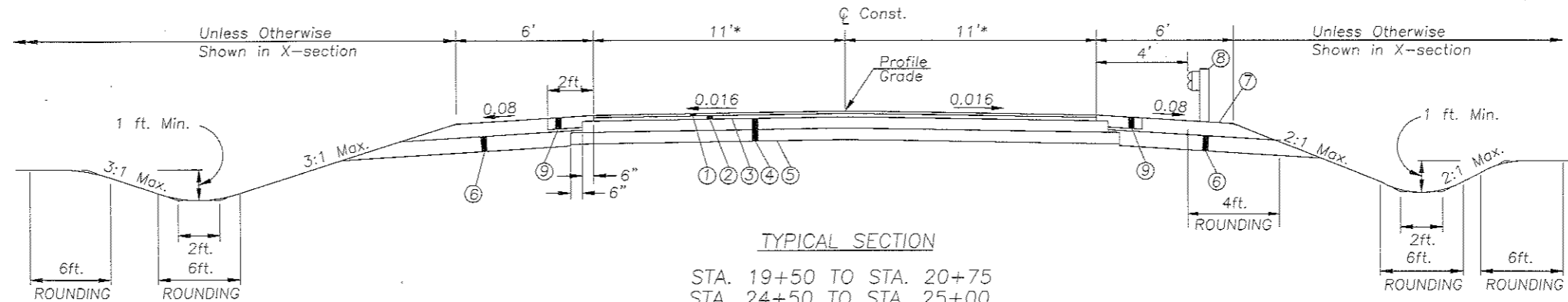
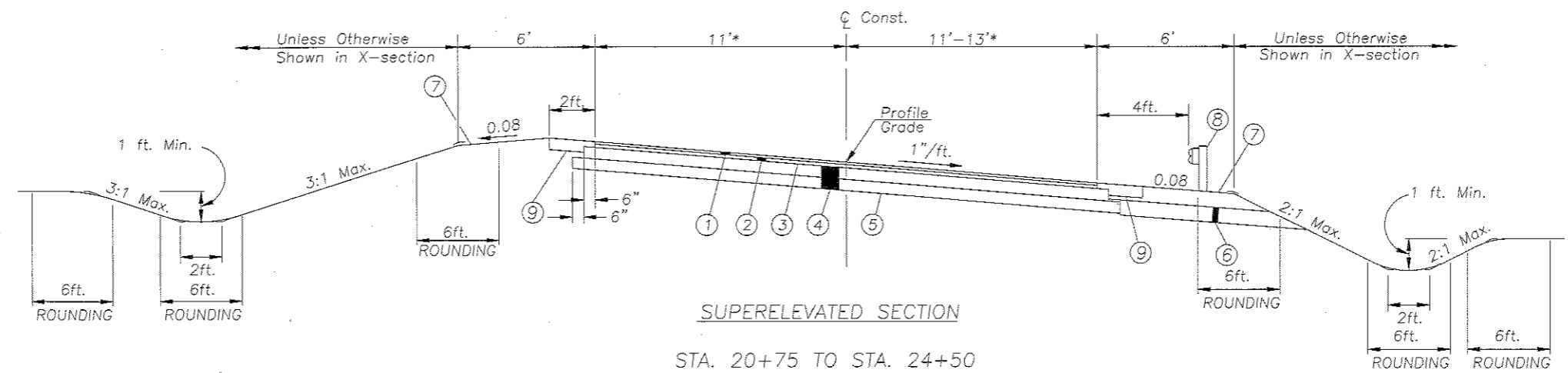


TYPICAL SECTIONS



* Pavement width varies
 - See the Superelevation
 Table Sh. 7



- ① Item 448 - 1.25in. Asphalt Concrete Surface Course, Type 1, PG 64-22
- ② Item 448 - 1.75in. Asphalt Concrete Intermediate Course, Type 2, PG 64-22
- ③ Item 408 - Prime Coat (0.35 GAL./SYD)
- ④ Item 304 - 12in. Aggregate Base, Min. 2 Lifts
- ⑤ Item 204 - Subgrade Compaction
- ⑥ Item 605 - Aggregate Drain
- ⑦ Item 659 - Seeding and mulching
- ⑧ Item 606 - Guardrail, Type 5
- ⑨ Item 411 - 6" Stabilized Crushed Aggregate

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

UNDERGROUND UTILITIES

THE LOCATION OF UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE OBTAINED FROM THE OWNERS OF THE UTILITY AS REQUIRED BY SEC. 153.64 ORC.

UTILITIES

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

POWER:
TOLEDO EDISON
134 LAWRENCE AVE.
WAUSEON, OH 43567
(419)249-4143

WATER & SEWER:
AYERSVILLE WATER & SEWER.
13691 FRUIT RIDGE RD.
DEFIANCE, OH 43512
(419)395-1733

TELEPHONE:
ARTHUR MUTUAL TELEPHONE CO.
21980 SR 637
DEFIANCE, OH 43512
(419)393-2233

CONTINGENCY QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK LISTED IN THE GENERAL SUMMARY FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED AT THE ENGINEER'S DISCRETION SHALL BE MADE A MATTER OF RECORD BY INCORPORATION INTO FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

ELEVATION DATUM

ALL ELEVATIONS ARE BASED ON U.S.G.S DATUM

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. THE INSTALLATION AND OPERATION OF ALL TEMPORARY TRAFFIC CONTROL AND TEMPORARY TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS SHALL BE PROVIDED BY THE CONTRACTOR WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

CLEARING AND GRUBBING

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

SEEDING AND MULCHING

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

FARM DRAIN

ALL FARM DRAINS WHICH ARE ENCOUNTERED DURING CONSTRUCTION SHALL BE PROVIDED WITH UNOBSTRUCTED OUTLETS. EXISTING COLLECTORS, WHICH ARE LOCATED BELOW THE ROADWAY DITCH ELEVATIONS, AND WHICH CROSS THE ROADWAY, SHALL BE REPLACED WITHIN THE RIGHT-OF-WAY LIMITS WITH ITEM 603 CONDUIT, TYPE B, ONE COMMERCIAL SIZE LARGER THAN THE EXISTING CONDUIT.

EXISTING COLLECTORS AND ISOLATED FARM DRAINS, WHICH ARE ENCOUNTERED ABOVE THE ELEVATION OF THE ROADWAY DITCHES, SHALL BE OUTLETTED INTO THE ROADWAY DITCH BY ITEM 603 TYPE F CONDUIT. THE OPTIMUM OUTLET ELEVATION SHALL BE 1 FOOT ABOVE THE FLOW LINE ELEVATION OF THE DITCH. LATERAL FIELD TILES WHICH CROSS THE ROADWAY SHALL BE INTERCEPTED BY ITEM 603, TYPE E CONDUIT, AND CARRIED IN A LONGITUDINAL DIRECTION TO AN ADEQUATE OUTLET OR ROADWAY CROSSING.

THE LOCATION, TYPE, SIZE, AND GRADE OF REPLACEMENTS SHALL BE DETERMINED BY THE ENGINEER AND PAYMENT SHALL BE MADE ON FINAL MEASUREMENTS. EROSION CONTROL PADS AND ANIMAL GUARDS SHALL BE PROVIDED AT THE OUTLET END OF ALL FARM DRAINS AS PER STANDARD CONSTRUCTION DRAWING DM-1.1, EXCEPT WHEN THEY OUTLET INTO A DRAINAGE STRUCTURE. PAYMENT FOR THE EROSION CONTROL PADS AND ANIMAL GUARDS AND ANY NECESSARY BENDS OR BRANCHES SHALL BE INCLUDED FOR PAYMENT IN THE PERTINENT CONDUIT ITEM.

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

ITEM 601 ROCK CHANNEL PROTECTION TYPE C W/FILTER 30 CU. YD.
ITEM 603 6" CONDUIT, TYPE F 50 FEET
ITEM 603 8" CONDUIT, TYPE F 50 FEET
ITEM 603 10" CONDUIT, TYPE F 50 FEET
ITEM 603 12" CONDUIT, TYPE F 50 FEET

NONE OF THE ABOVE MATERIALS SHALL BE ORDERED BY THE CONTRACTOR UNTIL AUTHORIZED BY THE ENGINEER.

ITEM 614, MAINTENANCE OF TRAFFIC

THE CONTRACTOR SHALL PROVIDE, ERECT, AND MAINTAIN STANDARD 48" x 30" "ROAD CLOSED" SIGNS, SIGN SUPPORTS, BARRICADES, GATES AND LIGHTS, AS DETAILED IN STANDARD CONSTRUCTION DRAWING MT-101.60 AT THE FOLLOWING LOCATIONS DURING PERIODS IN WHICH THE AFFECTED ROADS ARE CLOSED TO TRAFFIC:

BOWMAN ROAD JUST EAST OF SR 66

BOWMAN ROAD JUST WEST OF SR15

PAYMENT FOR PROVIDING, ERECTING, MAINTAINING AND REMOVING SIGN SUPPORTS, BARRICADES, LIGHTS AND SIGNS SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614.

SHOULD ANY ADDITIONAL SIGNS AND/OR BARRICADES BE REQUIRED TO PROVIDE CLARITY TO THE TRAFFIC CONTROL SCHEMES AS SET FORTH IN THE PLANS OF THE "OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES", OR SHOULD ANY SIGNS AND/OR BARRICADES REQUIRE RELOCATION TO PROVIDE THIS CLARITY, THE WORK SHALL BE INCLUDED IN ITEM 614, MAINTAINING TRAFFIC. THERE SHALL BE NO ADDITIONAL COST TO THE PROJECT FOR THESE ITEMS.

THE CONTRACTOR SHALL NOTIFY THE DEFIANCE COUNTY ENGINEER AT LEAST 7 WORKING DAYS BEFORE CLOSING BOWMAN ROAD.

A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES, EXCEPT FOR A PERIOD NOT TO EXCEED 90 CONSECUTIVE CALENDAR DAYS. LIQUIDATED DAMAGES SHALL BE ASSESSED IN ACCORDANCE WITH 108.07 FOR EACH CALENDAR DAY EITHER OF THE ROADWAYS REMAIN CLOSED TO TRAFFIC BEYOND THE SPECIFIED LIMIT OF DAYS.

UNTREATED SEPTIC CONNECTIONS

THIS PLAN MAKES NO PROVISION FOR CONNECTING, NOR SHALL THE ENGINEER OR CONTRACTOR CONNECT, ANY UNTREATED SEPTIC DRAINAGE INTO THE HIGHWAY DRAINAGE SYSTEM. ANY PIPE CARRYING UNTREATED SEPTIC FLOW SHALL BE PLUGGED WITH CLASS C CONCRETE AT THE RIGHT-OF-WAY LINE. PAYMENT FOR PLUGGING SHALL BE INCLUDED IN THE CONTRACT PRICE FOR ITEM 203 EXCAVATION, AS PER PLAN.

ITEM SPECIAL - MAILBOX SUPPORT

THIS WORK SHALL CONSIST OF FURNISHING AND ERECTING MAILBOX SUPPORTS AND ANY ASSOCIATED MOUNTING HARDWARE IN ACCORDANCE WITH PLAN DETAILS, AND ATTACHING AN OWNER-SUPPLIED MAILBOX AT LOCATIONS SPECIFIED IN THE PLAN, OR OTHERWISE ESTABLISHED BY THE ENGINEER.

WOOD POSTS SHALL BE NOMINAL 4" BY 4" SQUARE OR 4 1/2" DIAMETER ROUND, AND CONFORM TO 710.14.

STEEL POSTS SHALL BE NOMINAL PIPE SIZE 2" O.D., AND CONFORM TO AASHTO M 181.

HARDWARE (PLATES, SCREWS, BOLTS, ETC.) SHALL BE COMMERCIAL-GRADE GALVANIZED STEEL.

POSTS SHALL BE SET PER THE FIRST PARAGRAPH OF 606.03, AND SHALL IN NO INSTANCE BE ENCASED IN CONCRETE.

SUPPORT HARDWARE SHALL ACCOMMODATE EITHER A SINGLE OR DOUBLE MAILBOX INSTALLATION, AND NO MORE THAN TWO BOXES MAY BE MOUNTED ON A SINGLE POST.

THE MAILBOX SHALL BE SECURELY AND NEATLY ATTACHED BY THE CONTRACTOR TO THE NEW SUPPORT. THE CONTRACTOR SHALL FURNISH ALL NECESSARY ATTACHMENT HARDWARE (NUTS, BOLTS, PLATES, SPACERS, AND WASHERS) AS NECESSARY TO ACCOMMODATE THE COMPLETE INSTALLATION.

IN THE ABSENCE OF A NEW BOX SUPPLIED BY THE OWNER, THE CONTRACTOR SHALL SALVAGE THE EXISTING BOX AND PLACE IT ON THE NEW SUPPORT. DUE CARE SHALL BE EXERCISED IN SUCH AN OPERATION, AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING OR REPLACING ANY BOX DAMAGED BY IMPROPER HANDLING ON HIS PART, AS JUDGED AND DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE LOCAL POST MASTER REGARDING THE TIMING OF THE MOVEMENT OF ANY MAILBOX TO A NEW LOCATION.

PAYMENT UNDER THIS ITEM SHALL BE LIMITED TO FINAL PERMANENT INSTALLATIONS. TEMPORARY INSTALLATIONS SHALL BE IN ACCORDANCE WITH 107.10. HOWEVER, THE SAME MATERIAL AND SIZE LIMITATIONS AS FOR PERMANENT INSTALLATION SHALL APPLY.

MAILBOX SUPPORTS, COMPLETE IN PLACE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER EACH, FOR ITEM SPECIAL MAILBOX SUPPORT SYSTEM, SINGLE.

CALCULATED
GLD
CHECKED
MDW

GENERAL NOTES

DEF-TR 12

3
30

General Summary

Item	Sheet Number											Item	Quantity	Units	Description	
								9	3	6	5					
Roadway																
202								Lump				202	Lump	Lump Sum	Clearing and Grubbing	
202											351	202	351	Foot	Pipe Removed	
202							353					203	353	SYD	Pavement Removal	
203											11267	203	11267	CY	Excavation	
203											3555	203	3555	CY	Embankment	
204											5201	204	5201	SY	Subgrade Compaction	
606											325	606	325	LF	Guardrail, Type 5	
606											2	606	2	Each	W Beam Flared end Section	
606											4	606	4	Each	Bridge Terminal Assembly, Type 4	
606											2	606	2	Each	Anchor Assembly, Type A	
517											162.5	517	162.5	LF	Railing (Deep Beam Rail w/ Steel Tubular Backup)	
Special											3	Special	3	Each	Mailbox Support System, Single	
Erosion Control																
601								30				601	30	CY	Rock Channel Protection, Type C w/ filter	
659							353			7186		659	7539	SY	Seeding and Mulching	
659										0.65		659	0.68	Ton	Comercial Fertilizer	
659										19		659	20	M Gal	Water	
Drainage																
603								50				603	50	Foot	6" Conduit, Type F	
								50				603	50	Foot	8" Conduit, Type F	
								50				603	50	Foot	10" Conduit, Type F	
								50				603	50	Foot	12" Conduit, Type F	
603												603	0	Foot	18" Conduit, Type D	
604											85	604	85	Foot	24" Conduit, Type B	
605											358	605	358	Foot	12" Conduit, Type D	
606											150	606	150		12" Conduit, Type C	
604											1	604	1	Each	Side Ditch Inlet	
604											1	604	1	Each	Catch Basins 2-3	
605											512	605	512	LF	Aggregate Drain	
Pavement																
304											1543	304	1543	Tons	Aggregate Base	
408											1446	408	1446	Gal	Bituminous Prime Coat	
411											115	411	115	Cyd.	Stabilized Crushed Aggregate Berm	
448											384	448	384	Tons	Asphalt Concrete Surface Course Type 1 PG64-22	
448											378	448	378	Tons	Asphalt Concrete Intermediate Course Type 2 PG64-22	
Traffic Control																
626											12	626	12	Each	Barrier Reflector, Type A2	
642											3000	642	3000	LF	Edge Line	
642											1650	642	1650	LF	Centerline	
Maintenance Of Traffic																
614								Lump				614	Lump	Lump Sum	Maintaining Traffic	
Misellaneous																
623												623	Lump	Lump	Construction Layout Stakes	
624												624	Lump	Lump	Mobilization	

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GLD
CHECKED
MDW

GENERAL SUMMARY

DEF-TR 12

Drainage Summary

Ref. No.	From Station	To Station	Side	601	601	603	603	603	603	604	604	202
				Rock Channel Protection Type "D" W / Fabric Filter - 18"thick	Rock Channel Protection Type "B" W / Fabric Filter - 18"thick	12" Conduit Type D	24" Conduit Type B	12" Conduit Type C	12" Conduit Type C	Side Ditch Inlet	Catch Basin Std. 2-3	Pipe Removed
				Cubic Yard	Cubic Yard	Lft.	Lft.	Lft.	Lft.	Each	Each	Lft.
D1	24+11		Rt.			40						20
D2	28+49	28+83	Lt.			38						
D3	28+19	29+75	Rt.			150				1		
R1	32+23		C/L									42
R2	32+27	34+04	Lt.									175
R3	32+12	33+21	Rt.									114
D4	32+98		Rt.			130						
D5	32+00	32+50	C/L				85				1	
D6*	32+50	34+02*	Lt.					150				
	Totals					358	85	150	0	1	1	351

* The Contractor shall locate the existing pipe to be connected to this installation before ordering pipe.

Guardrail Summary

Ref. No.	From Station	To Station	Side	606	606	606	606	606	626	517	
				Guard Rail Type 5	Guard Rail Type 5 100' Radius	Type A Anchor Assembly	Bridge Terminal Assembly Type 4		Note	W Beam Flared End Section	Barrier Reflector Type A2
				Foot	Foot	Each	Each	Each	Each	Lf	
GR-1	25+43.05	27+46.9	Rt.	125		1	1				
GR-2	27+46.9	28+30.54	Rt.							81.25	
GR-3	28+30.54	28+77.94	Rt.		25		1	A	1		
GR-4	25+92.25	27+64.74	Lt.	150		1	1				
GR-5	27+64.74	28+44.12	Lt.							81.25	
GR-6	28+44.12	28+89.74	Lt.		25		1	A	1		
	Totals			275	50	2	4		2	12	162.5

Note A: Construct using a 100' radius

Drive Table

Ref No	Type	Side	Sta	Length ft	Width ft	Radius ft	Area sft	Base "T"	304	304*	408*	Pavt. "T" in.	448*	204*	Special Mailbox Each		
									Agg Base Vol in Cft.	Agg Base Vol in Cyd.	Prime Gallon @ .35 gal/syd		Surf Crs. T-1 PG 64-22 Ton	Subgrade Compaction Syd.			
DR1	Street	Rt.	21+51	26	18	25'	899	12	914	33.9	39	3	16.6	125.2	1		
DR2	Field	Rt.	24+12	37	12	25'	765	6	396	14.7	0	0	0.0	104.0			
DR3	Residence	Rt.	29+36	28.5	12	25'	678	6	384	14.2	31	2	8.4	100.7	1		
				74	12		888	8	592	21.9				124.0			
DR4	Residence	Rt.	32+98	30	16	25'	1038	6	415	15.4	36	2	10.0	115.3	1		
DR5	Field	Lt.	35+08	33	16	25'	810	6	531	19.7	0	0	0.0	134.3			
				* Quantities carried to Pavement Table hereon													
				Totals							120		106		35	704	3

Pavement Summary

			204	304	408	411	448	448
			Subgrade Compaction	Aggregate Base	Prime Coat	Crushed Stabilized Aggregate	Asphalt Concrete Surface Course Type 1 PG 64-22	Asphalt Concrete Intermediate Course Type 2 PG 64-22
			Sq. Yd	Cyd	Gallons	Cyd	Ton	Ton
Drives	(From Drive Table hereon)		704	120	106		35	
Pavement Calcs.	(See note below)		4497	1423	1340	115	270	378
Bridge Quantity from Misc. Calc. hereon							79	
	Totals		5201	1543	1446	115	384	378

Note: See Proposal Documents

Aggregate Drains

Station	Agg. Drain		Station	Agg. Drain		Station	Agg. Drain	
	Lt.	Rt.		Lt.	Rt.		Lt.	Rt.
1950	8		2475		8	3100	8	
1975	8		2500		8	3125	8	
2000	8		2525		8	3150	8	
2025	8		2550		8	3175	8	
2050	8		2575		8	3200	8	
2075	8		2600		8	3225	8	
2100	8		2625		8	3250	8	
2125	8		2650		8	3275	8	
2150	8		2675		8	3300	8	
2175	8		2700		8	3325	8	
2200	8		2725		8	3350	8	
2225	8		Bridge			3375	8	
2250	8		2850		8	3400	8	
2275	8		2875		8	3425	8	
2300	8		2900		8	3450	8	
2325	8		2925		8	3475	8	
2350	8		2950		8	3500	8	
2375	8		2975		8	3525	8	
2400	8		3000		8	3550	8	
2425	8		3025		8	3575	8	
2450	8		3050	8	8			
2475	8		3075	8	8			
			Total			512	Lft.	

Miscellaneous Calculations

Item 642 Centerline
Sta 19+50 to 36+00= 1650 Feet

Item 642 Edgeline
Sta 19+50 to 35+50 (Rt. & Lt.) = 3000 Feet

Item 659 Fertilizer
Sq. Yrds. Of seeding from Sh. 3
7539 Syds. * 20#/1000*9sft/syd/2000#/ton = 0.68 Tons

Item 659 Water, As directed
7539 SYds. *9*300gal./1000sft/1000gal/M Gallons = 20 M Gallons

Item 448 T Asphalt Concrete Surface Course Type 1 PG 64-22 (Bridge Quantities)
Bridge surface area = 2788 Sq. Ft(5.6+2.5+5.6)/3*12/27*2= 78.59 Tons

CALCULATED
GLD
CHECKED
MDW

PAVEMENT CALCULATIONS AND SUBSUMMARIES

DEF-TR12

Station	Excavation End area	Volume Cyd.	Embankment End Area	Volume Cyd.	Seeding End Width	Area Sq. Yds.
1925	0		0		0	
1950.00	38	18	1	0	25	35
1975.00	49	45	0	0	23	67
2000.00	48	80	1	2	26	68
2025.00	37	80	4	2	23	68
2050.00	36	78	7	5	25	67
2075.00	32	64	8	7	25	69
2100.00	32	63	9	8	25	69
2125.00	35	62	8	8	27	72
2150.00	40	67	13	10	38	90
2151.47	42	38	8	8	33	6
2162.74	47	21	5	4	33	41
2175.00	48	39	9	3	33	45
2200.00	52	68	9	8	33	92
2225.00	57	97	11	9	34	93
2250.00	57	101	10	10	31	90
2275.00	64	112	7	8	33	89
2300.00	63	111	6	6	37	97
2300.32	63	60	6	0	37	1
2325.00	56	55	7	6	38	103
2350.00	52	106	8	7	39	107
2375.00	49	97	11	9	42	113
2400.00	37	82	13	11	38	111
2411.57	32	55	48	40	19	37
2425.00	31	31	17	14	38	43
2450.00	23	25	28	21	49	121
2475.00	9	15	58	40	50	138
2500.00	8	8	95	71	50	139
2525.00	8	7	117	98	53	143
2550.00	10	8	158	127	63	161
2575.00	7	8	179	156	66	179
2600.00	5	6	190	171	56	169
2605.92	47	6	162	39	42	32
2625.00	6	19	156	112	41	88
2650.00	4	5	168	150	41	114
2675.00	4	4	147	146	40	113
2700.00	4	4	122	125	34	103
2725.00	35	18	147	125	48	114
2750.00	38	34	196	159	39	121
2757.00	0	5		25	0	15
Subtotal		1799		1749		3422

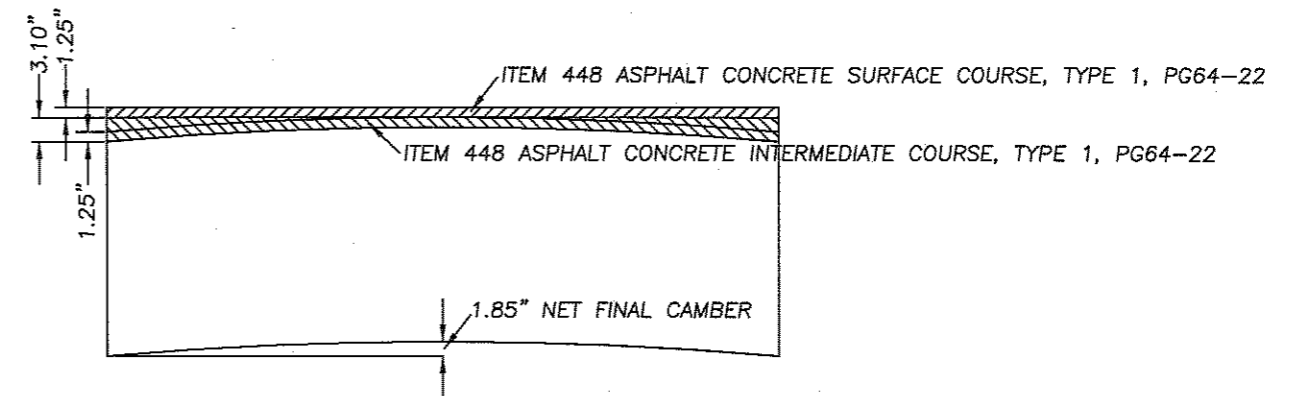
Station	Excavation End area	Volume Cyd.	Embankment End Area	Volume Cyd.	Seeding End Width	Area Sq. Yds.
2840.00	0	0	0	0	0	0
2850.00	0	0	0	0	0	0
2860.00	24	4	0	0	39	22
2867.00	156	33	57	11	46	47
2875.00	298	59	0	7	29	29
2899.46	667	143	0	0	60	40
2900.00	1046	776	0	0	78	188
2925.00	1032	21	0	0	78	5
2936.10	978	931	0	0	72	208
2950.00	953	1327	0	0	71	88
2950.00	895	867	0	0	70	109
2975.00	744	759	0	0	75	201
3000.00	650	645	0	0	74	207
3025.00	754	650	0	0	74	206
3050.00	762	702	0	0	73	204
3075.00	719	686	0	0	71	200
3100.00	647	632	0	0	67	192
3125.00	521	541	0	0	63	181
3150.00	303	381	0	0	53	161
3175.00	90	182	0.3	0	38	126
3200.00	6	44	35	16	52	125
3201.67	4	0	80	4	53	10
3225.00	2	3	118	86	36	115
3250.00	2	2	123	112	36	100
3275.00	4	3	118	112	36	100
3298.19	5	4	149	115	21	73
3300.00	4	4	147	10	21	4
3325.00	0	2	145	135	28	68
3339.61	0	0	149	80	28	45
3350.00	2	0	146	57	32	35
3375.00	1	1	145	135	32	89
3400.00	2	1	160	141	30	86
3425.00	1	1	162	149	28	81
3450.00	1	1	146	143	27	76
3475.00	2	1	131	128	28	76
3500.00	0	1	111	112	5	46
3508.19	1	2	71	124	14	9
3525.00	2	1	30	65	26	37
3550.00	16	13	9	62	25	71
3575.00	39	25	0	4	25	69
3600.00	0	18		0	0	35
Subtotal		9468		1806		3764
Total		11267		3555		7186

Superelevation Table

Edge Elevation	Correction	Cross Slope	Width	Station	Profile Grade	Width	Cross Slope	Correction	Edge Elevation
699.72	-0.14	-0.016	9	1950.00	699.86	9	-0.016	-0.14	699.72
700.92	-0.15	-0.016	9.5	2000.00	701.07	9.5	-0.016	-0.15	700.92
701.26	-0.16	-0.016	10	2025.00	701.42	10	-0.0107	-0.11	701.31
701.39	-0.17	-0.016	10.5	2037.50	701.56	10.5	0	0.00	701.56
701.49	-0.18	-0.016	11	2050.00	701.67	11	0.0053	0.06	701.73
701.59	-0.18	-0.016	11	2062.74	701.77	11	0.0056	0.06	701.83
701.67	-0.18	-0.016	11.24	2075.00	701.85	11	0.016	0.18	702.03
701.61	-0.32	-0.0272	11.74	2100.00	701.93	11	0.0272	0.30	702.23
701.45	-0.47	-0.0383	12.24	2125.00	701.92	11	0.0383	0.42	702.34
701.20	-0.63	-0.0494	12.74	2150.00	701.83	11	0.0494	0.54	702.37
701.03	-0.72	-0.0551	13	2162.74	701.75	11	0.0551	0.61	702.36
700.86	-0.79	-0.0606	13	2175.00	701.65	11	0.0606	0.67	702.32
700.46	-0.93	-0.0718	13	2200.00	701.39	11	0.0718	0.79	702.18
699.96	-1.08	-0.083	13	2225.00	701.04	11	0.083	0.91	701.95
699.52	-1.08	-0.083	13	2250.00	700.60	11	0.083	0.91	701.51
699.10	-0.97	-0.0746	13	2275.00	700.07	11	0.0734	0.81	700.88
698.59	-0.86	-0.0661	13	2300.00	699.45	11	0.0639	0.70	700.15
698.58	-0.86	-0.066	13	2300.32	699.44	11	0.0638	0.70	700.14
698.03	-0.72	-0.0576	12.5	2325.00	698.75	11	0.0545	0.60	699.35
697.41	-0.59	-0.0491	12	2350.00	698.00	11	0.045	0.50	698.50
696.83	-0.42	-0.0369	11.5	2375.00	697.25	11	0.036	0.40	697.65
696.23	-0.30	-0.0277	11	2400.00	696.53	11	0.027	0.30	696.83
695.68	-0.20	-0.0184	11	2425.00	695.88	11	0.018	0.20	696.08
695.18	-0.10	-0.0092	11	2450.00	695.28	11	0.009	0.10	695.38
694.75	0.00	0	11	2475.00	694.75	11	0	0.00	694.75
694.41	0.13	0.0118	11	2500.00	694.28	11	-0.0119	-0.13	694.15
694.21	0.03	0.0028	11	2505.92	694.18	11	0.0028	0.03	694.21
694.14	0.26	0.0237	11	2525.00	693.88	11.38	-0.0237	-0.27	693.61
693.92	0.39	0.0356	11	2550.00	693.53	11.88	-0.0356	-0.42	693.11
693.77	0.52	0.0474	11	2575.00	693.25	12.38	-0.0474	-0.59	692.66
693.68	0.65	0.0593	11	2600.00	693.03	12.88	-0.0593	-0.76	692.27
693.67	0.68	0.0621	11	2605.92	692.99	13	-0.0621	-0.81	692.18
693.66	0.78	0.0711	11	2625.00	692.88	13	-0.0711	-0.92	691.96
693.69	0.91	0.083	11	2650.00	692.78	13	-0.083	-1.08	691.70
693.66	0.91	0.083	11	2675.00	692.75	13	-0.083	-1.08	691.67
693.70	0.91	0.083	11	2700.00	692.79	13	-0.083	-1.08	691.71
693.79	0.91	0.083	11	2725.00	692.88	13	-0.083	-1.08	691.80
				2748.97	693.00	17.52	-0.083	-1.45	691.55
				2750.00	693.01	17.58	-0.083	-1.46	691.55
693.92	0.91	0.083	11	2750.00	693.01	17.58	-0.083	-1.46	691.55
694.39	1.32	0.083	15.87	2764.17	693.08				
694.42	1.29	0.083	15.59	2775.00	693.13	18.42	-0.083	-1.53	691.60
694.55	1.29	0.083	15.59	2800.00	693.26	18.46	-0.083	-1.53	691.72
694.74	1.36	0.083	16.34	2825.00	693.38	17.7	-0.083	-1.47	691.91
				2830.89	693.41	17.51	-0.083	-1.45	691.96
694.87	1.39	0.08	17.38	2844.44	693.48				
694.37	0.87	0.079	11	2850.00	693.51	13	-0.083	-1.08	692.43
694.43	0.80	0.0726	11	2875.00	693.63	13	-0.0726	-0.94	692.69
694.44	0.69	0.0629	11	2899.46	693.75	13	-0.0629	-0.82	692.93
694.44	0.68	0.0622	11	2900.00	693.76	12.99	-0.0622	-0.81	692.95
694.45	0.57	0.0518	11	2925.00	693.88	12.49	-0.0518	-0.65	693.23
694.47	0.46	0.0414	11	2950.00	694.01	11.99	-0.0414	-0.50	693.51
694.47	0.34	0.0311	11	2975.00	694.13	11.49	-0.0311	-0.36	693.77
694.49	0.23	0.0207	11	3000.00	694.26	11	-0.0207	-0.23	694.03
694.49	0.11	0.0104	11	3025.00	694.38	11	-0.0104	-0.11	694.27
694.51	0.00	0	11	3050.00	694.51	11	0	0.00	694.51
694.52	-0.11	-0.0104	11	3075.00	694.63	11	0.0104	0.11	694.74
694.56	-0.19	-0.0173	11	3100.00	694.75	11	0.0207	0.23	694.98
694.64	-0.36	-0.0311	11.46	3125.00	695.00	11	0.0311	0.34	695.34
694.78	-0.50	-0.0414	11.96	3150.00	695.28	11	0.0414	0.46	695.74
694.97	-0.65	-0.0518	12.46	3175.00	695.62	11	0.0518	0.57	696.19
695.21	-0.81	-0.0622	12.96	3200.00	696.02	11	0.0622	0.68	696.70
695.23	-0.82	-0.0629	13	3201.67	696.05	11	0.0629	0.69	696.74
695.54	-0.94	-0.0726	13	3225.00	696.48	11	0.0726	0.80	697.28
695.93	-1.08	-0.083	13	3250.00	697.01	11	0.083	0.91	697.92
696.51	-1.08	-0.083	13	3275.00	697.59	11	0.083	0.91	698.50
697.26	-0.98	-0.0756	13	3300.00	698.24	11	0.0756	0.83	699.07
698.06	-0.89	-0.0681	13	3325.00	698.95	11	0.0681	0.75	699.70
698.55	-0.83	-0.0638	13	3339.61	699.38	11	0.0638	0.70	700.08
698.91	-0.78	-0.0607	12.79	3350.00	699.69	11	0.0607	0.67	700.36

CAMBER: Calculated camber at time of paving, including allowance for camber growth due to creep, is 2.20". Calculated deflection due to weight of surface course and railing is 0.34". Net final camber of beams is 1.85" which is 1.85" in excess of the amount required to place the top of the beams parallel to profile grade. This excess amount shall be compensated for by thickening the 448 Asphalt Concrete Intermediate Course, Type 1 from 1.25" at the center of the span to 3.1" at the ends of the span.

ASPHALT CONCRETE SURFACE COURSE: Asphalt wearing surface course shall consist of 448 Asphalt Concrete Intermediate Course, Type 1 and 1.25" thickness of 448 Asphalt Concrete Surface Course, Type 1. The 448 Asphalt Concrete Intermediate Course shall be placed in two operations. The first course shall be 1.25" uniform thickness. The second course shall be feathered to place the surface parallel to and 1.25" below the final surface elevation.



CALCULATED
GLD
CHECKED
WJS

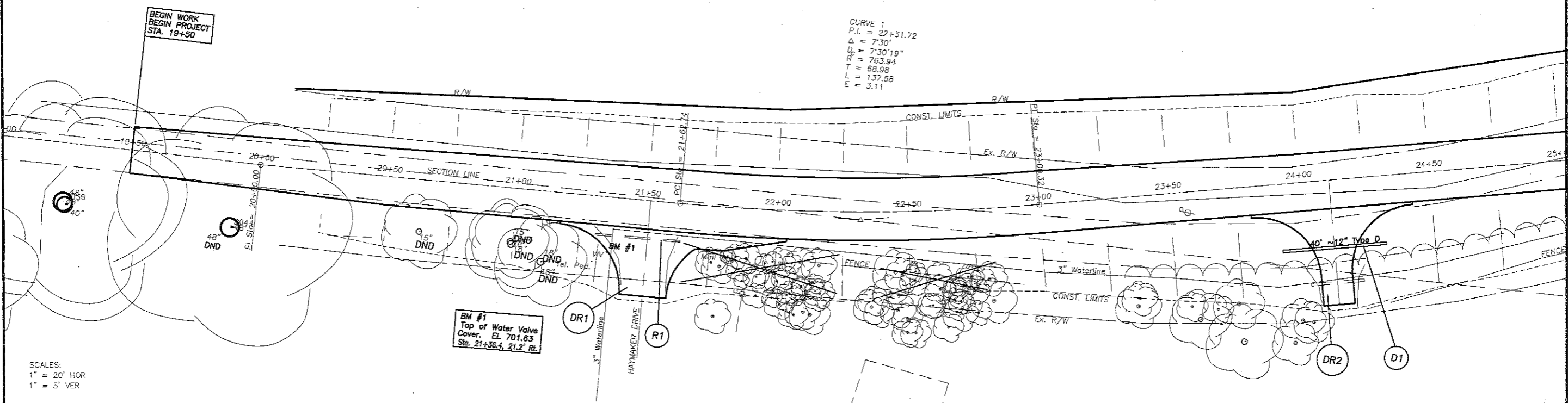
SUPERELEVATION TABLE & BRIDGE PAVING DETAIL

DEF-TR12

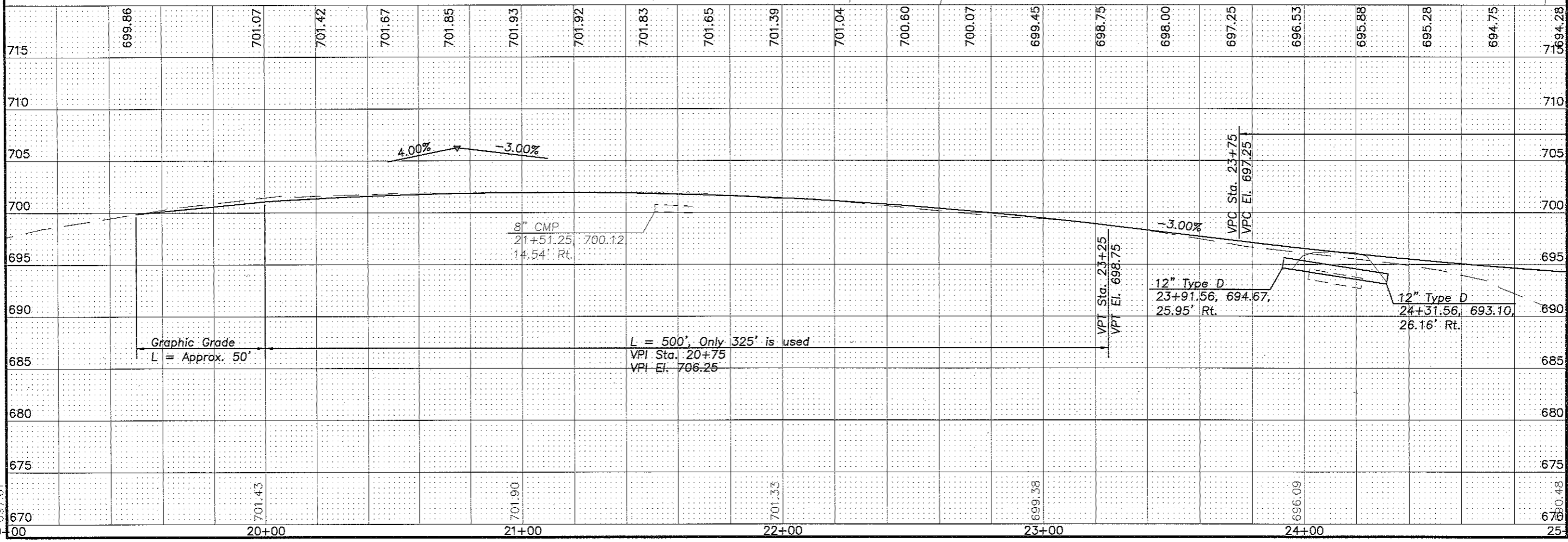


DESIGNED
G.L.D.
CHECKED
M.D.W.

CURVE 1
P.I. = 22+31.72
Δ = 7°30'
D = 7°30'19"
R.V. = 763.94
T = 66.98
L = 137.58
E = 3.11

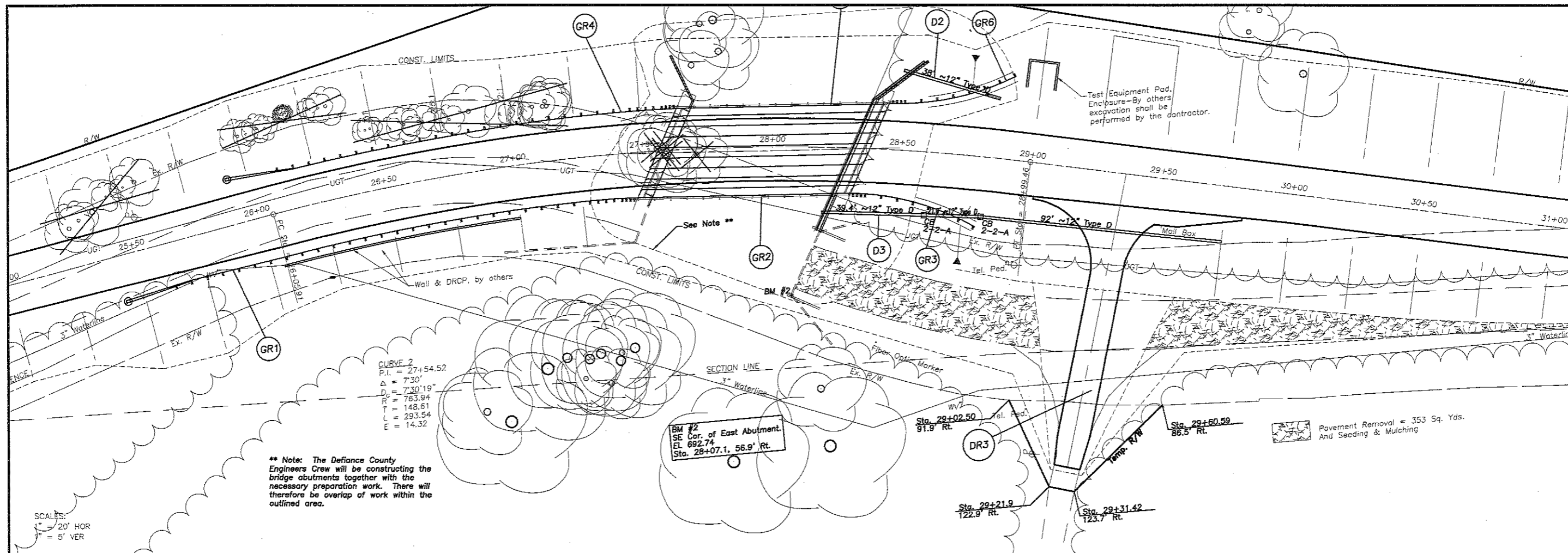


SCALES:
1" = 20' HOR
1" = 5' VER



PLAN AND PROFILE - TR12
STA 19+00 TO STA 25+00

DEF-TR12



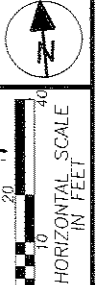
CURVE 2
 P.I. = 27+54.52
 $\Delta = 7.30^\circ$
 $D_c = 7.30'19''$
 $T = 763.94$
 $E = 148.61$
 $F = 293.54$
 $E = 14.32$

** Note: The Defiance County Engineers Crew will be constructing the bridge abutments together with the necessary preparation work. There will therefore be overlap of work within the outlined area.

SCALES:
 1" = 20' HOR
 1" = 5' VER

BM #2
 SE Cor. of East Abutment.
 El. 692.74
 Sta. 28+07.1, 56.9' Rt.

Pavement Removal = 353 Sq. Yds.
 And Seeding & Mulching



DESIGNED: GLD
 CHECKED: MDW

PLAN AND PROFILE - TR12
 STA 25+00 TO STA 31+00

694.28	693.88	693.53	693.25	693.03	692.88	692.78	692.75	692.79	692.88	693.01	693.19	693.26	693.38	693.51	693.63	693.76	693.88	694.01	694.13	694.26	694.38	694.51	694.63	694.75	
710	L = 350' SSD = 461'								VPT Sta. 27+25 VPT El. 692.88														VPC Sta. 30+75 VPC El. 697.63	710	
705	VPI Sta. 25+50 VPI El. 692.00											CB 2-2-A (Single Window) Top 691.00 CB El. 690.50 Sta. 28+60, 24.31' Rt. 12" 688.70, East 12" 688.70, West			CB 2-2-A (Single Window) Top 691.28 Sta. 28+82.59, 23.06' Rt. 12" 688.80, East 12" 688.80, West										
700																									
695																									
690	-3.00% +0.50%																								
685																									
680																									
675																									
670																									
665																									
690.48	689.87			691.31																				694.10	
25+00	26+00			27+00					28+00					29+00						30+00				31+00	

DEF-TR 12

BM #3



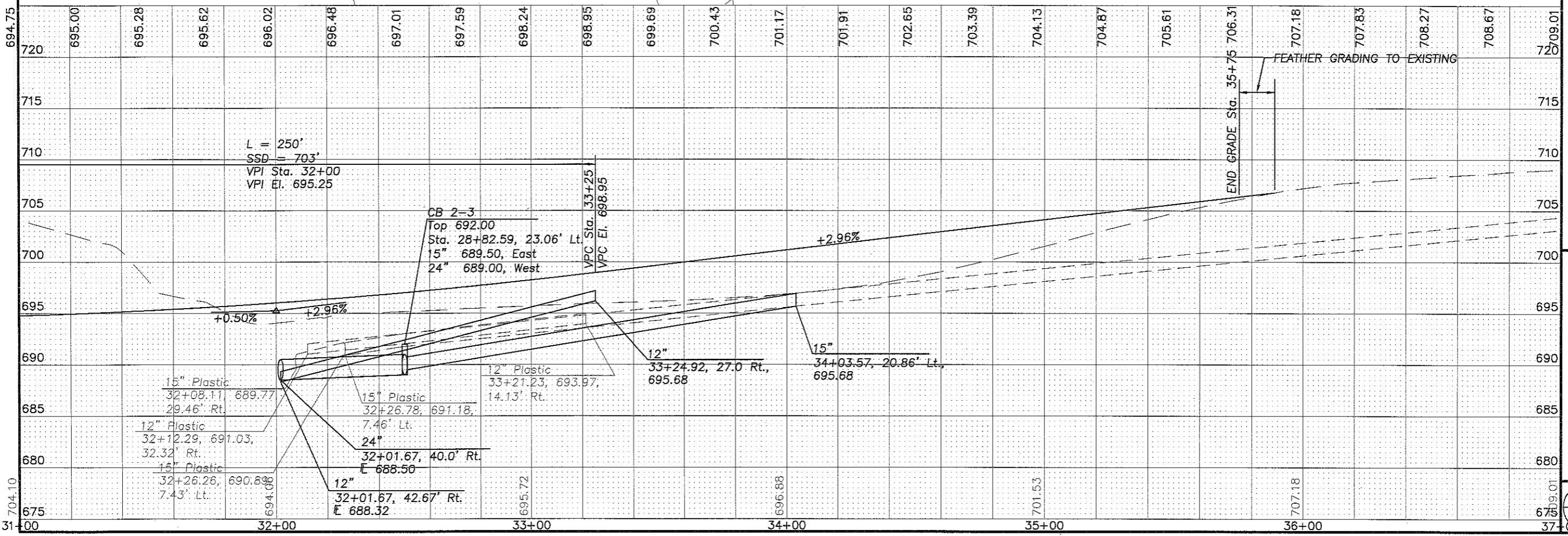
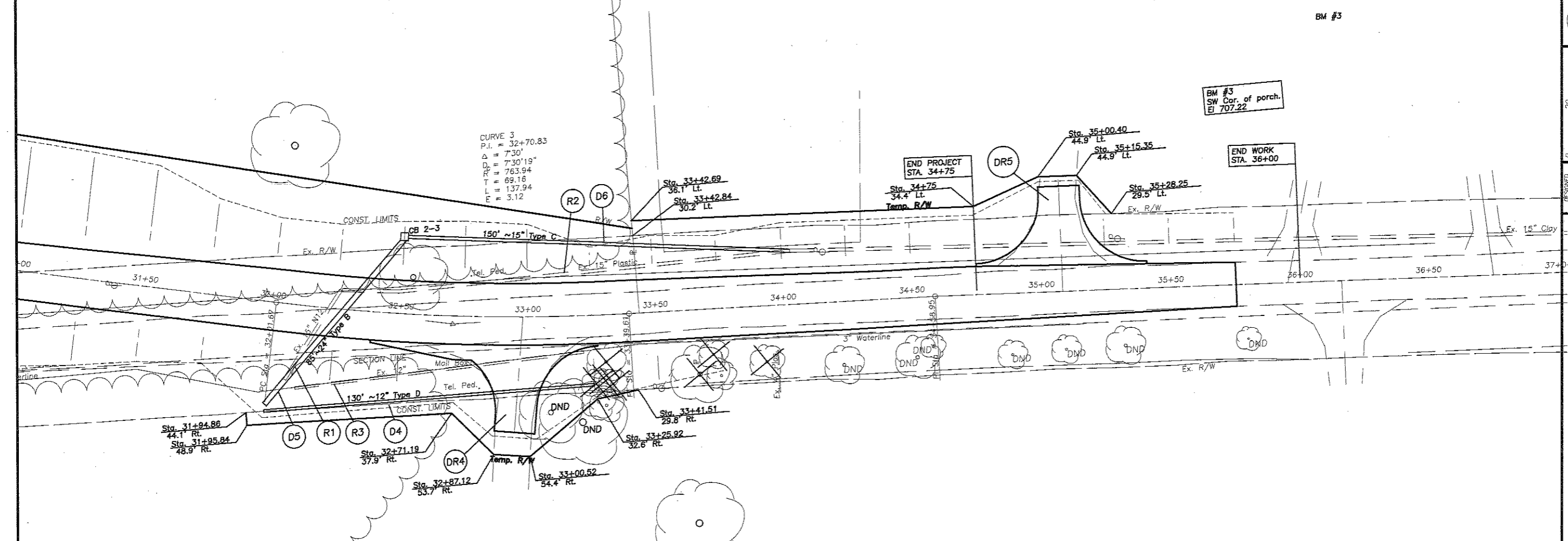
DESIGNED
GLD
CHECKED
MDW

CURVE 3
P.I. = 32+70.83
 $\Delta = 730'$
 $\Delta = 730'19''$
R = 763.94
D = 69.16
L = 137.94
E = 3.12

BM #3
SW Cor. of porch.
EI 707.22

END PROJECT
STA. 34+75

END WORK
STA. 36+00



PLAN AND PROFILE - TR12
STA 31+00 TO STA 37+00

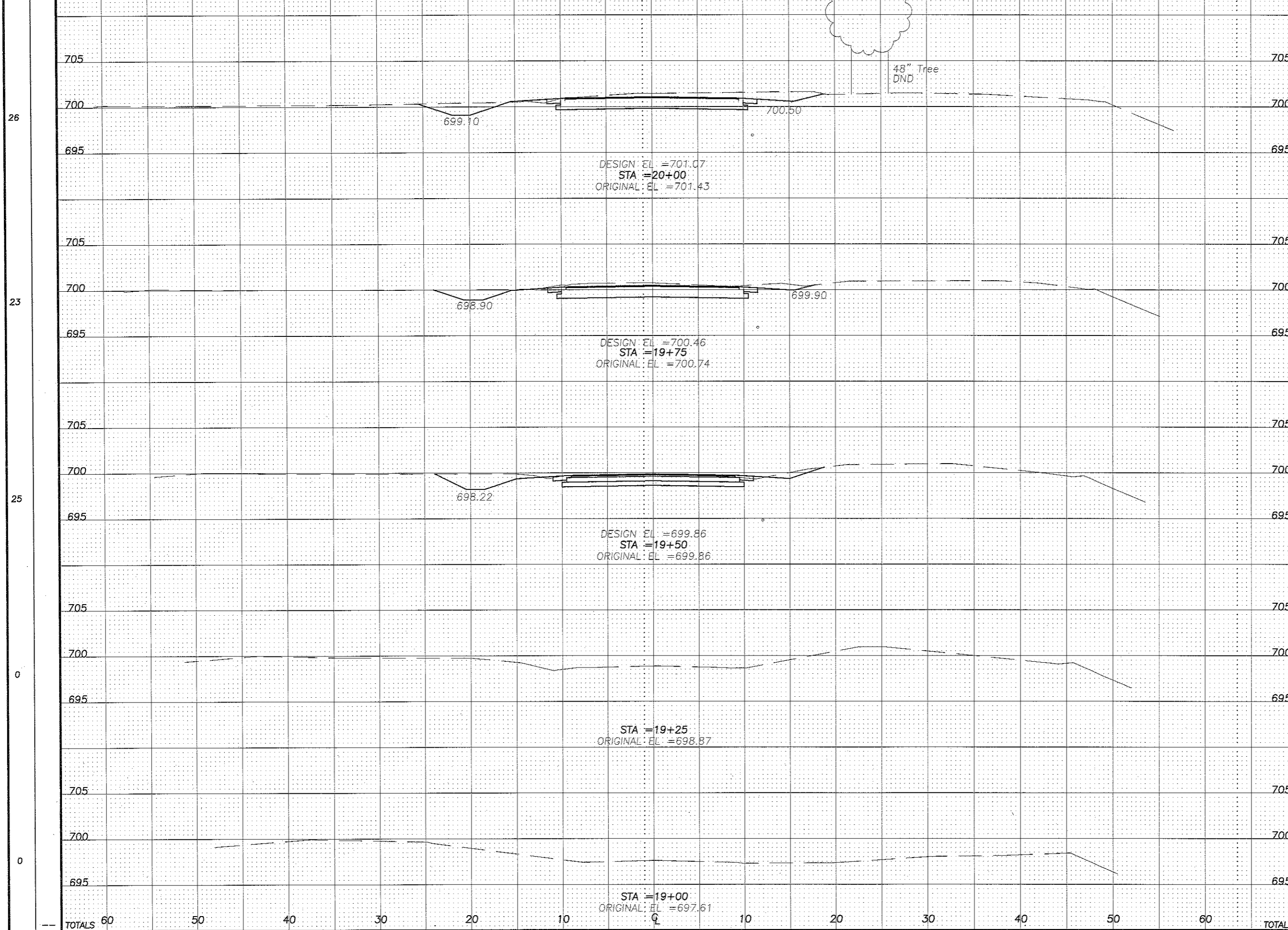
DEF-TR12

10
30

SEEDING
END WIDTH SQ. YDS.

END AREA VOLUME
CUT FILL CUT FILL

CALCULATED
R.L.B.
CHECKED
M.D.W.



STATION	CUT	FILL	CUT	FILL
19+00	0	0	0	0
19+25	0	0	0	0
19+50	38	1	38	1
19+75	49	0	49	0
TOTALS	87	1	87	1

Earthwork and Seeding Quantities

See Sheet 6 of 30

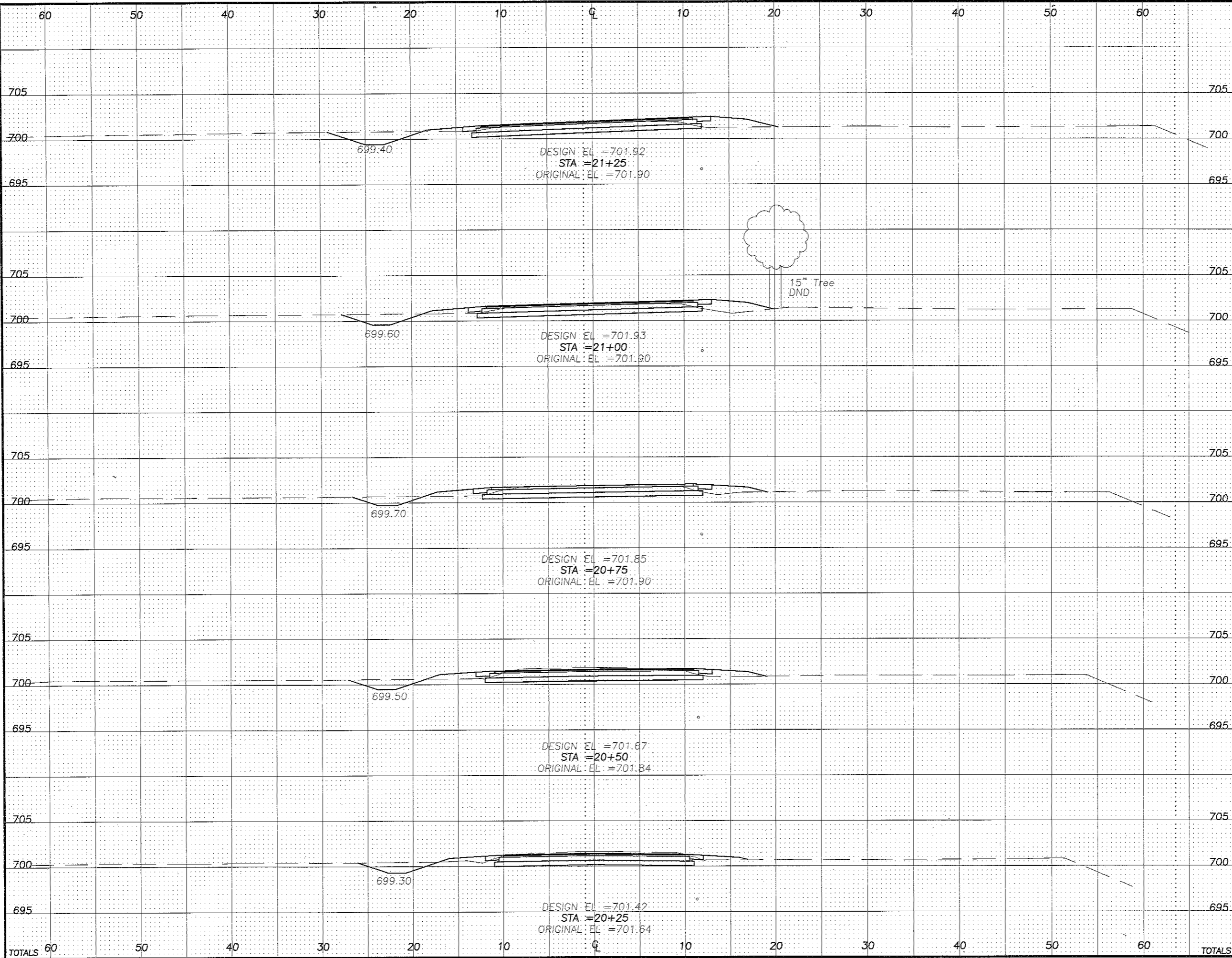
CROSS SECTIONS
STA. 19+00 TO STA. 19+75

DEF-TR 12

11
30

SEEDING

END WIDTH	SQ. YDS.
27	
25	
25	
25	
23	
TOTALS	

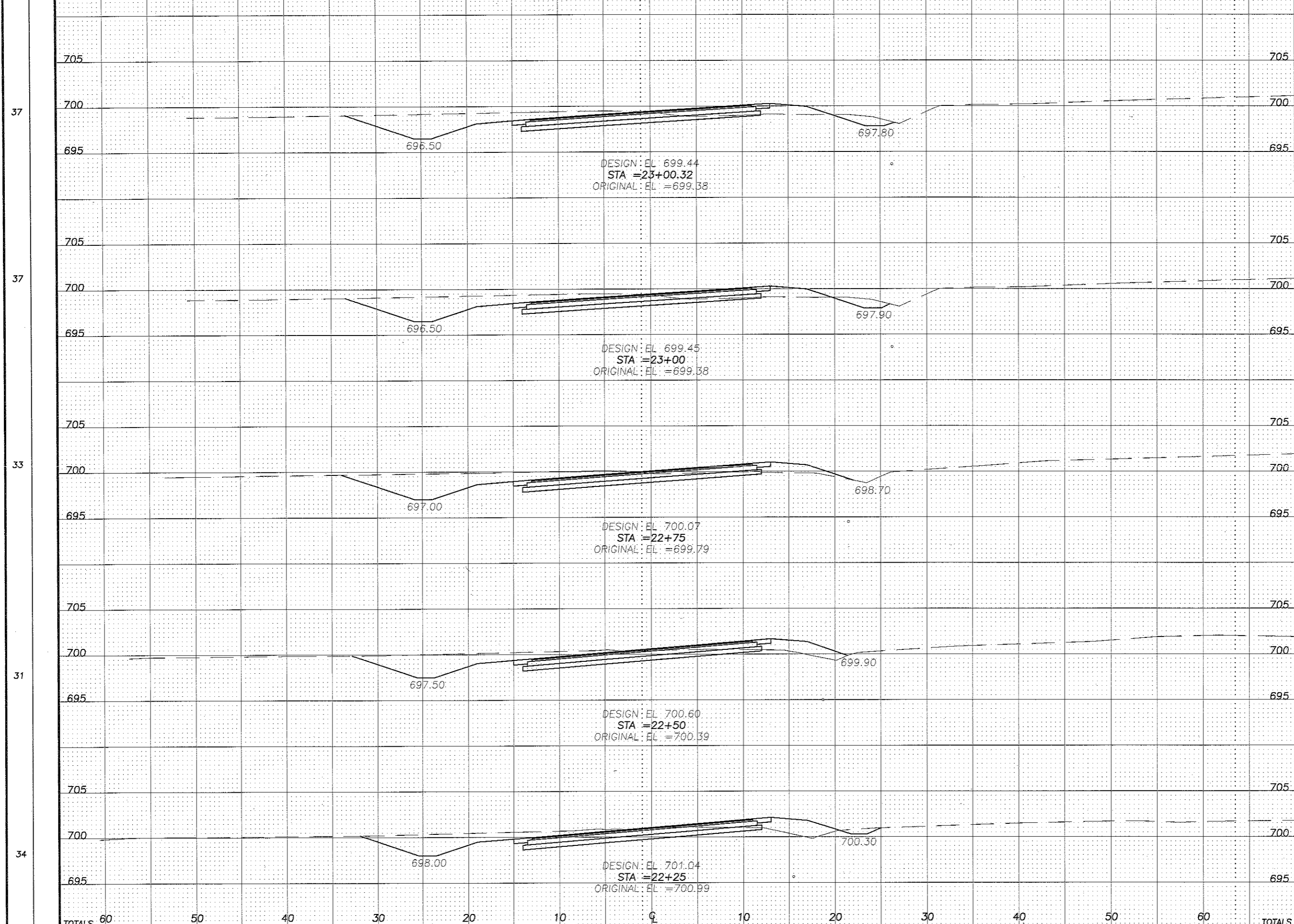


END AREA		VOLUME	
CUT	FILL	CUT	FILL
35	8		
32	9		
32	8		
36	7		
37	4		
TOTALS			

Earthwork and Seeding Quantities
See Sheet 6 of 30
CROSS SECTIONS
STA. 20+00 TO STA. 20+75
DEF-TR 12
12/30

SEEDING
END WIDTH SQ. YDS.

END AREA VOLUME
CUT FILL CUT FILL
CALCULATED RLB CHECKED MDW



SEEDING	END WIDTH	SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
37	60		63	6		
37	60		63	6		
33	60		64	7		
31	60		57	10		
34	60		57	11		
TOTALS	60					

Earthwork and Seeding Quantities

See Sheet 6 of 30

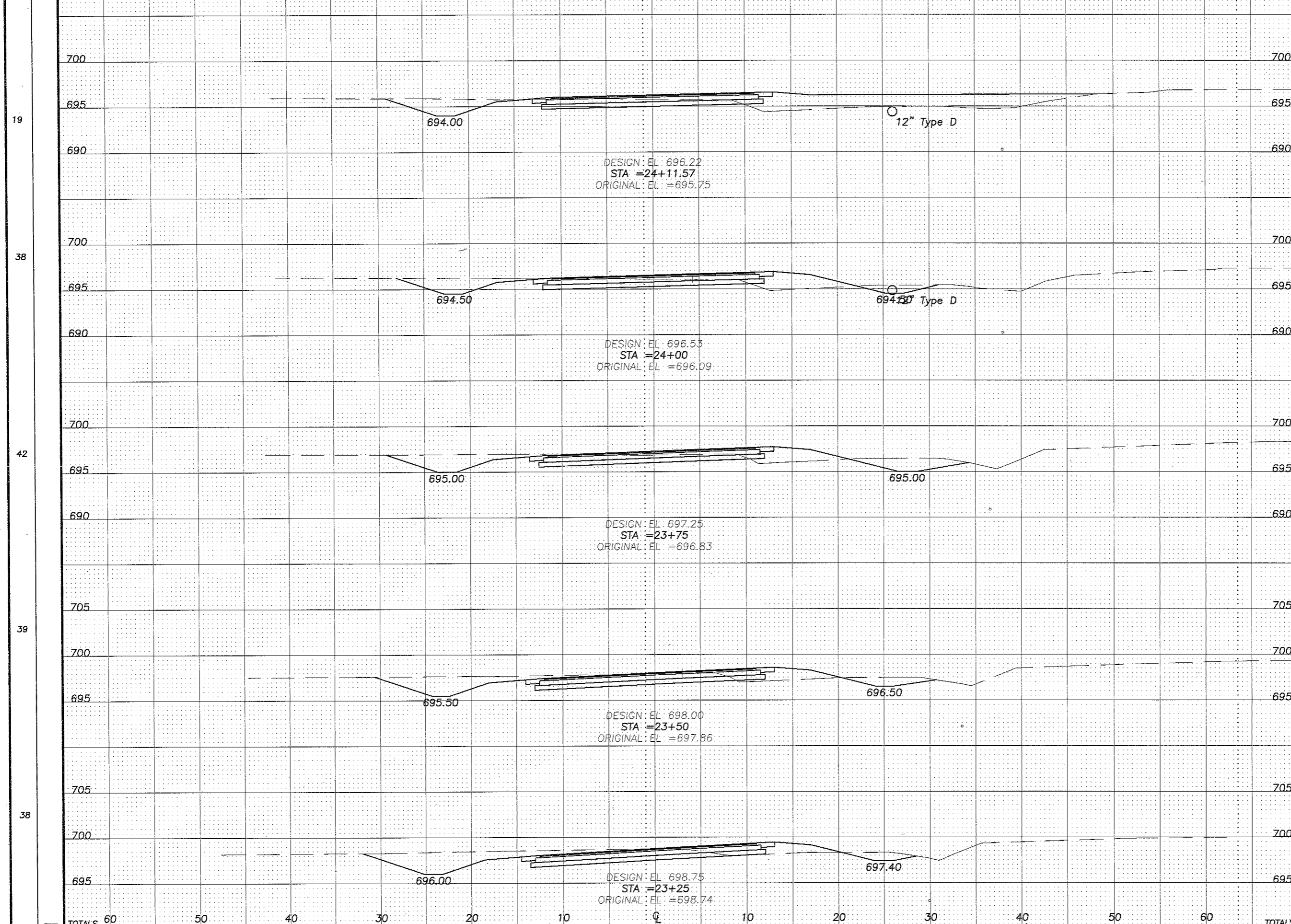
CROSS SECTIONS
STA. 22+25 TO STA. 23+00.32

DEF-TR 12

14
30

SEEDING
END WIDTH
SO. YDS.

END AREA
CUT FILL
VOLUME
CUT FILL
CALCULATED
RLB
CHECKED
MDW



END AREA	VOLUME	CALCULATED	RLB	CHECKED	MDW
CUT	FILL				
32	48				
37	13				
49	11				
52	8				
56	7				
TOTALS					

Earthwork and Seeding Quantities

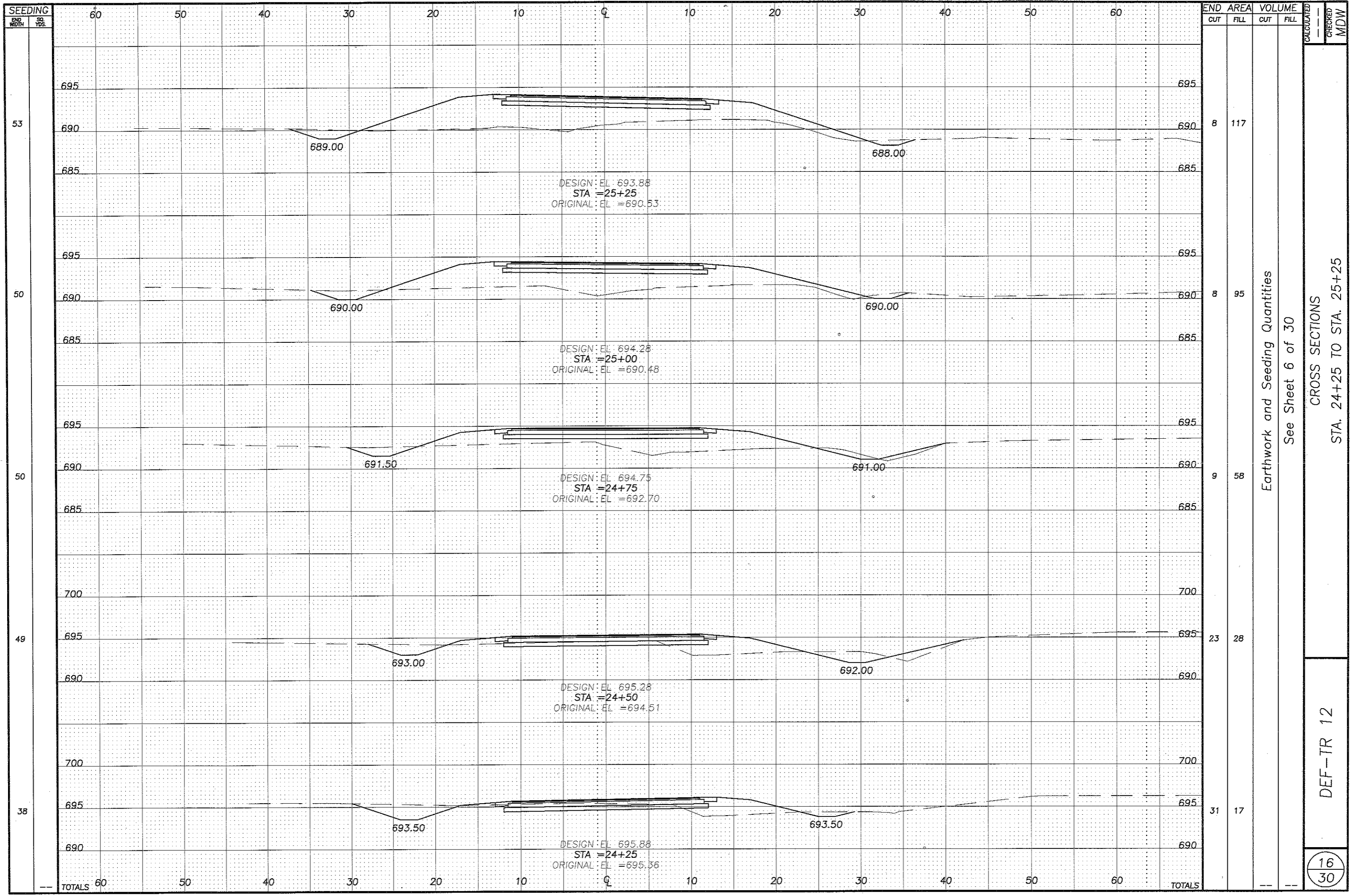
See Sheet 6 of 30

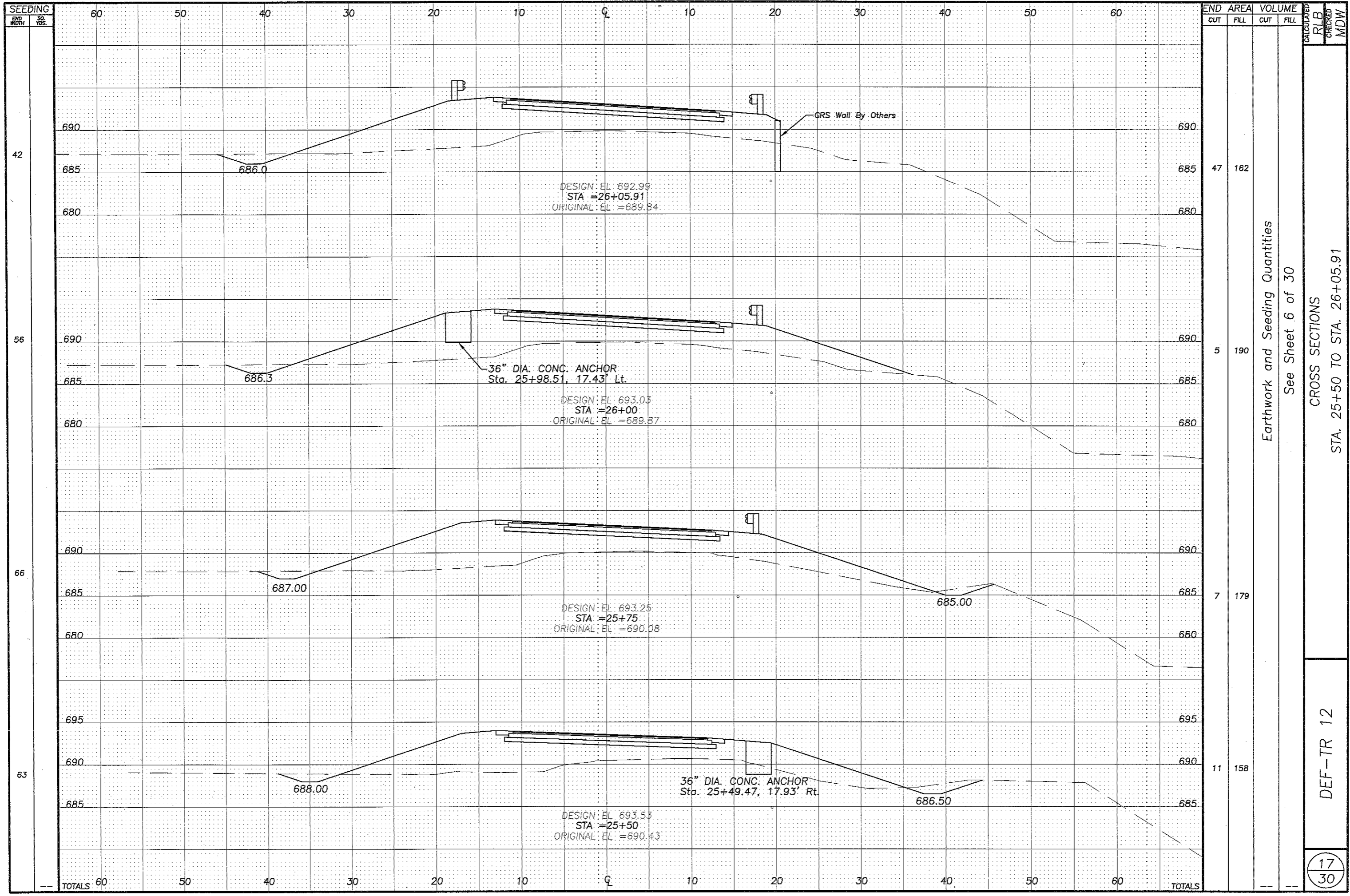
CROSS SECTIONS

STA. 23+25 TO STA. 24+11.57

DEF-TR 12

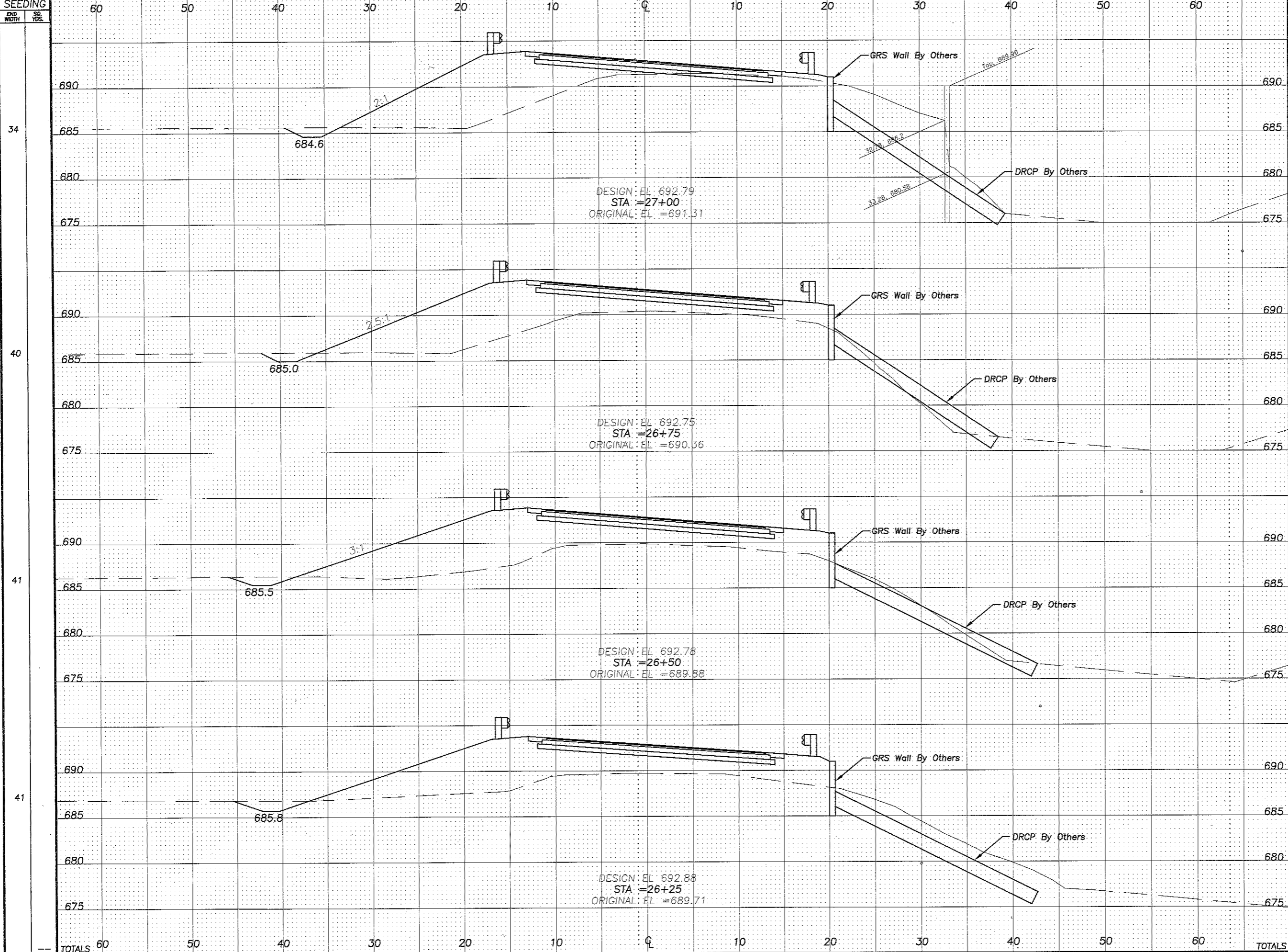
15
30





SEEDING
END WIDTH SQ. YDS.

END AREA VOLUME
CUT FILL CUT FILL
CALCULATED
RLB
CHECKED
MDW



STATION	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
34	4	122		
40	4	147		
41	4	168		
41	6	156		
TOTALS	60			

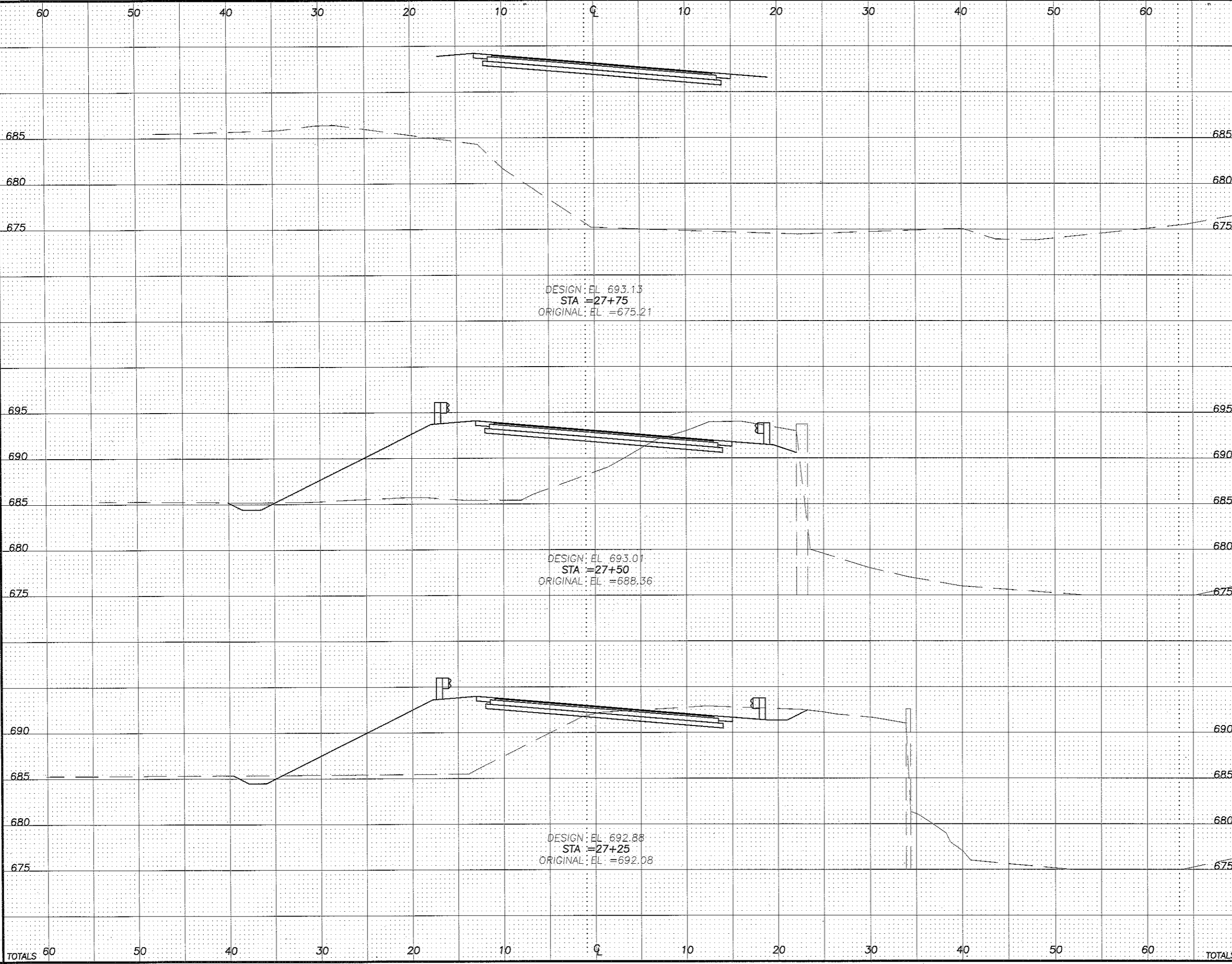
Earthwork and Seeding Quantities
See Sheet 6 of 30
CROSS SECTIONS
STA. 26+25 TO STA. 27+00

DEF-TR 12

18/30

SEEDING
END WIDTH SO YDS

END AREA VOLUME
CUT FILL CUT FILL
CALCULATED RLB CHECKED MDW



39

41

38 196

35 147

Earthwork and Seeding Quantities

See Sheet 6 of 30

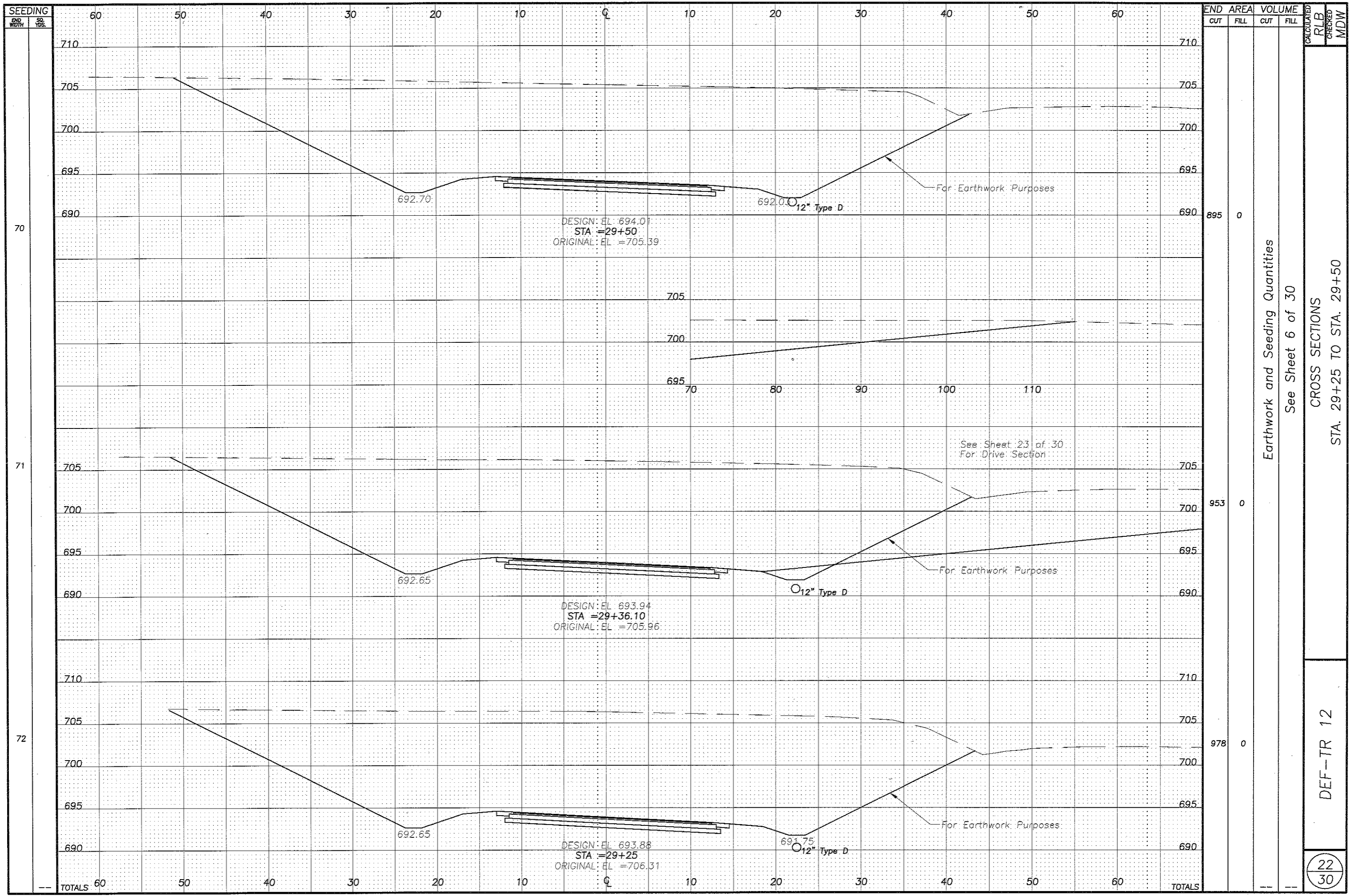
CROSS SECTIONS

STA. 27+25 TO STA. 27+75

DEF-TR 12

19
30

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



CALCULATED
R/LB
CHECKED
MDW

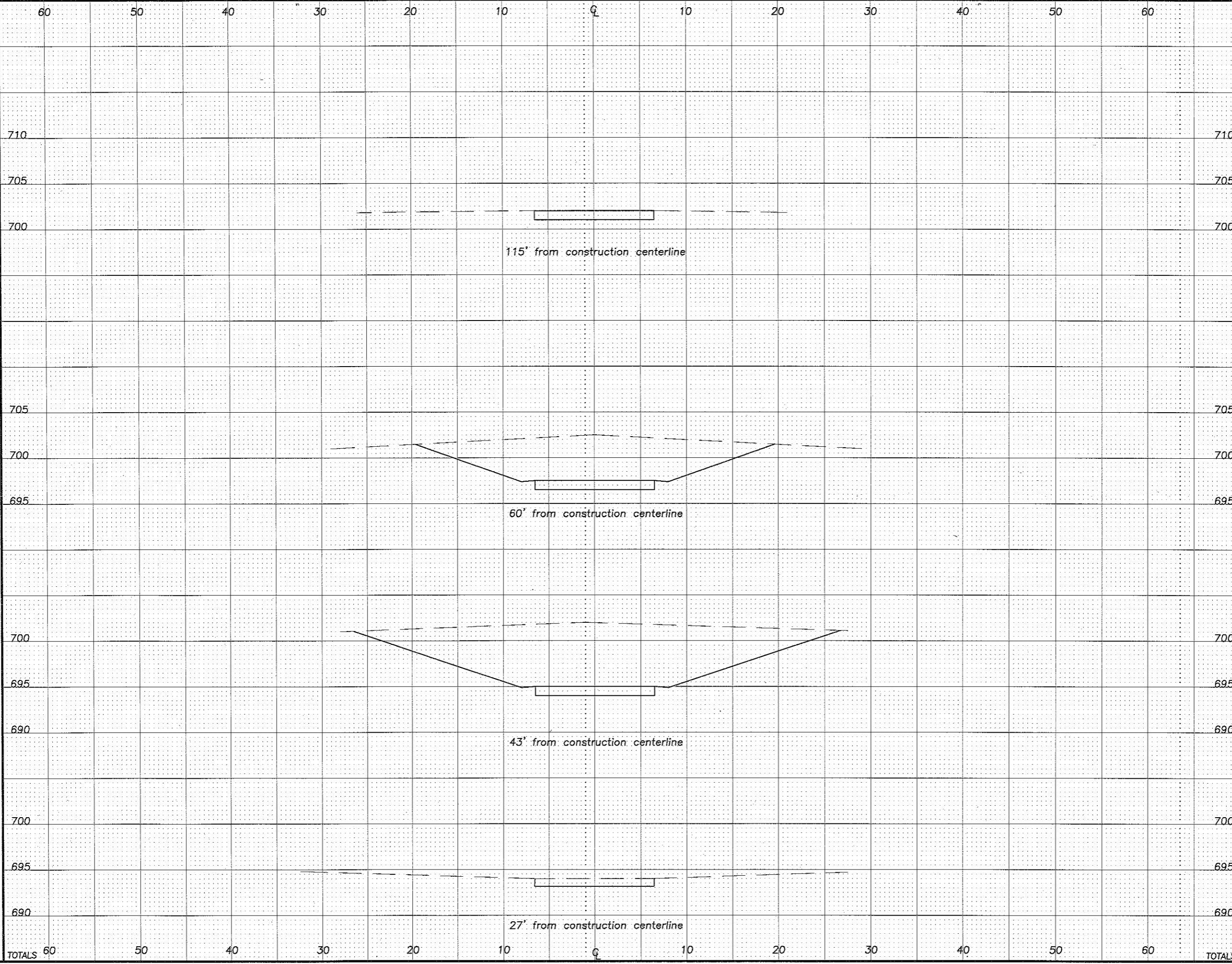
Earthwork and Seeding Quantities
See Sheet 6 of 30

CROSS SECTIONS
STA. 29+25 TO STA. 29+50

DEF-TR 12

22
30

SEEDING
END WIDTH SQ. YDS.



END AREA	VOLUME	
	CUT	FILL
8		
148		
256		
8		
TOTALS		

CALCULATED
G.L.D.
CHECKED
MDW

CROSS SECTIONS
Driveway Sta. 29+36.09

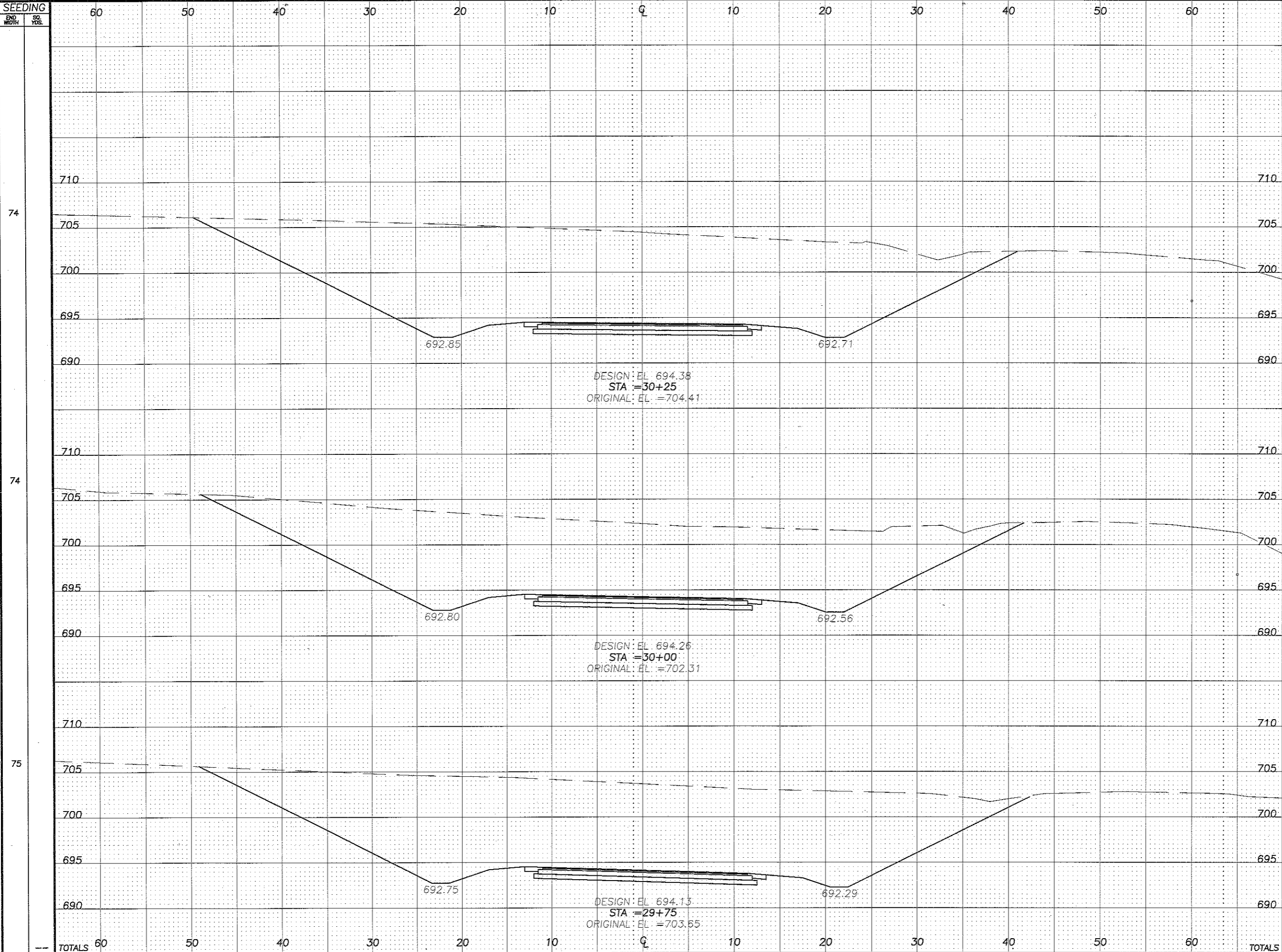
DEF--TR 12

23
30

YDS. TOTALS 60 50 40 30 20 10 0 10 20 30 40 50 60

SEEDING
END WIDTH SQ. YDS.

END AREA VOLUME
CUT FILL CUT FILL
CALCULATED RLB
CHECKED MDW



END AREA	VOLUME
CUT	FILL
754	0
650	0
744	0
TOTALS	TOTALS

Earthwork and Seeding Quantities

See Sheet 6 of 30

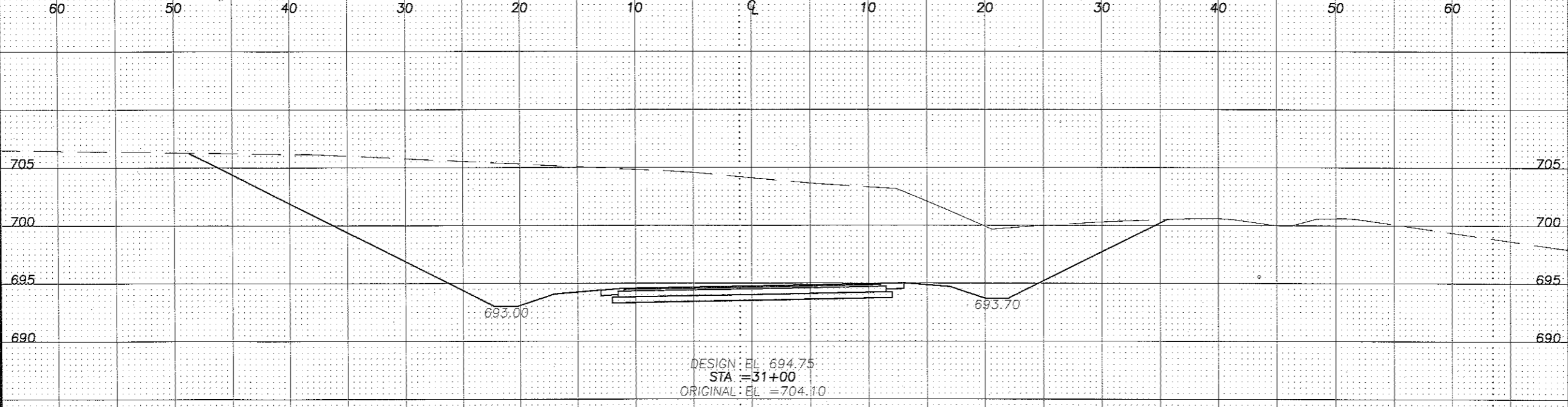
CROSS SECTIONS
STA. 29+75 TO STA. 30+25

DEF-TR 12

SEEDING
END WIDTH SQ. YDS.

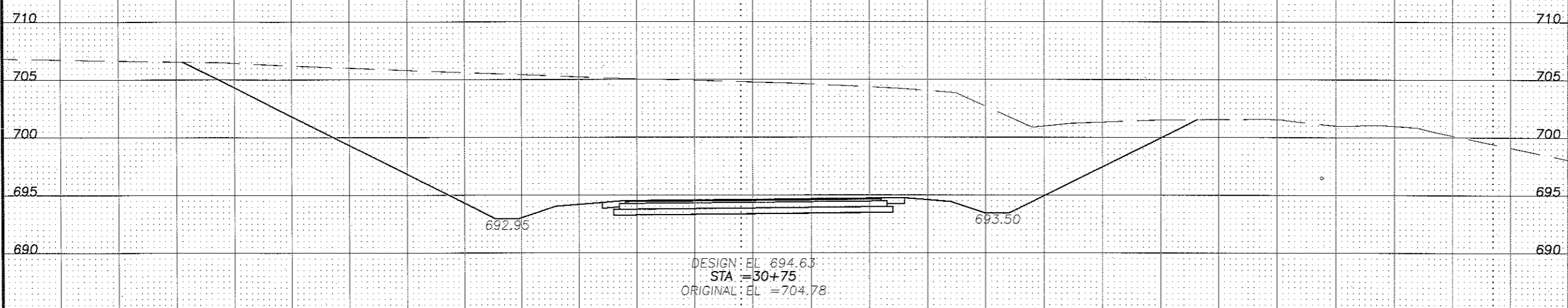
END AREA VOLUME
CUT FILL CUT FILL
CALCULATED RLB CHECKED MDW

67



647 0

71



719 0

73



762 0

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

Earthwork and Seeding Quantities

See Sheet 6 of 30

CROSS SECTIONS

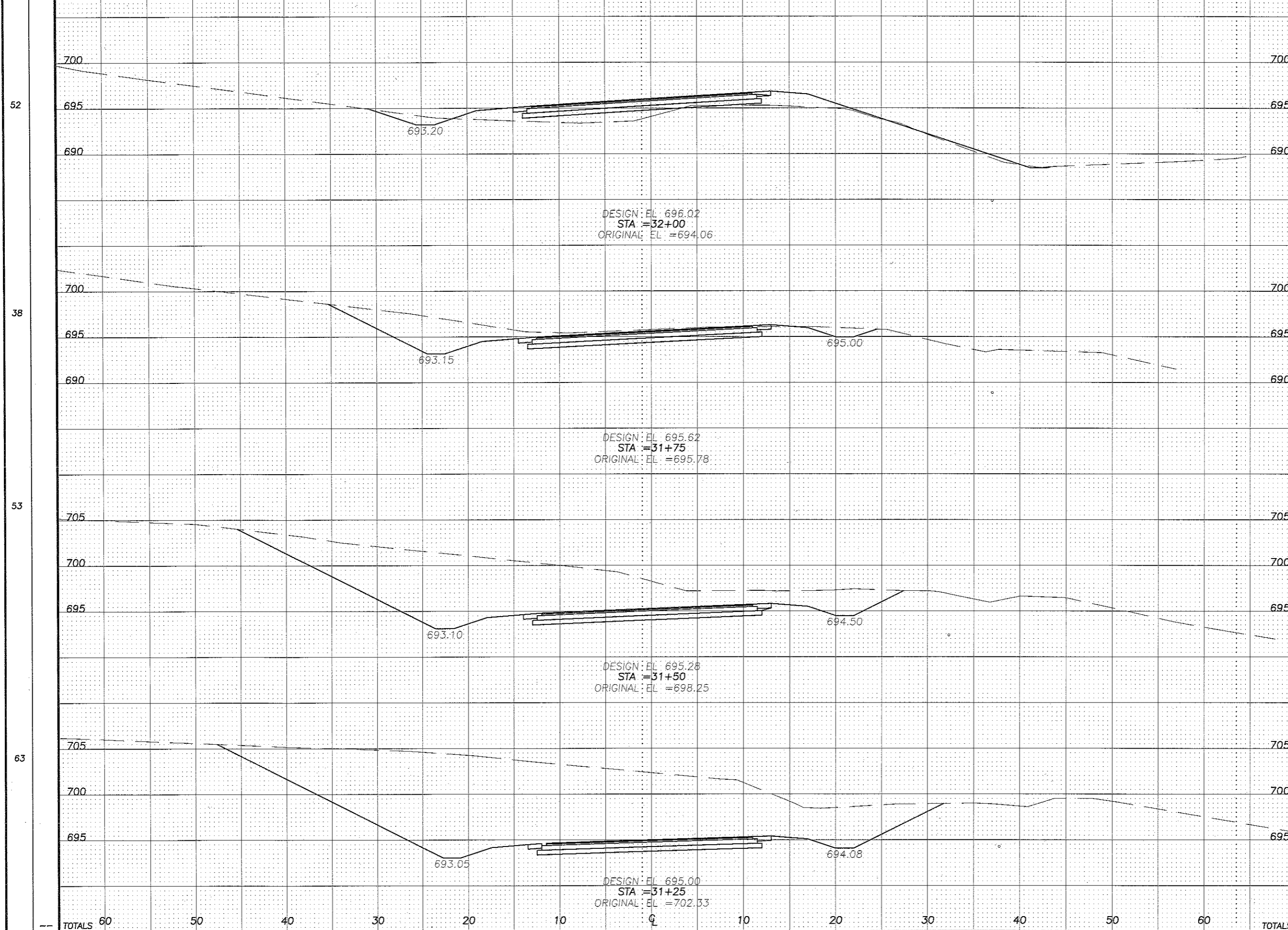
STA. 30+50 TO STA. 31+00

DEF-TR 12

25/30

SEEDING
END WIDTH SQ. YDS.

END AREA VOLUME
CUT FILL CUT FILL
CALCULATED RLB CHECKED MDW



END AREA	VOLUME	CROSS SECTIONS	CALCULATED	RLB	CHECKED	MDW
CUT	FILL					
6	35	STA. 31+25 TO STA. 32+00				
90	0.3					
303	0					
521	0					
TOTALS						

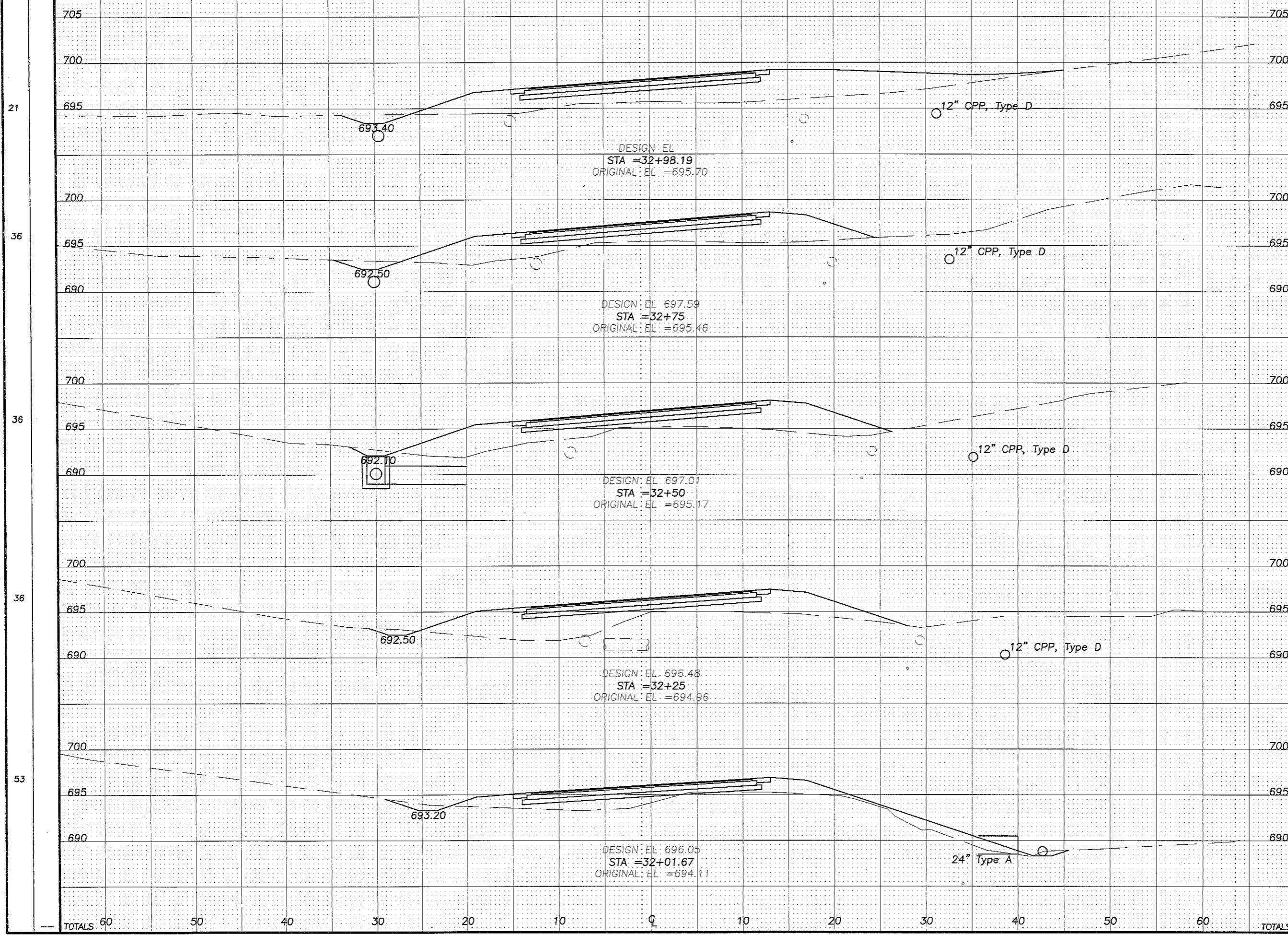
Earthwork and Seeding Quantities

See Sheet 6 of 30

DEF-TR 12

SEEDING
END WIDTH SQ. YDS.

END AREA VOLUME
CUT FILL CUT FILL
CALCULATED
RLB
CHECKED
MDW



END AREA	VOLUME
CUT	FILL
5	149
4	118
2	123
2	118
4	80
TOTALS	TOTALS

Earthwork and Seeding Quantities

See Sheet 6 of 30

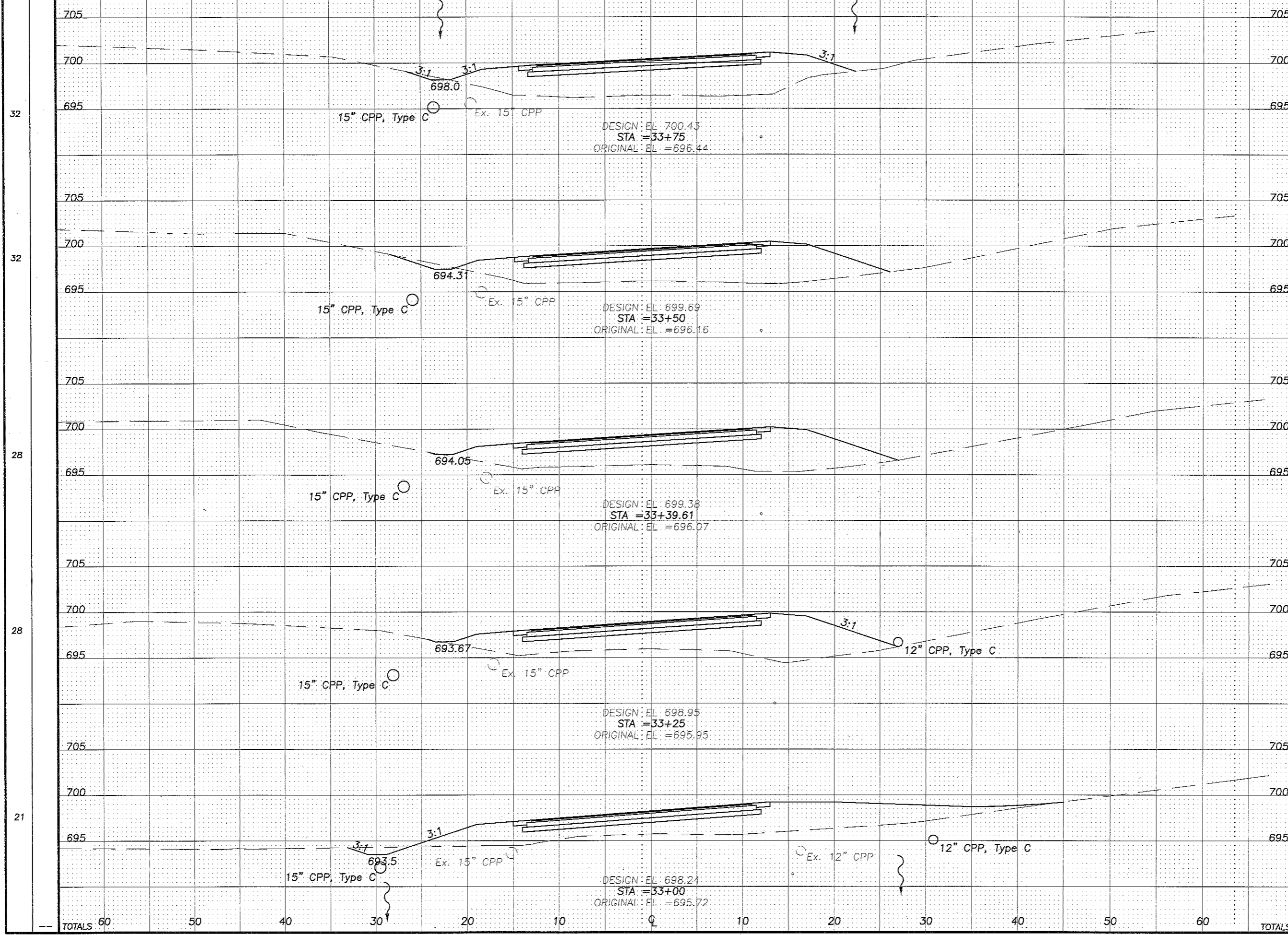
CROSS SECTIONS
STA. 32+01.67 TO STA. 32+98.19

DEF-TR 12

27
30

SEEDING
EXP. WIDTH SQ. YDS.

END AREA VOLUME
CUT FILL CUT FILL
CALCULATED RLB CHECKED MDW



Station	CUT	FILL	END AREA	VOLUME
1		145		
2		146		
0		149		
0		145		
4		147		
TOTALS	60	60		

Earthwork and Seeding Quantities

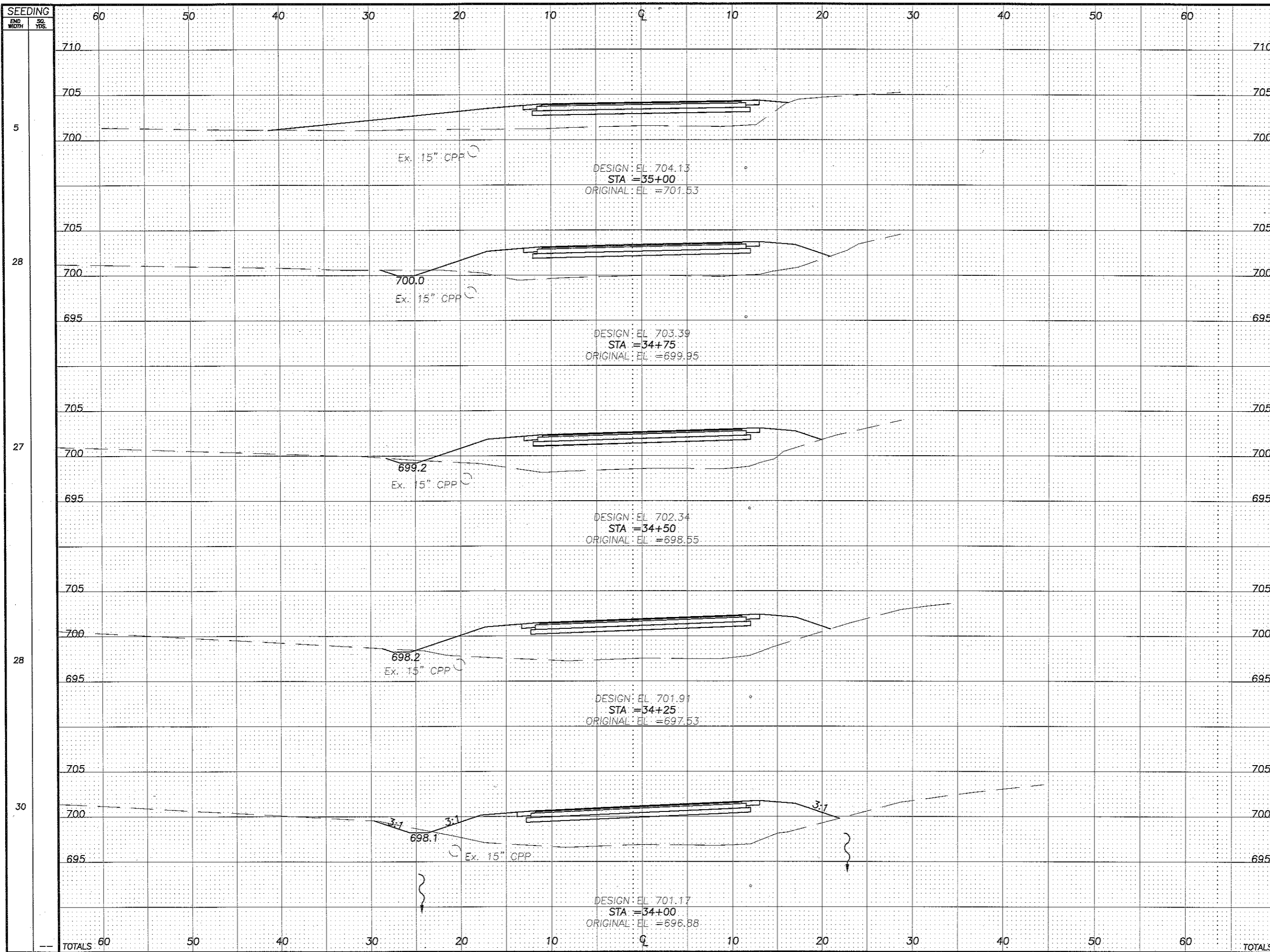
See Sheet 6 of 30

CROSS SECTIONS

STA. 33+00 TO STA. 33+75

DEF-TR 12

28
30



END	AREA		VOLUME		CALCULATED	RLB	CHECKED	MDW
	CUT	FILL	CUT	FILL				
0		111						
2		131						
1		146						
1		162						
2		160						
TOTALS	60		60					

Earthwork and Seeding Quantities

See Sheet 6 of 30

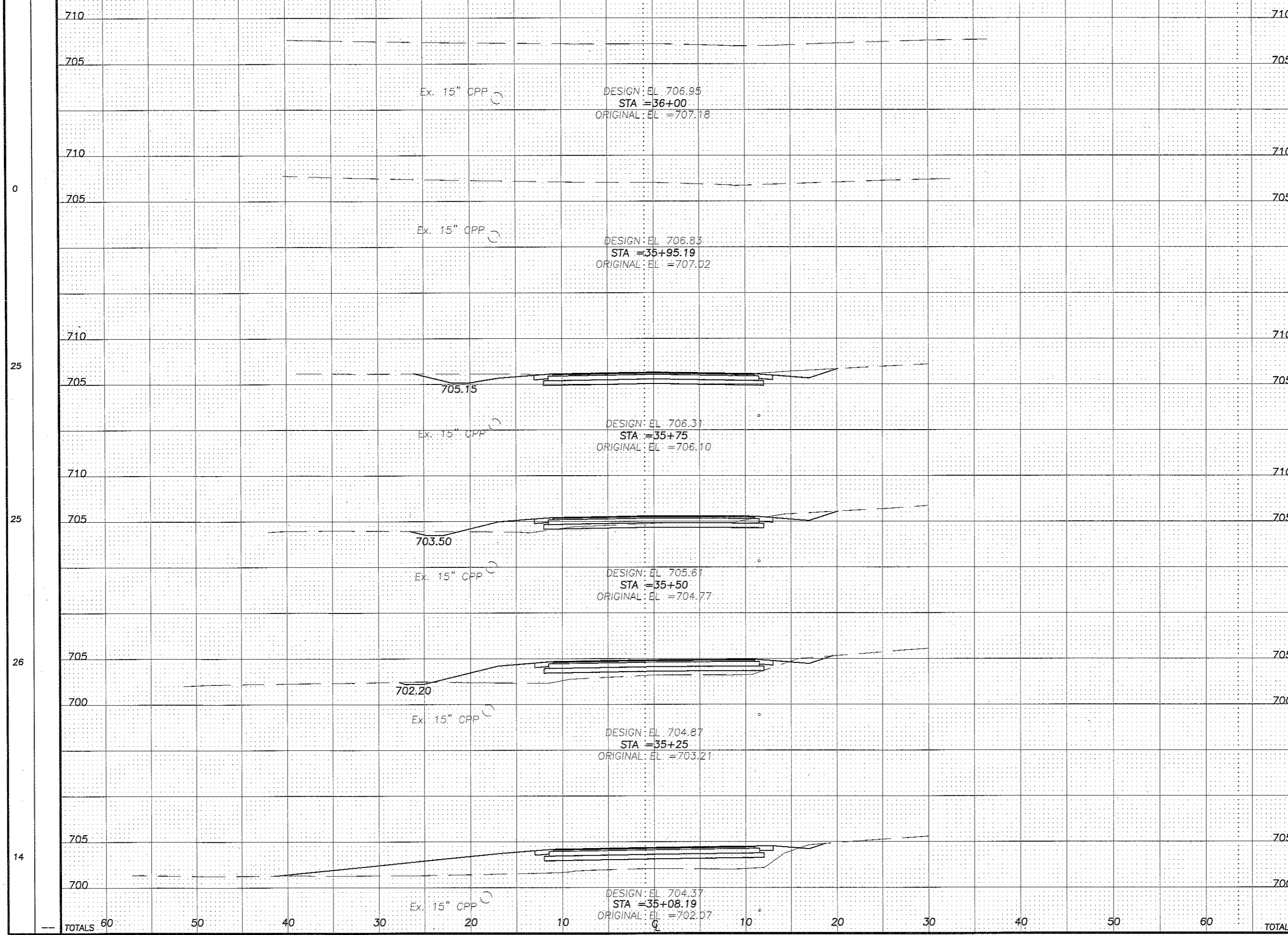
CROSS SECTIONS

STA. 34+00 TO STA. 35+00

DEF-TR 12

SEEDING
END WIDTH SQ. YDS.

END AREA VOLUME
CUT FILL CUT FILL
CALCULATED RLB CHECKED MDW



Station	CUT	FILL	Area	Volume
36+00	0	0	0	0
35+95.19	39	0	0	0
35+75	16	9	9	16
35+50	2	30	30	2
35+25	1	71	71	1
TOTALS	58	110	168	20

Earthwork and Seeding Quantities
See Sheet 6 of 30

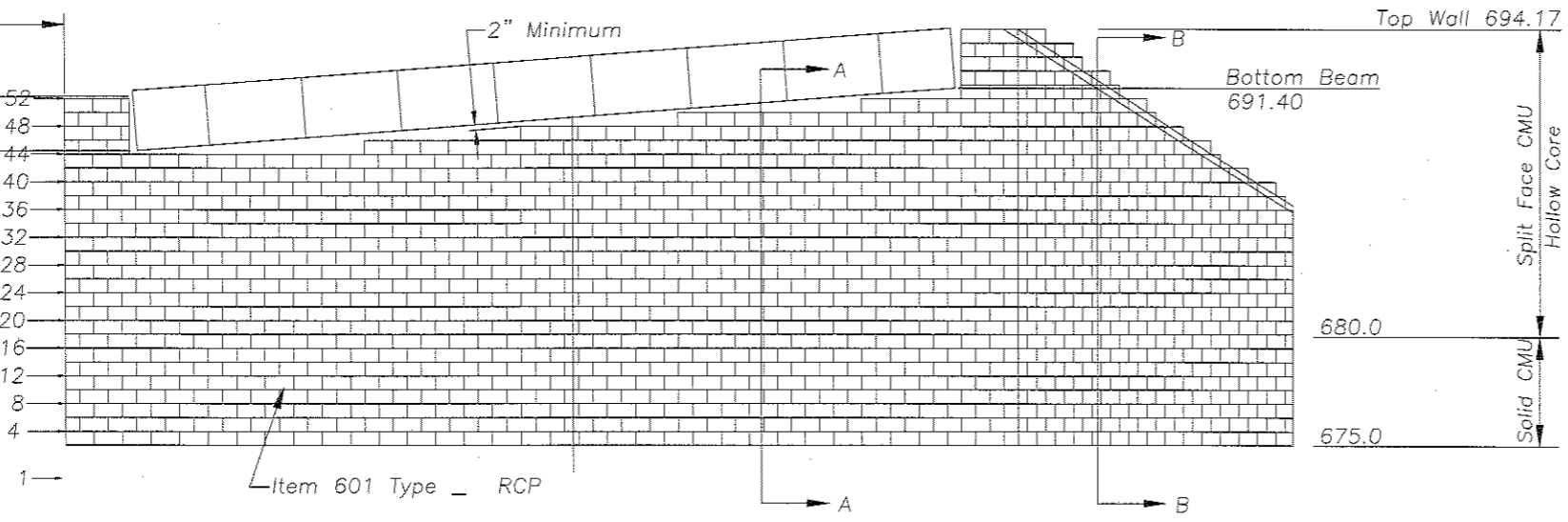
CROSS SECTIONS
STA. 35+08.19 TO STA. 36+00

DEF-TR 12

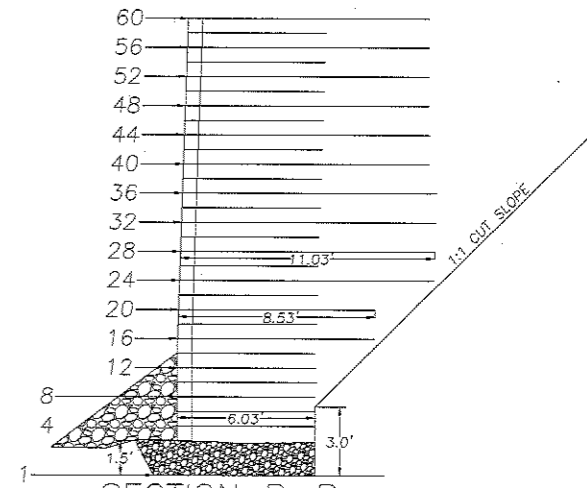
30
30

Cut to fit up against existing sheet piling remaining in place (To be determined)

Sheet Piling Cut to Elev. 691.0
Bottom Beam 688.54

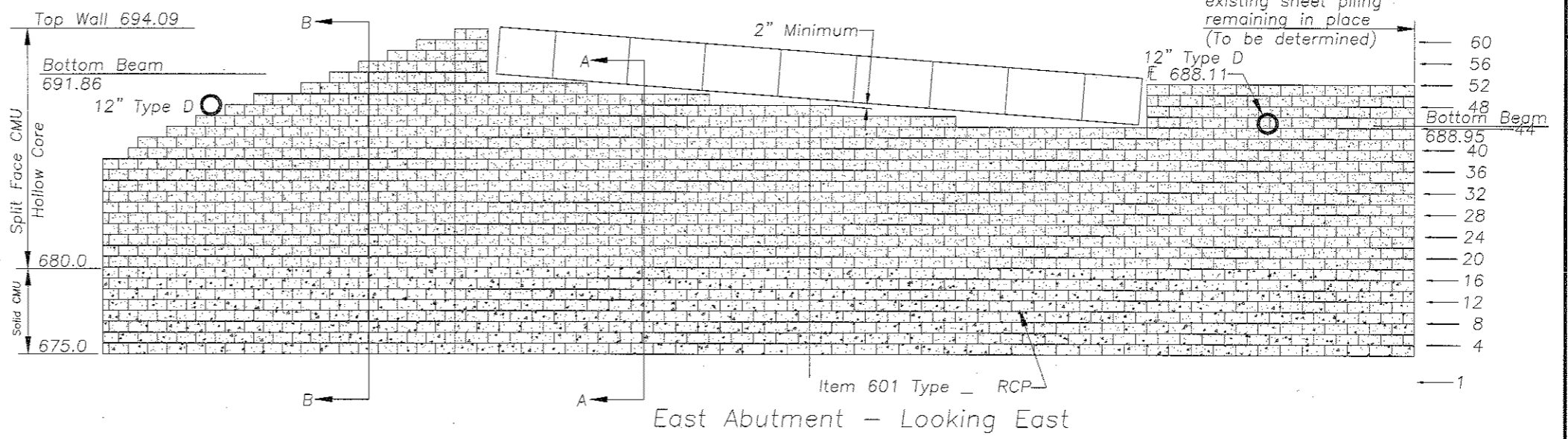


West Abutment - Looking West

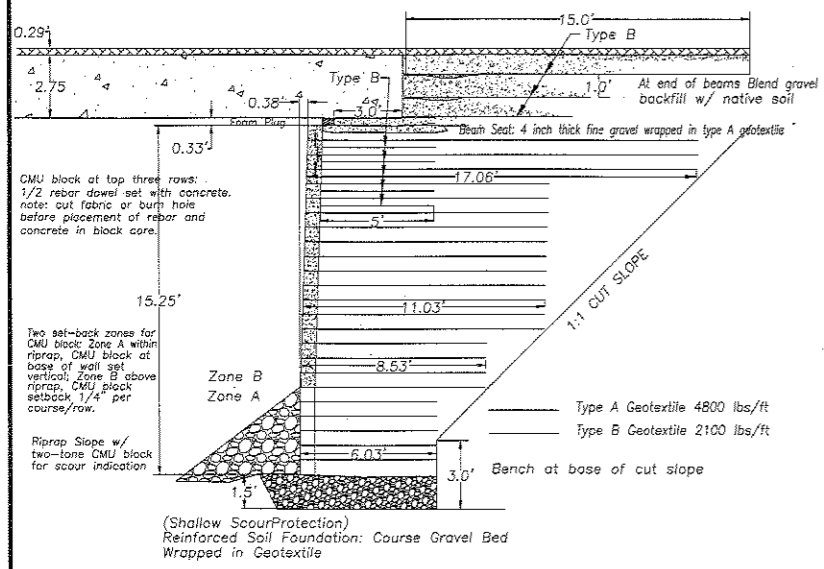


SECTION B-B WINGWALL CONSTRUCTION

Cut to fit up against existing sheet piling remaining in place (To be determined)

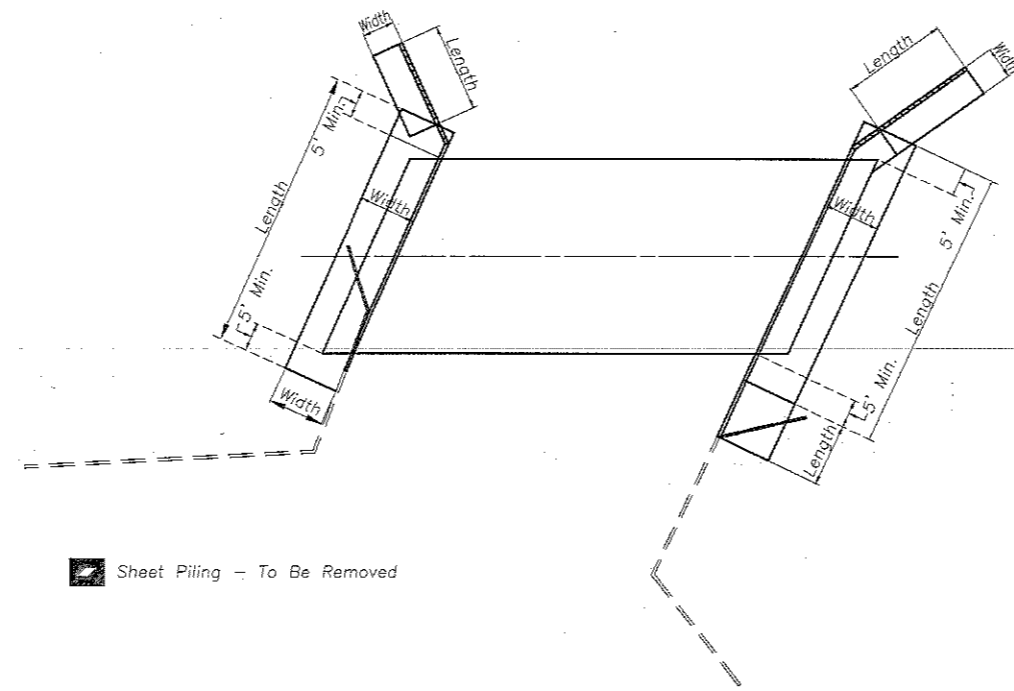


East Abutment - Looking East



SECTION A-A

For Fabric Layers See Section B-B
All Fabric Type A Unless Noted.



Sheet Piling - To Be Removed

Typical Fabric Placement Detail

DESIGN AGENCY
DEFIANCE COUNTY ENGINEER
WARREN J. SCHLATTER, P.E., P.S.
500 SECOND STREET
DEFIANCE, OHIO 43512

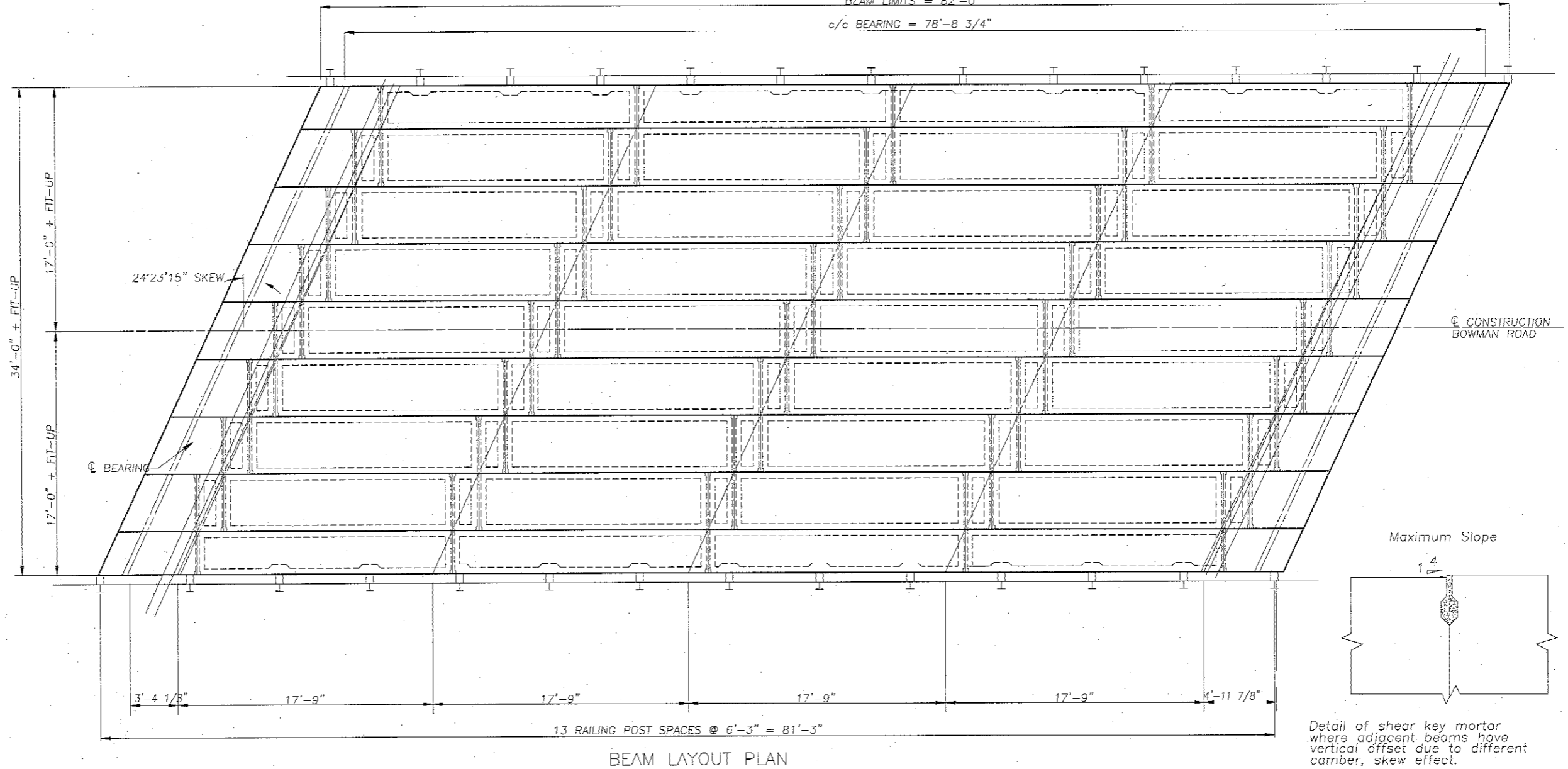
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GLD		MDW	
CHECKED		REVISION	
		STRUCTURAL FILE NUMBER	

ABUTMENT DETAILS
BRIDGE NO. DEF-TR12
OVER POWELL CREEK

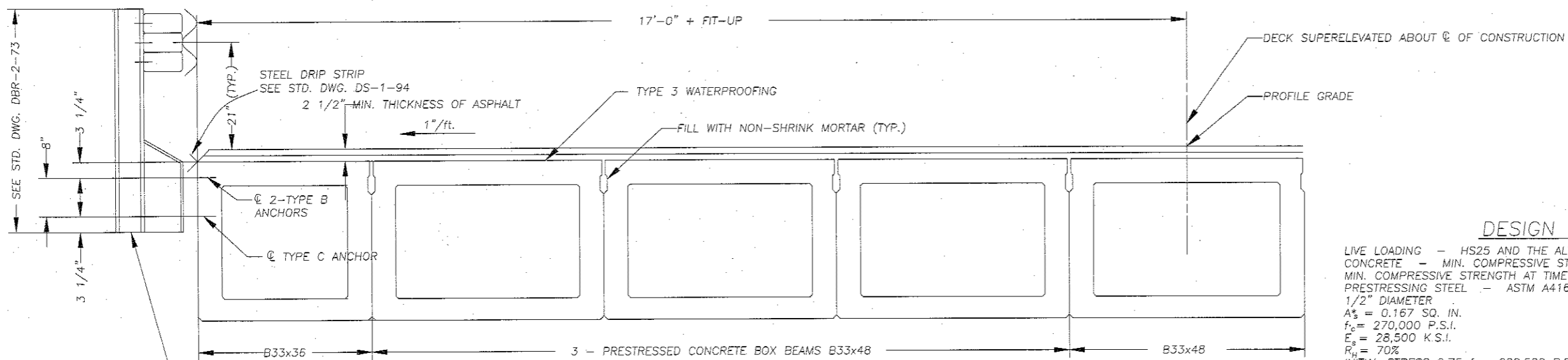
DEF-TR12



These beams are to be installed at a research site. Each beam is to have 2 strain gauges installed near mid-span. The gauges will be connected to the rebar cage with nylon ties and the cables will exit the forward (east) end of the beams. It is estimated that this installation time will be ~15 min per beam. The gauges will be installed by technical staff of the Federal Highway Administration (FHWA). It is required that the fabricator provide a 4 day notice to Mike Adams (202)492-3025 mike.adams@fhwa.dot.gov of the FHWA for each beam pour and permit FHWA technical staff access to the casting yard for the installation. A preliminary casting schedule shall be submitted with the bid. The cost for coordinating this work shall be included in the unit price bid for Item 515 Prestressed Concrete Box Beam.



BEAM LAYOUT PLAN



HALF TRANSVERSE SECTION

DESIGN DATA

LIVE LOADING - HS25 AND THE ALTERNATE MILITARY LOADING
 CONCRETE - MIN. COMPRESSIVE STRENGTH AT 28 DAYS $f_c = 7000$ P.S.I.
 MIN. COMPRESSIVE STRENGTH AT TIME OF INITIAL PRESTRESS $f = 5000$ P.S.I.
 PRESTRESSING STEEL - ASTM A416
 1/2" DIAMETER
 $A_s = 0.167$ SQ. IN.
 $f_p = 270,000$ P.S.I.
 $E_s = 28,500$ K.S.I.
 $R_p = 70\%$
 INITIAL STRESS $0.75 f_p = 202,500$ P.S.I.
 INITIAL TENSION LOAD = 33,818 LBS/STRAND

DESIGN AGENCY
 DEFIANCE COUNTY ENGINEER
 WARREN J. SCHLATTER P.E., P.S.
 500 SECOND STREET
 DEFIANCE, OHIO 43512

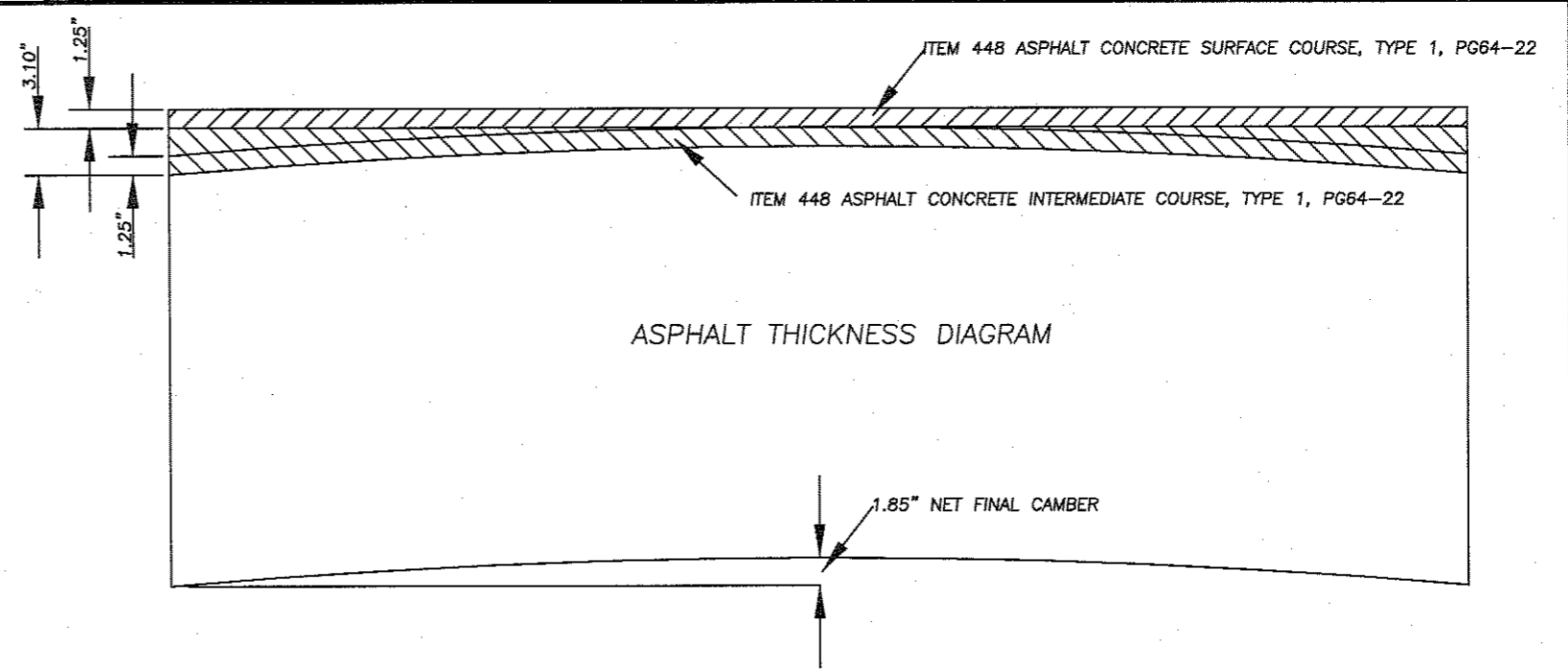
DATE	REVISED	DRAWN	DESIGNED
		WJS	WJS
STRUCTURAL FILE NUMBER		CHECKED	

SUPERSTRUCTURE DETAILS
 BRIDGE NO. DEF-TR12-
 OVER POWELL CREEK

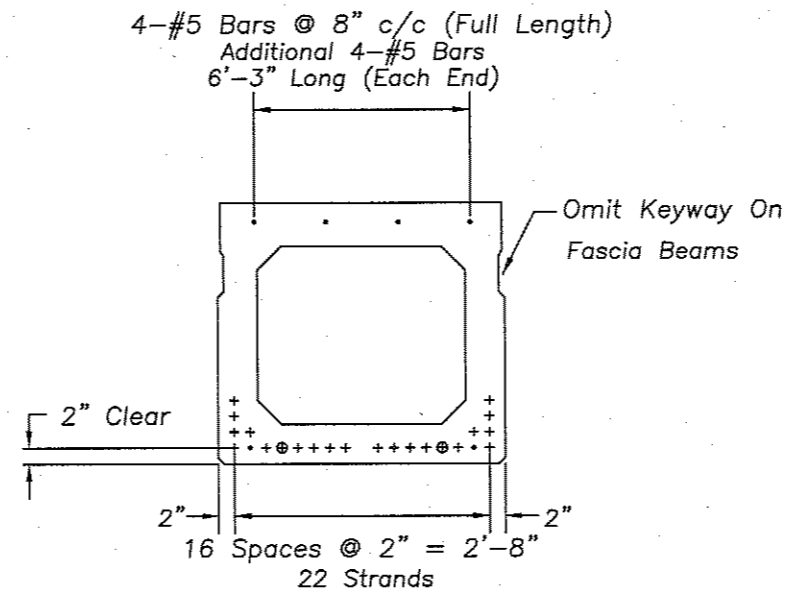
DEF-TR12

CAMBER: Calculated camber at time of paving, including allowance for camber growth due to creep, is 2.20". Calculated deflection due to weight of surface course and railing is 0.34". Net final camber of beams is 1.85" which is 1.85" in excess of the amount required to place the top of the beams parallel to profile grade. This excess amount shall be compensated for by thickening the 448 Asphalt Concrete Intermediate Course, Type 1 from 1.25" at the center of the span to 3.1" at the ends of the span.

ASPHALT CONCRETE SURFACE COURSE: Asphalt wearing surface course shall consist of 448 Asphalt Concrete Intermediate Course, Type 1 and 1.25" thickness of 448 Asphalt Concrete Surface Course, Type 1. The 448 Asphalt Concrete Intermediate Course shall be placed in two operations. The first course shall be 1.25" uniform thickness. The second course shall be feathered to place the surface parallel to and 1.25" below the final surface elevation.



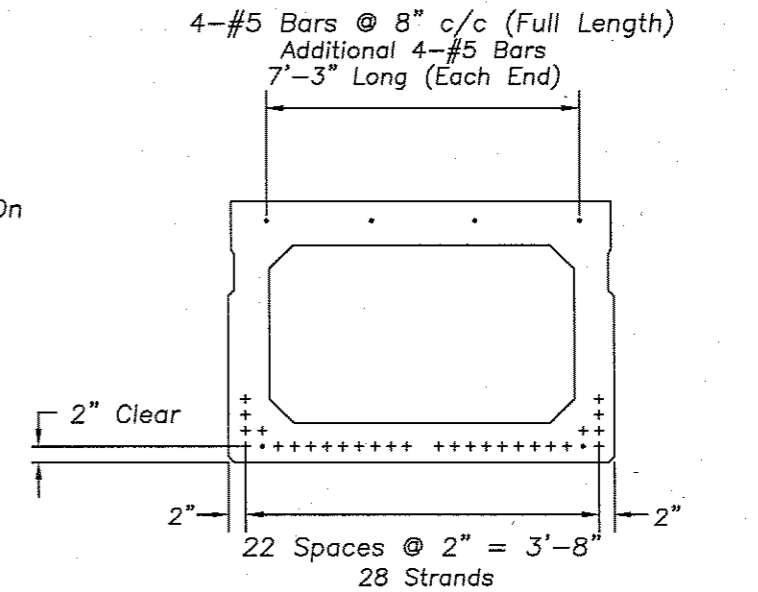
These beams are to be installed at a research site. Each beam is to have 2 strain gauges installed near mid-span. The gauges will be connected to the rebar cage with nylon ties and the cables will exit the forward (east) end of the beams. It is estimated that this installation time will be ~15 min per beam. The gauges will be installed by technical staff of the Federal Highway Administration (FHWA). It is required that the fabricator provide a 4 day notice to Mike Adams (202)492-3025 mike.adams@fhwa.dot.gov of the FHWA for each beam pour and permit FHWA technical staff access to the casting yard for the installation. A preliminary casting schedule shall be submitted with the bid. The cost for coordinating this work shall be included in the unit price bid for Item 515 Prestressed Concrete Box Beam.



2-#5 Bars 4" from outer edge (Full Length)
debond circled stands for a distance of 2'-6" from end of beam

B33 x 36

For Further Detail Information See Std. Dwg. PSBD-1-93



2-#5 Bars 4" from outer edge (Full Length)

B33 x 48

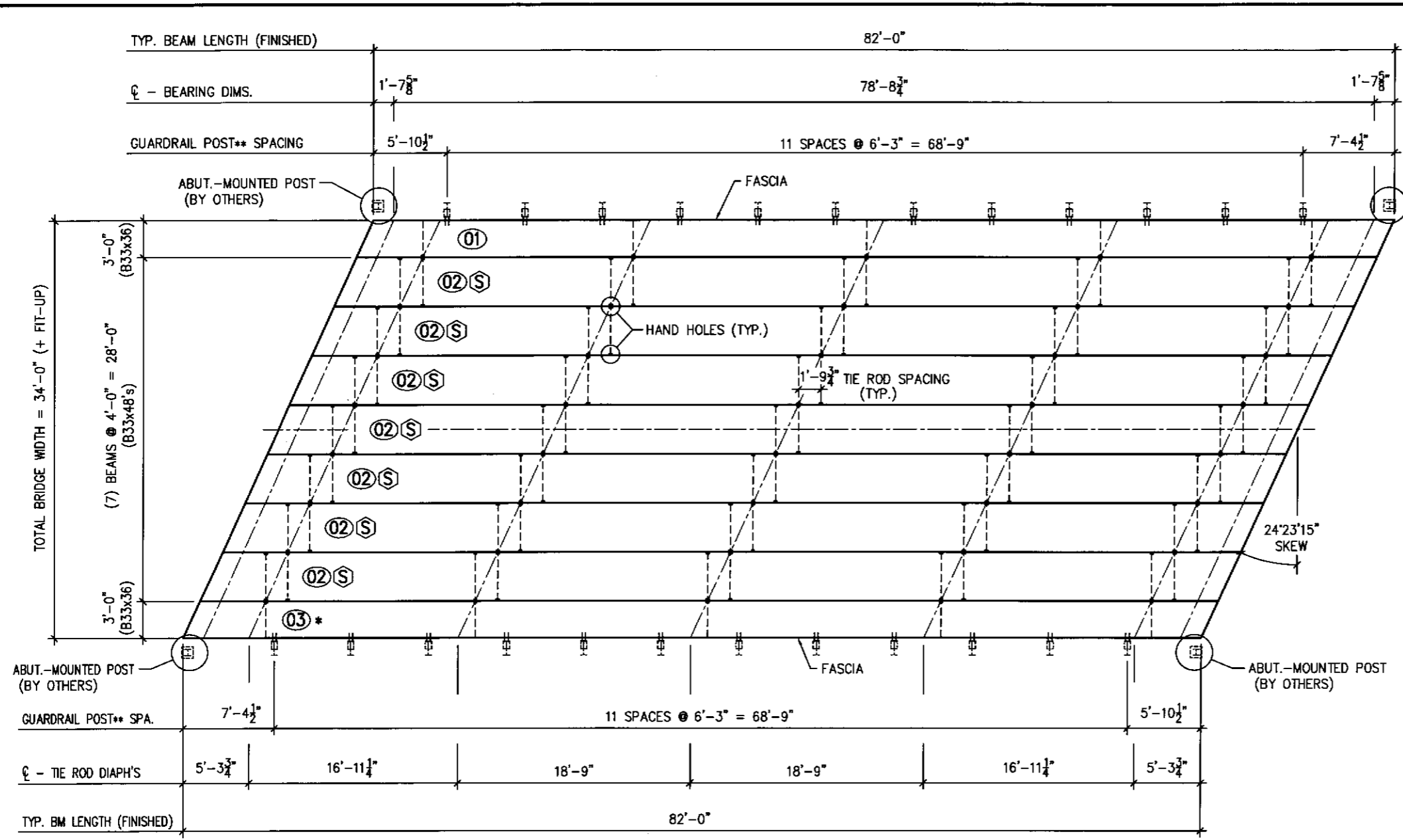
For Further Detail Information See Std. Dwg. PSBD-1-93

DESIGN AGENCY
DEFIANCE COUNTY ENGINEER
WARREN J. SCHLATTER P.E., P.S.
500 SECOND STREET
DEFIANCE, OHIO 43512

DATE	
REVISED	STRUCTURAL FILE NUMBER
DRAWN	WJS
DESIGNED	WJS
CHECKED	

MISC. SUPERSTRUCTURE DETAILS
BRIDGE NO. DEF-TR12
OVER POWELL CREEK

DEF-TR12



GENERAL NOTES:

- 1) MANUFACTURE BEAMS IN ACCORDANCE WITH ODOT SPECIFICATIONS.
- 2) MINIMUM CONCRETE STRENGTH @ RELEASE OF STRAND = 5,000 P.S.I.
MINIMUM CONCRETE STRENGTH @ 28 DAYS = 7,000 P.S.I.
- 3) STRAND SHALL BE (7) WIRE, UNCOATED, LOW RELAXATION, 1/2" "OVERSIZED" DIA. (As = 0.167 SQ. IN.), 270 K.S.I. ULTIMATE STRENGTH, ASTM A-416.
- 4) PULL EACH STRAND TO 33,818 LBS.
- 5) STEEL GRADE 60, A.S.T.M. A-615.
- 6) HS25 & THE ALTERNATE MILITARY LOADING.
- 7) ALL ANCHOR BOLTS, STUDS, INSERTS, TIE RODS, NUTS, & WASHERS SHALL BE GALVANIZED, PER ODOT SPECIFICATIONS.
- 8) KEYWAYS SHALL BE GIVEN A MEDIUM SANDBLAST AT THE PLANT WITHIN FOUR DAYS PRIOR TO SHIPPING BEAMS.
- 9) KEYWAYS SHALL BE OMITTED AT FASCIA SIDE OF EXTERIOR BEAMS.
- 10) BROOM FINISH TOPS OF BEAMS.
- 11) CONCRETE MIX SHALL CONTAIN RUSSTEC'S RCI CORROSION INHIBITOR; DOSAGE SHALL BE 4 GALLONS PER CUBIC YARD OF CONCRETE.
- 12) ABUT END OF BEAMS (ENTIRE) SHALL BE SEALED WITH BITUMINOUS COATING.
- 13) EPOXY-URETHANE SEALER SHALL BE APPLIED TO EXTERIOR BEAMS BY PSI; COVERAGE SHALL INCLUDE FASCIA SIDE + 6" WRAP-AROUND UNDERNEATH. APPLICATION RATE SHALL BE AS FOLLOWS: BASE COAT SHALL BE EPOXY (CLEAR), APPLIED @ 200 SF / GALLON. TOP COAT SHALL BE URETHANE (+FEDERAL GRAY - COLOR #36492*), APPLIED @ 200 SF / GALLON.

BRIDGE PLAN

Ⓢ = BEAM IS SYMMETRICAL

* MK 03 IS IDENTICAL TO MK 01 BY 180° ROTATION

**** GUARDRAIL NOTE:**
POSTS, RAIL, ETC. BY OTHERS; INSERTS W/ STUDS, NUTS, & WASHERS @ POST LOCATIONS BY PSI. SHIP STUDS, NUTS & WASHERS INSTALLED.

BEAM MARK	NO. REQD.	WEIGHT
01	1	63,250 LBS.
02	7	83,900 LBS.
03*	1	63,250 LBS.

NOTE:
PSI SHALL FURNISH, INCIDENTAL TO BEAMS:

- (30) 1"Ø 8'-0" TIE RODS
- (10) 1"Ø x 7'-0" TIE RODS
- (80) 1/2" x 4" SQ. PL WASHERS
- (80) 1"Ø HEX NUTS
- (95 LF.) 8 STRAND JUTE

SHIP INSTALLED IN GUARDRAIL INSERTS:

- (96) 1/4"Ø x 8" STUDS (All Thrd)
- (192) 1/4"Ø HEX NUTS
- (192) WASHERS

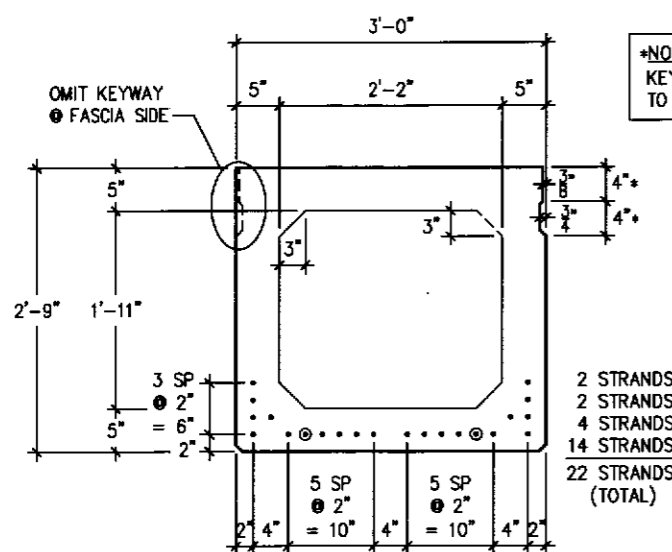
PRESTRESS SERVICES		
PROJECT OVERVIEW		
DEFIANCE COUNTY, OHIO BRIDGE NO. DEF-TR12 / POWELL CREEK		
CONTRACTOR: ZACHRICH CONSTRUCTION		
PRODUCING PLANT: 7855 N.W. Winchester Rd Decatur, IN 46733 PH: (260) 724-7117 FAX: (260) 724-3349	DRAFTING OFFICE: P.O. BOX 211 MELBOURNE, KY 41059 PH: (859) 441-0068 FAX: (859) 441-7986	
DATE: 9-7-05	DRAWN BY: GDA	CHECKED: GDA
REVISIONS	Δ GDA 9-12-05	PER ENGINEER'S SPECS.
CODE: B3336/480	SHEET: 1 OF 5	JOB NO: D5224

godams

D5224DEOH_A.dwg-2 OF 5

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09-12-05



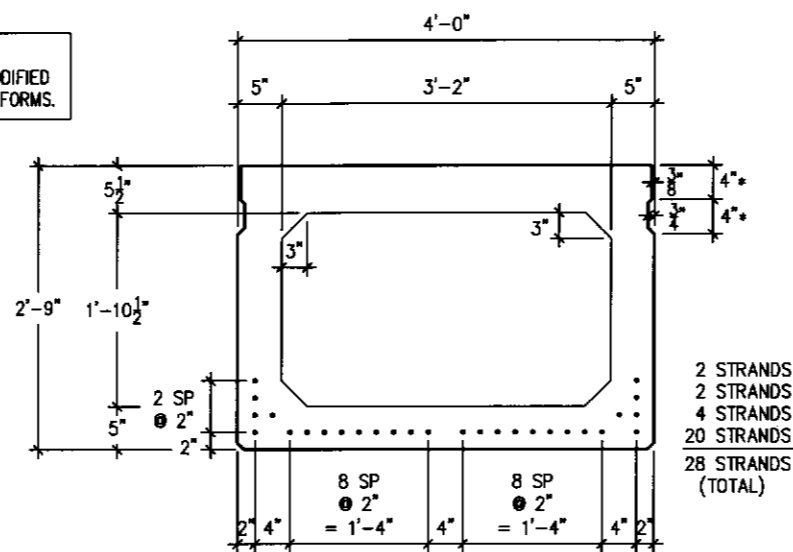
STRAND SECTION - B33x36

⊙ = DEBOND STRAND @ 2'-6" @ EA. END OF BEAM



DETENSIONING PROCEDURE - B33x36

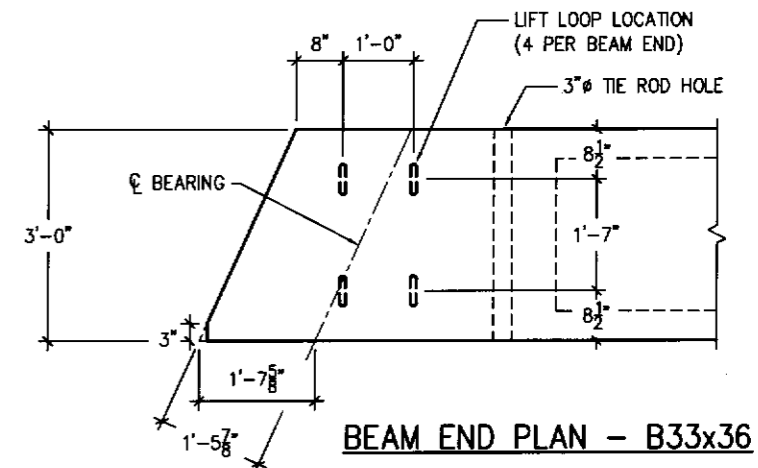
*NOTE: KEYWAY DIMS MODIFIED TO MATCH EXIST. FORMS.



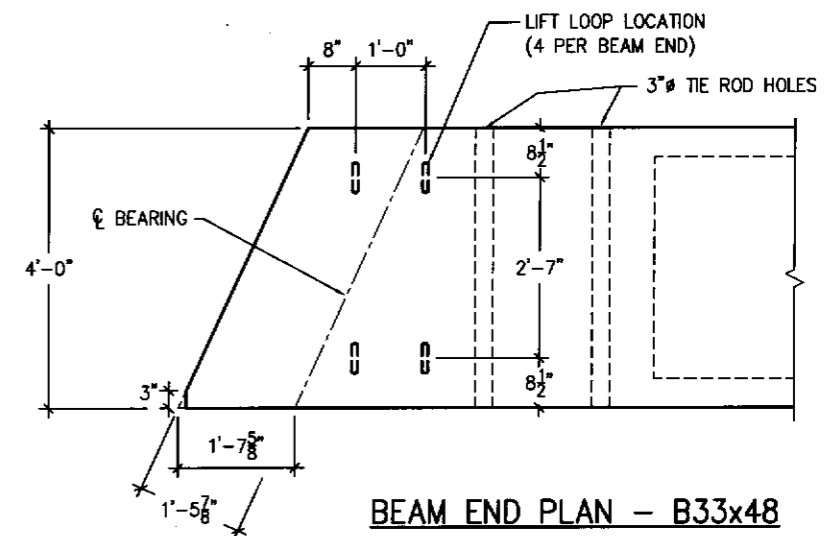
STRAND SECTION - B33x48



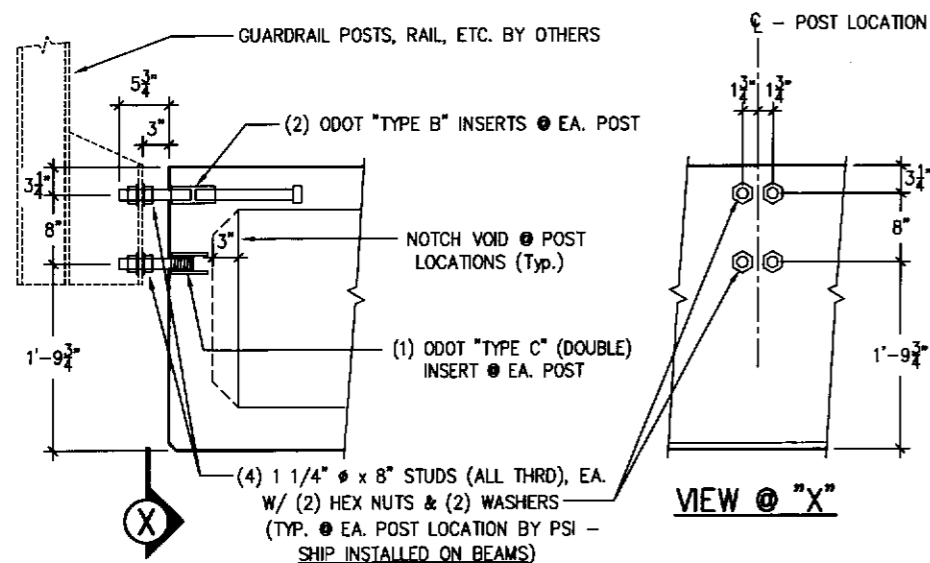
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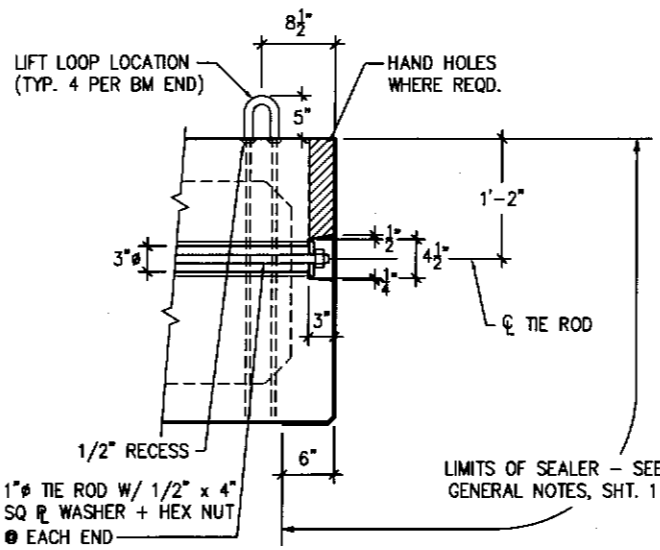
BEAM END PLAN - B33x36



BEAM END PLAN - B33x48

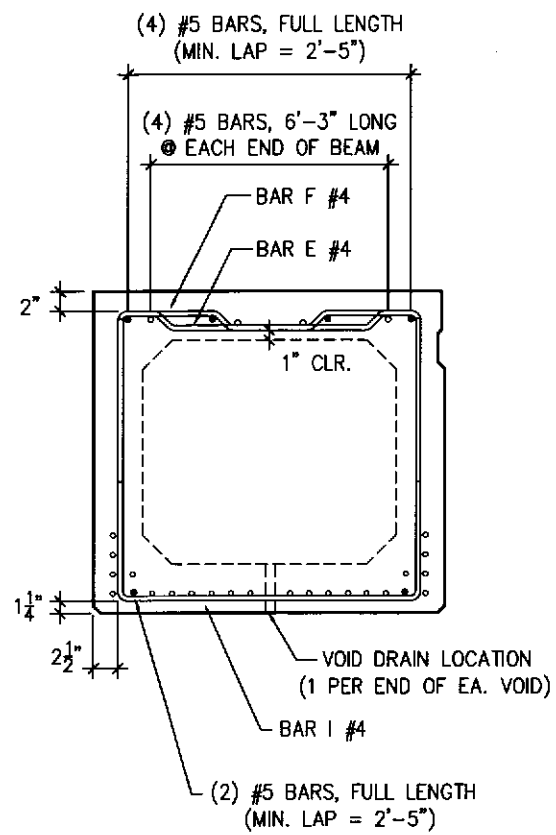


GUARDRAIL INSERT DETAIL

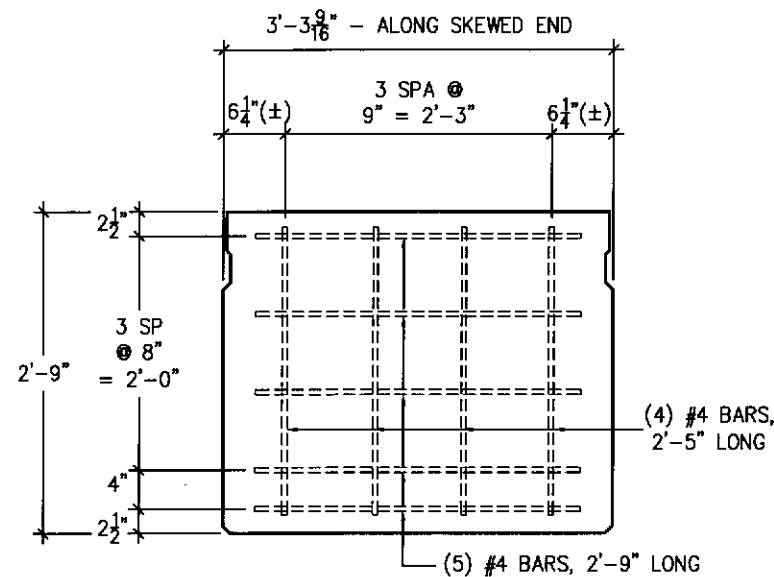


TIE ROD DETAIL

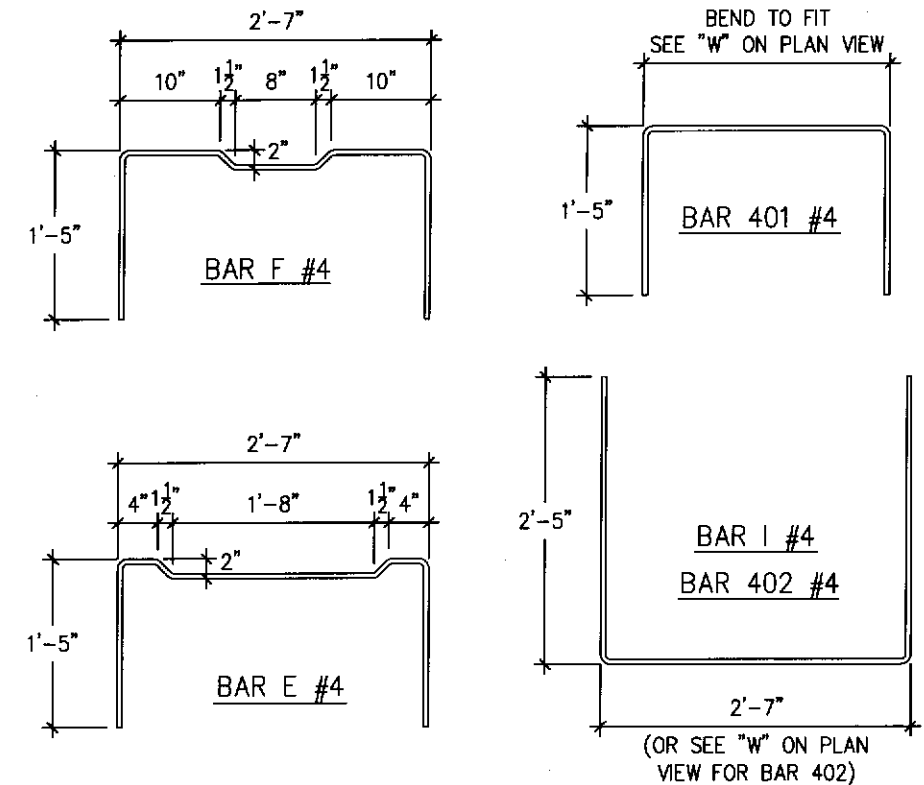
PRESTRESS SERVICES		
STRANDS & MISC. DETAILS		
DEFIANCE COUNTY, OHIO BRIDGE NO. DEF-TR12 / POWELL CREEK		
CONTRACTOR: ZACHRICH CONSTRUCTION		
PRODUCING PLANT: 7855 N.W. Winchester Rd Decatur, IN 46733 PH: (260) 724-7117 FAX: (260) 724-3349	DRAFTING OFFICE: P.O. BOX 211 MELBOURNE, KY 41059 PH: (859) 441-0068 FAX: (859) 441-7986	
DATE: 9-7-05	DRAWN BY: GDA	CHECKED: GDA
REVISIONS GDA 9-12-05	PER ENGINEER'S SPECS.	
CODE: B3336/480	SHEET: 2 OF 5	JOB NO: D5224



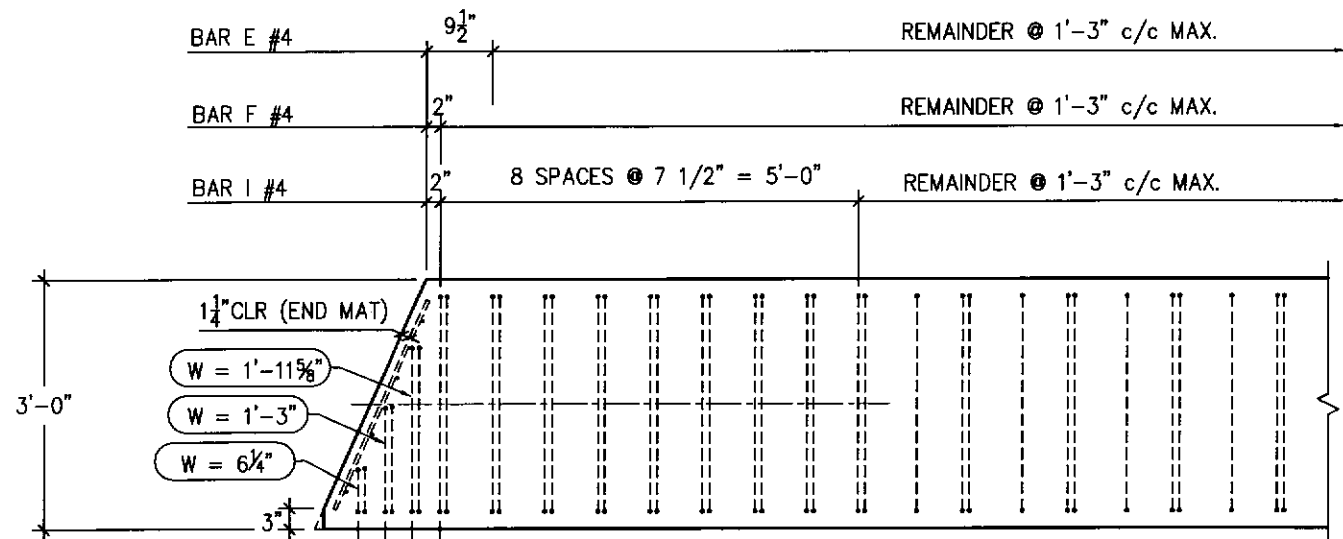
STEEL SECTION - B33x36



END MAT DETAIL - B33x48



BENDING DIAGRAM - B33x36



PARTIAL BEAM PLAN - B33x36 (SHOWING STIRRUP SPACING)

TOP BAR 401 #4
BOTTOM BAR 402 #4
(BEND TO FIT, USING "W" DIMS. ABOVE)

STIRRUPS - B33-36		
BAR MARK	BAR SIZE	NO. REQD. PER BM
BAR F	#4	66
BAR E	#4	65
BAR I	#4	74
BAR 401	#4	6
BAR 402	#4	6

PRESTRESS SERVICES

STEEL DETAILS - B33x36 EXTERIOR BMS.
 DEFIANCE COUNTY, OHIO
 BRIDGE NO. DEF-TR12 / POWELL CREEK

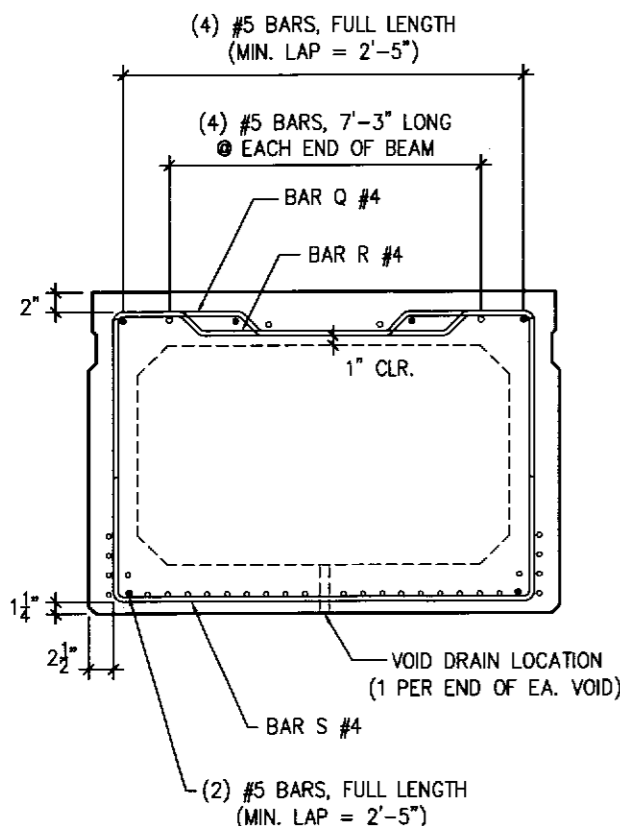
CONTRACTOR: ZACHRICH CONSTRUCTION

PRODUCING PLANT: 7855 N.W. Winchester Rd Decatur, IN 46733 PH: (260) 724-7117 FAX: (260) 724-3349	DRAFTING OFFICE: P.O. BOX 211 MELBOURNE, KY 41059 PH: (859) 441-0068 FAX: (859) 441-7986
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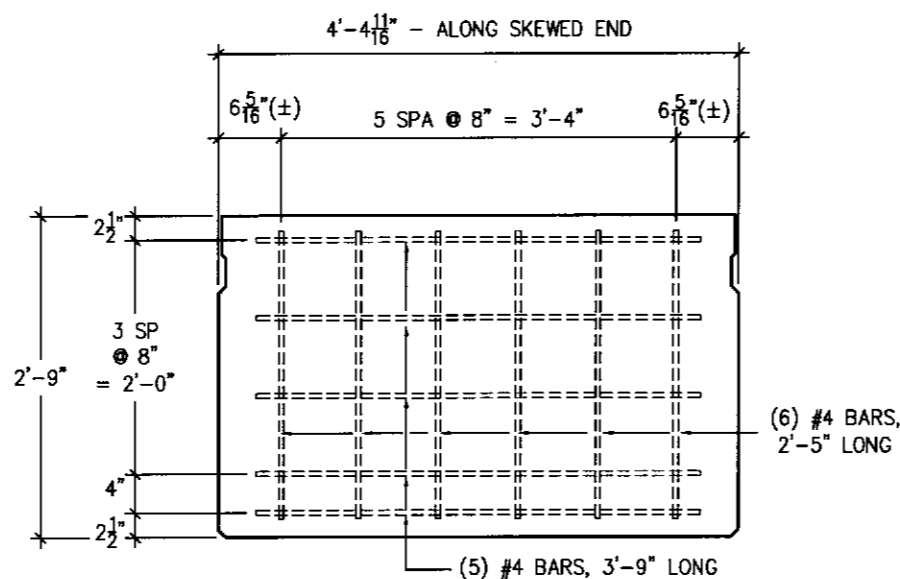
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REVISIONS

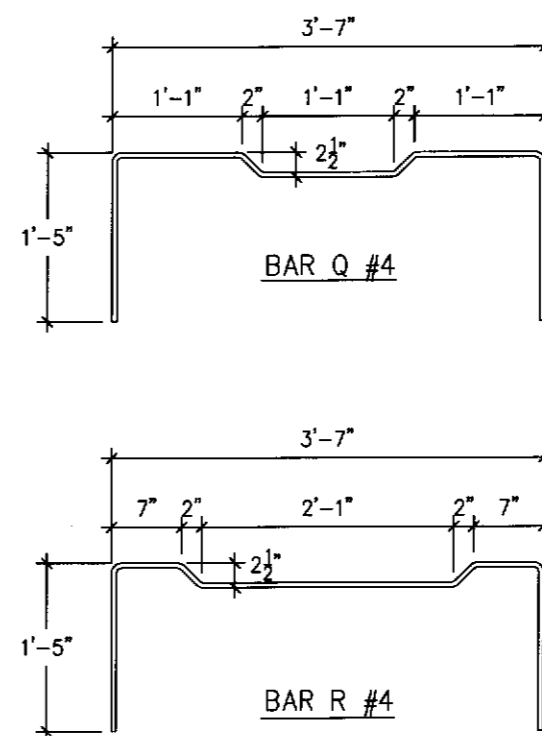
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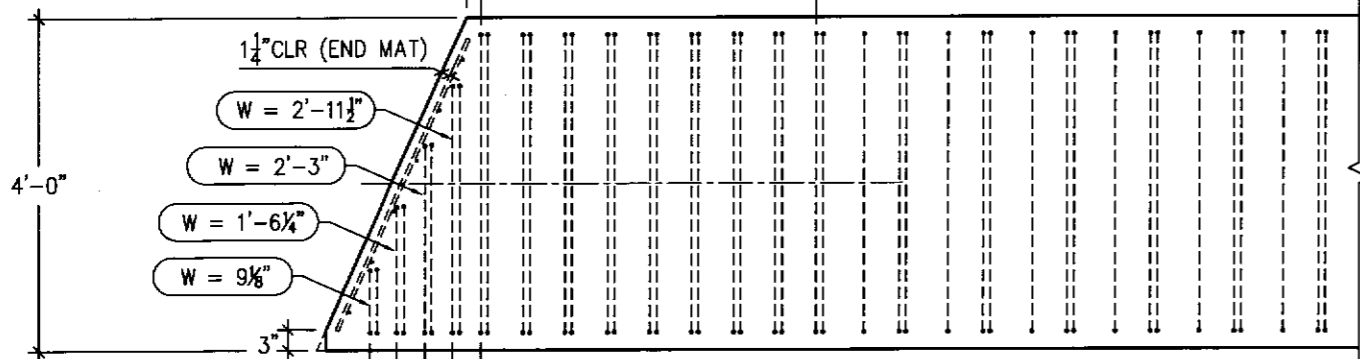
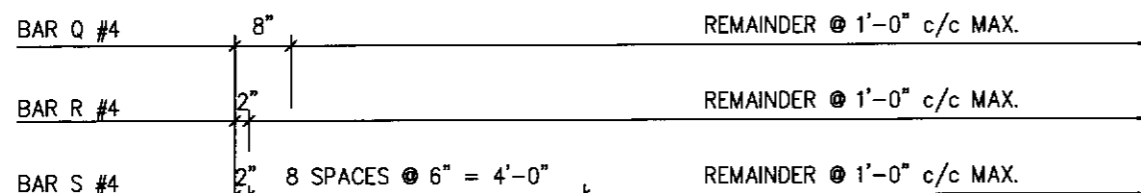
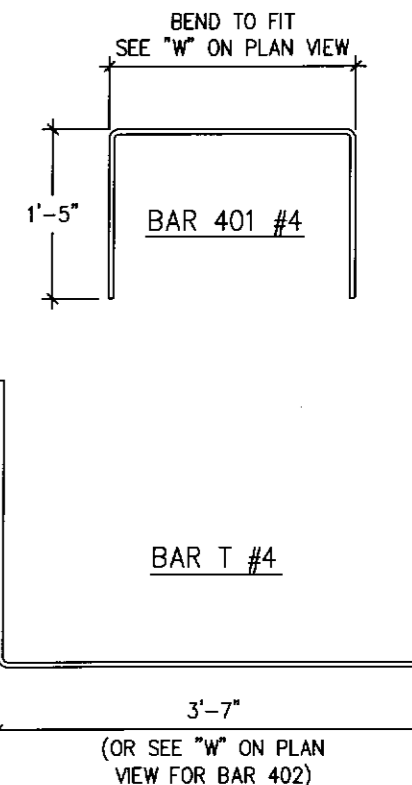
STEEL SECTION - B42x48



END MAT DETAIL - B33x48



BENDING DIAGRAM - B33x48



TOP BAR 401 #4
 BOTTOM BAR 402 #4
 (BEND TO FIT, USING "W" DIMS. ABOVE)

PARTIAL BEAM PLAN - B33x48 (SHOWING STIRRUP SPACING)

STIRRUPS - B33-48		
BAR MARK	BAR SIZE	NO. REQD. PER BM
BAR Q	#4	80
BAR R	#4	81
BAR S	#4	89
BAR 401	#4	8
BAR 402	#4	8

PRESTRESS SERVICES

STEEL DETAILS - B33x48 INTERIOR BMS.
 DEFIANCE COUNTY, OHIO
 BRIDGE NO. DEF-TR12 / POWELL CREEK

CONTRACTOR: ZACHRICH CONSTRUCTION

PRODUCING PLANT: 7855 N.W. Winchester Rd Decatur, IN 46733 PH: (260) 724-7117 FAX: (260) 724-3349	DRAFTING OFFICE: P.O. BOX 211 MELBOURNE, KY 41059 PH: (859) 441-0068 FAX: (859) 441-7986
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DATE: 9-7-05 DRAWN BY: GDA CHECKED: GDA

REVISIONS

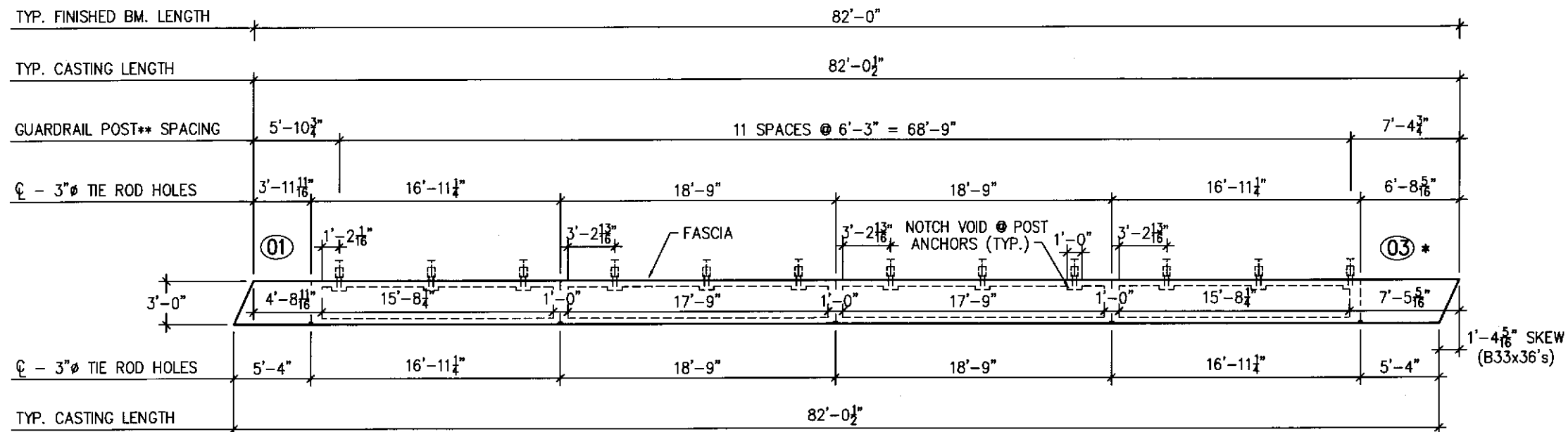
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godams

D5224DEOH_A.dwg-5 OF 5

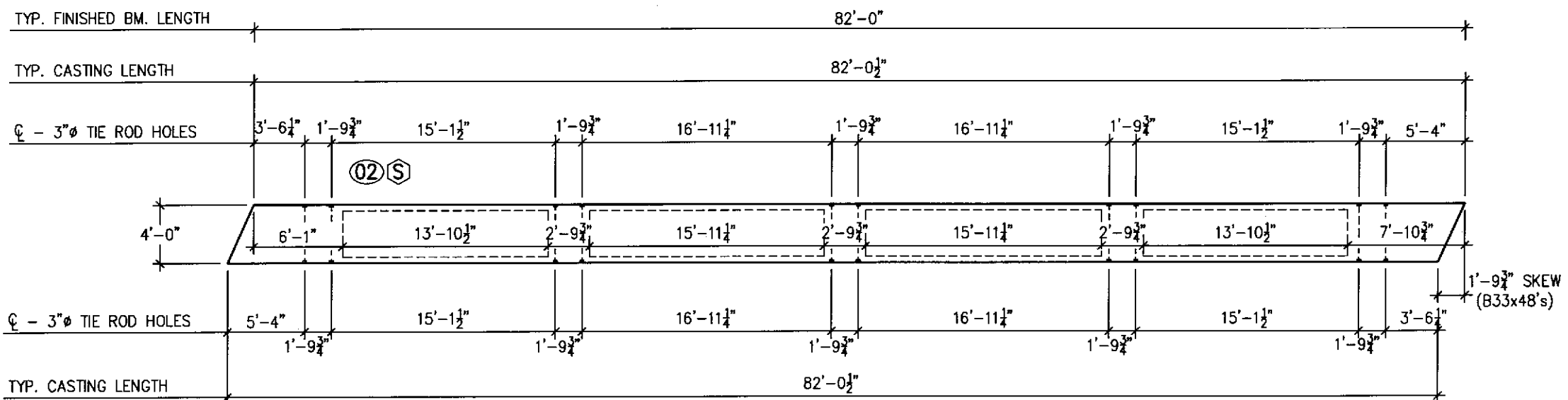
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09-12-05



TIE ROD / VOID LAYOUT MKS. 01 & 03* (1 REQD. EA. THUS) WT. = 63,250 LBS.

* MK 03 IS IDENTICAL TO MK 01 BY 180° ROTATION



TIE ROD / VOID LAYOUT MK. 02 (7 REQD. EA. THUS) WT. = 83,900 LBS.

(S) = BEAM IS SYMMETRICAL

**** GUARDRAIL NOTE:**
 POSTS, RAIL, ETC. BY OTHERS; INSERTS W/ STUDS,
 NUTS, & WASHERS @ POST LOCATIONS BY PSI.
 SHIP STUDS, NUTS & WASHERS INSTALLED.

PRESTRESS SERVICES		
BEAM LAYOUTS		
DEFIANCE COUNTY, OHIO BRIDGE NO. DEF-TR12 / POWELL CREEK		
CONTRACTOR: ZACHRICH CONSTRUCTION		
PRODUCING PLANT: 7855 N.W. Winchester Rd Decatur, IN 46733 PH: (260) 724-7117 FAX: (260) 724-3349	DRAFTING OFFICE: P.O. BOX 211 MELBOURNE, KY 41059 PH: (859) 441-0068 FAX: (859) 441-7986	
DATE: 9-7-05	DRAWN BY: GDA	CHECKED: GDA
REVISIONS	PER ENGINEER'S SPECS.	
△ GDA 9-12-05		
△		
△		
CODE: B3336/480	SHEET: 5 OF 5	JOB NO: D5224