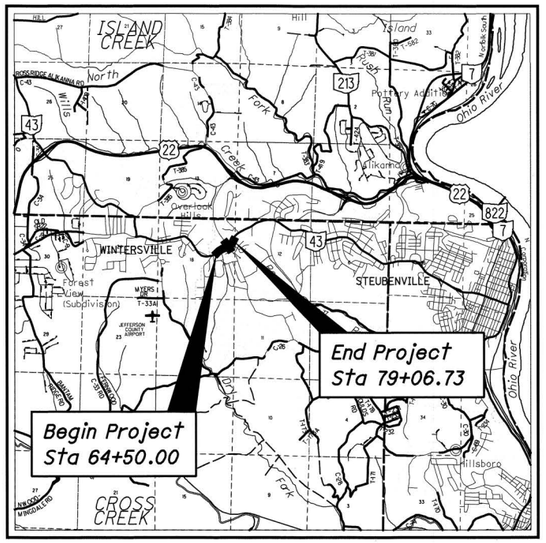
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

JEF-43-4.21

CITY OF STEUBENVILLE
JEFFERSON COUNTY



LOCATION MAP

LATITUDE: 40° 22′ 25″ LONGITUDE: 80° 40′ 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

	SR 43 West Leg	SR 43 East Leg	Douglas Applegate Connector	Lovers Lane
CURRENT ADT (2013)	20,670	13,620	8,090	9,300
DESIGN YEAR ADT (2033)	21,030	13,870	9,000	9,680
DESIGN HOURLY VOLUME (2033)	2,120	1,390	940	1,030
DIRECTIONAL DISTRIBUTION	0.54	0.51	0.51	0.57
TRUCKS (24 HOUR B&C)	0.06	0.06	0.04	0.04
DESIGN SPEED	35 MPH	35 MPH	50 MPH	35 MPH
LEGAL SPEED	35 MPH	35 MPH	50 MPH	35 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	03 Principal Arterial (Urban)	03 Principal Arterial (Urban)	04 Minor Arterial (Urban)	04 Minor Arterial (Urban)
NHS PROJECT	Yes			

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:

450 Grant Street Akron, Ohio 44311
(330) 375-1390 www.envdesigngroup.com

ENGINEERS SEAL:

INDEX OF SHEETS:

STANDARD CONSTRUCTION DRAWINGS

BP-3.1	7/18/14	DM-4.4	1/15/16	MT-97.11	1/20/17	TC-81.21	7/15/16
BP-4.1	7/19/13			MT-99.20	7/19/13	TC-83.10	7/15/16
BP-5.1	7/19/13	MGS-1.1	7/19/13	MT-101.90	7/17/15	TC-83.20	7/15/16
BP-7.1	7/18/14	MGS-2.1	7/19/13	MT-102.20	7/18/14	TC-85.10	7/15/16
		MGS-4.2	7/19/13	MT-105.10	7/19/13	TC-85.20	1/15/16
CB-1.3	1/15/16	MGS-5.2	7/15/16	MT-110.10	7/19/13		
CB-2.2	1/15/16						
CB-2.3	1/15/16	RM-1.1	7/18/14	TC-16.21	10/18/13		
				TC-21.20	7/15/16		
I-1.2	1/15/16	HL-30.11	1/20/17	TC-22.20	1/17/14		
		HL-30.21	1/17/14	TC-41.20	10/18/13		
MH-1.2	1/15/16	HL-40.10	1/20/17	TC-41.40	10/18/13		
				TC-42.20	10/18/13		
DM-1.1	1/15/16	MT-95.31	1/20/17	TC-52.10	10/18/13		
DM-1.2	1/18/13	MT-95.50	10/16/15	TC-52.20	7/15/16		
DM-4.3	1/15/16	MT-97.10	7/18/14	TC-71.10	1/20/17		

SUPPLEMENTAL SPECIFICATIONS	
800-2016	4/20/18
804	1/20/17
813	10/21/16
816	1/20/12
832	1/17/14
895	4/18/14
904	7/15/16
913	1/20/17
995	7/17/15

SPECIAL PROVISIONS

PROJECT DESCRIPTION

WIDENING AND MINOR REALIGNMENT OF SR 43 THROUGH ITS INTERSECTION WITH THE DOUGLAS APPLEGATE CONNECTOR AND LOVERS LANE. PROJECT INCLUDES THE LENGTHENING OF LEFT TURN LANES ON SR 43 AND THE ADDITION OF RIGHT TURN LANES ON SR 43 AND THE DOUGLAS APPLEGATE CONNECTOR. PROJECT INCLUDES RESURFACING, MINOR PAVEMENT REPAIR, CURB RAMPS, DRAINAGE IMPROVEMENTS, PAVEMENT MARKINGS, SIGNS, AND SIGNAL REPLACEMENT.

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA: 1.54 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: 0.25 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA: 4.90 ACRES

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 APPROVE 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.

APPROVED _____
DATE 3/28/18 STEUBENVILLE CITY ENGINEER

APPROVED _____
DATE 3/28/2018 STEUBENVILLE CITY MANAGER

FEDERAL PROJECT NO. E140 (408)
PID NO. 90235
CONSTRUCTION PROJECT NO.
RAILROAD INVOLVEMENT NONE
JEF-43-4.21
1 / 119

(1) *Existing Curve Data:*
P.I. Sta. 58+61.79
Δ = 96° 45′ 00″ (LT)
Dc = 6° 30′ 00″
R = 881.47′
T = 991.95′
L = 1,488.46′
E = 445.54′
C = 1,317.81′
C.B. = S 81° 14′ 36″ E
P.C. = Sta. 48+69.83

(2) *Existing Curve Data:*
P.I. Sta. 68+41.03
Δ = 19° 29′ 30″ (RT)
Dc = 4° 00′ 00″
R = 1,432.39′
T = 246.02′
L = 487.29′
E = 20.97′
C = 484.94′
C.B. = N 60° 07′ 39″ E

(3) *Existing Curve Data:*
P.I. Sta. 75+56.88
Δ = 44° 19′ 30″ (LT)
Dc = 13° 59′ 59″
R = 409.26′
T = 166.70′
L = 316.61′
E = 32.65′
C = 308.77′
C.B. = N 47° 42′ 39″ E

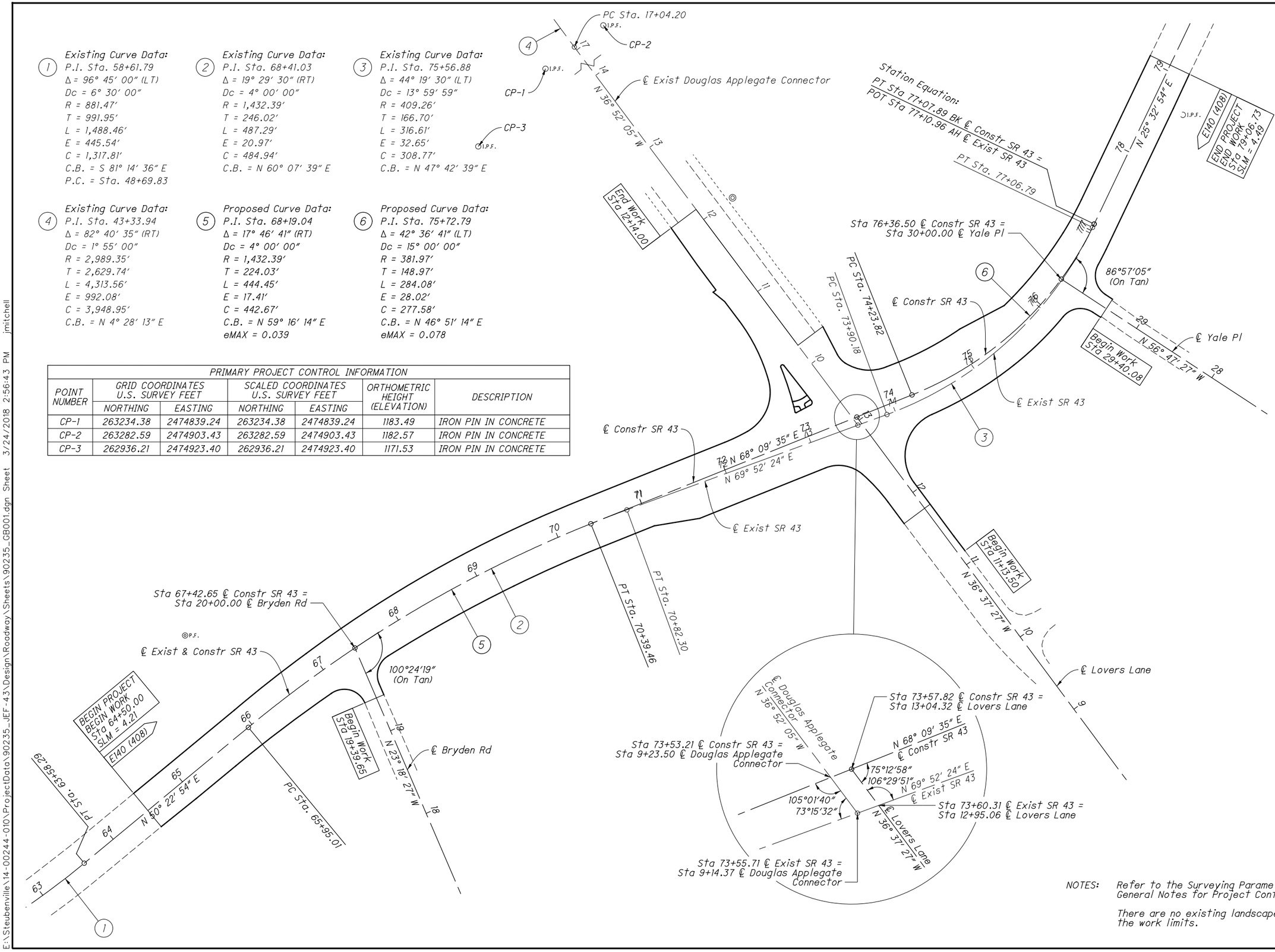
(4) *Existing Curve Data:*
P.I. Sta. 43+33.94
Δ = 82° 40′ 35″ (RT)
Dc = 1° 55′ 00″
R = 2,989.35′
T = 2,629.74′
L = 4,313.56′
E = 992.08′
C = 3,948.95′
C.B. = N 4° 28′ 13″ E

(5) *Proposed Curve Data:*
P.I. Sta. 68+19.04
Δ = 17° 46′ 41″ (RT)
Dc = 4° 00′ 00″
R = 1,432.39′
T = 224.03′
L = 444.45′
E = 17.41′
C = 442.67′
C.B. = N 59° 16′ 14″ E
eMAX = 0.039

(6) *Proposed Curve Data:*
P.I. Sta. 75+72.79
Δ = 42° 36′ 41″ (LT)
Dc = 15° 00′ 00″
R = 381.97′
T = 148.97′
L = 284.08′
E = 28.02′
C = 277.58′
C.B. = N 46° 51′ 14″ E
eMAX = 0.078

PRIMARY PROJECT CONTROL INFORMATION

POINT NUMBER	GRID COORDINATES U.S. SURVEY FEET		SCALED COORDINATES U.S. SURVEY FEET		ORTHOMETRIC HEIGHT (ELEVATION)	DESCRIPTION
	NORTHING	EASTING	NORTHING	EASTING		
CP-1	263234.38	2474839.24	263234.38	2474839.24	1183.49	IRON PIN IN CONCRETE
CP-2	263282.59	2474903.43	263282.59	2474903.43	1182.57	IRON PIN IN CONCRETE
CP-3	262936.21	2474923.40	262936.21	2474923.40	1171.53	IRON PIN IN CONCRETE



NOTES: *Refer to the Surveying Parameters Note in the General Notes for Project Control Information.*

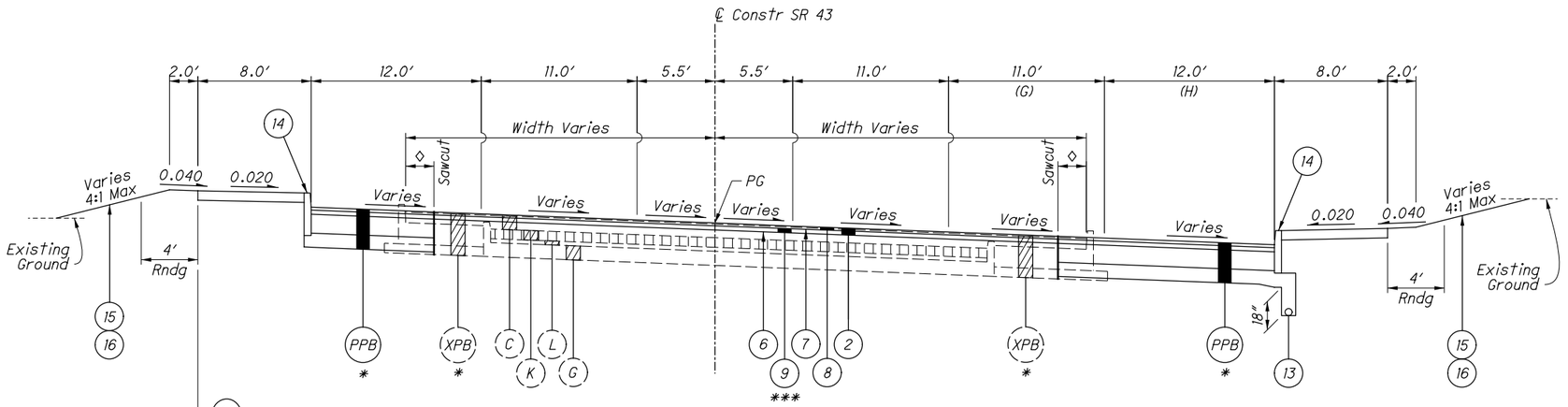
There are no existing landscaped areas within the work limits.

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED JFM
CHECKED BJB

SCHEMATIC PLAN

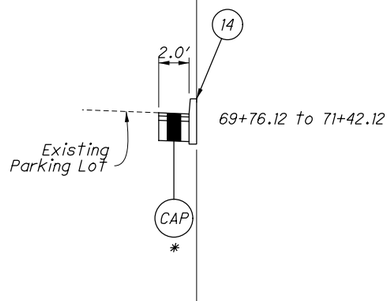
JEF-43-4.21

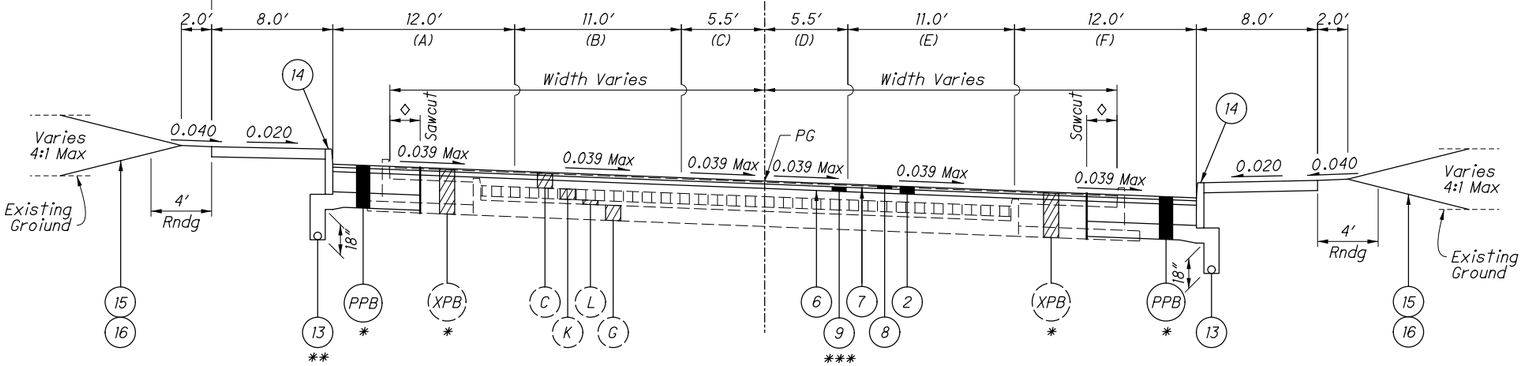


SUPERELEVATED SECTION - SR 43

Sta 71+04.00 to Sta 71+87.50

(G) 71+04.00 to 71+54.00 : Varies from 12.00′ to 11.00′
(H) 71+04.00 to 71+54.00 : Varies from 0.00′ to 12.00′





SUPERELEVATED SECTION - SR 43

Sta 64+50.00 to Sta 71+04.00

(A) 64+50.00 to 65+00.00 : Varies from 12.73′ to 12.62′
65+00.00 to 65+95.01 : 12.62′
65+95.01 to 66+95.01 : Varies from 12.62′ to 12.00′

(B) 64+50.00 to 66+27.84 : 12.00′
66+27.84 to 69+82.00 : Varies from 12.00′ to 11.00′

(C) 64+50.00 to 65+95.01 : 0.00′
65+95.01 to 69+82.00 : Varies from 0.00′ to 5.50′

(D) 64+50.00 to 65+56.93 : 0.00′
65+56.93 to 69+32.00 : Varies from 0.00′ to 5.50′

(E) 64+50.00 to 65+56.93 : 12.00′
65+56.93 to 69+32.00 : Varies from 12.00′ to 11.00′

(F) 64+50.00 to 65+00.00 : Varies from 11.26′ to 12.00′

NOTES

* See Sheet 4 for Pavement Buildup Details
** Sta 64+50.00 to Sta 65+17.92 only
*** Leveling course may be needed, see Sheet 4
◇ 2′ from proposed curb face or 6″ from existing curb face, whichever is greater

LEGEND

This Legend covers all Typical Section sheets. Items listed here are not necessarily used on this particular sheet.

PROPOSED ITEMS:

(1) Item 204 - Subgrade Compaction
(2) Item 254 - Pavement Planing, Asphalt Concrete (T = 3″)
(3) Item 301 - 5″ Asphalt Concrete Base, PG64-22
(4) Item 304 - 6″ Aggregate Base
(5) Item 304 - 8″ Aggregate Base
(6) Item 407 - Non-Tracking Tack Coat (Applied at 'Milled Asphalt Surface' rate)
(7) Item 407 - Non-Tracking Tack Coat (Applied at 'New Asphalt' rate)
(8) Item 441 - 1 ¼″ Fine Graded Polymer Asphalt Concrete, Type A
(9) Item 441 - 1 ¾″ Asphalt Concrete Intermediate Course, Type 2, (448)
(10) Item 441 - 1 ¼″ Asphalt Concrete Surface Course, Type 1, (448), (DRIVEWAYS)
(11) Item 441 - 1 ¾″ Asphalt Concrete Intermediate Course, Type 2, (448), (DRIVEWAYS)
(12) Item 441 - Asphalt Concrete Intermediate Course, Type 2, (448) (for leveling, 1 ¾″ Min - 12″ Max)
(13) Item 605 - 6″ Base Pipe Underdrains
(14) Item 609 - Curb, Type 6
(15) Item 653 - Topsoil Furnished and Placed (T = 4″)
(16) Item 659 - Seeding and Mulching

EXISTING ITEMS:

(A) Existing Asphalt Pavement, T = 3″±
(B) Existing Asphalt Pavement, T = 4″ to 5″
(C) Existing Asphalt Pavement, T = 6 ½″ to 8 ¾″
(D) Existing Asphalt Pavement, T = 7″±
(E) Existing Concrete Base, T = 7″ to 9″
(F) Existing Concrete Base, T = 9″±
(G) Existing Concrete Base, T = Unknown
(H) Existing Aggregate Base, T = 4″±
(I) Existing Aggregate Base, T = 4″ to 5″
(J) Existing Aggregate Base, T = 8±
(K) Existing Brick Base
(L) Existing Slag Base, T = Unknown

TYPICAL SECTIONS

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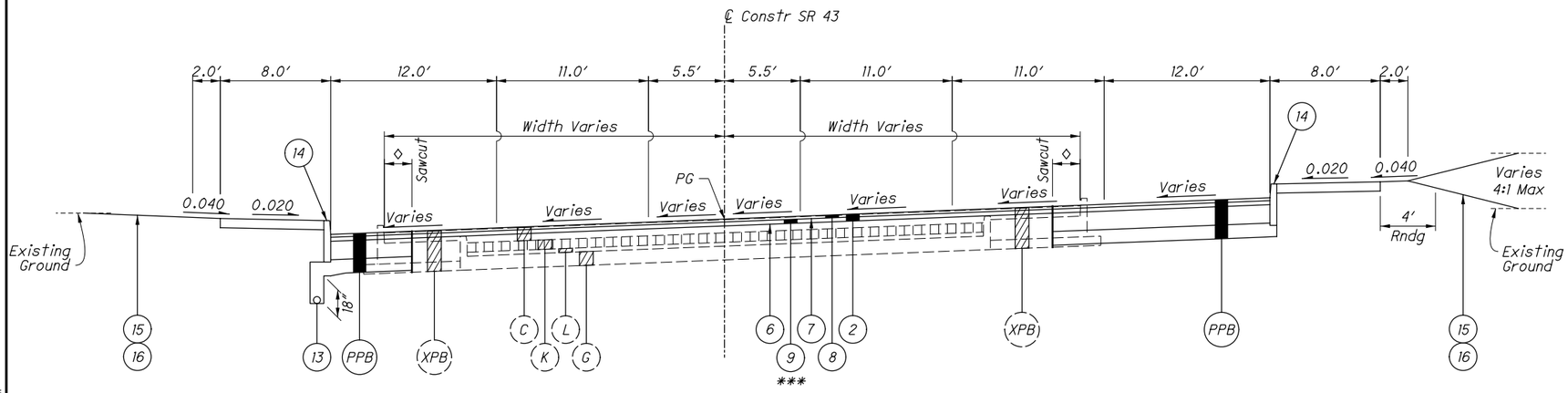

SUPERELEVATED SECTION - SR 43

Sta 71+87.50 to Sta 73+53.21

LEGEND

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PROPOSED ITEMS:

(1) Item 204 - Subgrade Compaction

(2) Item 254 - Pavement Planing, Asphalt Concrete (T = 3″)

(3) Item 301 - 5″ Asphalt Concrete Base, PG64-22

(4) Item 304 - 6″ Aggregate Base

(5) Item 304 - 8″ Aggregate Base

(6) Item 407 - Non-Tracking Tack Coat (Applied at 'Milled Asphalt Surface' rate)

(7) Item 407 - Non-Tracking Tack Coat (Applied at 'New Asphalt' rate)

(8) Item 441 - 1 ¼″ Fine Graded Polymer Asphalt Concrete, Type A

(9) Item 441 - 1 ¾″ Asphalt Concrete Intermediate Course, Type 2, (448)

(10) Item 441 - 1 ¼″ Asphalt Concrete Surface Course, Type 1, (448), (DRIVEWAYS)

(11) Item 441 - 1 ¾″ Asphalt Concrete Intermediate Course, Type 2, (448), (DRIVEWAYS)

(12) Item 441 - Asphalt Concrete Intermediate Course, Type 2, (448) (for leveling, 1 ¾″ Min - 12″ Max)

(13) Item 605 - 6″ Base Pipe Underdrains

(14) Item 609 - Curb, Type 6

(15) Item 653 - Topsoil Furnished and Placed (T = 4″)

(16) Item 659 - Seeding and Mulching

EXISTING ITEMS:

(A) Existing Asphalt Pavement, T = 3″±

(B) Existing Asphalt Pavement, T = 4″ to 5″

(C) Existing Asphalt Pavement, T = 6 ½″ to 8 ¾″

(D) Existing Asphalt Pavement, T = 7″±

(E) Existing Concrete Base, T = 7″ to 9″

(F) Existing Concrete Base, T = 9″±

(G) Existing Concrete Base, T = Unknown

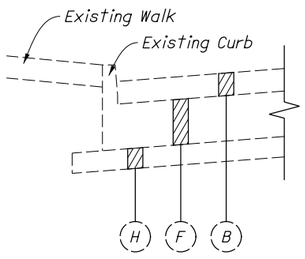
(H) Existing Aggregate Base, T = 4″±

(I) Existing Aggregate Base, T = 4″ to 5″

(J) Existing Aggregate Base, T = 8±

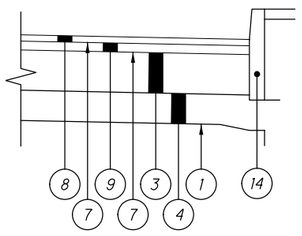
(K) Existing Brick Base

(L) Existing Slag Base, T = Unknown



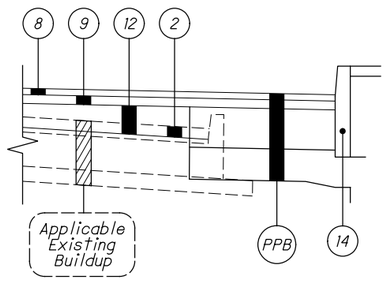
(XPB)

Existing Pavement Buildup Detail



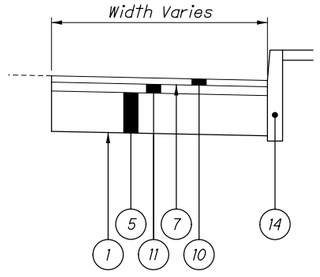
(PPB)

Proposed Full-Depth Pavement Buildup Detail



(12)

Proposed Leveling Course Detail



(CAP)

Asphalt Parking Lot Pavement Buildup Detail

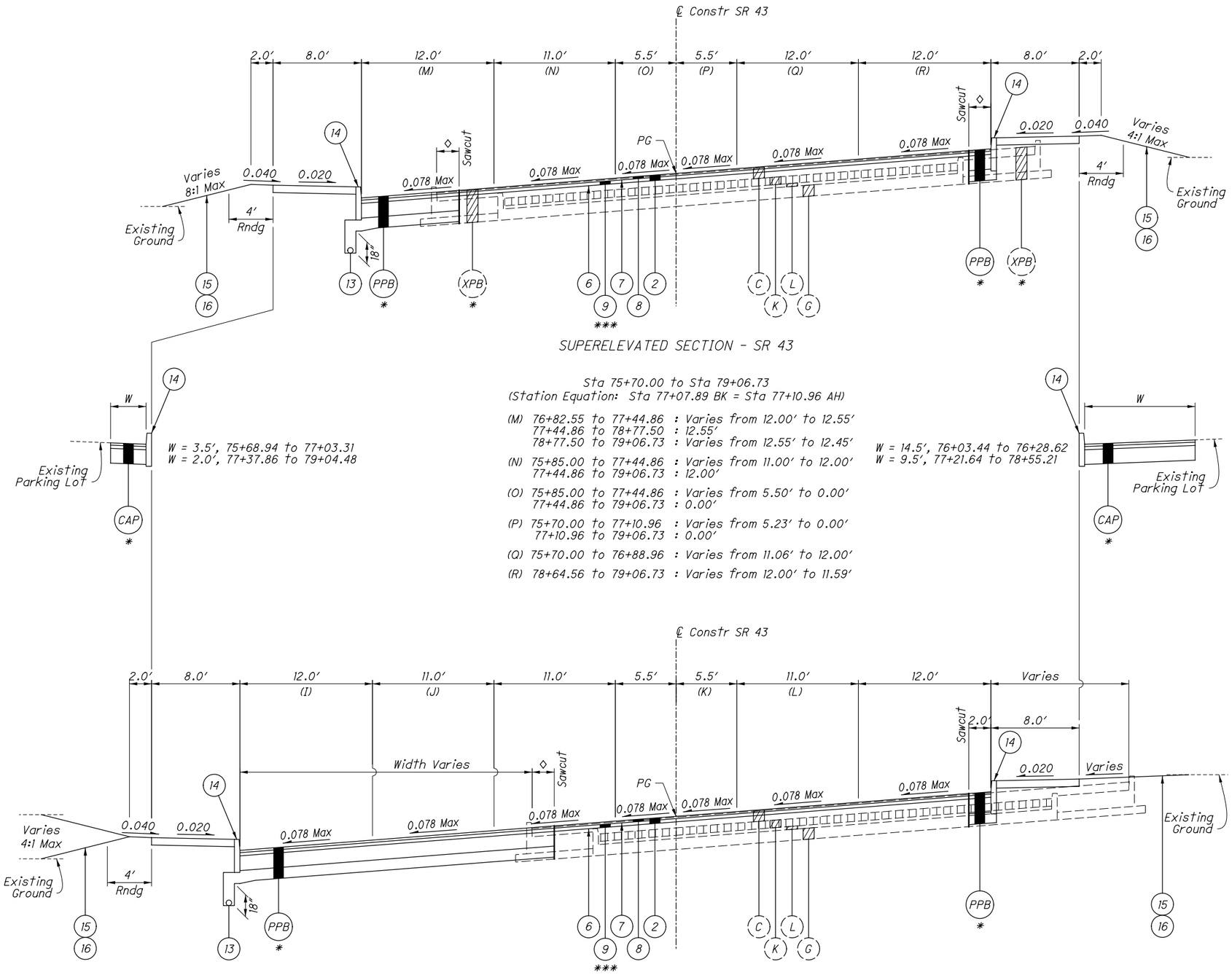
NOTES

*** Leveling course may be needed.

◇ 2′ from proposed curb face or 6″ from existing curb face, whichever is greater

TYPICAL SECTIONS

JEF-43-4.21



Sta 75+70.00 to Sta 79+06.73
(Station Equation: Sta 77+07.89 BK = Sta 77+10.96 AH)

(M) 76+82.55 to 77+44.86 : Varies from 12.00′ to 12.55′
77+44.86 to 78+77.50 : 12.55′
78+77.50 to 79+06.73 : Varies from 12.55′ to 12.45′

(N) 75+85.00 to 77+44.86 : Varies from 11.00′ to 12.00′
77+44.86 to 79+06.73 : 12.00′

(O) 75+85.00 to 77+44.86 : Varies from 5.50′ to 0.00′
77+44.86 to 79+06.73 : 0.00′

(P) 75+70.00 to 77+10.96 : Varies from 5.23′ to 0.00′
77+10.96 to 79+06.73 : 0.00′

(Q) 75+70.00 to 76+88.96 : Varies from 11.06′ to 12.00′

(R) 78+64.56 to 79+06.73 : Varies from 12.00′ to 11.59′

Sta 73+53.21 to Sta 75+70.00

(I) 75+10.00 to 75+70.00 : Varies from 12.00′ to 0.00′
(J) 75+10.00 to 75+70.00 : Varies from 11.00′ to 12.00′
(K) 75+35.00 to 75+70.00 : Varies from 5.50′ to 5.23′
(L) 75+35.00 to 75+70.00 : Varies from 11.00′ to 11.06′

NOTES

* See Sheet 4 for Pavement Buildup Details
*** Leveling course may be needed, see Sheet 4.
◊ 2′ from proposed curb face or 6″ from existing curb face, whichever is greater

LEGEND

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PROPOSED ITEMS:

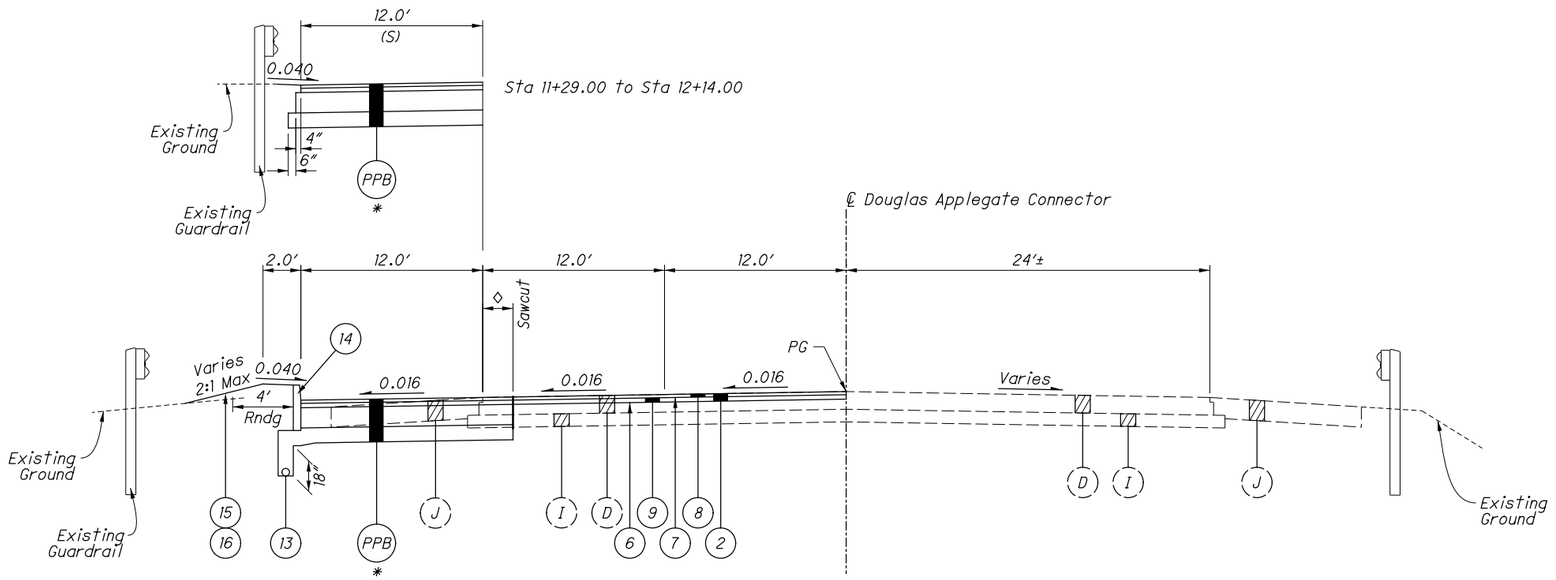
(1) Item 204 - Subgrade Compaction
(2) Item 254 - Pavement Planing, Asphalt Concrete (T = 3″)
(3) Item 301 - 5″ Asphalt Concrete Base, PG64-22
(4) Item 304 - 6″ Aggregate Base
(5) Item 304 - 8″ Aggregate Base
(6) Item 407 - Non-Tracking Tack Coat (Applied at 'Milled Asphalt Surface' rate)
(7) Item 407 - Non-Tracking Tack Coat (Applied at 'New Asphalt' rate)
(8) Item 441 - 1 ¼″ Fine Graded Polymer Asphalt Concrete, Type A
(9) Item 441 - 1 ¾″ Asphalt Concrete Intermediate Course, Type 2, (448)
(10) Item 441 - 1 ¼″ Asphalt Concrete Surface Course, Type 1, (448), (DRIVEWAYS)
(11) Item 441 - 1 ¾″ Asphalt Concrete Intermediate Course, Type 2, (448), (DRIVEWAYS)
(12) Item 441 - Asphalt Concrete Intermediate Course, Type 2, (448) (for leveling, 1 ¾″ Min - 12″ Max)
(13) Item 605 - 6″ Base Pipe Underdrains
(14) Item 609 - Curb, Type 6
(15) Item 653 - Topsoil Furnished and Placed (T = 4″)
(16) Item 659 - Seeding and Mulching

EXISTING ITEMS:

(A) Existing Asphalt Pavement, T = 3″±
(B) Existing Asphalt Pavement, T = 4″ to 5″
(C) Existing Asphalt Pavement, T = 6 ½″ to 8 ¾″
(D) Existing Asphalt Pavement, T = 7″±
(E) Existing Concrete Base, T = 7″ to 9″
(F) Existing Concrete Base, T = 9″±
(G) Existing Concrete Base, T = Unknown
(H) Existing Aggregate Base, T = 4″±
(I) Existing Aggregate Base, T = 4″ to 5″
(J) Existing Aggregate Base, T = 8±
(K) Existing Brick Base
(L) Existing Slag Base, T = Unknown

TYPICAL SECTIONS

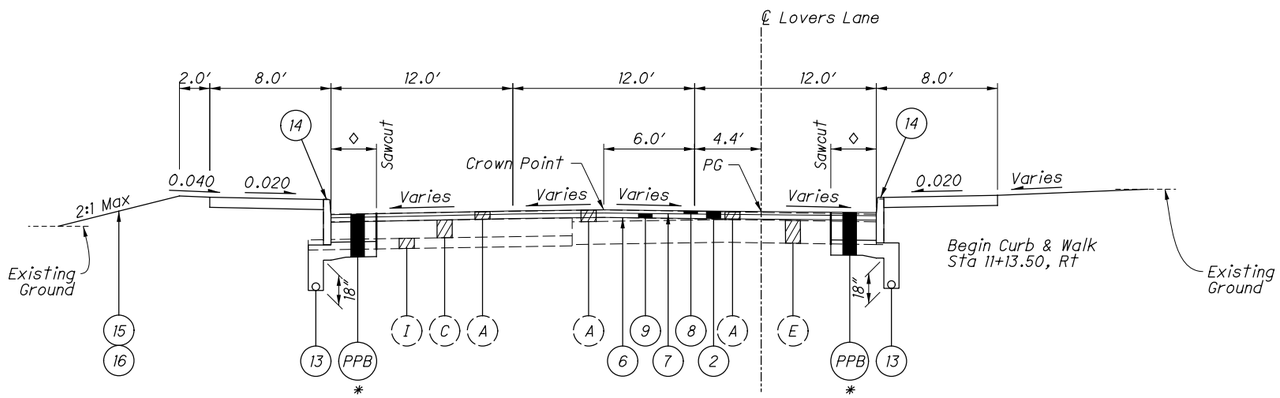
JEF-43-4.21



NORMAL SECTION - Douglas Applegate Connector

Sta 9+53.01 to Sta 12+14.00

(S) 11+64.00 to 12+14.00 : Varies from 12.00′ to 10.68′



NORMAL SECTION - Lovers Lane

Sta 11+78.00 to Sta 12+74.84

NOTES

* See Sheet 4 for Pavement Buildup Details
◇ 2′ from proposed curb face or 6″ from existing curb face, whichever is greater

LEGEND

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PROPOSED ITEMS:

1. Item 204 - Subgrade Compaction
2. Item 254 - Pavement Planing, Asphalt Concrete (T = 3″)
3. Item 301 - 5″ Asphalt Concrete Base, PG64-22
4. Item 304 - 6″ Aggregate Base
5. Item 304 - 8″ Aggregate Base
6. Item 407 - Non-Tracking Tack Coat (Applied at 'Milled Asphalt Surface' rate)
7. Item 407 - Non-Tracking Tack Coat (Applied at 'New Asphalt' rate)
8. Item 441 - 1 ¼″ Fine Graded Polymer Asphalt Concrete, Type A
9. Item 441 - 1 ¾″ Asphalt Concrete Intermediate Course, Type 2, (448)
10. Item 441 - 1 ¼″ Asphalt Concrete Surface Course, Type 1, (448), (DRIVEWAYS)
11. Item 441 - 1 ¾″ Asphalt Concrete Intermediate Course, Type 2, (448), (DRIVEWAYS)
12. Item 441 - Asphalt Concrete Intermediate Course, Type 2, (448) (for leveling, 1 ¾″ Min - 12″ Max)
13. Item 605 - 6″ Base Pipe Underdrains
14. Item 609 - Curb, Type 6
15. Item 653 - Topsoil Furnished and Placed (T = 4″)
16. Item 659 - Seeding and Mulching

EXISTING ITEMS:

- (A) Existing Asphalt Pavement, T = 3″±
- (B) Existing Asphalt Pavement, T = 4″ to 5″
- (C) Existing Asphalt Pavement, T = 6 ½″ to 8 ¾″
- (D) Existing Asphalt Pavement, T = 7″±
- (E) Existing Concrete Base, T = 7″ to 9″
- (F) Existing Concrete Base, T = 9″±
- (G) Existing Concrete Base, T = Unknown
- (H) Existing Aggregate Base, T = 4″±
- (I) Existing Aggregate Base, T = 4″ to 5″
- (J) Existing Aggregate Base, T = 8±
- (K) Existing Brick Base
- (L) Existing Slag Base, T = Unknown

TYPICAL SECTIONS

JEF-43-4.21

ROUNDING

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

UTILITIES

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.

AEP OHIO
Attn: GREG KING
120 JOHN SCOTT HWY
STEUBENVILLE OH 43952
740-266-3025
gaking@aep.com

AT&T OHIO
Attn: BARRETT TAMASOVICH
160 NORTH 6th ST
ZANESVILLE OH 43701
740-319-8995
bt2178@att.com

COLUMBIA GAS OF OHIO
Attn: NICOLE GEARY
300 LURAY DR
WINTERSVILLE OH 43953
740-266-5942
ngeary@nisource.com

COMCAST
Attn: DAVE TATAREK
2810 DARLINGTON RD
BEAVER FALLS PA 15010
412-897-8202
david_tatarek@cable.comcast.com

JEFFERSON SOIL & WATER CONSERVATION DISTRICT
Attn: BRANDON ANDRESEN
500 MARKET ST, MEZZANINE STE 4
STEUBENVILLE OH 43952
740-264-9790
bandresen@jeffersoncountyoh.com

WASTEWATER DEPT - CITY OF STEUBENVILLE
Attn: CHUCK MURPHY
100 NORTH WATER ST
STEUBENVILLE OH 43952
740-283-6000 x5001
cmurphy@cityofsteubenville.us

WATER DEPT - CITY OF STEUBENVILLE
Attn: CHUCK MURPHY
100 NORTH WATER ST
STEUBENVILLE OH 43952
740-283-6000 x5001
cmurphy@cityofsteubenville.us

ADDITIONAL SOIL INFORMATION

SOIL PROFILE SHEETS WERE NOT PROVIDED WITH THIS PLAN. A GEOTECHNICAL INVESTIGATION REPORT WAS CREATED AND IS AVAILABLE FROM THE CITY OF STEUBENVILLE ENGINEERING DEPARTMENT.

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: NAVD88 GRID
GEOID: 12A

HORIZONTAL POSITIONING

REFERENCE FRAME: OHIO NORTH 3401
ELLIPSOID: (CONUS) (MOL)
MAP PROJECTION: LAMBERT CONFORMAL CONIC
COORDINATE SYSTEM: NAD 1983 GRID
COMBINED SCALE FACTOR: NONE

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

MONUMENT ASSEMBLIES

CONSTRUCT MONUMENT ASSEMBLIES IN ACCORDANCE WITH THE DETAILS SHOWN ON THE STANDARD CONSTRUCTION DRAWINGS AND AT THE LOCATIONS SHOWN ON SHEET 104.

CONSTRUCTION NOISE

ACTIVITIES AND LAND USE ADJACENT TO THIS PROJECT MAY BE AFFECTED BY CONSTRUCTION NOISE. IN ORDER TO MINIMIZE ANY ADVERSE CONSTRUCTION NOISE IMPACTS, DO NOT OPERATE POWER-OPERATED CONSTRUCTION-TYPE DEVICES BETWEEN THE HOURS OF 9:00 PM AND 7:00 AM. IN ADDITION, DO NOT OPERATE AT ANY TIME ANY DEVICE IN SUCH A MANNER THAT THE NOISE CREATED SUBSTANTIALLY EXCEEDS THE NOISE CUSTOMARILY AND NECESSARILY ATTENDANT TO THE REASON- ABLE AND EFFICIENT PERFORMANCE OF SUCH EQUIPMENT.

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.

THE CITY HAS NOT MARKED INDIVIDUAL TREES AND STUMPS FOR REMOVAL. UNLESS SPECIFICALLY DESIGNATED AS "DO NOT DISTURB" IN THE PLANS, REMOVE ALL TREES AND STUMPS WITHIN THE CONSTRUCTION LIMITS UNDER THE LUMP SUM BID FOR ITEM 201, CLEARING AND GRUBBING.

SEEDING AND MULCHING

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

659, TOPSOIL	121 CY
659, SEEDING AND MULCHING, CLASS 1	1090 SY
659, REPAIR SEEDING AND MULCHING	55 SY
659, COMMERCIAL FERTILIZER	0.15 TON

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.

MANUFACTURED WATER QUALITY STRUCTURE

THIS PLAN UTILIZES MANUFACTURED WATER QUALITY STRUCTURES FOR WATER QUALITY TREATMENT. AREAS HAVE BEEN SHOWN IN THE PLANS FOR PLACEMENT OF AN OFF-LINE SYSTEM. PAYMENT FOR THESE DEVICES SHALL BE MADE AT THE CONTRACT UNIT PRICE FOR ITEM 895, MANUFACTURED WATER QUALITY STRUCTURE, TYPE 1.

ITEM 204 - PROOF ROLLING

THE FOLLOWING QUANTITY IS PROVIDED IN THE GENERAL SUMMARY TO ADDRESS LOCATIONS REQUIRING PROOF ROLLING.

ITEM 204, PROOF ROLLING 2 HOUR

REVIEW OF DRAINAGE FACILITIES

BEFORE ANY WORK IS STARTED ON THE PROJECT AND AGAIN BEFORE FINAL ACCEPTANCE BY THE CITY, REPRESENTATIVES OF THE CITY AND THE CONTRACTOR, ALONG WITH LOCAL REPRESENTATIVES, SHALL MAKE AN INSPECTION OF ALL EXISTING SEWERS WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCE SHALL BE DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE INSPECTION SHALL BE KEPT IN WRITING BY THE CITY.

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

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

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

ITEM SPECIAL - FILL AND PLUG EXISTING CONDUIT

THIS ITEM SHALL CONSIST OF THE CONSTRUCTION OF BULK-HEADS IN AN EXISTING 15-IN DIAMETER CONDUIT AND FILLING THE AREA THUS SEALED OFF WITH ITEM 613, SAND OR OTHER MATERIAL APPROVED BY THE ENGINEER.

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

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

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

STATUS OF REQUIRED UTILITY RELOCATIONS

THERE ARE UTILITIES WITHIN THE CONSTRUCTION LIMITS OF THE PROJECT. THE STATUS OF THESE ARRANGEMENTS FOR THE COMPLETION OF WORK PRIOR TO OR IN COORDINATION WITH THE PHYSICAL CONSTRUCTION IS SHOWN ON THE UTILITY NOTE BELOW.

BIDDERS ARE ADVISED THAT UTILITY COMPANIES INCLUDING AMERICAN ELECTRIC POWER (AEP), AT&T, COMCAST, AND COLUMBIA GAS OF OHIO WILL COMPLETE THEIR RESPECTIVE RELOCATIONS PRIOR TO THE BEGINNING OF CONSTRUCTION. UTILITIES SUCH AS CITY OF STEUBENVILLE WATER, STORM SEWERS, AND SANITARY SEWERS WITHIN THE PROJECT AREA THAT ARE IMPACTED, WILL BE ADJUSTED/REPLOCATED/REPLACED BY THE CONTRACTOR AS PART OF CONSTRUCTION. QUANTITIES AND DETAILS FOR THIS WORK ARE INCLUDED IN THE CONSTRUCTION DRAWINGS.

CROSSINGS AND CONNECTIONS TO EXISTING PIPES AND UTILITIES

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

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

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

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

WATER SERVICE CONNECTIONS

SERVICE CONNECTION LOCATIONS ALONG THE RELOCATED 12-INCH WATER MAIN ARE ONLY SHOWN ON THE PLANS IN THEIR APPROXIMATE LOCATION AND MUST BE FOUND IN THE FIELD PRIOR TO BEGINNING WORK ON THE WATER MAIN RELOCATION.

APPROXIMATE LOCATIONS:
STATIONS 70+22, 70+39, 70+89, AND 76+40

THE SERVICE LINES MUST CONFORM TO ODOT CMS 638 AND THE DEVELOPMENT DESIGN STANDARDS FOR WATER FROM THE CITY OF STEUBENVILLE ENGINEERING DEPARTMENT, SPECIFICALLY DWG. NO. ST-262.

NOTE THAT IF THE TAPS ARE MADE PRIOR TO TESTING THE WATER LINE, THE CORPORATION STOP MUST ALSO WITHSTAND TEST PRESSURE.

THE PRICE BID SHALL INCLUDE ALL EXCAVATION, BACKFILL, COMPACTION, BORING, PIPE, CORPORATION STOP, CURB STOP AND BOX, AND ALL OTHER FITTINGS AND APPURTENANCES NECESSARY TO COMPLETE THIS WORK. THE FOLLOWING ITEM HAS BEEN CARRIED TO THE GENERAL SUMMARY:

638, WATER WORK, MISC.:
1" WATER SERVICE CONNECTION, SHORT SIDE 4 EACH

CALCULATED JFM
CHECKED BJB

GENERAL NOTES

JEF-43-4.21

ITEM SPECIAL - 6" OR 12" WATER MAIN DIP CLASS 55 PUSH ON JOINTS AND FITTINGS (CITY OF STEUBENVILLE)

CONFORM TO ODOT CMS 638 AND THE DEVELOPMENT DESIGN STANDARDS FOR WATER FROM THE CITY OF STEUBENVILLE, ENGINEERING DEPARTMENT.

ITEM 638 - WATER WORK, MISC.: TEMPORARY WATER MAIN BLOCK AND TRANSFER DEVICES

THE EXISTING 12-INCH WATER MAIN TO BE REPLACED AND OFFSET (STA. 69+50 TO STA. 76+55, LEFT) SHALL NOT BE TAKEN OUT OF SERVICE DURING CONSTRUCTION. THE CONTRACTOR SHALL USE TWO LINESTOPS (AS MANUFACTURED AND DEPLOYED BY INTERNATIONAL FLOW TECHNOLOGIES, INC (OR AN APPROVED EQUAL)) TO BLOCK AND TRANSFER WATER FLOW FOR MINIMAL IMPACT TO SERVICE.

ALL MATERIALS, LABOR, AND EQUIPMENT NECESSARY TO PERFORM THE ABOVE WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 638, WATER WORK, MISC.: TEMPORARY WATER MAIN BLOCK AND TRANSFER DEVICES.

UNRECORDED STORM WATER DRAINAGE

FURNISH A CONTINUANCE FOR ALL UNRECORDED STORM WATER DRAINAGE, SUCH AS ROOF DRAINS, FOOTER DRAINS, OR YARD DRAINS, DISTURBED BY THE WORK. FURNISH EITHER AN OPEN CONTINUANCE OR AN UNOBSTRUCTED CONTINUANCE BY CONNECTING A CONDUIT THROUGH THE CURB OR INTO A DRAINAGE STRUCTURE. THE LOCATION, TYPE, SIZE AND GRADE OF THE NEEDED CONDUIT TO REPLACE OR EXTEND AN EXISTING DRAIN WILL BE DETERMINED BY THE ENGINEER. ALL SUCH CONTINUANCE REQUIRES A RIGHT OF WAY USE PERMIT.

THE FOLLOWING CONDUIT TYPES MAY BE USED: 707.33, 707.41 NON-PERFORATED, 707.42, 707.43, 707.45, 707.46, 707.47, 707.51, 707.52 SDR35.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR THE WORK NOTED ABOVE:

611, 6" CONDUIT, TYPE B (FOR DRAINAGE CONNECTION) 100 FT
611, 6" CONDUIT, TYPE C (FOR DRAINAGE CONNECTION) 100 FT
611, 6" CONDUIT, TYPE E (FOR DRAINAGE CONNECTION) 100 FT
611, 6" CONDUIT, TYPE F (FOR DRAINAGE CONNECTION) 100 FT

MANHOLES, CATCH BASINS AND INLETS REMOVED OR ABANDONED

ALL CASTINGS SHALL BE CAREFULLY REMOVED AND STORED WITHIN THE RIGHT OF WAY FOR SALVAGE BY CITY FORCES.

UNDERGROUND DRAINAGE STRUCTURES ENCOUNTERED DURING WORK ACTIVITIES THAT ARE NOT ITEMIZED WITHIN THIS PLAN SET WERE LIKELY TO HAVE BEEN ABANDONED DURING PREVIOUS ROADWAY IMPROVEMENT PROJECTS. VERIFICATION OF THE STRUCTURE'S ABANDONMENT AND APPROVAL OF ITS REMOVAL SHALL BE OBTAINED FROM THE CITY PRIOR TO TAKING ANY ACTION THAT MAY DAMAGE AN EXISTING, WORKING DRAINAGE SYSTEM.

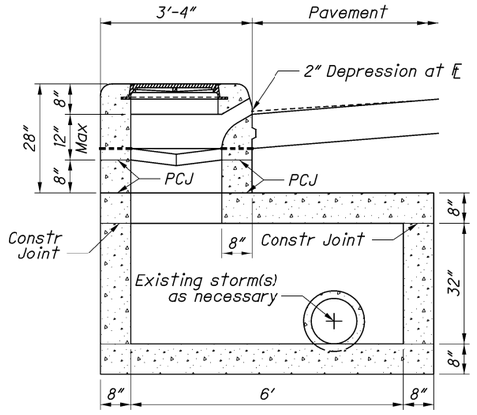
PAYMENT FOR ALL OF THE ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 202 OR 203 ITEM.

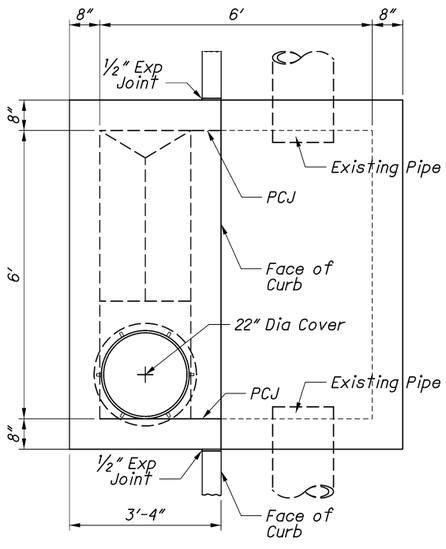
ITEM 611 - INLET, NO. 2-A-6, AS PER PLAN

THIS ITEM SHALL CONSIST OF A TWO-SECTION HYBRID OF AN INLET NO. 2-A-6 AND A CATCH BASIN NO. 2-6. THE LOWER SECTION SHALL BE THAT OF A CATCH BASIN NO. 2-6 (ODOT SCD CB-1.3), BASE AND TOP, BUT WITHOUT SIDE INLETS OR A GRATE. THE UPPER SECTION SHALL BE THAT OF AN INLET NO. 2-A-6 (ODOT SCD I-1.2) AND SHALL BE FIT ON TOP OF THE BASE TO ACT AS THE STORMWATER INLET, INLINE WITH THE PROPOSED FACE OF CURB.

THE EXISTING CONDUIT CONNECTED TO THE EXISTING CATCH BASIN OR INLET SHALL REMAIN IN PLACE AND BE CONNECTED TO THE NEW BASE. THE EXISTING CATCH BASIN OR INLET SHALL BE REMOVED.

ALL MATERIALS, LABOR, AND EQUIPMENT NECESSARY TO PERFORM THE ABOVE WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 611, INLET, NO. 2-A-6, AS PER PLAN.





ITEM SPECIAL - PIPE CLEANOUT

THIS WORK SHALL CONSIST OF REMOVING SEDIMENT AND DEBRIS FROM THE EXISTING DRAINAGE CONDUITS THAT ARE TO REMAIN IN SERVICE WITHIN THE CONSTRUCTION LIMITS. ALL MATERIAL REMOVED SHALL BE DISPOSED OF AS PER 105.16 AND 105.17. ALL SEWERS SHALL BE CLEANED OUT TO THE SATISFACTION OF THE ENGINEER.

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

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE ABOVE NOTED WORK:

SPECIAL, PIPE CLEANOUT, 24" AND UNDER 1965 FT

ITEM 638 - VALVE BOX, AS PER PLAN

THE EXISTING 12-INCH WATER VALVE INSIDE THE MANHOLE LOCATED AT STA 73+90.90, 62.07' RT, IS TO BE CONVERTED INTO A STANDARD VALVE AND VALVE BOX CONFIGURATION. THE CONTRACTOR IS TO CAREFULLY BREAKUP THE CONCRETE BOTTOM OF THE EXISTING MANHOLE USING METHODS THAT SHALL NOT DAMAGE THE EXISTING VALVE AND WATERLINE. INSTALL THE NEW VALVE BOX PER CMS 638.13 USING CLEAN NO. 57 STONE AS THE BACKFILL MATERIAL WITHIN THE CONFINES OF THE EXISTING MANHOLE SIDES. AT A LEVEL EQUAL TO THE PROPOSED BOTTOM OF ROADWAY'S AGGREGATE BASE, REMOVE THE REMAINING TOP PORTION OF THE MANHOLE INCLUDING THE COVER RING AND COVER. THE VALVE BOX SHALL THEN BE ADJUSTED TO MEET THE PROPOSED PAVEMENT SURFACE ELEVATION AS SHOWN IN THE PLANS. IF THE VALVE COVER IMPINGES UPON THE PROPOSED FACE OF CURB, THE CONTRACTOR IS TO TAPER THE FACE THE CURB AND GUTTER LINE ENOUGH TO ALLOW WATER TO FLOW AS INTENDED IN THE CURB LINE AND SO THAT THE VALVE COVER IS LEVEL WITH THE SURROUNDING PAVEMENT IN THE RETURN.

ALL MATERIALS, LABOR, EQUIPMENT, TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 638, VALVE BOX, AS PER PLAN.

ITEM 623 - CONSTRUCTION LAYOUT STAKES AND SURVEYING, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF CMS ITEM 623, UPON COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL INSTALL A 5/8-INCH REBAR WITH PLASTIC CAP AT THE FOLLOWING LOCATIONS:

STA. 69+73.59, 37.50' LT
STA. 69+82.00, 37.50' LT
STA. 70+70.41, 37.84' LT
STA. 71+13.53, 38.00' RT
STA. 71+39.46, 42.90' RT
STA. 71+40.15, 46.15' RT
STA. 75+87.25, 40.06' LT
STA. 75+89.07, 40.00' LT
STA. 76+86.68, 35.48' LT
STA. 76+93.06, 35.09' LT

SEE THE RIGHT-OF-WAY PLAN SHEETS FOR DETAILS. THE COST WILL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 623, CONSTRUCTION LAYOUT STAKES AND SURVEYING, AS PER PLAN.

ITEM 202 - REMOVAL, MISC.: BRICK PEDESTAL WITH LIGHT

THIS ITEM SHALL CONSIST OF THE REMOVAL AND DISPOSAL OF THE BRICK PEDESTALS, THEIR FOUNDATIONS, AND THE ORNAMENTAL LIGHTS AT THE ENTRANCE AND EXIT TO THE MOSTI FUNERAL HOME. REMOVAL OF THE NECESSARY PORTIONS OF THE ELECTRICAL CIRCUIT FOR THE LIGHTS SHALL FOLLOW PERTAINING SECTIONS OF CMS 625.21. ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO PERFORM THE ABOVE DESCRIBED WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 202, REMOVAL, MISC.: BRICK PEDESTAL WITH LIGHT.

ITEM 202 - REMOVAL, MISC.: COMMERCIAL SIGN

THIS ITEM SHALL CONSIST OF THE REMOVAL AND DISPOSAL OF THE COMMERCIAL SIGNS AND THEIR FOUNDATIONS AT THE LOCATIONS SPECIFIED IN THE PLANS. REMOVAL OF ANY NECESSARY PORTIONS OF AN ELECTRICAL CIRCUIT FOR INTERNAL LIGHTING ELEMENTS SHALL FOLLOW PERTAINING SECTIONS OF CMS 625.21. ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO PERFORM THE ABOVE DESCRIBED WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 202, REMOVAL, MISC.: COMMERCIAL SIGN.

ITEM 202 - REMOVAL, MISC.: LIGHT

THIS ITEM SHALL CONSIST OF THE REMOVAL AND DISPOSAL OF THE LIGHTING ELEMENT FOR THE COMMERCIAL SIGN OF THE MOSTI FUNERAL HOME. REMOVAL OF THE NECESSARY PORTIONS OF THE ELECTRICAL CIRCUIT FOR THE LIGHT SHALL FOLLOW PERTAINING SECTIONS OF CMS 625.21. ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO PERFORM THE ABOVE DESCRIBED WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 202, REMOVAL, MISC.: LIGHT.

ITEM 202 - REMOVAL, MISC.: METAL POST

THIS ITEM SHALL CONSIST OF THE REMOVAL AND DISPOSAL OF A METAL LOST AT THE LOCATION SHOWN IN THE PLAN. ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO PERFORM THE ABOVE DESCRIBED WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 202, REMOVAL, MISC.: METAL POST.

ITEM 202 - REMOVAL, MISC.: BLOCK RETAINING WALL

THIS ITEM SHALL CONSIST OF THE REMOVAL AND DISPOSAL OF THE LAST FIVE (5) FEET OF THE BLOCK RETAINING WALL AT STA. 70+72, LT. REMOVE ONLY THE PORTION OF THE WALL NECESSARY TO FIT THE PROPOSED SIDEWALK WIDTH. REMOVAL OF THE BLOCK RETAINING WALL PORTIONS DESCRIBED HEREIN SHALL BE IN A MANNER TO CREATE A NEAT, CLEAN END THAT MEETS THE BACK EDGE OF THE PROPOSED SIDEWALK WITHOUT GAP. ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO PERFORM THE ABOVE DESCRIBED WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 202, REMOVAL, MISC.: BLOCK RETAINING WALL.

ITEM 202 - REMOVAL, MISC.: CONCRETE RETAINING WALL

THIS ITEM SHALL CONSIST OF THE REMOVAL AND DISPOSAL OF THE LAST NINE (9) FEET OF THE CONCRETE RETAINING WALL AT STA. 69+75, LT. REMOVE ONLY THE PORTION OF THE WALL NECESSARY TO FIT THE PROPOSED SIDEWALK WIDTH. REMOVAL OF THE CONCRETE RETAINING WALL PORTIONS DESCRIBED HEREIN SHALL BE IN A MANNER TO CREATE A NEAT, CLEAN END THAT MEETS THE BACK EDGE OF THE PROPOSED SIDEWALK WITHOUT GAP. ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO PERFORM THE ABOVE DESCRIBED WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 202, REMOVAL, MISC.: CONCRETE RETAINING WALL.

CALCULATED JFM CHECKED BJB

GENERAL NOTES

JEF-43-4.21

UTILITY COORDINATION

THERE ARE UTILITIES WITHIN THE CONSTRUCTION LIMITS OF THE PROJECT. THE STATUS OF THESE ARRANGEMENTS FOR THE COMPLETION OF THE WORK PRIOR TO OR IN COORDINATION WITH THE PHYSICAL CONSTRUCTION IS SHOWN ON THE UTILITY NOTE HEREIN.

BIDDERS ARE ADVISED THAT UTILITY COMPANIES INCLUDING AMERICAN ELECTRIC POWER, AT&T, COMCAST, AND COLUMBIA GAS OF OHIO WILL COMPLETE THEIR RESPECTIVE RELOCATIONS PRIOR TO THE BEGINNING OF CONSTRUCTION. UTILITIES SUCH AS CITY OF STEUBENVILLE WATER, STORM SEWERS, AND SANITARY SEWERS WITHIN THE PROJECT AREA THAT ARE IMPACTED, WILL BE ADJUSTED/RELOCATED/REPLACED BY THE CONTRACTOR AS PART OF CONSTRUCTION. QUANTITIES AND DETAILS FOR THIS WORK ARE INCLUDED IN THE CONSTRUCTION DRAWINGS.

THE FOLLOWING UTILITIES WILL NOT BE CLEARED FROM THE CONSTRUCTION AREA AT THE TIME OF THE AWARD OF THE CONTRACT. THESE FACILITIES SHALL REMAIN IN PLACE OR BE RELOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS AS DESCRIBED HEREIN, PRIOR TO THE CONTRACTOR BEGINNING WORK. ALL LOCATIONS ARE APPROXIMATE.

OVERHEAD UTILITIES

ELECTRIC, TELEPHONE, AND CABLE

AMERICAN ELECTRIC POWER (AEP), AT&T, AND COMCAST HAVE AERIAL FACILITIES ON POLES THAT ARE OWNED BY AEP. THE DISPOSITION OF THESE POLES IS AS FOLLOWS. NOTE THAT WHERE A POLE IS REMOVED OR A NEW POLE INSTALLED, AEP WILL RELOCATE THEIR AERIAL LINES AND SERVICE DROPS FOLLOWED BY AT&T AND COMCAST. NOTE THAT EXTREME CAUTION MUST BE USED WHEN WORKING AROUND ENERGIZED CONDUCTORS AND ALL OSHA CLEARANCES MUST BE MAINTAINED.

STATION	OFFSET	AEP POLE NO.	DISPOSITION
64+51.5	31' R	188	TO REMAIN
65+89	35' L	530	TO REMAIN
66+02	31' R	186	REMOVE POLE
66+02	35' R	186R	NEW POLE
66+04	34.5' L	189	TO REMAIN
66+97	34' L	214	TO REMAIN
67+00	32' R	185	REMOVE POLE
67+00	37' R	185R	NEW POLE
67+92	33' L	334	TO REMAIN
67+72	35' L	196R	NEW POLE
69+50	45.5' R	183	TO REMAIN
69+74	31.5' L	196	REMOVE POLE
70+69	36' L	182	NEW POLE
70+70	34' L	182	REMOVE POLE
70+76	37.5' R	282	TO REMAIN
71+73	28' L	195	REMOVE POLE
72+15	43' R	274	REMOVE POLE
72+15	47' R	274	NEW POLE
72+23	46' L	195	NEW POLE
72+83	61' L	315	REMOVE POLE
73+25	52.5' R	290	REMOVE POLE
73+20	52.5' R	290	NEW POLE
74+16	22' L	316	REMOVE POLE
74+16	50' L	316	NEW POLE
75+13	43' R	289	TO REMAIN
75+85	29' L	177	REMOVE POLE
76+61	38.5' R	288	TO REMAIN
77+01	37' L	175	TO REMAIN
77+92	28.5' R	173	REMOVE POLE
77+92	31' R	173	NEW POLE
78+09	33' L	---	TO REMAIN

UNDERGROUND UTILITIES

GAS

COLUMBIA GAS HAS GAS LINES THROUGHOUT THE PROJECT FOOTPRINT. A 2" BURIED GAS LINE EXISTS ON THE NORTH SIDE OF SR 43 (SUNSET BLVD) FROM THE WEST PROJECT LIMIT TO AN EXISTING 8" GAS LINE ON THE NORTH SIDE OF SR 43 AT BRYDEN AVENUE. THIS LINE WILL BE ABANDONED IN PLACE. AN EXISTING 8" GAS LINE EXISTS ON THE SOUTH SIDE OF SR 43 FROM THE WEST PROJECT LIMIT TO BRYDEN WHERE IT CROSSES SR 43 TO THE NORTH SIDE AND CONTINUES ON THE NORTH SIDE TO THE EAST PROJECT LIMIT. THIS LINE WILL BE ABANDONED IN PLACE. THE EXISTING 6" GAS LINE ON THE WEST SIDE OF LOVERS LANE WILL BE ABANDONED IN PLACE FROM SR 43 TO THE SOUTH PROJECT LIMIT. THE EXISTING 4" GAS LINE ON THE WEST SIDE OF YALE PLACE WILL BE ABANDONED IN PLACE FROM SR 43 TO THE SOUTH PROJECT LIMIT. A PROPOSED 2" GAS LINE WILL BE INSTALLED ON EACH SIDE OF SR 43, APPROXIMATELY 1' INSIDE THE RIGHT OF WAY FROM STATION 64+50 (WEST PROJECT LIMIT) TO STATION 70+50. NOTE THAT THE NEW GAS LINE WILL BE DEFLECTED IN FRONT OF THE RELOCATED UTILITY POLE AT STATION 66+02. A NEW 4" GAS LINE WILL BE INSTALLED ALONG THE NORTH SIDE OF YALE PLACE APPROXIMATELY 1' INSIDE THE RIGHT OF WAY FROM THE PROJECT LIMIT ON YALE PLACE ACROSS SR 43 TO THE NORTH SIDE OF THE SR 43 RIGHT OF WAY, THEN CONTINUING THE NEW 4" GAS LINE ALONG THE NORTH SIDE OF THE RIGHT OF WAY TO THE EAST PROJECT LIMIT. THE ABANDONED AND NEW GAS LINES DESCRIBED HEREIN ARE SHOWN AND LABELED ON THE PLANS. COLUMBIA GAS HAS AGREED TO COMPLETE THE RELOCATION OF THE ABOVE NOTED FACILITIES BY JULY 29, 2018.

WATERLINE

THE CITY OF STEUBENVILLE HAS 12" AND 20" WATERLINES IN PLACE WITHIN THE CONSTRUCTION LIMITS. THESE FACILITIES SHALL REMAIN IN PLACE AND IN OPERATION DURING CONSTRUCTION. A SECTION OF THE 12" WATER LINE ON THE NORTH SIDE OF THE ROADWAY FROM STATION 69+50 TO STATION 76+60 SHALL BE ABANDONED IN PLACE AS PART OF THE PROJECT. LIKEWISE, A REPLACEMENT SECTION OF 12" WATERLINE WITHIN THESE SAME LIMITS SHALL BE INSTALLED BY THE PROJECT CONTRACTOR. THE EXISTING WATERLINES AND THE PROPOSED WATERLINE ARE SHOWN AND LABELED ON THE PLANS.

TELEPHONE

AT&T HAS EXISTING BURIED TELEPHONE CONDUIT WITHIN THE EXISTING PAVEMENT IN THE EASTBOUND LANE OF SUNSET BLVD AND IN THE NORTHBOUND LANE OF LOVERS LANE. THIS FACILITY WILL REMAIN IN SERVICE DURING CONSTRUCTION AND WILL BE AVOIDED BY THE CONTRACTOR. HOWEVER, THERE ARE 3 LOCATIONS (69+00, 69+36, 12+00) THAT WILL BE EXCAVATED DUE TO DRAINAGE WORK, EXPOSING THE CONDUIT. THE CONTRACTOR SHALL SUPPORT AND PROTECT THE CONDUIT DURING THE DRAINAGE INSTALLATION. FURTHERMORE, THE CONTRACTOR SHALL CONTACT AT&T (BARRETT TAMASOVICH, 740-319-8995, bt2178@att.com), 14 DAYS PRIOR TO WORKING IN THE AREA OF THE AT&T CONDUIT, SO THAT AT&T MAY BE ON SITE TO WITNESS THE WORK.

NOTE

ALL OTHER UTILITIES SHOWN ON THE PLANS SHALL REMAIN IN SERVICE AND UNDISTURBED DURING CONSTRUCTION.

CALCULATED JFM CHECKED BJB

GENERAL NOTES

JEF-43-4.21

8A
119

MAINTENANCE OF TRAFFIC

ITEM 614, MAINTAINING TRAFFIC

THIS ITEM SHALL CONSIST OF MAINTENANCE OF TRAFFIC ON EXISTING ROADWAYS IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD) FOR STREETS AND HIGHWAYS, CURRENT EDITION, LATEST REVISION, THE SPECIFICATIONS AND THE FOLLOWING:

A MINIMUM OF 2 (TWO) LANES OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES BY USE OF THE EXISTING PAVEMENT, THE COMPLETED PAVEMENT, ITEM 502 STRUCTURE FOR MAINTAINING TRAFFIC, ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, ITEM 615 ROADS FOR MAINTAINING TRAFFIC, AND TEMPORARY SURFACES USING ITEMS 410, AND 614.

LENGTH AND DURATION OF LANE CLOSURES AND RESTRICTIONS SHALL BE AT THE APPROVAL OF THE ENGINEER. IT IS THE INTENT TO MINIMIZE THE 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 MAINTAIN VEHICULAR ACCESS TO ALL PROPERTIES WITH THE PROJECT LIMITS AT ALL TIMES.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DETERMINED BY THE ENGINEER FOR THE MAINTENANCE OF TRAFFIC.

ITEM 410, TRAFFIC COMPACTED SURFACE, TYPE A OR B	50 CY
ITEM 410, TRAFFIC COMPACTED SURFACE, TYPE C	50 CY
ITEM 614, ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	20 CY
ITEM 616, WATER	1 MGAL

EARTHWORK REQUIRED TO CONSTRUCT ANY OF THE ABOVE ITEMS SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THAT SPECIFIC ITEM.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH C&MS 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.

OPWC PROJECT SIGN

PROVIDE AND INSTALL AN OHIO PUBLIC WORKS COMMISSION PROJECT SIGN IN A LOCATION AS DIRECTED BY THE CITY ENGINEER. SIGN DETAILS ARE PROVIDED IN THESE BID DOCUMENTS. PAYMENT FOR PROVIDING, ERECTING, AND MAINTAINING THE OWPC PROJECT SIGN SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR 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.

PLACEMENT OF ASPHALT CONCRETE

TWO-WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES EXCEPT THAT ONE-WAY TRAFFIC WILL BE PERMITTED FOR MINIMUM PERIODS OF TIME CONSISTENT WITH THE REQUIREMENTS OF THE SPECIFICATIONS FOR PROTECTION OF COMPLETED ASPHALT CONCRETE COURSES.

OVERNIGHT TRENCH CLOSING

THE BASE WIDENING SHALL BE COMPLETED TO A DEPTH OF NO MORE THAN 12 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 BACK-FILLED 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	5 MGAL

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 AT THE POINT OF LANE RESTRICTION OR ROAD CLOSURE AND TO MANUALLY CONTROL TRAFFIC MOVEMENTS THROUGH INTERSECTIONS IN WORK ZONES.
- 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.

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	30 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.

ALTERNATIVE MAINTENANCE OF TRAFFIC PLANS

IF THE CONTRACTOR SO ELECTS, HE MAY SUBMIT ALTERNATE METHODS FOR THE MAINTENANCE OF TRAFFIC TO THE PROJECT ENGINEER AND ODOT FOR APPROVAL, PROVIDED THE INTENT OF THE MAINTENANCE OF TRAFFIC PROVISIONS ARE FOLLOWED AND NO ADDITIONAL INCONVENIENCE TO THE TRAVELING PUBLIC RESULTS THEREFROM. NO ALTERNATIVE PLAN SHALL BE PLACED INTO EFFECT UNTIL WRITTEN APPROVAL HAS BEEN GRANTED BY THE PROJECT ENGINEER AND ODOT.

ACCESS TO PROPERTIES

DRIVES ARE TO REMAIN OPEN AT ALL TIMES UNLESS NOTED ON THE PLANS OR AS DIRECTED BY THE ENGINEER. DRIVEWAY ACCESS MUST BE MAINTAINED AT ALL TIMES USING PARTIAL WIDTH CONTRUCTION IF ANOTHER ACCESS TO THE PROPERTY IS NOT AVAILABLE.

SEQUENCE OF CONSTRUCTION

PHASE 1

ONCE THE MAINTENANCE OF TRAFFIC CONTROL DEVICES AND PAVEMENT MARKINGS ARE IN PLACE FOR PHASE 1, INSTALL ALL PROPOSED TRAFFIC SIGNAL EQUIPMENT WHILE THE EXISTING SIGNAL IS STILL IN OPERATION. ONCE ACCEPTED AND IN WORKING ORDER, THE PROPOSED TRAFFIC SIGNAL SHALL REPLACE THE OPERATIONS OF THE EXISTING SIGNAL AND THE EXISTING SIGNAL EQUIPMENT CAN BE REMOVED.

CONSTRUCT THE WIDENING SECTIONS OF THE LEFT SIDE OF SR 43 WHILE ALL TRAFFIC UTILIZES THE RIGHT SIDE OF THE EXISTING ROADWAY.

FOR THE PROPOSED WIDENING FOR BOTH SIDES OF THE DOUGLAS APPLEGATE CONNECTOR, ALL TRAFFIC WILL UTILIZE THE CENTER OF THE EXISTING ROADWAY DURING CONSTRUCTION.

CONSTRUCTION SHALL BE THROUGH THE LEVELING COURSE AND INCLUDE ALL ITEMS EXCEPT THE SURFACE AND INTERMEDIATE COURSES AND APPLICABLE TRAFFIC CONTROL ITEMS. ANY DIFFERENCES IN SURFACE ELEVATIONS BETWEEN EXISTING PAVEMENT AND THE LEVELING COURSE SHALL UTILIZE TEMPORARY ASPHALT WEDGES WHEN TRAFFIC HAS TO CROSS.

PHASE 2

WHILE UTILIZING THE CONSTRUCTED AREA OF PHASE 1 AND ANY NECESSARY AREAS OF THE EXISTING PAVEMENT FOR TRAFFIC, CONSTRUCT THE PROPOSED WIDENING SECTIONS OF THE RIGHT SIDE OF SR 43.

THE WIDENING OF LOVERS LANE SHALL BE BROKEN INTO TWO (2) SUB-PHASES, PHASES 2A AND 2B. DURING PHASE 2A, CONSTRUCT THE LEFT PORTION OF THE WIDENING. DURING PHASE 2B, CONSTRUCT THE RIGHT PORTION. BOTH SUBPHASES SHALL COINCIDE WITH THE PHASE 2 CONSTRUCTION OF SR 43.

CONSTRUCTION SHALL BE THROUGH THE LEVELING COURSE AND INCLUDE ALL ITEMS EXCEPT THE SURFACE AND INTERMEDIATE COURSES AND APPLICABLE TRAFFIC CONTROL ITEMS. ANY DIFFERENCES IN SURFACE ELEVATIONS BETWEEN EXISTING PAVEMENT AND THE LEVELING COURSE SHALL UTILIZE TEMPORARY ASPHALT WEDGES WHEN TRAFFIC HAS TO CROSS.

WITH CONSTRUCTION OF THE PROPOSED DRAINAGE ITEMS DURING THIS PHASE, THE CONTRACTOR IS ALSO TO INSTALL THE MANUFACTURED WATER QUALITY COMPONENTS WITHIN THE EXISTING PAVEMENT AREA BY FOLLOWING LANE CLOSURE TECHNIQUES OF ODOT SCD MT-95.31 AND MT-95.50. THE CLOSURE SHOULD BE SHORT IN DURATION, COORDINATED WITH THE ENGINEER, AND MINIMIZE IMPACT TO THE TRAVELING PUBLIC.

PHASE 3

PAVE THE INTERMEDIATE AND SURFACE COURSES FOR THE ENTIRE PROJECT AREA AND INSTALL ALL REMAINING PERMANENT TRAFFIC CONTROL ITEMS.

CALCULATED JFM
CHECKED BJB

MAINTENANCE OF TRAFFIC GENERAL NOTES

JEF-43-4.21

SHEET NO.	PHASE	614					
		WORK ZONE LANE LINE, CLASS I, 642 PAINT	WORK ZONE CENTER LINE, CLASS I, 642 PAINT	WORK ZONE EDGE LINE, CLASS I, 642 PAINT	WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT	WORK ZONE STOP LINE, CLASS I, 642 PAINT	WORK ZONE ARROW, CLASS I, 642 PAINT
		MILE	MILE	MILE	FT	FT	EACH
SR 43							
11	1	0.09	0.08	0.08	336	0	0
12	1	0.12	0.06	0.08	0	0	0
13	1	0.12	0.06	0.07	99	64	5
14	1	0.11	0.06	0.07	62	0	2
15	1	0.05	0.06	0.06	336	0	0
17	2	0.09	0.10	0.10	568	0	0
18	2	0.15	0.12	0.08	0	0	0
19	2	0.11	0.13	0.07	227	74	8
20	2	0.14	0.11	0.07	145	0	2
21	2	0.05	0.06	0.06	336	0	0
DOUGLAS APPLEGATE CONNECTOR							
16	1	0.07	0.14	0.17	346	21	12
22	2	0.01	0.05	0.03	447	49	7
LOVERS LN							
23	2A	0.00	0.05	0.05	202	29	6
24	2B	0.00	0.05	0.06	215	26	6
TOTALS CARRIED TO GENERAL SUMMARY		**1.11**	**1.13**	**1.05**	**3319**	**263**	**48**

CALCULATED JFM
CHECKED RMS

MAINTENANCE OF TRAFFIC SUBSUMMARY

JEF-43-4.21

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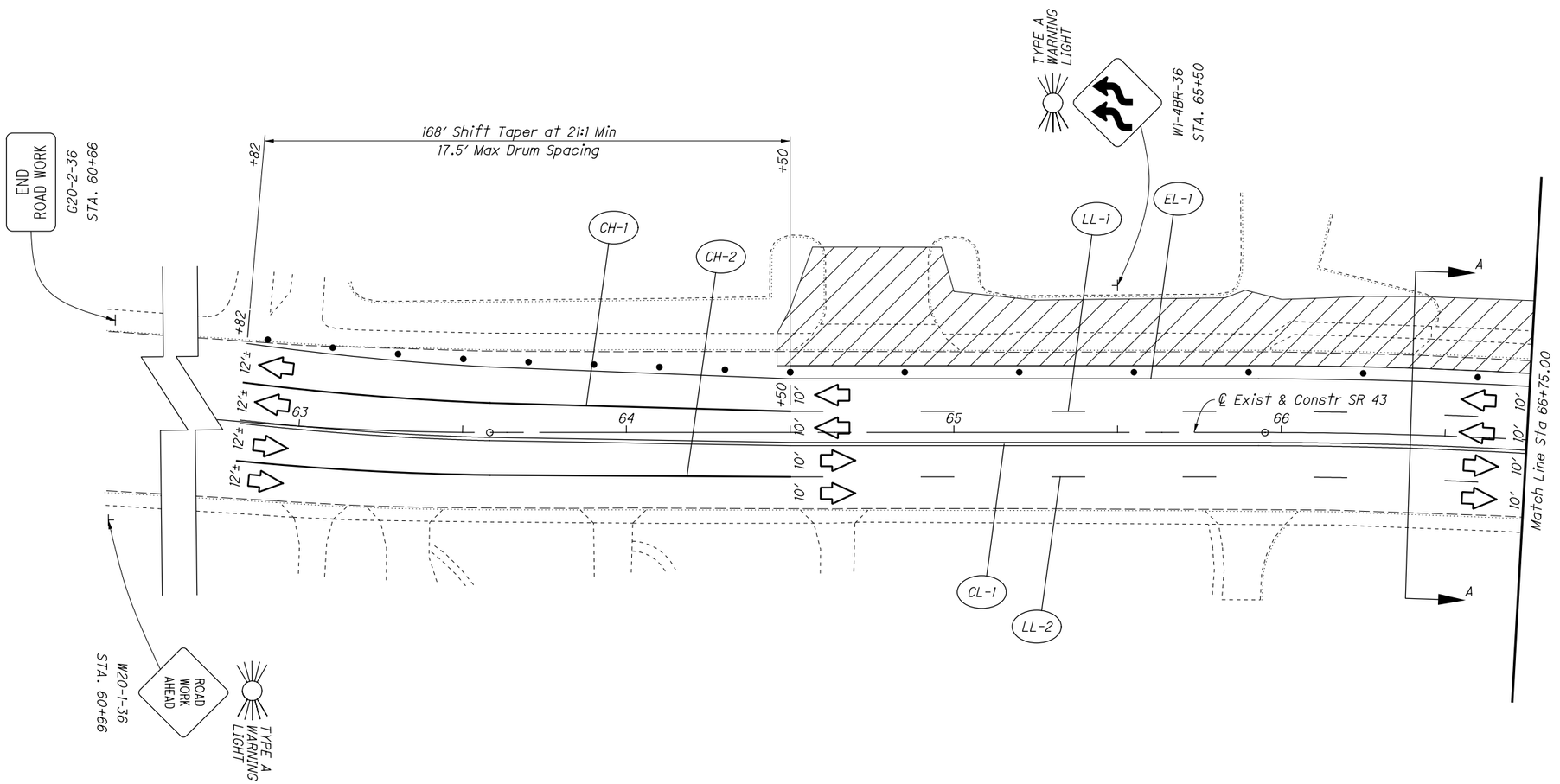
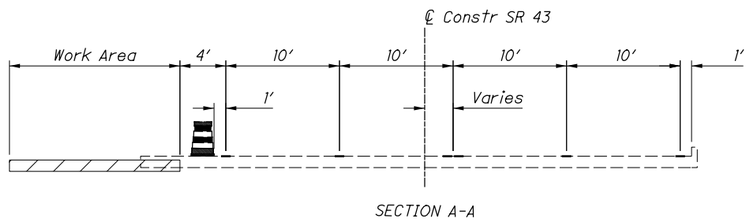


ESTIMATED QUANTITIES

REF No.	Station		Side	614					
				WORK ZONE LANE LINE, CLASS I, 642 PAINT	WORK ZONE CENTER LINE, CLASS I, 642 PAINT	WORK ZONE EDGE LINE, CLASS I, 642 PAINT	WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT	WORK ZONE STOP LINE, CLASS I, 642 PAINT	WORK ZONE ARROW, CLASS I, 642 PAINT
					Double Solid	White			
	From	To		MILE	MILE	MILE	FT	FT	EACH
CH-1	62+82.00	64+50.00	Lt				168.00		
CH-2	62+82.00	64+50.00	Rt				168.00		
CL-1	62+82.00	66+75.00	Cntr		0.075				
EL-1	62+82.00	66+75.00	Lt			0.075			
LL-1	64+50.00	66+75.00	Lt	0.043					
LL-2	64+50.00	66+75.00	Rt	0.043					
TOTALS CARRIED TO SUBSUMMARY				**0.09**	**0.08**	**0.08**	**336**	**0**	**0**



SECTION A-A

Construction Area, this phase

Drums, 35 ft tangent spacing

MAINTENANCE OF TRAFFIC
SR 43 - PHASE 1

CALCULATED JFM
CHECKED RMS

HORIZONTAL SCALE IN FEET
0 10 20 40

JEF-43-4.21

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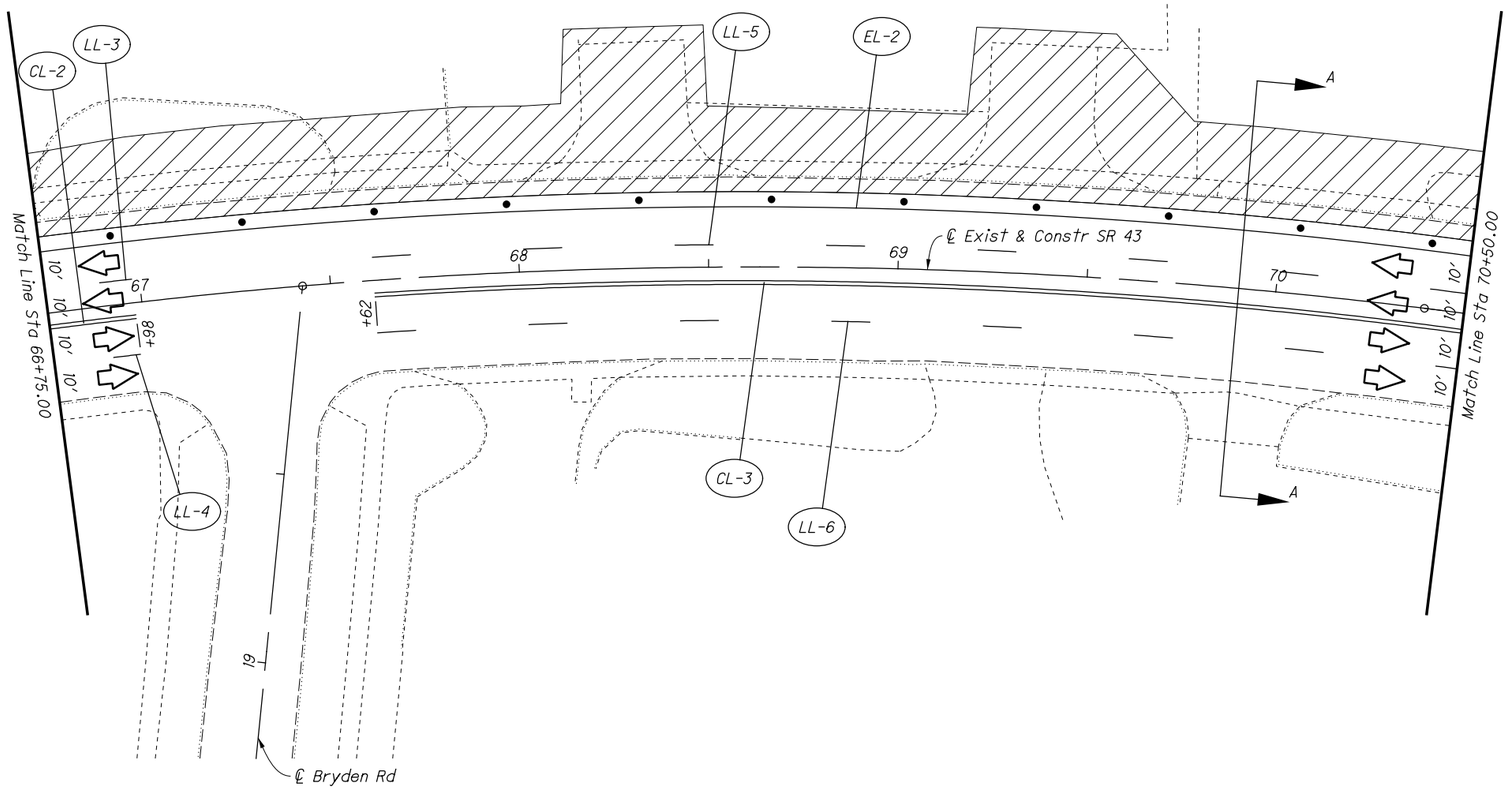
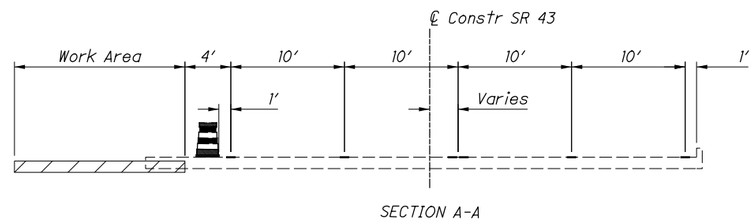


ESTIMATED QUANTITIES

REF No.	Station		Side	614					
				WORK ZONE LANE LINE, CLASS I, 642 PAINT	WORK ZONE CENTER LINE, CLASS I, 642 PAINT	WORK ZONE EDGE LINE, CLASS I, 642 PAINT	WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT	WORK ZONE STOP LINE, CLASS I, 642 PAINT	WORK ZONE ARROW, CLASS I, 642 PAINT
					Double Solid	White			
	From	To		MILE	MILE	MILE	FT	FT	EACH
CL-2	66+75.00	66+98.00	Cntr		0.005				
CL-3	67+62.00	70+50.00	Cntr		0.055				
EL-2	66+75.00	70+50.00	Lt			0.072			
LL-3	66+75.00	66+98.00	Lt	0.005					
LL-4	66+75.00	66+98.00	Rt	0.005					
LL-5	67+62.00	70+50.00	Lt	0.055					
LL-6	67+62.00	70+50.00	Rt	0.055					
TOTALS CARRIED TO SUBSUMMARY				**0.12**	**0.06**	**0.08**	**0**	**0**	**0**



SECTION A-A

Construction Area, this phase

Drums, 35 ft tangent spacing

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED JFM
CHECKED RMS

MAINTENANCE OF TRAFFIC
SR 43 - PHASE 1

JEF-43-4.21

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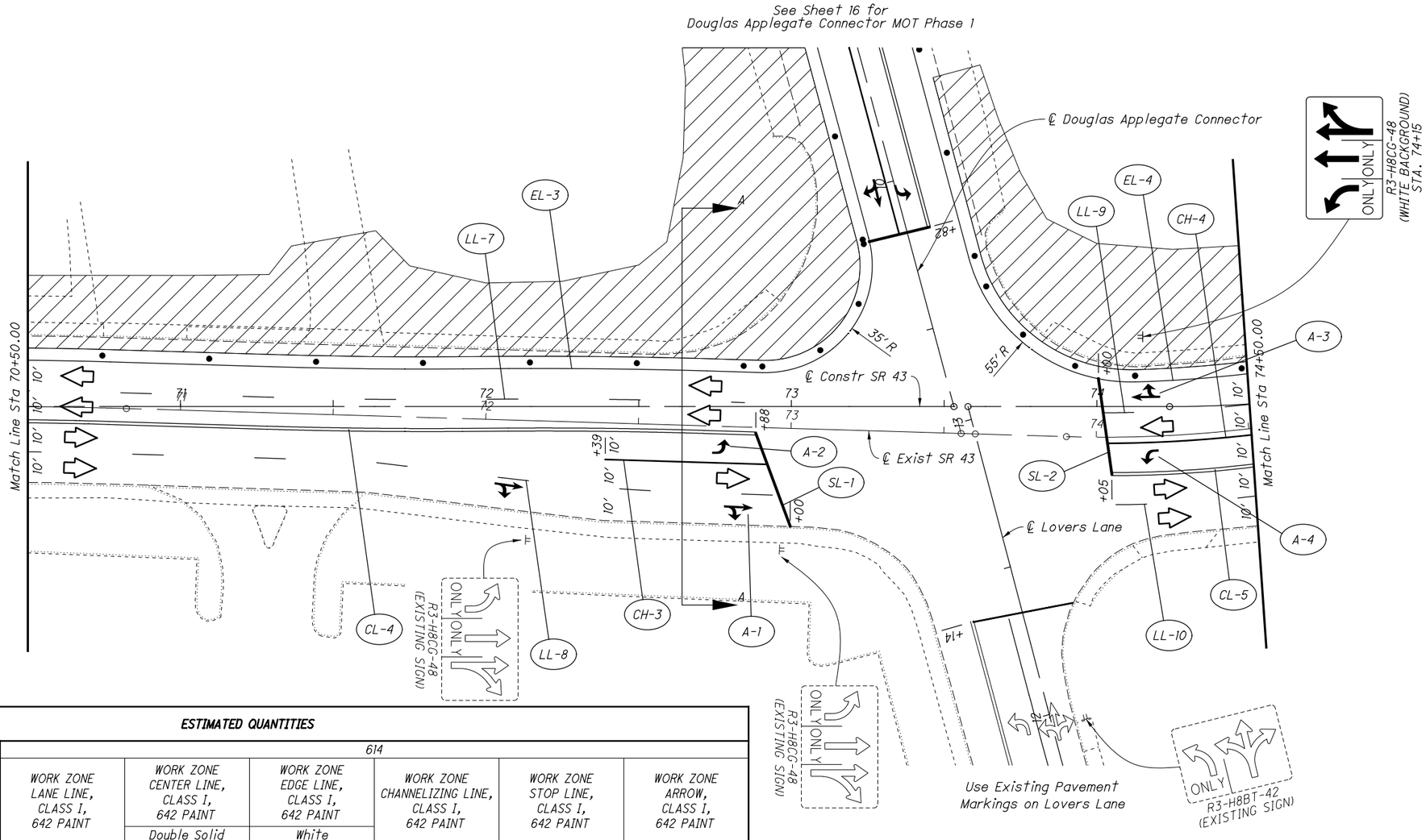
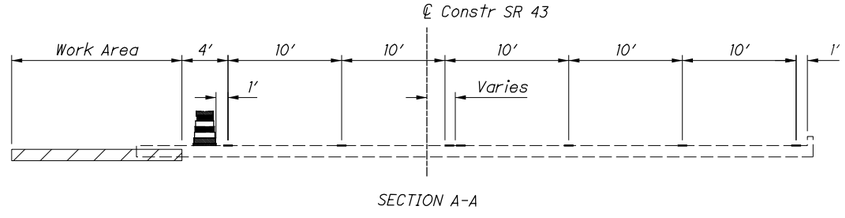


ESTIMATED QUANTITIES

REF No.	Station		Side	614					
				WORK ZONE LANE LINE, CLASS I, 642 PAINT	WORK ZONE CENTER LINE, CLASS I, 642 PAINT	WORK ZONE EDGE LINE, CLASS I, 642 PAINT	WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT	WORK ZONE STOP LINE, CLASS I, 642 PAINT	WORK ZONE ARROW, CLASS I, 642 PAINT
					Double Solid	White			
	From	To		MILE	MILE	MILE	FT	FT	EACH
A-1	72+12.00	72+87.00	Rt						2
A-2	72+80.00	--	Rt						1
A-3	74+11.00	--	Lt						1
A-4	74+14.00	--	Lt						1
CH-3	72+39.00	72+92.00	Rt				53.00		
CH-4	74+04.00	74+50.00	Lt				46.00		
CL-4	70+50.00	72+88.00	Cntr		0.046				
CL-5	74+05.00	74+50.00	Cntr		0.009				
EL-3	70+50.00	73+19.00	Lt			0.051			
EL-4	73+78.00	74+50.00	Lt			0.014			
LL-7	70+50.00	72+85.00	Lt	0.045					
LL-8	70+50.00	72+96.00	Rt	0.047					
LL-9	74+02.00	74+50.00	Lt	0.010					
LL-10	74+06.00	74+50.00	Rt	0.009					
SL-1	72+88.00	73+00.00	Rt					32.35	
SL-2	74+00.00	74+05.00	Lt					31.55	
TOTALS CARRIED TO SUBSUMMARY				**0.12**	**0.06**	**0.07**	**99**	**64**	**5**



Construction Area, this phase

Drums, 35 ft tangent spacing

N

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED JFM
CHECKED RMS

MAINTENANCE OF TRAFFIC
SR 43 - PHASE 1

JEF-43-4.21

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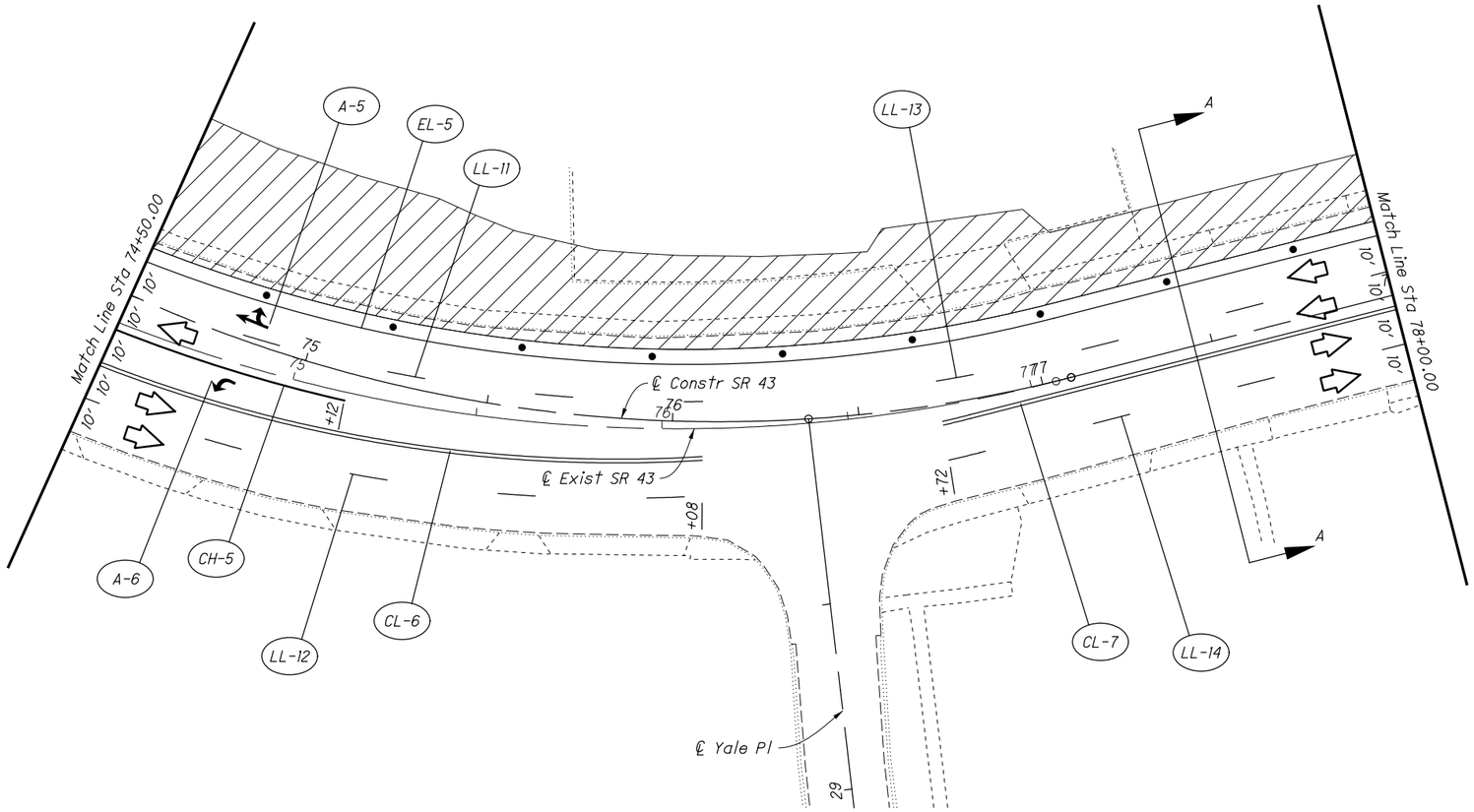
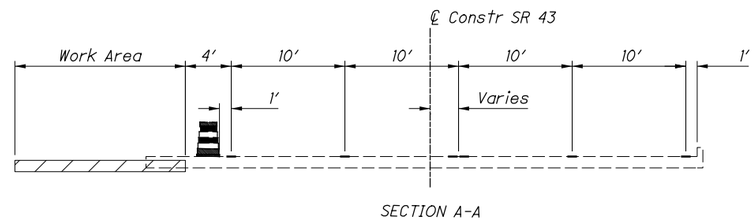


ESTIMATED QUANTITIES

REF No.	Station From	Station To	Side	614 WORK ZONE LANE LINE, CLASS I, 642 PAINT	614 WORK ZONE CENTER LINE, CLASS I, 642 PAINT Double Solid	614 WORK ZONE EDGE LINE, CLASS I, 642 PAINT White	614 WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT	614 WORK ZONE STOP LINE, CLASS I, 642 PAINT	614 WORK ZONE ARROW, CLASS I, 642 PAINT
				MILE	MILE	MILE	FT	FT	EACH
A-5	74+77.00	--	Lt						1
A-6	74+77.00	--	Lt						1
CH-5	74+50.00	75+12.00	Lt				62.00		
CL-6	74+50.00	76+08.00	Cntr		0.030				
CL-7	76+72.00	78+00.00	Cntr		0.025				
EL-5	74+50.00	78+00.00	Lt			0.067			
LL-11	74+50.00	76+08.00	Lt	0.030					
LL-12	74+50.00	76+08.00	Rt	0.030					
LL-13	76+72.00	78+00.00	Lt	0.025					
LL-14	76+72.00	78+00.00	Rt	0.025					
TOTALS CARRIED TO SUBSUMMARY				**0.11**	**0.06**	**0.07**	**62**	**0**	**2**



SECTION A-A

Construction Area, this phase

Drums, 35 ft tangent spacing

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED JFM
CHECKED RMS

MAINTENANCE OF TRAFFIC
SR 43 - PHASE 1

JEF-43-4.21

14
119

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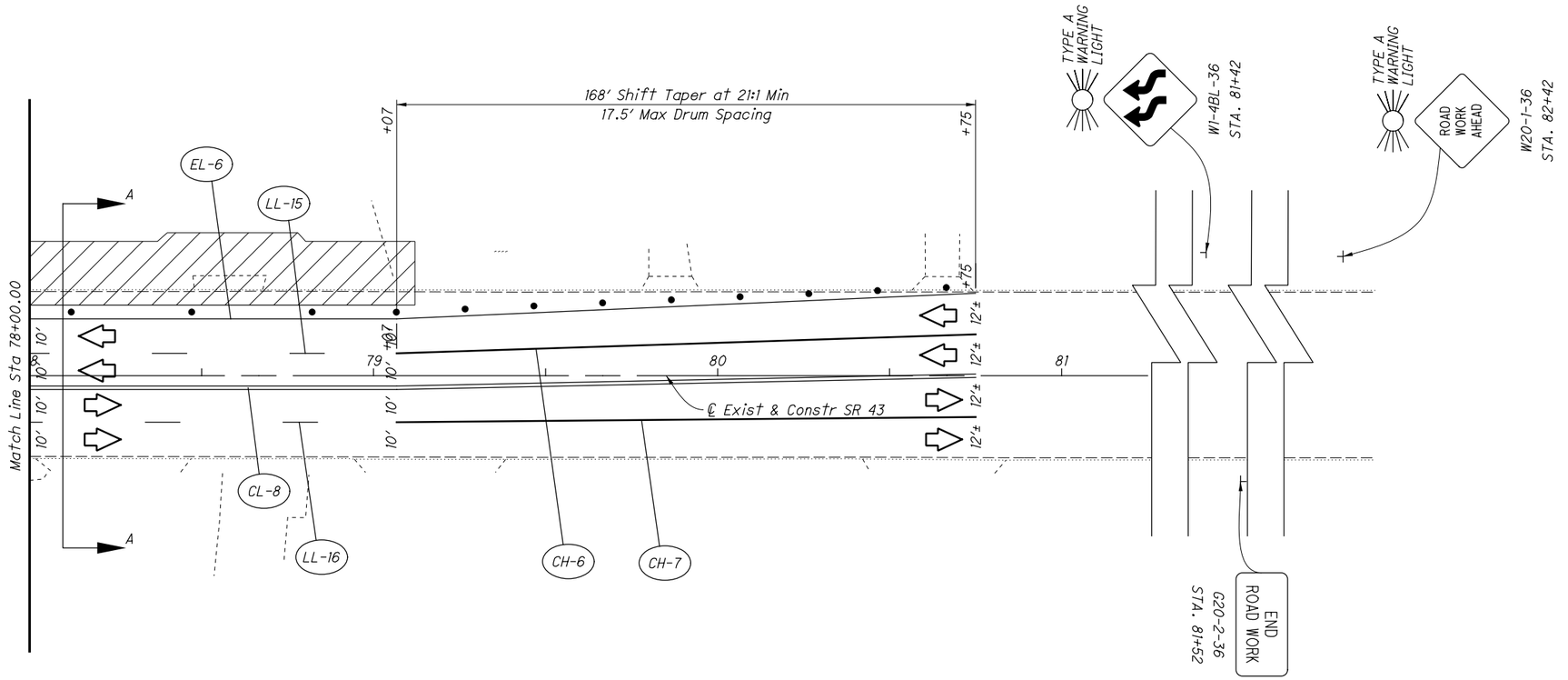
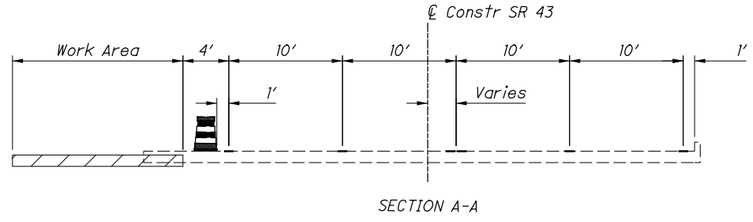


ESTIMATED QUANTITIES

REF No.	Station		Side	614					
				WORK ZONE LANE LINE, CLASS I, 642 PAINT	WORK ZONE CENTER LINE, CLASS I, 642 PAINT	WORK ZONE EDGE LINE, CLASS I, 642 PAINT	WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT	WORK ZONE STOP LINE, CLASS I, 642 PAINT	WORK ZONE ARROW, CLASS I, 642 PAINT
					Double Solid	White			
	From	To		MILE	MILE	MILE	FT	FT	EACH
CH-6	79+07.00	80+75.00	Lt				168.00		
CH-7	79+07.00	80+75.00	Rt				168.00		
CL-8	78+00.00	80+75.00	Cntr		0.053				
EL-6	78+00.00	80+75.00	Lt			0.053			
LL-15	78+00.00	79+07.00	Lt	0.021					
LL-16	78+00.00	79+07.00	Rt	0.021					
TOTALS CARRIED TO SUBSUMMARY				**0.05**	**0.06**	**0.06**	**336**	**0**	**0**



SECTION A-A

Construction Area, this phase

• • • Drums, 35 ft tangent spacing

N

0 10 20 40 HORIZONTAL SCALE IN FEET

CALCULATED JFM
CHECKED RMS

MAINTENANCE OF TRAFFIC SR 43 - PHASE 1

JEF-43-4.21

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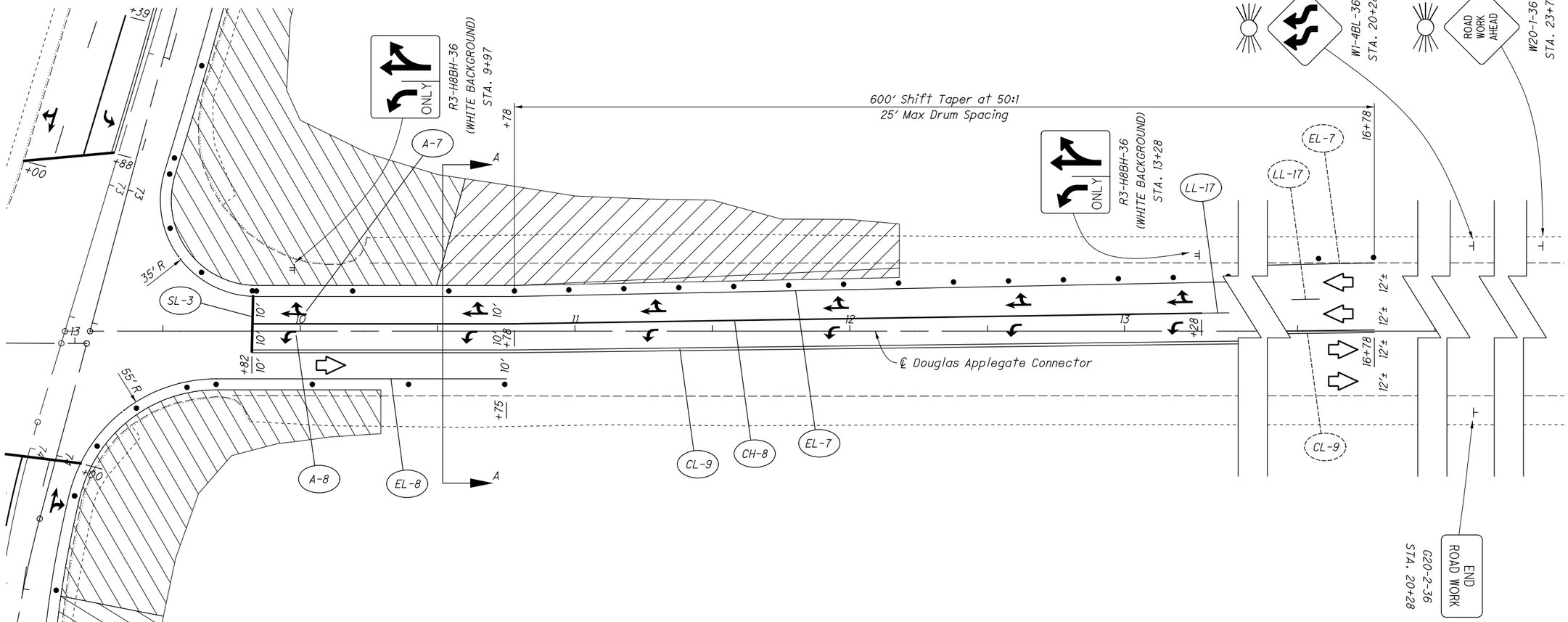
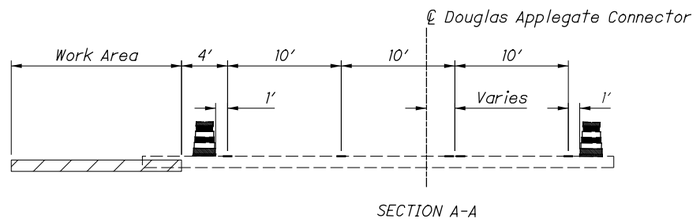
119



ESTIMATED QUANTITIES

REF No.	Station From	Station To	Side	614 WORK ZONE LANE LINE, CLASS I, 642 PAINT	WORK ZONE CENTER LINE, CLASS I, 642 PAINT Double Solid	WORK ZONE EDGE LINE, CLASS I, 642 PAINT White	WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT	WORK ZONE STOP LINE, CLASS I, 642 PAINT	WORK ZONE ARROW, CLASS I, 642 PAINT
				MILE	MILE	MILE	FT	FT	EACH
A-7	9+97.00	13+15.00	Lt						6
A-8	9+97.00	13+15.00	Lt						6
CH-8	9+82.00	13+28.00	Lt				346.00		
CL-9	9+82.00	16+78.00	Cntr		0.132				
EL-7	9+56.00	16+78.00	Lt			0.137			
EL-8	9+35.00	10+75.00	Rt			0.027			
LL-17	13+28.00	16+78.00	Lt	0.067					
SL-3	9+82.00	9+82.00	Lt					20.03	
TOTALS CARRIED TO SUBSUMMARY				**0.07**	**0.14**	**0.17**	**346**	**21**	**12**



SECTION A-A

Construction Area, this phase

Drums, 35 ft tangent spacing

MAINTENANCE OF TRAFFIC
DOUGLAS APPLEGATE CONNECTOR - PHASE 1

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED JFM
CHECKED RMS

JEF-43-4.21

16
119

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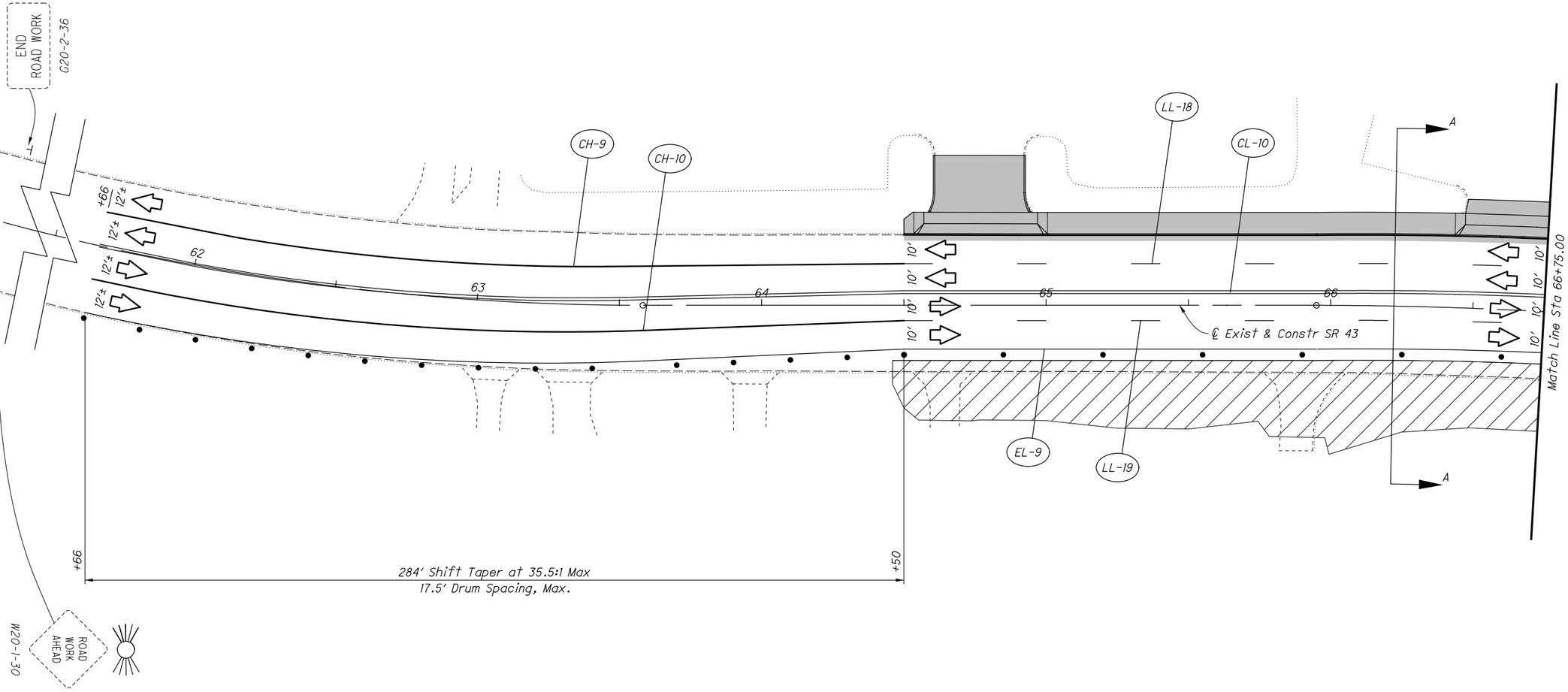
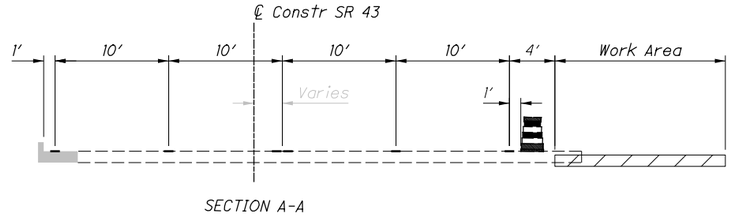


ESTIMATED QUANTITIES

REF No.	Station		Side	614					
				WORK ZONE LANE LINE, CLASS I, 642 PAINT	WORK ZONE CENTER LINE, CLASS I, 642 PAINT	WORK ZONE EDGE LINE, CLASS I, 642 PAINT	WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT	WORK ZONE STOP LINE, CLASS I, 642 PAINT	WORK ZONE ARROW, CLASS I, 642 PAINT
					Double Solid	White			
	From	To		MILE	MILE	MILE	FT	FT	EACH
CH-9	61+66.00	64+50.00	Lt				284.00		
CH-10	61+66.00	64+50.00	Rt				284.00		
CL-10	61+66.00	66+75.00	Cntr		0.097				
EL-9	61+66.00	66+75.00	Rt			0.097			
LL-18	64+50.00	66+75.00	Lt	0.043					
LL-19	64+50.00	66+75.00	Rt	0.043					
TOTALS CARRIED TO SUBSUMMARY				**0.09**	**0.1**	**0.1**	**568**	**0**	**0**



SECTION A-A

Area Completed, previous phase

Construction Area, this phase

• • • Drums, 35 ft tangent spacing

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED JFM
CHECKED RMS

MAINTENANCE OF TRAFFIC
SR 43 - PHASE 2

JEF-43-4.21

17
119

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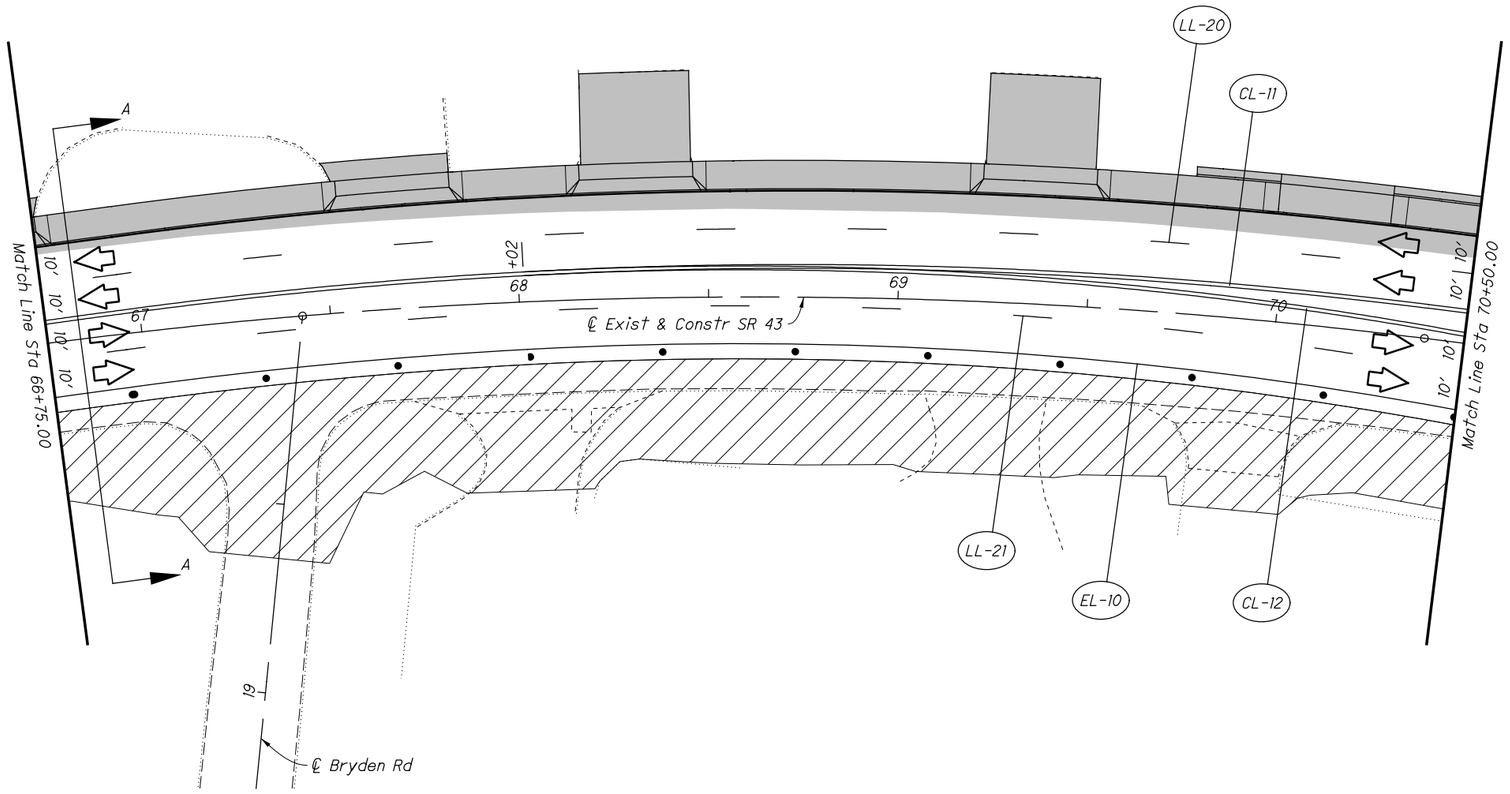
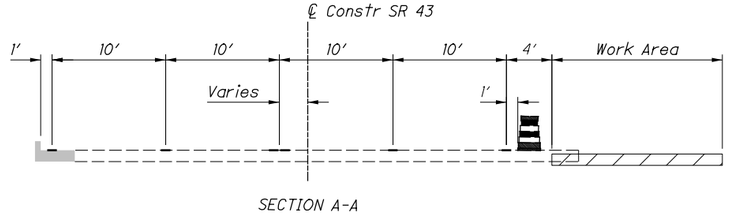


ESTIMATED QUANTITIES									
REF No.	Station		Side	614					
				WORK ZONE LANE LINE, CLASS I, 642 PAINT	WORK ZONE CENTER LINE, CLASS I, 642 PAINT	WORK ZONE EDGE LINE, CLASS I, 642 PAINT	WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT	WORK ZONE STOP LINE, CLASS I, 642 PAINT	WORK ZONE ARROW, CLASS I, 642 PAINT
					Double Solid	White			
	From	To		MILE	MILE	MILE	FT	FT	EACH
CL-11	66+75.00	70+50.00	Cntr		0.072				
CL-12	68+02.00	70+50.00	Rt		0.047				
EL-10	66+75.00	70+50.00	Rt			0.072			
LL-20	66+75.00	70+50.00	Lt	0.072					
LL-21	66+75.00	70+50.00	Rt	0.072					
TOTALS CARRIED TO SUBSUMMARY				**0.15**	**0.12**	**0.08**	**0**	**0**	**0**



SECTION A-A

Area Completed, previous phase

Construction Area, this phase

Drums, 35 ft tangent spacing

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED JFM
CHECKED RMS

MAINTENANCE OF TRAFFIC
SR 43 - PHASE 2

JEF-43-4.21

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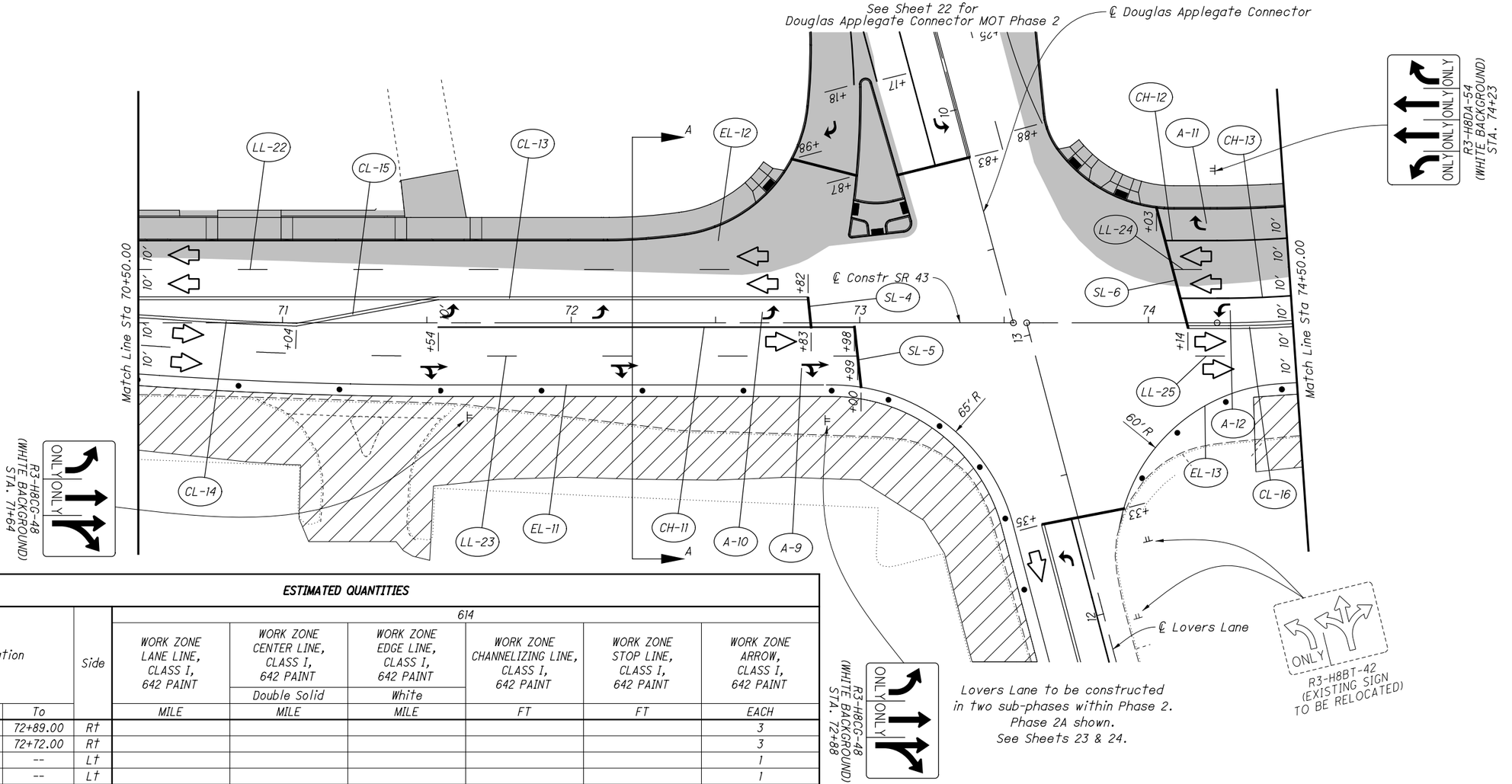
119



ESTIMATED QUANTITIES

REF No.	Station From	Station To	Side	614 WORK ZONE LANE LINE, CLASS I, 642 PAINT	614 WORK ZONE CENTER LINE, CLASS I, 642 PAINT Double Solid	614 WORK ZONE EDGE LINE, CLASS I, 642 PAINT White	614 WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT	614 WORK ZONE STOP LINE, CLASS I, 642 PAINT	614 WORK ZONE ARROW, CLASS I, 642 PAINT
				MILE	MILE	MILE	FT	FT	EACH
A-9	71+57.00	72+89.00	Rt						3
A-10	71+61.00	72+72.00	Rt						3
A-11	74+14.00	--	Lt						1
A-12	74+22.00	--	Lt						1
CH-11	71+54.00	72+98.00	Rt				144.00		
CH-12	74+06.00	74+50.00	Lt				44.00		
CH-13	74+11.00	74+50.00	Lt				39.00		
CL-13	70+50.00	72+82.00	Cntr		0.044				
CL-14	70+50.00	71+04.00	Rt		0.011				
CL-15	71+04.00	74+54.00	Rt		0.067				
CL-16	74+14.00	74+50.00	Cntr		0.007				
EL-11	70+50.00	72+88.00	Rt			0.046			
EL-12	72+30.00	72+72.00	Lt			0.008			
EL-13	73+90.00	74+50.00	Rt			0.012			
LL-22	70+50.00	72+82.00	Lt	0.044					
LL-23	70+50.00	72+99.00	Rt	0.048					
LL-24	74+08.00	74+50.00	Lt	0.008					
LL-25	74+14.00	74+50.00	Rt	0.007					
SL-4	72+82.00	72+83.00	Rt					10.06	
SL-5	72+98.00	73+00.00	Rt					20.82	
SL-6	74+03.00	74+14.00	Lt					42.79	
TOTALS CARRIED TO SUBSUMMARY				**0.11**	**0.13**	**0.07**	**227**	**74**	**8**

MAINTENANCE OF TRAFFIC
SR 43 - PHASE 2

CALCULATED JFM
CHECKED RMS

HORIZONTAL SCALE IN FEET
0 10 20 40

JEF-43-4.21

19
119

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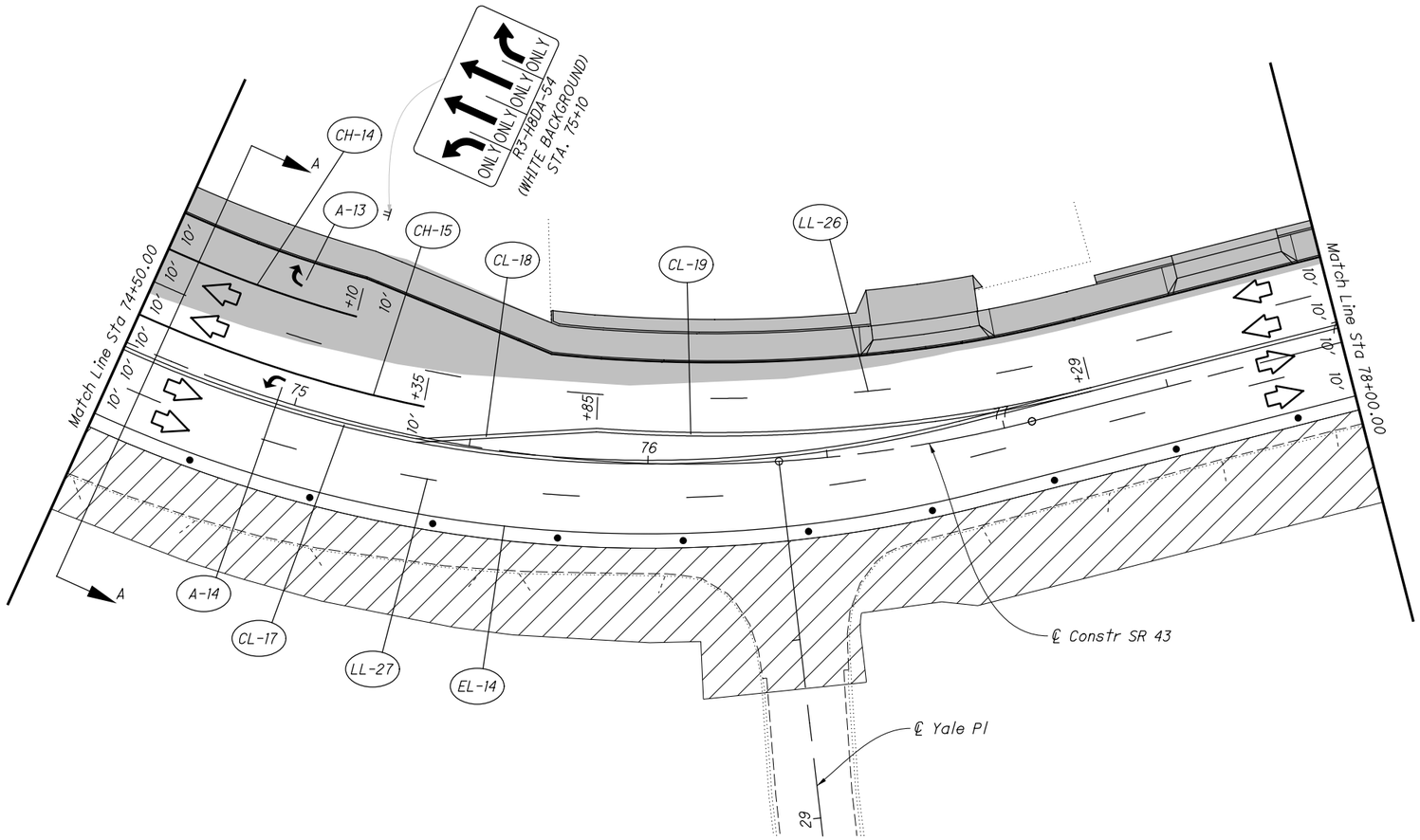
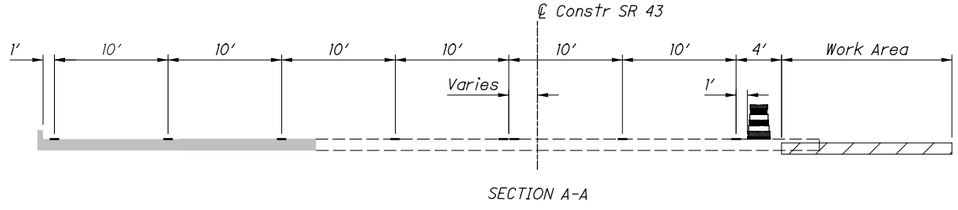


ESTIMATED QUANTITIES

REF No.	Station From	Station To	Side	614 WORK ZONE LANE LINE, CLASS I, 642 PAINT	614 WORK ZONE CENTER LINE, CLASS I, 642 PAINT Double Solid	614 WORK ZONE EDGE LINE, CLASS I, 642 PAINT White	614 WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT	614 WORK ZONE STOP LINE, CLASS I, 642 PAINT	614 WORK ZONE ARROW, CLASS I, 642 PAINT
				MILE	MILE	MILE	FT	FT	EACH
A-13	74+82.00	--	Lt						1
A-14	74+88.00	--	Lt						1
CH-14	74+50.00	75+10.00	Lt				60.00		
CH-15	74+50.00	75+35.00	Lt				85.00		
CL-17	74+50.00	78+00.00	Cntr		0.067				
CL-18	75+35.00	75+85.00	Lt		0.010				
CL-19	75+85.00	77+29.00	Lt		0.028				
EL-14	74+50.00	78+00.00	Rt			0.067			
LL-26	74+50.00	78+00.00	Lt	0.067					
LL-27	74+50.00	78+00.00	Rt	0.067					
TOTALS CARRIED TO SUBSUMMARY				**0.14**	**0.11**	**0.07**	**145**	**0**	**2**



SECTION A-A

Area Completed, previous phase

Construction Area, this phase

Drums, 35 ft tangent spacing

CALCULATED JFM
CHECKED RMS

HORIZONTAL SCALE IN FEET
0 10 20 40

MAINTENANCE OF TRAFFIC
SR 43 - PHASE 2

JEF-43-4.21

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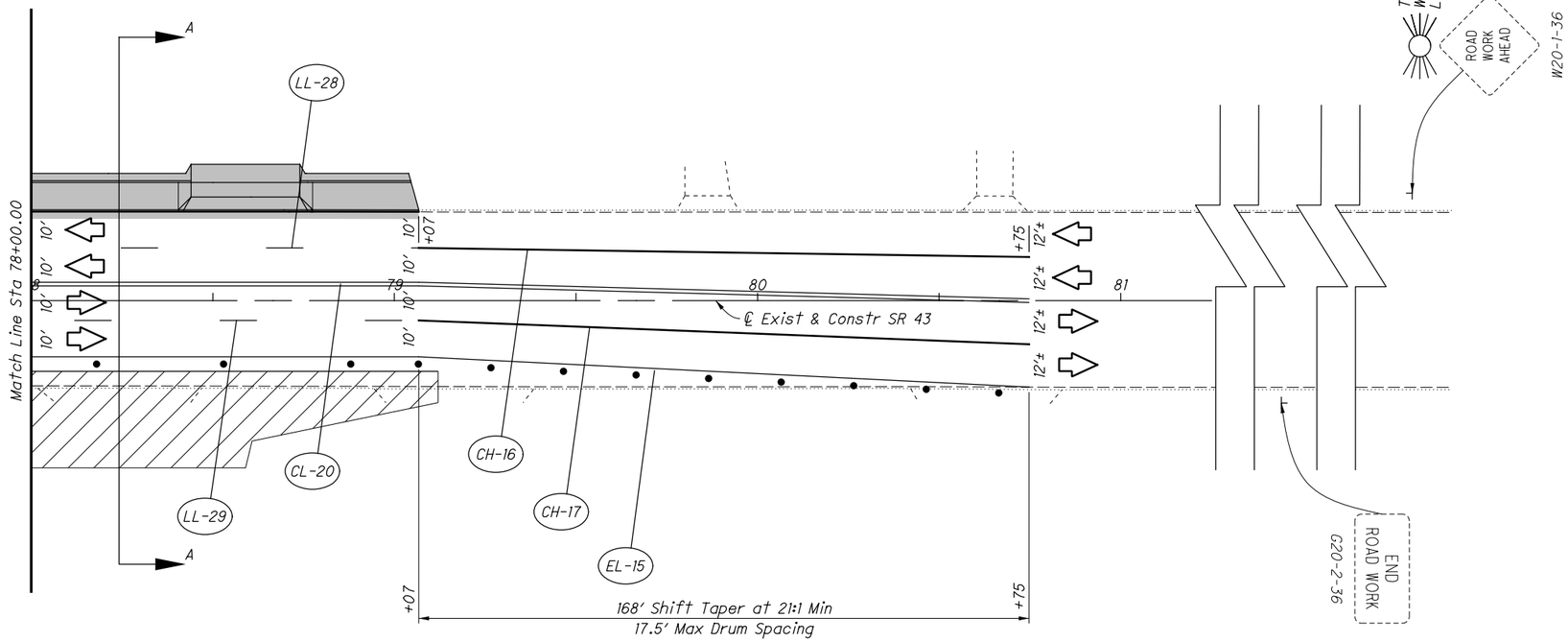
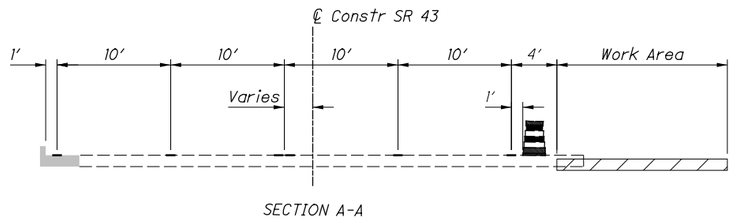
119



ESTIMATED QUANTITIES

REF No.	Station		Side	614					
				WORK ZONE LANE LINE, CLASS I, 642 PAINT	WORK ZONE CENTER LINE, CLASS I, 642 PAINT	WORK ZONE EDGE LINE, CLASS I, 642 PAINT	WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT	WORK ZONE STOP LINE, CLASS I, 642 PAINT	WORK ZONE ARROW, CLASS I, 642 PAINT
					Double Solid	White			
	From	To		MILE	MILE	MILE	FT	FT	EACH
CH-16	79+07.00	80+75.00	Lt				168.00		
CH-17	79+07.00	80+75.00	Rt				168.00		
CL-20	78+00.00	80+75.00	Cntr		0.053				
EL-15	78+00.00	80+75.00	Lt			0.053			
LL-28	78+00.00	79+07.00	Lt	0.021					
LL-29	78+00.00	79+07.00	Rt	0.021					
TOTALS CARRIED TO SUBSUMMARY				**0.05**	**0.06**	**0.06**	**336**	**0**	**0**



SECTION A-A

Area Completed, previous phase

Construction Area, this phase

• • • Drums, 35 ft tangent spacing

CALCULATED JFM
CHECKED RMS

0 10 20 40 HORIZONTAL SCALE IN FEET

MAINTENANCE OF TRAFFIC
SR 43 - PHASE 2

JEF-43-4.21

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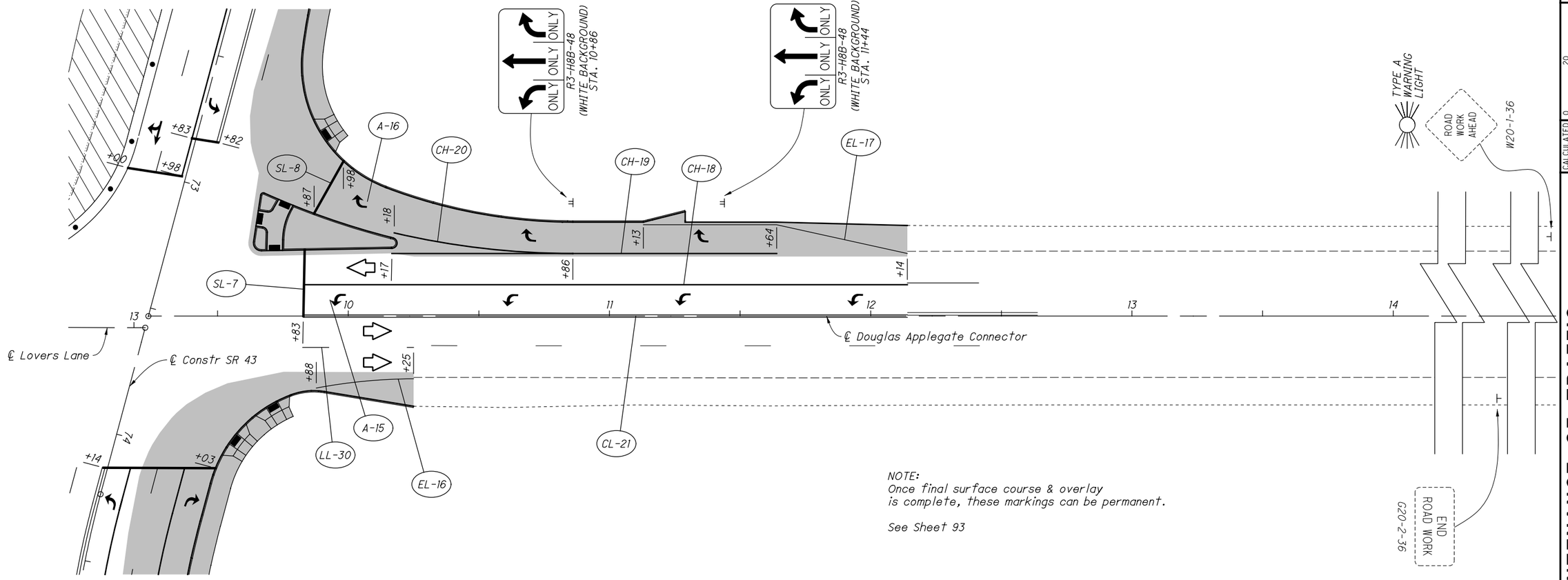
119



NOTE:
Once final surface course & overlay is complete, these markings can be permanent.

See Sheet 93

ESTIMATED QUANTITIES

REF No.	Station From	Station To	Side	614 WORK ZONE LANE LINE, CLASS I, 642 PAINT	614 WORK ZONE CENTER LINE, CLASS I, 642 PAINT Double Solid	614 WORK ZONE EDGE LINE, CLASS I, 642 PAINT White (*Yellow)	614 WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT	614 WORK ZONE STOP LINE, CLASS I, 642 PAINT	614 WORK ZONE ARROW, CLASS I, 642 PAINT
				MILE	MILE	MILE	FT	FT	EACH
A-15	9+93.00	11+92.00	Lt						4
A-16	10+00.00	11+32.00	Lt						3
CH-18	9+83.00	12+14.00	Lt				231.00		
CH-19	10+86.00	11+64.00	Lt				147.00		
CH-20	10+18.00	10+86.00	Lt				69.00		
CL-21	9+83.00	12+14.00	Cntr		0.044				
EL-16	9+88.00	10+25.00	Rt			0.008			
EL-17	11+48.00	12+14.00	Lt			0.020			
LL-30	9+83.00	10+25.00	Rt	0.009					
SL-7	9+83.00	9+83.00	Lt					25.35	
SL-8	9+88.00	9+96.00	Lt					22.90	
TOTALS CARRIED TO SUBSUMMARY				**0.01**	**0.05**	**0.03**	**447**	**49**	**7**

Area Completed, previous phase

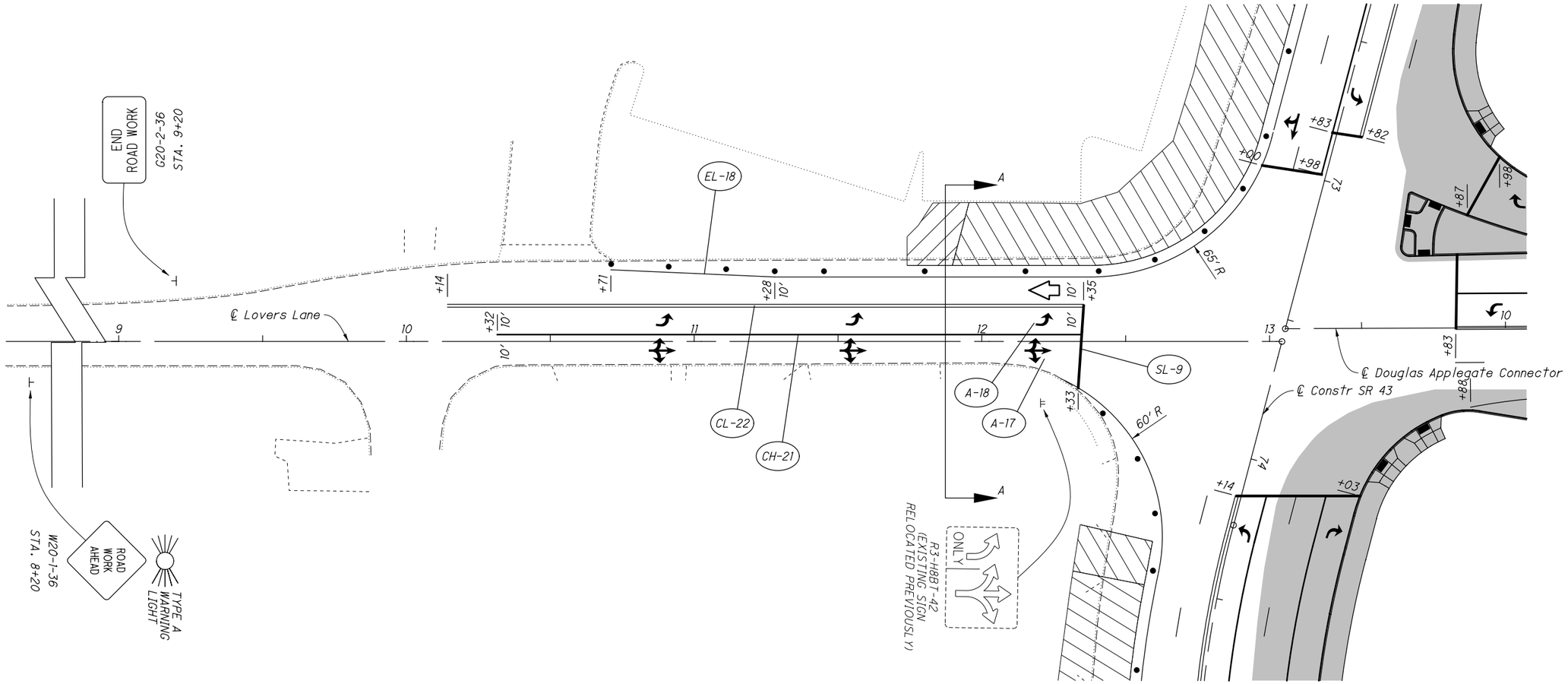
Construction Area, this phase

• • • Drums, 35 ft tangent spacing

CALCULATED JFM CHECKED RMS

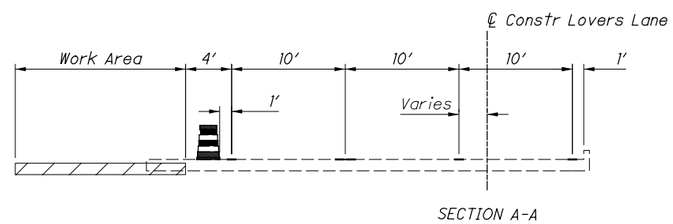
HORIZONTAL SCALE IN FEET
0 10 20 40

MAINTENANCE OF TRAFFIC
DOUGLAS APPLEGATE CONNECTOR - PHASE 2
JEF-43-4.21



ESTIMATED QUANTITIES

REF No.	Station		Side	614					
				WORK ZONE LANE LINE, CLASS I, 642 PAINT	WORK ZONE CENTER LINE, CLASS I, 642 PAINT	WORK ZONE EDGE LINE, CLASS I, 642 PAINT	WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT	WORK ZONE STOP LINE, CLASS I, 642 PAINT	WORK ZONE ARROW, CLASS I, 642 PAINT
					Double Solid	White			
	From	To		MILE	MILE	MILE	FT	FT	EACH
A-17	10+93.00	12+25.00	Rt						3
A-18	10+92.00	12+24.00	Rt						3
CH-21	10+32.00	12+34.00	Rt				202.00		
CL-22	10+14.00	12+35.00	Cntr		0.042				
EL-18	10+71.00	13+01.00	Lt			0.048			
SL-9	12+33.00	12+35.00	Rt					28.53	
TOTALS CARRIED TO SUBSUMMARY				**0**	**0.05**	**0.05**	**202**	**29**	**6**



Area Completed, previous phase

Construction Area, this phase

• • • Drums, 35 ft tangent spacing

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED JFM
CHECKED RMS

MAINTENANCE OF TRAFFIC
LOVERS LANE - PHASE 2A

JEF-43-4.21

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119

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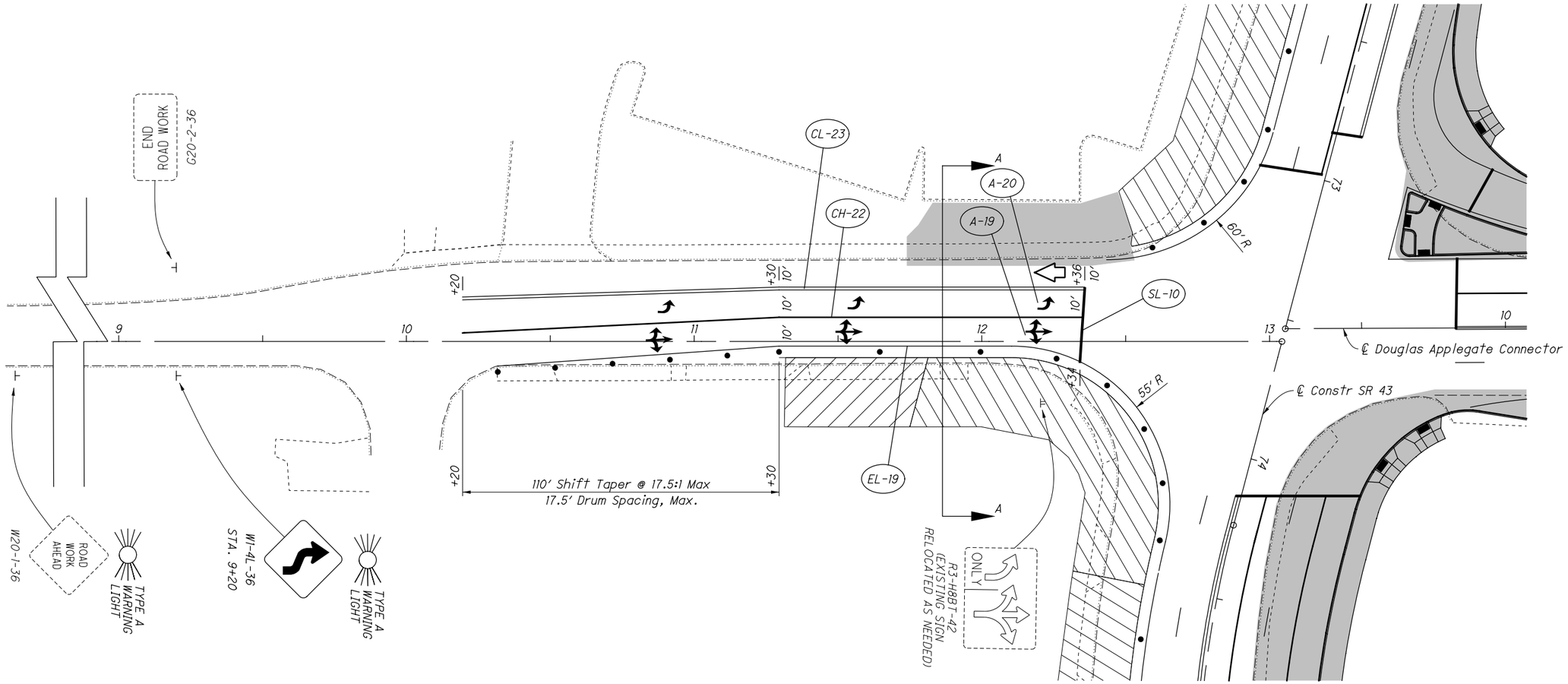
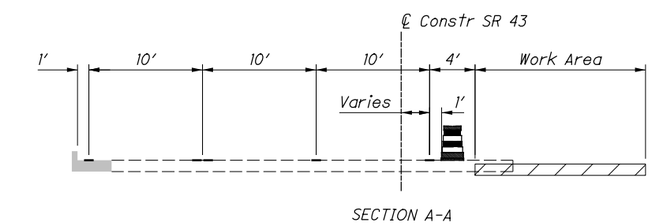


ESTIMATED QUANTITIES

REF No.	Station		Side	614					
				WORK ZONE LANE LINE, CLASS I, 642 PAINT	WORK ZONE CENTER LINE, CLASS I, 642 PAINT	WORK ZONE EDGE LINE, CLASS I, 642 PAINT	WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT	WORK ZONE STOP LINE, CLASS I, 642 PAINT	WORK ZONE ARROW, CLASS I, 642 PAINT
					Double Solid	White			
	From	To		MILE	MILE	MILE	FT	FT	EACH
A-19	10+93.00	10+25.00	Rt						3
A-20	10+94.00	10+26.00	Rt						3
CH-22	10+20.00	12+35.00	Rt				215.00		
CL-23	10+20.00	12+36.00	Cntr		0.041				
EL-19	10+20.00	12+62.00	Rt			0.055			
SL-10	12+34.00	12+36.00	Rt					25.44	
TOTALS CARRIED TO SUBSUMMARY				**0**	**0.05**	**0.06**	**215**	**26**	**6**



SECTION A-A

Area Completed, previous phase

Construction Area, this phase

• • • Drums, 35 ft tangent spacing

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED JFM
CHECKED RMS

MAINTENANCE OF TRAFFIC
LOVERS LANE - PHASE 2B

JEF-43-4.21

SHEET NUM.									PART.		ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
OFFICE CALCS	7	8	28	29	30	31	81	103	01/SK2/OT							
															ROADWAY	
	LS								LS		201	11000	LS		CLEARING AND GRUBBING	
3,699							869		4,568		202	23000	4,568	SY	PAVEMENT REMOVED	
509							453		962		202	23010	962	SY	PAVEMENT REMOVED, ASPHALT	
			8,515						8,515		202	30000	8,515	SF	WALK REMOVED	
3,164			95				365		3,624		202	32000	3,624	FT	CURB REMOVED	
					3				3		202	58100	3	EACH	CATCH BASIN REMOVED	
					7				7		202	58200	7	EACH	INLET REMOVED	
			60						60		SPECIAL	20270000	60	FT	FILL AND PLUG EXISTING CONDUIT	7
		1,965							1,965		SPECIAL	20270110	1,965	FT	PIPE CLEANOUT, 24" AND UNDER	8
			74						74		202	75000	74	FT	FENCE REMOVED	
						2			2		202	75610	2	EACH	VALVE BOX REMOVED	
			4						4		202	98100	4	EACH	REMOVAL MISC.: BRICK PEDESTAL WITH LIGHT	8
			3						3		202	98100	3	EACH	REMOVAL MISC.: COMMERCIAL SIGN	8
			2						2		202	98100	2	EACH	REMOVAL MISC.: LIGHT	8
			3						3		202	98100	3	EACH	REMOVAL MISC.: METAL POST	8
			5						5		202	98200	5	FT	REMOVAL MISC.: BLOCK RETAINING WALL	8
			9						9		202	98200	9	FT	REMOVAL MISC.: CONCRETE RETAINING WALL	8
				1,152					1,152		203	10000	1,152	CY	EXCAVATION	
				252					252		203	20000	252	CY	EMBANKMENT	
2,645									2,645		204	10000	2,645	SY	SUBGRADE COMPACTION	
	2								2		204	45000	2	HOUR	PROOF ROLLING	
15,166									15,166		608	10000	15,166	SF	4" CONCRETE WALK	
1,279									1,279		608	52000	1,279	SF	CURB RAMP	
								4	4		623	38500	4	EACH	MONUMENT ASSEMBLY	
															EROSION CONTROL	
					4				4		601	21050	4	SY	TIED CONCRETE BLOCK MAT, TYPE 1	
	121								121		659	00300	121	CY	TOPSOIL	
	1,090								1,090		659	00500	1,090	SY	SEEDING AND MULCHING, CLASS 1	
	55								55		659	14000	55	SY	REPAIR SEEDING AND MULCHING	
	0.15								0.15		659	20000	0.15	TON	COMMERCIAL FERTILIZER	
									LS		832	15000	LS		STORM WATER POLLUTION PREVENTION PLAN	
									14,000		832	30000	14,000	EACH	EROSION CONTROL	
															DRAINAGE	
					0.2				0.2		511	46610	0.2	CY	CLASS QC1 CONCRETE, HEADWALL	
					1,655				1,655		605	14000	1,655	FT	6" BASE PIPE UNDERDRAINS	
					180				180		611	00510	180	FT	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS	
		100							100		611	00900	100	FT	6" CONDUIT, TYPE B (FOR DRAINAGE CONNECTION)	
		100							100		611	01100	100	FT	6" CONDUIT, TYPE C (FOR DRAINAGE CONNECTION)	
		100							100		611	01400	100	FT	6" CONDUIT, TYPE E (FOR DRAINAGE CONNECTION)	
		100							100		611	01500	100	FT	6" CONDUIT, TYPE F (FOR DRAINAGE CONNECTION)	
					263				263		611	04400	263	FT	12" CONDUIT, TYPE B	
					122				122		611	05900	122	FT	15" CONDUIT, TYPE B	
					8				8		611	98180	8	EACH	CATCH BASIN, NO. 3A	
					2				2		611	98370	2	EACH	CATCH BASIN, NO. 6	
					1				1		611	98630	1	EACH	CATCH BASIN ADJUSTED TO GRADE	
					2				2		611	98840	2	EACH	INLET, NO. 2-A-6	
					1				1		611	98841	1	EACH	INLET, NO. 2-A-6, AS PER PLAN	8
					3				3		611	99150	3	EACH	INLET ADJUSTED TO GRADE	
					4				4		611	99574	4	EACH	MANHOLE, NO. 3	
					6				6		611	99654	6	EACH	MANHOLE ADJUSTED TO GRADE	
					2				2		611	99710	2	EACH	PRECAST REINFORCED CONCRETE OUTLET	
					1				1		895	10010	1	EACH	MANUFACTURED WATER QUALITY STRUCTURE, TYPE 1	7

CALCULATED JFM
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GENERAL SUMMARY

JEF-43-4.21

SHEET NUM.									PART.		ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
OFFICE CALCS	7	31	81	85	87	96			01/SK2/OT							
															PAVEMENT	
3,860									3,860		252	01500	3,860	FT	FULL DEPTH PAVEMENT SAWING	
9,173									9,173		254	01000	9,173	SY	PAVEMENT PLANING, ASPHALT CONCRETE (T=3")	
307									307		301	46000	307	CY	ASPHALT CONCRETE BASE, PG64-22	
458			120						578		304	20000	578	CY	AGGREGATE BASE	
1,540			27						1,567		407	20000	1,567	GAL	NON-TRACKING TACK COAT	
395									395		424	10000	395	CY	FINE GRADED POLYMER ASPHALT CONCRETE, TYPE A	
916									916		441	50300	916	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448)	
8			19						27		441	50400	27	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), (DRIVEWAYS)	
12			27						39		441	50600	39	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448), (DRIVEWAYS)	
			69						69		452	10050	69	SY	6" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC MS	
			361						361		452	12050	361	SY	8" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC MS	
3,933									3,933		609	26000	3,933	FT	CURB, TYPE 6	
															WATER WORK	
		807							807		638	06200	807	FT	POLYETHYLENE ENCASEMENT	
		1							1		638	07609	1	EACH	VALVE BOX, AS PER PLAN	8
		3							3		638	07800	3	EACH	6" GATE VALVE AND VALVE BOX	
		2							2		638	09700	2	EACH	12" X 6" TAPPING SLEEVE, VALVE AND VALVE BOX	
		2							2		638	09800	2	EACH	12" X 12" TAPPING SLEEVE, VALVE AND VALVE BOX	
		3							3		638	10200	3	EACH	6" FIRE HYDRANT	
		2							2		638	10300	2	EACH	FIRE HYDRANT EXTENDED AND ADJUSTED TO GRADE	
		5							5		638	10800	5	EACH	VALVE BOX ADJUSTED TO GRADE	
		1							1		638	10900	1	EACH	SERVICE BOX ADJUSTED TO GRADE	
		102							102		SPECIAL	63820070	102	FT	6" WATER MAIN DIP CLASS 55 PUSH ON JOINTS AND FITTINGS (CITY OF STEUBENVILLE)	8
		705							705		SPECIAL	63820198	705	FT	12" WATER MAIN DIP CLASS 55 PUSH ON JOINTS AND FITTINGS (CITY OF STEUBENVILLE)	8
	4								4		638	98000	4	EACH	WATER WORK, MISC.: 1" WATER SERVICE CONNECTION, SHORT SIDE	7
		2							2		638	98000	2	EACH	WATER WORK, MISC.: TEMPORARY WATER MAIN BLOCK AND TRANSFER DEVICES	8
															TRAFFIC CONTROL	
				113					113		621	00100	113	EACH	RPM	
				16					16		621	54000	16	EACH	RAISED PAVEMENT MARKER REMOVED	
					462				462		630	03100	462	FT	GROUND MOUNTED SUPPORT, NO. 3 POST	
					1				1		630	10702	1	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-16.21, DESIGN 7	83
						8			8		630	79100	8	EACH	SIGN HANGER ASSEMBLY, MAST ARM	
					2				2		630	79200	2	EACH	SIGN ATTACHMENT ASSEMBLY, MAST ARM	
						4			4		630	79500	4	EACH	SIGN SUPPORT ASSEMBLY, POLE MOUNTED	
					239	43.1			282.1		630	80100	282.1	SF	SIGN, FLAT SHEET	
					4				4		630	80500	4	EACH	SIGN, DOUBLE FACED, STREET NAME	
						8			8		630	80510	8	EACH	SIGN, STREET NAME	
						4			4		630	82000	4	EACH	SIGN BACKING ASSEMBLY	
					1				1		630	84510	1	EACH	RIGID OVERHEAD SIGN SUPPORT FOUNDATION	
					48				48		630	84900	48	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
					1				1		630	85100	1	EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	
					31				31		630	86002	31	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
					8				8		630	87400	8	EACH	REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL	
					14				14		630	87500	14	EACH	REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL	
					2				2		630	97700	2	EACH	SIGNING, MISC.: STREET NAME SIGN ASSEMBLY	83
				0.03					0.03		642	00090	0.03	MILE	EDGE LINE, 4"	
				0.51					0.51		642	00190	0.51	MILE	LANE LINE, 4"	
				0.39					0.39		642	00290	0.39	MILE	CENTER LINE	
				1,193					1,193		642	00390	1,193	FT	CHANNELIZING LINE, 8"	
				171					171		642	00490	171	FT	STOP LINE	

CALCULATED JFM
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GENERAL SUMMARY

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SHEET NUM.									PART.		ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
OFFICE CALCS	85	94	96						01/SK2/OT							
															TRAFFIC CONTROL CONTINUED	
	612								612		642	00590	612	FT	CROSSWALK LINE	
	182								182		642	00690	182	FT	TRANSVERSE/DIAGONAL LINE	
	109								109		642	00910	109	SF	ISLAND MARKING	
	21								21		642	01290	21	EACH	LANE ARROW	
	134								134		642	01520	134	FT	DOTTED LINE, 8"	
															TRAFFIC SIGNALS	
			332						332		625	23000	332	FT	NO. 4 AWG 600 VOLT DISTRIBUTION CABLE	
			220						220		625	23400	220	FT	NO. 10 AWG POLE AND BRACKET CABLE	
			154						154		625	25400	154	FT	CONDUIT, 2", 725.04	
			18						18		625	25500	18	FT	CONDUIT, 3", 725.04	
			425						425		625	25902	425	FT	CONDUIT, JACKED OR DRILLED, 725.04, 3"	
			2						2		625	26252	2	EACH	LUMINAIRE, CONVENTIONAL, SOLID STATE (LED)	
			128						128		625	29000	128	FT	TRENCH	
			2						2		625	30540	2	EACH	PULL BOX, 725.06, SIZE 30	
			2						2		625	30700	2	EACH	PULL BOX, 725.08, 18"	
			11						11		625	32000	11	EACH	GROUND ROD	
			128						128		625	36000	128	FT	PLASTIC CAUTION TAPE	
			3						3		632	05007	3	EACH	VEHICULAR SIGNAL HEAD, (LED), 3-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN, BLACK WITH BACKPLATE	93
			2						2		632	05065	2	EACH	VEHICULAR SIGNAL HEAD, (LED), 4-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN, BLACK WITH BACKPLATE	93
			7						7		632	05087	7	EACH	VEHICULAR SIGNAL HEAD, (LED), 5-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN	93
			10						10		632	20731	10	EACH	PEDESTRIAN SIGNAL HEAD (LED), TYPE D2, COUNTDOWN, AS PER PLAN	93
			12						12		632	25000	12	EACH	COVERING OF VEHICULAR SIGNAL HEAD	93
			10						10		632	25010	10	EACH	COVERING OF PEDESTRIAN SIGNAL HEAD	
			9						9		632	26000	9	EACH	PEDESTRIAN PUSHBUTTON	
			1,102						1,102		632	40500	1,102	FT	SIGNAL CABLE, 5 CONDUCTOR, NO. 14 AWG	
			245						245		632	40700	245	FT	SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG	
			773						773		632	40900	773	FT	SIGNAL CABLE, 9 CONDUCTOR, NO. 14 AWG	
			4						4		632	64010	4	EACH	SIGNAL SUPPORT FOUNDATION	93
			6						6		632	64020	6	EACH	PEDESTAL FOUNDATION	
			188						188		632	68200	188	FT	POWER CABLE, 2 CONDUCTOR, NO. 6 AWG	
			200						200		632	69500	200	FT	SERVICE CABLE, 2 CONDUCTOR, NO. 6 AWG	
			1						1		632	70001	1	EACH	POWER SERVICE, AS PER PLAN	93
			1						1		632	77231	1	EACH	SIGNAL SUPPORT, MECHANICAL DAMPER FOR TC-81.21 MAST ARM (GREATER THAN 59' IN LENGTH), AS PER PLAN	94
			1						1		632	80402	1	EACH	SIGNAL SUPPORT, TYPE TC-81.21, DESIGN 4	
			1						1		632	80602	1	EACH	SIGNAL SUPPORT, TYPE TC-81.21, DESIGN 12	
			1						1		632	81070	1	EACH	COMBINATION SIGNAL SUPPORT, TYPE TC-81.21, DESIGN 11 (WITH LIGHT POLE EXTENSION)	94
			1						1		632	81090	1	EACH	COMBINATION SIGNAL SUPPORT, TYPE TC-81.21, DESIGN 13 (WITH LIGHT POLE EXTENSION (SHORTEN))	
			1						1		632	89250	1	EACH	POLE ENTRANCE FITTING	93
			6						6		632	89700	6	EACH	PEDESTAL, 11'	
			1						1		632	90100	1	EACH	REMOVAL OF TRAFFIC SIGNAL INSTALLATION	93
			1						1		633	01551	1	EACH	CONTROLLER UNIT, TYPE TS2/A2, WITH CABINET, TYPE TS2, AS PER PLAN	94
			1						1		633	67100	1	EACH	CABINET FOUNDATION	
			1						1		633	67200	1	EACH	CONTROLLER WORK PAD	
			1						1		633	75001	1	EACH	UNINTERRUPTIBLE POWER SUPPLY (UPS), 1000 WATT, AS PER PLAN	94
		1,505							1,505		804	19080	1,505	FT	FIBER OPTIC CABLE, ARMORED, 12 FIBER	94
		1							1		804	30010	1	EACH	FAN-OUT KIT, 12 FIBER	94
		1							1		804	32010	1	EACH	DROP CABLE, 12 FIBER	94
		1							1		804	34012	1	EACH	FIBER TERMINATION PANEL, 12 FIBER	94
		12							12		804	35000	12	EACH	FUSION SPLICE	94
		1							1		804	36000	1	EACH	SLACK INSTALLATION	94
		1							1		804	37000	1	EACH	SPLICE ENCLOSURE	94
		12							12		804	37500	12	EACH	FIBER OPTIC CONNECTOR	94
		LS							LS		804	37700	LS		FIBER OPTIC CABLE TESTING	94
		1							1		804	38000	1	EACH	FIBER OPTIC CABLE MODEM	94
		1							1		804	98100	1	EACH	FIBER OPTIC CABLE, MISC.: REROUTE PROPOSED FIBER OPTIC INTERCONNECT	94
			4						4		816	30001	4	EACH	VIDEO DETECTION SYSTEM, AS PER PLAN	94

CALCULATED JFM
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GENERAL SUMMARY

JEF-43-4.21

SHEET NUM.												PART.		ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
OFFICE CALCS	9	10	96									01/SC2/OT							
																		TRAFFIC SIGNALS ALTERNATES	
			2									2		625	26252	2	EACH	LUMINAIRE, CONVENTIONAL, SOLID STATE (LED), STREETWORKS VST SERIES	93
																		MAINTENANCE OF TRAFFIC	
	50											50		410	12000	50	CY	TRAFFIC COMPACTED SURFACE, TYPE A OR B	
	50											50		410	13000	50	CY	TRAFFIC COMPACTED SURFACE, TYPE C	
	30											30		614	11110	30	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
	20											20		614	13000	20	CY	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	
		1.11										1.11		614	20100	1.11	MILE	WORK ZONE LANE LINE, CLASS I, 642 PAINT	
		1.13										1.13		614	21100	1.13	MILE	WORK ZONE CENTER LINE, CLASS I, 642 PAINT	
		1.05										1.05		614	22100	1.05	MILE	WORK ZONE EDGE LINE, CLASS I, 642 PAINT	
		3,319										3,319		614	23200	3,319	FT	WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT	
		263										263		614	26200	263	FT	WORK ZONE STOP LINE, CLASS I, 642 PAINT	
		48										48		614	30200	48	EACH	WORK ZONE ARROW, CLASS I, 642 PAINT	
	6											6		616	10000	6	MGAL	WATER	
																		INCIDENTALS	
												LS		614	11000	LS		MAINTAINING TRAFFIC	
												8		619	16010	8	MNTH	FIELD OFFICE, TYPE B	
												LS		623	10001	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING, AS PER PLAN	8
												LS		624	10000	LS		MOBILIZATION	

CALCULATED JFM
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GENERAL SUMMARY

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SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	SIDE	202 WALK REMOVED SF	CURB REMOVED FT	SPECIAL - FILL AND PLUG EXISTING CONDUIT FT	FENCE REMOVED FT	REMOVAL MISC: METAL POST EACH	REMOVAL MISC: BRICK PEDESTAL WITH LIGHT EACH	REMOVAL MISC: LIGHT EACH	REMOVAL MISC: COMMERCIAL SIGN EACH	REMOVAL MISC: CONCRETE RETAINING WALL FT	REMOVAL MISC: BLOCK RETAINING WALL FT
		SR 43												
34	R-1	64+50	64+54	LT	23									
34	R-2	64+50	64+55	RT	21									
34	R-3	64+72	65+79	RT	414									
34	R-4	65+00	66+45	LT	705									
34	R-5	65+79		RT	49									
34	R-6	66+00	66+62	RT				74						
34, 35	R-7	66+03	67+10	RT	547									
34	R-8	66+04		RT					1					
35	R-9	66+75	67+53	LT	316									
35	R-10	67+52	67+77	RT	229									
35	R-11	67+83	68+07	LT	108									
35	R-12	68+11	68+53	LT						2				
35	R-13	68+31	69+09	RT	300									
35	R-14	68+57	69+10	LT	213									
35	R-15	68+90	69+43	RT			60							
35	R-16	68+76	68+89	LT							2	1		
35	R-17	69+16	69+55	LT						2				
35	R-18	69+40	69+71	RT	124									
35	R-19	69+61	69+83	LT	92									
35	R-20	69+75		LT									9	
35, 36	R-21	70+15	70+95	RT	347									
35, 36	R-22	70+38	70+75	LT	147									
35	R-23	70+41		LT								1		
36	R-24	70+72		LT										5
36	R-25	71+02	71+41	LT	157									
36	R-26	71+58	73+35	RT	890									
36	R-27	71+66	72+94	LT	580									
36, 37	R-28	73+84	76+73	LT	1118									
36	R-29	73+95	74+13	RT	120									
36, 37	R-30	74+36	74+54	RT	94									
37	R-31	74+83	75+17	RT	185									
37	R-32	74+90		RT					2					
37	R-33	75+57	75+70	RT	69									
37	R-34	75+68	76+65	LT		92								
37	R-35	76+05	76+18	RT	76									
37	R-36	76+25		RT								1		
37	R-37	76+58	76+89	RT	170									
37	R-38	76+98	77+01	LT		3								
37	R-39	77+02	77+57	LT	198									
37	R-40	77+23	77+59	RT	168									
37, 38	R-41	77+89	78+04	RT	48									
37, 38	R-42	77+91	78+48	LT	215									
38	R-43	78+45	78+83	RT	150									
38	R-44	78+68	79+06	LT	153									
				SUBTOTAL, THIS COLUMN	8026	95	60	74	3	4	2	3	9	5

SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	SIDE	202 WALK REMOVED SF	CURB REMOVED FT	SPECIAL - FILL AND PLUG EXISTING CONDUIT FT	FENCE REMOVED FT	REMOVAL MISC: METAL POST EACH	REMOVAL MISC: BRICK PEDESTAL WITH LIGHT EACH	REMOVAL MISC: LIGHT EACH	REMOVAL MISC: COMMERCIAL SIGN EACH	REMOVAL MISC: CONCRETE RETAINING WALL FT	REMOVAL MISC: BLOCK RETAINING WALL FT
		LOVERS LANE												
40	R-45	11+78	12+61	LT	414									
40	R-46	11+86	11+95	RT	49									
		YALE PLACE												
37	R-47	29+46	29+50	RT	26									
				SUBTOTAL, THIS COLUMN	489	0	0	0	0	0	0	0	0	0
				SUBTOTAL, LEFT COLUMN	8026	95	60	74	3	4	2	3	9	5
				TOTALS CARRIED TO GENERAL SUMMARY	**8515**	**95**	**60**	**74**	**3**	**4**	**2**	**3**	**9**	**5**

CALCULATED JFM
CHECKED RMS

REMOVAL SUBSUMMARY

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SHEET NO.	STATION		203		659
			EXCAVATION	EMBANKMENT	SEEDING AND MULCHING
	FROM	TO	CY	CY	SY
	SR43				
41	63+00.00	63+50.00	0	0	0
42	63+75.00	64+25.00	0	0	0
43	64+50.00	64+77.00	12	1	17
44	65+00.00	65+50.00	35	13	97
45	65+75.00	66+00.00	14	14	63
46	66+25.00	66+61.00	19	12	80
47	66+75.00	67+25.00	31	2	27
48	67+50.00	67+75.00	21	0	15
49	68+03.00	68+31.50	30	10	47
50	68+50.00	69+00.00	34	13	68
51	69+25.50	69+50.00	27	1	19
52	69+75.00	70+00.00	30	8	25
53	70+12.50	70+50.00	32	6	23
54	70+75.00	71+00.00	33	9	36
55	71+29.00	71+75.00	80	15	37
56	72+00.00	72+50.00	89	4	42
57	72+75.00	73+25.00	37	0	18
58	73+50.00	74+00.00	12	0	0
59	74+25.00	74+87.00	163	23	47
60	75+00.00	75+50.00	119	15	47
61	75+75.00	76+00.00	40	9	20
62	76+25.00	76+75.00	41	5	10
63	76+83.50	77+25.00	14	8	27
64	77+50.00	78+00.00	49	4	8
65	78+25.00	78+59.00	28	0	2
66	78+75.00	79+06.73	12	1	9
67	79+25.00	79+75.00	0	0	0
68	80+00.00	80+25.00	0	0	0
	DOUGLAS APPLEGATE CONNECTOR				
69	09+53.01	10+50.00	56	24	47
70	10+75.00	11+50.00	29	20	79
71	11+75.00	12+25.00	30	6	48
72	12+50.00		0	0	0
	LOVERS LANE				
73	11+00.00	11+53.50	3	2	18
74	11+78.00	12+00.00	10	7	34
75	12+25.00	12+74.84	22	20	80
TOTALS CARRIED TO GENERAL SUMMARY			1152	252	1090

Seeding and Mulching total carried to General Note, Sheet 7

CALCULATED JFM
CHECKED RMS

EARTHWORK SUBSUMMARY

JEF-43-4.21

SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	SIDE	202 CATCH BASIN REMOVED EACH	202 INLET REMOVED EACH	511 CLASS QC1 CONCRETE, HEADWALL CY	611 12" CONDUIT, TYPE B FT	611 15" CONDUIT, TYPE B FT	611 CATCH BASIN, NO. 3A EACH	611 CATCH BASIN, NO. 6 EACH	611 CATCH BASIN ADJUSTED TO GRADE EACH	611 INLET, NO. 2-A-6 EACH	611 INLET, NO. 2-A-6, AS PER PLAN EACH	611 INLET ADJUSTED TO GRADE EACH	611 MANHOLE, NO. 3 EACH	611 MANHOLE ADJUSTED TO GRADE EACH	895 MANUFACTURED WATER QUALITY STRUCTURE, TYPE 1 EACH
		SR 43																
34	D-1	63+94.25	No Work	LT														
34	D-2	65+17.92		LT											1			
34	D-3	65+17.78		RT													1	
35	D-4	66+91.08		RT		1			10									
35	D-5	67+13.00	67+44.50	RT				32		1								
35	D-6	67+44.50		RT		1				1								
35	D-7	67+48.61		RT													1	
35	D-8	68+68.50	68+90.00	RT					26							1		
35	D-9	68+90.00		RT		1		14		1								
35	D-10	68+90.00	69+16.20	RT					26							1		
35	D-11	69+16.20	69+42.50	RT					26									1
35	D-12	69+37.00	69+42.50	RT				6		1								
35	D-13	69+42.50		RT					14							1		
35	D-14	69+42.50		RT		1			6							1		
35	D-15	69+48.00	69+42.50	RT				6		1								
35	D-16	69+91.00	69+48.00	RT	1			43	6		1							
35	D-17	70+32.00	69+91.00	RT		1		41	8	1								
36	D-18	71+70.20		RT													1	
36	D-19	71+73.27		LT		1		11					1					
36	D-20	72+25.00	71+73.27	LT				52					1					
36	D-22	73+45.35		RT													1	
37	D-27	75+95.38		RT								1						
37	D-28	76+57.00		LT		1					1							
37	D-29	77+11.95		LT											1			
37	D-30	77+07.23		RT													1	
37	D-31	77+49.98		LT											1			
38	D-32	78+90.91		LT													1	
38	D-33	78+88.95	No Work	RT														
		DOUGLASS APPLEGATE CONN																
39	D-21	10+10.50	10+61.29	LT			0.2	60		1								
		LOVERS LANE																
40	D-23	12+37.00		LT	1									1				
40	D-24	11+89.50		RT	1					1								
40	D-25	9+59.20	No Work	LT														
40	D-26	9+59.70	No Work	RT														
TOTALS CARRIED TO GENERAL SUMMARY					3	7	0.2	263	122	8	2	1	2	1	3	4	6	1

SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	SIDE	601 TIED CONCRETE BLOCK MAT, TYPE 1 SY	605 6" BASE PIPE UNDERDRAINS FT	611 6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS FT	611 PRECAST REINFORCED CONCRETE OUTLET EACH
		SR 43						
34	U-1	64+50.00	65+17.92	LT		58	10	
34	U-2	64+50.00	67+13.00	RT		255	10	
35	U-5	67+62.42	67+44.50	RT		15	10	
35	U-6	67+64.42	68+90.00	RT		114	10	
35	U-7	68+90.00	69+37.00	RT		36	10	
35	U-8	69+91.00	69+48.00	RT		32	10	
35	U-9	70+32.00	69+91.00	RT		30	10	
35, 36	U-10	71+87.50	70+32.00	RT		147	10	
36	U-11	72+25.00	71+73.27	LT		42	10	
36	U-12	72+52.50	72+25.00	LT		20	10	
36, 37	U-13	73+91.72	76+57.00	LT		238	10	
37	U-16	76+57.00	77+11.95	LT		38	10	
37	U-17	77+49.98	77+11.95	LT		28	10	
37, 38	U-18	79+06.74	77+49.98	LT		147	10	
		DOUGLAS APPLEGATE CONN.						
39	U-19	9+84.64	11+31.65	LT	2	160	10	1
39	U-20	9+58.18	10+27.78	RT	2	68	10	1
		LOVERS LANE						
40	U-21	11+39.67	11+89.50	RT		66	10	
40	U-22	11+78.00	12+37.00	RT		49	10	
		BRYDEN RD						
35	U-3	19+57.61	19+39.65	LT		20		
35	U-4	19+57.94	19+39.65	RT		18		
		YALE PL						
37	U-14	29+74.34	29+40.08	LT		47		
37	U-15	29+65.17	29+40.08	RT		27		
TOTALS CARRIED TO GENERAL SUMMARY					4	1655	180	2

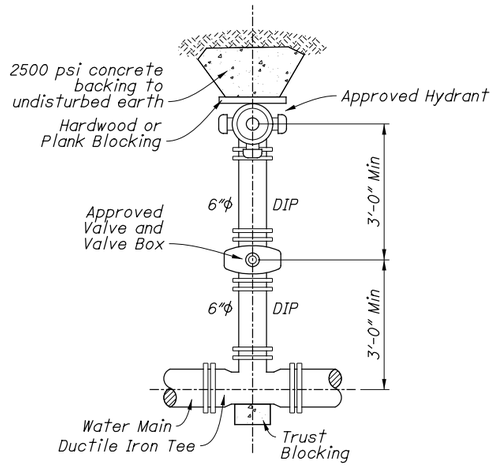
CALCULATED JFM
CHECKED RMS

DRAINAGE SUBSUMMARY

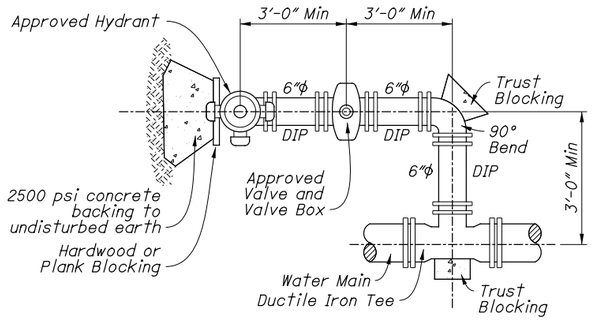
JEF-43-4.21

SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	SIDE	202	638												FOR INFORMATION ONLY					
					VAVLE BOX REMOVED	POLYETHYLENE ENCASEMENT	VALVE BOX, AS PER PLAN	6" GATE VALVE AND VALVE BOX	12" X 6" TAPPING SLEEVE, VALVE AND VALVE BOX	12" X 12" TAPPING SLEEVE, VALVE AND VALVE BOX	6" FIRE HYDRANT	FIRE HYDRANT EXTENDED AND ADJUSTED TO GRADE	VALVE BOX ADJUSTED TO GRADE	SERVICE BOX ADJUSTED TO GRADE	SPECIAL - 6" WATER MAIN DIP CLASS 55 PUSH ON JOINTS AND FITTINGS (CITY OF STEUBENVILLE)	SPECIAL - 12" WATER MAIN DIP CLASS 55 PUSH ON JOINTS AND FITTINGS (CITY OF STEUBENVILLE)	WATER WORK, MISC.: TEMPORARY WATER MAIN BLOCK AND TRANSFER DEVICES	WATER WORK, MISC.: 1" WATER SERVICE CONNECTION, SHORT SIDE	HYDRANT ASSEMBLY	6" SOLID SLEEVE	6" 45-DEG BEND	6" 90-DEG BEND	12" 45-DEG BEND	12" PLUG
					EACH	FT	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	FT	FT	EACH	EACH	TYPE	EACH	EACH	EACH	EACH	EACH
		SR 43																						
34	W-1	65+00.00		LT								1	1						A					
35	W-2	67+27.00		LT								1	2						A					
35	W-3	68+37.50		LT										1										
35 - 37	W-4	69+50.00	76+55.00	LT		775			2	2					70	705	2	4		2	4		4	2
35	W-5	69+66.00		LT		9		1			1				9				B			1		
36	W-6	72+50.00		LT		9		1			1				9				A					
36	W-7	73+11.83	73+68.04	LT	2								1											
36	W-8	73+90.90		RT			1																	
37	W-9	74+89.88		RT									1											
37	W-10	75+05.00		LT		14		1			1				14				A					
TOTALS CARRIED TO GENERAL SUMMARY					2	807	1	3	2	2	3	2	5	1	102	705	2	4						

Water service connection quantity carried to General Note, Sheet 7.



HYDRANT ASSEMBLY TYPE "A"



HYDRANT ASSEMBLY TYPE "B"

NOTES:

1. Detail is not to scale.
2. Hydrant, valve, valve box and appurtenances shall be installed per applicable CMS 638 item and this detail, only superseded by City of Steubenville Standard Water Detail ST-238.

CALCULATED JFM
CHECKED RMS

WATER WORK SUBSUMMARY

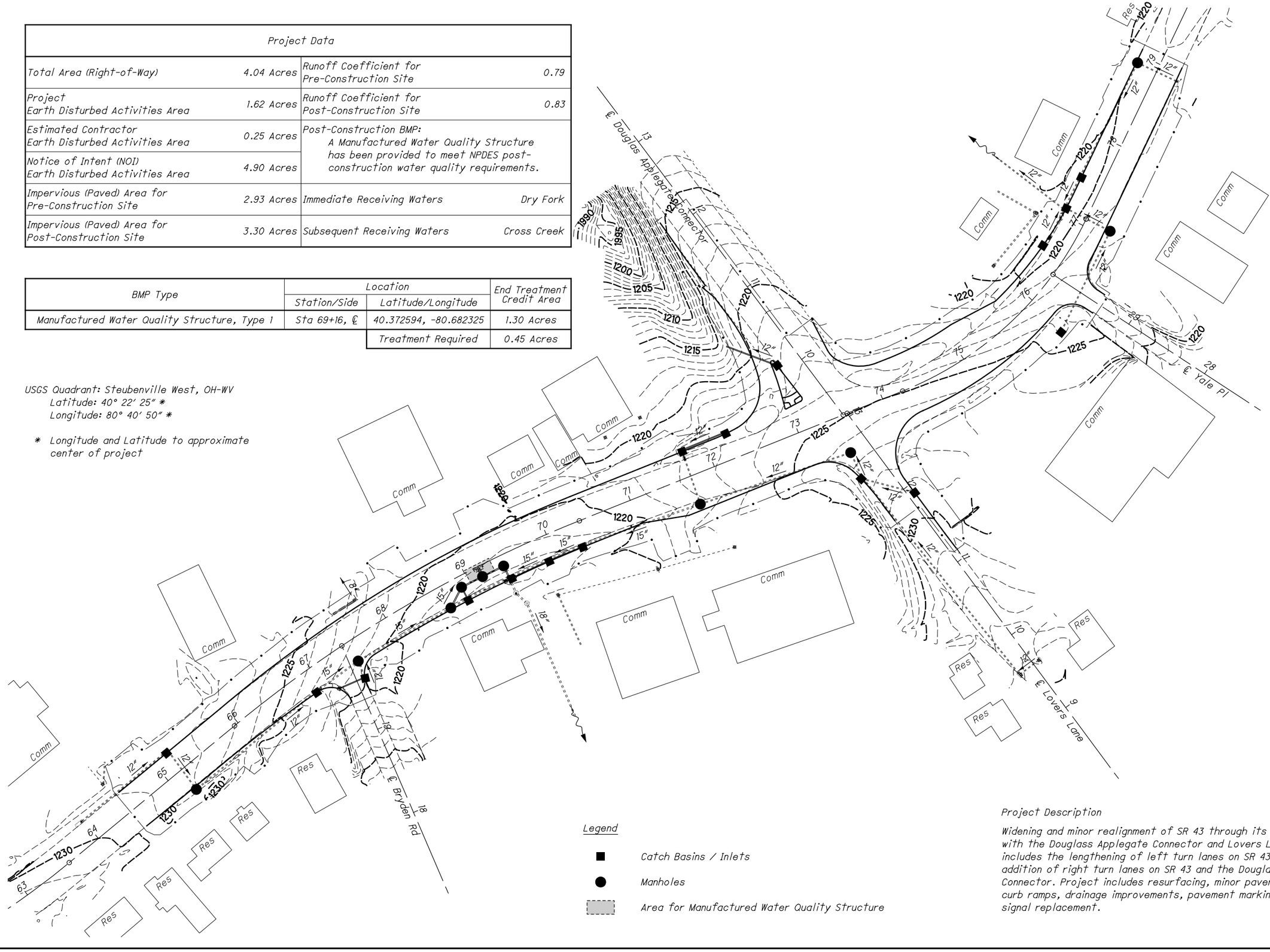
JEF-43-4.21

Project Data			
Total Area (Right-of-Way)	4.04 Acres	Runoff Coefficient for Pre-Construction Site	0.79
Project Earth Disturbed Activities Area	1.62 Acres	Runoff Coefficient for Post-Construction Site	0.83
Estimated Contractor Earth Disturbed Activities Area	0.25 Acres	Post-Construction BMP: A Manufactured Water Quality Structure has been provided to meet NPDES post-construction water quality requirements.	
Notice of Intent (NOI) Earth Disturbed Activities Area	4.90 Acres		
Impervious (Paved) Area for Pre-Construction Site	2.93 Acres	Immediate Receiving Waters	Dry Fork
Impervious (Paved) Area for Post-Construction Site	3.30 Acres	Subsequent Receiving Waters	Cross Creek

BMP Type	Location		End Treatment Credit Area
	Station/Side	Latitude/Longitude	
Manufactured Water Quality Structure, Type 1	Sta 69+16, ℄	40.372594, -80.682325	1.30 Acres
		Treatment Required	0.45 Acres

USGS Quadrant: Steubenville West, OH-WV
Latitude: 40° 22′ 25″ *
Longitude: 80° 40′ 50″ *

* Longitude and Latitude to approximate center of project



Project Description

Widening and minor realignment of SR 43 through its intersection with the Douglass Applegate Connector and Lovers Lane. Project includes the lengthening of left turn lanes on SR 43 and the addition of right turn lanes on SR 43 and the Douglass Applegate Connector. Project includes resurfacing, minor pavement repair, curb ramps, drainage improvements, pavement markings, signs, and signal replacement.

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED JFM
CHECKED BJB

PROJECT SITE PLAN

JEF-43-4.21

33
119

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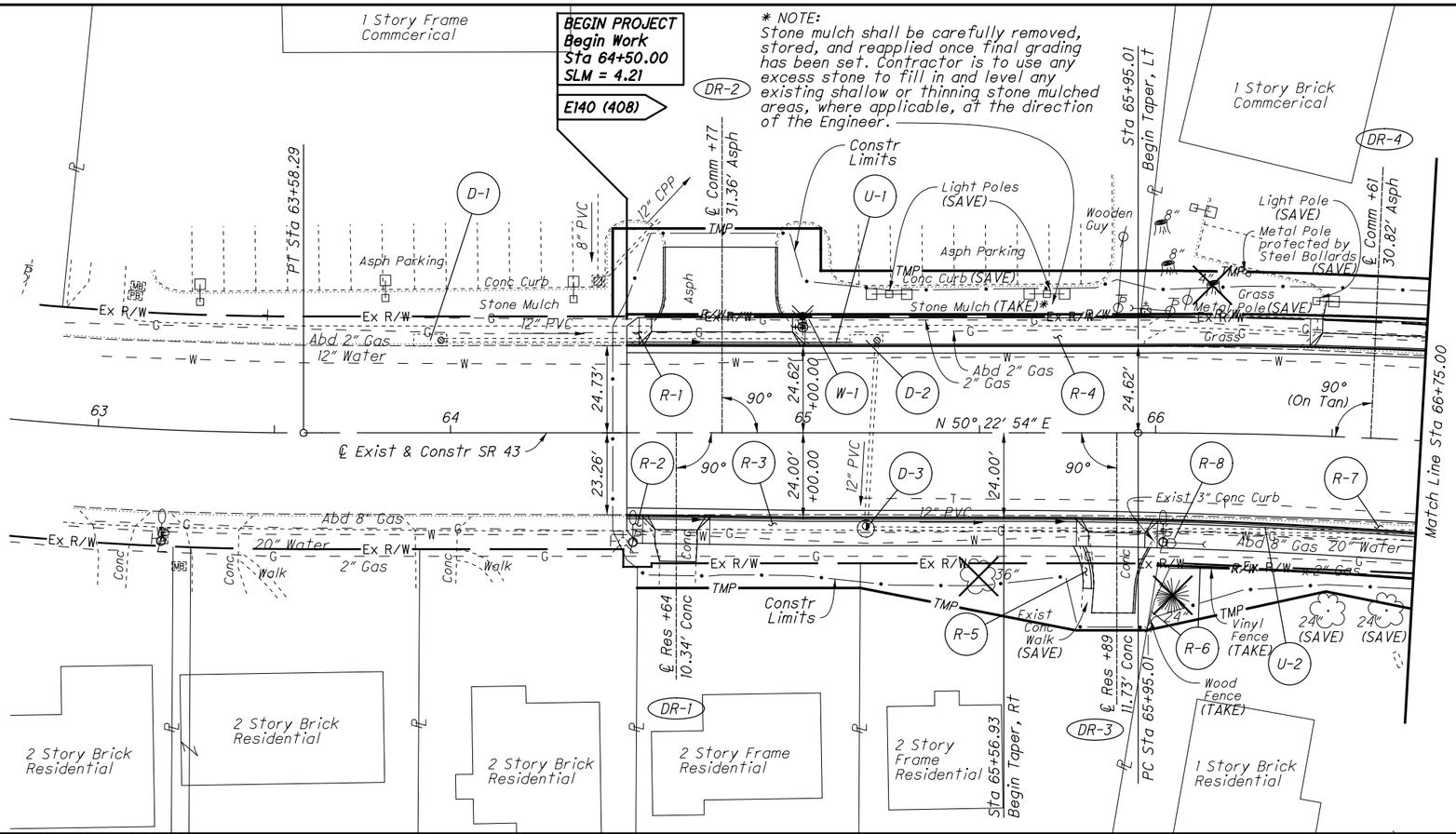
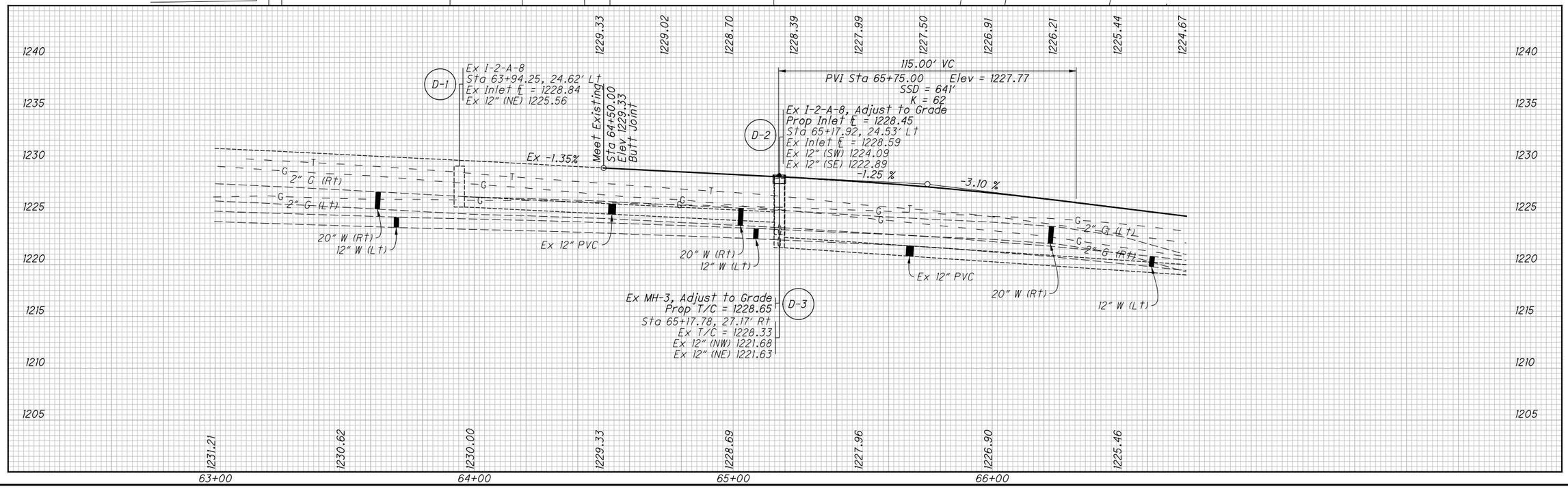


Proposed Curve Data:
P.I. Sta. 68+19.04
Δ = 17° 46' 41" (RT)
Dc = 4° 00' 00"
R = 1,432.39'
T = 224.03'
L = 444.45'
E = 17.41'
C = 442.67'
C.B. = N 59° 16' 14" E
eMAX = 0.039

CROSS REFERENCES	
Sheet No.	Description
2	Horiz Control & Benchmarks
29, 31, 32, 82	Quantity Subsummaries
41 - 47	Cross-Sections
83	Drive Details



PLAN & PROFILE SR 43
STA 62+75 TO STA 66+75

JEF-43-4.21

CALCULATED JFM CHECKED BJB

HORIZONTAL SCALE IN FEET
0 10 20 40

34
119

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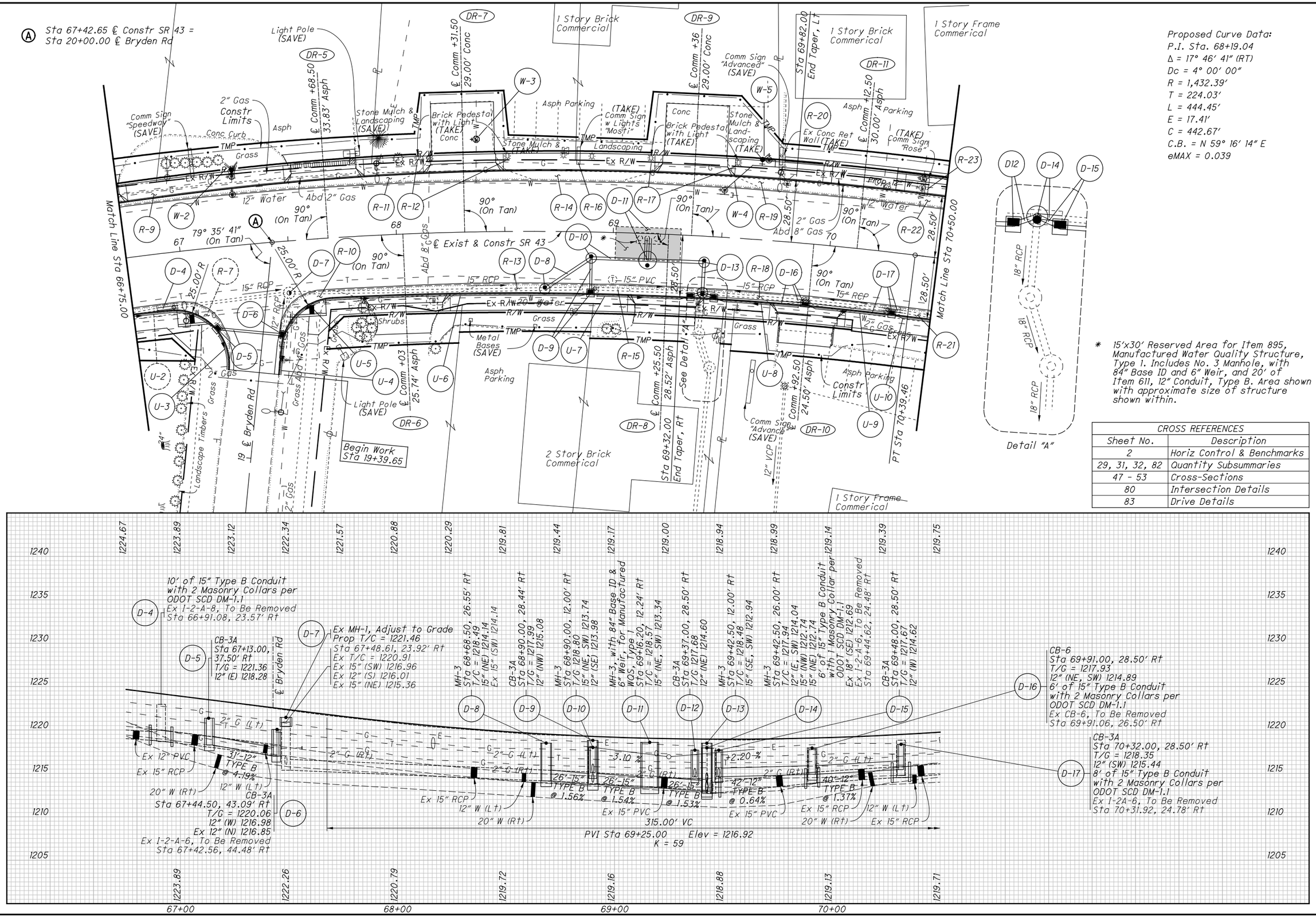

CROSS REFERENCES	
Sheet No.	Description
2	Horiz Control & Benchmarks
29, 31, 32, 82	Quantity Subsummaries
47 - 53	Cross-Sections
80	Intersection Details
83	Drive Details

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED JFM
CHECKED BJB

PLAN & PROFILE SR 43 STA 66+75 TO STA 70+50

JEF-43-4.21

35
119

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Ⓐ Sta 73+53.21 ℄ Constr SR 43 =
Sta 9+23.50 ℄ Douglas Applegate Connector

Ⓑ Sta 73+57.82 ℄ Constr SR 43 =
Sta 13+04.32 ℄ Lovers Lane

Proposed Curve Data:
P.I. Sta. 75+72.79
Δ = 42° 36′ 41″ (LT)
Dc = 15° 00′ 00″
R = 381.97′
T = 148.97′
L = 284.08′
E = 28.02′
C = 277.58′
C.B. = N 46° 51′ 14″ E
eMAX = 0.078

Shown curb, sign, and canopy location is based on site improvement plans dated 6/28/2016. Actual locations, and related elevation assumptions, may vary with as-built conditions.

CROSS REFERENCES	
Sheet No.	Description
2	Horiz Control & Benchmarks
29, 31, 32, 82	Quantity Subsummaries
53 - 59	Cross-Sections
78, 79	Intersection Details
83	Drive Details

Ex MH-1, Adjust to Grade
Prop T/C = 1222.21
Sta 71+70.20, 32.66′ Rt
Ex T/C = 1222.32
Ex 12″ (N, NE) 1217.60
Ex 15″ (SW) 1217.35

I-2-A-6
Sta 71+73.27, 28.50′ Lt
Inlet ℄ = 1222.28
12″ (NE, SE) 1218.22
Ex I-2-A-10, To Be Removed
Sta 71+84.46, 11.25′ Rt

I-2-A-6
Sta 72+25.00, 28.98′ Lt
Inlet ℄ = 1223.16
12″ (SW) 1219.83

Ex MH-1, Adjust to Grade
Prop T/C = 1226.42
Sta 73+45.35, 41.64′ Rt
Ex T/C = 1226.56
Ex 12″ (SE) 1222.36
Ex 12″ (SW) 1222.11

PLAN & PROFILE SR 43
STA 70+50 TO STA 74+50

JEF-43-4.21

36
119

CALCULATED JFM CHECKED BJB

HORIZONTAL SCALE IN FEET

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Ⓐ Sta 76+36.50 ℄ Constr SR 43 =
Sta 30+00.00 ℄ Yale Pl

Proposed Curve Data:
P.I. Sta. 75+72.79
Δ = 42° 36′ 41″ (LT)
Dc = 15° 00′ 00″
R = 381.97′
T = 148.97′
L = 284.08′
E = 28.02′
C = 277.58′
C.B. = N 46° 51′ 14″ E
eMAX = 0.078

Shown curb, sign, and canopy location is based on site improvement plans dated 6/28/2016. Actual locations, and related elevation assumptions, may vary with as-built conditions.

CROSS REFERENCES	
Sheet No.	Description
2	Horiz Control & Benchmarks
29, 31, 32, 82	Quantity Subsummaries
59 - 64	Cross-Sections
81	Intersection Details

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED JFM
CHECKED BJB

PLAN & PROFILE SR 43
STA 74+50 TO STA 78+00

JEF-43-4.21

37
119

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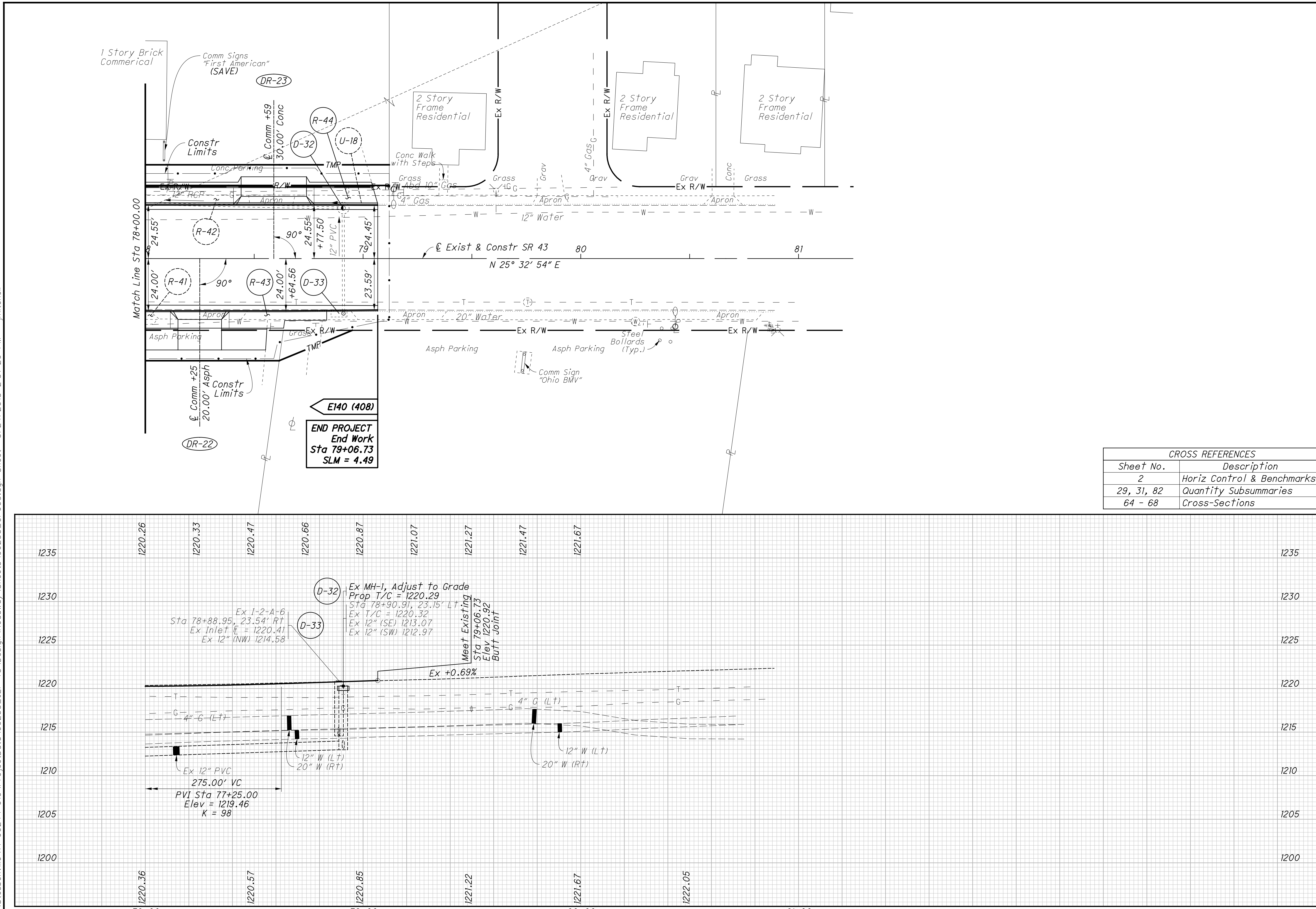


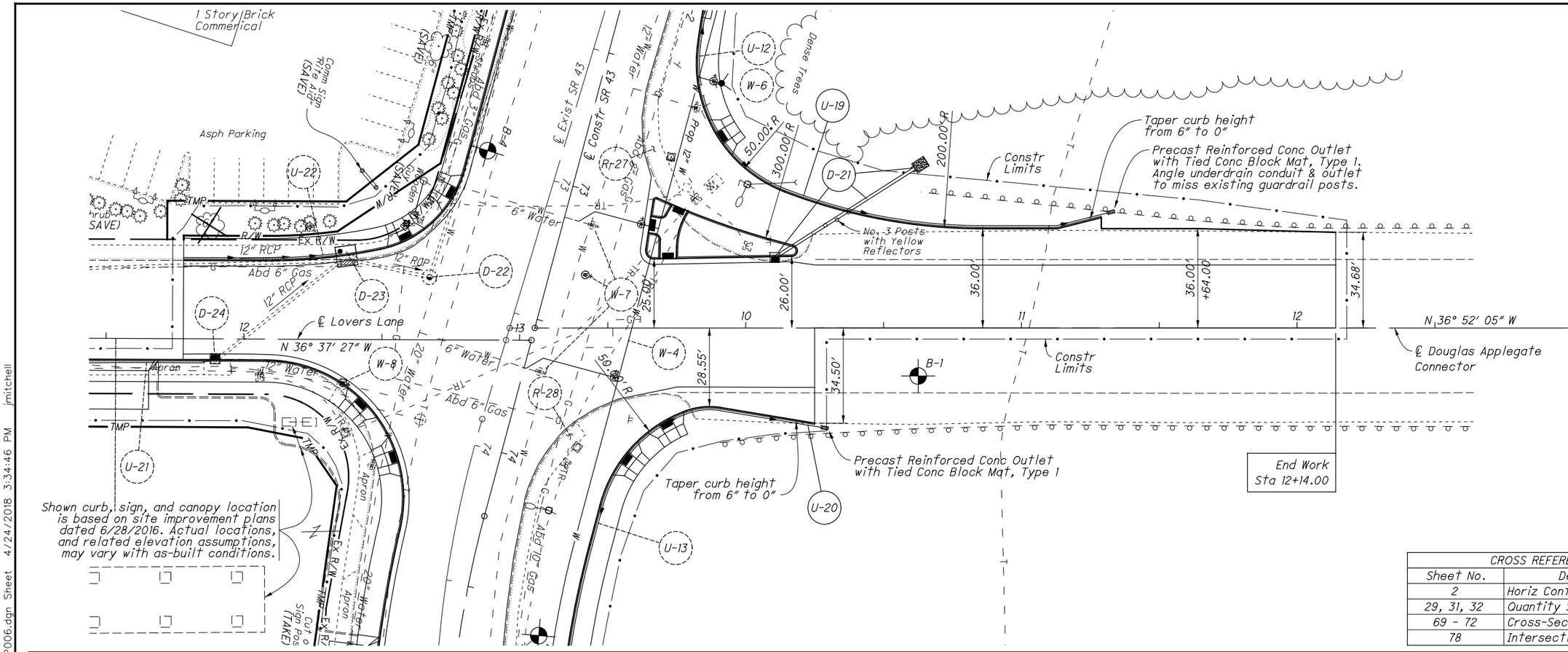
CROSS REFERENCES	
Sheet No.	Description
2	Horiz Control & Benchmarks
29, 31, 82	Quantity Subsummaries
64 - 68	Cross-Sections

HORIZONTAL SCALE IN FEET 0 10 20 40

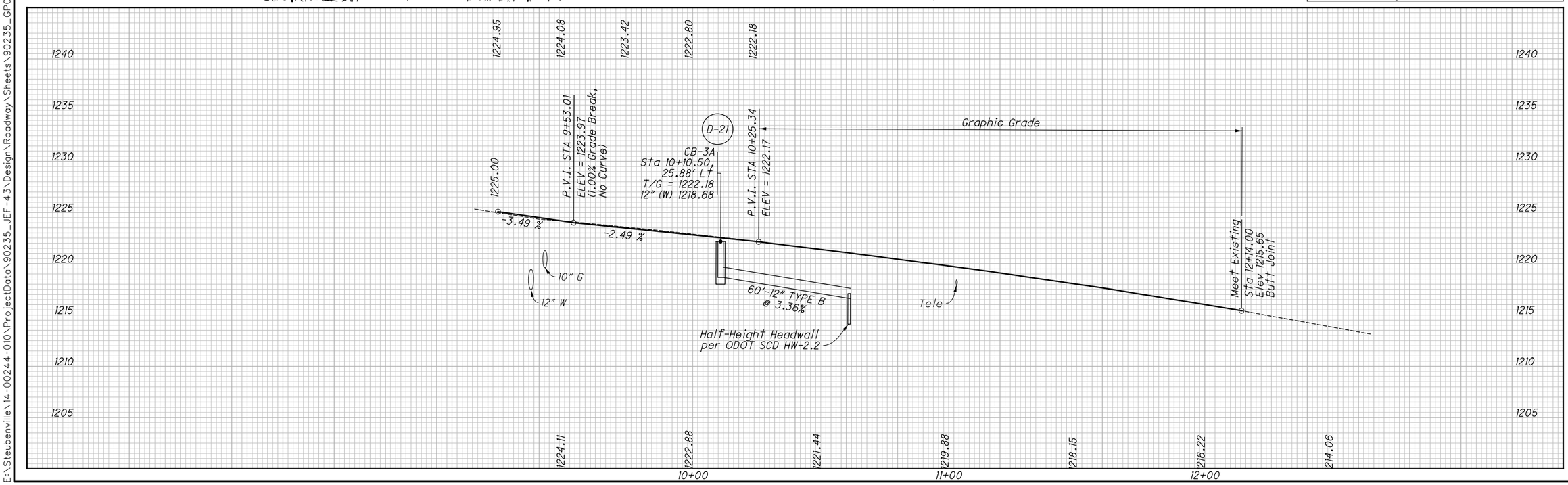
CALCULATED JFM CHECKED BJB

PLAN & PROFILE SR 43
STA 78+00 TO STA 81+25

JEF-43-4.21



CROSS REFERENCES	
Sheet No.	Description
2	Horiz Control & Benchmarks
29, 31, 32	Quantity Subsummaries
69 - 72	Cross-Sections
78	Intersection Details



HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED JFM
CHECKED BJB

PLAN & PROFILE
DOUGLAS APPLEGATE CONNECTOR

JEF-43-4.21

39
119

CROSS REFERENCES	
Sheet No.	Description
2	Horiz Control & Benchmarks
29, 31, 32, 82	Quantity Subsummaries
73 - 75	Cross-Sections
79	Intersection Details

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED JFM
CHECKED BJB

PLAN & PROFILE
LOVERS LANE

JEF-43-4.21

40
119

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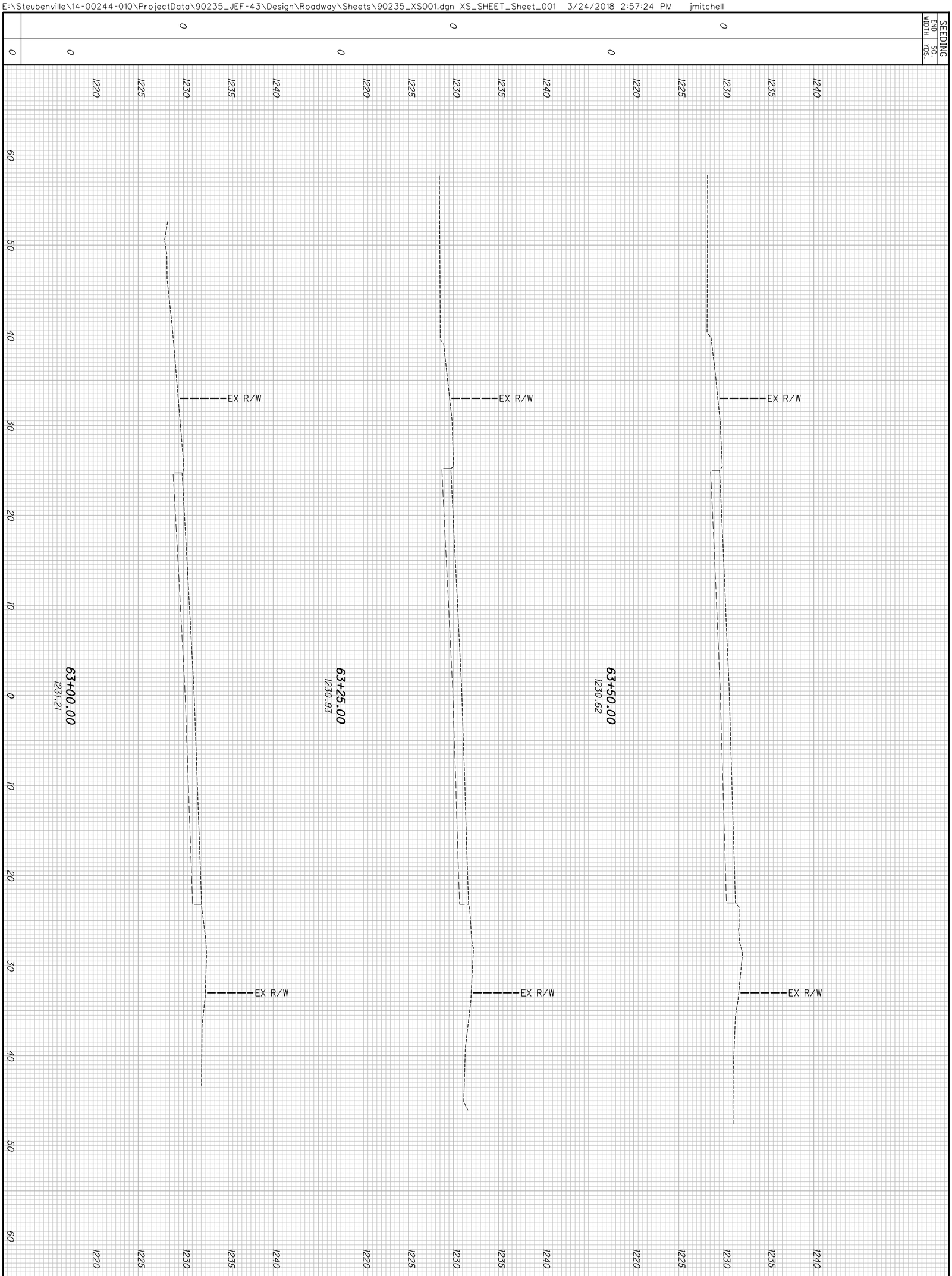
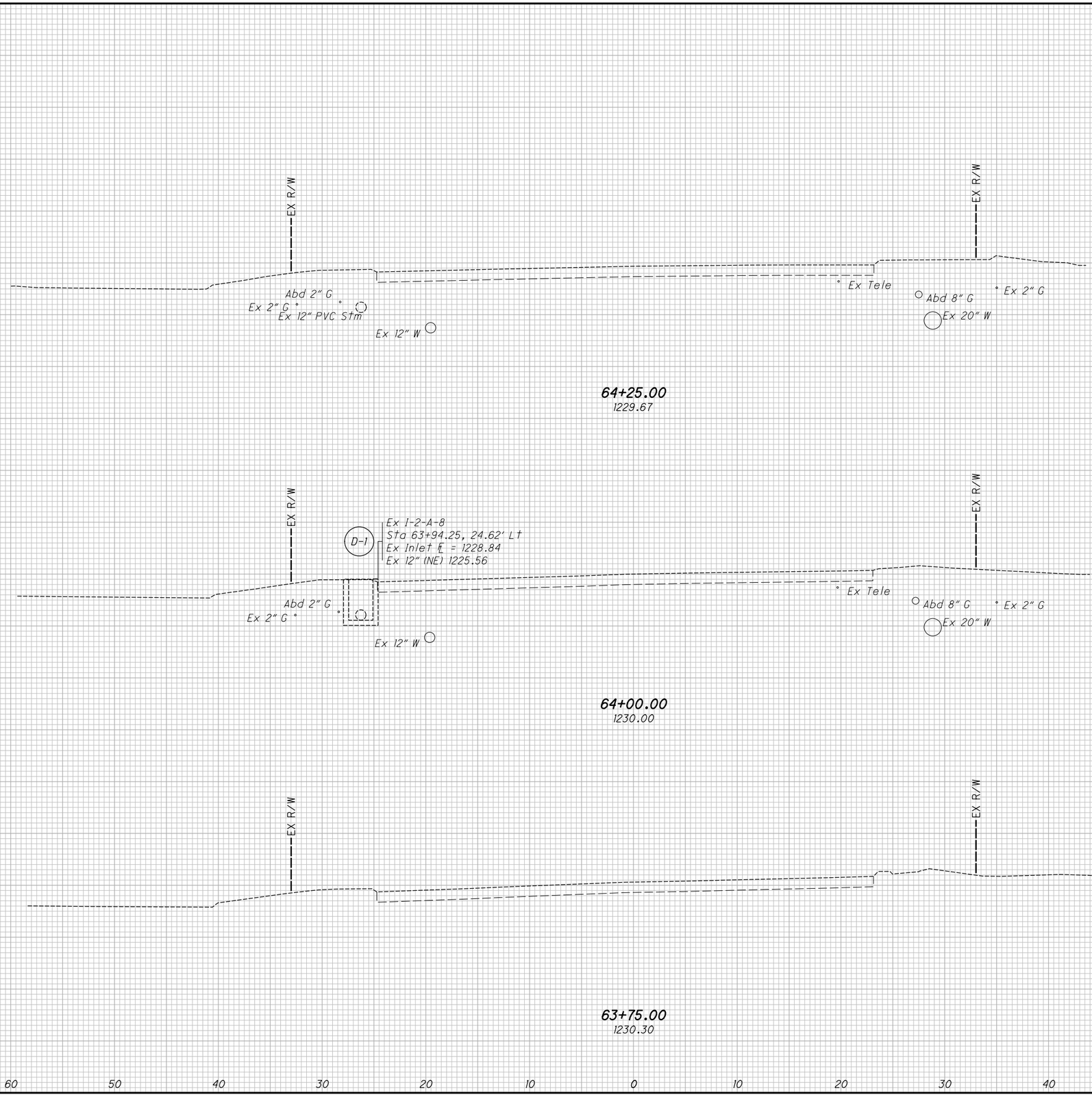


41 / 119	JEF-43-4.21	CROSS SECTIONS SR 43 STA 63+00.00 TO STA 63+50.00
		CALCULATED JFM CHECKED BJB

SEEDING	
END WIDTH	SQ. YDS.
0	0
	0
	0
	0
	0



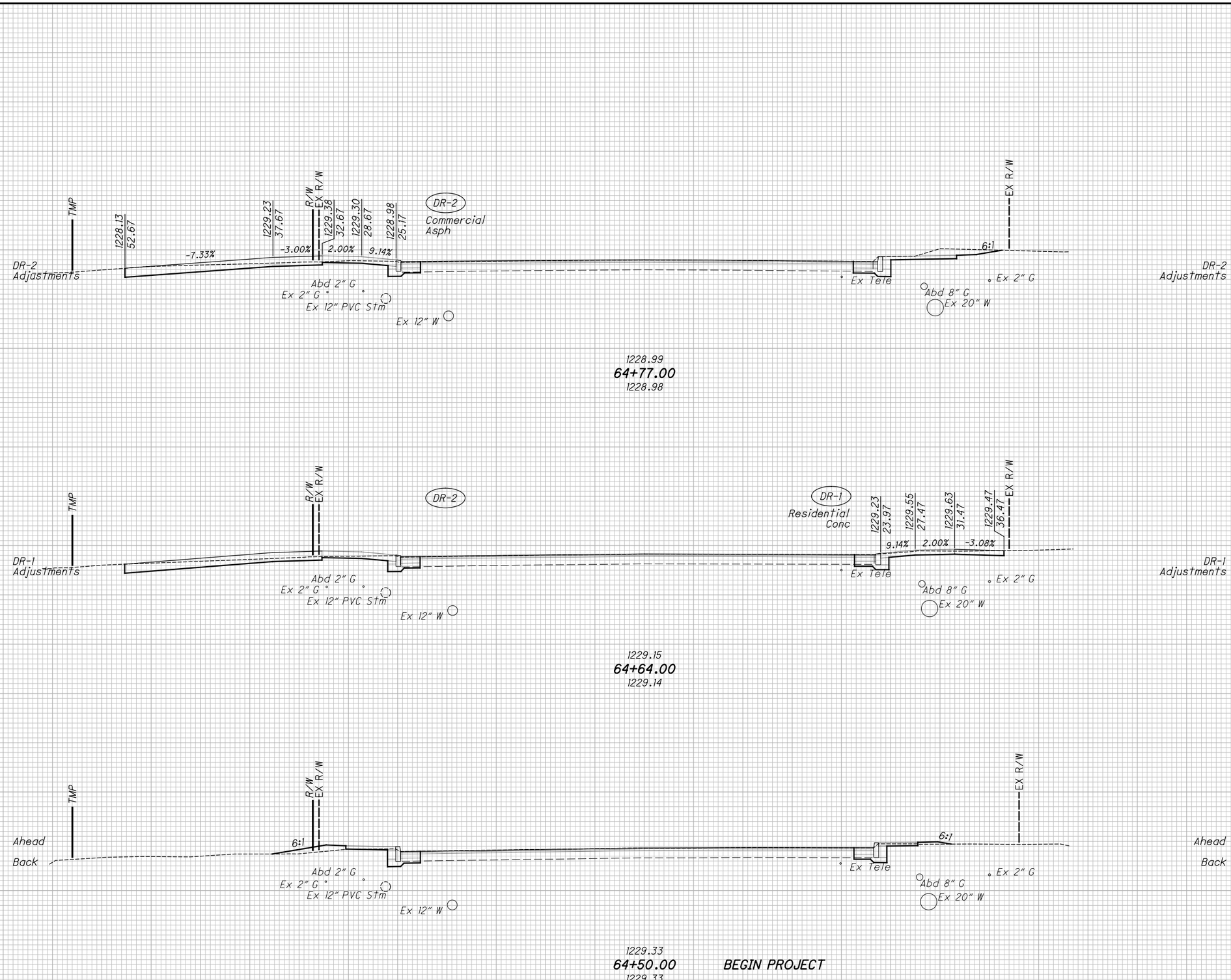
END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	0		
		0	0
		0	0
		0	0
		0	0

CALCULATED JFM
CHECKED BJB

CROSS SECTIONS SR 43
STA 63+75.00 TO STA 64+25.00

JEF-43-4.21

SEEDING END WIDTH	SEEDING SQ. YDS.
5	3
	4
0	1
	9
11	0
	0
17	



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
14	0	2	0
		6	0
9	0	0	0
		4	1
6	4		
0	0		
		0	0
		12	1

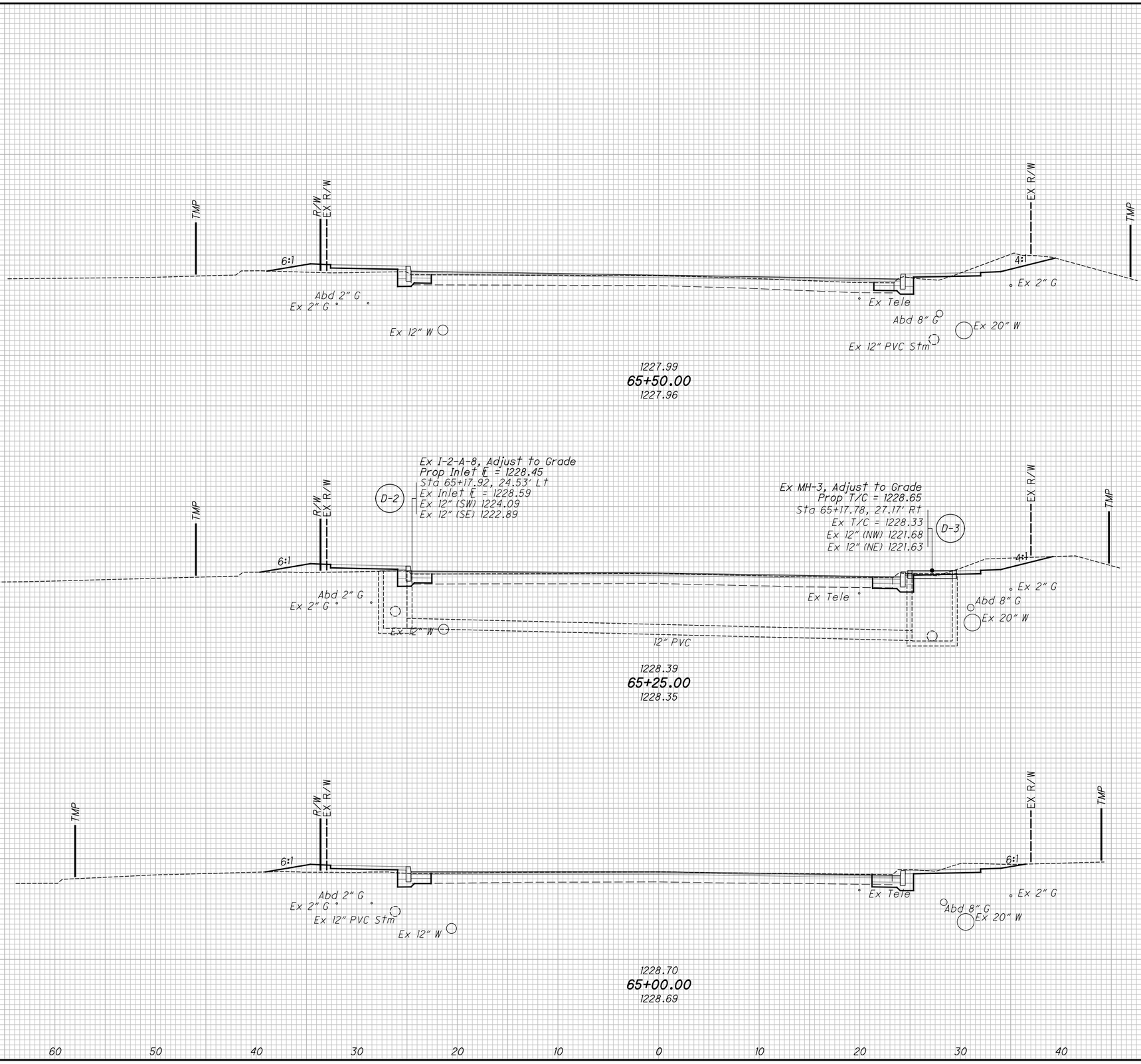
CALCULATED JFM
CHECKED BJB

CROSS SECTIONS SR 43
STA 64+50.00 TO STA 64+77.00

JEF-43-4.21

43
119

SEEDING	
END WIDTH	SQ. YDS.
14	39
14	36
12	22
	97



END AREA		VOLUME	
CUT	FILL	CUT	FILL
13	7		
13	6		
		12	6
		12	5
12	5		
		11	2
		35	13

CALCULATED JFM
CHECKED BJB

CROSS SECTIONS SR 43
STA 65+00.00 TO STA 65+50.00

JEF-43-4.21

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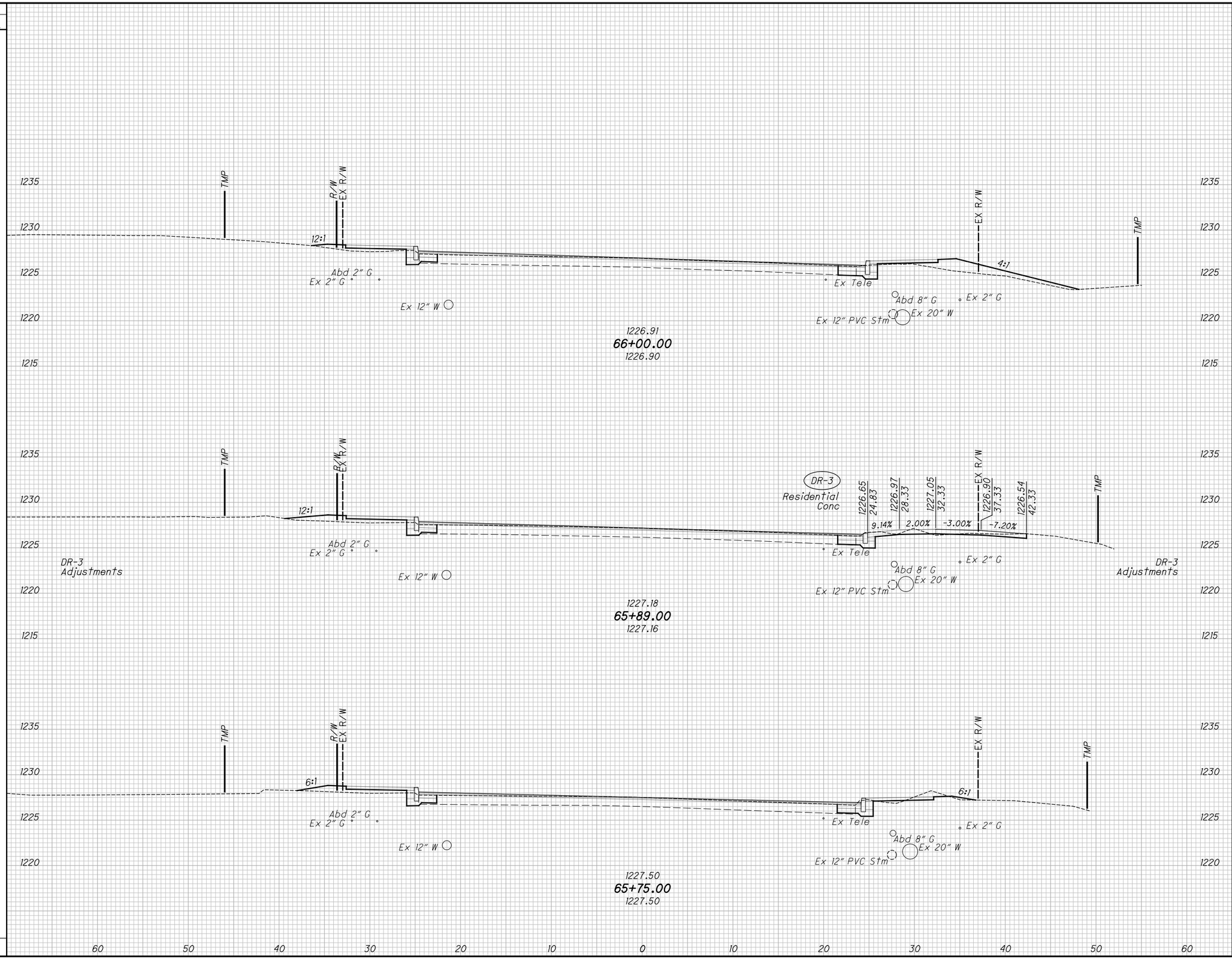
SEEDING	
END WIDTH	SQ. YDS.
	20
	17
	7
	0
	13
	10
	33
	63



END AREA		VOLUME	
CUT	FILL	CUT	FILL
5	16	2	4
7	6	-1	1
		4	3
7	6		
		9	6
		14	14

CALCULATED JFM
CHECKED BJB

CROSS SECTIONS SR 43
STA 65+75.00 TO STA 66+00.00

JEF-43-4.21

45
119

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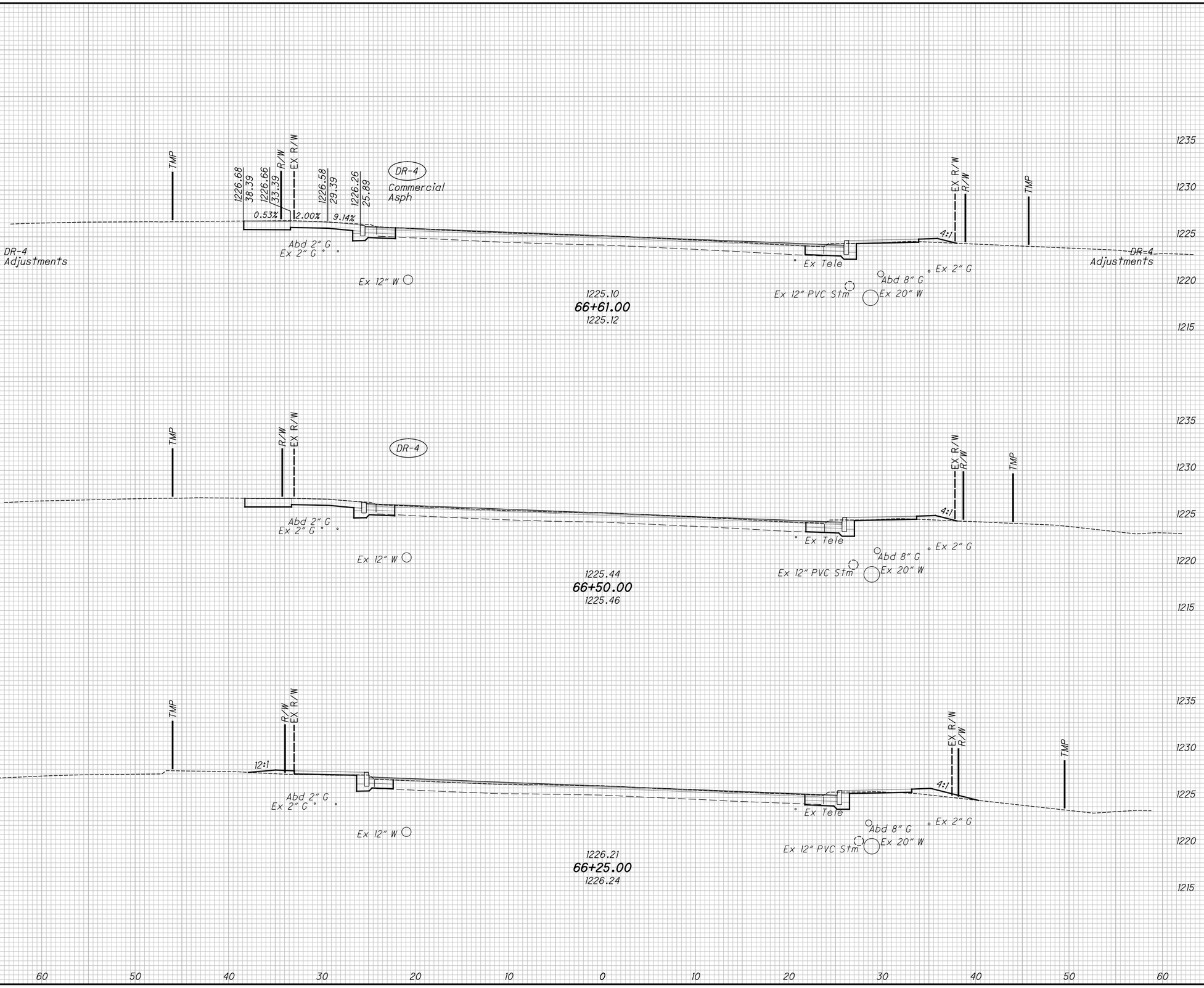

SEEDING	
END WIDTH	SQ. YDS.
4	9
	5
4	22
12	
	44
	80

END AREA	
CUT	FILL
15	1
13	1
8	4

VOLUME	
CUT	FILL
-3	1
6	0
10	2
6	9
19	12

CALCULATED JFM
CHECKED BJB

CROSS SECTIONS SR 43
STA 66+25.00 TO STA 66+61.00

JEF-43-4.21

46
119

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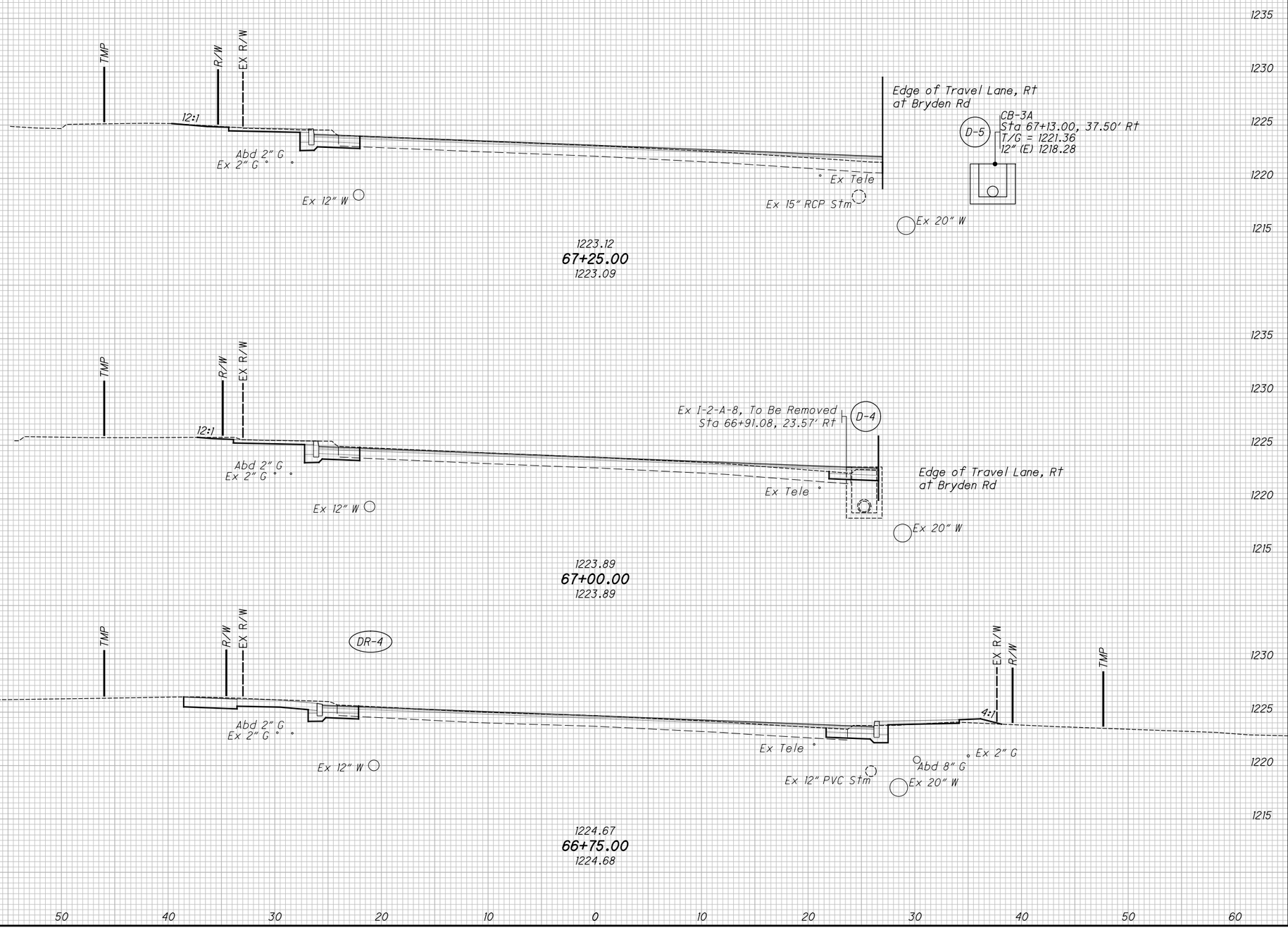
SEEDING	
END WIDTH	SQ. YDS.
5	11
3	10
4	6
	27



END AREA	
CUT	FILL
9	0
12	1
16	2

VOLUME	
CUT	FILL
10	0
13	1
8	1
31	2

CALCULATED JFM
CHECKED BJB

CROSS SECTIONS SR 43
STA 66+75.00 TO STA 67+25.00

JEF-43-4.21

47
119

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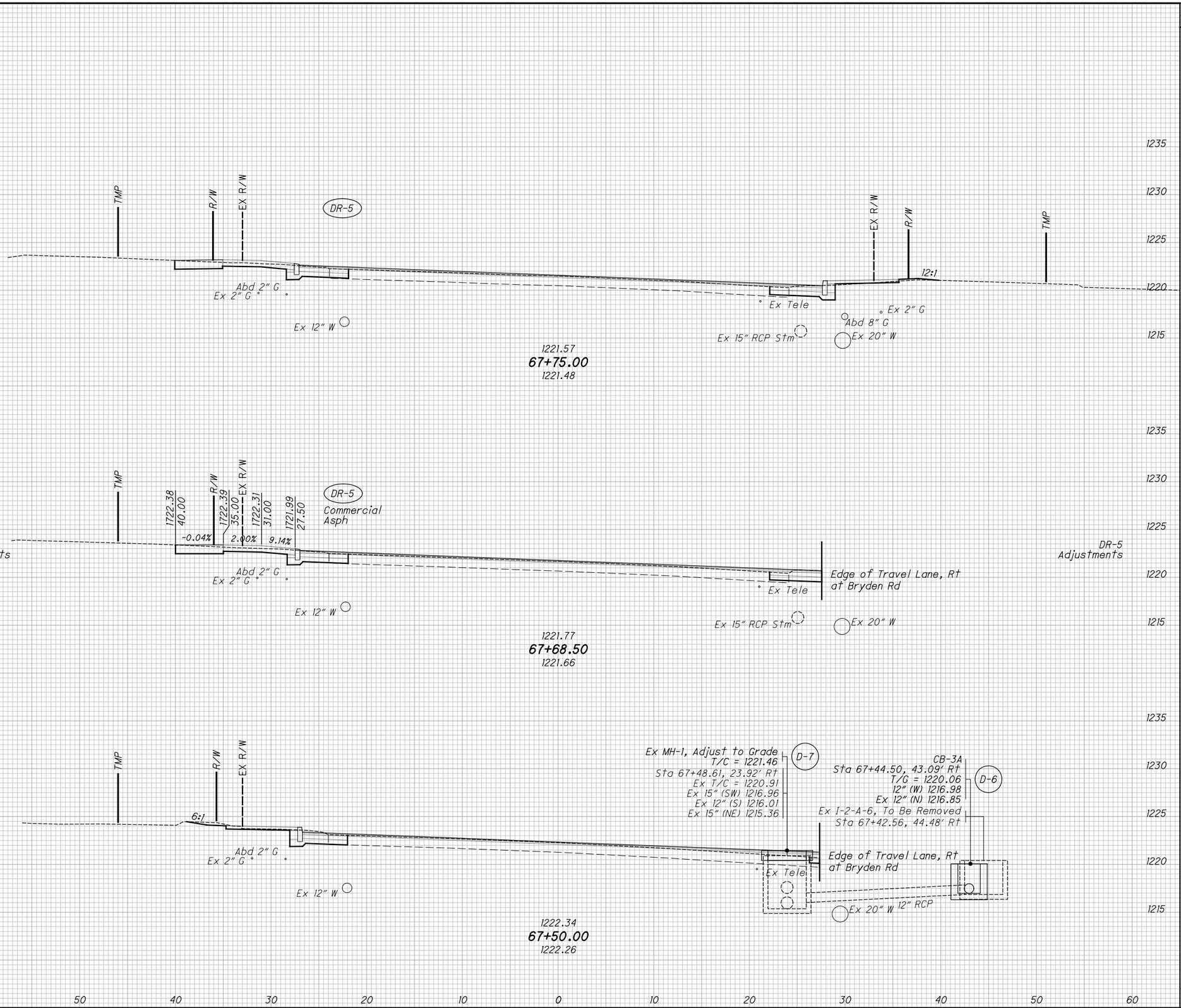
SEEDING	
END WIDTH	SQ. YDS.
4	1
0	-3
4	1
4	13
	15



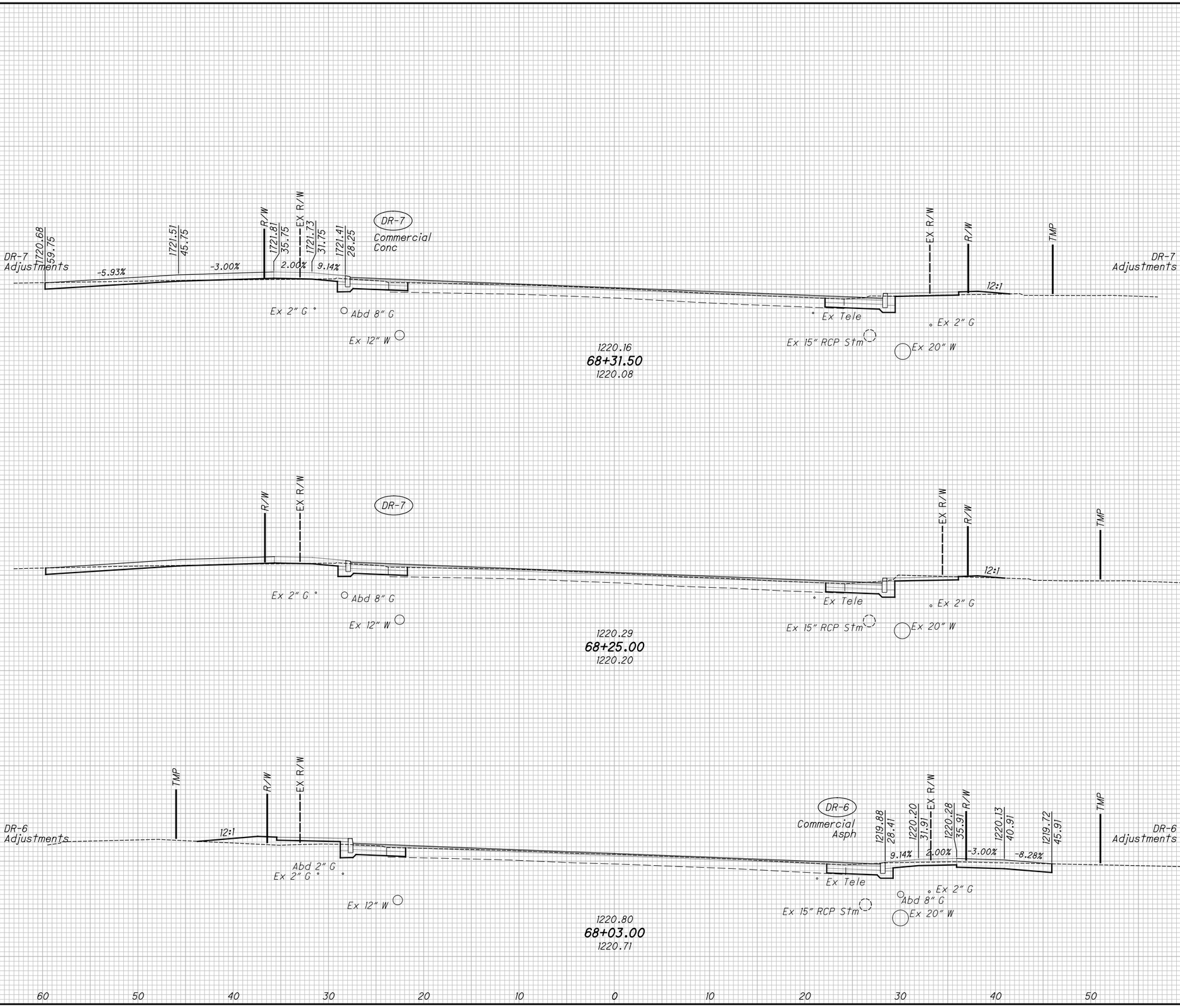
END AREA		VOLUME	
CUT	FILL	CUT	FILL
14	1		
		3	0
12	0		
		3	0
		7	0
8	0		
		8	0
		21	0

CALCULATED JFM
CHECKED BJB

CROSS SECTIONS SR 43
STA 67+50.00 TO STA 67+75.00

JEF-43-4.21

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
5	9	13	2	1	3
	4			3	0
5	16	16	0	12	3
8	-1	14	7	-1	0
	19			15	4
	47			30	10

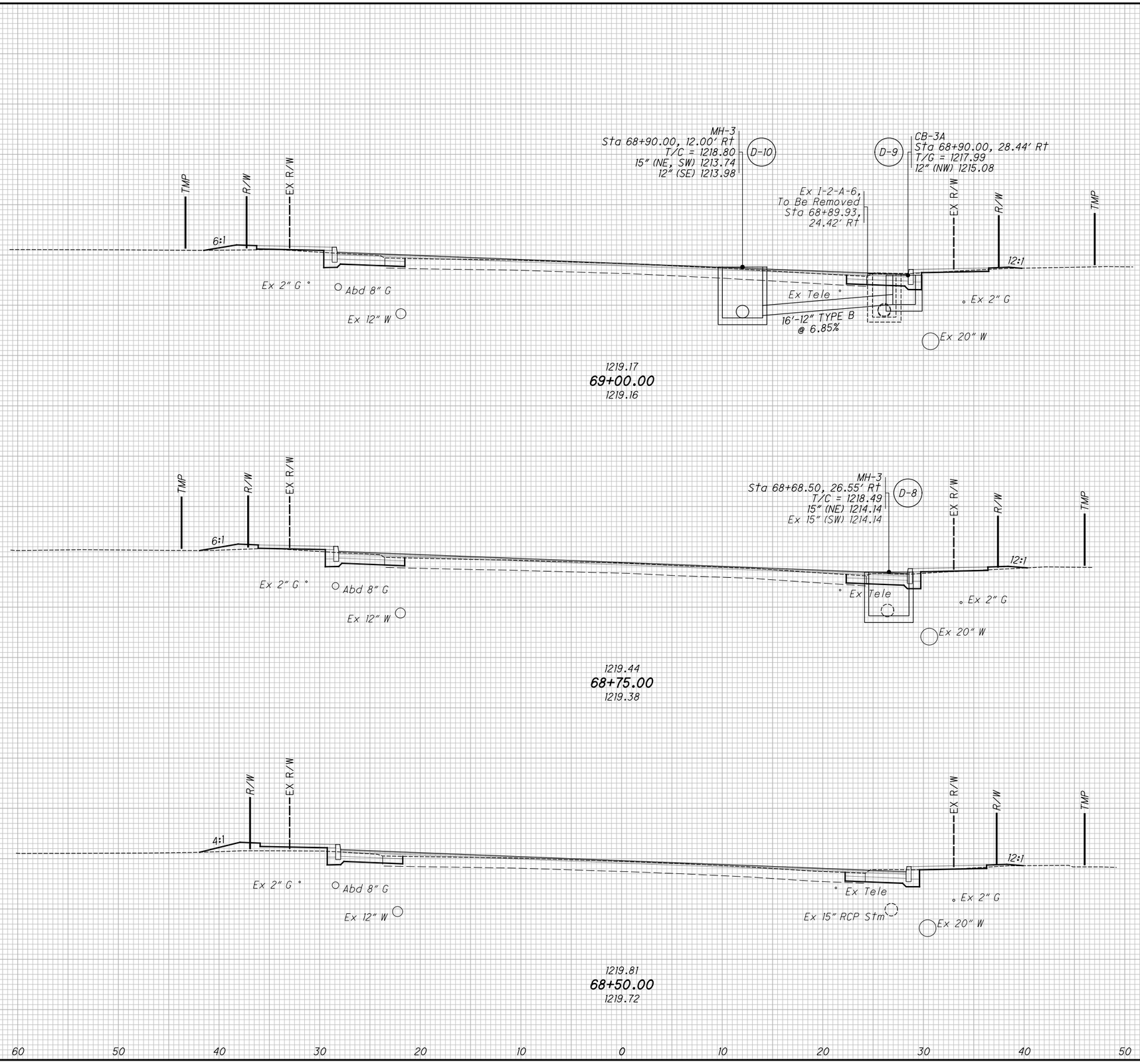


CALCULATED JFM
CHECKED BJB

CROSS SECTIONS SR 43
STA 68+03.00 TO STA 68+31.50

JEF-43-4.21

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
8	25	15	3	13	4
10	28	13	5	12	6
10	15	13	8	9	3
68				34	13



CALCULATED JFM
CHECKED BJB

CROSS SECTIONS SR 43
STA 68+50.00 TO STA 69+00.00

JEF-43-4.21

50
119

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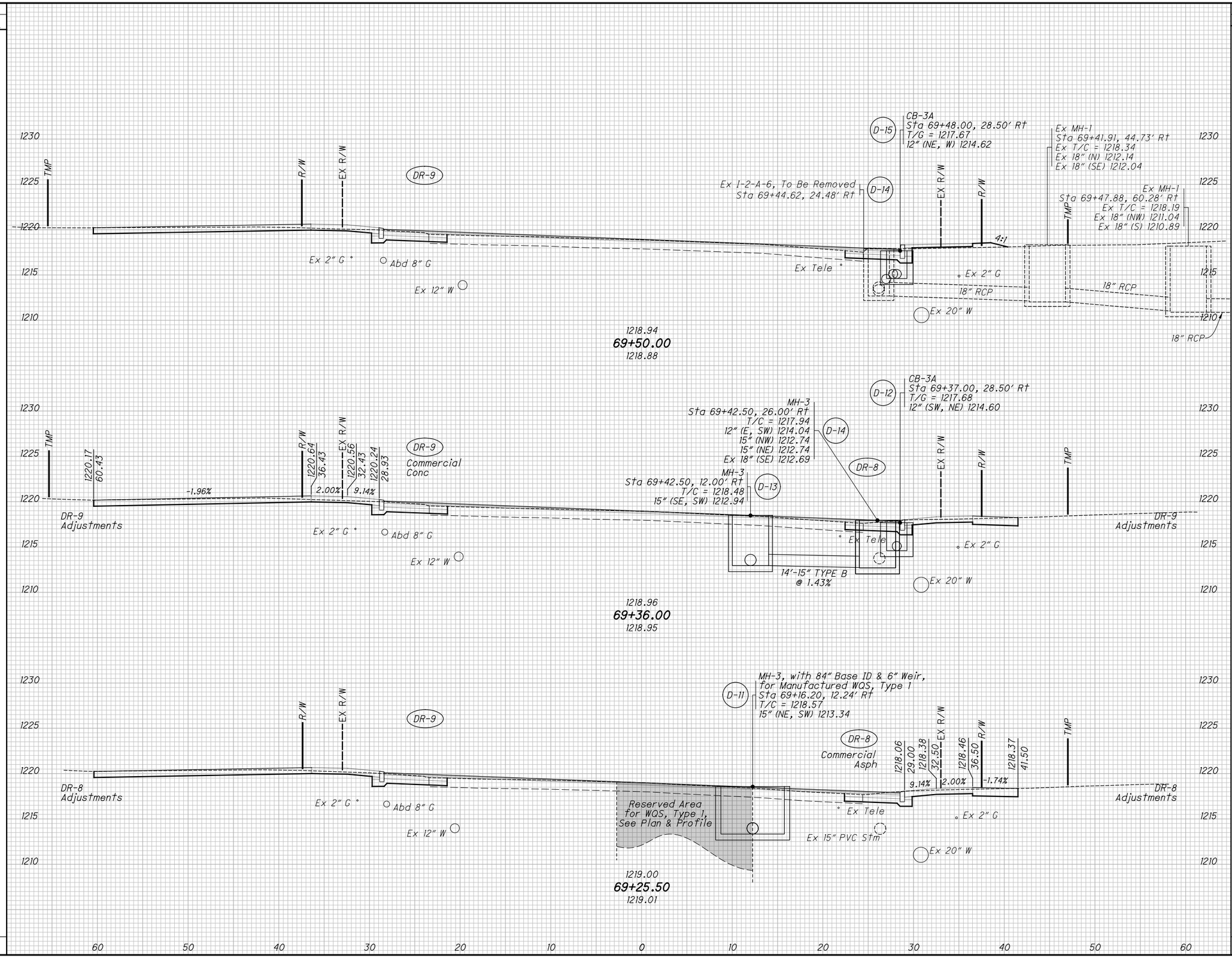
SEEDING	
END WIDTH	SQ. YDS.
4	
3	
0	3
0	
0	2
11	
19	

END AREA	
CUT	FILL
16	3
18	0
19	0

VOLUME	
CUT	FILL
9	1
-4	-1
7	0
-1	0
16	1
27	1

CALCULATED JFM
CHECKED BJB



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CROSS SECTIONS SR 43
STA 69+25.50 TO STA 69+50.00

JEF-43-4.21

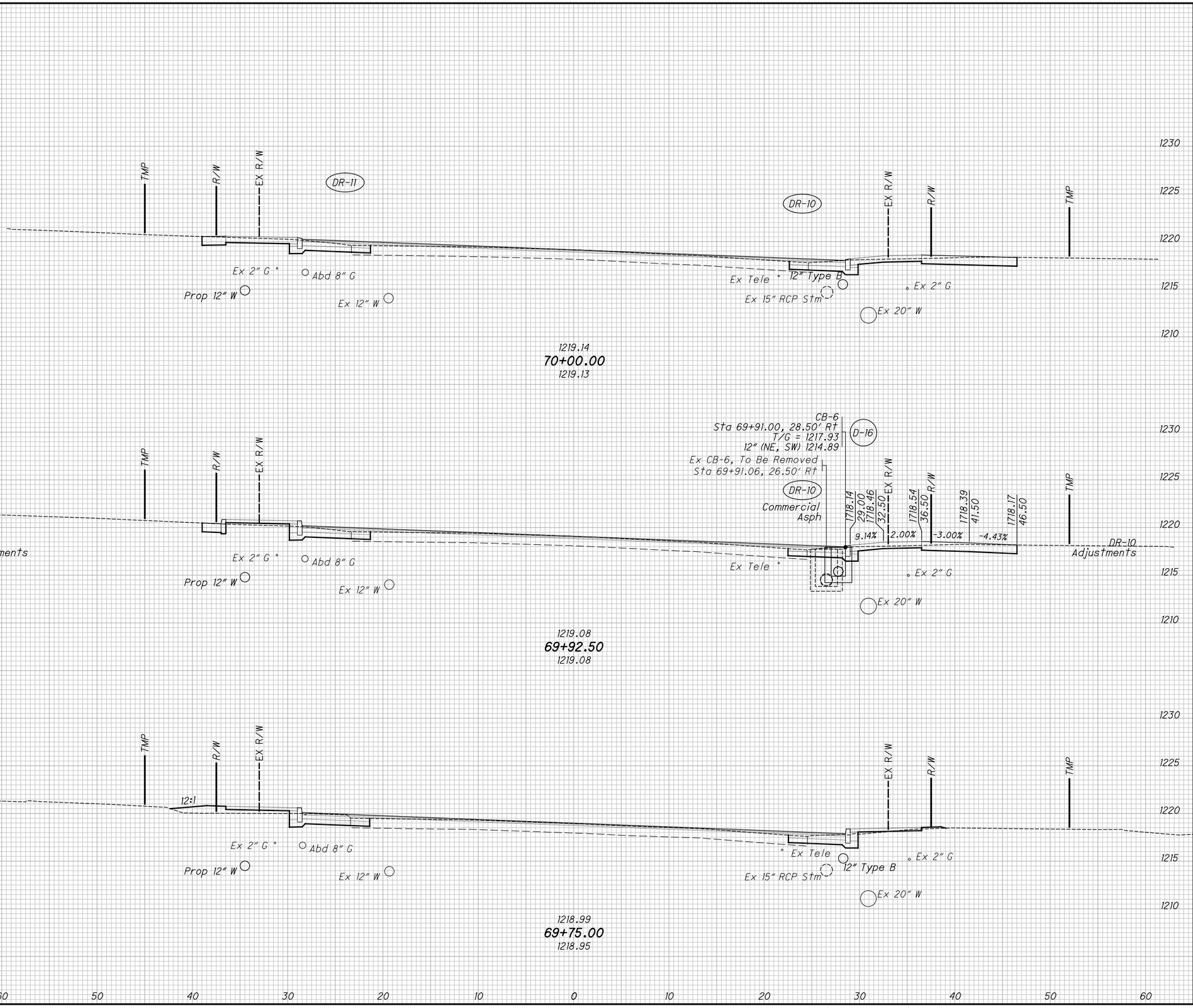
51
119

CROSS SECTIONS SR 43
STA 69+75.00 TO STA 70+00.00

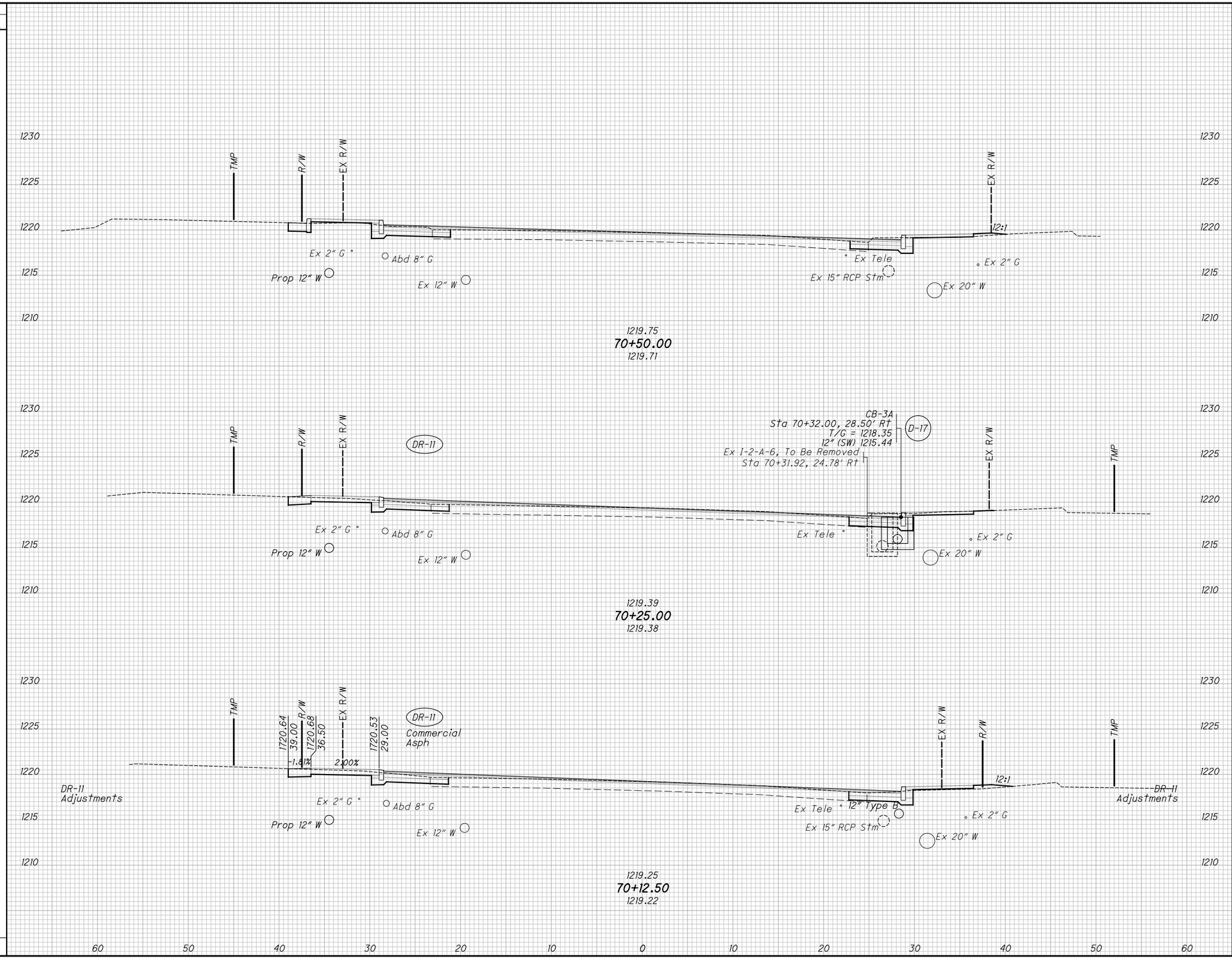
JEF-43-4.21

CALCULATED JFM | CHECKED BJB

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0	0	18	1	5	1
0	-2	17	3	2	-1
9	9	13	7	10	3
9	18			13	5
25				30	8



SEEDING	
END WIDTH	SQ. YDS.
4	8
2	4
4	8
3	4
23	



END AREA	
CUT	FILL
17	2
19	1
16	3

VOLUME	
CUT	FILL
17	1
8	1
-1	3
8	1
32	6

CALCULATED JFM
CHECKED BJB

CROSS SECTIONS SR 43
STA 70+12.50 TO STA 70+50.00

JEF-43-4.21

53
119

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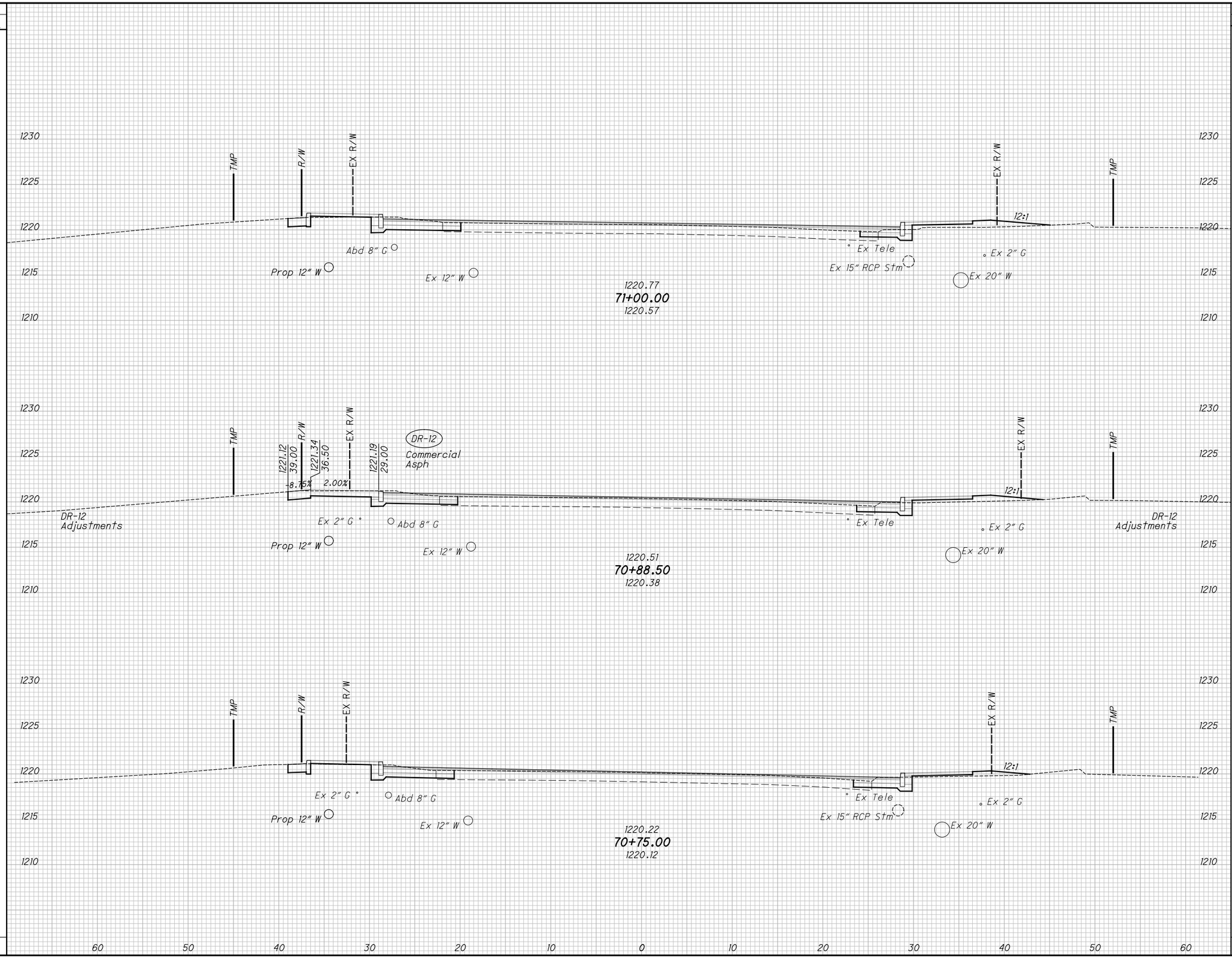
SEEDING	
END WIDTH	SQ. YDS.
9	11
8	0
6	14
	36



END AREA	
CUT	FILL
16	8
19	6
17	5

VOLUME	
CUT	FILL
7	3
1	0
9	3
16	3
33	9

CALCULATED JFM
CHECKED BJB

CROSS SECTIONS SR 43
STA 70+75.00 TO STA 71+00.00

JEF-43-4.21

54
119

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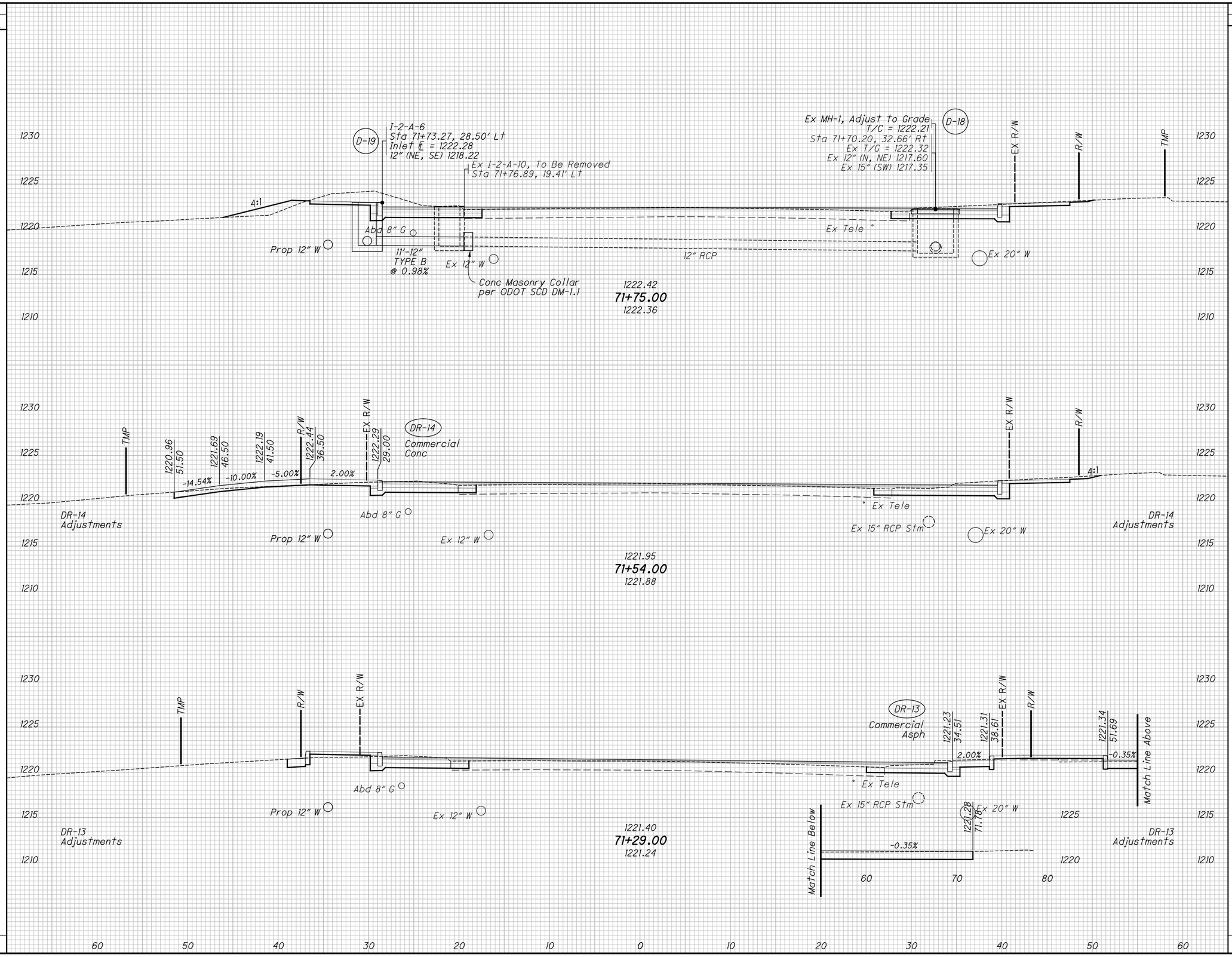
SEEDING END WIDTH	SEEDING SQ. YDS.
	13
	19
	3
	2
	4
	0
	-3
	15
	37



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
45	7		
		30	3
32	1		
		1	1
		27	3
27	5		
		-1	1
		23	7
		80	15

CALCULATED JFM
CHECKED BJB

CROSS SECTIONS SR 43
STA 71+29.00 TO STA 71+75.00

JEF-43-4.21

55
119

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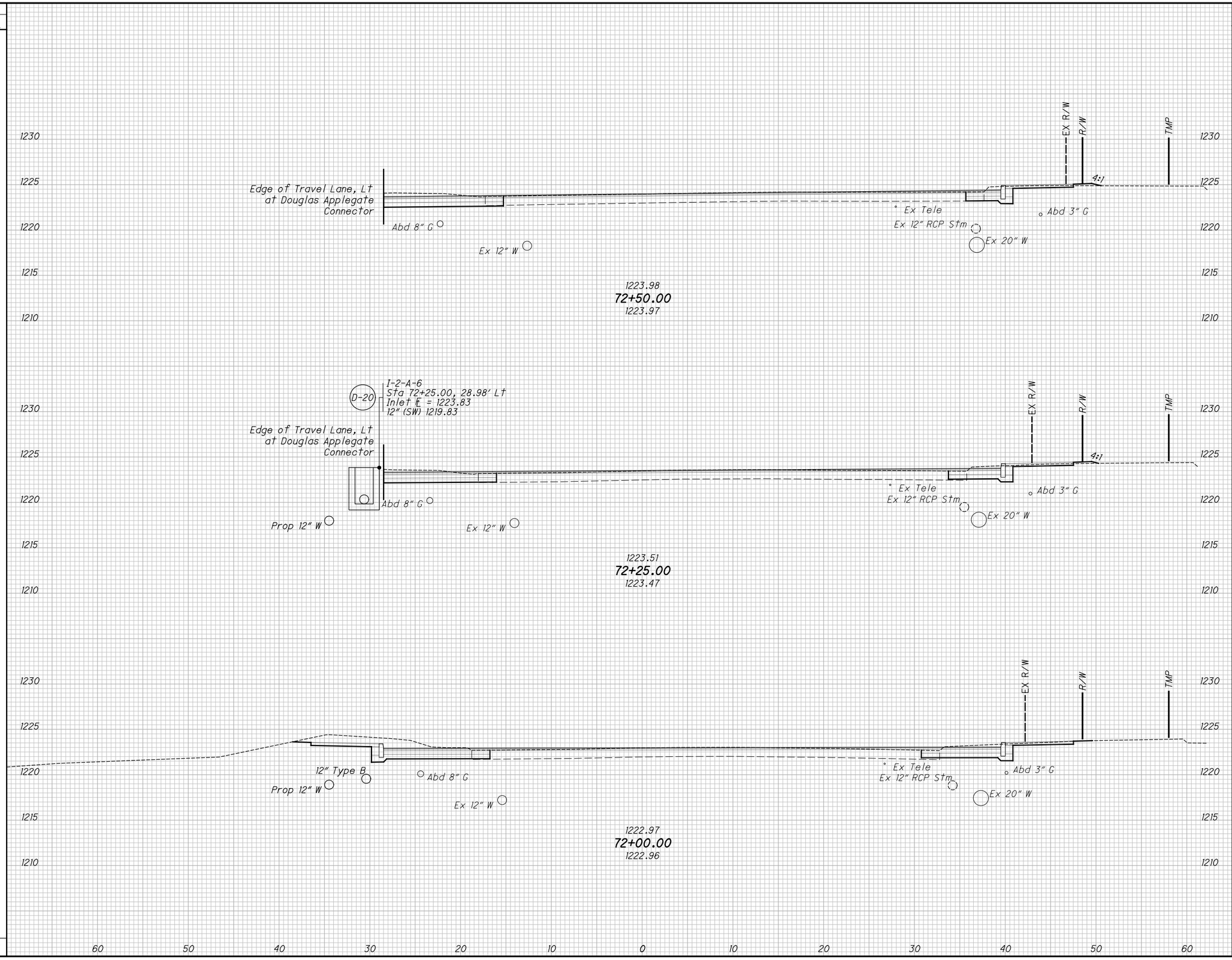
SEEDING	
END WIDTH	SQ. YDS.
3	8
3	10
4	24
	42



END AREA	
CUT	FILL
22	1
22	1
41	0

VOLUME	
CUT	FILL
20	1
29	0
40	3
89	4

CALCULATED JFM
CHECKED BJB

CROSS SECTIONS SR 43
STA 72+00.00 TO STA 72+50.00

JEF-43-4.21

56
119

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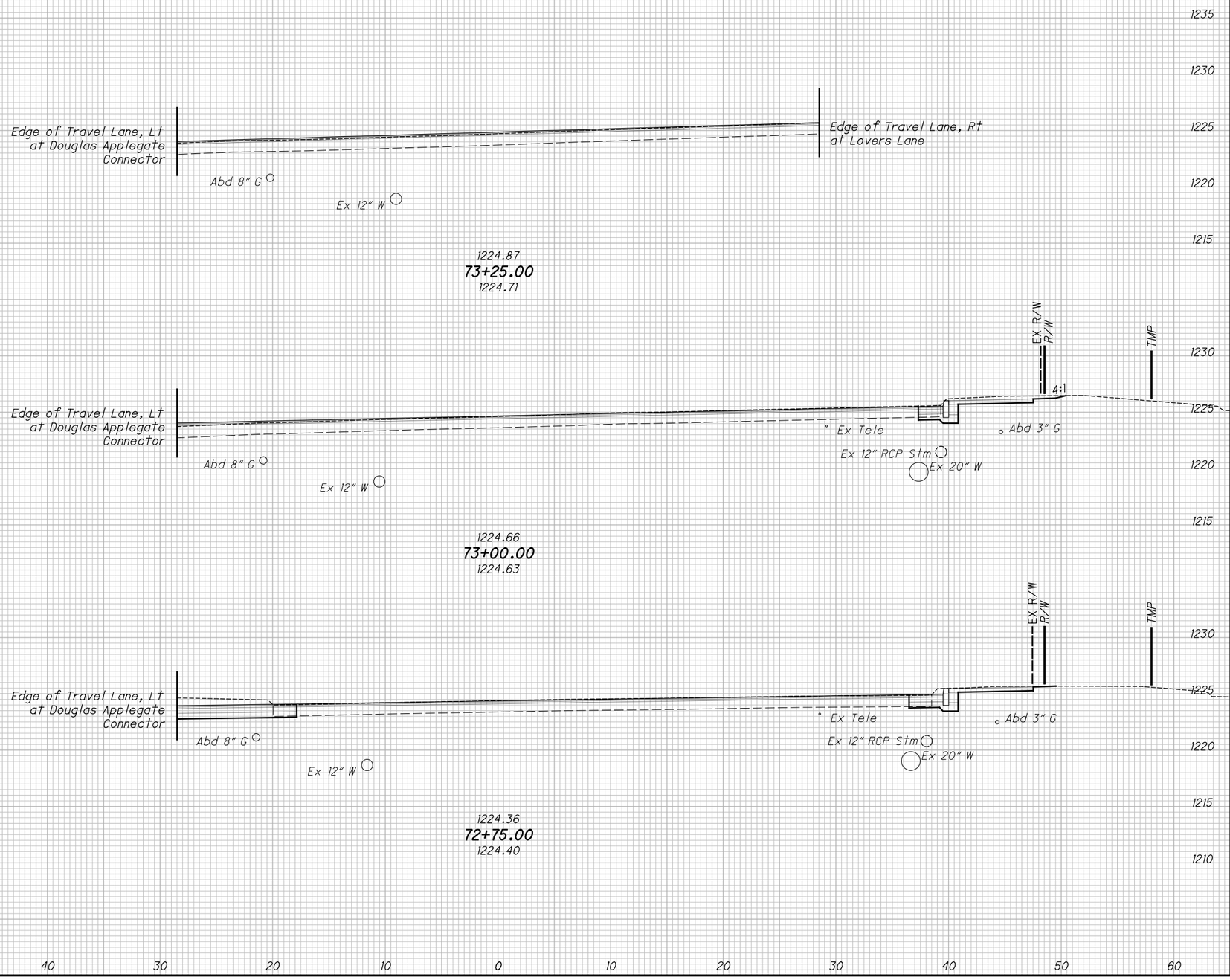
SEEDING	
END WIDTH	SQ. YDS.
0	4
3	7
2	7
	18



END AREA	
CUT	FILL
0	0
8	0
21	0

VOLUME	
CUT	FILL
4	0
13	0
20	0
37	0

CALCULATED JFM
CHECKED BJB

CROSS SECTIONS SR 43
STA 72+75.00 TO STA 73+25.00

JEF-43-4.21

57
119

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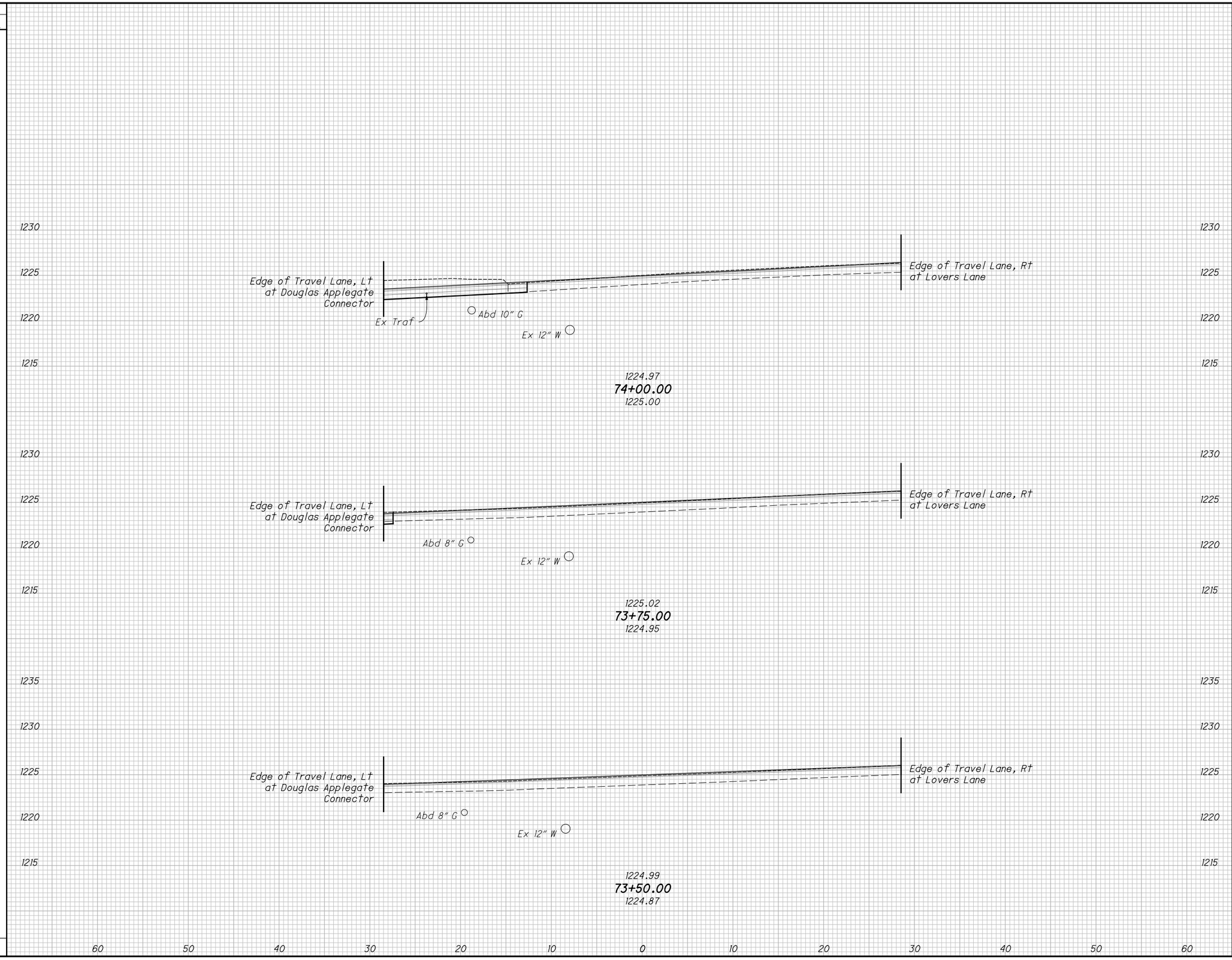
SEEDING	
END WIDTH	SQ. YDS.
0	0
0	0
0	0
0	0
0	0



END AREA	
CUT	FILL
26	0
0	0
0	0
0	0
0	0

VOLUME	
CUT	FILL
12	0
0	0
0	0
0	0
12	0

CALCULATED JFM
CHECKED BJB

CROSS SECTIONS SR 43
STA 73+50.00 TO STA 74+00.00

JEF-43-4.21

58
119

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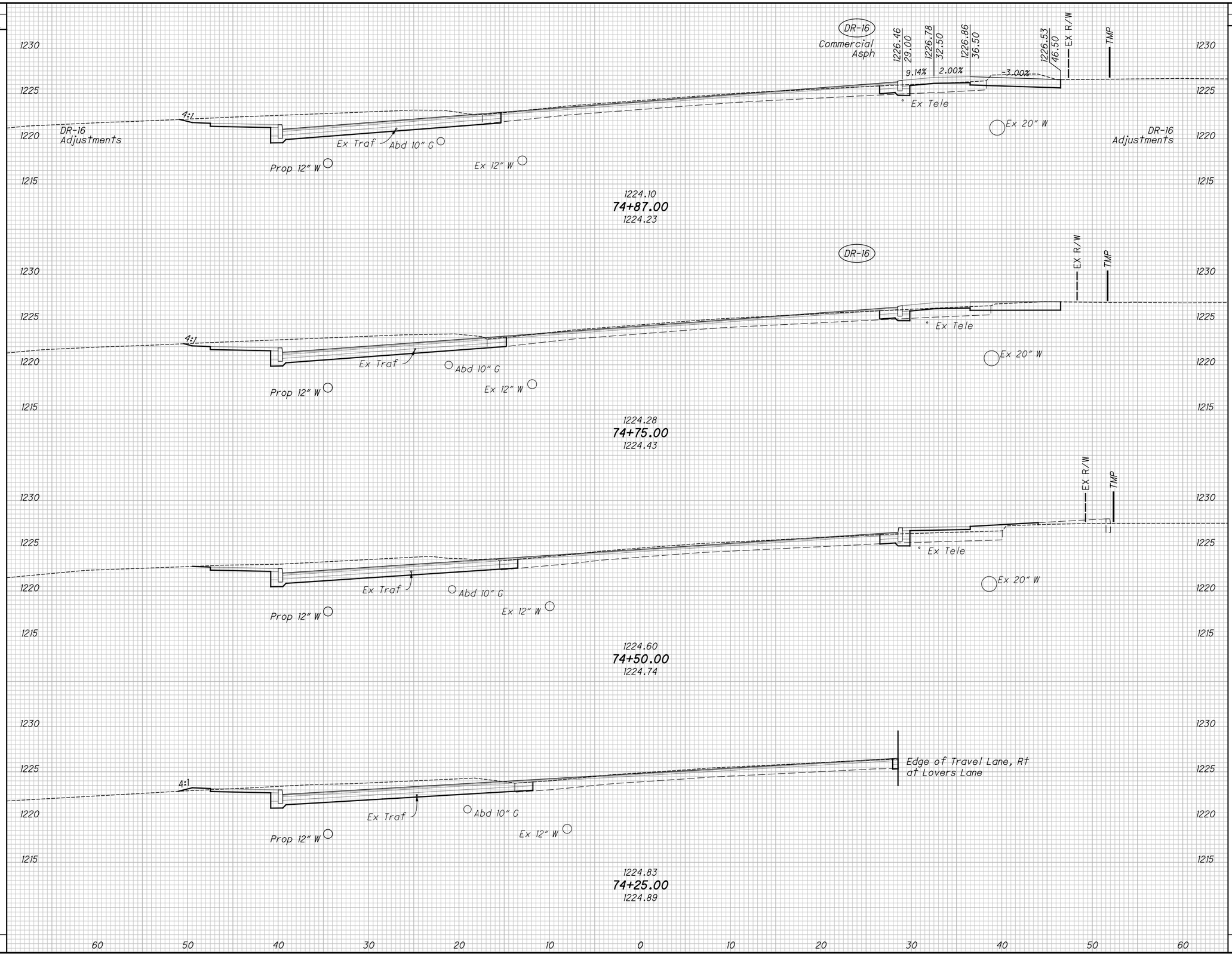
SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
3	0	60	7	0	3
	4			26	3
3		59	6		
	18			52	10
10	19	53	15	49	7
4	6	52	1	36	0
	47			163	23



CALCULATED JFM
CHECKED BJB

CROSS SECTIONS SR 43
STA 74+25.00 TO STA 75+00.00

JEF-43-4.21

59
119

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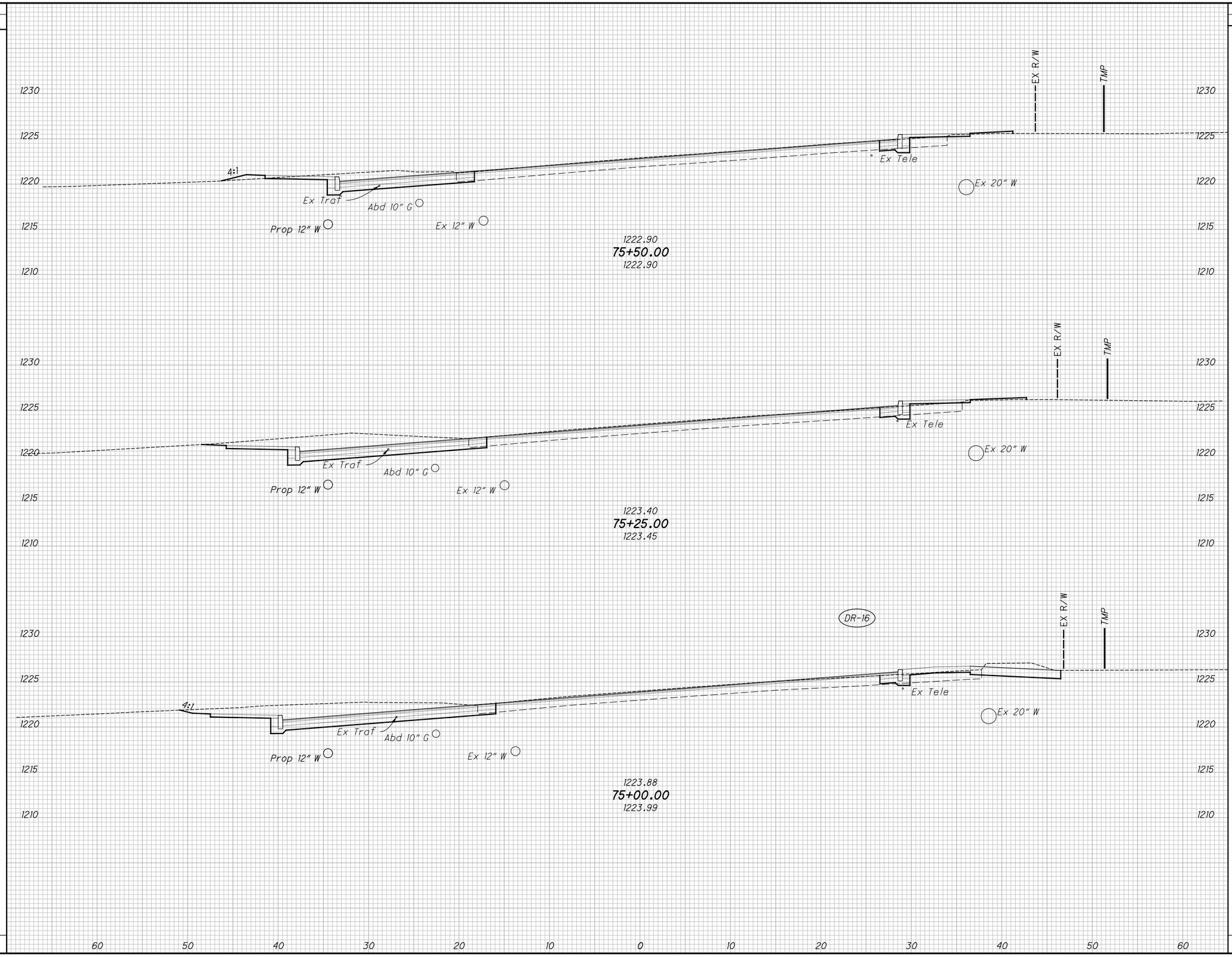
SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
10	26	30	7	38	6
9		53	7		
3	17	52	6		
	4	60	6	29	3
	47			119	15

CALCULATED JFM
CHECKED BJB

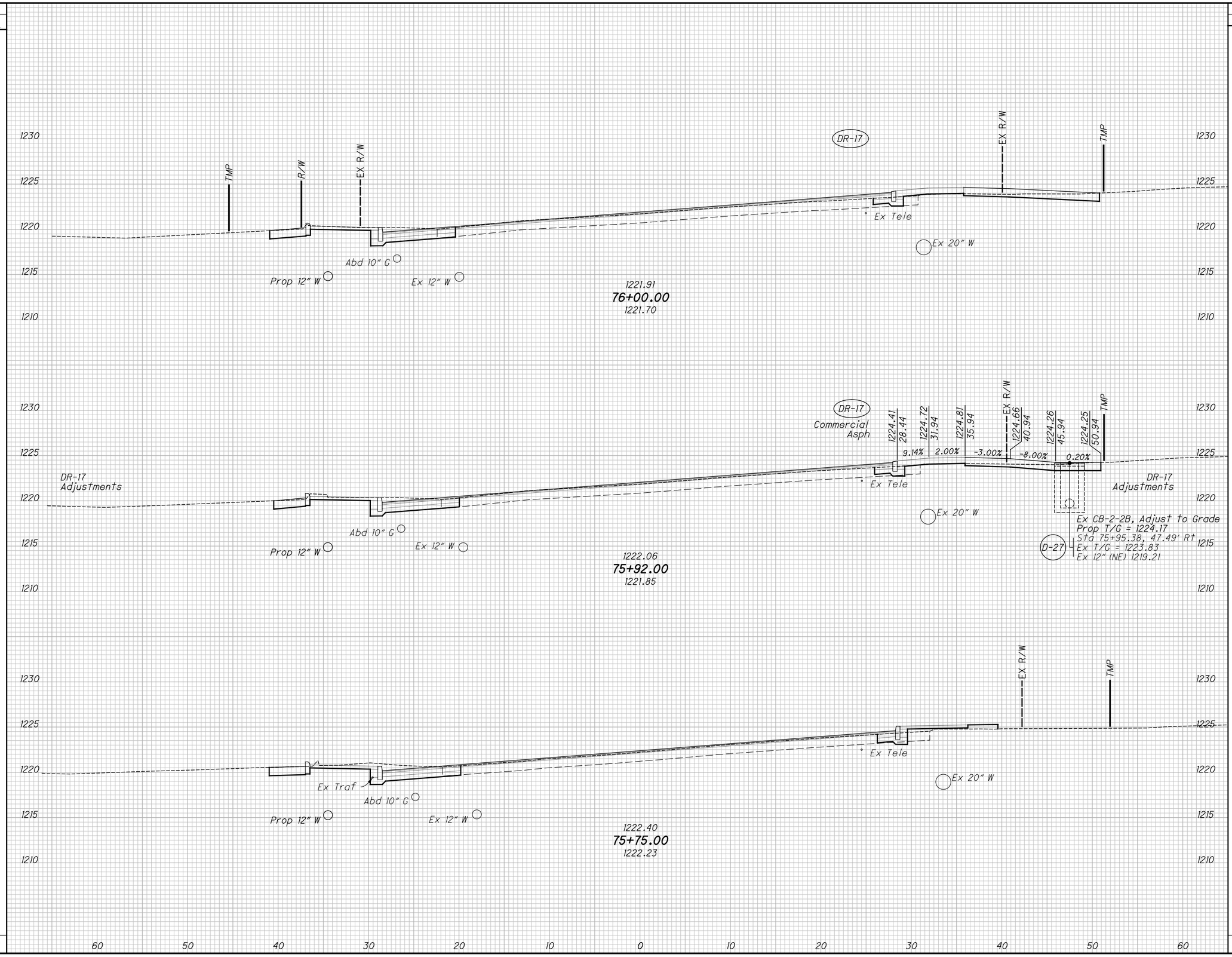


CROSS SECTIONS SR 43
STA 75+25.00 TO STA 75+50.00

JEF-43-4.21

60
119

SEEDING	
END WIDTH	SQ. YDS.
0	0
0	3
3	3
3	18
	20



END AREA		VOLUME	
CUT	FILL	CUT	FILL
17	2		
		5	1
18	2	0	-1
20	6	12	3
		23	6
		40	9

CALCULATED JFM
CHECKED BJB

CROSS SECTIONS SR 43
STA 75+75.00 TO STA 76+00.00

JEF-43-4.21

61
119

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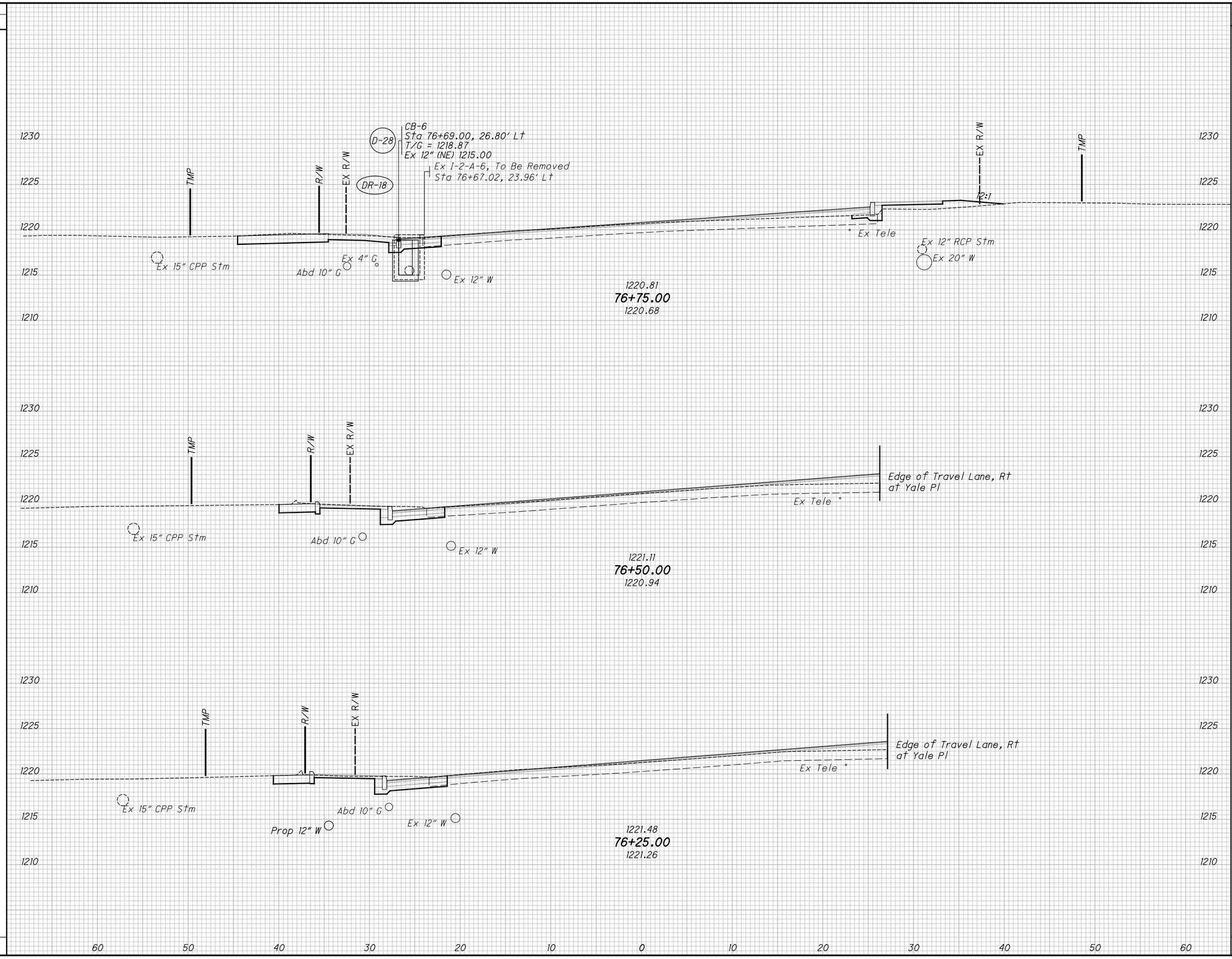
SEEDING END WIDTH	SEEDING SQ. YDS.
7	10
0	0
0	0
10	



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
10	8	12	4
15	0	14	0
16	0	15	1
		41	5

CALCULATED JFM
CHECKED BJB

CROSS SECTIONS SR 43
STA 76+25.00 TO STA 76+75.00

JEF-43-4.21

62
119

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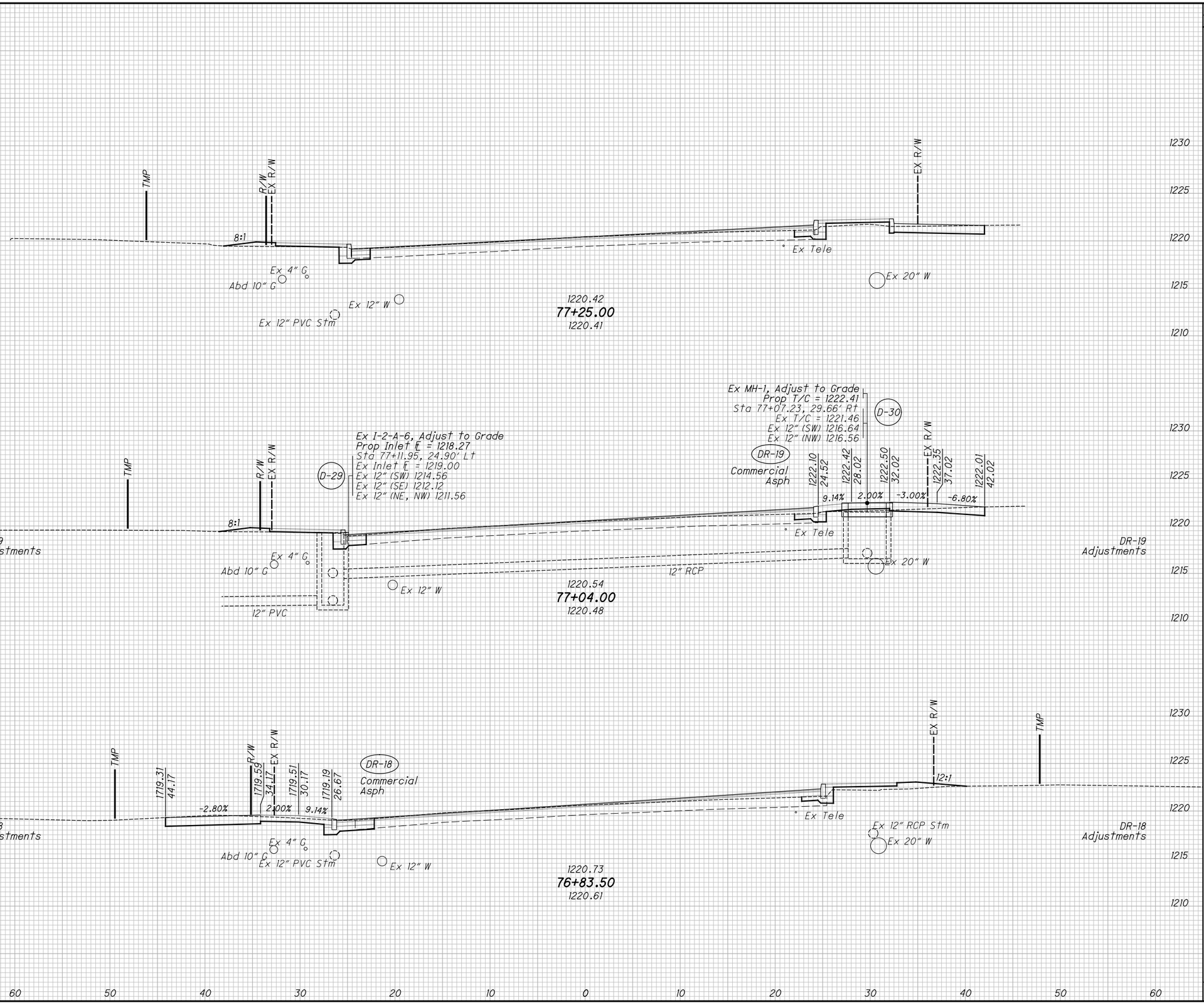
SEEDING	
END WIDTH	SQ. YDS.
6	13
5	-3
7	14
7	-4
7	7
	27



END AREA		VOLUME	
CUT	FILL	CUT	FILL
12	5	6	4
3	4	-2	-1
		4	4
8	7	3	-1
		3	2
		14	8

CALCULATED JFM
CHECKED BJB

CROSS SECTIONS SR 43
STA 76+83.50 TO STA 77+25.00

JEF-43-4.21

63
119

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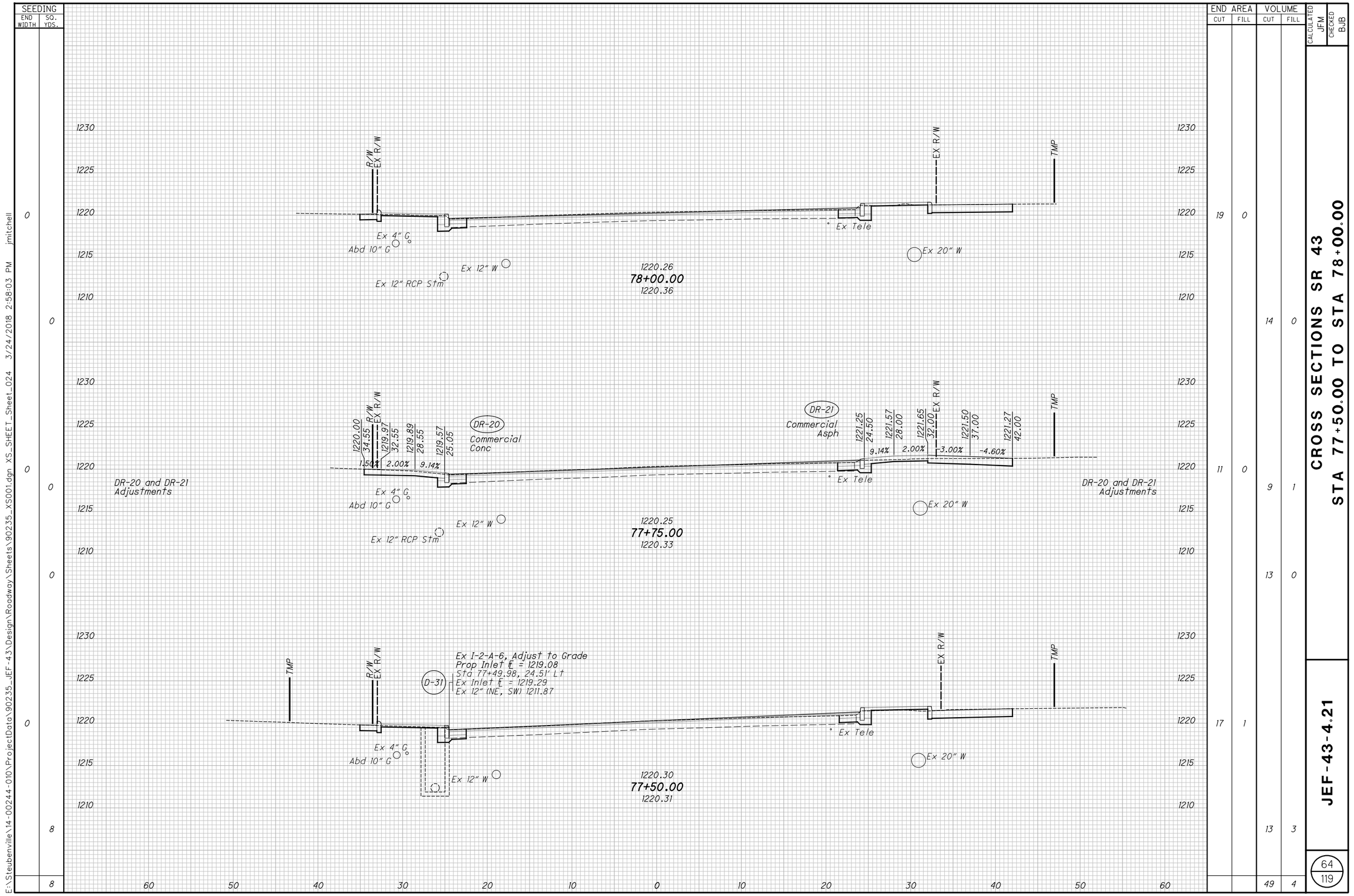
SEEDING	
END WIDTH	SQ. YDS.
0	0
	0
0	0
	0
0	0
	8
	8

END AREA	
CUT	FILL
19	0
11	0
17	1

VOLUME	
CUT	FILL
14	0
9	1
13	0
13	3
49	4

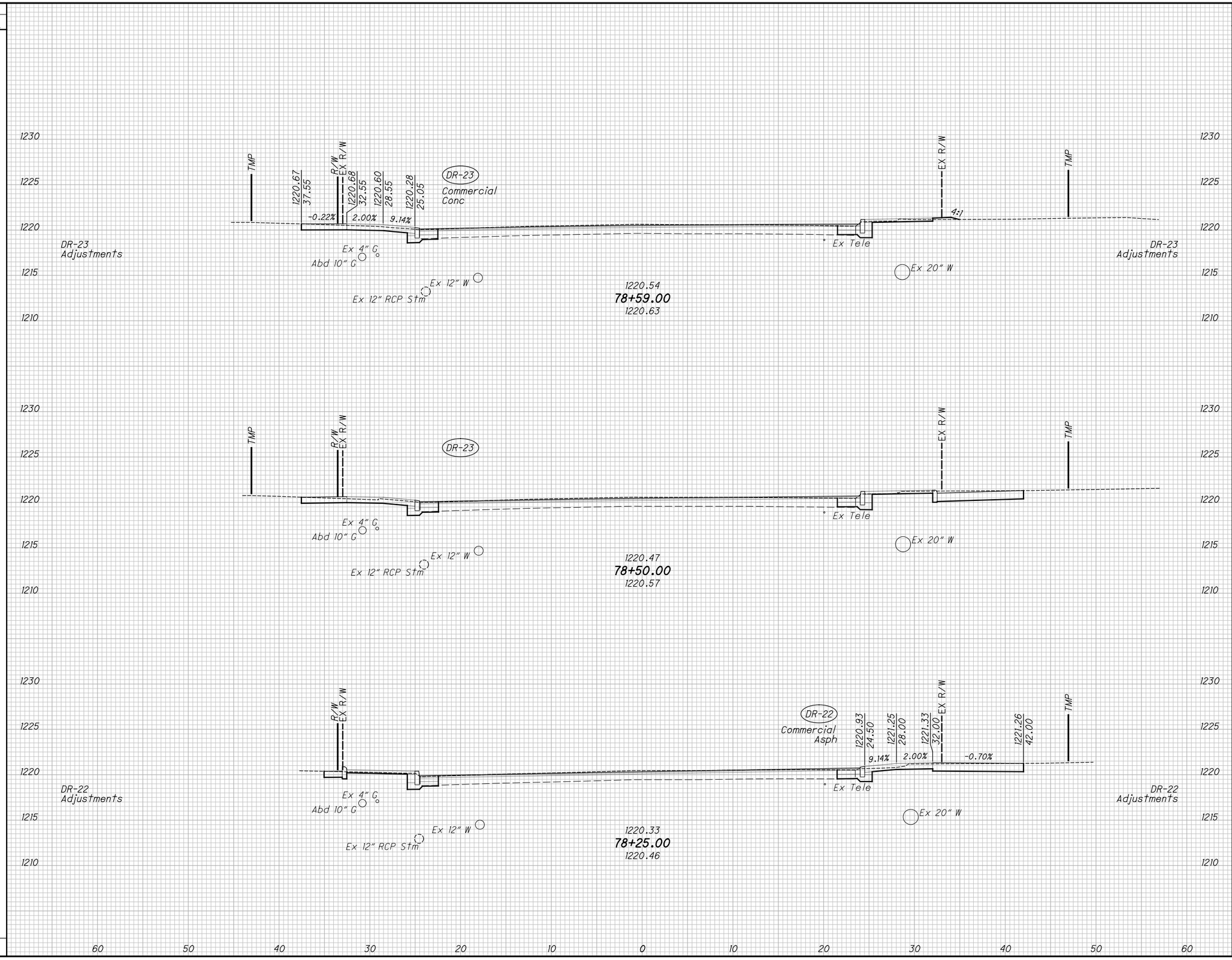
CALCULATED JFM
CHECKED BJB



CROSS SECTIONS SR 43
STA 77+50.00 TO STA 78+00.00

JEF-43-4.21

SEEDING	
END WIDTH	SQ. YDS.
3	0
	2
0	0
	0
0	0
	0
2	



END AREA	
CUT	FILL
9	1
19	0
9	0

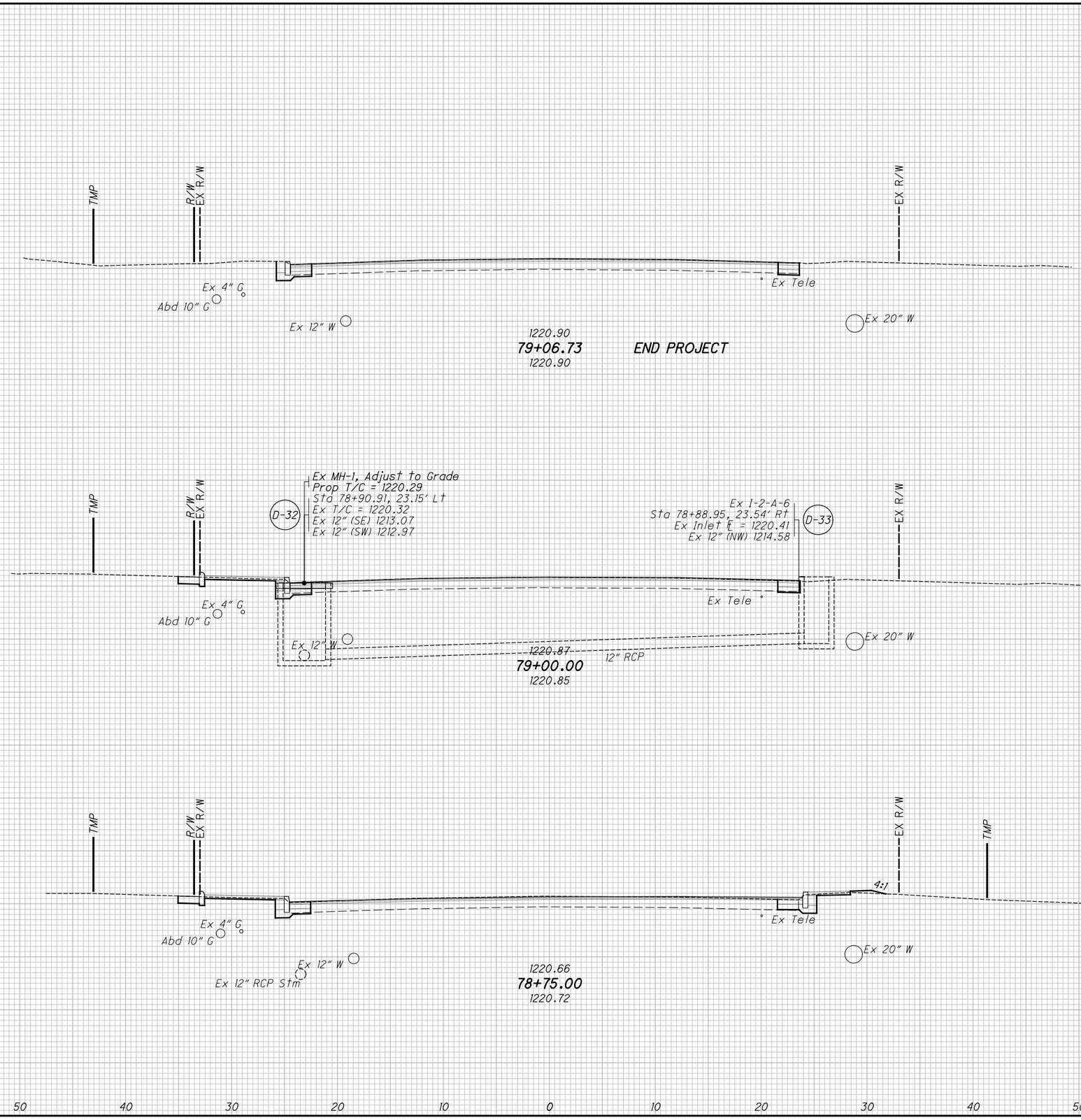
VOLUME	
CUT	FILL
3	0
5	0
13	0
-6	0
13	0
28	0

CALCULATED JFM
CHECKED BJB

CROSS SECTIONS SR 43
STA 78+25.00 TO STA 78+59.00

JEF-43-4.21

SEEDING	
END WIDTH	SQ. YDS.
0	
1	
	0
0	
	4
3	
	5
	9



END AREA	
CUT	FILL
0	0
3	0
6	0
8	1

VOLUME	
CUT	FILL
1	0
6	0
5	1
12	1

CALCULATED JFM
CHECKED BJB

CROSS SECTIONS SR 43
STA 78+75.00 TO STA 79+06.73

JEF-43-4.21

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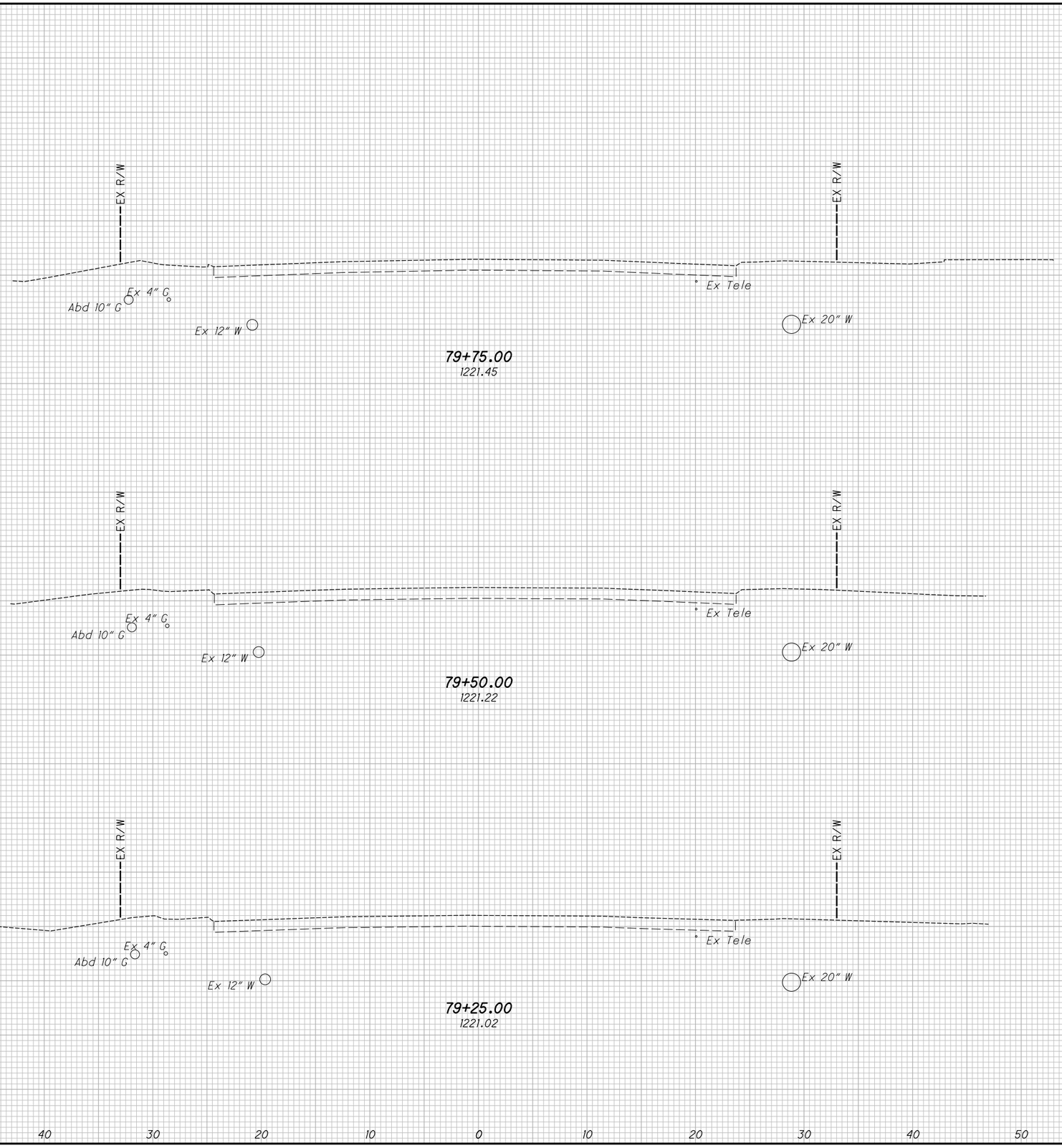
SEEDING	
END WIDTH	SQ. YDS.
0	0
	0
	0
	0
	0
	0
	0



END AREA	
CUT	FILL
0	0

VOLUME	
CUT	FILL
0	0
0	0
0	0

CALCULATED JFM
CHECKED BJB

CROSS SECTIONS SR 43
STA 79+75.00 TO STA 79+25.00

JEF-43-4.21

67
119

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SEEDING	
END WIDTH	SQ. YDS.
0	0
0	0
0	0
0	0

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

VOLUME	
CUT	FILL
0	0
0	0
0	0
0	0

CALCULATED JFM

CHECKED BJB

CROSS SECTIONS SR 43
STA 80+00.00 TO STA 80+25.00

JEF-43-4.21

68
119

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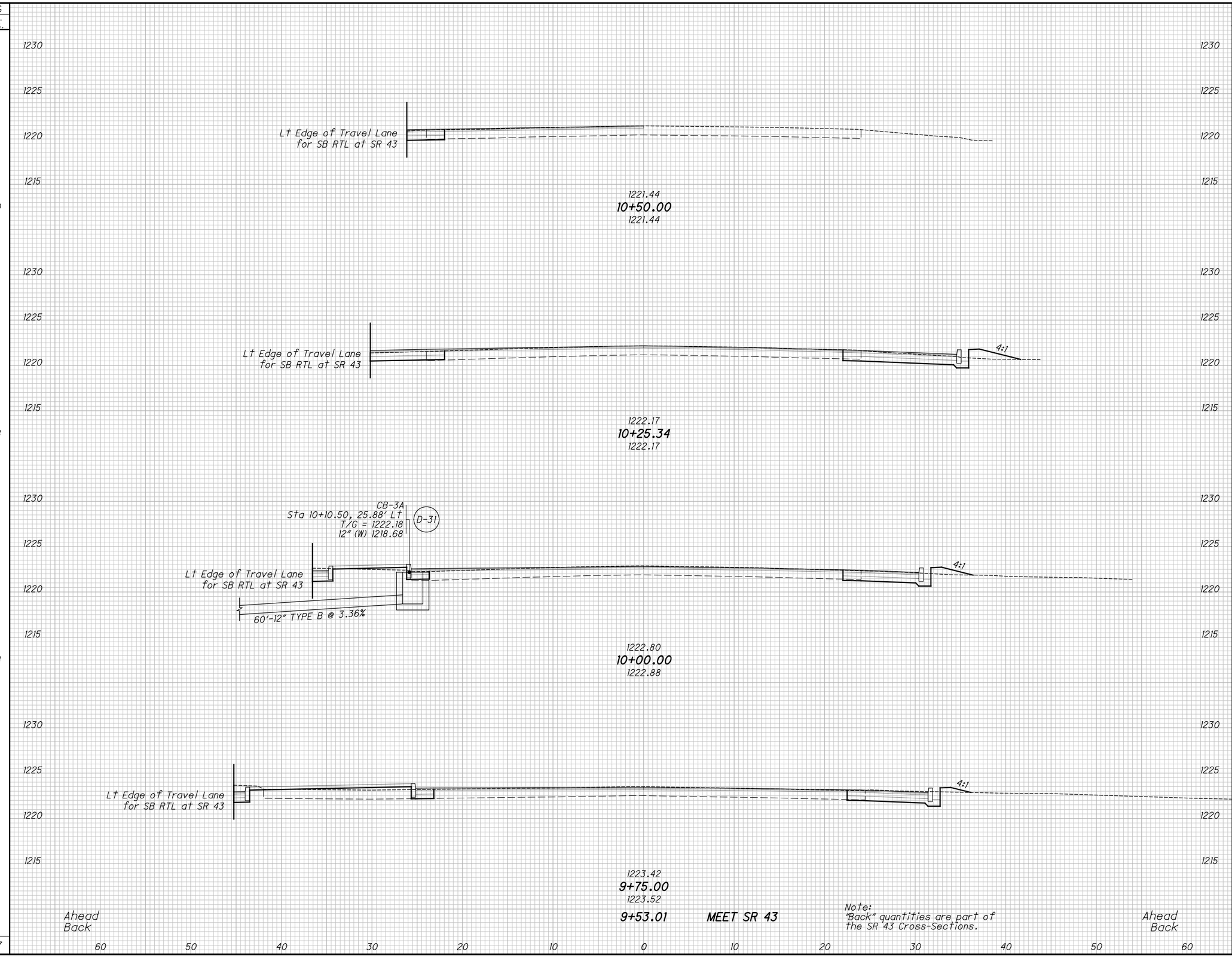
SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0	10	2	0	10	2
7	18	19	4	15	3
6	14	13	3	13	11
4	5	15	20	18	8
0		30	0		
0		0	0		
	47			56	24



CALCULATED JFM
CHECKED BJB

CROSS SECTIONS DOUGLAS APPLEGATE CONNECTOR
STA 9+75.00 TO STA 10+50.00

JEF-43-4.21

69
119

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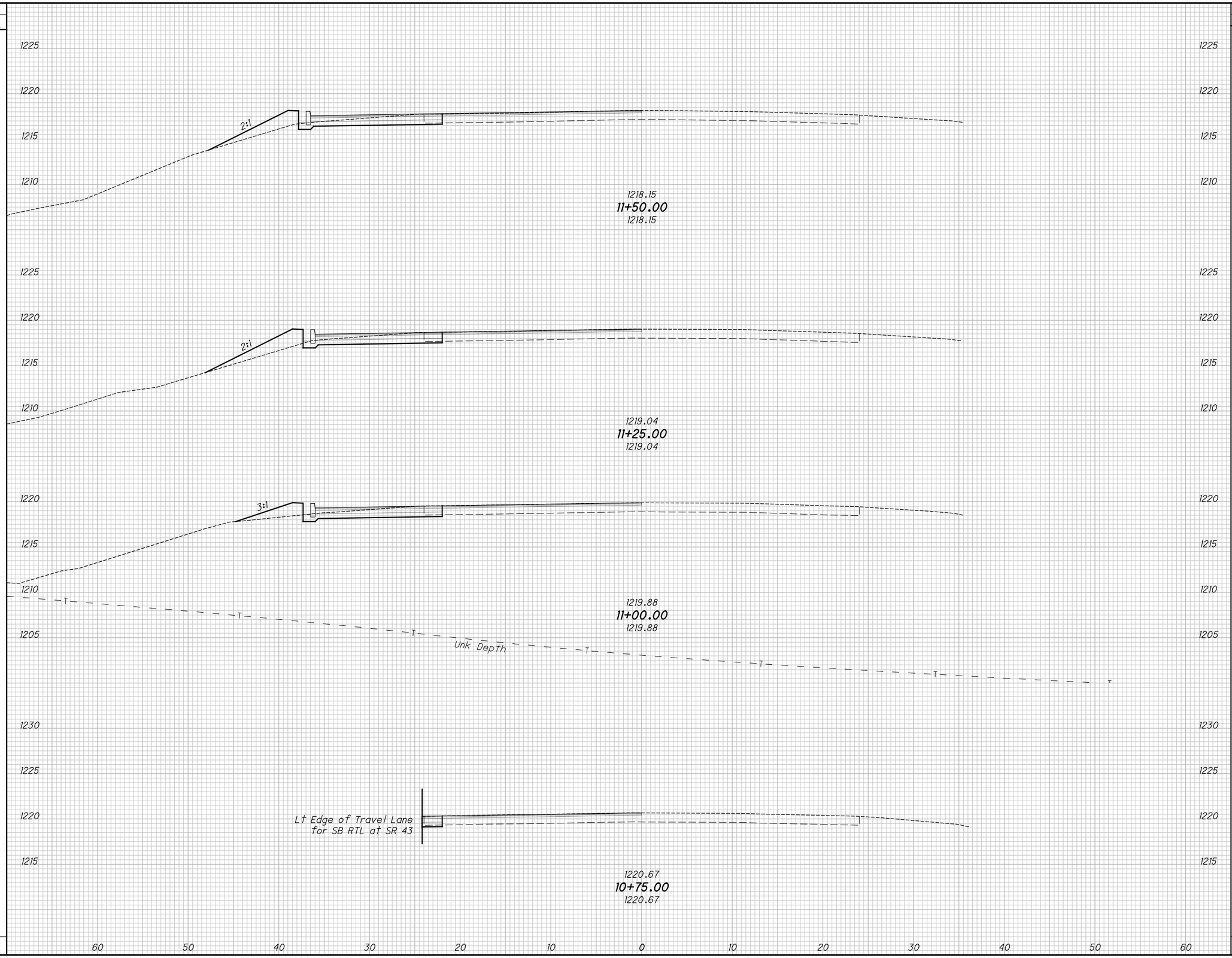

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
12	35	11	9	11	9
13	31	12	11	11	8
9	13	12	6	6	3
0	0	1	0	1	0
	79			29	20

CALCULATED JFM
CHECKED BJB

CROSS SECTIONS DOUGLAS APPLEGATE CONNECTOR STA 10+75.00 TO STA 11+50.00

JEF-43-4.21

70
119

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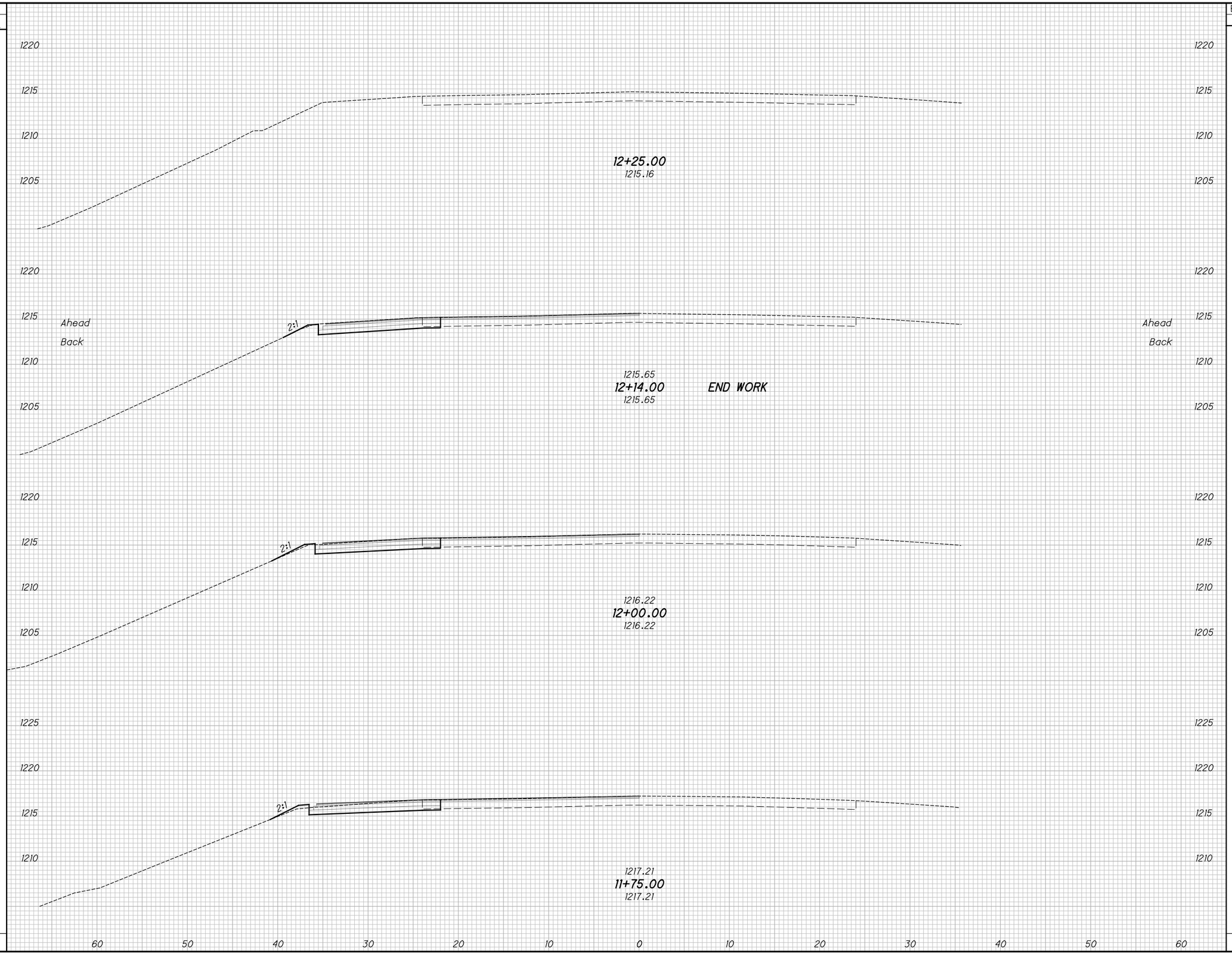

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0	0	0	0	0	0
0					
5	9	14	0	7	0
6	15	13	1	12	1
5	24	13	1	11	5
	48			30	6

CALCULATED JFM
CHECKED BJB

CROSS SECTIONS DOUGLAS APPLEGATE CONNECTOR STA 11+75.00 TO STA 12+25.00

JEF-43-4.21

71
119

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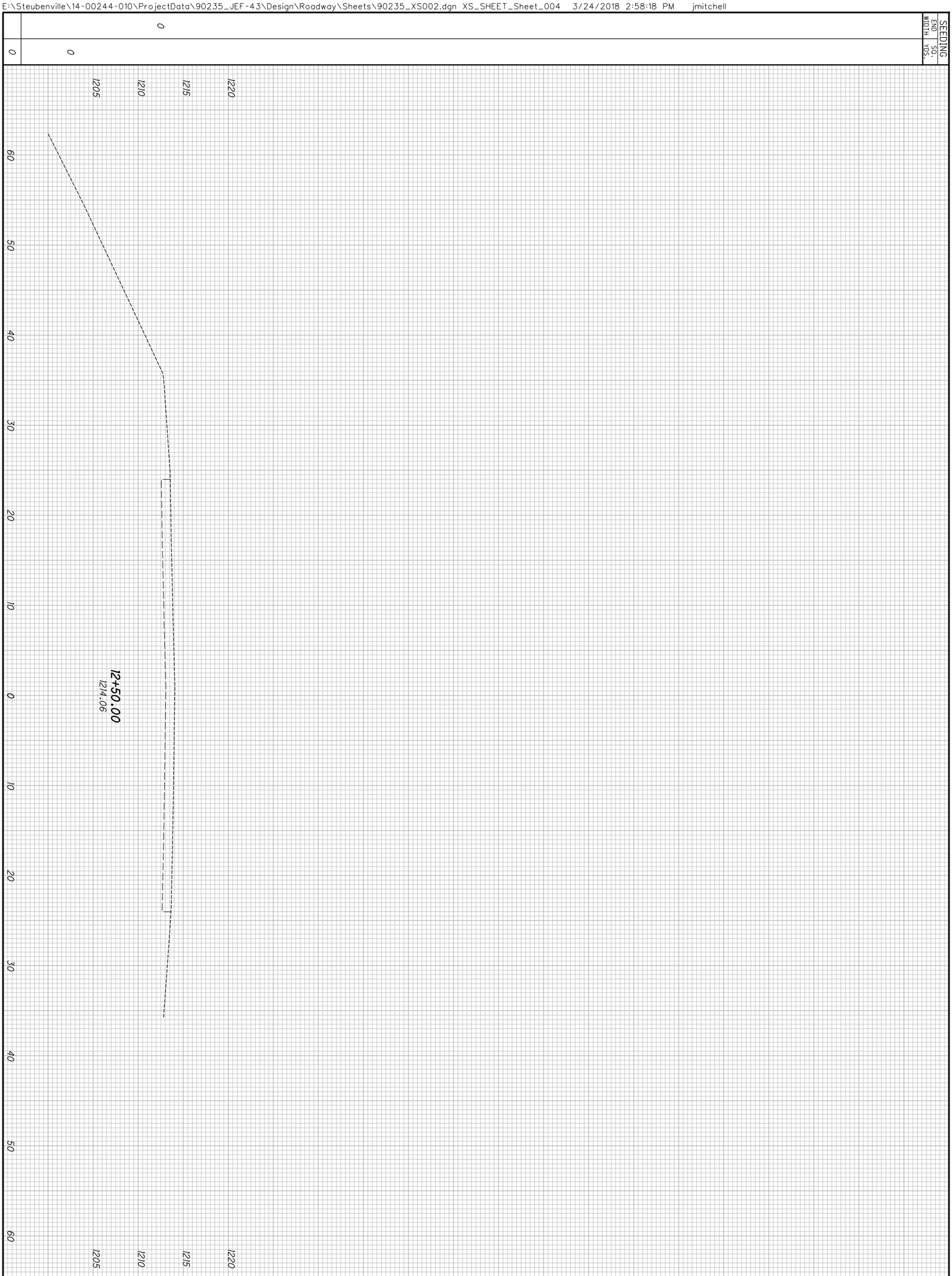


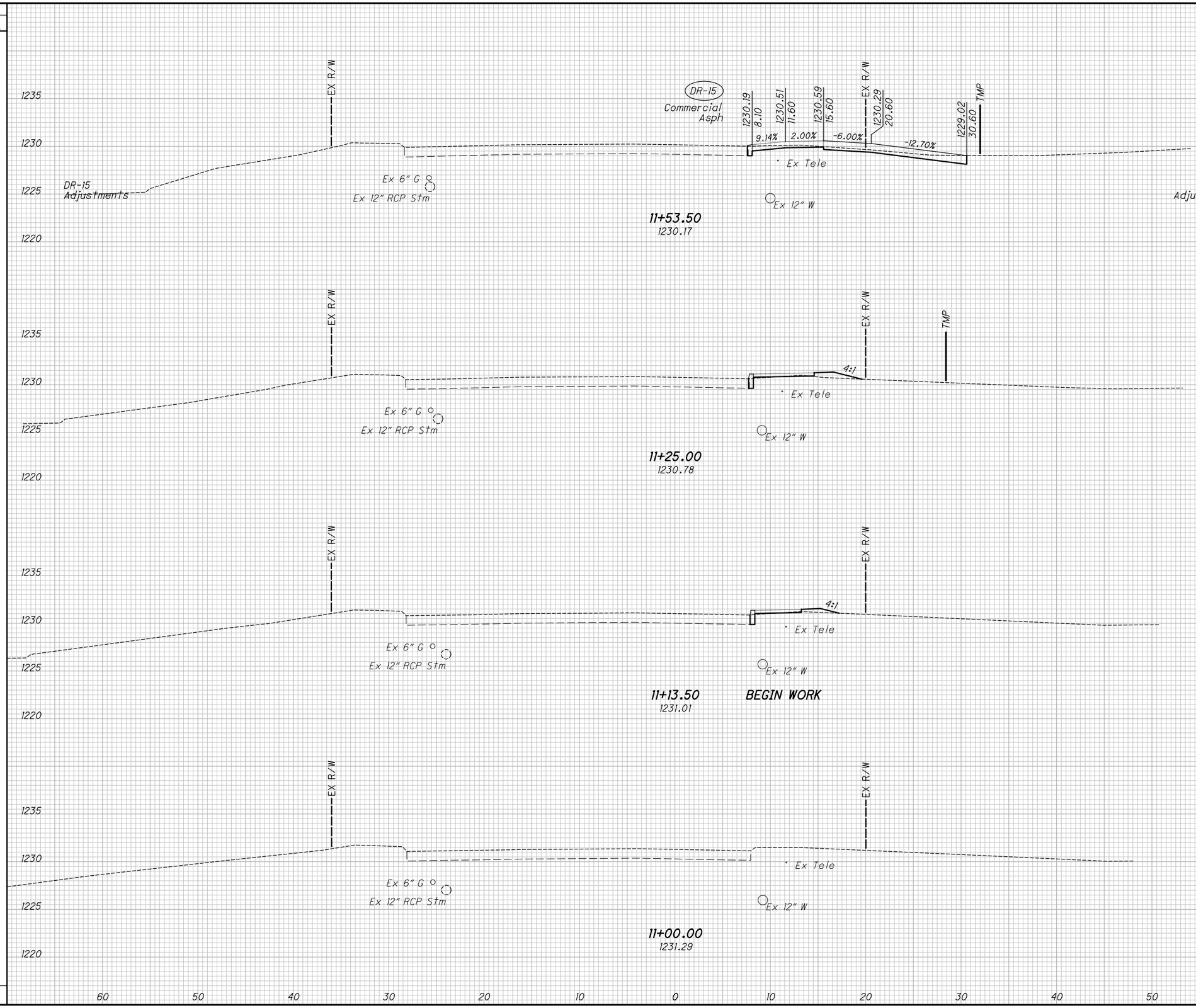
72
119

JEF-43-4.21

CROSS SECTIONS DOUGLAS APPLEGATE CONNECTOR
STA 12+50.00

CALCULATED JFM
CHECKED BJB

SEEDING	
END WIDTH	SQ. YDS.
0	
	1
	8
5	
	6
	4
	3
0	
	0
18	



END AREA	
CUT	FILL
3	0
1	2
1	1
0	0

VOLUME	
CUT	FILL
1	0
2	1
0	1
0	0
0	0
3	2

CALCULATED JFM
CHECKED BJB

CROSS SECTIONS LOVERS LANE
STA 11+00.00 TO STA 11+50.00

JEF-43-4.21

73
119

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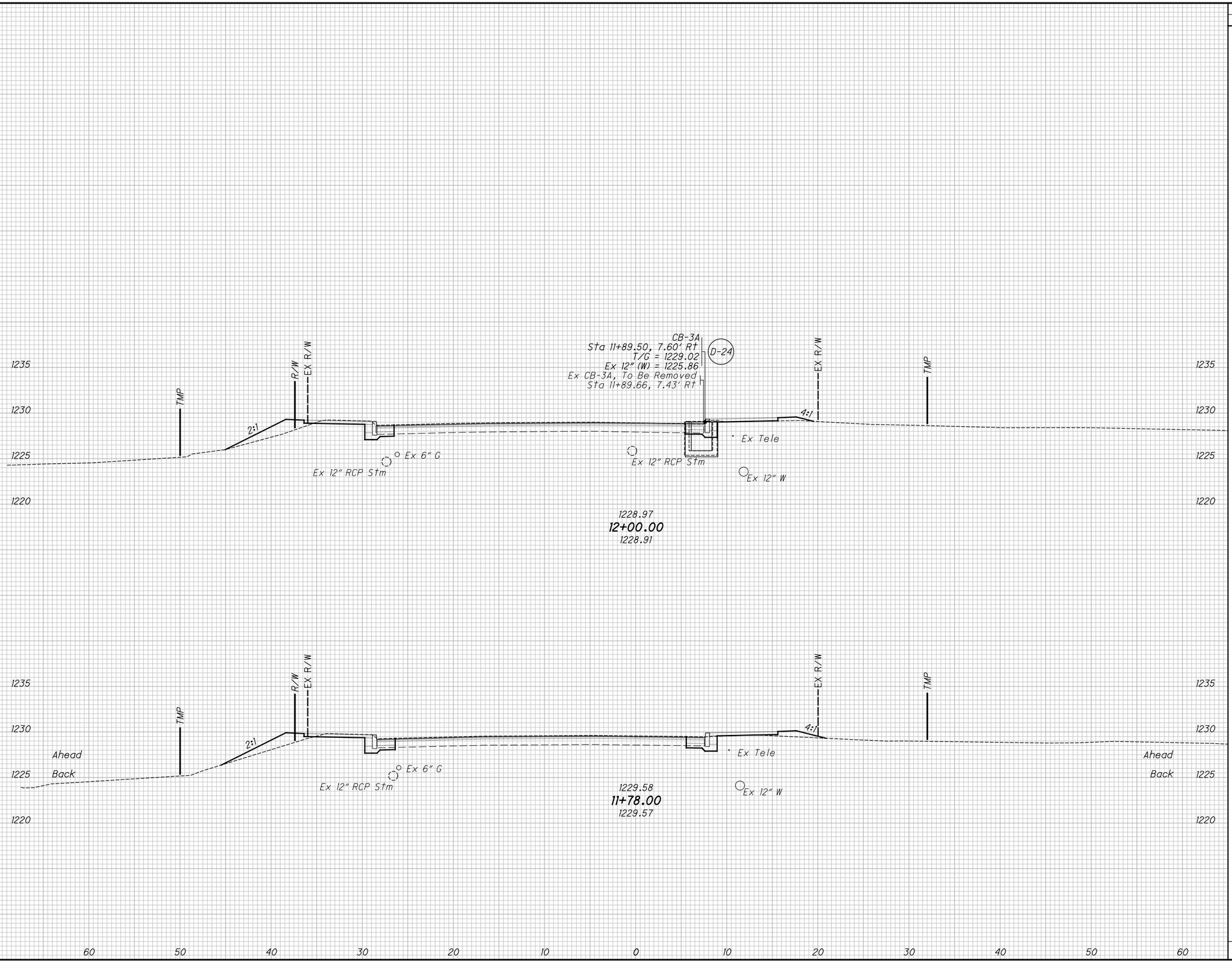
SEEDING	
END WIDTH	SQ. YDS.
13	
	34
15	
0	
	0
	34



END AREA		VOLUME	
CUT	FILL	CUT	FILL
8	9		
		7	7
8	9		
3	0		
		3	0
		10	7

CALCULATED JFM
CHECKED BJB

CROSS SECTIONS LOVERS LANE
STA 11+78.00 TO STA 12+00.00

JEF-43-4.21

74
119

SEEDING	
END WIDTH	SQ. YDS.
0	
0	
	10
7	
	31
15	
	39
	80

END AREA	
CUT	FILL
0	0
5	0
10	4
7	13

VOLUME	
CUT	FILL
7	2
8	8
7	10
22	20

CALCULATED JFM
CHECKED BJB

Ahead
Back

12+74.84 MEET SR 43

Note:
"Ahead" quantities are part of the SR 43 Cross-Sections.

Ahead
Back

1235
1230
1225
1220
1240

TMP
R/W
EX R/W
4:1
Edge of Travel Lane, Rt at SR 43
Ex 6" G
Ex 12" RCP Stm

1227.19
12+50.00
1227.16

I-2-A-6, As Per Plan
Sta 12+37.00, 32.20' Lt
T/G = 1227.42
Ex 12" (NW) = 1222.98
Ex 12" (E) = 1223.43
Ex 12" (SE) = 1223.34
Ex CB-3, to Be Removed
Sta 12+37.40, 28.94' Lt
D-23
3:1
Ex Tele
Ex 12" W

1228.15
12+25.00
1228.07

60 50 40 30 20 10 0 10 20 30 40 50 60

CROSS SECTIONS LOVERS LANE
STA 12+25.00 TO STA 12+50.00

JEF-43-4.21

75
119

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LEFT LANE (OUTSIDE)					LEFT LANE (INSIDE)				CENTER LANE (LEFT SIDE)				CENTERLINE		CENTER LANE (RIGHT SIDE)				RIGHT LANE (INSIDE)				RIGHT LANE (OUTSIDE)					
ETW Elevation	Transition Rate	Elevation Correction	Width	Cross Slope	ETW Elevation	Elevation Correction	Width	Cross Slope	ETW Elevation	Elevation Correction	Width	Cross Slope	Profile Grade	Station	Cross Slope	Width	Elevation Correction	ETW Elevation	Cross Slope	Width	Elevation Correction	ETW Elevation	Cross Slope	Width	Elevation Correction	Transition Rate	ETW Elevation	
1228.95		-0.20	12.73	-0.0161	1229.15	-0.18	12.00	-0.0150					1229.33	64+50.00					0.0031	12.00	0.04	1229.37	-0.0018	11.26	-0.02		1229.35	Begin Project; Match Existing
1228.83		-0.10	12.67	-0.0081	1228.93	-0.09	12.00	-0.0075					1229.02	64+75.00					-0.0065	12.00	-0.08	1228.94	-0.0089	11.63	-0.10		1228.84	
1228.71	130.2 : 1	0.00	12.62	0.0000	1228.71	0.00	12.00	0.0000					1228.71	65+00.00					-0.0160	12.00	-0.19	1228.52	-0.0160	12.00	-0.19		1228.33	Half Flat (Left); End Width Taper
1228.59		0.10	12.62	0.0080	1228.49	0.10	12.00	0.0080					1228.39	65+25.00					-0.0160	12.00	-0.19	1228.20	-0.0160	12.00	-0.19		1228.01	
1228.40		0.20	12.62	0.0155	1228.21	0.19	12.00	0.0155					1228.02	65+48.47					-0.0160	12.00	-0.19	1227.83	-0.0160	12.00	-0.19		1227.64	Begin Widening for LTL (Right Side)
1228.39		0.20	12.62	0.0160	1228.19	0.19	12.00	0.0160					1228.00	65+50.00	-0.0160	0.00	0.00	1228.00	-0.0160	12.00	-0.19	1227.81	-0.0160	12.00	-0.19		1227.62	Begin Crown Removal
1228.10		0.31	12.62	0.0242	1227.79	0.29	12.00	0.0242					1227.50	65+75.00	-0.0242	0.27	-0.01	1227.49	-0.0242	11.84	-0.29	1227.21	-0.0242	12.00	-0.29		1226.92	
1227.80	126.8 : 1	0.39	12.62	0.0308	1227.41	0.37	12.00	0.0308	1227.04	0.00	0.00	0.0308	1227.04	65+95.01	-0.0308	0.56	-0.02	1227.02	-0.0308	11.90	-0.37	1226.66	-0.0308	12.00	-0.37	126.8 : 1	1226.29	PC & Begin Widening for LTL (Left Side)
1227.71		0.41	12.67	0.0324	1227.30	0.39	12.00	0.0324	1226.91	0.00	0.01	0.0324	1226.91	66+00.00	-0.0324	0.63	-0.02	1226.89	-0.0324	11.95	-0.39	1226.50	-0.0324	12.00	-0.39		1226.11	
1227.33		0.50	12.72	0.0390	1226.83	0.47	12.00	0.0390	1226.37	0.01	0.14	0.0390	1226.36	66+20.00	-0.0390	0.85	-0.03	1226.33	-0.0390	12.07	-0.47	1225.86	-0.0390	12.00	-0.47		1225.39	Begin Full Super (3.90% Right)
1227.19		0.49	12.66	0.0390	1226.70	0.47	12.00	0.0390	1226.23	0.01	0.31	0.0390	1226.22	66+25.00	-0.0390	1.00	-0.04	1226.18	-0.0390	12.15	-0.47	1225.71	-0.0390	12.00	-0.47		1225.24	
1226.44		0.48	12.39	0.0390	1225.95	0.46	11.90	0.0390	1225.49	0.04	0.97	0.0390	1225.45	66+50.00	-0.0390	1.37	-0.05	1225.40	-0.0390	12.30	-0.48	1224.92	-0.0390	12.00	-0.47		1224.45	
1225.67		0.47	12.16	0.0390	1225.19	0.46	11.77	0.0390	1224.73	0.06	1.63	0.0390	1224.67	66+75.00	-0.0390	1.73	-0.07	1224.60	-0.0390	12.42	-0.48	1224.12	-0.0390	12.00	-0.47		1223.65	
1224.91		0.47	12.00	0.0390	1224.44	0.45	11.65	0.0390	1223.99	0.09	2.23	0.0390	1223.90	67+00.00	-0.0390	2.10	-0.08	1223.82	-0.0390	12.48	-0.49	1223.33	-0.0390	12.00	-0.47		1222.86	
1224.15		0.47	12.00	0.0390	1223.68	0.45	11.54	0.0390	1223.23	0.11	2.78	0.0390	1223.12	67+25.00	-0.0390	2.47	-0.10	1223.02	-0.0390	12.51	-0.49	1222.54	-0.0390	12.00	-0.47		1222.07	
1223.39		0.47	12.00	0.0390	1222.92	0.45	11.44	0.0390	1222.48	0.13	3.28	0.0390	1222.35	67+50.00	-0.0390	2.83	-0.11	1222.24	-0.0390	12.49	-0.49	1221.75	-0.0390	12.00	-0.47		1221.28	
1222.63		0.47	12.00	0.0390	1222.16	0.44	11.35	0.0390	1221.72	0.15	3.73	0.0390	1221.57	67+75.00	-0.0390	3.20	-0.12	1221.45	-0.0390	12.42	-0.48	1220.96	-0.0390	12.00	-0.47		1220.49	
1221.95		0.47	12.00	0.0390	1221.48	0.44	11.27	0.0390	1221.04	0.16	4.13	0.0390	1220.88	68+00.00	-0.0390	3.56	-0.14	1220.74	-0.0390	12.31	-0.48	1220.26	-0.0390	12.00	-0.47		1219.79	
1221.38		0.47	12.00	0.0390	1220.91	0.44	11.20	0.0390	1220.47	0.17	4.48	0.0390	1220.30	68+25.00	-0.0390	3.93	-0.15	1220.15	-0.0390	12.16	-0.47	1219.67	-0.0390	12.00	-0.47		1219.20	
1220.91		0.47	12.00	0.0390	1220.44	0.43	11.14	0.0390	1220.01	0.19	4.78	0.0390	1219.82	68+50.00	-0.0390	4.30	-0.17	1219.65	-0.0390	11.96	-0.47	1219.19	-0.0390	12.00	-0.47		1218.72	
1220.54		0.47	12.00	0.0390	1220.07	0.43	11.09	0.0390	1219.64	0.20	5.03	0.0390	1219.44	68+75.00	-0.0390	4.66	-0.18	1219.26	-0.0390	11.72	-0.46	1218.80	-0.0390	12.00	-0.47		1218.33	
1220.27		0.47	12.00	0.0390	1219.80	0.43	11.06	0.0390	1219.37	0.20	5.22	0.0390	1219.17	69+00.00	-0.0390	5.03	-0.20	1218.97	-0.0390	11.43	-0.45	1218.53	-0.0390	12.00	-0.47		1218.06	
1220.12		0.47	12.00	0.0390	1219.65	0.43	11.03	0.0390	1219.22	0.21	5.37	0.0390	1219.01	69+25.00	-0.0390	5.40	-0.21	1218.80	-0.0390	11.10	-0.43	1218.37	-0.0390	12.00	-0.47		1217.90	
1220.09		0.47	12.00	0.0390	1219.62	0.43	11.02	0.0390	1219.19	0.21	5.40	0.0390	1218.98	69+32.00	-0.0390	5.50	-0.21	1218.77	-0.0390	11.00	-0.43	1218.34	-0.0390	12.00	-0.47		1217.87	End Widening for LTL (Right Side)
1220.06		0.47	12.00	0.0390	1219.59	0.43	11.01	0.0390	1219.16	0.21	5.46	0.0390	1218.95	69+50.00	-0.0390	5.50	-0.21	1218.74	-0.0390	11.00	-0.43	1218.31	-0.0390	12.00	-0.47		1217.84	
1220.10		0.47	12.00	0.0390	1219.63	0.43	11.00	0.0390	1219.20	0.21	5.50	0.0390	1218.99	69+75.00	-0.0390	5.50	-0.21	1218.78	-0.0390	11.00	-0.43	1218.35	-0.0390	12.00	-0.47		1217.88	
1220.13		0.47	12.00	0.0390	1219.66	0.43	11.00	0.0390	1219.23	0.21	5.50	0.0390	1219.02	69+82.00	-0.0390	5.50	-0.21	1218.81	-0.0390	11.00	-0.43	1218.38	-0.0390	12.00	-0.47		1217.91	End Widening for LTL (Left Side)
1220.25		0.47	12.00	0.0390	1219.78	0.43	11.00	0.0390	1219.35	0.21	5.50	0.0390	1219.14	70+00.00	-0.0390	5.50	-0.21	1218.93	-0.0390	11.00	-0.43	1218.50	-0.0390	12.00	-0.47		1218.03	
1220.39		0.47	12.00	0.0390	1219.92	0.43	11.00	0.0390	1219.49	0.21	5.50	0.0390	1219.28	70+15.00	-0.0390	5.50	-0.21	1219.07	-0.0390	11.00	-0.43	1218.64	-0.0390	12.00	-0.47		1218.17	End Full Super (3.90% Right)
1220.43		0.43	12.00	0.0361	1220.00	0.40	11.00	0.0361	1219.60	0.20	5.50	0.0361	1219.40	70+25.00	-0.0361	5.50	-0.20	1219.20	-0.0361	11.00	-0.40	1218.80	-0.0361	12.00	-0.43		1218.37	
1220.50	122.0 : 1	0.38	12.00	0.0320	1220.12	0.35	11.00	0.0320	1219.77	0.18	5.50	0.0320	1219.59	70+39.46	-0.0320	5.50	-0.18	1219.41	-0.0320	11.00	-0.35	1219.06	-0.0320	12.00	-0.38	122.0 : 1	1218.68	PT
1220.58		0.35	12.00	0.0289	1220.24	0.32	11.00	0.0289	1219.92	0.16	5.50	0.0289	1219.76	70+50.00	-0.0289	5.50	-0.16	1219.60	-0.0289	11.00	-0.32	1219.28	-0.0289	12.00	-0.35		1218.94	
1220.84		0.26	12.00	0.0218	1220.58	0.24	11.00	0.0218	1220.34	0.12	5.50	0.0218	1220.22	70+75.00	-0.0218	5.50	-0.12	1220.10	-0.0218	11.00	-0.24	1219.86	-0.0218	12.00	-0.26		1219.60	
1221.12		0.19	12.00	0.0160	1220.92	0.18	11.00	0.0160	1220.75	0.09	5.50	0.0160	1220.66	70+95.00	-0.0160	5.50	-0.09	1220.57	-0.0160	11.00	-0.18	1220.40	-0.0160	12.00	-0.19		1220.20	Begin Reverse Curve Transition (1.60% Right)
1221.20		0.18	12.00	0.0151	1221.02	0.17	11.00	0.0151	1220.85	0.08	5.50	0.0151	1220.77	71+00.00	-0.0151	5.50	-0.08	1220.69	-0.0151	11.00	-0.17	1220.52	-0.0151	12.00	-0.18		1220.34	
1221.27		0.17	12.00	0.0144	1221.10	0.16	11.00	0.0144	1220.94	0.08	5.50	0.0144	1220.86	71+04.00	-0.0144	5.50	-0.08	1220.78	-0.0144	11.00	-0.16	1220.62	-0.0144	12.00	-0.17		1220.45	Begin Widening for RTL (Right Side)
1221.63		0.13	12.00	0.0108	1221.50	0.12	11.00	0.0108	1221.38	0.06	5.50	0.0108	1221.32	71+25.00	-0.0108	5.50	-0.06	1221.26	-0.0108	11.00	-0.12	1221.14	-0.0108	16.62	-0.18		1220.96	
1222.05		0.08	12.00	0.0065	1221.98	0.07	11.00	0.0065	1221.91	0.04	5.50	0.0065	1221.87	71+50.00	-0.0065	5.50	-0.04	1221.83	-0.0065	11.00	-0.07	1221.76	-0.0065	22.12	-0.14		1221.62	
1222.13	202.9 : 1	0.07	12.00	0.0058	1222.06	0.06	11.00	0.0058	1221.99	0.03	5.50	0.0058	1221.96	71+54.00	-0.0058	5.50	-0.03	1221.93	-0.0058	11.00	-0.06	1221.86	-0.0058	23.00	-0.13	202.9 : 1	1221.73	End Widening for RTL (Right Side)
1222.48		0.03	12.00	0.0022	1222.46	0.02	11.00	0.0022	1222.43	0.01	5.50	0.0022	1222.42	71+75.00	-0.0022	5.50	-0.01	1222.41	-0.0022	11.00	-0.02	1222.38	-0.0022	23.00	-0.05		1222.33	
1222.70		0.00	12.00	0.0000	1222.70	0.00	11.00	0.0000	1222.70	0.00	5.50	0.0000	1222.70	71+87.50	0.0000	5.50	0.00	1222.70	0.0000	11.00	0.00	1222.70	0.0000	23.00	0.00		1222.70	Flat
1222.91		-0.03	12.00	-0.0022	1222.93	-0.02	11.00	-0.0022	1222.96	-0.01	5.50	-0.0022	1222.97	72+00.00	0.0022	5.50	0.01	1222.98	0.0022	11.00	0.02	1223.01	0.0022	23.00	0.05		1223.06	
1223.33		-0.08	12.00	-0.0065	1223.40	-0.07	11.00	-0.0065	1223.47	-0.04	5.50	-0.0065	1223.51	72+25.00	0.0065	5.50	0.04	1223.55	0.0065	11.00	0.07	1223.62	0.0065	23.00	0.15		1223.77	
1223.67		-0.13	12.00	-0.0108	1223.80	-0.12	11.00	-0.0108	1223.92	-0.06	5.50	-0.0108	1223.98	72+50.00	0.0108	5.50	0.06	1224.04	0.0108	11.00	0.12	1224.16	0.0108	23.00	0.25		1224.41	
1223.94		-0.18	12.00	-0.0151	1224.12	-0.17	11.00	-0.0151	1224.29	-0.08	5.50	-0.0151	1224.37	72+75.00	0.0151	5.50	0.08	1224.45	0.0151	11.00	0.17	1224.62	0.0151	23.00	0.35		1224.97	
1223.97		-0.19	12.00	-0.0160	1224.17	-0.18	11.00	-0.0160	1224.34	-0.09	5.50	-0.0160	1224.43	72+80.00	0.0160	5.50	0.09	1224.52	0.0160	11.00	0.18	1224.69	0.0160	23.00	0.37		1225.06	End Reverse Curve Transition (1.60% Left)
1224.04		-0.26	12.00	-0.0219	1224.30	-0.24	11.00	-0.0219	1224.54	-0.12	5.50	-0.0219	1224.66	73+00.00	0.0219	5.50	0.12	1224.78	0.0219	11.00	0.24	1225.02	0.0219	23.00	0.50		1225.53	
1224.04		-0.35	12.00	-0.0293	1224.39	-0.32	11.00	-0.0293	1224.71	-0.16	5.50	-0.0293	1224.87	73+25.00	0.0293	5.50	0.16	1225.03	0.0293	11.00	0.32	1225.35	0.0293	23.00	0.67		1226.03	
1223.95	118.8 : 1	-0.44	12.00	-0.0367	1224.39	-0.40	11.00	-0.0367	1224.79	-0.20	5.50	-0.0367	1224.99	73+50.00	0.0367	5.50	0.20	1225.19	0.0367	11.00	0.40	1225.60	0.0367	23.00	0.84	118.8 : 1	1226.44	
1223.93		-0.45	12.00	-0.0376	1224.38	-0.41	11.00	-0.0376	1224.79	-0.21	5.50	-0.0376	1225.00	73+53.21	0.0376	5.50	0.21	1225.21	0.0376	11.00	0.41	1225.62	0.0376	23.00	0.87		1226.49	Intersection w Douglas Applegate Conn (Left Side)

CALCULATED JFM
CHECKED TAD

SUPERELEVATION TABLE
PI STA 68+19.04

JEF-43-4.21

SUPERELEVATION TABLE
PI STA 75+72.79

CALCULATED JFM | CHECKED TAD

LEFT LANE (OUTSIDE)					LEFT LANE (INSIDE)				CENTER LANE (LEFT SIDE)				CENTERLINE		CENTER LANE (RIGHT SIDE)				RIGHT LANE (INSIDE)				RIGHT LANE (OUTSIDE)					
ETW Elevation	Transition Rate	Elevation Correction	Width	Cross Slope	ETW Elevation	Elevation Correction	Width	Cross Slope	ETW Elevation	Elevation Correction	Width	Cross Slope	Profile Grade	Station	Cross Slope	Width	Elevation Correction	ETW Elevation	Cross Slope	Width	Elevation Correction	ETW Elevation	Cross Slope	Width	Elevation Correction	Transition Rate	ETW Elevation	
1223.51		-0.87	23.00	-0.0376	1224.38	-0.41	11.00	-0.0376	1224.79	-0.21	5.50	-0.0376	1225.00	73+53.21	0.0376	5.50	0.21	1225.21	0.0376	11.00	0.41	1225.62	0.0376	12.00	0.45		1226.07	Intersection w Douglas Applegate Conn (Left Side) *
1223.47		-0.90	23.00	-0.0390	1224.37	-0.43	11.00	-0.0390	1224.80	-0.21	5.50	-0.0390	1225.01	73+57.82	0.0390	5.50	0.21	1225.22	0.0390	11.00	0.43	1225.65	0.0390	12.00	0.47		1226.12	Intersection w Lovers Lane (Right Side)
1223.29		-1.01	23.00	-0.0440	1224.30	-0.48	11.00	-0.0440	1224.79	-0.24	5.50	-0.0440	1225.03	73+75.00	0.0440	5.50	0.24	1225.27	0.0440	11.00	0.48	1225.76	0.0440	12.00	0.53		1226.29	
1222.94	118.8 : 1	-1.18	23.00	-0.0514	1224.12	-0.57	11.00	-0.0514	1224.69	-0.28	5.50	-0.0514	1224.97	74+00.00	0.0514	5.50	0.28	1225.25	0.0514	11.00	0.57	1225.82	0.0514	12.00	0.62	118.8 : 1	1226.44	
1222.53		-1.34	23.00	-0.0585	1223.88	-0.64	11.00	-0.0585	1224.52	-0.32	5.50	-0.0585	1224.84	74+23.82	0.0585	5.50	0.32	1225.16	0.0585	11.00	0.64	1225.80	0.0585	12.00	0.70		1226.51	PC
1222.51		-1.35	23.00	-0.0588	1223.86	-0.65	11.00	-0.0588	1224.51	-0.32	5.50	-0.0588	1224.83	74+25.00	0.0588	5.50	0.32	1225.15	0.0588	11.00	0.65	1225.80	0.0588	12.00	0.71		1226.51	
1221.99		-1.52	23.00	-0.0662	1223.51	-0.73	11.00	-0.0662	1224.24	-0.36	5.50	-0.0662	1224.60	74+50.00	0.0662	5.50	0.36	1224.96	0.0662	11.00	0.73	1225.69	0.0662	12.00	0.79		1226.49	
1221.38		-1.69	23.00	-0.0736	1223.08	-0.81	11.00	-0.0736	1223.89	-0.40	5.50	-0.0736	1224.29	74+75.00	0.0736	5.50	0.40	1224.69	0.0736	11.00	0.81	1225.50	0.0736	12.00	0.88		1226.39	
1220.98		-1.79	23.00	-0.0780	1222.77	-0.86	11.00	-0.0780	1223.63	-0.43	5.50	-0.0780	1224.06	74+90.00	0.0780	5.50	0.43	1224.49	0.0780	11.00	0.86	1225.35	0.0780	12.00	0.94		1226.28	Begin Full Super (7.80% Left)
1220.80		-1.79	23.00	-0.0780	1222.59	-0.86	11.00	-0.0780	1223.45	-0.43	5.50	-0.0780	1223.88	75+00.00	0.0780	5.50	0.43	1224.31	0.0780	11.00	0.86	1225.17	0.0780	12.00	0.94		1226.10	
1220.62		-1.79	23.00	-0.0780	1222.41	-0.86	11.00	-0.0780	1223.27	-0.43	5.50	-0.0780	1223.70	75+10.00	0.0780	5.50	0.43	1224.13	0.0780	11.00	0.86	1224.99	0.0780	12.00	0.94		1225.92	Begin Narrowing for RTL (Left Side)
1220.54		-1.58	21.11	-0.0747	1222.11	-0.86	11.00	-0.0780	1222.97	-0.43	5.50	-0.0780	1223.40	75+25.00	0.0780	5.50	0.43	1223.83	0.0780	11.00	0.86	1224.69	0.0780	12.00	0.94		1225.62	
1220.48		-1.43	20.39	-0.0702	1221.91	-0.86	11.00	-0.0780	1222.77	-0.43	5.50	-0.0780	1223.20	75+35.00	0.0780	5.50	0.43	1223.63	0.0780	11.00	0.86	1224.49	0.0780	12.00	0.94		1225.42	Begin Narrowing for LTL (Right Side)
1220.39		-1.22	16.71	-0.0730	1221.61	-0.86	11.00	-0.0780	1222.47	-0.43	5.50	-0.0780	1222.90	75+50.00	0.0780	5.45	0.43	1223.33	0.0780	11.01	0.86	1224.18	0.0780	12.00	0.94		1225.12	
1220.28		-0.94	12.00	-0.0780	1221.21	-0.86	11.00	-0.0780	1222.07	-0.43	5.50	-0.0780	1222.50	75+70.00	0.0780	5.23	0.41	1222.91	0.0780	11.06	0.86	1223.77	0.0780	12.00	0.94		1224.71	End Narrowing for RTL (Left Side)
1220.18		-0.94	12.00	-0.0780	1221.11	-0.86	11.00	-0.0780	1221.97	-0.43	5.50	-0.0780	1222.40	75+75.00	0.0780	5.15	0.40	1222.80	0.0780	11.07	0.86	1223.67	0.0780	12.00	0.94		1224.60	
1219.98		-0.94	12.00	-0.0780	1220.91	-0.86	11.00	-0.0780	1221.77	-0.43	5.50	-0.0780	1222.20	75+85.00	0.0780	4.96	0.39	1222.59	0.0780	11.11	0.87	1223.45	0.0780	12.00	0.94		1224.39	Begin Narrowing for LTL (Left Side)
1219.69		-0.94	12.00	-0.0780	1220.63	-0.86	11.01	-0.0780	1221.49	-0.42	5.44	-0.0780	1221.91	76+00.00	0.0780	4.58	0.36	1222.27	0.0780	11.19	0.87	1223.14	0.0780	12.00	0.94		1224.08	
1219.29		-0.94	12.00	-0.0780	1220.22	-0.86	11.07	-0.0780	1221.09	-0.39	5.04	-0.0780	1221.48	76+25.00	0.0780	3.75	0.29	1221.77	0.0780	11.37	0.89	1222.66	0.0780	12.00	0.94		1223.59	
1219.05		-0.94	12.00	-0.0780	1219.98	-0.87	11.18	-0.0780	1220.86	-0.33	4.29	-0.0780	1221.19	76+45.00	0.0780	2.65	0.21	1221.40	0.0780	11.59	0.90	1222.30	0.0780	12.00	0.94		1223.24	End Full Super (7.80% Left)
1219.02		-0.81	12.00	-0.0678	1219.83	-0.77	11.35	-0.0678	1220.60	-0.22	3.19	-0.0678	1220.82	76+75.00	0.0678	1.30	0.09	1220.91	0.0678	11.87	0.80	1221.71	0.0678	12.00	0.81		1222.53	End Narrowing for LTL (Right Side)
1218.29		-1.50	25.39	-0.0593	1219.79	-0.69	11.58	-0.0593	1220.48	-0.10	1.72	-0.0593	1220.58	77+00.00	0.0593	0.08	0.00	1220.58	0.0593	12.00	0.71	1221.30	0.0593	12.00	0.71		1222.01	
1218.38		-1.42	25.02	-0.0566	1219.79	-0.66	11.66	-0.0566	1220.45	-0.07	1.19	-0.0566	1220.52	77+07.89	0.0566	0.00	0.00	1220.52	0.0566	12.00	0.68	1221.20	0.0566	12.00	0.68		1221.88	PT, Sta Eqn 77+07.89 (BK) = 77+10.96 (AH) **
1218.52		-1.27	24.58	-0.0518	1219.79	-0.61	11.80	-0.0518	1220.40	-0.02	0.41	-0.0518	1220.42	77+21.93					0.0518	12.00	0.62	1221.04	0.0518	12.00	0.62		1221.66	77+25
1219.22	122.3 : 1	-0.56	12.55	-0.0450	1219.79	-0.54	12.00	-0.0450	1220.33	0.00	0.00	-0.0450	1220.33	77+41.79					0.0450	12.00	0.54	1220.87	0.0450	12.00	0.54		1221.41	77+44.86, End Narrowing for LTL (Left Side)
1219.25		-0.54	12.55	-0.0433	1219.79	-0.52	12.00	-0.0433					1220.31	77+46.93					0.0433	12.00	0.52	1220.83	0.0433	12.00	0.52	122.3 : 1	1221.35	77+50
1219.40		-0.44	12.55	-0.0347	1219.83	-0.42	12.00	-0.0347					1220.25	77+71.93					0.0347	12.00	0.42	1220.67	0.0347	12.00	0.42		1221.08	77+75
1219.62		-0.33	12.55	-0.0262	1219.95	-0.31	12.00	-0.0262					1220.26	77+96.93					0.0262	12.00	0.31	1220.57	0.0262	12.00	0.31		1220.89	78+00
1219.91		-0.22	12.55	-0.0177	1220.13	-0.21	12.00	-0.0177					1220.34	78+21.93					0.0177	12.00	0.21	1220.55	0.0177	12.00	0.21		1220.76	78+25
1219.97		-0.20	12.55	-0.0160	1220.17	-0.19	12.00	-0.0160					1220.36	78+26.93					0.0160	12.00	0.19	1220.55	0.0160	12.00	0.19		1220.74	78+30; End Crown Removal
1220.08		-0.20	12.55	-0.0160	1220.28	-0.19	12.00	-0.0160					1220.47	78+46.93					0.0096	12.00	0.12	1220.59	0.0096	12.00	0.12		1220.70	78+50
1220.14		-0.26	12.55	-0.0207	1220.40	-0.18	12.00	-0.0148					1220.58	78+61.49					0.0055	12.00	0.07	1220.65	0.0000	12.00	0.00		1220.65	78+64.56; Begin Width Taper (Right)
1220.20		-0.30	12.55	-0.0241	1220.50	-0.17	12.00	-0.0139					1220.67	78+71.93					0.0026	12.00	0.03	1220.70	-0.0068	12.02	-0.08		1220.62	78+75
1220.21		-0.31	12.55	-0.0249	1220.53	-0.16	12.00	-0.0137					1220.69	78+74.43					0.0019	12.00	0.02	1220.71	-0.0085	12.03	-0.10		1220.61	78+77.50; Begin Width Taper (Left)
1220.23		-0.32	12.54	-0.0257	1220.55	-0.16	12.00	-0.0135					1220.71	78+76.93					0.0012	12.00	0.01	1220.72	-0.0101	12.03	-0.12		1220.60	78+80
1220.33		-0.40	12.48	-0.0321	1220.73	-0.14	12.00	-0.0118					1220.87	78+96.93					-0.0044	12.00	-0.05	1220.82	-0.0233	11.72	-0.27		1220.54	79+00
1220.36		-0.43	12.45	-0.0343	1220.78	-0.14	12.00	-0.0113					1220.92	79+03.66					-0.0063	12.00	-0.08	1220.84	-0.0277	11.59	-0.32		1220.52	79+06.73; Match Existing

* Widening for RTL (Left Side)
** End Narrowing for LTL (Right Side)

JEF-43-4.21

(A) Sta. 73+53.21 ℄ Constr SR 43 =
Sta. 9+23.50 ℄ Douglas Applegate Connector

(B) Sta. 73+57.82 ℄ Constr SR 43 =
Sta. 13+04.32 ℄ Lovers Lane

D-20 : I-2A-6
Sta 72+25.00, 28.98' Lt
Inlet ℄= 1223.16

D-21 : CB-3A
Sta 10+10.50, 25.88' Lt
T/G = 1222.18

D-19 : I-2A-6
Sta 71+73.27, 28.50' Lt
Inlet ℄= 1222.28

℄ Douglas Applegate Connector

Sawcut Line

℄ Constr SR 43

N 36° 52' 05" W

N 68° 09' 35" E

74° 58' 20"

105° 01' 40"

PC Sta 74+23.82

1. Sta 70+83.16, 95.71' Lt ℄ Constr SR 43 =
Sta 10+85.96, 236.00' Lt ℄ Douglas Applegate Connector
Δ = 21° 02' 22"
R = 200.00'
L = 73.44'

2. Sta 72+32.33, 80.00' Lt ℄ Constr SR 43 =
Sta 10+32.10, 96.00' Lt ℄ Douglas Applegate Connector
Δ = 75° 52' 43"
R = 50.00'
L = 66.22'

3. Sta 72+11.17, 258.50' Lt ℄ Constr SR 43 =
Sta 11+81.01, 77.93' Lt ℄ Douglas Applegate Connector
Δ = 08° 06' 35"
R = 200.00'
L = 28.31'

4. Sta 74+08.91, 89.50' Lt ℄ Constr SR 43 =
Sta 10+38.31, 77.00' Rt ℄ Douglas Applegate Connector
Δ = 54° 41' 43"
R = 50.00'
L = 47.73'

5. Sta 73+88.51, 75.05' Lt ℄ Constr SR 43 =
Sta 9+86.83, 53.55' Rt ℄ Douglas Applegate Connector
Δ = 29° 38' 14"
R = 25.00'
L = 12.93'

6. Sta 10+09.21, 28.00' Lt ℄ Douglas Applegate Connector
R = 2.00'

7. Sta 73+15.28, 34.65' Lt ℄ Constr SR 43
R = 3.00'

8. Sta 72+97.32, 30.50' Lt ℄ Constr SR 43
R = 1.00'

HORIZONTAL SCALE IN FEET
0 5 10 20

CALCULATED BJP
CHECKED JFM

INTERSECTION DETAIL
SR 43 & DOUGLAS APPLEGATE CONNECTOR

JEF-43-4.21

78
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℄ Constr SR 43 N 68° 09′ 35″ E

73 74

1224.99 A B

1224.37 1224.66 1224.87 1225.03 1224.97 1224.83 1224.60 1224.29

104° 47′ 02″ 13 75° 12′ 58″

39.50′ 1.51% 2.19% 2.93% 39.50′ 3.67% 28.50′ 4.40% 5.14% PC Sta 74+23.82 5.88% 6.62% 28.50′ 7.36%

D-22 : Ex MH-1, Adjust to Grade
Prop T/C= 1226.42
Sta 73+45.35, 41.64′ Rt

1.80′ 7.86′ 1226.28 1226.43 1226.51 1226.49 1226.39

1224.97 1225.53 1226.03 1226.44 1226.18 1226.26 11.38′ 22.84′ 9.90′

10′ 10′ 10′ 10′ 10′ 10′ 10′ 10′ 10′ 10′

11.13′ 13.87′ 18.24′

1226.24 1225.62 1225.86 1226.12 1226.43 1226.79 1226.93 1227.30 1227.65 1227.78 1228.01 1228.32 1228.38

1227.15 1227.19 13.47′ 1227.25 4.40′ 7.60′ 24.00′ 4.13′ 1226.80

1226.68 1226.85 1227.05 1227.30 1227.60 1227.92 1228.30 1228.67 1226.51 1226.51

+37.00 DR-16

Sta 73+04.44, 79.50′ Rt ℄ Constr SR 43 =
Sta 12+41.07, 71.90′ Lt ℄ Lovers Lane
Δ = 63° 12′ 36″
R = 40.00′
L = 44.13′

Crown Line 1228.14 1228.15 1228.15 1228.99 1228.97 1228.91

Sta 74+35.62, 78.50′ Rt ℄ Constr SR 43 =
Sta 12+08.16, 57.60′ Rt ℄ Lovers Lane
Δ = 103° 00′ 47″
R = 50.00′
L = 89.90′

D-23 : I-2A-6, As Per Plan
Sta 12+37.00, 30.58′ Lt
Inlet ℄= 1227.23

1.91′ 7.79′ 22.00′ 1228.63 1229.26

D-24 : CB-3A
Sta 11+89.50, 7.60′ Rt
T/G= 1229.00

Sta 71+61.61, 151.62′ Rt ℄ Constr SR 43 =
Sta 12+07.79, 228.40′ Lt ℄ Lovers Lane
Δ = 120° 00′ 22″
R = 200.00′
L = 41.91′

Sawcut Line

1229.62 1229.58 1229.46 14.40′ 7.60′ 3.00′ 24.00′ 1229.34 1229.69 1229.64 1229.53 +53.50 DR-15

1230.32 1230.25 1230.10 1229.96

11 ℄ Lovers Lane N 36° 37′ 27″ W

(A) Sta. 73+53.21 ℄ Constr SR 43 =
Sta. 9+23.50 ℄ Douglas Applegate Connector

(B) Sta. 73+57.82 ℄ Constr SR 43 =
Sta. 13+04.32 ℄ Lovers Lane

N

0 5 10 20 HORIZONTAL SCALE IN FEET

CALCULATED BJP CHECKED JFM

INTERSECTION DETAIL
SR 43 & LOVERS LANE

JEF-43-4.21

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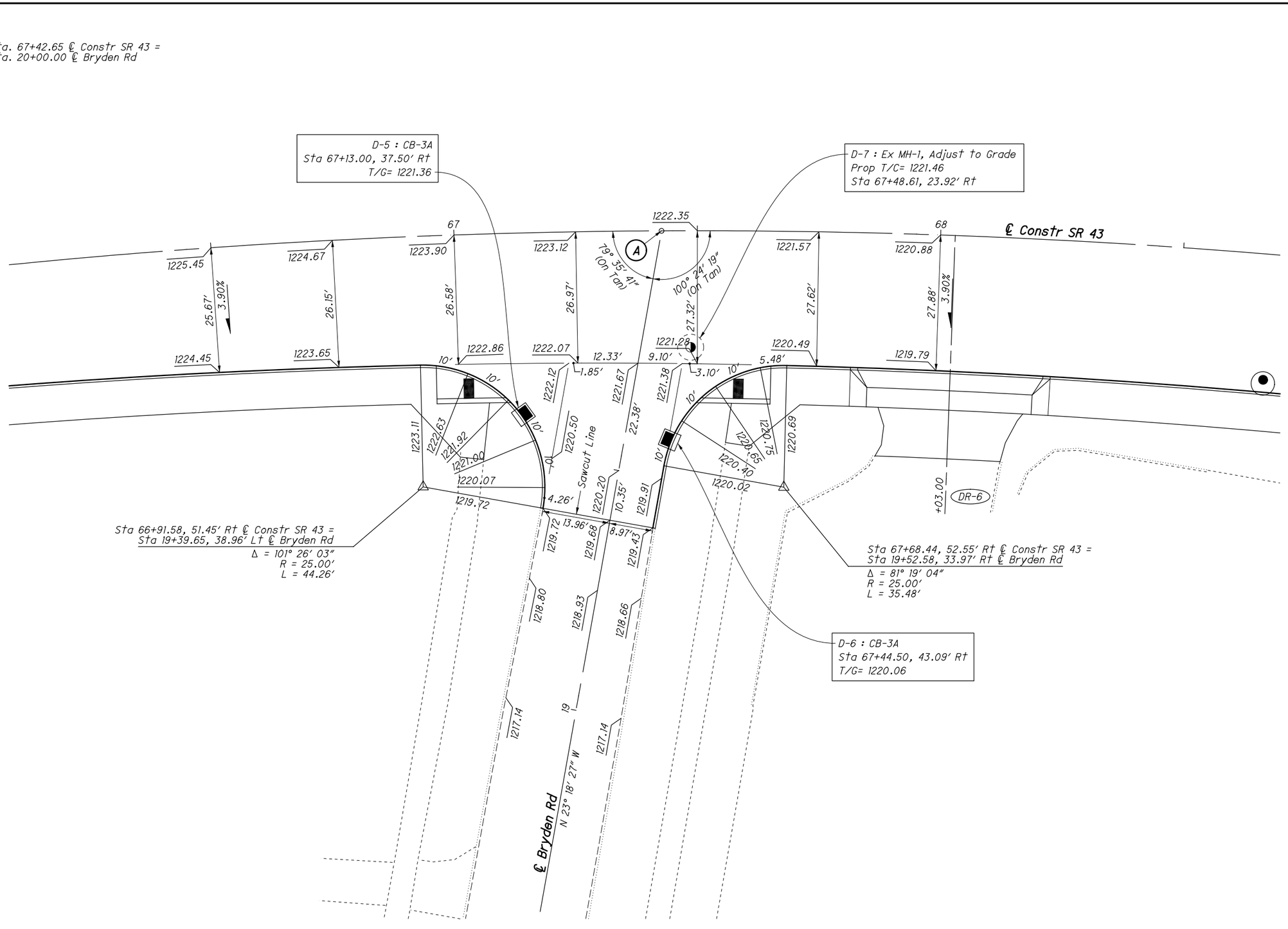

HORIZONTAL SCALE IN FEET
0 5 10 20

CALCULATED BJP
CHECKED JFM

INTERSECTION DETAIL
SR 43 & BRYDEN RD

JEF-43-4.21

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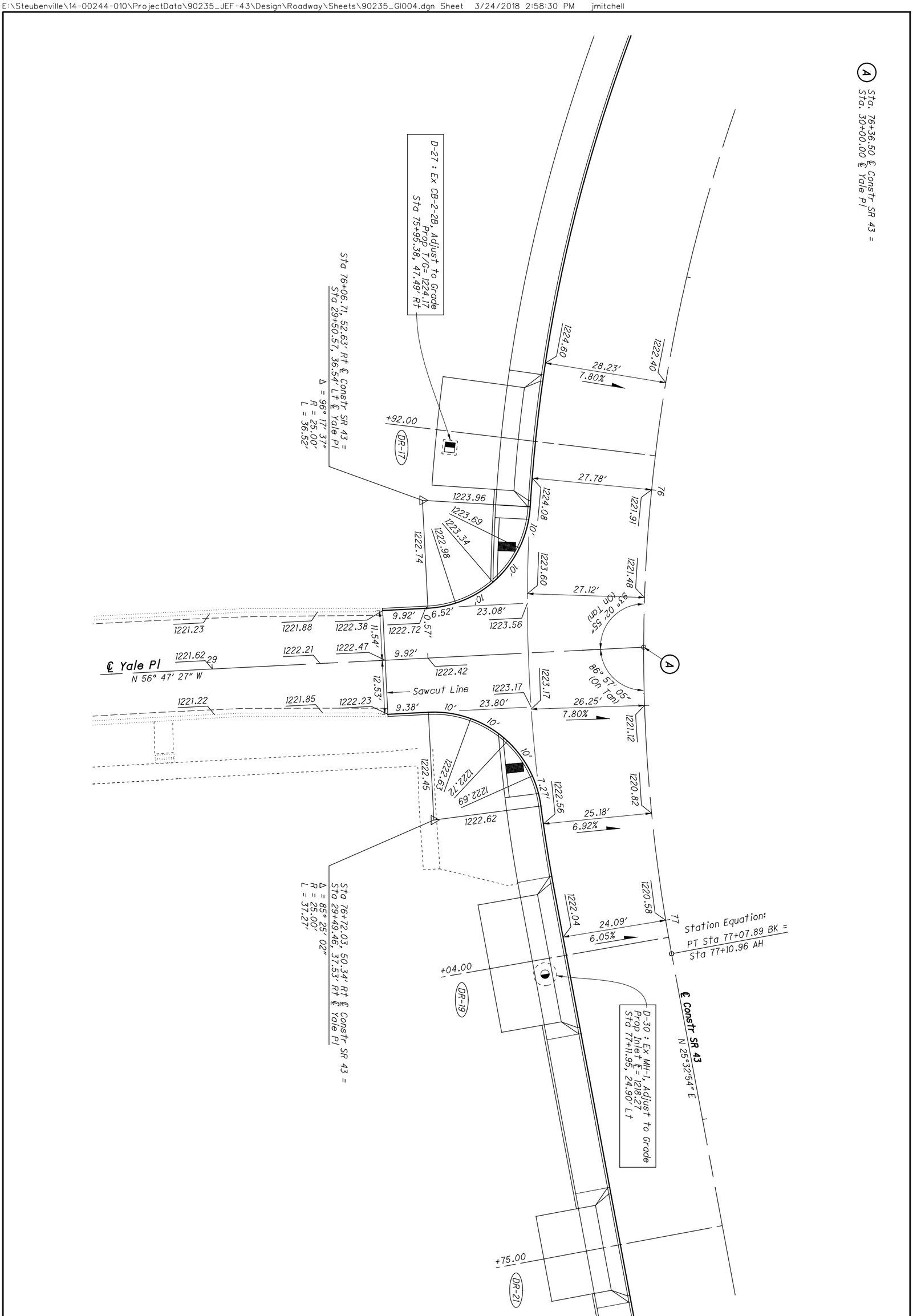
119

E:\Steubenville\14-00244-010\ProjectData\90235_JEF-43\Design\Roadway\Sheets\90235_GI003.dgn Sheet 3/24/2018 2:58:28 PM jmitchell

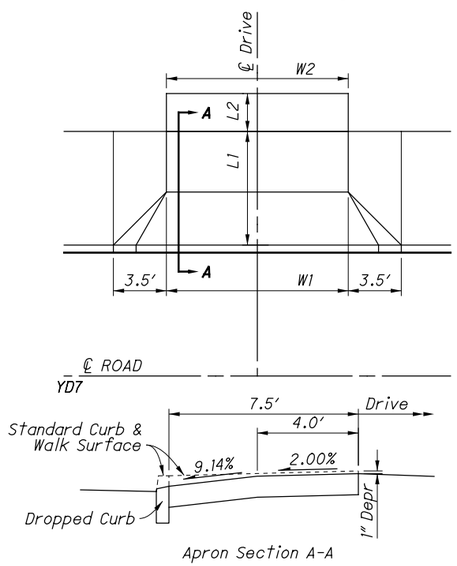


81 / 119	JEF-43-4.21	INTERSECTION DETAIL SR 43 & YALE PL	CALCULATED BJP CHECKED JFM	0 5 10 20 HORIZONTAL SCALE IN FEET

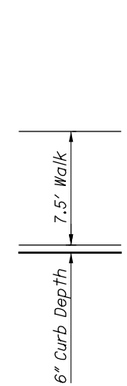
SHEET NO.	REFERENCE NO.	STATION	SIDE	DRIVE APRON TYPE	DRIVE TYPE		DRIVE ANGLE	APRON LENGTH (L1)	DRIVEWAY LENGTH (L2)	FRONT WIDTH (W1)	REAR WIDTH (W2)	APRON AREA (A1)	DRIVE AREA (A2) (SOME CADD-GENERATED AREAS)	202			304	407	441		452	
														PAVEMENT REMOVED (CADD-GENERATED AREA)	PAVEMENT REMOVED, ASPHALT (CADD-GENERATED AREA)	CURB REMOVED	8" AGGREGATE BASE	NON-TRACKING TACK COAT	1.25" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), (DRIVEWAYS)	1.75" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448), (DRIVEWAYS)	6" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC MS	8" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC MS
							DEG	FT	FT	FT	FT	SF	SF	SY	SY	FT	CY	GAL	CY	CY	SY	SY
																	(A2*(8/12)) / 27	(A2/9)*0.05	(A2*(1.25/12)) / 27	(A2*(1.75/12)) / 27	(A1+A2) / 9	(A1+A2) / 9
34	DR-1	64+64.00	RT	Typical	Res	Conc	90.00	7.50	5.00	12.00	10.34	142.5	55.8 *	18.4 *							22.0 *	
34	DR-2	64+77.00	LT	Typical	Comm	Asph	90.00	7.50	20.00	40.00	31.36	352.5	636.8 *	36.8 *	69.2 *	47.6 *	15.7 *	3.5 *	2.5 *	3.4 *		
34	DR-3	65+89.00	RT	Typical	Res	Conc	90.00	7.50	18.77	16.00	11.73	172.5	242.7 *	45.8 *		24.5 *					46.1 *	
34	DR-4	66+61.00	LT	Typical	Comm	Asph	90.00	7.50	5.00	30.00	30.82	277.5	152.0 *	30.5 *	17.1 *	20.7 *	3.8 *	0.8 *	0.6 *	0.8 *		
35	DR-5	67+68.50	LT	Typical	Comm	Asph	90.00	7.50	5.00	30.00	33.83	277.5	161.7 *	30.1 *	24.5 *	23.3 *	4.0 *	0.9 *	0.6 *	0.9 *		
35	DR-6	68+03.00	RT	Typical	Comm	Asph	90.00	7.50	10.00	34.00	25.74	307.5	263.8 *	28.2 *	53.7 *	49.2 *	6.5 *	1.5 *	1.0 *	1.4 *		
35	DR-7	68+31.50	LT	Typical	Comm	Conc	90.00	7.50	24.00	30.00	29.00	277.5	696.0	126.4 *								108.2
35	DR-8	69+25.50	RT	Typical	Comm	Asph	90.00	7.50	5.00	28.00	28.52	262.5	141.2 *	14.3 *	38.8 *		3.5 *	0.8 *	0.5 *	0.8 *		
35	DR-9	69+36.00	LT	Typical	Comm	Conc	90.00	7.50	24.00	30.00	29.00	277.5	696.0	129.1 *								108.2
35	DR-10	69+92.50	RT	Typical	Comm	Asph	90.00	7.50	10.00	28.00	24.50	262.5	245.5 *	56.5 *	15.8 *	45.0 *	6.1 *	1.4 *	0.9 *	1.3 *		
35	DR-11	70+12.50	LT	Sunken	Comm	Asph	90.00	7.50	2.50	30.00	30.00	277.5	75.0	25.1 *			1.9	0.4	0.3	0.4		
36	DR-12	70+88.50	LT	Sunken	Comm	Asph	90.00	7.50	2.50	22.00	22.00	217.5	55.0	13.1 *			1.4	0.3	0.2	0.3		
36	DR-13	71+29.00	RT	--	Comm	Asph	90.00	0.00	37.27	30.00	30.00	--	1250.8 *	10.1 *	141.2 *	154.6 *	30.9 *	6.9 *	4.8 *	6.8 *		
36	DR-14	71+54.00	LT	Sunken	Comm	Conc	90.00	7.50	15.00	22.00	20.00	217.5	304.2 *	73.8 *								58.0
40	DR-15	11+53.50	RT	Typical	Comm	Asph	90.00	7.50	10.00	24.00	24.00	232.5	240.0	25.1 *	26.7 *		5.9	1.3	0.9	1.3		
37	DR-16	74+87.00	RT	Typical	Comm	Asph	90.00	7.50	10.00	24.00	24.81	232.5	245.2 *	31.9 *	7.3 *		6.1 *	1.4 *	0.9 *	1.3 *		
37	DR-17	75+92.00	RT	Typical	Comm	Asph	90.00	7.50	15.00	24.00	25.23	232.5	371.2 *	44.9 *	40.0 *		9.2 *	2.1 *	1.4 *	2.0 *		
37	DR-18	76+83.50	LT	Typical	Comm	Asph	90.00	7.50	10.00	30.00	30.00	277.5	300.1 *	44.6 *	18.0 *		7.4 *	1.7 *	1.2 *	1.6 *		
37	DR-19	77+04.00	RT	Typical	Comm	Asph	90.00	7.50	10.00	30.00	30.00	277.5	300.0	19.4 *			7.4	1.7	1.2	1.6		
37	DR-20	77+75.00	LT	Typical	Comm	Conc	90.00	7.50	2.50	30.00	30.00	277.5	75.0	16.9 *								39.2
37	DR-21	77+75.00	RT	Typical	Comm	Asph	90.00	7.50	10.00	20.00	20.00	202.5	200.0	20.6 *			4.9	1.1	0.8	1.1		
38	DR-22	78+25.00	RT	Typical	Comm	Asph	90.00	7.50	10.00	20.00	20.00	202.5	200.0	17.7 *			4.9	1.1	0.8	1.1		
38	DR-23	78+59.00	LT	Typical	Comm	Conc	90.00	7.50	5.00	30.00	30.00	277.5	150.0	9.3 *								47.5
													SUBTOTALS	868.57	452.20	364.87	119.46	26.88	18.67	26.13	68.17	360.97
													TOTALS CARRIED TO GENERAL SUMMARY	869	453	365	120	27	19	27	69	361

* CADD-Generated Measurement

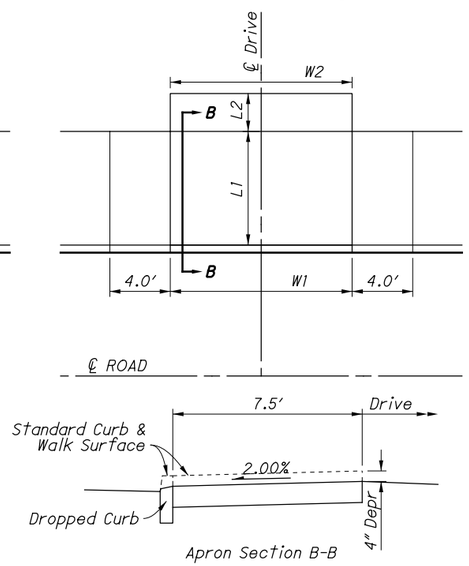
"TYPICAL" Driveway



Apron Section A-A



"SUNKEN" Driveway



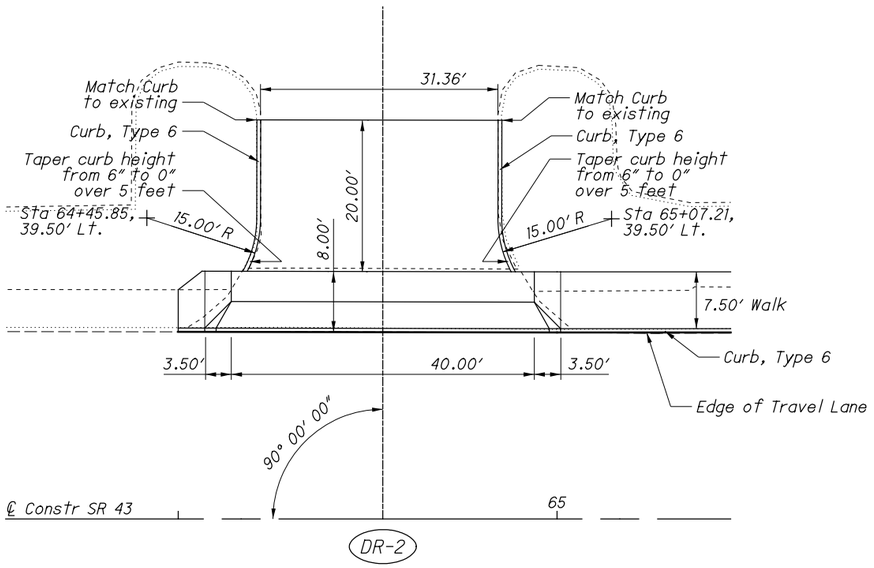
Apron Section B-B

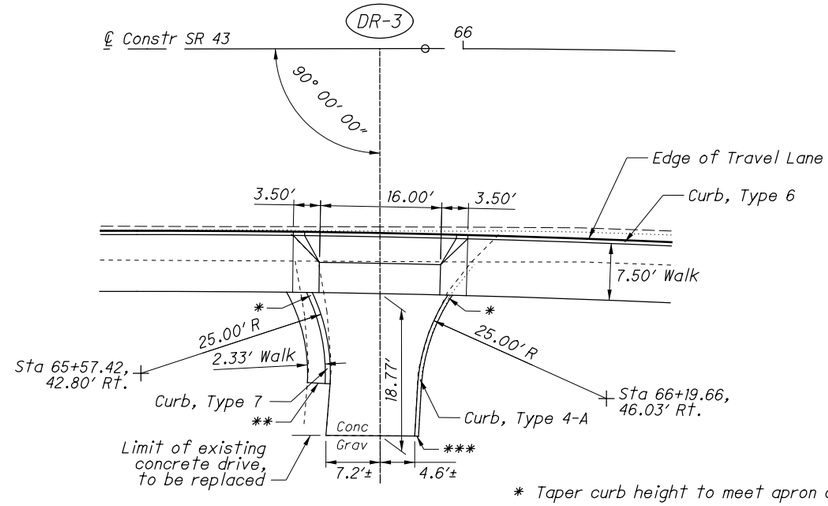
Drive Pavement Designs		
RESIDENTIAL	Aprons:	Item 452, 6" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC MS
	Drives:	Item 452, 6" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC MS
COMMERCIAL	Aprons:	Item 452, 8" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC MS
	Conc Drives:	Item 452, 8" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC MS
	Asph Drives:	Item 441, 1 ¼" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), (DRIVEWAYS) Item 407, NON-TRACKING TACK COAT Item 441, 1 ¾" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (448), (DRIVEWAYS) Item 304, 8" AGGREGATE BASE

CALCULATED JFM
CHECKED RMS

DRIVEWAY SUBSUMMARY

JEF-43-4.21

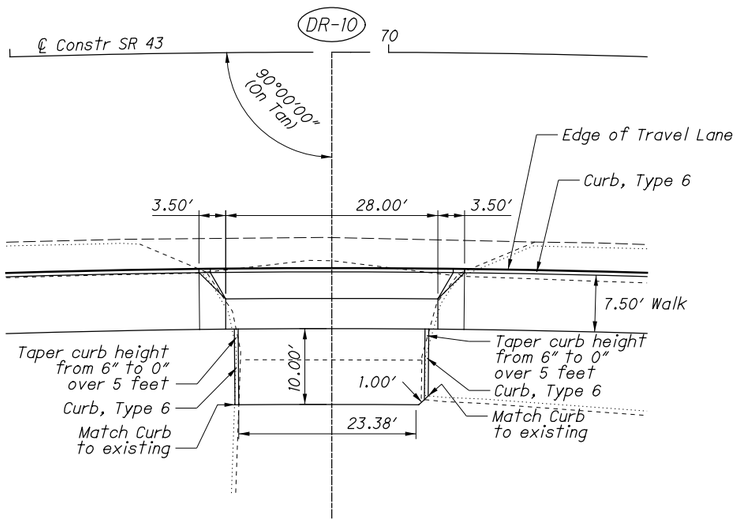


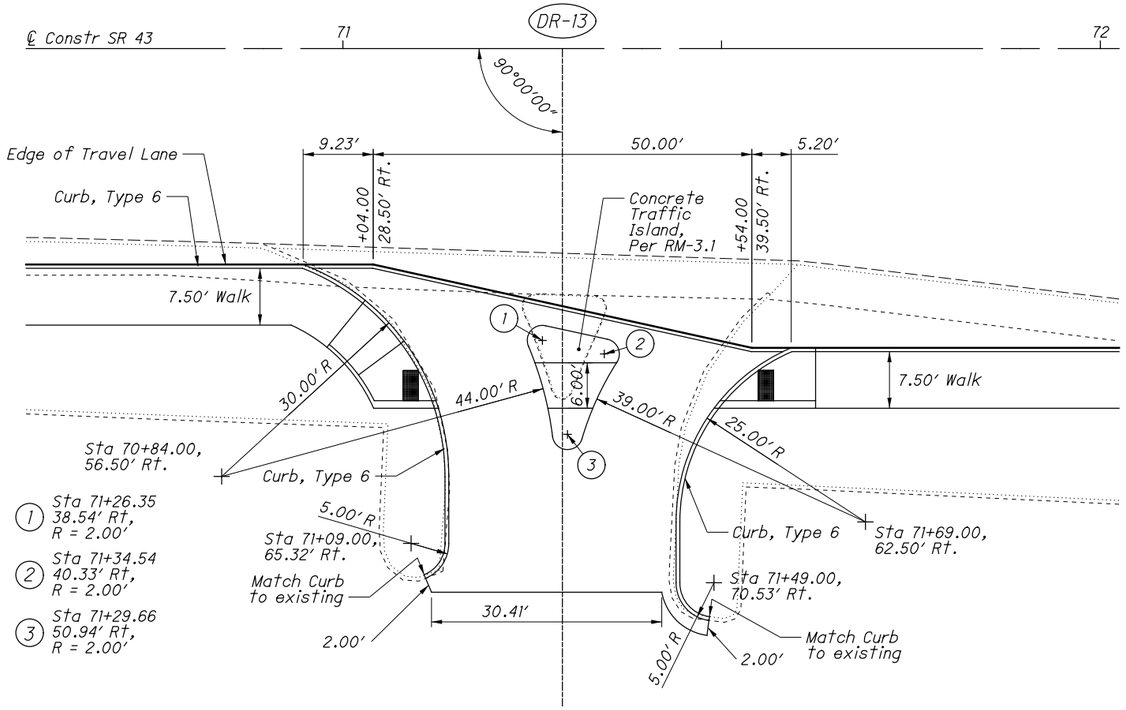


* Taper curb height to meet apron over 5 feet.

** Sawcut and separate existing walk at the interface between differently-aged existing concrete. Match proposed to existing curb and walk.

*** Sawcut existing curb and match height.

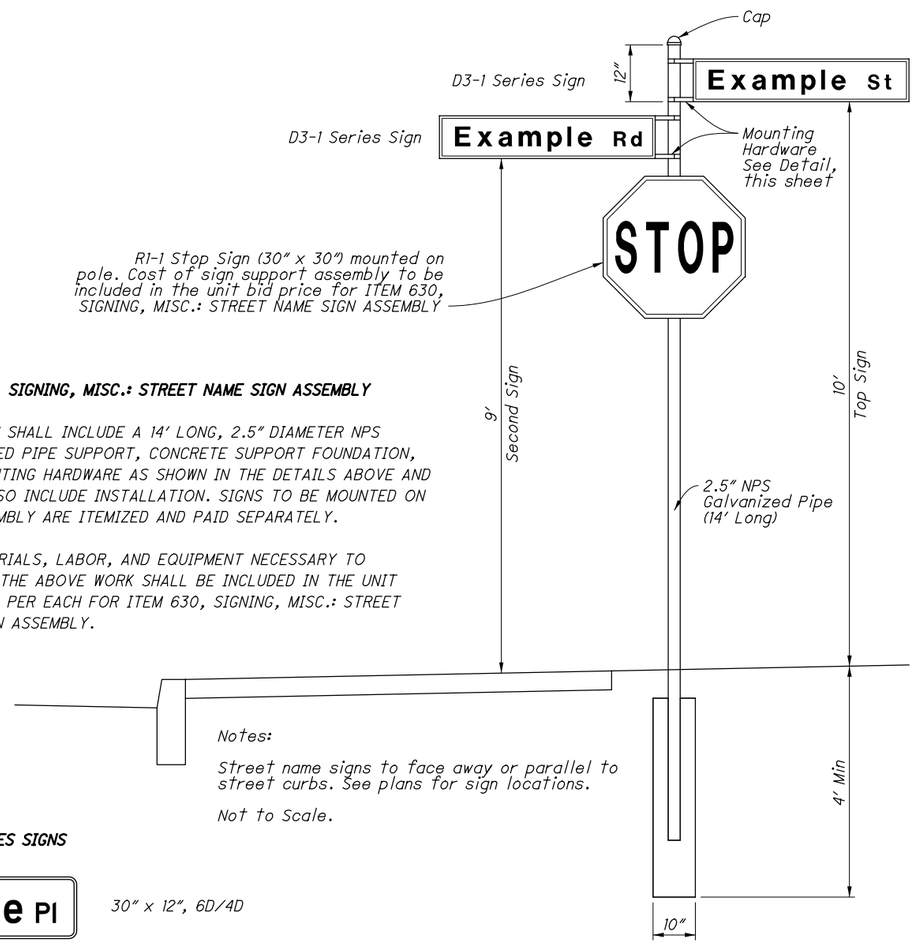




CALCULATED BJP
CHECKED JFM

DRIVEWAY DETAILS
DR-2, DR-3, DR-10, & DR-13

JEF-43-4.21



ITEM 630, SIGNING, MISC.: STREET NAME SIGN ASSEMBLY

THIS ITEM SHALL INCLUDE A 14' LONG, 2.5" DIAMETER NPS GALVANIZED PIPE SUPPORT, CONCRETE SUPPORT FOUNDATION, AND MOUNTING HARDWARE AS SHOWN IN THE DETAILS ABOVE AND SHALL ALSO INCLUDE INSTALLATION. SIGNS TO BE MOUNTED ON THE ASSEMBLY ARE ITEMIZED AND PAID SEPARATELY.

ALL MATERIALS, LABOR, AND EQUIPMENT NECESSARY TO PERFORM THE ABOVE WORK SHALL BE INCLUDED IN THE UNIT PRICE BID PER EACH FOR ITEM 630, SIGNING, MISC.: STREET NAME SIGN ASSEMBLY.

Notes:

Street name signs to face away or parallel to street curbs. See plans for sign locations.

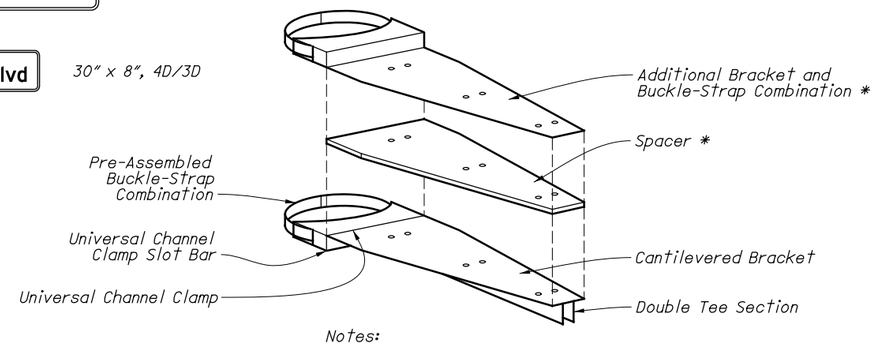
Not to Scale.

D3-1 SERIES SIGNS

Yale Pl — *30" x 12", 6D/4D*

Bryden Rd — *42" x 12", 6D/4D*

Sunset Blvd — *30" x 8", 4D/3D*

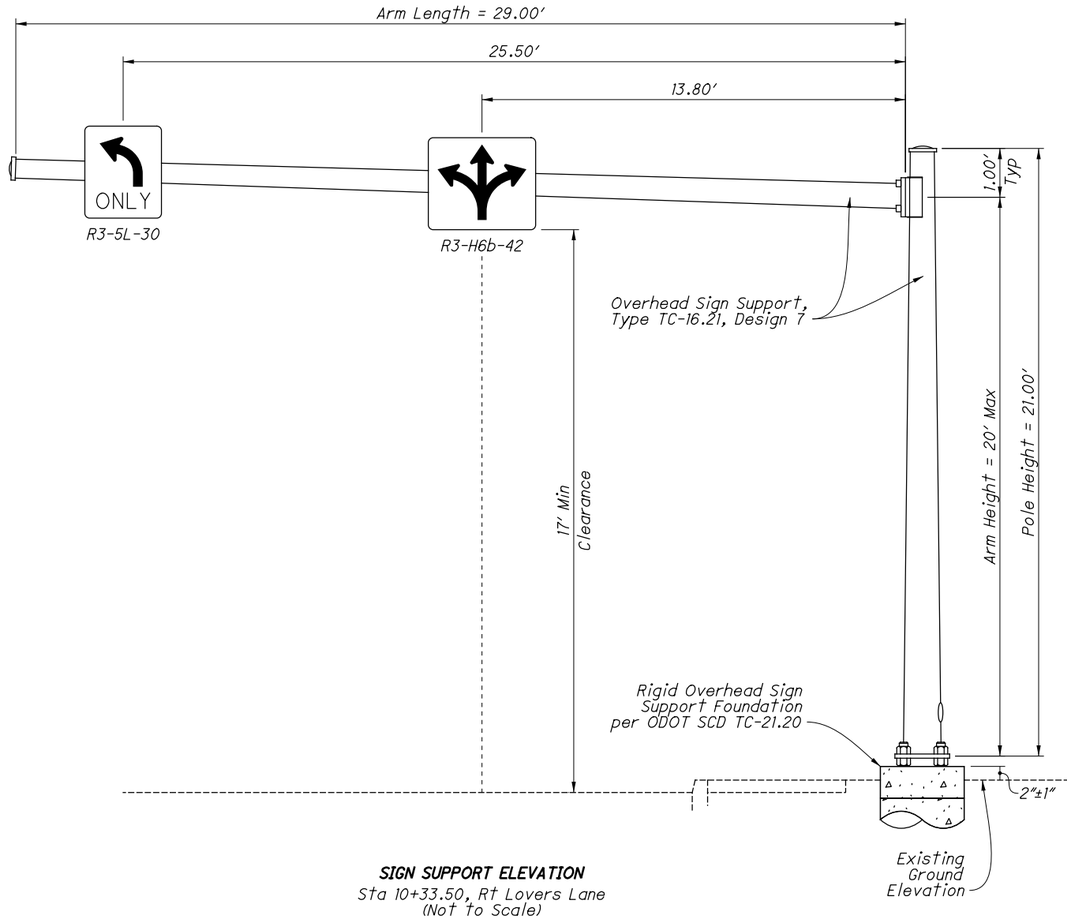


Notes:

The cost of the mounting hardware is included in the unit price bid for the signing assembly.

** Used when sign area exceeds 6 SF.*

MOUNTING HARDWARE DETAIL



SIGN SUPPORT ELEVATION

Sta 10+33.50, Rt Lovers Lane
(Not to Scale)

CALCULATED JFM
CHECKED TAD

TRAFFIC CONTROL NOTES

JEF-43-4.21

SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	SIDE	621 RPM Y/Y EACH	621 RPM W/R EACH	621 RPM W EACH	621 RAISED PAVEMENT MARKER REMOVED EACH		642 EDGE LINE, 4" (WHITE) MILE	642 EDGE LINE, 4" (YELLOW) MILE	642 LANE LINE, 4" MILE	642 CENTER LINE MILE	642 CHANNELIZING LINE, 8" FT	642 STOP LINE FT	642 CROSSWALK LINE FT	642 TRANSVERSE/DIAGONAL LINE FT	642 ISLAND MARKING SF	642 LANE ARROW EACH	642 DOTTED LINE, 8" FT
		SR 43																		
89	CL-1	64+50.00	67+09.00	CL & LT	4								0.049							
89	LL-1	64+50.00	67+75.00	RT		4						0.062								
89	LL-2	64+50.00	67+75.00	LT		4						0.062								
89	CL-2	65+48.00	67+09.00	RT	2								0.030							
89	TR-1	65+50.00	67+09.00	LT & RT													26			
89	IM-1	67+09.00		LT & RT														19		
89	IM-2	67+54.00		LT & RT														28		
89	CL-3	67+54.00	67+75.00	LT	1								0.004							
89	CL-4	67+54.00	67+75.00	RT	1								0.004							
90	CL-5	67+75.00	69+32.00	RT	2								0.030							
90	CL-7	67+75.00	71+75.00	LT	4								0.076							
90	LL-3	67+75.00	71+75.00	RT		5						0.076								
90	LL-4	67+75.00	71+75.00	LT		5						0.076								
90	TR-2	67+75.00	69+82.00	LT & RT													88			
90	CL-6	69+32.00	69+82.00	RT & LT	3								0.009							
90	CH-1	69+82.00	71+75.00	RT		5								193						
90	A-1	70+09.00	71+41.00	CL															3	
90	CH-2	71+54.00	71+75.00	RT		1								21						
90	A-2		71+71.00	RT															1	
91	CL-8	71+75.00	72+82.00	LT	2								0.020							
91	LL-5	71+75.00	72+82.00	LT		2						0.020								
91	LL-6	71+75.00	73+00.00	RT		2						0.024								
91	CH-3	71+75.00	72+99.00	RT		5								124						
91	CH-4	71+75.00	73+01.00	RT		4								126						
91	A-3	72+07.00	72+73.00	CL															2	
91	A-4	72+31.00	72+91.00	RT															2	
91	SL-1	72+82.00		LT & RT											11					
91	DL-1	72+82.00	Lovers Lane	LT & RT																134
91	SL-2	72+99.00		RT											34					
91	CW-1	73+10.00		LT & RT												144				
91	CW-2	74+02.00		LT & RT												166				
91	CH-6	74+06.00	75+10.00	LT		3								104						
91	LL-8	74+09.00	75+75.00	LT		2						0.031								
91	CH-5	74+12.00	75+35.00	LT		4								123						
91	SL-3	74+15.00		LT & RT											47					
91	A-5	74+15.00	74+81.00	LT															2	
91	CL-9	74+15.00	75+75.00	RT	3								0.030							
91	LL-7	74+18.00	75+75.00	RT		3						0.030								
91	A-6	74+23.00	74+89.00	CL															2	
91	CL-10	75+35.00	75+75.00	LT & RT	2								0.008							
91	TR-3	75+35.00	75+75.00	LT & RT													23			
			SUBTOTAL, THIS SHEET		24	49	0	0		0	0	0.380	0.261	691	92	310	137	47	12	134

CALCULATED JFM
CHECKED RMS

PAVEMENT MARKING SUBSUMMARY

JEF-43-4.21

SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	SIDE	621 RPM Y/Y EACH	621 RPM W/R EACH	621 RPM W EACH	621 RAISED PAVEMENT MARKER REMOVED EACH		642 EDGE LINE, 4" (WHITE) MILE	642 EDGE LINE, 4" (YELLOW) MILE	642 LANE LINE, 4" MILE	642 CENTER LINE MILE	642 CHANNELIZING LINE, 8" FT	642 STOP LINE FT	642 CROSSWALK LINE FT	642 TRANSVERSE/DIAGONAL LINE FT	642 ISLAND MARKING SF	642 LANE ARROW EACH	642 DOTTED LINE, 8" FT
92	CL-11	75+75.00	75+85.00	LT	1								0.002							
92	CL-12	75+75.00	76+12.00	RT	1								0.007							
92	TR-4	75+75.00	76+12.00	LT & RT													25			
92	LL-9	75+75.00	79+07.00	RT		4						0.063								
92	LL-10	75+75.00	79+07.00	LT		4						0.063								
92	CL-13	75+85.00	76+12.00	LT	1								0.005							
92	IM-3	76+12.00		LT & RT														42		
92	IM-4	76+60.00		LT & RT														20		
92	CL-14	76+60.00	77+45.00	LT	1								0.016							
92	TR-5	76+60.00	77+45.00	LT & RT													20			
92	CL-15	76+60.00	79+07.00	RT & CL	4								0.047							
		LOVERS LANE																		
93	CL-16	11+78.00	12+34.00	LT	1								0.011							
93	CH-7	11+78.00	12+34.00	LT		2								56						
93	A-8		12+24.00	RT															1	
93	A-7		12+24.00	RT															1	
93	SL-4	12+34.00		LT & RT											31					
93	CW-3	12+50.00		LT & RT												124				
		DOUGLAS APPLEGATE CONN																		
93	CW-4	9+71.00		LT & RT												119				
93	CW-5	9+76.00		LT												59				
93	SL-5	9+83.00		LT											25					
93	LL-11	9+83.00	10+25.00	RT		1		1				0.008								
93	CL-17	9+83.00	12+14.00	CL	3			3					0.044							
93	CH-8	9+83.00	12+14.00	LT		6		6						231						
93	SL-6	9+87.00		LT											23					
93	EW-3	9+88.00	10+25.00	RT						0.007										
93	A-9	9+93.00	11+91.00	LT				6											4	
93	A-10	10+01.00	11+25.00	LT															3	
93	CH-9	10+17.00	11+64.00	LT		5								147						
93	CH-10	10+18.00	10+86.00	LT		2								68						
93	EW-4	11+13.00	12+14.00	LT			4			0.019										
SUBTOTAL, THIS SHEET					12	24	4	16		0.026	0	0.134	0.131	502	79	302	45	62	9	0
SUBTOTAL, PREVIOUS SHEET					24	49	0	0		0	0	0.380	0.261	691	92	310	137	47	12	134
TOTAL					36	73	4	16		0.026	0	0.513	0.392	1193	171	612	182	109	21	134
TOTALS CARRIED TO GENERAL SUMMARY					**113**			**16**		**0.03**		**0.51**	**0.39**	**1193**	**171**	**612**	**182**	**109**	**21**	**134**

CALCULATED JFM
CHECKED RMS

PAVEMENT MARKING SUBSUMMARY

JEF-43-4.21

SHEET NO.	REFERENCE NO.	LOCATION	STATION	SIDE	CODE	SIZE (INCHES)	630 GROUND MOUNTED SUPPORT, NO. 3 POST (FT)	630 SIGNING, MISC.: STREET NAME SIGN ASSEMBLY (EACH)	630 OVERHEAD SIGN SUPPORT, TYPE TC-16.21, DESIGN 7 (EACH)	630 SIGN ATTACHMENT ASSEMBLY, MAST ARM (EACH)	630 SIGN, FLAT SHEET (SF)	630 SIGN, DOUBLE FACED, STREET NAME (EACH)	630 RIGID OVERHEAD SIGN SUPPORT FOUNDATION (EACH)	REFERENCE NO.	STATION	CODE	630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL (EACH)	630 REMOVAL OF GROUND MOUNTED SIGN AND REERECTION (EACH)	630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL (EACH)	630 REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL (EACH)	630 REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL (EACH)
89	S-1	SR 43	63+75.00	RT	W2-2R-30	30" x 30"	14				6.25			R-1	64+45.37	W2-2R	1		1		
					W16-H8P-30	30" x 8"					1.67					W16-8P	1				
89	S-2	SR 43	67+37.00	LT	R3-2-30	30" x 30"	14				6.25			R-2	67+38.91	R3-2	1		1		
					R10-H20bP-30	30" x 10"					2.08					R16-H20bP	1				
84, 89	S-3	SR 43 AT BRYDEN ROAD	67+51.00	RT	D3-1-30	30" x 8"		1				1		R-3	67+48.34	D3-1	1		1		
					D3-1-42	42" x 12"						1				D3-1	1				
					R1-1-30	30" x 30"					6.25					R1-1	1				
					R3-2-30	30" x 30"					6.25					R3-2	1				
					R10-H20bP-30	30" x 10"					2.08					R10-H20bP	1				
90	S-4	SR 43	67+76.00	RT	M4-5-24	24" x 12"	14				2.00			R-4	67+76.22	M4-5	1		1		
					M1-4-24-2	24" x 24"					4.00					M1-4	1				
					M5-1L-21	21" x 15"					2.19					M5-1L	1				
90	S-5	SR 43	68+52.00	RT	W3-3-30	30" x 30"	14				6.25			R-5	68+51.82	W3-3	1		1		
					W16-H8P-30	30" x 8"					1.67					W16-8P	1				
90	S-6	SR 43	69+71.00	LT	R4-H11-24	24" x 30"	14				5.00			R-6	69+75.08	R4-H11	1		1		
90	S-7	SR 43	70+65.00	LT	W2-2L-30	30" x 30"	14				6.25			R-7	70+70.51	W2-2L	1		1		
					W16-H8P-30	30" x 8"					1.67					W16-8P	1				
90	S-8	SR 43	71+30.00	RT	R5-1-30	30" x 30"	14				6.25			R-8	71+29.38	R5-1	1		1		
90	S-9	SR 43	71+32.00	LT	R3-2-30	30" x 30"	14				6.25			R-9	71+66.93	R3-2					1
90	S-10	SR 43	71+52.00	RT	R1-1-30	30" x 30"	14				6.25			R-10	71+56.49	R1-1	1		1		
					R3-2-30	30" x 30"					6.25					R3-2	1				
90, 91	S-11	SR 43	71+71.00	RT	R3-H8da-54	54" x 30	28				11.25			R-11	72+12.95	R3-H8cg	1		2		
90, 91	S-12	SR 43	71+80.00	LT	R2-1-30	30" x 36"	14				7.50			R-12	71+73.09	R2-1	1		1		
91	S-13	SR 43	72+35.00	LT	M3-1-24	24" x 12"	14				2.00			R-13	72+47.90	M3-1	1		1		
					M1-5-24-2	24" x 24"					4.00					M1-5-2	1				
91	--	EXISTING NW SIGNAL POLE	--	LT	--	--								R-14	72+81.66	M4-5					1
					--	--										M1-4-2					1
					--	--										M6-1R					1
91	--	EXISTING NW MAST ARM	--	LT	--	--								R-15	--	D3-1				2	
91	S-16	SR 43	72+91.00	RT	R3-H8da-54	54" x 30	28				11.25			R-16	72+96.11	R3-H8cg	1		2		
91	S-17	SR 43	73+34.00	RT	R12-1-24	24" x 30"	14				5.00			R-17	73+25.08	R5-MOD					1
91	--	EXISTING SW SIGNAL POLE	--	RT	--	--								R-18	73+28.78	M1-5-2					1
					--	--										M6-4					1
					--	--										D9-2					1
					--	--										M6-1L					1
91	--	EXISTING SW MAST ARM	--	RT	--	--								R-19	--	D3-1				2	
91	--	SR 43	--	LT	--	--								R-20	73+76.27	M4-5	1		1		
					--	--										M1-4-2	1				
					--	--										M6-3	1				
					--	--										M1-5-2	1		1		
					--	--										M6-4	1				
					SUBTOTAL, THIS SHEET		224	1	0	0	125.9	2	0				30	0	17	4	9

CALCULATED JFM
CHECKED RMS

SIGNING SUBSUMMARY

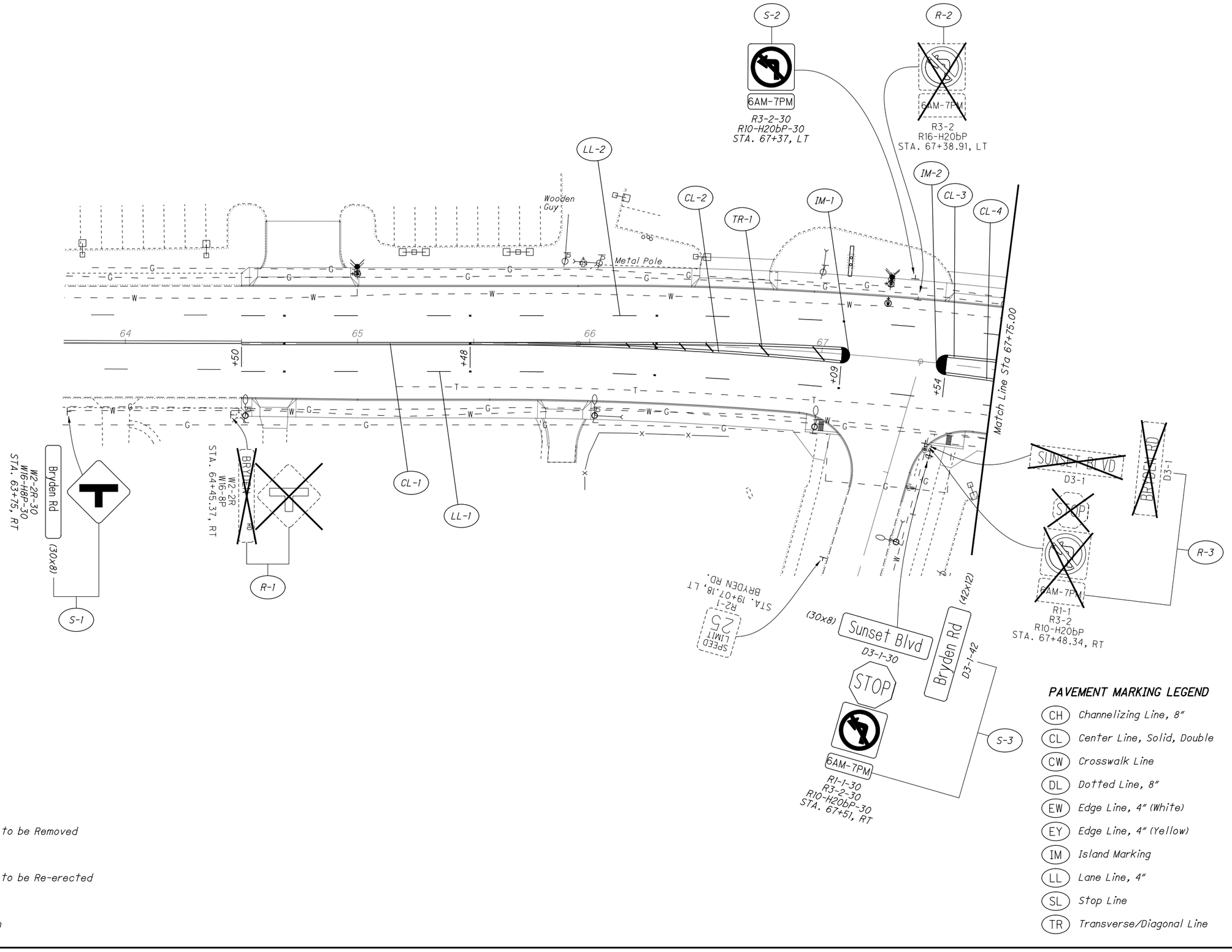
JEF-43-4.21

SHEET NO.	REFERENCE NO.	LOCATION	STATION	SIDE	CODE	SIZE (INCHES)	630 GROUND MOUNTED SUPPORT, NO. 3 POST (FT)	630 SIGNING, MISC.: STREET NAME SIGN ASSEMBLY (EACH)	630 OVERHEAD SIGN SUPPORT, TYPE TC-16.21, DESIGN 7 (EACH)	630 SIGN ATTACHMENT ASSEMBLY, MAST ARM (EACH)	630 SIGN, FLAT SHEET (SF)	630 SIGN, DOUBLE FACED, STREET NAME (EACH)	630 RIGID OVERHEAD SIGN SUPPORT FOUNDATION (EACH)	REFERENCE NO.	STATION	CODE	630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL (EACH)	630 REMOVAL OF GROUND MOUNTED SIGN AND REERECTION (EACH)	630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL (EACH)	630 REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL (EACH)	630 REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL (EACH)
91	--	EXISTING NE MAST ARM	--	LT	--	--								R-21	--	D3-1				2	
91	--	EXISTING SE MAST ARM	--	RT	--	--								R-22	--	D3-1				2	
91	--	EXISTING SE SIGNAL POLE	--	RT	--	--								R-23	74+06.28	M4-5					1
					--	--										M1-4-2					1
					--	--										M6-1L					1
91	S-24	SR 43	74+23.00	LT	R3-H8da-54	54" x 30	28				11.25			R-24	75+58.54	R3-H8cg	1		2		
91	S-25	SR 43	75+20.00	RT	M3-3-24	24" x 12"	14				2.00			R-25	74+94.41	M3-3	1		1		
					M1-5-24-2	24" x 24"					4.00					M1-5-2	1				
91, 92	S-26	SR 43	75+75.00	RT	D9-2-24	24" x 24"	14				4.00			R-26	74+94.49	D9-2	1		1		
					M6-3-21	21" x 15"					2.19					M6-3	1				
92	S-27	SR 43	76+38.00	LT	W3-3-30	30" x 30"	14				6.25			R-27	78+12.79	W3-3					1
					W16-H8P-30	30" x 8"					1.67					W16-8P					1
84, 92	S-28	SR 43	76+55.00	RT	D3-1-30	30" x 8"		1				1		R-28	76+52.16	D3-1	1		1		
					D3-1-30	30" x 12"						1				D3-1	1				
					R1-1-30	30" x 30"					6.25					R1-1	1				
92	S-29	SR 43	77+35.00	RT	R4-H11-24	24" x 30"	14				5.00			R-29	76+84.01	R4-H11	1		1		
92	S-30	SR 43	78+65.00	RT	R2-1-30	30" x 36"	14				7.50			R-30	78+57.49	R2-1	1		1		
92	S-31	SR 43	78+78.00	RT	R5-MOD	--	14							--	78+78.28	R5-MOD		1			
93	S-32	DOUGLAS APPLEGATE CONNECTOR	10+50.00	LT	R3-H8b-48	48" x 30"	28				10.00			R-32	10+09.01	R3-H8bh	1		1		
93	S-33	DOUGLAS APPLEGATE CONNECTOR	11+00.00	LT	D9-2-24	24" x 24"	14				4.00			R-33	10+09.01	D9-2	1		1		
					M5-1L-21	21" x 15"					2.19					I-H12	1				
93	S-34	DOUGLAS APPLEGATE CONNECTOR	11+75.00	LT	R3-H8b-48	48" x 30"	28				10.00			R-34	12+40.00	R3-H8bh	1		1		
93	S-35	DOUGLAS APPLEGATE CONNECTOR	11+80.00	RT	R20-H1-24	24" x 30"	14				5.00			R-35	11+80.00	R20-H1	1		1		
93	S-36	LOVERS LANE	11+30.00	LT	R2-1-24	24" x 30"	14				5.00			R-36	11+31.89	R2-1	1		1		
																R12-MOD	1				
93	S-37	LOVERS LANE	12+14.00	RT	R3-H8bt-42	42" x 30"	28				8.75			R-37	11+95.51	R3-H8bt	1		2		
93	S-38	LOVERS LANE	10+33.50	RT	R3-5L-30	30" x 36"			1	2	7.50		1								
					R3-H6b-42	42" x 36"					10.50										
SUBTOTAL, THIS SHEET							238	1	1	2	113.1	2	1				18	1	14	4	5
SUBTOTAL, PREVIOUS SHEET							224	1	0	0	125.9	2	0				30	0	17	4	9
TOTALS CARRIED TO GENERAL SUMMARY							**462**	**2**	**1**	**2**	**239**	**4**	**1**				**48**	**1**	**31**	**8**	**14**

CALCULATED JFM
CHECKED RMS

SIGNING SUBSUMMARY

JEF-43-4.21



SIGNING LEGEND

- Existing Sign
- Existing Sign to be Removed
- Existing Sign to be Re-erected
- Proposed Sign

PAVEMENT MARKING LEGEND

CH	Channelizing Line, 8"
CL	Center Line, Solid, Double
CW	Crosswalk Line
DL	Dotted Line, 8"
EW	Edge Line, 4" (White)
EY	Edge Line, 4" (Yellow)
IM	Island Marking
LL	Lane Line, 4"
SL	Stop Line
TR	Transverse/Diagonal Line

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED JFM
CHECKED TAD

SIGNING & PAVEMENT MARKING PLAN

JEF-43-4.21

SIGNING LEGEND

- Existing Sign
- Existing Sign to be Removed
- Existing Sign to be Re-erected
- Proposed Sign

PAVEMENT MARKING LEGEND

CH	Channelizing Line, 8"
CL	Center Line, Solid, Double
CW	Crosswalk Line
DL	Dotted Line, 8"
EW	Edge Line, 4" (White)
EY	Edge Line, 4" (Yellow)
IM	Island Marking
LL	Lane Line, 4"
SL	Stop Line
TR	Transverse/Diagonal Line

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED JFM
CHECKED TAD

SIGNING & PAVEMENT MARKING PLAN

JEF-43-4.21

90
119

See Traffic Signal Plans for Signing on Signal Poles and Mast Arms

See Sheet 93 for Douglas Applegate Connector Signing & Pavement Markings

See Sheet 93 for Lovers Lane Signing & Pavement Markings

Match Line Sta 71+75.00

Match Line Sta 75+75.00

Wooden Guy

M4-5 M1-4-2 M6-1R 72+81.66, LT (POLE MOUNTED)

M3-1-24 M1-5-24-2 STA. 72+35, LT

M3-1 M1-5-2 STA. 72+47.90, LT

D3-1 (MAST ARM MOUNTED)

M4-5 M1-4-2 M6-3 STA. 73+76.27

M1-5-2 M6-4

D3-1 (MAST ARM MOUNTED)

R3-H8da-54 STA. 74+23, LT

R3-H8cg STA. 75+58.54, LT

M3-3-24 M1-5-24-2 STA. 75+20, RT

M3-3 M1-5-2 STA. 74+94.41, RT

D9-2 M6-3 STA. 74+94.49, RT

M4-5 M1-4-2 M6-1L 74+06.28, RT (POLE MOUNTED)

D3-1 (MAST ARM MOUNTED)

RI2-1-24 STA. 73+34, RT

D3-1 (MAST ARM MOUNTED)

R5-MOD STA 73+25.08 (POLE MOUNTED)

M1-5-2 M6-4 D9-2 M6-1L STA 73+28.78 (POLE MOUNTED)

R3-H8cg STA. 72+12.95, RT

R3-H8da-54 STA. 72+91, RT

R3-H8cg STA. 72+96.11, RT

R2-1-30 STA. 71+80, LT

SIGNING LEGEND

- Existing Sign
- Existing Sign to be Removed
- Existing Sign to be Re-erected
- Proposed Sign

PAVEMENT MARKING LEGEND

CH	Channelizing Line, 8"
CL	Center Line, Solid, Double
CW	Crosswalk Line
DL	Dotted Line, 8"
EW	Edge Line, 4" (White)
EY	Edge Line, 4" (Yellow)
IM	Island Marking
LL	Lane Line, 4"
SL	Stop Line
TR	Transverse/Diagonal Line

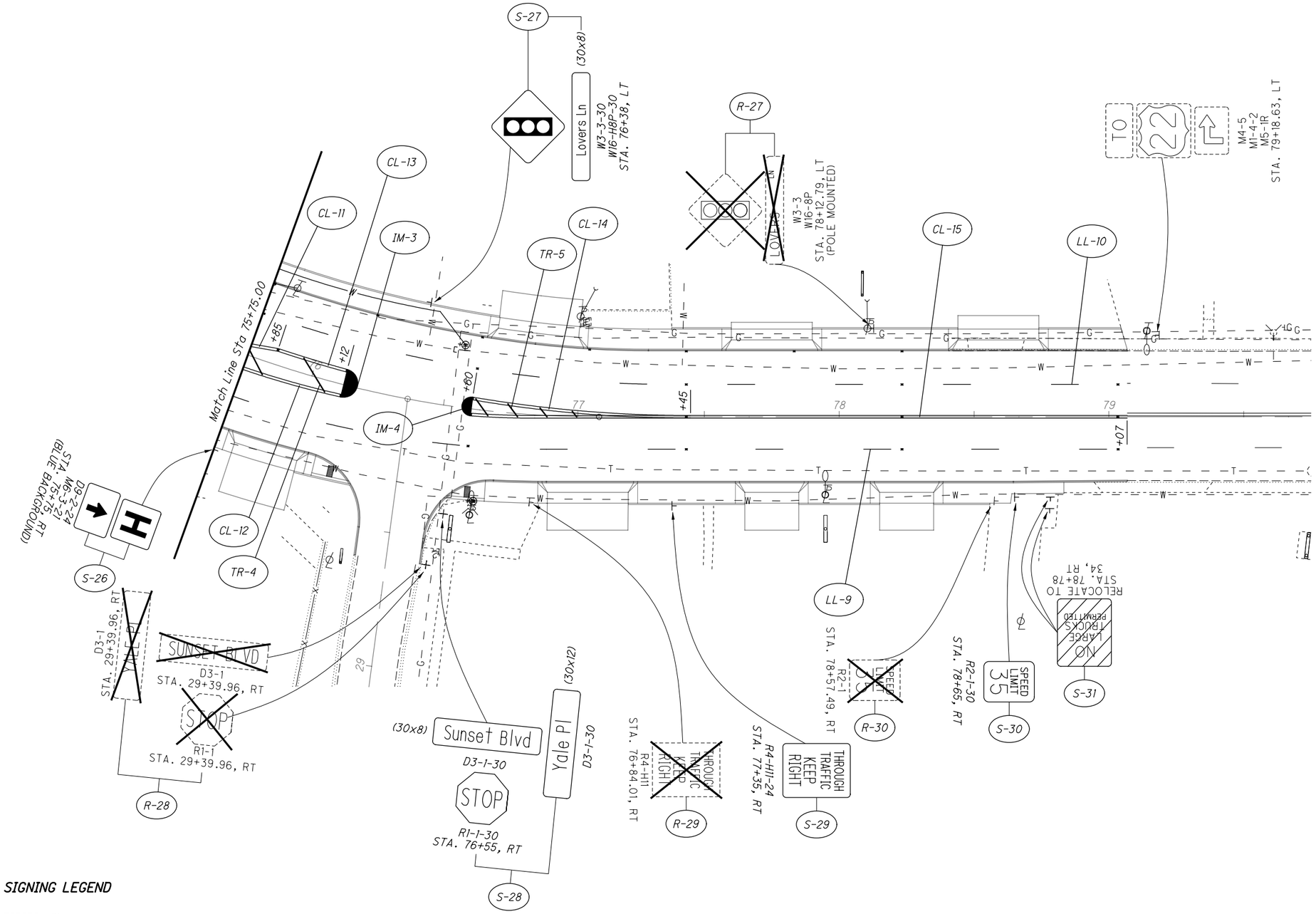
HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED JFM CHECKED TAD

SIGNING & PAVEMENT MARKING PLAN

JEF-43-4.21

91 119



SIGNING LEGEND

- Existing Sign
- Existing Sign to be Removed
- Existing Sign to be Re-erected
- Proposed Sign

PAVEMENT MARKING LEGEND

CH	Channelizing Line, 8"
CL	Center Line, Solid, Double
CW	Crosswalk Line
DL	Dotted Line, 8"
EW	Edge Line, 4" (White)
EY	Edge Line, 4" (Yellow)
IM	Island Marking
LL	Lane Line, 4"
SL	Stop Line
TR	Transverse/Diagonal Line

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED JFM
CHECKED TAD

SIGNING & PAVEMENT MARKING PLAN

JEF-43-4.21

92
119

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SIGNING & PAVEMENT MARKING PLAN

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED JFM
CHECKED TAD

JEF-43-4.21

93
119

See Sheet 91 for SR 43 Signing & Pavement Markings

See Sheet 91 for SR 43 Signing & Pavement Markings
See Traffic Signal Plans for Signing on Signal Poles and Mast Arms

36" Rigid Sign Support Foundation
Sta 10+33.50, 16' RT
See Traffic Control Notes

R-36 SPEED LIMIT 5 MPH R2-1 R12-MOD STA 11+31.89 (POLE MOUNTED)
S-36 SPEED LIMIT 25 R2-1-24 STA. 11+30, LT
R-32 R-33 ONLY D9-2 1-H12 R3-H8bh STA 10+09.01
S-32 ONLY ONLY R3-H8b-48 STA. 10+50, LT
S-33 D9-2-24 M5-1L-21 STA. 11+00, LT (BLUE BACKGROUND)
S-34 ONLY ONLY R3-H8b-48 STA. 11+75, LT
R-34 ONLY R3-H8bh STA. 12+40, LT
S-38 ONLY R3-5L-30
R3-H6b-42
M4-5 M1-4-2 M6-3 STA 11+28.97 TO 22
R-37 ONLY R3-H8bt STA. 11+95.51, RT
S-37 ONLY R3-H8bt-42 STA. 12+14, RT
A-8
A-9
A-10
LL-11
EW-3
EW-4
CL-16
CL-17
CH-7
CH-8
CH-9
CH-10
CW-3
CW-4
CW-5
SL-4
SL-5
SL-6
25' R
225' R
300' R
200' R
M4-5 M1-4-2 STA. 10+82, RT TO 22
R20-H1-24 STA. 11+80, RT NO ENGINE BRAKE
S-35
STA. 11+80, RT NO JAKE BRAKE
R-35

SIGNING LEGEND

- Existing Sign
- Existing Sign to be Removed
- Existing Sign to be Re-erected
- Proposed Sign

PAVEMENT MARKING LEGEND

- CH — Channelizing Line, 8"
- CL — Center Line, Solid, Double
- CW — Crosswalk Line
- DL — Dotted Line, 8"
- EW — Edge Line, 4" (White)
- EY — Edge Line, 4" (Yellow)
- IM — Island Marking
- LL — Lane Line, 4"
- SL — Stop Line
- TR — Transverse/Diagonal Line

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POWER SUPPLY FOR TRAFFIC SIGNALS

ELECTRIC POWER SHALL BE OBTAINED FROM AEP ENERGY AT THE LOCATION INDICATED ON THE PLANS. POWER SUPPLIED SHALL BE 120/240 VOLTS, 3-WIRE SERVICE.

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 CITY ENGINEER. THE CITY ENGINEER WILL THEN REVIEW, APPROVE OR REJECT PROPOSALS TO ACTIVATE THE TRAFFIC SIGNAL PRIOR TO COMPLETION.

THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER AND CITY ENGINEER AT LEAST 10 WORKING DAYS PRIOR TO SCHEDULING THE FINAL INSPECTION OF THE SIGNAL INSTALLATION. FINAL INSPECTION IS NOT CONSIDERED COMPLETE UNTIL DESIGNATED CITY TRAFFIC PERSONNEL INSPECT THE TRAFFIC SIGNAL AND ISSUE WRITTEN APPROVAL. IF ISSUES ARE FOUND DURING THE FINAL INSPECTION THAT AFFECT 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 SHALL BE CORRECTED AND REINSPECTED BY CITY 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.

ITEM 632 - REMOVAL OF TRAFFIC SIGNAL INSTALLATION

TRAFFIC SIGNAL INSTALLATIONS, INCLUDING SIGNAL HEADS, CABLE, SIGNAL SUPPORTS, 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 CITY OF STEUBENVILLE IN ACCORDANCE WITH THE LISTING GIVEN HEREIN.

ITEMS TO BE STORED:
SIGNAL HEADS

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.

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 CITY 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 CITY 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 ABANDONED, 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.

WORK INSPECTION

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

SIGNAL SUPPORT AND PEDESTAL FOUNDATION ELEVATIONS

ELEVATIONS SHOWN IN THE PLANS FOR SIGNAL SUPPORTS AND PEDESTAL FOUNDATIONS ARE FOR COMPUTATIONAL PURPOSES ONLY. THE ACTUAL ELEVATION OF THE FOUNDATION SHALL BE IN ACCORDANCE WITH TRAFFIC SCD TC-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.

ITEM 625 - LUMINAIRE, CONVENTIONAL, SOLID-STATE (LED), ALTERNATE BID

IN ADDITION TO THE REQUIREMENTS OF ODOT'S CONSTRUCTION AND MATERIAL SPECIFICATIONS, LUMINAIRES FOR SOLID-STATE (LED) LIGHTING UNITS SHALL BE AS FOLLOWS:

PROVIDE LUMINAIRES FOR LED LIGHTING UNITS WITH TYPE II DISTRIBUTION AND 206 WATTS, COOPER LIGHTING, STREETWORKS "VST" SERIES.

PROVIDE EACH LUMINAIRE WITH AN INTEGRAL FUSE AND A PHOTOCELL.

ALL MATERIALS, LABOR, EQUIPMENT, TOOLS, AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 625, LUMINAIRE, CONVENTIONAL, SOLID-STATE (LED), ALTERNATE BID

ITEM 632 - VEHICULAR SIGNAL HEAD, (LED), BY TYPE, AS PER PLAN, BLACK WITH BACKPLATE

IN ADDITION TO THE REQUIREMENTS OF CMS 632 AND 732, THE FOLLOWING REQUIREMENTS SHALL ALSO 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.ALL SIGNAL HEADS SHALL BE RIGIDLY MOUNTED TO THE MAST ARM WITH THE YELLOW MODULE LOCATED IN FRONT OF THE MAST ARM.

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

7.THE LIGHT EMITTING DIODE (LED) MODULES SHALL MEET THE REQUIREMENTS OF C&MS 732.04-A. THE CONTRACTOR SHALL PROVIDE THE CITY, 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.

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

9.SIGNAL HEADS SHALL INCLUDE TUNNEL TYPE VISORS UNLESS OTHERWISE SPECIFIED IN THE PLANS.

10.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.

PAYMENT FOR ITEM 632 VEHICULAR SIGNAL HEAD, (LED), (BY TYPE), AS PER PLAN, BLACK WITH BACKPLATE SHALL BE MADE FOR COMPLETE SIGNAL HEAD FURNISHED AND INSTALLED, INCLUDING ALL LABOR, EQUIPMENT, MATERIALS, AND NEW ATTACHMENT HARDWARE.

ITEM 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.

ITEM 632 - PEDESTRIAN SIGNAL HEAD (LED), COUNTDOWN, TYPE D2, 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) SIGNAL LAMP UNITS SHALL MEET THE REQUIREMENTS OF C&MS 732.04-A. THE CONTRACTOR SHALL PROVIDE THE CITY, 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), (COUNTDOWN), TYPE D2, 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.

ITEM 632 - POLE ENTRANCE FITTING

A POLE ENTRANCE FITTING SHALL BE PROVIDED IN ACCORDANCE WITH THE PLAN DETAILS TO ALLOW FIBER OPTIC CABLE ENTRANCE INTO BOTH EXISTING AND PROPOSED STEEL POLES. IN PROPOSED POLES THE CONTRACTOR SHALL HAVE THE 2 INCH ENTRANCE HOLES SHOWN IN THE DETAILS PRE-MANUFACTURED. BLIND HALF COUPLINGS SHALL BE WELDED INTO ANY NEW STRAIN POLES SUPPLIED AS PART OF THE PROJECT.

EXISTING STRAIN POLES SHALL REQUIRE THE CONTRACTOR TO FIELD LOCATE THE POLE ENTRANCE HOLE AND DRILL TWO PILOT HOLES AND USE A HOLE SAW TO CUT THE 2 INCH HOLE. ALL NONGALVANIZED POLE SURFACES EXPOSED AFTER CUTTING THE HOLE SHALL HAVE THREE COATS OF ZINC ENRICHED PAINT APPLIED.

NO POLE ENTRANCE FITTING HOLES SHALL BE LOCATED VERTICALLY WITHIN 24 INCHES OF ANY OTHER HOLES OR BLIND HALF COUPLINGS.

ALL COSTS TO PROVIDE A POLE ENTRANCE INCLUDING MATERIAL, EQUIPMENT AND LABOR SHALL BE INCLUDED IN THE BID ITEM PRICE FOR EACH ITEM 632 "POLE ENTRANCE FITTING".

ITEM 632 - SIGNAL SUPPORT FOUNDATION

PRIOR TO ORDERING THE SIGNAL SUPPORTS, THE CONTRACTOR SHALL CONTACT OUPS TO HAVE ALL THE UTILITIES LOCATED IN THE FIELD THEN MEET WITH THE PROJECT ENGINEER TO LOCATE THE PROPOSED SUPPORT LOCATION TO INSURE THERE ARE NO CONFLICTS WITH UTILITIES. IF THERE ARE ISSUES, PROJECT ENGINEER SHALL PROVIDE GUIDANCE AS TO THE RELOCATION OF THE SUPPORT POLES.

PAYMENT WILL BE AT THE CONTRACT UNIT PRICE AND WILL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, TOOLS, EQUIPMENT AND OTHER INCIDENTALS NECESSARY FOR EACH SUPPORT FURNISHED, IN PLACE, COMPLETE AND ACCEPTED.

CALCULATED JAW CHECKED BSS

TRAFFIC SIGNAL NOTES

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ITEM 632 - SIGNAL SUPPORT, MECHANICAL DAMPER FOR TC-81.21 MAST ARM (GREATER THAN 59' IN LENGTH), AS PER PLAN

THIS ITEM SHALL CONSIST OF THE CONTRACTOR INSTALLING A TUNED MECHANICAL STOCKBRIDGE OR MASS-SPRING TYPE DAMPER ON A TC-81.21 MAST ARM SIGNAL SUPPORT TO REDUCE THE POSSIBILITY OF HARMONIC VIBRATIONS CAUSED BY WIND LOADS. A MECHANICAL DAMPER SHALL BE APPLIED TO ALL MAST ARMS OVER 59 FEET IN LENGTH. THE INSTALLED DAMPER SHALL BE CAPABLE OF REDUCING THE LOADED MAXIMUM VERTICAL MOVEMENT AT THE TIP OF THE ARM TO 8 INCHES MEASURED FROM THE HIGHEST TO THE LOWEST POINT OF DEFLECTION AT WIND SPEEDS OF 5-20 MPH.

ALL ATTACHMENT HARDWARE CONNECTIONS SHALL BE STAINLESS STEEL. STOCKBRIDGE-TYPE DAMPERS SHALL HAVE A STAINLESS STEEL SAFETY CHAIN ANCHORED TO THE MAST ARM TO PREVENT WEIGHTS FROM FALLING SHOULD THEY BECOME SEPARATED FROM THE REST OF THE ASSEMBLY. THE DAMPER SHALL BE ATTACHED TO THE ARM WITHIN 8 FEET OF MAST ARM TIP. INSTALLATION SHALL BE PER THE MANUFACTURER'S GUIDELINES. STATIC DAMPERS SUCH AS HORIZONTAL FLAT SIGN MOUNTINGS SHALL NOT BE USED. ACCEPTABLE DEVICES INCLUDE THE FOLLOWING OR APPROVED EQUAL:

1. UNION METAL ALCOA DAMPER DEVICE - DWG. NO. 2G-1817-C1
2. VALMONT STRUCTURES ALCOA DEVICE - DWG. NO. OH104242P1
3. FLORIDA DOT SPRING-MASS DAMPER - DRAWING INDEX NO. 17749
4. PATHMASTER DAMPER ASSEMPLY - DWG. U2G-1817-C

PAYMENT FOR ITEM 632 "SIGNAL SUPPORT, MECHANICAL DAMPER FOR TC-81.21 MAST ARM (GREATER THAN 59' IN LENGTH), AS PER PLAN" SHALL BE MADE AT THE CONTRACT UNIT PRICE PER EACH COMPLETE AND IN PLACE, AND SHALL INCLUDE ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO COMPLETE THE WORK.

ITEM 633 - CONTROLLER UNIT, TYPE TS2/A2, WITH CABINET, TYPE TS2, AS PER PLAN

THE EQUIPMENT PROVIDED AS PART OF THIS CONTRACT SHALL BE THE ON THE OFFICE OF TRAFFIC OPERATIONS TRAFFIC APPROVED PRODUCTS (TAP) LIST.

THE GROUND-MOUNTED CABINET SHALL BE A NEMA TS2 CABINET SIZE 7 AND SHALL HAVE A MINIMUM OF THREE SHELVES.

EACH CABINET SHALL COME EQUIPPED WITH TWO 16-CHANNEL CABINET DETECTOR RACKS (CDR) INCLUDING BUS INTERFACE UNITS (BIU). THE LOOP DETECTOR TERMINATION PANEL FOR THE SECOND DETECTOR RACK SHALL BE OMITTED.

CONTROLLER AND CABINET MUST BE FULLY FUNCTIONAL WITH EXISTING CITY OF STEUBENVILLE CLOSED LOOP SYSTEM.

CONTROLLER AND CABINET SHALL BE ECONOLITE BRAND.

PAYMENT FOR ITEM 633 CONTROLLER UNIT, TYPE TS2/A2, WITH CABINET, TYPE TS2, AS PER PLAN WILL BE AT THE CONTRACT BID PRICE PER EACH COMPLETE AND IN PLACE INCLUDING ALL CONNECTIONS TESTED AND ACCEPTED.

ITEM 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 CITY 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.

ITEM 632 - COMBINATION SIGNAL SUPPORT, TYPE TC-81.21, DESIGN 11 (WITH LIGHT POLE EXTENSION) AND DESIGN 13 (WITH LIGHT POLE EXTENSION (SHORTEN))

THIS SUPPORT SHALL CONSIST OF ONE TC-81.21 DESIGN 11 SIGNAL SUPPORT (WITH LIGHT POLE EXTENSION) AND ONE TC-81.21 DESIGN 13 SIGNAL SUPPORT (WITH LIGHT POLE EXTENSION (SHORTEN)). SEE MAST ARM TABLE FOR POLE HEIGHTS.

ALL SIGNAL SUPPORT ITEMS REQUIRED BY CMS ITEM 632 AND ALL SIGN SUPPORT ITEMS REQUIRED BY CMS ITEM 630 SHALL BE INCLUDED AS PART OF THIS SUPPORT.

PAYMENT WILL BE AT THE CONTRACT UNIT PRICE AND WILL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, TOOLS, EQUIPMENT AND OTHER INCIDENTALS NECESSARY FOR EACH SUPPORT FURNISHED, IN PLACE, COMPLETE AND ACCEPTED.

ITEM 804 - FIBER OPTIC CABLE, MISC.: REROUTE PROPOSED FIBER OPTIC INTERCONNECT

THE CONTRACTOR SHALL REMOVE THE EXISTING INTERCONNECT CABLE WITHIN THE EXISTING CONTROLLER AT THE FOLLOWING INTERSECTION:

1. SR 43 & LOVERS LANE

THE CONTRACTOR SHALL THEN REROUTE THE PROPOSED INTERCONNECT CABLE ATTACHED TO THE AEP POWER POLES ON THE SOUTH SIDE OF SR 43.

THE WORK TO BE INCLUDED UNDER THIS PAY ITEM IS THE REMOVAL AND REROUTING OF THE EXISTING FIBER OPTIC INTERCONNECT CABLE AND PAYMENT FOR "ITEM 804 - FIBER OPTIC CABLE, MISC.: REROUTE PROPOSED FIBER OPTIC INTERCONNECT" SHALL BE MADE AT THE CONTRACT UNIT PRICE EACH COMPLETE AND IN PLACE, AND SHALL INCLUDE ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO COMPLETE THE WORK. A QUANTITY OF 1 EACH SHALL BE CARRIED TO THE GENERAL SUMMARY TO BE USED TO COMPLETE THIS WORK.

ALL OTHER ITEMS FOR THE INSTALLATION OF THE FIBER OPTIC CABLE ARE DESCRIBED IN ITEM 804 - FIBER OPTIC INSTALLATION NOTE SHOWN BELOW.

FIBER OPTIC INSTALLATION

THE CONTRACTOR SHALL INSTALL A NEW AERIAL SPLICE ENCLOSURE AT THE INTERSECTION FOR THE EXISTING CENTRAL CONTROLLED SIGNAL SYSTEM. THERE SHALL NOT BE MORE THAN ONE SET OF SPLICES AT EACH INTERSECTION. THE EXISTING FIBER OPTIC CABLE IS 12-FIBER, MULTI-MODE ARMORED CABLE. ALL 12 FIBERS SHALL BE TERMINATED IN THE TERMINATION PANEL INSIDE EACH CONTROLLER CABINET. THE EXISTING FIBER OPTIC PATCH CORDS SHALL BE USED TO CONNECT THE TERMINATION PANEL TO THE EXISTING FIBER OPTIC MEDIA CONVERTER. THE CONTRACTOR SHALL REFER TO THE SUPPLEMENTAL SPECIFICATION 804 AND 904 FOR MORE DETAILS. THE FOLLOWING ITEMS ARE CARRIED TO THE GENERAL SUMMARY TO BE USED TO COMPLETE THE FIBER OPTIC INSTALLATION:

ITEM 804 - FIBER OPTIC CABLE, ARMORED, 12 FIBER	1505 FT
ITEM 804 - FAN-OUT KIT, 12 FIBER	1 EACH
ITEM 804 - DROP CABLE, 12 FIBER	1 EACH
ITEM 804 - FIBER TERMINATION PANEL, 12 FIBER	1 EACH
ITEM 804 - FUSION SPLICE	12 EACH
ITEM 804 - SPLICE ENCLOSURE	1 EACH
ITEM 804 - SLACK INSTALLATION	1 EACH
ITEM 804 - FIBER OPTIC CONNECTOR	12 EACH
ITEM 804 - FIBER OPTIC CABLE TESTING	LUMP
ITEM 804 - FIBER OPTIC CABLE MODEM	1 EACH

ITEM 816 - VIDEO DETECTION SYSTEM, AS PER PLAN

THE CONTRACTOR SHALL INSTALL NEW VIDEO DETECTION CAMERAS. TEMPORARY DETECTION SHALL BE PROVIDED FOR TRAFFIC ADAPTIVE OPERATION WHILE ANY VIDEO DETECTON CAMERAS ARE INSTALLED, SETUP AND PROGRAMMED FOR OPERATION. CAMERAS SHALL BE ADJUSTED AND PROGRAMMED FOR NEW LOCATION. THE VIDEO DETECTION SYSTEM SHALL BE ECONOLITE BRAND.

GUARANTEE

THE CONTRACTOR SHALL GUARANTEE THAT THE TRAFFIC CONTROL SYSTEM INSTALLED AS PART OF THIS CONTRACT SHALL OPERATE SATISFACTORILY FOR A PERIOD OF 90 DAYS FOLLOWING COMPLETION OF THE 10-DAY PERFORMANCE TEST. IN THE EVENT OF UNSATISFACTORY OPERATION THE CONTRACTOR SHALL CORRECT 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.

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TRAFFIC SIGNAL NOTES

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MAINTENANCE OF TRAFFIC SIGNAL/FLASHER INSTALLATION

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

1. EXISTING SIGNAL/FLASHER 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/FLASHER 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.

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 OR THE CITY OF STEUBENVILLE 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 8 HOURS AND SHALL NOT INCLUDE THE HOURS OF 7-9 AM TO 4-6 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 THE CONTRACTOR, BY THE INSTALLATION OF TEMPORARY "STOP" SIGNS, EXCEPT FOR THE FOLLOWING INTERSECTIONS WHICH SHALL BE PROTECTED BY OFF-DUTY CITY OF STEUBENVILLE POLICE, HIRED BY THE CONTRACTOR.

1. S.R. 43 & LOVERS LANE

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.

GROUNDING AND BONDING

THE REQUIREMENTS OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS (C&MS) AND THE HL AND TC SERIES OF STANDARD CONSTRUCTION DRAWINGS ARE MODIFIED AS FOLLOWS:

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

2. CONDUITS.
   - A. THE 725.04 CONDUIT SHALL HAVE GROUNDING BUSHINGS INSTALLED AT ALL TERMINATION POINTS. THE BUSHING MATERIAL SHALL BE COMPATIBLE WITH GALVANIZED STEEL CONDUIT AND THE GROUNDING LUG MATERIAL SHALL BE COMPATIBLE FOR USE WITH COPPER WIRE. THREADED OR COMPRESSION TYPE BUSHINGS MAY BE USED.
   - B. THE 725.05 CONDUIT SHALL HAVE THE INSIDE AND OUTSIDE DIAMETERS OF THE CONDUIT DEBURRED AT ALL TERMINATION POINTS.
   - C. BOTH ENDS OF METALLIC CONDUIT SHALL BE BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR.
   - D. METALLIC CONDUIT MAY BE BONDED TO METALLIC BOXES THROUGH THE USE OF CONDUIT FITTINGS UL APPROVED FOR THIS TYPE OF CONNECTION, WITH THE BOX BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR.

3. WIRE FOR GROUNDING AND BONDING.
   - A. USE INSULATED, COPPER WIRE FOR THE EQUIPMENT GROUNDING CONDUCTOR. BONDING JUMPERS IN BOXES AND ENCLOSURES MAY BE BARE OR INSULATED COPPER WIRE. WIRE SIZE SHALL BE AS FOLLOWS:
     - I. USE 4 AWG BETWEEN THE POWER SERVICE AND SUPPORTS, POLES, PEDESTALS, CONTROLLER OR FLASHER CABINETS.
     - II. USE A MINIMUM 8 AWG BETWEEN LOOP DETECTOR PULL BOXES AND THE FIRST CONDUIT THAT REQUIRES A LARGER SIZE AS SPECIFIED IN 3.A.I ABOVE.
     - III. USE A MINIMUM 8 AWG BETWEEN THE "PREPARE TO STOP WHEN FLASHING" INSTALLATION (INCLUDING SUPPORT) AND THE FIRST CONDUIT THAT REQUIRES A LARGER SIZE AS SPECIFIED IN 3.A.I ABOVE.
     - IV. THE INSULATION SHALL BE GREEN OR GREEN WITH YELLOW STRIPE(S). FOR 4 AWG OR LARGER, INSULATION MAY ALSO BE BLACK WITH GREEN TAPE/LABELS INSTALLED AT ALL ACCESS POINTS.
   - B. IN A HIGHWAY LIGHTING SYSTEM, THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE THE SAME WIRE SIZE AS THE DUCT CABLE OR DISTRIBUTION CABLE CIRCUIT CONDUCTORS, WITH THE MINIMUM CONDUCTOR SIZE OF 4 AWG. BONDING JUMPERS WILL BE MINIMUM SIZE 4 AWG.

4. GROUND ROD.
   - A. A ¾ INCH SCHEDULE 40 PVC CONDUIT WILL BE USED IN FOUNDATIONS AND CONCRETE WALLS FOR THE GROUNDING CONDUCTOR (GROUND WIRE) RACEWAY TO THE GROUND ROD. SHOULD METALLIC CONDUIT BE USED, BOTH ENDS OF THE CONDUIT SHALL BE BONDED TO THE GROUNDING CONDUCTOR.
   - B. THE TYPICAL GROUNDING CONDUCTOR (GROUND WIRE) SHALL BE 4 AWG INSULATED, COPPER.

5. THE GREEN CONDUCTOR IN SIGNAL CABLES (CONDUCTOR #4) SHALL NOT BE USED TO SUPPLY POWER TO A SIGNAL INDICATION. IT WILL BE CONNECTED TO THE SIGNAL BODY AS AN EQUIPMENT GROUND IN ALUMINUM HEADS AND IT WILL BE UNUSED IN PLASTIC HEADS. UNUSED CONDUCTORS SHALL BE GROUNDED IN THE CABINET. TYPICAL USE OF CONDUCTORS IS AS FOLLOWS:

COND. NO.	COLOR	VEHICLE SIGNAL	PEDESTRIAN SIGNAL
1	BLACK	GREEN BALL	#1 WALK
2	WHITE	AC NEUTRAL	AC NEUTRAL
3	RED	RED BALL	#1 DW/FDW
4	GREEN	EQUIPMENT GROUND	EQUIPMENT GROUND
5	ORANGE	YELLOW BALL	#2 DW/FDW
6	BLUE	GREEN ARROW	#2 WALK
7	WHITE/BLACK STRIPE	YELLOW ARROW	NOT USED

6. POWER SERVICE AND DISCONNECT SWITCH.
   - A. AT THE POWER SERVICE LOCATION, THE GROUNDING CONDUCTOR (GROUND WIRE) FROM THE DISCONNECT SWITCH NEUTRAL (AC-) BAR TO THE GROUND ROD SHALL BE A CONTINUOUS, UNSPLICED CONDUCTOR. IF SPLICED, IT SHALL BE AN EXOTHERMIC WELD BUTT SPLICE.
   - B. THE SERVICE NEUTRAL (AC-) SHALL ONLY BE CONNECTED TO GROUND AT THE PRIMARY POWER SERVICE DISCONNECT SWITCH.
     - I. NEMA CONTROLLER CABINETS: IF A POWER SERVICE DISCONNECT SWITCH IS LOCATED BEFORE THE CONTROLLER CABINET, THE NEUTRAL (AC-) AND THE GROUNDING BARS IN THE CONTROLLER CABINET SHALL NOT BE CONNECTED TOGETHER AS SHOWN IN NEMA TS-2, FIGURE 5-4.
     - II. IF SECONDARY DISCONNECT SWITCHES ARE CONNECTED AFTER THE PRIMARY DISCONNECT SWITCH, THE NEUTRAL (AC-) SHALL ONLY BE GROUNDED AT THE PRIMARY SWITCH. EQUIPMENT GROUNDING CONDUCTORS SHALL BE BROUGHT TO THE PRIMARY SWITCH, BUT SHALL BE GROUNDED AT BOTH SECONDARY AND PRIMARY SWITCHES.

7. PAYMENT.
   - A. ALL MATERIALS AND WORK REQUIRED TO COMPLETE THE EFFECTIVE GROUND FAULT CURRENT PATH SYSTEM ARE INCIDENTAL TO THE CONDUCTORS INSTALLED BY CONTRACT.

CALCULATED JAW CHECKED BSS

TRAFFIC SIGNAL NOTES

JEF-43-4.21

SHEET NO.	LOCATION		LENGTH	625											630					632																				633					816
	FROM	TO	FT	NO. 4 AWG 600 VOLT DISTRIBUTION CABLE	NO.10 AWG POLE AND BRACKET CABLE	CONDUIT, 2", 725.04	CONDUIT, 3", 725.04	CONDUIT, JACKED OR DRILLED, 725.04, 3"	LUMINAIRE, CONVENTIONAL, SOLID-STATE (LED)	TRENCH	PULL BOX, 725.08, SIZE 30	PULL BOX, 725.08, 18"	GROUND ROD	PLASTIC CAUTION TAPE	SIGN HANGER ASSEMBLY, MAST ARM	SIGN SUPPORT ASSEMBLY, POLE MOUNTED	SIGN, FLAT SHEET	SIGN, STREET NAME	SIGN BACKING ASSEMBLY	VEHICULAR SIGNAL HEAD, (LED), 3-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN, BLACK WITH BACKPLATE	VEHICULAR SIGNAL HEAD, (LED), 4-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN, BLACK WITH BACKPLATE	VEHICULAR SIGNAL HEAD, (LED), 5-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN, BLACK WITH BACKPLATE	PEDESTRIAN SIGNAL HEAD (LED), TYPE D2, COUNTDOWN, AS PER PLAN	COVERING OF VEHICULAR SIGNAL HEAD	COVERING OF PEDESTRIAN SIGNAL HEAD	PEDESTRIAN PUSHBUTTON	SIGNAL CABLE, 5 CONDUCTOR, NO. 14 AWG	SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG	SIGNAL CABLE, 9 CONDUCTOR, NO. 14 AWG	SIGNAL SUPPORT FOUNDATION	PEDESTAL FOUNDATION	POWER CABLE, 2 CONDUCTOR, NO. 6 AWG	SERVICE CABLE, 2 CONDUCTOR, NO. 6 AWG	POWER SERVICE, AS PER PLAN	SIGNAL SUPPORT, MECHANICAL DAMPER FOR TC-81.21 MAST ARM (GREATER THAN 59' IN LENGTH), AS PER PLAN	SIGNAL SUPPORT, TYPE TC-81.21, DESIGN 4	SIGNAL SUPPORT, TYPE TC-81.21, DESIGN 12	COMBINATION SIGNAL SUPPORT, TYPE TC-81.21, DESIGN 11 (WITH LIGHT POLE EXTENSION)	COMBINATION SIGNAL SUPPORT, TYPE TC-81.21, DESIGN 13 (WITH LIGHT POLE EXTENSION (SHORTEN))	POLE ENTRANCE FITTING	PEDESTAL, 11'	REMOVAL OF TRAFFIC SIGNAL INSTALLATION	CONTROLLER UNIT, TYPE TS2/A2, WITH CABINET, TYPE TS2, AS PER PLAN	CABINET FOUNDATION	CONTROLLER WORK PAD	UNINTERRUPTIBLE POWER SUPPLY (UPS), 1000 WATT, AS PER PLAN	VIDEO DETECTION SYSTEM, AS PER PLAN
			FT	FT	FT	FT	FT	FT	EACH	FT	EACH	EACH	EACH	FT	EACH	EACH	SF	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	FT	FT	FT	EACH	EACH	FT	FT	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH
98	SR 43 & LOVERS LANE																																												1
98	PED-4	PB-3	12			12				12			1	12									1		1	151				1															
98	PED-3	PB-3	11			11				11			1	11									1		1	150				1															
98	P-3	PB-3	5	260	100	5			1	5			1	5	2	1	8.2	2	1	1		3		4					344	1			1					1							1
98	PB-3	PB-4	114					114																																				
98	PED-2	P-2	13			13				13			1	13									1		1	161				1															
98	P-2	PB-2	16			16				16			1	16	2	1	14.4	2	1	1	1		1	2	1	1	164	245		1						1								1
98	PB-2	PB-1B	66					66				1																																
98	P-4	PED-5	17			34				17			1	17	2	1	12.4	2	1		1	1	1	2	1	1	184		265	1		188	200	1		1				1					1
98	PED-5	PB-4	15			30				15			1	15									1		1	162				1									1					
98	PB-4	PB-1A	105					210			1																																
98	P-1	PB-1B	6	72	120	6			1	6			1	6	2	1	8.2	2	1	1		3	3	4	3	1			164	1								1							1
98	PB-1B	PB-1A	35					35				1																																
98	PED-1B	P-1	13			13				13			1	13											1	90				1									1					
98	PED-1A	PB-1A	14			14				14			1	14									1		1	40				1									1					
98	PB-1A	CTRLR	6				18			6	1			6																														
98	CTRLR												1																													1	1	1	1	
TOTALS CARRIED TO GENERAL SUMMARY				332	220	154	18	425	2	128	2	2	11	128	8	4	43.2	8	4	3	2	7	10	12	10	9	1102	245	773	4	6	188	200	1	1	1	1	1	1	1	6	1	1	1	1	1	4

TRAFFIC SIGNAL SUBSUMMARY

CALCULATED JAW
CHECKED BSS

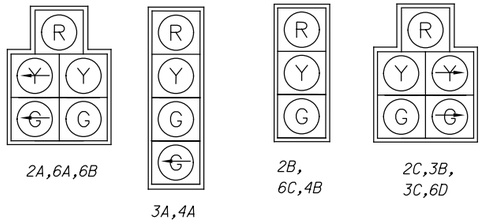
JEF-43-4.21

LEGEND

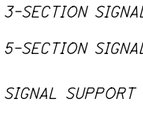
- EX. 3-SECTION SIGNAL HEAD
- EX. 5-SECTION SIGNAL HEAD
- EX. SIGNAL SUPPORT POLE
- EX. MAST ARM
- EX. LUMINAIRE AND BRACKET ARM
- SIGNAL HEAD (4 OR 5 SECTION WITH ARROWS)
- SIGNAL HEAD (3 SECTION)
- PR. LUMINAIRE
- PEDESTRIAN SIGNAL HEAD (PH-X)
- PEDESTRIAN PUSHBUTTON (PB-X)
- TRAFFIC SIGNAL POLE
- PEDESTAL SUPPORT (PED-1)
- MAST ARM
- TRAFFIC PULL BOX
- TRAFFIC SIGNAL CONTROLLER
- TRAFFIC SIGN
- DETECTION UNIT (CAM-1)
- V2A VIDEO DETECTION ZONE

NOTE:
CONNECT PROPOSED CONTROLLER AERIALLY WITH INTERCONNECT CABLE TO EXISTING CONTROLLER AT NEAREST INTERSECTION (SR 43 & CUNNINGHAM LANE) APPROXIMATELY 0.25 MILE NORTHEAST OF SR 43 & LOVERS LANE.

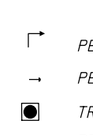
SIGNAL INDICATIONS 12" LED LENS (BLACK) W/ BACKPLATES (YELLOW BORDER)



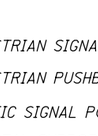
PEDESTRIAN SIGNAL HEADS



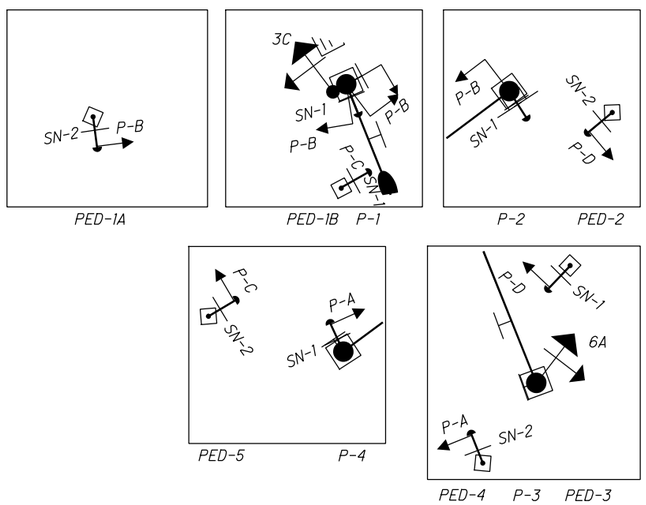
D2 16" LED COUNTDOWN SIGNAL (CLAMSHELL MTG.) P-(A-D)

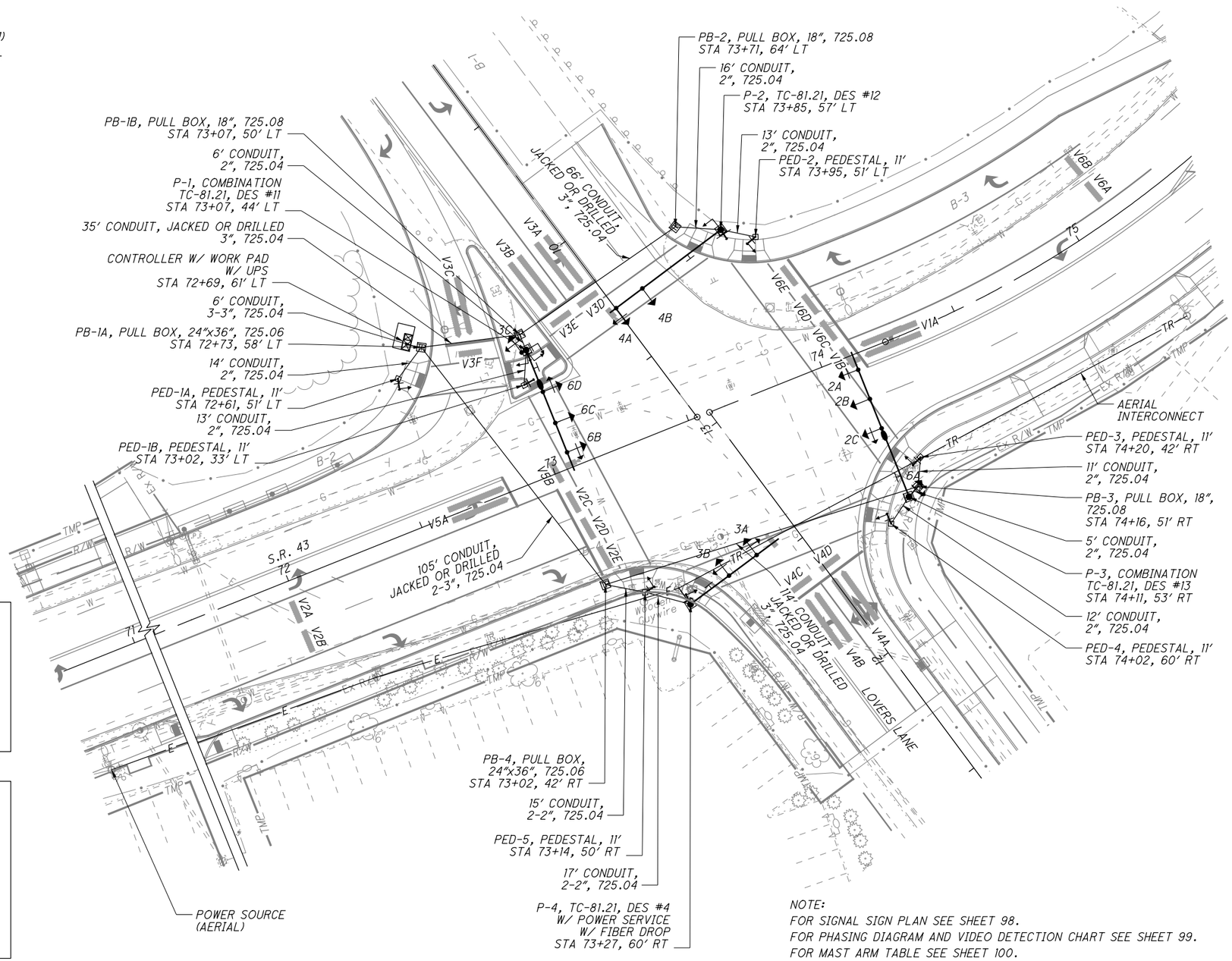


R10-3E-9 SN-1



R10-3E-9 SN-2





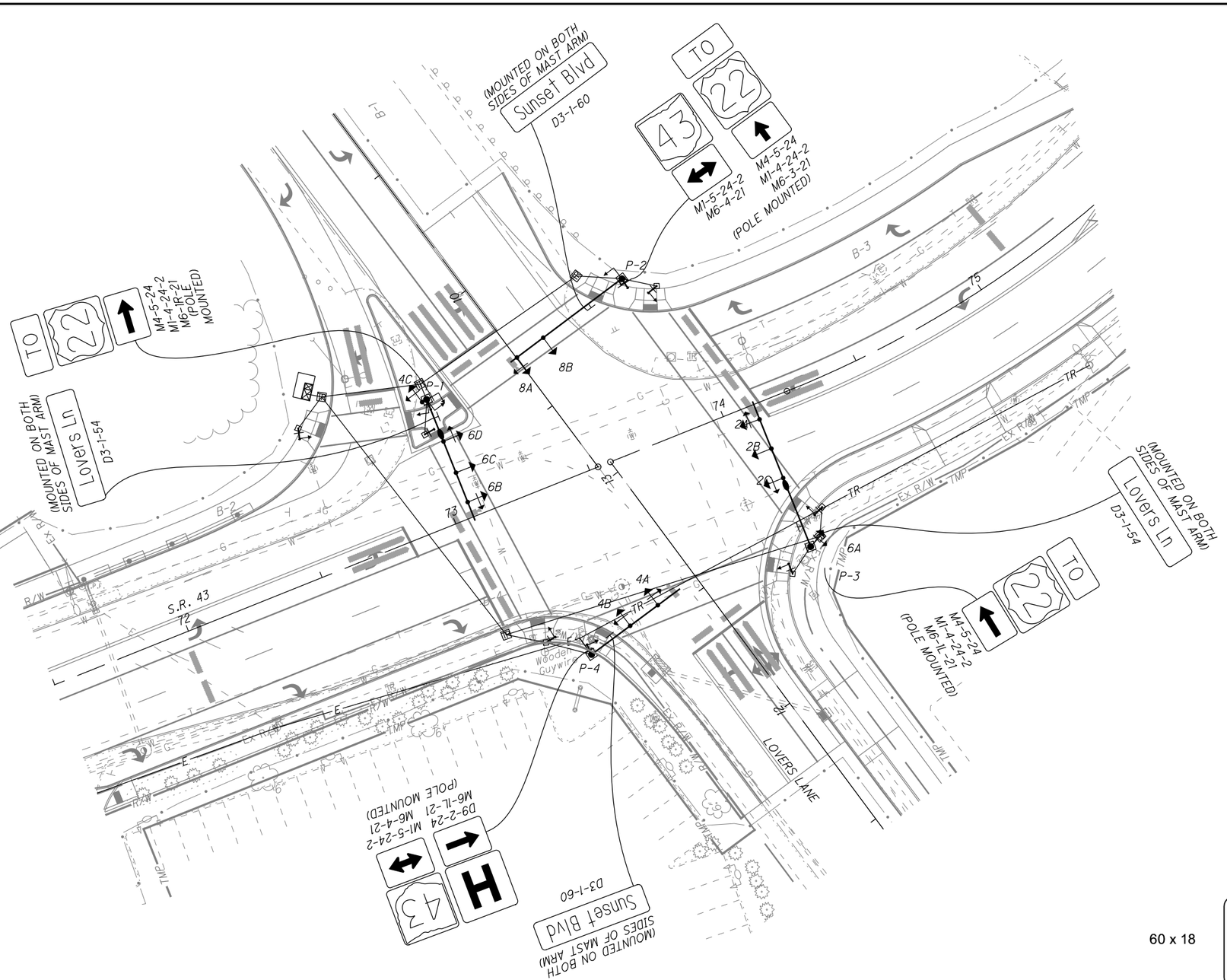
NOTE:
FOR SIGNAL SIGN PLAN SEE SHEET 98.
FOR PHASING DIAGRAM AND VIDEO DETECTION CHART SEE SHEET 99.
FOR MAST ARM TABLE SEE SHEET 100.
FOR WIRING DIAGRAM AND FIELD WIRING HOOK-UP CHART SEE SHEET 101.

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED JAW
CHECKED BSS

TRAFFIC SIGNAL PLAN
S.R. 43 & LOVERS LANE

JEF-43-4.21



60 x 18 **Sunset Blvd** 8D / 5.33D

54 x 18 **Lovers Ln** 8D / 5.33D

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED JAW
CHECKED BSS

TRAFFIC SIGNAL SIGN PLAN
S.R. 43 & LOVERS LANE

JEF-43-4.21

99
119

J:\16-092_JEF-43-4.21\5.0 Design (Work) Phase\90235\signals\sheets\90235_CP002.dgn 3/26/2018 8:50:42 AM jason.watt ODOTV8i_PDF_Half.pltcfg ODOTV8i_Pen-ME.tbl M-E Companies, Inc.

SIGNAL TIMING CHART

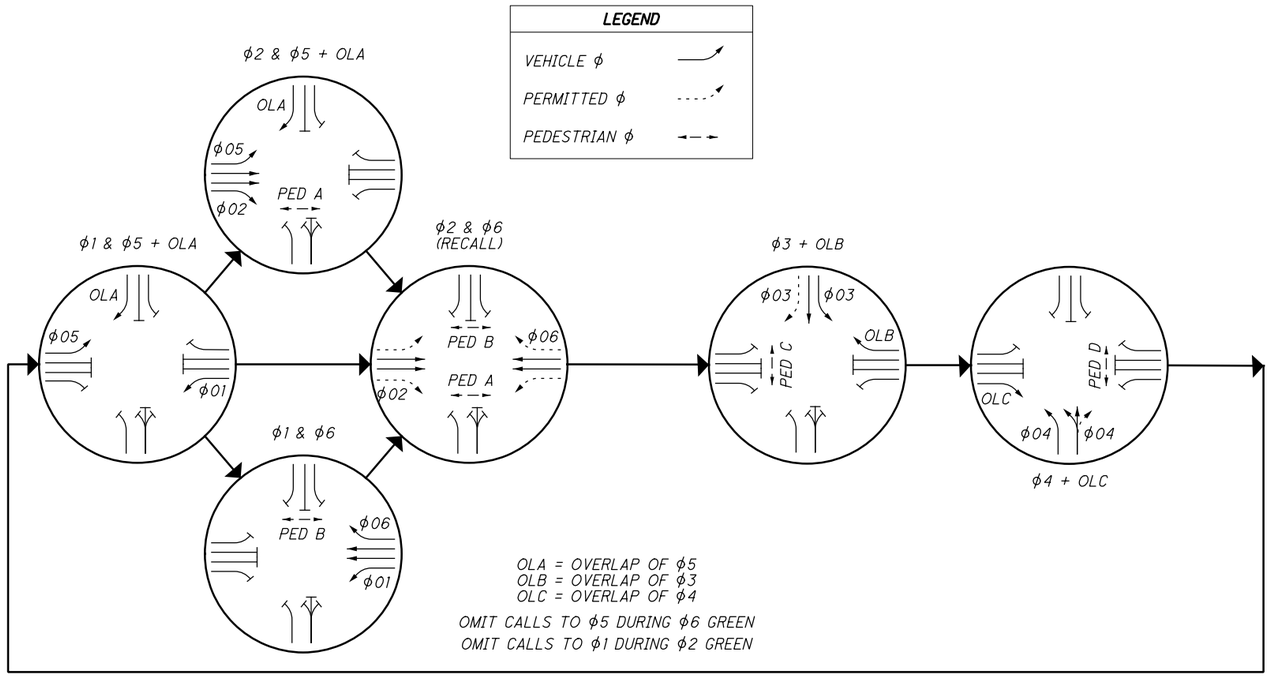
INTERSECTION: SR 43 & Lovers Lane MAINTAINING AGENCY: CITY OF STEUBENVILLE									
START UP		DUAL ENTRY: YES		PHASES:			2,4,6		
START IN: YELLOW/RED FLASH		REST IN RED:		RING 1	YES		RING 2	-	
TIME FOR FLASH OR ALL RED: -		OVERLAP			A	B	C	D	
FIRST PHASE(S): 2 & 6									
COLOR DISPLAYED: YELLOW		PHASES			5	3	4	-	
INTERVAL OR FEATURE		CONTROLLER MOVEMENT NO.							
INTERSECTION MOVEMENT (PHASE)		1	2	3	4	5	6	7	8
DIRECTION		WB LT	EB	SB	NB	EB LT	WB	SB LT	NB
MINIMUM GREEN (INITIAL)	(SEC.)	7	10	10	10	7	10	-	-
ADDED INITIAL	*(SEC./ACTUATION)	-	-	-	-	-	-	-	-
MAXIMUM INITIAL	(SEC.)	-	-	-	-	-	-	-	-
PASSAGE TIME (PRESET GAP)	(SEC.)	3	3	3	3	3	3	-	-
TIME BEFORE REDUCTION	*(SEC.)	-	-	-	-	-	-	-	-
MINIMUM GAP	*(SEC.)	-	-	-	-	-	-	-	-
TIME TO REDUCE	*(SEC.)	-	-	-	-	-	-	-	-
MAXIMUM GREEN I	(SEC.)	7	41	29	31	8	40	-	-
MAXIMUM GREEN II	(SEC.)	7	41	29	31	8	40	-	-
YELLOW CHANGE	(SEC.)	3	3.5	4.5	3	3	3.5	-	-
ALL RED CLEARANCE	(SEC.)	1	2	2	3	1	2	-	-
WALK	(SEC.)	-	9	11	10	-	13	-	-
PEDESTRIAN CLEARANCE	(SEC.)	-	15	18	21	-	27	-	-
RECALL	MAXIMUM (ON/OFF)	OFF	OFF	OFF	OFF	OFF	OFF	-	-
	MINIMUM (ON/OFF)	OFF	ON	OFF	OFF	OFF	ON	-	-
	PEDESTRIAN (ON/OFF)	OFF	OFF	OFF	OFF	OFF	OFF	-	-
MEMORY	(ON/OFF)	OFF	ON	OFF	OFF	OFF	ON	-	-

*VOLUME DENSITY CONTROLS

NOTES:

- CONTRACTOR SHALL USE EXISTING OFFSETS FROM THE COORDINATION PLAN IN THE EXISTING CONTROLLER.
- AM, MIDDAY AND PM PEAK PERIODS SHALL BE THE SAME TIME PERIOD AS EXISTING AND SET TO OPERATE WITH THE CITY OF STEUBENVILLE CLOSED LOOP SYSTEM TRAFFIC RESPONSIVE MODE.
- 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.
- COUNTDOWN PEDESTRIAN SIGNALS SHALL GO TO ZERO ON YELLOW PER OMUTCD FIGURE 4E-2.
- ALL DETECTOR DELAYS SHALL BE PLACED IN THE CONTROLLER.

PHASING DIAGRAM



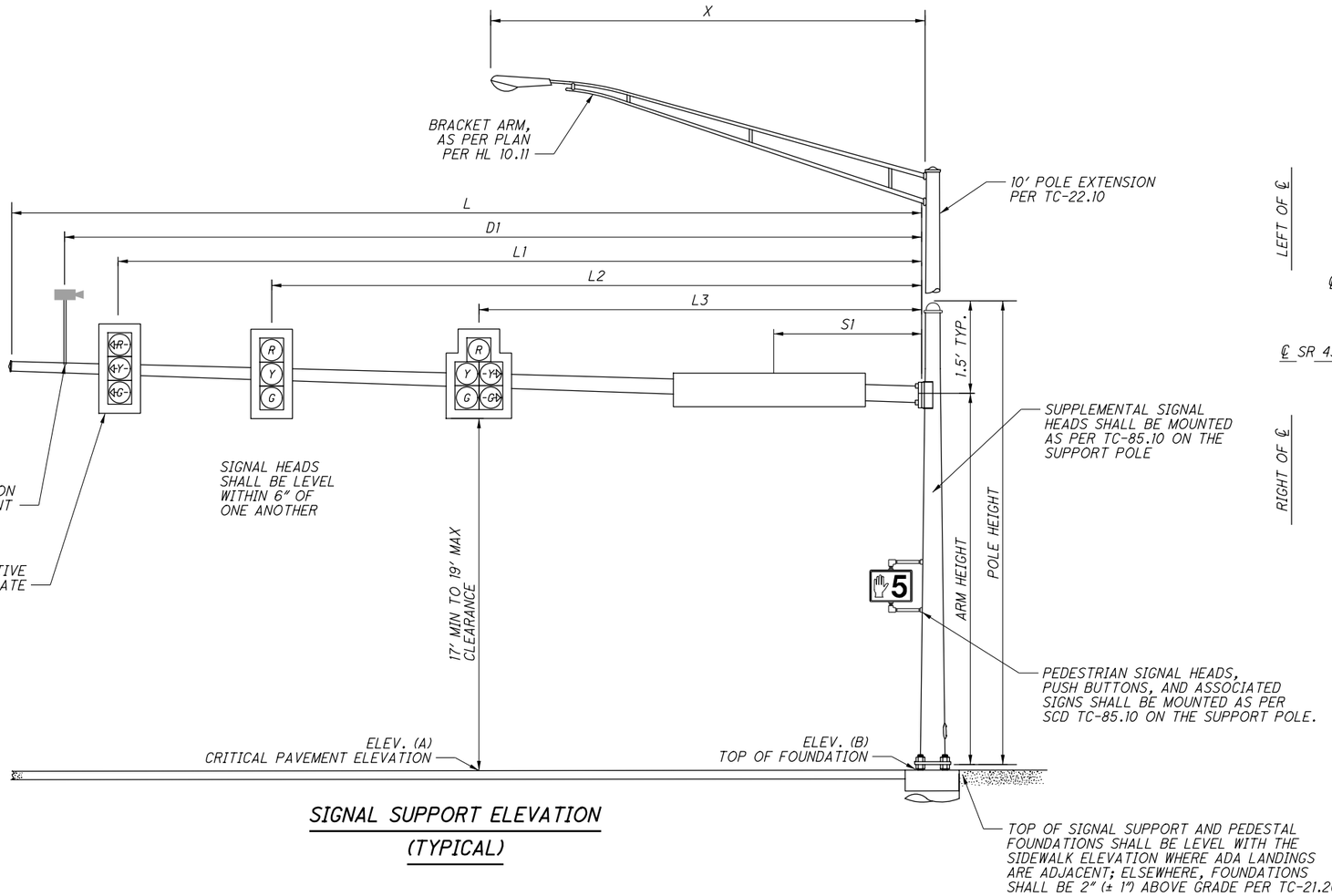
VIDEO DETECTION CHART

DETECTION ZONE	MOVEMENT	LOCATION	PULSE OR PRESENCE	ASSOCIATED PHASE	DELAY IN CONTROLLER (SEC)	DELAY INHIBIT PHASE	PURPOSE	DETECTION ZONE LENGTH (FT)
V2A	EB	100' BEHIND STOP BAR	PRESENCE	2	-	-	CALL-EXT	2'X8'
V2B	EB	100' BEHIND STOP BAR	PRESENCE	2	-	-	CALL-EXT	2'X8'
V2C	EB	2' AHEAD OF STOP BAR	PULSE	-	-	-	SYSTEM	2'X8'
V2D	EB	2' AHEAD OF STOP BAR	PULSE	-	-	-	SYSTEM	2'X8'
V2E	EB	2' AHEAD OF STOP BAR	PULSE	-	-	-	SYSTEM	2'X8'
V5A	EBLT	2' BEHIND STOP BAR	PRESENCE	5	3	5	CALL-EXT	2@20'X2'
V5B	EBLT	17' AHEAD OF STOP BAR	PULSE	-	-	-	SYSTEM	2'X8'
V6A	WB	100' BEHIND STOP BAR	PRESENCE	6	-	-	CALL-EXT	2'X8'
V6B	WB	100' BEHIND STOP BAR	PRESENCE	6	-	-	CALL-EXT	2'X8'
V6C	WB	2' AHEAD OF STOP BAR	PULSE	-	-	-	SYSTEM	2'X8'
V6D	WB	2' AHEAD OF STOP BAR	PULSE	-	-	-	SYSTEM	2'X8'
V6E	WB	2' AHEAD OF STOP BAR	PULSE	-	-	-	SYSTEM	2'X8'
V1A	WBLT	2' BEHIND STOP BAR	PRESENCE	1	3	1	CALL-EXT	2@20'X2'
V1B	WBLT	2' AHEAD OF STOP BAR	PULSE	-	-	-	SYSTEM	2'X8'
V3A	SBLT	2' BEHIND STOP BAR	PRESENCE	3	3	3	CALL-EXT	2@20'X2'
V3B	SB	2' BEHIND STOP BAR	PRESENCE	3	-	-	CALL-EXT	2@20'X2'
V3C	SBRT	2' BEHIND STOP BAR	PRESENCE	3	10	3	CALL-EXT	2@20'X2'
V3D	SBLT	2' AHEAD OF STOP BAR	PULSE	-	-	-	SYSTEM	2'X8'
V3E	SB	2' AHEAD OF STOP BAR	PULSE	-	-	-	SYSTEM	2'X8'
V3F	SBRT	2' AHEAD OF STOP BAR	PULSE	-	-	-	SYSTEM	2'X8'
V4A	NB	2' BEHIND STOP BAR	PRESENCE	4	10	4	CALL-EXT	2@20'X2'
V4B	NBLT	2' BEHIND STOP BAR	PRESENCE	4	3	4	CALL-EXT	2@20'X2'
V4C	NBLT	2' AHEAD OF STOP BAR	PULSE	-	-	-	SYSTEM	2'X8'
V4D	NB	2' AHEAD OF STOP BAR	PULSE	-	-	-	SYSTEM	2'X8'

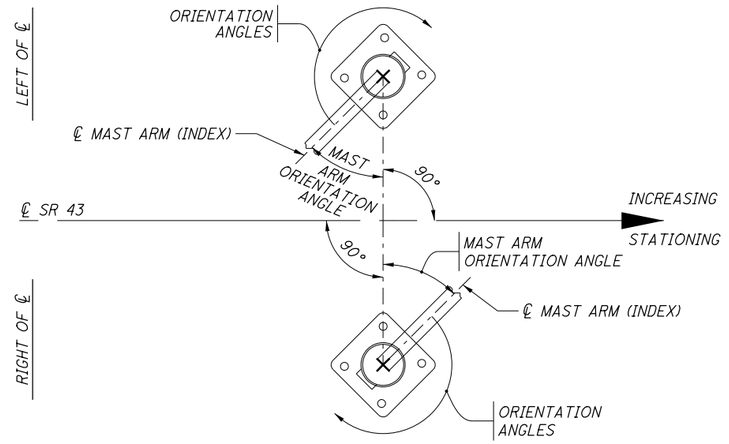
CALCULATED JAW
CHECKED BSS

TRAFFIC SIGNAL PLAN DETAILS
SR 43 & LOVERS LANE

JEF-43-4.21



SIGNAL SUPPORT ELEVATION (TYPICAL)



POLE ORIENTATION

MAST ARM TABLE

SUPPORT NO.	STATION	OFFSET	ELEVATION		SIGNAL SUPPORT DETAILS											ORIENTATION ANGLES FROM MAST ARM								
			A	B	DESIGN TYPE	DESIGN NO.	POLE HEIGHT	ARM HEIGHT	L	L1	L2	L3	D1	S1	X	MAST ARM A ANGLE	MAST ARM B ANGLE	PEDESTRIAN SIGNAL	PEDESTRIAN BUTTON	POWER SERVICE	CONTROLLER	BRACKET ARM	HANDHOLE	CABLE ENTRANCE 12" FROM TOP
							FT	FT	FT	FT	FT	FT	FT	FT	FT	DEG	DEG	DEG	DEG	DEG	DEG	DEG	DEG	DEG
P-1	73+07	44' LT	1224.66	1223.64	TC-81.21	11	31	21	45	39	27	16	43	7	15	0	-	0/270	0	-	-	0	180	-
PED-1A	72+67	51' LT	-	-	-	-	11	-	-	-	-	-	-	-	-	-	-	10	10	-	-	-	-	-
PED-1B	73+2	33' LT	-	-	-	-	11	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-
P-2	73+85	57' LT	1223.5	1223.55	TC-81.21	12	21.5	20	48	46	34	-	47	15	-	75	-	90	270	-	-	-	180	-
PED-2	73+95	51' LT	-	-	-	-	11	-	-	-	-	-	-	-	-	-	-	90	90	-	-	-	-	-
PED-3	74+20	42' RT	-	-	-	-	11	-	-	-	-	-	-	-	-	-	-	246	246	-	-	-	-	-
P-3	74+11	53' RT	1226.5	1227.65	TC-81.21	13	23	19	54	48	37	26	51	8	25	0	-	-	-	-	-	0	180	-
PED-4	74+02	60' RT	-	-	-	-	11	-	-	-	-	-	-	-	-	-	-	0	0	-	-	-	-	-
PED-5	73+14	50' RT	-	-	-	-	11	-	-	-	-	-	-	-	-	-	-	81	81	-	-	-	-	-
P-4	73+27	60' RT	1227.12	1226.95	TC-81.21	4	21.5	20	38	29	17	-	36	9	-	75	-	282	282	180	-	-	180	180

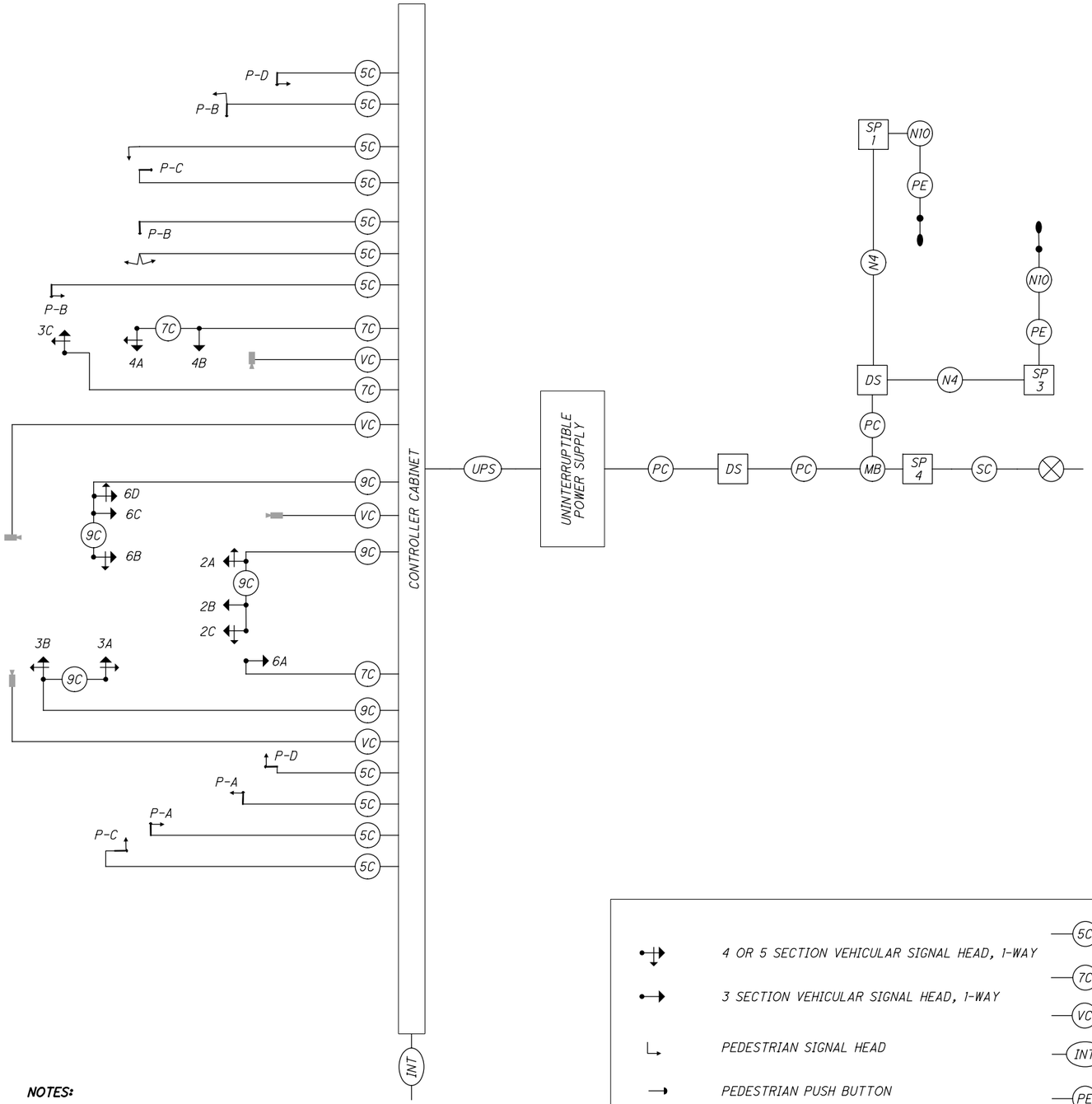
CALCULATED JAW
CHECKED BSS

TRAFFIC SIGNAL PLAN DETAILS SR 43 & LOVERS LANE

JEF-43-4.21

101
119

WIRING DIAGRAM



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

SIGNAL HEAD	INDICATION	FIELD TERMINAL	FLASH
2A (EB LT)	R	2 R	Y
	Y	2 Y	
	G	2 G	
	<--Y---	5 Y	
	<--G---	5 G	
2B (EB)	R	2 R	Y
	Y	2 Y	
	G	2 G	
2C (EB RT)	R	2 R	Y
	Y	2 Y	
	G	2 G	
	---Y-->	3 Y/LS 16 Y	
	---G-->	3 G/LS 16 G	
3A (SB LT)	R	4 R	R
	Y	4 Y	
	G	4 G	
	<--G---	4 G	
3B,3C (SB)	R	4 R	R
	Y	4 Y	
	G	4 G	
	---Y-->	5 Y/LS 14 Y	
	---G-->	5 G/LS 14 G	
6A,6B (WB LT)	R	6 R	Y
	Y	6 Y	
	G	6 G	
	<--Y---	1 Y	
	<--G---	1 G	

LS = LOAD SWITCH

SIGNAL HEAD	INDICATION	FIELD TERMINAL	FLASH
6C (WB)	R	6 R	Y
	Y	6 Y	
	G	6 G	
6D (WB RT)	R	6 R	Y
	Y	6 Y	
	G	6 G	
	---Y-->	3 Y/LS 15 Y	
	---G-->	3 G/LS 15 G	
4A (NB LT)	R	8 R	R
	Y	8 Y	
	G	8 G	
	<--G---	3 G	
4B (NB)	R	8 R	R
	Y	8 Y	
	G	8 G	
PEDESTRIAN MOVEMENTS			
PED A	W	2 PED/LS 10 G	OUT
	DW	2 PED/LS 10 R	
PED B	W	6 PED/LS 11 G	OUT
	DW	6 PED/LS 11 R	
PED C	W	4 PED/LS 12 G	OUT
	DW	4 PED/LS 12 R	
PED D	W	8 PED/LS 13 G	OUT
	DW	8 PED/LS 13 R	
OVERLAPS			
OLA	---Y-->	5 Y/LS 14 Y	OUT
	---G-->	5 G/LS 14 G	
OLB	---Y-->	3 Y/LS 15 Y	OUT
	---G-->	3 G/LS 15 G	
OLC	---Y-->	4 Y/LS 16 Y	OUT
	---G-->	4 G/LS 16 G	

LEGEND

- 4 OR 5 SECTION VEHICULAR SIGNAL HEAD, 1-WAY
- 3 SECTION VEHICULAR SIGNAL HEAD, 1-WAY
- PEDESTRIAN SIGNAL HEAD
- PEDESTRIAN PUSH BUTTON
- VIDEO DETECTION CAMERA
- LUMINAIRE, CONVENTIONAL, 206 WATT, LED, 120 VOLT, AS PER PLAN
- 5C — SIGNAL CABLE, 5 CONDUCTOR, NO. 14 AWG
- 7C — SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG
- VC — VIDEO CAMERA CABLE
- INT — INTERCONNECT CABLE
- PE — PHOTOELECTRIC CELL
- POWER SOURCE
- N4 — NO. 4 AWG DISTRIBUTION CABLE
- N10 — NO. 10 AWG POLE & BRACKET CABLE
- 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
- FC — FLASHER CABINET
- UPS — UNINTERRUPTIBLE POWER SUPPLY CABLE

CALCULATED JAW
CHECKED BSS

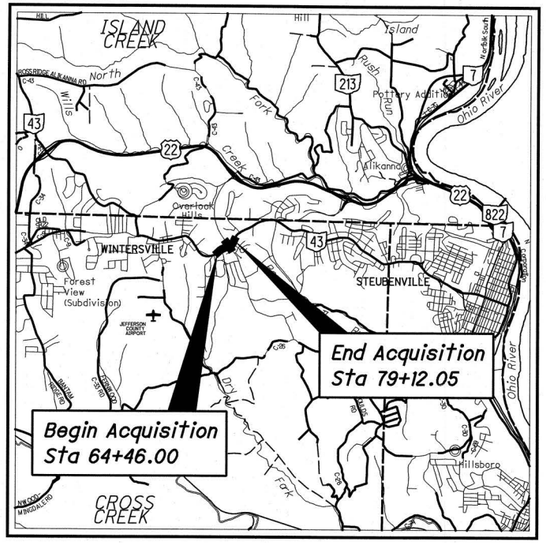
TRAFFIC SIGNAL PLAN DETAILS
SR 43 & LOVERS LANE

JEF-43-4.21

RIGHT OF WAY LEGEND SHEET

JEF-43-4.21

JEFFERSON COUNTY
CROSS CREEK TOWNSHIP
SEC. 12 & 18, T. 6 N, R. 2 W
CITY OF STEUBENVILLE



LOCATION MAP

LATITUDE: 40° 22′ 25″ LONGITUDE: 80° 40′ 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

UTILITIES

AEP OHIO
Attn: GREG KING
120 JOHN SCOTT HWY
STEUBENVILLE OH 43952
740-266-3025
gaking@aep.com

AT&T OHIO
Attn: BARRETT TAMASOVICH
160 NORTH 6th ST
ZANESVILLE OH 43701
740-319-8995
bt2178@att.com

COLUMBIA GAS OF OHIO
Attn: TIM SEECH
300 LURAY DR
WINTERSVILLE OH 43953
740-266-4282
tgseech@nisource.com

COMCAST
Attn: DAVE TATAREK
2810 DARLINGTON RD
BEAVER FALLS PA 15010
412-897-8202
david_tatarek@cable.comcast.com

JEFFERSON SOIL & WATER CONSERVATION DISTRICT
Attn: BRANDON ANDRESEN
500 MARKET ST, MEZZANINE STE 4
STEUBENVILLE OH 43952
740-264-9790
bandresen@jeffersoncountyoh.com

WASTEWATER DEPT - CITY OF STEUBENVILLE
Attn: CHUCK MURPHY
100 NORTH WATER ST
STEUBENVILLE OH 43952
740-283-6000 x5001
cmurphy@cityofsteubenville.us

WATER DEPT - CITY OF STEUBENVILLE
Attn: CHUCK MURPHY
100 NORTH WATER ST
STEUBENVILLE OH 43952
740-283-6000 x5001
cmurphy@cityofsteubenville.us

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

INDEX OF SHEETS:

PLAN PREPARED BY:

ENVIRONMENTAL DESIGN GROUP
450 GRANT STREET
AKRON, OH 44311

SURVEYORS SEAL

STATE OF OHIO · ROBERT J. WARNER · 6931 · PROFESSIONAL · SURVEYOR

PROJECT DESCRIPTION

WIDENING AND MINOR REALIGNMENT OF S.R. 43 THROUGH ITS INTERSECTION WITH THE DOUGLAS APPLEGATE CONNECTOR AND LOVERS LANE. PROJECT INCLUDES THE LENGTHENING OF LEFT TURN LANES ON S.R. 43 AND THE ADDITION OF RIGHT TURN LANES ON S.R. 43 AND THE DOUGLAS APPLEGATE CONNECTOR. PROJECT ALSO INCLUDES RESURFACING, MINOR PAVEMENT REPAIR, CURB RAMPS, DRAINAGE IMPROVEMENTS, PAVEMENT MARKINGS, SIGNAGE, AND TRAFFIC SIGNAL REPLACEMENT.

PLANS PREPARED BY:

FIRM NAME: ENVIRONMENTAL DESIGN GROUP
R/W DESIGNER: JAMES MITCHELL
R/W REVIEWER: ROBERT WARNER
FIELD REVIEWER: JAMES MITCHELL
PRELIMINARY FIELD REVIEW DATE: 12/16/15
TRACINGS FIELD REVIEW DATE: 6/13/16
OWNERSHIP UPDATED BY:
DATE COMPLETED:
PLAN COMPLETION DATE:

LEGEND:

WD =WARRANTY DEED
SW =SEWER EASEMENT
T =TEMPORARY EASEMENT

STRUCTURE KEY

RESIDENTIAL
COMMERCIAL
OUT-BUILDING

I, Robert J. Warner, P. S. have conducted a survey of the existing conditions for the City of Steubenville, Jefferson County, Ohio in December 2015. The results of that survey are contained herein. The horizontal coordinates expressed herein are based on the Ohio State Plane Coordinate System, North Zone on NAD 83 (1986) datum. As a part of this project I have reestablished the locations of the existing property lines and centerline of existing Right of Way for property takes contained herein. All of my work contained herein was conducted in accordance with Ohio Administrative Code 4733-37 commonly known as "A 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.

Robert J. Warner

Robert J. Warner, Professional Land Surveyor No. 6931

Date: 3-24-2018

CONVENTIONAL SYMBOLS

County Line
Township Line
Section Line
Corporation Line or
Fence Line (Ex) (Pr)
Center Line
Right of Way (Ex) Ex R/W
Right of Way (Pr) R/W
Standard Highway Ease.(Ex) Ex SH
Temporary Right of Way TMP
Channel Ease. (Pr) CH
Utility Ease. (Ex) Ex U
Railroad or
Guardrail (Ex) (Pr)
Construction Limits
Edge of Pavement (Ex)
Edge of Pavement (Pr)
Edge of Shoulder (Ex)
Edge of Shoulder (Pr)

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) MB , Mailbox (Pr) MB
Light (Ex) , Telephone Marker (Ex)-TEL
Fire Hydrant (Ex) , Water Meter (Ex) WM
Water Valve (Ex) , Utility Valve Unknown (Ex.)
Telephone Pole (Ex) , Power Pole (Ex)
Light Pole (Ex)

FEDERAL PROJECT NO. E140 (408)
PID NO. 90235
CALCULATED RJW CHECKED JFM
RIGHT OF WAY LEGEND SHEET
JEF-43-4.21
1 / 17
103 / 119

JEF-43-4.21

JEFFERSON COUNTY, OHIO
CROSS CREEK TOWNSHIP, T. 6 N, R. 2 W
SECTION 12, N.W. QTR.
SECTION 18, N.E. QTR.
CITY OF STEUBENVILLE

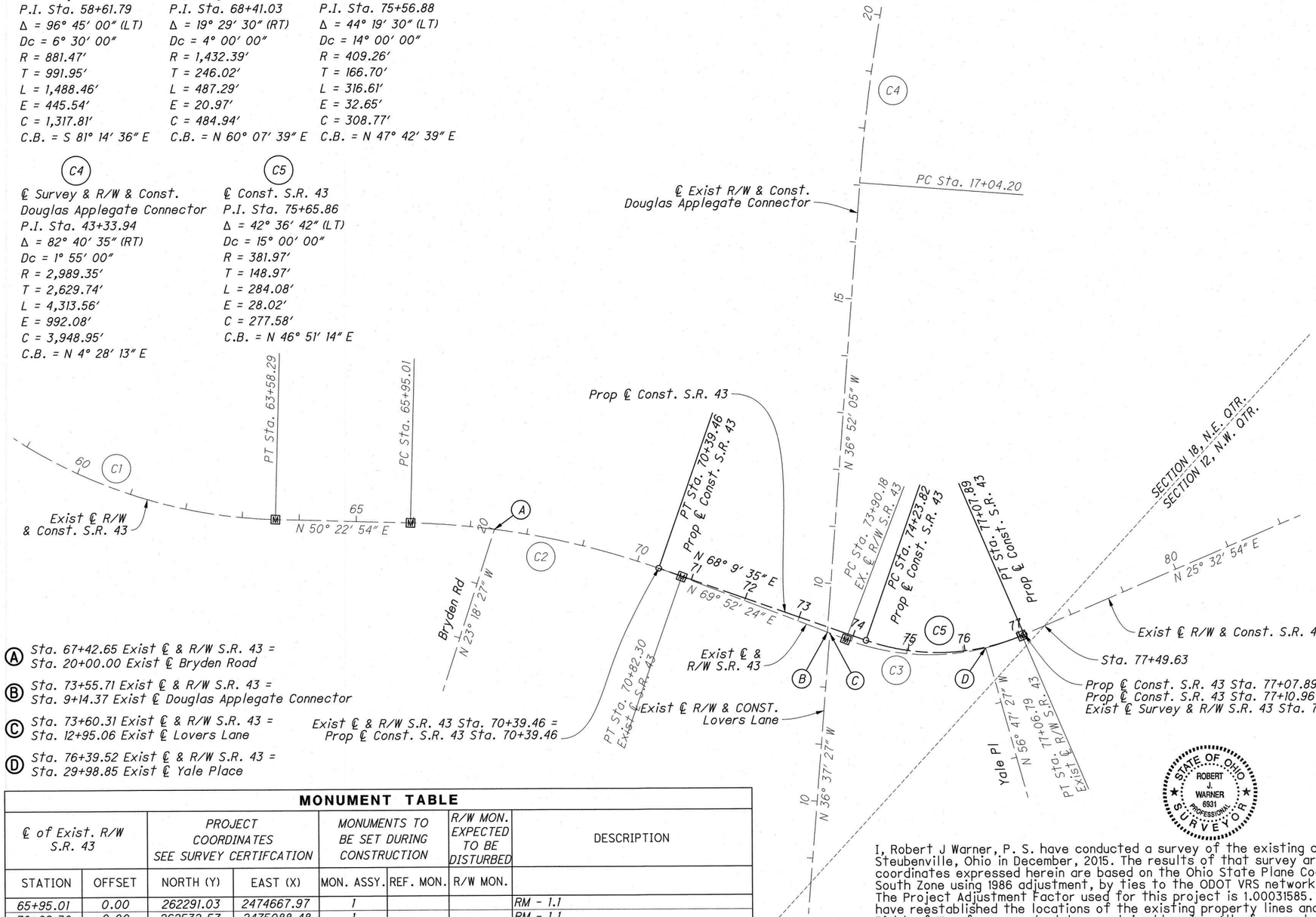
C1
℄ Survey & R/W S.R. 43
P.I. Sta. 58+61.79
Δ = 96° 45′ 00″ (LT)
Dc = 6° 30′ 00″
R = 881.47′
T = 991.95′
L = 1,488.46′
E = 445.54′
C = 1,317.81′
C.B. = S 81° 14′ 36″ E

C2
℄ Survey & R/W S.R. 43
P.I. Sta. 68+41.03
Δ = 19° 29′ 30″ (RT)
Dc = 4° 00′ 00″
R = 1,432.39′
T = 246.02′
L = 487.29′
E = 20.97′
C = 484.94′
C.B. = N 60° 07′ 39″ E

C3
℄ Survey & R/W S.R. 43
P.I. Sta. 75+56.88
Δ = 44° 19′ 30″ (LT)
Dc = 14° 00′ 00″
R = 409.26′
T = 166.70′
L = 316.61′
E = 32.65′
C = 308.77′
C.B. = N 47° 42′ 39″ E

C4
℄ Survey & R/W & Const.
Douglas Applegate Connector
P.I. Sta. 43+33.94
Δ = 82° 40′ 35″ (RT)
Dc = 1° 55′ 00″
R = 2,989.35′
T = 2,629.74′
L = 4,313.56′
E = 992.08′
C = 3,948.95′
C.B. = N 4° 28′ 13″ E

C5
℄ Const. S.R. 43
P.I. Sta. 75+65.86
Δ = 42° 36′ 42″ (LT)
Dc = 15° 00′ 00″
R = 381.97′
T = 148.97′
L = 284.08′
E = 28.02′
C = 277.58′
C.B. = N 46° 51′ 14″ E



Ⓐ Sta. 67+42.65 Exist ℄ & R/W S.R. 43 =
Sta. 20+00.00 Exist ℄ Bryden Road

Ⓑ Sta. 73+55.71 Exist ℄ & R/W S.R. 43 =
Sta. 9+14.37 Exist ℄ Douglas Applegate Connector

Ⓒ Sta. 73+60.31 Exist ℄ & R/W S.R. 43 =
Sta. 12+95.06 Exist ℄ Lovers Lane

Ⓓ Sta. 76+39.52 Exist ℄ & R/W S.R. 43 =
Sta. 29+98.85 Exist ℄ Yale Place

Exist ℄ & R/W S.R. 43 Sta. 70+39.46 =
Prop ℄ Const. S.R. 43 Sta. 70+39.46

MONUMENT TABLE

℄ of Exist. R/W S.R. 43		PROJECT COORDINATES SEE SURVEY CERTIFCATION		MONUMENTS TO BE SET DURING CONSTRUCTION		R/W MON. EXPECTED TO BE DISTURBED	DESCRIPTION
STATION	OFFSET	NORTH (Y)	EAST (X)	MON. ASSY.	REF. MON.	R/W MON.	
65+95.01	0.00	262291.03	2474667.97	1			RM - 1.1
70+82.30	0.00	262532.57	2475088.48	1			RM - 1.1
73+90.18	0.00	262638.51	2475377.56	1			RM - 1.1
77+06.79	0.00	262846.27	2475605.98	1			RM - 1.1
TOTAL CARRIED TO GENERAL SUMMARY SHEET				4			

BASIS OF BEARINGS

BEARINGS ARE BASED ON THE OHIO STATE PLANE GRID SOUTH ZONE NAD 83 (1986).

PROJECT COMBINED FACTOR IS 1.00031585.

DISTANCES SHOWN HEREON ARE EXPRESSED IN GROUND DIMENSIONS.

COORDINATE VALUES ARE EXPRESSED IN STATE PLANE GRID. TO DETERMINE GROUND DIMENSION BETWEEN COORDINATES, DIVIDE THE DISTANCE BETWEEN COORDINATE VALUES BY THE COMBINED FACTOR.

BASIS OF EXISTING ℄ AND R/W WIDTHS AND LOCATION ARE DERIVED FROM ADJOINING RECORDED SUBDIVISION PLATS AND CENTERLINE PLATS FOR PROJECTS JEF-22-12.21 & JEF-22.10.11.

REFERENCE DOCUMENTS USED:
-JEF-22-12.21 RECORDED IN PLAT BOOK 10, PAGE 42, DATED APRIL 26, 1965 AND JEF-22-10.11 RECORDED IN PLAT BOOK 11, PAGE 64 DATED AUGUST 22, 1988

SETTING OF ALL MONUMENTS SHALL BE PERFORMED BY A SURVEYOR REGISTERED IN THE STATE OF OHIO. THE MONUMENT ASSEMBLIES AND REFERENCE MONUMENTS WILL BE INSTALLED BY THE CONTRACTOR AT THE TIME OF CONSTRUCTION. THE IRON PIN AND CAP (WHEN REQUIRED) ARE TO BE INSTALLED BY THE CONTRACTOR'S SURVEYOR.

CHANGES OR ALTERATIONS TO THE LOCATION OF ANY MONUMENTS SHOWN IN THIS TABLE, REQUIRE PRIOR APPROVAL FROM THE DISTRICT REAL ESATE ADMINISTRATOR OF THE OHIO DEPARTMENT OF TRANSPORTATION. IN THE EVENT THAT CHANGES OR ALTERATIONS ARE APPROVED, A REVISED CENTERLINE PLAT WITH THE NEW LOCATIONS SHALL BE RECORDED IN THE APPLICABLE COUNTY RECORDS AND THE OHIO DEPARTMENT OF TRANSPORTATION.

SPECIFICATIONS FOR MONUMENT ASSEMBLIES, REFERENCE MONUMENTS AND RIGHT OF WAY MONUMENTS ARE SHOWN ON STANDARD CONSTRUCTION DRAWING RM-1.1.

MONUMENT LEGEND

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

STATE OF OHIO · ROBERT J. WARNER · 6931 · PROFESSIONAL SURVEYOR

I, Robert J Warner, P. S. have conducted a survey of the existing conditions for the City of Steubenville, Ohio in December, 2015. The results of that survey are contained herein. The horizontal coordinates expressed herein are based on the Ohio State Plane Coordinates system NAD 83, South Zone using 1986 adjustment, by ties to the ODOT VRS network using stations, OHJE. The Project Adjustment Factor used for this project is 1.00031585. As a part of this project I have reestablished the locations of the existing property lines and centerline of existing Right-of-Way for property takes contained herein. All of my work contained herein was conducted in accordance with Ohio Administrative Code 4733-37 commonly known as "A 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.

Robert J Warner
Robert J Warner, Professional Land Surveyor No. 6931, Date: 3-29-2018

RECEIVED _____, 20___
RECORDED _____, 20___
BOOK _____ PAGE _____
COUNTY RECORDER

HORIZONTAL SCALE IN FEET
0 50 100 200

PID NO. 90235

R/W DESIGNER MSD
R/W REVIEWER RJW

CENTERLINE PLAT

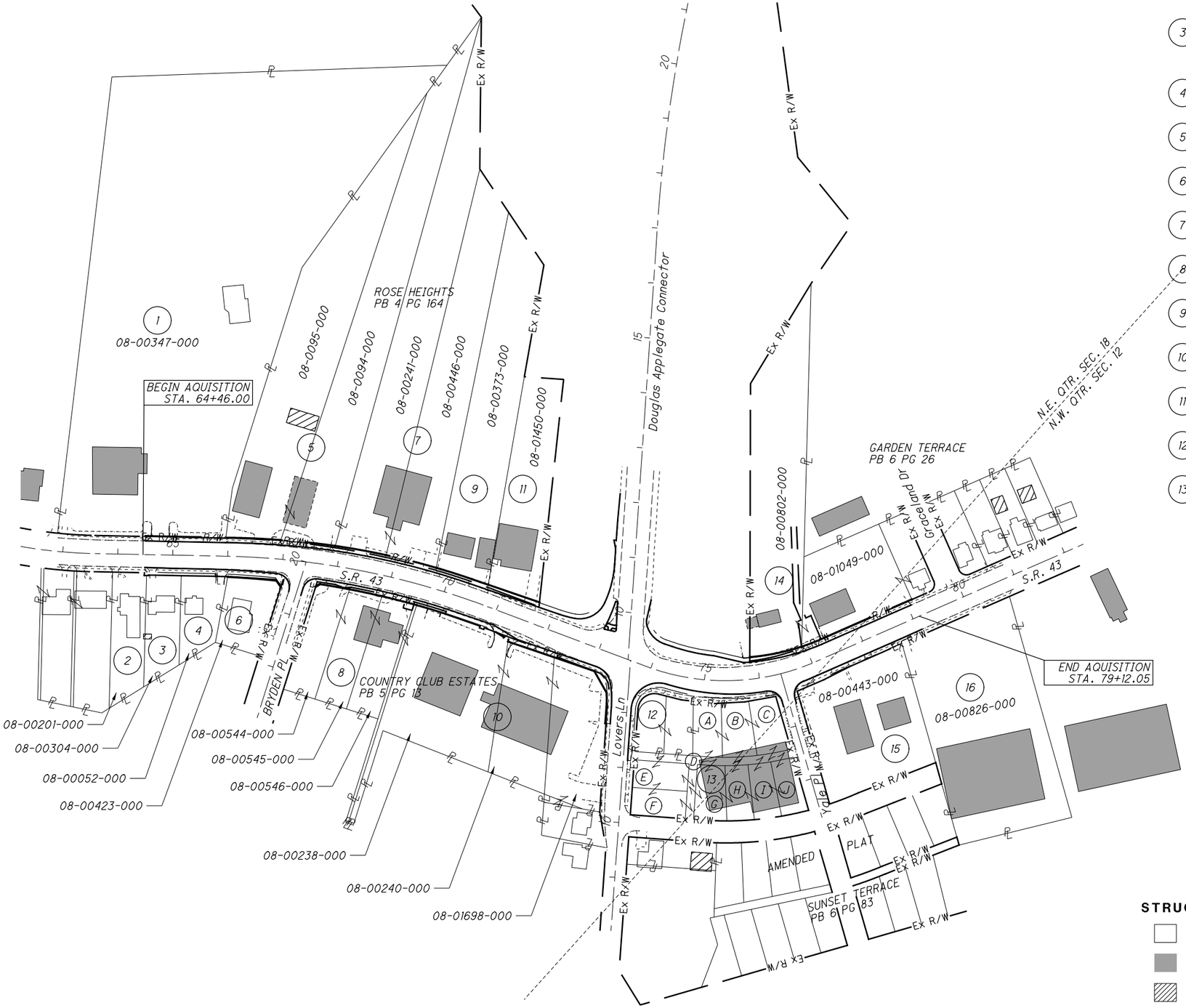
JEF-43-4.21

2 / 17

104 / 119

E:\Steubenville\14-00244-010\ProjectData\90235_JEF-43\Design\RW\Sheets\90235_RC001.dgn Sheet 3/29/2018 5:04:06 PM mdavidson

JEFFERSON COUNTY
CROSS CREEK TOWNSHIP
SEC. 12 & 18, T. 6 N, R. 2 W
CITY OF STEUBENVILLE



1. 08-00347-000 — Kinferco, LLC
2. 08-00201-000 — Nancy M. Spillers; Sandra K. Snodgrass, Trustees; Betty Ellen Clark Irrevocable Trust
3. 08-00304-000 — Raymond Diberardino And Mary Lou Diberardino Trustees of the Raymond DiBerardino and Mary Lou DiBerardino Join Living Trust
4. 08-00052-000 — Freshwater, Douglas G.
5. 08-00095-000, 08-00094-000 — State Street Bank and Trust Company of Connecticut, National Association
6. 08-00423-000 — Torrance, Annette
7. 08-00241-000, 08-00446-000 — DJJM 223, LLC
8. 08-01150-000, 08-00546-000, 08-00545-000, 08-00544-000 — Fort Arrow Enterprise, LLC
9. 08-00373-000 — Pattakos, Gregory
10. 08-01698-000, 08-00240-000, 08-00239-000, 08-00238-000 — A. S. Cooper Realty Company
11. 08-01450-000 — Luckaba Holdings, LLC
12. 08-01507-000, 08-01505-000 — SDS of Ohio, LLC
13. B.C.K., Incorporated
14. 08-00802-000, 08-01049-000, 08-00660-000 — Spanovich Family Limited
15. 08-00443-000 — Koumaros, Mary, Trustee
16. 08-00826-000 — Petrola Family Real Estate LLC

- A 08-00028-000
- B 08-00029-000
- C 08-00030-000
- D 08-00031-000
- E 08-00032-000
- F 08-00033-000
- G 08-00034-000
- H 08-00035-000
- I 08-00036-000
- J 08-01551-000

STRUCTURE KEY

- RESIDENTIAL
- COMMERCIAL
- OUT-BUILDING

REV. BY	DATE	DESCRIPTION

DATE COMPLETED

HORIZONTAL SCALE IN FEET: 0, 50, 100, 200

PID NO. 90235

R/W DESIGNER MSD
R/W REVIEWER RJW

PROPERTY MAP

JEF-43-4.21

3 / 17

105 / 119

E:\Steubenville\14-00244-010\ProjectData\90235_JEF-43\Design\RW\Sheets\90235_RM001.dgn Sheet 3/24/2018 2:58:54 PM jmitchell

TOTAL NUMBER OF:

17 = OWNERSHIPS
33 = PARCELS
0 = TOTAL TAKES
0 = OWNERSHIPS W/ STRUCTURES INVOLVED

NET RESIDUE = RECORD AREA - TOTAL P.R.O. - NET TAKE

GRANTEE:
ALL RIGHT OF WAY ACQUIRED IN THE NAME OF
THE CITY OF STEUBENVILLE UNLESS OTHERWISE SHOWN.

ALL AREAS IN ACRES

PARCEL NO.	OWNER	SHEET NO.	OWNERS RECORD	AUDITOR'S PARCEL	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUCTURE	NET RESIDUE LEFT	NET RESIDUE RIGHT	TYPE FUND	REMARKS	AS ACQUIRED BOOK	AS ACQUIRED PAGE
1-WD	Kinferco, LLC	6,7	V928 PG483	08-00347-000	7.2600	0.0000	0.0021	0.0000	0.0021	NO	7.2579		01/S<2/OT			
1-T		6,7				0.0000	0.0591	0.0000	0.0591					Reconstruct Driveway, Grade and Restore Property		
2	Nancy M. Spillers Sandra K. Snodgrass, Trustees Betty Ellen Clark Irrevocable Trust	6,7	V1077 PG945	08-00201-000	0.3180	0.0000	0.0000	0.0000	0.0000					No Take		
3-T	Raymond Diberardino And Mary Lou Diberardino Trustees of the Raymond DiBerardino and Mary Lou DiBerardino Join Living Trust	6,7	V0743 PG0680	08-00304-000	0.2800	0.0000	0.0101	0.0000	0.0101					Grade and Restore Property		
4-T	Freshwater, Douglas G & Janet	6,7	V0687 PG0148	08-00052-000	0.2460	0.0000	0.0278	0.0000	0.0278					Reconstruct Driveway, Grade and Restore Property		
5-WD1	State Street Bank and Trust Company of	6,7,8,9	V0032 PG0197	08-00095-000	1.9900	0.0000	0.0028	0.0000	0.0028	NO	1.9872					
5-T1	Connecticut, National Association	6,7,8,9				0.0000	0.0273	0.0000	0.0273					Reconstruct Driveway, Grade and Restore Property		
5-WD2	State Street Bank and Trust Company of	8,9	V0032 PG0197	08-00094-000	1.9700	0.0000	0.0059	0.0000	0.0059	S	1.9641			Business Sign Encroaches R/W Take		
5-T2	Connecticut, National Association	8,9				0.0000	0.0237	0.0000	0.0237					Reconstruct Driveway, Grade and Restore Property		
6-WD	Torrance, Annette	6,7,8,9	V1141 PG760	08-00423-000	0.2800	0.0000	0.0042	0.0000	0.0042	NO		0.2758				
6-T		6,7,8,9				0.0000	0.0219	0.0000	0.0219					Remove Fence, Grade and Restore Property		
7-WD1	DJJM 223 LLC	8,9	V930 PG467	08-00241-000	1.6390	0.0000	0.0082	0.0000	0.0082	NO	1.6308					
7-T1		8,9				0.0000	0.0360	0.0000	0.0360					Reconstruct Driveway, Grade and Restore Property		
7-WD2	DJJM 223 LLC	8,9	V930 PG467	08-00446-000	1.8240	0.0000	0.0094	0.0000	0.0094	NO	1.8146			Ex. Business Sign Partially Located Within Ex. R/W		
7-T2		8,9				0.0000	0.0394	0.0000	0.0394					Reconstruct Driveway, Grade and Restore Property		
8-WD1	Fort Arrow Enterprise LLC	8,9	V1010 PG159	08-00544-000	0.2900	0.0000	0.0052	0.0000	0.0052	NO		0.2848				
8-T1		8,9				0.0000	0.0192	0.0000	0.0192					Reconstruct Driveway, Grade and Restore Property		
8-WD2	Fort Arrow Enterprise LLC	8,9	V1010 PG159	08-00545-000	0.3000	0.0000	0.0059	0.0000	0.0059	NO		0.2941				
8-T2		8,9				0.0000	0.0120	0.0000	0.0120					Grade and Restore Property		
8-WD3	Fort Arrow Enterprise LLC	8,9	V1010 PG159	08-00546-000	0.3100	0.0000	0.0062	0.0000	0.0062	NO		0.3038				
8-T3		8,9				0.0000	0.0159	0.0000	0.0159					Reconstruct Driveway, Grade and Restore Property		
8-WD4	Fort Arrow Enterprise LLC	8,9	V1010 PG159	08-01150-000	0.0500	0.0000	0.0005	0.0000	0.0005	NO		0.0495				
8-T4		8,9				0.0000	0.0013	0.0000	0.0013					Reconstruct Driveway, Grade and Restore Property		
9-WD	Pattakos, Gregory	8,9,10,11	V0147 PG0475	08-00373-000	1.2940	0.0000	0.0104	0.0000	0.0104	NO	1.2836			Ex. Business Sign Partially Located Within Ex. R/W		
9-T		8,9,10,11				0.0000	0.0171	0.0000	0.0171					Grade and Reconstruct Driveway and Parking		
10-WD1	A. S. Cooper Realty Company	8,9	V0452 PG0384	08-00238-000	1.3050	0.0000	0.0056	0.0000	0.0056	NO		1.2980				
10-WD2		10,11				0.0000	0.0014	0.0000	0.0014							
10-T1		8,9,10,11				0.0000	0.0854	0.0000	0.0854					Reconstruct Driveway, Grade and Restore Property		
10-WD3	A. S. Cooper Realty Company	10,11	V0452 PG0384	08-00239-000	0.6360	0.0000	0.0140	0.0000	0.0140	NO		0.6220				
10-T2		10,11				0.0000	0.0301	0.0000	0.0301					Grade and Restore Property		

TYPES OF TITLE LEGEND:
WD = WARRANTY DEED
SW = SEWER EASEMENT
T = TEMPORARY EASEMENT

NOTE: ALL TEMPORARY PARCELS TO BE 18 MONTH DURATION

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

REV. BY	DATE	DESCRIPTION

DATE COMPLETED

FEDERAL PROJECT NO. E140 (408)
PID NO. 90235
STATE JOB NO.
R/W DESIGNER MSD
R/W REVIEWER RJW

SUMMARY OF ADDITIONAL RIGHT OF WAY

JEF-43-4.21

NET RESIDUE = RECORD AREA - TOTAL P.R.O. - NET TAKE

GRANTEE:
ALL RIGHT OF WAY ACQUIRED IN THE NAME OF
THE CITY OF STEUBENVILLE UNLESS OTHERWISE SHOWN.

ALL AREAS IN ACRES

PARCEL NO.	OWNER	SHEET NO.	OWNERS RECORD	AUDITOR'S PARCEL	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUC-TURE	NET RESIDUE LEFT	NET RESIDUE RIGHT	TYPE FUND	REMARKS	AS ACQUIRED BOOK	AS ACQUIRED PAGE
10-WD4	A. S. Cooper Realty Company	10,11	V0452 PG0384	08-00240-000	0.9400	0.0000	0.0136	0.0000	0.0136	NO		0.9264	01/S<2/OT			
10-T3		10,11				0.0000	0.0418	0.0000	0.0418					Grade and Restore Property		
11-WD	Luckaba Holdings LLC	10,11	V1143 PG911	08-01450-000	0.8200	0.0000	0.0142	0.0000	0.0142	NO	0.8058					
11-T		10,11				0.0000	0.0262	0.0000	0.0262					Grade and Restore Driveway and Parking		
12-T1	SDS of Ohio, LLC	10-13,16,17	V1190 PG8	08-01507-000	0.1200	0.0000	0.0037	0.0000	0.0037					Reconstruct Driveway, Grade and Restore Property		
12-T2	SDS of Ohio, LLC	10-13,16,17	V1190 PG8	08-01505-000	0.1300	0.0000	0.0330	0.0000	0.0330					Reconstruct Driveway, Grade and Restore Property		
13-T1	B.C.K., Incorporated	12,13	V482 PG135	08-00028-000	0.1200	0.0000	0.0056	0.0000	0.0056					Reconstruct Driveway, Grade and Restore Property		
13-T2	B.C.K., Incorporated	12,13	V482 PG135	08-00029-000	0.1310	0.0000	0.0120	0.0000	0.0120					Grade and Restore Property		
13-T3	B.C.K., Incorporated	12,13	V482 PG135	08-00030-000	0.1310	0.0000	0.0212	0.0000	0.0212					Reconstruct Driveway, Grade and Restore Property		
13-T4	B.C.K., Incorporated	16,17	V482 PG135	08-01551-000	0.0720	0.0000	0.0024	0.0000	0.0024					Grade and Restore Property		
13E	B.C.K., Incorporated	16,17	V482 PG135	08-00035-000	0.1150	0.0000	0.0000	0.0000	0.0000					No Take		
13F	B.C.K., Incorporated	16,17	V482 PG135	08-00036-000	0.1150	0.0000	0.0000	0.0000	0.0000					No Take		
13G	B.C.K., Incorporated		V482 PG135	08-00034-000	0.1030	0.0000	0.0000	0.0000	0.0000					No Take		
13H	B.C.K., Incorporated		V482 PG135	08-00033-000	0.1080	0.0000	0.0000	0.0000	0.0000					No Take		
13I	B.C.K., Incorporated		V482 PG135	08-00032-000	0.0990	0.0000	0.0000	0.0000	0.0000					No Take		
13J	B.C.K., Incorporated		V482 PG135	08-00031-000	0.1080	0.0000	0.0000	0.0000	0.0000					No Take		
14-WD1	Spanovich Family Limited Partnership	12,13	V1182 PG596	08-00802-000	1.5900	0.0000	0.0109	0.0000	0.0109	NO	1.5791					
14-T1		12,13				0.0000	0.0259	0.0000	0.0259					Grade and Reconstruct Driveway and Parking		
14-WD2	Spanovich Family Limited Partnership	12-15	V1182 PG596	08-01049-000	0.6430	0.0000	0.0032	0.0000	0.0032	NO	0.6398					
14-T2		12-15				0.0000	0.0504	0.0000	0.0504					Grade and Reconstruct Driveway and Parking		
15-T	Koumaros, Mary, Trustee	12-15	V1002 PG737	08-00443-000	1.0500	0.0000	0.0616	0.0000	0.0616					Grade and Reconstruct Driveway and Parking		
16-T	Petrola Family Real Estate LLC	14,15	V610 PG602	08-00826-000	1.5700	0.0000	0.0051	0.0000	0.0051					Grade and Reconstruct Driveway and Parking		

TYPES OF TITLE LEGEND:
WD = WARRANTY DEED
SW = SEWER EASEMENT
T = TEMPORARY EASEMENT

NOTE: ALL TEMPORARY PARCELS TO BE 18 MONTH DURATION

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

REV. BY	DATE	DESCRIPTION

DATE COMPLETED

FEDERAL PROJECT NO. E140 (408)
PID NO. 90235
STATE JOB NO.
R/W DESIGNER MSD
R/W REVIEWER RJW

SUMMARY OF ADDITIONAL RIGHT OF WAY

JEF-43-4.21

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119

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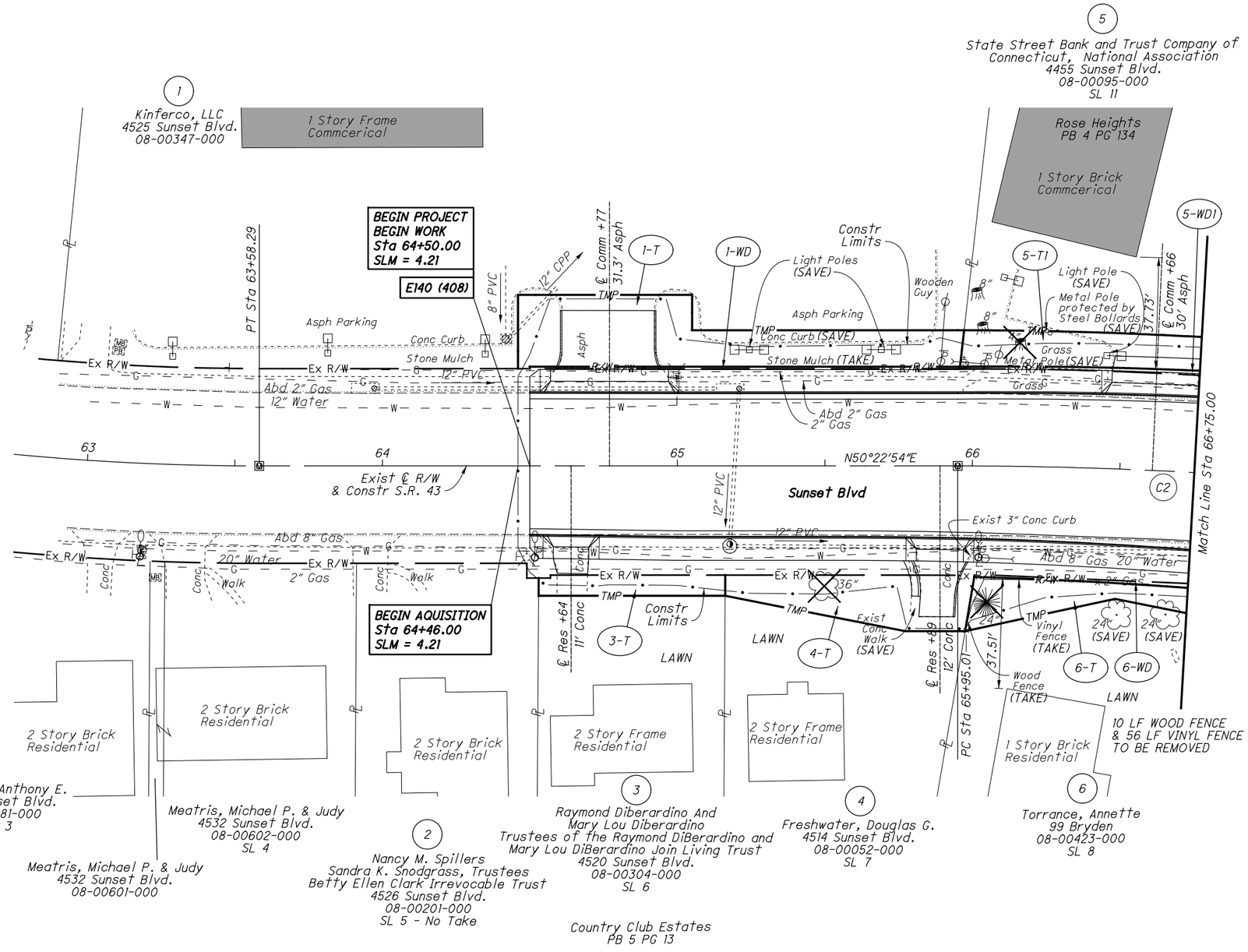
* DENOTES RIGHT OF WAY ENCROACHMENT

JEFFERSON COUNTY
CROSS CREEK TOWNSHIP
SEC. 18, T. 6 N, R. 2 W
CITY OF STEUBENVILLE



CURVE: C2
Exist ℄ R/W & Const. S.R. 43
Δ = 19° 29' 30" (RT)
Dc = 4° 00' 00"
R = 1,432.39'
T = 246.02'
L = 487.29'
E = 20.97'
C = 484.94'
C.B. = N 60° 07' 39" E
P.C. = Sta. 65+95.01
P.I. = Sta. 68+41.03
P.T. = Sta. 70+82.30

REV. BY	DATE	DESCRIPTION

DATE COMPLETED

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 90235

R/W DESIGNER MSD
R/W REVIEWER RJW

RIGHT OF WAY TOPO SHEET
BEGIN PROJECT TO STA 68+75

JEF-43-4.21

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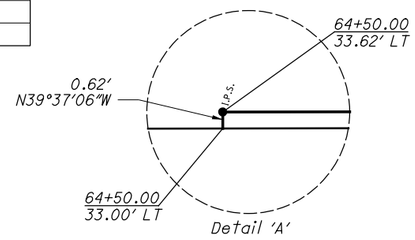
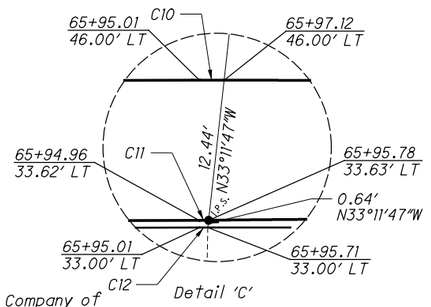
RIGHT OF WAY CURVE DATA

CURVE	CENTRAL ANGLE	RADIUS	CURVE LENGTH	CHORD LENGTH	CHORD BEARING
C10	0°05'04"	1478.39'	2.18'	2.18'	N 50°25'46" E
C11	0°01'58"	1469.34'	0.84'	0.84'	N 49°44'50" E
C12	0°01'41"	1465.39'	0.72'	0.72'	N 50°23'44" E
C13	3°57'01"	1478.39'	101.93'	101.91'	N 52°26'28" E
C14	3°53'47"	1469.34'	99.92'	99.90'	N 51°42'42" E
C15	3°53'24"	1465.39'	99.49'	99.47'	N 52°21'17" E
C16	3°15'12"	1554.25'	88.58'	88.24'	N 53°37'33" E

Note: All station & offsets from Exist ℄ RW

JEFFERSON COUNTY
CROSS CREEK TOWNSHIP
SEC. 18, T. 6 N, R. 2 W
CITY OF STEUBENVILLE

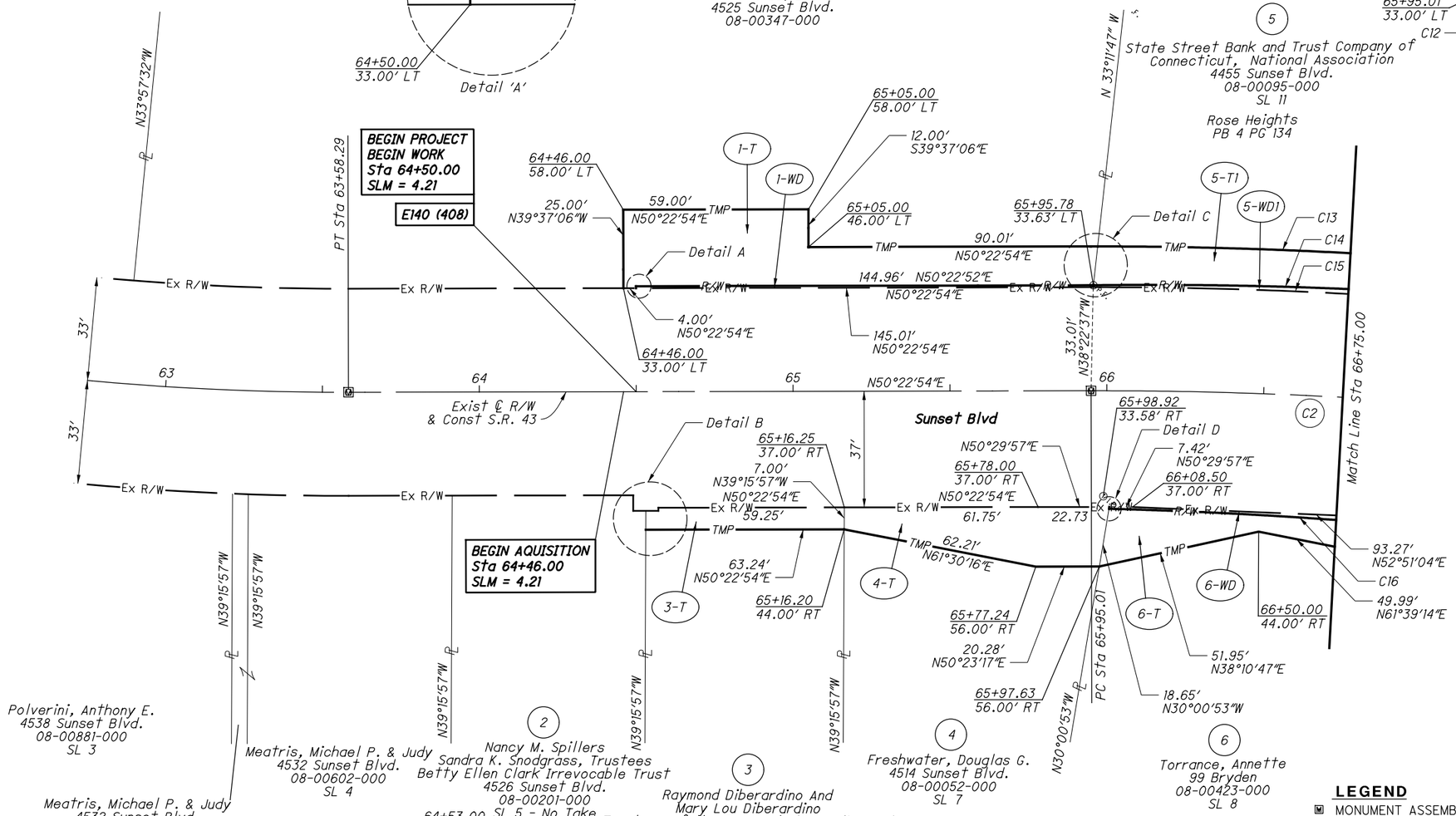




1
Kinferco, LLC
4525 Sunset Blvd.
08-00347-000

5
State Street Bank and Trust Company of Connecticut, National Association
4455 Sunset Blvd.
08-00095-000
SL 11

Rose Heights
PB 4 PG 134



Polverini, Anthony E.
4538 Sunset Blvd.
08-00881-000
SL 3

Meatris, Michael P. & Judy
4532 Sunset Blvd.
08-00602-000
SL 4

Meatris, Michael P. & Judy
4532 Sunset Blvd.
08-00601-000

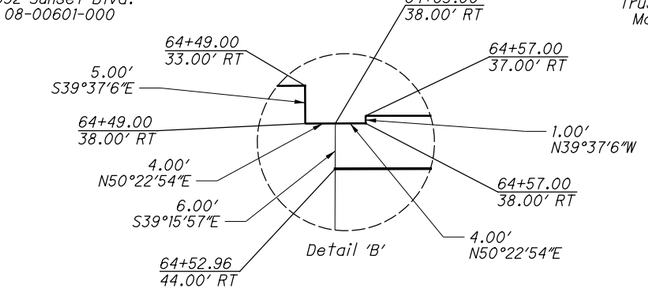
2
Nancy M. Spillers
Sandra K. Snodgrass, Trustees
Betty Ellen Clark Irrevocable Trust
4526 Sunset Blvd.
08-00201-000
SL 5 - No Take

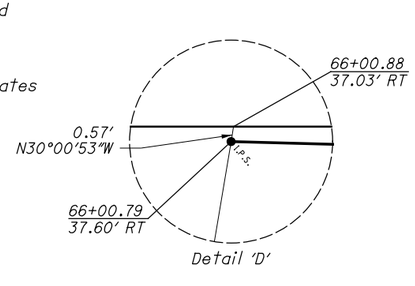
3
Raymond Diberardino And
Mary Lou Diberardino
Trustees of the Raymond DiBerardino and
Mary Lou DiBerardino Join Living Trust
4520 Sunset Blvd.
08-00304-000
SL 6

Country Club Estates
PB 5 PG 13

4
Freshwater, Douglas G.
4514 Sunset Blvd.
08-00052-000
SL 7

6
Torrance, Annette
99 Bryden
08-00423-000
SL 8





CURVE: C2
℄ Survey, R/W & Const. S.R. 43
Δ = 19° 29' 30" (RT)
Dc = 4° 00' 00"
R = 1,432.39'
T = 246.02'
L = 487.29'
E = 20.97'
C = 484.94'
C.B. = N 60° 07' 39" E
P.C. = Sta. 65+95.01
P.I. = Sta. 68+41.03
P.T. = Sta. 70+82.30

LEGEND

- Ⓜ MONUMENT ASSEMBLY RM 1.1, TO BE SET
- ● CAPPED 5/8" REBAR TO BE SET, CAPP STAMPED "OHIO DEPT OF TRANSPORTATION DISTRICT 10"
- ○ IRON PIN OR PIPE FOUND AS NOTED

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 90235

R/W DESIGNER MSD
R/W REVIEWER RJW

RIGHT OF WAY BOUNDARY SHEET
BEGIN PROJECT TO STA 68+75

JEF-43-4.21

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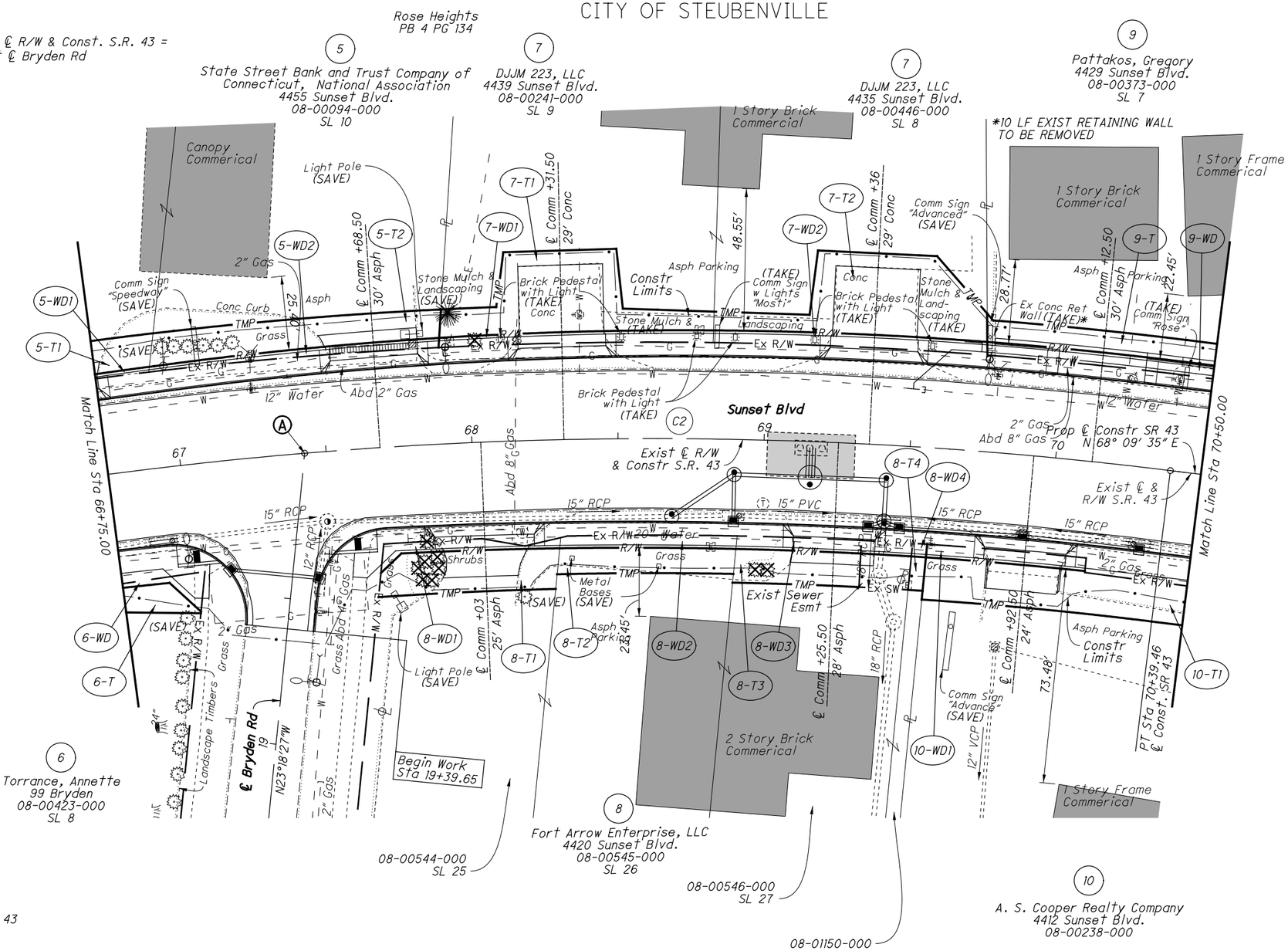
* DENOTES RIGHT OF WAY ENCROACHMENT

JEFFERSON COUNTY
CROSS CREEK TOWNSHIP
SEC. 18, T. 6 N, R. 2 W
CITY OF STEUBENVILLE

Ⓐ Sta 67+42.65 Exist ℄ R/W & Const. S.R. 43 = Sta 20+00.00 Exist ℄ Bryden Rd



EXIST CURVE: C2
Exist ℄ R/W & Const. S.R. 43
Δ = 19° 29' 30" (RT)
Dc = 4° 00' 00"
R = 1,432.39'
T = 246.02'
L = 487.29'
E = 20.97'
C = 484.94'
C.B. = N 60° 07' 39" E
P.C. = Sta. 65+95.01
P.I. = Sta. 68+41.03
P.T. = Sta. 70+82.30

EASEMENT OVERLAP

PARCEL NO.	TAKING REQUIRED	TOTAL AREA	CURRENT EASEMENT	AREA OF OVERLAP
8-WD3	WARRANTY DEED	0.0062	STORM	0.002
8-T3	STORM	0.161	STORM	0.005

REV. BY	DATE	DESCRIPTION

DATE COMPLETED

HORIZONTAL SCALE IN FEET: 0, 10, 20, 40

PID NO. 90235

R/W DESIGNER MSD
R/W REVIEWER RJW

RIGHT OF WAY TOPO SHEET
STA 68+75 TO STA 70+50

JEF-43-4.21

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JEFFERSON COUNTY
CROSS CREEK TOWNSHIP
SEC. 18, T. 6 N, R. 2 W
CITY OF STEUBENVILLE

Ⓐ Sta 67+42.65 Exist ℄ R/W & Const. S.R. 43 = Sta 20+00.00 Exist ℄ Bryden Rd

* DENOTES RIGHT OF WAY ENCROACHMENT

LEAD-IN CURVE DATA

CURVE	CENTRAL ANGLE	RADIUS	CURVE LENGTH	CHORD LENGTH	CHORD BEARING
C2a	13°51′37″	1432.39	346.50′	345.66′	S 61°13′47″ W
C2b	13°24′29″	1432.39	335.20′	334.44′	S 61°27′21″ W
C2c	9°58′13″	1432.39	249.25′	248.94	S 63°10′29″ W
C2d	8°23′34″	1432.39	209.82′	209.63′	S 63°57′48″ W
C2e	6°17′43″	1432.39	157.38′	157.30′	S 65°00′44″ W
C2f	5°55′17″	1432.39	148.03′	147.97′	S 65°11′57″ W
C2g	3°27′39″	1432.39	86.52′	86.51′	S 66°25′46″ W
C2h	3°15′21″	1432.39	81.40′	81.39′	S 66°31′55″ W
C2i	2°37′13″	1432.39	65.51′	65.50′	S 66°50′59″ W
C2m	1°42′53″	1432.39	42.84′	42.84′	S 69°00′58″ W

RIGHT OF WAY CURVE DATA

CURVE	CENTRAL ANGLE	RADIUS	CURVE LENGTH	CHORD LENGTH	CHORD BEARING
C13	3°57′01″	1478.39′	101.93′	101.91′	N 52°26′28″ E
C14	3°53′47″	1469.34′	99.92′	99.90′	N 51°42′42″ E
C15	3°53′24″	1465.39′	99.49′	99.47′	N 52°21′17″ E
C16	3°15′12″	1554.25′	88.58′	88.24′	N 53°37′11″ E
C17	0°03′56″	1469.34′	1.68′	1.68′	N 53°41′33″ E
C18	3°50′21″	1478.39′	98.84′	98.82′	N 56°19′54″ E
C19	4°10′15″	1345.84′	97.97′	97.95′	N 55°24′55″ E
C20	3°53′24″	1465.39′	99.49′	99.47′	N 56°14′41″ E
C21	2°30′58″	1381.39′	60.67′	60.66′	N 58°25′15″ E
C22	1°59′33″	1558.25′	54.19′	54.19′	N 59°11′00″ E
C23	1°22′30″	1399.39′	33.58′	33.58′	N 57°58′26″ E
C24	0°44′02″	1478.39′	18.94′	18.94′	N 58°36′51″ E
C25	3°59′57″	1345.84′	93.93′	93.92′	N 59°30′00″ E
C26	3°40′29″	1465.39′	93.99′	93.97′	N 60°01′38″ E
C27	2°29′32″	1386.39′	60.31′	60.30′	N 60°57′02″ E
C28	2°12′58″	1558.25′	60.27′	60.27′	N 61°17′16″ E
C29	2°22′38″	1399.39′	58.06′	58.06′	N 61°03′00″ E
C30	1°47′39″	1383.39′	43.33′	43.32′	N 63°05′03″ E
C31	1°27′55″	1558.25′	39.85′	39.85′	N 63°07′43″ E
C32	0°07′12″	1394.89′	2.92′	2.92′	N 63°55′17″ E
C33	1°44′33″	1399.39′	42.57′	42.56′	N 63°06′36″ E
C34	0°42′41″	1394.89′	17.32′	17.32′	N 64°20′13″ E
C35	0°43′04″	1399.39′	17.53′	17.53′	N 64°20′25″ E
C36	0°12′26″	1383.39′	5.00′	5.00′	N 64°46′46″ E
C37	0°12′19″	1394.89′	5.00′	5.00′	N 64°47′44″ E
C38	0°12′17″	1399.39′	5.00′	5.00′	N 64°47′44″ E
C39	3°16′51″	1380.39′	79.04′	79.03′	N 66°31′10″ E
C40	2°14′36″	1394.89′	54.61′	54.61′	N 66°01′11″ E
C41	2°14′14″	1399.39′	54.65′	54.64′	N 66°01′21″ E
C42	2°34′42″	1477.39′	66.49′	66.48′	N 66°52′14″ E
C43	0°22′03″	1345.84′	8.63′	8.63′	N 65°40′39″ E
C44	2°17′54″	1469.89′	58.96′	58.96′	N 67°00′39″ E
C45	3°53′32″	1465.39′	99.55′	99.53′	N 67°29′08″ E
C46	3°59′39″	1345.84′	93.82′	93.80′	N 63°29′48″ E
C47	3°40′30″	1465.39′	93.99′	93.97′	N 63°42′07″ E

Note: All station & offsets from exist ℄ RW

5 State Street Bank and Trust Company of Connecticut, National Association 4455 Sunset Blvd. 08-00095-000 SL 11

5 State Street Bank and Trust Company of Connecticut, National Association 4455 Sunset Blvd. 08-00094-000 SL 10

7 DJJM 223, LLC 4439 Sunset Blvd. 08-00241-000 SL 9

7 DJJM 223, LLC 4435 Sunset Blvd. 08-00446-000 SL 8

9 Pattakos, Gregory 4429 Sunset Blvd. 08-00373-000 SL 7

Rose Heights PB 4 PG 134

Sunset Blvd

Match Line Sta 66+75.00

Match Line Sta 70+50.00

℄ Bryden Rd

6 Torrance, Annette 99 Bryden 08-00423-000 SL 8

08-00544-000 SL 25

08-00545-000 SL 26

Country Club Estates CAB C SL 157

8 Fort Arrow Enterprise, LLC 4420 Sunset Blvd. 08-00546-000 SL 27

10 A. S. Cooper Realty Company 4412 Sunset Blvd. 08-00238-000

08-01150-000

Exist Sewer Easement 15-5

PT Sta 70+39.46 ℄ Const. S.R. 43

Exist ℄ R/W & Const. S.R. 43
Δ = 19° 29′ 30″ (RT)
Dc = 4° 00′ 00″
R = 1,432.39′
T = 246.02′
L = 487.29′
E = 20.97′
C = 484.94′
C.B. = N 60° 07′ 39″ E
P.C. = Sta. 65+95.01
P.I. = Sta. 68+41.03
P.T. = Sta. 70+82.30

Detail 'A'

Detail 'B'

Detail 'C'

Detail 'D'

Detail 'E'

Detail 'F'

Detail 'G'

REV. BY	DATE	DESCRIPTION

DATE COMPLETED

HORIZONTAL SCALE IN FEET 0 10 20 40

PID NO. 90235

R/W DESIGNER MSD
R/W REVIEWER RJW

RIGHT OF WAY BOUNDARY SHEET
STA 68+75 TO STA 70+50

JEF-43-4.21

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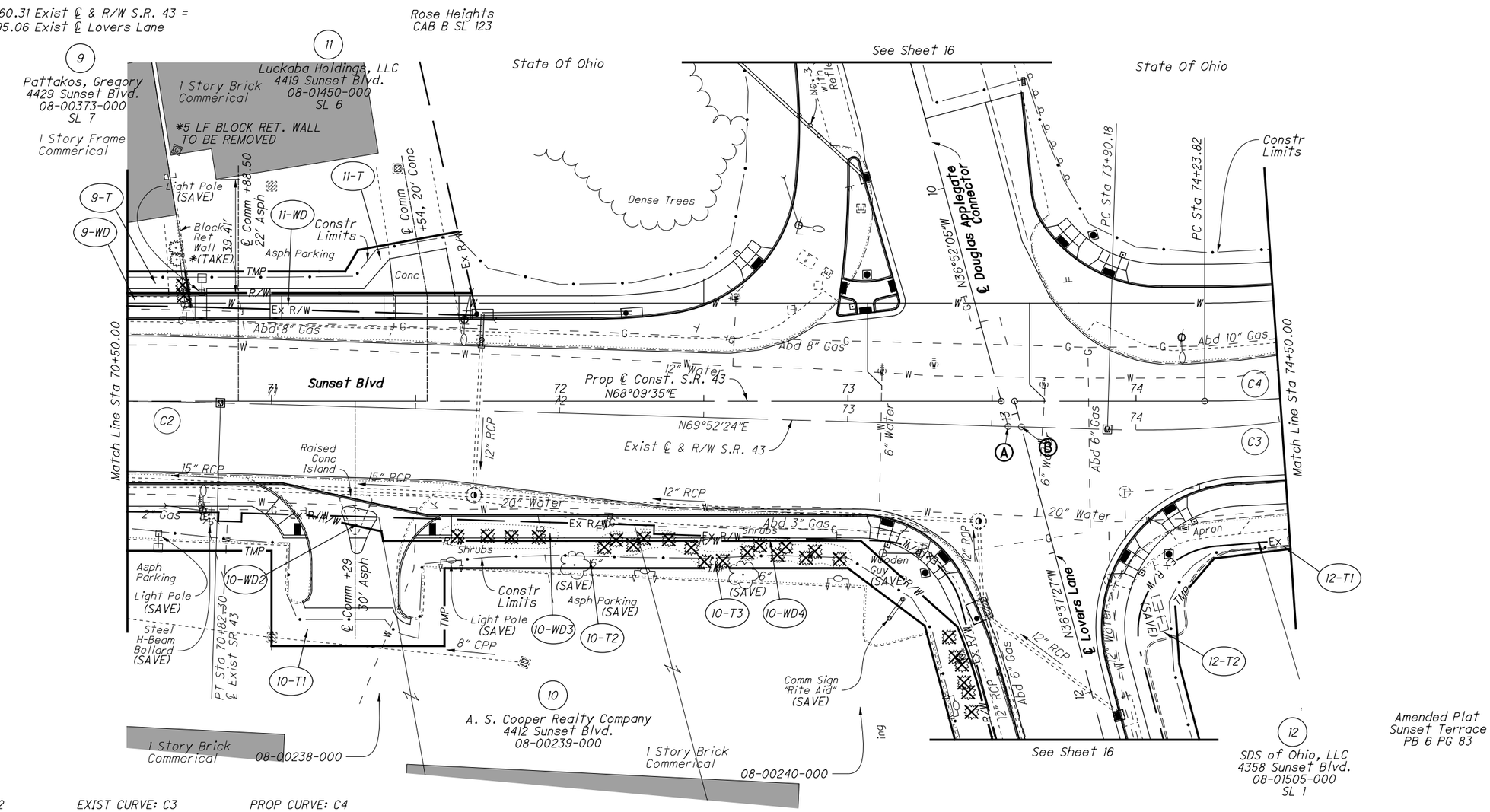
* DENOTES RIGHT OF WAY ENCROACHMENT

JEFFERSON COUNTY
CROSS CREEK TOWNSHIP
SEC. 18, T. 6 N, R. 2 W
CITY OF STEUBENVILLE

Ⓐ Sta 73+55.71 Exist ℄ & R/W S.R. 43 =
Sta 9+14.37 Exist ℄ Douglas Applegate Connector

Ⓑ Sta 73+60.31 Exist ℄ & R/W S.R. 43 =
Sta 12+95.06 Exist ℄ Lovers Lane



EXIST CURVE: C2	EXIST CURVE: C3	PROP CURVE: C4
Exist ℄ & R/W S.R. 43	Exist ℄ & R/W S.R. 43	Prop ℄ Const. S.R. 43
Δ = 19° 29′ 30″ (RT)	Δ = 44° 19′ 30″ (LT)	Δ = 42° 36′ 42″ (LT)
Dc = 4° 00′ 00″	Dc = 13° 59′ 59″	Dc = 15° 00′ 00″
R = 1,432.39′	R = 409.26′	R = 381.97′
T = 246.02′	T = 166.70′	T = 148.97′
L = 487.29′	L = 316.61′	L = 284.08′
E = 20.97′	E = 32.65′	E = 28.02′
C = 484.94′	C = 308.77′	C = 277.58′
C.B. = N 60° 07′ 39″ E	C.B. = N 47° 42′ 39″ E	C.B. = N 46° 51′ 14″ E
P.C. = Sta. 65+95.01	P.C. = Sta. 73+90.18	P.C. = Sta. 74+23.82
P.I. = Sta. 68+41.03	P.I. = Sta. 75+56.88	P.I. = Sta. 75+65.86
P.T. = Sta. 70+82.30	P.T. = Sta. 77+06.79	P.T. = Sta. 77+07.89

REV. BY	DATE	DESCRIPTION

DATE COMPLETED

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 90235

R/W DESIGNER MSD
R/W REVIEWER RJW

RIGHT OF WAY TOPO SHEET
STA 70+50 TO STA 74+50

JEF-43-4.21

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RIGHT OF WAY & LEAD-IN CURVE DATA

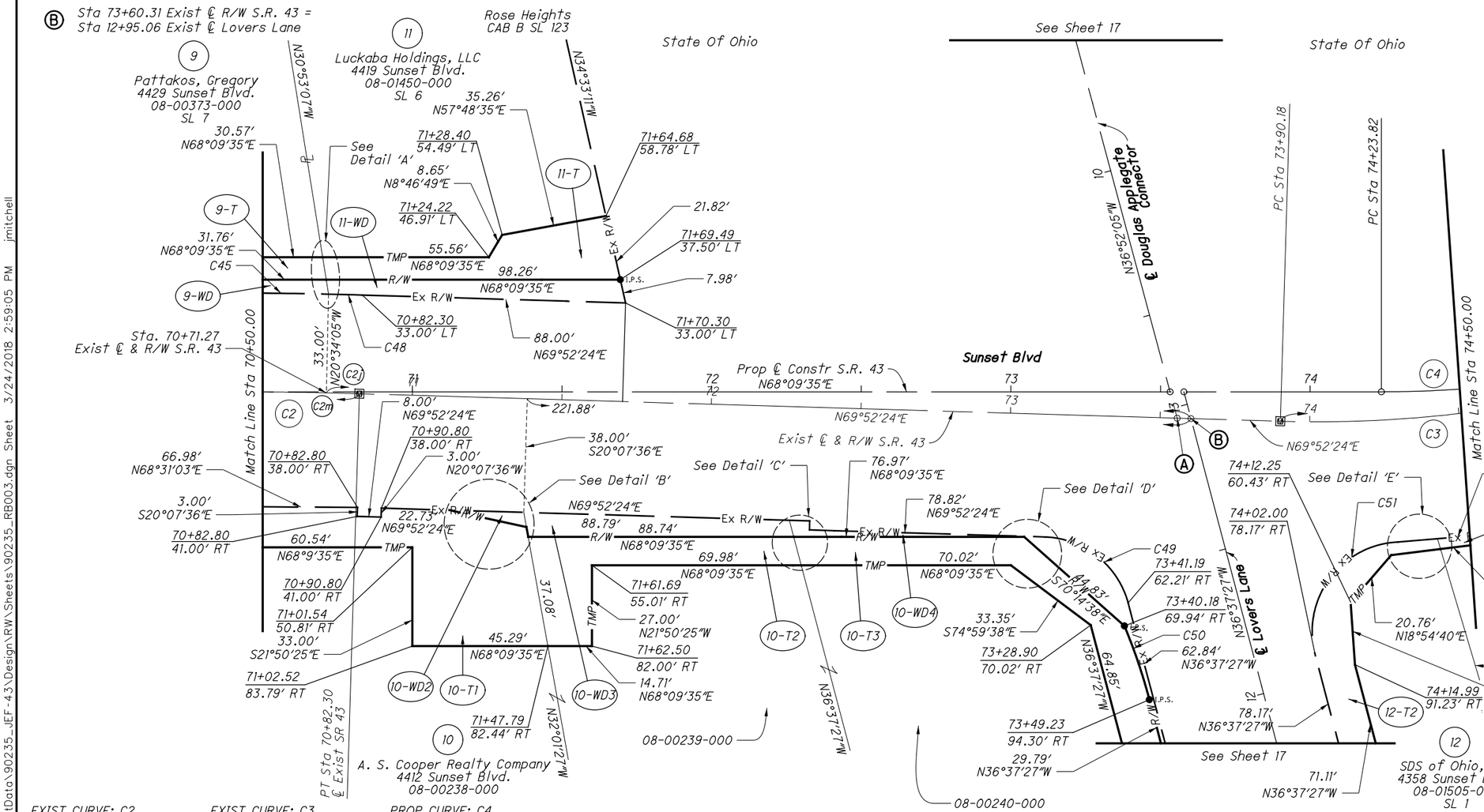
CURVE	CENTRAL ANGLE	RADIUS	CURVE LENGTH	CHORD LENGTH	CHORD BEARING
C45	3°53′32″	1465.39′	99.55′	99.53′	N 67°29′08″ E
C48	0°26′29″	1465.39′	11.29′	11.29′	N 69°39′09″ E
C49	72°21′56″	30.00′	37.89′	35.42′	N 73°20′31″ W
C50	7°48′03″	191.00′	26.01′	25.99′	N 40°31′28″ W
C51	102°59′53″	30.00′	53.93′	46.96′	N 14°09′29″ E
C2j	0°26′29″	1432.39′	11.03′	11.03′	N 69°39′09″ E
C2m	1°42′53″	1432.39′	42.84′	42.84′	N 69°00′58″ E

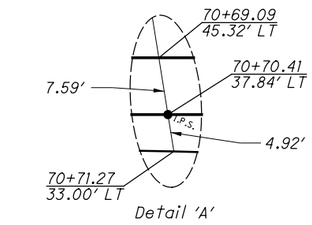
Note: All station & offsets from exist ℄ RW

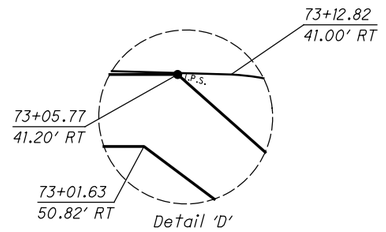
Ⓐ Sta 73+55.71 Exist ℄ R/W S.R. 43 =
Sta 9+14.37 Exist ℄ Douglas Applegate Connector

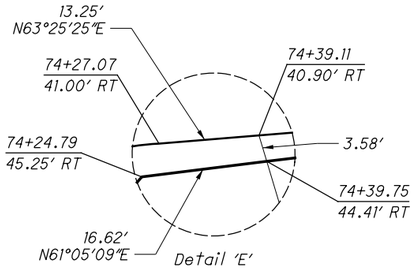
Ⓑ Sta 73+60.31 Exist ℄ R/W S.R. 43 =
Sta 12+95.06 Exist ℄ Lovers Lane

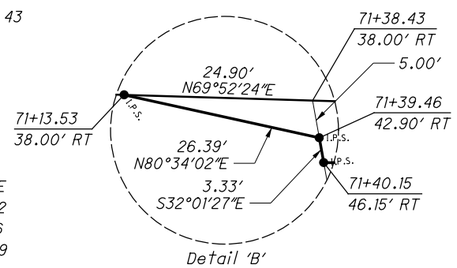
JEFFERSON COUNTY
CROSS CREEK TOWNSHIP
SEC. 18, T. 6 N, R. 2 W
CITY OF STEUBENVILLE

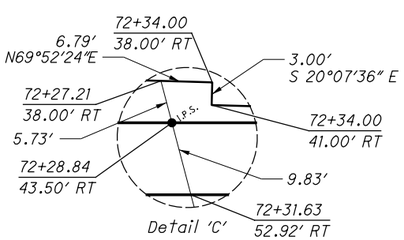












EXIST CURVE: C2
Exist ℄ & R/W S.R. 43
Δ = 19° 29′ 30″ (RT)
Dc = 4° 00′ 00″
R = 1,432.39′
T = 246.02′
L = 487.29′
E = 20.97′
C = 484.94′
C.B. = N 60° 07′ 39″ E
P.C. = Sta. 65+95.01
P.I. = Sta. 68+41.03
P.T. = Sta. 70+82.30

EXIST CURVE: C3
Exist ℄ & R/W S.R. 43
Δ = 44° 19′ 30″ (LT)
Dc = 13° 59′ 59″
R = 409.26′
T = 166.70′
L = 316.61′
E = 32.65′
C = 308.77′
C.B. = N 47° 42′ 39″ E
P.C. = Sta. 73+90.18
P.I. = Sta. 75+56.88
P.T. = Sta. 77+06.79

PROP CURVE: C4
PROP ℄ Const. S.R. 43
Δ = 42° 36′ 42″ (LT)
Dc = 15° 00′ 00″
R = 381.97′
T = 148.97′
L = 284.08′
E = 28.02′
C = 277.58′
C.B. = N 46° 51′ 14″ E
P.C. = Sta. 74+23.82
P.I. = Sta. 75+65.86
P.T. = Sta. 77+07.89

REV. BY	DATE	DESCRIPTION

DATE COMPLETED

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 90235

R/W DESIGNER MSD
R/W REVIEWER RJW

RIGHT OF WAY BOUNDARY SHEET
STA 70+50 TO STA 74+50

JEF-43-4.21

11 / 17

113
119

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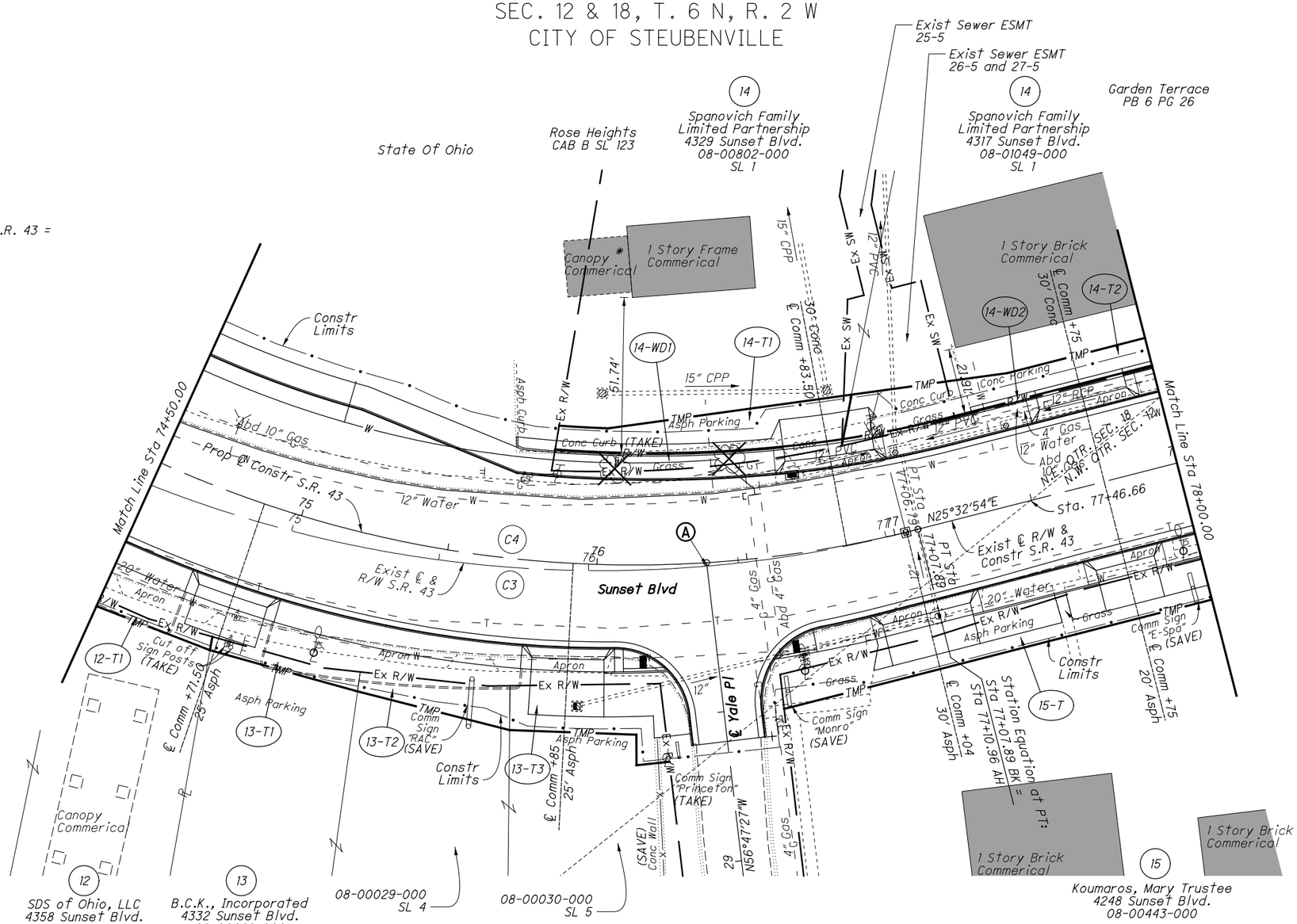
* DENOTES RIGHT OF WAY ENCROACHMENT

JEFFERSON COUNTY
CROSS CREEK TOWNSHIP
SEC. 12 & 18, T. 6 N, R. 2 W
CITY OF STEUBENVILLE

Ⓐ Sta 76+39.52 Exist ℄ & R/W S.R. 43 =
Sta 29+98.85 Exist ℄ Yale Pl



EXIST CURVE: C3	PROP CURVE: C4
Exist ℄ & R/W S.R. 43	Prop ℄ Const. S.R. 43
Δ = 44° 19′ 30″ (LT)	Δ = 42° 36′ 42″ (LT)
Dc = 13° 59′ 59″	Dc = 15° 00′ 00″
R = 409.26′	R = 381.97′
T = 166.70′	T = 148.97′
L = 316.61′	L = 284.08′
E = 32.65′	E = 28.02′
C = 308.77′	C = 277.58′
C.B. = N 47° 42′ 39″ E	C.B. = N 46° 51′ 14″ E
P.C. = Sta. 73+90.18	P.C. = Sta. 74+23.82
P.I. = Sta. 75+56.88	P.I. = Sta. 75+65.86
P.T. = Sta. 77+06.79	P.T. = Sta. 77+07.89

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 90235

R/W DESIGNER MSD
R/W REVIEWER RJW

RIGHT OF WAY TOPO SHEET
STA 74+50 TO STA 78+00

JEF-43-4.21

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RIGHT OF WAY & LEAD-IN CURVE DATA

CURVE	CENTRAL ANGLE	RADIUS	CURVE LENGTH	CHORD LENGTH	CHORD BEARING
C53	2°12'17"	424.17'	16.32'	16.32'	N 43°00'00" E
C54	0°16'28"	344.47'	1.65'	1.65'	N 44°07'10" E
C55	11°45'18"	432.17'	88.66'	88.51'	N 38°06'19" E
C56	14°48'39"	376.26'	97.26'	96.99'	N 35°00'47" E
C57	0°53'52"	351.00'	5.50'	5.50'	N 31°46'44" E
C58	0°03'26"	351.00'	0.35'	0.35'	N 31°18'05" E
C59	5°43'31"	351.00'	35.07'	35.06'	N 28°24'39" E
C60	2°03'32"	376.26'	13.52'	13.52'	N 26°34'41" E
C2k	27°27'17"	409.26'	196.11'	194.24'	N 56°08'45" E
C2l	42°15'56"	409.26'	301.90'	295.10'	N 48°44'26" E

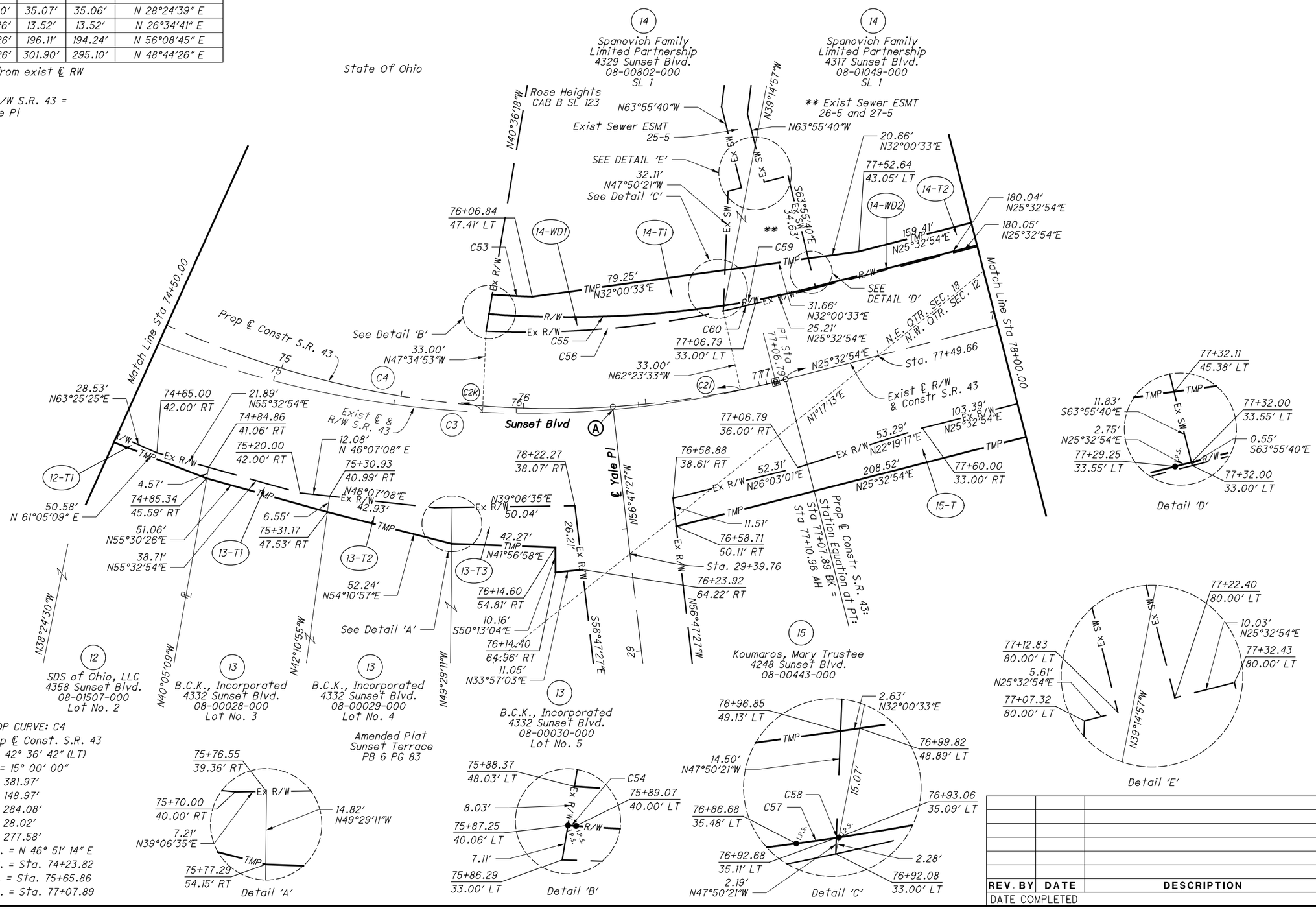
Note: All station & offsets from exist ℄ RW

Ⓐ Sta 76+39.52 Exist ℄ & R/W S.R. 43 = Sta 29+98.85 Exist ℄ Yale Pl

JEFFERSON COUNTY
CROSS CREEK TOWNSHIP
SEC. 12 & 18, T. 6 N, R. 2 W
CITY OF STEUBENVILLE

EASEMENT OVERLAP

PARCEL NO.	TAKING REQUIRED	TOTAL AREA	CURRENT EASEMENT	AREA OF OVERLAP
14-WD1	WARRANTY DEED	0.0108	STORM	0.3729 SF
14-WD2	WARRANTY DEED	0.0032	STORM	0.0009
14-T1	TEMP	0.0259	STORM	0.0005
14-T2	TEMP	0.0504	STORM	0.0103



EXIST CURVE: C3
Exist ℄ & R/W S.R. 43
Δ = 44° 19' 30" (LT)
Dc = 13° 59' 59"
R = 409.26'
T = 166.70'
L = 316.61'
E = 32.65'
C = 308.77'
C.B. = N 47° 42' 39" E
P.C. = Sta. 73+90.18
P.I. = Sta. 75+56.88
P.T. = Sta. 77+06.79

PROP CURVE: C4
Prop ℄ Const. S.R. 43
Δ = 42° 36' 42" (LT)
Dc = 15° 00' 00"
R = 381.97'
T = 148.97'
L = 284.08'
E = 28.02'
C = 277.58'
C.B. = N 46° 51' 14" E
P.C. = Sta. 74+23.82
P.I. = Sta. 75+65.86
P.T. = Sta. 77+07.89

REV. BY	DATE	DESCRIPTION

DATE COMPLETED

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 90235

R/W DESIGNER MSD
R/W REVIEWER RJW

RIGHT OF WAY BOUNDARY SHEET
STA 74+50 TO STA 78+00

JEF-43-4.21

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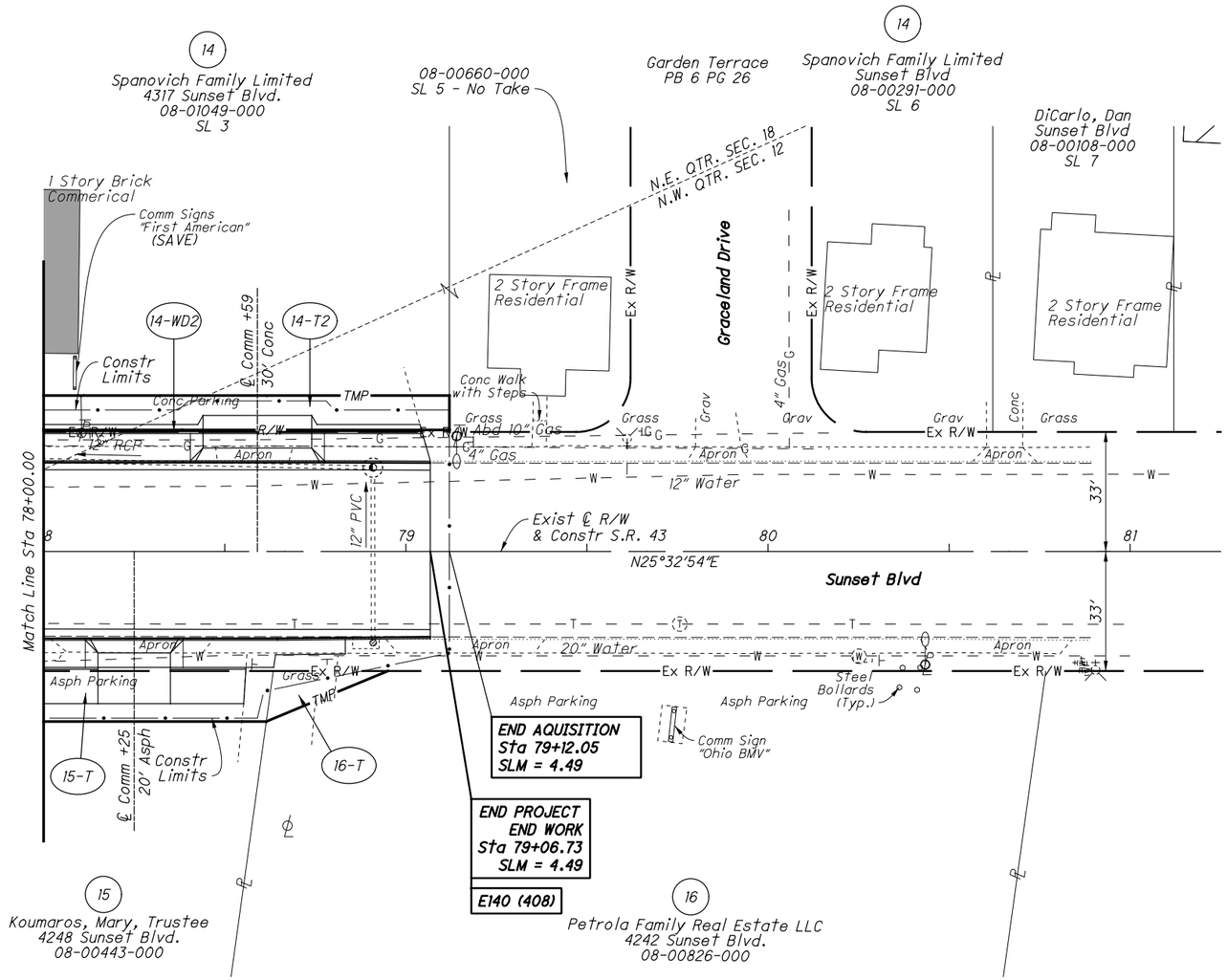
* DENOTES RIGHT OF WAY ENCROACHMENT

JEFFERSON COUNTY
CROSS CREEK TOWNSHIP
SEC. 12 & 18, T. 6 N, R. 2 W
CITY OF STEUBENVILLE



REV. BY	DATE	DESCRIPTION

DATE COMPLETED

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 90235

R/W DESIGNER MSD
R/W REVIEWER RJW

RIGHT OF WAY TOPO SHEET
STA 78+00 TO END PROJECT

JEF-43-4.21

14 / 17

116
119

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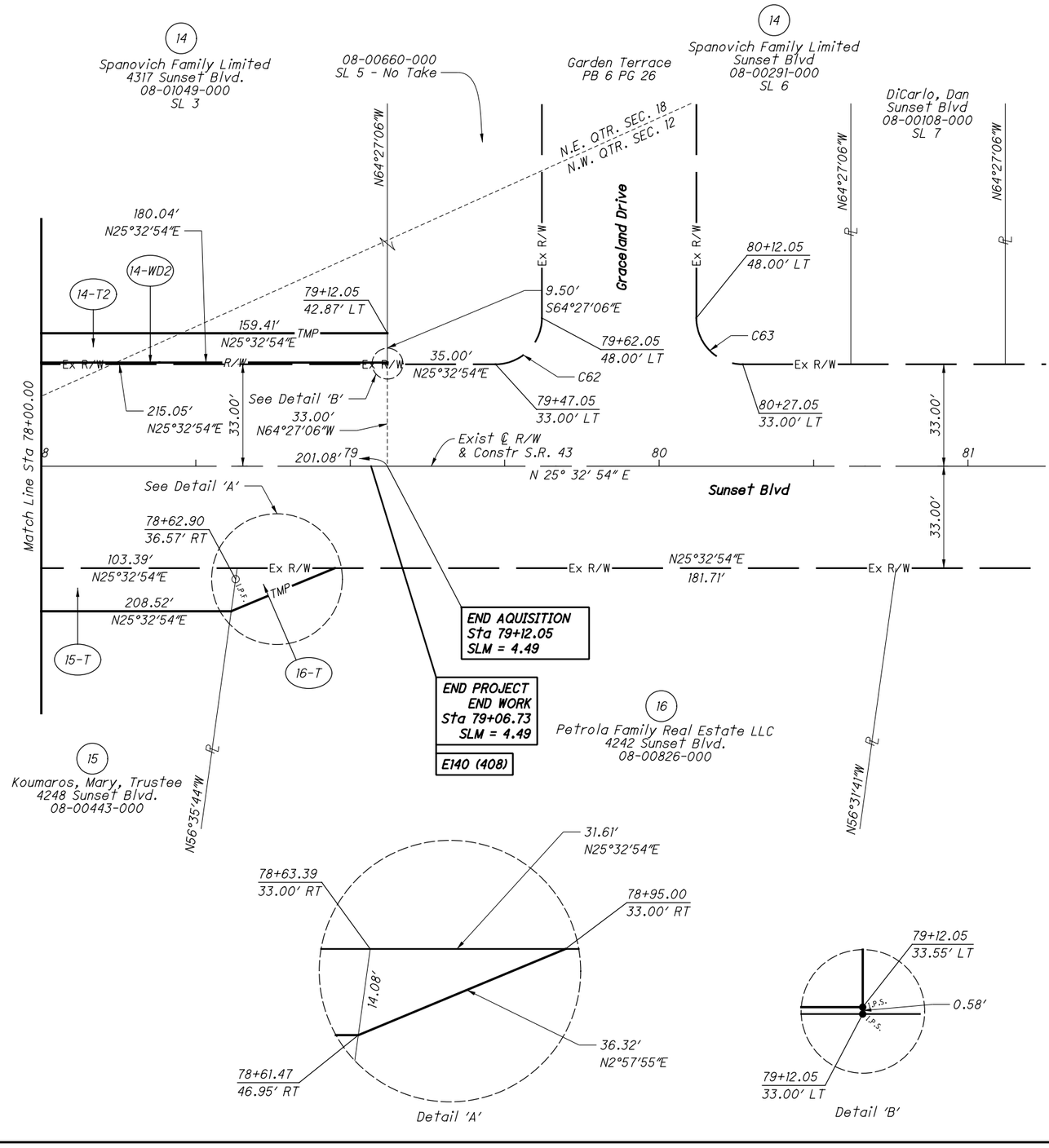
RIGHT OF WAY CURVE DATA

CURVE	CENTRAL ANGLE	RADIUS	CURVE LENGTH	CHORD LENGTH	CHORD BEARING
C62	89°59'59"	15.00'	23.56'	21.21'	N 19°27'06" W
C63	89°59'58"	15.00'	23.56'	21.21'	N 70°32'53" W

Note: All station & offsets from exist ℄ RW

JEFFERSON COUNTY
CROSS CREEK TOWNSHIP
SEC. 12 & 18, T. 6 N, R. 2 W
CITY OF STEUBENVILLE



REV. BY	DATE	DESCRIPTION

DATE COMPLETED

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 90235

R/W DESIGNER MSD
R/W REVIEWER RJW

RIGHT OF WAY BOUNDARY SHEET
STA 78+00 TO END PROJECT

JEF-43-4.21

15 / 17

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119

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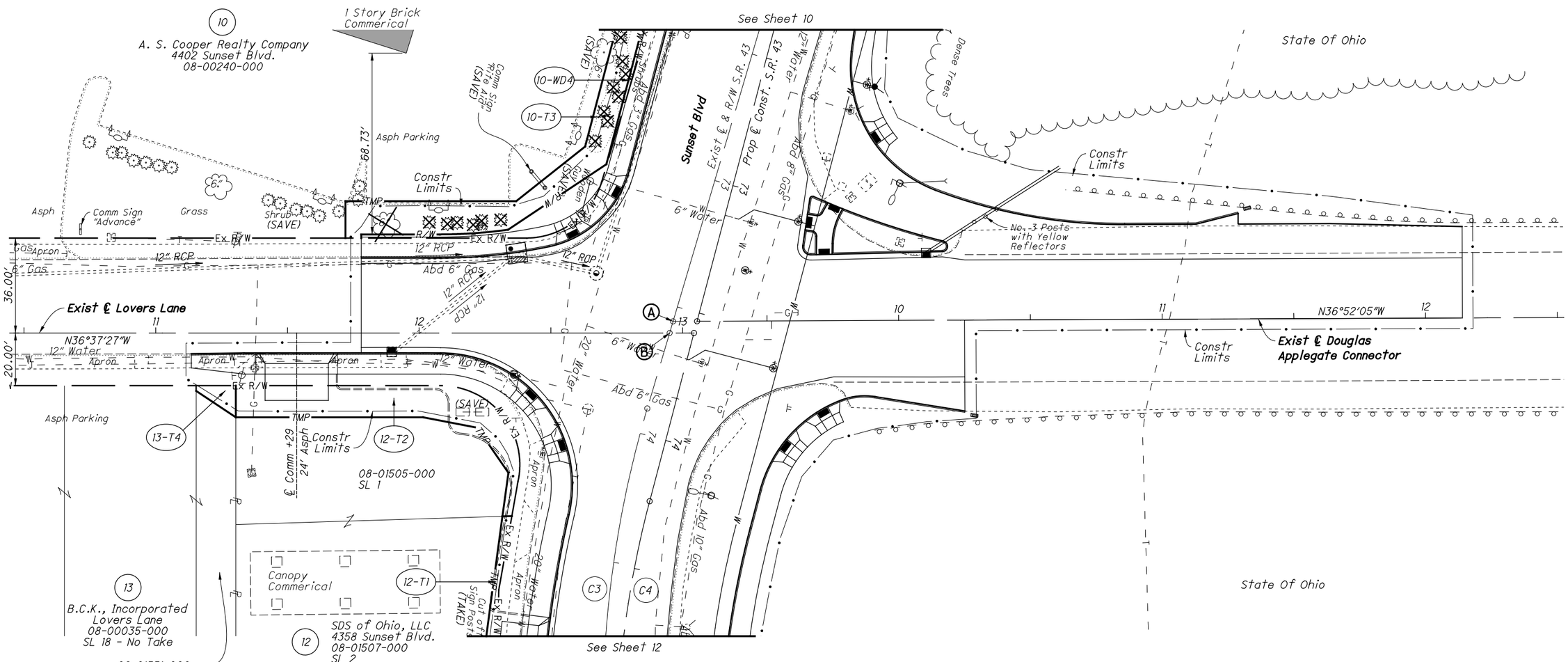
* DENOTES RIGHT OF WAY ENCROACHMENT

JEFFERSON COUNTY
CROSS CREEK TOWNSHIP
SEC. 18, T. 6 N, R. 2 W
CITY OF STEUBENVILLE

Ⓐ Sta 73+55.71 Exist ℄ & R/W S.R. 43 =
Sta 9+14.37 Exist ℄ Douglas Applegate Connector

Ⓑ Sta 73+60.31 Exist ℄ & R/W S.R. 43 =
Sta 12+95.06 Exist ℄ Lovers Lane



EXIST CURVE: C3	PROP CURVE: C4
Exist ℄ & R/W S.R. 43	Prop ℄ Const. S.R. 43
Δ = 44° 19' 30" (LT)	Δ = 42° 36' 42" (LT)
Dc = 13° 59' 59"	Dc = 15° 00' 00"
R = 409.26'	R = 381.97'
T = 166.70'	T = 148.97'
L = 316.61'	L = 284.08'
E = 32.65'	E = 28.02'
C = 308.77'	C = 277.58'
C.B. = N 47° 42' 39" E	C.B. = N 46° 51' 14" E
P.C. = Sta. 73+90.18	P.C. = Sta. 74+23.82
P.I. = Sta. 75+56.88	P.I. = Sta. 75+65.86
P.T. = Sta. 77+06.79	P.T. = Sta. 77+07.89

REV. BY	DATE	DESCRIPTION

DATE COMPLETED

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 90235

R/W DESIGNER MSD
R/W REVIEWER RJW

RIGHT OF WAY TOPO SHEET
LOVERS LANE

JEF-43-4.21

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JEFFERSON COUNTY
CROSS CREEK TOWNSHIP
SEC. 18, T. 6 N, R. 2 W
CITY OF STEUBENVILLE

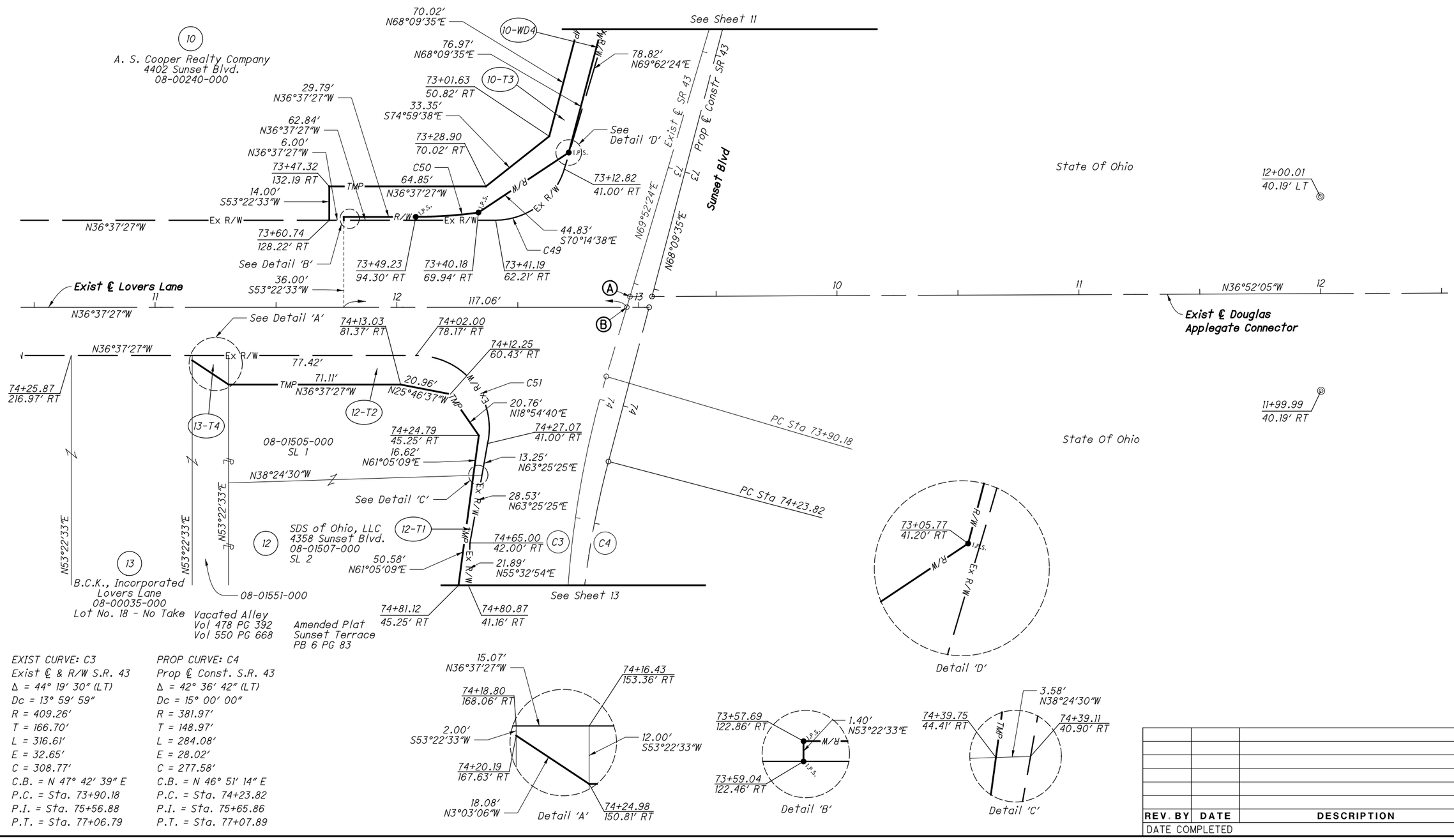
RIGHT OF WAY CURVE DATA

CURVE	CENTRAL ANGLE	RADIUS	CURVE LENGTH	CHORD LENGTH	CHORD BEARING
C49	72°21'56"	30.00'	37.89'	35.42'	N 73°20'31" W
C50	7°48'03"	191.00'	26.01'	25.99'	N 40°31'28" W
C51	102°59'53"	30.00'	53.93'	46.96'	N 14°09'29" E

Note: All station & offsets from exist ℄ RW

Ⓐ Sta 73+55.71 Exist ℄ & R/W S.R. 43 = Sta 9+14.37 Exist ℄ Douglas Applegate Connector

Ⓑ Sta 73+60.31 Exist ℄ & R/W/ S.R. 43 = Sta 12+95.06 Exist ℄ Lovers Lane



EXIST CURVE: C3
Exist ℄ & R/W S.R. 43
Δ = 44° 19' 30" (LT)
Dc = 13° 59' 59"
R = 409.26'
T = 166.70'
L = 316.61'
E = 32.65'
C = 308.77'
C.B. = N 47° 42' 39" E
P.C. = Sta. 73+90.18
P.I. = Sta. 75+56.88
P.T. = Sta. 77+06.79

PROP CURVE: C4
Prop ℄ Const. S.R. 43
Δ = 42° 36' 42" (LT)
Dc = 15° 00' 00"
R = 381.97'
T = 148.97'
L = 284.08'
E = 28.02'
C = 277.58'
C.B. = N 46° 51' 14" E
P.C. = Sta. 74+23.82
P.I. = Sta. 75+65.86
P.T. = Sta. 77+07.89

Detail 'A'

Detail 'D'

Detail 'B'

Detail 'C'

REV. BY	DATE	DESCRIPTION

DATE COMPLETED

HORIZONTAL SCALE IN FEET 0 10 20 40

PID NO. 90235

R/W DESIGNER MSD
R/W REVIEWER RJW

RIGHT OF WAY BOUNDARY SHEET
LOVERS LANE

JEF-43-4.21

17 / 17

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