FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	S-SU-1167(2)	

1/57

DEFIANCE COUNTY
DEF-66-3.40

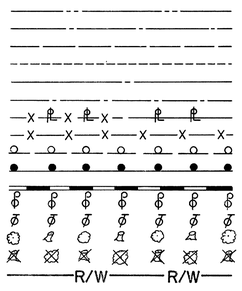
STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DEF-66-3.40
DEFIANCE TOWNSHIP
DEFIANCE COUNTY
CITY OF DEFIANCE

S-SU-1167(2)

1965 SPECIFICATIONS

CONVENTIONAL SIGNS

STATE LINE
COUNTY LINE
TOWNSHIP LINE
SECTION LINE
CENTER LINE
CORPORATION LINE
PROPERTY LINE
FENCE LINE
GUARD RAIL (EXISTING)
GUARD RAIL (PROPOSED)
RAILROAD
POWER POLES
TELEPHONE POLES
TREES & STUMPS (EXISTING)
TREES & STUMPS (TO BE REMOVED)
RIGHT-OF-WAY



INDEX OF SHEETS

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SCHEMATIC PLAN AND DESIGN DESIGNATION	2
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INTERSECTIONS	37-44
STRUCTURES UNDER 20' SPAN	45
STRUCTURES OVER 20' SPAN	46-54
RIGHT-OF-WAY	55-57
LIGHTING	54A

LINE DATA

S-1167(2)

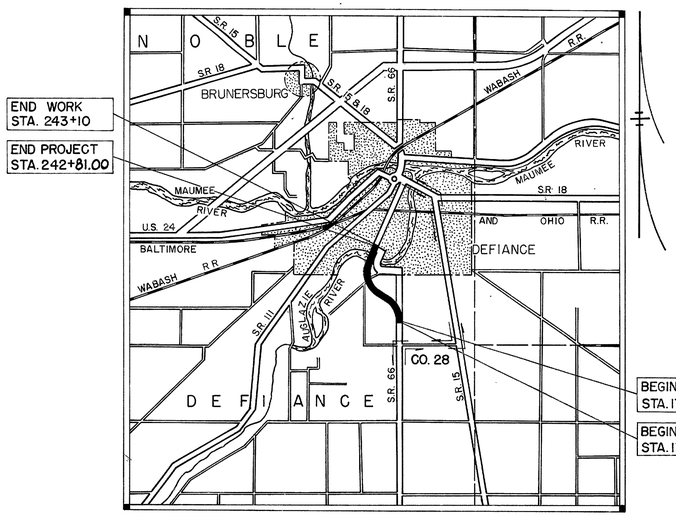
BEGIN PROJECT	STA. 179+75.00	BEGIN WORK	STA. 179+00
END PROJECT	STA. 236+46.00	END WORK	STA. 236+46
NO ADDITIONS OR DEDUCTIONS		ADD FOR INTERSECTIONS	
NET LENGTH OF PROJECT = 5671 LIN. FT.		1-P STA. 0+12.51 TO STA. 4+34.13	
		4-P STA. 100+10 TO STA. 111+75.	
		NET LENGTH OF WORK = 7332.62 LIN. FT.	

SU-1167(2) *(MUNICIPAL)*

BEGIN PROJECT	STA. 236+46.00	BEGIN WORK	STA. 236+46.00
END PROJECT	STA. 242+81.00	END WORK	STA. 243+10.00
NO ADDITIONS OR DEDUCTIONS		NO ADDITIONS OR DEDUCTIONS	
NET LENGTH OF PROJECT = 635.00 LIN. FT.		NET LENGTH OF WORK = 664.00 LIN. FT.	

TOTAL LENGTH OF PROJECT = 6306.00 LIN. FT. OR 1.194 MILE
TOTAL LENGTH OF WORK = 7996.62 LIN. FT. OR 1.514 MILE

FILE Nº	DEF-66-340
_____	DATE OF LETTING _____ 19___
	CONTRACT NO. _____



DELIVERY POINT - DEFIANCE AVERAGE HAUL 1.5 MILES B & O R.R.

SCALE OF MILES
0 1 2 3

LOCATION MAP

PORTION TO BE IMPROVED
STATE HIGHWAYS
OTHER ROADS
DETOUR ROUTES

PLAN
PROFILE (HORIZONTAL) 0' 50' 100'
PROFILE (VERTICAL)
CROSS SECTIONS 0' 5' 10'

STANDARD DRAWINGS				HL-1	11-1-65
AS-1-54	8-10-65	GR-1	6-1-65	MC-4	6-1-65
BP-5	6-1-65	GR-2A	9-1-65	BR-1-65, sht 2	11-24-65
BP-6	6-1-65	HW-E	6-1-65	SD-1-65, shts 1&2	11-8-65
BP-7	1-1-66	BP-3	6-1-65	RB-1-55	2-2-59
CB-3A	6-1-65	L-1	6-1-65	HL-2	11-1-65
F.A.C.I.-1	6-1-65	MC-1	6-1-65	HL-3	11-1-65
F.A.C.I.-2	6-1-65	MC-3	6-1-65	HL-4	1-1-66

SUPPLEMENTAL SPECIFICATIONS	
1001	9-2-65
808	2-7-66
811	3-29-65
825	4-22-65
828	7-21-65

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

THE RIGHT-OF-WAY FOR THIS IMPROVEMENT WILL BE PROVIDED BY THE STATE OF OHIO.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY, EXCEPT AS NOTED ON SHEET 5 AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

APPROVED Norman R Conn
DATE 2-9-66 DIVISON DEPUTY DIRECTOR

APPROVED C. H. Abbotts
DATE 4-28-66 ENGINEER OF BRIDGES

APPROVED R. N. Richter
DATE 5-5-66 ENGINEER OF LOCATION AND DESIGN

APPROVED R. E. Schultz
DATE 5-5-66 DEPUTY DIRECTOR OF DESIGN AND CONSTRUCTION

APPROVED T. H. Board
DATE 5-11-66 DEPUTY DIRECTOR OF RIGHT-OF-WAY

APPROVED E. W. Wilson
DATE 5-11-66 DEPUTY DIRECTOR OF PLANNING AND PROGRAMMING

APPROVED _____
DATE _____ FIRST ASSISTANT DIRECTOR

APPROVED P. O. Ashton
DATE 5/12/66 DIRECTOR OF HIGHWAYS

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

APPROVED:

_____ _____
DIVISION ENGINEER DATE

SCHEMATIC PLAN

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

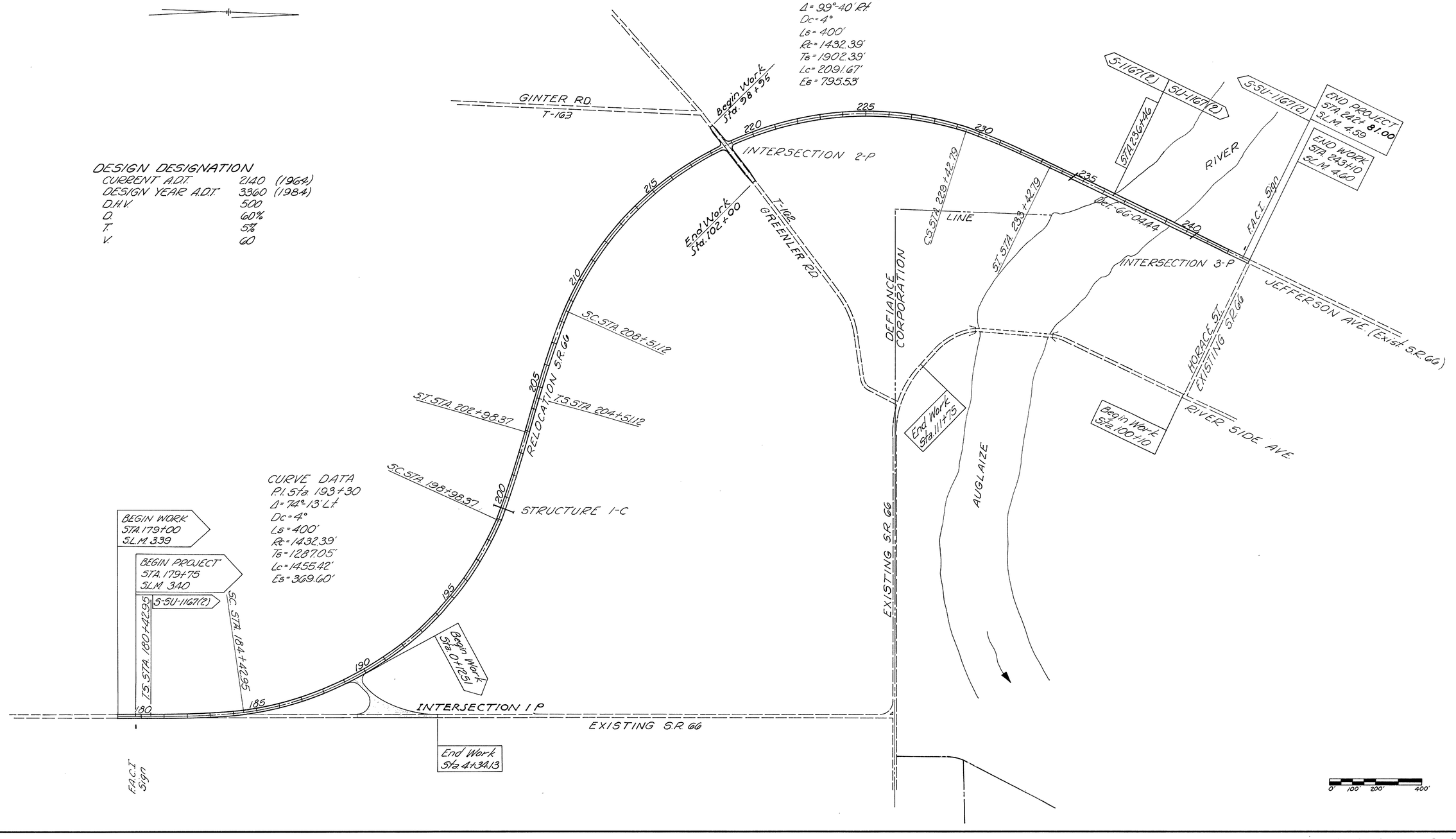
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DEFIANCE COUNTY
DEF-66-3.40

C0259002

DESIGN DESIGNATION

CURRENT A.D.T.	2140	(1964)
DESIGN YEAR A.D.T.	3360	(1984)
D.H.V.	500	
D	60%	
T	5%	
V	60	



SCHEMATIC PLAN

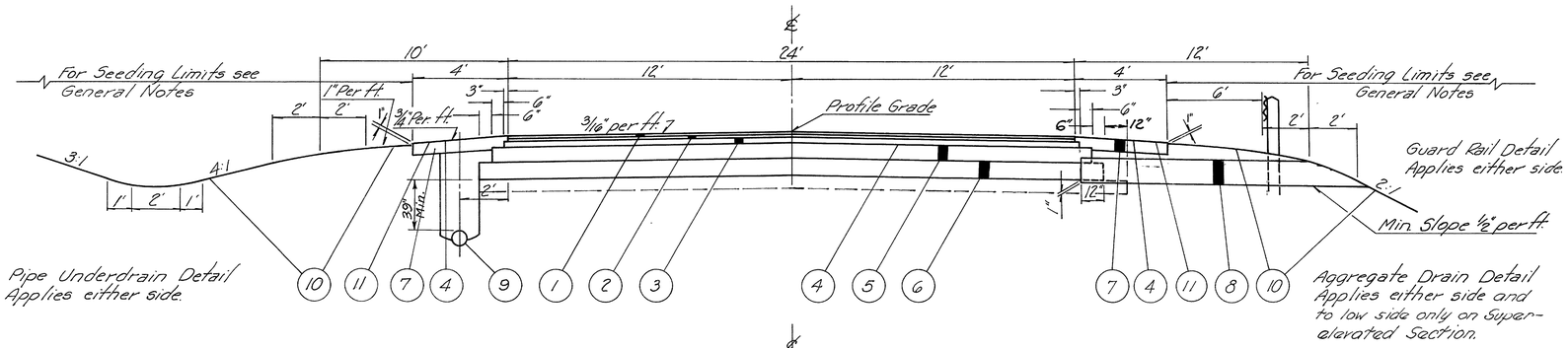
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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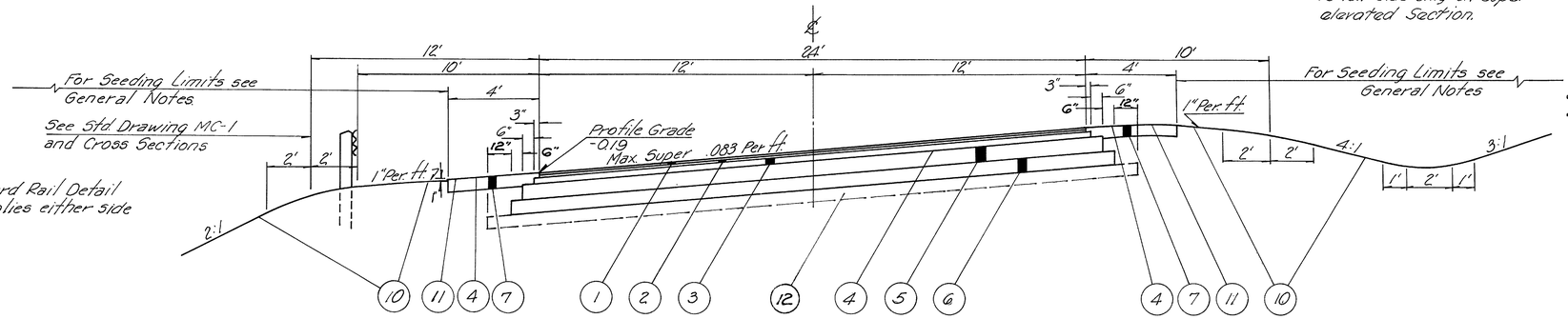
DEFIANCE COUNTY
DEF-66-3.40

TYPICAL SECTIONS

TYPE 404 ON 304



Section on left applies from:
Sta 234+25 to Sta 234+29.52 = 4.52 Lin. Ft.



Section on left applies from:
Sta 179+75 to Sta 234+25 = 5450 Lin. Ft.

Pipe Underdrain and Aggregate Drain Details apply to low side only in superelevated sections.

(1) Item 404 1¼" Asphalt Concrete (70-85).
(2) Item 402 1¼" Asphalt Concrete (70-85).
(3) Item 402 1½" Asphalt Concrete (70-85).
(4) Item 408 Bituminous Prime Coat 702.09 RT-2 or RT-3 applied at the rate of 0.40 Gal. per Sq. Yd.
(5) Item 304 6" Aggregate Base.
(6) Item 310 6" Subbase
(7) Item 304 8" Aggregate Base
(8) Item 605 Aggregate Drains (See note on Sheet No. 5)
(9) Item 605 6" Pipe Underdrains.
(10) Item 659 Seeding and Mulching.
(11) Item 409 Seal Coat using .008 Cu. Yds. No. 8 Aggregate per Sq. Yd. and 0.30 Gal. 702.09 RT-9 or RT-10, or 702.03 CBAE-3.
(12) Item Special: Lime-Soil Stabilized Subgrade (See note on sheet 5 & note in proposal)

C025-9003

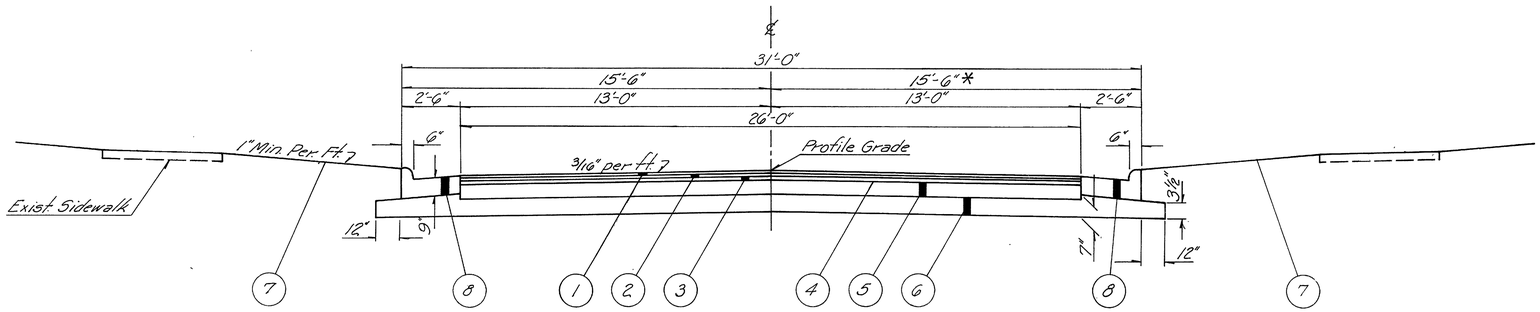
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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DEFIANCE COUNTY
DEF-66-340

TYPICAL SECTIONS

TYPE 404 ON 304



Above Section Applies from:
Sta. 240+64.48 to Sta. 242+81
= 216.52 Lin. Ft.

* Width varies from 15.5' at Sta. 242+71.66
to 17.81' at Sta. 242+81

(1) Item 404 1¼" Asphalt Concrete (70-85).
(2) Item 402 1¼" Asphalt Concrete (70-85).
(3) Item 402 1½" Asphalt Concrete (70-85).
(4) Item 408 Bituminous Prime Coat 702.09 RT-2 or RT-3 applied at the rate of 0.40 Gal. per Sq. Yd.
(5) Item 304 6" Aggregate Base.
(6) Item 310 6" Subbase
(7) Item 659 Seeding and Mulching.
(8) Item 609 Combination Curb and Gutter Type 2.

C02590.04

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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DEFIANCE COUNTY
DEF-66-3.40

GENERAL NOTES

DESIGN SPEED - The geometrics for this project have been planned for a design speed of 60 miles per hour.

FIELD OFFICE - The contractor shall, in addition to the requirements of 105.152, provide field office having a minimum of 200 sq. ft. of floor space. The Contractor shall have a telephone installed and maintained in this field office during the construction of this project. The contractor shall also provide and maintain sanitary provisions as per 107.06. All the above is included in the lump sum price bid for Field Office.

UNDERGROUND UTILITIES - The locations of the underground utilities shown on the plans have been obtained by diligent field checks and searches of available records. It is believed that they are essentially correct, but the State of Ohio does not guarantee their accuracy or completeness.

DETOUR LIMITATIONS - The length of time of detour shall be held to a minimum and in no case shall exceed 30 consecutive calender days. Two Way traffic shall be maintained at all times the detour is not in effect. Estimated quantities of 410 and 616 are carried in the General Summary to be used as directed by the Engineer to maintain local traffic, in accordance with 105.04.

SUPERELEVATION - Superelevated curves shall be built without crown. The crown shall be worked out of the pavement in the portion between the beginning of the transition and the point where the superelevation equals twice the crown.

ROUNDING OF CORNERS SHOWN ON CROSS SECTIONS - The rounded corners shown on Standard Drawing MC-1 apply to all cross sections, even though otherwise shown on the plans.

DRIVEWAYS - Unless otherwise shown on these plans, all driveways on this project shall be Type 1, Standard Drawing BP-6, Modified by deleting the 12" offset at the edge of the pavement.
Pavement courses and thicknesses shall be as follows:

Type	Within R/W 404	Within R/W 411	Outside R/W * 411
Mail Box Approach	± 2"	5"	
Residence Drive	± 2"	5"	8"
Commercial Drive	± 2"	7"	9"
Field Drive	0"	6"	6"

± 2" 404 is to be placed in two 1" courses.

* If existing drive is hard surface the same courses and thicknesses shall be used outside the right-of-way as are specified within the right-of-way. Only the flared area of drives is to be paved except existing paved drives which are to be replaced in kind.

REMOVAL OF EXISTING PIPE - The removal of all existing pipe drains which would normally be removed in various excavation items shall be included for payment in the unit prices bid for the respective excavation items, unless otherwise itemized in the plans.

CONNECTIONS TO EXISTING PIPE - At places where the plans provide for proposed pipe to be connected to existing pipe, it shall be the responsibility of the Contractor to locate the existing pipe both as to line and grade before he starts to lay the proposed pipe. The cost of this operation shall be included in the unit price bid for the pertinent 603 conduit item.

REMOVAL OF TREES AND STUMPS - All trees and stumps specifically marked for removal within the construction limits of this project shall be removed under the lump sum price bid for Item 201 Clearing and Grubbing, except that those trees for which protection and preservation work is indicated elsewhere in these plans shall not be removed.
The following is an approximate estimate of the number of trees and stumps to be removed.

Sizes	No. Trees	S	SU	No. Stumps	S	SU
18"	245	225	20	2		2
30"	21	21		0		
48"	4	4		0		
Over 60"	2	2		0		

SEEDING FORMULA - The following seed mixture shall, in lieu of the mixtures listed in 659.09, be used throughout the limits of this project.
60% Kentucky 31 Fescue 25% Kentucky Blue Grass 15% Fancy Red Top
A rotary type mixer shall not be used in the area three (3) feet each way from the ℄ of the Roadway Ditch. Any stone or other debris 2" or over in diameter shall be removed from the exposed surface of the seed bed.

SEEDING - Quantities for seeding are calculated for the soil areas between lines ten (10) feet outside the work limits as shown on the cross sections, or to the right-of-way line if such line is less than ten (10) feet from the work limits. Seeding on this project shall meet the requirements specified for areas in front of residences under 659.09, from Sta 240+50 to Sta 243+10, Lt & Rt.

SEEDING FOR CULTIVATED AREAS - The cultivated areas to be seeded shall include all areas designated by the Engineer between lines ten (10) feet outside the work limits and the right-of-way line. Payment for cultivated areas seeded to be incorporated in final change order governing completion of this project.

FEDERAL AID CONSTRUCTION IDENTIFICATION SIGNS - The Contractor shall furnish, erect, maintain, and subsequently remove Federal Aid construction identification signs at each of the following locations:
1. Sta 179+75 Right
2. Sta 242+70 Left
Sign details shall be as specified on Standard Drawing FAC1-1, Code N-54(1)-96(3) and the signs shall be erected in accordance with Standard Drawing FAC1-2. Additional requirements shall be in accordance with notes in the proposal.

CONSTRUCTION LAYOUT STAKES - See note in proposal describing the work included in this lump sum pay item.

ELEVATION DATUM - All elevations are based on U.S.G.S. Datum.

ITEM 604, MANHOLE RECONSTRUCTED TO GRADE, AS PER PLAN - This item shall consist of the careful removal of the existing manhole down to the spring line and reconstruction of the manhole to the new grade conforming as nearly as practicable to the existing dimensions and type of construction and using the salvaged manhole frame and cover.

PAVEMENT REMOVAL OUTSIDE NORMAL CONSTRUCTION LIMITS - After the existing pavement as indicated on the plans has been removed, the old roadway shall be graded to the level of the surrounding ground, the old ditches filled and the disturbed areas sloped to drain and left in a neat condition ready for seeding. Seeding shall be measured and paid for in accordance with Item 659 Seeding and Mulching. Payment for all other work required shall be included in the unit price bid for Item 203.

ITEM 605 AGGREGATE DRAINS - Aggregate drains shall be placed at fifty (50) foot intervals on each side of normal crowned sections and at twenty-five (25) foot intervals on the low side only of superelevated sections, except where Item 605 Pipe Underdrains have been provided.
An aggregate drain shall be placed at the low point of each sag vertical curve.

MODIFICATION OF NO. 3-A CATCH BASINS - The No. 3-A Catch Basins shall be modified by omitting the key joint and dowels adjacent to the asphalt pavement. The unit price bid for each Std. No. 3-A catch basin shall include the concrete apron.

HAND FINISHING - Hand finishing will be permitted as per Item 611.05 for the approach slabs on this project.

FARM DRAINS - All farm drains which are encountered during construction shall be provided with unobstructed outlets under the direction of the Engineer. Existing collectors and isolated farm drains which are encountered above the elevation of the roadway ditches shall be outletted into the roadway ditch by 603 Type F Conduit. The optimum outlet elevation shall be, if possible, one foot above the flow line elevation of the ditch. Existing collectors which are located below the roadway ditch elevations and which cross the roadway shall be replaced within the (right-of-way)(construction) limits by Item 603 Conduit, Type B, with Class B Bedding, one commercial size larger than the existing conduit.
The location, type, size, and grade of required replacements shall be determined by the Engineer during construction and payment shall be made on final measurements.
The following estimated quantities have been included in the General Summary for the work noted above:
Item 603 8" Conduit, Type B = 100 Lin. Ft.
Item 603 6" Conduit, Type F = 40 Lin. Ft.
Item 601 Dumped Rock Channel Protection = 5 Cu. Yds.
And necessary Pipe Specials which shall be included for payment in the pertinent conduit item.
None of the above materials shall be ordered by the Contractor until requested by the Engineer.

605 AGGREGATE DRAINS - Aggregate Drains shall be placed prior to completion of 4' stabilized berms.

CONTRACTORS MAINTENANCE RESPONSIBILITY - On this project, the Contractor's responsibility shall be limited to those portions of the existing pavement lying within the proposed work limits.

ITEM 203.13 SUBGRADE
The requirements of Item 203.08 relating to liquid limit and plasticity index are hereby waived. In lieu of the requirements for the use of subgrade soil with a maxium dry weight of not less than 100 pounds per cubic foot, soils with a maximum dry weight of 90 pounds per cubic foot or more will be acceptable in subgrade and embankment.

LIME-SOIL STABILIZED SUBGRADE - Subgrade on this project is to be stabilized by the addition of lime between Stations 179+75 and 234+52, as shown on the typical sections. Prior to admixture of lime, the roadway shall be constructed to subgrade elevation in accordance with the specification provisions of 203. Excavation and 203 Embankment except that compaction of subgrade in cuts and of the top 6-inches of embankment will not be required. See Note in Proposal.

C025900S

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

6/57

DEFIANCE COUNTY
DEF-66-340

TREE SCHEDULE

STATION	SIDE	DIST. OUT	TREES TAKEN FROM BASE LINE "A" SIZE & TYPE	REMARKS
0+04	Lt.	36'	14" Stub	
0+06	Rt.	20'	20" Stub	201
0+07	Lt.	39'	26" Maple	201
0+18	Lt.	54'	13" Maple	
0+26	Rt.	17'	13" Maple	201
0+28	Rt.	26'	13" Maple	201
0+30	Lt.	41'	32" Maple	
0+33	Rt.	5'	22" Maple	201
0+33	Lt.	2'	19" Maple	201
0+44	Rt.	11'	14" Maple	201
0+59	Rt.	6'	30" Maple	201
0+60	Lt.	59'	40" Maple	
0+61	Rt.	14'	16" Maple	201
0+75	Rt.	14'	20" Willow	201
0+78	Lt.	62'	22" Maple	
0+81	Lt.	63'	22" Maple	
0+85	Rt.	18'	18" Maple	201
1+01	Lt.	54'	22" Maple	201
1+06	Rt.	15'	19" Maple	201
1+08	Lt.	52'	60" Maple	201
1+14	Lt.	61'	36" Maple	201
1+15	Lt.	16'	16" Willow	201
1+22	Rt.	15'	24" Maple	201
1+28	Lt.	61'	26" Maple	
1+29	Lt.	12'	12" Maple	201
1+54	Rt.	11'	26" Willow	201
1+73	Lt.	43'	66" Maple	201
1+80	Lt.	7'	22" Maple	201
1+80	Lt.	11'	22" Maple	201
1+85	Lt.	11'	18" Maple	201
1+90	Rt.	22'	22" Maple	201
1+95	Rt.	20'	22" Maple	201
2+04	Lt.	16'	25" Maple	201
2+17	Rt.	21'	26" Maple	201
2+25	Lt.	23'	28" Maple	201
2+27	Lt.	21'	18" Maple	201
2+31	Lt.	21'	12" Maple	201
2+31	Lt.	24'	12" Maple	201
2+45	Lt.	47'	24" Maple	201
2+46	Rt.	21'	12" Maple	201
2+51	Lt.	49'	52" Maple	201
2+52	Rt.	17'	16" Willow	201
2+55	Rt.	36'	12" Maple	201
2+55	Lt.	57'	13" Hackberry	201
2+55	Rt.	39'	15" Maple	201
2+58	Rt.	33'	16" Willow	201
2+72	Rt.	32'	15" Maple	201
2+72	Lt.	55'	13" Willow	201
2+75	Lt.	35'	22" Maple	201
2+77	Lt.	35'	14" Maple	201
2+82	Lt.	35'	15" Maple	201
2+83	Rt.	54'	13" Willow	201
2+83	Rt.	2'	20" Maple	201
2+86	℄	℄	21" Maple	201
2+88	Lt.	01'	18" Maple	201
2+90	Rt.	6'	26" Maple	201
2+93	Lt.	22'	13" Maple	201
2+93	Rt.	57'	16" Willow	201
3+00	Lt.	6'	15" Maple	201
3+07	Rt.	41'	13" Maple	201
3+24	Rt.	30'	13" Maple	201
3+30	Lt.	45'	52" Maple	201
3+31	Rt.	38'	14" Maple	201
3+33	Rt.	30'	22" Maple	201
3+33	Rt.	42'	18" Maple	201
3+37	Rt.	39'	18" Maple	201
3+39	Rt.	41'	26" Maple	201
3+49	Lt.	30'	64" Maple	201
3+61	Lt.	42'	34" Maple	201
3+65	Lt.	4'	12" Maple	201
3+69	Rt.	52'	12" Maple	201
3+81	Rt.	5'	29" Maple	201
3+81	Lt.	38'	28" Elm	201
3+84	Rt.	74'	18" Maple	201

STATION	SIDE	DIST. OUT	TREES TAKEN FROM BASE LINE "A" SIZE & TYPE	REMARKS
3+87	Lt.	43'	16" Hackberry	201
3+90	Rt.	71'	28" Maple	201
4+01	Lt.	41'	20" Hackberry	201
4+04	Rt.	20'	24" Snag	201
4+06	Rt.	70'	12" Maple	201
4+06	Rt.	72'	16" Maple	201
4+23	Lt.	38'	16" Hackberry	201
4+23	Rt.	69'	15" Maple	201
4+24	Rt.	72'	12" Maple	201
4+24	Rt.	67'	14" Maple	201
4+25	Lt.	38'	18" Hackberry	201
4+31	Rt.	69'	17" Maple	201
4+33	Rt.	66'	17" Maple	201
4+33	Rt.	66'	20" Maple	201
4+33	Rt.	55'	13" Maple	201
4+50	Rt.	69'	5-14" Maples	201
4+54	Lt.	20'	54" Sycamore	201
4+55	Lt.	9'	36" Maple	201
4+68	Lt.	20'	20" Snag	201
4+74	Rt.	75'	26" Maple	
4+74	Rt.	83'	12" Maple	
4+91	Lt.	26'	21" Hackberry	
4+95	Lt.	25'	26" Hackberry	
5+00	Rt.	61'	36" Maple	201
5+12	Lt.	19'	16" Hackberry	
5+12	Rt.	67'	15" Maple	201
5+14	Rt.	69'	26" Maple	201
5+16	Lt.	8'	30" Stub	
5+20	Rt.	72'	14" Maple	201
5+24	Rt.	74'	14" Maple	201
5+24	Rt.	86'	16" Maple	201
5+30	Lt.	8'	12" Maple	
5+33	Lt.	9'	17" Maple	
5+34	Rt.	73'	13" Maple	201
5+42	Rt.	75'	14" Maple	201
5+46	Lt.	4'	13" Hackberry	
5+54	Rt.	23'	24" Hackberry	201
5+55	Rt.	70'	26" Maple	201
5+55	Rt.	76'	12" Maple	201
5+58	Rt.	91'	18" Maple	201
5+58	Rt.	93'	12" Maple	201
5+62	Rt.	27'	13" Snag	201
5+64	℄	℄	54" Maple	
5+70	Rt.	72'	18" Maple	201
5+72	Rt.	89'	3-12" Maple	201
5+75	Lt.	6'	18" Hackberry	
5+77	Rt.	22'	36" Hackberry	201
5+86	Rt.	18'	18" Ash	201
5+95	Rt.	29'	20" Maple	201
5+95	Rt.	32'	20" Maple	201
5+98	Rt.	83'	17" Maple	201
6+00	Rt.	90'	12" Maple	201
6+02	Rt.	82'	17" Maple	201
6+06	Rt.	80'	20" Maple	201
6+07	Rt.	80'	14" Maple	201
6+07	Rt.	43'	20" Hackberry	201
6+16	Rt.	82'	13" Maple	201
6+18	Rt.	30'	13" Ash	201
6+26	Rt.	9'	36" Locust	
6+30	Rt.	58'	13" Hackberry	201
6+51	Rt.	46'	2-12" Ironwood	
6+69	Rt.	91'	13" Maple	201
6+78	Rt.	89'	14" Maple	201
6+79	Rt.	92'	18" Maple	201
6+88	Rt.	87'	20" Maple	
6+90	Rt.	84'	20" Maple	
6+90	Rt.	97'	14" Maple	
6+00	℄	℄	22" Hackberry	

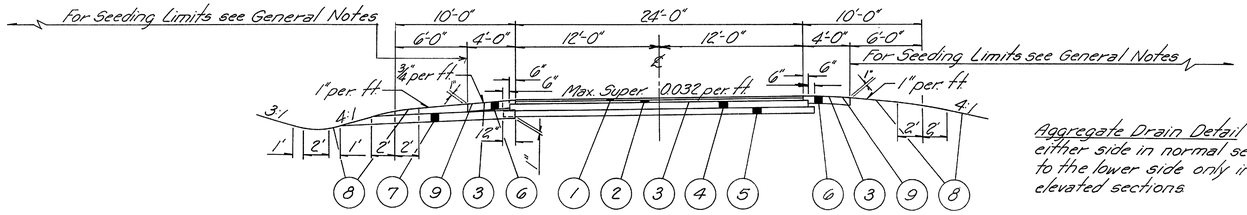
PAVEMENT COMPUTATIONS

Stations From	Stations To	New	Salvage & Transition	202 Existing Pavement Removed and Disposed Of	202 Existing Curb & Gutter Removed and Disposed Of	202 Existing Curb Removed and Disposed Of	203 Subgrade Preparation	304 6" Aggregate Base	304 Water	310 6" Subbase	402 1¼" Asphalt Concrete	402 1½" Asphalt Concrete	404 1¼" Asphalt Concrete	407 Tack Coat	408 Bituminous Prime Coat	409 Seal Coat Bituminous Material	409 Seal Coat Cover Aggregate, No.8	304 8" Aggregate Base	609 Combination Curb and Gutter, Std. Type 2	611 8" Reinforced Concrete Approach Slab (7'x13')
		Lin. Ft.		Sq. Yd.	Lin. Ft.	Lin. Ft.	Sq. Yd.	Cu. Yd.	M. Gal.	Cu. Yd.	Cu. Yd.	Cu. Yd.	Cu. Yd.	Gal.	Gal.	Gal.	Cu. Yd.	Cu. Yd.	Lin. Ft.	Sq. Yd.
179+00	179+75		75.00					7.64	0.004	9.03		1.30	5.09	17	18					
179+75	234+29.52	5454.52						2575.75	• 17.83	2676.76	505.05	618.68	505.05		*81.21	14.54	38.79	990.78		
234+29.52	234+54.52	25.00							0.002	10.65					9	7	0.18	4.32		67
234+54.52	240+39.48	584.96	Bridge	Limits																
240+39.48	240+64.48	25.00					84			14.06										86
240+64.48	242+71.66	207.18			16		7.14	99.75	0.50	128.85	20.78	24.94	20.78		2.39				414.36	
Intersection 1-P							13.53	230.20	•• 3.55	234.92	63.82		72.05	72	**6.41	1.70	1.77	47.99		
Intersection 2-P							7.36	190.88	0.96		27.06		27.06		3.44					
Intersection 3-P				52	28	33	108	15.34	0.08	19.00	3.30	3.83	3.59	3	3.7				59.76	
Total		6296.60	75.00	52	43	33	2225	3119.56	22.98	3093.27	620.01	648.75	633.62	92	9409	1531	40.74	1043.09	474.12	153

• Includes 4.95 M. Gals for 8" Aggregate Base
•• Includes 2.40 M. Gals for 8" Aggregate Base

* Includes 1.939 Gals for Bituminous Treated Shoulders.
** Includes .089 Gals for Bituminous Treated Shoulders.

TYPICAL SECTION
TYPE 404



Aggregate Drain Detail applies either side in normal sections or to the lower side only in super-elevated sections

SECTION APPLIES FROM STA. 0+97.79 TO STA. 4+14.97 on Reloc. Existing S.R. 66

1. Item 404 1¼" Asphalt Concrete (70-85).
2. Item 402 1¼" Asphalt Concrete (70-85).
3. Item 408 Bituminous Prime Coat 702.09 RT-2 or RT-3 applied at the rate of .040 Gal. per Sq. Yd.
4. Item 304 6" Aggregate Base.
5. Item 310 6" Subbase
6. Item 304 8" Aggregate Base.
7. Item 605 Aggregate Drains where called for on the plans.
8. Item 659 Seeding and Mulching
9. Item 409 Seal Coat using 0.008 Cu. Yds. No.8 Aggregate per Sq. Yd. and 0.30 Gal. 702.09 RT-9 or RT-10 or 702.03 CBAE-3.

C02790006

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

7
57

DEFIANCE COUNTY
DEF-66-340

MISCELLANEOUS COMPUTATIONS

605 Aggregate Drains (Est 50' intervals in normal pavement and 25' intervals in low side of superelevated Sections, except where I-603 Pipe Underdrains have been provided)

Average Length-
Plan & Profile 15ft. est.
Intersection I-P 15ft. est.

Quantity-
Plan & Profile
(75×2=50 +125 ÷ 25 +1100 ÷ 25+25×2 ÷25)×15= 795 Lin.Ft.
Intersection I-P
(600 ÷ 25) ×15= 360 Lin.Ft.
Total 605 Aggregate Drains 1155 Lin.Ft.

659 Seeding & Mulching
From Seeding Table 71,400 Sq.Yd.
Deduct 660 Sodding .50 Sq.Yd.
Deduct 601 Dumped Rock Channel Protection 4141 Sq.Yd.
Net Seeding and Mulching 67,209 Sq.Yd.

659 Commercial Fertilizer @ 20# per 1000 Sq.Ft.
Net Seeding & Mulching 67,209 Sq.Yd.
Add 660 Sodding 50 Sq.Yd.
Net Seeding & Sodding 67,259 Sq.Yd.
Quantity=67,259 ×9×20÷1000÷2000 6.05 Ton

203 Water
203 Embankment 104,330 Cu.Yd.
310 Subbase 3093 Cu.Yd.
Spec. Lime-Soil Stabilized Subgrade 2880 Cu.Yd.
Net Water 110303 Cu.Yd.
Quantity=110303 ×5÷1000= 552 M.Gal.

410 Traffic Compacted Surface Course, Type A or B Estimated= 50 Cu.Yd.

616 Calcium Chloride Estimated for Maintaining Traffic= 2.0 Tons.

ITEM SPECIAL Spreading, Mixing, Shaping, and Compacting Lime Soil Stabilized Mixture, Estimated 17274 Sq.Yd.

ITEM SPECIAL Delivered Hydrated Lime for Lime-Soil Stabilized Mixture, Estimated 233 Tons.

SEEDING 659

Sheet No.	Seeding & Mulching
	Sq.Yd.
16	3245
17	9058
18	3951
19	3781
20	8827
21	7598
22	3066
23	1335
24	1404
25	1957
26	3013
27	4614
28	2464
29	3783
30	5006
31	587
32	201
38	1981
40	1527
43	1882
44	2120
Total	71,400

EARTHWORK 203

Sheet No.	Excavation	Embankment
	Cu.Yd.	Cu.Yd.
9	2188	1226
10	2364	5118
11	1348	1905
12	5327	1398
13	1763	87890
14	17294	6244
37	299	522
39	984	27
42	11,169	0
Totals	42,736	104,330

304 WATER

Sheet No.	304 Water M.Gal.	
	S	SU
10	0.20	
11	0.12	
12	0.09	
14	0.04	0.04
Total	0.41	0.04

GENERAL SUMMARY

ITEM	SHEET NO.												ITEM	QUANTITIES					TOTAL	UNIT	
	5	6	7	9	10	11	12	13	14	42				S-1167(2) Y-005	6201	SU-1167(2) Y005	6201			
														Rural		Municipal				ROADWAY
201													201		Lump		Lump	Lump	Lump	Clearing and Grubbing.
202									1				202				1	1	Each	Catch Basin, Removed
202		52							2				202				54	54	Sq.Yd.	Existing Pavement Removed and Disposed of
202		43											202				43	43	Lin.Ft.	Existing Curb and Gutter Removed and Disposed Of
202		33											202				33	33	Lin.Ft.	Existing Curb Removed and Disposed Of
202									43				202				43	43	Sq.Ft.	Existing Sidewalk Removed and Disposed Of
203			42,736										203		28,995		13741	42,736	Cu.Yd.	Excavation Not Including Embankment Construction
203			104,330										203		103,992		338	104,330	Cu.Yd.	Embankment
203		2995											203		2089		906	2995	Sq.Yd.	Subgrade Preparation
203			552										203		550		2	552	M.Gal.	Water
410			50										410		50			50	Cu.Yd.	Traffic Compacted Surface, Type A or B
606				25	450		194.88	200.00	242.62	25			606		3025.00		112.50	3137.50	Lin.Ft.	Guard Rail Type 4
608									34				608				34	34	Sq.Ft.	Concrete Walk 4"
609		474											609				474	474	Lin.Ft.	Combination Curb and Gutter, Standard Type 2
616			1										616		1		1	2	Ton	Calcium Chloride
659			67.209										659	64.06		743		67.209	Sq.Yd.	Seeding and Mulching. As Per Plan.
659			6.05										659	5.99		0.06		6.05	Ton	Commercial Fertilizer (12-12-12)
660					50								660	50				50	Sq.Yd.	Sodding
Special			16677										Special		17274			17274	Sq.Yd.	Spreading, Mixing, Shaping, and Compacting Lime-Soil Stabilized Mixture.
Special			178										Special		233			233	Ton	Delivered Hydrated Lime for Lime-Soil Stabilized Mixture.
																				DRAINAGE
601					130		74	196.2	108.2				601	31.95		53		324.8	Cu.Yd.	Dumped Rock Channel Protection
602				0.82	1.52		1.42						602		3.8			3.8	Cu.Yd.	Concrete Masonry
603					90								603		90			90	Lin.Ft.	42" Conduit Type A with Class B Bedding
603				70			58						603		128			128	Lin.Ft.	24" Conduit Type A with Class B Bedding 706.02 Class III
603							52						603		52			52	Lin.Ft.	18" Conduit Type A with Class B Bedding
603									28				603				28	28	Lin.Ft.	12" Conduit Type B with Class B Bedding
603					52		10						603		62			62	Lin.Ft.	6" Conduit Type E
603					30								603		30			30	Lin.Ft.	30" Conduit Type D
603					32		40						603		72			72	Lin.Ft.	18" Conduit Type D
603	100												603		100			100	Lin.Ft.	8" Conduit Type B with Class B Bedding
603	40				30		10						603		80			80	Lin.Ft.	6" Conduit Type F
604									2				604				2	2	Each	Standard 3-A Catch Basin, Modified as per plan
604									2				604				2	2	Each	Manhole Adjusted to Grade.
605				1025	1100	1400	1100						605		4625			4625	Lin.Ft.	6" Deep Pipe Underdrains
605			1155										605		1155			1155	Lin.Ft.	Aggregate Drains
604									3				604				3	3	Each	Manhole Reconstructed to Grade
																				PAVEMENT
304		41.62			41	25	17		9				304		41.30		12.4	42.54	Cu.Yd.	Aggregate Base
304		23.5	0.5										304		23.5		0.5	24	MGal	Water
310		3093											310		2945		148	3093	Cu.Yd.	Subbase
402		1269											402		12.16		53	1269	Cu.Yd.	Asphalt Concrete (70-85)
404		634		4					1				404		613		26	639	Cu.Yd.	Asphalt Concrete (70-85)
407		92		5									407		94		3	97	Gal	Tack Coat-702.04 M5-2 or R5-1, or 702.02 RC-70 or RC-250
408		9409							9				408		9133		285	9418	Gal	Bituminous Prime Coat 702.09 RT-2 or RT-3
409		1531											409		1531			1531	Gal	Seal Coat Bituminous Material, 702.09 RT-9 or RT-10 or 702.03 CBAE-3
409		41											409		41			41	Cu.Yd.	Seal Coat Cover Aggregate No.8
452									62				452				62	62	Sq.Yd.	7" Plain Portland Cement Concrete Pavement
611		153											611		67		86	153	Sq.Yd.	Reinforced Concrete Approach Slabs (T=13")
614													614		Lump		Lump	Lump	Lump	Maintaining Traffic
															Lump		Lump	Lump	Lump	Construction Layout Stakes
															Lump		Lump	Lump	Lump	Field Office
																				STRUCTURE OVER 20' SPAN
																				For Quantities of Bridge No. Def-66-0350 See Sheet No. 47

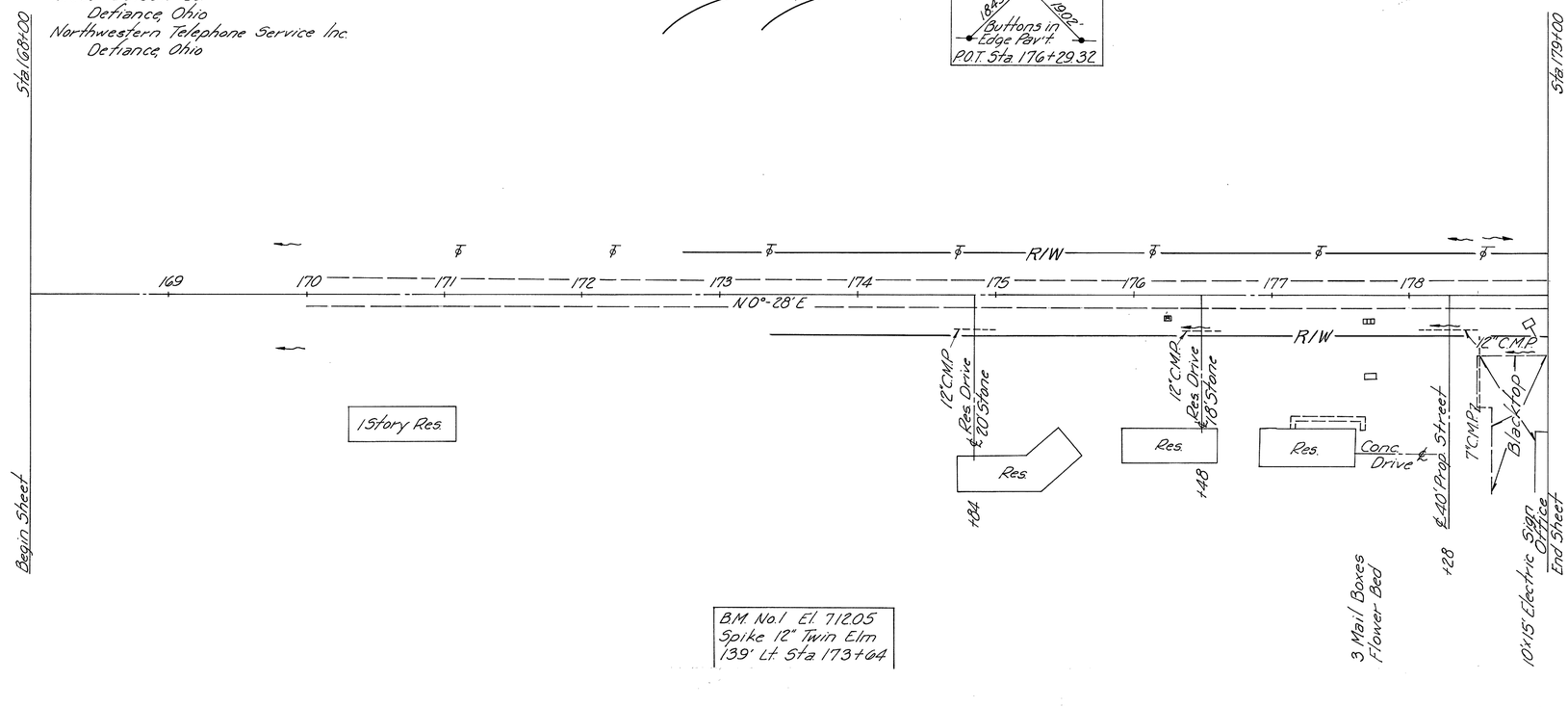
LIGHTING ~ for quantities See Sheet No. 54A

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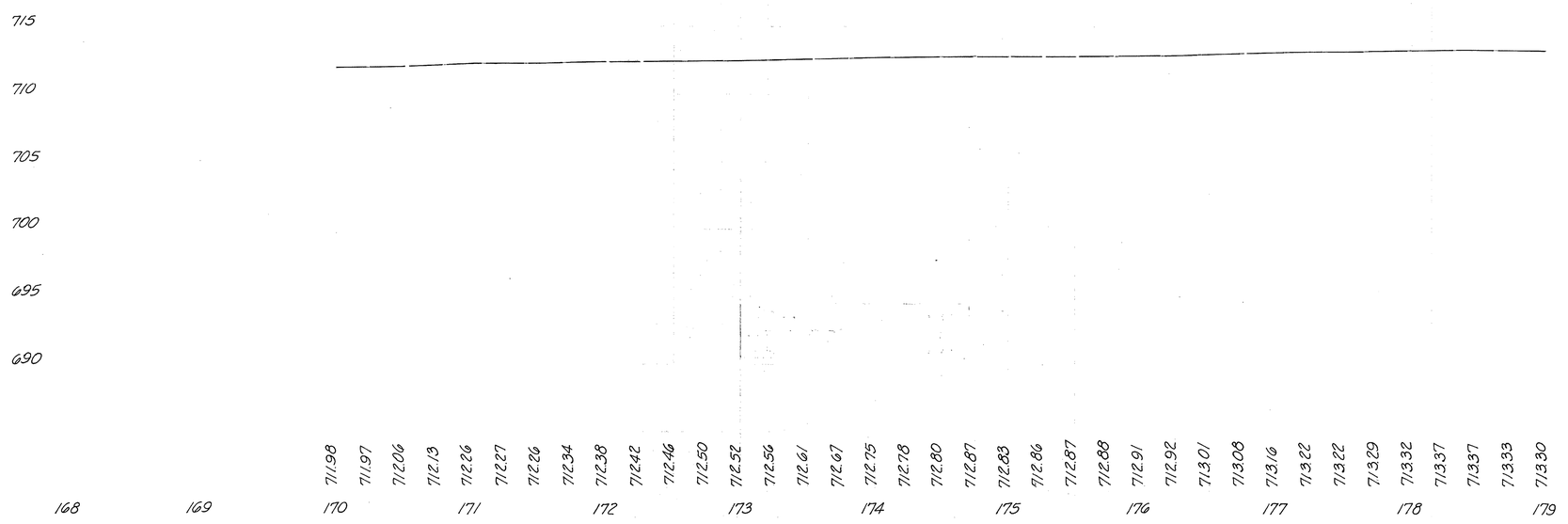
DEFIANCE COUNTY
DEF.-66-3.40

PUBLIC UTILITIES

City of Defiance
Toledo Edison Co
Defiance, Ohio
Northwestern Telephone Service Inc.
Defiance, Ohio



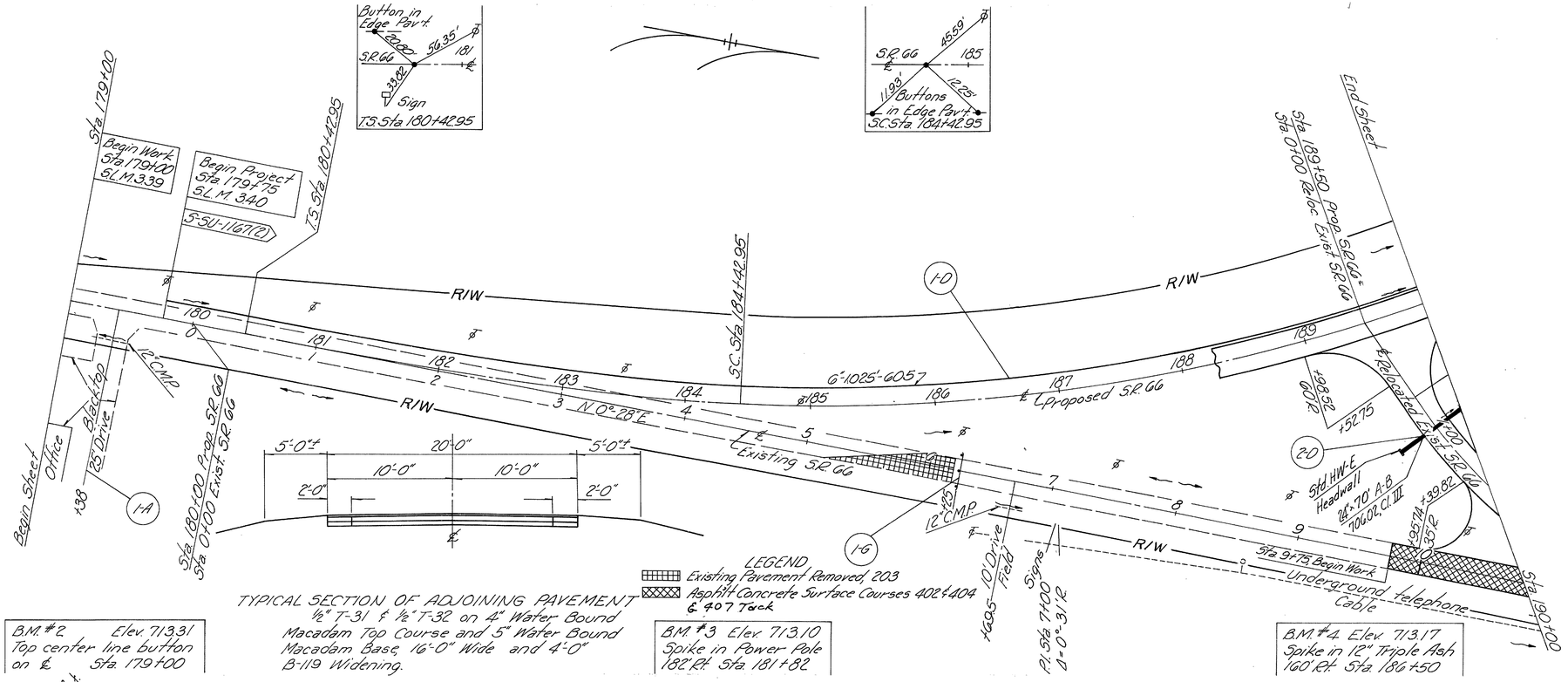
B.M. No. 1 El. 712.05
Spike 12" Twin Elm
139' Lt. Sta 173+64



Sta 168+00 to Sta 179+00

8000515

DEFIANCE COUNTY
DEF-66-3.40



TYPICAL SECTION OF ADJOINING PAVEMENT
½" T-31 & ½" T-32 on 4" Water Bound Macadam Top Course and 5" Water Bound Macadam Base, 16'-0" Wide and 4'-0" B-119 Widening.

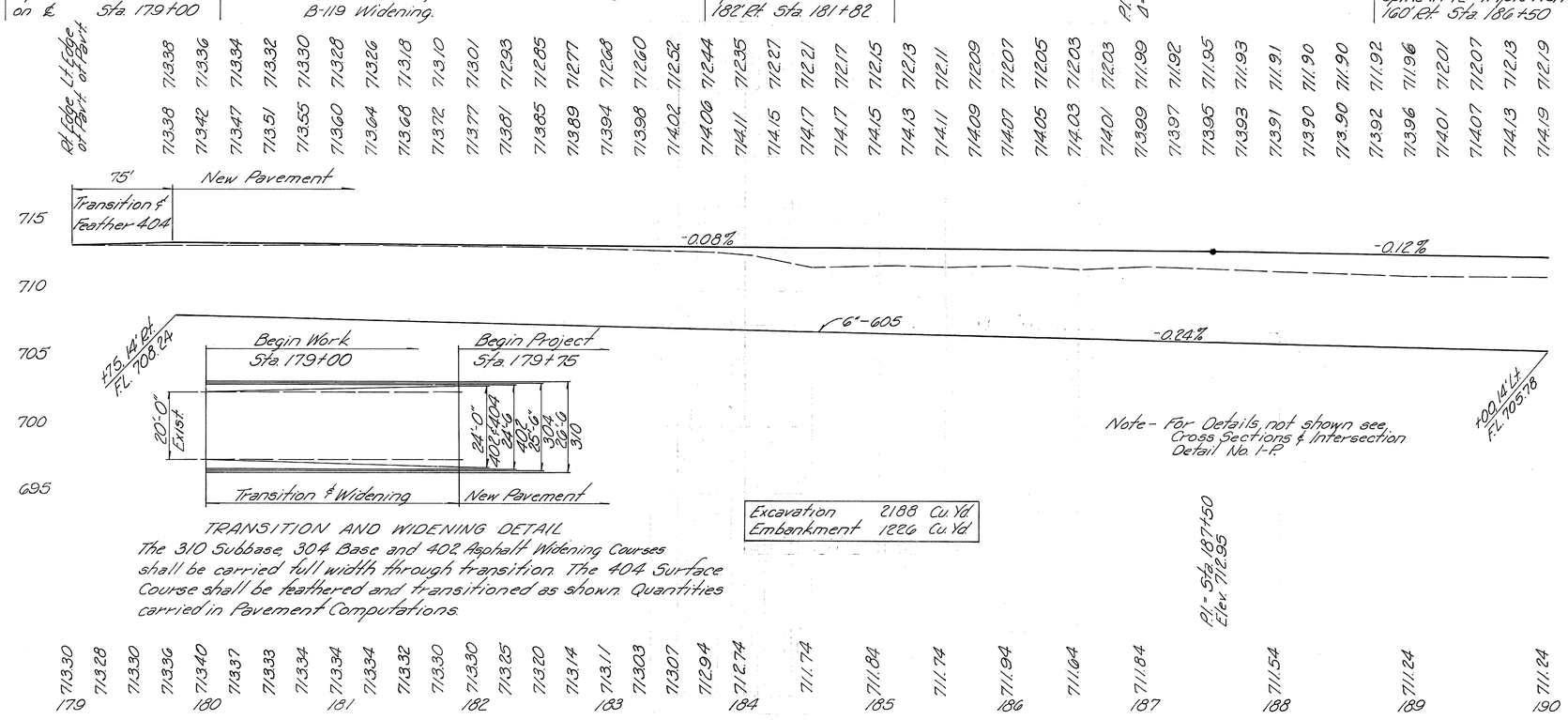
B.M. #2 Elev. 713.31
Top center line button on ℄ Sta. 179+00

B.M. #3 Elev. 713.10
Spike in Power Pole 182' Rt. Sta. 181+82

B.M. #4 Elev. 713.17
Spike in 12" Triple Ash 160' Rt. Sta. 186+50

	Guard Rail Type 4	Conduit 4" Deep Type Underdrain	Conduit 24" Type A-B	Concrete Masonry Class C	Tack Coat	Asphalt Concrete	Length	Width	Remarks	Side	Station To Station	
	606	625	603	602	407	404					From	To
	Lin. Ft.	Lin. Ft.	Lin. Ft.	Cu. Yd.	Gals.	Cu. Yd.						
1-A					5.33	4.44	18'	25'			179+38	
1-0		1025	70	0.82					Rt. Bus Dr.		179+75	188+00
2-0										Lt.	1+00*	
1-G	25									Lt.	6+25**	
Totals	25	1025	70	0.82	5.33	4.44						

* Sta on Relocated Exist. S.R. 66
** Sta. on Exist. S.R. 66



TRANSITION AND WIDENING DETAIL
The 310 Subbase, 304 Base and 402 Asphalt Widening Courses shall be carried full width through transition. The 404 Surface Course shall be feathered and transitioned as shown. Quantities carried in Pavement Computations.

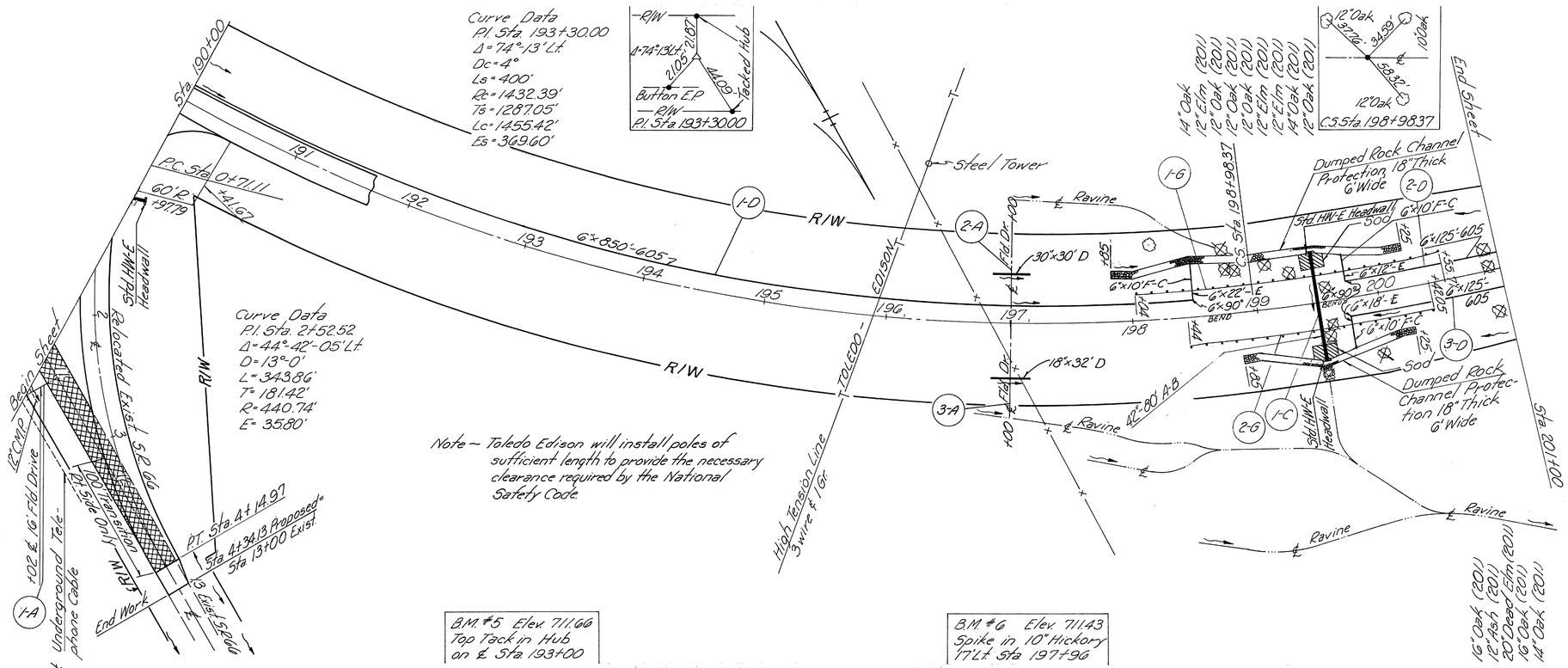
Note - For Details, not shown see Cross Sections & Intersection Detail No. 1-P

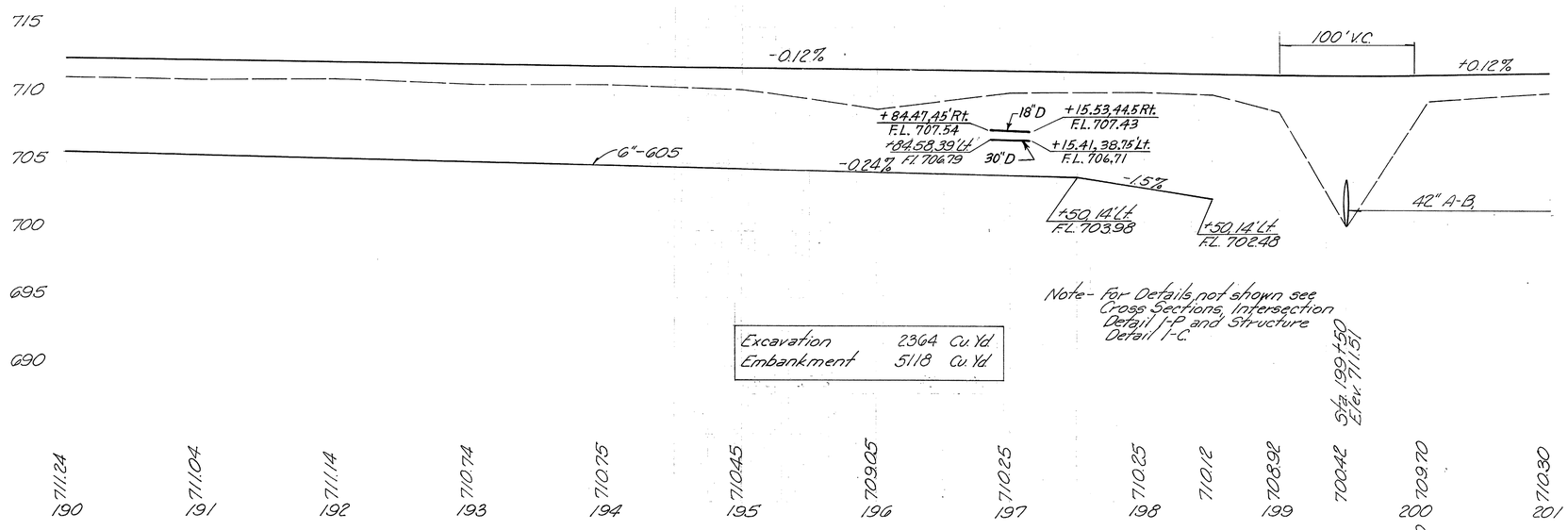
Excavation	2188 Cu. Yd.
Embankment	1226 Cu. Yd.

Sta. 179+00 to Sta. 190+00

C025 9009

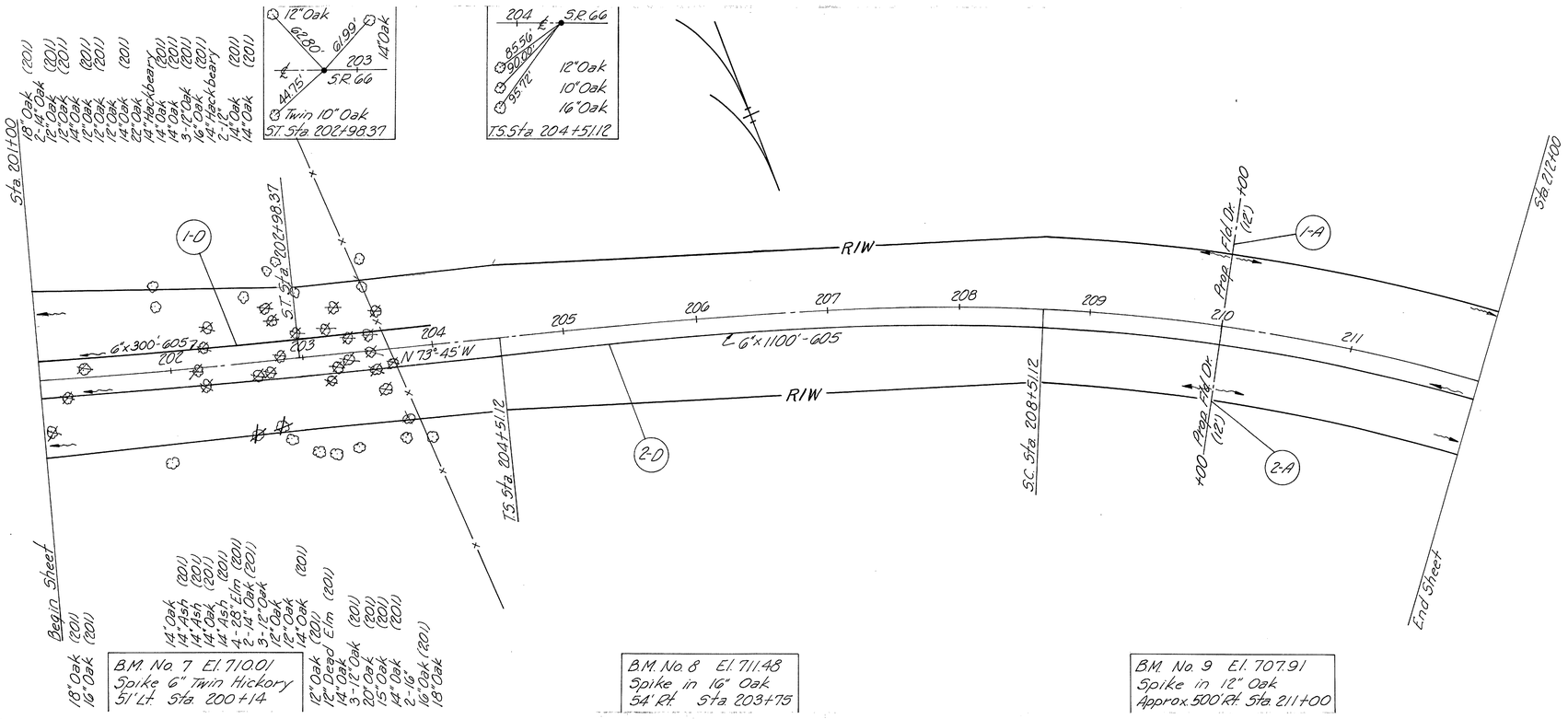
DEFIANCE COUNTY
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Item No.	304	304	601	602	603					605	606	660
					Conduit, Lin. Ft.							
						TYPE E						
Station	Station	Water	Dumped Rock Channel Protection	Concrete Masonry	A-B	E	D	F		6" Deep Pipe Under.	Guard Rail Type 4"	Seeding
From	To	M.Gal.	Cu. Yd.	Cu. Yd.	42"	6"	30"	18"	6"	Lin. Ft.	Lin. Ft.	Sq. Yd.
1-A	1+02**	.005										
2-A	197+00	.007										
3-A	197+00	.008										
1-D	190+00											
2-D	199+75											
3-D	199+75											
1-C	199+50											
1-6	198+04											
2-6	198+44											
			130	1.52	90	52	30	32	30	1100	450	50
			130	1.52	90	52	30	32	30	1100	450	50
			130	1.52	90	52	30	32	30	1100	450	50
						22			10	850		
						12			10	125	250	
						18			10	125	200	
							30	32				

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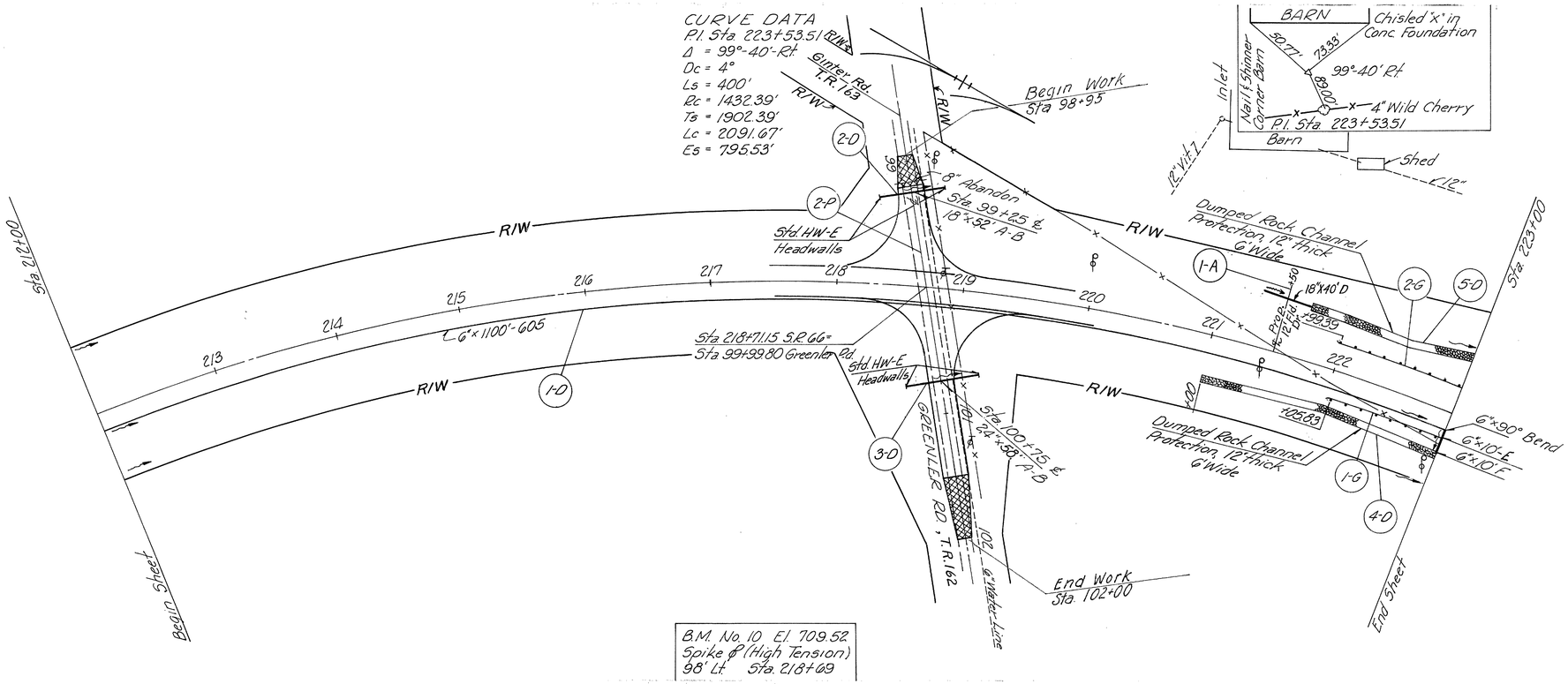


Ref. No.	Station to Station		Side	Remarks	Width	Length	304 6" Aggregate Base	304 Water	605 6" Deep Pipe Underdrain
	From	To					Cu. Yd.	M. Gal.	Lin. Ft.
1-D	201+00	204+00	Lt.						300
2-D	201+00	212+00	Rt.						1100
1-A	210+00		Lt.	Fld. Dr.	12"	42	14.3	0.07	
2-A	210+00		Rt.	Fld. Dr.	12"	85	10.5	0.05	
							24.8	0.12	1400

C02S7011

Sta. 201+00 to Sta. 212+00

DEFIANCE COUNTY
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B.M. No. 10 El. 709.52
Spike ℄ (High Tension)
98' Lt. Sta. 218+69

Rt. Edge of Pavt.	Lt. Edge of Pavt.
711.66	713.66
711.59	713.59
711.52	713.52
711.44	713.44
711.36	713.36
711.27	713.27
711.18	713.18
711.09	713.09
710.99	712.99
710.89	712.89
710.78	712.78
710.67	712.67
710.55	712.55
710.43	712.43
710.30	712.30
710.17	712.17
710.04	712.04
709.90	711.90
709.76	711.76
709.61	711.61
709.46	711.46
709.30	711.30
709.14	711.14
708.97	710.97
708.80	710.80
708.63	710.63
708.45	710.45
708.27	710.27
708.08	710.08
707.89	709.89
707.69	709.69
707.49	709.49
707.28	709.28
707.07	709.07
706.86	708.86
706.64	708.64
706.42	708.42
706.19	708.19
705.96	707.96
705.72	707.72
705.48	707.48
705.23	707.23
704.98	706.98
704.73	706.73
704.47	706.47

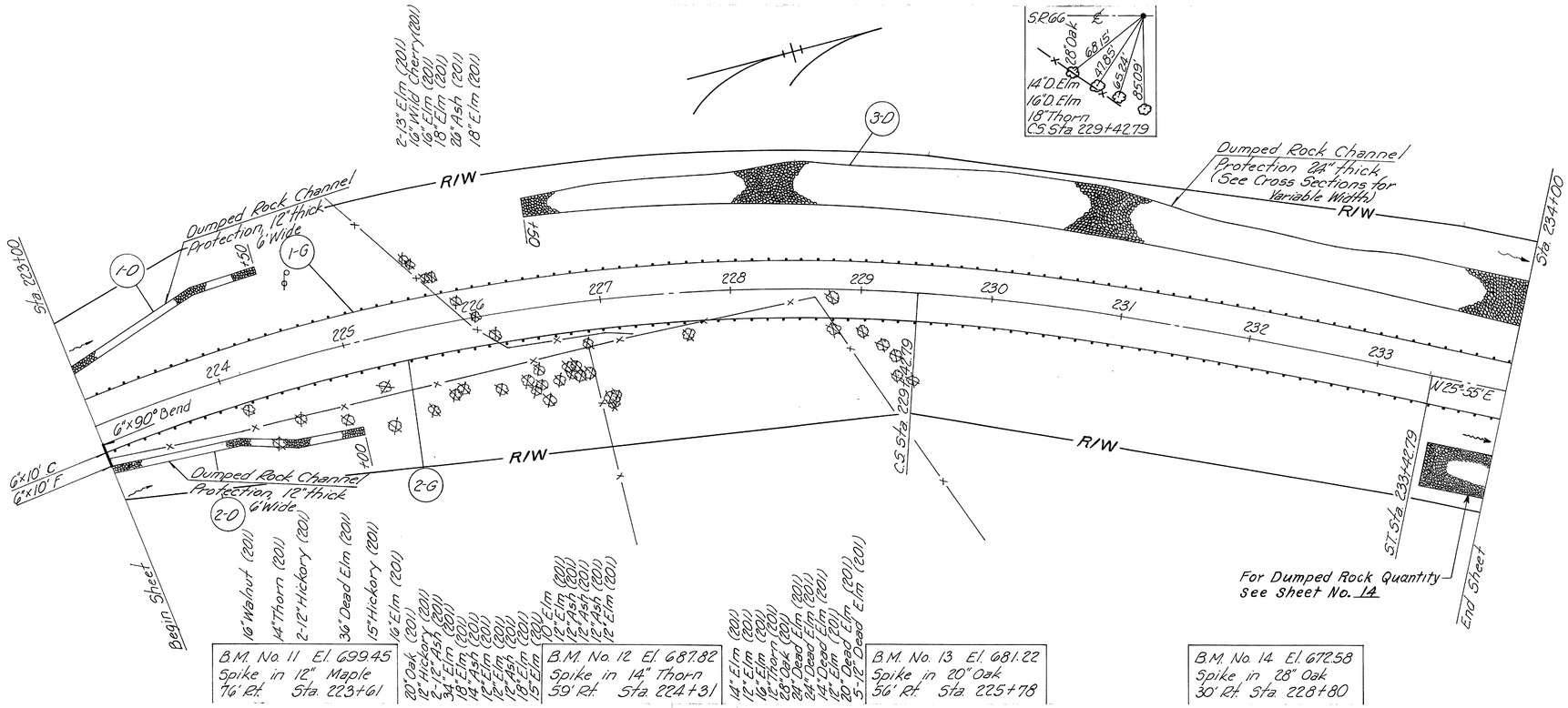
Item No.	Station From	Station To	Side	Remarks	304 Water MGal	601 Dumped Rock Channel Protection Cu.Yd.	602 Concrete Masonry Class "C" Cu.Yd.	603 Conduit, Lin.Ft. TYPE A-B 24"	18" E	6" D	6" F	605 Deep Pipe Underdrains 6" Lin.Ft.	606 Guard Rail/ Type 4 Lin.Ft.	304 Aggregate Base 6" Cu.Yd.
				Fld. Dr.	Length									
1-A	221+50		Lt.		12' 58									17
1-D	222+00	223+00	Rt.		009					10		1100		
2-D	99+25 *		Rt.						40					
3-D	100+75 *		Rt.											
4-D	221+00	223+00	Lt.			44								
5-D	221+00	223+00	Lt.			30								
1-G	222+05.89	223+00	Rt.				1.42	58	32	10	40		92.72	
2-G	221+99.39	223+00	Lt.										102.46	
		Totals			009	74	1.42	58	32	10	40	1100	194.88	17

* Stations on Greenler Rd. T-162

Sta. 212+00 to Sta. 223+00

C025012

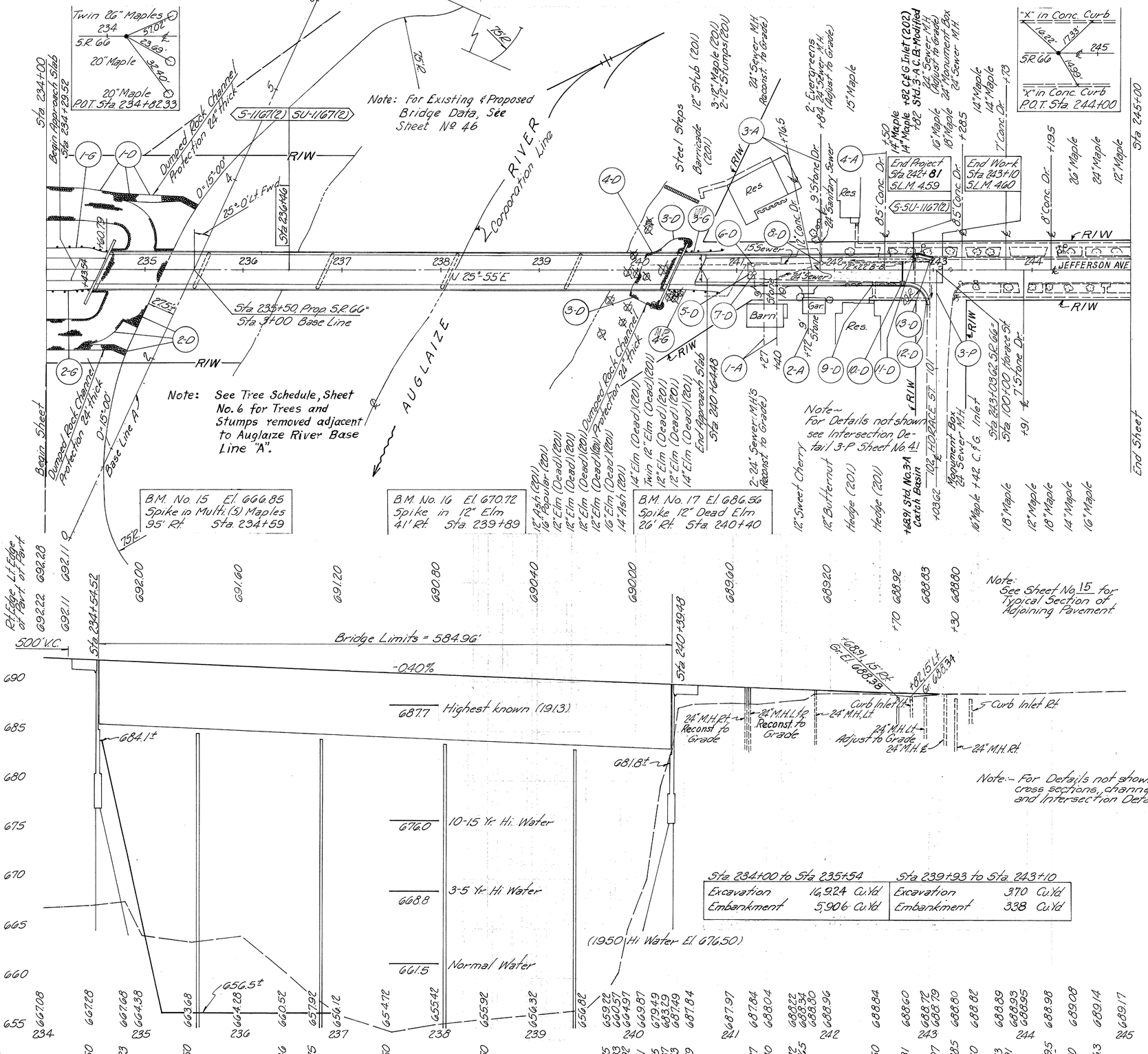
DEFIANCE COUNTY
DEF.-66-3.40



Ref. No.	Station to Station From	Station to Station To	Side	Remarks	Width	Length	601 Dumped Rock Channel Protection Cu. Yd.	606 Guard Rail Type 4 Lin. Ft.
1-O	223+00	224+50	Lt.				33	
2-O	223+00	225+00	Rt.				44	
3-O	226+00	234+00	Lt.				1885	
1-G	223+00	234+00	Lt.					1111.37
1-G	223+00	234+00	Rt.					1088.63
Totals							1962	2200.00

Sta. 223+00 to Sta. 234+00

DEFIANCE COUNTY
DEF-66-3.40



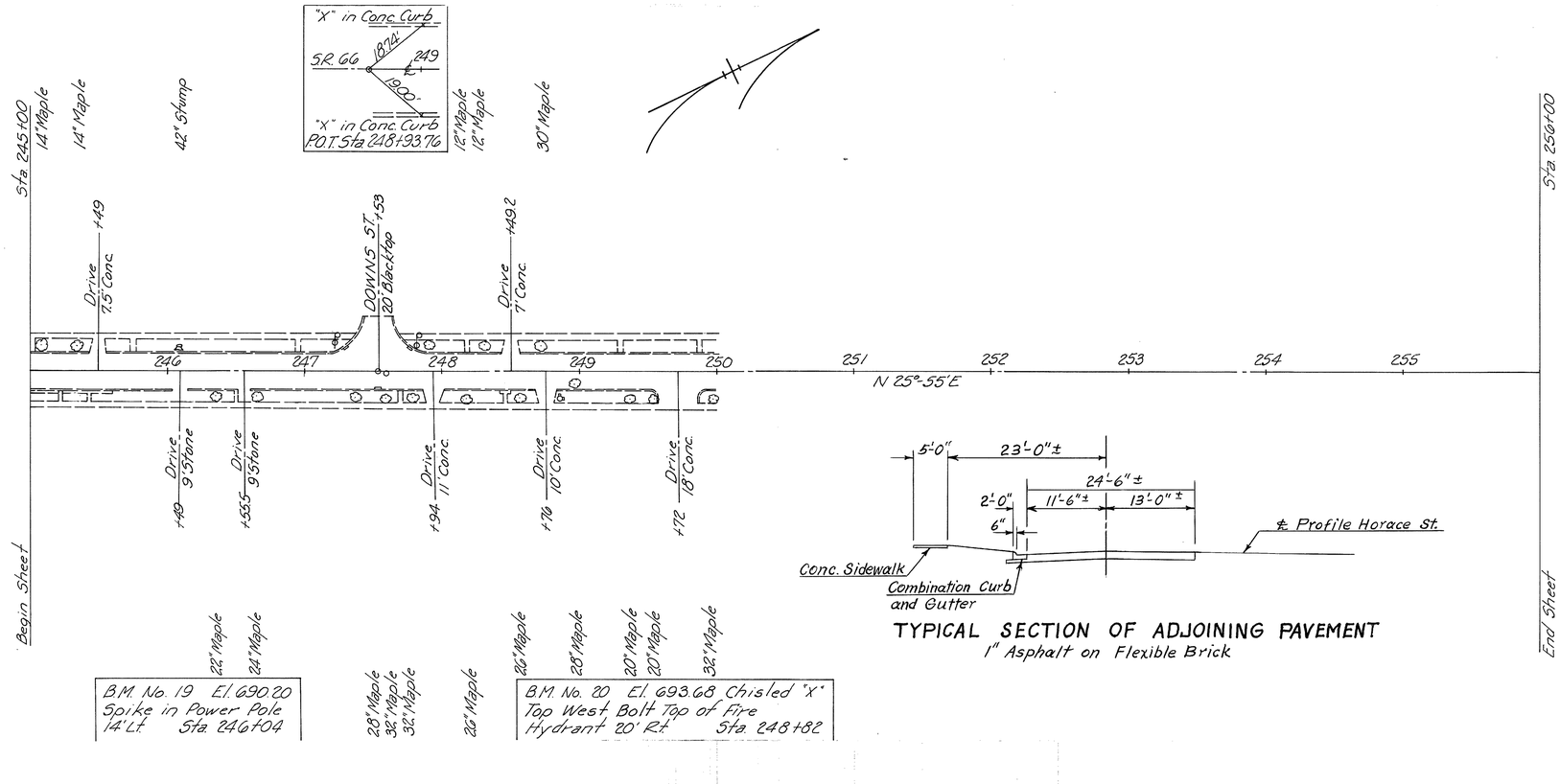
Sta. 234+00 to Sta. 235+54		Sta. 239+93 to Sta. 243+10	
Excavation	16,924 Cu.Yd.	Excavation	370 Cu.Yd.
Embankment	5,906 Cu.Yd.	Embankment	338 Cu.Yd.

Left No.	Station From	Station To	Side	Remarks	Width	Length	202 Catch Basins Removed Each	202 Side Walk Removed Sq.Ft.	202 Existing Pavement Removed Disposed Sq.Yd.	304 6" Aggregate Base Cu.Yd.	404 Asph. Conc. 2" Cu.Yd.	408 Prime Coat Gals.	452 7" Plain Portland Concrete Pavement Sq.Yd.	601 Dumped Rock Channel Protect. Cu.Yd.	603 12" Conduit Type B-B Lin.Ft.	604 Standard No. 3-A Catch Basin Modified Each	604 Manholes Adj. to Grade Each	604 Reconst. to Grade Each	606 Guard Rail Type 4 Lin.Ft. Radius	606 Guard Rail Type 4 Lin.Ft. Straight	608 4" Concrete Walk Sq.Ft.	304 Water M.Gal.
1-A	241+27	Ft. 241+40	Rt.	Barn Dr.	25'	12'-6"									22	1						003
2-A	241+72		Rt.	Res. Dr.	12'	9'-6"									0	1						001
3-A	241+76.5	241+84	Lt.	Res. Dr.	98'	7'-0"											1					
4-A	242+50		Lt.	Res. Dr.	12'	7'0"												1				
1-D	234+00	235+54	Lt.											582								
2-D	233+50	234+87	Rt.											447								
3-D	239+93	240+28	Rt.											27								
4-D	240+25	240+60	Lt.											26								
5-D	241+14		Rt.																			
7-D	241+16		Lt.																			
8-D	241+72		Rt.																			
9-D	241+85		Lt.																			
10-D	242+39.25		Rt.																			
11-D	242+68.87		Rt.																			
12-D	242+82		Lt.																			
13-D	242+95.5		Rt.																			
1-G	242+96.5		Lt.																			
1-G	234+00	234+79	Lt.																			
2-G	234+00	234+54.52	Rt.																			
3-G	240+49.91	240+86.41	Lt.																			
4-G	240+03.84	240+81.65	Rt.																			
							1	4250	2	850	123	886	42.10	1082	28	2	3	2	50	750	33.75	004

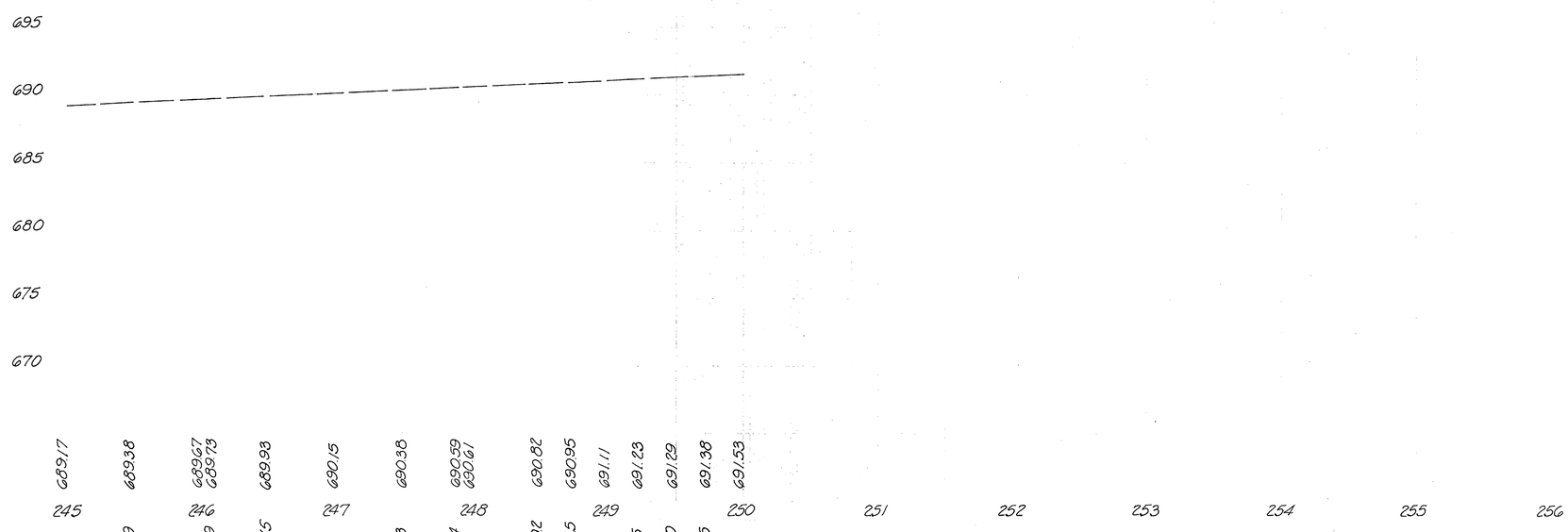
Sta 234+00 to Sta 245+00

C02590 14

DEFIANCE COUNTY
DEF-66-3.40



TYPICAL SECTION OF ADJOINING PAVEMENT
1" Asphalt on Flexible Brick



Sta. 245+00 to Sta. 256+00

S106202

C0259016

50 45 40 35 30 25 20 15 10 5 ℄ 5 10 15 20 25 30 35 40 45 50 55

SEEDING WIDE SQ.YD.	END AREA CUT	END AREA FILL	C.U.YD. CUT	C.U.YD. FILL
R/W 70' 72 400	77	28	147	51
R/W 70' 72 389	82	27	146	47
R/W 71' 68 667	75	23	237	76
R/W 68' 52 550	53	18	185	61
R/W 60' 47 511	47	15	167	57
R/W 51' 45 489	43	16	157	57
43 239	42	15	96	28
0	10	0		

712.15 714.15 3:1 4:1 709.75 710.75 185+00 711.84

712.21 714.17 709.87 710.87 184+50 711.74

712.35 714.11 710.00 711.00 184+00 712.74

712.68 713.94 4:1 2:1 710.25 711.25 183+00 713.11

713.01 713.77 3:1 2:1 710.50 711.50 182+00 713.30

713.28 713.60 3:1 2:1 710.75 711.57 181+00 713.34

713.36 713.42 3:1 711.00 711.54 180+00 713.40

Begin Project
Sta. 179+75

179+00 713.30

Begin Work
Sta. 179+00

178+00 713.32

177+00 713.16

176+00 712.91

STA. 179+00 to STA. 185+00.

3245 Total

50 45 40 35 30 25 20 15 10 5 ℄ 5 10 15 20 25 30 35 40 45 50

DEFIANCE COUNTY
DEF.66-3.40

16
57

DEFIANCE COUNTY
DEF.-66-3.40

		R/W 65'	R/W 65'	R/W 65'	R/W 65'	R/W 65'	R/W 207'	R/W 154'	R/W 113'	R/W 82'	R/W 70'
END AREA C.U.Y.	CUT	77	73	68	57	55	49	55	52	56	
	FILL	80	67	73	71	72	42	33	28	37	
CUT		278	261	231	207	386	0	193	198	107	
FILL		272	259	267	265	422	+141	139	113	64	
									+36	126	
									+5	56	
									200	32	
									120	28	
										59	
										77	

SEEDING		96	92	92	90	89	78	76	73	71	71	72
WIDE SOYA		1044	1022	1011	994	1856	-260	856	828	+116	800	394
												397
												9058
R/W		70'	70'	70'	70'	70'	70'	70'	70'	70'	70'	70'

Total STA. 185+50 to STA. 195+00.

C02590I7

DEFIANCE COUNTY
DEF.-66-3.40

Seeding	
Width	Sq.Yds.
92	522
96	525
93	
-83	
2044	
-96	
91	1039
96	
	3951 Total

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
33	256		
		66	340
38	111		
		99	177
69	80		
		+24	+2
		422	870
		+15	+8
45	155		
		226	435
195+00	77	80	

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 ℄ 5 10 15 20 25 30 35 40 45 50 55

711.38 713.35 2:1 R/W 199+00 708.92 706.50 701.25

711.44 713.44 2.5:1 R/W 198+50 710.12 706.75 701.50 6"X10'F 6"X22'-E +50 F.L. 702.48 +50,46'Lt. F.L. 701.50

711.50 713.50 3:1 3:1 3:1 R/W 198+00 710.25 706.50 707.00

Transition From 4:1 Slope at Sta. 197+00 to 2:1 Slope at Sta. 199+00

Transition From 10' Berms at Sta. 197+00 to 12' Berms at Sta. 198+00

Transition From 4:1 Slope at Sta. 197+00 to 2:1 Slope at Sta. 199+00

Transition From 10' Berms at Sta. 197+00 to 12' Berms at Sta. 198+00

Begin Dumped Rock Channel Protection 18" Thick, Sta. 197+85

Correction for Dr. Lt.

End 30"D Sta. 197+15.41, 38.75' Lt. F. L. Elev. 706.71

711.62 713.62 R/W 30" 197+00 710.25 Prop. Field Dr. Lt.

Begin 30"D Sta. 196+84.58, 39' Lt. F.L. Elev. 706.79

Correction for Dr. Rt.

Correction for Dr. Lt.

End 18"D Sta. 199+15.53, 44.5' Rt. F.L. Elev. 707.43

18" Prop. Field Dr. Rt.

Correction for Dr. Rt.

Begin 18"D Sta. 196+84.47, 45' Rt. F.L. Elev. 707.54

711.74 713.74 4:1 R/W 707.00 196+00 709.05 707.75

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 ℄ 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

Sta. 196+00 to Sta. 199+00

DEFIANCE COUNTY
DEF.-66-3.40

Seeding	
Width	Sq. Yds.
76	867
80	900
82	790
76	643
117	581
92	199+00
	3781 Total

End Area		Cu. Yds	
Cut	Fill	Cut	Fill
33	37	143	150
44	44	180	167
53	46	145	207
34	78	108	895
63	727	89	910
199+00	33	256	

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 ℄ 5 10 15 20 25 30 35 40 45 50 55

711.74
R/W
708.75
203+00
710.19
711.93
707.75
R/W

711.62
R/W
4:1
708.50
202+00
710.19
712.26
4:1
707.50
R/W

711.50
R/W
3:1
708.25
201+00
710.30
712.60
3:1
707.25
R/W

Transition From 2:1 Slope
at Sta. 200+00 to 4:1 Slope
at Sta. 202+00

Transition From 12' Berms
at Sta. 201+00 to 10' Berms
at Sta. 202+00

End Dumped Rock Channel
Protection, 18" Thick, Sta. 200+25

711.39
R/W
708.00
200+10
709.70
712.89
707.00
R/W

703.92
Sta. 199+75
6"x90° Bend
6"X10'F
6"X12'-E
+75, 36' Lt.
F.L. 704.12

6"x90° Bend
Sta. 199+75
702.71
6"X18'-E
6"X10'F
+75, 42' Rt.
F.L. 702.97
713.12

711.35
R/W
2:1
2:1
1.5% →
HW-E
Headwall
42" X 90' A-B.
+50, 41.5' Lt.
F.L. 701.00
STRUCTURE NO. I-C
Sta. 199+50
199+50
700.42
HW-E
Headwall
14'-0"
+50, 48.5' Rt.
F.L. 699.65
R/W

75 80 85 90 95 100 105 110 115 120 125 130 135 140 145

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 ℄ 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

Sta. 199+50 to Sta. 203+00

0025901 9

DEFIANCE COUNTY
DEF-66-3.40

| | | |

DEFIANCE COUNTY

DEF.-66-3.40

21
57

	END AREA	CU. YD.
	CUT	FILL
222+00	221	+69
221+00	266	+3
220+35	56	902
220+00	68	30
219+50	141	387
219+00	187	124
218+71	148	81
218+20	125	138
217+00	98	194
216+00	74	126
215+00	108	855
214+00	96	62
Total	1450	+35+126

	SEEDING	SQ YD
	WIDE	
222+00	96	108
221+00	103	1106
220+35	90	697
220+00	93	356
219+50	96	525
219+00	78	1450
218+71	83	894
218+20	80	906
217+00	80	889
216+00	79	883
215+00		7598

STA. 215+00 to STA. 222+00.

C025(021)
℄

Correction for Fld Dr. Sta. 221+50, Lt.

Transition From 4:1 Slope at Sta. 221+00 to 2:1 Slope at Sta. 223+00

Transition From 10' Berms at Sta. 221+00 to 12' Berms at Sta. 223+00

3:1

Begin Dumped Rock Channel Protection, 6' Wide, 12" Thick, Sta. 221+00

4:1

2:1

Correction for Greenler Rd., Lt. ℄ Rd.

℄ Profile Exist. Greenler Rd. 0° Skew

℄ Profile Proposed Greenler Rd. 0° Skew

24" A-B

INTERSECTION 2-P

Greenler Rd.
Sta. 218+71

18" A-B

℄ Profile Exist. Greenler Rd. On Skew

℄ Profile Proposed Greenler Rd On Skew

℄ Fld. Dr. Sta. 221+50

End 18" D Sta. 221+70.42 Lt. F.L. Elev. 701.30

Begin 18" D Sta. 221+31.16, 43' Lt. F.L. Elev. 701.70

Begin Dumped Rock Channel Protection, 6' Wide, 12" Thick, Sta. 221+70

Total

214+00

R/W 55'

DEFIANCE COUNTY
DEF-66-3.40

SEEDING	
WIDE	SQ.YD
155	
710	
131	
1283	
100	
542	
95	
531	
96	
3066	Total

END AREA		CU. YD.	
CUT	FILL	CUT	FILL
29	1881		
		30	2820
7	1503		
		163	3271
81	263		
		257	266
196	24		
		386	31
222+00	221	9	

STA. 222+50 to STA. 224+45.

End Dumped Rock Channel Protection, 6' Wide, 12" Thick, Sta. 224+50

R/W 105'

680.55

2:1

704.88

706.1

702.88

682.80

224+45
681.05

705.39

703.39

690.00

224+00
686.00

681.00

706.47

704.47

695.00

223+00
700.54

6"X10'-E

6"X10'F

698.00

+00.34 Pt.
El. 698.32

706.98

704.98

222+50
705.34

700.00

700.00

2.5:1

3:1

R/W 105'

R/W 85'

R/W

222+00

70 75

DEFIANCE COUNTY
DEF-66-3.40

SEEDING	
WIDE	SQ.YD.
R/W 105'	151
	387
R/W 105'	152
	567
	157
R/W 105'	381
155	224+45
1335	Total

END AREA		CU. YD.	
CUT	FILL	CUT	FILL
	8	1911	
		10	1587
	16	1815	
		29	2266
	31	1893	
		24	1538
	29	1881	

703.96
701.96
679.77
679.08
225+23
682.75
704.24
702.24
End Dumped Rock Channel Protection, 6' Wide, 12" thick, Sta. 225+00
680.00
680.00
225+00
682.45
704.62
702.62
680.33
681.32
224+67
680.85

STA. 224+67 to STA. 225+23

DEFIANCE COUNTY
DEF.-66-3.40

SEEDING	
WIDE	SQ.YD.
R/W 107'	172
	717
C025(024)	
R/W 107'	167
	396
R/W 107'	157
	291
151	225+23
1404	Total

END AREA		CU. YD.	
CUT	FILL	CUT	FILL
58	2067		
		105	2860
91	1998		
		51	1622
35	1983		
		14	1226
8	1911		

703.02
701.02
703.49
701.49
703.76
701.76
679.00
679.38
679.60
676.90
675.00
678.40
226+00
677.95
225+62
677.95
225+40
678.65
225+23
2:1
85 80 75
75 80
Sta. 225+50, 2' Ditch Rt.
Elev. 678.00
Sta. 225+40 to Sta. 226+00

DEFIANCE COUNTY
DEF-66-3.40

SEEDING	
WIDE	SQ.YD.
181	
798	
681	
178	
478	
172	
172	
1957	Total

END AREA		CU. YD.	
CUT	FILL	CUT	FILL
81	1852		
		95	2653
47	1729		
		69	2380
60	1942		
55	1856		
58	2067		

R/W 105'

C0259025

701.72 699.72 702.25 700.25 702.70 700.70

227+00
680.21

226+60
682.41

226+25
680.15

671.00 673.00 675.80 673.80 678.00 674.50

226+00 626+00

Sta. 226+50, 2' Ditch Lt.
Elev. 677.00

Sta. 226+50, Lt.
Begin Dumped Rock
Channel Protection
24" thick

80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 ℄ 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80

STA. 226+25 to STA. 227+00.

26
57

DEFIANCE COUNTY
DEF-66-3.40

SEEDING	
WIDE	SQ.YD.
80	
R/W 105'	188
	1019
C02591026	
R/W 105'	179
	1154
R/W 105'	179
	840
	181
	3013 Total

80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 ℄ 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85

695.94 698.66 697.66

700.36 698.36

228+50
669.44

668.25

100 95 96 85 80 75

669.75

75 80

701.16 699.16

228+00
670.11

668.50

100 95 90 85 80 75

671.00

75 80

Sta. 227+50, 2' Ditd. Lt.
Elev. 669.00

227+42
674.41

227+00

669.32

85 80 75

672.16

627+00

75 80

80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 ℄ 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80

STA. 227+42 to STA. 228+50.

END AREA		C.U. YD.	
CUT	FILL	CUT	FILL
47	2828		
		56	5338
13	2937		
		88	5765
69	2430		
		117	3330
81	1852		

DEFIANCE COUNTY
DEF-66-3.40

SEEDING WIDE	SQ.YD.
184	
	1538
185	
	2045
183	
	1031
188	
4614	

C0259 027

R/W 102'

R/W 102'

R/W 105'

230+75
672.34

230+00
670.24

229+00
670.14

228+50
Total

696.17
694.74
697.39
695.62
698.96
696.96

667.12
667.50
668.00
668.75
669.00
669.55

100 95 90 85 80 75

80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 ℄ 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85

END AREA		CU. YD.	
CUT	FILL	CUT	FILL
85	2115		
65	2469	209	6366
40	2685	194	9544
47	2828	81	5104

STA. 229+00 to STA. 230+75

28
57

DEFIANCE COUNTY
DEF-66-3.40

SEEDING	
WIDE	SQ.YD.
167	
	953
176	
1000	
184	
	511
184	
2464	Total

END AREA		C.U.YD.	
CUT	FILL	CUT	FILL
	10		2500
	43		4469
	36		2327
	109		4073
	81		2072
	77		1938
	85		2115

694.39 693.52 695.07 693.97 695.79 694.47

232+00 667.98 231+50 669.54 231+00 672.34 230+75

666.50 667.50 666.75 668.00 667.00 668.50

R/W 106' R/W 104' R/W 102'

2:1

STA. 231+00 to STA. 232+00.

DEFIANCE COUNTY
DEF-66-3.40

SEEDING WIDE	SEEDING SQ.YD.
175	1922
171	936
166	925
167	
	3783 Total

R/W 115'
R/W 112'
R/W 109'
C025902

692.28
692.22
693.19
693.77
693.76
693.12
234+00
667.08
233+00
667.38
232+50
667.58
232+00

665.50
666.00
666.25
665.50
666.00
666.75

Sta. 233+50, Rt.
Begin Dumped Rock
Channel Protection
24" Thick

END AREA CUT	END AREA FILL	CU. YD. CUT	CU. YD. FILL
36	2312		
		102	8766
19	2422		
		25	4523
8	2463		
		17	4595
10	2500		

STA. 232+50 to STA. 234+00.

DEFIANCE COUNTY
DEF-66-3.40

	END AREA CUT	END AREA FILL	CU. YD. CUT	CU. YD. FILL
Sta. 235+54	0	0		
			1	0
Sta. 235+40	4	0		
			19	0
Sta. 234+67.91 Lt. Ahd.	10	0		
Sta. 234+67.91 Bk.	10	363		
			7	367
Correction for Fill Around Abutments			0	+516
From Channel Cross Sections, Sheet No. 33			16,840	922
Sta. 234+53.97	16	1058		
			10	829
Sta. 234+81	0	0		
Sta. 234+62	4	0	1	0
Sta. 234+37.91 Pt. Ahd.	6	0	5	0
Sta. 234+37.91 Lt. Ahd.	17	1729		
Sta. 234+37.91 Bk. Pt. Ahd.	23	2306		
			41	3242
Sta. 234+00	36	2312		

SEEDING
WIDE SQ.YD.
0
316
66
+3694
115
83
152
87
171
729
175
5006 Total

Sta. 235+54
R/W 115'
Channel Profile
Elev. 656.46
235+54
R/W 115'
664.50
235+40
665.56
Ahd.
665.16
Bk.
R/W 115'
85 80 75
Correction for Seeding Around Abutments
Included With Channel Cross Sections
692.13
234+67.91
667.68
Included With Channel Cross Sections
692.18
234+53.97
667.28
665.23
R/W 115'
85 80 75
R/W 115'
665.31
85 80 75
Ahd.
Bk.
Sta. 234+00
692.25
234+37.91
667.28
Ahd., Lt.
Bk. Bk.
Channel Profile
Elev. 656.30
R/W 95'
234+81
75 80 85
R/W 95'
75 80 85
663.00
234+62
664.00
R/W 95'
665.31
75 80 85
Bk.
Pt. Ahd.
Sta. 234+00

Clt. 12-14-65 J.M.C.

STA. 234+50 to STA. 235+00.

C0259031

45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45

Seeding Width	Seeding Sq Yds.
	29
	38
	244
54	34
	42
	28
	38
	17
	587 Total

End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
		+3	0
35	7		
		+12	0
		+1	0
		70	107
		+116	+48
3	51	12	120
11	85		
0	69	0	34
0	81	1	23
4	0		

689.05

12"x22½° Bend

+68.91, 11.5' Lt. F.L. 685.98

+68.91, 13.5' Rt. F.L. Elev. 686.00

12"B-B

12"x15" Tee

+68.91, 15' Rt. Std. 3-A C.B. Gr. Elev. 688.38

R/W

688.92
242+68.91
688.91

Correction for Res. Dr. Lt.

689.00
242+50
688.84
8.5' Conc. Drive Lt.

689.33

689.33

689.20
242+00
688.96

-13 Correction for Dr. Lt.

689.26
241+84
688.80
9' Stone Drive Lt.

Correction for Dr's Lt. Sta. 241+76.5 & Sta. 241+84

Conc. Dr.

-36 Correction for Dr. Lt.

689.29
241+76.5
688.34
10' Conc. Drive Lt.

Correction for Dr. Rt.

372

689.31
241+72
688.22
9' Stone Drive Rt.

-12 Correction for Dr. Rt.

689.44
241+40
688.04
10' Stone Drive Rt.

Correction for Dr's Rt. Sta. 241+27 & Sta. 241+40

-38 Correction for Dr. Rt.

689.49
241+27
687.84
9' Stone Drive Rt.

From Cross Sections, Sheet No. 36

689.73

689.73

689.60
241+00
687.97

Sta. 240+52.29 Ahead
Back

Ahd. Ahd Bk

Sta. 240+40.03

Sta. 240+25

Ahead
Back

689.79
240+52.29
687.84

-10 Correction for Abutments

R/W 73'

Included With Channel Sections

R/W 80'

689.84
240+40.03
687.49

R/W 90'

Sta. 240+25.

689.90
240+25
679.49

Sta. 240+43 to Sta. 242+50

DEFIANCE COUNTY
DEF-66-3.40

31
57

C0259032

45 40 35 30 25 20 15 10 5 ℄ 5 10 15 20 25 30 35 40 45

Seeding Width	Seeding Sq.Yds.		End Area Cut	End Area Fill	Cu.Yds. Cut	Cu.Yds. Fill
		244+00 688.95				
		243+91 688.93 7' Stone Dr. Rt.				
		243+73 688.89 7' Conc. Drive Lt.				
		243+50 688.82				
11		Lt. Side Bk. Sta. 243+10 — 688.80 243+28.5 688.80 8.5' Conc. Drive Lt.				
		End Work Sta. 243+10				
12		R/W				
			Sta. 243+10 Bk	34	0		
-22		Correction for Intersection — 688.82 243+07 688.79 Horace St., 20' Black Top Rt.	Sta. 243+00	34	0	13	0
			Correction for Intersection			+8	0
						25	0
			Sta. 242+81	36	0		
						106	6
11 29		Lt. Side Ahd Bk. R/W 688.65 R/W R/W — 688.83 243+00 688.72	Sta. 242+00	35	4		
40							
		Included With Intersection Correction					
9		R/W 688.00 12"X 60° Bend R/W					
171		688.88 242+81					
		+82, 13.5' Lt. F.L. 686.00 12"X15" Tee 688.60 END PROJECT Sta. 242+81					
29		Sta. 242+00 +82, 11.5' Lt. F.L. 685.98 +82, 15' Lt. Std 3-A C.B. Gr. Elev. 688.34					
201		Total					

45 40 35 30 25 20 15 10 5 ℄ 5 10 15 20 25 30 35 40 45

Sta. 242+81 to Sta. 244+00

DEFIANCE COUNTY
DEF-66-3.40

32
57

DEFIANCE COUNTY
DEF-66-3.40

50 45 40 35 30 25 20 15 10 5 ℄ 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80

Abutment

Included With Main Line Cross Sections

1358

90 85 80 75 70 65 60 55 50

B

2881

656.32
2+21.70
663.60

362

152

100 105 110

E

12891

656.30
2+00
663.52

343

1461

100 105 110

15

1249

656.20
1+00
663.69

1361

Begin Work
Sta. 0+00

0+00
664.17

234+± S.R.66 Prop.

235

D=15°-00'

D=15°00'

Base Line

0 1 ℄ 2 4 5 6 7

25°-00'

236

Toe of Slope

75'R

75'R

75'R

Sta. 235+50 Prop. S.R.66
Sta. 3+00 Base Line

227

AUGLAIZE RIVER

CHANNEL ALIGNMENT
Auglaize River
Scale: 1"=50'

	End Area		Cu. Yds.	
	Cut	Fill	Cut	Fill
Ahead	807	366		
Back	807	0		
			628	0
	777	0		
			2150	0
	384	0		
			711	0
Sta. 0+00	0	0		
Total	*		*	*
	16,840		922	

* Totals carried to Main Line Cross Section Sheet No. 30

Chd. 12-13-63 J.M.E.

CHANNEL SECTIONS Sta. 0+00 to Sta. 2+21.42

C025033

DEFIANCE COUNTY
DEF-66-3.40

50 45 40 35 30 25 20 15 10 5 ℄ 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80

Abutment
Included With Main Line Cross Sections
356 ✓
90 85 80 75 70 65 60 55 50
9 ✓

Abutment
Included With Main Line Cross Sections
338 ✓
90 85 80 75 70 65 60 55 50
8 ✓

Abutment
Included With Main Line Cross Sections
391 ✓
295 ✓
90 85 80 75 70 65 60 55 50
9 ✓

397 ✓
656.39
2+92.45
663.90
359 ✓
298 ✓
100 105 110 120 125 130 135
39 ✓

656.38
2+78.75
663.85
325 ✓
163 ✓
100 105 110 115 120 125
24 ✓

656.33
2+39.33
663.68
303 ✓
326 ✓
169 ✓
100 105 115
15 ✓

	End Area		Cu. Yds.	
	Cut	Fill	Cut	Fill
Ahead	993	0		
Back	993	365		
	927	346	487 ✓	180 ✓
	823	350	1278 ✓	508 ✓
Sta. 2+21.70	807	366	532 ✓	234 ✓

50 45 40 35 30 25 20 15 10 5 ℄ 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100

CHANNEL SECTIONS Sta. 2+36.92 to Sta. 2+92.42

C02S9034

DEFIANCE COUNTY
DEF-66-3.40

35
57

	End Area		Cu. Yds.	
	Cut	Fill	Cut	Fill
7+00	0	0		
			1130	0
6+00	610	0		
			2665	0
5+00	829	0		
			3332	0
4+00	970	0		
			3698	0
3+00	1000	0	2.79	0
Sta. 2+92.45	993	0		

656.80
7+00
671.10

656.70
6+00
670.79

656.60
5+00
666.13

656.50
4+00
664.61

656.40
3+00
663.93

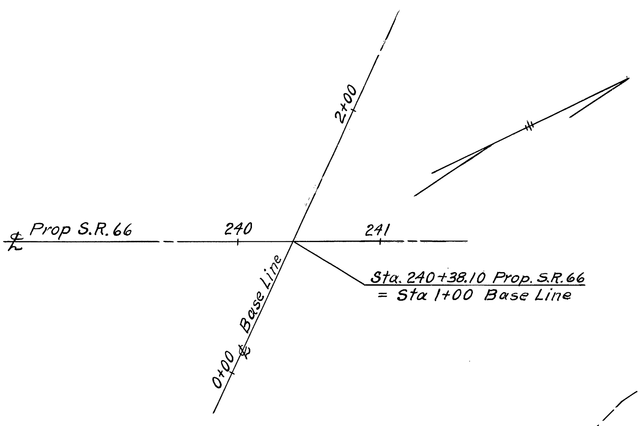
CHANNEL SECTIONS Sta. 3+00 to Sta. 7+00

C0259035

C0259036

80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 ℄ 5 10

	End Area		Cu. Yds.	
	Cut	Fill	Cut	Fill
Sta. 1+49.26	0	0		
Included With Main Line Cross Sections			16	0
Sta 1+37.86	78	0		
1+37.86 687.50			54	0
Sta. 1+17.59 Ahd.	65	0		
Sta. 1+17.59 Bk.	60	0		
Included With Main Line Cross Sections			44	32
1+17.59 688.00				
Included With Main Line Cross Sections				
Sta. 0+78.17 Ahd	0	43		
Sta. 0+78.17 Bk.	0	47		
0+ 681+00				
Included With Main Line Cross Sections			1	15
Sta. 0+62.37	5	6		
0+62.37 684.00			1	1
Sta. 0+50	0	0		
Begin Work Sta. 0+50±				
Total			*116	*48
0+50± 689.10				



1+50
688.40

End Work
Sta. 1+49.26

78

Ahd.

Bk.

60 Bk
65 Ahd

Bk.
Ahd.

2:1

Sta. 0+78.17 Ahd
Sta. 0+78.17 Bk.

2:1

Sta. 0+62.37

Sta. 0+50
Begin Work
Sta. 0+50±

Totals Carried to Main Line Cross Sections Sheet No 31

DEFIANCE COUNTY
DEF-66-3.40

36
57

80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 ℄ 5 10

INTERSECTION DETAIL I-P

STA. 189+50

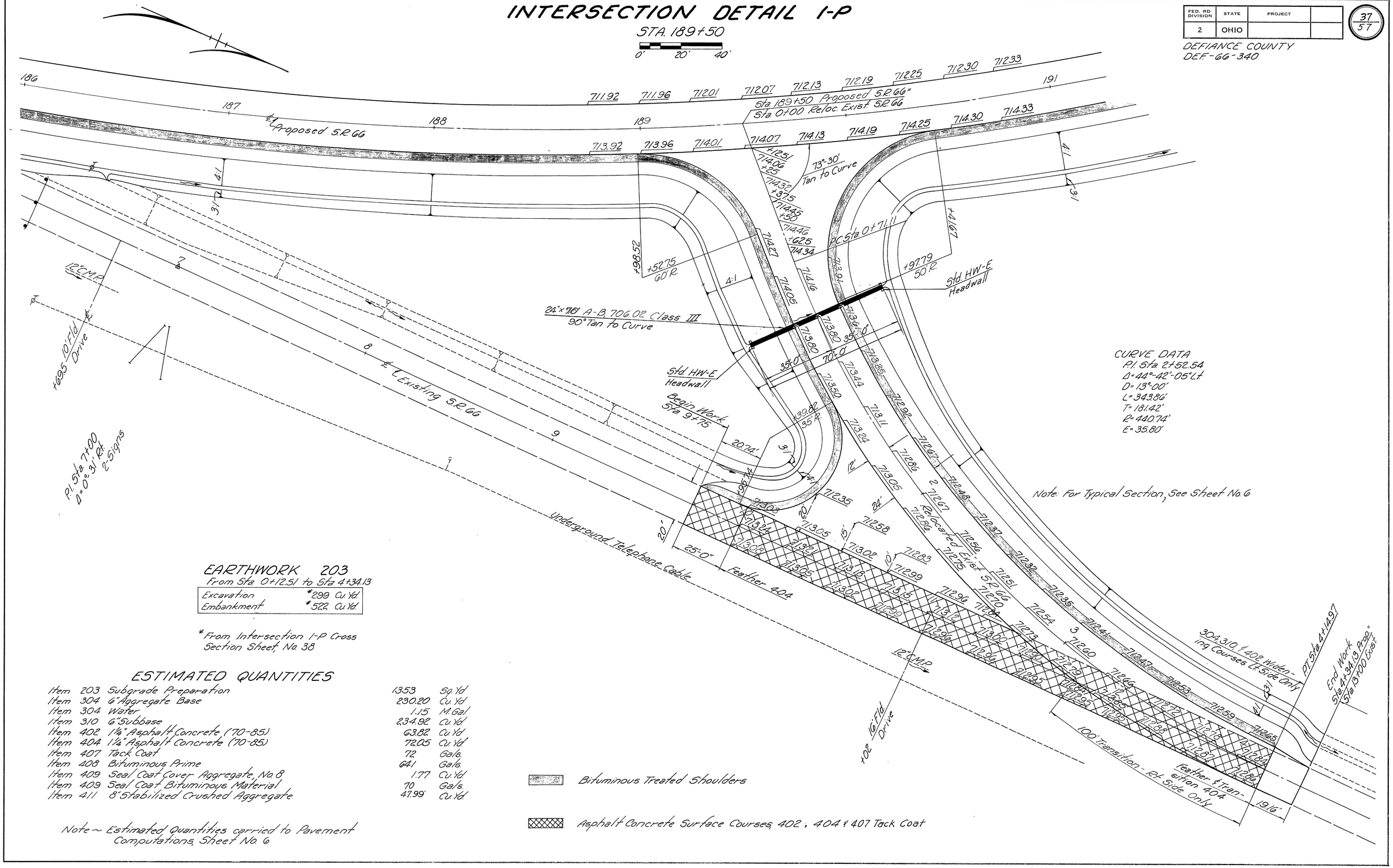
0' 20' 40'

FED. RD DIVISION	STATE	PROJECT	
2	OHIO		

37/57

DEFIANCE COUNTY
DEF-66-340

L0259037


186
187
188
189
191
℄ Proposed S.R. 66
Sta 189+50 Proposed S.R. 66
Sta 0+00 Reloc. Exist. S.R. 66
711.92 711.96 712.01 712.07 712.13 712.19 712.25 712.30 712.33
713.92 713.96 714.01 714.07 714.13 714.19 714.25 714.30 714.33
4:1
3:1
℄
℄ Existing S.R. 66
12"CMP
+695 10'Fld. Drive
Pi Sta 7+00
Δ=0°-31' Rt.
2 Signs
+98.52
+52.75
60 R.
+125
714.06
+25
714.32
+375
714.445
+50
714.46
+625
714.34
714.27
714.16
714.05
PC Sta 0+71.11
+41.67
+97.79
50 R.
Std HW-E Headwall
24"x76' A-B 706.02 Class III
90° Tan to Curve
73°-30'
Tan to Curve
713.91
713.80
713.80
35'-0"
70'-0"
713.85
713.44
713.50
713.44
713.11
713.24
712.92
712.67
712.86
712.48
712.37
712.56
712.51
712.35
712.54
712.41
712.43
712.53
712.59
712.65
712.73
712.87
712.88
712.96
712.95
712.94
712.99
713.02
713.16
713.14
713.05
713.08
713.96
713.24
713.08
713.05
712.35
712.58
712.83
712.99
712.96
712.94
712.95
713.00
713.02
713.15
713.14
713.08
713.05
713.24
713.08
713.96
713.95
713.96
713.08
713.02
713.16

DEFIANCE COUNTY
DEF-66-3.40

	Cut	Fill	Cu. Yd. Cut	Cu. Yd. Fill
Sta. 4+34.13	0	0		
	11	5		
	11	4		
	17	1		
	18	11		
	35	83		
	43	112		
Sta. 0+50	14	52		
Sta. 0+12.51	0	0		
Total			299	522

Seeding	1981
Width Sq. Yd.	

Sta. 4+34.13 Proposed = Sta. 12+80.84 Exist. S.R. 66

End Work Sta. 4+34.13

4+34.13
712.72
714.97
712.72
710.50

712.84
4+00
712.28
712.65
710.25

3+00
712.01
712.41
710.00

2+00
711.41
712.43
709.75

24" X 70', A-B, 706.02, Class III

HW-E Headwall
+00.35 Rt.
F.L. 709.51
709.52
713.80
1+00
711.21
709.30

HW-E Headwall
+00.35 Lt.
F.L. 709.30

714.08
709.59
714.25
0+50
711.21

714.46
0+50
711.31

709.65
RW 241'

Begin Work
Sta. 0+12.51

Correction for Intersection I-P

Ahead

Included with Main Line Cross Sections

Sta. 0+50 to Sta. 4+14.97

Sheet Total

C025(038)

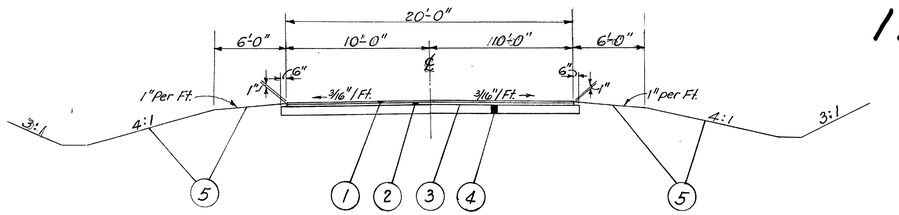
INTERSECTION 2-P

STA. 218+71.15

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

39/57

DEFIANCE COUNTY
DEF. 66-3.40



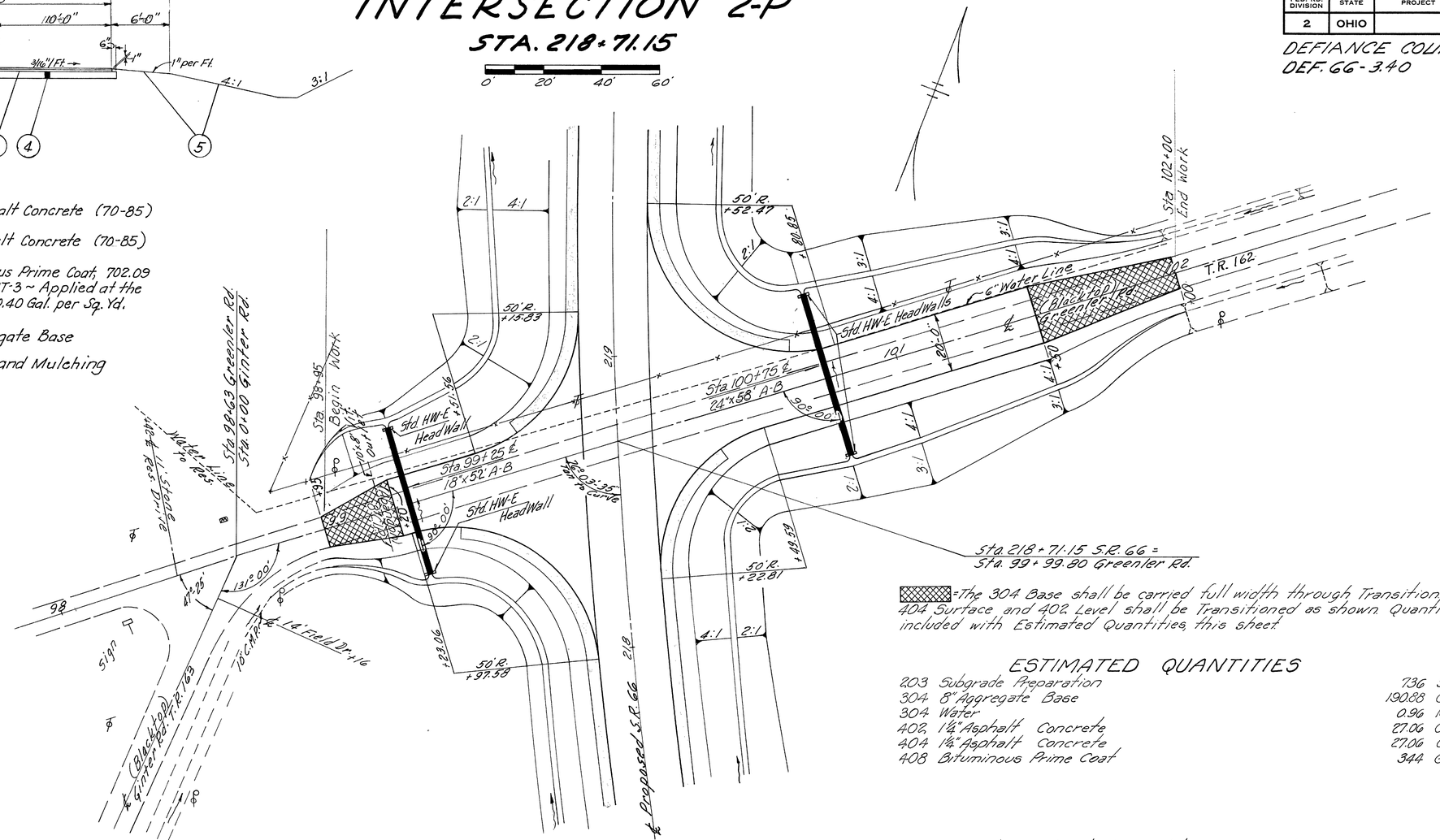
(1) Item 404 1¼" Asphalt Concrete (70-85)

(2) Item 402 1¼" Asphalt Concrete (70-85)

(3) Item 408 Bituminous Prime Coat, 702.09 RT-2 or RT-3 ~ Applied at the rate of 0.40 Gal. per Sq. Yd.

(4) Item 304 8" Aggregate Base

(5) Item 659 Seeding and Mulching

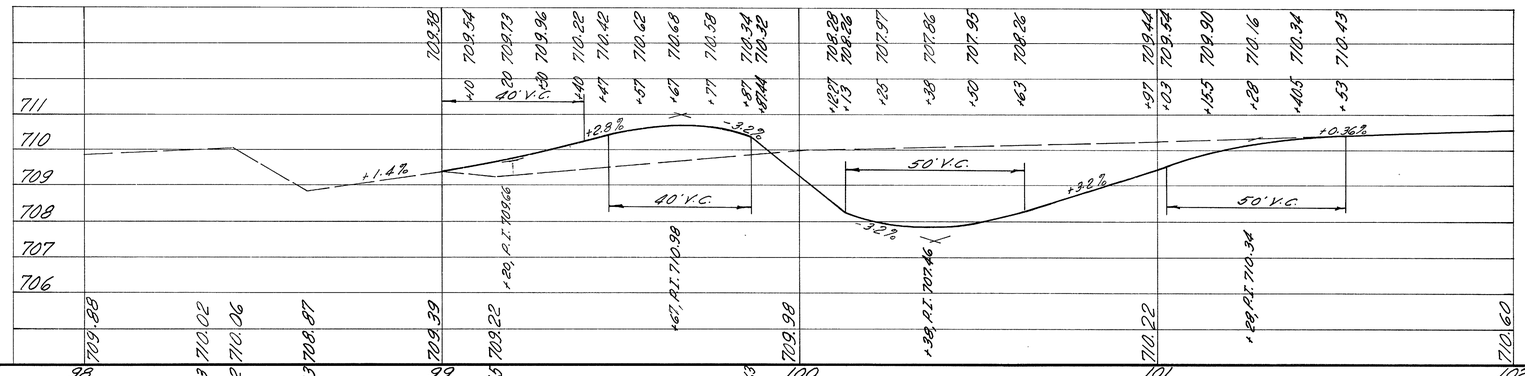


▨ = The 304 Base shall be carried full width through Transition. The 404 Surface and 402 Level shall be Transitioned as shown. Quantities included with Estimated Quantities, this sheet.

ESTIMATED QUANTITIES

203	Subgrade Preparation	736 Sq. Yd.
304	8" Aggregate Base	190.88 Cu. Yd.
304	Water	0.96 M. Gal.
402	1¼" Asphalt Concrete	27.06 Cu. Yd.
404	1¾" Asphalt Concrete	27.06 Cu. Yd.
408	Bituminous Prime Coat	344 Gal.

Note ~ Estimated Quantities carried to Pavement Computations, Sheet No. 6



EARTHWORK 203

From Sta 98+95 to Sta 102+00

Excavation	*984 Cu. Yd.
Embankment	* 27 Cu. Yd.

* From Intersection 2-P Cross Section Sheet, No. 40.

C025/0039

C0259040

45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45

Seeding Width	Seeding Sq.Yd.	End Area Cut	End Area Fill	Cu.Yd. Cut	Cu.Yd. Fill
0		16	0		
				389	0
	528				
R/W 52'		194	0		R/W 104'
95				211	0
	262				
R/W 68'		261	0		R/W 130'
94					
				303	0 R/W 174'
	328				
0		0	0		
				56	15
	264				
R/W 50'		48	13		
76				12	6
	73				
63					
	72				
0					
	1527 Total			*984	* 27 R/W 52'

Sta. 99+15.5 20 22 10 6
Sta. 99+00 15 0 3 0
Sta. 98+95 15 0 Total

End Work
Sta. 102+00

R/W

102+00
710.60

Sta. 102+00 Bk

3:1 705.50

709.44
101+00
710.22

3:1 705.50

2:1 703.95
+75, 30' Lt.
F.L. 703.98
HW-E Headwall

1.0 %

708.64
100+75
710.16

24"X58' A-B

HW-E Headwall
704.57
+75, 28' Rt.
F.L. 709.56

2:1

707.86
100+38
710.07

Rt. Pavement Edge Profile
S.R. 66

Sta. 100+12.27 Ahead

708.28
100+12.27
710.01

Sta. 100+12.27 Ahd.

Lt. Pavement Edge Profile
S.R. 66

Sta. 99+87.44 Back

710.32
99+87.44
709.86

Sta. 99+87.44 Bk.

710.68
99+67
709.68

1.0 %

705.99
+25.27' Lt.
F.L. 706.00
HW-E Headwall

709.84
99+25
709.30

18"X52' A-B

HW-E Headwall
706.54
+25, 25' Rt.
F.L. 706.52

706.25

8"X10' Vit. (Abandon)

8" C.M.P (Abandon)

709.64
99+15.5
709.22

707.50

Sta. 98+95

709.38
99+00
709.39

Begin Work
Sta. 98+95

* Totals Carried to Cross Section Sheet No. 21

GREENLER RD. - Sta. 98+95 to Sta. 102+00

DEFIANCE COUNTY
DEF-66-3.40

40
57

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

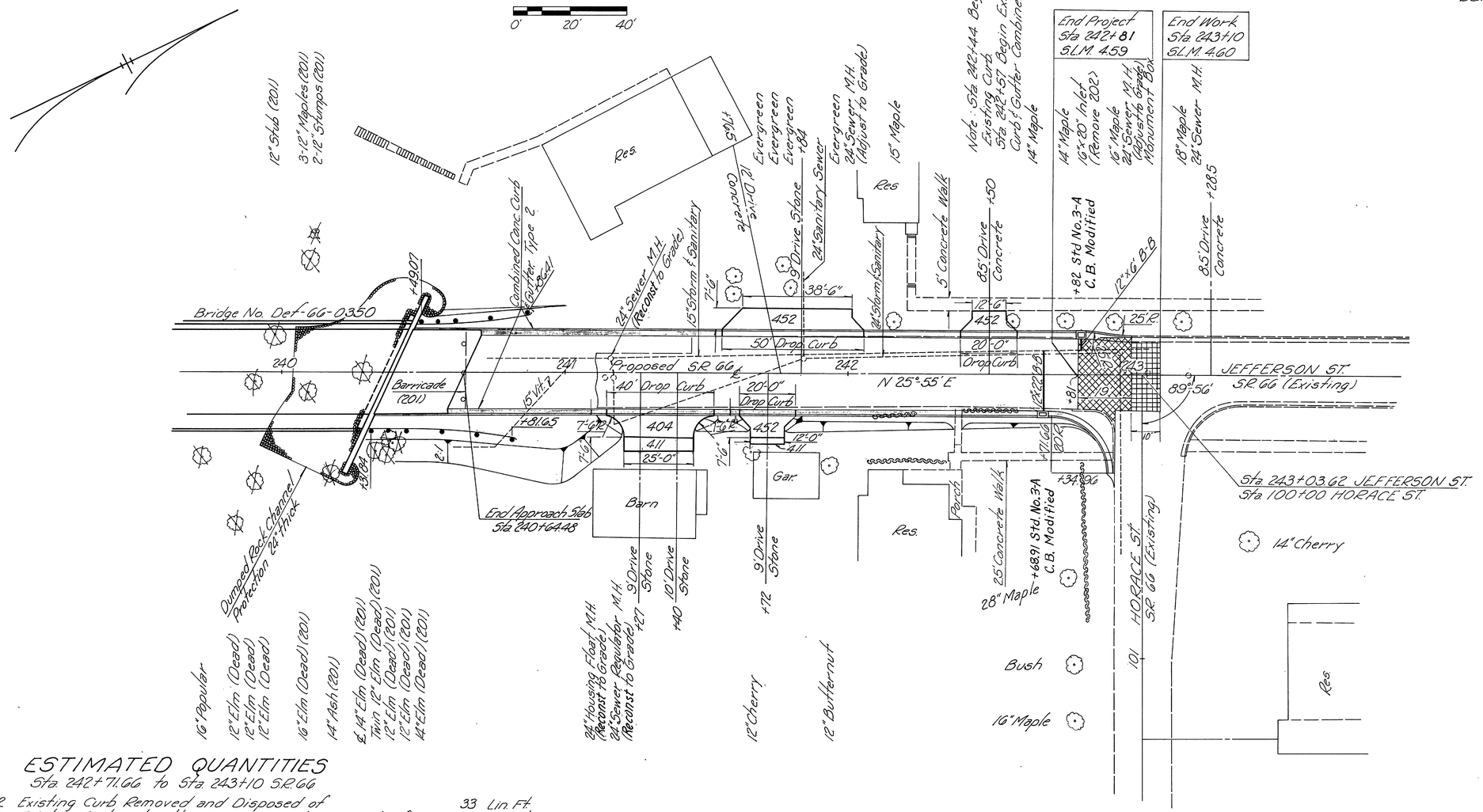
41/57

DEFIANCE COUNTY
DEF-66-340

INTERSECTION DETAIL 3-P

STA. 243+03.62

0' 20' 40'



ESTIMATED QUANTITIES

Sta. 242+71.66 to Sta. 243+10 SR.66

Item	202	Existing Curb Removed and Disposed of	33 Lin. Ft.
Item	202	Existing Curb and Gutter Removed and Disposed of	28 Lin. Ft.
Item	202	Existing Pavement Removed and Disposed of	52 Sq. Yd.
Item	203	Subgrade Preparation	108 Sq. Yd.
Item	304	6" Aggregate Base	15.34 Cu. Yd.
Item	304	Water	0.08 M. Gal.
Item	310	6" Subbase	19.00 Cu. Yd.
Item	402	1¼" Asphalt Concrete	3.30 Cu. Yd.
Item	402	1½" Asphalt Concrete	3.83 Cu. Yd.
Item	404	1¼" Asphalt Concrete	3.59 Cu. Yd.
Item	407	Tack Coat	2.81 Gals.
Item	408	Bituminous Prime Coat	36.81 Gals.
Item	609	Combination Curb & Gutter	59.76 Lin. Ft.

Note — Estimated Quantities carried to Pavement Computations, Sheet No 6

▨ = Existing pavement to be removed.

▦ = Feather 404 & 407 Tack Coat

C025/041

INTERSECTION DETAIL 4-P

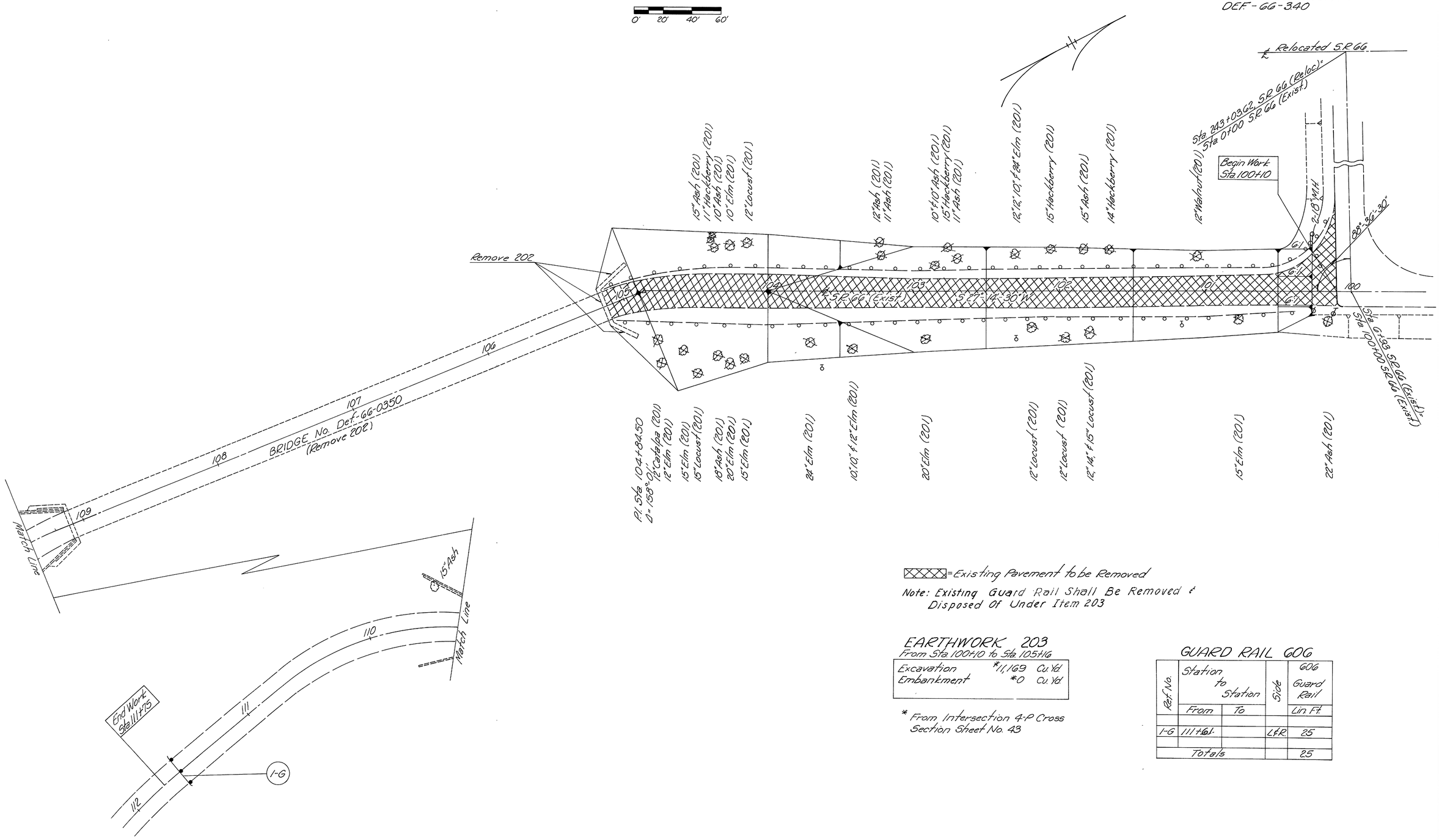
STA. 6+93 S.R. 66 (Exist.) =
STA. 100+00 S.R. 66 (Exist.)

0' 20' 40' 60'

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

42/57

DEFIANCE COUNTY
DEF-66-340



▨ = Existing Pavement to be Removed

Note: Existing Guard Rail Shall Be Removed & Disposed Of Under Item 203

EARTHWORK 203

From Sta. 100+10 to Sta. 105+16

Excavation	*11,169	Cu. Yd.
Embankment	*0	Cu. Yd.

* From Intersection 4-P Cross Section Sheet No. 43

GUARD RAIL 606

Ref. No.	Station to Station: From	To	Side	606 Guard Rail: Lin. Ft.
1-G	111+61.		L&R.	25
Totals				25

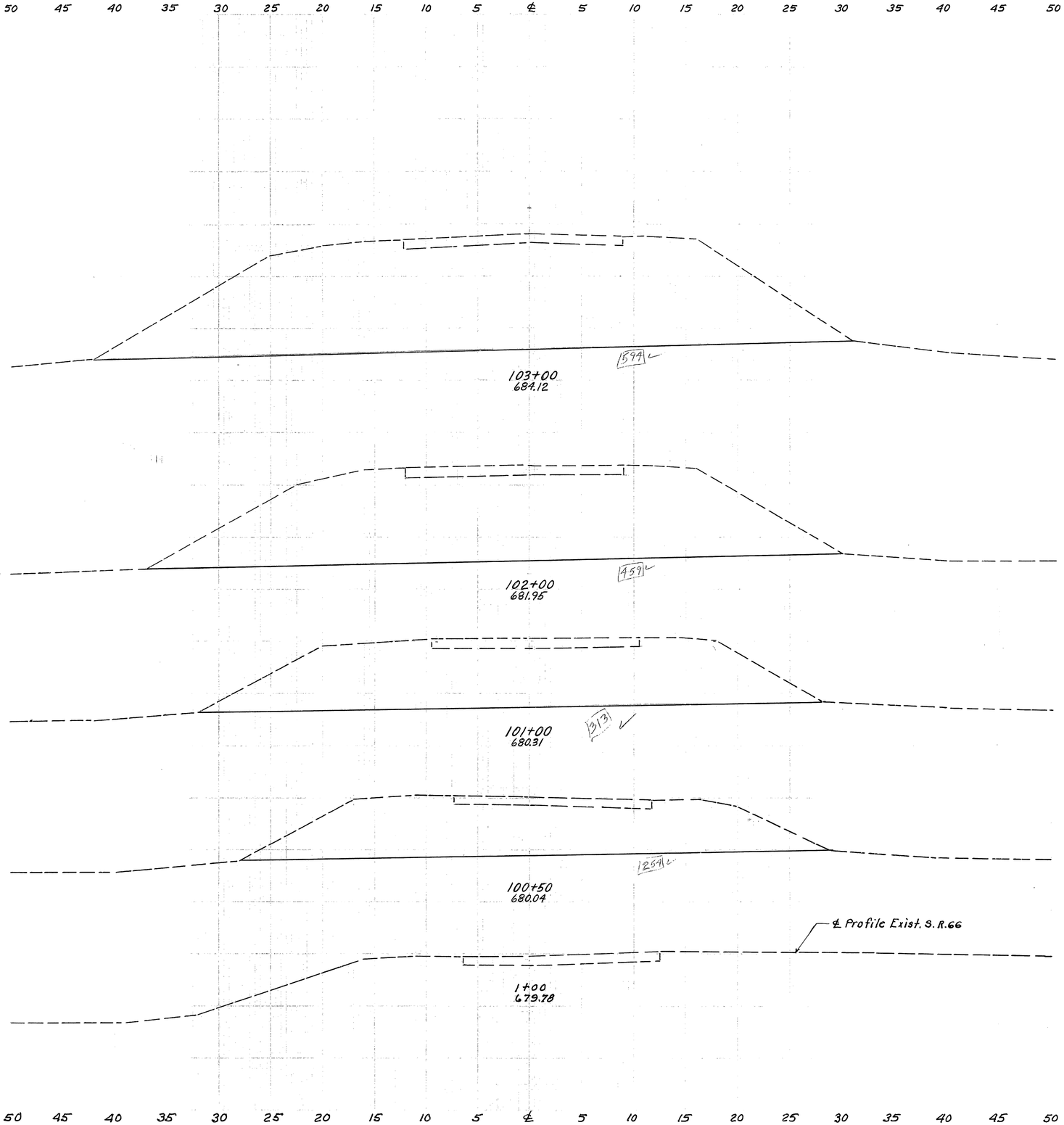
C025904

INTERSECTION 4-P

43
57

DEFIANCE COUNTY
DEF-66-3.40

70 65 60 55 50 45 40 35 30 25 20 15 10 5 ℄ 5 10 15 20 25 30 35 40 45 50 55 60



SEEDING WIDE	SEEDING SQ YD
73	
	778
67	
	706
60	
	325
57	
	73
0 Sta. 100+27	
1882 Sheet Total	

END AREA CUT	END AREA FILL	CU. YD. CUT	CU. YD. FILL
594	0		
		1950	0
459	0		
		1430	0
313	0		
		525	0
254	0		
		108	0
0	0 Sta. 100+27		
		11,169 Totals	0

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 ℄ 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

C0259043

DEFIANCE COUNTY
DEF.-66-3.40-

SEEDING	
WIDE	SQ.YD.
20	Back
	207
	118
	1019
	88
	894
73	103+00
2120	Sheet Total

END AREA		CU. YD.	
CUT	FILL	CUT	FILL
Sta. 105+16 Back	494	0	
			869 0
	1246	0	
			3529 0
	895	0	2758 0
Sta. 103+00	594	0	

109+60
692.28

109+02
690.74

Remove 202
Abutment

105+16
690.78

104+89
689.94

104+00
686.54

673

573

500

395

494

Cons 025044

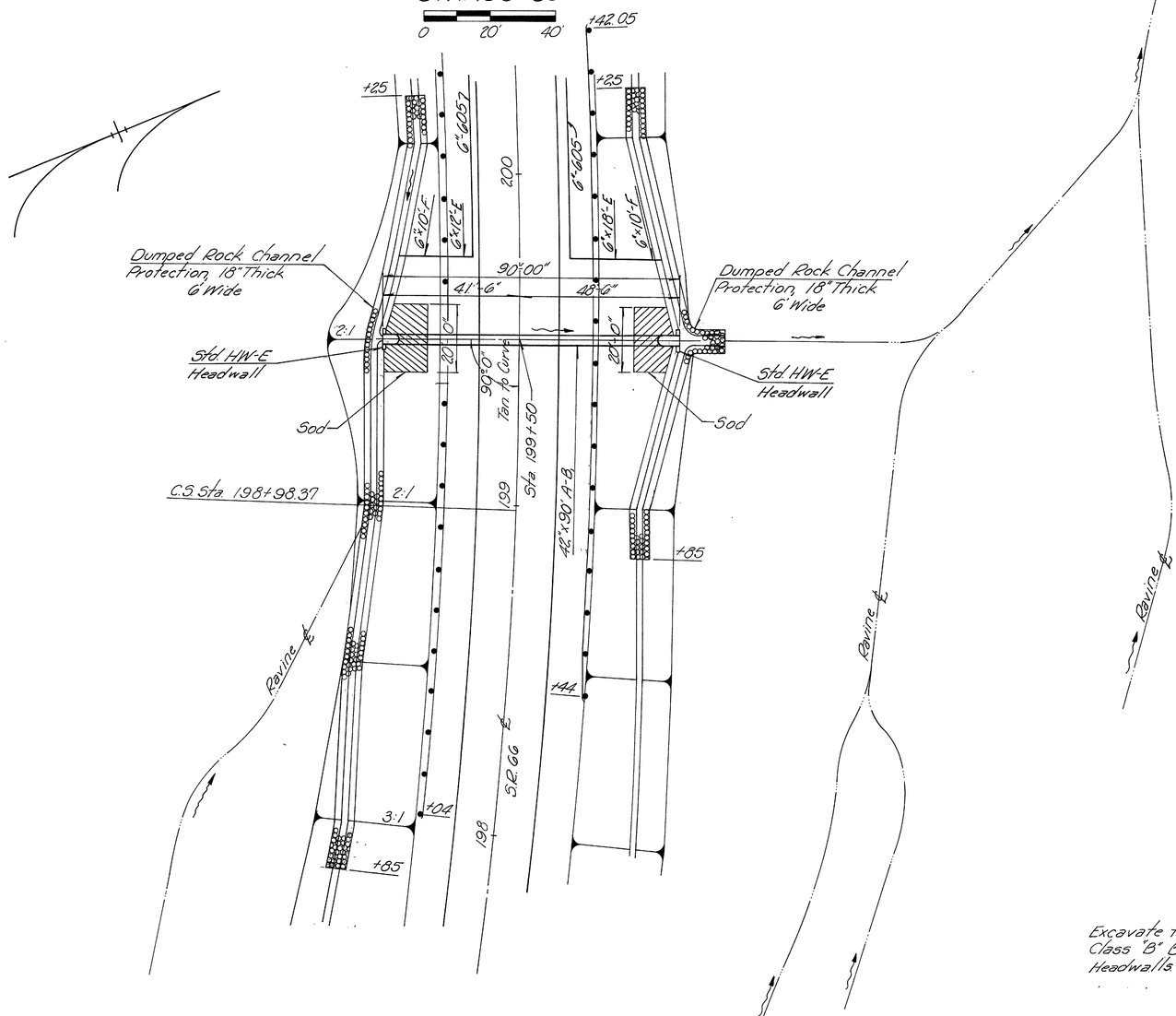
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

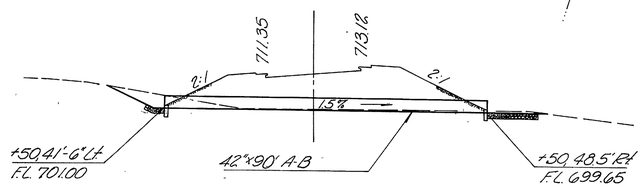
45/57

DEFIANCE COUNTY
DEF-66-3.40

STRUCTURE NO. 1-C

STA. 199+50





WORK REQUIRED

Excavate for New Structure. Construct Std. 42"x90° Conduit, Type "A" with Class "B" Bedding. Construct Std. HW-E Headwalls. Place Dumped Rock Channel Protection and Sod as shown.

Drainage Area:- 70 Acres
$Q_{25} = 0.60 \times 1.00 \times 1.00 \times 150$
$Q_{25} = 90$ cfs

Standard Drawing MC-4

ESTIMATED QUANTITIES

602	Concrete Masonry	1.52 Cu. Yd.
601	Dumped Rock Channel Protection	130 Cu. Yd.
603	42" Conduit, Type "A" with Class "B" Bedding	90 Lin. Ft.
660	Sodding	50 Sq. Yd.

Note - Estimated Quantities carried to Line Sheet No. 10

C02590045

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

46/57

DEFIANCE COUNTY
DEF-66-3.40

1 ST. STRUCTURE DOWN STREAM
Location - 750'± downstream from ℄ proposed brdg. site on existing SR-66
Type - High Steel Truss, Twin span : 1 @ 192'-3"
1 @ 195'-3"
Waterway - 8,795 Sq. Ft.

1 ST. STRUCTURE UPSTREAM
Location - Distance by way of river is 2.2 miles West
Type - High Steel Truss, Twin span, 2 @ 190'
Waterway - 8,795 Sq. Ft.

Twin 26" Maple
57.0'
23.6'
23.6'
Elev. 667.68
P.O.T. Sta. 234+82.33

"X" in Concrete Curb
16.22'
17.93'
14.99'
Elev. 688.95
X in Conc. Curb
P.O.T. Sta. 244+00

At South Corp. Line of Defiance

Dumped Rock Channel Protection 24" Thick.

End Appr. Slab
Sta. 234+54.52

666.5

667.1

460.79

443.54

25°

8" gas line

234 235 236 237 238 239 240 241 242

16" water line

666.7

667.1

ST Sta 233+42.79

22½° bend

R = 900.95' Rt.

End 16" water line

Future 16" water line

Dumped Rock Channel Protection 24" Thick.

Variable slope from contour elev. 666.0± to face of abut. elev. 681.6±

TV Ant.

Begin Appr. Slab
Sta. 240+39.48

8" Gas line

Dumped Rock Channel Protection 24" Thick.

685.0

EXISTING STRUCTURE

Type - High Steel Truss
Span - 192'-3" - 195'-3"
Skew - None
Roadway - 17'-5"
Wearing Surface - 2" Bituminous
Loading - S-52
Condition - Fair

Drainage Area = 2,445 Sq. Miles

Clears 1950 High water Elev. 7.2'± (Slightly greater than 50 year flood)

AUGLAIZE RIVER

BRIDGE LIMITS = 584.96'

BM #15	BM #16
Spike in 24" Maple	Spike in 12" Elm
95' Rt. Sta. 234+95	41' Rt. Sta. 239+89
Elevation 666.85	Elevation 670.72

Sta 234+54.52

Sta 240+39.48

	Left	Right
700	693.19	
690	692.91	692.77
680	692.66	692.61
670	692.47	692.47
660	692.34	692.34
650	692.28	692.22
	692.11	692.11

692.0 691.60 691.20 690.80 690.40 690.00

Top of Slope Elev. 683.9±

-0.40%

687.79 Highest known (1913)

676.5 1950 Highwater

668.84 3-5 Yr. Highwater

661.49 Normal Water

Top of slope Elev. 681.6±

2:1 (Normal)

Varies

Ftg. Elev. 677.8

10 BP 42 steel piles, both abuts.

500' V.C.

Ftg. Elev. 675.5

Est. avg. pay lgth = 25'

Elev. 652.50

Elev. 653.50

Elev. 653.00

Elev. 653.50

Est. Avg. Pay Length = 20'

Excavate channel thru structure to Elev. 656.5±

667.38 667.08 667.28 667.68 664.36 663.68 664.28 660.52 657.92 656.12 654.72 655.42 655.92 656.32 656.82 659.22 660.56 664.97 669.87 679.49 683.29 687.49 687.84

233 234 +25 +50 +83 235 +50 236 +46 +75 237 +50 238 +50 239 +50 +75 +83 +92 240 +11 +25 +37 +43 +59

PROPOSED STRUCTURE

TYPE: Continuous welded steel girder with reinforced concrete deck and substructure.
SPANS: 101.0'-126.0'-126.0'-126.0'-101.0' c/c brgs.
ROADWAY: 30'-0" f/f curbs, 2'-0" safety curb left, 5'-0" sidewalk right
LOAD FREQUENCY: CF=400(57)
SKEW: 25° L.F.
WEARING SURFACE: 1" monolithic concrete
APPROACH SLABS: AS-1-54 (25' long), special detailing at forward approach
ALIGNMENT: Tangent.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

SITE PLAN

BRIDGE NO. DEF-66-0444
SR-66 OVER AUGLAIZE RIVER
DEFIANCE CO. SR-66

SEC. STA. 234+54.52
240+39.48

PRESENT TOPOGRAPHY		PROPOSED WORK			
SURVEYED	DRAWN	DESIGNED	DRAWN	CHECKED	REVIEWED
Aerial Survey	Aerial Survey	D.H.S.	D.H.S.	W.J.	P.E.S.

BFG 3-21-66

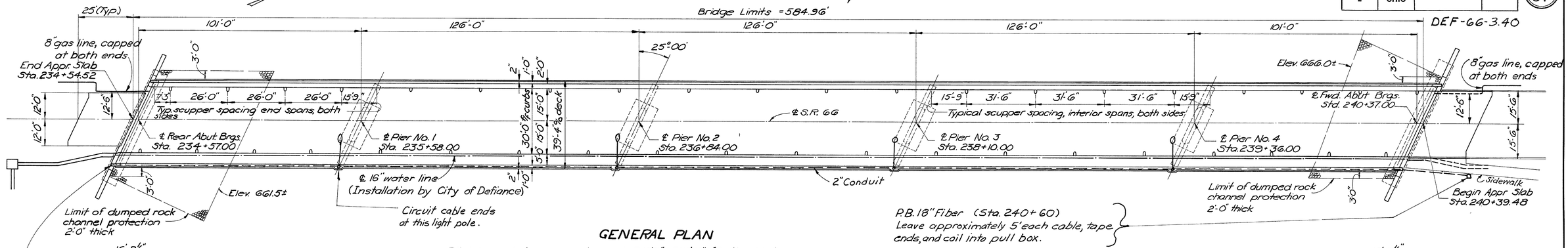
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FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

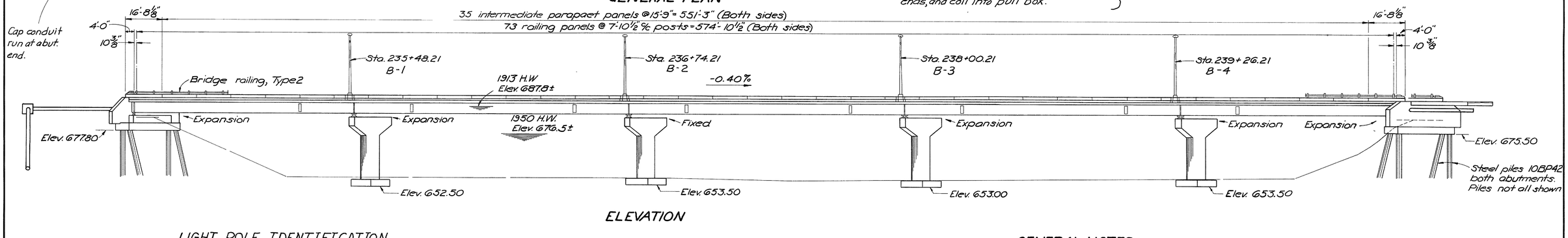
47
57

DEF-66-3.40

Note: 8" gas lines at ends of bridge to be installed by Toledo Edison Co.



GENERAL PLAN



ELEVATION

LIGHT POLE IDENTIFICATION

B = Bridge Lighting Circuit
1 = Lighting Unit Number

ESTIMATED QUANTITIES

Item	Total	Unit	Description	Super	Abuts.	Piers	Gen'l
202	Lump	Sum	Existing structure removed				Lump
503	Lump	Sum	Cofferdams, cribs and sheeting				Lump
503	298	cu. yds.	Unclassified excavation		272	26	
503	79	cu. yds.	Shale excavation			79	
505	Lump	Sum	First test pile				Lump
507	740	lin. ft.	Steel piles, 10BP42		740		
509	257,131	lbs.	Reinforcing steel	203,219	11,265	42,647	
511	790	cu. yds.	Class "C" concrete, superstructure	790			
511	275	cu. yds.	Class "C" concrete, piers above footings			275	
511	122	cu. yds.	Class "E" concrete, abutments above footings		122		
511	178	cu. yds.	Class "E" concrete, footings		84	94	
513	833,000	lbs.	Structural steel	833,000			
513 *	5,600	lbs.	Structural steel (water line support)	5,600			
514	833,000	lbs.	Field painting of structural steel	833,000			
514 *	5,600	lbs.	Field painting of structural steel	5,600			
517	1169.21	lin. ft.	Railing (Type 2)	1169.21			
518	114	lin. ft.	6" ϕ perforated helical c.m.p. including specials 707.06		114		
518	45	lin. ft.	6" non-perforated helical c.m.p. 707.06		45		
518	40	each	Scuppers, Type 2, including supports	40			
518	80	cu. yds.	Porous backfill		80		
625			See Sh. 54A for Lighting Summary				
808	790	Units	Water-reducing, set-reducing admixture	790			
825	2825	sq. yds.	Concrete surface treatment				2825
828	66	lin. ft.	Joint sealer	66			

* No Federal Participation

GENERAL NOTES

REFERENCE shall be made to Standard Drawings BR-1-65, sheet 2, revised 11-24-65; SD-1-65, sheets 1 and 2, dated 11-8-65; and RB-1-55, revised 2-2-59; and to Supplemental Specifications 808 dated 2-7-66; 811 dated 3-29-65; 825 dated 4-22-65 and 828 dated 7-21-65.

DESIGN SPECIFICATIONS: This structure conforms to the requirements of "Design Specifications for Highway Structures" of the State of Ohio, Department of Highways, dated 9-1-57 together with current revisions thereof.

DESIGN LOADING: CF 400 (57)

BASIC UNIT STRESSES:

Concrete Class "C" 1,333 p.s.i.
Concrete Class "E" 1,133 p.s.i.
Structural Steel ASTM A36 20,000 p.s.i.
Reinforcing Steel ASTM A15, A16, A160, Deformed, Intermediate or Hard Grade 20,000 p.s.i.

REMOVAL OF EXISTING STRUCTURE: When no longer needed to maintain traffic the existing structure shall be removed. South Abutment shall remain in place. North Abutment shall be removed as called for on shts. 42, 43, and 44. Suitable waste masonry may be placed as Bank Protection as directed by the Engineer.

EXCAVATION QUANTITY includes the removal of fill material required for construction of the rear abutment.

PILES shall be driven to firm contact with rock. If the length of penetration is approximately equal to the depth to rock according to the bridge foundation investigation report, the firm contact shall be considered as attained when the capacity according to the formula in Sec. 507.05 is not less than the following value for a pile hammer of the indicated energy rating:

(piles continued)
50 tons per pile using a 7,000 ft. lb. hammer
45 tons per pile using an 11,000 ft. lb. hammer
40 tons per pile using a 15,000 ft. lb. or greater hammer

If the energy rating of the hammer is between the ratings as shown above, the required formula capacity shall be determined by interpolation. The design load is 35 tons per pile.

FOUNDATION BEARING PRESSURE: Pier footings are designed for a maximum bearing pressure of 7 tons per sq. ft.

ERECTION PROCEDURE: The Contractor shall submit to the Director, for approval, 3 prints showing his proposed erection procedure for the plate girders.

UTILITIES: The installation of the 16" water line and capped 8" gas line is not part of this contract. However, the Contractor and Owners are requested to cooperate by arranging their work in such a manner that inconvenience to either will be held to a minimum.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

GENERAL PLAN & ELEVATION NOTES, ESTIMATED QUANTITIES

BRIDGE NO. DEF-66-0444
OVER AUGLAIZE RIVER
STA. 234+54.52
DEFIANCE CO. 240+39.48

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
WJG	WJG	P.K.I.	MPB	BFG	3-21-66	

Rev. 5-16-66

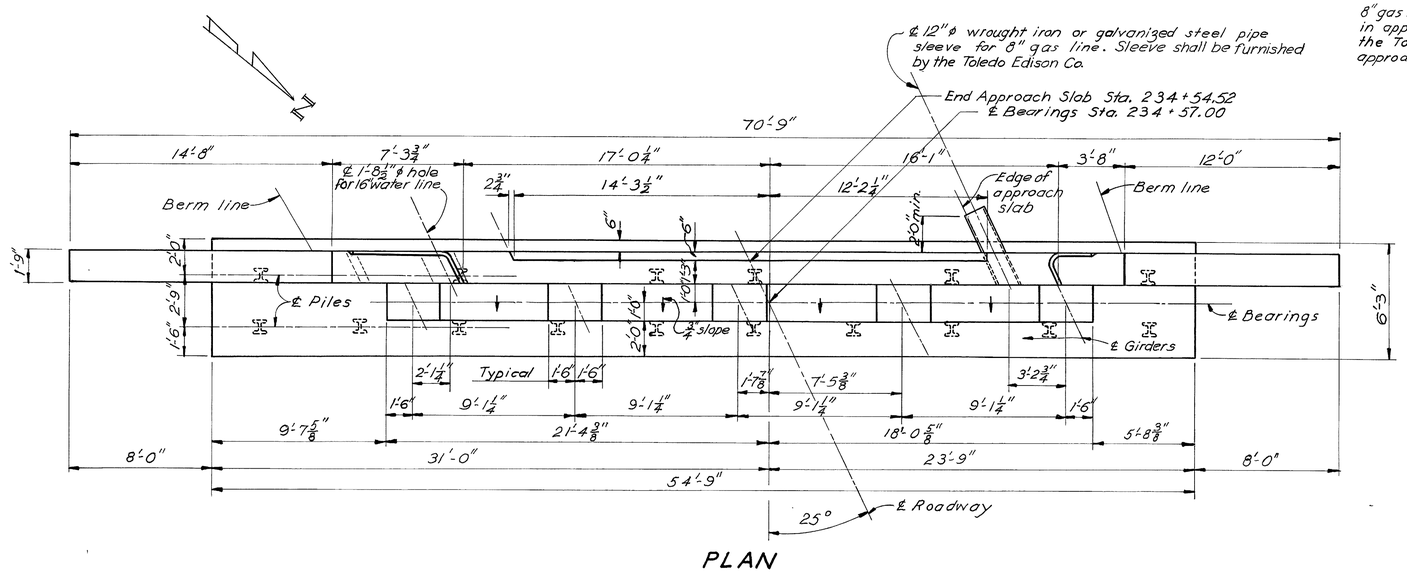
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FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

48
57

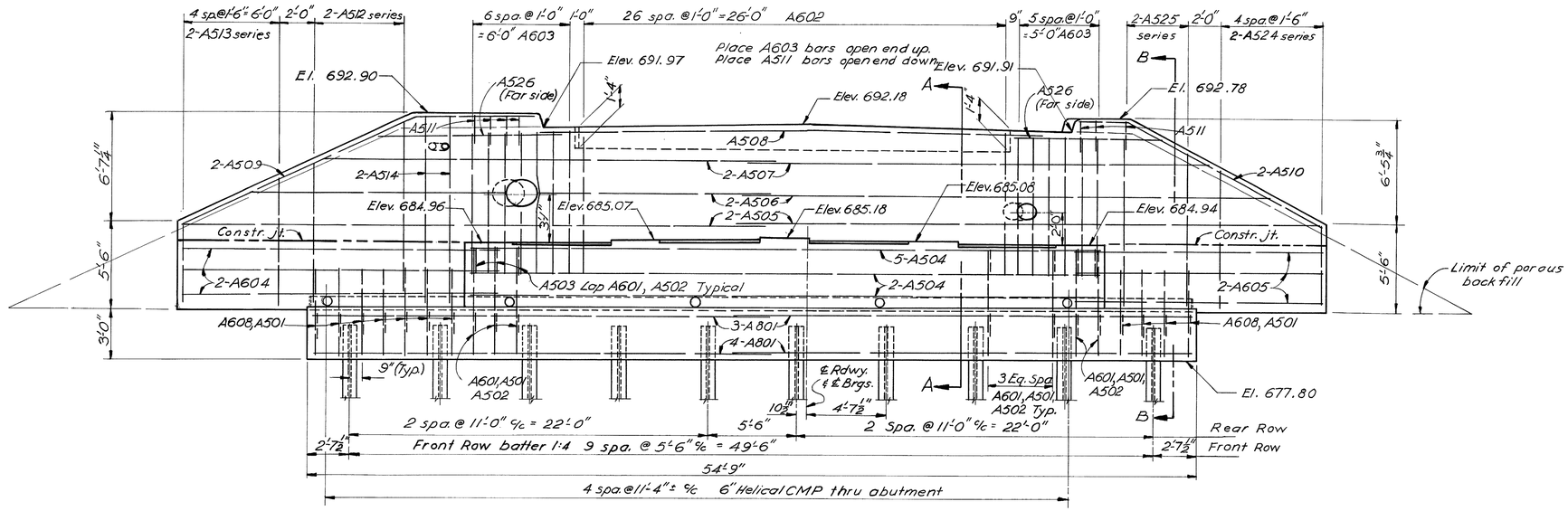
DEF-66-3.40

8" gas line shall be installed in approach embankment by the Toledo Edison Co. prior to approach slab placement.

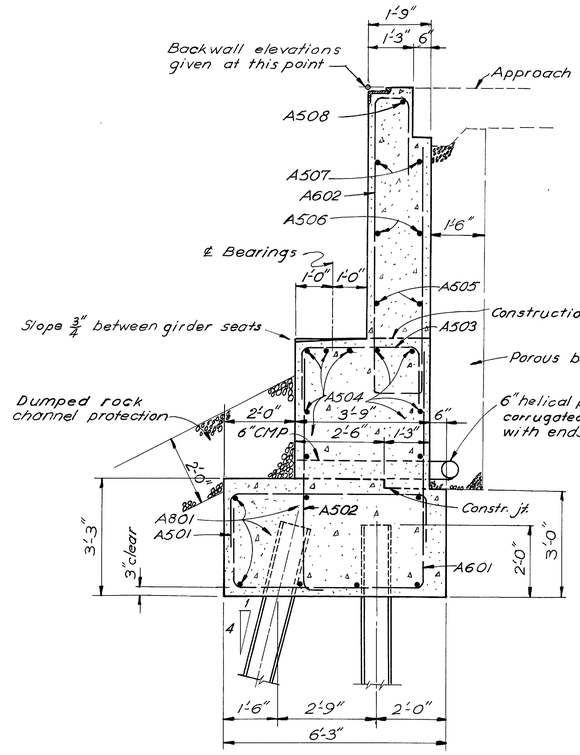


PLAN

Cut or bend bars at holes for water line and gas line as required.



ELEVATION



SECTION A-A

Reinforcing steel shown for rear abutment. Forward abutment similar.

PROCEDURE: The rear approach embankment shall be placed and compacted up to the finished spill-thru slope beyond the dumped rock channel protection, to the bottom of the dumped rock within limits of same, and to the subgrade elevation before starting construction of the rear abutment.

POROUS BACKFILL 1'-6" thick shall extend from the top of the footing upward to the underside of the approach slab and to the surface of the earth shoulders, and outward to the surface of the embankment slopes.

See Sheet 49 for Section B-B.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

REAR ABUTMENT DETAILS

BRIDGE NO. DEF-66-0444
OVER AUGLAIZE RIVER
STA. 234+54.52
DEFIANCE CO. 240+39.48

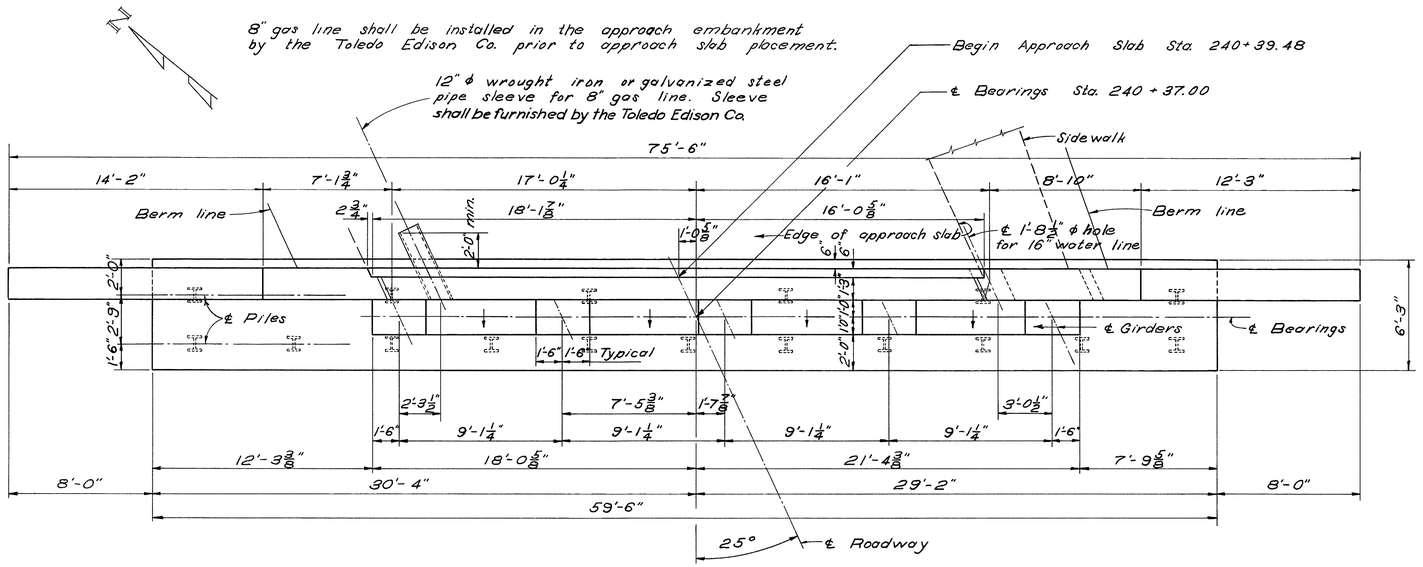
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2	OHIO		

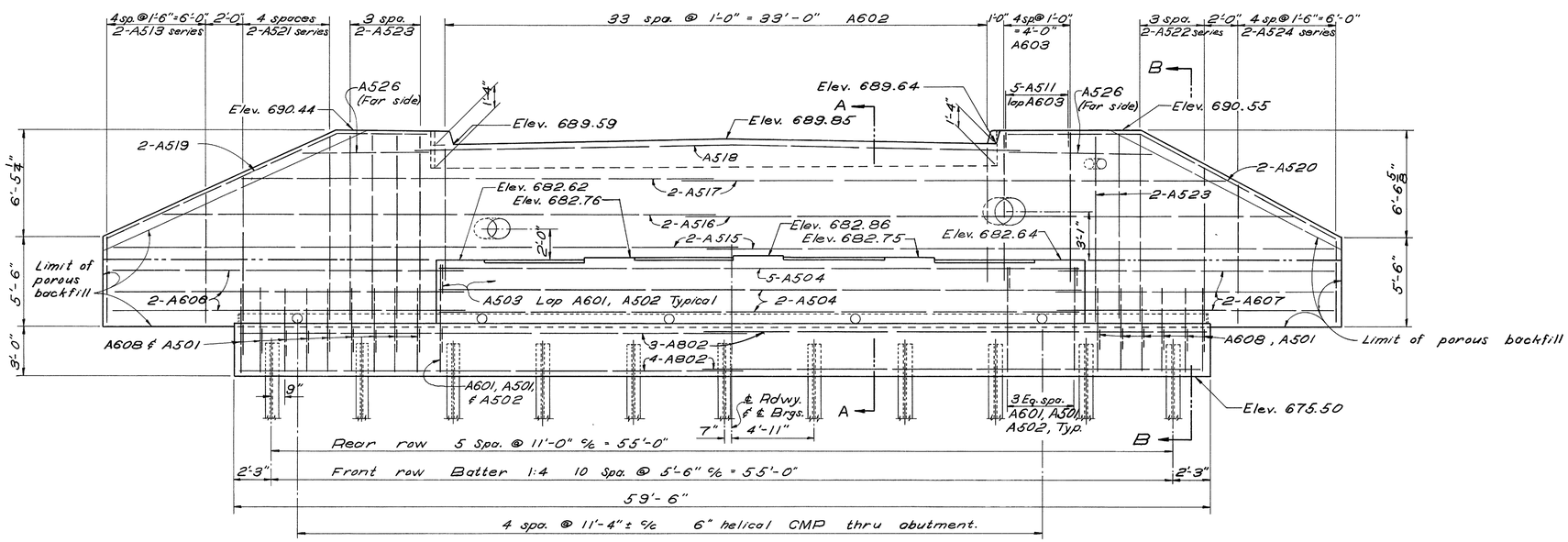
49
57

DEF-66-3.40

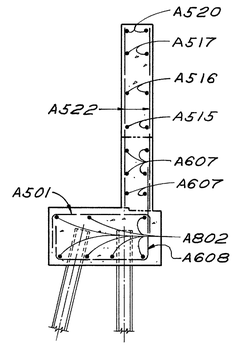


PLAN

Cut or bend bars at holes for water line and gas line as required.



ELEVATION



SECTION B-B

Reinforcing steel shown for forward abutment. Rear abutment similar.

POROUS BACKFILL 1'-6" thick shall extend from the top of the footing upward to the underside of the approach slab and sidewalk, and to the surface of the earth shoulders, and outward to the surface of the embankment slopes but not beyond the ends of the abutment wingwalls.

See sheet 48 for Section A-A.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

FORWARD ABUTMENT DETAIL

BRIDGE NO. DEF-66-0444 OVER AUGLAIZE RIVER

DEFIANCE COUNTY

STA. 234+54.52
240+39.48

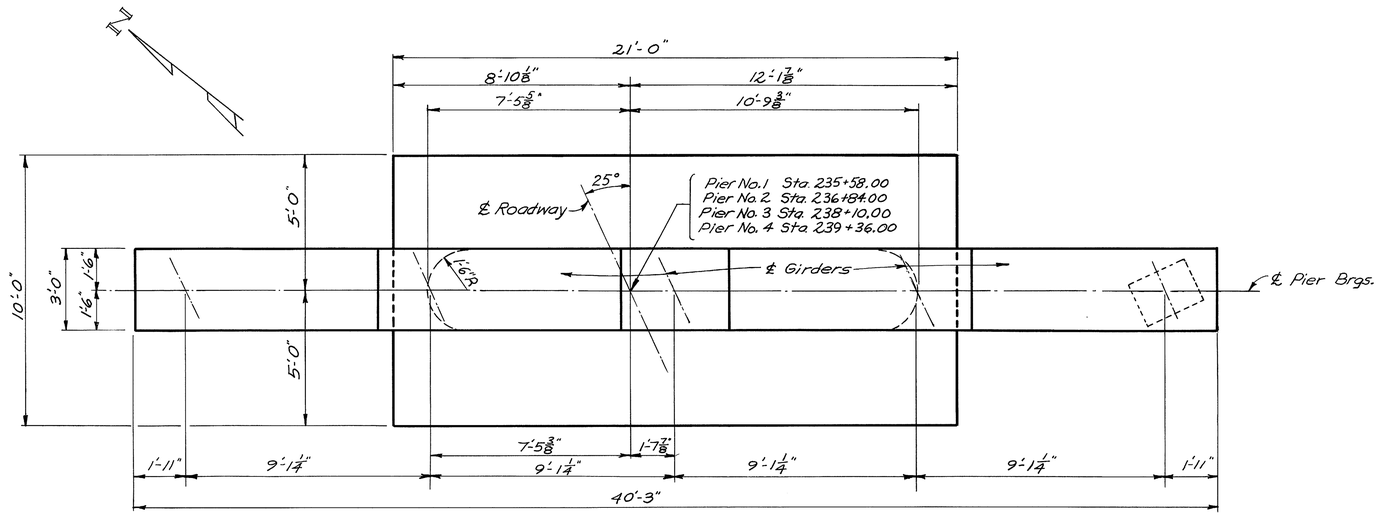
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C0259049

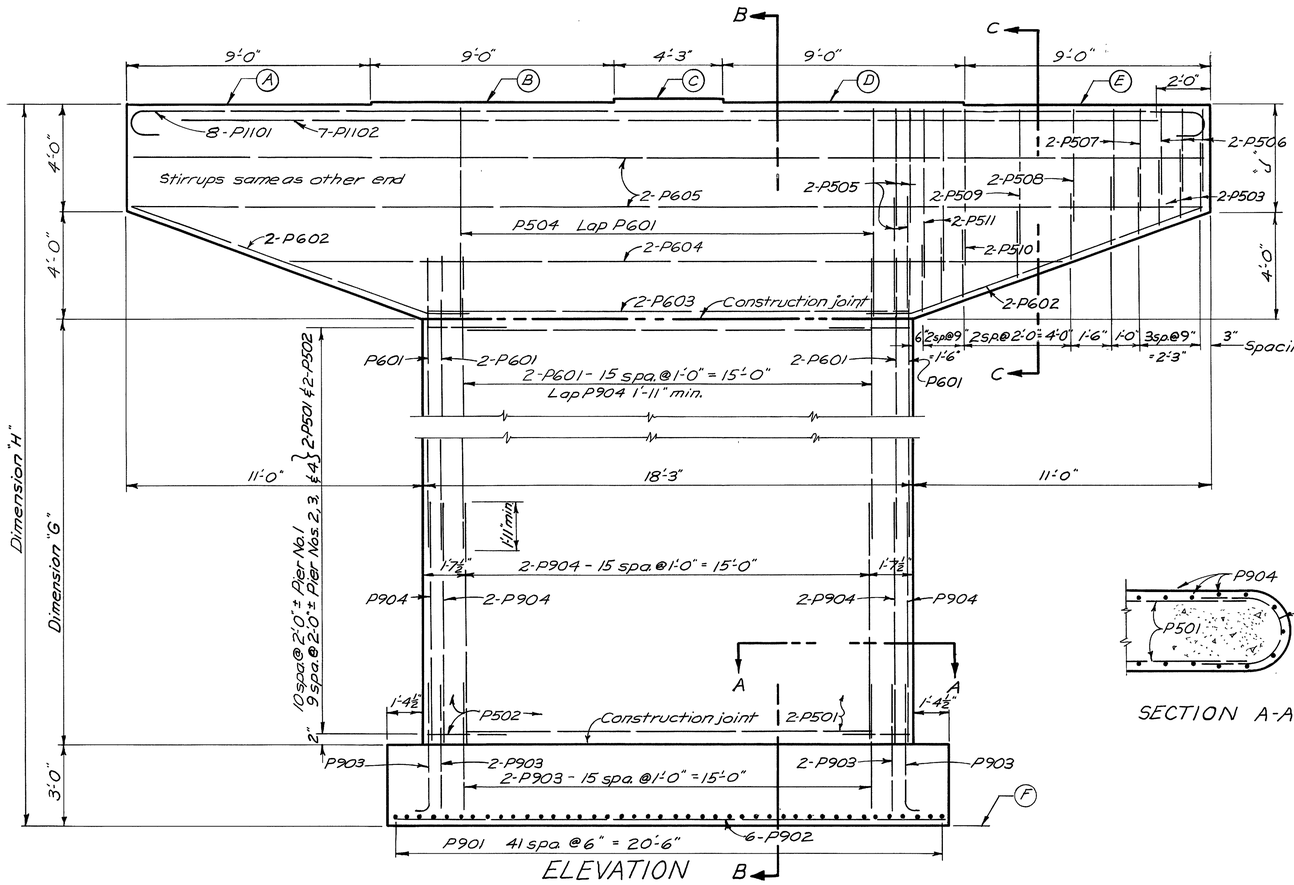
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

50
57

DEF-66-3.40

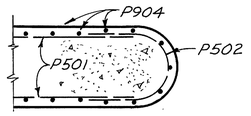


PLAN



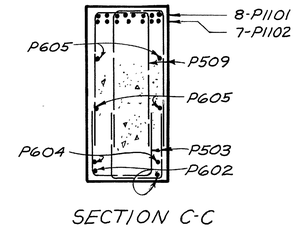
PIER NO.	ELEVATION						DIMENSION		
	A	B	C	D	E	F	"G"	"H"	"J"
1	683.90	684.05	684.14	684.03	683.92	652.50	20'-4 3/4"	31'-4 3/4"	4'-0 1/4"
2	683.40	683.54	683.64	683.53	683.41	653.50	18'-10 3/4"	29'-10 3/4"	4'-0 1/8"
3	682.89	683.04	683.14	683.02	682.91	653.00	18'-10 5/8"	29'-10 5/8"	4'-0 1/4"
4	682.39	682.53	682.63	682.52	682.40	653.50	17'-10 5/8"	28'-10 5/8"	4'-0 1/8"

STRUCTURE GROUND, to be encased in Pier 2, shall consist of a continuous 7 strand #0 bare copper wire beginning with a 25 ft length coiled under the footing (but separated from it by two layers of tar paper) and extending upwards thru the pier concrete to be exothermically welded to the right fascia girder.



SECTION A-A

SECTION B-B



SECTION C-C

BRIDGE SEAT REINFORCING: Special care shall be taken in placing the reinforcing steel in the vicinity of the bridge seat in Pier No. 2 to avoid interference with drilling of the anchor bolt holes.

ONE OPTIONAL HORIZONTAL CONSTRUCTION may be provided in the stem if desired.

PIER FOOTINGS shall extend a minimum of 3" into rock or to the elevation shown, whichever is lower.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

PIER DETAILS

BRIDGE NO. DEF-66-0444 OVER AUGLAIZE RIVER

STA. 234+54.52
DEFIANCE COUNTY 240+39.48

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
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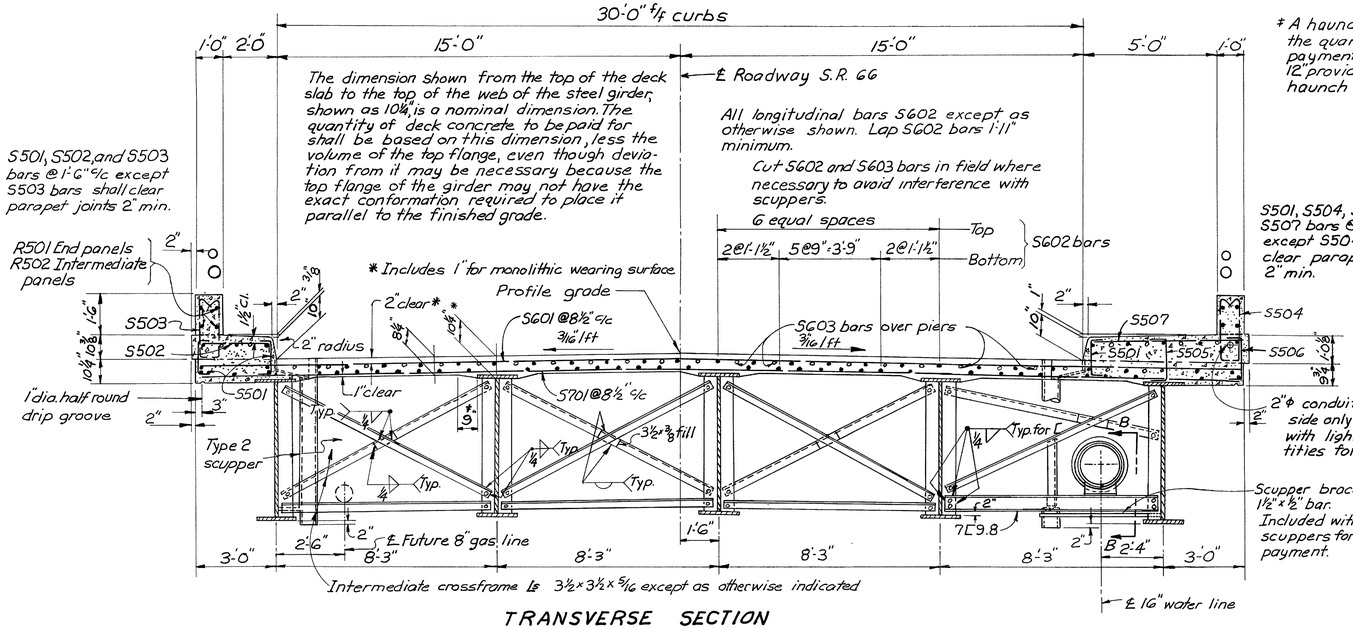
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2	OHIO		

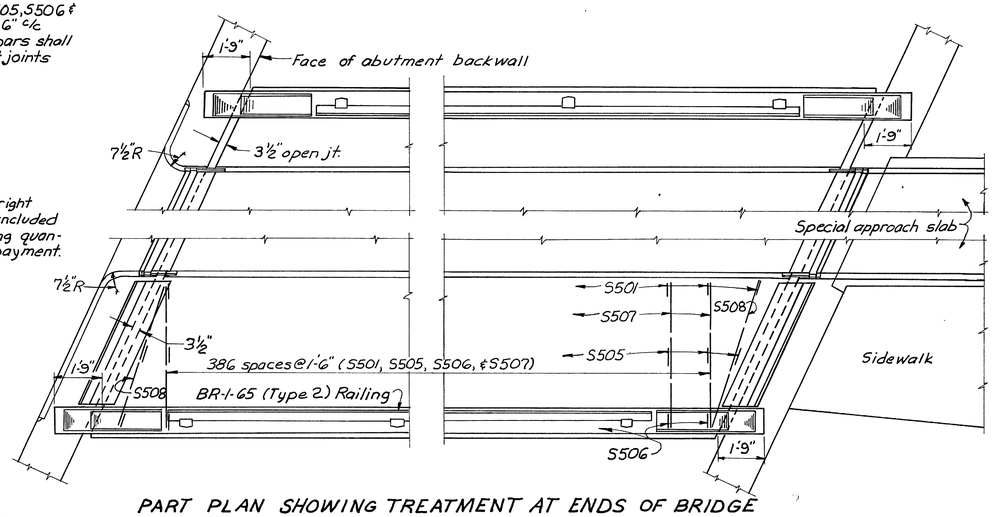
51/57

DEF.-66 - 3.40

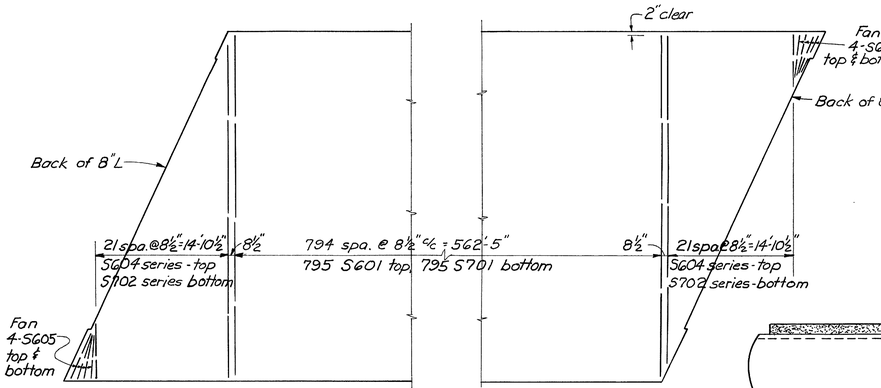
* A haunch width of 9" as shown has been used in computing the quantity of deck concrete and shall be the basis for payment. However, the haunch width may vary between 6" and 12" provided that the slope shall be not more than 1:4 for a haunch width less than 9".



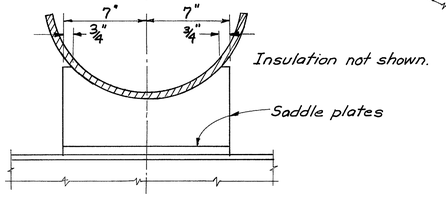
TRANSVERSE SECTION



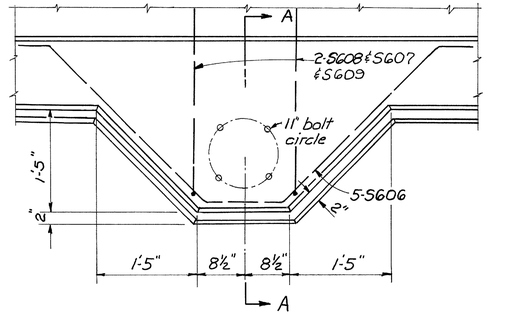
PART PLAN SHOWING TREATMENT AT ENDS OF BRIDGE



DECK PLAN SHOWING TRANSVERSE REINFORCING STEEL



SECTION C-C



PLAN OF LIGHT POLE BASE

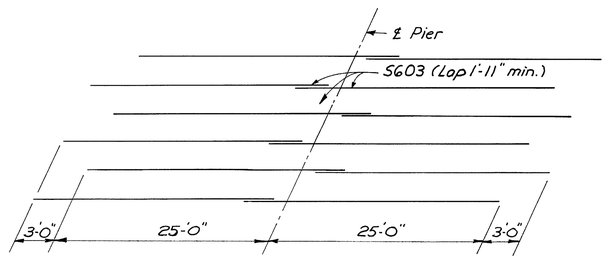
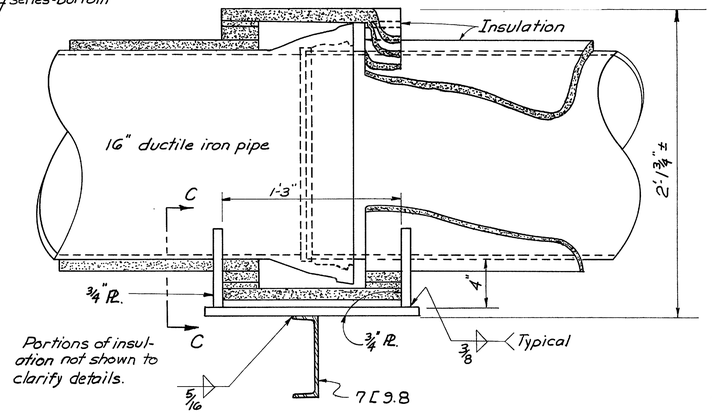


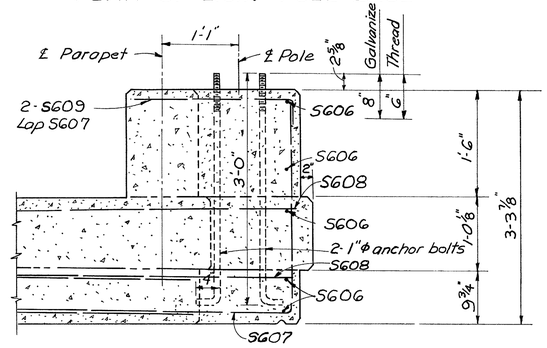
DIAGRAM SHOWING STAGGER OF S603 BARS OVER PIERS



SECTION B-B

WATER LINE SUPPORT DETAIL

Note: Pipe and insulation not included in this contract. Weight of saddles and extra crossframe weight required for support of 16" water line is listed as a separate pay item in the Estimated Quantities and shall be paid for by the City of Defiance.



SECTION A-A

REINFORCING DETAIL

See Sheet for additional lighting details.

REFER to the following standard drawings:

HL4

SD-1-65
1. Roadway & sidewalk end dams, curb plates.
2. End crossframes.
3. Scuppers and supports.

BR-1-65
Type 2 railing

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

SUPERSTRUCTURE DETAILS

BRIDGE NO. DEF-66-0444
OVER AUGLAIZE RIVER
STA. 234+54.52
240+39.48
DEFIANCE CO.

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
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C025 9051

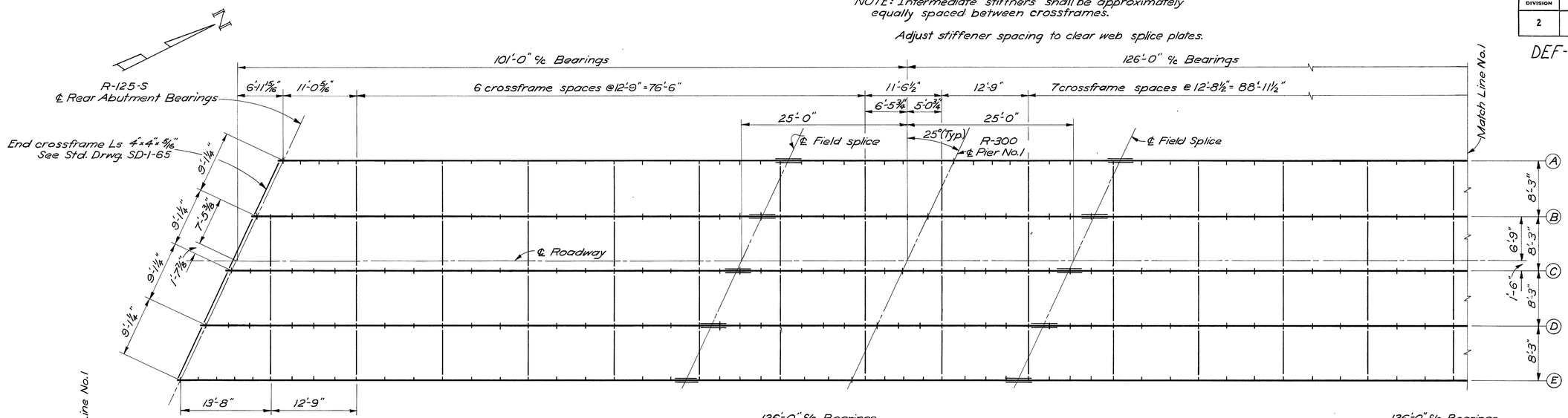
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

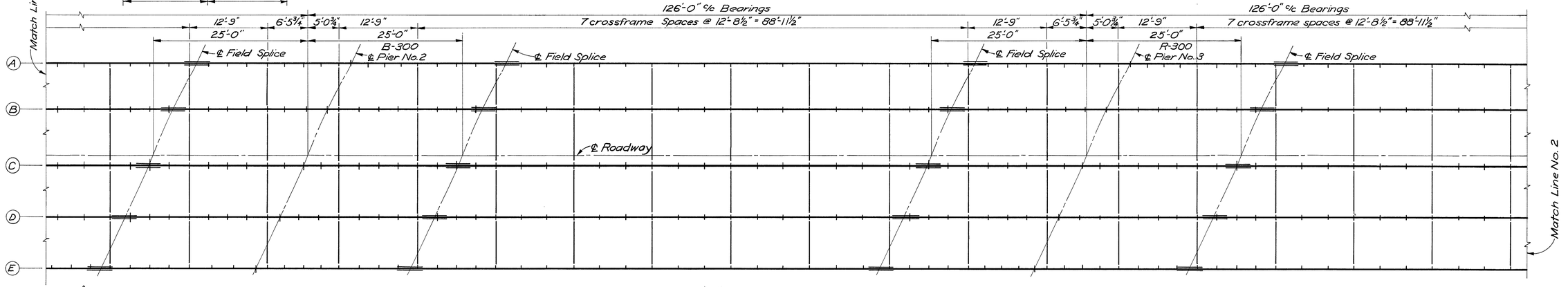
52
57

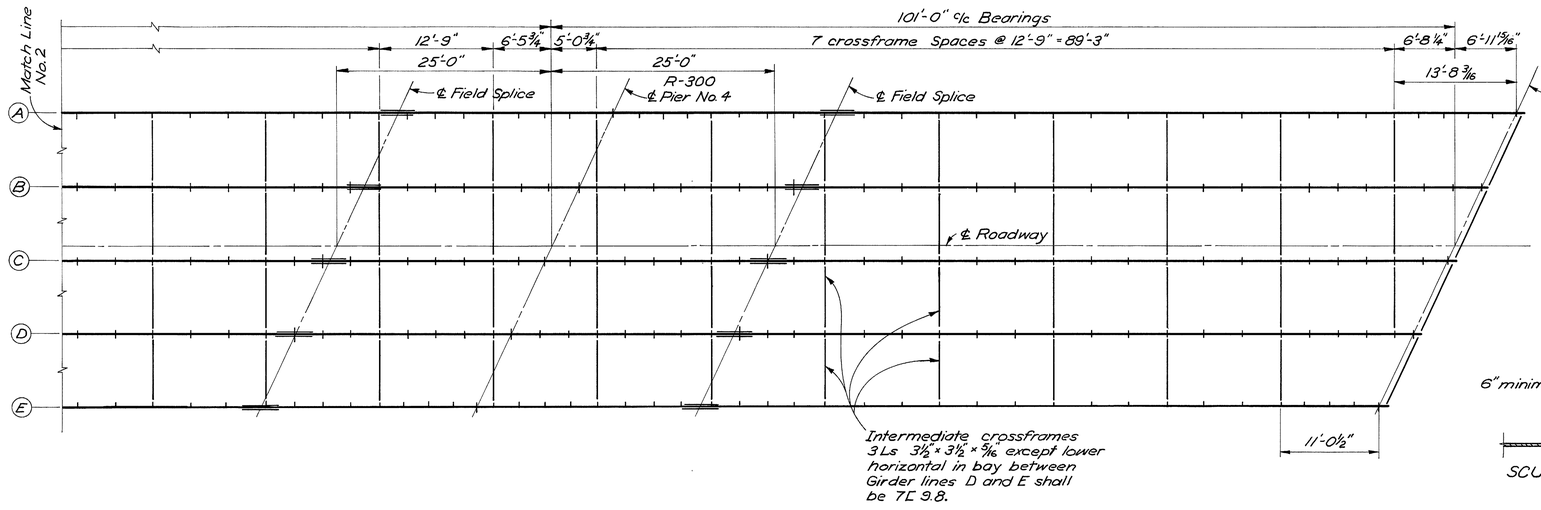
DEF-66-3.40

NOTE: Intermediate stiffners shall be approximately equally spaced between crossframes.

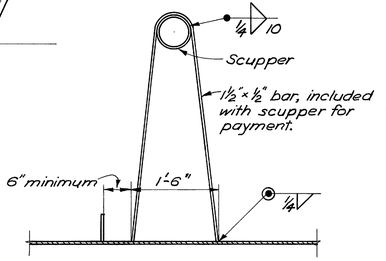
Adjust stiffener spacing to clear web splice plates.







Adjust scupper spacing shown on General Plan where required to provide clearance shown below.



SCUPPER SUPPORT DETAIL
Right side only

BEARINGS

R-125-S rockers shall be same as R125 rockers per Std. Drwg. RB-1-55 except:

1. Height of stiffner plates on web shall be 4½" instead of 4¾"
2. Diameter of top of 1½"ϕ dowels shall be reduced to 1⅛".

For other bearings see Standard Drawing RB-1-55.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

STEEL FRAMING PLAN

BRIDGE NO. DEF-66-0444
OVER AUGLAIZE RIVER
STA. 234+54.52
240+39.48
DEFIANCE CO.

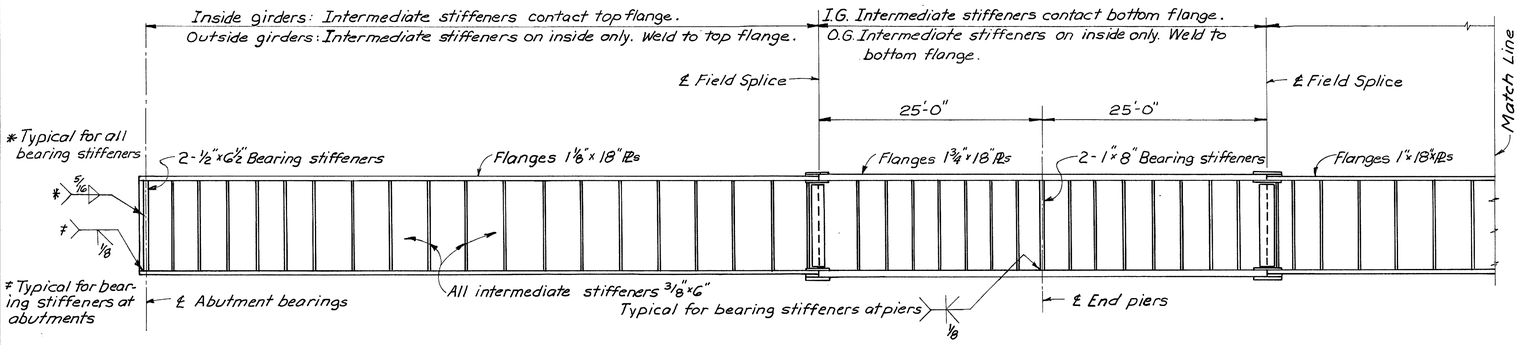
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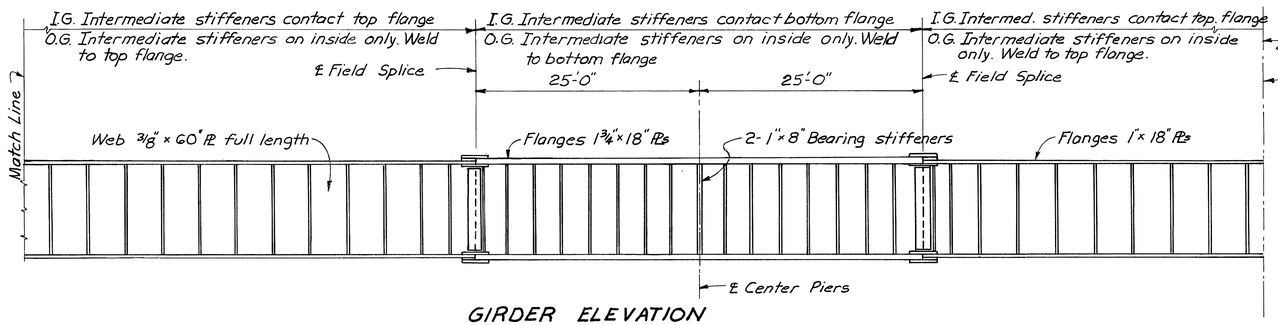
C02S10S2

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

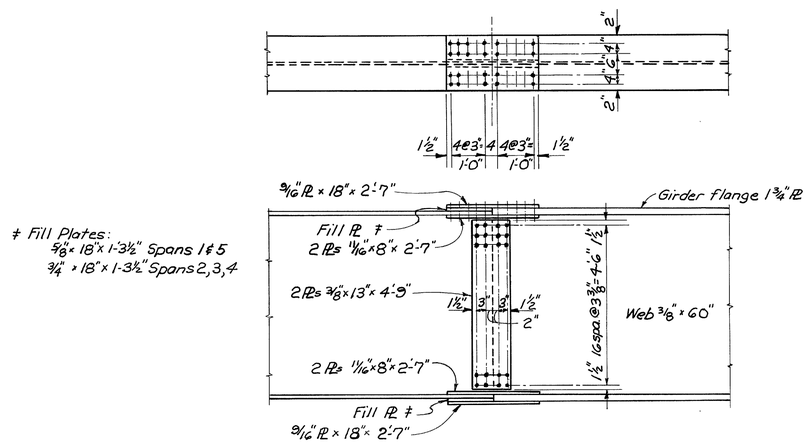
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DEF.-66-3.40





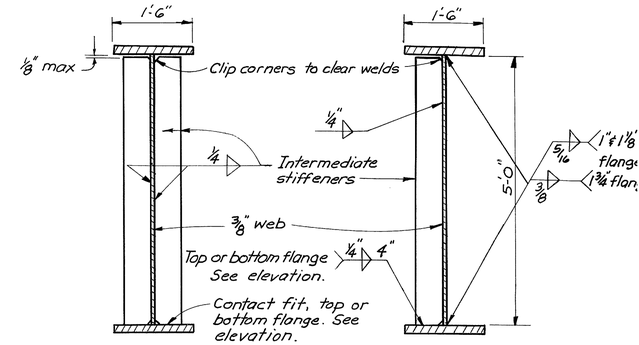
GIRDER ELEVATION



‡ Fill Plates:
⅝" x 18" x 1'-3½" Spans 1 & 5
¾" x 18" x 1'-3½" Spans 2, 3, 4

GIRDER FIELD SPLICE
All bolts ⅞" - High Strength

ERECTION: In field erection, the girders shall be positioned to facilitate the placing of drift pins. Drifting done during erection shall be only such as to align the parts to be bolted and not to enlarge the holes or distort the metal. Heavy driving of drift pins will not be permitted.



INSIDE OUTSIDE

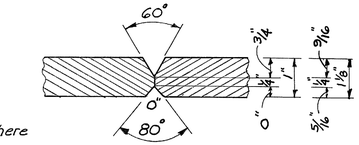
GIRDER DETAILS



WEB SPLICES

All full penetration welds shown here shall be back-gouged and welded after welding far side.

Flange buttwelds shall be ground flush, the finish grinding being parallel to the direction of stress.



FLANGE SPLICES

JOINT PREPARATION FOR SUBMERGED ARC WELDED SHOP SPLICES

FLANGE AND WEB PLATE SPLICES: Where necessary to provide plates of the length shown hereon, flange or web plates may be butt welded, using the joint preparation shown above.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

GIRDER DETAILS

BRIDGE NO. DEF-66-0444
OVER AUGLAIZE RIVER
DEFIANCE COUNTY
STA. 234+54.52
240+39.48

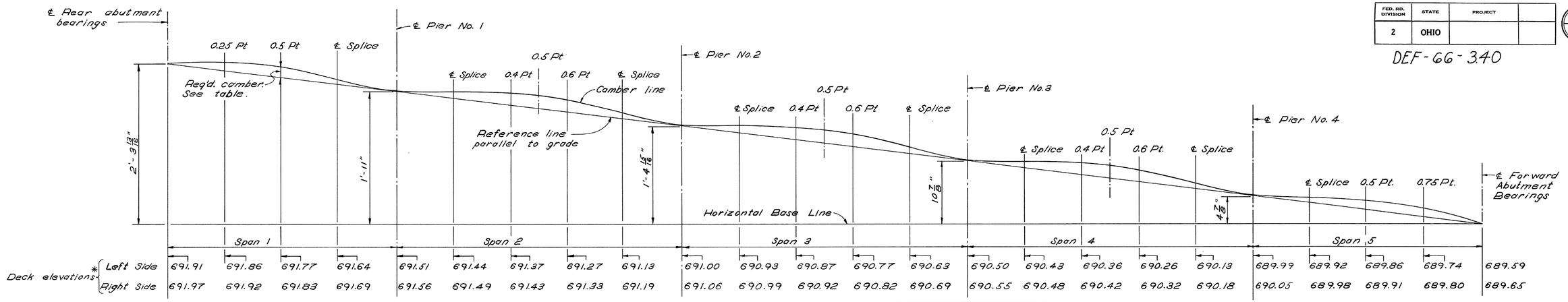
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
wjf	wjf	B. M.	MPB	BFG	3-21-66	

C025053

FED. RD. DIVISION	STATE	PROJECT	
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54/57

DEF-66-340



Deck elevations *																								
	Left Side	691.91	691.86	691.77	691.64	691.51	691.44	691.37	691.27	691.13	691.00	690.93	690.87	690.77	690.63	690.50	690.43	690.36	690.26	690.13	689.99	689.92	689.86	689.74	689.59
	Right Side	691.97	691.92	691.83	691.69	691.56	691.49	691.43	691.33	691.19	691.06	690.99	690.92	690.82	690.69	690.55	690.48	690.42	690.32	690.18	690.05	689.98	689.91	689.80	689.65
Deflection due to wgt. of steel		1/8"	1/8"	1/16"		1/16"	3/16"	3/16"	3/16"	1/16"	1/16"	3/16"	3/16"	3/16"	1/16"	1/16"	3/16"	3/16"	3/16"	1/16"	1/16"	1/8"	1/8"		
Defl. due to remaining dead load		5/8"	3/4"	3/8"		3/8"	13/16"	7/8"	13/16"	3/8"	3/8"	13/16"	7/8"	13/16"	3/8"	3/8"	13/16"	7/8"	13/16"	3/8"	3/8"	3/4"	5/8"		
Total deflection and required camber		3/4"	7/8"	7/16"		7/16"	1"	1 1/16"	1"	7/16"	7/16"	1"	1 1/16"	1"	7/16"	7/16"	1"	1 1/16"	1"	7/16"	7/16"	7/8"	3/4"		

DEFLECTION AND CAMBER

REINFORCING STEEL LIST

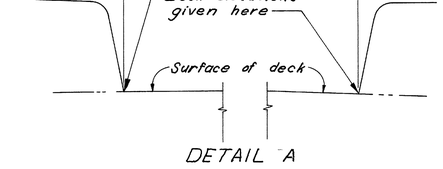
Mark	No.	Length	Weight	Shp.	Bending Diagrams
Superstructure					
S701	795	38'-8"	62833	S	
	2	38'-0"			Vary by 1'-6 1/4" ± increments
S702	Series of 22	to 6'-1"	1982	S	
S601	795	38'-8"	46172	S	
S602	1241	36'-0"	67103	S	
S603	240	27'-6"	9913	S	
	2	38'-0"			Vary by 1'-6 1/4" ± increments
S604	Series of 22	to 6'-1"	1457	S	
S605	16	5'-6"	132	S	
S606	20	8'-3"	248	B	
S607	8	9'-1"	109	B	
S608	16	4'-3"	102	S	
S609	8	2'-8"	32	B	
S501	1166	2'-4"	2838	B	
S502	389	3'-6"	1420	B	
S503	388	5'-7"	2259	B	
S504	388	5'-11"	2394	B	
S505	389	2'-5"	981	B	
S506	388	2'-6"	1012	B	
S507	387	5'-6"	2220	S	
S508	2	5'-9"	12	S	
Railing					
R501	16	16'-4"		S	Included with Item 517 for payment
R502	280	15'-5"		S	
R503	12	6'-1"		B	
R504	8	4'-2"		B	
R505	8	5'-5"		B	
R506	8	3'-0"		S	
R507	8	3'-5"		B	

Abutments					Rear	Fwd.
A801	14	28'-5"	1062	S	14	
A802	14	30'-10"	1153	S		14
A601	58	14'-3"	1241	B	29	29
A602	61	20'-3"	1855	B	27	34
A603	18	18'-7"	502	B	13	5

Mark	No.	Length	Weight	Shp.	Rear	Fwd.	Bending Diagrams
Abutments (Cont.)							
A604	6	19'-4"	174	S	6		
A605	6	15'-5"	139	S	6		
A606	6	22'-0"	198	S		6	
A607	6	17'-8"	159	S		6	
A608	26	12'-4"	482	B	11	15	
A501	84	8'-4"	730	B	40	44	
A502	58	7'-1"	428	B	29	29	
A503	58	6'-4"	383	B	29	29	
A504	18	39'-1"	734	S	9	9	
A505	4	36'-0"	150	S	4		
A506	4	32'-2"	134	S	4		
A507	4	28'-1"	117	S	4		
A508	1	30'-0"	31	S	1		
A509	2	22'-2"	46	B	2		
A510	2	16'-8"	35	B	2		
A511	12	4'-4"	54	B	7	5	
A512	2	11'-5"				2	Vary by 7 3/4" ± increments
	Series of 5	to 8'-10"	106	S		Series of 5	
A513	4	7'-11"			2	2	Vary by 8 3/4" ± increments
	Series of 5	to 5'-2"	136	S	Series of 5	Series of 5	
A514	4	11'-8"	49	S	4		
A515	4	38'-5"	160	S		4	
A516	4	35'-8"	149	S		4	
A517	4	31'-2"	130	S		4	
A518	1	36'-3"	38	S		1	
A519	2	20'-11"	44	B		2	
A520	2	22'-0"	46	B		2	
A521	2	11'-3"				2	Vary by 7 3/4" ± increments
	Series of 5	to 8'-10"	105	S		Series of 5	
A522	2	11'-7"				2	Vary by 8 3/4" ± increments
	Series of 4	to 9'-6"	88	S		Series of 4	
A523	12	11'-6"	144	S		12	

Mark	No.	Length	Width	Shp.	Rear	Fwd.	Bending Diagrams
Abutments (Cont.)							
	4	8'-5"			2	2	
A524	Series of 5	to 5'-2"	142	S	Series of 5	Series of 5	Vary by 9 3/4" ± increments
	2	11'-6"			2		
A525	Series of 4	to 9'-6"	88	S	Series of 4		Vary by 8" ± increments
A526	4	8'-0"	33	S	2	2	
Piers							
P1101	32	43'-0"	7311	B			
P1102	28	36'-3"	5893	S			
P901	168	9'-8"	5522	S			
P902	40	20'-8"	2811	S			
P903	152	6'-6"	3359	B			
P904	152	14'-0"	7235	S			
P601	152	10'-0"	2283	S			
P602	16	13'-7"	326	B			
P603	8	18'-3"	219	S			
P604	8	29'-0"	348	S			
P605	16	39'-11"	959	S			
P501	82	15'-3"	1304	S			
P502	82	7'-1"	606	B			
P503	160	7'-9"	1293	B			
P504	64	18'-1"	1207	B			
P505	64	11'-3"	751	B			
P506	48	7'-7"	380	B			
P507	32	8'-11"	298	B			
P508	16	9'-11"	165	B			
P509	16	11'-5"	191	B			
P510	16	12'-11"	216	B			
P511	32	14'-1"	470	B			
Replacement Bars							
RE1101	1	7'-6"	—	S			
RE901	1	6'-10"	—	S			
RE801	1	6'-6"	—	S			
RE701	4	6'-2"	—	S			
RE601	7	5'-11"	—	S			
RE501	2	5'-7"	—	S			

* Deck elevations are given for points shown in Detail A. They are the elevations which are required before the concrete deck is placed and include allowance for deflection due to the weight of the concrete.



DETAIL A

BAR SIZE is indicated in the bar mark. The first digit where three digits are used, and the first two digits where four are used, indicate the bar size number. For example, A502 is a No. 5 size bar and P1101 is a No. 11 size.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

CAMBER DIAGRAM, REINFORCING STEEL LIST
BRIDGE NO. DEF-66-0444
OVER AUGLAIZE RIVER
STA. 234+54.52
DEFIANCE COUNTY 240+39.48

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
WHH	WHH	REF	MPB	BFG	3-21-66	

C02590S4

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

54A 57

DEF-66-3.40

LIGHTING NOTES

625.03 GENERAL

All construction methods, materials, workmanship, except as modified or supplemented herein or on the drawings, shall conform to the General Requirements of Item 625, Electrical Equipment, Item 713, Lighting and Electrical Materials and other applicable items of the Construction and Materials Specifications, dated January 1, 1965.

625.05 and 713.01 LIGHTING POLES

The term "Lighting Standard" or "Light Standards" when used in the 1965 Construction and Materials Specifications as a support for luminaires is hereby modified for this project to read "Lighting Poles" or "Light Poles".

All metal shims used for plumbing light poles shall be galvanized steel shims.

Shop and Field Painting of Light Poles (other than that required for correcting minor scratches to galvanized surfaces) is not required.

All light pole hardware shall be either stainless steel, galvanized steel or Everdur.

SHAFT TRANSVERSE SECTION CONFIGURATION

1. Bid items as shown and detailed are for poles with shafts of circular Transverse Section.
2. Alternate bid items are for poles with shafts of Transverse Section other than Circular. Specify Configuration Bid.
3. All shafts throughout the project shall have the same transverse sectional configuration.

625.07 and 713.11 LUMINAIRES

Pole-Bracket-Arm mounted luminaires for this project shall be mercury vapor type with integral regulator type ballast which is dual voltage rated for 240/480 volt operation designed to furnish light distribution patterns equivalent to ASA-IES types called for on the plans. These luminaires shall be General Electric M-400, Westinghouse OV-25, Line Material Unistyle, or other approved equal.

625.08 and 713.14 LAMPS

All lamps for this project shall be first-line Mercury Vapor Type and shall be General Electric Bonus Line, Westinghouse Lifeguard, Sylvania Banner Line or approved equal. Lamps for Pole-Bracket Arm mounted Luminaires shall be 400 Watt.

625.11 and 713.08 PULL BOX

Pull Box shall be 18" diameter w/ 0.370" wall thickness (circular bituminous fiber) with 19" diameter x 1/4" minimum thickness cast iron cover. Cover shall be asphaltum paint finish with the word "Electric" cast-in, 1" to 2". After excavation, placement of Pull Box and Backfilling, any required grading and seeding of the disturbed soil shall be done in accordance with the Standard Provisions.

625.12 TRENCH

The specifications are hereby amended for this project to add that all disturbed established grades after backfill and compaction shall be finished graded and seeded in accordance with the standard provisions.

625.13, 713.04, 713.05 and 713.06 CONDUIT

Exposed conduit and conduit buried in the earth shall be either Type II or III rigid ferrous metal electrical conduit (Section 713.04).

All conduits shall be plugged or capped until cable is installed.

Ferrous metal conduit ending in pull boxes shall be equipped with insulating bushings.

625.14 and 713.02 ELECTRICAL CABLE

The specification for cable is hereby amended for this project to read: "All circuit cable in conduit and duct-cable shall be stranded and shall be General Electric Co. cable No. SI-58073 or approved equal as manufactured by Rome, Simplex, Phelps-Dodge, Kaiser or other approved manufacturers."

Cable shall be in continuous lengths without splices except in pull boxes and lighting units.

Pole and Bracket Cable shall be stranded, plastic insulated nylon jacketed, U.L. Approved "THHN."

625.17 and 713.15 CONNECTIONS

Each light pole shall be equipped with one (1) Type II fused "Y" connector with 6 amp. current-limiting high-interupting 600 volt fuse and one (1) Type III unfused "Y" connector kit.

WIRE-CABLE - DUCT-CABLE IDENTIFICATION

All circuit and ground cables and duct-cable shall be identified in each pull box, control housing, etc. Tags shall be circular in shape, 1 3/8" minimum in diameter and not less than .031" thick copper, brass or plastic. Use steel lettering dies, 1/4" minimum size, or the equivalent engraving process to mark the tag. It shall be securely attached with an AWG #16 or larger bare copper wire. Marking of tags shall consist of an abbreviation for the ground wires; "Grd." and circuit with Number or Letter "Ckt. A", etc.

ESTIMATED LIGHTING QUANTITIES

STRUCTURES DEF-66-0444	ROADWAY TOTALS	UNIT	ITEM	DESCRIPTION
4		Ea.	625	Light Pole with 12'-0 Bracket Arm (CIRCULAR) (11A12830)
4		Ea.	625	Luminaire, Type III
4		Ea.	625	Mercury Vapor Lamp, 400 W. (H-33-ICD)
	1	Ea.	625	Pull Box, round, fiber, 18" I.D.
	30	L.F.	625	Trench, 24" deep
595	30	L.F.	625	2" Conduit, Type II or Type III
1035	70	L.F.	625	Circuit Cable, 600 Volt 1/c #4
336		L.F.	625	Pole and Bracket Cable 1/c #10
4		Ea.	625	Type II Connector Kits.
4		Ea.	625	Type III Connector Kits.
1		Ea.	625	Structure Grounding System. *
Lump		Lump	625	Circuit & Light Pole Identification
4		Set of 4	625	Light Pole Anchor Bolt (L) for Structures.
ALTERNATE BID ITEMS				
4		Ea.	625	Light Pole w/ 12'-0" Bracket Arm (OTHER THAN CIRCULAR) (11A12830)

MECHANICAL PROPERTIES FOR LIGHT POLES

POLE DESIGNATION	SHAFT SIZE	ANCHOR BOLT Dia. Bolt Circle	ANCHOR BOLT Proj'n above Found.	Bracket Arm Length	11 Gauge Elastic Def'l. in. Inches per 100 LBS.	11 Gauge 2/3 of YIELD STRENGTH Load in LBS.	11 Gauge 2/3 of YIELD STRENGTH Total Def'l. in Inches	11 Gauge 2/3 of YIELD STRENGTH Perm. Set in. Inches	11 Gauge AT YIELD STRENGTH Load in LBS.	11 Gauge AT YIELD STRENGTH Total Def'l. in Inches	11 Gauge AT YIELD STRENGTH Perm. Set in Inches	Type of Base
11A12B30	8.0" x 4.22" x 27'-0"	11.0"	2 5/8"	12'-0"	2.37	568	13.96	.50	852	22.71	252	Anchor

* See note on Sheet 50

C02590S5

TE-95
400-1-63

C025905

GENERAL INFORMATION

INTRODUCTION

The project consists of the relocation of 1.5 miles of SR 66, beginning on existing SR 66, approximately 0.8 mile south of the city of Defiance, extending northwestward to northward, and terminating on existing SR 66 (Jefferson Ave.), 1000 feet north of the Auglaize River.

Proposed grade indicates cuts, maximum 2 feet in depth, and fill embankments, maximum 28 feet in height.

GEOLOGY AND OBSERVATIONS OF THE PROJECT

The alignment traverses a relatively flat portion of the glaciated Lake Plain which is presently being incised by the Auglaize River. Moderately deep glacial drift and lacustrine deposits, and shallow alluvium (in the flood plain) overlie the Ohio shale, of Devonian age. Areas of poor surface drainage were observed throughout the project.

EXPLORATION

Exploratory borings were made by means of truck-mounted mechanical soil auger, between May 17 and 19, 1965. Included in this report are two logs of borings made for the structure foundation investigation on the project.

INVESTIGATIONAL FINDINGS

Materials occurring immediately below proposed grade and in the embankment foundation areas are predominantly comprised of clays (A-7-6), with occasional silt clays (A-6a and A-6b), generally having moisture contents in the lower portions of the plastic range.

Wet materials were encountered at stations 228+40 and 232+00.

Materials containing organic matter were encountered at stations 235+00 and 235+65.

LEGEND FOR PROJECT AVERAGE RESULTS OF TESTS— 69 SAMPLES TESTED

DESCRIPTION	H.R.B. CLASS	OHIO CLASS	% AGG.	% C. SAND	% F. SAND	% SILT	% CLAY	LIQUID LIMIT	PLASTICITY INDEX	WATER CONTENT	SAMPLES TESTED
Coarse and fine sand	-----	A-3a	0	4	79	9	8	NP	NP	5	1
Stone fragments with sand, silt, and clay	A-2-6(0)	A-2-6	0	13	57	11	19	27	13	15	1
Sandy silt	A-4(7)	A-4a	0	1	31	41	27	23	8	17	3
Silt	A-4(8)	A-4b	0	1	5	81	13	NP	NP	21	4
Silt and clay	A-6(8)	A-6a	10	5	14	37	34	28	13	14	10
Silty clay	A-6(10)	A-6b	6	5	16	38	35	35	16	19	4
Clay	A-7-6(16)	A-7-6	0	1	5	30	64	56	30	25	46

Shale — VISUAL CLASSIFICATION

Various other materials — VISUAL CLASSIFICATION

Sod and/or Topsoil =X'= Approximate depth.

Berm material.

Auger boring - plan view.

Drive sample — core boring - plan view.

Auger boring plotted to vertical scale only.

NOTE: Figures beside borings indicate water content in percent. e.g. 15

Drive sample — core boring plotted to vertical scale only.

Water content nearly equal to or greater than liquid limit.

Indicates a non-plastic material with a high water content.

Free water.

Number of blows for "Standard Penetration" test.
X=number of blows for first 6 inches.
Y=number of blows for second 6 inches.

SOIL PROFILE

1/7

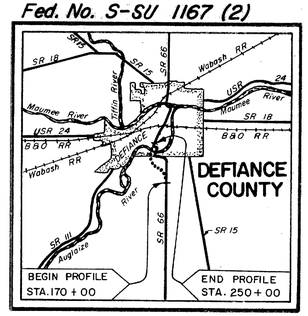
DEFIANCE COUNTY
DEF-66-3.40

1/4

OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

NOTE: INFORMATION SHOWN BY THIS SUBGRADE PROFILE WAS OBTAINED SOLELY FOR USE IN ESTABLISHING DESIGN CONTROLS FOR THE PROJECT. THE STATE OF OHIO DOES NOT GUARANTEE THE ACCURACY OF THIS DATA AND IT IS NOT TO BE CONSTRUED AS A PART OF THE PLANS GOVERNING CONSTRUCTION OF THE PROJECT.

Fed. No. S-SU 1167 (2)



LOCATION MAP

Recon - W.C.J. - 5/3/65 and 5/4/65
Drilling - L.M.D. - 5/17/65 to 5/19/65
Drafting - C.L.I. - 7/1/65

SUMMARY OF SOIL TEST DATA

NOTE: NP shown in Liquid Limit and Plasticity Index columns indicates that the material is non-plastic.
*Denotes sample taken at or near grade.

STATION & OFFSET	DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS
171+00 15'Lt	0.0-3.0	14	1	3	23	59	66	38	26	A-7-6*
	3.0-7.0	0	0	0	16	84	64	36	28	A-7-6
	7.0-10.0	0	0	1	41	58	59	31	31	A-7-6
178+00 15'Lt	0.0-4.0	0	1	4	34	61	59	30	24	A-7-6*
	4.0-8.0	0	2	7	28	63	56	30	22	A-7-6
	8.0-11.0	0	1	1	22	76	60	33	28	A-7-6
185+00 CL	0.0-4.0	0	5	36	20	39	43	25	17	A-7-6*
	4.0-8.0	0	0	2	26	72	62	35	15	A-7-6
	8.0-11.0	0	1	1	31	67	56	28	28	A-7-6
189+00 CL	0.6-4.0	0	1	2	22	75	53	26	27	A-7-6*
	4.0-7.0	0	0	1	23	76	52	25	24	A-7-6
	7.0-11.0	0	0	1	22	77	51	26	25	A-7-6
193+00 CL	0.5-5.0	0	2	12	33	53	65	39	29	A-7-6*
	5.0-9.0	0	1	2	25	72	56	28	23	A-7-6
	9.0-12.0	0	0	1	25	74	58	29	27	A-7-6
197+00 CL	0.4-3.0	0	2	12	27	59	59	38	22	A-7-6*
	3.0-8.0	0	1	3	21	75	62	34	24	A-7-6
	8.0-12.0	0	0	1	30	69	54	26	24	A-7-6
200+00 CL	0.3-2.0	0	6	26	22	46	49	29	19	A-7-6
	2.0-7.0	0	1	3	26	70	57	28	22	A-7-6
	7.0-12.0	0	1	1	21	77	62	34	31	A-7-6
201+50 CL	0.3-3.0	0	3	22	12	63	57	35	22	A-7-6*
	3.0-9.0	0	1	4	28	67	60	33	21	A-7-6
	9.0-11.0	0	0	1	19	80	58	31	24	A-7-6
203+75 CL	0.3-2.0	0	3	15	19	63	53	32	19	A-7-6*
	2.0-8.0	0	0	0	3	96	59	33	24	A-7-6
	8.0-11.0	0	0	1	25	74	64	37	27	A-7-6
205+00 CL	0.6-2.0	0	2	16	34	48	59	35	27	A-7-6*
	2.0-7.0	0	1	3	16	56	57	28	23	A-7-6
	7.0-11.0	0	0	3	21	76	61	33	27	A-7-6
209+00 CL	0.6-2.0	0	13	57	11	19	27	13	15	A-2-6*
	2.0-7.0	0	0	2	37	61	48	20	23	A-7-6
	7.0-11.0	0	0	0	35	65	59	31	25	A-7-6
213+00 CL	0.6-2.0	0	1	8	37	54	52	27	28	A-7-6*
	2.0-7.0	0	0	3	23	74	51	24	22	A-7-6*
	7.0-10.0	0	0	1	23	76	53	27	24	A-7-6
216+00 CL	0.5-3.0	0	1	2	41	56	59	35	26	A-7-6*
	3.0-8.0	0	0	2	24	74	59	31	22	A-7-6*
	8.0-11.0	0	0	0	19	81	64	37	30	A-7-6
220+00 CL	0.3-2.0	0	1	3	21	75	62	36	28	A-7-6*
	2.0-7.0	0	0	1	33	66	53	28	24	A-7-6*
	7.0-10.0	0	0	0	34	66	66	38	31	A-7-6
224+50 CL	0.8-4.0	0	2	5	46	45	45	25	25	A-7-6
	4.0-9.0	0	5	9	53	33	36	17	15	A-6b
	9.0-13.0	6	7	12	32	43	30	12	15	A-6a
	13.0-15.0	0	4	79	9	8	NP	NP	5	A-3a
	15.0-21.0	0	0	10	80	10	NP	NP	16	A-4b
225+75 CL	0.0-2.5	(0 Topsoil		2	9	51	38	40	16	31) Visual
	2.5-8.0	10	6	14	31	39	39	16	19	A-6b
	8.0-12.5	9	4	12	37	38	29	15	14	A-6a
228+40 20'Rt	0.0-2.0	(0 Topsoil		0	7	56	37	45	18	34) Visual
	2.0-6.0	0	1	7	51	41	43	21	21	A-7-6
	6.0-9.0	0	3	25	32	40	33	16	22	A-6b
	9.0-14.0	0	1	4	79	16	NP	NP	22	A-4b
232+00 50'Rt	0.8-3.0	0	0	4	53	43	43	21	17	A-7-6
	3.0-8.0	0	1	19	38	42	30	14	23	A-6a
	8.0-12.0	0	1	32	37	30	26	10	27	A-4a
	12.0-14.0	0	1	6	81	12	NP	NP	20	A-4b
	14.0-15.8	0	0	2	83	15	NP	NP	24	A-4b
	15.8-16.0	Brown and Gray Sandy Silty Clay							18	Visual
235+50 CL	0.0-3.0	0	0	6	46	46	47	22	46	A-7-6
	3.0-7.0	0	0	12	57	31	57	35	39	A-7-6
240+75 CL	0.5-4.0	14	4	16	37	29	33	16	20	A-6b*
	4.0-9.0	9	6	13	55	31	28	14	15	A-6a
	9.0-14.0	7	6	14	38	35	29	14	10	A-6a
	14.0-19.0	9	4	14	45	29	26	11	12	A-6a
	19.0-24.0	9	7	12	32	40	28	13	11	A-6a
242+50 8'Rt	0.0-2.0	0	3	21	47	29	26*	8	13	A-4a*
	2.0-4.0	0	1	39	38	22	19	7	12	A-4a*
	4.0-8.0	36	6	11	23	24	27	11	10	A-6a
245+50 22'Rt	0.3-5.0	6	3	19	44	28	29	12	18	A-6a*
	5.0-10.0	7	3	20	43	27	29	13	16	A-6a

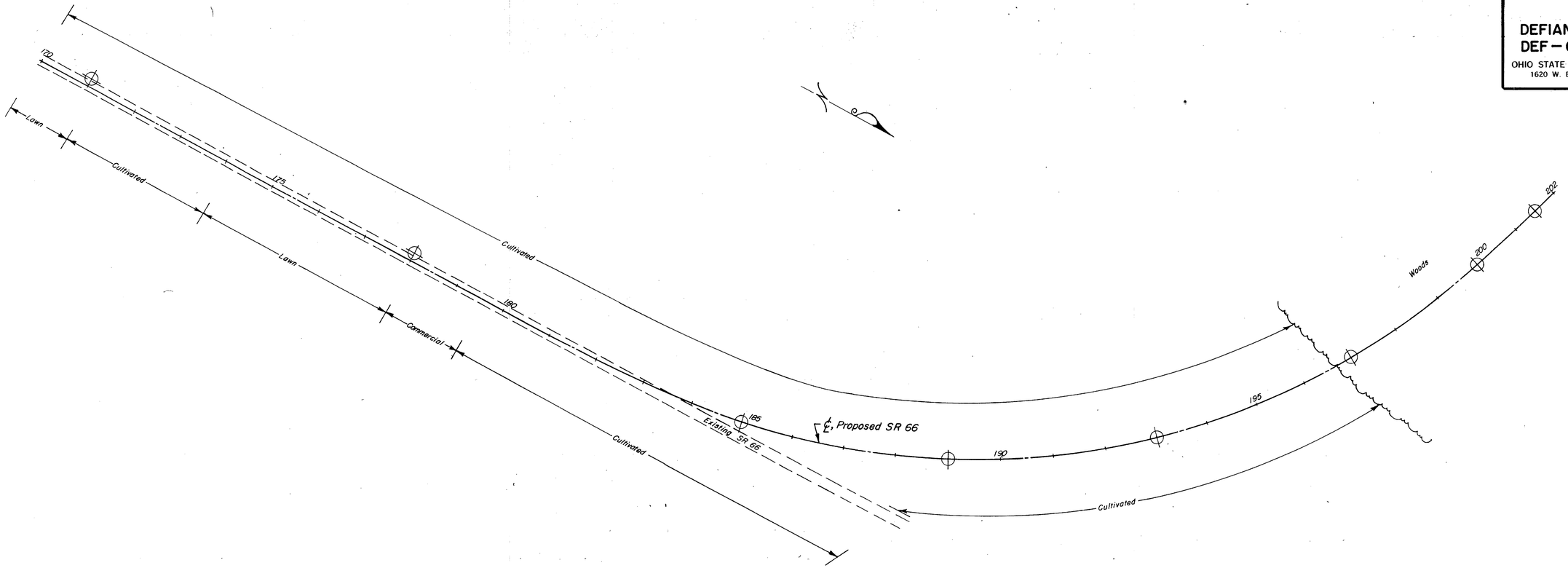
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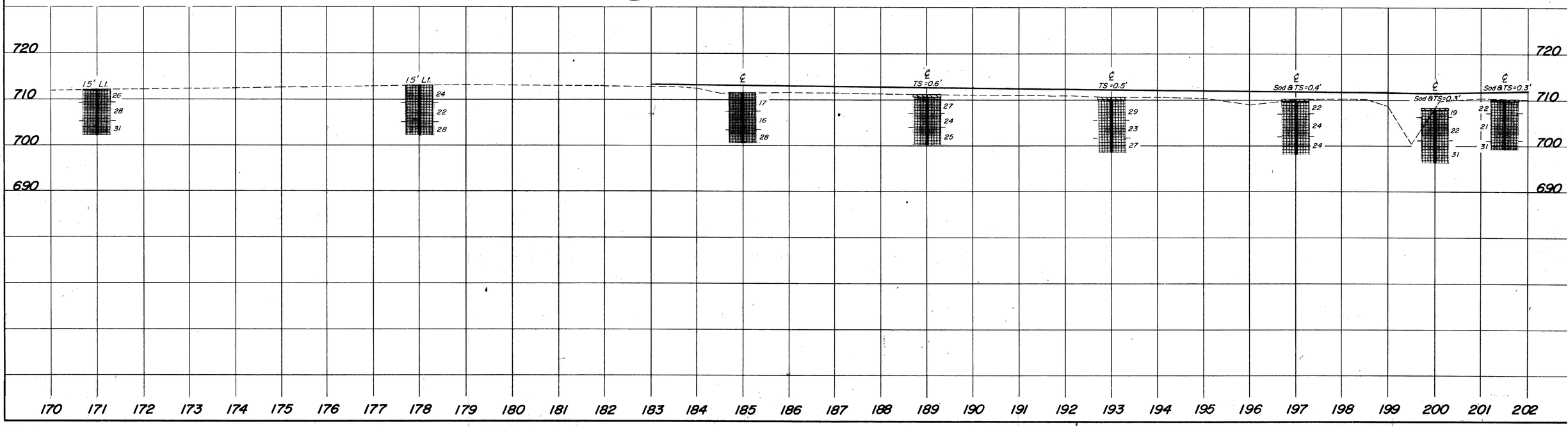
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DEFIANCE COUNTY
DEF-66-3.40

OHIO STATE HIGHWAY TESTING LABORATORY (2/4)
1620 W. BROAD ST. COLUMBUS 23, OHIO

C0259067





FE-96
2500-8-64

SOIL PROFILE

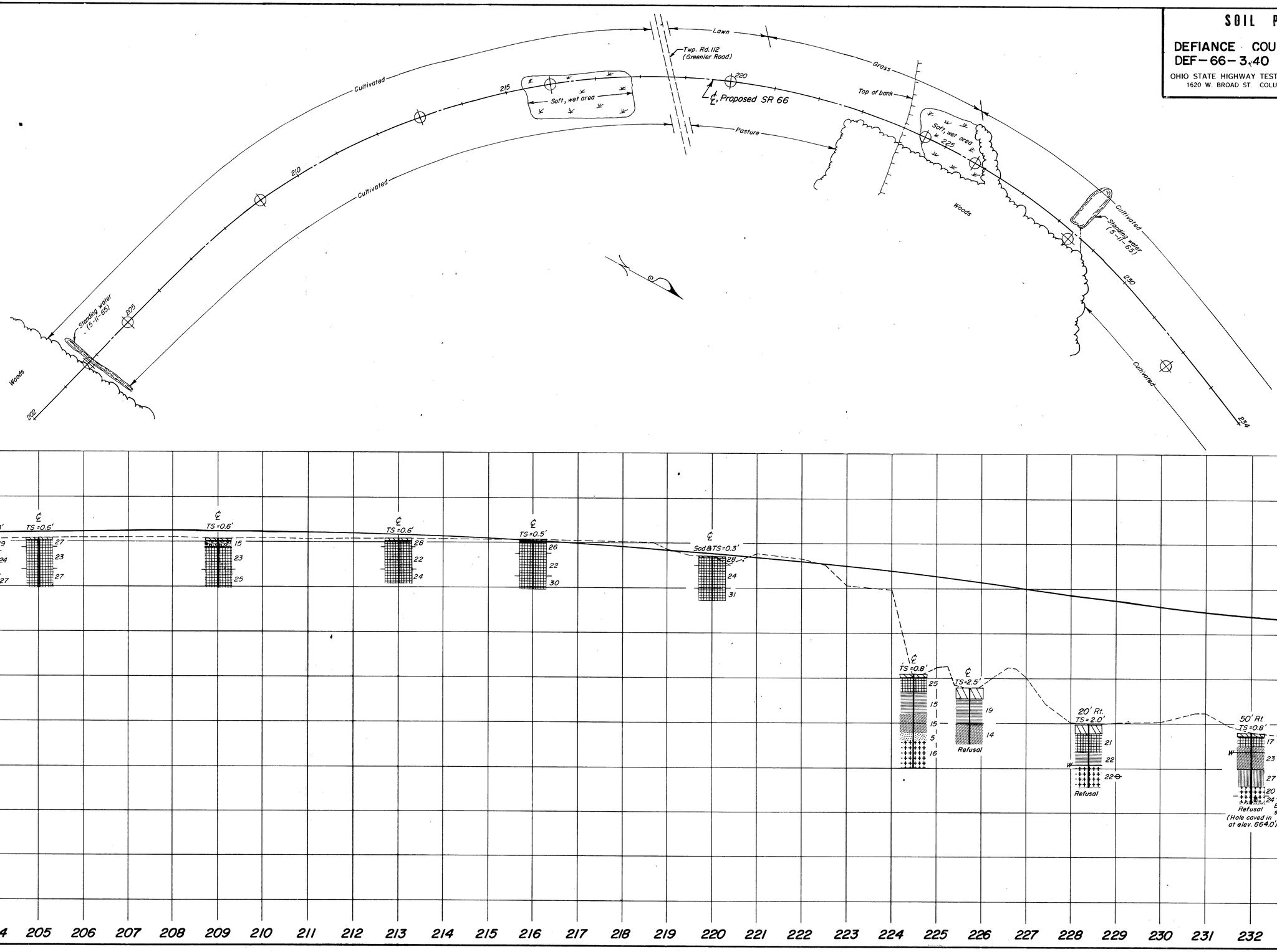
3/7

DEFIANCE COUNTY
DEF-66-3.40

OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23, OHIO

3/4

C0259058



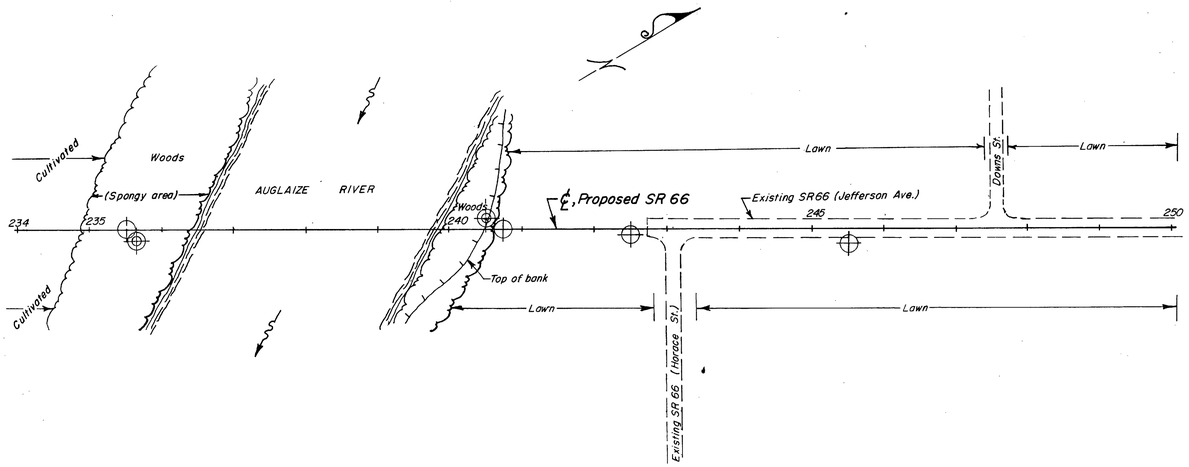
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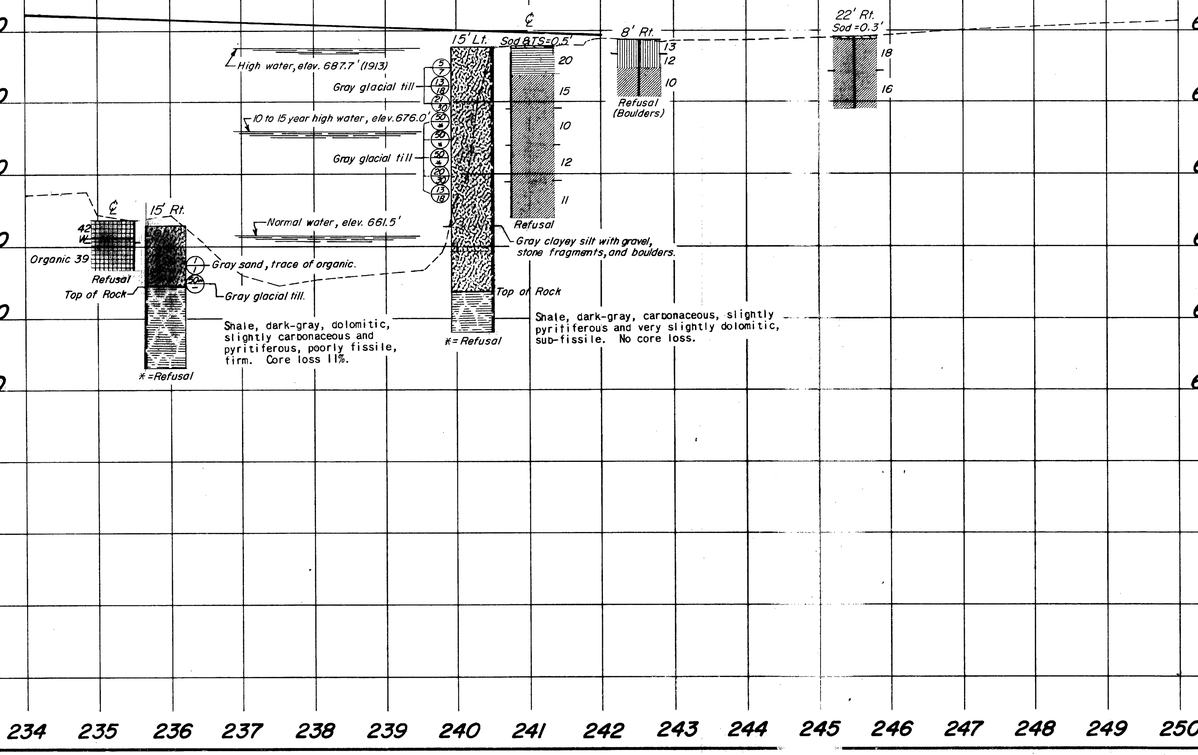
4/7

DEFIANCE COUNTY
DEF – 66 – 3.40

4/4

OHIO STATE HIGHWAY TESTING LABORATORY
1620 W. BROAD ST. COLUMBUS 23. OHIO





TE - 118
600 - 11 - 64

DEFIANCE COUNTY
DEF-66-3.40

5/7 (1/3)

C025706O

GEOLOGY OF THE SITE

The structure site is located in the relatively flat glaciated Lake Plain Region, on the Auglaize River banks and over the Auglaize River, where shallow to absent alluvium and glacial-derived soils overlie shale bedrock, of the Ohio formation, Devonian age.

EXPLORATION

The exploration consisted of one core boring and two drive sample-core borings, made on June 22 and 23 and September 15 and 16, 1965, and three hand-driven probes, made on September 16, 1965.

INVESTIGATIONAL FINDINGS

The boring B-12, located in the forward abutment area, disclosed that stiff to hard and very dense to extremely dense clays and silts overlie boulders, encountered at 23-foot depth, elevation 663 feet. Bedrock surface was encountered at 34-foot deep, elevation 654 feet. Boring B-3, located in the vicinity of the first pier, disclosed that bedrock surface, encountered at 9-foot depth, elevation 654 feet, is overlain by soft, loose organic clays and silts. Boring B-8, located in the vicinity of the fourth pier, encountered bedrock surface at ground surface, elevation 656 feet. The borings were terminated after penetrating 4 to 11 feet below bedrock surface, elevations 652 to 643 feet.
The hand probes encountered refusal to penetration at ground surface, elevations 657 and 655 feet, considered to be on bedrock surface, as revealed by the borings.

On the basis of the borings, hand probes, and mechanical earth borings taken at the vicinity of the structure approaches in conjunction with the roadway investigation, bedrock surface is considered to be essentially flat-lying across the site between elevations 656 and 654 feet.

If it is the intention to found pier substructure units on bedrock, it is considered advisable that the open excavations be inspected in the field in order to insure that the excavations have been extended to rock throughout the entire founding area.

Unconfined compression tests on the shale bedrock indicate a crushing strength ranging from 179 to 443 tons per square foot.

LEGEND

- Auger Boring Location - Plan View.
- Press and / or Drive Sample and / or Core Boring Location - Plan View.
- Drive Rod Penetration Resistance Sounding Location - Plan View.
- Capped Pile
- Footing
- Footing on Pile
- TR — Top of Rock
- Horizontal Bar on Boring Log Indicates the Depth the Sample Was Taken.
- X/Y — Figures Beside the Boring Log in Profile Indicate the Number of Blows for Standard Penetration Test.
  X = Number of Blows for First 6 inches.
  Y = Number of Blows for Second 6 inches.
- Drive Rod Penetration Resistance Sounding Log - Profile
- Casing
- Resistance "R" < 10,000 lbs.
- Resistance "R" > 10,000 lbs.
- Z — Indicates Final Measurement of Penetration, in Inches.
- W — Indicates Free Water Elevation.
- Indicates Static Water Elevation.

SYMBOLS OF ROCK TYPES

- Coal
- Weathered Indurated Clay
- Indurated Clay
- Weathered Shale
- Shale
- Boulders and/or Cobbles
- Weathered Sandstone
- Sandstone
- Leached Dolomite
- Dolomite,
- Leached Limestone
- Limestone

GENERAL INFORMATION

Drive Rod Penetration Sounding Tests

Drive rod penetration resistance tests constitute driving a 1.315-inch diameter steel rod, with a 45° cone point, into the ground, using a 122-pound drop-hammer with a free fall of five feet. At one or two-foot depth intervals, a measurement is taken to determine the amount of penetration achieved in three hammer drops. This reading is converted to an empirical value for capacity "R", in thousands of pounds (which is a measure of both the point resistance and frictional resistance on the rod), by using charts prepared by the Ohio Department of Highways, Bureau of Bridges, on the basis of correlation study of rod penetration with past performance of pile driving. For interpretation, a graph is prepared by plotting the value "R" against the depth at which the reading was taken, and connecting the plotted points. The curve so obtained reflects the density of subsurface materials in a manner that can be readily compared with data from similar tests at other locations on the structure site. From this comparison, the overall uniformity of subsurface condition may be evaluated.

Drive Sample Borings - Drive-Press Sample Borings

Drive sample borings are made by means of a rotary-type drill rig, employing a 2" O.D., 1-3/8" I.D. sampler, at 2-1/2 and / or 5-foot depth intervals, driven by means of a 140 - pound drop-hammer with a free fall of 30 inches. The number of blows required to drive the sampler 12 inches is considered the standard penetration test.

Drive-press sample borings are made by means of a rotary-type drill rig, employing a 2" O.D., 1-3/8" I.D. drive sampler, and 3" O.D. thin-wall press sampler. The press sampler is advanced by continuous uniform pressure, applied by the drill rig.

The boring log sheets show a graphic plot of the information obtained, including depth and elevation of the sample, number of blows for the standard penetration tests in two 6-inch increments, depth of press samples, field sample number, sample description - based on laboratory tests and the Casagrande AC classification system-and gradation, plasticity, and moisture content determinations. Results of strength and consolidation testing, if performed, appear on separate enclosures.

At depths where materials are bouldery or gravelly to the extent that the sampler can not be driven, a wash sample is procured for visual classification, in order to determine the general character of the material. These samples are not considered sufficiently representative to warrant laboratory testing.

Particle Size Definitions

Boulders	Cobbles	Gravel	Coarse Sand	Fine Sand	Silt	Clay
8"	3"	2.0mm (No. 10 sieve)	0.42mm (No. 40 sieve)	0.074mm (No. 200 sieve)	0.005mm	

LOG OF BORING

Date Started 6-22-65 — Sampler Type SS — Dia. 1 3/8" — Water Elev. —
Date Completed 6-22-65 — Casing: Length — Dia. —
Boring No. B-3 — Station & Offset 235+65, 15' RT. (FIRST PIER) — Surface Elev. 663.0'

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	SHTL Class.
663.0	0														
	2														
	4														
658.0'	6	1/1			Gray Organic Sandy Clay	1	0	1	23	45	31	56	28	43	
655.0	8	50* (0.3')			TOP OF ROCK										
654.0					Gray Sandy Silt, Slightly Organic	2	11	6	35	31	17	30	10	43	
	10		1.2	0.3	q_u=179 TSF										
	12														
	14		4.1	0.9	Shale, dark-gray, dolomitic, slightly carbonaceous and pyritiferous, petroliferous, poorly fissile, firm. Core loss:11%										
	16														
	18														
643.0	20		4.9	0.1	BOTTOM OF BORING										

*Refusal

LOG OF BORING

Date Started 9-15-65 — Sampler Type SS — Dia. 1 3/8" — Water Elev. 661.5'
Date Completed 9-16-65 — Casing: Length — Dia. —
Boring No. B-8 — Station & Offset 238+16, 15Lt. (FOURTH PIER) — Surface Elev. 656.0'

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	SHTL Class.
656.0	0				TOP OF ROCK										
	2		3.0	1.0	Shale, black, slightly dolomitic, non-fissile, carbonaceous, petroliferous hard, broken-in-part. Core loss:25%										
652.0	4				q_u= 443 TSF BOTTOM OF BORING										

LOG OF BORING

Date Started 6-22-65 — Sampler Type SS — Dia. 1 3/8" — Water Elev. —
Date Completed 6-23-65 — Casing: Length 10' — Dia. 3 1/8" —
Boring No. B-12 — Station & Offset 240+50, 15' RT. (FORWARD ABUTMENT) — Surface Elev. 687.0'

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	SHTL Class.
687.9	0														
	2														
685.4	4	5/7			Brown Silt and Clay	1	0	1	12	57	30	31	13	16	
682.9	6	13/18			Brown and Gray Sandy Clay	2	12	4	12	37	35	27	11	16	
680.4	8	21/30			Brown Sandy Clay	3	14	11	13	36	26	27	11	14	
677.9	10	50* (0.7')			Brown and Gray Sandy Silt	4	8	10	12	42	28	28	10	15	
675.4	12	50* (0.6')													
672.9	14	50* (0.7')			Gray Clayey Silt	5	V	I	S	U	A	L	27	10	20
670.4	16	20/30			Gray Sandy Silt	6	0	10	14	41	35	27	10	22	
667.9	18	13/18			Gray Sandy Silt	7	10	7	16	33	34	26	10	26	
	20														
	22														
662.9	24														
	26														
	28		4.3	0.7	Gray clayey silt with gravel, stone fragments, and boulders										
	30														
	32		2.5	2.5											
653.9	34				TOP OF ROCK										
	36														
	38		5.0	0.0	Shale, dark gray, carbonaceous, slightly pyritiferous, very slightly dolomitic, petroliferous sub-fissile, firm. BOTTOM OF BORING No Core Loss.										
647.9	40														

*Refusal

NOTE Information shown by this subsurface investigation was obtained solely for the use in establishing design controls for the project. The State of Ohio does not guarantee the accuracy of this data and it is not to be construed as a part of the plans governing construction of the project

OHIO DEPARTMENT OF HIGHWAYS
TESTING LABORATORY
1620 WEST BROAD STREET, COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO DEF-66-0350
OVER AUGLAIZE RIVER
SEC. DEF-66-3.40

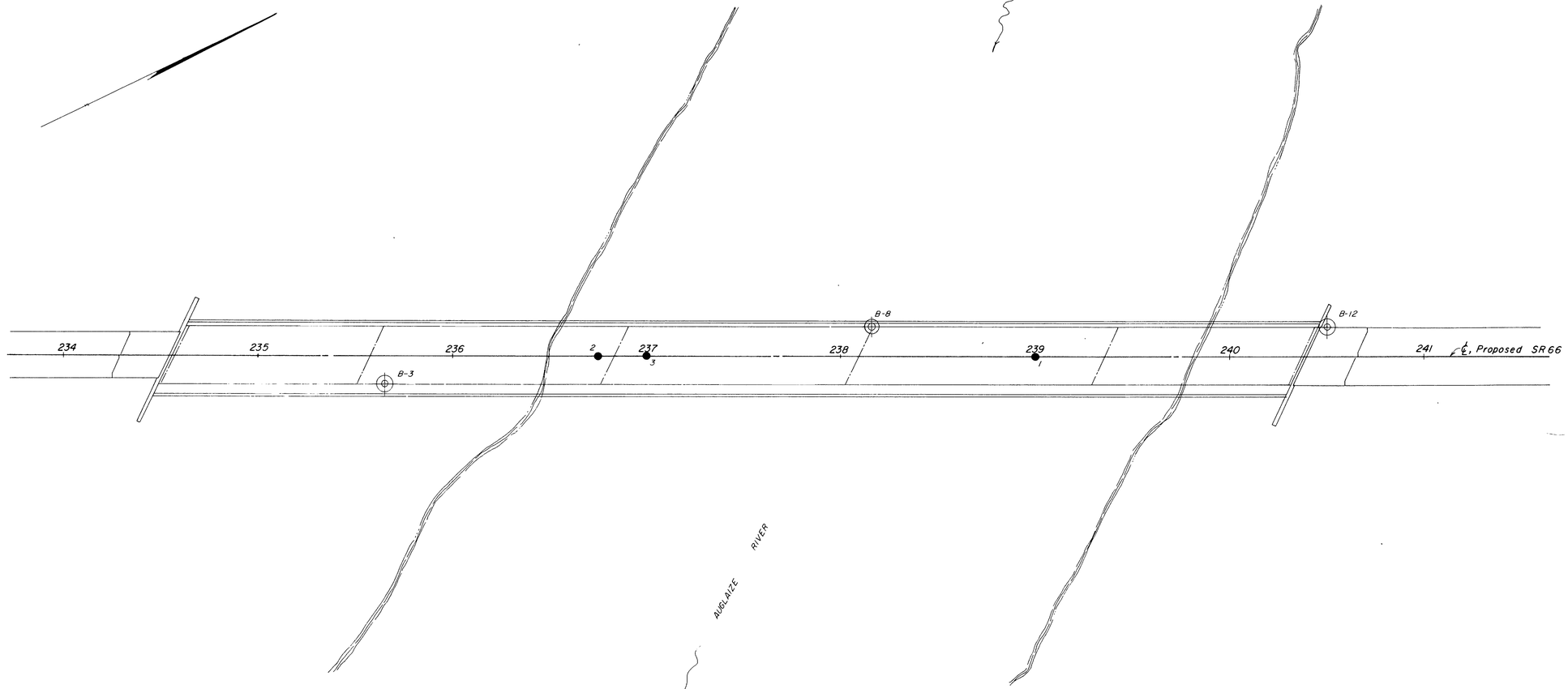
CHECKED BY	REVIEWED BY	DATE
R.H.P	R.D.R.	9/24/65

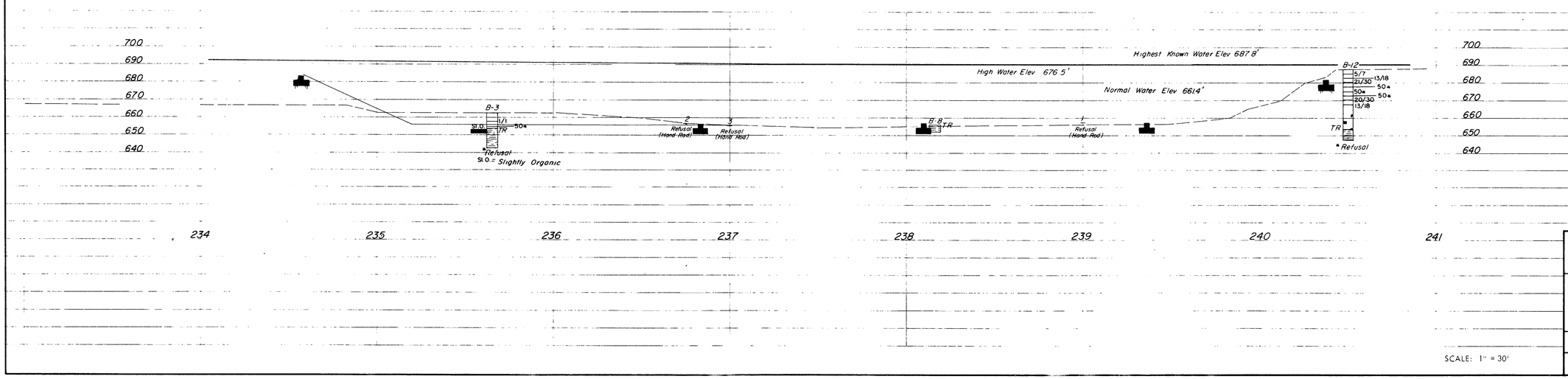
TE - 1.70
200 - 11 - 64

C02590 61

DEF - 66 - 3.40

6/7 2/3





SCALE: 1" = 30'

OHIO DEPARTMENT OF HIGHWAYS
TESTING LABORATORY
1620 WEST BROAD STREET, COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION

BRIDGE NO. DEF - 66 - 0350
OVER AUGLAIZE RIVER
SEC. DEF - 66 - 3.40

PLAN AND PROFILE

DRAWN BY	CHECKED BY	REVIEWED BY	DATE
R.L.F.	R.H.P.	R.D.R.	9/24/65

C0259062

Test Location No. ____
Station & Offset ____
Surface Elev. ____ Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____

670
666
662
658
654
650

10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. ____
Station & Offset ____
Surface Elev. ____ Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____

10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. ____
Station & Offset ____
Surface Elev. ____ Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____

10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. ____
Station & Offset ____
Surface Elev. ____ Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____

10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. ____
Station & Offset ____
Surface Elev. ____ Water Elev. ____
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____

662
658
654
650

10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. 1
Station & Offset 239+00, C L
Surface Elev. 657.3' Water Elev. 661.5'
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____

REFUSAL HAND ROD

10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. 2
Station & Offset 236+75, C L
Surface Elev. 656.9' Water Elev. 661.5'
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____

REFUSAL HAND ROD

10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

Test Location No. 3
Station & Offset 237+00, C L
Surface Elev. 655.4' Water Elev. 661.5'
Piling ____
Hammer ____
Formula ____
Reference ____
Rod Condition ____

REFUSAL HAND ROD

662
658
654
650

10 20 30 40 50 60 70 80 90 100
Capacity "R" in Thousands of Pounds

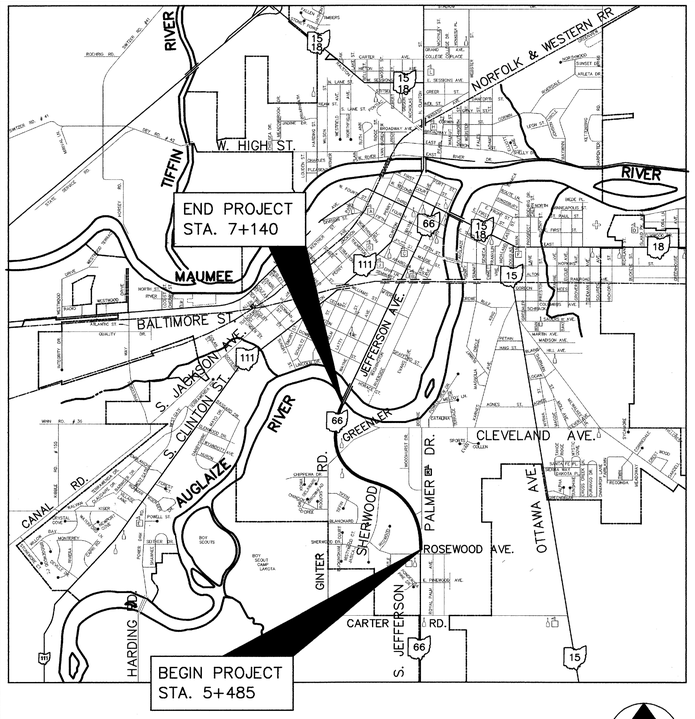
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DEF-66-340
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OHIO STATE HIGHWAY TESTING LABORATORY
1620 WEST BROAD ST. COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. DEF-66-0350
OVER AUGLAIZE RIVER
SEC. DEF-66-3.40

DRIVE ROD PENETRATION RESISTANCE DATA

PLOTTED BY	CHECKED BY	REVIEWED BY	DATE
R.C.	R.H.P.	R.D.R.	9/24/65



LOCATION MAP

LONGITUDE: FROM 84°21'40" TO 84°22'15" W
LATITUDE: FROM 41°13'48" TO 41°14'22" N

500 0 500 1000 1500
SCALE IN METERS

STATE & FEDERAL ROUTES
OTHER ROADS

DESIGN DESIGNATION

	S.R. 66 NORTH OF GINTER	S.R. 66 SOUTH OF GINTER
CURRENT ADT 1997	12,518	7,770
DESIGN YEAR ADT 2017	18,300	11,400
DESIGN HOURLY VOLUME 2017	1,830	1,140
DIRECTIONAL DISTRIBUTION	0.57	0.58
TRUCKS (24 HOUR B&C)	2%	2%
DESIGN SPEED	60 km/h	60 km/h
LEGAL SPEED	35 MPH	35 MPH
DESIGN FUNCTIONAL CLASSIFICATION	URBAN MINOR ARTERIAL	

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DEF-66-5.472(3.40)
CITY OF DEFIANCE
DEFIANCE COUNTY

MICROFILMED
JAN 10 1999

metric units

PROJECT DESCRIPTION:
THE PROJECT CONSISTS OF RECONSTRUCTING 1.74 KILOMETERS OF S.R. 66 FROM 297m SOUTH OF PALMER DRIVE TO THE AUGLAIZE RIVER BRIDGE, FLATTENING THE SUPERELEVATED CURVES, ADDING TURN LANES AT THE S.R. 66/GINTER ROAD/GREENLER ROAD INTERSECTION, INCLUDING UPGRADING DRAINAGE, SIGNING, PAVEMENT MARKINGS, AND CURB AND GUTTER.

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1997 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS 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.

APPROVED : _____ DISTRICT DEPUTY DIRECTOR
DATE : 1/30/98
APPROVED : _____ DIRECTOR, DEPARTMENT OF TRANSPORTATION
DATE : 2-25-98

STANDARD CONSTRUCTION DRAWINGS						SUPPLEMENTAL SPECIFICATIONS	
BM–4.4M	6–30–97			MT–101.60M	4–25–94		
BP–1.1M	10–28–94	GR–1.1M	10–21–97	MT–102.10M	1–30–95		
BP–2.1M	10–28–94	GR–1.2M	1–3–96	MT–102.20M	1–30–95	SS 806	9-9-97
BP–2.2M	10–21–97	GR–1.3M	11–30–94	MT–105.10M	4–25–94		
BP–3.1M	10–28–94	GR–2.1M	10–21–97	MT–105.11M	4–25–94		
BP–4.1M	10–28–94	GR–4.2M	10–21–97	TC–16.20M	2–1–94		
RM–1.1M	4–8–97	GR–5.3M	11–30–94	TC–21.20M	12–10–96		
RM–4.2M	6–30–95	HL–30.11M	3–31–95	TC–22.10M	2–1–94		
CB–1.1M	7–12–95	HL–30.22M	3–31–95	TC–41.20M	7–1–94		
		HW–2.1M	7–12–95	TC–41.40M	3–31–94		
DM–1.1M	10–21–97	HW–2.2M	7–12–95	TC–42.20M	3–31–94		
DM–4.2M	6–30–95			TC–52.10M	7–29–94		
DM–4.3M	6–30–95	MH–1.2M	9–6–95	TC–52.20M	7–29–94		
DM–4.4M	6–30–95			TC–71.10M	9–1–93		
		MT–35.10M	1–30–95	TC–81.20M	11–24–93		
		MT–35.11M	1–30–95	TC–82.10M	11–24–93		
				TC–83.10M	11–24–93		
		MT–97.10M	4–25–94	TC–83.20M	11–24–93		
		MT–97.11M	1–30–95	TC–85.10M	11–24–93		
		MT–99.10M	1–30–95	TC–85.20M	11–24–93		

UNDERGROUND UTILITIES
TWO WORKING DAYS BEFORE YOU DIG CALL
OHIO UTILITIES PROTECTION SERVICE
1–800–362–2764 (TOLL FREE)
NON–MEMBERS MUST BE CALLED DIRECTLY

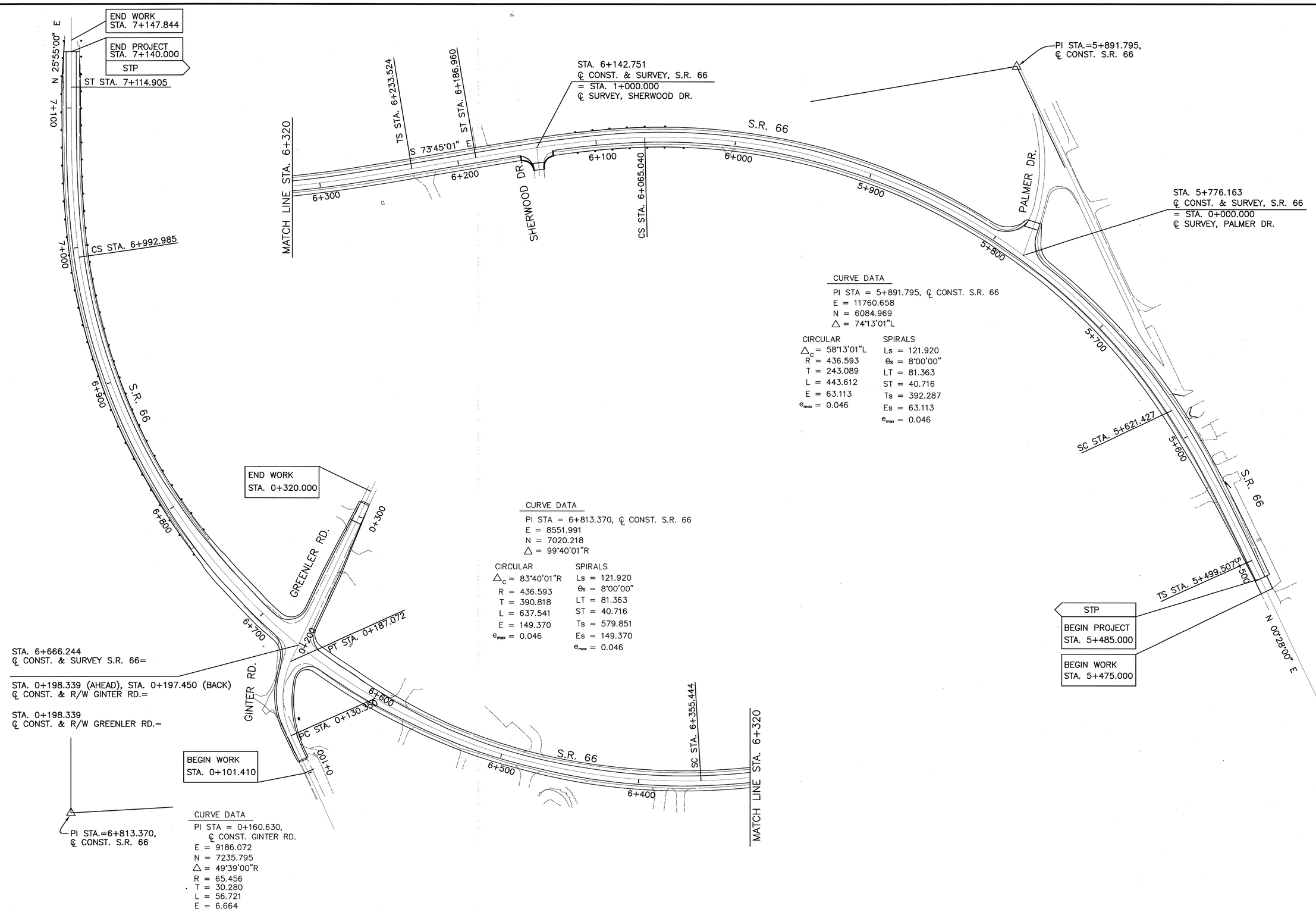
PLANS PREPARED BY:
FINKBEINER, PETTIS & STROUT, INC.
CONSULTING ENGINEERS
TOLEDO · AKRON
OHIO
1–419–473–1121

STATE OF OHIO · PETER J. EICK · 38080 · REGISTERED PROFESSIONAL ENGINEER

FEDERAL PROJECT NO. STP
PID. NO. 15344
CONSTRUCTION PROJECT NO.
RAILROAD INVOLVEMENT NONE
DEF–66–5.472
1 / 70

DEF-66-5.472
980439
70PGS
06-24-98
DIST. 01

CAD FILE : TITLE
DATE : 1/12/97
OPERATOR : MGH/TRC
PLOT SCALE : 1:1



CURVE DATA
PI STA = 5+891.795, ℄ CONST. S.R. 66
E = 11760.658
N = 6084.969
△ = 74°13'01"L

CIRCULAR		SPIRALS	
$\triangle_c$	= 58°13'01"L	Ls	= 121.920
R	= 436.593	θ_s	= 8°00'00"
T	= 243.089	LT	= 81.363
L	= 443.612	ST	= 40.716
E	= 63.113	Ts	= 392.287
e_{max}	= 0.046	Es	= 63.113
		e_{max}	= 0.046

CURVE DATA
PI STA = 6+813.370, ℄ CONST. S.R. 66
E = 8551.991
N = 7020.218
△ = 99°40'01"R

CIRCULAR		SPIRALS	
$\triangle_c$	= 83°40'01"R	Ls	= 121.920
R	= 436.593	θ_s	= 8°00'00"
T	= 390.818	LT	= 81.363
L	= 637.541	ST	= 40.716
E	= 149.370	Ts	= 579.851
e_{max}	= 0.046	Es	= 149.370
		e_{max}	= 0.046

CURVE DATA
PI STA = 0+160.630,
℄ CONST. GINTER RD.
E = 9186.072
N = 7235.795
△ = 49°39'00"R
R = 65.456
T = 30.280
L = 56.721
E = 6.664

0 10 20 30 40 50 60
HORIZONTAL SCALE

CALCULATED JLM
CHECKED PJB

SCHEMATIC PLAN

DEF – 66 – 5.472(3.40)

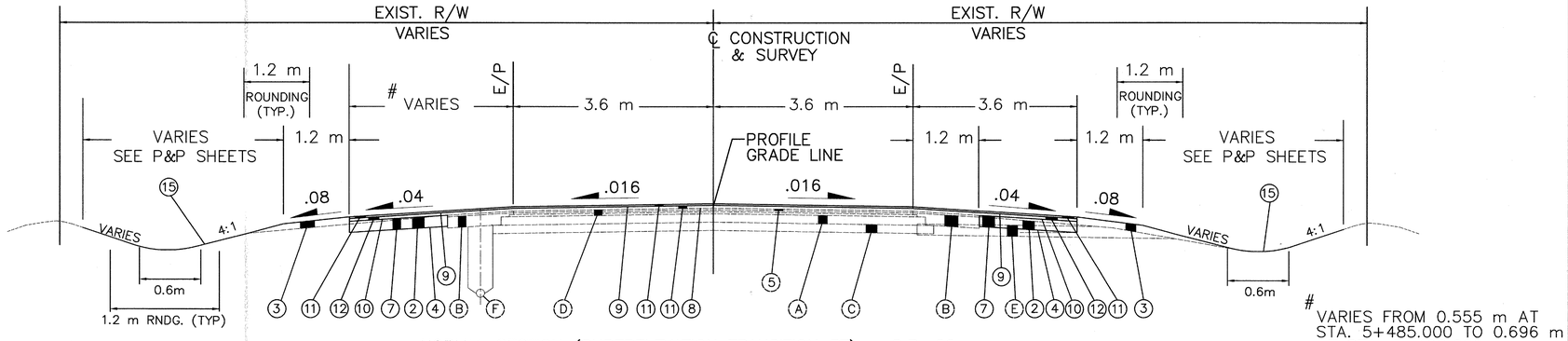
CAD FILE : DEFSCH1
DATE : 9/17/97
DESIGN : B.H./T.R.C.
PLOT SCALE : 2 in./in.

PROPOSED LEGEND

1. ITEM 202 GUARDRAIL REMOVED
2. ITEM 203 EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION
3. ITEM 203 EMBANKMENT
4. ITEM 203 SUBGRADE COMPACTION
5. ITEM 254 PAVEMENT PLANING, BITUMINOUS FROM 0 mm TO 58 mm
6. ITEM 301 BITUMINOUS AGGREGATE BASE, PG64–22 (THICKNESS VARIES)
7. ITEM 304 200 mm AGGREGATE BASE
8. ITEM 407 TACK COAT @ 0.4 L/m²
9. ITEM 407 TACK COAT FOR INTERMEDIATE COURSE
10. ITEM 408 BITUMINOUS PRIME COAT @ 1.8 L/m²
11. ITEM 448 32 mm ASPHALT CONCRETE, SURFACE COURSE, TYPE 1, PG64–22
12. ITEM 448 45 mm ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 2, PG64–22
13. ITEM 605 AGGREGATE DRAINS, 200 mm (APPLIES TO LOW SIDE ONLY ON SUPERELEVATED SECTION)
14. ITEM 606 GUARDRAIL, TYPE 5
15. ITEM 659 SEEDING AND MULCHING
    ITEM 659 COMMERCIAL FERTILIZER

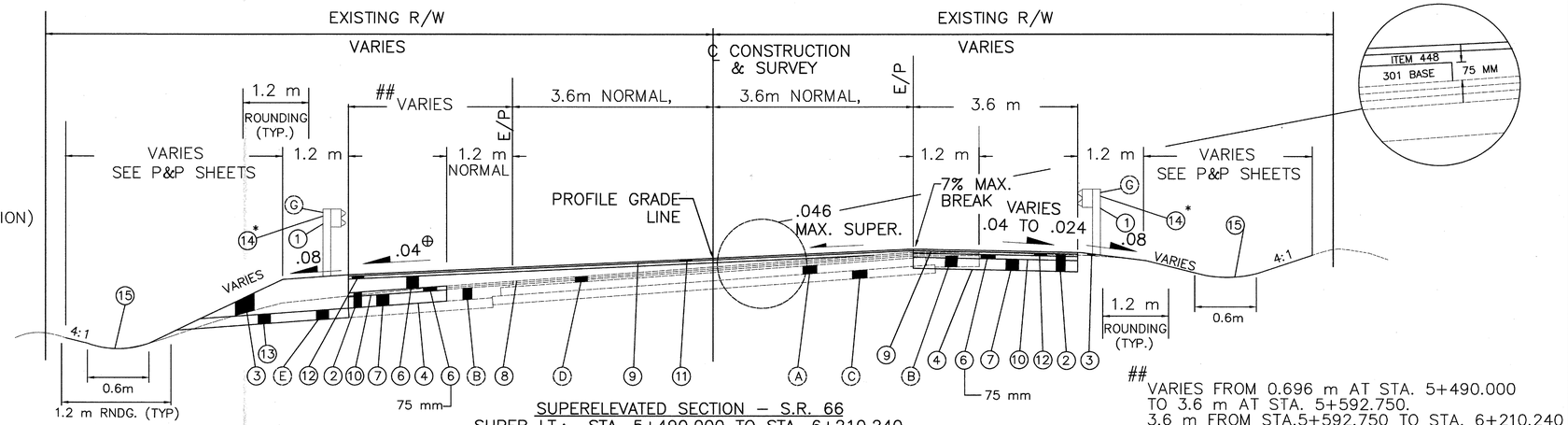
EXISTING LEGEND

- (A) ITEM 304 150 mm AGGREGATE BASE
- (B) ITEM 304 200 mm AGGREGATE BASE
- (C) ITEM 310 150 mm SUBBASE
- (D) ITEM 446 100 mm ASPHALT CONCRETE, AC–20
- (E) ITEM 605 AGGREGATE DRAINS (APPLIES EITHER SIDE OF NORMAL SECTION AND TO LOW SIDE ONLY ON SUPERELEVATED SECTION)
- (F) ITEM 605 150 mm PIPE UNDERDRAINS
- (G) ITEM 606 TYPE 5 GUARDRAIL



NORMAL SECTION (SUPERELEVATION TRANSITION RT) – S.R. 66
STA. 5+485.000 TO 5+490.000

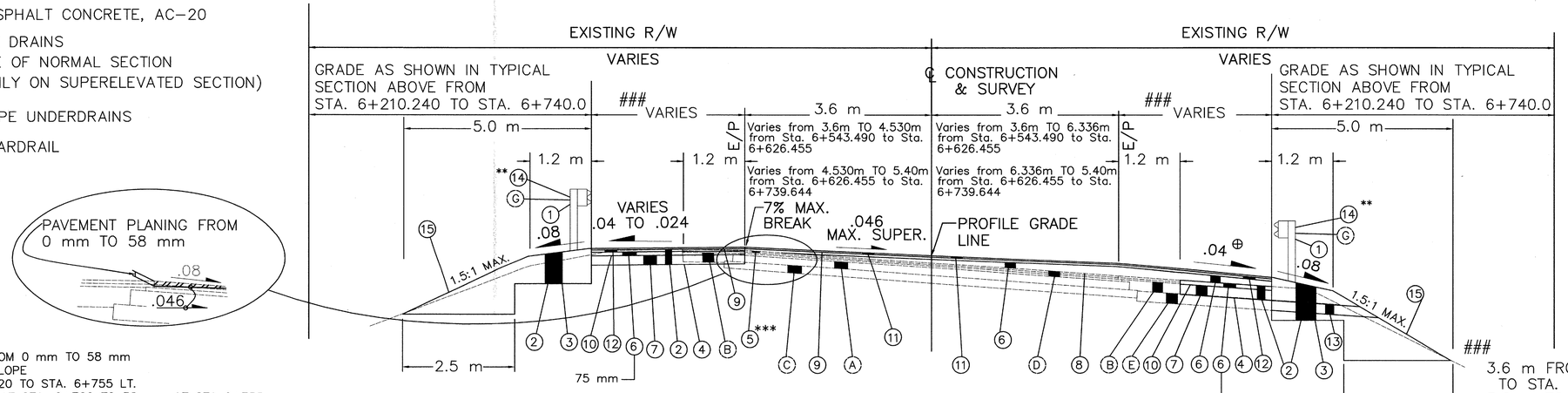
VARIES FROM 0.555 m AT STA. 5+485.000 TO 0.696 m AT STA. 5+490.000



SUPERELEVATED SECTION – S.R. 66
SUPER LT.: STA. 5+490.000 TO STA. 6+210.240

VARIES FROM 0.696 m AT STA. 5+490.000 TO 3.6 m AT STA. 5+592.750. 3.6 m FROM STA.5+592.750 TO STA. 6+210.240

* – GUARDRAIL APPLIES FROM STA. 6+036.951 TO STA. 6+114.429 LT. AND FROM STA. 6+050.390 TO STA. 6+114.109 RT.



SUPERELEVATED SECTION – S.R. 66
SUPER RT.: STA. 6+210.240 TO STA. 7+140.000

⊕ OR RATE OF SUPER IF GREATER

3.6 m FROM STA. 6+210.240 TO STA. 6+750.000 3.6 m TO 3.0 m FROM STA. 6+750.000 TO STA. 6+755.000 3.0 m FROM STA. 6+755.000 TO STA. 7+140.000

** – GUARDRAIL APPLIES FROM STA. 6+763.705 TO STA. 7+147.844 LT. AND FROM STA. 6+773.948 TO STA. 7+147.844 RT.

*** – PAVEMENT PLANING VARIES FROM 0 mm TO 58 mm PLANE TO PROPOSED CROSS SLOPE
TRANSITION PLANING STA. 6+720 TO STA. 6+755 LT.
DEPTH VARIES FROM 0 mm AT STA. 6+720 TO 58 mm AT STA 6+755
PLANE 58 mm AVE. DEPTH FROM STA. 6+755 TO STA. 6+992.985 LT.
TRANSITION PLANING (LT. TO FULL WIDTH), 58 mm AVE. DEPTH FROM STA. 6+992.985 TO STA. 7+114.905
FULL WIDTH PLANING, 58 mm DEPTH, FROM STA. 7+114.905 TO STA. 7+140

CALCULATED JLM
CHECKED PJB

TYPICAL SECTIONS

DEF–66–5.472(3.40)

DATE :2/1/97
CAD FILE :SR66TYP1
OPERATOR :T.R.C./A.J.L.
PLOT SCALE: 1

PROPOSED LEGEND

(1) ITEM 202 GUARDRAIL REMOVED

(2) ITEM 203 EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION

(3) ITEM 203 EMBANKMENT

(4) ITEM 203 SUBGRADE COMPACTION

(5) ITEM 254 PAVEMENT PLANING, BITUMINOUS, FROM 0 mm TO 58 mm

(6) ITEM 301 BITUMINOUS AGGREGATE BASE, PG64–22

(7) ITEM 304 200 mm AGGREGATE BASE

(8) ITEM 407 TACK COAT @ 0.4 L./m^2

(9) ITEM 407 TACK COAT FOR INTERMEDIATE COURSE @ 0.4 L./m^2

(10) ITEM 407 PRIME COAT @ 1.8 L./m^2

(11) ITEM 448 32 mm ASPHALT CONCRETE, SURFACE COURSE, TYPE 1, PG64–22

(12) ITEM 448 45 mm ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 2, PG64–22

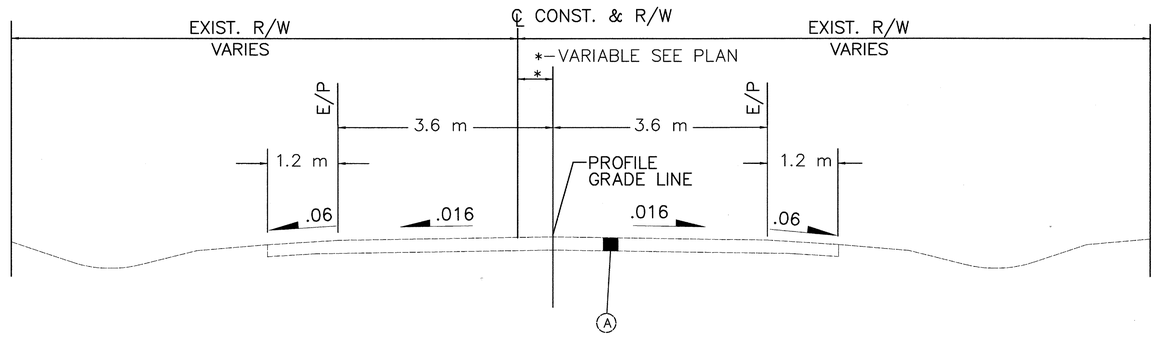
(13) ITEM 605 AGGREGATE DRAINS, 200 mm

(14) ITEM 659 SEEDING AND MULCHING

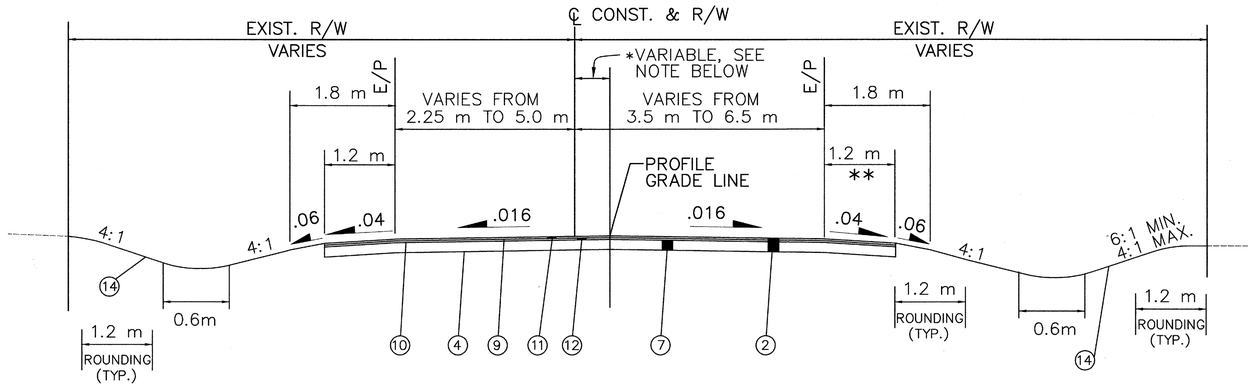
ITEM 659 COMMERCIAL FERTILIZER

EXISTING LEGEND

(A) EXISTING PAVEMENT
100 mm ASPHALT
150 mm AGGREGATE



EXISTING
NORMAL SECTION – GINTER RD. & GREENLER RD.
STA. 0+101.410 TO 0+320



PROPOSED
NORMAL SECTION – GINTER RD. & GREENLER RD.
STA. 0+111.410 TO STA. 0+189.510
STA. 0+207.720 TO STA. 0+310

* NOTE:
VARIES FROM 0.625m AT STA. 0+111.410 TO 0.00m AT STA. 0+135.

** VARIES FROM 1.2 m AT STA. 0+254.055 RT. TO 0.00 m AT STA. 0+310.000 RT.

CALCULATED J.L.M.
CHECKED P.J.B.

TYPICAL SECTIONS

DEF–66–5.472(3.40)

DATE :2/1/97
CAD FILE :SR66TYP2
OPERATOR :T.R.C./A.J.L.
PLOT SCALE: .1

SUPERELEVATION TABLE STATE ROUTE 66

COMMENTS	STATION	LEFT SHOULDER ELEVATION	LEFT SHOULDER So METER/METER	LEFT SHOULDER WIDTH METER	LEFT EDGE PAVEMENT ELEVATION	LEFT SIDE PAVEMENT So METER/METER	LEFT PAVEMENT WIDTH	PROFILE GRADE CENTER–LINE PAVEMENT ELEVATION	RIGHT PAVEMENT WIDTH	RIGHT SIDE PAVEMENT So METER/METER	RIGHT EDGE PAVEMENT ELEVATION	RIGHT SHOULDER WIDTH METER	RIGHT SHOULDER So METER/METER	RIGHT SHOULDER ELEVATION
BEGIN SUPERELEVATION TRANSITION	5+490	217.257	−0.0400	0.696	217.285	−0.0160	3.600	217.342	3.600	−0.0060	217.321	3.600	−0.0400	217.177
TANGENT TO SPIRAL (T.S.)	5+499.507	217.250	−0.0400	0.965	217.288	−0.0160	3.600	217.346	3.600	0.0000	217.346	3.600	−0.0400	217.202
	5+500	217.249	−0.0400	0.979	217.289	−0.0160	3.600	217.346	3.600	0.0003	217.347	3.600	−0.0400	217.203
	5+510	217.242	−0.0400	1.262	217.293	−0.0160	3.600	217.350	3.600	0.0066	217.374	3.600	−0.0400	217.230
	5+520	217.235	−0.0400	1.544	217.297	−0.0160	3.600	217.354	3.600	0.0129	217.401	3.600	−0.0400	217.257
	5+530	217.222	−0.0400	1.827	217.295	−0.0176	3.600	217.358	3.600	0.0176	217.422	3.600	−0.0400	217.278
	5+540	217.204	−0.0400	2.109	217.288	−0.0207	3.600	217.362	3.600	0.0207	217.437	3.600	−0.0400	217.293
	5+550	217.185	−0.0400	2.392	217.281	−0.0238	3.600	217.367	3.600	0.0238	217.452	3.600	−0.0400	217.308
	5+560	217.167	−0.0400	2.675	217.274	−0.0269	3.600	217.371	3.600	0.0269	217.468	3.600	−0.0400	217.323
	5+570	217.148	−0.0400	2.957	217.267	−0.0300	3.600	217.375	3.600	0.0300	217.483	3.600	−0.0400	217.339
	5+580	217.130	−0.0400	3.240	217.260	−0.0331	3.600	217.379	3.600	0.0331	217.498	3.600	−0.0369	217.365
	5+590	217.112	−0.0400	3.522	217.252	−0.0362	3.600	217.383	3.600	0.0362	217.513	3.600	−0.0338	217.392
	5+600	217.101	−0.0400	3.600	217.245	−0.0394	3.600	217.387	3.600	0.0393	217.529	3.600	−0.0307	217.418
	5+610	217.085	−0.0424	3.600	217.238	−0.0424	3.600	217.391	3.600	0.0424	217.544	3.600	−0.0275	217.445
	5+620	217.067	−0.0456	3.600	217.231	−0.0456	3.600	217.395	3.600	0.0456	217.559	3.600	−0.0244	217.471
END SUPERELEVATION TRANSITION, BEGIN MAXIMUM SUPERELEVATION	5+621.427	217.063	−0.0460	3.600	217.228	−0.0460	3.600	217.394	3.600	0.0460	217.560	3.600	−0.0240	217.473
	5+630	217.057	−0.0460	3.600	217.223	−0.0460	3.600	217.388	3.600	0.0460	217.554	3.600	−0.0240	217.467
	5+640	217.050	−0.0460	3.600	217.216	−0.0460	3.600	217.381	3.600	0.0460	217.547	3.600	−0.0240	217.461
	5+650	217.043	−0.0460	3.600	217.209	−0.0460	3.600	217.375	3.600	0.0460	217.540	3.600	−0.0240	217.454
	5+660	217.037	−0.0460	3.600	217.202	−0.0460	3.600	217.368	3.600	0.0460	217.533	3.600	−0.0240	217.447
	5+670	217.030	−0.0460	3.600	217.195	−0.0460	3.600	217.361	3.600	0.0460	217.527	3.600	−0.0240	217.440
	5+680	217.023	−0.0460	3.600	217.189	−0.0460	3.600	217.354	3.600	0.0460	217.520	3.600	−0.0240	217.433
	5+690	217.016	−0.0460	3.600	217.182	−0.0460	3.600	217.347	3.600	0.0460	217.513	3.600	−0.0240	217.427
	5+700	217.009	−0.0460	3.600	217.175	−0.0460	3.600	217.341	3.600	0.0460	217.506	3.600	−0.0240	217.420
	5+710	217.003	−0.0460	3.600	217.168	−0.0460	3.600	217.334	3.600	0.0460	217.499	3.600	−0.0240	217.413
	5+720	216.996	−0.0460	3.600	217.161	−0.0460	3.600	217.327	3.600	0.0460	217.493	3.600	−0.0240	217.406
	5+730	217.002	−0.0460	3.600	217.167	−0.0460	3.600	217.333	3.600	0.0460	217.499	3.600	−0.0240	217.412
	5+740	217.008	−0.0460	3.600	217.173	−0.0460	3.600	217.339	3.600	0.0460	217.505	3.600	−0.0240	217.418
	5+750	217.014	−0.0460	3.600	217.179	−0.0460	3.600	217.345	3.600	0.0460	217.511	3.600	−0.0240	217.424
	5+760	217.020	−0.0460	3.600	217.185	−0.0460	3.600	217.351	3.600	0.0460	217.517	3.600	−0.0240	217.430
SEE INTERSECTION DETAIL	5+770 5+780 5+790 5+800													
	5+810	217.140	−0.0460	3.600	217.305	−0.0460	3.600	217.471	3.600	0.0460	217.637	3.600	−0.0240	217.550
	5+820	217.145	−0.0460	3.600	217.310	−0.0460	3.600	217.476	3.600	0.0460	217.642	3.600	−0.0240	217.555
	5+830	217.150	−0.0460	3.600	217.315	−0.0460	3.600	217.481	3.600	0.0460	217.647	3.600	−0.0240	217.560
	5+840	217.155	−0.0460	3.600	217.320	−0.0460	3.600	217.486	3.600	0.0460	217.652	3.600	−0.0240	217.565
	5+850	217.140	−0.0460	3.600	217.306	−0.0460	3.600	217.472	3.600	0.0460	217.637	3.600	−0.0240	217.551
	5+860	217.126	−0.0460	3.600	217.292	−0.0460	3.600	217.457	3.600	0.0460	217.623	3.600	−0.0240	217.536
	5+870	217.112	−0.0460	3.600	217.277	−0.0460	3.600	217.443	3.600	0.0460	217.608	3.600	−0.0240	217.522
	5+880	217.096	−0.0460	3.600	217.262	−0.0460	3.600	217.428	3.600	0.0460	217.593	3.600	−0.0240	217.507
	5+890	217.083	−0.0460	3.600	217.249	−0.0460	3.600	217.414	3.600	0.0460	217.580	3.600	−0.0240	217.493
	5+900	217.069	−0.0460	3.600	217.234	−0.0460	3.600	217.400	3.600	0.0460	217.565	3.600	−0.0240	217.479
	5+910	217.054	−0.0460	3.600	217.220	−0.0460	3.600	217.385	3.600	0.0460	217.551	3.600	−0.0240	217.465
	5+920	217.040	−0.0460	3.600	217.205	−0.0460	3.600	217.371	3.600	0.0460	217.537	3.600	−0.0240	217.450
	5+930	217.025	−0.0460	3.600	217.191	−0.0460	3.600	217.357	3.600	0.0460	217.522	3.600	−0.0240	217.436
	5+940	217.011	−0.0460	3.600	217.177	−0.0460	3.600	217.342	3.600	0.0460	217.508	3.600	−0.0240	217.421
	5+950	216.997	−0.0460	3.600	217.162	−0.0460	3.600	217.328	3.600	0.0460	217.494	3.600	−0.0240	217.407
	5+960	216.982	−0.0460	3.600	217.148	−0.0460	3.600	217.314	3.600	0.0460	217.479	3.600	−0.0240	217.393
	5+970	216.968	−0.0460	3.600	217.133	−0.0460	3.600	217.299	3.600	0.0460	217.465	3.600	−0.0240	217.378
	5+980	216.954	−0.0460	3.600	217.119	−0.0460	3.600	217.285	3.600	0.0460	217.450	3.600	−0.0240	217.364
	5+990	216.939	−0.0460	3.600	217.105	−0.0460	3.600	217.270	3.600	0.0460	217.436	3.600	−0.0240	217.350
	6+000	216.925	−0.0460	3.600	217.090	−0.0460	3.600	217.256	3.600	0.0460	217.422	3.600	−0.0240	217.335
	6+010	216.917	−0.0460	3.600	217.083	−0.0460	3.600	217.248	3.600	0.0460	217.414	3.600	−0.0240	217.327
	6+020	216.909	−0.0460	3.600	217.075	−0.0460	3.600	217.241	3.600	0.0460	217.406	3.600	−0.0240	217.320
	6+030	216.902	−0.0460	3.600	217.067	−0.0460	3.600	217.233	3.600	0.0460	217.399	3.600	−0.0240	217.312
	6+040	216.894	−0.0460	3.600	217.060	−0.0460	3.600	217.225	3.600	0.0460	217.391	3.600	−0.0240	217.304
	6+050	216.886	−0.0460	3.600	217.052	−0.0460	3.600	217.217	3.600	0.0460	217.383	3.600	−0.0240	217.296
	6+060	216.875	−0.0460	3.600	217.041	−0.0460	3.600	217.207	3.600	0.0460	217.372	3.600	−0.0240	217.286
END MAXIMUM SUPERELEVATION, BEGIN SUPERELEVATION TRANSITION	6+065.040	216.869	−0.0460	3.600	217.035	−0.0460	3.600	217.200	3.600	0.0460	217.366	3.600	−0.0240	217.279
	6+070	216.873	−0.0444	3.600	217.033	−0.0444	3.600	217.193	3.600	0.0445	217.353	3.600	−0.0256	217.261
	6+080	216.879	−0.0414	3.600	217.028	−0.0414	3.600	217.177	3.600	0.0414	217.326	3.600	−0.0287	217.223
	6+090	216.876	−0.0400	3.600	217.021	−0.0382	3.600	217.158	3.600	0.0382	217.296	3.600	−0.0317	217.182
	6+100	216.869	−0.0400	3.600	217.013	−0.0351	3.600	217.139	3.600	0.0351	217.266	3.600	−0.0349	217.140
	6+110	216.861	−0.0400	3.600	217.005	−0.0320	3.600	217.120	3.600	0.0320	217.235	3.600	−0.0380	217.099
	6+120	216.853	−0.0400	3.600	216.997	−0.0289	3.600	217.101	3.600	0.0289	217.205	3.600	−0.0400	217.061
	6+130	216.845	−0.0400	3.600	216.989	−0.0258	3.600	217.082	3.600	0.0258	217.175	3.600	−0.0400	217.031
SEE INTERSECTION DETAIL	6+140 6+150													
	6+160	216.822	−0.0400	3.600	216.966	−0.0165	3.600	217.025	3.600	0.0165	217.085	3.600	−0.0400	216.941
	6+170	216.804	−0.0400	3.600	216.948	−0.0160	3.600	217.005	3.600	0.0107	217.044	3.600	−0.0400	216.900
	6+180	216.785	−0.0400	3.600	216.929	−0.0160	3.600	216.986	3.600	0.0044	217.002	3.600	−0.0400	216.858
SPIRAL TO TANGENT (S.T.)	6+186.960	216.771	−0.0400	3.600	216.915	−0.0160	3.600	216.973	3.600	0.0000	216.973	3.600	−0.0400	216.829
	6+190	216.766	−0.0400	3.600	216.910	−0.0160	3.600	216.967	3.600	−0.0019	216.960	3.600	−0.0400	216.816
	6+200	216.746	−0.0400	3.600	216.891	−0.0160	3.600	216.948	3.600	−0.0082	216.918	3.600	−0.0400	216.774
END SUPERELEVATION TRANSITION, BEGIN SUPERELEVATION TRANSITION	6+210	216.743	−0.0400	3.600	216.887	−0.0160	3.600	216.945	3.600	−0.0145	216.892	3.600	−0.0400	216.748
	6+220	216.799	−0.0400	3.600	216.943	−0.0085	3.600	216.973	3.600	−0.0160	216.916	3.600	−0.0400	216.772
	6+230	216.864	−0.0400	3.600	217.008	−0.0022	3.600	217.016	3.600	−0.0160	216.958	3.600	−0.0400	216.814
TANGENT TO SPIRAL (T.S.)	6+233.524	216.887	−0.0400	3.600	217.031	0.0000	3.600	217.031	3.600	−0.0160	216.974	3.600	−0.0400	216.830
	6+240	216.930	−0.0400	3.600	217.074	0.0041	3.600	217.060	3.600	−0.0160	217.002	3.600	−0.0400	216.858
	6+250	216.996	−0.0400	3.600	217.140	0.0104	3.600	217.103	3.600	−0.0160	217.046	3.600	−0.0400	216.901
	6+260	217.061	−0.0400	3.600	217.205	0.0163	3.600	217.147	3.600	−0.0163	217.088	3.600	−0.0400	216.944
	6+270	217.116	−0.0400	3.600	217.260	0.0194	3.600	217.190	3.600	−0.0194	217.120	3.600	−0.0400	216.976
	6+280	217.171	−0.0400	3.600	217.315	0.0226	3.600	217.234	3.600	−0.0226	217.152	3.600	−0.0400	217.008
	6+290	217.226	−0.0400	3.600	217.369	0.0257	3.600	217.277	3.600	−0.0256	217.185	3.600	−0.0400	217.041
	6+300	217.280	−0.0400	3.600	217.424	0.0288	3.600	217.321	3.600	−0.0288	217.217	3.600	−0.0400	217.073
	6+310	217.341	−0.0381	3.600	217.478	0.0319	3.600	217.363	3.600	−0.0319	217.249	3.600	−0.0400	217.105
	6+320	217.400	−0.0350	3.600	217.526	0.0350	3.600	217.401	3.600	−0.0350	217.275	3.600	−0.0400	217.131
	6+330	217.454	−0.0319	3.600	217.569	0.0381	3.600	217.431	3.600	−0.0381	217.294	3.600	−0.0400	217.150

(CONTINUED ON NEXT SHEET)

CALCULATED PWG
CHECKED PJB

SUPERELEVATION TABLE S.R. 66

DEF–66–5.472

CAD FILE : SUPER01
DATE : 09/04/97
OPERATOR : P.M.G.
PLOT SCALE : 1=1

SUPERELEVATION TABLE STATE ROUTE 66 (CONTINUED)

COMMENTS	STATION	LEFT SHOULDER ELEVATION	LEFT SHOULDER So METER/METER	LEFT SHOULDER WIDTH METER	LEFT EDGE PAVEMENT ELEVATION	LEFT SIDE PAVEMENT So METER/METER	LEFT PAVEMENT WIDTH	PROFILE GRADE CENTER–LINE PAVEMENT ELEVATION	RIGHT PAVEMENT WIDTH	RIGHT SIDE PAVEMENT So METER/METER	RIGHT EDGE PAVEMENT ELEVATION	RIGHT SHOULDER WIDTH METER	RIGHT SHOULDER So METER/METER	RIGHT SHOULDER ELEVATION
	6+340	217.501	−0.0288	3.600	217.604	0.0412	3.600	217.456	3.600	−0.0412	217.308	3.600	−0.0412	217.159
	6+350	217.541	−0.0257	3.600	217.634	0.0443	3.600	217.474	3.600	−0.0443	217.315	3.600	−0.0443	217.155
END SUPERELEVATION TRANSITION, BEGIN MAXIMUM SUPERELEVATION	6+355.444	217.561	−0.0240	3.600	217.647	0.0460	3.600	217.482	3.600	−0.0460	217.316	3.600	−0.0460	217.150
	6+360	217.565	−0.0240	3.600	217.652	0.0460	3.600	217.486	3.600	−0.0460	217.321	3.600	−0.0460	217.155
	6+370	217.571	−0.0240	3.600	217.657	0.0460	3.600	217.492	3.600	−0.0460	217.326	3.600	−0.0460	217.161
	6+380	217.570	−0.0240	3.600	217.657	0.0460	3.600	217.491	3.600	−0.0460	217.325	3.600	−0.0460	217.160
	6+390	217.563	−0.0240	3.600	217.649	0.0460	3.600	217.484	3.600	−0.0460	217.318	3.600	−0.0460	217.153
	6+400	217.550	−0.0240	3.600	217.636	0.0460	3.600	217.471	3.600	−0.0460	217.305	3.600	−0.0460	217.139
	6+410	217.531	−0.0240	3.600	217.617	0.0460	3.600	217.452	3.600	−0.0460	217.286	3.600	−0.0460	217.120
	6+420	217.511	−0.0240	3.600	217.598	0.0460	3.600	217.432	3.600	−0.0460	217.266	3.600	−0.0460	217.101
	6+430	217.491	−0.0240	3.600	217.578	0.0460	3.600	217.412	3.600	−0.0460	217.247	3.600	−0.0460	217.081
	6+440	217.472	−0.0240	3.600	217.558	0.0460	3.600	217.393	3.600	−0.0460	217.227	3.600	−0.0460	217.061
	6+450	217.452	−0.0240	3.600	217.538	0.0460	3.600	217.373	3.600	−0.0460	217.207	3.600	−0.0460	217.042
	6+460	217.424	−0.0240	3.600	217.511	0.0460	3.600	217.345	3.600	−0.0460	217.179	3.600	−0.0460	217.014
	6+470	217.388	−0.0240	3.600	217.475	0.0460	3.600	217.309	3.600	−0.0460	217.144	3.600	−0.0460	216.978
	6+480	217.353	−0.0240	3.600	217.439	0.0460	3.600	217.274	3.600	−0.0460	217.108	3.600	−0.0460	216.942
	6+490	217.317	−0.0240	3.600	217.403	0.0460	3.600	217.238	3.600	−0.0460	217.072	3.600	−0.0460	216.906
	6+500	217.281	−0.0240	3.600	217.368	0.0460	3.600	217.202	3.600	−0.0460	217.036	3.600	−0.0460	216.871
	6+510	217.245	−0.0240	3.600	217.332	0.0460	3.600	217.166	3.600	−0.0460	217.000	3.600	−0.0460	216.835
	6+520	217.209	−0.0240	3.600	217.296	0.0460	3.600	217.130	3.600	−0.0460	216.965	3.600	−0.0460	216.799
	6+530	217.174	−0.0240	3.600	217.260	0.0460	3.600	217.095	3.600	−0.0460	216.929	3.600	−0.0460	216.763
	6+540	217.138	−0.0240	3.600	217.225	0.0460	3.600	217.059	3.600	−0.0460	216.893	3.600	−0.0460	216.728
	6+550	217.105	−0.0240	3.600	217.191	0.0460	3.666	217.023	3.827	−0.0460	216.847	3.600	−0.0460	216.681
	6+560	217.063	−0.0240	3.600	217.149	0.0460	3.774	216.975	4.167	−0.0460	216.784	3.600	−0.0460	216.618
	6+570	217.006	−0.0240	3.600	217.092	0.0460	3.883	216.914	4.505	−0.0460	216.707	3.600	−0.0460	216.541
	6+580	216.951	−0.0240	3.600	217.037	0.0460	3.994	216.853	4.840	−0.0460	216.631	3.600	−0.0460	216.465
	6+590	216.894	−0.0240	3.600	216.980	0.0460	4.106	216.792	5.173	−0.0460	216.554	3.600	−0.0460	216.388
	6+600	216.838	−0.0240	3.600	216.925	0.0460	4.220	216.731	5.502	−0.0460	216.477	3.600	−0.0460	216.312
	6+610	216.782	−0.0240	3.600	216.869	0.0460	4.334	216.669	5.828	−0.0460	216.401	3.600	−0.0460	216.236
	6+620	216.728	−0.0240	3.600	216.814	0.0460	4.452	216.609	6.152	−0.0460	216.327	3.600	−0.0460	216.161
	6+630	216.672	−0.0240	3.600	216.758	0.0460	4.586	216.548	6.264	−0.0460	216.259	3.600	−0.0460	216.094
SEE INTERSECTION DETAIL	6+640 6+650 6+660 6+670 6+680 6+690 6+700													
	6+710	216.137	−0.0240	3.600	216.223	0.0460	5.190	215.984	5.612	−0.0460	215.726	3.600	−0.0460	215.560
	6+720	216.054	−0.0240	3.600	216.140	0.0460	5.018	215.909	5.781	−0.0460	215.643	3.600	−0.0460	215.478
	6+730	215.938	−0.0240	3.600	216.024	0.0460	5.077	215.791	5.724	−0.0460	215.527	3.600	−0.0460	215.362
	6+740	215.831	−0.0240	3.600	215.917	0.0460	5.346	215.672	5.527	−0.0460	215.417	3.600	−0.0460	215.252
	6+750	215.703	−0.0240	3.600	215.789	0.0460	5.150	215.553	5.417	−0.0460	215.303	3.600	−0.0460	215.138
	6+760	215.599	−0.0240	3.000	215.671	0.0460	4.953	215.443	5.209	−0.0460	215.203	3.000	−0.0460	215.065
	6+770	215.489	−0.0240	3.000	215.561	0.0460	4.751	215.342	4.938	−0.0460	215.115	3.000	−0.0460	214.977
	6+780	215.379	−0.0240	3.000	215.451	0.0460	4.549	215.242	4.663	−0.0460	215.027	3.000	−0.0460	214.889
	6+790	215.269	−0.0240	3.000	215.341	0.0460	4.343	215.141	4.468	−0.0460	214.935	3.000	−0.0460	214.798
	6+800	215.159	−0.0240	3.000	215.231	0.0460	4.136	215.041	4.302	−0.0460	214.843	3.000	−0.0460	214.705
	6+810	215.049	−0.0240	3.000	215.121	0.0460	3.927	214.940	4.061	−0.0460	214.753	3.000	−0.0460	214.615
	6+820	214.918	−0.0240	3.000	214.990	0.0460	3.716	214.819	3.764	−0.0460	214.646	3.000	−0.0460	214.508
	6+830	214.791	−0.0240	3.000	214.863	0.0460	3.600	214.698	3.600	−0.0460	214.532	3.000	−0.0460	214.394
	6+840	214.670	−0.0240	3.000	214.742	0.0460	3.600	214.577	3.600	−0.0460	214.411	3.000	−0.0460	214.273
	6+850	214.549	−0.0240	3.000	214.621	0.0460	3.600	214.456	3.600	−0.0460	214.290	3.000	−0.0460	214.152
	6+860	214.428	−0.0240	3.000	214.500	0.0460	3.600	214.334	3.600	−0.0460	214.169	3.000	−0.0460	214.031
	6+870	214.307	−0.0240	3.000	214.379	0.0460	3.600	214.213	3.600	−0.0460	214.048	3.000	−0.0460	213.910
	6+880	214.186	−0.0240	3.000	214.258	0.0460	3.600	214.092	3.600	−0.0460	213.927	3.000	−0.0460	213.789
	6+890	214.065	−0.0240	3.000	214.137	0.0460	3.600	213.971	3.600	−0.0460	213.805	3.000	−0.0460	213.667
	6+900	213.944	−0.0240	3.000	214.016	0.0460	3.600	213.850	3.600	−0.0460	213.684	3.000	−0.0460	213.546
	6+910	213.800	−0.0240	3.000	213.873	0.0460	3.600	213.707	3.600	−0.0460	213.541	3.000	−0.0460	213.403
	6+920	213.657	−0.0240	3.000	213.729	0.0460	3.600	213.564	3.600	−0.0460	213.398	3.000	−0.0460	213.260
	6+930	213.514	−0.0240	3.000	213.586	0.0460	3.600	213.421	3.600	−0.0460	213.255	3.000	−0.0460	213.117
	6+940	213.371	−0.0240	3.000	213.443	0.0460	3.600	213.278	3.600	−0.0460	213.112	3.000	−0.0460	212.974
	6+950	213.228	−0.0240	3.000	213.300	0.0460	3.600	213.134	3.600	−0.0460	212.969	3.000	−0.0460	212.831
	6+960	213.085	−0.0240	3.000	213.157	0.0460	3.600	212.991	3.600	−0.0460	212.826	3.000	−0.0460	212.688
	6+970	212.942	−0.0240	3.000	213.014	0.0460	3.600	212.848	3.600	−0.0460	212.683	3.000	−0.0460	212.545
	6+980	212.799	−0.0240	3.000	212.871	0.0460	3.600	212.705	3.600	−0.0460	212.540	3.000	−0.0460	212.401
	6+990	212.656	−0.0240	3.000	212.728	0.0460	3.600	212.562	3.600	−0.0460	212.396	3.000	−0.0460	212.258
END MAXIMUM SUPERELEVATION, BEGIN SUPERELEVATION TRANSITION	6+992.985	212.612	−0.0240	3.000	212.684	0.0460	3.600	212.519	3.600	−0.0460	212.353	3.000	−0.0460	212.215
	7+000	212.496	−0.0262	3.000	212.575	0.0438	3.600	212.417	3.600	−0.0438	212.259	3.000	−0.0438	212.128
	7+010	212.331	−0.0293	3.000	212.419	0.0407	3.600	212.272	3.600	−0.0407	212.125	3.000	−0.0407	212.003
	7+020	212.165	−0.0324	3.000	212.262	0.0376	3.600	212.127	3.600	−0.0376	211.992	3.000	−0.0400	211.872
	7+030	212.000	−0.0355	3.000	212.106	0.0345	3.600	211.982	3.600	−0.0345	211.858	3.000	−0.0400	211.738
	7+040	211.834	−0.0386	3.000	211.950	0.0314	3.600	211.837	3.600	−0.0314	211.724	3.000	−0.0400	211.604
	7+050	211.674	−0.0400	3.000	211.794	0.0283	3.600	211.692	3.600	−0.0283	211.590	3.000	−0.0400	211.470
	7+060	211.518	−0.0400	3.000	211.638	0.0252	3.600	211.547	3.600	−0.0252	211.456	3.000	−0.0400	211.336
	7+070	211.361	−0.0400	3.000	211.481	0.0221	3.600	211.402	3.600	−0.0221	211.323	3.000	−0.0400	211.203
	7+080	211.224	−0.0400	3.000	211.344	0.0190	3.600	211.276	3.600	−0.0189	211.208	3.000	−0.0400	211.088
	7+090	211.124	−0.0400	3.000	211.244	0.0157	3.600	211.187	3.600	−0.0160	211.130	3.000	−0.0400	211.010
	7+100	211.031	−0.0400	3.000	211.151	0.0094	3.600	211.118	3.600	−0.0160	211.060	3.000	−0.0400	210.940
	7+110	210.939	−0.0400	3.000	211.059	0.0031	3.600	211.048	3.600	−0.0160	210.990	3.000	−0.0400	210.870
SPIRAL TO TANGENT (S.T.)	7+114.905	210.894	−0.0400	3.000	211.014	0.0000	3.600	211.014	3.600	−0.0160	210.956	3.000	−0.0400	210.836
	7+120	210.847	−0.0400	3.000	210.967	−0.0032	3.600	210.978	3.600	−0.0160	210.921	3.000	−0.0400	210.801
END SUPERELEVATION TRANSITION	7+130	210.754	−0.0400	3.000	210.874	−0.0095	3.600	210.909	3.600	−0.0160	210.851	3.000	−0.0400	210.731

CALCULATED P.M.G.
CHECKED P.J.B.

SUPERELEVATION TABLE S.R. 66

DEF–66–5.472

CAD FILE : SUPERR02
DATE : 09/04/97
OPERATOR : P.M.G.
PLOT SCALE : 1=1

GENERAL NOTES

UNDERGROUND UTILITIES

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

UTILITY OWNERSHIP

THE FOLLOWING UTILITIES AND OWNERS ARE LOCATED WITHIN THE WORK LIMITS OF THIS PROJECT :

NATURAL GAS

OHIO GAS COMPANY
506 CLINTON ST.
P.O. BOX 1126
DEFIANCE, OH 43512
1-800-529-6511
(MIKE CREAGER)

POWER

TOLEDO EDISON CO.
134 LAWRENCE AVE.
WAUSEON, OH 43567
(419) 249-4134

POWER

AMERICAN ELECTRIC POWER
111 N. WASHINGTON ST.
P.O. BOX 555
VAN WERT, OH 45891
1-800-672-2231

TELEPHONE

SPRINT LOCAL
812 DOLAN ST.
DEFIANCE, OH 43512
(419) 782-6819
(MARV ROSENBAUER)

CABLEVISION

FRONTIER VISION
310 JEFFERSON AVE.
P.O. BOX 405
DEFIANCE, OH 43512
(419) 782-0135
(JAY HANENKRATT)

WATER

CITY OF DEFIANCE
WATER TREATMENT DEPARTMENT
1356 BALTIMORE
DEFIANCE, OH 43512
(419) 782-1886

STORM

CITY OF DEFIANCE
STREET DEPARTMENT
1601 BALTIMORE
DEFIANCE, OH 43512
(419) 782-6582

SANITARY

CITY OF DEFIANCE
WATER POLLUTION CONTROL
26273 ST. RT. 281 E.
DEFIANCE, OH 43512
(419) 782-0841

ENVIRONMENTAL COMMITMENT

THE ENVIRONMENTAL DOCUMENT WAS APPROVED 9/5/97 AND CONTAINED NO CONSTRUCTION RELATED ITEMS WHICH THE CONTRACTOR AND ENGINEER WERE TO ENSURE CARRIED OUT.

CORPS OF ENGINEERS PERMIT

THE ACTIVITY OF THIS PROJECT MUST COMPLY WITH THE NATIONWIDE PERMIT PROGRAM. SPECIFIC AND GENERAL CONDITIONS ARE POSTED BY THE ENGINEER IN THE PROJECT TRAILER.

EXISTING SIGNS

THE CONTRACTOR SHALL SALVAGE AND STORE ON SITE ALL EXISTING SIGNS THAT ARE TO BE REMOVED. THESE SIGNS ARE TO BE THE PROPERTY OF THE CITY OF DEFIANCE, AND SHALL BE STORED UNTIL SUCH TIME THAT THE CITY CAN COLLECT THEM.

ELEVATION DATUM

ALL ELEVATIONS ARE BASED ON THE USGS DATUM.

ROUNDING OF CORNERS SHOWN ON CROSS SECTIONS

THE ROUNDED CORNERS SHOWN ON THE TYPICAL SECTIONS APPLY TO ALL CROSS SECTIONS EVEN THOUGH OTHERWISE SHOWN ON THESE PLANS.

CONTINGENCY QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK LISTED IN THE GENERAL SUMMARY/GENERAL NOTE FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE 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 THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

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.

REMOVAL OF TREES OR STUMPS

ALL TREES AND STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE CONSTRUCTION LIMITS SHALL BE REMOVED UNDER THE LUMP SUM BID FOR ITEM 201, CLEARING AND GRUBBING. THE FOLLOWING IS AN APPROXIMATE ESTIMATE OF THE NUMBER OF TREES AND STUMPS TO BE REMOVED.

TYPE	SIZES	NO. TREES	NO. STUMPS	TOTAL
DECIDUOUS	380mm	1		1

BENCHING OF FOUNDATION SLOPES

ALTHOUGH CROSS-SECTIONS INDICATE SPECIFIC DIMENSIONS FOR PROPOSED BENCHING OF THE EMBANKMENT FOUNDATION IN CERTAIN AREAS, NO WAIVER OF THE SPECIFICATIONS IS INTENDED. ALL OTHER SLOPED EMBANKMENT AREAS SHALL BE BENCHED AS SET FORTH IN 203.09. NO ADDITIONAL PAYMENT WILL BE MADE FOR BENCHING REQUIRED UNDER THE PROVISIONS OF 203.09.

CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL

WHEN IT IS NECESSARY TO SPLICE PROPOSED GUARDRAIL TO EXISTING GUARDRAIL, ONLY THE EXISTING GUARDRAIL SHALL BE CUT, DRILLED, OR PUNCHED. THE CONNECTION SHALL BE MADE USING A "W-BEAM RAIL SPLICE" AS SHOWN ON STANDARD CONSTRUCTION DRAWING GR-1.1M. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

ITEM 606, ANCHOR ASSEMBLY, TYPE E

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING AN ET-2000, OPTION "B", GUARDRAIL END TERMINAL AS MANUFACTURED BY SYRO STEEL COMPANY, 1170 N. STATE STREET, GIRARD, OHIO 44420 (TELEPHONE: 216-545-4373).

THE LENGTH OF THE ET-2000 SYSTEM IS CONSIDERED TO BE 15.24 METERS INCLUSIVE OF TWO 7.62 METER LONG RAIL ELEMENTS. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND AT THE LOCATIONS SHOWN IN THE PLANS.

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

INSTALLATION OF FOUNDATION TUBES

THE FOLLOWING METHOD SHALL BE USED FOR INSTALLATION OF ALL FOUNDATION TUBES REQUIRED FOR GUARDRAIL END TREATMENTS ON THIS PROJECT:

1) AUGER 200 MM DIAMETER HOLE AT THE LOCATION OF THE FOUNDATION TUBE TO A DEPTH OF 0.3 METERS LESS THAN THE LENGTH OF THE FOUNDATION TUBE,

2) DRIVE FOUNDATION TUBE WITH SOIL PLATE TO GRADE. (NOTE: IF A GUARDRAIL POST IS USED IN THE DRIVING OPERATION, IT SHALL BE REMOVED AND DISCARDED),

3) PERFORM ANY NECESSARY BACKFILLING OF THE HOLE IN ACCORDANCE WITH 606.03 AND INSERT THE REQUIRED GUARDRAIL POST.

ALL MATERIALS, LABOR AND EQUIPMENT REQUIRED TO INSTALL THE FOUNDATION TUBES AS DESCRIBED ABOVE SHALL BE CONSIDERED INCIDENTAL TO COST OF THE PERTINENT GUARDRAIL END TREATMENT.

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.

STEEL POSTS SHALL BE NOMINAL PIPE SIZE 50mm I.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 606.3, AND SHALL IN NO INSTANCE BE ENCASED IN CONCRETE.

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

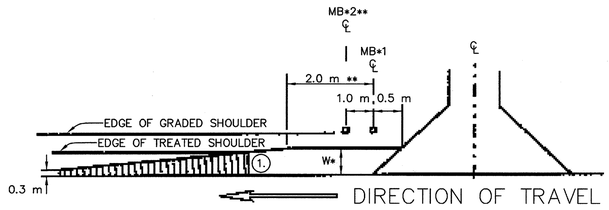
THE MAILBOX SHALL BE SECURELY AND NEATLY ATTACHED BY THE CONTRACTOR TO THE NEW SUPPORT. THE CONTRACTOR SHALL FURNISH ALL NECESSARY ATTACHMENT HARDWARE (NUTS, BOLTS, PLATES. SPACERS, AND WASHERS) AS NECESSARY TO ACCOMMODATE THE COMPLETE INSTALLATION.

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 107.12. HOWEVER, THE SAME MATERIAL AND SIZE LIMITATIONS AS FOR PERMANENT INSTALLATIONS SHALL APPLY.

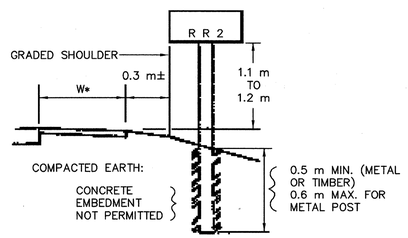
MAILBOX SUPPORTS, COMPLETE IN PLACE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER EACH, FOR ITEM SPECIAL MAILBOX SUPPORT SYSTEM.



1. END MAILBOX TURNOUT AT EDGE OF TREATED SHOULDER OR 0.3 m WHICH EVER IS GREATER.

* WHERE POSTS ARE BEHIND GUARDRAIL, TURNOUT SHALL EXTEND TO FACE OF GUARDRAIL. WHERE NO GUARDRAIL IS REQUIRED, TURNOUT WIDTH SHALL BE 1.8 m MINIMUM.

** ADD 1.0 m FOR EACH ADDITIONAL MAILBOX.



CALCULATED PMC
CHECKED PJB

GENERAL NOTES

DEF-66-5.472(3.40)

CAD FILE : GN_DEF01
DATE : 09/02/97
OPERATOR : P.W.G.
PLOT SCALE : 1 = 1

GENERAL NOTES

ITEM 659, 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 ITEM 659, SEEDING AND MULCHING, ARE BASED ON THESE LIMITS.

THE SEEDING AND MULCHING SHALL FOLLOW AS CLOSELY AS POSSIBLE BEHIND THE REGRADING. THE REGRADED AREA WHICH HAS NOT BEEN SEEDED AND MULCHED SHALL BE KEPT TO A MINIMUM AND SHALL AT TIMES BE SUBJECT TO THE APPROVAL OF THE ENGINEER.

SEEDING AND MULCHING OF LAWNS

IN ADDITION TO "AREAS IN FRONT OF RESIDENCES" REFERRED TO IN 659.09, THE SPECIAL PREPARATION SHALL BE EXTENDED TO ENCOMPASS ALL LAWNS AND/OR LAWN-LIKE AREAS AS DETERMINED BY THE ENGINEER.

WATERING PERMANENT SEEDED AREAS

THE FOLLOWING ESTIMATED QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER TO PROMOTE GROWTH AND TO CARE FOR PERMANENT SEEDED AREAS PER 659.09.

659, WATER, 376 CU. METERS

THIS QUANTITY IS BASED ON TWO APPLICATIONS AT 5 CU. METERS PER 1000 SQ. METERS PER APPLICATION.

(CARRIED TO GENERAL SUMMARY)

TEMPORARY SOIL EROSION AND SEDIMENT CONTROL

THE FOLLOWING ESTIMATED QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER, FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES:

ITEM 207	TEMPORARY SEEDING AND MULCHING	7400 SQ. METERS
ITEM 207	STRAW OR HAY BALES	50 EACH
ITEM 207	FILTER FABRIC FENCE	670 METERS
ITEM 207	TEMPORARY SEDIMENT BASIN	170 CU. METERS
ITEM 659	COMMERCIAL FERTILIZER	1730 kg.
ITEM 659	WATER	75 CU. METERS

(CARRIED TO GENERAL SUMMARY)

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 603 CONDUIT ITEM.

FARM DRAINS

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 CONSTRUCTION LIMITS BY 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 ROADWAY DITCHES, SHALL BE OUTLETTED INTO THE ROADWAY DITCH BY 603 TYPE F CONDUIT. THE OPTIMUM OUTLET ELEVATION SHALL BE 300 MM ABOVE THE FLOWLINE ELEVATION OF THE DITCH. LATERAL FIELD TILES WHICH CROSS THE ROADWAY SHALL BE INTERCEPTED BY 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-1.1M, 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:

603	300 mm CONDUIT, TYPE B	100 METERS
603	200 mm CONDUIT, TYPE E	100 METERS
603	150 mm CONDUIT, TYPE F	100 METERS
601	ROCK CHANNEL PROTECTION TYPE C WITH FILTER	20 CU. METERS

ITEM 605, AGGREGATE DRAINS

AGGREGATE DRAINS SHALL BE PLACED AT 10 METER INTERVALS ON EACH SIDE OF NORMAL CROWNED SECTIONS, STAGGERED SO THAT EACH DRAIN IS 5 METERS FROM THE ADJACENT DRAIN ON THE OPPOSITE SIDE, AND AT 5 METER INTERVALS ON THE LOW SIDE ONLY OF SUPERELEVATED SECTIONS. AN AGGREGATE DRAIN SHALL BE PLACED AT THE LOW POINT OF EACH SAG VERTICAL CURVE.

PIPE CONNECTIONS TO CORRUGATED METAL STRUCTURES

CONNECTIONS OF PROPOSED LONGITUDINAL DRAINAGE TO CORRUGATED METAL STRUCTURES SHALL BE MADE BY MEANS OF A SHOP FABRICATED OR FIELD WELDED STUB ON THE STRUCTURE. THE STUB SHALL MEET THE REQUIREMENTS OF 707 AND HAVE A MINIMUM LENGTH OF 0.6 METER AND A MINIMUM WALL THICKNESS OF 1.63 mm.

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

THE FIELD WELDED JOINT, IF USED, SHALL BE THOROUGHLY CLEANED AND REGALVANIZED OR OTHERWISE SUITABLY REPAIRED. WELDING SHALL MEET THE REQUIREMENTS OF 513.17.

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

PAYMENT FOR CUTTING INTO THE STRUCTURE AND PROVIDING THE CONNECTION DESCRIBED, SHALL BE INCLUDED IN THE CONTRACT PRICE FOR ITEM 603 OR 522.

RESIDENTIAL AND COMMERCIAL DRAINAGE CONNECTIONS

EXISTING ROOF DRAINS, FOOTER DRAINS, OR YARD DRAINS, DISTURBED BY THE WORK, SHALL BE PROVIDED WITH UNOBSTRUCTED OUTLETS BY CONNECTING A CONDUIT THROUGH THE CURB OR INTO A DRAINAGE STRUCTURE. THE LOCATION, TYPE, SIZE AND GRADE OF THE NEW CONDUIT REQUIRED TO REPLACE OR EXTEND THE EXISTING DRAIN WILL BE DETERMINED BY THE ENGINEER. CONDUIT TYPES 707.43, 707.44 (SAN.) MAY BE USED.

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

603, 300mm CONDUIT, TYPE E, FOR DRAINAGE CONNECTION 50m

ITEM 603, TYPE A CONDUIT

THE LOCATION, TYPE, SIZE AND GRADE OF THE NEW TYPE A CONDUIT WILL BE AS SHOWN IN THE PLANS. CONDUIT TYPES 706.01 AND 706.02 MAY BE USED.

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 OF DEFIANCE FORCES.

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

PROFILE AND ALIGNMENT

THE PROPOSED PAVEMENT RESURFACING SHALL FOLLOW THE PROFILE OF THIS PLAN AND THE ALIGNMENT OF THE EXISTING PAVEMENT. PREVIOUS CONSTRUCTION PLANS, PROJECT NO. DEF-66-3.40, SHOWING THE ORIGINAL ALIGNMENT AND PROFILE, ARE AVAILABLE FOR INSPECTION AT THE ODOT DISTRICT 1 OFFICE. THE PROPOSED ASPHALT CONCRETE OVERLAY SHALL BE AS SHOWN ON THE TYPICAL SECTIONS.

PART-WIDTH CONSTRUCTION

BECAUSE OF THE NECESSITY TO BUILD THIS PROJECT UNDER TRAFFIC AND CONSTRUCTING THE FULL PAVEMENT WIDTH IN STAGES, EXTREME CARE SHALL BE TAKEN TO PREVENT THE CONSTRUCTION OF A BUTT JOINT IN THE BASE COURSES. LONGITUDINAL JOINTS SHALL BE LAPPED AS SHOWN ON STANDARD CONSTRUCTION DRAWING BP-3.1M.

ITEM 407, TACK COAT/TACK COAT FOR INTERMEDIATE COURSE

THE RATE OF APPLICATION OF THE 407 TACK COAT SHALL BE SUBJECT TO ADJUSTMENT AS DIRECTED BY THE ENGINEER. PLAN QUANTITIES INDICATE AN AVERAGE APPLICATION RATE OF 0.4 LITERS PER SQUARE METER OF TACK COAT FOR ESTIMATING PURPOSES ONLY.

CALCULATED P.M.G.
CHECKED P.J.B.

GENERAL NOTES

DEF-66-5.472(3.40)

CAD FILE : GN_DEF02
DATE : 11/04/97
OPERATOR : P.M.G.
PLOT SCALE : 1=1

GENERAL NOTES - MAINTENANCE OF TRAFFIC

TEMPORARY PAVEMENT MARKINGS

THE S.R. 66 SHALL NOT BE OPENED TO TRAFFIC UNTIL EITHER THE PERMANENT OR TEMPORARY MARKINGS ARE IN PLACE. TEMPORARY PAVEMENT MARKINGS SHALL BE PROVIDED AS DIRECTED BY THE ENGINEER.

ITEM 614 TEMPORARY CENTER LINE, CLASS I, 642 PAINT 6.60 km
ITEM 614 TEMPORARY CENTER LINE, CLASS II, 642 PAINT 1.70 km
ITEM 614 TEMPORARY STOP LINE, CLASS I, 642 PAINT 120 m
ITEM 614 TEMPORARY EDGE LINE, CLASS I, 642 PAINT 10.00 km

(CARRIED TO GENERAL SUMMARY)

LIGHTS AND SIGNS AT ADJACENT ROAD INTERSECTIONS

THE CONTRACTOR SHALL, IN ADDITION TO THE GENERAL REQUIREMENTS OF ITEM 614 ON THIS PROJECT PERFORM THE FOLLOWING:

PROVIDE, ERECT AND MAINTAIN STANDARD 1219mm x 914mm "ROAD CLOSED" (R-75) SIGNS AND TYPE III BARRICADES AT ADJACENT INTERSECTIONS DURING THE PERIODS WHERE THE ROADWAY IS CLOSED TO TRAFFIC, AS PER C-7 OF THE OMUTCD.

SIGN SUPPORTS AND LIGHTS FOR "ROAD CLOSED" SIGNS SHALL BE AS DETAILED IN THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR PROVIDING, ERECTING, MAINTAINING, AND REMOVING LIGHTS, SIGNS, AND SIGN SUPPORTS SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614 MAINTAINING TRAFFIC, AS PER PLAN.

ITEM 614, MAINTAINING TRAFFIC, AS PER PLAN

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH 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 614, MAINTAINING TRAFFIC, AS PER PLAN, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

TWO-WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES ON S.R. 66, USING EXISTING OR RECONSTRUCTED PAVEMENT AND SHOULDERS. DURING LIMITED PERIODS FLAGGERS MAY BE USED TO PROVIDE TWO-WAY TRAFFIC.

THE FOLLOWING ESTIMATED QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER FOR THE MAINTENANCE OF TRAFFIC.

ITEM 404	BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC	200 CU. METERS
ITEM 410	TRAFFIC COMPACTED SURFACE, TYPE A OR B	100 CU. METERS
ITEM 616	CALCIUM CHLORIDE	5 METRIC TONS
ITEM 616	WATER	100 CU. METERS
ITEM 622	PORTABLE CONCRETE BARRIER, 813 mm	1900 METERS
ITEM 626	BARRIER REFLECTOR, TYPE B	75 EACH
ITEM 614	OBJECT MARKER	75 EACH

(CARRIED TO GENERAL SUMMARY)

ITEM 614 - BARRIER REFLECTORS

BARRIER REFLECTORS AND OBJECT MARKERS SHALL BE INSTALLED ON ALL PORTABLE CONCRETE BARRIER USED FOR TRAFFIC CONTROL. BARRIER REFLECTORS, OBJECT MARKERS AND THEIR INSTALLATION SHALL CONFORM TO THE APPROPRIATE PROPOSAL NOTE AND ITEM 626 EXCEPT THAT THE SPACING SHALL BE 8 METERS. AN ESTIMATED QUANTITY OF 75 EACH OF ITEM 614 BARRIER REFLECTOR, TYPE B, AND 75 EACH OF ITEM 614 OBJECT MARKERS HAVE BEEN PROVIDED AND CARRIED TO THE GENERAL SUMMARY.

THE FOLLOWING REQUIREMENTS MUST BE MET FOR THE M.O.T.:

1. IT WILL BE NECESSARY TO MAINTAIN TWO-WAY TRAFFIC DURING THE RECONSTRUCTION OF SR 66. THESE LANES SHALL BE 3.0 M IN EACH DIRECTION AT ALL TIMES. THE NEWLY RECONSTRUCTED SHOULDERS SHOULD BE USED FOR MAINTAINING TRAFFIC.
2. GINTER ROAD AND GREENLER ROAD SHALL BE CLOSED DURING THEIR RECONSTRUCTION. PALMER DRIVE AND SHERWOOD DRIVE MAY BE CLOSED TEMPORARILY, AS NEEDED. AT NO TIME SHALL GREENLER ROAD AND PALMER DRIVE BE SIMULTANEOUSLY CLOSED.
3. THE CONTRACTOR SHALL CONDUCT HIS WORK IN SUCH A WAY AS TO PREVENT ANY TRAPPING OR PONDING OF WATER ON THE ROADWAY.
4. ALL LANE TRANSITIONS SHALL CONSIST OF A MINIMUM 35:1 TAPER.
5. THE CONTRACTOR SHALL MAINTAIN THE DIFFERENCES IN ROADWAY SURFACE ELEVATIONS TO COMPLY WITH THE "DROPOFF IN WORKZONE" SHEET.
6. THE CONTRACTOR MAY USE PORTABLE CONCRETE BARRIERS DURING ASPHALT PLANING AND PAVING OPERATIONS.

GUARDRAIL REPLACEMENT

NO HAZARD SHALL BE LEFT UNPROTECTED EXCEPT FOR THE ACTUAL TIME NECESSARY TO REMOVE THE EXISTING GUARDRAIL, PREPARE THE SITE, AND INSTALL NEW GUARDRAIL IN A CONTINUOUS OPERATION. THE REMOVAL OF ALL GUARDRAIL SHALL AT ALL TIMES BE AS DIRECTED BY THE ENGINEER. NO GUARDRAIL SHALL BE REMOVED UNTIL THE REPLACEMENT MATERIAL IS ON SITE, READY FOR INSTALLATION. FAILURE TO COMPLY WITH THIS REQUIREMENT SHALL BE DEEMED SUFFICIENT CAUSE TO ORDER WORK SUSPENDED UNTIL SUCH TIME AS THE ENGINEER IS ASSURED OF COMPLIANCE.

ITEM 622, PORTABLE CONCRETE BARRIER, 813 mm.

IT IS ANTICIPATED THAT PORTABLE CONCRETE BARRIER WILL BE USED DURING BENCHING OF FOUNDATION SLOPES. MOVEMENT OF THE CONCRETE BARRIER BETWEEN PHASES SHALL BE ACCOMPLISHED IN ONE WORKING DAY. FLAGGERS SHALL BE UTILIZED FOR PROTECTION OF VEHICULAR TRAFFIC UNTIL MOVEMENT OF THE BARRIER IS COMPLETE.

ITEM SPECIAL, REPLACEMENT DRUM

DRUMS FURNISHED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF THE PLANS, SPECIFICATIONS AND PROPOSAL WHICH BECOME DAMAGED BY TRAFFIC FOR REASONS BEYOND THE CONTROL OF THE CONTRACTOR SHALL BE REPLACED IN KIND WHEN ORDERED BY THE ENGINEER. REPLACEMENT DRUMS SHALL BE NEW.

PAYMENT FOR THE NEW DRUMS SHALL BE MADE AT THE CONTRACT PRICE PER EACH FOR ITEM SPECIAL, REPLACEMENT DRUM, AND SHALL INCLUDE THE COST OF REMOVING AND DISPOSING OF THE DAMAGED DRUM, AND PROVIDING AND MAINTAINING THE REPLACEMENT DRUM IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS FOR THE ORIGINAL DRUM.

AN ESTIMATED QUANTITY OF 25 EACH HAS BEEN PROVIDED IN THE GENERAL SUMMARY.

ITEM SPECIAL, REPLACEMENT SIGN

FLAT SHEET SIGNS FURNISHED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF THE PLANS, SPECIFICATIONS AND PROPOSAL WHICH BECOME DAMAGED BY TRAFFIC FOR REASONS BEYOND THE CONTROL OF THE CONTRACTOR SHALL BE REPLACED IN KIND WHEN ORDERED BY THE ENGINEER. REPLACEMENT SIGNS SHALL BE NEW. OTHER MATERIALS MAY BE USED BUT IN GOOD CONDITION SUBJECT TO APPROVAL BY THE ENGINEER.

PAYMENT FOR THE NEW SIGNS SHALL BE MADE AT THE CONTRACT PRICE PER SQUARE METER FOR ITEM SPECIAL, REPLACEMENT SIGN, AND SHALL INCLUDE THE COST OF REMOVING AND DISPOSING OF DAMAGED SIGNS, HARDWARE AND SUPPORTS, AND PROVIDING THE NECESSARY REPLACEMENT HARDWARE, SUPPORTS, ETC.

AN ESTIMATED QUANTITY OF 10 SQUARE METERS HAS BEEN PROVIDED IN THE GENERAL SUMMARY.

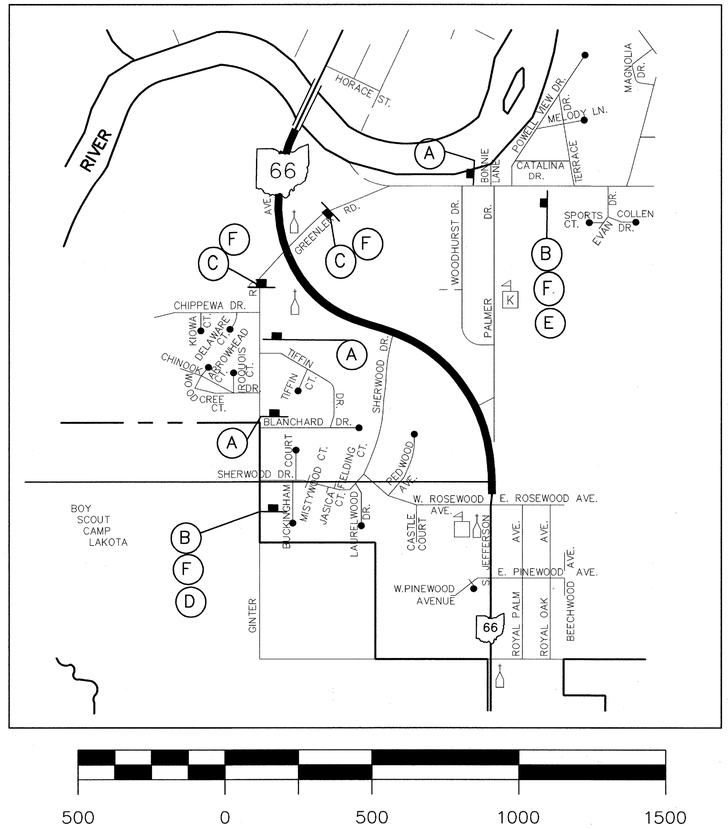
TRENCHES

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.

THE BASE WIDENING SHALL BE COMPLETED TO A DEPTH OF NO MORE 127 MILLIMETERS BELOW THE EXISTING PAVEMENT BY THE END OF EACH WORK DAY. NO TRENCH SHALL BE LEFT OPEN OVERNIGHT EXCEPT FOR A SHORT LENGTH (7.5 METERS OR LESS) OF A WORK SECTION AT THE END OF THE TRENCH. IN CASE WORK MUST BE SUSPENDED BECAUSE OF INCLEMENT WEATHER OR OTHER REASONS, THE TRENCH FOR THE UNCOMPLETED BASE WIDENING SHALL BE BACKFILLED AT THE DIRECTION OF THE ENGINEER.

THE CONTRACTOR WILL COMPLY WITH GUIDELINES SET FORTH IN "DROPOFFS IN WORK ZONES" ON SHEET 10 OF THESE PLANS.

PROPOSED SIGNING FOR THE CLOSING OF GINTER RD./GREENLER RD.

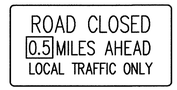


SCALE IN METERS



OW-120-36

A



R-76A-60

B



R-75-48

C



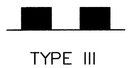
D-8G-48

D



D-8G-48

E



TYPE III BARRICADE

F

SIGN CODE	BALLOON LETTER	QUANTITY NEEDED
OW-120-36	A	3
R-76A-60	B	2
R-75-48	C	2
D-8G-48	D	1
D-8G-48	E	1
TYPE III BARRICADE	F	4

CALCULATED P.M.G. CHECKED P.J.B.

MAINTENANCE OF TRAFFIC GENERAL NOTES

DEF-66-5.472(3.40)

CAD FILE : GN_MOT
DATE : 09/07/07
OPERATOR : P.M.G.
PLOT SCALE : 1=1

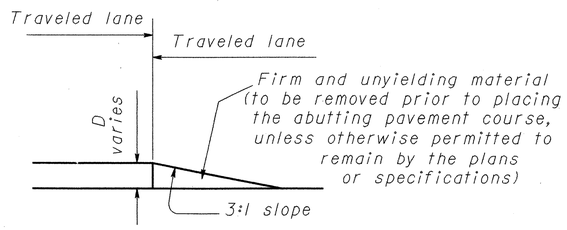
GENERAL NOTES

1. It is intended that this drawing be used for treatment of drop-offs that develop during construction operations, and that are not otherwise provided for in the construction plans. Where the plans do not provide specific items for labor, equipment, or materials to implement the drop-off treatments specified hereon, they shall be included for payment in the lump sum bid for Item 614 - Maintaining Traffic.
2. While the need for certain advisory signing is noted hereon, it is not intended that this be indicative of all signing that may be required to advise or warn motorists, and all requirements of the Ohio Manual of Uniform Traffic Control Devices (OMUTCD) must be fulfilled.
3. In urban or otherwise heavily developed areas where pedestrians and/or bicyclists may be present in significant numbers, additional signing and protective measures other than those shown hereon may be required.
4. The drop-off treatment selected for use at any given location shall be as appropriate for the prevailing conditions at the site.
5. Where concrete barrier is specified, it shall be in accordance with Standard Construction Drawing MC-9.2M and Item 622.
6. When drums are specified for a dropoff condition, a minimum number of four drums shall be used. Spacing shall be as indicated in the plans or as specified in the OMUTCD.
7. When OW-151 (Low Shoulder) signs or OW-171 (Uneven Lanes) and OWP-171 signs are required, they shall be placed 230 meters in advance of the condition, on all intersecting entrance ramps within the limits of the condition and immediately beyond all intersecting roadways within the limits of the condition. When the dropoff condition extends more than 800 meters, additional signs should be erected at intervals of 1.6 kilometer or less.
8. For locations, such as at ramps, lane shifts, lane closures, etc., where traffic is required to negotiate any difference in elevation between pavements, a 3:1 slope treatment similar to the Optional Wedge Treatment shall be provided.
9. Portable concrete barrier shall be placed on the same level as the traffic surface and shall not encroach on lane width(s) designated as the minimum required for traffic use. Where drums are used, and their presence would reduce traveled lane widths to less than 3.0 m, drums may be placed on the opposite level from that of traffic provided the dropoff depth does not exceed 127 mm and approval is granted by the Project Engineer.
10. Pavement Repairs (or similar work):
    a. Lengths greater than 20 meters - utilize appropriate treatment from Condition I.
    b. Lengths of 20 meters or less - repairs shall be effected in accordance with Item 255.08. Drums may be used as a seperator adjacent to the traveled lane.

OPTIONAL WEDGE TREATMENT

(MILLING OR RESURFACING)

1. This treatment may be used when permitted for Condition I only.
2. OW-171 and OWP-171 signs required.



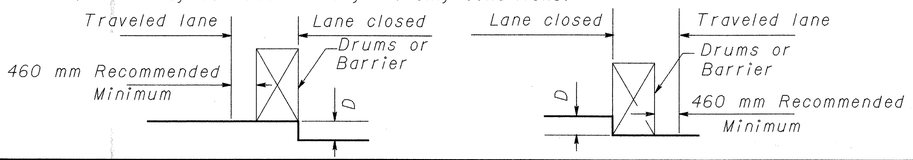
CONDITION I

DROPOFFS BETWEEN TRAVELED LANES

1. These treatments are to be used for resurfacing, pavement planing, excavation, etc. between or within traveled lanes.

D (mm)	Treatment
≤38	Erect OW-171 and OWP-171 signs.
>38-76	1) Lane closure utilizing drums * as shown below OR 2) Optional Wedge Treatment
>76-127	Lane closure utilizing drums as shown below.
>127	Lane closure utilizing portable concrete barrier as shown below.

* Cones may be used for daytime only conditions.



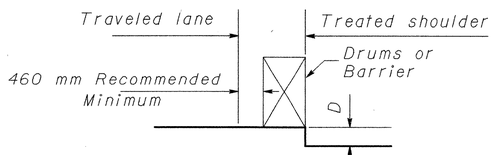
CONDITION II

DROPOFFS WITHIN GRADED SHOULDER AREA

1. The treatments indicated below are for use in conjunction with resurfacing, planing, or excavations within the graded shoulder area.
2. The graded shoulder area is that flat or gradually sloping area between the edge of a normally traveled lane and the more steeply sloping ditch foreslope or embankment area (improved with aggregates, asphaltic materials, or concrete). For the purposes herein, its maximum width shall be considered to be 3.6 meters.

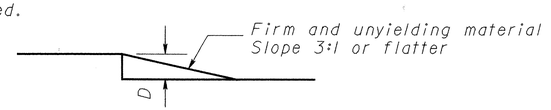
D (mm)	Treatment
≤38	1) If edgelines are present, no treatment necessary OR 2) Erect OW-171 and OWP-171 signs.
>38-127	1) If min. lane width * requirements can be met, maintain lanes utilizing drums as shown below OR 2) If min. lane width * requirements cannot be met, close adjacent lane utilizing drums OR 3) Optional Shoulder Treatment.
>76-305 Daylight only	If min. lane width * requirements can be met, maintain lanes utilizing drums as shown below.
>76-610	1) If min. lane width * requirements can be met, maintain lanes utilizing portable concrete barrier as shown below. OR 2) If min. lane width * requirements cannot be met, close adjacent lane utilizing drums.
>610	Lane closure utilizing portable concrete barrier as shown below.

* Minimum lane widths shall be 3.0 meters unless otherwise specified in the plans.



OPTIONAL SHOULDER TREATMENT

1. This treatment may not be used within a bituminous shoulder where a hot longitudnal joint per Item 401.15 is required.
2. OW-151 signs required.



OHIO
FHWA REGION 5

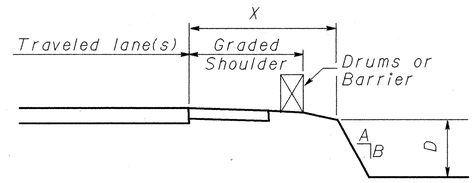
CONDITION III

DROPOFFS BEYOND GRADED SHOULDER OR BACK OF CURB

1. See Note 2 under Condition II.
2. Use Chart A or B below, as applicable.

CHART A

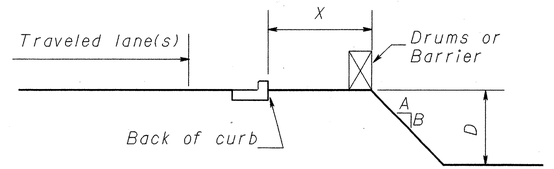
USE FOR:
1. Uncurbed Facilities.
2. Curbed Facilities, where:
   a. Curbs are less than 150 mm in height.
   b. Curbs are 150 mm or greater in height and the legal speed is 70 km/h or greater.



X (m)	D (mm)	A/B	Treatment Required	
			Day	Night
0-1.2	Any	Any	(a)	(a)
1.2-9.1	Any	3:1 or Flatter	None	None
1.2-3.6	≤76	Steeper than 3:1	None	None
1.2-3.6	>76-≤305	Steeper than 3:1	Drums	Drums
1.2-3.6	>305	Steeper than 3:1	Drums	Barrier
>3.6-6.1	≤305	Steeper than 3:1	None	None
>3.6-6.1	>305-≤610	Steeper than 3:1	Drums	Drums
>3.6-6.1	>610	Steeper than 3:1	Drums	Barrier
>6.1-9.1	<610	Steeper than 3:1	None	Drums
>6.1-9.1	≥610	Steeper than 3:1	Drums	Barrier
>9.1	Any	Any	None	None
(a) Use treatment specified under Condition II.				

CHART B

USE FOR: Curbed facilities, where the curb is 150 mm or greater in height and the legal speed less than 70 km/h.



X (m)	D (mm)	A/B	Treatment Required	
			Day	Night
0-3.0	<305	Any	None	Drums
0-3.0	>305	Any	Drums	Drums
>3.0	Any	Any	None	None

METRIC

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
BUREAU OF LOCATION AND DESIGN

10 / 70

DROPOFFS IN WORK ZONES

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
						1/94

CALCULATIONS

* AREAS BY A.C.A.D.
** AREAS BY EAGLE POINT CROSS SECTIONS

ITEM 448 – SURFACE COURSE, TYPE 1, PG64–22

STA. 5+475 TO STA. 5+485 (BUTT JOINT)
0.032 m X (9.032m + 9.061m)/2 X 10.0 m = 2.90 m^3
STA. 5+485 TO STA. 6+543.90
0.032 m X (3.6 m + 3.6 m) X 1058.90 m = 243.97 m^3
STA. 6+543.90 TO STA. 6+626.107
0.032 m X (7.2 m + 10.4 m)/2 X 82.207 m = 23.15 m^3
STA. 6+626.107 TO STA. 6+739.644
0.032 m X 10.4 m X 113.537 m = 37.79 m^3
STA. 6+739.644 TO STA. 6+825.542
0.032 m X (10.4 m +7.2 m)/2 X 85.898 m = 24.19 m^3
STA. 6+825.542 TO STA. 7+140
0.032 m X 7.2 m X 314.458 m = 72.45 m^3

ADD FOR INTERSECTIONS:

PALMER DRIVE
354 m^2(AREA BY AUTOCAD) X 0.032 m = 11.33 m^3
(INCLUDES BUTT JOINT)

SHERWOOD DRIVE
173 m^2(AREA BY AUTOCAD) X 0.032 m = 5.54 m^3
(INCLUDES BUTT JOINT)

GINTER ROAD
STA. 0+101.410 TO STA. 0+111.410
(6.50 m)AVERAGE WIDTH X 1.00 m X 0.032 m = 0.21 m^3
STA. 0+111.410 TO STA. 0+173.236
549 m^2(AREA BY AUTOCAD) X 0.032 m = 17.57 m^3
STA. 0+173.236 TO STA. 0+192.777
326 m^2(AREA BY AUTOCAD) X 0.032 m = 10.43 m^3

GREENLER ROAD
STA. 0+203.903 TO STA. 0+225.149
351 m^2(AREA BY AUTOCAD) X 0.032 m = 11.23 m^3
STA. 0+225.149 TO STA. 0+254.055
28.906 m X 10.8 m X 0.032 m = 9.99 m^3
STA. 0+254.055 TO STA. 0+310
55.945 m X (10.8 m + 6.54 m)/2 X 0.032 m = 15.52 m^3
STA. 0+310 TO STA. 0+311
1.00 m X 6.30 m X 0.032 m = 0.20 m^3

ADD FOR SHOULDERS

STA. 5+485 TO STA. 5+592.750 (SHOULDER LT.)
0.032 m X (0.555 m + 3.600 m)/2 X 107.75 m = 7.16 m^3
STA. 5+485 TO STA. 5+592.750 (SHOULDER RT.)
0.032 m X (3.600 m) X 107.75 m = 12.14 m^3
STA. 5+592.750 TO STA. 6+132.938 (SHOULDER LT.)
0.032 m X (3.600 m) X 540.188 m = 62.23 m^3
STA. 5+592.750 TO STA. 5+758.952 (SHOULDER RT.)
0.032 m X (3.600 m) X 166.202 m = 19.15 m^3
ADD FOR PALMER DR. INTERSECTION (SHOULDER)
0.032 m X (108.535 m^2+ 78.513 m^2) = 5.99 m^3
STA. 5+805.793 TO STA. 6+649.222 (SHOULDER RT.)
0.032 m X (3.600 m) X 843.429 m = 97.16 m^3
STA. 6+156.230 TO STA. 6+643.896 (SHOULDER LT.)
0.032 m X (3.600 m) X 487.666 m = 56.18 m^3
GINTER ROAD STA.0+111.410 TO STA. 0+184.284 (SHOULDER LT.)
0.032 m X (1.20 m) X 72.874 m = 2.80 m^3
GINTER ROAD STA.0+111.410 TO STA. 0+173.236 (SHOULDER RT.)
0.032 m X (1.20 m) X 61.826 m = 2.37 m^3
ADD FOR INTERSECTION GINTER/GREENLER RDS. (SHOULDERS)
0.032 m X (40.632 m^2+ 43.903 m^2+ 40.804 m^2+ 42.493 m^2) = 5.37 m^3
GREENLER ROAD STA.0+225.149 TO STA. 0+310 (SHOULDER LT.)
0.032 m X (1.20 m) X 84.851 m = 3.26 m^3
GREENLER ROAD STA.0+215.342 TO STA. 0+254.055 (SHOULDER RT.)
0.032 m X (1.20 m) X 38.713 m = 1.49 m^3
GREENLER ROAD STA.0+ 54.055 TO STA. 0+310 (SHOULDER RT.)
0.032 m X (1.20 m+ 0 m)/2 X 55.945 m = 1.07 m^3
STA. 6+685.867 TO STA. 6+750 (SHOULDER LT.)
0.032 m X (3.600 m) X 64.133 m = 7.39 m^3
STA. 6+691.241 TO STA. 6+750 (SHOULDER RT.)
0.032 m X (3.600 m) X 58.759 m = 6.77 m^3
STA. 6+750 TO STA. 6+755 (SHOULDER RT. & LT.)
0.032 m X [(3.6m +3.0m)/2 +(3.6m +3.0m)/2] X 5.00 m = 1.06 m^3
STA. 6+755 TO STA. 7+114.905 (SHOULDER RT. & LT.)
0.032 m X 2(3.00 m) X 359.905 m = 69.10 m^3
STA. 7+114.905 TO STA. 7+140 (SHOULDER LT.)
0.032 m X (3.00 m + 1.517 m)/2 X 25.095 m = 1.81 m^3
STA. 7+114.905 TO STA. 7+140 (SHOULDER RT.)
0.032 m X (3.00 m + 2.277 m)/2 X 25.095 m = 4.24 m^3

TOTAL = 853.21 m^3

ITEM 448 – INTERMEDIATE COURSE, TYPE 2, PG64–22**

STA. 5+485 TO STA. 5+500
((0.511 m^2+ 0.692 m^2)/2)(15.00 m) = 9.02 m^3
STA. 5+500 TO STA. 5+520
((0.692 m^2+ 0.720 m^2)/2)(20.00 m) = 14.12 m^3
STA. 5+520 TO STA. 5+540
((0.720 m^2+ 1.075 m^2)/2)(20.00 m) = 17.95 m^3
STA. 5+540 TO STA. 5+566.998
((1.075 m^2+ 0.615 m^2)/2)(26.998 m) = 22.81 m^3
STA. 5+566.998 TO STA. 5+584.594
((0.615 m^2+ 0.924 m^2)/2)(17.596 m) = 13.54 m^3
STA. 5+584.594 TO STA. 5+603.448
((0.924 m^2+ 0.648 m^2)/2)(18.854 m) = 14.82 m^3
STA. 5+603.448 TO STA. 5+620.502
((0.648 m^2 + 1.185 m^2)/2)(17.054 m) = 15.63 m^3
STA. 5+620.502 TO STA. 5+640
((1.185 m^2+ 0.715 m^2)/2)(19.498 m) = 18.52 m^3
STA. 5+640 TO STA. 5+660
((0.715 m^2+ 0.718 m^2)/2)(20.00 m) = 14.33 m^3
STA. 5+660 TO STA. 5+680
((0.718 m^2+ 0.722 m^2)/2)(20.00 m) = 14.40 m^3
STA. 5+680 TO STA. 5+700
((0.722 m^2+ 0.743 m^2)/2)(20.00 m) = 14.65 m^3
STA. 5+700 TO STA. 5+720
((0.743 m^2 + 0.817 m^2)/2)(20.00 m) = 15.60 m^3
STA. 5+720 TO STA. 5+740
((0.817 m^2+ 0.781 m^2)/2)(20.00 m) = 15.98 m^3
STA. 5+740 TO STA. 5+760
((0.781 m^2+ 0.802 m^2)/2)(20.00 m) = 15.83 m^3
STA. 5+760 TO STA. 5+800
((0.802 m^2+ 1.059 m^2)/2)(40.00 m) = 37.22 m^3
STA. 5+800 TO STA. 5+820
((1.059 m^2+ 0.774 m^2)/2)(20.00 m) = 18.33 m^3
STA. 5+820 TO STA. 5+840
((0.774 m^2 + 0.740 m^2)/2)(20.00 m) = 15.14 m^3
STA. 5+840 TO STA 5+860
((0.740 m^2 + 0.699 m^2)/2)(20.00 m) = 14.39 m^3
STA. 5+860 TO STA 5+880
((0.699 m^2+ 0.750 m^2)/2)(20 m) = 14.49 m^3
STA. 5+880 TO STA. 5+900
((0.750 m^2+ 0.712 m^2)/2)(20.00 m) = 14.62 m^3
STA. 5+900 TO STA. 5+920
((0.712 m^2+ 0.838 m^2)/2)(20.00 m) = 15.50 m^3
STA. 5+920 TO STA 5+940
((0.838 m^2 + 0.695 m^2)/2)(20.00 m) = 15.33 m^3
STA. 5+940 TO STA. 5+960
((0.695 m^2+ 0.725 m^2)/2)(20.00 m) = 14.20 m^3
STA. 5+960 TO STA. 5+980
((0.725 m^2+ 0.740 m^2)/2)(20.00 m) = 14.65 m^3
STA. 5+980 TO STA. 6+004.301
((0.740 m^2+ 0.741 m^2)/2)(24.301 m) = 17.99 m^3
STA. 6+004.301 TO STA. 6+020
((0.741 m^2+ 0.825 m^2)/2)(15.699 m) = 12.29 m^3
STA. 6+020 TO STA. 6+040
((0.825 m^2+ 0.889 m^2)/2)(20.00 m) = 17.14 m^3
STA. 6+040 TO STA. 6+060
((0.889 m^2+ 0.779 m^2)/2)(20.00 m) = 16.68 m^3
STA. 6+060 TO STA. 6+080
((0.779 m^2+ 0.882 m^2)/2)(20.00 m) = 16.61 m^3
STA. 6+080 TO STA. 6+100
((0.882 m^2+ 0.938 m^2)/2)(20.00 m) = 18.20 m^3
STA. 6+100 TO STA. 6+120
((0.938 m^2+ 1.051 m^2)/2)(20.00 m) = 19.89 m^3
STA. 6+120 TO STA. 6+160
((1.051 m^2+ 0.747 m^2)/2)(40.00 m) = 35.96 m^3
STA. 6+160 TO STA. 6+182.151
((0.747 m^2+ 1.345 m^2)/2)(22.151 m) = 23.17 m^3
STA. 6+182.151 TO STA. 6+200
((1.345 m^2+ 0.745 m^2)/2)(17.849 m) = 18.65 m^3
STA. 6+200 TO STA. 6+221.979
((0.745 m^2+ 0.730 m^2)/2)(21.979 m) = 16.21 m^3
STA. 6+221.979 TO STA. 6+240
((0.730 m^2+ 1.447 m^2)/2)(18.02 m) = 19.61 m^3
STA. 6+240 TO STA. 6+260
((1.447 m^2+ 0.648 m^2)/2)(20.00 m) = 20.95 m^3
STA. 6+260 TO STA. 6+280
((0.648 m^2+ 1.128 m^2)/2)(20.00 m) = 17.76 m^3
STA. 6+280 TO STA. 6+300
((1.128 m^2+ 1.115 m^2)/2)(20.00 m) = 22.43 m^3
STA. 6+300 TO STA. 6+320
((1.115 m^2+ 0.958 m^2)/2)(20.00 m) = 20.73 m^3
STA. 6+320 TO STA. 6+340
((0.958 m^2+ 1.007 m^2)/2)(20.00 m) = 19.65 m^3
STA. 6+340 TO STA. 6+360
((1.007 m^2+ 0.917 m^2)/2)(20.00 m) = 19.24 m^3
STA. 6+360 TO STA. 6+380
((0.917 m^2+ 0.648 m^2)/2)(20.00 m) = 15.65 m^3
STA. 6+380 TO STA. 6+400
((0.648 m^2+ 0.715 m^2)/2)(20.00 m) = 13.63 m^3
STA. 6+400 TO STA. 6+420
((0.715 m^2+ 0.734 m^2)/2)(20.00 m) = 14.49 m^3
STA. 6+420 TO STA. 6+440
((0.734 m^2+ 0.811 m^2)/2)(20.00 m) = 15.45 m^3
STA. 6+440 TO STA. 6+460
((0.811 m^2+ 0.783 m^2)/2)(20.00 m) = 15.94 m^3
STA. 6+460 TO STA. 6+478.802
((0.783 m^2+ 0.745 m^2)/2)(18.802 m) = 14.36 m^3
STA. 6+478.802 TO STA. 6+500
((0.745 m^2+ 0.755 m^2)/2)(21.198 m) = 15.90 m^3
STA. 6+500 TO STA. 6+524.921
((0.755 m^2+ 0.648 m^2)/2)(24.921 m) = 17.48 m^3
STA. 6+524.921 TO STA. 6+540
((0.648 m^2+ 0.708 m^2)/2)(15.079 m) = 10.22 m^3
STA. 6+540 TO STA. 6+560
((0.708 m^2+ 0.759 m^2)/2)(20.00 m) = 14.67 m^3
STA. 6+560 TO STA. 6+582.738
((0.759 m^2+ 0.791 m^2)/2)(22.738 m) = 17.62 m^3
STA. 6+582.738 TO STA. 6+600
((0.791 m^2+ 0.897 m^2)/2)(17.262 m) = 14.57 m^3
STA. 6+600 TO STA. 6+620
((0.897 m^2+ 0.862 m^2)/2)(17.262 m) = 15.18 m^3
STA. 6+620 TO STA. 6+640
((0.862 m^2+ 0.881 m^2)/2)(20.00 m) = 17.43 m^3
STA. 6+640 TO STA. 6+643.896
((0.881 m^2+ 1.074 m^2)/2)(3.896 m) = 3.81 m^3
STA. 6+643.896 TO STA. 6+691.241
((1.074 m^2+ 0.971 m^2)/2)(47.345 m) = 48.41 m^3
STA. 6+691.241 TO STA. 6+700
((0.971 m^2+ 1.442 m^2)/2)(8.76 m) = 10.57 m^3
STA. 6+700 TO STA. 6+720
((1.442 m^2+ 1.099 m^2)/2)(20.00 m) = 25.41 m^3
STA. 6+720 TO STA. 6+740
((1.099 m^2+ 0.900 m^2)/2)(20.00 m) = 19.99 m^3
STA. 6+740 TO STA. 6+751.929
((0.900 m^2+ 0.877 m^2)/2)(11.929 m) = 10.60 m^3
STA. 6+751.929 TO STA. 6+780
((0.877 m^2+ 0.721 m^2)/2)(28.071 m) = 22.43 m^3

CALCULATED M/CH CHECKED

PAVEMENT CALCULATIONS

STATE ROUTE 66

CAD FILE : CALC_001
DATE : 11/4/97
OPERATOR : M.C.H./T.R.C.
PLOT SCALE : 1=1

CALCULATIONS

* AREAS BY A.C.A.D.
** AREAS BY EAGLE POINT CROSS SECTIONS

ITEM 448 – INTERMEDIATE COURSE, TYPE 2, PG64–22**
(CONTINUED)

STA. 6+780 TO STA. 6+800
((0.721 m^2+ 0.718 m^2)/2)(20.00 m) = 14.39 m^3
STA. 6+800 TO STA. 6+820
((0.718 m^2+ 0.673 m^2)/2)(20.00 m) = 13.91 m^3
STA. 6+820 TO STA. 6+840
((0.673 m^2+ 0.647 m^2)/2)(20.00 m) = 13.20 m^3
STA. 6+840 TO STA. 6+860
((0.647 m^2+ 0.653 m^2)/2)(20.00 m) = 13.00 m^3
STA. 6+860 TO STA. 6+880
((0.653 m^2+ 0.654 m^2)/2)(20.00 m) = 13.07 m^3
STA. 6+880 TO STA. 6+900
((0.654 m^2+ 0.656 m^2)/2)(20.00 m) = 13.10 m^3
STA. 6+900 TO STA. 6+920
((0.656 m^2+ 0.654 m^2)/2)(20.00 m) = 13.10 m^3
STA. 6+920 TO STA. 6+940
((0.654 m^2+ 0.681 m^2)/2)(20.00 m) = 13.35 m^3
STA. 6+940 TO STA. 6+960
((0.681 m^2+ 0.682 m^2)/2)(20.00 m) = 13.63 m^3
STA. 6+960 TO STA. 6+980
((0.682 m^2+ 0.656 m^2)/2)(20.00 m) = 13.38 m^3
STA. 6+980 TO STA. 7+000
((0.656 m^2+ 0.685 m^2)/2)(20.00 m) = 13.41 m^3
STA. 7+000 TO STA. 7+020
((0.685 m^2+ 0.676 m^2)/2)(20.00 m) = 13.61 m^3
STA. 7+020 TO STA. 7+040
((0.676 m^2+ 0.661 m^2)/2)(20.00 m) = 13.37 m^3
STA. 7+040 TO STA. 7+060
((0.661 m^2+ 0.945 m^2)/2)(20.00 m) = 16.06 m^3
STA. 7+060 TO STA. 7+080
((0.945 m^2+ 0.626 m^2)/2)(20.00 m) = 15.71 m^3
STA. 7+080 TO STA. 7+100
((0.626 m^2+ 0.717 m^2)/2)(20.00 m) = 13.43 m^3
STA. 7+100 TO STA. 7+120
((0.717 m^2+ 1.178 m^2)/2)(20.00 m) = 18.95 m^3
STA. 7+120 TO STA. 7+140
((1.178 m^2+ 0.894 m^2)/2)(20.00 m) = 20.72 m^3

ADD FOR INTERSECTIONS:

PALMER DRIVE (INCLUDES SHOULDER)
371 m^2(AREA BY AUTOCAD) X 0.045 m = 16.70 m^3
(INCLUDES BUTT JOINT)

SHERWOOD DRIVE
88 m^2(AREA BY AUTOCAD) X 0.045 m = 3.96 m^3
(INCLUDES BUTT JOINT)

GINTER ROAD
STA. 0+110.410 TO STA. 0+111.410
6.50 m X 1.00 m X 0.045 m = 0.29 m^3
STA. 0+111.410 TO STA. 0+173.236
549 m^2(AREA BY AUTOCAD) X 0.045 m = 24.71 m^3
STA. 0+173.236 TO STA. 0+189.510
224.5 m^2(AREA BY AUTOCAD) X 0.045 m = 10.10 m^3

GREENLER ROAD
STA. 0+207.720 TO STA. 0+225.149
236 m^2(AREA BY AUTOCAD) X 0.045 m = 10.62 m^3
STA. 0+225.149 TO STA. 0+254.055
28.906 m X 10.8 m X 0.045 m = 14.05 m^3
STA. 0+254.055 TO STA. 0+310
55.945 m X (10.8 m + 6.54 m)/2 X 0.045 m = 21.83 m^3
STA. 0+310 TO STA. 0+311
1.00 m X 6.30 m X 0.045 m = 0.28 m^3
GINTER ROAD STA.0+111.410 TO STA. 0+184.284 (SHOULDER LT.)
0.045 m X (1.20 m) X 72.874 m = 3.94 m^3
GINTER ROAD STA.0+111.410 TO STA. 0+173.236 (SHOULDER RT.)
0.045 m X (1.20 m) X 61.826 m = 3.34 m^3
ADD FOR INTERSECTION GINTER/GREENLER RDS. (SHOULDERS)
0.045 m X (19.60 m^2+ 15.00 m^2+ 15.30 m^2+ 25.30 m^2) = 3.38 m^3

GREENLER ROAD STA.0+225.149 TO STA. 0+310 (SHOULDER LT.)
0.045 m X (1.20 m) X 84.851 m = 4.58 m^3
GREENLER ROAD STA.0+215.342 TO STA. 0+254.055 (SHOULDER RT.)
0.045 m X (1.20 m) X 38.713 m = 2.09 m^3
GREENLER ROAD STA.0+ 54.055 TO STA. 0+310 (SHOULDER RT.)
0.045 m X (1.20 m + 0 m)/2 X 55.945 m = 1.51 m^3
TOTAL = 1478.81 m^3

ITEM 408 – BITUMINOUS PRIME COAT

LEFT SHOULDER:
STA. 5+485.00 TO STA. 5+592.750
((0 m + 2.4 m)/2)(107.75 m)(1.8 L/m^2) = 233 L
STA. 5+592.750 TO STA. 6+210
((2.4 m+ 2.4 m)/2)(617.3 m)(1.8 L/m^2) = 2668 L
STA. 6+210 TO STA. 6+750
((3.6 m + 3.6 m)/2)(540 m)(1.8 L/m^2) = 3499 L
STA. 6+750 TO STA. 6+755
((3.6 m + 3.0 m)/2)(5.0 m)(1.8 L/m^2) = 29.7 L
STA. 6+755 TO STA. 7+135
((3.0 m + 3.0 m)/2)(380 m)(1.8 L/m^2) = 2052 L
RIGHT SHOULDER:
STA. 5+4854 TO STA. 6+210
((3.6 m + 3.6 m)/2)(725 m)(1.8 L/m^2) = 4698 L
STA. 6+210 TO STA. 6+750
((2.4 m+ 2.4 m)/2)(540 m)(1.8 L/m^2) = 2333 L
STA. 6+750 TO STA. 6+755
((2.4 m + 1.8 m)/2)(5.0 m)(1.8 L/m^2) = 18.9 L
STA. 6+755 TO STA 7+135
((1.8 m + 1.8 m)/2)(380 m)(1.8 L/m^2) = 1231 L
* GINTER RD. STA. 0+111.410 TO STA. 0+192.777
(991 m^2)(1.8 L/m^2) = 1784 L
* GREENLER RD. STA. 0+203.903 TO STA. 0+310
(1243 m^2)(1.8 L/m^2) = 2238 L
TOTAL = 20785 L

ITEM 407 – TACK COAT
STA. 5+475 TO STA. 5+485
(10.0 m)(9.03 m)(0.40 L/m^2) =36.1 L
STA. 5+485 TO STA. 5+592.750
(0.5)(107.75 m)(11.355 m + 14.40 m)(0.40 L/m^2) =555.0 L
STA. 5+592.750 TO STA. 5+760
(167.25 m)(14.4 m)(0.40 L/m^2) =963.4 L
* PALMER DRIVE INTERSECTION
(1092.71 m^2)(0.40 L/m^2) =437.1 L
STA. 5+810 TO STA. 6+130
(320 m)(14.40 m)(0.40 L/m^2) =1843.2 L
* SHERWOOD DRIVE INTERSECTION
(520.43 m^2)(0.40 L/m^2) =208.2 L
STA. 6+160 TO STA. 6+543.5
(383.5 m)(14.4 m)(0.40 L/m^2) =2209.0 L
STA. 6+543.5 TO STA. 6+630
(0.5)(86.5 m)(14.4 m + 18.05 m)(0.40 L/m^2) =561.4 L
* GINTER/GREENLER INTERSECTION
(950.48 m^2)(.40 L/m^2) =380.2 L
STA. 6+710 TO STA. 6+750
(0.5)(40.0 m)(18.002 m + 14.4 m)(0.40 L/m^2) =259.2 L
STA. 6+750 TO STA. 6+755
(0.5)(5.0 m)(14.4 m + 13.2 m)(0.40 L/m^2) =27.6 L
STA. 6+755 TO STA. 7+140
(385.0 m)(13.2 m)(0.40 L/m^2) =2032.8 L
TOTAL = 9514 L

ITEM 407 – TACK COAT FOR INTERMEDIATE COURSE
TOTAL FROM ABOVE =9514 L
* GINTER ROAD RECONSTRUCTION
(1151.48 m^2)(0.40 L/m^2) =460.6 L
* GREENLER ROAD RECONSTRUCTION
(1395.23 m^2)(0.40 L/m^2) =558.1 L
TOTAL = 10533 L

ITEM 304 – AGGREGATE BASE
LEFT SHOULDER:
STA. 5+485 TO STA. 5+592.750
((0 m + 2.4 m)/2)(107.75 m)(0.200 m) = 25.9 m^3
STA. 5+592.750 TO STA. 6+210
((2.4 m+ 2.4 m)/2)(617.3 m)(0.200 m) = 296 m^3
STA. 6+210 TO STA. 6+750
((3.6 m + 3.6 m)/2)(540 m)(0.200 m) = 389 m^3
STA. 6+750 TO STA. 6+755
((3.6 m + 3.0 m)/2)(5.0 m)(0.200 m) = 3.3 m^3
STA. 6+755 TO STA. 7+135
((3.0 m + 3.0 m)/2)(380 m)(0.200 m) = 228 m^3
RIGHT SHOULDER:
STA. 5+485 TO STA. 6+210
((3.6 m + 3.6 m)/2)(725 m)(0.200 m) = 522 m^3
STA. 6+210 TO STA. 6+750
((2.4 m+ 2.4 m)/2)(540 m)(0.200 m) = 259 m^3
STA. 6+750 TO STA. 6+755
((2.4 m + 1.8 m)/2)(5.0 m)(0.200 m) = 2.1 m^3
STA. 6+755 TO STA 7+135
((1.8 m + 1.8 m)/2)(380 m)(0.200 m) = 137 m^3
* GINTER RD. STA. 0+111.410 TO STA. 0+192.777
(991 m^2)(0.200 m) = 198 m^3
* GREENLER RD. STA. 0+203.903 TO STA. 0+310
(1243 m^2)(0.200 m) = 249 m^3
TOTAL = 2310 m^3

ITEM 254 – PAVEMENT PLANING, BITUMINOUS
STA. 6+720 TO STA 6+739.644
(0.5)(19.644 m)(1.852 m) = 18 m^2
STA. 6+739.644 TO STA 6+755
(0.5)(15.356 m)(1.852 m + 2.996 m) = 37 m^2
STA. 6+755 TO STA 6+825.542
(0.5)(70.542 m)(2.996 m + 1.6 m) = 162 m^2
STA. 6+825.542 TO STA 6+992.985
(167.443 m)(1.60 m) = 268 m^2
STA. 6+992.985 TO STA 7+114.905
(0.5)(121.92 m)(1.60 m + 7.2m) = 536 m^2
STA. 7+114.905 TO STA 7+140
(25.05 m)(7.2m) = 181 m^2
TOTAL = 1202 m^2

ITEM 203 – SUBGRADE COMPACTION
LEFT SHOULDER:
STA. 5+485.00 TO STA. 5+592.750
((0 m + 2.4 m)/2)(107.75 m) = 129 m^2
STA. 5+592.750 TO STA. 6+210
((2.4 m+ 2.4 m)/2)(617.3 m) = 1482 m^2
STA. 6+210 TO STA. 6+750
((3.6 m + 3.6 m)/2)(540 m) = 1944 m^2
STA. 6+750 TO STA. 6+755
((3.6 m + 3.0 m)/2)(5.0 m) = 16.5 m^2
STA. 6+755 TO STA. 7+135
((3.0 m + 3.0 m)/2)(380 m) = 1140 m^2
RIGHT SHOULDER:
STA. 5+4854 TO STA. 6+210
((3.6 m + 3.6 m)/2)(725 m) = 2610 m^2
STA. 6+210 TO STA. 6+750
((2.4 m+ 2.4 m)/2)(540 m) = 1296 m^2
STA. 6+750 TO STA. 6+755
((2.4 m + 1.8 m)/2)(5.0 m) = 10.5 m^2
STA. 6+755 TO STA 7+135
((1.8 m + 1.8 m)/2)(380 m) = 684 m^2
* GINTER RD. STA. 0+111.410 TO STA. 0+192.777
(991 m^2)AREA BY ACAD = 991 m^2
* GREENLER RD. STA. 0+203.903 TO STA. 0+310
(1243 m^2)AREA BY ACAD = 1243 m^2
TOTAL = 11546 m^2

CALCULATED M.C.H.
CHECKED

PAVEMENT CALCULATIONS

STATE ROUTE 66

CAD FILE : CALC_002
DATE : 1/7/1797
OPERATOR : M.C.H./T.R.C.
PLOT SCALE : 1 = 1

CALCULATIONS

* AREAS BY A.C.A.D.
** AREAS BY EAGLE POINT CROSS SECTIONS

CALCULATED M.C.H
CHECKED A.J.L.

ITEM 626 – BARRIER REFLECTOR, TYPE A

N = L/30 + 1
N = 54/30 + 1 = 2.8, USE 3
N = 65/30 + 1 = 3.2, USE 4
N = 362/30 + 1 = 12.1, USE 13
N = 385/30 + 1 = 12.8, USE 14

TOTAL = 34 ea

ITEM 301 – BITUMINOUS AGGREGATE BASE **

STA. 5+485 TO STA. 5+500
((0.270 m^2+ 0.270 m^2)/2)(15.00 m) = 4.05 m^3
STA. 5+500 TO STA. 5+520
((0.270 m^2+ 0.296 m^2)/2)(20.00 m) = 5.66 m^3
STA. 5+520 TO STA. 5+540
((0.296 m^2+ 0.684 m^2)/2)(20.00 m) = 9.80 m^3
STA. 5+540 TO STA. 5+566.998
((0.684 m^2+ 2.353 m^2)/2)(26.998 m) = 41.00 m^3
STA. 5+566.998 TO STA. 5+584.594
((2.353 m^2+ 1.995 m^2)/2)(17.596 m) = 38.25 m^3
STA. 5+584.594 TO STA. 5+603.448
((1.995 m^2+ 3.471 m^2)/2)(18.854 m) = 51.53 m^3
STA. 5+603.448 TO STA. 5+620.502
((3.471 m^2+ 2.033 m^2)/2)(17.054 m) = 46.93 m^3
STA. 5+620.502 TO STA. 5+640
((2.033 m^2+ 2.084 m^2)/2)(19.498 m) = 40.14 m^3
STA. 5+640 TO STA. 5+660
((2.084 m^2+ 1.997 m^2)/2)(20.00 m) = 40.81 m^3
STA. 5+660 TO STA. 5+680
((1.977 m^2+ 2.011 m^2)/2)(20.00 m) = 39.88 m^3
STA. 5+680 TO STA. 5+700
((2.011 m^2+ 1.966 m^2)/2)(20.00 m) = 39.77 m^3
STA. 5+700 TO STA. 5+720
((1.966 m^2+ 2.073 m^2)/2)(20.00 m) = 40.39 m^3
STA. 5+720 TO STA. 5+740
((2.073 m^2+ 2.482 m^2)/2)(20.00 m) = 45.55 m^3
STA. 5+740 TO STA. 5+760
((2.482 m^2+ 2.454 m^2)/2)(20.00 m) = 49.36 m^3
STA. 5+760 TO STA. 5+800
((2.454 m^2+ 2.692 m^2)/2)(40.00 m) = 102.92 m^3
STA. 5+800 TO STA. 5+820
((2.692 m^2+ 1.889 m^2)/2)(20.00 m) = 45.81 m^3
STA. 5+820 TO STA. 5+840
((1.889 m^2+ 2.189 m^2)/2)(20.00 m) = 40.78 m^3
STA. 5+840 TO STA 5+860
((2.189 m^2+ 2.302 m^2)/2)(20.00 m) = 44.91 m^3
STA. 5+860 TO STA 5+880
((2.302 m^2+ 2.360 m^2)/2)(20.00 m) = 46.62 m^3
STA. 5+880 TO STA. 5+900
((2.360 m^2+ 2.100 m^2)/2)(20.00 m) = 44.60 m^3
STA. 5+900 TO STA. 5+920
((2.100 m^2+ 2.150 m^2)/2)(20.00 m) = 42.50 m^3
STA. 5+920 TO STA 5+940
((2.150 m^2+ 2.247 m^2)/2)(20.00 m) = 43.97 m^3
STA. 5+940 TO STA. 5+960
((2.247 m^2+ 2.240 m^2)/2)(20.00 m) = 44.87 m^3
STA. 5+960 TO STA. 5+980
((2.240 m^2+ 2.178 m^2)/2)(20.00 m) = 44.18 m^3
STA. 5+980 TO STA. 6+004.301
((2.178 m^2+ 2.426 m^2)/2)(24.301 m) = 55.94 m^3
STA. 6+004.301 TO STA. 6+020
((2.426 m^2+ 2.182 m^2)/2)(15.699 m) = 36.17 m^3
STA. 6+020 TO STA. 6+040
((2.182 m^2+ 2.167 m^2)/2)(20.00 m) = 43.49 m^3
STA. 6+040 TO STA. 6+060
((2.167 m^2+ 2.174 m^2)/2)(20.00 m) = 43.41 m^3
STA. 6+060 TO STA. 6+080
((2.174 m^2+ 2.383 m^2)/2)(20.00 m) = 45.57 m^3
STA. 6+080 TO STA. 6+100
((2.383 m^2+ 2.143 m^2)/2)(20.00 m) = 45.26 m^3
STA. 6+100 TO STA. 6+120
((2.143 m^2+ 1.564 m^2)/2)(20.00 m) = 37.07 m^3
STA. 6+120 TO STA. 6+160
((1.564 m^2+ .882 m^2)/2)(40.00 m) = 48.92 m^3
STA. 6+160 TO STA. 6+182.151
((0.882 m^2+ 0.450 m^2)/2)(22.151 m) = 14.75 m^3
STA. 6+182.151 TO STA. 6+200
((0.450 m^2+ 0.450 m^2)/2)(17.849 m) = 8.03 m^3
STA. 6+200 TO STA. 6+221.979
((0.450 m^2+ 0.450 m^2)/2)(21.979 m) = 9.89 m^3
STA. 6+221.979 TO STA. 6+240
((0.450 m^2+ 0.450 m^2)/2)(18.021 m) = 8.11 m^3
STA. 6+240 TO STA. 6+260
((0.450 m^2+ 1.944 m^2)/2)(20.00 m) = 23.94 m^3
STA. 6+260 TO STA. 6+280
((1.944 m^2+ 1.330 m^2)/2)(20.00 m) = 32.74 m^3
STA. 6+280 TO STA. 6+300
((1.330 m^2+ 1.698 m^2)/2)(20.00 m) = 30.28 m^3
STA. 6+300 TO STA. 6+320
((1.698 m^2+ 1.799 m^2)/2)(20.00 m) = 34.97 m^3
STA. 6+320 TO STA. 6+340
((1.799 m^2+ 1.811 m^2)/2)(20.00 m) = 36.10 m^3
STA. 6+340 TO STA. 6+360
((1.811 m^2+ 2.905 m^2)/2)(20.00 m) = 47.16 m^3
STA. 6+360 TO STA. 6+380
((2.905 m^2+ 3.292 m^2)/2)(20.00 m) = 61.97 m^3
STA. 6+380 TO STA. 6+400
((3.292 m^2+ 2.228 m^2)/2)(20.00 m) = 61.57 m^3
STA. 6+400 TO STA. 6+420
((2.228 m^2+ 2.065 m^2)/2)(20.00 m) = 42.93 m^3
STA. 6+420 TO STA. 6+440
((2.065 m^2+ 2.131 m^2)/2)(20.00 m) = 41.96 m^3
STA. 6+440 TO STA. 6+460
((2.131 m^2+ 2.283 m^2)/2)(20.00 m) = 44.14 m^3
STA. 6+460 TO STA. 6+478.802
((2.283 m^2+ 2.240 m^2)/2)(18.802 m) = 42.52 m^3
STA. 6+478.802 TO STA. 6+500
((2.240 m^2+ 1.873 m^2)/2)(21.198 m) = 43.59 m^3
STA. 6+500 TO STA. 6+524.921
((1.873 m^2+ 3.264 m^2)/2)(24.921 m) = 64.01 m^3
STA. 6+524.921 TO STA. 6+540
((3.264 m^2+ 2.043 m^2)/2)(15.079 m) = 40.01 m^3
STA. 6+540 TO STA. 6+560
((2.043 m^2+ 2.635 m^2)/2)(20.00 m) = 46.78 m^3
STA. 6+560 TO STA. 6+582.738
((2.635 m^2+ 2.977 m^2)/2)(22.738 m) = 63.80 m^3
STA. 6+582.738 TO STA. 6+600
((2.977 m^2+ 2.447 m^2)/2)(17.262 m) = 46.81 m^3
STA. 6+600 TO STA. 6+620
((2.447 m^2+ 3.144 m^2)/2)(17.262 m) = 48.26 m^3
STA. 6+620 TO STA. 6+640
((3.144 m^2+ 3.312 m^2)/2)(20.00 m) = 64.56 m^3
STA. 6+640 TO STA. 6+643.896
((3.312 m^2+ 3.236 m^2)/2)(3.896 m) = 12.76 m^3
STA. 6+643.896 TO STA. 6+691.241
((3.236 m^2+ 2.977 m^2)/2)(47.345 m) = 147.08 m^3
STA. 6+691.241 TO STA. 6+700
((2.977 m^2+ 2.297 m^2)/2)(8.759 m) = 23.10 m^3
STA. 6+700 TO STA. 6+720
((2.297 m^2+ 3.418 m^2)/2)(20.00 m) = 57.15 m^3
STA. 6+720 TO STA. 6+740
((3.418 m^2+ 2.705 m^2)/2)(20.00 m) = 61.23 m^3
STA. 6+740 TO STA. 6+751.929
((2.705 m^2+ 2.309 m^2)/2)(11.929 m) = 29.91 m^3
STA. 6+751.929 TO STA. 6+780
((2.309 m^2+ 1.758 m^2)/2)(28.071 m) = 57.08 m^3
STA. 6+780 TO STA. 6+800
((1.758 m^2+ 1.512 m^2)/2)(20.00 m) = 32.70 m^3
STA. 6+800 TO STA. 6+820
((1.512 m^2+ 1.346 m^2)/2)(20.00 m) = 28.58 m^3
STA. 6+820 TO STA. 6+840
((1.346 m^2+ 1.390 m^2)/2)(20.00 m) = 27.36 m^3
STA. 6+840 TO STA. 6+860
((1.390 m^2+ 1.447 m^2)/2)(20.00 m) = 28.37 m^3
STA. 6+860 TO STA. 6+880
((1.447 m^2+ 1.455 m^2)/2)(20.00 m) = 29.02 m^3
STA. 6+880 TO STA. 6+900
((1.455 m^2+ 1.487 m^2)/2)(20.00 m) = 29.42 m^3
STA. 6+900 TO STA. 6+920
((1.487 m^2+ 1.148 m^2)/2)(20.00 m) = 26.35 m^3
STA. 6+920 TO STA. 6+940
((1.148 m^2+ 1.197 m^2)/2)(20.00 m) = 23.45 m^3
STA. 6+940 TO STA. 6+960
((1.197 m^2+ 1.364 m^2)/2)(20.00 m) = 25.61 m^3
STA. 6+960 TO STA. 6+980
((1.364 m^2+ 1.296 m^2)/2)(20.00 m) = 26.60 m^3
STA. 6+980 TO STA. 7+000
((1.296 m^2+ 1.953 m^2)/2)(20.00 m) = 32.49 m^3
STA. 7+000 TO STA. 7+020
((1.953 m^2+ 1.115 m^2)/2)(20.00 m) = 30.68 m^3
STA. 7+020 TO STA. 7+040
((1.115 m^2+ 0.941 m^2)/2)(20.00 m) = 20.56 m^3
STA. 7+040 TO STA. 7+060
((0.941 m^2+ 0.642 m^2)/2)(20.00 m) = 15.83 m^3
STA. 7+060 TO STA. 7+080
((0.642 m^2+ 0.360 m^2)/2)(20.00 m) = 10.02 m^3
STA. 7+080 TO STA. 7+100
((0.360 m^2+ 0.360 m^2)/2)(20.00 m) = 7.20 m^3
STA. 7+100 TO STA. 7+120
((0.360 m^2+ 0.360 m^2)/2)(20.00 m) = 7.20 m^3
STA. 7+120 TO STA. 7+140
((0.360 m^2+ 0.360 m^2)/2)(20.00 m) = 7.20 m^3

TOTAL = 3105.9 m^3

ITEM 202 – WEARING COURSE REMOVED

STA. 5+475 TO STA 5+479
(9.043 m)AVERAGE WIDTH X (4.0 m) = 36.17 m^2
PALMER DR. INTERSECTION
(10.2 m)AVERAGE WIDTH X(4.0 m) = 40.80 m^2
SHERWOOD DR. INTERSECTION
(8.073 m)AVERAGE WIDTH X(4.0 m) = 32.29 m^2
GINTER ROAD STA. 0+110.410 TO STA. 0+111.410
(6.50 m)AVERAGE WIDTH(1.0m) = 6.50 m^2
GREENLER ROAD STA. 0+310 TO STA. 0+311
(6.30 m)AVERAGE WIDTH(1.0m) = 6.30 m^2

TOTAL = 122.06 m^2

CAD FILE : CALC_003
DATE : 8/10/07
OPERATOR : M.C.H.
PLOT SCALE : 1=1

MISCELLANEOUS CALCULATIONS

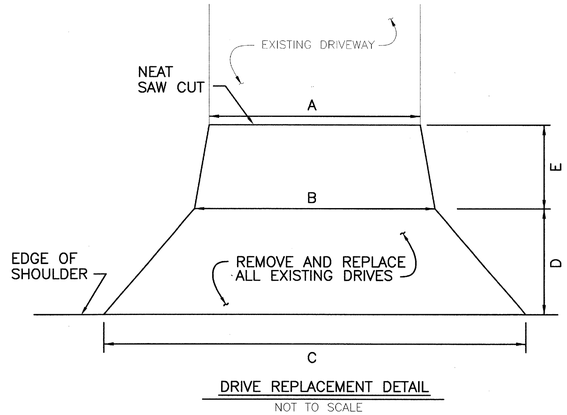
STATE ROUTE 66

DRIVE APPROACH TABLE

			DIMENSIONS						202	301	301	448	451	452
SHEET NO.	STATION	LT/RT	"A"	"B"	"C"	"D"	"E"	DRIVE AREA	PAVEMENT REMOVED	95 mm BIT. AGG. BASE	120 mm BIT. AGG. BASE	32 mm TYPE 1 PG64–22	210 mm REIN. CONC.	160 mm PLAIN CONCRETE
			METER	METER	METER	METER	METER	SQ. M.	SQ. M.	CU. M.	CU. M.	CU. M.	SQ. M.	SQ. M.
STATE ROUTE 66														
18	5+555.068	LT	7.31	7.31	13.31	3.00	3.53	56.52	72.73				56.52	
18	5+566.998	RT	9.52	9.52	15.52	3.00	0.24	39.86	54.70				39.86	
19	5+584.594	RT	11.77	12.30	18.30	3.00	1.05	58.55			7.08	1.87		
19	5+603.448	RT	8.15	9.45	15.45	3.00	2.67	60.87			7.37	1.95		
19	5+620.502	RT	N/A	9.32	17.64	6.00	N/A	41.85	106.55				41.85	
22	6+004.301	LT	4.00	4.00	10.00	3.00	6.00	45.00		4.28		1.44		
24	6+182.151	RT	7.75	7.75	13.75	3.00	3.64	37.26		3.54		1.19		
24	6+221.979	LT	6.30	10.03	16.03	3.00	3.89	70.83	98.45					70.83
25	6+370.127	LT	N/A	5.83	11.57	3.00	N/A	25.70		2.44		0.82		
25	6+384.672	LT	N/A	7.53	13.52	3.00	N/A	31.56		3.00		1.01		
26	6+477.620	RT	7.13	7.78	13.08	3.00	3.48	57.22		5.44		1.83		
26	6+478.802	LT	7.55	8.59	14.58	3.00	3.33	61.50		5.84		1.97		
26	6+524.921	LT	4.83	4.83	10.83	3.00	3.27	39.32		3.74		1.26		
27	6+568.891	LT	4.13	4.62	10.62	3.00	3.17	36.70		3.49		1.17		
27	6+582.738	RT	7.85	8.18	14.18	3.00	2.79	55.91		5.31		1.79		
GINTER ROAD														
32	0+121.184	RT	3.80	5.27	7.59	1.28	3.522	22.42			2.69	0.72		
* 32	0+148.723	LT	N/A	N/A	N/A	N/A	N/A	105.88		10.06		3.39		
GREENLER ROAD														
33	0+267.271	RT	N/A	15.92	21.91	3.00	N/A	56.73		5.39		1.82		
33	0+297.230	LT	N/A	10.14	14.30	3.00	N/A	36.67		3.48		1.17		
							TOTALS		333	56	17	24	139	71

* NONTYPICAL DRIVE SHAPE

THE ABOVE TOTALS ARE CARRIED TO GENERAL SUMMARY



DRIVE REPLACEMENT DETAIL

NOT TO SCALE

DRIVE REPLACEMENT

CONCRETE (COMMERCIAL)

210 mm 451 – REINFORCED CONCRETE

CONCRETE (RESIDENTIAL)

160 mm 452 – PLAIN PORTLAND CEMENT CONCRETE

ASPHALT CONCRETE (COMMERCIAL)

120 mm 301 – BITUMINOUS AGGREGATE BASE
32 mm 448 (TYPE 1 PG64–22) – SURFACE COURSE

ASPHALT CONCRETE (RESIDENTIAL)

95 mm 301 – BITUMINOUS AGGREGATE BASE
32 mm 448 (TYPE 1 PG64–22) – SURFACE COURSE

EARTHWORK SUMMARY

	ITEM 203	ITEM 203	ITEM 659	ITEM 659	ITEM 659	ITEM 667
SHEET NO.	EXCAVATION NOT INCL. EMBANKMENT CONSTRUCTION	EMBANKMENT	WATER	COMMERCIAL FERTILIZER	SEEDING AND MULCHING	SEEDING AND JUTE MATTING
	CU. M	CU. M	CU.METER	kg.	SQ. M	SQ. M
STATE ROUTE 66						
34	99	146	13	126	1256	
35	43	155	9	90	901	
36	226	423	25	248	2476	
37	353	653	28	275	2754	
38	396	931	38	375	3745	
39	306	1041	23	233	2333	
40	205	441	24	235	2352	
41	123	512	21	206	2058	
42	125	298	16	158	1578	
43	233	613	25	247	2472	
44	283	465	18	177	1772	
45	1214	2178	21	206	2059	
46	454	1036	20	198	521	1460
47	606	835	13	135		1349
48	572	727	13	128		1281
49	544	700	13	128		1277
50	556	714	13	128		1280
51	589	652	13	127		1270
52	394	470	9	90		895
GINTER ROAD						
53	145	241	8	82	816	
GREENLER ROAD						
54	412	81	15	151	1510	
TOTALS	7878	13312	378	3743	28603	8812

* ITEM 667 – SEEDING AND JUTE MATTING APPLIES FROM STA. 6+760 TO STA. 7+140 LT. & RT.

THE ABOVE TOTALS ARE CARRIED TO GENERAL SUMMARY

AGGREGATE DRAIN SUMMARY

				605
STATION		SIDE	AVE. LENGTH	AGGREGATE DRAINS
FROM	TO	LT/RT	METER	METER
STATE ROUTE 66				
5+490	5+500	LT&RT	6.26	25
5+510	5+545	LT	6.44	52
5+565	6+000	LT	7.33	645
6+010	6+080	LT	7.33	110
6+090	6+130	LT	6.65	60
6+160	6+180	LT	5.97	30
6+190	6+230	LT&RT	7.36	74
6+240	6+470	RT	7.35	345
6+485	6+575	RT	7.35	132
6+590	6+650	RT	7.35	96
6+690	7+130	RT	5.6	498
			TOTAL	2067

THE ABOVE TOTAL IS CARRIED TO GENERAL SUMMARY

CALCULATED P.M.G. CHECKED P.J.B.

MISCELLANEOUS SUB–SUMMARIES & DRIVE TABLE

DEF–66–5.472(3.40)

CAD FILE : QUANT1
DATE : 12/19/97
OPERATOR : P.M.G./T.R.C.
PLOT SCALE : 1 "

GENERAL SUMMARY

SHEET NUMBER																			ITEM NO.	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION
8	9	11	12	13	14	18	19	22	23	24	25	26	27	28	30	31	32	33					
																							ROADWAY
																			201	11000	lump	lump	CLEARING AND GRUBBING
					333														202	23000	333	m^2	PAVEMENT REMOVED
				122															202	23500	122	m^2	WEARING COURSE REMOVED
								5	31	17		39	23	12			65	20	202	35100	212	meter	PIPE REMOVED, 600 mm AND UNDER
								9											202	35200	9	meter	PIPE REMOVED, OVER 600 mm
								141						758					202	38000	899	meter	GUARDRAIL REMOVED
																	1		202	58100	1	each	CATCH BASIN REMOVED
					7878														203	12000	7878	m^3	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION
					13312														203	20000	13312	m^3	EMBANKMENT
			11546																203	50000	11546	m^2	SUBGRADE COMPACTION
						1	1		1	2	1			1	1	1	3		604	38500	12	each	MONUMENT ASSEMBLY
								118.11						746.76					606	13000	864.87	meter	GUARDRAIL, TYPE 5
								2						1					606	26100	3	each	ANCHOR ASSEMBLY, TYPE E
								2						1					606	26500	3	each	ANCHOR ASSEMBLY, TYPE T
									1		1	1					1		SPECIAL	69050100	4	each	MAILBOX SUPPORT SYSTEM, *SINGLE*
										1							1	1	638	10800	3	each	VALVE BOX ADJUSTED TO GRADE
																							EROSION CONTROL
7400																			207	10000	7400	m^2	TEMPORARY SEEDING AND MULCHING
670																			207	30000	670	meter	FILTER FABRIC FENCE
170																			207	50000	170	m^3	TEMPORARY BENCHES, DAMS AND SEDIMENT BASIN
50																			207	70000	50	each	STRAW OR HAY BALES
20																			601	32200	20	m^3	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER
					28603														659	10000	28603	m^2	SEEDING AND MULCHING
1730					3743														659	20000	5473	kg	COMMERCIAL FERTILIZER
451					378														659	35000	829	m^3	WATER
					8812														667	10000	8812	m^2	SEEDING AND JUTE MATTING
																							DRAINAGE
								1.0									0.6	0.8	602	20000	2.4	m^3	CONCRETE MASONRY
100																			603	01500	100	meter	150 mm CONDUIT, TYPE F
100																			603	02500	100	meter	200 mm CONDUIT, TYPE E
100																			603	04400	100	meter	300 mm CONDUIT, TYPE B
																	58		603	04600	58	meter	300 mm CONDUIT, TYPE C
						17			18	14		46	30				17	37	603	04900	179	meter	300 mm CONDUIT, TYPE D
25																			603	05100	25	meter	300 mm CONDUIT, TYPE E
25																			603	05200	25	meter	300 mm CONDUIT, TYPE F
									18										603	05700	18	meter	375 mm CONDUIT, TYPE A
								16											603	06400	16	meter	375 mm CONDUIT, TYPE D
																	28		603	07200	28	meter	450 mm CONDUIT, TYPE A
														15					603	07900	15	meter	450 mm CONDUIT, TYPE D
																		23	603	10200	23	meter	600 mm CONDUIT, TYPE A
								12											603	13900	12	meter	750 mm CONDUIT, TYPE D
					2067														605	31100	2067	meter	AGGREGATE DRAIN
																	1		604	04500	1	each	CATCH BASIN NO. 2-2B
										1							1	1	604	34500	3	each	MANHOLE ADJUSTED TO GRADE
																	1		604	31500	1	each	MANHOLE, NO. 3
																							PAVEMENT
			1202																254	01000	1202	m^2	PAVEMENT PLANING, BITUMINOUS
				3106	73														301	46000	3179	m^3	BITUMINOUS AGGREGATE BASE, PG64-22
			2310																304	20000	2310	m^3	AGGREGATE BASE
			9514																407	10000	9514	liter	TACK COAT
			10533																407	14000	10533	liter	TACK COAT FOR INTERMEDIATE COURSE
			20785																408	10000	20785	liter	BITUMINOUS PRIME COAT
			1479																448	46050	1479	m^3	ASPHALT CONCRETE INTERMEDIATE COURSE TYPE 2, PG64-22
		853			24														448	47020	877	m^3	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22
					139														451	13000	139	m^2	210 mm REINFORCED CONCRETE PAVEMENT
					71														452	10000	71	m^2	160 mm PLAIN CONRETE PAVEMENT

CALCULATED M.C.H.
CHECKED P.J.B.

GENERAL SUMMARY

DEF-66-5.472(3.40)

CAD FILE : GS_DEF01
DATE : 8/19/97
OPERATOR : M.C.H.
PLOT SCALE : 1 = 1

GENERAL SUMMARY

SHEET NUMBER																											ITEM NO.	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION
			9	13										57						65											
																															MAINTENANCE OF TRAFFIC
			100																								410	12000	100	m^3	TRAFFIC COMPACTED SURFACE, TYPE A OR B
			200																								614	13000	200	m^3	BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC
			6.60																								614	21100	6.60	km	TEMPORARY CENTER LINE, CLASS I, 642 PAINT
			1.70																								614	21500	1.70	km	TEMPORARY CENTER LINE, CLASS II, 642 PAINT
			10.00																								614	22100	10.00	km	TEMPORARY EDGE LINE, CLASS I, 642 PAINT
			120																								614	26200	120	m	TEMPORARY STOP LINE, CLASS I, 642 PAINT
			100																								616	10000	100	m^3	WATER
			5																								616	20000	5	metric ton	CALCIUM CHLORIDE
			1900																								622	40020	1900	meter	PORTABLE CONCRETE BARRIER, 813 mm
			10																								SPECIAL	61412500	10	m^2	REPLACEMENT SIGN
			25																								SPECIAL	61412600	25	each	REPLACEMENT DRUM
																															TRAFFIC CONTROL
			75																								614	13350	75	each	OBJECT MARKER
				34																							626	00100	34	each	BARRIER REFLECTOR, TYPE A
			75																								626	00200	75	each	BARRIER REFLECTOR, TYPE B
														98													630	03100	98	meter	GROUND-MOUNTED SUPPORT, NO. 3 POST
														3													630	08500	3	each	STREET NAME SIGN SUPPORT
														12													630	80102	12	m^2	SIGN, FLAT SHEET, TYPE G
														6													630	80500	6	each	SIGN, DOUBLE FACED, STREET NAME
														36													630	85000	36	each	REMOVAL OF GROUND MOUNTED SIGN AND STORAGE
														33													630	86002	33	each	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL
														3.70													642	00102	3.70	km	EDGE LINE, TYPE 2
														2.05													642	00302	2.05	km	CENTER LINE, TYPE 2
														97													642	00402	97	meter	CHANNELIZING LINE, TYPE 2
														48													642	00502	48	meter	STOP LINE, TYPE 2
														278													642	00702	278	meter	TRANSVERSE LINE, TYPE 2
														10													642	01302	10	each	LANE ARROW, TYPE 2
														4													642	01402	4	each	WORD ON PAVEMENT, 1800 mm, TYPE 2
																															TRAFFIC SIGNALS
																				165							625	25402	165	meter	51 mm CONDUIT, 713.07
																				75							625	25502	75	meter	76 mm CONDUIT, 713.07
																				203							625	29000	203	meter	TRENCH
																				37							625	29600	37	meter	TRENCH IN PAVED AREA, TYPE B
																				11							625	30706	11	each	PULL BOX, 713.08, 600 mm
																				4							625	32000	4	each	GROUND ROD
																				8							632	00303	8	each	VEHICULAR SIGNAL HEAD, 3 SECTION, 300 mm LENS, 1-WAY,
																															AS PER PLAN, POLYCARBONATE (SEE SHEET 65)
																				1							632	00501	1	each	VEHICULAR SIGNAL HEAD, 5 SECTION, 300 mm LENS, 1-WAY,
																															AS PER PLAN (SEE SHEET 65)
																				9							632	25000	9	each	COVERING OF VEHICULAR SIGNAL HEAD
																				2							632	26000	2	each	PEDESTRIAN PUSHBUTTON
																				7							632	26500	7	each	DETECTOR LOOP
																				4							632	27004	4	each	LOOP DETECTOR UNIT
																				1							632	27008	1	each	LOOP DETECTOR UNIT, DELAY AND EXTENSION TYPE
																				250							632	40500	250	meter	SIGNAL CABLE, 5 CONDUCTOR, NO. 14 AWG.
																				62							632	40700	62	meter	SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG.
																				4							632	64010	4	each	SIGNAL POLE FOUNDATION
																				440							632	65200	440	meter	LOOP DETECTOR LEAD-IN CABLE
																				20							632	67300	20	meter	POWER CABLE, 3 CONDUCTOR, NO. 8 AWG.
																				1							632	70000	1	each	POWER SERVICE
																				2							632	80300	2	each	SIGNAL SUPPORT, TYPE TC 81.20M, DESIGN 3
																				2							632	81500	2	each	COMBINATION SIGNAL SUPPORT, TYPE TC 81.20M DESIGN 11
																				1							633	34000	1	each	CONTROLLER, ACTUATED, 4-PHASE, SOLID STATE DIGITAL, MICROPROCESSOR
																				1							633	34001	1	each	CONTROLLER, ACTUATED, 4-PHASE, SOLID STATE DIGITAL,
																															MICROPROCESSOR, AS PER PLAN, ALTERNATE BID (SEE SHEET 65)
																				1.08							633	70500	1.08	m^2	CONTROLLER WORK PAD
																															MISCELLANEOUS
																											614	11001	lump	lump	MAINTAINING TRAFFIC, AS PER PLAN (SEE SHEET 9)
																											806	16010	5	month	FIELD OFFICE, TYPE B
																											623	10000	lump	lump	CONSTRUCTION LAYOUT STAKES
																											624	10000	lump	lump	MOBILIZATION
																											806	26000	5	month	COMPUTER EQUIPMENT FOR FIELD OFFICE

CALCULATED AJL
CHECKED PJB

GENERAL SUMMARY

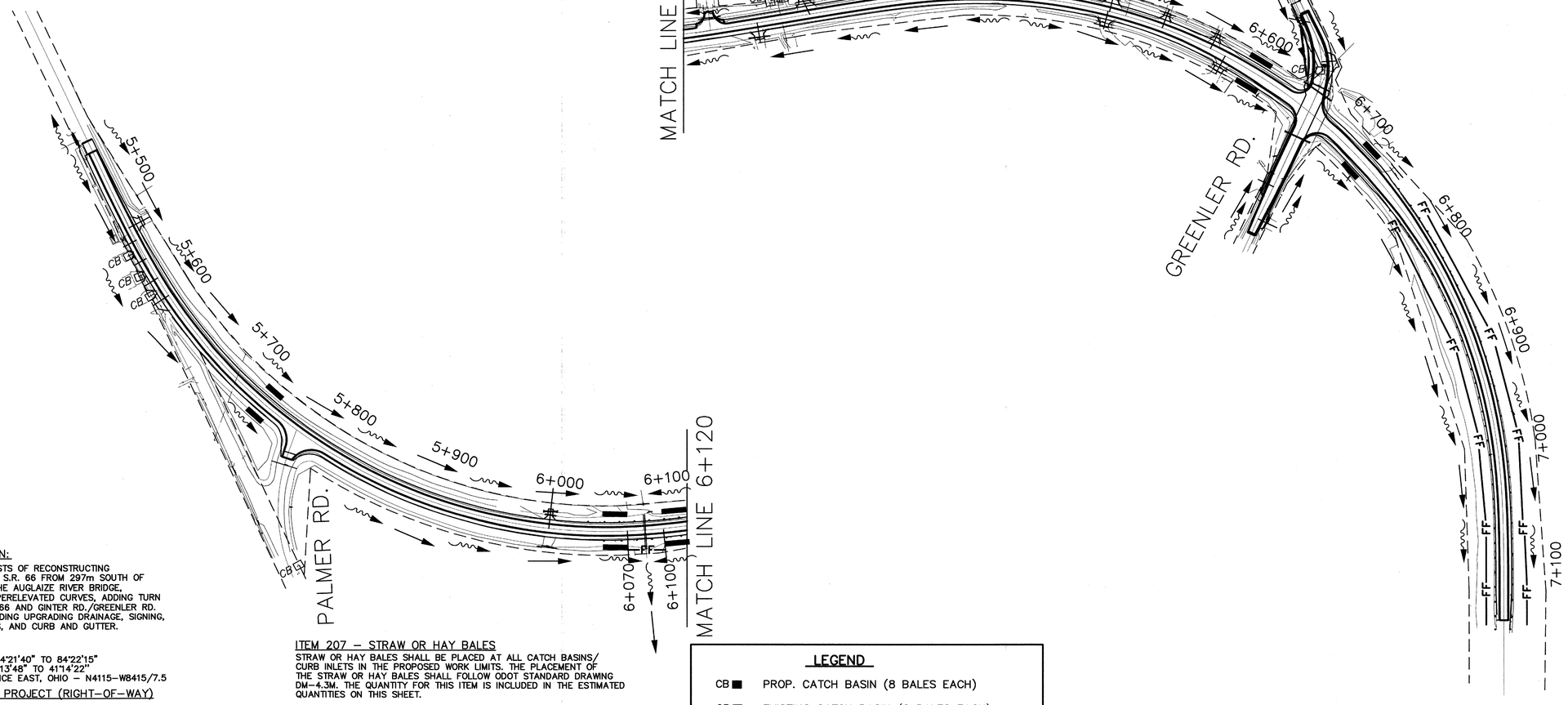
DEF-66-5.472(3.40)

CAD FILE : GS_DEF02
DATE : 8/19/07
OPERATOR : M.C.H.
PLOT SCALE : 1=1

ESTIMATED QUANTITIES

STATION & LOCATION			207	207	207
			STRAW OR HAY BALES	FILTER FABRIC FENCE	TEMPORARY SEDIMENT BASINS
LOCATION	SIDE	STREET	EACH	METER	CU. METER
*AT ALL CATCH BASINS			50		
6+070 TO 6+100	RIGHT	S.R. 66		30	
6+780 TO 7+100	BOTH	S.R. 66		640	
5+733 TO 5+750	RIGHT	S.R. 66			17
5+733 TO 5+750	LEFT	S.R. 66			17
6+050 TO 6+070	RIGHT	S.R. 66			19
6+050 TO 6+070	LEFT	S.R. 66			19
6+100 TO 6+119	RIGHT	S.R. 66			19
6+100 TO 6+119	LEFT	S.R. 66			19
6+600 TO 6+613	RIGHT	S.R. 66			13
6+600 TO 6+613	LEFT	S.R. 66			13
6+718 TO 6+735	RIGHT	S.R. 66			17
6+718 TO 6+735	LEFT	S.R. 66			17
BALE FILTER INLETS AS PER DM-4.3M					
TOTALS CARRIED TO GENERAL NOTES			50	670	170

*EXCLUDING THE CB AT STA. 0+161 (RT.) GINTER RD. THAT IS TO BE REMOVED



SITE DESCRIPTION:

THE PROJECT CONSISTS OF RECONSTRUCTING 1.74 KILOMETERS OF S.R. 66 FROM 297m SOUTH OF PALMER DRIVE TO THE AUGLAIZE RIVER BRIDGE, FLATTENING THE SUPERELEVATED CURVES, ADDING TURN LANES AT THE S.R. 66 AND GINTER RD./GREENLER RD. INTERSECTION, INCLUDING UPGRADING DRAINAGE, SIGNING, PAVEMENT MARKINGS, AND CURB AND GUTTER.

LOCATION:

LONGITUDE: FROM 84°21'40" TO 84°22'15"
LATITUDE: FROM 41°13'48" TO 41°14'22"
USGS QUAD: DEFIANCE EAST, OHIO – N4115–W8415/7.5

TOTAL AREA OF PROJECT (RIGHT–OF–WAY)

8.1 HECTARES

TOTAL AREA OF EARTHWORK:

5.9 HECTARES

RUNOFF COEFFICIENT, C (PRE–CONSTRUCTION)

0.33

RUNOFF COEFFICIENT, C (POST–CONSTRUCTION)

0.72

ITEM 207 – STRAW OR HAY BALES

STRAW OR HAY BALES SHALL BE PLACED AT ALL CATCH BASINS/ CURB INLETS IN THE PROPOSED WORK LIMITS. THE PLACEMENT OF THE STRAW OR HAY BALES SHALL FOLLOW ODOT STANDARD DRAWING DM–4.3M. THE QUANTITY FOR THIS ITEM IS INCLUDED IN THE ESTIMATED QUANTITIES ON THIS SHEET.

NOTE:

ALL FILTER FABRIC FENCE SHALL BE PLACED WITHIN THE RIGHT OF WAY LIMITS.

LEGEND

- CB ■ PROP. CATCH BASIN (8 BALES EACH)
- *CB* □ EXISTING CATCH BASIN (8 BALES EACH)
- EXISTING DITCH FLOW
- PROPOSED DITCH FLOW
- —FF— FILTER FABRIC FENCE
- SEDIMENT BASIN

N

0 20 40 60 80 100 HORIZONTAL SCALE

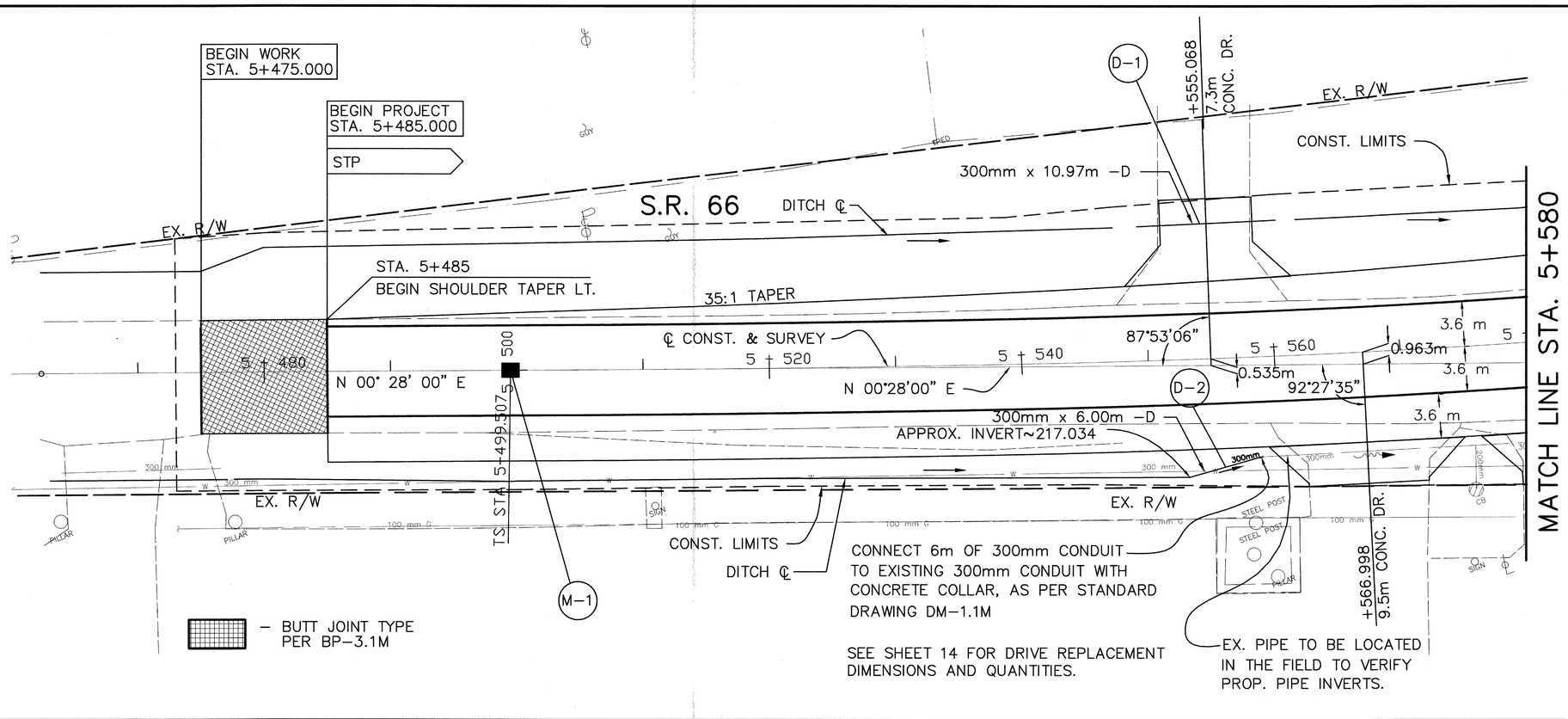
CALCULATED JLM
CHECKED AJL

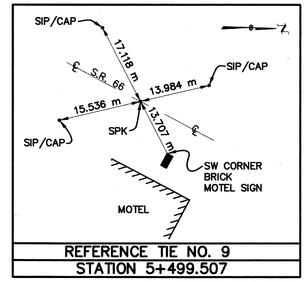
STORM WATER POLLUTION PREVENTION PLAN – S.R. 66

DEF – 66 – 5.472(3.40)

17
70

DATE : 3/11/97
CAD FILE : SWPPP
OPERATOR : M.C.H./T.R.C.
PLOT SCALE: 1

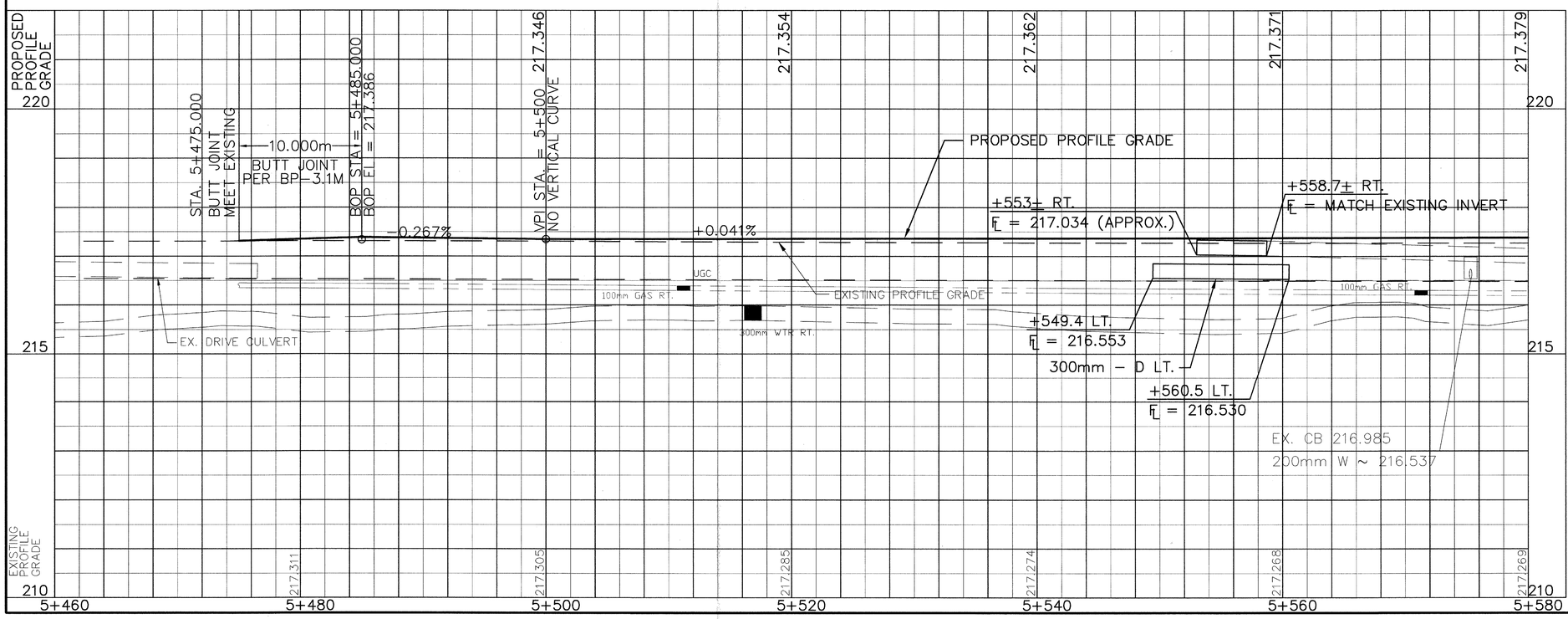




CURVE DATA

PI STA = 5+891.795, ℄ CONST. S.R. 66
E = 11760.658
N = 6084.969
△ = 74°13'01"L

CIRCULAR		SPIRALS	
$\triangle_C$	= 58°13'01"L	Ls	= 121.920
R	= 436.593	θ_s	= 8°00'00"
T	= 243.089	LT	= 81.363
L	= 443.612	ST	= 40.716
E	= 63.113	Ts	= 392.287
e_{max}	= 0.046	Es	= 63.113
		e_{max}	= 0.046



ESTIMATED QUANTITIES

REF. No	SIDE	STATION FROM	STATION TO	603 300 mm CONDUIT, TYPE D m	604 MONUMENT ASSEMBLY ea
D–1	LT.	5+549.427	5+560.518	10.973	
D–2	RT.	5+553.000±	5+558.750±	6.000	
M–1	CTR.	5+499.507			1
TOTALS				17	1

CAD FILE: SR66PP01
DATE: 12/2/97
OPERATOR: R.H./T.R.C.
PLOT SCALE: 1:1

HORIZONTAL SCALE 1:200

CALCULATED JLM
CHECKED PJB

PLAN AND PROFILE – SR. 66
STA. 5+460 TO STA. 5+580

DEF – 66 – 5.472(3.40)

18
70

SEE SHEET 14 FOR DRIVE REPLACEMENT DIMENSIONS AND QUANTITIES.

MATCH LINE STA. 5+580

MATCH LINE STA. 5+700

EX. R/W

STA. 5+594.750 END SHOULDER TAPER LT.

M-1

SC STA 5+621.427

PRIVATE SIGN – TO BE REMOVED BY OTHERS

CONST. LIMITS

DITCH ℄

S.R. 66

3.6 m

580

1.933m

5 + 600

N 00°28'00" E

3.531m

86°06'34"

95°48'48"

5.591m

℄ CONST. & SURVEY

5 + 620

5 + 640

5 + 660

5 + 680

97°52'36"

DITCH ℄

+584.594 11.4m ASPH. DR.

+603.448 8.0m ASPH. DR.

+620.502 9.1m CONC. DR.

CB

300mm

200mm

300 mm

700 mm ℄

CONST. LIMITS

WOOD POST

STEEL POST

SIGN

GUY

300 mm

EX. R/W

PROPOSED PROFILE GRADE

217.379 217.387 217.395 217.381 217.368 217.354 217.341

220

VPI STA. 5+620 NO VERT. CURVE

EXIST. CULVERT

PROPOSED PROFILE GRADE

+0.041%

−0.068%

UGC

100mm GAS RT.

EXISTING PROFILE GRADE

300mm WTR RT.

215

EX. CB 217.083
200mm W ~ 216.626

EX. CB 217.083
200mm W ~ 216.626

EXISTING PROFILE GRADE 217.269 217.275 217.227 217.211 217.237 217.220 217.196

210

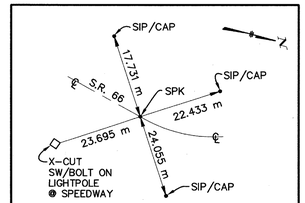
5+580 5+600 5+620 5+640 5+660 5+680 5+700

F.P.S. BENCHMARK #1

"X" CUT ON THE WEST BONNET BOLT OF THE HYDRANT ON THE EAST SIDE OF S.R. 66 IN FRONT OF SPEEDWAY GAS STATION

ELEV. 217.835

STA. 5+594.398, 10.9 m± RT.



REFERENCE TIE NO. 8
STATION 5+621.427

CURVE DATA

PI STA = 5+891.795, ℄ CONST. S.R. 66
E = 11760.658
N = 6084.969
△ = 74°13'01"L

CIRCULAR		SPIRALS	
$\triangle_c$	= 58°13'01"L	Ls	= 121.920
R	= 436.593	θs	= 8°00'00"
T	= 243.089	LT	= 81.363
L	= 443.612	ST	= 40.716
E	= 63.113	Ts	= 392.287
e_{max}	= 0.046	Es	= 63.113
		e_{max}	= 0.046

ESTIMATED QUANTITIES

No	REF. SIDE	STATION FROM	STATION TO	604 MONUMENT ASSEMBLY
				ea
		STA.	STA.	
M-1	CTR.	5+621.427		1
			TOTALS	1

HORIZONTAL SCALE 1:200

CALCULATED JLM CHECKED PJB

PLAN AND PROFILE – SR. 66
STA. 5+580 TO STA. 5+700

DEF – 66 – 5.472(3.40)

19
70

CAD FILE : SR66PP02
DATE : TAYLOR 12/6/97
LAST REVISED BY/DATE
PLOT SCALE : 1

STA. 5+776.163
℄ CONST. & SURVEY S.R. 66

STA. 0+000.000
℄ SURVEY PALMER DRIVE

S.R. 66

EX. R/W

EX. R/W

MATCH LINE STA. 5+700

MATCH LINE STA. 5+820

TO BE RELOCATED
BY OTHERS

CONST. LIMITS

DITCH ℄

3.6 m

3.6 m

3.6 m

3.6 m

700

5 + 720

5 + 740

5 + 760

5 + 780

5 + 800

℄ CONST. & SURVEY

73°31'56"
ANGLE IS MEASURED
TANGENT TO CURVE

PALMER DR.
S 45°41'17" W
℄ SURVEY

20m R.

20m R.

DITCH ℄

DITCH ℄

CONST. LIMITS

EX. R/W

TO BE RELOCATED
BY OTHERS

TO BE RELOCATED
BY OTHERS

WOOD POST
SIGN

WOOD POST

WOOD POST
SIGN

WOOD POST

GUY

SIGN

SIGN

SIGN

SIGN

SIGN

SIGN

SIGN

300 mm
SAN

SAN W

600 mm

F.P.S. BENCHMARK #2
SET PK NAIL IN THE SOUTH SIDE
OF POWER LIGHT POLE AT THE NW
CORNER OF S.R. 66 AND PALMER DRIVE
ELEV. 217.623
STA. 5+801.039, 7.3 m± RT.

CURVE DATA
PI STA = 5+891.795,
℄ CONST. S.R. 66
E = 11760.658
N = 6084.969
△ = 74°13'01"L

CIRCULAR		SPIRALS	
$\triangle_c$	= 58°13'01"L	Ls	= 121.920
R	= 436.593	Θ_s	= 8°00'00"
T	= 243.089	LT	= 81.363
L	= 443.612	ST	= 40.716
E	= 63.113	Ts	= 392.287
e_{max}	= 0.046	Es	= 63.113
		e_{max}	= 0.046

NOTE: SEE INTERSECTION DETAIL FOR PALMER ROAD AND S.R. 66 FOR ADDITIONAL INFORMATION.

– BUTT JOINT TYPE
PER BP 3.1M

220

215

PROPOSED PROFILE GRADE

EXISTING PROFILE GRADE

217.341

217.327

217.339

217.351

217.357

217.393

217.466

217.476

217.167

217.175

217.198

217.238

217.306

217.339

−0.068%

+0.060%

+0.363%

+0.050%

UGC

EXISTING PROFILE GRADE

PROPOSED PROFILE GRADE

VPI STA. 5+720
NO VERT. CURVE

VPI STA. 5+770
NO VERT. CURVE

VPI STA. 5+800
NO VERT. CURVE

5+700

5+720

5+740

5+760

5+780

5+800

5+820

CAD FILE : SR66PP03
DATE : 2/8/96
DESIGNATION : B.R.K./T.R.C.
PLOT SCALE : 1

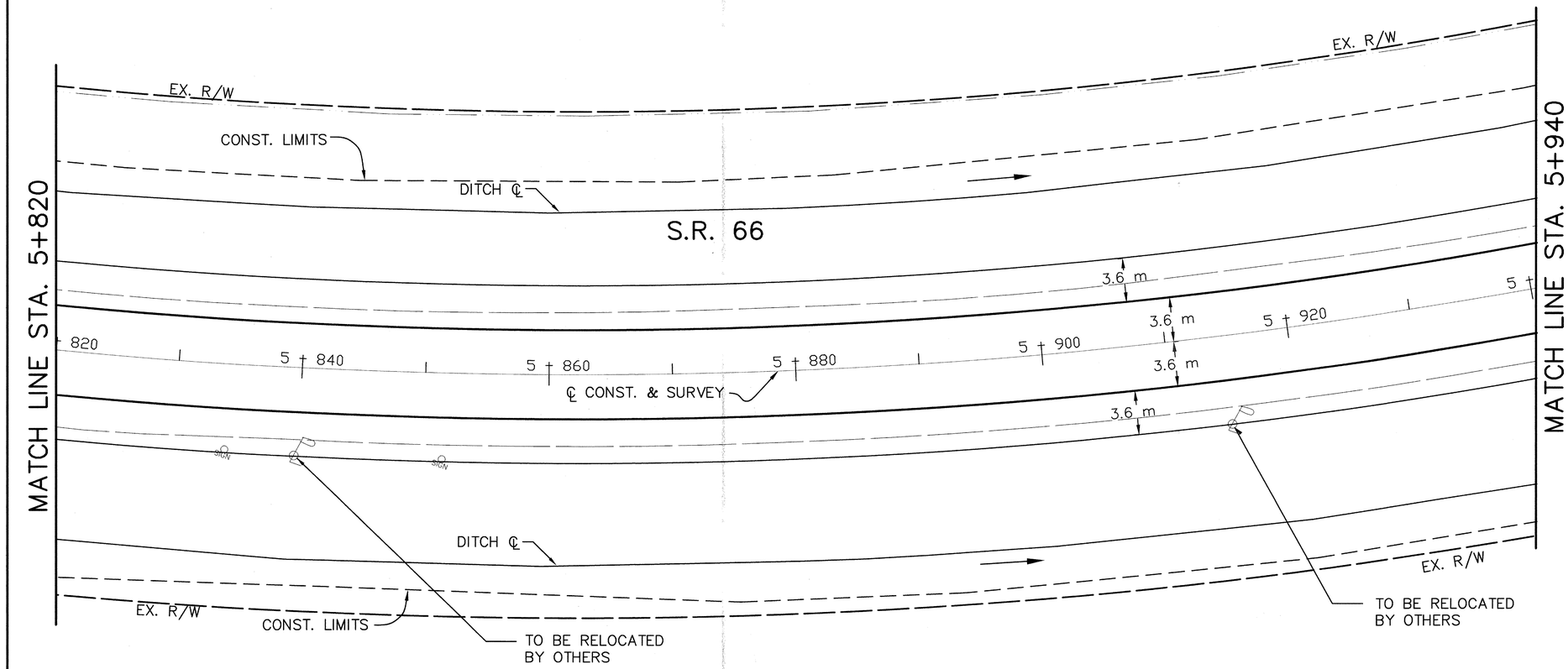
HORIZONTAL SCALE 1:200

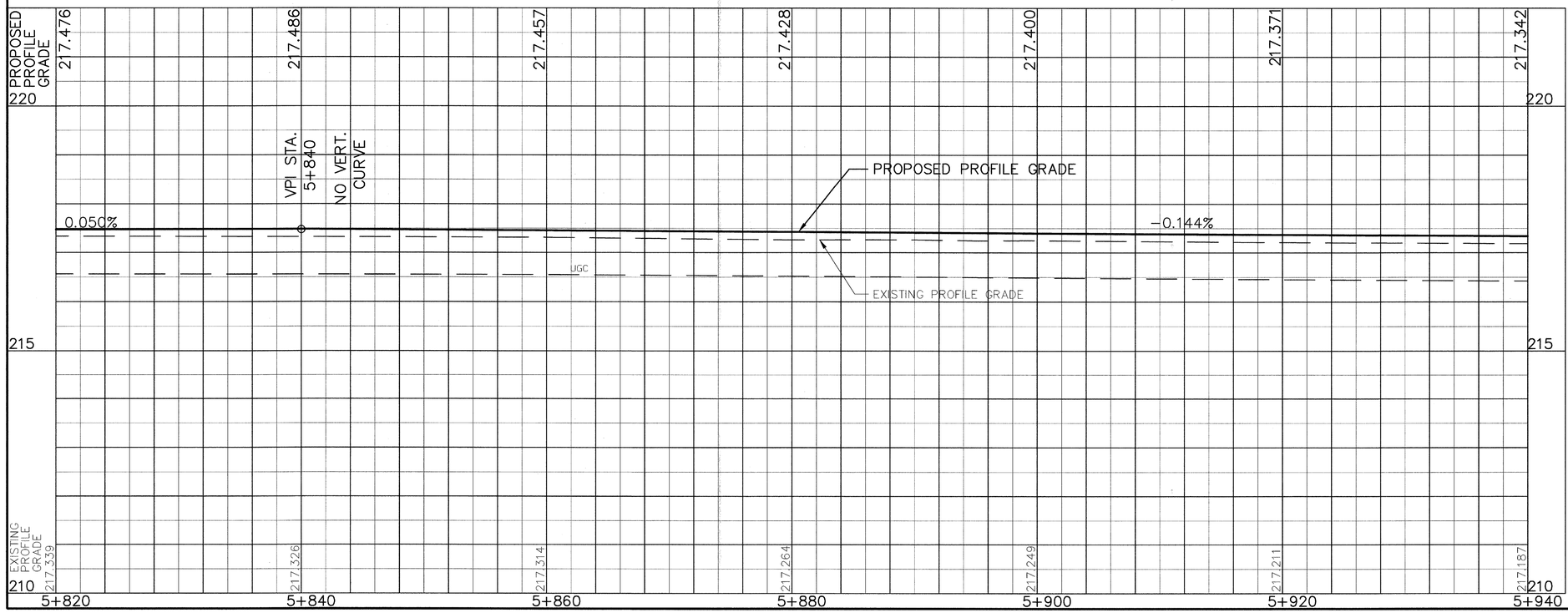
CALCULATED JLM
CHECKED PJB

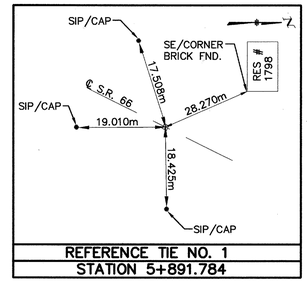
PLAN AND PROFILE – SR. 66
STA. 5+700 TO STA. 5+820

DEF – 66 – 5.472(3.40)

20
70







CURVE DATA

PI STA = 5+891.795,
℄ CONST. S.R. 66
E = 11760.658
N = 6084.969
△ = 74°13'01"L

CIRCULAR		SPIRALS	
$\triangle_C$	= 58°13'01"L	Ls	= 121.920
R	= 436.593	θ_s	= 8°00'00"
T	= 243.089	LT	= 81.363
L	= 443.612	ST	= 40.716
E	= 63.113	Ts	= 392.287
e_{max}	= 0.046	Es	= 63.113
		e_{max}	= 0.046

HORIZONTAL SCALE 1:200

CALCULATED JLM
CHECKED PJB

PLAN AND PROFILE – SR. 66
STA. 5+820 TO STA. 5+940

DEF – 66 – 5.472(3.40)

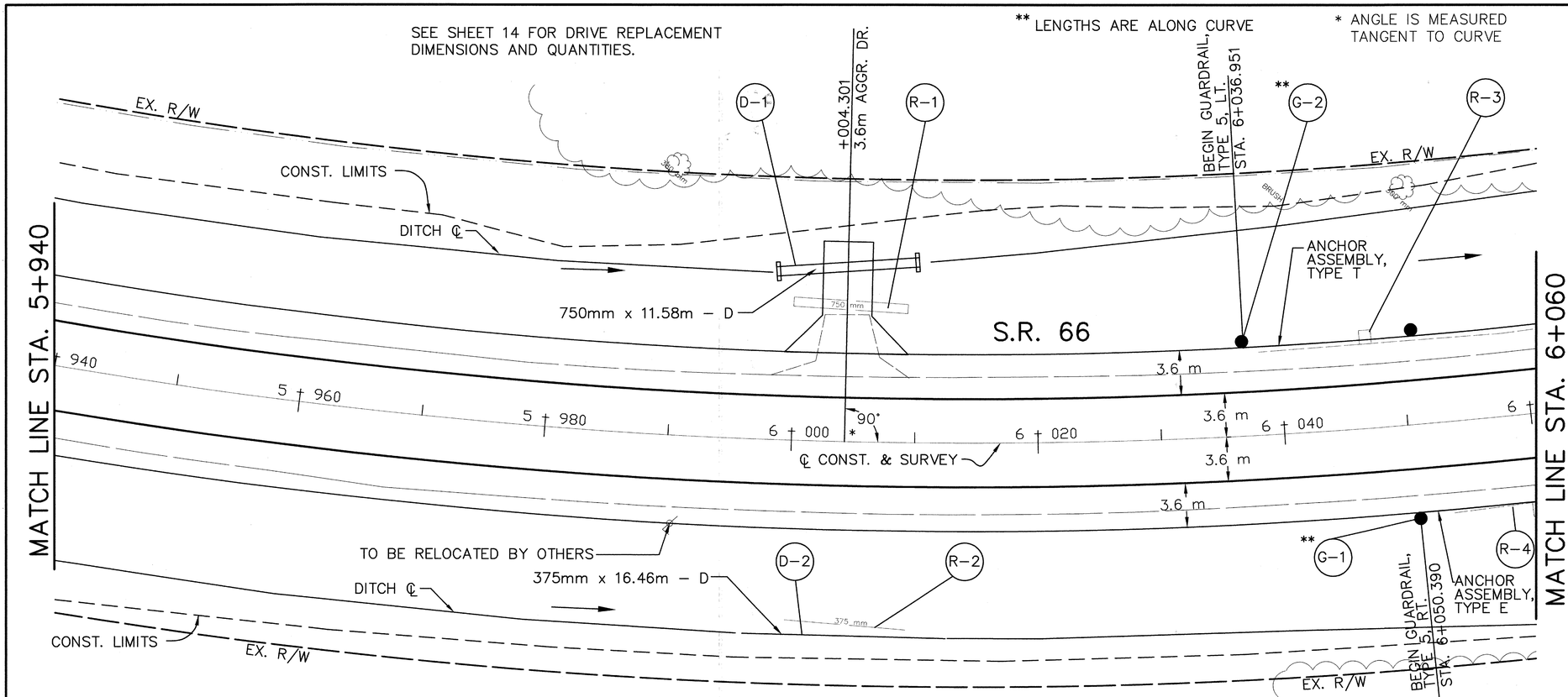
21
70

CAD FILE : SR66PP04
DATE : 2/21/97
OPERATOR : R.H./T.R.C.
PLOT SCALE : 1" = 20'

SEE SHEET 14 FOR DRIVE REPLACEMENT DIMENSIONS AND QUANTITIES.

** LENGTHS ARE ALONG CURVE

* ANGLE IS MEASURED TANGENT TO CURVE

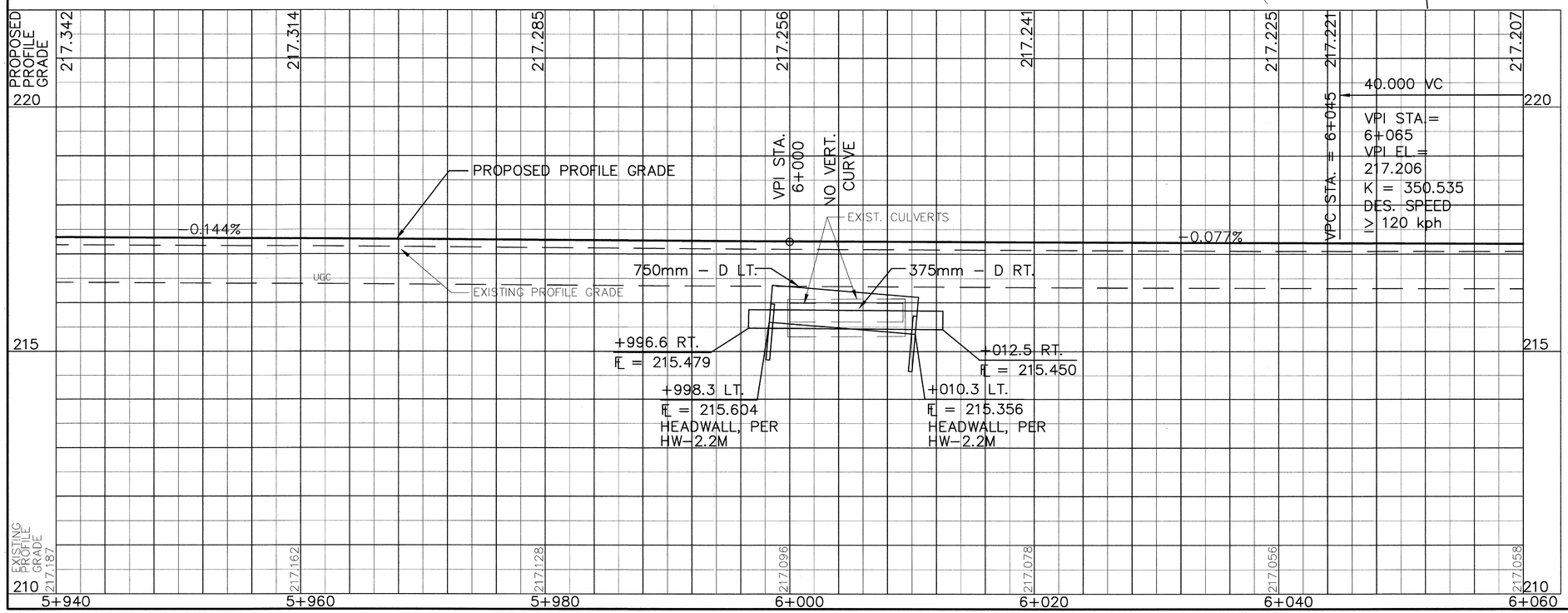


F.P.S. BENCHMARK #3
SET PK NAIL SOUTH SIDE OF POWER LIGHT POLE ON THE NORTH SIDE OF S.R. 66, FOURTH POLE WEST OF PALMER
ELEV. 217.513
STA. 5+990.532, 7.2 m± RT.

CURVE DATA

PI STA = 5+891.795, ℄ CONST. S.R. 66
E = 11760.658
N = 6084.969
△ = 74°13'01"L

CIRCULAR		SPIRALS	
$\triangle_C$	= 58°13'01"L	Ls	= 121.920
R	= 436.593	θ_s	= 8°00'00"
T	= 243.089	LT	= 81.363
L	= 443.612	ST	= 40.716
E	= 63.113	Ts	= 392.287
e_{max}	= 0.046	Es	= 63.113
		e_{max}	= 0.046



ESTIMATED QUANTITIES

REF. No	SIDE	STATION FROM	STATION TO	202 GUARDRAIL REMOVED m	202 PIPE REMOVED 600 mm AND UNDER m	202 PIPE REMOVED OVER 600 mm m	602 CONCRETE MASONRY m^3	603 375 mm CONDUIT, TYPE D m	603 750 mm CONDUIT, TYPE D m	606 GUARDRAIL TYPE 5 m	606 ANCHOR ASSEMBLY, TYPE E eq	606 ANCHOR ASSEMBLY, TYPE T eq
D-1	LT.	5+998.330	6+010.273				1.04	16.459	11.582			
D-2	RT.	5+996.633	6+012.518									
G-1	RT.	6+050.390	6+114.109							**53.340	1	1
G-2	LT.	6+036.951	6+114.429							**64.770	1	1
R-1	LT.	5+999.930	6+009.210			9.144						
R-2	RT.	5+999.950	6+004.700		5.486							
R-3	LT.	6+036.951	6+114.429	76.200								
R-4	RT.	6+050.390	6+114.109	64.770								
			TOTALS	141	5	9	1.0	16	12	118	2	2

HORIZONTAL SCALE 1:200

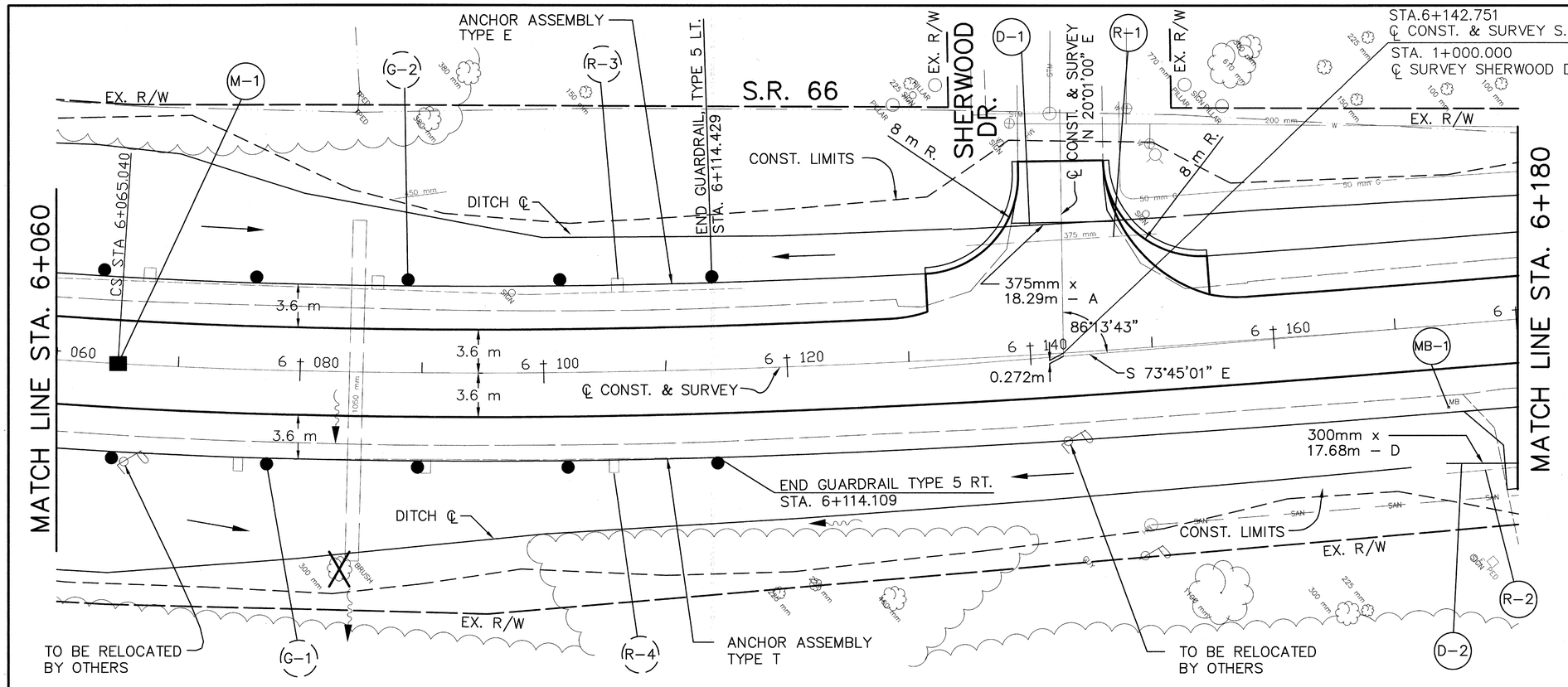
CALCULATED JLM
CHECKED PJB

PLAN AND PROFILE – SR. 66
STA. 5+940 TO STA. 6+060

DEF – 66 – 5.472(3.40)

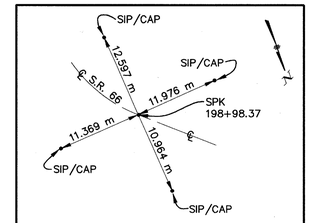
22
70

CAD FILE : SR66PP05
DATE : 12/2/97
OPERATOR : E.R.H./T.R.C.
PLOT SCALE : 1 : 1



STA.6+142.751
℄ CONST. & SURVEY S.R. 66
STA. 1+000.000
℄ SURVEY SHERWOOD DR.

F.P.S. BENCHMARK #4
"X" CUT ON THE EAST SOUTH EAST BONNET BOLT OF THE HYDRANT AT THE SOUTHWEST CORNER OF SHERWOOD DRIVE AND S.R. 66
ELEV. 217.126
STA. 6+151.321, 15.7 m± LT.

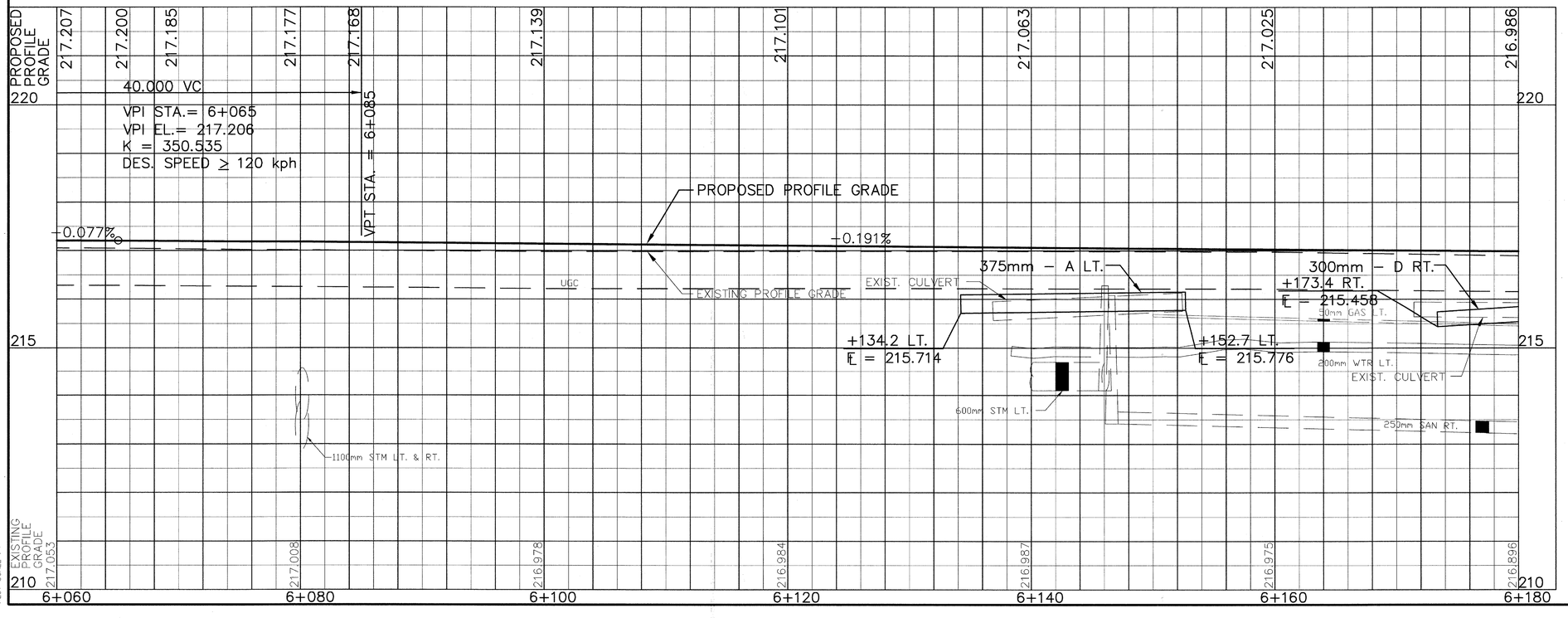


REFERENCE TIE NO. 7
STATION 6+065.040

CURVE DATA
PI STA = 5+891.795, ℄ CONST. S.R. 66
E = 11760.658
N = 6084.969
△ = 74°13'01"L

CIRCULAR		SPIRALS	
$\triangle_c$	= 58°13'01"L	Ls	= 121.920
R	= 436.593	Θ_s	= 8°00'00"
T	= 243.089	LT	= 81.363
L	= 443.612	ST	= 40.716
E	= 63.113	Ts	= 392.287
e_{max}	= 0.046	Es	= 63.113
		e_{max}	= 0.046

NOTE: SEE SHERWOOD INTERSECTION SHEET FOR ADDITIONAL INFORMATION.



ESTIMATED QUANTITIES

REF.	SIDE	STATION FROM	STATION TO	202 PIPE REMOVED 600 mm AND UNDER (m)	603 375 mm CONDUIT, TYPE A (m)	603 300 mm CONDUIT, TYPE D (m)	604 MONUMENT ASSEMBLY (ea)	690 MAILBOX SUPPORT (ea)
D-1	LT.	6+134.223	6+152.675		18.288			
D-2	RT.	6+173.363	6+190.958			17.678		
M-1	CTR.	6+065.040					1	
MB-1	RT.	6+173.908						1
R-1	LT.	6+135.370	6+151.040	15.240				
R-2	RT.	6+173.277	6+188.595	15.327				
			TOTALS	31	18	18	1	1

HORIZONTAL SCALE 1:200

CALCULATED J.L.M. CHECKED P.J.B.

PLAN AND PROFILE – SR. 66
STA. 6+060 TO STA. 6+180

DEF – 66 – 5.472(3.40)

23
70

CAD FILE: SR66PP06
DATE: 2/21/97
DESIGNER: B.R.H./T.R.C.
PLOT SCALE: 1

* ANGLE IS MEASURED TO THE TANGENT SECTION EXTENDED

MATCH LINE STA. 6+180

MATCH LINE STA. 6+300

D-1 R-1 M-1 M-2 W-1 S-1

ST STA 6+186.960

TS STA 6+233.524

+221.807
6.3m CONC. DR.

300mm x 14.02m — D

TO BE RELOCATED BY OTHERS

CONST. LIMITS

EX. R/W

DITCH ℄

S.R. 66

3.6 m

3.6 m

3.6 m

3.6 m

73°48'33"

180 6+200 6+220 6+240 6+260 6+280

* 89°56'44" S 73° 45' 01" E

℄ CONST. & SURVEY

+182.151
7.4m ASPH. DR.

(D-2) (R-2) TO BE RELOCATED BY OTHERS

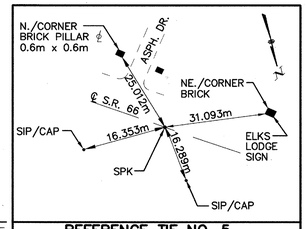
SEE SHEET 14 FOR DRIVE REPLACEMENT DIMENSIONS AND QUANTITIES.

ADJUST TO GRADE WATER VALVE

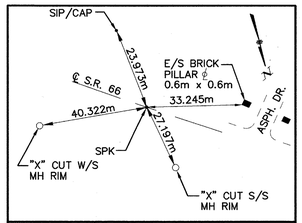
CURVE DATA
PI STA = 5+891.795, ℄ CONST. S.R. 66
E = 11760.658
N = 6084.969
△ = 74°13'01"L

CIRCULAR		SPIRALS	
$\triangle_c$	= 58°13'01"L	Ls	= 121.920
R	= 436.593	θ_s	= 8°00'00"
T	= 243.089	LT	= 81.363
L	= 443.612	ST	= 40.716
E	= 63.113	Ts	= 392.287
e_{max}	= 0.046	Es	= 63.113
		e_{max}	= 0.046

F.P.S. BENCHMARK #5
"X" CUT ON THE EAST BONNET BOLT OF THE HYDRANT ON THE SOUTH SIDE OF S.R. 66 IN FRONT OF ELKS LODGE AT THE WEST PROPERTY LINE
ELEV. 217.149
STA. 6+296.520, 14.1 m± LT.



REFERENCE TIE NO. 5
STATION 6+233.524



REFERENCE TIE NO. 6
STATION 6+186.960

CURVE DATA
PI STA = 6+813.370, ℄ CONST. S.R. 66
E = 8551.991
N = 7020.218
△ = 99°40'01"R

CIRCULAR		SPIRALS	
$\triangle_c$	= 83°40'01"R	Ls	= 121.920
R	= 436.593	θ_s	= 8°00'00"
T	= 390.818	LT	= 81.363
L	= 637.541	ST	= 40.716
E	= 149.370	Ts	= 579.851
e_{max}	= 0.046	Es	= 149.370
		e_{max}	= 0.046

PROPOSED PROFILE GRADE
216.986 216.948 216.945 216.973 217.016 217.060 217.147 217.234 217.321

220 215 210

20.000m VC
VPI STA = 6+210
VPI EL = 216.929
K = 31.938
DES. SPEED = 78 kph

-0.191%

0.435%

PROPOSED PROFILE GRADE

EXISTING PROFILE GRADE

M.H.
STA. 6+298.612
216.732 217.202

EXIST. CULVERT

300mm — D RT.

100mm ELEC. RT.

300mm — D LT.

EXIST. CULVERT

UGC

50mm GAS LT.

75mm GAS RT.

75mm GAS RT.

150mm STM LT.

200mm WTR LT.

250mm SAN RT.

+191.0 RT.
℄ = 215.711

+216.6 LT.
℄ = 215.989

+230.6 LT.
℄ = 216.035

EXISTING PROFILE GRADE
216.896 216.901 216.896 216.904 216.932 217.002 217.096 217.169

6+180 6+200 6+220 6+240 6+260 6+280 6+300

ESTIMATED QUANTITIES

REF. No	SIDE	STATION FROM	STATION TO	202 PIPE REMOVED 600 mm AND UNDER m	603 300 mm CONDUIT, TYPE D m	604 MONUMENT ASSEMBLY ea	604 MANHOLE ADJUSTED TO GRADE ea	638 VALVE BOX ADJUSTED TO GRADE ea
D-1	LT.	6+216.603	6+230.624		14.021			
S-1	LT.	6+298.612					1	
M-1	CTR.	6+186.960				1		
M-2	CTR.	6+233.524				1		
R-1	LT.	6+216.300	6+233.250	17.069				
W-1	LT.	6+293.897						1
TOTALS				17	14	2	1	1

PLAN AND PROFILE — SR. 66
STA. 6+180 TO STA. 6+300

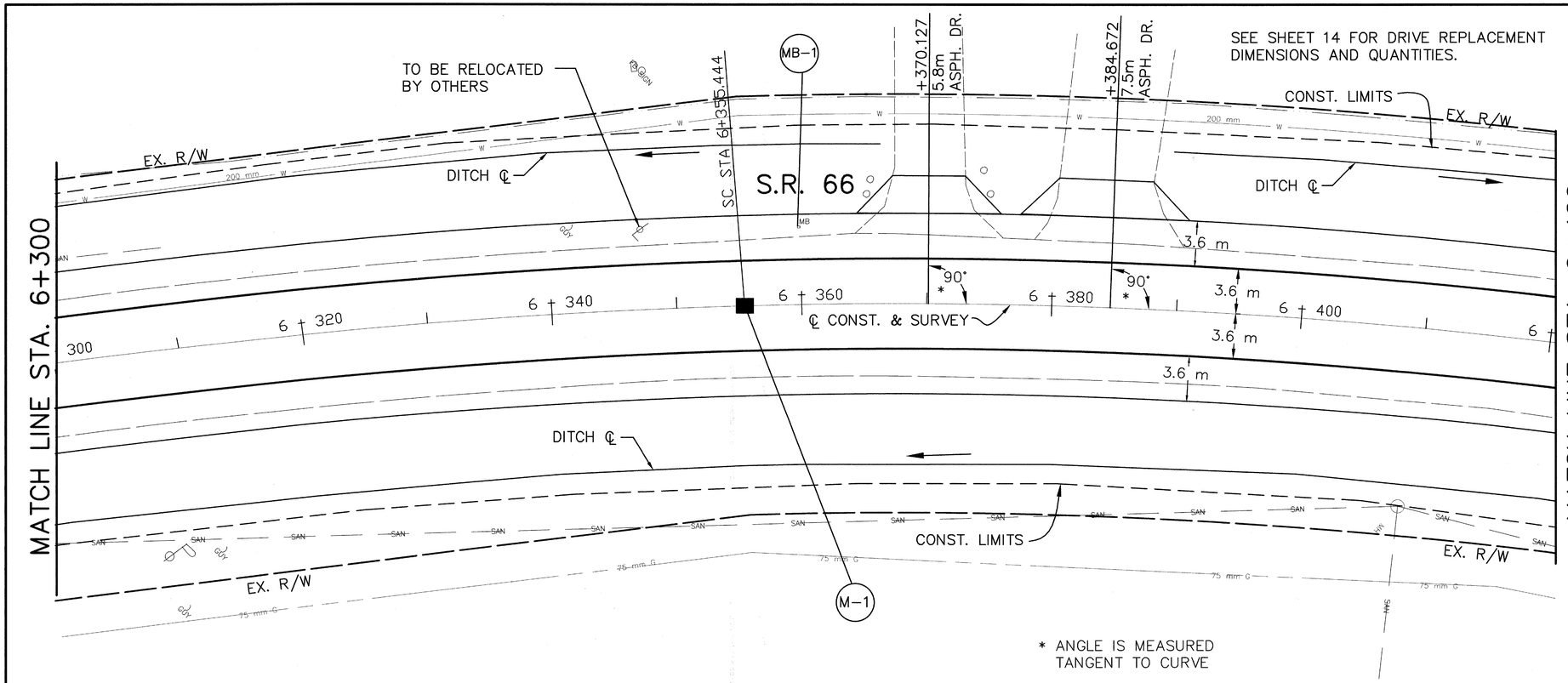
DEF — 66 — 5.472(3.40)

CALCULATED JLM CHECKED PJB

HORIZONTAL SCALE 1:200

24/70

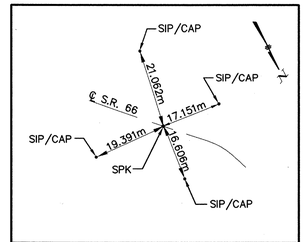
CAD FILE : SR66PP07
DATE : 12/1/97
OPERATOR : R.H./T.R.C.
PLOT SCALE : 1 = 1



CURVE DATA

PI STA = 6+813.370,
℄ CONST. S.R. 66
E = 8551.991
N = 7020.218
△ = 99°40'01"R

CIRCULAR		SPIRALS	
$\triangle_c$	= 83°40'01"R	Ls	= 121.920
R	= 436.593	Θ_s	= 8°00'00"
T	= 390.818	LT	= 81.363
L	= 637.541	ST	= 40.716
E	= 149.370	Ts	= 579.851
e_{max}	= 0.046	Es	= 149.370
		e_{max}	= 0.046



REFERENCE TIE NO. 4
STATION 6+355.444

ESTIMATED QUANTITIES

REF. No	SIDE	STATION FROM	STATION TO	604 MONUMENT ASSEMBLY eq	690 MAILBOX SUPPORT eq
	LT/RT	STA.	STA.		
M–1	CTR.	6+355.444		1	
MB–1	LT.	6+359.871			1
			TOTALS	1	1

HORIZONTAL SCALE 1:200

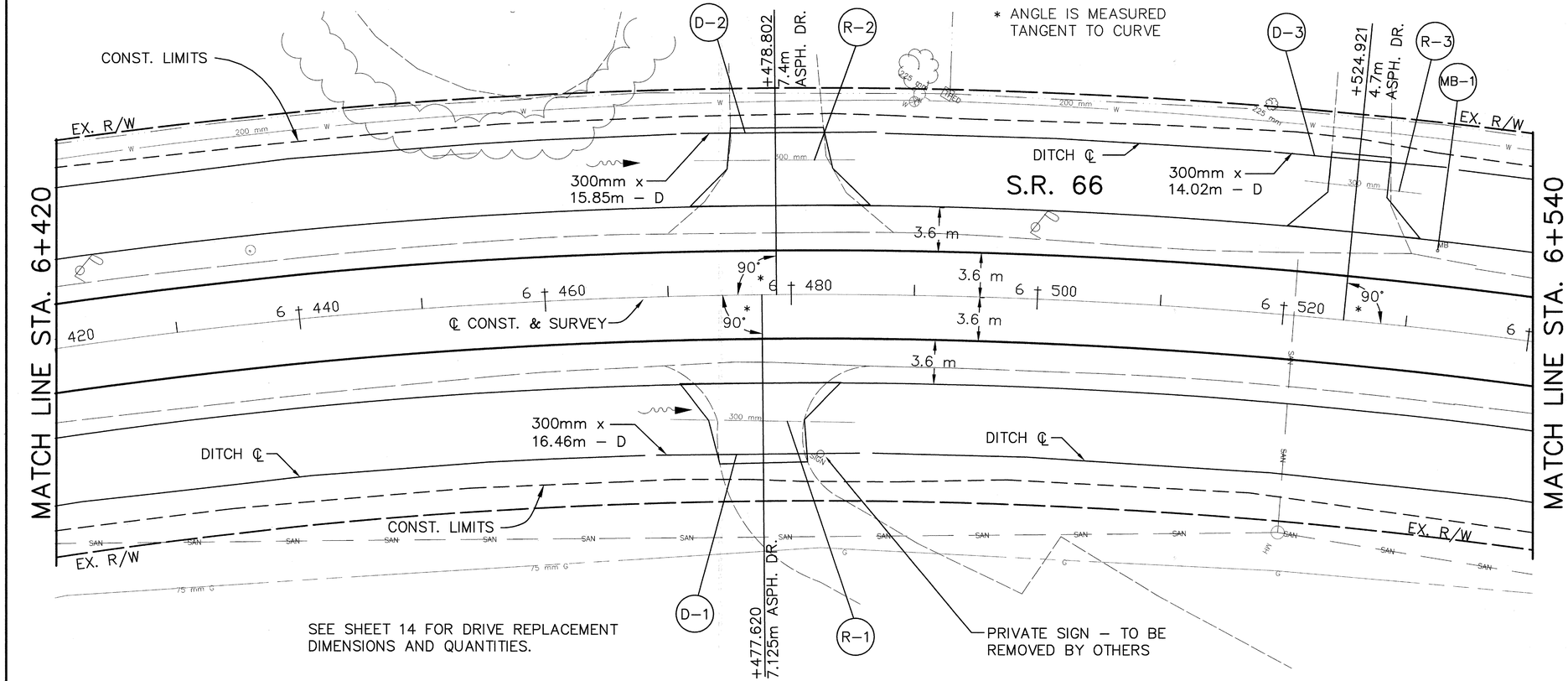
CALCULATED JLM CHECKED PJB

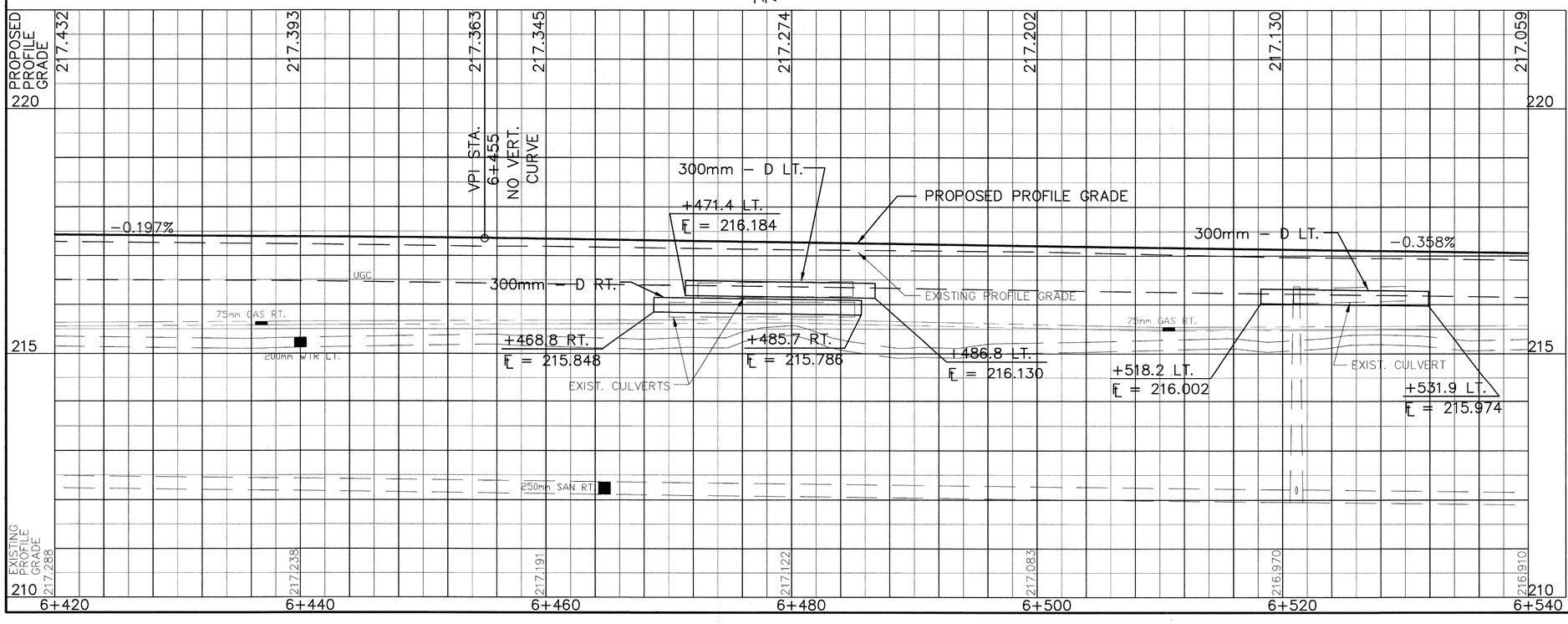
PLAN AND PROFILE – SR. 66
STA. 6+300 TO STA. 6+420

DEF – 66 – 5.472(3.40)

25
70

CAD FILE : SR66PP08
DATE: 12/1/97
OPERATOR: JLM/TRC
PLOT SCALE : 1





F.P.S. BENCHMARK #6

"□" CUT ON CONCRETE BASE OF THE LIGHT POLE ON THE SOUTH SIDE OF S.R. 66 BETWEEN KEN'S FURNITURE AND CALICO CORNERS DAY CARE SCHOOL

ELEV. 216.666

STA. 6+433.539, 26.6 m± LT.

CURVE DATA

PI STA = 6+813.370, ℄ CONST. S.R. 66
E = 8551.991
N = 7020.218
△ = 99°40'01"R

CIRCULAR		SPIRALS	
$\triangle_c$ =	83°40'01"R	Ls =	121.920
R =	436.593	Θ_s =	8°00'00"
T =	390.818	LT =	81.363
L =	637.541	ST =	40.716
E =	149.370	Ts =	579.851
e_{max} =	0.046	Es =	149.370
		e_{max} =	0.046

ESTIMATED QUANTITIES

REF. No	SIDE	STATION FROM	STATION TO	202 PIPE REMOVED 600 mm AND UNDER m	603 300 mm CONDUIT, TYPE D m	690 MAILBOX SUPPORT ea
D-1	RT.	6+468.778	6+485.677		16.459	
D-2	LT.	6+471.350	6+486.791		15.850	
D-3	LT.	6+518.224	6+531.886		14.021	
MB-1	LT.	6+531.887				1
R-1	RT.	6+469.970	6+485.110	15.240		
R-2	LT.	6+472.390	6+485.170	13.411		
R-3	LT.	6+520.820	6+590.160	9.754		
			TOTALS	39	46	1

HORIZONTAL SCALE 1:200

CALCULATED JLM CHECKED PJB

PLAN AND PROFILE – SR. 66
STA. 6+420 TO STA. 6+540

DEF – 66 – 5.472(3.40)

26
70

CAD FILE : SR66PP09
DATE
DESIGNATOR : 12/1/97
PLOT SCALE : 1"=1', T.R.C.

SEE SHEET 14 FOR DRIVE REPLACEMENT DIMENSIONS AND QUANTITIES.

S.R. 66 CONST. LIMITS

SEE GINTER RD. PLAN & PROFILE

SEE GREENLER RD. PLAN & PROFILE

MATCH LINE STA. 6+540

MATCH LINE STA. 6+660

BEGIN TAPER LT. STA. 6+543.490

END TAPER LT. STA. 6+626.455

BEGIN TAPER RT. STA. 6+543.467

END TAPER RT. STA. 6+626.107

R-1

D-1

+568.891 4.0m ASPH. DR.

300mm x 12.80m – D

EX. R/W

DITCH ℄

450mm

11.5 m R.

PI STA 0+1

3.6 m

4.5 m

6.3 m

10.8 m

3.6 m

90°

90°

6 + 560

6 + 580

6 + 600

6 + 620

6 + 640

℄ CONST. & SURVEY

300mm x 17.07m – D

DITCH ℄

CONST. LIMITS

EXISTING FARM DRAIN SEE NOTE SHEET 8

15 m R.

EX. R/W

D-2

+582.738 7.4m ASPH. DR.

R-2

* ANGLE IS MEASURED TANGENT TO CURVE

CURVE DATA

PI STA = 6+813.370, ℄ CONST. S.R. 66
E = 8551.991
N = 7020.218
△ = 99°40'01"R

CIRCULAR		SPIRALS	
$\triangle_c$	= 83°40'01"R	Ls	= 121.920
R	= 436.593	θ_s	= 8°00'00"
T	= 390.818	LT	= 81.363
L	= 637.541	ST	= 40.716
E	= 149.370	Ts	= 579.851
e_{max}	= 0.046	Es	= 149.370
		e_{max}	= 0.046

NOTE: SEE GINTER/GREENLER ROADS INTERSECTION DETAILS FOR ADDITIONAL INFORMATION.

PROPOSED PROFILE GRADE

EXISTING PROFILE GRADE

217.059 217.005 216.975 216.853 216.731 216.609 216.487

220 215 210

VPI STA. 6+555 NO VERT. CURVE

SEE INTERSECTION DETAIL

PROPOSED PROFILE GRADE

EXISTING PROFILE GRADE

−0.358%

−0.610%

300mm – D LT.

EXIST. CULVERTS

+575.7 LT. ℄ = 215.823

+563.2 LT. ℄ = 215.866

+573.9 RT. ℄ = 215.443

300mm – D RT.

−591.4 RT. ℄ = 215.364

+648.6 LT. ℄ = 215.000

450mm – A LT.

100mm ELEC. RT.

75mm GAS RT.

200mm WTR LT.

250mm SAN RT.

250mm SAN RT.

UGO

216.910 216.803 216.708 216.599 216.444 216.333 216.199

6+540 6+560 6+580 6+600 6+620 6+640 6+660

ESTIMATED QUANTITIES

REF. No	SIDE	STATION FROM	STATION TO	202 PIPE REMOVED 600 mm AND UNDER m	603 300 mm CONDUIT, TYPE D m
D-1	LT.	6+563.190	6+575.659		12.802
D-2	RT.	6+573.879	6+591.439		17.069
R-1	LT.	6+565.130	6+575.190	9.144	
R-2	RT.	6+575.220	6+590.000	14.021	
			TOTALS	23	30

HORIZONTAL SCALE 1:200

CALCULATED JLM CHECKED PJB

PLAN AND PROFILE – SR. 66 STA. 6+540 TO STA. 6+660

DEF – 66 – 5.472(3.40)

27 / 70

CAD FILE : SR66PP10
DATE : 12/17/97
OPERATOR : R.A./T.R.C.
PLOT SCALE = 1 '

SEE GINTER RD. PLAN & PROFILE

* MEASURED FROM ℄ GINTER RD. TO THE TANGENT AT STA. 6+666.244 ℄ S.R. 66

** LENGTHS ARE ALONG CURVE

MATCH LINE STA. 6+660

MATCH LINE STA. 6+780

EX. R/W

CONST. LIMITS

DITCH ℄

S.R. 66

STA. 6+666.244
℄ CONST. & SURVEY S.R. 66 =
STA. 0+198.339 (AHEAD), STA. 0+197.450 (BACK)
℄ CONST. & R/W GINTER RD. =,
STA. 0+198.339
℄ CONST. & R/W GREENLER RD.

*103°54'12"

20 m R.

450mm x 14.630m – D

BEGIN GUARDRAIL LT. STA. 6+763.705

ANCHOR ASSEMBLY TYPE T

3.6 m

3.0 m

5.3 m

5.5 m

℄ CONST. & SURVEY

6+660 6+680 6+700 6+720 6+740 6+760 6+780

M-4 M-1 G-2 G-1 R-3 R-2 R-1

600mm

15 m R.

EXISTING FARM DRAIN SEE NOTE SHEET 8

BEGIN PAVEMENT TAPER RT.& LT. STA. 6+739.644

BEGIN SHOULDER TAPER RT. & LT. STA. 6+750

END SHOULDER TAPER RT.& LT. STA. 6+755

BEGIN GUARDRAIL RT. STA. 6+773.948

ANCHOR ASSEMBLY TYPE E

SEE GREENLER RD. PLAN & PROFILE

F.P.S. BENCHMARK #7
SET PK NAIL IN THE NORTH SIDE OF THE POWER POLE ON THE SOUTH SIDE OF S.R. 66, FIRST POLE WEST OF GINTER ROAD
ELEV. 214.969
STA. 6+706.035, 25.7 m± LT.

CURVE DATA
PI STA = 6+813.370,
℄ CONST. S.R. 66
E = 8551.991
N = 7020.218
△ = 99°40'01"R

CIRCULAR		SPIRALS	
$\triangle_c$ =	83°40'01"R	Ls =	121.920
R =	436.593	Θ_s =	8°00'00"
T =	390.818	LT =	81.363
L =	637.541	ST =	40.716
E =	149.370	Ts =	579.851
e_{max} =	0.046	Es =	149.370
		e_{max} =	0.046

HORIZONTAL SCALE 1:200

CALCULATED JLM CHECKED PJB

PROPOSED PROFILE GRADE

EXISTING PROFILE GRADE

220 215 210

216.059 215.909 215.672 215.493 215.443 215.242

216.040 215.899 215.723 215.536 215.340 215.161

SEE INTERSECTION DETAIL

450mm – A LT.

+674.6 LT.
℄ = 214.819

PROPOSED PROFILE GRADE

–0.747%

–1.190%

–1.005%

UGO

75mm GAS RT.

EXISTING PROFILE GRADE

+661.2 RT.
℄ = 214.549

+683.9 RT.
℄ = 214.347

600mm – A RT.

200mm TO 150mm WTR REDUCER LT.

VPI STA. 6+720

NO VERT. CURVE

VPI STA. 6+755

NO VERT. CURVE

450mm – D LT.

+744.8 LT.
℄ = 214.035

+758.9 LT.
℄ = 213.909

EXIST. CULVERT

6+660 6+680 6+700 6+720 6+740 6+760 6+780

ESTIMATED QUANTITIES

REF. No	SIDE	STATION FROM	STATION TO	202 GUARDRAIL REMOVED m	202 PIPE REMOVED 600 mm AND UNDER m	603 450 mm CONDUIT, TYPE D m	604 MONUMENT ASSEMBLY ea	606 ANCHOR ASSEMBLY, TYPE E ea	606 ANCHOR ASSEMBLY, TYPE T ea	606 GUARDRAIL TYPE 5 m
D-1	LT.	6+744.786	6+758.940			14.630				
G-1	RT.	6+773.948	7+147.844					1		**361.950
G-2	LT.	6+763.705	7+147.844					1	1	**384.810
M-1	CTR.	6+666.244					1			
R-1	RT.	6+773.948	7+147.844	369.570						
R-2	LT.	6+763.705	7+147.844	388.620						
R-3	LT.	6+745.120	6+754.680		12.192				1	746.760
		TOTALS		758	12	15	1	1	1	

PLAN AND PROFILE – SR. 66
STA. 6+660 TO STA. 6+780

DEF – 66 – 5.472(3.40)

28
70

CAD FILE : SR66PP11
DATE : 12/20/2017
OPERATOR : R.H./T.R.C.
PLOT SCALE : 1

EX. R/W

CONST. LIMITS

(G-2)

END TAPER LT. STA. 6+825.526

S.R. 66

(R-2)

MATCH LINE STA. 6+780

780

6 + 800

℄ CONST. & SURVEY

6 + 820

6 + 840

6 + 860

6 + 880

6 +

MATCH LINE STA. 6+900

3.0 m

3.60m

3.6 m

3.6 m

3.60m

3.0 m

DITCH ℄

END TAPER RT. STA. 6+825.542

(G-1)

(R-1)

CONST. LIMITS

150 mm

150 mm

EX. R/W

CURVE DATA

PI STA = 6+813.370,
℄ CONST. S.R. 66
E = 8551.991
N = 7020.218
△ = 99°40'01"R

CIRCULAR		SPIRALS	
$\triangle_C$	= 83°40'01"R	Ls	= 121.920
R	= 436.593	θs	= 8°00'00"
T	= 390.818	LT	= 81.363
L	= 637.541	ST	= 40.716
E	= 149.370	Ts	= 579.851
e_{max}	= 0.046	Es	= 149.370
		e_{max}	= 0.046

PROPOSED PROFILE GRADE

215.242 | 215.041 | 214.940 | 214.819 | 214.577 | 214.334 | 214.092 | 213.850

220

VPI STA. 6+810

VPI ELEV.= 214.940

NO VERT. CURVE

VPI STA. 6+900

VPI ELEV.=213.850

NO VERT. CURVE

PROPOSED PROFILE GRADE

-1.005%

-1.211%

215

EXISTING PROFILE GRADE

EXISTING PROFILE GRADE

215.161 | 214.954 | 214.838 | 214.734 | 214.493 | 214.242 | 213.995 | 213.748

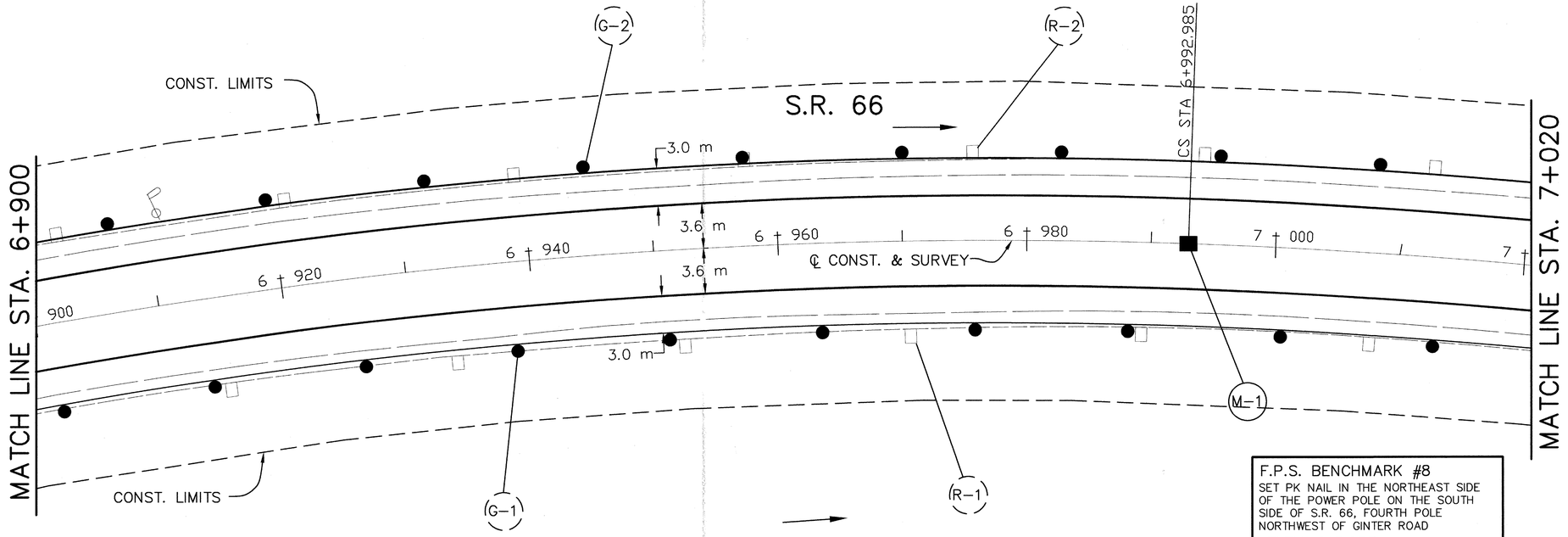
210

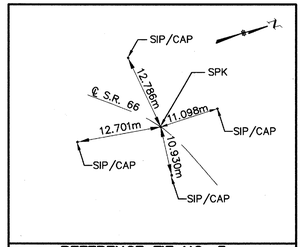
6+780 | 6+800 | 6+820 | 6+840 | 6+860 | 6+880 | 6+900

CAD FILE : S566PP12
DATE/TIME : 12/2/97 8:41:51
DESIGNER : RH/TRC
PLOT SCALE : 1

ESTIMATED QUANTITIES

No	REF. SIDE	STATION FROM	STATION TO





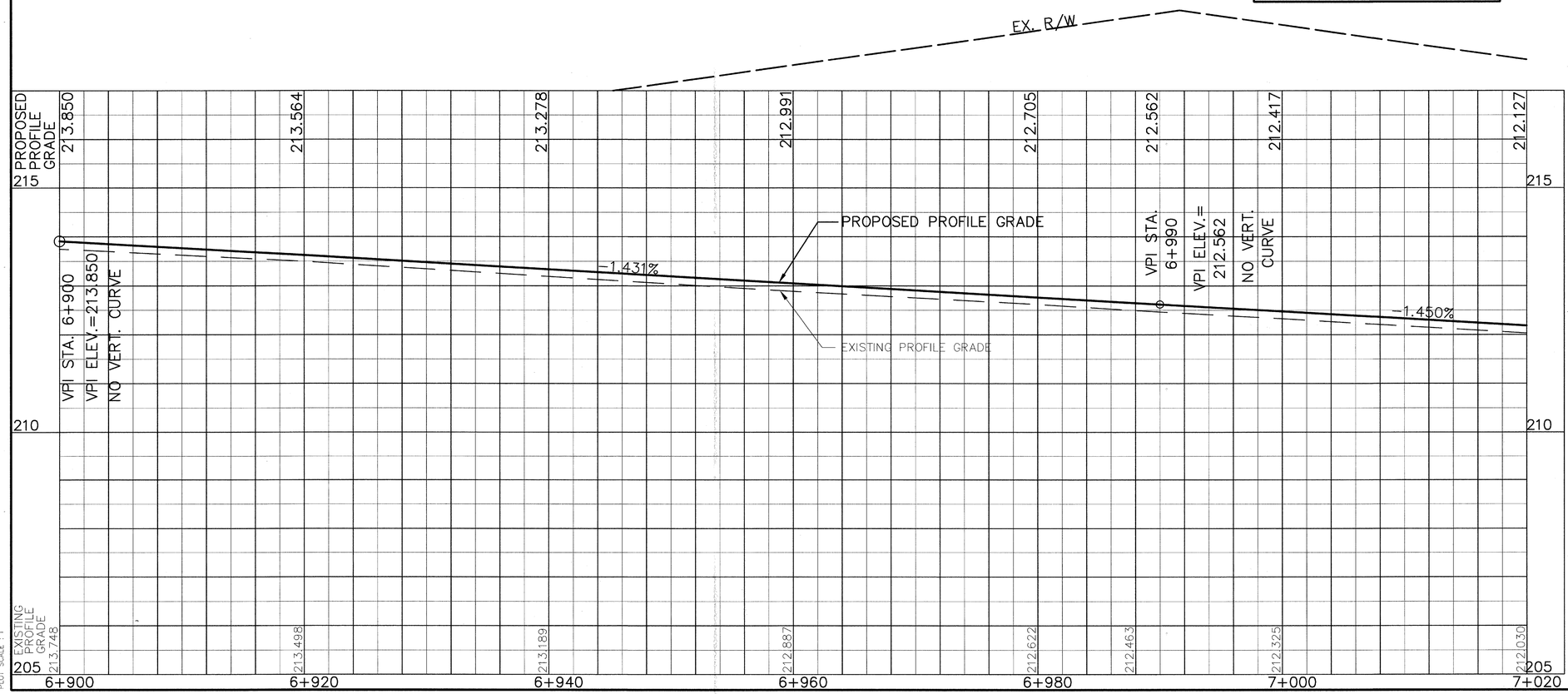
REFERENCE TIE NO. 3
STATION 6+992.985

F.P.S. BENCHMARK #8
SET PK NAIL IN THE NORTHEAST SIDE OF THE POWER POLE ON THE SOUTH SIDE OF S.R. 66, FOURTH POLE NORTHWEST OF GINTER ROAD
ELEV. 213.833
STA. 6+910.972, 7.1 m± LT.

CURVE DATA

PI STA = 6+813.370,
℄ CONST. S.R. 66
E = 8551.991
N = 7020.218
△ = 99°40'01"R

CIRCULAR		SPIRALS	
$\triangle_c$ =	83°40'01"R	Ls =	121.920
R =	436.593	Θ_s =	8°00'00"
T =	390.818	LT =	81.363
L =	637.541	ST =	40.716
E =	149.370	Ts =	579.851
e_{max} =	0.046	Es =	149.370
		e_{max} =	0.046



ESTIMATED QUANTITIES

REF. No	SIDE	STATION FROM	STATION TO	604 MONUMENT ASSEMBLY
				ea
M-1	LT/RT CTR.	STA. 6+992.985	STA.	1
			TOTALS	1

CALCULATED JLM
CHECKED P.JB

HORIZONTAL SCALE 1:200

PLAN AND PROFILE – SR. 66
STA. 6+900 TO STA. 7+020

DEF – 66 – 5.472(3.40)

30
70

CAD FILE : SR66PP13
DATE : 12/2007
OPERATOR : B.H./T.R.C.
PLOT SCALE : 1

CURVE DATA
PI STA = 6+813.370,
℄ CONST. S.R. 66
E = 8551.991
N = 7020.218
△ = 99°40'01"R

CIRCULAR
$\triangle_c$ = 83°40'01"R
R = 436.593
T = 390.818
L = 637.541
E = 149.370
e_{max} = 0.046

SPIRALS
Ls = 121.920
θ_s = 8°00'00"
LT = 81.363
ST = 40.716
Ts = 579.851
Es = 149.370
e_{max} = 0.046

F.P.S. BENCHMARK #9
FOUND "X" CUT ON TOP OF SOUTHWEST CORNER OF THE WINGWALL ON THE SOUTH SIDE OF THE AUGLAIZE RIVER AND THE WEST SIDE OF S.R. 66
ELEV. 210.955
STA. 7+151.961, 5.7 m± LT.

END WORK
STA. 7+147.844

END PROJECT
STA. 7+140.000

STP

+120 BEGIN GUARDRAIL
BEGIN TAPER RT. & LT.

ST STA 7+114.905

CONST. LIMITS

S.R. 66

MATCH LINE STA. 7+020

020 | 7+040 | 7+060 | 7+080 | 7+100 | 7+120 | 7+140

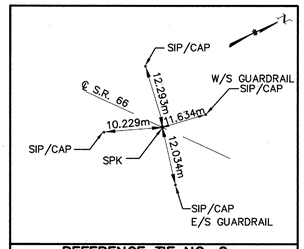
3.0 m
3.6 m
3.6 m
3.0 m

℄ CONST. & SURVEY

N 25° 55' 00" E

G-2 R-2 G-1 R-1 M-1

CONST. LIMITS



REFERENCE TIE NO. 2
STATION 7+114.905

END GAURDRAIL, TYPE 5
END GAURDRAIL REMOVAL
CONNECT TO EXIST. GAURDRAIL
STA. 7+147.844, RT. & LT.

EX. R/W

PROPOSED PROFILE GRADE
EXISTING PROFILE GRADE

212.127 | 211.837 | 211.547 | 211.402 | 211.276 | 211.187 | 211.118 | 210.978 | 210.839

215
210
205

VPC STA. 7+070
VPC ELEV.=211.460
20.000m VC
VPI STA. 7+080
VPI EL.=211.315
DES. SPEED=70 kph
K=30.7
VPT STA. 7+090
VPT ELEV.=211.236

-1.450%
-0.793%

BUTT JOINT MEETS EXISTING STA. 7+140.000

211.764 | 211.520 | 211.285 | 211.090 | 210.951 | 210.839

7+020 | 7+040 | 7+060 | 7+080 | 7+100 | 7+120 | 7+140 | 7+148

ESTIMATED QUANTITIES

No	REF.	SIDE	STATION FROM	STATION TO	604 MONUMENT ASSEMBLY
					ea
M-1		CTR.	7+114.905		1
				TOTALS	1

CALCULATED JLM
CHECKED PJB

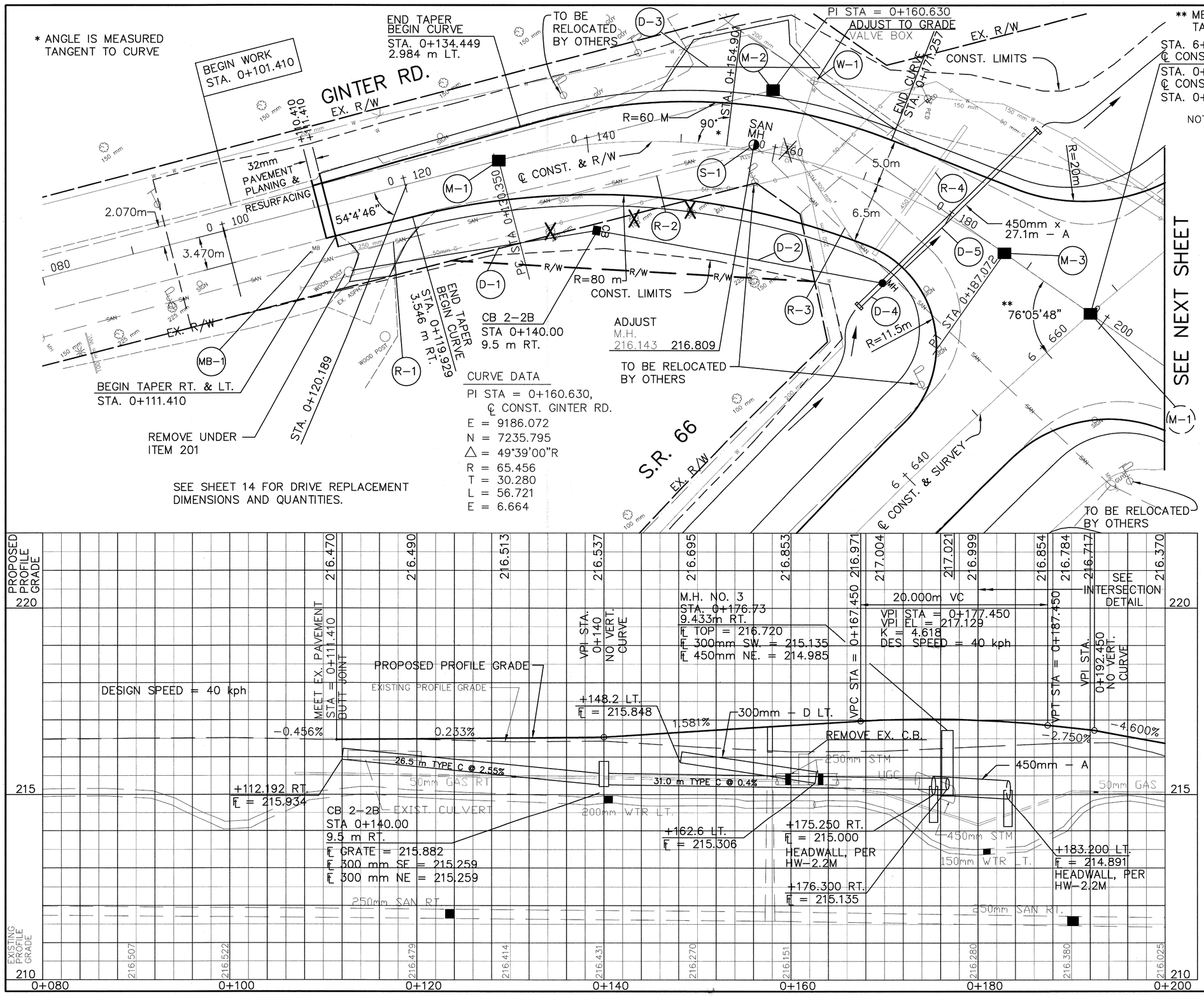
HORIZONTAL SCALE 1:200

PLAN AND PROFILE – SR. 66
STA. 7+020 TO STA. 7+147.844

DEF – 66 – 5.472(3.40)

31
70

CAD FILE : SR66PP14
DATE CREATED: 12/29/97
PLOT SCALE 0.4:1 / P.R.C.



ESTIMATED QUANTITIES

REF. No	SIDE	STATION FROM	STATION TO	202 PIPE REMOVED 600 mm AND UNDER m	202 CATCH BASIN REMOVED ea	602 CONCRETE MASONRY m3	603 450mm CONDUIT, TYPE A m	603 300mm CONDUIT, TYPE C m	603 300mm CONDUIT, TYPE D m	604 MONUMENT ASSEMBLY ea	604 CATCH BASIN 2-2B ea	604 MANHOLE ADJUSTED TO GRADE ea	604 MANHOLE, NO. 3 ea	638 VALVE BOX ADJUSTED TO GRADE ea	690 MAILBOX SUPPORT ea
D-1	RT	0+112.192	0+140.000								1				
D-2	RT	0+140.00	0+173.500					26.5							
D-3	LT.	0+148.173	0+162.576					31							
D-4	RT.	0+175.250	0+176.730						16.5				1		
D-5	RT/LT	0+176.730	0+183.200			0.27	3.66					1		1	1
M-1	CTR.	0+130.350				0.27	23.44			1				1	1
M-2	LT.	0+160.630								1		1		1	1
M-3	CTR.	0+187.072								1			1	1	1
MB-1	RT.	0+108.518													1
R-1	RT	0+112.612	0+120.474	7.86							1				
R-2	RT/LT	0+134.140	0+161.420	26.26	1										
R-3	RT/LT	0+161.420	0+173.350	13.5											
R-4	RT/LT	0+174.300	0+177.240	17											
S-1	CTR.	0+157.754													1
W-1	LT.	0+162.386													1
			TOTALS	65	1	0.6	28	58	17	3	1	1	1	3	5

HORIZONTAL SCALE 1:200

CALCULATED J.L.M. CHECKED P.J.B.

PLAN AND PROFILE – GINTER RD.
STA. 0+080 TO STA. 0+200

DEF – 66 – 5.472(3.40)

32
70

CAD FILE: GINTPP01
DATE: 12/1/96
OPERATOR: B.R.H./T.R.C.
DGN: SCALE:

SEE PREVIOUS SHEET

6 + 680

EXISTING FARM DRAIN
SEE NOTE SHEET 8

TO BE RELOCATED
BY OTHERS

EX. R/W

R=15 M

MAIN ENCASEMENT

CONST. LIMITS

BEGIN TAPER RT. & LT.
STA. 0+254.055

W-1

ADJUST TO GRADE
VALVE BOX

GREENLER RD.

END TAPER RT. & LT.
STA. 0+310.000

END WORK
STA. 0+320.000

D-3

+297.230
10.1m
ASPH. DR.

300mm x 14.63m – D

1.2m

600mm x
21.0m – A

5.5m

5.3m

200 | 0 + 220 | 0 + 240 | 0 + 260 | 0 + 280 | 0 + 300 | 0 + 320

℄ CONST. & R/W

N 51° 08' 31" E

90°

3.085m

3.085m

D-1

R=15 M

S-1

+267.271
15.9m
ASPH. DR.

D-2

R-1

300mm x 21.95m – D

CONST. LIMITS

EX. R/W

32mm
PAVEMENT
PLANING &
RESURFACING

+310 | +311

TO BE RELOCATED
BY OTHERS

EXISTING FARM DRAIN
SEE NOTE SHEET 8

SEE SHEET 14 FOR DRIVE REPLACEMENT
DIMENSIONS AND QUANTITIES.

PROPOSED PROFILE GRADE

SEE INTERSECTION DETAIL

216.370 | 216.148 | 216.093 | 216.012 | 215.851 | 215.824 | 215.841 | 215.899 | 215.980 | 216.180 | 216.380 | 216.480 | 216.497 | 216.531 | 216.565 | 216.599

220

26.000m VC
VPI STA = 0+219.820
VPI EL = 215.735
K = 7.300
DES. SPEED = 42 kph

VPC STA = 0+206.820

VPT STA = 0+232.820

VPI STA. 0+250
NO VERT. CURVE

VPI STA. 0+275
NO VERT. CURVE

PROPOSED PROFILE GRADE

300 mm – D RT.

300 mm – D LT.

-2.75%

-4.60%

0.812%

2.000%

0.340%

0.090%

600mm –A

EXISTING PROFILE GRADE

215

LT.

+221.529 RT.
℄ = 214.549
HEADWALL, PER
HW=2.2M

600mm STM

+255.7 RT.
℄ = 215.731

+277.6 RT.
℄ = 215.979

150mm WTR LT.

+289.6 LT.
℄ = 216.053

+304.3 LT.
℄ = 216.139

MEET EXISTING PAVEMENT
STA. 0+310.000
BUTT JOINT

VPI STA. 0+204.820
NO VERT. CURVE

+221.529 LT.
℄ = 214.347
HEADWALL, PER
HW=2.2M

REMOVAL OF EXISTING
CONDUIT INCIDENTAL
TO ITEM 603

250mm SAN RT.

250mm SAN RT.

EXISTING PROFILE GRADE

216.025 | 215.750 | 215.902 | 216.028 | 216.280 | 216.372 | 216.391 | 216.457 | 216.590 | 216.608

210

0+200 | 0+220 | 0+240 | 0+260 | 0+280 | 0+300 | 0+320

ESTIMATED QUANTITIES

REF. No	SIDE	STATION FROM	STATION TO	202 PIPE REMOVED 600mm AND UNDER m	602 CONCRETE MASONRY m³	603 600mm CONDUIT, TYPE A m	603 300mm CONDUIT, TYPE D m	604 MANHOLE ADJUSTED TO GRADE ea	638 VALVE BOX ADJUSTED TO GRADE ea
W-1	LT.	0+258.154							1
D-1	LT/RT	0+221.5	0+221.5		0.78	22.35			
D-2	RT.	0+255.686	0+277.632				21.946		
D-3	LT.	0+289.646	0+304.257				14.630		
R-1	RT.	0+257.61	0+277.10	19.49					
S-1	RT.	0+257.397						1	
TOTALS				20	0.8	23	37	1	1

HORIZONTAL SCALE 1:200

CALCULATED JLM
CHECKED PJB

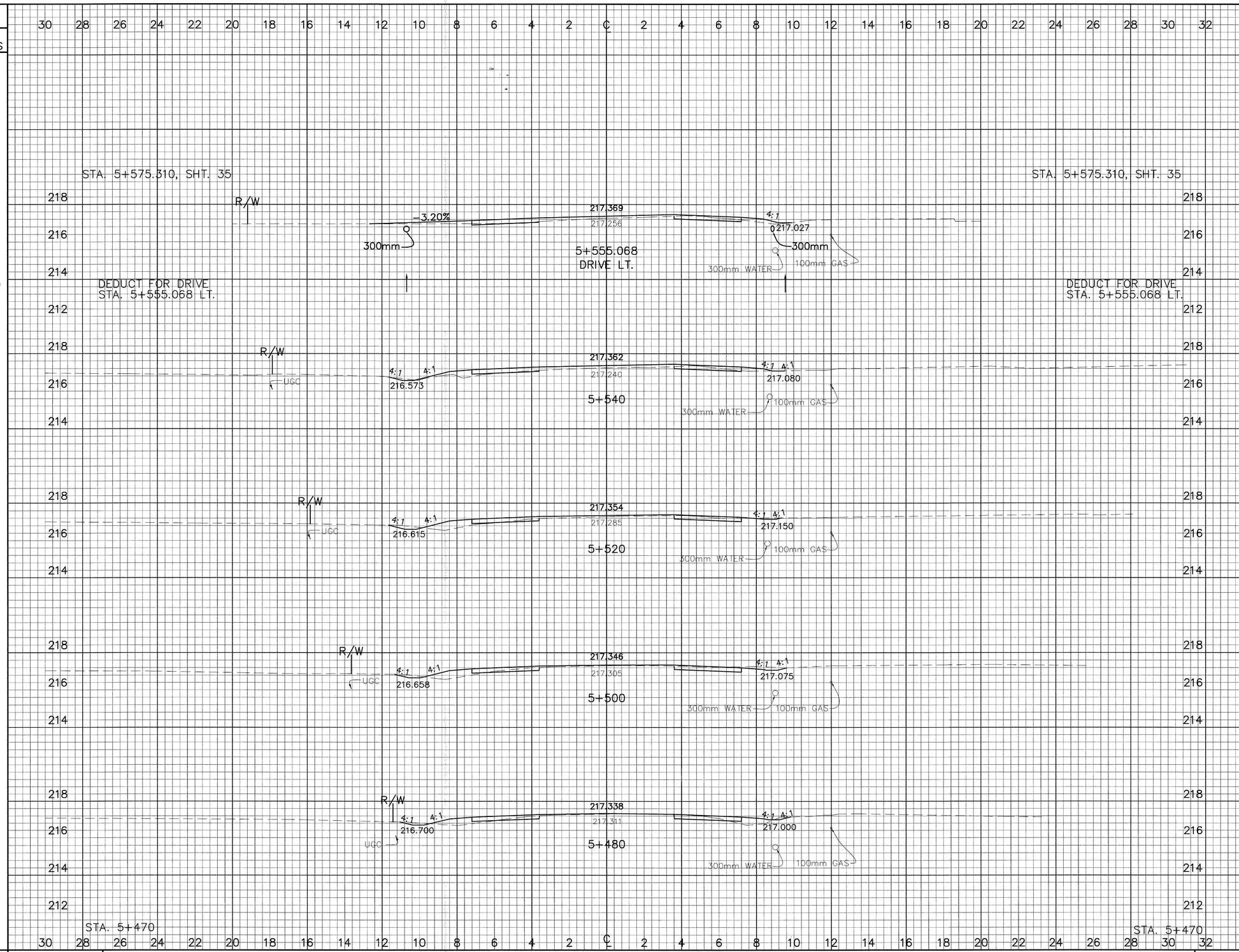
PLAN AND PROFILE – GREENLER RD.
STA. 0+200 TO STA. 0+310

DEF – 66 – 5.472(3.40)

33
70

CAD FILE : GNTPP02
DATE : 2/11/97
OPERATOR : B.R.H./T.R.C.
PLOT SCALE : 1 : 1

SEEDING	
END WIDTH	SQ. METERS
14.8	
	489 (−57)
12.9	
	256
12.7	
	253
12.6	
	252
12.6	
	63
0.0	
	1256 SHEET TOTAL



QUANTITIES			
END AREA		CU. METER	
CUT	FILL	CUT	FILL
1.3	2.2		
		34 (−7)	67
0.6	1.6		
		17	28
1.1	1.2		
		25	21
1.5	0.9		
		25	23
1.0	1.3		
		5	7
0.0	0.0		
SHEET TOTAL		99	146

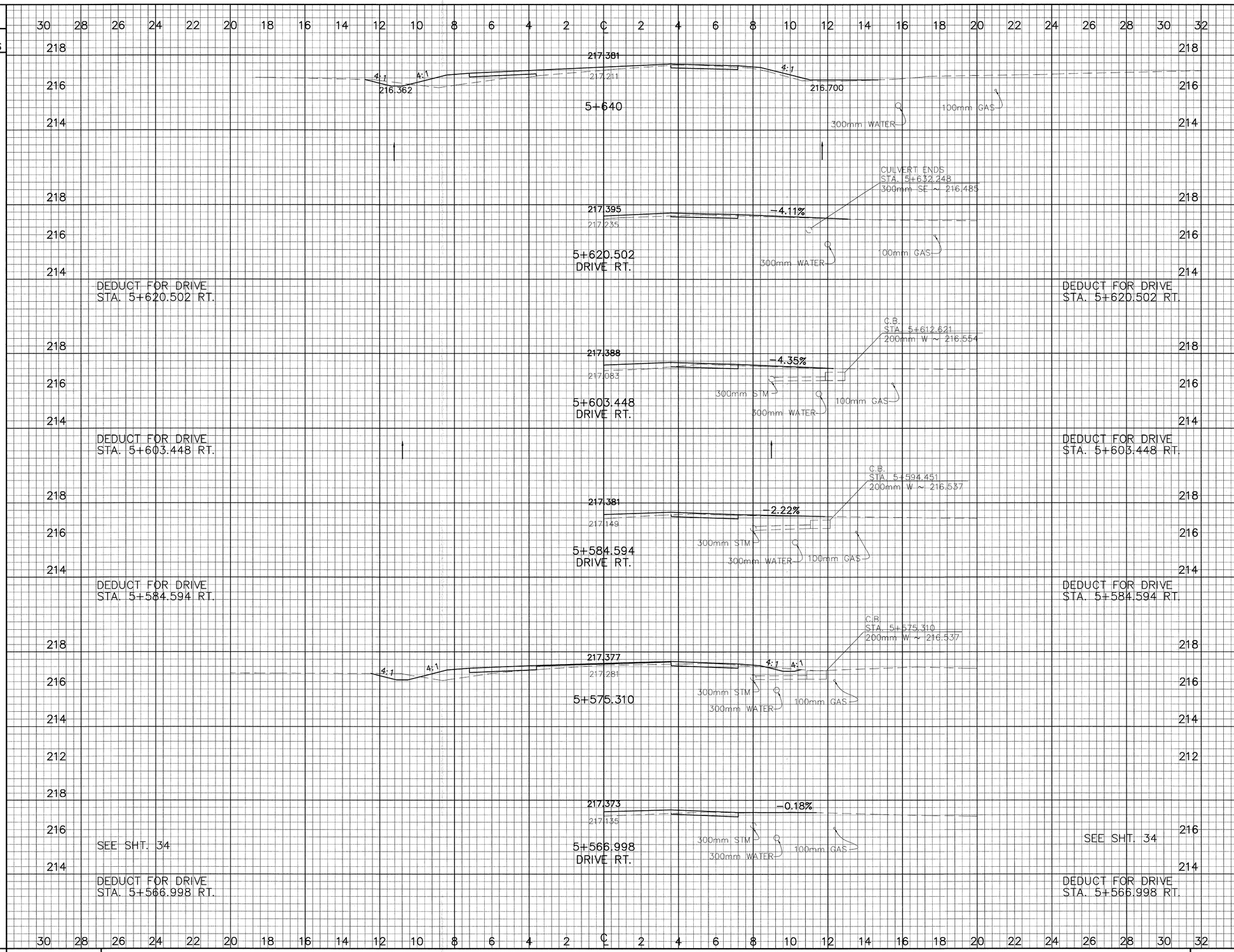
CALCULATED JLM
CHECKED PJB

S.R 66 CROSS SECTIONS
STA. 5+480 TO STA. 5+555.068

DEF−66−5.472(3.40)

DATE :11/7/97
CAD FILE :DEFXS01
OPERATOR :JLM/MCH
PLOT SCALE: 1

SEEDING	
END WIDTH	SQ. METERS
19.3	
	1103
	(−42)
	(−61)
	(−59)
19.3	
	(−40)
	901



QUANTITIES			
END AREA		CU. METER	
CUT	FILL	CUT	FILL
1.2	2.6		
		(−12)	
		81	155
		(−9)	
		(−10)	
1.3	2.2		
		(−7)	
SHEET TOTAL		43	155

CALCULATED JLM
CHECKED PJB

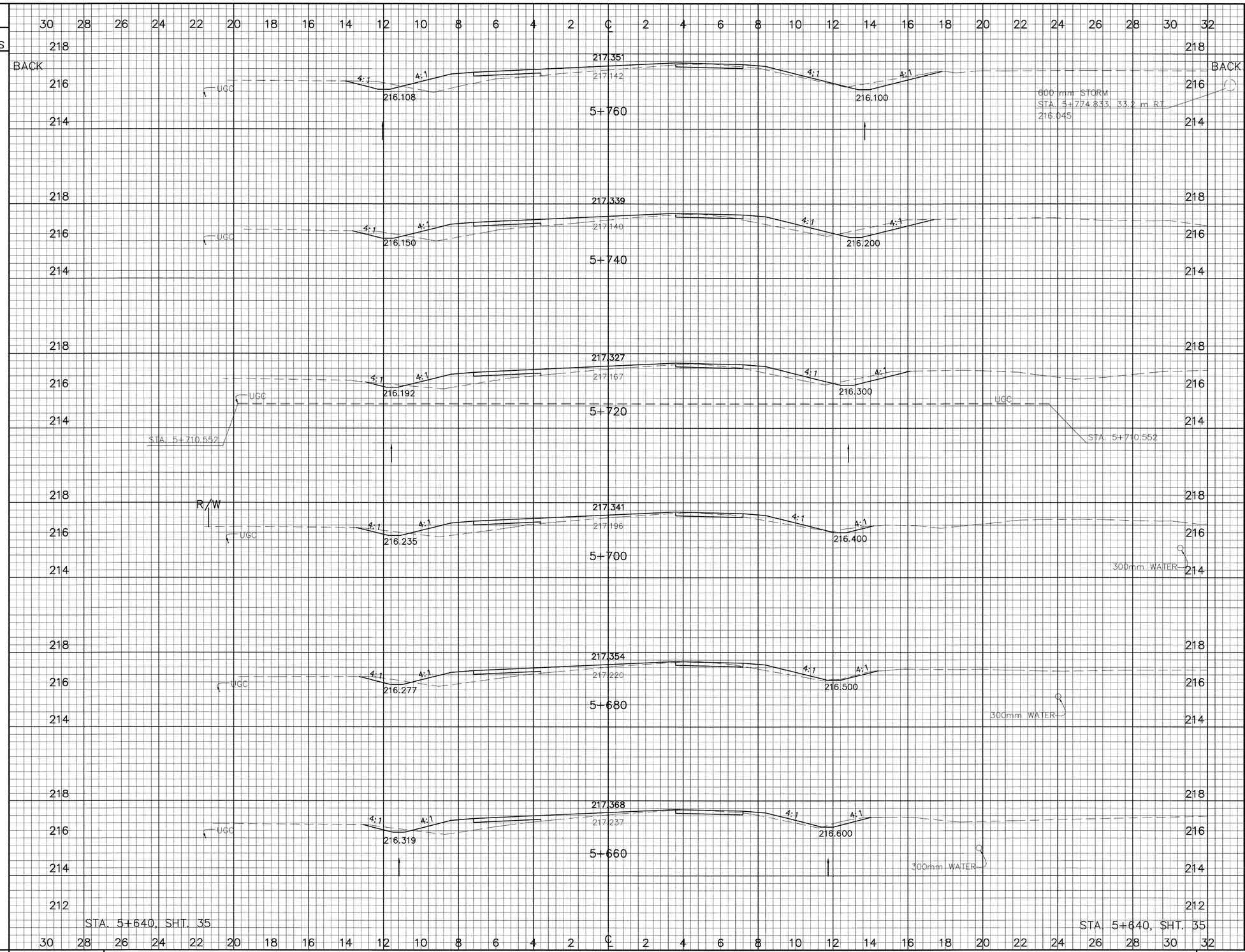
S.R. 66 CROSS SECTIONS
STA. 5+566.998 TO STA. 5+640

DEF−66−5.472(3.40)

35
70

DATE : 11/7/97
CAD FILE : DEFXS02
OPERATOR : JLM/MCH
PLOT SCALE: 1

SEEDING	
END WIDTH	SQ. METERS
23.8	469
23.0	441
21.1	406
19.5	391
19.6	386
19.0	383
19.3	
	2476



QUANTITIES			
END AREA		CU. METER	
CUT	FILL	CUT	FILL
2.2	3.5	49	81
2.6	4.6	45	84
1.8	3.9	34	71
1.6	3.3	33	66
1.7	3.3	35	64
1.8	3.0	30	57
1.2	2.6		
SHEET TOTAL		226	423

CALCULATED JLM
CHECKED PJB

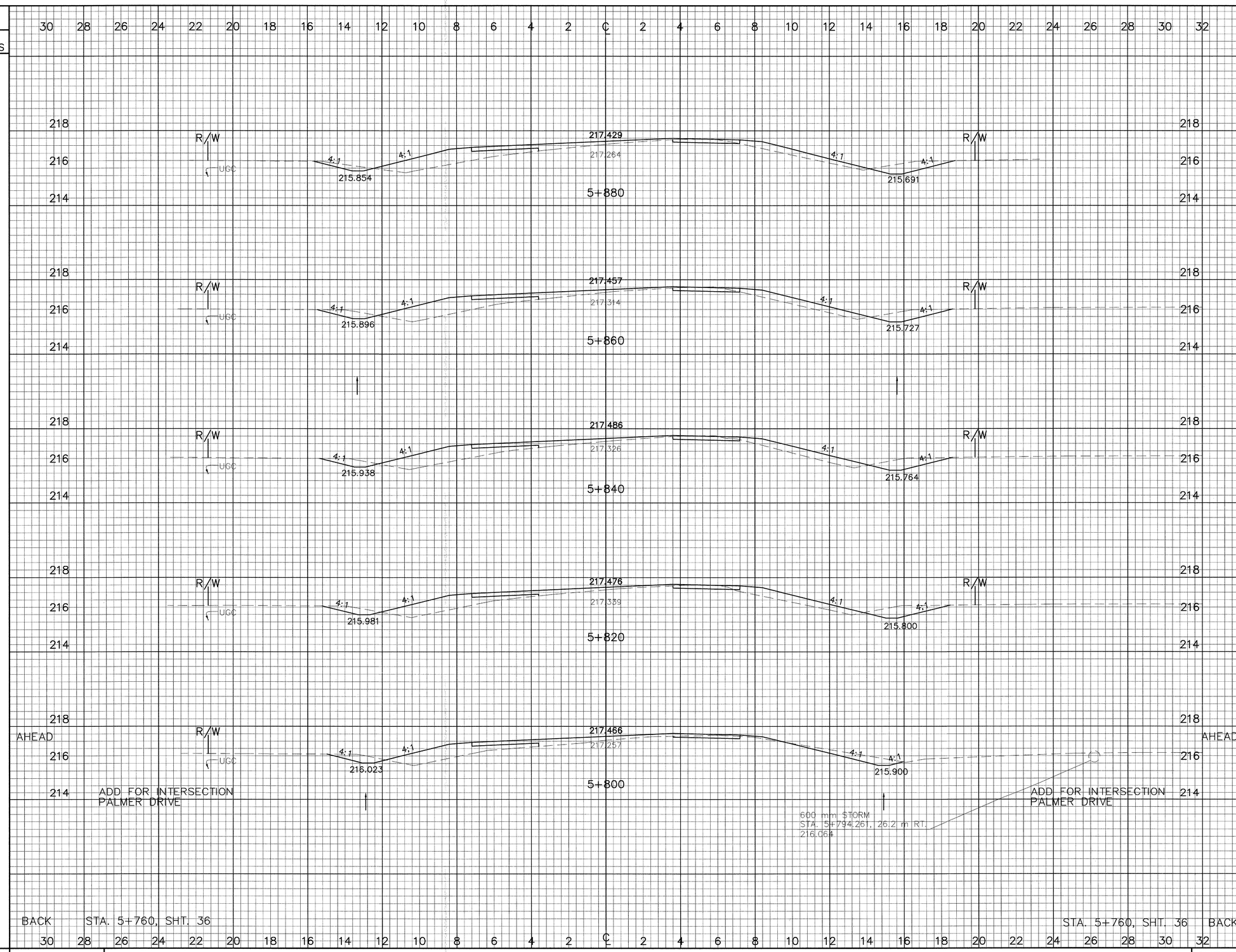
S.R. 66 CROSS SECTIONS
STA. 5+660 TO STA. 5+760

DEF-66-5.472(3.40)

36
70

DATE : 11/7/97
CAD FILE : DEFXS03
OPERATOR : JLM/MCH
PLOT SCALE: 1

SEEDING		QUANTITIES			
END WIDTH	SQ. METERS	END AREA CUT	END AREA FILL	CU. METER CUT	CU. METER FILL
26.5	527	2.8	6.0	59	127
26.2	522	3.1	6.7	63	131
26.0	517	3.2	6.4	65	125
25.7	486	3.3	6.1	58	100
22.9	702	2.5	3.9	108	170
23.8		2.2	3.5		
	2754 SHEET TOTAL		SHEET TOTAL	353	653



CALCULATED JLM
CHECKED PJB

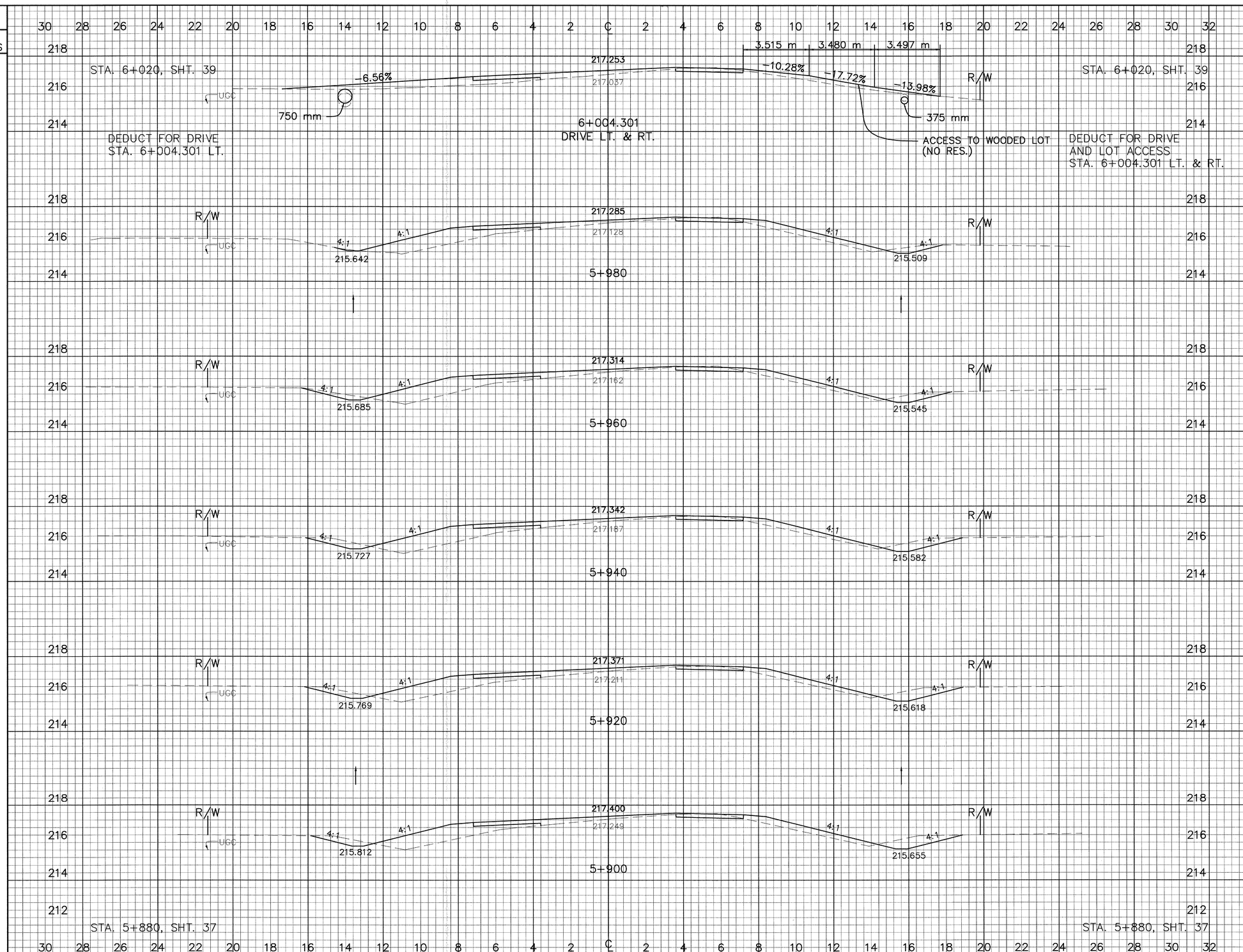
S.R. 66 CROSS SECTIONS
STA. 5+780 TO STA. 5+880

DEF-66-5.472(3.40)

37
70

DATE :11/4/97
CAD FILE :DEFXS04
OPERATOR :JLM/MCH
PLOT SCALE: 1

SEEDING		QUANTITIES			
END WIDTH	SQ. METERS	END AREA CUT	END AREA FILL	CU. METER CUT	CU. METER FILL
29.4	1077 (−45)	5.4	8.0	140 (−21)	296
24.4	513	1.6	6.8	41	132
26.8	539	2.5	6.4	54	128
27.1	543	3.0	6.4	60	126
27.2	540	3.0	6.1	62	125
26.8	533	3.2	6.4	60	124
26.5		2.8	6.0		
	3745 SHEET TOTAL		SHEET TOTAL	396	931



CALCULATED JLM
CHECKED PJB

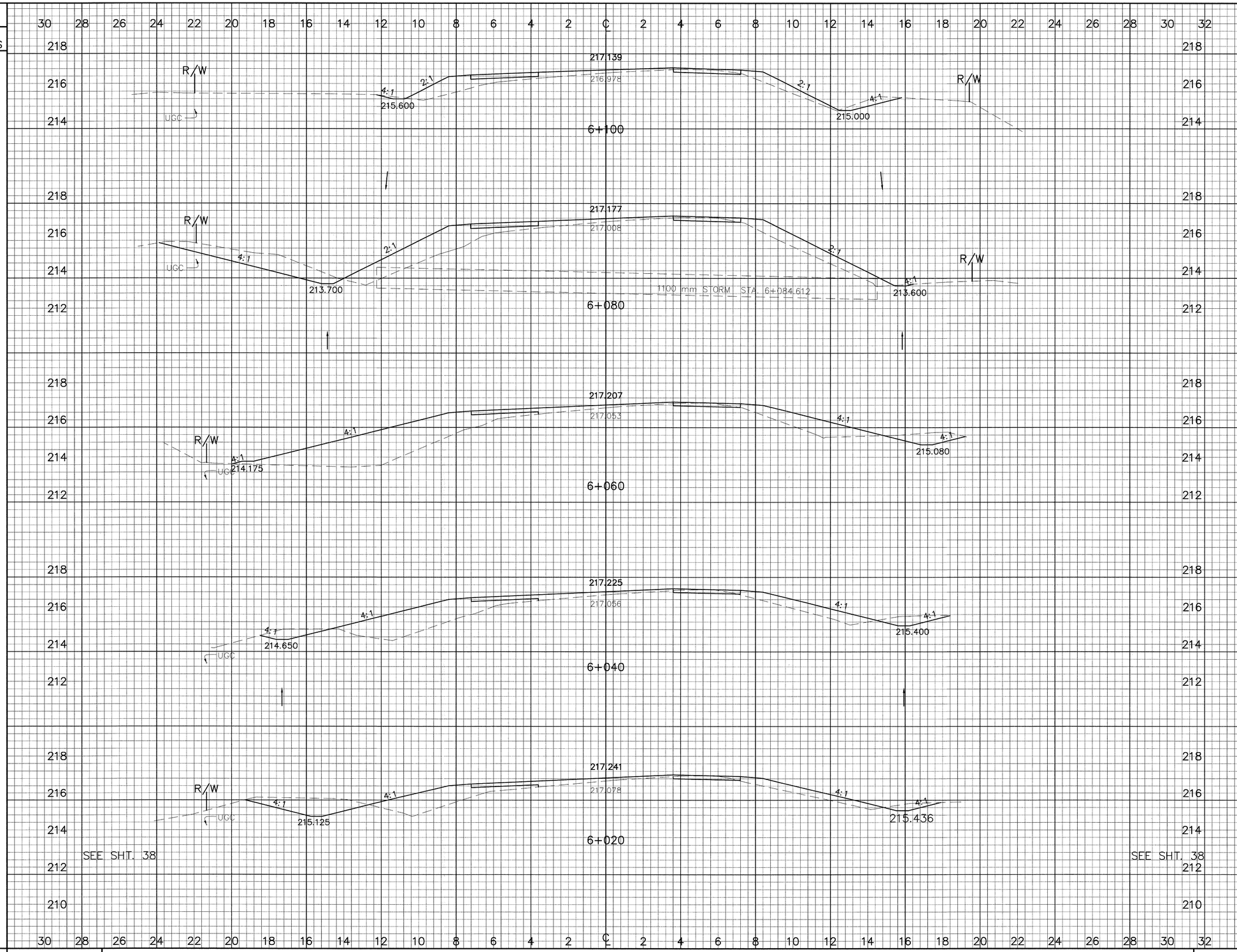
S.R. 66 CROSS SECTIONS
STA. 5+900 TO STA. 6+004.301

DEF-66-5.472(3.40)

38
70

DATE : 11/7/97
CAD FILE : DEFXS05
OPERATOR : JLM/MCH
PLOT SCALE: .1

SEEDING	
END WIDTH	SQ. METERS
20.5	517
31.2	627
31.5	605
29.0	584
29.4	
	2333



QUANTITIES			
END AREA		CU. METER	
CUT	FILL	CUT	FILL
1.4	5.7		
		78	192
6.4	13.5		
		89	333
2.5	19.8		
		55	317
3.1	11.9		
		84	199
5.4	8.0		
SHEET TOTAL		306	1041

CALCULATED JLM
CHECKED PJB

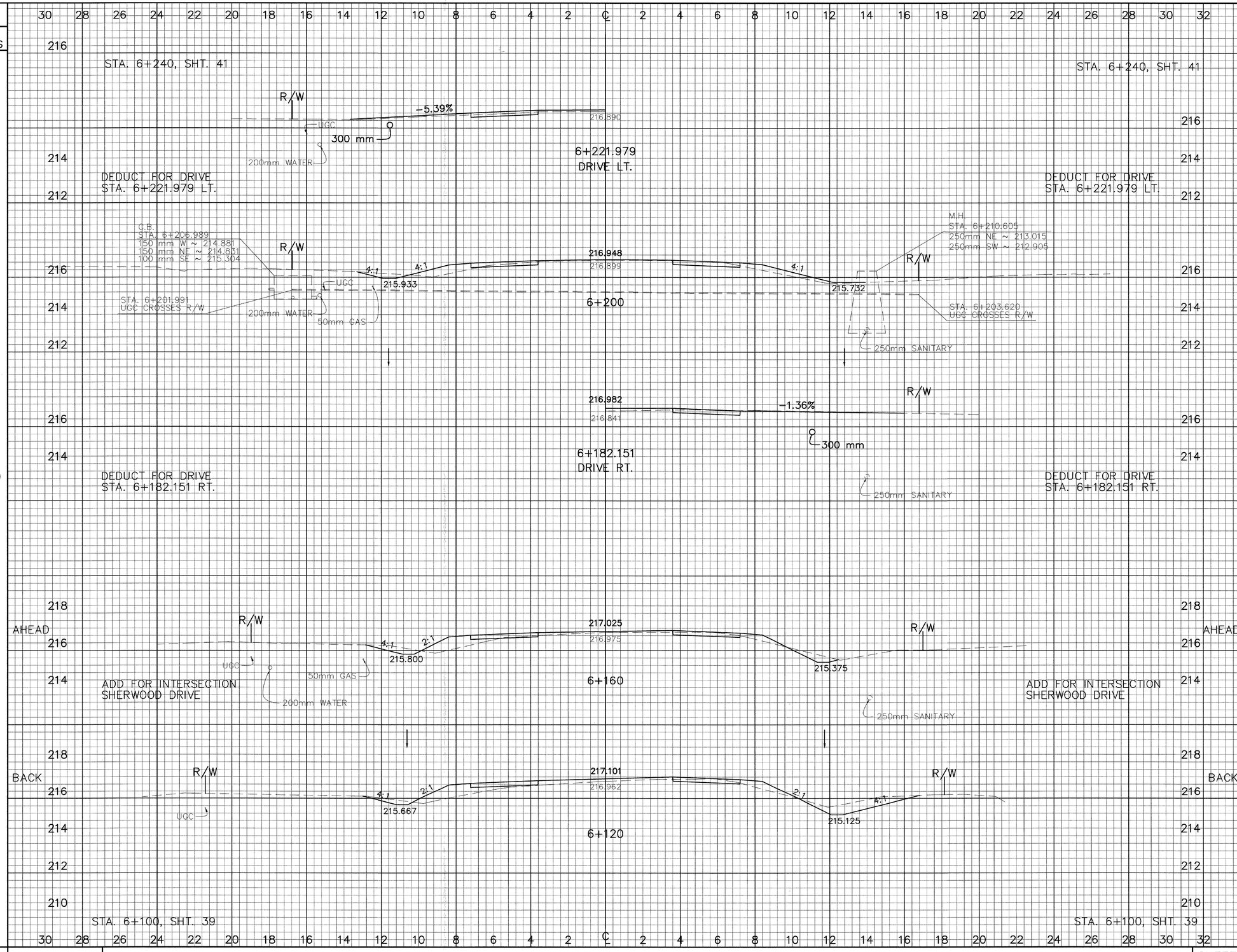
S.R. 66 CROSS SECTIONS
STA. 6+020 TO STA. 6+100

DEF-66-5.472(3.40)

39
70

DATE : 11/4/97
CAD FILE : DEFXS06
OPERATOR : MCH/JLM
PLOT SCALE: 1

SEEDING	
END WIDTH	SQ. METERS
19.5	
	772 (−71)
19.1	
	731
	(−37)
17.5	
	530
22.3	
	427
20.5	
	2352



QUANTITIES			
END AREA		CU. METER	
CUT	FILL	CUT	FILL
1.4	4.5		
		58	134
		(−14)	
1.5	2.2		
		68	94
		(−42)	
AHEAD 1.9	2.5		
		91	117
BACK 3.0	3.8		
		44	96
1.4	5.7		
SHEET TOTAL		205	441

CALCULATED JLM
CHECKED PJB

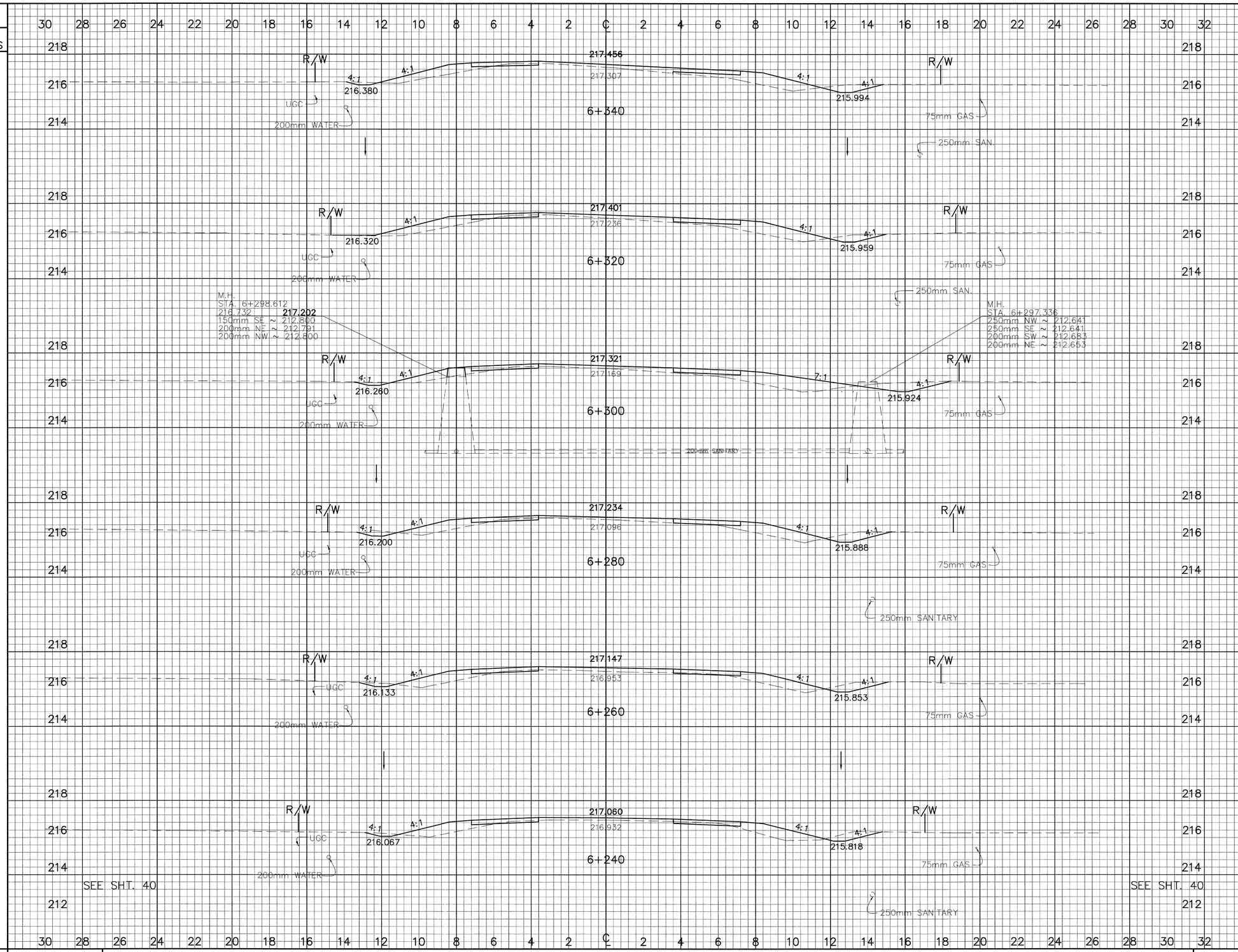
S.R. 66 CROSS SECTIONS
STA. 6+120 TO STA. 6+221.979

DEF−66−5.472(3.40)

40
70

DATE :11/7/97
CAD FILE :DEFXS07
OPERATOR :JLM/MCH
PLOT SCALE: 1

SEEDING	
END WIDTH	SQ. METERS
20.6	422
21.6	420
20.5	410
20.5	408
20.2	398
19.5	
	2058



QUANTITIES			
END AREA		CU. METER	
CUT	FILL	CUT	FILL
1.5	4.5	24	103
0.9	5.9	18	112
0.9	5.4	25	103
1.5	4.9	29	99
1.3	5.0	27	95
1.4	4.5		
SHEET TOTAL		123	512

CALCULATED JLM
CHECKED PJB

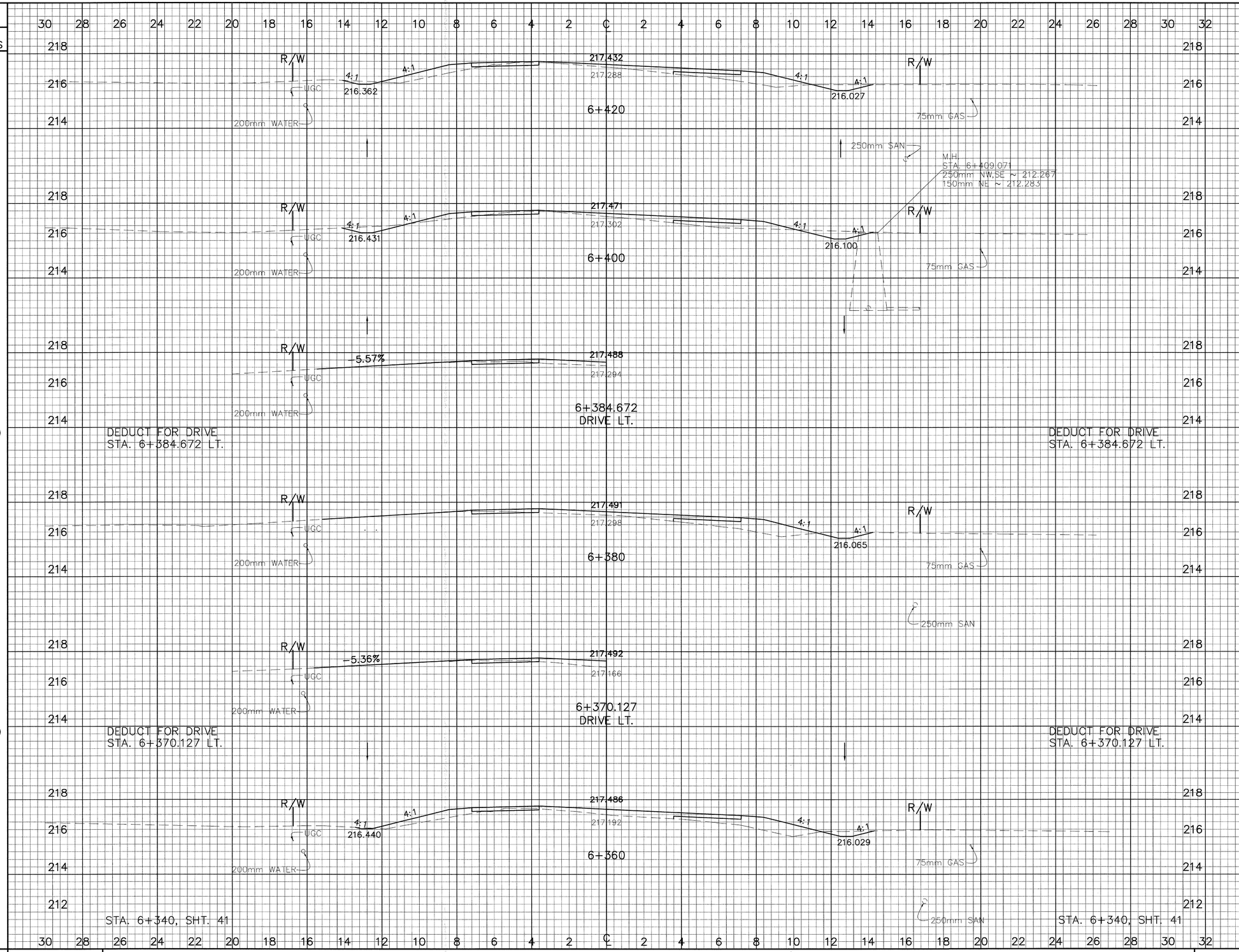
S.R. 66 CROSS SECTIONS
STA. 6+240 TO STA. 6+340

DEF-66-5.472(3.40)

41
70

DATE :11/7/97
CAD FILE :DEFXS08
OPERATOR :JLM/MCH
PLOT SCALE: 1

SEEDING	
END WIDTH	SQ. METERS
20.3	
	406
20.3	
	417
	(−32)
21.3	
	410
	(−26)
19.6	
	403
20.6	
	1578



QUANTITIES			
END AREA		CU. METER	
CUT	FILL	CUT	FILL
1.7	4.2		
		40	65
2.3	2.3		
		60	56
		(−23)	
3.7	3.3		
		44	83
		(−18)	
0.7	5.0		
		22	94
1.5	4.5		
SHEET TOTAL		125	298

CALCULATED JLM
CHECKED PJB

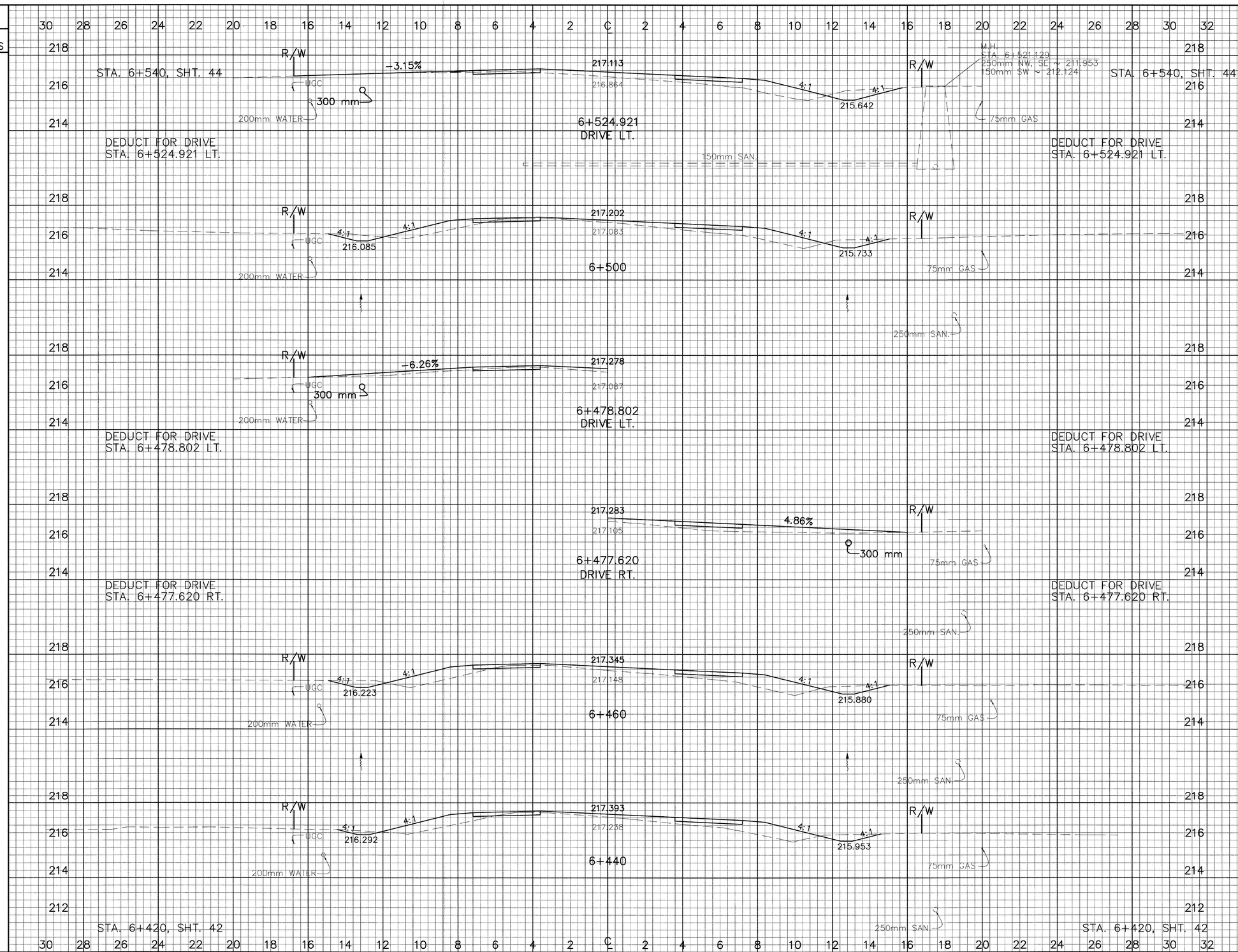
S.R. 66 CROSS SECTIONS
STA. 6+360 TO STA. 6+420

DEF−66−5.472(3.40)

42
70

DATE :11/7/97
CAD FILE : DEFXS09
OPERATOR : JLM/MCH
PLOT SCALE: 1

SEEDING	
END WIDTH	SQ. METERS
23.6	
	911
	(−39)
21.9	
	877
	(−62)
	(−57)
21.9	
	429
21.0	
	413
20.3	
	2472



QUANTITIES			
END AREA		CU. METER	
CUT	FILL	CUT	FILL
3.3	5.3		
		114	200
		−22	
2.4	4.7		
		90	206
		(−23)	
		(−18)	
2.1	5.6		
		37	110
1.6	5.4		
		33	97
1.7	4.2		
SHEET TOTAL		233	613

CALCULATED J.L.M.
CHECKED P.J.B.

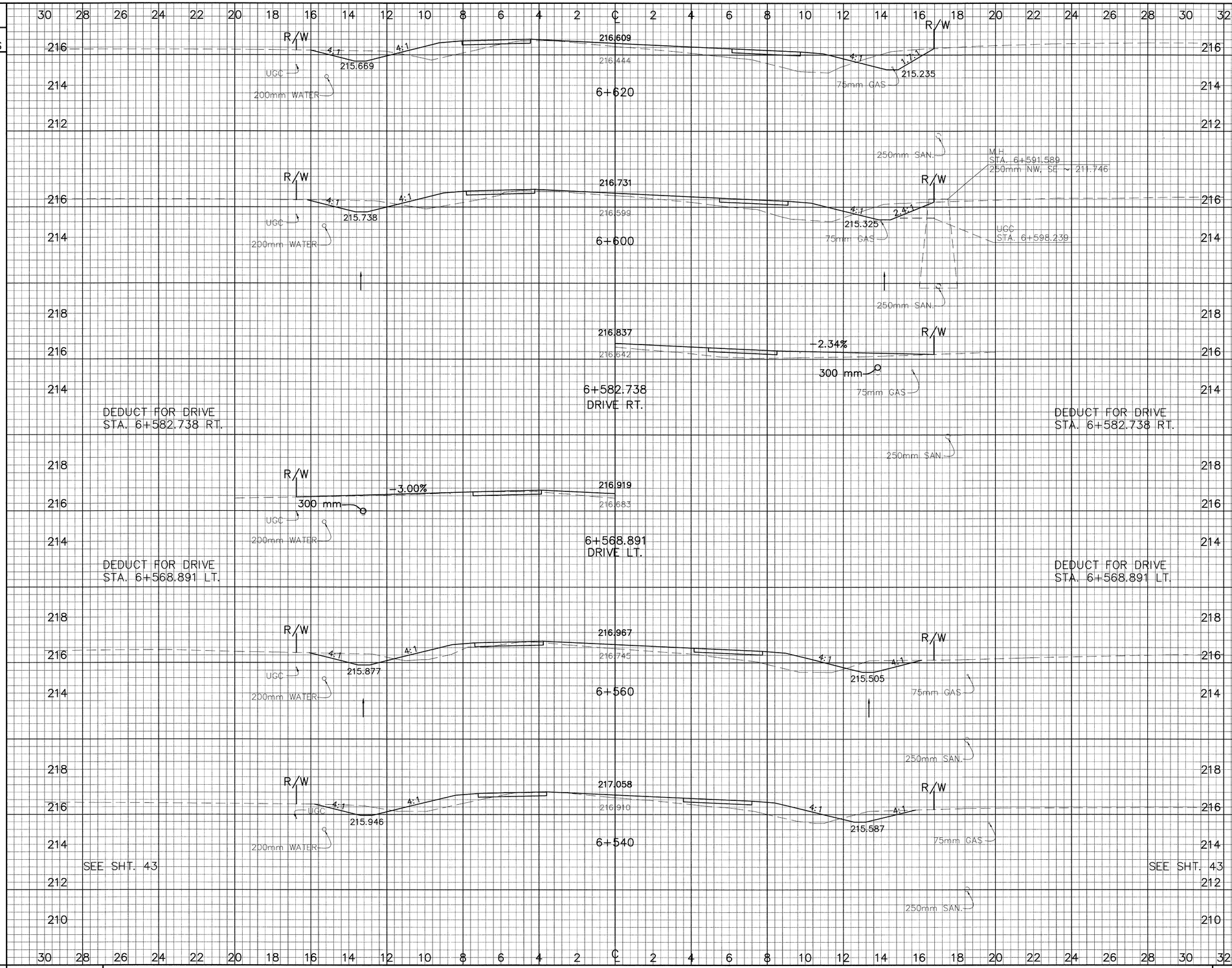
S.R. 66 CROSS SECTION
STA. 6+440 TO STA. 6+524.921

DEF-66-5.472(3.40)

43
70

DATE : 11/7/97
CAD FILE : DEFXS10
OPERATOR : JLM/MCH
PLOT SCALE: 1

SEEDING	
END WIDTH	SQ. METERS
23.2	
	462
23.1	
	932 (−56)
	(−37)
23.5	
	471
23.6	
	1772



QUANTITIES			
END AREA		CU. METER	
CUT	FILL	CUT	FILL
5.2	6.7		
		99	130
4.7	6.2		
		158 (−20)	230
		(−19)	
3.2	5.3		
		65	105
3.3	5.3		
SHEET TOTAL		283	465

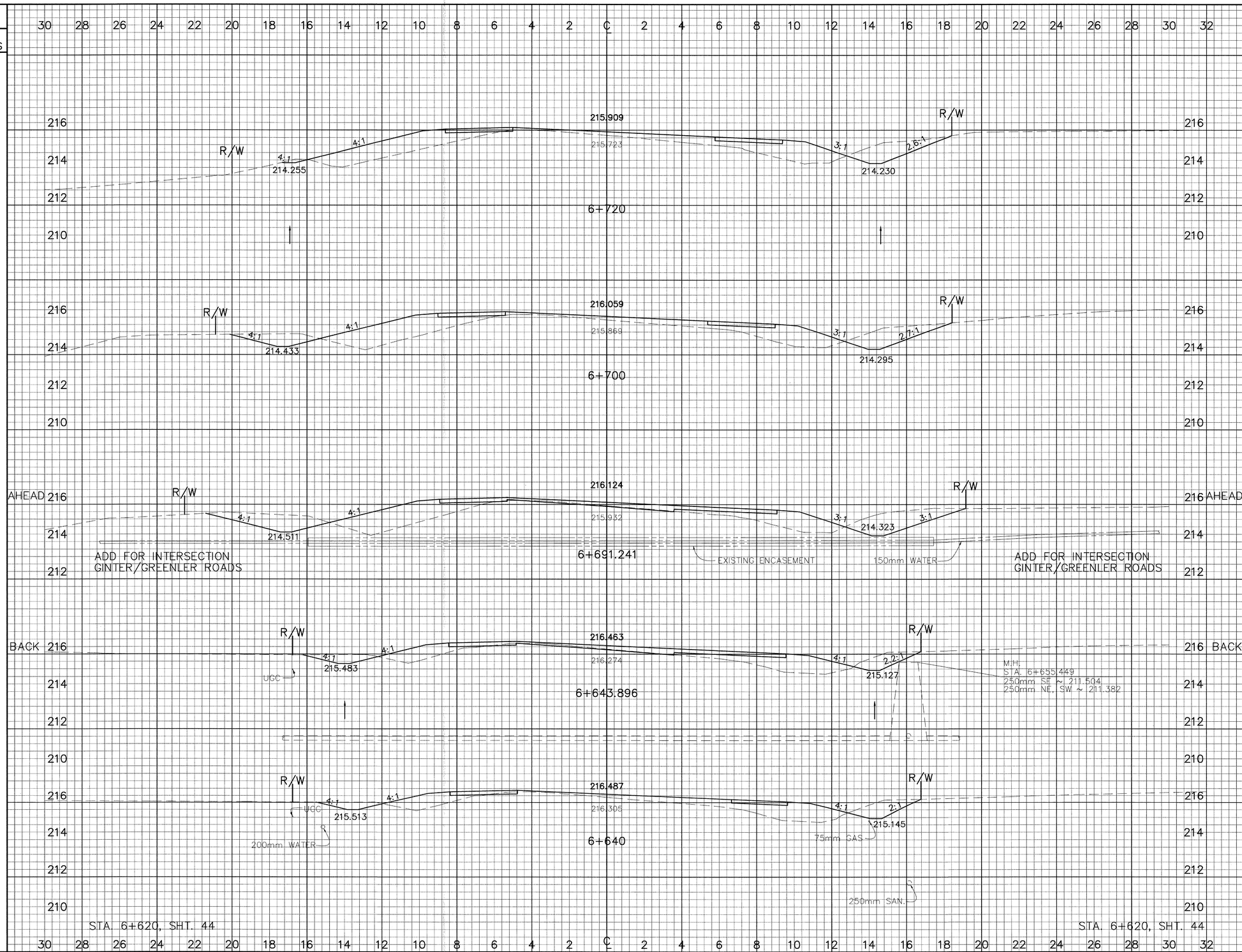
CALCULATED JLM
CHECKED PJB

S.R.66 CROSS SECTION
STA. 5+540 TO STA. 6+620

DEF-66-5.472(3.40)

DATE : 11/7/97
CAD FILE : DEFXS11
OPERATOR : JLM.C./A.J.L.
PLOT SCALE: 1

SEEDING	
END WIDTH	SQ. METERS
24.6	515
27.0	243
28.6	765
22.3	86
21.8	450
23.2	
	2059



QUANTITIES			
END AREA		CU. METER	
CUT	FILL	CUT	FILL
3.2	11.8	84	237
5.2	11.9	58	101
AHEAD 8.0	11.1	966	1675
BACK 3.8	7.0	15	27
3.9	7.1	91	138
5.2	6.7		
SHEET TOTAL		1214	2178

DATE :11/7/97
CAD FILE :DEFXS12
OPERATOR :JLM.C./A.J.L.
PLOT SCALE: 1

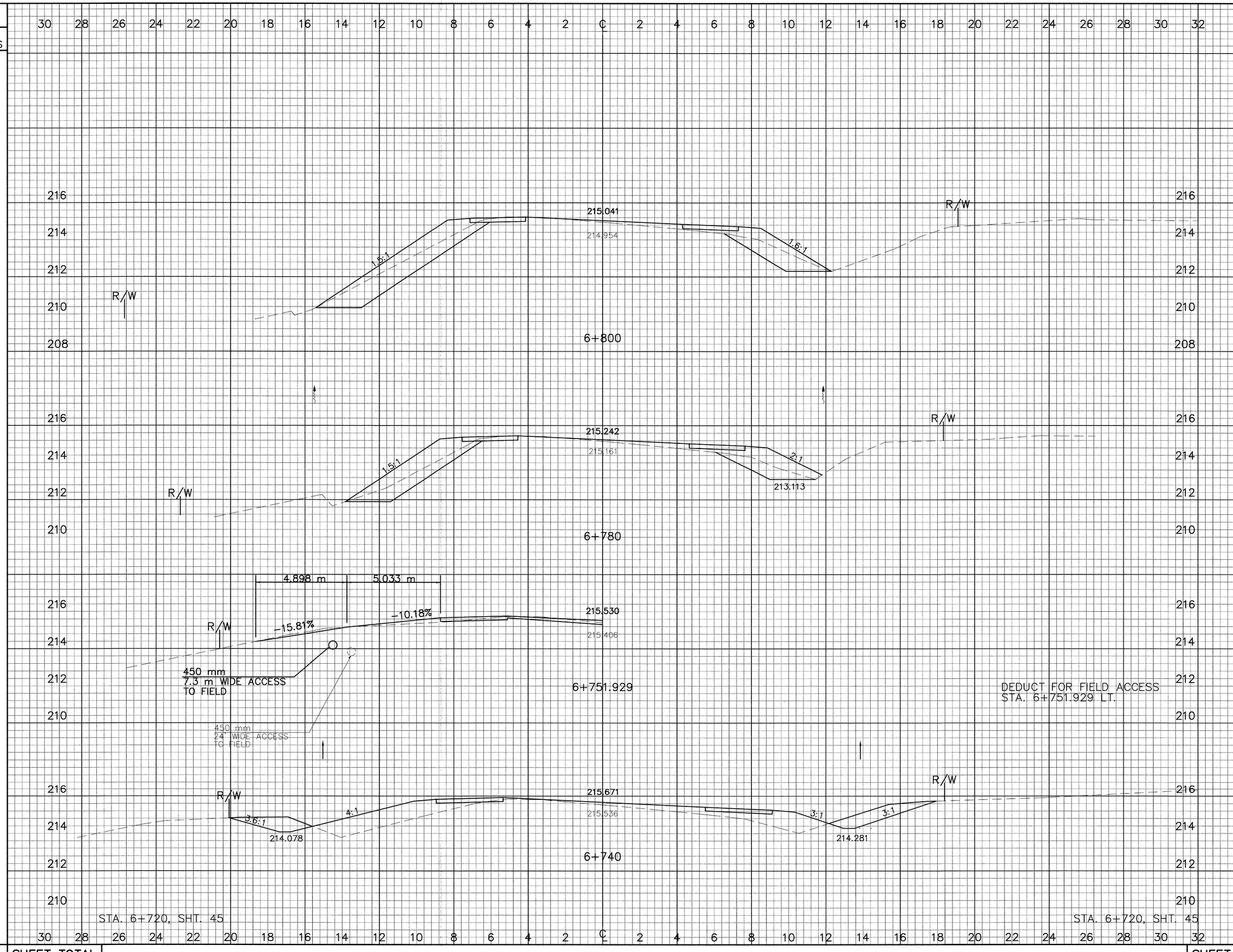
CALCULATED JLM
CHECKED PJB

S.R. 66 CROSS SECTION
STA. 6+640 TO STA. 6+720

DEF-66-5.472(3.40)

45
70

SEEDING		QUANTITIES			
END WIDTH	SQ. METERS	END AREA CUT	END AREA FILL	CU. METER CUT	CU. METER FILL
25.4	472	11.1	18.0	176	325
21.8	988	6.5	14.5	226	492
27.6	521	4.8	10.1	80	219
24.6	1981	3.2	11.8	45	36
	SHEET TOTAL			SHEET TOTAL	454 1036
					(-28)



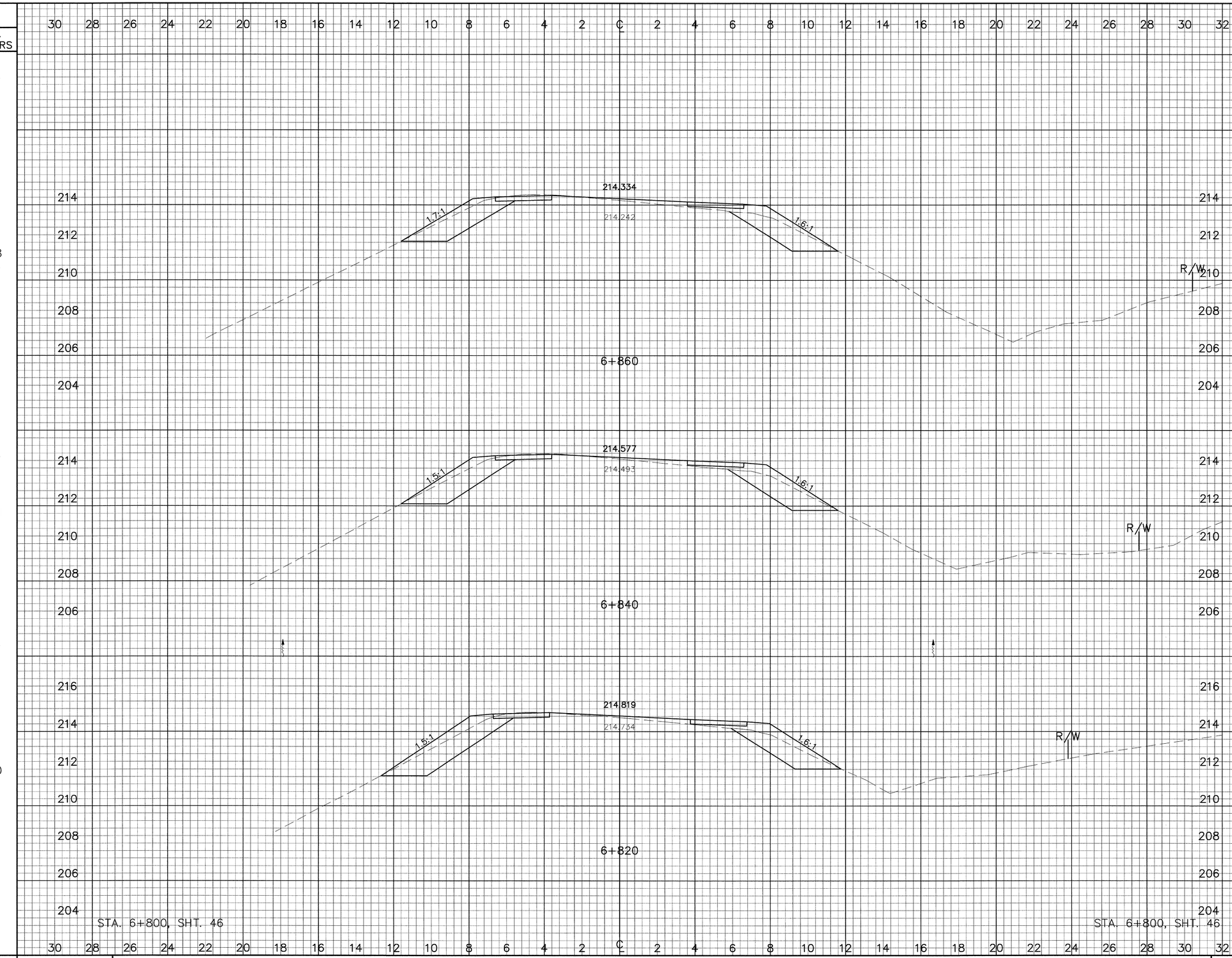
CALCULATED JLM
CHECKED PJB

S.R. 66 CROSS SECTION
STA. 6+740 TO STA. 6+800

DEF-66-5.472(3.40)

DATE : 11/7/97
CAD FILE : DEFXS13
OPERATOR : JLM.C./A.J.L.
PLOT SCALE: 1

SEEDING		QUANTITIES			
END WIDTH	SQ. METERS	END AREA CUT	END AREA FILL	CU. METER CUT	CU. METER FILL
21.3	428	9.4	12.0	190	245
21.4	441	9.6	12.5	200	267
22.6	480	10.4	14.3	216	323
25.4		11.1	18.0		
	1349	SHEET TOTAL		606	835



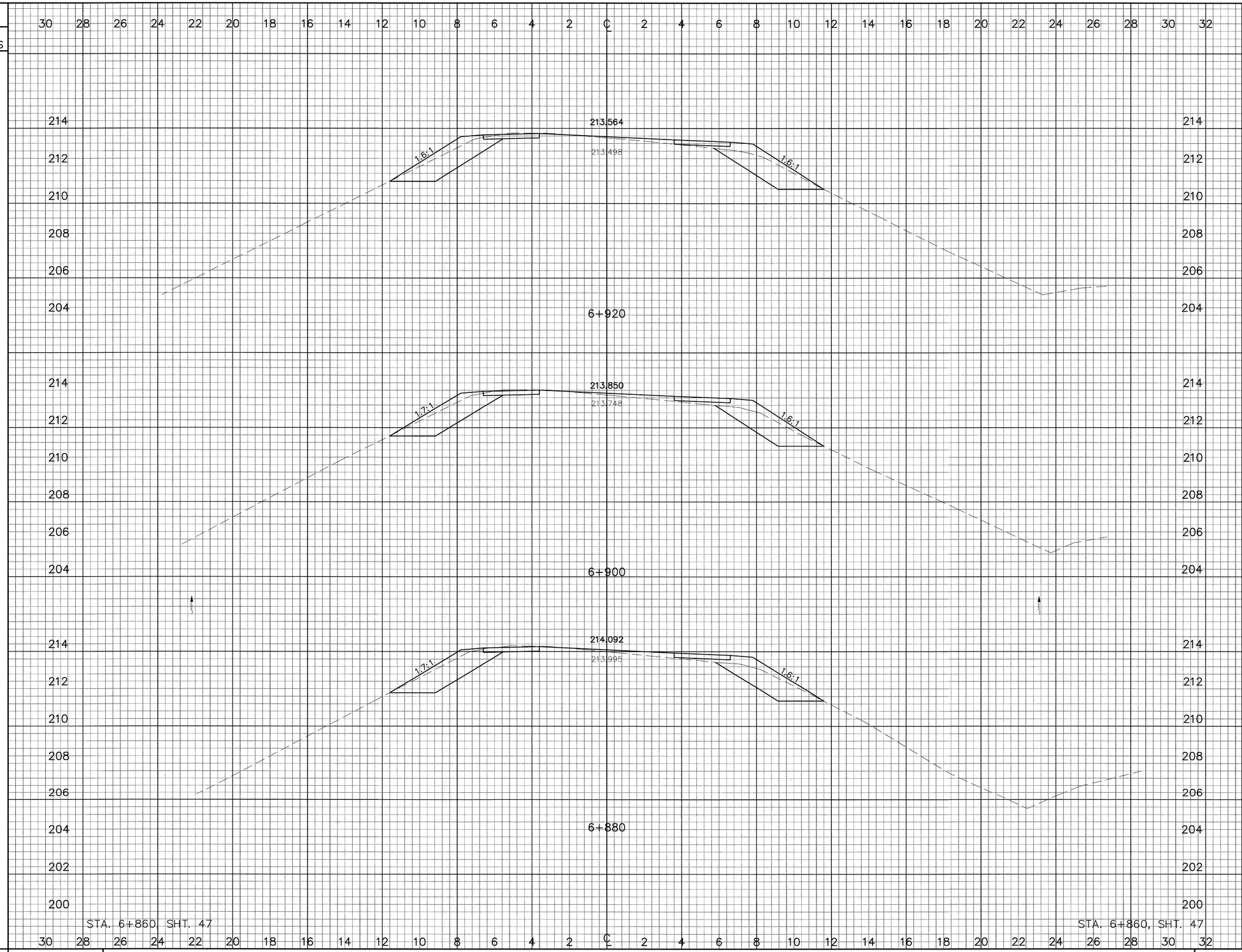
DATE : 11/7/97
CAD FILE : DEFXS14
OPERATOR : JLM.C./A.J.L.
PLOT SCALE: 1

CALCULATED J.L.M
CHECKED P.J.B

S.R. 66 CROSS SECTION
STA. 6+820 TO STA. 6+860

DEF-66-5.472(3.40)

SEEDING		QUANTITIES			
END WIDTH	SQ. METERS	END AREA CUT	END AREA FILL	CU. METER CUT	CU. METER FILL
21.4	428	9.6	12.1	191	244
21.4	427	9.6	12.3	191	243
21.3	426	9.6	12.0	190	240
21.3		9.4	12.0		
	1281 SHEET TOTAL			572	727 SHEET TOTAL



CALCULATED JLM
CHECKED PJB

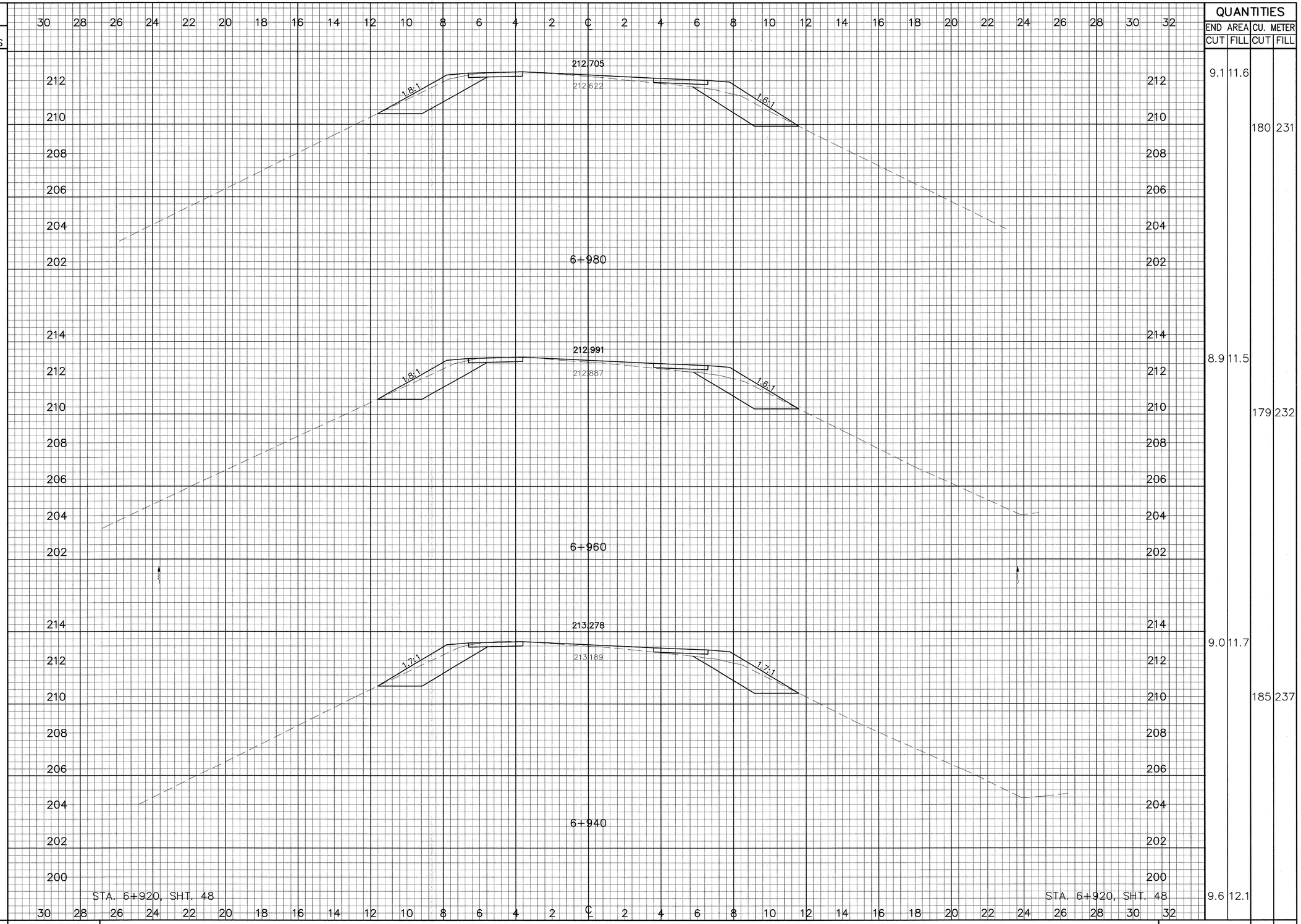
S.R. 66 CROSS SECTION
STA. 6+880 TO STA. 6+920

DEF-66-5.472(3.40)

48
70

DATE : 11/7/97
CAD FILE : DEFXS15
OPERATOR : JLM.C./A.J.L.
PLOT SCALE: 1

SEEDING			QUANTITIES			
END WIDTH	SQ. METERS		END AREA CUT	END AREA FILL	CU. METER CUT	CU. METER FILL
21.3			9.1	11.6		
	425				180	231
21.2			8.9	11.5		
	425				179	232
21.3			9.0	11.7		
	427				185	237
21.4			9.6	12.1		
	1277	SHEET TOTAL			SHEET TOTAL	544 700



CALCULATED JLM
CHECKED PJB

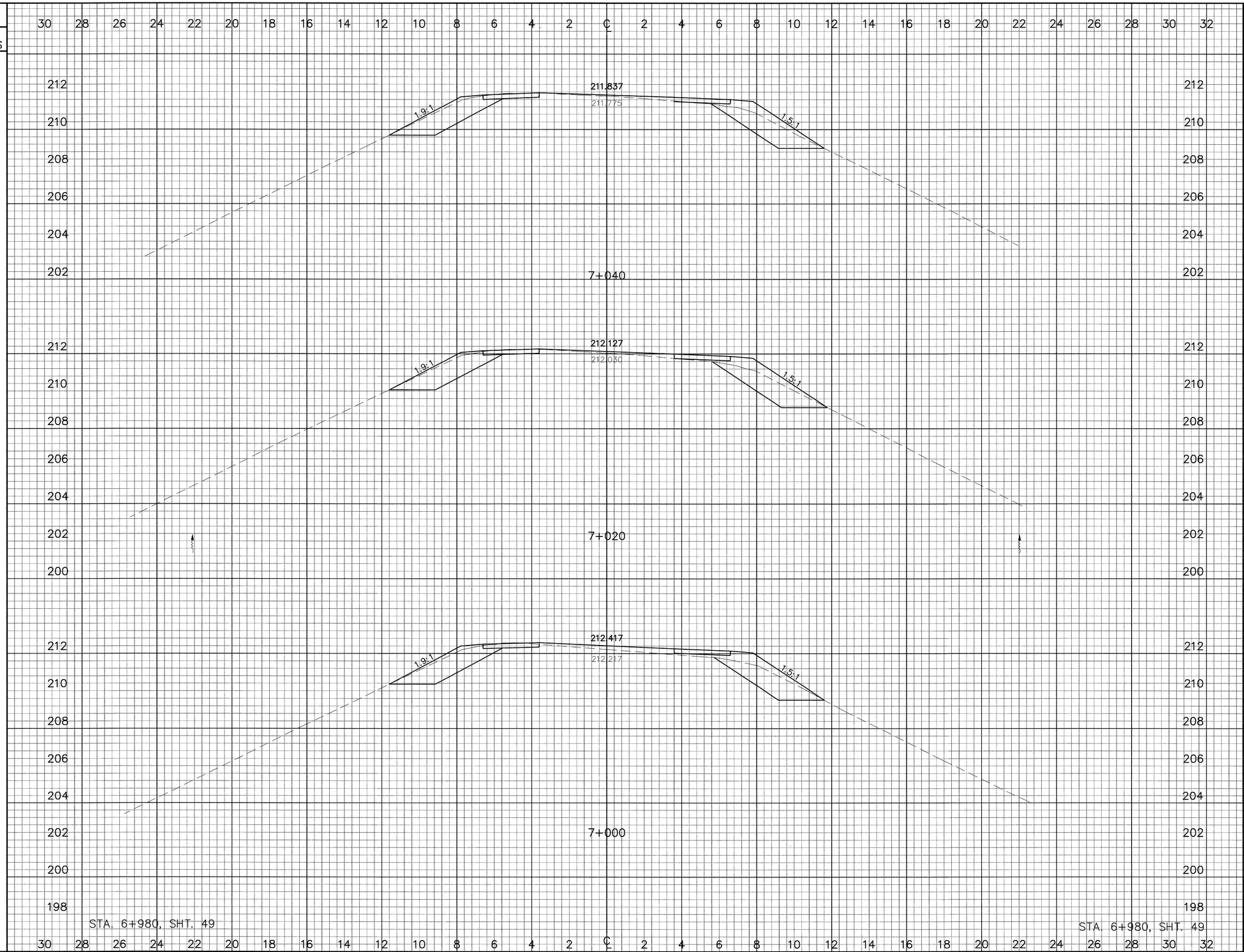
S.R. 66 CROSS SECTION
STA. 6+940 TO STA. 6+980

DEF-66-5.472(3.40)

49
70

DATE :11/7/97
CAD FILE :DEFXS16
OPERATOR :JLM.C./A.J.L.
PLOT SCALE: 1

SEEDING	
END WIDTH	SQ. METERS
21.3	
	427
21.5	
	428
21.3	
	425
21.3	
	1280



QUANTITIES			
END AREA		CU. METER	
CUT	FILL	CUT	FILL
9.5	11.4		
		189	232
9.4	11.8		
		185	242
9.1	12.3		
		182	240
9.1	11.6		
SHEET TOTAL		556	714

CALCULATED J.L.M.
CHECKED P.J.B.

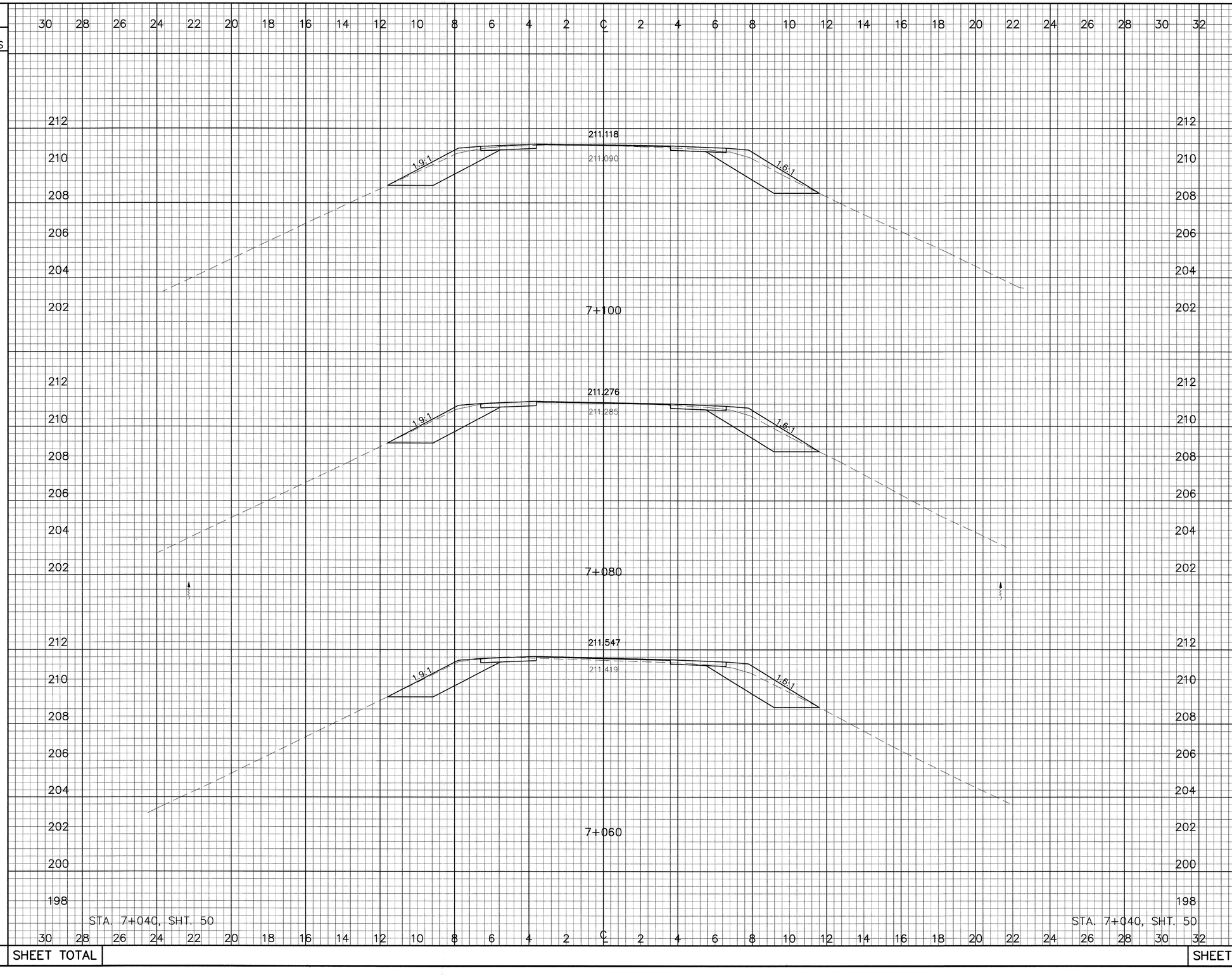
S.R. 66 CROSS SECTION
STA. 7+000 TO STA. 7+040

DEF-66-5.472(3.40)

50
70

DATE :11/7/97
CAD FILE :DEFXS17
OPERATOR :JLM.C./A.J.L.
PLOT SCALE: 1

SEEDING		QUANTITIES			
END WIDTH	SQ. METERS	END AREA CUT	END AREA FILL	CU. METER CUT	CU. METER FILL
21.2	423	9.4	10.6	198	212
21.2	423	10.4	10.6	200	216
21.1	424	9.6	11.0	191	224
21.3		9.5	11.4		
1270	SHEET TOTAL			589	652



CALCULATED JLM
CHECKED PJB

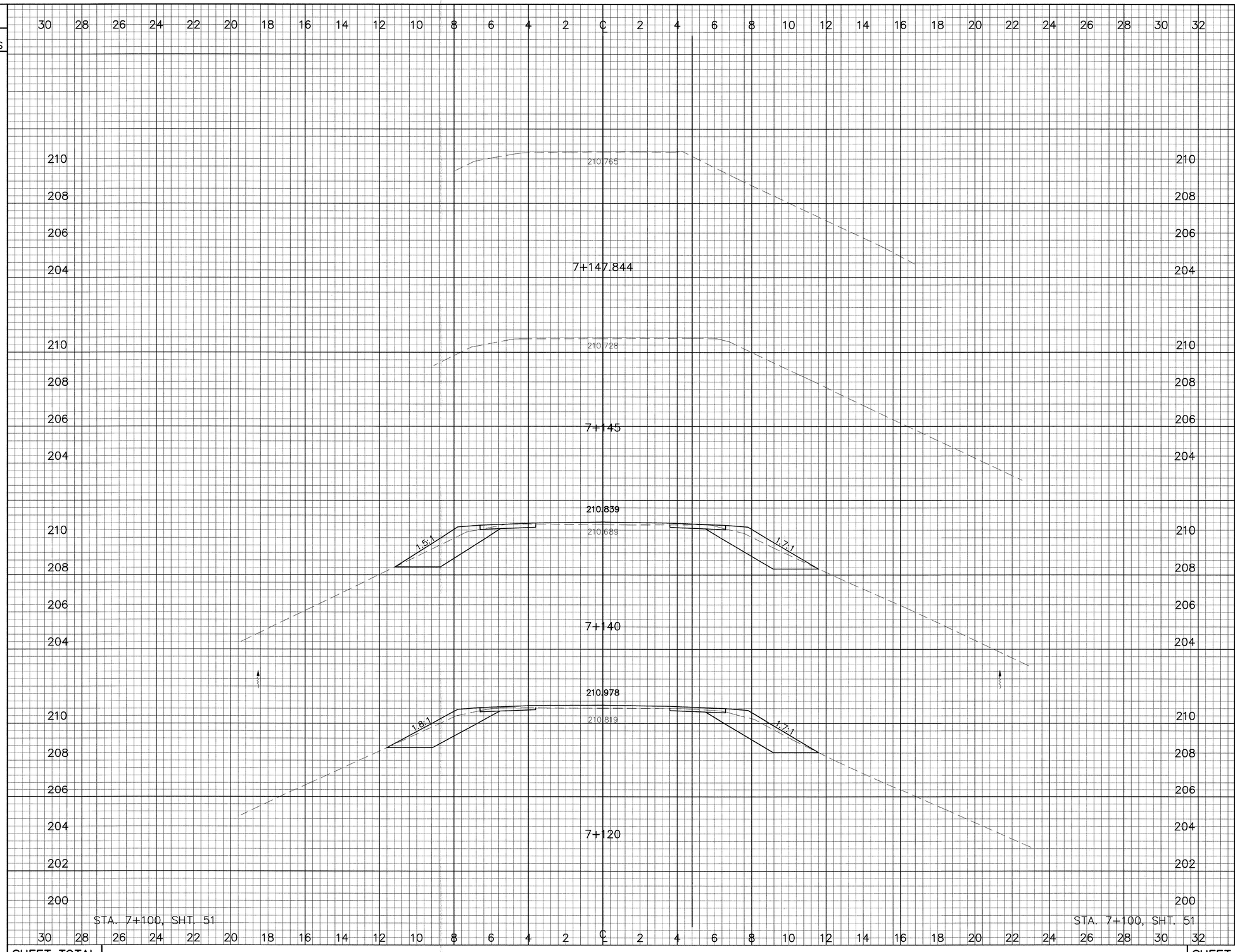
S.R. 66 CROSS SECTION
STA. 7+060 TO STA. 7+100

DEF-66-5.472(3.40)

51
70

DATE :11/7/97
CAD FILE :DEFXS18
OPERATOR :JLM.C./A.J.L.
PLOT SCALE: 1

SEEDING	
END WIDTH	SQ. METERS
0.0	0
0.0	52
20.8	420
21.1	423
21.2	895



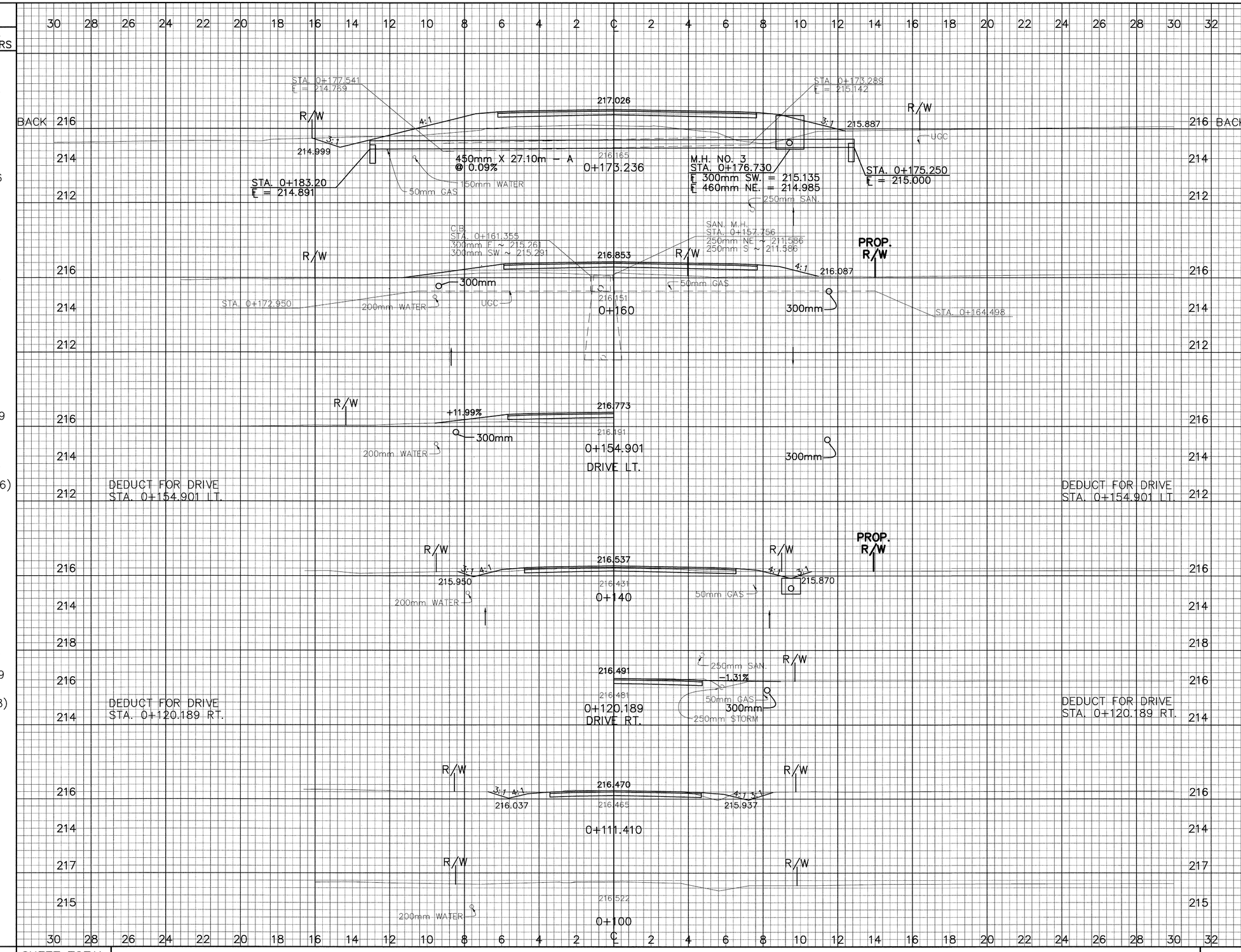
QUANTITIES			
END AREA		CU. METER	
CUT	FILL	CUT	FILL
0.0	0.0	0	0
0.0	0.0	23	28
9.1	11.2	184	224
9.3	11.3	187	218
9.4	10.6	394	470
SHEET TOTAL			

CALCULATED JLM
CHECKED PJB

S.R. 66 CROSS SECTION
STA. 7+120 TO STA. 7+147.844

DEF-66-5.472(3.40)

SEEDING	
END WIDTH	SQ. METERS
16.5	
	206
14.7	
	279
	(−106)
13.2	
	379
	(−18)
13.3	
	76
0.0	
	0
	816 SHEET TOTAL



QUANTITIES			
END AREA		CU. METER	
CUT	FILL	CUT	FILL
1.3	17.0		
		19	158
1.5	6.8		
		40	71
		(−10)	
2.5	0.3		
		81	10
		(−3)	
3.2	0.4		
		18	2
0.0	0.0		
		0	0
		145	241

CALCULATED J.L.M.
CHECKED P.J.B.

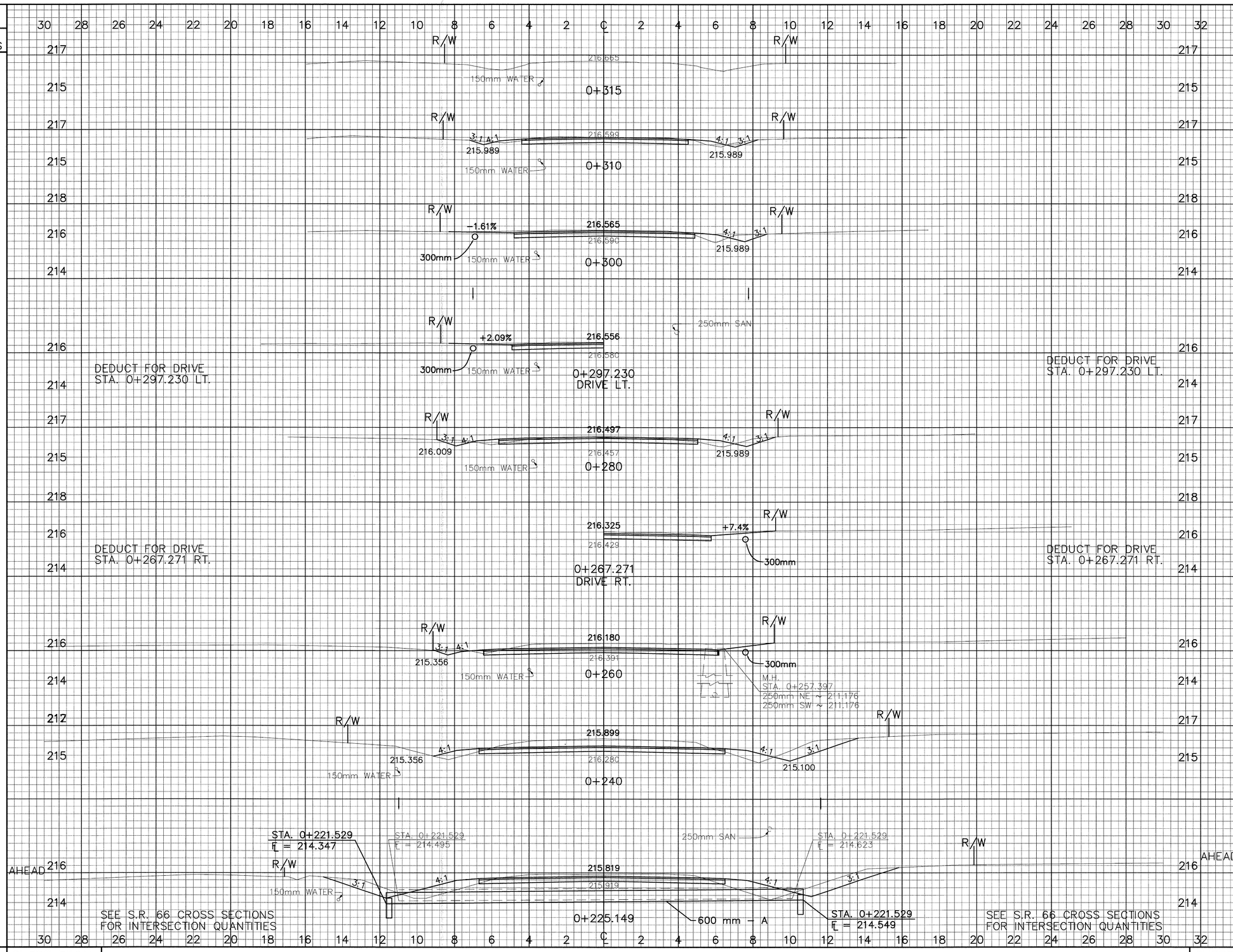
GINTER ROAD CROSS SECTION
STA. 0+100 TO STA. 0+173.236

DEF-66-5.472(3.40)

53
70

DATE :12/08/97
CAD FILE : GINTXS01
OPERATOR : JLM.C./A.J.L.
PLOT SCALE :1

SEEDING	
END WIDTH	SQ. METERS
0.0	
	158
15.8	
	148
13.7	
	325
	(−37)
18.8	
	305
	(−57)
11.7	
	325
20.8	
	343
25.4	
0	
	1510



QUANTITIES			
END AREA		CU. METER	
CUT	FILL	CUT	FILL
0.0	0.0		
		16	2
3.1	0.4		
		37	5
4.2	0.5		
		73	12
		(−19)	
3.1	0.7		
		103	8
		(−81)	
7.2	0.1		
		162	16
9.0	1.5		
		121	38
AHEAD	7.3	3.6	
		0	0
SHEET TOTAL		412	81

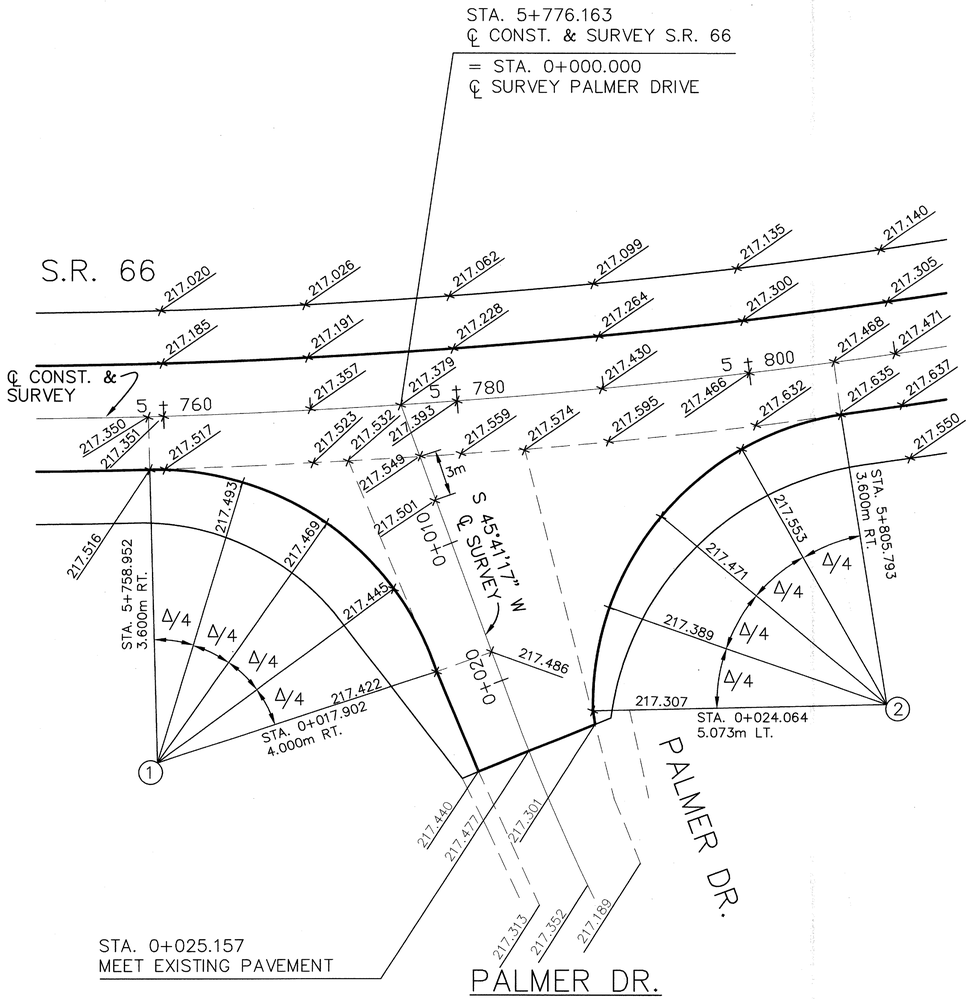
CALCULATED JLM
CHECKED PJB

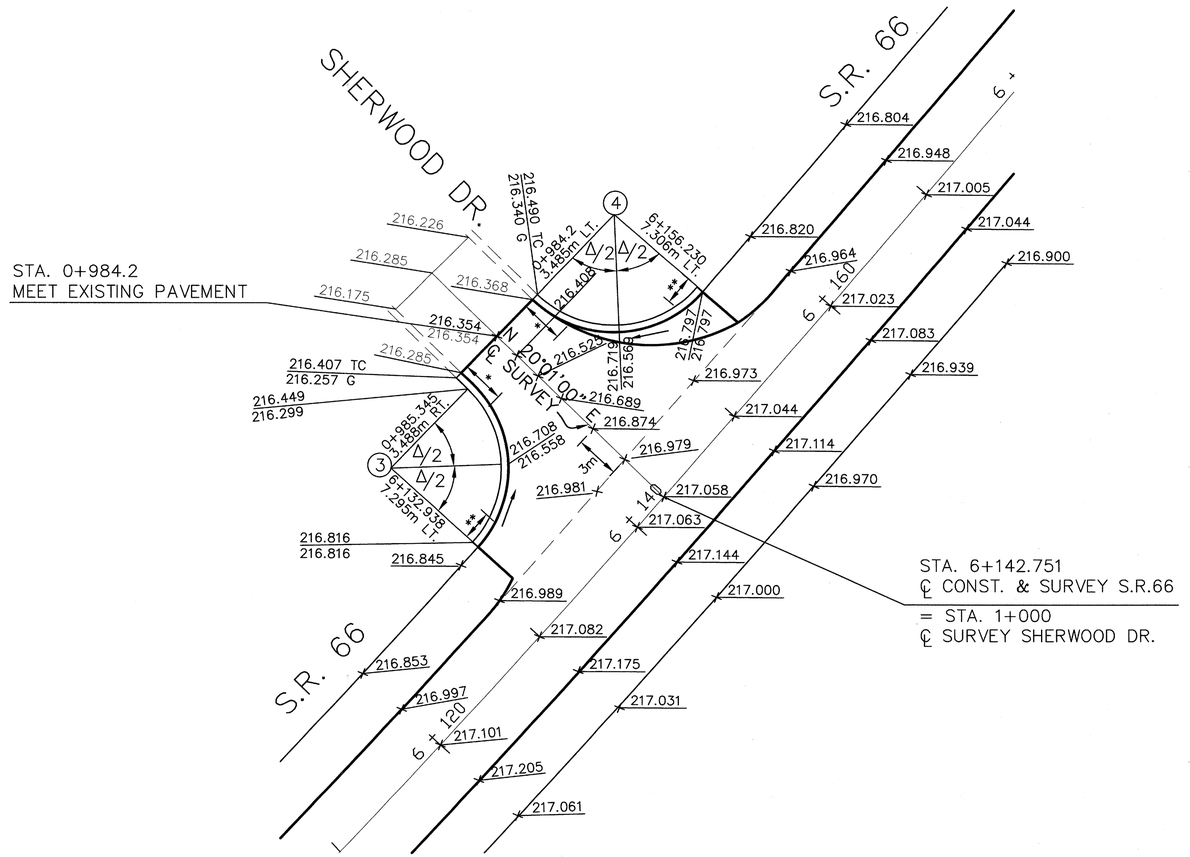
GREENLER ROAD CROSS SECTION
STA. 0+225.149 TO STA. 0+320

DEF−66−5.472(3.40)

54
70

DATE : 12/08/97
CAD FILE : GINTXS02
OPERATOR : JLM.C./A.J.L.
PLOT SCALE: 1





SHERWOOD DR.

① CURVE DATA
Δ=73°26'04"
R=20.0 m
L=25.633 m

② CURVE DATA
Δ=82°18'35"
R=20.0 m
L=28.732 m

③ CURVE DATA
Δ=87°52'37"
R=8.0 m
L=12.270 m

④ CURVE DATA
Δ=93°17'29"
R=8.0 m
L=13.026 m

LEGEND

222.00	PROPOSED PAVEMENT ELEVATION
222.150 / 222.000	PROPOSED TOP OF CURB ELEVATION / PROPOSED GUTTER LINE ELEVATION AT THE FACE OF CURB
222.00	EXISTING PAVEMENT ELEVATION
→	PROPOSED DIRECTION OF FLOW
*	MEET EXISTING CURB IN 3 METERS.
**	TRANSITION CURB HEIGHT FROM 150mm TO 0mm IN 2 METERS.

NOTES: ALL RADII CALLOUTS ARE TO THE EDGE OF PAVEMENT. ALL BEARINGS ARE ASSUMED. ALL STATIONS AND OUTS ARE MEASURED OFF THE ℄ CONSTRUCTION.

CAD FILE : DEFINT01
DATE : 9/11/97
OPERATOR : TRC
PLOT SCALE : 1

HORIZONTAL SCALE
1/2 0 1 2

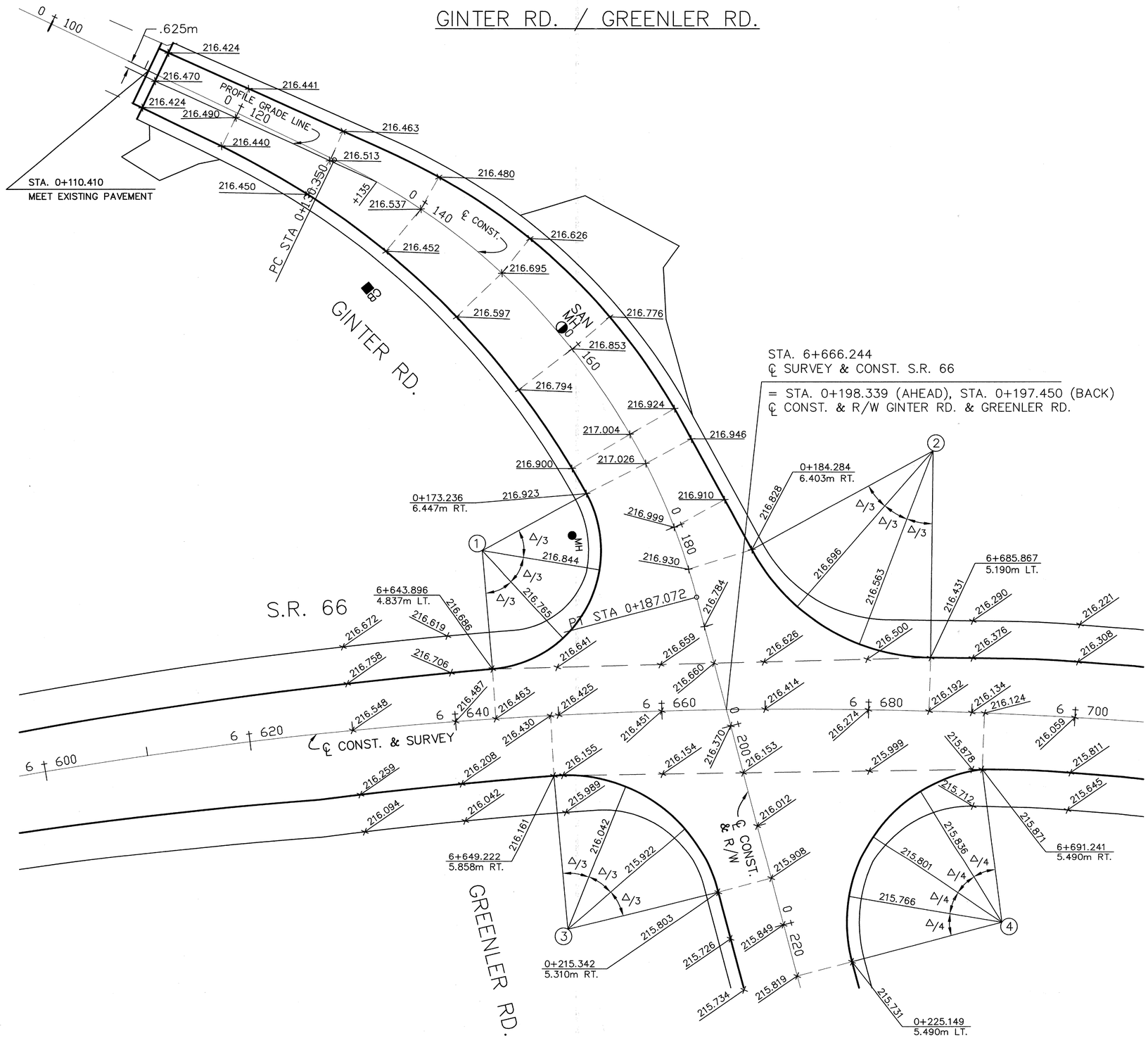
CALCULATED AJL
CHECKED PJB

INTERSECTION DETAIL – SR. 66
PALMER DR. & SHERWOOD DR.

DEF – 66 – 5.472(3.40)

55
70

GINTER RD. / GREENLER RD.



LEGEND

+222.00 PROPOSED PAVEMENT ELEVATION

+222.00 EXISTING PAVEMENT ELEVATION

NOTES: ALL RADII CALLOUTS ARE TO THE EDGE OF PAVEMENT. ALL BEARINGS ARE ASSUMED. ALL STATIONS AND OUTS ARE MEASURED OFF THE ℄ CONSTRUCTION.

① CURVE DATA
△=113°44'44"
R=11.50 m
L=22.830 m

② CURVE DATA
△=60°39'11"
R=20.0 m
L=21.172 m

③ CURVE DATA
△=81°15'53"
R=15.0 m
L=21.275 m

④ CURVE DATA
△=97°32'27"
R=15.0 m
L=25.536 m

HORIZONTAL SCALE

CALCULATED AJL
CHECKED PJB

INTERSECTION DETAIL – SR. 66 / GINTER RD. & GREENLER RD.

DEF – 66 – 5.472(3.40)

56
70

CAD FILE : DEFINT02
DATE : 9/16/97
PREPARED BY :
PLOT SCALE : 1"

PAVEMENT MARKING & SIGNING SUB-SUMMARY

SHEET NO.	REFERENCE NO.	LOCATION	STATION FROM	STATION TO	SIDE	642 CENTER LINE, TYPE 2	642 CHANNELIZING LINE, TYPE 2	642 EDGE LINE, TYPE 2	642 TRANSVERSE LINE, TYPE 2	642 STOP LINE, TYPE 2	642 LANE ARROW, TYPE 2	642 WORD ON PAVEMENT 1800 mm, TYPE 2			
						METER	METER	METER	METER	METER	EACH	EACH			
58	CL-1	S.R. 66	5+475	5+740	℄	265									
59	CL-2	S.R. 66	5+740	5+765	℄	25									
59	CL-3	PALMER RD.	0+015.1	0+025.1	℄	10									
59	CL-4	S.R. 66	5+800	6+020	℄	220									
60	CL-5	S.R. 66	6+020	6+132	℄	112									
60	CL-6	SHERWOOD DR.	0+984.2	0+990.8	℄	6.6									
60	CL-7	S.R. 66	6+155	6+300	℄	145									
61	CL-8	S.R. 66	6+300	6+580	℄	280									
61	CL-9	S.R. 66	6+543.3	6+580	℄	36.7									
62	CL-10	S.R. 66	6+580	6+648.8	℄	68.8									
62	CL-11	S.R. 66	6+580	6+633.8	℄	53.8									
62	CL-12	S.R. 66	6+687.5	6+860	℄	172.5									
62	CL-13	S.R. 66	6+735.5	6+825.5	℄	90									
63	CL-14	S.R. 66	6+860	7+140	℄	280									
64	CL-15	GINTER RD.	0+101	0+185.6	℄	84.6									
64	CL-16	GINTER RD.	0+122.5	0+171	RT.	48.5									
64	CL-17	GREENLER RD.	0+219.6	0+292	℄	72.4									
64	CL-18	GREENLER RD.	0+239	0+320	℄	81									
62	CH-1	S.R. 66	6+633.8	6+648.8	RT.		15								
62	CH-2	S.R. 66	6+687.5	6+735.5	LT.		48								
64	CH-3	GINTER RD.	0+171	0+185.6	RT.		14.6								
64	CH-4	GREENLER RD.	0+219.6	0+239	LT.		19.4								
58	EL-1	S.R. 66	5+475	5+740	LT.			265							
58	EL-2	S.R. 66	5+475	5+740	RT.			265							
59	EL-3	S.R. 66	5+740	6+020	LT.			280							
59	EL-4	S.R. 66	5+740	5+779.6	RT.			52.1							
59	EL-5	S.R. 66	5+787.35	6+020	RT.			245.6							
60	EL-6	S.R. 66	6+020	6+137.4	LT.			133.2							
60	EL-7	S.R. 66	6+020	6+300	RT.			280							
60	EL-8	S.R. 66	6+147	6+300	LT.			168							
61	EL-9	S.R. 66	6+300	6+580	LT.			280							
61	EL-10	S.R. 66	6+300	6+580	RT.			280							
62	EL-11	S.R. 66	6+580	6+653.7	LT.			75.4							
62	EL-12	S.R. 66	6+580	6+665.1	RT.			90.5							
62	EL-13	S.R. 66	6+668.9	6+860	LT.			195.3							
62	EL-14	S.R. 66	6+678.2	6+860	RT.			208.2							
63	EL-15	S.R. 66	6+860	7+140	LT.			280							
63	EL-16	S.R. 66	6+860	7+140	RT.			280							
64	EL-17	GINTER RD.	0+110	0+184.3	LT.			74.3							
64	EL-18	GINTER RD.	0+110	0+184.4	RT.			73.5							
64	EL-19	GREENLER RD.	0+216.6	0+311	LT.			94.4							
64	EL-20	GREENLER RD.	0+215.3	0+311	RT.			95.7							
61	IM-1	S.R. 66	6+543.4	6+580	BOTH				15.6						
62	IM-2	S.R. 66	6+580	6+633.8	BOTH				69.6						
62	IM-3	S.R. 66	6+735.5	6+825.5	BOTH				85.2						
64	IM-4	GINTER RD.	0+122.5	0+171	BOTH				52.9						
64	IM-5	GREENLER RD.	0+239	0+292	BOTH				54.5						
59	SL-1	PALMER DR.	0+015.1		LT.					7.8					
60	SL-2	SHERWOOD DR.	0+990.8		RT.					5.9					
62	SL-3	S.R. 66	6+648.8		BOTH					7.2					
62	SL-4	S.R. 66	6+687.5		BOTH					7.3					
64	SL-5	GINTER RD.	0+185.6		BOTH					11.4					
64	SL-6	GREENLER RD.	0+219.6		BOTH					8.5					
62		S.R. 66	6+635.8		BOTH							1			
62		S.R. 66	6+645.8		BOTH						2				
62		S.R. 66	6+690.5		BOTH						2				
62		S.R. 66	6+707.5		BOTH							1			
62		S.R. 66	6+730		BOTH						1				
64		GINTER RD.	0+173.9		RT.							1			
64		GINTER RD.	0+181.4		RT.						1				
64		GINTER RD.	0+182.2		BOTH						1				
64		GREENLER RD.	0+222.6		BOTH						2				
64		GREENLER RD.	0+230		BOTH							1			
TOTALS CARRIED TO GENERAL SUMMARY						**2.05 KM**	**97**	**3.72 KM**	**278**	**48**	**9**	**4**			

SHEET NO.	REFERENCE NO.	LOCATION	STATION	SIDE	CODE	SIZE (mm)	630 SIGN, FLAT SHEET	630 SIGN, DOUBLE FACED STREET NAME	630 GROUND MOUNTED SUPPORT NO. 3 POST	630 REMOVAL OF GROUND MOUNTED SIGN & STORAGE	630 REMOVAL OF GROUND MOUNTED POST SUPPORT & DISPOSAL	630 STREET NAME SIGN SUPPORT	630 REMOVAL OF GROUND MOUNTED SIGN & REERECTION
							SQ. m.	EACH	METER	EACH	EACH	EACH	EACH
58	1S	S.R. 66	5+586	LT						1	1		
58	2S	S.R. 66	5+600	LT						1	1		
58	3S	S.R. 66	5+616	LT						1	1		
58	4S	S.R. 66	5+632	LT						1	1		
58	5S	S.R. 66	5+647	LT						1	1		
58	6S	S.R. 66	5+686	RT						1	1		
58	7S	S.R. 66	5+715	RT	W-76AB-36	900X900	0.81		4.25	1	1		
58	8S	S.R. 66	5+715	RT						1	1		
58	9S	S.R. 66	5+721	LT	R-10-24	600X750	0.45		4.10	1	1		
58	10S	S.R. 66	5+735	LT	M-2-24-2	600X600	0.36		3.95	1	1		
59	11S	PALMER DR.	0+010	RT	D-8G-8	200X750	–	2	–	2	1	1	
59	12S	S.R. 66	5+790	LT	M-7-24	600X450	0.27		3.95	1	1		
59	13S	PALMER DR.	0+016	LT	R-1-30	750X750	0.56		4.10	1	1		
59	14S	S.R. 66	5+820	RT	M-2-24-2	600X600	0.36		3.95	1	1		
59	15S	S.R. 66	5+836	RT	R-10-24	600X750	0.45		4.10	1	1		
59	16S	S.R. 66	5+851	RT	M-7-24	600X450	0.27		3.95	1	1		
60	17S	S.R. 66	6+097	LT	M-7-24	600X450	0.27		3.95	1	1		
60	18S	SHERWOOD DR.	0+989	RT	R-1-30	750X750	0.56		4.10	1	1		
60	19S	S.R. 66	6+196	RT	M-7-24	600X450	0.27		3.95	1	1		
60	20S	S.R. 66	6+262	RT	R-10-24	600X750	0.45		4.10	1	1		
62	21S	S.R. 66	6+602	LT	M-7-24	600X450	0.27		3.95	1	1		
62	22S	S.R. 66	6+612	LT	R-10-24	600X750	0.45		4.10	1	1		
62	23S	S.R. 66	6+618	RT	R-31A-36	900X750	0.68		4.10				
62	24S	S.R. 66	6+650	LT	D-8G-8	200X750	–	2	–	2	1	1	
62	25S	S.R. 66	6+659	RT						2	1		
62	26S	S.R. 66	6+688	RT	D-8G-8	200X750	–	2	–			1	
62	27S	S.R. 66	6+718	RT	M-7-24	600X450	0.27		3.95	1	1		
62	28S	S.R. 66	6+751	LT	R-31A-36	900X750	0.68		4.10				
62	29S	S.R. 66	6+840	RT	R-10-24	600X750	0.45		4.10	1	1		
63	30S	S.R. 66	7+104	LT	R-10-24	600X750	0.45		4.10	1	1		
64	31S	GINTER RD.	0+096	RT						1	1		
64	32S	GINTER RD.	0+125	LT	R-10-24	600X750	0.45		4.10	1	1		
64	33S	GINTER RD.	0+156	RT	R-31A-36	900X750	0.68		4.10				
64	34S	GINTER RD.	0+183	RT						1	1		
64	35S	GREENLER RD.	0+220	LT						1	1		
64	36S	GREENLER RD.	0+243	RT	R-10-24	600X750	0.45		4.10				
64	37S	GREENLER RD.	0+254	LT	R-31A-36	900X750	0.68		4.10				
64	38S	GREENLER RD.	0+288	RT					4.10		1		1
64	39S	GREENLER RD.	0+312	LT						1	1		
64	40S	GINTER RD.	*	RT	R-73D-9	230X300	0.07						
64	41S	GINTER RD.	*	LT	SPECIAL	230X300	0.07						
64	42S	GREENLER RD.	*	LT	SPECIAL	230X300	0.07						
64	43S	GREENLER RD.	*	RT	R-73D-9	230X300	0.07						
TOTALS CARRIED TO GENERAL SUMMARY							**12**	**6**	**98**	**36**	**33**	**3**	**1**

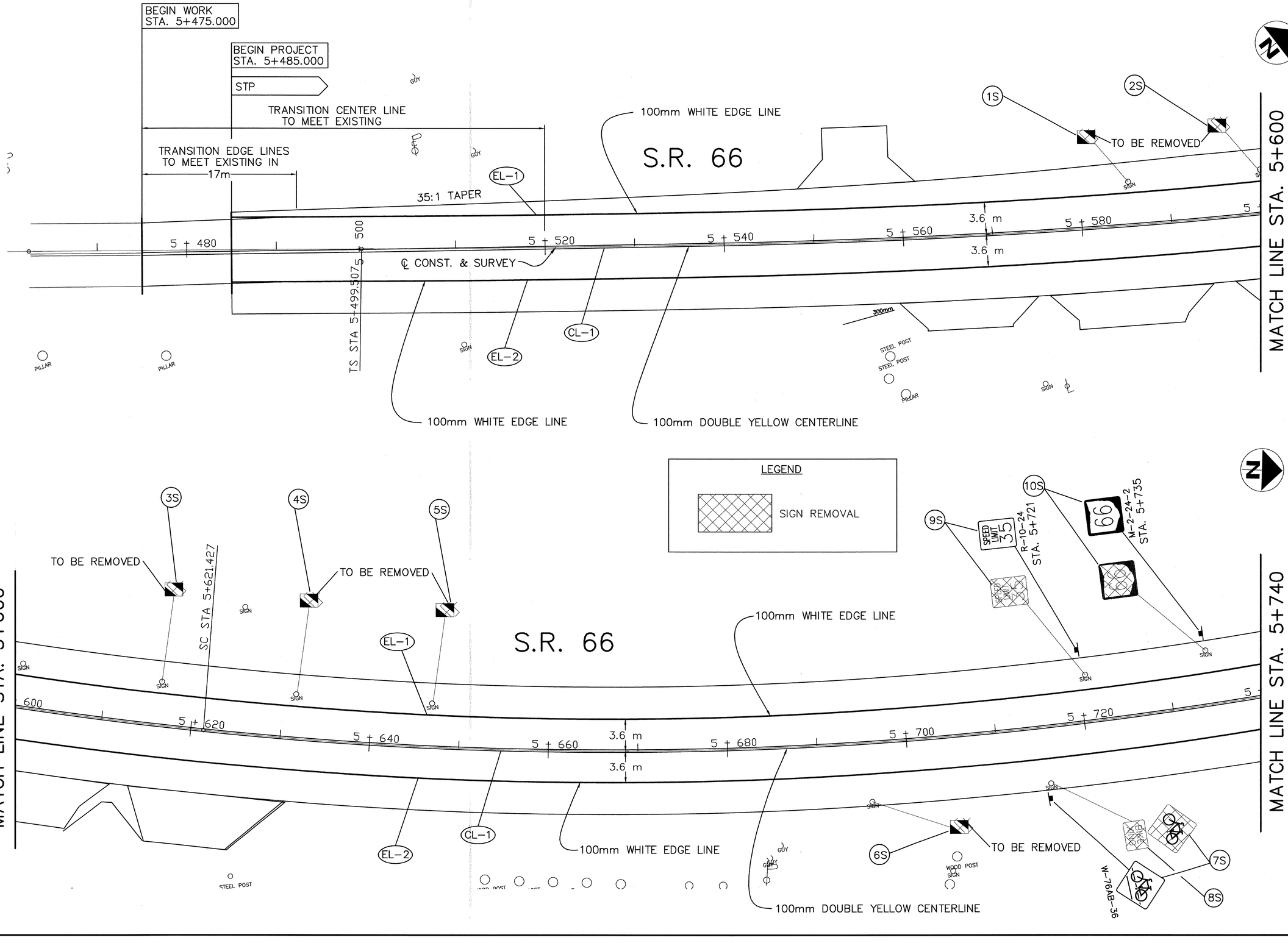
* SIGN TO BE CONNECTED TO PROPOSED TRAFFIC SIGNAL POLE, SEE SIGNAL PLANS FOR LOCATION.

CALCULATED AJL
CHECKED PJB

PAVEMENT MARKING & SIGNING SUB-SUMMARY

DEF - 66 - 5.472(3.40)

CAD FILE : DFSS_SUM
DATE : 8/22/97
OPERATOR:AL
PLOT SCALE : 1 = 1



CAD FILE : DEFSS_01
DATE : 10/1/2007
OPERATOR : TRC/AJL
PLOT SCALE : 1 : 1

CALCULATED AJL
CHECKED PJB

HORIZONTAL SCALE

SIGNING AND PAVEMENT MARKING PLAN – SR. 66
STA. 5+480 TO STA. 5+740

DEF – 66 – 5.472(3.40)

58
70

STA. 5+776.163
℄ SURVEY S.R. 66
= STA. 0+000
℄ SURVEY PALMER DR.

100mm DOUBLE YELLOW CENTERLINE

MATCH LINE STA. 5+740

12S
BIKE ROUTE
M-7-24
STA. 5+790

100mm WHITE EDGE LINE

EL-3

S.R. 66

5 + 740 | 5 + 760 | 5 + 780 | 5 + 800 | 5 + 820 | 5 + 840 | 5 + 860 | 5

3.6 m
3.6 m

100mm WHITE EDGE LINE

MATCH LINE STA. 5+880

CL-2
EL-4
SL-1
EL-5
CL-4
CL-3

0+010
0+015.1
0+020
0+025.1

600mm WHITE STOP LINE

100mm DOUBLE YELLOW CENTERLINE

M-7-24
STA. 5+851
BIKE ROUTE
16S

WOOD POST
SIGN
WOOD POST
GUY
PALMER DR.
JEFFERSON AVE.
11S
PALMER DR.
D-8G-8
JEFFERSON AVE.
D-8G-8
STA. 0+010

PALMER DR.

STOP
STOP
R-1-30
STA. 0+016
13S

100mm WHITE EDGE LINE

100mm DOUBLE YELLOW CENTERLINE

M-2-24-2
STA. 5+820
66
14S

R-10-24
STA. 5+836
SPEED LIMIT 35
15S

MATCH LINE STA. 5+880

EL-3

100mm WHITE EDGE LINE

S.R. 66

880 | 5 + 900 | 5 + 920 | 5 + 940 | 5 + 960 | 5 + 980 | 6 + 000 | 6

3.6 m
3.6 m

EL-5
CL-4

MATCH LINE STA. 6+020

100mm WHITE EDGE LINE

100mm DOUBLE YELLOW CENTERLINE

LEGEND

SIGN REMOVAL

SIGNING AND PAVEMENT MARKING PLAN – SR. 66
STA. 5+740 TO STA. 6+020

DEF – 66 – 5.472(3.40)

CALCULATED AJL
CHECKED PJB

HORIZONTAL SCALE

59
70

CAD FILE : DEFSS_02
DATE : 8/21/97
PLOTTING TIME :
PLOT SCALE : 1:1

MATCH LINE STA. 6+020

S.R. 66

CS STA 6+065.040

EL-6

17S

M-7-24
STA. 6+097

100mm DOUBLE YELLOW CENTERLINE

18S

R-1-30
STA. 0+989

STOP

CL-6

SHERWOOD DRIVE

SHERWOOD DR.

JEFFERSON AVE.

NO WORK

0+984.2

0+990.8

600mm WHITE STOP LINE

100mm WHITE EDGE LINE

SL-2

6 + 020

6 + 040

6 + 060

6 + 080

6 + 100

6 + 120

6 + 140

+132

+155

EL-8

CL-7

EL-7

CL-5

100mm DOUBLE YELLOW CENTERLINE

100mm WHITE EDGE LINE

STA. 6+142.751
℄ SURVEY S.R.66
= STA. 1+000
℄ SURVEY SHERWOOD DR.

MATCH LINE STA. 6+160

LEGEND

SIGN REMOVAL

MATCH LINE STA. 6+160

ST STA 6+186.960

EL-8

S.R. 66

TS STA 6+233.5

100mm WHITE EDGE LINE

160

6 + 180

6 + 200

6 + 220

6 + 240

6 + 260

6 + 280

3.6 m

3.6 m

EL-7

CL-7

100mm WHITE EDGE LINE

100mm DOUBLE YELLOW CENTERLINE

M-7-24
STA. 6+196

19S

R-10-24
STA. 6+262

SPEED LIMIT 35

20S

MATCH LINE STA. 6+300

SIGNING AND PAVEMENT MARKING PLAN – SR. 66
STA. 6+020 TO STA. 6+300

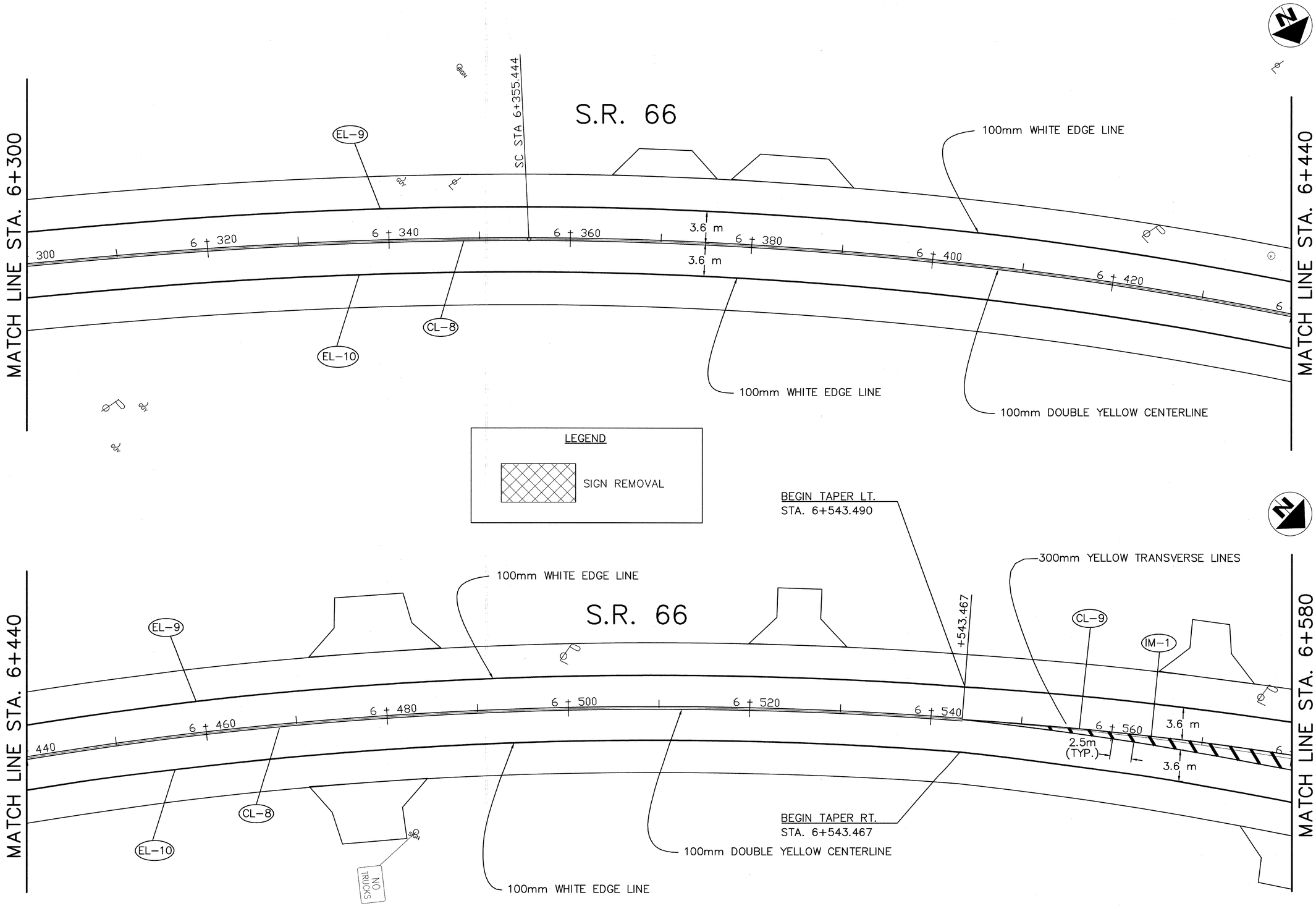
HORIZONTAL SCALE

CALCULATED AJL
CHECKED PJB

DEF – 66 – 5.472(3.40)

60
70

CAD FILE: DEF66_03
DATE: 8/27/97
OPERATOR: TRC
PLOT SCALE: 1



CAD FILE : DEFSS_04
DATE : 8/21/97
PLOTTED BY : RC
PLOT SCALE : 1:1

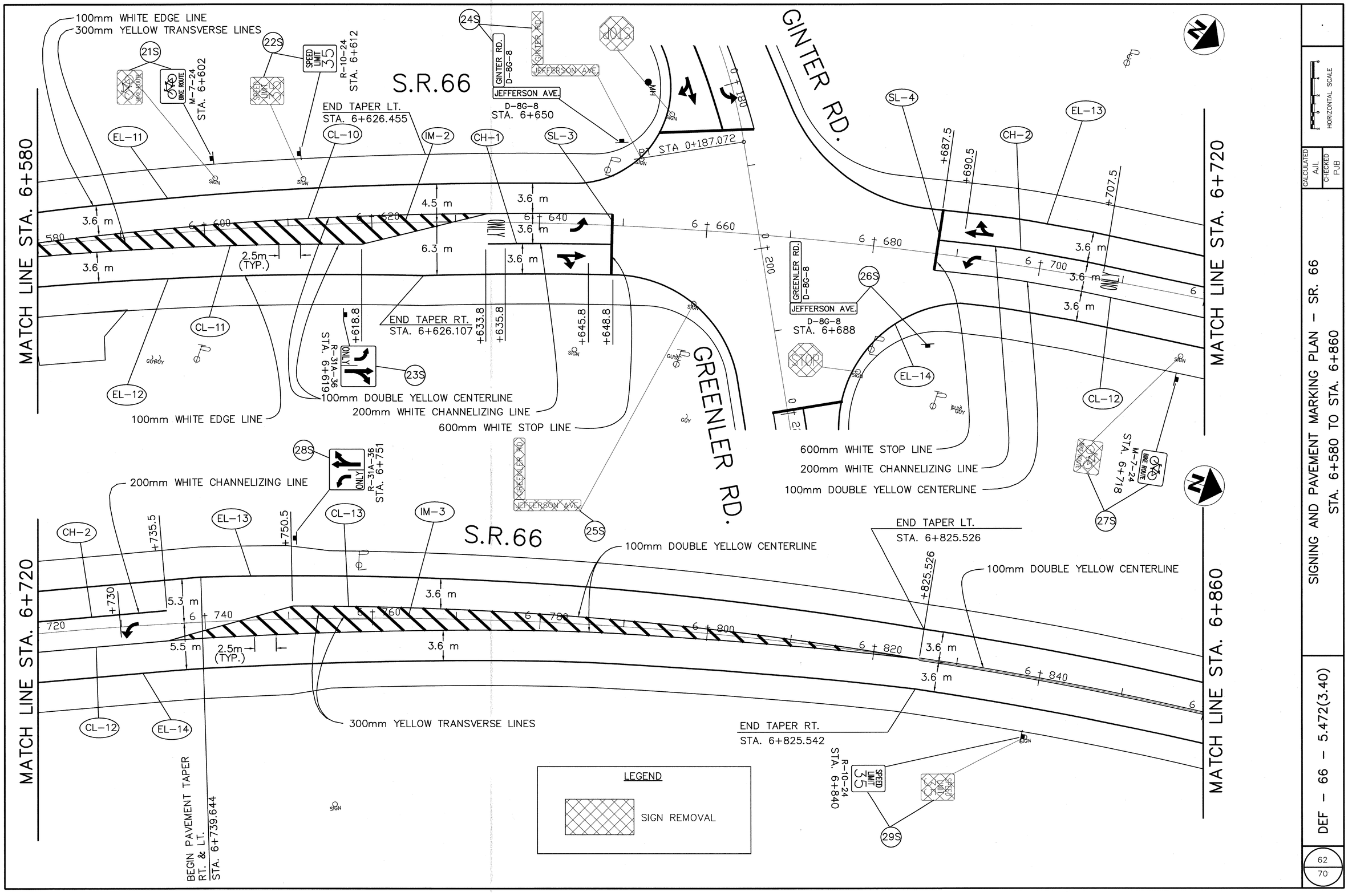
HORIZONTAL SCALE

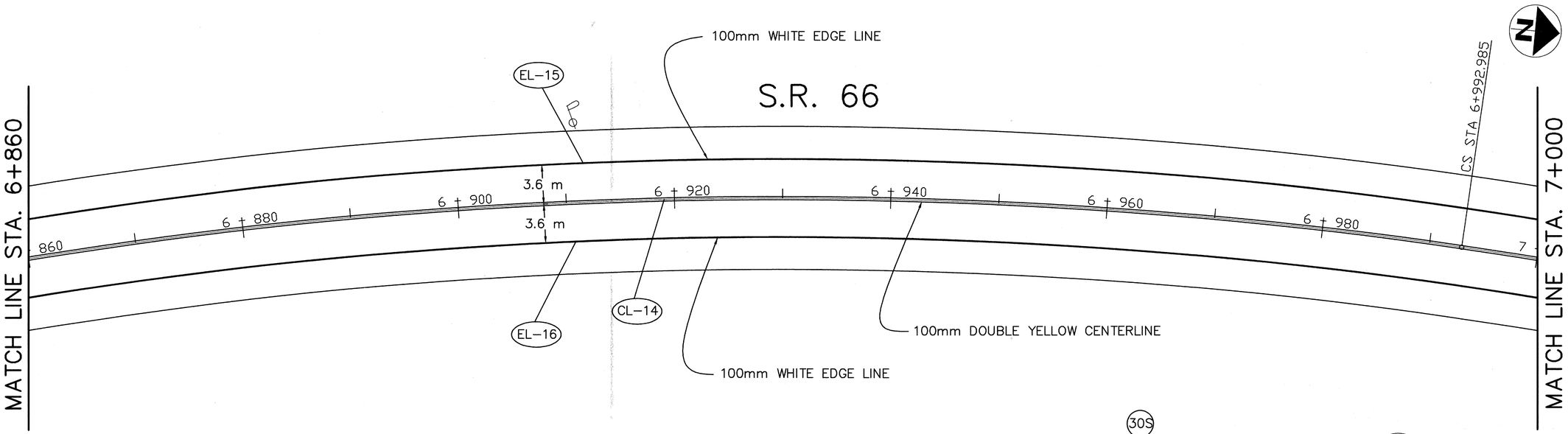
CALCULATED JLM
CHECKED PJB

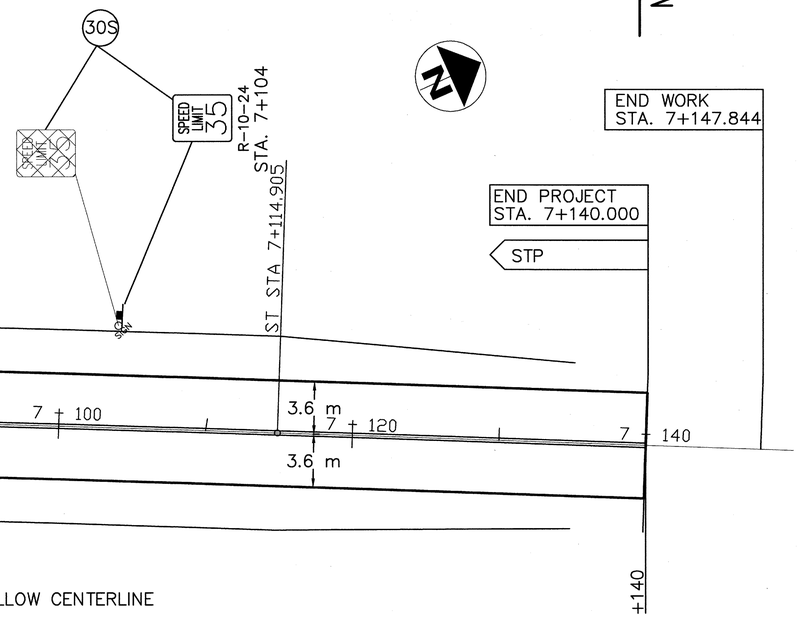
SIGNING AND PAVEMENT MARKING PLAN – SR. 66
STA. 6+300 TO STA. 6+580

DEF – 66 – 5.472(3.40)

61
70


100mm WHITE EDGE LINE
300mm YELLOW TRANSVERSE LINES
21S
22S
SPEED LIMIT 35
R-10-24
STA. 6+612
BIKE ROUTE
M-7-24
STA. 6+602
S.R.66
END TAPER LT.
STA. 6+626.455
EL-11
CL-10
IM-2
CH-1
SL-3
24S
GINTER RD.
D-8G-8
JEFFERSON AVE.
D-8G-8
STA. 6+650
P.I. STA 0+187.072
MATCH LINE STA. 6+580
3.6 m
4.5 m
3.6 m
6.3 m
3.6 m
3.6 m
580
6 + 600
6 + 620
6 + 640
6 + 660
6 + 680
2.5m
(TYP.)
CL-11
EL-12
ONLY
R-3A-36
STA. 6+619
+618.8
+633.8
+635.8
+645.8
+648.8
END TAPER RT.
STA. 6+626.107
23S
100mm WHITE EDGE LINE
100mm DOUBLE YELLOW CENTERLINE
200mm WHITE CHANNELIZING LINE
600mm WHITE STOP LINE
GREENLER RD.
D-8G-8
JEFFERSON AVE.
D-8G-8
STA. 6+688
26S
STOP
EL-14
0 + 200
0 + 180
GINTER RD.
SL-4
EL-13
CH-2
+687.5
+690.5
+707.5
6 + 700
3.6 m
3.6 m
ONLY
CL-12
BIKE ROUTE
M-7-24
STA. 6+718
27S
600mm WHITE STOP LINE
200mm WHITE CHANNELIZING LINE
100mm DOUBLE YELLOW CENTERLINE
MATCH LINE STA. 6+720
28S
ONLY
R-31A-36
STA. 6+751
200mm WHITE CHANNELIZING LINE
CH-2
EL-13
+735.5
+750.5
CL-13
IM-3
S.R.66
25S
JEFFERSON AVE.
GREENLER RD.
100mm DOUBLE YELLOW CENTERLINE
END TAPER LT.
STA. 6+825.526
+825.526
100mm DOUBLE YELLOW CENTERLINE
+730
5.3 m
6 + 740
6 + 760
6 + 780
6 + 800
6 + 820
6 + 840
720
5.5 m
2.5m
(TYP.)
3.6 m
3.6 m
3.6 m
3.6 m
CL-12
EL-14
300mm YELLOW TRANSVERSE LINES
END TAPER RT.
STA. 6+825.542
SPEED LIMIT 35
R-10-24
STA. 6+840
29S
MATCH LINE STA. 6+860
BEGIN PAVEMENT TAPER
RT. & LT.
STA. 6+739.644
LEGEND
SIGN REMOVAL
SIGN
HORIZONTAL SCALE
CALCULATED AJL
CHECKED PJB
SIGNING AND PAVEMENT MARKING PLAN – SR. 66
STA. 6+580 TO STA. 6+860
DEF – 66 – 5.472(3.40)
62
70
CAD FILE : DEFSS_05
DATE
OPERATOR'S NAME
PLOT SCALE : 1'1





LEGEND

SIGN REMOVAL

SIGNING AND PAVEMENT MARKING PLAN – SR. 66
STA. 6+860 TO STA. 7+140

HORIZONTAL SCALE

CALCULATED AJL
CHECKED PJB

DEF – 66 – 5.472(3.40)

63
70

CAD FILE : DEFSS_06
DATE : 8/21/97
OPERATOR : TRC
PLOT SCALE : 1:1

GINTER ROAD

S.R.66

GREENLER ROAD

MEET EXISTING CENTERLINE

100mm WHITE EDGE LINE

100mm DOUBLE YELLOW CENTERLINE

200mm WHITE CHANNELIZING LINE

300mm YELLOW TRANSVERSE LINE

600mm WHITE STOP LINE

SEE SHEET 62

STA. 6+666.244
℄ CONST. & SURVEY S.R. 66
= STA. 0+198.339 (AHEAD), STA. 0+197.450 (BACK)
℄ CONST. & SURVEY GINTER/GREENLER RDS.

R-10-24 STA. 0+125

R-SPECIAL-9 CONNECT TO PROPOSED SIGNAL POLE

R-730-9 CONNECT TO PROPOSED SIGNAL POLE

R-31A-36 STA. 0+156

R-31A-36 STA. 0+254

R-10-24 STA. 0+243

R-31A-36 STA. 0+187.072

R-31A-36 STA. 0+288

2.962 m
3.1 m
3.1 m
2.908 m
3.6 m
3.6 m
3.6 m
4.2 m
2.5m (TYP.)

LEGEND

SIGN REMOVAL

CAD FILE : DEFSS_07
DATE: 8/22/97
OPERATOR: A.JL
PLOT SCALE: 1

SIGNING AND PAVEMENT MARKING PLAN – SR. 66
STA. 6+860 TO STA. 7+140

DEF – 66 – 5.472(3.40)

CALCULATED AJL
CHECKED PJB

HORIZONTAL SCALE

64
70

TRAFFIC CONTROL STANDARD CONSTRUCTION DRAWINGS
REFERENCES TO SUPPLEMENTAL SPECIFICATIONS 857, 858, 861, 957, 958 AND 961 ON THE TRAFFIC CONTROL STANDARD CONSTRUCTION DRAWINGS IN THESE PLANS SHALL BE CONSIDERED TO READ AS RESPECTIVE REFERENCES TO ITEMS 630, 631, 633, 730, 731 AND 733.

POWER SUPPLY FOR TRAFFIC SIGNALS
ELECTRIC POWER SHALL BE OBTAINED FROM TOLEDO EDISON AT THE LOCATION INDICATED ON THE PLANS. POWER SUPPLIED SHALL BE 110 VOLTS.

632 MAINTENANCE OF TRAFFIC SIGNAL INSTALLATIONS
THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE PROPOSED SIGNAL INSTALLATIONS UNDER THE FOLLOWING CONDITION:

a.) THE CONTRACTOR SHALL BE RESPONSIBLE FROM THE BEGINNING OF WORK ON THE PROJECT UNTIL FINAL ACCEPTANCE.

THE CONTRACTOR SHALL CORRECT AS QUICKLY AS POSSIBLE ALL OUTAGES OR MALFUNCTIONS. HE SHALL PROVIDE THE CITY AND THE ENGINEER SUCH ADDRESSES AND 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.

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.

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 THE 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 THE LOCATIONS WITHIN HIS RESPONSIBILITY, WITHIN PERIODS AS SPECIFIED ABOVE, ALL COSTS FOR CITY OF DEFIANCE 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 THE CONTRACT DOCUMENTS.

THE CONTRACTOR SHALL PROVIDE THE MAINTENANCE SERVICE ENTIRELY WITH HIS FORCES.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO ANY TRAFFIC SIGNAL COMPONENT REQUIRED TO BE HANDLED DURING THE 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 4 HOURS AND SHALL NOT INCLUDE THE HOURS OF 3:00 PM TO 7:00 PM. THE 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.

ANY VEHICULAR TRAFFIC SIGNAL HEAD, WHICH WILL BE OUT OF OPERATION, SHALL BE COVERED IN THE MANNER DESCRIBED IN 632.24.

ALL COSTS RESULTING FROM THE ABOVE REQUIREMENTS SHALL BE CONSIDERED TO BE INCLUDED IN THE TOTAL PROJECT PRICE BID, AND NO ADDITIONAL PAYMENT WILL BE MADE.

632 VEHICULAR SIGNAL HEAD, BY TYPE, AS PER PLAN
SECTION 732.01 OF THE SPECIFICATIONS IS MODIFIED FOR THIS PROJECT AS FOLLOWS:

a.) SIGNAL HEADS AND VISORS SHALL BE CONSTRUCTED OF POLYCARBONATE PLASTIC AND MEET ITS SPECIFICATIONS.

b.) PLASTIC LENSES SHALL BE USED.

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

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

e.) ALL VEHICULAR SIGNAL HEADS SHALL BE POLYCARBONATE, RIGIDLY MOUNTED PER O.D.O.T. STANDARD CONSTRUCTION DRAWING TC-85.20M.

633 CONTROLLER, ACTUATED, 4 PHASE, SOLID STATE DIGITAL, MICROPROCESSOR, AS PER PLAN

THE OVERLAP PROGRAMMING SHALL BE BY USE OF AN INTERCHANGEABLE PLUGIN PRINTED CIRCUIT BOARD ASSEMBLY AS DESCRIBED IN PART 14 OF TS-1 1983. IN ADDITION TO NEMA REQUIREMENTS, THE CONFLICT MONITOR SHALL ALSO HAVE EXTENDED MONITORING IN ACCORDANCE WITH 733.04 PART 3B. THE CONTROLLER HOUSING SHALL BE PAINTED FEDERAL YELLOW STANDARD 595 COLOR 13655. PAYMENT FOR ITEM 733 CONTROLLER, ACTUATED, 4 PHASE, SOLID STATE DIGITAL, MICROPROCESSOR AS PER PLAN WILL BE AT THE CONTRACT BID PRICE PER EACH COMPLETE AND IN PLACE INCLUDING ALL CONNECTIONS TESTED AND ACCEPTED.

633 CONTROLLER, ACTUATED, 4 PHASE, SOLID STATE DIGITAL, MICROPROCESSOR, AS PER PLAN – TRANSYT 3000 SERIES– ALTERNATE BID

THE CONTROLLER SHALL BE A TRANSYT MODEL 3000 SERIES AS MANUFACTURED BY PEEK TRAFFIC (THE LOCAL SUPPLIER IS PATH MASTER, INC., TWINSBURG, OHIO 44087), AND BE FURNISHED WITH ALL THE DESIGN FEATURES, AUXILIARY EQUIPMENT, ACCESSORIES, AND PREWIRED CABINET FEATURES AS REQUIRED IN THE STANDARD BID ITEM.

PAYMENT WILL BE AT THE CONTRACT UNIT PRICE FOR EACH, IN PLACE, ALL CONNECTIONS MADE AND WIRING COMPLETED, TESTES AND ACCEPTED.

LOAD SWITCHES
THE CONTROLLER SHALL HAVE SOLID STATE LOAD SWITCHES MEETING PART 5 NEMA TS1-1983. THE LOAD SWITCHES SHALL HAVE INDICATORS ON THE OUTPUTS.

CONFLICT AND VOLTAGE MONITOR
A CONFLICT AND VOLTAGE MONITOR CONFORMING TO THE LATEST REVISION OF NEMA TS1-1983, PART 6, SHALL BE PROVIDED. THE OUTPUT RELAYS OF THE MONITOR SHALL BE WIRED SO THAT WHEN A CONFLICT IS SENSED THE RELAYS CAUSE THE SIGNALS TO TRANSFER TO FLASH OPERATION AND SIMULTANEOUSLY APPLY A STOP TIMING COMMAND TO THE TIMER.

UNLESS OTHERWISE SPECIFIED THE MONITOR SHALL BE PROVIDED WITH 6 CHANNELS AND AN INTERCHANGEABLE PROGRAMMING CARD. THE INTER-CHANGEABLE PROGRAM CARD SHALL BE IN ACCORDANCE WITH THE LATEST REVISIONS OF NEMA TS1-1983, PART 6.
THE CONFLICT MONITOR SHALL BE A MODEL SSM-6E AS MANUFACTURED BY EBERLE DESIGN INC.(EDI) THE USE OF THIS CONFLICT MONITOR WILL MAKE THE CONFLICT MONITOR TESTING UNIFORM FOR ALL MONITORS THROUGHOUT THE CITY.

FLASHING OF SIGNALS
THE CONTROLLER SHALL USE A SOLID STATE FLASHER MEETING PART 8 NEMA TS1-1983. THE FLASHER SHALL ALSO HAVE REPLACEABLE CUBES AND INDICATORS ON THE OUTPUTS.
FLASH TRANSFER RELAYS SHALL BE FURNISHED IN SUFFICIENT QUANTITIES TO PERFORM THE REQUIRED SEQUENCE. THE FLASH TRANSFER RELAYS SHALL BE DPDT WITH 120VAC COIL AND HAVE A CONTACT RATING OF 20 AMPERES TUNGSTEN LOAD PER CONTACT SET.

ADDITIONAL REQUIREMENTS
THE SUCCESSFUL BIDDER SHALL SUPPLY TWO COPIES OF WIRING DIAGRAMS FOR THE CONTROLLER. IN ADDITION HE SHALL FURNISH AN OPERATIONS MANUAL FOR THE CONTROLLER WHICH PROVIDES INFORMATION REQUIRED FOR INSTALLATIONS, OPERATION AND MAINTENANCE OF THE CONTROLLER. THIS MANUAL SHALL PROVIDE THE THEORY OF OPERATION OF THE CONTROLLER, MAINTENANCE, AND TROUBLESHOOTING INFORMATION AND SCHEMATICS OF THE CIRCUITRY OF THE TIMER.

CABINET REQUIREMENTS
THE CONTROLLER AND ALL ASSOCIATED EQUIPMENT SHALL BE PROVIDED IN A WEATHERPROOF METAL CABINET OF CLEAN-CUT DESIGN AND APPEARANCE. THE CABINET SHALL BE COMPLETELY WIRED FOR THE PROVISIONS OF THE SIGNAL OPERATION INDICATED ON THE ATTACHMENT BIDDING SCHEDULE.

THE CABINET SHALL BE CONSTRUCTED OF SHEET ALUMINUM. A HINGED DOOR SHALL BE PROVIDED PERMITTING COMPLETE ACCESS TO THE INTERIOR OF THE CABINET. WHEN CLOSED, THE DOOR SHALL FIT CLOSELY TO GASKETING MATERIAL, MAKING THE CABINET WEATHER AND DUST RESISTANT. THE DOOR SHALL BE PROVIDED WITH A STOP AND CATCH ARRANGEMENT TO HOLD THE DOOR OPEN AT ANGLES OF BOTH 90 AND 180 DEGREES, ± 10 DEGREES.

AN AUXILIARY HINGED DOOR SHALL BE PROVIDED ON THE OUTSIDE OF THE MAIN CABINET DOOR. THIS DOOR SHALL ALLOW ACCESS TO THE "POLICE PANEL" HOUSING, A SIGNAL SHUTDOWN SWITCH, FLASH CONTROL SWITCH AND MANUAL CONTROL SWITCH WITH A PUSH BUTTON CYCLE ADVANCEMENT.

THE AUXILIARY DOOR SHALL USE A KEY OF DIFFERENT DESIGN FROM THOSE PROVIDED FOR THE MAIN DOOR.

THE CABINET SHALL CONTAIN A SUITABLY DESIGNED RAINTIGHT VENT, OR VENTS, EQUIPPED WITH SCREENS OF FILTERS. A THERMOSTATICALLY CONTROL-LED VENT FAN SHALL BE FURNISHED AND SHALL BE LOCATED WITH RESPECT TO THE VENT HOLES SO AS TO DIRECT THE BULK OF THE AIR FLOW OVER THE CONTROLLER AND AUXILIARY EQUIPMENT.

THE THERMOSTAT CONTROLLING THE FAN SHALL BE MANUALLY ADJUSTABLE TO TURN ON BETWEEN 90 DEGREES F AND 150 DEGREES F WITH A DIFFERENTIAL BETWEEN AUTOMATIC TURN ON AND TURN OFF OF NOT MORE THAN 10 DEGREES F.

THE CABINET SHALL CONTAIN SUFFICIENT LOAD SWITCH POSITIONS AND LOAD SWITCHES IN ORDER TO PRODUCE THE SIGNAL SEQUENCE IN ACCORDANCE WITH THE ATTACHED DRAWINGS.

THE CABINET SHALL CONTAIN AN AUXILIARY PANEL WITH A TIMER POWER SWITCH, A STOP TIME SWITCH, A SIGNAL SHUTDOWN SWITCH, AND A GFI TYPE DUPLEX RECEPTACLE. THE PANEL SHALL ALSO CONTAIN MOMENTARY SWITCHES TO ACTIVATE EACH ACTUATED VEHICLE AND PEDESTRIAN MOVEMENT.

THE CABINET SHALL CONTAIN A RECEPTACLE FOR AN INCANDESCENT LAMP WITH A SWITCH SO MOUNTED THAT THE LAMP WILL BE TURNED ON AND OFF WITH THE RESPECTIVE OPENING AND CLOSING OF THE CABINET DOOR.

THE CABINET SHALL BE PROVIDED, AS A MINIMUM, WITH WIRING TERMINALS FOR THE FOLLOWING:

1. TERMINAL WITH MAGNETIC CIRCUIT BREAKER WITH INTEGRAL POWER LINE SWITCH FOR THE INCOMING POWER LINE. A SECOND MAGNETIC CIRCUIT BREAKER WIRED IN PARALLEL BREAKER AND SHALL CONTROL AUXILIARY EQUIPMENT SUCH AS FAN, LIGHT, GFI CONVENIENCE OUTLET, ETC..
2. TERMINAL, UNFUSED, FOR THE NEUTRAL SIDE OF THE INCOMING POWER LINE.
3. TERMINALS AND BASES FOR SIGNAL LOAD SWITCHES, AS REQUIRED, (MINIMUM 4 POSITION) AND OUTGOING SIGNAL FIELD CIRCUITS.
4. TERMINALS FOR DETECTOR CABLES.
5. TERMINALS AND BASES FOR SIGNAL FLASHER AND OUTGOING SIGNAL FIELD CIRCUITS.
6. TERMINALS FOR ALL REQUIRED AUXILIARY EQUIPMENT.

ADEQUATE ELECTRICAL CLEARANCE SHALL BE PROVIDED BETWEEN TERMINALS. THE CONTROLLER, AUXILIARY EQUIPMENT, PANELS. TERMINALS, AND OTHER ACCESSORIES SHALL BE ARRANGED WITHIN THE CABINET IN SUCH A MANNER SO THAT IT WILL FACILITATE THE ENTRANCE AND CONNECTION OF INCOMING CONDUCTORS.

AN EQUIPMENT GROUNDING BUS SHALL BE PROVIDED IN EACH CABINET. THE BUS SHALL BE GROUNDED TO THE CABINET IN AN APPROVED MANNER.

A RADIO INTERFERENCE SUPPRESSOR SHALL BE PROVIDED IN EACH CABINET. THE EXTERIOR AND INTERIOR OF THE CABINET SHALL BE NEUTRAL ALUMINUM.

TRAFFIC SIGNAL SUB SUMMARY

SHEET 67	ITEM NO.	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION
					TRAFFIC SIGNALS
165	625	25402	165	meter	51 mm CONDUIT, 713.07
75	625	25502	75	meter	76 mm CONDUIT, 713.07
203	625	29000	203	meter	TRENCH
37	625	29600	37	meter	TRENCH IN PAVED AREA, TYPE B
11	625	30706	11	each	PULL BOX, 713.08, 600 mm
4	625	32000	4	each	GROUND ROD
8	632	00303	8	each	VEHICULAR SIGNAL HEAD, 3 SECTION, 300 mm LENS, 1-WAY, AS PER PLAN, POLYCARBONATE (SEE THIS SHEET)
1	632	00501	1	each	VEHICULAR SIGNAL HEAD, 5 SECTION, 300 mm LENS,1-WAY, AS PER PLAN (SEE THIS SHEET)
9	632	25000	9	each	COVERING OF VEHICULAR SIGNAL HEAD
2	632	26000	2	each	PEDESTRIAN PUSHBUTTON
7	632	26500	7	each	DETECTOR LOOP
4	632	27004	4	each	LOOP DETECTOR UNIT
1	632	27008	1	each	LOOP DETECTOR UNIT DELAY AND EXTENSION TYPE
250	632	40500	250	meter	SIGNAL CABLE, 5 CONDUCTOR, NO. 14 AWG.
62	632	40700	62	meter	SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG.
4	632	64010	4	each	SIGNAL POLE FOUNDATION
440	632	65200	440	meter	LOOP DETECTOR LEAD-IN CABLE
20	632	67300	20	meter	POWER CABLE, 3 CONDUCTOR, NO. 8 AWG.
1	632	70000	1	each	POWER SERVICE
2	632	80300	2	each	SIGNAL SUPPORT, TYPE TC 81.20, DESIGN 3
2	632	81500	2	each	COMBINATION SIGNAL SUPPORT, TYPE TC 81.20, DESIGN 11
1	633	34000	1	each	CONTROLLER, ACTUATED, 4-PHASE, SOLID STATE DIGITAL,MICROPROCESSOR
1	633	34001	1	each	CONTROLLER, ACTUATED, 4-PHASE, SOLID STATE DIGITAL, MICROPROCESSOR, AS PER PLAN, ALTERNATE BID (SEE THIS SHEET)
1.08	633	70500	1.08	m²	CONTROLLER WORK PAD

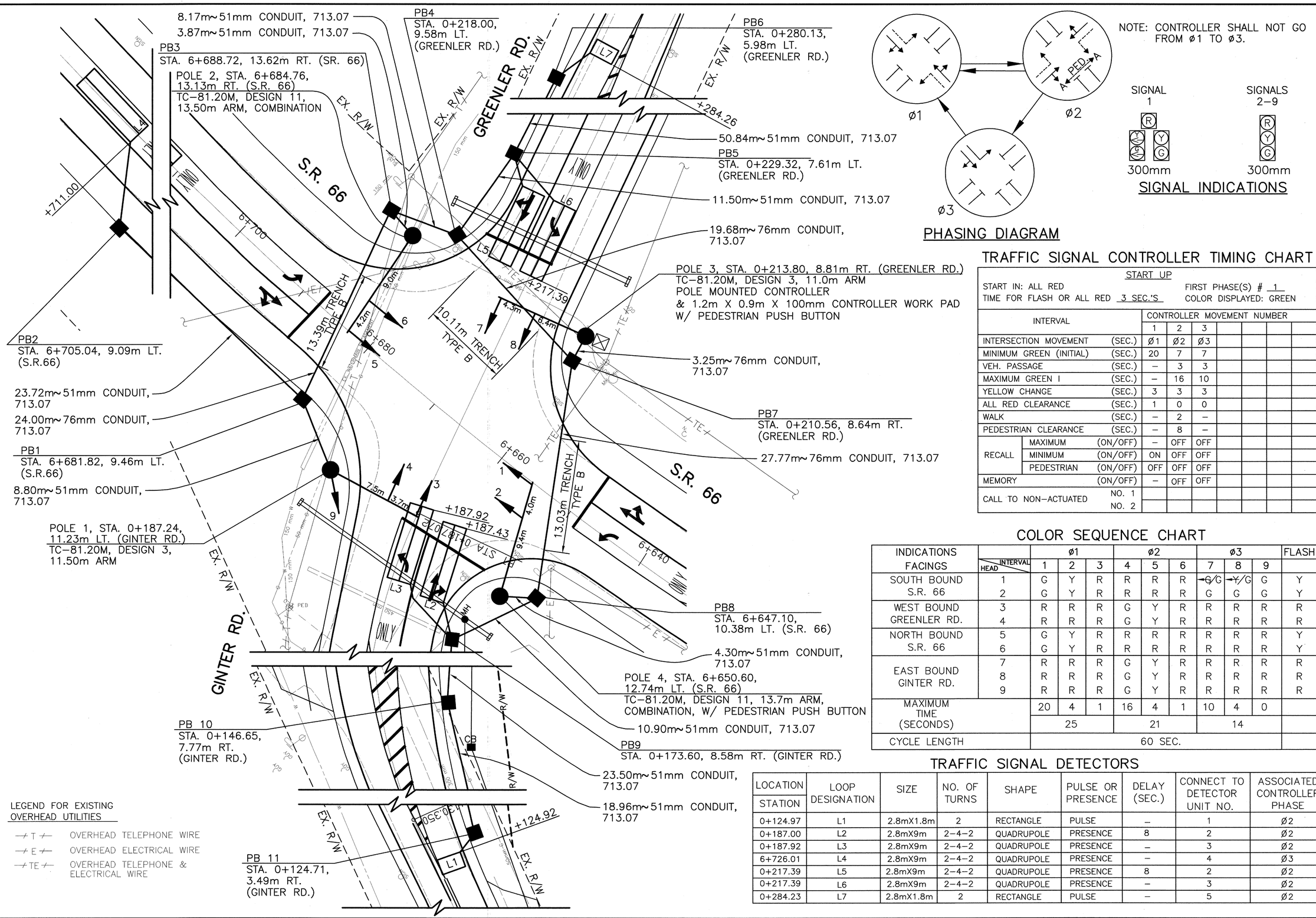
CALCULATED AJL
CHECKED PJB

TRAFFIC SIGNAL NOTES / SIGNAL SUB SUMMARY

DEF-66-5.472(3.40)

65
70

CAD FILE SIGNLSNN
DATE 9/2022
OPERATOR AJL/TRC
PLOT SCALE 1



TRAFFIC SIGNAL CONTROLLER TIMING CHART

START UP

START IN: ALL RED — FIRST PHASE(S) # 1

TIME FOR FLASH OR ALL RED 3 SEC.'S — COLOR DISPLAYED: GREEN

INTERVAL			CONTROLLER MOVEMENT NUMBER							
			1	2	3					
INTERSECTION MOVEMENT		(SEC.)	ø1	ø2	ø3					
MINIMUM GREEN (INITIAL)		(SEC.)	20	7	7					
VEH. PASSAGE		(SEC.)	–	3	3					
MAXIMUM GREEN I		(SEC.)	–	16	10					
YELLOW CHANGE		(SEC.)	3	3	3					
ALL RED CLEARANCE		(SEC.)	1	0	0					
WALK		(SEC.)	–	2	–					
PEDESTRIAN CLEARANCE		(SEC.)	–	8	–					
RECALL	MAXIMUM	(ON/OFF)	–	OFF	OFF					
	MINIMUM	(ON/OFF)	ON	OFF	OFF					
	PEDESTRIAN	(ON/OFF)	OFF	OFF	OFF					
MEMORY		(ON/OFF)	–	OFF	OFF					
CALL TO NON-ACTUATED		NO. 1								
		NO. 2								

COLOR SEQUENCE CHART

INDICATIONS FACINGS	INTERVAL / HEAD	ø1			ø2			ø3			FLASH
		1	2	3	4	5	6	7	8	9	
SOUTH BOUND S.R. 66	1	G	Y	R	R	R	R	~~G~~/G	~~Y~~/G	G	Y
	2	G	Y	R	R	R	R	G	G	G	Y
WEST BOUND GREENLER RD.	3	R	R	R	G	Y	R	R	R	R	R
	4	R	R	R	G	Y	R	R	R	R	R
NORTH BOUND S.R. 66	5	G	Y	R	R	R	R	R	R	R	Y
	6	G	Y	R	R	R	R	R	R	R	Y
EAST BOUND GINTER RD.	7	R	R	R	G	Y	R	R	R	R	R
	8	R	R	R	G	Y	R	R	R	R	R
	9	R	R	R	G	Y	R	R	R	R	R
MAXIMUM TIME (SECONDS)		20	4	1	16	4	1	10	4	0	
		25			21			14			
CYCLE LENGTH		60 SEC.									

TRAFFIC SIGNAL DETECTORS

LOCATION STATION	LOOP DESIGNATION	SIZE	NO. OF TURNS	SHAPE	PULSE OR PRESENCE	DELAY (SEC.)	CONNECT TO DETECTOR UNIT NO.	ASSOCIATED CONTROLLER PHASE
0+124.97	L1	2.8mX1.8m	2	RECTANGLE	PULSE	–	1	ø2
0+187.00	L2	2.8mX9m	2-4-2	QUADRUPOLE	PRESENCE	8	2	ø2
0+187.92	L3	2.8mX9m	2-4-2	QUADRUPOLE	PRESENCE	–	3	ø2
6+726.01	L4	2.8mX9m	2-4-2	QUADRUPOLE	PRESENCE	–	4	ø3
0+217.39	L5	2.8mX9m	2-4-2	QUADRUPOLE	PRESENCE	8	2	ø2
0+217.39	L6	2.8mX9m	2-4-2	QUADRUPOLE	PRESENCE	–	3	ø2
0+284.23	L7	2.8mX1.8m	2	RECTANGLE	PULSE	–	5	ø2

LEGEND FOR EXISTING OVERHEAD UTILITIES

- —T— OVERHEAD TELEPHONE WIRE
- —E— OVERHEAD ELECTRICAL WIRE
- —TE— OVERHEAD TELEPHONE & ELECTRICAL WIRE

DATE : 9/10/97
CAD FILE : SIG_SR66
OPERATOR : A.J.L./T.R.C.
PLOT SCALE: 1

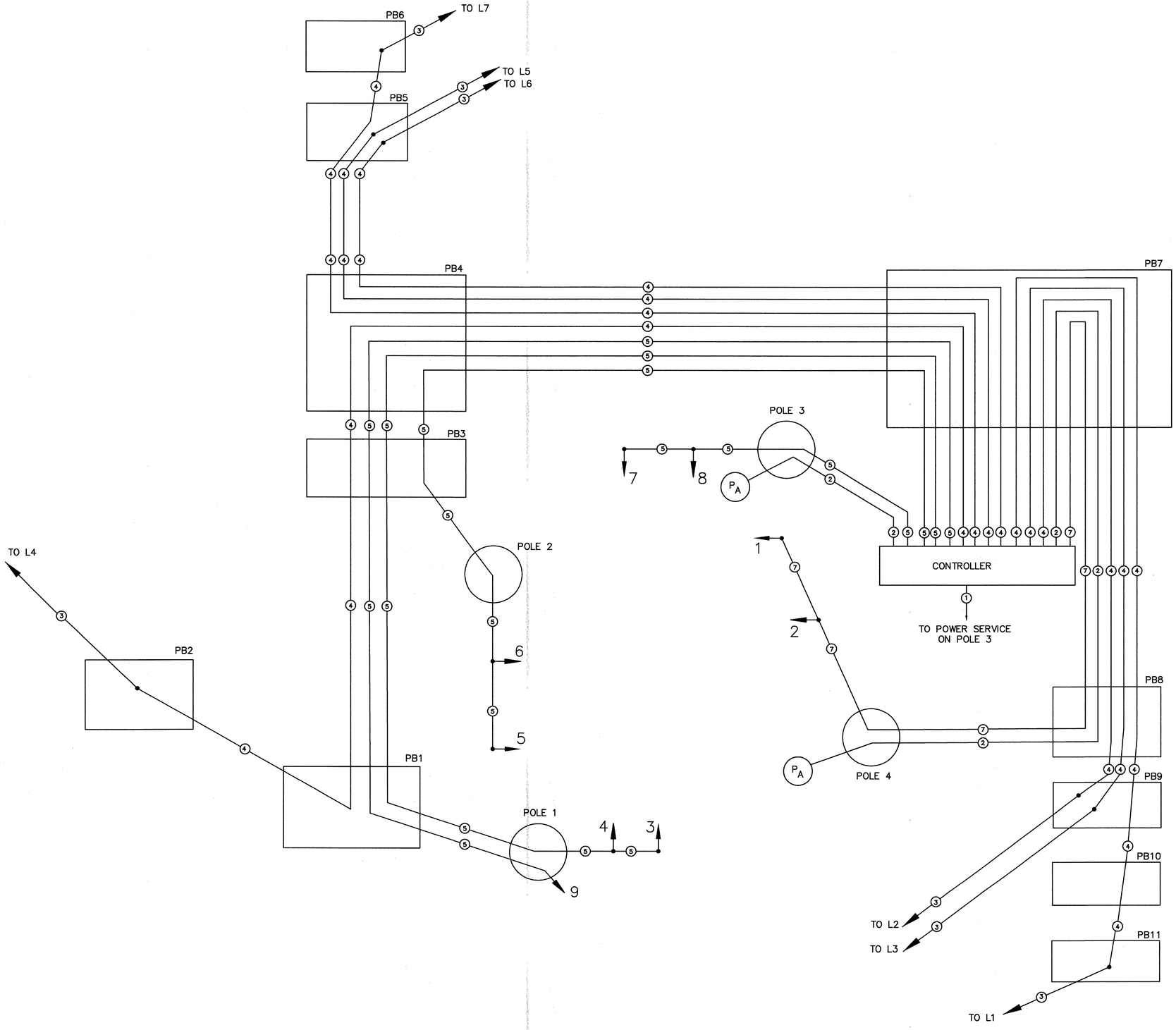
HORIZONTAL SCALE

CALCULATED AJL — CHECKED PJB

DEF – 66 – 5.472(3.40)

SIGNAL PLAN – S.R.66/GINTER & GREENLER RDS.

66
70



PROPOSED WIRING DIAGRAM

LEGEND

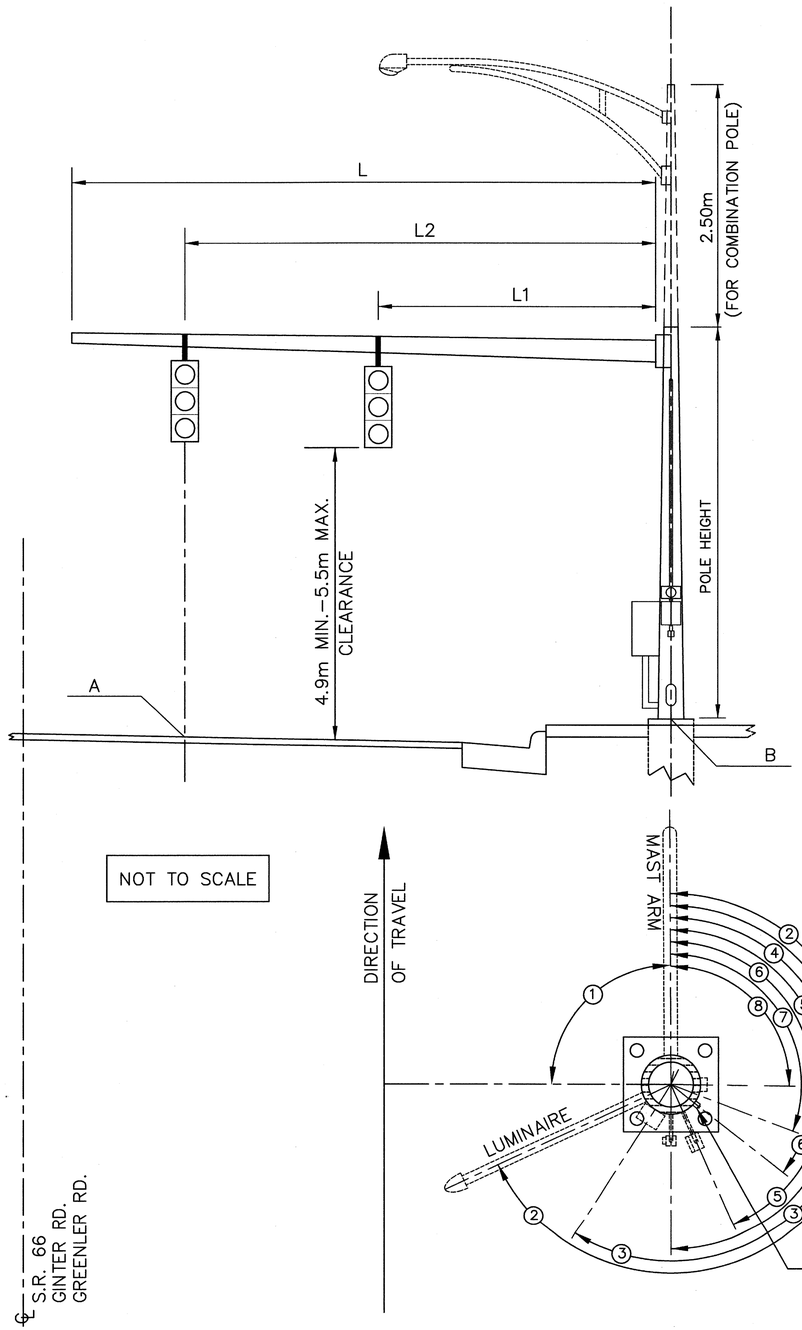
(1)	POWER CABLE, 3 CONDUCTOR, #8 AWG, SIGNAL CABLE
(2)	3 CONDUCTOR, #14 AWG, SIGNAL CABLE
(3)	DETECTOR LOOP
(4)	LOOP DETECTOR, LEAD-IN-CABLE
(5)	5 CONDUCTOR, #14 AWG, SIGNAL CABLE
(7)	7 CONDUCTOR, #14 AWG, SIGNAL CABLE
•	SPLICE LOCATION
(P_A)	PEDESTRIAN PUSHBUTTON

CALCULATED AJL | CHECKED PJB

SIGNAL WIRING DIAGRAMS – S.R. 66 AND GINTER/GREENLER RDS. INTERSECTION

DEF-66-5.472(3.40)

CAD FILE = SIGNLWD1
DATE = 8/2007
OPERATOR = AJL
PLOT SCALE = 1



POLE NO.	LOCATION	STATION	SIDE	DESIGN NO.	SIGNAL SUPPORT TYPE TC–81.20										ELEVATION		①	ANGLES (DEG.) FROM MAST ARM						
					ARM LENGTH – L (m)	POLE HEIGHT – (m)	COMBINATION POLE (YES/NO)	DISTANCE FROM POLE TO HANGERS TYPE AND DISTANCE							A	B	MAST ARM	② LUMINAIRE	③ CONTROLLER	④ POLE MOUNTED VEHICULAR SIGNAL	⑥ PEDESTRIAN PUSH BUTONS		⑦ POWER SERVICE	⑧ HANDHOLE
								L1 TYPE	L1 DISTANCE (m)	L2 TYPE	L2 DISTANCE (m)	TYPE	DISTANCE (m)	TYPE	DISTANCE (m)									
1	GINTER RD.	0+187.24	LT.	3	11.5	7.5	N	1–3	7.5	1–3	11.2	–	–	–	–	216.877	216.000	3°	––	––	50°	––	––	––	90°
2	S.R. 66	6+684.76	RT.	11	13.5	7.8	Y	1–3	9.0	1–3	13.2	–	–	–	–	216.232	215.250	353°	317°	––	––	––	––	––	180°
3	GREENLER RD.	0+213.80	RT.	3	11.0	7.5	N	1–3	6.4	1–3	10.7	–	–	–	–	215.909	215.270	359°	––	180°	––	0°	––	180°	180°
4	S.R. 66	6+650.60	LT.	11	13.7	7.2	Y	1–3	9.4	1–3	13.4	–	–	–	–	216.439	216.100	339°	326°	––	––	270°	––	––	90°

NOTE:
ALL ANGLES ARE MEASURED CLOCKWISE.

CALCULATED AJL
CHECKED PJB

SIGNAL DETAILS

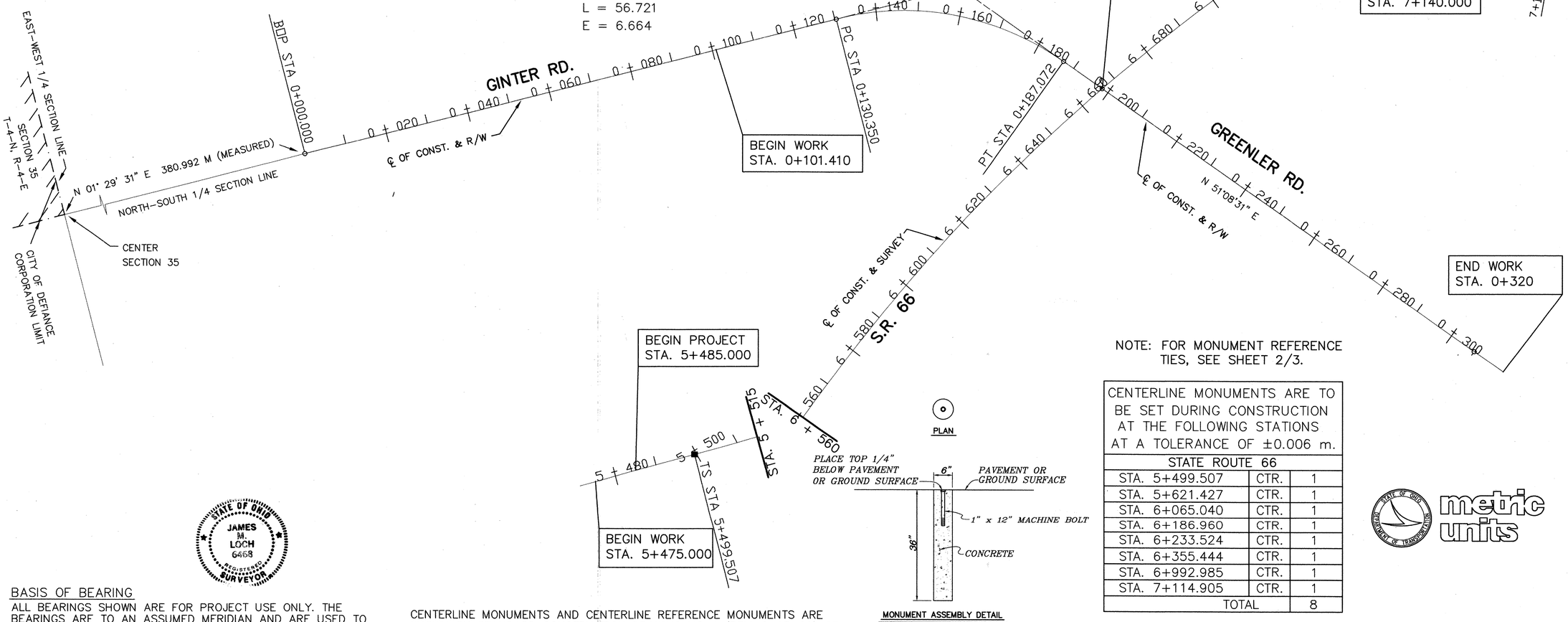
DEF–66–5.472(3.40)

CAD FILE : SIGNTYP
DATE : 8/18/97
OPERATOR : AJL
PLOT SCALE 1:1

CENTERLINE SURVEY PLAT

DEF – GINTER ROAD

DEFIANCE COUNTY, OHIO
DEFIANCE TWP., SEC. 35
CITY OF DEFIANCE



NOTE: FOR MONUMENT REFERENCE TIES, SEE SHEET 2/3.

CENTERLINE MONUMENTS ARE TO BE SET DURING CONSTRUCTION AT THE FOLLOWING STATIONS AT A TOLERANCE OF ±0.006 m.		
STATE ROUTE 66		
STA. 5+499.507	CTR.	1
STA. 5+621.427	CTR.	1
STA. 6+065.040	CTR.	1
STA. 6+186.960	CTR.	1
STA. 6+233.524	CTR.	1
STA. 6+355.444	CTR.	1
STA. 6+992.985	CTR.	1
STA. 7+114.905	CTR.	1
TOTAL		8

metric units

STATE OF OHIO
JAMES M. LOCH
6468
REGISTERED SURVEYOR

BASIS OF BEARING

ALL BEARINGS SHOWN ARE FOR PROJECT USE ONLY. THE BEARINGS ARE TO AN ASSUMED MERIDIAN AND ARE USED TO DELINEATE ANGLES ONLY.

I HEREBY CERTIFY THAT THIS PLAT IS A TRUE DELINEATION OF A CENTERLINE SURVEY MADE FOR THE OHIO DEPARTMENT OF TRANSPORTATION IN 1997.

James M. Loch — REGISTERED SURVEYOR NO. 6468

2-17-98 — DATE

CENTERLINE MONUMENTS AND CENTERLINE REFERENCE MONUMENTS ARE SHOWN ON STANDARD CONSTRUCTION DRAWING MC–1 (REV. 6–13–69) OF THE OHIO DEPARTMENT OF TRANSPORTATION. THE PLACING OF THE MONUMENTS SHALL BE UNDER THE DIRECTION OF A REGISTERED SURVEYOR AND ARE TO BE SET, AS SHOWN, BY THE HIGHWAY CONTRACTOR AT THE TIME OF CONSTRUCTION. ANY ALTERATIONS, WITH PRIOR APPROVAL OF THE DEPARTMENT OF TRANSPORTATION, SHALL BE NOTED AND O.D.O.T. SHALL BE NOTIFIED OF THE NEW LOCATIONS.

■ INDICATES CENTERLINE MONUMENT LOCATION.

DATE : 8/21/97
CAD FILE : CTRLPLAT
OPERATOR : P.M.G.
PLOT SCALE: 1

HORIZONTAL SCALE 1:1

PID 15344

CENTERLINE SURVEY PLAT

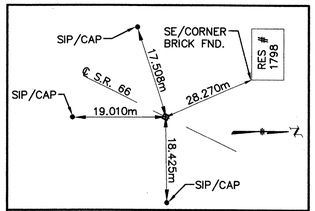
DEF – 66 – 5.472(3.40)

1/3

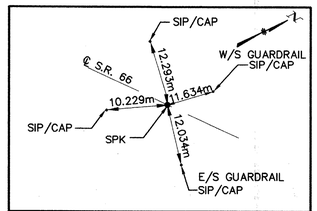
69/70

SR 66 – GINTER ROAD
REFERENCE TIES
FOR PROPOSED MONUMENTS
CITY OF DEFIANCE

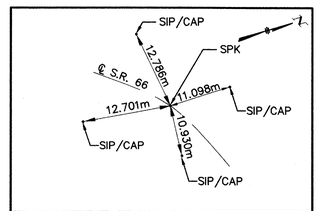
S.R. 66 REFERENCE TIES



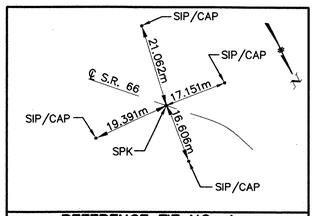
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STATION 5+891.784



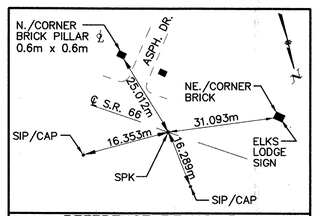
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STATION 7+114.905



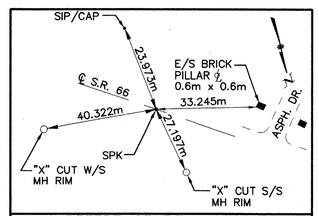
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STATION 6+992.985



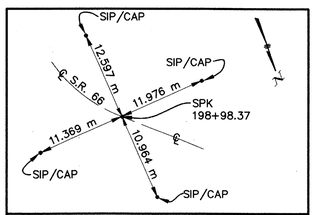
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STATION 6+355.444



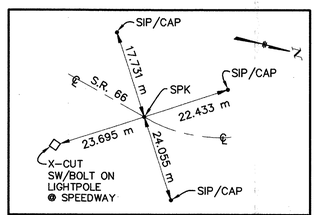
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STATION 6+233.524



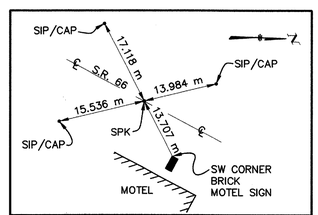
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REFERENCE TIE NO. 7
STATION 6+065.040

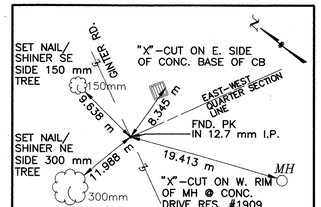


REFERENCE TIE NO. 8
STATION 5+621.427



REFERENCE TIE NO. 9
STATION 5+499.507

GINTER RD. REFERENCE TIES



REFERENCE TIE NO. 10
CENTER OF SECTION 35

DATE : 9/15/97
CAD FILE : RWREFTIE
OPERATOR : J.L.M.
PLOT SCALE: 1

PID 15344

REFERENCE TIES

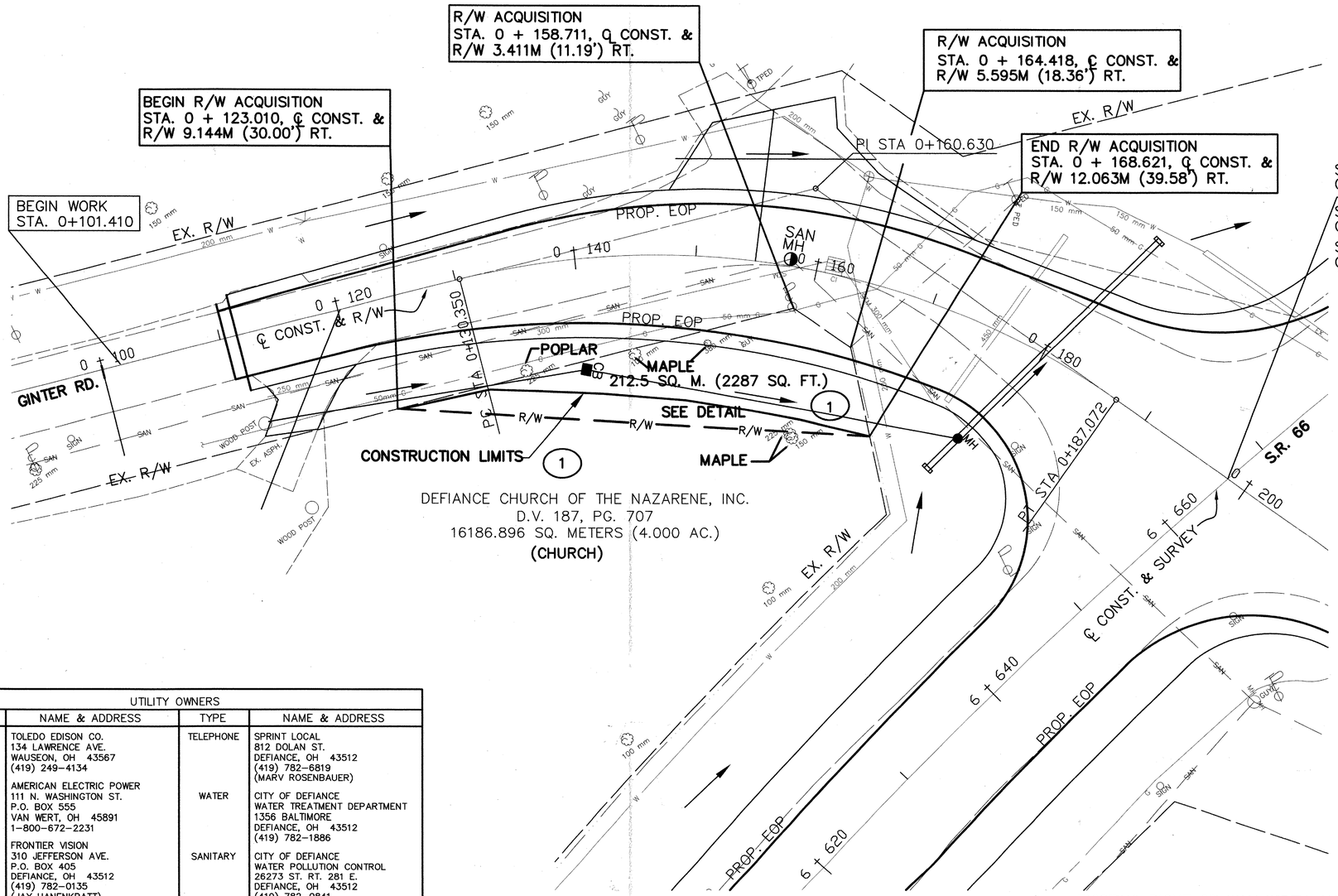
DEF – 66 – 5.472(3.40)

2 / 3

69A
70

PROPERTY MAP & SUMMARY OF ADDITIONAL R/W

DEF – GINTER ROAD
DEFIANCE COUNTY, OHIO
DEFIANCE TWP., SEC. 35
CITY OF DEFIANCE



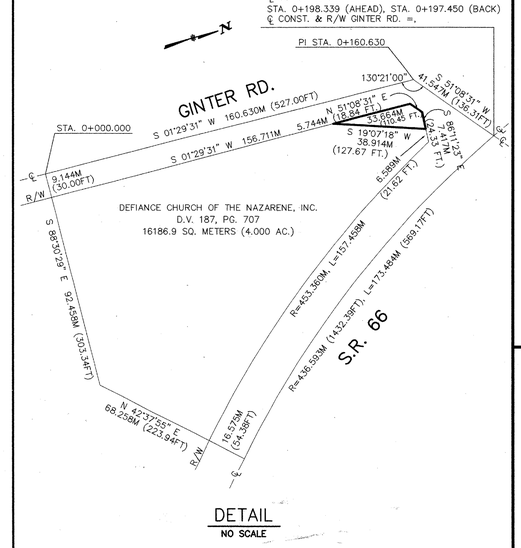
CURVE DATA
℄ CONST. & R/W, GINTER RD.
PI STA = 0+160.630
△ = 49°39'00"R
T = 30.280
R = 65.456
L = 56.721
E = 6.664

STA. 6+666.244
℄ CONST. & SURVEY S.R. 66 =

STA. 0+198.339 (AHEAD), STA. 0+197.450 (BACK)
℄ CONST. & R/W GINTER RD. =,
STA. 0+198.339
℄ CONST. & R/W GREENLER RD.

metric units

NOTE: ALL STATIONS AND OUTS ARE MEASURED OFF THE ℄ OF CONSTRUCTION AND R/W.



DETAIL
NO SCALE

UTILITY OWNERS			
TYPE	NAME & ADDRESS	TYPE	NAME & ADDRESS
POWER	TOLEDO EDISON CO. 134 LAWRENCE AVE. WAUSEON, OH 43567 (419) 249–4134	TELEPHONE	SPRINT LOCAL 812 DOLAN ST. DEFIANCE, OH 43512 (419) 782–6819 (MARV ROSENBAUER)
POWER	AMERICAN ELECTRIC POWER 111 N. WASHINGTON ST. P.O. BOX 555 VAN WERT, OH 45891 1–800–672–2231	WATER	CITY OF DEFIANCE WATER TREATMENT DEPARTMENT 1356 BALTIMORE DEFIANCE, OH 43512 (419) 782–1886
CABLEVISION	FRONTIER VISION 310 JEFFERSON AVE. P.O. BOX 405 DEFIANCE, OH 43512 (419) 782–0135 (JAY HANENKRATT)	SANITARY	CITY OF DEFIANCE WATER POLLUTION CONTROL 26273 ST. RT. 281 E. DEFIANCE, OH 43512 (419) 782–0841
NATURAL GAS	OHIO GAS COMPANY 506 CLINTON ST. P.O. BOX 1126 DEFIANCE, OH 43512 1–800–529–6511 (MIKE CREAGER)	STORM	CITY OF DEFIANCE STREET DEPARTMENT 1601 BALTIMORE DEFIANCE, OH 43512 (419) 782–6582

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.

EXISTING RIGHT OF WAY WIDTH AND LOCATION WERE DETERMINED USING RECORD PLATS, SURVEYS AND LEGAL DESCRIPTIONS OBTAINED FROM THE CITY OF DEFIANCE AND DEFIANCE COUNTY.

TOTAL NUMBER OF:
1 OWNERSHIPS
1 TOTAL TAKES
0 OWNERSHIPS WITH STRUCTURES INVOLVED
0 OWNERSHIPS WITH "P" ITEMS

GRANTEE – ALL R/W SHALL BE ACQUIRED IN THE NAME OF THE CITY OF DEFIANCE UNLESS OTHERWISE SHOWN

SUMMARY OF ADDITIONAL RIGHT OF WAY PARCELS

ALL AREAS IN SQUARE METERS (SQUARE FEET)

PARCEL NO.	OWNER	SHEET NO.	OWNERS RECORD VOL	OWNERS RECORD PAGE	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 AND PERSONALTY	AS ACQUIRED BOOK	AS ACQUIRED PAGE
1	DEFIANCE CHURCH OF THE NAZARENE, INC.		187	707	B01–4035–0–005–00	16186.9 (174240)	4657.6 (50136)	212.5 (2287)	0	212.5 (2287)			11316.8 (121817)	LOCAL	PAVEMENT WIDENING AND DITCH REGRADING		

REV.	DATE	DESCRIPTION
2	11/20/97	REV. PARCEL NO. FROM 1–WD TO 1
1	10/3/97	REV. DETAIL TO MATCH LEGAL

TYPE FUNDS: LOCAL

DATE OF COMPLETION

DATE : 8/21/97
CAD FILE : RW_PROP
OPERATOR : P.M.G.
PLOT SCALE: 1

HORIZONTAL SCALE 0 2 4 6

PID. NO. 15344

S.J.N. ___

RIGHT OF WAY PLAN
STA. 0+106.410 TO STA. 0+198.339

DEF – 66 – 5.472(3.40)

3 / 3

70 / 70

S.R. 66 (SOUTH JEFFERSON AVENUE)
SLOPE STABILIZATION
CITY OF DEFIANCE, OHIO

LEGEND

●	IRON PIN	●	IRON PIPE
⊖	R.R. SPIKE	◕	P.K. NAIL
⊡	MONUMENT BOX	■	WOOD HUB
▲	STONE MONUMENT	◉	DRILL HOLE
℄	PROPERTY LINE		POWER PLE
←	GUY WIRE		R.R. CROSSING SIGN
Ⓢ Ⓓ Ⓦ	MANHOLE		GUY POLE
□ ▬	CATCH BASIN		TELEPHONE POLE
	FIRE HYDRANT		LIGHT POLE
GV GV	VALVE (WATER OR GAS)	B.P.	BRACE POLE
○ C.O.	CLEANOUT		SIGN
MB	MAIL BOX		SHRUB
○	POST		STUMP
x—x—x	FENCE LINE		PINE TREE
— — —	CENTERLINE		TREE
	GUARDRAIL		
96.75	PROPOSED ELEVATION		

700 EXISTING CONTOUR

700 PROPOSED CONTOUR

W—W EX. WATER LINE

G—G EX. GAS LINE

EX. SEWER

E—E BURIED ELECTRIC

T—T BURIED TELEPHONE

SHEET INDEX

COVER SHEET
PLAN AND PROFILE SHEETS **1–3**
CROSS SECTIONS **4–7**
DETAIL SHEETS **8–9**
MAINTENANCE TRAFFIC DETAILS **10**

UTILITIES

ELECTRIC
TOLEDO EDISON
134 LAWRENCE AVENUE
WAUSEON, OHIO 43567
JOHN WIRICK
419-249-4170 OR
1-800-447-3333

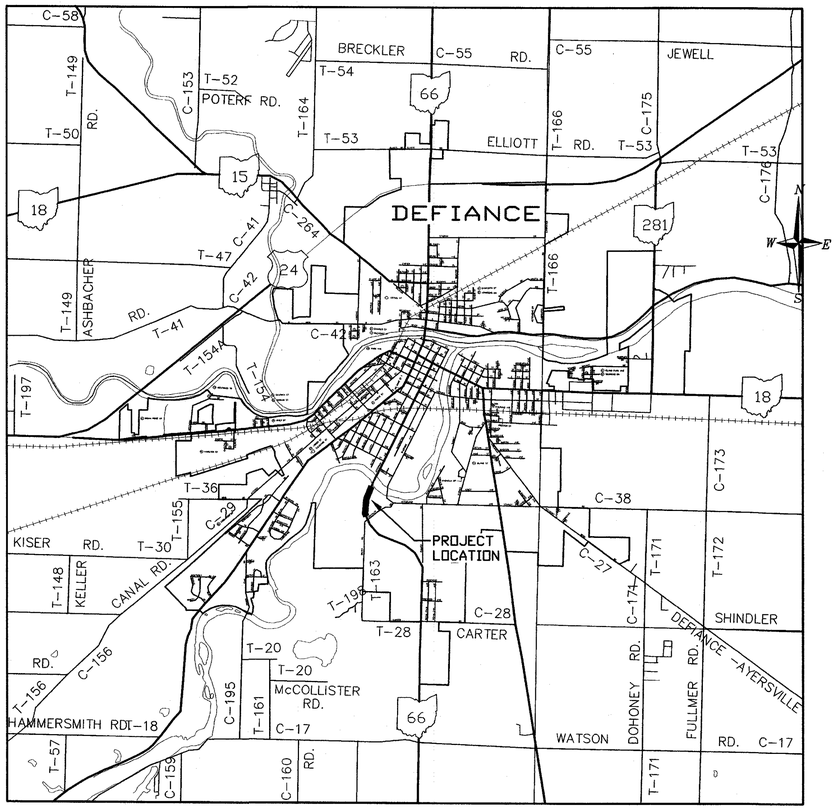
GAS
OHIO GAS COMPANY
1460 QUALITY DRIVE
DEFIANCE, OHIO 43512
MIKE CREAGER
1-800-529-6511
EMERGENCY NO.
1-800-331-7396

CABLE TV
TIME WARNER CABLE
310 JEFFERSON STREET
DEFIANCE, OHIO 43512
419-784-1992
TOM BAUM – EXT 3001
MIKE HANNA – EXT 3002

WATER, SANITARY, STORM
CITY OF DEFIANCE/MUNICIPAL BUILDING
631 PERRY STREET SUITE 102
DEFIANCE, OHIO 43512
419-784-2249

TELEPHONE
EMBARQ
812 DOLAN STREET
DEFIANCE, OHIO 43512
419-782-6819

NATURAL GAS PIPELINE
PAN HANDLE EASTERN
PIPE LINE COMPANY
1015 ILLINOIS AVENUE
MAUMEE, OHIO 43537
MIKE VIERK
CELL 419-466-4157
GEORGE W. BOCK
419-893-3358 EXT. 203
CELL 419-467-1258



LOCATION MAP

UNDERGROUND UTILITIES

TWO WORKING DAYS
BEFORE YOU DIG
CALL 1-800-362-2764 (TOLL FREE)
OHIO UTILITIES PROTECTION
SERVICES
NONMEMBERS MUST
BE CALLED DIRECTLY

– DEFIANCE CITY COUNCIL –

TIM HOLTSBERRY, PRESIDENT
LISA ELDERS, CLERK OF COUNCIL

JOSEPH EURESTE
LARRY BRYANT
DARRELL HANDY
STEVE HUBBARD
GARY BUTLER
ELLEN UPP
CHRIS ENGEL

CITY ADMINISTRATOR
JEFF LEONARD

MAYOR
ROBERT ARMSTRONG

APPROVAL SIGNATURES

CITY OF DEFIANCE

Lee P. Rausch
LEE P. RAUSCH, P.E., CITY ENGINEER — 7/22/08 DATE

POGGEMEYER DESIGN GROUP

KENNETH A. MAAG, P.E. — 7-21-08 DATE

Richard E. Weaver
RICHARD E. WEAVER, P.E. — 07-21-08 DATE

STATE OF OHIO · KENNETH A. MAAG · 53316 · REGISTERED PROFESSIONAL ENGINEER

STATE OF OHIO · RICHARD E. WEAVER · 46957 · REGISTERED PROFESSIONAL ENGINEER

POGGEMEYER DESIGN GROUP, INC.
ARCHITECTS – ENGINEERS – PLANNERS PH. 419-782-3067
935 CLEVELAND AVENUE DEFIANCE, OHIO 43512

1120-130

Jeff. Ave. Stabilization

ANY INFORMATION OR DATA ON THIS DRAWING IS NOT INTENDED TO BE SUITABLE FOR REUSE BY ANY PERSON, FIRM OR CORPORATION OR ANY OTHERS ON EXTENSIONS OF THIS PROJECT OR FOR ANY USE ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION AND ADAPTATION BY THE ENGINEER, ARCHITECT OR SURVEYOR FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT THE USERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO THE ENGINEER, ARCHITECT OR SURVEYOR.

S.R. 66 EMBANKMENT STABILIZATION CITY OF DEFIANCE, OHIO	DRAWN MSB DATE 07/21/08 CHECKED DATE APPROVED DATE REVISIONS DATE 07/21/08	1/10
POGGEMEYER DESIGN GROUP, INC. ENGINEERS + ARCHITECTS + PLANNERS		

NOTES:

1. CONTRACTOR TO LOCATE EXISTING AGGREGATE DRAINS AND EXTEND AS REQUIRED. ASSUME 50' SPACING, ALTERNATE SIDES.

2. CONTRACTOR TO REMOVE GUARDRAIL AS WORK PROGRESSES. RE-USE EXISTING GUARDRAIL, POSTS AND ACCESSORIES. CONTRACTOR TO REPLACE ANY DAMAGED MATERIAL.

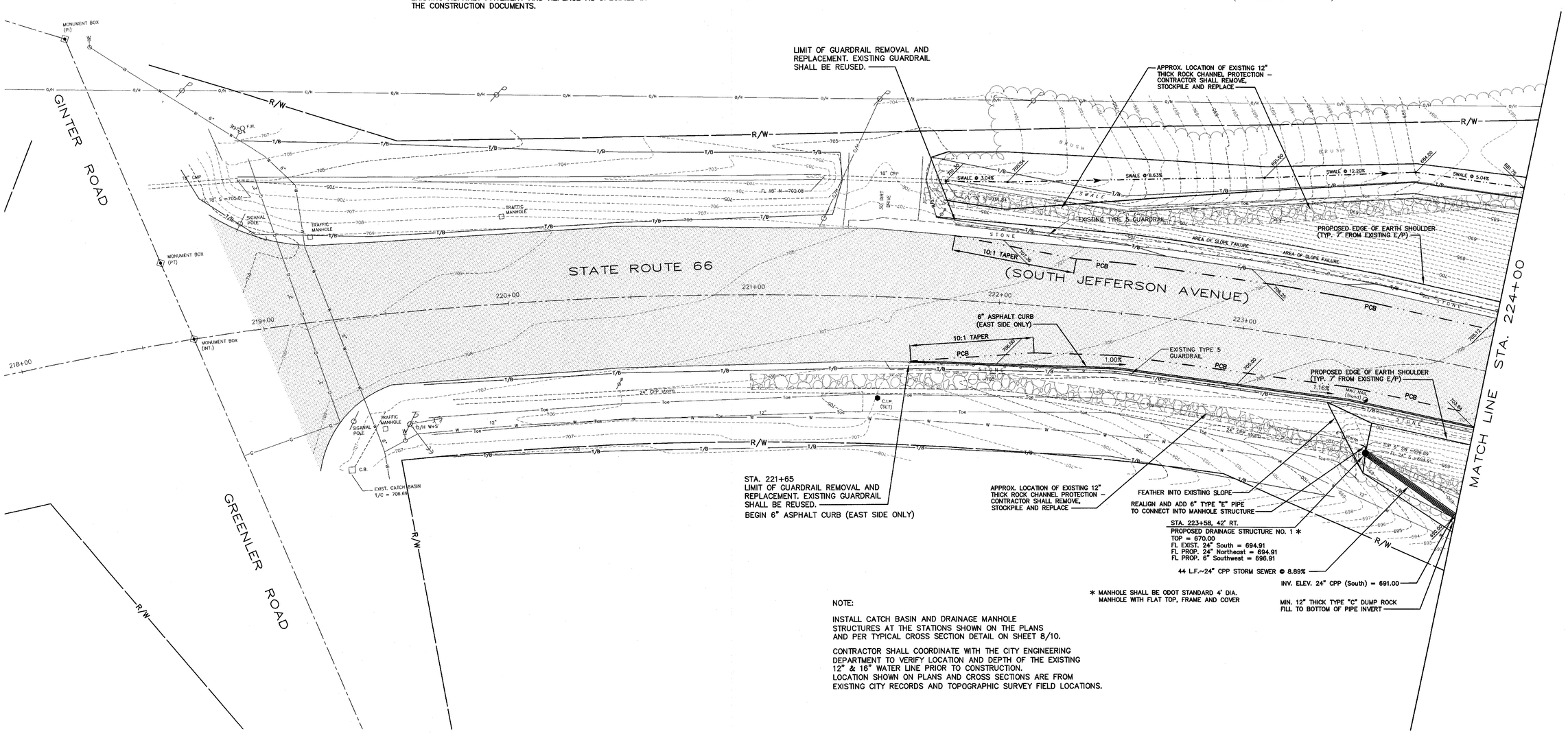
3. PORTABLE CONCRETE BARRIER (PCB) TO MAINTAIN TRAFFIC. PCB TO BE PLACED A MIN. OF 5'-0" FROM THE EXISTING TRAFFIC EDGE LINE. COST IS INCIDENTAL TO MAINTAINING TRAFFIC.

4. CONTRACTOR SHALL COORDINATE WITH CITY ENGINEERING DEPARTMENT AND PROJECT ENGINEER ON PAVEMENT REPAIR. WHERE PAVEMENT ASPHALT EDGE IS BROKEN / DETERIORATED, CONTRACTOR SHALL NEATLY SAW-CUT A MINIMUM 1'-0" INTO EXISTING ASPHALT PAVEMENT AND REPLACE AS SPECIFIED IN THE CONSTRUCTION DOCUMENTS.

GRAPHIC SCALE

20 0 10 20 40

(SCALE 1" = 20')



NOTE:

INSTALL CATCH BASIN AND DRAINAGE MANHOLE STRUCTURES AT THE STATIONS SHOWN ON THE PLANS AND PER TYPICAL CROSS SECTION DETAIL ON SHEET 8/10.

CONTRACTOR SHALL COORDINATE WITH THE CITY ENGINEERING DEPARTMENT TO VERIFY LOCATION AND DEPTH OF THE EXISTING 12" & 16" WATER LINE PRIOR TO CONSTRUCTION. LOCATION SHOWN ON PLANS AND CROSS SECTIONS ARE FROM EXISTING CITY RECORDS AND TOPOGRAPHIC SURVEY FIELD LOCATIONS.

STATE ROUTE 66 – STA. 218+00 TO STA. 224+00

1120-130

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NOTES:

1. CONTRACTOR TO LOCATE EXISTING AGGREGATE DRAINS AND EXTEND AS REQUIRED. ASSUME 50' SPACING, ALTERNATE SIDES.

2. CONTRACTOR TO REMOVE GUARDRAIL AS WORK PROGRESSES. RE-USE EXISTING GUARDRAIL, POSTS AND ACCESSORIES. CONTRACTOR TO REPLACE ANY DAMAGED MATERIAL.

3. PORTABLE CONCRETE BARRIER (PCB) TO MAINTAIN TRAFFIC. PCB TO BE PLACED A MIN. OF 5'-0" FROM THE EXISTING TRAFFIC EDGE LINE. COST IS INCIDENTAL TO MAINTAINING TRAFFIC.

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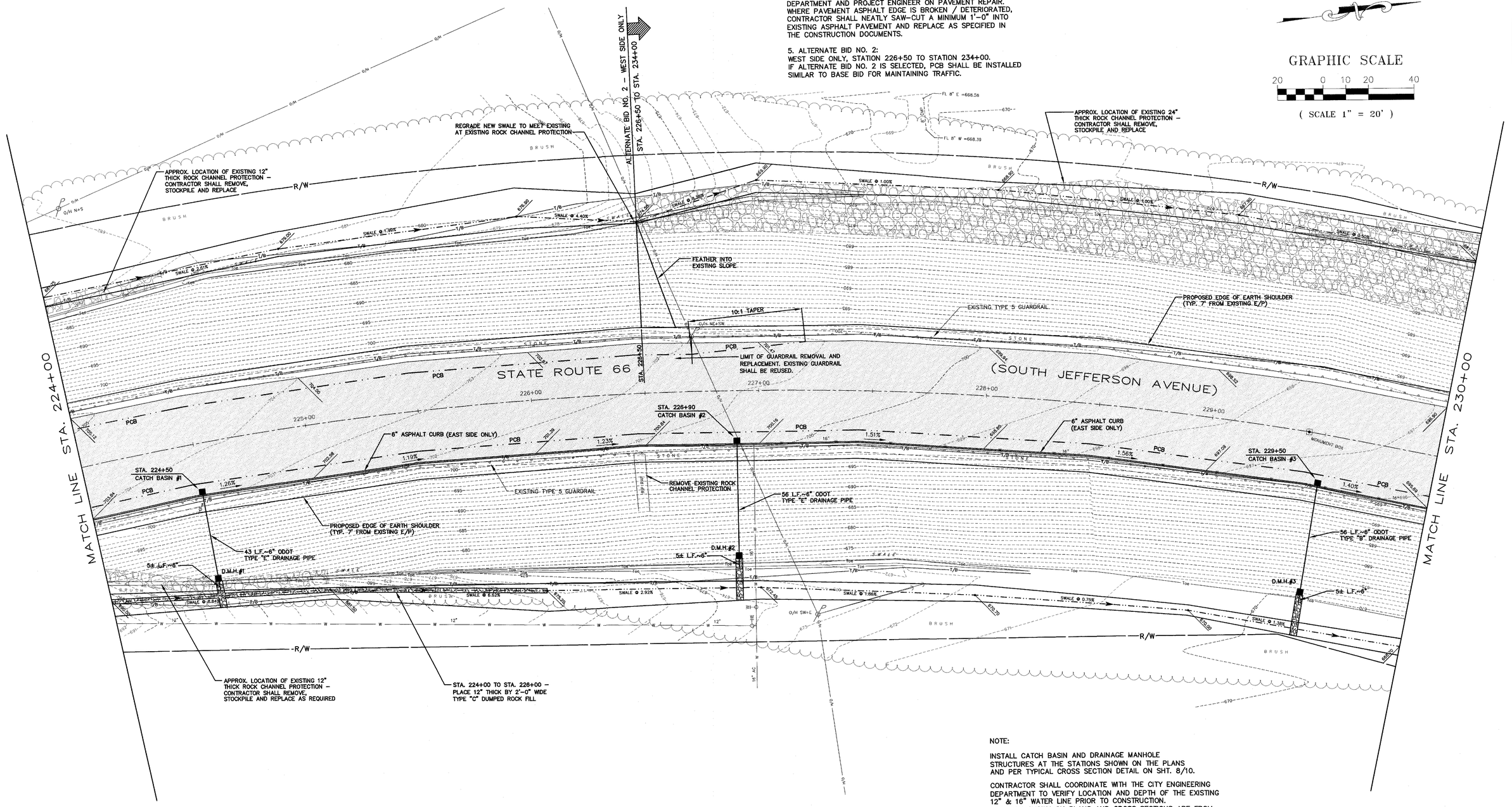
5. ALTERNATE BID NO. 2:
WEST SIDE ONLY, STATION 226+50 TO STATION 234+00.
IF ALTERNATE BID NO. 2 IS SELECTED, PCB SHALL BE INSTALLED SIMILAR TO BASE BID FOR MAINTAINING TRAFFIC.

S.R. 66 EMBANKMENT STABILIZATION CITY OF DEFIANCE, OHIO	DRAWN MSB DATE 07/21/08 CHECKED DATE APPROVED DATE REVISIONS DATE 07/21/08	2/10
POGGEMEYER DESIGN GROUP, INC. ENGINEERS + ARCHITECTS + PLANNERS		

GRAPHIC SCALE

20 0 10 20 40

(SCALE 1" = 20')



NOTE:

INSTALL CATCH BASIN AND DRAINAGE MANHOLE STRUCTURES AT THE STATIONS SHOWN ON THE PLANS AND PER TYPICAL CROSS SECTION DETAIL ON SHT. 8/10.

CONTRACTOR SHALL COORDINATE WITH THE CITY ENGINEERING DEPARTMENT TO VERIFY LOCATION AND DEPTH OF THE EXISTING 12" & 16" WATER LINE PRIOR TO CONSTRUCTION. LOCATION SHOWN ON PLANS AND CROSS SECTIONS ARE FROM EXISTING CITY RECORDS AND TOPOGRAPHIC SURVEY FIELD LOCATIONS.

STATE ROUTE 66 – STA. 224+00 TO STA. 230+00

1120-130

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NOTES:

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3. PORTABLE CONCRETE BARRIER (PCB) TO MAINTAIN TRAFFIC. PCB TO BE PLACED A MIN. OF 5'-0" FROM THE EXISTING TRAFFIC EDGE LINE. COST IS INCIDENTAL TO MAINTAINING TRAFFIC.

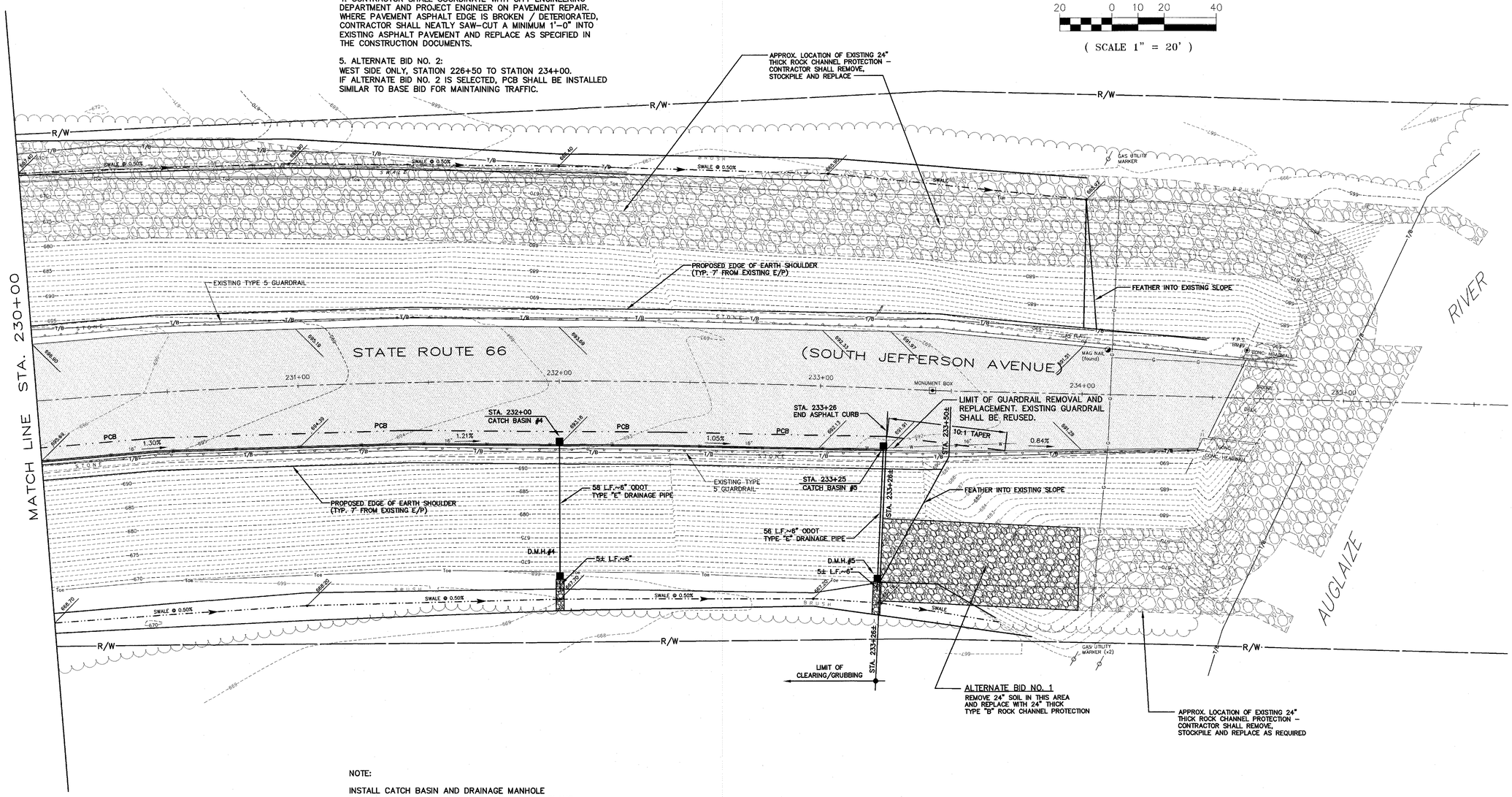
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5. ALTERNATE BID NO. 2:
WEST SIDE ONLY, STATION 226+50 TO STATION 234+00.
IF ALTERNATE BID NO. 2 IS SELECTED, PCB SHALL BE INSTALLED SIMILAR TO BASE BID FOR MAINTAINING TRAFFIC.

GRAPHIC SCALE

20 0 10 20 40

(SCALE 1" = 20')



NOTE:

INSTALL CATCH BASIN AND DRAINAGE MANHOLE STRUCTURES AT THE STATIONS SHOWN ON THE PLANS AND PER TYPICAL CROSS SECTION DETAIL ON SHT. 8/10.

CONTRACTOR SHALL COORDINATE WITH THE CITY ENGINEERING DEPARTMENT TO VERIFY LOCATION AND DEPTH OF THE EXISTING 12" & 16" WATER LINE PRIOR TO CONSTRUCTION. LOCATION SHOWN ON PLANS AND CROSS SECTIONS ARE FROM EXISTING CITY RECORDS AND TOPOGRAPHIC SURVEY FIELD LOCATIONS.

S.R. 66 EMBANKMENT STABILIZATION
CITY OF DEFIANCE, OHIO

POGGEMEYER DESIGN GROUP, INC.
ENGINEERS + ARCHITECTS + PLANNERS

		DATE
DRAWN	MSB	07/21/08
CHECKED		DATE
APPROVED		DATE
REVISIONS		DATE 07/21/08

3/10

STATE ROUTE 66 – STA. 230+00 TO STA. 235+50

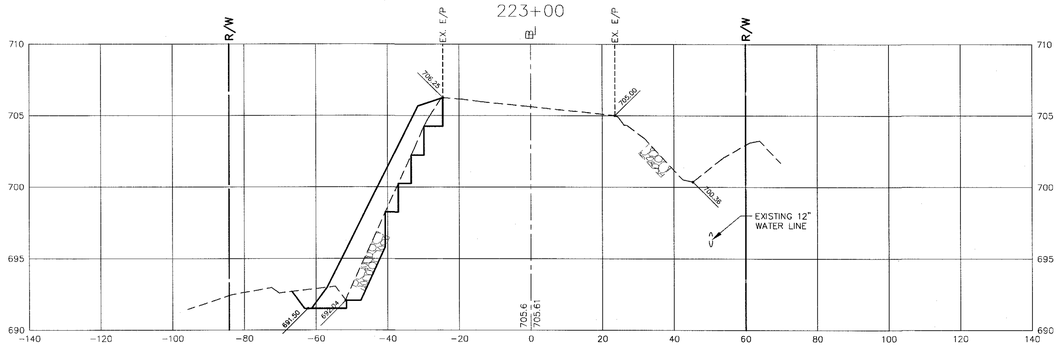
1120-130

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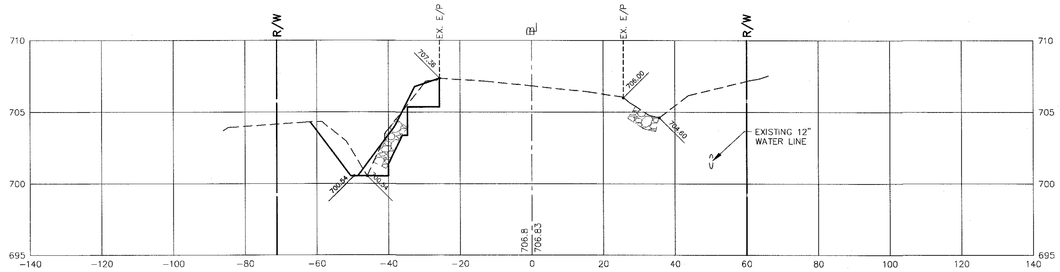
SCALE

1" = 20' HORIZONTAL
1" = 5' VERTICAL

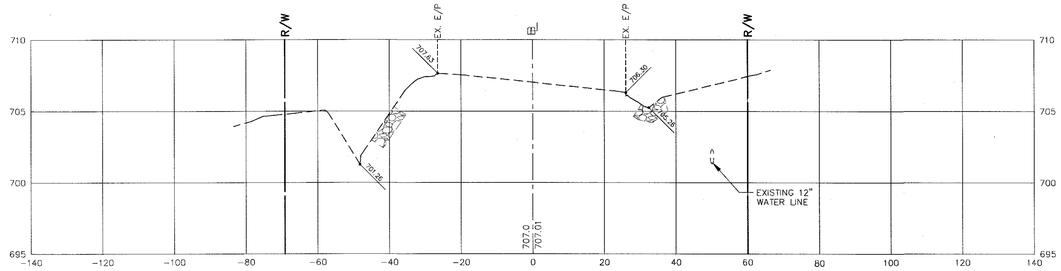
223+00



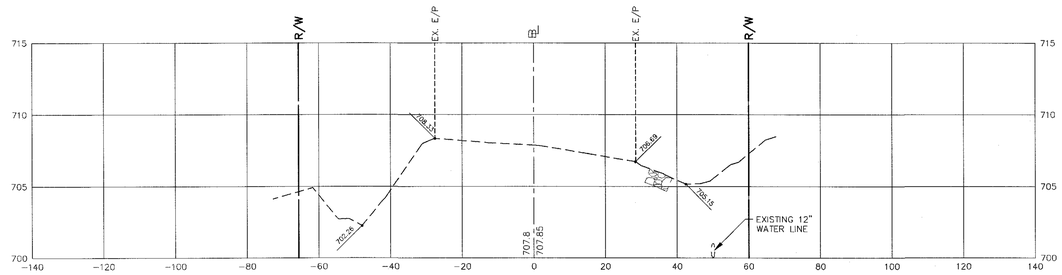
222+00 (BEGIN WORK, LEFT)



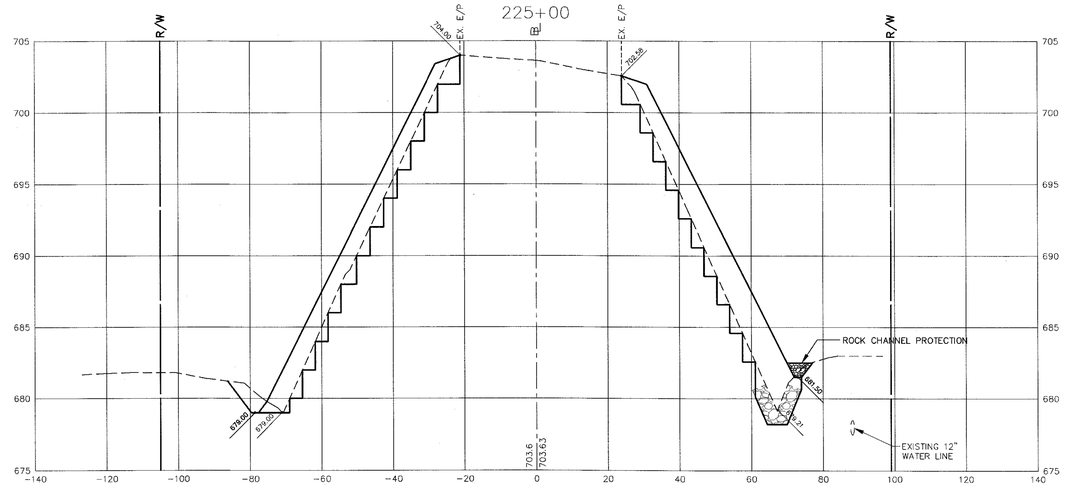
221+76



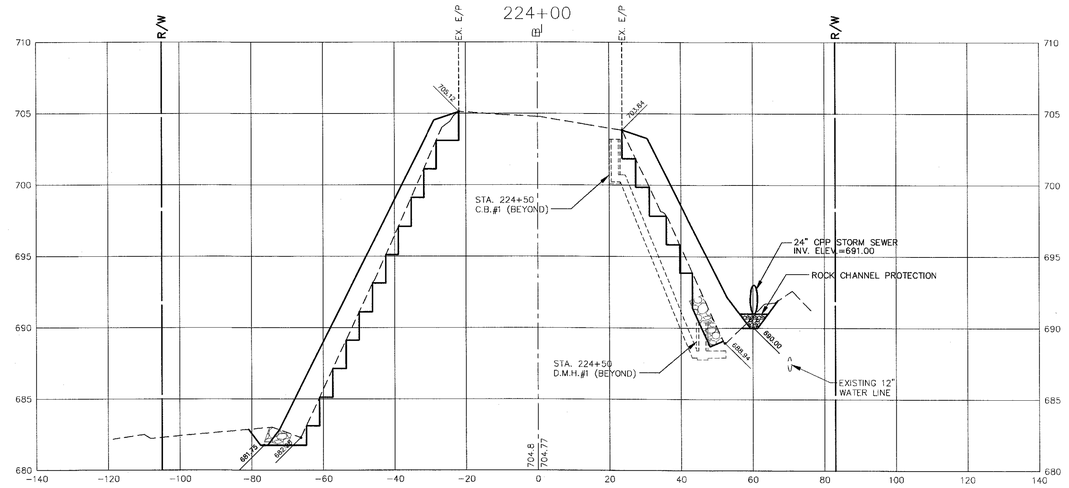
221+00



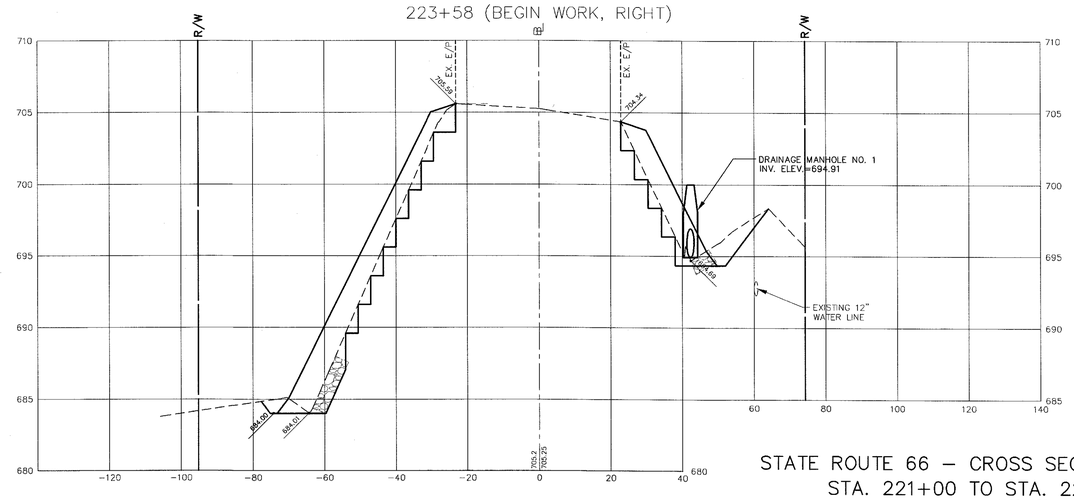
225+00



224+00



223+58 (BEGIN WORK, RIGHT)



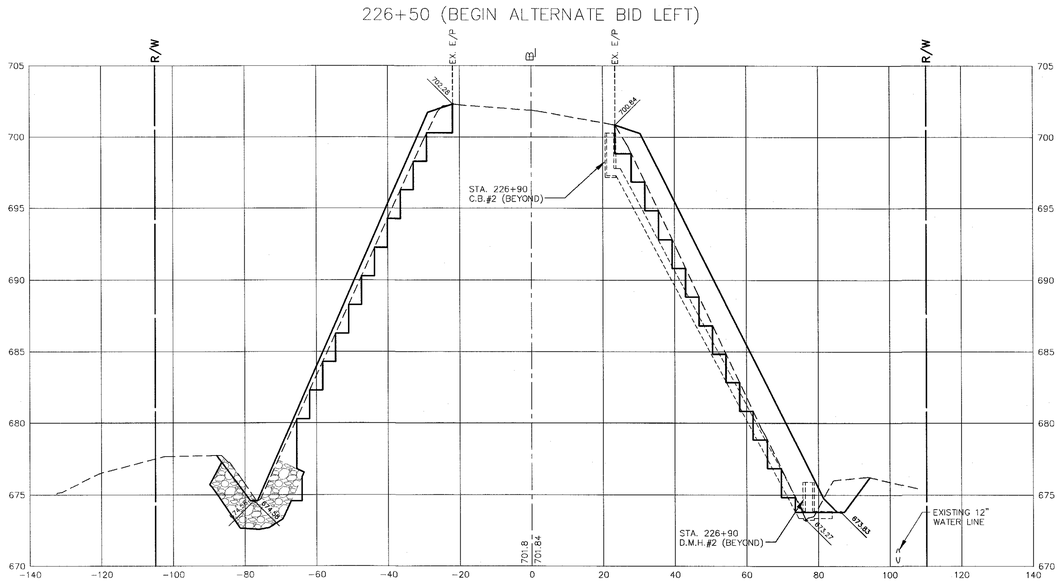
STATE ROUTE 66 – CROSS SECTIONS
STA. 221+00 TO STA. 225+00

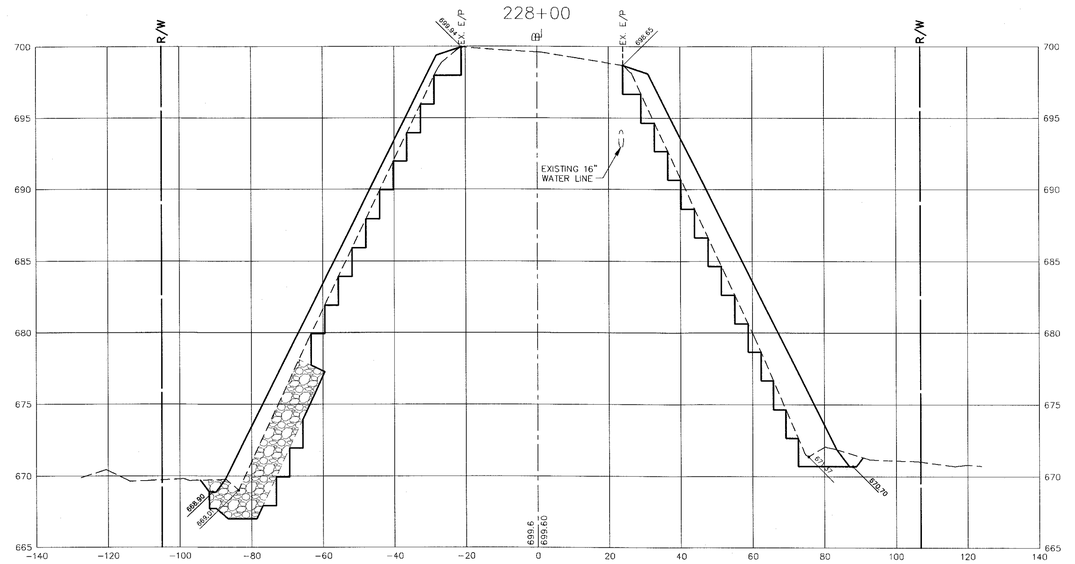
1120-130

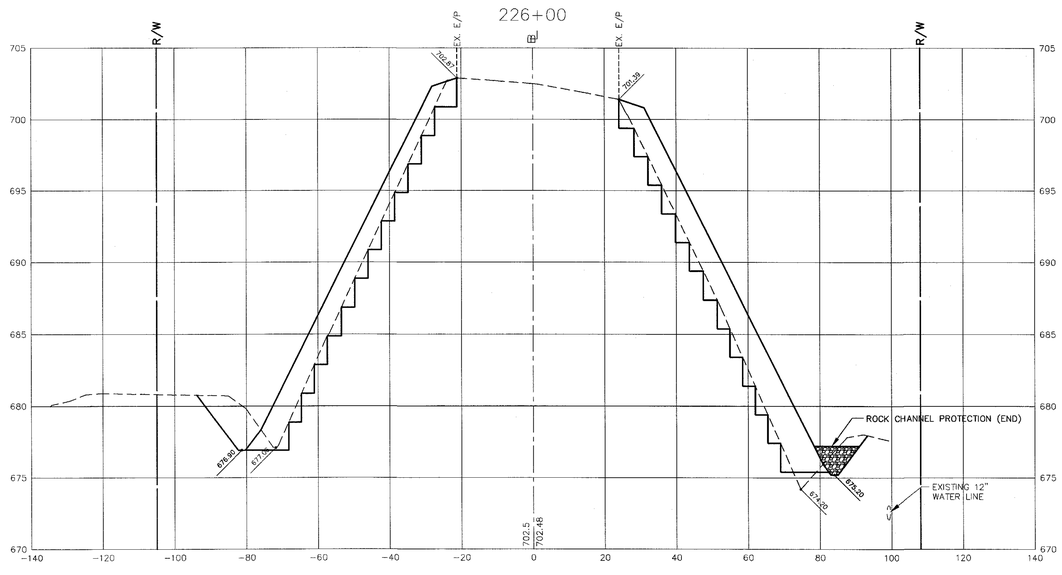
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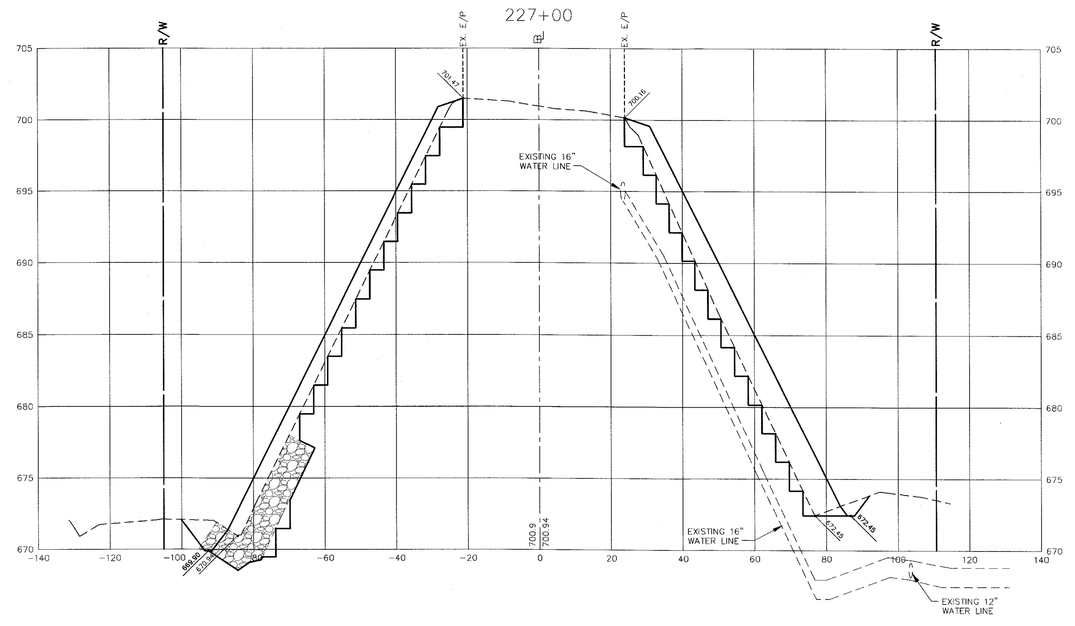
SCALE

1" = 20' HORIZONTAL
1" = 5' VERTICAL









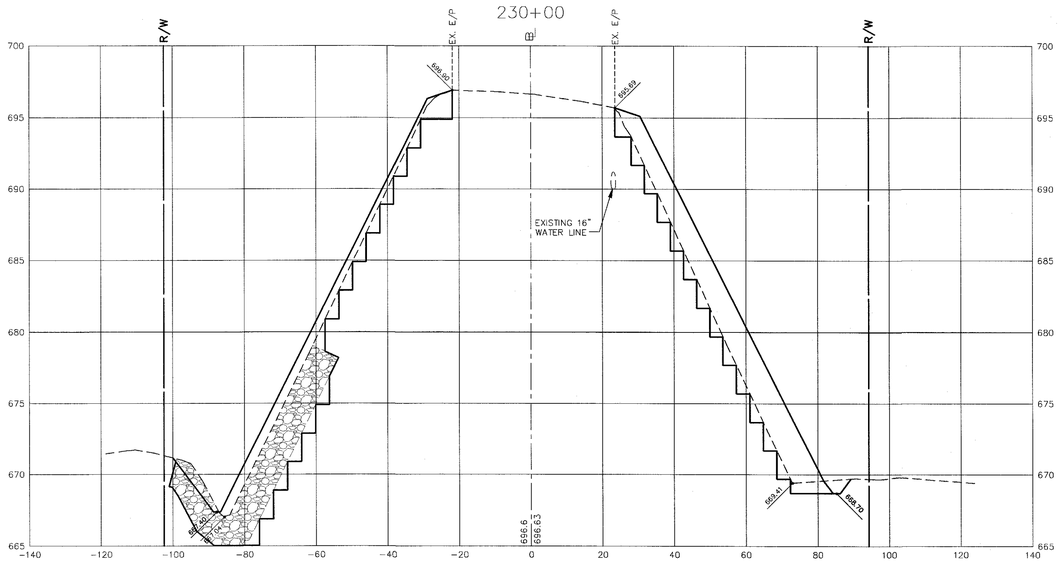
STATE ROUTE 66 – CROSS SECTIONS
STA. 226+00 TO STA. 228+00

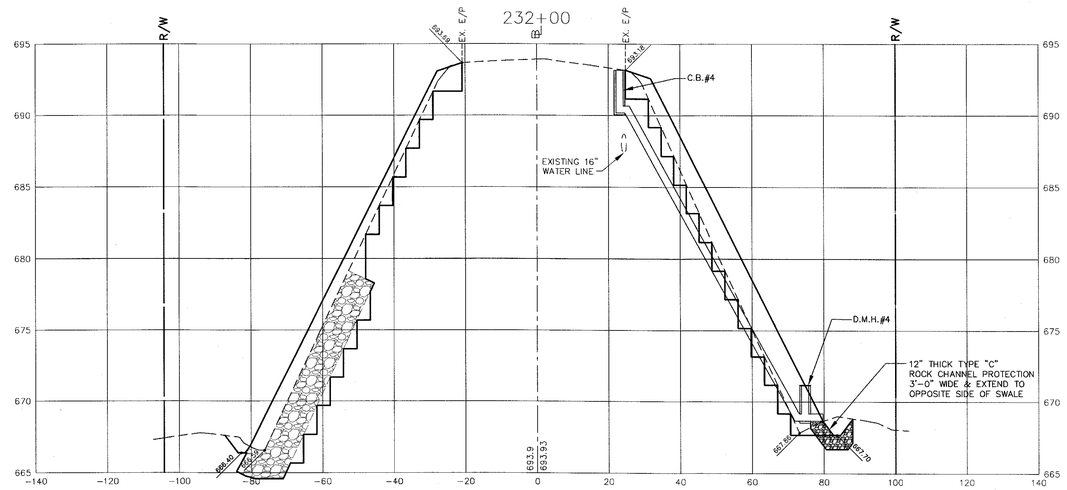
1120-130

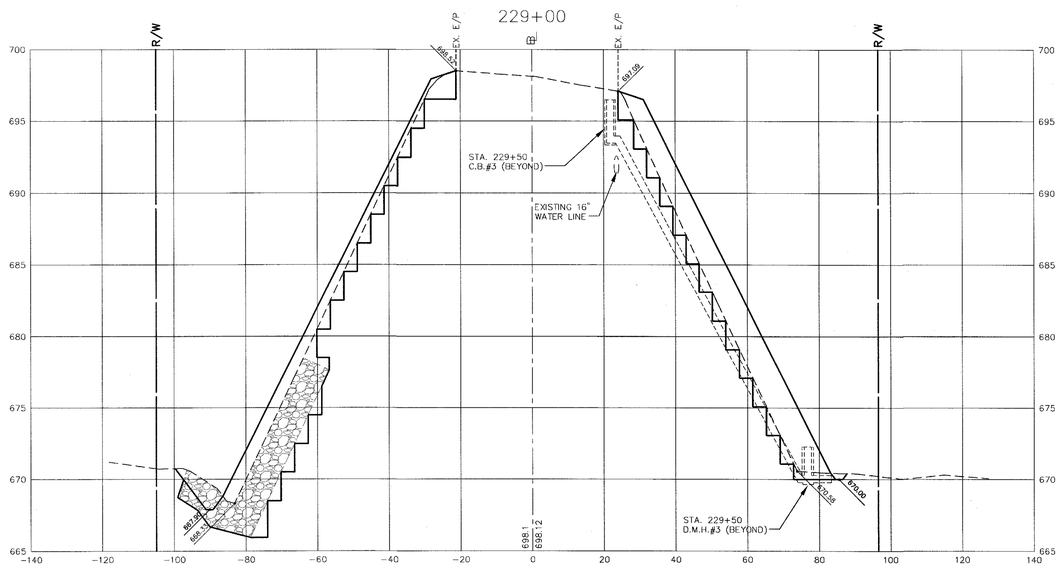
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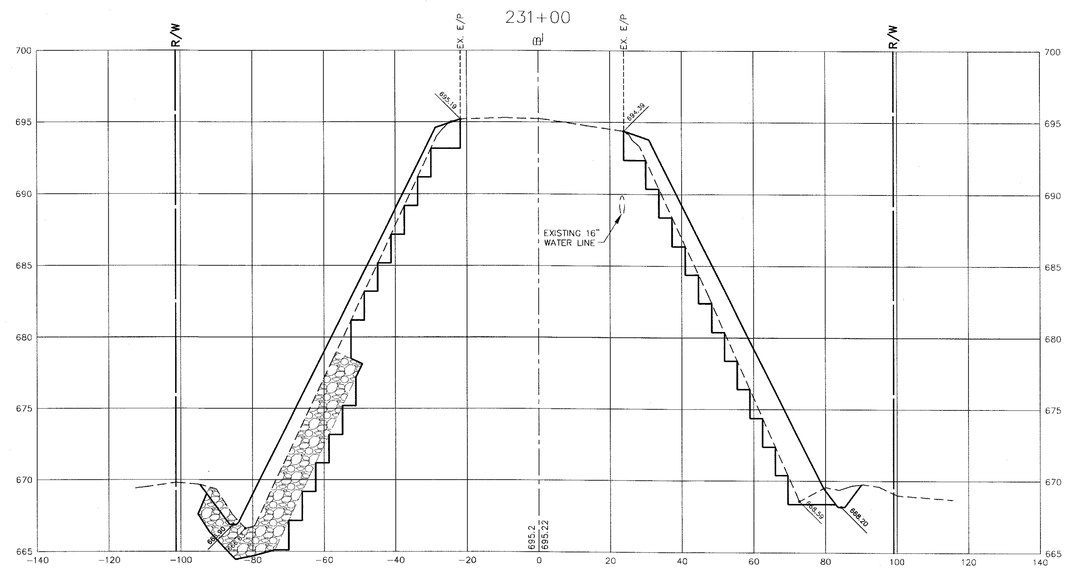
SCALE

1" = 20' HORIZONTAL
1" = 5' VERTICAL









STATE ROUTE 66 – CROSS SECTIONS
STA. 229+00 TO STA. 232+00

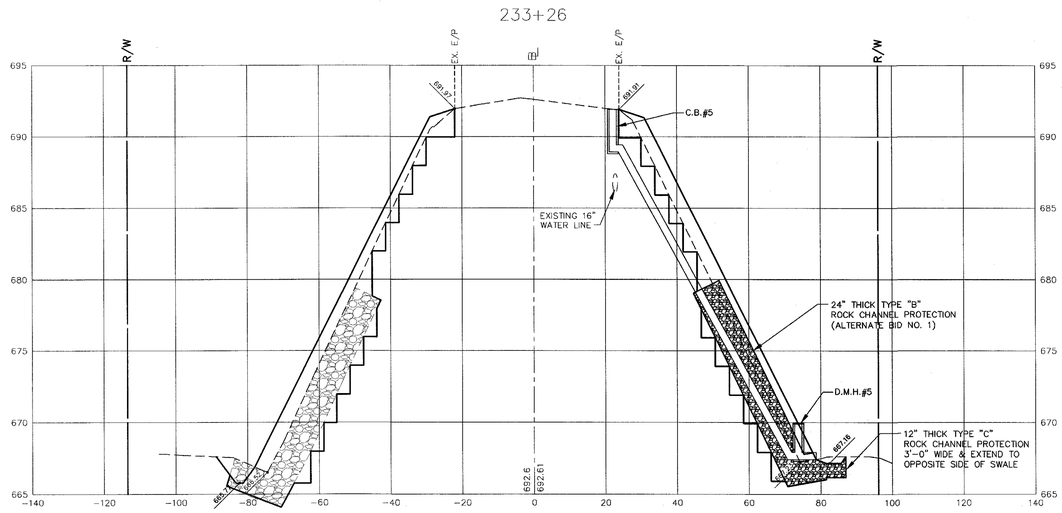
1120-130

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POGGEMEYER DESIGN GROUP, INC.
ENGINEERS + ARCHITECTS + PLANNERS

SCALE

1" = 20' HORIZONTAL
1" = 5' VERTICAL

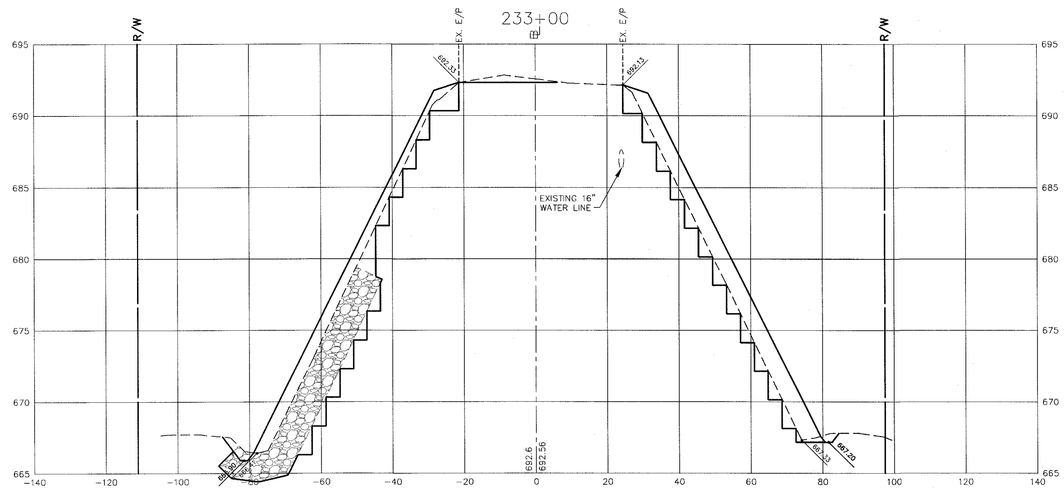


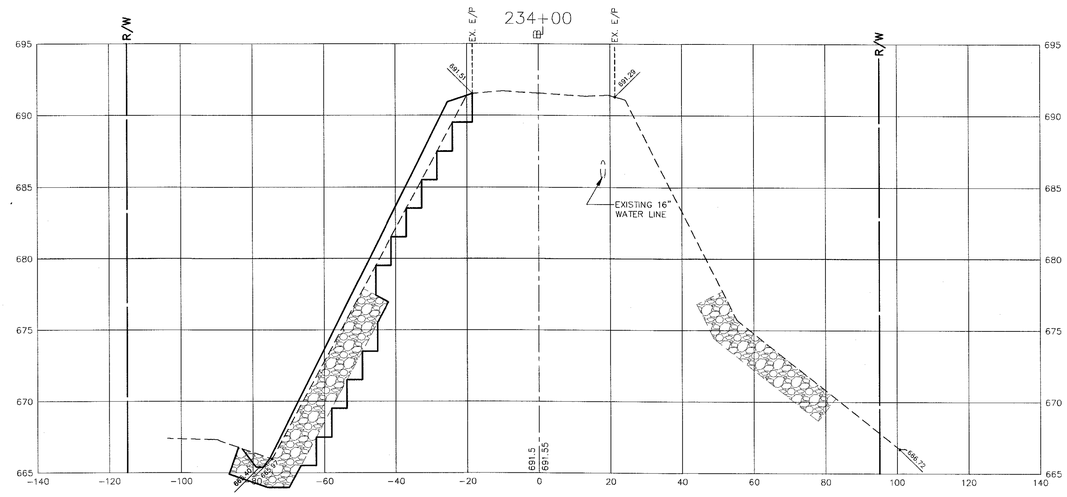
BASE BID VOLUMES	
CUT VOLUME (YDS)	FILL VOLUME (YDS)
3,910 CU./YDS	10,795 CU./YDS

FILL NEEDED = 6,885 CU./YDS

ALT. BID VOLUMES	
CUT VOLUME (YDS)	FILL VOLUME (YDS)
5,556 CU./YDS	7,608 CU./YDS

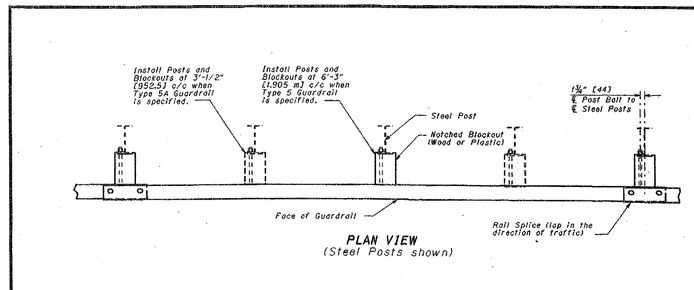
FILL NEEDED = 2,052 CU./YDS



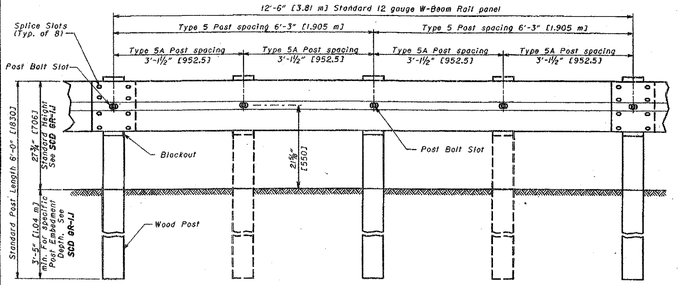


STATE ROUTE 66 – CROSS SECTIONS
STA. 233+00 TO STA. 234+00

1120-130



PLAN VIEW
(Steel Posts shown)



ELEVATION
(Wood Posts shown)

NOTES

RAIL: Use W-Beam rail meeting AASHTO M 180 Type II Class A, as specified in CMS 606.

POSTS: Posts may be constructed of wood or steel. Wood posts may be round or 6"x8" (150x200) square-sawed.

Use round wood posts on runs of single-sided rail. The round posts shall be 8"±1 (200±25) in diameter at the top and not more than 3" (75) larger at the butt with a uniform taper.

Fabricate wood posts with square ends. Posts shall be pressure-treated as per CMS 710.14. Bore bolt holes and, if required, trim the tops of posts after the posts are set.

Steel posts are to be W6x9 (W150X13.5) or W6x8.5 (W150x12.8) galvanized steel. Use the same type of post throughout the length of the project unless otherwise specified in the plans or permitted by the Engineer.

All posts are 6'-0" (1830) long unless specified otherwise in the Contract Document. Posts may be set in drilled holes or may be driven to grade.

WELDED BEAM POSTS: Welded beam guardrail posts may be used for Item 606, Guardrail, provided the web and flange sizes are as shown here. Welding of the web to the flanges must comply with ASTM A 709, Class 1, using Grade 36 steel (250 MPa yield point) with the following exceptions:

Sec. 7.2 Test reports of tensile properties for each lot shall accompany each shipment.
Sec. 12 Beams that have imperfections repaired by welding shall not be accepted for use in Item 606.
Sec. 13 Random samples shall be tested by the Department from materials delivered to the project site or other locations designated by the Laboratory.

ALTERNATE POSTS: Engineered guardrail posts having met NCHRP 350 criteria, and listed on the **Office of Materials Management's** Approved List are permitted as an equal alternate when installed according to the Manufacturer's instructions and within the limitations shown on the Approved List.

BLOCKOUTS: Blockout dimensions are dependent on post used. Wood Blockouts are to be pressure treated as specified in CMS 710.14. Bore bolt holes. Approved alternate blockouts may be used in lieu of the wood blockouts shown. The approved list is maintained by the **Office of Materials Management.**

WASHERS: Install appropriate sized standard galvanized steel washers on the nut side of bolts installed on wood posts.

DELINEATION: For barrier reflectors, see CMS 626.

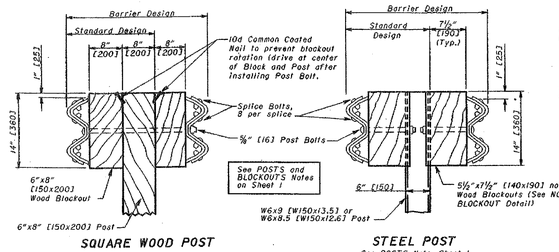
MISCELLANEOUS: For other guardrail details, see **SCD GR-1J.**

STEEL BEAM POSTS (English)				
Size	Beam depth	Flange width	Flange thickness	Web thickness
Rolled W6x8.5	5.8"	3.94"	0.193"	0.170"
Rolled W6x9	5.9"	3.94"	0.215"	0.170"
Welded 6x8.5	6.0"	3.94"	0.193"	0.170"
Welded 6x9	6.0"	3.94"	0.215"	0.170"

STEEL BEAM POSTS (Metric)				
Size	Beam depth	Flange width	Flange thickness	Web thickness
Rolled W150x12.6	148 mm	100 mm	4.9 mm	4.3 mm
Rolled W150x13.5	150 mm	100 mm	5.5 mm	4.3 mm
Welded 150x12.6	152 mm	100 mm	4.9 mm	4.3 mm
Welded 150x13.5	152 mm	100 mm	5.5 mm	4.3 mm

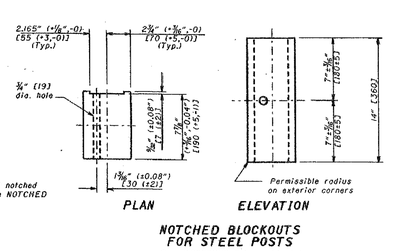
THIS DRAWING REPLACES GR-2J DATED 4-18-03.

NUMBER	STANDARD ROADWAY CONSTRUCTION DRAWING	ROADWAY ENGINEERING SERVICES	All metric dimensions (in brackets) are in millimeters unless otherwise noted.	DES. ENGR. D. Foote	DATE 1-16-04
GR-2J	GUARDRAIL TYPE 5 & 5A				SHEET 1/2



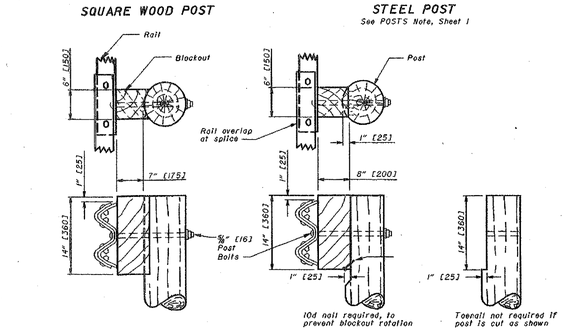
SQUARE WOOD POST

STEEL POST
See POSTS Note, Sheet 1



PLAN ELEVATION

NOTCHED BLOCKOUTS FOR STEEL POSTS
See BLOCKOUTS Note on Sheet 1

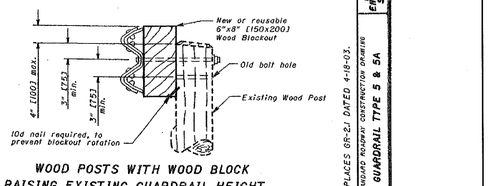


METHOD 1
Routed Blockout

METHOD 2
Notched Post

Alternate methods of placing the Blockouts on round Posts may be submitted for consideration and approved by the Engineer.

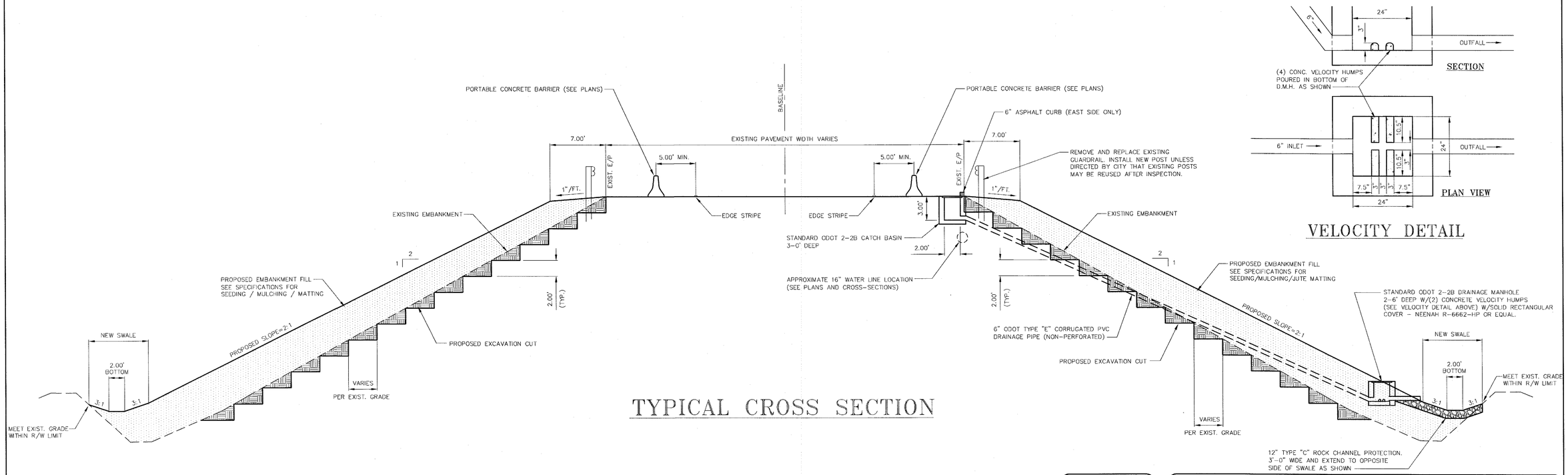
ROUND WOOD POSTS
Single Sided runs only (Standard Design)



WOOD POSTS WITH WOOD BLOCK RAISING EXISTING GUARDRAIL HEIGHT

THIS DRAWING REPLACES GR-2J DATED 4-18-03.

NUMBER	STANDARD ROADWAY CONSTRUCTION DRAWING	ROADWAY ENGINEERING SERVICES	All metric dimensions (in brackets) are in millimeters unless otherwise noted.	DES. ENGR. D. Foote	DATE 1-16-04
GR-2J	GUARDRAIL TYPE 5 & 5A				SHEET 2/2



TYPICAL CROSS SECTION

VELOCITY DETAIL

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DETAIL SHEET

JOB FILE: i drive/1120/130/details.dwg
PRINTED: 07/21/2008

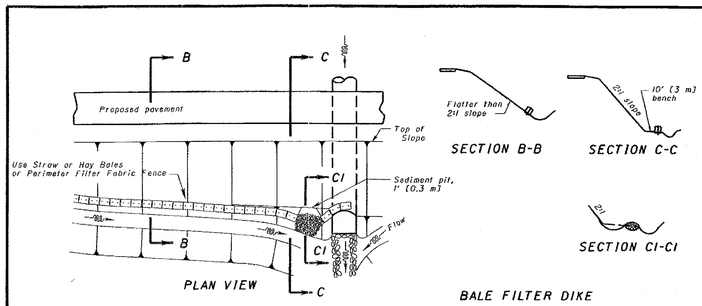
POGGEMEYER DESIGN GROUP, INC.
PLANNERS
ENGINEERS
ARCHITECTS
935 CLEVELAND AVENUE DEFIANCE, OHIO 43512

S.R. 66 | SOUTH JEFFERSON AVENUE | SLOPE STABILIZATION
CITY OF DEFIANCE, OHIO

DRAWN BY	CHECKED BY	DATE
MSE	KAM	01/08

REVISION

8/10
JOB NUMBER 1120-130



BALE FILTER DIKE

NOTES

MATERIAL: Furnish straw or hay bales. Use 30" (0.8 m) long 2"x2" (50x50) wooden stakes, reinforcing bars or fence posts to stake the bales in place. The use of filter fabric fence in lieu of straw or hay bales will be allowed. Furnish 30" (0.8 m) wide filter fabric with wood wood supports with maximum on-center spacing of 10' (3.0m). Use filter fabric conforming to 712.09 Type C.

Use sand and gravel for the sediment pit filter material.

CONSTRUCTION: Trench the filter fabric fence as detailed for perimeter filter fabric fence. **(see DM-4.4)**

When straw or hay bales are used conform to the following: Tightly place each bale adjacent to one another. Entrench 2" (50) to 3" (75) into the ground prior to staking. Firmly stake each bale with at least two stakes. Use loose hay or straw to fill the voids under and between the bales.

Construct a 3'x3'x1' (1 m x 1 m x 0.3 m) pit for the sediment pit filter material. Fill with filter material 1' (0.3 m) above ground level.

PAYMENT: The Department will pay for the accepted quantities at the contract prices in feet (meters) as follows: **Item 207 - Bale Filter Dike.**

NOTES

MATERIAL: Furnish materials conforming to Item 203 Embankment and Item 601 Rock Channel Protection, Type C or D with filter. Furnish construction fence consisting of 4'-0" (1.3 m) high plastic fence with 6' (2 m) long metal fence posts.

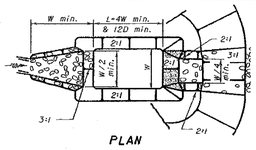
CONSTRUCTION: Construct the Basin and Dams as detailed. Construct the construction fence in urban areas or in high pedestrian traffic areas. Construct the fence to completely surround the sediment basin or dam. Place the fence post on 8' (2.6 m) centers 2' (0.6 m) deep. Securely attach the plastic construction fence to the fence post.

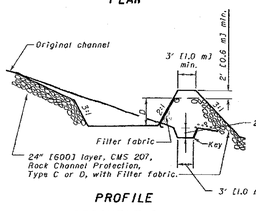
PAYMENT: The Department will pay for the accepted quantities at the contract prices as follows:

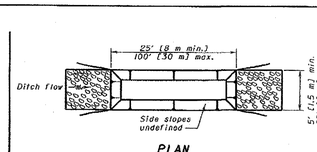
Item 207 - Sediment Basins and Dams in cubic yards (cubic meters)

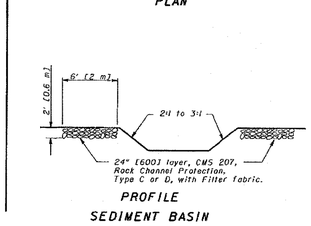
Item 207 - Rock Channel Protection Type C or D with filter in cubic yards (cubic meters)

Item 207 - Construction Fence per foot (meter)



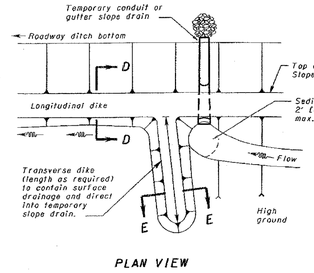


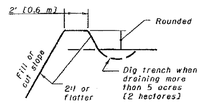


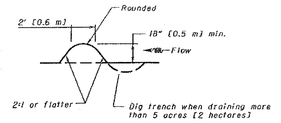


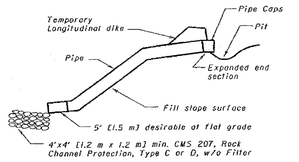
OHIO DEPARTMENT OF TRANSPORTATION — Jerry Wray, ENGINEER OF BRIDGES
DATE 4-29-99 7-19-02
HYDRAULIC ENGINEER D. Gruver
All metric dimensions are in brackets [] or in millimeters unless otherwise noted.
OFFICE OF STRUCTURAL ENGINEERING
STANDARD HYDRAULIC CONSTRUCTION DRAWING
SEDIMENT AND EROSION CONTROLS
NUMBER DM-4.3
1 / 2

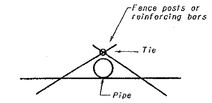
DIKES AND SLOPE PROTECTION











NOTES

MATERIAL: Furnish materials conforming to Item 203 Embankment and Item 601 Rock Channel Protection, Type C or D, without filter.

Furnish the following for the slope drains: corrugated steel pipe, corrugated or smooth plastic pipe, pipe caps with holes that comprise at least 30 percent of the cross sectional area of the cap and specifically designed to connect to the pipe, reinforcing bars or fence posts and sand and gravel for the sediment pit filter material.

CONSTRUCTION: Construct as detailed. Compact the dike to 85% of the maximum density as determined by Supplement 1015.

Use reinforcing bars or fence posts to tie down the slope drains and to keep the pipe from moving.

Construct a 3'x3'x2' (1 m x 1 m x 0.6 m) pit for the sediment pit filter material. Fill with filter material to the ground level.

BASIS OF PAYMENT: The Department will pay for the accepted quantities at the contract prices as follows:

Item 207 - Dikes in cubic yards (cubic meters)

Item 207 - Slope Drains in feet (meters)

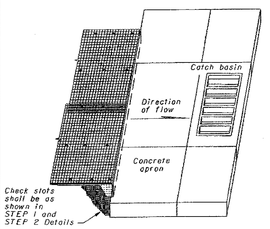
Item 207 - Rock Channel Protection Type C or D without filter in cubic yards (cubic meters)

TEMPORARY SLOPE DRAINS RECOMMENDED SIZES

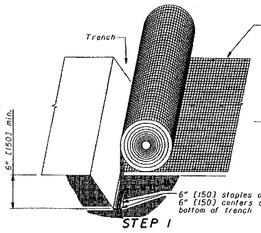
AREA in acres (hectares)	PIPE SIZES	
	Smooth	Corrugated
0-4 (0-1.6)	6" (150)	6" (150)
4-8 (1.6-3.2)	8" (200)	12" (300)
8-12 (3.2-4.9)	10" (250)	15" (375)

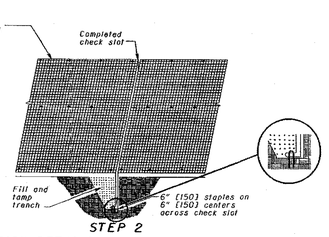
OHIO DEPARTMENT OF TRANSPORTATION — Jerry Wray, ENGINEER OF BRIDGES
DATE 4-29-99 7-19-02
HYDRAULIC ENGINEER D. Gruver
All metric dimensions are in brackets [] or in millimeters unless otherwise noted.
OFFICE OF STRUCTURAL ENGINEERING
STANDARD HYDRAULIC CONSTRUCTION DRAWING
SEDIMENT AND EROSION CONTROLS
NUMBER DM-4.3
2 / 2

EROSION CONTROL MAT TYPE A-F AND TYPE H-I INSTALLATION

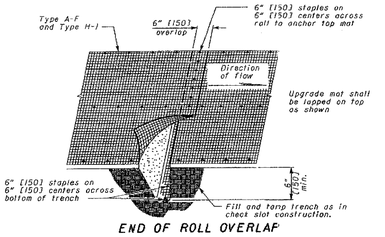


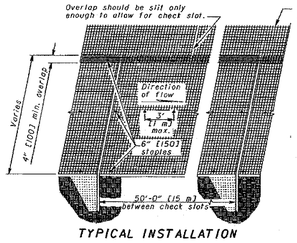
CHECK SLOT AT STRUCTURES





CHECK SLOT CONSTRUCTION DETAILS





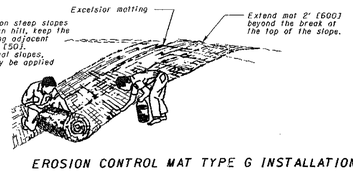
NOTES

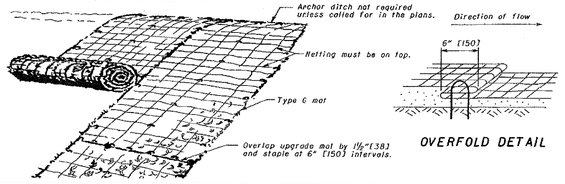
GENERAL: The details shown govern the installation of mat Types A-I unless otherwise shown in the plan.

END OF RUN: Use a check slot and staple in the slot as shown in END OF ROLL OVERLAP Detail for mat Type A - F and H-I. When placing matting for ditch protection, start at the downstream end, as shown in the CHECK SLOT AT STRUCTURES Detail.

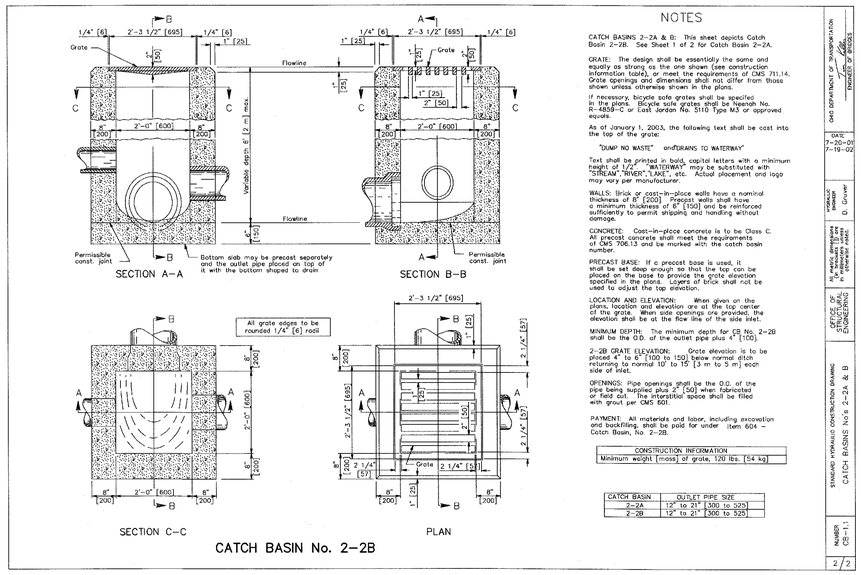
TYPE G MAT: Staple mat as detailed for mat Type A-F and H-I except use staples on 6" (150) centers without a buried end at the roll ends and at 1½" (38) end overlaps. Place a 6" (150) overfold across long rolls at intervals of 50' (15m) or less and staple on 6" (150) centers.

STAPLES: Staples shall be in accordance with CMS 671.02.





OHIO DEPARTMENT OF TRANSPORTATION — Jerry Wray, ENGINEER OF BRIDGES
DATE 7-20-01 7-19-02
HYDRAULIC ENGINEER D. Gruver
All metric dimensions are in brackets [] or in millimeters unless otherwise noted.
OFFICE OF STRUCTURAL ENGINEERING
STANDARD HYDRAULIC CONSTRUCTION DRAWING
EROSION CONTROL MAT TYPE A-I
NUMBER DM-4.2
1 / 1



NOTES

CATCH BASINS 2-2A & B: This sheet depicts Catch Basin 2-2B. See Sheet 1 of 2 for Catch Basin 2-2A.

GRATE: The design shall be essentially the same and equally as strong as the one shown (see construction information table), or meet the requirements of CMS 711.14. Grate openings and dimensions shall not differ from those shown unless otherwise shown in the plans.

If necessary, bicycle safe grates shall be specified in the plans. Bicycle safe grates shall be Neenah No. R-4858-C or East Jordan No. 5110 Type M3 or approved equals.

As of January 1, 2003, the following text shall be cast into the top of the grate:

"DUMP NO WASTE" and"DRAINS TO WATERWAY"

Text shall be printed in bold, capital letters with a minimum height of 1/2". "WATERWAY" may be substituted with "STREAM","RIVER","LAKE", etc. Actual placement and logo may vary per manufacturer.

WALLS: Brick or cast-in-place walls have a nominal thickness of 8" [200]. Precast walls shall have a minimum thickness of 6" [150] and be reinforced sufficiently to permit shipping and handling without damage.

CONCRETE: Cast-in-place concrete is to be Class C. All precast concrete shall meet the requirements of CMS 706.13 and be marked with the catch basin number.

PRECAST BASE: If a precast base is used, it shall be set deep enough so that the top can be placed on the base to provide the grate elevation specified in the plans. Layers of brick shall not be used to adjust the top elevation.

LOCATION AND ELEVATION: When given on the plans, location and elevation are at the top center of the grate. When side openings are provided, the elevation shall be at the flow line of the side inlet.

MINIMUM DEPTH: The minimum depth for CB No. 2-2B shall be the O.D. of the outlet pipe plus 4" [100].

2-2B GRATE ELEVATION: Grate elevation is to be placed 4" to 6" [100 to 150] below normal ditch returning to normal 10' to 15' [3 m to 5 m] each side of inlet.

OPENINGS: Pipe openings shall be the O.D. of the pipe being supplied plus 2" [50] when fabricated or field cut. The interstitial space shall be filled with grout per CMS 601.

PAYMENT: All materials and labor, including excavation and backfilling, shall be paid for under item 604 - Catch Basin, No. 2-2B.

CONSTRUCTION INFORMATION
Minimum weight [mass] of grate, 120 lbs. [54 kg]

CATCH BASIN	OUTLET PIPE SIZE
2-2A	12" to 21" [300 to 525]
2-2B	12" to 21" [300 to 525]

OHIO DEPARTMENT OF TRANSPORTATION — Jerry Wray, ENGINEER OF BRIDGES
DATE 7-20-01 7-19-02
HYDRAULIC ENGINEER D. Gruver
All metric dimensions are in brackets [] or in millimeters unless otherwise noted.
OFFICE OF STRUCTURAL ENGINEERING
STANDARD HYDRAULIC CONSTRUCTION DRAWING
CATCH BASINS No 2-2A & B
NUMBER 121-1.1
2 / 2

JOB FILE: i drive/1120/130/details.dwg
PRINTED: 07/11/2008

POGGEMEYER DESIGN GROUP, INC.
PLANNERS • ENGINEERS • ARCHITECTS
935 CLEVELAND AVENUE • DEFIANCE, OHIO 43512

S.R. 66 I SOUTH JEFFERSON
AVENUE I SLOPE STABILIZATION
CITY OF DEFIANCE, OHIO

DRAWN BY MSB
CHECKED BY KAM
DATE 01/08
REVISION

ANY INFORMATION OR DATA ON THIS DRAWING IS NOT INTENDED TO BE SUITABLE FOR REUSE BY ANY PERSON, FIRM OR CORPORATION OR ANY OTHERS ON EXTENSIONS OF THIS PROJECT OR FOR ANY USE ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION AND ADAPTATION BY THE ENGINEER, ARCHITECT OR SURVEYOR FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT THE USERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO THE ENGINEER, ARCHITECT OR SURVEYOR.

DETAIL SHEET

9 / 10

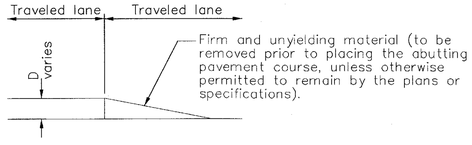
JOB NUMBER 1120-130

GENERAL NOTES

1. It is intended that this drawing be used for treatment of drop–offs that develop during construction operations, and that are not otherwise provided for in the construction plans. The suggested treatments are intended for high volume projects that will last at least seven days and have an active work zone 1 mile [1.6 km] or less in length. For guidance on the use of this sheet, see L&D Manual Volume One, Section 500. Where the plans do not provide specific items for labor, equipment, or materials to implement the drop–off treatments specified hereon, they shall be included for payment in the lump sum bid for Item 614 – Maintaining Traffic.
2. While the need for certain advisory signing is noted hereon, it is not intended that this be indicative of all signing that may be required to advise or warn motorists, and all requirements of the Ohio Manual of Uniform Traffic Control Devices (OMUTCD) must be fulfilled.
3. In urban or otherwise heavily developed areas where pedestrians and/or bicyclists may be present in significant numbers, additional signing and protective measures other than those shown hereon may be required.
4. The drop–off treatment selected for use at any given location shall be as appropriate for the prevailing conditions at the site.
5. Where concrete barrier is specified, it shall be in accordance with Standard Construction Drawing RM–4.2 and Item 622.
6. When drums are specified for a drop–off condition, a minimum number of four drums shall be used. Spacing shall be as indicated in the plans or as specified in the OMUTCD.
7. When W8–9 (Low Shoulder) signs or W8–9a (Shoulder Drop –Off) signs or W8–11 (Uneven Lanes) signs are required, they shall be placed 750 feet [230 m] in advance of the condition, on all intersecting entrance ramps within the limits of the condition and immediately beyond all inter secting roadways within the limits of the condition. When the drop–off condition extends more than 0.5 mile [800 m], additional signs should be erected at intervals of 1.0 mile [1600 m] or less.
8. For locations, such as at ramps, lane shifts, lane closures, etc., where traffic is required to negotiate a difference in elevation between pavements, a 3:1 slope treatment similar to the Optional Wedge Treatment shall be provided.
9. Portable concrete barrier shall be placed on the same level as the traffic surface and shall not encroach on lane width(s) designated as the minimum required for traffic use. Where drums are used, and their presence would reduce traveled lane widths to less than 10 feet [3.0 m], drums may be placed on the opposite level from that of traffic provided the dropoff depth does not exceed 5 inches [125] and approval is granted by the Project Engineer.
10. Pavement Repairs (or similar work):
    a. Lengths greater than 60 feet [18 m] – utilize appropriate treatment from Condition I.
    b. Lengths of 60 feet [18 m] or less – repairs shall be effected in accordance with CMS 255.08. Drums may be used as a separtor adjacent to the traveled lane.

OPTIONAL WEDGE TREATMENT
(MILLING OR RESURFACING)

1. This treatment may be used when permitted for Condition I only.
2. W8–11 sign required.

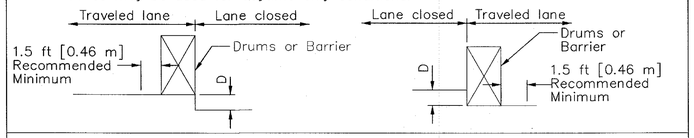


CONDITION I
DROP–OFFS BETWEEN TRAVELED LANES

1. These treatments are to be used for resurfacing, pavement planing, excavation, etc. between or within traveled lanes.

D – inches (mm)	Treatment
≤1–1/2 [≤40]	Erect W8–11 sign.
1–1/2 – 3 [40–75]	1) Lane closure utilizing drums* as shown below OR 2) Optional Wedge Treatment
> 3 – 5 [>75–125]	Lane closure utilizing drums as shown below.
> 5 [>125]	Lane closure utilizing portable concrete barrier as shown below.

* Cones may be used for daytime only conditions.

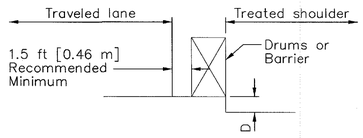


CONDITION II
DROP–OFFS WITHIN GRADED SHOULDER AREA

1. The treatments indicated below are for use in conjunction with resurfacing, planing, or excavations within the graded shoulder area.
2. The graded shoulder area is that flat or gradually sloping area between the edge of a normally traveled lane and the more steeply sloping ditch foreslope or embankment slope. Its surface may be soil or turf, and/or it may be inclusive of a "treated" area (improved with aggregates, asphaltic materials or concrete). For the purpose herein, its maximum width shall be considered to be 12 feet [3.6 m].

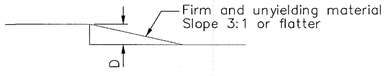
D – inches (mm)	Treatment
< 1–1/2 [<40]	1) Erect W8–9a signs.
> 1–1/2 – 5 [>40–125]	1) If minimum lane width* requirements can be met, maintain lanes utilizing drums as shown below OR 2) If minimum. lane width* requirements cannot be met, close adjacent lane utilizing drums OR 3) Optional Shoulder Treatment.
> 5 –12 [125–305] Daylight only	If minimum lane width* requirements can be met, maintain lanes utilizing drums as shown below.
> 5 – 24 [>125–610]	1) If minimum lane width* requirements can be met, maintain lanes utilizing portable concrete barrier as shown below. OR 2) If minimum lane width* requirements cannot be met, close adjacent lane utilizing drums.
> 24 [> 610]	Lane closure utilizing portable concrete barrier as shown below.

* Minimum lane widths shall be 10 ft [3.0 m] unless otherwise specified in the plans.



OPTIONAL SHOULDER TREATMENT

1. This treatment may not be used within a bitumunos shoulder where a hot longitudnal joint per CMS 401.15 is required.
2. W8–9 signs required.

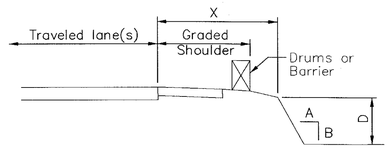


CONDITION III
DROP–OFFS BEYOND GRADED SHOULDER OR BACK OF CURB

1. See Note 2 under Condition II.
2. Use Chart A or B below, as applicable.

CHART A

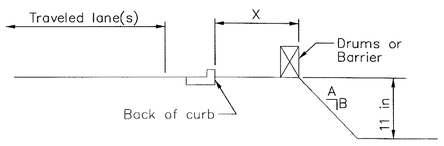
USE FOR: 1. Uncurbed Facilities
2. Curbed Facilities, where:
a. Curbs are less than 6 inch [150] in height
b. Curbs are 6 inch [150] or greater in height and the legal speed is greater than 40 mph [70 km/hr].



X feet (m)	D inch (mm)	A/B	Treatment Required Day	Treatment Required Night
0 – 4 [0 – 1.2]	Any	Any	(a)	(a)
4 – 30 [1.2 – 9.1]	Any	3:1 or Flatter	None	None
4 – 12 [1.2 – 3.6]	≤ 3 [≤ 75]	Steeper than 3:1	None	None
4 – 12 [1.2 – 3.6]	> 3 – < 12 [> 75 – < 305]	Steeper than 3:1	Drums	Drums
4 – 12 [1.2 – 3.6]	> 12 [> 305]	Steeper than 3:1	Drums	Barrier
> 12 – 20 [> 3.6 – 6.1]	< 12 [< 305]	Steeper than 3:1	None	None
> 12 – 20 [> 3.6 – 6.1]	> 12 – 24 [> 305 – < 610]	Steeper than 3:1	Drums	Drums
> 12 – 20 [> 3.6 – 6.1]	> 24 [> 610]	Steeper than 3:1	Drums	Barrier
> 20 – 30 [> 6.1 – 9.1]	< 24 [< 610]	Steeper than 3:1	None	None
> 20 – 30 [> 6.1 – 9.1]	> 24 [> 610]	Steeper than 3:1	Drums	Barrier
> 30 [> 9.1 m]	Any	Any	None	None
(a) Use treatment specified under Condition II.				

CHART B

USE FOR: Curbed facilities, where the curb is 6 inches [150 mm] or greater in height and the legal speed is 40 mph [70 km/h] or less.



X feet (m)	D inch (mm)	A/B	Treatment Required Day	Treatment Required Night
0 – 10 [0–3.0 m]	< 12 [< 305]	Any	None	Drums
0 – 10 [0–3.0 m]	> 12 [> 305]	Any	Drums	Drums
> 10 [> 3.0 m]	Any	Any	None	None

OFFICE OF TRAFFIC ENGINEERING

P/S NUMBER	REVISION DATE	DESIGNED	REVIEWED
2010190	11/27/06		LAM
	CHECKED		

PLAN INSERT SHEET

DROP OFFS IN WORK ZONES

POGGEMEYER DESIGN GROUP, INC. PLANNERS
ARCHITECTS • ENGINEERS
935 CLEVELAND AVENUE DEFIANCE, OHIO 43512

S.R. 66 I SOUTH JEFFERSON
AVENUE I SLOPE STABILIZATION
CITY OF DEFIANCE, OHIO

DRAWN BY	CHECKED BY	DATE
MSB	KAM	01/08

REVISION

1 / 1

10 / 10

JOB NUMBER 1120–130

ANY INFORMATION OR DATA ON THIS DRAWING IS NOT INTENDED TO BE SUITABLE FOR REUSE BY ANY PERSON, FIRM OR CORPORATION OR ANY OTHERS ON EXTENSIONS OF THIS PROJECT OR FOR ANY USE ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION AND ADAPTATION BY THE ENGINEER, ARCHITECT OR SURVEYOR FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT THE USERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO THE ENGINEER, ARCHITECT OR SURVEYOR.

MAINTENANCE OF TRAFFIC DROPOFFS IN WORK ZONE DETAILS

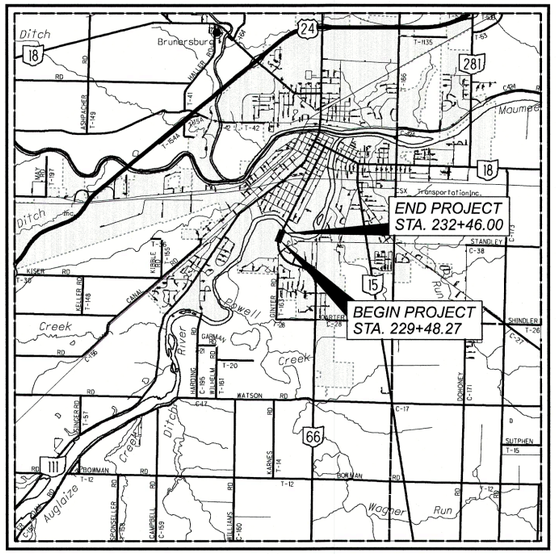
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PRINTED: 07/07/2008

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

DEF-66-4.37

CITY OF DEFIANCE

DEFIANCE COUNTY



LOCATION MAP

LATITUDE: N41°16'10" LONGITUDE: W84°22'10"

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

DESIGN DESIGNATION

CURRENT ADT (2021)	11,000
DESIGN YEAR ADT (2041)	12,500
DESIGN HOURLY VOLUME (2041)	1,100
DIRECTIONAL DISTRIBUTION	0.60
TRUCKS (24 HOUR B&C)	0.03
DESIGN SPEED	40 MPH
LEGAL SPEED	35 MPH

DESIGN FUNCTIONAL CLASSIFICATION:
04 MINOR ARTERIAL (URBAN)
NHS PROJECT ..... NO

DESIGN EXCEPTIONS

NONE REQUIRED

UNDERGROUND UTILITIES
Contact Two Working Days Before You Dig
OHIO811.org Before You Dig
OHIO811, 8-1-1, or 1-800-362-2764
(Non members must be called directly)

PLAN PREPARED BY:
ODOT DISTRICT 1
1885 N. MCCULLOUGH ST.
LIMA, OH 45801

ENGINEER'S SEAL:

STATE OF OHIO
JENNIFER L GASSER 73884
REGISTERED PROFESSIONAL ENGINEER

SIGNED: Jennifer L Gasser
DATE: 10-21-2020

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DRILLED SHAFT WALL DETAILS	20
DRILLED SHAFT WALL PROFILE	21
DRILLED SHAFT WALL ELEVATIONS	22
SOIL PROFILE - LANDSLIDE	

FEDERAL PROJECT NUMBER

E(190) 675

RAILROAD INVOLVEMENT

NONE

PROJECT DESCRIPTION

SLIDE REPAIR BY CONSTRUCTING A PLUG PILE WALL ALONG S.R. 66 WITHIN THE CITY OF DEFIANCE.

PROJECT LENGTH: 0.06 MILES

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA:	0.2 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	0.3 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	N/A (NOI NOT REQUIRED)

2019 SPECIFICATIONS

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

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 Christopher A Hughes
DATE 10/23/2020 DISTRICT DEPUTY DIRECTOR

APPROVED _____
DATE _____ DIRECTOR, DEPARTMENT OF TRANSPORTATION

STANDARD CONSTRUCTION DRAWINGS

BP-3.1	1/17/20	MT-95.41	1/17/20				800-2019	10/16/20	
BP-5.1	1/18/19	MT-97.10	4/19/19				832	10/19/18	
		MT-101.70	1/17/20				902	7/19/19	
CB-2.2	7/20/18	MT-101.75	1/17/20						
		MT-101.90	7/17/20						
HW-2.1	7/20/18	MT-102.10	1/17/20						
		MT-105.10	1/17/20						
DM-4.1	7/17/20								
DM-4.4	1/15/16	TC-41.20	10/18/13						
		TC-41.30	10/18/13						
MGS-1.1	1/19/18	TC-42.20	10/18/13						
MGS-2.1	1/19/18	TC-52.10	10/18/13						
MGS-4.3	1/18/13	TC-61.30	7/19/19						
RM-4.2	4/17/20								

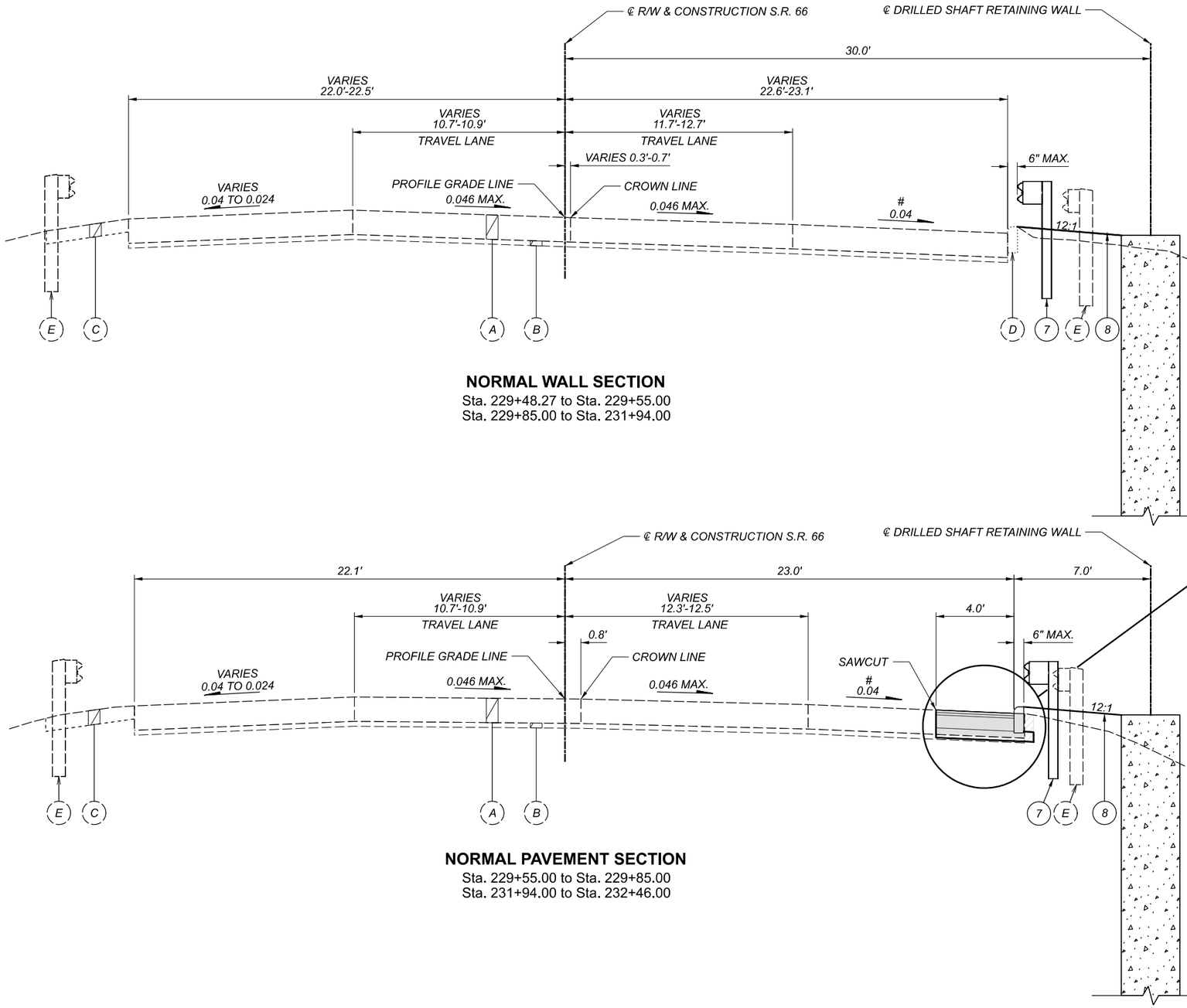
TITLE SHEET

DESIGN AGENCY

DESIGNER KCO
REVIEWER MJM 05-18-20
PROJECT ID 107810
SHEET P.1 TOTAL 22

DEF-66-4.37

MODEL: Sheet PAPERSIZE: 17x11(in.) DATE: 10/3/2020 TIME: 11:02:02 AM USER: kosterha
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NORMAL WALL SECTION
Sta. 229+48.27 to Sta. 229+55.00
Sta. 229+85.00 to Sta. 231+94.00

NORMAL PAVEMENT SECTION
Sta. 229+55.00 to Sta. 229+85.00
Sta. 231+94.00 to Sta. 232+46.00

PROPOSED LEGEND

1	ITEM 441 - 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22
2	ITEM 301 - 8" ASPHALT CONCRETE BASE, PG64-22
3	ITEM 304 - 6" AGGREGATE BASE
4	ITEM 204 - SUBGRADE COMPACTION
5	ITEM 407 - NON-TRACKING TACK COAT
6	ITEM 609 - CURB, TYPE 4-C
7	ITEM 606 - GUARDRAIL, TYPE MGS, AS PER PLAN
8	ITEM 659 - SEEDING AND MULCHING
	ITEM 202 - PAVEMENT REMOVED, ASPHALT, T=15"±
	ITEM 203 - EXCAVATION

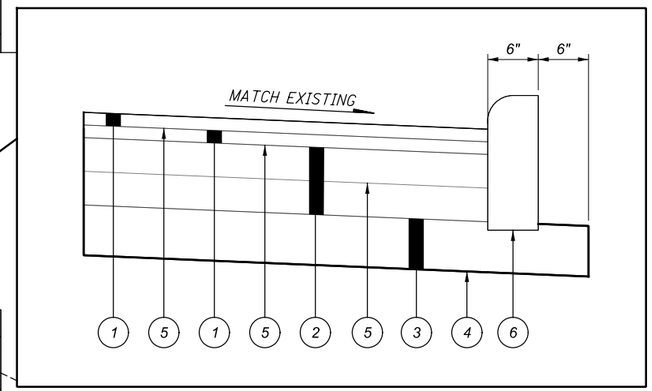
EXISTING LEGEND

A	15"± ASPHALT CONCRETE
B	3"± AGGREGATE BASE
C	EX. AGGREGATE SHOULDER
D	EX. CURB
E	EX. GUARDRAIL

NOTES:

EXISTING PAVEMENT BUILD-UP BASED ON BORINGS.

 # - OR RATE OF SUPER IF GREATER



TYPICAL SECTIONS

DESIGN AGENCY

DESIGNER KCO
REVIEWER MJM 05-18-20
PROJECT ID 107810
SHEET P.2 TOTAL 22

DEF-66-4.37

MODEL: Sheet PAPERSIZE: 17x11(in.) DATE: 10/13/2020 TIME: 11:02:10 AM USER: kosterha
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UTILITIES

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

CITY OF DEFIANCE WATER
631 PERRY STREET
DEFIANCE, OH 43512
D.J. ZEEDYK 419-728-5687

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.

EXISTING PLANS

EXISTING PLANS ENTITLED "DEF-66-3.40", "DEF-66-5.472 (3.40)", AND "S.R. 66 (SOUTH JEFFERSON AVENUE) SLOPE STABILIZATION" MAY BE INSPECTED IN THE ODOT DISTRICT 1 OFFICE I LIMA.

WORK LIMITS

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

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.

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.

EROSION CONTROL

THE QUANTITY BELOW HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR EROSION CONTROL.

ITEM 832 EROSION CONTROL = 2,500 EACH

SURVEYING PARAMETERS

PRIMARY PROJECT CONTROL MONUMENTS GOVERN ALL POSITIONING ON ODOT PROJECTS.

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

PROJECT CONTROL

POSITIONING METHOD: VRS ODOT CORS NETWORK, DIFFERENTIAL LEVELING

MONUMENT TYPE: IRON PINS SET & MONUMENT BOXES W/ IRON PINS FOUND

VERTICAL POSITIONING
ORTHOMETRIC HEIGHT DATUM: NAVD 88
GEOID: 12B

HORIZONTAL POSITIONING

REFERENCE FRAME: NAD 83 (2011)
ELLIPSOID: GRS 80
MAP PROJECTION: LAMBERT CONFORMAL CONIC
COORDINATE SYSTEM: OHIO STATE PLANE (NORTH ZONE 3401)
COMBINED SCALE FACTOR: 1.00008320
ORIGIN OF COORDINATE SYSTEM: NORTHING 0.00, EASTING 0.00

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

UNITS ARE IN U.S. SURVEY FEET.

CP 500	IRON PIN SET STA. 220+49.15, 36.53' RT, ELEV. 705.81 GRID: N: 588311.9793 E: 1454407.9570 SCALED: N: 588360.927 E: 1454528.964
CP 501	IRON PIN SET STA. 226+02.65, 27.80' RT, ELEV. 700.64 GRID: N: 588845.8223 E: 1454343.3050 SCALED: N: 588894.814 E: 1454464.306
CP 502	IRON PIN SET STA. 233+17.63, 24.35' LT, ELEV. 691.51 GRID: N: 589533.7515 E: 1454515.1470 SCALED: N: 589582.801 E: 1454636.163
CP 503	IRON PIN SET STA. 231+17.72, 30.05' RT, ELEV. 693.05 GRID: N: 589330.4989 E: 1454477.4920 SCALED: N: 589379.531 E: 1454598.505
CP 504	MAG NAIL SET STA. 227+71.40, 18.19' LT, ELEV. 699.99 GRID: N: 589018.8111 E: 1454322.6020 SCALED: N: 589067.817 E: 1454443.602
CP 505	IRON PIN FOUND STA. 226+33.66, 27.41' LT, ELEV. 701.10 GRID: N: 588882.1458 E: 1454291.4490 SCALED: N: 588931.141 E: 1454412.446
BM 1	MAG NAIL SET IN EAST FACE OF POWER POLE STA. 226+72.14, 23.75' LT, ELEV. 703.90 GRID: N: 588920.5618 E: 1454299.9190 SCALED: N: 588969.560 E: 1454420.917
BM 2	"+" CUT ON SW WINGWALL STA. 234+62.79, 18.54' LT, ELEV. 691.74 GRID: N: 589660.8282 E: 1454585.5560 SCALED: N: 589709.888 E: 1454706.578

REVIEW OF DRAINAGE FACILITIES

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

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

ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE MENTIONED PARTIES SHALL BE MAINTAINED AND LEFT IN A CONDITION REASONABLY COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. ANY CHANGE IN THE CONDITION RESULTING FROM THE CONTRACTORS 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.

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.

EXISTING DRAIN PIPES

ALL DRAIN PIPES, WHICH ARE ENCOUNTERED DURING CONSTRUCTION OF THE DRILLED SHAFTS AND ARE NOT SHOWN IN THE PLANS, SHALL BE PROVIDED WITH UNOBSTRUCTED OUTLETS THROUGH THE NEAREST PLUG PILE SHAFT.

THE LOCATION, TYPE, SIZE AND GRADE OF PIPES SHALL BE DETERMINED BY THE ENGINEER AND PAYMENT SHALL BE MADE ON FINAL MEASUREMENTS. PAYMENT FOR ANY LABOR, EQUIPMENT, AND MATERIAL NEEDED TO OUTLET THE PIPES INCLUDING, BUT NOT LIMITED TO, EXCAVATION, EMBANKMENT, LOW STRENGTH MORTAR BACKFILL, AND FORMS SHALL BE INCLUDED FOR PAYMENT IN THE CONDUIT ITEM LISTED BELOW.

EROSION CONTROL PADS SHALL BE PROVIDED AT THE OUTLET END OF ALL DRAIN PIPES AS PER STANDARD CONSTRUCTION DRAWING DM-1.1, EXCEPT WHEN THEY OUTLET INTO A DRAINAGE STRUCTURE. PAYMENT FOR THE EROSION CONTROL PADS AND ANY NECESSARY BENDS OR BRANCHES SHALL BE INCLUDED FOR PAYMENT IN THE CONDUIT ITEM LISTED BELOW.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

611 CONDUIT, MISC.: TYPE C = 20 FT.

ITEM 606, GUARDRAIL, TYPE MGS, AS PER PLAN

THIS ITEM REQUIRES STEEL POSTS AND APPROVED COMPOSITE OR POLYMER ALTERNATIVE BLOCKOUTS. THE BLOCKOUTS SHALL BE FROM THE APPROVED PRODUCTS LIST THAT IS MAINTAINED BY THE OFFICE OF ROADWAY ENGINEERING. THE STEEL POSTS AND APPROVED ALTERNATIVE MGS BLOCKOUTS SHALL BE PROVIDED AND INSTALLED PER CMS 606 AND ALL PERTINENT STANDARD DRAWINGS. ALL COSTS ASSOCIATED WITH PROVIDING AND INSTALLING THE STEEL POSTS AND APPROVED ALTERNATIVE MGS BLOCKOUTS SHALL BE INCLUDED IN THE UNIT BIDS FOR THE FOLLOWING ITEMS:

ITEM 606, GUARDRAIL, TYPE MGS, AS PER PLAN

CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL

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

ITEM 209 - RESHAPING UNDER GUARDRAIL

THE CONTRACTOR SHALL RE-SHAPE THE BERMS TO ENSURE A SMOOTH SURFACE FREE OF IRREGULARITIES AT LOCATIONS WHERE EXISTING GUARDRAIL IS REMOVED OR WHERE NEW GUARDRAIL IS TO BE ERECTED. THE REMOVAL AND DISPOSAL OF THE EXCESS EXCAVATED MATERIAL RESULTING FROM THIS OPERATION SHALL BE PROPERLY DISPOSED OF BY THE CONTRACTOR AS DESCRIBED IN 209 OF THE C&MS AND SHALL BE INCLUDED IN THE UNIT BID PRICE PER STATION FOR ITEM 209 RESHAPING UNDER GUARDRAIL.

GENERAL NOTES

DESIGN AGENCY

DESIGNER KCO
REVIEWER MJM 05-18-20
PROJECT ID 107810
SHEET P.3 TOTAL 22

DEF-66-4.37

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ENVIRONMENTAL COMMITMENTS

THIS PROJECT WAS DEVELOPED TO BE CONSTRUCTED WITHOUT EQUIPMENT OR MATERIALS BEING PLACED (PERMANENTLY OR TEMPORARILY) WITHIN THE BOUNDARY OF THE WETLAND AREA. THE WETLAND AREA IS SHOWN ON SCHEMATIC SHEET 10 OF THE PLANS, AND MARKED DO NOT DISTURB (DND).

PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL DEMARCATE THE WETLAND AREA ALONG LIMITS SHOWN ON SCHEMATIC SHEET 10 BY PLACING TEMPORARY ORANGE PLASTIC CONSTRUCTION FENCE ALONG THE PERIMETER OF THIS AREA. PLACE THE FENCE POST ON 8' CENTERS, 2' DEEP. SECURELY ATTACH THE PLASTIC CONSTRUCTION FENCE TO THE FENCE POST.

ALL COSTS ASSOCIATED WITH IDENTIFYING THIS WETLAND AREA IN THE FIELD AND PROVIDING, ERECTING, MAINTAINING, AND SUBSEQUENTLY REMOVING THE TEMPORARY ORANGE PLASTIC CONSTRUCTION FENCE AS REQUIRED PER THE ABOVE SHALL BE INCLUDED WITH ITEM 832, EROSION CONTROL. THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES OF CONSTRUCTION FENCE AT THE PRICE SHOWN IN APPENDIX F FOR SUPPLEMENTAL SPECIFICATION 832 (SS 832) AND WILL MEASURE THE TEMPORARY ORANGE PLASTIC CONSTRUCTION FENCE PER SS 832.

THE ESTIMATED LENGTH OF TEMPORARY ORANGE PLASTIC CONSTRUCTION FENCE NEEDED TO DEMARCATE THE WETLAND AREA: 90 FEET.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

THE CONTRACTOR SHALL FOLLOW ALL REQUIREMENTS OF SECTIONS XXIV AND XXXIV OF THE OHIO DEPARTMENT OF TRANSPORTATION SAFETY & HEALTH STANDARD OPERATING PROCEDURE 220-006(SP) EFFECTIVE: NOVEMBER 1, 2018 (EXCEPT AS AMENDED BELOW) AND ALL SUBSEQUENT UPDATES POSTED AT THE FOLLOWING WEBSITE:

HTTP://WWW.DOT.STATE.OH.US/POLICY/POLICIESANDSOPS/POLICIES/220-006(SP).PDF

AMENDMENTS TO THE REQUIREMENTS OF THIS DOCUMENT ARE:

XXIV. HEAD PROTECTION (HARD HATS)
ALL PERSONS WITHIN THE RIGHT-OF-WAY OF ANY HIGHWAY OR ANY OTHER TYPE OF ROADWAY OR CONSTRUCTION SITE WHO ARE EXPOSED TO EITHER TRAFFIC (VEHICLES USING THE HIGHWAY FOR PURPOSES OF TRAVEL) OR CONSTRUCTION EQUIPMENT WITHIN THE WORK AREA, REGARDLESS OF JOB TYPE, SHALL WEAR APPROPRIATE HEAD PROTECTION. ALL HARD HATS MUST MEET OR EXCEED ANSI Z89.1-2009 TYPE 1, CLASS E-G REQUIREMENTS.

XXXIV. SAFETY APPAREL AND VEST (HIGH VISIBILITY) ALL PERSONS WITHIN THE RIGHT-OF-WAY OF ANY HIGHWAY OR ANY OTHER TYPE OF ROADWAY OR CONSTRUCTION SITE WHO ARE EXPOSED TO EITHER TRAFFIC (VEHICLES USING THE HIGHWAY FOR PURPOSES OF TRAVEL) OR CONSTRUCTION EQUIPMENT WITHIN THE WORK AREA, REGARDLESS OF JOB TYPE, SHALL WEAR A HIGH-VISIBILITY SAFETY VEST THAT MEETS THE PERFORMANCE CLASS II OR CLASS III REQUIREMENTS OF THE ANSI/ISEA 107-2015 PUBLICATION ENTITLED "AMERICAN NATIONAL STANDARD FOR HIGH-VISIBILITY SAFETY APPAREL AND ACCESSORIES."

WORKERS MAY WEAR AN ANSI CLASS II OR ANSI CLASS III APPROVED RAIN SUIT, JACKET OR OTHER APPAREL WITHOUT A SAFETY VEST OVER IT.

GENERAL NOTES

DESIGN AGENCY

DESIGNER
KCO

REVIEWER
MJM 05-18-20

PROJECT ID
107810

SHEET P.4 | TOTAL 22

DEF-66-4.37

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ITEM 614, MAINTAINING TRAFFIC, AS PER PLAN

A MINIMUM OF 1 LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES BY USE OF THE EXISTING PAVEMENT AND SCD'S MT-95.41 AND MT-102.10, EXCEPT AS MODIFIED IN THESE PLANS. SOUTHBOUND TRAFFIC WILL SHIFT OVER TO THE SOUTHBOUND SHOULDER AND NORTHBOUND TRAFFIC WILL SHIFT OVER TO THE SOUTHBOUND LANE. MAINTAIN A MINIMUM LANE WIDTH OF 10 FEET DURING CONSTRUCTION. A QUANTITY OF 520 FEET OF PORTABLE BARRIER AND ONE (1) WORK ZONE IMPACT ATTENUATOR HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

THE MAINTENANCE OF TRAFFIC SHALL BE IN CONFORMANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, LATEST REVISION, THE REFERENCED STANDARD CONSTRUCTION DRAWINGS INCLUDING DESIGNER NOTES, THE CONSTRUCTION AND MATERIAL SPECIFICATIONS (CMS), POLICY NO. 516-003(P) TRAFFIC MANAGEMENT IN WORK ZONES INTERSTATE AND OTHER FREEWAYS, ODOT LOCATION AND DESIGN MANUAL, VOLUME 1, AND ALL REQUIREMENTS DETAILED IN THESE PLANS.

PAYMENT FOR ALL THE ITEMS REQUIRED TO MAINTAIN TRAFFIC IN ACCORDANCE WITH THESE REQUIREMENTS SHALL BE INCLUDED IN THE LUMP SUM PRICE FOR ITEM 614 - MAINTAINING TRAFFIC, AS PER PLAN, UNLESS SEPERATELY ITEMIZED.

IF IN THE OPINION OF THE ENGINEER, THE CONTRACTOR FAILS TO COMPLY WITH THESE REQUIREMENTS AND THE PROVISIONS OF THE APPROVED MAINTENANCE OF TRAFFIC PLAN, THE ENGINEER SHALL SUSPEND WORK UNTIL ALL REQUIREMENTS ARE MET. ANY COST OR DELAYS INCURRED AS A RESULT OF THE FAILURE SHALL BE THE FULL RESPONSIBILITY OF THE CONTRACTOR.

THE FOLLOWING ESTIMATED QUANTITIES ARE PROVIDED FOR USE AS DETERMINED BY THE ENGINEER TO MAINTAIN AND SUBSEQUENTLY RESTORE THE SHOULDER PAVEMENT IN THE EVENT THAT IT DOESN'T HOLD UP UNDER SOUTHBOUND TRAFFIC. THE REPLACEMENT PAVEMENT FOR ITEM 253 PAVEMENT REPAIR SHALL CONSIST OF 1.25" OF ITEM 441, ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22 AND ITEM 407, TACK COAT PLACED ON 8" OF ITEM 301, ASPHALT CONCRETE BASE, PG64-22. THE FLAGGING OF TRAFFIC IS ALLOWED WHILE PERFORMING THE PAVEMENT REPAIRS AS WELL AS SETTING UP AND TEARING DOWN THE WORK ZONE.

ITEM 253 - PAVEMENT REPAIR = 20 CY
ITEM 407 - TACK COAT = 20 GAL
ITEM 441 - ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22 = 10 CY
ITEM 617 - COMPACTED AGGREGATE = 50 CY

DELINEATION OF PORTABLE AND PERMANENT BARRIER

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

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

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

ITEM 614, BARRIER REFLECTOR, TYPE 1 (BIDIRECTIONAL) = 12 EACH
ITEM 614, OBJECT MARKER, TWO WAY = 12 EACH

PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, INCIDENTALS AND EQUIPMENT NECESSARY FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING EACH OF THE ABOVE ITEMS.

WORK ZONE MARKINGS

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AT LOCATIONS IDENTIFIED IN THESE PLANS FOR WORK ZONE PAVEMENT MARKINGS AND WORK ZONE RAISED PAVEMENT MARKERS (WZRPM) PER THE REQUIREMENTS OF C&MS 614.11.

ITEM 614 - WORK ZONE EDGE LINE, CLASS I, 6" = 0.46 MI
ITEM 614 - WORK ZONE CENTER LINE, CLASS I = 0.23 MI
ITEM 614 - WORK ZONE RAISED PAVEMENT MARKER = 122 EACH

ITEM 614, WORK ZONE IMPACT ATTENUATOR FOR 24" WIDE HAZARDS (UNIDIRECTIONAL)

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

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

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

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

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

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

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

NOTIFICATION OF TRAFFIC RESTRICTIONS

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

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

NOTIFICATION TIME TABLE

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

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

MAINTENANCE OF TRAFFIC GENERAL NOTES

DESIGN AGENCY

DESIGNER KCO

REVIEWER MJM 05-18-20

PROJECT ID 107810

SHEET P.5 TOTAL 22

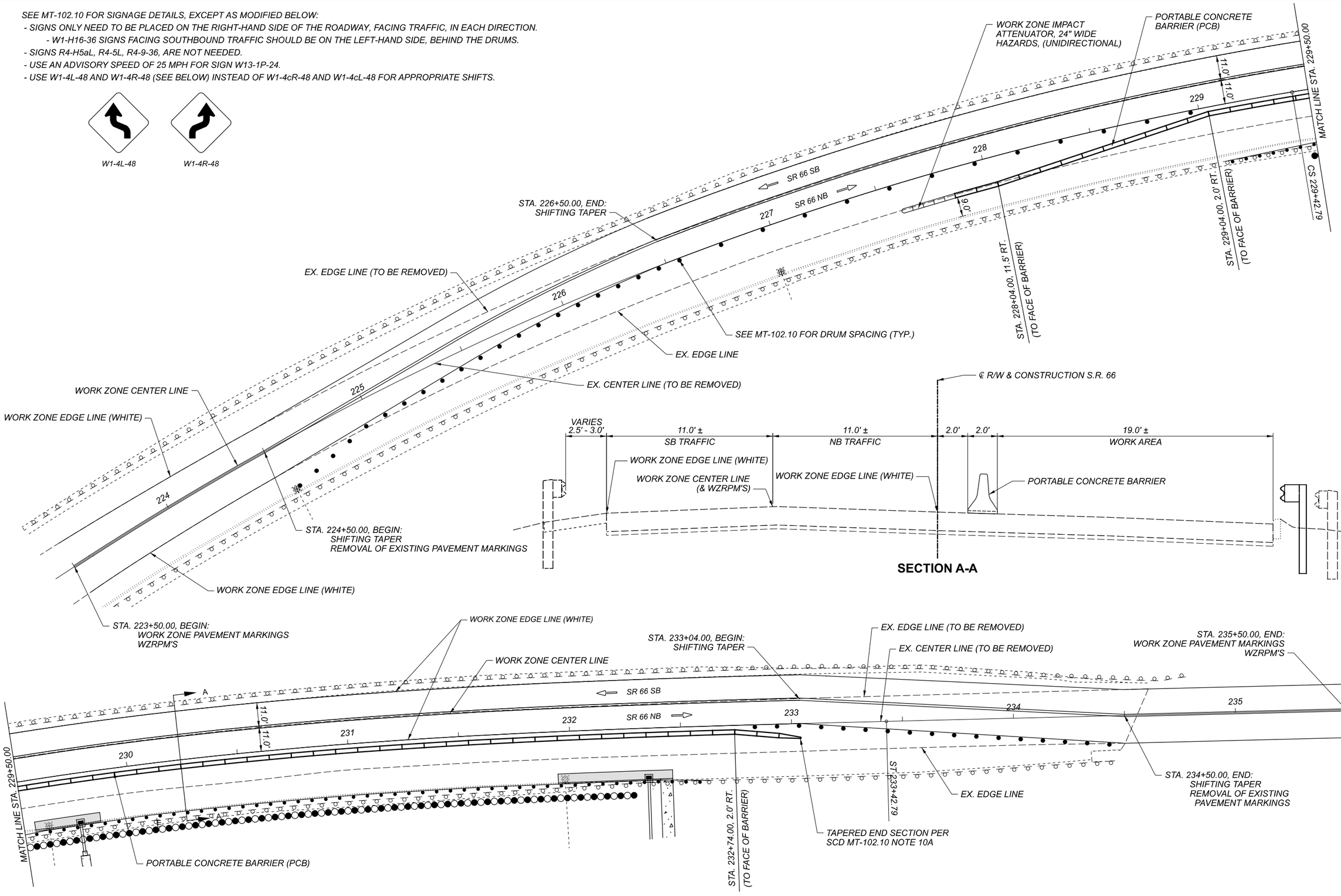
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SEE MT-102.10 FOR SIGNAGE DETAILS, EXCEPT AS MODIFIED BELOW:
- SIGNS ONLY NEED TO BE PLACED ON THE RIGHT-HAND SIDE OF THE ROADWAY, FACING TRAFFIC, IN EACH DIRECTION.
  - W1-H16-36 SIGNS FACING SOUTHBOUND TRAFFIC SHOULD BE ON THE LEFT-HAND SIDE, BEHIND THE DRUMS.
- SIGNS R4-H5aL, R4-5L, R4-9-36, ARE NOT NEEDED.
- USE AN ADVISORY SPEED OF 25 MPH FOR SIGN W13-1P-24.
- USE W1-4L-48 AND W1-4R-48 (SEE BELOW) INSTEAD OF W1-4cR-48 AND W1-4cL-48 FOR APPROPRIATE SHIFTS.

W1-4L-48

W1-4R-48



SECTION A-A

HORIZONTAL SCALE IN FEET
0 10 20 40

MAINTENANCE OF TRAFFIC PLAN

CTY-RTE-SECTION

DESIGN AGENCY

DESIGNER KCO
REVIEWER XXX MM-DD-YY
PROJECT ID 107810
SHEET P.6 TOTAL 22

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SHEET NUM.													PART.	ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
							3		9		22		01/S<2/OT						
																		ROADWAY	
													LS	201	11000	LS		CLEARING AND GRUBBING	
									37				37	202	23000	37	SY	PAVEMENT REMOVED	
									38				38	202	32000	38	FT	CURB REMOVED	
									125				125	202	35100	125	FT	PIPE REMOVED, 24" AND UNDER	
									350				350	202	38000	350	FT	GUARDRAIL REMOVED	
									1				1	202	58000	1	EACH	MANHOLE REMOVED	
									2				2	202	58100	2	EACH	CATCH BASIN REMOVED	
									9				9	203	10000	9	CY	EXCAVATION	
									35				35	203	20000	35	CY	EMBANKMENT	
									46				46	204	10000	46	SY	SUBGRADE COMPACTION	
									1				1	209	15000	1	STA	RESHAPING UNDER GUARDRAIL	
									99				99	255	20000	99	FT	FULL DEPTH PAVEMENT SAWING	
									350				350	606	15051	350	FT	GUARDRAIL, TYPE MGS, AS PER PLAN	3
																		EROSION CONTROL	
									66				66	601	21060	66	SY	TIED CONCRETE BLOCK MAT, TYPE 2	
									2				2	601	32200	2	CY	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER	
									67				67	659	00300	67	CY	TOPSOIL	
									601				601	659	10000	601	SY	SEEDING AND MULCHING	
									0.1				0.1	659	20000	0.1	TON	COMMERCIAL FERTILIZER	
									0.2				0.2	659	31000	0.2	ACRE	LIME	
									4				4	659	35000	4	MGAL	WATER	
							2,500						2,500	832	30000	2,500	EACH	EROSION CONTROL	
																		DRAINAGE	
									0.2				0.2	602	20000	0.2	CY	CONCRETE MASONRY	
									13				13	611	04600	13	FT	12" CONDUIT, TYPE C	
									56				56	611	05200	56	FT	12" CONDUIT, TYPE F, 707.05 TYPE C OR 707.21	
							20						20	611	97400	20	FT	CONDUIT, MISC.: TYPE C	3
									2				2	611	98180	2	EACH	CATCH BASIN, NO. 3A	
																		PAVEMENT	
									8				8	301	46000	8	CY	ASPHALT CONCRETE BASE, PG64-22	
									8				8	304	20000	8	CY	AGGREGATE BASE	
									6				6	407	20000	6	GAL	NON-TRACKING TACK COAT	
									3				3	441	50000	3	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22	
									76				76	609	24510	76	FT	CURB, TYPE 4-C	
																		TRAFFIC CONTROL	
									4				4	626	00110	4	EACH	BARRIER REFLECTOR, TYPE 2, BI-DIRECTIONAL	
									27.2				27.2	630	03100	27.2	FT	GROUND MOUNTED SUPPORT, NO. 3 POST	
									2				2	630	08600	2	EACH	SIGN POST REFLECTOR	
									9				9	630	80100	9	SF	SIGN, FLAT SHEET	
									1				1	630	84900	1	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
									2				2	630	86002	2	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
									0.38				0.38	642	00104	0.38	MILE	EDGE LINE, 6", TYPE 1	
									0.19				0.19	642	00300	0.19	MILE	CENTER LINE, TYPE 1	
																		RETAINING WALLS (001)	
											2,435		2,435	507	00400	2,435	FT	STEEL PILES, MISC.: W16X31 STEEL BEAM, FURNISHED, PLACED, AND PLUMBED	20
											1,988		1,988	524	94703	1,988	FT	DRILLED SHAFTS, 36" DIAMETER, ABOVE BEDROCK, AS PER PLAN	20
											470		470	524	94705	470	FT	DRILLED SHAFTS, 36" DIAMETER, INTO BEDROCK, AS PER PLAN	20
											920		920	524	95000	920	FT	DRILLED SHAFTS, MISC.: PLUG PILE, 36" DIAMETER, UNREINFORCED	20

GENERAL SUMMARY

DESIGN AGENCY

DESIGNER KCO

REVIEWER RDM 05-19-20

PROJECT ID 107810

SHEET P.7 TOTAL 22

DEF-66-4.37

MODEL: Sheet PAPERSIZE: 17x11(in.) DATE: 10/13/2020 TIME: 11:03:01 AM USER: kosterha
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SHEET NUM.													PART.	ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
										3	5		01/S<2/OT						
																		MAINTENANCE OF TRAFFIC	
											20		20	253	02000	20	CY	PAVEMENT REPAIR	
											20		20	407	10000	20	GAL	TACK COAT	
											10		10	441	50000	10	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22	
											1		1	614	12380	1	EACH	WORK ZONE IMPACT ATTENUATOR, 24" WIDE HAZARDS, (UNIDIRECTIONAL)	
											122		122	614	12800	122	EACH	WORK ZONE RAISED PAVEMENT MARKER	
											12		12	614	13310	12	EACH	BARRIER REFLECTOR, TYPE 1 (BIDIRECTIONAL)	
											12		12	614	13360	12	EACH	OBJECT MARKER, TWO WAY	
											0.23		0.23	614	21000	0.23	MILE	WORK ZONE CENTER LINE, CLASS I	
											0.46		0.46	614	22010	0.46	MILE	WORK ZONE EDGE LINE, CLASS I, 6"	
											50		50	617	10100	50	CY	COMPACTED AGGREGATE	
											520		520	622	41000	520	FT	PORTABLE BARRIER, 32"	
																		INCIDENTALS	
										LS			LS	614	11000	LS		MAINTAINING TRAFFIC	
													3	619	16010	3	MNTH	FIELD OFFICE, TYPE B	
													LS	623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING	
													LS	624	10000	LS		MOBILIZATION	

GENERAL SUMMARY

DESIGN AGENCY

DESIGNER KCO

REVIEWER RDM 05-19-20

PROJECT ID 107810

SHEET P.8 | TOTAL 22

DEF-66-4.37

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SUBSUMMARIES

ROADWAY

REF NO.	SHEET NO.	STATION TO STATION			SIDE	202 GUARDRAIL REMOVED	209 RESHAPING UNDER GUARDRAIL	606 GUARDRAIL, TYPE MGS, AS PER PLAN
						FT	STA	FT
			TO					
GR-1	10	229+08.75		232+62.55	RT	350	1	350
TOTALS CARRIED TO GENERAL SUMMARY						350	1	350

PAVEMENT

REF NO.	SHEET NO.	STATION TO STATION			SIDE	DISTANCE (D)	AVERAGE WIDTH (W)	SURFACE AREA (A) A=DxW/9	202 PAVEMENT REMOVED, T=15"	202 CURB REMOVED	204 SUBGRADE COMPACTION AVG. W + 12"	255 FULL DEPTH PAVEMENT SAWING		301 ASPHALT CONCRETE BASE, PG64-22 T=8"	304 AGGREGATE BASE AVG. W + 12" T=6"	407 NON-TRACKING TACK COAT 3 APPLICATIONS (RATE = 0.055 GAL/SY)	441 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22 T=3"	609 CURB, TYPE 4-C
						FT	FT	SY	SY	FT	SY	FT		CY	CY	GAL	CY	FT
			TO															
	10	229+55.00		229+85.00	RT	30	4	13.33	13.33		16.67	38		2.96	2.78	2.20	1.11	
C-1	10	229+55.00		229+85.00	RT	30	-	-		30								30
	10	231+94.00		232+46.00	RT	52	4	23.11	23.11		28.89	60		5.14	4.81	3.81	1.93	
C-2	10	231+94.00		232+40.00	RT	46	-	-		8								46
TOTALS CARRIED TO GENERAL SUMMARY									37	38	46	99		8	8	6	3	76

DRAINAGE & EROSION CONTROL

REF NO.	SHEET NO.	STATION TO STATION			SIDE	202 PIPE REMOVED, 24" AND UNDER	202 CATCH BASIN REMOVED	202 MANHOLE REMOVED		601 TIED CONCRETE BLOCK MAT, TYPE 2	601 ROCK CHANNEL PROTECTION, TYPE C WITH FILTER, T=18"	602 CONCRETE MASONRY	611 12" CONDUIT, TYPE C	611 12" CONDUIT, TYPE F, AS PER PLAN, 707.05 TYPE C OR 707.23	611 CATCH BASIN, NO. 3A
						FT	EACH	EACH		SY	CY	CY	FT	FT	EACH
R-1	10	229+61.32			RT	56	1								
R-2	10	229+60.52			RT	5		1							
D-1	10	229+75.82			RT								13		1
EC-1	10	229+75.82			RT					26.7					
R-3	10	231+97.16			RT	64	1								
D-2	10	232+35.00			RT							0.21		56	1
EC-2	10	232+35.00			RT						1.33				
EC-3	10	232+43.00			RT					38.5					
TOTALS CARRIED TO GENERAL SUMMARY						125	2	1		65	2	0.2	13	56	2

EARTHWORK

SHEET NO.	STATION TO STATION			203 EXCAVATION	203 EMBANKMENT	659 SEEDING AND MULCHING
				CY	CY	SY
		TO				
11	229+00.00		229+25.00	0	0	0
12	229+50.00		229+75.00	3	5	208
13	230+00.00		230+25.00	1	5	35
14	230+50.00		230+75.00	0	6	28
15	231+00.00		231+25.00	0	6	28
16	231+50.00		231+75.00	0	6	28
17	232+00.00		232+25.00	3	5	192
18	232+35.00		232+50.00	2	2	82
19	232+75.00		233+00.00	0	0	0
TOTALS CARRIED TO GENERAL SUMMARY				9	35	601

TRAFFIC CONTROL

REF NO.	SHEET NO.	STATION TO STATION			SIDE	626 BARRIER REFLECTOR, TYPE 2, BI-DIRECTIONAL		642 EDGE LINE, 6", TYPE 1	642 CENTER LINE, TYPE 1
						EACH		MILE	MILE
			TO						
GR-1	10	229+08.75		232+62.55	RT	4			
		224+50.00		234+50.00	LT/RT			0.38	0.19
TOTALS CARRIED TO GENERAL SUMMARY						4		0.38	0.19

TRAFFIC CONTROL (SIGNS)

REF NO.	SHEET NO.	STATION	SIDE	CODE	SIZE	630 SIGNS FLAT SHEET	630 GROUND MOUNTED SIGN SUPPORTS NO. 3 POST	630 SIGN POST REFLECTOR	630 REMOVAL GROUND MOUNTED SIGN AND DISPOSAL	630 REMOVAL GROUND MOUNTED POST SUPPORT AND DISPOSAL
					INCHES	SQ FT	FT	EACH	EACH	EACH
S-1	10	230+10.50	RT	W8-13-36	36	9.00	13.5 13.7	2	1	2
TOTALS CARRIED TO GENERAL SUMMARY						9.0	27.2	2	1	2

SEEDING AND MULCHING CALCULATIONS

(601 SY OF PERMANENT SEEDED AREA)

ITEM	EXT	TOTAL	UNIT	DESCRIPTION
659	00300	67	CY	TOPSOIL (601 SY x 4 IN) x (1 YD / 36 IN)
659	20000	0.1	TON	COMMERCIAL FERTILIZER (601 SY x 9 SF / 1 SY) x (30 LBS / 1000 SF) x (1 TON / 2000 LBS)
659	31000	0.2	ACRE	LIME (601 SY x 1 ACRE / 4840 SY)
659	35000	4	MGAL	WATER (601 SY x 9 SF / 1 SY) x (300 GAL / 1000 SF) x (1 MGAL / 1000 GAL) x 2 APPLICATIONS

NOTE: QUANTITIES IN THE TOTAL COLUMN CARRIED TO THE GENERAL SUMMARY

DESIGN AGENCY

DESIGNER KCO

REVIEWER RDM 05-19-20

PROJECT ID 107810

SHEET P.9 TOTAL 22

DEF-66-4.37

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DRILLED SHAFT, REINFORCED, 36" DIA.

PLUG PILE, NON-STRUCTURAL, 36" DIA.

SOIL BORING LOCATION

DYNAMIC CONE PENETRATION (DCP) TEST LOCATION

ITEM 202 - PAVEMENT REMOVED

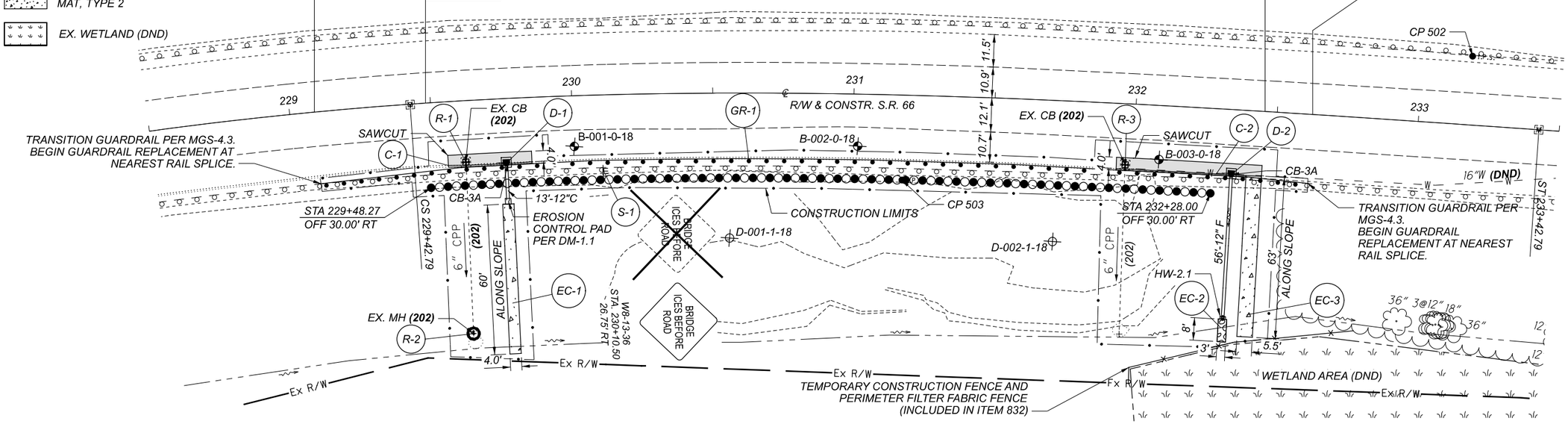
ROCK CHANNEL PROTECTION, TYPE C WITH FILTER, T=18"

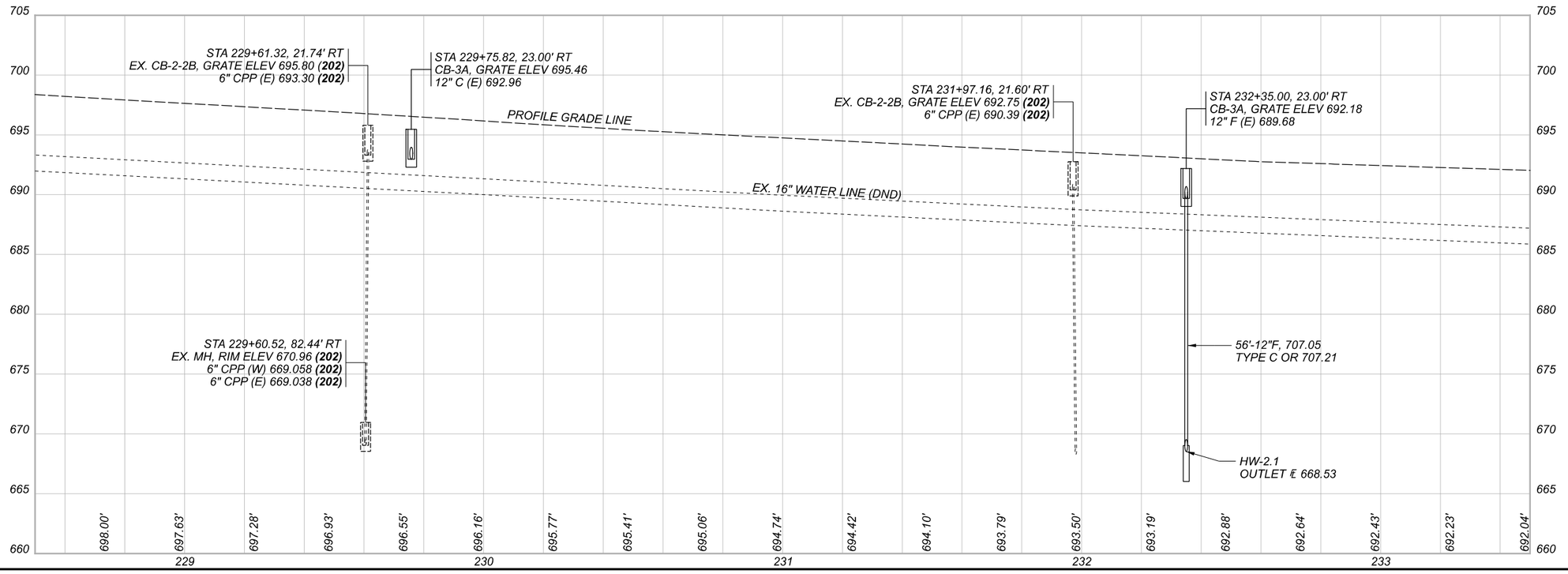
TIED CONCRETE BLOCK MAT, TYPE 2

EX. WETLAND (DND)

P.I. = Sta. 230+76.37
Ls = 400.00'
θs = 08°00'00"
LT = 266.94'
ST = 133.58'
x = 397.92'
y = 37.15'
k = 121.29'
p = 11.32'
C = 399.65'
Start = Sta. 229+42.79
End = Sta. 233+42.79
C.B. = N24°01'55"E

ESTIMATED QUANTITIES		
ITEM		SHEET
CURB	- C	9
DRAINAGE	- D	9
EROSION CONTROL	- EC	9
GUARDRAIL	- GR	9
SIGN	- S	9
REMOVAL	- R	9
DRILLED SHAFTS		22





HORIZONTAL SCALE IN FEET
0 10 20 40

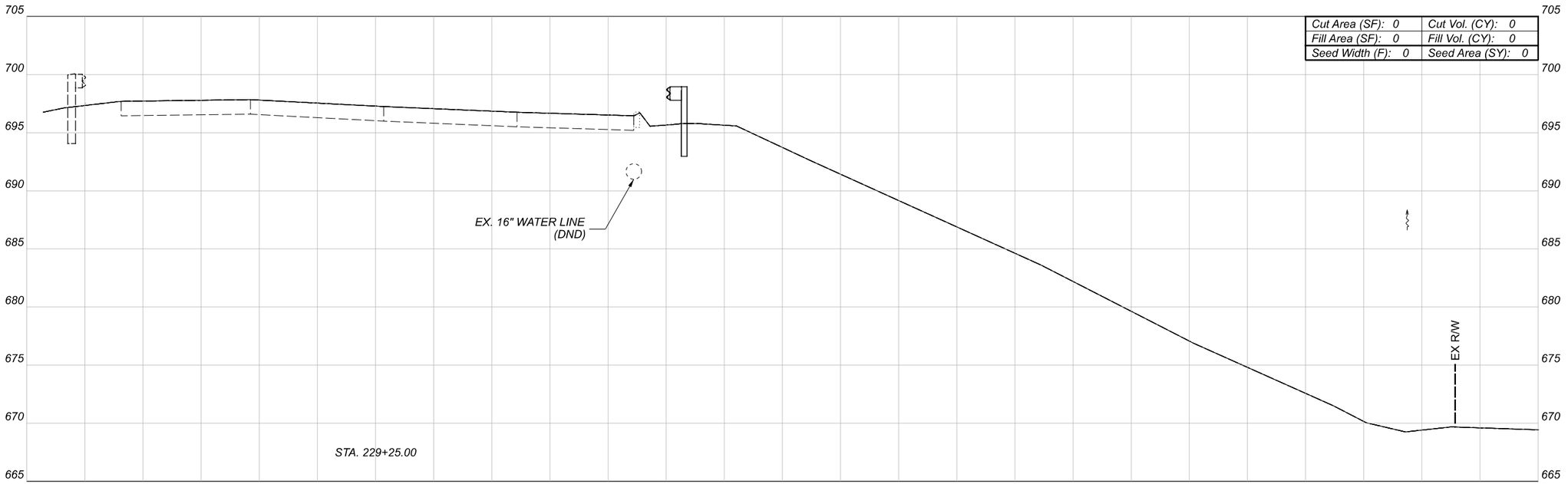
PLAN AND PROFILE
STA. 228+50.00 TO STA. 233+50.00

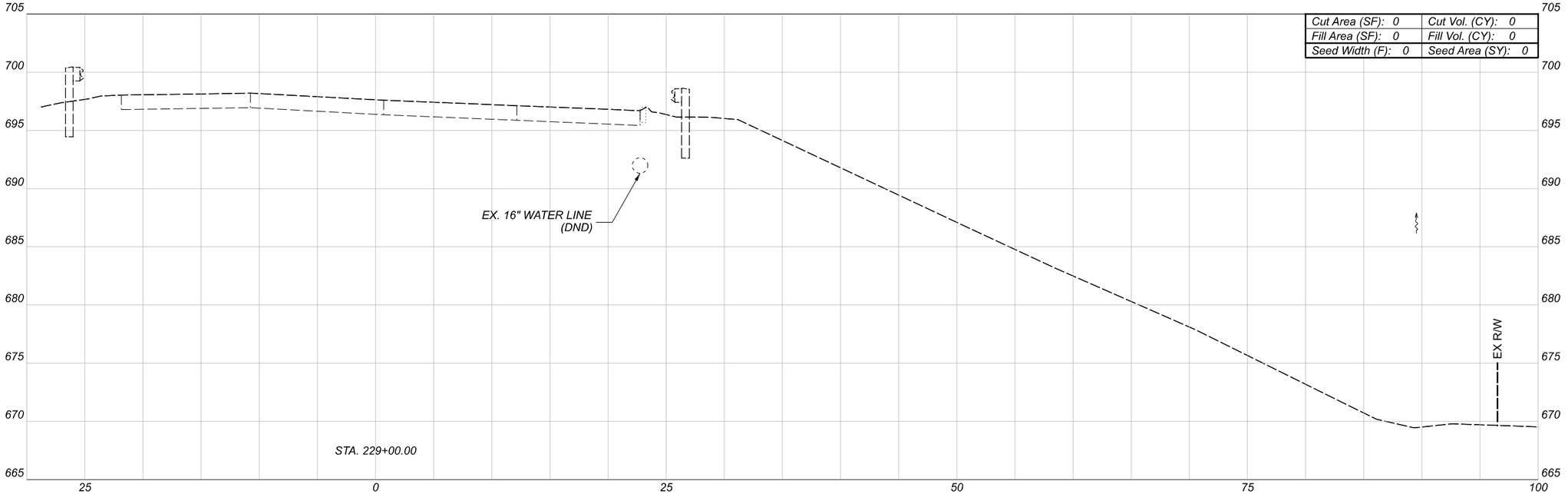
DESIGN AGENCY

DESIGNER KCO
REVIEWER RDM 05-19-20
PROJECT ID 107810
SHEET P.10 TOTAL 22

DEF-66-4.37

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CROSS SECTIONS
STA. 229+00.00 TO STA. 229+25.00

DEF-66-4.37

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DESIGN AGENCY

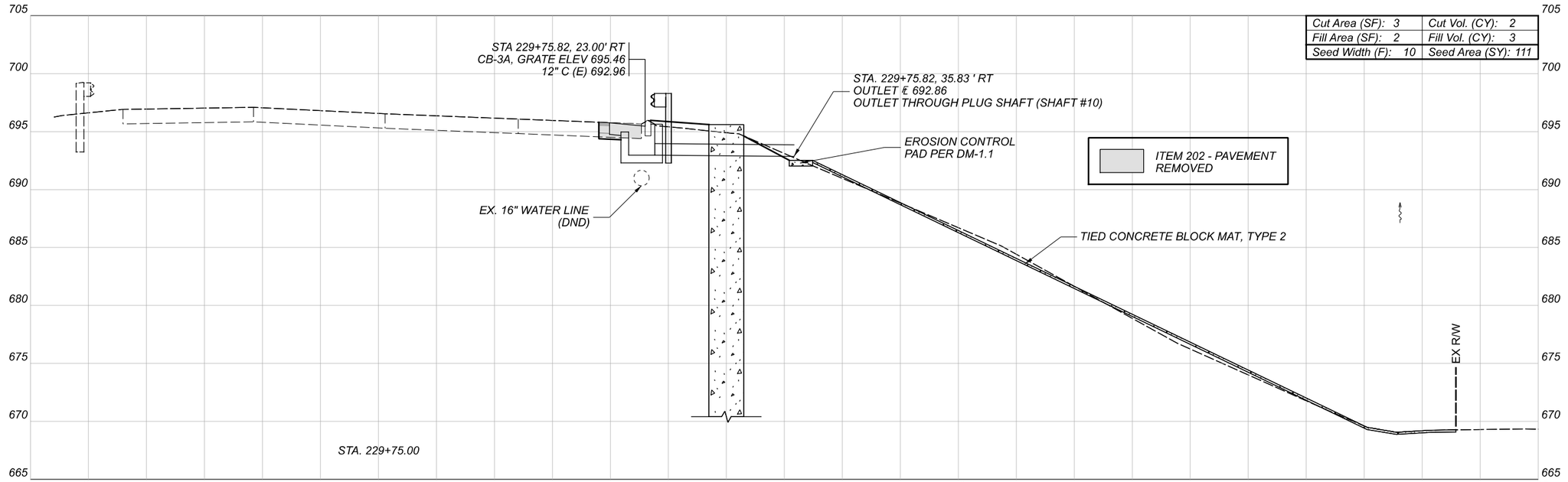
DESIGNER: KCO

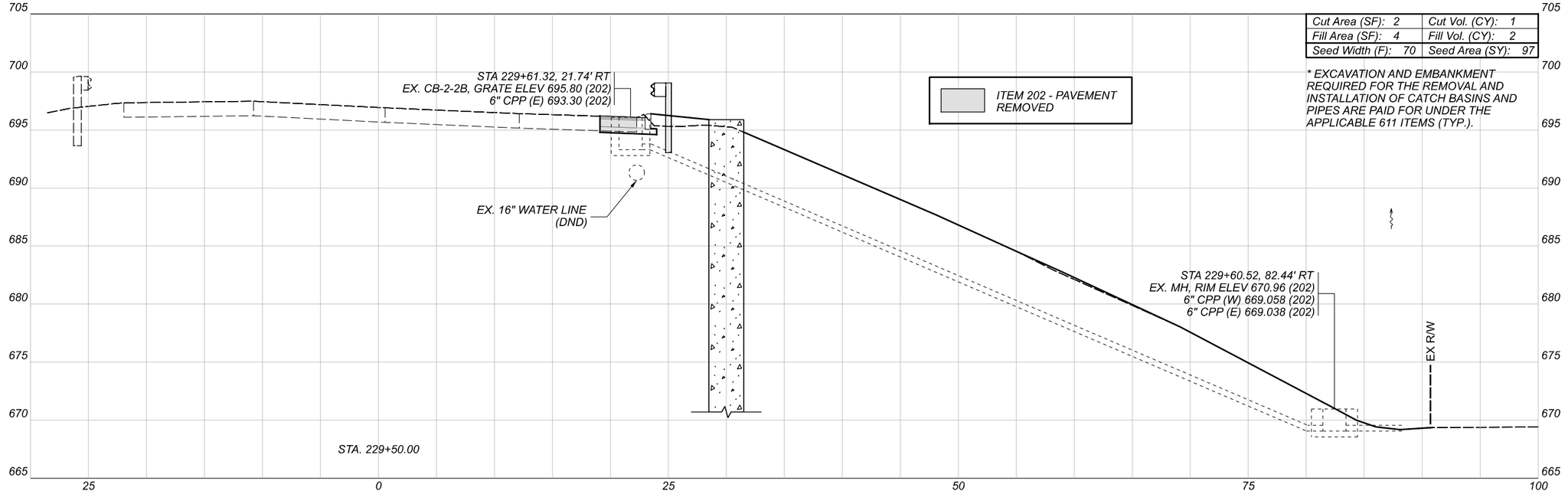
REVIEWER: MJM 05-18-20

PROJECT ID: 107810

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SHEET: P.11 TOTAL: 22





CROSS SECTIONS
STA. 229+50.00 TO STA. 229+75.00

DESIGN AGENCY

DESIGNER
KCO

REVIEWER
MJM 05-18-20

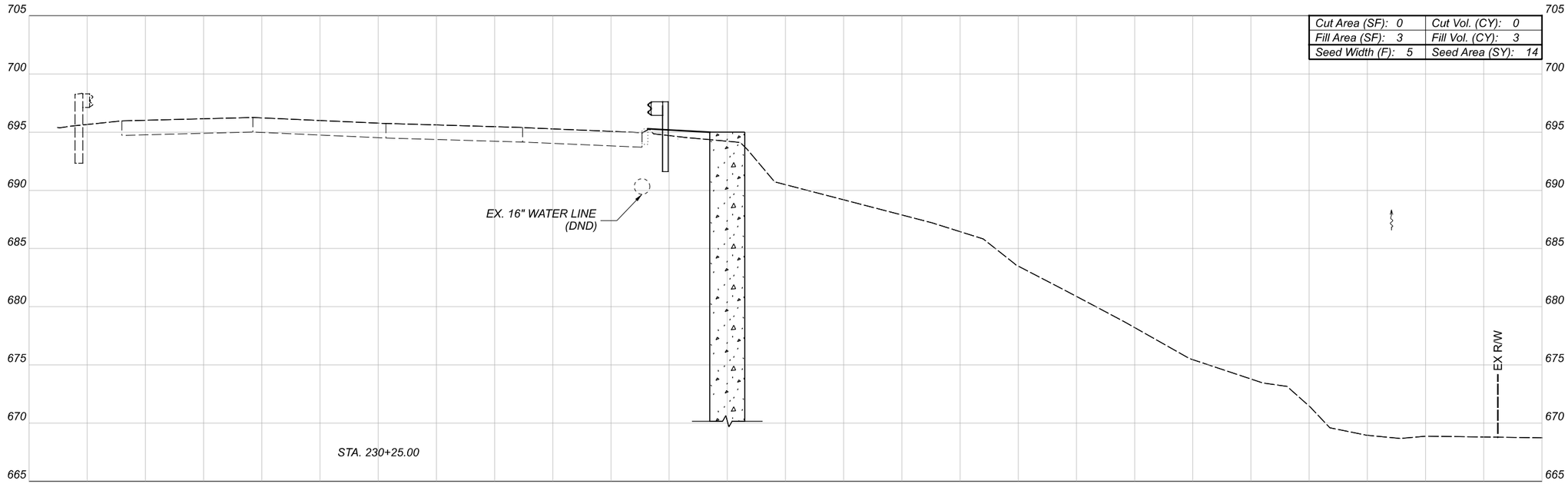
PROJECT ID
107810

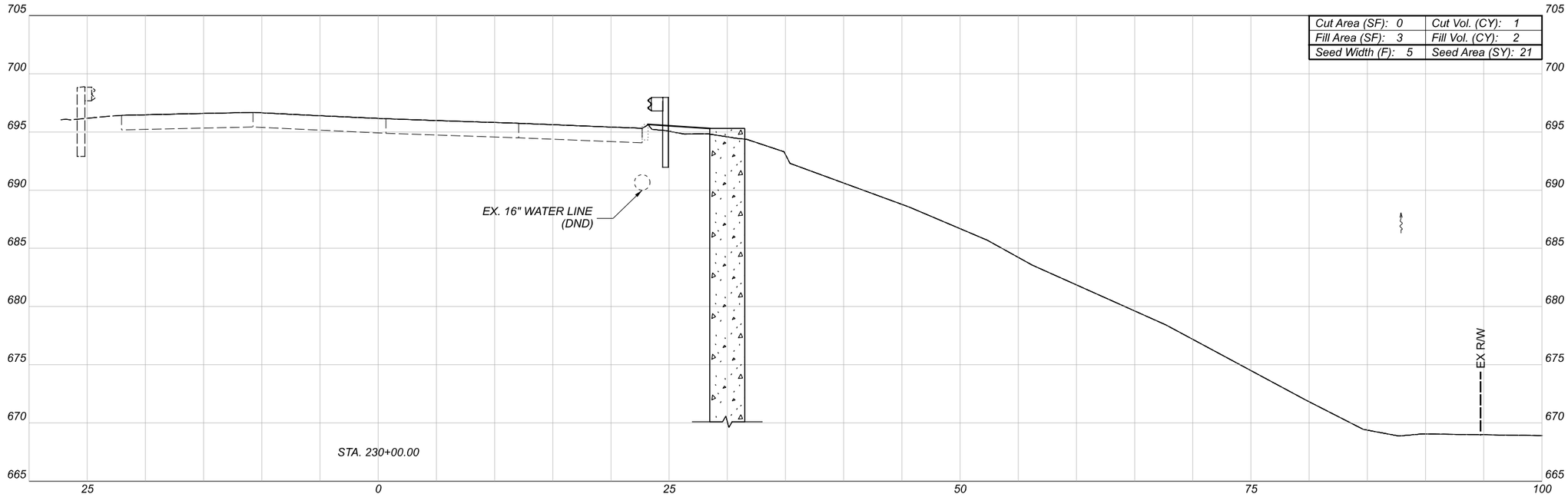
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SHEET P.12 TOTAL 22

DEF-66-4.37

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CROSS SECTIONS
STA. 230+00.00 TO STA. 230+25.00

DEF-66-4.37

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DESIGN AGENCY

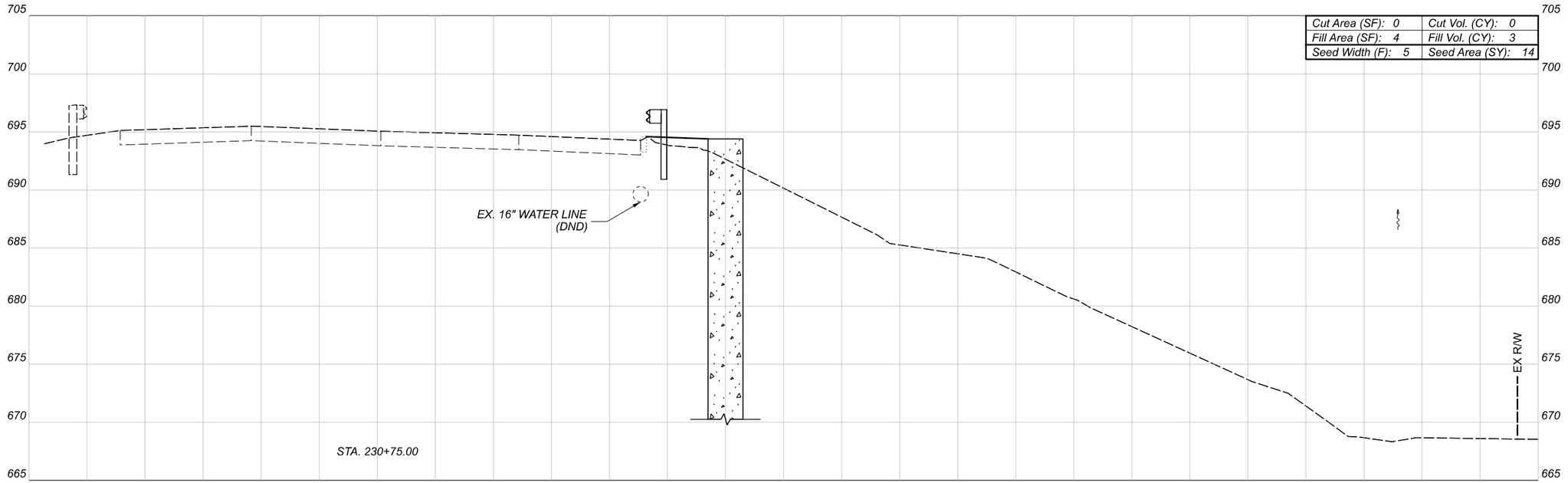
DESIGNER
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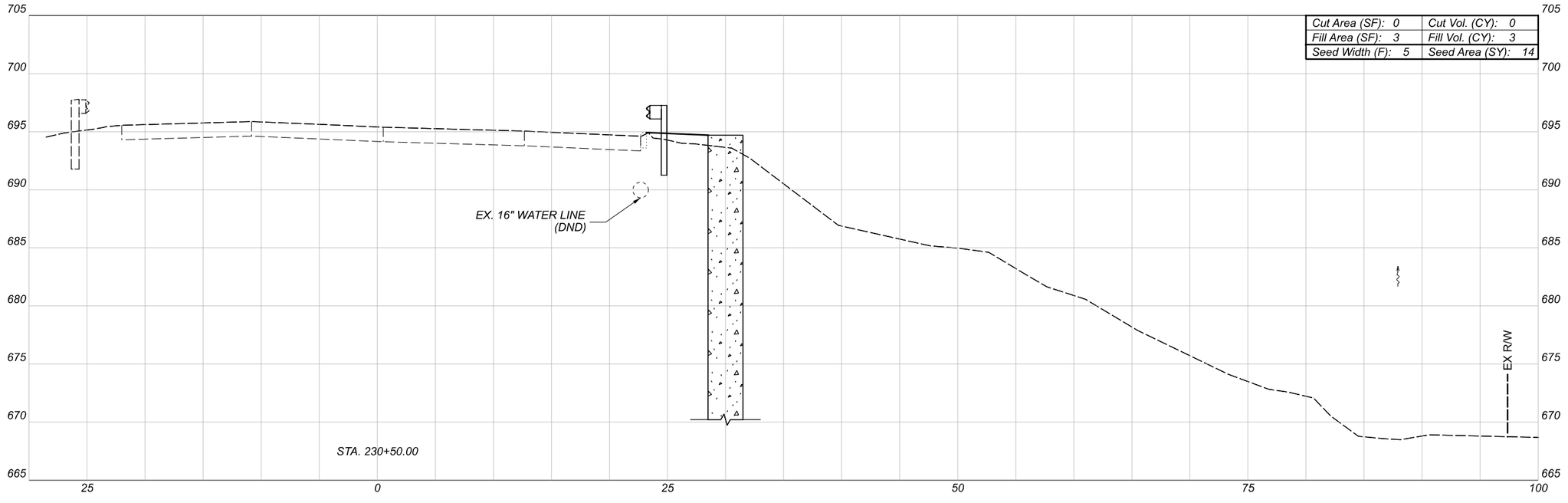
REVIEWER
MJM 05-18-20

PROJECT ID
107810

Sheet Totals		
Seeding	Cut	Fill
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SHEET P.13 TOTAL 22





CROSS SECTIONS
STA. 230+50.00 TO STA. 230+75.00

DESIGN AGENCY

DESIGNER: KCO

REVIEWER: MJM 05-18-20

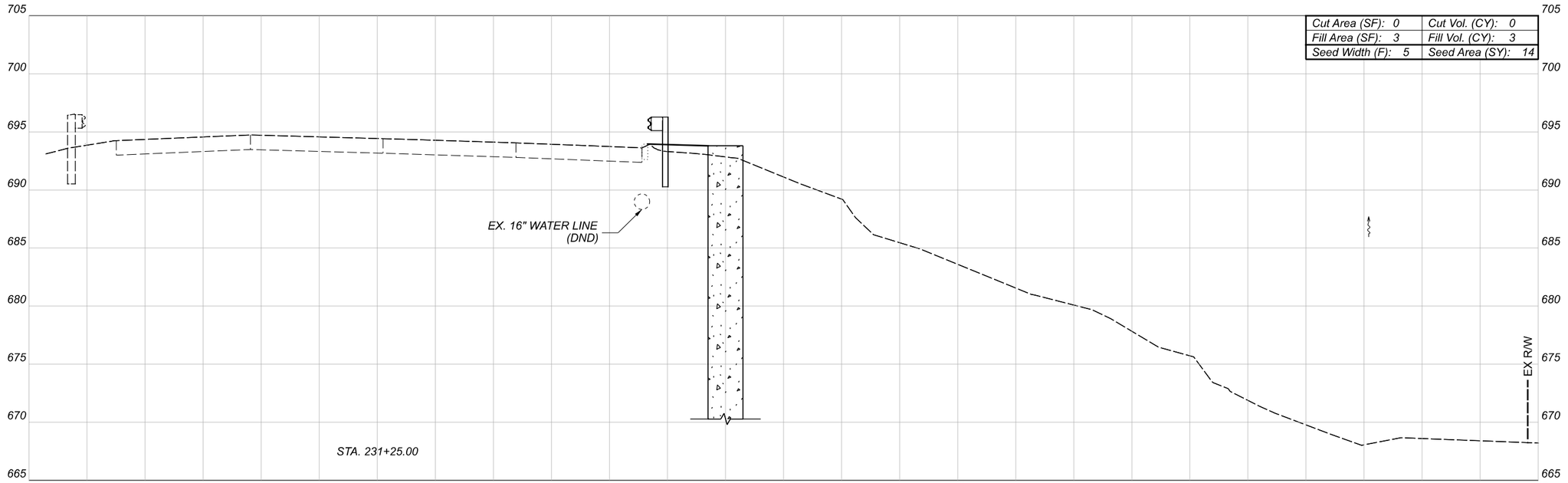
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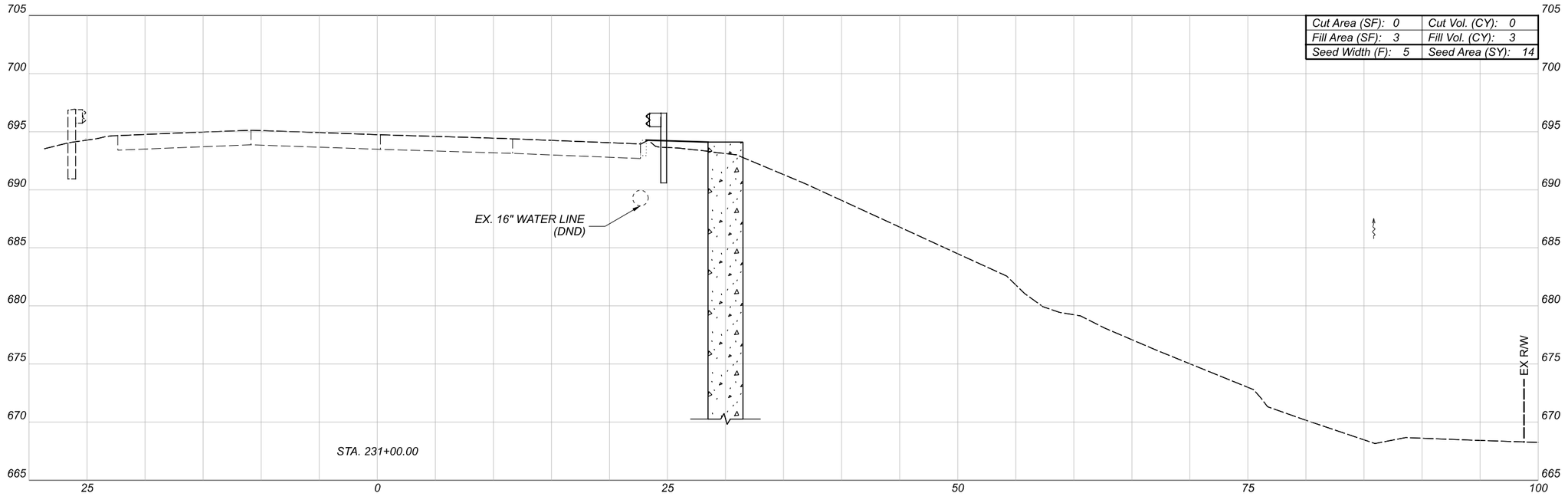
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SHEET P.14 TOTAL 22

DEF-66-4.37

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CROSS SECTIONS
STA. 231+00.00 TO STA. 231+25.00

DEF-66-4.37

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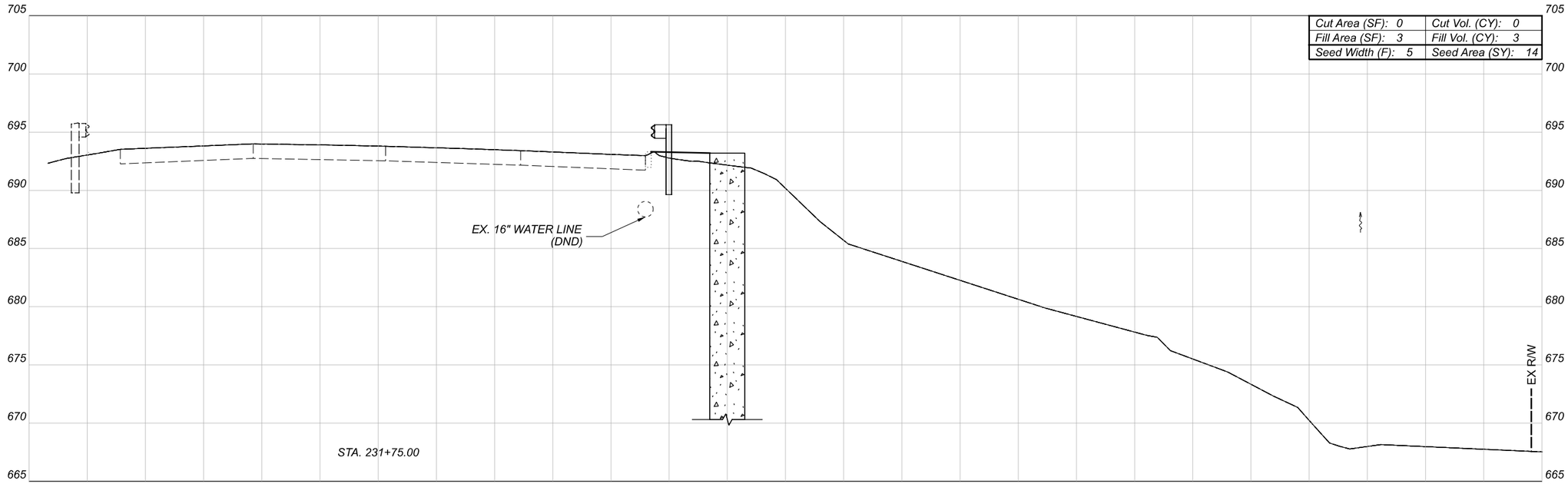
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KCO

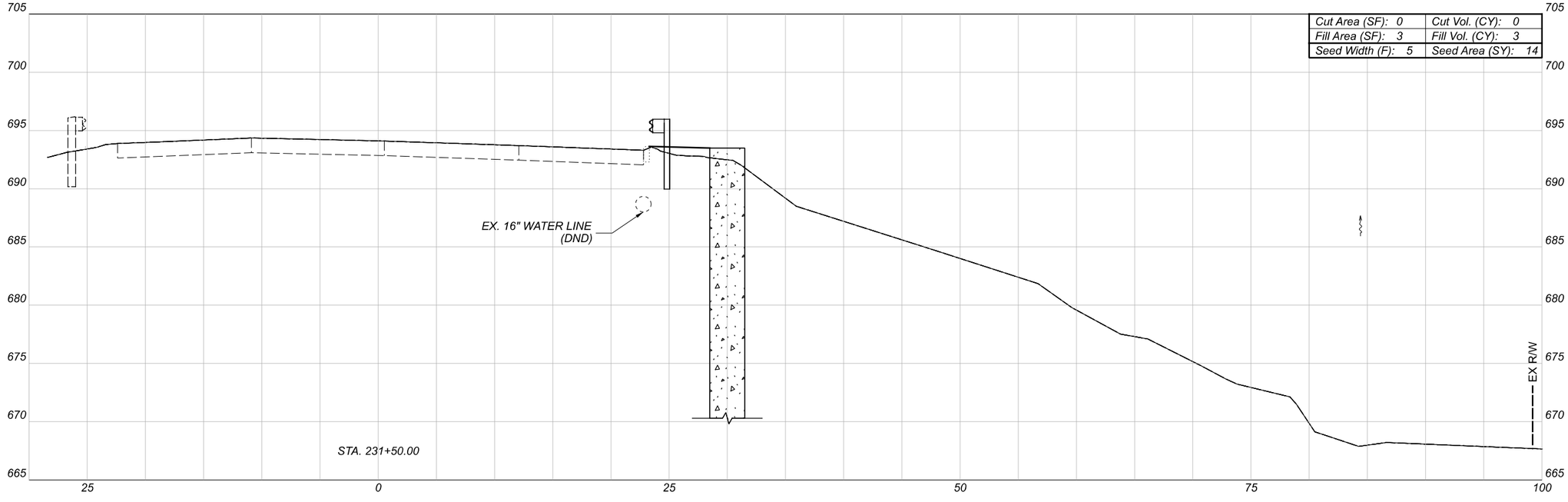
REVIEWER
MJM 05-18-20

PROJECT ID
107810

Sheet Totals		
Seeding	Cut	Fill
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SHEET P.15 TOTAL 22





CROSS SECTIONS
STA. 231+50.00 TO STA. 231+75.00

DEF-66-4.37

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DESIGN AGENCY

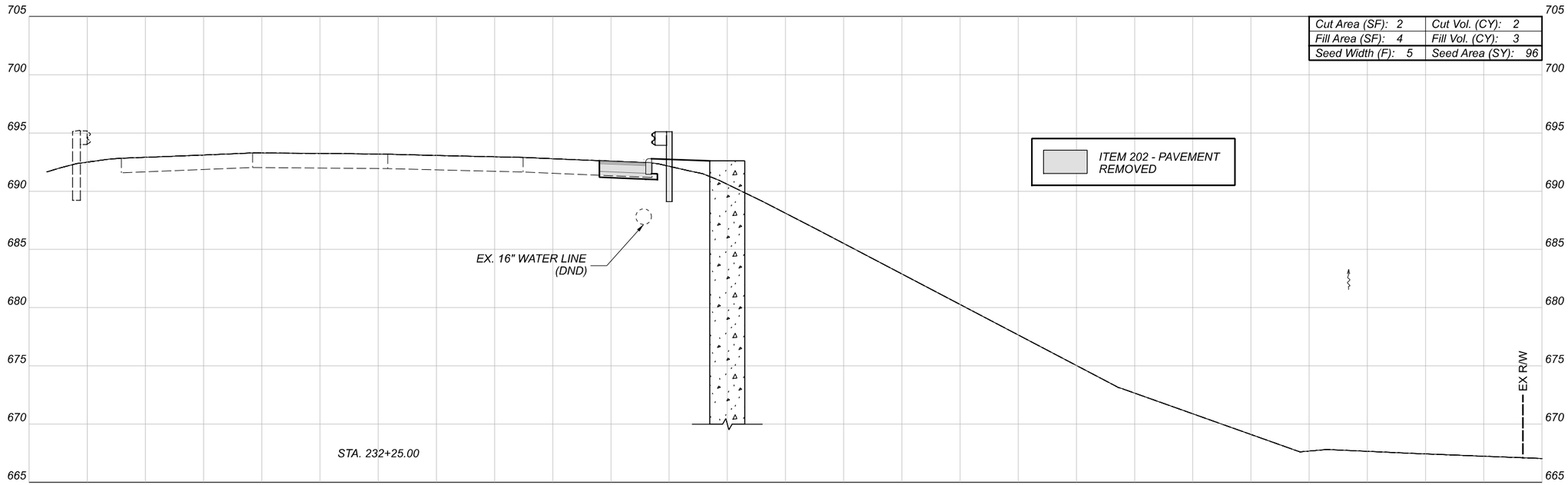
DESIGNER
KCO

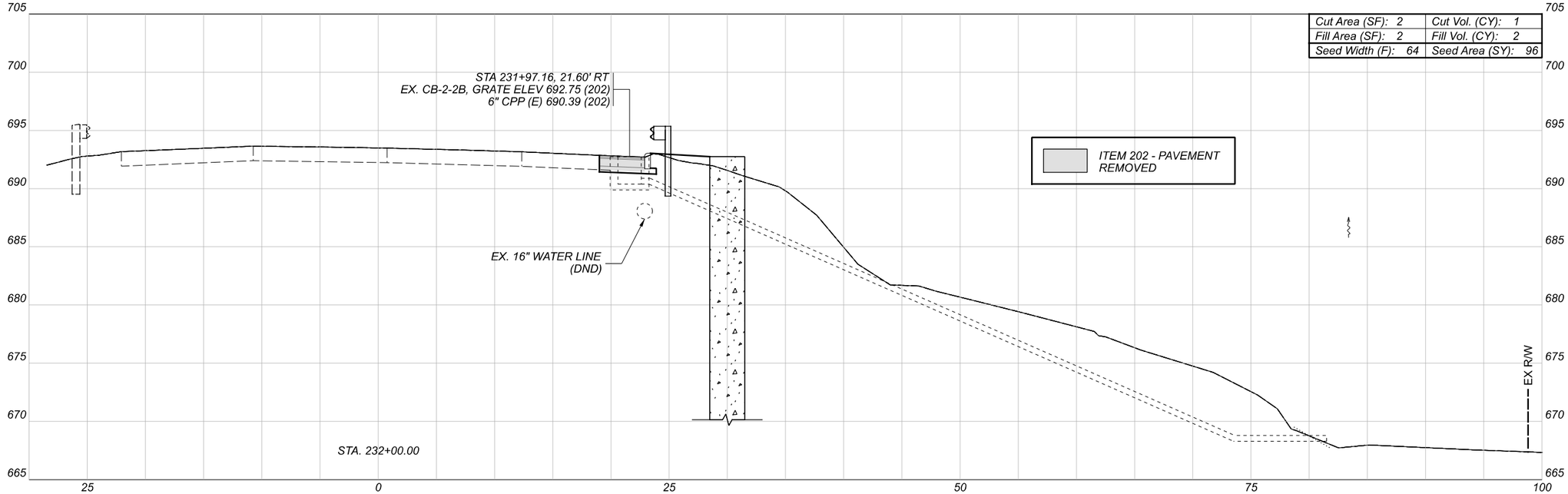
REVIEWER
MJM 05-18-20

PROJECT ID
107810

Sheet Totals		
Seeding	Cut	Fill
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SHEET P.16 | TOTAL 22





CROSS SECTIONS
STA. 232+00.00 TO STA. 232+25.00

DESIGN AGENCY

DESIGNER: KCO

REVIEWER: RDM 05-19-20

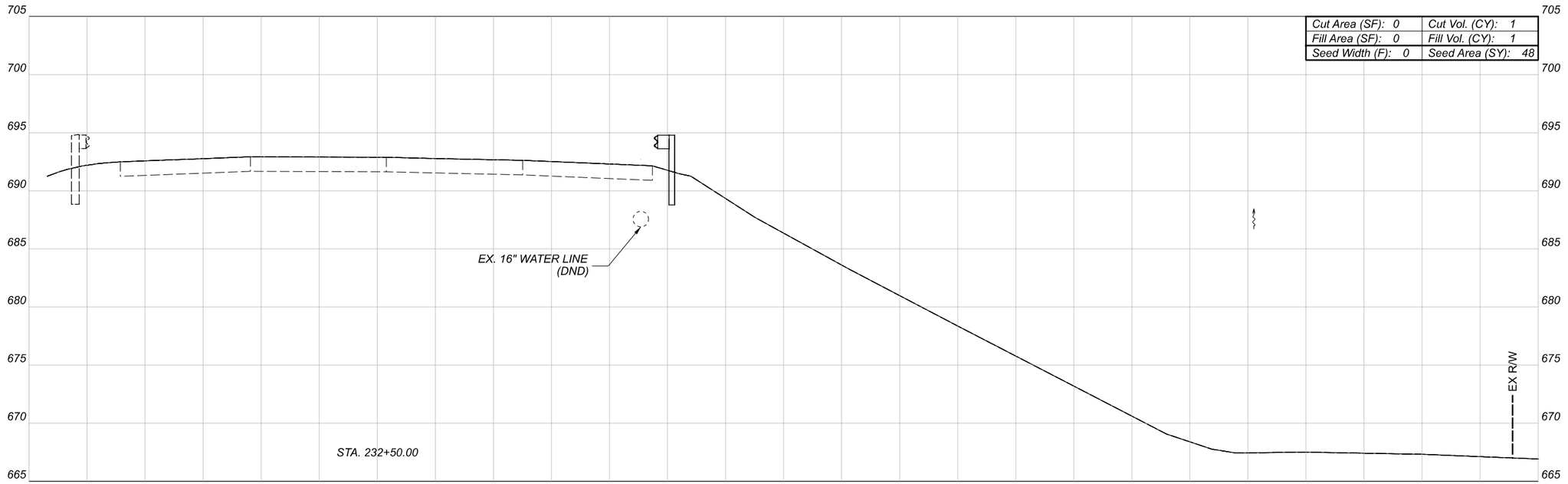
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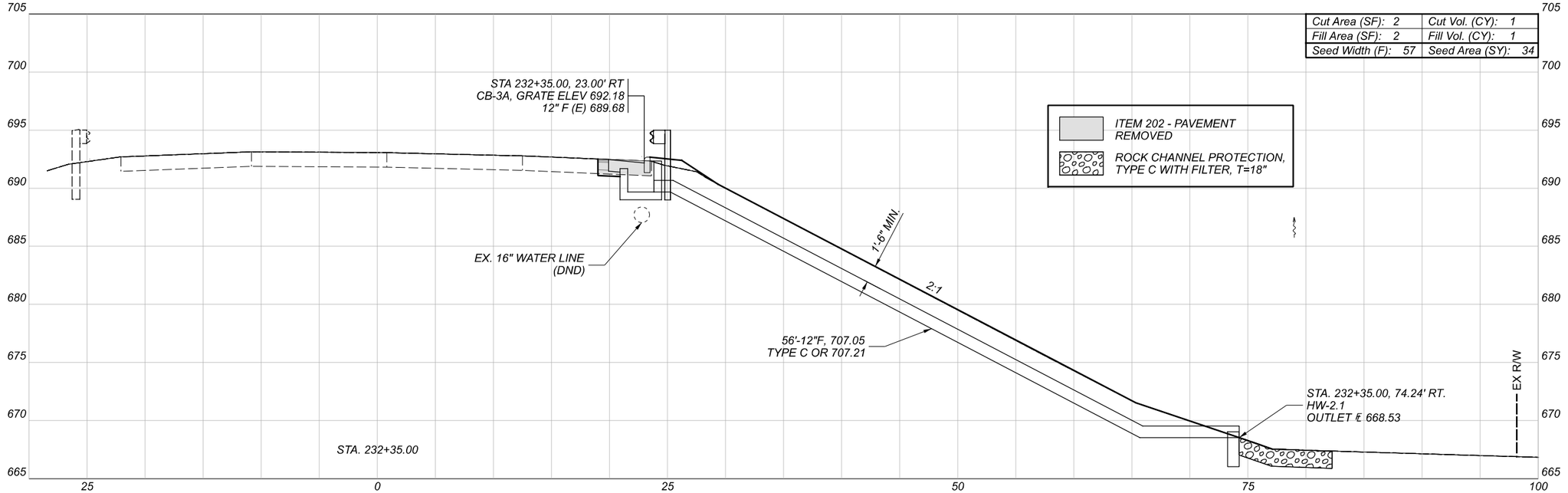
SHEET: P.17 TOTAL: 22

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DEF-66-4.37

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CROSS SECTIONS
STA. 232+35.00 TO STA. 232+50.00

DEF-66-4.37

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DESIGN AGENCY

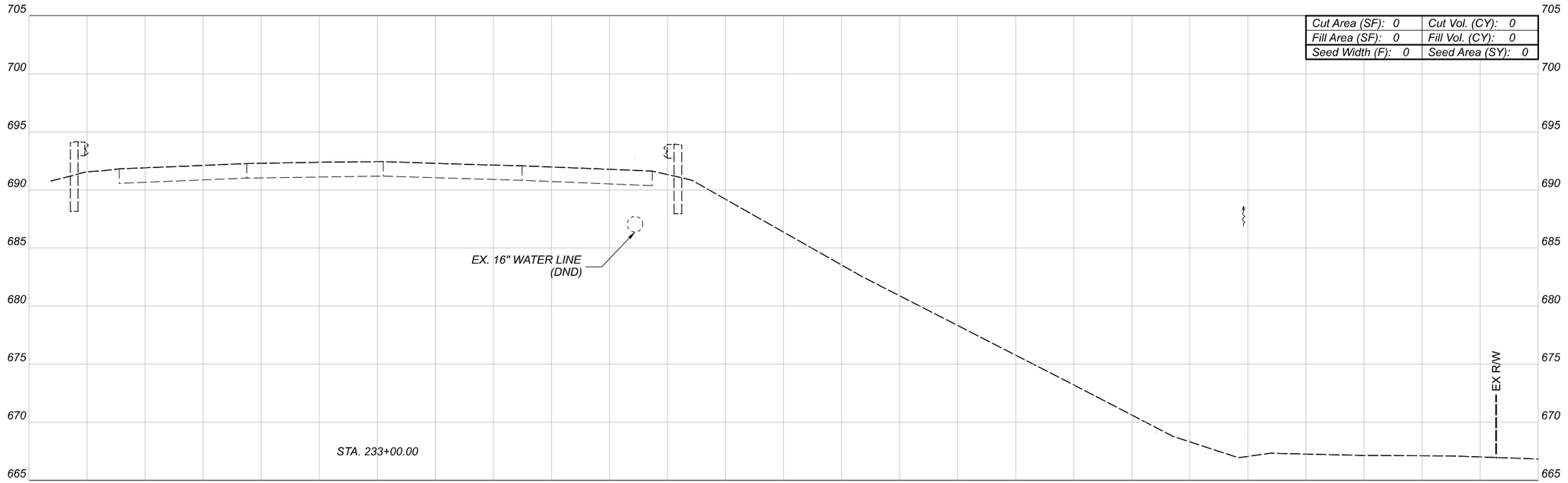
DESIGNER
KCO

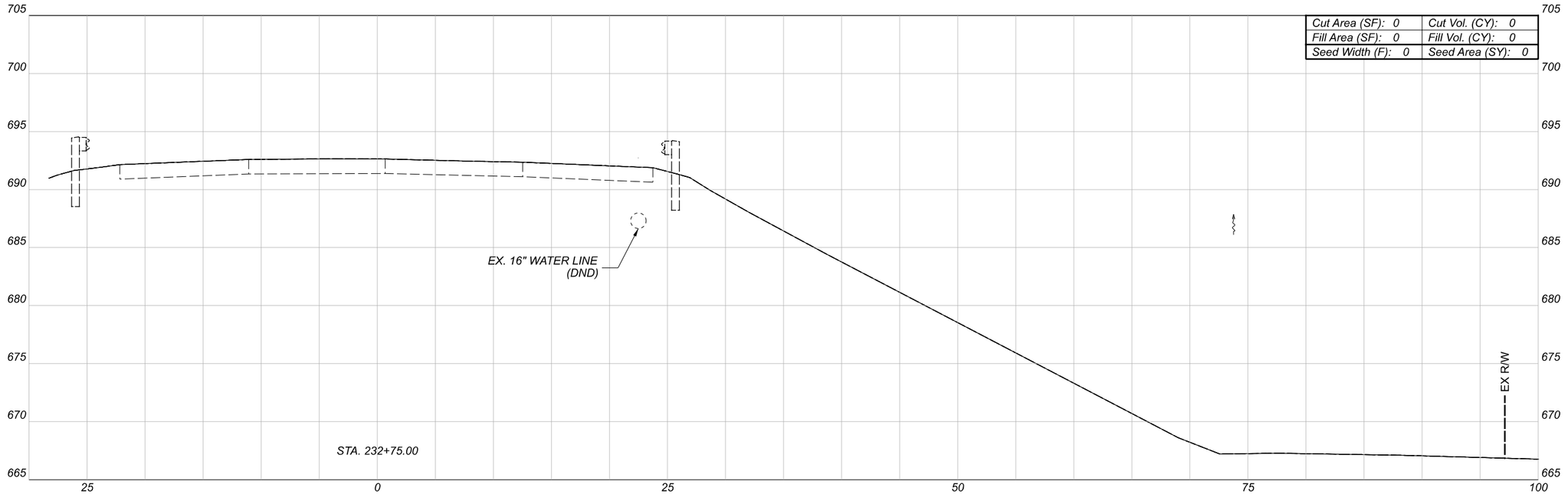
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RDM 05-19-20

PROJECT ID
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Sheet Totals		
Seeding	Cut	Fill
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SHEET P.18 TOTAL 22





CROSS SECTIONS
STA. 232+75.00 TO STA. 233+00.00

DESIGN AGENCY

DESIGNER
KCO

REVIEWER
RDM 05-19-20

PROJECT ID
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Sheet Totals		
Seeding	Cut	Fill
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SHEET P.19 TOTAL 22

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ITEM 507 - STEEL PILES, MISC.: W16X31 STEEL BEAM, FURNISHED, PLACED, AND PLUMBED

THIS WORK SHALL CONSIST OF FURNISHING STRUCTURAL STEEL MEMBERS THAT CONFORM TO ASTM A572, GRADE 50 AND CMS 711.01, AND PLACING AND PLUMBING THE MEMBER.

THE INDIVIDUAL LENGTHS SHOWN IN THE DRILLED SHAFT SUMMARY TABLES ON SHEET 22 AND THE TOTAL LENGTHS SHOWN IN THE ESTIMATED QUANTITIES ARE CALCULATED FROM THE ESTIMATED TOP OF ROCK ELEVATIONS AND THE ACTUAL LENGTH OF EACH STEEL BEAM MAY VARY. THE CONTRACTOR SHOULD ANTICIPATE THAT THE STEEL BEAMS WILL NEED TO BE TRIMMED OR SPLICED TO THE ACTUAL TOP OF ROCK. THE CONTRACTOR MAY WANT TO ORDER ADDITIONAL LENGTH OF EACH TYPE OF STEEL BEAM FOR SPLICING.

PLACE THE STRUCTURAL MEMBERS IN THE PRE-BORED SHAFTS. PILE SPLICING, IF REQUIRED, IS INCLUDED IN THE BID PRICE FOR THIS ITEM. DO NOT FIELD WELD OR SPLICE THOSE PARTS OF THE STRUCTURAL STEEL MEMBERS THAT WILL BE ABOVE GROUND. ORIENT THE STRUCTURAL MEMBER SO THAT THE FLANGES ARE PARALLEL TO THE CENTERLINE OF THE ROADWAY. DO NOT ALLOW THE ORIENTATION OF THE FLANGES TO VARY BY MORE THAN 10 DEGREES. PLUMB THE STRUCTURAL MEMBERS SO THEY ARE VERTICAL AND NOT INCLINED MORE THAN 1/8 INCH PER FOOT FROM VERTICAL. EACH STRUCTURAL MEMBER SHALL BE CENTERED WITHIN THE SHAFT. SUPPORT THE STRUCTURAL MEMBER SO THAT IT DOES NOT MOVE DURING CONCRETE PLACEMENT.

THE DEPARTMENT WILL MEASURE STEEL BEAMS ALONG THE AXIS OF THE STEEL BEAM FROM THE TOP OF SHAFT ELEVATION TO THE BOTTOM OF THE DRILLED SHAFT, AS DETERMINED BY THE ENGINEER. THE DEPARTMENT WILL PAY FOR STEEL BEAMS AT THE CONTRACT UNIT PRICE PER FOOT FOR ITEM 507, STEEL PILES, MISC.: W16X31 STEEL BEAM, FURNISHED, PLACED, AND PLUMBED.

ITEM 524 - DRILLED SHAFTS, MISC.: PLUG PILE, 36" DIAMETER, UNREINFORCED

THESE SHAFTS ARE TO BE UNREINFORCED "PLUG PILES" SERVING THE PURPOSE OF LAGGING. THIS WORK SHALL BE AS PER ITEM 524, DRILLED SHAFTS ABOVE BEDROCK, AS PER PLAN, EXCEPT A REINFORCING STEEL BEAM WILL NOT BE USED IN THE SHAFT. EACH PLUG PILE SHALL BE CENTERED BETWEEN EACH REINFORCED 36" DIAMETER DRILLED SHAFT AND BACKFILLED WITH UNREINFORCED CLASS QC1 CONCRETE. ALL OF THE REQUIREMENTS NOTED FOR ITEM 524, DRILLED SHAFTS, ABOVE BEDROCK, AS PER PLAN APPLY TO THE PLUG PILE CONSTRUCTION UNLESS NOTED OTHERWISE.

THE DEPARTMENT WILL PAY FOR THE WORK ABOVE AT THE CONTRACT UNIT PRICE PER FOOT FOR ITEM 524, DRILLED SHAFTS, MISC.: PLUG PILES, 36" DIAMETER.

ITEM 524, DRILLED SHAFTS, 36" DIAMETER, ABOVE BEDROCK, AS PER PLAN
ITEM 524, DRILLED SHAFTS, 36" DIAMETER, INTO BEDROCK, AS PER PLAN

THIS WORK CONSISTS OF FURNISHING AND INSTALLING DRILLED SHAFTS FOR SLOPE STABILIZATION STRUCTURES. THE DRILLED SHAFTS ARE REINFORCED WITH STRUCTURAL STEEL MEMBERS INSTEAD OF REINFORCING STEEL CAGES. FURNISH AND INSTALL THE DRILLED SHAFTS IN ACCORDANCE WITH CMS 524 EXCEPT AS MODIFIED AND SUPPLEMENTED BELOW.

EXCAVATE THE HOLE FOR THE DRILLED SHAFT WITHIN 6 INCHES OF THE PLAN LOCATION. CASING MAY BE REQUIRED FOR THE CONSTRUCTION OF THE DRILLED SHAFTS. THE DESIGN IS BASED ON A MAXIMUM DEPTH FROM GROUND SURFACE TO BEDROCK OF 44 FEET. IF FIELD CONDITIONS INDICATE GREATER DEPTHS, NOTIFY THE ENGINEER FOR FURTHER EVALUATION.

USE CLASS QC1 CONCRETE ACCORDING TO CMS 511. THE CONTRACTOR MAY PLACE CONCRETE USING THE FREE FALL METHOD PROVIDED THE DEPTH OF WATER IS LESS THAN 6 INCHES AND THE CONCRETE FALLS WITHOUT STRIKING THE SIDES OF THE HOLE. POURING CONCRETE ALONG THE WEB OF THE STRUCTURAL STEEL MEMBER IS ACCEPTABLE.

CHECK THE POSITION, THE VERTICAL ALIGNMENT, AND ORIENTATION OF THE STRUCTURAL STEEL MEMBER IMMEDIATELY AFTER CONCRETE PLACEMENT. MAKE CORRECTIONS AS NECESSARY TO MEET THE ABOVE TOLERANCES.

SEQUENCE OF INSTALLATION:
THE INSTALLATION SEQUENCE SHALL BE SUCH THAT NO DRILLED SHAFT IS INSTALLED ADJACENT TO EITHER AN OPEN DRILLED SHAFT EXCAVATION OR A DRILLED SHAFT IN WHICH THE CONCRETE HAS LESS THAN A 48-HOUR CURE. INSTALLING THE SHAFTS IN ANY ALTERNATING SEQUENCE OR ANY SEQUENCE THAT MEETS THIS CRITERION IS PERMISSIBLE.

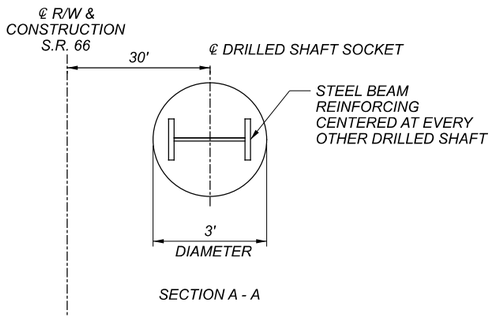
PROTECTION OF UNATTENDED OPEN SHAFTS:
CARE SHALL BE EXERCISED AS TO COVER UNATTENDED OPEN SHAFTS. TEMPORARY COVERS SHALL BE OF ADEQUATE STRENGTH TO PROTECT A PERSON OR ANIMAL FROM FALLING IN.

LOADING OF PILES:
THE PILES SHALL NOT BE LOADED NOR ANY EXCAVATION PERFORMED IN FRONT OF THE WALL FOR 14 DAYS AFTER THE PLACING OF THE CONCRETE.

ACCESS:
ANY TEMPORARY GRADING, AGGREGATE, DRAINAGE, ETC., NEEDED FOR ACCESS TO THE WORK AREA SHALL BE INCLUDED IN THE BID PRICE FOR ITEM 524, DRILLED SHAFTS.

METHOD OF MEASUREMENT:
THE DEPARTMENT WILL MEASURE THE DRILLED SHAFTS ABOVE BEDROCK, AS PER PLAN, ALONG THE AXIS OF THE DRILLED SHAFT FROM THE PROPOSED TOP OF SHAFT ELEVATION TO THE TOP OF BEDROCK, AS DETERMINED BY THE ENGINEER. THE DEPARTMENT WILL MEASURE DRILLED SHAFTS INTO BEDROCK, AS PER PLAN, ALONG THE AXIS OF THE DRILLED SHAFT FROM THE TOP OF BEDROCK TO THE BOTTOM OF THE DRILLED SHAFT, AS DETERMINED BY THE ENGINEER.

PAYMENT IS FULL COMPENSATION FOR CONSTRUCTING THE DRILLED SHAFTS AND FURNISHING AND PLACING DRILLED SHAFT CONCRETE.



SECTION A - A

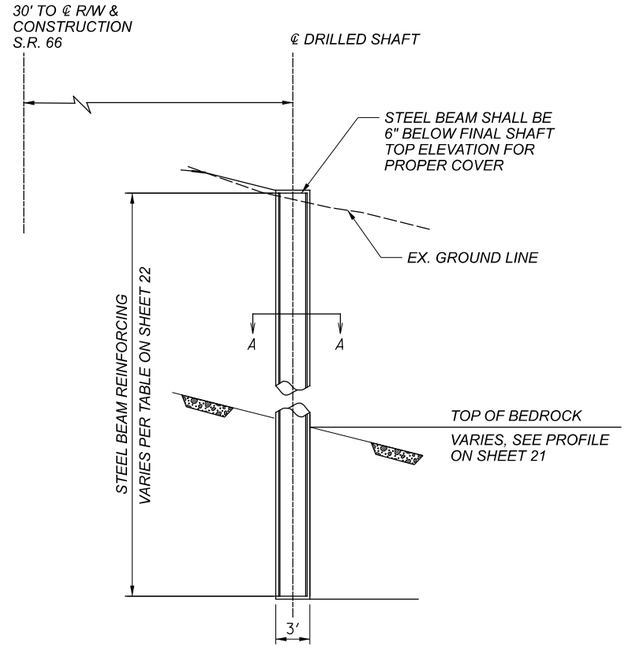
NOTES:

1. DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 7TH EDITION, AND THE ODOT OGE GEOTECHNICAL BULLETIN GB7.

2. DESIGN DATA

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4000 PSI (DRILLED SHAFT)
STRUCTURAL STEEL, - A572 GRADE 50 - YIELD STRENGTH 50,000 PSI



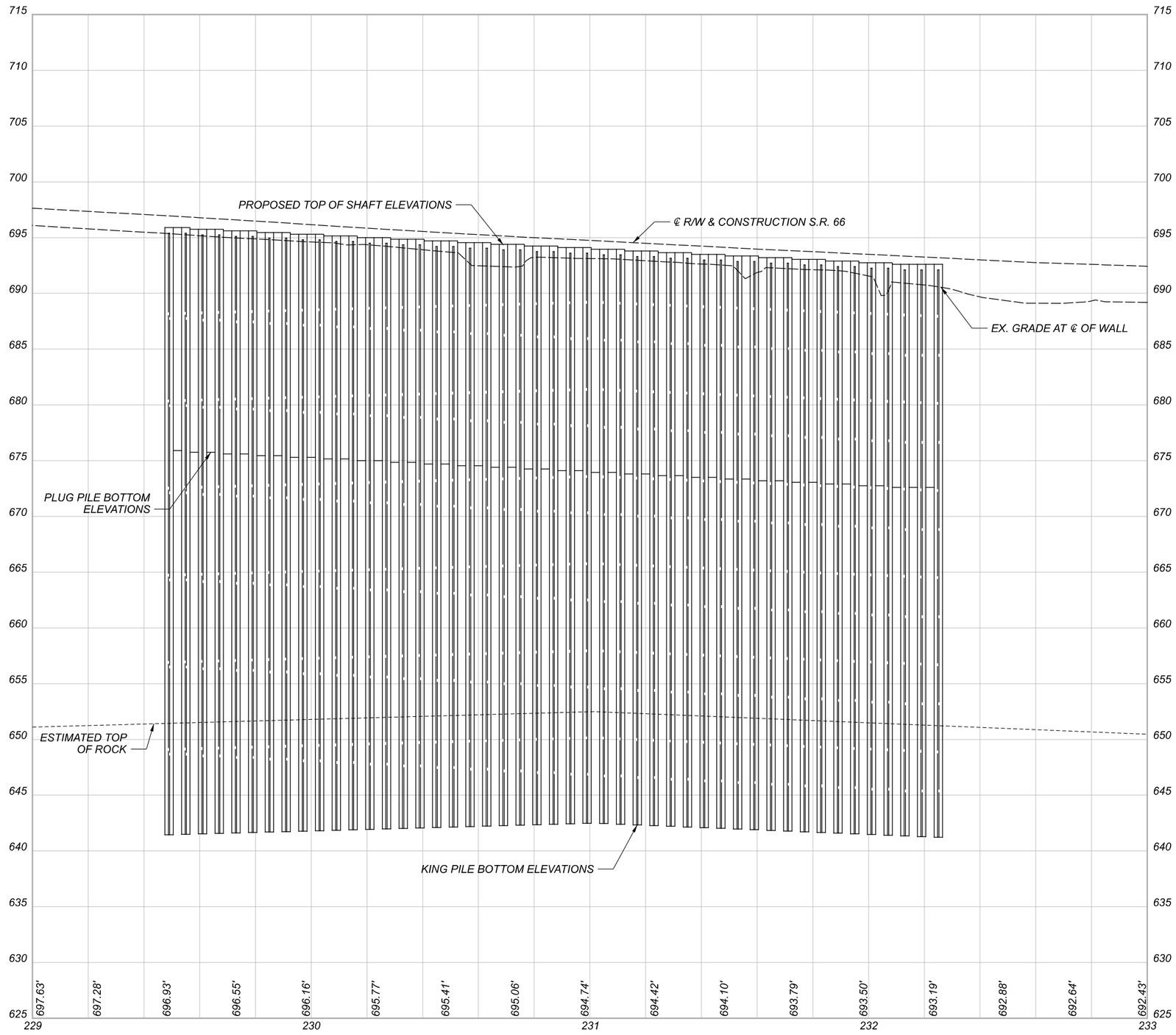
DRILLED SHAFT WALL DETAILS

DESIGN AGENCY

DESIGNER KCO
REVIEWER MJM 05-18-20
PROJECT ID 107810
SHEET P.20 TOTAL 22

DEF-66-4.37

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DRILLED SHAFT WALL PROFILE

DEF-66-4.37

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DESIGN AGENCY

DESIGNER KCO

REVIEWER MJM 05-18-20

PROJECT ID 107810

SHEET P.21 TOTAL 22

SHAFT NO.	STATION	OFFSET RIGHT	TOP OF DRILLED SHAFT ELEVATION	ESTIMATED TOP OF ROCK ELEVATION	APPROX. BOTTOM OF DRILLED SHAFT ELEVATION	TOTAL DRILLED SHAFT LENGTH	507 STEEL PILES, MISC.: W16X31 STEEL BEAM, FURNISHED, PLACED, AND PLUMBED	524 DRILLED SHAFTS, 36" DIAMETER, ABOVE BEDROCK, AS PER PLAN	524 DRILLED SHAFTS, 36" DIAMETER, INTO BEDROCK, AS PER PLAN	524 DRILLED SHAFTS, MISC.: PLUG PILE, 36" DIAMETER, UNREINFORCED
		FT				FT	FT	FT	FT	FT
1	229+48.27	30	695.90	651.45	641.45	54.45	53.95	44.45	10	---
2	229+51.32	30	695.90	---	675.90	20.00	---	---	---	20
3	229+54.39	30	695.90	651.49	641.49	54.41	53.91	44.41	10	---
4	229+57.44	30	695.75	---	675.75	20.00	---	---	---	20
5	229+60.52	30	695.75	651.53	641.53	54.22	53.72	44.22	10	---
6	229+63.57	30	695.75	---	675.75	20.00	---	---	---	20
7	229+66.65	30	695.75	651.57	641.57	54.18	53.68	44.18	10	---
8	229+69.70	30	695.60	---	675.60	20.00	---	---	---	20
9	229+72.77	30	695.60	651.61	641.61	53.99	53.49	43.99	10	---
10	229+75.82	30	695.60	---	675.60	20.00	---	---	---	20
11	229+78.89	30	695.60	651.66	641.66	53.94	53.44	43.94	10	---
12	229+81.94	30	695.45	---	675.45	20.00	---	---	---	20
13	229+85.00	30	695.45	651.70	641.70	53.75	53.25	43.75	10	---
14	229+88.06	30	695.45	---	675.45	20.00	---	---	---	20
15	229+91.11	30	695.45	651.74	641.74	53.71	53.21	43.71	10	---
16	229+94.17	30	695.30	---	675.30	20.00	---	---	---	20
17	229+97.23	30	695.30	651.78	641.78	53.52	53.02	43.52	10	---
18	230+00.28	30	695.30	---	675.30	20.00	---	---	---	20
19	230+03.33	30	695.30	651.82	641.82	53.48	52.98	43.48	10	---
20	230+06.39	30	695.15	---	675.15	20.00	---	---	---	20
21	230+09.44	30	695.15	651.86	641.86	53.29	52.79	43.29	10	---
22	230+12.50	30	695.15	---	675.15	20.00	---	---	---	20
23	230+15.55	30	695.15	651.90	641.90	53.25	52.75	43.25	10	---
24	230+18.60	30	695.00	---	675.00	20.00	---	---	---	20
25	230+21.65	30	695.00	651.94	641.94	53.06	52.56	43.06	10	---
26	230+24.70	30	695.00	---	675.00	20.00	---	---	---	20
27	230+27.75	30	695.00	651.99	641.99	53.01	52.51	43.01	10	---
28	230+30.80	30	694.85	---	674.85	20.00	---	---	---	20
29	230+33.85	30	694.85	652.03	642.03	52.82	52.32	42.82	10	---
30	230+36.90	30	694.85	---	674.85	20.00	---	---	---	20
31	230+39.95	30	694.85	652.07	642.07	52.78	52.28	42.78	10	---
32	230+43.00	30	694.70	---	674.70	20.00	---	---	---	20
33	230+46.05	30	694.70	652.11	642.11	52.59	52.09	42.59	10	---
34	230+49.09	30	694.70	---	674.70	20.00	---	---	---	20
35	230+52.14	30	694.70	652.15	642.15	52.55	52.05	42.55	10	---
36	230+55.19	30	694.55	---	674.55	20.00	---	---	---	20
37	230+58.23	30	694.55	652.19	642.19	52.36	51.86	42.36	10	---
38	230+61.28	30	694.55	---	674.55	20.00	---	---	---	20
39	230+64.32	30	694.55	652.23	642.23	52.32	51.82	42.32	10	---
40	230+67.37	30	694.40	---	674.40	20.00	---	---	---	20
41	230+70.41	30	694.40	652.28	642.28	52.12	51.62	42.12	10	---
42	230+73.45	30	694.40	---	674.40	20.00	---	---	---	20
43	230+76.49	30	694.40	652.32	642.32	52.08	51.58	42.08	10	---
44	230+79.54	30	694.25	---	674.25	20.00	---	---	---	20
45	230+82.58	30	694.25	652.36	642.36	51.89	51.39	41.89	10	---
46	230+85.62	30	694.25	---	674.25	20.00	---	---	---	20
47	230+88.66	30	694.25	652.40	642.40	51.85	51.35	41.85	10	---
						SUBTOTALS	1263.62	1035.62	240	460

SHAFT NO.	STATION	OFFSET RIGHT	TOP OF DRILLED SHAFT ELEVATION	ESTIMATED TOP OF ROCK ELEVATION	APPROX. BOTTOM OF DRILLED SHAFT ELEVATION	TOTAL DRILLED SHAFT LENGTH	507 STEEL PILES, MISC.: W16X31 STEEL BEAM, FURNISHED, PLACED, AND PLUMBED	524 DRILLED SHAFTS, 36" DIAMETER, ABOVE BEDROCK, AS PER PLAN	524 DRILLED SHAFTS, 36" DIAMETER, INTO BEDROCK, AS PER PLAN	524 DRILLED SHAFTS, MISC.: PLUG PILE, 36" DIAMETER, UNREINFORCED
		FT				FT	FT	FT	FT	FT
48	230+91.70	30	694.10	---	674.10	20.00	---	---	---	20
49	230+94.74	30	694.10	652.44	642.44	51.66	51.16	41.66	10	---
50	230+97.78	30	694.10	---	674.10	20.00	---	---	---	20
51	231+00.82	30	694.10	652.48	642.48	51.62	51.12	41.62	10	---
52	231+03.86	30	693.95	---	673.95	20.00	---	---	---	20
53	231+06.89	30	693.95	652.47	642.47	51.48	50.98	41.48	10	---
54	231+09.93	30	693.95	---	673.95	20.00	---	---	---	20
55	231+12.97	30	693.95	652.40	642.40	51.55	51.05	41.55	10	---
56	231+16.00	30	693.80	---	673.80	20.00	---	---	---	20
57	231+19.04	30	693.80	652.34	642.34	51.46	50.96	41.46	10	---
58	231+22.08	30	693.80	---	673.80	20.00	---	---	---	20
59	231+25.11	30	693.80	652.28	642.28	51.52	51.02	41.52	10	---
60	231+28.15	30	693.65	---	673.65	20.00	---	---	---	20
61	231+31.18	30	693.65	652.22	642.22	51.43	50.93	41.43	10	---
62	231+34.21	30	693.65	---	673.65	20.00	---	---	---	20
63	231+37.25	30	693.65	652.16	642.16	51.49	50.99	41.49	10	---
64	231+40.28	30	693.50	---	673.50	20.00	---	---	---	20
65	231+43.31	30	693.50	652.10	642.10	51.40	50.90	41.40	10	---
66	231+46.34	30	693.50	---	673.50	20.00	---	---	---	20
67	231+49.37	30	693.50	652.04	642.04	51.46	50.96	41.46	10	---
68	231+52.40	30	693.35	---	673.35	20.00	---	---	---	20
69	231+55.43	30	693.35	651.97	641.97	51.38	50.88	41.38	10	---
70	231+58.46	30	693.35	---	673.35	20.00	---	---	---	20
71	231+61.49	30	693.35	651.91	641.91	51.44	50.94	41.44	10	---
72	231+64.52	30	693.20	---	673.20	20.00	---	---	---	20
73	231+67.55	30	693.20	651.85	641.85	51.35	50.85	41.35	10	---
74	231+70.57	30	693.20	---	673.20	20.00	---	---	---	20
75	231+73.60	30	693.20	651.79	641.79	51.41	50.91	41.41	10	---
76	231+76.63	30	693.05	---	673.05	20.00	---	---	---	20
77	231+79.65	30	693.05	651.73	641.73	51.32	50.82	41.32	10	---
78	231+82.68	30	693.05	---	673.05	20.00	---	---	---	20
79	231+85.71	30	693.05	651.67	641.67	51.38	50.88	41.38	10	---
80	231+88.73	30	692.90	---	672.90	20.00	---	---	---	20
81	231+91.75	30	692.90	651.61	641.61	51.29	50.79	41.29	10	---
82	231+94.78	30	692.90	---	672.90	20.00	---	---	---	20
83	231+97.80	30	692.90	651.54	641.54	51.36	50.86	41.36	10	---
84	232+00.82	30	692.75	---	672.75	20.00	---	---	---	20
85	232+03.85	30	692.75	651.48	641.48	51.27	50.77	41.27	10	---
86	232+06.87	30	692.75	---	672.75	20.00	---	---	---	20
87	232+09.89	30	692.75	651.42	641.42	51.33	50.83	41.33	10	---
88	232+12.91	30	692.60	---	672.60	20.00	---	---	---	20
89	232+15.93	30	692.60	651.36	641.36	51.24	50.74	41.24	10	---
90	232+18.95	30	692.60	---	672.60	20.00	---	---	---	20
91	232+21.97	30	692.60	651.30	641.30	51.30	50.80	41.30	10	---
92	232+24.98	30	692.60	---	672.60	20.00	---	---	---	20
93	232+28.00	30	692.60	651.24	641.24	51.36	50.86	41.36	10	---
						SUBTOTALS	1171.00	952.50	230	460
						TOTALS (CARRIED TO GENERAL SUMMARY)	2435	1988	470	920

DRILLED SHAFT WALL ELEVATIONS

DESIGN AGENCY

DESIGNER KCO

REVIEWER MJM 05-18-20

PROJECT ID 107810

SHEET P.22 TOTAL 22

DEF-66-4.37

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PROJECT DESCRIPTION

SLIDE REPAIR BY CONSTRUCTING A PLUG PILE WALL ALONG S.R. 66 WITHIN THE CITY OF DEFIANCE.

HISTORIC RECORDS

HISTORICAL BORINGS WERE OBTAINED FROM ODOT TRANSPORTATION INFORMATION MAPPING SYSTEM (TIMS) FOR DEF-66-3.50 COMPLETED IN 1965 FOR THE RELOCATION OF 1.5 MILES OF S.R. 66 INCLUDING A NEW RIVER CROSSING OF THE AUGLAIZE RIVER. THE RESULTS OF THESE EXPLORATIONS INDICATED THAT THE MAJORITY OF THE AREA CONTAINED PREDOMINATELY CLAY (A-7-6) WITH OCCASIONAL COHESIVE SOILS CONSISTING OF SILT AND CLAY (A-6a) AND SILTY CLAY (A-6b). WET MATERIALS WERE ENCOUNTERED AT STATIONS 228+40 AND 232+00 AND ORGANIC SOILS WERE ENCOUNTERED AT STATIONS 235+00 AND 235+65. BEDROCK WAS ENCOUNTERED WITHIN THE STRUCTURE BORINGS BETWEEN APPROXIMATELY ELEVATIONS 653 AND 655 FEET. THESE BORINGS ARE NOT SHOWN WITHIN THIS EXPLORATION FOR CLARITY.

GEOLOGY

THE PROJECT AREA IS LOCATED WITHIN THE MAUMEE LAKE PLAINS PHYSIOGRAPHIC REGION WHICH IS CHARACTERIZED BY NEARLY FLAT LYING TERRAIN WITH LOW GRADIENT MEANDERING STREAMS. GENERALLY, THE AREA IS CHARACTERIZED BY HIGH PLASTIC GLACIAL LAKE DEPOSITED CLAY AT THE GROUND SURFACE UNDERLAIN BY GLACIAL TILLS WHICH HAVE BEEN PLANED OFF BY THE GLACIAL LAKE. THIN TO THICK ALLUVIAL DEPOSITS ARE PRESENT ALONG THE LARGER STREAMS WITHIN THE REGION, SUCH AS THE AUGLAIZE RIVER LOCATED ADJACENT TO THE PROJECT. THE OVERBURDEN SOILS ARE UNDERLAIN BY THE UPPER DEVONIAN AGED ANTRIM SHALE.

RECONNAISSANCE

FIELD RECONNAISSANCE WAS COMPLETED BY PERSONNEL FROM THE OFFICE OF GEOTECHNICAL ENGINEERING ON MAY 22, 2018. THE PROJECT CONSISTS OF THE SOUTH SIDE APPROACH EMBANKMENT FOR S.R. 66 OVER THE AUGLAIZE RIVER. THE EXISTING APPROACH IS A TWO-LANE ASPHALT ROAD WITH FULL WIDTH PAVED SHOULDERS. SEVERAL SMALL HEAD SCARPS AND SMALL ROTATIONAL FAILURES WERE EVIDENT WITHIN THE EAST SIDE EMBANKMENT FACE. THE TOE OF THE EMBANKMENT WAS NOTED AS BEING LOW LYING FLOODPLAIN WITH SEVERAL WET AREAS. CRACKING WITHIN THE PAVED SHOULDER AND MINOR DEFLECTION OF THE NORTHBOUND GUARDRAIL WERE EVIDENT. THE MAJORITY OF THE EMBANKMENT FACE WAS WELL VEGETATED EXCEPT WHERE TENSION CRACKING AND SCARPS FROM THE INSTABILITY WERE NOTED. THE REMAINING PAVEMENT AND WEST EMBANKMENT FACE WERE NOTED AS BEING IN GOOD CONDITION.

SUBSURFACE EXPLORATION

THREE (3) BORINGS, B-001-0-18 THROUGH B-003-0-18, WERE COMPLETED AS PART OF THE SUBSURFACE EXPLORATION BETWEEN SEPTEMBER 26 AND OCTOBER 3, 2018. ALL BORINGS WERE COMPLETED WITH A TRACK MOUNTED CME 850 ROTARY DRILL USING 3-3/4 INCH I.D. HOLLOW STEM AUGERS TO ADVANCE THE BORINGS. DISTURBED SAMPLES WERE COLLECTED AT 2.5-FOOT INTERVALS WITHIN THE EMBANKMENT MATERIALS AND CONTINUOUSLY WITHIN THE FOUNDATION SOILS. ALL SAMPLES WERE COLLECTED IN ACCORDANCE WITH THE STANDARD PENETRATION TEST (AASHTO T206). THE HAMMER SYSTEM USED WAS CALIBRATED ON JUNE 1, 2017, WITH AN AVERAGE DRILL ROD ENERGY RATIO (ER) OF 81%. THE BORINGS WERE ADVANCED INTO BEDROCK AND SAMPLED (AASHTO T225) USING AN N SERIES WIRELINE CORE BARREL, WATER METHOD.

ADDITIONALLY, TWO (2) WILDCAT DYNAMIC CONE PENETRATION (DCP) SOUNDINGS WERE COMPLETED MID-SLOPE DUE TO DIFFICULT ACCESS.

EXPLORATION FINDINGS

ALL THREE BORINGS WERE COMPLETED WITHIN THE EXISTING PAVED SHOULDER OF NORTHBOUND S.R. 66 AND ENCOUNTERED BETWEEN 15 AND 16 INCHES OF ASPHALT UNDERLAIN BY 3 TO 6 INCHES OF AGGREGATE BASE. BENEATH THE PAVEMENT THE BORINGS ENCOUNTERED COHESIVE EMBANKMENT SOILS CONSISTING OF SANDY SILT (A-4a), SILT AND CLAY (A-6a) AND SILTY CLAY (A-6b) WHICH RANGED FROM STIFF TO HARD IN CONSISTENCY AND DAMP TO MOIST IN CONDITION. THE BASE OF THE EMBANKMENT FILL WAS NOTED AS BEING SLIGHTLY TO MODERATELY ORGANIC. FIRST ENCOUNTERED NATURAL FOUNDATION SOILS WERE COHESIVE CONSISTING OF SILT AND CLAY (A-6a), SILTY CLAY (A-6b) AND CLAY (A-7-6) WHICH TYPICALLY RANGED FROM SOFT TO MEDIUM STIFF IN CONSISTENCY AND MOIST IN CONDITION. BELOW THESE SOILS THE BORINGS ENCOUNTERED NON-COHESIVE SOILS CONSISTING OF GRAVEL AND STONE FRAGMENTS WITH SAND (A-1-b), COARSE AND FINE SAND (A-3a), AND SANDY SILT (A-4a) WHICH RANGED FROM MEDIUM DENSE TO VERY DENSE IN COMPACTNESS AND WERE TYPICALLY WET IN CONDITION. SHALE BEDROCK WAS ENCOUNTERED IN ALL THREE BORINGS BETWEEN ELEVATION 651.4 AND 652.5 FEET. THE SHALE WAS DESCRIBED AS SLIGHTLY WEATHERED, MODERATELY STRONG TO STRONG, CARBONACEOUS AND PYRITIC. UNIT RQD VALUES RANGED FROM 68 TO 88% AND UNIT RECOVERY VALUES RANGED FROM 98 TO 100%. UNCONFINED COMPRESSIVE STRENGTH TESTING OF REPRESENTATIVE BEDROCK SAMPLES RANGED BETWEEN 7,335 AND 15,315 PSI. WATER WAS REPORTED DURING DRILLING TYPICALLY BETWEEN ELEVATION 657.8 AND 670.8 FEET.

THE MID-SLOPE WILDCAT DCP SOUNDINGS INITIALLY ENCOUNTERED APPROXIMATELY 7 FEET OF SOFT TO MEDIUM STIFF SOILS. THE UPPER 4 FEET IN D-002-1-18 WAS PREDOMINATELY SOFT. BOTH SOUNDINGS WERE TERMINATED IN STIFF SOIL AT APPROXIMATELY 8.5 FEET.

SPECIFICATIONS

THIS GEOTECHNICAL EXPLORATION WAS PERFORMED IN ACCORDANCE WITH THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, OFFICE OF GEOTECHNICAL ENGINEERING, SPECIFICATIONS FOR GEOTECHNICAL EXPLORATIONS, DATED JULY 2017.

LEGEND

	DESCRIPTION	ODOT CLASS	CLASSIFIED MECH./VISUAL	
	GRAVEL AND/OR STONE FRAGMENTS WITH SAND	A-1-b	3	2
	COARSE AND FINE SAND	A-3a	3	-
	SANDY SILT	A-4a	3	-
	SILT AND CLAY	A-6a	6	12
	SILTY CLAY	A-6b	11	23
	CLAY	A-7-6	1	1
		TOTAL	27	38
	SHALE			
	PAVEMENT OR BASE = X = APPROXIMATE THICKNESS	VISUAL		

D-ZZZ-WW-18 DYNAMIC CONE PENETRATION (DCP) SOUNDING LOCATION - PLAN VIEW.

DCP SOUNDING PLOTTED TO A VERTICAL SCALE ONLY.

N' — INDICATES WILDCAT DCP CORRELATION DERIVED SPT N-VALUE.

B-ZZZ-WW-18 PROJECT BORING LOCATION - PLAN VIEW.

DRIVE SAMPLE AND/OR ROCK CORE BORING PLOTTED TO VERTICAL SCALE ONLY. HORIZONTAL BAR INDICATES A CHANGE IN STRATIGRAPHY.

WC — INDICATES WATER CONTENT IN PERCENT.

N_{60} — INDICATES STANDARD PENETRATION RESISTANCE NORMALIZED TO 60% DRILL ROD ENERGY RATIO.

W — INDICATES FREE WATER ELEVATION.

INDICATES WATER AT COMPLETION.

● — INDICATES A PLASTIC MATERIAL WITH A MOISTURE CONTENT EQUAL TO OR GREATER THAN THE LIQUID LIMIT MINUS 3.

INDICATES A NON-PLASTIC MATERIAL WITH A MOISTURE CONTENT GREATER THAN 25 % OR GREATER THAN 19 % WITH A WET APPEARANCE.

γ — INDICATES UNIT WEIGHT OF ROCK.

LOI — INDICATES ORGANIC CONTENT BY LOSS ON IGNITION, AASHTO T267.

NP — INDICATES A NON-PLASTIC SAMPLE.

NQ — INDICATES A ROCK CORE SAMPLE.

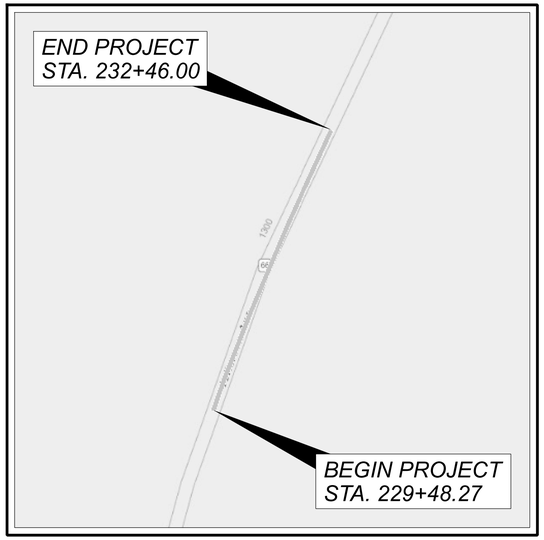
Qu — INDICATES UNCONFINED COMPRESSION TEST, ASTM D7012.

SS — INDICATES A SPLIT SPOON SAMPLE.

TR — INDICATES TOP OF ROCK ELEVATION.

AVAILABLE INFORMATION

THE SOIL, BEDROCK, AND GROUNDWATER INFORMATION COLLECTED FOR THIS SUBSURFACE EXPLORATION THAT CAN BE CONVENIENTLY DISPLAYED ON THE SOIL PROFILE SHEETS HAS BEEN PRESENTED. GEOTECHNICAL REPORTS, IF PREPARED, ARE AVAILABLE FOR REVIEW ON THE OFFICE OF CONTRACT SALES WEBSITE.



LOCATION MAP

PARTICLE SIZE DEFINITIONS

12"	3"	2.0 mm	0.42 mm	0.074 mm	0.005 mm
BOULDERS	COBBLES	GRAVEL	COARSE SAND	FINE SAND	SILT	CLAY
		No. 10 SIEVE	No. 40 SIEVE	No. 200 SIEVE		

ORGANIC CONTENT BY LOSS ON IGNITION			
BORING NO.	SAMPLE ELEVATION	SAMPLE DEPTH	LOI
B-001-0-18	671.3'	24.0' - 25.5'	5.2%
B-002-0-18	673.0'	21.0' - 22.5'	4.5%
B-003-0-18	676.4'	16.0' - 17.5'	4.5%
	669.4'	23.0' - 26.0'	5.2%
	655.5'	36.9' - 38.0'	3.5%

BEDROCK TEST SUMMARY			
BORING NO.	SAMPLE ELEVATION	SAMPLE DEPTH	Qu (PSI)
B-001-0-18	649.7'	45.6' - 46.0'	12,774
	643.7'	51.6' - 52.0'	7,335
B-002-0-18	649.9'	44.1' - 44.5'	15,315
	643.3'	50.7' - 51.1'	8,006
B-003-0-18	650.2'	42.2' - 42.6'	11,750
	646.8'	45.6' - 46.0'	7,992

RECON. - SAT, PPP 05/22/18
DCP SOUNDING - KCO, SAT, PPP 09/27/18
DRILLING - ZJB 09/26/18 - 10/02/18
CEM 10/02 - 03/18
DRAWN - ARR 04/07/20
REVIEWED - BKL 04/13/20
REVISED - ARR 06/09/20 (PROJECT LIMITS ONLY)

SOIL PROFILE - LANDSLIDE

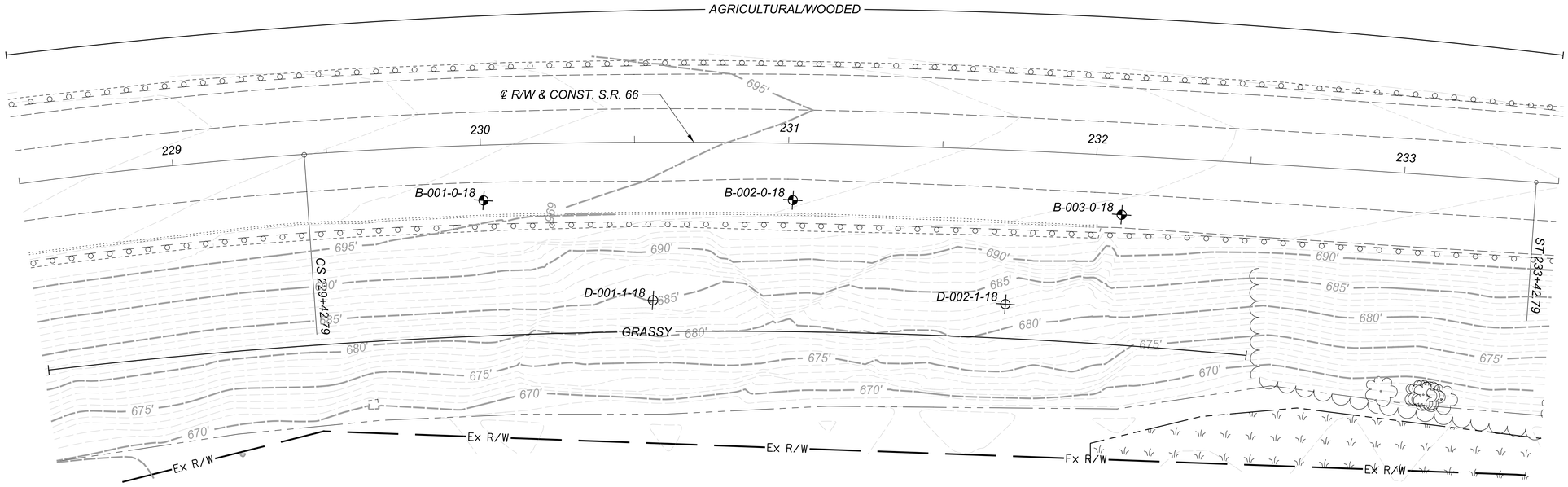
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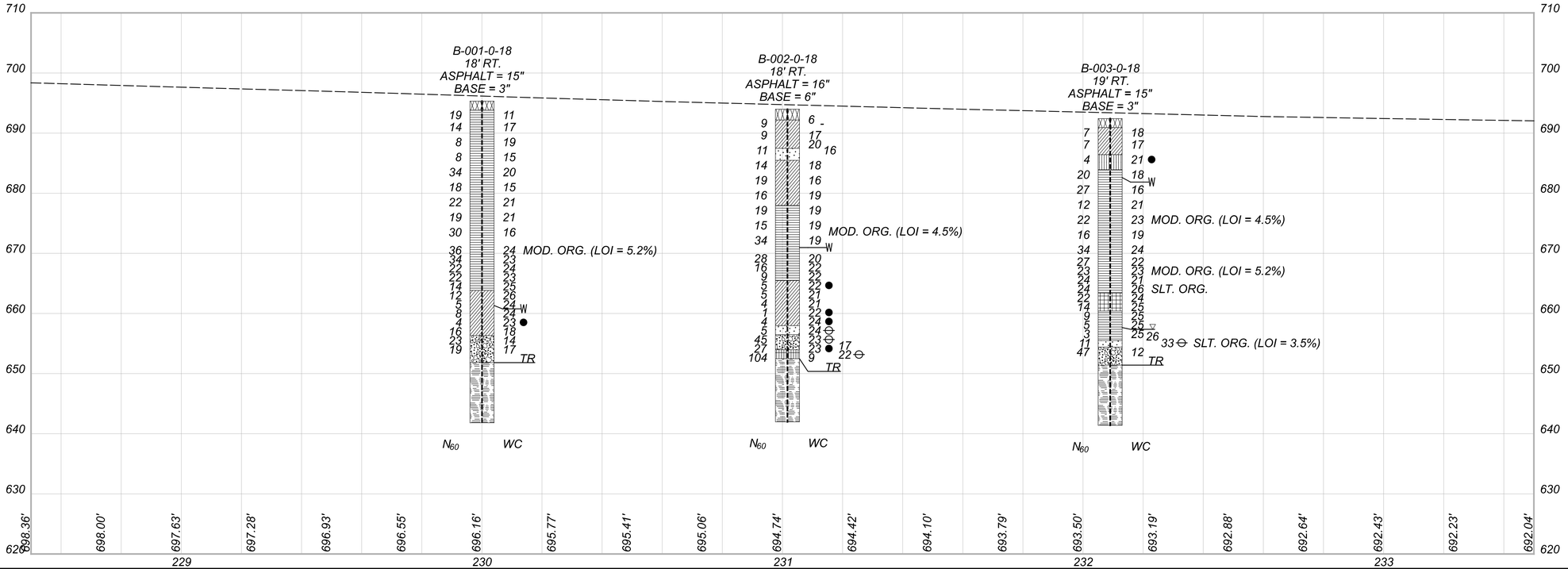
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REVIEWER BKL 04/13/20
PROJECT ID 107810
SUBSET 1 TOTAL 7
SHEET P.0 TOTAL 0

DEF-66-4.37

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FOR DCP SOUNDINGS D-001-1-18 & D-002-1-18, SEE SHEET 3





SOIL PROFILE - LANDSLIDE
STA. 228+50 TO STA. 233+50 S.R. 66

HORIZONTAL SCALE IN FEET
0 10 20 40

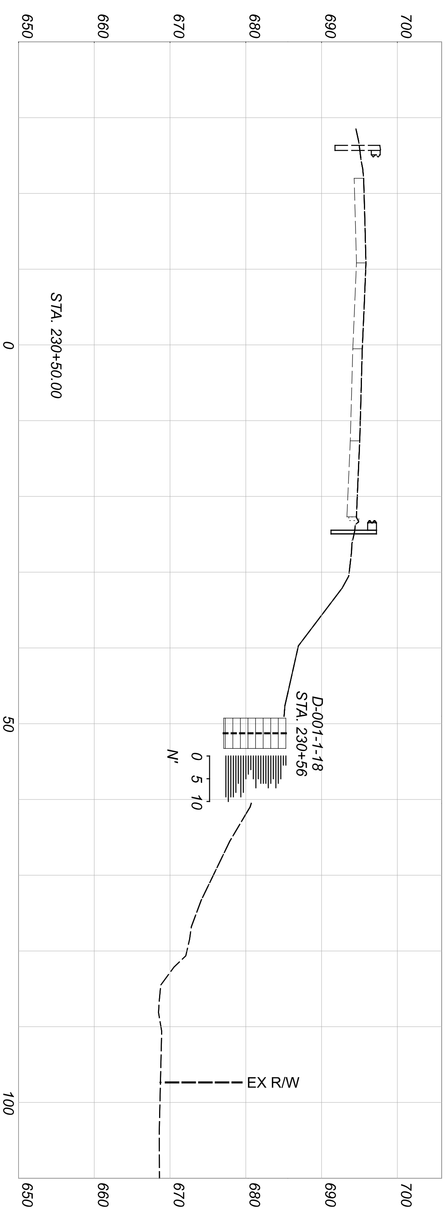
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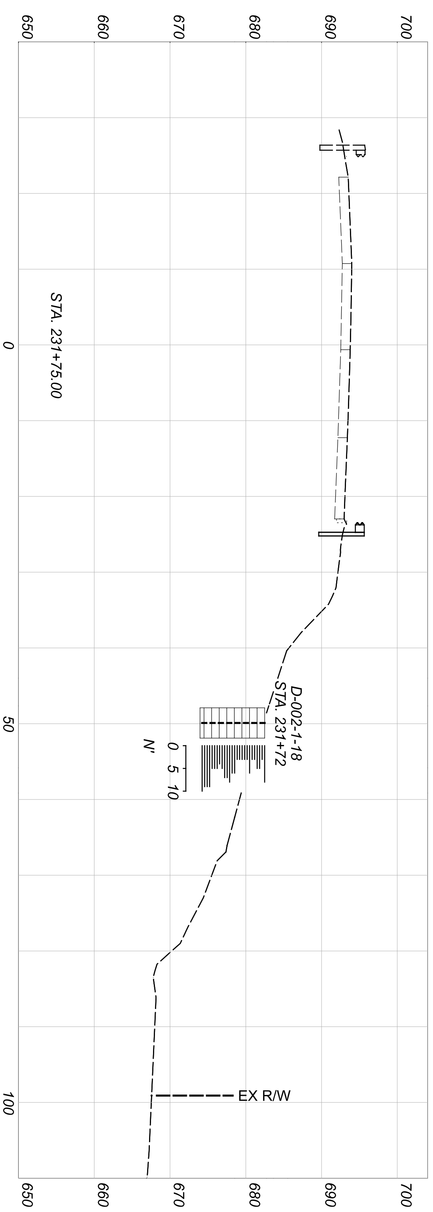
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REVIEWER BKL 04/13/20
PROJECT ID 107810
SUBSET 2 TOTAL 7
SHEET P.0 TOTAL 0

DEF-66-4.37

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SOIL PROFILE - LANDSLIDE
CROSS SECTIONS STA. 230+50 & STA. 231+75 S.R. 66

DESIGNER	DESIGN AGENCY
ARR	
REVIEWER	
BKL 04/13/20	
PROJECT ID	
107810	
SUBSET	
3 / TOTAL 7	
SHEET	
P.0 / TOTAL 0	

DEF-66-4.37

MODEL: Sheet PAPERSIZE: 34x22 (In.) DATE: 6/9/2020 TIME: 8:52:00 AM USER: gross3
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PROJECT: DEF-66-4.50	DRILLING FIRM / OPERATOR: ODOT / LEWIS	DRILL RIG: CME 850R TRACKED	STATION / OFFSET: 230+00, 18' RT.	EXPLORATION ID B-001-0-18
TYPE: LANDSLIDE	SAMPLING FIRM / LOGGER: ODOT / MCINTOSH	HAMMER: CME AUTOMATIC	ALIGNMENT: CL SR 66	
PID: 107810 SFN:	DRILLING METHOD: 3.75" HSA / NQ2	CALIBRATION DATE: 6/1/17	ELEVATION: 695.3 (ft) EOB: 53.5 ft.	PAGE 1 OF 1
START: 10/2/18 END: 10/3/18	SAMPLING METHOD: SPT	ENERGY RATIO (%): 81	LAT / LONG: 41.268851, -84.370241	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	HOLE SEALED
ASPHALT (15") & BASE (3")	695.3																	
	693.8																	
HARD, BROWNISH GRAY, **SILTY CLAY**, LITTLE SAND, TRACE STONE FRAGMENTS, EMBANKMENT FILL, DAMP TO MOIST			8 7 7	19	33	SS-1	4.50	-	-	-	-	-	-	-	-	11	A-6b (V)	
@3.5'; VERY STIFF			2 4 6	14	67	SS-2	2.50	8	4	13	31	44	32	15	17	17	A-6b (11)	
@6.0'; MEDIUM STIFF, GRAY			2 2 4	8	56	SS-3	1.00	-	-	-	-	-	-	-	-	19	A-6b (V)	
@8.5'; HARD			2 3 3	8	22	SS-4	4.50	-	-	-	-	-	-	-	-	15	A-6b (V)	
@11.0'; GRAY TO BROWN			8 12 13	34	100	SS-5	4.50	9	3	11	31	46	35	17	18	20	A-6b (11)	
@13.5'; BROWN			5 6 7	18	67	SS-6	4.50	-	-	-	-	-	-	-	-	15	A-6b (V)	
@16.0'; VERY STIFF, BROWN AND GRAY MOTTLED			6 7 9	22	89	SS-7	2.50	-	-	-	-	-	-	-	-	21	A-6b (V)	
@18.5'; GRAY AND DARK GRAY MOTTLED			4 5 9	19	78	SS-8	3.50	2	1	9	26	62	39	18	21	21	A-6b (12)	
			8 12 10	30	89	SS-9	4.00	-	-	-	-	-	-	-	-	16	A-6b (V)	
@24.0' - 25.5'; LITTLE GRAVEL AND STONE FRAGMENTS, MODERATELY ORGANIC (LOI = 5.2%) WITH WOOD FRAGMENTS			6 11 16	36	100	SS-10	3.50	14	1	9	32	44	40	20	20	24	A-6b (12)	
			5 10 15	34	89	SS-11	4.00	-	-	-	-	-	-	-	-	23	A-6b (V)	
@28.5'; BROWN			4 7 9	22	100	SS-12	4.00	-	-	-	-	-	-	-	-	24	A-6b (V)	
@30.0'; TRACE SAND			4 7 9	22	100	SS-13	3.00	-	-	-	-	-	-	-	-	23	A-6b (V)	
	663.8		4 5 5	14	100	SS-14	2.50	7	0	6	38	49	39	17	22	25	A-6b (13)	
MEDIUM STIFF, BROWN, **SILTY CLAY**, LITTLE SAND, TRACE GRAVEL, MOIST			3 4 5	12	100	SS-15	0.50	-	-	-	-	-	-	-	-	26	A-6a (V)	
		W 661.3	1 1 3	5	100	SS-16	0.50	1	0	18	44	37	30	15	15	24	A-6a (10)	
@36.0'; SOFT, SOME SAND			0 0 6	8	100	SS-17	0.50	-	-	-	-	-	-	-	-	24	A-6a (V)	
@37.5'; STIFF			0 0 3	4	100	SS-18	0.50	6	0	34	31	29	26	14	12	23	A-6a (6)	
	656.3		1 3 9	16	67	SS-19	1.00	-	-	-	-	-	-	-	-	18	A-6a (V)	
MEDIUM DENSE, BROWN, **GRAVEL AND STONE FRAGMENTS WITH SAND**, LITTLE SILT, TRACE CLAY, MOIST TO WET			6 7 10	23	56	SS-20	-	43	23	13	15	6	NP	NP	NP	14	A-1-b (0)	
			10 6 8	19	33	SS-21	-	-	-	-	-	-	-	-	-	17	A-1-b (V)	
	651.8	TR																
SHALE, GRAYISH BLACK, SLIGHTLY WEATHERED, MODERATELY STRONG TO STRONG, LAMINATED TO VERY THIN BEDDED, CARBONACEOUS, PYRITIC, PETROLIFEROUS, BLOCKY, VERY GOOD; RQD 88%, REC 100%. @44.8' - 44.9'; OPEN CLAY FILLED FRACTURE @44.9'; INTACT, VERY GOOD @45.4' - 46.8'; SLIGHTLY CALCAREOUS @ 45.6' - 46.0'; γ = 162 pcf; Qu = 12,774 psi @47.6'; CONTAINS CALCAREOUS LAMINAE			77		100	NQ-1											CORE	
@ 51.6' - 52.0'; γ = 154 pcf; Qu = 7,335 psi			94		100	NQ-2											CORE	
	641.8	EOB																

NOTES: DRILLED TWO 10FT HOLES AND HIT WHAT WE BELIEVE TO BE A DRAIN PIPE SO HAD TO DRILL A THIRD HOLE. LAT/LONG/ELEV FROM DISTRICT SURVEY GRADE INSTRUMENTS.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: TREMIED 100 LB. BENTONITE GROUT; 60 GAL. WATER

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT GDT - 4/13/20 12:44 - X:\GINT\PROJECTS\2018 COMPLETE\600561.GPJ

SHEET	SUBSET	PROJECT ID	REVIEWER	DESIGNER	DESIGN AGENCY
P.0 TOTAL 0	4 TOTAL 7	107810	BKL 04/13/20	ARR	

SOIL PROFILE - LANDSLIDE
BORING LOG B-001-0-18

DEF-66-4.37

MODEL: Sheet PAPERSIZE: 34x22 (In.) DATE: 6/9/2020 TIME: 8:52:58 AM USER: gross3
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PROJECT: DEF-66-4.50	DRILLING FIRM / OPERATOR: ODOT / LEWIS	DRILL RIG: CME 850R TRACKED	STATION / OFFSET: 231+02, 18' RT.	EXPLORATION ID B-002-0-18
TYPE: LANDSLIDE	SAMPLING FIRM / LOGGER: ODOT / BRODIE	HAMMER: CME AUTOMATIC	ALIGNMENT: CL SR 66	
PID: 107810 SFN:	DRILLING METHOD: 3.75" HSA / NQ2	CALIBRATION DATE: 6/1/17	ELEVATION: 694.0 (ft) EOB: 52.0 ft.	PAGE 1 OF 1
START: 9/27/18 END: 10/2/18	SAMPLING METHOD: SPT	ENERGY RATIO (%): 81	LAT / LONG: 41.269107, -84.370108	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	HOLE SEALED
ASPHALT (16") & BASE (6")	694.0					SS-1A	-	-	-	-	-	-	-	-	-	6		
	692.2																	
VERY STIFF, GRAY, **SILT AND CLAY**, SOME SAND, LITTLE STONE FRAGMENTS, EMBANKMENT FILL, MOIST			6 4 3	9	33	SS-1B	3.00	-	-	-	-	-	-	-	-	-	A-6a (V)	
			3 3 4	9	39	SS-2	2.50	20	9	13	28	30	27	15	12	17	A-6a (5)	
	687.5					SS-3A	2.50	-	-	-	-	-	-	-	-	20	A-6a (V)	
MEDIUM DENSE, BROWN WITH GRAY, **COARSE AND FINE SAND**, TRACE SILT, TRACE CLAY, TRACE GRAVEL, EMBANKMENT FILL, MOIST			5 5 3	11	89	SS-3B	-	6	8	70	9	7	NP	NP	NP	16	A-3a (0)	
	685.5																	
STIFF, BROWN AND GRAY MOTTLED, **SILT AND CLAY**, SOME SAND, LITTLE GRAVEL, EMBANKMENT FILL, MOIST			1 5 5	14	67	SS-4	2.00	11	5	21	27	36	29	15	14	18	A-6a (7)	
@11.0'; VERY STIFF			4 6 8	19	100	SS-5	4.00	-	-	-	-	-	-	-	-	16	A-6a (V)	
@13.5'; BROWN			4 4 8	16	78	SS-6	2.50	-	-	-	-	-	-	-	-	19	A-6a (V)	
	678.0																	
VERY STIFF, BROWN AND GRAY MOTTLED, **SILTY CLAY**, LITTLE SAND, LITTLE GRAVEL, EMBANKMENT FILL, MOIST			6 7 7	19	89	SS-7	2.50	12	4	11	30	43	33	17	16	19	A-6b (10)	
@18.5'; TRACE WOOD FRAGMENTS			2 4 7	15	89	SS-8	4.00	-	-	-	-	-	-	-	-	19	A-6b (V)	
@21.0'; HARD, GRAYISH BROWN, MODERATELY ORGANIC (LOI = 4.5%)			8 11 14	34	89	SS-9	4.00	13	2	12	31	42	37	19	18	19	A-6b (11)	
		W 671.0																
@24.0'; GRAYISH BROWN AND BROWN			5 9 12	28	94	SS-10	4.50	-	-	-	-	-	-	-	-	20	A-6b (V)	
@25.5'; VERY STIFF			4 5 7	16	89	SS-11	4.00	-	-	-	-	-	-	-	-	22	A-6b (V)	
	665.5		3 3 4	9	83	SS-12	3.00	-	-	-	-	-	-	-	-	22	A-6b (V)	
MEDIUM STIFF, GRAYISH BROWN, **SILT AND CLAY**, SOME SAND, TRACE GRAVEL, MOIST			1 2 2	5	100	SS-13	1.00	1	1	32	35	31	25	14	11	22	A-6a (7)	
@31.5'; VERY SOFT TO SOFT			1 2 2	5	100	SS-14	1.00	-	-	-	-	-	-	-	-	21	A-6a (V)	
			1 1 2	4	100	SS-15	0.50	-	-	-	-	-	-	-	-	21	A-6a (V)	
			0 0 1	1	100	SS-16	0.50	-	-	-	-	-	-	-	-	22	A-6a (V)	
	658.0		1 1 2	4	100	SS-17	1.00	-	-	-	-	-	-	-	-	24	A-6a (V)	
LOOSE, BROWN AND GRAY MOTTLED, **COARSE AND FINE SAND**, LITTLE SILT, LITTLE CLAY, TRACE GRAVEL, WET	656.5		0 0 4	5	100	SS-18	-	2	11	53	19	15	NP	NP	NP	24	A-3a (0)	
MEDIUM DENSE TO DENSE, GRAYISH BROWN, **GRAVEL WITH SAND**, LITTLE SILT, TRACE CLAY, WET			9 20 13	45	89	SS-19	-	5	46	29	13	7	NP	NP	NP	23	A-1-b (0)	
	654.0		9 11 9	27	100	SS-20A	-	-	-	-	-	-	-	-	-	17	A-1-b (V)	
VERY STIFF, GRAY, **SANDY SILT**, SOME CLAY, LITTLE GRAVEL, WET	653.5					SS-20B	3.00	17	4	3	47	29	22	18	4	23	A-4a (8)	
VERY DENSE, GRAY, **SANDY SILT**, LITTLE CLAY, LITTLE GRAVEL AND STONE FRAGMENTS, WET	652.5	TR	18 25 52	104	100	SS-21A	-	10	7	21	44	18	NP	NP	NP	22	A-4a (5)	
						SS-21B	-	-	-	-	-	-	-	-	-	9	Rock (V)	
SHALE, GRAYISH BLACK, SLIGHTLY WEATHERED, STRONG TO VERY STRONG, LAMINATED TO VERY THIN BEDDED, CARBONACEOUS, PYRITIC, PETROLIFEROUS, BLOCKY, FAIR TO GOOD; RQD 68%, REC 98%. @43.2' - 43.7'; CONTAINS OCCASSIONAL CALCAREOUS LAMINAE @ 44.1' - 44.5'; γ = 166 pcf; Qu = 15,315 psi @45.6' - 46.2'; MULTIPLE HIGH ANGLE FRACTURES			50		97	NQ-1											CORE	
@47.2' - 47.7'; HIGH ANGLE FRACTURE																		
@ 50.7' - 51.1'; γ = 152 pcf; Qu = 8,006 psi			94		100	NQ-2											CORE	
	642.0	EOB																

NOTES: LAT/LONG/ELEV FROM DISTRICT SURVEY GRADE INSTRUMENTS.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: TREMIED 100 LB. BENTONITE GROUT; 60 GAL. WATER

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT GDT - 4/13/20 12:44 - X:\GINT\PROJECTS\2018 COMPLETE\600561.GPJ

SHEET	SUBSET	PROJECT ID	REVIEWER	DESIGNER	DESIGN AGENCY
P.0 / TOTAL 0	5 / TOTAL 7	107810	BKL 04/13/20	ARR	

SOIL PROFILE - LANDSLIDE
BORING LOG B-002-0-18

DEF-66-4.37

MODEL: Sheet PAPERSIZE: 34x22 (In.) DATE: 6/9/2020 TIME: 8:53:56 AM USER: gross3
pw:\\OhioDOT-pw.bentley.com:OhioDOT-pw-02\Documents\01Active Projects\District 01\Defiance\107810\400-Engineering\Geotechnical\Sheets\107810_YL003.dgn

PROJECT: DEF-66-4.50	DRILLING FIRM / OPERATOR: ODOT / LEWIS	DRILL RIG: CME 850R TRACKED	STATION / OFFSET: 232+09, 19' RT.	EXPLORATION ID B-003-0-18
TYPE: LANDSLIDE	SAMPLING FIRM / LOGGER: ODOT / BRODIE	HAMMER: CME AUTOMATIC	ALIGNMENT: CL SR 66	
PID: 107810 SFN:	DRILLING METHOD: 3.75" HSA / NQ2	CALIBRATION DATE: 6/1/17	ELEVATION: 692.4 (ft) EOB: 51.0 ft.	PAGE 1 OF 1
START: 9/26/18 END: 9/27/18	SAMPLING METHOD: SPT	ENERGY RATIO (%): 81	LAT / LONG: 41.269375, -84.369949	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	HOLE SEALED
ASPHALT (15") & BASE (3")	692.4																	
	690.9																	
STIFF, GRAY, **SILT AND CLAY**, LITTLE SAND, LITTLE GRAVEL, EMBANKMENT FILL, MOIST			3 2 3	7	22	SS-1	2.00	-	-	-	-	-	-	-	-	18	A-6a (V)	
			3 2 3	7	67	SS-2	1.50	12	5	14	35	34	25	14	11	17	A-6a (7)	
	686.4																	
STIFF, GRAY, **SANDY SILT**, SOME CLAY, LITTLE GRAVEL, EMBANKMENT FILL, WET			1 1 2	4	67	SS-3	1.50	12	5	29	29	25	18	12	6	21	A-4a (4)	
	683.9																	
HARD, GRAY AND BROWN MOTTLED, **SILTY CLAY**, LITTLE SAND, TRACE TO LITTLE GRAVEL, EMBANKMENT FILL, MOIST		W 682.6	3 6 9	20	89	SS-4	4.50	17	5	14	27	37	32	16	16	18	A-6b (8)	
			6 10 10	27	67	SS-5	4.50	-	-	-	-	-	-	-	-	16	A-6b (V)	
			1 4 5	12	67	SS-6	4.00	-	-	-	-	-	-	-	-	21	A-6b (V)	
@16.0' - 17.5'; MODERATELY ORGANIC (LOI = 4.5%)			5 7 9	22	89	SS-7	4.50	9	3	12	31	45	37	18	19	23	A-6b (12)	
			2 5 7	16	89	SS-8	4.00	-	-	-	-	-	-	-	-	19	A-6b (V)	
@21.0'; VERY STIFF			6 12 13	34	100	SS-9	3.00	-	-	-	-	-	-	-	-	24	A-6b (V)	
@23.0' - 26.0'; MODERATELY ORGANIC (LOI = 5.2%)			5 8 12	27	89	SS-10	4.00	11	1	9	38	41	38	19	19	22	A-6b (12)	
			4 6 11	23	89	SS-11	4.00	-	-	-	-	-	-	-	-	23	A-6b (V)	
@26.0' - 29.0'; SLIGHTLY ORGANIC			4 8 10	24	89	SS-12	3.50	-	-	-	-	-	-	-	-	21	A-6b (V)	
			4 7 11	24	89	SS-13	4.00	-	-	-	-	-	-	-	-	26	A-6b (V)	
	663.4																	
VERY STIFF, GRAYISH BROWN, **CLAY**, SOME SILT, LITTLE GRAVEL AND STONE FRAGMENTS, TRACE SAND, EMBANKMENT FILL, MOIST			4 7 9	22	67	SS-14	4.00	14	0	2	35	49	44	20	24	24	A-7-6 (14)	
	660.4																	
STIFF, GRAYISH BROWN, **SILTY CLAY**, LITTLE SAND, TRACE GRAVEL, MOIST			1 5 5	14	67	SS-15	3.00	-	-	-	-	-	-	-	-	25	A-7-6 (V)	
			1 2 5	9	100	SS-16	1.50	-	-	-	-	-	-	-	-	25	A-6b (V)	
		▽ 657.6	0 0 4	5	100	SS-17	1.50	3	0	18	41	38	34	17	17	25	A-6b (11)	
@35.0' - 36.5'; MEDIUM STIFF			0 0 2	3	100	SS-18	1.00	-	-	-	-	-	-	-	-	25	A-6b (V)	
	655.5					SS-19A	1.50	-	-	-	-	-	-	-	-	26	A-6b (V)	
MEDIUM DENSE, GRAY, **COARSE AND FINE SAND**, LITTLE SILT, LITTLE CLAY, TRACE GRAVEL, SLIGHTLY ORGANIC (LOI = 3.5%), WET	654.4		1 2 6	11	100	SS-19B	-	3	3	64	16	14	NP	NP	NP	33	A-3a (0)	
DENSE, GRAY, **GRAVEL AND STONE FRAGMENTS WITH SAND**, LITTLE SILT, TRACE CLAY, MOIST TO WET			10 15 20	47	56	SS-20	-	49	15	22	10	4	NP	NP	NP	12	A-1-b (0)	
	651.4	TR																
SHALE, BROWNISH BLACK, SLIGHTLY WEATHERED, STRONG, LAMINATED TO VERY THIN BEDDED, CARBONACEOUS, PYRITIC, PETROLIFEROUS, BLOCKY, VERY GOOD; RQD 83%, REC 98%. @41.6' - 44.7'; CONTAINS OCCASSIONAL CALCAREOUS LAMINAE @ 42.2' - 42.6'; γ = 162 pcf; Qu = 11,750 psi @ 45.6' - 46.0'; γ = 158 pcf; Qu = 7,992 psi @46.3' - 48.1'; BLOCKY, GOOD @47.6'; GRAYISH BLACK.			83		98	NQ-1											CORE	
	641.4	EOB																

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT GDT - 4/13/20 12:44 - X:\GINT\PROJECTS\2018 COMPLETE\600561.GPJ

NOTES: LAT/LONG/ELEV FROM DISTRICT SURVEY GRADE INSTRUMENTS.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: TREMIED 100 LB. BENTONITE GROUT; 60 GAL. WATER

SHEET	SUBSET	PROJECT ID	REVIEWER	DESIGNER	DESIGN AGENCY
P.0 TOTAL 0	6 TOTAL 7	107810	BKL 04/13/20	ARR	

SOIL PROFILE - LANDSLIDE
BORING LOG B-003-0-18

WILDCAT DYNAMIC CONE LOG

The Ohio Department of Transportation
Office of Geotechnical Engineering
1600 West Broad Street, Columbus, Ohio 43223

PROJECT NUMBER: 107810
DATE STARTED: 09-27-2018
DATE COMPLETED: 09-27-2018

HOLE #: D-001-1-18
CREW: S. Taliaferro, P. Painter, & K. Osterhage
PROJECT: DEF-66-4.50
LAT/LONG: 41.26895852, -84.37005831
LOCATION: Defiance County, Ohio

SURFACE ELEVATION: 685.3
WATER ON COMPLETION: None observed.
HAMMER WEIGHT: 35 lbs.
CONE AREA: 10 sq. cm

DEPTH	BLOWS PER 10 cm	RESISTANCE Kg/cm²	GRAPH OF CONE RESISTANCE 0 50 100 150	N'	TESTED CONSISTENCY NON-COHESIVE	COHESIVE
-	2	8.9	••	2	VERY LOOSE	SOFT
-	2	8.9	••	2	VERY LOOSE	SOFT
- 1 ft	4	17.8	•••••	5	LOOSE	MEDIUM STIFF
-	5	22.2	••••••	6	LOOSE	MEDIUM STIFF
-	6	26.6	•••••••	7	LOOSE	MEDIUM STIFF
- 2 ft	4	17.8	•••••	5	LOOSE	MEDIUM STIFF
-	5	22.2	••••••	6	LOOSE	MEDIUM STIFF
-	6	26.6	•••••••	7	LOOSE	MEDIUM STIFF
- 3 ft	5	22.2	••••••	6	LOOSE	MEDIUM STIFF
- 1 m	5	22.2	••••••	6	LOOSE	MEDIUM STIFF
-	6	23.2	••••••	6	LOOSE	MEDIUM STIFF
- 4 ft	5	19.3	•••••	5	LOOSE	MEDIUM STIFF
-	7	27.0	•••••••	7	LOOSE	MEDIUM STIFF
-	5	19.3	•••••	5	LOOSE	MEDIUM STIFF
- 5 ft	3	11.6	•••	3	VERY LOOSE	SOFT
-	4	15.4	••••	4	VERY LOOSE	SOFT
-	5	19.3	•••••	5	LOOSE	MEDIUM STIFF
- 6 ft	8	30.9	••••••••	8	LOOSE	MEDIUM STIFF
-	9	34.7	•••••••••	9	LOOSE	STIFF
- 2 m	6	23.2	••••••	6	LOOSE	MEDIUM STIFF
- 7 ft	9	30.8	•••••••••	8	LOOSE	MEDIUM STIFF
-	10	34.2	••••••••••	9	LOOSE	STIFF
-	10	34.2	••••••••••	9	LOOSE	STIFF
- 8 ft	11	37.6	•••••••••••	10	LOOSE	STIFF
-	10	34.2	••••••••••	9	LOOSE	STIFF
-						
- 9 ft						
-						
-						
- 3 m 10 ft						
-						
-						
-						
- 11 ft						
-						
-						
- 12 ft						
-						
-						
- 4 m 13 ft						

WILDCAT DYNAMIC CONE LOG

The Ohio Department of Transportation
Office of Geotechnical Engineering
1600 West Broad Street, Columbus, Ohio 43223

PROJECT NUMBER: 107810
DATE STARTED: 09-27-2018
DATE COMPLETED: 09-27-2018

HOLE #: D-002-1-18
CREW: S. Taliaferro, P. Painter, & K. Osterhage
PROJECT: DEF-66-4.50
LAT/LONG: 41.26924941, -84.36990161
LOCATION: Defiance County, Ohio

SURFACE ELEVATION: 682.5
WATER ON COMPLETION: None observed.
HAMMER WEIGHT: 35 lbs.
CONE AREA: 10 sq. cm

DEPTH	BLOWS PER 10 cm	RESISTANCE Kg/cm²	GRAPH OF CONE RESISTANCE 0 50 100 150	N'	TESTED CONSISTENCY NON-COHESIVE	COHESIVE
-	7	31.1	••••••••	8	LOOSE	MEDIUM STIFF
-	3	13.3	•••	3	VERY LOOSE	SOFT
- 1 ft	4	17.8	•••••	5	LOOSE	MEDIUM STIFF
-	4	17.8	•••••	5	LOOSE	MEDIUM STIFF
-	3	13.3	•••	3	VERY LOOSE	SOFT
- 2 ft	3	13.3	•••	3	VERY LOOSE	SOFT
-	5	22.2	••••••	6	LOOSE	MEDIUM STIFF
-	3	13.3	•••	3	VERY LOOSE	SOFT
- 3 ft	3	13.3	•••	3	VERY LOOSE	SOFT
- 1 m	3	13.3	•••	3	VERY LOOSE	SOFT
-	3	11.6	•••	3	VERY LOOSE	SOFT
- 4 ft	3	11.6	•••	3	VERY LOOSE	SOFT
-	6	23.2	••••••	6	LOOSE	MEDIUM STIFF
-	6	23.2	••••••	6	LOOSE	MEDIUM STIFF
- 5 ft	8	30.9	••••••••	8	LOOSE	MEDIUM STIFF
-	7	27.0	•••••••	7	LOOSE	MEDIUM STIFF
-	7	27.0	•••••••	7	LOOSE	MEDIUM STIFF
- 6 ft	5	19.3	•••••	5	LOOSE	MEDIUM STIFF
-	4	15.4	••••	4	VERY LOOSE	SOFT
- 2 m	5	19.3	•••••	5	LOOSE	MEDIUM STIFF
- 7 ft	6	20.5	•••••	5	LOOSE	MEDIUM STIFF
-	6	20.5	•••••	5	LOOSE	MEDIUM STIFF
-	10	34.2	•••••••••	9	LOOSE	STIFF
- 8 ft	10	34.2	•••••••••	9	LOOSE	STIFF
-	10	34.2	•••••••••	9	LOOSE	STIFF
-	11	37.6	••••••••••	10	LOOSE	STIFF
-						
- 9 ft						
-						
-						
- 3 m 10 ft						
-						
-						
-						
- 11 ft						
-						
-						
- 12 ft						
-						
-						
- 4 m 13 ft						

SOIL PROFILE - LANDSLIDE
DCP SOUNDING LOGS D-001-1-18 & D-002-1-18

DESIGN AGENCY

DESIGNER ARR
REVIEWER BKL 04/13/20
PROJECT ID 107810
SUBSET 7 TOTAL 7
SHEET P.0 TOTAL 0

DEF-66-4.37

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/9/2020 TIME: 8:54:55 AM USER: arossa3
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GREENLER RD. / ST. RT. 66 WATERLINE LOOP

PROJECT NO. 9803

SPRINT/UNITED TELEPHONE - OUPS MEMBER
122 S. ELIZABETH STREET, LIMA, OHIO 45801
PHONE: (419-228-1200)

TOLEDO EDISON CO. (ELECTRICITY) - OUPS MEMBER
EDISON PLAZA, 300 MADISON AVE., TOLEDO OHIO 43652
PHONE: (419- 249- 5000) EXT. 4174

CITY OF DEFIANCE (WATER AND SEWER)
1450 BALTIMORE STREET, DEFIANCE, OHIO 43512
PHONE: (419-784-5341)

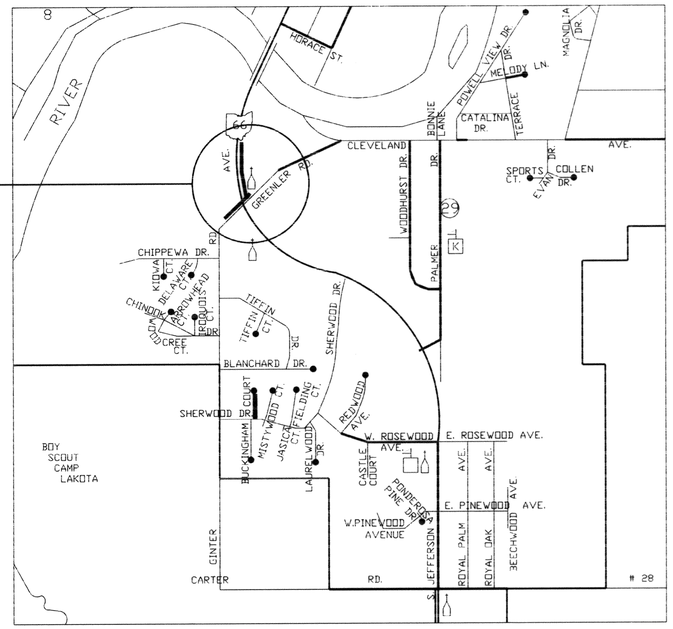
OHIO GAS COMPANY - OUPS MEMBER
506 CLINTON STREET, DEFIANCE, OHIO 43512
PHONE: (419-784-0308)

FRONTIERVISION CABLE SERVICES (CABLE TV)
310 JEFFERSON AVE., DEFIANCE OHIO 43512
PHONE: (419-784-5992)

PANHANDLE EASTERN PIPELINE CO. - OUPS MEMBER
1015 ILLINOIS AVE., MAUMEE, OHIO 43537
PHONE: (419-893-3350)

OUPS REFERENCE NUMBER - _____
PHONE: (800-362-2764)

PROJECT LIMITS



PROJECT LOCATION MAP
DEFIANCE, OHIO

RITA KISSNER - MAYOR

- CITY COUNCIL -

CHARLES BEARD - PRESIDENT

ROBERT ARMSTRONG DARREL HANDY

JACK HALE BRENDA GRIFFITH

PATRICIA WALTER ELLEN UPP

TIMOTHY HOLTSBERRY

I, THE CITY ADMINISTRATOR HEREBY APPROVE THESE PLANS.
DATE: 1/27/98 1998
Kenneth J. Filipiak Jr.
CITY ADMINISTRATOR

I, THE ENGINEER FOR THE CITY OF DEFIANCE, HEREBY APPROVE THESE PLANS.
DATE: 1-27- 1998
Cheryle Culler
CITY ENGINEER

WE, THE DEFIANCE CITY COUNCIL. DO HEREBY APPROVE THESE PLANS BY ORDINANCE NO. 5901
DATE: 1-27 1998
Michele Stafford /clr
CLERK OF COUNCIL

CONVENTIONAL SYMBOLS

Center Line
Right of Way
Property Line
Corporation Line
Easement
Sanitary Sewer (Main) Sa
Sanitary Sewer (Service) sa
Storm Sewer St
Water Main W
Water Service w
Gas Main G
Gas Service g
Asphalt Pavement
Stone
Concrete Walk or Pavement
Existing Gutter or Ditch
Fence Line
Railroad
Utility Poles: Telephone Ø, Power Ø, Light Ø
Guardrail (existing) (proposed)
Manhole
Catch Basin
Gas or Water Valve
Fire Hydrant
Deciduous Tree
Coniferous Tree
Surveying Monument (Do Not Disturb)

SHEET INDEX

TITLE SHEET	1
GENERAL NOTES	2
SUMMARY OF QUANTITIES	3
PLAN & PROFILE	4-5
DETAILS	6

As built - NCW- 7/8/98

CITY OF DEFIANCE, OHIO ENGINEERING DEPARTMENT		
GREENLER RD. / ST. RT. 66 WATERLINE LOOP		
CITY ENGINEER	DRAWN BY	PROJ. NO.
Cheryle Culler	S.J.K.	9803
DATE	REVISION	SHEET
NOV - 1997		1 of 6

C:\Arch\Sheet1 Wed Nov 19 13:48:41 1997 CITY OF DEFIANCE ENGINEERS

MAINTENANCE OF VEHICULAR TRAFFIC

LOCAL
Interference with Vehicular traffic on St. Rt. #66 during this Construction Project will not be permitted. Two-way traffic shall be maintained at all times on Greenler and Ginter Roads as specified in the Adjacent Intersections and Streets portion of the Traffic Notes.

ADJACENT INTERSECTIONS AND STREETS (GENERAL)
A minimum of 20' for two-way traffic shall be maintained at all times. The limits and variations of use of temporary pavement shall be held to an absolute minimum, and in all cases shall be subject to the approval of the Engineer. During the entire construction period, the pavement surface of all streets within the project limits that are open to vehicular traffic shall be maintained by the Contractor to the satisfaction of the Engineer by use of a minimum of 2" Item 404, Asphalt Concrete, 2" of an approved pre-mixed Bituminous Surface Course or 8" of Item 410, Traffic Compacted Surface for Maintaining Traffic as directed by the Engineer.

ADJACENT PROPERTIES GENERAL
At the direction of the Engineer, the Contractor shall provide access to all adjacent properties by the use of Item 410, Traffic Compacted Surface.

Payment for all pavement items for maintaining traffic not including Items 404, 410, or 616 shall be included in the lump sum bid for Item 614, Maintaining Traffic. The following estimated quantities are to be used for maintaining traffic, as directed by the Engineer.

Item 404	10 Cu.Yd.	Asphalt Concrete Surface Course
Item 405	10 Cu.Yd.	Bituminous Pre-mixed Surface Course
Item 410	25 Tons	Traffic Compacted Surface Type "B"
Item 616	.5 Tons	Calcium Chloride
Item 616	1 M-Gal	Water

CONSTRUCTION SIGNING
Minimum construction signing shall be in accordance with the OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, current edition, latest revision, and shall be subject to the approval of the Engineer.

ODOT PROJECT DEF-66-5.472
This waterline project is scheduled to be constructed prior to the St.Rt. 66 Improvement Project. St.Rt. 66 will be widened as part of this project, which accounts for the increased depths of the waterline as indicated on these plans. Also, depending on the State's Construction schedule, portions of the Seeding & Mulching (Item 659) may be non-performed. This Improvement Project is scheduled to begin in August of 1998.

SIGN REMOVAL, STORAGE, AND RE-ERECTION
The Contractor shall remove, store, and re-erect all traffic signs when determined by the Engineer to be an obstacle to construction. Where existing traffic signs are determined by the Engineer to be necessary for traffic control, they shall be removed and relocated by the Contractor as directed by the Engineer. All existing signs not relocated shall be delivered by the Contractor for storage to the City Maintenance Barn on Baltimore Road. Upon completion of the Improvement Project, the Contractor shall re-erect all signs at their original locations, or at new locations established by the Engineer. If the existing traffic signs and posts do not meet the requirements, as set forth in the Ohio Manual of Uniform Traffic Control Devices, the City of Defiance will furnish the appropriate material to the Contractor for traffic sign re-erection. The cost incurred for this removal, storage, and re-erection of traffic signs shall be included in the Unit Price Bid for Item 614, Maintaining Traffic, as per plan.

STORM SEWERS

STORM SEWERS
All work shall conform to storm sewer specifications of the Ohio Department of Transportation unless otherwise specified.

REVIEW OF DRAINAGE FACILITIES
Before any work is started on the project and again before final acceptance by the City, the City and the Contractor shall make a visual inspection of the existing sewers, within the work limits which are to remain in service and which may be affected by the work. Records of the inspections shall be kept in writing by the City.

All existing sewers inspected initially by the City shall be maintained and left in a condition reasonably comparable to that determined by the original inspection. Any change in the conditions resulting from the Contractors operations shall be corrected by the Contractor to the satisfaction of the Engineer. Payment for all operations described above shall be included in the Unit Price Bid for the appropriate Conduit Item.

MATERIALS
Pipe shall be the size and kind as specified in the Proposal and meet the requirements of pertinent section 603 ODOT. When the type of pipe is not specifically itemized, any of the kinds listed in the State of Ohio Department of Transportation - Construction and Materials Manual, Item 603, including PVC, may be furnished. Higher strength pipe may be used where lower strength pipe is specified. PVC conduit 4" - 15" shall conform to ASTM D-3034, SDR-35 with joints conforming to ASTM D-3212. PVC conduit 18" - 36" and fittings, with integral bell joints meeting ASTM Spec D-3212, shall comply with ASTM F679.

STORM SEWER BACKFILL UNDER PAVEMENT OR SIDEWALK
Type "C" Conduit located under drives, pavement and/or sidewalks shall be backfilled with granular material in accordance with Item 603.08 or as specified on the plans. Payment for these materials shall be included in the Unit Price Bid for the appropriate sewer.

TRENCH BACKFILLING
In backfilling trenches where granular backfill is not required, the Contractor shall compact the soil by mechanical means to a density equal to the adjacent soil; not to exceed 90% of the maximum dry density.

EXISTING STORM SEWER CONNECTIONS
All existing storm sewers or drains disturbed during excavation of trenching, which are not to remain in service, shall be plugged with a pre-cast masonry stopper and abandoned unless designated for removal. This work is included under Item 603. Those sewers or drains which are to remain in service shall be connected as shown on the plan or as directed by the Engineer.

Fifty (25) foot lengths of 4, 6, 8, 10, and 12 inch type "E" conduit have been added to the general summary to be used for connecting existing building drains to sewers. Said conduit shall be used only as directed by the engineer.

As built - NLW - 7/8/98

SEALING PIPE JOINTS
Where connections are made between rigid and flexible pipe sections or between pipe sections of different kind or type or end fabrications, whether required by the plans, arising from permissible use of optional materials or encountered in connection to existing facilities, the joint shall be sealed by means of a class "C" concrete collar having a minimum thickness of six (6) inches and a minimum length of twelve (12) inches. Payment for sealing as described above shall be included in the unit price bid for the pertinent conduit items.

SURFACE DRAINAGE
All existing surface drainage shall be restored to its original conditions. All costs resulting from this work shall be included in the unit price bid for the appropriate pipe item.

ACCEPTANCE OF DRAINAGE FACILITIES
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.

GENERAL

UTILITIES NOTIFICATION
At least two (2) working days prior to commencing construction operations in an area which may involve utility facilities, the contractor shall notify the project engineer, the Ohio Utility Protection Service (OUPS) and the owners of each utility facility shown in the plans as a member of OUPS.

The owner of the utility facility shall within forty-eight (48) hours excluding Saturdays, Sundays, and legal holidays after notice is received stake, mark, or otherwise designate the location of the utility facilities in the construction area in such a manner as to indicate their course together with the approximate depth at which they were installed. The marking or locating shall be coordinated to stay approximately two days ahead of the planned construction.

UTILITY OWNERSHIP

UNITED TELEPHONE COMPANY (TELEPHONE) - OUPS MEMBER
122 S. ELIZABETH STREET, LIMA, OH 45801
PHONE: (419) 782-6819

TOLEDO EDISON COMPANY (ELECTRICITY) - OUPS MEMBER
EDISON PLAZA, 300 MADISON AVENUE, TOLEDO, OH 43652
PHONE: (419-249-5000) EXT 4174

CITY OF DEFIANCE (WATER AND SEWER)
1450 BALTIMORE STREET, DEFIANCE, OH 43512
PHONE: (419) 784-5341

OHIO GAS COMPANY - OUPS MEMBER
506 CLINTON ST., DEFIANCE, OH 43512
PHONE: (419) 784-0308

FRONTIERVISION CABLE SERVICES
310 JEFFERSON AVE., DEFIANCE, OH 43512
PHONE: (419) 784-5992

OUPS REFERENCE NUMBER - SEE SHEET 1 OF ____
PHONE: 1-800-362-2764

ELEVATION DATUM
All elevations are based on U.S.G.S. Datum.

SPECIFICATIONS
The standard specifications of the Ohio Department of Transportation dated January 1, 1993, including changes thereto listed in the proposal and on the plans, together with the standard specifications of the City of Defiance, shall govern this improvement.

REMOVAL JOINTS
In all sidewalks, drive or pavement removals, edges shall be cut carefully to the nearest joint with neat lines by use of a power carborundum saw to a minimum depth of 1 1/2 inches. Removals shall only be made to the extent approved by the Engineer.

GRANULAR BACKFILL MATERIAL
Trenches shall be backfilled with granular material where indicated in the plans or specifications or as directed by the engineer. Granular material shall meet the requirements of Item 310, State of Ohio, Department of Transportation Construction and Material Specifications, unless otherwise shown on the plans or approved by the engineer.

Material furnished by the contractor shall be from a stockpile tested and approved by ODOT or an approved testing laboratory. Testing of material shall be the responsibility of and at the expense of the supplier. Material tests required are as specified in Item 310.02 of ODOT Construction and Material Specifications.

ESTIMATED QUANTITIES
The contractor shall not order material or perform work for plan items set up to be used "as directed by the engineer" unless authorized by the engineer.

PROTECTION OF TREES
All trees not authorized for removal will be marked by the engineer for salvage, and shall be protected from injury or defacement by the contractors.

SEED BED PREPARATION
All areas to be seeded shall be free of rock, stone, and other foreign material, and shall be shaped and finished to the satisfaction of the engineer prior to any seedings, fertilizing, or mulching. Payment for the work necessary for proper preparation of the seed bed shall be included in the unit price bid for Item 659 - seeding and mulching.

COMMERCIAL FERTILIZER
Commercial fertilizer shall be 12-12-12, applied at the rate of 20 pounds per 1000 square feet.

SEEDING
The seed shall be thoroughly mixed and then evenly sown over the prepared areas at the rate of 3 pounds per 1000 sq. ft. All areas shall be seeded with the following seed mixture (urban mixture):

40% Kentucky Blue Grass
40% Creeping Red Fescue
20% Annual Rye Grass

MULCHING
Vegetative mulching shall be applied at an approximate rate of 2 tons per acre of straw and shall be kept in place with asphalt emulsion applied at a minimum rate of 60 gallons per ton of mulch.

SANITARY

SPECIFICATIONS
All work shall conform to Sanitary sewer specifications of the City of Defiance, Ohio, except as noted herein. Itemized specifications refer to the Construction and Material Specifications of the Ohio Department of Transportation.

SANITARY SEWER
The following materials will be permitted for sanitary sewer pipe:
1. PVC conforming to ASTM D-3034. SDR-35 with joints conforming to ASTM D-3212.
2. Vitrified clay, extra strength conforming to ASTM C-700 with ASTM C-425 joints.
3. ABS composite (8 and 10") conforming to ASTM D-2680, joints shall be bell and spigot with rubber sealing ring or solvent cement per astm D-2680.
4. PVC ribbed pipe conforming to ASTM F794 with ASTM D-3212 joints.

SEPARATION OF UTILITIES
Maintain a ten foot horizontal clearance and eighteen inch (18") vertical clearance from all active water lines. If the clearance cannot be met, the sanitary sewer shall be encased in a minimum six inches (6") of class "C" concrete, or constructed of pressure rated pipe approved by the Ohio Environmental Protection Agency and the engineer. Infiltration or exfiltration testing of all sanitary sewers will be conducted by the contractor in accordance with City's detailed specifications under the supervision of the engineer. Leakage must be less than 200 gallons per inch diameter per mile of pipe.

GRANULAR BACKFILL
Payment for granular backfill shall be paid per Sanitary Conduit Item. Placement shall be in accordance with the granular backfill limits shown on the plan.

CONNECTIONS TO EXISTING PIPE OR STRUCTURES
The cost of all connections will be included in the unit price bid for the appropriate pipe item.

Where the plans call for the proposed conduit to be connected to an existing pipe, it is the responsibility of the contractor to locate the existing pipe as to line and grade before beginning construction.

Roof drains, foundation drains, and other clean water connections to the Sanitary Sewer System are prohibited.

EXISTING SANITARY CONNECTION
The contractor shall cooperate with the City of Defiance by locating, as directed by the engineer, sanitary sewers as to depth and locations prior to construction.

All existing sanitary sewer laterals which are encountered during construction shall be reconnected under the direction of the engineer. All necessary bends, branches, fittings and couplings shall be included for payment in the pertinent conduit item.

Where dissimilar pipe material are used or where removal of existing pipe to the manufactured joint is not practical, connection between the pipes shall be made with a flexible fernco coupling or approved equal.

The following estimated quantities have been included in the general summary for the work noted above: Item 603 - Type "B" conduit 706.08 with 706.12 joints or PVC conforming to ASTM D-3034. SDR-35 with joints conforming to ASTM D-3212 - 25 lin. ft. of 6" & 8"diameter conduit.

Payment for the above 603 items shall not be permitted when the contractor, through his negligence, damages the pipe when the location is known or when the pipe is removed for construction convenience.

WATER

SPECIFICATIONS
All work shall conform to "Water Mains Detailed Specifications" as included in the contract documents unless otherwise noted.

WATER LINES
Water lines shall conform to one of the following:

1. Ductile iron - AWWA C151, standard thickness Class 50 with AWWA C104. Cement mortar lining, standard thickness and seal coat conforming to Section C 4.12 joints shall be the push-on type, conforming to AWWA C111.
2. P.V.C. - AWWA C-900 with cast iron pipe equivalent outside diameter S.D.R. 18, joints shall be push-on type conforming to AWWA C-900.

See detailed material, installation and testing specifications in contract documents.

Maintain four and one-half (4 1/2) feet of cover at all points unless otherwise shown on the plan.

Maintain a ten (10) foot horizontal and eighteen (18) inch vertical separation from any sanitary sewer. No entry or contact with a sewer manhole is permitted.

SERVICE CONNECTIONS
Connection of the existing water services to the new water main SHALL be constructed according to the details on Sheet 3.

All of the service connections SHALL be constructed in a manner that allows for the minimum amount of excavation and service line replacement. Any deviations must be authorized by the engineer.

SERVICE TAPS AND ABANDONING EXISTING WATER LINES
Before beginning any water line work, the contractor must submit and receive approval from the engineer of the proposed sequence of water line construction and abandonment.

must Every effort be made to minimize interruption of existing water services.

Services tap locations shown in the plan are subject to the engineer's approval at the time of construction.

Waterline abandonments shall be constructed by masonry plug on each end of the abandoned section in order to keep in materials from washing into the abandoned waterline.

HYDRANT REMOVALS
Existing fire hydrants designated for removal on these plans shall be salvaged and delivered to the City of Defiance Water Department Maintenance Garage at 1356 Baltimore St.

OHIO E.P.A. REQUIREMENTS
The Ohio Environmental Protection Agency requires a conformance to the latest edition of "Recommended Standards for Water Works". This standard shall be equalled or exceeded for water lines. Special attention shall be given to the following sections of Part 8:

8.0.1. Materials conform to AWWA Standards
8.1.2. Minimum 6" diameter fire protection
8.5.3. Minimum 4.5' ground cover
8.5.5. Pressure testing AWWA C-600*
8.5.6. Disinfection AWWA C-651*
8.6.2. 10' horizontal separation water main/sewer
8.6.3. 18" vertical separation water main/sewer
8.6.6. No entry and/or contact with sewer manhole

*Note: It shall be the contractor's responsibility to perform this test properly and the responsibility for an adequate supervision and approval rests with the appropriate governmental agency. Any deviation from the above will not be permitted unless specifically included in the General Notes or otherwise shown on these plans.

~~BORING PIT~~
~~Location of the boring pits will be approved by the Engineer. The Contractor will be responsible for maintaining safe conditions in and around the pits at all times.~~
~~Boring pits will be backfilled with granular material as required, based on the same 45 degree angles shown in the trench details. Payment for all boring pit Costs, including granular backfill and pavement replacement beyond what would be paid under normal excavation for the waterline, shall be included in the Unit Price Bid for the 8" Bore & Jack (Item W-8).~~

FITTINGS
All fittings are itemized in the General Summary. Actual payment will be at the unit price per each fitting. Adapters required for making connections to existing lines will be paid for in the unit price bid for water line pipe. See details specs for fittings in contract documents.

HYDROSTATIC AND LEAKAGE TESTS
Hydrostatic and leakage tests shall be performed in accord with AWWA C600 under the supervision of the City Engineer. See the detailed specifications in the contract documents.

STERILIZATION
All mains shall be sterilized under the supervision of the City Engineer in accord with specifications in proposal documents and AWWA C601.

LOCATION WIRE
The entire length of water line shall have a location wire attached at the top and centered over the water line pipe. The attachment of the wire shall be at a minimum of 3 evenly spaced places per pipe length. 8" of duct tape shall be used as the method of attachment. The location wire shall be #12 AWG insulated copper wire with a blue covering. Splices shall be made with a 10 - 12 gage #562 yellow connector from Electro Products of the 3-M Company or an approved equal. The connector shall then be double wrapped with a rubberized tape. The Contractor shall leave 5 ft. of wire coiled in the valve box at each end of the pipe or at each hydrant shut off valve. This shall be considered incidental to the construction and should be included with the unit price bid for the appropriate waterline Item.

MARKING TAPE
Detectable underground marking tape shall be placed above the water line bedding along the entire length of the water line. It shall be considered incidental to the construction and should be included with the unit price for water line.

CURB BOX RESET
Costs for moving any curb boxes that have to be reset, by the determination of the engineer, shall be included in the unit price bid of 3/4" 'K' copper water service line. IN the event a new curb box is needed, they will be furnished by the city.

LEAD SERVICE LINES
Any existing lead water service lines that are encountered shall be replaced from the main to the curb stop, with the appropriate sized 'K' copper water service line. Costs for this work, including granular backfill, pavement and curb replacement, shall be paid according to the appropriate bid item.

BORING AND JACKING
Bored and Jacked installations shall have a bored hole diameter essentially the same outside diameter of the pipe plus the thickness of the protective coating. If voids should develope or if the bored hole diameter is greater than the outside diameter of the pipe (including coating) by more than approximately 1 inch, remedial measures as approved by the Engineer, shall be taken.

BORING PIT
Location of the boring pits will be approved by the Engineer. The Contractor will be responsible for maintaining safe conditions in and around the pits at all times.
Boring pits will be backfilled with granular material as required, based on the same 45 degree angles shown in the trench details. Payment for all boring pit costs, including granular backfill and pavement replacement beyond what would be paid under normal excavation for the waterline, shall be included in the Unit Price bid for the Boring and Jacking Encasement Pipe (Item W-4).

CITY OF DEFIANCE, OHIO
ENGINEERING DEPARTMENT

GENERAL NOTES

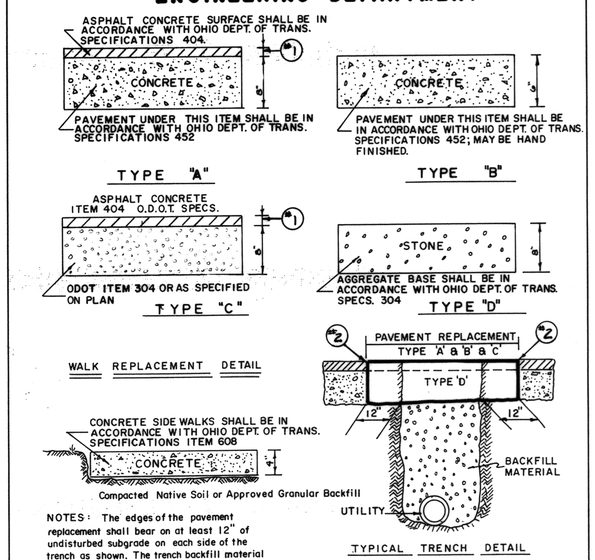
CITY ENGINEER	DRAWN BY	PROJ. NO
CHERYLE F. CULLER	SK	9803
DATE	REVISIONS	SH.
11/97		2 OF 6

GENERAL SUMMARY

ITEM	QUAN.	UNIT	DESCRIPTION	SHT.
			WATER	
W-1	950	LF	12" WATERLINE	4-5
W-2	5	LF	8" WATERLINE	4
W-3	25	LF	6" WATERLINE	4
W-4	80	LF	BORE & JACK 24" ENCASEMENT	4
W-5	1	EA	12" VALVE & BOX	4
W-6	1	EA	12" x 12" x 12" TEE	4
W-7	1	EA	12" x 12" x 6" TEE	4
W-8	1	EA	12" 45° BEND	4
W-9	2	EA	12" 22 1/2° BEND	4-5
W-10	3	EA	12" 11 1/4° BEND	4-5
W-11	2	EA	6" 45° BEND	4
W-12	1	EA	12" TO 8" REDUCER	4
W-13	1	EA	12" TO 6" REDUCER	4
W-14	1	EA	12" ON 16" TAP SLEEVE & VALVE	5
W-15	1	EA	STANDARD HYDRANT ASSEMBLY	4
			EROSION CONTROL	
659	2,500	SY	SEEDING & MULCHING	4-5
659	0.23	TON	COMMERCIAL FERTILIZER	4-5
			ROADWAY	
310		CY	GRANULAR BACKFILL	4
614	1	LUMP	MAINTAINING TRAFFIC	2
			AS-DIRECTED ITEMS	
			TRAFFIC MAINTAINENCE	
404	10	CY	ASPHALT CONC. SURFACE COURSE	2
405	10	CY	BIT. PRE-MIX SURFACE COURSE	2
410	25	TON	TRAFFIC COMP. SURF. TYPE B	2
616	5	TON	CALCIUM CHLORIDE	2
616	1	M-GAL	WATER	2
			SANITARY REPAIR (AS-DIR)	
S-1	25	LF	4" SANITARY SEWER REPAIR	2
S-2	25	LF	6" SANITARY SEWER REPAIR	2
			DRAINAGE (AS-DIR)	
603	25	LF	4" TYPE C CONC (706 OR PVC)	2
603	25	LF	6" TYPE C CONC (706 OR PVC)	2
603	25	LF	8" TYPE C CONC (706 OR PVC)	2
603	25	LF	10" TYPE C CONC (706 OR PVC)	2
603	25	LF	12" TYPE C CONC (706 OR PVC)	2

4-1-1

CITY OF DEFIANCE
ENGINEERING DEPARTMENT



NOTES: The edges of the pavement replacement shall bear on at least 12" of undisturbed subgrade on each side of the trench as shown. The trench backfill material under roadway pavement shall be Control Density Fill. Under other areas of pavement replacement, O.D.O.T. spec. 304,310,or 411 (Crushed Stone) may be used unless otherwise directed by the Engineer.

Contractor shall maintain trench at his expense for one year after approval of pavement replacement by the City Engineer.

(1) 2" ODOT Item 404 or as specified on Plan.

(2) All finished Asphalt surfaces shall be sawed to a neat edge, and sealed with AC-20 or an approved equal.

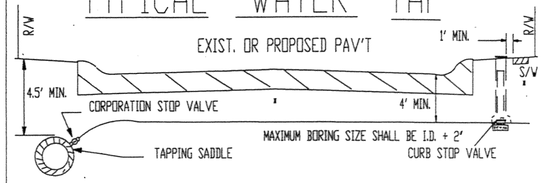
STANDARD DRAWING

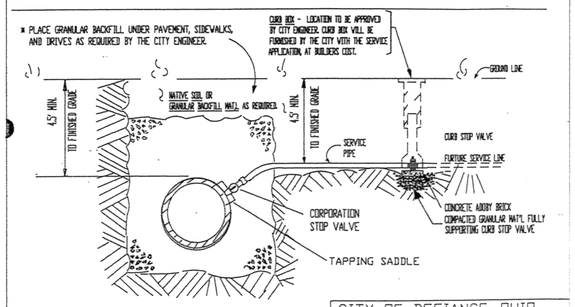
PAVEMENT REPLACEMENT

CITY ENGINEER	DRAWN BY	DATE
Cheryle F. Culler	D.N.F.	DEC. '69

REVISIONS 1/16/73 ; 6/26/73 1/10/78; 2/23/86; 1/24/91

TYPICAL WATER TAP





SPECIFICATIONS

TAPPING SADDLE: BRONZE SADDLE, MUELLER H - 15625 OR APPROVED EQUAL FOR 3/4"

CORPORATION STOP: MUELLER-15000 OR APPROVED EQUAL.

CURB STOP: CRISEAL VALVE, MUELLER-H15209 WITH H15428 MUELLER COMPRESSION COUPLING OR APPROVED EQUAL.

SERVICE PIPE: 160 PSI PE PLASTIC (1" SERVICE OR LARGER), OR TYPE 'K' COPPER AS PER CITY SPEC.

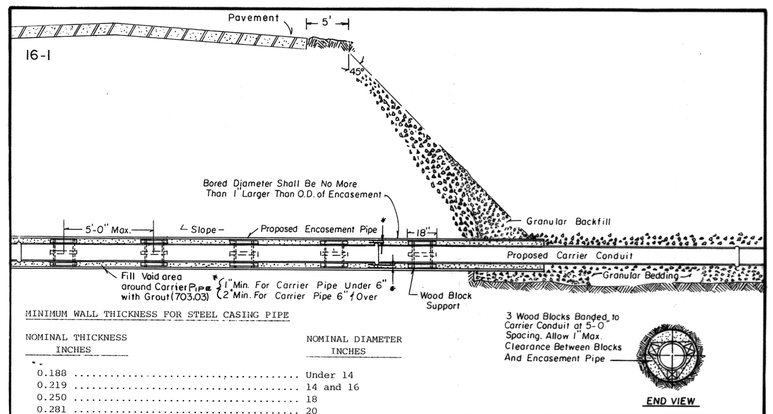
GRANULAR BACKFILL: O.D.O.T. 411 OR APPROVED EQUAL.

WATERTAP

CITY OF DEFIANCE, OHIO
ENGINEERING DEPARTMENT

WATER TAP DETAIL

CITY ENGINEER	DRAWN BY	PROJ. NO.
Cheryle Culler	D.K.R.	Standard
DATE	REVISION	SHEET
Sept. 1988	Feb. 1993 R.L.T.	1 of 1



MINIMUM WALL THICKNESS FOR STEEL CASING PIPE

NOMINAL THICKNESS INCHES	NOMINAL DIAMETER INCHES
0.188	Under 14
0.219	14 and 16
0.250	18
0.281	20
0.312	22
0.344	24
0.375	26
0.406	28 and 30
0.438	32
0.469	34 and 36
0.500	38, 40 and 42

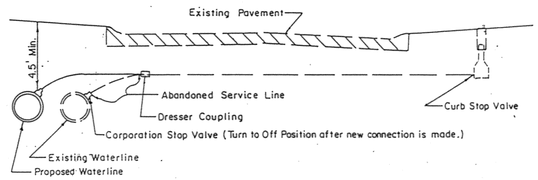
When casing is installed without benefit of a protective coating, and said casing is not cathodically protected, the wall thickness shown above shall be increased to the nearest standard size, which is a minimum of 0.063 in. greater than the thickness shown except for diameters under 12 3/4 in.
Steel Pipe - shall have a minimum yield strength of 35,000 psi.

CITY OF DEFIANCE, OHIO
ENGINEERING DEPARTMENT

Boring Detail
With Encasement Pipe

CITY ENGINEER	DRAWN BY	PROJ. NO
	R. B.	S.D.F
DATE	REVISIONS	SH.
August 1984	3-6-89 D.K.R.	1

TYPICAL WATER SERVICE CONNECTION 'DETAIL'



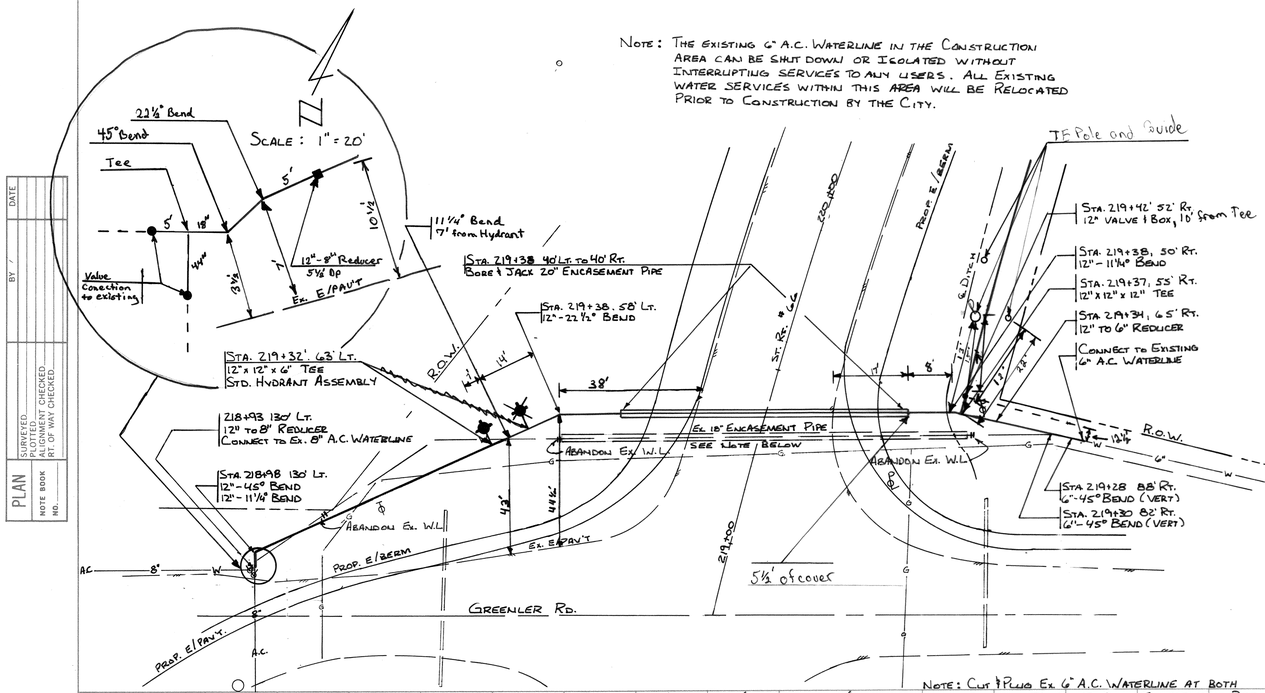
CITY OF DEFIANCE, OHIO
ENGINEERING DEPARTMENT

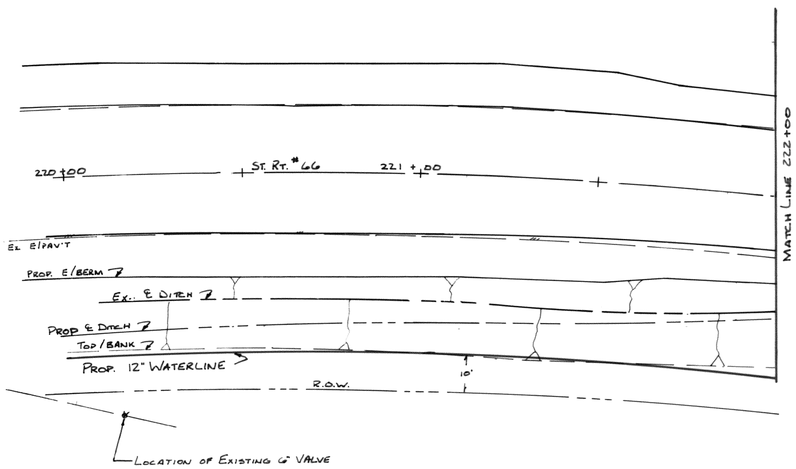
SUMMARY SHEET

CITY ENGINEER	DRAWN BY	PROJ. NO
CHERYLE F. CULLER	SK	9803
DATE	REVISIONS	SH.
11/97		3 of 6

As built - NLW - 7/8/98

NOTE: THE EXISTING 6" A.C. WATERLINE IN THE CONSTRUCTION AREA CAN BE SHUT DOWN OR ISOLATED WITHOUT INTERRUPTING SERVICES TO ANY USERS. ALL EXISTING WATER SERVICES WITHIN THIS AREA WILL BE RELOCATED PRIOR TO CONSTRUCTION BY THE CITY.



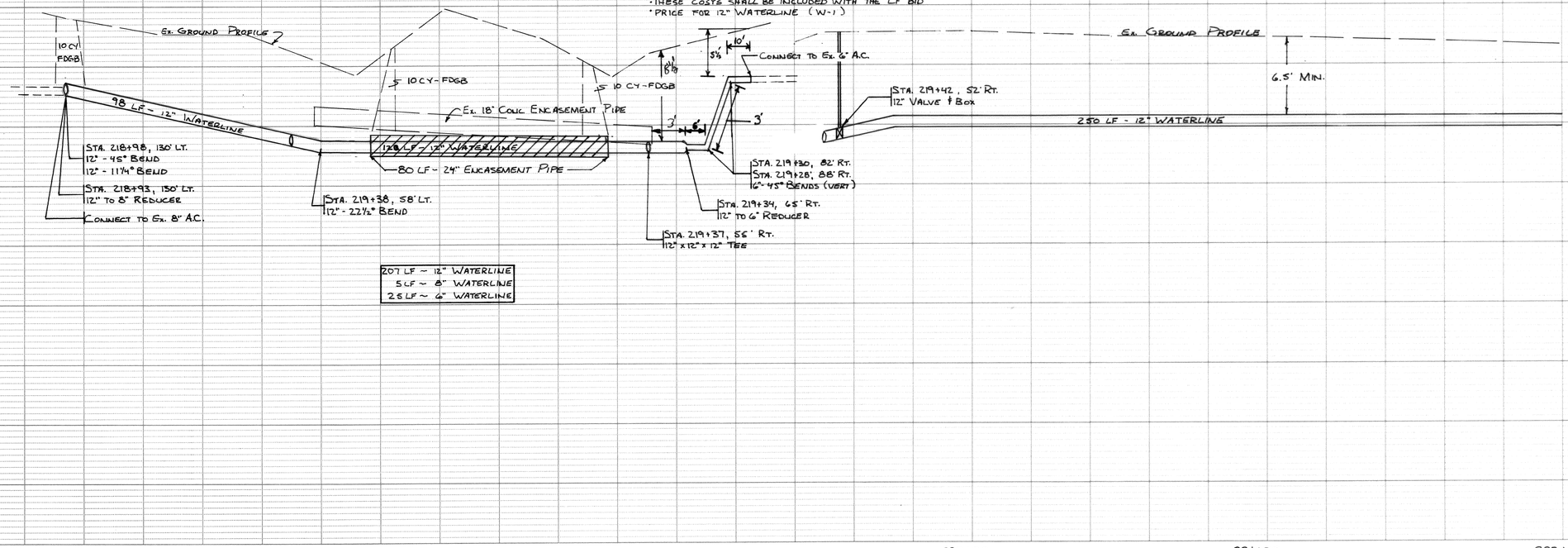


WHEN A 10' HORIZONTAL OR 18 INCH VERTICAL SEPARATION CANNOT BE MAINTAINED BETWEEN THE WATERLINE AND SEWER LINES, ONE OF THE FOLLOWING CORRECTIVE MEASURES MUST BE TAKEN:

- ENCASE SANITARY SEWER IN 6" OF TYPE 'C' CONCRETE.
- REPLACE SANITARY SEWER WITH OEPA APPROVED PRESSURE RATED PIPE FOR A LENGTH OF 10' ON EITHER SIDE OF THE WATERLINE.

NOTE: THE TESTING OF THE NEW WATERLINE (HYDROSTATIC & BACTERIA) WILL EXTEND TO THE EXISTING VALVES ON EACH END OF THE EXISTING A.C. WATERLINE.

NOTE: CUT & PLUG EX. 6" A.C. WATERLINE AT BOTH ENDS OF THE EX. 18" CONC. ENCASEMENT PIPE.
: SEAL BOTH ENDS OF EX. 18" CONCRETE ENCASEMENT PIPE.
·THESE COSTS SHALL BE INCLUDED WITH THE LF BID
·PRICE FOR 12" WATERLINE (W-1)

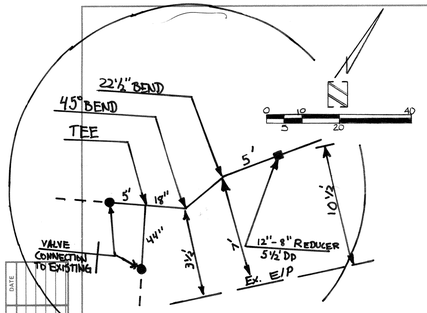


207 LF ~ 12" WATERLINE
5 LF ~ 8" WATERLINE
25 LF ~ 6" WATERLINE

PLAN: SURVEYED, PLOTTED, NOTE BOOK, NO., DATE, BY, ALIGNMENT CHECKED, R/T. OF WAY CHECKED

PROFILE: SURVEYED, PLOTTED, GRADES CHECKED, NOTE BOOK, NO., DATE, BY, STRUCTURE NOTATNS CHKD

As built - NLW - 7/8/98



STA. 0+85, 10' RT.
12"-22½° BEND (HORIZONTAL)

STA. 0+20, 39' RT.
12"-45° BEND (HORIZONTAL)

STA. 0+24, 36' RT.
12"-22½° BEND (HORIZONTAL)

11¼° BEND 7' FROM HYDRANT

ABANDON EXISTING 16" WATERLINE

STA 0+62, 20' RT.
12"x12"x6" TEE & HYD ASSEMBLY (SEE DETAIL SHT 9)

R.O.W.

14'

W

G

7'

STA 0+00

N51° 04' 40"E

38'

2"P

G

W

REROUTE AND TAP ¾" RESIDENTIAL SERVICE TO EXISTING 8" WATERLINE (BY CITY CREWS)

8" SERVICE

45 L.F. - 12" WATERLINE

W-1

48"

24"

54"

44½"

EX. EIP

INSTALL ¾" CORPORATION STOP

NOTE: CITY WATER CREW TO INSTALL 8" LINE VALVE SOUTH OF GREENLER RD. PRIOR TO CONSTRUCTION

STA. 0+20, 44' RT.
12" TO 8" REDUCER

¾" WATER SERVICE TO CHURCH TO BE RELOCATED BY CITY

STA 0+95 TO STA 2+10
REMOVE EXISTING 6" WATERMAIN IN ENCASEMENT PIPE AND REPLACE WITH 12" WATERLINE.
SEE NOTE ON PAGE 2 OF 9

THE CONTRACTOR IS TO REMOVE ONE SECTION OF 18" ENCASEMENT PIPE AS DIRECTED BY THE ENGINEER. THE COST SHALL BE INCLUDED IN THE WATERLINE PRICE PER LIN. FT.

TE POLE
GUIDE WIRES

STA 2+12, 8' RT.
12"x12"x12" TEE

STA. 2+22, 8' RT.
12" TO 6" REDUCER

STA. 2+26, 8' RT.
6"-11¼° BEND (HORIZONTAL)

S.B. ⊄

STA. 2+26, 8' RT.
6"-11¼° BEND (HORIZONTAL)

CONSTRUCTION BASELINE

137 L.F. - 12" WATERLINE

16" REINFORCED CONC. ENCASEMENT PIPE EXISTING

PLUG END AREA BETWEEN ENCASEMENT & CARRIER PIPE WITH CONC. OR GROUT, AT BOTH ENDS.

W-2

W-3

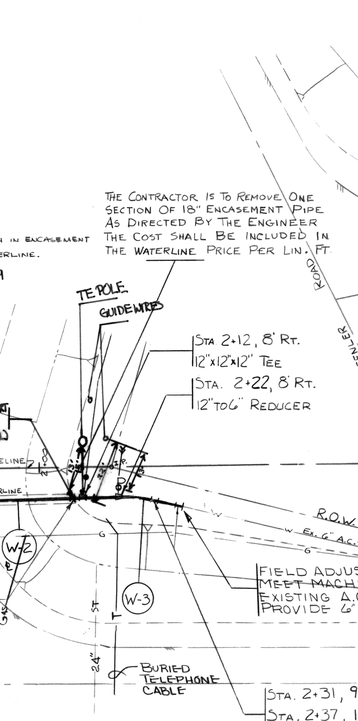
STA. 218+71.15
DEF-66-3.40 PROJ.

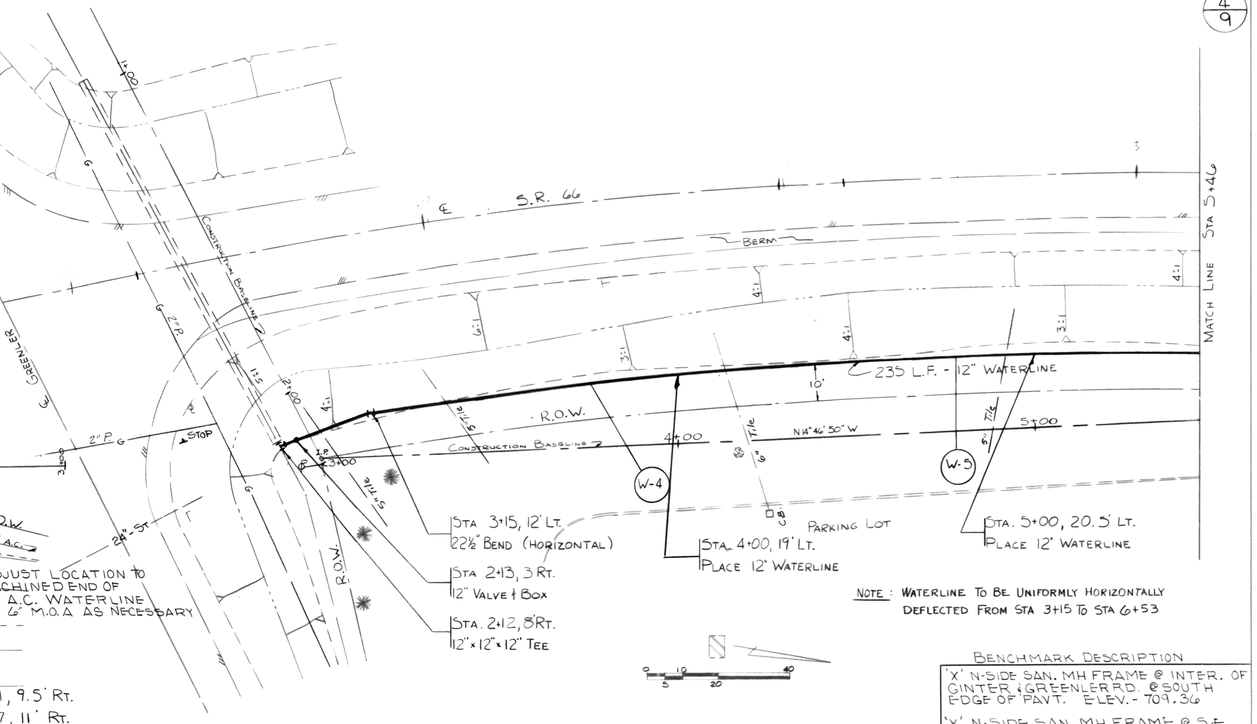
BURIED TELEPHONE CABLE

FIELD ADJUST LOCATION TO MEET MACHINED END OF EXISTING A.C. WATERLINE. PROVIDE 6" M.O.A. AS NECESSARY

STA. 2+31, 9.5' RT.
STA. 2+37, 11' RT.
6"-45° BENDS (VERTICAL)

℄ GREENLER ROAD





NOTE: WATERLINE TO BE UNIFORMLY HORIZONTALLY DEFLECTED FROM STA 3+15 TO STA 6+53

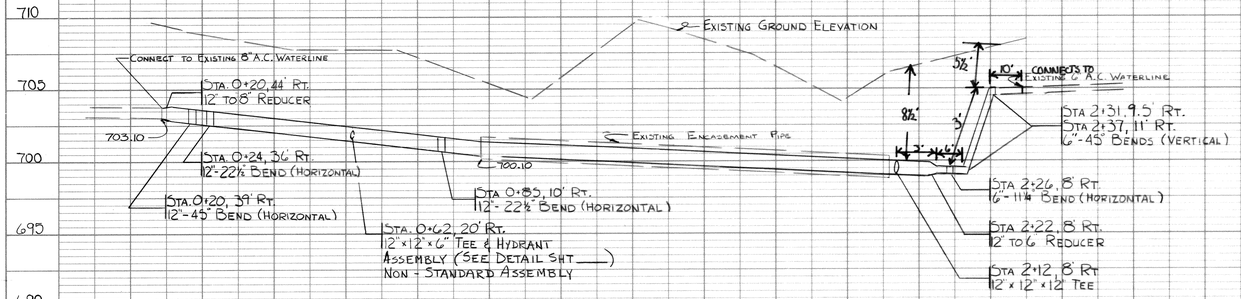
MATCH LINE STA 5+46

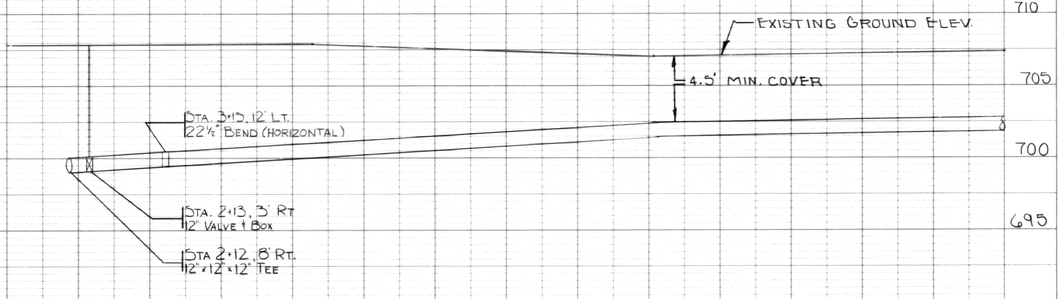
BENCHMARK DESCRIPTION

'X' N. SIDE SAN. MH FRAME @ INTER. OF GINTER & GREENLER RD. @ SOUTH EDGE OF PAVT. ELEV. - 709.36

'X' N. SIDE SAN. MH FRAME @ S.E. CORNER OF INTER. OF SR 66 & GREENLER RD. ; ELEV. - 707.42

PLAN
DATE
BY
SURVEYED
PLOTTED
ALIGNMENT CHECKED
RT. OF WAY CHECKED
NOTE BOOK
No.





PROFILE
SURVEYED
PLOTTED
GRADES CHECKED
B.M.'s NOTED
STRUCTURE NOTATIONS CHECKED
NOTE BOOK
No.

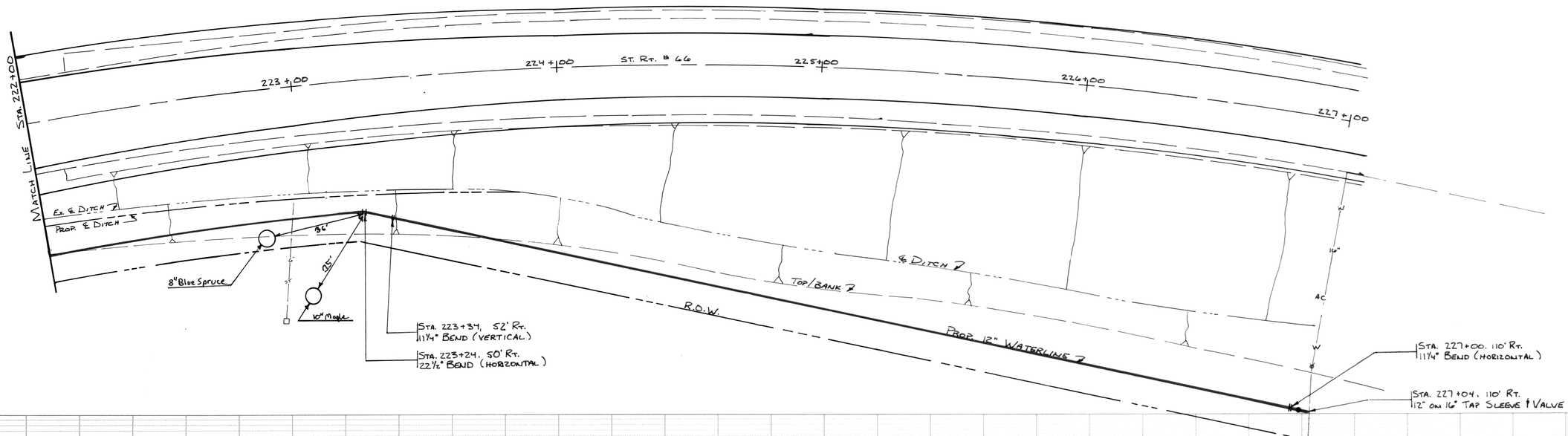
GREENLER ROAD - STATE ROUTE 66 WATERLINE

AS BUILT ALF 8/3/98

PLATE 1 PLAN PROFILE O. P. R. & R. E. STANDARD

DIETZGEN CORPORATION

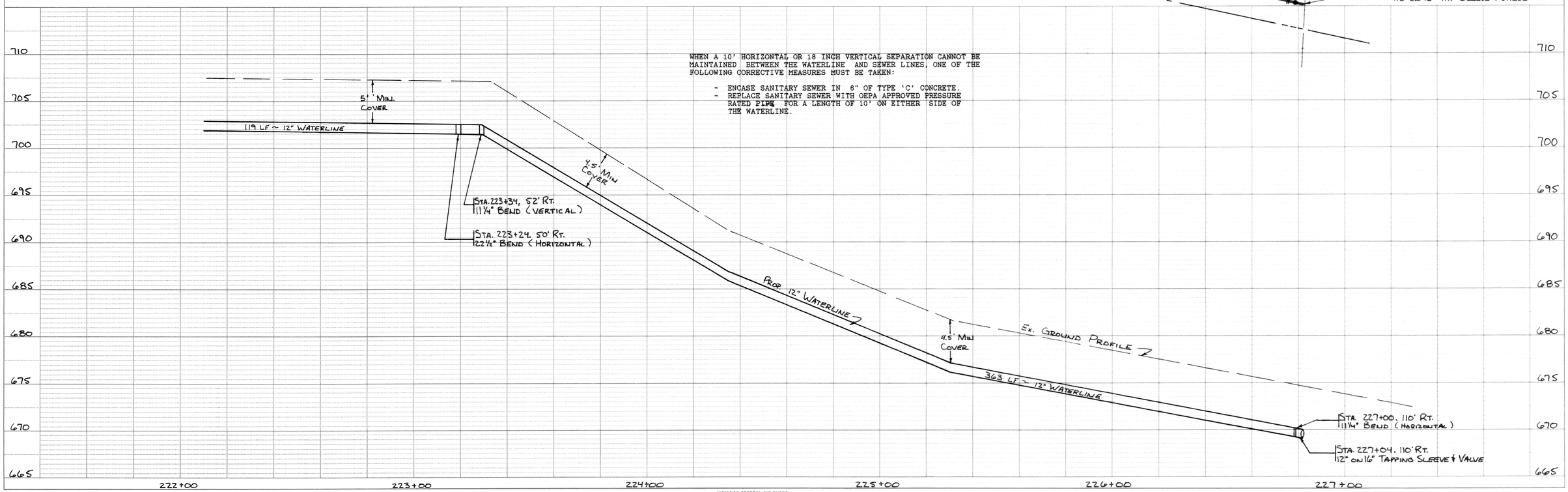
PLAN
SURVEYED
PLOTTED
GRADES CHECKED
R/W NOTED
STRUCTURE NO(S) CHK'D
NOTE BOOK NO.
BY
DATE



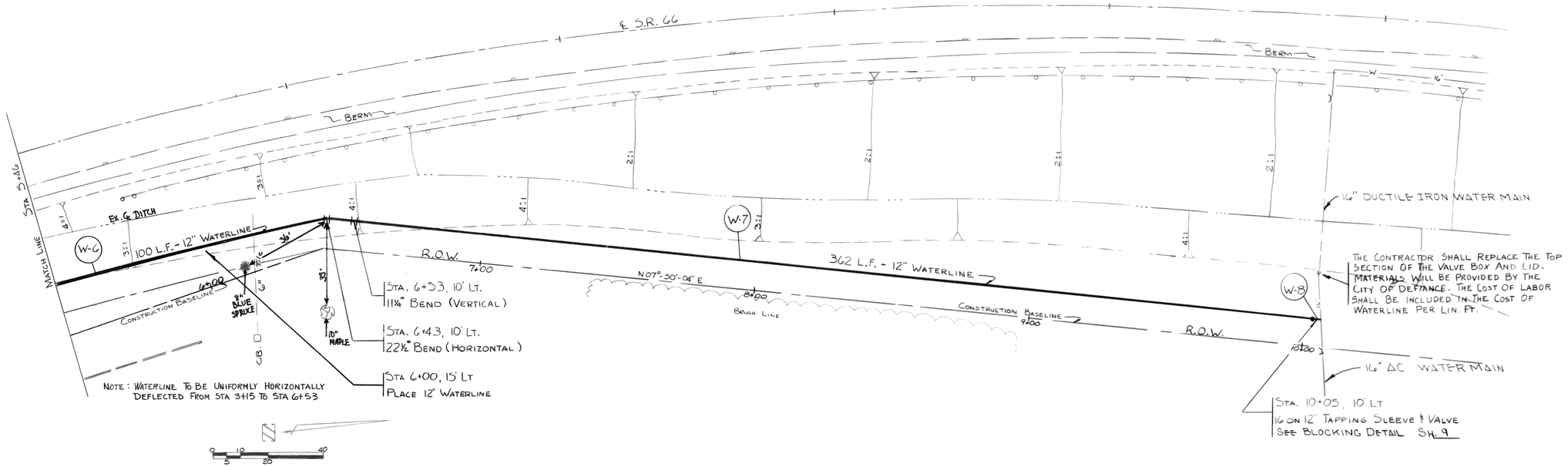
PROFILE
SURVEYED
PLOTTED
GRADES CHECKED
B.M.'s NOTED
STRUCTURE NO(S) CHK'D
NOTE BOOK NO.
BY
DATE

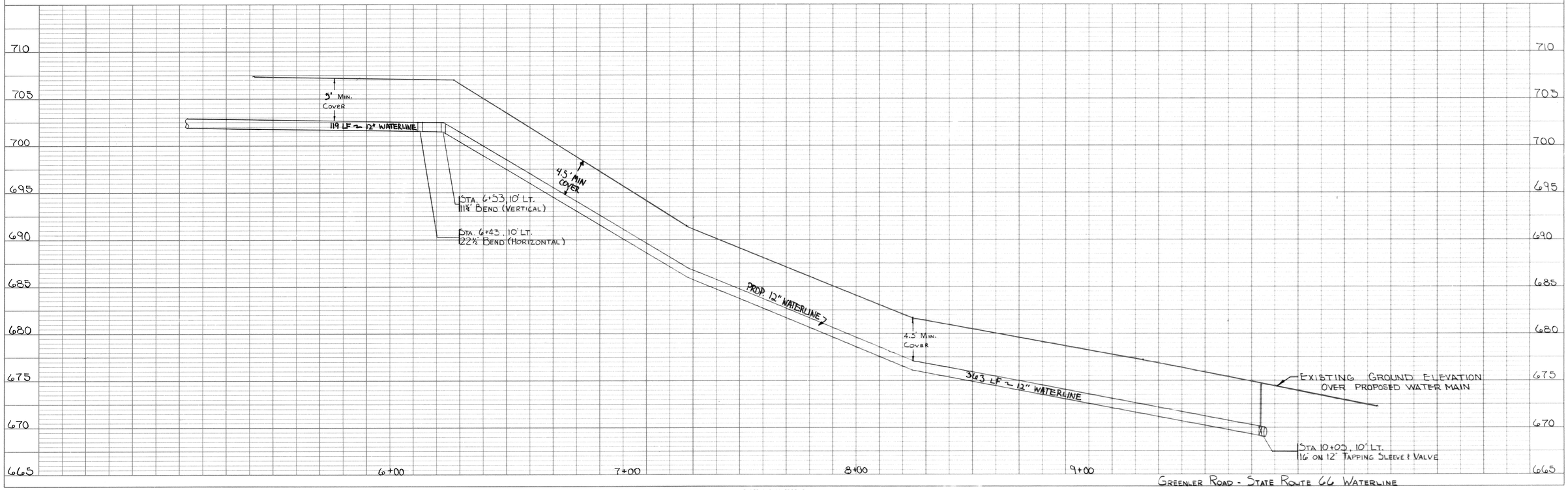
WHEN A 10' HORIZONTAL OR 18 INCH VERTICAL SEPARATION CANNOT BE MAINTAINED BETWEEN THE WATERLINE AND SEWER LINES, ONE OF THE FOLLOWING CORRECTIVE MEASURES MUST BE TAKEN:

- ENCASE SANITARY SEWER IN 6" OF TYPE 'C' CONCRETE.
- REPLACE SANITARY SEWER WITH OEPA APPROVED PRESSURE RATED PIPE FOR A LENGTH OF 10' ON EITHER SIDE OF THE WATERLINE.



As built - NLW - 7/8/98





GREENLER ROAD - STATE ROUTE 66 WATERLINE

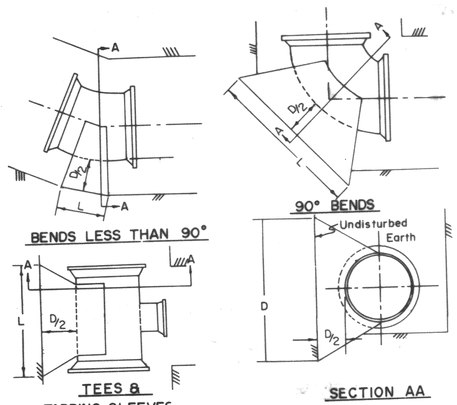
PLATE 1 PLAN-PROFILE O. P. A. & R. I. STANDARD

DIETZGEN CORPORATION

PLAN
SURVEYED
PLOTTED
NOTE BOOK
No.
ALIGNMENT CHECKED
RT. OF WAY CHECKED
BY
DATE

PROFILE
SURVEYED
PLOTTED
GRADES CHECKED
B. M. + NOTED
STRUCTURE NOTATIONS CHECKED
NOTE BOOK
No.
BY
DATE

AS BUILT ALF 8/3/98

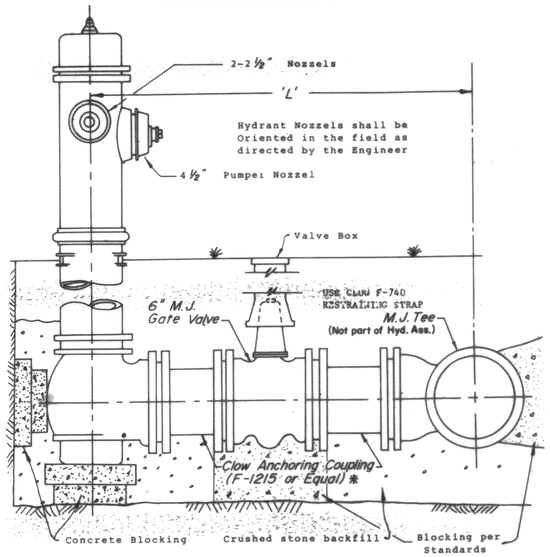


MINIMUM BLOCKING DETAILS

CONCRETE SHALL BE CLASS "C"

SIZE OF PIPE	DEGREE OF BEND 11 1/4° L"	D"	22 1/2° L"	D"	45° L"	D"	90° L"	D"
6"	12	12	12	18	18	18	24	24
8"	12	18	18	18	24	24	36	30
12"	15	24	24	30	36	36	54	42
16"	24	24	24	48	48	48	60	48
20"	24	30	36	48	60	60	90	72
24"	36	36	48	54	72	72	108	96
STEEL WILL BE USED AS REQUIRED BY THE ENGR.								

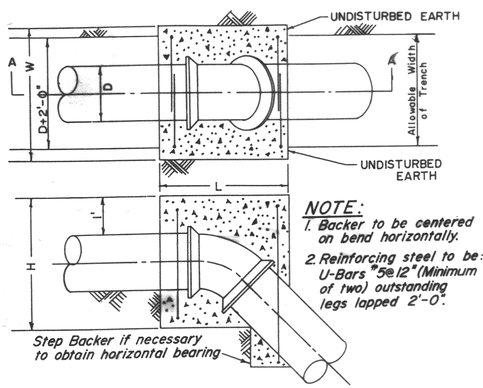
RUN	BRANCH 6" L"	D"	8" L"	D"	12" L"	D"	16" L"	D"	20" L"	D"
6"	16	26								
8"	18	24	24	30						
12"	24	15	24	30	42	42				
16"	28	18	28	26	42	42	54	54		
20"	28	22	28	26	42	42	54	54	68	68
24"	30	26	30	24	42	42	54	54	68	68
STEEL WILL BE USED AS REQUIRED BY THE ENGR.										



* 3/4" Steel tie-rods may be used in lieu of the anchor couplings if approved by the Engineer.

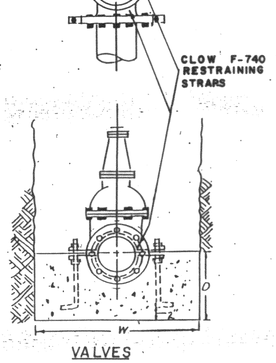
NOTE: No drain holes. Fire hydrants shall be Mueller Centurion Safety Flange Model, or approved equal.

WATER MAIN	DIMENSION "L" (MINIMUM)
6"	5'
8"	5'
12"	5'
16"	5'-6"
20"	5'-6"

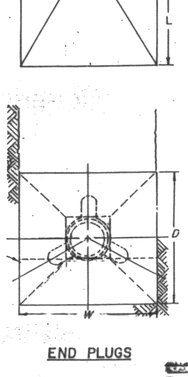


SECTION AA

SIZE OF PIPE	DEGREE OF BEND 11¼° L"	W"	H"	VCu.Ft.	22½° L"	W"	H"	VCu.Ft.	45° L"	W"	H"	VCu.Ft.
6"	12	48	18	5.8	15	43	36	13.2	28	55	24	21.0
8"	12	63	24	10.2	18	57	34	19.9	36	57	33	38.2
12"	20	54	36	21.0	37	62	37	46.6	48	62	51	85.2
16"	31	65	38	44.4	60	65	39	82.4	65	65	65	151.6
20"	45	70	40	64.9	56	70	60	126.2	72	76	78	234.0
24"	36	72	54	95.4	67	74	69	180.5	88	84	84	335.0



VALVES

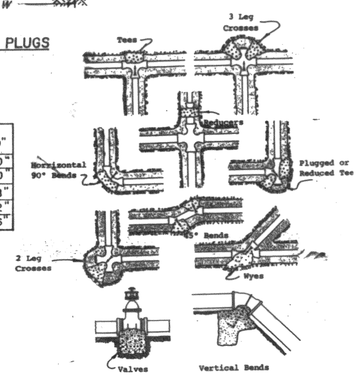


END PLUGS

MINIMUM BLOCKING DETAILS

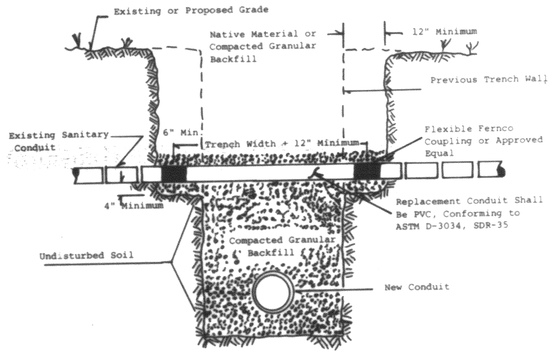
CONCRETE SHALL' BE CLASS "C"

SIZE OF PIPE		6"	8"	10"	12"	16"	20"
VALVE DIMENSIONS	W	30"	32"	34"	36"	48"	60"
	D	12"	18"	27"	36"	48"	60"
END PLUG DIMENSIONS	W	18"	24"	30"	36"	40"	48"
	D	18"	24"	30"	36"	54"	72"
	L	9"	12"	15"	18"	30"	36"

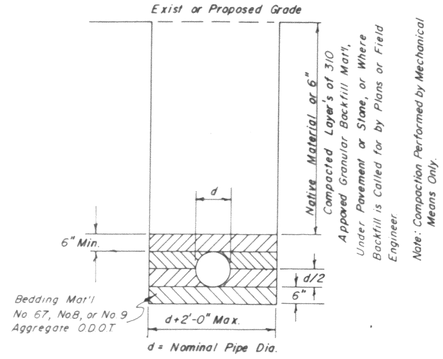


NOTE: See accompanying details for areas, and volumes required for different pipe sizes @ 150 Lbs. line pressure.

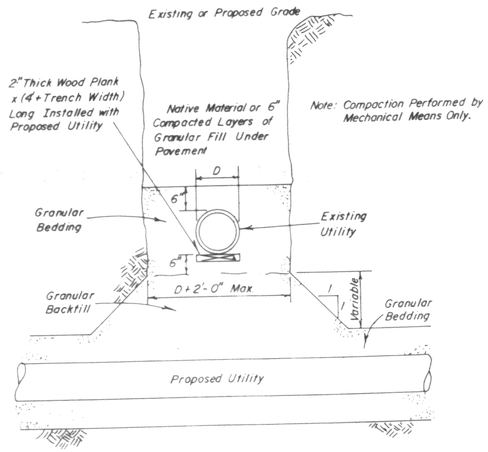
TYPICAL SANITARY SEWER REPAIR DETAIL

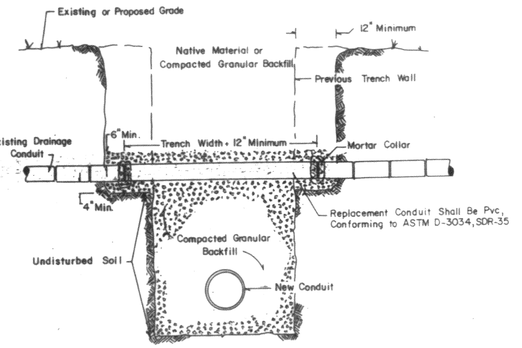


Payment for all Materials, Labor, and Equipment Necessary to Complete the Sanitary Sewer Repair shall be included in the Unit Price Bid for the appropriate Conduit.



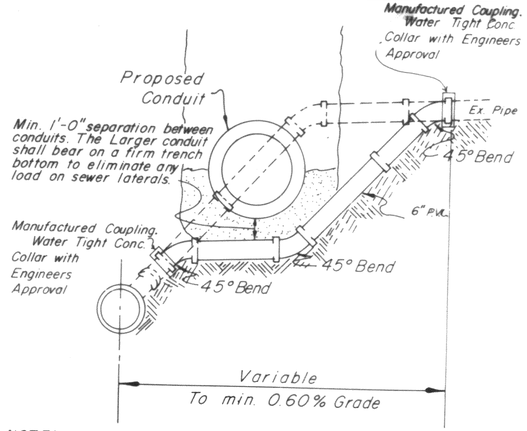
WATER LINE AND SANITARY SEWER BEDDING & BACKFILL DETAIL



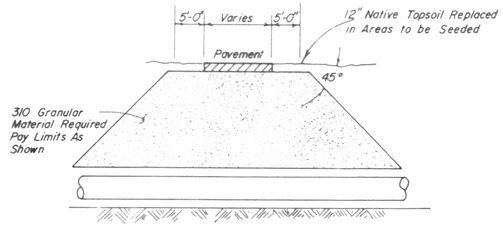


Payment for all Materials, Labor, and Equipment Necessary to Complete the Storm Sewer Repair shall be included in the Unit Price Bid for the Appropriate Conduit.

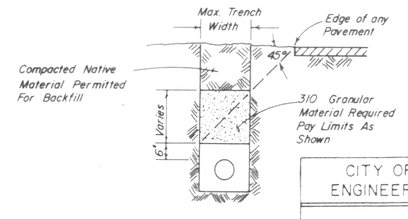
TYPICAL SANITARY SEWER ADJUSTMENT



NOTE:
This is a general guide for this type of work. Actual work situations must be inspected and approved by a representative of the City Engineering Dept. or Water Pollution Control Dept.



PROFILE
PAVEMENT CROSSES



CROSS SECTION
PAVEMENT TO SIDE

CITY OF DEFIANCE, OHIO
ENGINEERING DEPARTMENT

DETAIL SHEET

CITY ENGINEER	DRAWN BY	PROJ. NO.
CHERYLE F. CULLER	SK	9803
DATE	REVISIONS	SH.
11/97		6 OF 6

As built - NLW - 7/8/98