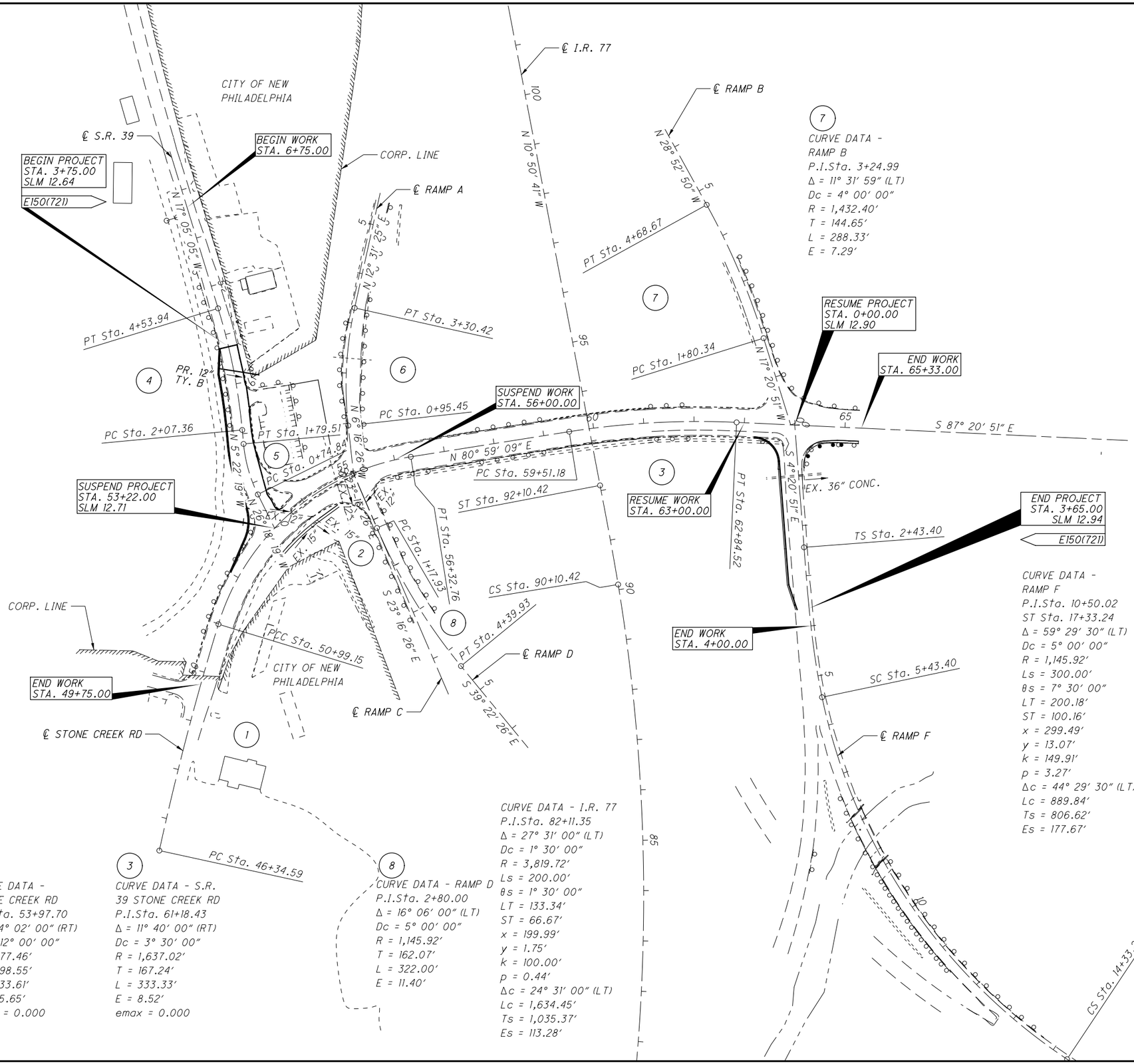

4

CURVE DATA - S.R. 39
P.I.Sta. 3+31.08
Δ = 11° 42′ 46″ (LT)
Dc = 4° 45′ 00″
R = 1,206.23′
T = 123.72′
L = 246.58′
E = 6.33′
emax = 0.000

5

CURVE DATA - S.R. 39
P.I.Sta. 1+27.76
Δ = 20° 56′ 00″ (RT)
Dc = 20° 00′ 00″
R = 286.48′
T = 52.92′
L = 104.67′
E = 4.85′
emax = 0.000

6

CURVE DATA - RAMP A
P.I.Sta. 2+14.00
Δ = 18° 47′ 51″ (RT)
Dc = 8° 00′ 00″
R = 716.20′
T = 118.55′
L = 234.97′
E = 9.75′

7

CURVE DATA - RAMP B
P.I.Sta. 3+24.99
Δ = 11° 31′ 59″ (LT)
Dc = 4° 00′ 00″
R = 1,432.40′
T = 144.65′
L = 288.33′
E = 7.29′

CURVE DATA - RAMP F
P.I.Sta. 10+50.02
ST Sta. 17+33.24
Δ = 59° 29′ 30″ (LT)
Dc = 5° 00′ 00″
R = 1,145.92′
Ls = 300.00′
θs = 7° 30′ 00″
LT = 200.18′
ST = 100.16′
x = 299.49′
y = 13.07′
k = 149.91′
p = 3.27′
Δc = 44° 29′ 30″ (LT)
Lc = 889.84′
Ts = 806.62′
Es = 177.67′

1

CURVE DATA - STONE CREEK RD
P.I.Sta. 48+67.00
Δ = 4° 38′ 44″ (RT)
Dc = 1° 00′ 00″
R = 5,729.65′
T = 232.41′
L = 464.56′
E = 4.71′
emax = 0.000

2

CURVE DATA - STONE CREEK RD
P.I.Sta. 53+97.70
Δ = 64° 02′ 00″ (RT)
Dc = 12° 00′ 00″
R = 477.46′
T = 298.55′
L = 533.61′
E = 85.65′
emax = 0.000

3

CURVE DATA - S.R. 39 STONE CREEK RD
P.I.Sta. 61+18.43
Δ = 11° 40′ 00″ (RT)
Dc = 3° 30′ 00″
R = 1,637.02′
T = 167.24′
L = 333.33′
E = 8.52′
emax = 0.000

8

CURVE DATA - RAMP D
P.I.Sta. 2+80.00
Δ = 16° 06′ 00″ (LT)
Dc = 5° 00′ 00″
R = 1,145.92′
T = 162.07′
L = 322.00′
E = 11.40′

CURVE DATA - I.R. 77
P.I.Sta. 82+11.35
Δ = 27° 31′ 00″ (LT)
Dc = 1° 30′ 00″
R = 3,819.72′
Ls = 200.00′
θs = 1° 30′ 00″
LT = 133.34′
ST = 66.67′
x = 199.99′
y = 1.75′
k = 100.00′
p = 0.44′
Δc = 24° 31′ 00″ (LT)
Lc = 1,634.45′
Ts = 1,035.37′
Es = 113.28′

FOR SURVEY CONTROL POINTS SEE SHEET NO. 27.

NOTE: THERE ARE NO EXISTING LANDSCAPED AREAS WITHIN THE WORK LIMITS.

HORIZONTAL SCALE IN FEET 0 50 100 200

CALCULATED JAC
CHECKED ANS

SCHEMATIC PLAN

TUS-39-12.64

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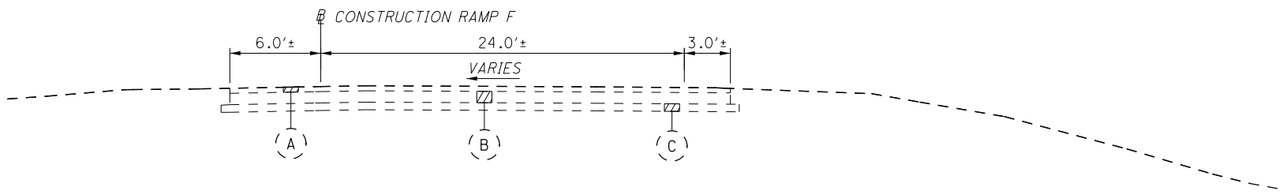
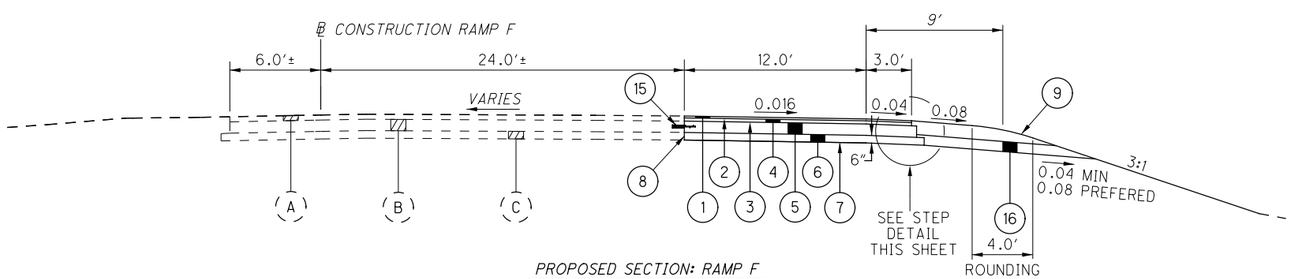
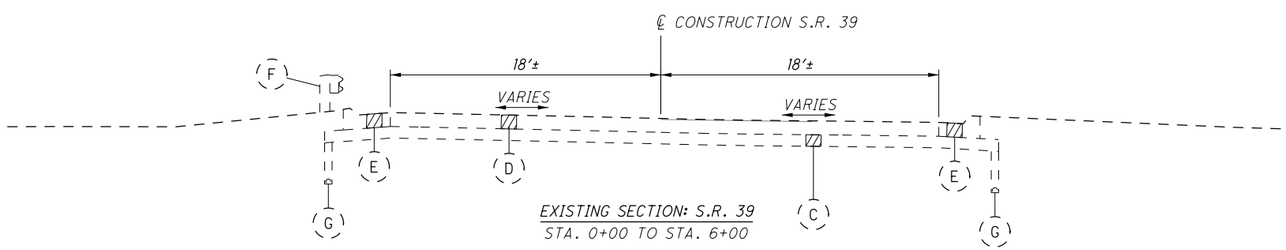


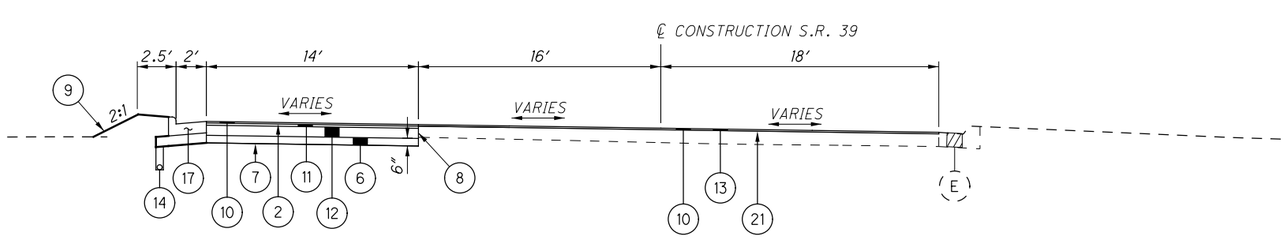
EXISTING SECTION: RAMP F
STA. 0+00 TO STA. 4+00



PROPOSED SECTION: RAMP F
STA. 0+00 TO STA. 3+65.00



EXISTING SECTION: S.R. 39
STA. 0+00 TO STA. 6+00



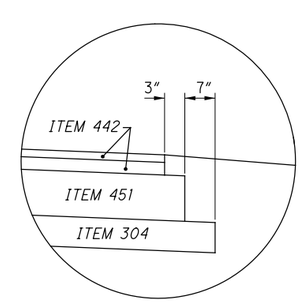
PROPOSED SECTION: S.R. 39
STA. 0+00 TO STA. 3+75

LEGEND:

- (A) EXISTING 4"± ASPHALT CONCRETE
- (B) EXISTING 9"± REINFORCED CONCRETE PAVEMENT
- (C) EXISTING SUBBASE
- (D) EXISTING PAVEMENT
- (E) EXISTING CURB AND GUTTER
- (F) EXISTING GUARDRAIL
- (G) EXISTING UNDERDRAIN

- (1) ITEM 442 - 1½" ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE B (446), AS PER PLAN
- (2) ITEM 407 - TACK COAT (APPLIED @ 0.055 GAL./S.Y.)
- (3) ITEM 407 - TACK COAT (APPLIED @ 0.07 GAL./S.Y.)
- (4) ITEM 442 - 2½" ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE B (446)
- (5) ITEM 451 - 9" REINFORCED CONCRETE PAVEMENT, CLASS QC1
- (6) ITEM 304 - AGGREGATE BASE
- (7) ITEM 204 - SUBGRADE COMPACTION
- (8) ITEM 252 - FULL DEPTH PAVEMENT SAWING
- (9) ITEM 659 - SEEDING AND MULCHING
- (10) ITEM 441 -1¼" ASPHALT SURFACE COURSE, TYPE 1, (448), AS PER PLAN (PG70-22M)
- (11) ITEM 441 -1¾" ASPHALT INTERMEDIATE COURSE, TYPE 2, (448)
- (12) ITEM 302 - 8" ASPHALT CONCRETE BASE
- (13) ITEM 254 -1¼" PAVEMENT PLANING, ASPHALT CONCRETE
- (14) ITEM 605 - 6" BASE PIPE UNDERDRAIN, WITH GEOTEXTILE FABRIC
- (15) TIE BAR PER SCD BP-2.1
- (16) ITEM 605 - AGGREGATE DRAINS
- (17) ITEM 609 - COMBINATION CURB AND GUTTER, TYPE 2
- (18) ITEM 609 - CURB, TYPE 6
- (19) ITEM 608 - 4" CONCRETE WALK
- (20) ITEM 606 - GUARDRAIL, TYPE MGS
- (21) ITEM 407 - TACK COAT (APPLIED @ 0.085 GAL./S.Y.)

◐- OR AS SHOWN ON CROSS SECTIONS



STEP DETAIL

CALCULATED DMLF
CHECKED JAC

TYPICAL SECTIONS

TUS-39-12.64

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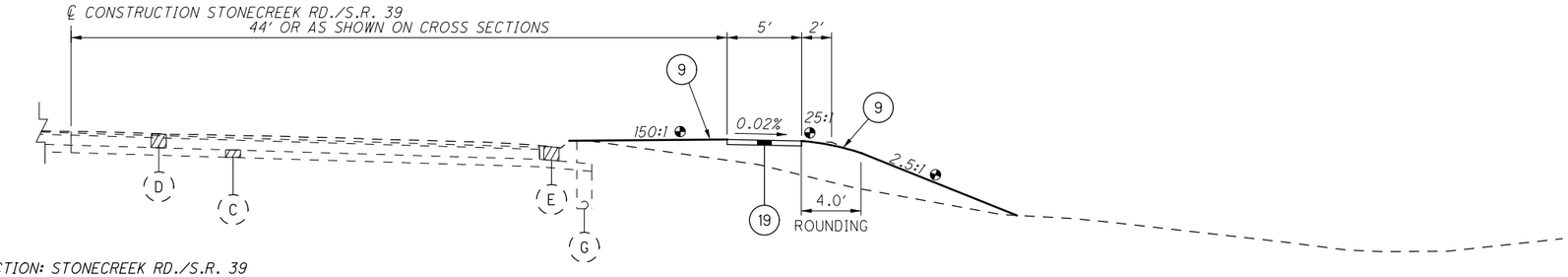
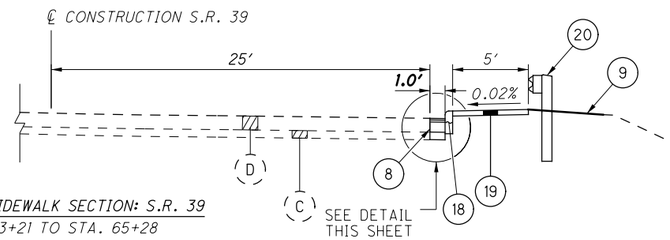
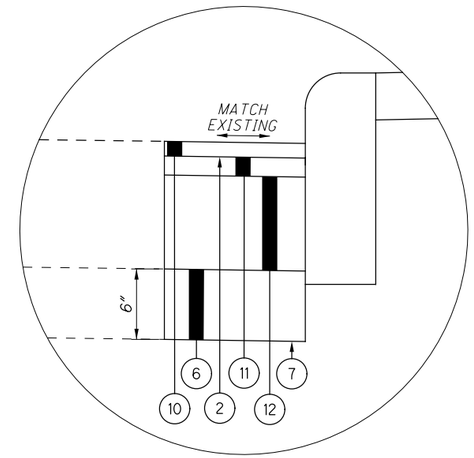


SIDEWALK SECTION: STONECREEK RD./S.R. 39
STA. 52+92.00 TO STA. 54+71.00

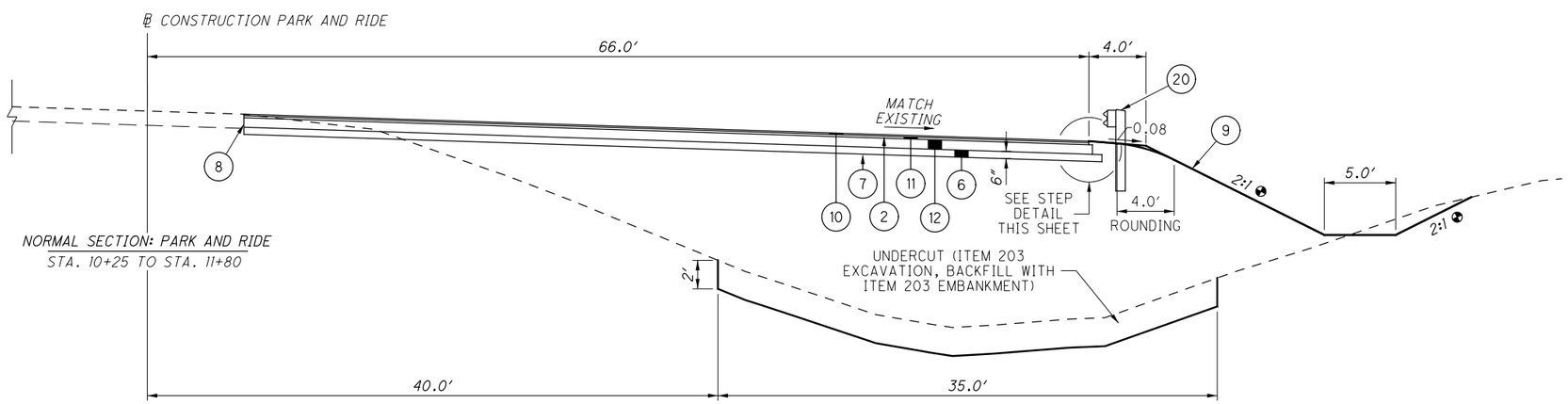


CURB WITH SIDEWALK SECTION: S.R. 39
STA. 63+21 TO STA. 65+28

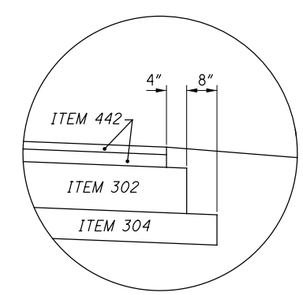


DETAIL

✪ OR AS SHOWN ON CROSS SECTION



NORMAL SECTION: PARK AND RIDE
STA. 10+25 TO STA. 11+80



STEP DETAIL

FOR LEGEND SEE SHEET NO. 3

CALCULATED ANS
CHECKED JAC

TYPICAL SECTIONS

TUS-39-12.64

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ROUNDING

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

UTILITIES

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

AEP TRANSMISSION
ATTN: BARBARA DUNLAP
700 MORRISON ROAD
GAHANNA, OHIO 43230
614-552-1893

CITY OF NEW PHILADELPHIA
ATTN: THE HONORABLE
JOEL DAY
150 EAST HIGH AVENUE
NEW PHILADELHPIA, OHIO 44663
330-364-4491

DOMINION
ATTN: JOHN MEERDINK
320 SPRINGSIDE DRIVE, SUITE 320
AKRON, OHIO 44333
330-664-2467

FRONTIER COMMUNICATIONS
ATTN: LARRY WENDELL
1121 TUSCARAWAS AVENUE, NW
NEW PHILADELPHIA, OHIO 44663
330-364-0510

HORIZON CHILLICOTHE TELEPHONE
ATTN: GROVER CRAWFORD
SUITE 850
500 S. FRONT ST.
COLUMBUS, OH 4321
740-772-8273

RED HILL DEVELOPMENT
ATTN: CHRIS KIMBLE
3596 S.R. 39 NW
DOVER, OHIO 44622
330-365-3054

AEP OHIO POWER COMPANY
ATTN: KATHY MOSSBARGER
P.O. BOX 24400
CANTON, OHIO 44701
330-438-7061

CITY OF DOVER
ATTN: DAVE DOUGLAS
110 EAST 3RD STREET
DOVER, OHIO 44663
330-343-6626

TIME WARNER CABLE
ATTN: STEVE WEAVER
5520 WHIPPLE NW
NORTH CANTON, OHIO 44720
330-555-4524

THE OHIO DEPARTEMT OF TRASPORTATION HAS UTILITY FACILITES (HIGHWAY LIGHTING AND/OR TRAFFIC SIGNALS) WITHIN THE LIMITS OF THIS PROJECT.

IN ADDITION TO THE INFORMATION OUTLINED IN THIS CONTRACT, THE CONTRACTOR SHALL TAKE THE FOLLOWING ACTION TO PROTECT ODOT'S FACILITIES DURING CONSTRUCTION:

HIGHWAY LIGHTING AND/OR TRAFFIC SIGNALS: EVEN THOUGH ODOT IS LISTED AS A MEMBER OF THE OHIO UTILITIES PROTECTION SERVICE (OUPS), THE CONTRACTOR IS REQUIRED TO CONTACT ODOT DIRECTLY SO THAT THE ODOT UTILITIES LOCATED WITHIN THIS PROJECT ARE MARKED. THE CONTRACTOR SHALL NOTIFY THE ODOT PROJECT ENGINER/ PROJECT SUPERVISOR, FOURTEEN (14) CALENDAR DAYS IN ADVANCE OF ANY WORK, FOR THE NEED TO MARK ODOT OWNED UTILITES.

THE ABOVE REQURIEMENTS ARE IN ADDITION TO SECTION 105.07 AND 107.16 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS. THE CONTRACTOR SHALL NOTIFY OTHER UTILITIES THROUGH OUPS OR DIRECTLY A MINIMUM OF FOURTY-EIGHT HOURS IN ADVANCE OF ANY WORK.

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.

WORK LIMITS

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

ITEM 606 - ANCHOR ASSEMBLY, TYPE E

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

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

REFER TO THE MANUFACTURER'S INSTRUCTIONS REGARDING THE INSTALLATION OF, AND THE GRADING AROUND THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4 INCHES ABOVE THE GROUND. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 27.75 INCHES FROM THE EDGE OF THE SHOULDER.

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

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

ITEM 606 - BRIDGE TERMINAL ASSEMBLY, TYPE 1, AS PER PLAN

FOR THIS ITEM OF WORK INCLUDE THE TRANSITION TO MGS HEIGHT ACROSS THE LENGTH OF BRIDGE TERMINAL ASSEMBLY, TYPE 1.

ITEM 441 - ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), AS PER PLAN, (PG70-22M)
ITEM 442 - ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE B (446), AS PER PLAN

FOLLOW SPECIFICATION 703.05 EXCEPT DO NOT USE COARSE AGGREGATE FROM A SOURCE DESIGNATED 'SR' OR 'SRH' ACCORDING TO THE OFFICE OF MATERIALS MANAGEMENT (OMM) IN ANY JOB MIX FORMULA (JMF) FOR THIS ITEM.

FENCE LENGTHS

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

POST CONSTRUCTION STORM WATER TREATMENT

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

SURVEYING PARAMETERS

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

VERTICAL POSITIONING

ORTHOMETRIC HEIGHT DATUM: NAVD 88
GEOID: GEOID 12A

HORIZONTAL POSITIONING

REFERENCE FRAME: NAD 83 (2012)
ELLIPSOID: GRS 1980
MAP PROJECTION: LAMBERT CONFORMAL CONIC
COORDINATE SYSTEM: OHIO STATE PLANE, NORTH ZONE
COMBINED SCALE FACTOR: 1.00004706375898

UNITS ARE IN U.S. SURVEY FEET. USE THE FOLLOWING CONVERSION FACTOR: 1 METER = 3.280833333 U.S. SURVEY FEET.

PART-WIDTH CONSTRUCTION

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

PAVEMENT RESTORATION FOR PIPE INSTALLATIONS AND/OR REMOVALS

THE FOLLOWING QUANTITY HAS BEEN PROVIDED FOR PAVEMENT RESTORATION FOLLOWING INSTALLATION AND/OR REMOVAL OF PIPES D-1 AND D-2.

ITEM 302 ASPHALT CONCRETE BASE, PG64-22 9 CU. YDS.

THE ABOVE QUANTITY IS BASED ON A 301 THICKNESS OF 11 INCHES AND A PAVEMENT RESTORATION WIDTH THAT INCLUDES THE TRENCH WIDTH PLUS TWO FEET ON EACH SIDE OF THE TRENCH.

PROVIDE ANY MATERIALS USED OUTSIDE THE LIMITS STATED ABOVE AT NO ADDITIONAL COST.

CLEARING AND GRUBBING

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

CONTRACTION JOINTS IN CONCRETE PAVEMENT OR BASE WIDENING

WHERE NEW CONCRETE IS PLACED ADJACENT TO AND TIED TO EXISTING CONCRETE, THE CONTRACTION JOINT SPACING REQUIRED IN 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.

SEEDING AND MULCHING

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

PIPE CONNECTIONS TO CORRUGATED METAL STRUCTURES

CONNECTIONS OF PROPOSED LONGITUDINAL DRAINAGE TO CORRUGATED METAL STRUCTURES SHALL BE MADE BY MEANS OF A SHOP FABRICATED OR FIELD WELDED STUB ON THE STRUCTURE. THE STUB SHALL MEET THE REQUIREMENTS OF 707 AND HAVE A MINIMUM LENGTH OF 2 FEET AND A MINIMUM WALL THICKNESS OF 0.064 INCHES.

THE LOCATION AND ELEVATION OF THE STUB ARE TO BE CONSIDERED APPROXIMATE AND MAY BE ADJUSTED BY THE ENGINEER TO AVOID CUTTING THROUGH JOINTS IN THE STRUCTURE.

THE FIELD WELDED JOINT, IF USED, SHALL BE THOROUGHLY CLEANED AND REGALVANIZED OR OTHERWISE SUITABLY REPAIRED. WELDING SHALL MEET THE REQUIREMENTS OF 513.21.

A MASONRY COLLAR, AS PER STANDARD DRAWING DM-1.1, WILL BE REQUIRED TO CONNECT THE LONGITUDINAL DRAINAGE TO THE STUB, WHEN PIPE OTHER THAN CORRUGATED METAL IS PROVIDED FOR THE LONGITUDINAL DRAINAGE.

PAYMENT FOR CUTTING INTO THE STRUCTURE AND PROVIDING THE CONNECTION DESCRIBED, SHALL BE INCLUDED IN THE CONTRACT PRICE FOR ITEM 611 OR 522.

ITEM 605 - AGGREGATE DRAINS

AGGREGATE DRAINS SHALL BE PLACED AT 50 FOOT INTERVALS ON EACH SIDE OF NORMAL CROWNED SECTIONS, STAGGERED SO THAT EACH DRAIN IS 25 FEET FROM THE ADJACENT DRAIN ON THE OPPOSITE SIDE, AND AT 25 FOOT INTERVALS ON THE LOW SIDE ONLY OF SUPERELEVATED SECTIONS. AN AGGREGATE DRAIN SHALL BE PLACED AT THE LOW POINT ON EACH SAG VERTICAL CURVE.

THE FOLLOWING QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER. FINAL PAYMENT SHALL BE FOR THE ACCEPTED QUANTITY COMPLETED IN PLACE.

RAMP F:

STA. 0+75 (RIGHT)	11 FT.
STA. 1+25 (RIGHT)	11 FT.
STA. 1+75 (RIGHT)	11 FT.
STA. 2+25 (RIGHT)	11 FT.
STA. 2+75 (RIGHT)	11 FT.
TOTAL	55 FT.

TOTAL QUANTITY CARRIED TO GENERAL SUMMARY.

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ITEM 614 - MAINTAINING TRAFFIC

TRAFFIC SHALL BE MAINTAINED AT ALL TIMES IN ACCORDANCE WITH THE REQUIREMENTS OF ITEM 614 AND THE MAINTENANCE OF TRAFFIC DESCRIBED ON SHEETS 6-23.

A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION ON S.R. 39 AND ONE LANE ON ALL RAMPS SHALL BE MAINTAINED AT ALL TIMES BY USE OF THE EXISTING PAVEMENT, THE COMPLETED PAVEMENT, ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, TEMPORARY SURFACES USING ITEM 410, AND ITEM 614.

LENGTH AND DURATION OF LANE CLOSURES AND RESTRICTIONS SHALL BE AT THE APPROVAL OF THE ENGINEER. IT IS THE INTENT TO MINIMIZE IMPACT TO THE TRAVELING PUBLIC. LANE CLOSURES OR RESTRICTIONS OVER SEGMENTS OF THE PROJECT, IN WHICH NO WORK IS ANTICIPATED WITHIN A REASONABLE TIME FRAME, AS DETERMINED BY THE ENGINEER, SHALL NOT BE PERMITTED. THE LEVEL OF UTILIZATION OF MAINTENANCE OF TRAFFIC DEVICES SHALL BE COMMENSURATE WITH THE WORK IN PROGRESS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ACCESS TO ALL RESIDENTIAL AND AGRICULTURAL PROPERTIES FOR THE DURATION OF THIS PROJECT. THE CONTRACTOR SHALL MEET WITH AFFECTED PROPERTY OWNERS PRIOR TO THE COMMENCEMENT OF EACH PHASE TO DISCUSS HOW THE CONSTRUCTION PHASING AND DRIVEWAY ACCESS WILL FUNCTION.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ACCESS TO THE PARK AND RIDE FOR THE DURATION OF THIS PROJECT. ANY CLOSING OF PARKING STALLS WILL BE AT THE APPROVAL OF THE ENGINEER.

PRIOR TO THE BEGINNING OF ANY CONSTRUCTION THAT WILL REQUIRE THE CLOSURE OF EXISTING LANES TO TRAFFIC, ALL WORK ZONE SIGNALS, PAVEMENT, SIGNS, PORTABLE BARRIER AND WORK ZONE PAVEMENT MARKINGS SHALL BE FURNISHED AND INSTALLED AS SHOWN ON STANDARD CONSTRUCTION DRAWING AND AS SHOWN IN THE PLANS. WORK ZONE PAVEMENT MARKINGS AND PORTABLE BARRIER INSTALLATION SHALL BE ACCOMPLISHED IN ONE DAY, WITH FLAGGERS BEING UTILIZED FOR THE PROTECTION OF VEHICULAR TRAFFIC DURING THE INSTALLATION OF THESE ITEMS.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY, FOR USE AS DIRECTED BY THE ENGINEER, FOR THE MAINTENANCE OF TRAFFIC:

ITEM 614, ASPHALT CONCRETE FOR MAINTAINING TRAFFIC - - - - - - - - - - - - - - 10 CU. YD.

PEDESTRIAN WALKWAYS CONSTRUCTED BY THE CONTRACTOR SHALL BE KEPT FREE OF ANY OBSTRUCTIONS OR HAZARDS INCLUDING HOLES, DEBRIS AND MUD. OTHER WALKWAYS DAMAGED OR DIRTIED BY THE CONTRACTOR SHALL BE IMMEDIATELY REPAIRED OR CLEANED. THE CONTRACTOR MUST TAKE PRECAUTIONS TO PROTECT PEDESTRIANS OR RESIDENTS FROM EXPOSURE TO HAZARDS RESULTING FROM THE CONSTRUCTION OPERATION BY INSTALLING CONSTRUCTION FENCE AND SIGNING AS DESCRIBED IN THE FOLLOWING PARAGRAPHS.

TEMPORARY ORANGE PLASTIC CONSTRUCTION FENCE HAS BEEN PROVIDED HEREIN AS A TRAFFIC CONTROL DEVICE TO DIVERT AND GUIDE PEDESTRIANS WHOSE PATH WOULD OTHERWISE ENTER THE WORK AREA.

ITEM 614 - MAINTAINING TRAFFIC (CONTINUED)

THE TEMPORARY ORANGE PLASTIC CONSTRUCTION FENCE SHALL BE PLACED AROUND THE SIDEWALK WORK AREAS. SIDEWALK CLOSED SIGN (R9-9 (30 X 18)) MOUNTED ON A TYPE 3 BARRICADE WITH TYPE A FLASHING LIGHTS SHALL BE PLACED OUTSIDE THE FENCE ON EACH SIDEWALK APPROACH AS SHOWN ON SCD MT-101.60.

NO WORK SHALL BE PERFORMED DURING THE FOLLOWING DESIGNATED HOLIDAYS OR EVENTS:

CHRISTMAS	FOURTH OF JULY
NEW YEARS DAY	LABOR DAY
MEMORIAL DAY	THANKSGIVING

THE PERIOD OF TIME THAT THE LANES ARE TO BE OPEN DEPENDS ON THE DAY OF THE WEEK ON WHICH THE HOLIDAY OR EVENT FALLS. THE FOLLOWING SCHEDULE SHALL BE USED TO DETERMINE THIS PERIOD:

DAY OF HOLIDAY OR EVENT	TIME NO WORK TO BE PERFORMED
SUNDAY	12:00N FRIDAY THROUGH 6:00 AM MONDAY
MONDAY	12:00N FRIDAY THROUGH 6:00 AM TUESDAY
TUESDAY	12:00N MONDAY THROUGH 6:00 AM WEDNESDAY
WEDNESDAY	12:00N TUESDAY THROUGH 6:00 AM THURSDAY
THURSDAY	12:00N WEDNESDAY THROUGH 6:00 AM FRIDAY
THURSDAY (THANKSGIVING ONLY)	6:00 AM WEDNESDAY THROUGH 6:00 AM MONDAY
FRIDAY	12:00N THURSDAY THROUGH 6:00 AM MONDAY
SATURDAY	12:00N FRIDAY THROUGH 6:00 AM MONDAY

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED A DISINCENTIVE IN THE AMOUNT OF $50 FOR EACH MINUTE THE ABOVE DESCRIBED LANE CLOSURE RESTRICTIONS ARE VIOLATED.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH CMS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

ITEM 607 - FENCE MISC.: TEMPORARY ORANGE PLASTIC CONSTRUCTION FENCE

TEMPORARY ORANGE PLASTIC/NYLON CONSTRUCTION FENCE SHALL BE PLACED FOR THE PROTECTION OF PEDESTRIAN TRAFFIC. IT SHALL BE SECURELY FASTENED TO WOOD OR METAL POSTS AT NOT MORE THAN 6' SPACING. IT SHALL BE NOMINALLY 42" HIGH AND THE TOP EDGE SHALL NOT SAG BELOW 30". IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INSURE THAT THE FENCE IS IN GOOD CONDITION AND PROPERLY PLACED AND MAINTAINED.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 607 - FENCE MISC.: TEMPORARY ORANGE PLASTIC CONSTRUCTION FENCE - 200 FT

NOTIFICATION OF TRAFFIC RESTRICTIONS

THROUGHOUT THE DURATION OF THE PROJECT, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IN WRITING OF ALL TRAFFIC RESTRICTIONS AND UPCOMING MAINTENANCE OF TRAFFIC CHANGES. THE CONTRACTOR SHALL ENSURE THE WRITTEN NOTIFICATION IS SUBMITTED IN A TIMELY MANNER TO ALLOW THE PROJECT ENGINEER TO MEET THE REQUIRED TIME FRAMES SET FORTH IN THE TABLE BELOW TO INFORM THE SPECIAL HAULING PERMITS SECTION (HAULING.PERMITS@DOT.OHIO.GOV) AND THE DISTRICT PUBLIC INFORMATION OFFICE (PIO). THIS NOTIFICATION SHALL BE RECEIVED BY THE PROJECT ENGINEER PRIOR TO THE PHYSICAL SETUP OF ANY APPLICABLE SIGNS OR MESSAGE BOARDS.

INFORMATION SHOULD INCLUDE, BUT IS NOT LIMITED TO, ALL CONSTRUCTION ACTIVITIES THAT IMPACT OR INTERFERE WITH TRAFFIC AND SHALL LIST THE SPECIFIC LOCATION, TYPE OF WORK, ROAD STATUS, DATE AND TIME OF RESTRICTION, DURATION OF RESTRICTION, NUMBER OF LANES MAINTAINED, NUMBER OF LANES CLOSED, MINIMUM VERTICAL CLEARANCE, MINIMUM WIDTH OF DRIVABLE PAVEMENT, DETOUR ROUTES, IF APPLICABLE, AND ANY OTHER INFORMATION REQUESTED BY THE PROJECT ENGINEER.

NOTIFICATION TIME TABLE

ITEM	DURATION OF CLOSURE	NOTICE DUE TO PERMITS & PIO
RAMP & ROAD CLOSURES	>= 2 WEEKS	21 CALENDAR DAYS PRIOR TO CLOSURE
	> 12 HOURS & < 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	< 12 HOURS	4 BUSINESS DAYS PRIOR TO CLOSURE
LANE CLOSURES & RESTRICTIONS	>= 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	< 2 WEEKS	5 BUSINESS DAYS PRIOR TO CLOSURE
START OF CONSTRUCTION & TRAFFIC PATTERN CHANGES	N/A	14 CALENDAR DAYS PRIOR TO IMPLEMENTATION

ANY UNFORESEEN CONDITIONS NOT SPECIFIED IN THE PLANS REQUIRING TRAFFIC RESTRICTIONS SHALL ALSO BE REPORTED TO THE PROJECT ENGINEER USING THE NOTIFICATION TIME TABLE.

DELINEATION OF TEMPORARY AND PERMANENT GUARDRAIL

BARRIER REFLECTORS SHALL BE INSTALLED ON ALL PERMANENT GUARDRAIL LOCATED WITHIN 5 FEET OF THE EDGE OF THE ADJACENT TRAVEL LANE. BARRIER REFLECTORS SHALL CONFORM TO C&MS 626.

OBJECT MARKERS SHALL BE INSTALLED ON ALL PERMANENT GUARDRAIL LOCATED WITHIN 5 FEET OF THE EDGE OF THE ADJACENT TRAVEL LANE. GUARDRAIL-MOUNTING OF OBJECT MARKERS SHALL BE MADE BY INSTALLING THE OBJECT MARKERS ON THE EXTENSION BLOCKS RATHER THAN DIRECTLY ONTO THE GUARDRAIL ITSELF. OBJECT MARKERS SHALL CONFORM TO C&MS 614.03 AND THE SPACING SHALL BE APPROXIMATELY 50 FEET.

THE FOLLOWING ESTIMATED QUANITIES HAVE BEEN INCLUDED IN THE PLANS AND CARRIED TO THE GENERAL SUMMARY:

ITEM 614 - BARRIER REFLECTOR, TYPE 2 (BIDIRECTIONAL) 5 EACH
ITEM 614 - OBJECT MARKER, ONE-WAY 5 EACH

PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, INCIDENTALS AND EQUIPMENT NECESSARY FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING THE ABOVE ITEM(S).

TRENCH FOR DRAINAGE ITEMS

TRENCH EXCAVATION FOR CULVERT REPLACEMENT SHALL BE DONE IN A MANNER TO MAINTAIN AT MINIMUM TWO-WAY ONE LANE ALTERNATING TRAFFIC. THE OPEN TRENCH SHALL BE ADEQUATELY MAINTAINED AND PROTECTED WITH DRUMS OR BARRICADES AT ALL TIMES. THIS WORK IS TO BE COMPLETED UNDER FLAGGERS WITH SHORT TERM CLOSINGS AS APPROVED BY THE ENGINEER TO PLACE PIPES. ALL WORK SHALL BE SUBJECT TO APPROVAL OF THE ENGINEER.

OVERNIGHT TRENCH CLOSING FOR DRAINAGE

IF THE DRAINAGE ITEMS CANNOT BE REMOVED AND REPLACED WITHIN 1 WORK DAY, BACK FILL THE TRENCH WITH ITEM 410, TRAFFIC COMPACTED SURFACE WITH A SURFACE COURSE OF ITEM 615 - PAVEMENT FOR MAINTAINING TRAFFIC. THIS IS TO ALLOW 2-LANE TRAFFIC TO BE MAINTAINED OVERNIGHT. REMOVE ITEM 410, ITEM 615 AND CONTINUE PRIOR TO COMPLETING TRENCH WORK.

THE COST OF BACK FILLING SHALL BE INCLUDED WITH ITEM 614, MAINTAINING TRAFFIC.

TRENCH FOR WIDENING

TRENCH EXCAVATION FOR BASE WIDENING SHALL BE ONLY ON ONE SIDE OF THE PAVEMENT AT A TIME. THE OPEN TRENCH SHALL BE ADEQUATELY MAINTAINED AND PROTECTED WITH DRUMS OR BARRICADES AT ALL TIMES. PLACEMENT OF PROPOSED SUBBASE AND BASE MATERIAL SHALL FOLLOW AS CLOSELY AS POSSIBLE BEHIND EXCAVATION OPERATIONS. THE LENGTH OF WIDENING TRENCH WHICH IS OPEN AT ANY ONE TIME SHALL BE HELD TO A MINIMUM AND SHALL AT ALL TIMES BE SUBJECT TO APPROVAL OF THE ENGINEER.

OVERNIGHT TRENCH CLOSING

IN AREAS NOT BEHIND BARRIER, THE BASE WIDENING SHALL BE COMPLETED TO A DEPTH OF NO MORE THAN 3 INCHES BELOW THE EXISTING PAVEMENT BY THE END OF EACH WORK DAY. NO TRENCH SHALL BE LEFT OPEN OVERNIGHT EXCEPT FOR A SHORT LENGTH (25 FEET OR LESS) OF A WORK SECTION AT THE END OF THE TRENCH. IN CASE WORK MUST BE SUSPENDED BECAUSE OF INCLEMENT WEATHER OR OTHER REASONS, THE TRENCH FOR THE UNCOMPLETED BASE WIDENING SHALL BE BACKFILLED AT THE DIRECTION OF THE ENGINEER.

DUST CONTROL

THE CONTRACTOR SHALL FURNISH AND APPLY WATER FOR DUST CONTROL AS DIRECTED BY THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED FOR DUST CONTROL PURPOSES:

ITEM 616 - WATER 10 M. GAL

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ITEM 614 - LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE DURING CONSTRUCTION OPERATIONS

USE OF LAW ENFORCEMENT OFFICERS (LEOS) BY CONTRACTORS OTHER THAN THE USES SPECIFIED BELOW WILL NOT BE PERMITTED AT PROJECT COST. LEOS SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED.

IN ADDITION TO THE REQUIREMENTS OF C&MS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHALL BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS:

DURING THE ENTIRE ADVANCE PREPARATION AND CLOSURE SEQUENCE WHERE COMPLETE BLOCKAGE OF TRAFFIC IS REQUIRED.

DURING A TRAFFIC SIGNAL INSTALLATION WHEN IMPACTING THE NORMAL FUNCTION OF THE SIGNAL OR THE FLOW OF TRAFFIC OR WHEN TRAFFIC NEEDS TO BE DIRECTED THROUGH AN ENERGIZED TRAFFIC SIGNAL CONTRARY TO THE SIGNAL DISPLAY (E.G., DIRECTING MOTORISTS THROUGH A RED LIGHT).

IN ADDITION TO THE REQUIREMENT OF C&MS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHOULD BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS AS APPROVED BY THE ENGINEER:

FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED FOR LONG-TERM LANE CLOSURES/SHIFTS (FOR THE FIRST AND LAST DAY OF MAJOR CHANGES IN TRAFFIC CONTROL SETUP).

IN GENERAL, LEOS SHOULD BE POSITIONED IN ADVANCE OF AND ON THE SAME SIDE AS THE LANE RESTRICTION OR AT THE POINT OF ROAD CLOSURE, AND TO MANUALLY CONTROL TRAFFIC MOVEMENTS THROUGH SIGNALIZED INTERSECTIONS IN WORK ZONES.

LEOS SHOULD NOT FORGO THEIR TRAFFIC CONTROL RESPONSIBILITIES TO APPREHEND MOTORISTS FOR ROUTINE TRAFFIC VIOLATIONS. HOWEVER, IF A MOTORIST'S ACTIONS ARE CONSIDERED TO BE RECKLESS, THEN PURSUIT OF THE MOTORIST IS APPROPRIATE.

THE LEOS WORK AT THE DIRECTION OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR SECURING THE SERVICES OF THE LEOS WITH THE APPROPRIATE AGENCIES AND COMMUNICATING THE INTENTIONS OF THE PLANS WITH RESPECT TO DUTIES OF THE LEOS. THE ENGINEER SHALL HAVE FINAL CONTROL OVER THE LEOS' DUTIES AND PLACEMENT, AND WILL RESOLVE ANY ISSUES THAT MAY ARISE BETWEEN THE TWO PARTIES.

ITEM 614 - LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE DURING CONSTRUCTION OPERATIONS (CONTINUED)

THE LEO SHALL REPORT IN TO THE CONTRACTOR PRIOR TO THE START OF THE SHIFT, IN ORDER TO RECEIVE INSTRUCTIONS REGARDING SPECIFIC WORK ASSIGNMENTS DURING HIS/HER SHIFT. THE LEO IS EXPECTED TO STAY AT THE PROJECT SITE FOR THE ENTIRE DURATION OF HIS/HER SHIFT. THE LEO SHALL REPORT TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT. ONCE THE LEO HAS COMPLETED THE DUTIES DESCRIBED ABOVE AND STILL HAS TIME REMAINING ON HIS/HER SHIFT, THE LEO MAY BE ASKED TO PATROL THROUGH THE WORK ZONE (WITH FLASHING LIGHTS OFF) OR BE PLACED AT A LOCATION TO DETER MOTORISTS FROM SPEEDING. SHOULD IT BE NECESSARY TO LEAVE THE PROJECT SITE, THE LEO SHALL NOTIFY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE THE LEO WITH A TWO-WAY COMMUNICATION DEVICE WHICH SHALL BE RETURNED TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT.

LEOS (WITH PATROL CAR) REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON A UNIT PRICE (HOURLY) BASIS UNDER ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE 200 HOURS

THE HOURS PAID SHALL INCLUDE ANY MINIMUM SHOW-UP TIME REQUIRED BY THE LAW ENFORCEMENT AGENCY INVOLVED.

ANY ADDITIONAL COSTS (ADMINISTRATIVE OR OTHERWISE) INCURRED BY THE CONTRACTOR TO OBTAIN THE SERVICES OF AN LEO ARE INCLUDED WITH THE BID UNIT PRICE FOR ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE.

ITEM 614 - WORK ZONE IMPACT ATTENUATOR FOR 24" WIDE HAZARDS (BIDIRECTIONAL)

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING A NON-GATING IMPACT ATTENUATOR. FURNISH AN IMPACT ATTENUATOR FROM THE OFFICE OF ROADWAY ENGINEERING'S APPROVED LIST FOR WORK ZONE IMPACT ATTENUATORS, FROM THE ROADWAY STANDARDS APPROVED PRODUCTS WEB PAGE .

INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

THE CONTRACTOR SHALL REPAIR OR REPLACE A DAMAGED UNIT WITHIN 24 HOURS OF A DAMAGING IMPACT.

WHEN BIDIRECTIONAL DESIGNS ARE SPECIFIED, THE CONTRACTOR SHALL SUPPLY APPROPRIATE TRANSITIONS.

WHEN GATING IMPACT ATTENUATORS ARE DESIRED, THE CONTRACTOR SHALL SUBMIT DOCUMENTATION TO THE ENGINEER FOR ACCEPTANCE.

THE COST FOR THE ADDITIONAL BARRIER REQUIRED FOR A GATING IMPACT ATTENUATOR SHALL BE INCLUDED IN THE COST OF THE GATING IMPACT ATTENUATOR.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT AND MAINTAIN A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED BACKUPS, TRANSITIONS, LEVELING PADS, HARDWARE AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

CONSTRUCTION SEQUENCE

(S.R. 39 & C.R. 21 INTERSECTION)
(S.R. 39 & RAMP A/RAMP D INTERSECTION)
(PARK AND RIDE)
PHASE 1:

1.) INSTALL THE NEW SIGNAL, CONTROL CENTER AND OTHER SIGNAL ITEMS FOR THE S.R. 39 & C.R. 21 INTERSECTION AT PROPOSED LOCATIONS, AS SPECIFIED IN THE SIGNAL PLAN. REMOVE EXISTING STRAIN POLES, CONTROLLER, AND SIGNAL PULL BOXES NECESSARY TO COMPLETE CONSTRUCTION FOR PHASES 2 AND 3 AS SHOWN IN THE PLAN.

2.) REMOVE THE GUARDRAIL IN ITS ENTIRETY ALONG THE WEST SIDE OF S.R. 39 AND C.R. 21 AS SHOWN IN THE PLANS. ALL WORK FOR THIS PHASE SHALL BE CONSTRUCTED UNDER THE DIRECTION OF AN LEO AND FLAGGERS AS SPECIFIED BY THE ENGINEER.

3.) INSTALL CATCH BASINS AND CONNECT TO EXISTING CONDUIT. PORTIONS OF THIS WORK MAY BE CONSTRUCTED UNDER THE DIRECTION OF AN LEO AND SHALL BE SUBJECT TO THE "TRENCH FOR DRAINAGE ITEMS" AND "OVERNIGHT TRENCH CLOSING FOR DRAINAGE" NOTES ON SHEET NO. 6.

4.) CONSTRUCT EMBANKMENT, PAVEMENT, GUARDRAIL, AND PERFORM PAVEMENT MARKINGS FOR THE PARK AND RIDE.

PHASE 2:
1.) INSTALL ALL WORK ZONE SIGNS, WORK ZONE PAVEMENT MARKINGS, PORTABLE BARRIER, PAVEMENT FOR MAINTAINING TRAFFIC, AND MAINTAIN TRAFFIC AS SHOWN FOR PHASE 2 IN THE PLAN AND STANDARD CONSTRUCTION DRAWINGS.

2.) SAW CUT PAVEMENT AND REMOVE THE EXISTING CURB AND PAVEMENT TO THE LIMITS SHOWN IN THE PLAN. COMPLETE ALL GRADING WORK NECESSARY TO COMPLETE CONSTRUCTION OF THE CURB AND PAVEMENT, AS SHOWN IN THE PLANS.

3.) COMPLETE ALL OTHER APPLICABLE CONSTRUCTION INCLUDING BUT NOT LIMITED TO FULL DEPTH PAVEMENT PLACEMENT UP TO AND INCLUDING THE INTERMEDIATE COURSE AND THE CURB AND GUTTER REPLACEMENT.

PHASE 3:
1.) INSTALL REMAINING SIGNAL ITEMS FOR THE S.R. 39 & RAMP A/RAMP D INTERSECTION . THE INSTALLATION OF THE PROPOSED SIGNAL MAY BE COMPLETED AT ANY TIME AFTER PHASE 1.

2.) REMOVE ALL PHASE 2 WORK ZONE TRAFFIC CONTROL DEVICES.

3.) COMPLETE ALL REMAINING CONSTRUCTION, INCLUDING PAVEMENT PLANING, THE 441 SURFACE COURSE AND PAVEMENT MARKINGS. MAINTAIN TRAFFIC PER MT-97.10.

(S.R. 39 & RAMP F INTERSECTION)
PHASE 4:

1.) INSTALL THE NEW SIGNAL, CONTROL CENTER AND OTHER SIGNAL ITEMS FOR THE S.R. 39 & RAMP F INTERSECTION AT PROPOSED LOCATIONS, AS SPECIFIED IN THE SIGNAL PLAN. REMOVE EXISTING STRAIN POLES, CONTROLLER, AND SIGNAL PULL BOXES NECESSARY TO COMPLETE CONSTRUCTION FOR PHASES 5A, 5B, AND 6 AS SHOWN IN THE PLAN. THIS PHASE SHALL BE CONSTRUCTED UNDER THE DIRECTION OF AN LEO AND FLAGGERS AS SPECIFIED BY THE ENGINEER.

PHASE 5A:
1.) INSTALL ALL WORK ZONE SIGNS, WORK ZONE PAVEMENT MARKINGS, PORTABLE BARRIER, AND MAINTAIN TRAFFIC AS SHOWN FOR PHASE 5A (SOUTHEAST QUADRANT) IN THE PLAN AND STANDARD CONSTRUCTION DRAWINGS.

2.) SAW CUT PAVEMENT, AS NEEDED, AND REMOVE THE EXISTING CURB AND GUARDRAIL TO THE LIMITS SHOWN IN THE PLAN. COMPLETE ALL GRADING WORK NECESSARY TO COMPLETE CONSTRUCTION OF THE CURB, SIDEWALK, PAVEMENT AND GUARDRAIL, AS SHOWN IN THE PLANS.

3.) INSTALL NEW CURB, SIDEWALK, CURB RAMP, GUARDRAIL, AND COMPLETE PROPOSED PAVEMENT UP TO AND INCLUDING THE 442 SURFACE COURSE, AS SHOWN IN THE PLANS.

PHASE 5B:
1.) RELOCATE THE WORK ZONE SIGNS, WORK ZONE PAVEMENT MARKINGS, AND PORTABLE BARRIER REQUIRED FOR PHASE 5B. RELOCATION OF THE PORTABLE BARRIER BETWEEN PHASES SHALL BE ACCOMPLISHED IN ONE WORKING DAY. MAINTAIN TRAFFIC AS SHOWN IN THE PLAN AND STANDARD CONSTRUCTION DRAWINGS. INSTALL ALL REMAINING WORK ZONE SIGNS AND WORK ZONE PAVEMENT MARKINGS.

2.) SAW CUT PAVEMENT AND REMOVE THE EXISTING PAVEMENT, CURB AND GUTTER, AND SIDEWALK TO THE LIMITS SHOWN IN THE PLAN. COMPLETE ALL GRADING WORK NECESSARY TO COMPLETE CONSTRUCTION OF THE CURB, SIDEWALK, AND PAVEMENT, AS SHOWN IN THE PLANS.

3.) INSTALL CURB AND GUTTER AND COMPLETE PROPOSED PAVEMENT UP TO AND INCLUDING THE 442 SURFACE COURSE (AS SHOWN IN THE WORK ZONE TYPICAL) FOR PHASE 5B.

4.) COMPLETE REMAINING SIDEWALK AND CURB RAMP WORK, AS SHOWN IN THE PLANS.

PHASE 6:
1.) INSTALL THE WORK ZONE SIGNS, WORK ZONE PAVEMENT MARKINGS, AND PORTABLE BARRIER REQUIRED FOR PHASE 6. RELOCATION OF THE PORTABLE BARRIER BETWEEN PHASES SHALL BE ACCOMPLISHED IN ONE WORKING DAY. MAINTAIN TRAFFIC AS SHOWN IN THE PLAN AND STANDARD CONSTRUCTION DRAWINGS. REMOVE ALL WORK ZONE TRAFFIC CONTROL DEVICES FROM PHASE 5B ON S.R. 39 AND APPLY NEW WORK ZONE PAVEMENT MARKINGS TO RESTORE THE LANES ON S.R. 39 TO FULL OPERATION NEAR RAMP F.

2.) SAW CUT PAVEMENT AND REMOVE THE EXISTING PAVEMENT TO THE LIMITS SHOWN IN THE PLAN. COMPLETE ALL GRADING WORK NECESSARY TO COMPLETE CONSTRUCTION OF THE PAVEMENT, AS SHOWN IN THE PLANS.

3.) COMPLETE PROPOSED PAVEMENT UP TO AND INCLUDING THE 442 SURFACE COURSE (AS SHOWN IN THE WORK ZONE TYPICAL) FOR PHASE 6.

PHASE 7:

1.) INSTALL REMAINING SIGNAL ITEMS. THE INSTALLATION OF THE PROPOSED SIGNAL MAY BE COMPLETED AT ANY TIME AFTER PHASE 4.

2.) REMOVE ALL WORK ZONE TRAFFIC CONTROL DEVICES.

3.) COMPLETE ALL REMAINING CONSTRUCTION, PAVEMENT MARKINGS. MAINTAIN TRAFFIC PER MT-95.30.

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MAINTENANCE OF TRAFFIC SIGNAL INSTALLATION

THE CONTRACTOR SHALL BE RESPONSBLE FOR MAINTAINING TRAFFIC SIGNAL INSTALLATIONS WITHIN THE PROJECT UNDER THE FOLLOWING CONDITIONS:

1. EXISTING SIGNAL INSTALLATIONS WHICH THE PLANS REQUIRE THE CONTRACTOR TO ADJUST, MODIFY, ADD ONTO OR REMOVE, OR WHICH THE CONTRACTOR ACTUALLY ADJUSTS, MODIFIES OR OTHERWISE DISTURBS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ENTIRE INSTALLATION (AT AN INTERSECTION) FROM THE TIME HIS OPERATIONS FIRST DISTURB THE INSTALLATION UNTIL THE INSTALLATION HAS BEEN SUBSEQUENTLY REMOVED OR MODIFIED AND THE WORK ACCEPTED.

2. NEW OR REUSED SIGNAL INSTALLATIONS OR DEVICES, INSTALLED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSBILE FOR MAINTENANCE OF THESE FROM THE TIME OF INSTALLATION UNTIL THE WORK IS ACCEPTED.

THE CONTRACTOR SHALL CORRECT AS QUICKLY AS POSSIBLE ALL OUTAGES OR MALFUNCTIONS. HE SHALL PROVIDE THE MAINTAINING AGENCY AND THE ENGINEER SUCH ADDRESSES AND PHONE NUMBERS WHERE HIS MAINTENANCE FORCES CAN BE CONTACTED. THE CONTRACTOR SHALL PROVIDE ONE OR MORE PERSONS TO RECEIVE ALL CALLS AND DISPATCH THE NECESSARY MAINTENANCE FORCES TO CORRECT OUTAGES. SUCH A PERSON OR PERSONS MAY BE USED TO PERFORM OTHER DUTIES AS LONG AS PROMPT ATTENTION IS GIVEN TO THESE CALLS AND A PERSON IS READILY AVAILABLE CONTINUOUSLY 24 HOURS A DAY, 7 DAYS A WEEK. ALL LAMP OUTAGES, CABLE OUTAGES, ELECTRICAL FAILURES, EQUIPMENT MALFUNCTIONS AND MISALIGNED SIGNAL HEADS SHALL BE CORRECTED TO THE SATISFACTION OF THE ENGINEER WITH THE SIGNAL BACK TO SERVICE WITHIN FOUR HOURS AFTER THE CONTRACTOR HAS BEEN NOTIFIED OF THE OUTAGE.

IN THE EVENT NEW SIGNALS ARE DAMAGED PRIOR TO ACCEPTANCE, ALL DAMAGED EQUIPMENT EXCEPT POLES AND CONTROL EQUIPMENT SHALL BE REPLACED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER WITH THE SIGNAL BACK IN SERVICE WITHIN 8 HOURS AFTER THE CONTRACTOR'S NOTIFICATION OF THE OUTAGE. THE CONTRACTOR SHALL ARRANGE FOR FULL TRAFFIC CONTROL UNTIL THE SIGNAL IS BACK IN OPERATION.

IF POLES AND/OR CONTROL EQUIPMENT ARE DAMAGED AND MUST BE REPLACED, THE CONTRACTOR SHALL MAKE TEMPORARY REPAIRS AS NECESSARY TO BRING THE SIGNAL BACK INTO FULL OPERATION WITHIN THE ALLOWED 8-HOUR PERIOD, AND SHALL MAKE PERMANENT REPAIRS OR REPLACEMENT AS SOON THEREAFTER AS POSSIBLE.

NONE OF THE ABOVE SHALL BE CONSTRUED AS COLLECTIVE OR CONSECUTIVE OUTAGE TIME PERIODS AT ANY ONE LOCATION. THAT IS, WHERE MORE THAN ONE OUTAGE OCCURS AT ANY ONE LOCATION THEN THE ALLOTTED TIME LIMIT SHALL BE FOR THE WORST SINGLE OUTAGE.

WHERE OUTAGES ARE THE DIRECT RESULT OF A VEHICLE ACCIDENT, THE RESPONSE OF THE CONTRACTOR SHALL BE AS OUTLINED ABOVE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COLLECTION OF ANY COMPENSATION FOR THIS WORK FROM THOSE PARTIES RESPONSIBLE FOR THE DAMAGE.

MAINTENANCE OF TRAFFIC SIGNAL INSTALLATION, (CONTINUED)

WHERE THE CONTRACTOR HAS FAILED TO, OR CANNOT RESPOND TO, AN OUTAGE OR SIGNAL EQUIPMENT MALFUNCTION, AT THESE LOCATIONS WITHIN HIS RESPONSIBILITY, WITHIN PERIODS AS SPECIFIED ABOVE, THE ENGINEER MAY INVOKE THE PROVISIONS OF SECTION 105.15 AND ANY SUBSEQUENT BILLINGS TO THE STATE FOR POLICE SERVICES AND MAINTENANCE SERVICES BY CITY FORCES SHALL BE DEDUCTED FROM MONIES DUE OR TO BECOME DUE THE CONTRACTOR IN ACCORDANCE WITH PROVISIONS OF SECTION 105.15.

THE CONTRACTOR SHALL PROVIDE THE MAINTENANCE SERVICE ENTIRELY WITH HIS FORCES OR HE MAY CHOOSE TO ENTER INTO A COOPERATIVE UNDERSTANDING WITH THE LOCAL MAINTAINING AGENCY TO PROVIDE THE MAINTENANCE. THE CONTRACTOR SHALL INFORM THE ENGINEER, IN WRITING, OF THE MAINTENANCE METHOD SELECTED.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO ANY TRAFFIC SIGNAL COMPONENTS REQUIRED TO BE HANDLED DURING THE RELOCATION OF POLES AND REVISIONS TO THE SIGNAL SYSTEM.

WHEN A TRAFFIC SIGNAL MUST BE TAKEN OUT OF SERVICE BY THE CONTRACTOR, DUE TO CONSTRUCTION PROCEDURES, THIS OUTAGE SHALL NOT EXCEED 2 HOURS AND SHALL NOT INCLUDE THE HOURS OF 7 AM TO 9 AM AND 3 PM TO 6 PM. ANY SIGNALIZED INTERSECTION, WHERE THE SIGNAL IS OUT OF SERVICE DUE TO CONSTRUCTION PROCEDURES, OR DUE TO AN OUTAGE OR MALFUNCTION OF EQUIPMENT AS DESCRIBED ABOVE, SHALL BE PROTECTED, BY OFF-DUTY STATE HIGHWAY PATROL, HIRED BY THE CONTRACTOR.

ANY VEHICULAR TRAFFIC SIGNAL HEAD, EITHER NEW OR EXISTING WHICH WILL BE OUT OF OPERATION SHALL BE COVERED IN THE MANNER DESCRIBED IN 632.25.

THE CONTRACTOR SHALL MAINTAIN COMPLETE RECORDS OF MALFUNCTIONS INCLUDING:

1. TIME OF NOTIFICATION OF MALFUNCTION;
2. TIME OF WORK CREWS ARRIVAL TO CORRECT THE MALFUNCTION;
3. ACTIONS TAKEN TO CORRECT THE MALFUNCTION, INCLUDING A LIST OF PARTS REPAIRED OR REPLACED;
4. A DIAGNOSIS OF REASON FOR THE MALFUNCTION AND PROBABILITY OF REOCCURRENCE;
5. TIME OF COMPLETION OF THE REPAIR AND SYSTEM RESTORED TO FULL SERVICE.

A COPY OF THESE RECORDS SHALL BE PROVIDED TO THE ENGINEER WITHIN THREE (3) WORKING DAYS FOLLOWING COMPLETION OF EACH REPAIR.

ALL COSTS RESULTING FROM THE ABOVE REQUIREMENTS SHALL BE CONSIDERED TO BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614, MAINTAINING TRAFFIC.

DELINEATION OF PORTABLE AND PERMANENT BARRIER

BARRIER REFLECTORS AND OBJECT MARKERS SHALL BE INSTALLED ON ALL PORTABLE BARRIER (PB) USED FOR TRAFFIC CONTROL AND ON PERMANENT CONCRETE BARRIER (INCLUDING BRIDGE PARAPETS) LOCATED WITHIN 5 FEET OF THE EDGE OF THE ADJACENT TRAVEL LANE.

BARRIER REFLECTORS SHALL CONFORM TO C&MS 626, EXCEPT THAT THE SPACING SHALL BE AS PER TRAFFIC SCD MT-101.70. OBJECT MARKERS AND THEIR INSTALLATION SHALL CONFORM TO C&MS 614.03 AND SCD MT-101.70. WHEN THE PB CONTAINS GLARE SCREEN, ONE SET OF THREE VERTICAL STRIPES OF SHEETING SHALL BE CONSIDERED EQUIVALENT TO AN OBJECT MARKER, ONE-WAY.

INCREASED BARRIER DELINEATION, AS SPECIFIED HEREIN, SHALL BE INSTALLED ON ALL PB AND CONCRETE PERMANENT BARRIER LOCATED WITHIN 5 FEET OF THE EDGE OF THE TRAVELED LANE ALONG TAPERS AND TRANSITION AREAS AND ALONG CURVES (OUTSIDE ONLY) WITH DEGREE OF CURVATURE GREATER THAN OR EQUAL TO 3 DEGREES.

THE INCREASED BARRIER DELINEATION SHALL CONSIST OF EITHER DELINEATION PANELS OR THE TRIPLE STACKING OF WORK ZONE BARRIER REFLECTORS.

DELINEATION PANELS SHALL CONSIST OF PANELS OF DELINEATION, APPROXIMATELY 34 INCHES LONG AND 6 INCHES WIDE AND SHALL BE "CRIMPED." PANELS SHALL BE INSTALLED AND SPACED PER TRAFFIC SCD MT-101.70.

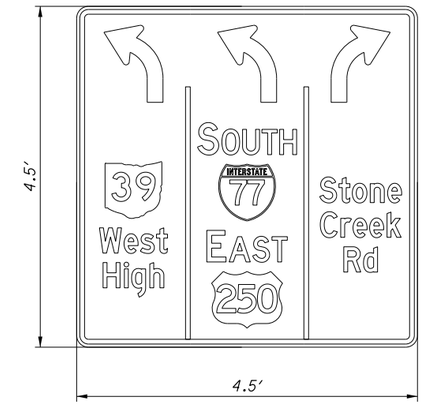
TRIPLE-STACKED BARRIER REFLECTORS SHALL CONSIST OF ALIGNING THREE BARRIER REFLECTORS VERTICALLY, AT LOCATIONS WHERE A SINGLE BARRIER REFLECTOR WOULD BE OTHERWISE ATTACHED. THERE SHALL BE NO OPEN SPACE BETWEEN THE ADJACENT BARRIER REFLECTORS. THE TRIPLE-STACKED BARRIER REFLECTORS SHALL CONFORM TO C&MS 626, EXCEPT THAT THEY SHALL BE SPACED AND ALIGNED PER TRAFFIC SCD MT-101.70.

QUANTITIES FOR ITEM 614 - BARRIER REFLECTOR, TYPE 1, ITEM 614 - OBJECT MARKER, 2-WAY, AND ITEM 614 - INCREASE BARRIER DELINEATION HAVE BEEN INCLUDED IN THE PLANS AND CARRIED TO THE GENERAL SUMMARY. PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, INCIDENTALS AND EQUIPMENT NECESSARY FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING EACH OF THE ABOVE ITEMS.

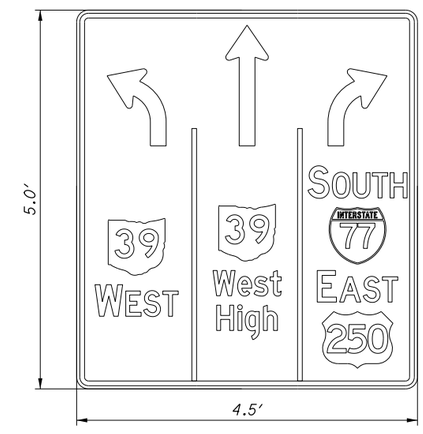
ALONG RUNS OF INCREASED BARRIER DELINEATION WHERE THIS ITEM IS PROVIDED, THE QUANTITY SHALL BE MEASURED AS THE ENTIRE LENGTH OF THE RUN OF INCREASED BARRIER DELINEATION, INCLUDING THE SPACES BETWEEN THE INDIVIDUAL DELINEATION PANELS OR STACKS OF BARRIER REFLECTORS.

CUSTOM DESIGN SIGN

THE BELLOW SHOWN SIGNS SHALL HAVE AN ORANGE BACKGROUND WITH BLACK LETTERING.



THE ABOVE SIGN SHALL BE USED FROM PHASE 5A THRU PHASE 7 AND BE PLACED ON THE RIGHT SIDE OF S.R. 39 AT STATION 0+75 AND BOTH SIDES OF S.R. 39 AT STATION 3+75.



THE ABOVE SIGN SHALL BE USED FROM PHASE 5A THRU PHASE 7 AND BE PLACED ON THE RIGHT SIDE OF STONECREEK RD AT STATION 52+70 AND BOTH SIDES OF STONECREEK RD AT STATION 50+00.

PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC.

CALCULATED MVC
CHECKED JAC

MAINTENANCE OF TRAFFIC GENERAL NOTES

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REF. NO.	SHEET NO.	STATION TO STATION	614 WORK ZONE CENTER LINE, CLASS I, 740.06, TYPE I	614 WORK ZONE EDGE LINE, CLASS I, 6", 740.06, TYPE I W	614 WORK ZONE EDGE LINE, CLASS I, 6", 740.06, TYPE I Y	614 WORK ZONE IMPACT ATTENUATOR (BIDIRECTIONAL)	614 WORK ZONE CHANNELIZING LINE, CLASS I, 8", 740.06, TYPE I	614 WORK ZONE LANE LINE, CLASS 1, 6", 740.06, TYPE I	614 WORK ZONE STOP LINE, CLASS 1, 740.06, TYPE I	614 WORK ZONE ARROW, CLASS 1, 740.06, TYPE I	614 WORK ZONE DOTTED LINE, CLASS 1, 740.06, TYPE I	614 BARRIER REFLECTOR, TYPE 1 (BIDIRECTIONAL)	614 OBJECT MARKER, TWO WAY	614 INCREASED BARRIER DELINEATION	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B	622 PORTABLE BARRIER, 32"
			MILE	MILE		EACH	FEET	MILE	FEET	EACH	FEET	EACH	EACH	FEET	SQ. YD.	FEET
		PHASE 2														
CL-1	10	STA. 51+37.00 TO STA. 52+85.00	0.03													
CL-2	10-11	STA. 0+55.00 TO STA. 6+00.00	0.10													
CH-1	10	STA. 51+37.00 TO STA. 52+85.00					148									
CH-2	10	STA. 0+55.04 TO STA. 3+35.00					280									
EW-1	10-11	STA. 52+00.00 TO STA. 5+25.00		0.11												
PB-1	10-11	STA. 51+60.00 TO STA. 5+00.00				2						14	14	14		640
PM-1	11	STA. 4+19.84 TO STA. 5+25.00													70	
		PHASE 2 SUBTOTAL	**0.13**	**0.11**		**2**	**428**					**14**	**14**	**14**	**70**	**640**
		PHASE 5A														
CL-3	12	STA. 49+82.00 TO STA. 52+85.00	0.07													
CL-4	12	STA. 0+75.00 TO STA. 7+80.00	0.13													
CH-4	12	STA. 0+75.00 TO STA. 3+25.00					255									
CH-5	12	STA. 0+75.00 TO STA. 3+75.00					302									
EW-3	13-14	STA. 56+00.00 TO STA. 63+38.00		0.13												
EW-4	14-16	STA. 7+35.00 TO STA. 65+30.00		0.17												
SL-1	12	STA. 0+75.00							36							
A-1		STA. 2+83.00								3						
A-2		STA. 2+17.00								3						
A-3	12	STA. 1+51.00								3						
A-4	12	STA. 0+85.00								3						
DL-1	12	STA. 0+75.00 TO STA. 53+37.86									96					
PB-2	14-15	STA. 2+10.00 TO STA. 65+90.00				2						7	8	70		340
		PHASE 5A SUBTOTAL	**0.20**	**0.30**		**2**	**557**		**36**	**12**	**96**	**7**	**8**	**70**		**340**
		PHASE 5B														
EY-1	19-21	STA. 0+40.00 TO STA. 8+00.00			0.14											
LL-1	19	STA. 64+52.00 TO STA. 65+90.00						0.03								
LL-2	20-21	STA. 2+50.00 TO STA.5+00.00						0.05								
PB-3	19-20	STA. 62+50.00 TO STA. 1+66.00				2						5	7	80		270
CH-6	19-20	STA. 0+40.00 TO STA. 2+50.00					210									
		PHASE 5B SUBTOTAL		**0.14**		**2**	**210**	**0.08**				**5**	**7**	**80**		**270**
		PHASE 6														
EW-5	22	STA. 0+65.00 TO STA. 4+90.00		0.08												
EY-2	22-23	STA. 0+40.00 TO STA. 9+80.00			0.17											
CH-7	22	STA. 0+42.00 TO STA. 2+50.00					208									
LL-3	22	STA. 2+50.00 TO STA. 4+94.50						0.05								
PB-4	22	STA. 0+86.00 TO STA. 4+57.00				2						8	10	80		410
		PHASE 6 SUBTOTAL		**0.25**		**2**	**208**	**0.05**				**8**	**10**	**80**		**410**
TOTALS CARRIED TO GENERAL SUMMARY			0.33	0.80		8	1403	0.13	36	12	96	34	39	244	70	1660

CALCULATED GBS
CHECKED JAC

MAINTENANCE OF TRAFFIC QUANTITIES

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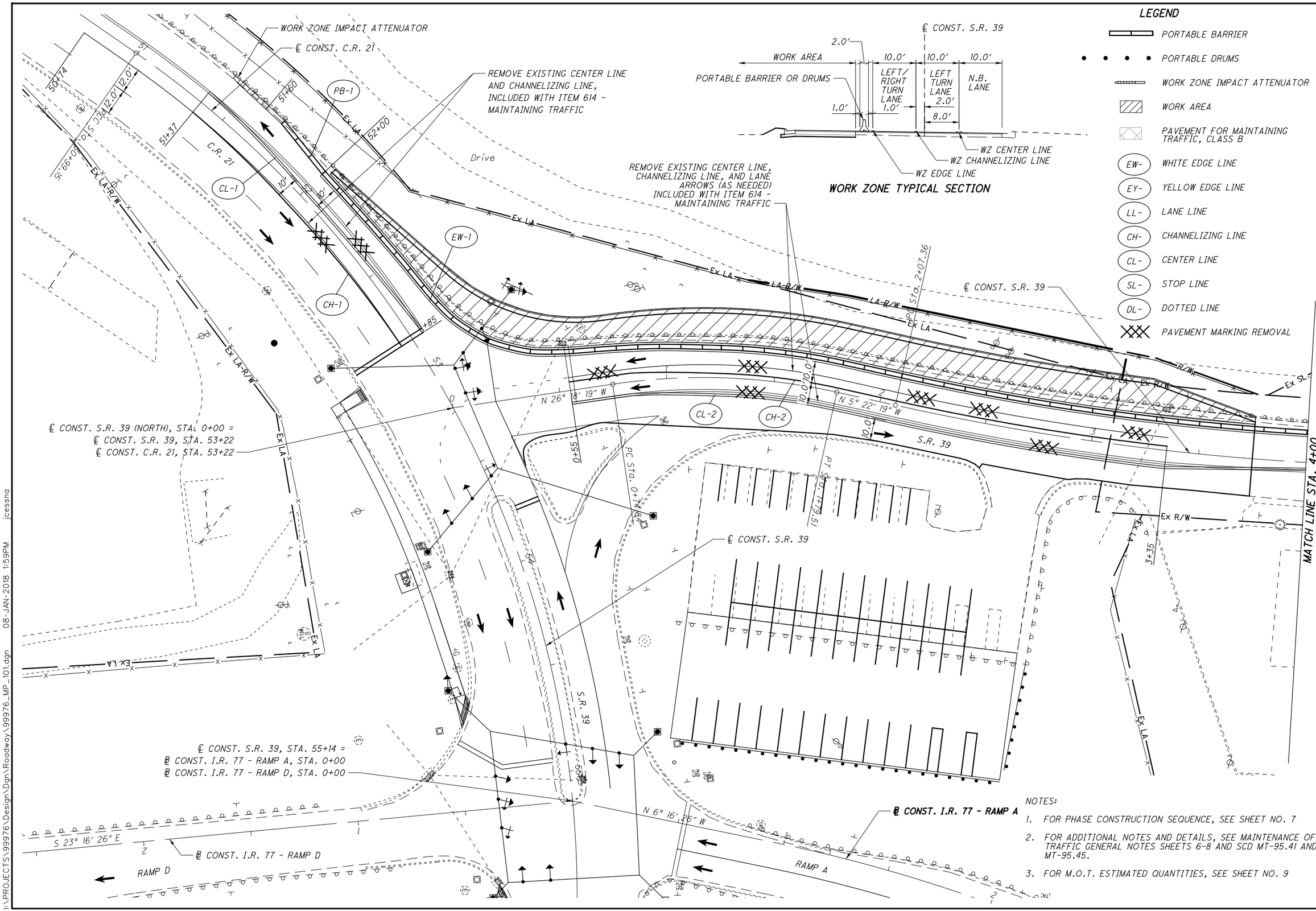

NOTES:

1. FOR PHASE CONSTRUCTION SEQUENCE, SEE SHEET NO. 7
2. FOR ADDITIONAL NOTES AND DETAILS, SEE MAINTENANCE OF TRAFFIC GENERAL NOTES SHEETS 6-8 AND SCD MT-95.41 AND MT-95.45.
3. FOR M.O.T. ESTIMATED QUANTITIES, SEE SHEET NO. 9

CALCULATED JAC
CHECKED JPB

MAINTENANCE OF TRAFFIC - PHASE 2
STA. 0+00 TO STA. 4+00

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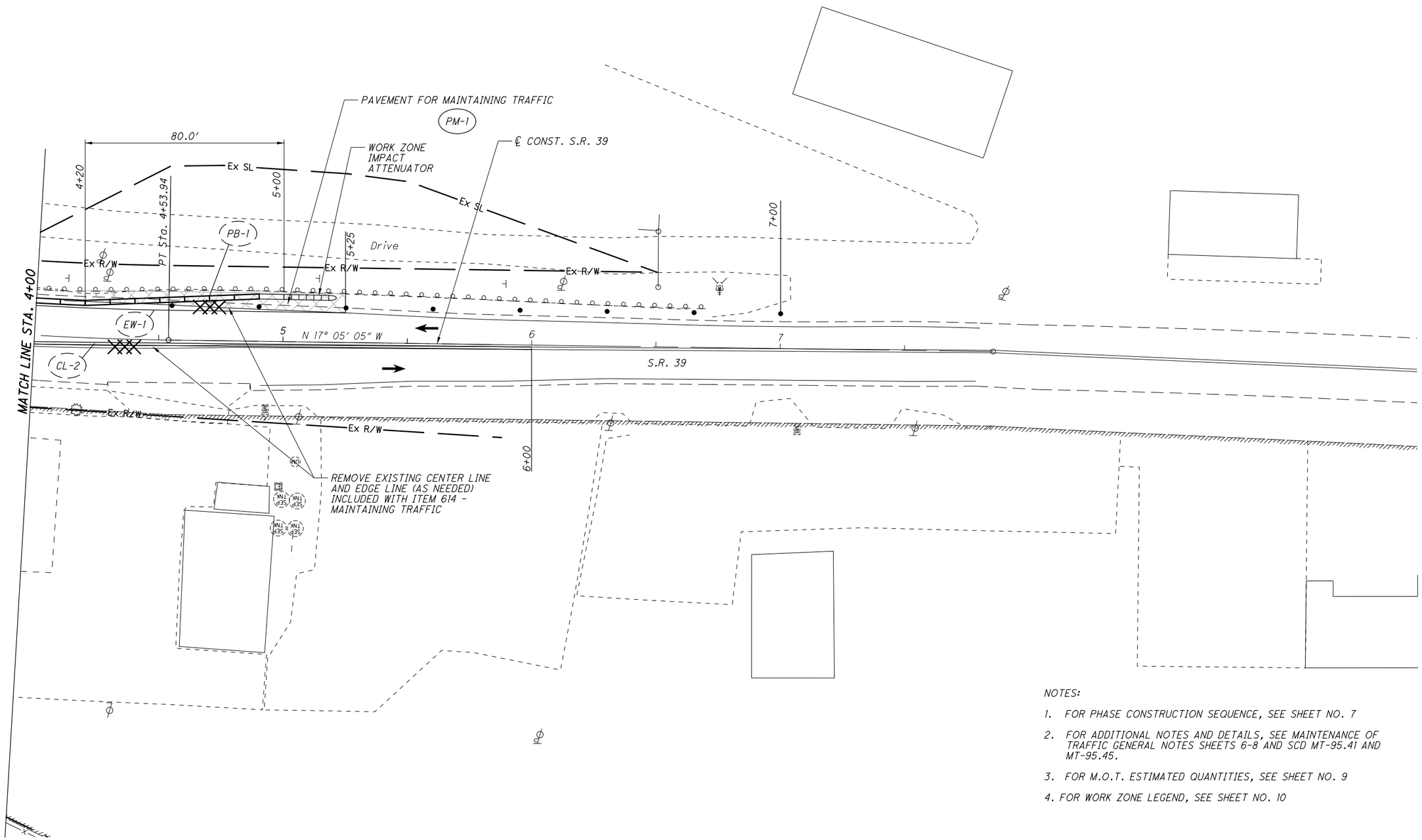

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3. FOR M.O.T. ESTIMATED QUANTITIES, SEE SHEET NO. 9
4. FOR WORK ZONE LEGEND, SEE SHEET NO. 10

HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED MVC
CHECKED JAC

MAINTENANCE OF TRAFFIC - PHASE 2
STA. 4+00 TO STA. 7+00

TUS-39-12.64

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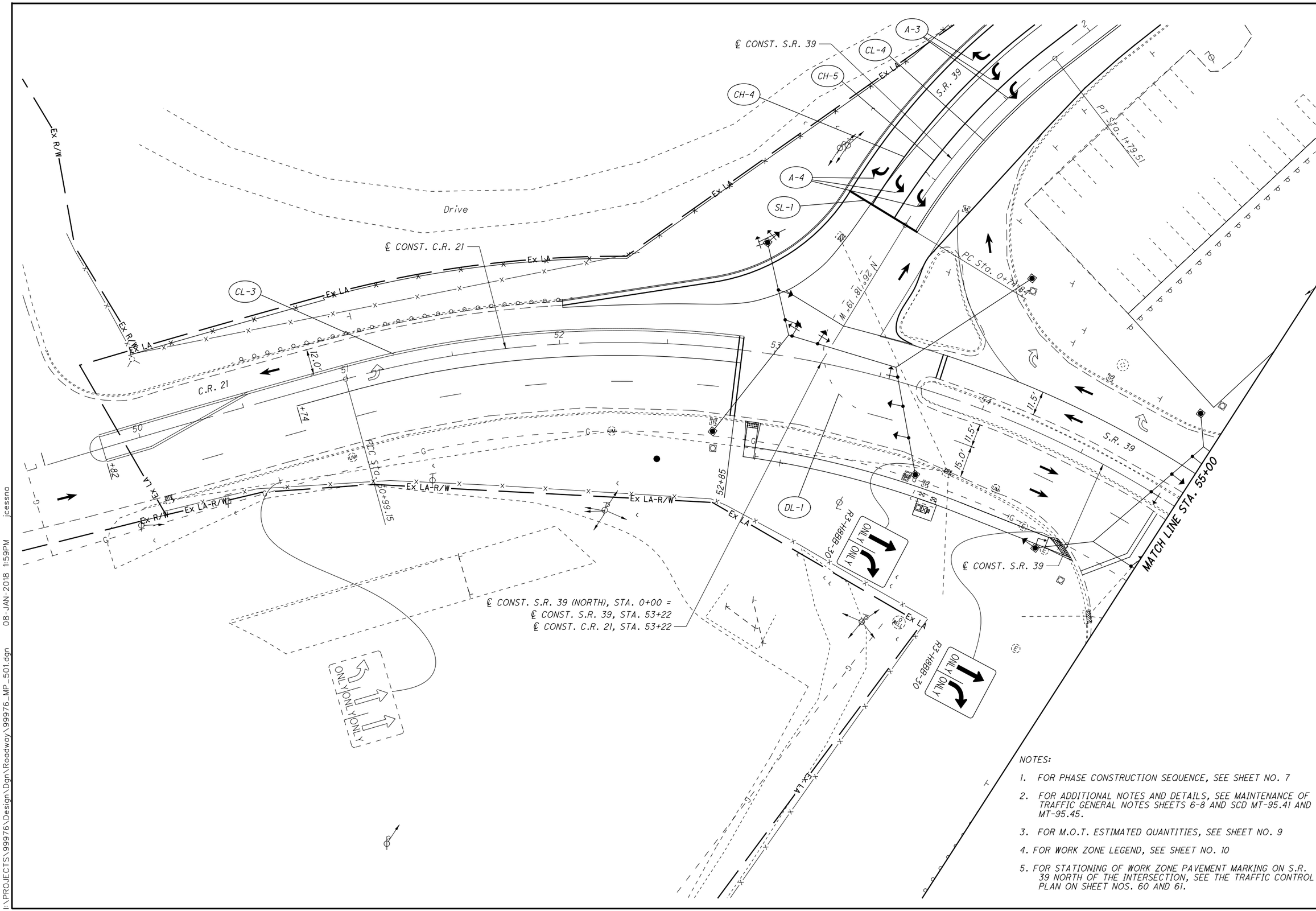

NOTES:

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2. FOR ADDITIONAL NOTES AND DETAILS, SEE MAINTENANCE OF TRAFFIC GENERAL NOTES SHEETS 6-8 AND SCD MT-95.41 AND MT-95.45.
3. FOR M.O.T. ESTIMATED QUANTITIES, SEE SHEET NO. 9
4. FOR WORK ZONE LEGEND, SEE SHEET NO. 10
5. FOR STATIONING OF WORK ZONE PAVEMENT MARKING ON S.R. 39 NORTH OF THE INTERSECTION, SEE THE TRAFFIC CONTROL PLAN ON SHEET NOS. 60 AND 61.

HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED MVC
CHECKED JAC

MAINTENANCE OF TRAFFIC - PHASE 5A
C.R. 21/ S.R. 39 - STA. 49+00 TO 54+50

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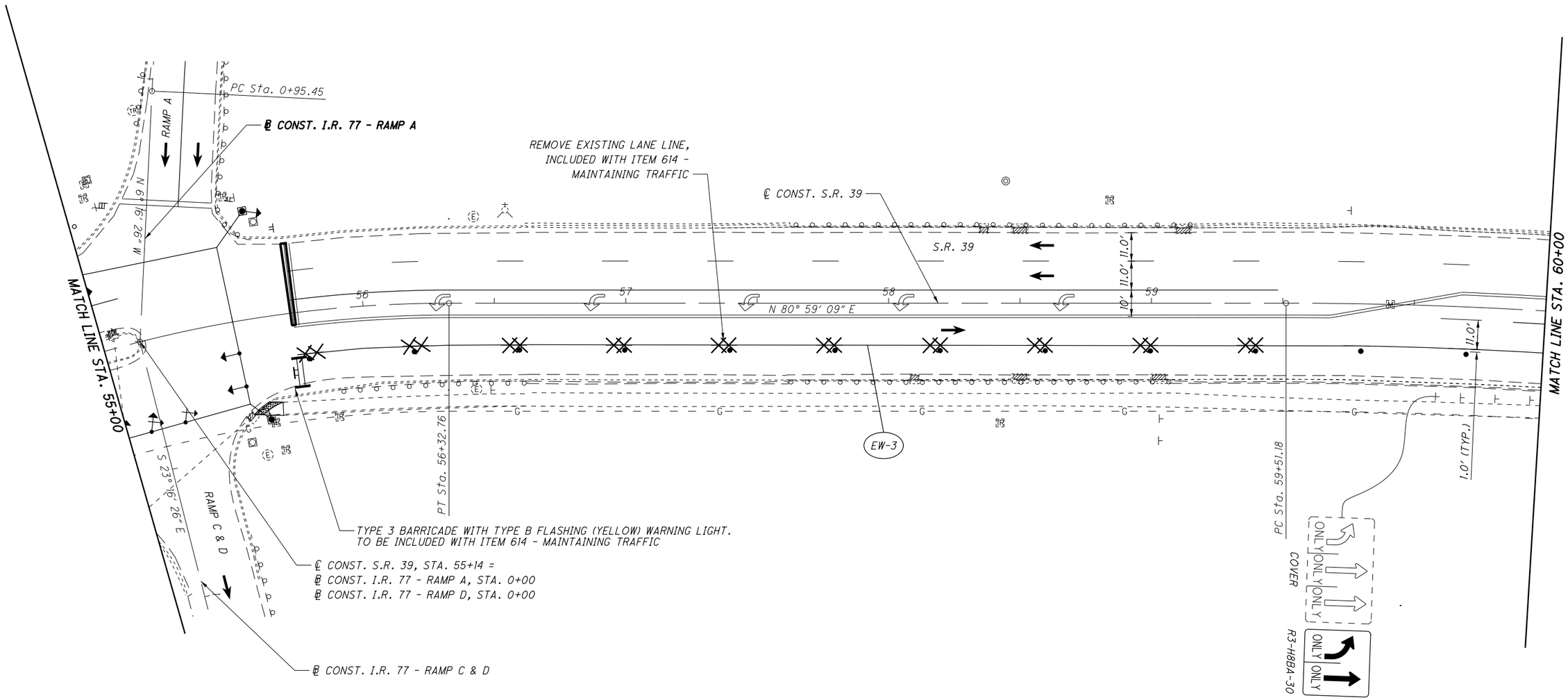

NOTES:

1. FOR PHASE CONSTRUCTION SEQUENCE, SEE SHEET NO. 7
2. FOR ADDITIONAL NOTES AND DETAILS, SEE MAINTENANCE OF TRAFFIC GENERAL NOTES SHEETS 6-8 AND SCD MT-95.41 AND MT-95.45.
3. FOR M.O.T. ESTIMATED QUANTITIES, SEE SHEET NO. 9
4. FOR WORK ZONE LEGEND, SEE SHEET NO. 10

HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED MVC
CHECKED JAC

MAINTENANCE OF TRAFFIC - PHASE 5A
S.R. 39 - STA. 54+50 TO 60+50

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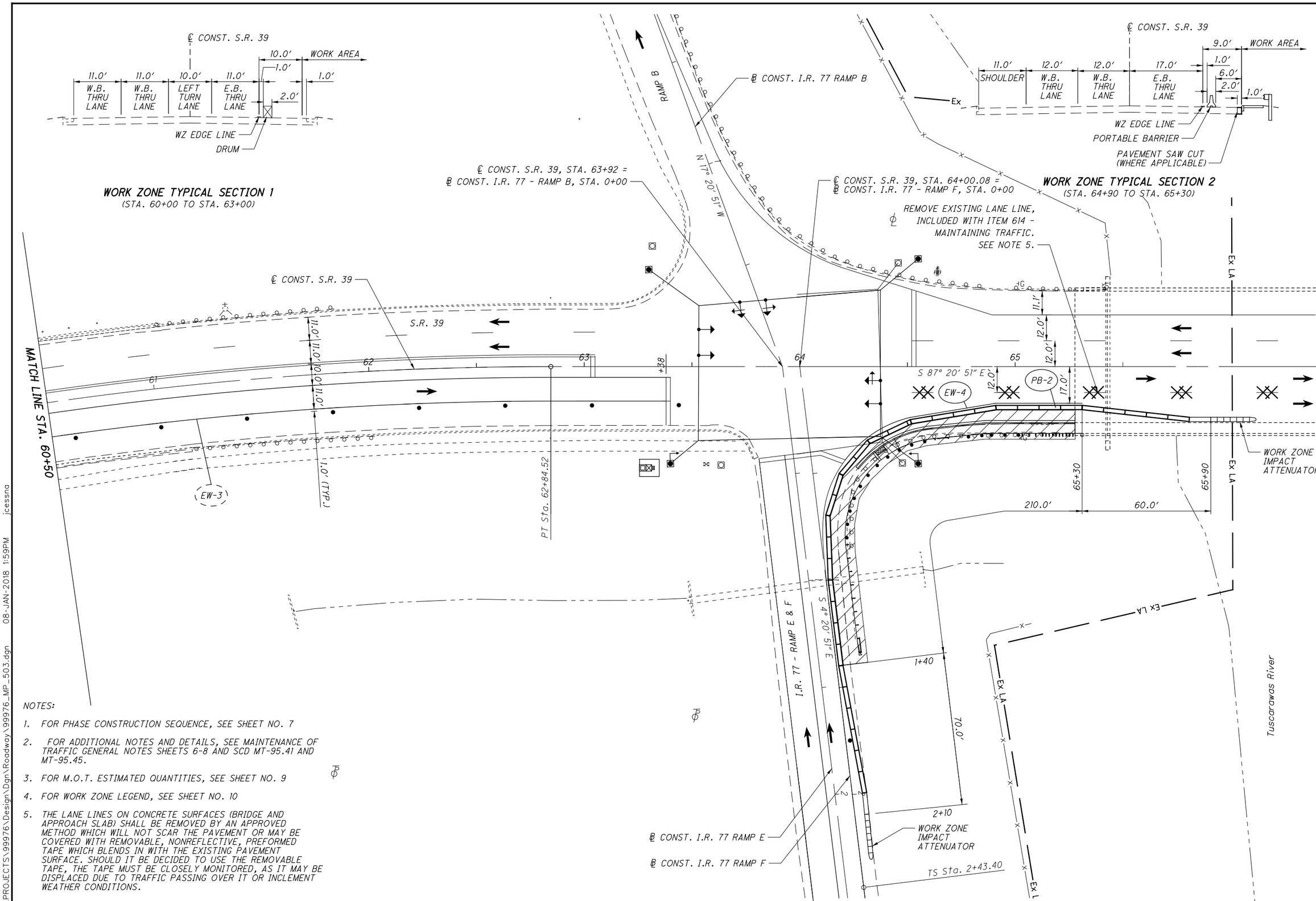

NOTES:

1. FOR PHASE CONSTRUCTION SEQUENCE, SEE SHEET NO. 7
2. FOR ADDITIONAL NOTES AND DETAILS, SEE MAINTENANCE OF TRAFFIC GENERAL NOTES SHEETS 6-8 AND SCD MT-95.41 AND MT-95.45.
3. FOR M.O.T. ESTIMATED QUANTITIES, SEE SHEET NO. 9
4. FOR WORK ZONE LEGEND, SEE SHEET NO. 10
5. THE LANE LINES ON CONCRETE SURFACES (BRIDGE AND APPROACH SLAB) SHALL BE REMOVED BY AN APPROVED METHOD WHICH WILL NOT SCAR THE PAVEMENT OR MAY BE COVERED WITH REMOVABLE, NONREFLECTIVE, PREFORMED TAPE WHICH BLENDS IN WITH THE EXISTING PAVEMENT SURFACE. SHOULD IT BE DECIDED TO USE THE REMOVABLE TAPE, THE TAPE MUST BE CLOSELY MONITORED, AS IT MAY BE DISPLACED DUE TO TRAFFIC PASSING OVER IT OR INCLEMENT WEATHER CONDITIONS.

CALCULATED MVC
CHECKED JAC

MAINTENANCE OF TRAFFIC - PHASE 5A
S.R. 39 - STA. 60+50 TO STA. 66+00

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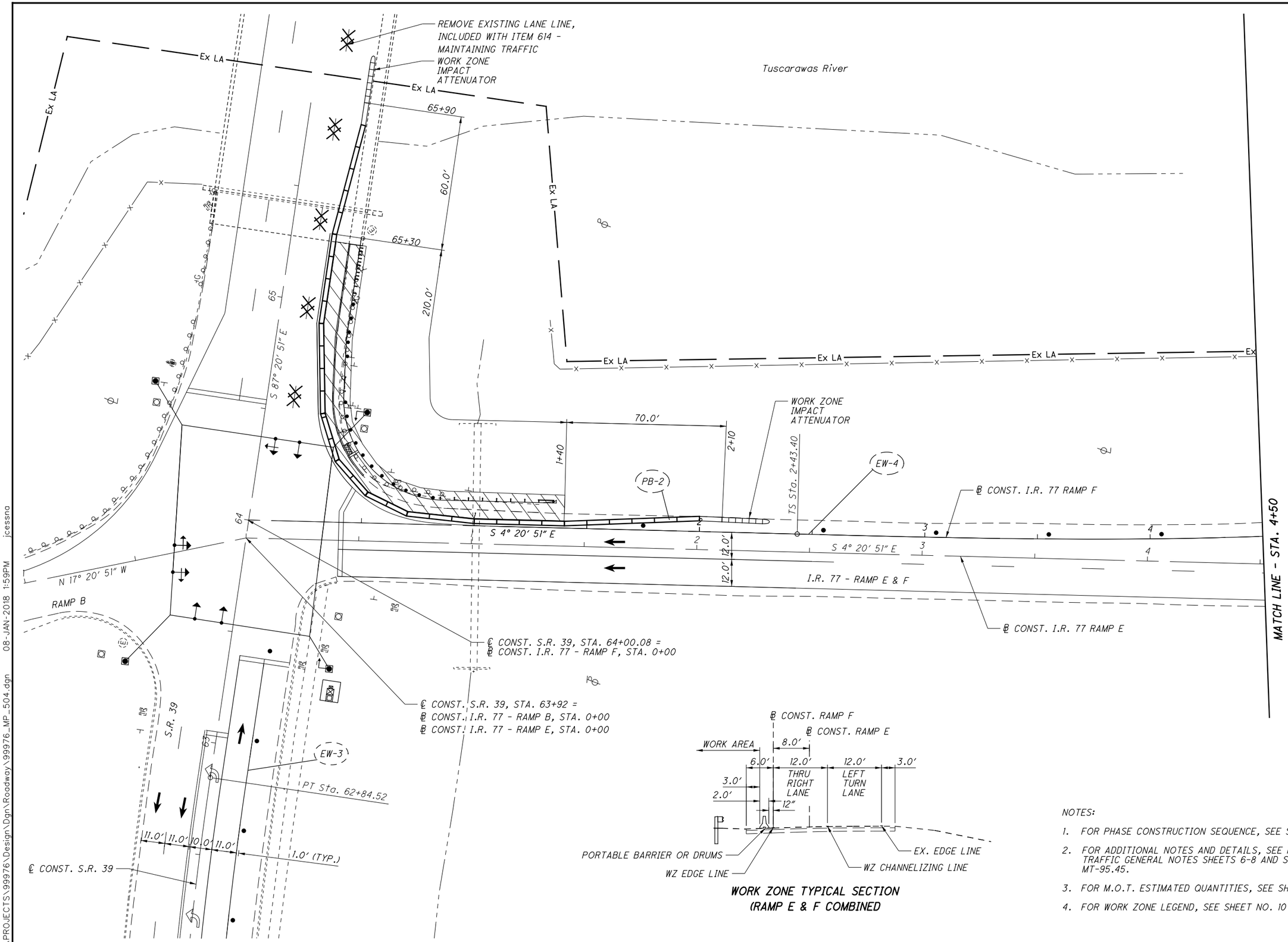

WORK ZONE TYPICAL SECTION (RAMP E & F COMBINED

NOTES:

1. FOR PHASE CONSTRUCTION SEQUENCE, SEE SHEET NO. 7
2. FOR ADDITIONAL NOTES AND DETAILS, SEE MAINTENANCE OF TRAFFIC GENERAL NOTES SHEETS 6-8 AND SCD MT-95.41 AND MT-95.45.
3. FOR M.O.T. ESTIMATED QUANTITIES, SEE SHEET NO. 9
4. FOR WORK ZONE LEGEND, SEE SHEET NO. 10

HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED MVC
CHECKED JAC

MAINTENANCE OF TRAFFIC - PHASE 5A
RAMP F STA. 0+00 TO STA. 4+50

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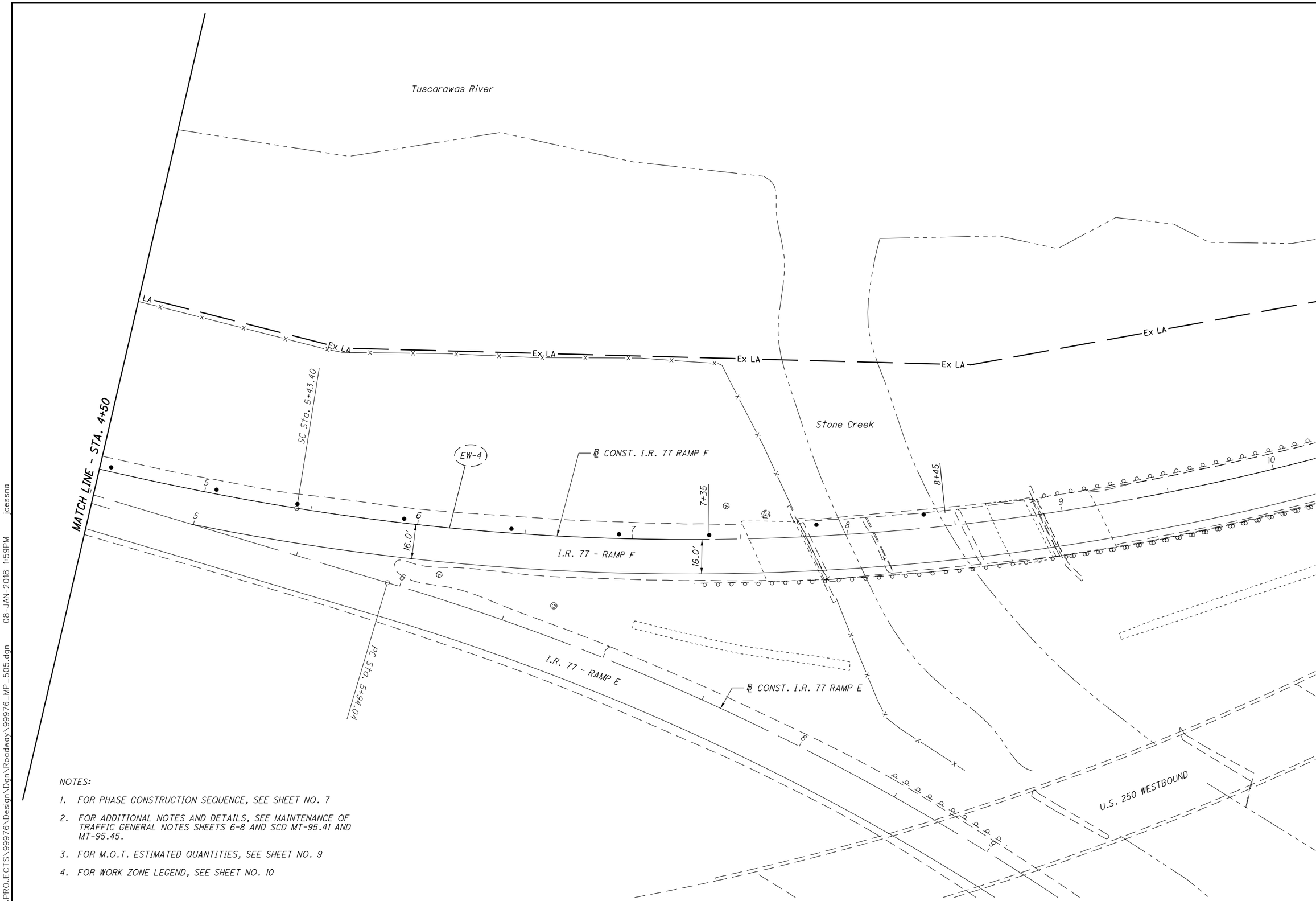

NOTES:

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3. FOR M.O.T. ESTIMATED QUANTITIES, SEE SHEET NO. 9
4. FOR WORK ZONE LEGEND, SEE SHEET NO. 10

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED JAC
CHECKED JPB

MAINTENANCE OF TRAFFIC - PHASE 5A
RAMP F - STA. 4+50 TO STA. 10+00

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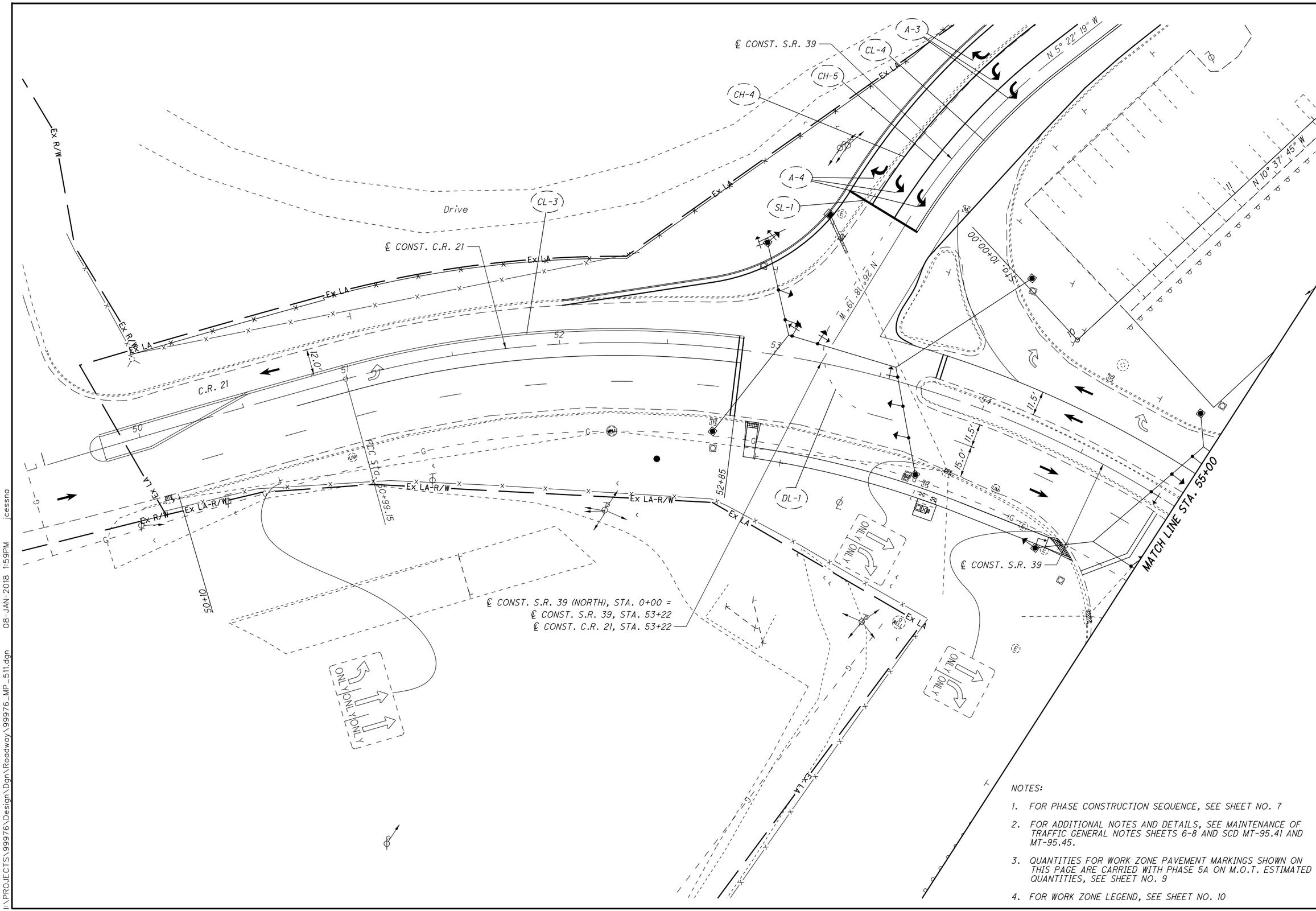

NOTES:

1. FOR PHASE CONSTRUCTION SEQUENCE, SEE SHEET NO. 7
2. FOR ADDITIONAL NOTES AND DETAILS, SEE MAINTENANCE OF TRAFFIC GENERAL NOTES SHEETS 6-8 AND SCD MT-95.41 AND MT-95.45.
3. QUANTITIES FOR WORK ZONE PAVEMENT MARKINGS SHOWN ON THIS PAGE ARE CARRIED WITH PHASE 5A ON M.O.T. ESTIMATED QUANTITIES, SEE SHEET NO. 9
4. FOR WORK ZONE LEGEND, SEE SHEET NO. 10

HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED MVC
CHECKED JAC

MAINTENANCE OF TRAFFIC - PHASE 5B
C.R. 21/ S.R. 39 - STA. 49+00 TO 54+50

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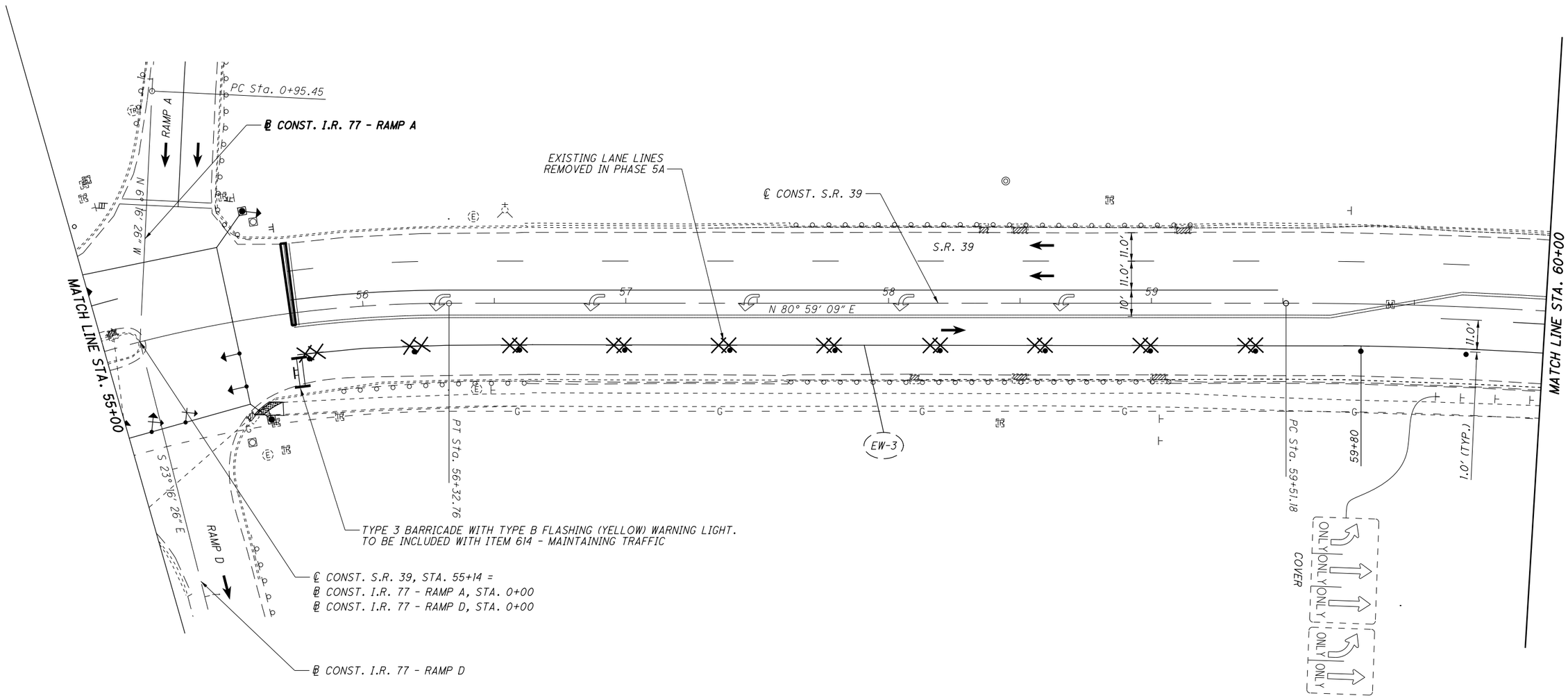

NOTES:

1. FOR PHASE CONSTRUCTION SEQUENCE, SEE SHEET NO. 7
2. FOR ADDITIONAL NOTES AND DETAILS, SEE MAINTENANCE OF TRAFFIC GENERAL NOTES SHEETS 6-8 AND SCD MT-95.41 AND MT-95.45.
3. QUANTITIES FOR WORK ZONE PAVEMENT MARKINGS SHOWN ON THIS PAGE ARE CARRIED WITH PHASE 5A ON M.O.T. ESTIMATED QUANTITIES, SEE SHEET NO. 9
4. FOR WORK ZONE LEGEND, SEE SHEET NO. 10

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED MVC
CHECKED JAC

MAINTENANCE OF TRAFFIC - PHASE 5B
S.R. 39 - STA. 54+50 TO 60+50

TUS-39-12.64

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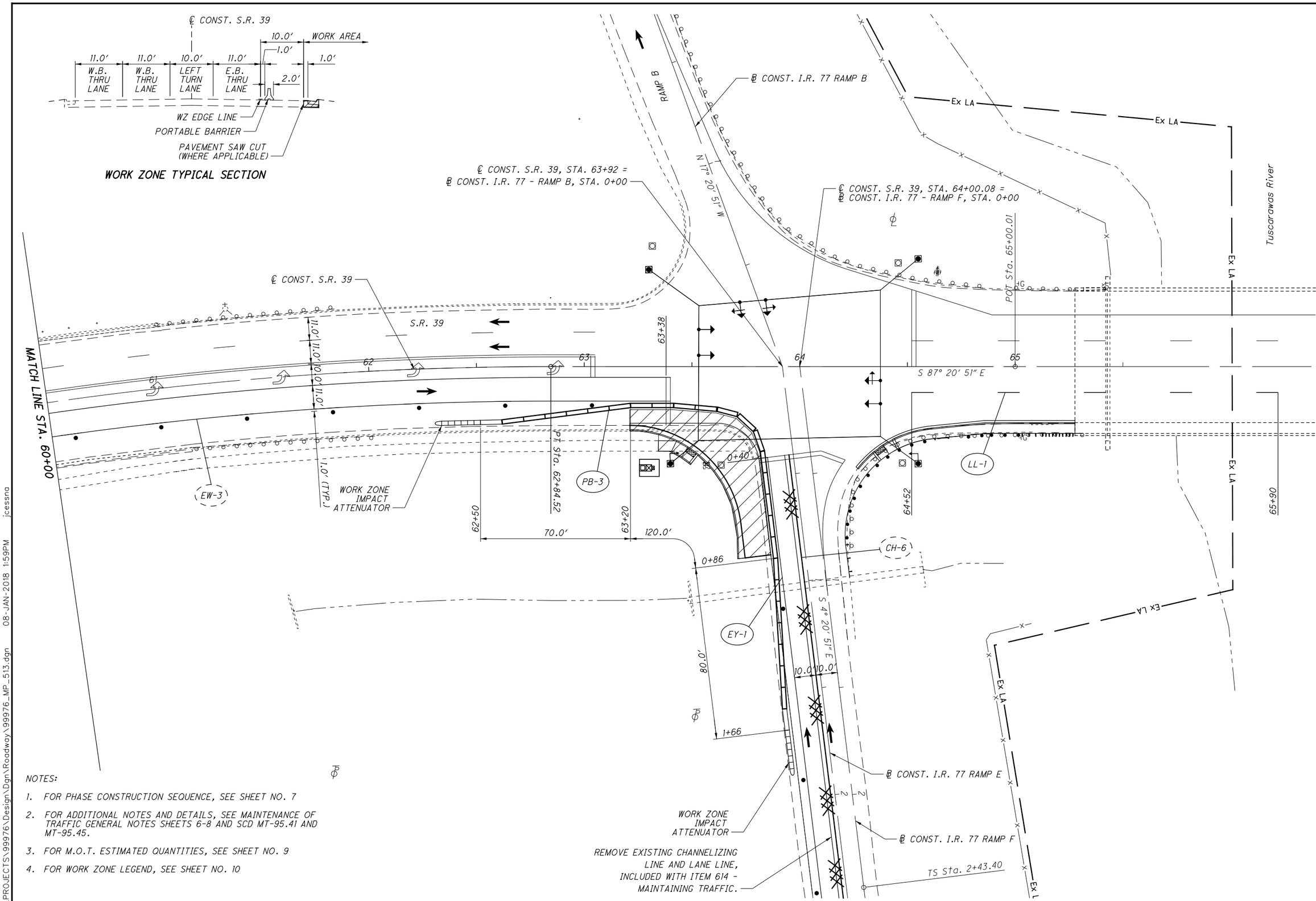

NOTES:

1. FOR PHASE CONSTRUCTION SEQUENCE, SEE SHEET NO. 7
2. FOR ADDITIONAL NOTES AND DETAILS, SEE MAINTENANCE OF TRAFFIC GENERAL NOTES SHEETS 6-8 AND SCD MT-95.41 AND MT-95.45.
3. FOR M.O.T. ESTIMATED QUANTITIES, SEE SHEET NO. 9
4. FOR WORK ZONE LEGEND, SEE SHEET NO. 10

HORIZONTAL SCALE IN FEET 0 15 30 60

CALCULATED JAC
CHECKED JPB

MAINTENANCE OF TRAFFIC - PHASE 5B
S.R. 39 - STA. 60+00 TO STA. 66+00

TUS-39-12.64

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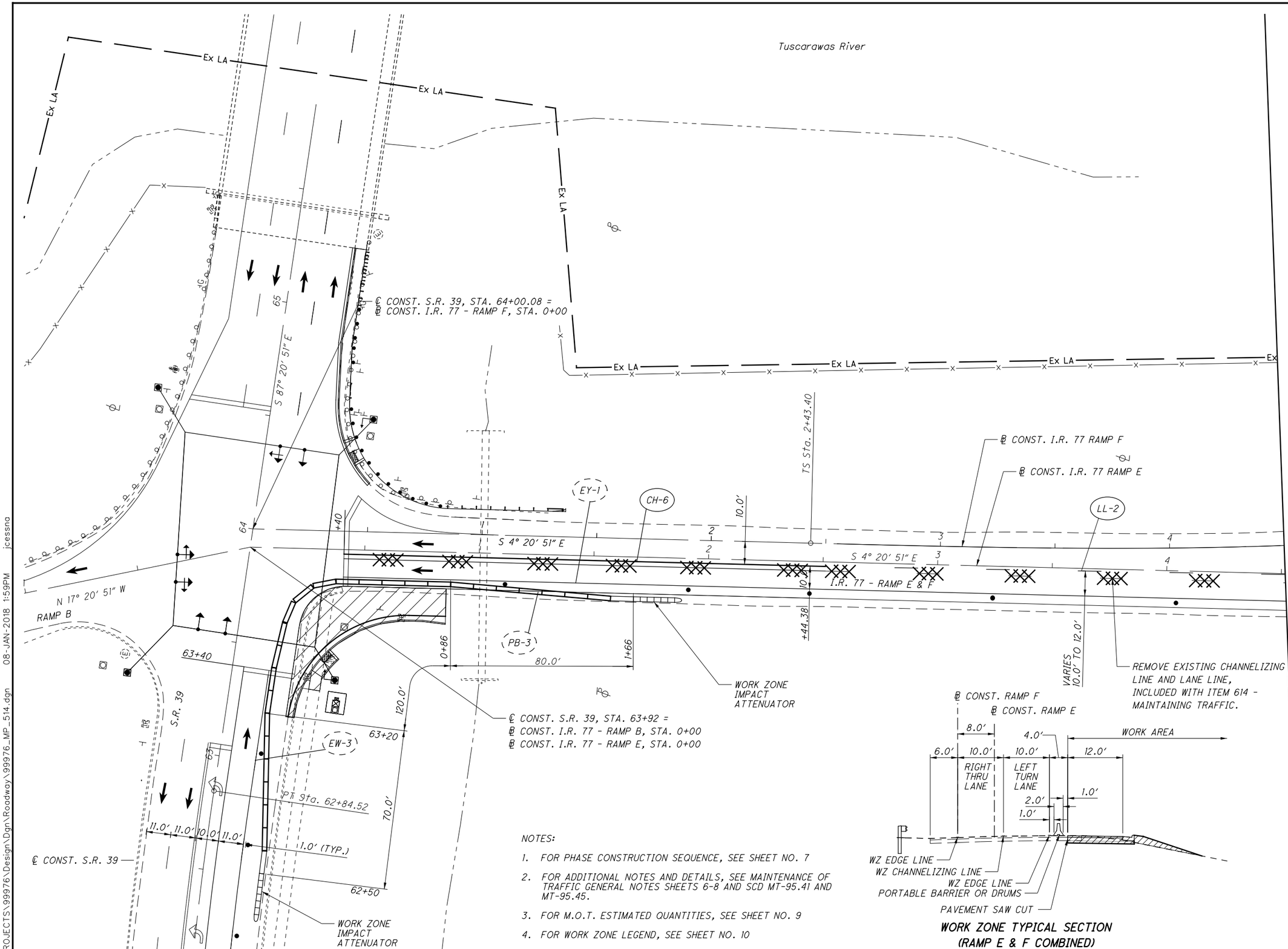

WORK ZONE TYPICAL SECTION
(RAMP E & F COMBINED)

NOTES:

1. FOR PHASE CONSTRUCTION SEQUENCE, SEE SHEET NO. 7
2. FOR ADDITIONAL NOTES AND DETAILS, SEE MAINTENANCE OF TRAFFIC GENERAL NOTES SHEETS 6-8 AND SCD MT-95.41 AND MT-95.45.
3. FOR M.O.T. ESTIMATED QUANTITIES, SEE SHEET NO. 9
4. FOR WORK ZONE LEGEND, SEE SHEET NO. 10

HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED MVC
CHECKED JAC

MAINTENANCE OF TRAFFIC - PHASE 5B
RAMP F STA. 0+00 TO STA. 4+50

TUS-39-12.64

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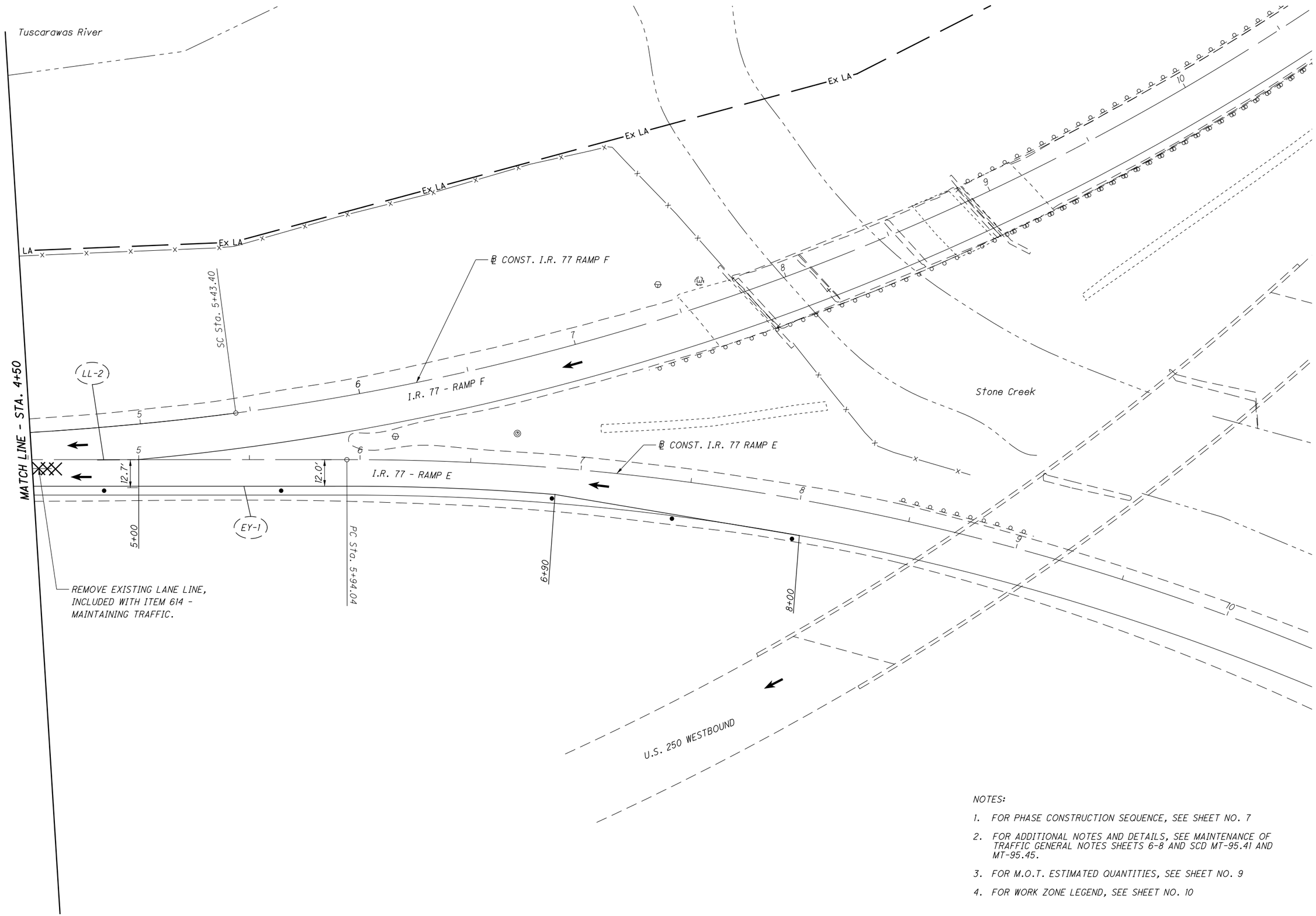

NOTES:

1. FOR PHASE CONSTRUCTION SEQUENCE, SEE SHEET NO. 7
2. FOR ADDITIONAL NOTES AND DETAILS, SEE MAINTENANCE OF TRAFFIC GENERAL NOTES SHEETS 6-8 AND SCD MT-95.41 AND MT-95.45.
3. FOR M.O.T. ESTIMATED QUANTITIES, SEE SHEET NO. 9
4. FOR WORK ZONE LEGEND, SEE SHEET NO. 10

HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED JAC
CHECKED JPB

MAINTENANCE OF TRAFFIC - PHASE 5B
RAMP F - STA. 4+50 TO STA. 10+00

TUS-39-12.64

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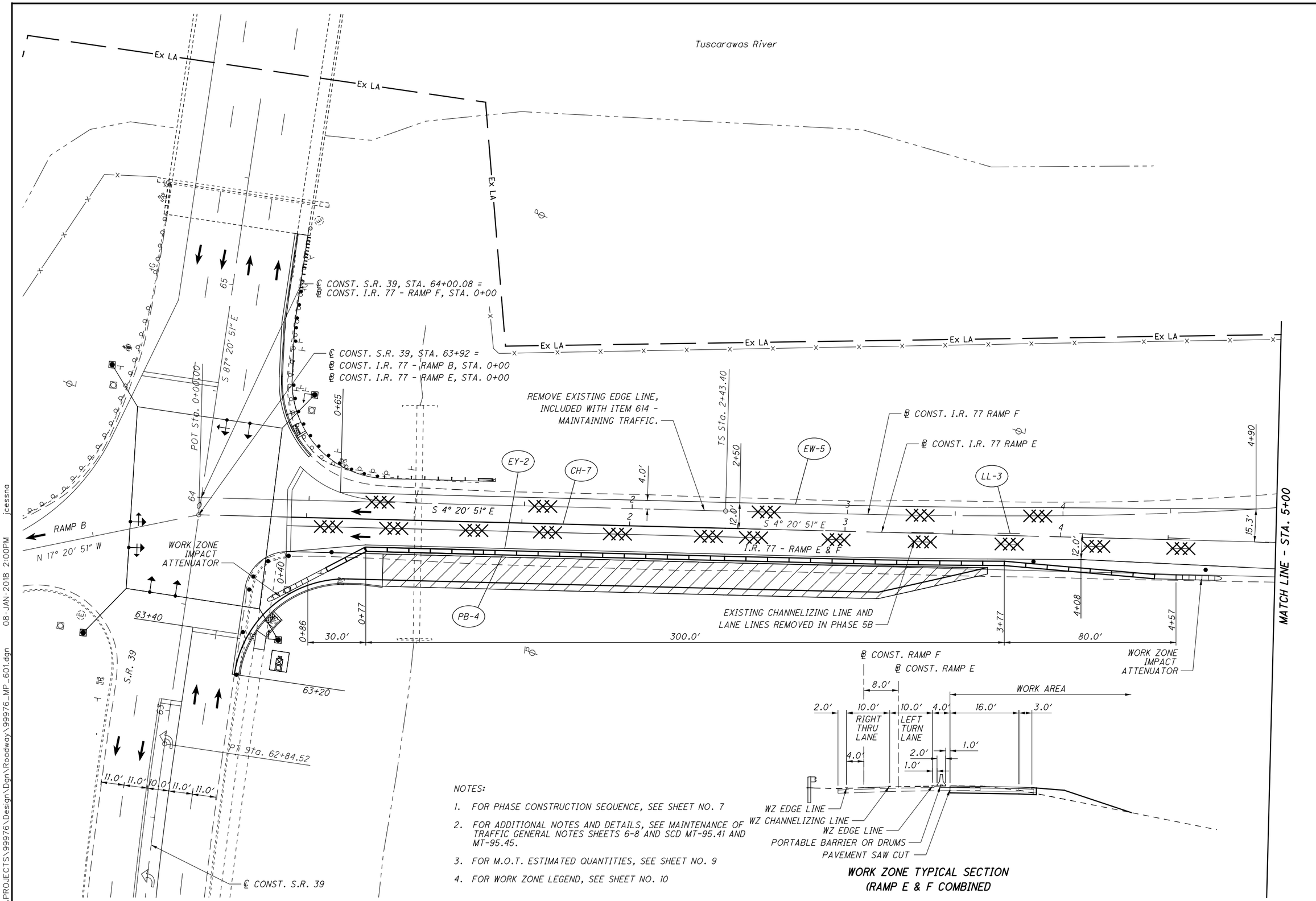

NOTES:

1. FOR PHASE CONSTRUCTION SEQUENCE, SEE SHEET NO. 7
2. FOR ADDITIONAL NOTES AND DETAILS, SEE MAINTENANCE OF TRAFFIC GENERAL NOTES SHEETS 6-8 AND SCD MT-95.41 AND MT-95.45.
3. FOR M.O.T. ESTIMATED QUANTITIES, SEE SHEET NO. 9
4. FOR WORK ZONE LEGEND, SEE SHEET NO. 10

HORIZONTAL SCALE IN FEET 0 15 30 60

CALCULATED JAC
CHECKED JPB

MAINTENANCE OF TRAFFIC - PHASE 6
RAMP E & F STA. 0+00 TO STA. 5+00

TUS-39-12.64

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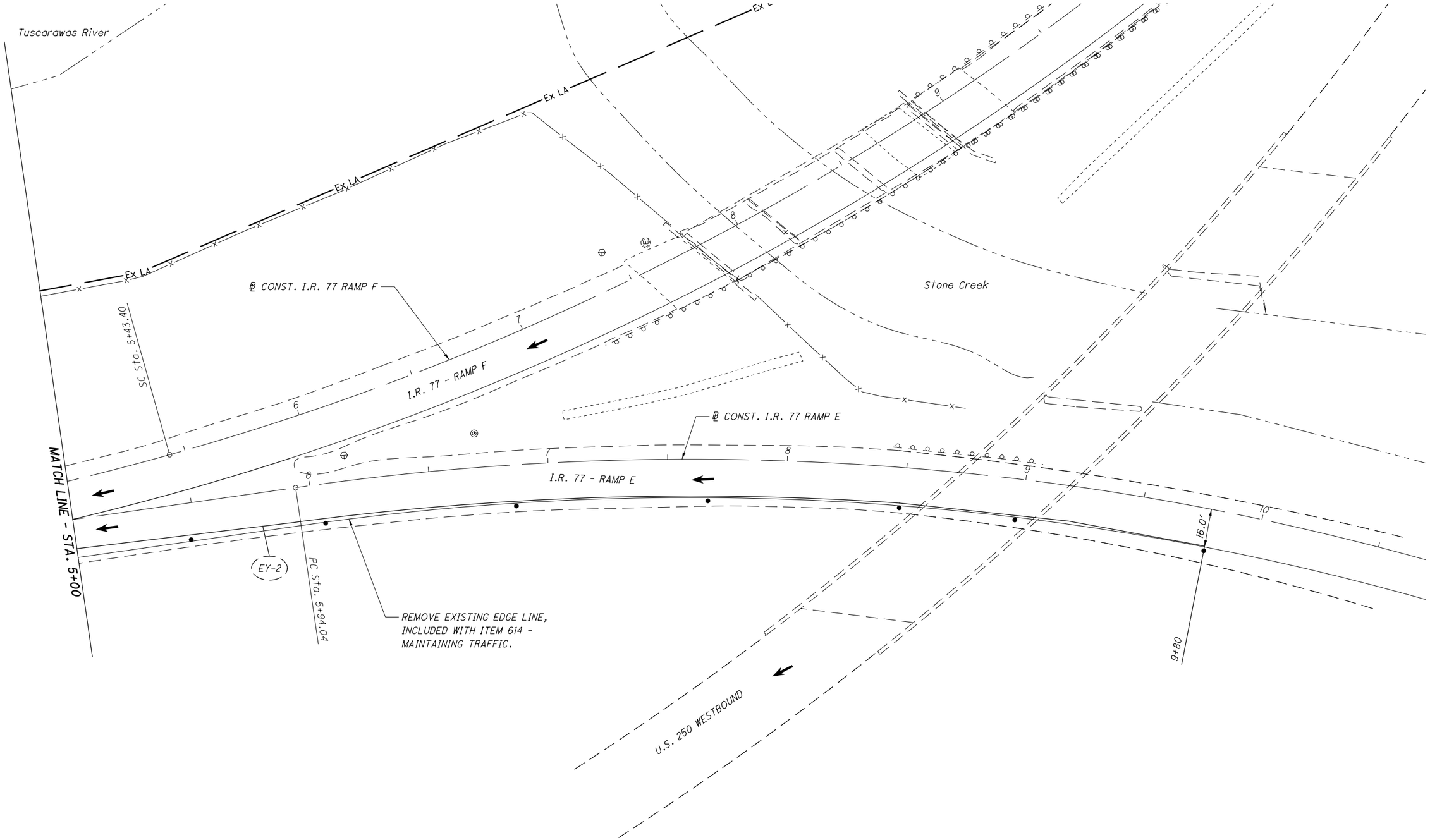

NOTES:

1. FOR PHASE CONSTRUCTION SEQUENCE, SEE SHEET NO. 7
2. FOR ADDITIONAL NOTES AND DETAILS, SEE MAINTENANCE OF TRAFFIC GENERAL NOTES SHEETS 6-8 AND SCD MT-95.41 AND MT-95.45.
3. FOR M.O.T. ESTIMATED QUANTITIES, SEE SHEET NO. 9
4. FOR WORK ZONE LEGEND, SEE SHEET NO. 10

HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED MVC
CHECKED JAC

MAINTENANCE OF TRAFFIC (PHASE 6)
I.R. 77 - RAMP E STA. 5+00 TO STA. 10+00

TUS-39-12.64

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SHEET NUM. 5	6				27	28					OFFICE CALCS	PART. 1/ERD/PV	ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
																	ROADWAY	
LS												LS	201	11000	LS		CLEARING AND GRUBBING	
						218						218	202	23000	218	SY	PAVEMENT REMOVED	
						196						196	202	30000	196	SF	WALK REMOVED	
						20						20	202	32000	20	FT	CURB REMOVED	
						529						529	202	32500	529	FT	CURB AND GUTTER REMOVED	
						79						79	202	35100	79	FT	PIPE REMOVED, 24" AND UNDER	
						1,226						1,226	202	38000	1,226	FT	GUARDRAIL REMOVED	
						2						2	202	58100	2	EACH	CATCH BASIN REMOVED	
						239						239	202	75000	239	FT	FENCE REMOVED	
					1,046							1,046	203	10000	1,046	CY	EXCAVATION	
					3,634							3,634	203	20000	3,634	CY	EMBANKMENT	
											1,910	1,910	204	10000	1,910	SY	SUBGRADE COMPACTION	
						262.5						262.5	606	15050	262.5	FT	GUARDRAIL, TYPE MGS	
						1						1	606	26150	1	EACH	ANCHOR ASSEMBLY, MGS TYPE E	
						4						4	606	26550	4	EACH	ANCHOR ASSEMBLY, MGS TYPE T	
						1						1	606	35003	1	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1, AS PER PLAN	5
						638						638	607	23000	638	FT	FENCE, TYPE CLT	
						638						638	607	70000	638	FT	FENCELINE SEEDING AND MULCHING	
	200											200	607	98000	200	FT	FENCE, MISC.: TEMPORARY ORANGE PLASTIC CONSTRUCTION FENCE	6
						1,156						1,156	608	10000	1,156	SF	4" CONCRETE WALK	
						320						320	608	52000	320	SF	CURB RAMP	
																	EROSION CONTROL	
					2							2	659	00100	2	EACH	SOIL ANALYSIS TEST	
					243							243	659	00300	243	CY	TOPSOIL	
					2,185							2,185	659	10000	2,185	SY	SEEDING AND MULCHING	
					109							109	659	14000	109	SY	REPAIR SEEDING AND MULCHING	
					109							109	659	15000	109	SY	INTER-SEEDING	
					0.3							0.3	659	20000	0.3	TON	COMMERCIAL FERTILIZER	
					0.45							0.45	659	31000	0.45	ACRE	LIME	
					12							12	659	35000	12	MGAL	WATER	
						529						529	670	00500	529	SY	SLOPE EROSION PROTECTION	
												LS	832	15000	LS		STORM WATER POLLUTION PREVENTION PLAN	
												29,106	832	30000	29,106	EACH	EROSION CONTROL	
																	DRAINAGE	
						0.2						0.2	602	20000	0.2	CY	CONCRETE MASONRY	
						281						281	605	14020	281	FT	6" BASE PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC	
55												55	605	31100	55	FT	AGGREGATE DRAINS	
						20						20	611	00510	20	FT	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS	
						102						102	611	04400	102	FT	12" CONDUIT, TYPE B	
						2						2	611	98180	2	EACH	CATCH BASIN, NO. 3A	
																	PAVEMENT	
						1,151						1,151	252	01500	1,151	FT	FULL DEPTH PAVEMENT SAWING	
											2,030	2,030	254	01000	2,030	SY	PAVEMENT PLANING, ASPHALT CONCRETE	
9											363	372	302	46000	372	CY	ASPHALT CONCRETE BASE, PG64-22	
											415	415	304	20000	415	CY	AGGREGATE BASE	
											282	282	407	10000	282	GAL	TACK COAT	
											106	106	441	50101	106	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), AS PER PLAN (PG70-22M)	5
											80	80	441	50300	80	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448)	
											23	23	442	10051	23	CY	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE B (446), AS PER PLAN	5
											38	38	442	10150	38	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE B (446)	
											140	140	451	14010	140	SY	9" REINFORCED CONCRETE PAVEMENT, CLASS QC1	
						545						545	609	12000	545	FT	COMBINATION CURB AND GUTTER, TYPE 2	
						107						107	609	26000	107	FT	CURB, TYPE 6	

CALCULATED GBS
CHECKED JAC

GENERAL SUMMARY

TUS-39-12.64

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SHEET NUM.													PART.	ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
		28			57	58	59		79	81			1/ERD/PV						
																		LIGHTING	
										14			14	625	00450	14	EACH	CONNECTION, FUSED PULL APART	
										63			63	625	00480	63	EACH	CONNECTION, UNFUSED PERMANENT	
										2			2	625	13200	2	EACH	LIGHT TOWER, BBBB100	
										8			8	625	13204	8	EACH	LIGHT TOWER, BBBB110	
										1			1	625	13208	1	EACH	LIGHT TOWER, BBBB120	
										1			1	625	13404	1	EACH	LIGHT TOWER, BBBBBB110	
										2			2	625	13406	2	EACH	LIGHT TOWER, BBBBBB120	
										14			14	625	15200	14	EACH	LIGHT TOWER FOUNDATION, 36" X 25' DEEP	
									1				1	625	20000	1	EACH	PORTABLE WINCH DRIVE POWER UNIT	
										3,444			3,444	625	23200	3,444	FT	NO. 4 AWG 2400 VOLT DISTRIBUTION CABLE	
										1,110			1,110	625	23300	1,110	FT	NO. 2 AWG 2400 VOLT DISTRIBUTION CABLE	
										5,581			5,581	625	24320	5,581	FT	1-1/2" DUCT CABLE WITH THREE NO. 4 AWG 2400 VOLT CABLES	
										3,494			3,494	625	24330	3,494	FT	1-1/2" DUCT CABLE WITH THREE NO. 2 AWG 2400 VOLT CABLES	
										38			38	625	25500	38	FT	CONDUIT, 3", 725.04	
										1,017			1,017	625	25902	1,017	FT	CONDUIT, JACKED OR DRILLED, 725.04, 3"	
										18			18	625	26261	18	EACH	LUMINAIRE, HIGH MAST, AS PER PLAN, SYMMETRIC, 400 WATT, HIGH PRESSURE SODIUM, 480 VOLT	79
										44			44	625	26261	44	EACH	LUMINAIRE, HIGH MAST, AS PER PLAN, ASYMMETRIC, 400 WATT, HIGH PRESSURE SODIUM, 480 VOLT	79
										8,833			8,833	625	29000	8,833	FT	TRENCH	
										14			14	625	30700	14	EACH	PULL BOX, 725.08, 18"	
										2			2	625	30706	2	EACH	PULL BOX, 725.08, 24"	
										28			28	625	32000	28	EACH	GROUND ROD	
										1			1	625	34001	1	EACH	POWER SERVICE, AS PER PLAN	79
										8,825			8,825	625	36000	8,825	FT	PLASTIC CAUTION TAPE	
										2			2	625	39520	2	EACH	PULL BOX CLEANED	
									LS				LS	SPECIAL	62540000	LS		MAINTAIN EXISTING LIGHTING	79
										12			12	625	75351	12	EACH	LIGHT TOWER REMOVED, AS PER PLAN	79
										1			1	625	75510	1	EACH	POWER SERVICE REMOVED	
										12			12	625	75540	12	EACH	LIGHT TOWER FOUNDATION REMOVED	
										8			8	625	75800	8	EACH	DISCONNECT CIRCUIT	
																		TRAFFIC CONTROL	
					55								55	621	00100	55	EACH	RPM	
					55								55	621	54000	55	EACH	RAISED PAVEMENT MARKER REMOVED	
		6											6	626	00110	6	EACH	BARRIER REFLECTOR, TYPE 2, BIDIRECTIONAL	
						154.8	135						289.8	630	02100	289.8	FT	GROUND MOUNTED SUPPORT, NO. 2 POST	
						146	239						385	630	03100	385	FT	GROUND MOUNTED SUPPORT, NO. 3 POST	
							16.2						16.2	630	04100	16.2	FT	GROUND MOUNTED SUPPORT, NO. 4 POST, (TYPE S)	
						37.1	33						70.1	630	06500	70.1	FT	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W6X9	
						75.8	37.1						112.9	630	07600	112.9	FT	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W10X12	
							8						8	630	08600	8	EACH	SIGN POST REFLECTOR (RED)	
						194.1	225.1						419.2	630	80100	419.2	SF	SIGN, FLAT SHEET	
						112	80						192	630	80200	192	SF	SIGN, GROUND MOUNTED EXTRUSHEET	
						45	33						78	630	84900	78	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
							2						2	630	85100	2	EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	
						7	4						11	630	85400	11	EACH	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL	
						24	20						44	630	86002	44	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
						6	5						11	630	86102	11	EACH	REMOVAL OF GROUND MOUNTED STRUCTURAL BEAM SUPPORT AND DISPOSAL	
						2	3						5	630	87400	5	EACH	REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL	
					0.11								0.11	642	00094	0.11	MILE	EDGE LINE, 6"	
					0.13								0.13	642	00290	0.13	MILE	CENTER LINE	
					1,100								1,100	642	00390	1,100	FT	CHANNELIZING LINE, 8"	
					100								100	642	00690	100	FT	TRANSVERSE/DIAGONAL LINE	
					1,084								1,084	642	01190	1,084	FT	PARKING LOT STALL MARKING	
					2								2	642	01700	2	EACH	HANDICAP SYMBOL MARKING	
					446								446	642	30000	446	FT	REMOVAL OF PAVEMENT MARKING	
					104								104	644	00500	104	FT	STOP LINE	
					167								167	644	00600	167	FT	CROSSWALK LINE	
					24								24	644	01300	24	EACH	LANE ARROW	
					3								3	644	01360	3	EACH	WRONG WAY ARROW	
					97								97	644	01510	97	FT	DOTTED LINE, 6"	

CALCULATED GBS
CHECKED JAC

GENERAL SUMMARY

TUS-39-12.64

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SHEET NUM. 6	7	9				67	68						PART. 1/ERD/PV	ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
																		TRAFFIC SIGNALS	
						20	20						40	611	00400	40	FT	4" CONDUIT, TYPE E	
						144	20						164	625	25500	164	FT	CONDUIT, 3", 725.04	
						72	10						82	625	29000	82	FT	TRENCH	
						9	5						14	625	32000	14	EACH	GROUND ROD	
						14	3						17	632	05007	17	EACH	VEHICULAR SIGNAL HEAD, (LED), 3-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN	65
						4	3						7	632	05087	7	EACH	VEHICULAR SIGNAL HEAD, (LED), 5-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN	65
						2	2						4	632	20731	4	EACH	PEDESTRIAN SIGNAL HEAD (LED), TYPE D2, COUNTDOWN, AS PER PLAN	66
						17	6						23	632	25000	23	EACH	COVERING OF VEHICULAR SIGNAL HEAD	
						2	2						4	632	25010	4	EACH	COVERING OF PEDESTRIAN SIGNAL HEAD	
						2	2						4	632	26000	4	EACH	PEDESTRIAN PUSHBUTTON	
						604	391						995	632	30200	995	FT	MESSENGER WIRE, 7 STRAND, 3/8" DIAMETER WITH ACCESSORIES	
						604	391						995	632	30600	995	FT	TETHER WIRE, WITH ACCESSORIES	
						292	212						504	632	40500	504	FT	SIGNAL CABLE, 5 CONDUCTOR, NO. 14 AWG	
						1,454	486						1,940	632	40700	1,940	FT	SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG	
						8	4						12	632	64000	12	EACH	STRAIN POLE FOUNDATION	
						66	50						116	632	68300	116	FT	POWER CABLE, 3 CONDUCTOR, NO. 6 AWG	
						83	128						211	632	69800	211	FT	SERVICE CABLE, 3 CONDUCTOR, NO. 6 AWG	
						1	1						2	632	70001	2	EACH	POWER SERVICE, AS PER PLAN	65
						4							4	632	82900	4	EACH	STRAIN POLE, TYPE TC-81.10, DESIGN 9	
						4							4	632	83100	4	EACH	STRAIN POLE, TYPE TC-81.10, DESIGN 11	
							4						4	632	83200	4	EACH	STRAIN POLE, TYPE TC-81.10, DESIGN 12	
						2	1						3	632	90100	3	EACH	REMOVAL OF TRAFFIC SIGNAL INSTALLATION	
						1	1						2	633	65532	2	EACH	CABINET, TYPE 336L	
						1	1						2	633	67100	2	EACH	CABINET FOUNDATION	
						1	1						2	633	67200	2	EACH	CONTROLLER WORK PAD	
						1	1						2	633	68511	2	EACH	COMMUNICATIONS, AS PER PLAN	66
						1	1						2	633	75001	2	EACH	UNINTERRUPTIBLE POWER SUPPLY (UPS), 1000 WATT, AS PER PLAN	66
						1	1						2	633	99000	2	EACH	CONTROLLER ITEM, MISC.:CONTROLLER UNIT, INSTALLATION	65
						6	3						9	809	69100	9	EACH	STOP-BAR RADAR DETECTION	
																		MAINTENANCE OF TRAFFIC	
	200												200	614	11110	200	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
		244											244	614	11630	244	FT	INCREASED BARRIER DELINEATION	
		8											8	614	12338	8	EACH	WORK ZONE IMPACT ATTENUATOR (BIDIRECTIONAL)	
10													10	614	13000	10	CY	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	
5													5	614	13350	5	EACH	OBJECT MARKER, ONE WAY	
		39											39	614	13360	39	EACH	OBJECT MARKER, TWO WAY	
		0.13											0.13	614	20210	0.13	MILE	WORK ZONE LANE LINE, CLASS I, 6", 740.06, TYPE I	
		0.33											0.33	614	21200	0.33	MILE	WORK ZONE CENTER LINE, CLASS I, 740.06, TYPE I	
		0.8											0.8	614	22210	0.8	MILE	WORK ZONE EDGE LINE, CLASS I, 6", 740.06, TYPE I	
		1,403											1,403	614	23400	1,403	FT	WORK ZONE CHANNELIZING LINE, CLASS I, 8", 740.06, TYPE I	
		96											96	614	24400	96	FT	WORK ZONE DOTTED LINE, CLASS I, 740.06, TYPE I	
		36											36	614	26400	36	FT	WORK ZONE STOP LINE, CLASS I, 740.06, TYPE I	
		12											12	614	30400	12	EACH	WORK ZONE ARROW, CLASS I, 740.06, TYPE I	
		70											70	615	25000	70	SY	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B	
10													10	616	10000	10	MGAL	WATER	
		1,660											1,660	622	41000	1,660	FT	PORTABLE BARRIER, 32"	
		34											34	614	13310	34	EACH	BARRIER REFLECTOR, TYPE 1, (BIDIRECTIONAL)	
5													5	614	13312	5	EACH	BARRIER REFLECTOR, TYPE 2, (BIDIRECTIONAL)	
																		INCIDENTALS	
LS													LS	614	11000	LS		MAINTAINING TRAFFIC	
													6	619	16010	6	MNTH	FIELD OFFICE, TYPE B	
													LS	623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING	
													LS	624	10000	LS		MOBILIZATION	

CALCULATED GBS
CHECKED JAC

GENERAL SUMMARY

TUS-39-12.64

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POINT ID	NORTHING	EASTING	ELEVATION	CODE	STATION	OFFSET
* Stationing related to S.R. 39/ Stone Creek Rd.						
C871	302887.39	2252679.79	867.46	CMONS	61+43.37	42.40
C872	302940.02	2252374.36	865.22	CMONS	58+44.55	-46.46
C873	302630.96	2251898.98	879.23	CMONS	52+47.42	53.59
CL2	302528.60	2251790.56	N/A	CALPT	P.C. STA. 50+99.15	0.00
CL1	302860.95	2252172.47	N/A	CALPT	P.T. STA. 56+32.76	0.00
P1050	302814.23	2251877.70	N/A	MONBOX	53+66.05	-85.64
P1052	302916.60	2252526.24	N/A	MONBOX	59+90.89	-0.02
P1013	302085.74	2251643.98	N/A	CMON	46+34.72	-30.00
P1014	302072.92	2251702.70	N/A	CMON	46+34.71	30.11
P1015	302516.98	2251828.84	N/A	CMON	50+99.20	40.00
P1016	302537.32	2251761.85	N/A	CMON	50+99.11	-30.00
P1017	302892.63	2252167.44	N/A	CMON	56+32.76	-32.07
P1018	302961.20	2252820.64	N/A	CMON	62+84.48	-31.93
P1019	302896.19	2252817.61	N/A	CMON	62+84.46	33.16
P1020	302828.37	2252177.63	N/A	CMON	56+32.75	32.99
* Stationing related to S.R. 39						
CL4	303155.62	2251789.94	N/A	SURVEY NAIL	P.T. STA. 4+53.94	0.00
CL3	302914.17	2251837.87	N/A	SURVEY NAIL	P.C. STA. 2+07.36	0.00
* Stationing related to Ramp F						
CL5	302824.24	2252942.21	N/A	SURVEY NAIL	P.O.T. STA. 1+00.00	0.00
CL6	302681.26	2252953.08	N/A	SURVEY NAIL	T.S. STA. 2+43.40	0.00

ITEM 659 - SOIL ANALYSIS TEST

243 CU. YD. x 1 TEST/10000 CU. YD. = 0.024 EACH (USE 2 EACH)

ITEM 659 - TOPSOIL

2185 SQ. YD. x 111 CU. YD./1000 SQ. YD. = 242.54 CU. YD. (USE 243 CU. YD.)

ITEM 659 - REPAIR SEEDING AND MULCHING

2185 SQ. YD. x 0.05 = 109.25 SQ. YD. (USE 109 SQ. YD.)

ITEM 659 - INTER-SEEDING

2185 SQ. YD. x 0.05 = 109.25 SQ. YD. (USE 109 SQ. YD.)

ITEM 659 - COMMERCIAL FERTILIZER

2185 SQ. YD. x 9 x 30 LBS/1000 SQ. FT. / 2000 LBS/TON = 0.29 TON
(FOR INTER-SEEDING)
109 SQ. YD. x 9 x 20 LBS/1000 SQ. FT. / 2000 LBS/TON = 0.010 TON
COMMERCIAL FERTILIZER TOTAL = 0.300 TON (USE 0.30 TON)

ITEM 659 - LIME

2185 SQ. YD. x 9 SQ. FT./SQ. YD. / 43560 SQ. FT./ACRE = 0.45 ACRES (USE 0.45 ACRES)

ITEM 659 - WATER

2185 SQ. YD. x 9 x 300 GAL/1000 SQ. FT. x 2 APP/1000 SQ. FT. = 11.79 M. GAL.
(FOR INTER-SEEDING)
109 SQ. YD. x 9 x 300 GAL/1000 SQ. FT. x 1 APP/1000 SQ. FT. = 0.29 M. GAL.
WATER TOTAL = 12.08 M. GAL. (USE 12 M. GAL.)

SEEDING AND EARTHWORK TABLE			
	203	203	659
SHEET NO.	EXCAVATION	EMBANKMENT	SEEDING AND MULCHING
	CU YDS	CU YDS	SQ YDS
35	70	14	52
36	50	28	70
37	93	12	38
38	56	1	19
39	0	0	0
SUBTOTAL (S.R. 39N)	**269**	**55**	**179**
40	32	216	63
41	130	903	125
42	136	1040	164
43	109	914	203
44	5	45	83
SUBTOTAL (PARKING)	**412**	**3118**	**638**
45	143	116	343
46	53	109	279
47	51	66	212
48	4	2	24
SUBTOTAL (RAMP F)	**251**	**293**	**858**
49	31	2	20
50	44	94	241
51	0	60	195
52	39	6	28
53	0	6	26
SUBTOTAL (STONE CREEK)	**114**	**168**	**510**
TOTAL	**1046**	**3634**	**2185**

CALCULATED GBS
CHECKED JAC

ESTIMATED QUANTITIES

TUS-39-12.64

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REF. NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	202 PAVEMENT REMOVED	202 CURB REMOVED	202 CURB AND GUTTER REMOVED	202 CATCH BASIN REMOVED	202 FENCE REMOVED	202 GUARDRAIL REMOVED	202 WALK REMOVED	202 PIPE REMOVED, 24" AND UNDER	252 FULL DEPTH PAVEMENT SAWING	602 CONCRETE MASONRY	605 6" BASE PIPE UNDERDRAINS, WITH GEOTEXTILE FABRIC	606 ANCHOR ASSEMBLY, MGS TYPE E	606 ANCHOR ASSEMBLY, MGS TYPE T	606 MGS BRIDGE TERMINAL, ASSEMBLY, TYPE 1, AS PER PLAN	606 GUARDRAIL, TYPE MGS	607 FENCE, TYPE CLT	607 FENCE LINE SEEDING AND MULCHING	608 4" CONCRETE WALK	608 CURB RAMP TYPE FROM STANDARD DRAWING BP-7.1	608 CURB RAMP	609 CURB TYPE 6	609 COMBINATOIN CURB AND GUTTER, TYPE 2	611 6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLET	611 12" CONDUIT, TYPE B	611 CATCH BASIN, NO. 3A	626 BARRIER REFLECTOR, TYPE 2, (BIDIRECTIONAL)	670 SLOPE EROSION PROTECTION
		(1) RAMP F (2) PARK AND RIDE																													
					SY	FT	FT	EACH	FT	FT	SF	FT	FT	CY	FT	EACH	EACH	EACH	FT	FT	FT	SF		SF	FT	FT	FT	FT	EACH	EACH	SY
R-1	30-31	50+50.09 (STONE)	6+69.76	LT						914																					
R-2	31-33	10+19.69	11+84.06	RT						164																					
R-3	34	65+07.57	65+27.75	RT		20																									
SC-1	30-31	52+02.36 (STONE)	3+75.00	LT	76								464																		
SC-2	34	63+21.13	(1) 3+65.00	RT	130								425																		
SC-3	34	64+26.15	65+27.75	RT	12								108																		
SC-4	31 & 33	(2) 10+25.34	(2) 11+79.64										154																		
UD-1	30-31	0+62.79	3+35..27	LT											281												20				
F-1	30-31	50+07.64 (STONE)	3+67.02	LT					239											638	638										
C-1	30-31	52+02.36 (STONE)	3+75.00	LT			465																			457					
C-2	34	63+21.13	(1) 0+85.00	RT			64																			88					
C-3	34	64+27.33	65+27.75	RT																					107						
D-1	30	0+60.90	0+49.71	LT				1				8																20	1		
D-2	31	3+36.76	3+09.42	LT				1				71		0.21														82	1		
SW-1	30 & 32	52+97.51	54+54.76	RT																		712									
SW-2	34	63+34.46	63+41.97	RT							196											68									
SW-3	34	64+44.14	65+27.75	RT																		376									
CR-1	32	54+54.76	54+71.00	RT																			A2	59							
CR-2	32	55+52.41	55+64.20	RT																			A2	42							
CR-3	34	63+39.40	63+53.05	RT																			B1	68							
CR-4	34	64+37.89	64+46.13	RT																			B1	57							
CR-5	30	52+90.93	52+97.51	RT																			A2	94							
GR-1	31-33	(2) 10+25.00	(2) 11+84.06	RT													3		162.5											3	
GR-2	34	(1) 1+36.21	65+29.97	LT/RT						148						1	1	1	100											3	
SP-1	34	(1) 0+85.00	3+65.00	RT																											529
TOTALS CARRIED TO GENERAL SUMMARY					218	20	529	2	239	1226	196	79	1151	0.2	281	1	4	1	262.5	638	638	1156		320	107	545	20	102	2	6	529

CALCULATED GBS
CHECKED JAC

ESTIMATED QUANTITIES

TUS-39-12.64

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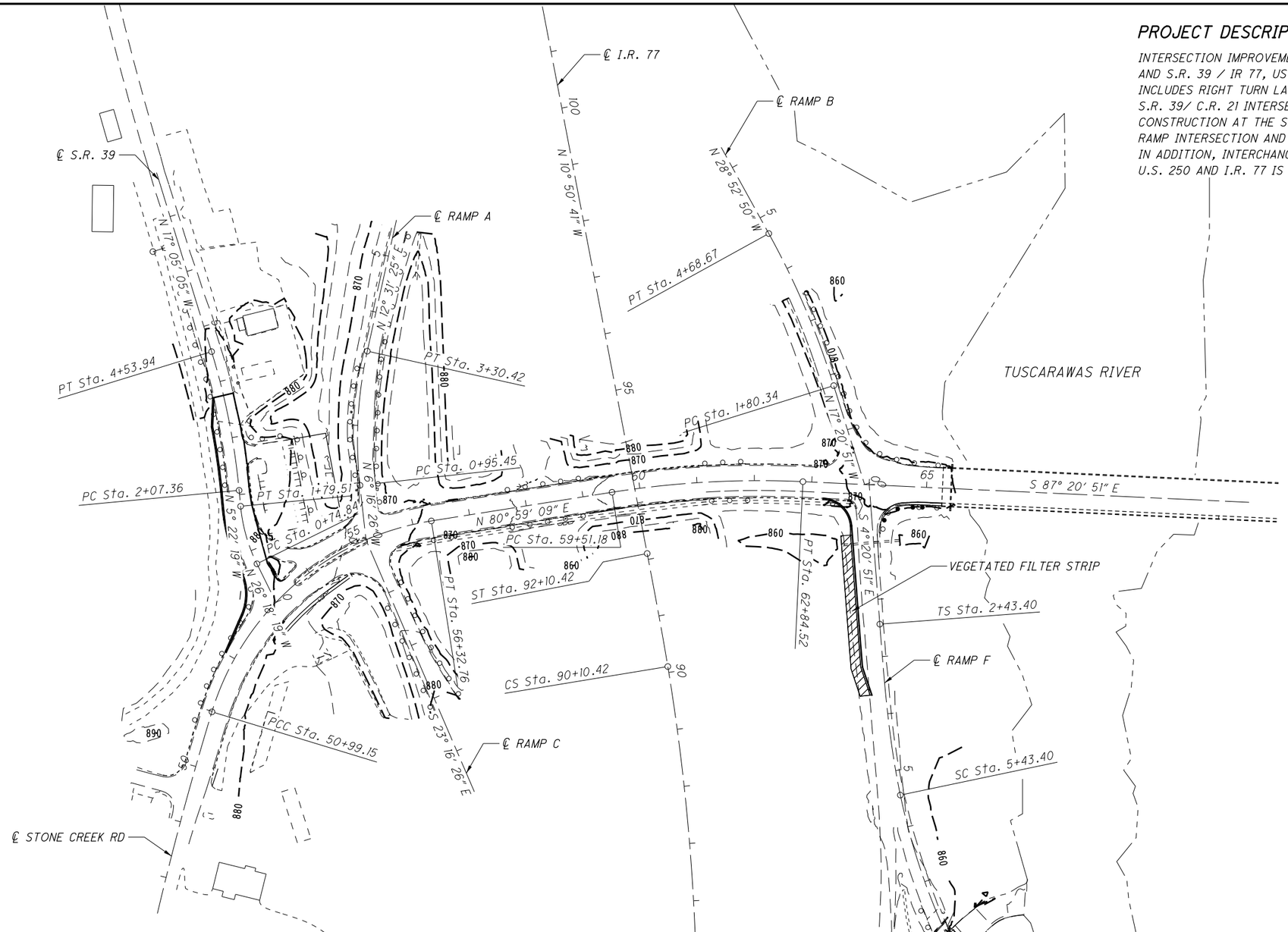
LEGEND

VEGETATED FILTER STRIP



PROJECT DESCRIPTION

INTERSECTION IMPROVEMENTS AT S.R. 39 / C.R. 21 AND S.R. 39 / IR 77, US 250 NB OFF RAMP. WORK INCLUDES RIGHT TURN LANE CONSTRUCTION AT THE S.R. 39/ C.R. 21 INTERSECTION, LEFT TURN LANE CONSTRUCTION AT THE S.R. 39/ IR 77, US 250 NB OFF RAMP INTERSECTION AND SIGNAL HARDWARE UPGRADES. IN ADDITION, INTERCHANGE HIGHMAST LIGHTING ALONG U.S. 250 AND I.R. 77 IS TO BE REPLACED.

PROJECT DATA			
POST CONSTRUCTION BMP: VEGETATED FILTER STRIPS WERE PROVIDED TO MEET NPDES POST-CONSTRUCTION REQUIRMENTS.			
TOTAL AREA (RIGHT-OF-WAY)	12.33 ACRES	RUNOFF COEFFICIENT FOR PRE-CONSTRUCTION SITE	0.66
PROJECT EARTH DISTURBED AREA	1.27 ACRES	RUNOFF COEFFICIENT FOR POST-CONSTRUCTION SITE	0.68
ESTIMATED CONTRACTOR EARTH DISTURBED AREA	0.50	USGS QUADRANGLE	NEW PHILADELPHIA QUADRANGLE
NOTICE OF INTENT EARTH DISTURBED AREA	4.99 ACRES	IMMEDIATE RECEIVING WATER	TUSCARAWAS RIVER
IMPERVIOUS (PAVED) AREA FOR PRE-CONSTRUCTION SITE	5.03 ACRES	SUBSEQUENT RECEIVING WATER	MUSKINGUM RIVER
IMPERVIOUS (PAVED) AREA FOR POST-CONSTRUCTION SITE	5.43 ACRES	LATITUDE: N 40° 29′ 35″	LONGITUDE: W 81° 28′ 50″

BMP TYPE	LATTITUDE/LONGITUDE				EDA TREATMENT CREDIT (ACRE)
	BEGIN		END		
VEGETATED FILTER STRIP	40.49357	-81.477353	40.492363	-81.478395	0.27
	TREATMENT PROVIDED				0.27
	TREATMENT REQUIRED *				0.26

* CALCULATED PER L&D VOL. 2, SEC. 1115.7

HORIZONTAL SCALE IN FEET 0 50 100 200

CALCULATED JAC CHECKED ANS

PROJECT SITE PLAN

TUS-39-12.64

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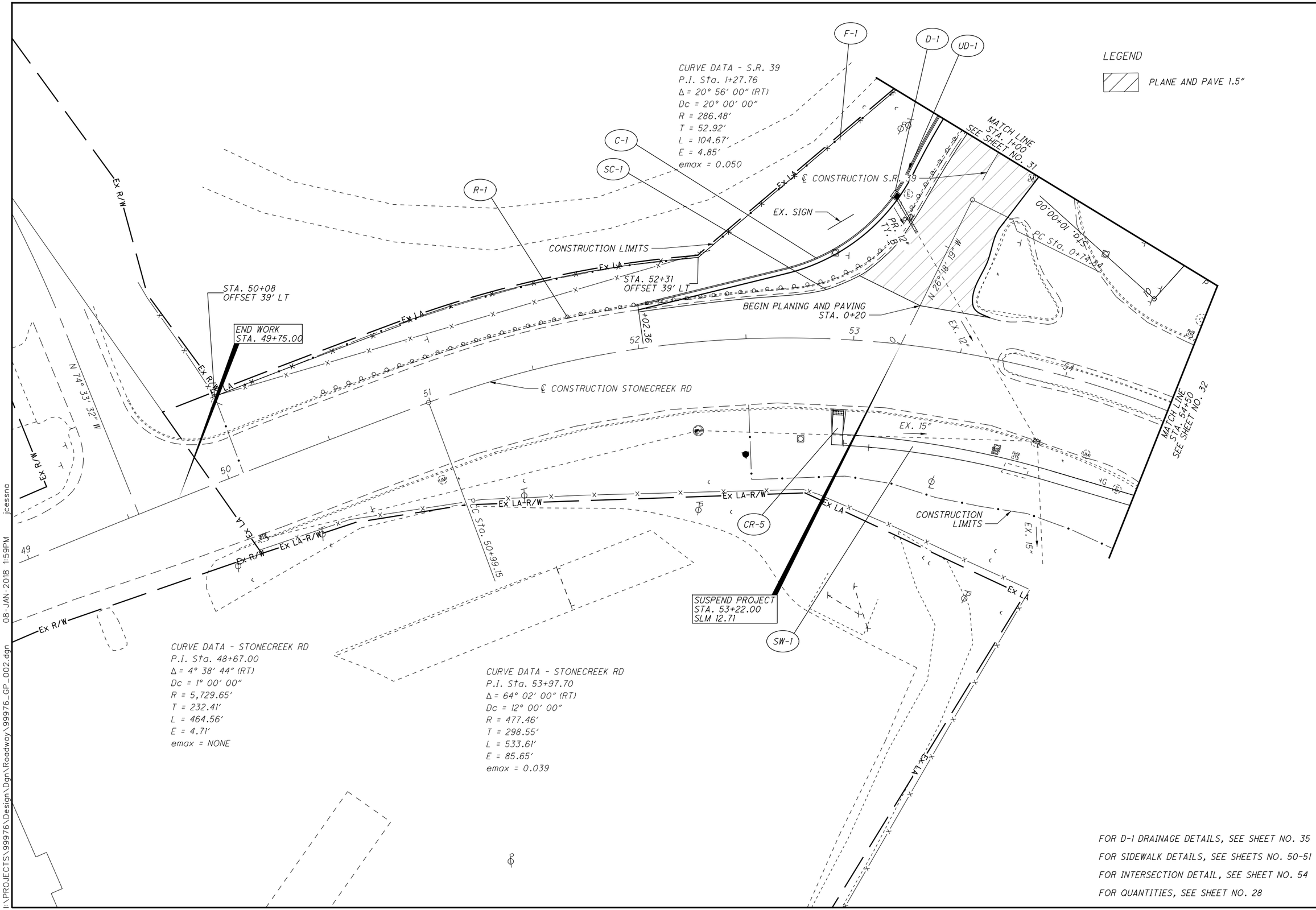

FOR D-1 DRAINAGE DETAILS, SEE SHEET NO. 35
FOR SIDEWALK DETAILS, SEE SHEETS NO. 50-51
FOR INTERSECTION DETAIL, SEE SHEET NO. 54
FOR QUANTITIES, SEE SHEET NO. 28

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED JAC
CHECKED JPB

PLAN SHEET
STA. 49+00 TO STA. 54+50

TUS-39-12.64

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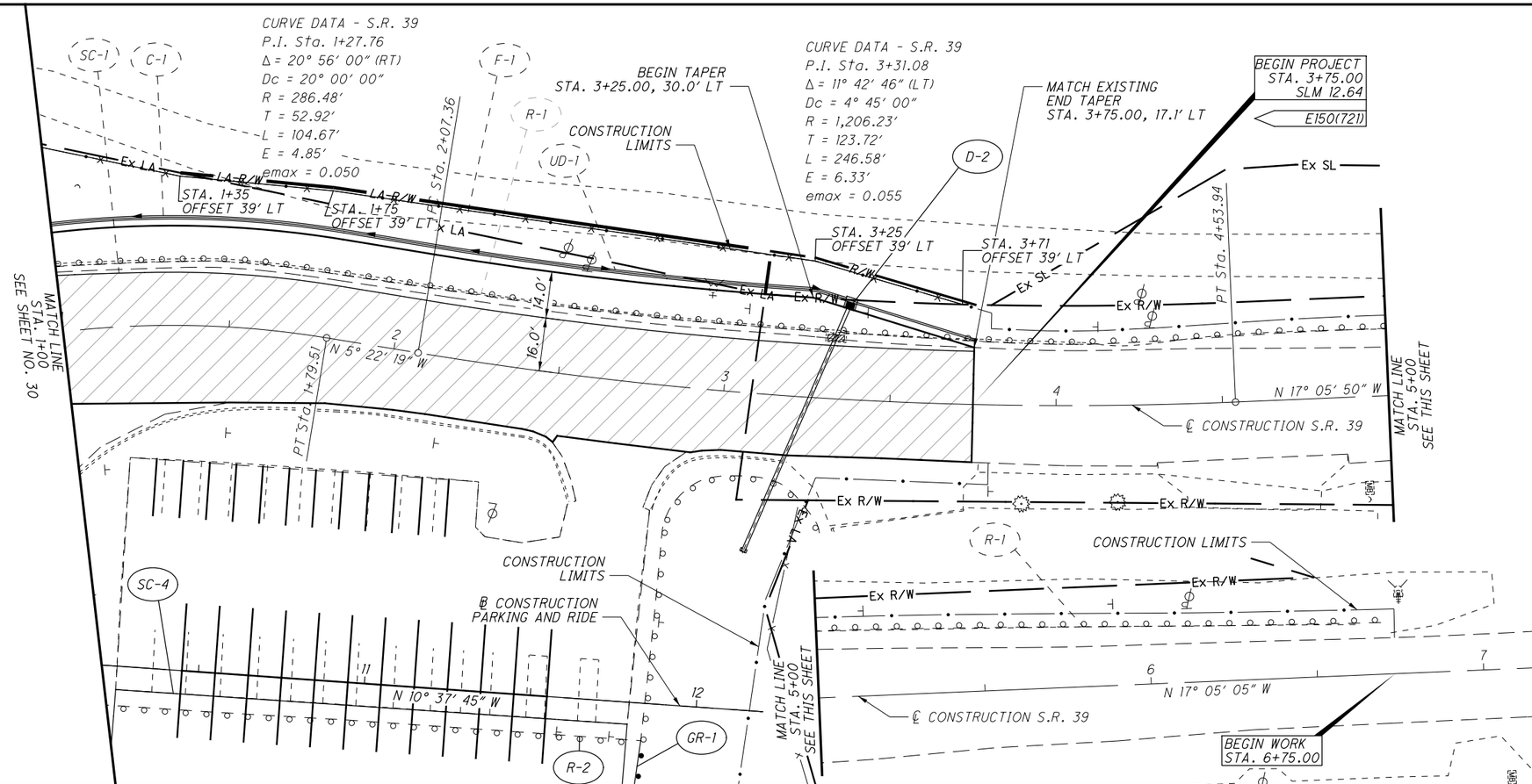
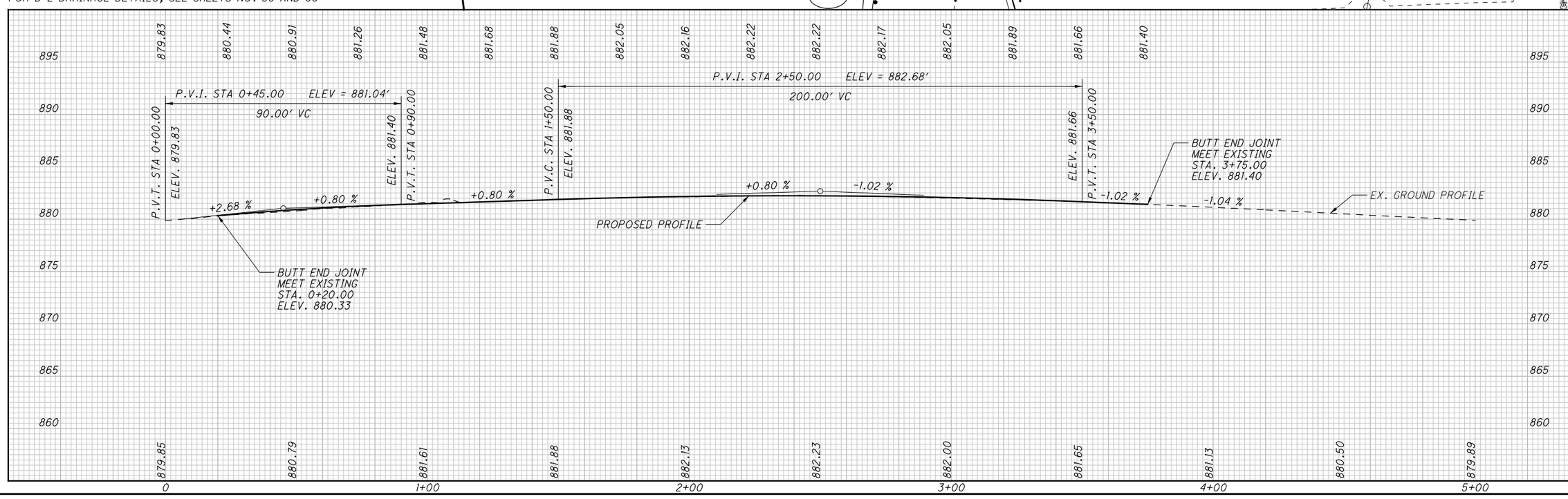
LEGEND

PLANE AND PAVE 1.5"



FOR QUANTITIES SEE SHEET NO. 28
FOR PARK AND RIDE PLAN SEE SHEET NO. 33
FOR D-2 DRAINAGE DETAILS, SEE SHEETS NO. 38 AND 56



CALCULATED JAC
CHECKED JPB

HORIZONTAL SCALE IN FEET 0 10 20 40

PLAN AND PROFILE
STA. 1+00 TO STA. 7+15

TUS-39-12.64

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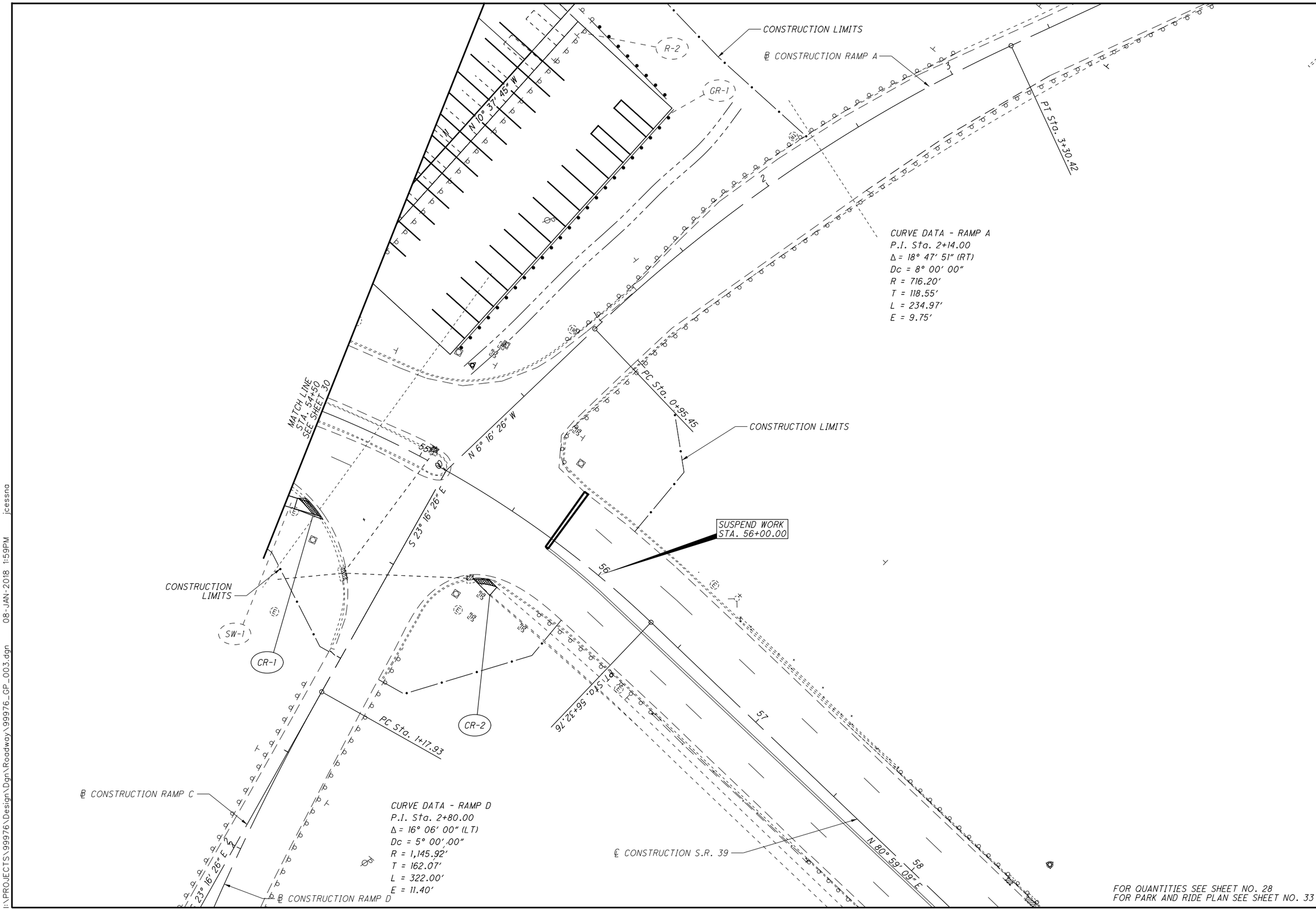

FOR QUANTITIES SEE SHEET NO. 28
FOR PARK AND RIDE PLAN SEE SHEET NO. 33

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED JAC
CHECKED JPB

PLAN SHEET
STA. 54+50 TO STA. 58+25

TUS-39-12.64

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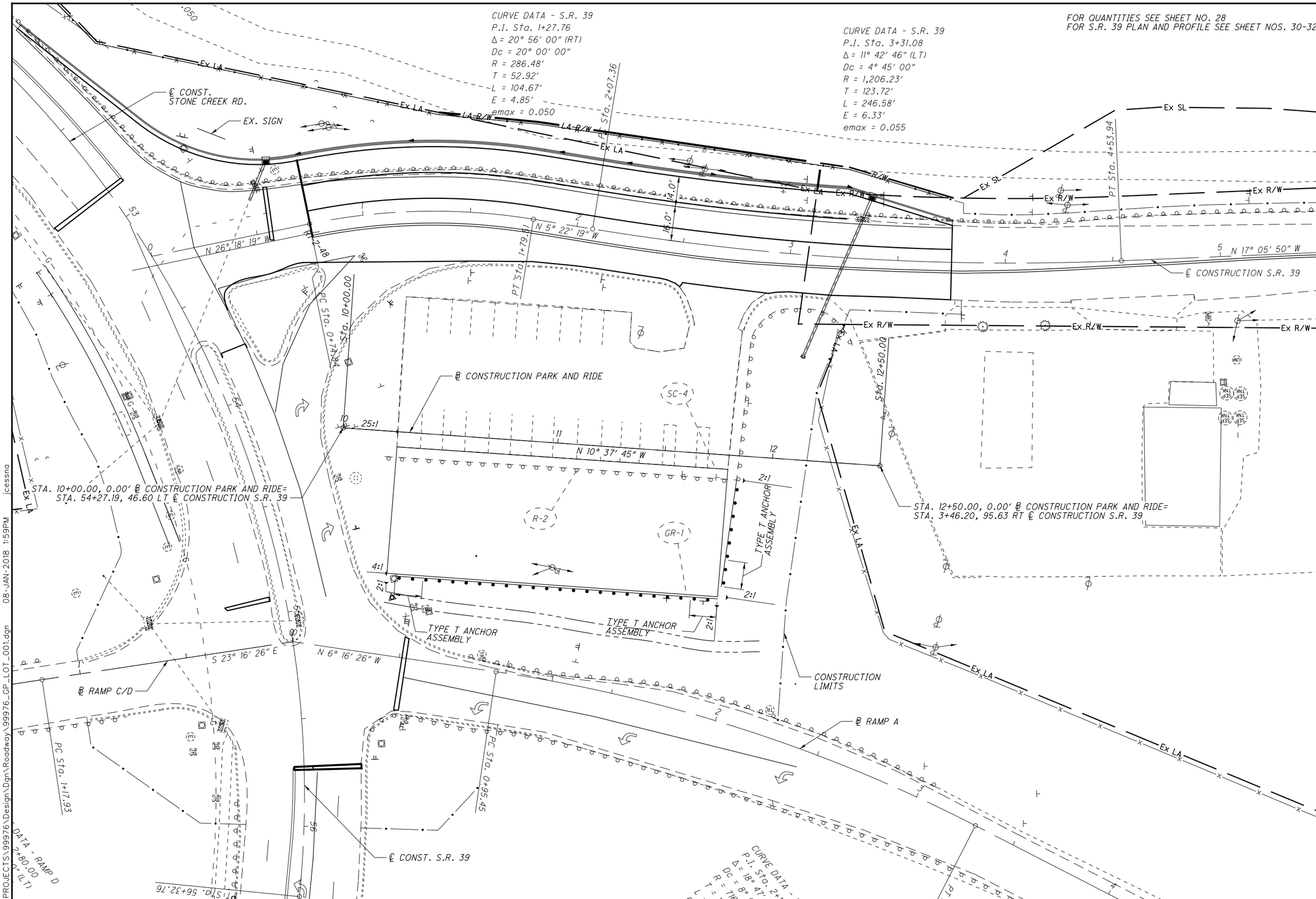
CURVE DATA - S.R. 39
P.I. Sta. 1+27.76
Δ = 20° 56′ 00″ (RT)
Dc = 20° 00′ 00″
R = 286.48′
T = 52.92′
L = 104.67′
E = 4.85′
emax = 0.050
CURVE DATA - S.R. 39
P.I. Sta. 3+31.08
Δ = 11° 42′ 46″ (LT)
Dc = 4° 45′ 00″
R = 1,206.23′
T = 123.72′
L = 246.58′
E = 6.33′
emax = 0.055
FOR QUANTITIES SEE SHEET NO. 28
FOR S.R. 39 PLAN AND PROFILE SEE SHEET NOS. 30-32
℄ CONST. STONE CREEK RD.
EX. SIGN
Ex LA
LA R/W
Ex R/W
Ex SL
PC Sta. 2+07.36
PT Sta. 4+53.94
PT Sta. 1+79.51
PC Sta. 0+74.84
PC Sta. 10+00.00
PC Sta. 12+50.00
PC Sta. 0+95.45
PC Sta. 1+17.93
PT Sta. 2+80.00
P.I. Sta. 56+32.76
N 26° 18′ 19″ W
N 5° 22′ 19″ W
N 17° 05′ 50″ W
N 10° 37′ 45″ W
N 6° 16′ 26″ W
S 23° 16′ 26″ E
14.0′
16.0′
℄ CONSTRUCTION S.R. 39
℄ CONSTRUCTION PARK AND RIDE
SC-4
R-2
GR-1
25:1
2:1
4:1
TYPE T ANCHOR ASSEMBLY
STA. 10+00.00, 0.00′ ℄ CONSTRUCTION PARK AND RIDE=
STA. 54+27.19, 46.60 LT ℄ CONSTRUCTION S.R. 39
STA. 12+50.00, 0.00′ ℄ CONSTRUCTION PARK AND RIDE=
STA. 3+46.20, 95.63 RT ℄ CONSTRUCTION S.R. 39
CONSTRUCTION LIMITS
℄ RAMP A
℄ RAMP C/D
℄ CONST. S.R. 39
CURVE DATA - RAMP D
P.I. Sta. 2+14
Δ = 18° 47′ 51″
Dc = 8° 00′
R = 716.2
T = 118
L =
E =
HORIZONTAL SCALE IN FEET
0 10 20 40
CALCULATED JAC
CHECKED JPB
PARK AND RIDE PLAN
TUS-39-12.64
33
92
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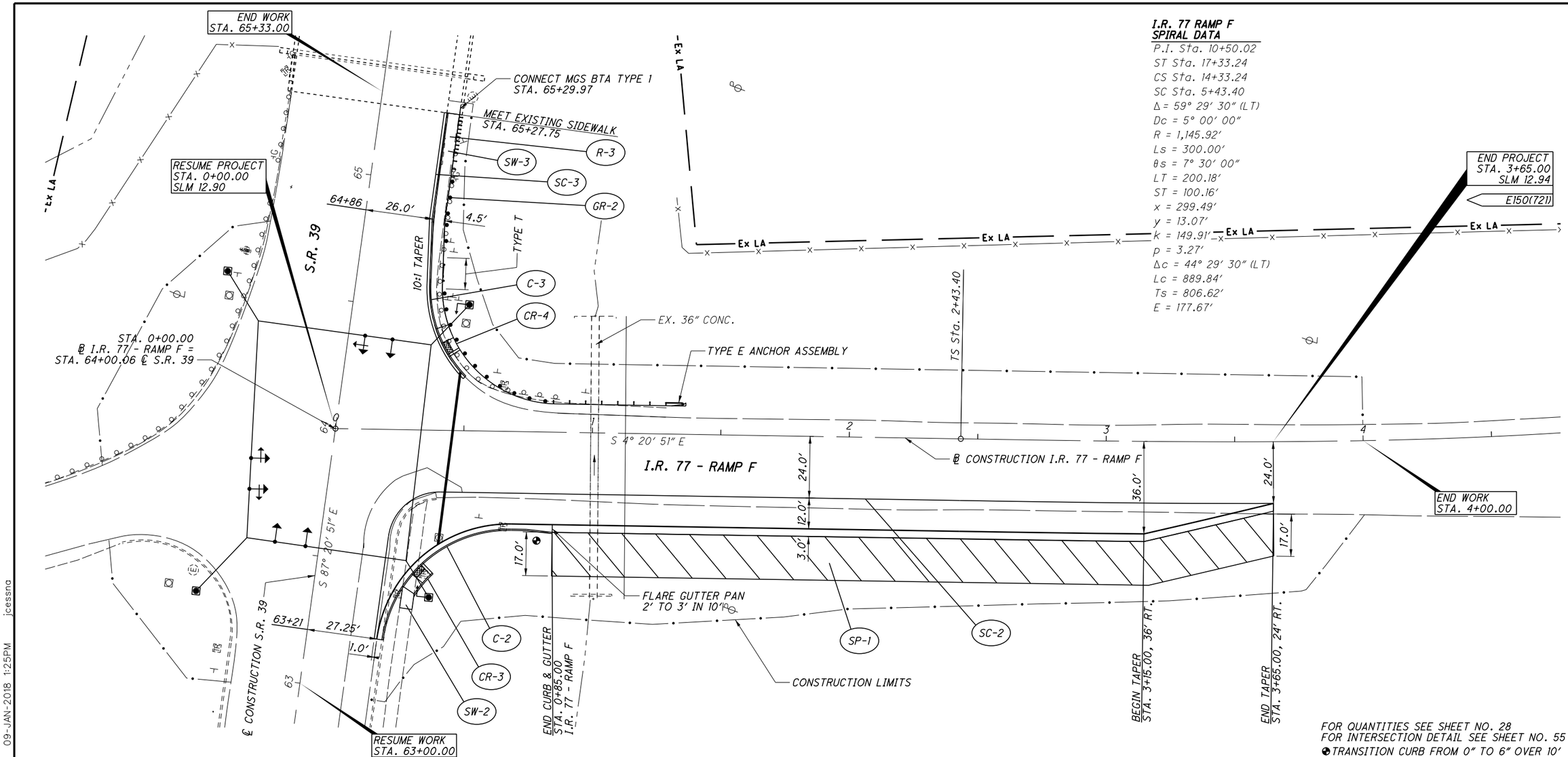
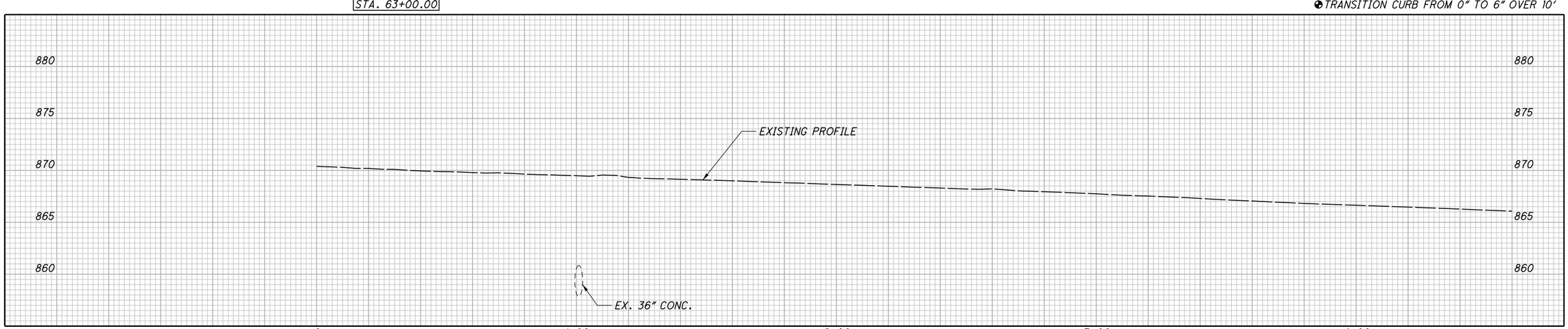


I.R. 77 RAMP F
SPIRAL DATA

P.I. Sta. 10+50.02
ST Sta. 17+33.24
CS Sta. 14+33.24
SC Sta. 5+43.40
Δ = 59° 29' 30" (LT)
Dc = 5° 00' 00"
R = 1,145.92'
Ls = 300.00'
θs = 7° 30' 00"
LT = 200.18'
ST = 100.16'
x = 299.49'
y = 13.07'
k = 149.91'
p = 3.27'
Δc = 44° 29' 30" (LT)
Lc = 889.84'
Ts = 806.62'
E = 177.67'

FOR QUANTITIES SEE SHEET NO. 28
FOR INTERSECTION DETAIL SEE SHEET NO. 55
◕ TRANSITION CURB FROM 0" TO 6" OVER 10'



HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED DMLF
CHECKED JAC

PLAN AND PROFILE I.R. 77 - RAMP F
STA. 0+00 TO STA. 5+30

TUS-39-12.64

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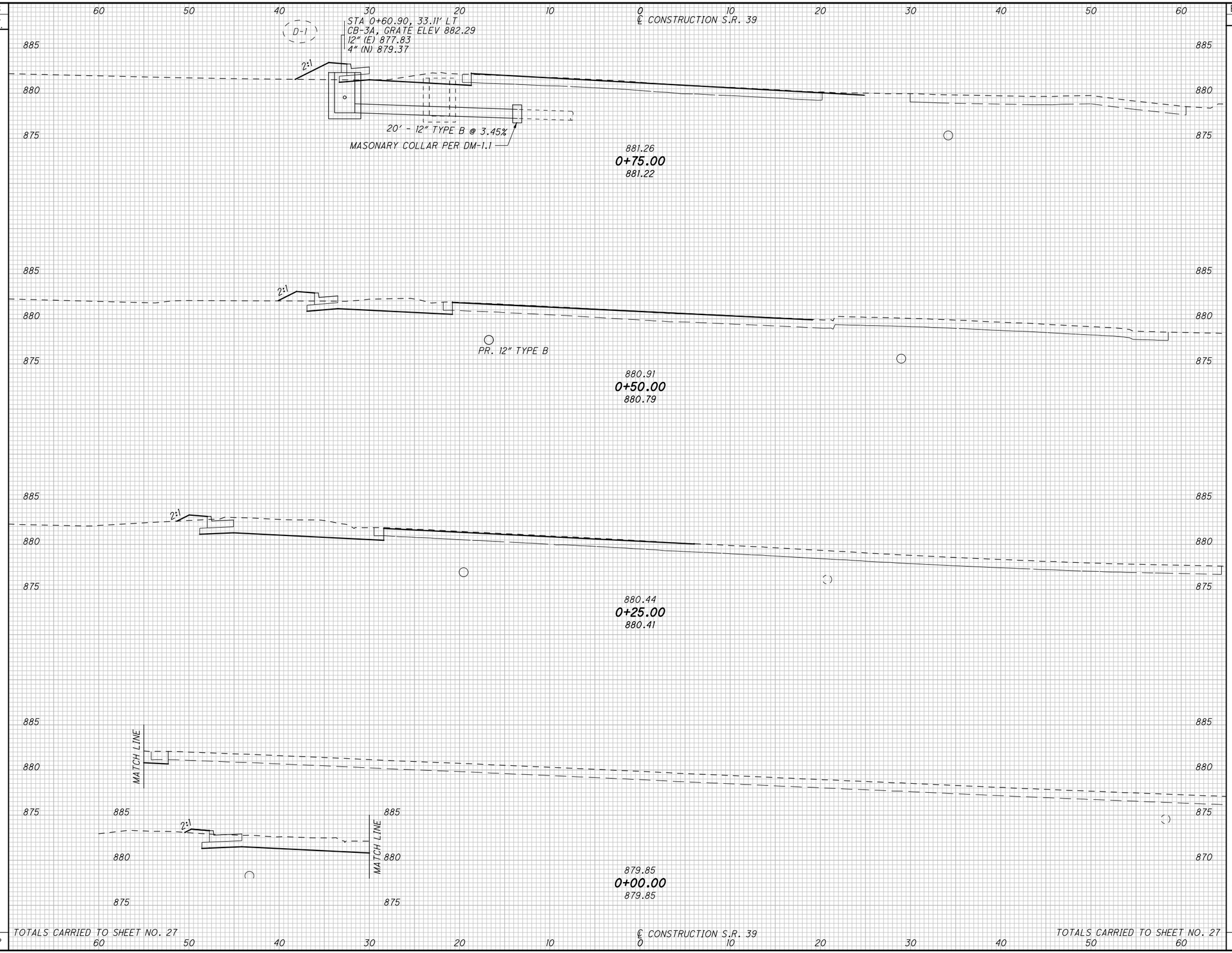

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		8	6
7	7		
		12	5
18	3		
		23	2
32	1		
		27	1
26	1		
		70	14

CALCULATED JAC
CHECKED JPB

CROSS SECTIONS SR 39
STA. 0+00.00 TO STA. 0+75.00

TUS-39-12.64

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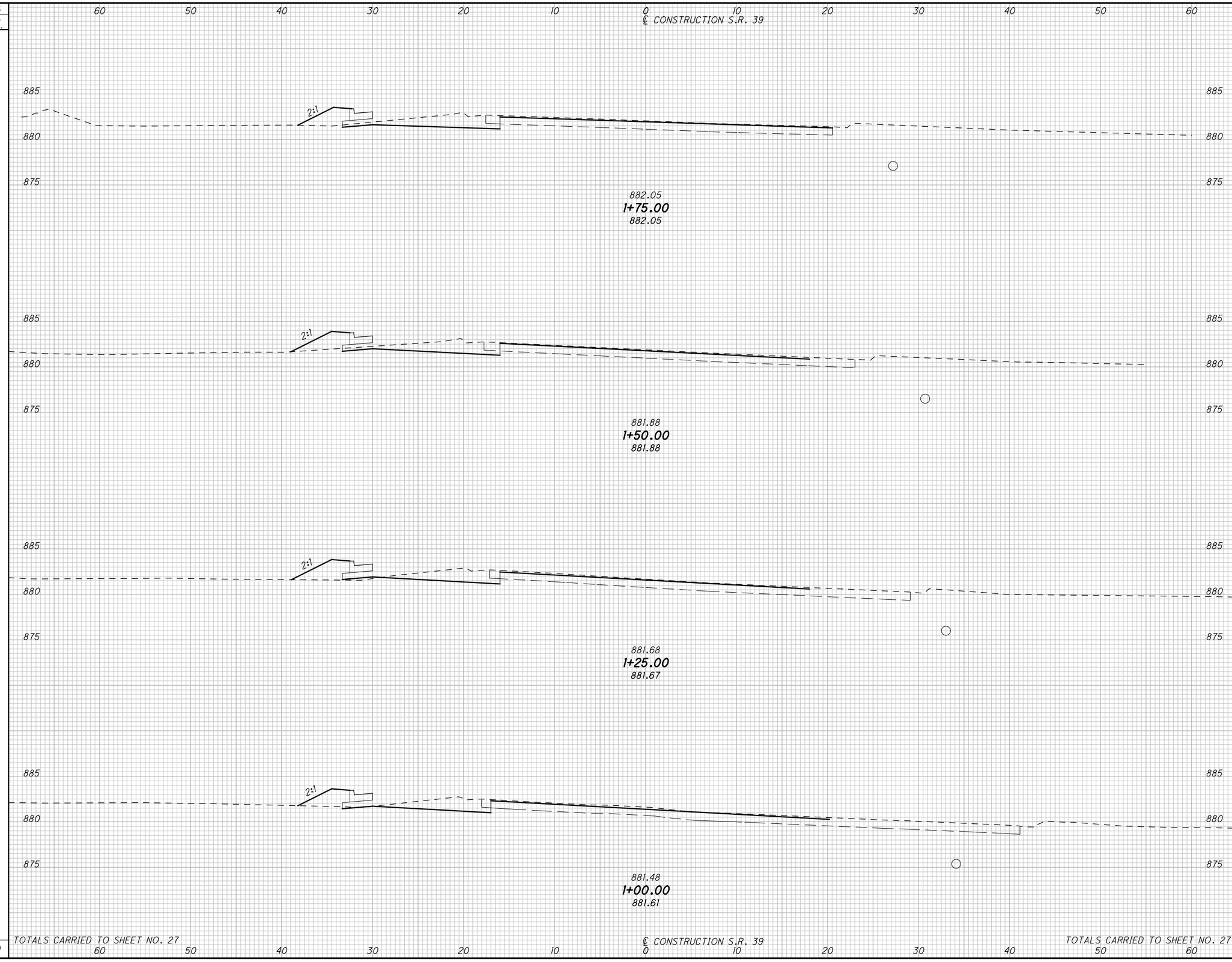

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	15			15	6
6		14	7		
	18			13	7
7		14	8		
	19			12	8
7		11	9		
	18			10	7
6		11	7		
70				50	28

CALCULATED JAC
CHECKED JPB

CROSS SECTIONS SR 39
STA. 1+00.00 TO STA. 1+75.00

TUS-39-12.64

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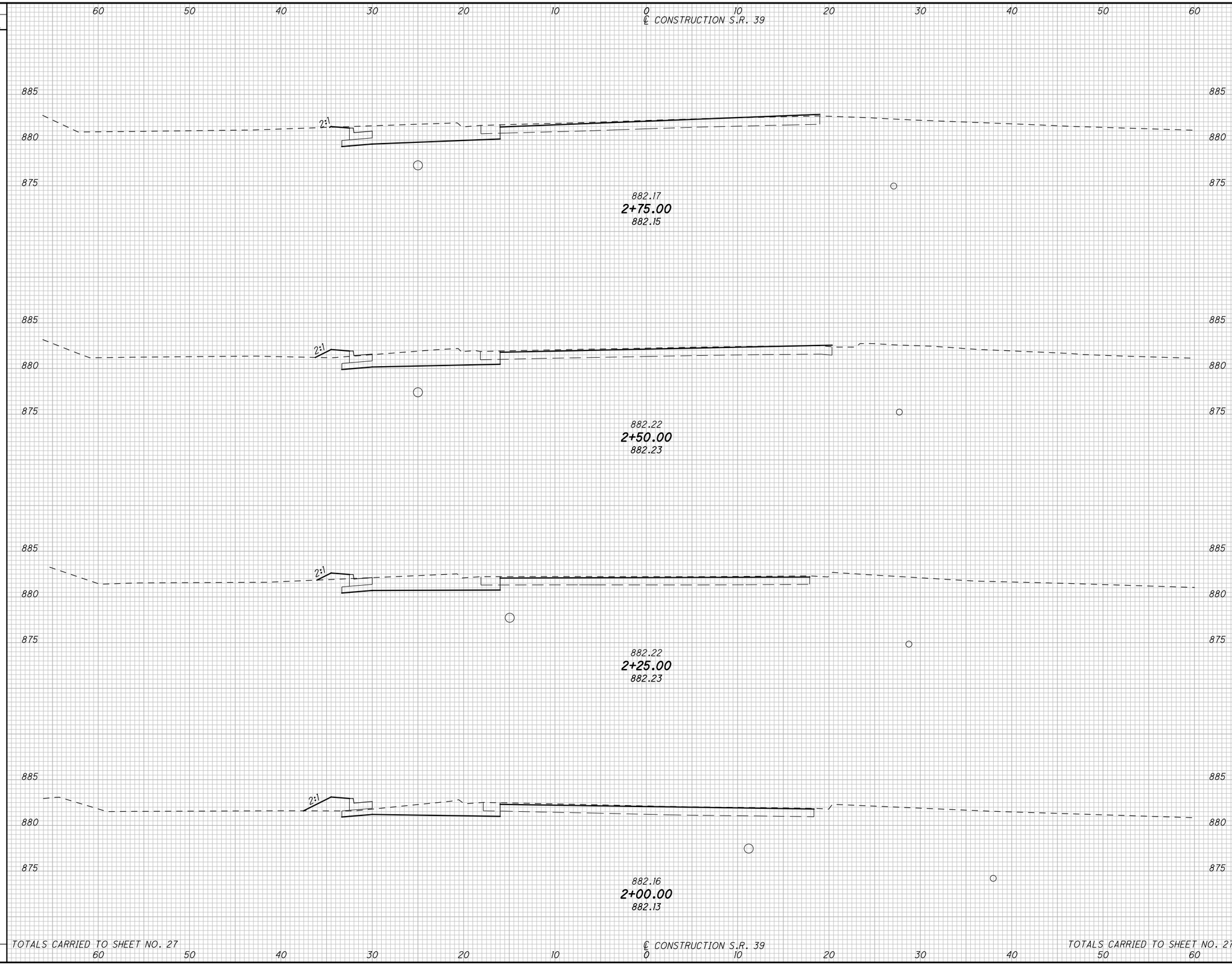
SEEDING END WIDTH	SEEDING SQ. YDS.		END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	6	2+75.00			27	0
2			30	0		
	8	2+50.00			25	4
4			24	8		
	11	2+25.00			22	5
4			24	2		
	13	2+00.00			19	3
5			18	5		
	38	TOTALS CARRIED TO SHEET NO. 27			93	12



CALCULATED JAC
CHECKED JPB

CROSS SECTIONS SR 39
STA. 2+00.00 TO STA. 2+75.00

TUS-39-12.64

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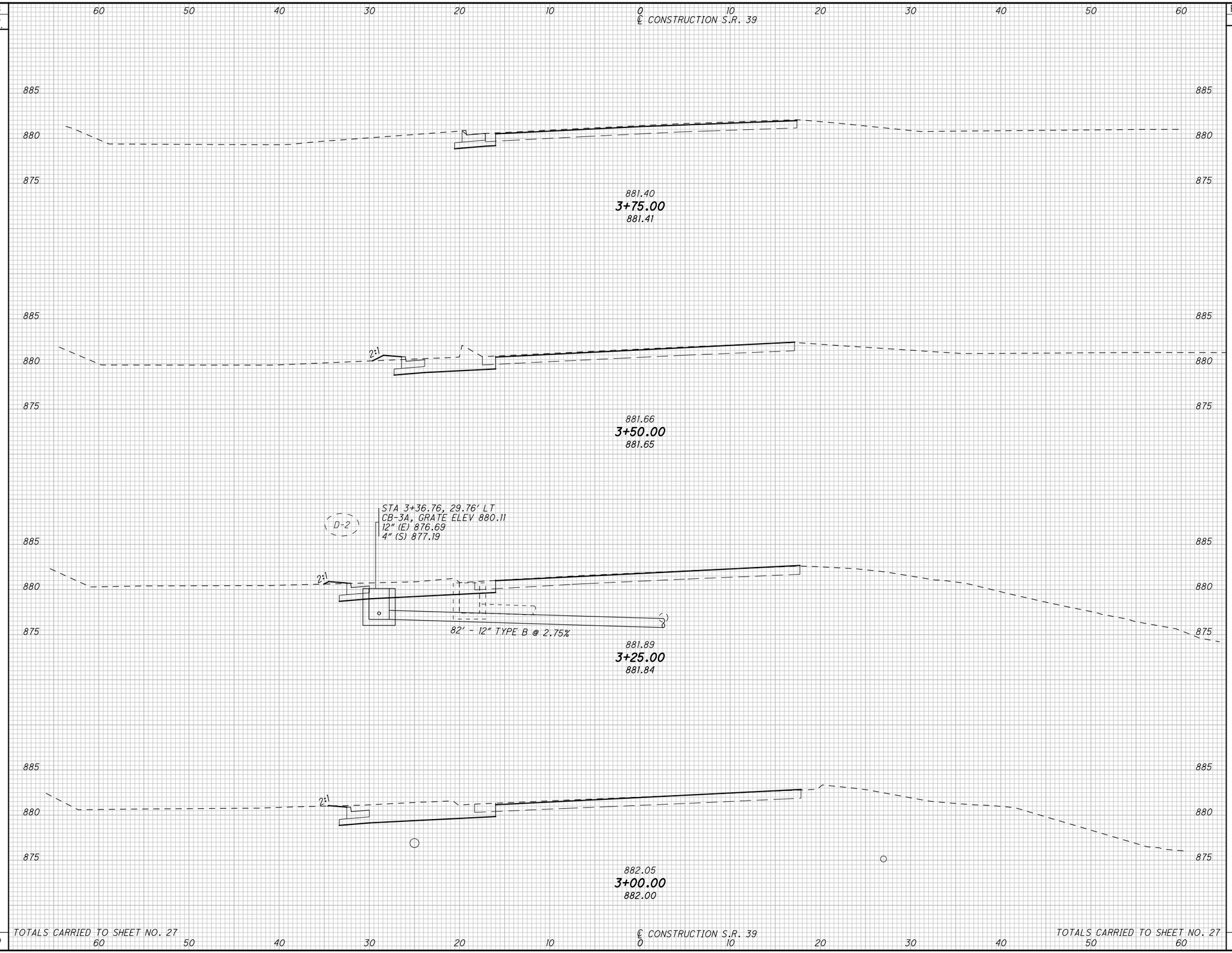

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	0			2	0
0		5	0		
	4			10	1
3		17	1		
	8			19	0
3		25	0		
	7			25	0
2		29	0		
	19			56	1

CALCULATED JAC
CHECKED JPB

CROSS SECTIONS SR 39
STA. 3+00.00 TO STA. 3+75.00

TUS-39-12.64

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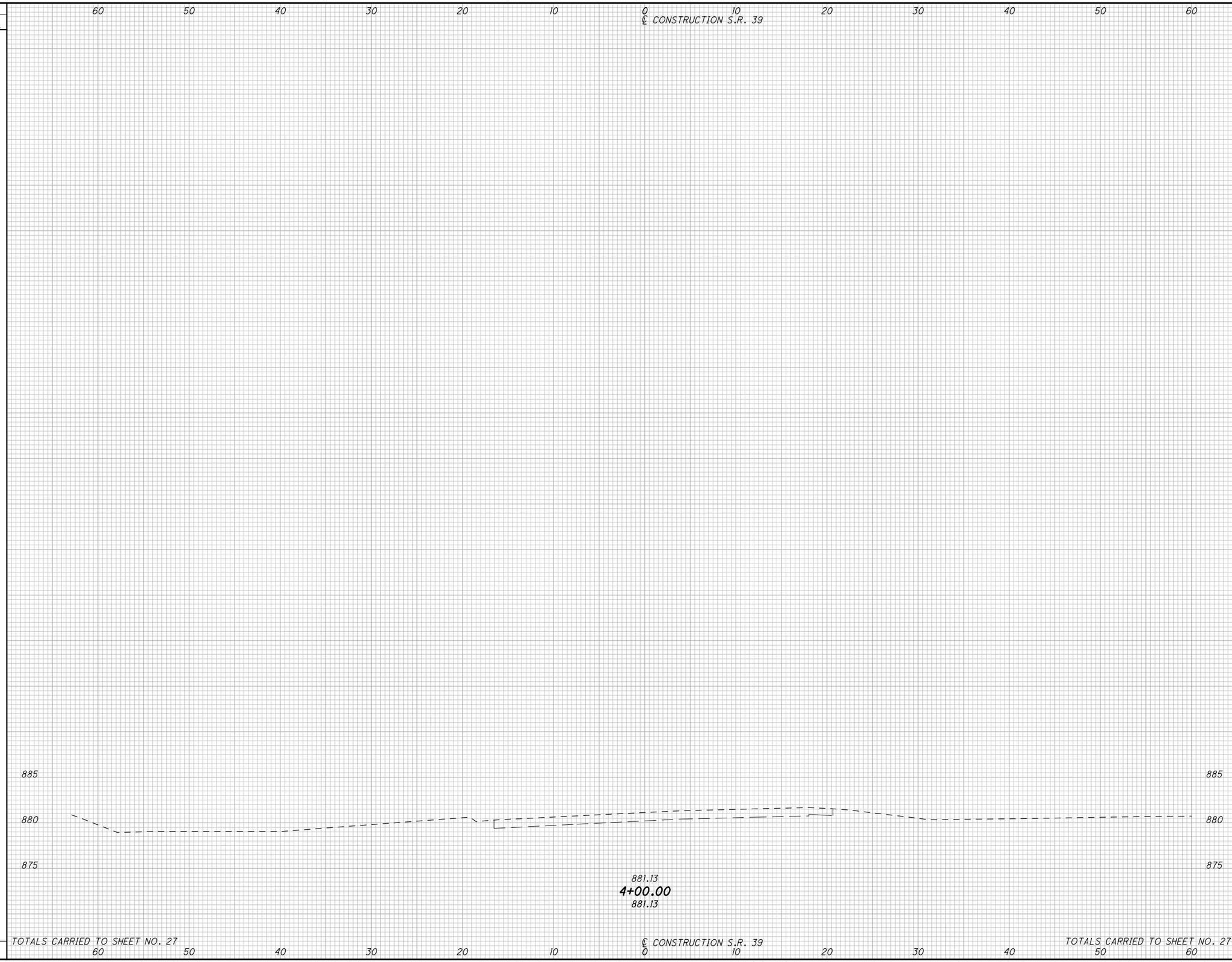
SEEDING	
END WIDTH	SQ. YDS.
0	0
0	0



END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	0	0	0
		0	0

CALCULATED JAC
CHECKED JPB

CROSS SECTIONS SR 39
STA. 4+00.00

TUS-39-12.64

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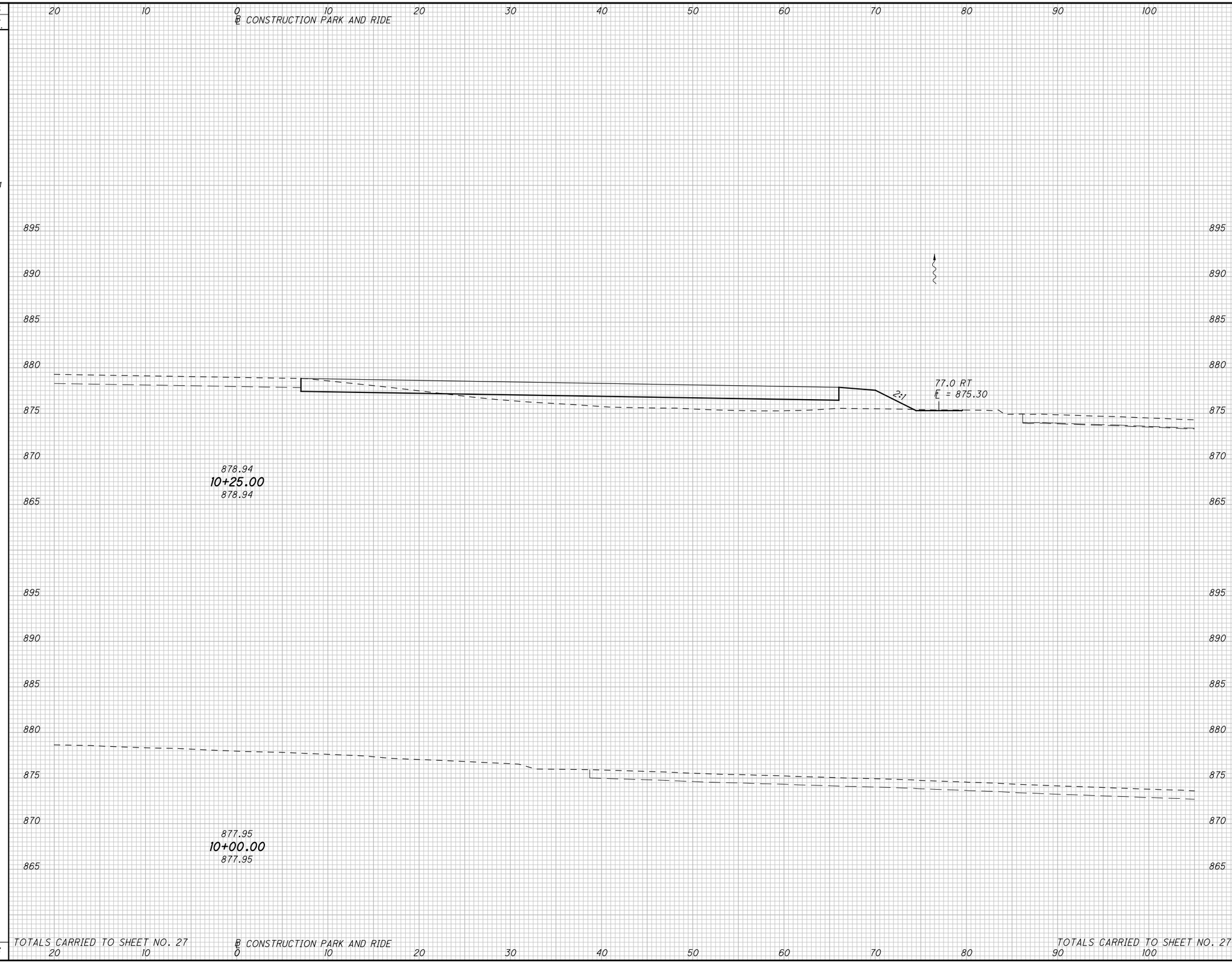

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	44			32	191
14		0	55		
	19			0	25
0		0	0		
	63			32	216

CALCULATED JAC
CHECKED ANS

CROSS SECTIONS PARK AND RIDE
STA. 10+00.00 TO STA. 10+25.00

TUS-39-12.64

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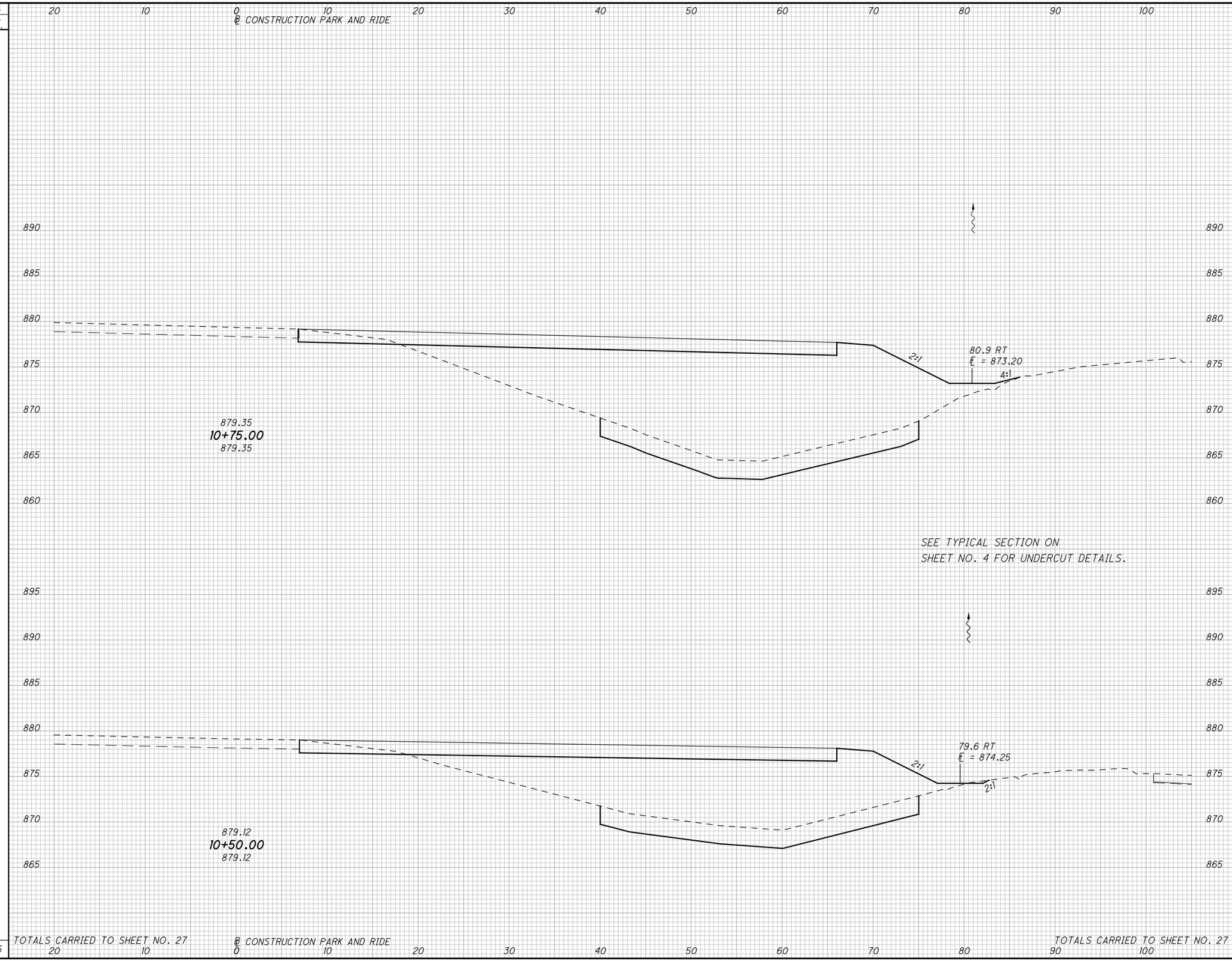


SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	71			65	494
21		70	527		
	54			65	409
18		70	357		
	125			130	903

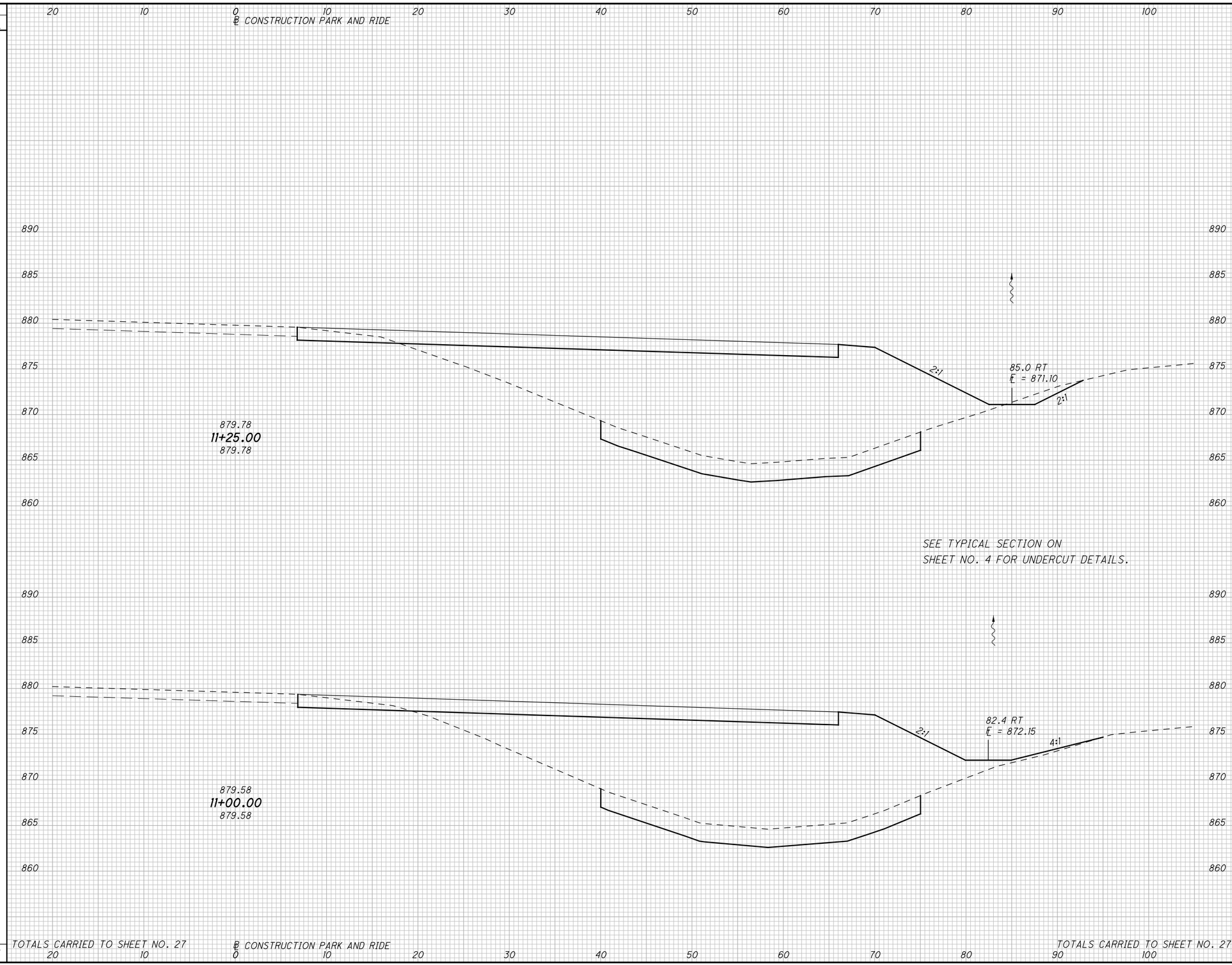
CALCULATED JAC
CHECKED ANS

CROSS SECTIONS PARK AND RIDE
STA. 10+50.00 TO STA. 10+75.00

TUS-39-12.64

I:\PROJECTS\99976\Design\Dgn\Roadway\99976_XS004_Park.dgn 08-JAN-2018 2:00PM jcessna

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	82			69	530
29		75	560		
	82			67	510
30		70	541		
	164			136	1040



CALCULATED JAC
CHECKED ANS

CROSS SECTIONS PARK AND RIDE
STA. 11+00.00 TO STA. 11+25.00

TUS-39-12.64

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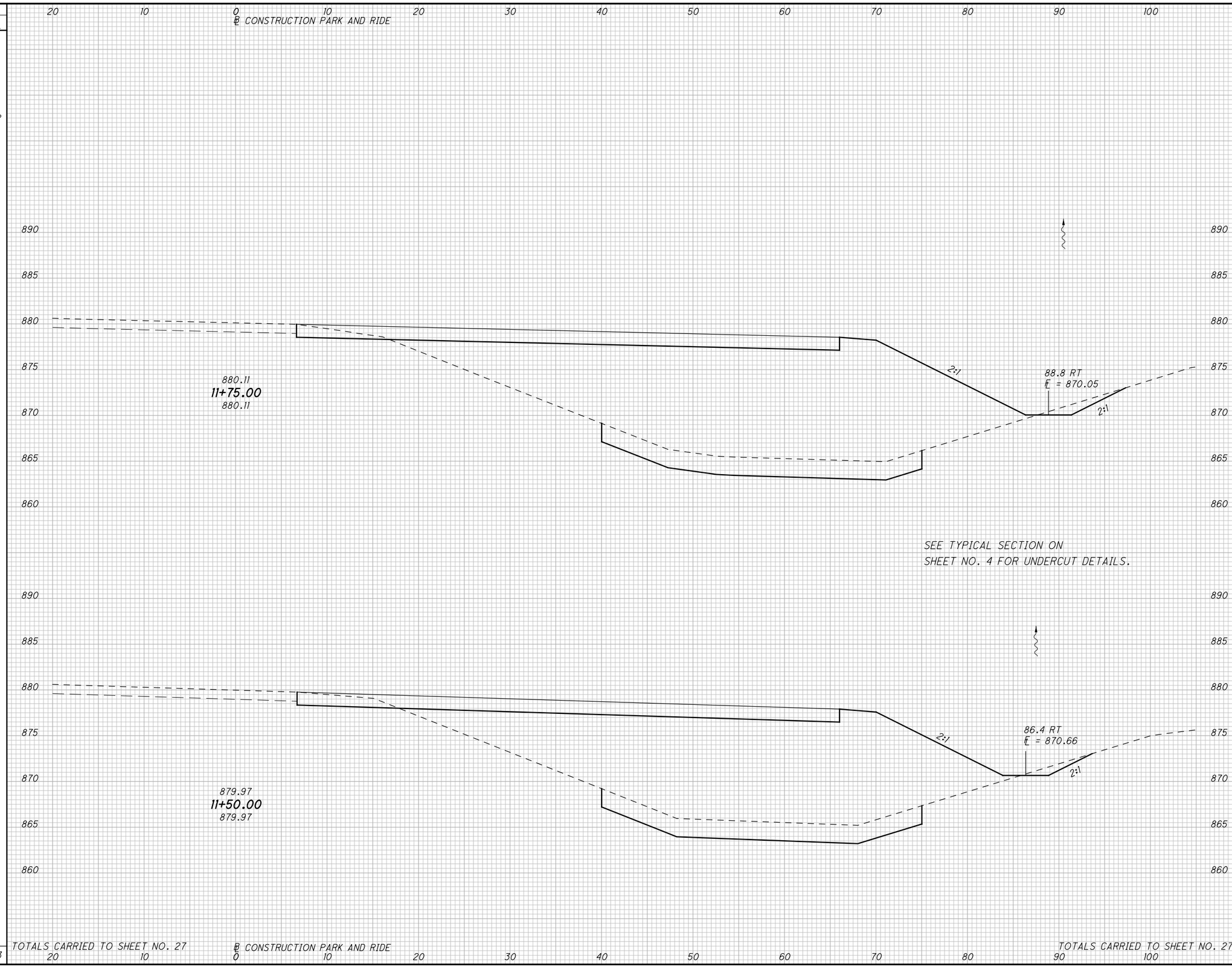
SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	122			40	344
28		76	647		
	81			69	570
30		74	584		
	203			109	914

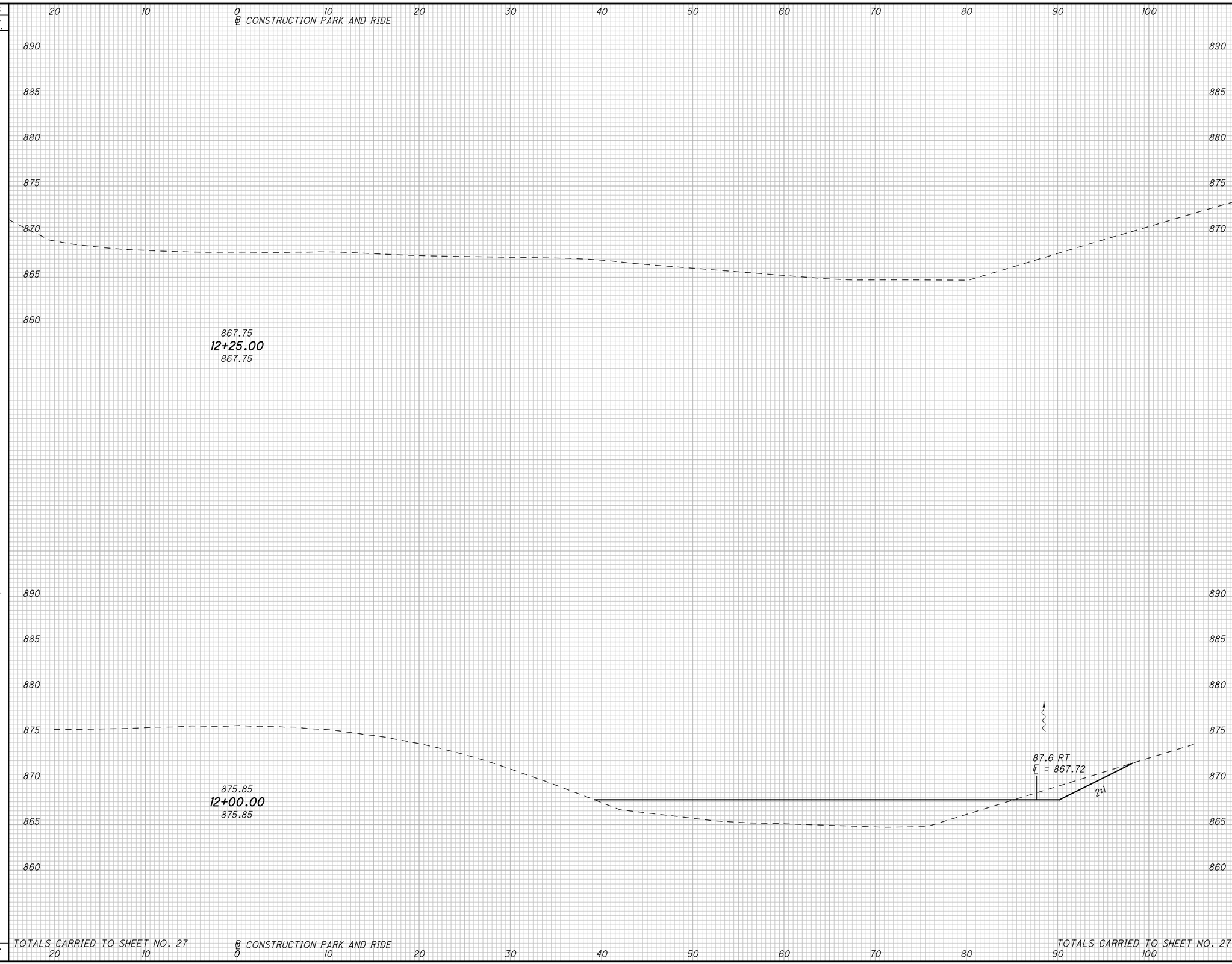


CALCULATED JAC
CHECKED ANS

CROSS SECTIONS PARK AND RIDE
STA. 11+50.00 TO STA. 11+75.00

TUS-39-12.64

I:\PROJECTS\99976\Design\Dgn\Roadway\99976_XS004_Park.dgn 08-JAN-2018 2:00PM jcessna



SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0		0	0		
	83			5	45
60		10	97		
	83			5	45

CALCULATED JAC
CHECKED ANS

CROSS SECTIONS PARK AND RIDE
STA. 12+00.00

TUS-39-12.64

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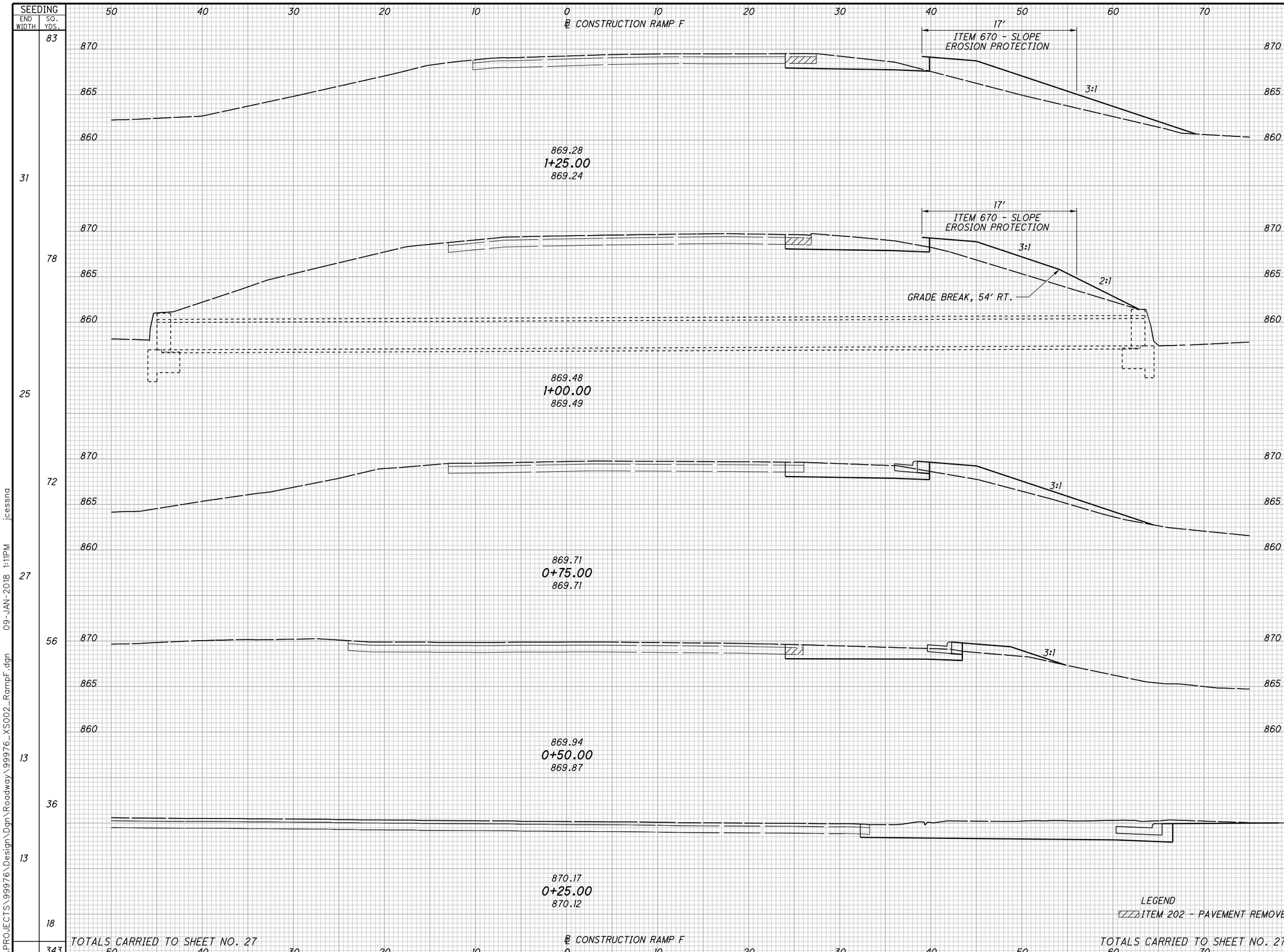

END WIDTH	SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	83			14	36
31		15	43		
	78			15	35
25		18	33		
	72			18	26
27		21	24		
	56			21	15
13		24	9		
	36			43	4
13		69	0		
	18			32	0
	343			143	116

CALCULATED DMLF
CHECKED JAC

CROSS SECTIONS RAMP F
STA. 0+50.00 TO STA. 1+25.00

TUS-39-12.64

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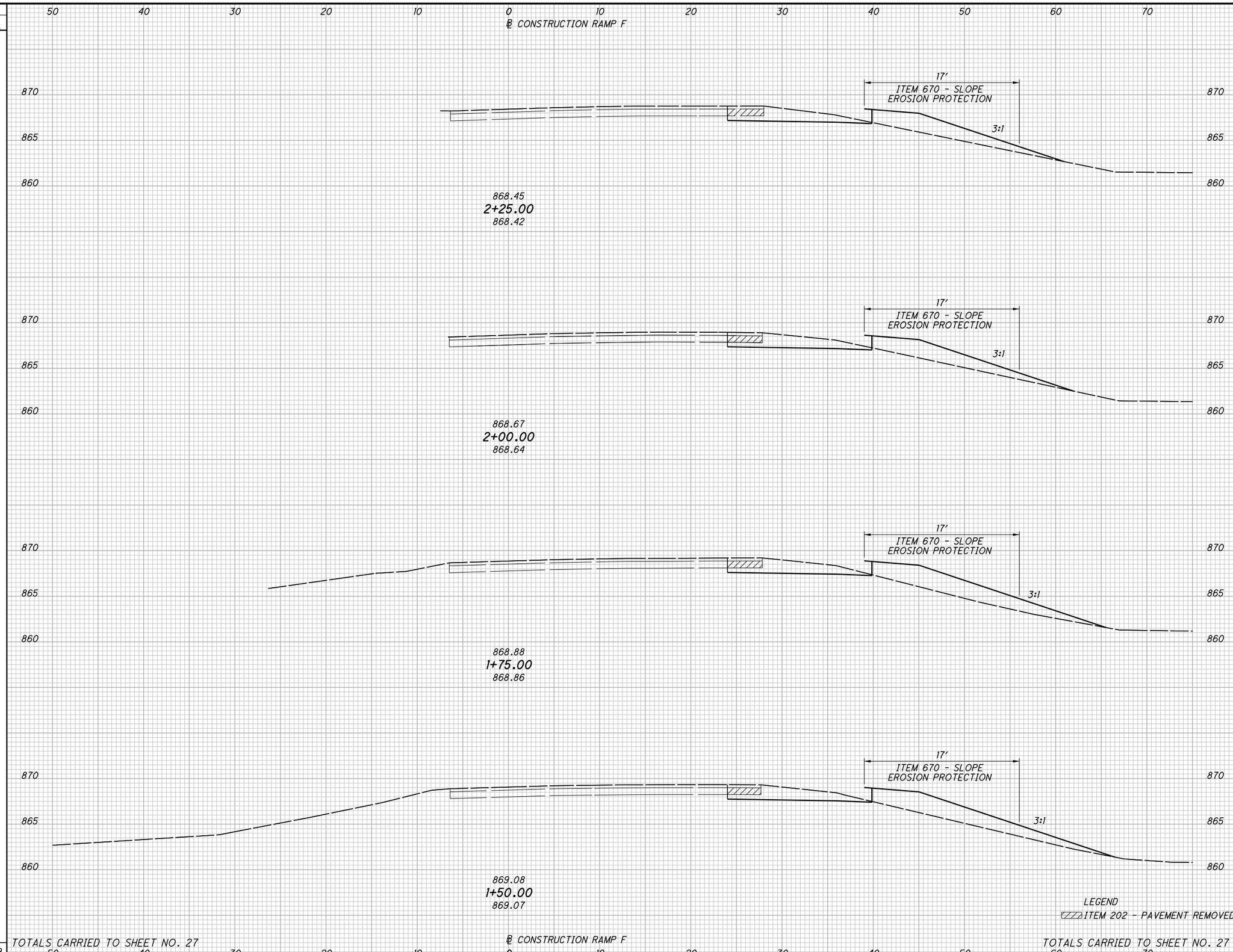
SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	63			13	23
23		14	26		
	65			13	24
24		14	26		
	72			13	29
28		15	37		
	79			14	33
29		15	34		
	279			53	109



CALCULATED DMLF
CHECKED JAC

CROSS SECTIONS RAMP F
STA. 1+50.00 TO STA. 2+25.00

TUS-39-12.64

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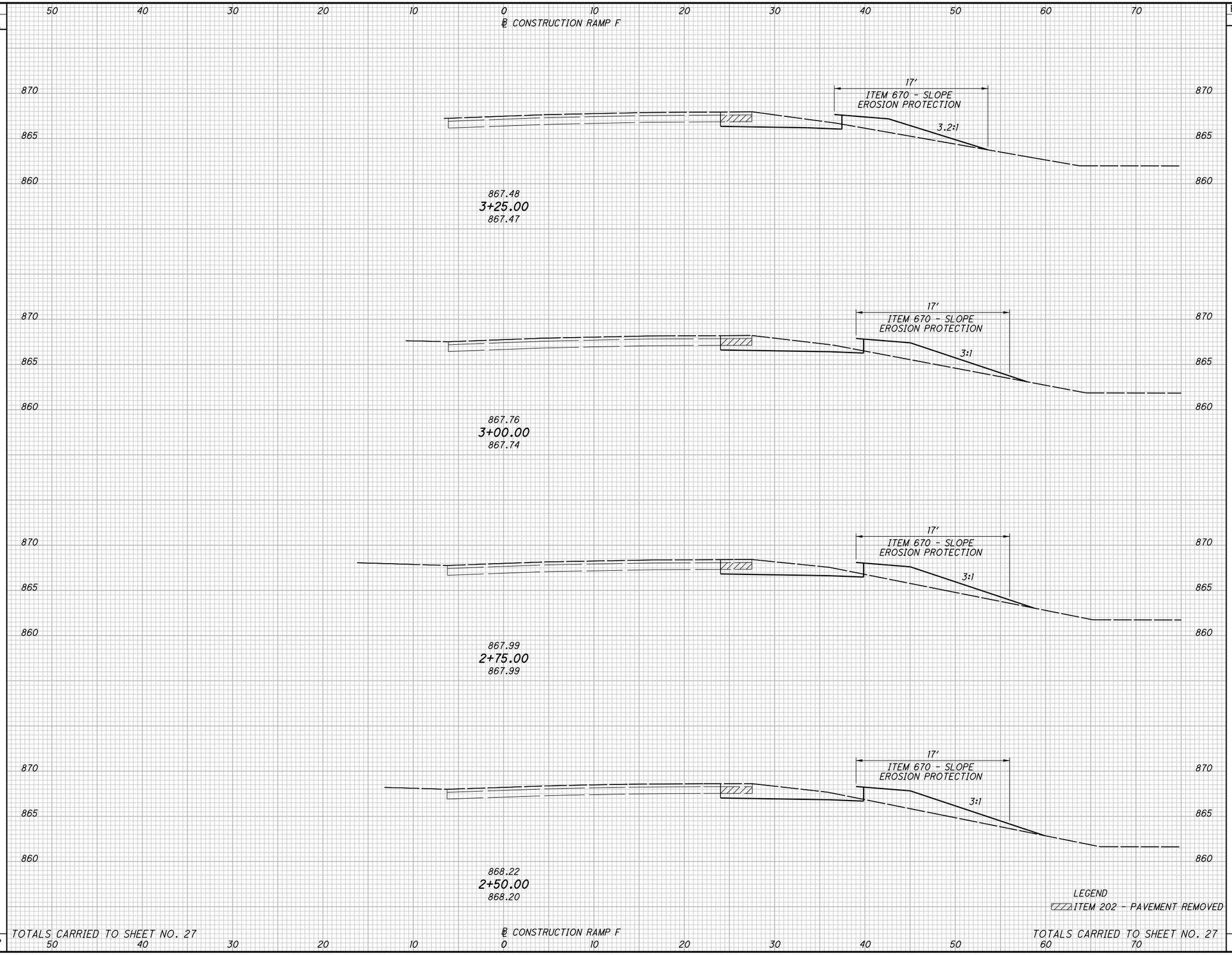
SEEDING END WIDTH	SEEDING SQ. YDS.	STA.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	47				10	9
18		3+25.00	13	16		
	51				13	17
20		3+00.00	15	21		
	56				14	19
20		2+75.00	16	21		
	58				14	21
22		2+50.00	15	24		
	212				51	66



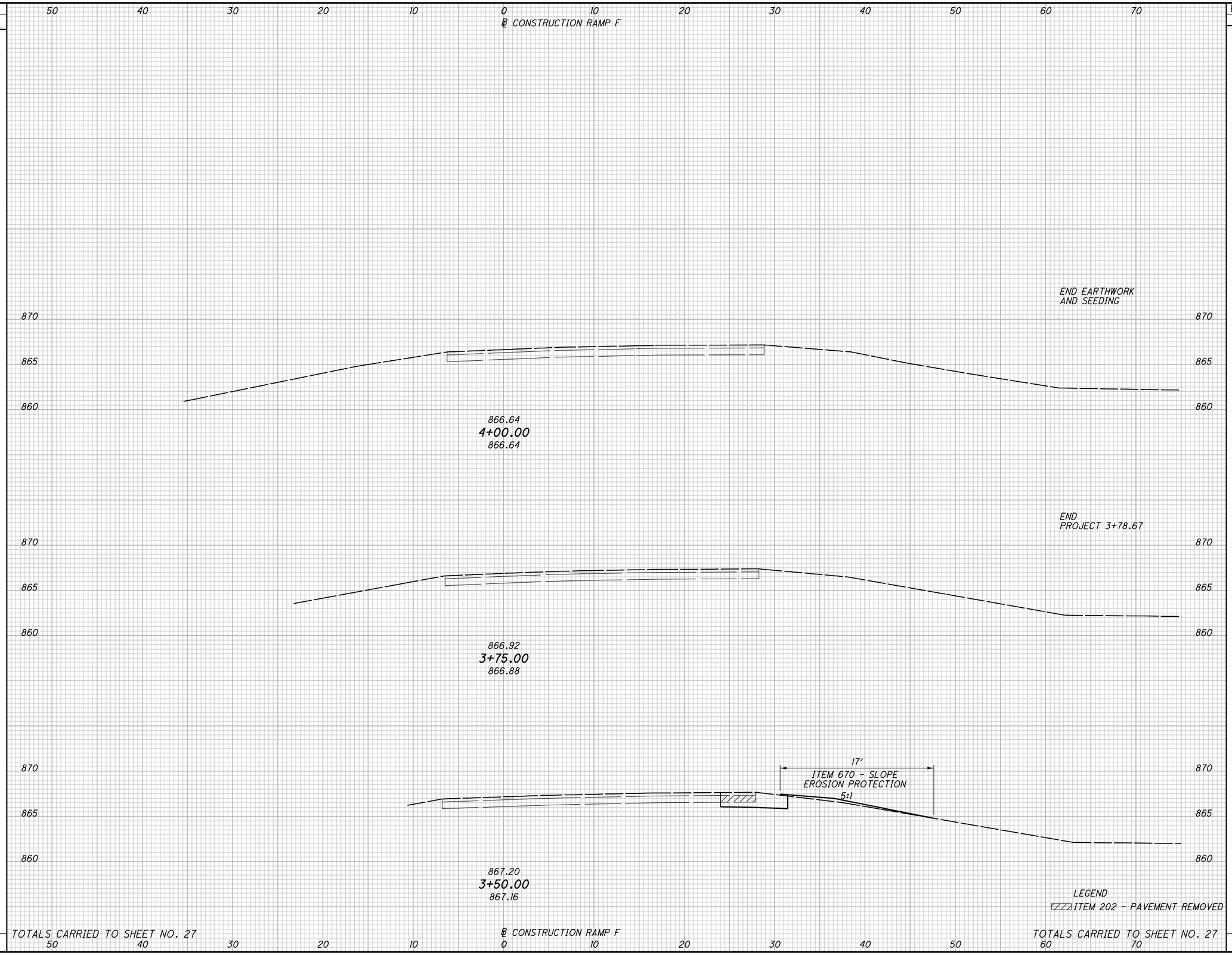
CALCULATED DMLF
CHECKED JAC

CROSS SECTIONS RAMP F
STA. 2+50.00 TO STA. 3+25.00

TUS-39-12.64

I:\PROJECTS\99976\Design\Dgn\Roadway\99976_XS002_RampF.dgn 09-JAN-2018 2:26PM jcessna

SEEDING END WIDTH	SEEDING SQ. YDS.		END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	0	END EARTHWORK AND SEEDING			0	0
0		866.64 4+00.00 866.64	0	0		
	0	END PROJECT 3+78.67			0	0
0		866.92 3+75.00 866.88	0	0		
	24	17' ITEM 670 - SLOPE EROSION PROTECTION 5:1			4	2
17		867.20 3+50.00 867.16	8	4		
	24	TOTALS CARRIED TO SHEET NO. 27			4	2

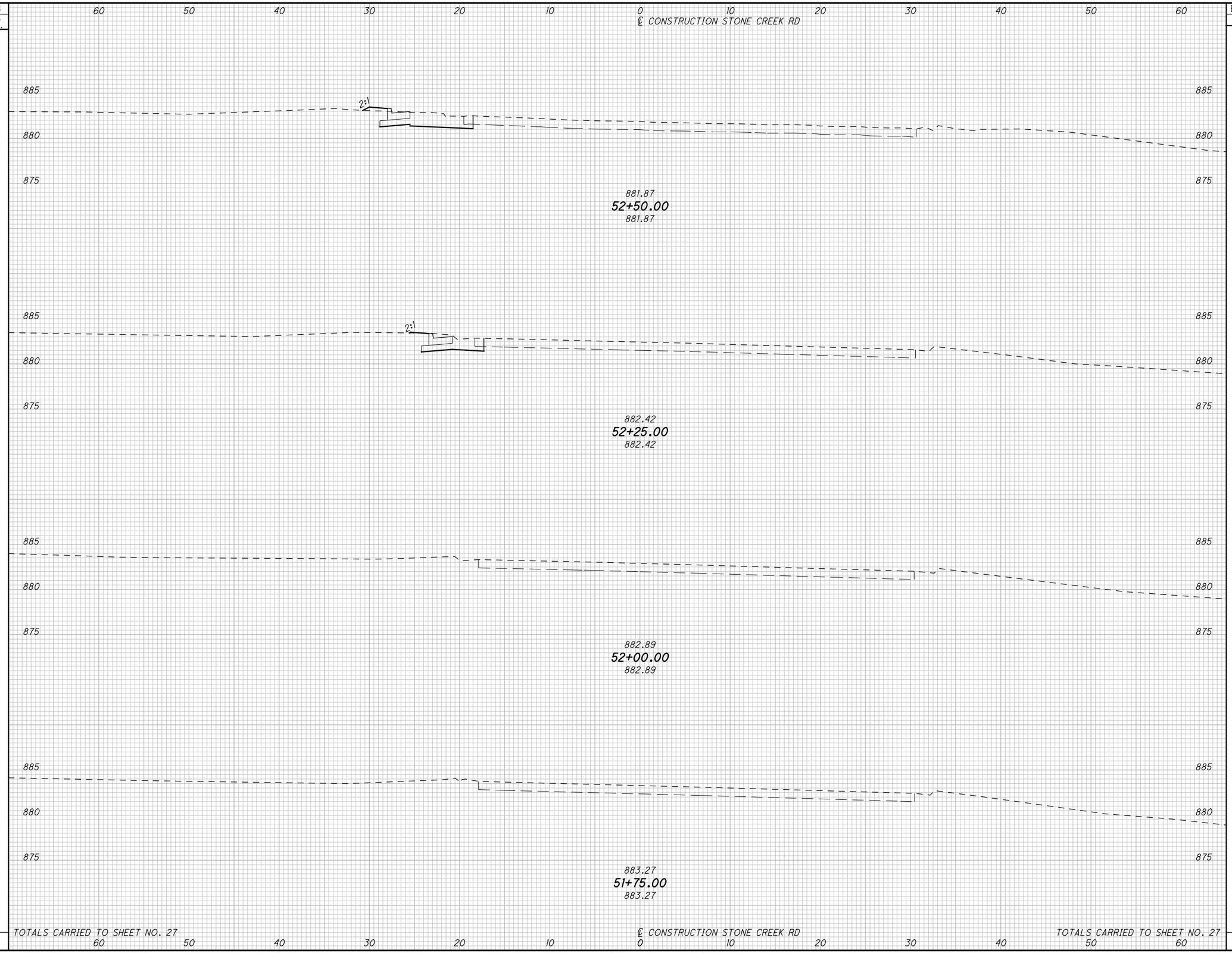


CALCULATED DMLF
CHECKED JAC

CROSS SECTIONS RAMP F
STA. 3+50.00 TO STA. 4+00.00

TUS-39-12.64

I:\PROJECTS\99976\Design\Dgn\Roadway\99976_XS002_RampF.dgn 09-JAN-2018 2:50PM jcessna



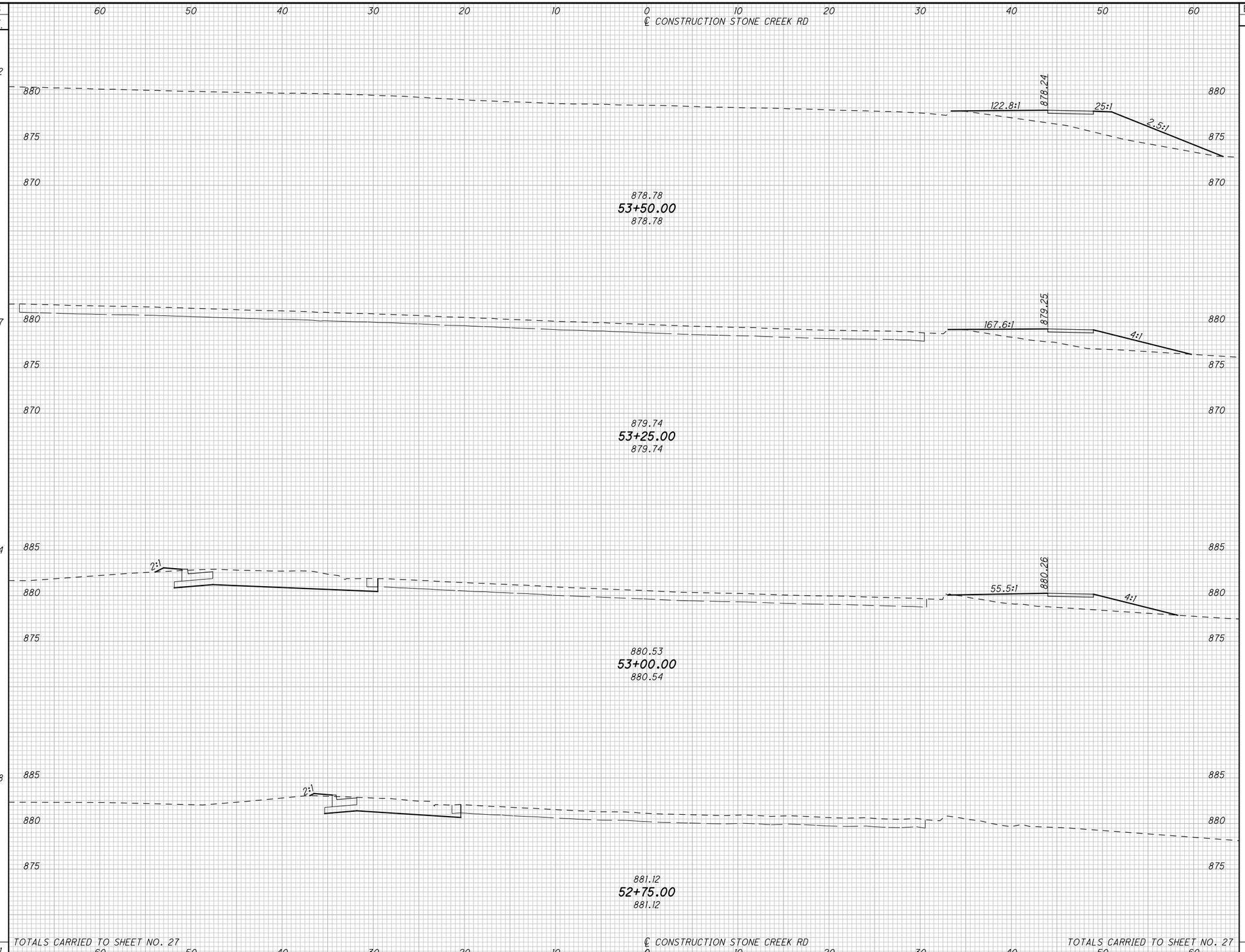
SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	8			16	1
3		14	1		
	8			11	1
3		9	1		
	4			4	0
0		0	0		
	0			0	0
0		0	0		
20				31	2

CALCULATED JAC
CHECKED JPB

CROSS SECTIONS STONECREEK RD
STA. 51+75.00 TO STA. 52+50.00

TUS-39-12.64

I:\PROJECTS\99976\Design\Dgn\Roadway\99976_XS003_Stone.dgn 08-JAN-2018 2:00PM jcessna



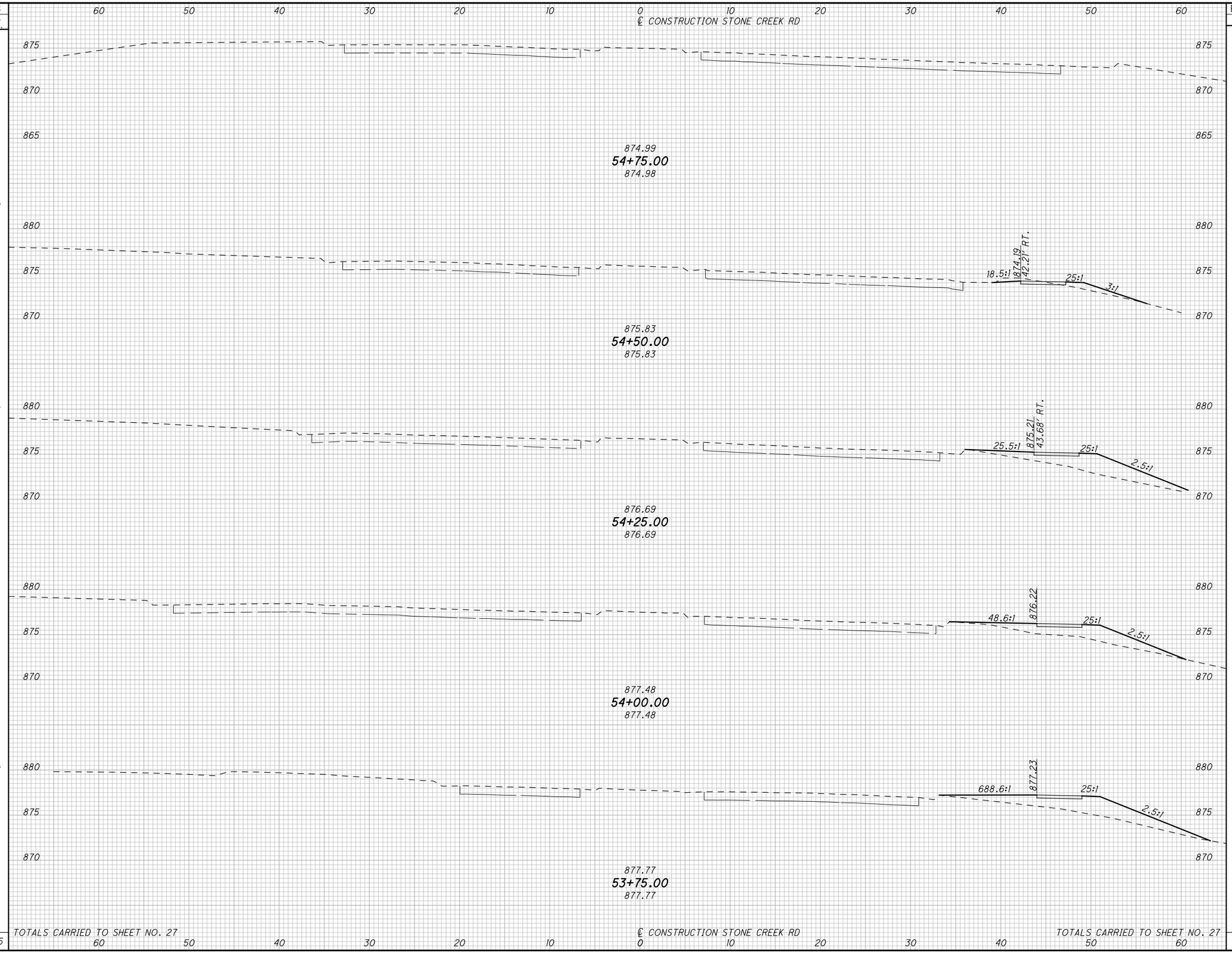
SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	72			0	31
26		0	36		
	67			0	28
22		0	25		
	64			17	23
24		37	24		
	38			27	12
3		21	1		
	241			44	94

CALCULATED JAC
CHECKED JPB

CROSS SECTIONS STONECREEK RD
STA. 52+75.00 TO STA. 53+50.00

TUS-39-12.64

I:\PROJECTS\99976\Design\Dgn\Roadway\99976_XS003_Stone.dgn 08-JAN-2018 2:00PM jcessna



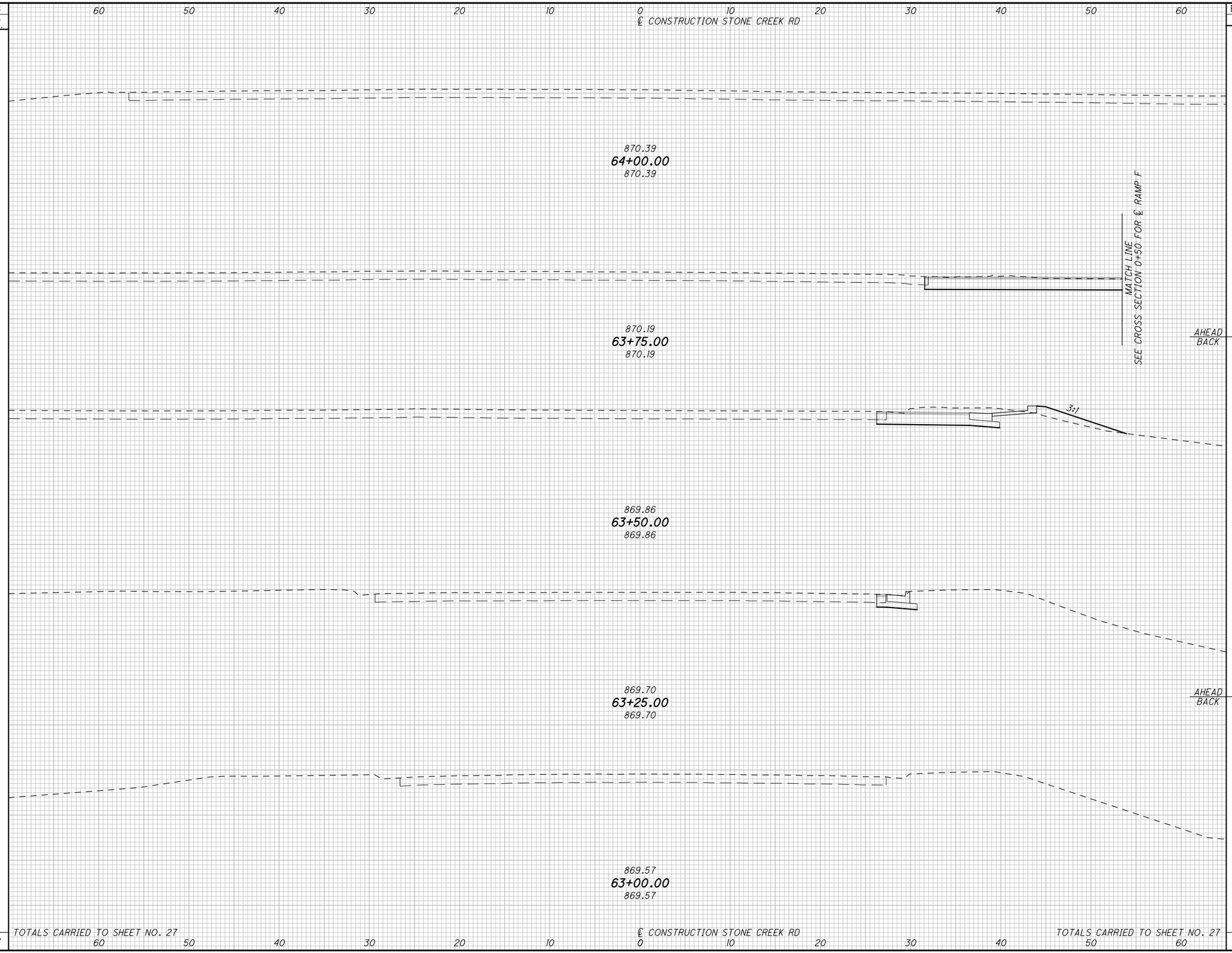
SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	0			0	0
0		0	0		
	18			0	2
13		1	4		
	49			0	13
22		0	25		
	61			0	21
22		0	21		
	67			0	24
26		0	30		
	195			0	60

CALCULATED JAC
CHECKED JPB

CROSS SECTIONS STONECREEK RD
STA. 53+75.00 TO STA. 54+75.00

TUS-39-12.64

I:\PROJECTS\99976\Design\Dgn\Roadway\99976_XS003_Stone.dgn 08-JAN-2018 2:00PM jcessna



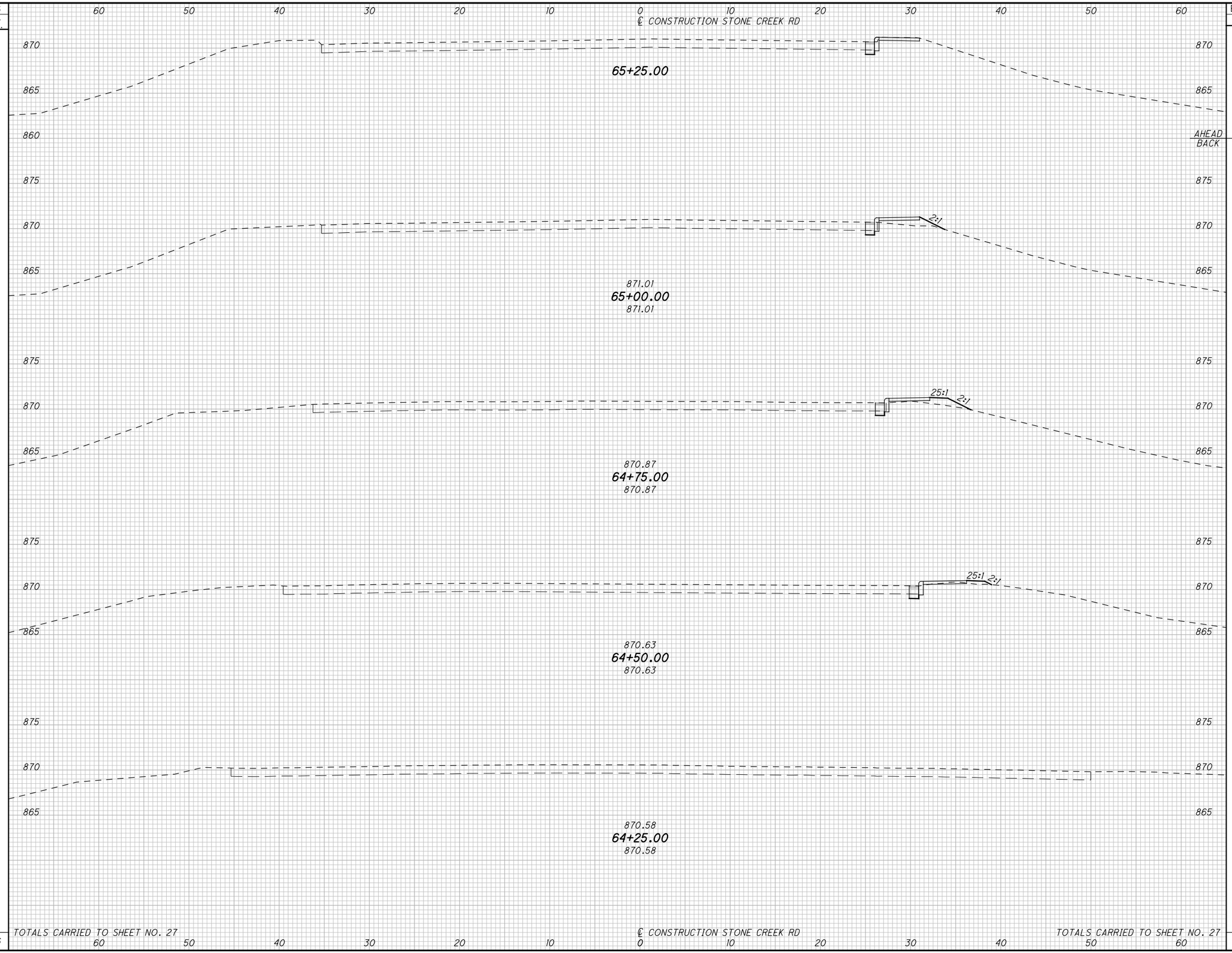
SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	0			0	0
0	0	0	0		
	0			0	0
0		AHEAD 0 / BACK 29	AHEAD 0 / BACK 0		
	14			14	3
10		25	6		
	14			25	3
0		AHEAD 6 / BACK 0	AHEAD 0 / BACK 0		
	0			0	0
0		0	0		
	28			39	6

CALCULATED JAC
CHECKED JPB

CROSS SECTIONS STONECREEK RD
STA. 63+00.00 TO STA. 64+00.00

TUS-39-12.64

I:\PROJECTS\99976\Design\Dgn\Roadway\99976_XS003_Stone.dgn 08-JAN-2018 2:00PM jcessna



SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	0			0	0
	0			0	
0					
		AHEAD 0	0		
		BACK 0	0		
	4			0	1
	0			0	
3		0	3		
	11			0	3
	0			0	
5		0	3		
	11			0	2
3		0	1		
	0			0	0
0		0	0		
26				0	6

CALCULATED JAC
CHECKED JPB

CROSS SECTIONS STONECREEK RD
STA. 64+25.00 TO STA. 65+25.00

TUS-39-12.64

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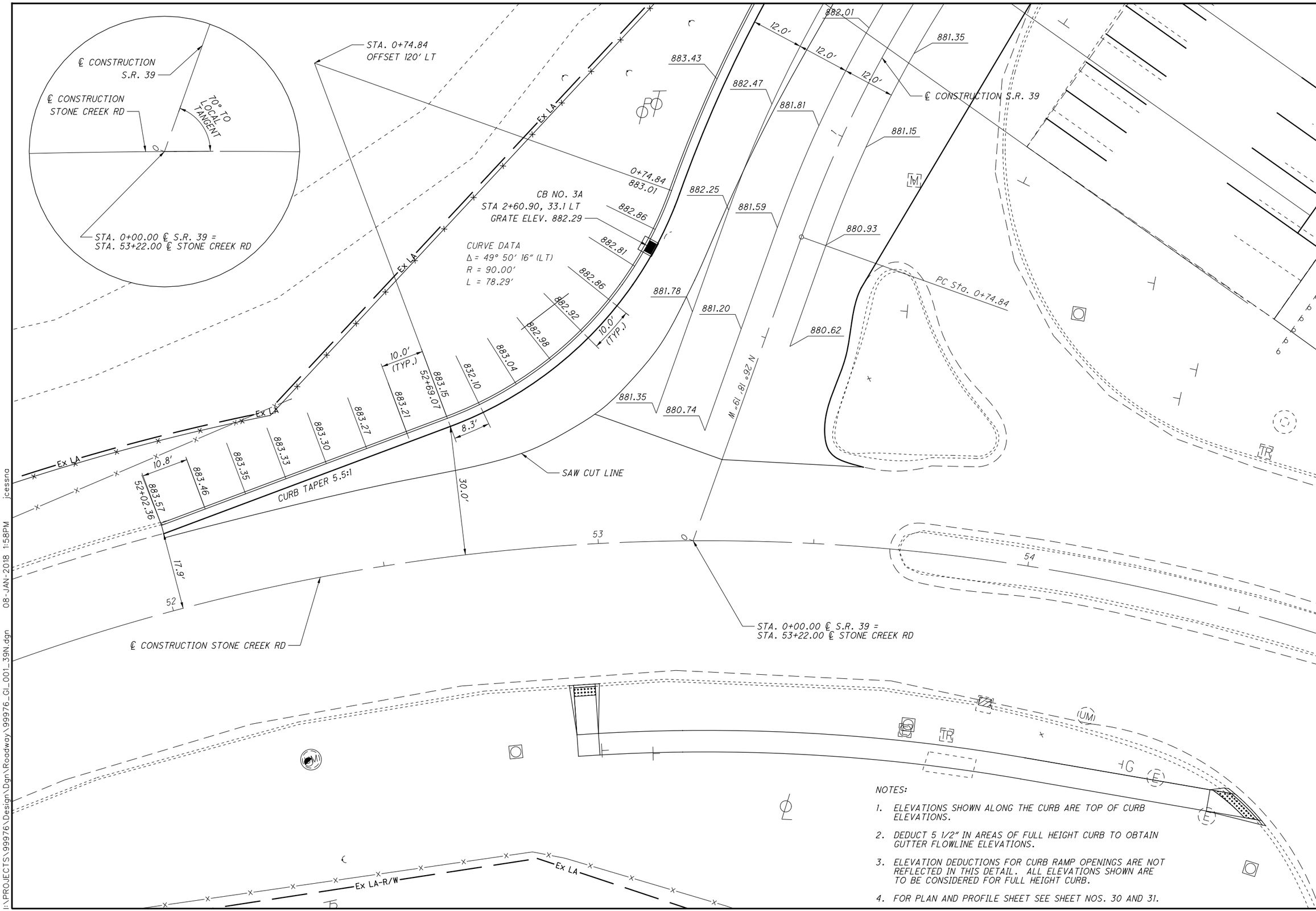

NOTES:

1. ELEVATIONS SHOWN ALONG THE CURB ARE TOP OF CURB ELEVATIONS.
2. DEDUCT 5 1/2" IN AREAS OF FULL HEIGHT CURB TO OBTAIN GUTTER FLOWLINE ELEVATIONS.
3. ELEVATION DEDUCTIONS FOR CURB RAMP OPENINGS ARE NOT REFLECTED IN THIS DETAIL. ALL ELEVATIONS SHOWN ARE TO BE CONSIDERED FOR FULL HEIGHT CURB.
4. FOR PLAN AND PROFILE SHEET SEE SHEET NOS. 30 AND 31.

INTERSECTION DETAIL
S.R. 39 AND STONE CREEK ROAD

TUS-39-12.64

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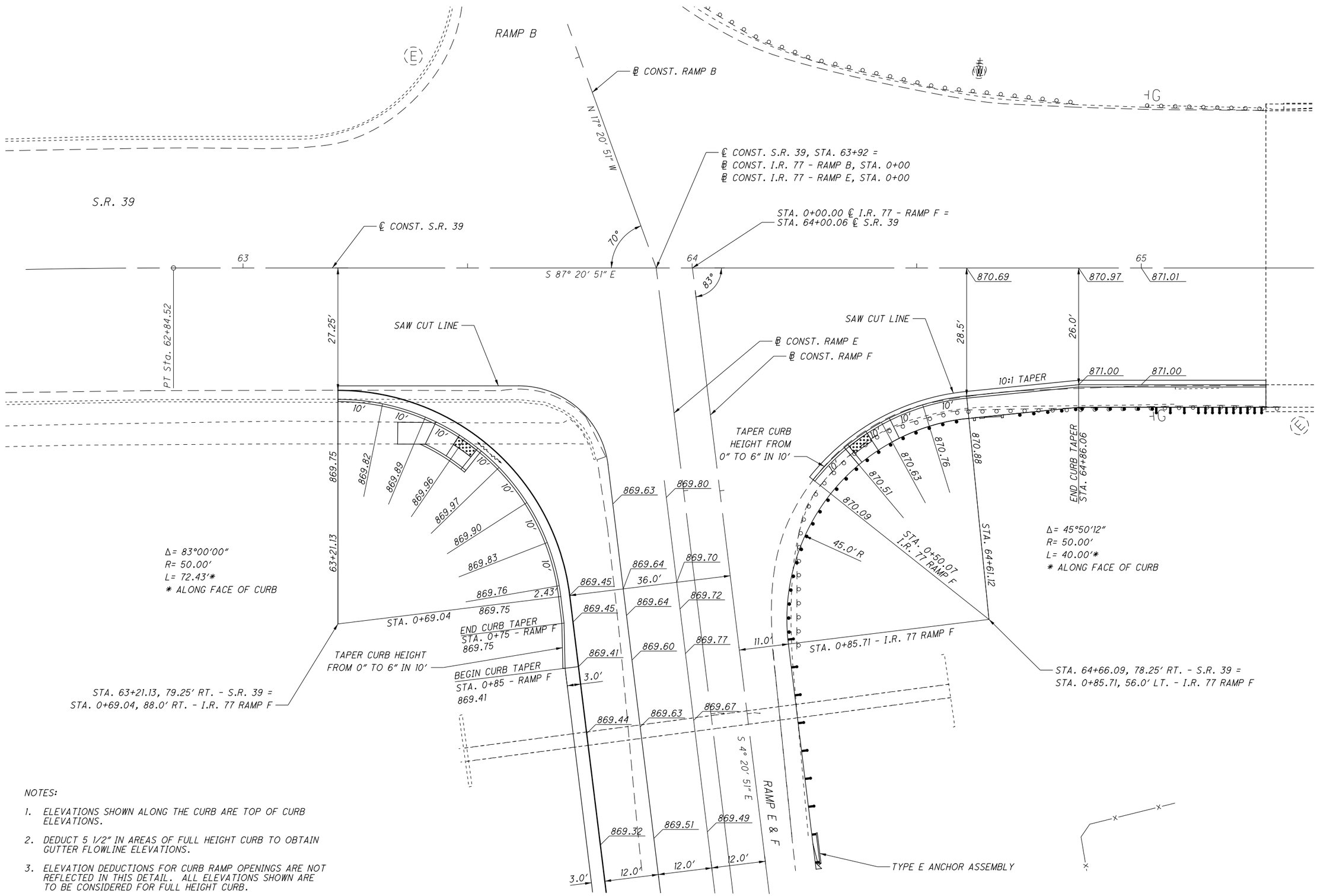

NOTES:

1. ELEVATIONS SHOWN ALONG THE CURB ARE TOP OF CURB ELEVATIONS.
2. DEDUCT 5 1/2″ IN AREAS OF FULL HEIGHT CURB TO OBTAIN GUTTER FLOWLINE ELEVATIONS.
3. ELEVATION DEDUCTIONS FOR CURB RAMP OPENINGS ARE NOT REFLECTED IN THIS DETAIL. ALL ELEVATIONS SHOWN ARE TO BE CONSIDERED FOR FULL HEIGHT CURB.
4. FOR PLAN SHEET SEE SHEET NO . 33.

HORIZONTAL SCALE IN FEET 0 5 10 20

CALCULATED DMLF
CHECKED JPB

INTERSECTION DETAIL S.R. 39 AND RAMP F

TUS-39-12.64

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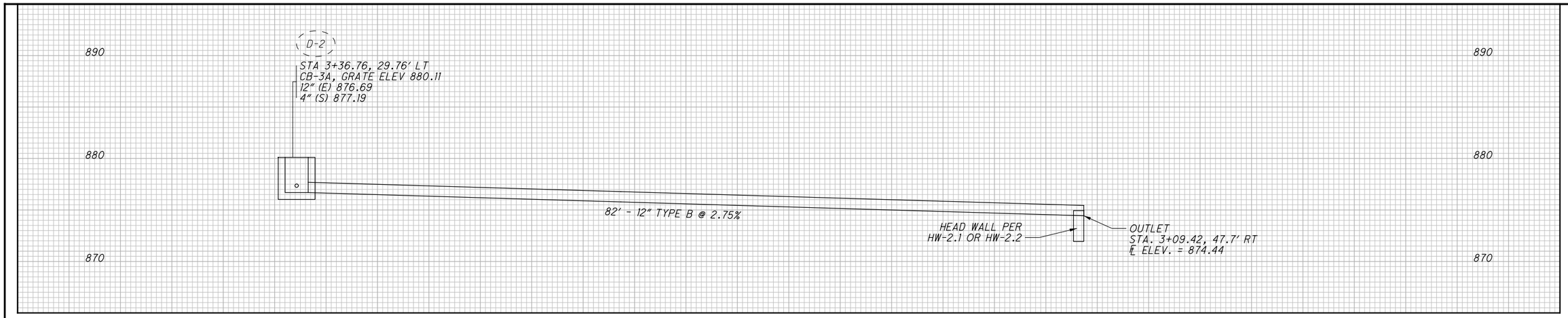

CALCULATED JAC
CHECKED ANS

LONGITUDINAL SEWER PROFILE

TUS-36-12.64

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PAVEMENT MARKING SUBSUMMARY

CALCULATED GBS
CHECKED JAC

REFERENCE NO.	SHEET NO.	LOCATION	STATION FROM	STATION TO	SIDE	621 RPM (YELLLOW/RED)	621 RPM (WHITE/RED)	621 RPM (YELLOW/YELLOW)	621 RPM (WHITE)	621 RAISED PAVEMENT MAKER REMOVED	644 CROSSWALK LINE	644 STOP LINE	644 DOTTED LINE, 6"	644 WRONG WAY ARROW	644 LANE ARROW	642 EDGE LINE, 6" (WHITE)	642 EDGE LINE, 6" (YELLOW)	642 CENTERLINE	642 CHANNELIZING LINE, 8"	642 TRANSVERSE/DIAGONAL LINE	642 PARKING LOT STALL MARKING	642 HANDICAP SYMBOL MARKING	642 REMOVAL OF PAVEMENT MARKING
						EACH	EACH	EACH	EACH	EACH	FT	FT	FT	EACH	EACH	MILE	MILE	MILE	FT	FT	FT	EACH	FT
A-1	61	39 N	2+83.00		LT/ ℄										3								
A-2	61	39 N	2+17.00		LT/ ℄										3								
A-3	61	39 N	1+51.00		LT/ ℄										3								
A-4	60	39 N	0+85.00		LT/ ℄										3								
A-5	64	RAMP F	2+55.00		RT										3								
A-6	64	RAMP F	1+89.00		RT										3								
A-7	64	RAMP F	1+23.00		RT										3								
A-8	64	RAMP F	0+57.00		RT										3								
CL-1	60-61	39 N	0+75.00	7+80.00	℄			10		10								0.13					
CH-1	60-61	39 N	0+75.00	3+75.00	LT		9			9									302				
CH-2	60-61	39 N	0+75.00	3+25.00	LT		7			7									255				
CH-3	64	RAMP F	0+42.96	3+15.00	RT		8			8									272				
CH-4	64	RAMP F	0+44.32	3+15.00	RT		8			8									271				
SL-1	60	39 N	0+75.00		LT/RT							36											
SL-2	64	RAMP F	0+44.46		LT/RT							68											
CW-1	64	RAMP F	0+29.48	0+44.74	LT/RT						167												
E-1	64	RAMP F	0+75.00	3+65.00	RT	5				5							0.06						
E-2	64	RAMP F	0+47.38	3+15.00	RT				8	8						0.05							
WA-1	62	RAMP A	3+10.00		RT									1									
WA-2	64	RAMP F	3+21.00		LT/RT									2									
DL-1	60	39N/ 39	0+75.00	53+37.86	LT/RT								97										
PLS-1	63	PARKING LOT	10+35.00	11+66.00	LT/RT																1084		446
HS-1	63	PARKING LOT	11+72.51		RT																	1	
HS-2	63	PARKING LOT	11+55.50		RT																	1	
D-1	63	PARKING LOT	11+61.00	11+66.00	RT															50			
D-2	63	PARKING LOT	11+45.00	11+50.00	RT															50			
TOTALS CARRIED TO GENERAL SUMMARY						55				55	167	104	97	3	24	0.11		0.13	1100	100	1084	2	446

TUS-39-12.64

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REFERENCE NO.	SHEET NO.	LOCATION	STATION	SIDE	CODE	SIZE		GROUND MOUNTED SUPPORT, NO. 2 POST	GROUND MOUNTED SUPPORT, NO. 3 POST	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W6X9	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W10X12	SIGN, FLAT SHEET	SIGN, GROUND MOUNTED EXTRUSHEET	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL	REMOVAL OF GROUND MONTED POST SUPPORT AND DISPOSAL	REMOVAL OF GROUND MOUNTED STRUCTURAL BEAM SUPPORT AND DISPOSAL	REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL				
								630														
						INCHES		FT	FT	FT	FT	SQ FT	SQ FT	EACH	EACH	EACH	EACH	EACH				
S-1	61	39N	5+90.00	26.9' LT	M3-2-24	24X12			11.9/11.9			2.00		9		2						
					M1-5-24-2	24X24						4.00										
					M5-1-21	21X15						2.19										
					M4-5-24	24X12						2.00										
					M1-4-30-3	30X24						5.00										
					M5-1-21	21X15						2.19										
					M4-5-24	24X12						2.00										
					M1-1-24-2	24X24						4.00										
					M5-1-21	21X15						2.19										
S-2	61	39N	5+15.00	29.2' LT	D1-H1A-72	72X12		9.6/9.6				6.00		2		2						
					D1-H1A-72	72X12						6.00										
S-3	61	39N	4+13.00	30.5' LT	I-H2A-48	48X12		9.5/9.5				4.00		1		2						
S-4	63	39N	3+80.00	24.3' RT	R2-1-30	30X36			13.5			7.50		1		1						
S-5	61	39N	3+42.00	29.9 LT	R3-H8CC-48	48X30		13/13				10.00		1		2						
S-6	63	39N	3+05.00	35.0' LT	D4-2-24	24X30		13				5.00		1		1						
S-7	63	39N	2+15.00	22.5' RT	D4-2-24	24X30		13				5.00		1		1						
S-8	63	PARKING LOT	11+55.00	68.5' RT	R7-8-12	12X18		12.6				1.50		1		1						
					R7-8A-12	12X6						0.50										
S-9	61	39N	1+52.00	28.0' RT	M3-4-24	24X12			13.6			2.00		2		1						
					M1-5-24-2	24X24						4.00										
S-10	61	39N	1+08.85	42.0' RT	R5-1-36	36X36			13.5/13.5			9.00		2		2						
					R1-2-48	48X48						6.93										
S-11	60	39N	0+65.92	31.0' RT	R5-1-36	36X36			13.5/13.5			9.00		2		2						
					R1-2-48	48X48						6.93										
S-12	60	39N	0+56.00	39.0' LT	R3-H8CC-48	18X30		13/13				3.75		1		2						
S-13	60	39N	0+24.00		R3-5L-30	30X36												1				
S-14	60	39N	0+26.00	51.0' LT	M1-5-24-2	24X24			13.8			4.00		2		1						
					M6-1-21	24X15						2.50										
S-15	60	39N	0+24.00	52.0' LT	M1-6-18	24X24			13.8			4.00		2		1						
					M6-2-21	24X15						2.50										
S-16	60	STONECREEK	51+08.00	24'.0 LT	R2-1-30	30X36			13.5			7.50		1		1						
S-17	60	STONECREEK	50+57.00	37.0' RT	R3-H8CA-48	48X30		13/13				10.00		1		2						
S-18	60	STONECREEK	52+98.00	59.0' RT	M2-H7-66	66X24					16.7/16.7	11.00		1								
					D1-H1A-96	96X24							16		1		1					
					D1-H1A-96	96X24							16		1		1					
S-19	60	STONECREEK	53+03.68		R3-5L-30	30X36												1				
S-20	60	STONECREEK	53+11.94	55.0' RT	M4-5-24	24X12					21.2/21.2	2.00		9			2					
					M1-1-24-2	24X24						4.00										
					M6-1-21	21X15						2.19										
					M4-5-24	24X12						2.00										
					M1-4-30-3	30X24						5.00										
					M6-1-21	21X15						2.19										
					M3-2-24	24X12						2.00										
					M1-5-24-2	24X24						4.00										
					M6-1-21	21X15						2.19										
					D1-H1A-96	96X24							16		1							
					D1-H1A-96	96X24							16		1							
					D1-H1A-96	96X24							16		1							
S-21	60	STONECREEK	54+27.00	48.0' LT	M1-6-24	24X24				18/19.1		4.00		5			2					
					M6-2-21	21X15						2.19										
					M3-4-24	24X12						2.00										
					M1-5-24-2	24X24						4.00										
					M6-2-21	21X15						2.19										
					D1-H1A-96	96X24							16		1							
					D1-H1A-96	96X24							16		1							
TOTALS CARRIED TO GENERAL SUMMARY								154.8	146	37.1	75.8	194.1	112	45	7	24	6	2				

CALCULATED GBS
CHECKED JAC

SIGNING SUBSUMMARY

TUS-39-12.64

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REFERENCE NO.	SHEET NO.	LOCATION	STATION	SIDE	CODE	SIZE		GROUND MOUNTED SUPPORT, NO. 2 POST	GROUND MOUNTED SUPPORT, NO. 3 POST	GROUND MOUNTED SUPPORT, NO. 4 POST (TYPE S)	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W6X9	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W10X12	SIGN POST REFLECTOR (RED)	SIGN, FLAT SHEET	SIGN, GROUND MOUNTED EXTRUSHEET	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL	REMOVAL OF GROUND MONTED POST SUPPORT AND DISPOSAL	REMOVAL OF GROUND MOUNTED STRUCTURAL BEAM SUPPORT AND DISPOSAL	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL	
								630														
						INCHES		FT	FT	FT	FT	FT	EACH	SQ FT	SQ FT	EACH	EACH	EACH	EACH	EACH	EACH	
S-22	62	39	54+70.00	39.0' LT	R3-H8BB-30	30X30			13					6.25		1		1				
S-23	62	RAMP A	0+50.00	17.5' LT	R6-1R-54	54X18			15.1/15.1				2	6.75		3		2				
					R5-1-36	36X36								9.00								
					R6-1L-54	54X18								6.75								
S-24	62	RAMP A	0+55.00	31.0' RT	R6-1R-54	54X18			15.1/15.1				2	6.75		3		2				
					R5-1-36	36X36								9.00								
					R6-1L-54	54X18								6.75								
S-25	62	39	55+70.00	33.0' LT	R3-H8CG-48	30X48		13/13						10.00							1	
S-26	62	RAMP A	0+52.00	16.5' LT	R3-H8BH-36	30X36		13/13						7.50							1	
S-27	62	RAMP A	1+31.00	18.0' LT	D7-H4A-72	72X12		12.6/12.6						6.00		2		2				
					D7-H4A-72	72X12								6.00								
S-28	64	39	63+00.00	33'.0 LT	R2-1-30	30X36			13.5					7.50		1		1				
S-29	64	39	63+00.00	43.5' RT	R3-H8CA-48	30X48			13/13.5					10.00							1	
S-30	64	RAMP F	0+56.00	44.0' RT	R6-1L-54	54X18			15/15				2	6.75		3		2				
					R6-1R-54	54X18								6.75								
					R5-1-36	36X36								9.00								
S-31	64	RAMP F	0+62.00	20.0' LT	R6-1L-54	54X18			15/15				2	6.75		4		2				
					R6-1R-54	54X18								6.75								
					R5-1-36	36X36								9.00								
					R3-H8CC-48	48X30								10.00								
S-32	64	39	64+55.00	45.0' LT	R3-H8BK-36	36X30		13/13						7.50		1		2				
S-33	64	39	64+79.00	35.0' RT	M3-2-24	24X12			13.6					2.00		2		2				
					M1-5-24-2	24X24								4.00								
S-34	64	39	65+15.00	35.2' RT	W8-13-36	36X36				16.2				9.00		2			1			
					1-3-24	24X18								3.00								
S-35	64	RAMP F	0+97.00	15.0' LT	D7-H4A-72	72X12		9.6/9.6						6.00		2		2				
					D7-H4A-72	72X12								6.00								
S-36	64	RAMP F	2+66.97	16.5' LT	D1-1BR-96	96X24					16.5/16.5				16		1		2			
					D1-1BR-96	96X24									16		1					
					D1-1BR-96	96X24									16		1					
S-37	64	RAMP F	3+78.00	17.0' LT	M3-3-24	24X12						19.1/18		2.00		7			2			
					M1-1-24-2	24X24								4.00								
					M5-1-21	21X15								2.19								
					M3-2-24	24X12								2.00								
					M1-4-30-3	30X24								5.00								
					M5-1-21	21X15								2.19								
					M1-5-24-2	24X24								4.00								
					M6-4-21	21X15								2.19								
					D1-H6A-96	96X48									32		1					
S-38	64	RAMP F	2+67.00	44.0' RT	R5-1A-42	42X30			13					8.75		1		1				
S-39	63	PARKING LOT	11+72.50	68.5' RT	R7-8-12	12X18		12.6						1.50		1		1				
					R7-8A-12	12X6								0.50								
S-40	64	39	64+56.99	38.1' RT	REERECT				13											1		
S-41	64	39	64+74.51	36.1'RT	REERECT				13/13											1		
TOTALS CARRIED TO GENERAL SUMMARY								135	239	16.2	33	37.1	8	225.1	80	33	4	20	5	2	3	

CALCULATED GBS
CHECKED JAC

SIGNING SUBSUMMARY

TUS-39-12.64

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FOR LEGEND SEE SHEET NO. 61
FOR QUANTITIES SEE SHEET NOS. 57-59

HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED JAC
CHECKED JPB

TRAFFIC CONTROL PLAN
STA. 49+00 TO STA. 54+50

TUS-39-12.64

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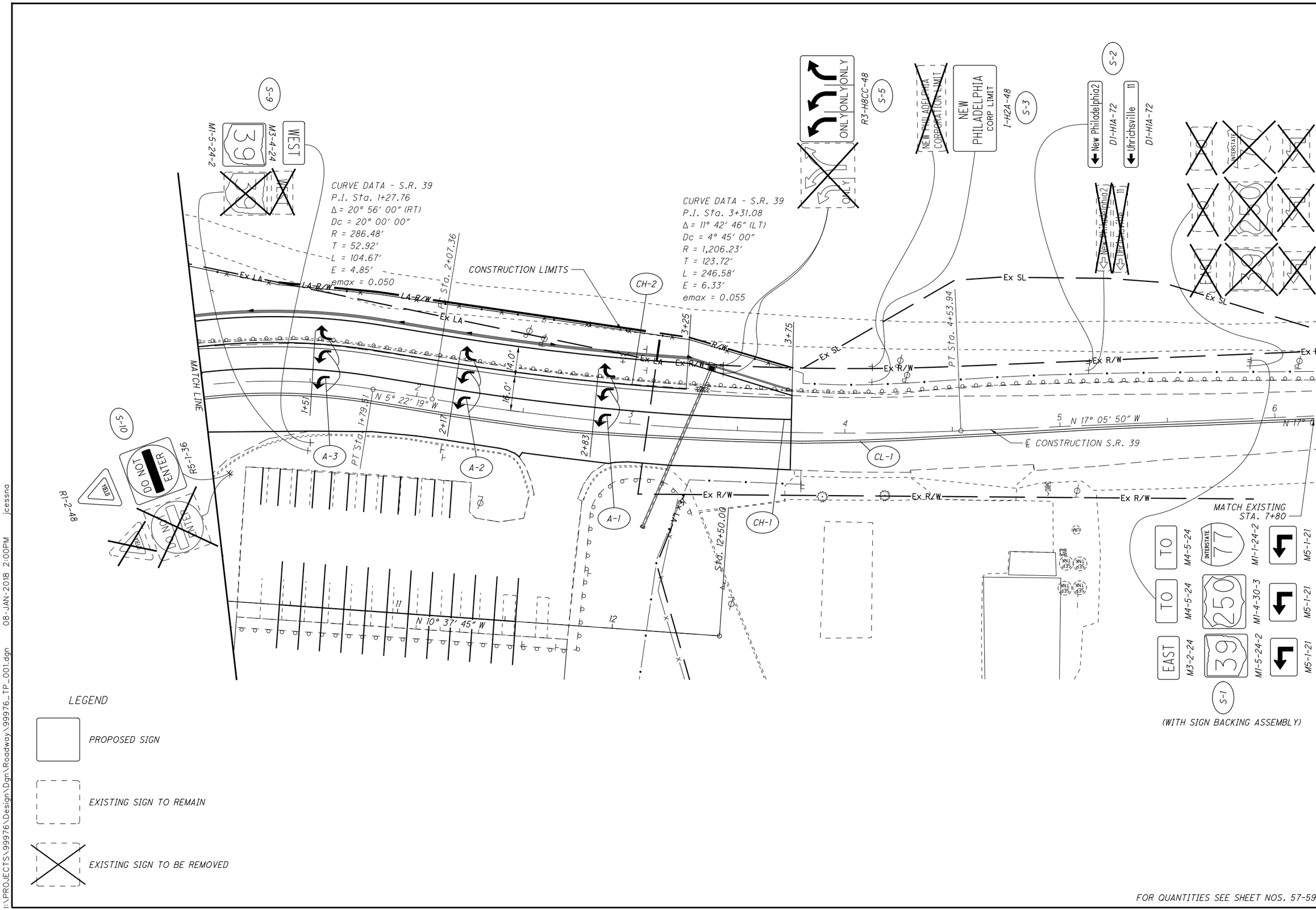
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Dc = 20° 00′ 00″
R = 286.48′
T = 52.92′
L = 104.67′
E = 4.85′
emax = 0.050
CURVE DATA - S.R. 39
P.I. Sta. 3+31.08
Δ = 11° 42′ 46″ (LT)
Dc = 4° 45′ 00″
R = 1,206.23′
T = 123.72′
L = 246.58′
E = 6.33′
emax = 0.055
CONSTRUCTION LIMITS
MATCH LINE
PT Sta. 2+07.36
PT Sta. 1+79.51
PT Sta. 4+53.94
Sta. 12+50.00
N 5° 22′ 19″ W
N 17° 05′ 50″ W
N 10° 37′ 45″ W
℄ CONSTRUCTION S.R. 39
MATCH EXISTING STA. 7+80
Ex LA
LA R/W
Ex R/W
Ex SL
M1-5-24-2
M3-4-24
WEST
R3-H8CC-48
ONLY
NEW PHILADELPHIA CORPORATION LIMIT
NEW PHILADELPHIA CORP LIMIT
I-H2A-48
New Philadelphia
D1-H1A-72
Uhrichsville
D1-H1A-72
R5-1-36
DO NOT ENTER
R1-2-48
YIELD
TO
M4-5-24
INTERSTATE
77
M1-1-24-2
M5-1-21
250
M1-4-30-3
EAST
M3-2-24
M1-5-24-2
(WITH SIGN BACKING ASSEMBLY)
LEGEND
PROPOSED SIGN
EXISTING SIGN TO REMAIN
EXISTING SIGN TO BE REMOVED
FOR QUANTITIES SEE SHEET NOS. 57-59
HORIZONTAL SCALE IN FEET
CALCULATED CMR
CHECKED JAC
TRAFFIC CONTROL PLAN
STA. 1+00 TO STA. 5+48
TUS-39-12.64
61
92
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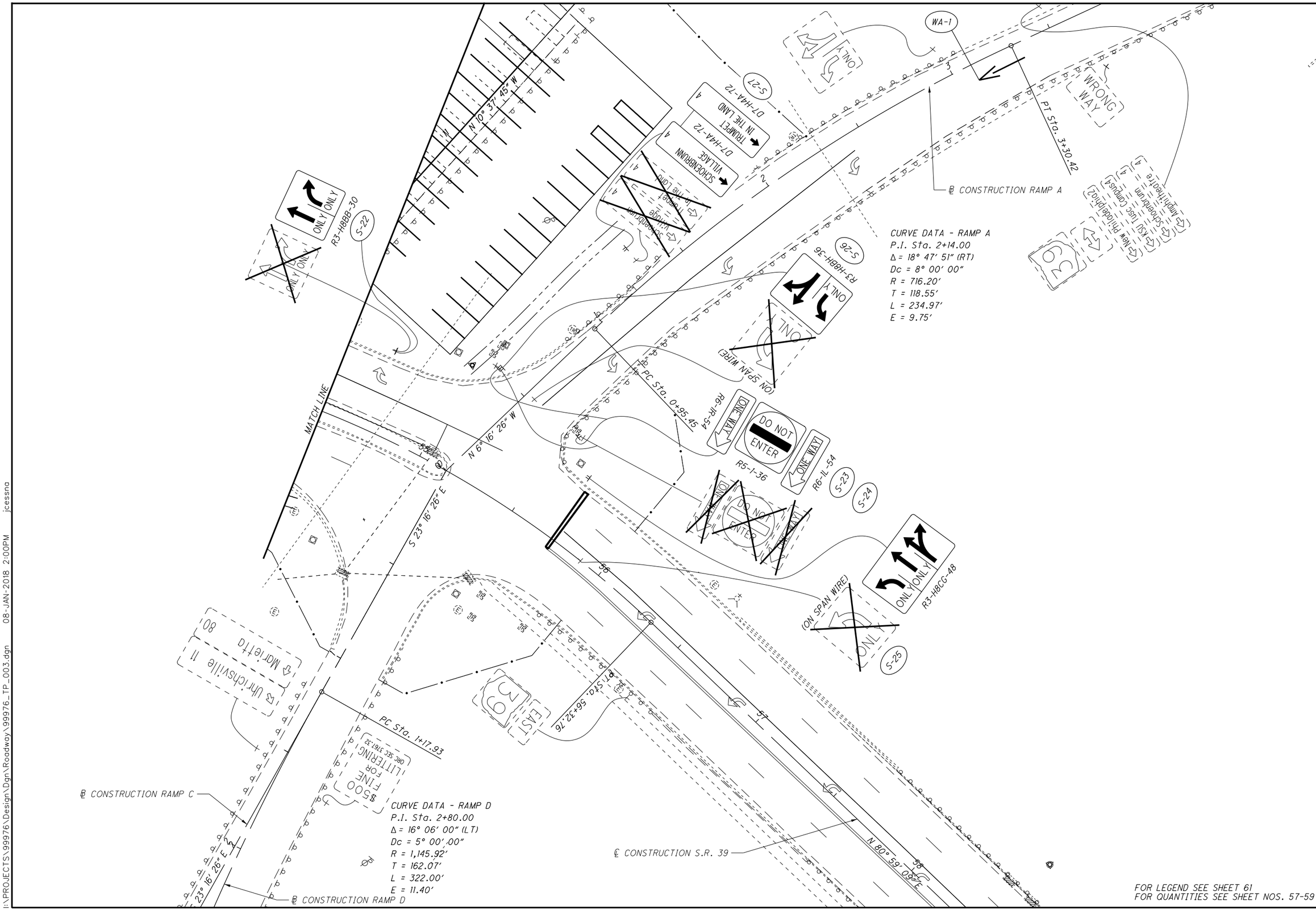

FOR LEGEND SEE SHEET 61
FOR QUANTITIES SEE SHEET NOS. 57-59

TRAFFIC CONTROL PLAN SHEET
STA. 54+50 TO STA. 58+25

TUS-39-12.64

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R = 286.48′
T = 52.92′
L = 104.67′
E = 4.85′
emax = 0.050
CURVE DATA - S.R. 39
P.I. Sta. 3+31.08
Δ = 11° 42′ 46″ (LT)
Dc = 4° 45′ 00″
R = 1,206.23′
T = 123.72′
L = 246.58′
E = 6.33′
emax = 0.055
FOR LEGEND SEE SHEET 61
FOR QUANTITIES SEE SHEET NOS. 57-59
HORIZONTAL SCALE IN FEET
CALCULATED JAC
CHECKED JPB
PARK AND RIDE PLAN
TUS-39-12.64
63
92
Ex LA
LA R/W
Ex SL
Ex R/W
PT Sta. 4+53.94
PT Sta. 2+07.36
PT Sta. 1+79.51
PC Sta. 0+74.84
PC Sta. 10+00.00
N 26° 18′ 19″ W
N 5° 22′ 19″ W
N 17° 05′ 50″ W
℄ CONSTRUCTION S.R. 39
BEGIN WORK STA. 3+80.00
Sta. 12+50.00
SPEED LIMIT 45
R2-1-30
S-4
℄ CONSTRUCTION PARK AND RIDE
N 10° 37′ 45″ W
CONSTRUCTION LIMITS
PLS-1
D-1
D-2
HS-1
HS-2
RESERVED PARKING
VAN ACCESSIBLE
R7-8-12
R7-8A-12
S-8
S-39
ONLY
S 23° 16′ 26″ E
N 6° 16′ 26″ W
PC Sta. 1+17.93
PC Sta. 0+95.45
PT Sta. 56+32.76
CURVE DATA - RAMP D
P.I. Sta. 2+80.00
Δ = 18° 47′ 51″ (LT)
Dc = 8° 00′ 00″
R = 716.2
T = 118.
L =
E =
New Philadelphia 2
KSU Tusc Campus 4
Schoenbrunn 4
Amphitheatre 4
39
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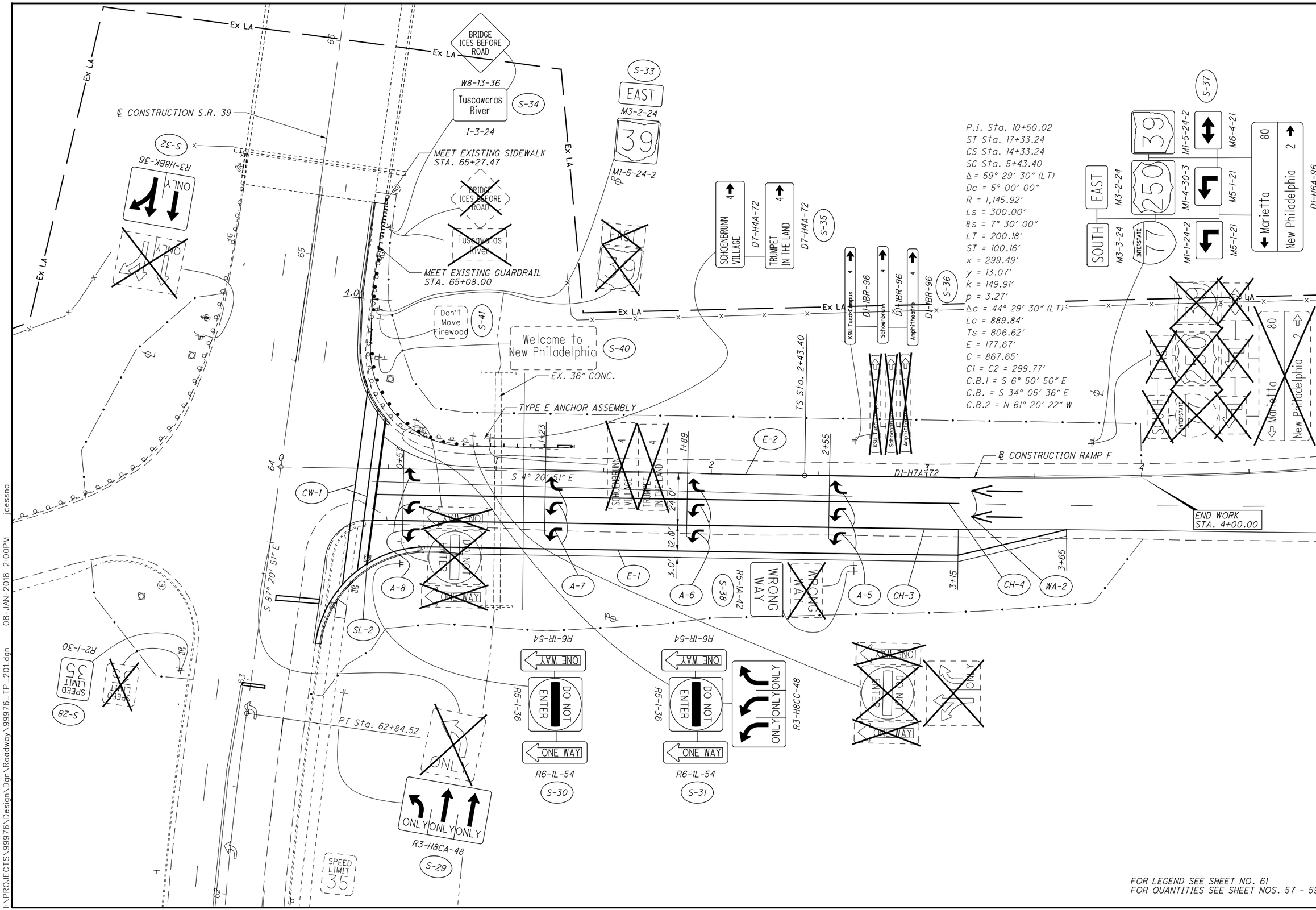

TRAFFIC CONTROL PLAN
STA. 0+00 TO STA. 5+30

TUS-39-12.64

FOR LEGEND SEE SHEET NO. 61
FOR QUANTITIES SEE SHEET NOS. 57 - 59

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632 REMOVAL OF TRAFFIC SIGNAL INSTALLATION

TRAFFIC SIGNAL INSTALLATIONS, INCLUDING SIGNAL HEADS, CABLE, MESSENGER WIRE, STRAIN POLES, CABINET, CONTROLLER, ETC., SHALL BE REMOVED IN ACCORDANCE WITH CMS 632.26 AND AS INDICATED ON THE PLANS. REMOVED ITEMS SHALL BE REUSED AS PART OF A NEW INSTALLATION ON THE PROJECT OR STORED ON THE PROJECT FOR SALVAGE BY (NAME OF AGENCY RECEIVING STORED ITEMS) IN ACCORDANCE WITH THE LISTING GIVEN HEREIN.

ITEMS TO BE STORED: 2 WIRELESS MODEMS

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 PROJECT.

633 CONTROLLER ITEM, MISC.: CONTROLLER UNIT, INSTALLATION

THIS ITEM OF WORK SHALL FOLLOW ALL REQUIREMENTS OF CMS 633 AND THE ADDITIONAL DESCRIPTION OF WORK AS STATED BELOW. THIS ITEM OF WORK SHALL INCLUDE THE INSTALLATION OF AN ECONOLITE COBALT TOUCH RACK MOUNT CONTROLLER THAT WILL BE PROVIDED BY THE DISTRICT WITHOUT PROGRAMMING. THE PROGRAMMING OF THE CONTROLLER TO THE PROPOSED CONDITIONS SHOWN IN THE PLANS IS THE RESPONSIBILITY OF THE CONTRACTOR.

PAYMENT SHALL BE MADE AT THE UNIT BID PRICE UNDER CMS ITEM 633, CONTROLLER ITEM, MISC.: CONTROLLER UNIT, INSTALLATION FOR EACH CONTROLLER INSTALLED, AND SHALL INCLUDE ALL LABOR, EQUIPEMENT, MATERIALS, AND INCIDENTALS REQURIED TO COMPLETE THE WORK.

DETECTION MAINTENANCE

IF VEHICLE DETECTION BECOMES UNEXPECTEDLY DISABLED, REQUIRES MODIFICATION, OR IS SCHEDULED TO BE TEMPORARILY REMOVED DURING THE CONSTRUCTION PROJECT, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE PROJECT ENGINEER AND DISTRICT TRAFFIC ENGINEER.

IF THE LOSS OF VEHICLE DETECTION IS KNOWN PRIOR TO THE START OF CONSTRUCTION, IT SHALL BE DISCUSSED AT THE PRECONSTRUCTION MEETING. AT SUCH TIME, THE DISTRICT TRAFFIC ENGINEER SHALL ADVISE THE PROJECT ENGINEER AND CONTRACTOR ON THE APPROPRIATE ACTION TO RECTIFY ANY LOSS OF VEHICLE DETECTION. THIS MAY INCLUDE PLACING THE TRAFFIC SIGNAL ON MINIMUM OR MAXIMUM RECALL, MODIFYING THE MINIMUM GREEN TIMES, AND REMOVING THE MALFUNCTIONING DETECTION FROM SERVICE. WHERE NON-INTRUSIVE DETECTION (I.E. VIDEO, RADAR) ALREADY EXISTS, THE CONTRACTOR SHALL INSURE THAT DETECTION IS OPERATING AND MAINTAINED BY RECONFIGURING THE DETECTION UNITS ACCORDINGLY DURING ALL CONSTRUCTION PHASES. THIS IS TO AVOID THE SIGNAL FROM MAXING OUT THE EFFECTED SIGNAL PHASE AND CREATING UNNECESSARY DELAYS.

LOCATIONS WHERE NON-INTRUSIVE DETECTION IS PROPOSED AND THE EXISTING VEHICLE DETECTION IS TO BE ABANDON, THE NON-INTRUSIVE VEHICLE DETECTION SHALL BE INSTALLED, CONFIGURED AND MADE FULLY FUNCTIONAL PRIOR TO THE EXISTING DETECTION BEING DISABLED. THE CONTRACTOR SHALL CONTINUE TO MAINTAIN AND MODIFY THE DETECTION UNTIL FINAL ACCEPTANCE OF THE TRAFFIC SIGNAL. THIS IS TO ENSURE VEHICLE DETECTION REMAINS FULLY FUNCTIONAL THROUGHOUT CONSTRUCTION.

SIGNAL ACTIVATION

PRIOR TO ACTIVATING THE NEW TRAFFIC SIGNAL TO STOP AND GO MODE AND/OR REMOVING THE EXISTING TRAFFIC SIGNAL FROM SERVICE, ALL ITEMS IN THE PROPOSED SIGNAL PLAN SHALL BE FULLY COMPLETED, (I.E., VEHICLE DETECTION, PEDESTRIAN SIGNAL HEADS, ETC). IF THERE ARE CONSTRUCTABILITY ISSUES (I.E., ROADWAY WIDENING, ETC.) THAT PREVENT THE SIGNAL FROM BEING COMPLETED PRIOR TO ACTIVATION, IT SHALL BE BROUGHT TO THE ATTENTION OF THE PROJECT ENGINEER AND DISTRICT TRAFFIC ENGINEER. THE DISTRICT TRAFFIC ENGINEER WILL THEN REVIEW, APPROVE OR REJECT PROPOSALS TO ACTIVATE THE TRAFFIC SIGNAL PRIOR TO COMPLETION.

THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER AND DISTRICT TRAFFIC ENGINEER AT LEAST 10 WORKING DAYS PRIOR TO SCHEDULING THE FINAL INSPECTION OF THE SIGNAL INSTALLATION. FINAL INSPECTION IS NOT CONSIDERED COMPLETE UNTIL DESIGNATED DISTRICT TRAFFIC PERSONNEL INSPECT THE TRAFFIC SIGNAL AND ISSUE WRITTEN APPROVAL. IF ISSUES ARE FOUND DURING THE FINAL INSPECTION THAT EFFECT THE SAFETY OF THE TRAVELING PUBLIC AND/OR THE EFFICIENCY OF THE INTERSECTION, THE SIGNAL SHALL NOT BE ACTIVATED ON THE PROPOSED DATE. ANY PUNCH LIST ITEMS THAT ARE FOUND SHALLBE CORRECTED AND REINSPECTED BY DISTRICT TRAFFIC PERSONNEL PRIOR TO FINAL ACCEPTANCE. ODOT FORCES SHALL ONLY ASSUME DAY TO DAY MAINTENANCE OF THE TRAFFIC SIGNAL AFTER FINAL WRITTEN ACCEPTANCE HAS BEEN ISSUED.

WORK INSPECTION

THE CONTRACTOR SHALL PROVIDE THE PROJECT ENGINEER AND DISTRICT TRAFFIC ENGINEER WITH 72 HOUR NOTICE OF ANY SIGNAL WORK TO BE PERFORMED AT THE INTERSECTION SITE(S) SO THAT INSPECTION SERVICES CAN BE SUPPLIED.

STRAIN POLE AND PEDESTAL FOUNDATION ELEVATIONS

ELEVATIONS SHOWN IN THE PLANS FOR STRAIN POLE AND PEDESTAL FOUNDATIONS ARE FOR COMPUTATIONAL PURPOSES ONLY. THE ACTUAL ELEVATION OF THE FOUNDATION SHALL BE IN ACCORDANCE WITH TRAFFIC SCDTC-21.20 PROVIDED THE EXISTING SLOPE IS LESS THAN 6:1.

AT LOCATIONS WHERE THE EXISTING SLOPE IS 6:1 OR GREATER, THE BURIED DEPTH OF FOUNDATION, AS SHOWN IN SCD TC-21.20 SHALL APPLY TO THE LOW SIDE OF THE SLOPE. THE TOP OF THE FOUNDATION SHALL BE SET 2 INCHES ABOVE THE EXISTING SURFACE ON THE HIGH SIDE OF THE SLOPE. THE ADDITIONAL DEPTH OF FOUNDATION NECESSARY TO MEET THESE REQUIREMENTS SHALL BE ADDED TO THE FORMED TOP.

UNDERDRAINS FOR PULLBOXES

REFERENCE TRAFFIC SCD HL-30.11 FOR DETAILS ABOUT DRAINING PULLBOXES. UNDERDRAINS FOR PULLBOXES SHALL BE USED AS DIRECTED BY THE ENGINEER AND SHALL BE PROVIDED WHERE THE LENGTH REQUIRED FOR A SATISFACTORY OUTLET DOES NOT EXCEED 20 FEET.

632 POWER SERVICE, AS PER PLAN

ELECTRIC POWER SHALL BE OBTAINED FROM AEP AT THE LOCATION INDICATED ON THE PLANS. POWER SUPPLIED SHALL BE 120 VOLTS.

POWER SERVICE SHALL BE AS PER CMS ITEM 632 AND SCD TC-83.10 WITH THE FOLLOWING EXCEPTIONS:

1. THE CONTRACTOR SHALL MEET WITH A REPRESENTATIVE FROM THE POWER SUPPLY AGENCY TO CONFIRM HOW THE PROPOSED POWER SERVICE IS TO BE WIRED, HOOKED UP, AND ITS LOCATION.

2. ALL POWER SERVICES SHALL BE METERED. THE METER SHALL HAVE A LEVER OPERATED BYPASS.

DISCONNECT SWITCH ENCLOSURES FURNISHED IN ACCORDANCE WITH CMS ITEM 632, POWER SERVICE, AS PER PLAN, SHALL INCLUDE A PADLOCK EQUAL TO MASTER NO. 4BKA OR WILSON BOHANNON 660, WITH LOCK BODY OF BRONZE OR BRASS AND KEYING SHALL BE TO THE STATE MASTER.

THE CONTRACTOR SHALL CONTACT THE METER SECTION OF THE POWER COMPANY FOR INFORMATION REGARDING THE METER BASE INSTALLATION PRIOR TO ORDERING POLES. THE CONTRACTOR WILL BE RESPONSIBLE FOR REQUESTING AND SCHEDULING ANY INSPECTIONS THE POWER COMPANY MAY REQUIRE FOR THE POWER SERVICE HOOK UP. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT THE POWER COMPANY FOR THE ELECTRICAL SERVICE CONNECTION. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR SPLICE POWER CABLE INTO THE POWER COMPANY'S CIRCUITS. THE VOLTAGE SUPPLIED SHALL BE NOMINALLY 120 VOLTS. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ANY NECESSARY PERMITS AND THE PAYING OF ALL FEES. THE CONTRACTOR SHALL PAY ALL POWER CHARGES UNTIL THE SIGNAL IS ACCEPTED BY THE MAINTAINING AGENCY.

PAYMENT WILL BE MADE AT THE UNIT BID PRICE FOR EACH CMS ITEM 632, "POWER SERVICE, AS PER PLAN" WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

GUARANTEE

THE CONTRACTOR SHALL GUARANTEE THAT THE TRAFFIC CONTROL SYSTEM INSTALLED AS PART OF THIS CONTRACT SHALL OPERATE SATISFACTORILY FOR A PERIOD OF 120 DAYS FOLLOWING COMPLETION OF THE 10-DAY PERFORMANCE TEST. IN THE EVENT OF UNSATISFACTORY OPERATION THE CONTRACTOR SHALL CORRECT 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 UNITS, INTERCONNECTION ITEMS AND MASTER CONTROL EQUIPMENT.

CUSTOMARY MANUFACTURER'S GUARANTEES FOR THE FOREGOING ITEMS SHALL BE TURNED OVER TO THE STATE OR THE MAINTAINING AGENCY 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.

632 VEHICULAR SIGNAL HEAD, (LED), (BY TYPE), 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF C&MS 632 AND 732, THE FOLLOWING REQUIREMENTS SHALL APPLY:

1.SIGNAL HEADS AND VISORS SHALL BE CONSTRUCTED OF BLACK POLYCARBONATE PLASTIC WITH VISORS AS SPECIFIED AND MEET ITE SPECIFICATIONS.

2.PROPER EXTERIOR COLORS SHALL BE OBTAINED BY USE OF COLORED PLASTIC MATERIAL RATHER THAN PAINTING.

3.ALL UPPER SIGNAL SUPPORT HARDWARE AND PIPING UP TO AND INCLUDING THE WIRE INLET FITTING SHALL BE FERROUS METAL.

4.THE ENTRANCE FITTING SHALL BE OF THE TRI-STUD DESIGN WITH SERRATED RINGS IN ORDER TO ACHIEVE POSITIVE LOCKING.

5.ALUMINUM BACKPLATES SHALL BE IN ACCORDANCE WITH THE C&MS AND INCLUDE A FLUORESCENT YELLOW REFLECTIVE BORDER.

6.THE LIGHT EMITTING DIODE (LED) MODULES SHALL MEET THE REQUIREMENTS OF C&MS 732.04-C. THE CONTRACTOR SHALL PROVIDE ODOT, IN WRITING, WITH THE LED MANUFACTURER NAME, SERIAL NUMBER, PART NUMBER, DESCRIPTION OF LAMP, AND DATE OF MANUFACTURE FOR ALL LED UNITS THAT ARE TO BE USED IN THE SIGNAL HEAD PRIOR TO INSTALLATION, FOR ACCEPTANCE AND WARRANTY PURPOSES.

7.SIGNAL HEADS SHALL HAVE A MINIMUM WALL THICKNESS OF 0.117 INCHES.

8.SIGNAL HEADS SHALL INCLUDE CUTAWAY TYPE VISORS UNLESS OTHERWISE SPECIFIED IN THE PLANS.

9.APPLY A BEAD OF SILICONE TO THE SIGNAL HEAD, WASHER, AND ENTRANCE ADAPTER SERRATIONS TO PREVENT WATER INTRUSION. ALSO, FILL THE SPACE BETWEEN CONCENTRIC SERRATION RINGS ON THE TOP OF THE SIGNAL HEAD TO COMPLETELY EXCLUDE WATER FROM THE SPACE BETWEEN THE CONCENTRIC RINGS.

10.BALANCE ADJUSTERS SHALL NOT BE USED ON ONE-WAY HEADS OR TETHERED HEADS.

PAYMENT FOR ITEM 632 VEHICULAR SIGNAL HEAD, (LED), (BY TYPE) 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN SHALL BE MADE FOR COMPLETE SIGNAL HEAD FURNISHED AND INSTALLED, INCLUDING ALL LABOR, EQUIPMENT, MATERIALS, AND NEW ATTACHMENT HARDWARE.

632 COVERING OF VEHICULAR SIGNAL HEAD

COVER VEHICULAR SIGNAL HEADS IF ERECTED AT INTERSECTIONS WHERE TRAFFIC IS MAINTAINED BEFORE ENERGIZING THE SIGNALS. USE A STURDY OPAQUE COVERING MATERIAL SPECIFICALLY MADE FOR USE WITH TRAFFIC SIGNALS, AND ENSURE THAT THE COLOR OF THE COVER IS DIFFERENT THAN THE SIGNAL HEAD, TAN OR BEIGE, SO THAT IT IS CLEAR TO DRIVERS THE HEADS ARE COVERED, NOT DARK. USE A METHOD OF COVERING TO COVER ATTACHMENT AND MATERIALS, INCLUDING BACKPLATES, AS APPROVED BY THE ENGINEER. COVERS ARE TO BE FREE OF TEXT, PICTURES, OR ANY TYPE OF ADVERTISING. MAINTAIN COVERS, AND REMOVE THEM WHEN DIRECTED BY THE ENGINEER.

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

IN ADDITION TO THE REQUIREMENTS OF C&MS 632 AND 732 THE FOLLOWING SHALL APPLY:

1.SIGNAL HEADS AND VISORS SHALL BE CONSTRUCTED OF BLACK POLYCARBONATE PLASTIC AND MEET ITE SPECIFICATIONS.

2.PROPER EXTERIOR COLORS SHALL BE OBTAINED BY USE OF COLORED PLASTIC MATERIAL RATHER THAN PAINTING.

3.PIPE, SPACERS AND FITTINGS CONSTRUCTED OF POLYCARBONATE PLASTIC MAY BE USED IN LIEU OF GALVANIZED STEEL OR ALUMINUM.

4.THE PEDESTRIAN SIGNAL HEAD SHALL BE OF THE LED COUNTDOWN TYPE.

5.NEW ATTACHMENT HARDWARE AND FITTINGS SHALL BE USED

6.THE LIGHT EMITTING DIODE (LED) MODULES SHALL MEET THE REQUIREMENTS OF C&MS 732.04-C. THE CONTRACTOR SHALL PROVIDE ODOT, IN WRITING, WITH THE LED MANUFACTURER NAME, SERIAL NUMBER, PART NUMBER, DESCRIPTION OF LAMP, AND DATE OF MANUFACTURE FOR ALL LED UNITS THAT ARE TO BE USED IN THE SIGNAL HEAD PRIOR TO INSTALLATION, FOR ACCEPTANCE AND WARRANTY PURPOSES. PAYMENT FOR ITEM 632 PEDESTRIAN SIGNAL HEAD (LED), TYPE D2, COUNTDOWN, AS PER PLAN SHALL BE MADE FOR THE NUMBER OF COMPLETE SIGNAL HEAD FURNISHED AND INSTALLED, INCLUDING ALL LABOR, EQUIPMENT, MATERIALS AND NEW ATTACHMENT HARDWARE.

809 STOP-BAR RADAR DETECTION

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING A WAVETRONIX SMARTSENSOR MATRIX DETECTION UNIT. THE DETECTION UNIT SHALL INCLUDE THE FOLLOWING:

1. POWER SHALL BE PROVIDED FROM THE TRAFFIC CABINET.
2. ALL REQUIRED INPUTS CARDS SHALL BE INCLUDED IN THE TRAFFIC CABINET AND SHALL BE COMPATIBLE WITH CALTRANS, 332 AND 336 DETECTOR RACKS. THE CARDS SHALL PROVIDE TRUE PRESENCE DETECTOR CALLS OR CONTACT CLOSURE TO THE TRAFFIC CONTROLLER.
3. THE UNIT SHALL BE MOUNTED DIRECTLY TO A POLE OR MAST ARM, AS RECOMMENDED BY THE MANUFACTURER. CABLE(S) SHALL BE PROVIDED AS REQUIRED AND RECOMMENDED BY THE MANUFACTURER.
4. SURGE PROTECTION DEVICES, AS RECOMMENDED BY THE MANUFACTURER SHALL BE INCLUDED BOTH AT THE POLE WHERE THE UNIT IS LOCATED TO PROTECT THE UNIT AND IN THE TRAFFIC CABINET TO PROTECT THE CABINET ELECTRONICS.
5. THE MANUFACTURER'S REPRESENTATIVE SHALL BE ON SITE DURING INSTALLATION AND TESTING AND SHALL PROVIDE ONSITE TRAINING ON THE SETUP, OPERATION AND MAINTENANCE OF THE UNIT.
6. A SERIAL TO ETHERNET COMMUNICATIONS MODULE AND ETHERNET CABLE (MINIMUM 7 FEET).
7. THE POWER SUPPLY AND COMMUNICATION MODULES SHALL BE SECURED TO A SINGLE PANEL THAT CAN BE MOUNTED INTERIOR TO THE TRAFFIC CABINET. THE PANEL SHALL INCLUDE MODULAR-PLUG STYLE CONNECTIONS FOR UP TO FOUR (4) SENSOR CABLES. ADDITIONAL SENSORS MAY BE HARD-WIRED TO THE COMMUNICATION MODULES, AS NECESSARY.

PAYMENT FOR ITEM 809 STOP-BAR RADAR DETECTION SHALL BE MADE AT THE CONTRACT UNIT PRICE FOR EACH UNIT, COMPLETE AND IN PLACE INCLUDING ALL REQUIRED CABINET HARDWARE, MOUNTING BRACKETS, CABLES, CONDUIT AND CONNECTIONS TESTED AND ACCEPTED.

ITEM 633 COMMUNICATIONS, AS PER PLAN

FURNISH A CELLUAR MODEM, ANTENNA WITH A 10-FOOT CABLE, AND A 10' ETHERNET CABLE FOR REMOTE WIRELESS CELLULAR COMMUNICATION.

FOR NETWORK CONSISTENCY CELLULAR MODEMS SHALL BE THE SIERRA WIRELESS MODEM, AIRLINK GX450 ETHERNET WITH DC POWER CABLE - VERIZON - MODEL 1102361.

THIS ITEM SHALL INCLUDE THE FURNISHING OF A COMTROL ROCKETLINX ES8105 ETHERNET SWITCH OR APPROVED EQUAL WITH ALL AC POWER SUPPLIES NECESSARY TO FUNCTION.

THIS ITEM SHALL INCLUDE THE FURNISHING A MOUNTING BRACKET FOR THE ANTENNA WITH ALL THE NECESSARY HARDWARE INCLUDING BUT NOT LIMITED TO SPRING NUTS, WASHERS, AND BOLTS THAT INSTALLS TO THE MOUNTING CHANNEL ON THE SIDE OF THE SIGNAL CABINET.

THE CELLULAR MODEM EQUIPMENT AND ETHERNET SWITCH SHALL BE DELIVERED TO ODOT DISTRICT 11 TRAFFIC FOR PROGRAMMING AND INSTALLATION.

ODOT DISTRICT 11 TRAFFIC
ATTN: JOE PARISI
2201 REISER AVE. S.E.
NEW PHILADELPHIA, OH 44663

THE CONTRACTOR SHALL PROVIDE THE MODEM SERIAL NUMBERS AND NECESSARY ESN NUMBERS FOR ODOT TO ESTABLISH WIRELESS SERVICE.

THE DEPARTMENT WILL MEASURE "COMMUNICATIONS, AS PER PLAN" BY THE NUMBER OF COMPLETE UNITS FURNISHED, RECEIVED, AND ACCEPTED BY ODOT DISTRICT 11 TRAFFIC.

633 UNINTERRUPTIBLE POWER SUPPLY (UPS), 1000 WATT, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF C&MS 633 AND 733, POLE ATTACHMENT HARDWARE WILL BE INCLUDED FOR POLE-MOUNTED CABINETS, AND A CABINET RISER (8 INCH MINIMUM) AND ANCHOR BOLTS WILL BE PROVIDED FOR BASE-MOUNTED CABINETS. BEFORE PERFORMING THE WORK, THE CONTRACTOR, THE DISTRICT TRAFFIC ENGINEER AND THE PROJECT ENGINEER WILL PERFORM A SITE INSPECTION TO ESTABLISH THE LOCATION OF THE UPS CABINET AND FOUNDATION.

THE UPS CABINET SHALL INCLUDE A GENERATOR POWER PANEL WITH A HEAVY DUTY POWER RELAY VERSUS THE LINE VOLTAGE GENERATOR SWITCH. THE GENERATOR INLET SHALL BE A RECESSED PANEL WITH A DOOR THAT IS FLUSH WITH THE EXTERNAL SIDE OF THE UPS CABINET. IT SHALL INCLUDE A RECESSED PLUG, AUTOMATIC TRANSFER SWITCH AND A DOOR THAT SECURELY CLOSES OVER THE POWER CORD.

THE UPS OUTPUT NOTIFICATIONS FOR ON BATTERY, BATTERY 2-HOUR TIMER, AND LOW BATTERY SHALL BE WIRED INTO THE TRAFFIC SIGNAL CABINET BACK PANEL TO PROVIDE SPECIAL STATUS ALARMS FOR EACH OUTPUT INTO THE SIGNAL CONTROLLER.

THIS ITEM SHALL INCLUDE A RED LED STATUS INDICATOR LAMP TO ALLOW MAINTENANCE PERSONNEL AND LAW ENFORCEMENT TO QUICKLY ASSESS WHETHER A TRAFFIC SIGNAL CABINET IS BEING POWERED BY A UPS. THE LED HOUSING SHALL BE NEMA 4X, IP65 OR IP66, RATED FOR OUTDOOR USE AND BE TAMPER/SHATTER RESISTANT. IT SHALL BE A DOMED ENCLOSURE CONTAINING A RED LENS WITH LED THAT IS VISIBLE FROM 100 FOOT MINIMUM. THE ENCLOSURE AND LED MODULE SHOULD BE PLACED AND CENTERED ON THE TOP SURFACE OF THE UPS CABINET AND SEALED FROM WATER INTRUSION. IT SHOULD BE WIRED USING MINIMUM 20GA STRANDED, INSULATED HOOKUP WIRE TO THE STATUS RELAY OUTPUTS OF THE UPS. THE WIRES SHALL BE TERMINATED BY LUGS AT THE DISPLAY END AND PERMANENTLY LABELED "BACKUP POWER STATUS DISPLAY," WITH WIRE POLARITY INDICATED. THE RED LED SHALL ONLY ILLUMINATE TO INDICATE THE CABINET IS OPERATING UNDER UPS BACKUP POWER (THE "BACKUP" OPERATING CONDITION). THIS ITEM INCLUDES PROGRAMMING THE UPS STATUS RELAY OUTPUTS TO PRODUCE THE LAMP STATUS DISPLAYS. THESE STATUS DISPLAYS WILL BE SOLID 100% DUTY CYCLE (NOT FLASHING) DISPLAYS. THE OPERATING VOLTAGE OF THE LED LAMP SHALL BE 120V AC UNLESS OTHERWISE INDICATED.

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MATERIAL SPECIFICATIONS FOR BBS GENERATOR POWER PANEL EQUIPMENT

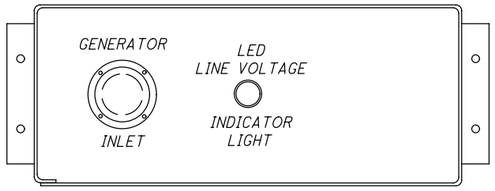
GENERATOR INLET - The inlet shall be 30 amp, 125/250V, locking, four (4) wire grounding and meet the NEMA configuration number L14-30-P 30A 125/250V specification. The inlet shall be a Hubbell catalog #2715.

LINE VOLTAGE GENERATOR SWITCH - The switch shall be 30 amp, 125/250V AC, two (2) pole, three (3) position (On, Off, On). The switch shall be a Hubbell catalog #1388.

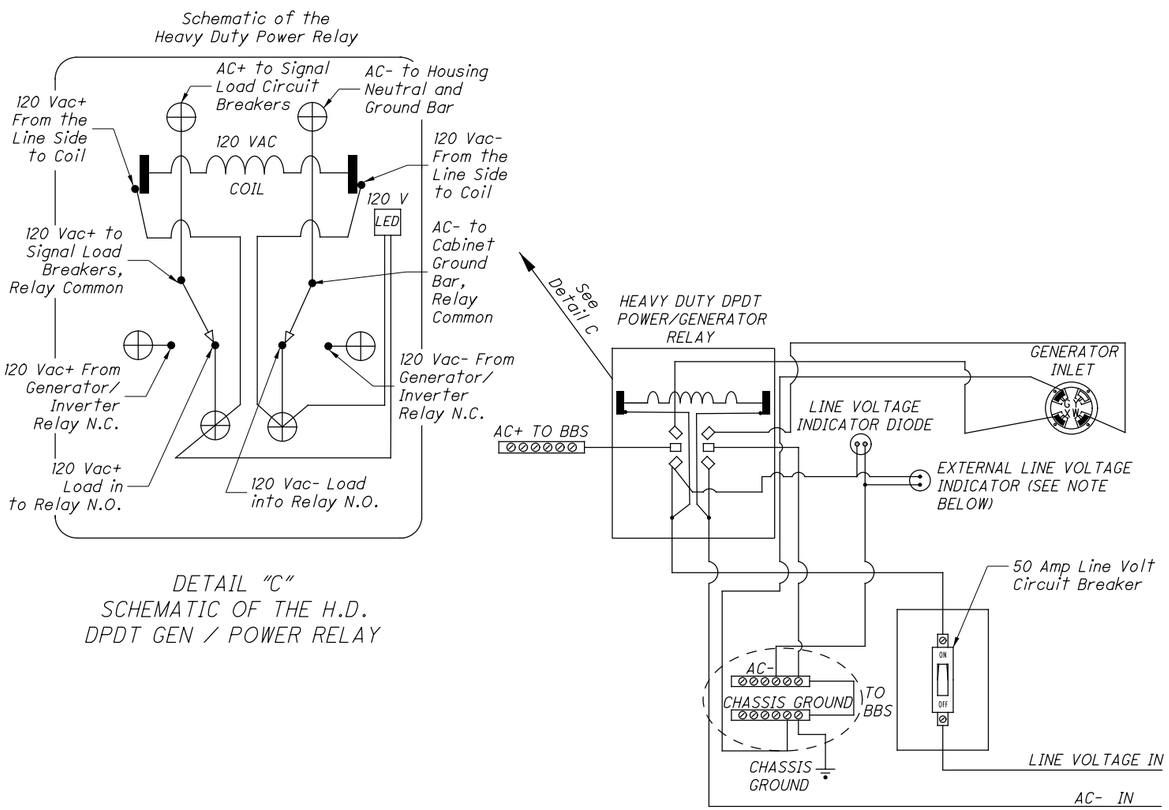
LINE VOLTAGE INDICATOR LIGHT - The indicator light shall be 125V AC light emitting diode with a red lens.

LINE VOLTAGE CIRCUIT BREAKER - The circuit breaker shall be single pole single throw and a minimum of 30 amps. The amperage shall be increased to accomodate greater loads, if necessary. The gauge of the power cable shall be of proper size per N.E.C.

EXTERNAL LINE VOLTAGE INDICATOR LIGHT - The indicator light shall be a 1" waterproof NEMA 4X or IP66 LED lamp with a green lens.



FRONT VIEW OF GENERATOR POWER PANEL

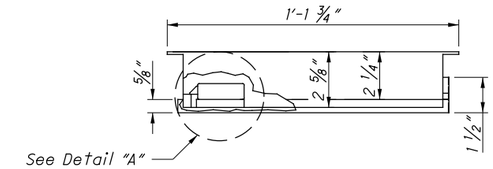


DETAIL "C"
SCHEMATIC OF THE H.D.
DPDT GEN / POWER RELAY

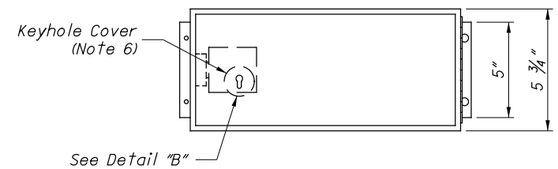
ELECTRICAL HOOKUP DETAIL FOR THE BBS GENERATOR POWER PANEL

NOTE: EXTERNAL LINE VOLTAGE INDICATOR LIGHT required when called for in the plans. EXTERNAL LINE VOLTAGE INDICATOR LIGHT shall be located on the enclosure exterior for visibility from the adjacent roadway when all cabinet, and generator panel doors are closed.

GENERATOR POWER PANEL ENCLOSURE



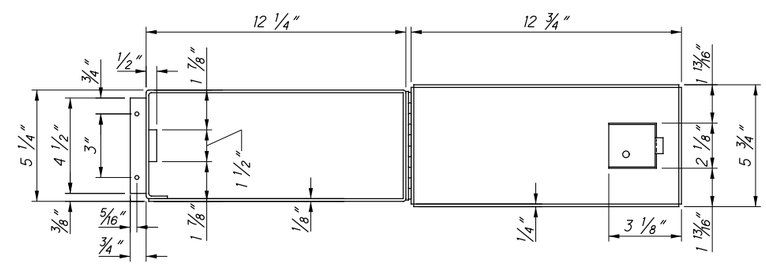
TOP VIEW



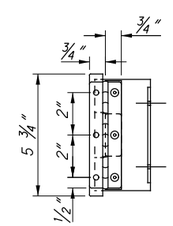
FRONT VIEW CLOSED DOOR

NOTES:

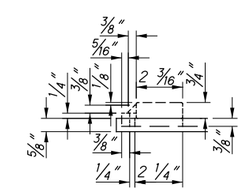
1. The enclosure shall be constructed of 1/8" thick alumimum.
2. The lock shall be the standard police door type, keyed with the standard flasher door skeleton key.
3. The door shall be sealed with a foam rubber gasket to prevent moisture from entering the enclosure.
4. The enclosure shall be mounted onto the outside of the controller cabinet with non-accessible bolts and sealed with a high quality silicon caulk at all surfaces touching the cabinet.
5. The hinge shall be of stainless steel or equivalent corrosive-resistant material.
6. Keyhole shall be covered with a movable circular aluminum or brass cover with top pivot pin.



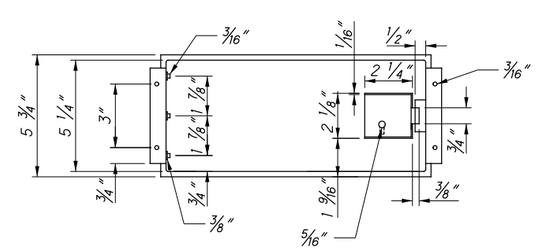
FRONT VIEW OPEN DOOR



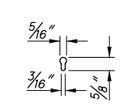
RIGHT SIDE VIEW
CLOSED DOOR



DETAIL "A"



BACK VIEW CLOSED DOOR



DETAIL "B"

THIS DRAWING REPLACES PIS 203012 DATED 04-20-2012.

OFFICE OF ROADWAY ENGINEERING

DESIGNED XXX | REVIEWED XXX

REVISION DATE 07-18-2014 | CHECKED CHECKED

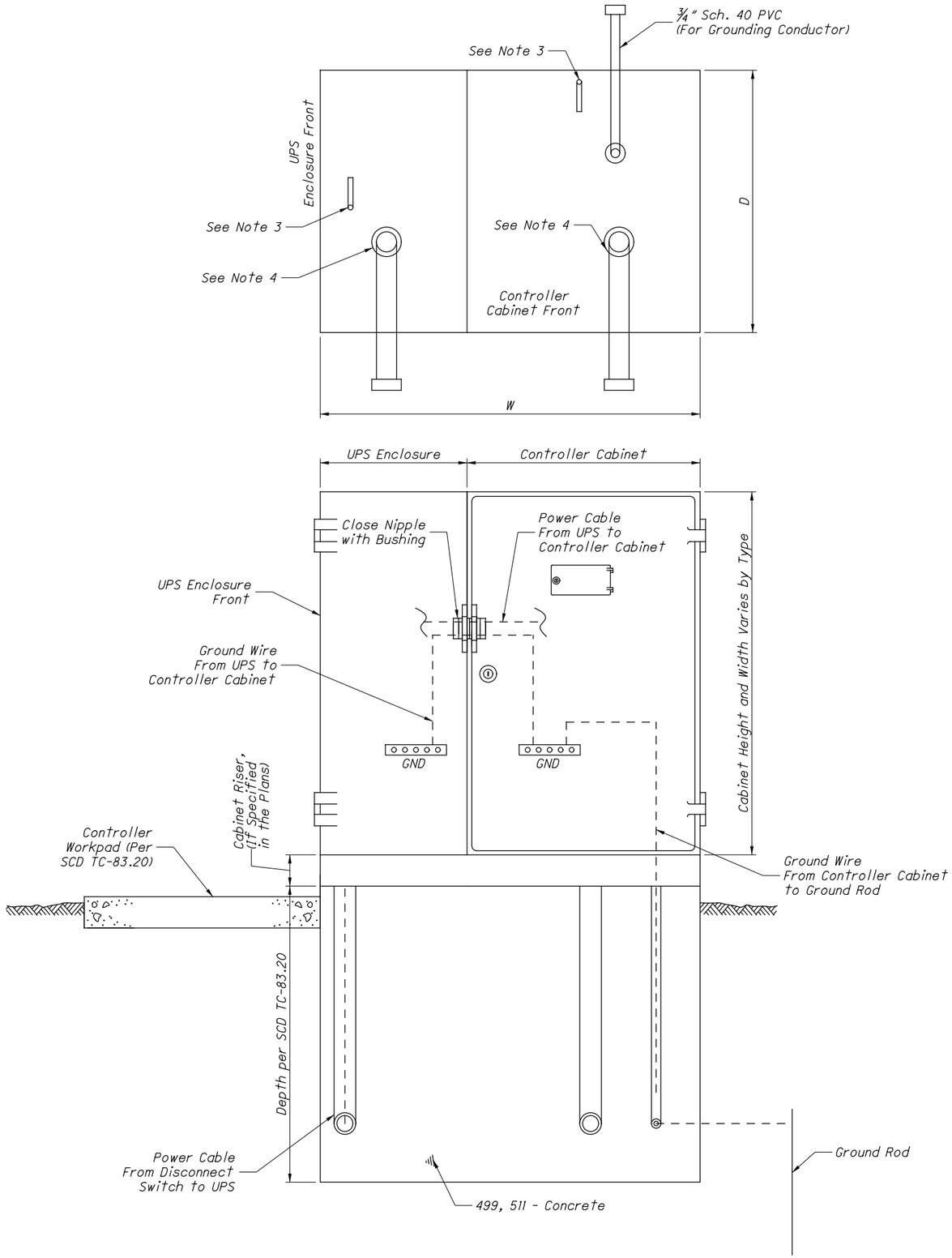
PLAN INSERT SHEET

BATTERY BACKUP SYSTEM (BBS)
GENERATOR POWER PANEL

TUS-39-12.64

1 / 1

66A
92



NOTES:

1. The Uninterruptible Power Supply (UPS) enclosure shall be mounted flush up against the traffic signal cabinet and sealed with silicone. The Contractor shall be responsible for providing the necessary power cable between the UPS unit and signal cabinet.

2. The UPS should be placed on the opposite side of the pull box on a 332/336 cabinet (per Standard Construction Drawing (SCD) TC-83.20). The UPS placement for a NEMA cabinet varies, placement should provide adequate access with respect to slope, guardrail spacing, etc.

3. The size, number, and location of anchor bolts shall be in accordance with the manufacturer's recommendations.

4. The size, number, and orientation of conduit ells shall be as shown in the plan, except that a ¾" schedule 40 PVC shall be installed in each foundation.

5. 1/2" preformed joint filler as per CMS 705.03 shall be used between foundations and adjacent paved areas.

6. See SCD TC-83.20 for further details.

TYPE	W (IN.)	D (IN.)	FOUNDATION CONCRETE (CU. YD.)
TS-1	60	24	1.23
TS-2	70	36	2.16
2070/170	50	36	1.54

THIS DRAWING REPLACES PIS 208320 DATED 04-20-2012.

OFFICE OF ROADWAY ENGINEERING

DESIGNED XXX REVIEWED XXX

REVISION DATE 07-18-2014 CHECKED CHECKED

PLAN INSERT SHEET

UNINTERRUPTIBLE POWER SUPPLY (UPS) AND CONTROLLER CABINET FOUNDATION

TUS-39-12.64

1/1

66B/92

SHEET NO.	LOCATION	611	625			632																	633						809
		4" CONDUIT, TYPE E	CONDUIT, 3", 725.04	TRENCH	GROUND ROD	VEHICULAR SIGNAL HEAD, (LED), 3-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN	VEHICULAR SIGNAL HEAD, (LED), 5-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN	PEDESTRIAN SIGNAL HEAD (LED), TYPE D2, COUNTDOWN, AS PER PLAN	COVERING OF VEHICULAR SIGNAL HEAD	COVERING OF PEDESTRAIN SIGNAL HEAD	PEDESTRIAN PUSH BUTTON	MESSENGEWIRE, 7 STRAND, 3/8" DIAMETER WITH ACCESSORIES	TETHER WIRE, WITH ACCESSORIES	SIGNAL CABLE, 5 CONDUCTOR, NO. 14 AWG	SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG	STRAIN POLE FOUNDATION	POWER CABLE, 3 CONDUCTOR, NO. 6 AWG	SERVICE CABLE, 3 CONDUCTOR, NO. 6 AWG	POWER SERVICE, AS PER PLAN	STRAIN POLE, TYPE TC-81.10, DESIGN 9	STRAIN POLE, TYPE TC-81.10, DESIGN 11	REMOVAL OF TRAFFIC SIGNAL INSTALLATION	CABINET, TYPE 336L	COMMUNICATIONS, AS PER PLAN	CONTROLLER ITEM, MISC.: CONTROLLER UNIT, INSTALLATION	CABINET FOUNDATION	CONTROLLER WORK PAD	UNINTERRUPTIBLE POWER SUPPLY (UPS), 1000 WATT, AS PER PLAN	STOP-BAR RADAR DETECTOIN
		FT	FT	FT	EACH	EACH	EACH	EACH	EACH	EACH	EACH	FT	FT	FT	FT	EACH	FT	FT	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH
69	CONTROLLER	20			1																		1	1	1	1	1	1	
69	POWER TO SP-2		55																										
69	POWER TO SP-4		17																										
69	CONTROLLER TO SP-2		55	55										60	180		22												
69	CONTROLLER TO SP-4		17	17											66														
69	POLE SP-1				2	1	1		2						48	2				1	1								2
69	POLE SP-2				2			1		1	1			43	109	2	44			1	1								
69	POLE SP-3				2	1			1						23	2				1	1								2
69	POLE SP-4				2			1		1	1					2			1	1	1								2
														27	117														
69	POWER IN																	83											
69	BOX-SPAN					8	2		8			325	325	162	428														
69	H-SPAN					4	1		6			279	279		483														
69	EXISTING TO BE REMOVED																					2							
TOTALS CARRIED TO GENERAL SUMMARY		20	144	72	9	14	4	2	17	2	2	604	604	292	1454	8	66	83	1	4	4	2	1	1	1	1	1	1	6

CALCULATED GBS
CHECKED JAC

TRAFFIC SIGNAL SUBSUMMARY
S.R. 39/STONE & S.R. 39/RAMP A

TUS-39-12.64

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SHEET NO.	LOCATION	611	625			632																633						809
		4" CONDUIT, TYPE E	CONDUIT, 3", 725.04	TRENCH	GROUND ROD	VEHICULAR SIGNAL HEAD, (LED), 3-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN	VEHICULAR SIGNAL HEAD, (LED), 5-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN	PEDESTRIAN SIGNAL HEAD (LED), TYPE D2, COUNTDOWN, AS PER PLAN	COVERING OF VEHICULAR SIGNAL HEAD	COVERING OF PEDESTRAIN SIGNAL HEAD	PEDESTRIAN PUSH BUTTON	MESSENGEWIRE, 7 STRAND, 3/8" DIAMETER WITH ACCESSORIES	TETHER WIRE, WITH ACCESSORIES	SIGNAL CABLE, 5 CONDUCTOR, NO. 14 AWG	SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG	STRAIN POLE FOUNDATION	POWER CABLE, 3 CONDUCTOR, NO. 6 AWG	SERVICE CABLE, 3 CONDUCTOR, NO. 6 AWG	POWER SERVICE, AS PER PLAN	STRAIN POLE, TYPE TC-81.10, DESIGN 12	REMOVAL OF TRAFFIC SIGNAL INSTALLATION	CABINET, TYPE 336L	COMMUNICATIONS, AS PER PLAN	CONTROLLER ITEM, MISC.: CONTROLLER UNIT, INSTALLATION	CABINET FOUNDATION	CONTROLLER WORK PAD	UNINTERRUPTIBLE POWER SUPPLY (UPS), 1000 WATT, AS PER PLAN	STOP-BAR RADAR DETECTOIN
		FT	FT	FT	EACH	EACH	EACH	EACH	EACH	EACH	EACH	FT	FT	FT	FT	EACH	FT	FT	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH
74	CONTROLLER	20			1																	1	1	1	1	1	1	
74	POWER TO SP-2		10	10																								
74	POWER TO SP-4																											
74	CONTROLLER TO SP-2		10											15	45		15											
74	POLE SP-1				1											1				1								1
74	POLE SP-2				1			1		1	1			40	90	1	35		1	1								1
74	POLE SP-3				1											1				1								
74	POLE SP-4				1			1		1	1			24		1				1								1
74	POWER IN																	128										
74	BOX-SPAN					3	3		6			391	391	133	351													
74	EXISTING TO BE REMOVED																				1							
TOTALS CARRIED TO GENERAL SUMMARY		20	20	10	5	3	3	2	6	2	2	391	391	212	486	4	50	128	1	4	1	1	1	1	1	1	1	3

CALCULATED GBS
CHECKED JAC

TRAFFIC SIGNAL SUBSUMMARY
S.R. 39 & RAMP F

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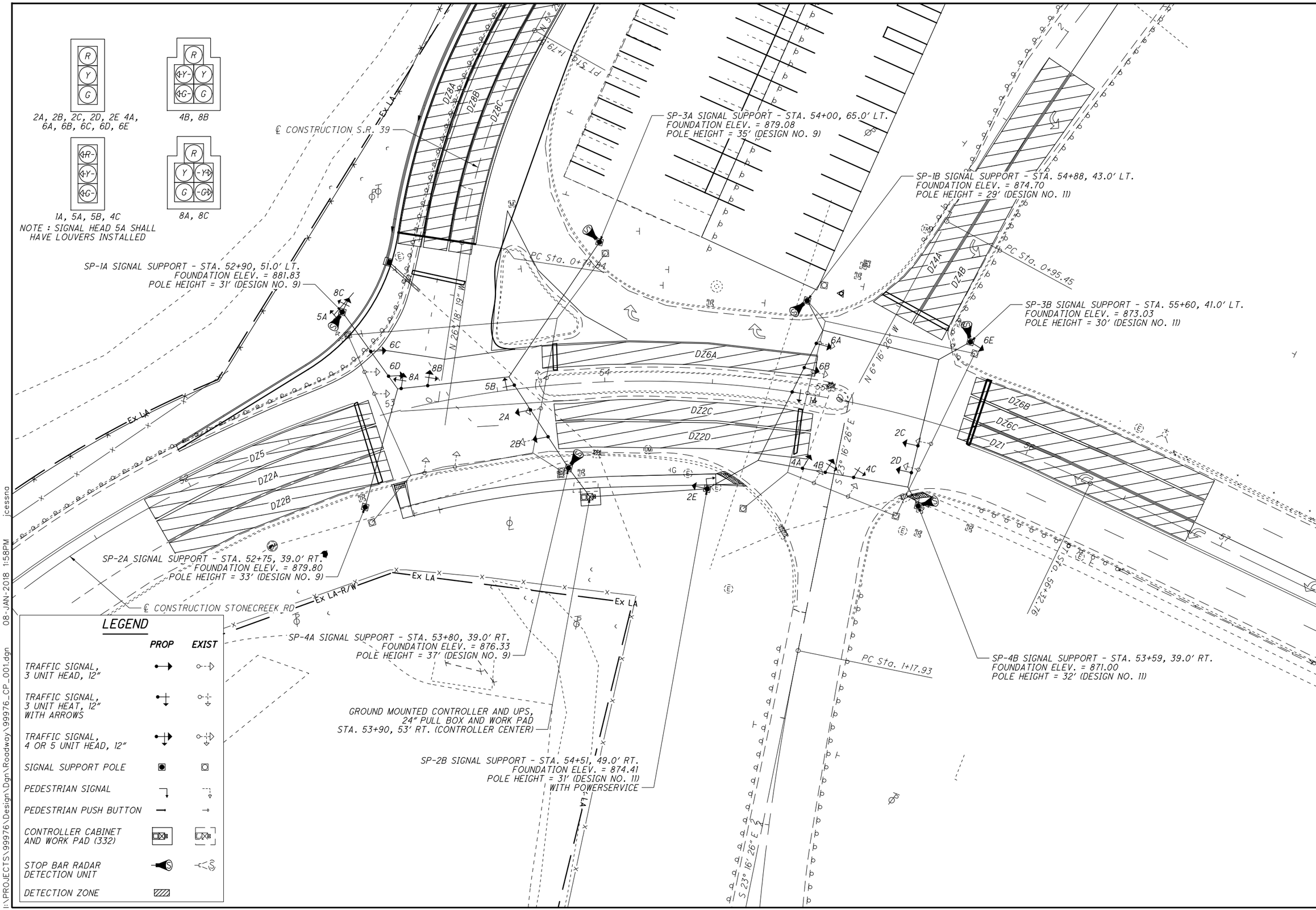

HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED JAC
CHECKED JPB

SIGNAL PLAN SHEET
STA. 49+35 TO STA. 54+50

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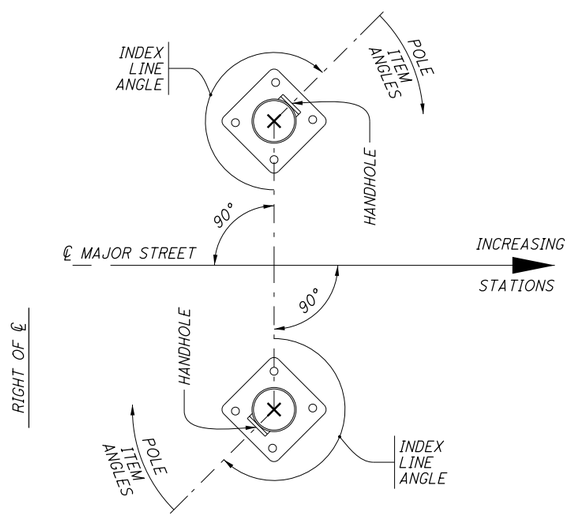
PLAN DETAILS FOR STRAIN POLES (TEM FIGURE 498-36)

POLE NO.	DESIGN NO.	POLE HEIGHT (FT.)	FOUNDATION ELEV.	SPAN WIRE ATTACHED HEIGHT	CABLE ENTRANCE DISTANCE FROM TOP (IN.)	INDEX LINE ANGLE (DEG.)	ANGLES (DEG.) FROM INDEX LINE							
							PEDESTRIAN SIGNALS	PEDESTRIAN PUSH BUTTONS	CONTROLLER	POWER SERVICE	CABLE ENTRANCE	LUMINAIRE BRACKET	INTERCONNECT POLE SPLICE BOX	2" CAPPED CONDUIT ELLS
1A	9	31	881.83	911.15	24	159.6	-	-	-	-	180	-	-	45
2A	9	33	879.80	911.15	24	212.5	-	-	-	-	180	-	-	45
3A	9	35	879.08	912.10	24	216.1	-	-	-	-	180	-	-	90
4A	9	37	876.33	912.10	24	151.4	-	-	-	30.2	180	-	-	315

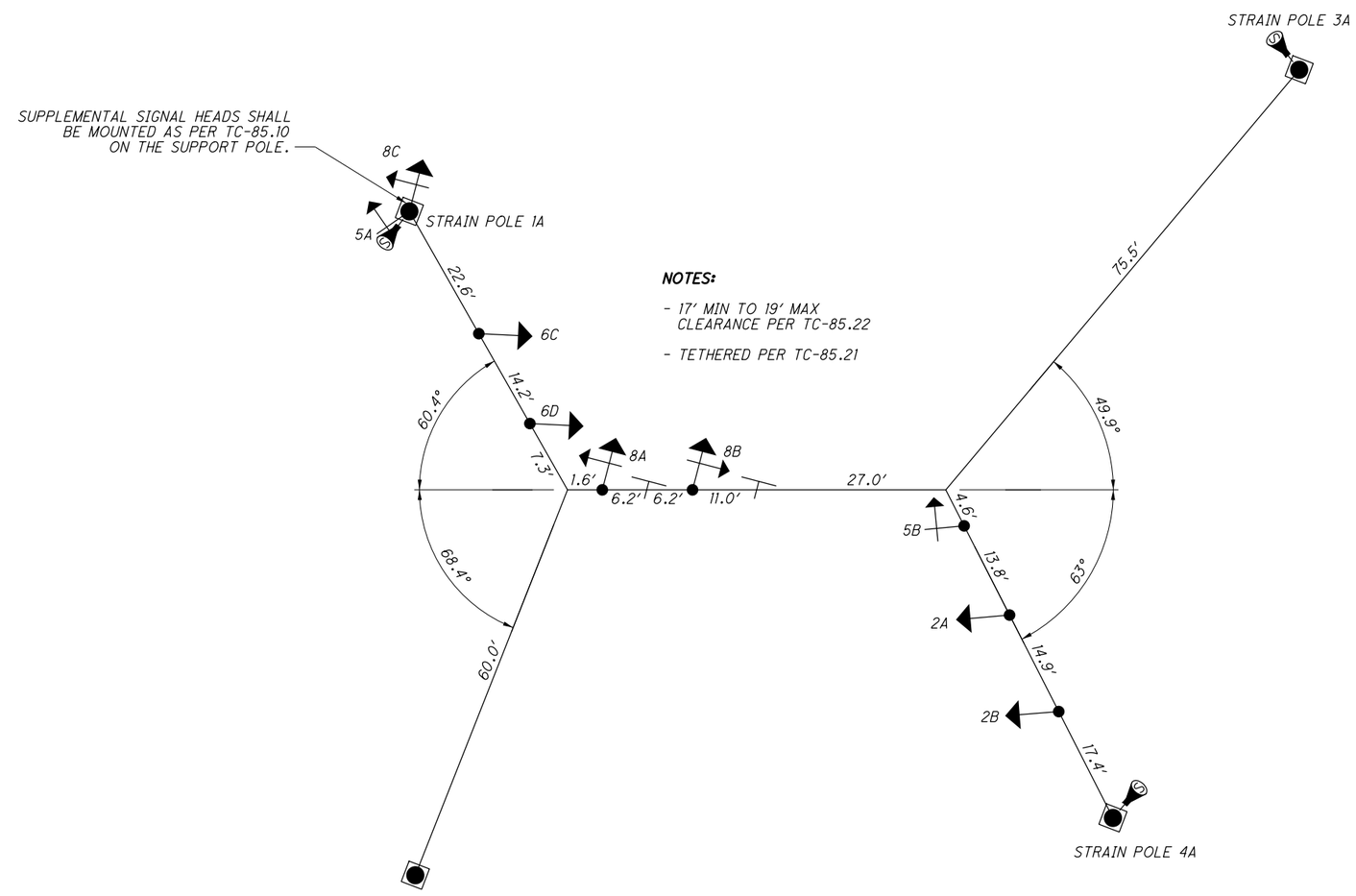


NOTES:

- ALL ANGLES ARE MEASURED CLOCKWISE.
- THE INDEX LINE GOES THROUGH THE CENTER OF THE HANDHOLE.

POLE DIAGRAM

PLAN VIEW FOR TYPICAL SPANWIRE DETAIL



NOTES:

- 17' MIN TO 19' MAX CLEARANCE PER TC-85.22
- TETHERED PER TC-85.21

NOTE:

- TOP OF SIGNAL SUPPORT AND PEDESTAL FOUNDATIONS SHALL BE LEVEL WITH THE SIDEWALK ELEVATION WHERE ADA LANDINGS ARE ADJACENT; ELSEWHERE, FOUNDATIONS SHALL BE 2" (± 1") ABOVE GRADE PER TC-21.20

CALCULATED JAC
CHECKED ANS

TRAFFIC SIGNAL PLAN DETAILS
S.R. 39 & STONECREEK RD

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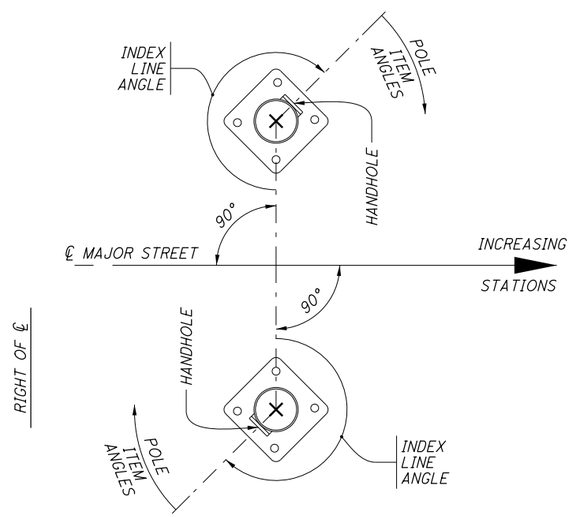
PLAN DETAILS FOR STRAIN POLES (TEM FIGURE 498-36)

POLE NO.	DESIGN NO.	POLE HEIGHT (FT.)	FOUNDATION ELEV.	SPAN WIRE ATTACHED HEIGHT	CABLE ENTRANCE DISTANCE FROM TOP (IN.)	INDEX LINE ANGLE (DEG.)	ANGLES (DEG.) FROM INDEX LINE							
							PEDESTRIAN SIGNALS	PEDESTRIAN PUSH BUTTONS	CONTROLLER	POWER SERVICE	CABLE ENTRANCE	LUMINAIRE BRACKET	INTERCONNECT POLE SPLICE BOX	2" CAPPED CONDUIT ELLS
1B	11	29	874.70	902.08	24	143.6	-	-	-	-	180	-	-	315
2B	11	31	874.41	903.80	24	236.9	-	-	-	-	180	-	-	45
3B	11	30	873.03	901.30	24	223.8	-	-	-	-	180	-	-	45
4B	11	32	871.00	901.59	24	134.6	-	-	-	-	180	-	-	45

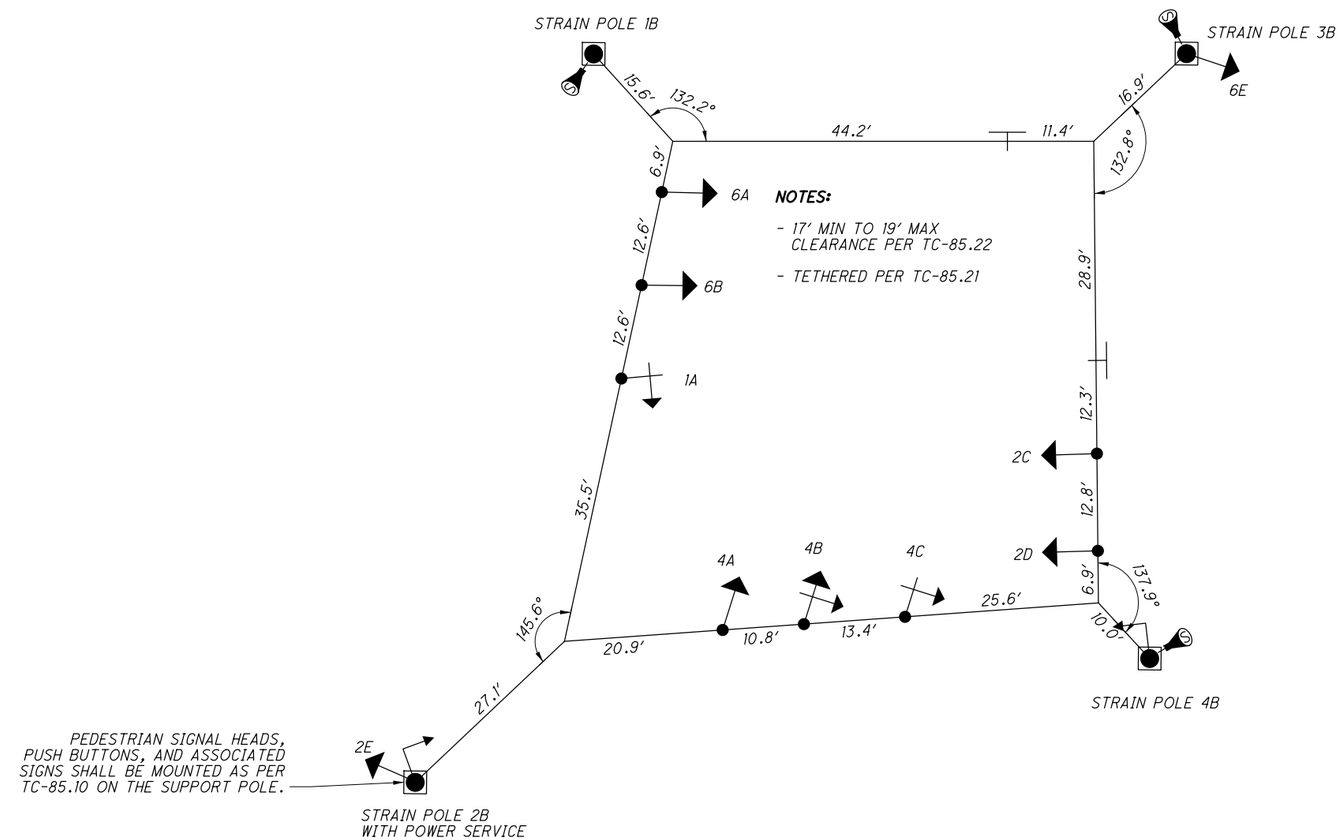


NOTES:

- ALL ANGLES ARE MEASURED CLOCKWISE.
- THE INDEX LINE GOES THROUGH THE CENTER OF THE HANDHOLE.

POLE DIAGRAM

PLAN VIEW FOR TYPICAL SPANWIRE DETAIL



NOTES:

- 17' MIN TO 19' MAX CLEARANCE PER TC-85.22
- TETHERED PER TC-85.21

NOTE:

- TOP OF SIGNAL SUPPORT AND PEDESTAL FOUNDATIONS SHALL BE LEVEL WITH THE SIDEWALK ELEVATION WHERE ADA LANDINGS ARE ADJACENT; ELSEWHERE, FOUNDATIONS SHALL BE 2" (± 1") ABOVE GRADE PER TC-21.20

CALCULATED JAC
CHECKED ANS

TRAFFIC SIGNAL PLAN DETAILS
S.R. 39 & STONECREEK RD

TUS-39-12.64

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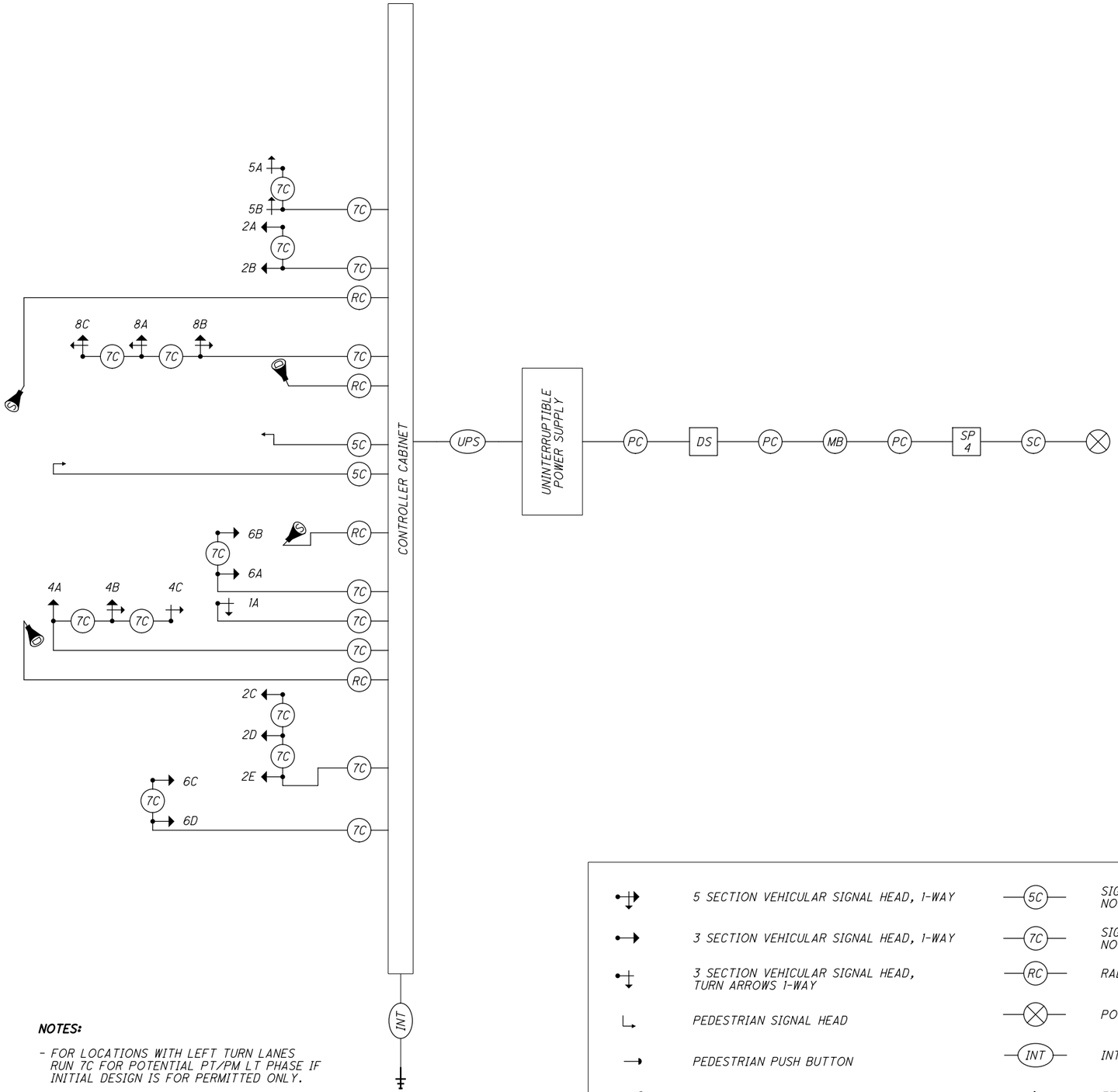
WIRING DIAGRAM (TYPICAL)



NOTES:

- FOR LOCATIONS WITH LEFT TURN LANES RUN 7C FOR POTENTIAL PT/PM LT PHASE IF INITIAL DESIGN IS FOR PERMITTED ONLY.
- OVERLAPS SHALL BE WIRED TO THE APPROPRIATE LOAD SWITCHES AS PER THE FIELD HOOKUP CHART AND CONFIGURED IN THE CONTROLLER SOFTWARE PER THE SIGNAL TIMING CHART.

FIELD WIRING HOOK-UP CHART (TEM FORM 496-16)

SIGNAL HEAD	INDICATION	FIELD TERMINAL	FLASH
1A	<--R---	ϕ1 R	R
	<--Y---	ϕ1 Y	
(WB LT)	<--G---	ϕ1 G	
2A, 2B	R	ϕ2 R	R
	Y	ϕ2 Y	
(EB)	G	ϕ2 G	
2C, 2D, 2E	R	ϕ2 R/ LS 12 R	R
	Y	ϕ2 Y/ LS 12 Y	
(EB)	G	ϕ2 G/ LS 12 G	
4A	R	ϕ4 R	R
	Y	ϕ4 Y	
(SB)	G	ϕ4 G	
4B	R	ϕ4 R	R
	Y	ϕ4 Y	
	G	ϕ4 G	
(SB LT)	<--Y---	ϕ4 Y	
	<--G---	ϕ4 G	
4C	<--R---	ϕ4 R	R
	<--Y---	ϕ4 Y	
(SB LT)	<--G---	ϕ4 G	
5A, 5B	<--R---	ϕ5 R	R
	<--Y---	ϕ5 Y	
(EB LT)	<--G---	ϕ5 G	
6A, 6B, 6E	R	ϕ6 R	R
	Y	ϕ6 Y	
(WB)	G	ϕ6 G	
LS = LOAD SWITCH			

SIGNAL HEAD	INDICATION	FIELD TERMINAL	FLASH
6C, 6D	R	ϕ6 R/ LS 13 R	R
	Y	ϕ6 Y/ LS 13 Y	
(WB)	G	ϕ6 G/ LS 13 G	
8A, 8C	R	ϕ8 R	R
	Y	ϕ8 Y	
	G	ϕ8 G	
(SB RT)	---Y-->	LS 14 Y	
	---G-->	LS 14 G	
8B	R	ϕ8 R	R
	Y	ϕ8 Y	
	G	ϕ8 G	
(SB LT)	<--Y---	ϕ8 Y	
	<--G---	ϕ8 G	
PEDESTRIAN MOVEMENTS			
PED A	W	LS 9 G	OUT
SOUTH	DW	LS 9 R	
-	-	-	-
-	-	-	
OVERLAPS			
OLA	R	LS 13 R	R
	Y	LS 13 Y	
	G	LS 13 G	
OLB	R	LS 12 R	R
	Y	LS 12 Y	
	G	LS 12 G	
OLC	---Y-->	LS 14 Y	R
	---G-->	LS 14 G	

LEGEND

- 5 SECTION VEHICULAR SIGNAL HEAD, 1-WAY
- 3 SECTION VEHICULAR SIGNAL HEAD, 1-WAY
- 3 SECTION VEHICULAR SIGNAL HEAD, TURN ARROWS 1-WAY
- PEDESTRIAN SIGNAL HEAD
- PEDESTRIAN PUSH BUTTON
- DILEMMA ZONE RADAR DETECTION UNIT
- STOP BAR RADAR DETECTION UNIT
- 5C — SIGNAL CABLE, 5 CONDUCTOR, NO. 14 AWG
- 7C — SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG
- RC — RADAR DETECTION CABLE
- POWER SOURCE
- INT — INTERCONNECT CABLE
- ETHERNET RADIO
- SC — SERVICE CABLE, 3 CONDUCTOR, NO. 6 AWG
- PC — POWER CABLE, 2 CONDUCTOR, NO. 6 AWG
- SP 1 — SIGNAL SUPPORT POLE NO. __
- MB — METER BASE
- DS — DUAL LIGHTING/SIGNAL DISCONNECT SWITCH
- UPS — UNINTERRUPTIBLE POWER SUPPLY CABLE

CALCULATED JAC
CHECKED ANS

TRAFFIC SIGNAL PLAN DETAILS
S.R. 39 & STONECREEK RD

TUS-39-12.64

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SIGNAL TIMING CHART (TEM FORM 496-3)

INTERSECTION: S.R. 39/ C.R. 21/ RAMP A/ RAMP D
MAINTAINING AGENCY: ODOT DISTRICT 11

START UP								
START IN: ALL RED	DUAL ENTRY: YES			PHASES:		1&5, 1&6, 2&5, 2&6		
TIME FOR FLASH OR ALL RED: 2	REST IN RED:			RING 1 -			RING 2 -	
FIRST PHASE(S): 2&6	OVERLAP				A	B	C	D
COLOR DISPLAYED: GREEN	PHASES				4,6	2,8	5	-

INTERVAL OR FEATURE		CONTROLLER MOVEMENT NO.							
INTERSECTION MOVEMENT (PHASE)		1	2	3	4	5	6	7	8
DIRECTION		WB LT	EB	-	SB	EB LT	WB	-	SB
MINIMUM GREEN (INITIAL)	(SEC.)	7	16	-	16	7	16	-	16
ADDED INITIAL	*(SEC./ACTUATION)	-	-	-	-	-	-	-	-
MAXIMUM INITIAL	(SEC.)	-	-	-	-	-	-	-	-
PASSAGE TIME (PRESET GAP)	(SEC.)	1	1	-	1	1	1	-	1
TIME BEFORE REDUCTION	*(SEC.)	-	-	-	-	-	-	-	-
MINIMUM GAP	*(SEC.)	-	-	-	-	-	-	-	-
TIME TO REDUCE	*(SEC.)	-	-	-	-	-	-	-	-
MAXIMUM GREEN I	(SEC.)	16	16	-	16	9	23	-	16
MAXIMUM GREEN II	(SEC.)	16	16	-	16	9	23	-	16
YELLOW CHANGE	(SEC.)	4	4	-	4	4	4	-	4
ALL RED CLEARANCE	(SEC.)	1	1	-	1	1	1	-	1
WALK	(SEC.)	-	-	-	12	-	12	-	12
PEDESTRIAN CLEARANCE	(SEC.)	-	-	-	21	-	21	-	21
RECALL	MAXIMUM (ON/OFF)	OFF	OFF	-	OFF	OFF	OFF	-	OFF
	MINIMUM (ON/OFF)	OFF	ON	-	OFF	OFF	ON	-	OFF
	PEDESTRIAN (ON/OFF)	OFF	OFF	-	OFF	OFF	OFF	-	OFF
MEMORY	(ON/OFF)	OFF	OFF	-	OFF	OFF	OFF	-	OFF

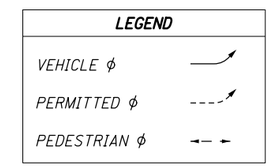
*VOLUME DENSITY CONTROLS

RADAR DETECTION CHART (TEM FORM 496-4)

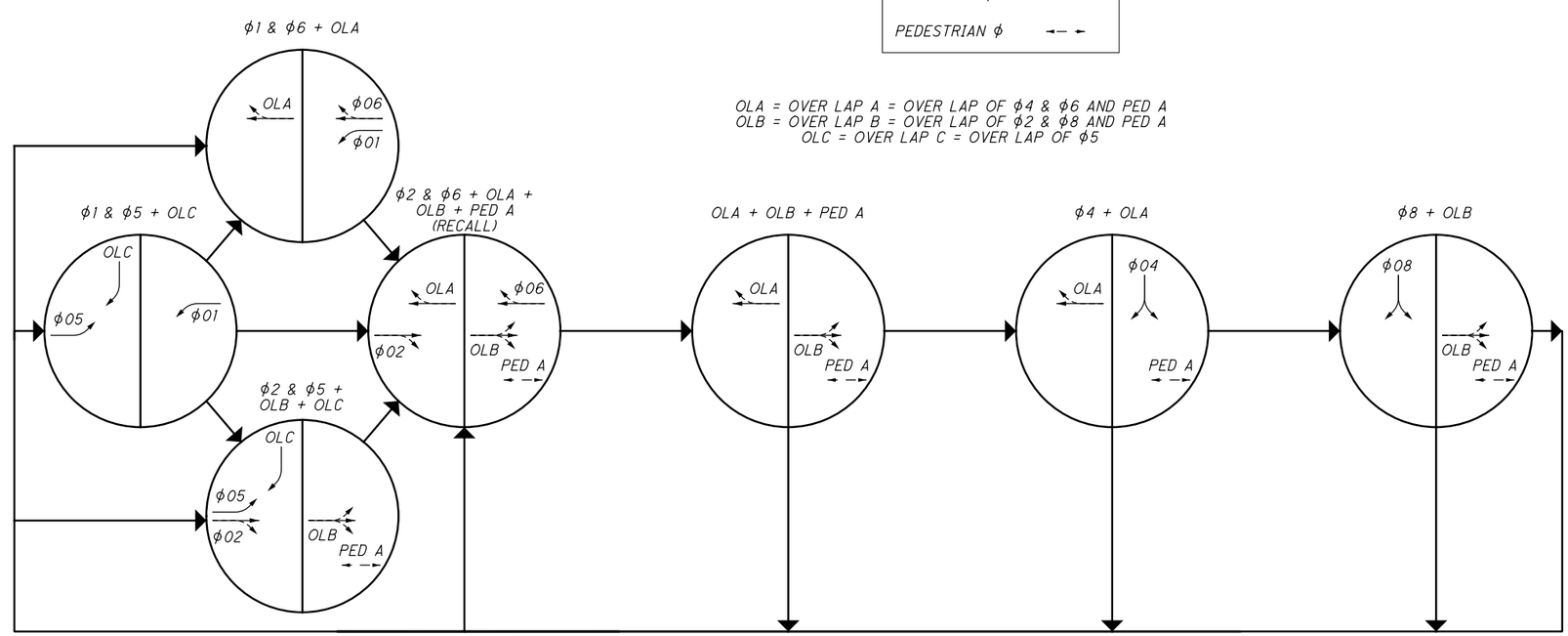
DETECTION ZONE	MOVEMENT	PULSE OR PRESENCE	ASSOCIATED PHASE	DELAY IN CONTROLLER (SEC)	DELAY INHIBIT PHASE	PURPOSE	DETECTION ZONE LENGTH (FT)
DZ1	WB LT	PRESENCE	1	0	-	CALL/EXTEND PHASE 1	-5+115
DZ2A	EB THRU	PRESENCE	2	0	-	CALL/EXTEND PHASE 2	-5+105
DZ2B	EB THRU	PRESENCE	2	0	-	CALL/EXTEND PHASE 2	-5+105
DZ2C	WB THRU	PRESENCE	2	0	-	CALL/EXTEND PHASE 2	-5+115
DZ2D	WB THRU	PRESENCE	2	0	-	CALL/EXTEND PHASE 2	-5+115
DZ4A	SB THRU	PRESENCE	4	10	4	CALL/EXTEND PHASE 4	-5+135
DZ4B	SB LT	PRESENCE	4	0	-	CALL/EXTEND PHASE 4	-5+135
DZ5	EB LT	PRESENCE	5	0	-	CALL/EXTEND PHASE 5	-5+110
DZ6A	EB THRU	PRESENCE	6	0	-	CALL/EXTEND PHASE 6	-5+120
DZ6B	WB THRU	PRESENCE	6	0	-	CALL/EXTEND PHASE 6	-5+115
DZ6C	WB THRU	PRESENCE	6	0	-	CALL/EXTEND PHASE 6	-5+115
DZ8A	SB THRU	PRESENCE	8	10	8	CALL/EXTEND PHASE 8	-5+135
DZ8B	SB THRU	PRESENCE	8	0	-	CALL/EXTEND PHASE 8	-5+135
DZ8C	SB THRU	PRESENCE	8	0	-	CALL/EXTEND PHASE 8	-5+135

NOTE: DILEMMA ZONE SPEED THRESHOLD >30 MPH

PHASING DIAGRAM (TYPICAL)



OLA = OVER LAP A = OVER LAP OF ϕ4 & ϕ6 AND PED A
OLB = OVER LAP B = OVER LAP OF ϕ2 & ϕ8 AND PED A
OLC = OVER LAP C = OVER LAP OF ϕ5



NOTES:

- ALL MOVEMENTS SHALL BE ACTUATED. THE PRIMARY THRU MOVEMENT SHOULD HAVE MIN RECALL ACTIVE TO REST IN GREEN.
- FOR PROTECTED/PERMISSIVE PHASES, IMPLEMENT CALL OMITS TO AVOID YELLOW BALL TRAP.
- ENABLE ϕ3 & ϕ7 DETECTOR SWITCHING TO ALLOW ϕ3 & ϕ7 TO EXTEND ϕ4 & ϕ8 WHEN ALLOCATED GREEN TIME FOR LEFT TURN PHASES ARE EXHAUSTED.
- ENABLE DETECTOR SWITCHING TO EXTEND ϕ4 & ϕ8 WITH ϕ3 & ϕ7 LOOPS ONCE LEFT TURN PHASES ARE EXHAUSTED.
- COUNTDOWN PEDESTRIAN SIGNALS SHALL GO TO ZERO ON YELLOW PER OMUTCD FIGURE 4E-2.
- RADAR DETECTION UNITS FOR DILEMMA ZONE DETECTION SHALL PLACE A CONSTANT CALL TO THE CONTROLLER WHEN VEHICLES TRAVEL TIMES TO THE STOP BAR ARE BETWEEN 2.5 AND 6 SECONDS. SPEED TRIGGER SHALL BE SET FOR VEHICLES TRAVELING 35 MPH AND GREATER.
- RADAR SHALL HAVE QUEUE DETECTION CONFIGURED AND A ZONE PLACED AT 100-200 FEET FROM STOP BAR FOR SLOW MOVING VEHICLE EXTENSIONS. SPEED TRIGGER SHALL BE SET AT 1-35 MPH.
- ALL DETECTOR DELAYS SHALL BE PLACED IN THE CONTROLLER.

CALCULATED JAC
CHECKED ANS

TRAFFIC SIGNAL PLAN DETAILS
S.R. 39 & STONECREEK RD

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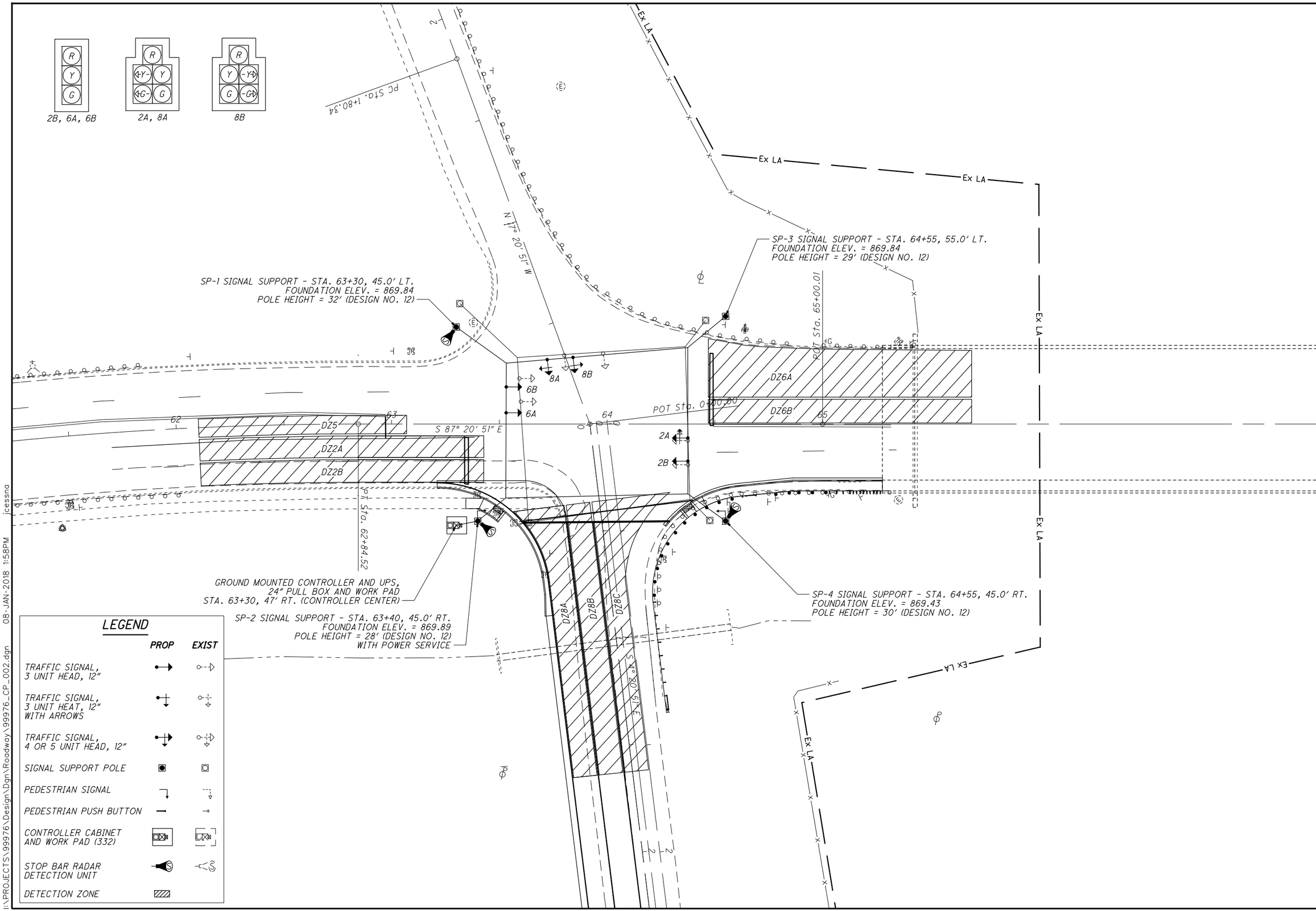

HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED JAC
CHECKED JPB

SIGNAL PLAN SHEET
STA. 54+50 TO STA. 58+25

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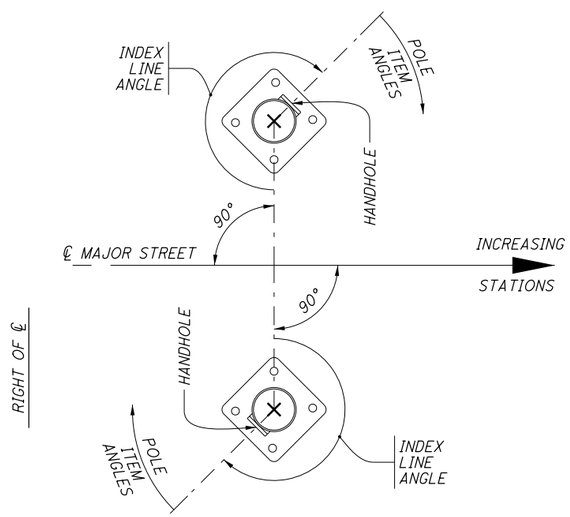
PLAN DETAILS FOR STRAIN POLES (TEM FIGURE 498-36)

POLE NO.	DESIGN NO.	POLE HEIGHT (FT.)	FOUNDATION ELEV.	SPAN WIRE ATTACHED HEIGHT	CABLE ENTRANCE DISTANCE FROM TOP (IN.)	INDEX LINE ANGLE (DEG.)	ANGLES (DEG.) FROM INDEX LINE							
							PEDESTRIAN SIGNALS	PEDESTRIAN PUSH BUTTONS	CONTROLLER	POWER SERVICE	CABLE ENTRANCE	LUMINAIRE BRACKET	INTERCONNECT POLE SPLICE BOX	2" CAPPED CONDUIT ELLS
1	12	32	869.84	900.39	24	125.8	-	-	-	-	180	-	-	315
2	12	28	869.89	896.65	24	230.4	125	-	-	304	180	-	-	315
3	12	29	869.84	897.73	24	230.4	-	-	-	-	180	-	-	45
4	12	30	869.43	897.67	24	125.8	232.5	-	-	-	180	-	-	90

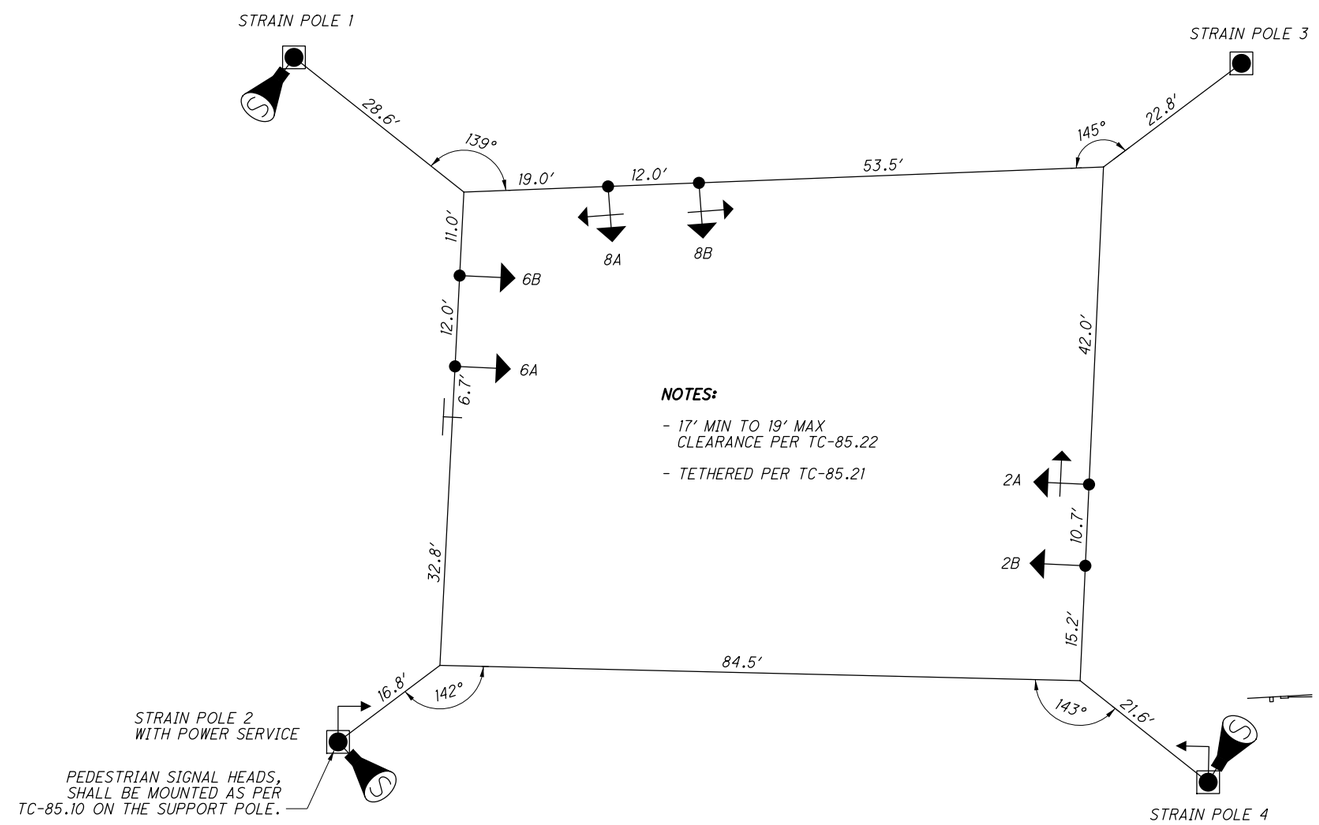


NOTES:

- ALL ANGLES ARE MEASURED CLOCKWISE.
- THE INDEX LINE GOES THROUGH THE CENTER OF THE HANDHOLE.

POLE DIAGRAM

PLAN VIEW FOR TYPICAL SPANWIRE (BOX) DETAIL



NOTES:

- 17' MIN TO 19' MAX CLEARANCE PER TC-85.22
- TETHERED PER TC-85.21

NOTE:

- TOP OF SIGNAL SUPPORT AND PEDESTAL FOUNDATIONS SHALL BE LEVEL WITH THE SIDEWALK ELEVATION WHERE ADA LANDINGS ARE ADJACENT; ELSEWHERE, FOUNDATIONS SHALL BE 2" (± 1") ABOVE GRADE PER TC-21.20

CALCULATED JAC
CHECKED ANS

TRAFFIC SIGNAL PLAN DETAILS
S.R. 39 & RAMP F

TUS-39-12.64

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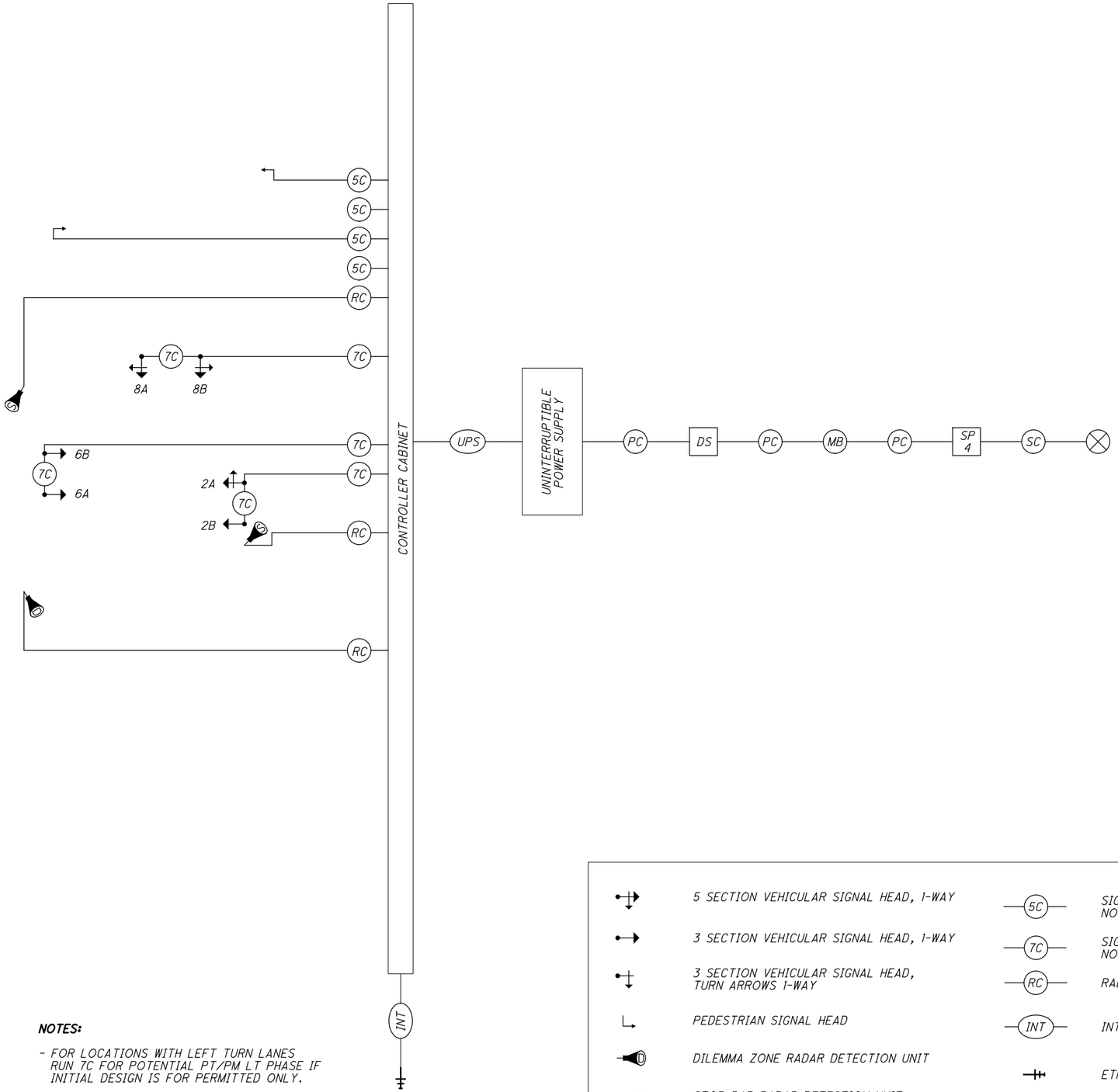
WIRING DIAGRAM (TYPICAL)



NOTES:

- FOR LOCATIONS WITH LEFT TURN LANES RUN 7C FOR POTENTIAL PT/PM LT PHASE IF INITIAL DESIGN IS FOR PERMITTED ONLY.
- OVERLAPS SHALL BE WIRED TO THE APPROPRIATE LOAD SWITCHES AS PER THE FIELD HOOKUP CHART AND CONFIGURED IN THE CONTROLLER SOFTWARE PER THE SIGNAL TIMING CHART.

FIELD WIRING HOOK-UP CHART (TEM FORM 496-16)

SIGNAL HEAD	INDICATION	FIELD TERMINAL	FLASH	SIGNAL HEAD	INDICATION	FIELD TERMINAL	FLASH
2A	R	ϕ2 R	R	-	-	-	-
	Y	ϕ2 Y			-	-	
	G	ϕ2 G			-	-	
(EB LT)	<--Y---	ϕ5 Y		-	-	-	
	<--G---	ϕ5 G			-	-	
8A	R	ϕ8 R	R	-	-	-	-
	Y	ϕ8 Y			-	-	
	G	ϕ8 G		-	-	-	
(NB LT)	<--Y---	ϕ8 Y		-	-	-	-
	<--G---	ϕ8 G			-	-	
8B	R	ϕ8 R	R		-	-	
	Y	ϕ8 Y			-	-	
	G	ϕ8 G			-	-	
(NB RT)	---Y-->	ϕ8 Y		PEDESTRIAN MOVEMENTS			
	---Y-->	ϕ8 G		-	-	-	-
2B	R	ϕ2 R	R	-	-	-	
	Y	ϕ2 Y		-	-	-	-
(EB)	G	ϕ2 G		-	-	-	
6A, 6B	R	ϕ6 R	R	-	-	-	-
	Y	ϕ6 Y		-	-	-	
	G	ϕ6 G		-	-	-	-
(WB)	-	-		-	-	-	
	-	-		OVERLAPS			
-	-	-	-	-	-	-	-
	-	-			-	-	
-	-	-		-	-	-	-
LS = LOAD SWITCH					-	-	

LEGEND

- 5 SECTION VEHICULAR SIGNAL HEAD, 1-WAY
- 3 SECTION VEHICULAR SIGNAL HEAD, 1-WAY
- 3 SECTION VEHICULAR SIGNAL HEAD, TURN ARROWS 1-WAY
- PEDESTRIAN SIGNAL HEAD
- DILEMMA ZONE RADAR DETECTION UNIT
- STOP BAR RADAR DETECTION UNIT
- 5C — SIGNAL CABLE, 5 CONDUCTOR, NO. XX AWG
- 7C — SIGNAL CABLE, 7 CONDUCTOR, NO. XX AWG
- RC — RADAR DETECTION CABLE
- INT — INTERCONNECT CABLE
- ETHERNET RADIO
- POWER SOURCE
- SC — SERVICE CABLE, 3 CONDUCTOR, NO. X AWG
- PC — POWER CABLE, 2 CONDUCTOR, NO. X AWG
- SP 1 — SIGNAL SUPPORT POLE NO. __
- MB — METER BASE
- DS — DUAL LIGHTING/SIGNAL DISCONNECT SWITCH
- UPS — UNINTERRUPTIBLE POWER SUPPLY CABLE

CALCULATED JAC
CHECKED ANS

TRAFFIC SIGNAL PLAN DETAILS S.R. 39 & RAMP F

TUS-39-12.64

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SIGNAL TIMING CHART (TEM FORM 496-3)

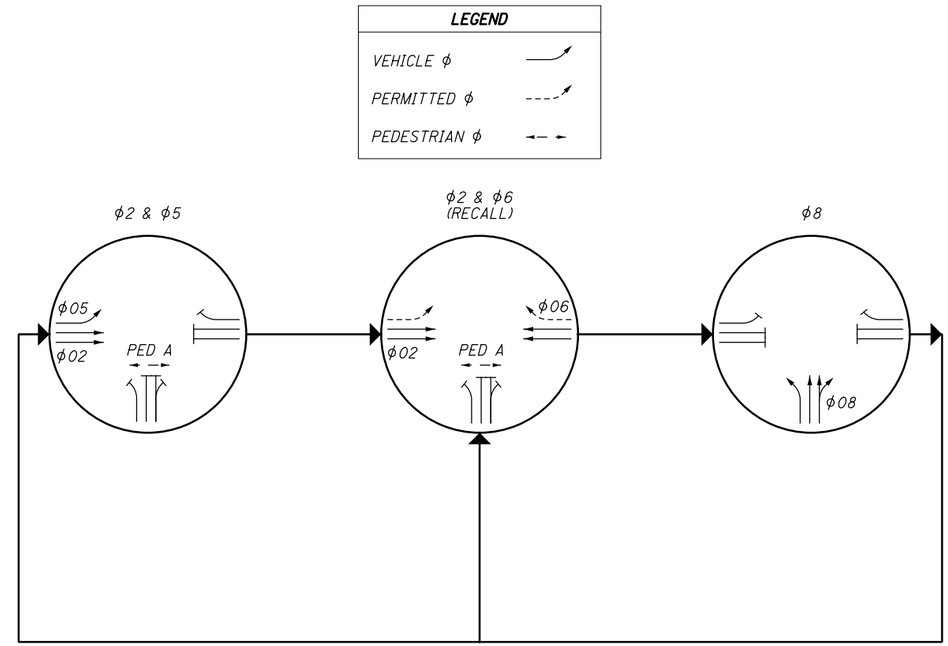
INTERSECTION: S.R. 39 & RAMP F
MAINTAINING AGENCY: ODOT DISTRICT 11

START UP							
START IN: ALL RED	DUAL ENTRY: YES	PHASES: 2&5, 2&6					
TIME FOR FLASH OR ALL RED: 2	REST IN RED:	RING 1 -			RING 2 -		
FIRST PHASE(S): 2&6	OVERLAP			A	B	C	D
COLOR DISPLAYED: GREEN	PHASES			-	-	-	-

INTERVAL OR FEATURE	CONTROLLER MOVEMENT NO.							
INTERSECTION MOVEMENT (PHASE)	1	2	3	4	5	6	7	8
DIRECTION	-	EB	-	-	EB LT	WB	-	NB
MINIMUM GREEN (INITIAL) (SEC.)	-	16	-	-	7	16	-	16
ADDED INITIAL *(SEC./ACTUATION)	-	-	-	-	-	-	-	-
MAXIMUM INITIAL (SEC.)	-	-	-	-	-	-	-	-
PASSAGE TIME (PRESET GAP) (SEC.)	-	1	-	-	1	1	-	1
TIME BEFORE REDUCTION *(SEC.)	-	-	-	-	-	-	-	-
MINIMUM GAP *(SEC.)	-	-	-	-	-	-	-	-
TIME TO REDUCE *(SEC.)	-	-	-	-	-	-	-	-
MAXIMUM GREEN I (SEC.)	-	16	-	-	9	16	-	16
MAXIMUM GREEN II (SEC.)	-	16	-	-	9	16	-	16
YELLOW CHANGE (SEC.)	-	4	-	-	4	4	-	4
ALL RED CLEARANCE (SEC.)	-	1	-	-	1	1	-	1
WALK (SEC.)	-	10	-	-	-	10	-	-
PEDESTRIAN CLEARANCE (SEC.)	-	22	-	-	-	22	-	-
RECALL MAXIMUM (ON/OFF)	-	OFF	-	-	OFF	OFF	-	OFF
RECALL MINIMUM (ON/OFF)	-	ON	-	-	OFF	ON	-	OFF
RECALL PEDESTRIAN (ON/OFF)	-	ON	-	-	OFF	ON	-	OFF
MEMORY (ON/OFF)	-	OFF	-	-	OFF	OFF	-	OFF

*VOLUME DENSITY CONTROLS

PHASING DIAGRAM (TYPICAL)



NOTES:

- ALL MOVEMENTS SHALL BE ACTUATED. THE PRIMARY THRU MOVEMENT SHOULD HAVE MIN RECALL ACTIVE TO REST IN GREEN.
- FOR PROTECTED/PERMISSIVE PHASES, IMPLEMENT CALL OMITS TO AVOID YELLOW BALL TRAP.
- ENABLE ϕ3 & ϕ7 DETECTOR SWITCHING TO ALLOW ϕ3 & ϕ7 TO EXTEND ϕ4 & ϕ8 WHEN ALLOCATED GREEN TIME FOR LEFT TURN PHASES ARE EXHAUSTED.
- ENABLE DETECTOR SWITCHING TO EXTEND ϕ4 & ϕ8 WITH ϕ3 & ϕ7 LOOPS ONCE LEFT TURN PHASES ARE EXHAUSTED.
- COUNTDOWN PEDESTRIAN SIGNALS SHALL GO TO ZERO ON YELLOW PER OMUTCD FIGURE 4E-2.
- RADAR DETECTION UNITS FOR DILEMMA ZONE DETECTION SHALL PLACE A CONSTANT CALL TO THE CONTROLLER WHEN VEHICLES TRAVEL TIMES TO THE STOP BAR ARE BETWEEN 2.5 AND 6 SECONDS. SPEED TRIGGER SHALL BE SET FOR VEHICLES TRAVELING 35 MPH AND GREATER.
- RADAR SHALL HAVE QUEUE DETECTION CONFIGURED AND A ZONE PLACED AT 100-200 FEET FROM STOP BAR FOR SLOW MOVING VEHICLE EXTENSIONS. SPEED TRIGGER SHALL BE SET AT 1-35 MPH.
- ALL DETECTOR DELAYS SHALL BE PLACED IN THE CONTROLLER.

RADAR DETECTION CHART (TEM FORM 496-4)

DETECTION ZONE	MOVEMENT	PULSE OR PRESENCE	ASSOCIATED PHASE	DELAY IN CONTROLLER (SEC)	DELAY INHIBIT PHASE	PURPOSE	DETECTION ZONE LENGTH (FT)
DZ2A	EB THRU	PRESENCE	2	0	-	CALL/EXTEND PHASE 2	-5+125
DZ2B	EB THRU	PRESENCE	2	0	-	CALL/EXTEND PHASE 2	-5+125
DZ5	EB LT	PRESENCE	5	0	-	CALL/EXTEND PHASE 5	-5+90
DZ6A	WB THRU	PRESENCE	6	10	6	CALL/EXTEND PHASE 6	-5+120
DZ6B	WB THRU	PRESENCE	6	0	-	CALL/EXTEND PHASE 6	-5+120
DZ8A	NB LT	PRESENCE	8	0	-	CALL/EXTEND PHASE 8	-5+120
DZ8B	NB THRU	PRESENCE	8	0	-	CALL/EXTEND PHASE 8	-5+120
DZ8C	NB THRU	PRESENCE	8	10	8	CALL/EXTEND PHASE 8	-5+120

NOTE: DILEMMA ZONE SPEED THRESHOLD >30 MPH

CALCULATED JAC
CHECKED ANS

TRAFFIC SIGNAL PLAN DETAILS
S.R. 39 & RAMP F

TUS-39-12.64

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VEHICULAR/PED VOLUME CHART (TEM FORM 496-18)

	VEHICULAR/PED PEAK HOURLY VOLUME											
PHASE	6		2	5	8							
DIRECTION	WB THRU	WB RT	EB THRU	EB LT	NB LT	NB THRU	NB RT	-	-	-	-	-
PLAN NO.	S.R. 39 & RAMP F											
A.M. PEAK	420	280	510	60	170	10	360	-	-	-	-	-
P.M. PEAK	830	400	820	110	230	10	420	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-

	VEHICULAR/PED PEAK HOURLY VOLUME											
PHASE	6	1	OLB		4							
DIRECTION	WB THRU	WB LT	EB THRU	EB RT	SB RT	SB THRU	SB LT	-	-	-	-	-
PLAN NO.	S.R. 39 & RAMP A											
A.M. PEAK	320	230	320	140	90	10	250	-	-	-	-	-
P.M. PEAK	530	530	540	240	120	10	390	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-

	VEHICULAR/PED PEAK HOURLY VOLUME											
PHASE	OLA		2	5	8							
DIRECTION	WB THRU	WB RT	EB THRU	EB LT	SB RT	SB LT	-	-	-	-	-	-
PLAN NO.	S.R. 39 & STONE											
A.M. PEAK	250	180	290	90	50	180	-	-	-	-	-	-
P.M. PEAK	390	260	420	70	90	370	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-

COUNT INFORMATION

MONTH/YEAR:	JUNE 2013	DAY OF WEEK:	THUR
TIME PERIOD(S):	9:00 am - 10:00 am, 12:00 pm - 1:00 pm, 4:00 pm - 5:00 pm		
TOTAL NUMBER OF HOURS:	6		
METHOD OF OBTAINING COUNTS:	COUNT BOARD		
TYPE OF COUNT:	TURNING MOVEMENT COUNT (TMC)		

NOTES:

- VOLUMES ARE PER HOUR
- CORRESPONDING TIMING PLANS SHOWN ON COORDINATION TIMING CHARTS

CALCULATED JAC
CHECKED ANS

TRAFFIC SIGNAL VOLUME COUNTS

TUS-39-12.64

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LIGHTING

625, POWER SERVICE, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF THE SPECIFICATIONS, THE FOLLOWING IS ADDED.

THE CONTRACTOR SHALL MEET WITH A REPRESENTATIVE FROM THE POWER SUPPLY AGENCY TO CONFIRM HOW THE PROPOSED POWER SERVICE IS TO BE WIRED, HOOKED UP, AND ITS LOCATION.

THE POWER SUPPLYING AGENCY FOR THIS PROJECT IS:

AEP OHIO POWER COMPANY
3596 S.R. 39 NW, DOVER, OHIO 44622
PHONE NO. 330-365-3054
CONTACT: CHRIS KIMBLE

THE POWER SUPPLY SHALL BE METERED.

THE ENGINEER SHALL ENSURE THAT EACH POWER SERVICE ELECTRICAL ENERGY ACCOUNT IS IN THE NAME OF AND THAT THE BILLING ADDRESS IS TO THE MAINTAINING AGENCY NOTED IN THE PLANS. THIS SHALL BE DONE NOT ONLY FOR EACH NEW POWER SERVICE ESTABLISHED BY THIS PROJECT BUT ALSO FOR EACH EXISTING POWER SERVICE, SINCE THERE MAY BE A REASSIGNMENT OF THE RESPONSIBILITY FOR AN EXISTING SERVICE AS A RESULT OF THE WORK PERFORMED BY THIS PROJECT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ARRANGING AND PROVIDING THE POWER IN THE MANNER SHOWN IN THE PLAN AND RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS REQUIRED BY THE UTILITY COMPANIES. THE ELECTRIC POWER SHALL BE OBTAINED FROM THE OHIO POWER COMPANY AT THE LOCATION INDICATED ON THE PLAN. POWER SUPPLIED SHALL BE 240/480 VOLTS 3 WIRE, SINGLE PHASE AC. 480 VOLTS AC SHALL BE SUPPLIED FROM THE DISCONNECT SWITCH TO THE HIGHWAY LIGHTING.

THE COST OF OBTAINING THE POWER, PERMITS AND INSPECTION SHALL BE INCLUDED IN THE BID PRICE FOR "POWER SERVICE, AS PER PLAN".

PAYMENT WILL BE MADE AT THE UNIT BID PRICE FOR EACH CMS ITEM 625, "POWER SERVICE, AS PER PLAN" WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

LAMPS

HIGH PRESSURE SODIUM LAMPS 400W SHALL BE GENERAL ELECTRIC "LUCALOX," OSRAM SYLVANIA "LUMALUX," PHILIPS "CERAMALUX," OR EQUAL APPROVED BY THE ENGINEER.

PADLOCKS AND KEYS

PADLOCKS FURNISHED SHALL BE EITHER BRASS OR BRONZE, EQUAL TO MASTER NO. 4BKA OR WILSON BOHANNAN 660A, AND SHALL BE KEYED IN ACCORDANCE WITH CMS 631.06. PAYMENT SHALL BE INCLUDED IN THE BID FOR THE ITEM(S) BEING LOCKED.

DISCONNECT CIRCUIT

THIS ITEM OF WORK SHALL CONSIST OF THE DISCONNECTION OF AN EXISTING LIGHT CIRCUIT AT A PULL BOX OR TRANSFORMER BASE.

DISCONNECTION AT A PULL BOX SHALL INVOLVE CUTTING THE EXISTING CIRCUIT AND REMOVING ALL SPLICE KITS. ANY CABLE THAT IS TO BE ABANDONED SHALL BE TERMINATED FROM THE PULL BOX SO THAT NO CABLE IS LEFT IN THE BOX.

DISCONNECTION AT A LIGHT POLE SHALL INVOLVE CUTTING THE EXISTING CIRCUIT AND REMOVING ALL CONNECTOR KITS. ALL DUCT-CABLE SHALL BE REMOVED FROM THE TRANSFORMER BASE AND THE EXISTING CONDUIT IN THE FOUNDATION SHALL BE CLEANED OF ALL CABLE AND DEBRIS SO THAT THE NEW DUCT-CABLE CAN BE INSTALLED. ALL EXISTING CABLE TO REMAIN ACTIVE SHALL BE CUT IN A MANNER SO THAT THERE IS SUFFICIENT CABLE LEFT FOR RE-CONNECTION. THOSE WIRES THAT ARE TO REMAIN ON ACTIVE CIRCUITS SHALL HAVE A WATER-RESISTANT SEAL AT THE CUT END. THE WATER-RESISTANT SEAL SHALL BE ACCOMPLISHED BY PLUGGING THE DEACTIVATED PORT OF AN EXISTING CONNECTOR KIT OR BY INSTALLING A CABLE SPLICE KIT ON THE CUT END OF THE CABLE.

625, PORTABLE WINCH DRIVE POWER UNIT

THE CONTRACTOR SHALL SUPPLY A NEW PORTABLE WINCH DRIVE POWER UNIT IN WORKING ORDER AS SPECIFIED IN THE ODOT CONSTRUCTION AND MATERIALS SPECIFICATIONS. A QUANTITY OF ONE EACH, ITEM 625 "PORTABLE WINCH DRIVE POWER UNIT" HAS BEEN CARRIED TO THE GENERAL SUMMARY.

SPECIAL, MAINTAIN EXISTING LIGHTING

EXISTING ROADWAYS WHICH ARE TO REMAIN OPEN TO TRAFFIC DURING CONSTRUCTION OF THIS PROJECT AND WHICH ARE LIGHTED SHALL HAVE THE LIGHTING MAINTAINED AS DESCRIBED HEREIN.

BEFORE ANY WORK IS STARTED IN THE IMMEDIATE VICINITY OF THE EXISTING LIGHTING CIRCUITS, REPRESENTATIVES OF ODOT, THE MAINTAINING AGENCY AND THE CONTRACTOR SHALL MAKE A VISUAL INSPECTION OF THE EXISTING ROADWAY LIGHTING CIRCUITS TO BE MAINTAINED. DURING THIS INSPECTION, A WRITTEN RECORD OF THE CONDITION OF EXISTING LIGHTING SHALL BE MADE BY ODOT'S REPRESENTATIVE. THIS WRITTEN REPORT SHALL NOTE INDIVIDUAL LUMINAIRES WHICH ARE NOT IN WORKING ORDER, INDIVIDUAL POLES WHICH ARE NOT STANDING, AND INDIVIDUAL CIRCUITS WHICH ARE NOT IN WORKING ORDER. THE COMPLETED REPORT SHALL BE SIGNED BY THE REPRESENTATIVES OF ODOT, THE MAINTAINING AGENCY AND THE CONTRACTOR.

IF, AS A RESULT OF THIS INSPECTION, IT IS DETERMINED THAT THE CONDITION OF THE EXISTING SYSTEM IS BELOW THAT REQUIRED FOR THE SAFETY OF THE TRAVELING PUBLIC, THEN THE MAINTAINING AGENCY, SHALL MAKE THE REPAIRS NECESSARY TO RETURN THE SYSTEM TO AN ACCEPTABLE CONDITION. FOLLOWING THESE REPAIRS, THE SYSTEM SHALL AGAIN BE INSPECTED AND A REPORT SHALL BE MADE AND SIGNED AS OUTLINED HEREIN.

WHEN THE EXISTING SYSTEM IS IN AN ACCEPTABLE CONDITION, IT SHALL BE TURNED OVER TO THE CONTRACTOR WHO SHALL THEN BE REQUIRED TO MAINTAIN THE EXISTING LIGHTING TO THE CONDITION OUTLINED IN THIS REPORT WITH THE EXCEPTION OF KNOCKDOWNS DUE TO TRAFFIC ACCIDENTS.

REPLACEMENT OF KNOCKED DOWNED UNITS SHALL BE DONE ONLY WHEN THE ENGINEER HAS DETERMINED THAT THE REPLACEMENT OF THE KNOCKED DOWN UNIT IS NECESSARY AND SHALL BE PAID SEPARATELY ON A UNIT BASIS.

BETTERMENTS SHALL BE COVERED IN ITEMS OF WORK PERTAINING TO THE CONSTRUCTION OF PERMANENT IMPROVEMENT.

WHEN THE SEQUENCE OF CONSTRUCTION ACTIVITIES REQUIRES, OR SHOULD THE CONTRACTOR DESIRE, THE REMOVAL OF THE EXISTING LIGHTING BEFORE THE NEW LIGHTING IS OPERATIONAL, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING TEMPORARY LIGHTING OF THIS PORTION OF THE ROADWAY.

PRIOR TO INSTALLING SUCH LIGHTING, THE CONTRACTOR SHALL PREPARE AND SUBMIT FOUR SETS OF THE TEMPORARY LIGHTING PLAN TO THE ENGINEER FOR REVIEW AND APPROVAL.

THIS PLAN SHALL SHOW LOCATIONS OF POLES, LENGTHS OF BRACKET ARMS, STYLES OF LUMINAIRES, MOUNTING HEIGHTS, WIRING METHODS AND OTHER PERTINENT INFORMATION. THE TEMPORARY LIGHTING SHALL PROVIDE AN AVERAGE INITIAL INTENSITY OF 1.2 FOOTCANDLES WITH AN AVERAGE TO MINIMUM UNIFORMITY NOT TO EXCEED 3:1. MOUNTING HEIGHT OF TEMPORARY LUMINAIRES SHALL NOT BE LESS THAN 30 FEET, AND THE MINIMUM OVERHEAD CONDUCTOR CLEARANCE SHALL BE 20 FEET. TEMPORARY OVERHEAD CONSTRUCTION SHALL NOT BE LESS THAN GRADE "B" FOR STRENGTH REQUIREMENTS AS DEFINED BY THE NATIONAL ELECTRIC SAFETY CODE. WOOD POLES WITH OVERHEAD WIRING MAY BE USED. HOWEVER, TEMPORARY LIGHTING SHALL MEET FEDERAL AND STATE SAFETY CRITERIA. IF BREAKAWAY POLES ARE USED TO MEET THESE CRITERIA, THEN UNDERGROUND WIRING SHALL BE USED. RECONDITIONED OR USED MATERIALS MAY BE FURNISHED FOR TEMPORARY LIGHTING.

ALL MATERIALS NECESSARY TO COMPLETE THE TEMPORARY LIGHTING SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. WHEN NO LONGER NEEDED, THE TEMPORARY LIGHTING INSTALLATION SHALL BE REMOVED AND PROPERLY DISPOSED OF BY THE CONTRACTOR.

THE MAINTAINING AGENCY WILL PAY FOR ELECTRICAL ENERGY CONSUMED BY EXISTING POWER SERVICES AND BY PROPOSED PERMANENT POWER SERVICES AFTER ACCEPTANCE OF THE LIGHTING WORK. THE CONTRACTOR WILL PAY FOR ELECTRICAL ENERGY, INSTALLATION, REMOVAL AND MAINTENANCE OF ANY TEMPORARY POWER SERVICES.

THE LUMP SUM PRICE BID FOR ITEM SPECIAL "MAINTAIN EXISTING LIGHTING" SHALL INCLUDE PAYMENT FOR ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO MAINTAIN THE EXISTING LIGHTING AS SPECIFIED HEREIN.

625, PULL BOX CLEANED

THIS ITEM OF WORK SHALL CONSIST OF CLEANING AN EXISTING PULL BOX BY REMOVING ANY EXISTING CABLES NOT BEING RECONNECTED, AND DEBRIS SO THAT NEW CABLES CAN BE INSTALLED. ANY UNUSED OPENINGS SHALL BE CLOSED. DISTURBED AREAS NEAR THE PULL BOX SHALL BE CLEARED OF WEEDS OR DEBRIS AND SHALL BE FULLY RESTORED. MATERIAL REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE PROPERLY DISPOSED OF OFF OF THE PROJECT SITE.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID UNDER C&MS ITEM 625, "PULL BOX CLEANED" FOR EACH PULL BOX CLEANED WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

625, LUMINAIRE, HIGH MAST, BY TYPE, AS PER PLAN

THE LUMINAIRE ARRAYS AND ASSOCIATED ILLUMINATION TEST AREAS SPECIFIED IN CMS 725.11 ARE HEREBY WAIVED. INSTEAD, THE LUMINAIRES FOR HIGH-MAST LIGHTING SHALL MEET THE FOLLOWING REQUIREMENTS:

LUMINAIRES FOR HIGH-MAST LIGHTING UNITS WITH SYMMETRIC DISTRIBUTION SHALL BE HOLOPHANE "HMST" WITH PHOTOMETRIC DISTRIBUTION 36383, GENERAL ELECTRIC "HM" WITH PHOTOMETRIC DISTRIBUTION 6312, OR COOPER "HMX" WITH PHOTOMETRIC DISTRIBUTION HMX4SDW, OR EQUAL AS APPROVED BY THE ENGINEER.

LUMINAIRES FOR HIGH-MAST LIGHTING UNITS WITH ASYMMETRIC DISTRIBUTION SHALL BE HOLOPHANE "HMST" WITH PHOTOMETRIC DISTRIBUTION 46973, GENERAL ELECTRIC "HM" WITH PHOTOMETRIC DISTRIBUTION 7349, OR COOPER "HMC" WITH PHOTOMETRIC DISTRIBUTION HMC4S3D, OR EQUAL AS APPROVED BY THE ENGINEER.

IN ADDITION, OTHER LUMINAIRES WILL BE CONSIDERED IF THE DESIGNED INTENSITY AND UNIFORMITY ARE PROVIDED USING THE DESIGNED POLE LOCATIONS AND THE DESIGNED NUMBER AND TYPE OF FIXTURES PER POLE.

TOWERS L-A1 AND L-A2 SHALL BE PROVIDED WITH MAXIMUM AVAILABLE SHIELDING.

625, LIGHT TOWER REMOVED, AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF REMOVING AN EXISTING LIGHT TOWER INCLUDING THE LUMINAIRE AND DISCONNECT CIRCUITRY. THE LIGHT TOWER SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE PROPERLY DISPOSED OF OFF OF THE PROJECT SITE.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID UNDER CMS ITEM 625, "LIGHT TOWER REMOVED, AS PER PLAN" FOR EACH POLE REMOVED WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

LIGHTING

ENGINEERS SEAL:

STATE OF OHIO
HUIYING XIN
65523
REGISTERED
PROFESSIONAL ENGINEER

SIGNED: Huiying Xin
DATE: 1/3/2018

CALCULATED CX
CHECKED RJS

LIGHTING GENERAL NOTES

TUS-39-12.64

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SHEET NO.	REFERENCE NO.	ROADWAY	STATION FROM	STATION TO	SIDE	625 CONNECTION, FUSED PULL APART	625 CONNECTION, UNFUSED PERMANENT	625 LIGHT TOWER, BBBB100	625 LIGHT TOWER, BBBB110	625 LIGHT TOWER, BBBB120	625 LIGHT TOWER, BBBBBB110	625 LIGHT TOWER, BBBBBB120	625 LIGHT TOWER FOUNDATION, 36" X 25' DEEP	625 NO. 4 AWG 2400 VOLT DISTRIBUTION CABLE	625 NO. 2 AWG 2400 VOLT DISTRIBUTION CABLE	625 1-1/2" DUCT CABLE WITH THREE NO. 4 AWG 2400 VOLT CABLES	625 1-1/2" DUCT CABLE WITH THREE NO. 2 AWG 2400 VOLT CABLES	625 CONDUIT, 3", 725.04	625 CONDUIT, JACKED OR DRILLED, 3", 725.04	625 LUMINAIRE, HIGH MAST, SYMMETRIC, 400 WATT, HIGH PRESSURE SODIUM, 480 VOLT, AS PER PLAN	625 LUMINAIRE, HIGH MAST, ASYMMETRIC, 400 WATT, HIGH PRESSURE SODIUM, 480 VOLT, AS PER PLAN	625 TRENCH	625 PULL BOX, 725.08, 18"	625 PULL BOX, 725.08, 24"	625 GROUND ROD	625 POWER SERVICE, AS PER PLAN	625 PLASTIC CAUTION TAPE	625 PULL BOX CLEANED	625 LIGHT TOWER REMOVED, AS PER PLAN	625 POWER SERVICE REMOVED	625 LIGHT TOWER FOUNDATION REMOVED	625 DISCONNECT CIRCUIT
						EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	FT	FT	FT	FT	FT	FT	EACH	EACH	FT	EACH	EACH	EACH	EACH	FT	EACH	EACH	EACH	EACH	EACH
			CIRCUIT 'C'																													
83	L-C1	I-77	78+31	77+67	RT	2										77						67					67					1
83	L-C2	I-77	77+80	77+67	RT	2								210					60													1
83	PB-C1	I-77	77+67	76+49	RT		3									135						125	1				125					
83	L-C3	I-77	76+49	75+10	RT	2										155						145					145					1
83	L-C4	I-77	75+10	74+03	RT	2										119						109					109					1
83	L-C5	I-77	73+40	74+03	RT	2										76						66					66					1
83	PB-C2	I-77	74+03	74+03	RT		3							597					189				1									
83	L-C6	I-77	72+08	74+03	LT	2										202						192					192					1
83	PB-C3	I-77	74+03	75+03	LT		3									108						98	1				98					
83	L-C7	I-77	75+03	4+95	LT	2										1284						1274					1274					1
84	L-C8	RAMP C	4+95	54+55	RT				1				1			475					4	465			2		465					
85	L-C9	SR 39	53+11	54+55	RT			1					1			49					4	39			2		39					
85	PB-C4	SR 39	54+55	54+90	RT		6							714					109					1								
			CIRCUIT 'B'																													
83	L-B1	RAMP F	16+61	11+15	LT			1					1			575					4	565			2		565					
84	L-B2	RAMP F	11+15	9+00	LT					1			1			239					4	229			2		229					
84	PB-E1	RAMP F	9+00	7+61	LT		3							444														1				
84	PB-E2	RAMP F	7+61	5+80	LT		3									191						181					181	1				
84	L-B3	RAMP E	6+30	5+78	RT							1	1			121				6		111			2		111					
84	PB-B2	RAMP E	5+78	5+80	RT		3							237					69				1									
84	PB-B1	RAMP F	5+80	3+49	LT		3									253						243	1				243					
84	L-B4	RAMP F	3+49	64+36	LT				1				1			315					4	305			2		305					
85	L-B5	SR 39	64+15	64+23	LT				1				1			35					4	25			2		25					
85	PB-B4	SR 39	64+23	64+36	LT		3							369					113				1									
85	PB-B3	SR 39	64+36	63+54	RT		3							276					82				1									
85	PB-B5	SR 39	63+54	58+81	RT		3									475						465	1				457					
84	L-B6	I-77	89+40	58+81	LT							1	1			352				6		342			2		342					
85	PB-B6	SR 39	58+81	55+62	RT		3									345						335	1				335					
85	PB-B7	SR 39	55+62	54+55	RT		3							309					93				1									
			CIRCUIT 'A'																													
87	L-A1	I-77	118+75	113+10	RT				1				1				607				4	597			2		597					
87	L-A2	I-77	113+10	108+71	RT				1				1				464				4	454			2		454					
86	L-A4	I-77	101+96	107+57	RT				1				1				625				4	615			2		615					
86	L-A3	I-77	107+57	108+71	RT				1				1				146				4	136			2		136					
86	PB-A1	I-77	108+71	108+71	RT		3								696				222				1									
86	L-A5	I-77	108+85	108+71	LT				1				1				35				4	25			2		25					
86	PB-A2	I-77	108+71	103+36	LT		3										550					540	1				540					
86	L-A6	I-77	103+16	103+20	LT						1		1				30			6		20			2		20					
86	PB-A4	I-77	103+20	103+36	LT		3								270				80				1									
86	PB-A3	I-77	103+36	54+90	LT		3										1037					1027	1				1027					
85	PB-A5	SR 39	54+90	54+63	LT		9							288	144			38				38		1			38					
85	PS-1	SR 39	54+63		LT																					1						
83	R-T1	RAMP F	16+91		LT																								1		1	
84	R-T2	RAMP F	10+85		LT																								1		1	
84	R-T3	RAMP F	3+79		LT																								1		1	
84	R-T4	I-77	85+45		RT																								1		1	
84	R-T5	RAMP C	4+65		RT																								1		1	
85	R-T6	SR 39	64+43		LT																								1		1	
85	R-T7	SR 39	53+46		RT																								1		1	
86	R-T8	I-77	102+16		RT																								1		1	
86	R-T9	I-77	102+78		LT																								1		1	
86	R-T10	I-77	108+37		LT																								1		1	
87	R-T11	I-77	113+40		RT																								1		1	
87	R-T12	I-77	119+05		RT																								1		1	
85	R-PS	SR 39	55+10		LT																									1		1
SUBTOTAL						14	63	2	8	1	1	2	14	3444	1110	5581	3494	38	1017	18	44	8833	14	2	28	1	8825	2	12	1	12	8

CALCULATED CX
CHECKED RJS

LIGHTING SUBSUMMARY

TUS-39-12.64

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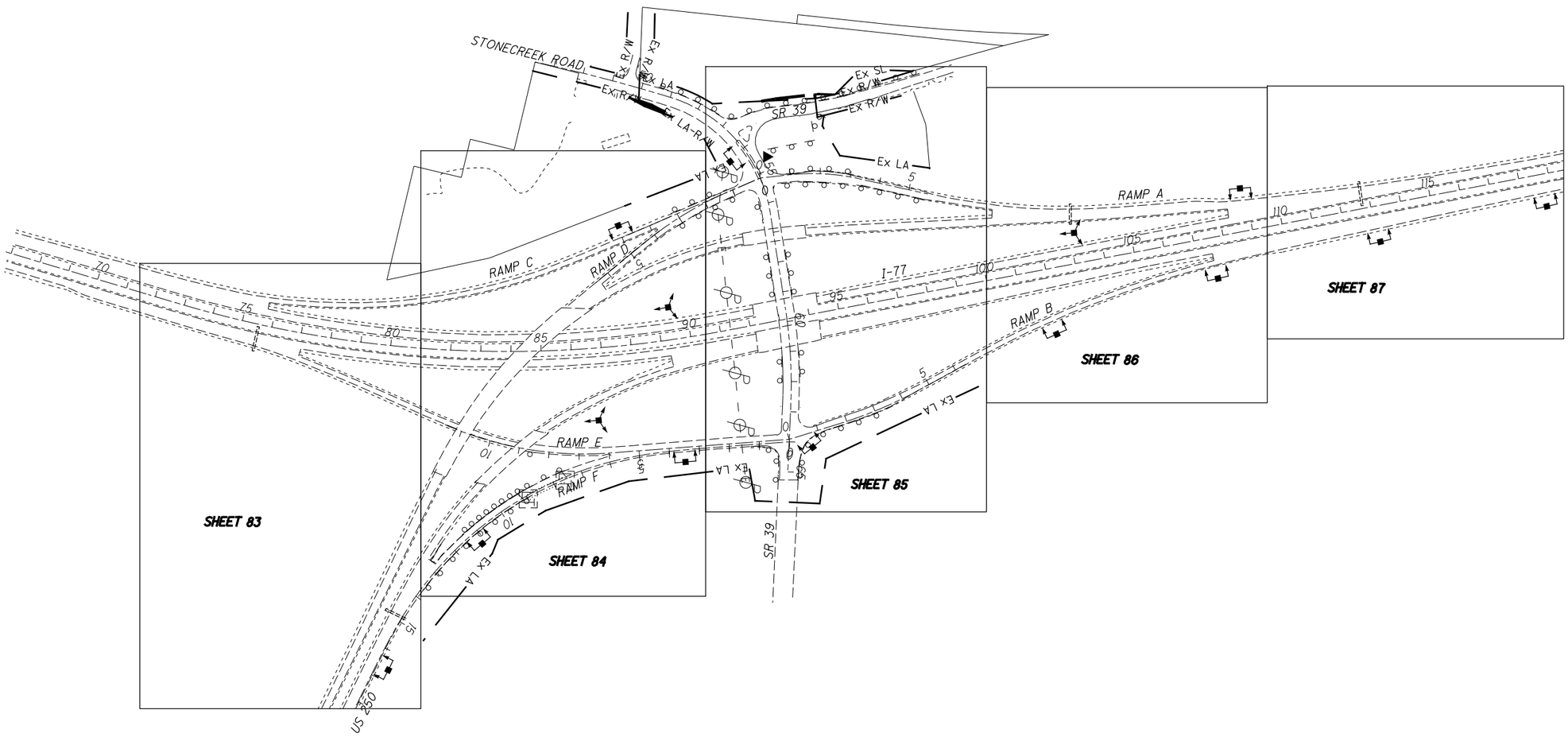

HORIZONTAL SCALE IN FEET
0 100 200 400

CALCULATED CX
CHECKED RJS

LIGHTING SCHEMATIC PLAN

TUS-39-12.64

82
92

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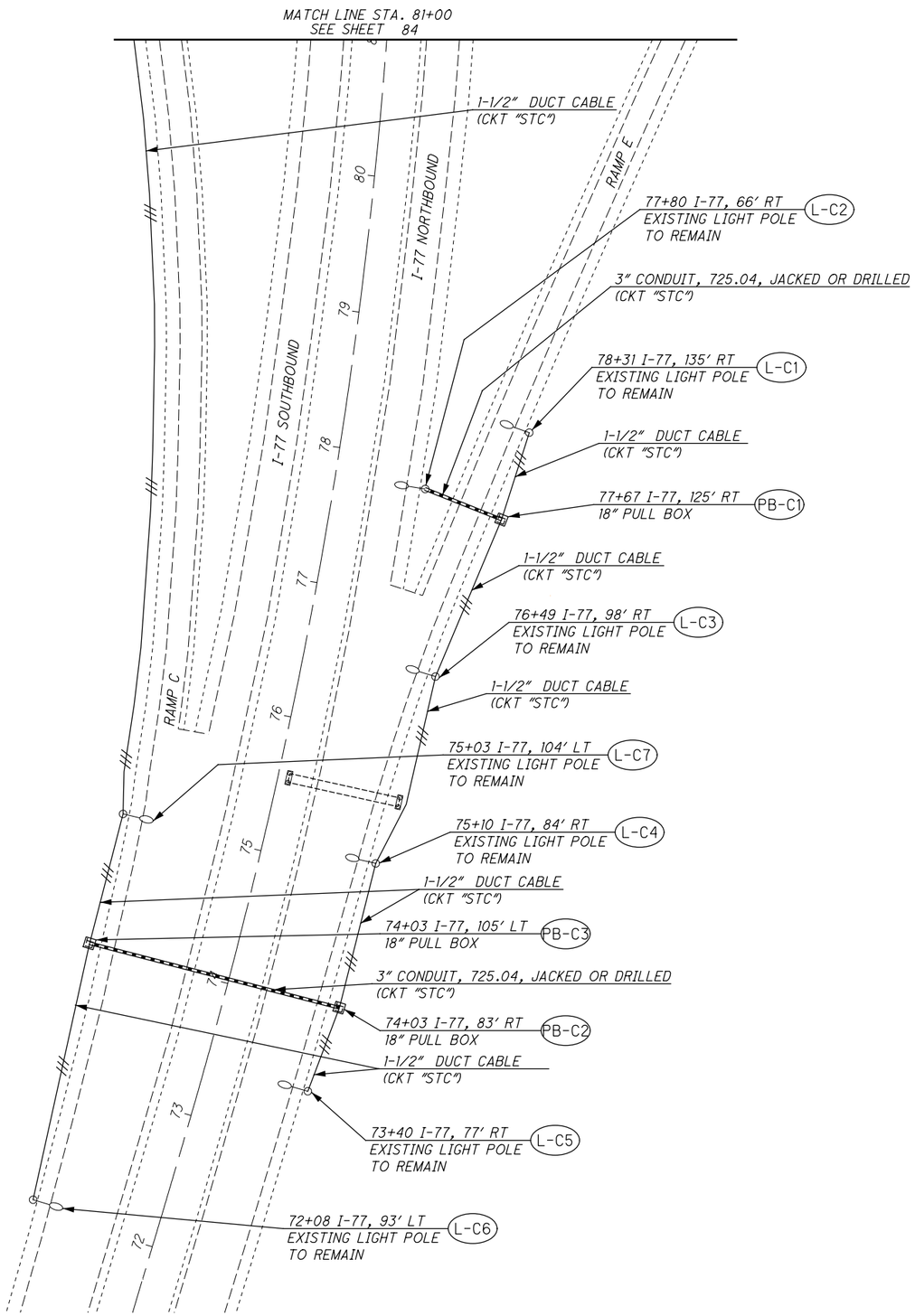

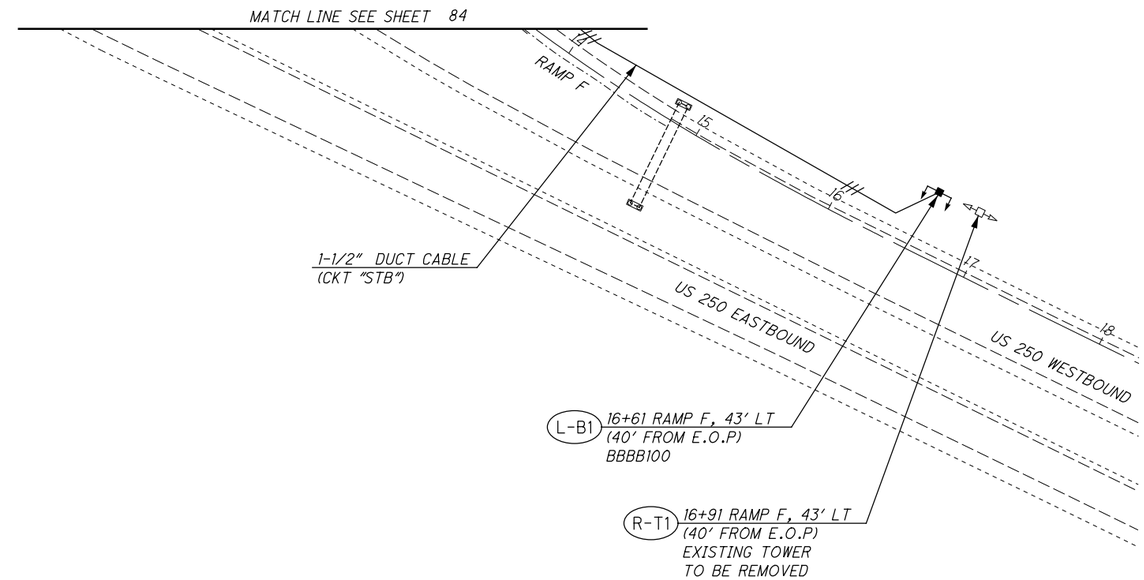

LEGEND

- LIGHT TOWER W/ 6-400 WATT HPS LUMINAIRES. TYPE V (SYMMETRICAL) STATION, OFFSET FROM ℄ (OFFSET FROM E.O.P)
- LIGHT TOWER W/ 4-400 WATT HPS LUMINAIRES. TYPE III (ASYMMETRICAL) STATION, OFFSET FROM ℄ (OFFSET FROM E.O.P)
- EXISTING LIGHT POLE TO REMAIN
- EXISTING LIGHT TOWER TO BE REMOVED
- 1-1/2" DUCT CABLE WITH THREE CABLES, 2400 VOLT, SIZE AS NOTED IN PLAN
- 2" OR 3" CONDUIT, 725.04 WITH DISBRIBUTION CABLES, SIZE AS NOTED IN PLAN
- POWER SERVICE, 240/480 V, 3-WIRE, SINGLE PHASE
- LT PB-X — PULL BOX IDENTIFICATION NUMBER
- L-A1 — TOWER/POLE IDENTIFICATION NUMBER
- R-T1 — LIGHTING TOWER REMOVAL
- R-PS — POWER SERVICE REMOVAL
- E — EXISTING PULL BOX

FOR CIRCUIT DIAGRAM SEE SHEET 88.

N

0 25 50 100
HORIZONTAL SCALE IN FEET

CALCULATED CX
CHECKED RJS

LIGHTING PLAN
STA. 71+50 TO STA. 81+00

TUS-39-12.64

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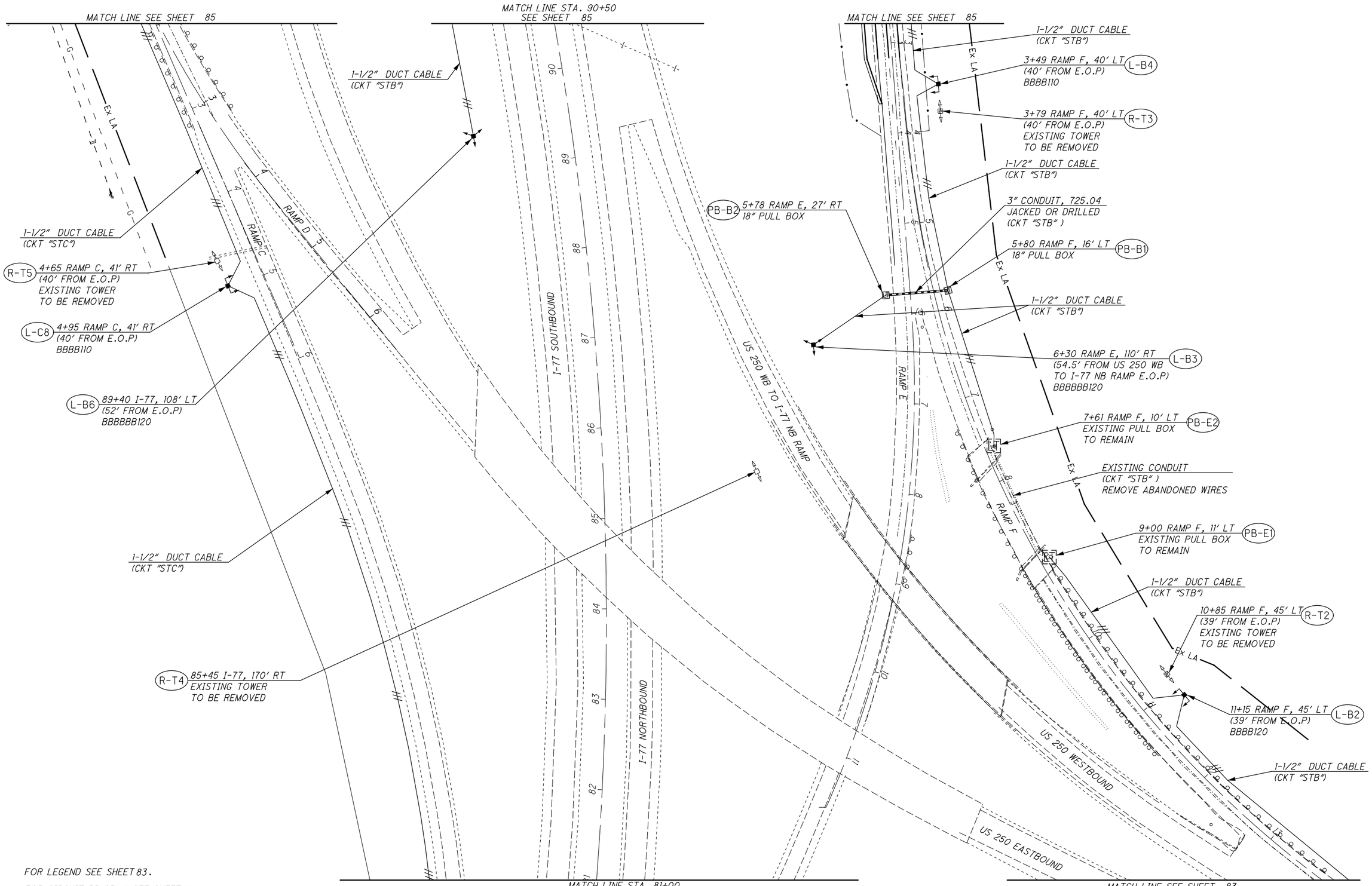

FOR LEGEND SEE SHEET 83.

FOR CIRCUIT DIAGRAM SEE SHEET 88.

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CX
CHECKED RJS

LIGHTING PLAN
STA. 81+00 TO STA. 90+50

TUS-39-12.64

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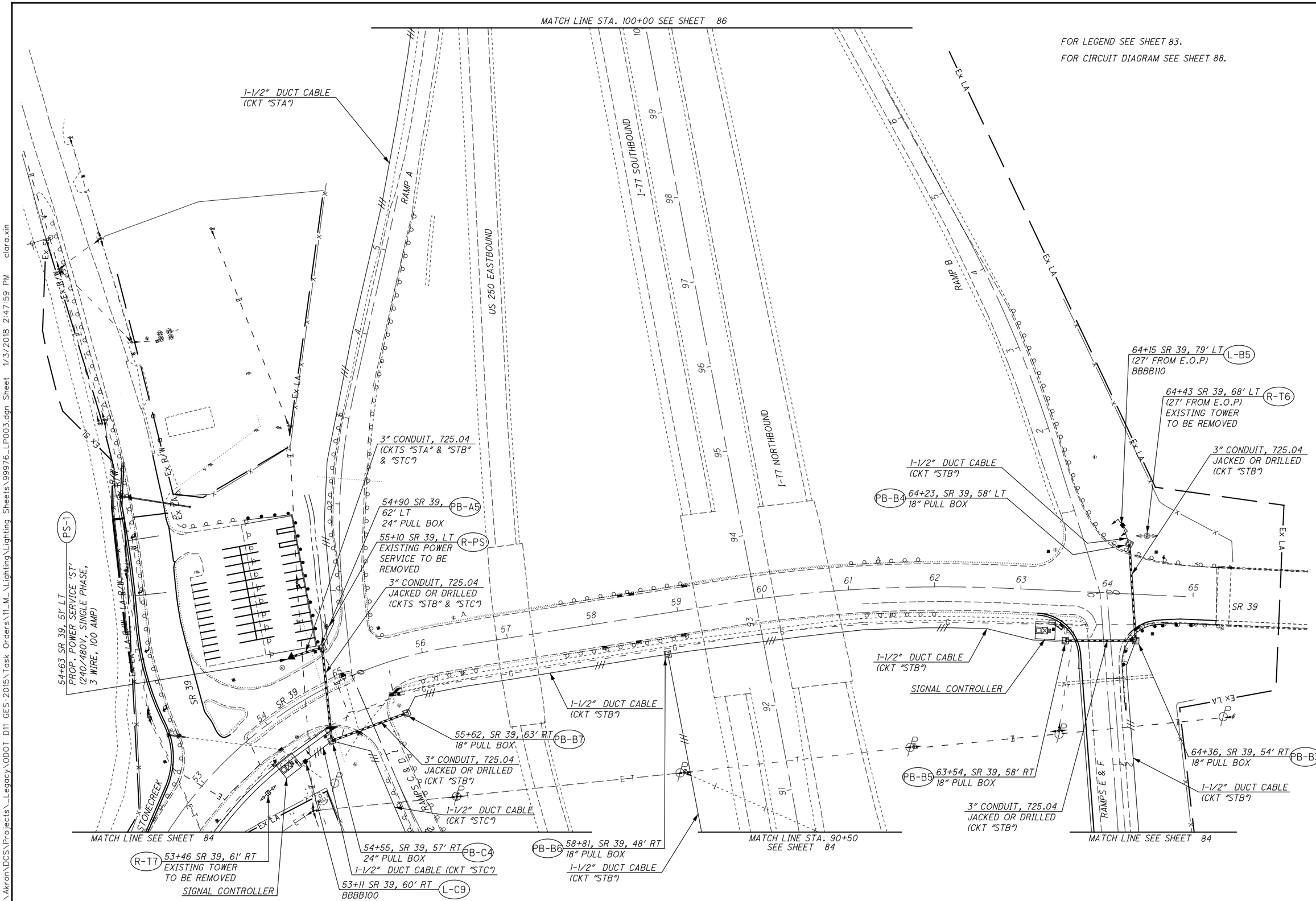

LIGHTING PLAN
STA. 90+50 TO STA. 100+00

TUS-39-12.64

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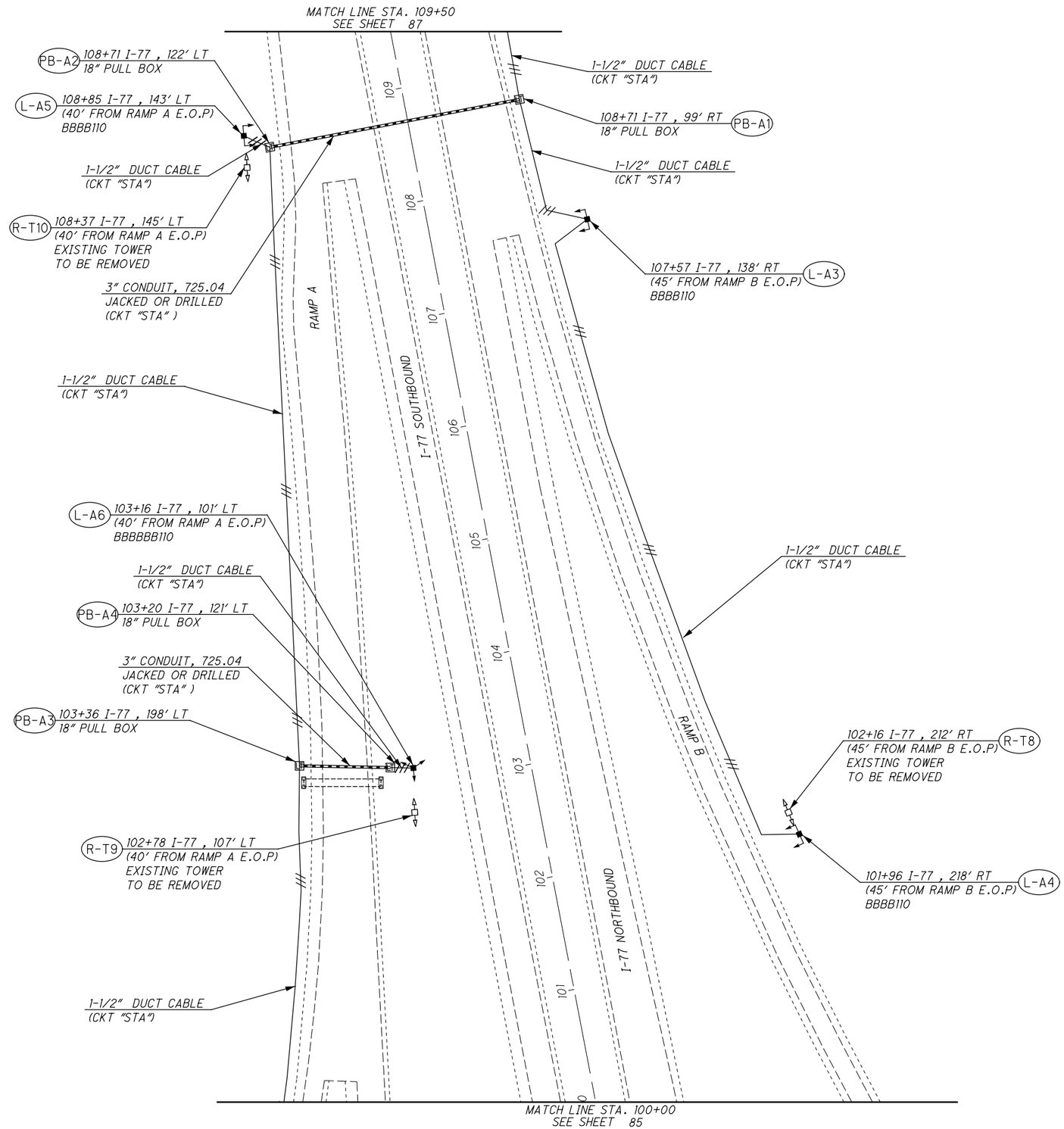
FOR LEGEND SEE SHEET 83.

FOR CIRCUIT DIAGRAM SEE SHEET 88.



HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CX
CHECKED RJS

LIGHTING PLAN
STA. 100+00 TO STA. 109+50

TUS-39-12.64

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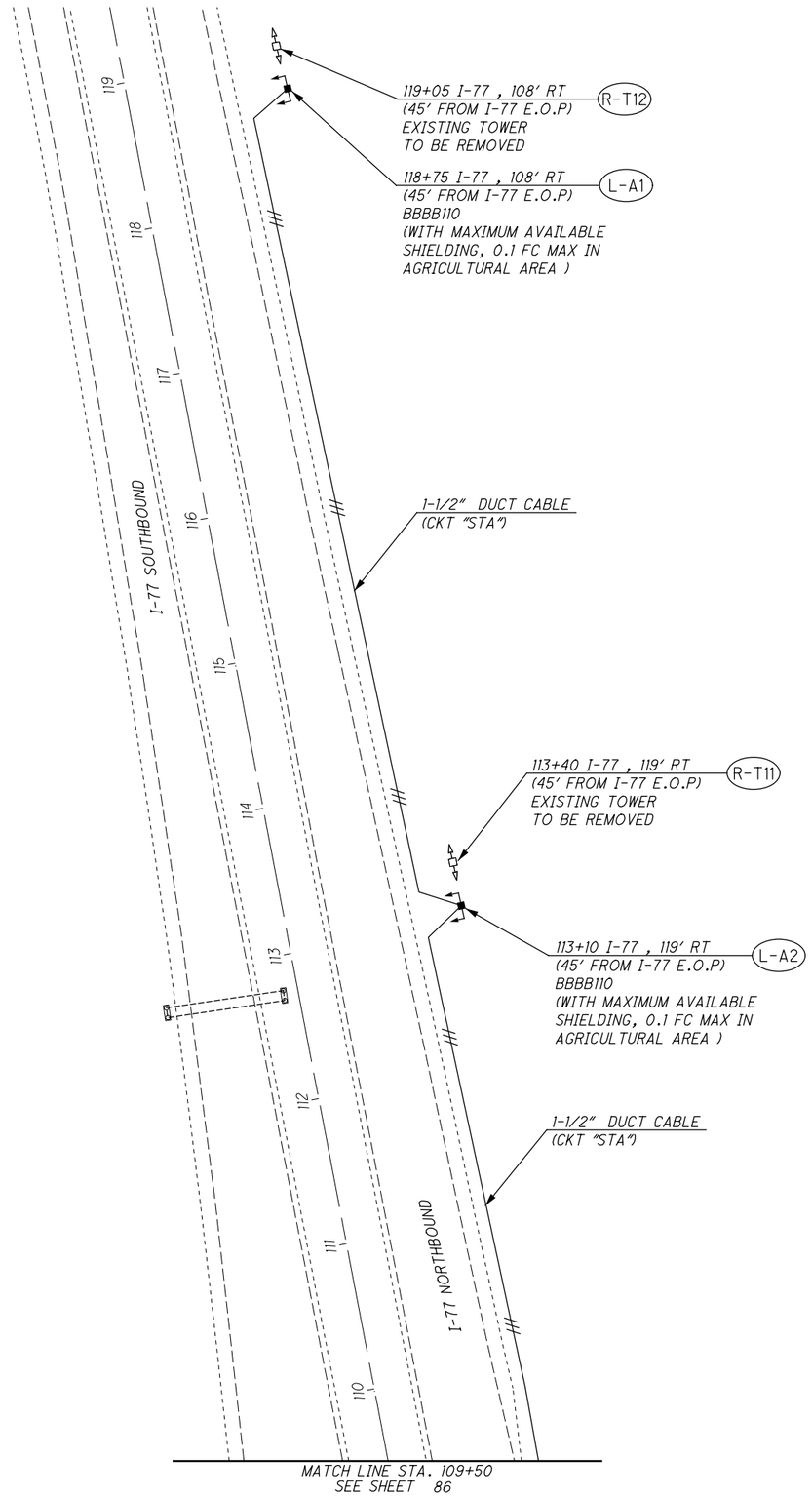
FOR LEGEND SEE SHEET 83.

FOR CIRCUIT DIAGRAM SEE SHEET 88.



HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CX
CHECKED RJS

LIGHTING PLAN
STA. 109+50 TO STA. 119+50

TUS-39-12.64

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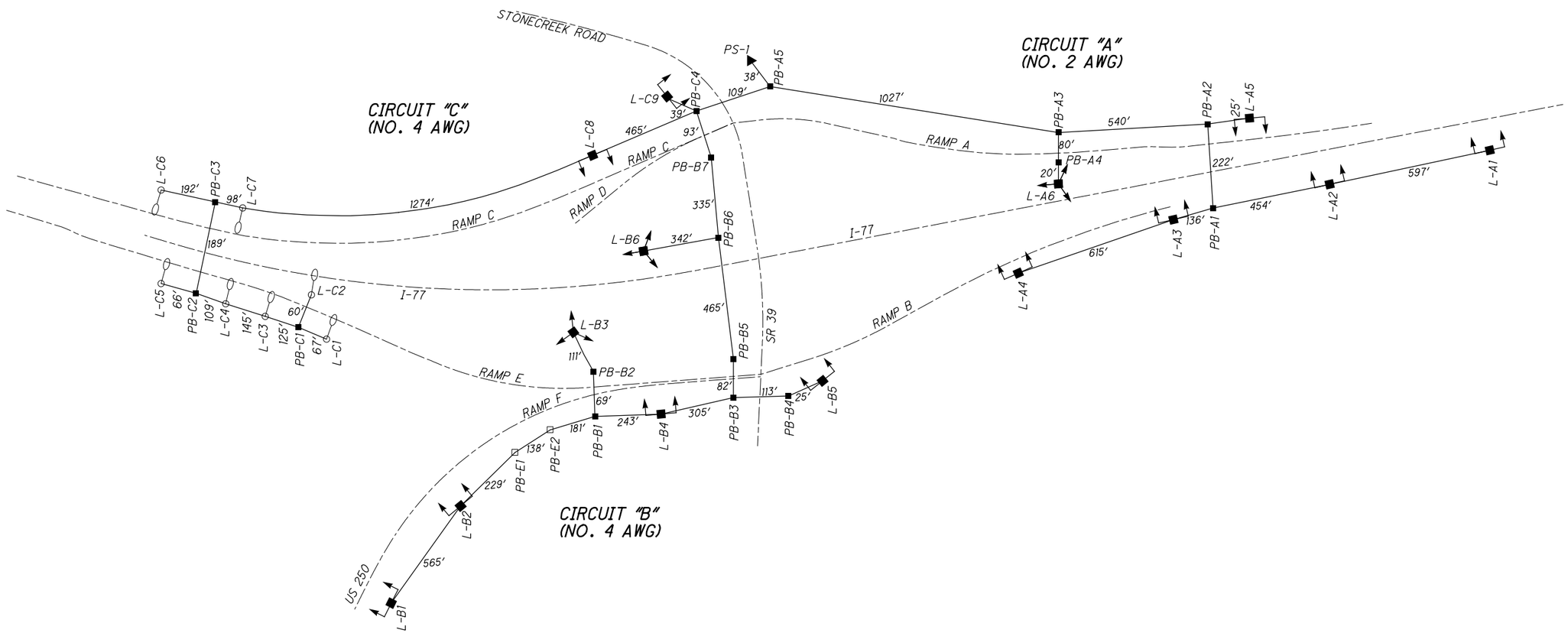
POWER SERVICE DATA									
POWER SERVICE	LINE VOLTAGE (VOLTS)	CONNECTED LOAD (KVA)	SERVICE ENTRANCE CABLE (AWG)	ENCLOSURE RATING (AMPS)	CIRCUIT NO.	CIRCUIT LOAD (AMPS)	CIRCUIT FUSE SIZE (AMPS)	CIRCUIT CABLE SIZE (AWG)	MAINTAINING AGENCY
PS-1	480	34.55	2/0	100	A	28.60	60	2	ODOT
					B	30.80	60	4	
					C	12.58	30	4	



LEGEND

- LIGHT TOWER W/ 6-400 WATT HPS LUMINAIRES. TYPE V (SYMMETRICAL)
- LIGHT TOWER W/ 4-400 WATT HPS LUMINAIRES. TYPE III (ASYMMETRICAL)
- EXISTING LIGHT POLE TO REMAIN
- PULL BOX
- POWER SERVICE, 240/480 V, 3-WIRE, SINGLE PHASE
- 3-WIRE, 2400V DISTRIBUTION CABLES PER CIRCUIT

TOWER ID	ALIGNMENT	STATION	OFFSET (FT)	SIDE	GROUND ELEVATION @ TOWER (FT)	PAVEMENT ELEVATION (FT)	TOWER HEIGHT	NUMBER OF LUMINAIRES
L-A1	I-77	118+75	108	RT.	866.7	873.6	110	4
L-A2	I-77	113+10	119	RT.	867.0	872.5	110	4
L-A3	I-77	107+57	138	RT.	866.9	878.6	110	4
L-A4	I-77	101+96	218	RT.	864.1	878.2	110	4
L-A5	I-77	108+85	143	LT.	869.6	876.9	110	4
L-A6	I-77	103+16	101	LT.	876.5	886.8	110	6
L-B1	RAMP F	16+61	43	LT.	889.8	891.7	100	4
L-B2	RAMP F	11+15	45	LT.	861.6	879.3	120	4
L-B3	US 250 WB TO I77 NB RAMP	6+30 (RAMP E)	54.5	RT.	864.3	881.5	120	6
L-B4	RAMP F	3+49	40	LT.	860.3	866.8	110	4
L-B5	SR 39	64+15	79	LT.	864.9	869.9	110	4
L-B6	I-77	89+40	108	LT.	863.3	881.0	120	6
L-C8	RAMP C	4+95	41	RT.	874.7	886.9	110	4
L-C9	SR 39	53+11	60	RT.	871.2	875.5	100	4

CALCULATED CX
CHECKED RJS

LIGHTING CIRCUIT DIAGRAM

TUS-39-12.64

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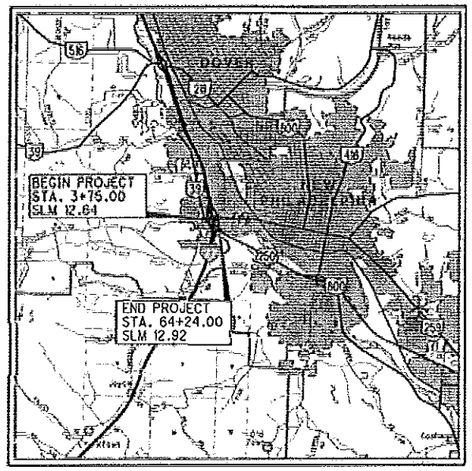
RIGHT OF WAY LEGEND SHEET
TUS-39-12.64

TUSCARAWAS COUNTY
CITY OF NEW PHILADELPHIA
DOVER TOWNSHIP
SECOND QUARTER, T. 8, R. 2
UNITED STATES MILITARY DISTRICT



LOCATION MAP

LATITUDE: 40°29'35" *LONGITUDE: 81°28'50"*

SCALE IN MILES

0 1 2 3 4

N

PROJECT DESCRIPTION

INTERSECTION IMPROVEMENTS AT S.R. 39 / C.R. 21 AND S.R. 39 / IR 77, US 250 NB OFF RAMP. WORK INCLUDES RIGHT TURN CONSTRUCTION AT THE S.R. 39/ C.R. 21 INTERSECTION, LEFT TURN LANE CONSTRUCTION AT THE S.R. 39/ IR 77, US 250 NB OFF RAMP INTERSECTION AND SIGNAL HARDWARE UPGRADES.

PLANS PREPARED BY:

FIRM NAME: ODOT D-9 PLANNING & ENGINEERING
R/W DESIGNER: David A Barstow II
R/W REVIEWER: J. Carice Jameson
FIELD REVIEWER: J. Carice Jameson
PRELIMINARY FIELD REVIEW DATE: N/A
TRACINGS FIELD REVIEW DATE: 3/10/17
OWNERSHIP UPDATED BY: J. Carice Jameson
DATE COMPLETED: 3/15/17
PLAN COMPLETION DATE: 3/15/17

INDEX OF SHEETS:

LEGEND	1
PROPERTY MAP	2
SUMMARY OF ADDITIONAL R/W	2
R/W DETAIL - STA. 1+00 TO 5+00	3
R/W DETAIL - SR 39 & CR 21	4

MONUMENT LEGEND

- EXISTING R/W MONUMENT BOX
- PROPOSED R/W MONUMENT BOX
- EXISTING CONCRETE MONUMENT
- PROPOSED CONCRETE MONUMENT
- RAILROAD SPIKE FOUND
- RAILROAD SPIKE SET
- IRON PIN FOUND
- IRON PIN FOUND W/ ID CAP
- IRON PIN SET W/ ID CAP
- IRON PIPE FOUND
- IRON PIPE SET
- P.K. NAIL FOUND
- P.K. NAIL SET

STRUCTURE KEY

- RESIDENTIAL
- COMMERCIAL
- OUT-BUILDING

TYPES OF TITLE LEGEND:
WDR = FEE SIMPLE WITH RESERVATION OF MINERAL RIGHTS
WLR = FEE SIMPLE WITH LIMITED ACCESS AND RESERAVTION OF MINERAL RIGHTS
SH = STANDARD HIGHWAY EASEMENT
LA = LIMITED ACCESS EASEMENT
T = TEMPORARY EASEMENT
SL = SLOPE EASEMENT

UTILITIES

AEP TRANSMISSION
ATTN: BARBARA DUNLAP
700 MORRISON ROAD
GAHANNA, OHIO 43230
614-552-1893

RED HILL DEVELOPMENT
ATTN: CHRIS KIMBLE
3596 S.R. 39 NW
DOVER, OHIO 44622
330-365-3054

CITY OF DOVER
ATTN: DAVE DOUGLAS
110 EAST 3RD STREET
DOVER, OHIO 44622
330-343-6626

CITY OF NEW PHILADELPHIA
ATTN: THE HONORABLE
JOEL DAY
150 EAST HIGH AVENUE
NEW PHILADELHPIA, OHIO 44663
330-364-4491

AEP OHIO POWER COMPANY
ATTN: KATHY MOSSBARGER
P.O. BOX 24400
CANTON, OHIO 44701
330-438-7061

TIME WARNER CABLE
ATTN: STEVE WEAVER
5520 WHIPPLE NW
NORTH CANTON, OHIO 44720
330-555-4524

FRONTIER COMMUNICATIONS
ATTN: LARRY WENDELL
1121 TUSCARAWAS AVENUE, NW
NEW PHILADELPHIA, OHIO 44663
330-364-0510

HORIZON CHILLICOTHE TELEPHONE
ATTN: RAY SPOUTZ
861 ORANGE STREET
P.O. BOX 480
CHILLICOTHE, OHIO 45601
740-772-8386

DOMINION
ATTN: JOHN MEERDINK
320 SPRINGSIDE DRIVE, SUITE 320
AKRON, OHIO 44333
330-664-2467

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.

CONVENTIONAL SYMBOLS

Corporation Line
Center Line
Right of Way (Ex) — Ex R/W
Right of Way (Pr) — R/W
Limtec Access — LA-R/W
Temporary Right of Way — TWP
Guardrail (Ex) (Pr)
Construction Limits
Edge of Pavement (Ex)
Edge of Pavement (Pr)
Edge of Shoulder (Ex)
Edge of Shoulder (Pr)
Light (Ex), Telephone Marker (Ex) TEL
Fire Hydrant (Ex), Water Meter (Ex)
Water Valve (Ex), Utility Valve Unknown (Ex.)
Ditch / Creek (Ex)
Ditch / Creek (Pr)
Tree Line (Ex)
Ownership Hook Symbol, Example
Property Line Symbol, Example
Break Line Symbol, Example
Tree (Pr), Tree (Ex), Shrub (Ex)
Tree (Remove), Shrub (Remove)
Evergreen (Ex), Stump
Evergreen (Remove), Stump (Remove)
Wetland (Pr), Grass (Pr), Aerial Target
Post (Ex), Mailbox (Ex), Mailbox (Pr)
Telephone Pole (Ex), Power Pole (Ex)
Light Pole (Ex)

I, Jon Penix, P. S. have conducted a survey of the existing conditions for the Ohio Department of Transportation in September 2015 The results of that survey are contained herein. As a part of this project I have reestablished existing centerline of Right of Way for property takes contained herein. The horizontal coordinates expressed herein are based on the Ohio State Plane Coordinates System North Zone on NAD 83 (CORS 2011) datum. The Project Coordinates (US Survey Feet) are relative to State Plane Grid Coordinates (US Survey Feet) by a Combined Scale Factor of 1.00004706375898. All of my work contained herein was conducted in accordance with Ohio Administrative Code 4733-37 commonly known as "Minimum Standards for Boundary Surveys in the State of Ohio" unless noted. The words I and my as used herein are to mean either myself or someone working under my direct supervision.

Jon R. Penix
Jon Penix, Professional Land Surveyor 8328 Date: 3-15-2017

SURVEYOR'S SEAL

STATE OF OHIO JON R. PENIX 8328 PROFESSIONAL SURVEYOR

I, J. Carice Jameson, P. S., have reestablished the locations of the existing property lines, established the proposed property lines, calculated the Gross Take, present roadway occupied (PRO), Net Take and Net Residue; as well as prepared the legal descriptions necessary to acquire the parcels as shown herein. All of my work contained herein was conducted in accordance with Ohio Administrative Code 4733-37 commonly known as "Minimum Standards for Boundary Surveys in the State of Ohio" unless noted. The words I and my as used herein are to mean either myself or someone working under my direct supervision.

J. Carice Jameson
J. Carice Jameson, Professional Land Surveyor 8166 Date: 3-15-2017

SURVEYOR'S SEAL

STATE OF OHIO J. CARICE JAMESON 8166 PROFESSIONAL SURVEYOR

FEDERAL PROJECT NO. E150721
PID NO. 99976
CALCULATED DMB CHECKED JCJ

RIGHT OF WAY LEGEND SHEET

TUS-39-12.64

1/4

89/92

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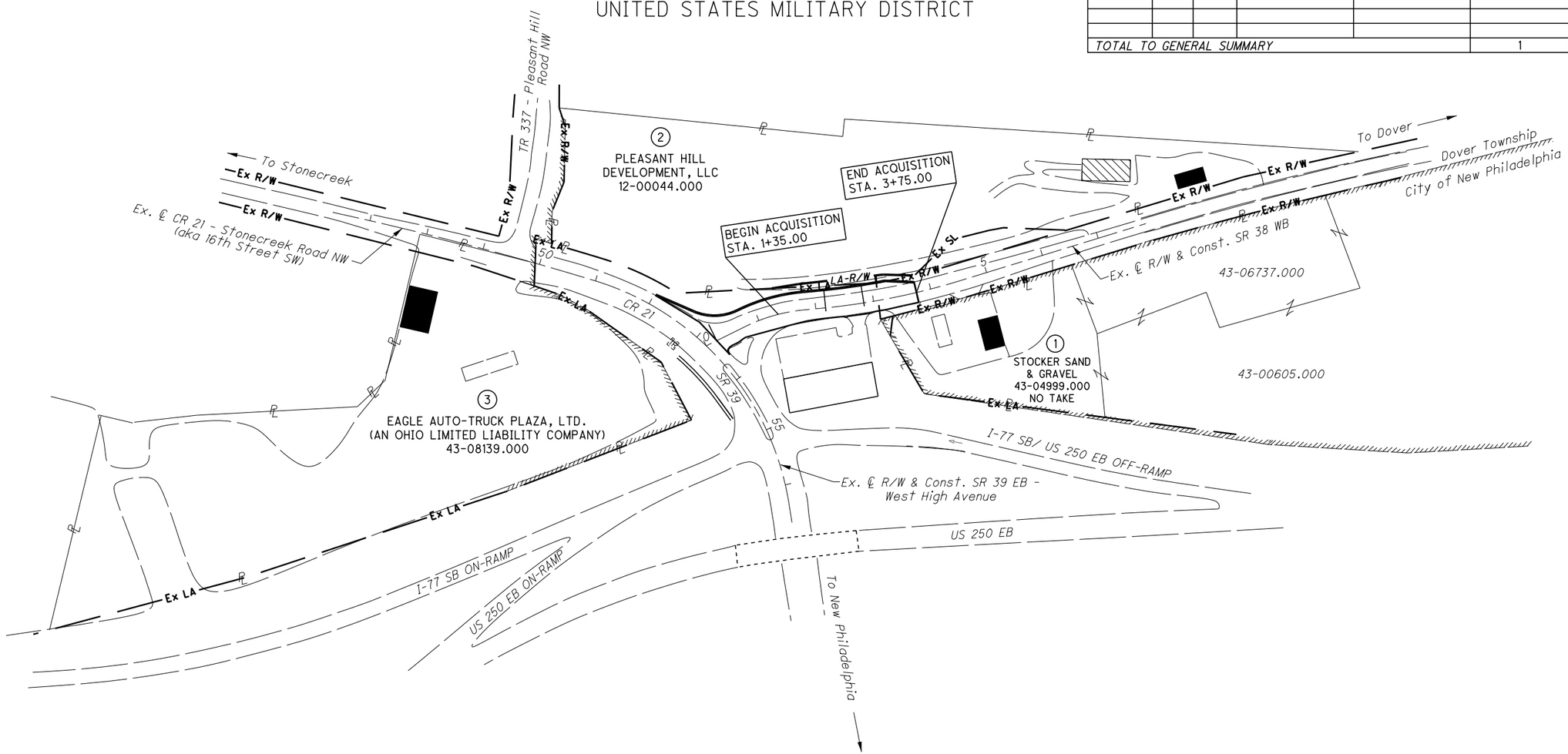
TUSCARAWAS COUNTY
CITY OF NEW PHILADELPHIA
DOVER TOWNSHIP
2ND QTR., T. 8, R. 2
UNITED STATES MILITARY DISTRICT

RIGHT OF WAY MONUMENTS SET INSIDE CONSTRUCTION LIMITS
(i.e. RIGHT OF WAY MONUMENTS EXPECTED TO BE DISTURBED DURING CONSTRUCTION)

STATION	DIST. FROM ℄ OF R/W		STATE PLANE GRID COORDINATES		R/W MONUMENTS	DESCRIPTION
	LEFT	RIGHT	NORTHING (Y)	EASTING (X)		
50+98.91		50.62'	302,513.6711	2,251,838.9114	1	IRON PIN SET
TOTAL TO GENERAL SUMMARY					1	



SUMMARY OF ADDITIONAL RIGHT OF WAY

TOTAL NUMBER OF

2 OWNERSHIPS — 0 TOTAL TAKES

5 PARCELS — 0 OWNERSHIPS W/ STRUCTURES INVOLVED

ALL AREAS IN ACRES

RECORD AREA - TOTAL PRO - NET TAKE = NET RESIDUE

PARCEL NO.	OWNER	SHEET NO.	OWNERS RECORD BOOK	OWNERS RECORD PAGE	AUDITOR'S PARCEL	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUCTURES	NET RESIDUE LEFT	NET RESIDUE RIGHT	TYPE FUND	REMARKS	AS ACQUIRED BOOK	AS ACQUIRED PAGE
1	STOCKER SAND AND GRAVEL CO.	3	587	518	43-04999-000	1.413									NO TAKE		
2-WLR	PLEASANT HILL DEVELOPMENT, LLC	3	OR 1236	1506	12-00044-000	5.527	0.000	0.030	0.000	0.030	NO			100%			
2-WDR		3						0.010	0.000	0.010	NO			STATE			
	TOTAL					5.527	0.000	0.040	0.000	0.040		5.487					
3	EAGLE AUTO-TRUCK PLAZA, LTD.	4	696	352	43-08139-000	6.689	0.000								NO TAKE		
	(AN OHIO LIMITED LIABILITY COMPANY)																
														100%			
														STATE			

NOTE:

ALL RIGHT OF WAY ACQUIRED IN THE NAME OF THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION UNLESS OTHERWISE SHOWN.

ALL TEMPORARY PARCELS TO BE OF 24 MONTH DURATION

UNDER NO CIRCUMSTANCES ARE TEMPORARY EASEMENTS TO BE USED FOR STORAGE OF MATERIAL OR EQUIPMENT BY THE CONTRACTOR UNLESS NOTED OTHERWISE.

REV. BY	DATE	DESCRIPTION
D11	1/2/18	REMOVED PARCEL 3 TAKES
D11	12/6/17	REVISED TOWNSHIP NAME

DATE COMPLETED 3/15/17

HORIZONTAL SCALE IN FEET 0 100 200 400

PID NO. 99976

STATE JOB NO. 510085

R/W DESIGNER DMB

R/W REVIEWER JCJ

PROPERTY MAP AND SUMMARY OF ADDITIONAL R/W

TUS-39-12.64

2/4

90/92

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OHIO STATE PLANE COORDINATES, NORTH ZONE
NAD 83(2011)

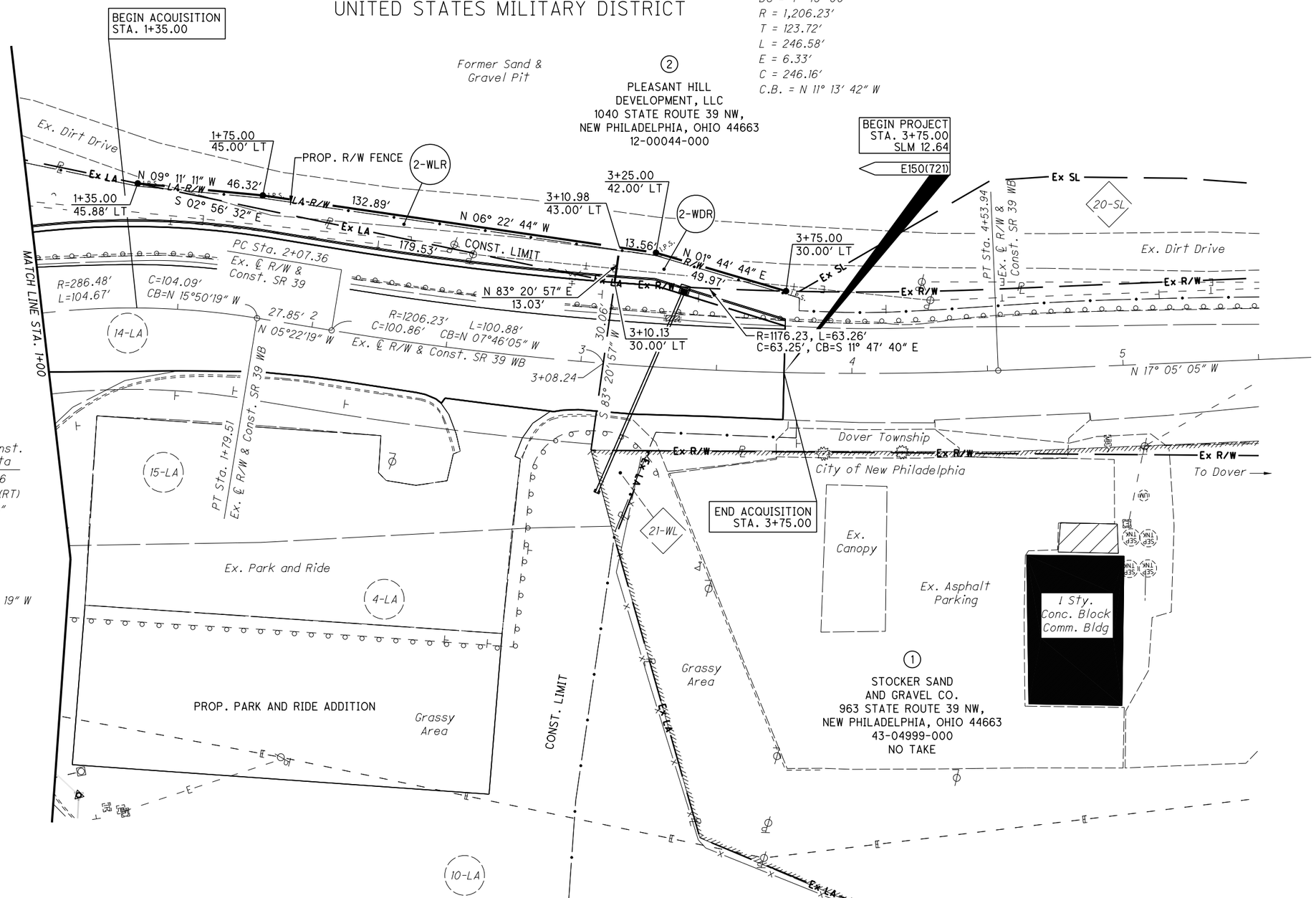
THE EXISTING R/W WIDTH AND LOCATION WERE DETERMINED USING TUS-21-26.33/TUS-250-11.60, DATED 1962 AND TUS-39-(10.03)(12.78), DATED 1998 ON FILE AT THE OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 11 IN NEW PHILADELPHIA.

XX-LA — Limited Access Easement acquired with TUS-21-26.33/TUS-250-11.60 dated 1962

XX-XX — Fee Simple with Limited Access and Slope Easement acquired with TUS-39-(10.03)(12.78) dated 1998

TUSCARAWAS COUNTY
CITY OF NEW PHILADELPHIA
DOVER TOWNSHIP
2ND QTR., T. 8, R. 2
UNITED STATES MILITARY DISTRICT

Ex. ℄ R/W & Const. SR 39 Curve Data
P.I. Sta. 3+31.08
Δ = 11° 42′ 46″ (LT)
Dc = 4° 45′ 00″
R = 1,206.23′
T = 123.72′
L = 246.58′
E = 6.33′
C = 246.16′
C.B. = N 11° 13′ 42″ W



Ex. ℄ R/W & Const. SR 39 Curve Data
P.I. Sta. 1+27.76
Δ = 20° 56′ 00″ (RT)
Dc = 20° 00′ 00″
R = 286.48′
T = 52.92′
L = 104.67′
E = 4.85′
C = 104.09′
C.B. = N 15° 50′ 19″ W

REV. BY	DATE	DESCRIPTION
D11	1/2/18	REVISED SUSPEND ACQUISITION TO END ACQUISITION
D11	12/6/17	REVISED TOWNSHIP NAME

DATE COMPLETED 3/15/17

HORIZONTAL SCALE IN FEET 0 10 20 40

PID NO. 99976

R/W DESIGNER DMB
R/W REVIEWER JCJ

RIGHT OF WAY PLAN
SR 39 - STA. 1+00 TO STA. 5+00

TUS-39-12.64

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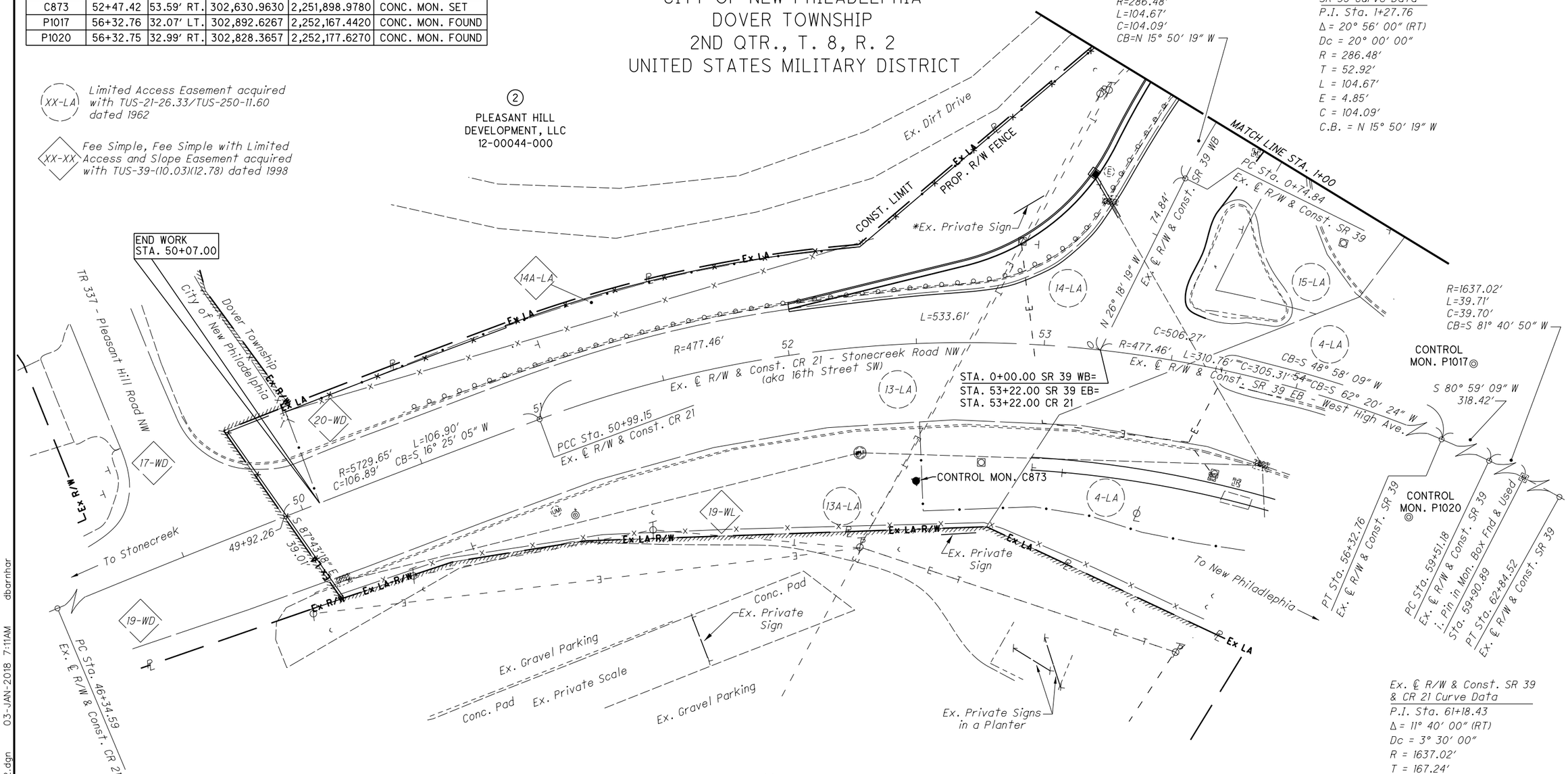
PROJECT CONTROL MONUMENT

CONTROL MON. NO.	S.R. 39 EB ℄ R/W STATION	S.R. 39 EB ℄ R/W OFFSET	NORTHING	EASTING	DESCRIPTION
C873	52+47.42	53.59′ RT.	302,630.9630	2,251,898.9780	CONC. MON. SET
P1017	56+32.76	32.07′ LT.	302,892.6267	2,252,167.4420	CONC. MON. FOUND
P1020	56+32.75	32.99′ RT.	302,828.3657	2,252,177.6270	CONC. MON. FOUND

TUSCARAWAS COUNTY
CITY OF NEW PHILADELPHIA
DOVER TOWNSHIP
2ND QTR., T. 8, R. 2
UNITED STATES MILITARY DISTRICT

XX-LA — Limited Access Easement acquired with TUS-21-26.33/TUS-250-11.60 dated 1962

XX-XX — Fee Simple, Fee Simple with Limited Access and Slope Easement acquired with TUS-39-(10.03)(12.78) dated 1998



Ex. ℄ R/W & Const. SR 39 Curve Data
P.I. Sta. 1+27.76
Δ = 20° 56′ 00″ (RT)
Dc = 20° 00′ 00″
R = 286.48′
T = 52.92′
L = 104.67′
E = 4.85′
C = 104.09′
C.B. = N 15° 50′ 19″ W

Ex. ℄ R/W & Const. SR 39 & CR 21 Curve Data
P.I. Sta. 61+18.43
Δ = 11° 40′ 00″ (RT)
Dc = 3° 30′ 00″
R = 1637.02′
T = 167.24′
L = 333.33′
E = 8.52′
C = 332.76′
C.B. = N 86° 49′ 09″ E

Ex. ℄ R/W & Const. CR 21 Curve Data
P.I. Sta. 48+67.00
Δ = 4° 38′ 44″ (RT)
Dc = 1° 00′ 00″
R = 5,729.65′
T = 232.41′
L = 464.56′
E = 4.71′
C = 464.43′
C.B. = N 14° 37′ 47″ E

3
EAGLE AUTO-TRUCK PLAZA, LTD.
(AN OHIO LIMITED LIABILTY COMPANY)
217 16TH STREET SW,
NEW PHILADLEPHIA, OHIO 44663
43-08139-000

Ex. ℄ R/W & Const. SR 39 & CR 21 Curve Data
P.I. Sta. 53+97.70
Δ = 64° 02′ 00″ (RT)
Dc = 12° 00′ 00″
R = 477.46′
T = 298.55′
L = 533.61′
E = 85.65′
C = 506.27′
C.B. = N 48° 58′ 09″ E

REV. BY	DATE	DESCRIPTION
D11	1/2/18	REMOVED PARCEL 3 TAKES
D11	12/6/17	REVISED TOWNSHIP NAME

DATE COMPLETED 3/15/17

HORIZONTAL SCALE IN FEET 0 10 20 40

PID NO. 99976

R/W DESIGNER DMB
R/W REVIEWER JCJ

RIGHT OF WAY PLAN
SR 39 & CR 21 INTERSECTION

TUS-39-12.64

4/4

92/92

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