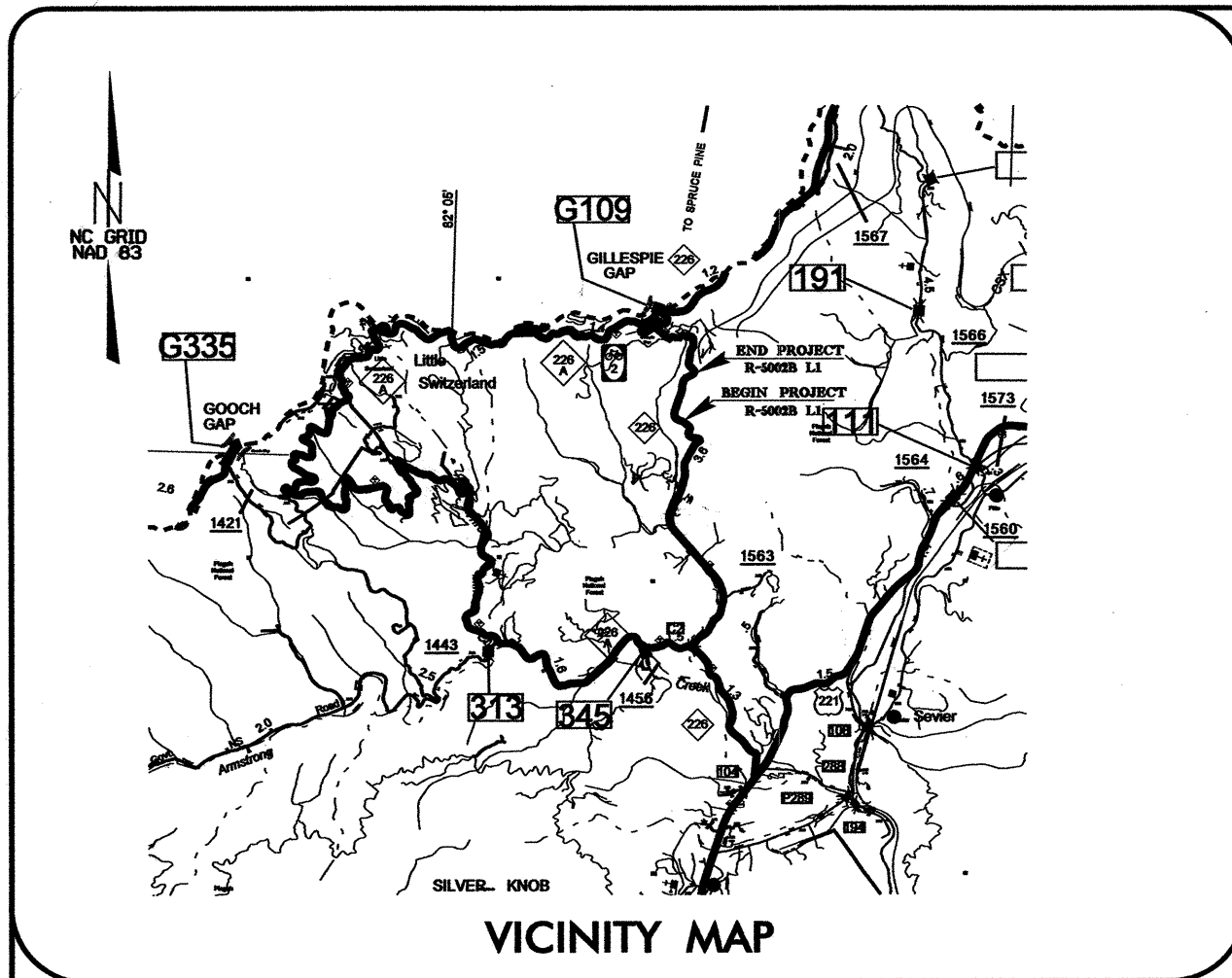


09/08/09

TIP PROJECT: R-5002B

CONTRACT: C202175



VICINITY MAP

See Sheet 1-A For Index of Sheets

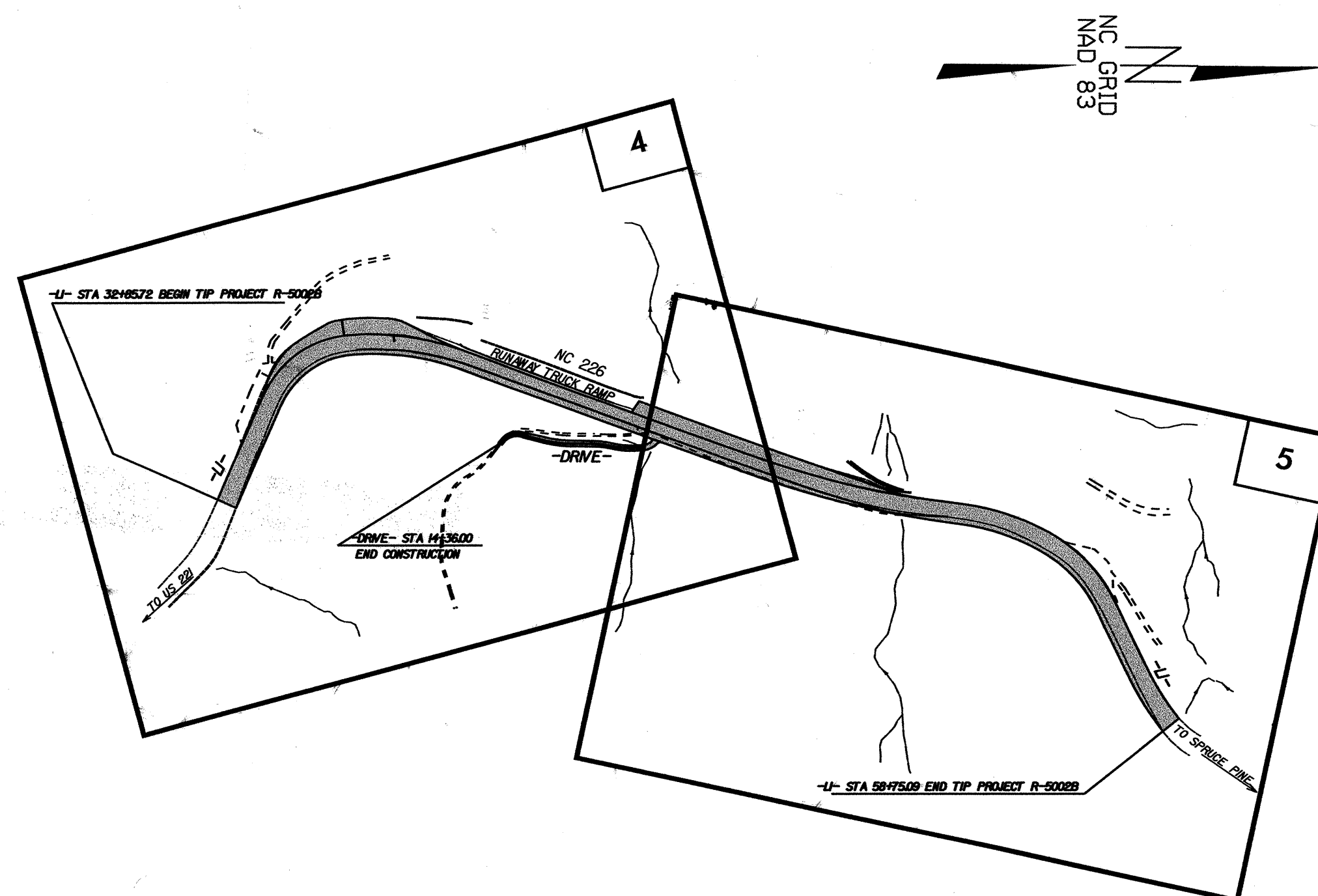
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

McDOWELL

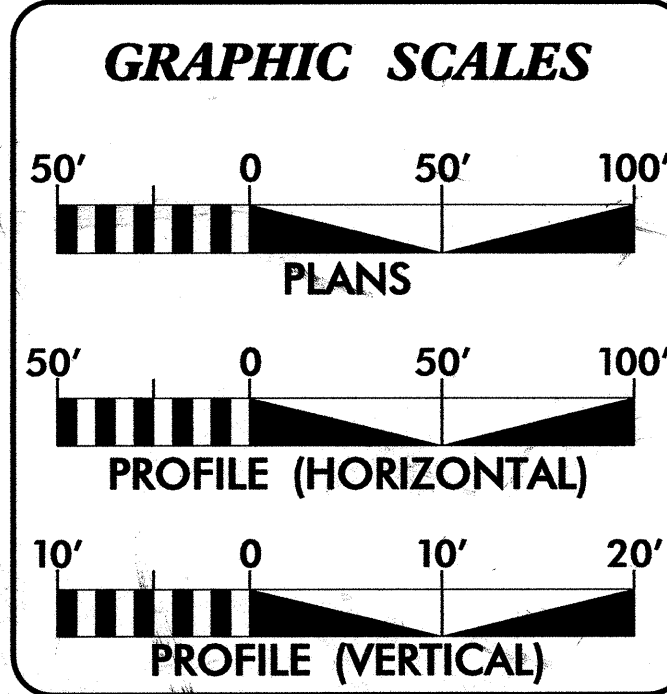
LOCATION: NC 226 FROM A POINT 2.33 MILES NORTH OF INTERSECTION NC 226 AND NC 226A TO A POINT 2.82 MILES NORTH OF INTERSECTION NC 226 AND NC 226A.

TYPE OF WORK: GRADING, GUARDRAIL, DRAINAGE AND PAVING

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-5002B	1	
STATE PROJ. NO.	P.A. PROJ. NO.	DESCRIPTION	
41158.1.1	HPPNHS-221(22)	PE	
41158.2.2	HPPNHS-0221(30)	RW & UTL	
41158.3.2	HPPNHS-0221(30)	CONSTRUCTION	



DESIGN EXCEPTION REQUIRED FOR DESIGN SPEED



DESIGN DATA

ADT 2008 =	6441
ADT 2028 =	9570
DHVV =	%
D =	%
T =	5%
V =	50 MPH
* TTST 3%	DUAL 2%

PROJECT LENGTH

LENGTH ROADWAY PROJECT R-5002B =	0.49 MILES
TOTAL LENGTH PROJECT R-5002B =	0.49 MILES

Prepared In the Office of:
DIVISION OF HIGHWAYS
55 Orange Street, Asheville, NC 28801

2006 STANDARD SPECIFICATIONS	
RIGHT OF WAY DATE: MAY 15, 2009	K. A. WILSON, PE PROJECT ENGINEER
LETTING DATE: SEPTEMBER 15, 2009	M.K. PENLAND PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

Kenneth Arthur Wilson
SIGNATURE: 6-17-09 P.E.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

STATE HIGHWAY DESIGN ENGINEER P.E.

17-JUN-2009 11:31
c:\j\j\g\1\5\02\ddc\proj\5002_ddc_tsh.dgn
\$\$\$\$\$USERNAME\$\$\$\$\$

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS



INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1-A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1-B	CONVENTIONAL SYMBOLS
1-C	SURVEY CONTROL AND CENTERLINE COORDINATE LIST
2 THRU 2-B	PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND WEDGING DETAILS
2-C	ROCKFALL CATCHMENT DETAIL
2-D	ANCHORED SLOPE STABILIZATION
3	SUMMARY OF QUANTITIES
3-A	SUMMARY OF DRAINAGE
3-B	SUMMARY OF GUARDRAIL
3-C	SUMMARY OF EARTHWORK
3-D	R/W DATA
3-E	PARCEL INDEX SHEET
4 THRU 5	PLAN SHEET
6 THRU 9	PROFILE SHEET
TCP-1 THRU TCP- 8	TRAFFIC CONTROL PLANS
PM-1 THRU PM-3	PAVEMENT MARKING PLANS
EC-1 THRU EC- 5	EROSION CONTROL PLANS
X-1 THRU X-62	CROSS-SECTIONS
X-1A	CROSS-SECTIONS SUMMARY SHEET

GENERAL NOTES

GENERAL NOTES: 2006 SPECIFICATIONS
EFFECTIVE: 07-18-06
REVISED: 07-30-08

GRADING AND SURFACING OR RESURFACING AND WIDENING:
THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. WHERE NO GRADE LINES ARE SHOWN, THE PROFILES SHOWN DENOTE THE TOP ELEVATION OF THE EXISTING PAVEMENT ALONG THE CENTER LINE OF SURVEY ON WHICH THE PROPOSED RESURFACING WILL BE PLACED. GRADE LINES MAY BE ADJUSTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

CLEARING:
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.

SUPERELEVATION:
ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04 USING THE RATE OF SUPERELEVATION AND RUNOFF SHOWN ON THE PLANS. SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.

SHOULDER CONSTRUCTION:
ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01.

SIDE ROADS:
THE CONTRACTOR WILL BE REQUIRED TO DO ALL NECESSARY WORK TO PROVIDE SUITABLE CONNECTIONS WITH ALL ROADS, STREETS, AND DRIVES ENTERING THIS PROJECT. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PARTICULAR ITEMS INVOLVED.

GUARDRAIL:
THE GUARDRAIL LOCATIONS SHOWN ON THE PLANS MAY BE ADJUSTED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHOULD CONSULT WITH THE ENGINEER PRIOR TO ORDERING GUARDRAIL MATERIAL.

TEMPORARY SHORING:
SHORING REQUIRED FOR THE MAINTENANCE OF TRAFFIC WILL BE PAID FOR AS "EXTRA WORK" IN ACCORDANCE WITH SECTION 104-7.

SUBSURFACE PLANS:
NO SUBSURFACE PLANS ARE AVAILABLE ON THIS PROJECT. THE CONTRACTOR SHOULD MAKE HIS OWN INVESTIGATION AS TO THE SUBSURFACE CONDITIONS.

UTILITIES:
UTILITY OWNERS ON THIS PROJECT ARE RUTHERFORD EMC ENERGY
ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.

RIGHT-OF-WAY MARKERS:
ALL RIGHT-OF-WAY MARKERS ON THIS PROJECT SHALL BE PLACED BY CONTRACT.

LIST OF STANDARDS

2006 ROADWAY ENGLISH STANDARD DRAWINGS
EFF. 07-18-06
REV. 01-02-07

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated July 18, 2006 are applicable to this project and by reference hereby are considered a part of these plans:

STD. NO.	TITLE
DIVISION 2 - EARTHWORK	
200.02	Method of Clearing - Method II
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Super-elevation - Two Lane Pavement
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation - Method 'A'
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 6 - ASPHALT BASES AND PAVEMENTS	
654.01	Pavement Repairs
DIVISION 8 - INCIDENTALS	
806.01	Concrete Right-of-Way Marker
806.02	Granite Right-of-Way Marker
862.01	Guardrail Placement
862.02	Guardrail Installation
876.02	Guide for Rip Rap at Pipe Outlets
876.04	Drainage Ditches with Class 'B' Rip Rap

Note: Not to Scale

*S.U.E. = Subsurface Utility Engineering

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	⊙ EP
Property Corner	-----
Property Monument	⊠ EGM
Parcel/Sequence Number	⊠ (23)
Existing Fence Line	-x-x-x-
Proposed Woven Wire Fence	-o-o-o-
Proposed Chain Link Fence	-□-□-□-
Proposed Barbed Wire Fence	-◇-◇-◇-
Existing Wetland Boundary	-WLB-
Proposed Wetland Boundary	-WLB-
Existing Endangered Animal Boundary	-EAB-
Existing Endangered Plant Boundary	-EPB-

BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	○
Sign	⊙ S
Well	⊙ W
Small Mine	⊗
Foundation	⊠
Area Outline	⊠
Cemetery	⊠ †
Building	⊠
School	⊠
Church	⊠
Dam	⊠

HYDROLOGY:

Stream or Body of Water	-----
Hydro, Pool or Reservoir	⊠
Jurisdictional Stream	-JS-
Buffer Zone 1	-BZ 1-
Buffer Zone 2	-BZ 2-
Flow Arrow	←
Disappearing Stream	→
Spring	⊙
Wetland	⊠
Proposed Lateral, Tail, Head Ditch	⊠
False Sump	⊠

RAILROADS:

Standard Gauge	-----
RR Signal Milepost	⊙ CSX TRANSPORTATION MILEPOST 35
Switch	⊠ SWITCH
RR Abandoned	-----
RR Dismantled	-----

RIGHT OF WAY:

Baseline Control Point	◆
Existing Right of Way Marker	△
Existing Right of Way Line	-----
Proposed Right of Way Line	⊠ RW
Proposed Right of Way Line with Iron Pin and Cap Marker	⊠ RW ▲
Proposed Right of Way Line with Concrete or Granite Marker	⊠ RW ▲
Existing Control of Access	⊠ CA
Proposed Control of Access	⊠ CA
Existing Easement Line	-E-
Proposed Temporary Construction Easement	-E-
Proposed Temporary Drainage Easement	-TDE-
Proposed Permanent Drainage Easement	-PDE-
Proposed Permanent Utility Easement	-PUE-
Proposed Temporary Utility Easement	-TUE-
Proposed Permanent Easement with Iron Pin and Cap Marker	◆

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	-C-
Proposed Slope Stakes Fill	-F-
Proposed Wheel Chair Ramp	⊠ WCR
Existing Metal Guardrail	-----
Proposed Guardrail	-----
Existing Cable Guiderail	-----
Proposed Cable Guiderail	-----
Equality Symbol	⊠
Pavement Removal	⊠

VEGETATION:

Single Tree	⊠
Single Shrub	⊠
Hedge	-----
Woods Line	-----
Orchard	⊠
Vineyard	⊠ Vineyard

EXISTING STRUCTURES:

MAJOR:	
Bridge, Tunnel or Box Culvert	⊠ CONC
Bridge Wing Wall, Head Wall and End Wall	⊠ CONC WW
MINOR:	
Head and End Wall	⊠ CONC HW
Pipe Culvert	-----
Footbridge	-----
Drainage Box: Catch Basin, DI or JB	⊠ CB
Paved Ditch Gutter	-----
Storm Sewer Manhole	⊠ S
Storm Sewer	-----

UTILITIES:

POWER:	
Existing Power Pole	●
Proposed Power Pole	○
Existing Joint Use Pole	●
Proposed Joint Use Pole	○
Power Manhole	⊠ P
Power Line Tower	⊠
Power Transformer	⊠
U/G Power Cable Hand Hole	⊠ PH
H-Frame Pole	●
Recorded U/G Power Line	----- P
Designated U/G Power Line (S.U.E.*)	----- P

TELEPHONE:

Existing Telephone Pole	●
Proposed Telephone Pole	○
Telephone Manhole	⊠ T
Telephone Booth	⊠
Telephone Pedestal	⊠
Telephone Cell Tower	⊠
U/G Telephone Cable Hand Hole	⊠ PH
Recorded U/G Telephone Cable	----- T
Designated U/G Telephone Cable (S.U.E.*)	----- T
Recorded U/G Telephone Conduit	----- TC
Designated U/G Telephone Conduit (S.U.E.*)	----- TC
Recorded U/G Fiber Optics Cable	----- T FO
Designated U/G Fiber Optics Cable (S.U.E.*)	----- T FO

WATER:

Water Manhole	⊠ W
Water Meter	⊠
Water Valve	⊠
Water Hydrant	⊠
Recorded U/G Water Line	-----
Designated U/G Water Line (S.U.E.*)	-----
Above Ground Water Line	----- A/G Water

TV:

TV Satellite Dish	⊠
TV Pedestal	⊠
TV Tower	⊠
U/G TV Cable Hand Hole	⊠ PH
Recorded U/G TV Cable	----- TV
Designated U/G TV Cable (S.U.E.*)	----- TV
Recorded U/G Fiber Optic Cable	----- TV FO
Designated U/G Fiber Optic Cable (S.U.E.*)	----- TV FO

GAS:

Gas Valve	⊠
Gas Meter	⊠
Recorded U/G Gas Line	----- G
Designated U/G Gas Line (S.U.E.*)	----- G
Above Ground Gas Line	----- A/G Gas

SANITARY SEWER:

Sanitary Sewer Manhole	⊠ SS
Sanitary Sewer Cleanout	⊠
U/G Sanitary Sewer Line	----- SS
Above Ground Sanitary Sewer	----- A/G Sanitary Sewer
Recorded SS Forced Main Line	----- FSS
Designated SS Forced Main Line (S.U.E.*)	----- FSS

MISCELLANEOUS:

Utility Pole	●
Utility Pole with Base	⊠
Utility Located Object	○
Utility Traffic Signal Box	⊠
Utility Unknown U/G Line	----- UNL
U/G Tank; Water, Gas, Oil	⊠
A/G Tank; Water, Gas, Oil	⊠
U/G Test Hole (S.U.E.*)	⊠
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

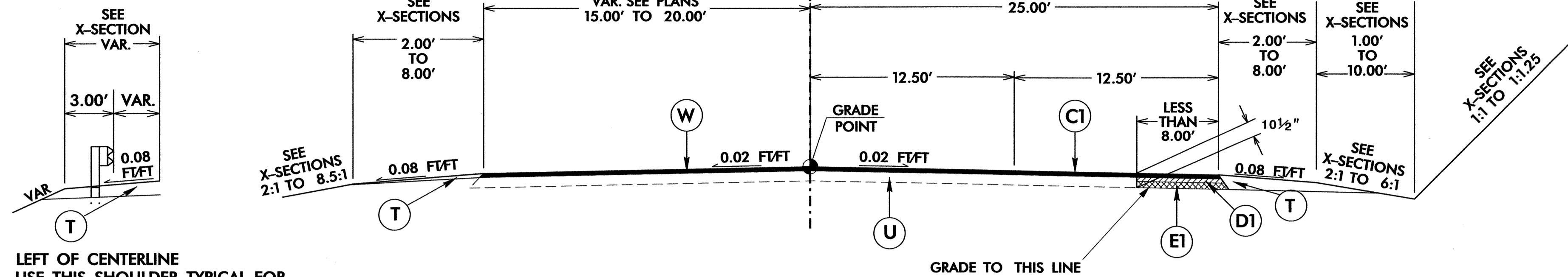
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NOTE: SEE X-SECTION AND GUARDRAIL SUMMARY FOR GUARDRAIL LOCATION AND PLACEMENT.

USE TYPICAL SECTION NO. 1

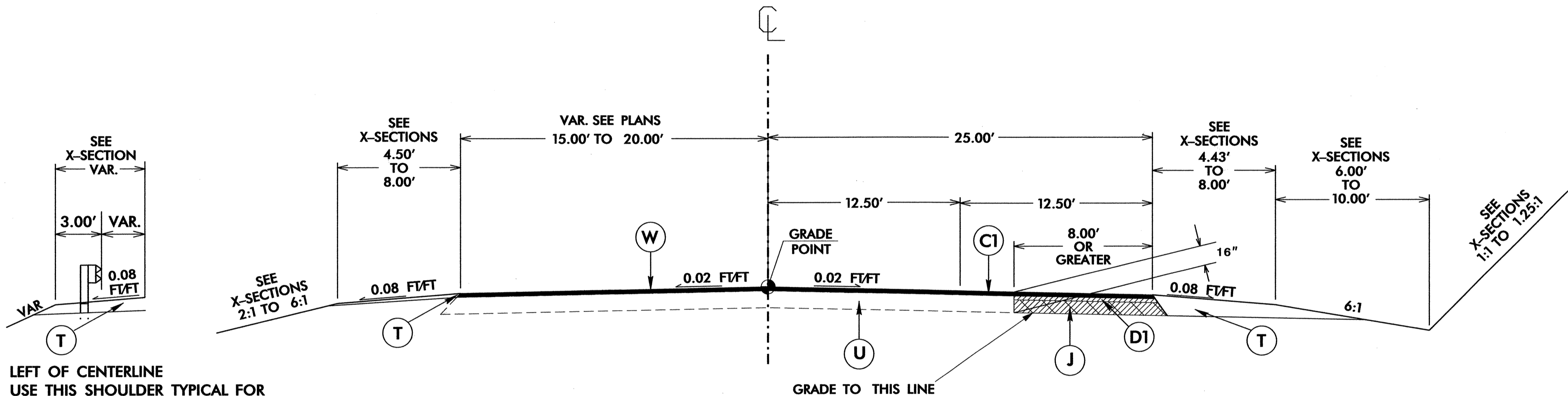
FROM STA 32+85.72 -L1- TO STA 35+47.84 -L1-
 FROM STA 50+50.00 -L1- TO STA 51+47.64 -L1-
 FROM STA 57+89.28 -L1- TO STA 58+75.09 -L1-

PROJECT REFERENCE NO. R-5002B	SHEET NO. 2
ROADWAY DESIGN ENGINEER ARTHUR WILSON	PAVEMENT DESIGN ENGINEER CLARK S. MORRISON
PROFESSIONAL SEAL 16434	PROFESSIONAL SEAL 22896
6-17-09	7/28/09



LEFT OF CENTERLINE
 USE THIS SHOULDER TYPICAL FOR
 STA 50+50.00 -L1- TO STA 51+47.64 -L1-
 STA 57+89.23 -L1- TO STA 58+81.28 -L1-

TYPICAL SECTION NO. 1

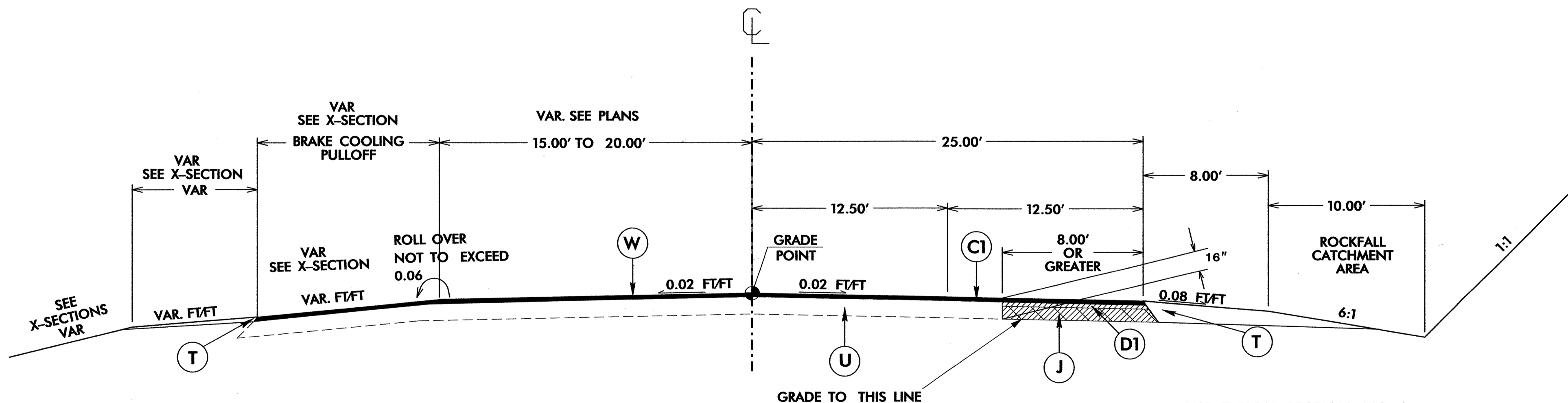


LEFT OF CENTERLINE
 USE THIS SHOULDER TYPICAL FOR
 STA 51+47.64 -L1- TO STA 54+20.71 -L1-
 STA 55+63.30 -L1- TO STA 57+89.28 -L1-

TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2

FROM STA 35+47.84 -L1- TO STA 35+50.00 -L1-
 FROM STA 40+00.00 -L1- TO STA 44+09.60 -L1-
 FROM STA 51+47.64 -L1- TO STA 57+89.28 -L1-



USE TYPICAL SECTION NO. 6

FROM STA 35+50.00 -L1- TO STA 40+00.00 -L1-

TYPICAL SECTION NO. 3

PAVEMENT SCHEDULE

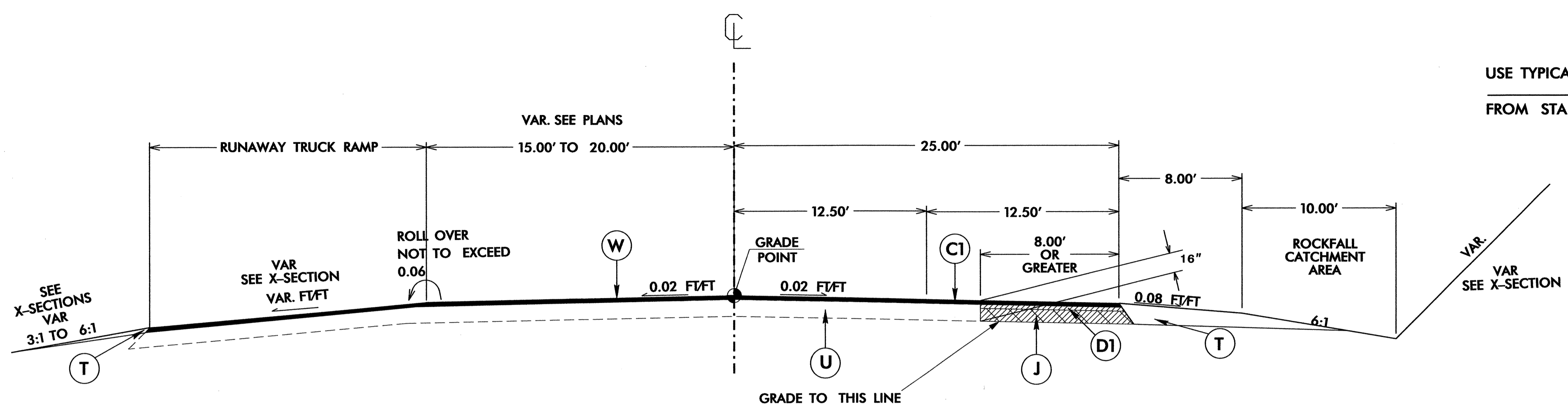
C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 2" IN DEPTH.
D1	PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 2 1/2" IN DEPTH OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX 4 1/2" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 513 LBS. PER SQ. YD. IN
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5 1/2" IN DEPTH.
J	PROP. 10" AGGREGATE BASE COURSE.
J1	PROP. 4" AGGREGATE BASE COURSE.
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL SHEET NO. 2-B)

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6/2/09

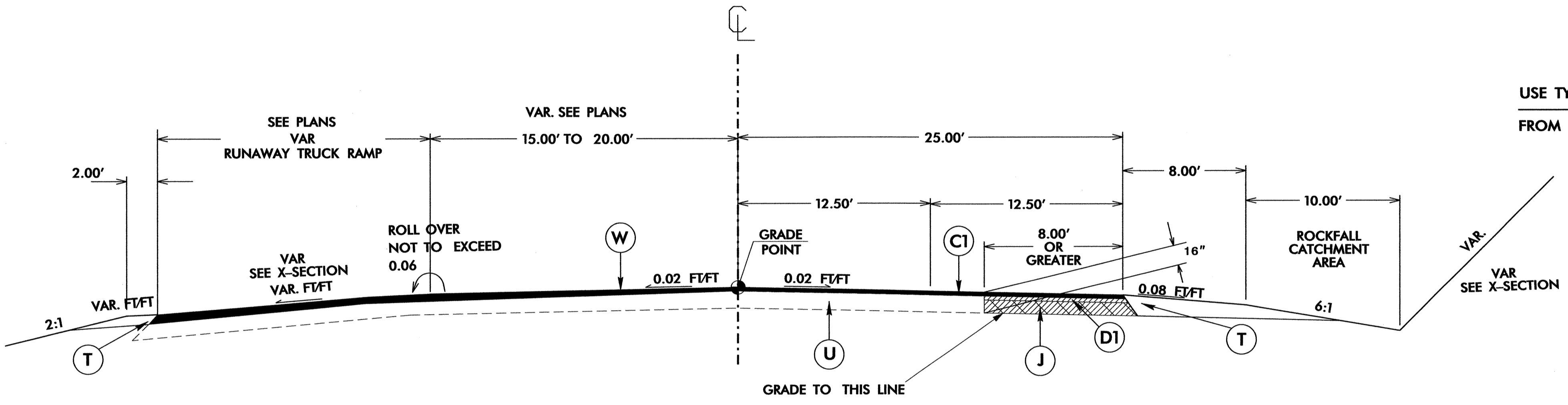
PROJECT REFERENCE NO. R-5002B	SHEET NO. 2-A
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 16434 VINNIE ARTHUR WILSON 6-17-09	PAVEMENT DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 22896 CLARK S. MORRISON 7/23/09

USE TYPICAL SECTION NO. 4
FROM STA 44+09.60 -L1- TO STA 46+00.00 -L1-



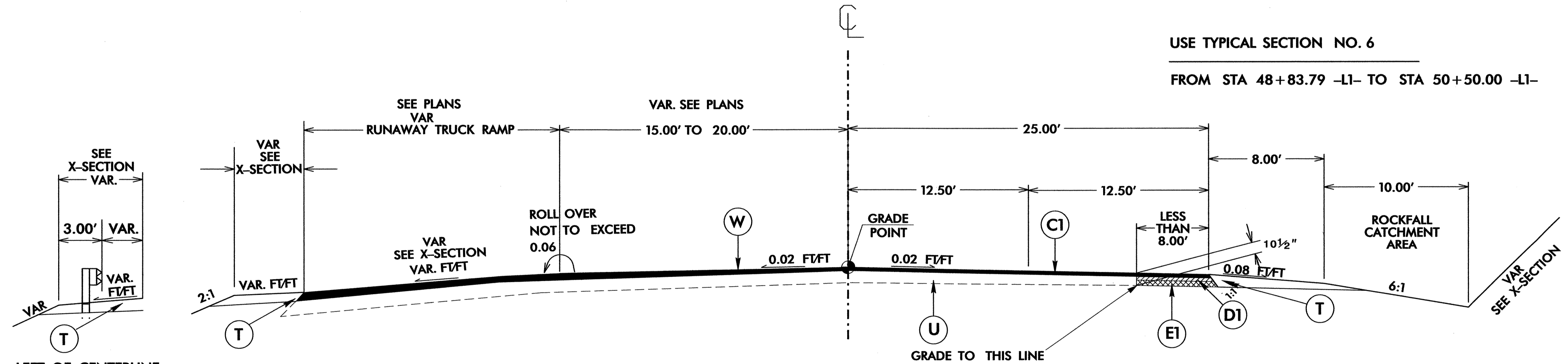
TYPICAL SECTION NO. 4

USE TYPICAL SECTION NO. 5
FROM STA 46+00.00 -L1- TO STA 48+83.79 -L1-



TYPICAL SECTION NO. 5

USE TYPICAL SECTION NO. 6
FROM STA 48+83.79 -L1- TO STA 50+50.00 -L1-



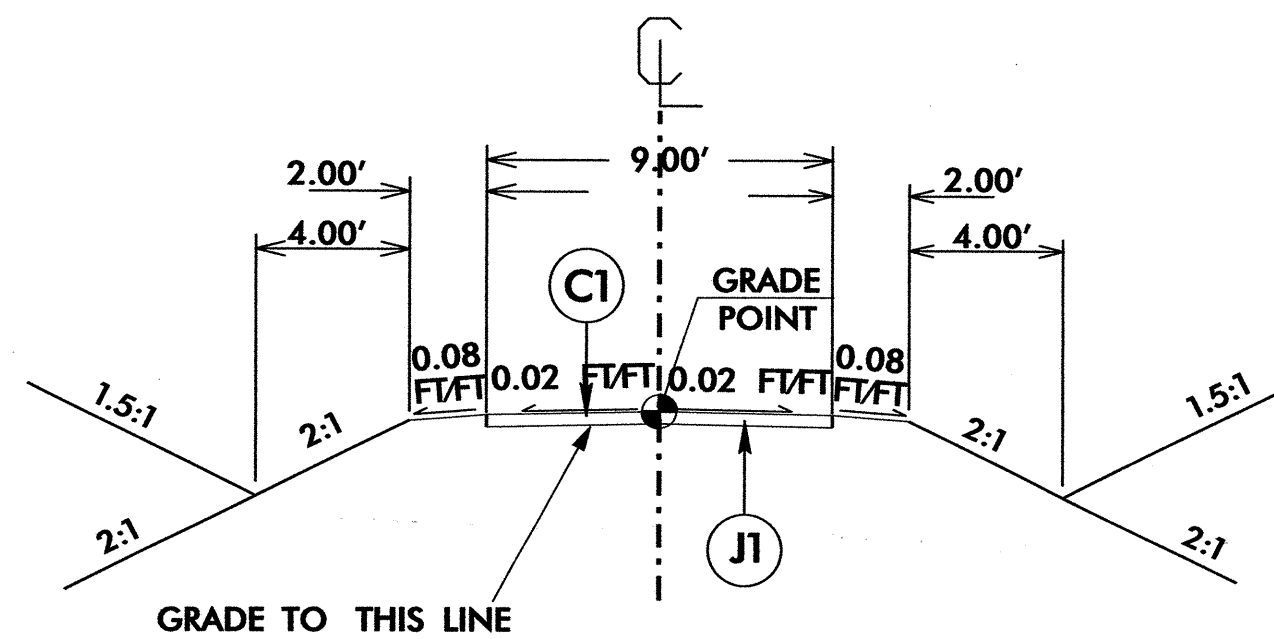
TYPICAL SECTION NO. 6

LEFT OF CENTERLINE
USE THIS SHOULDER TYPICAL FOR
STA 49+53.04 -L1- TO STA 50+50.00 -L1-

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
D1	PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.
E1	PROP. APPROX. 4 1/2" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 513 LBS. PER SQ. YD. IN
J	PROP. 10" AGGREGATE BASE COURSE.
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL SHEET NO. 2-D)

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 \$\$\$\$\$\$SYTIME\$\$\$\$\$\$

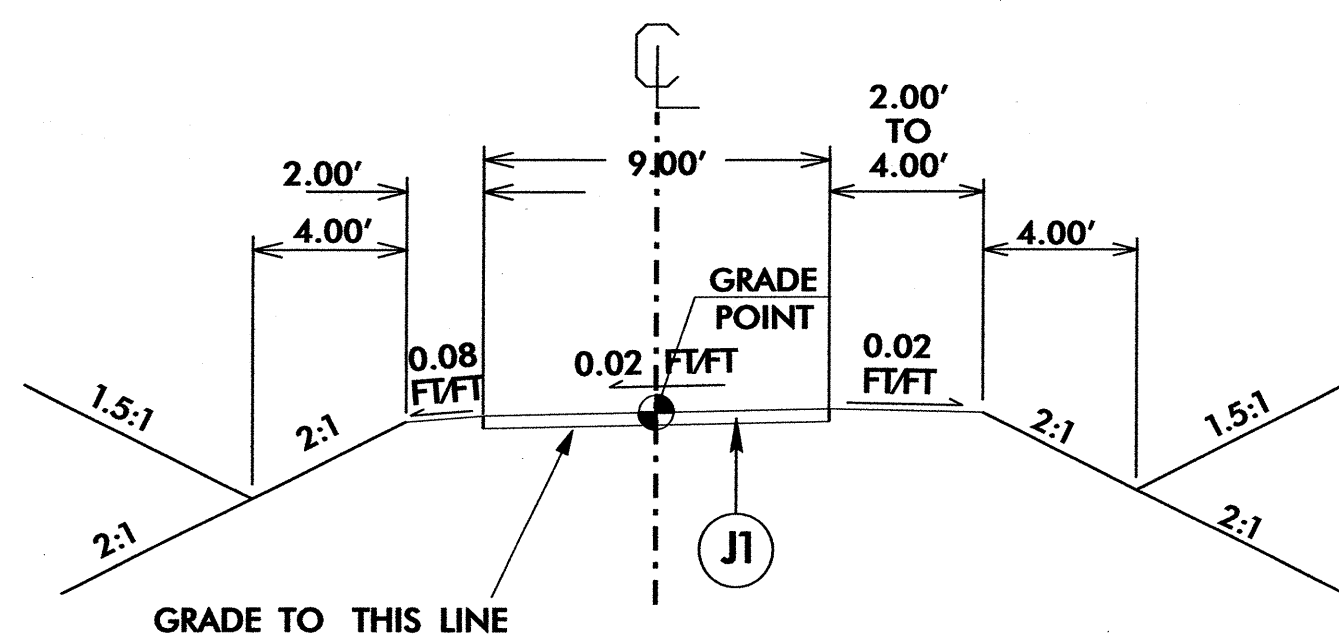
PROJECT REFERENCE NO. R-5002B	SHEET NO. 2-B
ROADWAY DESIGN ENGINEER 	PAVEMENT DESIGN ENGINEER



TYPICAL SECTION NO. 7

USE TYPICAL SECTION NO. 7

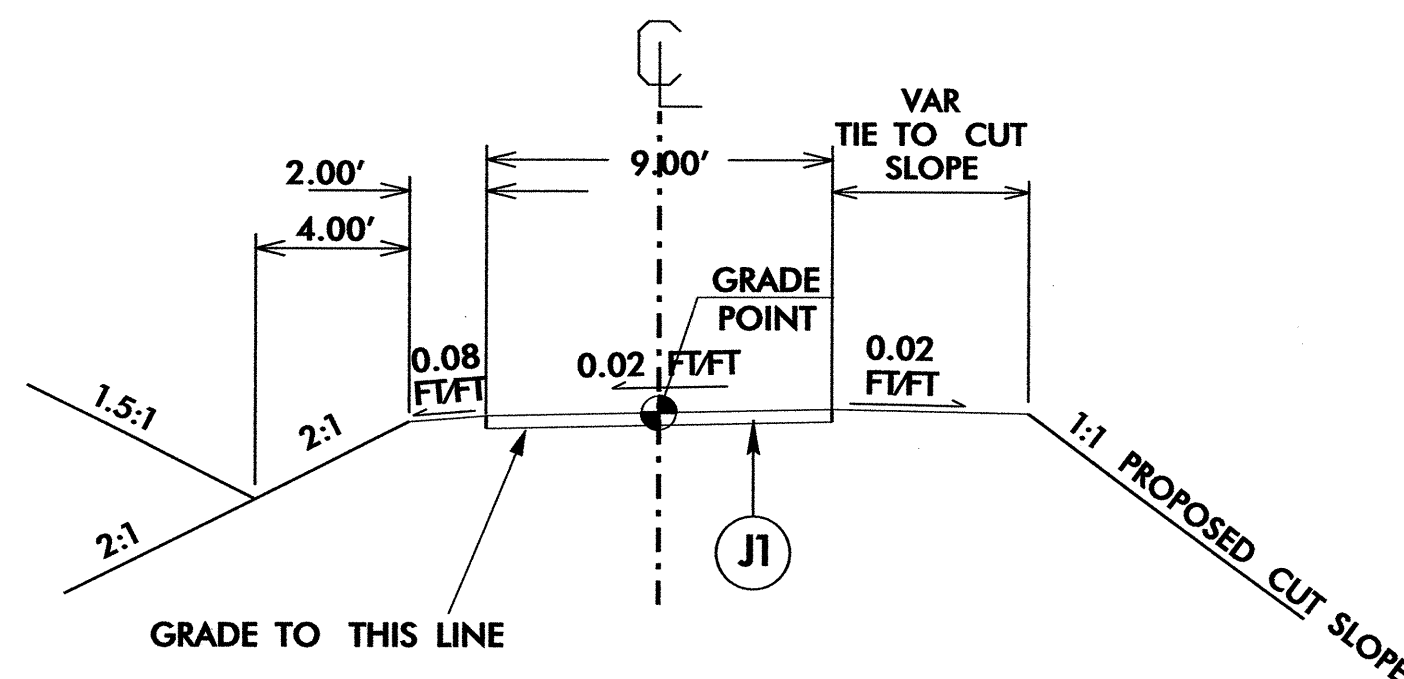
FROM STA 10+00.00 -DRIVE- TO STA 10+60.26 -DRIVE-
USE PAVEMENT SCHEDULE C1 AND J1 TO 10+45
THEN USE J1 FROM 10+45 TO 10+60.26



TYPICAL SECTION NO. 8

USE TYPICAL SECTION NO. 8

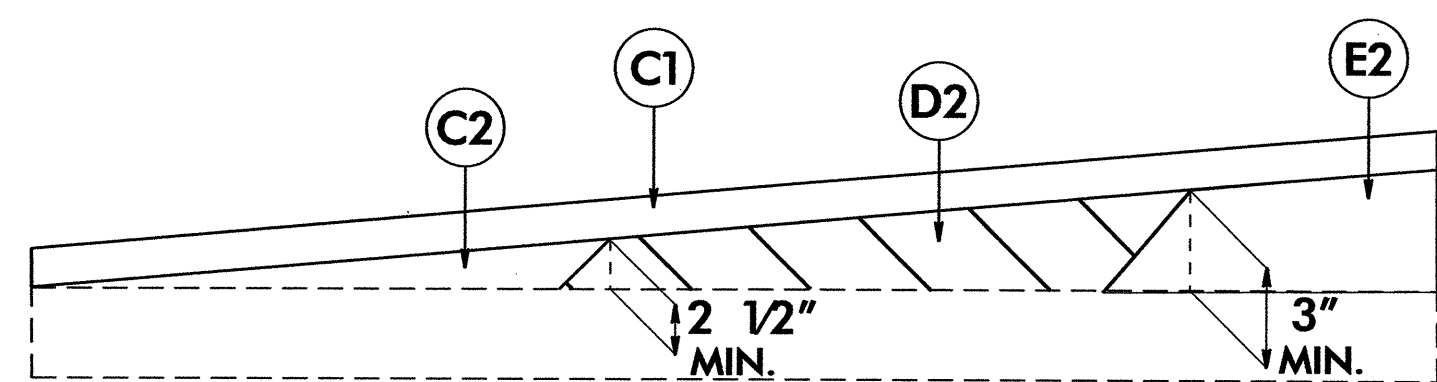
FROM STA 10+60.26 -DRIVE- TO STA 11+00.00 -DRIVE-



TYPICAL SECTION NO. 9

USE TYPICAL SECTION NO. 9

FROM STA 11+00.00 -DRIVE- TO STA 14+36.00 -DRIVE-




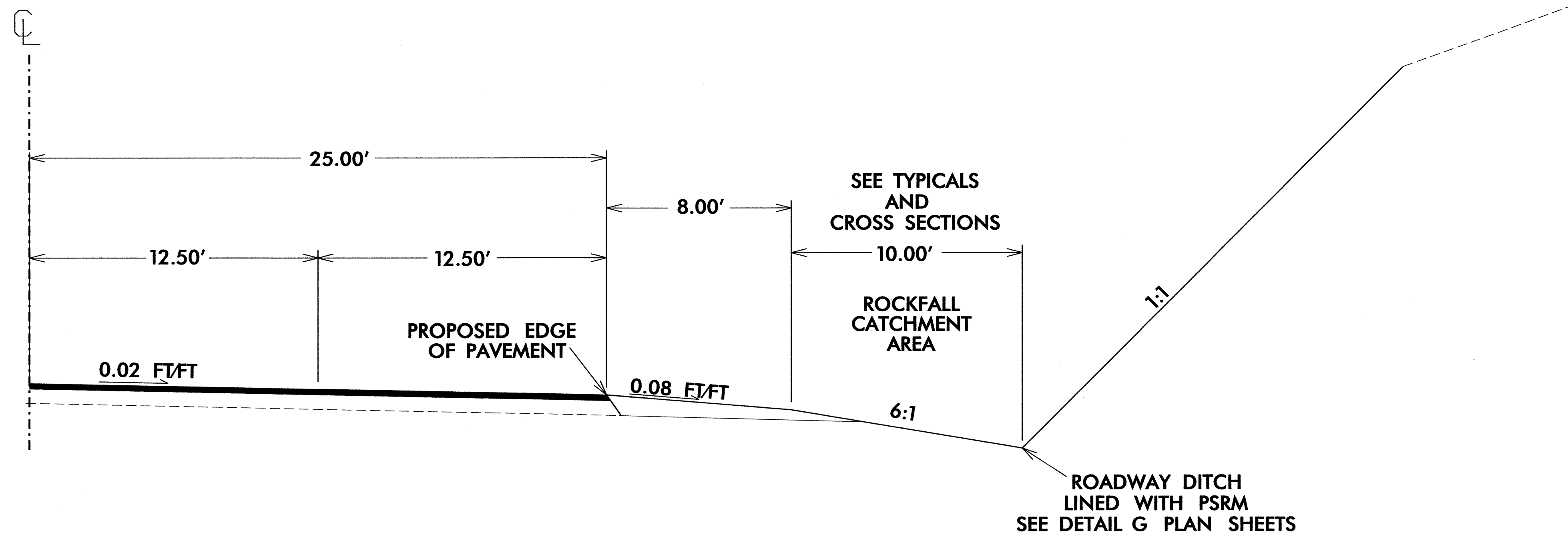
Wedging Detail For Resurfacing

PAVEMENT SCHEDULE

C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 2" IN DEPTH.
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 2 1/2" IN DEPTH OR GREATER THAN 4" IN DEPTH.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5 1/2" IN DEPTH.
J1	PROP. 4" AGGREGATE BASE COURSE.
T	EARTH MATERIAL

6/2/99

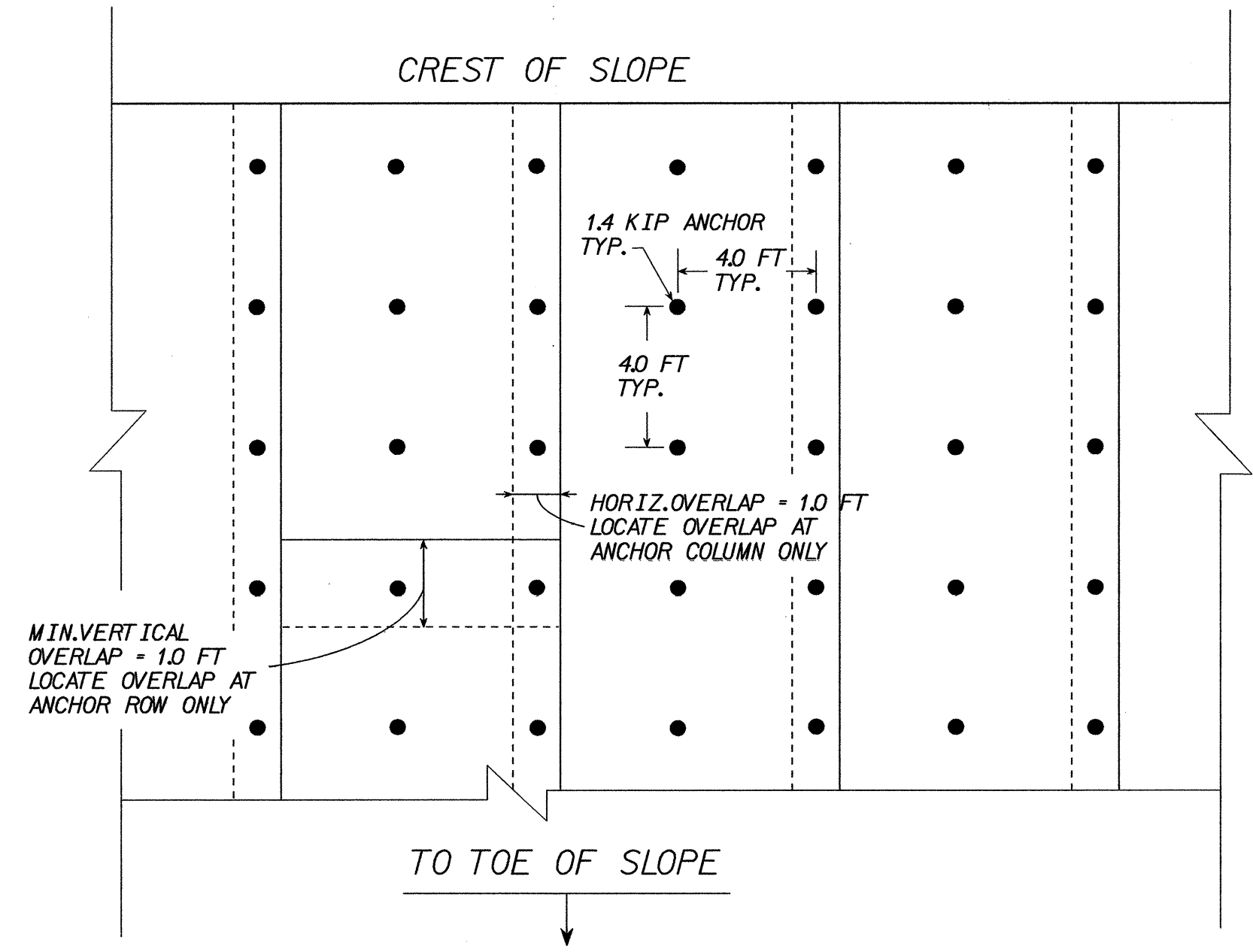
PROJECT REFERENCE NO. R-5002B	SHEET NO. 2-C
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
	
6-17-09	



ROCKFALL CATCHMENT DETAIL

FROM STA 35+00.00 -L1- TO STA 53+00.00 -L1-

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\$\$\$\$\$USTENNAMT\$\$\$\$\$



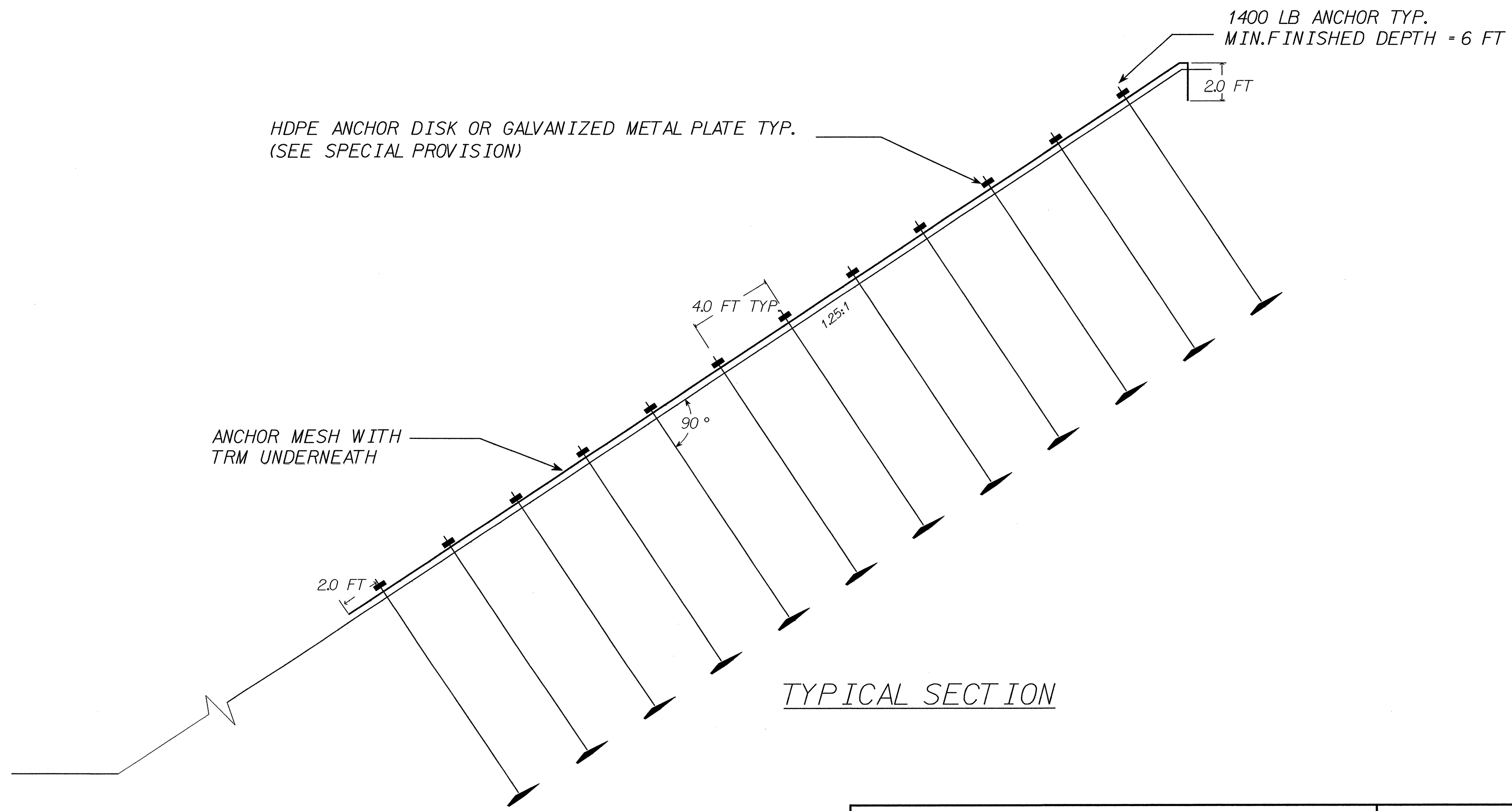
OVERLAP DETAIL

NOTES AND SEQUENCE OF WORK

1. FOR SLOPE STABILIZATION, SEE ANCHORED SLOPE STABILIZATION SPECIAL PROVISION.
2. CONSTRUCT SLOPES AS SHOWN ON THE PLANS. REMOVE AND REPLACE ANY EXCESSIVELY WET OR SOFT AREAS AS DIRECTED BY THE ENGINEER.
3. INSTALL TURF REINFORMENT MAT (TRM) DOWN THE SLOPE. EMBED TRM A MINIMUM OF 2 FT AT THE TOP OF THE SLOPE.
4. INSTALL ANCHORS THROUGH THE TRM TO A SUFFICIENT DEPTH TO ACHIEVE THE REQUIRED TEST LOAD AND A FINISHED DEPTH OF 6 FT.
5. UNROLL ANCHOR MESH AND INSTALL ANCHOR HEAD COMPONENTS (HDPE DISC OR STEEL PLATE).
6. TEST LOAD AND LOCK-OFF THE ANCHORS.
 - SLOWLY LOAD EACH ANCHOR TO 1800 LBS.
 - DECREASE LOAD AND LOCK OFF ANCHOR AT 1400 LBS.
8. ALL INSTALLED ANCHORS MUST BE LOAD TESTED AND LOCKED-OFF BY THE END OF EACH WORK DAY.
9. SEEDING AND FINAL SURFACE TREATMENT ARE AS DIRECTED BY THE ENGINEER.

ESTIMATED QUANTITIES

SLOPE STABILIZATION	2100 SQ.YDS.
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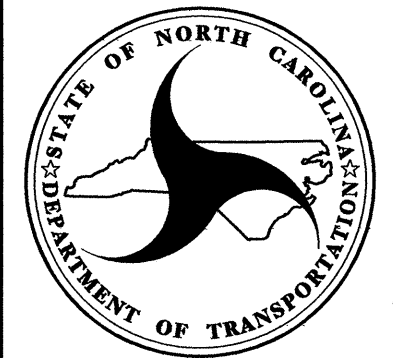
TYPICAL SECTION

GEOTECHNICAL ENGINEERING UNIT

EASTERN REGIONAL OFFICE

WESTERN REGIONAL OFFICE

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH



ANCHORED SLOPE STABILIZATION

REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF QUANTITIES

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C202175

ItemNumber	Sec #	Quantity	Unit	Description
000100000-N	800	Lump Sum		MOBILIZATION
000400000-N	801	Lump Sum		CONSTRUCTION SURVEYING
000100000-E	200	Lump Sum		CLEARING & GRUBBING .. ACRE(S)
000800000-E	200	1	ACR	SUPPLEMENTARY CLEARING & GRUBBING
002200000-E	225	65,000	CY	UNCLASSIFIED EXCAVATION
013400000-E	240	20	CY	DRAINAGE DITCH EXCAVATION
031800000-E	300	50	TON	FOUNDATION CONDITIONING MATERIAL, MINOR STRS
072000000-E	310	358	LF	24" BIT COAT CS PIPE CULVERTS, TYPE B 0.064" THICK
072600000-E	310	32	LF	30" BIT COAT CS PIPE CULVERTS, TYPE B 0.079" THICK
073200000-E	310	72	LF	36" BIT COAT CS PIPE CULVERTS, TYPE B 0.079" THICK
080900000-E	310	1	EA	30" BIT COAT CS PIPE ELBOWS, TYPE B 0.079" THICK
099500000-E	340	45	LF	PIPE REMOVAL
099600000-N	350	2	EA	PIPE CLEAN-OUT
101100000-N	500	Lump Sum		FINE GRADING
112100000-E	520	1,598	TON	AGGREGATE BASE COURSE
122000000-E	545	220	TON	INCIDENTAL STONE BASE
123100000-E	560	1,360	CY	SHOULDER BORROW
149100000-E	610	2,780	TON	ASPHALT CONC BASE COURSE, TYPE B25.0C
149800000-E	610	2,510	TON	ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0B
151900000-E	610	2,040	TON	ASPHALT CONC SURFACE COURSE, TYPE S9.5B
156000000-E	620	360	TON	ASPHALT BINDER FOR PLANT MIX, GRADE PG 64-22
169300000-E	654	90	TON	ASPHALT PLANT MIX, PAVEMENT REPAIR
200000000-N	806	25	EA	RIGHT OF WAY MARKERS
227500000-E	SP	34.3	CY	FLOWABLE FILL
303000000-E	862	675	LF	STEEL BM GUARDRAIL

ItemNumber	Sec #	Quantity	Unit	Description
315000000-N	862	5	EA	ADDITIONAL GUARDRAIL POSTS
321000000-N	862	2	EA	GUARDRAIL ANCHOR UNITS, TYPE CAT-1
327000000-N	SP	2	EA	GUARDRAIL ANCHOR UNITS, TYPE 350
336000000-E	863	635	LF	REMOVE EXISTING GUARDRAIL
364900000-E	876	35	TON	RIP RAP, CLASS B
365600000-E	876	310	SY	FILTER FABRIC FOR DRAINAGE
367700000-E	SP	2,100	SY	GENERIC EROSION CONTROL ITEM SLOPE STABILIZATION
440000000-E	1110	48	SF	WORK ZONE SIGNS (STATIONARY)
440500000-E	1110	170	SF	WORK ZONE SIGNS (PORTABLE)
442000000-N	1120	1	EA	CHANGEABLE MESSAGE SIGN
443000000-N	1130	90	EA	DRUMS
443500000-N	1135	50	EA	CONES
446500000-N	1160	4	EA	TEMPORARY CRASH CUSHIONS
448000000-N	1165	1	EA	TMIA
448500000-E	1170	910	LF	PORTABLE CONCRETE BARRIER
458900000-N	SP	Lump Sum		GENERIC TRAFFIC CONTROL ITEM FLAGGER
465000000-N	1251	161	EA	TEMPORARY RAISED PAVEMENT MARKERS
468500000-E	1205	6,944	LF	THERMOPLASTIC PAVEMENT MARKING LINES (4", 90 MILS)
468600000-E	1205	3,410	LF	THERMOPLASTIC PAVEMENT MARKING LINES (4", 120 MILS)
481000000-E	1205	12,834	LF	PAINT PAVEMENT MARKING LINES (4")
490500000-N	1253	130	EA	SNOWPLOWABLE PAVEMENT MARKERS
600000000-E	1605	2,475	LF	TEMPORARY SILT FENCE
600600000-E	1610	115	TON	STONE FOR EROSION CONTROL, CLASS A
600900000-E	1610	1,405	TON	STONE FOR EROSION CONTROL, CLASS B
601200000-E	1610	385	TON	SEDIMENT CONTROL STONE

ItemNumber	Sec #	Quantity	Unit	Description
601500000-E	1615	7	ACR	TEMPORARY MULCHING
601800000-E	1620	200	LB	SEED FOR TEMPORARY SEEDING
602100000-E	1620	0.75	TON	FERTILIZER FOR TEMPORARY SEEDING
602900000-E	SP	100	LF	SAFETY FENCE
603000000-E	1630	2,175	CY	SILT EXCAVATION
603600000-E	1631	3,875	SY	MATTING FOR EROSION CONTROL
603800000-E	SP	1,295	SY	PERMANENT SOIL REINFORCEMENT MAT
608400000-E	1660	18.6	ACR	SEEDING & MULCHING
608700000-E	1660	6	ACR	MOWING
609000000-E	1661	100	LB	SEED FOR REPAIR SEEDING
609300000-E	1661	0.25	TON	FERTILIZER FOR REPAIR SEEDING
609600000-E	1662	225	LB	SEED FOR SUPPLEMENTAL SEEDING
610800000-E	1665	6.75	TON	FERTILIZER TOPDRESSING
611400000-N	SP	5	HR	SPECIALIZED HAND MOWING
611700000-N	SP	12	EA	RESPONSE FOR EROSION CONTROL

5/28/99

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\$\$\$\$\$STEFANM\$\$\$\$\$

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

**SUMMARY OF EARTHWORK
IN CUBIC YARDS**

LOCATION	UNCLASSIFIED EXCAVATION	EMBT+%	BORROW	WASTE	UNDERCUT
SUMMARY NO. 1 32+85.72 - 58+75.09					
LEFT SIDE OF -L-					
-L- 32+85.72 - 58+75.09 LT	187	374	187		
RIGHT SIDE OF -L-					
-L- 32+85.72 - 58+75.09 LT	65274	412		64862	
-DRIVE- 10+00.00 TO 14+36.00 LT /RT	2773	260		2513	
SUMMARIES TOTAL	68234	1046	187	67375	
LOSS DUE TO CLEAR & GRUB.	-3420			-3420	
USE SUITABLE WASTE IN LIEU OF BARROW			-187	-187	
PROJECT TOTAL	64814	1046		63768	
SAY	65000				
DDE					

Approximate quantities only. The Resident Engineer will
re-cross-section the work accurately when the project is staked
out. These cross-section notes will be used in computing the
final quantities for which the contractor will be paid.

10/26/08
 COMPUTED BY: JPF DATE: 10/10/08
 CHECKED BY: MKP DATE: 3/09/09

STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.
 R-5002B
 SHEET NO.
 3-D

RIGHT OF WAY AREA DATA SHEET

PARCEL NO.	PROPERTY OWNERS NAME	TOTAL ACREAGE	AREA TAKEN	AREA REMAINING RIGHT	AREA REMAINING LEFT	CONSTR. EASEMENT	PERMANENT DRAINAGE EASEMENT	TEMPORARY DRAINAGE EASEMENT	PERMANENT UTILITY EASEMENT	PARCEL NO.	PROPERTY OWNERS NAME	TOTAL ACREAGE	AREA TAKEN	AREA REMAINING RIGHT	AREA REMAINING LEFT	CONSTR. EASEMENT	PERMANENT DRAINAGE EASEMENT	TEMPORARY DRAINAGE EASEMENT
14	DANNY SKITKA	18.20 ACRES	0.98 ACRES	15.761 ACRES	1.455 ACRES		1392.724 SQ FT											
15	HOLSTON LAND COMPANY INC	91.74 ACRES	0.64 ACRES	85.22 ACRES	5.88 ACRES	0.50 ACRES	923.6051 SQ FT											
16	DANNY SKITKA	2.06 ACRES	0.32 ACRES	0.67 ACRES	1.07 ACRES		299.068 SQ FT											
17	JEFFERY Q. HODGE	8.52 ACRES	0.0 ACRES		8.52 ACRES		891.5666 SQ FT											
18	THOMAS PAIGE	215.54 ACRES	1.01 ACRES	7.12 ACRES	207.41 ACRES	0.12 ACRES	1039.1806 SQ FT											

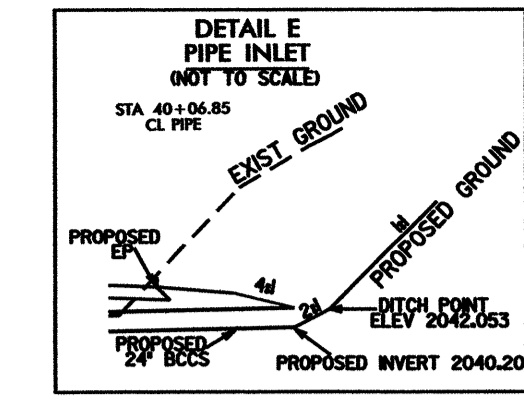
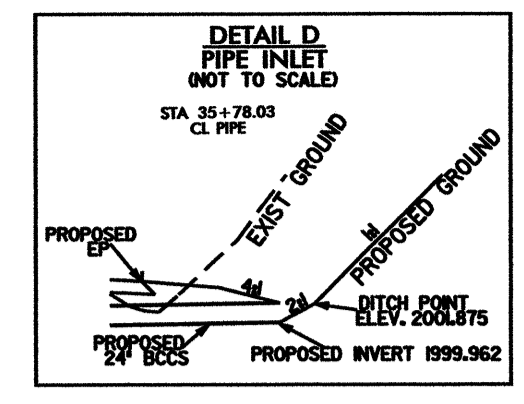
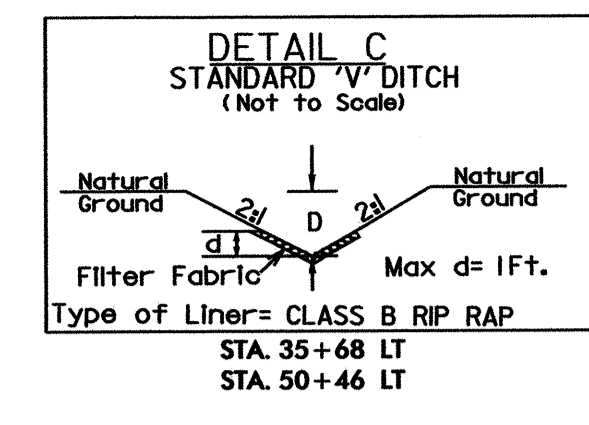
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PARCEL INDEX SHEET

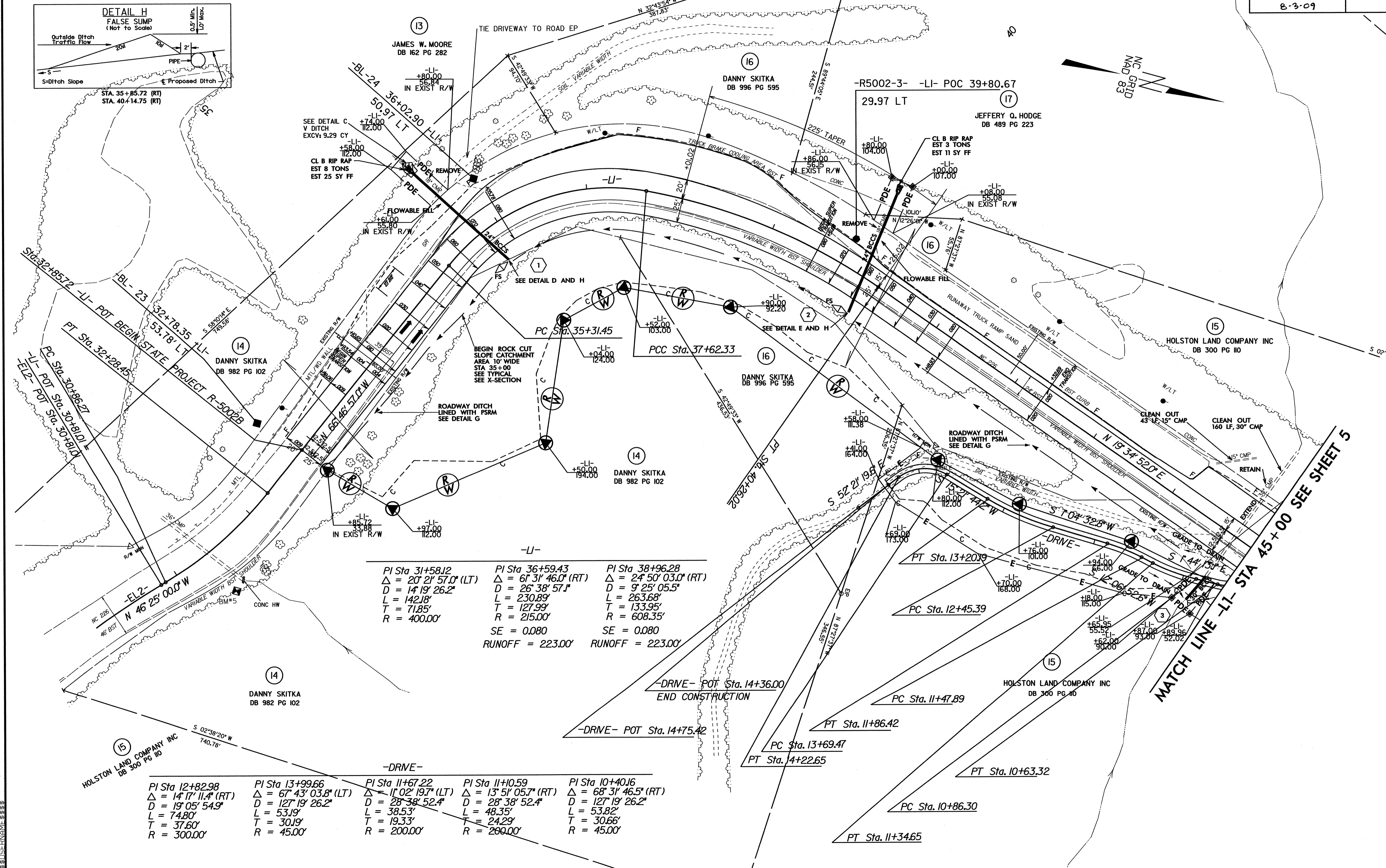
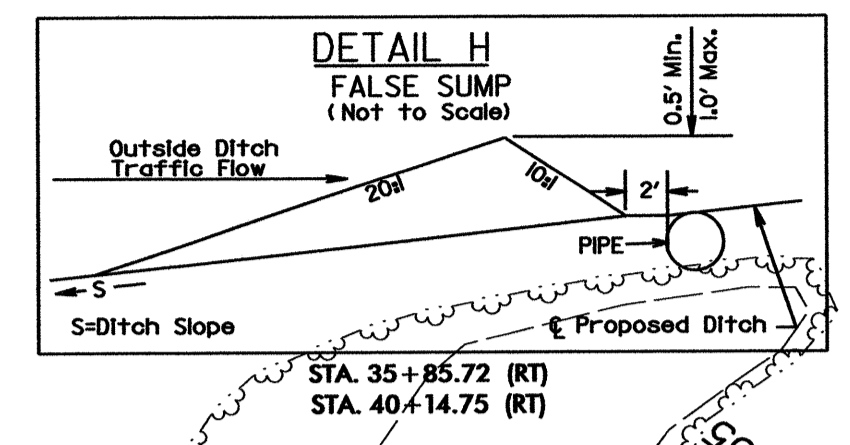
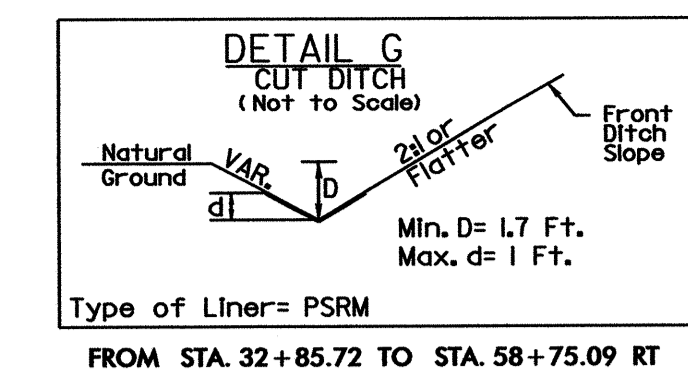
PARCEL NO.	SHEET NO.	PROPERTY OWNERS NAME
14	4	DANNY SKITKA
15	4,5	HOLSTON LAND COMPANY INC
16	4	DANNY SKITKA
17	4	JEFFERY Q. HODGE
18	5	THOMAS PAIGE

5/28/99

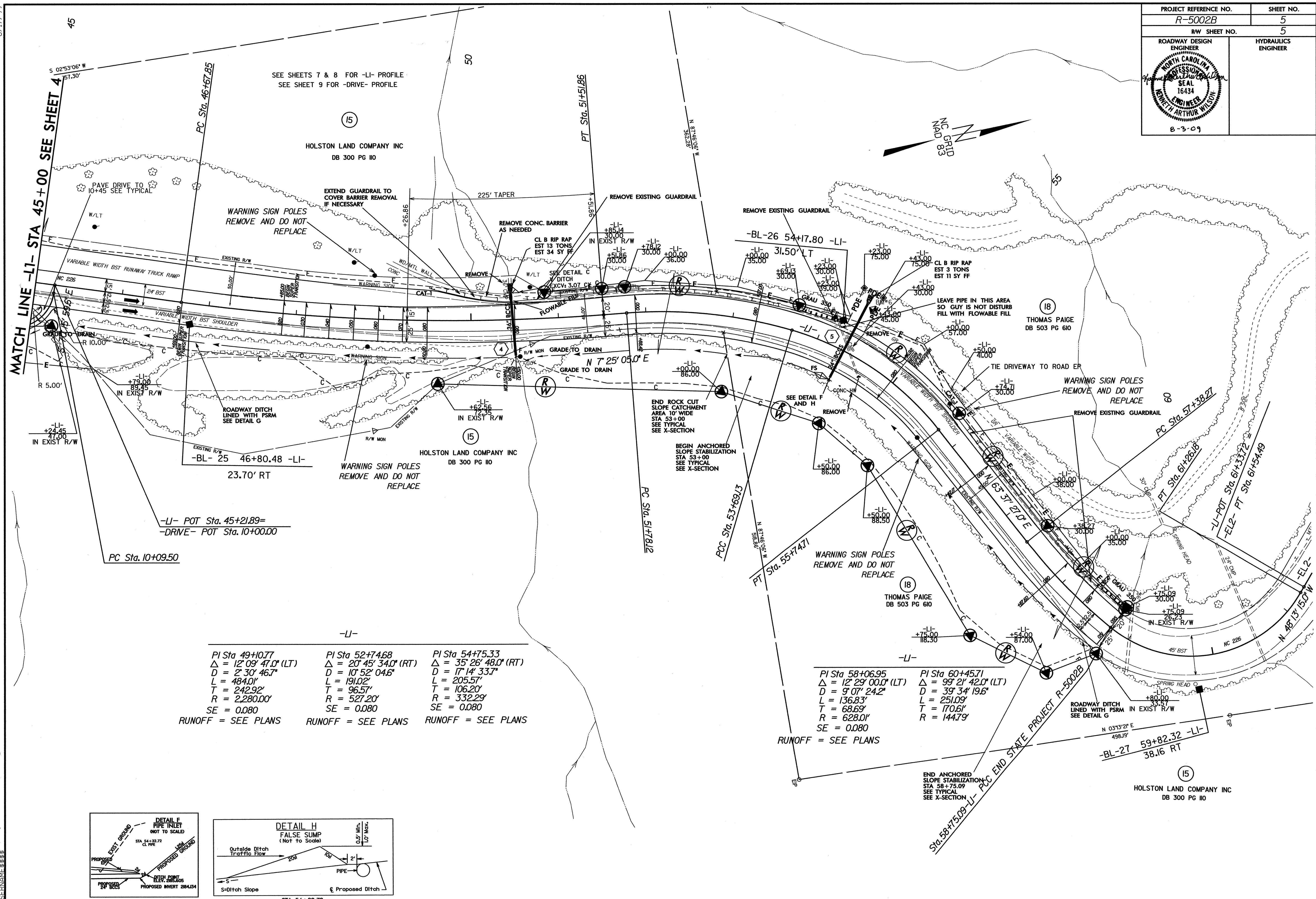
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SEE SHEET 6 & 7 FOR -LI- PROFILE
SEE SHEET 9 FOR -DRIVE- PROFILE

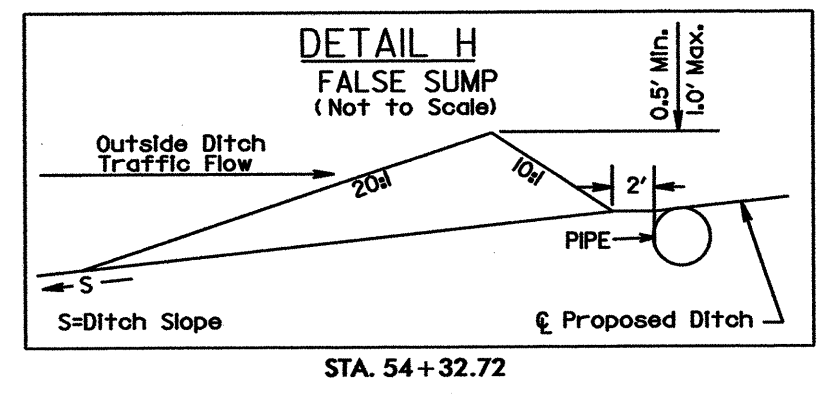
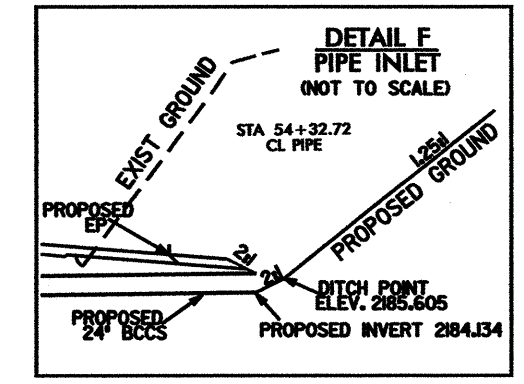


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-LI-		
PI Sta 49+10.77	PI Sta 52+74.68	PI Sta 54+75.33
$\Delta = 12^{\circ} 09' 47.0"$ (LT)	$\Delta = 20^{\circ} 45' 34.0"$ (RT)	$\Delta = 35^{\circ} 26' 48.0"$ (RT)
D = 2' 30' 46.7"	D = 10' 52' 04.6"	D = 17' 14' 33.7"
L = 484.0'	L = 191.02'	L = 205.57'
T = 242.92'	T = 96.57'	T = 106.20'
R = 2,280.00'	R = 527.20'	R = 332.29'
SE = 0.080	SE = 0.080	SE = 0.080
RUNOFF = SEE PLANS	RUNOFF = SEE PLANS	RUNOFF = SEE PLANS

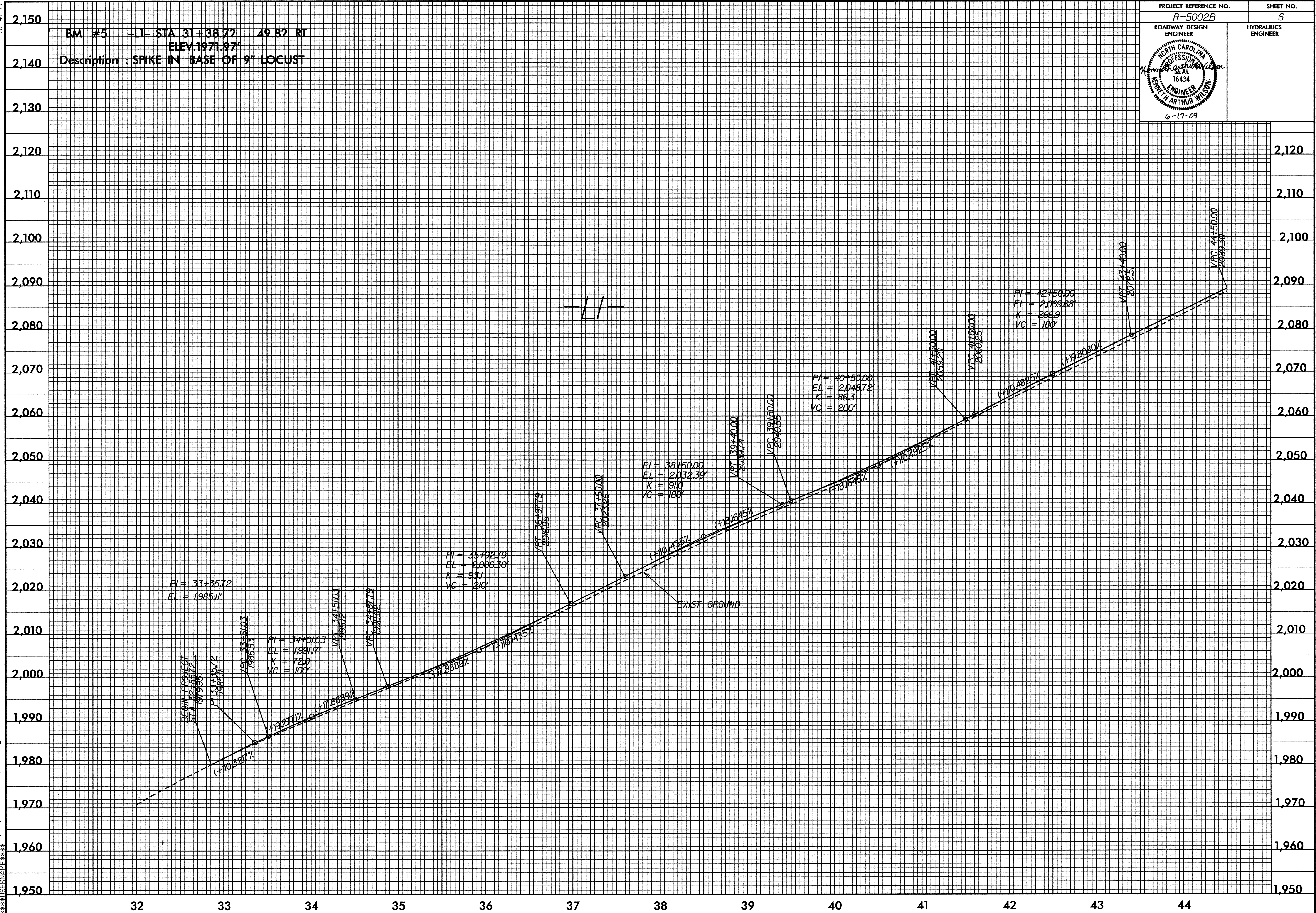
-LI-	
PI Sta 58+06.95	PI Sta 60+45.71
$\Delta = 12^{\circ} 29' 00.0"$ (LT)	$\Delta = 99^{\circ} 21' 42.0"$ (LT)
D = 9' 07' 24.2"	D = 39' 34' 19.6"
L = 136.83'	L = 251.09'
T = 68.69'	T = 170.61'
R = 628.01'	R = 144.79'
SE = 0.080	
RUNOFF = SEE PLANS	



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 \$\$\$\$SETHWILSON\$\$\$\$

5/14/99

PROJECT REFERENCE NO. R-5002B	SHEET NO. 6
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
6-17-09	

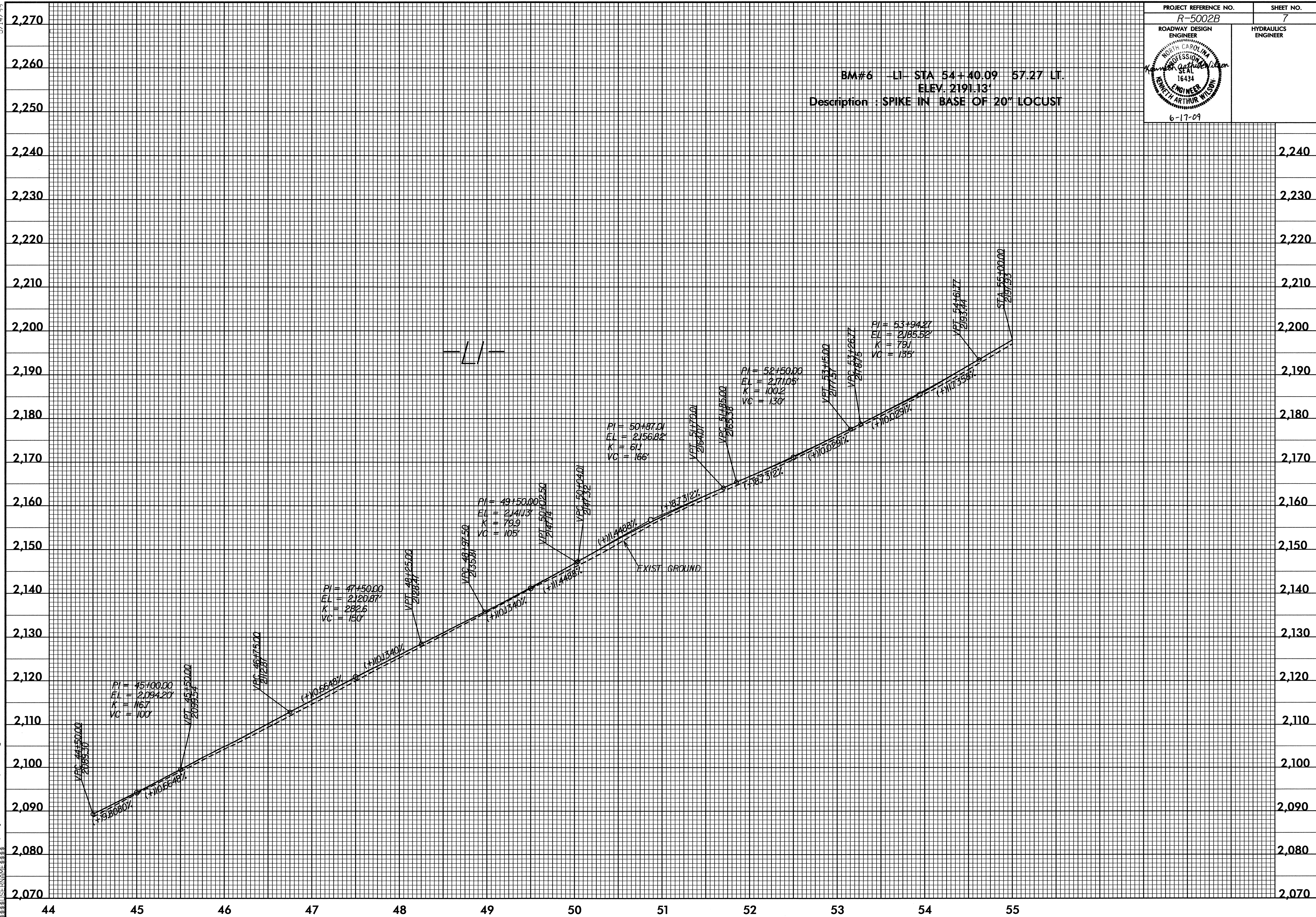


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5/14/99

PROJECT REFERENCE NO. R-5002B	SHEET NO. 7
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
6-17-09	

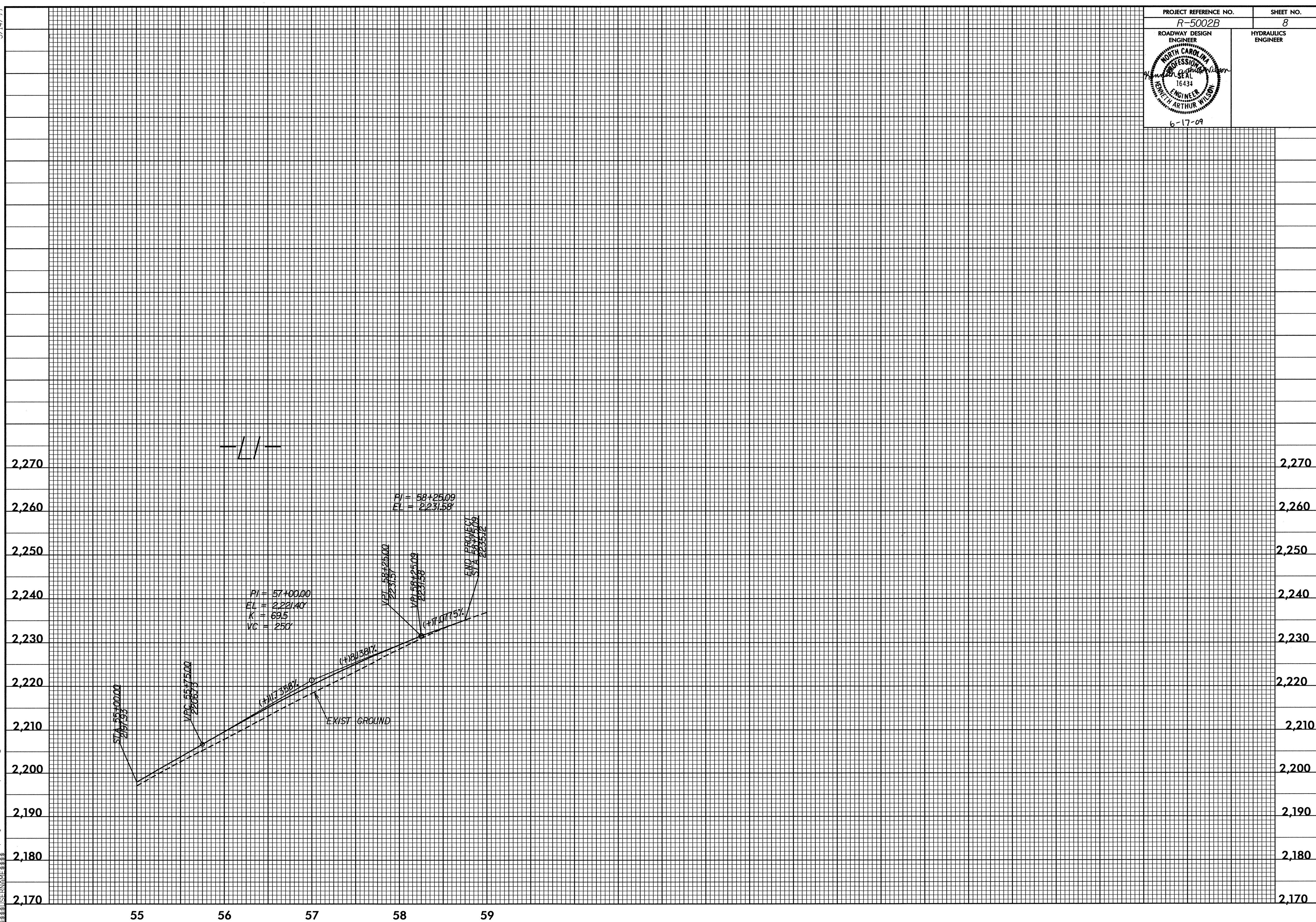
BM#6 -LI- STA 54+40.09 57.27 LT.
ELEV. 2191.13'
Description : SPIKE IN BASE OF 20" LOCUST



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5/14/99

PROJECT REFERENCE NO. R-5002B	SHEET NO. 8
ROADWAY DESIGN ENGINEER <i>Robert Arthur Wilson</i>	HYDRAULICS ENGINEER
6-17-09	



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5/14/99

-DRIVE-



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