

STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS

CONSTRUCTION PLAN FOR GRADING, BASE, & BITUMINOUS SURFACING

County State Aid Highway No. 7

Between .CSA.H.#20 And CR.#55

A PT. 27'43" E. AND 121'20" N. OF THE N 1/4
From COR. OF SEC. 19, T32 N., R24 W. A PT. 2,242.39' N. AND 917'34" E. OF THE
To W. 1/4 COR. OF SEC. 6, T32 N., R24 W.
Give proper reference to Sections, Township and Range

GROSS LENGTH 17,671.66' FEET 3.35 MILES
BRIDGES LENGTH 275.08 FEET .05 MILES
EXCEPTIONS LENGTH 275.08 FEET .05 MILES
NET LENGTH 17,396.58 FEET 3.30 MILES

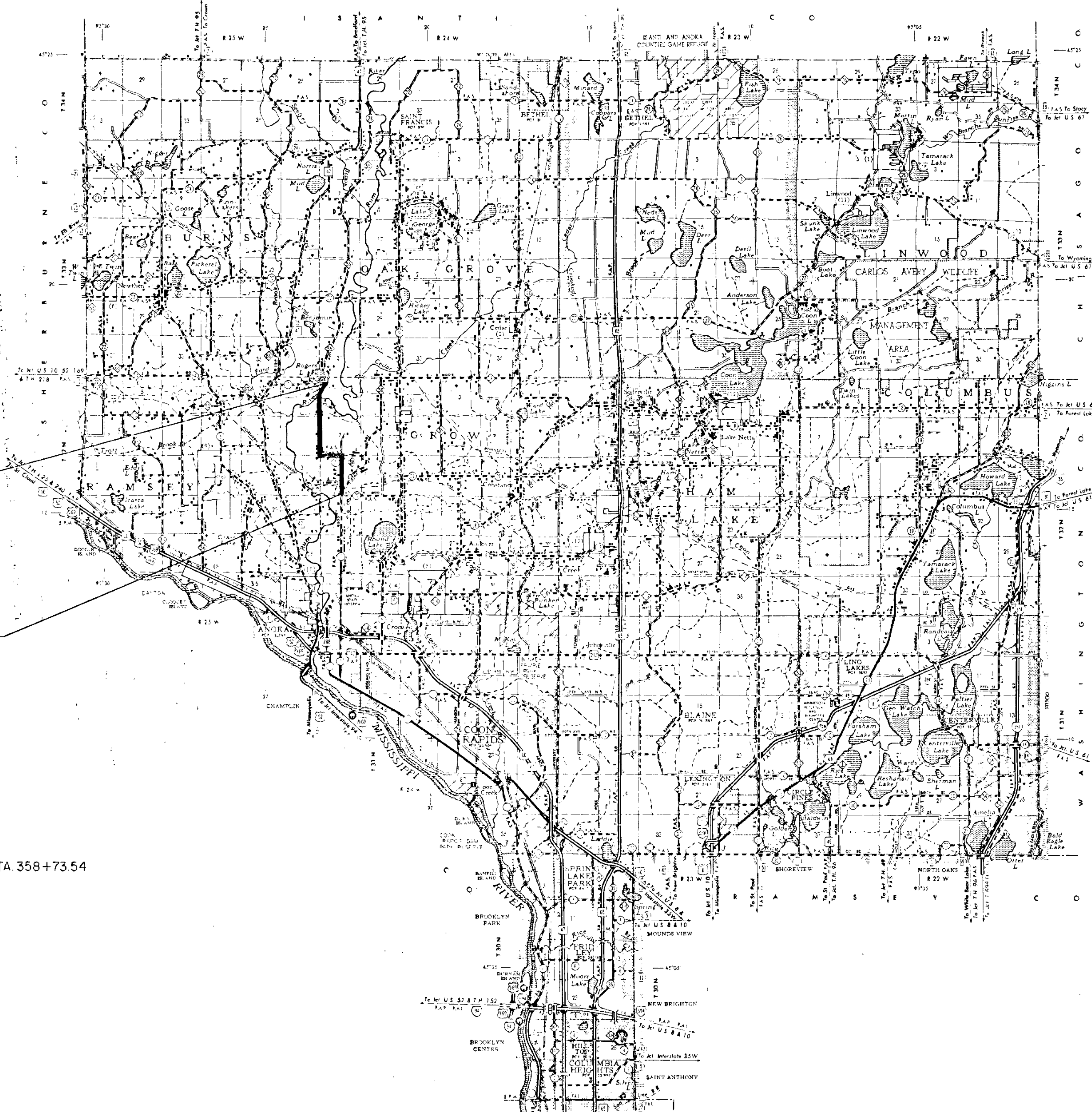
INDEX OF SHEETS

- Sheet No. 1 Title Sheet & Layout Map
- No 2-3 Est. Quantities & Typical Sec.
- No 4-5 Plan & Profile
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SCALE: PLAN 1" = 100'
PROFILE - VERT. 1" = 10'
HORIZ. 1" = 100'
X-SECT 1" = 10'

CONVENTIONAL SIGNS

- STATE LINE
- COUNTY LINE
- TOWNSHIP OR RANGE LINE
- SECTION LINE
- QUARTER LINE
- SIXTEENTH LINE
- RIGHT OF WAY LINE
- PRESENT RIGHT OF WAY LINE
- CONTROL OF ACCESS LINE
- PROPERTY LINE (EASEMENT LINES)
- VACATED PLATTED PROPERTY
- CORPORATE OR CITY LIMITS
- TRUNK HIGHWAY CENTER LINE
- RETAINING WALL
- RAILROAD
- RAILROAD RIGHT OF WAY LINE
- RIVER OR CREEK
- DRY RUN
- DRAINAGE DITCH
- ELECTRIC POWER LINE
- TELEPHONE OR TELEGRAPH LINE
- JOINT TELEPHONE AND POWER CONDUIT
- TELEPHONE CABLE - AERIAL
- TELEPHONE CABLE UNDERGROUND
- POWER CABLE UNDERGROUND
- GAS MAIN
- CULVERT
- GRIPPLE
- GUARD RAIL
- BARBED WIRE FENCE
- WOODEN WIRE FENCE
- CHAIN LINK FENCE
- RAILROAD SHOW FENCE
- STONE WALL OR FENCE
- MESH
- WATER PIPE
- SEWER PIPE
- DRAIN TILE
- SPRINGS
- MARSH
- TIMBER
- ORCHARD
- BRUSH
- NURSERY
- CATCH BASIN
- MANHOLE
- FIRE HYDRANT
- STREET LIGHT
- RAILROAD CROSSING SIGN
- RAILROAD CROSSING SIGN
- ELECTRIC WARNING SIGN
- CROSSING GATE
- CATTLE GUARD
- OVERPASS (Highway Over)
- UNDERPASS (Highway Under)
- BRIDGE
- BUILDINGS (Over Sign) Frame
- FRAME CONCRETE
- STONE
- BRICK
- STUCCO
- IRON PIPE OR ROD
- MONUMENT (STONE, CONCRETE OR METAL)
- WOODEN MIB
- GRAVEL PIT
- SAND PIT
- BROWN PIT
- ROCK QUARRY
- MEASURE CORNER



END PROJECT SAP 02-607-12
STA 384+00

BEGIN PROJECT SAP 02-607-12
STA 207+00

EQ. Δ OR PT. 332+43.66 =
POT. 332+58.82

EQ. Δ OR PT. 381+67.54 =
POT. 381+80.92

EXCEPTION STA. 355+98.46 - STA 358+73.54

DESIGN DESIGNATION

ADT (CURRENT YEAR) 1,100
ADT (FUTURE YEAR) 2,500 (20 YEAR)
T (HEAVY COMMERCIAL) LESS THAN 150 PROJ. HC.ADT.
9 Ton Design A-3 Soil Factor
Design Speed 50 MPH
Design Speed not achieved at:
STA 355+86 TO STA 358+86 MPH 45
STA _____ TO STA _____ MPH _____

SPECIFICATIONS

THE "STANDARD" SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, DATED JAN. 1, 1972 SHALL GOVERN
AS AMENDED BY "SUPPLEMENTAL SPECIFICATIONS" DATED APRIL 1, 1976 SHALL GOVERN.

ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS AND ORDINANCES WILL BE COMPLIED WITH, IN THE CONSTRUCTION OF THIS PROJECT.

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Paul K. Lund
COUNTY ENGINEER DATE Mar. 23, 1977

ANOKA COUNTY REG. NO. 6549

RECOMMENDED FOR APPROVAL *CC Weickel* 3-24 1977
DISTRICT STATE AID ENGINEER

RECOMMENDED FOR APPROVAL *Delbert D. Olfendick* 4-14 1977

APPROVED *4/15 1977* *Stanley M. Gray*
STATE AID ENGINEER

Minn. Proj. No. _____ County Proj. No. _____
State Proj. No. _____ S.A.P. 02-607-12

FORM MHD 21165 - 10 - 58

STATEMENT OF ESTIMATED QUANTITIES

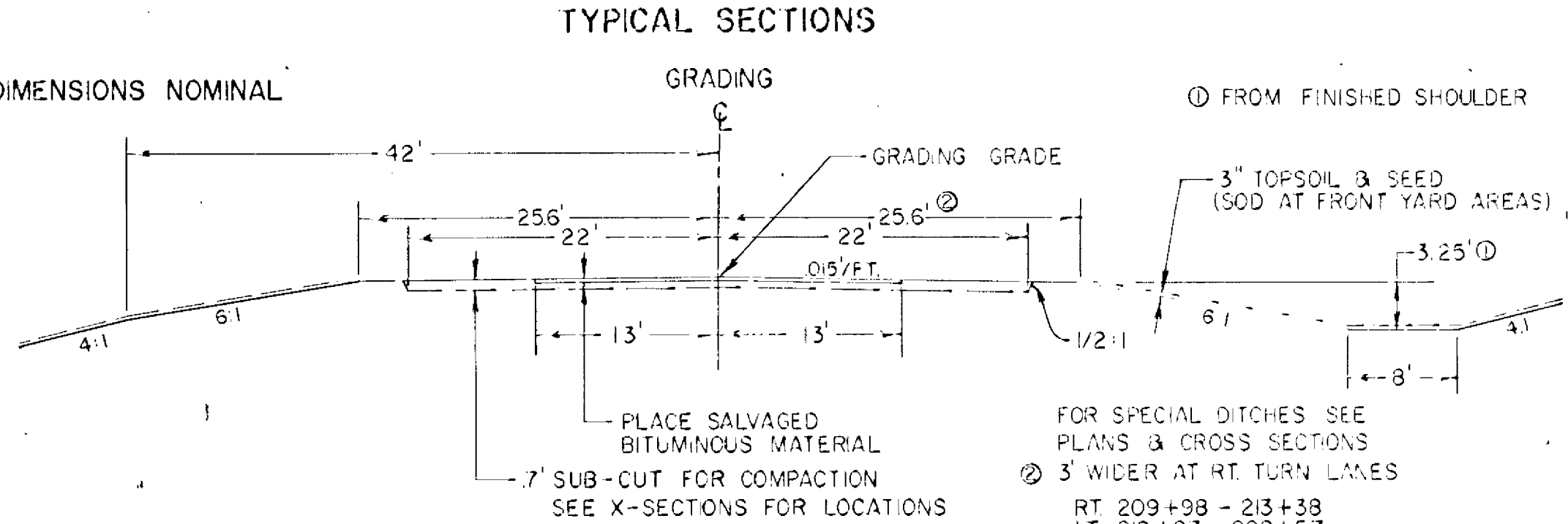
ITEM NO.	ITEM	UNIT	TOTAL ESTIMATED QUANTITIES	TOTAL FINAL QUANTITIES
2331.501	FIELD OFFICE, TYPE-D	EACH	1	
2101.501	CLEARING	ACRE	3.75	
2101.502	CLEARING	TREE	93	
2101.506	GRUBBING	ACRE	3.75	
2101.507	GRUBBING	TREE	708	
2104.501	REMOVE CULVERT PIPE	LIN. FT.	220	
2104.521	SALVAGE CULVERT PIPE	LIN. FT.	334	
2104.521	SALVAGE FENCE	LIN. FT.	11,988	
557.604	INSTALL FENCE	LIN. FT.	11,611	
2105.501	COMMON EXCAVATION	CU. YD.	74,131 P	
2105.505	MUCK EXCAVATION	CU. YD.	12,820	
2105.523	COMMON BORROW (E.V.)	CU. YD.	17,137	
2105.531	SALVAGE BITUMINOUS MIXTURE (E.V.)	CU. YD.	4,216 P	
2123.503	MOTOR GRADER	HR	20	
2123.509	DOZER	HR	32	
2130.501	WATER	M-GALLON	300	
221.501	AGGREGATE BASE, CLASS-5	TON	34,500	
2331.504	BITUMINOUS MATERIAL FOR MIXTURE	TON	525	
2331.510	BINDER COURSE MIXTURE	TON	6,525	
2331.516	SHOULDER MIXTURE	TON	2,850	
2341.504	BITUMINOUS MATERIAL FOR MIXTURE	TON	329	
2341.508	WEARING COURSE MIXTURE	TON	5,055	
2357.502	BITUMINOUS MATERIAL FOR TACK COAT	GALLON	2,965	
2501.501	CULVERT EXCAVATION, CLASS - U	CU. YD.	488	
2501.511	15" C.M. PIPE CULVERT	LIN. FT.	652	
2501.511	18" C.M. PIPE CULVERT	LIN. FT.	502	
2501.511	18" C.M. PIPE CULVERT	LIN. FT.	132	
2501.511	24" R.C. PIPE CULVERT CL. 2	LIN. FT.	354	
2501.515	15" C.M. PIPE APRONS	EACH	12	
2501.515	18" C.M. PIPE APRONS	EACH	18	
2501.515	18" C.M. PIPE APRONS	EACH	2	
2501.515	24" R.C. PIPE APRONS	EACH	8	
2501.571	INSTALL 15" C.M. PIPE CULVERT	LIN. FT.	68	
2575.501	ROADSIDE SEEDING	ACRE	28 P	
2575.502	SEED, MIXTURE NO. 3	POUND	1,120	
2575.505	SODDING	SQ. YD.	10,022	
2575.511	MULCH MATERIAL, TYPE - I	TON	56	
2575.519	DISC. ANCHORING	ACRE	28 P	
2575.531	COMMERCIAL FERTILIZER ANALYSIS 10 - 10 - 10	TON	7.5	
2575.551	TOPSOIL BORROW	CU. YD.	777	

- ① INCLUDES 8,241 CU. YDS. SUB-CUT FOR COMPACTION & UNIFORMITY OF SOILS.
- ② FOR OBLITERATION OF OLD ROAD OUTSIDE OF THE GRADING AREA.
- ③ FOR DUST CONTROL.
- ④ INCLUDES 2,675 TON FOR ROAD APPROACHES & 700 TON FOR ENTRANCES.
- ⑤ INCLUDES 574 TON FOR ROAD APPROACHES.
- ⑥ INCLUDES 419 TON FOR ROAD APPROACHES & 350 TON FOR ENTRANCES.
- ⑦ FOR FRONT YARD AREAS TO BE SODDED.

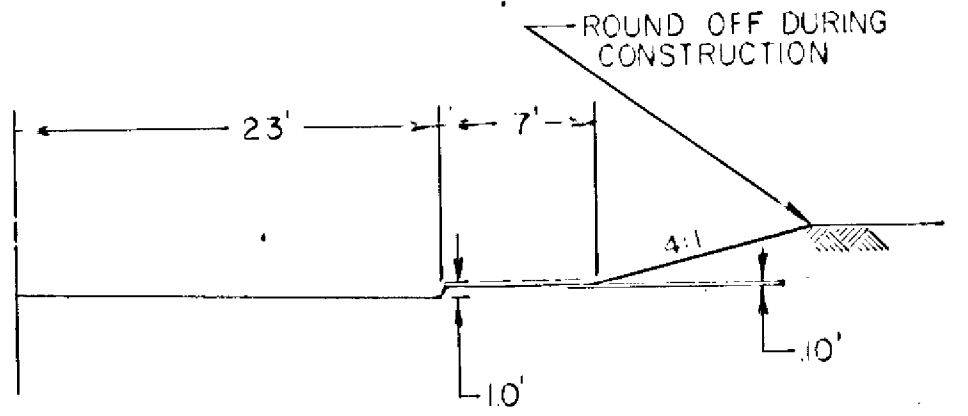
BASIS OF PLANNED QUANTITIES

- 2211 AGGREGATE BASE CLASS - 5, 145 LBS. PER CU. FT. COMPACTED.
- 2331 PLANT MIXED SHOULDER COURSE, BITUMINOUS MIXTURE 165 LBS. PER S.Y. PER 1 1/2" THICKNESS, BITUMINOUS MATERIAL FOR MIXTURE 7 % BY WT.
- 2331 PLANT MIXED BINDER COURSE, BITUMINOUS MIXTURE 220 LBS. PER 2" THICKNESS, BITUMINOUS MATERIAL FOR MIXTURE 5 % BY WT.
- 2341 PLANT MIXED WEARING COURSE, BITUMINOUS MIXTURE 165 LBS. PER S.Y. PER 1 1/2" THICKNESS, BITUMINOUS MATERIAL FOR MIXTURE 6.5 % BY WT.
- 2357 BITUMINOUS MATERIAL FOR TACK COAT 0.05 GAL. PER S.Y.
- 2575 ROADSIDE SEEDING BASED ON HORIZONTAL MEASUREMENTS PLUS 10 %.

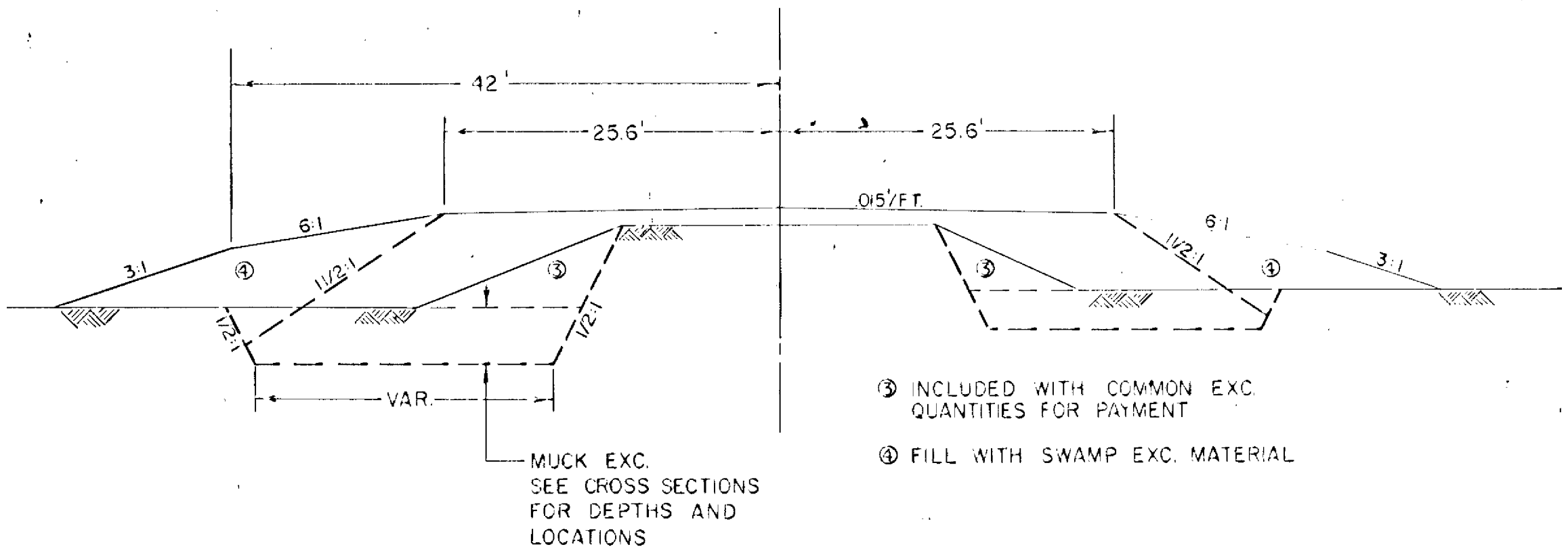
NOTE: ALL DIMENSIONS NOMINAL



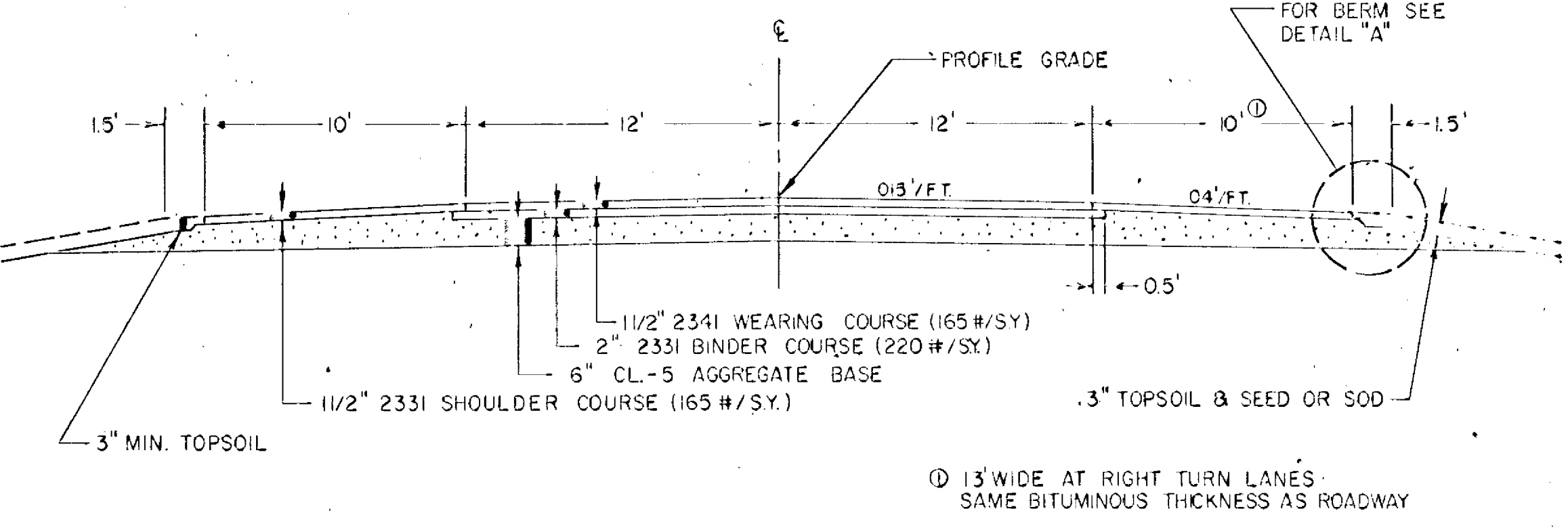
BERM SECTION



MUCK EXCAVATION



TYPICAL BASE & SURFACING SECTION



SPECIAL DETAILS

THE CONTRACTOR SHALL REMOVE SUFFICIENT TOPSOIL MATERIAL WITHIN THE EXCAVATION AREAS AND AREAS ON WHICH EMBANKMENTS WILL BE PLACED, STOCKPILE IF NECESSARY, AND USE IT FOR TOPSOIL COVERING ON THE NEW SLOPES & DITCH BOTTOMS. THIS WILL REQUIRE APPROXIMATELY 10,000 CU. YDS. TO PROVIDE A MINIMUM COVER OF 3". SALVAGING TOPSOIL SHALL BE CONSIDERED AS INCIDENTAL TO THE EXCAVATION ITEMS. TOPSOIL BORROW MATERIAL SHALL BE USED ONLY AT FRONT YARD AREAS OR AS DIRECTED BY THE ENGINEER.

MUCK MATERIAL MAY BE STOCKPILED ADJACENT TO THE EXCAVATION AREAS DURING CONSTRUCTION OPERATIONS, BUT PRIOR TO COMPLETION OF GRADING OPERATIONS ALL EXCAVATED MATERIAL SHALL BE REMOVED BY THE CONTRACTOR FROM SWAMPS AND PEAT FIELDS TO APPROXIMATELY THE ORIGINAL ELEVATIONS. ANY EXCESS MUCK MATERIAL MAY BE SPREAD UNIFORMLY ON SLOPES OR SHALL BE DISPOSED OF BY THE CONTRACTOR, IN OTHER AREAS AS APPROVED BY THE ENGINEER.

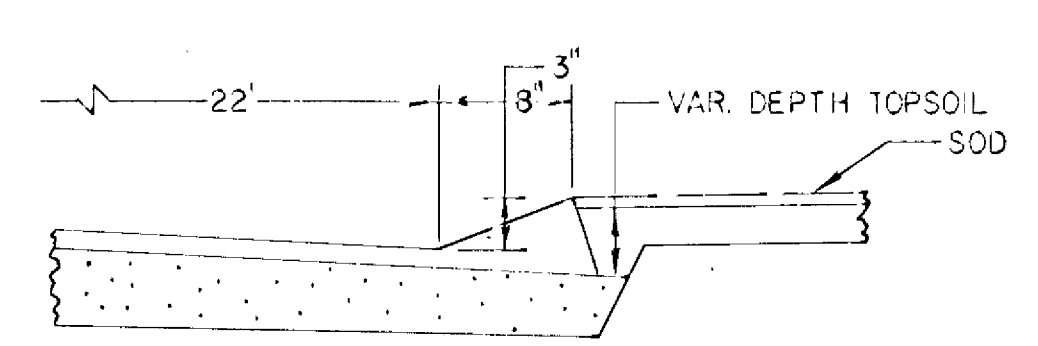
SALVAGE BITUMINOUS MIXTURE QUANTITIES ARE COMPUTED AS THE VOLUME OF BITUMINOUS IN ITS ORIGINAL POSITION BASED ON AVERAGE DEPTH OF 0.3' AND AVERAGE WIDTH OF 22'. PAYMENT FOR SALVAGED BITUMINOUS MIXTURE WILL BE MADE ON THE BASIS OF PLANNED QUANTITIES.

MHD 21165 (9/73)

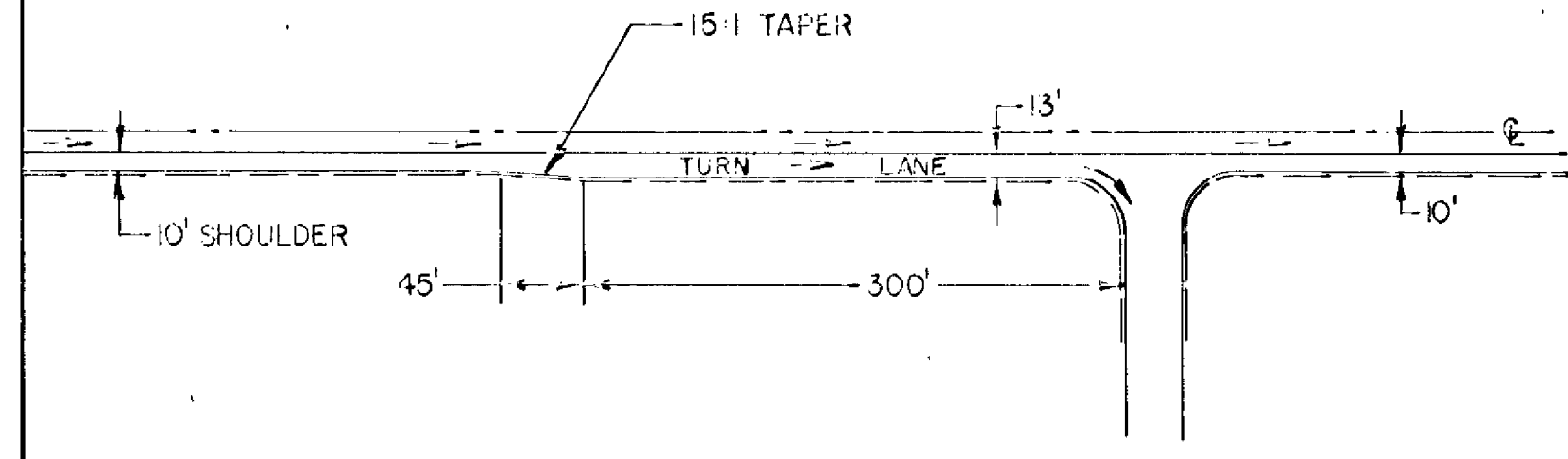
The following Standard Plates, approved by the Federal Highway Administration, shall apply on this project.

PLATE NO.	DESCRIPTION
0002 A	SPECIFICATION REFERENCE TO STANDARD PLATES
3000 F & 3004 B	REINFORCED CONCRETE PIPE
3026 A	GASKET JOINT FOR R.C. PIPE
3040 D	CORRUGATED METAL PIPE
3100 F	CONC. APRON FOR REINFORCED CONCRETE PIPE
3123 G	METAL APRON FOR C.M. PIPE
8000 D	STANDARD BARRICADES
9000 B	APPROACHES AND ENTRANCES
9102 C	SODDING AT PIPE CULVERT ENDS

DETAIL "A"

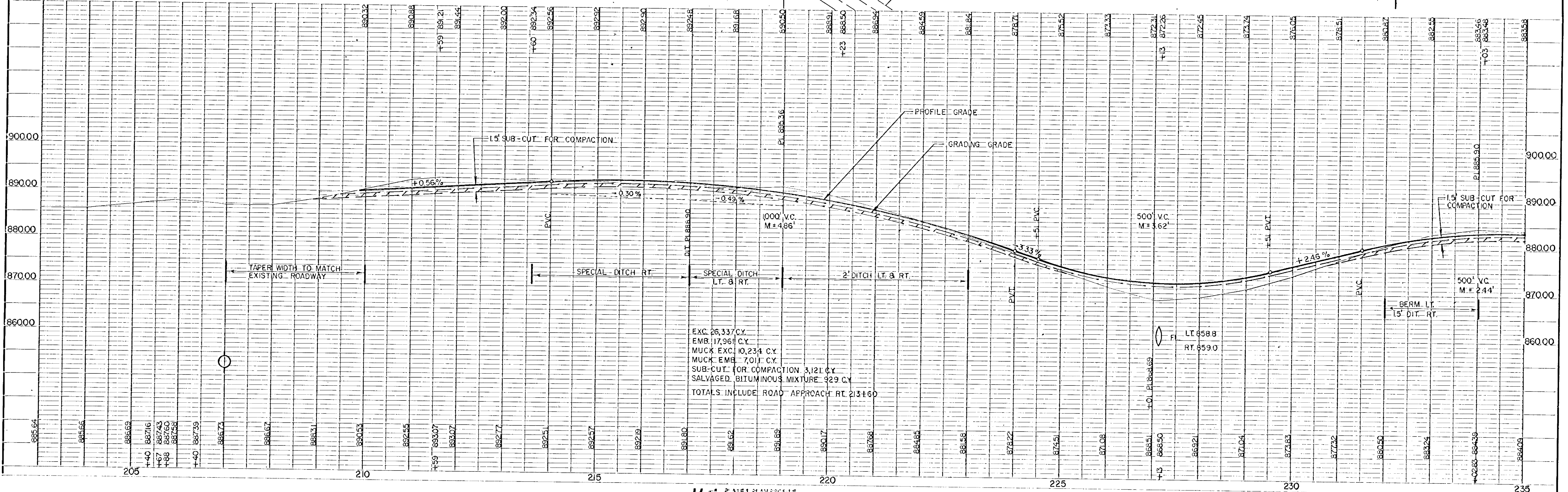
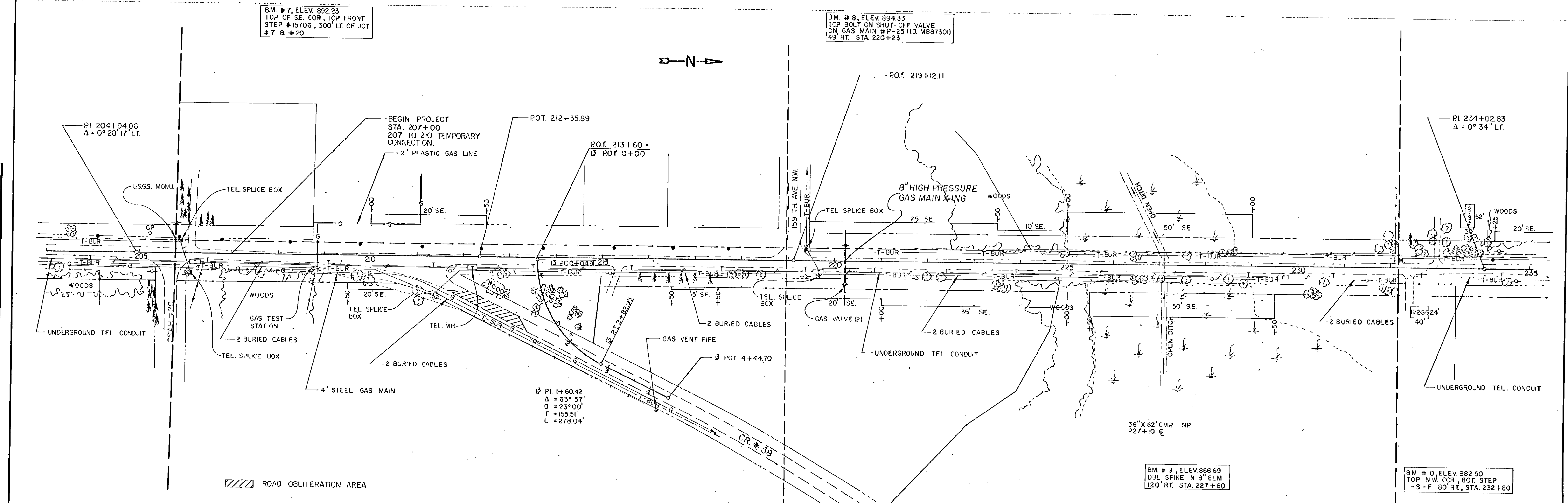


TYPICAL RIGHT TURN LANE



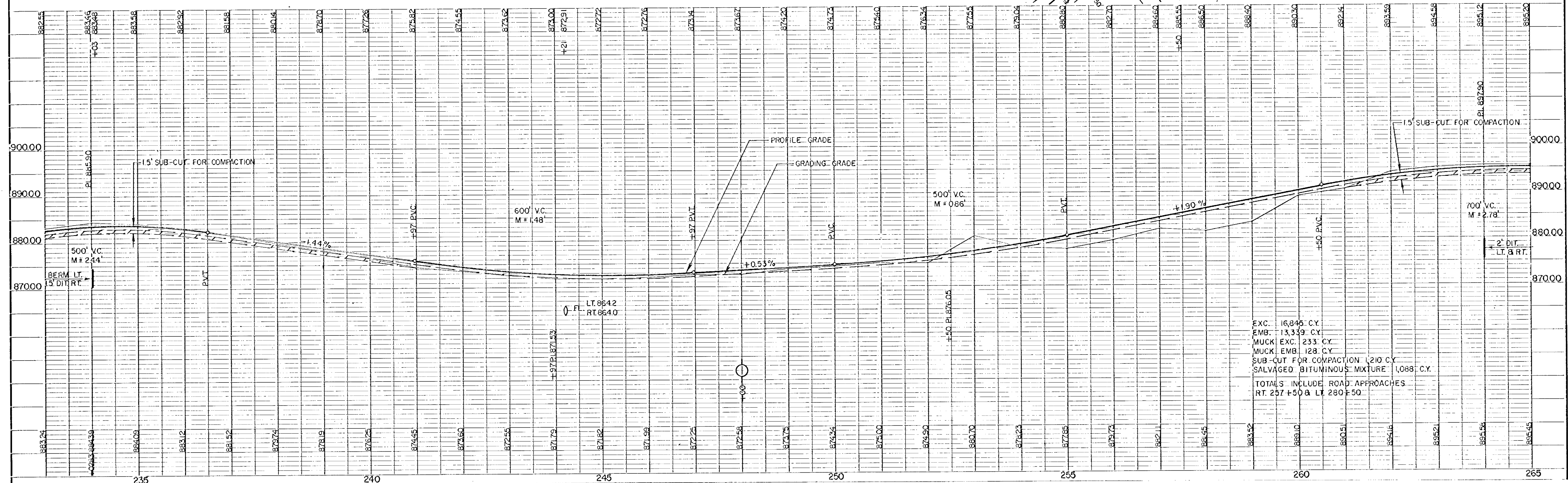
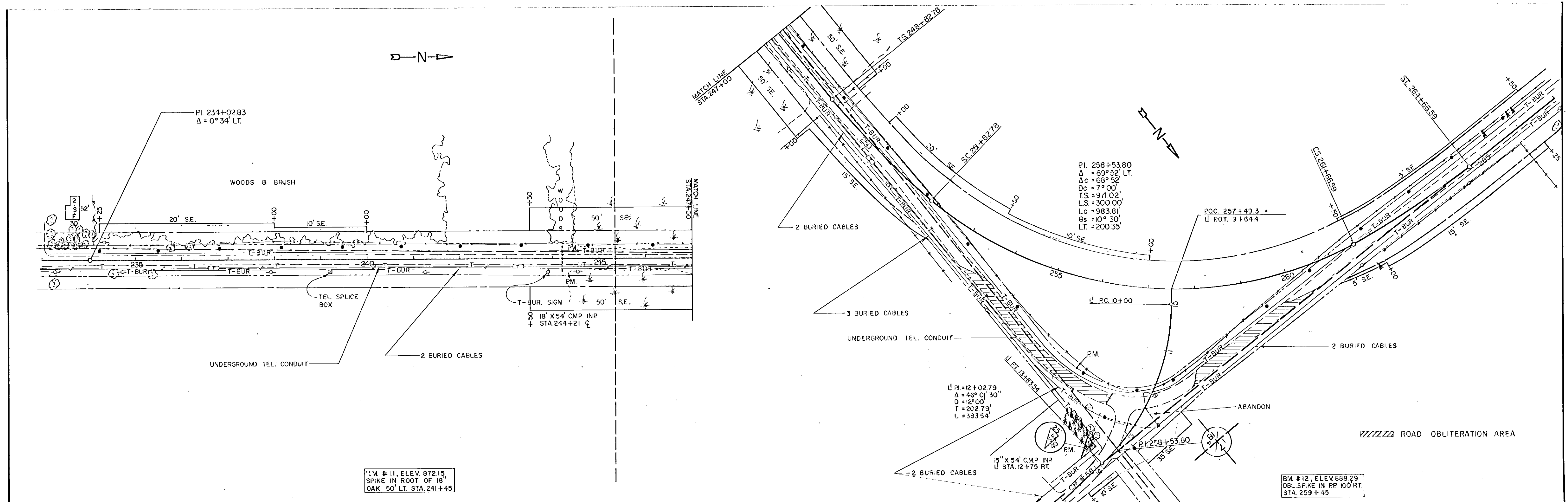
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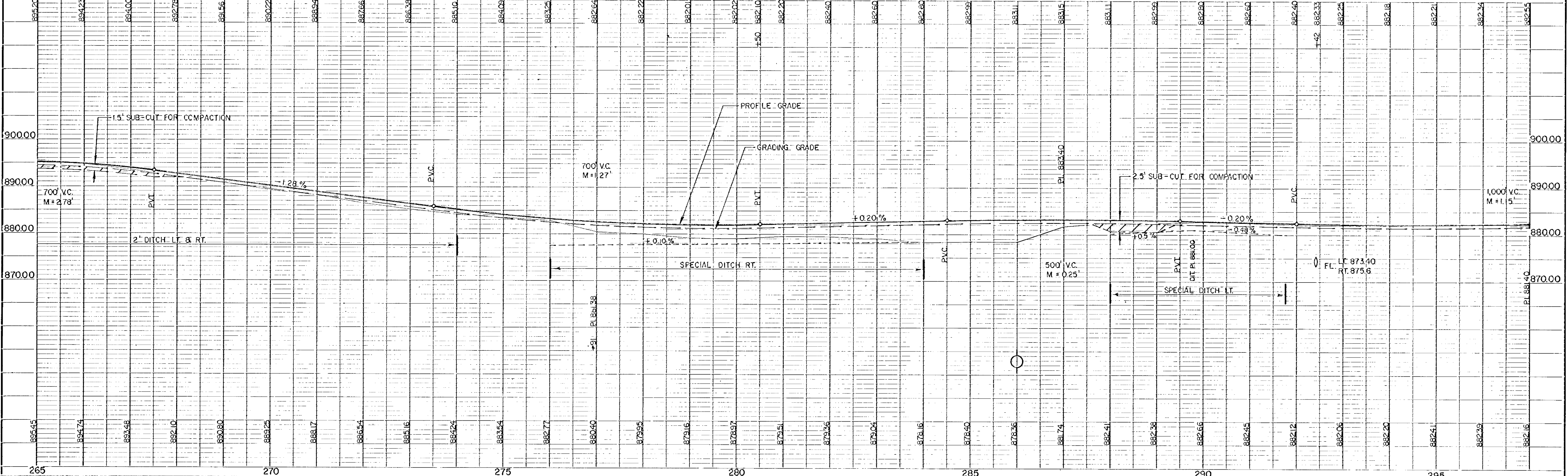
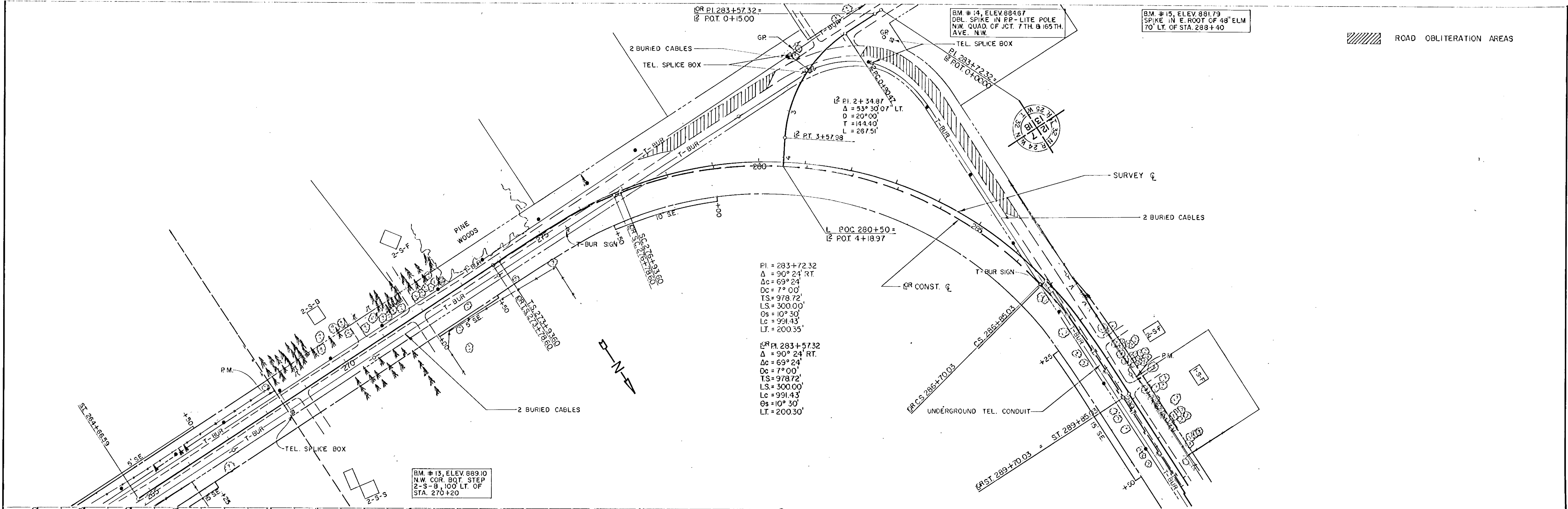
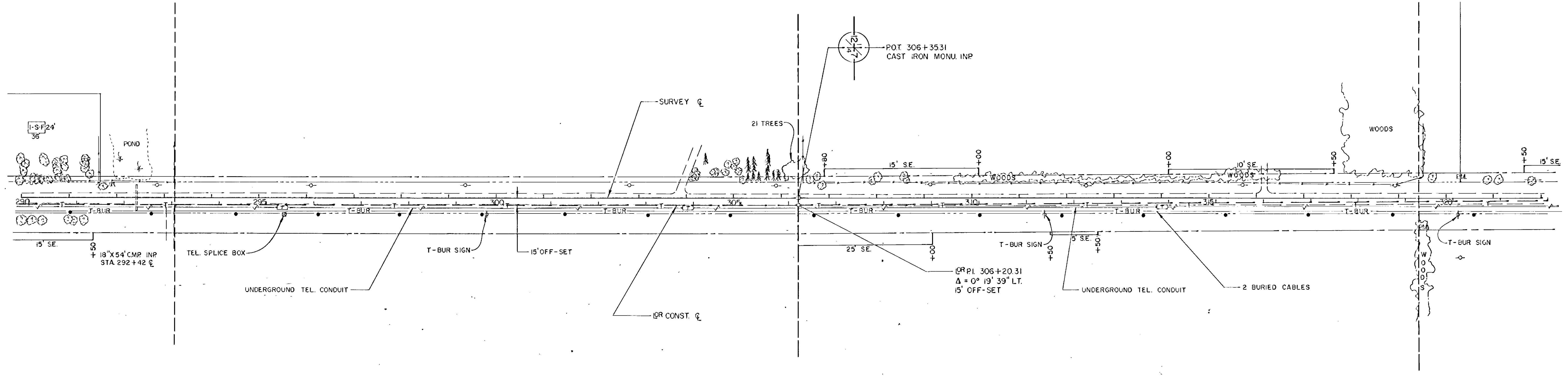
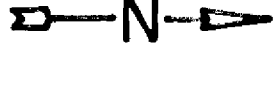


PLATE 1, PLAN PROFILE
 19 724 TRADE U.S.A.

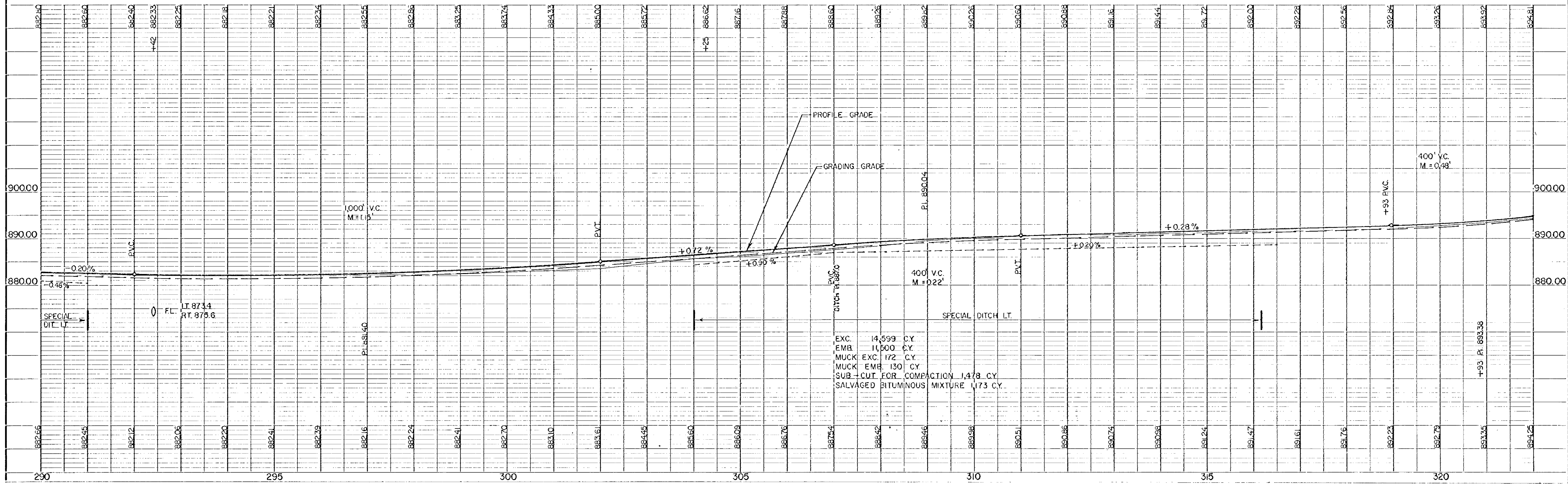
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BY	
REVISION	
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NOTED	
NOTED	



BM. #16, ELEV. 890.01
SPIKE IN BASE OF 18' POPLAR
35' LT. OF STA. 305+20

BM. #17, ELEV. 888.70
DEL. SPIKE, 4' UP, IN S. PP
OF 2 POLES RT. 125' OF
STA 320+30

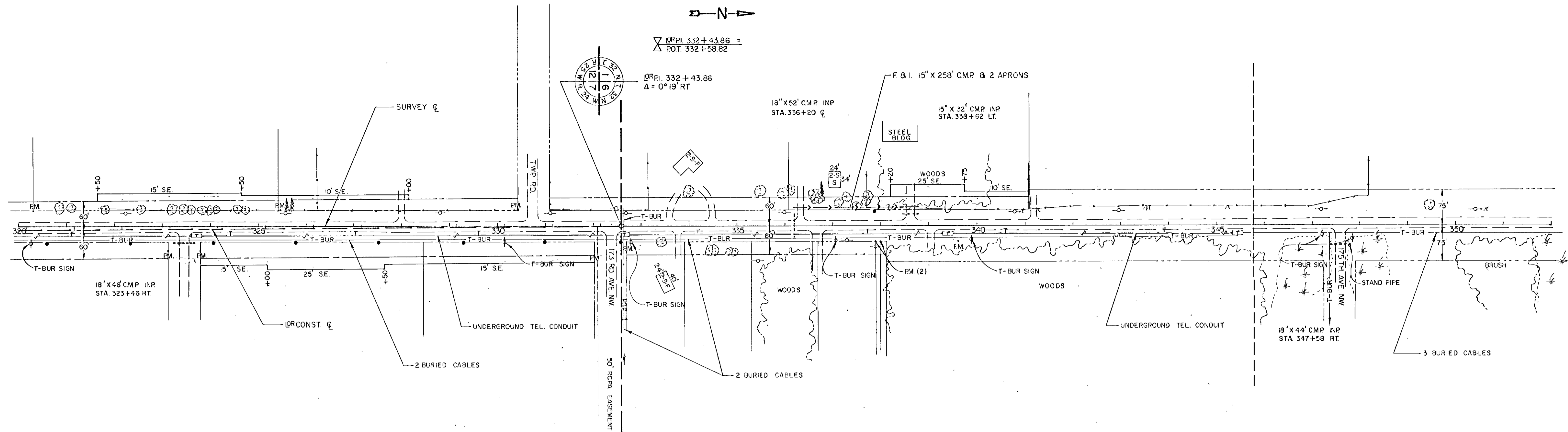
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EXC. 14,599 CY
EMB. 11,500 CY
MUCK EXC. 172 CY
MUCK EMB. 130 CY
SUB-CUT FOR COMPACTION 1,478 CY
SALVAGED BITUMINOUS MIXTURE 173 CY

DATE	
BY	
CHECKED	
APPROVED	
DESIGNED	
PLANNED	
NOTED	
REVISIONS	

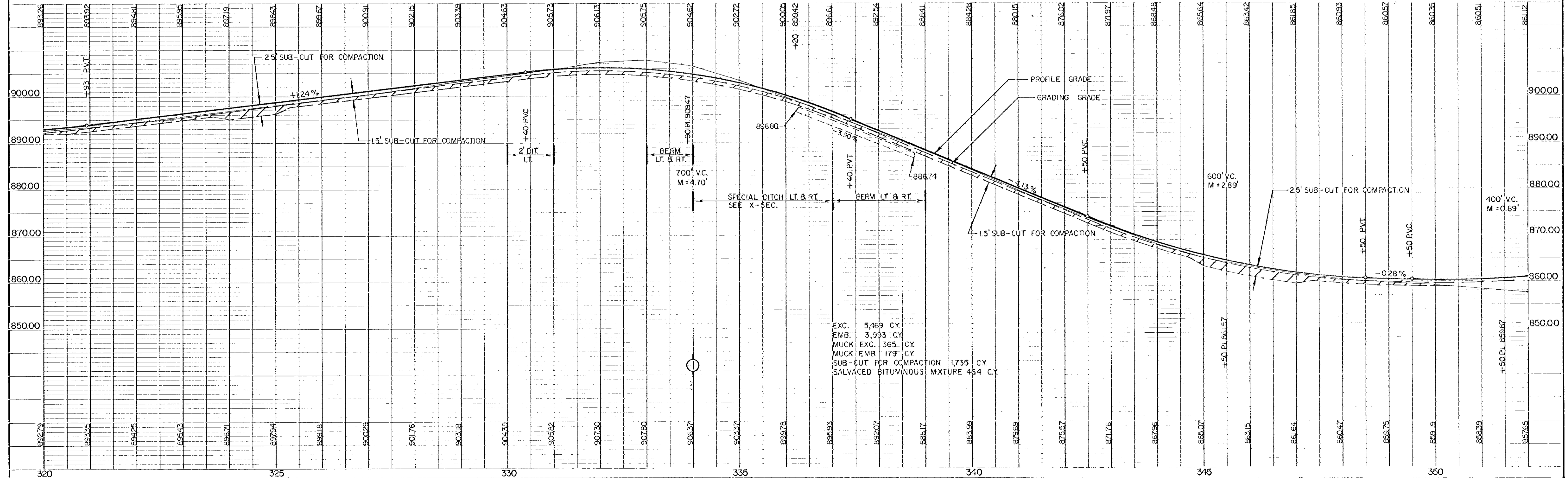
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DESIGNED	
PLANNED	
NOTED	
REVISIONS	



BM. #17, ELEV. 688.70
 DBL. SPIKE, 4" UP IN S.P.P.
 OF 2 POLES RT. 125, STA.
 320+30

BM. #18, ELEV. 910.09
 DBL. SPIKE IN PP 40'
 LT. OF STA. 332+50

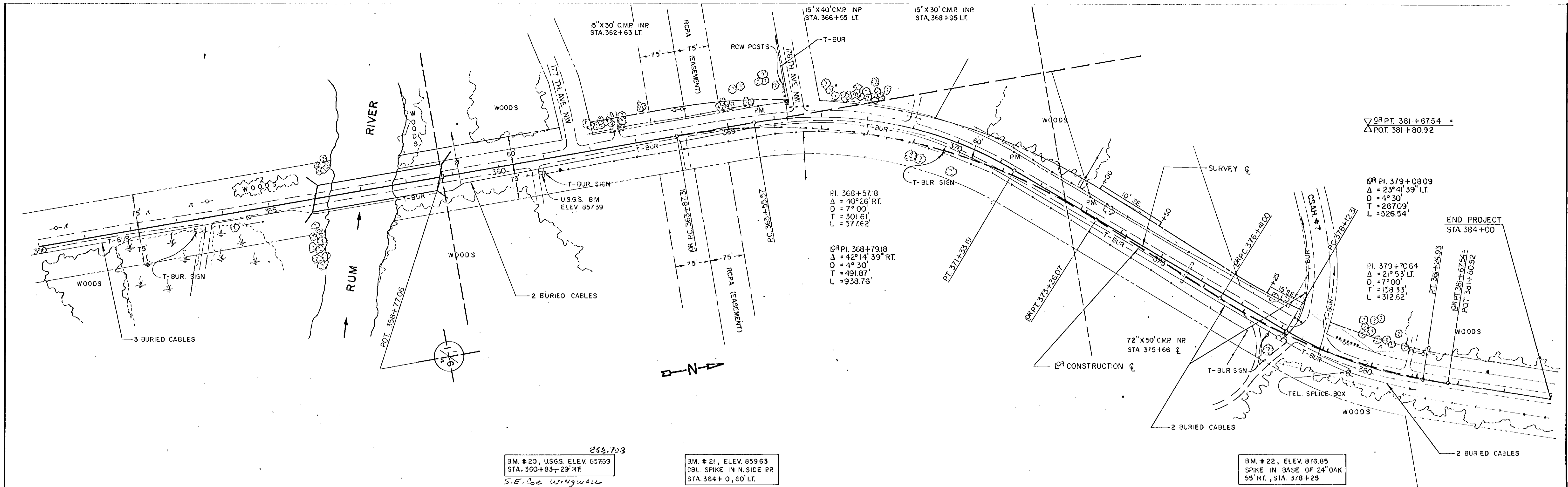
BM. #19, ELEV. 887.31
 SPIKE IN ROOT OF 24"
 OAK, STA 339+80 LT.



EXC. 5,469 CY.
 EMB. 3,993 CY.
 MUCK EXC. 365 CY.
 MUCK EMB. 179 CY.
 SUB-CUT FOR COMPACTION 1,735 CY.
 SALVAGED BITUMINOUS MIXTURE 464 CY.

DATE	
BY	
REVISION	
NO. 1	NO. 2
NO. 3	NO. 4
NO. 5	NO. 6
NO. 7	NO. 8
NO. 9	NO. 10
NO. 11	NO. 12
NO. 13	NO. 14
NO. 15	NO. 16
NO. 17	NO. 18
NO. 19	NO. 20
NO. 21	NO. 22
NO. 23	NO. 24
NO. 25	NO. 26
NO. 27	NO. 28
NO. 29	NO. 30
NO. 31	NO. 32
NO. 33	NO. 34
NO. 35	NO. 36
NO. 37	NO. 38
NO. 39	NO. 40
NO. 41	NO. 42
NO. 43	NO. 44
NO. 45	NO. 46
NO. 47	NO. 48
NO. 49	NO. 50
NO. 51	NO. 52
NO. 53	NO. 54
NO. 55	NO. 56
NO. 57	NO. 58
NO. 59	NO. 60
NO. 61	NO. 62
NO. 63	NO. 64
NO. 65	NO. 66
NO. 67	NO. 68
NO. 69	NO. 70
NO. 71	NO. 72
NO. 73	NO. 74
NO. 75	NO. 76
NO. 77	NO. 78
NO. 79	NO. 80
NO. 81	NO. 82
NO. 83	NO. 84
NO. 85	NO. 86
NO. 87	NO. 88
NO. 89	NO. 90
NO. 91	NO. 92
NO. 93	NO. 94
NO. 95	NO. 96
NO. 97	NO. 98
NO. 99	NO. 100

DATE	
BY	
REVISION	
NO. 1	NO. 2
NO. 3	NO. 4
NO. 5	NO. 6
NO. 7	NO. 8
NO. 9	NO. 10
NO. 11	NO. 12
NO. 13	NO. 14
NO. 15	NO. 16
NO. 17	NO. 18
NO. 19	NO. 20
NO. 21	NO. 22
NO. 23	NO. 24
NO. 25	NO. 26
NO. 27	NO. 28
NO. 29	NO. 30
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NO. 63	NO. 64
NO. 65	NO. 66
NO. 67	NO. 68
NO. 69	NO. 70
NO. 71	NO. 72
NO. 73	NO. 74
NO. 75	NO. 76
NO. 77	NO. 78
NO. 79	NO. 80
NO. 81	NO. 82
NO. 83	NO. 84
NO. 85	NO. 86
NO. 87	NO. 88
NO. 89	NO. 90
NO. 91	NO. 92
NO. 93	NO. 94
NO. 95	NO. 96
NO. 97	NO. 98
NO. 99	NO. 100



BM #20, USGS. ELEV. 85739
 STA. 360+83+29' RF.
 S.E. of wing wall

BM #21, ELEV. 85963
 DBL. SPIKE IN N. SIDE PP
 STA. 364+10, 60' LT.

BM #22, ELEV. 87685
 SPIKE IN BASE OF 24" OAK
 55' RT., STA. 378+25

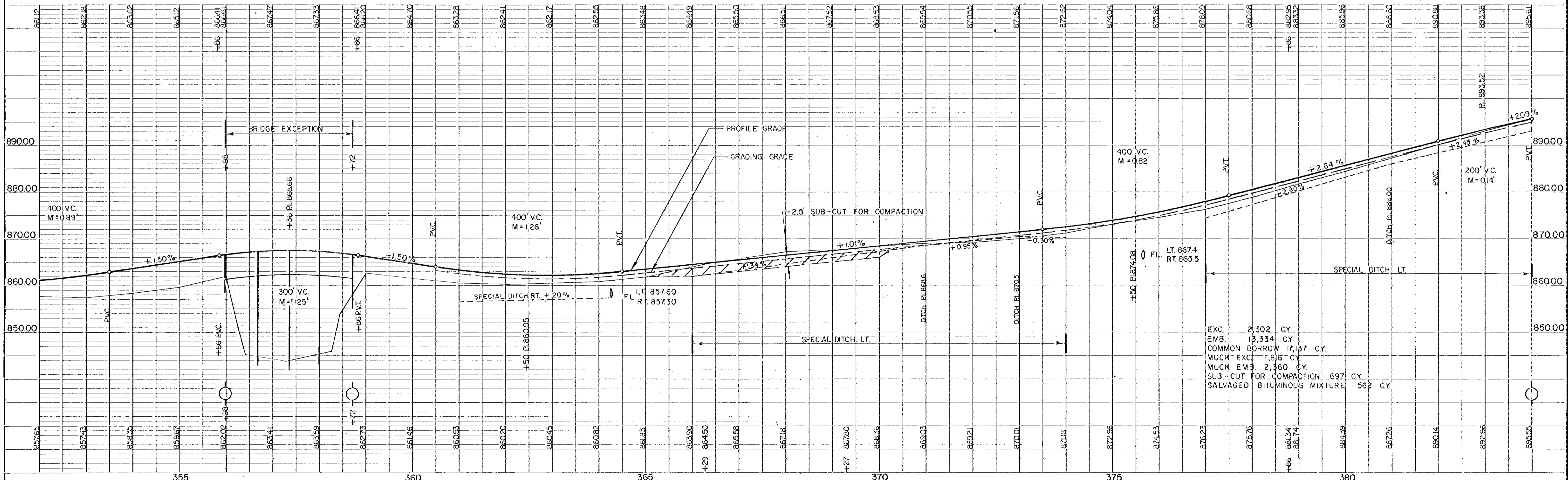
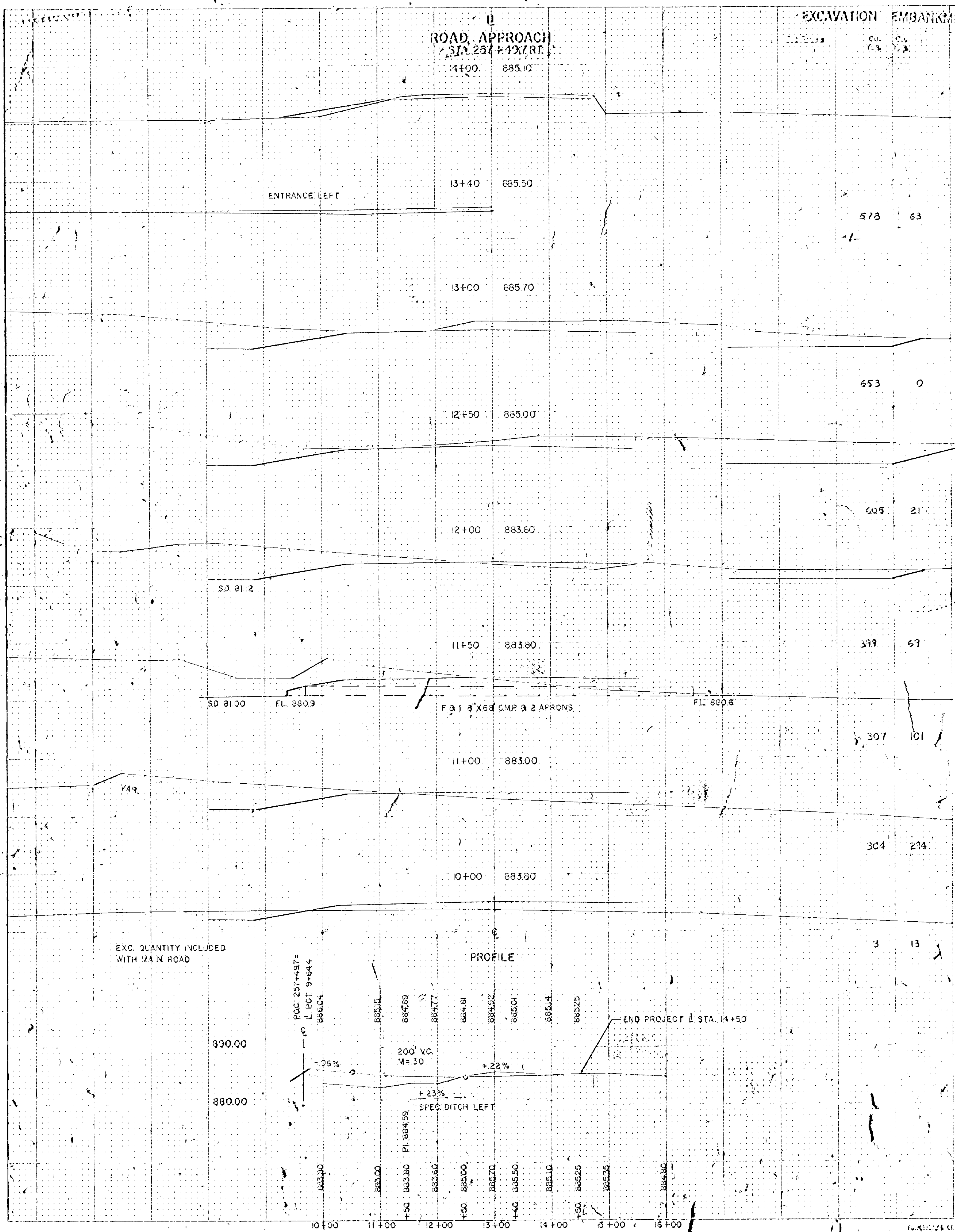


PLATE 1, PLAN & PROFILE
 1/2" = 10' HORIZONTAL
 1" = 10' VERTICAL

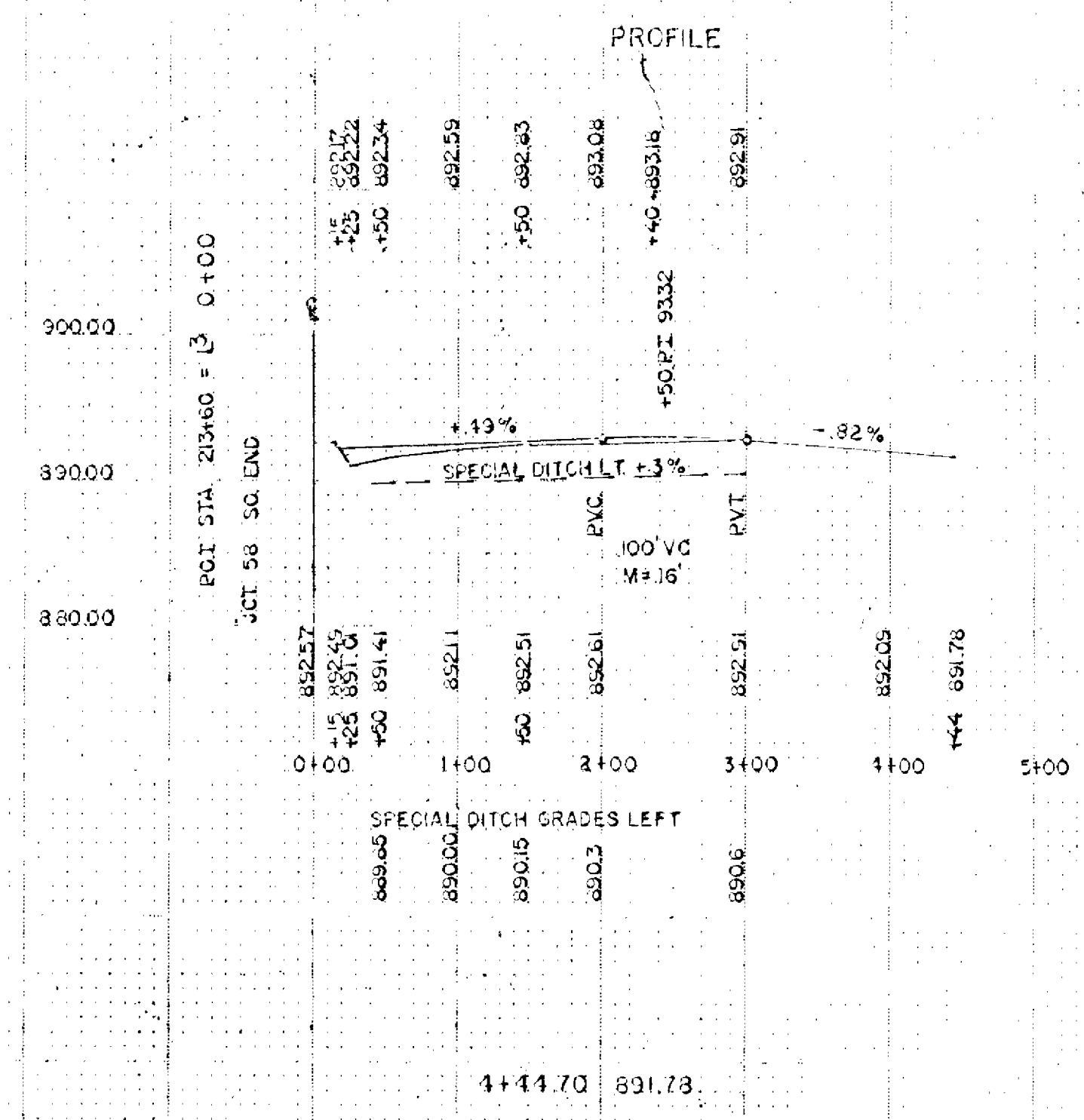
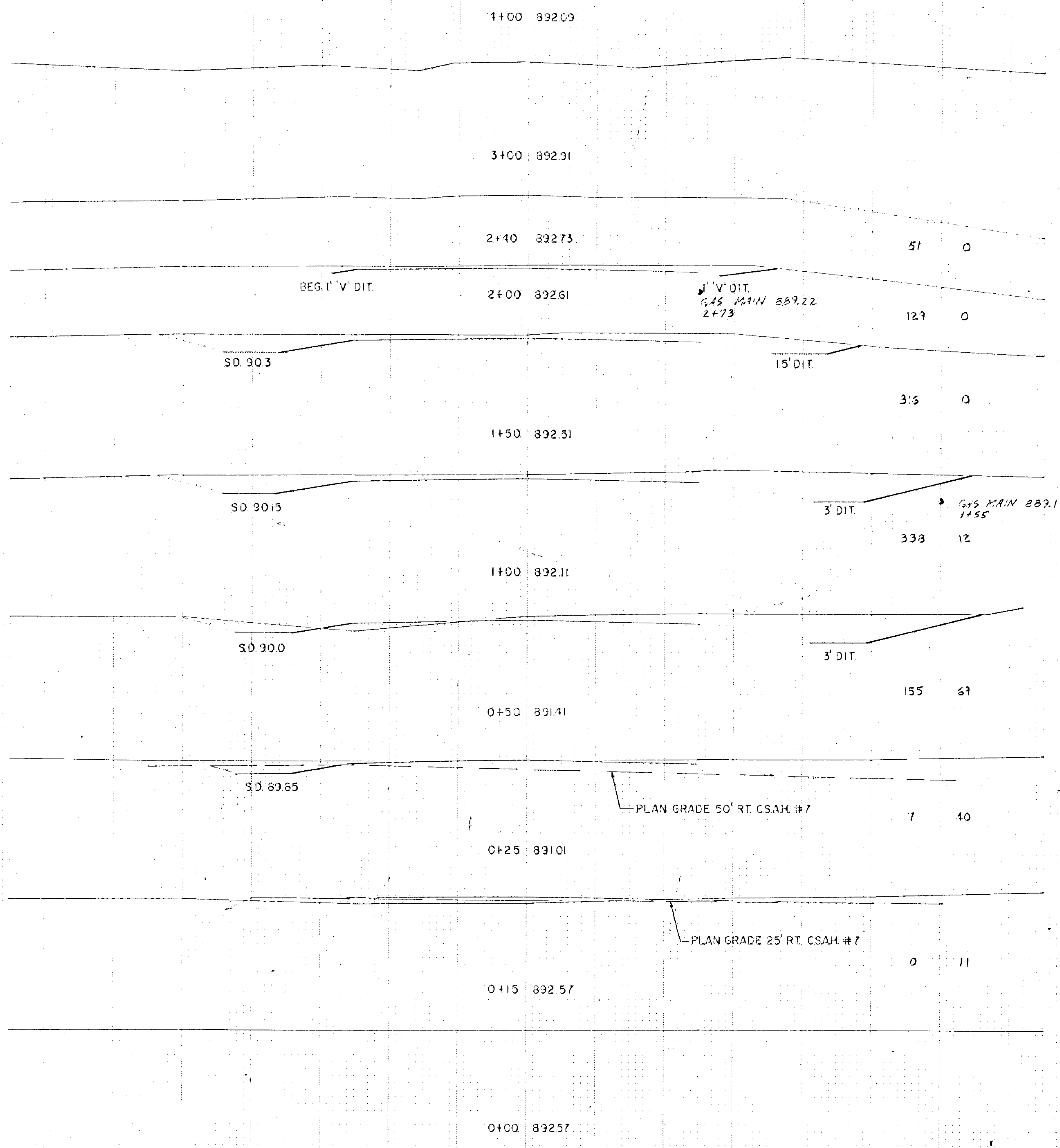
NOTES: 1. EXCAVATION QUANTITIES ARE BASED ON THE ASSUMPTION THAT ALL EXCAVATION IS TO BE DONE IN ONE YEAR. 2. ALL EXCAVATION IS TO BE DONE IN ONE YEAR. 3. ALL EXCAVATION IS TO BE DONE IN ONE YEAR.



STATION	EXCAVATION	EMBANKMENT
14+00	885.10	
13+40	885.50	
13+00	885.70	
12+50	885.00	
12+00	883.60	
11+50	883.80	
11+00	883.00	
10+00	883.80	
3+00	873.88	
2+00	873.98	
1+00	882.78	
0+00	883.88	

13
ROAD APPROACH
STA 213+60 RT.

EXCAVATION EMBANKMENT



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 DATE
 DRAWN BY
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