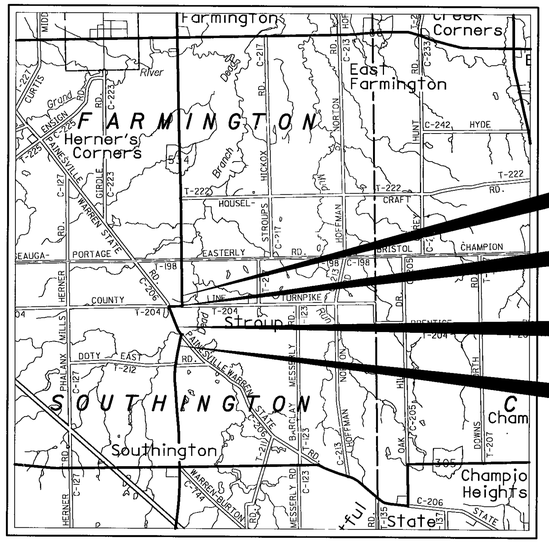
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

TRU-534-15.06

SOUTHINGTON TOWNSHIP
TRUMBULL COUNTY



LOCATION MAP

LATITUDE: N41°20'02" LONGITUDE: W80°57'18"

SCALE IN MILES

0 1 2 3 4

N

PORTION TO BE IMPROVED
INTERSTATE & DIVIDED HIGHWAY
UNDIVIDED STATE & FEDERAL ROUTES
OTHER ROADS

DESIGN DESIGNATION

CURRENT ADT (2004)	1500
DESIGN YEAR ADT (2024)	2000
DESIGN HOURLY VOLUME (2024)	220
DIRECTIONAL DISTRIBUTION	60%
TRUCKS (24 HOUR B&C)	120
DESIGN SPEED	55 mph
LEGAL SPEED	55 mph

DESIGN FUNCTIONAL CLASSIFICATION -
RURAL MAJOR COLLECTOR

DESIGN EXCEPTIONS - NONE

INDEX OF SHEETS:

Title Sheet	1
Schematic Plan	2
Horizontal Control	3
Typical Sections	4-6
General Notes	7-9
Maintenance of Traffic Notes	10
Detour Plan	11
General Summary	12-13
Subsummary	14-16
Calculations	17, 17A-19
Project Site Plan	19A
Plan and Profile Sheets (S.R. 534)	20-26
Cross Sections (S.R. 534)	27-48
Plan and Profile Sheets (C.R. 206C)	49-51
Cross Sections (C.R. 206C)	52-60
Drive Profiles	61-65
Intersection Details	66
Superelevation Tables	67-68
Traffic Control	69-72
Structures & Culverts 20' and Under	73-85
Structure over 20'	86-97
Right-of-Way Title Sheet	
Centerline Plats	98-99
Property Map	100-101
Summary of Additional Right-of-Way	102-103
Right-of-Way Plan Sheets	104-112

PROJECT DESCRIPTION

THIS PROJECT WILL REALIGN 0.40 MILES OF ROADWAY ON SR 534, 0.18 MILES ON COUNTY ROUTE 206C AND CONSTRUCT TWO CULVERTS AND A BRIDGE ON THE NEW ALIGNMENT OF SR 534. A SECOND BRIDGE WILL BE REMOVED AND REPLACED ON THE EXISTING ALIGNMENT OF SR 534. 0.01 MILES OF ROADWAY WILL BE RECONSTRUCTED TO ACCOMMODATE THE NEW BRIDGE. THE OVERALL PROJECT LENGTH IS 0.59 MILES.

2002 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 REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THE DETOURS WILL BE PROVIDED AS INDICATED ON SHEET 11.

EARTH DISTURBED AREAS:

PROJECT EARTH DISTURBED AREA 6.58 AC.

ESTIMATED CONTRACTOR EDA 3.66 AC.

NOTICE OF INTENT EDA 10.24 AC.

APPROVED _____
DATE 3.2.04 DISTRICT DEPUTY DIRECTOR

APPROVED Gordon Proctor
DATE 9-28-04 DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. E 040 (775)

PID NO. 7904

CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT NONE

TRU-534-15.06

1 / 112

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

PLAN PREPARED BY:

acla
adache ciuni lyan associates inc. CONSULTING ENGINEERS
5595 transportation boulevard, cleveland, ohio 44125

ENGINEERS SEAL:

STATE OF OHIO
EDWARD ALLAN FRANKS
41968
REGISTERED
PROFESSIONAL ENGINEER

SIGNED: Edward Allan Franks
DATE: 3/01/04

STANDARD CONSTRUCTION DRAWINGS

BP-3.1	07-28-00	RM-1.1	04-29-99	AS-1-81	7-19-02		TC-41.20	01/19/01	864 07-11-00
BP-4.1	07-28-00	RM-2.1	4/18/03				TC-41.40	01/18/02	894 10-18-02
				TST-1-99	10-17-03		TC-42.20	04/20/01	
GR-1.1	4/18/03	CB-1.1	07-19-02				TC-52.10	04/20/01	832 04-17-04
GR-2.1	1/16/04	CB-1.2	07-19-02	DS-1-92	7-18-03		TC-71.10	04/19/02	833 02-12-03
GR-2.4	4/18/03	HW-2.2	07-19-02				TC-73.10	01/19/01	
GR-4.2	10/17/03								
		DM-1.1	07-19-02				MT-101.60	10/18/02	
		DM-1.2	07-19-02						

SUPPLEMENTAL SPECIFICATIONS

SPECIAL PROVISIONS

TRU - SR 534-15.06
050358 PID - 7904
Dist 4 6/22/2005

...\GT100.dgn

(1)

P.I. Sta = 184+64.21
D = 6° 00′ 00″ (RT)
Dc = 1° 29′ 00″
R = 3,862.64′
T = 202.43′
L = 404.49′
E = 5.30′

(2)

P.I. Sta = 192+24.46
D = 44° 52′ 25″ (LT)
Dc = 6° 00′ 00″
R = 954.93′
Ls = 210.00′
Theta = 6° 18′ 00″
LT = 140.09′
ST = 70.08′
x = 209.75′
y = 7.69′
k = 104.96′
p = 1.92′
Dc = 32° 16′ 25″ (LT)
Lc = 537.89′
Ts = 500.06′
Es = 80.29′

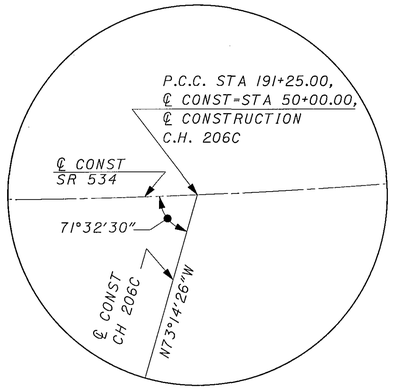
(3)

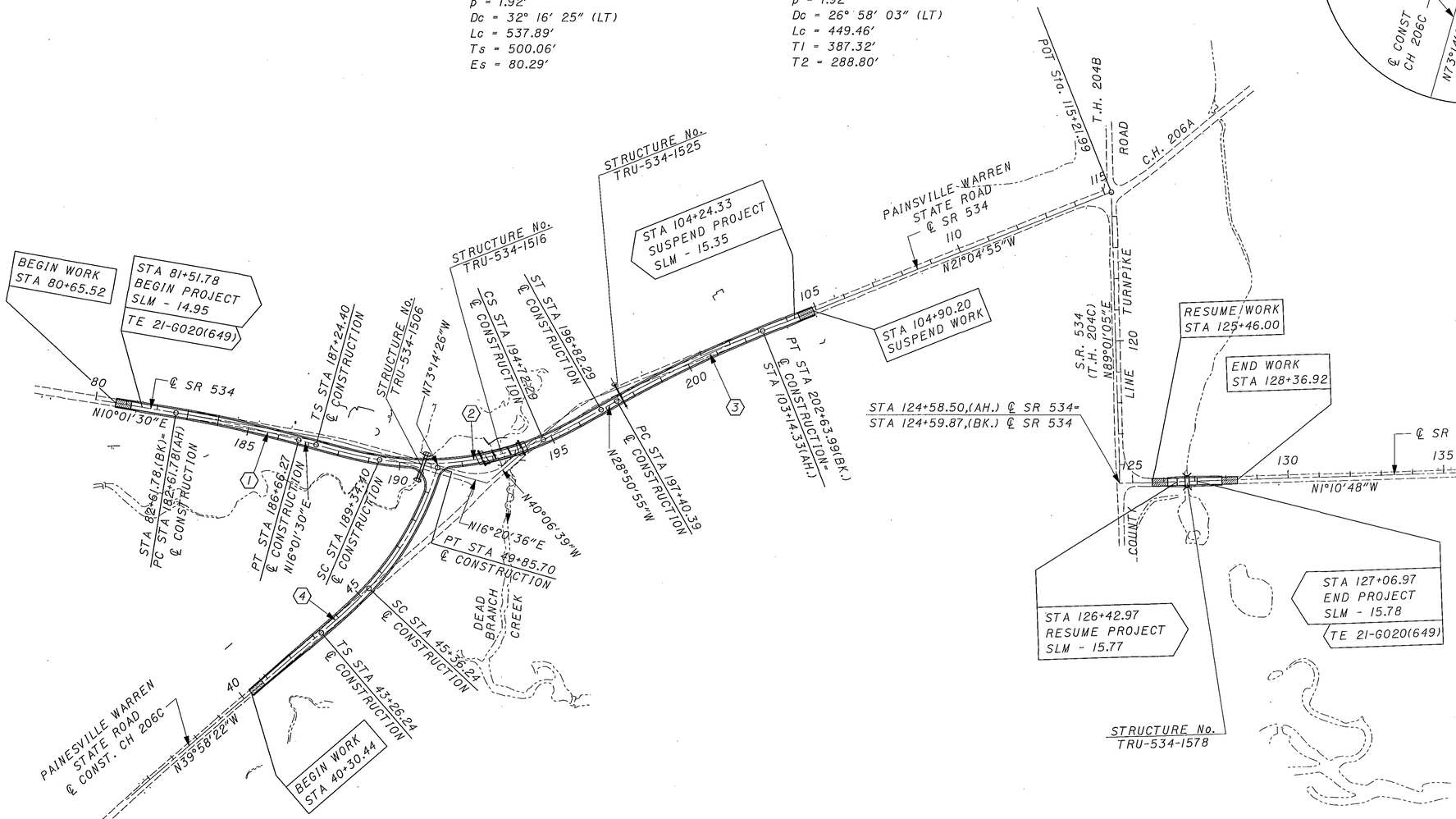
P.I. Sta = 200+02.59
D = 7° 46′ 00″ (RT)
Dc = 1° 29′ 00″
R = 3,862.64′
T = 262.20′
L = 523.60′
E = 8.89′

(4)

P.I. Sta = 47+13.56
D = 33° 16′ 03″ (LT)
Dc = 6° 00′ 00″
R = 954.93′
Ls = 210.00′
Theta = 6° 18′ 00″
LT = 140.09′
ST = 70.08′
x = 209.75′
y = 7.69′
k = 104.96′
p = 1.92′
Dc = 26° 58′ 03″ (LT)
Lc = 449.46′
TI = 387.32′
T2 = 288.80′

NOTE:
FOR RIGHT OF WAY SUBSTITUTE SIMPLE CURVE DATA FOR CENTERLINE OF CONSTRUCTION SPIRAL TRANSITIONS, STATIONING, GEOMETRICS, AND MONUMENTATION FOR THE CENTERLINE OF RIGHT OF WAY FOR STATE ROUTE 534 AND COUNTY HIGHWAY 206C, SEE THE CENTERLINE PLATS IN THE RIGHT OF WAY PLANS.





...\gbl00.dgn

N

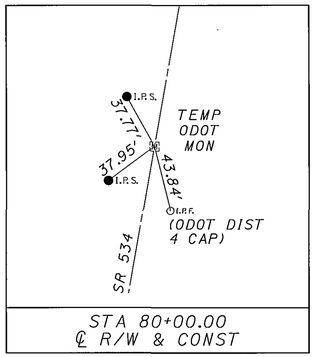
0 100 200 400
HORIZONTAL
SCALE IN FEET

CALCULATED CCB
CHECKED SKS

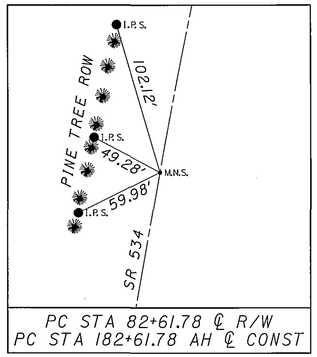
SCHEMATIC PLAN

TRU-534-15.06

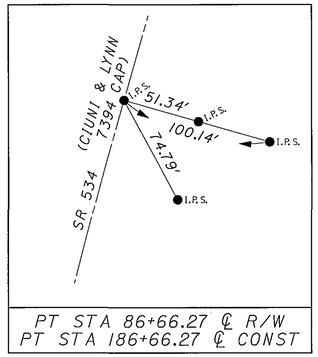
2
112



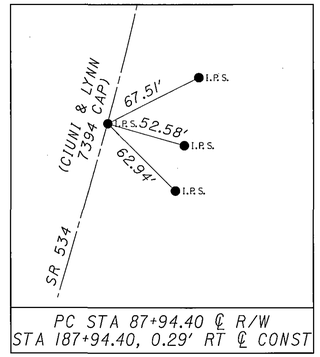
STA 80+00.00
℄ R/W & CONST



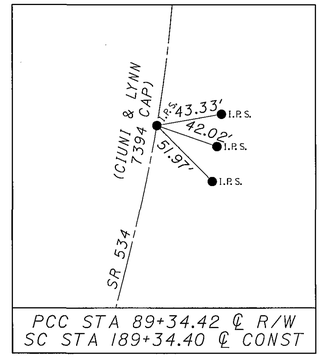
PC STA 82+61.78 ℄ R/W
PC STA 182+61.78 AH ℄ CONST



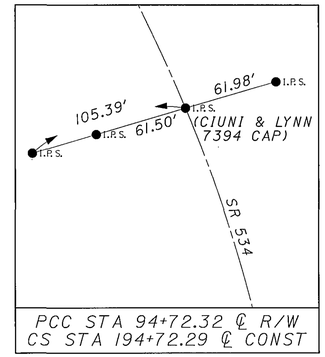
PT STA 86+66.27 ℄ R/W
PT STA 186+66.27 ℄ CONST



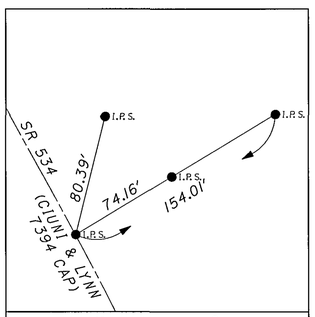
PC STA 87+94.40 ℄ R/W
STA 187+94.40, 0.29' RT ℄ CONST



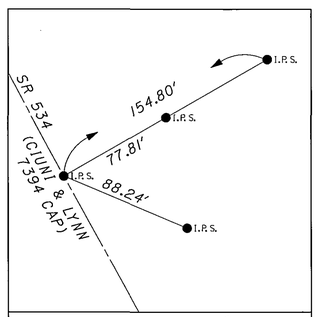
PCC STA 89+34.42 ℄ R/W
SC STA 189+34.40 ℄ CONST



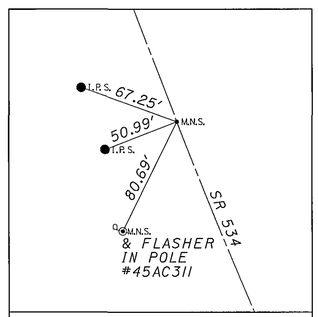
PCC STA 94+72.32 ℄ R/W
CS STA 194+72.29 ℄ CONST



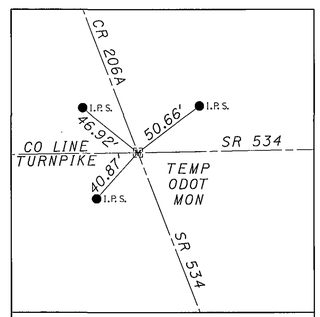
PT STA 96+12.34 ℄ R/W
STA 196+12.29, 0.29' RT ℄ CONST



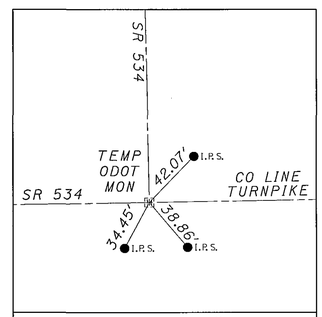
PC STA 97+40.45 ℄ R/W
PC STA 197+40.39 ℄ CONST



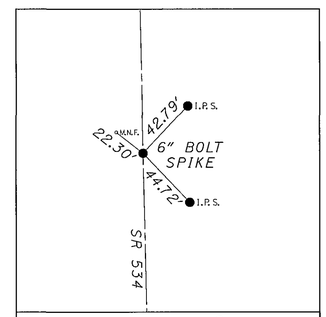
PT STA 102+64.04 ℄ R/W
PT STA 103+14.33 AH ℄ CONST



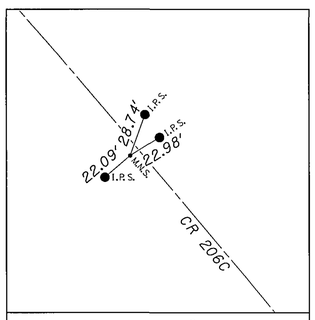
STA 114+71.70 ℄ R/W
STA 115+21.99 ℄ CONST



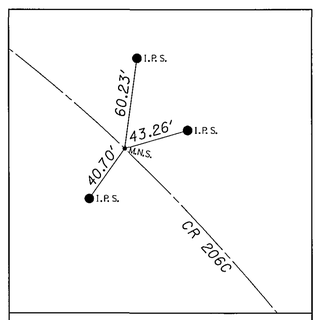
STA 124+09.58 ℄ R/W
STA 124+58.50 AH ℄ CONST



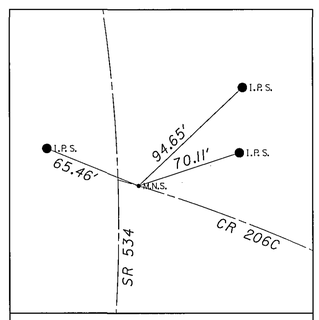
STA 134+51.08 ℄ R/W
STA 135+00.00 ℄ CONST



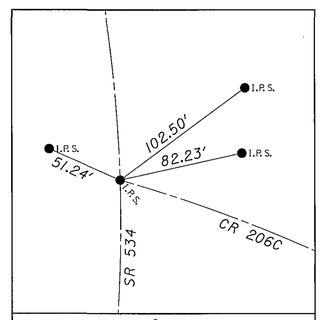
STA 12+81.38 ℄ R/W
TS STA 43+26.24, 6.73' RT ℄ CONST



SC STA 45+36.24 ℄ CONST



PT STA 49+85.70 ℄ CONST



STA 50+00.00 ℄ CONST CR206C=
STA 191+25.00 ℄ CONST SR 534

NOTE
ALL DISTANCES ARE OBSERVED.
ALL I.P.S. ARE 5/8"

O I.R.F. IRON PIN FOUND
● I.R.S. IRON IPN SET
⊙ M.N.F. MAG NAIL FOUND
• M.N.S. MAG NAIL SET

N

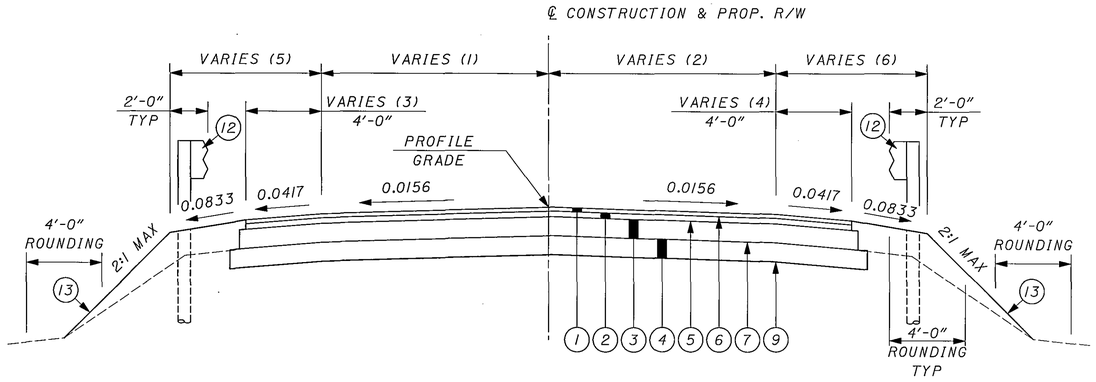
CALCULATED CCB
CHECKED SKS

HORIZONTAL CONTROL

TRU-534-15.06

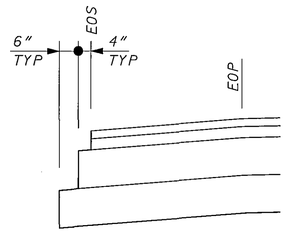
3
112

...\GM100.dgn

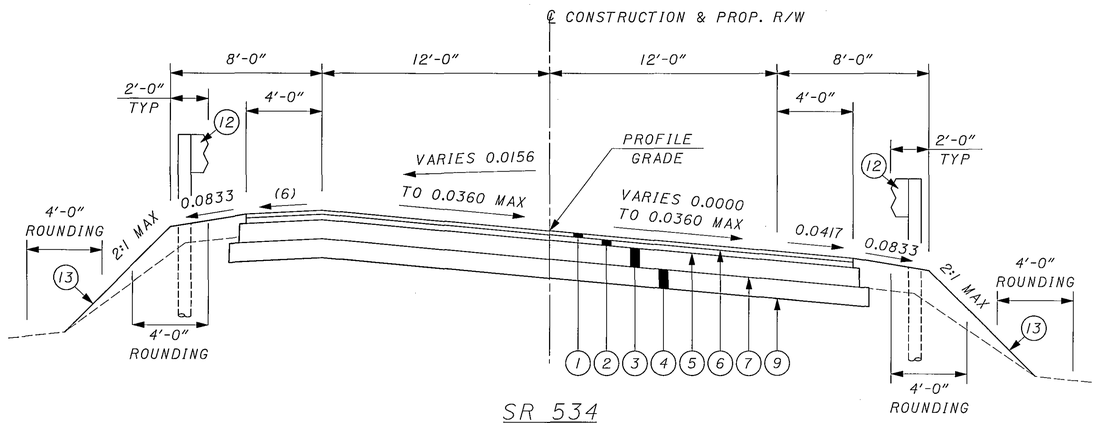


SR 534
NORMAL SECTION

STA 81+15.52 TO STA 81+51.78 =	36.26	FT
VARIES(1) 12.55' TO 12.00'		
VARIES(2) 11.34' TO 12.00'		
VARIES(3&4) 3.0' TO 4.00'		
VARIES(5&6) 7.0' TO 8.0'		
STA 104+24.33 TO STA 104+40.20 =	15.87	FT
VARIES(1) 12.00' TO 11.76'		
VARIES(2) 12.00' TO 11.71'		
VARIES(3&4) 4.0' TO 3.0'		
VARIES(5&6) 8.0' TO 7.0'		
STA 126+12.66 TO STA 126+42.97 =	30.31	FT
VARIES(1) 11.45' TO 12.00'		
VARIES(2) 11.98' TO 12.00'		
VARIES(3&4) 3.0' TO 4.0'		
VARIES(5&6) 7.0' TO 8.0'		
STA 126+42.97 TO STA 126+68.00 =	25.03	FT
STA 126+82.00 TO STA 127+06.97 =	24.97	FT
STA 127+06.97 TO STA 127+86.92 =	79.95	FT
VARIES(1) 12.00' TO 10.55'		
VARIES(2) 12.00' TO 12.73'		
VARIES(3&4) 4.0' TO 3.0'		
VARIES(5&6) 8.0' TO 7.0'		
TOTAL =	212.39	FT



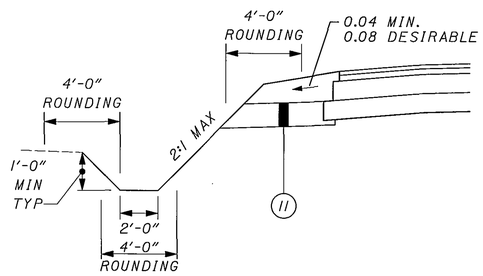
EDGE OF PAVEMENT DETAIL



SR 534
SUPERELEVATED SECTION

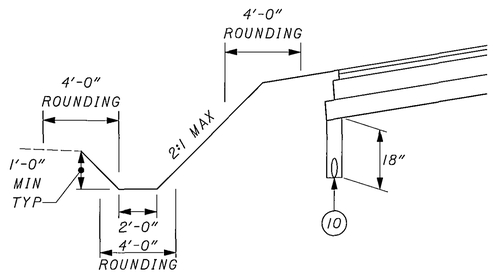
STA 81+51.78 TO STA 82+61.78 (BK.) =	110.00	FT
STA 182+61.78 (AH.) TO STA 187+24.40 =	462.62	FT
STA 196+82.29 TO STA 202+63.99 (BK.) =	581.70	FT
STA 103+14.33 (AH.) TO STA 104+24.33 =	110.00	FT
TOTAL =	1264.32	FT

(6) STA 81+51.78 TO STA 82+61.78(BK.) = 0.0417
STA 182+61.78 (AH.) TO STA 182+92.32 = 0.0417
STA 182+92.32 TO STA 183+16.78 = VARIES 0.0417 TO 0.036
STA 183+16.78 TO STA 186+08.77 = 0.036
STA 186+08.77 TO STA 186+33.39 = VARIES 0.036 TO 0.0417
STA 186+33.39 TO STA 187+24.40 = 0.0417
STA 196+82.29 TO STA 197+73.27 = 0.0417
STA 197+73.27 TO STA 197+97.89 = VARIES 0.0417 TO 0.304
STA 197+97.89 TO STA 202+08.99 = 0.036
STA 202+08.99 TO STA 202+33.45 = VARIES 0.036 TO 0.0417
STA 202+33.45 TO STA 202+63.99 (BK.) = 0.0417
STA 103+14.33 (AH.) TO STA 104+24.33 = 0.0417



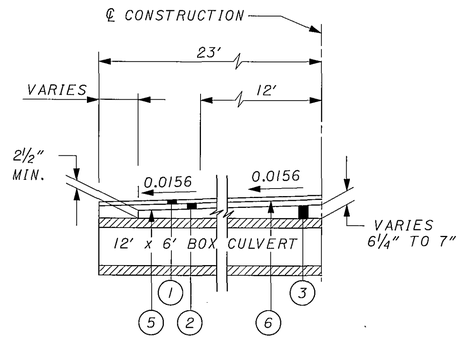
DITCH DETAIL
(WITH AGGREGATE DRAIN)

FOR LIMITING STATIONS, SEE PLAN SHEETS.



DITCH DETAIL
(WITH UNDERDRAIN)

FOR LIMITING STATIONS, SEE PLAN SHEETS.



S.R. 534
(PAVEMENT OVER BOX CULVERT)

STA. 126+68.00 TO STA. 126+82.00 = 14.00 FT.

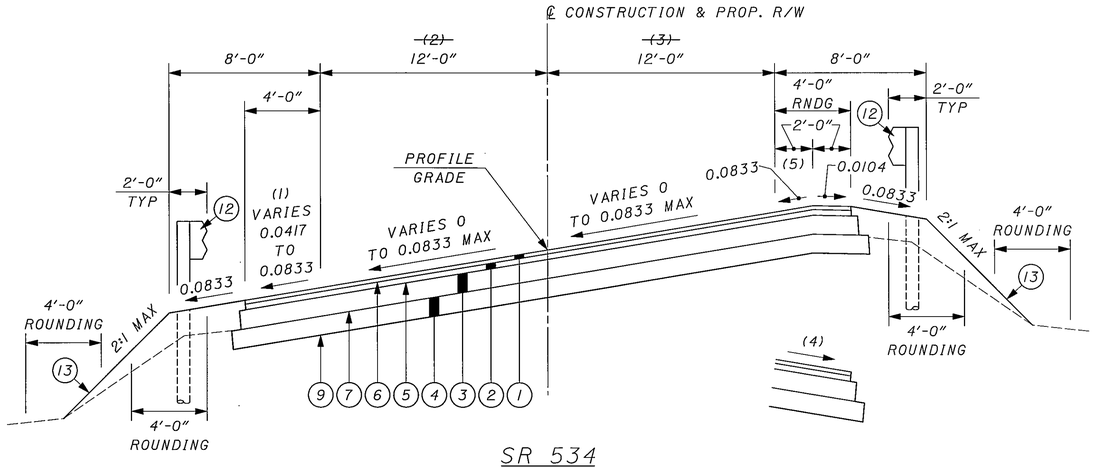
PROPOSED LEGEND

(1) ITEM 448 - 1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG 64-22
(2) ITEM 448 - 1¾" ASPHALT CONCRETE INTERMEDIATE, COURSE, TYPE 2, PG 64-22
(3) ITEM 302 - 6" ASPHALT CONCRETE BASE, PG 64-22
(4) ITEM 304 - 6" AGGREGATE BASE
(5) ITEM 407 - TACK COAT (SEE GENERAL NOTES)
(6) ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE (SEE GENERAL NOTE)
(7) ITEM 408 - PRIME COAT (APPLIED AT THE RATE OF 0.40 GAL PER SQ YD)
(8) ITEM 526 - REINFORCED CONCRETE APPROACH SLAB (T=13")
(9) ITEM 204 - SUBGRADE COMPACTION
(10) ITEM 605 - 6" SHALLOW PIPE UNDERDRAIN
(11) ITEM 605 - AGGREGATE DRAIN
(12) ITEM 606 - GUARDRAIL, TYPE 5 (FOR LIMITING STATIONS SEE PLAN SHEETS)
(13) ITEM 659 - SEEDING AND MULCHING
(14) ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE

TYPICAL SECTIONS

TRU-534-15.06

...\GY100.dgn



SR 534
SUPERELEVATED SECTION

STA 187+24.40 TO STA 192+45.65 = 521.25 FT
STA 194+17.03 TO STA 196+82.29 = 265.26 FT

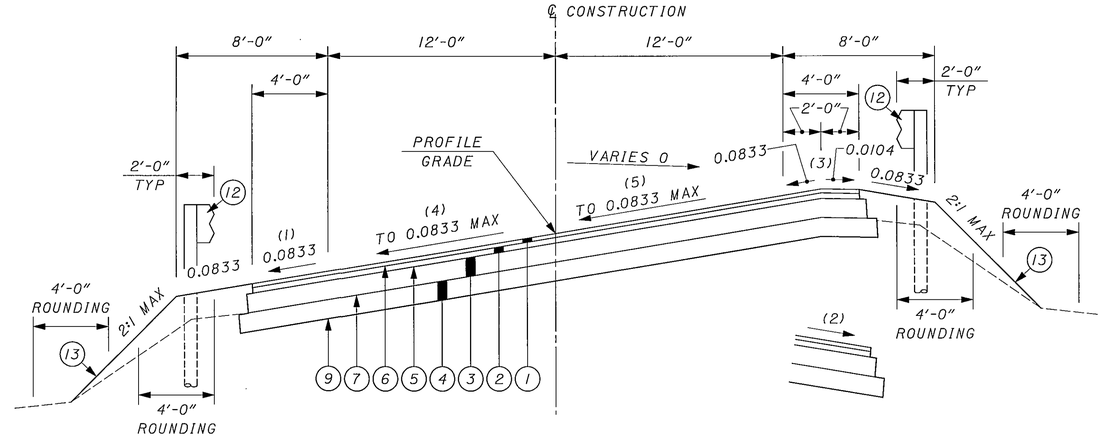
TOTAL = 786.51 FT

(1) STA 187+24.40 TO STA 188+29.40 = 0.0417
STA 188+29.40 TO STA 189+34.40 = VARIES 0.0417 TO 0.0833
STA 189+34.40 TO STA 194+72.29 = 0.0833
STA 194+72.29 TO STA 195+77.29 = VARIES 0.0833 TO 0.0417
STA 195+77.29 TO STA 196+82.29 = 0.0417

~~(2) & (3) STA 187+24.40 TO STA 188+34.40 = VARIES 0 TO 0.0833~~
~~STA 189+34.40 TO STA 194+72.29 = 0.0833~~
~~STA 194+72.29 TO STA 196+82.29 = VARIES 0.0833 TO 0~~

(4) STA 187+24.40 TO STA 187+95.80 = 0.0417
STA 187+95.80 TO STA 189+34.40 = VARIES 0.0417 TO 0.0104
STA 195+67.29 TO STA 196+10.89 = VARIES 0.0104 TO 0.0417
STA 196+10.89 TO STA 196+82.29 = 0.0417

(5) STA 187+24.40 TO STA 188+29.40 = 0.0417
STA 188+29.40 TO STA 189+34.40 = VARIES 0.0417 TO 0.0833
STA 189+34.40 TO STA 194+72.29 = 0.0833
STA 194+72.29 TO STA 195+67.29 = VARIES 0.0833 TO -0.0417
STA 195+67.29 TO STA 196+82.29 = -0.0417



CR 206C PAINESVILLE-WARREN STATE ROAD
SUPERELEVATED SECTION

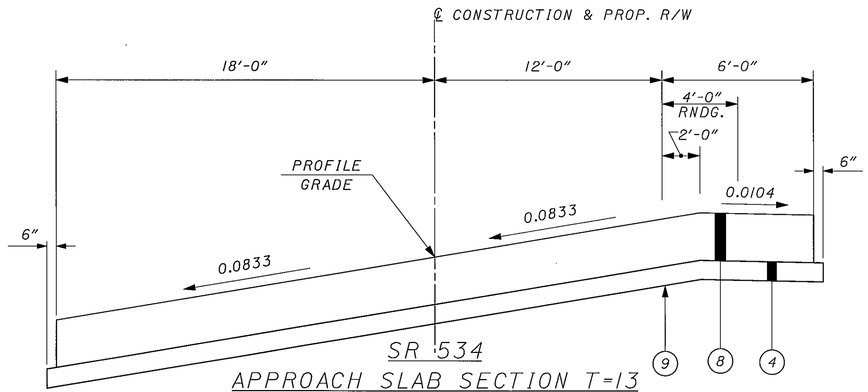
STA 43+26.24 TO STA 48+00.00 = 473.76 FT
(1) STA 43+26.24 TO STA 44+31.24 = 0.0417
STA 44+31.24 TO STA 45+36.24 = VARIES 0.0417 TO 0.0833
STA 45+36.24 TO STA 48+00.00 = 0.0833
(2) STA 43+26.24 TO STA 43+97.67 = 0.0417
STA 43+97.67 TO STA 44+74.98 = VARIES 0.0417 TO 0.0104
(3) STA 44+74.98 TO STA 45+36.24 = VARIES -0.0104 TO +0.0833
STA 45+36.24 TO STA 48+00.00 = 0.0833

[*] SEE INTERSECTION DETAIL SHEET NO. 66

STA 48+00.00 TO STA 48+58.04 = 58.04 FT
(3) VARIES +0.0833 TO -0.0104
(4) VARIES 0.0833 TO 0.0425
(5) VARIES 0.0833 TO 0.0425

STA 48+58.04 TO STA 49+00.00 = 41.96 FT
(2) VARIES 0.0104 TO 0.0275
(4) VARIES 0.0833 TO 0.0425
(5) VARIES 0.0833 TO 0.0425

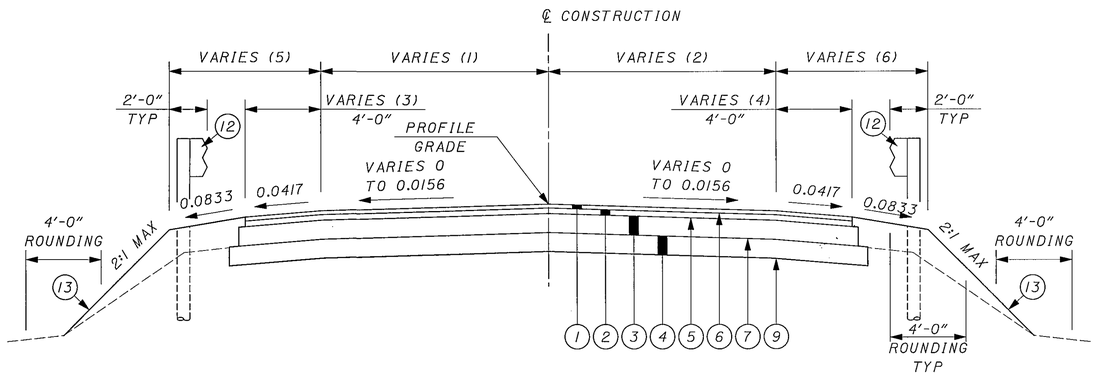
[*] STA 49+00.00 TO STA 49+97.38 = 97.38 FT



SR 534
APPROACH SLAB SECTION T=13

STA 192+45.65 TO STA 192+65.65 = 20.00 FT
STA 193+97.03 TO STA 194+17.03 = 20.00 FT

TOTAL = 40.00 FT



CR 206C PAINESVILLE-WARREN STATE ROAD
NORMAL SECTION

STA 40+80.44 TO STA 42+76.24 195.80 FT
VARIES(1) 9.90' TO 12.00'
VARIES(2) 8.44' TO 12.00'
VARIES(3&4) 3.0' TO 4.0'
VARIES(5&6) 7.0' TO 8.0'

STA 42+76.24 TO STA 43+26.24 50.00 FT
(1&2) 12.00'
(3&4) 4.0'
(5&6) 8.0'

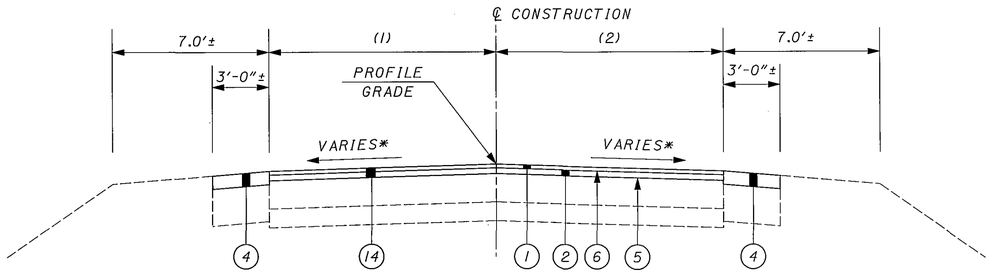
TOTAL 245.80 FT

FOR PROPOSED LEGEND SEE SHEET 4.

TYPICAL SECTIONS

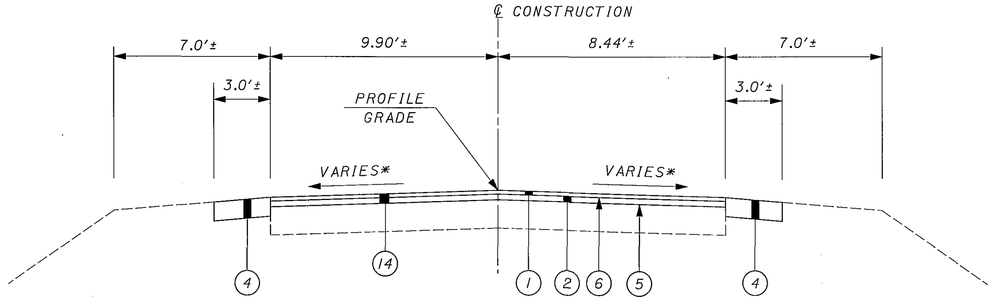
TRU-534-15.06

...\GY100.dgn



SR 534
PAVEMENT GRINDING SECTION

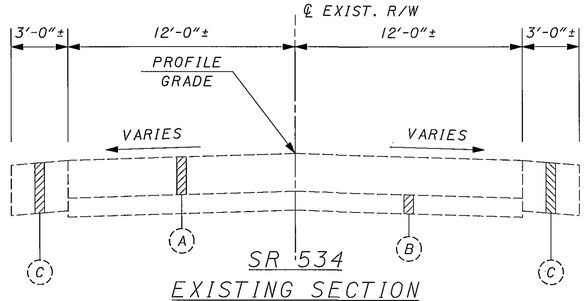
STA 80+65.52 TO STA 81+15.52	=	50.00	FT
(1)=12.55'± (2)=11.34'±			
STA 104+40.20 TO STA 104+90.50	=	50.00	FT
(1)=11.76'± (2)=11.71'±			
STA 125+62.66 TO STA 126+12.66	=	50.00	FT
(1)=11.45'± (2)=11.98'±			
STA 127+86.92 TO STA 128+36.92	=	50.00	FT
(1)=10.55'± (2)=12.73'±			
TOTAL	=	200.00	FT



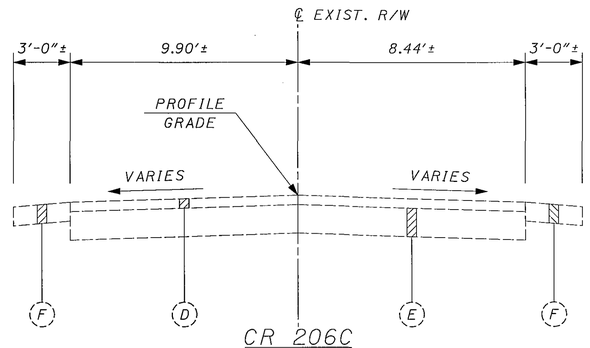
CR 206C
PAINESVILLE-WARREN STATE ROAD
PAVEMENT GRINDING SECTION

STA 40+30.44 TO STA 40+80.44 = 50.00 FT

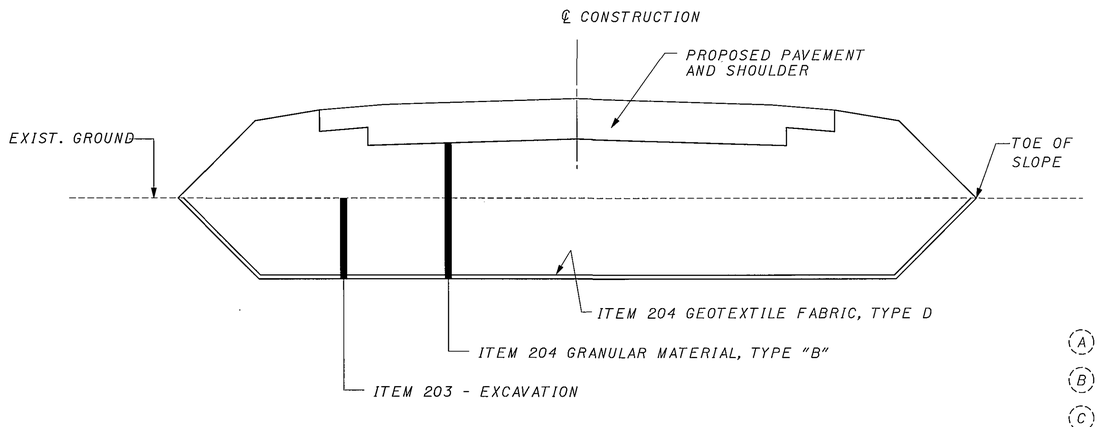
* CROSS SLOPE VARIES TO MEET EXISTING.



SR 534
EXISTING SECTION



CR 206C
PAINESVILLE-WARREN STATE ROAD
EXISTING SECTION



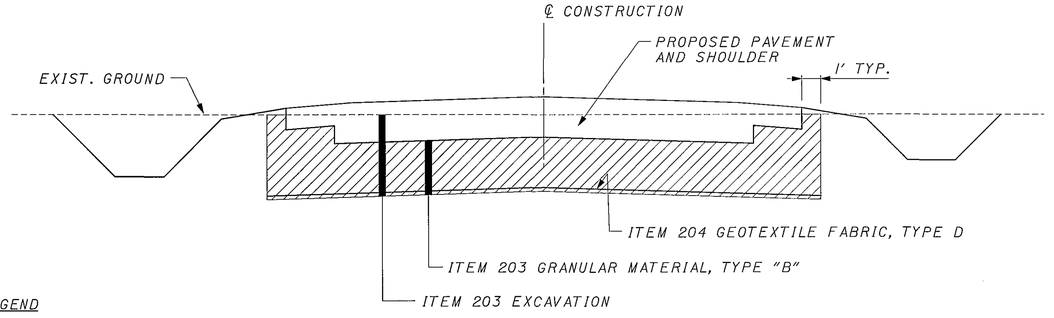
TYPICAL FILL SECTION WITH 204 GRANULAR MATERIAL, TYPE "B" WITH GEOTEXTILE FABRIC

SEE CROSS SECTIONS

LOCATIONS OF ADDITIONAL GEOTEXTILE FABRIC AS DIRECTED BY THE ENGINEER

EXISTING LEGEND

- (A) 12"± VARIOUS ASPHALT COURSES
- (B) 6"± SLAG AND CINDER BASE
- (C) 16"± SLAG AND CINDER BASE
- (D) 3"± ASPHALT CONCRETE COURSES
- (E) 9"± SLAG AND CINDER BASE
- (F) 6"± SLAG AND CINDER BASE



TYPICAL CUT SECTION WITH 203 GRANULAR MATERIAL, TYPE "B" WITH GEOTEXTILE FABRIC

SEE CROSS SECTIONS

LOCATIONS OF ADDITIONAL GEOTEXTILE FABRIC AS DIRECTED BY THE ENGINEER

FOR PROPOSED LEGEND SEE SHEET 4.

TYPICAL SECTIONS

TRU-534-15.06

...\GY100.dgn

ROUNDING

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

UTILITIES

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

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

BELDEN AND BLAKE
1748 SALTWELL ROAD
DOVER, OHIO 44622
PHONE (330) 602-5551
ATTN.: KEITH KERSTETTER

ORWELL NATURAL GAS OF OHIO
10 E. MAIN STREET,
P.O. BOX 190
ORWELL, OHIO 44076-0190
PHONE (800) 832-6164
ATTN.: ANNE YEAGER

COLUMBIA GAS OF OHIO
5213 LEETONIA ROAD
LEETONIA, OHIO 44413
PHONE (330) 424-3434
ATTN.: STEVE CURTIS

OHIO EDISON
730 SOUTH AVENUE
YOUNGSTOWN, OHIO 44502
PHONE (330) 740-7635
ATTN.: BILL SPEECE

SPRINT LOCAL
3801 ELM ROAD
WARREN, OHIO 44483
PHONE (330) 841-1408
ATTN.: CHUCK MANSELL

TIME WARNER CABLE
3813 YOUNGSTOWN-WARREN ROAD
WARREN, OHIO 44484
PHONE (330) 747-2555 EXT 8483
ATTN.: DOUG LAWRENTZ

TRUMBULL COUNTY ENGINEER
650 NORTH RIVER ROAD
WARREN, OHIO 44482
PHONE (330) 675-2640
ATTN.: JOHN LATELL, P.E., P.S.

WESTERN RESERVE TELEPHONE
4616 PARK AVENUE
ASHTABULA, OHIO 44004
PHONE (440) 993-1621
ATTN.: RICK ANDREGO

CONTINGENCY QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK 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 FOR SUCH ITEMS SHALL BE INCORPORATED INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

CONSTRUCTION NOISE

ACTIVITIES AND LAND USE ADJACENT TO THIS PROJECT MAY BE AFFECTED BY CONSTRUCTION NOISE. IN ORDER TO MINIMIZE ANY ADVERSE CONSTRUCTION NOISE IMPACTS, ANY POWER-OPERATED CONSTRUCTION-TYPE DEVICE SHALL NOT BE OPERATED BETWEEN THE HOURS OF 9:00PM AND 6:00AM. IN ADDITION, ANY SUCH DEVICE SHALL NOT BE OPERATED AT ANY TIME IN SUCH A MANNER THAT THE NOISE CREATED SUBSTANTIALLY EXCEEDS THE NOISE CUSTOMARILY AND NECESSARILY ATTENDANT TO THE REASONABLE AND EFFICIENT PERFORMANCE OF SUCH EQUIPMENT.

ELEVATION DATUM

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

STREAM CHANNEL EXCAVATION

THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT ANY INCIDENTAL DISCHARGES ASSOCIATED WITH THE EXCAVATION AND HAULING OF MATERIAL FROM THE STREAM CHANNEL. THIS PERTAINS TO ANY EXCAVATION OPERATIONS SUCH AS, FOUNDATION PIER OR ABUTMENT EXCAVATION, CHANNEL CLEANOUT, EXCAVATION FOR ROCK CHANNEL PROTECTION AND REMOVAL OF ANY TEMPORARY FILL ASSOCIATED WITH CONSTRUCTION OPERATIONS.

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.

CONVERSION OF STANDARD CONSTRUCTION DRAWINGS

THE METRIC STANDARD DRAWINGS REFERENCED IN THIS PLAN SHALL BE CONVERTED TO ENGLISH UNITS USING THE SI (METRIC) TO ENGLISH CONVERSION FACTORS PROVIDED IN SECTION 109.02 OF THE 2002 CONSTRUCTION AND MATERIAL SPECIFICATIONS. CONVERSIONS SHALL BE APPROPRIATELY PRECISE AND SHALL REFLECT STANDARD INDUSTRY ENGLISH VALUES WHERE SUITABLE.

CLEARING AND GRUBBING

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.

SIZES	NO. TREES	NO. STUMPS	TOTAL
18"	31	3	34
30"	5	1	6
48"	1	0	1

MONUMENTS

MONUMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH DETAILS AS SHOWN ON THE STANDARD CONSTRUCTION DRAWINGS AND AT THE LOCATIONS SHOWN ON SHEET NO. 18.

ITEM 204 - PROOF ROLLING

AN ESTIMATED QUANTITY OF 5 HOURS FOR THIS ITEM HAS BEEN PROVIDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER.

ENDANGERED SPECIES HABITAT

THIS PROJECT IS WITHIN THE RANGE OF THE FEDERALLY ENDANGERED INDIANA BAT (MYOTIS SODALIS) AND MAY IMPACT SUMMER ROOSTING HABITAT FOR THIS SPECIES. THE SUMMER ROOSTING HABITAT FOR THE INDIANA BAT CONSISTS OF LIVING OR DEAD TREES OR SNAGS WITH EXFOLIATING, PEELING OR LOOSE BARK, SPLIT TRUNKS AND/OR BRANCHES OR CAVITIES. THEREFORE, ANY UNAVOIDABLE CUTTING OF SUCH TREES WILL BE PERFORMED ONLY AFTER SEPTEMBER 15 AND BEFORE APRIL 15.

INSPECTION OF BRIDGES FOR PRESENCE OF ROOSTING BATS

THE ENGINEER SHALL INSURE THAT THE UNDERSIDE OF THE BRIDGE STRUCTURES SHALL BE INSPECTED FOR THE PRESENCE OF ROOSTING BATS JUST PRIOR TO DEMOLITION. ANY DISCOVERY OF BATS ON THE BRIDGE STRUCTURES SHALL BE REPORTED TO THE DISTRICT 4 ENVIRONMENTAL SECTION BY THE ENGINEER.

STREAM & WETLAND IMPACTS/AVOIDANCE

THIS PROJECT WILL IMPACT AN ESTIMATED 0.58 ACRE OF WETLANDS IDENTIFIED ON THE PLANS AT SEVERAL LOCATIONS. THE FOLLOWING WETLANDS WILL BE IMPACTED BY THIS PROJECT:

WETLAND 5	STA 190+00	0.377 ACRE
WETLAND 4	STA 194+00	NO IMPACT
WETLAND 3	STA 195+50	0.02 ACRE
WETLAND 2	STA 197+00	0.077 ACRE
WETLAND 1	STA 197+00	0.004 ACRE

UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR IMPACT THE REMAINING WETLANDS INDICATED ON THE PLAN. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR STORE EQUIPMENT AND/OR MATERIALS WITHIN THESE WETLAND AREAS. TO PROTECT AND DELINEATE THE BOUNDARY OF THE EXISTING REMAINING WETLANDS, A QUANTITY OF ITEM-FILTER FABRIC FENCE OF 600 FT HAS BEEN ADDED TO THE GENERAL SUMMARY. THIS IS TO BE INSTALLED AT THE PROPOSED CONSTRUCTION LIMITS WITHIN THE WETLANDS AREAS BY THE CONTRACTOR PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES WITHIN THESE LIMITS AND ADJACENT AREA, INCLUDING ANY NECESSARY CLEARING AND GRUBBING ACTIVITIES AND MAINTAINED BY THE CONTRACTOR THROUGHOUT PROJECT CONSTRUCTION. THE DISTRICT 4 ENVIRONMENTAL SECTION MAY BE CONTACTED TO FIELD VERIFY WETLANDS BOUNDARIES AND MARK THE AFOREMENTIONED AREAS FOR FENCE INSTALLATION AT 1-800-603-1054, EXTENSION 286

404/401 PERMIT COMPLIANCE NOTE

THE 404/401 WATERWAY PERMITS FOR THIS PROJECT HAVE YET TO BE AUTHORIZED BY THE US ARMY CORPS OF ENGINEERS AND/OR THE OHIO ENVIRONMENTAL PROTECTION AGENCY (EPA). THE CONTRACTOR SHALL NOT PERFORM ANY WORK IN AND/OR PLACE ANY FILL IN JURISDICTIONAL STREAMS OR WETLANDS UNTIL THE FINAL 404/401 PERMITS ARE AUTHORIZED BY THE US ARMY CORPS OF ENGINEERS AND/OR THE OHIO EPA. THE COMPLETE/ AUTHORIZED 404/401 PERMITS WILL BE PROVIDED TO THE CONTRACTOR BY ODOT PERSONNEL AS SOON AS THEY BECOME AVAILABLE. (NATIONWIDE PERMIT IS EXPECTED BY MAY 2004).

WATERWAY PERMIT DETERMINATION (404/401) - ODOT PROJECTS

ALL PROJECTS INVOLVING JURISDICTIONAL WATERS OF THE UNITED STATES(STREAMS, RIVERS, NON-ISOLATED WETLANDS) AND/OR ISOLATED WETLANDS ARE SUBJECT TO REGULATION UNDER SECTIONS 404 AND 401 OF THE CLEAN WATER ACT, AND POSSIBLY OHIO EPA ISOLATED WETLAND LAW. THE OHIO DEPARTMENT OF TRANSPORTATION-OFFICE OF ENVIRONMENTAL SERVICES (OES) AND/OR THE UNITED STATES ARMY CORPS OF ENGINEERS (USACE) HAS DETERMINED THAT THE PROJECT MEETS THE CRITERIA OF NATIONWIDE PERMITS (NWP) 3 - MAINTENANCE AND NWP 33 - TEMPORARY CONSTRUCTION, ACCESS AND DEWATERING; BASED UPON THE ANTICIPATED IMPACTS TO STREAM(S) AND/OR WETLAND(S). SHOULD ANY DEVIATION OF THESE PREVIOUSLY PERMITTED ACTIVITIES AND CONDITIONS BE REQUIRED, THE CONTRACTOR SHALL COORDINATE SUCH ACTIVITIES, INCLUDING THE PCN, THROUGH THE ENGINEER AND OES AND ALLOW 60 DAYS MINIMUM FOR PROCESSING WITH THE USACE. THE CONTRACTOR SHALL NOT COORDINATE THESE ACTIVITIES DIRECTLY WITH THE USACE. THE CONTRACTOR SHALL NOT MODIFYTHE INTENT OF THE AUTHORIZED TEMPORARY FILLS BELOW OHWM UNTIL SUCH ACTIVITY IS AUTHORIZED BY THE USACE. SHOULD A PCN BE REQUIRED, THE PCN SHALL INCLUDE PERTINENT INFORMATION (I.E. VOLUME AND SURFACE AREA OF TEMPORARY FILLS) AND DRAWINGS (PLAN AND PROFILE VIEW) OF TEMPORARY FILLS BELOW OHWM. ONLY CLEAN, NON ERODIABLE MATERIALS SHALL BE USED FOR TEMPORARY CONSTRUCTION ACCESS FILLS. ANY TEMPORARY FILLS BELOW OHWM SHALL BE REMOVED FOLLOWING COMPLETION OF THE AUTHORIZED ACTIVITY AND THE AREA OF STREAM WHERE TEMPORARY FILL WAS LOCATED SHALL BE RESTORED TO ITS PRE-CONSTRUCTION CONDITION. PLEASE NOTE THAT FORDING OF WATERWAYS IS NOT ALLOWED.

PAINTING AND SEALING OPERATIONS

THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT EPOXY-URETHANE SEALER, PAINT, OR OTHER MATERIALS USED TO REPAIR, CLEAN, SEAL, OR TREAT ANY BRIDGE STRUCTURE FROM ENTERING ANY STREAMS, WETLANDS OR OTHER WATERS OF THE UNITED STATES AND TAKE THE APPROPRIATE ACTIONS IN THE EVENT OF A RELEASE.

CALCULATED PM CHECKED SKS

GENERAL NOTES

TRU-534-15.06

...\Gn101.dgn

ITEM 606 - ANCHOR ASSEMBLY, TYPE E-98

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING EITHER OF THE FOLLOWING GUARDRAIL END TERMINALS.

1) THE ET-2000 (1997) MANUFACTURED BY TRINITY INDUSTRY, 1170 N. STATE STREET, GIRARD, OHIO 44420 (TELEPHONE: 330-545-4373).

THE LENGTH OF THE ET-2000 (1997) SYSTEM IS CONSIDERED TO BE 50'-0", INCLUSIVE OF TWO 25'-0" LONG RAIL ELEMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DWG. NO.	DRAWING NAME	DWG./ REV. DATE	ODOT APPROVAL DATE
SSS265M	ET-2000 (1997) PLAN, ELEVATION AND SECTIONS	6/20/97	3/6/98
SS142	ET2000 PLUS 50'-0" PLAN, ELEVATION AND SECTION 25'-0" RAIL, SLEEVE W/PL POSTS 1-4	4/12/00	7/31/00
SS141	ET2000 PLUS PLAN, ELEVATION AND SECTION 25'-0" RAIL, HBA POSTS 1-4	2/29/00	7/31/00
SS158	ET2000 PLUS 50'-0" WITH 12'-6" PANELS AND HBA POSTS 1-4 PLAN, ELEVATION AND SECTION	5/22/00	7/31/00

2) THE SKT-350 MANUFACTURED BY ROAD SYSTEMS, INC., 2516 MALLORY LANE, STOW, OHIO, 44224, (TELEPHONE: 330-346-0721).

THE LENGTH OF THE SKT-350 SYSTEM IS CONSIDERED TO BE 50'-0", INCLUSIVE OF FOUR 12'-6" LONG RAIL ELEMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DWG. NO.	DRAWING NAME	DWG./ REV. DATE	ODOT APPROVAL DATE
SKT-4M	SEQUENTIAL KINKING TERMINAL (SKT-350) ASSEMBLY WITH 4 FOUNDATION TUBES	12/11/97	3/6/98

THE FACE OF THE TYPE E-98 IMPACT HEAD SHALL BE COVERED WITH A SHEET OF TYPE G REFLECTIVE SHEETING, PER CMS 730.19, APPROXIMATELY 18" X 18".

REFER TO THE MANUFACTURER'S INSTRUCTION REGARDING THE INSTALLATION OF, AND THE GRADING AROUND, THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4-INCHES ABOVE THE GROUND. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 27-3/4-INCHES FROM THE EDGE OF THE SHOULDER.

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

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, TYPE E-98, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING ALL RELATED TRANSITIONS, REFLECTIVE SHEETING, HARDWARE, GRADING, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

ITEM SPECIAL - MAILBOX SUPPORT

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

WOOD POSTS SHALL BE NOMINAL 4" BY 4" SQUARE OR 4½" DIAMETER ROUND, AND CONFORM TO 710.14.

STEEL POSTS SHALL BE NOMINAL PIPE SIZE 2" 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 606.03, 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 107.10. 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, (SINGLE) (DOUBLE).

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

SPECIAL, MAILBOX SUPPORT SYSTEM, SINGLE 9 EACH

SPECIAL, MAILBOX SUPPORT SYSTEM, DOUBLE 1 EACH

UNSUITABLE FOUNDATION SOILS

IF UNSUITABLE FOUNDATION SOILS ARE ENCOUNTERED IN THE AREAS OF THE PROPOSED ROADBED, THEY SHALL BE REMOVED AND REPLACED WITH SUITABLE MATERIAL MEETING THE REQUIREMENTS OF 203.02.R. THE LOCATIONS AND DIMENSIONS WILL BE AS DETERMINED BY THE ENGINEER.

THE FOLLOWING CONTINGENCY QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER:

ITEM 203 200 CU. YDS. EMBANKMENT

ITEM 203 200 CU. YDS. EXCAVATION

ITEM 605 - AGGREGATE DRAINS

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

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 CONTRACTOR'S OPERATIONS SHALL BE CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 603 CONDUIT ITEMS.

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.

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

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

603, 6 " CONDUIT, TYPE B, FOR DRAINAGE CONNECTION 100 FT.

603, 6 " CONDUIT, TYPE C, FOR DRAINAGE CONNECTION 100 FT.

603, 6 " CONDUIT, TYPE E, FOR DRAINAGE CONNECTION 100 FT.

603, 6 " CONDUIT, TYPE F, FOR DRAINAGE CONNECTION 100 FT.

CALCULATED PM CHECKED SKS

GENERAL NOTES

TRU-534-15.06

...\Gn102.dgn

CALCULATED PM | CHECKED SKS

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 ONE FOOT 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-1.1, EXCEPT WHEN THEY OUTLET INTO A DRAINAGE STRUCTURE. PAYMENT FOR THE EROSION CONTROL PADS AND ANIMAL GUARDS AND ANY NECESSARY BENDS OR BRANCHES SHALL BE INCLUDED FOR PAYMENT IN THE PERTINENT CONDUIT ITEMS.

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

603	6 " CONDUIT, TYPE B	50 FT.
603	6 " CONDUIT, TYPE E	50 FT.
603	6 " CONDUIT, TYPE F	50 FT.

SEEDING AND MULCHING

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

659, SOIL ANALYSIS TEST	2	EACH
659, TOPSOIL	2002	C.Y.
659, REPAIR SEEDING AND MULCHING	895	S.Y.
659, INTER-SEEDING	895	S.Y.
659, COMMERCIAL FERTILIZER	2.43	TON
659, LIME	3.7	ACRE
659, WATER	96.7	MGAL
659, MOWING	41	MSF

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.

ITEM SPECIAL - FILL AND PLUG EXISTING CONDUIT

THIS ITEM SHALL CONSIST OF THE CONSTRUCTION OF BULKHEADS IN AN EXISTING CONDUIT AND FILLING THE AREA THUS SEALED OFF WITH LEAN GROUT, ITEM 613, SAND OR OTHER MATERIAL APPROVED BY THE ENGINEER.

BULKHEADS SHALL BE LOCATED AT THE LIMITS OF THE AREA TO BE FILLED AS INDICATED ON THE PLANS. THE BULKHEADS SHALL CONSIST OF BRICK OR CONCRETE MASONRY WITH A MINIMUM THICKNESS OF 12 INCHES (300 MILLIMETERS).

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

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

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.

ITEM 203 - EMBANKMENT USING NO. 8 AGGREGATE

THE MATERIAL FURNISHED SHALL BE DURABLE, NATURAL AGGREGATES NO. 8 SIZE. THE AGGREGATE SHALL BE PLACED AT THE THICKNESSMAND SLOPE AS SHOWN ON THE CROSS-SECTIONS.

BEST MANAGEMENT PRACTICES

WATER COLUMN, SEDIMENTATION AND SOIL EROSION IMPACTS SHALL BE KEPT TO A MINIMUM THROUGH THE USE OF BEST MANAGEMENT PRACTICES FOR SOIL EROSION AND SEDIMENTATION CONTROL ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES AS SPECIFIED IN THE SWPPP SHALL BE IN PLACE PRIOR TO ANY EXCAVATION, GRADING OR FILLING OPERATIONS AND INSTALLATION OF PROPOSED STRUCTURES OR UTILITIES. THEY SHALL REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETED AND THE AREA IS STABILIZED AS ACCEPTED BY THE ENGINEER. THESE SHALL COMPLY WITHODOT'S HANDBOOK FOR SEDIMENT AND EROSION CONTROL, WHICH MAY BE FOUND AT: HTTP://WWW.DOT.STATE.OH.US/DRRC/

BEST MANAGEMENT PRACTICES SHALL BE IMPLEMENTED TO MINIMIZE WATER QUALITY IMPACTS AND IMPACTS TO HIGH QUALITY FISH AND WILDLIFE HABITATS. RIPARIAN VEGETATION SHALL BE MAINTAINED WHENEVER POSSIBLE. WHERE STREAM BANKS AND RIPARIAN AREAS ARE DISTURBED, THEY SHALL BE SEEDED AND PLANTED WITH NATIVE RIPARIAN VEGETATION IMMEDIATELY AFTER CONSTRUCTION IS COMPLETED. NATURAL CHANNEL DESIGN TECHNIQUES SHALL BE UTILIZED TO STABILIZE BANKS WHEN NECESSARY.

GENERAL NOTES

TRU-534-15.06

...\Gnl03.dgn

ITEM 614 - MAINTAINING TRAFFIC

NOTICE OF CLOSURE SIGNS, AS DETAILED IN THESE PLANS, SHALL BE ERECTED BY THE CONTRACTOR AT LEAST ONE WEEK IN ADVANCE OF THE SCHEDULED ROAD CLOSURE. THE SIGNS SHALL BE ERECTED ON THE RIGHT HAND SIDE OF THE ROAD FACING TRAFFIC. THEY SHALL BE PLACED SO AS NOT TO INTERFERE WITH THE VISIBILITY OF ANY OTHER TRAFFIC CONTROL SIGNS. ON ROADWAYS, THEY SHOULD BE ERECTED AT THE POINT OF CLOSURE.

DETOUR NOTIFICATION

THE CONTRACTOR SHALL ADVISE THE ODOT DISTRICT OFFICE (330-297-0801 EXT 339) AND OR COUNTY/CITY EIGHTEEN (18) DAYS IN ADVANCE OF WHEN THE DETOUR ROUTE SHOULD BE IN EFFECT. THE CONTRACTOR SHALL PROVIDE, TO THE PROJECT OFFICE, ALL SIGNS, SUPPORTS AND HARDWARE REQUIRED FOR THE DETOUR ROUTE. COUNTY OR CITY FORCES SHALL THEN INSTALL, MAINTAIN, REMOVE AND SALVAGE THE SAME THROUGHOUT THE DETOUR LIMITATION DATES. ALL TRAFFIC CONTROL DEVICES REQUIRED, OTHER THAN FOR THE DETOUR, SHALL BE FURNISHED, ERECTED, MAINTAINED, AND SUBSEQUENTLY REMOVED BY THE CONTRACTOR.

(ROAD)WILL BE
CLOSED (DATE)
FOR XXX DAYS
OHIO DEPT. OF TRANSPORTATION

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

410, TRAFFIC COMPACTED SURFACE, TYPE A OR B 50 CU. YD.

410, TRAFFIC COMPACTED SURFACE, TYPE C 50 CU. YD.

614, ASPHALT CONCRETE FOR MAINTAINING TRAFFIC 50 CU. YD.

616, WATER 1 M. GAL.

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN STANDARD 48" X 30" "ROAD CLOSED" SIGNS, SIGN SUPPORTS, BARRICADES, GATES, AND LIGHTS, AS DETAILED IN STANDARD CONSTRUCTION DRAWING MT-101.60M AND AS DETAILED ON THE DETOUR PLAN.

PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS FOR THE CONTRACTOR INSTALLED DETOUR SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, DETOUR SIGNING.

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN SIGNS AND SIGN SUPPORTS, AS DETAILED IN THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, AND TYPE III BARRICADES OF THE TYPE AND LOCATION SHOWN ON THE DETOUR PLAN.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH 614 AND OTHER APPLICABLE PORTIONS OF THESPECIFICATIONS, 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, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

ITEM 614 - LAW ENFORCEMENT OFFICER WITH PATROL CAR

IN ADDITION TO THE REQUIREMENTS OF 614 AND THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD), A UNIFORMED LAW ENFORCEMENT OFFICER (AND OFFICIAL PATROL CAR WITH WORKING TOP MOUNTED EMERGENCY FLASHING LIGHTS)SHALL BE PROVIDED FOR CONTROLLING TRAFFIC FOR THE FOLLOWING TASKS:

FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED.

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

LAW ENFORCEMENT OFFICERS (L.E.O.'S) SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED. THE LEO'S ARE CONSIDERED TO BE EMPLOYED BY THE CONTRACTOR AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR ACTIONS. ALTHOUGH THEY ARE EMPLOYED BY THE CONTRACTOR, THE PROJECT ENGINEER SHALL HAVE CONTROL OVER THEIR PLACEMENT. THE OFFICIAL PATROL CAR SHALL BE A PUBLIC SAFETY VEHICLE AS REQUIRED BY THE OHIO REVISED CODE. THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR THESE SERVICES WITH :

WARREN PATROL POST
3424 STATE ROUTE 422
SOUTHINGTON, OHIO 44470
PHONE: (330) 898-2311

LAW ENFORCEMENT OFFICERS WITH PATROL CAR REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON AN HOURLY BASIS UNDER ITEM 614 - LAW ENFORCEMENT OFFICER (WITH PATROL CAR).

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR 24 HOURS

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

IF CONTRACTORS WISH TO UTILIZE LEO'S FOR FLAGGING AND TRAFFIC CONTROL OTHER THAN FOR THAT REQUIRED IN THESE PLANS, THEY MAY DO SO AT THEIR OWN EXPENSE. PAYMENT FOR THE EXCESS ABOVE THE CONTRACT REQUIREMENTS WILL BE INCLUDED UNDER ITEM 614 MAINTAINING TRAFFIC.

DUST CONTROL

THE CONTRACTOR SHALL FURNISH AND APPLY WATER FOR DUST CONTROL AS DIRECTED BY THE ENGINEER. THE FOLLOWING CONTINGENCY QUANTITY HAS BEEN INCLUDED FOR DUST CONTROL PURPOSES:

616, WATER 34 M. GAL.

CALCULATED MRK CHECKED SKS

MAINTENANCE OF TRAFFIC NOTES

TRU-534-15.06

DETOUR PLAN

TRU-534-15.06

N

HORIZONTAL SCALE IN MILES
0 1 2

CALCULATED MRK
CHECKED SKS

NOTE: THE CONTRACTOR SHALL ERECT, MAINTAIN, AND REMOVE THE DETOUR. PAYMENT FOR ALL MATERIAL, LABOR, AND EQUIPMENT TO PERFORM THIS WORK SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 614, DETOUR SIGNING.

11
112

...\mmi00.dgn

SHEET NUMBER											ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
7	8	9	10	15	16	17	17A	18	19	72						
															ROADWAY	
LUMP											201	11000	LUMP		CLEARING AND GRUBBING	
					1477						202	23000	1477	SY	PAVEMENT REMOVED	
								77			202	30000	77	SF	WALK REMOVED	
								LUMP			202	30204	LUMP		STEPS REMOVED	
				724							202	35100	724	FT	PIPE REMOVED, 24" AND UNDER	
								1346.0			202	38000	1346	FT	GUARDRAIL REMOVED	
				4							202	58100	4	EACH	CATCH BASIN REMOVED	
								1122			202	75000	1122	FT	FENCE REMOVED	
	200								21177		203	10000	21377	CY	EXCAVATION	
	200										203	20000	200	CY	EMBANKMENT	
									7573		203	35110	7573	CY	GRANULAR MATERIAL, TYPE B	
							13387				204	10000	13387	SY	SUBGRADE COMPACTION	
									15675		204	30010	15675	CY	GRANULAR MATERIAL, TYPE B	
5											204	45000	5	HOUR	PROOF ROLLING	
									12952		204	50000	12952	SY	GEOTEXTILE FABRIC	
								12			604	38500	12	EACH	MONUMENT ASSEMBLY	
							1637				606	13000	1637	FT	GUARDRAIL, TYPE 5	
							25				606	13020	25	FT	GUARDRAIL, TYPE 5 WITH DOUBLE RAILS	
								10			606	22010	10	EACH	ANCHOR ASSEMBLY, TYPE E-98	
								4			606	26500	4	EACH	ANCHOR ASSEMBLY, TYPE T	
								4			606	32160	4	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE TST	
								75			608	10000	75	SF	4" CONCRETE WALK	
								3			608	41000	3	FT	CONCRETE STEPS, TYPE B	
	9										SPECIAL	69050100	9	EACH	MAILBOX SUPPORT SYSTEM, SINGLE	
	1										SPECIAL	69050200	1	EACH	MAILBOX SUPPORT SYSTEM, DOUBLE	8
																8
															EROSION CONTROL	
				23.7							601	32100	23.7	CY	ROCK CHANNEL PROTECTION, TYPE B WITH FILTER	
		2									659	00100	2	EACH	SOIL ANALYSIS TEST	
		2002									659	00300	2002	CY	TOPSOIL	
									18031		659	10000	18031	SY	SEEDING AND MULCHING	
		895									659	14000	895	SY	REPAIR SEEDING AND MULCHING	
		895									659	15000	895	SY	INTER-SEEDING	
		2.43									659	20000	2.43	TON	COMMERCIAL FERTILIZER	
		3.7									659	31000	3.7	ACRE	LIME	
		96.7									659	35000	96.7	MGAL	WATER	
		41									659	40000	41	MSF	MOWING	
				10							660	25000	10	SY	SODDING STAKED	
											832	10000	1	EACH	STORM WATER POLLUTION PREVENTION PLAN	
											832	30000	24000	EACH	EROSION CONTROL	
															DRAINAGE	
				0.40							602	20000	0.40	CY	CONCRETE MASONRY	
	100	50									603	00900	150	FT	6" CONDUIT, TYPE B	
	100										603	01100	100	FT	6" CONDUIT, TYPE C	
	100	50									603	01400	150	FT	6" CONDUIT, TYPE E	
	100	50		110							603	01500	260	FT	6" CONDUIT, TYPE F	
				150							603	04400	150	FT	12" CONDUIT, TYPE B	
				1091							603	04600	1085	FT	12" CONDUIT, TYPE C	
				207							603	04900	207	FT	12" CONDUIT, TYPE D	
				1							604	04100	1	EACH	CATCH BASIN, NO. 2-2A	
				7							604	04500 -	7	EACH	CATCH BASIN, NO. 2-2B	

CALCULATED PM
CHECKED SKS

GENERAL SUMMARY

TRU-534-15.06

GG100.dgn

SHEET NUMBER											ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
7	8	9	10	15	16	17	17A	18	19	72						
															DRAINAGE CONTINUED	
				1							604	04900	1	EACH	CATCH BASIN, NO. 2-3	
				4							604	36600	4	EACH	PRECAST REINFORCED CONCRETE OUTLET	
				1727							605	11100	1727	FT	6" SHALLOW PIPE UNDERDRAINS	
				635							605	13300	635	FT	6" UNCLASSIFIED PIPE UNDERDRAINS	
								411			605	31100	411	FT	AGGREGATE DRAINS	
															PAVEMENT	
								625			254	01000	625	SY	PAVEMENT PLANING, ASPHALT CONCRETE	
						2079					302	46000	2079	CY	ASPHALT CONCRETE BASE, PG64-22	
					247	2169					304	20000	2416	CY	AGGREGATE BASE	
							1248				407	10000	1248	GAL	TACK COAT	
							936				407	14000	936	GAL	TACK COAT FOR INTERMEDIATE COURSE	
					382		5141				408	10000	5523	GAL	PRIME COAT	
					12						448	46024	12	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22 (DRIVEWAYS)	
						595					448	46050	595	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22	
						425					448	47020	425	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22	
					49						448	48020	49	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22 (DRIVEWAYS)	
					76						452	10000	76	SY	6" NON-REINFORCED CONCRETE PAVEMENT	
					86						452	12000	86	SY	8" NON-REINFORCED CONCRETE PAVEMENT	
															TRAFFIC CONTROL	
										42.0	630	02100	42.0	FT	GROUND MOUNTED SUPPORT, NO. 2 POST	
										109.5	630	03100	109.5	FT	GROUND MOUNTED SUPPORT, NO. 3 POST	
										30.0	630	04100	30.0	FT	GROUND MOUNTED SUPPORT, NO. 4 POST	
										14.0	630	08520	14.0	FT	STREET NAME SIGN SUPPORT, NO. 3 POST	
										82.1	630	80100	82.1	SF	SIGN, FLAT SHEET	
										2	630	80500	2	EACH	SIGN, DOUBLE FACED, STREET NAME	
										28	630	84900	28	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
										25	630	86002	25	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
										1.36	642	00100	1.36	MILE	EDGE LINE, TYPE 1	
										0.65	642	00300	0.65	MILE	CENTER LINE, TYPE 1	
										12	642	00500	12	FT	STOP LINE, TYPE 1	
															FOR STRUCTURES (SEE SHEETS 74, 80, 82 & 88)	
															MAINTENANCE OF TRAFFIC	
			50								410	12000	50	CY	TRAFFIC COMPACTED SURFACE, TYPE A OR B	
			50								410	13000	50	CY	TRAFFIC COMPACTED SURFACE, TYPE C	
			24								614	11100	24	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR	
			50								614	13000	50	CY	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	
			35								616	10000	35	MGAL	WATER	
											614	12420	LUMP		DETOUR SIGNING	
											614	11000	LUMP		MAINTAINING TRAFFIC	
											623	10000	LUMP		CONSTRUCTION LAYOUT STAKES	
											624	10000	LUMP		MOBILIZATION	
											619	16010	15	MNTH	FIELD OFFICE, TYPE B	

CALCULATED PM
CHECKED SKS

GENERAL SUMMARY

TRU-534-15.06

BGG100.dgn

SHEET NO.	REF NO.	LOCATION STATION TO STATION		SIDE	202		601	601	602	603				604				605		660	FOR INFORMATION ONLY		
		FROM	TO		PIPE REMOVED 24" AND UNDER	CATCH BASIN REMOVED	ROCK CHANNEL PROTECTION, TYPE B, WITH FILTER		CONCRETE MASONRY	CONDUIT TYPE B 12"	CONDUIT TYPE C 12"	CONDUIT TYPE D 12"	CONDUIT TYPE F 6"	PRECAST REINFORCED CONCRETE OUTLET	CATCH BASIN No2-2A	CATCH BASIN No2-2B	CATCH BASIN No2-3	6" SHALLOW PIPE UNDERDRAINS	6" UNCLASSIFIED PIPE UNDERDRAIN	SODDING STAKED			
					FT.	EACH	CU. YD.		CU. YD.	FT.	FT.	FT.	FT.	EACH	EACH			FT.	FT.	SQ. YD.			
20	D-1	82 + 40.00	183 + 00.00	RT.							60					1							
20	U-1	80 + 65.00	82 + 40.00	RT.									10						165				
20	U-2	82 + 40.00	183 + 00.00	RT.															60				
20	R-1	80 + 65.00	81 + 34.49	RT.	69	1																	
20	R-2	182 + 78.67	183 + 00.00	RT.	21	1																	
21	D-1	183 + 00.00	183 + 10.00	RT.							10					1							
21	D-2	183 + 10.00	185 + 37.00	RT.							225						1						
21	D-3	185 + 37.00	185 + 62.00	RT.					0.20		60												
21	D-4	186 + 40.00	187 + 50.00	LT.						110						1							
21	U-1	183 + 00.00	183 + 10.00	RT.									10										
21	U-2	183 + 10.00	185 + 37.00	RT.									10					217					
21	U-3	185 + 37.00	187 + 25.00	RT.														103	85				
21	U-4	186 + 40.00		LT&RT									10						32				
21	U-5	187 + 25.50	187 + 50.00	LT.														25					
21	R-1	183 + 00.00	184 + 64.24	RT.	164																		
21	R-2	184 + 62.32	185 + 29.51	LT.	67																		
22	D-1	187 + 50.00	187 + 90.00	LT.						40						1							
22	D-2	187 + 90.00	189 + 50.00	LT.							157					1							
22	D-3	189 + 50.00	190 + 78.50	LT.							124												
22	U-1	187 + 50.00	189 + 50.00	LT.									10					190					
22	U-2	189 + 50.00	190 + 75.22	LT.									10					115					
22	U-3	190 + 92.00	192 + 00.00	LT.									10	1				90	18				
23	D-1	192 + 85.00	193 + 00.00	RT.																10			
23	D-2	193 + 30.00	193 + 70.00	LT.			23.70																
23	U-1	192 + 00.00	192 + 55.00	LT.														55					
23	U-2	194 + 00.00	194 + 50.00	LT.									10	1					50				
23	U-3	194 + 50.00	196 + 75.00	LT.															225				
23	U-4	196 + 80.00	197 + 00.00	RT.														20					
SUBTOTALS THIS SHEET CARRIED TO SHEET 15					321	2	23.70		0.20	150	636		80	2		5	1	815	635	10			

CALCULATED PM CHECKED SKS

DRAINAGE SUB-SUMMARY

TRU-534-15.06

14
112

...BGs101.dgn

SHEET NO.	REF NO.	LOCATION STATION TO STATION		SIDE	202		601	601	602	603				604				605		660	FOR INFORMATION ONLY		
		FROM	TO		PIPE REMOVED 24" AND UNDER	CATCH BASIN REMOVED	ROCK CHANNEL PROTECTION, TYPE B, WITH FILTER		CONCRETE MASONRY	CONDUIT TYPE B 12"	CONDUIT TYPE C 12"	CONDUIT TYPE D 12"	CONDUIT TYPE F 6"	PRECAST REINFORCED CONCRETE OUTLET	CATCH BASIN No2-2A	CATCH BASIN No2-2B	CATCH BASIN No2-3	6" SHALLOW PIPE UNDERDRAINS	6" UNCLASSIFIED PIPE UNDERDRAIN	SODDING STAKED			
					FT.	EACH	CU. YD.		CU. YD.	FT.	FT.	FT.	FT.	EACH	EACH			FT.	FT.	SQ. YD.			
24	D-1	198 + 15.00	199 + 00.00	LT.					0.20		90												
24	D-2	199 + 00.00	201 + 12.00	LT.							212					1							
24	D-3	201 + 12.00	202 + 00.00	LT.							89					1							
24	D-4	200 + 28.00	200 + 60.00	RT.								32											
24	D-5	200 + 97.00	201 + 39.00	RT.								42											
24	U-1	197 + 00.00	197 + 55.00	RT.									10	1				55					
24	U-2	197 + 65.00	198 + 75.00	RT.									10	1				110					
24	U-3	198 + 75.00	202 + 00.00	RT.														325					
24	R-1	198 + 59.36	199 + 53.33	LT.	95	1																	
24	R-2	199 + 53.33	201 + 13.98	LT.	160	1																	
24	R-3	201 + 13.98	202 + 00.00	LT.	86																		
25	D-1	202 + 00.00	202 + 50.00	LT.							50				1								
25	D-2	202 + 08.00	202 + 23.00	RT.								15											
25	D-3	103 + 66.00	103 + 90.00	RT.								24											
25	U-1	202 + 00.00	104 + 91.00	RT.														241					
25	U-2	202 + 50.00	104 + 91.00	LT.									10					181					
25	R-1	202 + 00.00	202+45.89	LT.	46																		
26	D-1	126 + 87.71	126 + 95.71	RT.							8												
50	D-1	40 + 74.50	41 + 06.50	LT.								32											
50	R-1	40 + 82.64	40 + 98.66	LT.	16																		
51	D-1	46 + 00.00	46 + 32.00	LT.								32											
51	D-2	47 + 50.00	47 + 80.00	RT.								30											
SUBTOTALS THIS SHEET					403	2	0		0.20	0	449	207	30	2	1	2	0	912	0	0			
SUBTOTALS FROM SHEET 14					321	2	23.70		0.20	150	636	0	80	2		5	1	815	635	10			
TOTALS CARRIED TO GENERAL SUMMARY					724	4	23.7		0.40	150	1085	207	110	4	1	7	1	1727	635	10			

CALCULATED PM
CHECKED SKS

DRAINAGE SUB-SUMMARY

TRU-534-15.06

15
112

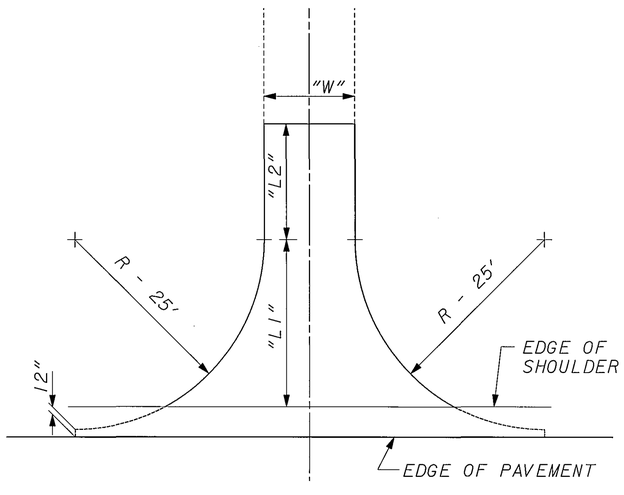
...BGs102.dgn

SHEET NO.	REFERENCE NO.	STATION	SIDE	DRIVE TYPE	EXISTING DRIVEWAY COMPOSITION (APRON/DRIVE)	DRIVEWAY ANGLE (*TO LOCAL TANGENT)	APRON LENGTH "L1"	DRIVEWAY LENGTH "L2"	WIDTH "W"	R1 (LEFT SIDE RADII OF DRIVE LOOKING FROM ℄)	R2 (RIGHT SIDE RADII OF DRIVE LOOKING FROM ℄)	APRON AREA (CADD MEASURED)	DRIVEWAY AREA (CADD MEASURED)	202 PAVEMENT REMOVED	204 SUBGRADE COMPACTION	304 6" AGGREGATE BASE	304 8" AGGREGATE BASE	304 10" AGGREGATE BASE	408 PRIME COAT AT THE RATE OF 0.40 GAL/SY	452 6" NON-REINFORCED CONCRETE PAVEMENT	452 8" NON-REINFORCED CONCRETE PAVEMENT	448 1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG 64-22	448 1¾" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG 64-22	448 2" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG 64-22
										FT.	FT.	SQ FT	SQ FT	SQ YD	SQ YD	CU YD	CU YD	CU YD	GAL	SQ YD	SQ YD	CU YD	CU YD	CU YD
20	DR-1	81+21.0	RT	RES	ASPH/GRAV	82°00′	27.7	10.0	8.2	25	25	526.4	101.0		76.0	12.1			24.6					3.3
20	DR-2	82+58.5	RT	RES	ASPH/GRAV	90°00′	22.1	10.0	8.3	25	25	432.7	100.8		63.9	10.3			20.2					2.7
21	DR-3	183+35.0	RT	RES	ASPH	*88°30′	22.0	0.0	27.6	25	25	684.6	0.0		74.2	13.2			31.7					4.2
21	DR-4	184+83.0	LT	COMM	ASPH/GRAV	*96°00′	26.2	9.9	16.0	25	25	596.8	159.2		89.1		14.7	4.9	27.7			2.3	3.2	
21	DR-5	186+63.0	LT	COMM	ASPH/CONC	87°30′	23.4	25.7	11.9	25	25	444.5	306.5	293.4	94.9		11.6		20.8		34.1	1.7	2.4	
21	DR-6	187+01.0	LT	COMM	ASPH/CONC	68°30′	36.5	31.8	14.7	25	25	783.2	467.0	730.0	155.6		11.5		20.7		51.9	3.0	4.2	
22	DR-7	188+16.0	LT	RES	ASPH/CONC	*79°30′	28.9	47.8	16.3	25	25	622.1	680.0	453.5	164.0	12.1			28.9	75.6				3.8
23	DR-8	195+45.0	RT	COMM	ASPH/GRAV	*83°30′	25.3	68.6	7.4	25	25	470.3	675.7		157.1		11.6	20.9	22.0			1.8	2.5	
24	DR-9	198+77.0	LT	RES	GRAV/GRAV	*94°00′	24.1	3.9	11.1	25	25	433.6	43.7		56.1	8.8			19.3					2.7
24	DR-10	200+90.0	LT	RES	ASPH/GRAV	90°00′	22.0	0.0	16.6	25	25	529.4	0.0		58.2	10.2			24.6					3.3
24	DR-11	200+43.0	RT	RES	ASPH	*87°30′	24.0	0.0	18.6	25	25	540.3	0.0		60.7	10.5			25.2					3.3
24	DR-12	201+20.0	RT	RES	ASPH	90°00′	22.2	0.0	27.6	25	25	732.2	0.0		78.8	13.9			33.4					4.5
25	DR-13	103+78.0	RT	RES	ASPH/GRAV	90°00′	23.4	0.0	12.7	25	25	463.4	0.0		52.3	8.9			21.4					2.9
50	DR-14	#40+90.5	LT	RES	ASPH/GRAV	90°00′	22.3	10.0	8.1	25	25	472.2	100.1		52.9	11.0			22.1					2.9
51	DR-15	#46+09.0	LT	FIELD	DIRT	*79°30′	29.8		12.0	25	25	555.8	0.0		64.6	10.3			24.7					3.4
51	DR-16	#47+65.0	RT	RES	GRAV/GRAV	*90°00′	21.5	(SEE DETAIL SHEET 66)				433.7	2396.6		388.3	50.6			15.0					2.7
														1476.9	1686.7	171.9	49.4	25.8	382.3	75.6	86.0	8.8	12.3	39.7
TOTALS CARRIED TO GENERAL SUMMARY														1477	1687	172	49	26	382	76	86	9	12	40

CALCULATED RDW CHECKED PM

DRIVEWAY SUBSUMMARY

CR 206C STATIONING



TYPE I DRIVEWAY

PROPOSED DRIVEWAY AND APRON COMPOSITIONS

COMMERCIAL DRIVES

CONCRETE
ITEM 452 - 8" NON-REINFORCED CONCRETE PAVEMENT
~~ITEM 204 - SUBGRADE COMPACTION~~
ASPHALT
ITEM 448 - 1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE I, PG 64-22
ITEM 448 - 1¾" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG 64-22
ITEM 408 - PRIME COAT
ITEM 304 - 8" AGGREGATE BASE
~~ITEM 204 SUBGRADE COMPACTION~~
GRAVEL
ITEM 304 - 10" AGGREGATE BASE

RESIDENTIAL DRIVES

CONCRETE
ITEM 452 - 6" NON-REINFORCED CONCRETE PAVEMENT
~~ITEM 204 - SUBGRADE COMPACTION~~
ASPHALT
ITEM 448 - 2" ASPHALT CONCRETE SURFACE COURSE, TYPE I, PG 64-22
ITEM 408 - PRIME COAT
ITEM 304 - 6" AGGREGATE BASE
~~ITEM 204 - SUBGRADE COMPACTION~~
GRAVEL
ITEM 304 - 8" AGGREGATE BASE

FIELD DRIVES

GRAVEL
ITEM 304 - 6" AGGREGATE BASE

TRU-534-15.06

...\gsl00.dgn

CALCULATED MRK CHECKED FM

CALCULATIONS

ITEM 448 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG 64-22, t=1.25"

S.R. 534
STATION 80+65.52 TO STATION 81+15.52
(50.00) (29.89) (1.25) (1/12) (1/27) = 5.77 C.Y.

STATION 81+15.52 TO STATION 81+51.78
(36.26) ((29.89+32.00)/2) (1.25) (1/12) (1/27) = 4.33 C.Y.

STATION 81+51.78 TO STATION 82+61.78
(110.00) (32.00) (1.25) (1/12) (1/27) = 13.58 C.Y.

STATION 182+61.78 TO STATION 192+45.65
(983.87) (32.00) (1.25) (1/12) (1/27) = 121.47 C.Y.

INTERSECTION AREA STATION 191+25.00 = 50+00.00
(1.25) ((4,192.45) CADD AREA) (1/12) (1/27) = 16.17 C.Y.

STATION 194+17.03 TO STATION 202+63.99
(846.96) (32.00) (1.25) (1/12) (1/27) = 104.56 C.Y.

STATION 103+14.33 TO STATION 104+24.33
(110.00) (32.00) (1.25) (1/12) (1/27) = 13.58 C.Y.

STATION 104+24.33 TO STATION 104+40.20
(15.87) ((32.00+29.47)/2) (1.25) (1/12) (1/27) = 1.88 C.Y.

STATION 104+40.20 TO STATION 104+90.20
(50.00) (29.47) (1.25) (1/12) (1/27) = 5.68 C.Y.

STATION 125+62.66 TO STATION 126+12.66
(50.00) ((31.46+29.43)/2) (1.25) (1/12) (1/27) = 5.87 C.Y.

STATION 126+12.66 TO STATION 126+42.97
(30.31) ((29.43+32.00)/2) (1.25) (1/12) (1/27) = 3.59 C.Y.

STATION 126+75.00 BOX CULVERT FLARE AREAS
(182.38 CADD AREA) (1.25) (1/12) (1/27) = 0.70 C.Y.

STATION 126+42.97 TO STATION 127+06.97
(64.00) (32.00) (1.25) (1/12) (1/27) = 7.90 C.Y.

STATION 127+06.97 TO STATION 127+86.92
(79.95) ((32.00+29.28)/2) (1.25) (1/12) (1/27) = 9.45 C.Y.

STATION 127+86.92 TO STATION 128+36.92
(50.00) (29.28) (1.25) (1/12) (1/27) = 5.65 C.Y.

C.R. 206C
STATION 40+30.44 TO STATION 40+80.44
(50.00) ((24.34+26.34)/2) (1.25) (1/12) (1/27) = 4.89 C.Y.

STATION 40+80.44 TO STATION 42+76.24
(195.80) ((26.34+32.00)/2) (1.25) (1/12) (1/27) = 22.04 C.Y.

STATION 42+76.24 TO STATION 49+00.00
(623.76) (32.00) (1.25) (1/12) (1/27) = 77.01 C.Y.

TOTAL: 425 C.Y.

ITEM 448 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG 64-22, t=1.75"

(425) (1.75) (1/1.25) = 595.00 C.Y.

TOTAL: 595 C.Y.

ITEM 302 ASPHALT CONCRETE BASE, PG 64-22, t=6"

S.R. 534
STATION 80+65.52 TO STATION 81+15.52
(50.00) (30.56) (6) (1/12) (1/27) = 28.29 C.Y.

STATION 81+15.52 TO STATION 81+51.78
(36.26) ((30.56+32.67)/2) (6) (1/12) (1/27) = 21.23 C.Y.

STATION 81+51.78 TO STATION 82+61.78
(110.00) (32.67) (6) (1/12) (1/27) = 66.54 C.Y.

STATION 182+61.78 TO STATION 192+45.65
(983.87) (32.67) (6) (1/12) (1/27) = 595.18 C.Y.

INTERSECTION AREA STATION 191+25.00 = 50+00.00
(6) ((4,264.30) CADD AREA) (1/12) (1/27) = 78.97 C.Y.

STATION 194+17.03 TO STATION 202+63.99
(846.96) (32.67) (6) (1/12) (1/27) = 512.36 C.Y.

STATION 103+14.33 TO STATION 104+24.33
(110.00) (32.67) (6) (1/12) (1/27) = 66.54 C.Y.

STATION 104+24.33 TO STATION 104+40.20
(15.87) ((32.67+30.14)/2) (6) (1/12) (1/27) = 9.23 C.Y.

STATION 104+40.20 TO STATION 104+90.20
(50.00) (30.14) (6) (1/12) (1/27) = 27.90 C.Y.

STATION 125+62.66 TO STATION 126+12.66
(50.00) ((32.13+30.10)/2) (6) (1/12) (1/27) = 28.81 C.Y.

STATION 126+12.66 TO STATION 126+42.97
(30.31) ((30.10+32.67)/2) (6) (1/12) (1/27) = 17.61 C.Y.

STATION 126+75.00 BOX CULVERT FLARE AREAS
(182.38 CADD AREA) (6) (1/12) (1/27) = 3.38 C.Y.

STATION 126+42.97 TO STATION 127+06.97
(64.00) (32.67) (6) (1/12) (1/27) = 38.72 C.Y.

STATION 127+06.97 TO STATION 127+86.92
(79.95) ((32.67+29.95)/2) (6) (1/12) (1/27) = 46.35 C.Y.

STATION 127+86.92 TO STATION 128+36.92
(50.00) (29.95) (6) (1/12) (1/27) = 27.73 C.Y.

C.R. 206C
STATION 40+30.44 TO STATION 40+80.44
(50.00) ((25.01+27.01)/2) (6) (1/12) (1/27) = 24.08 C.Y.

STATION 40+80.44 TO STATION 42+76.24
(195.80) ((27.01+32.67)/2) (6) (1/12) (1/27) = 108.19 C.Y.

STATION 42+76.24 TO STATION 49+00.00
(623.76) (32.67) (6) (1/12) (1/27) = 377.34 C.Y.

TOTAL: 2079 C.Y.

ITEM 304 AGGREGATE BASE, t=6"

S.R. 534
STATION 80+65.52 TO STATION 81+15.52
(50.00) (31.56) (6) (1/12) (1/27) = 29.22 C.Y.

STATION 81+15.52 TO STATION 81+51.78
(36.26) ((31.56+33.67)/2) (6) (1/12) (1/27) = 21.90 C.Y.

STATION 81+51.78 TO STATION 82+61.78
(110.00) (33.67) (6) (1/12) (1/27) = 68.58 C.Y.

STATION 182+61.78 TO STATION 192+45.65
(983.87) (33.67) (6) (1/12) (1/27) = 613.40 C.Y.

STATION 192+45.65 TO STATION 192+65.65
(20)(37)(6)(1/12)(1/27) = 13.70 C.Y.

INTERSECTION AREA STATION 191+25.00 = 50+00.00
(6) ((4,371.50) CADD AREA) (1/12) (1/27) = 80.95 C.Y.

STATION 193+97.03 TO STATION 194+17.03
(20)(37)(6)(1/12)(1/27) = 13.70 C.Y.

STATION 194+17.03 TO STATION 202+63.99
(846.96) (33.67) (6) (1/12) (1/27) = 528.04 C.Y.

STATION 103+14.33 TO STATION 104+24.33
(110.00) (33.67) (6) (1/12) (1/27) = 68.58 C.Y.

STATION 104+24.33 TO STATION 104+40.20
(15.87) ((33.67+31.14)/2) (6) (1/12) (1/27) = 9.52 C.Y.

STATION 104+40.20 TO STATION 104+90.20
(50.00) (31.14) (6) (1/12) (1/27) = 28.83 C.Y.

STATION 125+62.66 TO STATION 126+12.66
(50.00) ((33.13+31.10)/2) (6) (1/12) (1/27) = 29.73 C.Y.

STATION 126+12.66 TO STATION 126+42.97
(30.31) ((31.10+33.67)/2) (6) (1/12) (1/27) = 18.18 C.Y.

STATION 126+75.00 BOX CULVERT FLARE AREAS
(182.38 CADD AREA) (6) (1/12) (1/27) = 3.38 C.Y.

STATION 126+42.97 TO STATION 127+06.97
(64.00) (33.67) (6) (1/12) (1/27) = 39.90 C.Y.

STATION 127+06.97 TO STATION 127+86.92
(79.95) ((32.67+30.95)/2) (6) (1/12) (1/27) = 47.09 C.Y.

STATION 127+86.92 TO STATION 128+36.92
(50.00) (30.95) (6) (1/12) (1/27) = 28.65 C.Y.

C.R. 206C
STATION 40+30.44 TO STATION 40+80.44
(50.00) ((26.01+28.01)/2) (6) (1/12) (1/27) = 25.01 C.Y.

STATION 40+80.44 TO STATION 42+76.24
(195.80) ((28.01+33.67)/2) (6) (1/12) (1/27) = 111.81 C.Y.

STATION 42+76.24 TO STATION 49+00.00
(623.76) (33.67) (6) (1/12) (1/27) = 388.89 C.Y.

TOTAL: 2169 C.Y.

TRU-534-15.06

CALCULATED MRK CHECKED PM

CALCULATIONS

ITEM 407 TACK COAT, 0.10 GAL/SY

USE: 302 ASPHALT CONCRETE BASE AREA
(2,079) (36/6) (0.10) = 1247.40 GAL.

TOTAL: 1248 GAL.

ITEM 407 TACK COAT FOR INTERMEDIATE COURSE, 0.075 GAL/SY

USE: 302 ASPHALT CONCRETE BASE AREA
(2,079) (36/6) (0.075) = 935.55 GAL.

TOTAL: 936 GAL.

ITEM 408 PRIME COAT, 0.40 GAL/SY

USE: 304 AGGREGATE BASE AREA
(2,142) (36/6) (0.40) = 5140.80 GAL.

TOTAL: 5141 GAL.

ITEM 204 SUBGRADE COMPACTION

S.R. 534
STATION 81+15.52 TO STATION 81+51.78
(36.26) ((34.56+36.67)/2) (1/9) = 143.48 S.Y.

STATION 81+51.78 TO STATION 82+61.78
(110.00) (36.67) (1/9) = 448.15 S.Y.

STATION 182+61.78 TO STATION 192+45.65
(983.87) (36.67) (1/9) = 4008.36 S.Y.

STATION 192+45.65 TO STATION 192+65.65
(20)(37)(1/9) = 82.22 S.Y.

INTERSECTION AREA STATION 191+25.00 - 50+00.00
((4,363.00) CADD AREA) (1/9) = 484.78 S.Y.

STATION 193+97.03 TO STATION 194+17.03
(20)(37)(1/9) = 82.22 S.Y.

STATION 194+17.03 TO STATION 202+63.99
(846.96) (36.67) (1/9) = 3450.58 S.Y.

STATION 103+14.33 TO STATION 104+24.33
(110.00) (36.67) (1/9) = 448.15 S.Y.

STATION 104+24.33 TO STATION 104+40.20
(15.87) ((36.67+34.14)/2) (1/9) = 62.42 S.Y.

STATION 126+12.66 TO STATION 126+42.97
(30.31) ((34.10+36.67)/2) (1/9) = 119.16 S.Y.

STATION 126+75.00 BOX CULVERT FLARE AREAS
(182.38 CADD AREA) (1.25) (1/12) (1/27) = 20.26 S.Y.

STATION 126+42.97 TO STATION 127+06.97
(64.00) (36.67) (1/9) = 260.74 S.Y.

STATION 127+06.97 TO STATION 127+86.92
(79.95) ((36.67+33.95)/2) (1/9) = 313.64 S.Y.

STATION 127+86.92 TO STATION 128+36.92
(50.00) (33.95) (1/9) = 188.59 S.Y.

C.R. 206C
STATION 40+80.44 TO STATION 42+76.24
(195.80) ((30.67+36.67)/2) (1/9) = 732.51 S.Y.

STATION 42+76.24 TO STATION 49+00.00
(623.76) (36.67) (1/9) = 2541.24 S.Y.

TOTAL: 13387 S.Y.

ITEM 606 GUARDRAIL, TYPE 5 WITH DOUBLE RAILS

STATION 190+69.90 TO STATION 190+95.38, LT
(25.0) - ACTUAL LENGTH = 25.00 L.F.

TOTAL: 25 L.F.

ITEM 606 GUARDRAIL, TYPE 5

STATION 190+95.38 TO STATION 192+59.43, LT
(164.05) = 164.05 L.F.

STATION 193+95.12 TO STATION 194+42.62, LT
(47.50) = 47.50 L.F.

STATION 189+12.50, RT TO STATION 48+15.25, LT CR 206C
(200) CADD MEASURED = 200.00 L.F.

STATION 47+65.00, DRIVE (RT) CR 206C TO STATION
192+70.09, RT (353.25) CADD MEASURED = 353.25 L.F.

STATION 46+16.50, (RT) TO STATION 47+65.00, DRIVE (RT)
CR 206C (150) CADD MEASURED = 150.00 L.F.

STATION 194+000.36 TO STATION 195+45.00, DRIVE RT
(134.75) CADD MEASURED = 134.75 L.F.

STATION 195+45.00 TO STATION 198+07.50, RT
(262.50) CADD MEASURED = 262.50 L.F.

STATION 126+03.13 TO STATION 127+65.63, LT
(162.50) = 162.50 L.F.

STATION 125+96.88 TO STATION 127+59.38, RT
(162.50) = 162.50 L.F.

TOTAL: 1637 L.F.

ITEM 659 SOIL ANALYSIS TEST, 1 PER 10000 C.Y. TOP SOIL

USE: 659 TOP SOIL VOLUME
(2,002) / (10000) = 0.20 EACH

TOTAL: 2 EACH

ITEM 659 TOPSOIL, IIICY PER 1000 SY

USE: 659 SEEDING AND MULCHING AREA
(18,031) (111) / (1000) = 2001.44 C.Y.

TOTAL: 2002 C.Y.

ITEM 659 REPAIR SEEDING AND MULCHING, 5% OF PERMANENT SEEDING AREA

USE: 659 SEEDING AND MULCHING AREA
(18,031) (5%) = 901.55 S.Y.

TOTAL: 902 S.Y.

ITEM 659 INTER-SEEDING, 5% OF PERMANENT SEEDING AREA

USE: 659 SEEDING AND MULCHING AREA
(18,031) (5%) = 901.55 S.Y.

TOTAL: 902 S.Y.

ITEM 659 COMMERCIAL FERTILIZER, 1 TON PER 7410 S.Y. & 20LB PER 1000 S.F.

USE: 659 SEEDING AND MULCHING AREA
(18,031) / (7410) = 2.43 TON

USE: 659 INTER-SEEDING AREA
(5,556) (9) (20) / (1000) / (2000) = 0.08 TON

TOTAL: 2.51 TON

ITEM 659 LIME

USE: 659 SEEDING AND MULCHING AREA
(18,031) / (4840) = 3.73 ACRE

USE: 659 INTER-SEEDING AREA
(902) / (4840) = 0.19 ACRE

TOTAL: 3.92 ACRE

ITEM 659 WATER, 0.0027 MGAL PER S.Y.

USE: 659 SEEDING AND MULCHING AREA
(18,031) (0.0027) (2 APPLICATIONS) = 97.37 MGAL

USE: 659 INTER-SEEDING AREA
(902) (0.0027) = 2.44 MGAL

TOTAL: 100 MGAL

ITEM 659 MOWING, 25% OF PERMANENT SEEDING AREA

USE: 659 SEEDING AND MULCHING AREA
(18,031) (9) (25%) / (1000) = 40.57 MSF

TOTAL: 41 MSF

TRU-534-15.06

17A
112

~~ITEM 408 PRIME COAT (0.40 GAL. PER S.Y.)~~

~~AREA OF 302, 6" ASPHALTIC CONCRETE BASE = 8993.40 S.Y.~~
~~8993.40 X 0.40 = 3597.36~~

~~TOTAL ITEM 408 = 3597.36 GAL.~~
~~USE: 3597 GAL.~~

ITEM 254 PAVEMENT PLANING, ASPHALT CONCRETE

S.R. 534

STA. 80+65.52 TO STA. 81+15.52 = 50 FT.
23.89 X 50 X 1/9 = 132.72 S.Y.

STA. 104+40.20 TO STA. 104+90.20 = 50 FT.
23.47 X 50 X 1/9 = 130.39 S.Y.

STA. 125+62.66 TO STA. 126+12.66 = 50 FT.
23.43 X 50 X 1/9 = 130.17 S.Y.

STA. 127+86.92 TO STA. 128+36.92 = 50 FT.
23.28 X 50 X 1/9 = 129.33 S.Y.

C.R. 206C

STA. 40+30.44 TO STA. 40+80.44 = 50 FT.
18.34 X 50 X 1/9 = 101.89 S.Y.

TOTAL ITEM 254 = 624.50 S.Y.
USE: 625 S.Y.

~~ITEM 422 SINGLE CHIP SEAL W/POLYMER BINDER~~

~~AREA OF SHOULDER FROM ITEM 304.~~

~~3 FT. SHOULDER EACH SIDE~~
~~6 X 250 X 1/9 =166.67 S.Y.~~
~~VARIES FROM 3' TO 4' SHOULDERS EACH SIDE~~
~~7 X 358.19 X 1/9 = 278.59 S.Y.~~
~~4 FT. SHOULDERS EACH SIDE~~
~~8 X 2782.70 X 1/9 = 2473.51 S.Y.~~
~~LESS DRIVE APRONS AND BOX CULVERT OF 3944 X 1/9 = 438.22 S.Y.~~

~~TOTAL ITEM 422 = 2480.55 S.Y.~~
~~USE: 2481 S.Y.~~

~~ITEM 204 SUBGRADE COMPACTION~~

~~AREA OF PAVEMENT LESS AREA OF PAVEMENT PLANING~~
~~9318.99 S.Y. - 624.50 S.Y. = 8694.49 S.Y.~~

~~AREA OF SHOULDER LESS AREA OF DRIVES IN SHOULDER~~
~~AND FLARES AT BOX CULVERT~~
~~2918.77 S.Y. - 438.22 S.Y. = 2481.55 S.Y.~~

~~AREA OF 18" OUTSIDE OF SHOULDERS~~
~~3390.89 X 1.5 X 2 X 1/9 = 1130.30 S.Y.~~
~~1130.30 S.Y. - 156.83 S.Y. DRIVES = 973.47 S.Y.~~
~~8694.49 S.Y. + 2481.55 S.Y. + 973.47 S.Y.~~

~~TOTAL ITEM 204 = 12149.51 S.Y.~~
~~USE: 12150 S.Y.~~

ITEM 202 - GUARDRAIL REMOVED

STA. 192+37 (RT.) TO STA. 192+28 (RT.)	120.0 FT.
STA. 192+54 (RT.) TO STA. 193+20 (RT.)	72.0 FT.
STA. 193+78 (RT.) TO STA. 194+92 (LT.)	120.0 FT.
STA. 193+86 (RT.) TO STA. 194+98 (RT.)	120.0 FT.
STA. 195+86 (LT.) TO STA. 198+63 (LT.)	275.0 FT.
STA. 196+34 (LT.) TO STA. 198+42 (LT.)	208.0 FT.
STA. 125+50 (LT.) TO STA. 127+65 (LT.)	215.0 FT.
STA. 125+57 (RT.) TO STA. 127+73 (RT.)	216.0 FT.
TOTAL ITEM 202 =	1346.0 FT.

ITEM 202 - STEPS REMOVED

STA. 202+15.5 (RT.) TOTAL ITEM 202 = LUMP SUM

ITEM 202 - WALK REMOVED

STA. 202+15.5 TO STA. 202+22.5 (RT.)
4 X 8 32 S.F.
3 X 15 45 S.F.

TOTAL ITEM 202 = 77 S.F.

ITEM 202 - FENCE REMOVED

STA. 193+54 TO STA. 199+50 (RT.)	635.0 FT.
STA. 125+41 TO STA. 127+49 (LT.)	211.0 FT.
STA. 192+88 TO STA. 193+12 (LT.)	30.0 FT.
STA. 42+40 TO STA. 44+69 (LT.)	246.0 FT.
TOTAL ITEM 202 =	1122.0 FT.

ITEM 608 - CONCRETE STEPS

STA. 202+18.5 (RT.) TOTAL ITEM 608 = 3 FT.

ITEM 608 - 4" CONCRETE WALK

STA. 202+15.5 TO STA. 202+22.5 (RT.)
3 X 25 TOTAL ITEM 608 = 75 S.F.

~~ITEM 606 - GUARDRAIL TYPE 5~~

~~STA. 190+74.72 TO STA. 192+55.97 (LT.)~~	~~181.25 FT.~~
~~STA. 193+98.87 TO STA. 194+42.62 (LT.)~~	~~43.75 FT.~~
~~STA. 189+12.50 (RT.) TO STA. 48+15.25 (LT.) CR206C (CADD MEASURED)~~	~~200.00 FT.~~
~~STA. 47+65 DRIVE (RT.) CR206C TO STA. 192+66.80 (RT.) (CADD MEASURED)~~	~~350.00 FT.~~
~~STA. 46+16.50 (RT.) TO STA. 47+65 DRIVE (RT.) CR 206C (CADD MEASURED)~~	~~150.00 FT.~~
~~STA. 194+03.91 TO STA. 195+45 DRIVE (RT.) (CADD MEASURED)~~	~~131.25 FT.~~
~~STA. 195+45 DRIVE (RT.) TO STA. 198+07.50 (RT.) (CADD MEASURED)~~	~~262.50 FT.~~
~~STA. 126+03.13 TO STA. 127+65.63 (LT.)~~	~~162.50 FT.~~
~~STA. 125+96.88 TO STA. 127+59.38 (RT.)~~	~~162.50 FT.~~
~~TOTAL ITEM 606 =~~	~~1643.75 FT.~~

ITEM 606 - BRIDGE TERMINAL ASSEMBLY, TYPE TST

FOR THE FOUR CORNERS OF BRIDGE #TRU-534-1516 4 EACH

TOTAL ITEM 606 = 4 EACH

ITEM 606 - ANCHOR ASSEMBLY, TYPE E-98

STA. 190+24.72 TO STA. 190+74.72 (LT.)	1 EACH
STA. 194+42.62 TO STA. 194+92.62 (LT.)	1 EACH
STA. 189+62.50 TO STA. 190+12.50 (RT.)	1 EACH
STA. 198+07.50 TO STA. 198+57.50 (RT.)	1 EACH
STA. 125+53.13 TO STA. 126+03.13 (LT.)	1 EACH
STA. 127+65.63 TO STA. 128+15.63 (LT.)	1 EACH
STA. 125+46.88 TO STA. 125+96.88 (RT.)	1 EACH
STA. 127+59.38 TO STA. 128+09.38 (RT.)	1 EACH
STA. 47+65.25 TO STA. 48+15.25 (LT.) C.R. 206C	1 EACH
STA. 45+66.50 TO STA. 46+16.50 (RT.) C.R. 206C	1 EACH
TOTAL ITEM 606 =	10 EACH

ITEM 606 - ANCHOR ASSEMBLY, TYPE T

STA. 195+45.00 (DRIVE RT.)	2 EACH
STA. 47+65.00 (DRIVE RT.) C.R. 206C	2 EACH
TOTAL ITEM 606 =	4 EACH

ITEM 605 AGGREGATE DRAINS

S. R. 534

STA. 81+50 LT.	9 FT.
STA. 82+00 LT.	12 FT.
SUBTOTAL	21 FT.

C.R. 206C

STA. 40+50 LT.	11 FT.	STA. 45+00 LT.	10 FT.
STA. 40+75 RT.	13 FT.	STA. 45+25 LT.	10 FT.
STA. 41+00 LT.	11 FT.	STA. 45+50 LT.	10 FT.
STA. 41+25 RT.	12 FT.	STA. 45+75 LT.	10 FT.
STA. 41+50 LT.	11 FT.	STA. 46+00 LT.	11 FT.
STA. 41+75 RT.	12 FT.	STA. 46+25 LT.	11 FT.
STA. 42+00 LT.	10 FT.	STA. 46+50 LT.	11 FT.
STA. 42+25 RT.	12 FT.	STA. 46+75 LT.	11 FT.
STA. 42+50 LT.	10 FT.	STA. 47+00 LT.	11 FT.
STA. 42+75 RT.	14 FT.	STA. 47+25 LT.	11 FT.
STA. 43+00 LT.	10 FT.	STA. 47+50 LT.	11 FT.
STA. 43+25 LT.	10 FT.	STA. 47+75 LT.	11 FT.
STA. 43+50 LT.	10 FT.	STA. 48+00 LT.	11 FT.
STA. 43+75 LT.	10 FT.	STA. 48+25 LT.	11 FT.
STA. 44+00 LT.	10 FT.	STA. 48+50 LT.	11 FT.
STA. 44+25 LT.	10 FT.	STA. 48+75 LT.	11 FT.
STA. 44+50 LT.	10 FT.	STA. 49+00 LT.	11 FT.
STA. 44+75 LT.	10 FT.	STA. 49+25 LT.	11 FT.
SUBTOTAL	196 FT.	SUBTOTAL	194 FT.

TOTAL ITEM 605 = 411 FT.

ITEM 604 - MONUMENT ASSEMBLY

STA. 80+00.00	℄ CONST.	1 EACH
STA. 82+61.68 (BK.) = STA. 182+61.78 (AH.)	℄ CONST.	1 EACH
STA. 186+66.27	℄ CONST.	1 EACH
STA. 187+94.40, 0.29' RT.	℄ CONST.	1 EACH
STA. 189+34.40	℄ CONST.	1 EACH
STA. 194+72.29	℄ CONST.	1 EACH
STA. 196+12.29, 0.29' RT.	℄ CONST.	1 EACH
STA. 197+40.39	℄ CONST.	1 EACH
STA. 202+63.99 (BK.) = STA. 103+14.33 (AH.)	℄ CONST.	1 EACH
STA. 115+21.99	℄ CONST.	1 EACH
STA. 124+59.87 (BK.) = STA. 124+58.50 (AH.)	℄ CONST.	1 EACH
STA. 135+00.00	℄ CONST.	1 EACH

TOTAL ITEM 604 = 12 EACH

CALCULATED MRK
CHECKED FM

CALCULATIONS

TRU-534-15.06

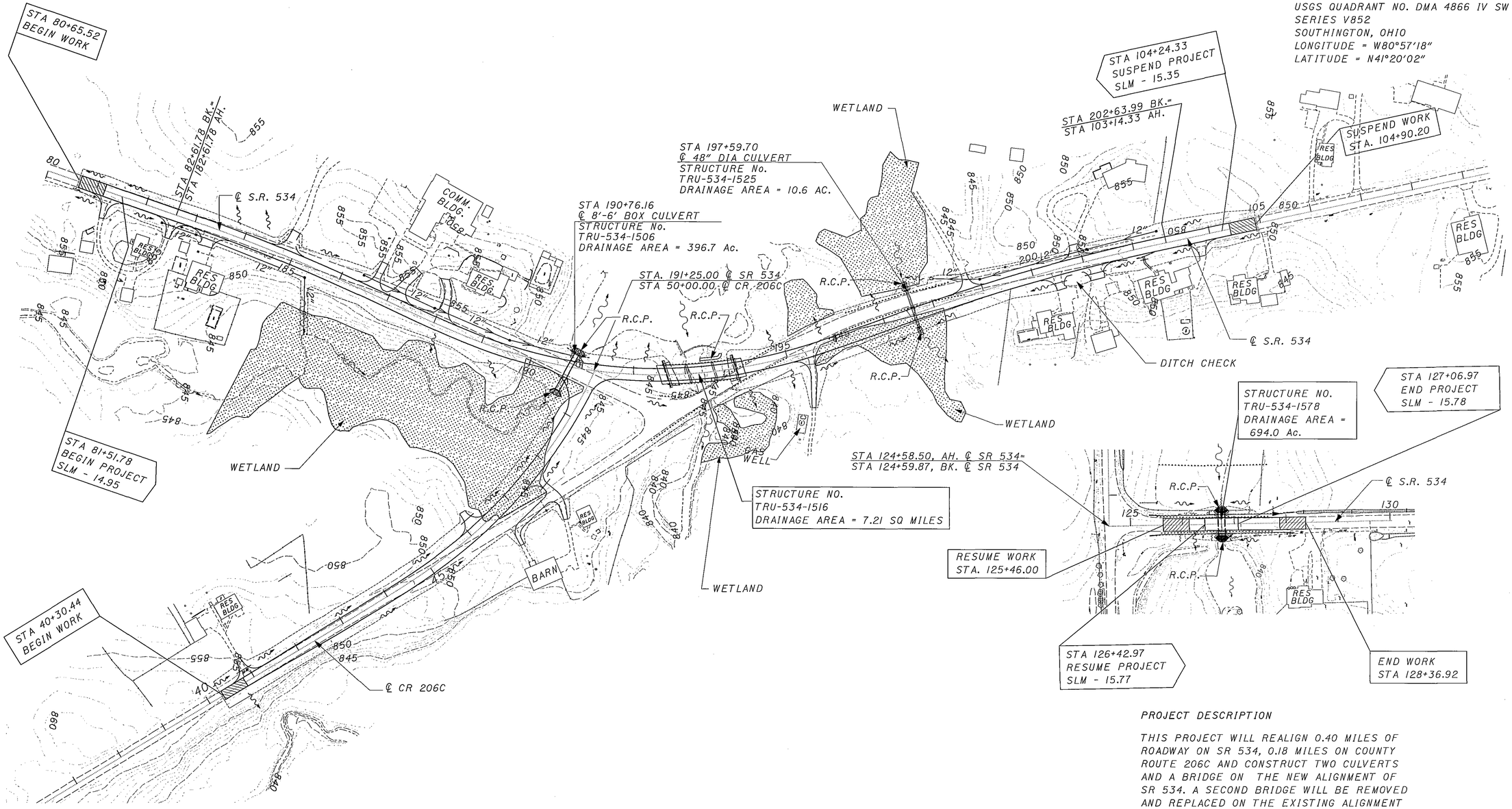
...\gc102.dgn

SHEET NO.	STATION FROM	STATION TO	203 EXCAVATION	203 EMBANKMENT	203 GRANULAR MATERIAL, TYPE B	204 GRANULAR MATERIAL, TYPE B	204 GEOTEXTILE FABRIC, TYPE D	659 SEEDING AND MULCHING
	FROM	TO	CU YD	CU YD	CU YD	CU YD	SQ YD	SQ YD
	SR 534							
27	80+50.00	81+15.52	24		—	8	—	64
28	81+51.87	82+50.00	684		515	43	504	386
29	183+00.00	184+00.00	695		579	79	567	442
30	184+50.00	185+50.00	803		579	31	567	389
31	186+00.00	187+00.00	1220		579	6	657	722
32	187+50.00	188+50.00	1700		579	0	567	969
33	189+00.00	190+00.00	1337		579	75	634	736
34	190+50.00	191+50.00	684		424	791	784	633
35	192+00.00	192+45.65	294		—	803	—	903
36	192+65.65	193+50.00	922		—	405	—	1251
37	193+97.03	194+50.00	530		—	944	122	513
38	195+00.00	196+00.00	151		—	1240	—	975
39	196+50.00	197+00.00	1283		—	1986	646	633
40	197+50.00	198+50.00	1571		—	2352	906	831
41	199+00.00	200+00.00	476		390	96	567	531
42	200+50.00	201+50.00	698		390	18	567	564
43	202+00.00	103+50.00	905		390	18	566	712
44	104+00.00	104+40.20	430		193	61	281	451
45	104+90.20	105+00.00	48		—	29	—	194
46	125+50.00	126+42.97	234		141	11	140	147
47	126+68.00	127+06.97	286		118	151	114	93
48	127+50.00	128+50.00	891		—	750	439	243
	CR 206C							
52	40+00.00	40+80.20	76		—	7	—	183
53	41+00.00	42+00.00	563		393	19	382	362
54	42+50.00	43+00.00	568		374	7	366	264
55	43+50.00	44+50.00	737		579	47	567	440
56	45+00.00	46+00.00	550		578	142	567	547
57	46+50.00	47+00.00	600		193	904	562	555
58	47+25.00	47+50.00	376		—	751	312	449
59	47+75.00	48+50.00	893		—	1709	768	1132
60	49+00.00	49+50.00	948		—	2192	800	1717
SUBTOTAL			**21,177**		**7,573**	**15,675**	**12,952**	**18,031**
GRAND TOTALS CARRIED TO GENERAL SUMMARY			**21,177**		**7,573**	**15,675**	**12,952**	**18,031**

CALCULATED RDW CHECKED PM

CALCULATIONS

TRU-534-15.06



USGS QUADRANT NO. DMA 4866 IV SW
SERIES V852
SOUTHINGTON, OHIO
LONGITUDE = W80°57'18"
LATITUDE = N41°20'02"

PROJECT DATA

TOTAL AREA (RIGHT OF WAY)	6.87 Ac	SOIL DATA	U.S. DEPT OF AGRICULTURE SOIL SURVEY OF TRUMBULL COUNTY OHIO
PROJECT EARTH DISTURBED AREA	6.58 Ac	CONTRACTOR EARTH DISTURBED AREA	3.66 AC.
RUNOFF COEFFICIENT FOR PRE-CONSTRUCTION SITE	0.60	NOTICE OF INTENT EARTH DISTURBED AREA	10.24 AC.
RUNOFF COEFFICIENT FOR POST CONSTRUCTION SITE	0.65	IMPERVIOUS AREA FOR PRE-CONSTRUCTION	2.67 AC.
SOIL AND WATER CONSERVATION MAPS	36, 37	IMPERVIOUS AREA FOR POST CONSTRUCTION	1.97 AC.
IMMEDIATE RECIEVING WATERS	DEAD BRANCH CREEK		
SUBSEQUENT RECIEVING WATERS	GRAND RIVER		

PROJECT DESCRIPTION

THIS PROJECT WILL REALIGN 0.40 MILES OF ROADWAY ON SR 534, 0.18 MILES ON COUNTY ROUTE 206C AND CONSTRUCT TWO CULVERTS AND A BRIDGE ON THE NEW ALIGNMENT OF SR 534. A SECOND BRIDGE WILL BE REMOVED AND REPLACED ON THE EXISTING ALIGNMENT OF SR 534. 0.01 MILES OF ROADWAY WILL BE RECONSTRUCTED TO ACCOMMODATE THE NEW BRIDGE. THE OVERALL PROJECT LENGTH IS 0.59 MILES.

NOTES:
1. ALL STORM SEWER PIPES ARE 12" UNLESS OTHERWISE NOTED.
2. FOR LOCATION OF CATCH BASINS, SEE PLAN SHEET.

LEGEND
- EXISTING CATCH BASIN
- EXISTING STORM SEWER
- PROPOSED CATCH BASIN
- PROPOSED STORM SEWER
- WETLAND

N

0 50 100 200 HORIZONTAL SCALE IN FEET

CALCULATED P.M. CHECKED S.K.S.

PROJECT SITE PLAN

TRU-534-15.06

19A
112

...\PSP.dgn

BENCHMARK

SOUTH EAST CORNER BOTTOM CONCRETE STEP
FRONT ENTRANCE HOUSE NO. 4211 SR 534
STA 188+50 LT

ELEV - 857.73

NOTE:
FOR DRAINAGE QUANTITIES
SEE SHEET 14.
FOR DRIVE PROFILES
SEE SHEET 61.

STA 80+65.52
BEGIN BITUMINOUS
PLANING

STA 80+65.52
BEGIN WORK

STA 81+15.52,
BEGIN TAPERS
12.55' LT & 11.34' RT
END BITUMINOUS
PLANING

STA 81+51.78,
END TAPERS
12.00' LT&RT

(1)
P.I. Sta = 184+64.21
D = 6° 00' 00" (RT)
Dc = 1° 29' 00"
R = 3,862.64'
T = 202.43'
L = 404.49'
E = 5.30'

STA 82+61.78, BK.
PC STA 182+61.78, AH.
℄ CONSTRUCTION

DENSE TREES

DENSE BRUSH

CONST. LIMITS

℄ CONST SR 534

N10°01'30"E

MATCH LINE STA. 183+00 SR 534

SR 534
605 AGGREGATE
DRAINS LOCATIONS
STA. 81+50 LT.
STA. 82+00 LT.

STA 81+51.78
BEGIN PROJECT
SLM - 14.95
TE 21-G020(649)

21.9'± GRAVEL DR
W/ ASPHALT APRON
(RES.)

+58.5, 8'± GRAVEL DRIVE
W/ ASPHALT APRON
(RES.)

STA 82+78.67,
18.66' RT
EX CB (TO BE
REMOVED)
T/G 853.14
℄ 8" 852.14

300' VC
PVI STA 183+95.00
ELEV 854.71
K- 220.55
SSD - 638.52

PVC STA
82+45.00
ELEV 853.99

EX 8"
(TO BE
REMOVED)

+0.48 %

℄ 6" UD, RT
850.62

6" UD

℄ 6" UD, RT
850.86

60 FT @ 1.00%,
12" CONDUIT,
TYPE C

STA 82+40
23.0' RT
PROP CB 2-2B
T/G 852.00
℄ 12" 849.50
℄ 6" 850.00

STA 80+65.52
MEET EXISTING
ELEV 853.13

STA 80+65
PLUG & FILL
EX. 12" (S)

EX 12"

℄ 6" UD, RT
850.70

STA 81+00.74,
17.75' RT
EX CB (TO BE REMOVED)
T/G 852.75
℄ 12" 851.44

EX 12"
(TO BE
REMOVED)

STA 81+34.49,
18.00' RT
℄ EX. 12" 851.62

853.18 853.30 853.42 853.54 853.66 853.77 853.89 854.01 854.11 854.19

852.77 852.95 853.02 853.22 853.61 853.80 853.79

80+00 81+00 82+00 183+00

...\gpl100.dgn

HORIZONTAL
SCALE IN FEET
0 20 40

CALCULATED PW
CHECKED SKS

PLAN AND PROFILE
STA. 80+00 TO STA. 183+00 SR 534

TRU-534-15.06

20
112

BENCHMARK

SOUTH EAST CORNER BOTTOM CONCRETE STEP
FRONT ENTRANCE HOUSE NO. 4211 SR 534
STA 188+50 LT

ELEV - 857.73

(1)
P.I. Sta = 184+64.21
D = 6° 00′ 00″ (RT)
Dc = 1° 29′ 00″
R = 3,862.64′
T = 202.43′
L = 404.49′
E = 5.30′

(2)
P.I. Sta = 192+24.46
D = 44° 52′ 25″ (LT)
Dc = 6° 00′ 00″
R = 954.93′
Ls = 210.00′
Theta = 6° 18′ 00″
LT = 140.09′
ST = 70.08′
x = 209.75′
y = 7.69′
k = 104.96′
p = 1.92′
Dc = 32° 16′ 25″ (LT)
Lc = 537.89′
Ts = 500.06′
Es = 80.29′

MATCH LINE STA. 183+00 SR 534

MATCH LINE STA. 187+50 SR 534

+83, 16′±GRAVE DRIVE W/ ASPHALT APRON (COMM)

+63, 12′±CONCRETE DRIV W/ ASPHALT APRON (COMM)

+01, 15′±CONCRETE DRIVE W/ ASPHALT APRON (COMM)

TS STA 187+24.40 ℄ CONSTRUCTION

FT STA 186+66.27 ℄ CONSTRUCTION

CONC WELL

GRAVEL

CONC

ASPH

R/W

CONST. LIMITS

EX 10″

℄ EX R/W SR 534

℄ CONST SR 534

96° LOC. TAN

88°30′ LOC. TAN

87°30′

68°30′

N16°01′30″E

EX 8″

EX 4″ GAS
(TO BE RELOCATED
BY OTHERS)

#46AC24

#46AC23

#134

NO

GARDEN

+35, ASPHALT DRIVE (RES.)

WETLAND 5
TO BE AVOIDED

EX STREAM

WETLAND

NOTE:
FOR DRAINAGE QUANTITIES
SEE SHEET 14.
FOR DRIVE PROFILES
SEE SHEET 61-62.

854.19 854.23 854.24 854.23 854.19 854.12 854.02 853.89 853.74 853.56 853.34 853.12 852.90 852.68 852.46 852.24 852.02 851.80 851.58

300′ VC
PVI STA 183+95.00, ELEV 854.71
K- 220.55, SSD - 638.52

STA 183+10
23.0′ RT
PROP CB 2-2B
T/G 852.00
℄ 12″ 848.80
℄ 6″ 849.80

+0.48 %

-0.88 %

EX 8″ (TO BE REMOVED)

6″ UD

℄ 6″ UD, RT
850.89

10 FT @ 1.00%,
12″ CONDUIT,
TYPE C

STA 184+62.32,
23.46′ LT
℄ 10″ 851.82

STA 184+64.24,
13.12′ RT
℄ 8″ 851.91

EX 10″ (TO BE REMOVED)

225 FT @ 1.00%, 12″ CONDUIT, TYPE C

℄ 6″ UD, RT
850.00

PVT STA 185+45.00
ELEV 853.39

STA 185+29.51,
27.88′ LT
℄ 10″ 852.41

STA 185+37
24.0′ RT
PROP CB 2-3
T/G 851.00
℄ 12″ 846.55
℄ 6″ 849.00

60 FT @ 1.06%,
12″ CONDUIT,
TYPE C

STA 185+59
79′ RT
PROP HW 2.2
℄ 12″ 845.91

STA 186+40
26.5′ LT
PROP CB 2-2B
T/G 850.00
℄ 12″ 847.50
℄ 6″ 848.00

℄ 6″ UD, RT
848.54

℄ 6″ UD, LT&RT
848.88

-0.88 %

110 FT @ 0.66%, 12″ CONDUIT, TYPE B

℄ 6″ UD, LT
848.54

865 860 855 850 845 840 835 830

853.79 853.69 853.68 853.72 854.08 854.18 854.00 853.18 853.49 853.00

183+00 184+00 185+00 186+00 187+00

HORIZONTAL SCALE IN FEET
0 20 40

CALCULATED PM
CHECKED SKS

PLAN AND PROFILE
STA. 183+00 TO STA. 187+50 SR 534

TRU-534-15.06

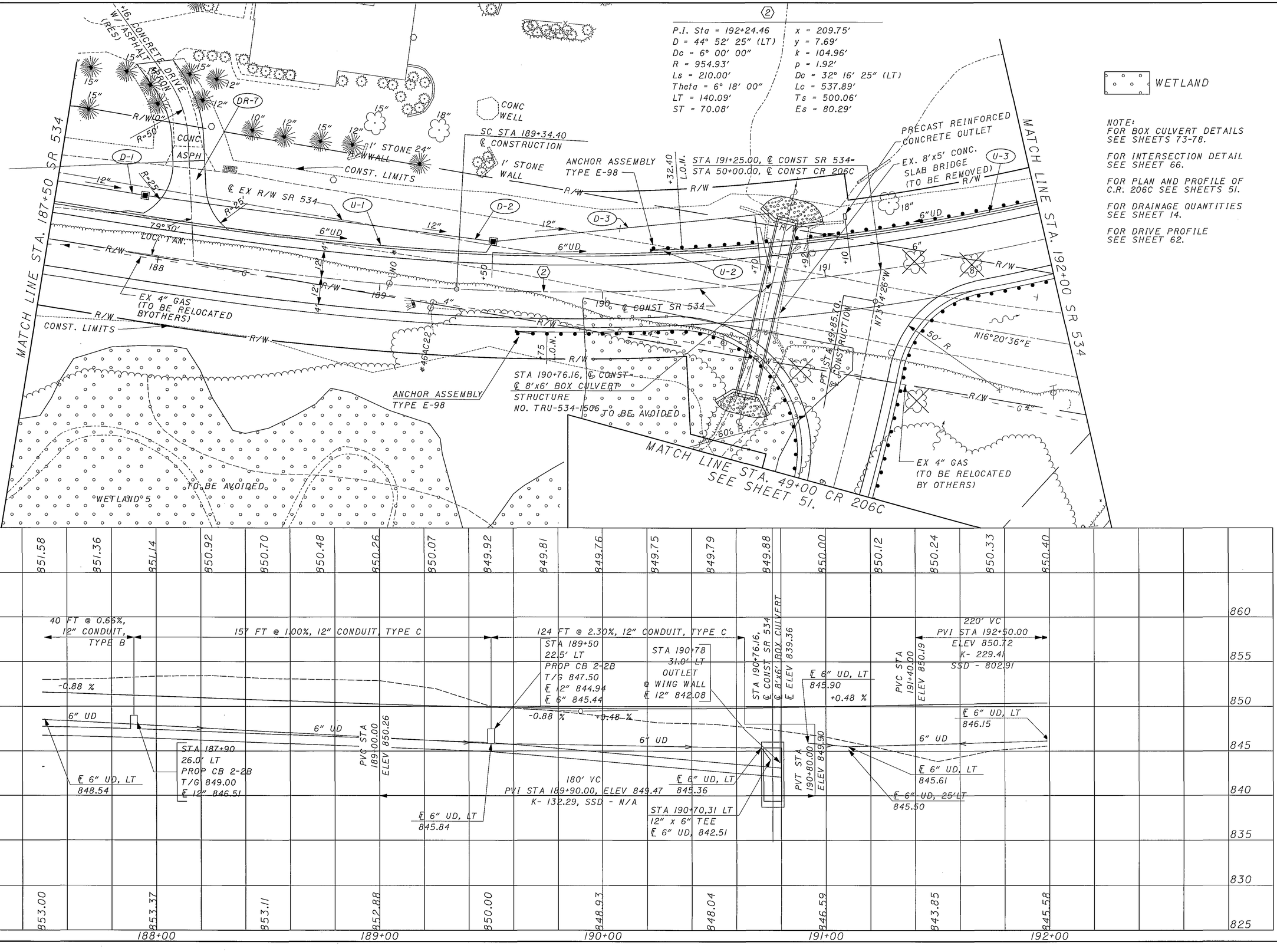
21
112

...\gp101.dgn

BENCHMARK

SOUTH EAST CORNER BOTTOM CONCRETE STEP
FRONT ENTRANCE HOUSE NO. 4211 SR 534
STA 188+50 LT

ELEV - 857.73



PLAN AND PROFILE
STA. 187+50 TO STA. 192+00 SR 534

TRU-534-15.06

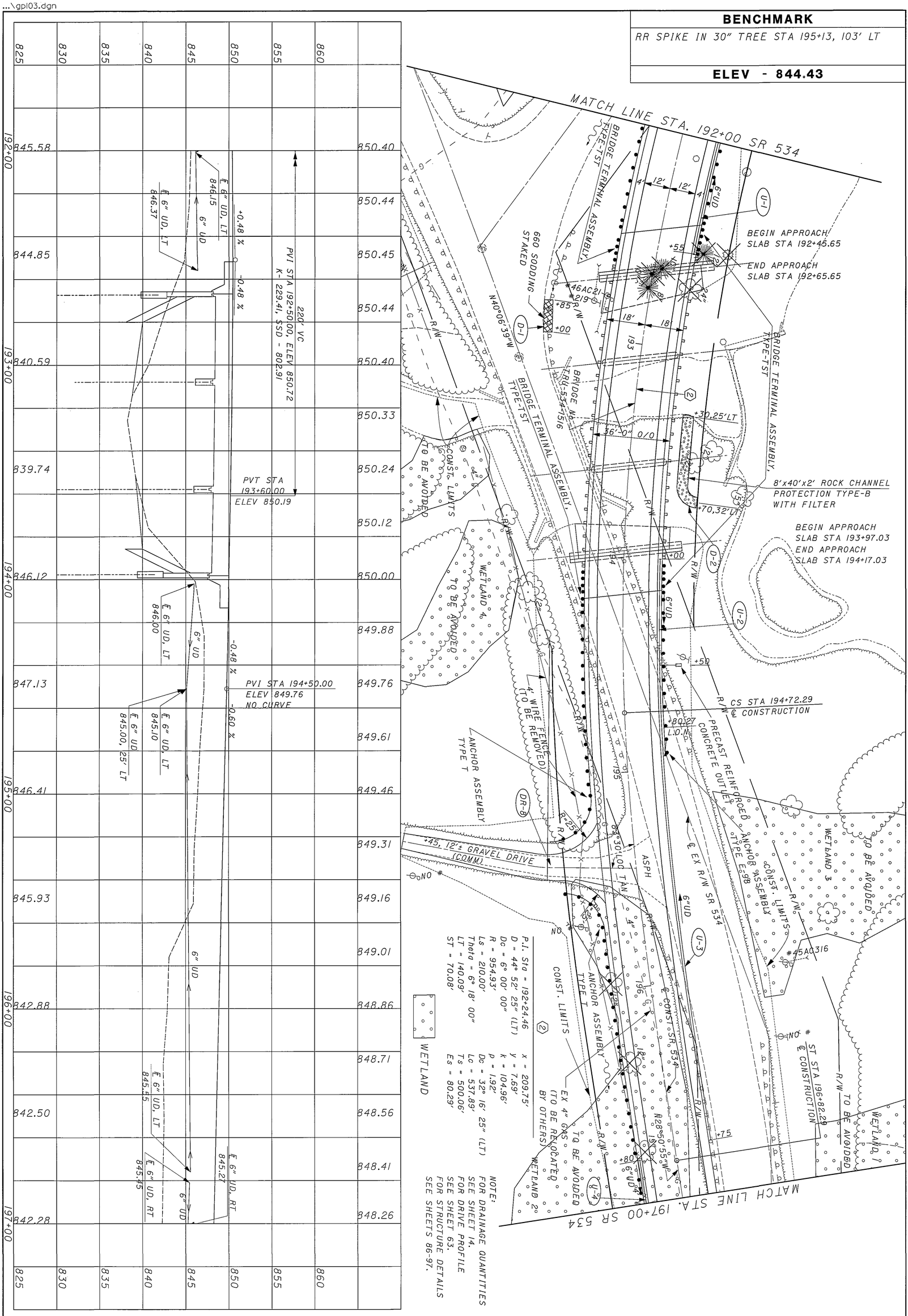
...\gpl02.dgn

...\gpl03.dgn

BENCHMARK

RR SPIKE IN 30" TREE STA 195+13, 103' LT

ELEV - 844.43

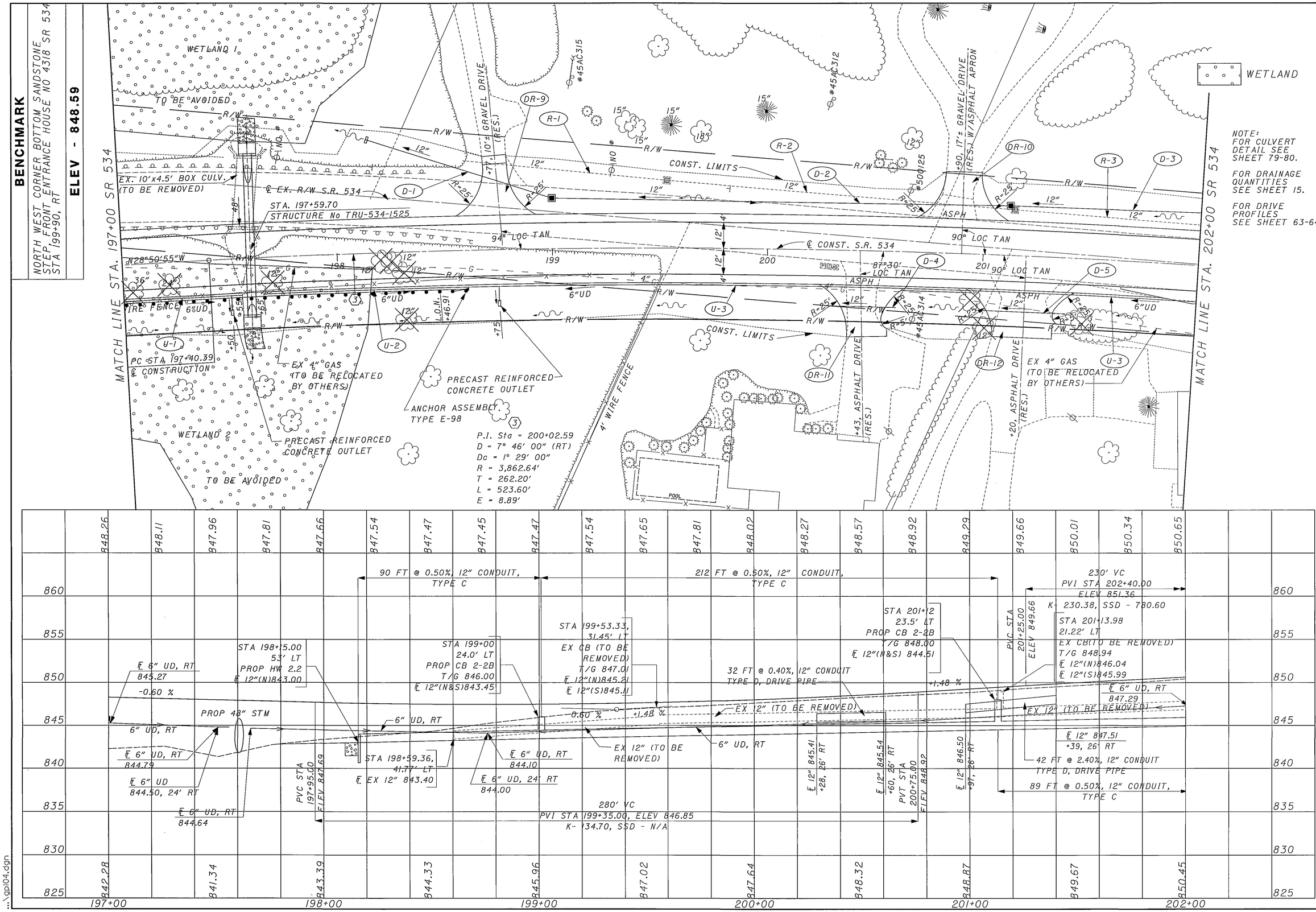


23 / 115	TRU-534-15.06	**PLAN AND PROFILE** STA. 192+00 TO STA. 197+00 SR 534	CALCULATED PM / CHECKED SKS	HORIZONTAL SCALE IN FEET

BENCHMARK

NORTH WEST CORNER BOTTOM SANDSTONE STEP, FRONT ENTRANCE HOUSE NO 4318 SR 534 STA 199+90, RT

ELEV - 848.59



HORIZONTAL SCALE IN FEET

CALCULATED PM

CHECKED SKS

PLAN AND PROFILE
STA. 197+00 TO STA. 202+00 SR 534

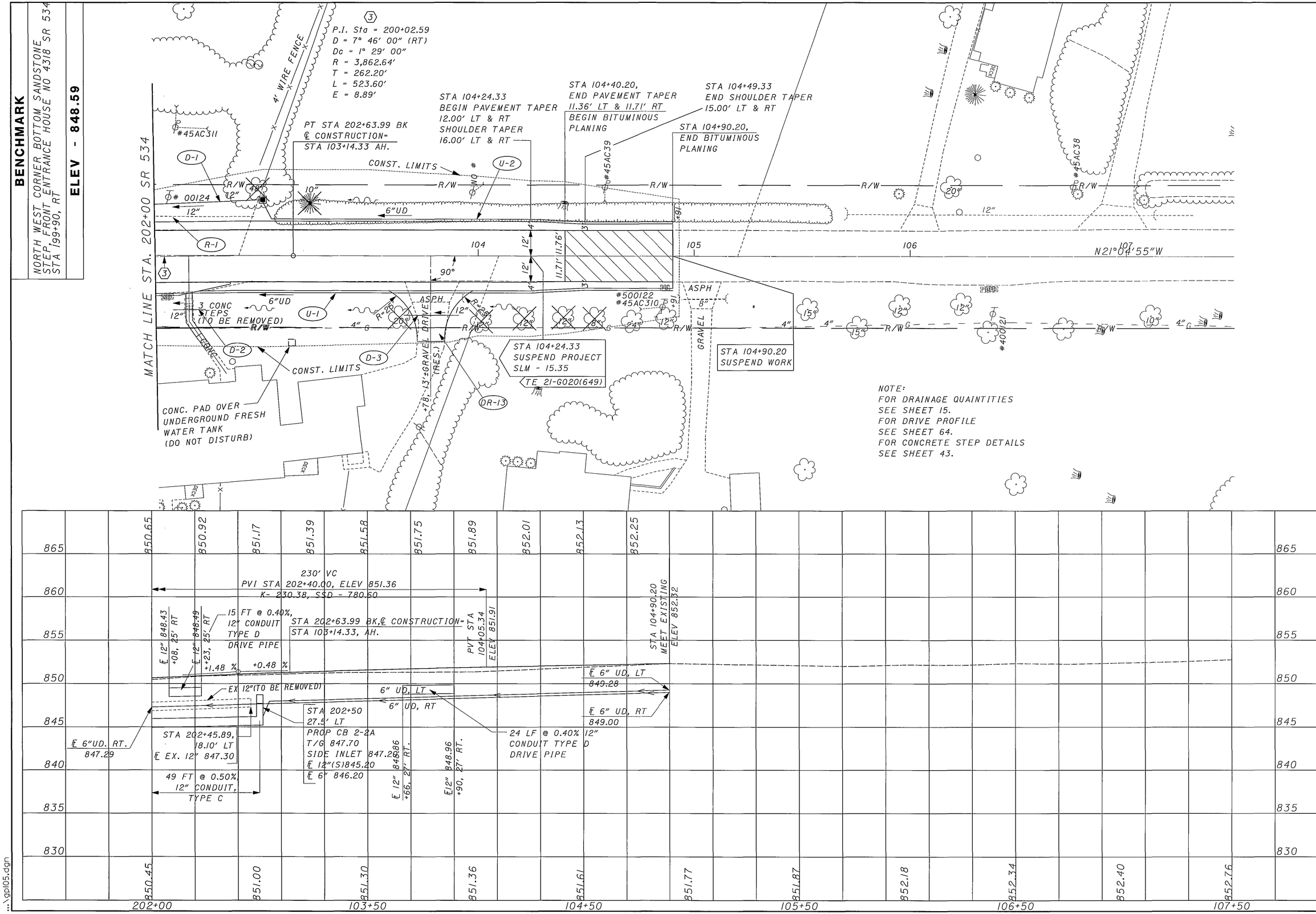
TRU-534-15.06

...\gpl04.dgn

BENCHMARK

NORTH WEST CORNER BOTTOM SANDSTONE STEP, FRONT ENTRANCE HOUSE NO 4318 SR 534 STA 199+90, RT

ELEV - 848.59



HORIZONTAL SCALE IN FEET

CALCULATED PM

CHECKED SKS

PLAN AND PROFILE
STA. 202+00 TO STA. 104+90.20 SR 534

TRU-534-15.06

...\gpl05.dgn

BENCHMARK

CENTER OF CASTING, INLET 25' NORTH OF DRIVE TO HOUSE NO 4498 SR 534
STA 128+72, 19' RT

ELEV - 843.82

NOTE:
FOR 12' x 6' BOX CULVERT DETAILS SEE SHEETS 81-85.

FOR DRAINAGE QUANTITIES SEE SHEET 15.

STA 124+58.50, AH. ℄ SR 534=
STA 124+59.87, BK. ℄ SR 534

STA 126+75.00, ℄ SR 534=
℄ BOX CULVERT

ANCHOR ASSEMBLY TYPE E-98
#45AC413
STA 125+62.66 BEGIN BITUMINOUS PLANING
+59.37 L.O.N.
STA 126+12.66 BEGIN TAPERS 11.45' LT & 11.98' RT END BITUMINOUS PLANING
STA 126+42.97 12.00' LT & RT END TAPERS
STA 127+06.97 12.00' LT & RT BEGIN TAPERS
#45AC412
STA 127+86.92 END TAPERS 10.55' LT & 12.73' RT BEGIN BITUMINOUS PLANING
+09.37 L.O.N.
ANCHOR ASSEMBLY TYPE E-98
STA 128+36.92 END BITUMINOUS PLANING

CONST. LIMITS
R/W
℄ R/W & CONSTRUCTION
125 SR 534
126
127
128
129
N1°10'48"W
11.74' 13.72' 55:1 TAPER 11.98' 11.45' 151.55:1 TAPER 12.00' 12.00' 4' 55:1 TAPER 12.73' 10.55' 109.52:1 TAPER 4'
12"
EX 12"
#500107
+90.62 L.O.N.
ANCHOR ASSEMBLY TYPE E-98
END WORK STA. 128+36.92
NO#
D-1
#45AC410

STA. 125+46 RESUME WORK
ANCHOR ASSEMBLY TYPE E-98
+53.12 L.O.N.

STA 126+42.97 RESUME PROJECT SLM - 15.77
TE 21-G020(649)

STA 127+06.97 END PROJECT SLM - 15.78
TE 21-G020(649)

SR 534
605 AGGREGATE DRAIN LOCATIONS
STA. 126+25 LT.
STA. 126+50 RT.
STA. 127+00 RT.
STA. 127+25 LT.
STA. 127+50 RT.
STA. 127+75 LT.

843.14 843.25 843.35 843.46 843.57 843.67 843.78

STA 126+12.66 MEET EXISTING ELEV 843.09±
STA 126+75.00 ℄ EX R/W SR 534 PROP 12" x 6' CULVERT ℄ ELEV 835.55
REPLACE 8 FT @ 1.8%± 12" CONDUIT, TYPE C CONNECT THROUGH PROP HEADWALL
STA 127+86.92 MEET EXISTING ELEV 843.83±
STA 128+72.38, 19.21' RT EX CB T/G 843.82 ℄ 12" 842.12
0.42%
CONSTRUCT MASONRY COLLAR, DM I.I
EX 12"(TO REMAIN)
EX 12"(TO REMAIN)
STA 126+85.48, 25.48' RT ℄ 12" 838.65 @ PROP WINGWALL

855 850 845 840 835 830 825 820

843.04 843.08 843.15 843.26 843.53 843.99 844.76 845.59 846.39

125+00 126+00 127+00 128+00 129+00

...\gpl10.dgn

HORIZONTAL SCALE IN FEET
0 20 40

CALCULATED PM CHECKED SKS

PLAN AND PROFILE
STA. 125+46.00 TO STA. 128+36.92 SR 534

TRU-534-15.06

26
112

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
32# 16 0# 16	64	119 22	8 99* 8	24	8
7 0		AHD BK	4 0	1 0	
64	SHEET TOTAL			24	8

CALCULATED RDW
CHECKED PM

XX# - ITEM 204 GEOTEXTILE FABRIC, TYPE D

ITEM 203 GRANULAR MATERIAL, TYPE "B"

XX* - ITEM 203 GRANULAR MATERIAL, TYPE "B"

R/W

STA 81+00.74,
17.75' RT
EX CB (TO BE REMOVED)
T/G 852.75
E 12" 851.44

3:1
3:1
851.45

EX 4" GAS

853.37
81+15.52
852.99

BEGIN UNDERCUT FOR
ITEM 203 GRANULAR MATERIAL, TYPE B.

R/W

3:1
2:1
851.25

EX 12" STM

EX 4" GAS

MEET EXISTING
853.13
80+65.52
853.13

BEGIN WORK

EX 12" STM

EX 4" GAS

80+50.00
852.95

NOTE
ALL FILL UNLESS OTHERWISE NOTED IS ITEM 204 GRANULAR MATERIAL, TYPE B.

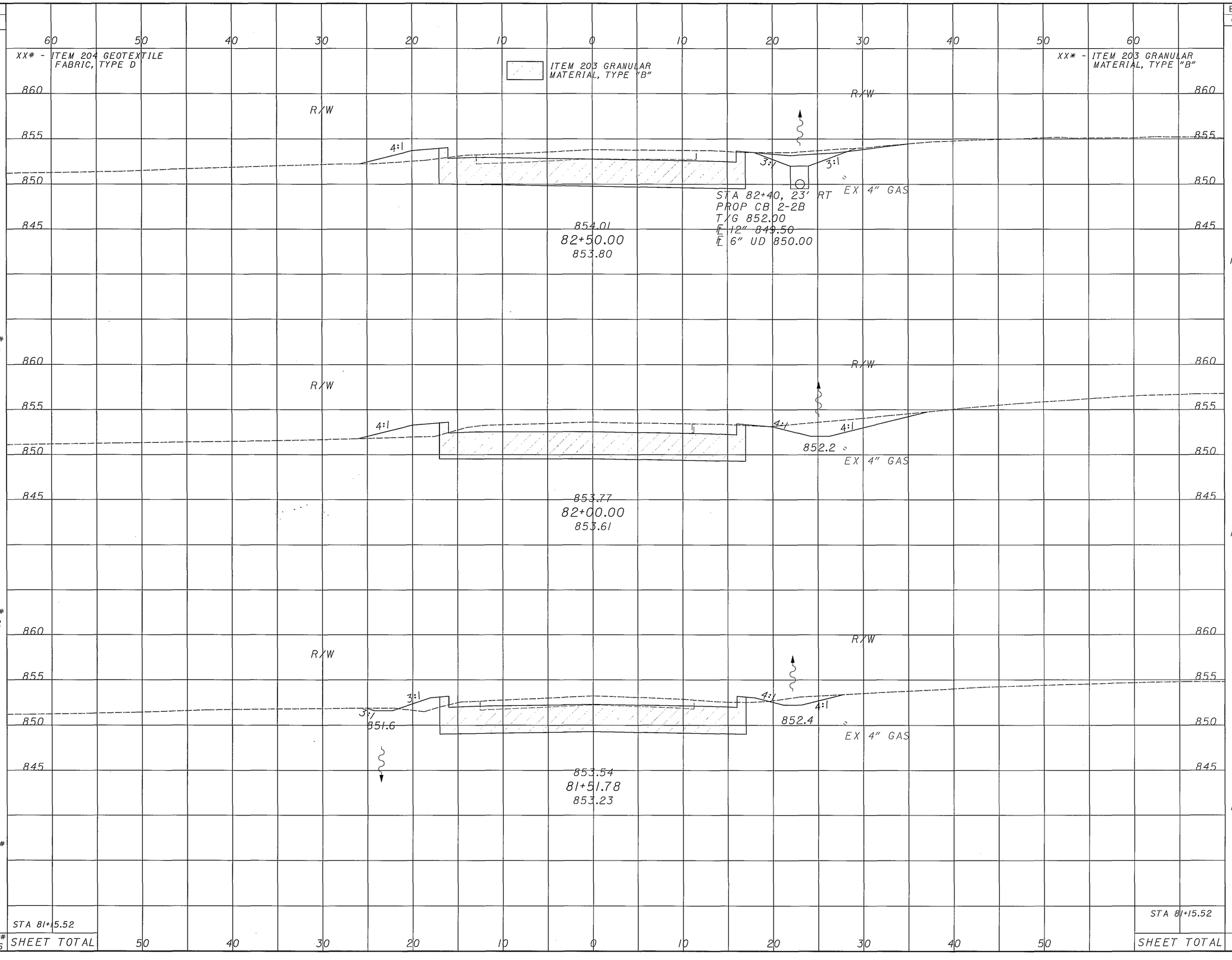
\XSSHT.dgn

CROSS SECTIONS
STA. 80+50.00 TO STA. 81+15.52 SR 534

TRU-534-15.06

27
112

SEEDING			END AREA		VOLUME	
END WIDTH	SQ. YDS.		CUT	FILL	CUT	FILL
		60 50 40 30 20 10 0 10 20 30 40 50 60				
34#			134	9		
29				104*		
	189#				263	18
	169					193*
34#			150	10		
32				104*		
	182#				252	15
	142					186*
34#			132	7		
21				104*		
	133#				169	10
	75					136*
32#		STA 81+15.52	119	8		
16				99*		
	504#				684	43
	386	SHEET TOTAL				515*



CALCULATED RDW
CHECKED PM

CROSS SECTIONS
STA. 81+51.78 TO STA. 82+50 SR 534

TRU-534-15.06

28
112

...\XSSHT.dgn

SEEDING END WIDTH	SEEDING SQ. YDS.	STATION	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		STA 82+50.00	134	9 104*		
34# 29	567# 442	SHEET TOTAL			695	79 579*
34# 30	189# 139	STA 183+00.00	124	17 104*	239	25 193*
34# 25	189# 153	STA 183+50.00	121	15 104*	226	30 193*
34# 20	189# 150	STA 184+00.00	127	11 104*	230	24 193*
		SHEET TOTAL				

CALCULATED RDW
CHECKED PM

CROSS SECTIONS
STA. 183+00 TO STA. 184+00 SR 534
TRU-534-15.06

29
112

...\XSSHT.dgn

SEEDING			END AREA		VOLUME	
END WIDTH	SQ. YDS.		CUT	FILL	CUT	FILL
34# 32	167# 156	STA 184+00.00	174	2 104*	304	2 193*
34# 24			154	1 104*		
	167# 122				262	10 193*
34# 20	167# 111		129	10 104*	237	19 193*
34# 20		STA 184+00.00	127	11 104*		
	567* 389	SHEET TOTAL			803	31 579*

CALCULATED RDW CHECKED PM

CROSS SECTIONS
STA. 184+50 TO STA. 185+50 SR 534

TRU-534-15.06

30 / 112

XX# - ITEM 204 GEOTEXTILE FABRIC, TYPE D

ITEM 203 GRANULAR MATERIAL, TYPE "B"

XX* - ITEM 203 GRANULAR MATERIAL, TYPE "B"

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

860 855 850 845

R/W

4:1 3:1 852.0

R/W Prop. R/W VARIES

EX 4" GAS

853.34
185+50.00
854.18

PROP 12" STM

R/W

VARIES

R/W Prop. R/W

2:1 4:1 851.3

EX 4" GAS

STA 185+37, 24' RT
PROP CB 2-2B
T/G 851.00
E 12" 846.55
E 6" UD 849.00

853.74
185+00.00
854.08

FOR PIPE PROFILE SEE SHEET 21.

R/W

4:1

R/W Prop. R/W

2:1 4:1 851.5

EX 4" GAS

PROP 12" STM

854.02
184+50.00
853.72

STA 184+00.00

SHEET TOTAL

\XSSHT.dgn

SEEDING END WIDTH	SEEDING SQ. YDS.	
34# 68	189# 300	
34# 40		
	189# 222	
34# 40		
	189# 200	
34# 32		STA 185+50.00
	657# 722	SHEET TOTAL

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

XX# - ITEM 204 GEOTEXTILE FABRIC, TYPE D

ITEM 203 GRANULAR MATERIAL, TYPE "B"

XX* - ITEM 203 GRANULAR MATERIAL, TYPE "B"

860 855 850 845 840

R/W

VARIES

PROP 12" STM

EX 4" GAS

Prop. R/W

852.02
187+00.00
853.49

R/W

3:1

VARIES

STA 186+40, 26.5' LT
PROP CB 2-2B
T/G 850.00
℄ 12" 847.50
℄ 6" UD 848.00

852.46
186+50.00
853.18

R/W

4:1

3:1

851.8

852.90
186+00.00
854.00

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
281	0 104*		
		488	0 193*
246	0 104*		
		390	2 193*
195	2 104*		
		342	4 193*
174	2 104*		
SHEET TOTAL		1220	6 579*

CALCULATED RDW
CHECKED PM

CROSS SECTIONS
STA. 186+00 TO STA. 187+00 SR 534
STA. 185+50 TO STA. 186+00 SR 534

TRU-534-15.06

31
112

...\XSSHT.dgn

SEEDING END WIDTH	SEEDING SQ. YDS.
34#	47
	189# 322
34#	69
	189# 325
34#	48
	189# 322
34#	68
	567# 969

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

XX# - ITEM 204 GEOTEXTILE FABRIC, TYPE D

ITEM 203 GRANULAR MATERIAL, TYPE "B"

XX* - ITEM 203 GRANULAR MATERIAL, TYPE "B"

R/W

Prop. R/W

EX. WETLANDS

VARIES

4:1

2:1

3:1

EX 4" GAS

848.7

PROP 12" STM

850.70
188+50.00
853.11

STA 187+90, 26' LT
PROP CB 2-2B
T/G 849.0
E 12" 846.51

851.14
188+00.00
853.37

850.0

851.58
187+50.00
853.00

860 855 850 845 840

STA 187+00.00

SHEET TOTAL

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
310	0 104*		
		607	0 193*
346	0 104*		
		577	0 193*
277	0 106*		
		516	0 193*
281	0 106*		
		1700	0 579*

CALCULATED RDW
CHECKED PM

CROSS SECTIONS
STA. 187+50 TO STA. 188+50 SR 534

TRU-534-15.06

32
112

...\XSSHT.dgn

SEEDING			END AREA		VOLUME	
END WIDTH	SQ. YDS.		CUT	FILL	CUT	FILL
		60 50 40 30 20 10 0 10 20 30 40 50 60				
		XX# - ITEM 204 GEOTEXTILE FABRIC, TYPE D				
		ITEM 203 GRANULAR MATERIAL, TYPE "B"				
		XX* - ITEM 203 GRANULAR MATERIAL, TYPE "B"				
		EX. WETLANDS				
		Prop. R/W				
		VARIES				
		R/W				
		Prop. R/W 2:1				
		PROP 12" STM				
		1:1				
		849.76				
		190+00.00				
		848.93				
		EX 4" GAS				
		880				
		1:1				
		ELEV. 840 (TYP.)				
58#						
40			AHD	169	138	
					104*	
			BK	112	81	
					104*	
	256#	R/W				
	206	R/W			313	75
		Prop. R/W				193*
		VARIES				
		4:1				
		2:1				
		VARIES				
		EX 4" GAS				
		STA 189+50, 22.5' LT				
		PROP CB 2-2B				
		T/G 847.50				
		℄ 12" 844.94				
		℄ 6" UD 845.44				
		BEGIN UNDERCUT FOR ITEM 204 GRANULAR MATERIAL, TYPE B				
		849.92				
		189+50.00				
		850.00				
34#						
35			226	0		
				104*		
		R/W				
	189#	R/W				
	247	Prop. R/W			493	0
		EX. WETLANDS				193*
		VARIES				
		4:1				
		3:1				
		848.0				
		PROP 12" STM				
		EX 4" GAS				
		850.26				
		189+00.00				
		852.88				
34#						
54			306	0		
				104*		
	189#					
	281				571	0
						193*
34#						
47		STA 188+50.00	310	0		
				104*		
	634#	SHEET TOTAL			1337	75
	736	60 50 40 30 20 10 0 10 20 30 40 50 60 SHEET TOTAL				579*

CALCULATED RDW
CHECKED PM

CROSS SECTIONS
STA. 189+00 TO STA. 190+00 SR 534

TRU-534-15.06

33
112

...\XSSHT.dgn

SEEDING END WIDTH	SEEDING SQ. YDS.
62	225
0# 19 58# 19	AHD BK
	392# 175
83# 44	
	392# 233
58# 40	STA 190+00.00
	784# 633

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

XX# - ITEM 204 GEOTEXTILE FABRIC, TYPE D

ITEM 203 GRANULAR MATERIAL, TYPE "B"

XX* - ITEM 203 GRANULAR MATERIAL, TYPE "B"

855 850 845 840 835

Prop. R/W

2:1

R/W

VARIES

R/W

VARIES

842.2 EX 4" GAS

MATCH LINE STA 49+50 CR 2060

850.24
191+50.00
843.85

EX. WETLANDS

855 850 845 840

Prop. R/W

R/W

2:1

1:1 880 1:1

R/W

EX 4" GAS

MATCH LINE STA 49+50 CR 2060

850.00
191+00.00
846.59

SUSPEND UNDERCUT FOR
ITEM 203 GRANULAR MATERIAL, TYPE B
ITEM 204 GRANULAR MATERIAL, TYPE B

EX. WETLANDS

855 850 845 840

STA 190+79.50, 22.0' LT
OUTLET @ CULVERT
℄ 12" 843.68

Prop. R/W

R/W

3:1

1:1 880 1:1

PROP 12" STM

1:1

R/W

2:1

1:1

880

ELEV. 840 (TYP.)

EX 4" GAS

849.79
190+50.00
848.04

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

XX# - ITEM 204 GEOTEXTILE FABRIC, TYPE D

XX* - ITEM 203 GRANULAR MATERIAL, TYPE "B"

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
72	263		
		99	367
AHD 35	135 0*		
BK 60	160 128*		
		242	377 223*
Prop. R/W			
201	247 113*		
		343	357 201*
STA 190+00.00	169	138 104*	
SHEET TOTAL		684	791 424*

CALCULATED RDW
CHECKED PM

CROSS SECTIONS
STA. 190+50 TO STA. 191+50 SR 534

TRU-534-15.06

34
112

...\XSSHT.dgn

SEEDING	
END WIDTH	SQ. YDS.
113	495
86	408
62	903

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

XX# - ITEM 204 GEOTEXTILE FABRIC, TYPE D

XX* - ITEM 203 GRANULAR MATERIAL, TYPE "B"

855 850 845 840 835

Prop. R/W

2:1

2:1

R/W

3:1

MATCH LINE B

850.45
192+45.65
844.95
BEGIN APPROACH SLAB

841.8

847.5

VARIES

VARIES

MATCH LINE B

MATCH LINE STA 49+50 CR 206C

60 70 80 90 100 110

Prop. R/W

2:1

R/W

3:1

MATCH LINE A

842.0

850.40
192+00.00
845.58

847.5

VARIES

VARIES

R/W

MATCH LINE A

EX 4" GAS

MATCH LINE STA 49+50 CR 206C

60 70 80 90

STA 191+50.00

SHEET TOTAL

STA 191+50.00

SHEET TOTAL

END AREA		VOLUME	
CUT	FILL	CUT	FILL
105	238		
		155	372
78	202		
		139	431
72	263		
		294	803

CALCULATED RDW

CHECKED PM

CROSS SECTIONS
STA. 192+00 TO STA. 192+45.65 SR 534

TRU-534-15.06

35
112

...\XSSHT.dgn

SEEDING			END AREA		VOLUME	
END WIDTH	SQ. YDS.		CUT	FILL	CUT	FILL
40	500	STA 192+45.65	105	238		
140	487		82	315	69	202
115	264		456	0	342	200
113	1251	SHEET TOTAL	96	0	511	0
					922	402

CALCULATED RDW
CHECKED PM

CROSS SECTIONS
STA. 192+65.65 TO STA. 193+50 SR 534

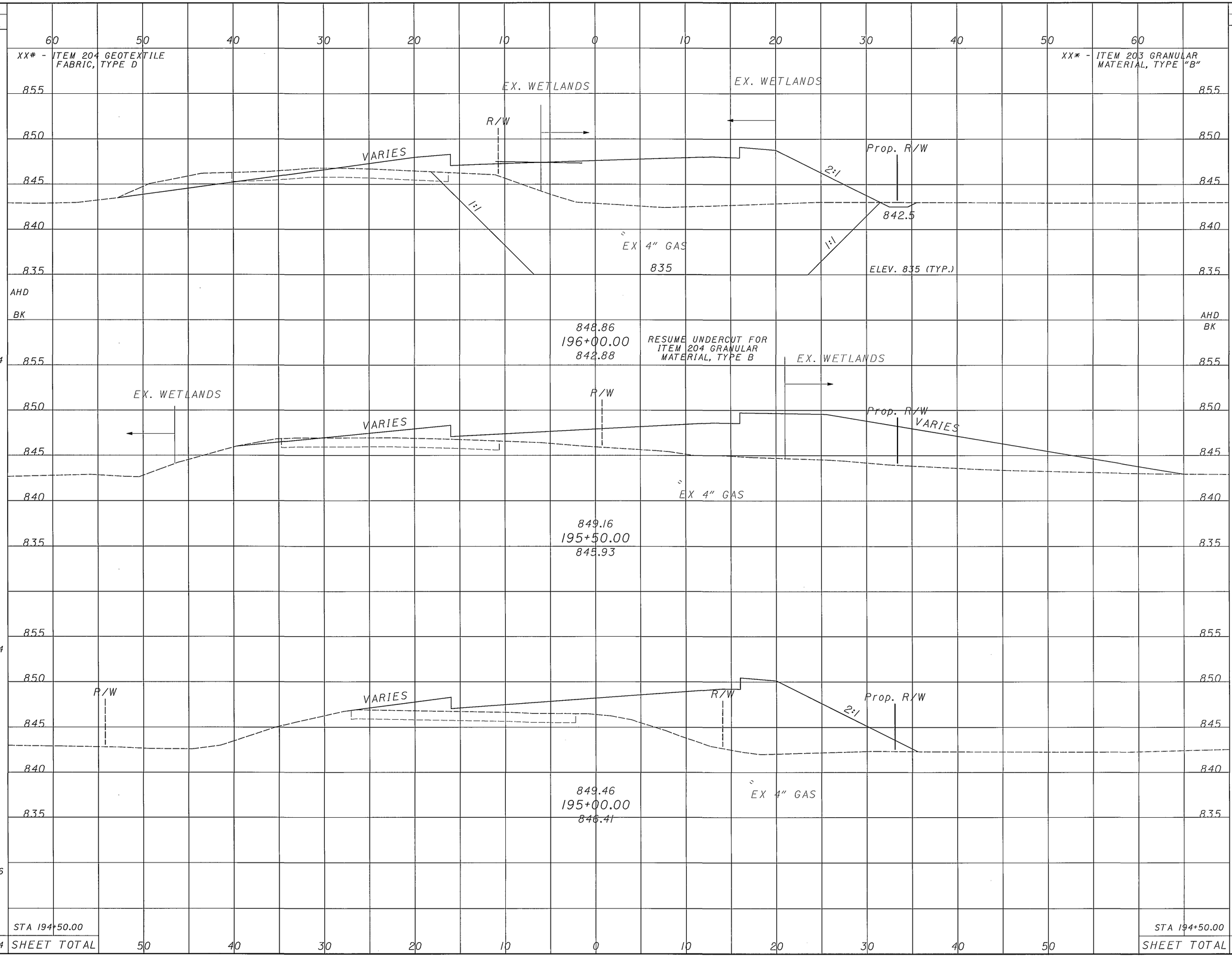
TRU-534-15.06

36
112

...\XSSHT.dgn

| SEEDING | | |

SEEDING END WIDTH	SEEDING SQ. YDS.		END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		60 50 40 30 20 10 0 10 20 30 40 50 60				
58#		AHD	365	541		
58						
0#						
58		BK	37	213		
	364				58	433
73			25	255		
	294				46	433
33			25	213		
	206				47	374
41		STA 194+50.00	25	191		
	864	SHEET TOTAL			151	1240



CALCULATED RDW
CHECKED PM

CROSS SECTIONS

STA. 195+00 TO STA. 196+00 SR 534

TRU-534-15.06

38
112

...\XSSHT.dgn

| SEEDING | | |

SEEDING			END AREA		VOLUME	
END WIDTH	SQ. YDS.		CUT	FILL	CUT	FILL
		60 50 40 30 20 10 0 10 20 30 40 50 60				
		XX# - ITEM 204 GEOTEXTILE FABRIC, TYPE D				
		ITEM 203 GRANULAR MATERIAL, TYPE "B"				
		XX* - ITEM 203 GRANULAR MATERIAL, TYPE "B"				
		855				
		850 R/W				
		845 VARIES 3:1 PROP 12" STM				
		STA 198+15.00, 53' LT PROP HW-2.2 ℄ 12" 843.00				
		R/W 2:1 Prop. R/W 3:1 842.0				
		840 EX 4" GAS				
		835 847.47 198+50.00 844.33				
34# 49		SUSPEND UNDERCUT FOR ITEM 204 GRANULAR MATERIAL, TYPE B RESUME UNDERCUT FOR ITEM 203 GRANULAR MATERIAL, TYPE B	AHD	42 44		
			BK	29 31		
		855				
	261# 269	EX. WETLANDS				
		850 R/W VARIES 2:1 Prop. R/W				
		845 1:1 841.8			379	499
		840 EX 4" GAS				
		835 847.66 198+00.00 843.39 1:1				
60# 48			380	508		
		855				
	325# 269	850 EX. WETLANDS FOR 48" CULVERT DETAIL, SEE SHEETS 79-80.			604	913
		EX. WETLANDS Prop. R/W VARIES R/W 2:1 Prop. R/W				
		845 2:1				
		840 841.7				
		835 EX 4" GAS 835 1:1 ELEV. 835 (TYP.) 847.96 197+50.00 841.34 1:1				
57# 49		830				
	320# 292		272	478		
					558	940
58# 56		STA 197+00.00				
	906# 830	SHEET TOTAL 50 40 30 20 10 0 10 20 30 40 50	STA 197+00.00	331 537		
			SHEET TOTAL		1571	2352

CALCULATED RDW CHECKED PM

CROSS SECTIONS STA. 197+50 TO STA. 198+50 SR 534

TRU-534-15.06

40 / 112

...\XSSHT.dgn

SEEDING END WIDTH	SEEDING SQ. YDS.	
34#	189#	STA 198+50.00
32	158	
34#	189#	
25	153	
34#	189#	
30	219	
34#	567#	
49	530	SHEET TOTAL

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

XX# - ITEM 204 GEOTEXTILE FABRIC, TYPE D

ITEM 203 GRANULAR MATERIAL, TYPE "B"

XX* - ITEM 203 GRANULAR MATERIAL, TYPE "B"

855 / 850 / 845 / 840 / 835

R/W

4:1 3:1 846.9 PROP 12" STM

R/W Prop. R/W 3:1 3:1 845.3 EX 4" GAS

848.02
200+00.00
847.64

R/W

4:1 2:1 846.3 PROP 12" STM

R/W Prop. R/W 2:1 4:1 845.1 EX 4" GAS

847.65
199+50.00 R 2
847.02

R/W

4:1 2:1 846.0

STA 199+00, 24' LT
PROP CB 2-2B
T/G 846.00
E 12" 843.45

R/W Prop. R/W 2:1 4:1 843.2 EX 4" GAS

847.47
199+00.00
845.96

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
47	3 70*		
		65	7 130*
99	9 70*		
		162	24 130*
76	17 70*		
		109	57 130*
42	44 70*		
		476	96 390*

STA 198+50.00

SHEET TOTAL

CALCULATED RDW
CHECKED PM

CROSS SECTIONS
STA. 199+00 TO STA. 200+00 SR 534

TRU-534-15.06

41
112

...\XSSHT.dgn

SEEDING			END AREA		VOLUME	
END WIDTH	SQ. YDS.		CUT	FILL	CUT	FILL
		SHEET TOTAL			698	18 590*
	567# 564					
		STA 200+00.00	122	7 70*		
34# 32						
	189# 183				238	8 130*
34# 34			135	2 70*		
	189# 192		125	2 70*	241	4 130*
34# 35						
	189# 189		111	4 70*	219	6 130*
34# 33						

XX# - ITEM 204 GEOTEXTILE FABRIC, TYPE D

ITEM 203 GRANULAR MATERIAL, TYPE "B"

XX* - ITEM 203 GRANULAR MATERIAL, TYPE "B"

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

855 / 850 / 845 / 840

R/W

4:1 2:1 849.0 PROP 12" STM

850.01
201+50.00
849.67

Prop. R/W
R/W
3:1 3:1 848.0 EX 4" GAS

R/W

STA 201+12, 23.5' LT
PROP CB 2-2B
T/G 848.0
E 12" 844.51

4:1 2:1 3:1 3:1 846.5 EX 4" GAS

849.29
201+00.00
848.87

R/W

4:1 3:1 847.5 PROP 12" STM

R/W Prop. R/W

3:1 3:1 845.5 EX 4" GAS

848.57
200+50.00
848.32

CALCULATED RDW
CHECKED PM

CROSS SECTIONS
STA. 200+50 TO STA. 201+50 SR 534

TRU-534-15.06

...\XSSHT.dgn

SEEDING END WIDTH	SEEDING SQ. YDS.
34# 49	
	188# 281
34# 52	
	189# 242
34# 35	
	189# 189
34# 33	
	566# 712

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

XX# - ITEM 204 GEOTEXTILE FABRIC, TYPE D

ITEM 203 GRANULAR MATERIAL, TYPE "B"

XX* - ITEM 203 GRANULAR MATERIAL, TYPE "B"

855 / 850 / 845

R/W

2:1

2:1

847.9

3:1

3:1

848.8

EX 4" GAS

851.58
103+50.00
851.30

STA 202+63.99 BK=
STA 103+14.33 AHD

Prop. R/W

R/W

2:1

2:1

3:1

3:1

848.6

EX 4" GAS

STA 202+50, 27.5' LT
PROP CB 2-2A
T/G 847.70
SIDE INLET 847.20
E 12" (S) 845.20

851.17
202+50.00
851.00

MEET EXISTING
ELEV 852.69
42' RT

ELEV 851.24 @
30° ANGLE PT
30' RT

852.14
35'

8%

8%

MAILBOX
TURNOUT

850.41
12'

850.20
17'

3:1

3:1

851.64
35'

STEPS AT 202+15.50 R 2

R/W

Prop. R/W
R/W

3:1

3:1

850.0

3:1

3:1

848.4

EX 4" GAS

PROP 12" STM

850.65
202+00.00
850.45

STA 201+50.00

SHEET TOTAL

SHEET TOTAL

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
176	7 70*		
		347	8 130*
202	2 70*		
		321	4 130*
145	2 70*		
		237	6 130*
111	4 70*		
		905	18 390*

CALCULATED RDW
CHECKED PM

CROSS SECTIONS
STA. 202+00 TO STA. 103+50 SR 534

TRU-534-15.06

43
112

...\XSSHT.dgn

SEEDING			END AREA		VOLUME	
END WIDTH	SQ. YDS.		CUT	FILL	CUT	FILL
40	72		45	20	30	13
0#	42	AHD	59	23		
34#	42	BK	124	23		
				70*		
92#	118				115	21
						63*
34#	45		132	22		
				70*		
189#	261				285	27
						130*
34#	49	STA 103+50.00	176	7		
				70*		
281#	451	SHEET TOTAL			430	61
						193*

CALCULATED RDW
CHECKED PM

CROSS SECTIONS
STA. 104+00.00 TO STA. 104+40.20 SR 534

TRU-534-15.06

44
112

...\XSSHT.dgn

SEEDING	
END WIDTH	SQ. YDS.
0	
25	14
40	181
	195

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

XX# - ITEM 204 GEOTEXTILE FABRIC, TYPE D

XX* - ITEM 203 GRANULAR MATERIAL, TYPE "B"

850
845
860
855
850
845
840

105+00.00
851.77

EX 4" GAS

R/W
3:1
2:1
848.5
3:1
4:1
849.4
R/W

MEET EXISTING
852.32
104+90.20
852.32

SUSPEND WORK

STA 104+40.20

SHEET TOTAL

END AREA		VOLUME	
CUT	FILL	CUT	FILL
AHD	0	0	
BK	6	11	
			48 29
STA 104+40.20	45	20	
SHEET TOTAL			48 29

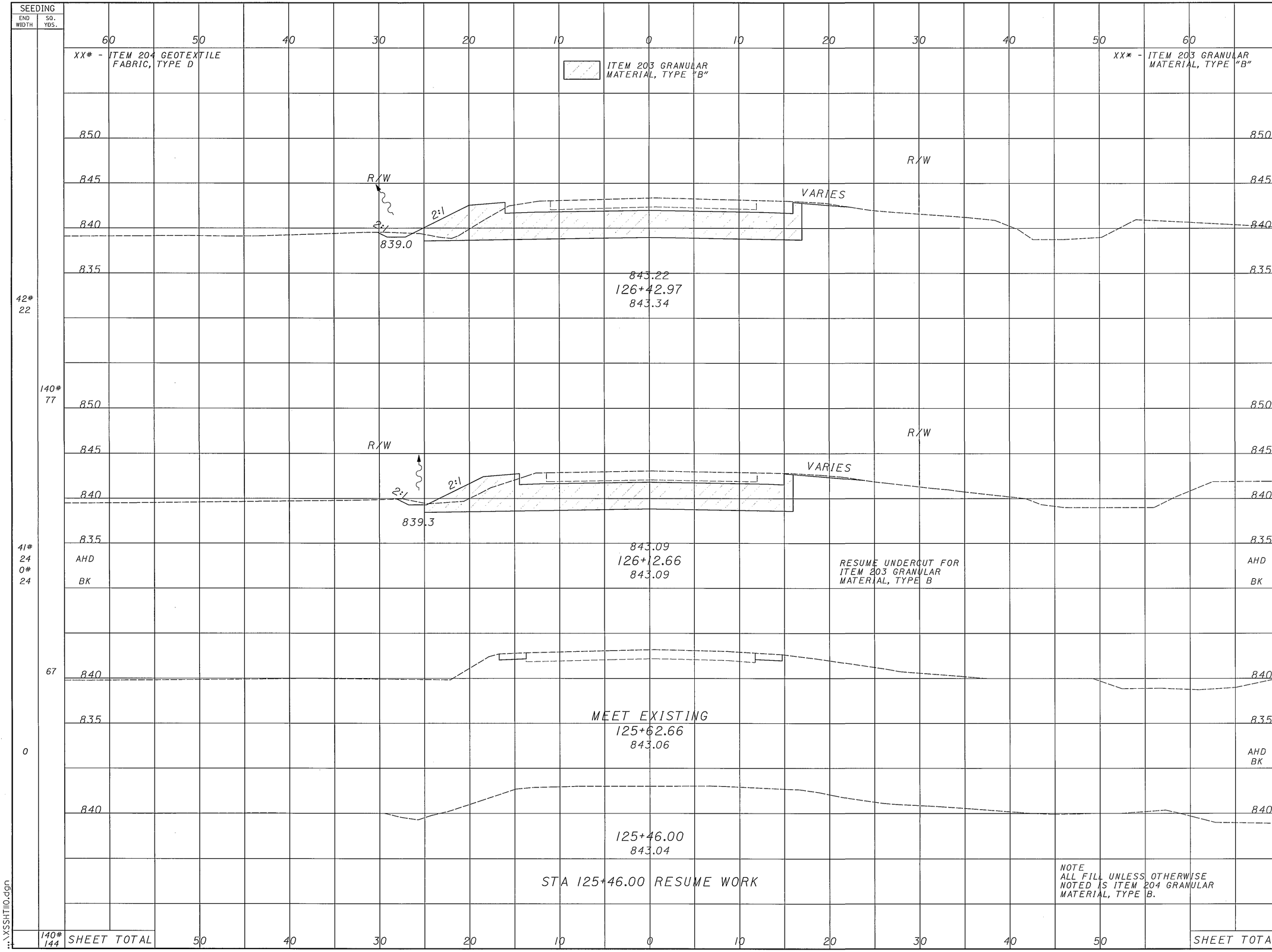
CALCULATED RDW
CHECKED PM

CROSS SECTIONS
STA. 104+90.20 TO STA. 105+00.00 SR 534

TRU-534-15.06

45
112

...\XSSHT.dgn



SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
42# 22		157	1 128*		
	140# 77			172	1 141*
41# 24 0# 24		AHD 149	0 123*		
		BK 36	11		
	67			62	10
0		AHD 30	0		
		BK 0	0		
	140# 144			234	11 141*

CALCULATED RDW
CHECKED PM

CROSS SECTIONS
STA. 125+46.00 TO STA. 126+42.97 SR 534

TRU-534-15.06

...\XSSHT110.dgn

SEEDING END WIDTH	SEEDING SQ. YDS.		60	50	40	30	20	10	0	10	20	30	40	50	60	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
			XX# - ITEM 204 GEOTEXTILE FABRIC, TYPE D						ITEM 203 GRANULAR MATERIAL, TYPE "B"						XX* - ITEM 203 GRANULAR MATERIAL, TYPE "B"				
		850													850				
		845				R/W						R/W			845				
		840					2:1				2:1				840				
		835					1:1		836		1:1				835				
52#		AHD							843.49		841.8				AHD	282	268		
19									127+06.97		EX 12" STM (TO REMAIN)								
0#		BK							843.00		ELEV. 836 (TYP.)				BK	30	20		
19											RESUME UNDERCUT FOR ITEM 204 GRANULAR MATERIAL, TYPE B								
	37	850													850			145	135
		845				R/W						R/W			845				
		840													840				
		835							843.38						835				
8									126+82.00							30	23		
									843.37										
									END BRIDGE						FOR DETAILS 12' x 6' BOX CULVERT SEE SHEETS 81-85.				
	12	850													850			15	15
		845				R/W						R/W			845				
		840													840				
		835							843.33						835				
0#									126+68.00										
8		AHD							843.36		END UNDERCUT FOR ITEM 203 GRANULAR MATERIAL, TYPE B				AHD	29	35		
40#																			
8		BK							BEGIN BRIDGE						BK	114	0		
	114#																127*		
	42																	126	1
42#																			118*
22		STA 126+42.97													STA 126+42.97	157	1		
																	128*		
	114#	SHEET TOTAL	50	40	30	20	10	0	10	20	30	40	50		SHEET TOTAL			286	151
	91																		118*

CALCULATED RDW
CHECKED PM

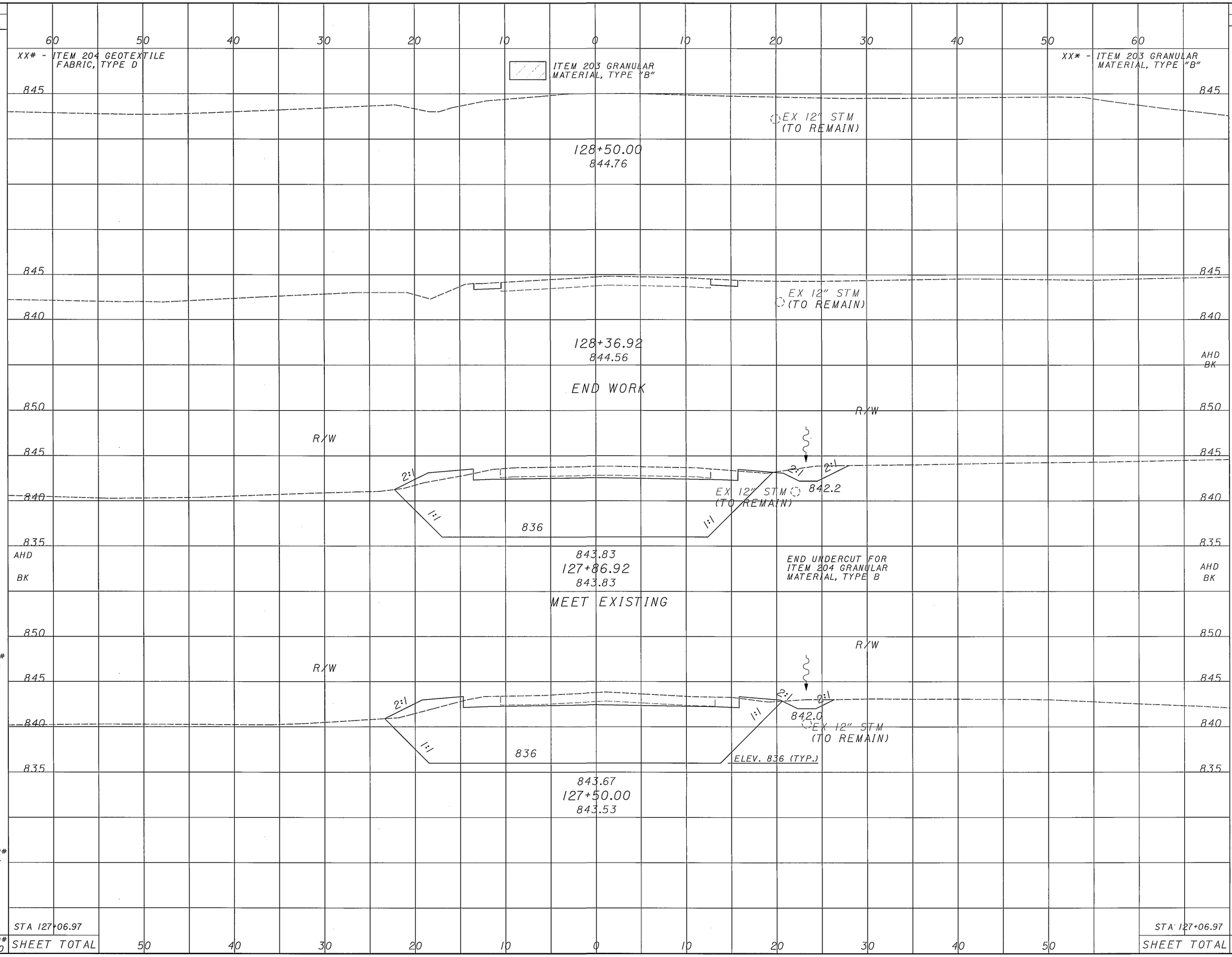
CROSS SECTIONS
STA. 126+68.00 TO STA. 127+06.97 SR 534

TRU-534-15.06

47
112

...\XSSHT110.dgn

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
0		AHD	0	0		
	61	BK	27	0	63	6
0#		AHD	41	6		
22						
47#						
22		BK	275	240		
	197#				380	333
	86					
49#			280	247		
20						
	242#				448	411
	93					
52#						
19			282	268		
	439#	SHEET TOTAL			891	750
	240					



CALCULATED RDW
CHECKED PM

CROSS SECTIONS
STA. 127+50.00 TO STA. 128+50.00 SR 534

TRU-534-15.06

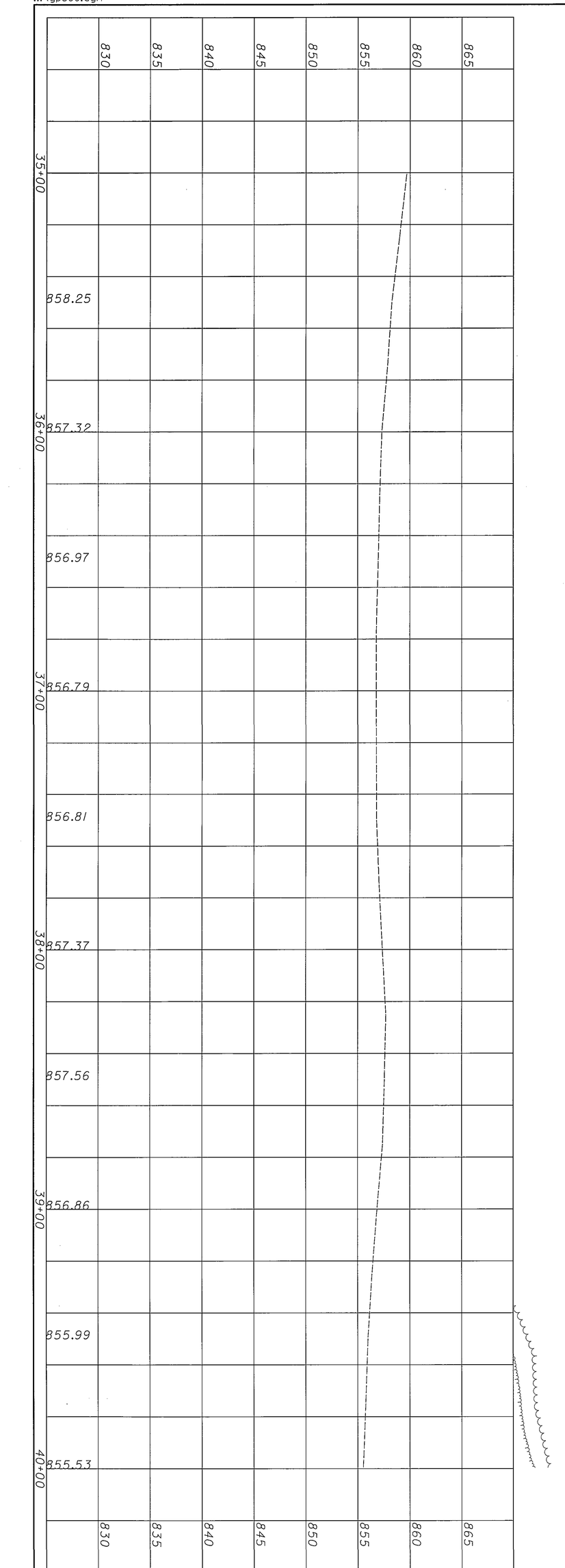
...\XSSHT110.dgn

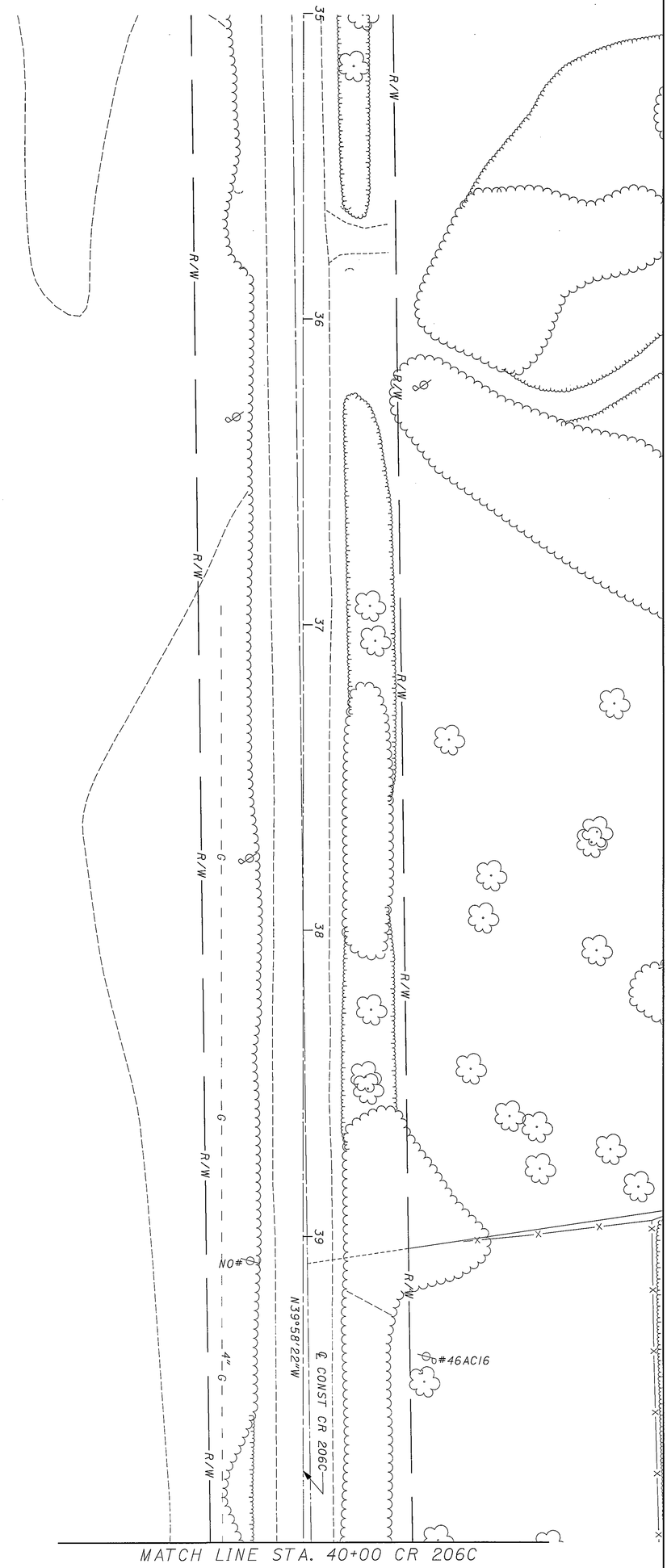
...\gp500.dgn

BENCHMARK

SOUTH EAST BOTTOM CONCRETE STEP, SIDE ENTRANCE HOUSE NO 4238 PAINSVILLE WARREN STATE RD. STA 47+53 RT

ELEV - 848.69





112 | 49

TRU-534-15.06

PLAN AND PROFILE

STA. 35+00 TO STA. 40+00 CR 206C

CALCULATED PM

CHECKED SKS

0 20 40

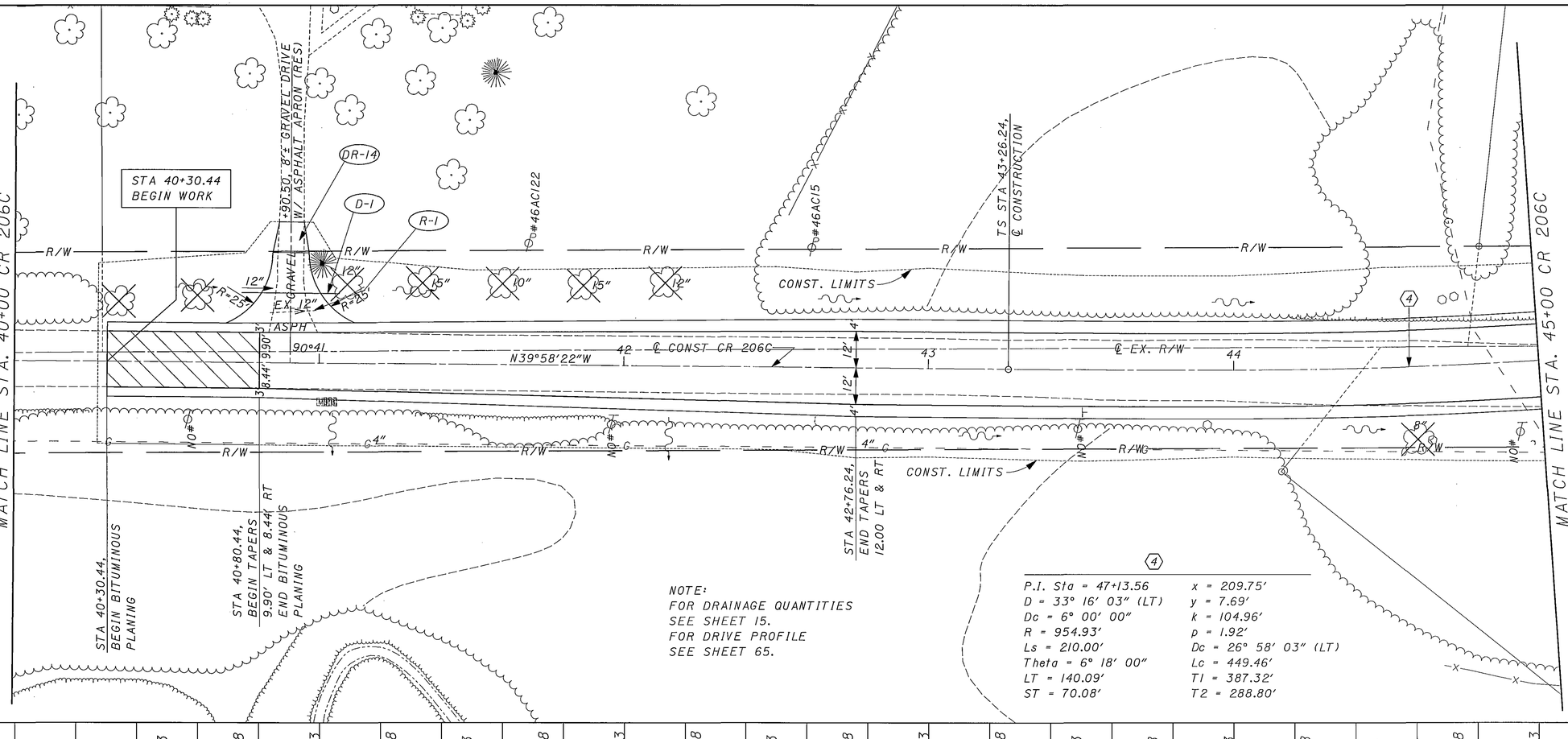
HORIZONTAL SCALE IN FEET

BENCHMARK

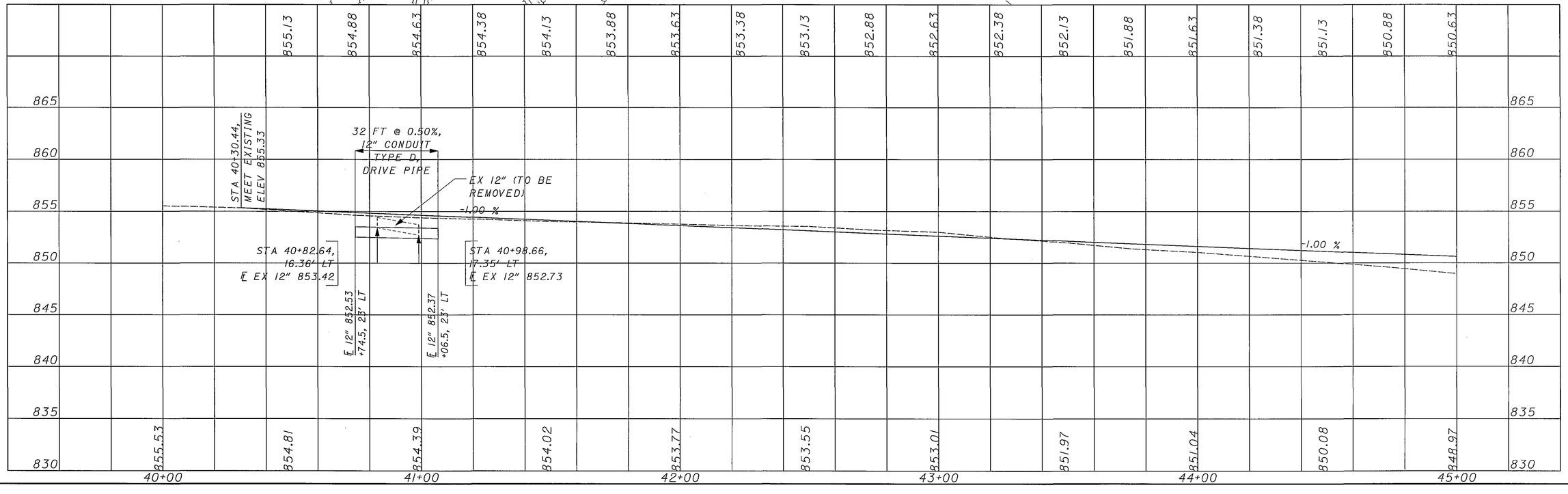
SOUTH EAST BOTTOM CONCRETE STEP, SIDE ENTRANCE HOUSE NO 4238 PAINSVILLE WARREN STATE RD. STA 47+53 RT

ELEV - 848.69

CR 206C
605 AGGREGATE
DRAIN LOCATIONS
STA. 40+50 LT.
STA. 40+75 RT.
STA. 41+25 RT.
STA. 41+50 LT.
STA. 41+75 RT.
STA. 42+00 LT.
STA. 42+25 RT.
STA. 42+50 LT.
STA. 42+75 RT.
STA. 43+00 LT.
STA. 43+25 LT.
STA. 43+50 LT.
STA. 43+75 LT.
STA. 44+00 LT.
STA. 44+25 LT.
STA. 44+50 LT.
STA. 44+75 LT.



NOTE:
FOR DRAINAGE QUANTITIES SEE SHEET 15.
FOR DRIVE PROFILE SEE SHEET 65.



HORIZONTAL SCALE IN FEET
0 20 40

CALCULATED PM
CHECKED SKS

PLAN AND PROFILE
STA. 40+00 TO STA. 45+00 CR 206C

TRU-534-15.06

50
112

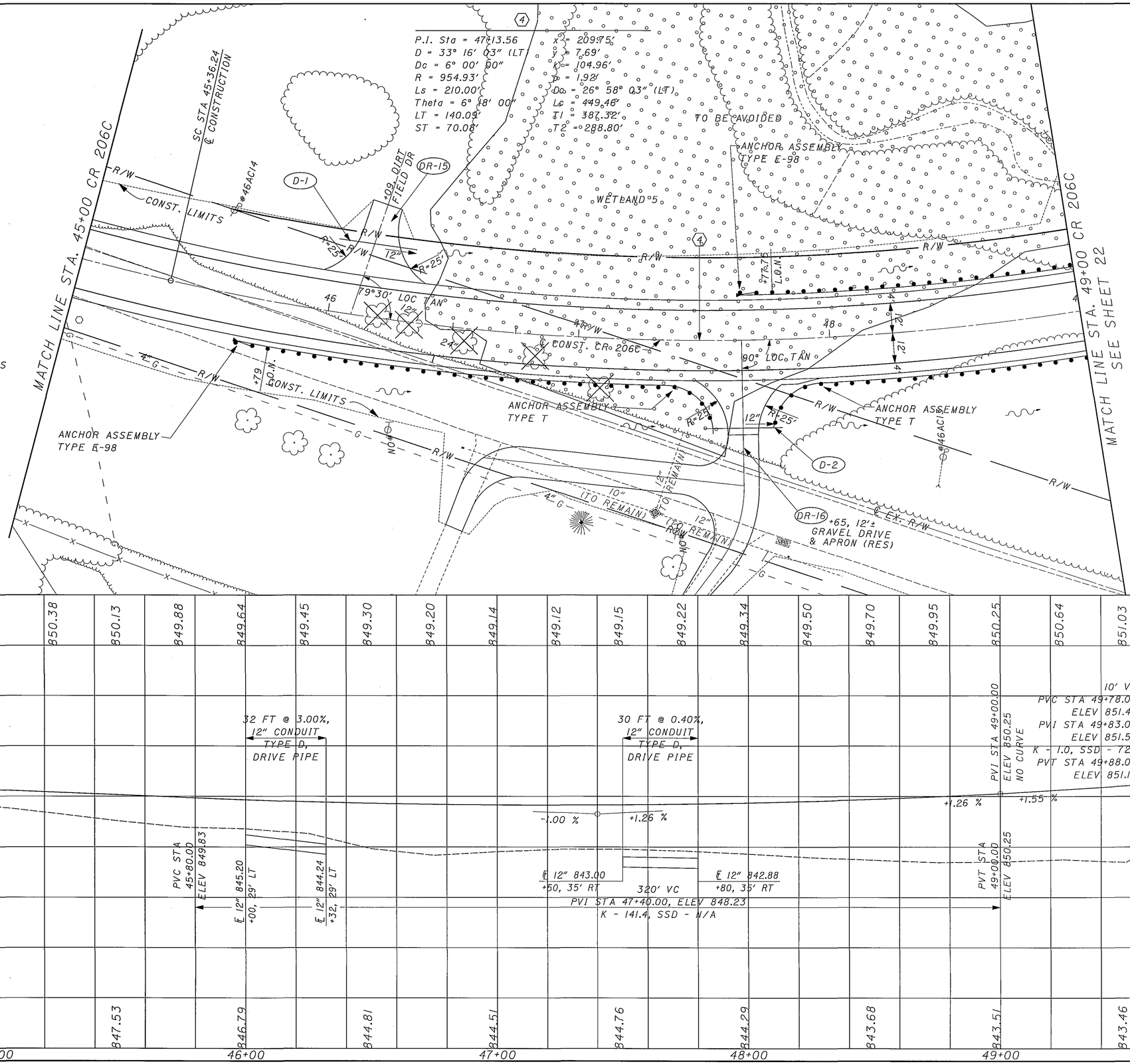
...\gp501.dgn

BENCHMARK

SOUTH EAST BOTTOM CONCRETE STEP, SIDE ENTRANCE HOUSE NO 4238 PAINSVILLE WARREN STATE RD. STA 47+53 RT

ELEV - 848.69

CR 206C
605 AGGREGATE
DRAIN LOCATIONS
STA. 45+00 LT.
STA. 45+25 LT.
STA. 45+50 LT.
STA. 45+75 LT.
STA. 46+00 LT.
STA. 46+50 LT.
STA. 46+75 LT.
STA. 47+00 LT.
STA. 47+25 LT.
STA. 47+50 LT.
STA. 47+75 LT.
STA. 48+00 LT.
STA. 48+25 LT.
STA. 48+50 LT.
STA. 48+75 LT.
STA. 49+00 LT.
STA. 49+25 LT.



WETLAND

NOTE:
FOR INTERSECTION DETAIL SEE SHEET 66.

FOR PLAN AND PROFILE OF S.R. 534 SEE SHEET 22.

FOR DRAINAGE QUANTITIES SEE SHEET 15.

FOR DRIVE DETAIL AND PROFILE SEE SHEET 65-66.

HORIZONTAL SCALE IN FEET
0 20 40

CALCULATED PM
CHECKED SKS

PLAN AND PROFILE
STA. 45+00 TO STA. 49+00 CR 206C

TRU-534-15.06

51
112

...\gp502.dgn

SEEDING	
END WIDTH	SQ. YDS.
27#	
35	
AHD	
0#	
35	
BK	
	183
31	
	183

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

XX# - ITEM 204 GEOTEXTILE FABRIC, TYPE D

ITEM 203 GRANULAR MATERIAL, TYPE "B"

XX* - ITEM 203 GRANULAR MATERIAL, TYPE "B"

860 855 850 845

R/W

3:1 3:1

852.4

VARIES

R/W

EX 4" GAS

854.83
40+80.44
854.57

BEGIN UNDERCUT FOR ITEM 204 GRANULAR MATERIAL, TYPE B.

R/W

3:1 3:1

853.5

VARIES

R/W

EX 4" GAS

MEET EXISTING
855.33
40+30.44
855.33

BEGIN WORK

40+00.00
855.53

EX 4" GAS

NOTE
ALL FILL UNLESS OTHERWISE NOTED IS ITEM 204 GRANULAR MATERIAL, TYPE B.

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

SHEET TOTAL 183

END AREA		VOLUME	
CUT	FILL	CUT	FILL
AHD 125	5		
	81*		
BK 43	5		
		76	7
AHD 39	2		
BK 0	0		
SHEET TOTAL		59	7

CALCULATED RDW
CHECKED PM

CROSS SECTIONS
STA. 40+00.00 TO STA. 40+80.44 CR 206C

TRU-534-15.06

52
112

\XSSHT500.dgn

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
31#	21	142	1		
			95*		
	167#			245	5
	128				172*
29#	25	124	4		
			90*		
	156#			228	10
	161				161*
27#	33	122	6		
			84*		
	59#			90	4
	74				60*
27#	35	125	5		
			81*		
	382#			563	19
	363				393*

XX# - ITEM 204 GEOTEXTILE FABRIC, TYPE D

ITEM 203 GRANULAR MATERIAL, TYPE "B"

XX* - ITEM 203 GRANULAR MATERIAL, TYPE "B"

STA 40+80.44 SHEET TOTAL

STA 40+80.44 SHEET TOTAL

R/W

EX 4" GAS

3:1

851.6

853.63
42+00.00
853.77

852.1

854.13
41+50.00
854.02

12" CONDUIT, TYPE D

852.3

854.63
41+00.00
854.39

VARIES

CALCULATED RDW

CHECKED PM

CROSS SECTIONS
STA. 41+00 TO STA. 42+00 CR 206C
STA.

TRU-534-15.06

53
112

...\XSSHT500.dgn

SEEDING END WIDTH	SEEDING SQ. YDS.	STA	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		60 50 40 30 20 10 0 10 20 30 40 50 60				
34#	26		158	3 104*		
90#	67				137	2 92*
34#	25		153	3 104*		
98#	71				152	2 100*
33#	24		159	2 101*		
178#	125				279	3 182*
31#	21	STA 42+00.00	142	1 95*		
366#	263	SHEET TOTAL			568	7 374*

XX# - ITEM 204 GEOTEXTILE FABRIC, TYPE D

ITEM 203 GRANULAR MATERIAL, TYPE "B"

XX* - ITEM 203 GRANULAR MATERIAL, TYPE "B"

R/W

3:1 3:1

850.6

851.2

EX 4" GAS

852.63
43+00.00
853.01

VARIES

850.9

852.87
42+76.24
853.18

851.1

853.13
42+50.00
853.55

STA 42+00.00

SHEET TOTAL

CALCULATED RDW

CHECKED PM

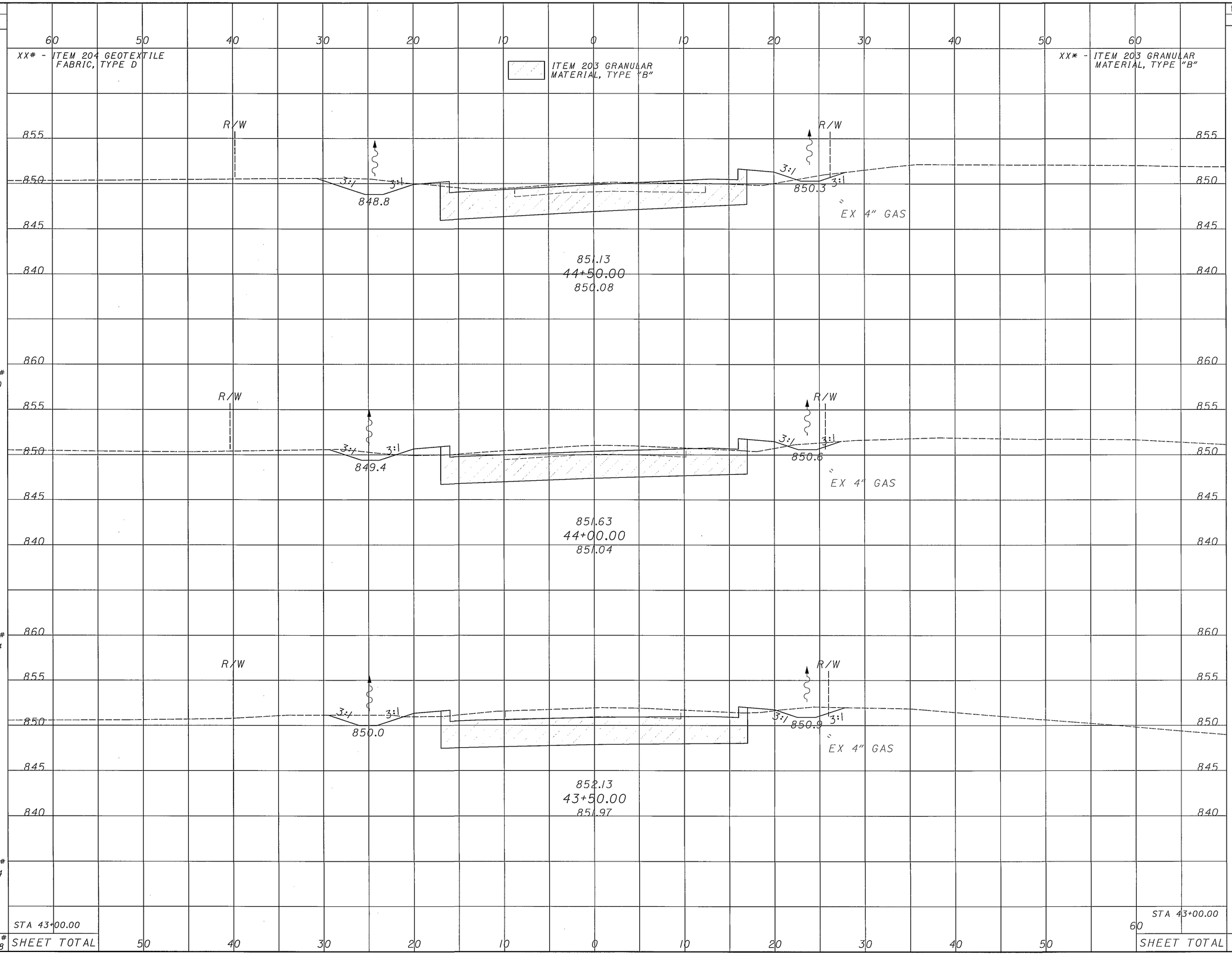
CROSS SECTIONS
STA. 42+50 TO STA. 43+00 CR206C

TRU-534-15.06

54
112

...\XSSHT500.dgn

SEEDING			END AREA		VOLUME	
END WIDTH	SQ. YDS.		CUT	FILL	CUT	FILL
		60 50 40 30 20 10 0 10 20 30 40 50 60				
34# 28	189# 150		115	15 104*	218	25 193*
34# 26	189# 144		120	12 104*	242	15 193*
34# 26	189# 144		141	4 104*	277	7 193*
34# 26	567# 438	STA 43+00.00 SHEET TOTAL	158	3 104*	737	47 579*



CALCULATED RDW
CHECKED PM

CROSS SECTIONS STA. 43+50 TO STA. 44+50 CR 206C

TRU-534-15.06

55
112

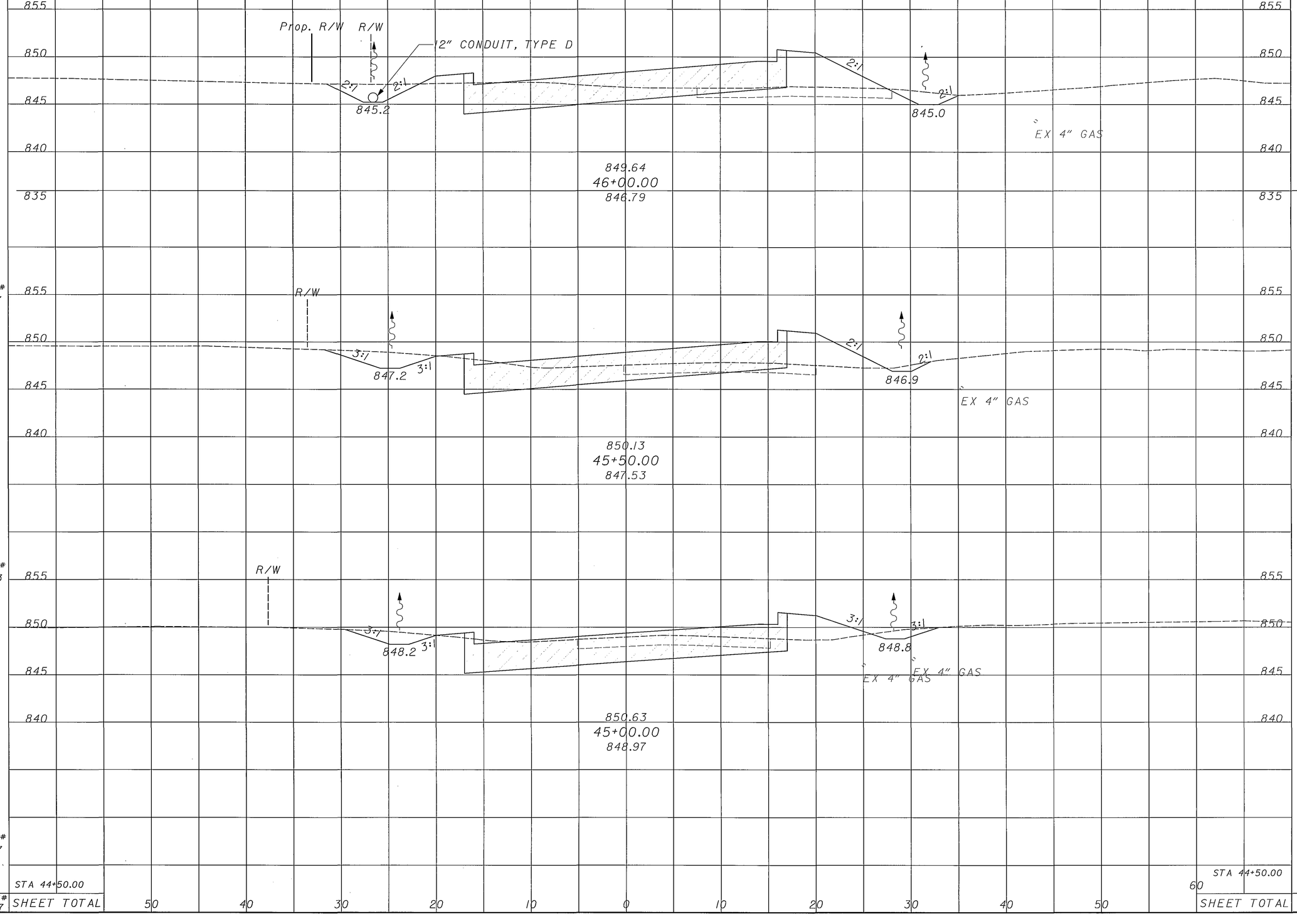
...\XSSHT500.dgn

SEEDING END WIDTH	SEEDING SQ. YDS.
34#	
37	
	189#
	197
34#	
34	
	189#
	183
34#	
32	
	189#
	167
34#	
28	
	567#
	547

XX# - ITEM 204 GEOTEXTILE FABRIC, TYPE D

ITEM 203 GRANULAR MATERIAL, TYPE "B"

XX* - ITEM 203 GRANULAR MATERIAL, TYPE "B"



STA 44+50.00

SHEET TOTAL

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
88	45 104*		
		154	69 193*
78	29 104*		
		161	43 193*
96	17 104*		
		235	30 193*
158	15 104*		
		550	142 578*

CALCULATED RDW

CHECKED PM

CROSS SECTIONS

STA. 45+00 TO STA. 46+00 CR 206C

TRU-534-15.06

56
112

...\XSSHT500.dgn

SEEDING			END AREA		VOLUME	
END WIDTH	SQ. YDS.		CUT	FILL	CUT	FILL
56#	562#	SHEET TOTAL			600	904
67	555					193*
56#	34#	STA 46+00.00	88	45		
65	37			104*		
56#	250#		170	351	266	250
43	222					193*
	156#		AHD 199	339	171	319
	150		BK 199	231		
				104*		
56#	156#		184	358	163	329
67	183					

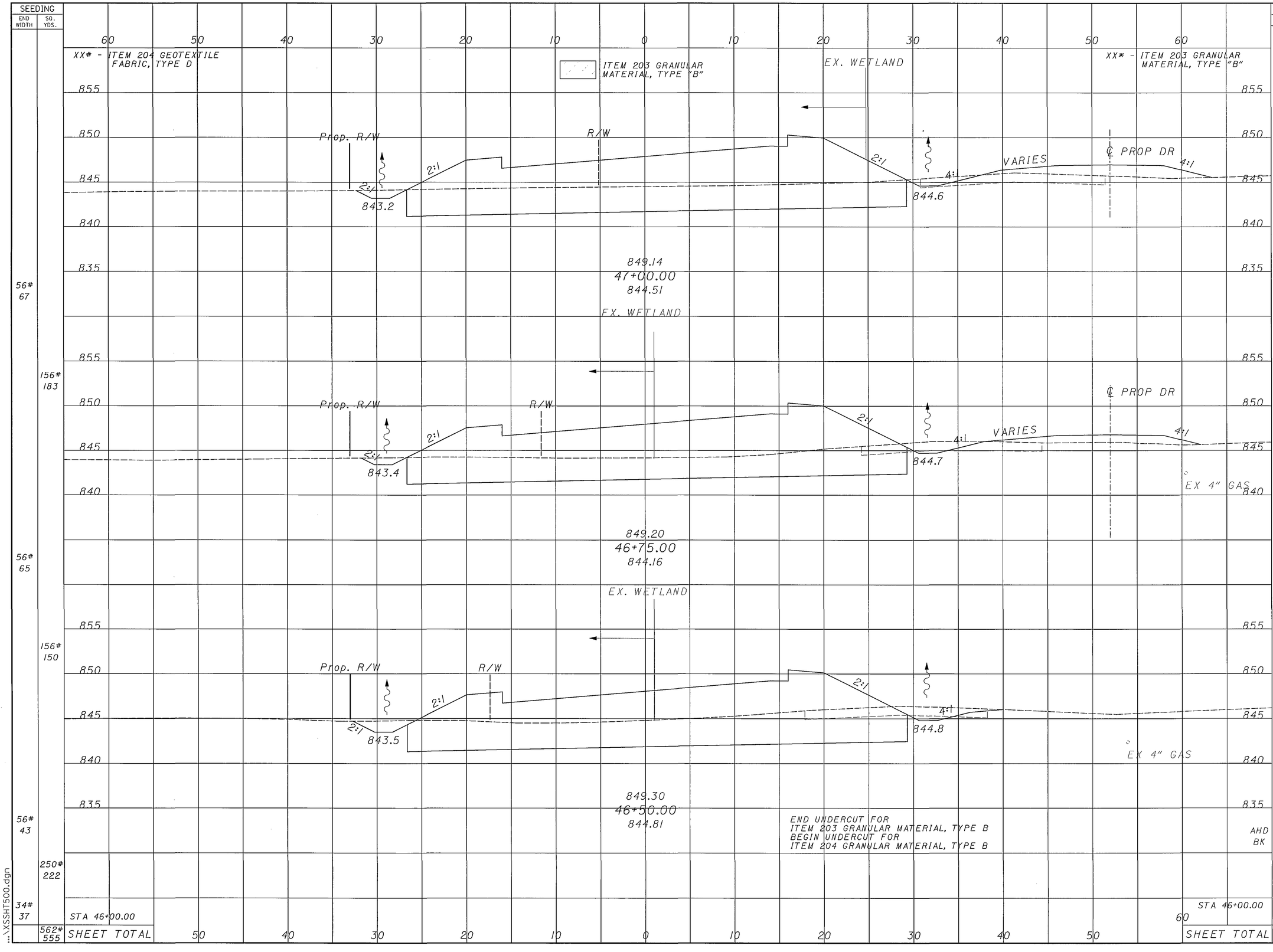
CALCULATED RDW
CHECKED PM

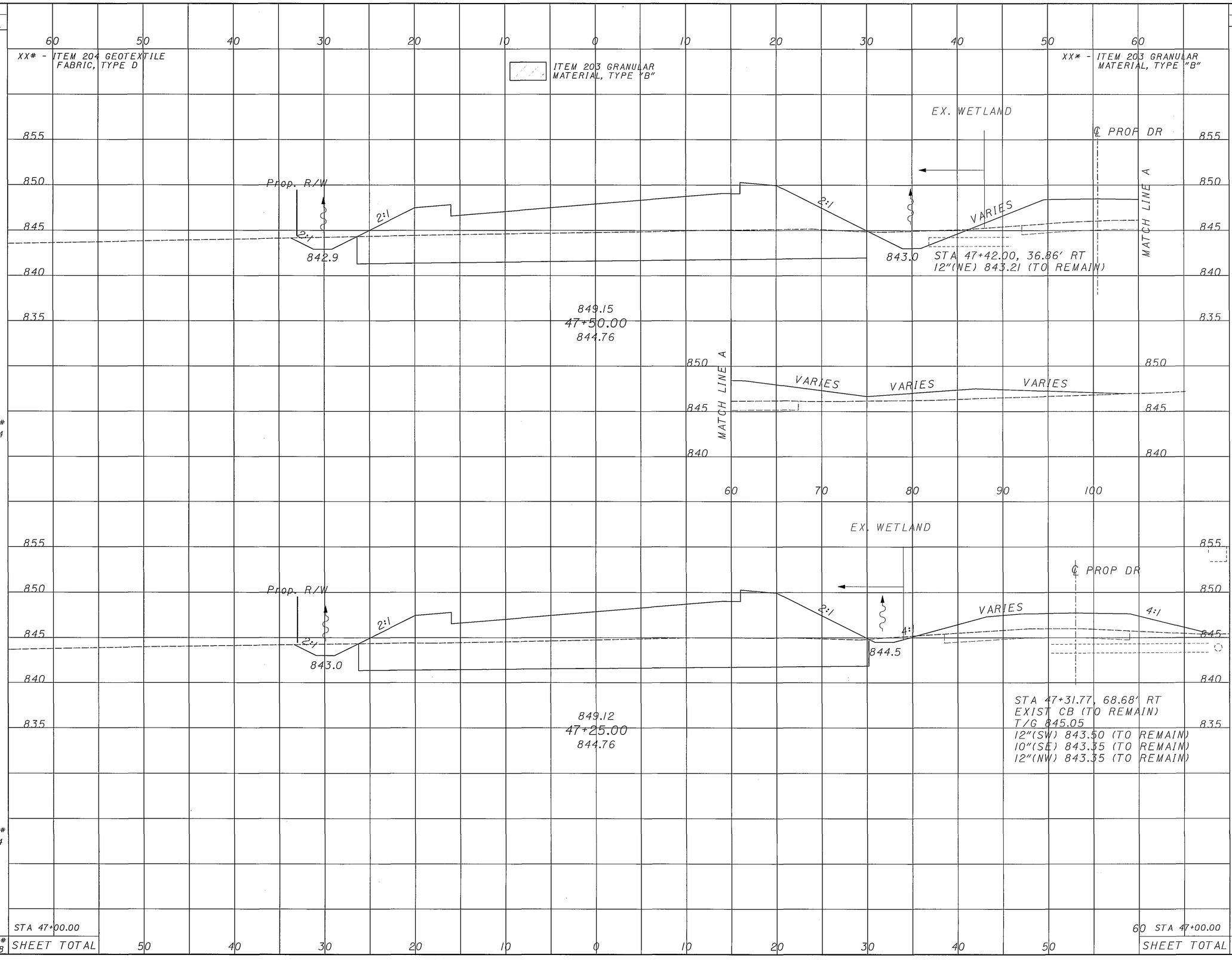
CROSS SECTIONS
STA. 46+50 TO STA. 47+00 CR 206C

TRU-534-15.06

57
112

...\XSSHT500.dgn





SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
56# 110		215	442		
	156# 254			195	395
56# 73		206	411		
	156# 194			181	356
56# 67		184	358		
	312# 448			376	751

CALCULATED RDW
CHECKED PM

CROSS SECTIONS
STA. 47+25 TO STA. 47+50 CR 206C

TRU-534-15.06

...\XSSHT500.dgn

SEEDING			END AREA		VOLUME	
END WIDTH	SQ. YDS.		CUT	FILL	CUT	FILL
		STA 47+50.00				
61#	123		239	437		
334#	611				423	768
59#	97		217	392		
228#	251				235	459
105#	84		292	598		
224#	269				235	482
56#	110		215	442		
768#	1131	SHEET TOTAL			893	1709

CALCULATED RDW
CHECKED PM

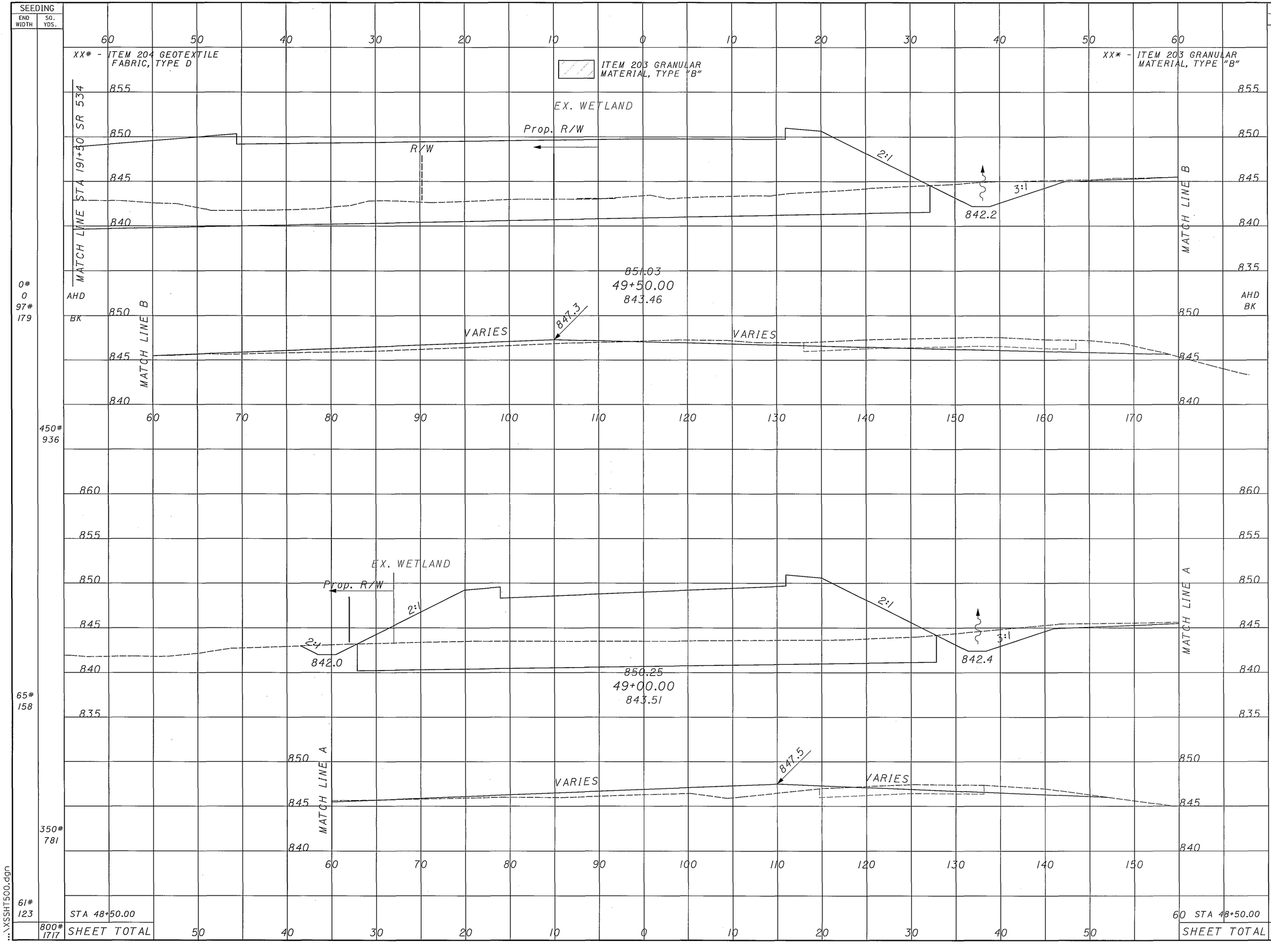
CROSS SECTIONS
STA. 47+75 TO STA. 48+50 CR 206C

TRU-534-15.06

59
112

\XSSHT500.dgn

SEEDING		END AREA		VOLUME		CALCULATED	CHECKED
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL	RDW	PM



0# 0 97# 179		STA 49+50.00	AHD BK	0 302	0 865		
	450# 936					503	1294
65# 158		STA 49+00.00		241	532		
	350# 781					445	898
61# 123		STA 48+50.00		239	437		
	800# 1717	SHEET TOTAL				948	2192

CROSS SECTIONS
STA. 49+00 TO STA. 49+50 CR 206C

TRU-534-15.06

60
112

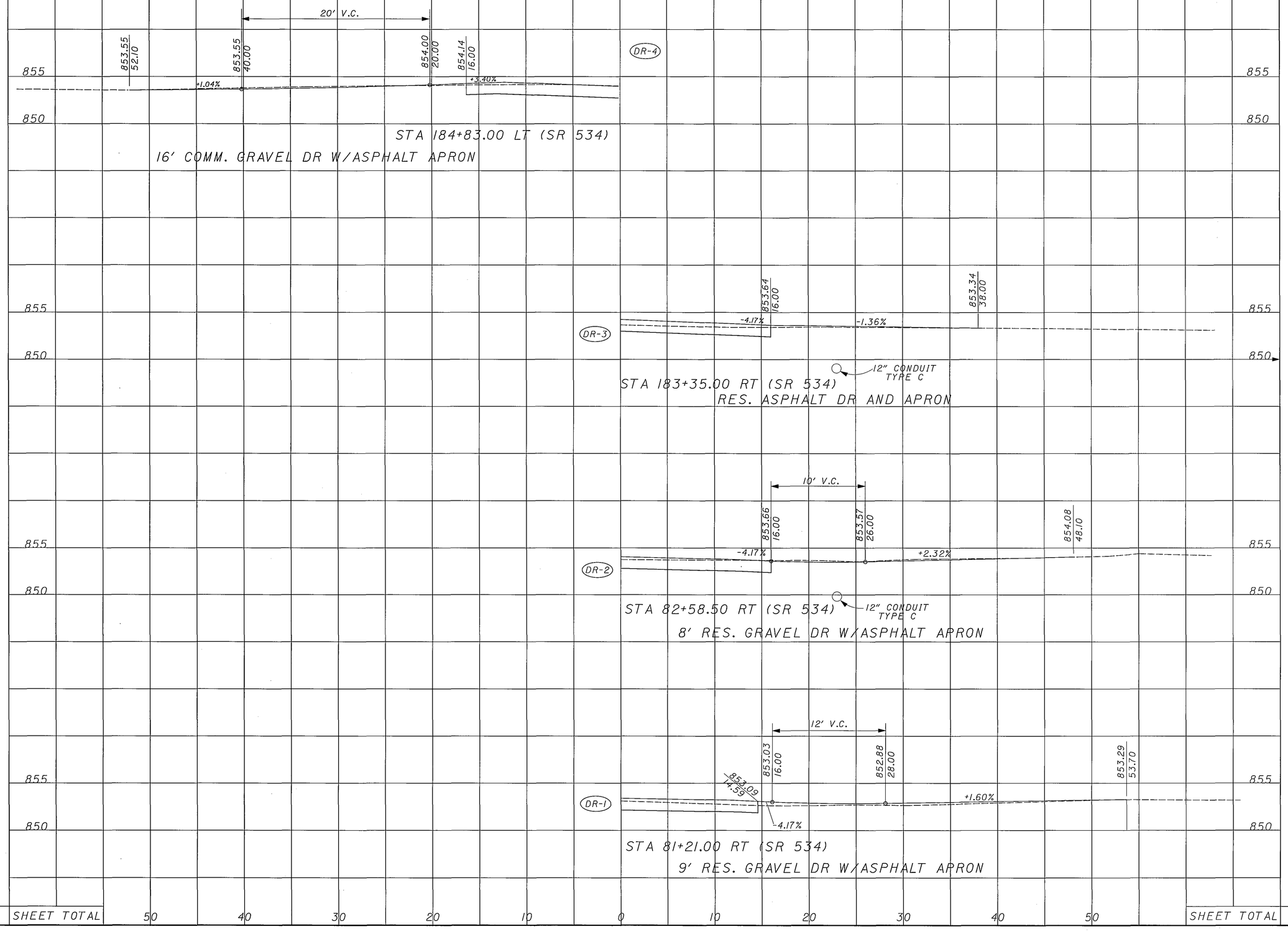
...\XSSHT500.dgn

SEEDING	
END WIDTH	SQ. YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED CCB
CHECKED PM

DRIVEWAY PROFILES



SHEET TOTAL	50	40	30	20	10	0	10	20	30	40	50	SHEET TOTAL

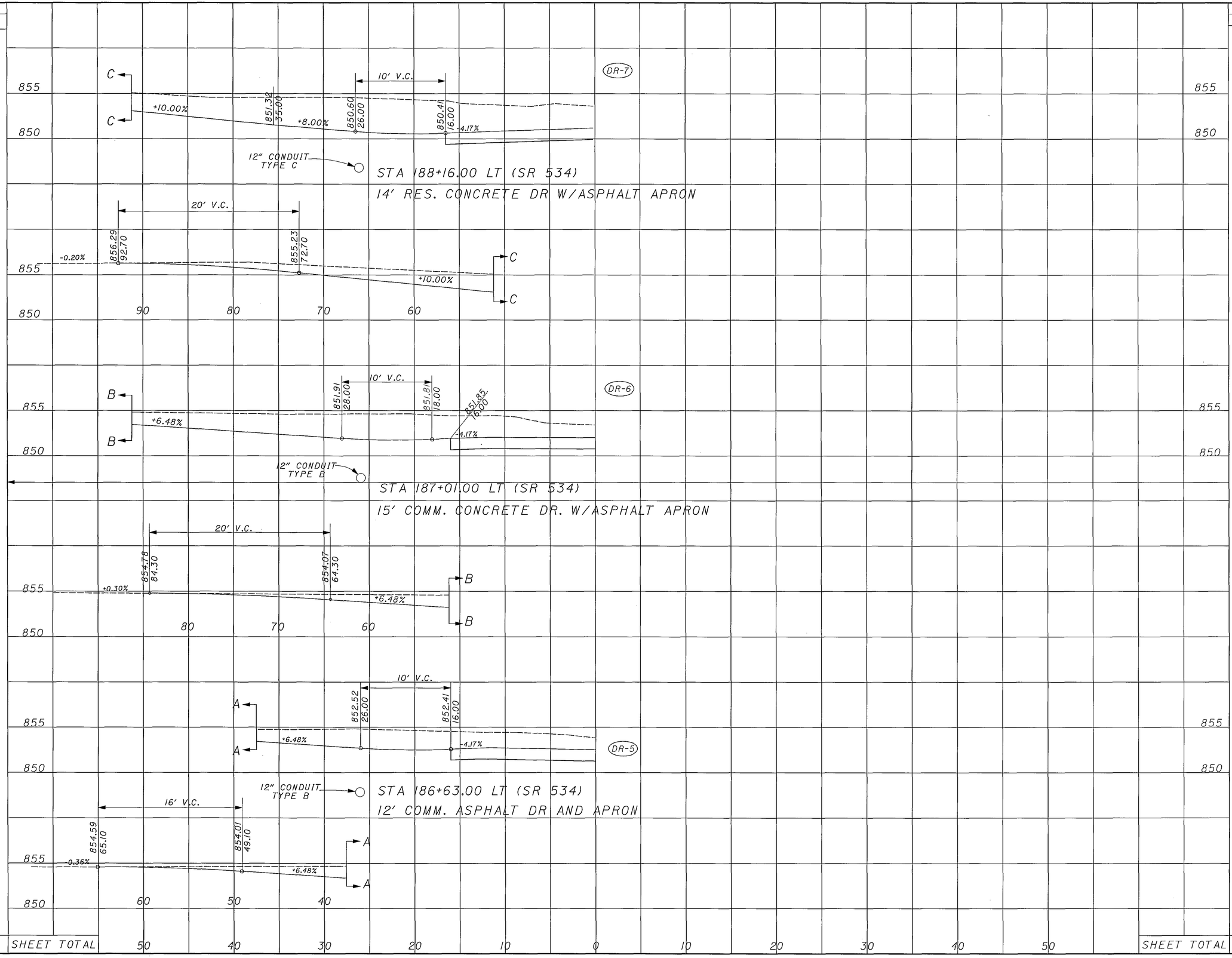
\DRPR0.dgn

TRU-534-15.06

SEEDING	
END WIDTH	SQ. YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED CCB
CHECKED PM



...\DRPRO.dgn

DRIVEWAY PROFILES

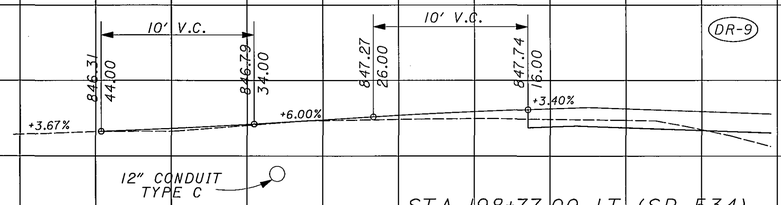
TRU-534-15.06

SEEDING	
END WIDTH	SQ. YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

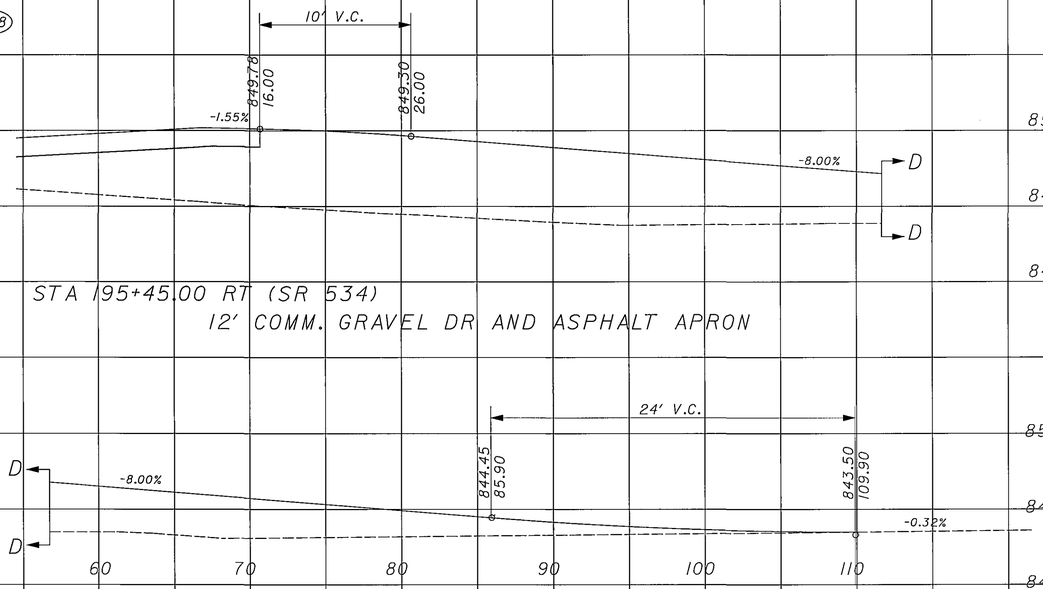
CALCULATED CCB

CHECKED PM



STA 198+77.00 LT (SR 534)

10' RES. GRAVEL DR AND APRON



STA 195+45.00 RT (SR 534)

12' COMM. GRAVEL DR AND ASPHALT APRON

DRIVEWAYS PROFILES

TRU-534-15.06

63
112

SHEET TOTAL 50 40 30 20 10 0 10 20 30 40 50 SHEET TOTAL

...\DRPRO.dgn

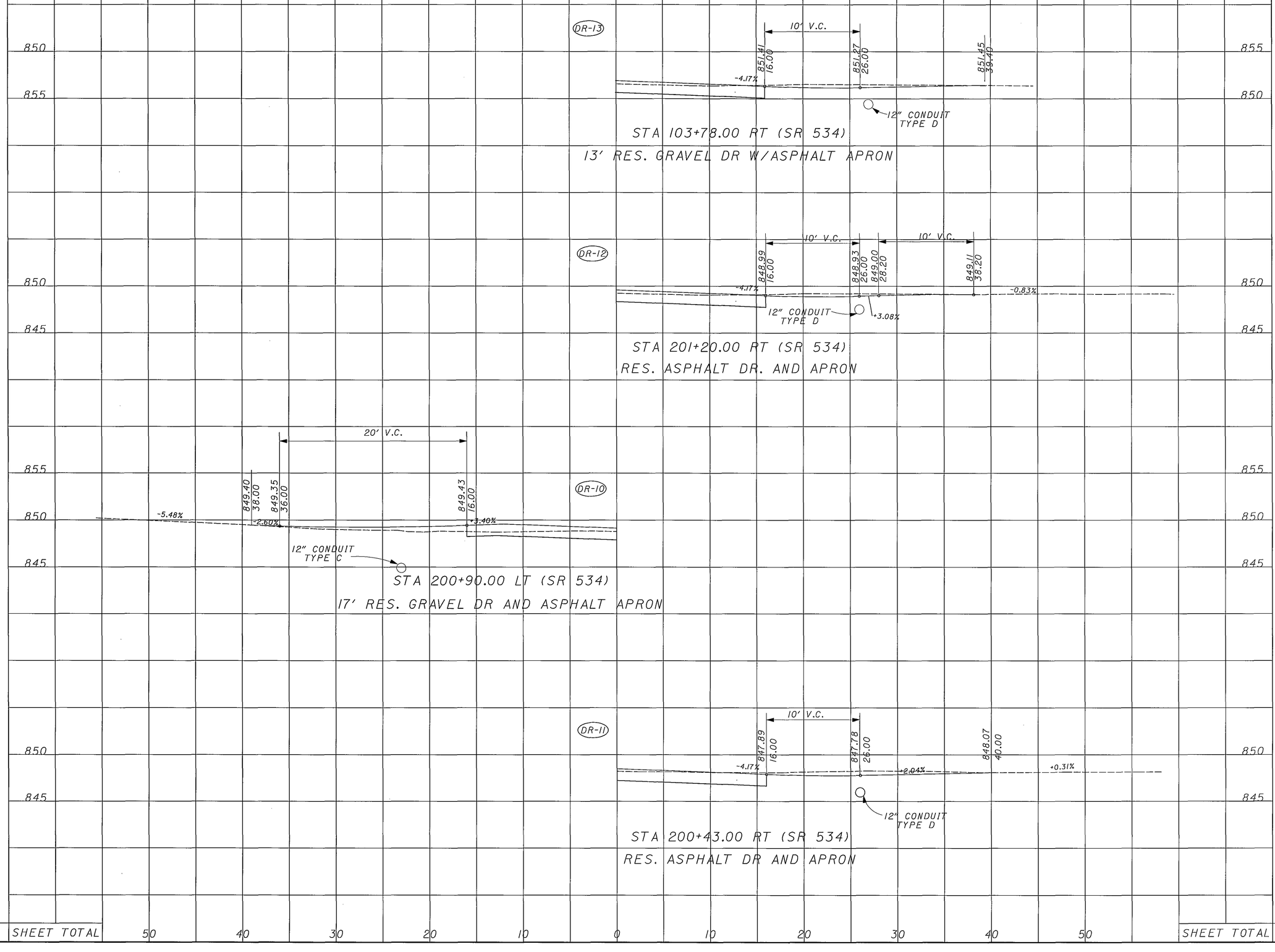
SEEDING	
END WIDTH	SQ. YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED CCB

CHECKED PM

DRIVEWAY PROFILES



SHEET TOTAL 50 40 30 20 10 0 10 20 30 40 50 SHEET TOTAL

TRU-534-15.06

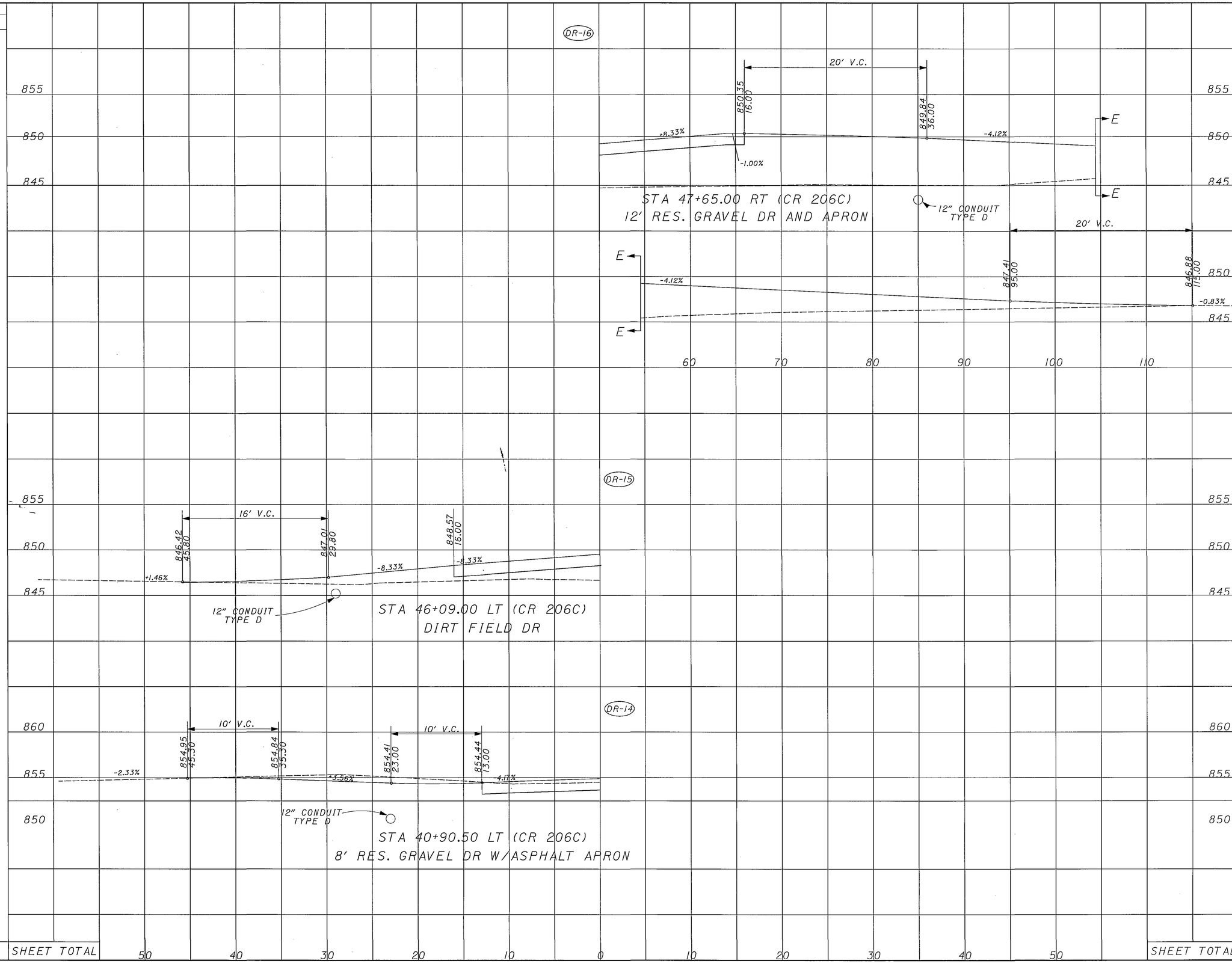
64
112

...\DRPRO.dgn

SEEDING	
END WIDTH	SQ. YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED CCB
CHECKED PM



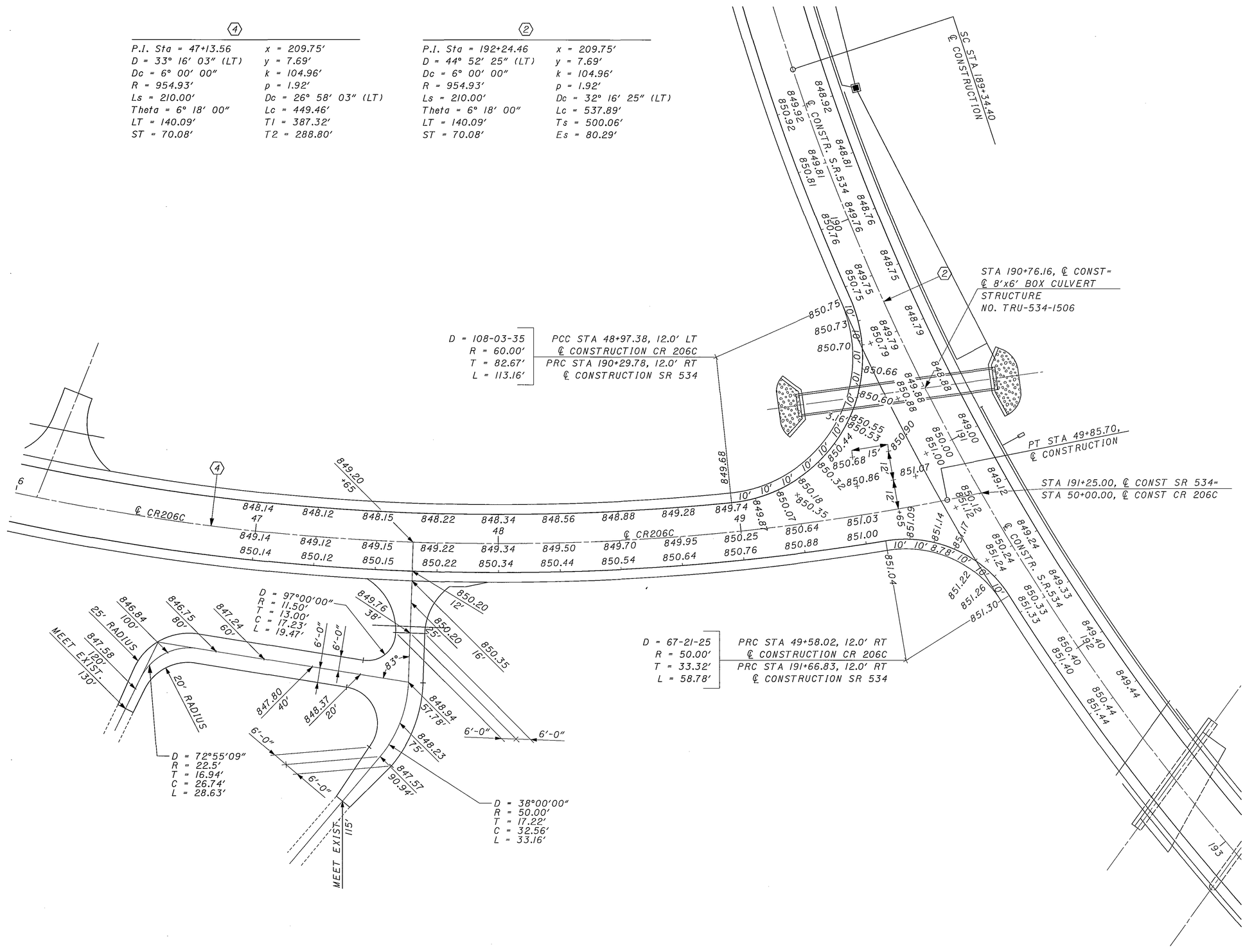
DRIVEWAY PROFILES

TRU-534-15.06

...\DRPRO.dgn

④	
P.I. Sta = 47+13.56	x = 209.75′
D = 33° 16′ 03″ (LT)	y = 7.69′
Dc = 6° 00′ 00″	k = 104.96′
R = 954.93′	p = 1.92′
Ls = 210.00′	Dc = 26° 58′ 03″ (LT)
Theta = 6° 18′ 00″	Lc = 449.46′
LT = 140.09′	T1 = 387.32′
ST = 70.08′	T2 = 288.80′

②	
P.I. Sta = 192+24.46	x = 209.75′
D = 44° 52′ 25″ (LT)	y = 7.69′
Dc = 6° 00′ 00″	k = 104.96′
R = 954.93′	p = 1.92′
Ls = 210.00′	Dc = 32° 16′ 25″ (LT)
Theta = 6° 18′ 00″	Lc = 537.89′
LT = 140.09′	Ts = 500.06′
ST = 70.08′	Es = 80.29′



INTERSECTION DETAIL

HORIZONTAL SCALE IN FEET
0 20 40

CALCULATED PM
CHECKED SKS

TRU-534-15.06

ugd00.dgn

SUPERELEVATION TABLE

LEFT SIDE					CENTERLINE CONTROL		RIGHT SIDE					REMARKS
EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	
852.98		-0.20	-0.0161	12.64	80+75.00	853.18	11.30	-0.0077	-0.09		853.09	
853.17		-0.20	-0.0156	12.55	81+15.52	853.37	11.34	-0.0156	-0.18		853.19	
853.23		-0.19	-0.0156	12.40	81+25.00	853.42	11.51	-0.0156	-0.18		853.24	
853.35	267:1	-0.19	-0.0156	12.00	81+51.78	853.54	12.00	-0.0156	-0.19		853.35	N.C.
853.56	↑	-0.10	-0.0084	12.00	81+75.00	853.66	12.00	-0.0156	-0.19		853.47	
853.76		-0.01	-0.0006	12.00	82+00.00	853.77	12.00	-0.0156	-0.19		853.58	
853.78		0.00	0.0000	12.00	82+01.78	853.78	12.00	-0.0156	-0.19		853.59	½ LEVEL
853.98		0.09	0.0072	12.00	82+25.00	853.89	12.00	-0.0156	-0.19		853.70	
854.19	↓	0.18	0.0150	12.00	82+50.00	854.01	12.00	-0.0156	-0.19		853.82	
854.21	267:1	0.19	0.0156	12.00	82+51.78	854.02	12.00	-0.0156	-0.19	267:1	853.83	R.C.
854.28	↑	0.22	0.0187	12.00	182+61.78	854.06	12.00	-0.0187	-0.22	↑	853.84	P.C.
854.38	↓	0.27	0.0229	12.00	182+75.00	854.11	12.00	-0.0229	-0.27		853.84	Dc=1°-29'
854.56	267:1	0.37	0.0307	12.00	183+00.00	854.19	12.00	-0.0307	-0.37	↓	853.82	
854.65		0.43	0.0360	12.00	183+16.78	854.22	12.00	-0.0360	-0.43	267:1	853.79	F.S.
854.66		0.43	0.0360	12.00	183+25.00	854.23	12.00	-0.0360	-0.43		853.80	
854.67		0.43	0.0360	12.00	183+50.00	854.24	12.00	-0.0360	-0.43		853.81	
854.66		0.43	0.0360	12.00	183+75.00	854.23	12.00	-0.0360	-0.43		853.80	
854.62		0.43	0.0360	12.00	184+00.00	854.19	12.00	-0.0360	-0.43		853.76	
854.55		0.43	0.0360	12.00	184+25.00	854.12	12.00	-0.0360	-0.43		853.69	
854.45		0.43	0.0360	12.00	184+50.00	854.02	12.00	-0.0360	-0.43		853.59	
854.32		0.43	0.0360	12.00	184+75.00	853.89	12.00	-0.0360	-0.43		853.46	
854.17		0.43	0.0360	12.00	185+00.00	853.74	12.00	-0.0360	-0.43		853.31	
853.99		0.43	0.0360	12.00	185+25.00	853.56	12.00	-0.0360	-0.43		853.13	
853.77		0.43	0.0360	12.00	185+50.00	853.34	12.00	-0.0360	-0.43		852.91	
853.55		0.43	0.0360	12.00	185+75.00	853.12	12.00	-0.0360	-0.43		852.69	
853.33		0.43	0.0360	12.00	186+00.00	852.90	12.00	-0.0360	-0.43		852.47	
853.26	210:1	0.43	0.0360	12.00	186+08.77	852.83	12.00	-0.0360	-0.43	210:1	852.40	F.S.
853.05	↑	0.37	0.0309	12.00	186+25.00	852.68	12.00	-0.0309	-0.37	↑	852.31	
852.74		0.28	0.0232	12.00	186+50.00	852.46	12.00	-0.0232	-0.28		852.18	
852.54		0.22	0.0181	12.00	186+66.27	852.32	12.00	-0.0181	-0.22		852.10	P.T.
852.42		0.18	0.0154	12.00	186+75.00	852.24	12.00	-0.0154	-0.18		852.06	
852.11		0.09	0.0076	12.00	187+00.00	852.02	12.00	-0.0076	-0.09		851.93	
851.81		0.00	0.0000	12.00	187+24.40	851.81	12.00	0.0000	0.00		851.81	T.S., FLAT
851.80		-0.00	-0.0002	12.00	187+25.00	851.80	12.00	0.0002	0.00		851.81	
851.46		-0.12	-0.0102	12.00	187+50.00	851.58	12.00	0.0102	0.12		851.70	
851.12		-0.24	-0.0201	12.00	187+75.00	851.36	12.00	0.0201	0.24		851.60	
850.78		-0.36	-0.0300	12.00	188+00.00	851.14	12.00	0.0300	0.36		851.50	
850.44		-0.48	-0.0399	12.00	188+25.00	850.92	12.00	0.0399	0.48		851.40	
850.10		-0.60	-0.0498	12.00	188+50.00	850.70	12.00	0.0498	0.60		851.30	
849.76		-0.72	-0.0597	12.00	188+75.00	850.48	12.00	0.0597	0.72		851.20	
849.42		-0.84	-0.0696	12.00	189+00.00	850.26	12.00	0.0696	0.84		851.10	
849.11	↓	-0.96	-0.0796	12.00	189+25.00	850.07	12.00	0.0796	0.96	↓	851.03	
849.00	210:1	-1.00	-0.0833	12.00	189+34.40	850.00	12.00	0.0833	1.00	210:1	851.00	S.C, F.S.
848.92		-1.00	-0.0833	12.00	189+50.00	849.92	12.00	0.0833	1.00		850.92	Dc=6°-00'
848.81		-1.00	-0.0833	12.00	189+75.00	849.81	12.00	0.0833	1.00		850.81	
848.76		-1.00	-0.0833	12.00	190+00.00	849.76	12.00	0.0833	1.00		850.76	
848.75		-1.00	-0.0833	12.00	190+25.00	849.75	12.00	0.0833	1.00		850.75	
848.79		-1.00	-0.0833	12.00	190+50.00	849.79	12.00	0.0833	1.00		850.79	

SUPERELEVATION TABLE

LEFT SIDE					CENTERLINE CONTROL		RIGHT SIDE					REMARKS
EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	
848.88		-1.00	-0.0833	12.00	190+75.00	849.88	12.00	0.0833	1.00		850.88	
849.00		-1.00	-0.0833	12.00	191+00.00	850.00	12.00	0.0833	1.00		851.00	
849.12		-1.00	-0.0833	12.00	191+25.00	850.12	12.00	0.0833	1.00		851.12	
849.24		-1.00	-0.0833	12.00	191+50.00	850.24	12.00	0.0833	1.00		851.24	
849.33		-1.00	-0.0833	12.00	191+75.00	850.33	12.00	0.0833	1.00		851.33	
849.40		-1.00	-0.0833	12.00	192+00.00	850.40	12.00	0.0833	1.00		851.40	
849.44		-1.00	-0.0833	12.00	192+25.00	850.44	12.00	0.0833	1.00		851.44	
849.45		-1.00	-0.0833	12.00	192+50.00	850.45	12.00	0.0833	1.00		851.45	
849.45		-1.00	-0.0833	12.00	192+50.65	850.45	12.00	0.0833	1.00		851.45	
849.45		-1.00	-0.0833	12.00	192+65.65	850.45	12.00	0.0833	1.00		851.45	
849.44		-1.00	-0.0833	12.00	192+75.00	850.44	12.00	0.0833	1.00		851.44	
849.40		-1.00	-0.0833	12.00	193+00.00	850.40	12.00	0.0833	1.00		851.40	
849.33		-1.00	-0.0833	12.00	193+25.00	850.33	12.00	0.0833	1.00		851.33	
849.24		-1.00	-0.0833	12.00	193+50.00	850.24	12.00	0.0833	1.00		851.24	
849.12		-1.00	-0.0833	12.00	193+75.00	850.12	12.00	0.0833	1.00		851.12	
849.01		-1.00	-0.0833	12.00	193+97.03	850.01	12.00	0.0833	1.00		851.01	
849.00		-1.00	-0.0833	12.00	194+00.00	850.00	12.00	0.0833	1.00		851.00	
848.94		-1.00	-0.0833	12.00	194+12.03	849.94	12.00	0.0833	1.00		850.94	
848.88		-1.00	-0.0833	12.00	194+25.00	849.88	12.00	0.0833	1.00		850.88	
848.76		-1.00	-0.0833	12.00	194+50.00	849.76	12.00	0.0833	1.00		850.76	
848.63	210:1	-1.00	-0.0833	12.00	194+72.29	849.63	12.00	0.0833	1.00	210:1	850.63	C.S., F.S.
848.62	↑	-0.99	-0.0822	12.00	194+75.00	849.61	12.00	0.0822	0.99	↑	850.60	
848.59		-0.87	-0.0723	12.00	195+00.00	849.46	12.00	0.0723	0.87		850.33	
848.56		-0.75	-0.0624	12.00	195+25.00	849.31	12.00	0.0624	0.75		850.06	
848.53		-0.63	-0.0525	12.00	195+50.00	849.16	12.00	0.0525	0.63		849.79	
848.50		-0.51	-0.0425	12.00	195+75.00	849.01	12.00	0.0425	0.51		849.52	
848.47		-0.39	-0.0326	12.00	196+00.00	848.86	12.00	0.0326	0.39		849.25	
848.44		-0.27	-0.0227	12.00	196+25.00	848.71	12.00	0.0227	0.27		848.98	
848.41		-0.15	-0.0128	12.00	196+50.00	848.56	12.00	0.0128	0.15		848.71	
848.37		-0.04	-0.0029	12.00	196+75.00	848.41	12.00	0.0029	0.04		848.45	
848.37		-0.00	-0.0000	12.00	196+82.29	848.37	12.00	-0.0000	-0.00		848.37	S.T., FLAT
848.33		0.07	0.0055	12.00	197+00.00	848.26	12.00	-0.0055	-0.07		848.19	
848.27		0.16	0.0133	12.00	197+25.00	848.11	12.00	-0.0133	-0.16		847.95	
848.24		0.22	0.0181	12.00	197+40.39	848.02	12.00	-0.0181	-0.22		847.80	P.C.
848.21		0.25	0.0211	12.00	197+50.00	847.96	12.00	-0.0211	-0.25		847.71	Dc=1°29'
848.16	↓	0.35	0.0289	12.00	197+75.00	847.81	12.00	-0.0289	-0.35	↓	847.46	
848.10	210:1	0.43	0.0360	12.00	197+97.89	847.67	12.00	-0.0360	-0.43	210:1	847.24	F.S.
848.09		0.43	0.0360	12.00	198+00.00	847.66	12.00	-0.0360	-0.43		847.23	
847.97		0.43	0.0360	12.00	198+25.00	847.54	12.00	-0.0360	-0.43		847.11	
847.90		0.43	0.0360	12.00	198+50.00	847.47	12.00	-0.0360	-0.43		847.04	
847.88		0.43	0.0360	12.00	198+75.00	847.45	12.00	-0.0360	-0.43		847.02	
847.90		0.43	0.0360	12.00	199+00.00	847.47	12.00	-0.0360	-0.43		847.04	
847.97		0.43	0.0360	12.00	199+25.00	847.54	12.00	-0.0360	-0.43		847.11	
848.08		0.43	0.0360	12.00	199+50.00	847.65	12.00	-0.0360	-0.43		847.22	
848.24		0.43	0.0360	12.00	199+75.00	847.81	12.00	-0.0360	-0.43		847.38	
848.45		0.43	0.0360	12.00	200+00.00	848.02	12.00	-0.0360	-0.43		847.59	
848.70		0.43	0.0360	12.00	200+25.00	848.27	12.00	-0.0360	-0.43		847.84	
849.00		0.43	0.0360	12.00	200+50.00	848.57	12.00	-0.0360	-0.43		848.14	
849.35		0.43	0.0360	12.00	200+75.00	848.92	12.00	-0.0360	-0.43		848.49	
849.72		0.43	0.0360	12.00	201+00.00	849.29	12.00	-0.0360	-0.43		848.86	

CALCULATED SKS
CHECKED PM

SUPERELEVATION TABLE

TRU-534-15.06

...\GE100.dgn

SUPERELEVATION TABLE

LEFT SIDE					CENTERLINE CONTROL		RIGHT SIDE					REMARKS
EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	
850.09		0.43	0.0360	12.00	201+25.00	849.66	12.00	-0.0360	-0.43		849.23	
850.44		0.43	0.0360	12.00	201+50.00	850.01	12.00	-0.0360	-0.43		849.58	
850.77		0.43	0.0360	12.00	201+75.00	850.34	12.00	-0.0360	-0.43		849.91	
851.08		0.43	0.0360	12.00	202+00.00	850.65	12.00	-0.0360	-0.43		850.22	
851.18	267:1	0.43	0.0360	12.00	202+08.99	850.75	12.00	-0.0360	-0.43	267:1	850.32	F.S.
851.29	↑	0.37	0.0310	12.00	202+25.00	850.92	12.00	-0.0310	-0.37	↑	850.55	
851.45		0.28	0.0231	12.00	202+50.00	851.17	12.00	-0.0231	-0.28		850.89	
851.52		0.22	0.0187	12.00	103+14.33	851.30	12.00	-0.0187	-0.22	↓	851.08	P.T.
851.57		0.19	0.0156	12.00	103+24.33	851.38	12.00	-0.0156	-0.19	267:1	851.19	R.C.
851.57		0.18	0.0154	12.00	103+25.00	851.39	12.00	-0.0156	-0.19		851.20	
851.67		0.09	0.0076	12.00	103+50.00	851.58	12.00	-0.0156	-0.19		851.39	
851.74		-0.00	-0.0000	12.00	103+74.33	851.74	12.00	-0.0156	-0.19		851.55	1/2 LEVEL
851.75		-0.00	-0.0002	12.00	103+75.00	851.75	12.00	-0.0156	-0.19		851.56	
851.79	↓	-0.10	-0.0080	12.00	104+00.00	851.89	12.00	-0.0156	-0.19		851.70	
851.81	267:1	-0.19	-0.0156	12.00	104+24.33	852.00	12.00	-0.0156	-0.19		851.81	N.C.
851.82		-0.19	-0.0156	11.98	104+25.00	852.01	11.98	-0.0156	-0.19		851.82	
851.90		-0.18	-0.0156	11.76	104+40.20	852.08	11.71	-0.0156	-0.18		851.90	
852.13		-0.12	-0.0099	11.91	104+75.00	852.25	11.81	-0.0342	-0.40		851.85	

SUPERELEVATION TABLE

P.I. STA 47+13.56 | Dc = 6°-00'-00"

LEFT SIDE					CENTERLINE CONTROL		RIGHT SIDE					REMARKS
EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	
854.94		-0.39	-0.0399	9.87	40+30.44	855.33	8.53	-0.0584	-0.50		854.83	
854.68		-0.15	-0.0156	9.90	40+80.44	854.83	8.44	-0.0156	-0.13		854.70	
854.47		-0.16	-0.0156	10.11	41+00.00	854.63	8.80	-0.0156	-0.14		854.49	
854.22		-0.16	-0.0156	10.38	41+25.00	854.38	9.25	-0.0156	-0.14		854.24	
853.96		-0.17	-0.0156	10.65	41+50.00	854.13	9.70	-0.0156	-0.15		853.98	
853.71		-0.17	-0.0156	10.91	41+75.00	853.88	10.16	-0.0156	-0.16		853.72	
853.46		-0.17	-0.0156	11.18	42+00.00	853.63	10.61	-0.0156	-0.17		853.46	
853.20		-0.18	-0.0156	11.45	42+25.00	853.38	11.07	-0.0156	-0.17		853.21	
852.95		-0.18	-0.0156	11.72	42+50.00	853.13	11.52	-0.0156	-0.18		852.95	
852.69		-0.19	-0.0156	11.99	42+75.00	852.88	11.98	-0.0156	-0.19		852.69	
852.68		-0.19	-0.0156	12.00	42+76.24	852.87	12.00	-0.0156	-0.19	2:1	852.68	N.C.
852.44		-0.19	-0.0156	12.00	43+00.00	852.63	12.00	-0.0082	-0.10	↑	852.53	
852.19		-0.19	-0.0156	12.00	43+25.00	852.38	12.00	-0.0004	-0.00		852.38	
852.18		-0.19	-0.0156	12.00	43+26.24	852.37	12.00	-0.0000	-0.00		852.37	T.S., 1/2 FLAT
851.85	2:1	-0.28	-0.0233	12.00	43+50.00	852.13	12.00	0.0094	0.11	2:1	852.24	
851.50	↑	-0.38	-0.0313	12.00	43+75.00	851.88	12.00	0.0193	0.23	↑	852.11	
851.16		-0.47	-0.0394	12.00	44+00.00	851.63	12.00	0.0293	0.35		851.98	
850.81		-0.57	-0.0474	12.00	44+25.00	851.38	12.00	0.0392	0.47		851.85	
850.46		-0.67	-0.0555	12.00	44+50.00	851.13	12.00	0.0491	0.59		851.72	
850.12		-0.76	-0.0636	12.00	44+75.00	850.88	12.00	0.0590	0.71		851.59	
849.77		-0.86	-0.0716	12.00	45+00.00	850.63	12.00	0.0689	0.83		851.46	
849.42		-0.96	-0.0797	12.00	45+25.00	850.38	12.00	0.0788	0.95		851.33	
849.27	2:1	-1.00	-0.0833	12.00	45+36.24	850.27	12.00	0.0833	1.00	2:1	851.27	S.C., F.S.
849.13		-1.00	-0.0833	12.00	45+50.00	850.13	12.00	0.0833	1.00		851.13	
848.88		-1.00	-0.0833	12.00	45+75.00	849.88	12.00	0.0833	1.00		850.88	
848.64		-1.00	-0.0833	12.00	46+00.00	849.64	12.00	0.0833	1.00		850.64	
848.45		-1.00	-0.0833	12.00	46+25.00	849.45	12.00	0.0833	1.00		850.45	
848.30		-1.00	-0.0833	12.00	46+50.00	849.30	12.00	0.0833	1.00		850.30	
848.20		-1.00	-0.0833	12.00	46+75.00	849.20	12.00	0.0833	1.00		850.20	
848.14		-1.00	-0.0833	12.00	47+00.00	849.14	12.00	0.0833	1.00		850.14	
848.12		-1.00	-0.0833	12.00	47+25.00	849.12	12.00	0.0833	1.00		850.12	
848.15		-1.00	-0.0833	12.00	47+50.00	849.15	12.00	0.0833	1.00		850.15	
848.22		-1.00	-0.0833	12.00	47+75.00	849.22	12.00	0.0833	1.00		850.22	
848.34		-1.00	-0.0833	12.00	48+00.00	849.34	12.00	0.0833	1.00		850.34	
848.56		-0.94	-0.0783	12.00	48+25.00	849.50	12.00	0.0783	0.94		850.44	
848.87		-0.83	-0.0692	12.00	48+50.00	849.70	12.00	0.0692	0.83		850.53	
849.27		-0.68	-0.0567	12.00	48+75.00	849.95	12.00	0.0567	0.68		850.63	
849.74		-0.51	-0.0425	12.05	49+00.00	850.25	12.00	0.0425	0.51		850.76	

SEE INTERSECTION DETAILS

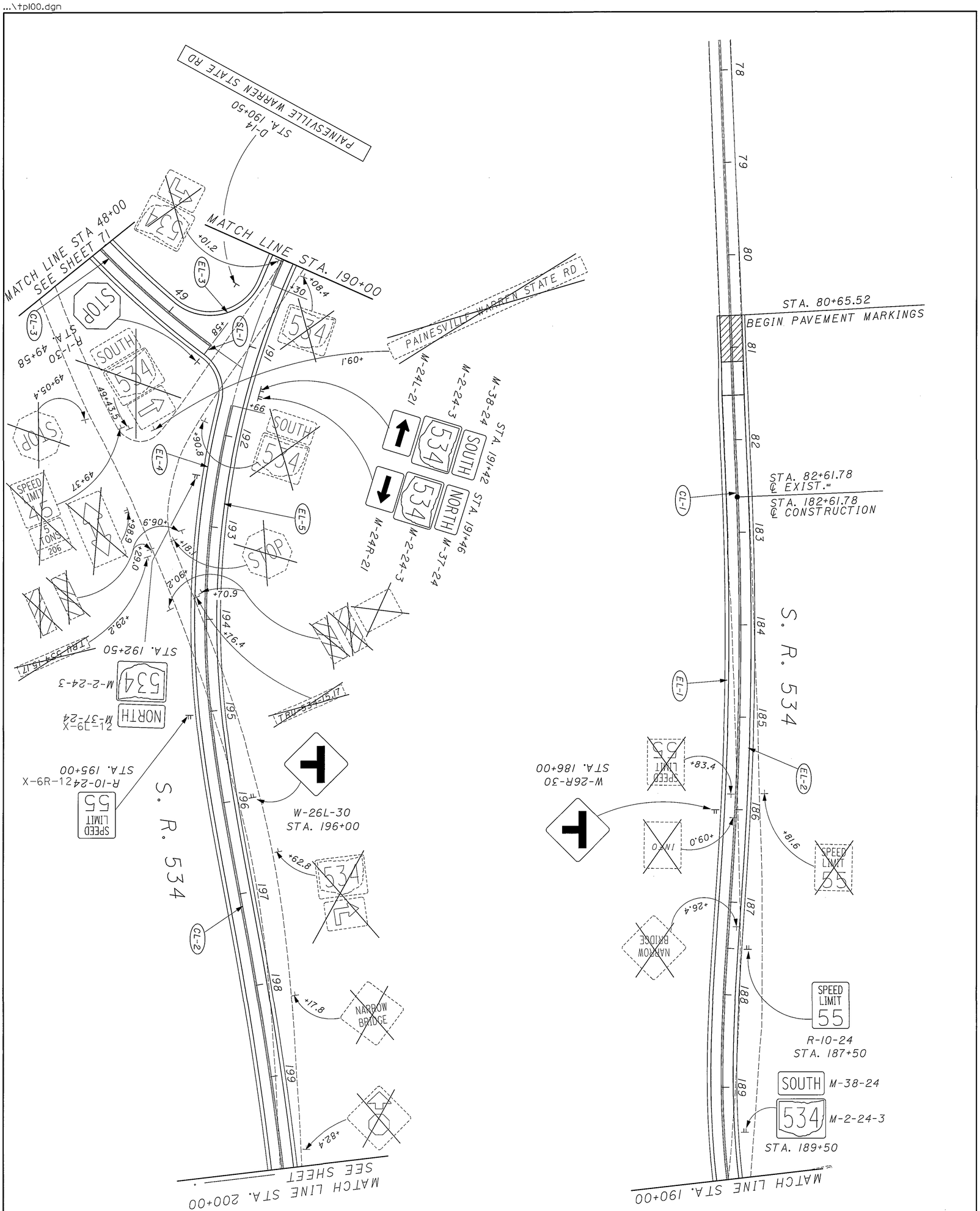
CALCULATED SKS
CHECKED PM

SUPERELEVATION TABLE

TRU-534-15.06

...\GE100.dgn

...\tpl00.dgn

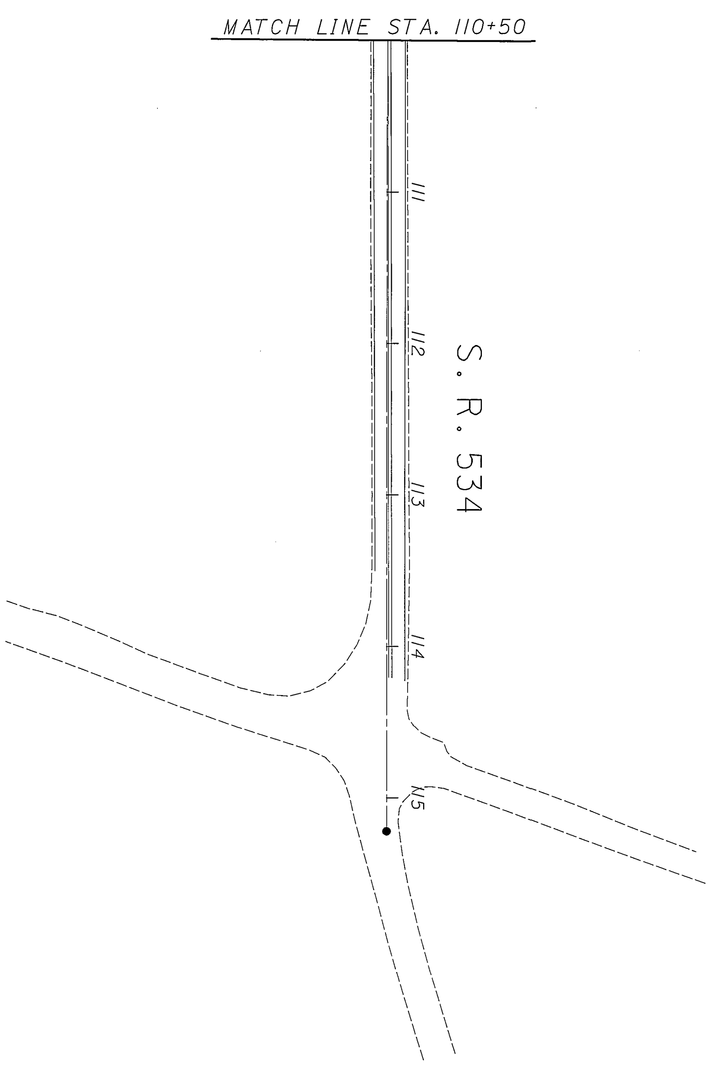


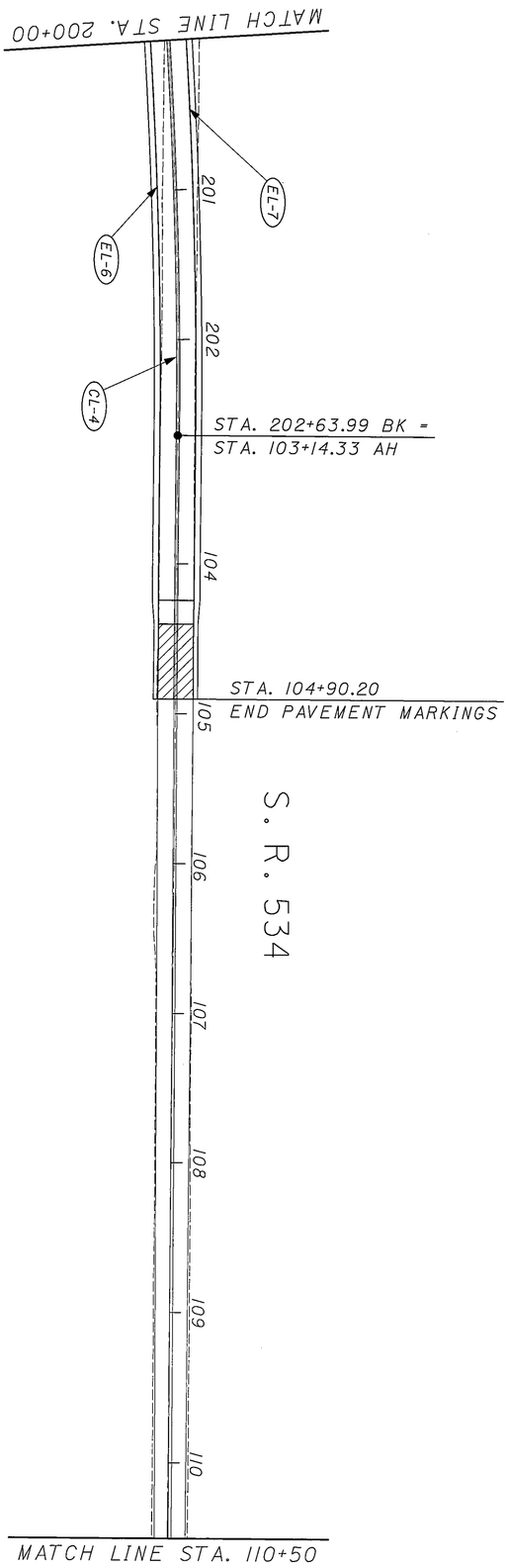
LEGEND:

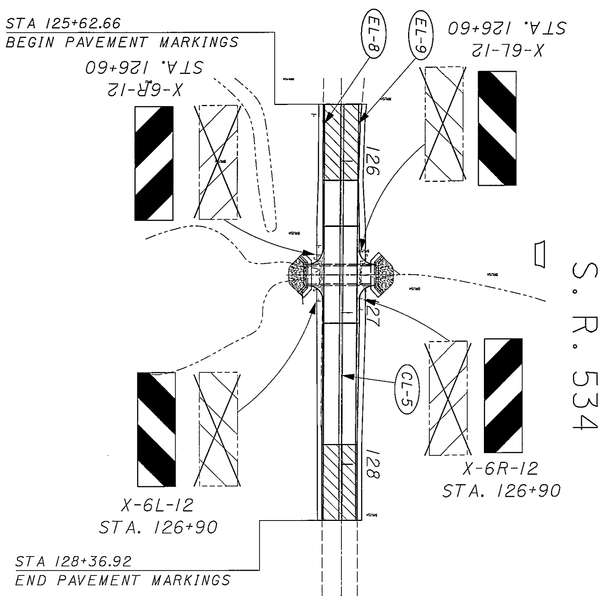
PROPOSED

EXISTING TO BE REMOVED

...\tpl01.dgn







TRU - 534 - 15.06

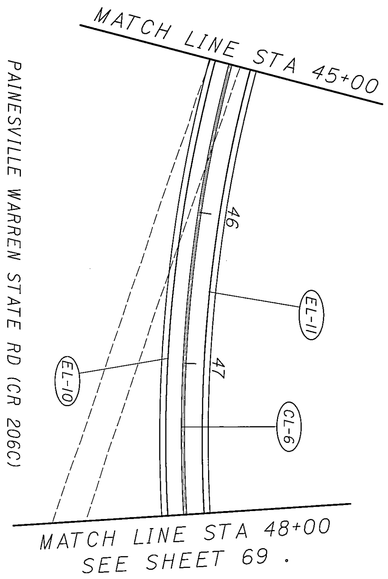
SIGNING AND PAVEMENT MARKING PLAN

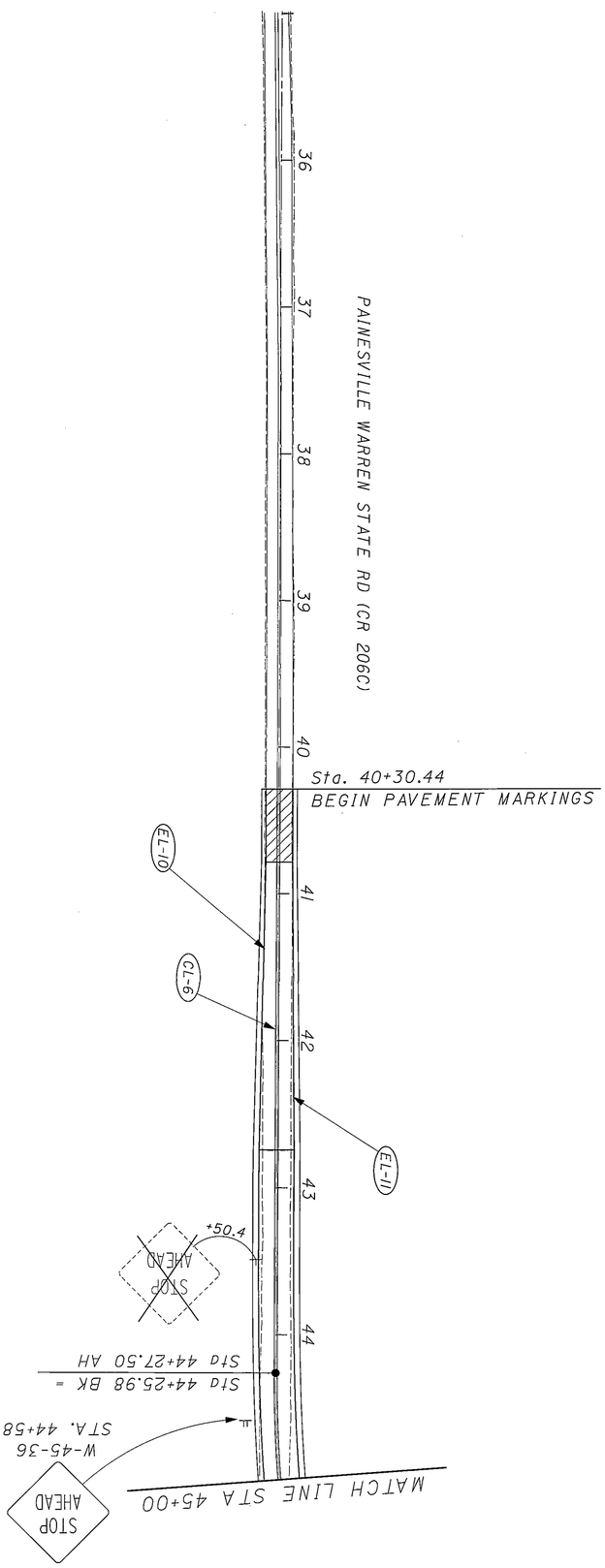
CALCULATED MRK
CHECKED SKS

0 25 50 100
HORIZONTAL SCALE IN FEET

N

...\tp500.dgn





TRU - 534 - 15.06

SIGNING AND PAVEMENT MARKING PLAN

CALCULATED MRK
CHECKED SKS

0 25 50 100
HORIZONTAL SCALE IN FEET

N

SIGNING SUBSUMMARY

SHEET NO.	STATION LOCATION	SIDE	CODE	SIZE (INCHES)	630 GROUND MOUNTED SUPPORT, NO 2 POST (FEET)	630 GROUND MOUNTED SUPPORT, NO 3 POST (FEET)	630 GROUND MOUNTED SUPPORT, NO 4 POST (FEET)	630 STREET NAME SIGN SUPPORT, NO 3 POST (FEET)	630 SIGN, FLAT SHEET, TYPE G (SQ FT)	630 SIGN, DOUBLE FACED STREET NAME (EACH)	630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL (EACH)	630 REMOVAL OF GROUND MOUNTED POST SUPPORT & DISPOSAL (EACH)
	SR 534											
69	185+83.4	RT	R-10-24								1	1
69	185+81.6	LT									1	1
69	186+00.0	RT	W-26R-30	30 x 30		14.0			6.25			
69	186+09.0	RT									1	1
69	187+26.4	LT									1	1
69	187+50.0	LT	R-10-24	24 x 30		13.0			5.00			
69	189+50.0	LT	M-38-24	24 x 12		13.5			2.00			
			M-2-24-3	30 x 24					5.00			
69	190+01.2	RT									2	1
69	190+08.4	LT									1	1
69	190+50.0	RT	D-14	VARIES x 8				14		2		
69	191+42.0	LT	M-38-24	24 x 12					2.00			
			M-2-24-3	30 x 24			15.0		5.00			
			M-24-21	21 x 15					2.19			
69	191+46.0	LT	M-37-24	24 x 12					2.00			
			M-2-24-3	30 x 24			15.0		5.00			
			M-24-21	21 x 15					2.19			
69	191+90.8	RT									2	1
69	192+50.0	RT	M-37-24	24 x 12		13.5			2.00			
			M-2-24-3	30 x 24					5.00			
69	193+18.1	RT									1	1
69	193+29.2	RT									1	1
69	193+76.4	RT									1	1
69	191+09.1	RT									1	2
69	192+98.9	RT									1	2
69	193+06.9	RT									1	1
69	193+29.0	RT									1	1
69	193+90.2	RT									1	1
69	193+70.9	RT									1	1
69	195+00.0	RT	R-10-24	24 x 30		13.0			5.00			
69	196+00.0	LT	W-26L-30	30 x 30		14.0			6.25			
69	196+62.8	LT									2	1
69	198+17.8	LT									1	1
69	199+82.4	LT									1	1
70	126+60.0	LT	X-6L-12	12 x 36	10.5				3.00			
70	126+60.0	RT	X-6R-12	12 x 36	10.5				3.00			
70	126+90.0	LT	X-6L-12	12 x 36	10.5				3.00			
70	126+90.0	RT	X-6R-12	12 x 36	10.5				3.00			
	CR 206C											
71	* 43+50.4	RT									1	1
71	* 44+58.0	RT	W-45-36	36 x 36		14.5			9.00			
69	* 49+05.4	RT									1	1
69	* 49+43.5	RT									3	1
69	* 49+58.0	RT	R-1-30	30 x 30		14.0			6.25			
69	* 49+37.0	RT									1	1
TOTALS CARRIED TO GENERAL SUMMARY					**42.0**	**109.5**	**30.0**	**14.0**	**82.1**	**2**	**28**	**25**

PAVEMENT MARKING SUBSUMMARY

SHEET NO.	REFERENCE NO.	STATION LOCATION FROM	STATION LOCATION TO	SIDE	642 CENTERLINE SOLID DOUBLE TYPE I (YELLOW) (MILE)	642 EDGE LINE TYPE I (WHITE) (MILE)	642 STOP LINE TYPE I (WHITE) (FEET)
		SR 534					
69	CL-1	80+65.52	190+30.00	℄	0.18		
69	CL-2	191+66.00	200+00.00	℄	0.16		
69	CL-3	*48+00.00	*49+58.00	℄	0.03		
69	EL-1	80+65.52	190+00.00	RT		0.18	
69	EL-2	80+65.52	190+00.00	LT		0.18	
69	EL-3	190+00.00	*48+00.00	RT/LT		0.05	
69	EL-4	*48+00.00	200+00.00	RT		0.20	
69	EL-5	190+00.00	200+00.00	LT		0.19	
69	SL-1	*49+58.00		RT			12
70	CL-4	200+00.00	104+90.20	℄	0.08		
70	CL-5	125+62.66	128+36.92	℄	0.05		
70	EL-6	200+00.00	104+90.20	RT		0.08	
70	EL-7	200+00.00	104+90.20	LT		0.08	
70	EL-8	125+62.66	128+36.92	RT		0.05	
70	EL-9	125+62.66	128+36.92	LT		0.05	
		CR 206C					
71	CL-6	40+30.44	48+00.00	℄	0.15		
71	EL-10	40+30.44	48+00.00	RT		0.15	
71	EL-11	40+30.44	48+00.00	LT		0.15	
TOTALS CARRIED TO GENERAL SUMMARY					**0.65**	**1.36**	**12**

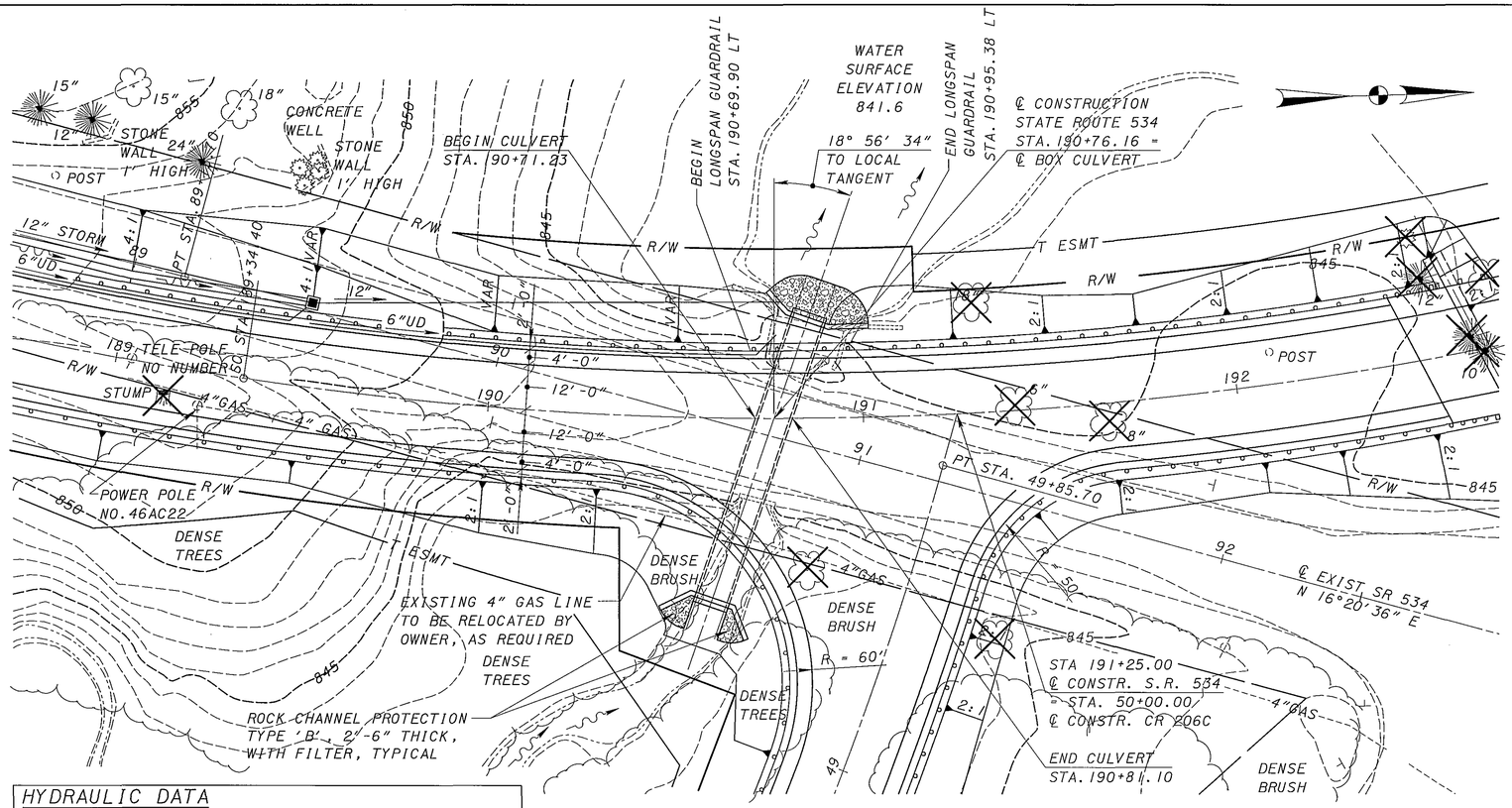
* CR 206C STATION

CALCULATED MRK CHECKED SKS

SIGNING & PAVEMENT MARKING SUBSUMMARY

TRU-534-15.06

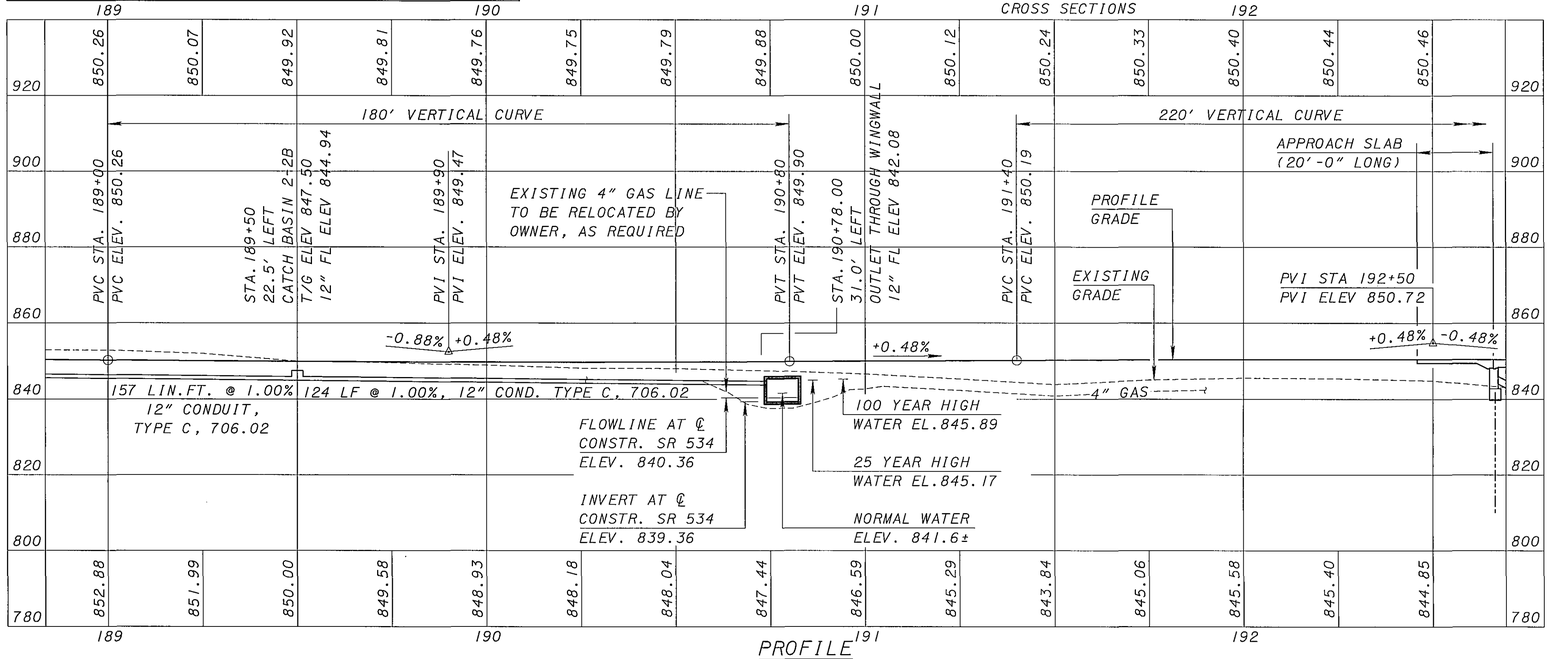
...\ts100.dgn



HYDRAULIC DATA

HW ELEV 25	= 845.17	HW EL 100	= 845.89
Q 25	= 109 CFS	Q 100	= 146 CFS
V 25	= 3.15 FT/SEC	V 100	= 3.65 FT/SEC
DRAINAGE AREA = 396.7 ACRES			

NOTE: EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS



PROFILE
ALONG ℄ CONSTR. STATE ROUTE 534

℄ CONSTRUCTION CURVE DATA

P.I. STA. 192+24.46
Delta = 32° 16′ 25″ LT
Dc = 6° 00′ 00″
R = 954.93′
T = 276.29′
L = 537.89′
E = 39.17′

SPIRAL DATA

P.I. Sta = 192+24.46
Delta = 44° 52′ 25″ LT
Dc = 6° 00′ 00″
R = 954.93′
Ls = 210.00′
Theta = 6° 18′ 00″
LT = 140.09′
ST = 70.08′
x = 209.75′
y = 7.69′
k = 104.96′
p = 1.92′
Delta = 32° 16′ 25″ LT
Lc = 537.89′
Ts = 500.06′
Es = 80.29′

℄ EXISTING R/W CURVE DATA

P.I. STA. 96+80.67
Delta = 19° 01′ 44″ RT
Dc = 3° 59′ 31″
R = 1435.30′
T = 240.56′
L = 476.69′
E = 20.02′

COUNTY ROAD 206C ℄ CONSTRUCTION CURVE DATA

P.I.STA.47+12.79
Delta = 33°16′03″ LEFT
Dc = 6°00′00″
R = 954.93′
T = 285.29′
L = 554.46′
E = 41.71′

BENCH MARK

SOUTHEAST CORNER, BOTTOM STEP FRONT ENTRANCE, H.N.4211 S.R. 534
STATION: 188+48.61
OFFSET: 84′ LEFT
ELEVATION: 857.73

TRAFFIC DATA

AVE. DAILY TRAF. (2004)	1500
AVE. DAILY TRAF. (2024)	2000
AVE. DAILY TRUCK TRAF.(2004)	120

EXISTING STRUCTURE

TYPE: CAST-IN-PLACE CONCRETE SLAB BRIDGE WITH FULL HEIGHT ABUTMENTS AND INTEGRAL WINGWALLS

SPANS: 8′-0″± FACE TO FACE ABUTMENT WALLS

ROADWAY: 24′-6″± EDGE TO EDGE PAVED SURFACE

SKEW: NONE (00° 00′ 00″)

SIDEWALKS: NONE

WEARING SURFACE: ASPHALT CONCRETE

LOADING: UNKNOWN

ALIGNMENT: TANGENT

SUPERELEVATION: NONE, NORMAL CROWN

APPROACH SLABS: UNKNOWN

DATE BUILT: UNKNOWN

STRUCTURE FILE NUMBER: N/A

PROPOSED STRUCTURE

TYPE: FOUR SIDED REINFORCED CONCRETE BOX CULVERT WITH REINFORCED CONCRETE CUT-OFF WALLS AND WINGWALLS.

SPANS: 8′-0″ FACE TO FACE CULVERT WALLS

ROADWAY: 80′-0″ BOX CULVERT LENGTH
36′-0″ FACE/FACE GUARDRAIL
TWO 12′-0″ LANES WITH
6′-0″ SHOULDERS

SKEW: 18° 56′ 34″ LEFT FORWARD TO LOCAL TANGENT

SIDEWALKS: NONE

WEARING SURFACE: ASPHALT CONCRETE

LOADING HS-25-44

ALIGNMENT: 6° 00′ 00″ CURVE (LEFT) R=954.93′

SUPERELEVATION: FULL SUPERELEVATION (1″ PER FOOT)

APPROACH SLABS: NONE

LATITUDE: N 41° 20′ 01″

LONGITUDE: W 80° 57′ 18″

acla engineering services
dodaro dunn lyon associates inc.
5005 transportation boulevard, cleveland, ohio 44125

DESIGNED	DRAWN	REVIEWED	DATE
TMJ	TMJ	EAF	02/13/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJW	-	N/A	

TRUMBULL COUNTY
STA. 190+71.23
STA. 190+81.10

SITE PLAN
CULVERT STRUCTURE NO. TRU-534-1506.16
℄ CONSTRUCTION SR 534 STA. 190+76.16

TRU-534-15.06

1 / 6

73 / 112

STRUCTURAL GENERAL NOTES:

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1996, INCLUDING 1997-2000 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL.

CULVERT DESIGN LOADING:

TABLE 2 OF ASTM C1433 (GREATER OF HS20 OR INTERSTATE LIVE LOAD) WITH 2 < 3 FEET OF COVER.

DESIGN DATA:

PRECAST FOUR SIDED BOX, AS PER ASTM C1433
WINGWALLS AND FOOTINGS:
CONCRETE CLASS "C" - COMPRESSIVE STRENGTH 4000 PSI
REINFORCING STEEL - ASTM A615 OR A996 GRADE 60,
MINIMUM YEILD STRENGTH 60,000 PSI.

FOUNDATION BEARING PRESSURE:

WINGWALL FOOTINGS AS DESIGNED, PRODUCE A MAXIMUM BEARING PRESSURE OF 0.80 TONS PER SQUARE FOOT. THE ALLOWABLE BEARING PRESSURE IS 1.25 TONS PER SQUARE FOOT AT THE PROPOSED WINGWALL FOUNDATION UNDERCUT ELEVATION 835±

ITEM 202 STRUCTURE REMOVED, AS PER PLAN:

THIS WORK CONSISTS OF THE REMOVAL OF THE EXISTING STRUCTURE IN ACCORDANCE WITH THE PROVISIONS OF ITEM 202. ALSO INCLUDED WITH THIS WORK SHALL BE THE REMOVAL OF ANY REINFORCED OR PLAIN PORTLAND CEMENT CONCRETE RIGID BASE PAVEMENTS WITHIN THE LIMITS OF THE EXCAVATION REQUIRED FOR THE PROPOSED FOUR SIDED BOX CULVERT AND THE COMPLETE REMOVAL OF THE EXISTING TIMBER, PEDESTRIAN BRIDGE, INCLUDING ITS FOUNDATIONS, LOCATED AT THE DOWNSTREAM END OF THE EXISTING STRUCTURE.

STRUCTURAL GENERAL NOTES CONTINUED:

ITEM 203 GRANULAR MATERIAL, TYPE B, AS PER PLAN:

THIS ITEM IS FOR FURNISHING, PLACING AND COMPACTING TYPE B GRANULAR MATERIAL, 703.16.C IN 6" LIFTS ON GEOTEXTILE FABRIC (712.09, TYPE D) AT DESIGNATED UNDERCUT LOCATIONS.

PAYMENT FOR THIS COMPACTED GRANULAR MATERIAL INCLUDING GEOTEXTILE FABRIC SHALL BE AT THE CONTRACT UNIT BID PRICE PER CUBIC YARD FOR ITEM 203 GRANULAR MATERIAL TYPE B, AS PER PLAN.

ITEM 503 UNCLASSIFIED EXCAVATION, AS PER PLAN:

THE FOUNDATION FOR THE CONDUIT BEDDING AND WINGWALL FOUNDATIONS SHALL BE FIRM FOR ITS FULL LENGTH. UNSUITABLE MATERIAL ENCOUNTERED BELOW THE PLAN FOUNDATION SHALL BE REMOVED TO THE DEPTH SHOWN ON THE EXCAVATION DIAGRAMS OR AS DIRECTED BY THE ENGINEER, AND TO THE WIDTH OF THE EXCAVATION OR TRENCH SPECIFIED IN 503 AND 603. EXCAVATION AND PROPER DISPOSAL OF UNSUITABLE MATERIAL SHALL BE AT THE CONTRACT UNIT BID PRICE PER CUBIC YARD FOR ITEM 503 UNCLASSIFIED EXCAVATION, AS PER PLAN. FILL BELOW THE WINGWALL FOUNDATIONS AND BELOW THE CULVERT BEDDING MATERIAL IS A SEPARATE PAY ITEM. OTHER BACKFILL REQUIRED BY 503 SHALL BE TYPE B GRANULAR MATERIAL, 703.16.C PLACED AND COMPACTED IN 6" LIFTS.

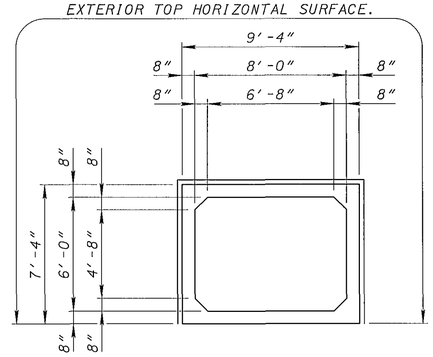
ITEM 603 8' X 6' CONDUIT, TYPE A, 706.05, AS PER PLAN:

THIS WORK CONSISTS OF CONSTRUCTING A TYPE 'A' CULVERT IN ACCORDANCE WITH THE PROVISIONS OF ITEM 603 EXCEPT THAT THE STRUCTURAL BACKFILL MATERIAL SHALL BE PLACED IN LIFTS NOT TO EXCEED 6 INCHES.

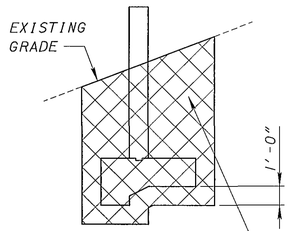
SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

THE URETHANE TOP COAT SHALL BE TINTED FEDERAL COLOR NUMBER FS-595A-17778

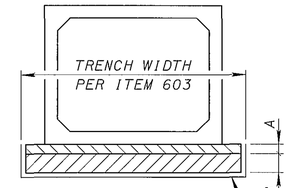
LIMITS OF TYPE 2 MEMBRANE WATERPROOFING ENTIRE LENGTH OF EXTERIOR VERTICAL SURFACES HEADWALL TO HEADWALL EXTERIOR TOP HORIZONTAL SURFACE.



CULVERT SECTION



LIMITS OF EXCAVATION, INCLUDED WITH ITEM-503, UNCLASSIFIED EXCAVATION, AS PER PLAN



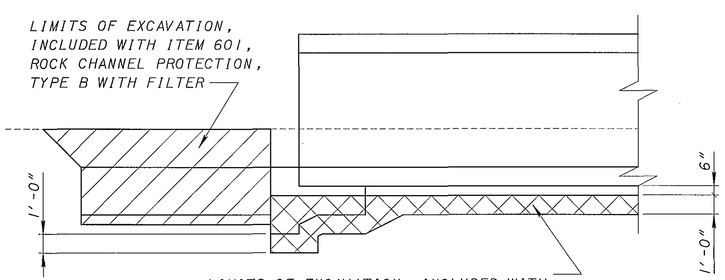
GEOTEXTILE FABRIC, 712.09, TYPE D INCLUDE WITH ITEM 203, GRANULAR MATERIAL, TYPE B, AS PER PLAN FOR PAYMENT

A = 6" MINIMUM TYPE I BEDDING 603.04 INCLUDE WITH ITEM 603 CONDUIT

B = COMPACTED GRANULAR MATERIAL, INCLUDE WITH ITEM 203, GRANULAR MATERIAL, TYPE B, AS PER PLAN. DEPTH OF ONE FOOT IS ASSUMED FOR ESTABLISHING PAY QUANTITY.

LIMITS OF EXCAVATION
AT WINGWALLS

LIMITS OF EMBANKMENT
AT BOX CULVERT



LIMITS OF EXCAVATION
ALONG ℄ CULVERT

ESTIMATED QUANTITIES

ITEM	EXT.	TOTAL	UNIT	DESCRIPTION	GENERAL		REFERENCE
202	11001	LUMP		STRUCTURE REMOVED, AS PER PLAN	LUMP		2 OF 6
203	35111	37	CU. YD.	GRANULAR MATERIAL, TYPE B, AS PER PLAN	37		2 OF 6
503	11100	LUMP		COFFERDAMS, CRIBS AND SHEETING	LUMP		
503	21101	155	CU. YD.	UNCLASSIFIED EXCAVATION, AS PER PLAN	155		2 OF 6
509	10000	4944	POUNDS	EPOXY COATED REINFORCING STEEL	4944		
511	46000	16	CU. YD.	CLASS C CONCRETE	16		
511	46500	37	CU. YD.	CLASS C CONCRETE, FOOTING	37		
512	33000	215	SQ. YD.	TYPE 2 WATERPROOFING	215		
516	13200	37	SQ. FT.	½" PREFORMED EXPANSION JOINT FILLER	37		
518	21100	23	CU. YD.	POROUS BACKFILL	23		
601	32100	40	CU. YD.	ROCK CHANNEL PROTECTION, TYPE B WITH FILTER	40		
603	94911	80	LIN. FT.	8' X 6' CONDUIT, TYPE A, 706.05, AS PER PLAN	80		2 OF 6
				(LESS THAN 5' OF COVER)			
864	10100	40	SQ. YD.	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	40		

acla
consulting engineers
dalotto clunk lynn associates inc.
5355 transportation boulevard, cleveland, ohio 44125

DESIGNED	DRAWN	REVIEWED	DATE
TMJ	TMJ	EAF	2/13/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DP	-	N/A	

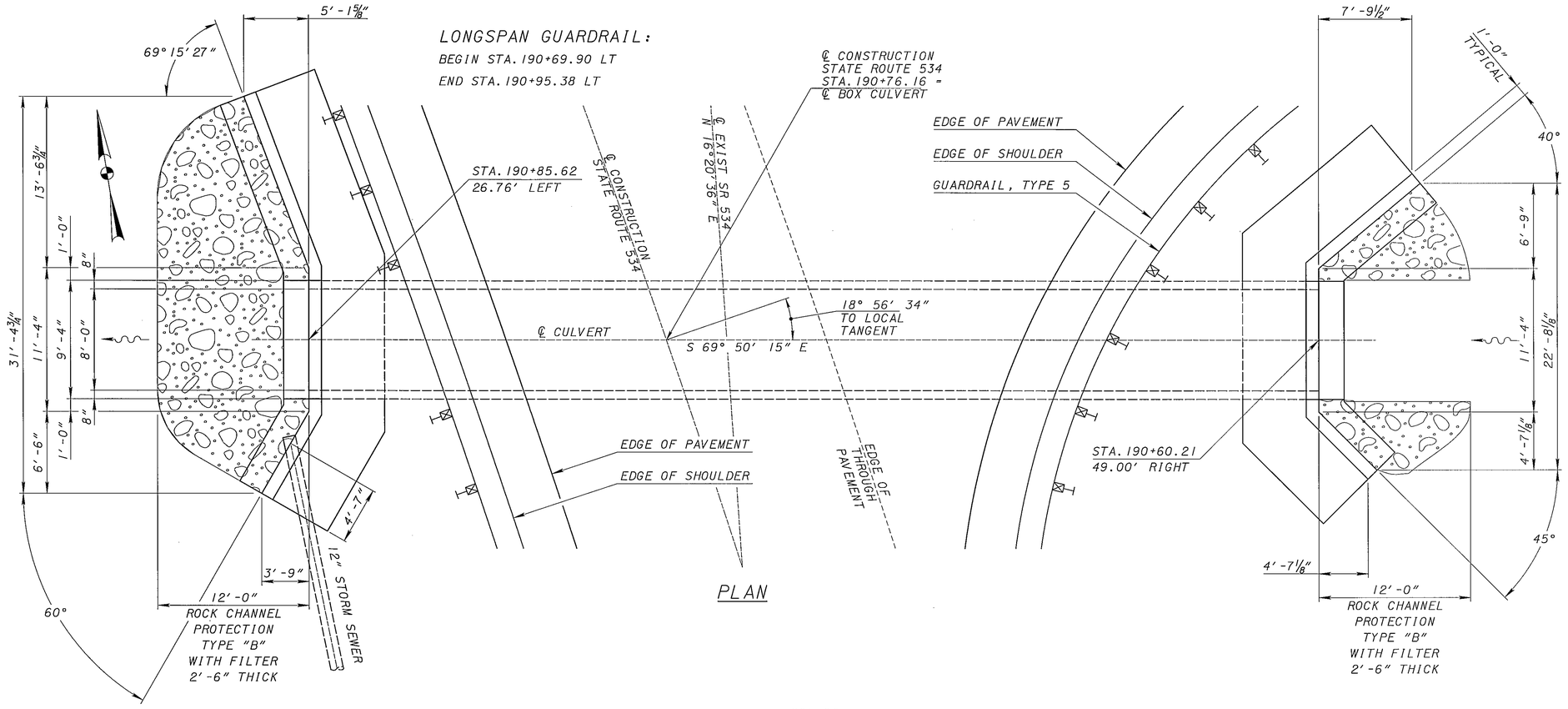
GENERAL NOTES AND ESTIMATED QUANTITIES
CULVERT STRUCTURE NO. TRU-534-1506
℄ CONSTRUCTION SR 534 STA. 190+76.16

TRU-534-15.06

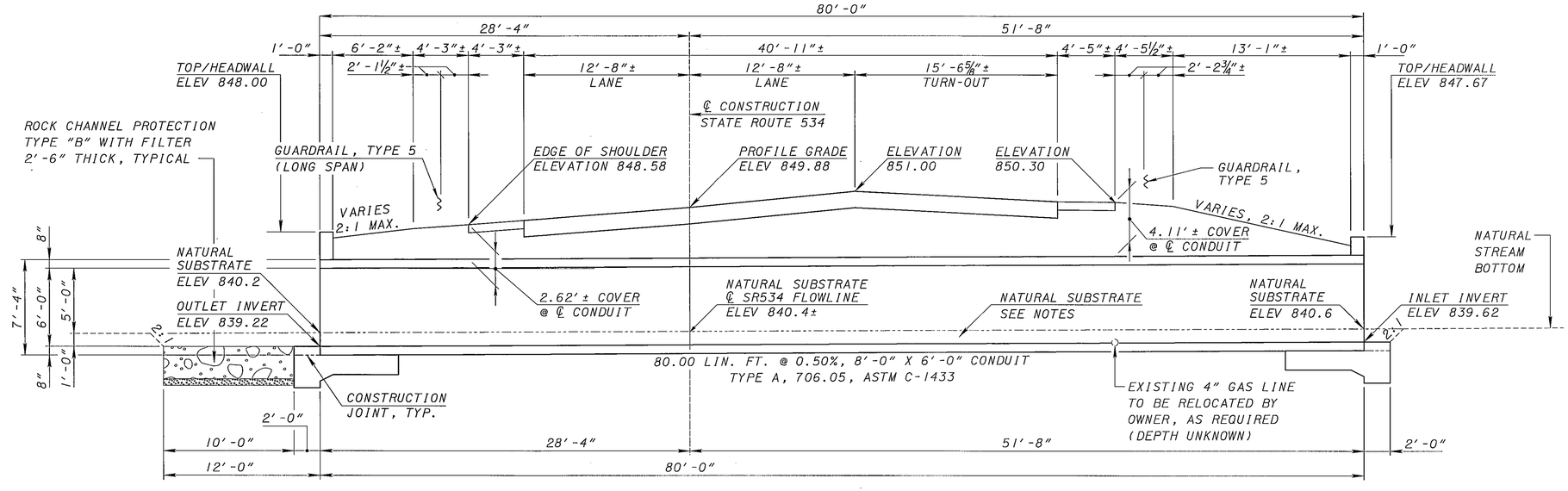
LONGSPAN GUARDRAIL:

BEGIN STA. 190+69.90 LT

END STA. 190+95.38 LT



PLAN



PROFILE

ALONG ℄ BOX CULVERT

NOTES:

FOR STRUCTURAL GENERAL NOTES, SEE SHEET 2/6

FOR ESTIMATED QUANTITIES, SEE SHEET 2/6

FOR WINGWALL DETAILS, SEE SHEETS 4/6 AND 5/6

ALL REINFORCING BAR MARKS IN THE CULVERT WINGWALLS SHALL BE PREFIXED WITH THE LETTER "W".

FOR REINFORCING STEEL LIST AND BAR BENDING DIAGRAMS, SEE SHEET 6/6

THE NATURAL SUBSTRATE FLOWLINE OF THE BOX CULVERT AS SHOWN IS THE FUTURE FLOWLINE OF THE CHANNEL, AFTER NATURAL SEDIMENT AND SILTATION HAS OCCURED. IT IS SHOWN FOR ILLUSTRATIVE PURPOSES ONLY.

PROVIDE LONGSPAN GUARDRAIL ON THE OUTLET SIDE ONLY. LONG SPAN GUARDRAIL IS NOT REQUIRED ON THE INLET SIDE. SEE STANDARD DRAWING GR-1.1 FOR GUARDRAIL POST DRIVING CONSTRAINTS ABOVE THE CULVERT AT INLET SIDE.

acla
consumers transportation
56565 transportation boulevard, cleveland, ohio 44125

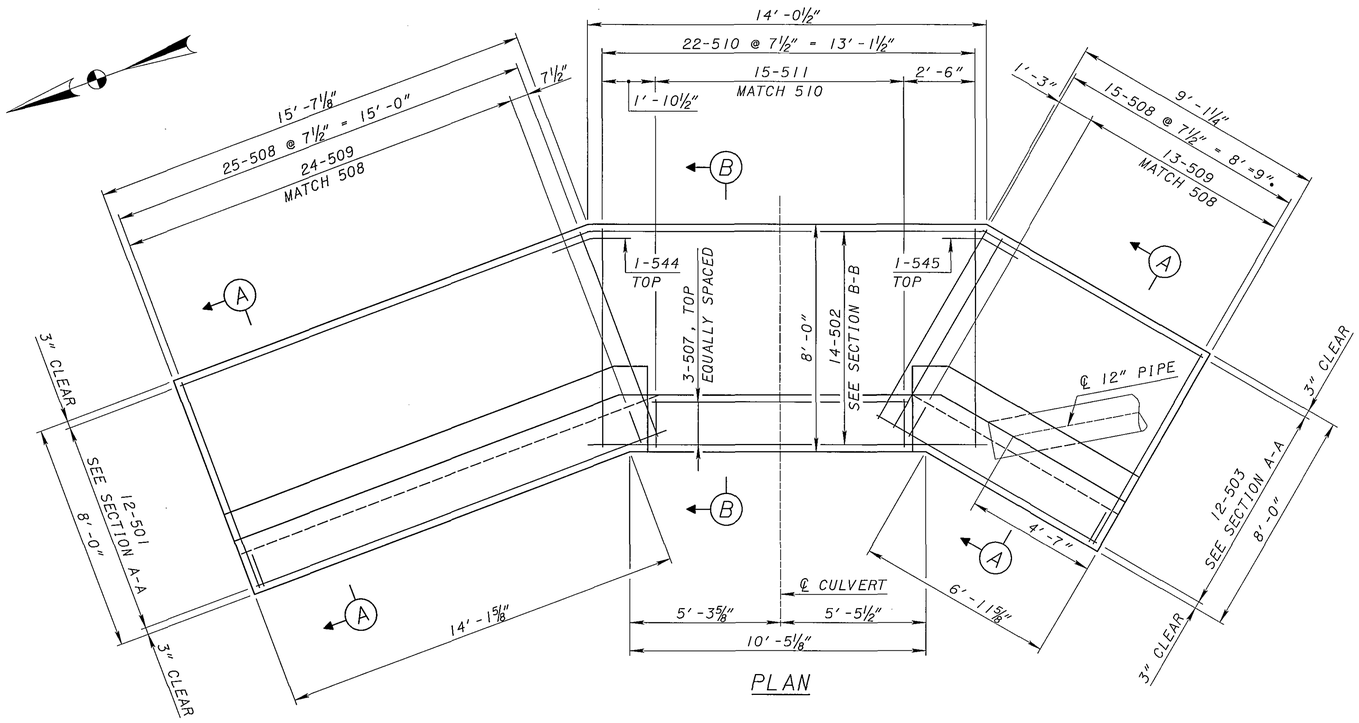
DESIGNED	DRAWN	REVIEWED	DATE
TMJ	TMJ	EAF	2/13/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DP	-	N/A	

PLAN AND PROFILE

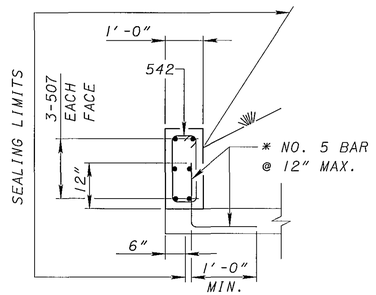
CULVERT STRUCTURE NO. TRU-534-1506

℄ CONSTRUCTION SR 534 STA. 190+76.16

TRU-534-15.06

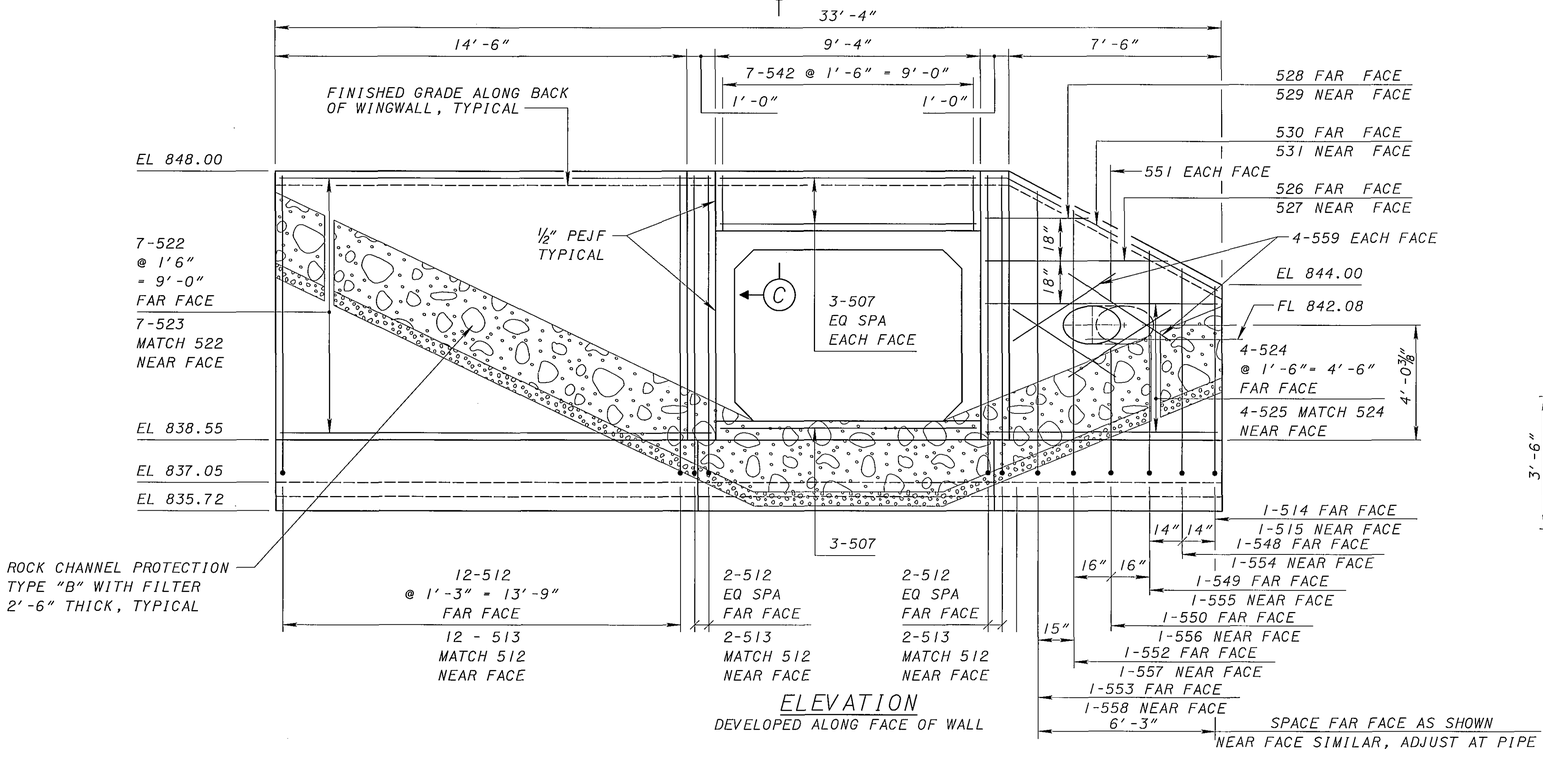


PLAN

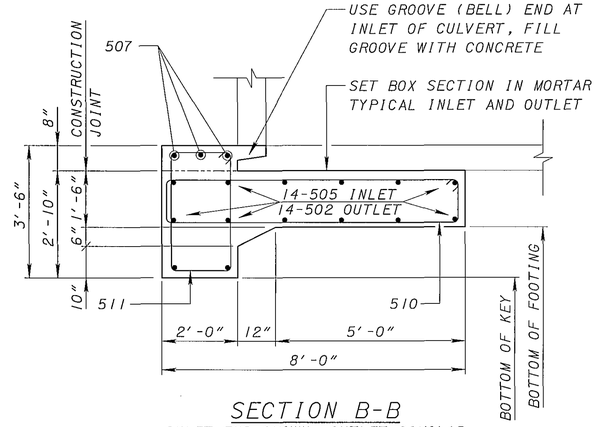


* NO. 5 BAR, AS SHOWN SHALL BE SUPPLIED WITH THE PRECAST CONDUIT. THE SUPPLIER MAY USE MECHANICAL CONNECTORS

SECTION C-C
HEADWALL AT OUTLET



ELEVATION
DEVELOPED ALONG FACE OF WALL



SECTION B-B
INLET END SHOWN, OUTLET SIMILAR

CAST BOX CULVERT WITHOUT TONGUE OR GROOVE AT OUTLET

NOTES:

FOR SECTION A-A, SEE SHEET 5/6

FOR LOCATION OF SECTION A-A, SEE THIS SHEET AND SHEET 5/6

FOR STRUCTURAL GENERAL NOTES, SEE SHEET 2/6

FOR ESTIMATED QUANTITIES, SEE SHEET 2/6

PRIOR TO PLACING BACKFILL MATERIAL BEHIND THE WINGWALLS, GRANULAR BACKFILL PER ITEM 503 SHALL BE PLACED AND COMPACTED WITHIN THE EXCAVATION LIMITS IN FRONT OF THE WINGWALL AND CUT-OFF WALL FOUNDATIONS.

½" PREFORMED EXPANSION JOINT FILLER SHALL BE PLACED FROM THE TOP OF FOOTING TO THE TOP OF HEADWALL FOR THE FULL THICKNESS OF THE WINGWALL.

ALL REINFORCING BAR MARKS IN THE CULVERT WINGWALLS SHALL BE PREFIXED WITH THE LETTER "W".

FOR REINFORCING STEEL LIST AND BAR BENDING DIAGRAMS, SEE SHEET 6/6

WEEPHOLES:
ONE 6" DIAMETER WEEPHOLE SHALL BE PLACED IN EACH WINGWALL, CENTERED, AT ELEVATION 842.1+/-

POROUS BACKFILL WITH FILTER FABRIC, 2 FEET THICK SHALL EXTEND UP TO 1 FOOT BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE ENDS OF THE WINGWALLS. TWO CUBIC FEET OF BAGGED NO. 3 AGGREGATE SHALL BE PLACED AT EACH WEEPHOLE. BAGGED AGGREGATE IS INCLUDED WITH POROUS BACKFILL FOR PAYMENT.

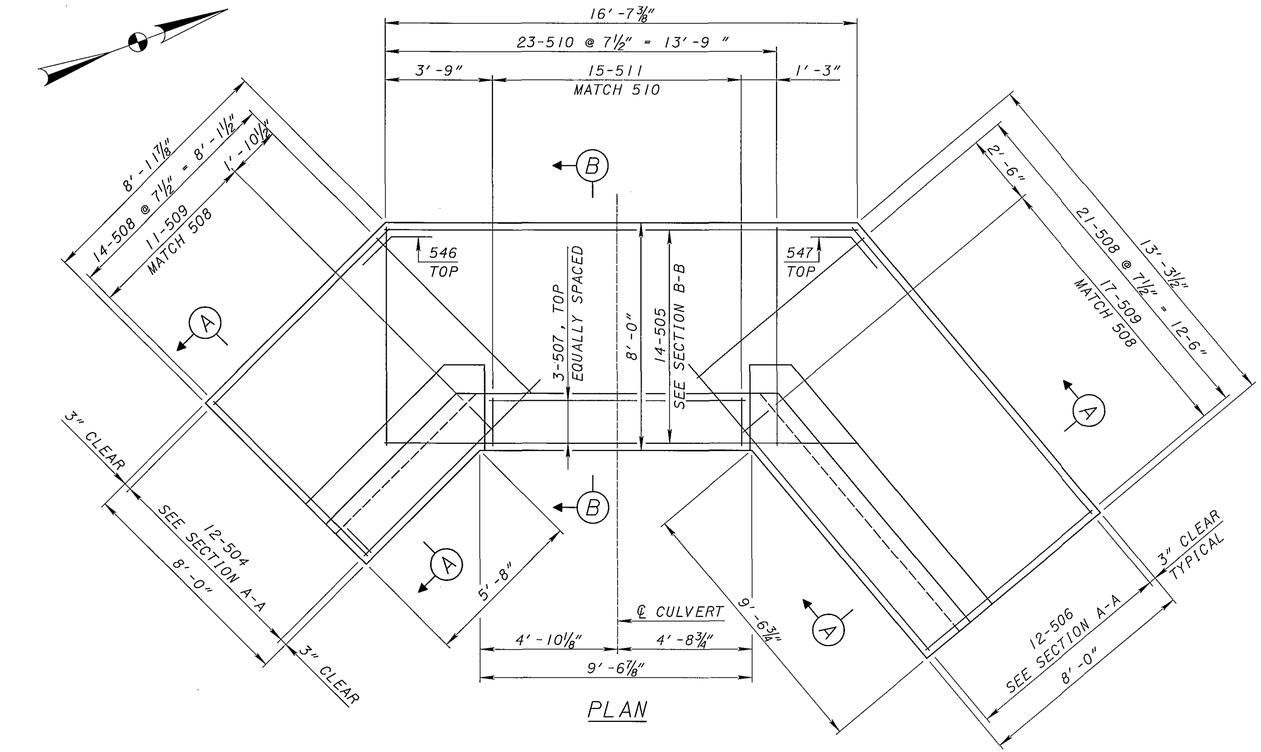
SEAL THE HEADWALL AND CULVERT END AS INDICATED BY THE SEALING LIMITS. ALSO INCLUDE LAST 6" INSIDE THE CULVERT EXCEPT THE FLOOR.

acla
consulting engineers
dalton dietz lynn associates inc.
5005 transportation boulevard, cleveland, ohio 44125

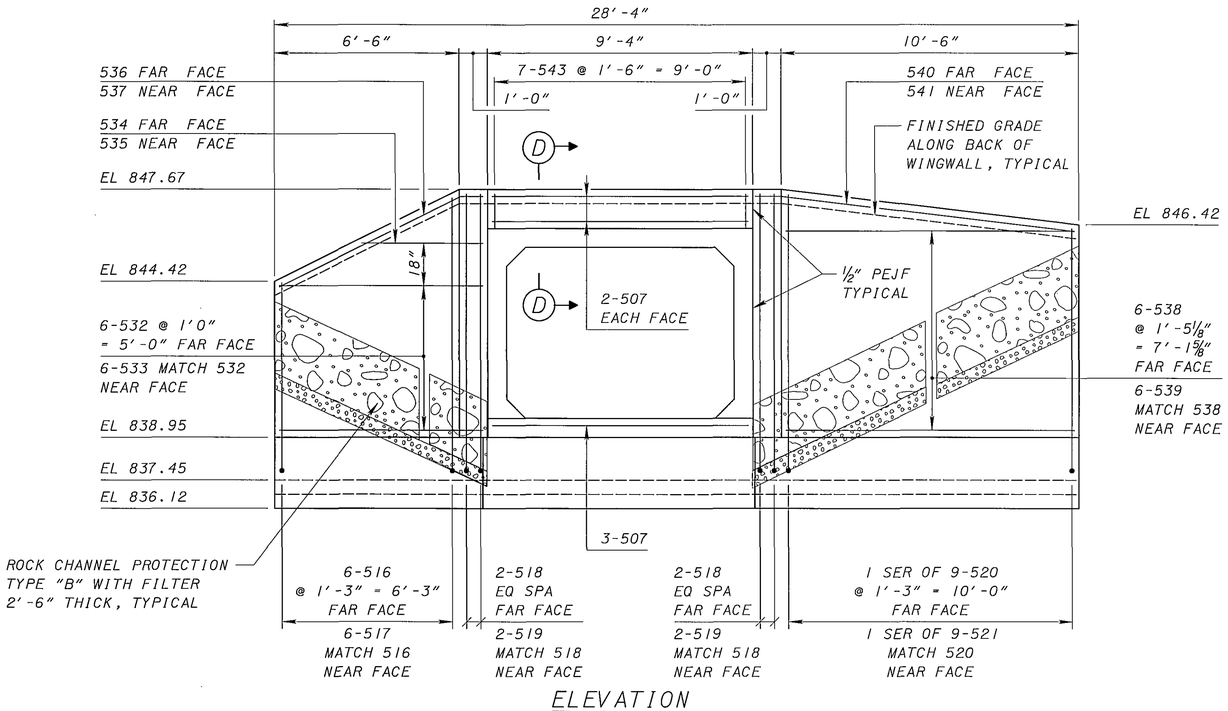
DESIGNED	DRAWN	REVIEWED	DATE
TMJ	TMJ	EAF	2/13/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DP	-	N/A	

CULVERT OUTLET
CULVERT STRUCTURE NO. TRU-534-1506.16
℄ CONSTRUCTION SR 534 STA. 190+76.16

TRU-534-15.06



PLAN



ELEVATION

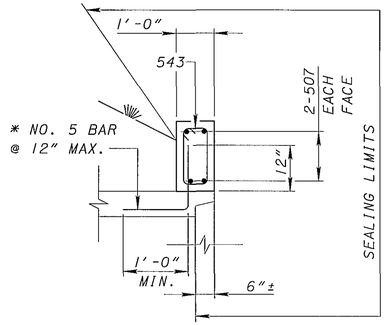
DEVELOPED ALONG FACE OF WALL

NOTES:

FOR LOCATION OF SECTION A-A, SEE THIS SHEET AND SHEET 4/6

FOR SECTION B-B, SEE SHEET 4/6

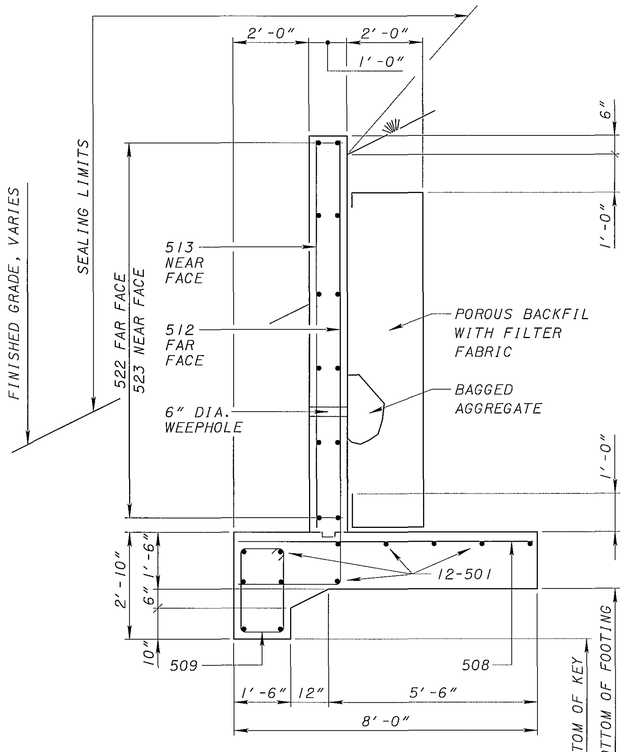
FOR ADDITIONAL NOTES, SEE SHEET 4/6



* NO. 5 BAR, AS SHOWN SHALL BE SUPPLIED WITH THE PRECAST CONDUIT. THE SUPPLIER MAY USE MECHANICAL CONNECTORS

SECTION D-D

HEADWALL AT INLET



SECTION A-A

NORTHWEST WINGWALL SHOWN
OTHER WINGWALLS SIMILAR
SEE ELEVATION VIEWS

acla
adache ciuni lynn associates inc. CONSULTING ENGINEERS
5595 transportation boulevard, cleveland, ohio 44125

DESIGNED	DRAWN	REVIEWED	DATE
TMJ	TMJ	EAF	2/13/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DP	-	N/A	

CULVERT INLET
CULVERT STRUCTURE NO. TRU-534-1506
℄ CONSTRUCTION SR 534 STA. 190+76.16

TRU-534-15.06

5/6

77/112

BOX CULVERT WINGWALLS

MARK	NUMBER			LENGTH	WEIGHT (LBS.)	TYPE	DIMENSIONS						INC.
	OUTLET	INLET	TOTAL				A	B	C	D	E	R	
W501	12	-	12	15'-2"	190	STR							
W502	14	-	14	13'-8"	200	STR							
W503	12	-	12	8'-8"	108	STR							
W504	-	12	12	8'-7"	107	STR							
W505	-	14	14	16'-3"	237	STR							
W506	-	12	12	12'-10"	161	STR							
W507	9	7	16	9'-0"	150	STR							
W508	40	35	75	7'-6"	587	STR							
W509	37	28	65	7'-5"	482	3	1'-0"	2'-5"					
W510	22	23	45	17'-9"	833	3	7'-6"	1'-1"					
W511	15	15	30	9'-9"	305	3	1'-6"	3'-1"					
W512	16	-	16	13'-0"	217	1	2'-7"	10'-6"					
W513	16	-	16	9'-1"	152	STR							
W514	1	-	1	9'-2"	10	1	2'-7"	6'-8"					
W515	1	-	1	5'-3"	6	STR							
W516	-	1 SER	1 SER	9'-2"	66	1	2'-7"	6'-8"					7"
	-	OF 6	OF 6	12'-1"			2'-7"	9'-7"					
W517	-	1 SER	1 SER	5'-3"	42	STR							7"
	-	OF 6	OF 6	8'-2"									
W518	-	4	4	12'-3"	51	1	2'-7"	9'-9"					
W519	-	4	4	8'-4"	35	STR							
W520	-	1 SER	1 SER	11'-1"	109	1	2'-7"	8'-7"					1 5/8"
	-	OF 9	OF 9	12'-2"				9'-8"					
W521	-	1 SER	1 SER	7'-2"	72	STR							1 5/8"
	-	OF 9	OF 9	8'-3"									
W522	7	-	7	15'-5"	112	19	14'-5"	1'-0"	0'-4"				
W523	7	-	7	15'-3"	111	19	14'-4"	0'-11"	0'-4"				
W524	4	-	4	8'-6"	35	19	7'-6"	0'-11"	0'-6"				
W525	4	-	4	8'-3"	34	19	7'-5"	0'-9"	0'-5"				
W526	1	-	1	6'-0"	6	19	5'-0"	0'-11"	0'-6"				
W527	1	-	1	5'-9"	6	19	4'-11"	0'-9"	0'-5"				
W528	1	-	1	3'-6"	4	19	2'-6"	0'-11"	0'-6"				
W529	1	-	1	3'-3"	3	19	2'-5"	0'-9"	0'-5"				
W530	1	-	1	9'-4"	10	19	8'-4"	0'-11"	0'-6"				

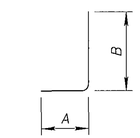
BOX CULVERT WINGWALLS

MARK	NUMBER			LENGTH	WEIGHT (LBS.)	TYPE	DIMENSIONS						INC.
	OUTLET	INLET	TOTAL				A	B	C	D	E	R	
W531	1	-	1	9'-1"	9	19	8'-3"	0'-9"	0'-5"				
W532	-	6	6	7'-7"	47	19	6'-7"	0'-9"	0'-9"				
W533	-	6	6	7'-4"	46	19	6'-5"	0'-8"	0'-8"				
W534	-	1	1	4'-4"	5	19	3'-4"	0'-9"	0'-9"				
W535	-	1	1	4'-1"	4	19	3'-2"	0'-8"	0'-8"				
W536	-	1	1	8'-4"	9	19	7'-4"	0'-9"	0'-9"				
W537	-	1	1	8'-1"	8	19	7'-2"	0'-8"	0'-8"				
W538	-	6	6	11'-9"	74	19	10'-8"	0'-9"	0'-11"				
W539	-	6	6	11'-3"	70	19	10'-5"	0'-7"	0'-8"				
W540	-	1	1	11'-10"	12	19	10'-9"	0'-9"	0'-11"				
W541	-	1	1	11'-4"	12	19	10'-6"	0'-7"	0'-8"				
W542	7	-	7	5'-5"	40	3	8"	1'-9"					
W543		7	7	4'-1"	30	3	8"	1'-1"					
W544	1	-	1	2'-9"	3	19	1'-5"	1'-4"	0'-6"				
W545	1	-	1	2'-10"	3	19	1'-5"	1'-3"	0'-9"				
W546	-	1	1	2'-9"	3	19	1'-5"	1'-0"	1'-0"				
W547	-	1	1	2'-9"	3	19	1'-5"	0'-11"	1'-1"				
W548	1	-	1	9'-8"	10	1	2'-7"	7'-2"					
W549	1	-	1	10'-5"	11	1	2'-7"	7'-11"					
W550	1	-	1	6'-11"	7	1	2'-7"	4'-5"					
W551	2	-	2	2'-6"	3	STR							
W552	1	-	1	11'-9"	12	1	2'-7"	9'-3"					
W553	1	-	1	12'-5"	13	1	2'-7"	9'-11"					
W554	1	-	1	6'-0"	6	STR							
W555	1	-	1	6'-7"	7	STR							
W556	1	-	1	3'-4"	3	STR							
W557	1	-	1	8'-0"	8	STR							
W558	1	-	1	8'-8"	9	STR							
W559	8	-	8	4'-4"	36	STR							
TOTAL WEIGHT					4944								

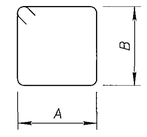
NOTES:

REINFORCING STEEL SAMPLES:
REFER TO SECTIONS 106.03, 700, 709.00
SUFFICIENT ADDITIONAL REINFORCING STEEL SHALL BE PROVIDED FOR SAMPLES. RANDOM SAMPLES SHALL BE REPLACED IN THE STRUCTURE BY THE ADDITIONAL STEEL, SPLICED IN ACCORDANCE WITH 509.07.
ALL REINFORCING STEEL TO BE EPOXY COATED.

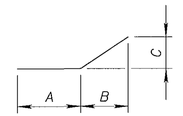
BAR BENDING DIAGRAMS



TYPE-1



TYPE-3



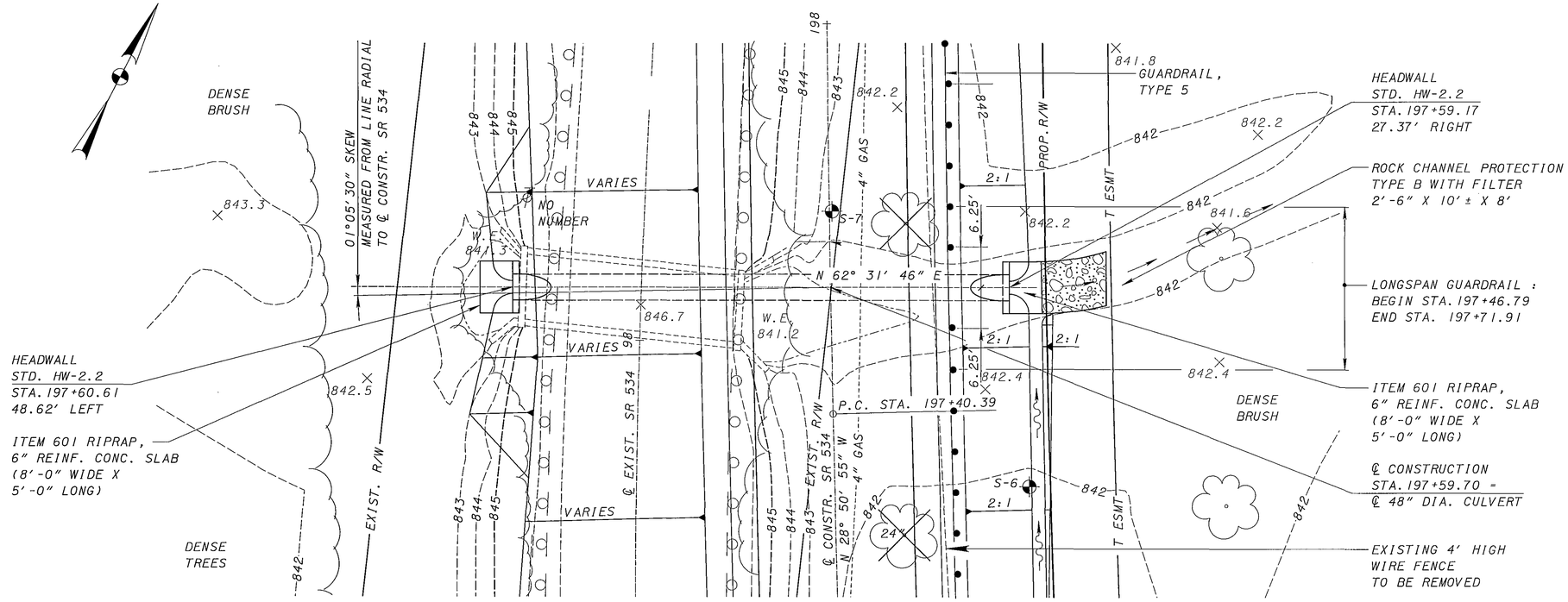
TYPE-19

acla
consulting engineers
acklette cram lynn associates inc.
5085 transportation boulevard, cleveland, ohio 44125

DESIGNED	DRAWN	REVIEWED	DATE
TMJ	TMJ	EAF	2/13/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DP	-	N/A	

REINFORCING SCHEDULE
CULVERT STRUCTURE NO. TRU-534-1506
℄ CONSTRUCTION SR 534 STA. 190+76.16

TRU-534-15.06



PLAN

NOTE: EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS

CURVE DATA

℄ EX. RIGHT-OF-WAY	℄ CONSTR SR 534
P.I. STA. 96+80.67	P.I. STA. 200+02.59
D = 19°01'44" RT.	D = 07°46'00" RT.
Dc = 03°59'31"	Dc = 01°29'00"
R = 1435.30'	R = 3862.64'
T = 240.56'	T = 262.20'
L = 476.69'	L = 523.60'
E = 20.02'	E = 8.89'

HYDRAULIC DATA

HW ELEV 25 = 844.80
Q 25 = 20.9 CFS
V 25 = 3.2 FT/SEC
HW EL 100 = 845.40
Q 100 = 25.5 CFS
V 100 = 3.6 FT/SEC
DRAINAGE AREA = 10.6 ACRES

NOTE:

HEADWATER ELEVATIONS, VELOCITIES, AND CULVERT DISCHARGES ARE CALCULATED FROM COMBINED HYDRAULIC ANALYSES WITH THE ADJACENT STRUCTURE TO THE SOUTH (BRIDGE NUMBER: TRU-534-1516)

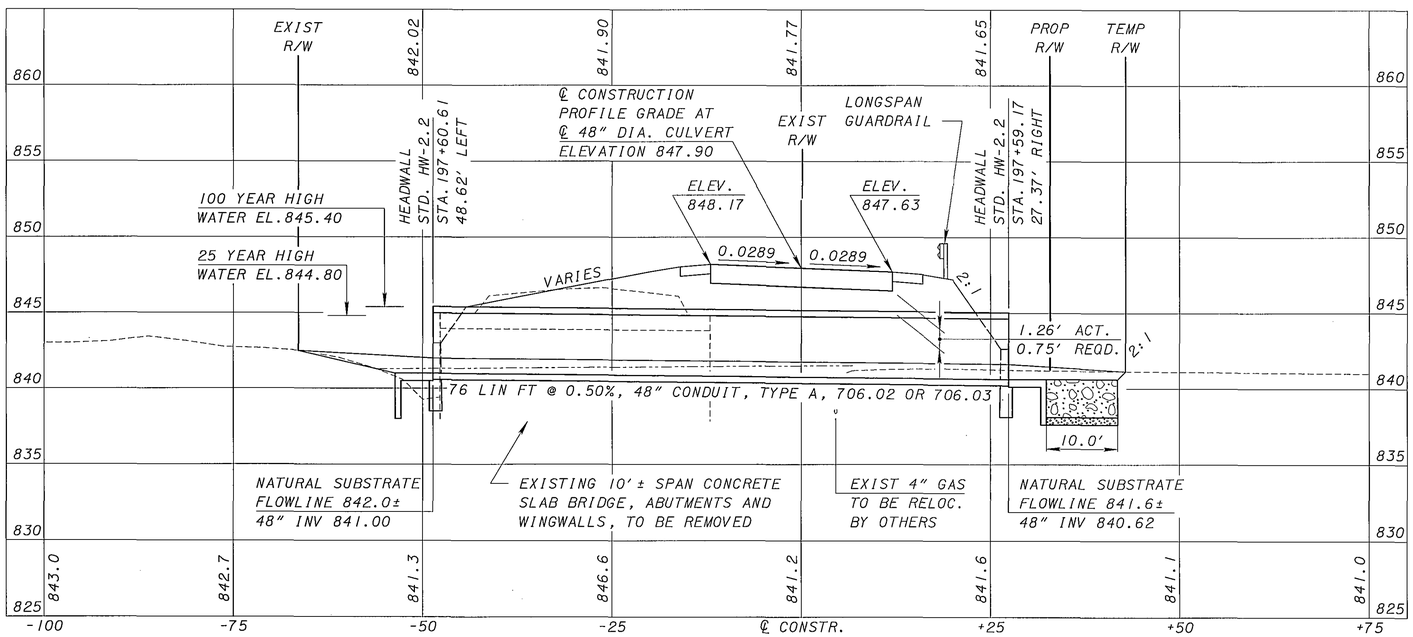
EXISTING STRUCTURE:

CAST-IN-PLACE SLAB BRIDGE WITH FULL HEIGHT ABUTMENTS AND INTEGRAL WINGWALLS

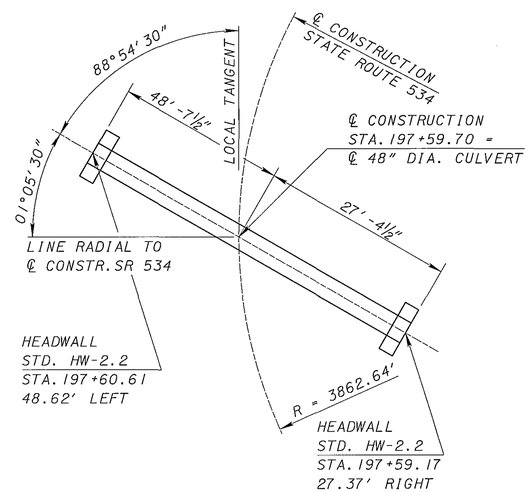
WATERWAY OPENING:	=	10'± X 4.5'±
LENGTH:	=	36'±
LOADING:	=	UNKNOWN
DATE BUILT:	=	UNKNOWN

SOIL BORINGS

⊕	S-6	STA. 197+28.6	29.8' RIGHT
⊕	S-7	STA. 197+71.4	0.4' LEFT



PROFILE
ALONG ℄ CULVERT



GEOMETRIC LAYOUT
48" DIAMETER CULVERT

acla
engineering solutions
cabadas clark lynn associates inc.
5500 transportation boulevard, cleveland, ohio 44125

DESIGNED TMJ | DRAWN TMJ | CHECKED TJW | REVISED - | REVIEWED EAF | DATE 02/17/03 | STRUCTURE FILE NUMBER N/A

TRUMBULL COUNTY
STA. 197+59.70

CULVERT PLAN AND PROFILE
CULVERT STRUCTURE NO. TRU-534-1525
℄ CONSTRUCTION SR 534 STA. 197+59.70

TRU-534-15.06

1 / 2

79 / 112

STRUCTURAL GENERAL NOTES:

STANDARD CONSTRUCTION DRAWINGS:

REFERENCE SHALL BE MADE TO THE FOLLOWING STANDARD CONSTRUCTION DRAWINGS:

DRAWING	DATED
HW-2.2	07-19-02

DESIGN DATA:

CONCRETE CLASS "C" - COMPRESSIVE STRENGTH 4000 PSI
REINFORCING STEEL - ASTM A615 OR A996 GRADE 60,
MINIMUM YEILD STRENGTH 60,000 PSI.

NATURAL SUBSTRATE:

THE NATURAL SUBSTRATE FLOWLINE OF THE CULVERT AS SHOWN IS THE FUTURE FLOWLINE OF THE CHANNEL, AFTER NATURAL SEDIMENT AND SILTATION HAS OCCURED. IT IS SHOWN FOR ILLUSTRATIVE PURPOSES ONLY.

ITEM 202 STRUCTURE REMOVED, AS PER PLAN:

THIS WORK CONSISTS OF THE REMOVAL OF THE EXISTING STRUCTURE IN ACCORDANCE WITH THE PROVISIONS OF ITEM 202. ALSO INCLUDED WITH THIS WORK SHALL BE THE REMOVAL OF ANY REINFORCED OR PLAIN PORTLAND CEMENT CONCRETE RIGID BASE PAVEMENTS WITHIN THE LIMITS OF THE EXCAVATION REQUIRED FOR THE PROPOSED PIPE CULVERT.

STRUCTURAL GENERAL NOTES CONTINUED:

ITEM 203 GRANULAR MATERIAL, TYPE B, AS PER PLAN:

THIS ITEM IS FOR FURNISHING, PLACING AND COMPACTING TYPE B GRANULAR MATERIAL, 703.16.C IN 6" LIFTS ON GEOTEXTILE FABRIC (712.09, TYPE D) AT DESIGNATED UNDERCUT LOCATIONS.

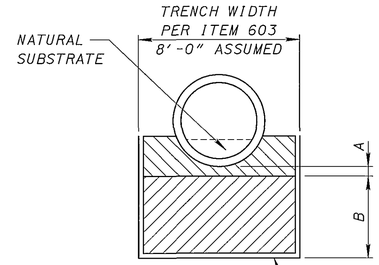
PAYMENT FOR THIS COMPACTED GRANULAR MATERIAL INCLUDING GEOTEXTILE FABRIC SHALL BE AT THE CONTRACT UNIT BID PRICE PER CUBIC YARD FOR ITEM 203 GRANULAR MATERIAL, TYPE B, AS PER PLAN.

ITEM 503 UNCLASSIFIED EXCAVATION, AS PER PLAN:

THE FOUNDATION FOR THE CONDUIT BEDDING SHALL BE FIRM FOR ITS FULL LENGTH. UNSUITABLE MATERIAL ENCOUNTERED BELOW THE PLAN FOUNDATION SHALL BE REMOVED TO THE DEPTH SHOWN ON THE EXCAVATION DIAGRAMS OR AS DIRECTED BY THE ENGINEER, AND TO THE WIDTH OF THE TRENCH SPECIFIED IN 503 AND 603. EXCAVATION AND PROPER DISPOSAL OF UNSUITABLE MATERIAL SHALL BE AT THE CONTRACT UNIT BID PRICE PER CUBIC YARD FOR ITEM 503 UNCLASSIFIED EXCAVATION, AS PER PLAN. FILL BELOW THE CULVERT BEDDING MATERIAL IS A SEPARATE PAY ITEM.

ITEM 603 48" CONDUIT, TYPE A, 706.02 OR 706.03, AS PER PLAN:

THIS WORK CONSISTS OF CONSTRUCTING A TYPE 'A' CULVERT IN ACCORDANCE WITH THE PROVISIONS OF ITEM 603 EXCEPT THAT THE STRUCTURAL BACKFILL MATERIAL SHALL BE PLACED IN LIFTS NOT TO EXCEED 6 INCHES.



GEOTEXTILE FABRIC, 712.09,
TYPE D INCLUDE WITH ITEM 203,
GRANULAR MATERIAL, TYPE B,
AS PER PLAN FOR PAYMENT

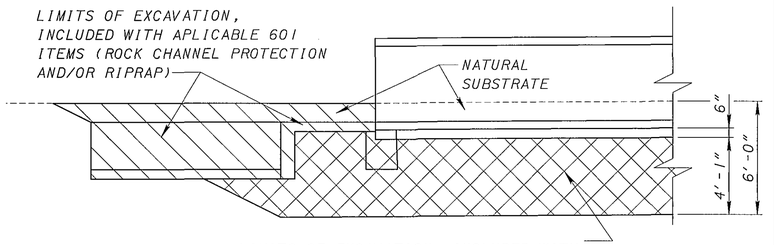
A = 6" MINIMUM TYPE 2 BEDDING 603.04
INCLUDE WITH ITEM 603 CONDUIT

B = COMPACTED GRANULAR MATERIAL,
INCLUDE WITH ITEM 203, GRANULAR
MATERIAL, TYPE B, AS PER PLAN.
DEPTH OF 4'-1" IS ASSUMED FOR
ESTIMATING PAY QUANTITY.

LIMITS OF EMBANKMENT
AT 48" DIA. CULVERT

ESTIMATED QUANTITIES

ITEM	EXT.	TOTAL	UNIT	DESCRIPTION	GENERAL		REFERENCE
202	11001	LUMP		STRUCTURE REMOVED, AS PER PLAN	LUMP		2 OF 2
203	35111	107	CU. YD.	GRANULAR MATERIAL, TYPE B, AS PER PLAN	107		2 OF 2
503	21101	107	CU. YD.	UNCLASSIFIED EXCAVATION, AS PER PLAN	107		2 OF 2
601	11000	9	SQ. YD.	RIPRAP USING 6" REINFORCED CONCRETE SLAB	9		
601	32100	8	CU. YD.	ROCK CHANNEL PROTECTION, TYPE B WITH FILTER	8		
602	20000	2.8	CU. YD.	CONCRETE MASONRY	2.8		
603	20701	76	LIN. FT.	48"CONDUIT, TYPE A, 706.02 OR 706.03, AS PER PLAN	76		2 OF 2



LIMITS OF EXCAVATION, INCLUDED WITH
ITEM 503, UNCLASSIFIED EXCAVATION,
AS PER PLAN

LIMITS OF EXCAVATION
ALONG ℄ CULVERT

acla
engineering solutions
dublin cluis lyon associates inc.
5500 transportation boulevard, cleveland, ohio 44125

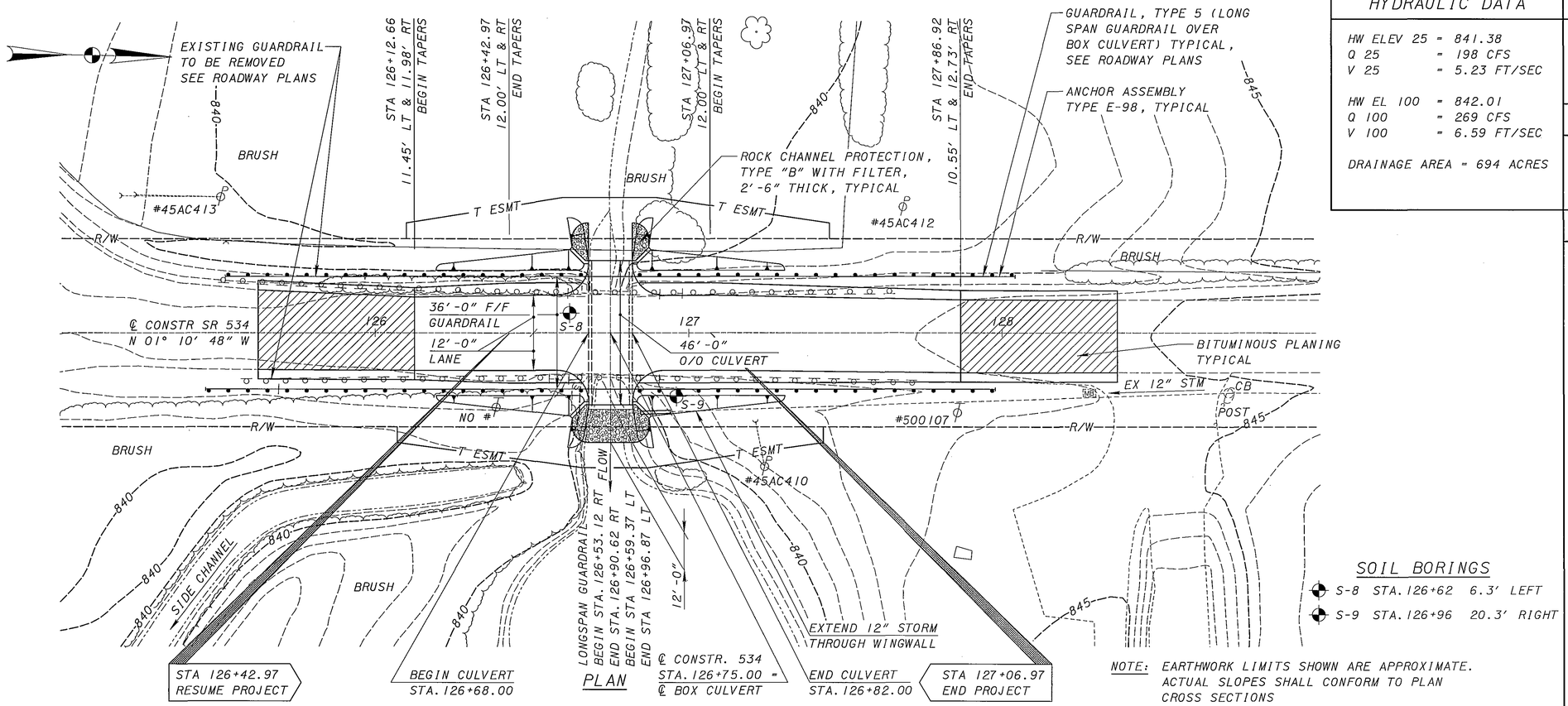
DESIGNED	DRAWN	REVIEWED	DATE
TMJ	TMJ	EAF	02/17/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DP/TJW	-	N/A	

GENERAL NOTES AND ESTIMATED QUANTITIES
CULVERT STRUCTURE NO. TRU-534-1525
℄ CONSTRUCTION SR 534 STA. 197+59.70

TRU-534-15.06

2 / 2

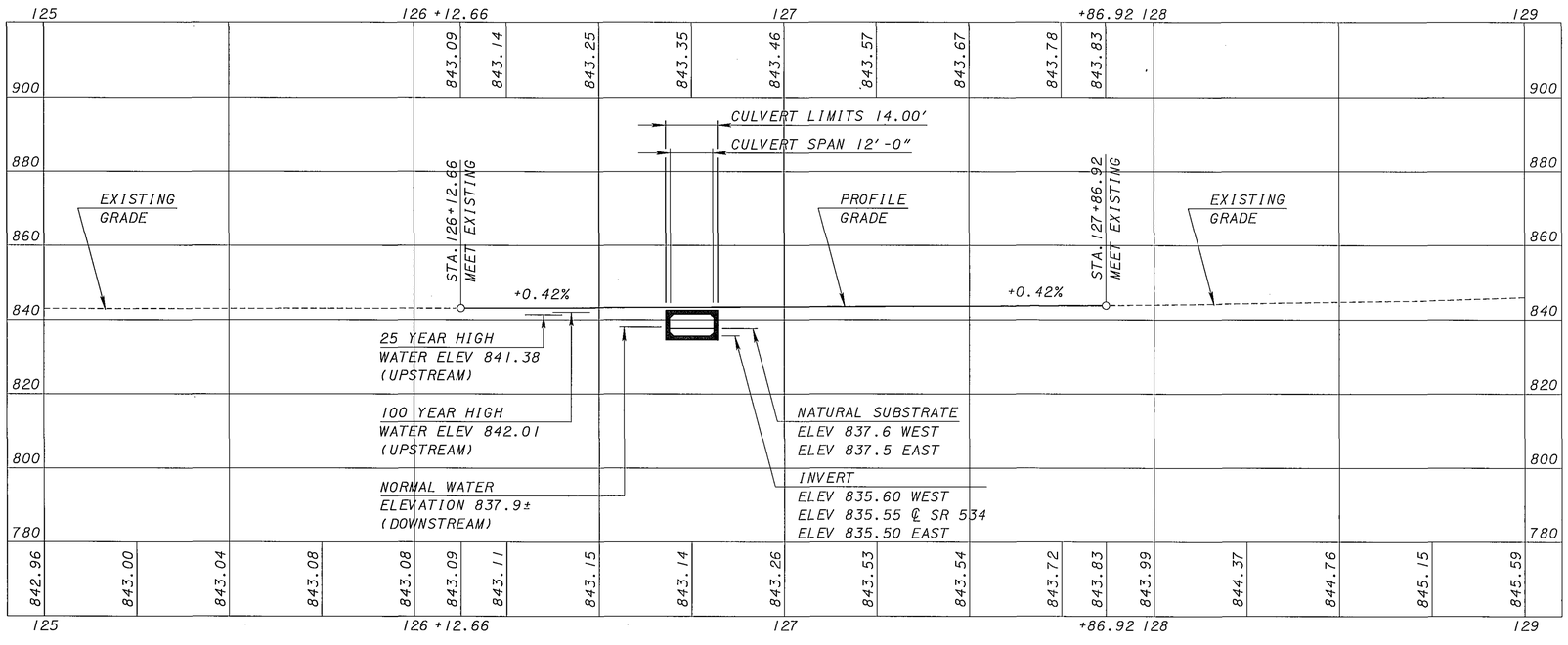
80
112



SOIL BORINGS

- S-8 STA. 126+62 6.3' LEFT
- S-9 STA. 126+96 20.3' RIGHT

NOTE: EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS



PROFILE
ALONG ℄ CONSTR. SR 534

HYDRAULIC DATA

HW ELEV 25 = 841.38
Q 25 = 198 CFS
V 25 = 5.23 FT/SEC

HW EL 100 = 842.01
Q 100 = 269 CFS
V 100 = 6.59 FT/SEC

DRAINAGE AREA = 694 ACRES

BENCH MARK

CENTER OF CATCH BASIN CASTING
STATION: 128+72
OFFSET: 19.0' RIGHT
ELEVATION: 843.82

TRAFFIC DATA

AVE. DAILY TRAF. (2004)	1500
AVE. DAILY TRAF. (2024)	2000
AVE. DAILY TRUCK TRAF.(2004)	120

EXISTING STRUCTURE

TYPE: CAST-IN-PLACE CONCRETE SLAB BRIDGE WITH FULL HEIGHT ABUTMENTS AND INTEGRAL WINGWALLS

SPANS: 12'-0"± FACE TO FACE ABUTMENT WALLS

ROADWAY: 25'-9"± FACE TO FACE GUARDRAIL

SKEW: NONE (00° 00' 00")

SIDEWALKS: NONE

WEARING SURFACE: ASPHALT CONCRETE

LOADING: H-15

ALIGNMENT: TANGENT

SUPERELEVATION: NONE, NORMAL CROWN

APPROACH SLABS: UNKNOWN

DATE BUILT: 1937

STRUCTURE FILE NUMBER: 7807473

PROPOSED STRUCTURE

TYPE: 12'-0" X 6'-0" FOUR SIDED REINFORCED CONCRETE BOX CULVERT (ASTM C1433) WITH REINFORCED CONCRETE CUT-OFF WALLS AND WINGWALLS

SPANS: 12'-0" FACE TO FACE CULVERT WALLS

ROADWAY: 46'-0" BOX CULVERT LENGTH
36'-0" FACE/FACE GUARDRAIL
TWO 12'-0" LANES WITH 6'-0" SHOULDERS

SKEW: NONE (00° 00' 00")

SIDEWALKS: NONE

WEARING SURFACE: ASPHALT CONCRETE

LOADING: TABLE 2 OF ASTM C1433 (GREATER OF HS20 OR INTERSTATE LIVE LOAD) WITH LESS THAN 2' OF COVER

ALIGNMENT: TANGENT

SUPERELEVATION: NONE (NORMAL CROWN)

APPROACH SLABS: NONE

LATITUDE: N 41° 20' 24"

LONGITUDE: W 80° 34' 22"

acla
consulting engineers
adache ciuzi lynn associates inc.
5995 transportation boulevard, cleveland, ohio 44125

DESIGNED TMJ | CHECKED TJW
DRAWN TMJ | REVISED
REVIEWED EAF 02/13/03 | STRUCTURE FILE NUMBER 7807465

TRUMBULL COUNTY
STA. 126+68.00
STA. 126+82.00

SITE PLAN
BRIDGE NO. TRU-534-1578
OVER A TRIBUTARY TO DEAD BRANCH CREEK

TRU-534-15.06

1 / 5

81 / 112

STRUCTURAL GENERAL NOTES:

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1996, INCLUDING 1997-2001 INTERIM SPECIFICATIONS AND THE 2003 ODOT BRIDGE DESIGN MANUAL.

CULVERT DESIGN LOADING:

TABLE 2 OF ASTM C1433 (GREATER OF HS20 OR INTERSTATE LIVE LOAD) WITH LESS THAN 2' OF COVER.

DESIGN DATA:

PRECAST FOUR SIDED BOX, AS PER ASTM C1433
WINGWALLS AND FOOTINGS:
CONCRETE CLASS "C" - COMPRESSIVE STRENGTH 4000 PSI
REINFORCING STEEL - ASTM A615 OR A996 GRADE 60,
MINIMUM YEILD STRENGTH 60,000 PSI.

FOUNDATION BEARING PRESSURE:

WINGWALL FOOTINGS AS DESIGNED, PRODUCE A MAXIMUM BEARING PRESSURE OF 0.80 TONS PER SQUARE FOOT. THE ALLOWABLE BEARING PRESSURE IS 1.25 TONS PER SQUARE FOOT AT THE PROPOSED WINGWALL FOUNDATION UNDERCUT ELEVATION 832±

ITEM 202 STRUCTURE REMOVED, AS PER PLAN:

THIS WORK CONSISTS OF THE REMOVAL OF THE EXISTING STRUCTURE IN ACCORDANCE WITH THE PROVISIONS OF ITEM 202. ALSO INCLUDED WITH THIS WORK SHALL BE THE REMOVAL OF ANY REINFORCED OR PLAIN PORTLAND CEMENT CONCRETE RIGID BASE PAVEMENTS WITHIN THE LIMITS OF THE EXCAVATION REQUIRED FOR THE PROPOSED FOUR SIDED BOX CULVERT.

AN ASBESTOS SURVEY OF THE SR 534 BRIDGE STRUCTURE OVER A TRIBUTARY TO DEAD BRANCH CREEK, WAS CONDUCTED BY A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST. THE SURVEY DETERMINED THAT NO ASBESTOS IS PRESENT ON THE BRIDGE.

A COPY OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) NOTIFICATION OF DEMOLITION AND RENOVATION FORM, PARTIALLY COMPLETED AND SIGNED BY THE BRIDGE OWNER, WILL BE PROVIDED TO THE SUCCESSFUL BIDDER. THE CONTRACTOR SHALL COMPLETE THE FORM AND SUBMIT IT TO:

MAHONING-TRUMBULL AIR POLLUTION CONTROL
OAK HILL / RENAISSANCE PLACE
SECOND FLOOR, ROOM 25
345 OAK HILL AVENUE
YOUNGSTOWN, OHIO 44502
ROBERT RAMHOFF, DIRECTOR
(330) 744-1928
FAX: (330) 744-1928

AT LEAST TEN (10) WORKING DAYS PRIOR TO THE START OF THE DEMOLITION OF THE BRIDGE. THE CONTRACTOR SHALL PROVIDE A COPY OF THE COMPLETED FORM TO THE ENGINEER. INFORMATION REQUIRED ON THE FORM WILL INCLUDE: 1) THE CONTRACTORS NAME AND ADDRESS, 2) THE SCHEDULED DATES FOR THE START AND COMPLETION OF THE BRIDGE REMOVAL AND 3) A DESCRIPTION OF THE PLANNED DEMOLITION WORK AND THE METHOD(S) TO BE USED. A COPY OF THE OEPA FORM IS AVAILABLE FOR INSPECTION AT THE ODOT DISTRICT 4 OFFICE, 2088 SOUTH ARLINGTON ROAD, AKRON, OHIO 44306.

THE CONTRACTOR SHALL FURNISH ALL FEES, LABOR, AND MATERIAL NECESSARY TO COMPLETE AND SUBMIT THE OEPA NOTIFICATION FORM. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN ITEM 202-STRUCTURE REMOVED, AS PER PLAN.

ITEM 203 GRANULAR MATERIAL, TYPE B, AS PER PLAN:

THIS ITEM IS FOR FURNISHING, PLACING AND COMPACTING TYPE B GRANULAR MATERIAL, 703.16.C IN 6" LIFTS ON GEOTEXTILE FABRIC (712.09, TYPE D) AT DESIGNATED UNDERCUT LOCATIONS.

PAYMENT FOR THIS COMPACTED GRANULAR MATERIAL INCLUDING GEOTEXTILE FABRIC SHALL BE AT THE CONTRACT UNIT BID PRICE PER CUBIC YARD FOR ITEM 203 GRANULAR MATERIAL TYPE B, AS PER PLAN.

ITEM 503 UNCLASSIFIED EXCAVATION, AS PER PLAN:

THE FOUNDATION FOR THE CONDUIT BEDDING AND WINGWALL FOUNDATIONS SHALL BE FIRM FOR ITS FULL LENGTH. UNSUITABLE MATERIAL ENCOUNTERED BELOW THE PLAN FOUNDATION SHALL BE REMOVED TO THE DEPTH SHOWN ON THE EXCAVATION DIAGRAMS OR AS DIRECTED BY THE ENGINEER, AND TO THE WIDTH OF THE EXCAVATION OR TRENCH SPECIFIED IN 503 AND 603. EXCAVATION AND PROPER DISPOSAL OF UNSUITABLE MATERIAL SHALL BE AT THE CONTRACT UNIT BID PRICE PER CUBIC YARD FOR ITEM 503 UNCLASSIFIED EXCAVATION, AS PER PLAN. FILL BELOW THE WINGWALL FOUNDATIONS AND BELOW THE CULVERT BEDDING MATERIAL IS A SEPARATE PAY ITEM. OTHER BACKFILL REQUIRED BY 503 SHALL BE TYPE B GRANULAR MATERIAL, 703.16.C PLACED AND COMPACTED IN 6" LIFTS.

ITEM 603 12' X 6' CONDUIT, TYPE A, 706.05, AS PER PLAN:

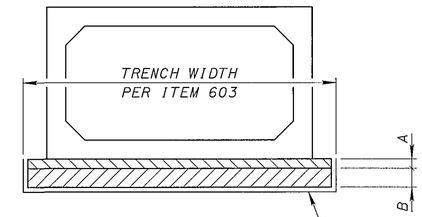
THIS WORK CONSISTS OF CONSTRUCTING A TYPE 'A' CULVERT IN ACCORDANCE WITH THE PROVISIONS OF ITEM 603 EXCEPT THAT THE STRUCTURAL BACKFILL MATERIAL SHALL BE PLACED IN LIFTS NOT TO EXCEED 6 INCHES.

SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

THE URETHANE TOP COAT SHALL BE TINTED FEDERAL COLOR NUMBER FS-595A-17778.

ESTIMATED QUANTITIES

ITEM	EXT.	TOTAL	UNIT	DESCRIPTION	GENERAL		REFERENCE
202	11001	LUMP		STRUCTURE REMOVED, AS PER PLAN	LUMP		2 OF 5
203	35111	28	CU. YD.	GRANULAR MATERIAL, TYPE B, AS PER PLAN	28		2 OF 5
503	11100	LUMP		COFFERDAMS, CRIBS AND SHEETING	LUMP		
503	21101	165	CU. YD.	UNCLASSIFIED EXCAVATION, AS PER PLAN	165		2 OF 5
509	10000	2519	POUNDS	EPOXY COATED REINFORCING STEEL	2519		
511	46000	8	CU. YD.	CLASS C CONCRETE	8		
511	46500	24	CU. YD.	CLASS C CONCRETE, FOOTING	24		
512	33000	82	SQ. YD.	TYPE 2 WATERPROOFING	82		
512	33010	82	SQ. YD.	TYPE 3 WATERPROOFING	82		
516	13200	32	SQ. FT.	½" PREFORMED EXPANSION JOINT FILLER	32		
518	21100	13	CU. YD.	POROUS BACKFILL	13		
SPECIAL	51822300	28.00	LIN. FT.	STEEL DRIP STRIP	28.00		
601	32100	34	CU. YD.	ROCK CHANNEL PROTECTION, TYPE B WITH FILTER	34		
603	95801	46	LIN. FT.	12' X 6' CONDUIT, TYPE A, 706.05, AS PER PLAN	46		2 OF 5
				(LESS THAN 2' OF COVER)			
864	10100	25	SQ. YD.	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	25		

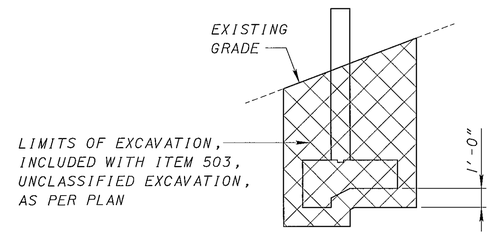


GEOTEXTILE FABRIC, 712.09, TYPE D INCLUDE WITH ITEM 203, GRANULAR MATERIAL, TYPE B, AS PER PLAN FOR PAYMENT

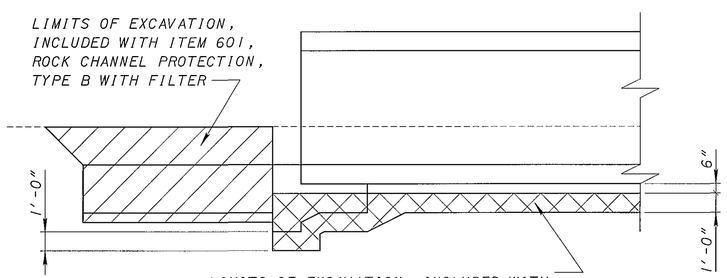
A - 6" MINIMUM TYPE I BEDDING 603.04 INCLUDE WITH ITEM 603 CONDUIT

B - COMPACTED GRANULAR MATERIAL, INCLUDE WITH ITEM 203 GRANULAR MATERIAL, TYPE B, AS PER PLAN. DEPTH OF ONE FOOT IS ASSUMED FOR ESTABLISHING PAY QUANTITY.

LIMITS OF EMBANKMENT
AT BOX CULVERT



LIMITS OF EXCAVATION
AT WINGWALLS



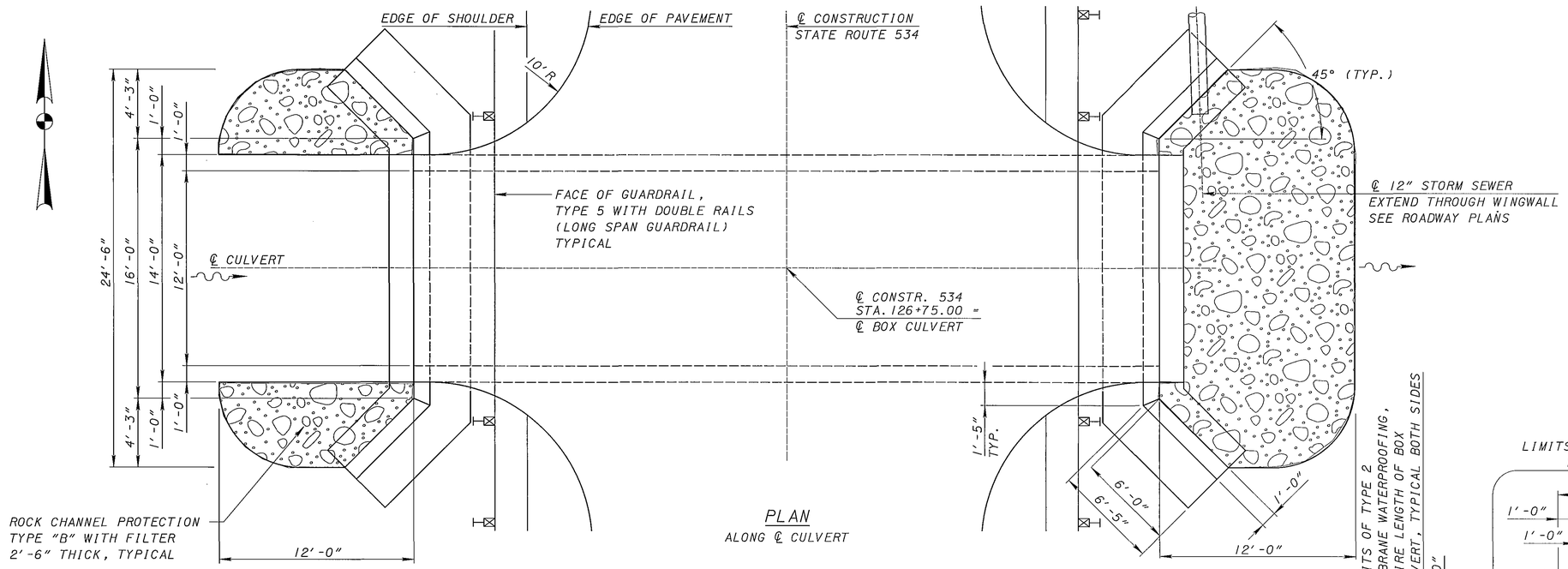
LIMITS OF EXCAVATION
ALONG ℄ CULVERT

acla
consultants incorporated
address claus lynn associates inc.
5005 transportation boulevard. cleveland, ohio 44125

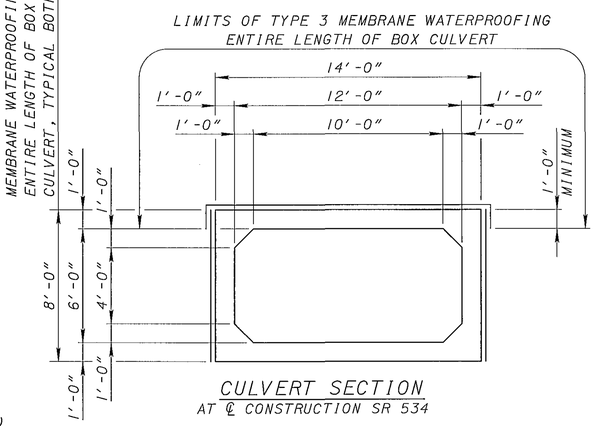
DESIGNED	DRAWN	REVIEWED	DATE
TMJ	TMJ	EAF	2/13/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DP/TJW	-	7807465	

GENERAL NOTES AND ESTIMATED QUANTITIES
BRIDGE NO. TRU-534-1578
OVER A TRIBUTARY TO DEAD BRANCH CREEK

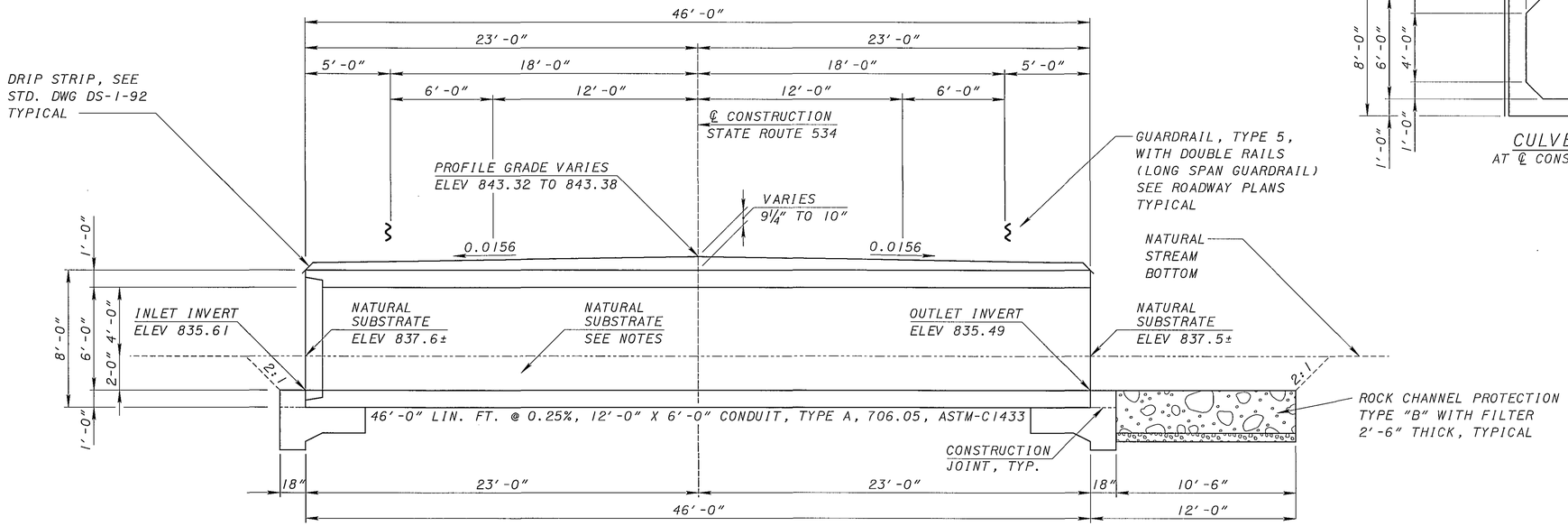
TRU-534-15.06



PLAN
ALONG ℄ CULVERT



CULVERT SECTION
AT ℄ CONSTRUCTION SR 534



PROFILE
ALONG ℄ CULVERT

NOTES:

FOR STRUCTURAL GENERAL NOTES, SEE SHEET 2/5

FOR ESTIMATED QUANTITIES, SEE SHEET 2/5

FOR WINGWALL DETAILS, SEE SHEET 4/5

ALL REINFORCING BAR MARKS IN THE CULVERT WINGWALLS SHALL BE PREFIXED WITH THE LETTER "W".

FOR REINFORCING STEEL LIST AND BAR BENDING DIAGRAMS, SEE SHEET 5/5

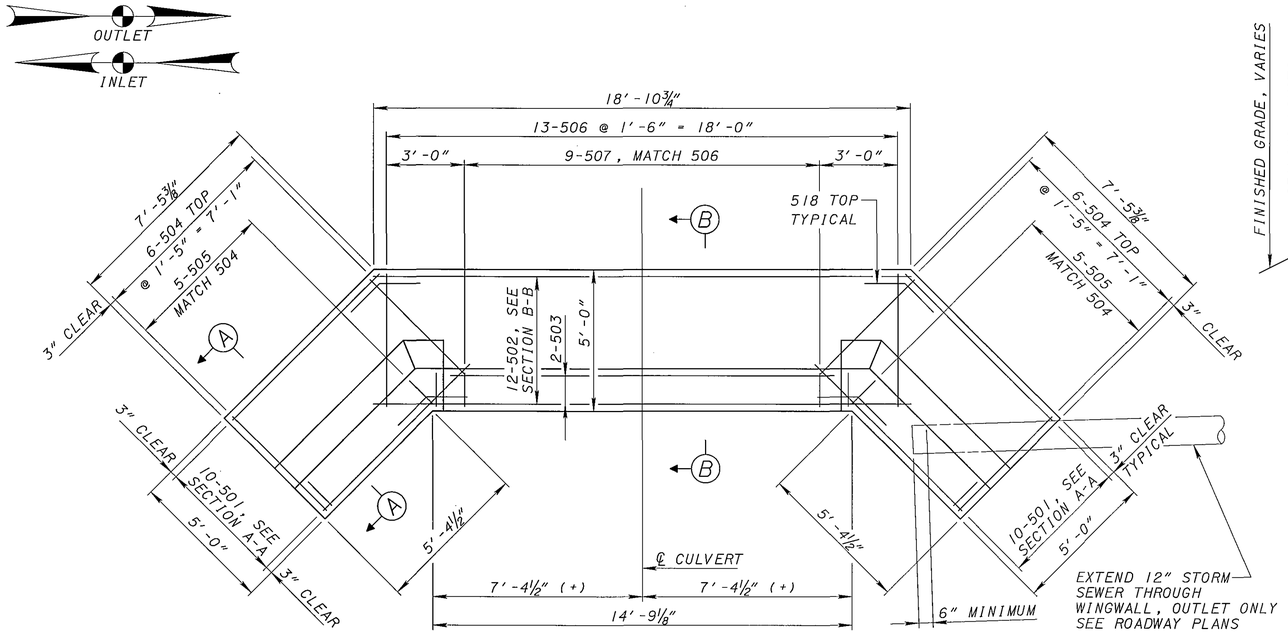
THE NATURAL SUBSTRATE FLOWLINE OF THE BOX CULVERT AS SHOWN IS THE FUTURE FLOWLINE OF THE CHANNEL, AFTER NATURAL SEDIMENT AND SILTATION HAS OCCURED. IT IS SHOWN FOR ILLUSTRATIVE PURPOSES ONLY.

acla
adache ciuni lynn associates inc. CONSULTING ENGINEERS
5595 transportation boulevard, cleveland, ohio 44125

DESIGNED	DRAWN	REVIEWED	DATE
TMJ	TMJ	EAF	2/13/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DP	-	7807465	

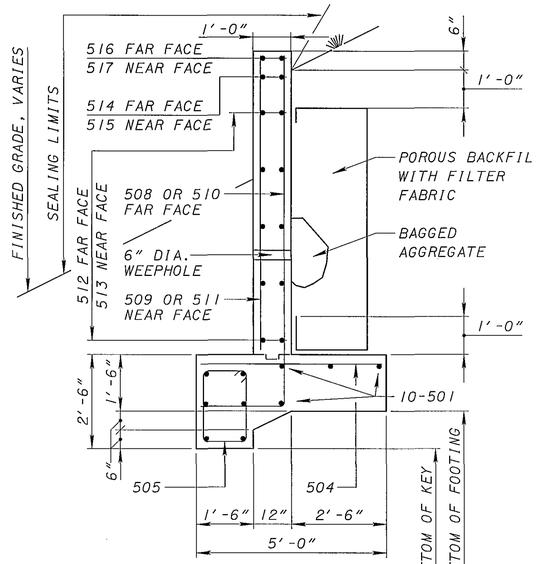
PLAN AND PROFILE
BRIDGE NO. TRU-534-1578
OVER A TRIBUTARY TO DEAD BRANCH CREEK

TRU-534-15.06



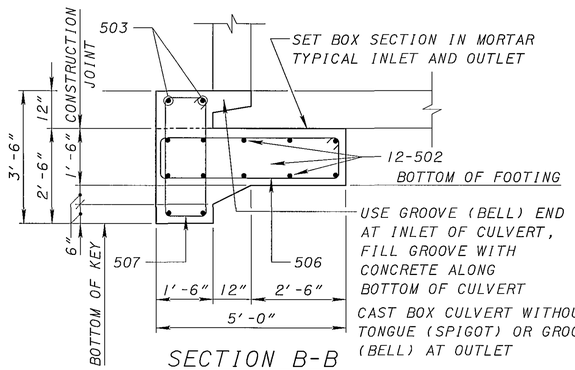
PLAN

SHOWING FOOTING REINFORCING



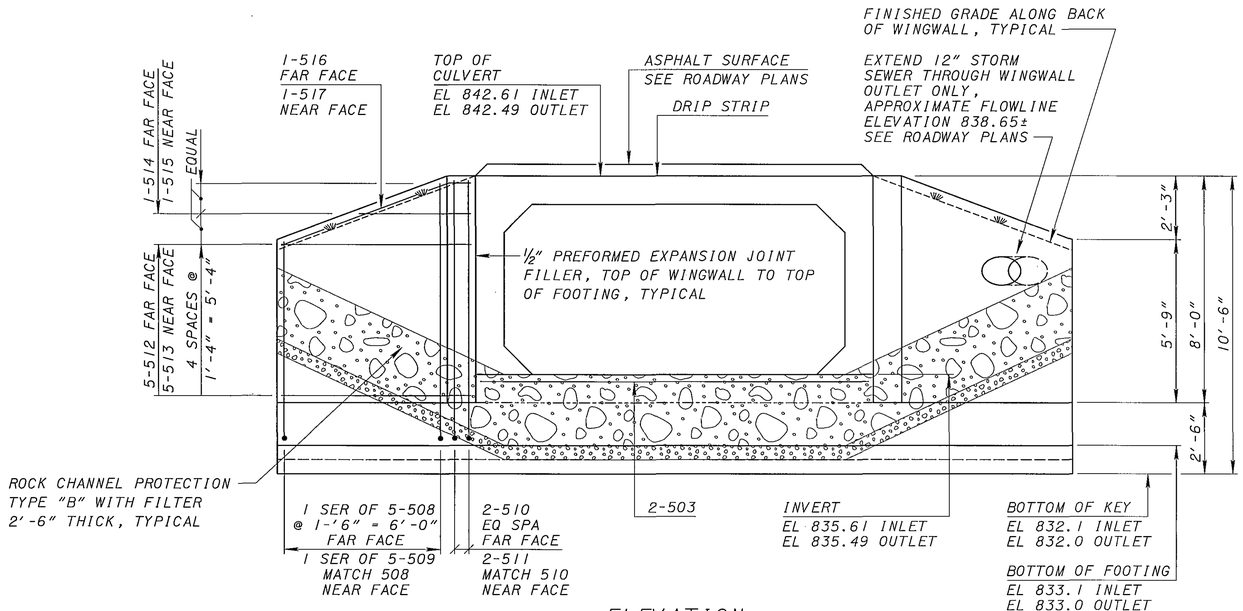
SECTION A-A

TYPICAL EXCEPT AT NORTH OUTLET WALL.
SEE NORTH WINGWALL DETAIL FOR SPECIAL REINFORCING AT SEWER.



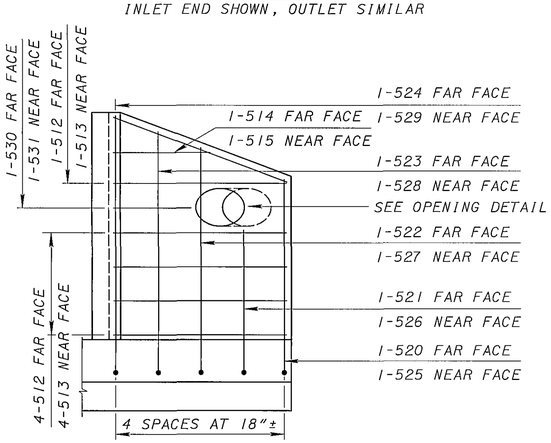
SECTION B-B

INLET END SHOWN, OUTLET SIMILAR



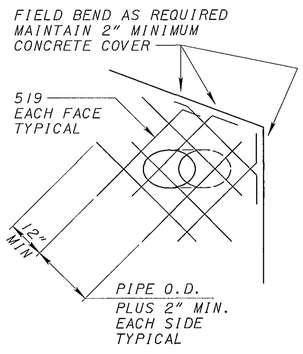
ELEVATION

DEVELOPED ALONG FACE OF WINGWALL
ROCK CHANNEL PROTECTION AT CHANNEL BOTTOM NOT APPLICABLE AT INLET SIDE



NORTH WINGWALL DETAIL

OUTLET SIDE ONLY



OPENING DETAIL

NOTES:

FOR STRUCTURAL GENERAL NOTES, SEE SHEET 2/5

FOR ESTIMATED QUANTITIES, SEE SHEET 2/5

PRIOR TO PLACING BACKFILL MATERIAL BEHIND THE WINGWALLS, GRANULAR BACKFILL PER ITEM 503 SHALL BE PLACED AND COMPACTED WITHIN THE EXCAVATION LIMITS IN FRONT OF THE WINGWALL AND CUT-OFF WALL FOUNDATIONS.

ALL REINFORCING BAR MARKS IN THE CULVERT WINGWALLS SHALL BE PREFIXED WITH THE LETTER "W".

THE COST FOR FIELD BENDING AND FIELD CUTTING OF REINFORCING STEEL TO ACCOMMODATE THE 12" STORM SEWER THROUGH THE NORTHEAST WINGWALL, SHALL BE INCLUDED WITH ITEM 509 EPOXY COATED REINFORCING STEEL

FOR REINFORCING STEEL LIST AND BAR BENDING DIAGRAMS, SEE SHEET 5/5

WEEPHOLES:
ONE 6" DIAMETER WEEPHOLE SHALL BE PLACED IN EACH WINGWALL, CENTERED, AT ELEVATION 838.0±

POROUS BACKFILL WITH FILTER FABRIC, 2 FEET THICK SHALL EXTEND UP TO 1 FOOT BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE ENDS OF THE WINGWALLS. TWO CUBIC FEET OF BAGGED NO. 3 AGGREGATE SHALL BE PLACED AT EACH WEEPHOLE. BAGGED AGGREGATE IS INCLUDED WITH POROUS BACKFILL FOR PAYMENT.

SEAL THE HEADWALL AND CULVERT END AS INDICATED BY THE SEALING LIMITS. ALSO SEAL LAST 6" INSIDE THE CULVERT AT WALLS AND CEILING ONLY.

acla
consulting engineers
acla/the claus lyon associates inc.
5005 transportation boulevard, cleveland, ohio 44125

DESIGNED TMJ
DRAWN TMJ
CHECKED DP
REVISED -
REVIEWED EAF 2/13/03
DATE
STRUCTURE FILE NUMBER 7807465

STRUCTURAL DETAILS
BRIDGE NO. TRU-534-1578
OVER A TRIBUTARY TO DEAD BRANCH CREEK

TRU-534-15.06

4/5

84/112

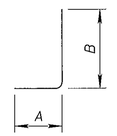
BOX CULVERT WINGWALLS

MARK	NUMBER			LENGTH	WEIGHT (LBS.)	TYPE	DIMENSIONS						INC.
	INLET	OUTLET	TOTAL				A	B	C	D	E	R	
W501	20	20	40	7'-2"	298	STR							
W502	12	12	24	18'-10"	472	STR							
W503	2	2	4	13'-8"	58	STR							
W504	12	12	24	4'-6"	112	STR							
W505	10	10	20	6'-9"	140	3	1'-0"	2'-1"					
W506	13	13	26	11'-9"	318	3	4'-6"	1'-1"					
W507	9	9	18	8'-9"	164	3	1'-0"	3'-1"					
W508	2 SER	1 SER	3 SER	8'-10"	156	1	2'-1"	6'-10"					0'-6 3/4"
	OF 5	OF 5	OF 5	11'-1"			2'-1"	9'-1"					
W509	2 SER	1 SER	3 SER	5'-5"	102	STR							0'-6 3/4"
	OF 5	OF 5	OF 5	7'-8"									
W510	4	4	8	11'-1"	92	1	2'-1"	9'-1"					
W511	4	4	8	7'-8"	64	STR							
W512	10	10	20	7'-3"	152	19	6'-2"	0'-10"	0'-10"				
W513	10	10	20	6'-10"	142	19	5'-11"	0'-8"	0'-8"				
W514	2	2	4	4'-3"	18	19	3'-2"	0'-10"	0'-10"				
W515	2	2	4	3'-10"	16	19	2'-11"	0'-8"	0'-8"				
W516	2	2	4	7'-8"	32	19	6'-7"	0'-10"	0'-10"				
W517	2	2	4	7'-3"	30	19	6'-4"	0'-8"	0'-8"				
W518	4	4	8	2'-9"	22	19	1'-5"	1'-0"	1'-0"				
W519	0	8	8	4'-9"	40	STR							
W520	-	1	1	8'-10"	9	1	2'-1"	6'-10"					
W521	-	1	1	7'-0"	7	1	2'-1"	5'-0"					
W522	-	1	1	10'-0"	10	1	2'-1"	8'-0"					
W523	-	1	1	10'-6"	11	1	2'-1"	8'-6"					
W524	-	1	1	11'-1"	12	1	2'-1"	9'-1"					
W525	-	1	1	5'-5"	6	STR							
W526	-	1	1	3'-10"	4	STR							
W527	-	1	1	6'-7"	7	STR							
W528	-	1	1	7'-2"	8	STR							
W529	-	1	1	7'-8"	8	STR							
W530	-	1	1	4'-9"	5	19	3'-8"	0'-10"	0'-10"				
W531	-	1	1	3'-7"	4	19	2'-9"	0'-8"	0'-8"				
TOTAL WEIGHT					2519								

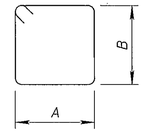
NOTES:

REINFORCING STEEL SAMPLES:
REFER TO SECTIONS 106.03, 700, 709.00
SUFFICIENT ADDITIONAL REINFORCING STEEL SHALL BE PROVIDED FOR SAMPLES. RANDOM SAMPLES SHALL BE REPLACED IN THE STRUCTURE BY THE ADDITIONAL STEEL, SPLICED IN ACCORDANCE WITH 509.07.
ALL REINFORCING STEEL TO BE EPOXY COATED.

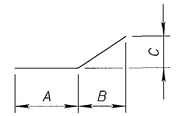
BAR BENDING DIAGRAMS



TYPE-1



TYPE-3



TYPE-19

acla
collective assets hybrid associates inc.
5085 transportation boulevard, cleveland, ohio 44125

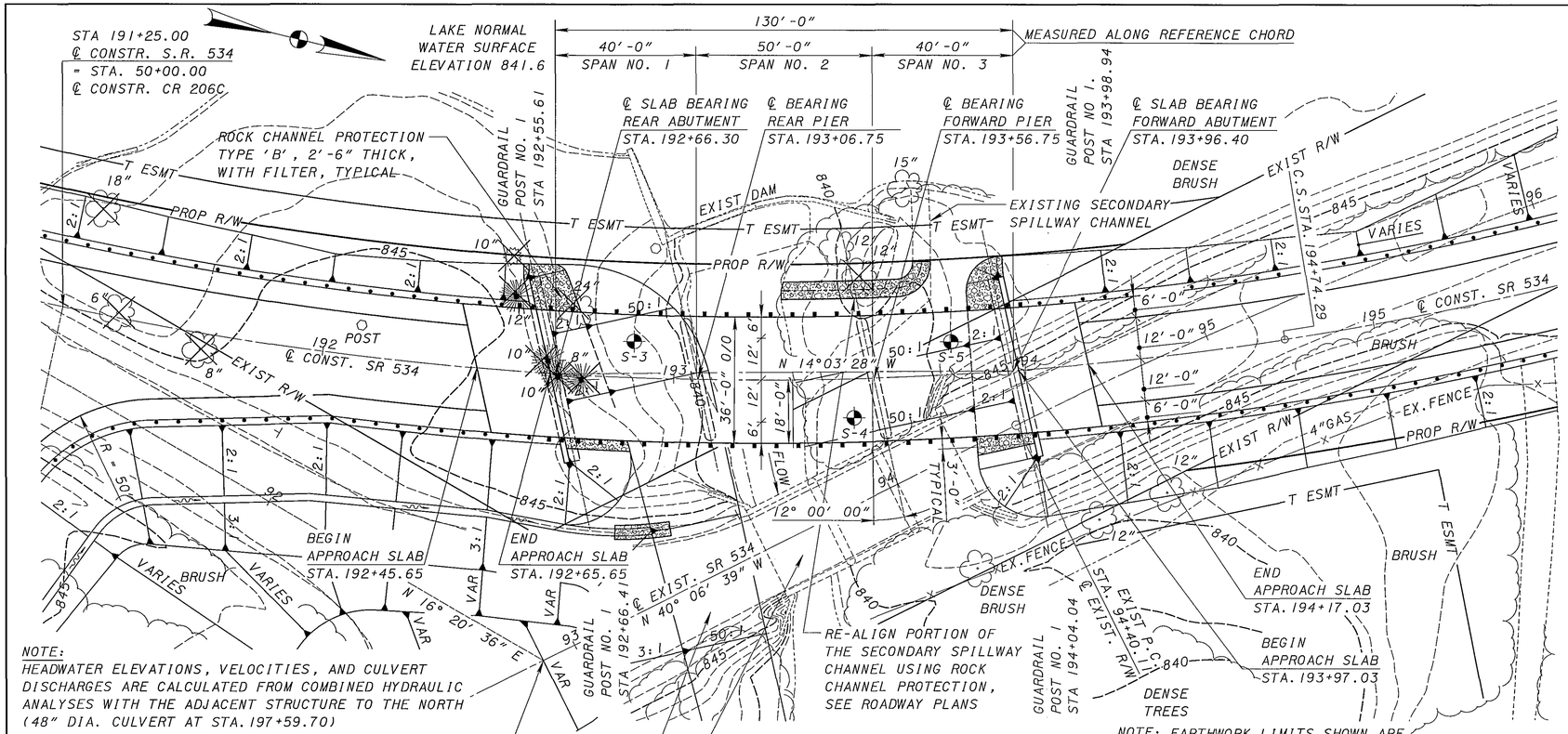
DESIGNED	DRAWN	REVIEWED	DATE
TMJ	TMJ	EAF	2/13/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DP	-	7807465	

REINFORCING SCHEDULE
BRIDGE NO. TRU-534-1578
OVER A TRIBUTARY TO DEAD BRANCH CREEK

TRU-534-15.06

5 / 5

85 / 112



PLAN

NOTE:
HEADWATER ELEVATIONS, VELOCITIES, AND CULVERT DISCHARGES ARE CALCULATED FROM COMBINED HYDRAULIC ANALYSES WITH THE ADJACENT STRUCTURE TO THE NORTH (48" DIA. CULVERT AT STA.197+59.70)

NOTE: EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
GUARDRAIL POST NUMBERING AT BRIDGE TERMINAL ASSEMBLY CORRESPONDS TO STANDARD DRAWING GR-3.6

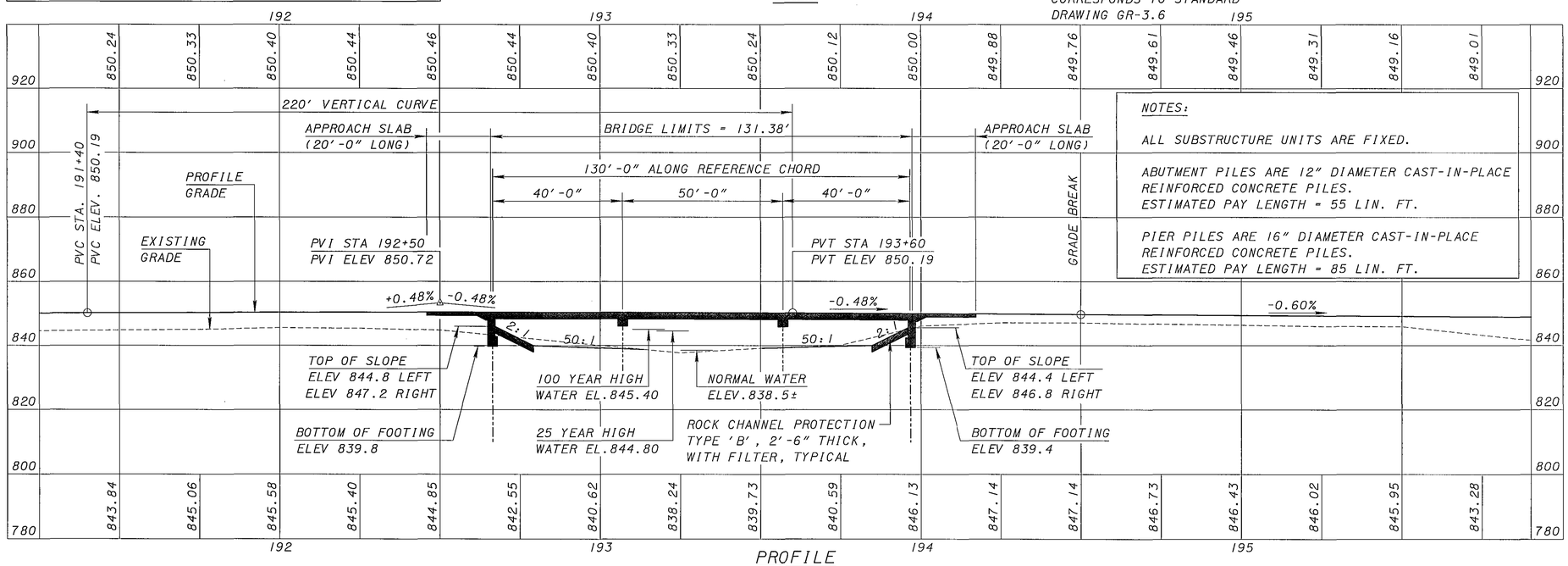
HYDRAULIC DATA

HW ELEV 25	= 844.80	HW EL 100	= 845.40
Q 25	= 1162 CFS	Q 100	= 1587 CFS
V 25	= 2.83 FT/SEC	V 100	= 3.34 FT/SEC

DRAINAGE AREA = 7.21 SQUARE MILES

SOIL BORINGS

- S-3 STA. 192+88.4 10.4' LEFT
- S-4 STA. 193+51.0 11.1' RIGHT
- S-5 STA. 193+79.4 9.4' LEFT



PROFILE
ALONG ℄ CONSTRUCTION STATE ROUTE 534

NOTES:

ALL SUBSTRUCTURE UNITS ARE FIXED.

ABUTMENT PILES ARE 12" DIAMETER CAST-IN-PLACE REINFORCED CONCRETE PILES.
ESTIMATED PAY LENGTH = 55 LIN. FT.

PIER PILES ARE 16" DIAMETER CAST-IN-PLACE REINFORCED CONCRETE PILES.
ESTIMATED PAY LENGTH = 85 LIN. FT.

℄ CONSTRUCTION CURVE DATA

P.I. STA. 192+24.46
Delta = 32° 16' 25" LT
Dc = 6° 00' 00"
R = 954.93'
T = 276.29'
L = 537.89'
E = 39.17'

SPIRAL DATA

P.I. Sta = 192+24.46
Delta = 44° 52' 25" LT
Dc = 6° 00' 00"
R = 954.93'
Ls = 210.00'
Theta = 6° 18' 00"
LT = 140.09'
ST = 70.08'
x = 209.75'
y = 7.69'
k = 104.96'
p = 1.92'
Delta = 32° 16' 25" LT
Lc = 537.89'
Ts = 500.06'
Es = 80.29'

℄ EXISTING R/W CURVE DATA

P.I. STA. 96+80.67
Delta = 19° 01' 44" RT
Dc = 3° 59' 31"
R = 1435.30'
T = 240.56'
L = 476.69'
E = 20.02'

BENCH MARK

RAILROAD SPIKE IN 30" TREE
STATION: 195+12.65
OFFSET: 102.798' LEFT
ELEVATION: 844.43

TRAFFIC DATA

AVE. DAILY TRAF. (2004)	1500
AVE. DAILY TRAF. (2024)	2000
AVE. DAILY TRUCK TRAF.(2004)	120

EXISTING STRUCTURE

TYPE: CONTINUOUS REINFORCED CONCRETE SLAB SUPPORTED ON FULL HEIGHT ABUTMENTS AND WALL TYPE PIERS

SPANS: 3 SPANS @ 20'-0"±

ROADWAY: 24'-0"± TOE/TOE BARRIERS

SKEW: 0° 00' 00" (NONE)

SIDEWALKS: NONE

WEARING SURFACE: ASPHALT CONCRETE

LOADING: H-15

ALIGNMENT: TANGENT

SUPERELEVATION: NONE (NORMAL CROWN)

APPROACH SLABS: UNKNOWN

DATE BUILT: 1937

STRUCTURE FILE NUMBER 7807449

PROPOSED STRUCTURE

TYPE: CONTINUOUS REINFORCED CONCRETE SLAB SUPPORTED ON CAPPED PILE ABUTMENTS AND PIERS

SPANS: 40'-0", 50'-0" AND 40'-0" MEASURED ALONG REF CHORD

ROADWAY: 36'-0" OUT/OUT DECK SLAB
36'-0" FACE/FACE GUARDRAIL
TWO 12'-0" LANES WITH
6'-0" SHOULDERS

SKEW: 12° 00' 00" RIGHT FORWARD TO REFERENCE CHORD

SIDEWALKS: NONE

WEARING SURFACE: MONOLITHIC CONCRETE

LOADING: HS-25-44 AND THE ALTERNATE MILITARY LOADING

ALIGNMENT: 6° 00' 00" CURVE (LEFT) R=954.93'

SUPERELEVATION: FULL SUPERELEVATION (1" PER FOOT)

APPROACH SLABS: 20'-0" LONG (AS-1-81)

LATITUDE: N 41° 20' 00"

LONGITUDE: W 80° 57' 18"

acla
consultants inc.
structural civil transportation
5005 transportation boulevard, cleveland, ohio 44125

DATE 01/27/03
REVIEWED EAF
STRUCTURE FILE NUMBER 7807457
DRAWN TMJ
REVISED -
DESIGNED TMJ
CHECKED TJW

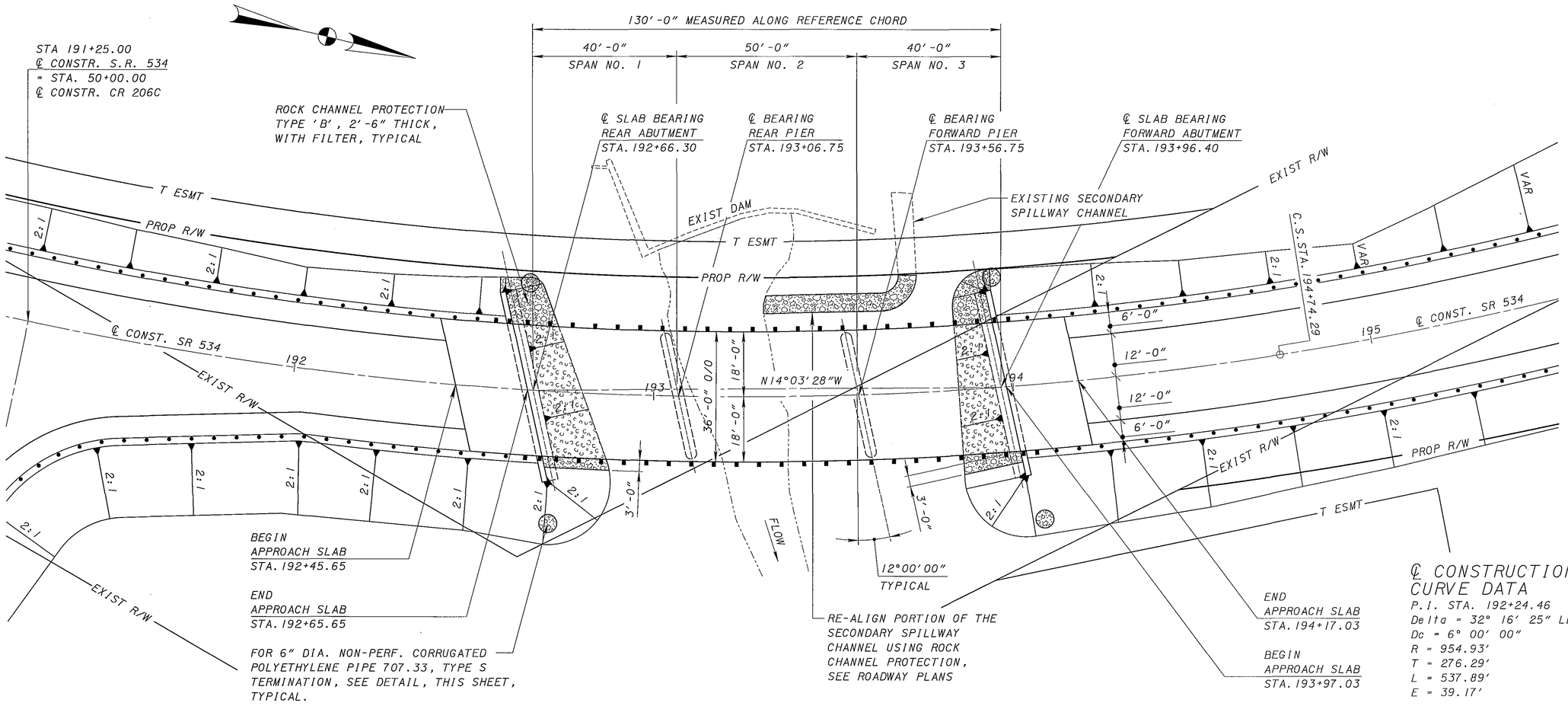
TRUMBULL COUNTY
STA. 192+65.65
STA. 193+97.03

SITE PLAN
BRIDGE NO. TRU-534-1516
OVER DEAD BRANCH CREEK

TRU-534-15.06

1 / 12

86 / 112

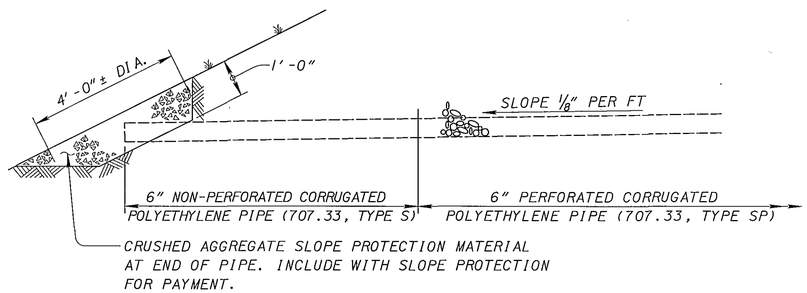


GENERAL PLAN

SCALE: 1" = 16'-0"

℄ CONSTRUCTION CURVE DATA

P.I. STA. 192+24.46
Delta = 32° 16' 25" LEFT
Dc = 6° 00' 00"
R = 954.93'
T = 276.29'
L = 537.89'
E = 39.17'



DETAIL

TERMINATION OF NON-PERFORATED CORRUGATED POLYETHYLENE PIPE INTO ABUTMENT SLOPE

NOTES:

FOR GEOMETRIC LAYOUT SEE SHEET 4/12

FOR STRUCTURAL GENERAL NOTES, SEE SHEET 3/12

FOR ESTIMATED QUANTITIES, SEE SHEET 3/12

FOR TWIN STEEL TUBE BRIDGE RAILING POST SPACING, SEE SLAB PLAN, SEE SHEET 9/12

FOR TWIN STEEL TUBE BRIDGE RAILING, SEE STD. DWG. TST-1-99.

FOR APPROACH SLAB DETAILS, SEE STD. DWG. AS-1-81.

acla
adache chuni lynn associates inc. CONSULTING ENGINEERS
5595 transportation boulevard, cleveland, ohio 44125

DESIGNED	DRAWN	REVIEWED	DATE
TMJ	TMJ	EAF	01/27/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DP	-	7807457	

GENERAL PLAN
BRIDGE NO. TRU-534-1516
OVER DEAD BRANCH CREEK

TRU-534-15.06

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFERENCE SHALL BE MADE TO STANDARD DRAWING(S):

AS-1-81	DATED	07-19-02 (REVISED)
DS-1-92	DATED	07-18-03 (REVISED)
TST-1-99	DATED	10-17-03 (REVISED)

AND TO SUPPLEMENTAL SPECIFICATIONS:

864	DATED	07-11-00 (REVISED)
894	DATED	10-18-02 (REVISED)

DESIGN SPECIFICATIONS

CONSTRUCTION OF THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1996, INCLUDING THE 1997, 1998, 1999, 2000 AND 2001 INTERIM SPECIFICATIONS AND THE 2003 ODOT BRIDGE DESIGN MANUAL.

DESIGN LOADING

DESIGN LOADING: HS25-44 AND ALTERNATE MILITARY LOADING
SUPERIMPOSED LOAD - 75 PSF (INCLUDING 60 PSF FUTURE WEARING SURFACE)

DESIGN DATA

CONCRETE CLASS HP COMPRESSIVE STRENGTH - 4500 P.S.I. (SUPERSTRUCTURE)
CONCRETE CLASS S COMPRESSIVE STRENGTH - 4500 P.S.I. (PIERS)
CONCRETE CLASS C COMPRESSIVE STRENGTH - 4000 P.S.I. (ABUTMENTS)
REINFORCING STEEL - ASTM A615 OR A996, GRADE 60
MINIMUM YIELD STRENGTH 60,000 PSI
SPIRAL REINFORCING MAY BE PLAIN BARS ASTM A82 OR A615

DECK PROTECTION METHOD

EPOXY COATED REINFORCING STEEL
2½" CONCRETE COVER AND SEALING OF CONCRETE SURFACES.
HIGH PERFORMANCE CONCRETE DECK
STEEL DRIP STRIP

MONOLITHIC WEARING SURFACE

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1" THICK.

ITEM 202 STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

DESCRIPTION:
THIS WORK SHALL CONSIST OF THE REMOVAL OF THE EXISTING STRUCTURE IN ACCORDANCE WITH THE PROVISIONS OF ITEM 202.

AN ASBESTOS SURVEY OF THE SR 534 BRIDGE STRUCTURE OVER DEAD BRANCH CREEK WAS CONDUCTED BY A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST. THE SURVEY DETERMINED THAT NO ASBESTOS IS PRESENT ON THE BRIDGE.

A COPY OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) NOTIFICATION OF DEMOLITION AND RENOVATION FORM, PARTIALLY COMPLETED AND SIGNED BY THE BRIDGE OWNER, WILL BE PROVIDED TO THE SUCCESSFUL BIDDER. THE CONTRACTOR SHALL COMPLETE THE FORM AND SUBMIT IT TO:

MAHONING-TRUMBULL AIR POLLUTION CONTROL
OAK HILL / RENAISSANCE PLACE
SECOND FLOOR, ROOM 25
345 OAK HILL AVENUE
YOUNGSTOWN, OHIO 44502
ROBERT RAMHOFF, DIRECTOR
(330) 744-1928
FAX: (330) 744-1928

AT LEAST TEN (10) WORKING DAYS PRIOR TO THE START OF THE DEMOLITION OF THE BRIDGE. THE CONTRACTOR SHALL PROVIDE A COPY OF THE COMPLETED FORM TO THE ENGINEER. INFORMATION REQUIRED ON THE FORM WILL INCLUDE:1) THE CONTRACTORS NAME AND ADDRESS, 2) THE SCHEDULED DATES FOR THE START AND COMPLETION OF THE BRIDGE REMOVAL AND 3) A DESCRIPTION OF THE PLANNED DEMOLITION WORK AND THE METHOD(S) TO BE USED. A COPY OF THE OEPA FORM IS AVAILABLE FOR INSPECTION AT THE ODOT DISTRICT 4 OFFICE, 2088 SOUTH ARLINGTON ROAD, AKRON, OHIO 44306.

THE CONTRACTOR SHALL FURNISH ALL FEES, LABOR, AND MATERIAL NECESSARY TO COMPLETE AND SUBMIT THE OEPA NOTIFICATION FORM. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN ITEM 202-STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN.

ITEM 503, UNCLASSIFIED EXCAVATION, AS PER PLAN

THE BACKFILL MATERIAL BEHIND THE ABUTMENTS SHALL BE TYPE B GRANULAR MATERIAL, 703.16.C, PLACED AND COMPACTED IN 6 INCH LIFTS.

SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

THE URETHANE TOP COAT SHALL BE TINTED FEDERAL COLOR NUMBER FS-595A-17778

PILE DRIVING CONSTRAINTS

PRIOR TO DRIVING PILES, CONSTRUCT THE SPILL THROUGH SLOPES AND THE BRIDGE APPROACH EMBANKMENT BEHIND THE ABUTMENTS UP TO THE LEVEL OF THE SUBGRADE ELEVATION FOR A MINIMUM DISTANCE OF 150 FEET BEHIND EACH ABUTMENT. DO NOT BEGIN THE EXCAVATION FOR THE ABUTMENT FOOTINGS AND THE INSTALLATION OF THE ABUTMENT AND PIER PILES, UNTIL AFTER THE ABOVE REQUIRED EMBANKMENT HAS BEEN CONSTRUCTED.

PILE DESIGN LOADS

THE ULTIMATE BEARING VALUE IS 69 TONS FOR THE 12" DIA. ABUTMENT PILES AND 157 TONS FOR THE 16" DIA. PIER PILES

ABUTMENT PILES: 16 PILES 55 FEET LONG, ESTIMATED LENGTH
16 PILES OF ORDER LENGTH 60 FEET
1 DYNAMIC LOAD TESTING ITEM

PIER PILES: 12 PILES 85 FEET LONG, ESTIMATED LENGTH
12 PILES OF ORDER LENGTH 90 FEET LONG
1 DYNAMIC LOAD TESTING ITEM

ESTIMATED QUANTITIES

ITEM	ITEM EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUTMENT	PIERS	SUPERSTRUCTURE	GENERAL	REF.
202	11003	LUMP		STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LUMP	3/12
503	21101	155	CU. YD.	UNCLASSIFIED EXCAVATION, AS PER PLAN	155				3/12
505	11100	LUMP		PILE DRIVING EQUIPMENT MOBILIZATION				LUMP	
507	00500	880	LIN. FT.	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN	880				
507	00550	960	LIN. FT.	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED	960				
507	00700	1020	LIN. FT.	16" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN		1020			
507	00750	1080	LIN. FT.	16" CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED		1080			
509	10000	84,142	POUND	EPOXY COATED REINFORCING STEEL	7669	3652	72,821		
511	33300	16	CU. YD.	CLASS S CONCRETE,SUPERSTRUCTURE (PIER)		16			
511	44100	46	CU. YD.	CLASS C CONCRETE, ABUTMENT NOT INCLUDING FOOTING	46				
511	46500	37	CU. YD.	CLASS C CONCRETE, FOOTING	37				
516	13600	13	SQ. FT.	1" PREFORMED EXPANSION JOINT FILLER	13				
517	70000	275.68	LIN. FT.	RAILING (TWIN STEEL TUBE)			275.68		
518	21200	40	CU. YD.	POROUS BACKFILL WITH FILTER FABRIC	40				
SPECIAL	51822300	304.77	LIN. FT.	SPECIAL- STEEL DRIP STRIP			304.77		
518	40000	106	LIN. FT.	6" PERFORATED CORRUGATED PLASTIC PIPE	106				
518	40010	41	LIN. FT.	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	41				
523	20000	2	EACH	DYNAMIC LOAD TESTING	1	1			
526	15000	160	SQ. YD.	REINFORCED CONCRETE APPROACH SLAB (T=13")				160	
601	20000	6	SQ. YD.	CRUSHED AGGREGATE SLOPE PROTECTION	6				
601	32100	150	CU. YD.	ROCK CHANNEL PROTECTION, TYPE "B" WITH FILTER	150				
864	10100	135	SQ. YD.	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	41		94		
894	10000	352	CU. YD.	HIGH PERFORMANCE CONCRETE, FOR BRIDGE DECK WITH WARRANTY			352		

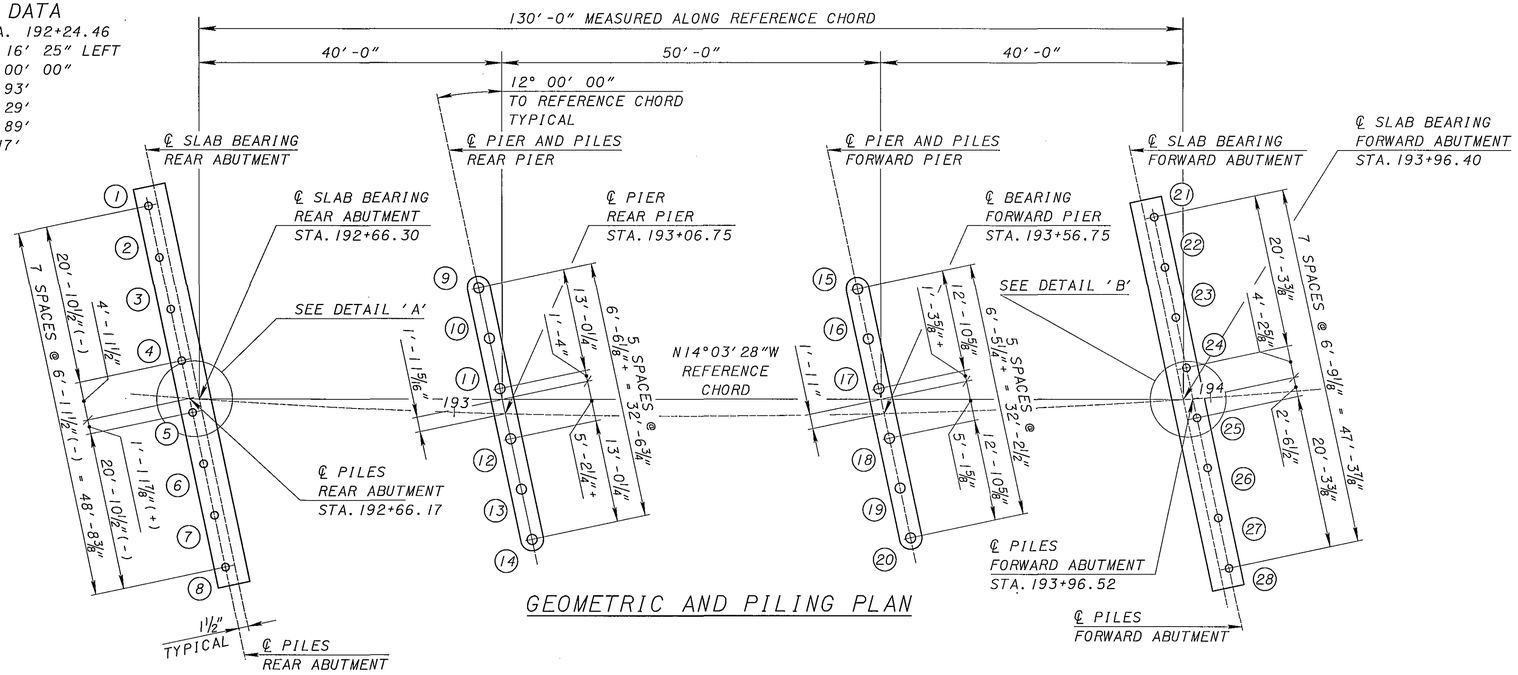
acla
collins-mann-lindquist associates inc. consulting engineers
5885 transportation boulevard, cleveland, ohio 44125

DESIGNED DP | DRAWN DP | CHECKED TMJ/TJW | REVISED - | REVIEWED EAF | DATE 01/27/03 | STRUCTURE FILE NUMBER 7807457

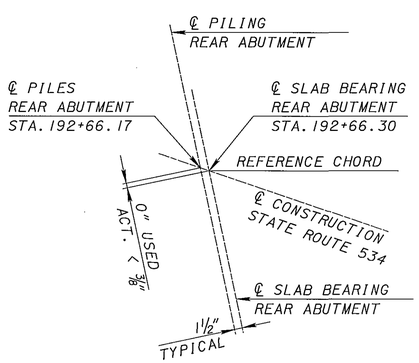
GENERAL NOTES AND ESTIMATED QUANTITIES
BRIDGE NO. TRU-534-1516
OVER DEAD BRANCH CREEK

TRU-534-15.06

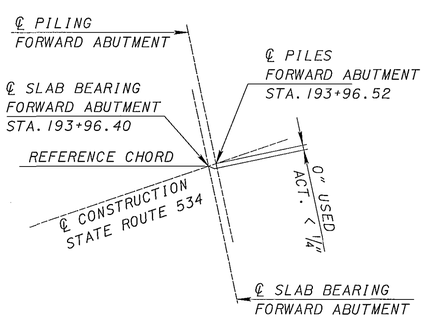
℄ CONSTRUCTION
CURVE DATA
P.I. STA. 192+24.46
D = 32° 16′ 25″ LEFT
Dc = 6° 00′ 00″
R = 954.93′
T = 276.29′
L = 537.89′
E = 39.17′



GEOMETRIC AND PILING PLAN



DETAIL 'A'
REAR ABUTMENT



DETAIL 'B'
FORWARD ABUTMENT

NOTES:

FOR STRUCTURAL GENERAL NOTES, SEE SHEET 3/12

FOR ESTIMATED QUANTITIES, SEE SHEET 3/12

FOR ABUTMENTS, SEE SHEET 5/12 AND SEE SHEET 6/12

FOR PIERS, SEE SHEET 7/12

ALL ABUTMENT PILES SHALL BE 12″ DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES.

ALL PIER PILES SHALL BE 16″ DIAMETER CAST-IN-PLACE REINFORCED CONCRETE PILES.

(XX) DENOTES PILE NUMBER

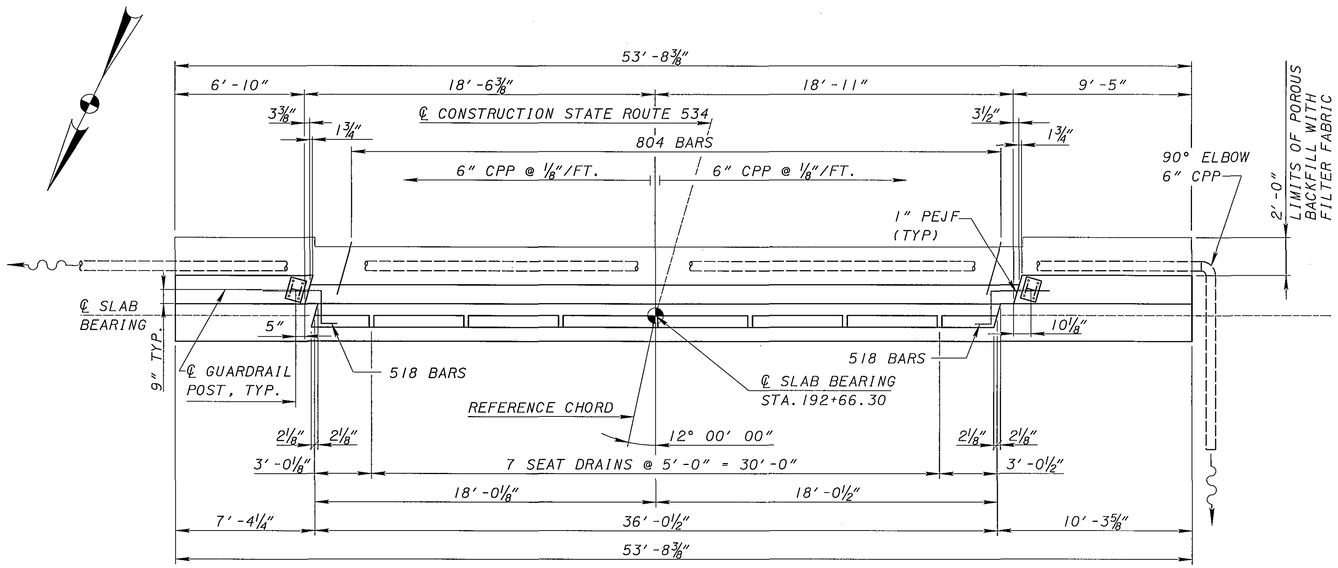
PILE CUT-OFF	
PILE NUMBER	CUT-OFF ELEVATION
1 THRU 8	841.80
9	846.58
10	847.10
11	847.62
12	848.15
13	848.67
14	848.97
15	846.40
16	846.92
17	847.45
18	847.97
19	848.49
20	848.78
21 THRU 28	841.40

acla
consulting engineers
acocella clutz lyon associates inc.
5305 transportation boulevard, cleveland, ohio 44125

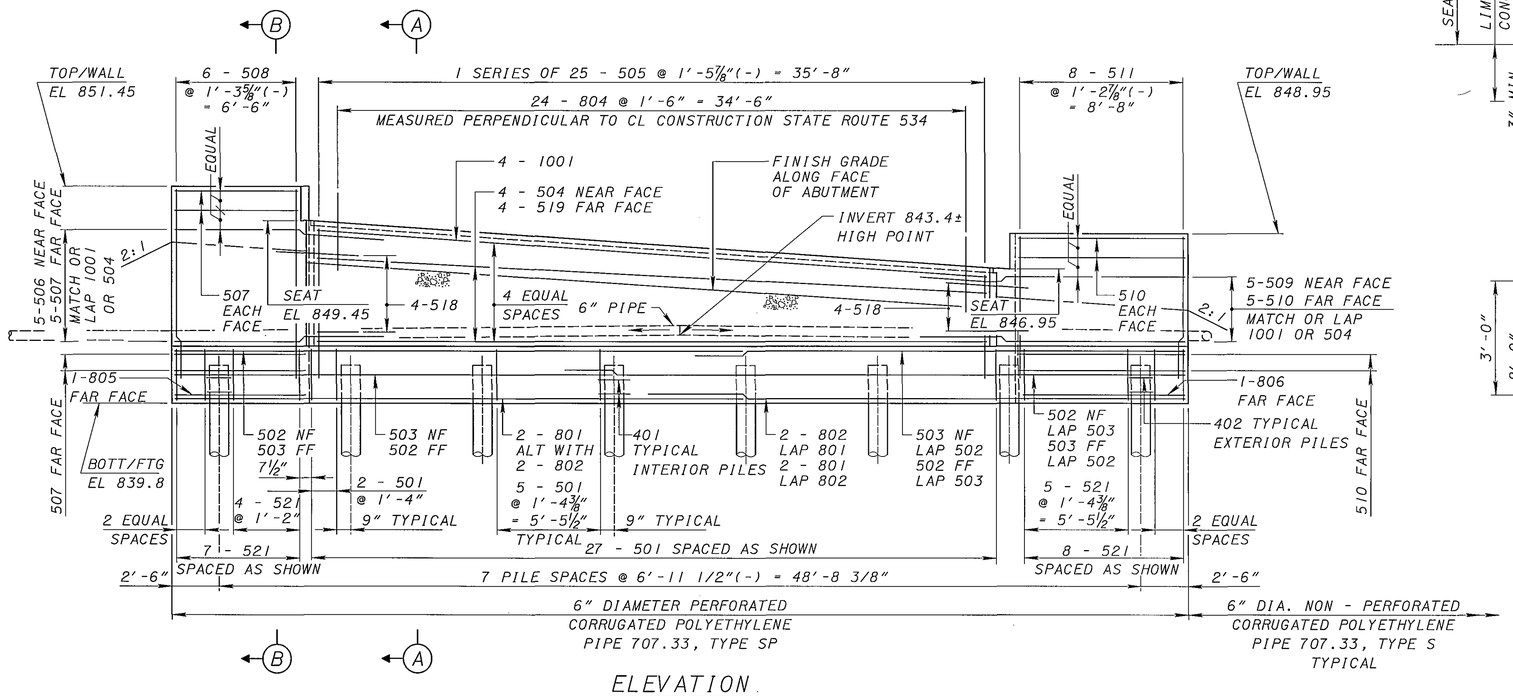
DESIGNED TMJ | DRAWN TMJ | CHECKED DP | REVISED - | REVIEWED EAF | DATE 01/27/03 | STRUCTURE FILE NUMBER 7807457

PILING PLAN AND GEOMETRIC LAYOUT
BRIDGE NO. TRU-534-1516
OVER DEAD BRANCH CREEK

TRU-534-15.06



PLAN



ELEVATION

FLUSH MOUNTED GUARDRAIL POST NOT SHOWN

NOTES:

FOR STRUCTURAL GENERAL NOTES, SEE SHEET 3 12

FOR ESTIMATED QUANTITIES, SEE SHEET 3 12

FOR PILING PLAN, SEE SHEET 4 12

FOR SECTION B-B, SEE SHEET 6 12

ALL PILES SHALL BE 12" DIAMETER CAST-IN-PLACE REINFORCED CONCRETE PILES.

FOR 6" DIAMETER NON-CORRUGATED POLYETHYLENE (707.33, TYPE S) TERMINATION DETAIL, SEE GENERAL PLAN, SEE SHEET 2 12

POROUS BACKFILL WITH FILTER FABRIC, 2 FEET THICK SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE, TO 1 FOOT BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE ENDS OF THE WINGWALLS.

NOTES CONTINUED:

ALL REINFORCING BAR MARKS IN THE ABUTMENTS SHALL BE PREFIXED WITH THE LETTER "A"

FOR REINFORCING STEEL LIST AND BAR BENDING DIAGRAMS, SEE SHEET 11 12

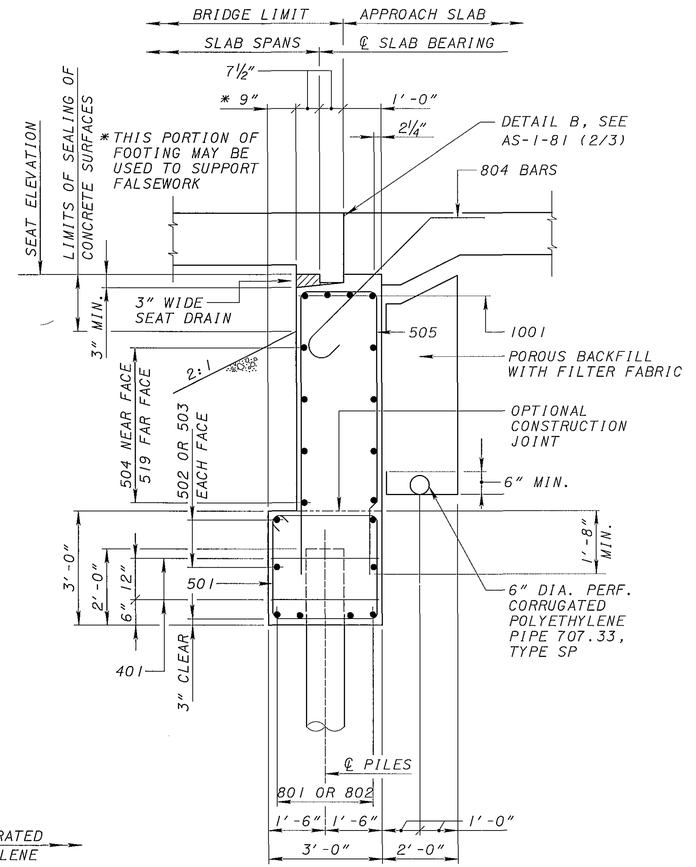
MINIMUM BAR LAP SPLICES
NO. 5 BAR - 41"
NO. 8 BAR - 76"
NO. 10 BAR - 139"

LAP SPLICES IN FOOTING SHALL BE IN A STAGGERED ARRANGEMENT AS SHOWN ON THE ELEVATION VIEW

FOR DETAILS OF FLUSH MOUNT GUARDRAIL POSTS ATTACHED TO TOP OF WINGWALLS, SEE STANDARD DRAWING TST-1-99.

FOR SPACING OF ALL STRUCTURE MOUNTED GUARDRAIL POSTS, SEE SLAB PLAN SHEET 9 12

FOR ADDITIONAL DETAILS SEE SHEET 6 12



SECTION A-A

REAR ABUTMENT SHOWN
FORWARD ABUTMENT SIMILAR

acla
alfred a. ackra lynn associates inc. constructive concepts
5005 transportation boulevard, cleveland, ohio 44125

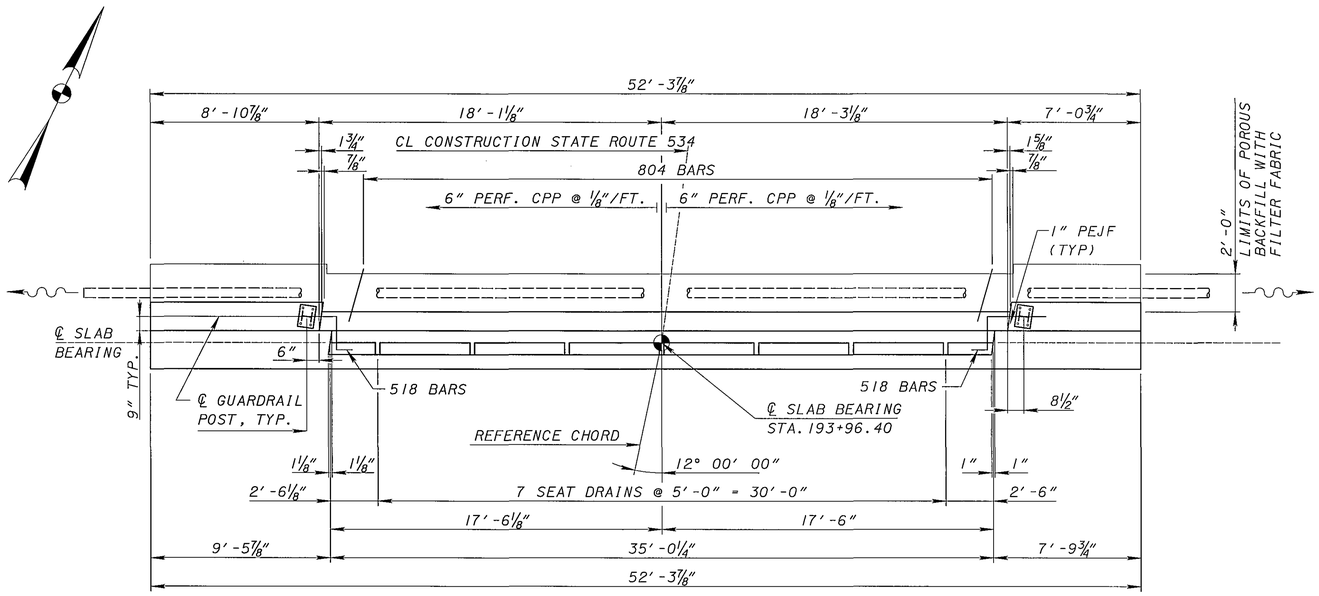
DESIGNED	DRAWN	REVIEWED	DATE
TMJ	TMJ	EAF	01/27/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DP/TJW	-	7807457	

REAR ABUTMENT DETAILS
BRIDGE NO. TRU-534-1516
OVER DEAD BRANCH CREEK

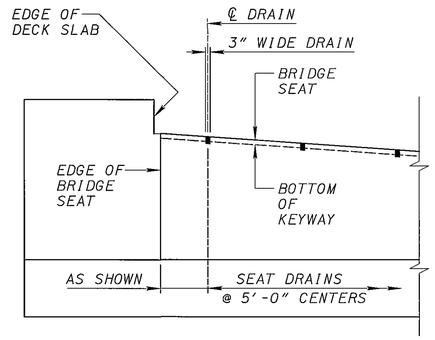
TRU-534-15.06

5 12

90 112



PLAN

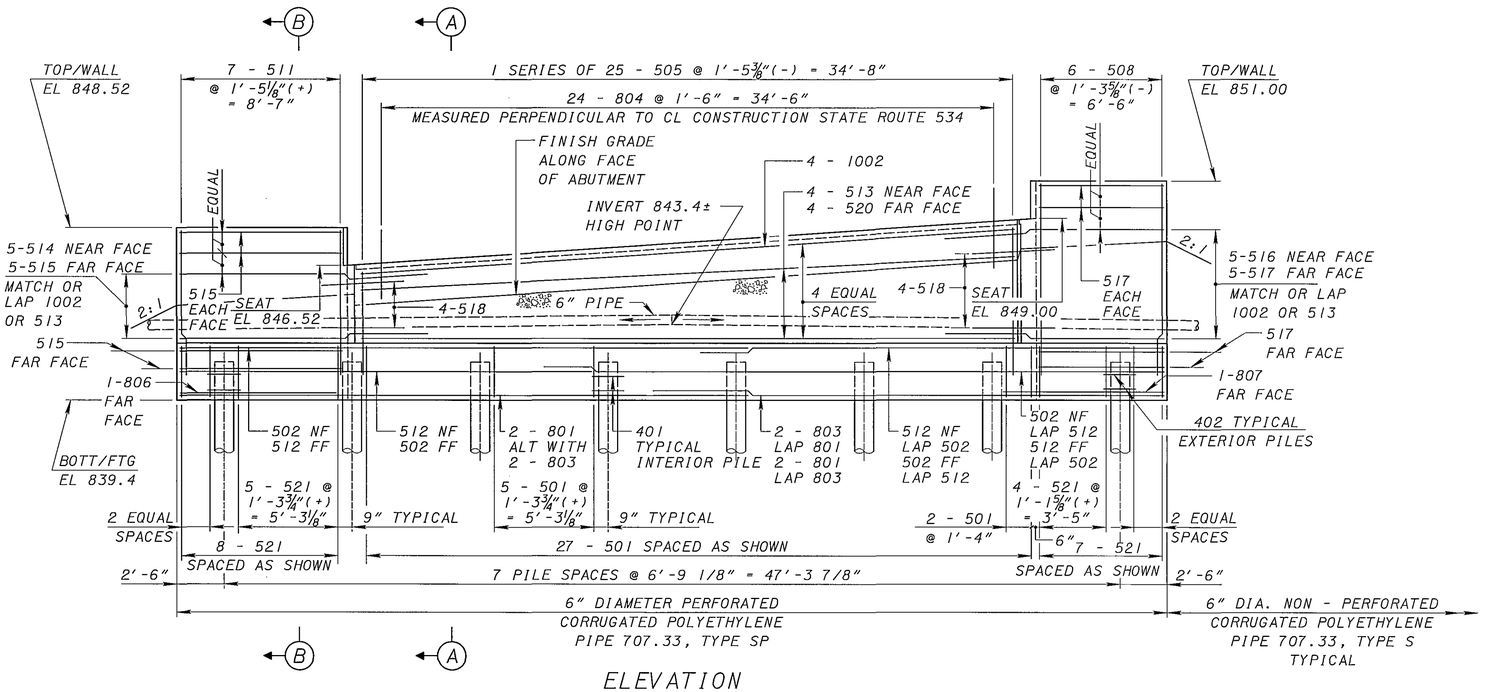


PART ELEVATION
SHOWING DRAIN DETAILS

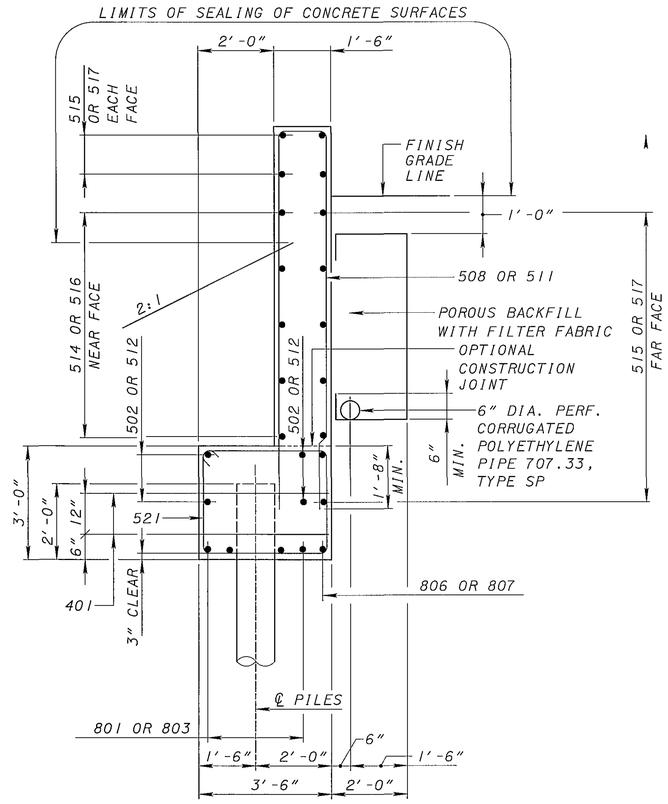
NOTES:

FOR SECTION A-A, SEE SHEET 5/12

FOR ADDITIONAL NOTES AND DETAILS SEE SHEET 5/12



ELEVATION
FLUSH MOUNT GUARDRAIL POST NOT SHOWN



SECTION B-B
FORWARD ABUTMENT SHOWN
REAR ABUTMENT SIMILAR

FORWARD ABUTMENT DETAILS
BRIDGE NO. TRU-534-1516
OVER DEAD BRANCH CREEK

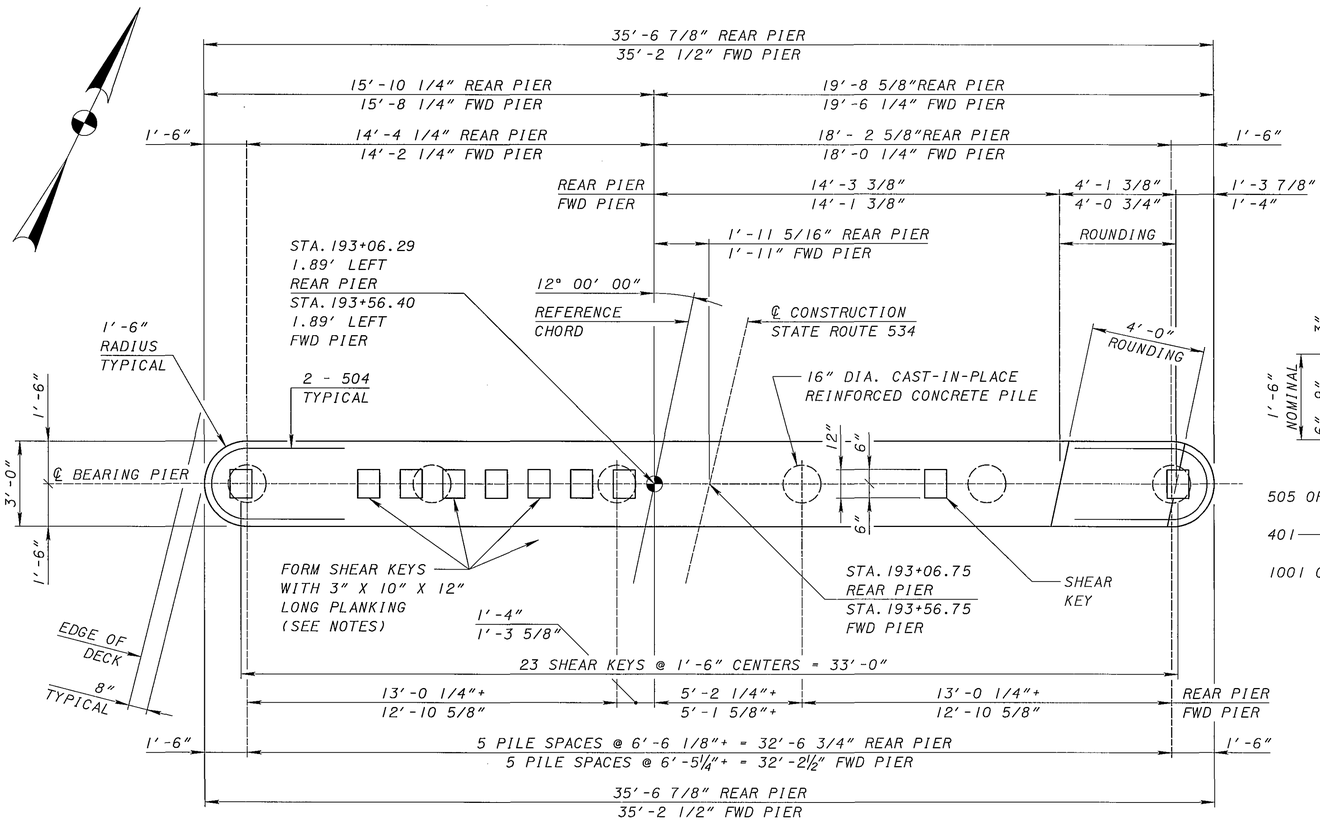
TRU-534-15.06

6/12

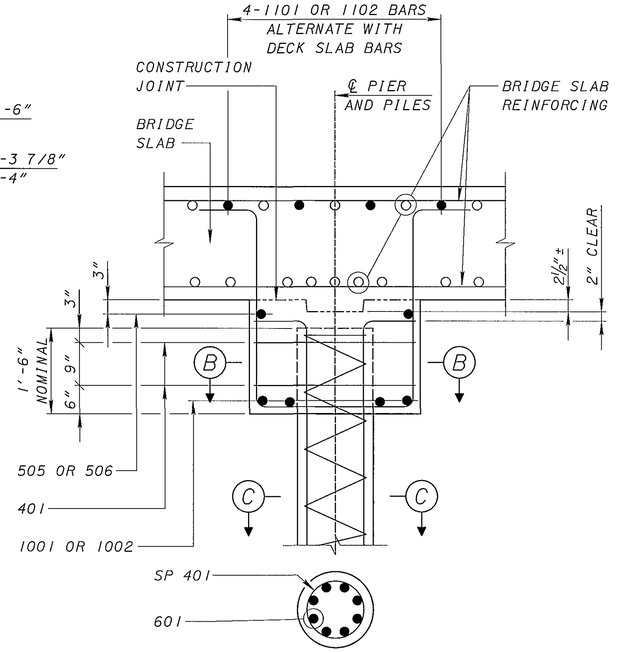
91/112

DESIGNED TMJ
DRAWN TMJ
CHECKED DP/TJW
REVISED -
REVISED EAF 01/27/03
STRUCTURE FILE NUMBER 7807457

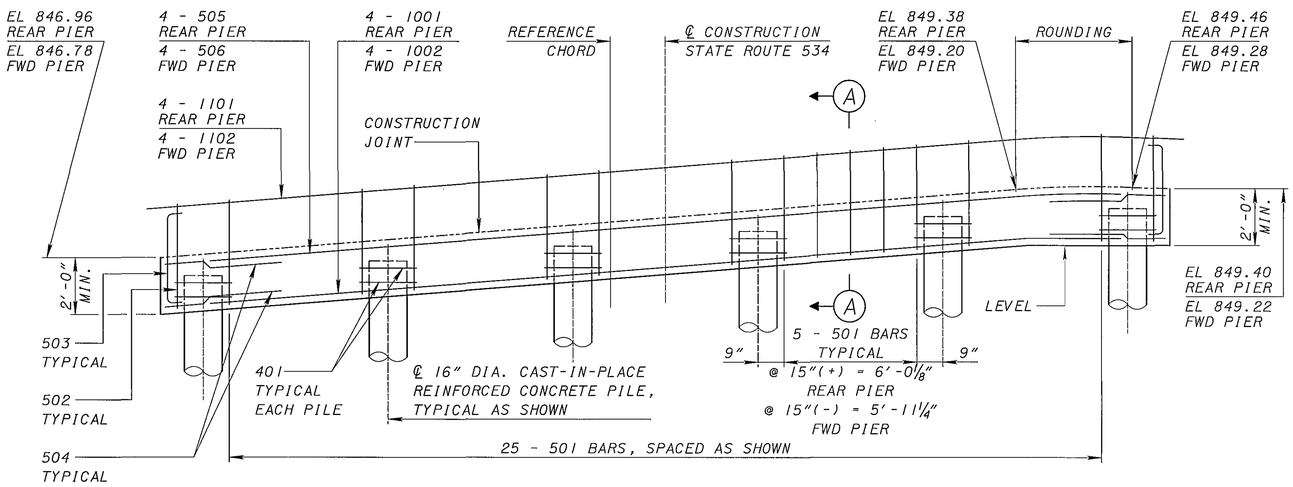
acla
consulting engineers
adache ciuni lynn associates inc.
5595 transportation boulevard, cleveland, ohio 44125



PLAN

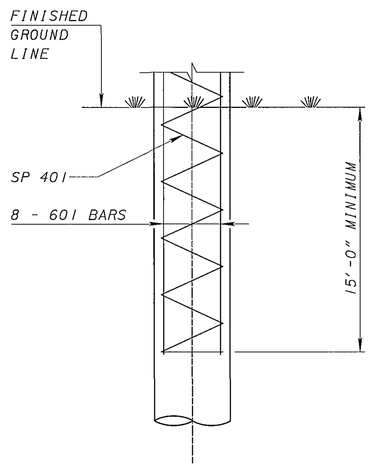


SECTION C-C

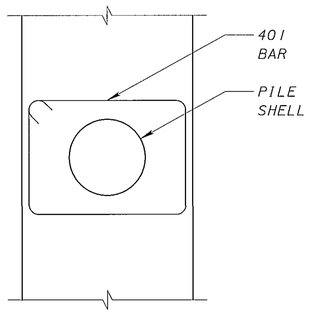


ELEVATION

SLAB REINFORCING NOT SHOWN



SECTION A-A



SECTION B-B

NOTES:

FOR STRUCTURAL GENERAL NOTES, SEE SHEET 3|12

FOR PILING PLAN, SEE SHEET 4|12

FOR SLAB PLAN, SEE SHEET 9|12

ALL REINFORCING BAR MARKS IN THE PIERS SHALL BE PREFIXED WITH "P"

FOR REINFORCING STEEL LIST AND BAR BENDING DIAGRAMS, SEE SHEET 11|12

CAST-IN-PLACE REINFORCED CONCRETE PILES SHALL BE EPOXY COATED

16" C.I.P. REINFORCED CONCRETE PILES: THE REINFORCING STEEL SHALL BE EPOXY COATED AND SHOWN IN THE STRUCTURE'S REINFORCING BAR LIST AND BE INCLUDED IN ITEM 507, 16 INCH CAST-IN-PLACE PILES FURNISHED FOR PAYMENT.

FALSEWORK SUPPORT: ATTACHMENT OF THE FALSEWORK SUPPORT MEMBERS TO PIER PILES WILL ONLY BE PERMITTED IF THE ATTACHMENT IS MADE TO THE PORTION OF PILE ENCASED IN THE PIER CAP. THERE SHALL BE NO ECCENTRIC LOADS PRODUCED IN THE PILES BY ATTACHED FALSEWORK SUPPORT MEMBERS.

MINIMUM BAR LAP SPLICES
NO. 5 BAR = 3'-5"

acla
consulting incorporated
dolecha ciunti lynn associates inc.
5555 transportation boulevard, cleveland, ohio 44125

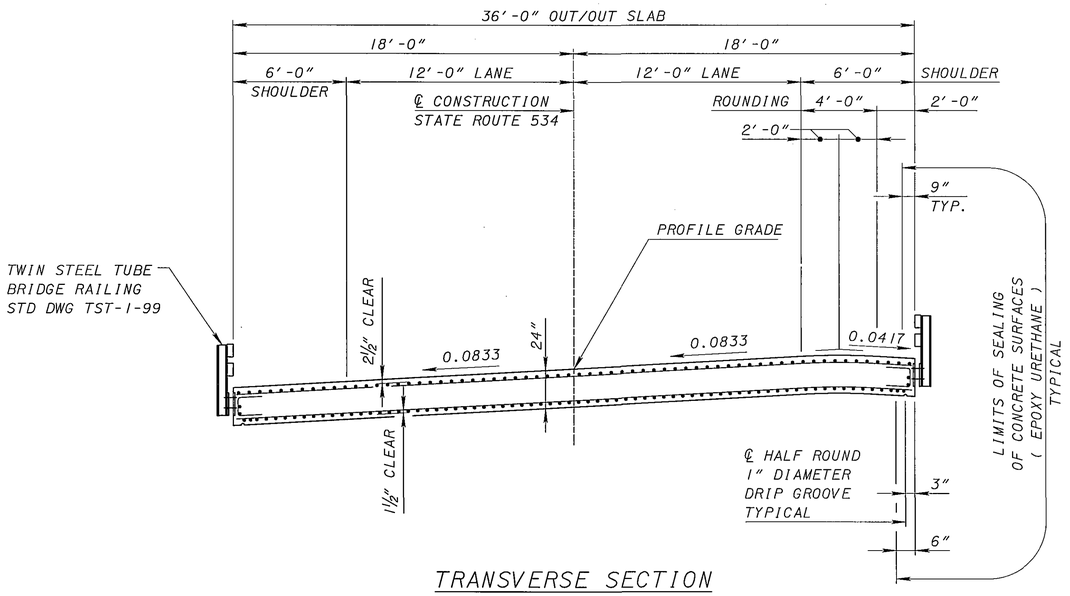
DESIGNED TMJ
DRAWN TMJ
CHECKED DP
REVISED -
REVIEWED EAF
DATE 01/27/03
STRUCTURE FILE NUMBER 7807457

PIER DETAILS
BRIDGE NO. TRU-534-1516
OVER DEAD BRANCH CREEK

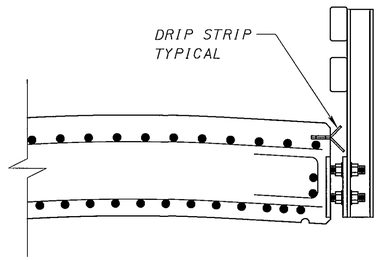
TRU-534-15.06

7 | 12

92 | 112



TRANSVERSE SECTION



SECTION AT EDGE OF CONCRETE DECK SLAB

FOR DETAILS NOT SHOWN, SEE STANDARD DRAWING DS-1-92

NOTES:

FOR STRUCTURAL GENERAL NOTES, SEE SHEET 3/12

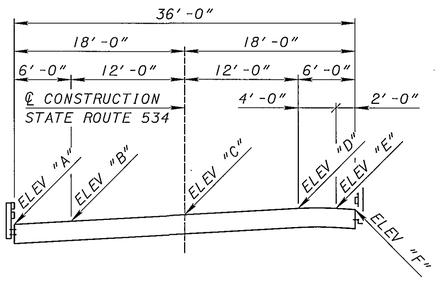
FOR SLAB PLAN, SEE SHEET 9/12

FOR TWIN STEEL TUBE BRIDGE RAILING DETAILS NOT SHOWN, SEE STANDARD DRAWING TST-1-99

ALL REINFORCING BAR MARKS IN THE SUPERSTRUCTURE SHALL BE PREFIXED WITH THE LETTER "S".

FOR REINFORCING STEEL LIST AND BAR BENDING DIAGRAMS, SEE SHEET 12/12

FOR MINIMUM BAR LAP SPLICES IN DECK SLAB, SEE SHEET 9/12



ELEVATION KEY

SCREED ELEVATIONS SHOWN ARE FOR THE DECK SLAB SURFACE PRIOR TO CONCRETE PLACEMENT. ALLOWANCE HAS BEEN MADE FOR DEAD LOAD DEFLECTION.

DECK SCREED ELEVATIONS

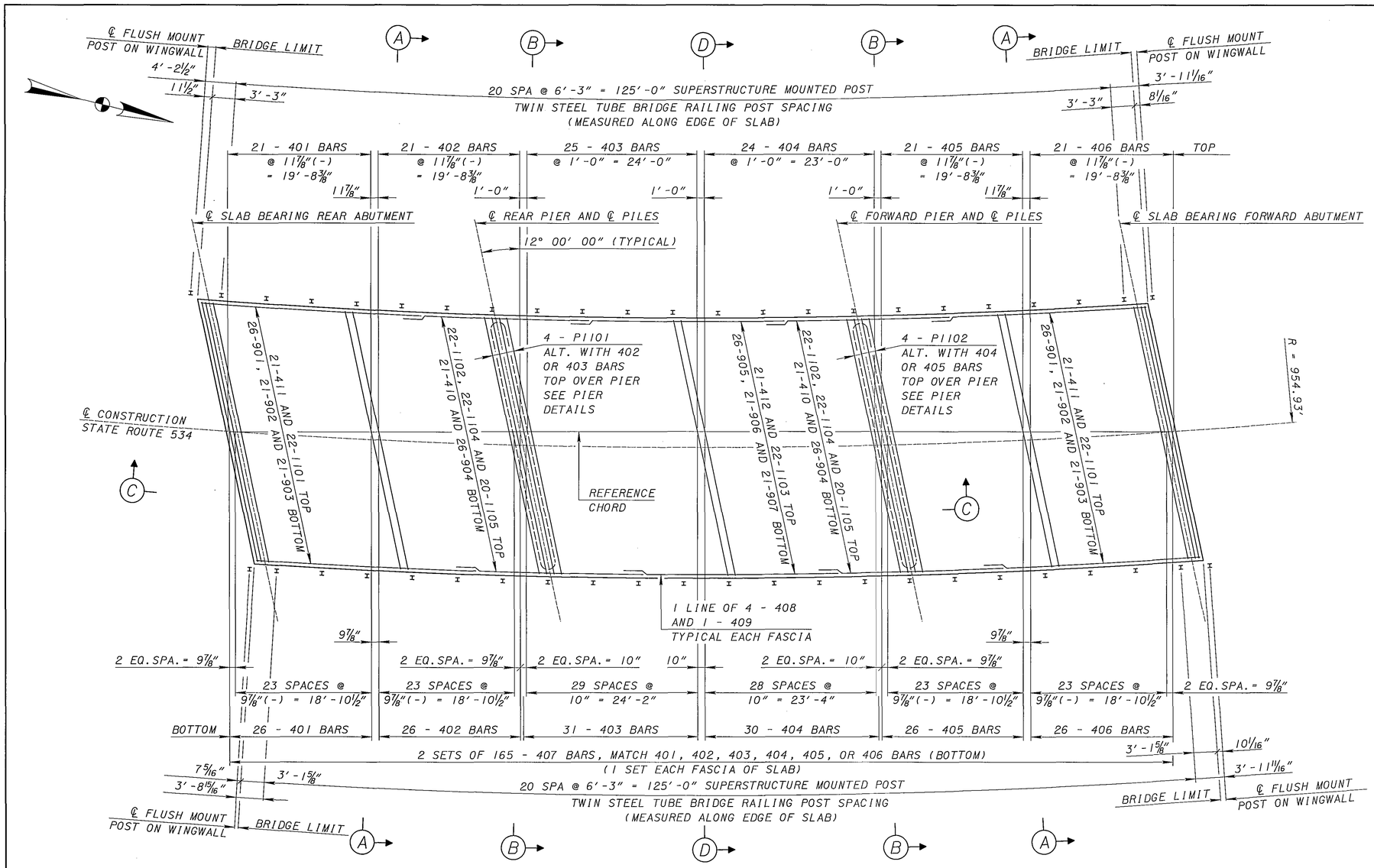
LOCATION	ELEV "A"	ELEV "B"	ELEV "C"	ELEV "D"	ELEV "E"	ELEV "F"
℄ SLAB BEARING REAR ABUTMENT	848.95	849.45	850.45	851.45	851.53	851.45
MIDSPAN - SPAN NO. 1	849.00	849.49	850.49	851.48	851.56	851.48
℄ REAR PIER	848.90	849.39	850.39	851.38	851.46	851.37
MIDSPAN - SPAN NO. 2	848.91	849.40	850.39	851.38	851.46	851.38
℄ FORWARD PIER	848.72	849.22	850.21	851.20	851.27	851.19
MIDSPAN - SPAN NO. 3	848.69	849.18	850.17	851.16	851.24	851.16
℄ SLAB BEARING FORWARD ABUTMENT	848.53	849.02	850.02	851.01	851.08	851.00

acla
adache ciuni lynn associates inc. CONSULTING ENGINEERS
5595 transportation boulevard, cleveland, ohio 44125

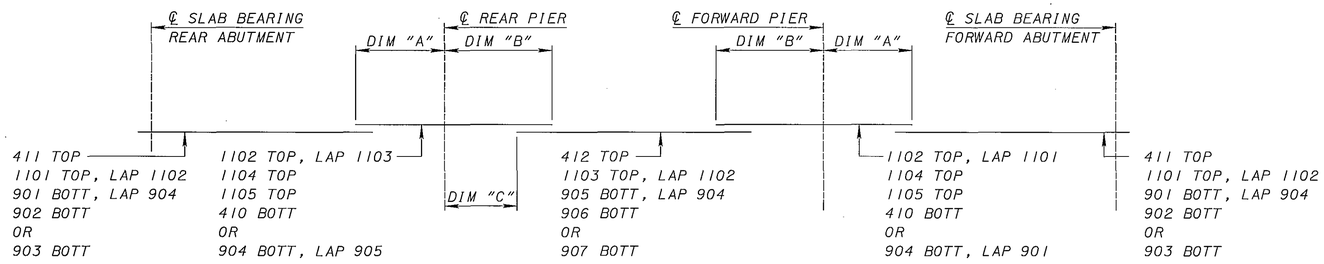
DESIGNED	DRAWN	REVIEWED	DATE
TMJ	TMJ	EAF	01/27/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DP		7807457	

TRANSVERSE SECTION
BRIDGE NO. TRU-534-1516
OVER DEAD BRANCH CREEK

TRU-534-15.06



SLAB PLAN



BAR PLACEMENT DIAGRAM

NOTES:

FOR STRUCTURAL GENERAL NOTES, SEE SHEET 3 12

FOR ESTIMATED QUANTITIES, SEE SHEET 3 12

FOR TRANSVERSE SECTION, SEE SHEET 8 12

FOR PIER DETAILS, SEE SHEET 7 12

FOR SECTION A-A, B-B, C-C, AND D-D SEE SHEET 10 12

FOR TWIN STEEL TUBE BRIDGE RAILING DETAILS, SEE STD. DWG. TST-1-99.

ALL SPACING MEASUREMENTS FOR THE TRANSVERSE REINFORCING STEEL SHALL BE MADE ALONG THE REFERENCE CHORD, UNLESS NOTED OTHERWISE.

THE TRANSVERSE DECK REINFORCING BARS SHALL BE FIELD BENT TO CONFORM TO DECK CONFIGURATION. FIELD BENDING SHALL BE INCLUDED IN ITEM 509 FOR PAYMENT.

THE PREFIX "S" SHALL BE ADDED TO ALL REINFORCING BAR MARKS IN THE SUPER-STRUCTURE, UNLESS NOTED OTHERWISE.

FOR REINFORCING SCHEDULE AND BAR BENDING DIAGRAMS, SEE SHEET 12 12

THE LONGITUDINAL DECK REINFORCING BARS SHALL BE FIELD BENT TO BE CONCENTRIC WITH THE ℄ CONSTRUCTION S.R. 534. COST INCLUDED WITH ITEM 509.

MINIMUM BAR LAP SPLICES:
SEE BAR PLACEMENT DIAGRAM FOR SPECIFIC LONGITUDINAL SLAB BARS TO BE LAPPED.

NO.4 BAR	=	2'-9"
NO.5 BAR	=	3'-5"
NO.6 BAR	=	4'-1"
NO.7 BAR	=	5'-6"
NO.8 BAR	=	7'-3"
NO.9 BAR	=	9'-2"
NO.10 BAR	=	11'-7"
NO.11 BAR	=	14'-3"

BAR PLACEMENT DIMENSIONS

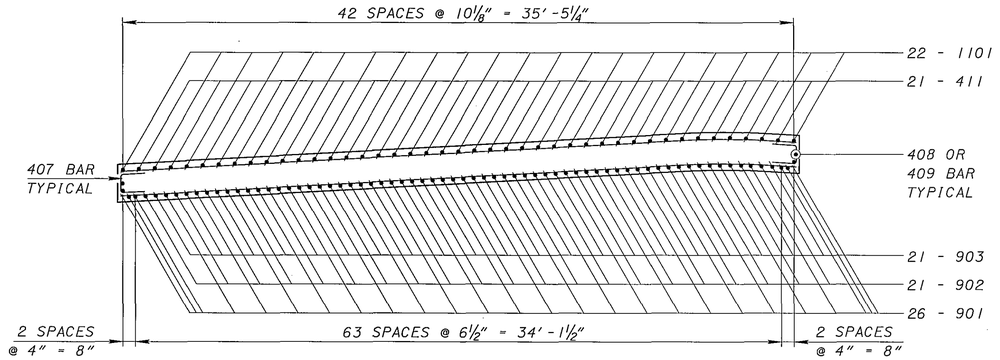
MARK	DIM "A"	DIM "B"	DIM "C"
410	10'-3"	10'-3"	-
412	-	-	9'-6½"
904	11'-6"	18'-6"	-
905	-	-	9'-4"
906	-	-	7'-3"
907	-	-	12'-3"
1102	17'-4"	17'-4"	-
1103	-	-	3'-1"
1104	11'-9"	14'-2"	-
1105	5'-9"	20'-5"	-

acla
consulting engineers
dalzotto elum lynn associates inc.
5500 transportation boulevard, cleveland, ohio 44125

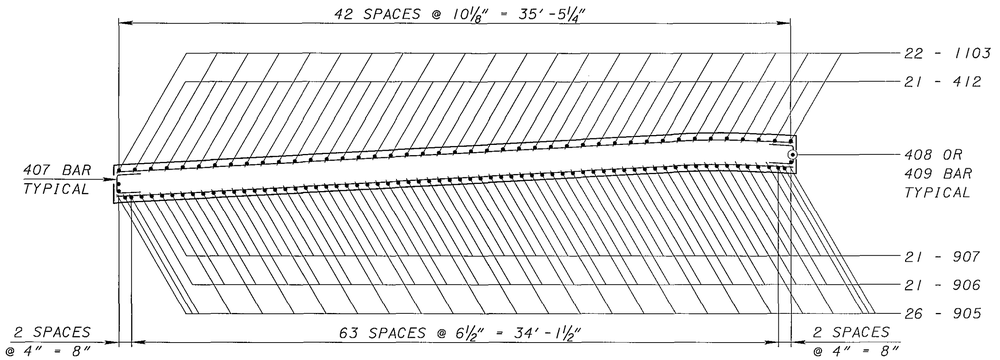
DESIGNED TMJ | DRAWN TMJ | REVISED - | DATE 01/27/03
CHECKED DP/TJW | REVIEWED EAF | STRUCTURE FILE NUMBER 7807457

SLAB PLAN
BRIDGE NO. TRU-534-15.16
OVER DEAD BRANCH CREEK

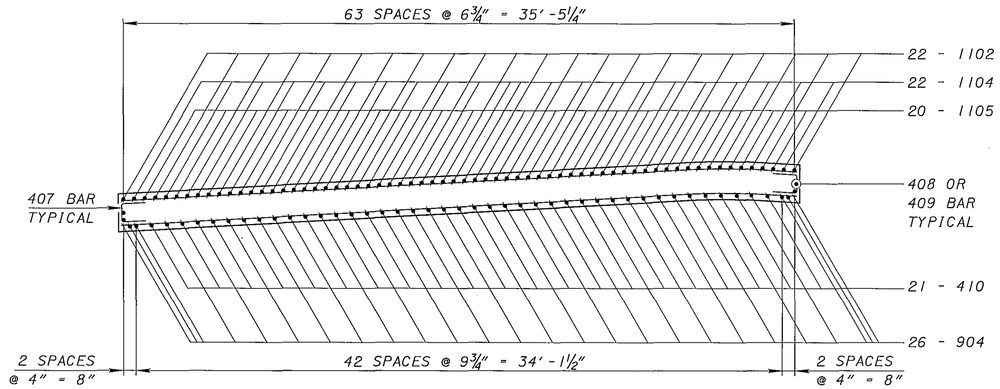
TRU-534-15.06



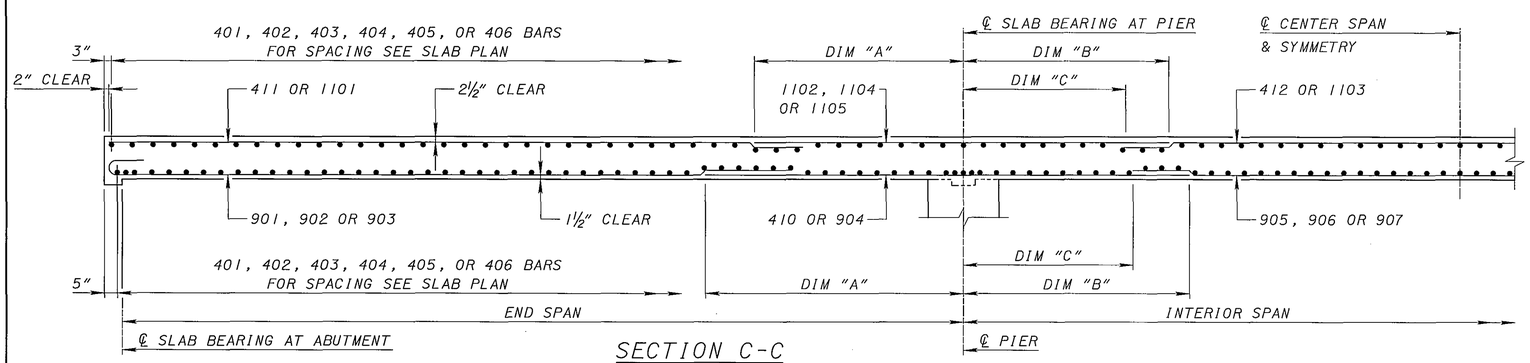
SECTION A-A (END SPAN)
TWIN STEEL TUBE BRIDGE RAILING, NOT SHOWN



SECTION D-D (INTERIOR SPAN)
TWIN STEEL TUBE BRIDGE RAILING, NOT SHOWN



SECTION B-B (AT PIERS)
TWIN STEEL TUBE BRIDGE RAILING, NOT SHOWN



SECTION C-C

NOTES:

FOR LOCATION OF SECTIONS A-A, B-B, C-C, AND D-D, SEE SLAB PLAN, SHEET 9/12

FOR ADDITIONAL NOTES AND DETAILS, SEE TRANSVERSE SECTION, SHEET 8/12 AND SLAB PLAN, SHEET 9/12

acla
adache ciuni lynn associates inc. CONSULTING ENGINEERS
5595 transportation boulevard, cleveland, ohio 44125

DESIGNED	DRAWN	REVIEWED	DATE
TMJ	TMJ	EAF	01/27/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DP/TJW	-	7807457	

SLAB SECTIONS
BRIDGE NO. TRU-534-1516
OVER DEAD BRANCH CREEK

TRU-534-15.06

ABUTMENTS

MARK	NUMBER REAR	NUMBER FWD	NUMBER TOTAL	LENGTH	WEIGHT (LBS)	TYPE	DIMENSIONS A	B	C	D	E	R	INC.
A401	12	12	24	9'-0"	144	3	1'-9"	2'-6"					
A402	4	4	8	10'-0"	53	3	1'-9"	3'-0"					
A501	27	27	54	11'-1"	624	3	2'-8"	2'-7"					
A502	4	4	8	30'-0"	250	STR							
A503	4	0	4	26'-10"	112	STR							
A504	4	0	4	35'-8"	149	STR							
A505	1 SER	1 SER	2 SER	13'-0"	808	2	5'-8"	1'-11"	5'-8"				0'-2½"
	OF 25	OF 25	OF 25	18'-0"			8'-2"	1'-11"	8'-2"				
A506	5	0	5	10'-9"	56	STR							
A507	11	0	11	6'-6"	75	STR							
A508	6	6	12	21'-3"	266	2	10'-2"	1'-2"	10'-2"				
A509	5	0	5	13'-9"	72	STR							
A510	11	0	11	8'-8"	99	STR							
A511	8	7	15	16'-3"	255	2	7'-8"	1'-2"	7'-8"				
A512	0	4	4	25'-5"	106	STR							
A513	0	4	4	34'-8"	145	STR							
A514	0	5	5	12'-11"	68	STR							
A515	0	11	11	8'-7"	99	STR							
A516	0	5	5	11'-1"	58	STR							
A517	0	11	11	6'-6"	75	STR							
A518	8	8	16	5'-5"	90	8	0'-10"	1'-9"	3'-1"				
A519	4	0	4	40'-0"	167	STR							
A520	0	4	4	40'-0"	167	STR							
A521	15	15	30	12'-1"	378	3	3'-2"	2'-7"					
A801	4	4	8	30'-0"	641	STR							
A802	4	0	4	29'-8"	317	STR							
A803	0	4	4	28'-3"	302	STR							
A804	24	24	48	6'-3"	801	18	3'-11"	1'-0"	1'-0"				
A805	1	0	1	6'-7"	18	STR							
A806	1	1	2	8'-8"	46	STR							
A807	0	1	1	6'-6"	17	STR							
A1001	4	0	4	35'-8"	614	STR							
A1002	0	4	4	34'-8"	597	STR							
TOTAL WEIGHT					7669								

PIERS

MARK	NUMBER REAR	NUMBER FWD	NUMBER TOTAL	LENGTH	WEIGHT (LBS)	TYPE	DIMENSIONS A	B	C	D	E	R	INC.
P401	12	12	24	9'-6"	152	3	2'-6"	2'-0"					
P501	25	25	50	10'-6"	548	6	2'-8"	3'-4"	0'-10"				
P502	2	2	4	10'-0"	42	6	2'-2"	3'-4"	0'-10"				
P503	2	2	4	4'-9"	20	2	0'-10"	3'-4"	0'-10"				
P504	4	4	8	10'-8"	89	24	2'-6"	3'-5"	1'-2⅜"				
P505	2	-	2	32'-7"	68	STR							
P506	-	2	2	32'-3"	67	STR							
P1001	4	-	4	32'-7"	561	STR							
P1002	-	4	4	32'-3"	555	STR							
P1101	4	-	4	36'-8"	780	STR							
P1102	-	4	4	36'-3"	770	STR							
TOTAL WEIGHT					3652								

16" DIAMETER CAST-IN-PLACE REINFORCED CONCRETE PILES

FOR INFORMATION ONLY INCLUDE WITH ITEM 507 - 16" DIAMETER CAST-IN-PLACE REINFORCED CONCRETE PILES FOR PAYMENT

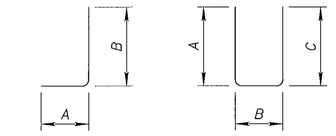
MARK	NUMBER REAR	NUMBER FWD	NUMBER TOTAL	LENGTH	WEIGHT (LBS)	TYPE	DIMENSIONS A	B	C	D	E	R	INC.
SP401	6	6	12	29'-2"	1336	27	1'-0"	1'-0"	2				
P601	48	48	96	30'-0"	2160	1	1'-0"	29'-2"					
TOTAL WEIGHT					3496								

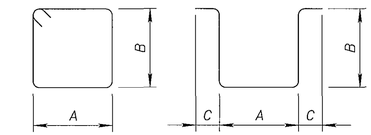
NOTES:

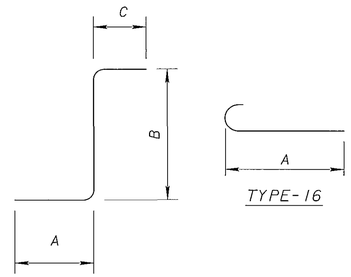
REINFORCING STEEL SAMPLES: REFER TO SECTIONS 106.03, 700 AND 709.00 SUFFICIENT ADDITIONAL REINFORCING STEEL SHALL BE PROVIDED FOR SAMPLES. RANDOM SAMPLES SHALL BE REPLACED IN THE STRUCTURE BY THE ADDITIONAL STEEL, SPLICED IN ACCORDANCE WITH 509.07.

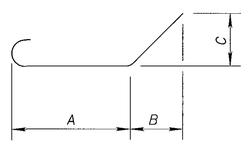
ALL REINFORCING STEEL TO BE EPOXY COATED

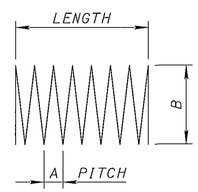
BAR BENDING DIAGRAMS

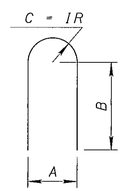












acla consulting engineers
dalton dunn lynn associates inc
5335 transportation boulevard, cleveland, ohio 44125

DESIGNED TMJ | DRAWN TMJ | REVIEWED EAF | DATE 01/27/03
CHECKED DP | REVISED - | STRUCTURE FILE NUMBER 7807457

REINFORCING SCHEDULE
BRIDGE NO. TRU-534-15.16
OVER DEAD BRANCH CREEK

TRU-534-15.06

SUPERSTRUCTURE

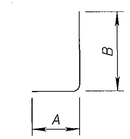
MARK	NUMBER REAR	NUMBER FWD	NUMBER TOTAL	LENGTH	WEIGHT (LBS)	TYPE	DIMENSIONS A	B	C	D	E	R	INC.
S401			47	36'-11"	1159	STR							
S402			47	36'-8"	1151	STR							
S403			56	36'-6"	1366	STR							
S404			54	36'-4"	1311	STR							
S405			47	36'-2"	1135	STR							
S406			47	36'-0"	1130	STR							
S407			330	4'-2"	919	2	1'-5"	1'-6"	1'-5"				
S408			8	30'-0"	160	STR							
S409			2	22'-2"	30	STR							
S410			42	20'-6"	575	STR							
S411			42	31'-1"	872	STR							
S412			21	30'-11"	434	STR							
S901			52	40'-0"	7072	16	38'-9"						
S902			42	34'-6"	4927	16	33'-3"						
S903			42	30'-8"	4379	16	29'-5"						
S904			52	30'-0"	5304	STR							
S905			26	32'-0"	2829	STR							
S906			21	30'-6"	2178	STR							
S907			21	30'-6"	2178	STR							
S1101			44	37'-11"	8864	STR							
S1102			44	34'-8"	8104	STR							
S1103			22	43'-10"	5124	STR							
S1104			44	25'-11"	6059	STR							
S1105			40	26'-2"	5561	STR							
TOTAL WEIGHT					72,821								

NOTES:

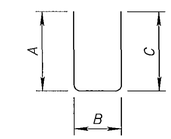
REINFORCING STEEL SAMPLES:
REFER TO SECTIONS 106.03, 700 AND 709.00 SUFFICIENT ADDITIONAL REINFORCING STEEL SHALL BE PROVIDED FOR SAMPLES. RANDOM SAMPLES SHALL BE REPLACED IN THE STRUCTURE BY THE ADDITIONAL STEEL, SPLICED IN ACCORDANCE WITH 509.07.

ALL REINFORCING STEEL TO BE EPOXY COATED

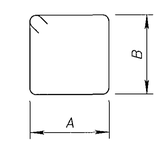
BAR BENDING DIAGRAMS



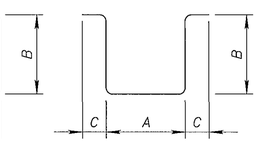
TYPE-1



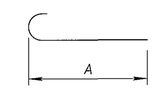
TYPE-2



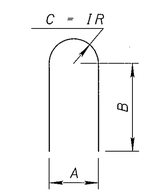
TYPE-3



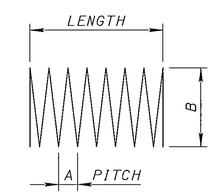
TYPE-6



TYPE-16



TYPE-24



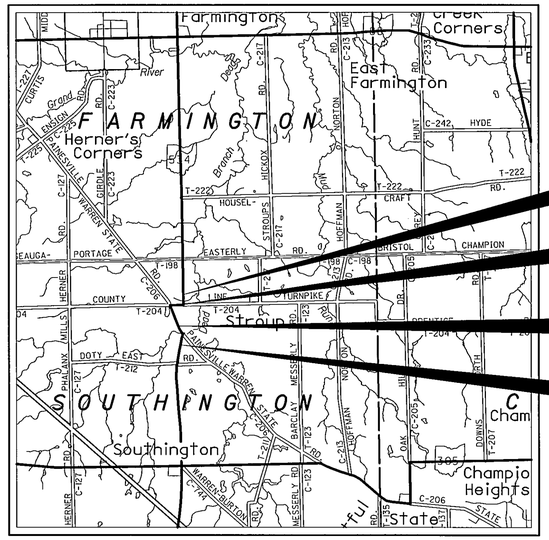
TYPE-27
C = NUMBER OF SPACERS

acla
adache ciuni lynn associates inc
5595 transportation boulevard, cleveland, ohio 44125
CONSULTING ENGINEERS

DESIGNED	DRAWN	REVIEWED	DATE
TMJ	TMJ	EAF	01/27/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DP	-	7807457	

REINFORCING SCHEDULE
BRIDGE NO. TRU-534-1516
OVER DEAD BRANCH CREEK

TRU-534-15.06



LOCATION MAP

LATITUDE: N41°20'02" LONGITUDE: W80°57'18"

SCALE IN MILES

0 1 2 3 4

N

PORTION TO BE IMPROVED _____

INTERSTATE & DIVIDED HIGHWAY _____

UNDIVIDED STATE & FEDERAL ROUTES _____

OTHER ROADS _____

DESIGN DESIGNATION

CURRENT ADT (2004)	1500
DESIGN YEAR ADT (2024)	2000
DESIGN HOURLY VOLUME (2024)	220
DIRECTIONAL DISTRIBUTION	60%
TRUCKS (24 HOUR B&C)	120
DESIGN SPEED	55 mph
LEGAL SPEED	55 mph

DESIGN FUNCTIONAL CLASSIFICATION -
RURAL MAJOR COLLECTOR

DESIGN EXCEPTIONS

DESIGN FEATURE	APPROVAL DATE	SHEET NUMBER
GRADED		
SHOULDER		
WIDTH		

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

PLAN PREPARED BY:

acla
adache ciuni lynn associates inc. CONSULTING ENGINEERS
5595 transportation boulevard, cleveland, ohio 44125

ENGINEERS SEAL:

SIGNED: _____

DATE: _____

STATE OF OHIO

DEPARTMENT OF TRANSPORTATION

TRU-534-15.06

SOUTHINGTON TOWNSHIP

TRUMBULL COUNTY

RIGHT-OF-WAY

INDEX OF SHEETS:

TITLE SHEET	
CENTERLINE PLATS	1-2
PROPERTY MAPS	3-4
SUMMARY OF ADDITIONAL RIGHT-OF-WAY	5-6
RIGHT-OF-WAY PLAN SHEETS	7-15

PROJECT DESCRIPTION

THIS PROJECT WILL REALIGN 0.40 MILES OF ROADWAY ON SR 534, 0.18 MILES ON COUNTY ROUTE 206C AND CONSTRUCT TWO CULVERTS AND A BRIDGE ON THE NEW ALIGNMENT OF SR 534. A SECOND BRIDGE WILL BE REMOVED AND REPLACED ON THE EXISTING ALIGNMENT OF SR 534. 0.01 MILES OF ROADWAY WILL BE RECONSTRUCTED TO ACCOMMODATE THE NEW BRIDGE. THE OVERALL PROJECT LENGTH IS 0.59 MILES.

2002 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 REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THE DETOURS WILL BE PROVIDED AS INDICATED ON SHEET .

STANDARD CONSTRUCTION DRAWINGS		SUPPLEMENTAL SPECIFICATIONS
TC-41.20	01/19/01	
TC-41.40	01/18/02	
TC-42.20	04/20/01	
TC-52.10	04/20/01	
TC-71.10	04/19/02	
TC-73.10	01/19/01	
MT-101.60M	04/25/94	
		SPECIAL PROVISIONS

APPROVED _____

DATE _____ DISTRICT DEPUTY DIRECTOR

APPROVED _____

DATE _____ DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. TE21-G020-0-(649)

PID NO.

CONSTRUCTION PROJECT NO. 047230

RAILROAD INVOLVEMENT NONE

TRU-534-15.06

...\RT100.dgn

TRU - 534 - 15.06
TRUMBULL COUNTY, OHIO
SOUTHINGTON TWP., SECTION 6
CONNECTICUT WESTERN RESERVE
T5N R5W

P.C.C. STA. 91+25.02
℄ PROP. R/W =
STA. 50+00.00
℄ CONST. C.H. 206C

TO P.C.C. STATION (8)

℄ PROP. R/W S.R. 534

P.T. STA. 49+85.70

N73°14'26"W 14.30'

(3) TOTAL CURVE

(9)

℄ EXIST. R/W S.R. 534 N16°20'36"E

STA. 91+19.19, 17.76' RT.
℄ PROP. R/W S.R. 534=
STA. 49+81.29
℄ CONST. C.H. 206C

℄ CONST. C.H. 206C

(6) TOTAL CURVE

DETAIL "A"

BASIS OF BEARING

BASED ON GPS OBSERVATIONS IN AUG., 2001. GRID BEARING AS PER THE OHIO STATE PLANE COORDINATE SYSTEM NORTH ZONE (3401) NAD83(95)

NOTE:
FOR PROPOSED CONSTRUCTION CENTERLINE CURVES, SPIRALS, ALL ALIGNMENT GEOMETRICS AND STATIONING FOR STATE ROUTE 534, SEE THE SCHEMATIC PLAN IN THE PROPOSED ROADWAY PLANS.

#6 REBAR SET (BY O.D.O.T.) W/ALUM O.D.O.T. R/W CAP IN JULY, 2001 AT P.I. STA. 96+80.99
℄ EXIST. R/W S.R. 534 = STA 96+30.20, 50.80' LT
℄ PROP. R/W S.R. 534

6" BOLT SPIKE SET BY O.D.O.T. IN JULY, 2001 P.I. STA. 87+57.20
℄ EXIST. R/W S.R. 534 = STA. 87+55.23, 30.63' LT. ℄ PROP. R/W S.R. 534

SUSPEND PROJECT
STA. 103+74.04
SLM 15.35

MATCH LINE STA. 105+00

BEGIN PROJECT
STA. 81+51.78
SLM 14.95

1" REBAR SET IN TEMP O.D.O.T. MON. BOX AUGUST 2001 STA 80+00.00

S.R. 534 (60')

N10°01'30"E 757.20'

℄ EXIST. R/W S.R. 534

P.C. STA. 87+94.40

P.C.C. STA. 89+34.42

P.C.C. STA. 91+25.02
℄ PROP. R/W STA. 50+00.00
℄ CONST. C.H. 206C

DEAD BRANCH CREEK STA. 93+23

P.C.C. STA. 94+72.32

P.I. STA. 96+12.34

N40°06'39"W 390.63'

P.C. STA. 97+40.45

N28°50'55"W 128.11'

P.T. STA. 102+64.04
END PROPOSED ℄ R/W
S.R. 534

1" I. PIPE FD.
BY O.D.O.T
103+48.10
(30.18' RT.)

SAYRE

¾" I. P. FD.
BY O.D.O.T
(Mc GUIRE)
102+50.30
(32.29' LT.)

UHLIN

PAINESVILLE WARREN STATE ROAD
S.R. 534 (66')

N21°04'55"W 1845.75' TO MON. @ T.H. 204C

100 R/W

¾" I. P. FD.
BY O.D.O.T
99+49.06
120.40' RT.)

1" I. PIPE FD.
BY O.D.O.T
100+99.66
(29.87' RT.)

GARDNER & DYKES

MAY

¾" I.P. FD. BY O.D.O.T. 81+14.93 (26.26' RT.)

¾" I.P. FD. BY O.D.O.T. 82+14.85 (25.60 RT.)

McCASLIN

COE

P.C. STA.82+61.78
BEGIN PROPOSED ℄ R/W
S.R. 534

P.T. STA. 88+66.27

N16°01'30"E 128.13'

℄ PROP. R/W S.R. 534

N16°20'36"E 533.16'

90°57'20"

SEE DETAIL "A"

℄ EXIST. R/W S.R. 534

94+36.35

℄ PROP. R/W S.R. 534

M. & L. McCASLIN

G. & M. McCASLIN

HILLYER

STAZSKO

⅝" I.P. (BENT) FD. BY O.D.O.T. (4+35.70 (32.37'))

STA. 12+81.38
℄ R/W (C.H. 206C)=
TS STA. 43+26.24
6.73' RT. (CONST. ONLY)

℄ CONST. C.H. 206C

℄ EXIST. R/W

PAINESVILLE WARREN STATE ROAD C.H. 206C (66')

6" BOLT SPIKE SET BY O.D.O.T. IN JULY, 2001. STA. EXIST. R/W S.R. 534 = STA. 92+67.58, 81.46' RT. STA. PROP. R/W S.R. 534 = STA. 20+00 C.H. 206C

SC STA. 45+36.24

¾" I.P. FD. BY O.D.O.T. 13+70.59 (40.65' RT.)

I.P. (LKN) FD. BY O.D.O.T. 8+59.60 (33.00' LT.)

℄ EXIST. R/W N40°42'14"W

N39°58'22"W ℄ CONST.

BERRY

STAZSKO

R/W-10 R/W-40 R/W-45 R/W-15

CURVE DATA

NO.	DELTA	RADIUS	TANGENT	CHORD	LENGTH	CHORD BRG.	P.I. STATION
1	6°00'00"	3862.64	202.43	404.31	404.49	N13°01'30"E	84+64.21
2	6°18'00"	1273.42	70.08	139.95	140.02	N12°52'30"E	88+64.48
3	32°16'25"	954.93	276.29	530.81	537.89	N6°24'42"W	92+10.71
4	6°18'00"	1273.42	70.08	139.95	140.02	N25°41'55"W	95+42.40
5	7°46'00"	3862.64	262.20	523.19	523.60	N24°57'55"W	100+02.65
6	SEE DATA (THIS SHEET)						
7	SEE DATA (THIS SHEET)						
8	11°26'10"	954.93	95.62	190.29	190.60	N4°00'26"E	
9	0°15'53"	954.93	2.21	4.41	4.41	N73°06'31"W	

CURVE DATA

(6) P.I. STA. = 47+13.55
D = 33° 16' 04" (LT)
Dc = 6° 00' 00"
R = 954.93'
Dc = 26° 58' 03" (LT)
Lc = 449.46'
Es = 42.71'

(7) P.I. STA. = 44+66.32
D = 6° 18' 00" (LT)
Dc = 6° 00' 00"
R = 954.93'
Ls = 210.00'
Theta = 6° 18' 00"
LT = 140.09'
ST = 70.08'
x = 209.75'
y = 7.69'
k = 104.96'
p = 1.92'

LEGEND

- [M] PROPOSED MONUMENT ASSEMBLY
- [M] EXISTING MONUMENT BOX FOUND
- ○ IRON PINS OR PIPES FOUND

MONUMENTS TO BE SET DURING CONSTRUCTION		
STATION	DISTANCE FROM ℄	℄ MONUMENT
P.O.T. STA. 80+00.00	℄	1
P.C. STA. 82+61.78	℄	1
P.T. STA. 86+66.27	℄	1
P.C. STA. 87+94.40	℄	1
P.C.C. STA. 89+34.42	℄	1
P.C.C. STA. 94+72.32	℄	1
P.T. STA. 96+12.34	℄	1
P.C. STA. 97+40.45	℄	1
P.T. STA. 102+64.04	℄	1
TOTAL		9

THE PROPOSED RIGHT OF WAY SHALL BE REFERENCED FROM THE CENTERLINE OF RIGHT OF WAY.

ADJUSTABLE CENTERLINE MONUMENTS ARE SHOWN ON STANDARD CONSTRUCTION DRAWING RM 1.1 (REV 4-29-99) OF THE OHIO DEPARTMENT OF TRANSPORTATION. THE PLACING OF THE MONUMENTS SHALL BE UNDER THE DIRECTION OF A SURVEYOR REGISTERED IN THE STATE OF OHIO AND ARE TO BE SET, AS SHOWN BY THE HIGHWAY CONTRACTOR AT THE TIME OF CONSTRUCTION. ANY ALTERATIONS, WITH PRIOR APPROVAL OF THE OHIO DEPARTMENT OF TRANSPORTATION, SHALL BE NOTED AND O.D.O.T. SHALL BE NOTIFIED OF THE NEW LOCATIONS.

NOTE: THE EXISTING R/W WIDTH AND LOCATION WERE DETERMINED USING:

1. NEWTON FALLS, COUNTY LINE, PHELPS CREEK ROAD HIGHWAY PLANS DATED 1928.
2. TRUMBULL COUNTY ENGINEER FIELD BOOK NO., 233 PGS. 1-19.
3. PROPERTY SURVEY BY ROBERT J. NOBLE, REGISTERED SURVEYOR NO. 5509 DATED JANUARY, 1995.
4. PROPERTY SURVEY BY CLIFFORD H. McGUIRE, REGISTERED SURVEYOR NO. 7770 DATED MAY, 1999
5. PROPERTY SURVEY BY CARROLL L. HERRMANN, REGISTERED SURVEYOR NO. 5663 DATED MAY, 1995
6. PROPERTY SURVEY BY DAVID JOHN BODO, REGISTERED SURVEYOR NO. 6321 DATED JUNE, 1994.
7. (O.D.O.T.) - REFERS TO SURVEY MADE BY KURT H. MASSAR, REGISTERED SURVEYOR NO. 7667, IN JULY 2001, FOR THE OHIO DEPARTMENT OF TRANSPORTATION.

THIS PLAT IS A TRUE DELINEATION OF A SURVEY MADE BY KURT H. MASSAR, REGISTERED SURVEYOR NO. 7667, IN JULY, 2001, FOR THE OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 4, AND FURNISHED TO ADACHE-CIUNI-LYNN ASSOCIATES INC. FOR USE AS THE HORIZONTAL CONTROL IN THE PREPARATION OF RIGHT-OF-WAY PLANS FOR TRU-534-15.06. SAID ODOT SURVEY HAS NOT BEEN REPRODUCED IN THE FIELD AND/OR VERIFIED BY ADACHE-CIUNI-LYNN ASSOCIATES, INC., BUT HAS BEEN UTILIZED AS PROVIDED IN ITS ENTIRETY AND AS DIRECTED BY ODOT FOR THIS PURPOSE.

THE ESTABLISHMENT OF THE PROPERTY LINES SHOWN ON THIS PLAN, AS OF THIS DATE, WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION.

BY _____
JOSEPH R. CIUNI
SURVEYOR NO. 7394 DATE: _____

STATE OF OHIO
JOSEPH R. CIUNI
7394
REGISTERED PROFESSIONAL SURVEYOR

RECEIVED _____
RECORDED _____
BOOK _____ PAGE _____
COUNTY RECORDER

N

SCALE IN FEET 0 50 100 200

PID NO. 7904

R/W DESIGNER C.C.B.
R/W REVIEWER G.J.B.

CENTERLINE PLAT

TRU-534-15.06

1 / 15

98 / 112

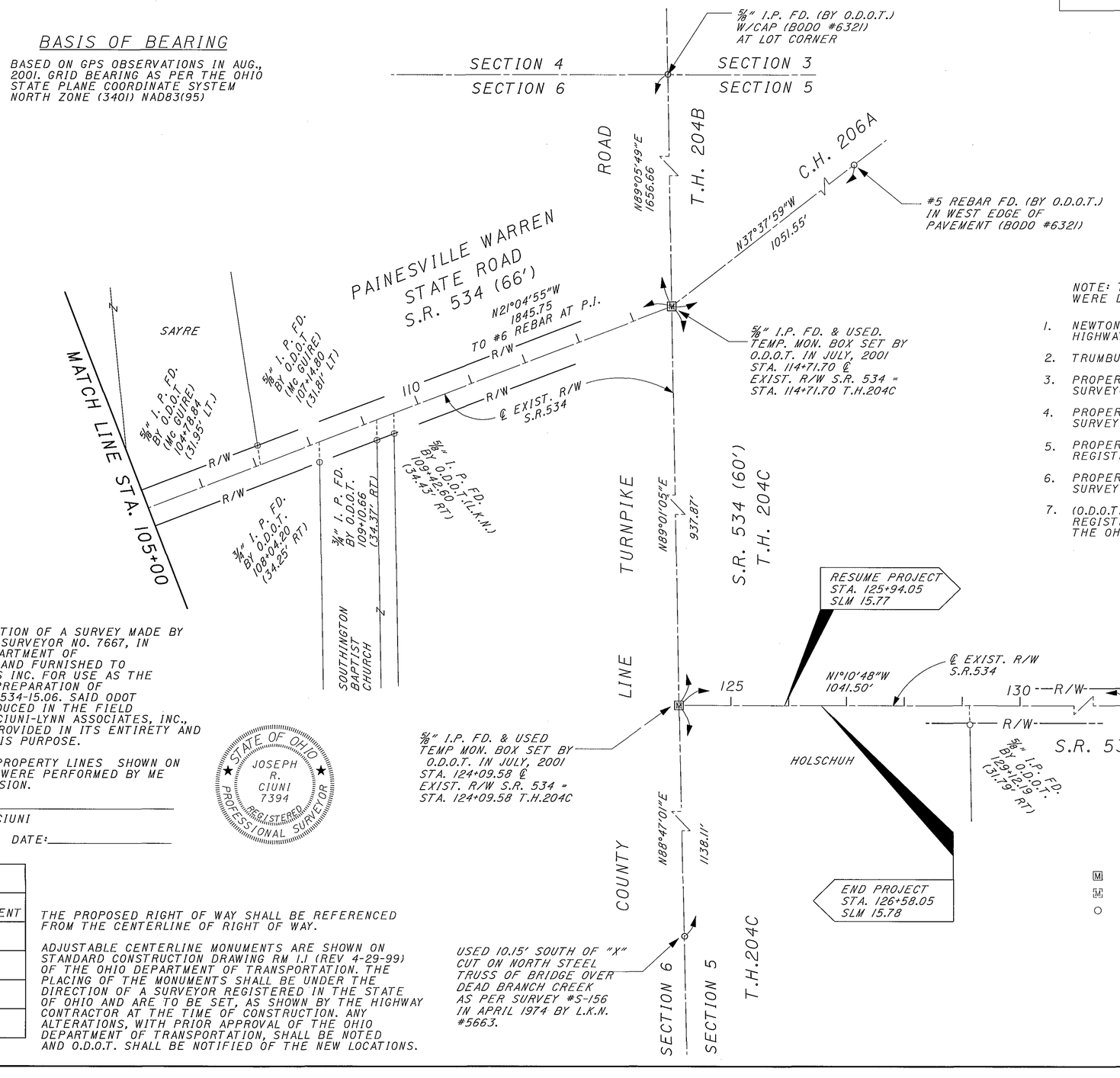
...BRC101.dgn

TRU - 534 - 15.06
TRUMBULL COUNTY, OHIO
SOUTHINGTON TWP. SECTIONS 5 AND 6
CONNECTICUT WESTERN RESERVE
T5N R5W

BASIS OF BEARING

BASED ON GPS OBSERVATIONS IN AUG., 2001. GRID BEARING AS PER THE OHIO STATE PLANE COORDINATE SYSTEM NORTH ZONE (3401) NAD83(95)

NOTE:
FOR PROPOSED CONSTRUCTION CENTERLINE CURVES, SPIRALS, ALL ALIGNMENT GEOMETRICS AND STATIONING FOR STATE ROUTE 534, SEE THE SCHEMATIC PLAN IN THE PROPOSED ROADWAY PLANS.



NOTE: THE EXISTING R/W WIDTH AND LOCATION WERE DETERMINED USING:

1. NEWTON FALLS, COUNTY LINE, PHELPS CREEK ROAD HIGHWAY PLANS DATED 1928.
2. TRUMBULL COUNTY ENGINEER FIELD BOOK NO. 233 PGS 1-19.
3. PROPERTY SURVEY BY ROBERT J. NOBLE, REGISTERED SURVEYOR NO. 5509 DATED JANUARY, 1995.
4. PROPERTY SURVEY BY CLIFFORD H. McGUIRE, REGISTERED SURVEYOR NO. 7770 DATED MAY, 1999
5. PROPERTY SURVEY BY CARROLL L. HERRMANN, REGISTERED SURVEYOR NO. 5663 DATED MAY, 1995
6. PROPERTY SURVEY BY DAVID JOHN BODO, REGISTERED SURVEYOR NO. 6321 DATED JUNE, 1994.
7. (O.D.O.T.) - REFERS TO SURVEY MADE BY KURT H. MASSAR, REGISTERED SURVEYOR NO. 7667, IN JULY 2001, FOR THE OHIO DEPARTMENT OF TRANSPORTATION.

THIS PLAT IS A TRUE DELINEATION OF A SURVEY MADE BY KURT H. MASSAR, REGISTERED SURVEYOR NO. 7667, IN JULY, 2001, FOR THE OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 4, AND FURNISHED TO ADACHE-CIUNI-LYNN ASSOCIATES INC. FOR USE AS THE HORIZONTAL CONTROL IN THE PREPARATION OF RIGHT-OF-WAY PLANS FOR TRU-534-15.06. SAID ODOT SURVEY HAS NOT BEEN REPRODUCED IN THE FIELD AND/OR VERIFIED BY ADACHE-CIUNI-LYNN ASSOCIATES, INC., BUT HAS BEEN UTILIZED AS PROVIDED IN ITS ENTIRETY AND AS DIRECTED BY ODOT FOR THIS PURPOSE.

THE ESTABLISHMENT OF THE PROPERTY LINES SHOWN ON THIS PLAN, AS OF THIS DATE, WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION.

BY _____
JOSEPH R. CIUNI

SURVEYOR NO. 7394 DATE:_____

STATE OF OHIO
JOSEPH R. CIUNI
7394
REGISTERED PROFESSIONAL SURVEYOR

MONUMENTS TO BE SET DURING CONSTRUCTION		
STATION	DISTANCE FROM ℄	℄ MONUMENT
114+71.70	℄	1
124+09.58	℄	1
134+51.08	℄	1
TOTAL		3

THE PROPOSED RIGHT OF WAY SHALL BE REFERENCED FROM THE CENTERLINE OF RIGHT OF WAY.

ADJUSTABLE CENTERLINE MONUMENTS ARE SHOWN ON STANDARD CONSTRUCTION DRAWING RM 1.1 (REV 4-29-99) OF THE OHIO DEPARTMENT OF TRANSPORTATION. THE PLACING OF THE MONUMENTS SHALL BE UNDER THE DIRECTION OF A SURVEYOR REGISTERED IN THE STATE OF OHIO AND ARE TO BE SET, AS SHOWN BY THE HIGHWAY CONTRACTOR AT THE TIME OF CONSTRUCTION. ANY ALTERATIONS, WITH PRIOR APPROVAL OF THE OHIO DEPARTMENT OF TRANSPORTATION, SHALL BE NOTED AND O.D.O.T. SHALL BE NOTIFIED OF THE NEW LOCATIONS.

LEGEND

- [M] PROPOSED MONUMENT ASSEMBLY
- [M] EXISTING MONUMENT BOX FOUND
- ○ IRON PINS OR PIPES FOUND

RECEIVED _____
RECORDED _____
BOOK _____ PAGE _____
COUNTY RECORDER

N

0 50 100 200 SCALE IN FEET

PID NO. 7904

R/W DESIGNER C.C.B.
R/W REVIEWER G.J.B.

CENTERLINE PLAT

TRU-534-15.06

2 / 15

99 / 112

...\RC102.dgn

TRU - 534 - 15.06
TRUMBULL COUNTY, OHIO
SOUTHINGTON TWP., SECTION 6
CONNECTICUT WESTERN RESERVE
T5N R5W

CONVENTIONAL SIGNS

County Line
Township Line
Section Line
Corporation Line
Fence Line (existing) (proposed)
Center Line
Trees, Stumps (to be removed)
Utility Poles: Telephone, Power, Light
Right of Way (only) R/W
Exist. Right of Way R/W
Temp. Right of Way T ESMT
Sewer Easement S ESMT
Property Line
Railroad
Guardrail (existing) (proposed)
Construction Limits

SECTION 4
SECTION 6

DITTRICH LIMITED PARTNERSHIP
P.P. NO. 57119225
P.P. NO. 57029000
73.0 ACRES

AUDITOR'S OFFICE HAS SPLIT PARCEL FOR TAX PURPOSES. BOUNDARY LINE FOR SPLIT IS UNAVAILABLE.
(1)

KENNETH R. WEBBER &
BONNIE A. WEBBER
(18)
P.P. NO. 57111129
P.P NO. 57111130
25.25 ACRES

BEGIN WORK STA. 80+65.52
BEGIN ACQUISITION STA. 81+15.71
BEGIN PROJECT STA. 81+51.78 SLM 14.95

SECTION 15
SECTION 6

S.R. 534 (60')

(17) GEORGE D. McCASLIN & MARYLOUISE McCASLIN P.P. NO. 57069650

(5) DALE W. COE P.P. NO. 57119235

(6) MICHAEL P. McCASLIN & LINDA M. McCASLIN P.P. NO. 57119379

(7) GEORGE D. McCASLIN & MARYLOUISE McCASLIN P.P. NO. 57069650

(8) KENNETH N. HILLYER & CAROL J. HILLYER P.P. NO. 57046150

P.P. NO. 57046151

DANIEL WEAVER NKA DANIEL ZABEN

BEGIN ACQUISITION STA. 9+75.00

BEGIN WORK STA. 40+30.44

PAINESVILLE WARREN STATE ROAD C.H. 206C (66')

(9) R. BRIAN BERRY P.P. NO. 57104220 60.98 ACRES

DEAD BRANCH CREEK

BARN

SECTION 4
SECTION 6

(2) ALEXIS S. DITTRICH P.P. NO. 57028900 23.34 ACRES

(3) ALEXIS S. UHLIN P.P. NO. 57119361

(4) DONALD L. SAYRE & LOIS J. SAYRE P.P. NO. 57119238

SUSPEND PROJECT STA. 103+74.04 SLM 15.35

SUSPEND WORK STA. 104+39.91

MATCH LINE STA. 105+00

PAINESVILLE WARREN STATE ROAD S.R. 534 (66')

SUSPEND ACQUISITION STA. 104+39.91

(11) EARL L. GARDNER & STACEY M. DYKES P.P. NO. 57000745

BARN

(12) HAROLD F. MAY & SHIRLEY E. MAY P.P. NO. 57009265 11.50 ACRES

(13) TRUNDLE MANAGEMENT WITH PRITCHEL & PRITCHEL, L.C. AS TRUSTEE P.P. NO. 57046175 13.50 ACRES

(10) MARGARET STASZKO, AKA MARGARET L. STASZKO P.P. NO. 57098500 68.50 ACRES

EAST LINE SECTION 6

UTILITY OWNERS

BELDEN AND BLAKE
1748 SALTWATER RD.
DOVER, OHIO 44622
ATTN: KEITH KERSTETTER
(330) 602-5551

COLUMBIA GAS OF OHIO
7080 FRY ROAD
MIDDLEBURG HTS., OHIO
ATTN: DAVE GUYLAS
(440) 891-2455

DOMINION EAST OHIO
1165 WEST RAYEN AVE.
YOUNGSTOWN, OHIO 44502
ATTN: SANDY HALLER
(330) 742-8193

OHIO EDISON
730 SOUTH AVE.
YOUNGSTOWN, OHIO 44502
ATTN: BILL SPEECE
(330) 740-7635

SPRINT LOCAL
3801 ELM ROAD
WARREN, OHIO 44484
ATTN: CHUCK MANSELL
(330) 841-1408

TIME WARNER CABLE
3813 YOUNGSTOWN-WARREN ROAD
WARREN, OHIO 44484
ATTN: DOUG LAWRENTZ
(330) 747-2555, EXT. 8483

TRUMBULL COUNTY ENGINEER
650 NORTH RIVER ROAD
WARREN, OHIO 44482
ATTN: JOHN LATELL
(330) 675-2640

WESTERN RESERVE TELEPHONE
(ALLTEL)
4616 PARK AVE.
ASHTABULA, OHIO 44004
ATTN: RICK ANDREGO
(440) 8993-1621

NOTE:
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.

STRUCTURE KEY
RESIDENTIAL
COMMERCIAL

REV	DATE	DESCRIPTION
DATE OF COMPLETION		

N

SCALE IN FEET 0 50 100 200

PID NO. 7904

C.C.B.
R/W REVIEWER G.J.B.

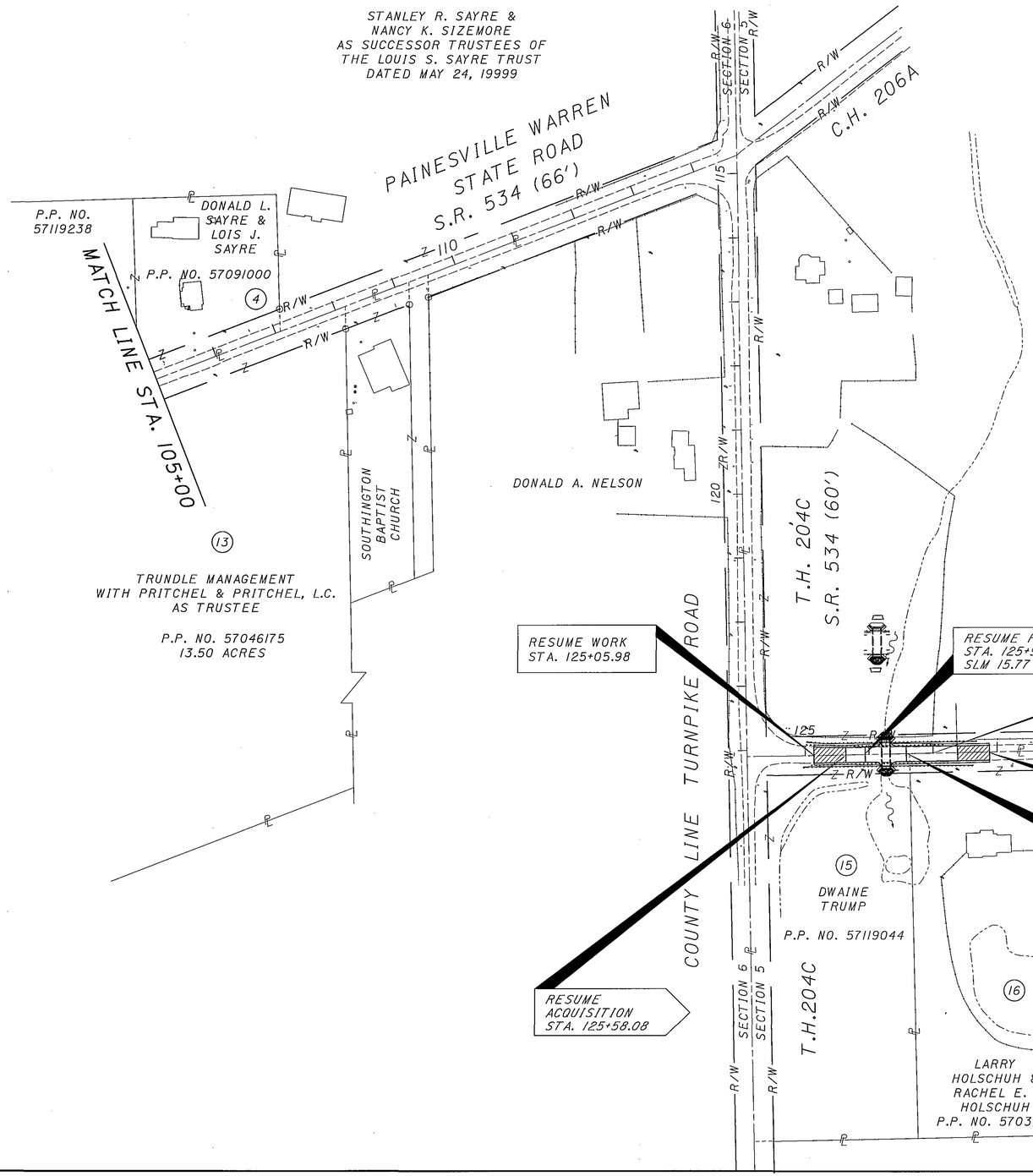
PROPERTY MAP

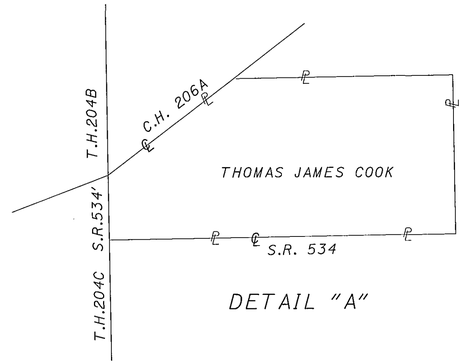
TRU-534-15.06

3 / 15

100 / 112

TRU - 534 - 15.06
TRUMBULL COUNTY, OHIO
SOUTHINGTON TWP., SECTIONS 5 AND 6
CONNECTICUT WESTERN RESERVE
T5N R5W





DETAIL "A"

STRUCTURE KEY

RESIDENTIAL

COMMERCIAL

REV	DATE	DESCRIPTION

DATE OF COMPLETION

SCALE IN FEET: 0, 50, 100, 200

PID NO. 7904

C.C.B.

R/W REVIEWER G.J.B.

PROPERTY MAP

TRU-534-15.06

4 / 15

101 / 112

TOTAL NUMBER OF :
16 OWNERSHIPS
26 PARCELS
0 TOTAL TAKES
0 OWNERSHIPS WITH STRUCTURES INVOLVED
0 OWNERSHIPS WITH "P" ITEMS

SUMMARY OF ADDITIONAL RIGHT OF WAY

NET RESIDUE = RECORD AREA - TOTAL P.R.O. - NET TAKE
ALL AREAS IN ACRES.

* DENOTES RIGHT OF WAY ENCROACHMENT

PARCEL NO.	OWNER	SHEET NO.	OWNER'S RECORD BOOK	OWNER'S RECORD PAGE	AUDITOR'S PARCEL	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. TAKE	NET TAKE	STRUCTURE	NET RESIDUE LEFT	NET RESIDUE RIGHT	TYPE FUND	REMARKS AND PERSONALTY	AS ACQUIRED BOOK	AS ACQUIRED PAGE
IWD	DITTRICH LIMITED PARTNERSHIP	8-11	OR1326	695	57119225	50.000	1.235	0.681	0.352	0.329	S	71.436	--		AUDITOR'S OFFICE UNABLE TO		
					57029000	23.000									DETERMINE AND/OR PROVIDE LOCATION		
															FOR SPLIT OF PERMANENT PARCEL		
															NUMBERS AS BASE ON TAX VALUES.		
															* CONCRETE POST LT. OF STA. 84+63		
															* PRIVATE SIGN LT. OF STA. 85+07		
															* STONE WALL LT. OF STA. 88+85		
															* WOOD BRIDGE LT. OF STA. 90+85		
															PRIVATE SIGN W/LIGHT		
															(NET RESIDUE INCLUDES 0.883 ACRES		
															OF PRO NOT TAKEN)		
IT		8						0.022	0	0.022					GRADING AND DRIVE CONSTRUCTION		
IT-1		8,9						0.088	0	0.088					GRADING AND DRIVE CONSTRUCTION		
IT-2		9,10						0.073	0	0.073					GRADING		
2T	ALEXIS S. DITTRICH	11	OR1326	699	57028900	23.340	0.197	0.003	0	0.003					GRADING AND DRIVE CONSTRUCTION		
3T	ALEXIS S. UHLIN	11,12	OR953	397	57119361	1.660	0.125	0.023	0	0.023					GRADING AND DRIVE CONSTRUCTION		
4T	DONALD L. SAYRE AND	12	OR71	926	57119238	1.608	0.174	0.041	0	0.041					GRADING		
	LOIS J. SAYRE		OR969	230	57091000	1.355	0.180										
			200104260014654														
	GRAND TOTAL					2.963	0.354										
5T	DALE W. COE	7	200203220010784		57119235	1.000	0.110	0.056	0	0.056					GRADING AND DRIVE CONSTRUCTION		
6WD	MICHAEL P. McCASLIN AND	7,8	OR263	768	57119379	2.000	0.169	0.187	0.169	0.018		--	1.813		LANDSCAPE ROCKS (2)		
	LINDA M. McCASLIN																
6T		7,8						0.045	0	0.045					GRADING AND DRIVE CONSTRUCTION		
7WD	GEORGE D. McCASLIN AND	8,9,15	OR1285	728	57069650	5.012(C)	0.917	1.694	0.917	0.777		--	3.318		(C) RECORD AREA AS CALCULATED FOR THIS		
	MARYLOUISE McCASLIN														PARCEL ONLY. AUDITOR'S RECORD AREA		
															EQUALS 4.896 ACRES WHICH INCLUDES TWO		
															NON-CONTIGIOUS PROPERTIES COMBINED ON		
															AUDITOR'S TAX DUPLICATE AS PARCEL		
															NO. 57069650.		
7S		8						0.041	0	0.041					CONSTRUCT AND MAINTAIN SEWER		
7T		8,9,15						0.264	0	0.264					GRADING AND DRIVE CONSTRUCTION		

100% STATE OF OHIO

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

(C) CALCULATED AREA

NOTE: ALL TEMPORARY PARCELS TO BE OF 12 MONTH DURATION.

REV.	DATE	DESCRIPTION

FEDERAL PROJECT NO. TE21-0020-0(649)
PID NO. 7904
STATE JOB NO. 047230
R/W DESIGNER CCB
R/W REVIEWER GJB
SUMMARY OF ADDITIONAL RIGHT OF WAY
PARCEL 1 TO PARCEL 7
TRU-534-15.06
5 / 15
102 / 112

SUMMARY OF ADDITIONAL RIGHT OF WAY

NET RESIDUE = RECORD AREA - TOTAL P.R.O. - NET TAKE
ALL AREAS IN ACRES.

* DENOTES RIGHT OF WAY ENCROACHMENT

PARCEL NO.	OWNER	SHEET NO.	OWNER'S RECORD BOOK	OWNER'S RECORD PAGE	AUDITOR'S PARCEL	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. TAKE	NET TAKE	STRUCTURE	NET RESIDUE LEFT	NET RESIDUE RIGHT	TYPE FUND	REMARKS AND PERSONALTY	AS ACQUIRED BOOK	AS ACQUIRED PAGE
8T	KENNETH N. HILLYER AND	14	1001	834	57046150	5.110	0.341	0.020	0	0.020					* 3 STRAND BARBED WIRE FENCE		
	CAROL J. HILLYER		1072	345	57046151	3.700	0.093								GRADING AND DRIVE CONSTRUCTION		
	GRAND TOTAL					8.810	0.434										
9T	R. BRIAN BERRY	14	OR985	826	57104220	60.983	1.601	0.060	0	0.060					GRADING		
10WD	MARGARET STASZKO, AKA	10,11	1049	618	57098500	68.500	1.005	0.739	0.400	0.339		--	67.156		* WIRE FENCE		
	MARGARET L. STASZKO		503	395											FENCE AND GATE		
10T		10,11						0.264	0	0.264					GRADING AND DRIVE CONSTRUCTION		
10T-1		14,15						0.119	0	0.119					GRADING AND DRIVE CONSTRUCTION (NET RESIDUE INCLUDES 0.605 ACRES OF PRO NOT TAKEN)		
11WD	EARL L. GARDNER AND	11	OR1367	233	57000745	1.000	0.114	0.141	0.114	0.027		--	0.859				
	STACEY M. DYKES																
11T		11						0.039	0	0.039					GRADING AND DRIVE CONSTRUCTION		
12WD	HAROLD F. MAY AND	11,12	OR921	269	57009265	11.500	0.186	0.190	0.186	0.004		--	11.310				
	SHIRLEY E. MAY																
12T		11,12						0.067	0	0.067					GRADING; DRIVE AND WALK CONSTRUCTION		
13T	TRUNDLE MANAGEMENT WITH	12	OR792	731-732	57046175	13.500	0.347	0.019	0	0.019					GRADING		
	PRITCHEL AND PRITCHEL, L.C. AS TRUSTEES																
14T	THOMAS JAMES COOK	13	OR618	410	57020300	53.800	2.605	0.031	0	0.031					* WIRE FENCE W/BARBED WIRE		
															GRADING		
15T	DWAINE TRUMP	13	OR1166	19	57119044	3.509	0.568	0.025	0	0.025					GRADING		
16T	LARRY HOLSCHUH AND	13	OR1329	39	57031950	3.440	0.172	0.005	0	0.005					GRADING		
	RACHEL E. HOLSCHUH																
17	GEORGE D. McCASLIN AND	7	OR1285	728	57069650	4.896	0.258								NO TAKE		
	MARYLOUISE McCASLIN																
18	KENNETH R. WEBBER AND	7	OR224	114	57111129	24.561	1.303								NO TAKE		
	BONNIE A. WEBBER				57111130	0.689	0.069										
	GRAND TOTAL					25.250	1.372										

STATE OF OHIO — 100% — RIGHT OF WAY

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

NOTE: ALL TEMPORARY PARCELS TO BE OF 12 MONTH DURATION.

REV.	DATE	DESCRIPTION

FEDERAL PROJECT NO. TE21-6020-0-(649)

PID NO. 7904

STATE JOB NO. 047230

R/W DESIGNER CCB
R/W REVIEWER GJB

SUMMARY OF ADDITIONAL RIGHT OF WAY
PARCEL 8 TO PARCEL 18

TRU-534-15.06

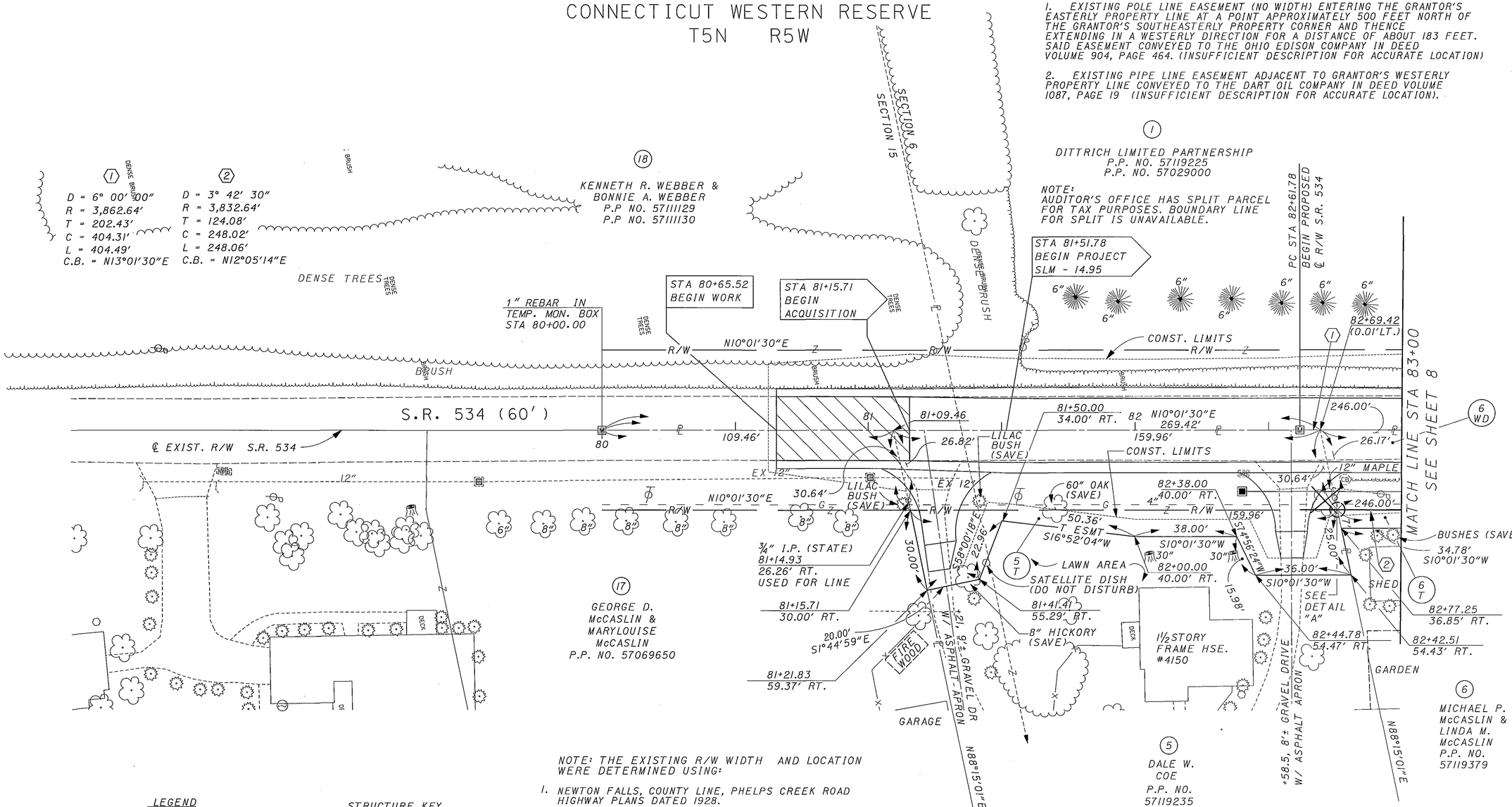
BASIS OF BEARING
BASED ON GPS OBSERVATIONS IN AUG., 2001. GRID BEARING AS PER THE OHIO STATE PLANE COORDINATE SYSTEM NORTH ZONE (3401) NAD83(95)

TRU - 534 - 15.06
TRUMBULL COUNTY, OHIO
SOUTHINGTON TWP., SECTIONS 6 AND 15
CONNECTICUT WESTERN RESERVE
T5N R5W

PARCEL 1 - RECORDED UTILITY EASEMENTS

1. EXISTING POLE LINE EASEMENT (NO WIDTH) ENTERING THE GRANTOR'S EASTERLY PROPERTY LINE AT A POINT APPROXIMATELY 500 FEET NORTH OF THE GRANTOR'S SOUTHEASTERLY PROPERTY CORNER AND THENCE EXTENDING IN A WESTERLY DIRECTION FOR A DISTANCE OF ABOUT 183 FEET. SAID EASEMENT CONVEYED TO THE OHIO EDISON COMPANY IN DEED VOLUME 904, PAGE 464. (INSUFFICIENT DESCRIPTION FOR ACCURATE LOCATION)

2. EXISTING PIPE LINE EASEMENT ADJACENT TO GRANTOR'S WESTERLY PROPERTY LINE CONVEYED TO THE DART OIL COMPANY IN DEED VOLUME 1087, PAGE 19 (INSUFFICIENT DESCRIPTION FOR ACCURATE LOCATION).



LEGEND

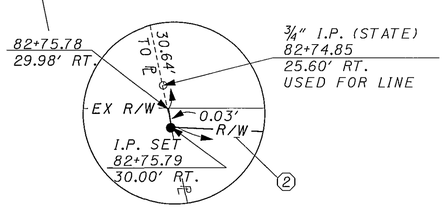
- M — PROPOSED MONUMENT ASSEMBLY
- M — EXISTING MONUMENT BOX FOUND
- ○ — IRON PINS OR PIPES FOUND
- ● — 3/4″ DIA. STEEL ROD, 30″ LONG, W/1½″ ALUMINUM CAP STAMPED ODOT R/W-CIUNI #7394
- * — DENOTES RIGHT OF WAY ENCROACHMENT

STRUCTURE KEY

- RESIDENTIAL
- COMMERCIAL

NOTE: THE EXISTING R/W WIDTH AND LOCATION WERE DETERMINED USING:

1. NEWTON FALLS, COUNTY LINE, PHELPS CREEK ROAD HIGHWAY PLANS DATED 1928.
2. TRUMBULL COUNTY ENGINEER FIELD BOOK NO., 233 PGS. 1-19.
3. PROPERTY SURVEY BY ROBERT J. NOBLE, REGISTERED SURVEYOR NO. 5509 DATED JANUARY, 1995.
4. PROPERTY SURVEY BY CLIFFORD H. McGUIRE, REGISTERED SURVEYOR NO. 7770 DATED MAY, 1999
5. PROPERTY SURVEY BY CARROLL L. HERRMANN, REGISTERED SURVEYOR NO. 5663 DATED MAY, 1995
6. PROPERTY SURVEY BY DAVID JOHN BODO, REGISTERED SURVEYOR NO. 6321 DATED JUNE, 1994.
7. (O.D.O.T.) - REFERS TO SURVEY MADE BY KURT H. MASSAR, REGISTERED SURVEYOR NO. 7667, IN JULY 2001, FOR THE OHIO DEPARTMENT OF TRANSPORTATION.



DETAIL "A"

REV	DATE	DESCRIPTION

DATE OF COMPLETION

SCALE IN FEET: 0, 10, 20, 40

PID NO. 7904

R/W DESIGNER C.C.B
R/W REVIEWER G.J.B.

RIGHT OF WAY PLAN
STA 80+00 TO STA 83+00

TRU-534-15.06

7 / 15

104 / 112

TRU - 534 - 15.06
TRUMBULL COUNTY, OHIO
SOUTHINGTON TWP., SECTION 6
CONNECTICUT WESTERN RESERVE
T5N R5W

(1)
D = 6° 00′ 00″
R = 3,862.64′
T = 202.43′
C = 404.31′
L = 404.49′
C.B. = N13°01′30″E

(2)
D = 3° 42′ 30″
R = 3,832.64′
T = 124.08′
C = 248.02′
L = 248.06′
C.B. = N12°05′14″E

(3)
D = 2° 05′ 02″
R = 3,832.64′
T = 69.70′
C = 139.38′
L = 139.39′
C.B. = S14°59′00″W

(4)
D = 0° 21′49″
R = 3,832.64′
T = 12.16′
C = 24.32′
L = 24.32′
C.B. = N14°06′56″E

(5)
D = 1° 43′ 13″
R = 3,832.64′
T = 57.54′
C = 115.06′
L = 115.07′
C.B. = N15°10′00″E

NOTE: THE EXISTING R/W WIDTH AND LOCATION WERE DETERMINED USING:

1. NEWTON FALLS, COUNTY LINE, PHELPS CREEK ROAD HIGHWAY PLANS DATED 1928.
2. TRUMBULL COUNTY ENGINEER FIELD BOOK NO., 233 PGS. 1-19.
3. PROPERTY SURVEY BY ROBERT J. NOBLE, REGISTERED SURVEYOR NO. 5509 DATED JANUARY, 1995.
4. PROPERTY SURVEY BY CLIFFORD H. McGUIRE, REGISTERED SURVEYOR NO. 7770 DATED MAY, 1999
5. PROPERTY SURVEY BY CARROLL L. HERRMANN, REGISTERED SURVEYOR NO. 5663 DATED MAY, 1995
6. PROPERTY SURVEY BY DAVID JOHN BODO, REGISTERED SURVEYOR NO. 6321 DATED JUNE, 1994.
7. (O.D.O.T.) - REFERS TO SURVEY MADE BY KURT H. MASSAR, REGISTERED SURVEYOR NO. 7667, IN JULY 2001, FOR THE OHIO DEPARTMENT OF TRANSPORTATION.

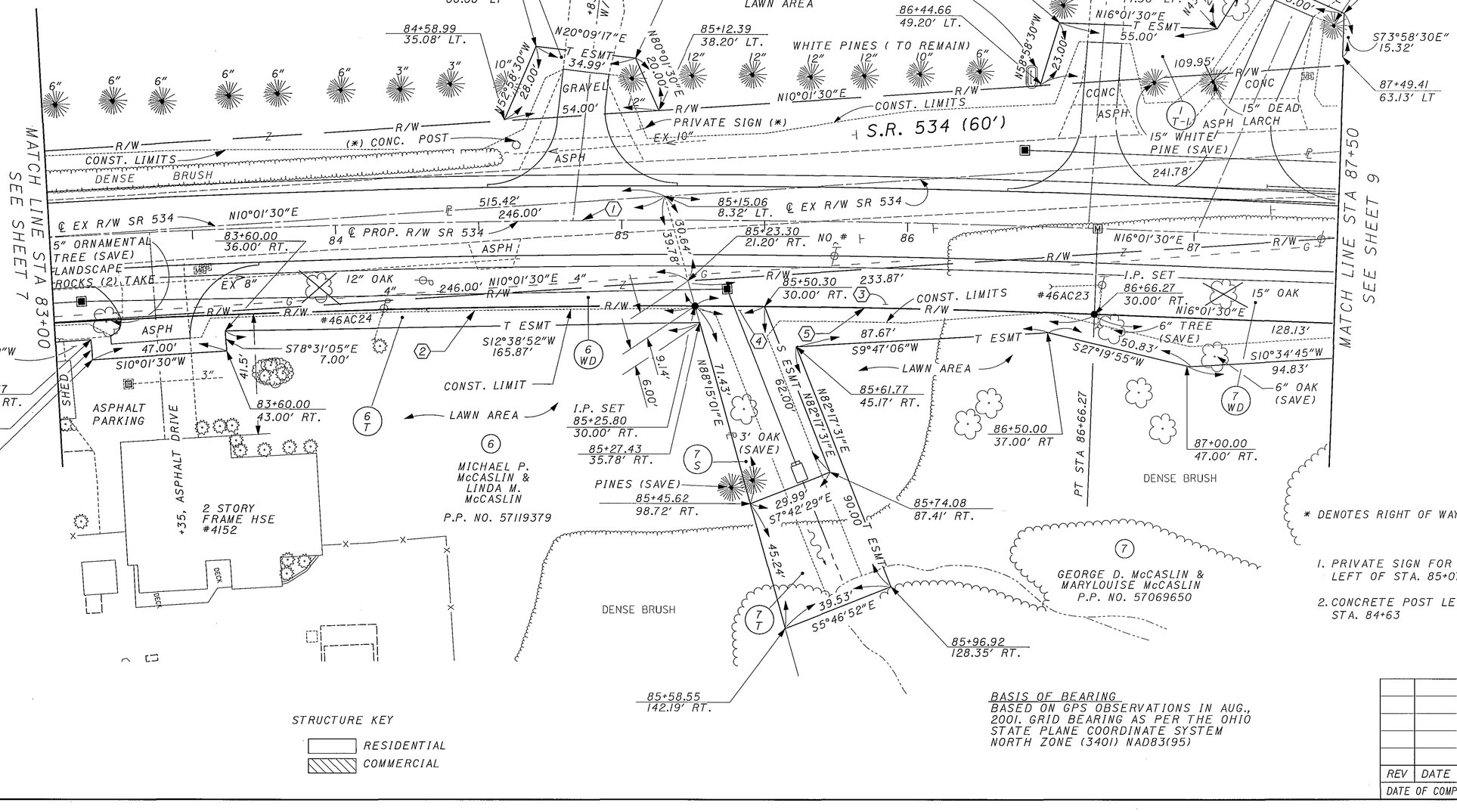
(1)
DITTRICH LIMITED PARTNERSHIP
P.P. NO. 57119225
P.P. NO. 57029000

NOTE:
AUDITOR'S OFFICE HAS SPLIT PARCEL FOR TAX PURPOSES. BOUNDARY LINE FOR SPLIT IS UNAVAILABLE.

PARCEL 1 - RECORDED UTILITY EASEMENTS

1. EXISTING POLE LINE EASEMENT (NO WIDTH) ENTERING THE GRANTOR'S EASTERLY PROPERTY LINE AT A POINT APPROXIMATELY 500 FEET NORTH OF THE GRANTOR'S SOUTHEASTERLY PROPERTY CORNER AND THENCE EXTENDING IN A WESTERLY DIRECTION FOR A DISTANCE OF ABOUT 183 FEET. SAID EASEMENT CONVEYED TO THE OHIO EDISON COMPANY IN DEED VOLUME 904, PAGE 464. (INSUFFICIENT DESCRIPTION FOR ACCURATE LOCATION)

2. EXISTING PIPE LINE EASEMENT ADJACENT TO GRANTOR'S WESTERLY PROPERTY LINE CONVEYED TO THE DART OIL COMPANY IN DEED VOLUME 1087, PAGE 19. (INSUFFICIENT DESCRIPTION FOR ACCURATE LOCATION)



STRUCTURE KEY
RESIDENTIAL
COMMERCIAL

* DENOTES RIGHT OF WAY ENCROACHMENT

1. PRIVATE SIGN FOR TRUCKS LEFT OF STA. 85+07
2. CONCRETE POST LEFT OF STA. 84+63

BASIS OF BEARING
BASED ON GPS OBSERVATIONS IN AUG., 2001. GRID BEARING AS PER THE OHIO STATE PLANE COORDINATE SYSTEM NORTH ZONE (3401) NAD83(95)

REV	DATE	DESCRIPTION
DATE OF COMPLETION		

SCALE IN FEET: 0, 10, 20, 40

PID NO. 7904

R/W DESIGNER C.C.B
R/W REVIEWER G.J.B.

RIGHT OF WAY PLAN
STA 83+00 TO STA 87+50

TRU-534-15.06

8 / 15

105 / 112

TRU - 534 - 15.06
TRUMBULL COUNTY, OHIO
SOUTHINGTON TWP., SECTION 6
CONNECTICUT WESTERN RESERVE
T5N R5W

PARCEL I - RECORDED UTILITY EASEMENTS

1. EXISTING POLE LINE EASEMENT (NO WIDTH) ENTERING THE GRANTOR'S EASTERLY PROPERTY LINE AT A POINT APPROXIMATELY 500 FEET NORTH OF THE GRANTOR'S SOUTHEASTERLY PROPERTY CORNER AND THENCE EXTENDING IN A WESTERLY DIRECTION FOR A DISTANCE OF ABOUT 183 FEET. SAID EASEMENT CONVEYED TO THE OHIO EDISON COMPANY IN DEED VOLUME 904, PAGE 464. (INSUFFICIENT DESCRIPTION FOR ACCURATE LOCATION)

2. EXISTING PIPE LINE EASEMENT ADJACENT TO GRANTOR'S WESTERLY PROPERTY LINE CONVEYED TO THE DART OIL COMPANY IN DEED VOLUME 1087, PAGE 19. (INSUFFICIENT DESCRIPTION FOR ACCURATE LOCATION)

NOTE: THE EXISTING R/W WIDTH AND LOCATION WERE DETERMINED USING:

1. *NEWTON FALLS, COUNTY LINE, PHELPS CREEK ROAD HIGHWAY PLANS DATED 1928.*
2. *TRUMBULL COUNTY ENGINEER FIELD BOOK NO., 233 PGS. 1-19.*
3. *PROPERTY SURVEY BY ROBERT J. NOBLE, REGISTERED SURVEYOR NO. 5509 DATED JANUARY, 1995.*
4. *PROPERTY SURVEY BY CLIFFORD H. McGUIRE, REGISTERED SURVEYOR NO. 7770 DATED MAY, 1999*
5. *PROPERTY SURVEY BY CARROLL L. HERRMANN, REGISTERED SURVEYOR NO. 5663 DATED MAY, 1995*
6. *PROPERTY SURVEY BY DAVID JOHN BODO, REGISTERED SURVEYOR NO. 6321 DATED JUNE, 1994.*
7. *(O.D.O.T.) - REFERS TO SURVEY MADE BY KURT H. MASSAR, REGISTERED SURVEYOR NO. 7667, IN JULY 2001, FOR THE OHIO DEPARTMENT OF TRANSPORTATION.*

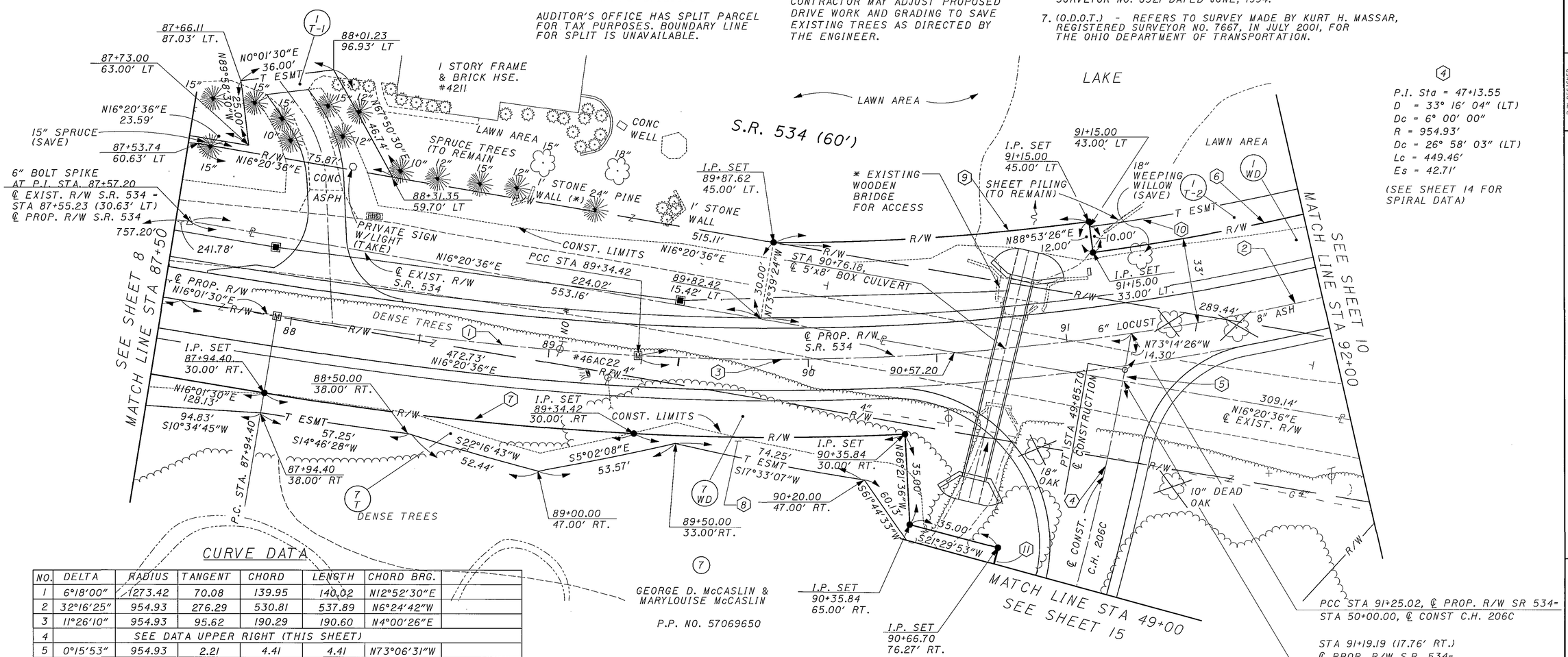
(1) *DITTRICH LIMITED PARTNERSHIP*
P.P. NO. 57119225
P.P. NO. 57029000

AUDITOR'S OFFICE HAS SPLIT PARCEL FOR TAX PURPOSES. BOUNDARY LINE FOR SPLIT IS UNAVAILABLE.

NOTE FOR PARCEL IT-1
CONTRACTOR MAY ADJUST PROPOSED DRIVE WORK AND GRADING TO SAVE EXISTING TREES AS DIRECTED BY THE ENGINEER.

(4)
P.I. Sta = 47+13.55
D = 33° 16' 04" (LT)
Dc = 6° 00' 00"
R = 954.93'
Dc = 26° 58' 03" (LT)
Lc = 449.46'
Es = 42.71'

(SEE SHEET 14 FOR SPIRAL DATA)



CURVE DATA

NO.	DELTA	RADIUS	TANGENT	CHORD	LENGTH	CHORD BRG.
1	6°18'00"	1273.42	70.08	139.95	140.02	N12°52'30"E
2	32°16'25"	954.93	276.29	530.81	537.89	N6°24'42"W
3	11°26'10"	954.93	95.62	190.29	190.60	N4°00'26"E
4		SEE DATA UPPER RIGHT (THIS SHEET)				
5	0°15'53"	954.93	2.21	4.41	4.41	N73°06'31"W
6	18°55'39"	921.93	153.68'	303.18'	304.56	N10°34'24"W
7	6°18'00"	1303.42	71.73	143.25	143.32	N12°52'31"E
8	6°05'07"	984.93	52.35	104.56	104.61	N6°40'57"E
9	7°38'35"	909.93	60.78	121.29	121.38	N2°42'43"E
10	20°43'28"	911.93	166.75	328.06	329.85	N11°28'18"W
11	21°08'05"	921.93	171.99	338.15	340.07	N57°56'05"W

LEGEND

- ▣ *PROPOSED MONUMENT ASSEMBLY*
- ▣ *EXISTING MONUMENT BOX FOUND*
- ○ *IRON PINS OR PIPES FOUND*
- ● *¾" DIA. STEEL ROD, 30" LONG, W/1½" ALUMINUM CAP STAMPED ODOT R/W-CIUNI #7394*

STRUCTURE KEY

- ▭ *RESIDENTIAL*
- ▨ *COMMERCIAL*

BASIS OF BEARING
BASED ON GPS OBSERVATIONS IN AUG., 2001. GRID BEARING AS PER THE OHIO STATE PLANE COORDINATE SYSTEM NORTH ZONE (3401) NAD83(95)

* *DENOTES RIGHT OF WAY ENCROACHMENT*

1. *EXISTING WOODEN ACCESS BRIDGE LEFT OF STA. 90+85*
2. *EXISTING STONE WALL LEFT OF STA. 88+85.*

REV	DATE	DESCRIPTION
DATE OF COMPLETION		

SCALE IN FEET: 0, 10, 20, 40

PID NO. 7904

R/W DESIGNER C.C.B
R/W REVIEWER G.J.B.

RIGHT OF WAY PLAN
STA 87+50 TO STA 92+00

TRU-534-15.06

9 / 15

106 / 112

TRU - 534 - 15.06
TRUMBULL COUNTY, OHIO
SOUTHINGTON TWP., SECTION 6
CONNECTICUT WESTERN RESERVE
T5N R5W

CURVE DATA

NO.	DELTA	RADIUS	TANGENT	CHORD	LENGTH	CHORD BRG.
1	32°16'25"	954.93	276.29	530.81	537.89	N6°24'42"W
2	6°18'00"	1273.42	70.08	139.95	140.02	N25°41'55"W
3	18°55'39"	921.93	153.68	303.18	304.56	N10°34'24"W
4	20°43'28"	911.93	166.75	328.06	329.85	N11°28'18"W
5	1°49'21"	987.93	15.71	31.42	31.43	N21°38'14"W
6	6°18'00"	1306.42	71.90	143.58	143.65	N25°41'55"W

BASIS OF BEARING
BASED ON GPS OBSERVATIONS IN AUG., 2001. GRID BEARING AS PER THE OHIO STATE PLANE COORDINATE SYSTEM NORTH ZONE (3401) NAD83(95)

(1)

DITTRICH LIMITED PARTNERSHIP
P.P. NO. 57119225
P.P. NO. 57029000

NOTE:
AUDITOR'S OFFICE HAS SPLIT PARCEL FOR TAX PURPOSES. BOUNDARY LINE FOR SPLIT IS UNAVAILABLE.

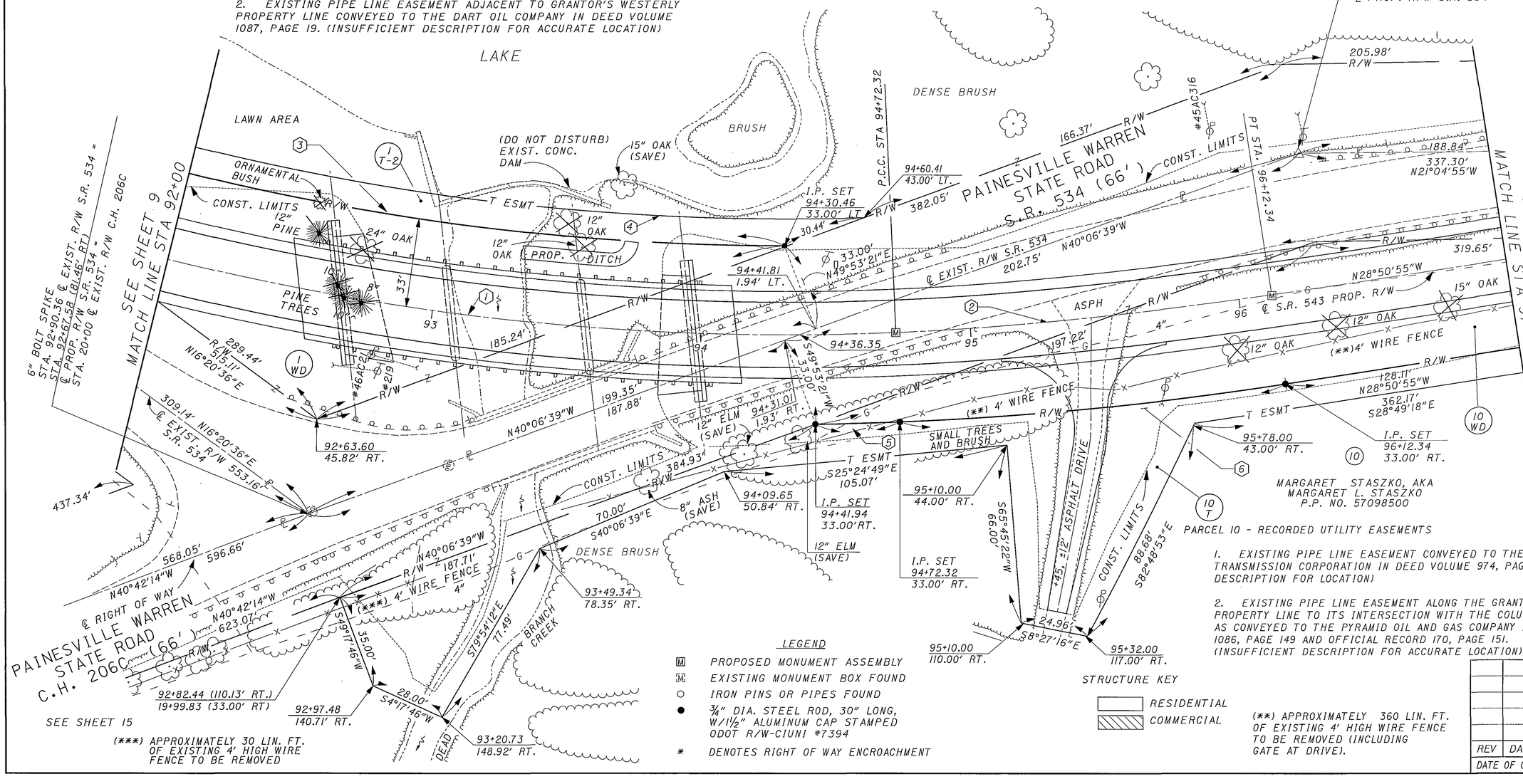
NOTE: THE EXISTING R/W WIDTH AND LOCATION WERE DETERMINED USING:

1. NEWTON FALLS, COUNTY LINE, PHELPS CREEK ROAD HIGHWAY PLANS DATED 1928.
2. TRUMBULL COUNTY ENGINEER FIELD BOOK NO., 233 PGS. 1-19.
3. PROPERTY SURVEY BY ROBERT J. NOBLE, REGISTERED SURVEYOR NO. 5509 DATED JANUARY, 1995.
4. PROPERTY SURVEY BY CLIFFORD H. McGUIRE, REGISTERED SURVEYOR NO. 7770 DATED MAY, 1999
5. PROPERTY SURVEY BY CARROLL L. HERRMANN, REGISTERED SURVEYOR NO. 5663 DATED MAY, 1995
6. PROPERTY SURVEY BY DAVID JOHN BODO, REGISTERED SURVEYOR NO. 6321 DATED JUNE, 1994.
7. (O.D.O.T.) - REFERS TO SURVEY MADE BY KURT H. MASSAR, REGISTERED SURVEYOR NO. 7667, IN JULY 2001, FOR THE OHIO DEPARTMENT OF TRANSPORTATION.

PARCEL 1 - RECORDED UTILITY EASEMENTS

1. EXISTING POLE LINE EASEMENT (NO WIDTH) ENTERING THE GRANTOR'S EASTERLY PROPERTY LINE AT A POINT APPROXIMATELY 500 FEET NORTH OF THE GRANTOR'S SOUTHEASTERLY PROPERTY CORNER AND THENCE EXTENDING IN A WESTERLY DIRECTION FOR A DISTANCE OF ABOUT 183 FEET. SAID EASEMENT CONVEYED TO THE OHIO EDISON COMPANY IN DEED VOLUME 904, PAGE 464. (INSUFFICIENT DESCRIPTION FOR ACCURATE LOCATION)

2. EXISTING PIPE LINE EASEMENT ADJACENT TO GRANTOR'S WESTERLY PROPERTY LINE CONVEYED TO THE DART OIL COMPANY IN DEED VOLUME 1087, PAGE 19. (INSUFFICIENT DESCRIPTION FOR ACCURATE LOCATION)



LEGEND

- [M] PROPOSED MONUMENT ASSEMBLY
- [M] EXISTING MONUMENT BOX FOUND
- ○ IRON PINS OR PIPES FOUND
- ● ¾" DIA. STEEL ROD, 30" LONG, W/1½" ALUMINUM CAP STAMPED ODOT R/W-CIUNI #7394
- * DENOTES RIGHT OF WAY ENCROACHMENT

REV	DATE	DESCRIPTION

DATE OF COMPLETION

SCALE IN FEET 0 10 20 40

PID NO. 79004

R/W DESIGNER C.C.B
R/W REVIEWER G.J.B.

RIGHT OF WAY PLAN
STA 92+00 TO STA 97+00

TRU-534-15.06

10 / 15

107 / 112

TRU - 534 - 15.06
TRUMBULL COUNTY, OHIO
SOUTHINGTON TWP., SECTION 6
CONNECTICUT WESTERN RESERVE
T5N R5W

BASIS OF BEARING
BASED ON GPS OBSERVATIONS IN AUG., 2001. GRID BEARING AS PER THE OHIO STATE PLANE COORDINATE SYSTEM NORTH ZONE (3401) NAD83(95)

PARCEL 1 - RECORDED UTILITY EASEMENTS

1. EXISTING POLE LINE EASEMENT (NO WIDTH) ENTERING THE GRANTOR'S EASTERLY PROPERTY LINE AT A POINT APPROXIMATELY 500 FEET NORTH OF THE GRANTOR'S SOUTHEASTERLY PROPERTY CORNER AND THENCE EXTENDING IN A WESTERLY DIRECTION FOR A DISTANCE OF ABOUT 183 FEET. SAID EASEMENT CONVEYED TO THE OHIO EDISON COMPANY IN DEED VOLUME 904, PAGE 464. (INSUFFICIENT DESCRIPTION FOR ACCURATE LOCATION)

2. EXISTING PIPE LINE EASEMENT ADJACENT TO GRANTOR'S WESTERLY PROPERTY LINE CONVEYED TO THE DART OIL COMPANY IN DEED VOLUME 1087, PAGE 19. (INSUFFICIENT DESCRIPTION FOR ACCURATE LOCATION)

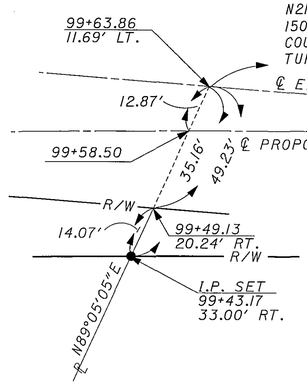
(1)

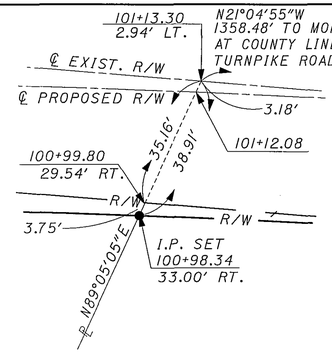
DITTRICH LIMITED PARTNERSHIP
P.P. NO. 57119225
P.P. NO. 57029000

NOTE:
AUDITOR'S OFFICE HAS SPLIT PARCEL FOR TAX PURPOSES. BOUNDARY LINE FOR SPLIT IS UNAVAILABLE.

NOTE: THE EXISTING R/W WIDTH AND LOCATION WERE DETERMINED USING:

1. NEWTON FALLS, COUNTY LINE, PHELPS CREEK ROAD HIGHWAY PLANS DATED 1928.
2. TRUMBULL COUNTY ENGINEER FIELD BOOK NO., 233 PGS. 1-19.
3. PROPERTY SURVEY BY ROBERT J. NOBLE, REGISTERED SURVEYOR NO. 5509 DATED JANUARY, 1995.
4. PROPERTY SURVEY BY CLIFFORD H. McGUIRE, REGISTERED SURVEYOR NO. 7770 DATED MAY, 1999
5. PROPERTY SURVEY BY CARROLL L. HERRMANN, REGISTERED SURVEYOR NO. 5663 DATED MAY, 1995
6. PROPERTY SURVEY BY DAVID JOHN BODO, REGISTERED SURVEYOR NO. 6321 DATED JUNE, 1994.
7. (O.D.O.T.) - REFERS TO SURVEY MADE BY KURT H. MASSAR, REGISTERED SURVEYOR NO. 7667, IN JULY 2001, FOR THE OHIO DEPARTMENT OF TRANSPORTATION.

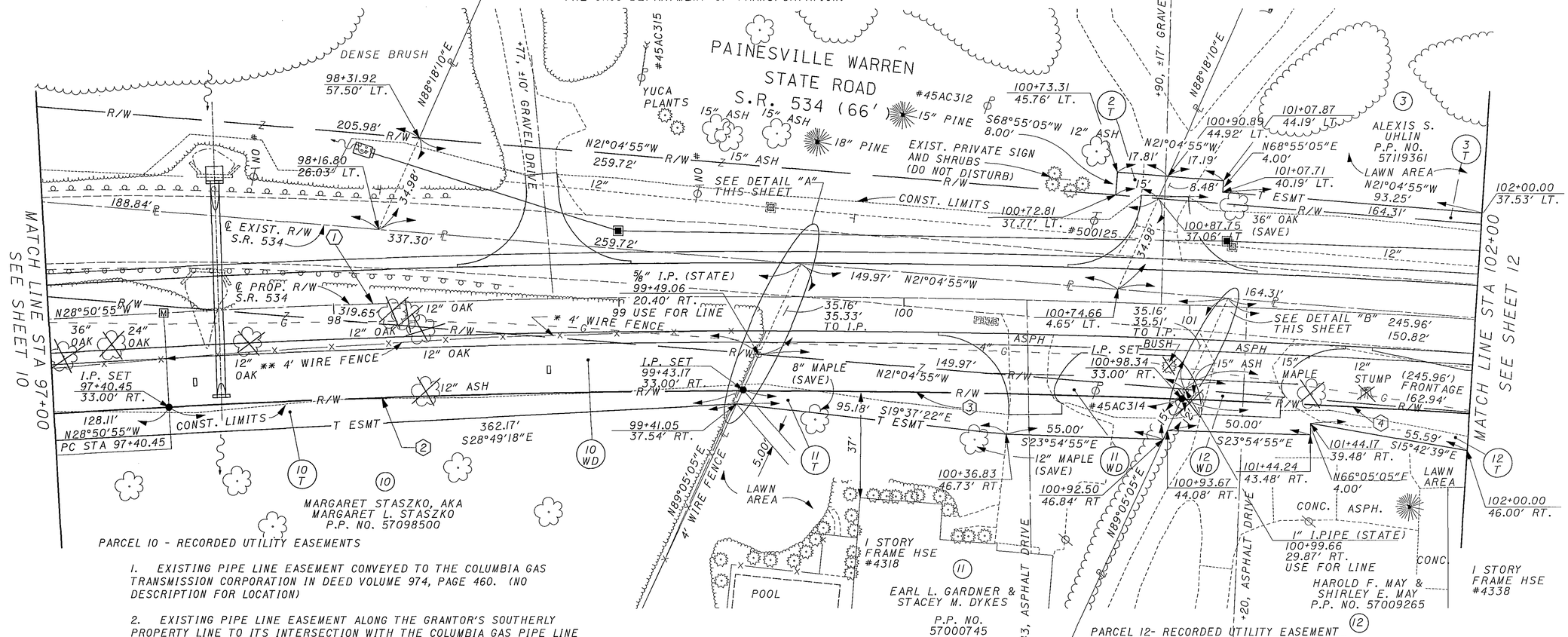




(2)
ALEXIS S. DITTRICH
P.P. NO. 57028900

PARCEL 2 - RECORDED UTILITY EASEMENT

1. EXISTING PIPE LINE EASEMENT ADJACENT TO GRANTOR'S WESTERLY PROPERTY LINE CONVEYED TO THE DART OIL COMPANY IN DEED VOLUME 1087, PAGE 19. (INSUFFICIENT DESCRIPTION FOR ACCURATE LOCATION)



PARCEL 10 - RECORDED UTILITY EASEMENTS

1. EXISTING PIPE LINE EASEMENT CONVEYED TO THE COLUMBIA GAS TRANSMISSION CORPORATION IN DEED VOLUME 974, PAGE 460. (NO DESCRIPTION FOR LOCATION)

2. EXISTING PIPE LINE EASEMENT ALONG THE GRANTOR'S SOUTHERLY PROPERTY LINE TO ITS INTERSECTION WITH THE COLUMBIA GAS PIPE LINE AS CONVEYED TO THE PYRAMID OIL AND GAS COMPANY IN DEED VOLUME 1086, PAGE 149 AND OFFICIAL RECORD 170, PAGE 151 (INSUFFICIENT DESCRIPTION FOR ACCURATE LOCATION).

PARCEL 12- RECORDED UTILITY EASEMENT

1. EXISTING PIPE LINE EASEMENT CONVEYED TO THE COLUMBIA GAS TRANSMISSION CORPORATION IN DEED VOLUME 974, PAGE 419. (INSUFFICIENT DESCRIPTION FOR ACCURATE LOCATION)

* DENOTES RIGHT OF WAY ENCROACHMENT

** APPROXIMATELY 275 LIN FT. OF EXISTING 4' HIGH WIRE FENCE TO BE REMOVED OF WHICH 90 LIN. FT. IS ENCROACHING

LEGEND

- M — PROPOSED MONUMENT ASSEMBLY
- M — EXISTING MONUMENT BOX FOUND
- ○ — IRON PINS OR PIPES FOUND
- ● — 3/4" DIA. STEEL ROD, 30" LONG, W/1 1/2" ALUMINUM CAP STAMPED ODOT R/W-CIUNI #7394

STRUCTURE KEY

- RESIDENTIAL
- COMMERCIAL

CURVE DATA

NO.	DELTA	RADIUS	TANGENT	CHORD	LENGTH	CHORD BRG.	
1	7°46'00"	3862.64	262.20	523.19	523.60	N24°57'55"W	TOTAL CURVE
2	3°00'26"	3829.64	100.52	200.98	201.00	N27°20'42"W	
3	2°18'06"	3829.64	76.93	153.83	153.84	N24°41'26"W	
4	2°27'28"	3829.64	82.15	164.27	164.28	N22°18'39"W	

SCALE IN FEET: 0, 10, 20, 40

PID NO. 7904

R/W DESIGNER C.C.B
R/W REVIEWER G.J.B.

RIGHT OF WAY PLAN
STA 97+00 TO STA 102+00

TRU-534-15.06

REV	DATE	DESCRIPTION

DATE OF COMPLETION

11 / 15

108 / 112

TRU - 534 - 15.06
TRUMBULL COUNTY, OHIO
SOUTHINGTON TWP., SECTION 6
CONNECTICUT WESTERN RESERVE
T5N R5W

BASIS OF BEARING
BASED ON GPS OBSERVATIONS IN AUG., 2001. GRID BEARING AS PER THE OHIO STATE PLANE COORDINATE SYSTEM NORTH ZONE (3401) NAD83(95)

(3) ALEXIS S. UHLIN P.P. NO. 57119361

(4) DONALD L. SAYRE & LOIS J. SAYRE P.P. NO. 57091000

(1) D = 7° 46′ 00″ R = 3,862.64′ T = 262.20 C = 523.19′ L = 523.60 C.B. = N24°57′55″W

(2) D = 2° 27′ 28″ R = 3,829.64′ T = 82.15′ C = 164.27′ L = 164.28′ C.B. = N22°18′39″W

P.P. NO. 57119238

LAWN AREA

4′ WIRE FENCE

N88°18′10″E

N84°29′03″E

N81°21′27″E

5/8″ I.P.(STATE) McGUIRE 102+50.30 32.29′LT. USED FOR LINE

5/8″ I.P.(STATE) McGUIRE 104+78.84 31.95′ LT. USED FOR LINE

5/8″ I.P. (STATE) McGUIRE 107+14.80 (31.81′ LT.) USED FOR LINE

1½ STORY FRAME HSE. #4367

PAINESVILLE WARREN STATE ROAD S.R. 534 (66′)

102+00.00 37.53′ LT.

102+50.55 33.02′ LT.

#45AC311

N32°12′52″W 57.45′

164.31′

00124 48″ OAK

15″

102+55.85 48.10′ LT

P.T. STA. 102+64.04 END PROPOSED ℄ R/W S.R. 534

N17°38′05″W

T ESMT 184.49′

CONST. LIMITS

N21°04′55″W 189.47′

228.69

#45AC39

104+39.91 37.00′ LT.

N68°55′05″E 4.00′

104+39.91 33.00′ LT.

104+79.13 33.00′ LT.

LAWN AREA

#45AC38

235.93′

20″

12″

107+15.06 33.00′ LT.

32.58′ TO I.P. 33.79′

10″ PINE

SMALL TREES AND BUSH

BUSH

34.21′ TO I.P 34.98′

103

231.11′

103+59.18

N21°04′55″W - 1112.52′ TO MON. AT 104 COUNTY LINE TURNPIKE ROAD

33.17′ TO I.P. 105 34.26′

104+69.94

237.84′ 457.60′

106

107

N21°04′55″W

℄ EXIST R/W S.R. 534

107+07.78

108+16.78

164.31′

102+38.83 0.08′ LT.

150.82′

I.P. SET 245.96′

102+64.04 33.00′ RT.

103+47.06 33.00′ RT.

12″ MAPLE (SAVE)

ASPH

8″

#500122

#45AC310

32.15′ TO I.P. 35.16′

12″ MAPLE

8″ MAPLE

104+39.91 33.00′ RT.

35.16′ 36.49 TO I.P.

MATCH LINE STA 102+00 SEE SHEET 11

N68°55′05″E 33.00′

(245.96′) FRONTAGE.

20″ STUMP

4K

83.02′

162.94′

CONST. LIMITS

T ESMT

141.82′

S21°36′56″E

12″ MAPLE

92.85′

S25°18′52″E

24″ DEAD ELM

LAWN AREA

N68°55′05″E 5.00′

104+39.91 38.00′ RT

457.60′

#400121

N21°04′55″W

STA 104+39.91 SUSPEND WORK

STA 104+39.91 SUSPEND ACQUISITION

102+00.00 46.00′ RT.

LAWN AREA

STA 103+74.04. SUSPEND PROJECT SLM - 15.35

103+42.58 45.20′ RT.

1½ STORY FRAME HSE. #4338

1″ I.PIPE (STATE) 103+48.10 30.18′ RT. USE FOR LINE

GRAVEL

SHED

2 STORY FRAME HSE. #4350

(13) TRUNDLE MANAGEMENT WITH PRITCHEL, L.C. AS TRUSTEE P.P. NO. 57046175

¾″ I.P. (STATE) 108+04.20 34.25′ RT. USED FOR LINE

108+04.66 33.00′ RT.

STA. 102+15.5 EXISTING CONCRETE STEPS AND WALK TO BE REMOVED AND REPLACED

HEDGE ROW (TO REMAIN) N89°05′05″E

CONC. PAD OVER UNDERGROUND FRESH WATER TANK (DO NOT DISTURB)

+28, ±13′ GRAVEL DRIVE

N89°05′05″E

(12) HAROLD F. MAY & SHIRLEY E. MAY P.P. NO. 57009265

PARCEL 12- RECORDED UTILITY EASEMENT

1. EXISTING PIPE LINE EASEMENT CONVEYED TO THE COLUMBIA GAS TRANSMISSION CORPORATION IN DEED VOLUME 974, PAGE 419. (INSUFFICIENT DESCRIPTION FOR ACCURATE LOCATION)

PARCEL 13- RECORDED UTILITY EASEMENT

1. EXISTING PIPE LINE EASEMENT CONVEYED TO THE COLUMBIA GAS TRANSMISSION CORPORATION IN DEED VOLUME 974, PAGE 419. (INSUFFICIENT DESCRIPTION FOR ACCURATE LOCATION)

NOTE: THE EXISTING R/W WIDTH AND LOCATION WERE DETERMINED USING:

1. NEWTON FALLS, COUNTY LINE, PHELPS CREEK ROAD HIGHWAY PLANS DATED 1928.
2. TRUMBULL COUNTY ENGINEER FIELD BOOK NO., 233 PGS. 1-19.
3. PROPERTY SURVEY BY ROBERT J. NOBLE, REGISTERED SURVEYOR NO. 5509 DATED JANUARY, 1995.
4. PROPERTY SURVEY BY CLIFFORD H. McGUIRE, REGISTERED SURVEYOR NO. 7770 DATED MAY, 1999
5. PROPERTY SURVEY BY CARROLL L. HERRMANN, REGISTERED SURVEYOR NO. 5663 DATED MAY, 1995
6. PROPERTY SURVEY BY DAVID JOHN BODO, REGISTERED SURVEYOR NO. 6321 DATED JUNE, 1994.
7. (O.D.O.T.) - REFERS TO SURVEY MADE BY KURT H. MASSAR, REGISTERED SURVEYOR NO. 7667, IN JULY 2001, FOR THE OHIO DEPARTMENT OF TRANSPORTATION.

* DENOTES RIGHT OF WAY ENCROACHMENT

LEGEND

- [M] PROPOSED MONUMENT ASSEMBLY
- [M] EXISTING MONUMENT BOX FOUND
- ○ IRON PINS OR PIPES FOUND
- ● ¾″ DIA. STEEL ROD, 30″ LONG, W/1½″ ALUMINUM CAP STAMPED ODOT R/W-CIUNI #7394

STRUCTURE KEY

- RESIDENTIAL
- COMMERCIAL

SCALE IN FEET 0 10 20 40

PID NO. 7904

R/W DESIGNER C.C.B

R/W REVIEWER G.J.B.

RIGHT OF WAY PLAN
STA 102+00 TO STA 107+00

TRU-534-15.06

12/15

109/112

REV	DATE	DESCRIPTION

DATE OF COMPLETION

TRU - 534 - 15.06
TRUMBULL COUNTY, OHIO
SOUTHINGTON TWP., SECTION 5
CONNECTICUT WESTERN RESERVE
T5N R5W

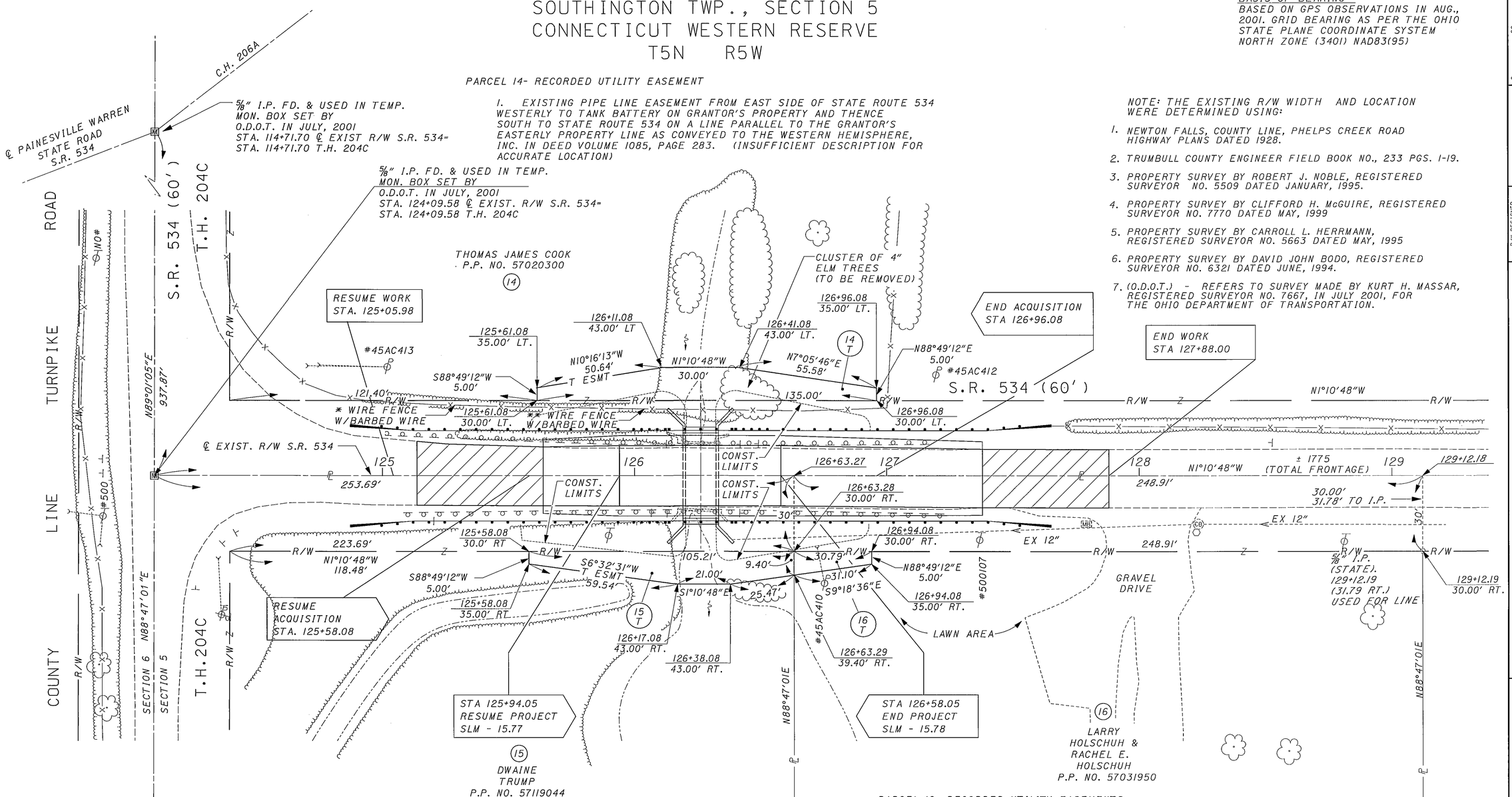
BASIS OF BEARING
BASED ON GPS OBSERVATIONS IN AUG., 2001. GRID BEARING AS PER THE OHIO STATE PLANE COORDINATE SYSTEM NORTH ZONE (3401) NAD83(95)

PARCEL 14- RECORDED UTILITY EASEMENT

1. EXISTING PIPE LINE EASEMENT FROM EAST SIDE OF STATE ROUTE 534 WESTERLY TO TANK BATTERY ON GRANTOR'S PROPERTY AND THENCE SOUTH TO STATE ROUTE 534 ON A LINE PARALLEL TO THE GRANTOR'S EASTERLY PROPERTY LINE AS CONVEYED TO THE WESTERN HEMISPHERE, INC. IN DEED VOLUME 1085, PAGE 283. (INSUFFICIENT DESCRIPTION FOR ACCURATE LOCATION)

NOTE: THE EXISTING R/W WIDTH AND LOCATION WERE DETERMINED USING:

1. *NEWTON FALLS, COUNTY LINE, PHELPS CREEK ROAD HIGHWAY PLANS DATED 1928.*
2. *TRUMBULL COUNTY ENGINEER FIELD BOOK NO., 233 PGS. 1-19.*
3. *PROPERTY SURVEY BY ROBERT J. NOBLE, REGISTERED SURVEYOR NO. 5509 DATED JANUARY, 1995.*
4. *PROPERTY SURVEY BY CLIFFORD H. McGUIRE, REGISTERED SURVEYOR NO. 7770 DATED MAY, 1999*
5. *PROPERTY SURVEY BY CARROLL L. HERRMANN, REGISTERED SURVEYOR NO. 5663 DATED MAY, 1995*
6. *PROPERTY SURVEY BY DAVID JOHN BODO, REGISTERED SURVEYOR NO. 6321 DATED JUNE, 1994.*
7. *(O.D.O.T.) - REFERS TO SURVEY MADE BY KURT H. MASSAR, REGISTERED SURVEYOR NO. 7667, IN JULY 2001, FOR THE OHIO DEPARTMENT OF TRANSPORTATION.*



PARCEL 15- RECORDED UTILITY EASEMENT

1. EXISTING PIPE LINE EASEMENT CONVEYED TO THE COLUMBIA GAS TRANSMISSION CORPORATION IN DEED VOLUME 974, PAGE 413. (NO DESCRIPTION FOR LOCATION)

PARCEL 16- RECORDED UTILITY EASEMENTS

1. EXISTING POLE LINE EASEMENT WITHIN THE NORTHERLY HALF OF THE COUNTY LINE TURNPIKE ROAD AS CONVEYED TO THE OHIO PUBLIC SERVICE COMPANY IN DEED VOLUME 395, PAGE 305. (INSUFFICIENT DESCRIPTION FOR ACCURATE LOCATION)

2. EXISTING PIPE LINE EASEMENT CONVEYED TO THE COLUMBIA GAS TRANSMISSION CORPORATION IN DEED VOLUME 975, PAGE 561. (INSUFFICIENT DESCRIPTION FOR ACCURATE LOCATION)

LEGEND

- Ⓜ *PROPOSED MONUMENT ASSEMBLY*
- Ⓜ *EXISTING MONUMENT BOX FOUND*
- ○ *IRON PINS OR PIPES FOUND*
- ● *¾" DIA. STEEL ROD, 30" LONG, W/1½" ALUMINUM CAP STAMPED ODOT R/W-CIUNI #7394*

STRUCTURE KEY

- *RESIDENTIAL*
- *COMMERCIAL*

* *DENOTES RIGHT OF WAY ENCROACHMENT*

** *210 LIN. FT. OF EXISTING WIRE FENCE W/BARBED WIRE TO BE REMOVED OF WHICH 210 LIN. FT. IS ENCROACHING*

REV	DATE	DESCRIPTION

DATE OF COMPLETION

N

SCALE IN FEET 0 10 20 40

PID NO. 7904

R/W DESIGNER C.C.B
R/W REVIEWER G.J.B.

RIGHT OF WAY PLAN
STA 124+09.58 TO STA 129+12.18

TRU-534-15.06

13 / 15

110 / 112

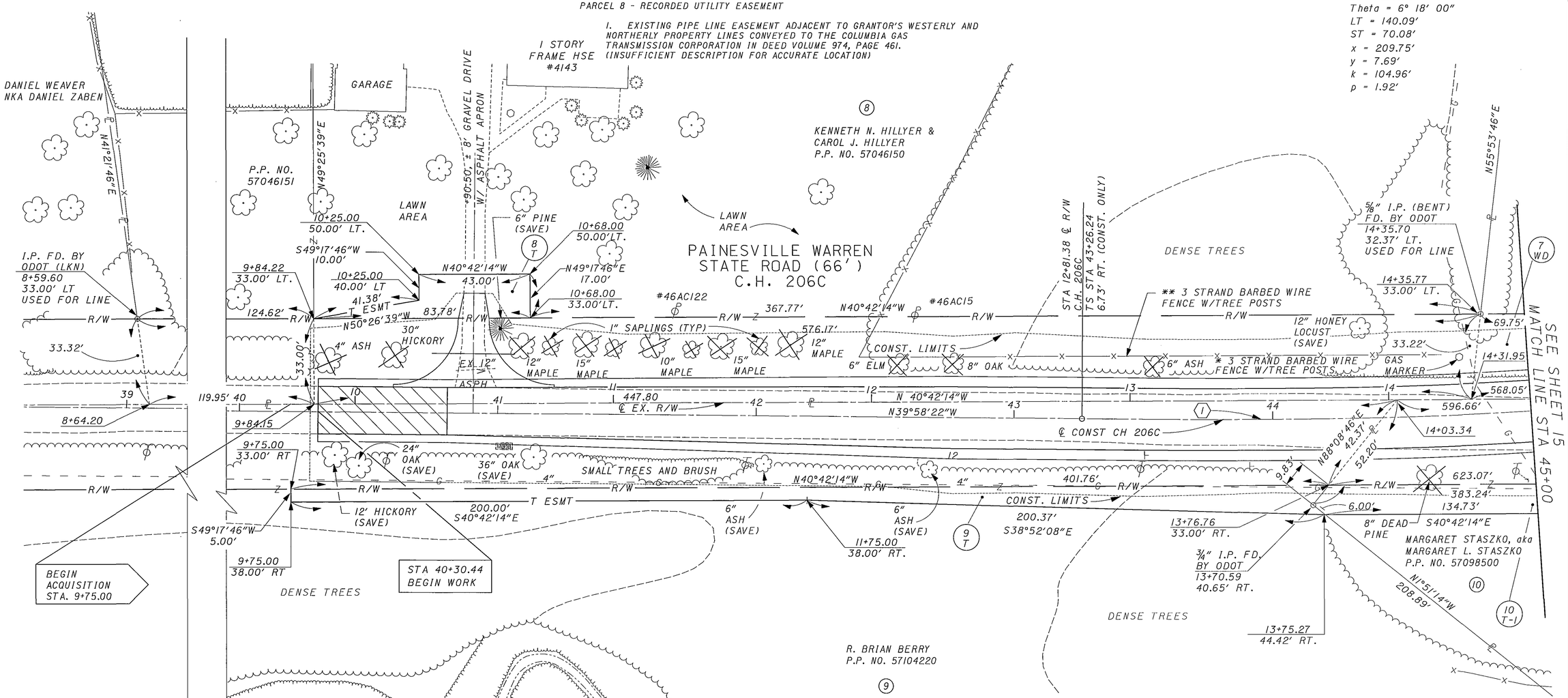
TRU - 534 - 15.06
TRUMBULL COUNTY, OHIO
SOUTHINGTON TWP., SECTION 6
CONNECTICUT WESTERN RESERVE
T5N R5W

BASIS OF BEARING
BASED ON GPS OBSERVATIONS IN AUG., 2001. GRID BEARING AS PER THE OHIO STATE PLANE COORDINATE SYSTEM NORTH ZONE (3401) NAD83(95)

⟨1⟩
P.I. Sta = 44+66.32
D = 6° 18′ 00″ (LT)
Dc = 6° 00′ 00″
R = 954.93′
Ls = 210.00′
Theta = 6° 18′ 00″
LT = 140.09′
ST = 70.08′
x = 209.75′
y = 7.69′
k = 104.96′
p = 1.92′

PARCEL 8 - RECORDED UTILITY EASEMENT

1. EXISTING PIPE LINE EASEMENT ADJACENT TO GRANTOR'S WESTERLY AND NORTHERLY PROPERTY LINES CONVEYED TO THE COLUMBIA GAS TRANSMISSION CORPORATION IN DEED VOLUME 974, PAGE 461. (INSUFFICIENT DESCRIPTION FOR ACCURATE LOCATION)



LEGEND
- Ⓜ PROPOSED MONUMENT ASSEMBLY
- Ⓜ EXISTING MONUMENT BOX FOUND
- ○ IRON PINS OR PIPES FOUND

STRUCTURE KEY
- RESIDENTIAL
- COMMERCIAL

NOTE: THE EXISTING R/W WIDTH AND LOCATION WERE DETERMINED USING:

1. NEWTON FALLS, COUNTY LINE, PHELPS CREEK ROAD HIGHWAY PLANS DATED 1928.
2. TRUMBULL COUNTY ENGINEER FIELD BOOK NO., 233 PGS. 1-19.
3. PROPERTY SURVEY BY ROBERT J. NOBLE, REGISTERED SURVEYOR NO. 5509 DATED JANUARY, 1995.
4. PROPERTY SURVEY BY CLIFFORD H. McGUIRE, REGISTERED SURVEYOR NO. 7770 DATED MAY, 1999
5. PROPERTY SURVEY BY CARROLL L. HERRMANN, REGISTERED SURVEYOR NO. 5663 DATED MAY, 1995
6. PROPERTY SURVEY BY DAVID JOHN BODO, REGISTERED SURVEYOR NO. 6321 DATED JUNE, 1994.
7. (O.D.O.T.) - REFERS TO SURVEY MADE BY KURT H. MASSAR, REGISTERED SURVEYOR NO. 7667, IN JULY 2001, FOR THE OHIO DEPARTMENT OF TRANSPORTATION.

* DENOTES RIGHT OF WAY ENCROACHMENT

1. ** 243 LIN. FT. OF EXISTING 3 STRAND BARBED WIRE FENCE W/TREE POSTS TO BE REMOVED OF WHICH 243 LIN. FT. IS ENCROACHING

REV	DATE	DESCRIPTION

DATE OF COMPLETION

SCALE IN FEET: 0, 10, 20, 40

PID NO. 7904

R/W DESIGNER C.C.B
R/W REVIEWER G.J.B.

RIGHT OF WAY PLAN
STA 39+00 TO STA 45+00

TRU-534-15.06

14 / 15

111 / 112

TRU - 534 - 15.06
TRUMBULL COUNTY, OHIO
SOUTHINGTON TWP., SECTION 6
CONNECTICUT WESTERN RESERVE
T5N R5W

NOTE: THE EXISTING R/W WIDTH AND LOCATION WERE DETERMINED USING:

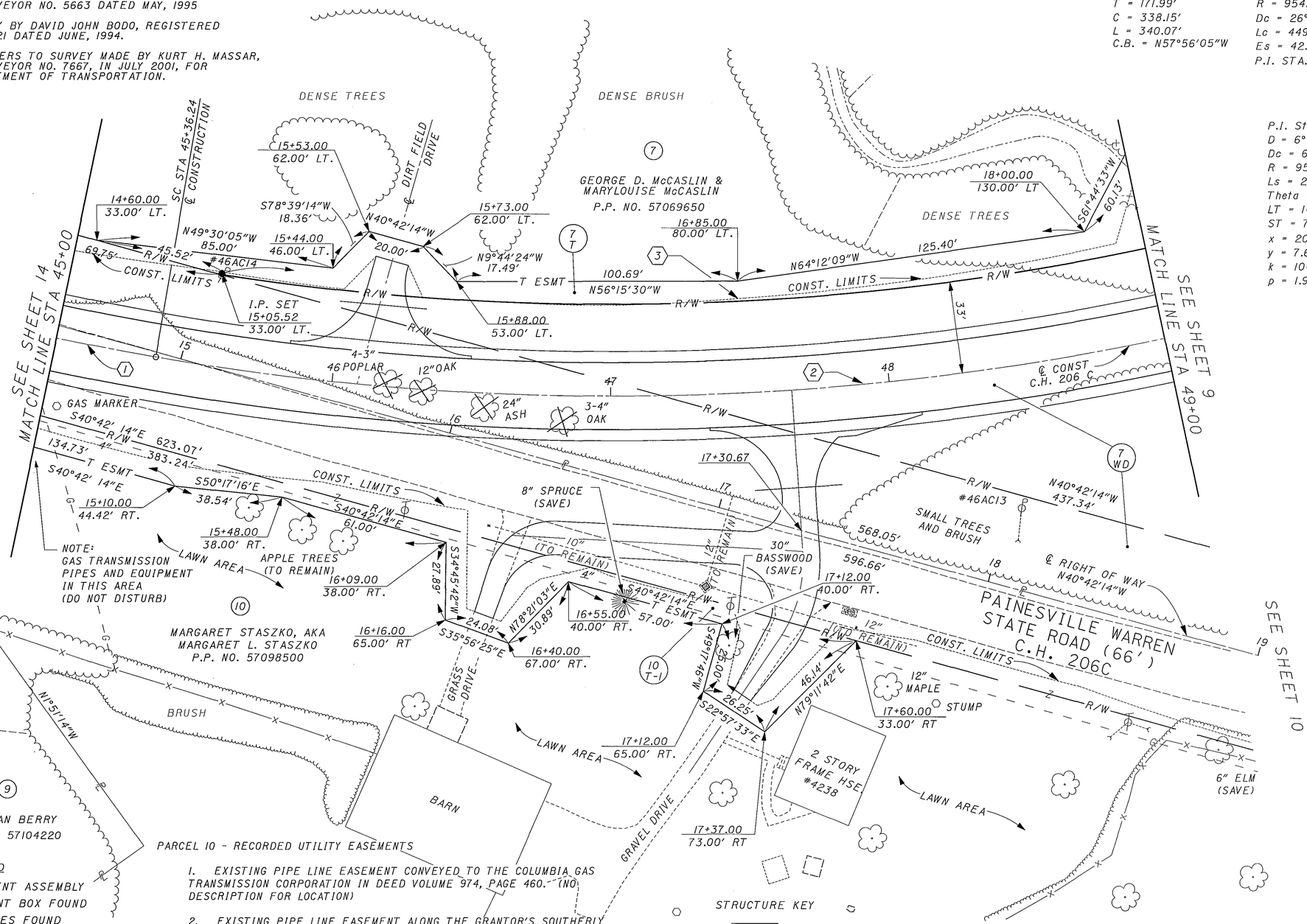
1. NEWTON FALLS, COUNTY LINE, PHELPS CREEK ROAD HIGHWAY PLANS DATED 1928.
2. TRUMBULL COUNTY ENGINEER FIELD BOOK NO., 233 PGS. 1-19.
3. PROPERTY SURVEY BY ROBERT J. NOBLE, REGISTERED SURVEYOR NO. 5509 DATED JANUARY, 1995.
4. PROPERTY SURVEY BY CLIFFORD H. McGUIRE, REGISTERED SURVEYOR NO. 7770 DATED MAY, 1999
5. PROPERTY SURVEY BY CARROLL L. HERRMANN, REGISTERED SURVEYOR NO. 5663 DATED MAY, 1995
6. PROPERTY SURVEY BY DAVID JOHN BODO, REGISTERED SURVEYOR NO. 6321 DATED JUNE, 1994.
7. (O.D.O.T.) - REFERS TO SURVEY MADE BY KURT H. MASSAR, REGISTERED SURVEYOR NO. 7667, IN JULY 2001, FOR THE OHIO DEPARTMENT OF TRANSPORTATION.

BASIS OF BEARING
BASED ON GPS OBSERVATIONS IN AUG., 2001. GRID BEARING AS PER THE OHIO STATE PLANE COORDINATE SYSTEM NORTH ZONE (3401) NAD83(95)

(3)
D = 21° 08' 05"
R = 921.93'
T = 171.99'
C = 338.15'
L = 340.07'
C.B. = N57°56'05"W

(2)
D = 33° 16' 04" (LT)
Dc = 6°00'00"
R = 954.93'
Dc = 26° 58'03" (LT)
Lc = 449.46'
Es = 42.71'
P.I. STA. 47+13.55

(1)
P.I. Sta = 44+66.32
D = 6° 18' 00" (LT)
Dc = 6° 00' 00"
R = 954.93'
Ls = 210.00'
Theta = 6° 18' 00"
LT = 140.09'
ST = 70.08'
x = 209.75'
y = 7.69'
k = 104.96'
p = 1.92'



R. BRIAN BERRY
P.P. NO. 57104220

PARCEL 10 - RECORDED UTILITY EASEMENTS

1. EXISTING PIPE LINE EASEMENT CONVEYED TO THE COLUMBIA GAS TRANSMISSION CORPORATION IN DEED VOLUME 974, PAGE 460. (NO DESCRIPTION FOR LOCATION)

2. EXISTING PIPE LINE EASEMENT ALONG THE GRANTOR'S SOUTHERLY PROPERTY LINE TO ITS INTERSECTION WITH THE COLUMBIA GAS PIPE LINE AS CONVEYED TO THE PYRAMID OIL AND GAS COMPANY IN DEED VOLUME 1086, PAGE 149 AND OFFICIAL RECORD 170, PAGE 151. (INSUFFICIENT DESCRIPTION FOR ACCURATE LOCATION)

LEGEND
- PROPOSED MONUMENT ASSEMBLY
- EXISTING MONUMENT BOX FOUND
- IRON PINS OR PIPES FOUND
- ¾" DIA. STEEL ROD, 30" LONG, W/1½" ALUMINUM CAP STAMPED ODOT R/W-CIUNI #7394

STRUCTURE KEY
- RESIDENTIAL
- COMMERCIAL

* DENOTES RIGHT OF WAY ENCROACHMENT

REV	DATE	DESCRIPTION
DATE OF COMPLETION		

SCALE IN FEET 0 10 20 40

PID NO. 7904

R/W DESIGNER C.C.B
R/W REVIEWER G.J.B.

RIGHT OF WAY PLAN
STA 45+00 TO STA 49+00

TRU-534-15.06

15 / 15

112 / 112

GEOLOGY OF THE SITE

THIS PROJECT SITE IS LOCATED ON THE GENTLY ROLLING ALLEGHENY PLATEAU, AT ELEVATIONS RANGING FROM 841 TO 848 FEET. THE PROJECT SITE IS LOCATED ALONG STATE ROUTE 534 OVER DEAD BRANCH CREEK AND BRANCHES OF DEAD BRANCH CREEK IN SOUTHINGTON TOWNSHIP, TRUMBULL COUNTY, OHIO. BOTH THE WISCONSIN AND EARLIER KANSAN OR PRE-KANSAN ICE SHEETS ABRADED THE GENERAL REGION AND DEPOSITED DRIFT MATERIALS OF 20 TO 60 FEET IN THICKNESS.

EXPLORATION

THE EXPLORATION CONSISTED OF 15 DRIVE SAMPLE-CORE BORINGS, S-1 THROUGH S-9 AND R-1 THROUGH R-6, MADE BY MEANS OF A MECHANICALLY POWERED HOLLOW-STEM ROTARY AUGER MOUNTED ON A MOBILE PLATFORM, PERFORMED IN NOVEMBER 2001.

INVESTIGATIONAL FINDINGS AND OBSERVATIONS

TEST BORINGS S-1 AND S-9 WERE ADVANCED FOR THE PURPOSE OF BRIDGE OR CULVERT FOUNDATION DESIGN. TEST BORINGS S-1 AND S-2 WERE ADVANCED FOR CULVERT TRU-534-1507. TEST BORINGS S-3 THROUGH S-5 WAS ADVANCED FOR BRIDGE TRU-534-1517. TEST BORINGS S-6 AND S-7 WERE ADVANCED FOR CULVERT TRU-534-1525. TEST BORINGS S-8 AND S-9 WERE ADVANCED FOR CULVERT TRU-534-1578. ALL STRUCTURE TEST BORINGS WERE ADVANCED IN THE VICINITY OF THE PROPOSED STRUCTURES. TEST BORINGS R-1 THROUGH R-6 WAS ADVANCED FOR PURPOSE OF ROADWAY DESIGN AND CONSTRUCTION.

VARIABLE SUBGRADE CONDITIONS WERE ENCOUNTERED IN THE TEST BORINGS. SOILS ENCOUNTERED WERE PREDOMINANTLY COHESIVE SOILS OF SILT AND CLAY (A-6a), CLAY (A-7-6) AND SILTY CLAY (A-6b). NATURAL NON-COHESIVE SOIL DEPOSITS WAS NOT FOUND IN ANY TEST BORING ON THE PROJECT SITE. VERY THIN LENSES OF SILT (A-4b) AND SANDY SILT (A-4a) WERE ALSO ENCOUNTERED. OVERALL CONSISTENCY OF COHESIVE SOILS WAS FOUND TO RANGE FROM "VERY SOFT" TO "VERY STIFF," BUT WAS PREDOMINANTLY "STIFF."

SIMILAR SOIL CONSISTENCY PROFILE WAS FOUND IN TEST BORINGS S-1, S-2, S-8 AND S-9: A LAYER OF LOW CONSISTENCY MATERIALS WAS FOUND IN THE UPPER 10 TO 11 FEET OF THE EXISTING SUBGRADE, AND HIGHER CONSISTENCY MATERIALS WERE FOUND BELOW THAT LAYER. ALTERNATING CONSISTENCY SUBGRADE WAS FOUND IN TEST BORINGS S-3, S-4 AND S-5. LOW CONSISTENCY SUBGRADE WAS FOUND IN THE UPPER 30 FEET IN TEST BORINGS S-6 AND S-7.

UNCONFINED COMPRESSIVE STRENGTH OF SELECTED SOIL SAMPLES OBTAINED FROM THE STRUCTURE TEST BORINGS WAS FOUND TO RANGE FROM 3,726 TO 7,140 (psf) WITH AN AVERAGE OF 4,570 (psf). RELATIVELY LOW CBR VALUE, RANGING FROM 4 TO 6, WERE ESTIMATED FOR UPPER 10 FEET SUBGRADE SOILS OBTAINED FROM FIELD INVESTIGATION.

BEDROCK WAS NOT ENCOUNTERED IN TEST BORINGS.

FREE WATER WAS ENCOUNTERED IN TEST BORINGS S-1 THROUGH S-7 RANGING FROM ELEVATIONS OF 745.2 TO 840.7 FEET. THE ERRATIC WATER LEVEL READING APPEARED TO BE THE RESULT LOW PERMEABILITY OF COHESIVE SOIL AND FEW WATER BEARING LENSES. IT IS ANTICIPATED THAT GROUNDWATER RECHARGE RATE IS VERY SLOW IN THE COHESIVE SOILS ENCOUNTERED ON THE SITE.

FOR SPECIFIC SUBSURFACE CONDITIONS AT VARIOUS DEPTHS, REFER TO THE INDIVIDUAL TEST BORING LOGS THAT FORM A PART OF THESE PLANS.

SYMBOLS OF ROCK TYPES

COAL		WEATHERED SANDSTONE	
WEATHERED MUDSTONE		SANDSTONE	
MUDSTONE		LEACHED DOLOMITE	
WEATHERED SHALE		DOLOMITE	
SHALE		LEACHED LIMESTONE	
CLAYSTONE		LIMESTONE	
SILTSTONE		BOULDERS or COBBLES	

PARTICLE SIZE DEFINITIONS

12.0 IN.	3.0 IN.	0.0787 IN.		0.0165 IN.		0.0029 IN.	0.0002 IN.
BOULDERS	COBBLES	GRAVEL	COARSE SAND		FINE SAND		SILT CLAY
		No. 10 SIEVE		No. 40 SIEVE		No. 200 SIEVE	

NOTES

ALL AVAILABLE SOIL AND BEDROCK INFORMATION WHICH CAN BE CONVENIENTLY SHOWN ON THE STRUCTURE FOUNDATION INVESTIGATIONS SHEETS HAS BEEN SO REPORTED. ADDITIONAL SUBSURFACE INVESTIGATIONS MAY HAVE BEEN MADE TO STUDY SOME SPECIAL ASPECT OF THE PROJECT. COPIES OF THIS DATA, IF ANY, MAY BE INSPECTED IN THE DISTRICT DEPUTY DIRECTOR'S OFFICE, THE OFFICE OF MATERIALS MANAGEMENT AT 1600 WEST BROAD STREET, THE OFFICE OF ROADWAY ENGINEERING OR THE OFFICE OF STRUCTURAL ENGINEERING AT 1980 WEST BROAD STREET, COLUMBUS, OHIO 43223.

GENERAL INFORMATION

DRIVE SAMPLES

DRIVE SAMPLE BORINGS ARE MADE BY MEANS OF A MECHANICALLY-POWERED, ROTARY-TYPE DRILL RIG EMPLOYING A 2.0 in O.D., 1.4 in I.D., SPLIT-SPOON SAMPLER, AT CONTINUOUS, 2.5 ft AND/OR 5.0 ft DEPTH INTERVALS, DRIVEN BY MEANS OF A 140 lb HAMMER WITH A FREE FALL OF 2.5 ft. THE NUMBER OF BLOWS REQUIRED TO DRIVE THE SAMPLER THREE 0.5 ft INCREMENTS IS CONSIDERED THE STANDARD PENETRATION TEST.

PRESS SAMPLES

PRESS SAMPLES ARE TAKEN BY MEANS OF MECHANICALLY POWERED, ROTARY-TYPE DRILL RIG, EMPLOYING A 3 in O.D. THIN-WALL PRESS SAMPLING TUBE. THE PRESS SAMPLING TUBE IS ADVANCED BY CONTINUOS UNIFORM PRESSURE APPLIED BY THE DRILL RIG.

CORE BORINGS

CORE BORINGS ARE MADE BY MEANS OF A MECHANICALLY-POWERED, ROTARY-TYPE DRILL RIG, EMPLOYING AN NX, NW AND/OR HX CORE BARREL WITH AN INDUSTRIAL DIAMOND CUTTING HEAD.

SAMPLING AND TESTING

THE BORING LOG SHEETS SHOW A GRAPHIC PLOT OF THE INFORMATION OBTAINED, INCLUDING DEPTH AND ELEVATION OF THE SAMPLE, TYPE OF SAMPLE, NUMBER OF BLOWS FOR THE STANDARD PENETRATION TEST IN THREE 0.5 ft INCREMENTS, AND A SAMPLE DESCRIPTION BASED ON LABORATORY TEST RESULTS, UTILIZING THE ODOT CLASSIFICATION SYSTEM. RESULTS OF STRENGTH AND CONSOLIDATION TESTING, IF PERFORMED ON UNDISTURBED SAMPLES, APPEAR GRAPHICALLY ON SEPARATE ENCLOSURES. ROCK SAMPLES ARE DISPLAYED ON THE LOG SHEETS, INCLUDING DEPTH AND ELEVATION OF THE SAMPLE, AMOUNT OF RECOVERY, AND A VISUAL CLASSIFICATION BASED ON THE TYPE, COLOR, DEGREE OF HARDNESS, GRAIN SIZE, DETERIORATION, BEDDING, ACID REACTION, AND OTHER QUALIFYING FACTORS.

AT DEPTHS WHERE MATERIALS ARE BOULDERY OR GRAVELY TO THE EXTENT THAT A SAMPLER CANNOT BE UTILIZED, A WASH SAMPLE IS PROCURED AND VISUALLY CLASSIFIED, IN ORDER TO DETERMINE THE GENERAL CHARACTERISTIC OF THE MATERIAL. THESE SAMPLES ARE NOT CONSIDERED SUFFICIENTLY REPRESENTATIVE TO WARRANT LABORATORY TESTING.

LEGEND

⊕	AUGER BORING LOCATION-PLAN VIEW.	⊢⊣	HORIZONTAL BAR ON BORING LOG INDICATES THE DEPTH THE SAMPLE WAS TAKEN.
⊕	PRESS AND/OR DRIVE SAMPLE AND/OR CORE BORING LOCATION-PLAN VIEW.	X/Y/Z	FIGURES BESIDE THE BORING LOG IN PROFILE INDICATE THE NUMBER OF BLOWS FOR STANDARD PENETRATION TEST. X = NO. OF BLOWS FOR FIRST 0.5 ft; Y = NO. OF BLOWS FOR SECOND 0.5 ft; Z = NO. OF BLOWS FOR THIRD 0.5 ft
TR	TOP OF ROCK		
	CAPPED PILE		
	FOOTING		
	FOOTING ON PILE	W	INDICATES FREE WATER ELEVATION
ST	SHELBY TUBE	▼	INDICATES STATIC WATER ELEVATION
SS	SPLIT SPOON		

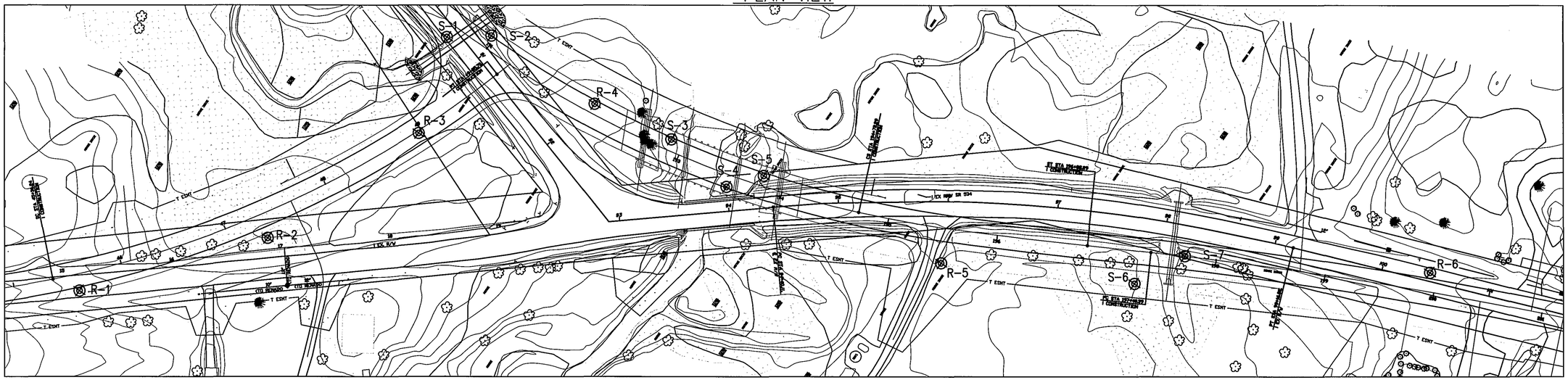
J&L LABORATORIES, INC.
GEOTECHNICAL CONSULTING & TESTING
215 RAINBOW STREET
WADSWORTH, OH 44281-1444

DRAWN LLC | REVIEWED JX | DATE 2/21/02 | CALCULATED -- | CHECKED JX

TRU-534-15.06 ROADWAY IMPROVEMENTS
AND STRUCTURE FOUNDATION INVESTIGATION
SOUTHINGTON TWP., TRUMBULL CO., OH

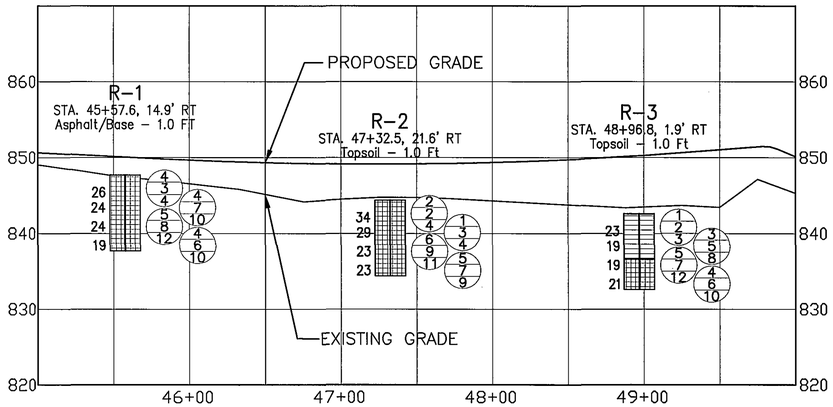
TRU-534-15.06

PLAN VIEW

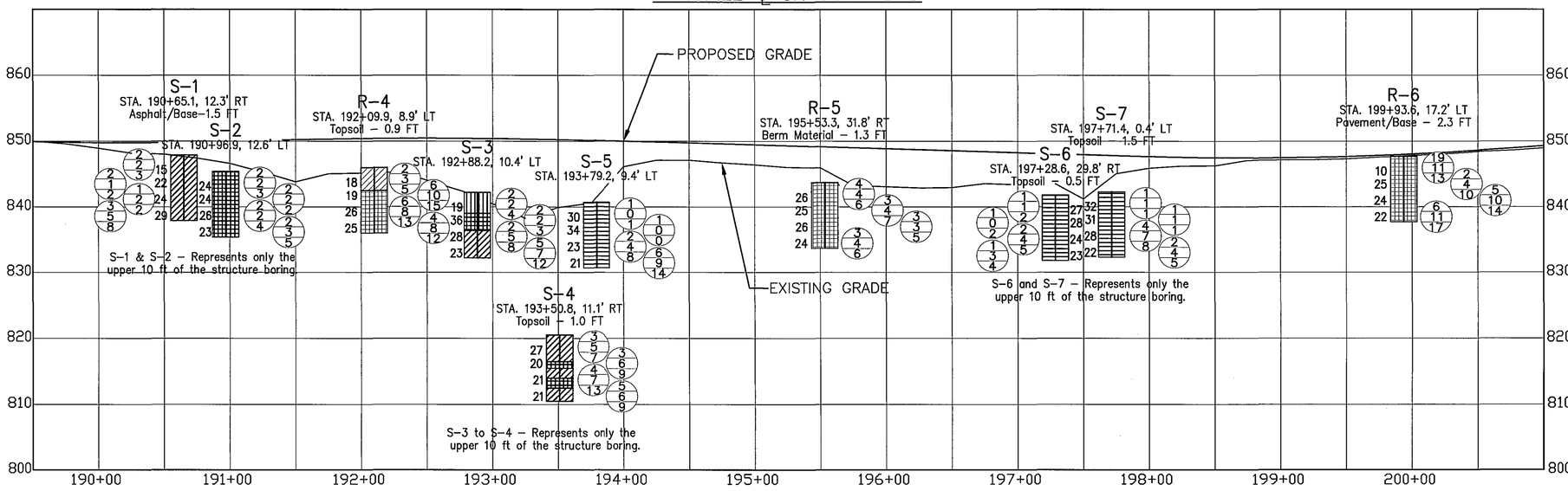


REVISED STATIONING, OFFSETS, ELEVATIONS, AND PLAN AND PROFILE DATA PROVIDED BY ADACHE CIUNI LYNN ASSOCIATES ON 1/7/2004

PROFILE ℄ STATE ROAD



PROFILE ℄ SR 534 ROAD



N

HORIZONTAL SCALE 1" = 100'
VERTICAL SCALE 1" = 10'

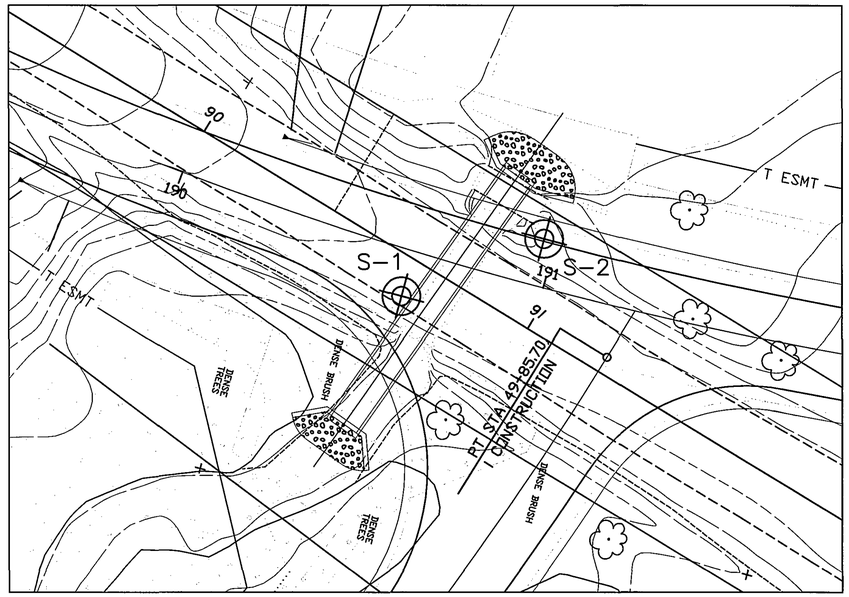
DRAWN	REVIEWED	DATE	CALCULATED
LLC	JX	2/18/02	— — —
J&L PROJECT		REVISED	CHECKED
JL01309		1/8/04	JX

TRU-534-15.06 ROADWAY IMPROVEMENTS
SOUTHINGTON TWP.; TRUMBULL CO., OH
SOIL PROFILE

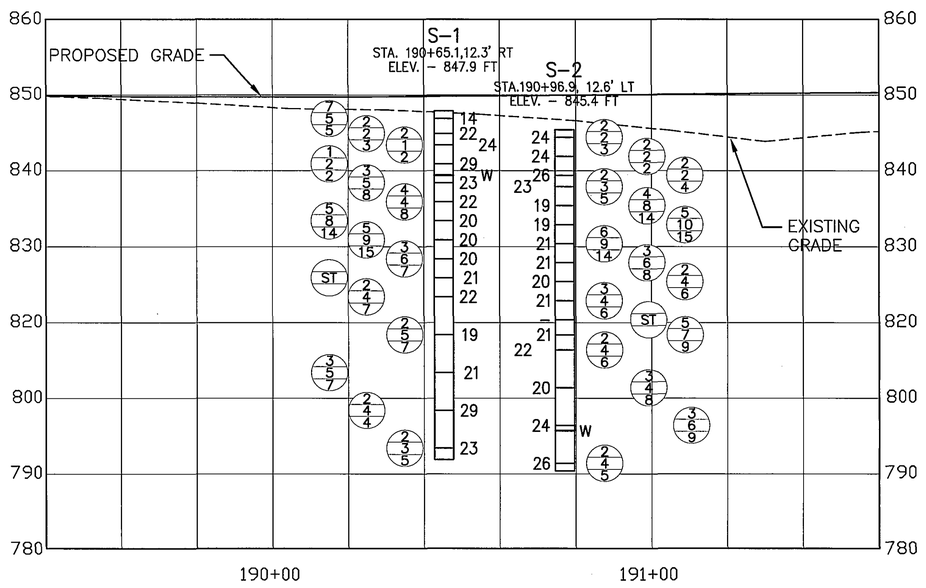
TRU-534-15.06

2/10

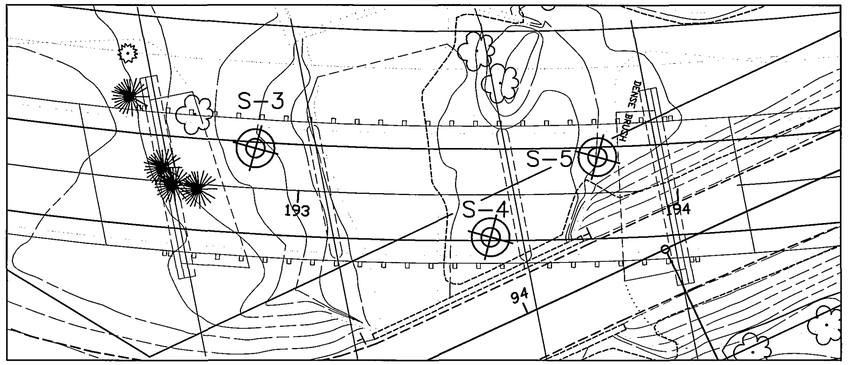
PLAN



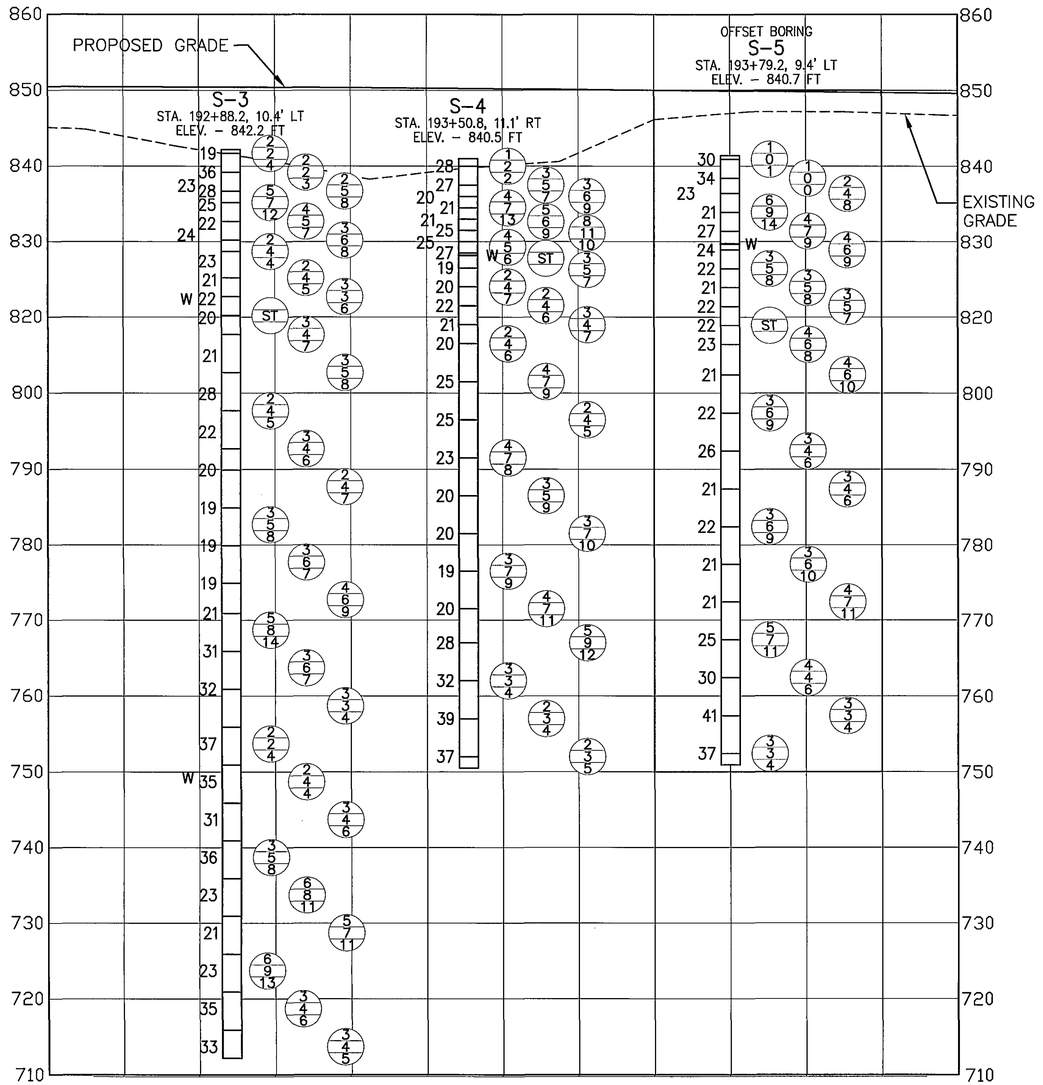
PROFILE ℄ SR 534 – CULVERT TRU-534-1506



PLAN



PROFILE ℄ SR 534 – BRIDGE TRU-534-1516



REVISED STATIONING, OFFSETS, ELEVATIONS, AND PLAN AND PROFILE DATA PROVIDED BY ADACHE CIUNI LYNN ASSOCIATES ON 1/7/2004

HORIZONTAL SCALE 1" = 100'
VERTICAL SCALE 1" = 10'

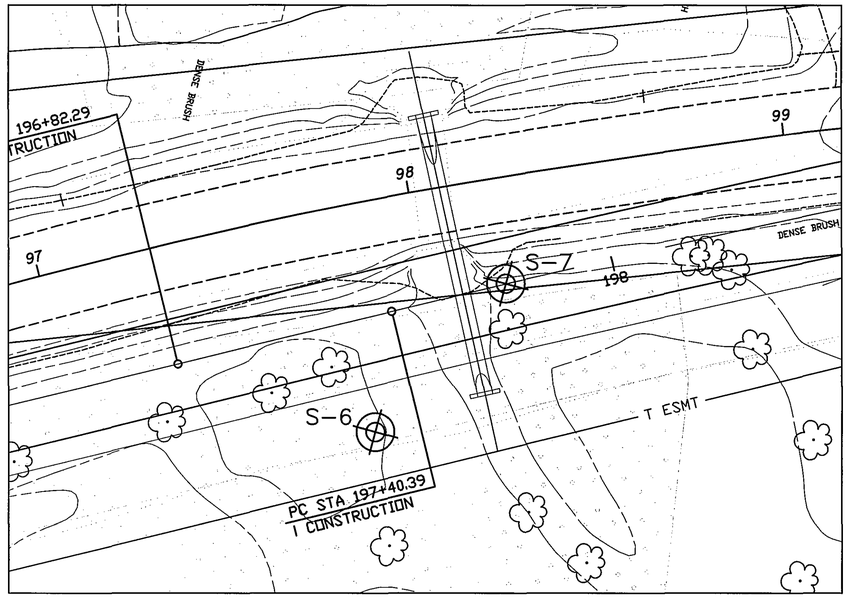
DRAWN	REVIEWED	DATE	CALCULATED
LLC	JX	2/18/02	— — —
J&L PROJECT		REVISED	CHECKED
JL01309		1/8/04	JX

TRU-534-15.06 ROADWAY IMPROVEMENTS
SOUTHINGTON TWP., TRUMBULL CO., OH
SOIL PROFILE

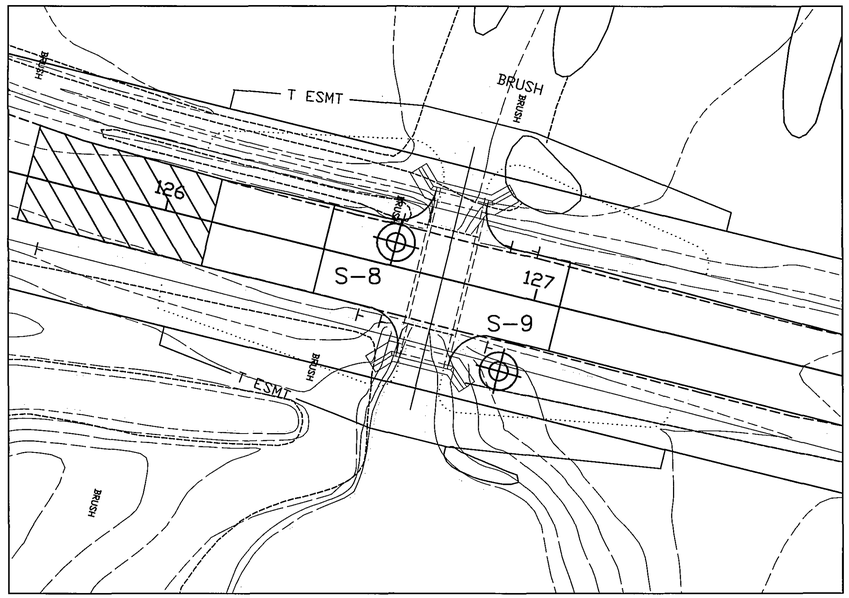
TRU-534-15.06

3/10

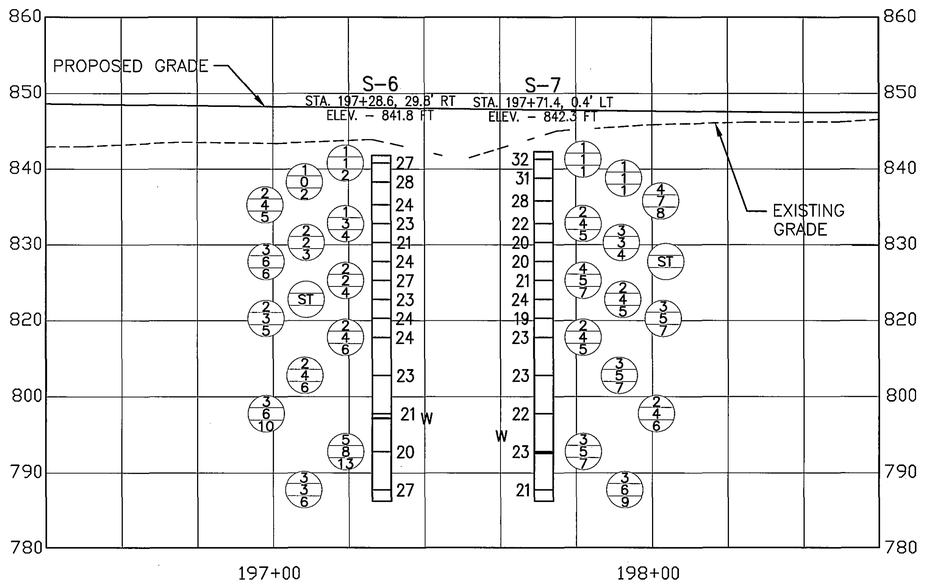
PLAN



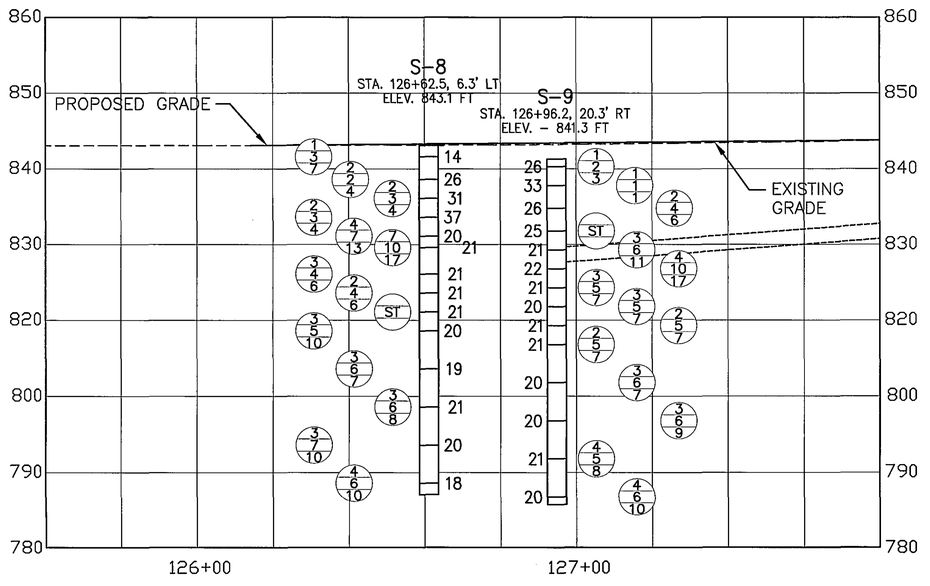
PLAN



PROFILE ℄ SR 534 – CULVERT TRU-534-1525



PROFILE ℄ SR 534 – BRIDGE TRU-534-1578



REVISED STATIONING, OFFSETS, ELEVATIONS, AND PLAN AND PROFILE DATA PROVIDED BY ADACHE CIUNI LYNN ASSOCIATES ON 1/7/2004

HORIZONTAL SCALE 1" = 100'
VERTICAL SCALE 1" = 10'

DRAWN	REVIEWED	DATE	CALCULATED
LLC	JX	2/18/02	— — —
J&L PROJECT		REVISED	CHECKED
JL01309		1/8/04	JX

TRU-534-15.06 ROADWAY IMPROVEMENTS
SOUTHINGTON TWP.; TRUMBULL CO., OH
SOIL PROFILE

TRU-534-15.06

SUMMARY OF SOIL TEST DATA

STATION & OFFSET	DEPTH FROM		TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	ODOT CLASS.
45+57.6	0.0	-	0.3	ASPHALT PAVEMENT							--	VISUAL
14.9' Rt.	0.3	-	1.0	BASE (Cinders and slag material)							--	VISUAL
(R-1)	1.0	-	3.5	0	0	1	4	95			26	A-7-6
	3.5	-	6.0	Brown, CLAY							24	VISUAL
	6.0	-	8.5	0	2	1	*	97			24	VISUAL
	8.5	-	10.0	Brown, CLAY							19	VISUAL
47+32.5	0.0	-	1.0	TOPSOIL							--	VISUAL
21.6' Rt.	1.0	-	3.5	Brown and gray, CLAY							34	VISUAL
(R-2)	3.5	-	5.0	0	1	2	9	88	61	36	29	A-7-6
	5.0	-	8.5	Brown , CLAY							23	VISUAL
	8.5	-	10.0	Brown , CLAY							23	VISUAL
48+96.8	0.0	-	1.0	TOPSOIL							--	VISUAL
1.9' Rt.	1.0	-	3.5	Brown, SILTY CLAY							23	VISUAL
(R-3)	3.5	-	6.0	6	11	11	*	72	36	18	19	A-6b
	6.0	-	8.5	Brown, CLAY							19	VISUAL
	8.5	-	10.0	3	11	3	*	83	46	22	21	A-7-6
126+61.1	0.0	-	1.0	ASPHALT PAVEMENT							--	VISUAL
6.3' Lt.	1.0	-	1.5	CONCRETE WITH REBAR							--	VISUAL
(S-8)	1.5	-	4.0	Brown, SILTY CLAY (FILL)							14	VISUAL
	4.0	-	7.0	Brown and gray, SILTY CLAY							26	VISUAL
	7.0	-	9.5	Brown and gray, SILTY CLAY							31	VISUAL
	9.5	-	10.0	Brown and gray, SILTY CLAY							37	VISUAL
126+94.8	0.0	-	1.5	TOPSOIL							--	VISUAL
20.3' Rt.	1.5	-	3.5	Brown, black and gray, SILTY CLAY							26	VISUAL
(S-9)	3.5	-	6.5	Brown, black and gray, SILTY CLAY							33	VISUAL
	6.5	-	9.2	Brown and gray, CLAY							26	VISUAL
	9.2	-	10.0	0	2	2	30	66	49	28	25	A-7-6
190+65.1	0.0	-	1.0	ASPHALT PAVEMENT							--	VISUAL
12.3' Rt	1.0	-	1.5	51	16	12	*	21			14	A-1-b
(S-1)	1.5	-	3.0	Brownish gray, SILT AND CLAY							15	VISUAL
	3.0	-	4.5	Brownish gray, SILT AND CLAY							22	VISUAL
	4.5	-	6.0	1	3	10	47	39	30	13	24	A-6a
	6.0	-	7.3	Brown and gray, SILT AND CLAY							29	VISUAL
	7.3	-	10.0	Gray and black, SILT AND CLAY							23	A-6b
190+96.9	0.0	-	2.5	6	9	10	14	61			24	A-7-6
12.6' Lt.	2.5	-	6.0	Brown and gray, CLAY							24	VISUAL
(S-2)	6.0	-	7.5	1	8	10	*	81	43	22	26	A-7-6
	7.5	-	10.0	Brown and gray, CLAY							23	VISUAL
192+09.9	0.0	-	0.9	TOPSOIL							--	VISUAL
8.9' Lt.	0.9	-	3.5	8	9	16	*	67			18	A-6a
(R-4)	3.5	-	5.0	0	0	1	22	77	43	31	19	A-7-6
	5.0	-	8.5	Brown, CLAY							26	VISUAL
	8.5	-	10.0	Brown, CLAY							25	VISUAL
192+88.2	0.0	-	3.2	Brown, SANDY SILT							19	VISUAL
10.4' Lt.	3.2	-	5.8	13	5	5	*	77	48	21	36	A-7-6
(S-3)	5.8	-	7.0	Brown and gray, SILT AND CLAY							28	VISUAL
	7.0	-	9.5	Brown and gray, SILT AND CLAY							23	VISUAL
	9.5	-	10.0	Brown and gray, SILT AND CLAY							25	VISUAL

STATION & OFFSET	DEPTH FROM		TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	ODOT CLASS.
193+50.8	0.0	-	1.0	TOPSOIL							--	VISUAL
11.1' Rt.	1.0	-	3.0	Brown and gray, SILT AND CLAY							28	VISUAL
(S-4)	3.0	-	4.0	0	0	1	17	82			27	A-7-6
	4.0	-	5.0	Brown, CLAY							--	VISUAL
	5.0	-	6.5	2	2	5	33	58			20	A-6a
	6.5	-	8.0	3	3	2	16	76	44	22	21	A-7-6
	8.0		9.5	1	1	2	31	65			21	A-6a
	9.5		10.0	0	0	0	42	58			25	A-6a
193+79.2	0.0	-	3.0	Black, gray and brown, SILTY CLAY							30	VISUAL
9.4' Lt.	3.0	-	5.3	Black, gray and brown, SILTY CLAY							34	VISUAL
(S-5)	5.3	-	7.5	Brown and gray, SILTY CLAY							23	VISUAL
	7.5	-	10.0	Brown and gray, SILTY CLAY							21	VISUAL
195+53.3	0.0	-	1.3	BERM MATERIAL (Cinders and slag)							--	VISUAL
31.8' Rt.	1.3	-	3.5	Brown and gray, CLAY							26	VISUAL
(R-5)	3.5	-	5.0	0	3	4	*	93	48	24	25	A-7-6
	5.0	-	8.5	Brown and gray, CLAY							26	VISUAL
	8.5	-	10.0	Brown and gray, CLAY							24	VISUAL
197+28.6	0.0	-	5.0	TOPSOIL							--	VISUAL
29.8' Rt.	5.0	-	3.5	Brown and gray, SILTY CLAY							27	VISUAL
(S-6)	3.5	-	6.5	Brown and gray, SILTY CLAY							28	VISUAL
	6.5	-	9.0	2	1	1	*	96			24	A-6b
	9.0	-	10.0	Brown and gray, SILTY CLAY							23	VISUAL
197+71.4	0.0	-	1.5	TOPSOIL							--	VISUAL
0.4' Lt.	1.5	-	3.5	Brown and gray, SILTY CLAY							32	VISUAL
(S-7)	3.5	-	6.5	Brown and gray, SILTY CLAY							31	VISUAL
	6.5	-	9.5	Brown, black and gray, SILTY CLAY							28	VISUAL
	9.5	-	10.0	0	5	5	*	90	39	20	22	A-6b
199+93.6	0.0	-	1.0	ASHPALT PAVEMENT							--	VISUAL
17.2' Lt.	1.0	-	2.3	66	18	9	*	7			10	A-1-a
(R-6)	2.3	-	3.5	Brown and gray, CLAY							--	VISUAL
	3.5	-	6.0	Brown and gray, CLAY							25	VISUAL
	6.0	-	7.5	0	1	7	*	92	49	24	24	A-7-6
	7.5	-	10.0	Brown and gray, CLAY							22	VISUAL

J&L LABORATORIES, INC.
GEOTECHNICAL CONSULTING & TESTING
215 RAINBOW STREET
WADSWORTH, OH 44281-1444

CALCULATED --
CHECKED JX
DATE 2/18/02
REVISED 1/8/04
REVIEWED JX
DRAWN LLC
J&L PROJECT 01309

TRU-534-15.06 ROADWAY IMPROVEMENTS
SOUTHINGTON TWP., TRUMBULL CO., OH
SOIL PROFILE

TRU-534-15.06

LOG OF BORING

Date Started: 11/16/01
Date Completed: 11/16/01
Boring No.: S-1

Sampler Type: Split Spoon, (SS)
Sampler Dia.: 2.0 in
Auger Type: 3.25" HSA Augers

Surface Elev.: 847.9 (ft)
Water Elev.: 839.4
Station & Offset: 190+65.1, 12.3' RT.

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics: % Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	ODOT Class
847.9	0.0														
846.4		7-5-5			PAVEMENT: (Asphalt – 12 in, Base: 6 in.)	1	51	16	12	*	21	–	–	14	A-1-b
		2-2-3			Brown and gray, stiff to soft SILT AND CLAY, little sand, trace gravel, moist.	2	–	–	–	–	–	–	–	22	VISUAL
	5.0	2-1-2				3	1	3	10	47	39	30	13	24	A-6a
840.6		1-2-2				4	–	–	–	–	–	–	–	29	VISUAL
839.2					Gray and black, soft SILT AND CLAY, some rooting, trace sand and gravel, very moist.										
	10.0	3-5-8				5	–	–	–	–	–	–	–	23	VISUAL
		4-4-8			Brownish gray, stiff SILT AND CLAY, little sand, trace gravel, moist.	6	–	–	–	–	–	–	–	22	VISUAL
833.4	15.0	5-8-14				7	2	2	6	*	90	44	21	20	A-7-6
		5-9-15			Brownish gray, very stiff CLAY, little silt, trace sand and gravel, moist.	8	–	–	–	–	–	–	–	20	VISUAL
828.9	20.0	3-6-7			Gray, stiff to medium stiff SILT AND CLAY, trace sand and gravel, moist to very moist.	9	–	–	–	–	–	–	–	20	VISUAL
		REC: 24 (in)				10	2	2	3	*	93	35	12	21	A-6a
	25.0	2-4-7				11	–	–	–	–	–	–	–	22	VISUAL
	30.0	2-5-7				12	–	–	–	–	–	–	–	19	VISUAL
	35.0	3-5-7				13	–	–	–	–	–	–	–	21	VISUAL
	40.0	2-4-4				14	–	–	–	–	–	–	–	29	VISUAL
801.9	45.0	2-3-5				15	–	–	–	–	–	–	–	23	VISUAL

TERMINATION DEPTH: 46.0 (ft)

LOG OF BORING

Date Started: 11/27/01
Date Completed: 11/27/01
Boring No.: S-2

Sampler Type: Split Spoon, (SS)
Sampler Dia.: 2.0 in
Auger Type: 3.25" HSA Augers

Surface Elev.: 845.4 (ft)
Water Elev.: 805.7
Station & Offset: 190+96.9, 12.6' LT.

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics: % Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	ODOT Class
845.4	0.0														
		2-2-3			Brown and gray, soft to medium stiff CLAY, little sand and silt, trace	1	6	9	10	14	61	–	–	24	A-7-6
	5.0	2-2-2			gravel, moist.	2	–	–	–	–	–	–	–	24	VISUAL
		2-2-4				3	1	8	10	*	81	43	22	26	A-7-6
		2-3-5				4	–	–	–	–	–	–	–	23	VISUAL
835.4	10.0	4-8-14			Brown and gray, very stiff CLAY, little silt, trace gravel and sand, moist.	5	8	2	4	*	86	44	22	19	A-7-6
		5-10-15				6	–	–	–	–	–	–	–	19	VISUAL
	15.0	6-9-14				7	–	–	–	–	–	–	–	21	VISUAL
827.4		3-6-8				8	–	–	–	–	–	–	–	21	VISUAL
	20.0	2-4-6			Brownish gray to gray, stiff SILT AND CLAY, trace sand and gravel, moist.	9	2	1	4	*	93	34	15	20	A-6a
		3-4-6				10	–	–	–	–	–	–	–	21	VISUAL
819.4	25.0	REC: 15 (in)				11	2	2	5	*	91	39	17	21	A-6b
		5-7-9			Brown and gray, stiff to very stiff SILTY CLAY, trace sand and gravel, moist.	12	–	–	–	–	–	–	–	21	VISUAL
	30.0	2-4-6				13	–	–	–	–	–	–	–	22	VISUAL
	35.0	3-4-8				14	–	–	–	–	–	–	–	20	VISUAL
808.4															
804.4	40.0	3-6-9			Gray, stiff SILT, little sand and clay, trace gravel, wet.	15	–	–	–	–	–	–	–	24	VISUAL
					Gray, stiff SILTY CLAY, trace sand and gravel, very moist.										
799.9	45.0	2-4-5				16	–	–	–	–	–	–	–	26	VISUAL

TERMINATION DEPTH: 45.5 (ft)

J&L LABORATORIES, INC.
GEOTECHNICAL CONSULTING & TESTING
215 RAINBOW STREET
WADSWORTH, OH 44281-1444

DRAWN LLC | REVIEWED JX | DATE 2/15/02 | REVISED 1/8/04 | CALCULATED LLC | CHECKED JX | PROJECT JL01309

STRUCTURE FOUNDATION INVESTIGATION FOR
PROJECT TRU-534-15.06

TRU-534-15.06

LOG OF BORING

Date Started: 11/19/01
Date Completed: 11/19/01
Boring No.: S-3

Sampler Type: Split Spoon, (SS)
Sampler Dia.: 2.0 in
Auger Type: 3.25" HSA Augers

Surface Elev.: 842.2 (ft)
Water Elev.: 745.2
Station & Offset: 192+88.2, 10.4' LT.

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics: % Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	ODOT Class
842.2	0.0														
		2-2-4			Brown, medium stiff SANDY SILT, some topsoil and rooting, trace gravel, moist.	1	–	–	–	–	–	–	–	19	VISUAL
839.0		2-2-3				2	13	5	5	*	77	48	21	36	A-7-6
836.4	5.0	2-5-8			Black and gray, medium stiff CLAY, little silt, siltstone fragments and sand, very moist.	3	–	–	–	–	–	–	–	28	VISUAL
		5-7-12			Brown and gray, very stiff to stiff SILT AND CLAY, trace sand and gravel, very moist.	4	–	–	–	–	–	–	–	23	VISUAL
	10.0	4-5-7				5	–	–	–	–	–	–	–	25	VISUAL
		3-6-8				6	2	2	4	*	92	37	15	22	A-6a
827.7	15.0	2-4-4			Gray, medium stiff to stiff SILTY CLAY, trace sand and gravel, moist.	7	–	–	–	–	–	–	–	24	VISUAL
		2-4-5				8	–	–	–	–	–	–	–	23	VISUAL
	20.0	3-3-6				9	–	–	–	–	–	–	–	21	VISUAL
		REC: 24 (in)				10	3	2	3	33	59	36	16	22	A-4a
	25.0	3-4-7				11	–	–	–	–	–	–	–	20	VISUAL
	30.0	3-5-8				12	–	–	–	–	–	–	–	21	VISUAL
	35.0	2-4-5				13	–	–	–	–	–	–	–	28	VISUAL
	40.0	3-4-6				14	–	–	–	–	–	–	–	22	VISUAL
797.2	45.0	2-4-7				15	–	–	–	–	–	–	–	20	VISUAL
					Gray, stiff to very stiff SILT AND CLAY, trace sand and gravel, moist.										
	50.0	3-5-8				16	2	1	2	44	52	31	12	19	A-6a
	55.0	3-6-7				17	–	–	–	–	–	–	–	19	VISUAL
	60.0	4-6-9				18	–	–	–	–	–	–	–	19	VISUAL
	65.0	5-8-14				19	–	–	–	–	–	–	–	21	VISUAL
775.7															
	70.0	3-6-7			Gray, medium stiff to stiff CLAY, little silt, trace sand and gravel, very moist.	20	–	–	–	–	–	–	–	31	VISUAL
	75.0	3-3-4				21	–	–	–	–	–	–	–	32	VISUAL
	80.0	2-2-4				22	0	0	0	*	100	53	25	37	A-7-6
	85.0	2-4-4				23	–	–	–	–	–	–	–	35	VISUAL
	90.0	3-4-6				24	–	–	–	–	–	–	–	31	VISUAL

Boring No.: S-3 Continued

Station & Offset: 192+88.4, 10.4' LT.

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics: % Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	ODOT Class
775.7	90.0														
	95.0	3-5-8				25	–	–	–	–	–	–	–	36	VISUAL
744.7															
	100.0	6-8-11			Gray, very stiff SILT AND CLAY, trace sand and gravel, moist.	26	3	2	6	*	89	35	15	23	A-6a
	105.0	5-7-11				27	–	–	–	–	–	–	–	21	VISUAL
	110.0	6-9-13				28	–	–	–	–	–	–	–	23	VISUAL
730.7															
	115.0	3-4-6			Gray, stiff CLAY, little silt, trace sand and gravel, very moist.	29	–	–	–	–	–	–	–	35	VISUAL
722.2	120.0	3-4-5				30	–	–	–	–	–	–	–	33	VISUAL

TERMINATION DEPTH: 120.0 (ft)

J&L LABORATORIES, INC.
GEOTECHNICAL CONSULTING & TESTING
215 RAINBOW STREET
WADSWORTH, OH 44281-1444

DRAWN LLC | REVIEWED JX | DATE 2/15/02 | REVISED 1/8/04 | CALCULATED LLC | CHECKED JX | PROJECT JL.01.309

STRUCTURE FOUNDATION INVESTIGATION FOR
PROJECT TRU-534-15.06

TRU-534-15.06

LOG OF BORING

Date Started: 11/15/01
Date Completed: 11/15/01
Boring No.: S-4

Sampler Type: Split Spoon, (SS)
Sampler Dia.: 2.0 in
Auger Type: 3.25" HSA Augers

Surface Elev.: 840.5 (ft)
Water Elev.: 779.5
Station & Offset: 193+50.8, 11.1' RT.

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics: % Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	ODOT Class
840.5	0.0														
839.5		1-2-2			TOPSOIL: 12 (in). Brown and gray mottled, soft SILT AND CLAY, little sand, very moist.	1	–	–	–	–	–	–	–	28	VISUAL
836.5		3-5-7				2	0	0	1	17	82	–	–	27	A-7-6
835.5	5.0				Brown, stiff CLAY, little silt, trace sand and gravel, moist.										
834.0		3-6-9				3	2	2	5	33	58	–	–	20	A-6a
832.5		4-7-13			Brown, stiff SILT AND CLAY, trace sand and gravel, moist.	4	3	3	2	16	76	44	22	21	A-7-6
		5-6-9				5	1	1	2	31	65	–	–	21	A-6a
	10.0	8-11-10			Brown, very stiff CLAY, little silt, trace sand and gravel, moist.	6	0	0	0	42	58	–	–	25	A-6a
		4-5-6				7	–	–	–	–	–	–	–	25	VISUAL
		REC: 20 (in)			Brown to gray, stiff to very stiff SILT AND CLAY, trace sand and gravel, moist to very moist.	8	2	1	3	*	94	34	12	20	A-6a
	15.0	3-5-7				9	–	–	–	–	–	–	–	19	VISUAL
		2-4-7				10	–	–	–	–	–	–	–	20	VISUAL
	20.0	2-4-6				11	–	–	–	–	–	–	–	22	VISUAL
		3-4-7				12	–	–	–	–	–	–	–	21	VISUAL
	25.0	2-4-6				13	–	–	–	–	–	–	–	20	VISUAL
	30.0	4-7-9				14	–	–	–	–	–	–	–	25	VISUAL
	35.0	2-4-5				15	–	–	–	–	–	–	–	25	VISUAL
	40.0	4-7-8				16	–	–	–	–	–	–	–	23	VISUAL
	45.0	3-5-9				17	–	–	–	–	–	–	–	20	VISUAL
	50.0	3-7-10				18	3	1	3	39	54	33	14	20	A-6a
	55.0	3-7-9				19	–	–	–	–	–	–	–	19	VISUAL
	60.0	4-7-11				20	–	–	–	–	–	–	–	20	VISUAL
	65.0	5-9-12				21	–	–	–	–	–	–	–	28	VISUAL
774.0					Gray, medium stiff CLAY, little silt, trace sand and gravel, very moist.										
	70.0	3-3-4				22	0	0	0	*	100	45	23	32	A-7-6
	75.0	2-3-4				23	–	–	–	–	–	–	–	39	VISUAL
760.0	80.0	2-3-5				24	–	–	–	–	–	–	–	37	VISUAL

TERMINATION DEPTH: 80.5 (ft)

LOG OF BORING

Date Started: 11/27/01
Date Completed: 11/27/01
Boring No.: S-5

Sampler Type: Split Spoon, (SS)
Sampler Dia.: 2.0 in
Auger Type: 3.25" HSA Augers

Surface Elev.: 840.7 (ft)
Water Elev.: 829.0
Station & Offset: 193+79.2, 9.4' LT.

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics: % Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	ODOT Class
840.7	0.0														
		1-0-1-0			Black, gray, and brown, very soft SILTY CLAY, some organics and rooting, little sand, trace gravel, wet.	1	–	–	–	–	–	–	–	30	VISUAL
		1-0-0				2	–	–	–	–	–	–	–	34	VISUAL
835.4	5.0	2-4-8				3	–	–	–	–	–	–	–	23	VISUAL
		6-9-14			Brown and gray, stiff to very stiff SILTY CLAY, trace sand and gravel, moist.	4	–	–	–	–	–	–	–	21	VISUAL
	10.0	4-7-9				5	–	–	–	–	–	–	–	27	VISUAL
		4-6-9				6	–	–	–	–	–	–	–	24	VISUAL
	15.0	3-5-8				7	2	1	2	*	95	36	16	22	A-6b
823.7		3-5-8			Gray, stiff SILT AND CLAY, trace sand and gravel, moist.	8	–	–	–	–	–	–	–	21	VISUAL
	20.0	3-5-7				9	–	–	–	–	–	–	–	22	VISUAL
		REC: 22 (in)				10	2	2	3	*	93	36	15	22	A-6a
	25.0	4-6-8				11	–	–	–	–	–	–	–	23	VISUAL
811.7	30.0	4-6-10			Gray, stiff to very stiff CLAY, little silt, trace sand and gravel, moist.	12	–	–	–	–	–	–	–	21	VISUAL
	35.0	3-6-9				13	–	–	–	–	–	–	–	22	VISUAL
	40.0	3-4-6				14	–	–	–	–	–	–	–	26	VISUAL
	45.0	3-4-6				15	–	–	–	–	–	–	–	21	VISUAL
	50.0	3-6-9				16	–	–	–	–	–	–	–	22	VISUAL
	55.0	3-6-10				17	–	–	–	–	–	–	–	21	VISUAL
	60.0	4-7-11				18	–	–	–	–	–	–	–	21	VISUAL
	65.0	5-7-11				19	1	0	1	*	98	42	21	25	A-7-6
773.7					Gray, stiff to medium stiff CLAY, little silt, trace sand and gravel, very moist to wet.										
	70.0	4-4-6				20	–	–	–	–	–	–	–	30	VISUAL
	75.0	3-3-4				21	–	–	–	–	–	–	–	41	VISUAL
760.2	80.0	3-3-4				22	–	–	–	–	–	–	–	37	VISUAL

TERMINATION DEPTH: 80.5 (ft)

J&L LABORATORIES, INC.
GEOTECHNICAL CONSULTING & TESTING
215 RAINBOW STREET
WADSWORTH, OH 44281-1444

DRAWN: LLC | CALCULATED: LLC | CHECKED: JX
PROJECT: JL01309 | REVIEWED: JX | DATE: 2/15/02 | REVISED: 1/8/04

STRUCTURE FOUNDATION INVESTIGATION FOR PROJECT TRU-534-15.06

TRU-534-15.06

LOG OF BORING

Date Started: 11/28/01
Date Completed: 11/28/01
Boring No.: S-6

Sampler Type: Split Spoon, (SS)
Sampler Dia.: 2.0 in
Auger Type: 3.25" HSA Augers

Surface Elev.: 841.8 (ft)
Water Elev.: 828.3
Station & Offset: 197+28.6, 29.8' RT.

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics: % Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	ODOT Class
841.8	0.0														
		1-1-2			Brown and gray mottled, soft SILTY CLAY, trace sand and gravel, very moist.	1	–	–	–	–	–	–	–	27	VISUAL
836.8	5.0	1-0-2				2	–	–	–	–	–	–	–	28	VISUAL
		2-4-5			Brown and gray mottled, stiff to medium stiff SILTY CLAY, trace sand and gravel, moist.	3	2	1	1	*	96	–	–	24	A-6b
	10.0	1-3-4				4	–	–	–	–	–	–	–	23	VISUAL
		2-2-3				5	–	–	–	–	–	–	–	21	VISUAL
827.8	15.0	3-6-6			Gray, medium stiff to stiff SILT AND CLAY, trace sand and gravel, moist.	6	–	–	–	–	–	–	–	24	VISUAL
		2-2-4				7	–	–	–	–	–	–	–	27	VISUAL
	20.0	REC:24 (in)				8	2	2	4	*	92	34	15	23	A-6a
		2-3-5				9	–	–	–	–	–	–	–	24	VISUAL
	25.0	2-4-6				10	–	–	–	–	–	–	–	24	VISUAL
	30.0	2-4-6				11	–	–	–	–	–	–	–	23	VISUAL
807.3	35.0	3-6-10			Gray, very stiff SILTY CLAY, trace sand and gravel, moist.	12	–	–	–	–	–	–	–	21	VISUAL
	40.0	5-8-13				13	–	–	–	–	–	–	–	20	VISUAL
800.3															
796.3	45.0	3-3-6			Gray, medium stiff SILTY CLAY, trace sand and gravel, very moist.	14	1	0	1	*	98	40	17	27	A-6b

TERMINATION DEPTH: 45.5 (ft)

LOG OF BORING

Date Started: 11/28/01
Date Completed: 11/28/01
Boring No.: S-7

Sampler Type: Split Spoon, (SS)
Sampler Dia.: 2.0 in
Auger Type: 3.25" HSA Augers

Surface Elev.: 842.3 (ft)
Water Elev.: 827.8
Station & Offset: 197+71.4, 0.4' LT.

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics: % Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	ODOT Class
842.3	0.0														
840.8		1-1-1			TOPSOIL: 18 (in)	1	–	–	–	–	–	–	–	32	VISUAL
					Brown and gray mottled, soft SILTY CLAY, some rooting, trace sand and gravel, very moist.										
835.8	5.0	1-1-1				2	–	–	–	–	–	–	–	31	VISUAL
		4-7-8			Brown, black and gray mottled, stiff to medium stiff SILTY CLAY, little sand and rooting, trace gravel, moist.	3	–	–	–	–	–	–	–	28	VISUAL
	10.0	2-4-5				4	0	5	5	*	90	39	20	22	A-6b
		3-3-4				5	–	–	–	–	–	–	–	20	VISUAL
827.8	15.0	REC: 20 (in)				6	3	12	16	*	69	34	14	20	A-6a
		4-5-7			Gray, stiff SILT AND CLAY, some to trace sand, trace gravel, moist.	7	–	–	–	–	–	–	–	21	VISUAL
	20.0	2-4-5				8	–	–	–	–	–	–	–	24	VISUAL
		3-5-7				9	–	–	–	–	–	–	–	19	VISUAL
	25.0	2-4-5				10	–	–	–	–	–	–	–	23	VISUAL
	30.0	3-5-7				11	–	–	–	–	–	–	–	23	VISUAL
	35.0	2-4-6				12	–	–	–	–	–	–	–	22	VISUAL
	40.0	3-5-7				13	–	–	–	–	–	–	–	23	VISUAL
796.3	45.0	3-6-9				14	1	1	3	35	60	34	14	21	A-6a

TERMINATION DEPTH: 46.0 (ft)

J&L LABORATORIES, INC.
GEOTECHNICAL CONSULTING & TESTING
215 RAINBOW STREET
WADSWORTH, OH 44281-1444

CALCULATED LLC | CHECKED JX
DATE 2/15/02 | REVISED 1/8/04
REVIEWED JX
DRAWN LLC | PROJECT JL01309

STRUCTURE FOUNDATION INVESTIGATION FOR
PROJECT TRU-534-15.06

TRU-534-15.06

LOG OF BORING

Date Started: 11/29/01
Date Completed: 11/29/01
Boring No.: S-8

Sampler Type: Split Spoon, (SS)
Sampler Dia.: 2.0 in
Auger Type: 3.25" HSA Augers

Surface Elev.: 843.1 (ft)
Water Elev.: 843.1
Station & Offset: 126+61.1, 6.3' LT.

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics: % Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	ODOT Class
843.1	0.0														
841.6		1-3-7			PAVEMENT: 12 (in), CONCRETE: 6 (in)	1	–	–	–	–	–	–	–	14	VISUAL
839.1	5.0	2-2-4			Brown, stiff SILTY CLAY, some sandstone cobble and fragments, little sand, moist.	2	–	–	–	–	–	–	–	26	VISUAL
		2-3-4			Brown and gray mottled, medium stiff SILTY CLAY, trace sand and gravel, very moist.	3	–	–	–	–	–	–	–	31	VISUAL
	10.0	2-3-4				4	–	–	–	–	–	–	–	37	VISUAL
832.1		4-7-13			Brown and gray mottled, very stiff CLAY, some silt, trace sand and gravel, moist.	5	3	2	5	31	59	41	19	20	A-7-6
	15.0	7-10-17				6	–	–	–	–	–	–	–	21	VISUAL
826.1		3-4-6			Gray, stiff SILTY CLAY, trace sand and gravel, moist.	7	2	2	3	*	93	35	16	21	A-6b
	20.0	2-4-6				8	–	–	–	–	–	–	–	21	VISUAL
821.6		REC: 24 (in)			Gray, stiff to very stiff SILT AND CLAY, trace sand and gravel, moist.	9	1	1	3	*	95	32	13	21	A-6a
	25.0	3-5-10				10	–	–	–	–	–	–	–	20	VISUAL
	30.0	3-6-7				11	–	–	–	–	–	–	–	19	VISUAL
	35.0	3-6-8				12	–	–	–	–	–	–	–	21	VISUAL
	40.0	3-7-10				13	–	–	–	–	–	–	–	20	VISUAL
797.1	45.0	4-6-10				14	–	–	–	–	–	–	–	18	VISUAL

TERMINATION DEPTH: 46.0 (ft)

LOG OF BORING

Date Started: 11/29/01
Date Completed: 11/29/01
Boring No.: S-9

Sampler Type: Split Spoon, (SS)
Sampler Dia.: 2.0 in
Auger Type: 3.25" HSA Augers

Surface Elev.: 841.3 (ft)
Water Elev.: 841.3
Station & Offset: 126+94.8, 20.3' RT.

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics: % Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	ODOT Class
841.3	0.0														
839.8		1-2-3			TOPSOIL: 18 (in)	1	–	–	–	–	–	–	–	26	VISUAL
	5.0	1-1-1			Brown, black and gray, medium stiff to soft SILTY CLAY, little organics and rooting, trace to little sand, very moist.	2	–	–	–	–	–	–	–	33	VISUAL
834.8		2-4-6				3	–	–	–	–	–	–	–	26	VISUAL
	10.0	REC: 24 (in)			Brown and gray mottled to brown, stiff to very stiff CLAY, some silt, trace sand and gravel, moist.	4	0	2	2	30	66	49	28	25	A-7-6
		3-6-11				5	–	–	–	–	–	–	–	21	VISUAL
	15.0	4-10-17				6	–	–	–	–	–	–	–	22	VISUAL
824.8		3-5-7			Gray, stiff to very stiff SILT AND CLAY, trace sand and gravel, moist.	7	–	–	–	–	–	–	–	21	VISUAL
	20.0	3-5-7				8	2	1	2	*	95	33	14	20	A-6a
		2-5-7				9	–	–	–	–	–	–	–	21	VISUAL
	25.0	2-5-7				10	–	–	–	–	–	–	–	21	VISUAL
	30.0	3-6-7				11	–	–	–	–	–	–	–	20	VISUAL
	35.0	3-6-9				12	–	–	–	–	–	–	–	20	VISUAL
	40.0	4-5-8				13	–	–	–	–	–	–	–	21	VISUAL
795.3	45.0	4-6-10				14	–	–	–	–	–	–	–	20	VISUAL

TERMINATION DEPTH: 46.0 (ft)

J&L LABORATORIES, INC.
GEOTECHNICAL CONSULTING & TESTING
215 RAINBOW STREET
WADSWORTH, OH 44281-1444

CALCULATED LLC | CHECKED JX
DATE 2/15/02 | REVISED 1/8/04
REVIEWED JX
DRAWN LLC | PROJECT JL01309

STRUCTURE FOUNDATION INVESTIGATION
PROJECT TRU-534-15.06

TRU-534-15.06