

INDEX OF SHEETS
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STATE OF VERMONT AGENCY OF TRANSPORTATION

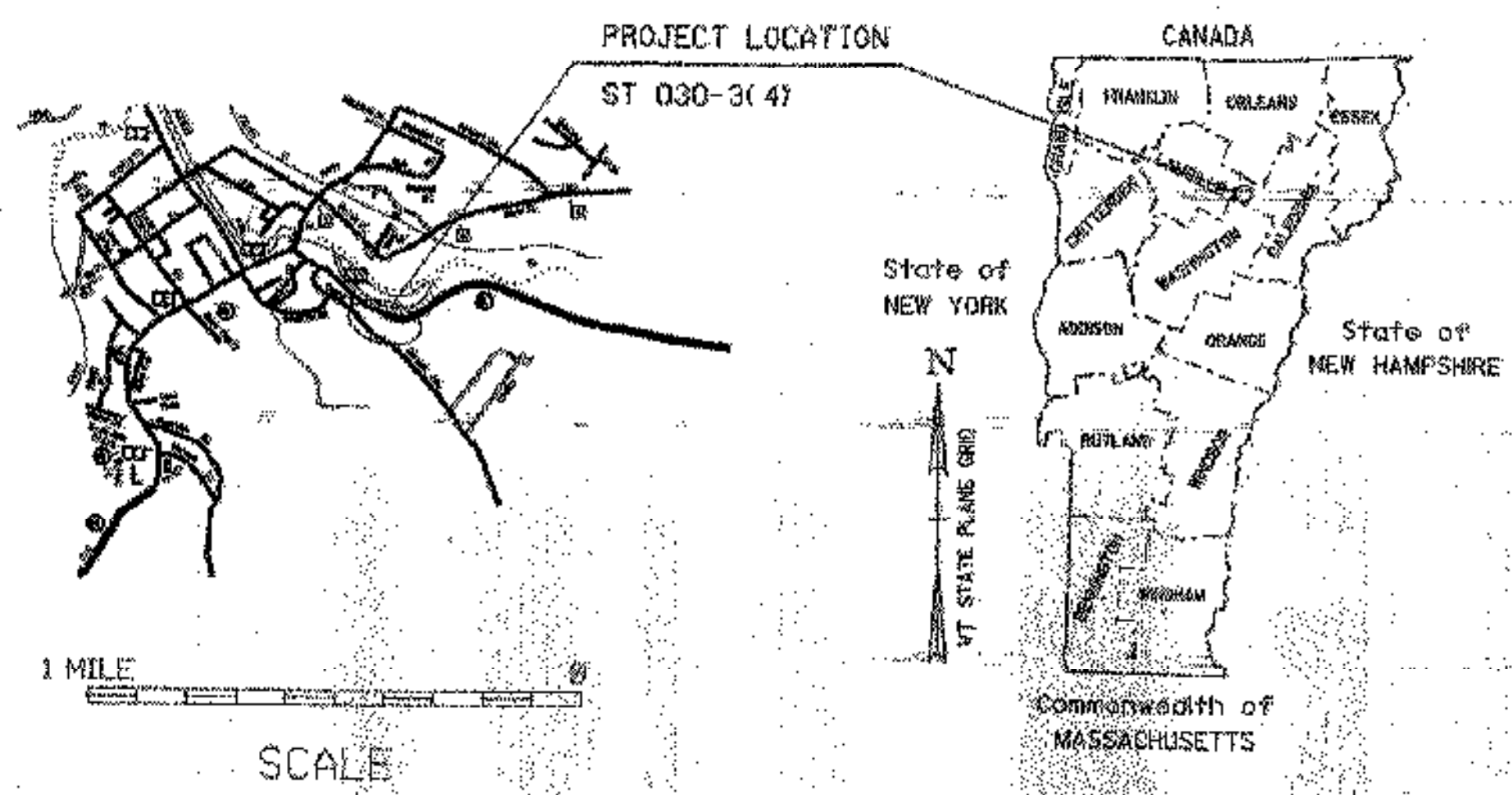
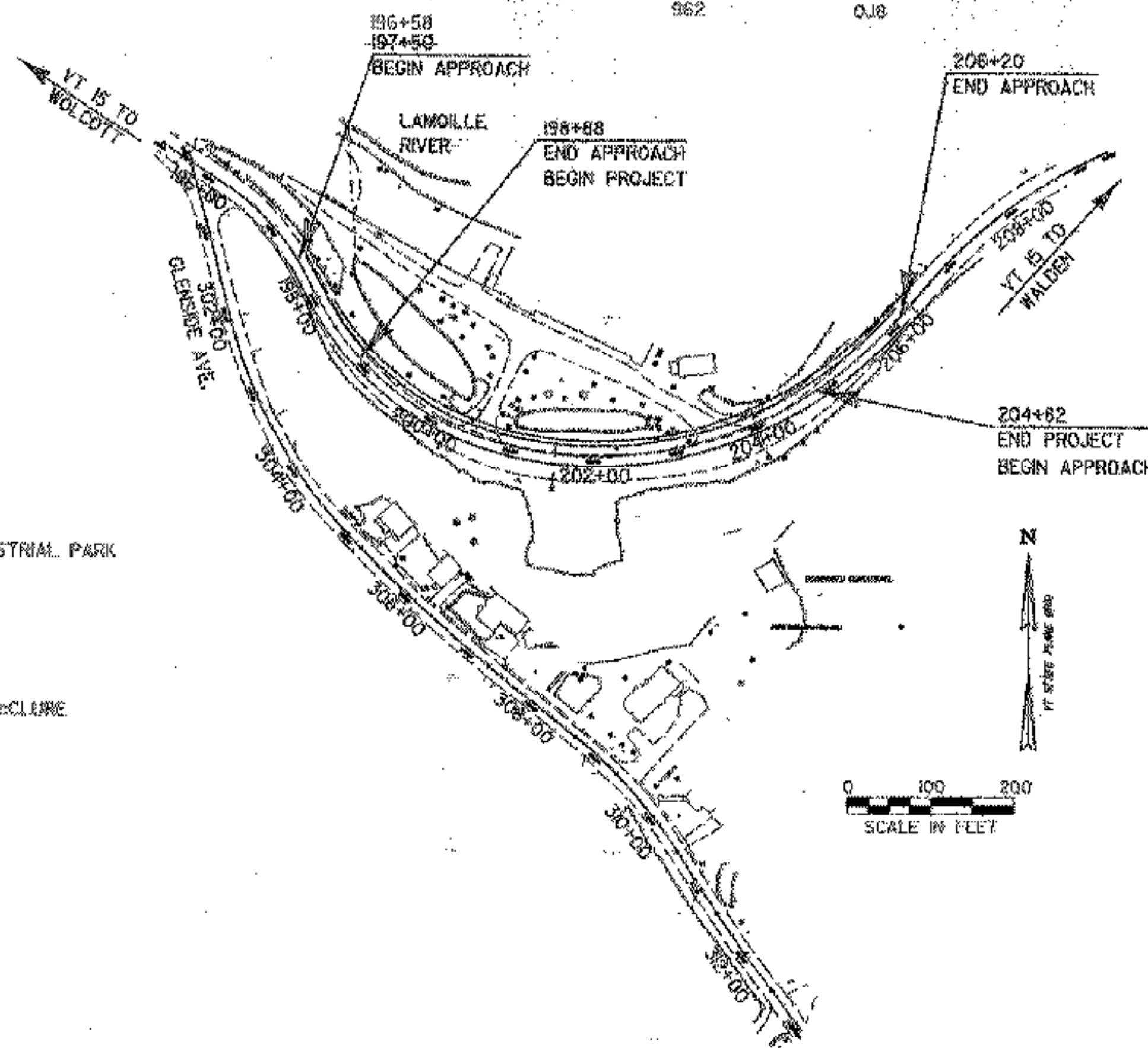


PROPOSED IMPROVEMENT TOWN OF HARDWICK COUNTY OF CALEDONIA VT. ROUTE 15 (MINOR ARTERIAL)

BEGINNING AT A POINT ON VT. ROUTE 15, EAST OF THE INTERSECTION OF GLENSIDE AVE. AT MILEMARKER 3.63, IN THE TOWN OF HARDWICK, AND EXTENDING EASTERLY 0.11 MILES TO MILEMARKER 3.74

WORK TO BE PERFORMED UNDER THIS PROJECT INCLUDES MINOR RE-ALIGNMENT OF VT. 15, INSTALLING A COUNTERBERM FOR SLOPE STABILIZATION, DRAINAGE, GUARDRAIL, PAVEMENT AND OTHER RELATED ROADWAY ITEMS.

LENGTH OF ROADWAY 594 FT = 0.11 MI
LENGTH OF PROJECT 962 FT = 0.18 MI



RECORD PLANS

CONTRACTOR: E.E. PACKARD ENTERPRISES, INC., EAST MONTPELIER, VT.

RESIDENT ENGINEER: KEVIN McCLURE

CONSTRUCTION BEGAN: JUNE 16, 2006

CONSTRUCTION COMPLETE:

RECORD PLANS BY: K. McCLURE, L. NOYES, & CUPPERCH

I HEREBY CERTIFY THAT ALL THE CONSTRUCTION REQUIRED BY THIS SET OF DRAWINGS HAS BEEN ACCOMPLISHED AS INDICATED HEREIN.

BY: *Kevin McClure* RESIDENT ENGINEER

DATE: 5-15-07

NOTE: Any further information concerning final quantities, amounts or other details relative to this project may be found at Central Files in the electronic archives.

CONVENTIONAL SYMBOLS

COUNTY LINE	— — — — —
TOWN LINE	— — — — —
LIMITS OF ACCESS	— — — — —
POINT OF ACCESS	X
FENCE LINE	X — — — — X
STONE WALL	— — — — —
TRAVELED RAY	— — — — —
GUARD RAIL	— — — — —
RAILROAD	— — — — —
SURVEY LINE	— — — — —
CULVERT	— — — — —
POWER POLE	⊕
TELEPHONE POLE	⊕
TREES	⊕
CONTROL OF ACCESS	— — — — —
PROPERTY LINE	— — — — —
R.O.W. TURNING LINE	— — — — —
SLOPE RIGHTS	— — — — —
TOP OF CUT	— — — — —
TOE OF SLOPE	— — — — —

CONTRACT START: 4-10-06
SUBSTANTIAL COMPLETE: 10-05-06
CONTRACTOR: E.E. PACKARD ENTERPRISES, INC.
ROUTE 2 LOT 3 PACKARD PACKARD INDUSTRIAL PARK
P.O. BOX 70
EAST MONTPELIER, VT 05651
RESIDENT ENGINEER: KEVIN McCLURE
RECORD PLANS COMPLETED BY LYLE NOYES & KEVIN McCLURE

SURVEYED BY: R. GILMAN
SURVEYED DATE: DEC. 2004
DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (96)

TRAFFIC DATA

2005 ADT	=	4,600
2025 ADT	=	5,900
2025 ADTT	=	820
2025 DHV	=	670
D %	=	59
2025 I %	=	13
TOTAL ESALS (2005-2025)	=	2,956,000
TOTAL ESALS (2005-2045)	=	7,537,000

THESE PLANS ARE SUBJECT TO SUCH ENGINEERING CHANGES AS MAY BE REQUIRED BY THE DIRECTOR OF PROGRAM DEVELOPMENT.
CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2003 AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JANUARY 4, 2004 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.
FILE NAME: d040e060bdr.dgn
IPARM NAME: d040e060t1.t

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATOR

APPROVED: _____ DATE _____

DIRECTOR OF PROGRAM DEVELOPMENT
APPROVED: *Richard F. ...* DATE: *5-2-05*

PROJECT MANAGER: A. BOMBARDIER

PROJECT NAME: HARDWICK
PROJECT NUMBER: STP ST 030-3(4)

SHEET 1 OF 63 SHEETS

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STANDARDS

B-1	BANKING TABLES	6/1/1994
B-5	SLOPE GRADING, EMBANKMENTS, MUCK	6/1/1994
B-6	UNDERDRAIN - ROCK SUBGRADE, SLOPE STABILIZ.	6/1/1994
B-7	RESIDENTIAL AND COMMERCIAL DRIVES	2/1/2004
D-2	C.R.M. HEADWALLS, UNDERDRAIN	8/1/1994
D-2	C.R.M. HEADWALLS & RETAINING WALLS	8/1/1994
D-2	RIPRAP LIGHT TYPE SLOPE HEADWALL	8/1/1994
D-2	REINFORCED CONCRETE HEADWALL,	8/1/1994
D-2	UNDERDRAIN & CARRIER PIPE CONSTRUCTION DETAILS	8/1/1994
D-3	TREATED GUTTERS	6/1/1994
D-4	FLUSHING BASINS, END SECTION, ELBOWS	6/1/1994
D-4	TYPICAL WATERFALL FOR CULVERTS UP TO AND	6/1/1994
D-4	INCLUDING 48" DIA	6/1/1994
D-4	EXTENSION SERVICE BOX AND CURB STOP	6/1/1994
D-4	CORRUGATED PIPE ELBOW	6/1/1994
D-4	GRANULAR BORROW AT CULVERT LOCATIONS	6/1/1994
D-4	UNDERDRAIN FLUSHING BASIN	6/1/1994
D-4	CORRUGATED STEEL PIPE END SECTION	6/1/1994
D-4	CORRUGATED STEEL PIPE ARCH END SECTION	6/1/1994
D-6	REINF. CONCRETE DROP INLET W/GRATE (DITCHES)	6/1/1994
D-11	GRATES & COVERS (TYPE A)	6/1/1994
D-13	CONCRETE CATCH BASIN	1/3/2000
D-16	PRECAST CURB DI, GRATE, RCP END SECTION, ETC.	6/1/1994
D-16	CAST IRON GRATE, TYPE B	6/1/1994
D-16	CAST IRON GRATE, TYPE C	6/1/1994
D-16	UNDERDRAIN RISER	6/1/1994
D-16	REINFORCED CONCRETE PIPE END SECTION	6/1/1994
D-16	ENERGY DISSIPATOR FOR CULVERT	6/1/1994
E-100	CONSTRUCTION APPROACH SIGNS	1/2/2004
E-100A	SIDE ROAD CONSTRUCTION - APPROACH SIGNS	1/2/2004
E-101	CONSTRUCTION SIGN DETAILS	6/30/2003
E-102	CONSTRUCTION SIGN DETAILS	6/30/2003
E-102A	CONSTRUCTION SIGN DETAILS	5/1/2004
E-106	TRAFFIC CONTROL - MISCELLANEOUS DETAILS	3/1/2004
E-107	DELINEATION, BARRICADES AND DETOURS FOR	6/30/2003
E-107	CONSTRUCTION AREAS	6/30/2003
E-107A	BREAKAWAY BARRICADE DETAILS	8/8/1995
E-108	CONSTRUCTION ZONE LONGITUDINAL DROP OFFS	8/18/1995
E-110	MAJOR MAINTENANCE OPERATION LANE CLOSURE	8/8/1995
E-121	STANDARD SIGN PLACEMENT - CONVENTIONAL ROAD	8/8/1995
E-123	GUIDE SIGN PLACEMENT - MISCELLANEOUS DETAILS	3/16/2004
E-128A	DETAILING VILLAGE SIGNS (A-M)	8/8/1995
E-138	MILEMARKER DETAILS - STATE & TOWN HIGHWAYS	5/30/2003
E-141	REGULATORY SIGN DETAILS	8/20/1995
E-142	REGULATORY SIGN DETAILS	8/20/1995
E-152	WARNING SIGN DETAILS	5/1/2004
E-155	WARNING SIGN DETAILS	5/1/2004
E-160	FLANGED CHANNEL STEEL SIGN POST	5/20/1999
E-193	PAVEMENT MARKING DETAILS	8/18/1995
E-198	FREEWAY - EXPRESSWAY DELINEATORS AND MILEPOSTS	4/1/2005
F-4	CHAIN-LINK FENCE, TYPE II	6/1/1994
F-4	DRIVE GATE FOR CHAIN-LINK FENCE, TYPE II	6/1/1994
F-4	WALK GATE FOR CHAIN-LINK FENCE, TYPE II	6/1/1994
G-1	STEEL BEAM GUARDRAIL (50MPH & OVER)	1/3/2000
G-1	HEAVY DUTY STEEL BEAM GUARDRAIL	1/3/2000
G-1	TWISTED END TERMINAL	1/3/2000
G-1	ANCHOR FOR STEEL BEAM RAIL	1/3/2000

G-4	STEEL BEAM GUARDRAIL (40MPH & LESS)	1/3/2000
G-4	HEAVY DUTY STEEL BEAM GUARDRAIL	1/3/2000
G-4	STEEL BEAM MEDIAN BARRIER	1/3/2000
G-4	ANCHOR FOR STEEL BEAM RAIL	1/3/2000
J-3	MAILBOX SUPPORT DETAIL (SINGLE & MULTIPLE SUPPORT)	8/7/1995
L-2	GEOTECHNICAL INSTRUMENTATION	7/24/1995

44A, 45A, 46A, 47A, 47B, 48A, 48B, 49A, 49B, & 50A FINAL SECTIONS PLOT DATE II-20-06.

PROJECT NAME:	HARDWICK		
PROJECT NUMBER:	STP ST 030-3(4)		
FILE NAME:	d04e080excef	PLOT DATE:	3/23/05
PROJECT LEADER:	A. BOMBARDIER	DRAWN BY:	M. NUTTER
DESIGNED BY:	M. NUTTER	CHECKED BY:	A. BOMBARDIER
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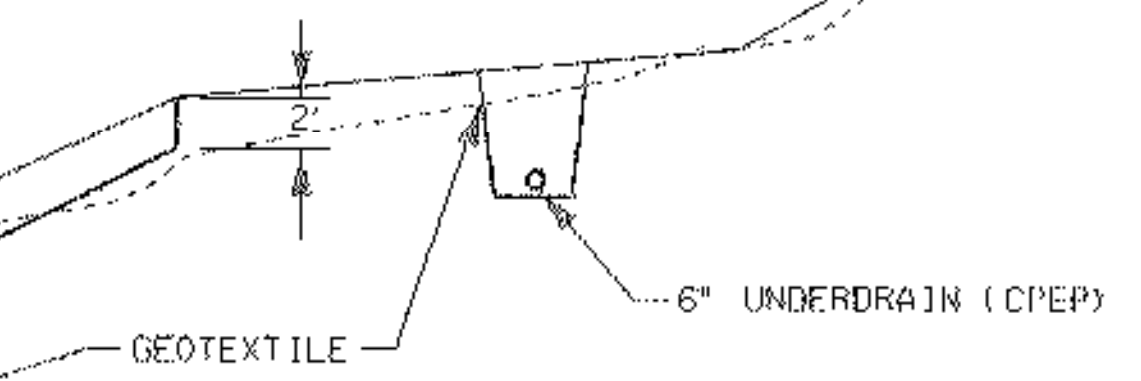
MATERIAL TOLERANCES

MATERIAL ITEM	THICKNESS (TOTAL DEPTH)
PAVEMENT	+ 1/4"
SUBBASE	+ 1"
SAND	+ 1"

TYPICAL SECTION

- 1 3/4" BITUMINOUS CONCRETE PAVEMENT, TYPE III (PG 58-34)
- 2 1/4" BITUMINOUS CONCRETE PAVEMENT, TYPE II (PG 58-34)
- 2 3/4" BITUMINOUS CONCRETE PAVEMENT, TYPE I (PG 58-34)
- 24" SUBBASE OF DENSE GRADED CRUSHED STONE
- 18" SAND BORROW

ROADWAY BUILT AS DESIGNED



**SEEDING FORMULA
URBAN AREAS**

STA. 197+60 - 205+60 LT

% WT.	LBS./A.	NAME	PUR %	GERM %
42.5	34.0	CREeping RED FESCUE	98	85
40.0	8.0	PERENNIAL RYE GRASS	95	90
42.5	34.0	KENTUCKY BLUE GRASS	85	85
5.0	4.0	ANNUAL RYE GRASS	95	85
100.00	80.0			

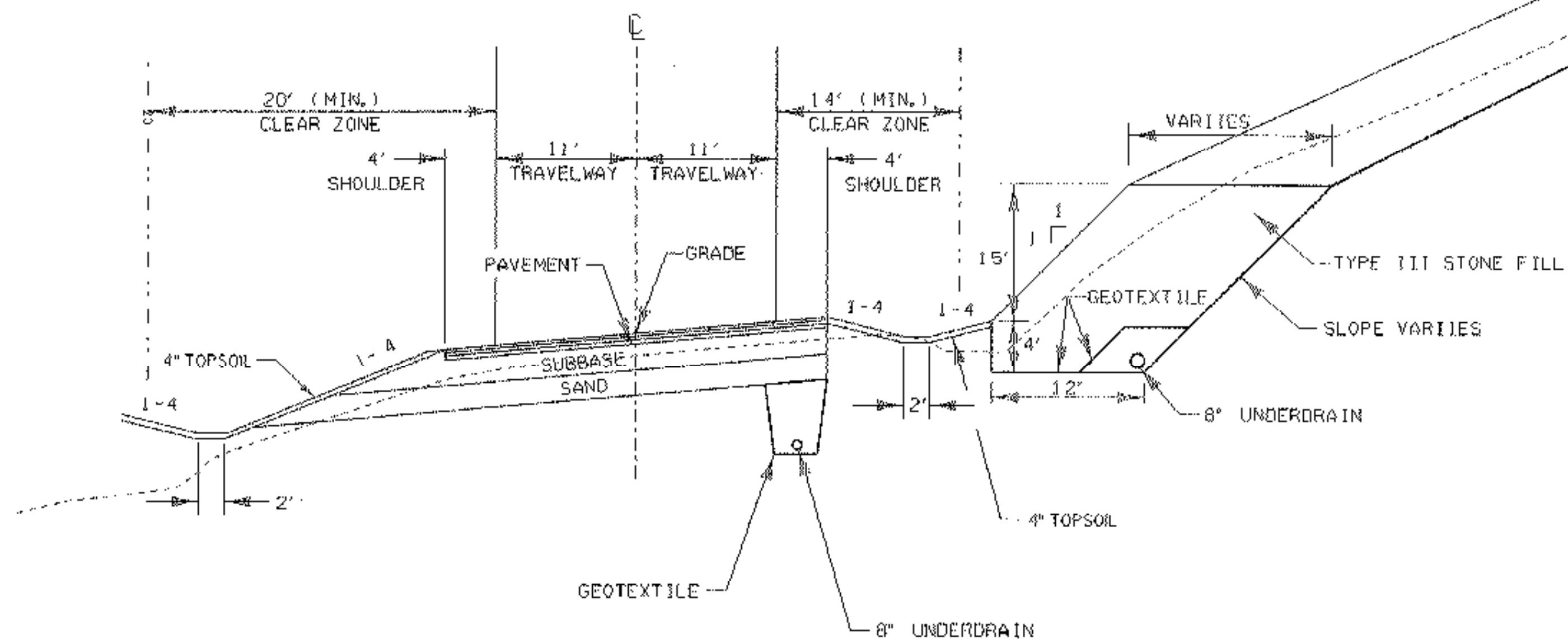
**SEEDING FORMULA
RURAL AREAS**

STA. 198+00 - 205+60 RT

% WT.	LBS./A.	NAME	PUR %	GERM %
37.5	22.5	CREeping RED FESCUE	98	85
37.5	22.5	TALL FESCUE	95	90
5.0	3.0	RED TOP	95	90
15.0	9.0	BIRDSFOOT TREFOL	98	85
5.0	3.0	ANNUAL RYEGRASS	95	85
100.0	60.0			

GENERAL NOTES

- SEED MIXTURE: SHALL NOT HAVE A WEEG CONTENT EXCEEDING 0.40% BY WEIGHT AND SHALL BE FREE OF ALL NOXIOUS SEED.
- SEEDS: TO BE APPLIED PUR SEEDING FORMULAS OR AS DIRECTED BY THE ENGINEER.
- FERTILIZER: FORMULA 10-20-10, TO BE USED WITH SEED, APPLIED AT THE RATE OF 500 LBS./ACRE. (HYDRO SEEDERS MAY USE 18-18-18 FORMULA).
- AGRICULTURAL LIMESTONE: TO BE APPLIED AT THE RATE OF 2 TONS/ACRE, OR AS DIRECTED BY THE ENGINEER.
- HAY MULCH: TO BE PLACED ON EARTH SLOPES AT THE RATE OF 2 TONS/ACRE, OR AS DIRECTED BY THE ENGINEER.
- TOPSOIL: TO BE USED WITH SEED AS INDICATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.
- MARKER POSTS: TO BE PLACED AS INDICATED OR AS DIRECTED BY THE ENGINEER.
- SLOPE ROUNDING: ALL CUT SLOPES TO BE ROUNDED IN ACCORDANCE WITH STANDARD SHEET B - 5.
- TACK COAT: EMULSIFIED ASPHALT IS TO BE APPLIED AT THE RATE OF 0.015 GAL/SY BETWEEN SUCCESSIVE COURSES OF PAVEMENT OR AS DIRECTED BY THE ENGINEER.



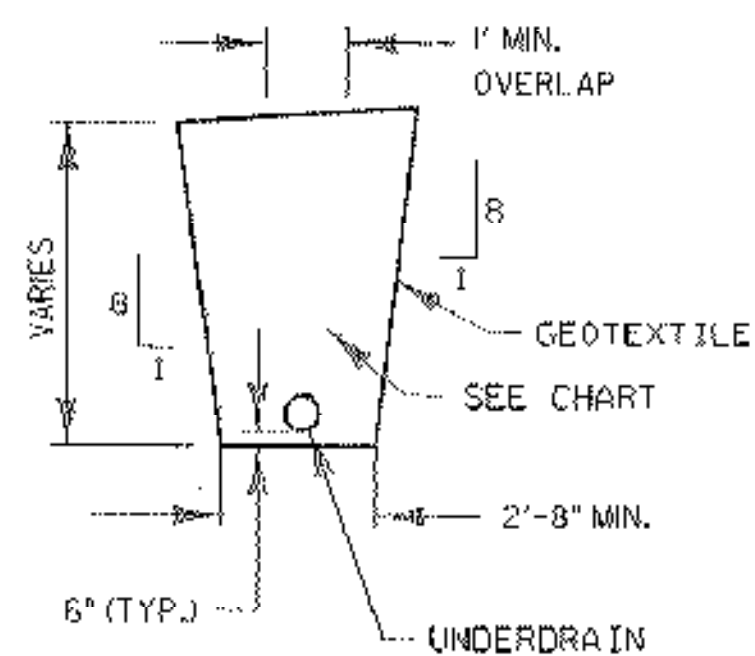
MAXIMUM 0.080 BANKED SECTION

3/4" WASHED STONE USED AS UNDERDRAIN BACKFILL

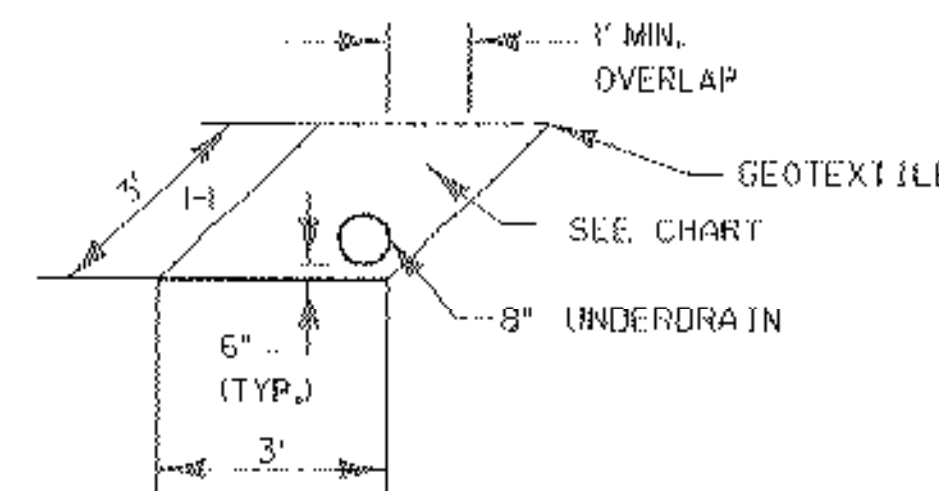
CHART FOR UNDERDRAIN BACKFILL

BACKFILL FOR UNDERDRAIN, SHALL MEET THE FOLLOWING GRADATION REQUIREMENTS:

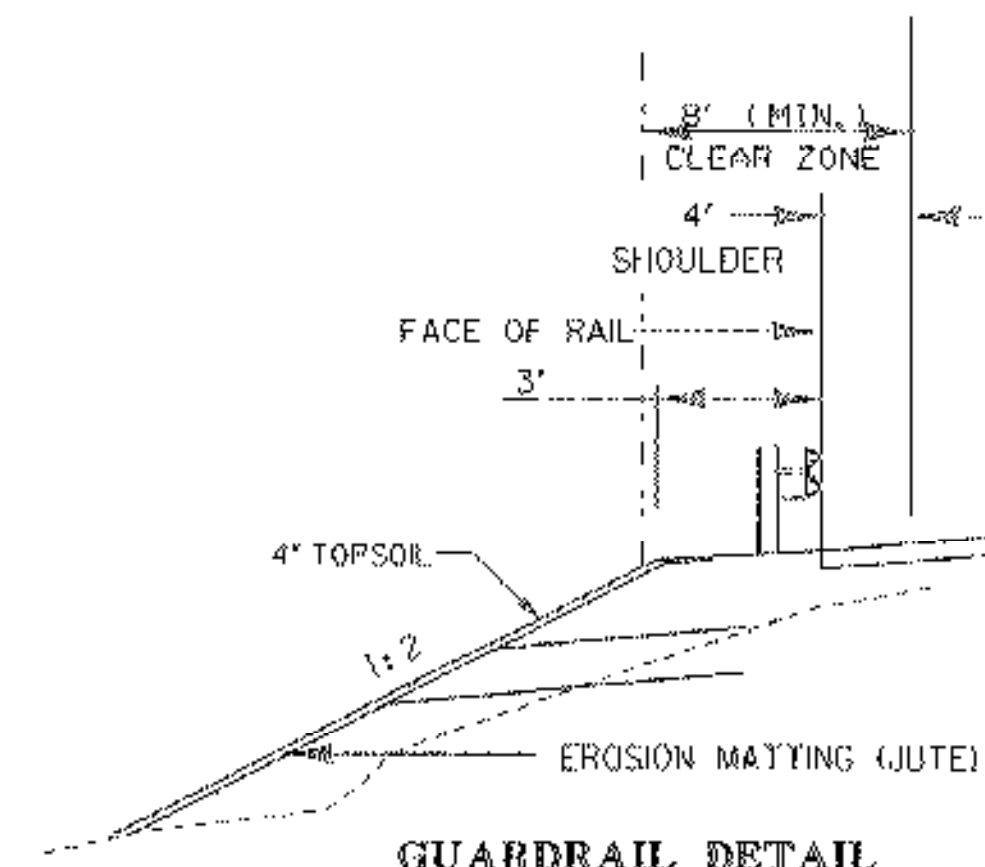
SIEVE SIZE	PERCENT BY WT. PASSING THE SQUARE MESH SIEVES
7.5 "	100
1.0 "	95-100
0.5 "	60-80
NO. 4	40-55
NO. 8	5-25
NO. 16	0-12
NO. 50	0-5



UNDERDRAIN DETAIL



UNDERDRAIN DETAIL FOR STONE FILL, TYPE III



GUARDRAIL DETAIL

N.T.S.

PROJECT NAME: HARDWICK	PLOT DATE: 18-OCT-2005
PROJECT NUMBER: STP ST 030-3(4)	DRAWN BY: M. NUTTER
FILE NAME: d04e060fcm.dgn	CHECKED BY: A. BOMBARDIER
DESIGNED BY: M. NUTTER	SHEET 3 OF 63
IPARM NAME: d04e060fyp.j	

QUANTITY SHEET

SUMMARY OF ESTIMATED QUANTITIES											TOTALS			DESCRIPTIONS			DETAILED SUMMARY OF QUANTITIES							
											FULL E&C ITEMS	EROSION CONTROL	LAND-SCAPING	ROADWAY	BRIDGE QUANTITY	ROUND	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	QUANTITIES	UNIT	ITEMS
														1			1		LS	CLEARING AND GRUBBING (INCLUDING INDIVIDUAL TREES AND STUMPS)	201.10			
														9600		32	9600		CY	COMMON EXCAVATION	203.15			
														100		EST	100		CY	SOLID ROCK EXCAVATION	203.16			
														400		20	400		CY	EXCAVATION OF SURFACES AND PAVEMENT	203.28			
														1400		24	1400		CY	EARTH BORROW	203.30			
														1800		6	1800		CY	SAND BORROW	203.31			
														3570		9	3570		SY	FINE GRADING-SUBGRADE	203.40			
														2150		66	2150		CY	TRENCH EXCAVATION OF EARTH	204.20			
														100		EST	100		CY	TRENCH EXCAVATION OF ROCK	204.21			
														85		1	85		CY	GRANULAR BACKFILL FOR STRUCTURES	204.30			
														335		2	335		SY	COLD PLANING-BIT.PAVEMENT	210.10			
														2350		47	2350		CY	SUBBASE OF DENSE GRADED CRUSHED STONE	301.35			
														4		5	4		CWT	EMULSIFIED ASPHALT	404.65			
														1080			1080		TON	BITUMINOUS CONCRETE PAVEMENT (PG 58-34)	406.25			
														15		12	15		CY	CONCRETE, CLASS B	501.25			
														13		.1	13		CY	CONCRETE CLASS D (MOD - FLOWABLE FILL)	501.31			
														1200		48	1200		LB	REINFORCNG STEEL	507.15			
														60			60		LF	18" CSP .064 (2-2/3 X 1/2)	601.0015			
														230		8	230		LF	24" PCCSP .079 (2-2/3 X 1/2)	601.0426			
														270		4	270		LF	30" PCCSP .079 (2-2/3 X 1/2)	601.0436			
														50		EST	50		LF	RELAYNG PIPE CULVERTS	601.99			
														2			2		EACH	CONCRETE CATCH BASIN WITH CAST IRON GRATE	604.10			
														2			2		EACH	PRC CURB DROP INLET WITH CAST IRON GRATE (MOD - CAST IRON COVER)	604.30			
														8			8		EACH	CAST IRON GRATE WITH FRAME, TYPE A	604.45			
														270		10	270		LF	8" UNDERDRAIN (CPEP)	605.10			
														1080		4	1080		LF	8" UNDERDRAIN	605.11			
														10		2	10		LF	6" UNDERDRAIN CARRIER PIPE	605.20			
														260		14	260		LF	6" UNDERDRAIN CARRIER PIPE (CPEP)	605.20			
														50		EST	50		LF	8" UNDERDRAIN CARRIER PIPE	605.21			
														4			4		EACH	UNDERDRAIN FLUSHING BASINS	605.95			
														10		EST	10		HR	BULLDOZER RENTAL, TYPE I	608.10			
														40		EST	40		HR	ALL PURPOSE EXCAVATOR RENTAL, TYPE I	608.25			
														40		EST	40		HR	POWER BROOM RENTAL, TYPE II	608.31			
														40		EST	40		HR	TRUCK RENTAL	608.37			
														115		EST	115		MGAL	DUST CONTROL WITH WATER	609.10			
													15		EST	15		MGAL	DUST CONTROL WITH WATER (MOD - WATER PLANTS)	609.10				
														1		EST	1		TON	DUST AND ICE CONTROL WITH CALCIUM CHLORIDE	609.15			
														10		EST	10		CY	STONE FILL, TYPE I	613.10			

PROJECT NAME: **HARDWICK**
PROJECT NUMBER: **STP ST 030-3(4)**
FILE NAME: D04e060qty.dgn PLOT DATE: 3/2/05
PROJECT MANAGER: **A. BOMBARDIER** DRAWN BY: **M. NUTTER**
DESIGNED BY: **M. NUTTER** CHECKED BY: **A. BOMBARDIER**
QUANTITY SHEET #1 SHEET 4 OF 63

QUANTITY SHEET

SUMMARY OF ESTIMATED QUANTITIES											TOTALS			DESCRIPTIONS			DETAILED SUMMARY OF QUANTITIES							
											FULL E&C ITEMS	EROSION CONTROL	LAND-SCAPING	ROADWAY	BRIDGE QUANTITY	ROUND	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	QUANTITIES	UNIT	ITEMS
												20				EST	20		CY	STONE FILL, TYPE I (MOD.-INLET PROTECTION)	613.10			
												60				EST	60		CY	STONE FILL, TYPE I (MOD.-CONSTRUCTION ENTRANCE)	613.10			
												5250				69	5250		CY	STONE FILL, TYPE II	613.11			
												2650				69	2650		CY	STONE FILL, TYPE III	613.12			
														35		2	35		TON	BITUMINOUS CONCRETE GUTTERS AND TRAFFIC ISLANDS	616.47			
														1			1		EACH	RELOCATE MAIL BOX, SINGLE SUPPORT	617.10			
														13			13		EACH	YIELDING MARKER POSTS	619.17			
														12			12		LF	GATE FOR CHAIN-LINK FENCE, 4 FEET (VINYL - GREEN)	620.15			
														900		EST	900		LF	SNOW FENCE (MOD.-ARCH)	620.70			
														1800		EST	1800		LF	SNOW FENCE (MOD.-PDF)	620.70			
														325			325		LF	STEEL BEAM GUARDRAIL (GALVANIZED)	621.20			
														1			1		EACH	ANCHOR FOR STEEL BEAM RAIL	621.60			
														62.5			62.5		LF	REMOVL AND DISP OF GUARDRAIL	621.80			
														2			2		EACH	REMOVL AND DISP OF GUIDE POSTS	621.81			
														500		EST	500		LF	TEMPORARY TRAFFIC BARRIER	621.90			
														100		EST	100		LF	INCLINOMETER	623.30			
														60		EST	60		LF	GROUND WATER OBSERVATION WELL	623.50			
														20		EST	20		LF	PIPE INSULATION (3/4" DIA.)	629.44			
														20		EST	20		LF	PIPE INSULATION (2" DIA.)	629.44			
														300		EST	300		HR	UNIFORMED TRAFFIC OFFICERS	630.10			
														600		EST	600		HR	FLAGGERS	630.15			
												1					1		LS	FIELD OFFICE-ENGINEERS	631.10			
												1					1		LS	TESTING EQUIPMENT - CONCRETE	631.16			
												1					1		LS	TESTING EQUIPMENT - BITUMINOUS	631.17			
												1					1		LU	FIELD OFFICE - TELEPHONE (N.A.B.I.)	631.25			
														1			1		LS	MOBILIZATION / DEMOBILIZATION	635.11			
														1			1		LS	UTILITY SYSTEM (MOD.- MOVE PROPANE TANK)	636.15			
														1			1		LS	TRAFFIC CONTROL	641.10			
														3			3		EACH	PORTABLE CHANGEABLE MESSAGE SIGN	641.15			
														1750		10	1750		LF	4" WHITE LINE	646.20			
														1750		10	1750		LF	4" YELLOW LINE	646.21			
														1750		10	1750		LF	TEMPORARY 4" WHITE LINE (PAINT)	646.60			
														1750		10	1750		LF	TEMPORARY 4" WHITE LINE (TAPE, TYPE II)	646.60			
														1750		10	1750		LF	TEMPORARY 4" YELLOW LINE (PAINT)	646.61			
														1750		10	1750		LF	TEMPORARY 4" YELLOW LINE (TAPE, TYPE II)	646.61			
														50			50		EACH	LINE STRIPING TARGETS	646.76			
												4450				2	4450		SY	GEOTEXTILE UNDER STONE FILL	649.31			
														3500		30	3500		SY	GEOTEXTILE FOR UNDERDRAN TRENCH LINING	649.41			
												500				EST	500		SY	GEOTEXTILE FOR SILT FENCE	649.51			
												250				13	250		LB	SEED	651.15			

PROJECT NAME: **HARDWICK**
PROJECT NUMBER: **STP ST 030-3(4)**
FILE NAME: D04e060qty.dgn PLOT DATE: 3/2/05
PROJECT MANAGER: **A. BOMBARDIER** DRAWN BY: **M. NUTTER**
DESIGNED BY: **M. NUTTER** CHECKED BY: **A. BOMBARDIER**
QUANTITY SHEET #2 SHEET 5 OF 63

QUANTITY SHEET

SUMMARY OF ESTIMATED QUANTITIES													TOTALS			DESCRIPTIONS			DETAILED SUMMARY OF QUANTITIES		
													ROUND	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	QUANTITIES	UNIT	ITEMS
																LB	SEED-WINTER RYE	651.17			
													EST	12		LB	FERTILIZER	651.18			
													5	1780		LB	FERTILIZER (MOD - MYCORRIZAL)	651.18			
													.5	10		TON	AGRICULTURAL LIMESTONE	651.20			
													8	8		TON	HAY MULCH	651.25			
													9	9		CY	CEDAR BARK MULCH	651.27			
														7		CY	TOPSOIL	651.35			
														1900		LS	EROSION PREVENTION & SEDIMENT CONTROL PLAN	652.10			
													1	1		HR	MONITORING EROSION PREVENTION & SEDIMENT CONTROL PLAN	652.20			
													80	80		LU	FIELD MAINTENANCE OF EROSION PREVENTION & SEDIMENT CONTROL PLAN (N.A.B.I.)	652.30			
													1	1		SY	EROSION MATTING (JUTE)	654.10			
													6100	6100		EACH	EVERGREEN TREES (THUJA OCCIDENTALIS / EASTERN WHT. CEDAR, 4' - 5' HT)	656.20			
														46		EACH	DECIDUOUS TREE (SUGAR MAPLE, ACER SACHARUM, 2-2 1/2" CALIPER)	675.20			
														1		SF	TRAFFIC SIGNS, TYPE A	675.301			
														77.25		EACH	REMOVING SIGNS	676.10			
														224		EACH	DELINEATORS W/STEEL POSTS	679.25			
														18		TON	COLLECTION & DISPOSAL OF BULKY METALLIC WASTE	681.10			
														224							
														18							
														14							
														3							
														3							
														10							
													EST	10							

RIGHT - OF - WAY DETAIL SHEET

TABLE OF PROPERTY ACQUISITION

TABLE OF REVISIONS

PARCEL NO.	PROPERTY OWNER	SHEET NO.	BEGINNING STATION	ENDING STATION	TAKE	REMAINDER	RIGHT			RECORDING DATA				REMARKS	
					AREA±	AREA±	TYPE	(T)/(P)	AREA ±	TITLE	DATE	TOWN / CITY	BOOK		PAGE
1	STATE OF VERMONT	7,8	201+60.17 RT.	203+70.47 RT.	1.00 A	0.00 A									FORMERLY WIGGINS, DAVID
2	Z CORP	7	197+50.00 LT. 199+41.40 LT. 197+51.33 LT. 197+51.54 LT. 197+80.00 LT. 198+43.28 LT. 199+08.01 LT. 200+32.70 LT. 200+44.50 LT. 200+40.00 LT. 200+60.00 LT. 201+04.10 LT. 200+78.00 LT. 203+50.00 LT. 203+63.00 LT. 203+80.00 LT. 204+81.04 LT. 206+20.00 LT.±	202+17.38 LT. 200+43.90 LT. 197+72.51 LT. 200+49.92 LT. 198+91.31 LT. 199+64.96 LT. 200+48.24 LT. 201+00.00 LT. 205+44.66 LT. 204.08.15 LT. 205+44.66 LT. 204.08.15 LT. 205+23.96 LT.	0.14 A		CULVERT & DRAINAGE (P)							HARDWICK	INCLUDES MANHOLES & DROP INLET PDF PLUG 30" CULVERT & DROP INLET MOD. PDF 3 FLAG POLES LIGHT & POLE DRIVEWAY 24' PAVED MM 0366 INCLUDES PDF DRIVE OLD DI PROPANE GAS TANK PLUG 4" STEEL PIPE
3	McLEAN, SUSAN G.	7,8	200+80.00 RT. 200+80.00 RT. 200+80.00 RT. TH 332 308+41.43 LT.± TH 332 308+41.43 LT.	TH 332 306+47.15 LT. TH 332 308+47.15 LT. TH 332 308+47.15 LT.			INSTALL (T)		1196.0 SF						PDF 5,663 SF± PLANT SUGAR MAPLE TREE LARGE PINE
4	HOLMES, SUSAN L. & TODD W.	7,8	TH 332 307+98.69 LT. TH 332 307+98.69 LT. TH 332 307+98.69 LT. TH 332 307+98.69 LT. TH 332 308+25.74 LT. 203+31.50 RT.	203+13.26 RT. 203+00.00 RT. 203+00.00 RT. 203+20.77 RT. 205+20.00 RT.			SLOPE (P)		0.11 A						INCLUDES EROSION CONTROL & PDF MONITORING WELL INCLUDES PDF
5A	TOWN OF HARDWICK	7	197+20.00 LT. 198+20.00 LT. 198+80.00 RT. 199+38.00 CL 199+40.00 CL 199+40.00 RT. 199+40.00 LT. 199+40.00 LT. 199+40.00 LT. 200+80.00 RT.	200+88.46 CL 199+40.00 LT. 199+40.00 RT. 200+80.00 RT. 200+88.46 RT. 200+30.00 LT. 200+88.46 RT.			CONST. (T)		0.42 A						18,526 SF± UNDERDRAIN UNDERDRAIN CULVERT & DROP INLET INCLUDES DROP INLET INCLUDES DROP INLET UNDERDRAIN UNDERDRAIN UNDERDRAINS
5B		8	TH 332 308+34.63 CL TH 332 307+98.69 LT. TH 332 310+75.00 LT. TH 332 310+79.60 LT.	TH 332 308+46.85 CL TH 332 311+00.00 LT. TH 332 311+00.00 LT.			CONST. (T)		302 SF						UNDERDRAIN DROP INLET
6	ANDRUS, AARON	8	TH 332 309+84.63 LT.	TH 332 309+95.34 LT.			ALL R.T. & I.								SIDEWALK
7	TOWN OF HARDWICK (WATER, SEWER, POWER)														UTILITY
8	VERIZON NEW ENGLAND, INC.														UTILITY
9	ADELPHIA CABLE COMMUNICATIONS														UTILITY

REVISION NO.	SHEET NO.	DESCRIPTION	DATE
1	6	PARCEL NO. 4 HOLMES. DELETE RIGHT TO REMOVE TREE AT STA. 308+20.70 LT. PER C.O. 9433. MADE BY: MR APPROVED BY: RD	08/03/05
2	6,7	PARCEL NO. 2 Z CORP. EXTEND THE LIMITS OF THE CONST. (T) AT STA. 197+50.00 LT. TO THE RIVERS EDGE. CHANGE AREA FROM 0.29A± TO 0.32A± PER C.O. 9434 MADE BY: MR APPROVED BY: RD	08/11/05
3	6,8	PARCEL NO. 6 ALASKA SEABOARD PARTNERS. CHANGE OWNER TO ANDRUS, AARON. PER C.O. 9435.	08/11/05
4	6,8	PARCEL NO. 2 Z CORP. REMOVE UNDERDRAIN IN POND AREA. RELOCATE 30" CULVERT. REMOVE THE FOLLOWING RIGHTS: CUL. & DR. (P) AT STA. 197+50.00 LT. ~ 199+40.00 LT.; CONST. (T) AT STA. 197+51.33 LT. ~ 200+49.92 LT.; CUL. (P) AT STA. 198+00.00 LT. ~ 199+40.00 LT.; CUL. (P) AT STA. 199+40.00 LT. ~ 203+14.00 LT.; CUL. (P) AT STA. 199+40.00 LT.; CUL. (P) AT STA. 203+05.00 LT. ~ 203+40.00 LT. ADD THE FOLLOWING RIGHTS: CUL. & DR. (P) AT STA. 199+41.40 LT. ~ 200+43.90 LT., INCLUDES MANHOLES & DI 199+41.40 LT. ~ 200+43.90 LT., INCLUDES MANHOLES & DI INSTALL (T) AT STA. 197+51.33 LT. ~ 197+72.51 LT., PDF REMOVE & RESET (T) AT STA. 200+32.70 LT. ~ 200+48.24 LT., 3 FLAG POLES INSTALL (T) AT STA. 198+43.28 LT. ~ 198+91.31 LT., MOD. PDF INSTALL (T) AT STA. 199+08.01 LT. ~ 199+64.96 LT., PDF PER C.O. 9443 MADE BY: BF APPROVED BY: RD	10/05/05

PLAN LEGEND

	EXISTING RIGHT-OF-WAY		TOE OF SLOPE	EC	-EROSION CONTROL
	TAKING WITH ACCESS		TOP OF CUT	(P)	-PERMANENT
	TAKING WITHOUT ACCESS		SLOPE RIGHT	(T)	-TEMPORARY
	CLEAR ZONE		CONSTRUCTION RIGHT	DR.	-DRAINAGE RIGHT
	PROPERTY LINE		PROJECT DEMARCATION FENCE	DIT.	-DITCHING RIGHT
				CH.	-CHANNEL RIGHT
				DRIVE	-DRIVE RIGHT
				CUL.	-CULVERT RIGHT
				C&T	-CLEARING & TRIMMING RIGHT
				SR	-SLOPE RIGHT
				UE	-UTILITY EASEMENT

APPROVED: ROGER P. DUMAS DATE: 07-15-05
CHIEF, PLANS & TITLES

PROJECT NAME:	HARDWICK		
PROJECT NUMBER:	STP - ST 030-3(4)		
FILE NAME:	04E060DET.XLS	PLOT DATE:	Date
PROJECT LEADER:	BOMBARDIER	DRAWN BY:	MR
DESIGNED BY:	BOMBARDIER	CHECKED BY:	FM
R.O.W. SHEET 6 OF 8		SHEET	9 OF 63

PLOT DATE 10/05/05

BEGIN R.O.W. PROJECT

ST 030-3(4) 197+50.00

24.65' LT.

LAMOILLE RIVER

HAY'S SERVICE STATION

197+50

BEGIN APPROACH ROW TO Z CORP.

REMOVE AND RESETTING LIGHT POLE (MOD.) 200+33 - 200+49 LT (3 EA)

○ = SAVE EXISTING TREES

198+88 END APPROACH BEGIN PROJECT

CONSTRUCT DRIVE 200+60 LT 24' PAVED YIELDING MARKER POSTS 10 EA

STEEL BEAM GUARDRAIL 203+00 - 206+25 LT 325' ANCHOR FOR STEEL BEAM GUARDRAIL 1 EA

STONE FILL, TYPE II FOR SLOPE STABILIZATION 200+60 - 203+20 RT STONE FILL, TYPE III FOR SLOPE STABILIZATION 200+60 - 203+20 RT

REMOVAL AND DISPOSAL OF GUIDE POSTS 2 EA 206+20 +/- LT 130' +/- PLUG EXISTING 4" STEEL PIPE

LEGEND: INCLINOMETER (EXISTING) - INCL (E) ○ INCLINOMETER (NEW) - INCL (N) ○ (50' EA) MONITORING WELL (EXISTING) - MW (E) ⊕ MONITORING WELL (NEW) - MW (N) ⊕

END R.O.W. PROJECT

ST 030-3(4) 205+44.66

38.13' LT.



CURVE DATA
Δ = 28°19'56.45" RT
D = 28°19'56.42"
R = 285.00
T = 71.94
L = 140.93
E = 8.94
BANK = 0.080 FT / FT

HILL, WILLIAM

THIBAUT, LARRY

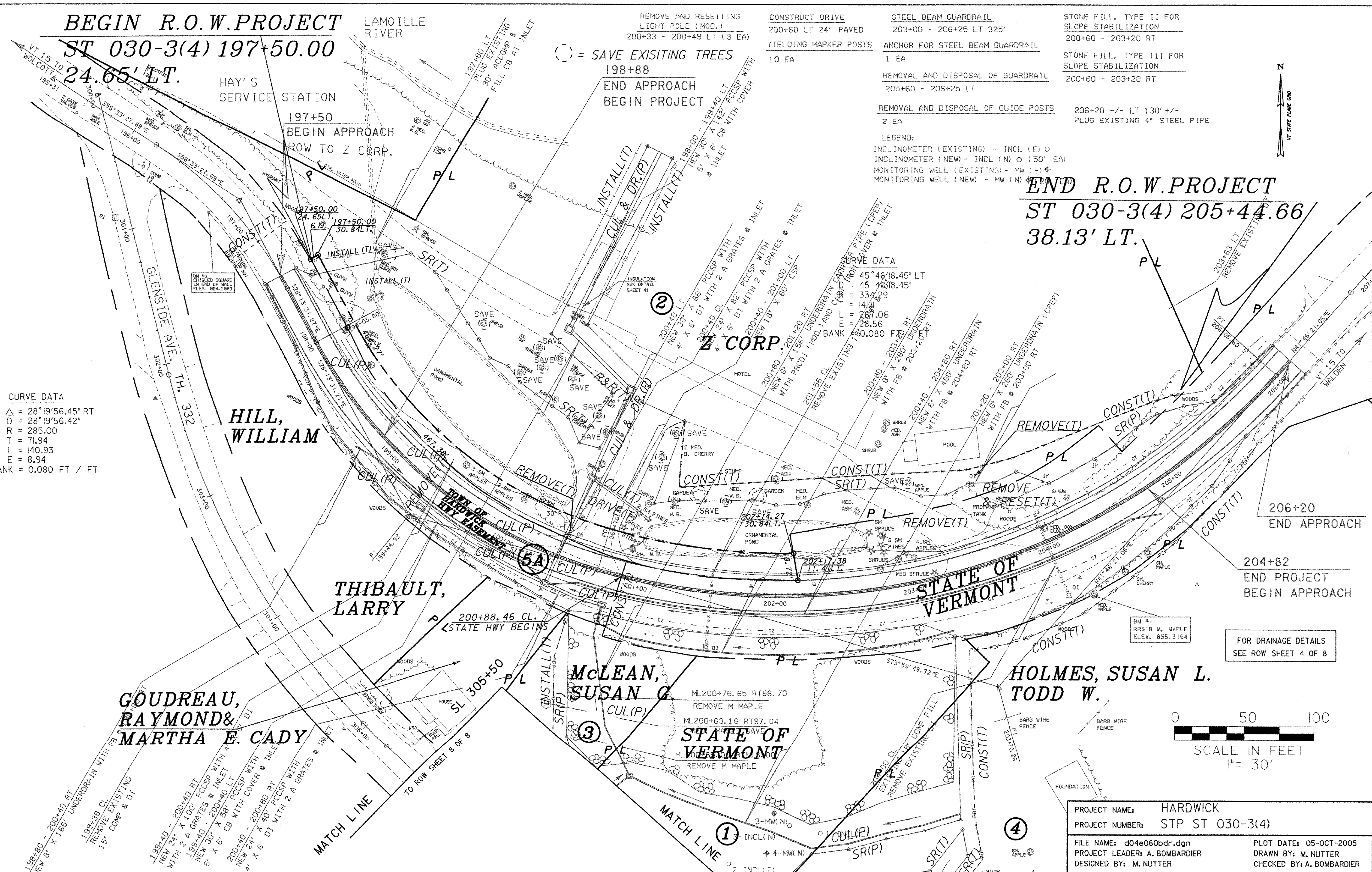
GOUDREAU, RAYMOND & MARTHA E. CADY

McLEAN, SUSAN G.

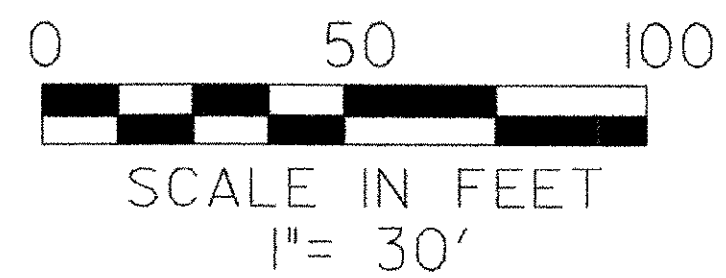
HOLMES, SUSAN L. TODD W.

STATE OF VERMONT

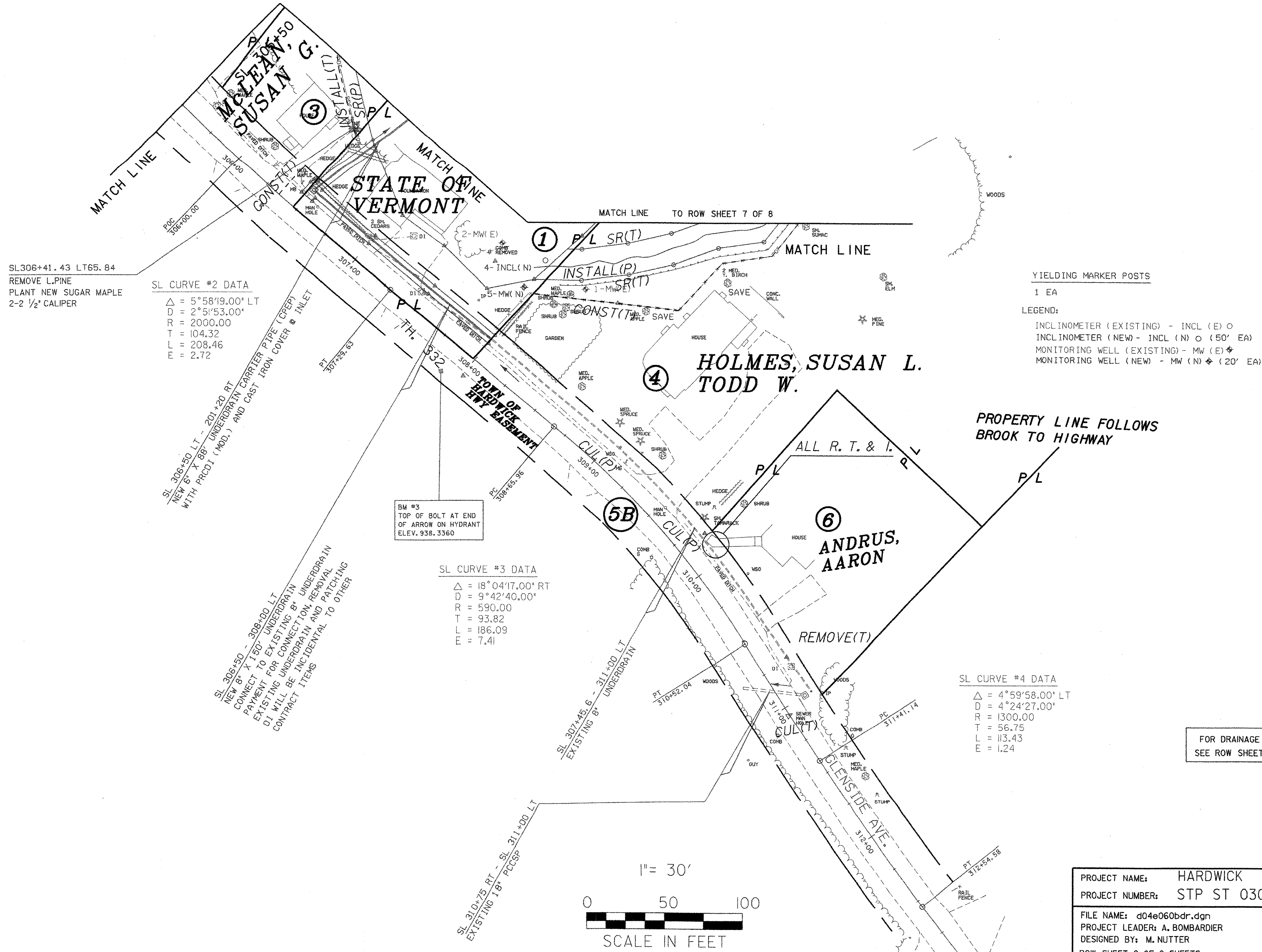
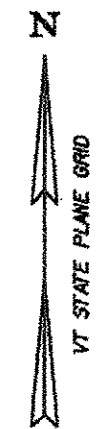
STATE OF VERMONT



FOR DRAINAGE DETAILS SEE ROW SHEET 4 OF 8



PROJECT NAME:	HARDWICK	FILE NAME:	d04e06bdr.dgn	PLOT DATE:	05-OCT-2005
PROJECT NUMBER:	STP ST 030-3(4)	PROJECT LEADER:	A. BOMBARDIER	DRAWN BY:	M. NUTTER
		DESIGNED BY:	M. NUTTER	CHECKED BY:	A. BOMBARDIER
		ROW SHEET 7 OF 8 SHEETS			SHEET 10 OF 63



SL 306+41.43 LT 65.84
REMOVE L.PINE
PLANT NEW SUGAR MAPLE
2-2 1/2" CALIPER

SL CURVE #2 DATA
Δ = 5°58'19.00" LT
D = 2°51'53.00"
R = 2000.00
T = 104.32
L = 208.46
E = 2.72

SL 308+40.00 RT - 201+20 RT
NEW 6" X 88' UNDERDRAIN CARRIER PIPE (CEP)
WITH PROCT (MOD.) AND CAST IRON COVER & INLET

BM #3
TOP OF BOLT AT END
OF ARROW ON HYDRANT
ELEV. 938.3360

SL CURVE #3 DATA
Δ = 18°04'17.00" RT
D = 9°42'40.00"
R = 590.00
T = 93.82
L = 186.09
E = 7.41

SL 306+50 - 308+00 LT
NEW 8" X 150' UNDERDRAIN
CONNECT TO EXISTING 8" UNDERDRAIN
PAYMENT FOR CONNECT ION, REMOVAL
EXISTING UNDERDRAIN AND PATCHING
DI WILL BE INCIDENTAL TO OTHER
CONTRACT ITEMS

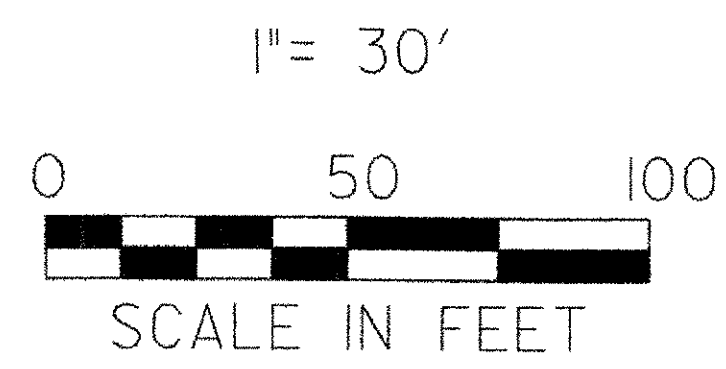
SL 307+45.6 - 311+00 LT
EXISTING 8" UNDERDRAIN

SL CURVE #4 DATA
Δ = 4°59'58.00" LT
D = 4°24'27.00"
R = 1300.00
T = 56.75
L = 113.43
E = 1.24

YIELDING MARKER POSTS
1 EA
LEGEND:
INCLINOMETER (EXISTING) - INCL (E) ○
INCLINOMETER (NEW) - INCL (N) ○ (50' EA)
MONITORING WELL (EXISTING) - MW (E) ◆
MONITORING WELL (NEW) - MW (N) ◆ (20' EA)

PROPERTY LINE FOLLOWS
BROOK TO HIGHWAY

FOR DRAINAGE DETAILS
SEE ROW SHEET 5 OF 8



PROJECT NAME:	HARDWICK
PROJECT NUMBER:	STP ST 030-3(4)
FILE NAME:	d04e060bdr.dgn
PROJECT LEADER:	A. BOMBARDIER
DESIGNED BY:	M. NUTTER
ROW SHEET 8 OF 8 SHEETS	
PLOT DATE:	05-OCT-2005
DRAWN BY:	M. NUTTER
CHECKED BY:	A. BOMBARDIER
SHEET 11 OF 63	

GPS CONTROL POINTS

HVCTRL #1

STANDARD DISC STAMPED

"TF18"

N = 731358.8400

E = 1674319.6600

ELEV. = 812.8300

GENERAL LOCATION, HARDWICK, VT TO REACH FROM THE JUNCTION OF VT ROUTE'S 14 AND 15 IN HARDWICK VILLAGE (BLINKING LIGHT), GO WEST ON VT ROUTE 15 FOR 0.15 MI (0.24 KM) TO THE MARK ON THE RIGHT. THE MARK IS SET ON THE SOUTHEAST BRIDGE ABUTMENT ON THE WEST CHURCH STREET BRIDGE OVER THE LAMOILLE RIVER. IT IS 31 FT (9.4 M) NORTH OF THE CENTERLINE OF VT ROUTE 15, 16 FT (4.9 M) EAST OF THE CENTERLINE OF WEST CHURCH STREET, AND 5 FT (1.5 M) NORTH OF POWER AND TELEPHONE POLE NUMBER 3.

HVCTRL #2

STANDARD DISC STAMPED

"TF 18 AZ MK"

N = 732546.8900

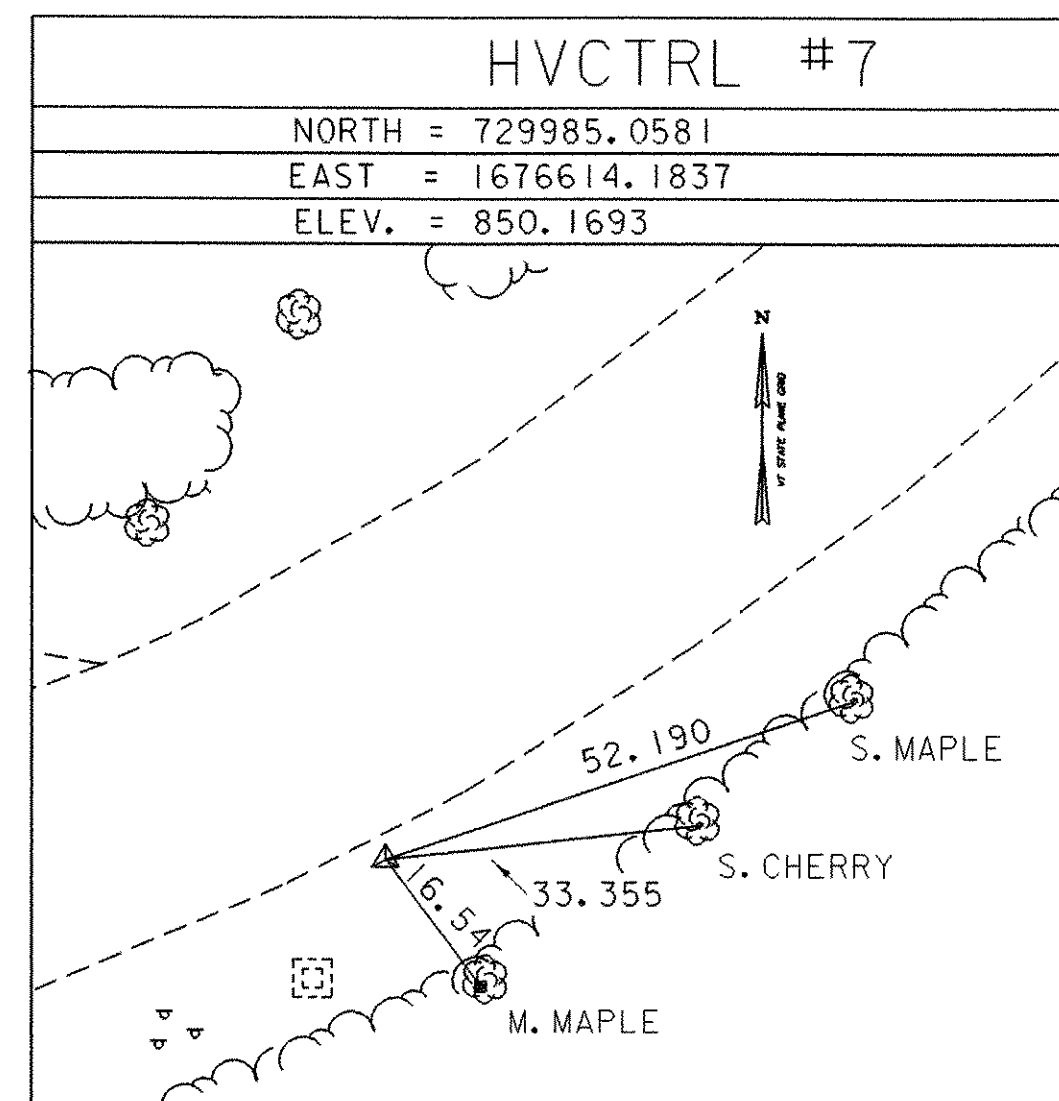
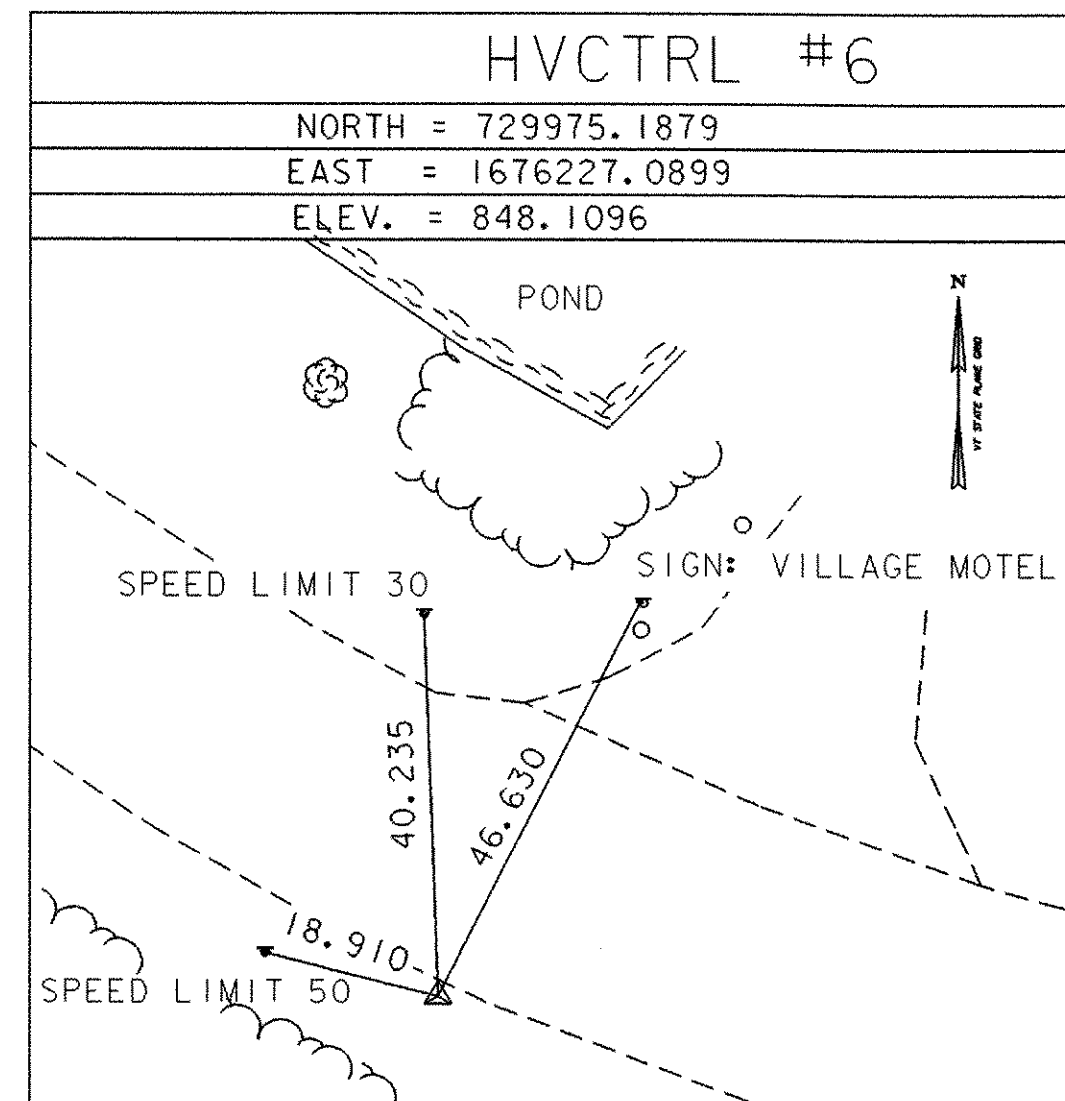
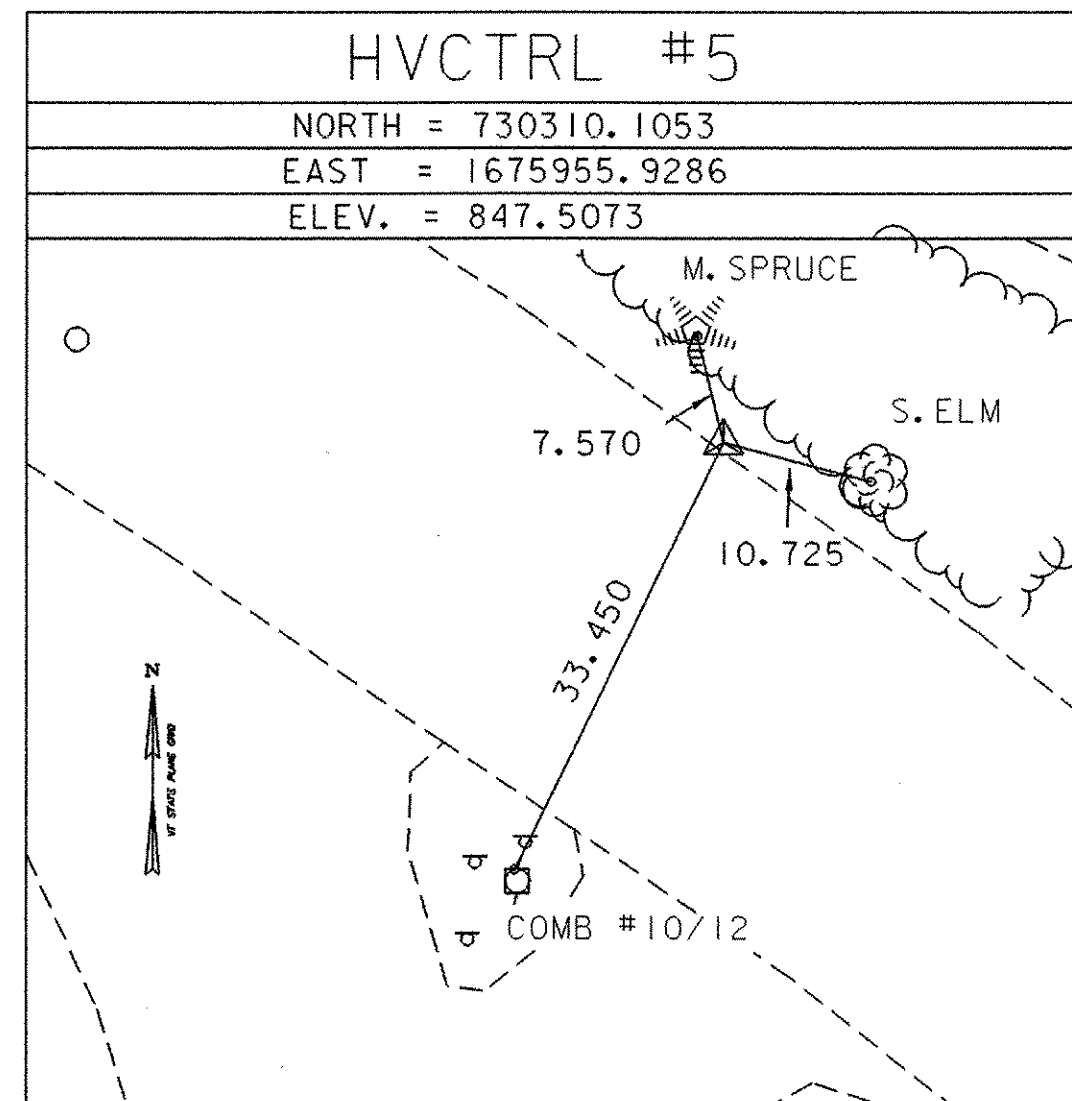
E = 1673595.0300

ELEV. = 808.0400

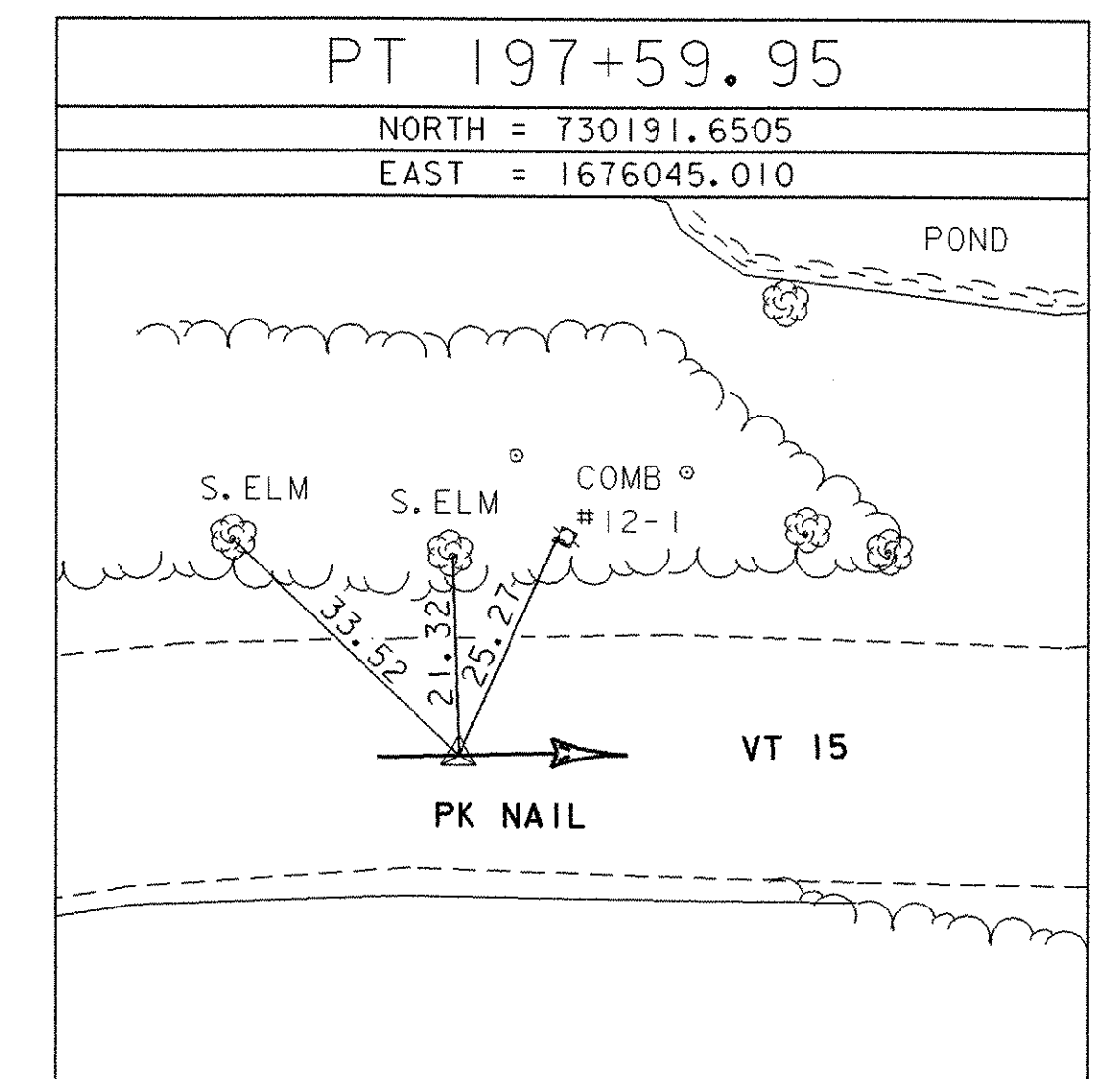
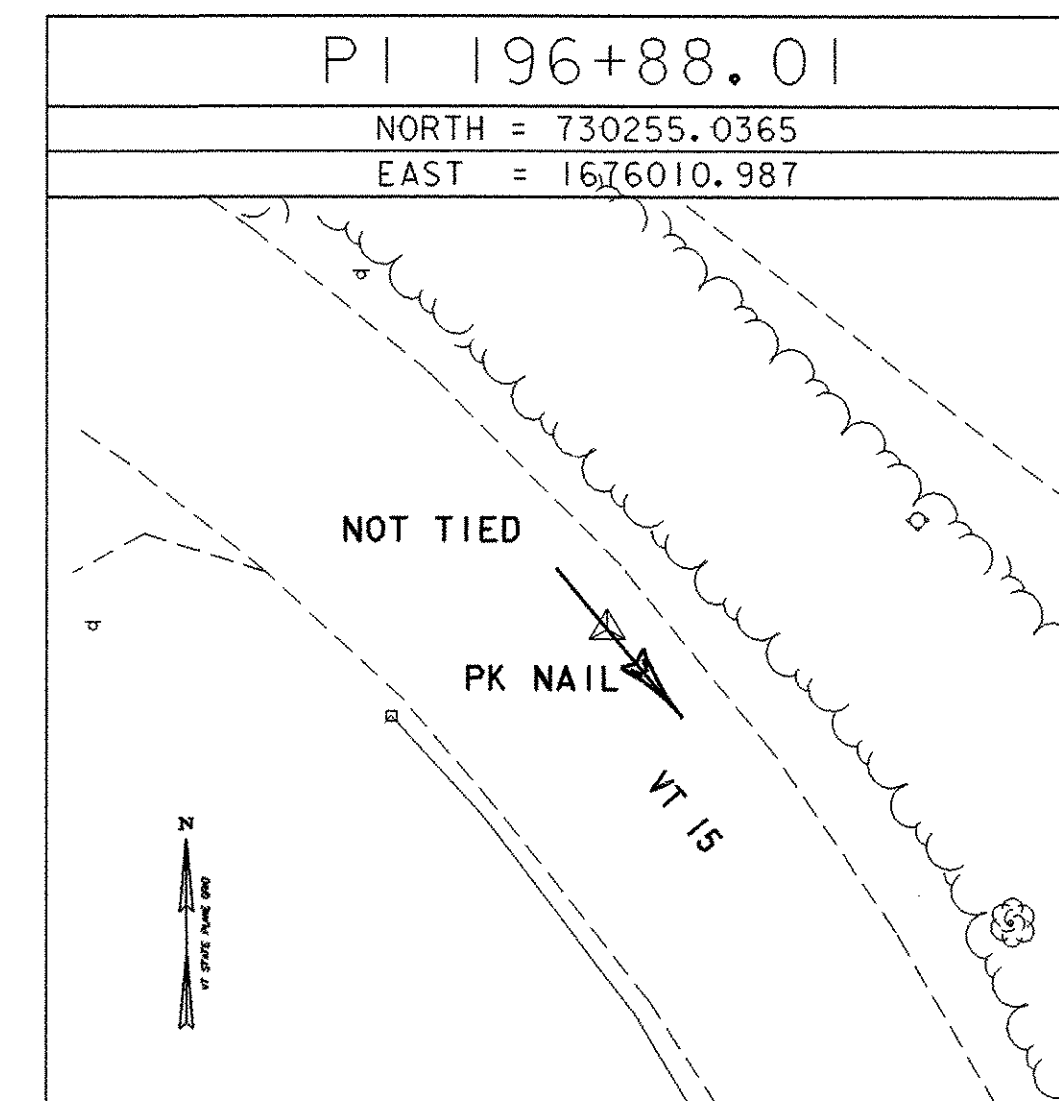
GENERAL LOCATION, HARDWICK, VT. OWNERSHIP, MRS BROCHU OR THE VILLAGE OF HARDWICK. TO REACH FROM THE JUNCTION OF VT ROUTE'S 14 AND 15 IN HARDWICK VILLAGE (BLINKING LIGHT), GO WEST ON VT ROUTE 15 FOR 0.45 MI (0.72 KM) TO THE MARK ON THE LEFT. THE MARK IS A STATE OF VERMONT SURVEY DISK SET IN A 12 IN CONCRETE MONUMENT EVEN WITH THE GROUND SURFACE. IT IS 68 FT (20.7 M) NORTHWEST OF POWER AND TELEPHONE POLE L 8-1/8/1H, 39 FT (11.9 M) NORTH OF UNION STREET CENTERLINE, 31 FT (9.4 M) WEST OF VT ROUTE 15 CENTERLINE, 9 FT (2.7 M) NORTH OF A FIRE HYDRANT, AND 4.5 FT (1.4 M) WEST OF THE FACE OF A GRANITE WALL.

* DESCRIPTION PROVIDED BY VERMONT AGENCY OF TRANSPORTATION GEODETIC SURVEY UNIT

TRAVERSE TIES

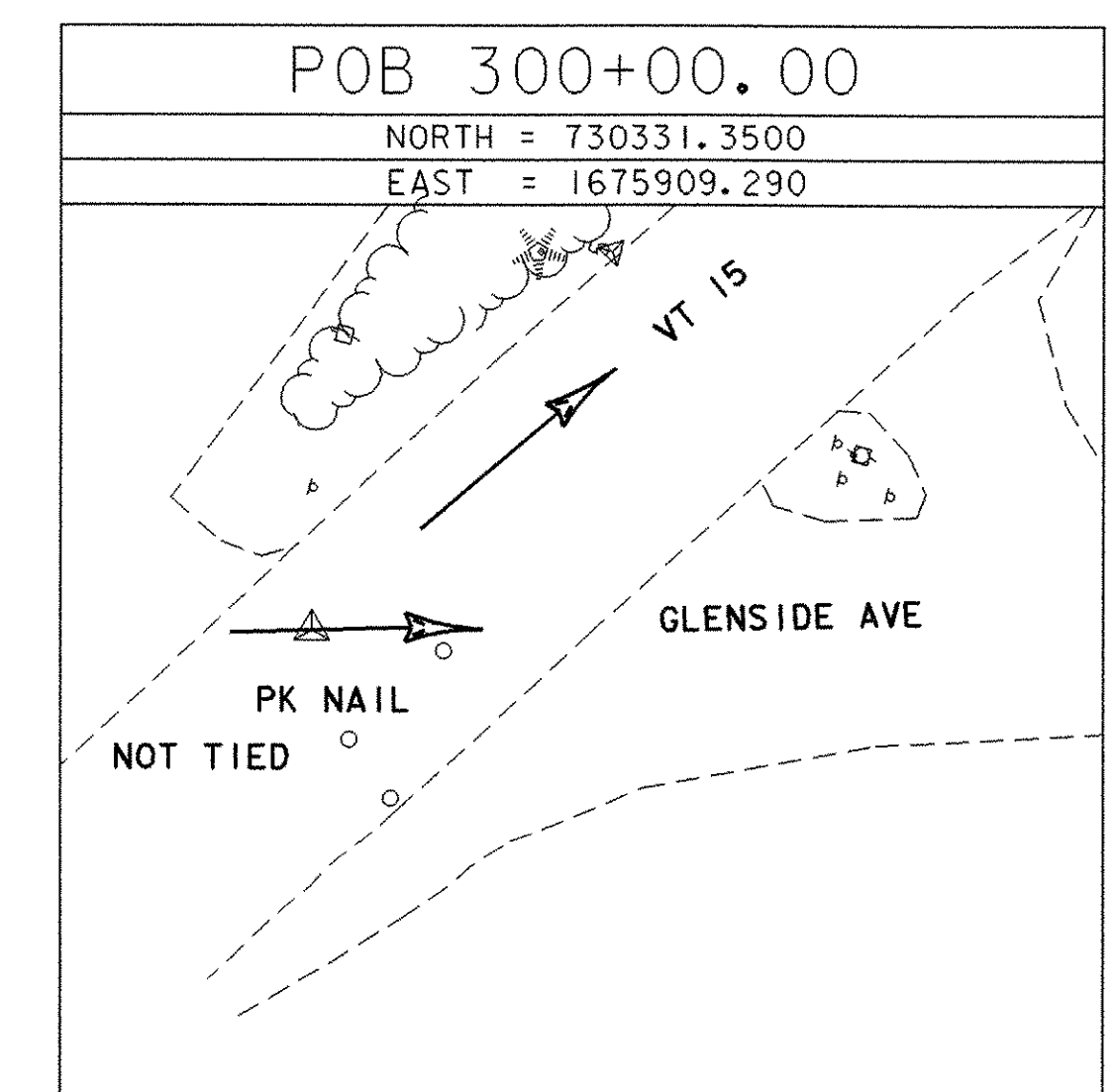
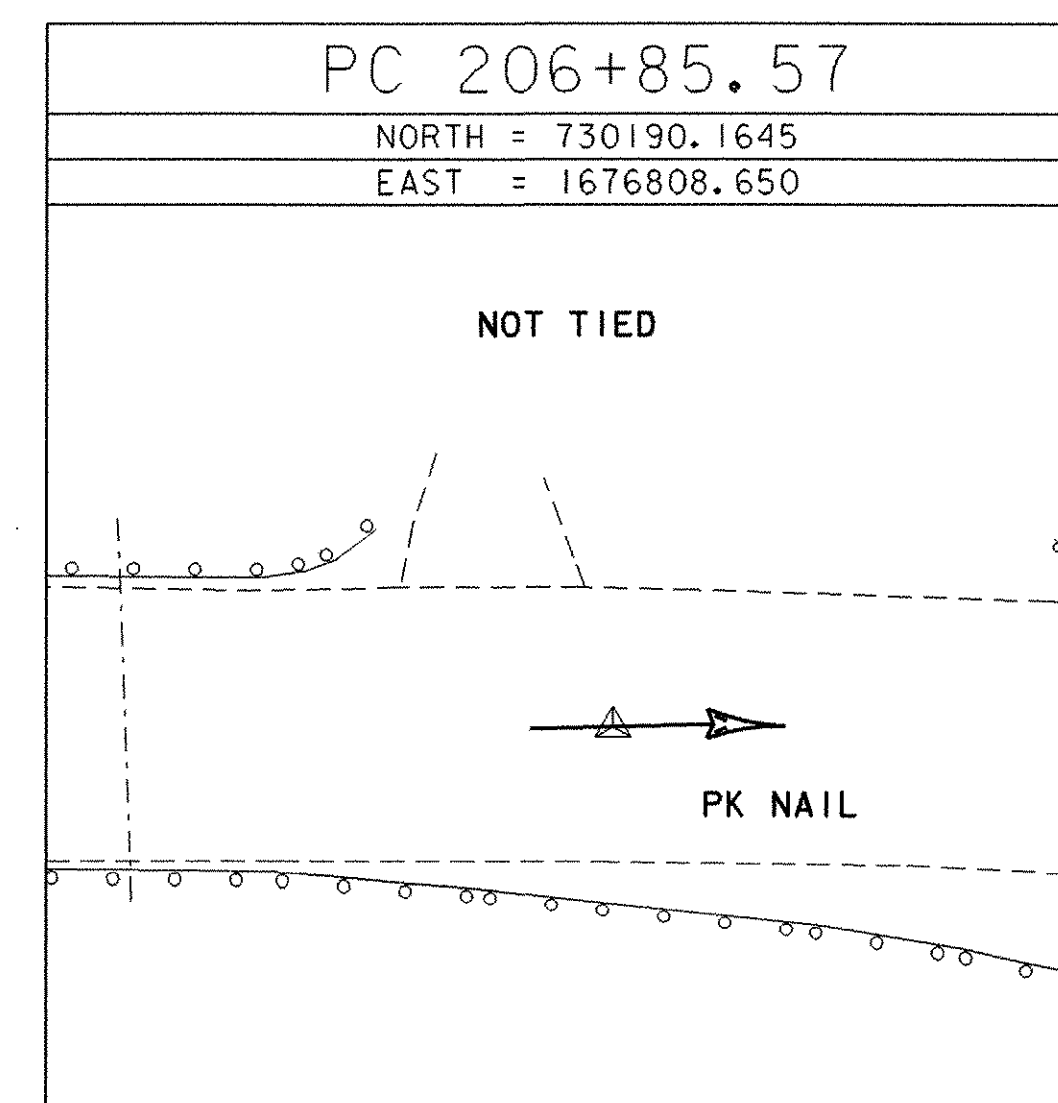
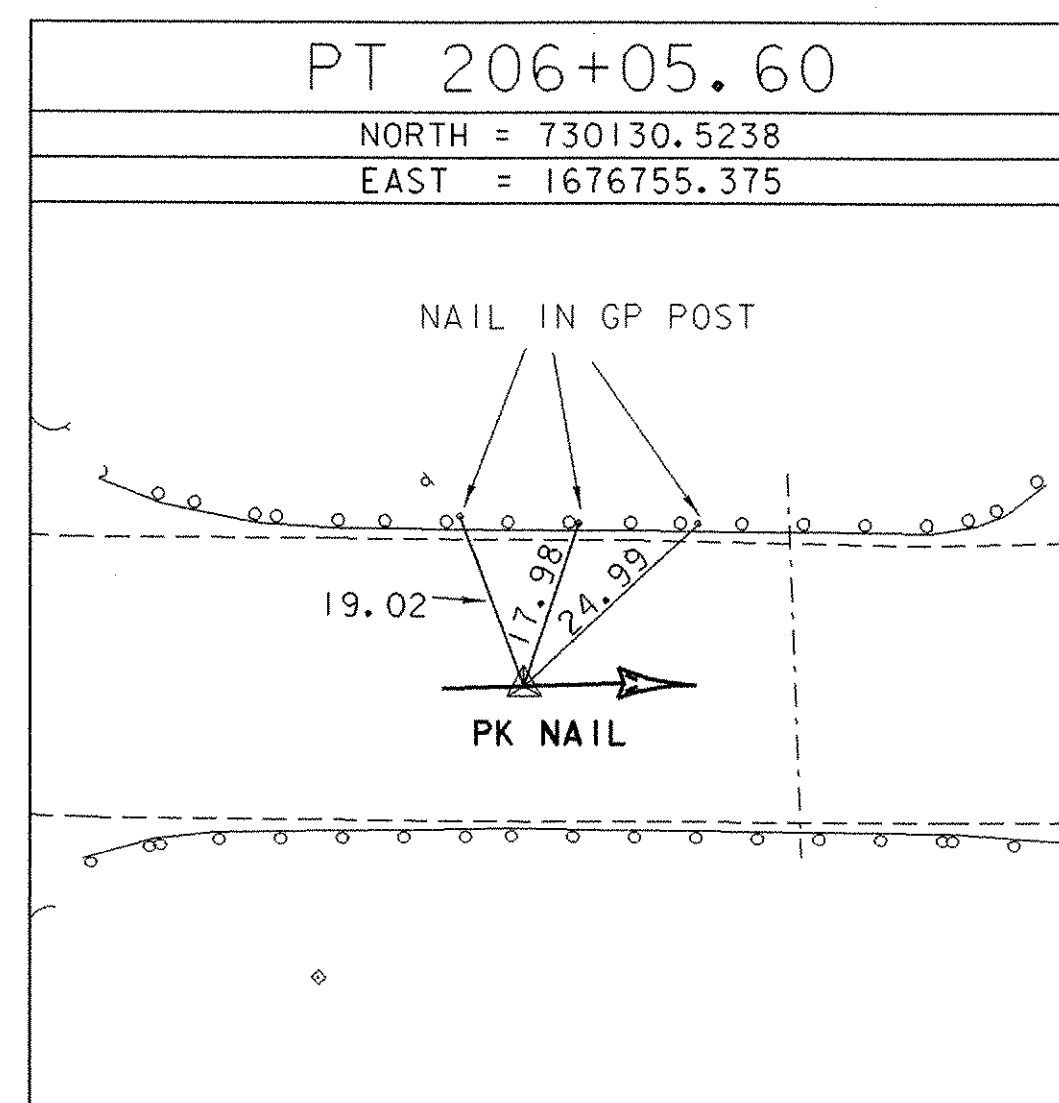
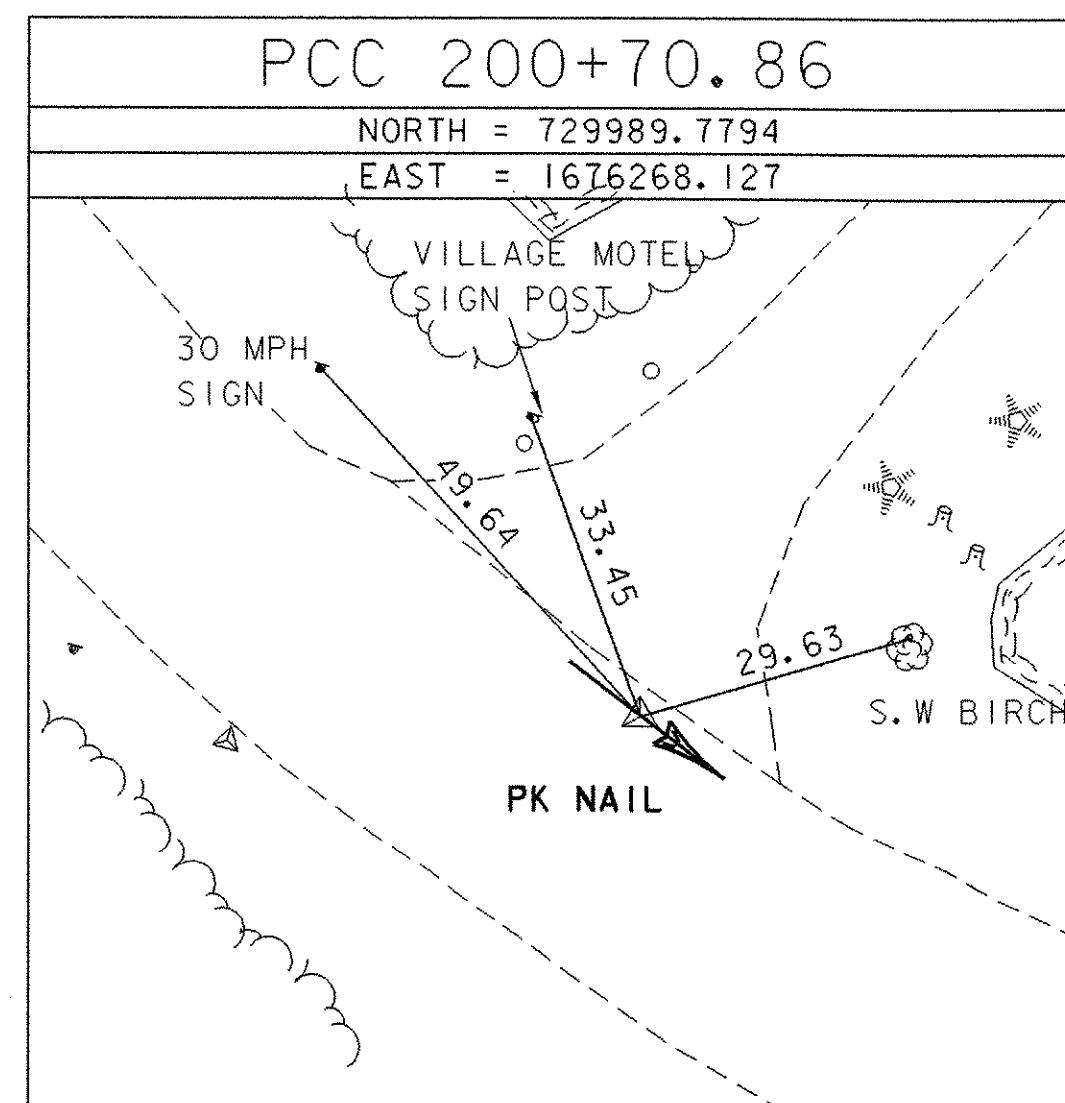
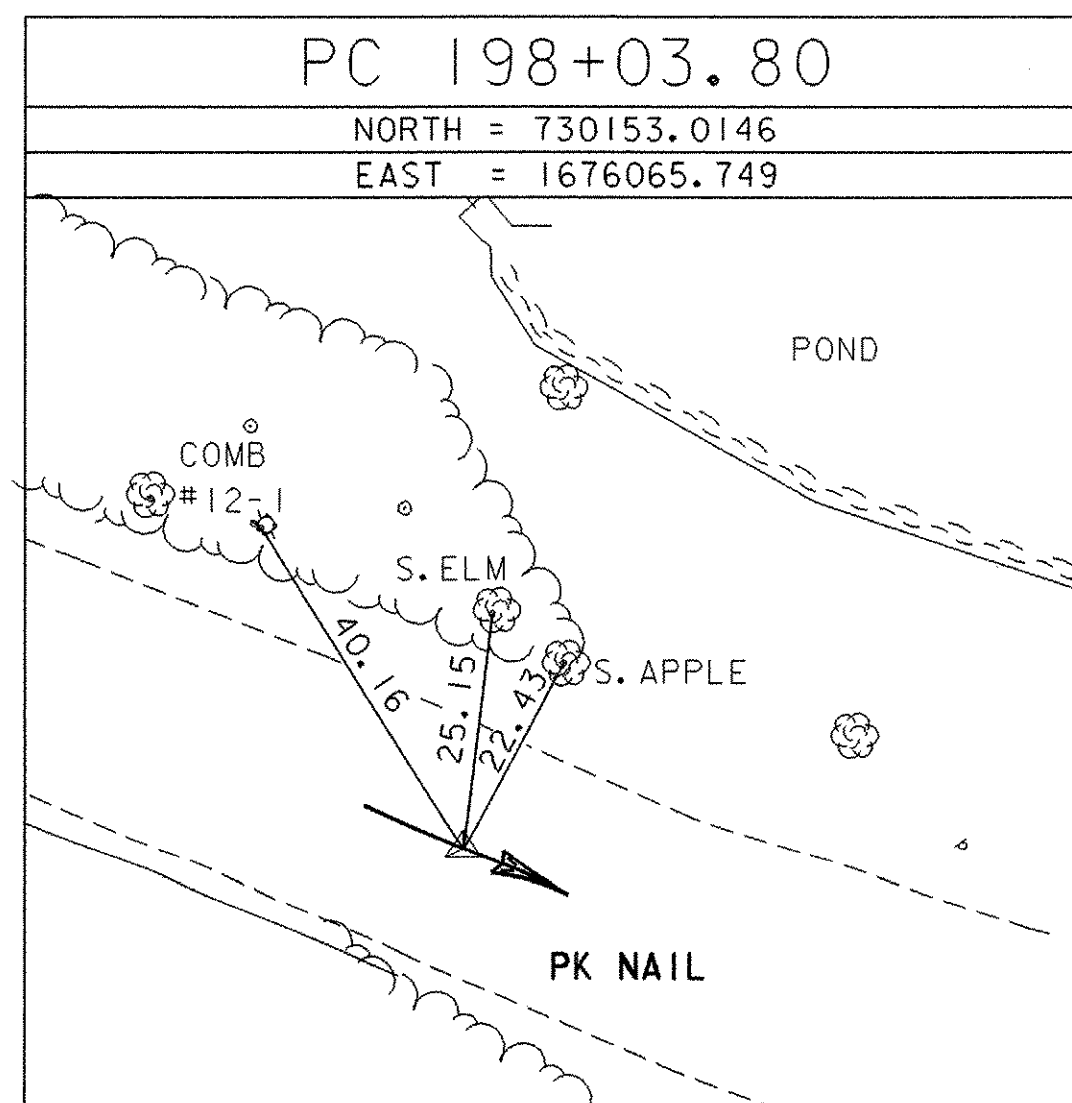


ALIGNMENT TIES



* MAIN TRAVERSE COMPLETED: MAY 2, 2004 BY R. GILMAN PC, P. WINTERS

ALIGNMENT TIES



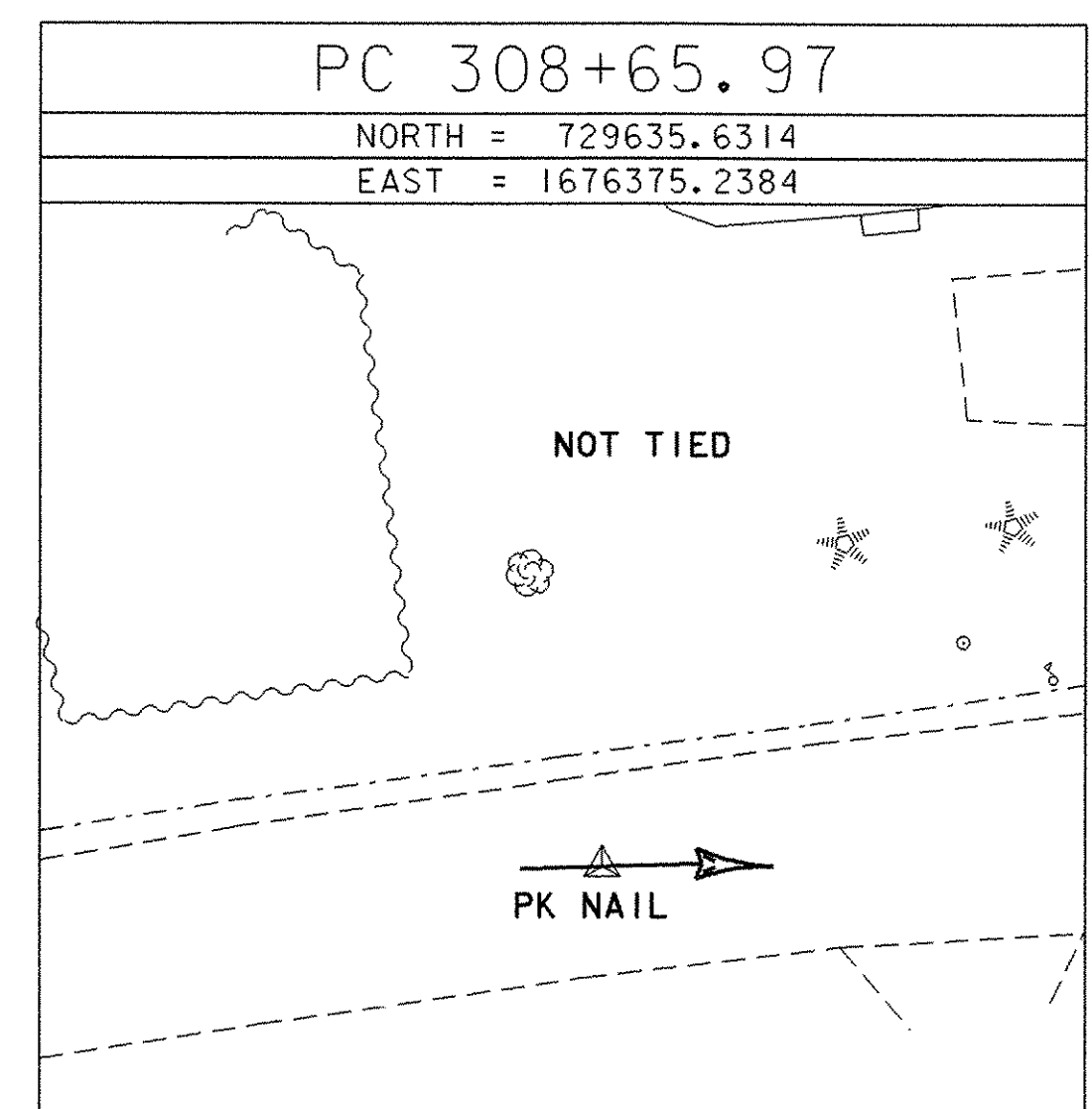
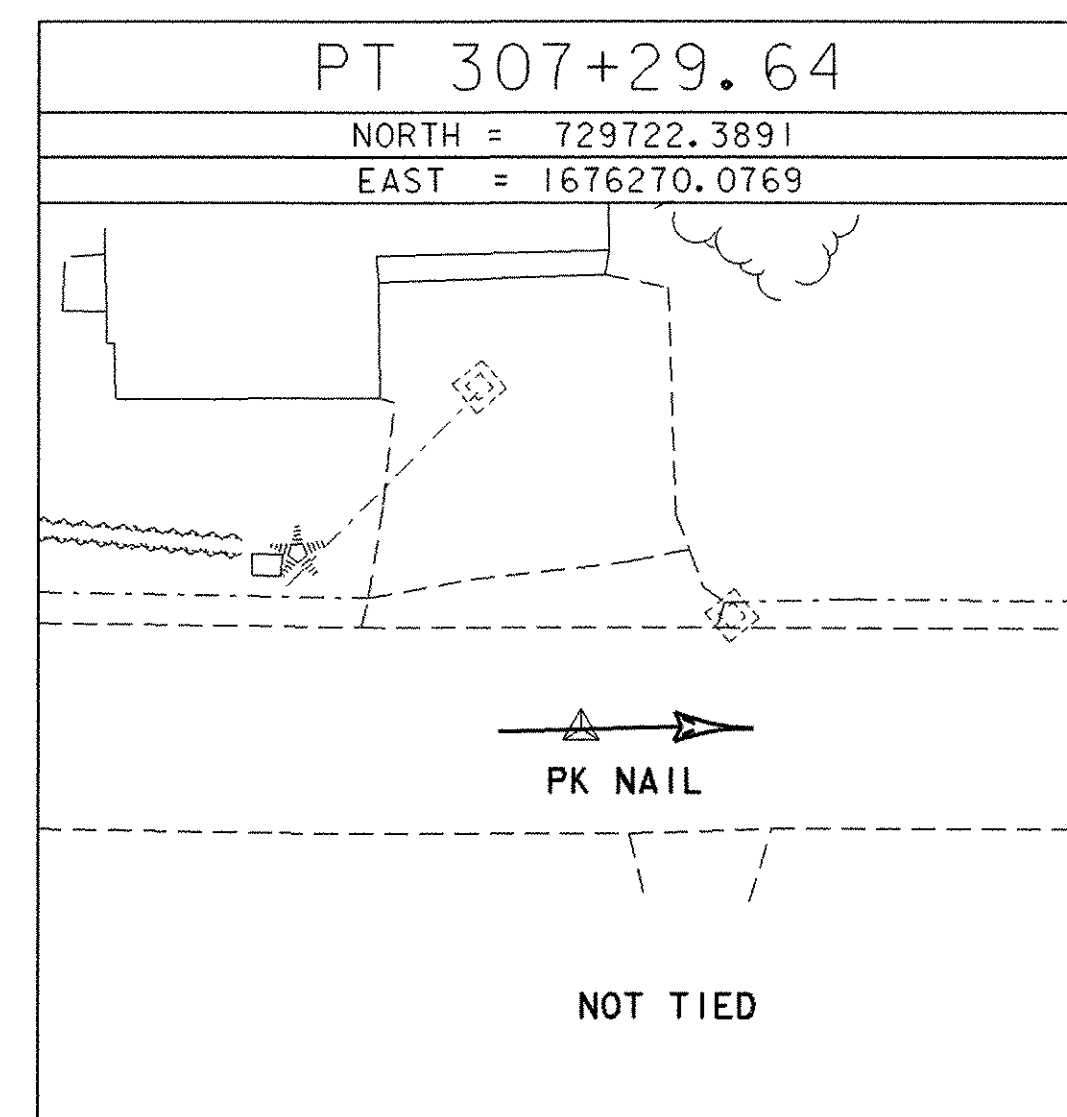
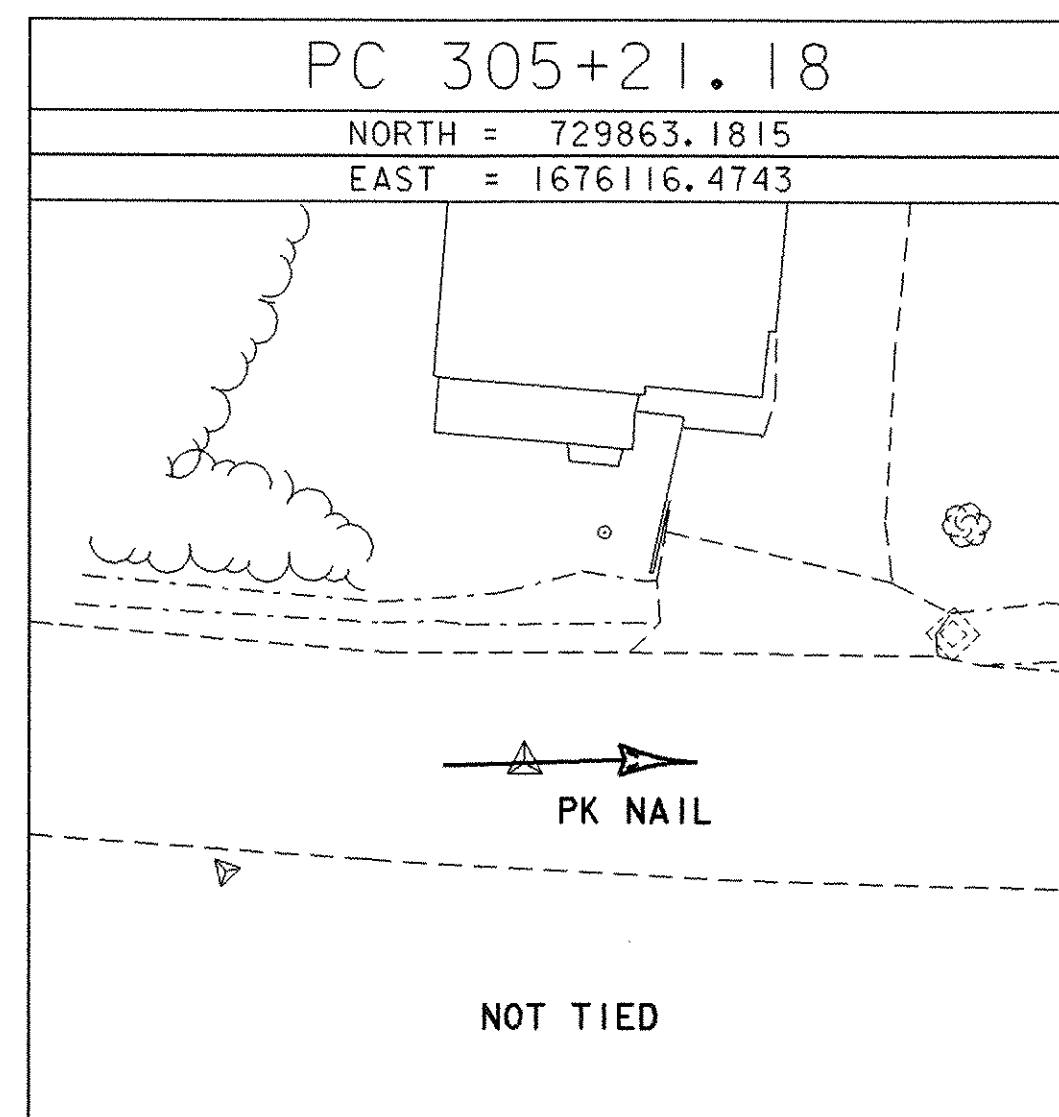
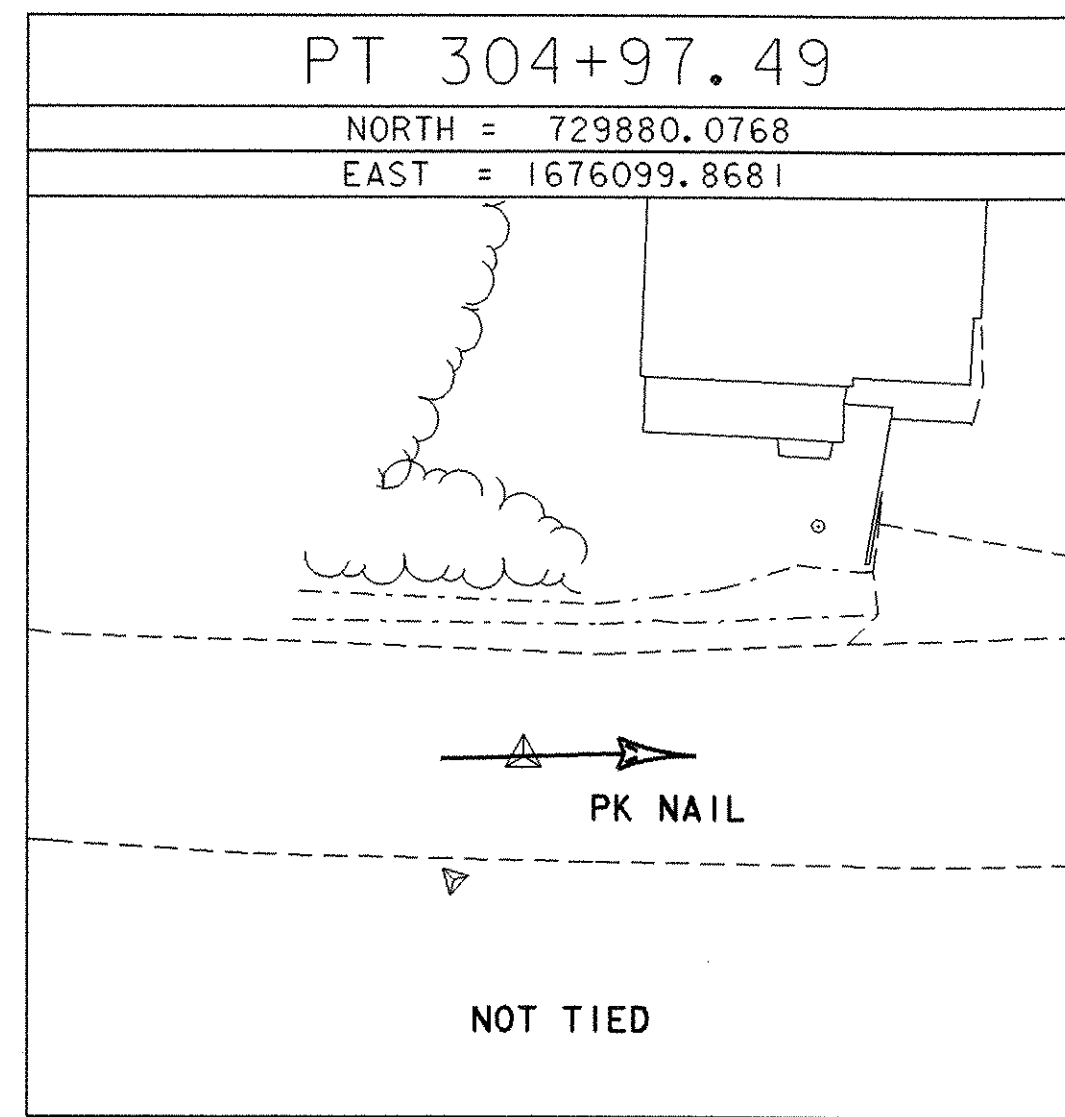
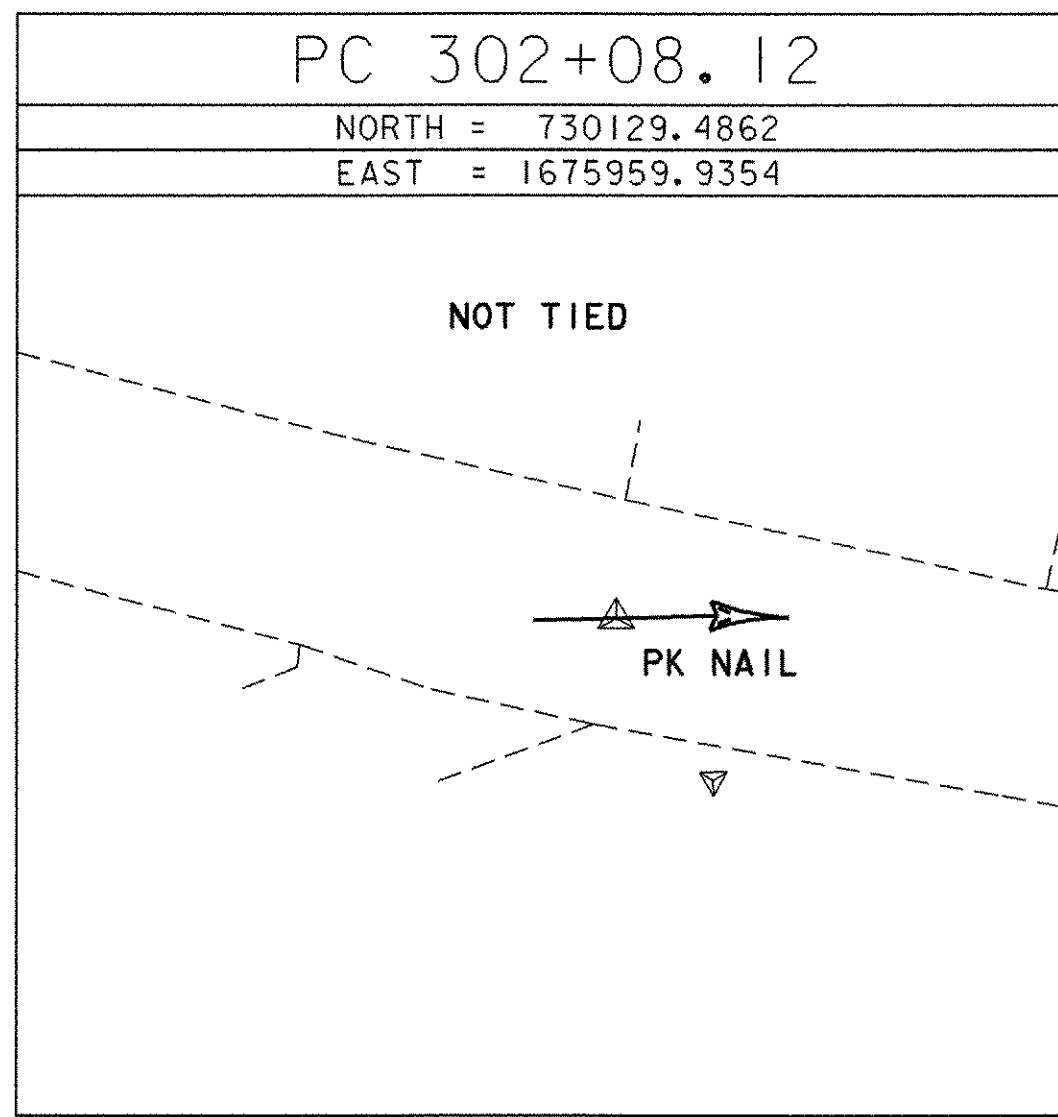
* ALIGNMENT STAKED: MARCH 30, 2005 BY R. GILMAN, P. WINTERS & D. BREER

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83(96)
ADJUSTMENT	COMPASS

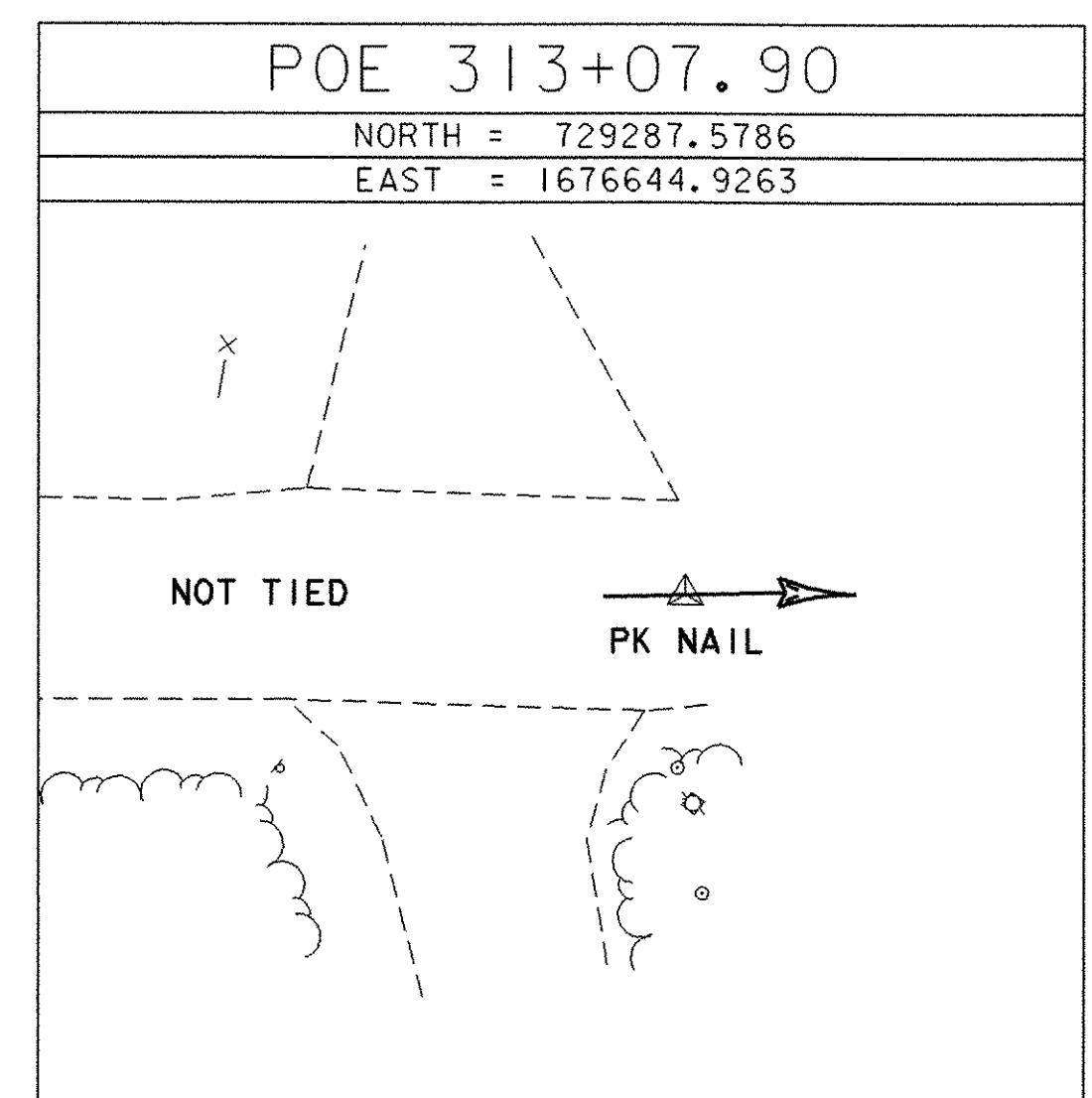
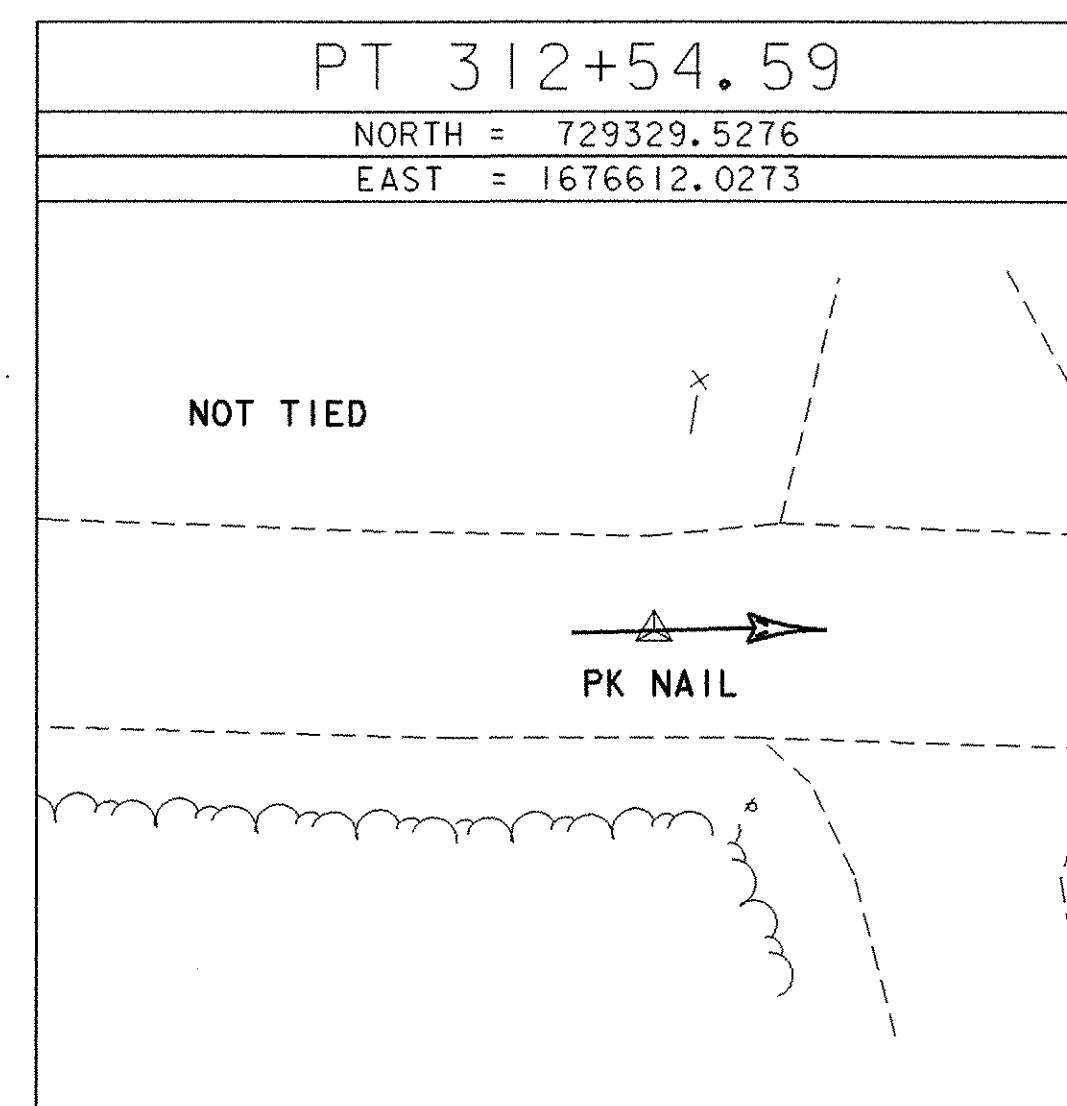
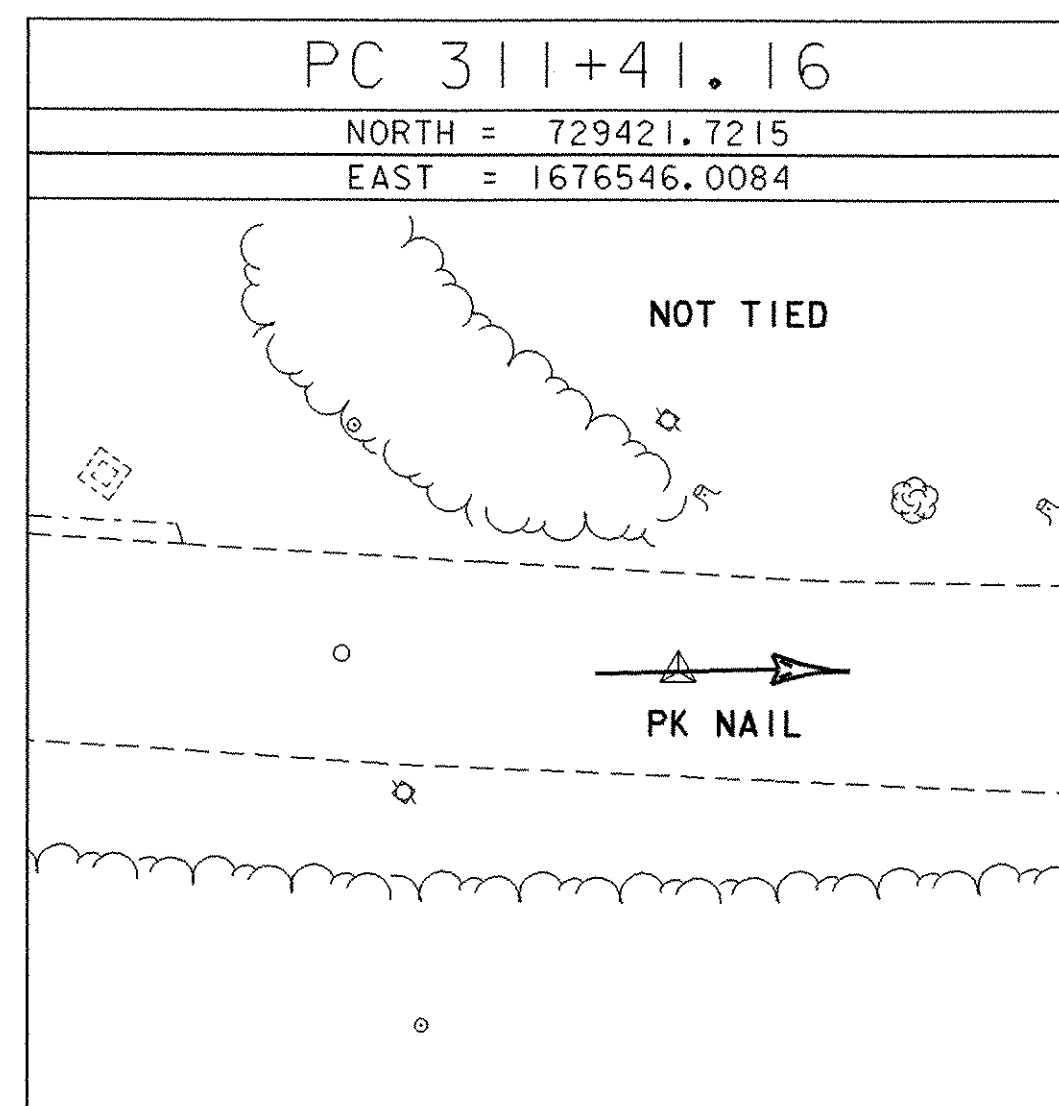
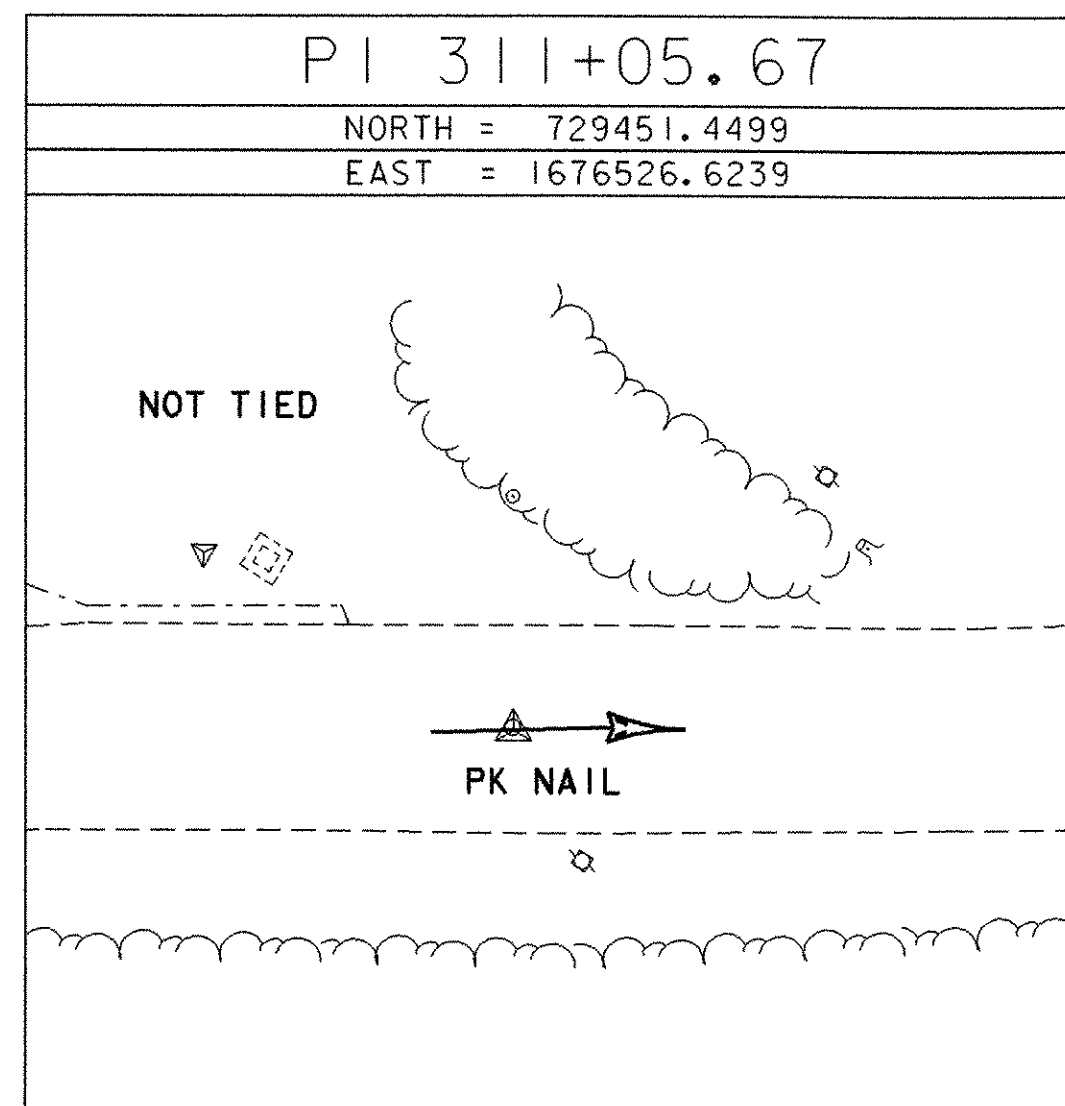
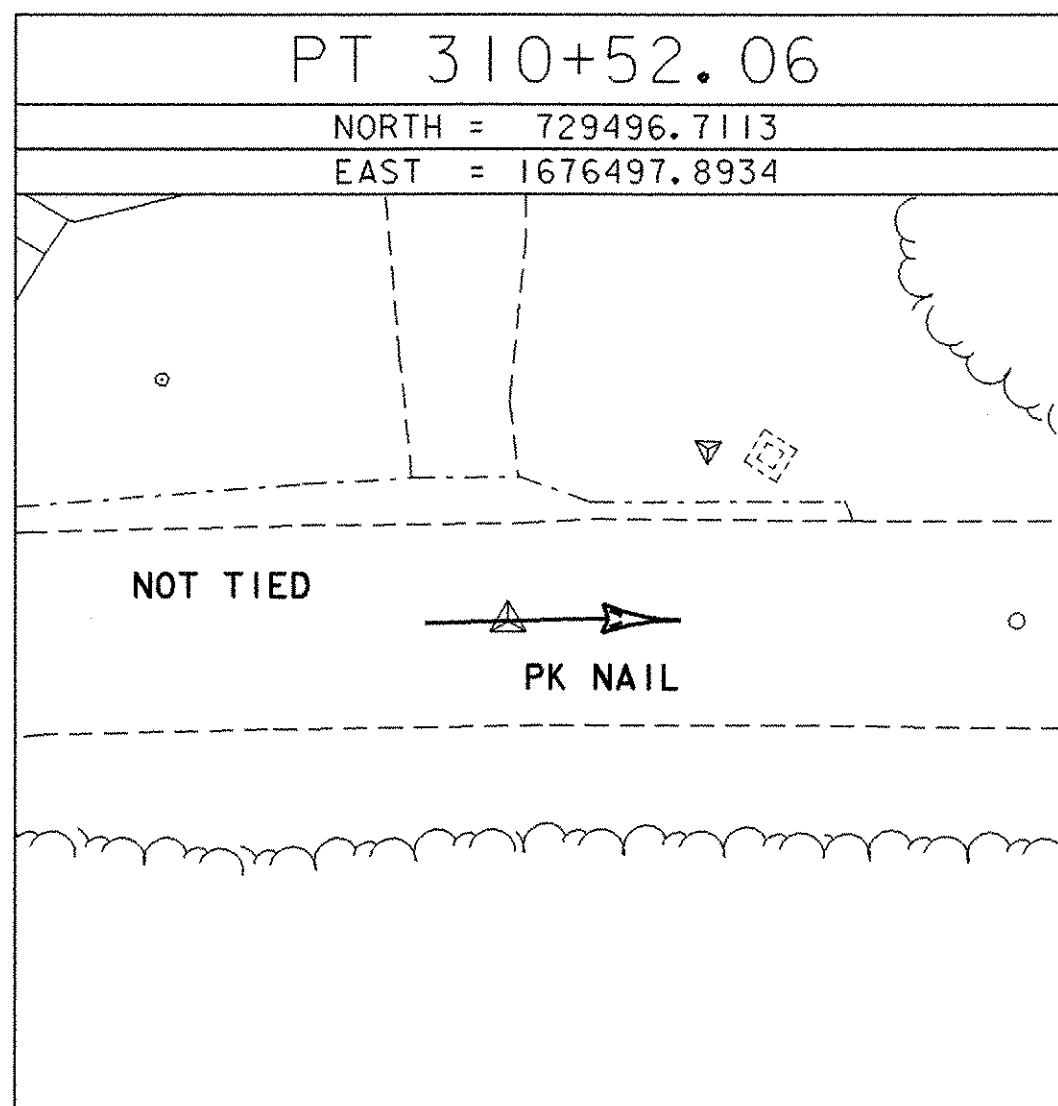
PROJECT NAME: HARDWICK
 PROJECT NUMBER: STP ST 030-3(4)

FILE NAME: x04e060t1.dgn	PLOT DATE: 18-OCT-2005
PROJECT LEADER:	DRAWN BY: J.HULETT
DESIGNED BY:	CHECKED BY: P.BEYOR
	SHEET 12 OF 63

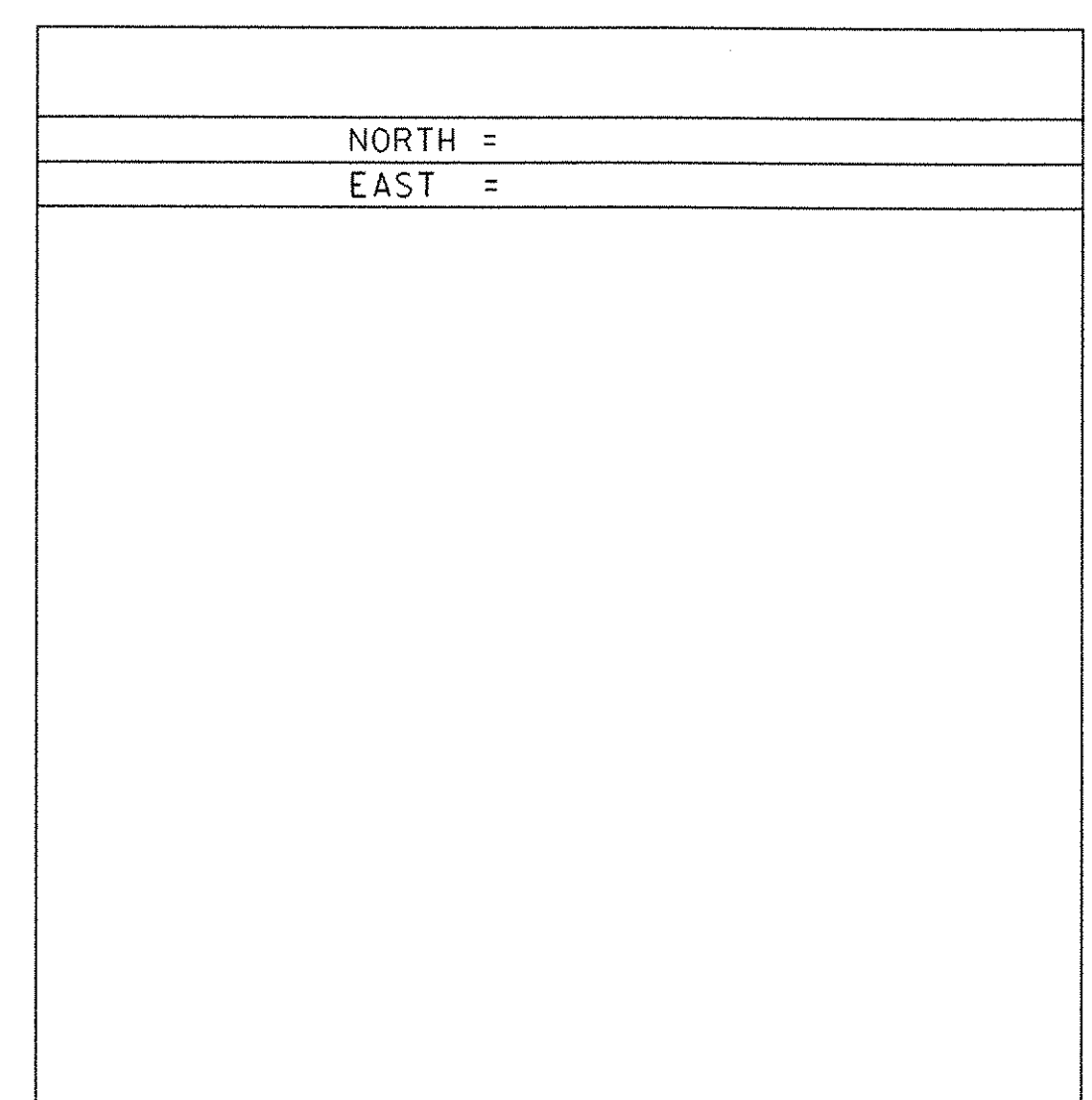
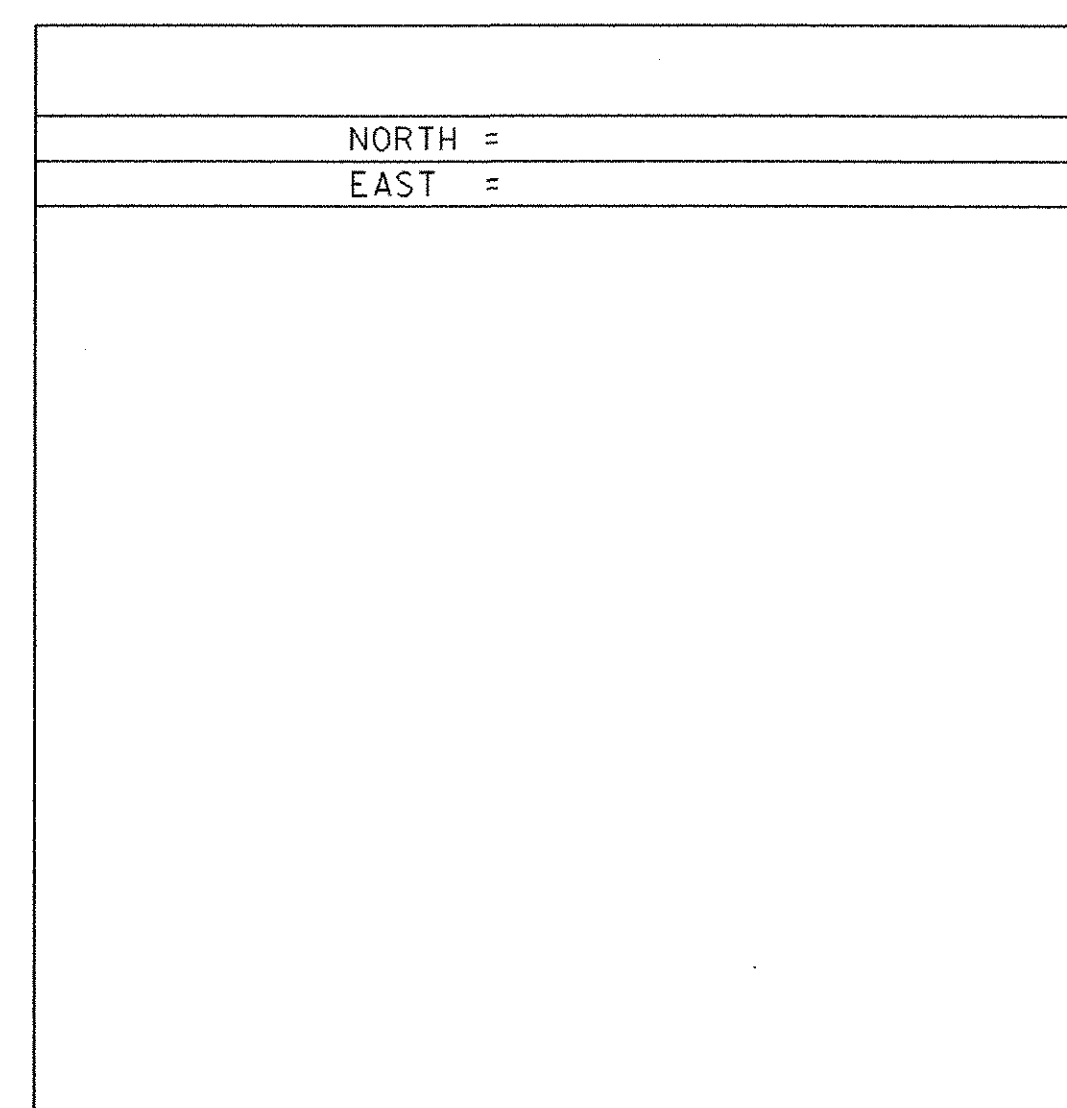
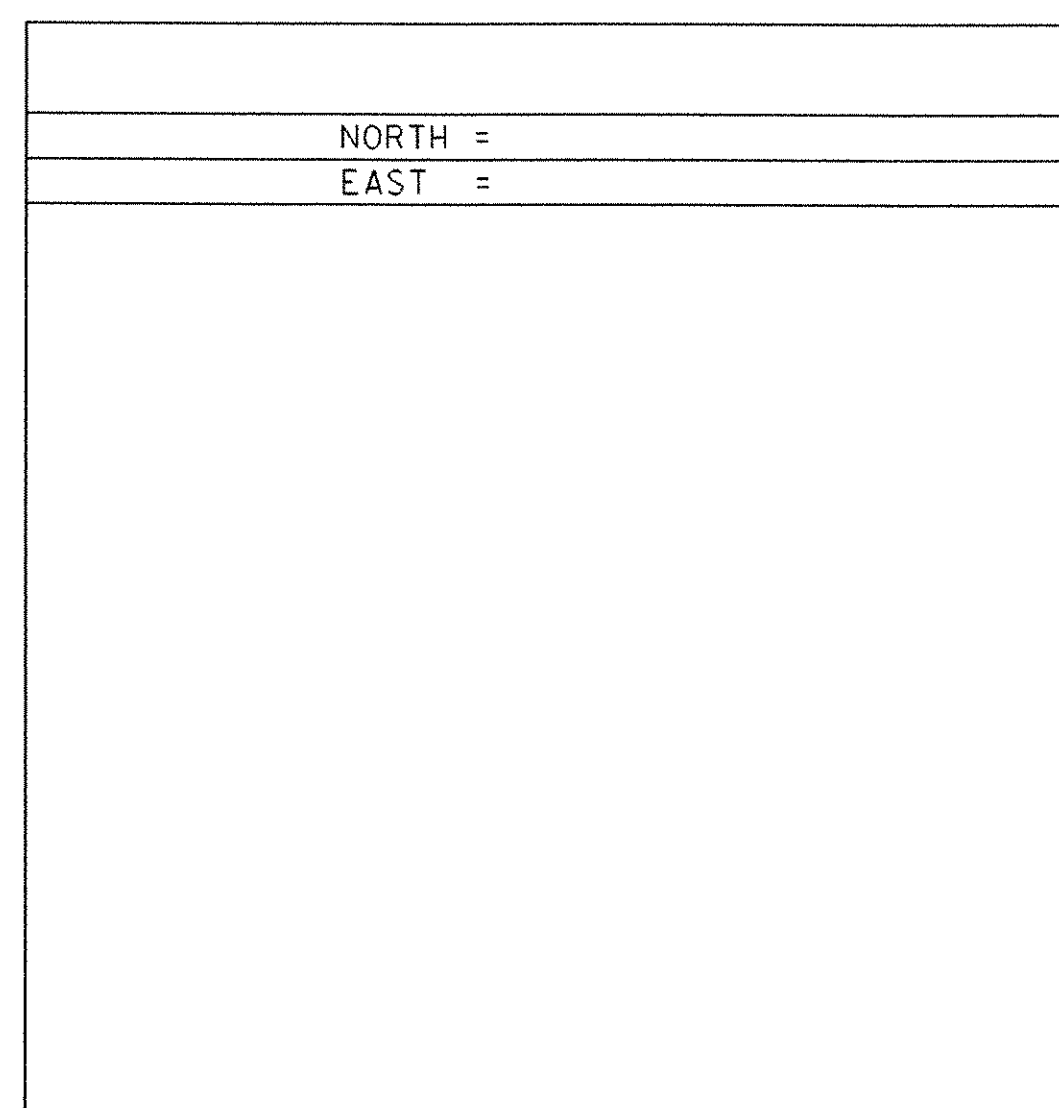
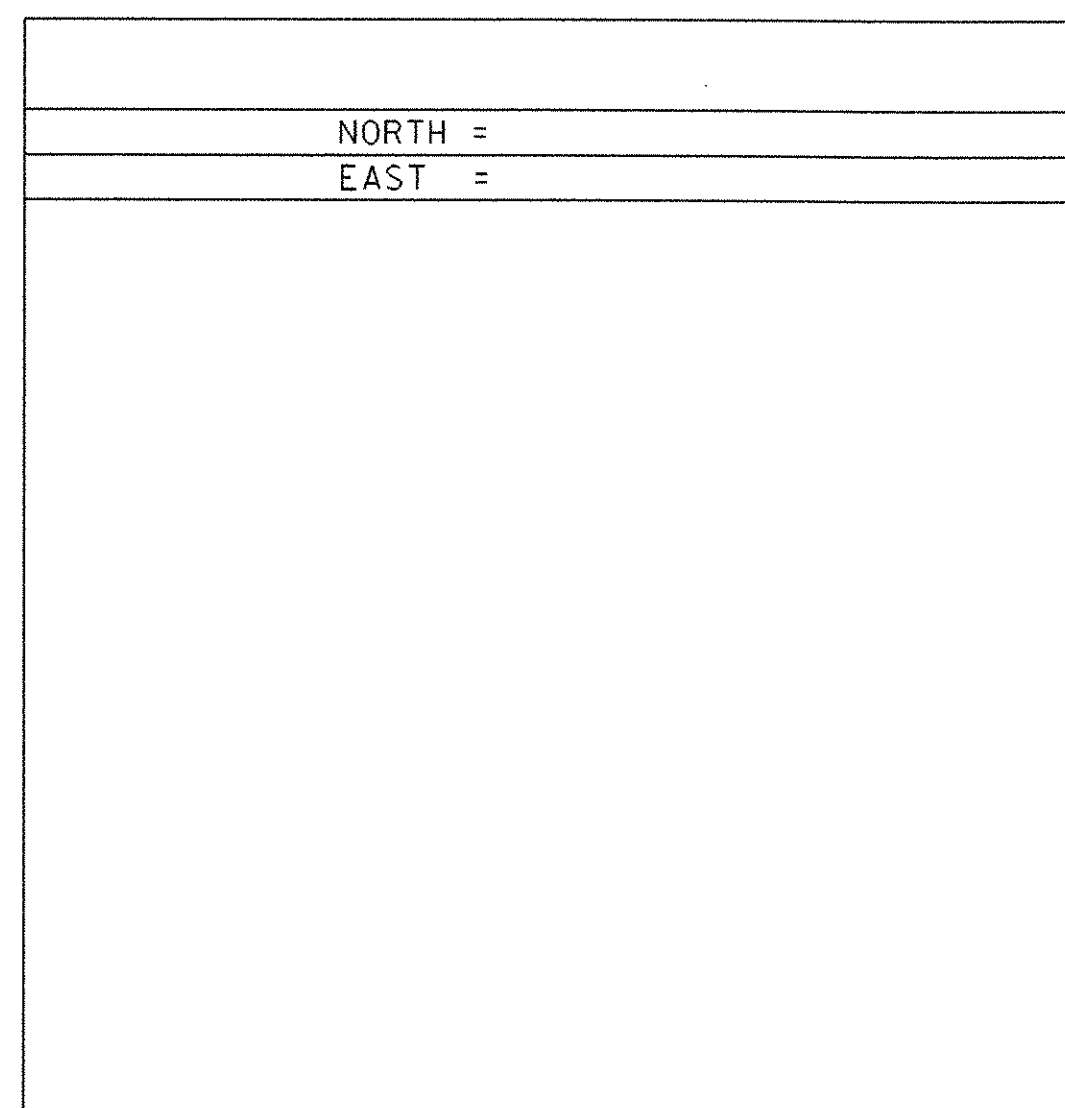
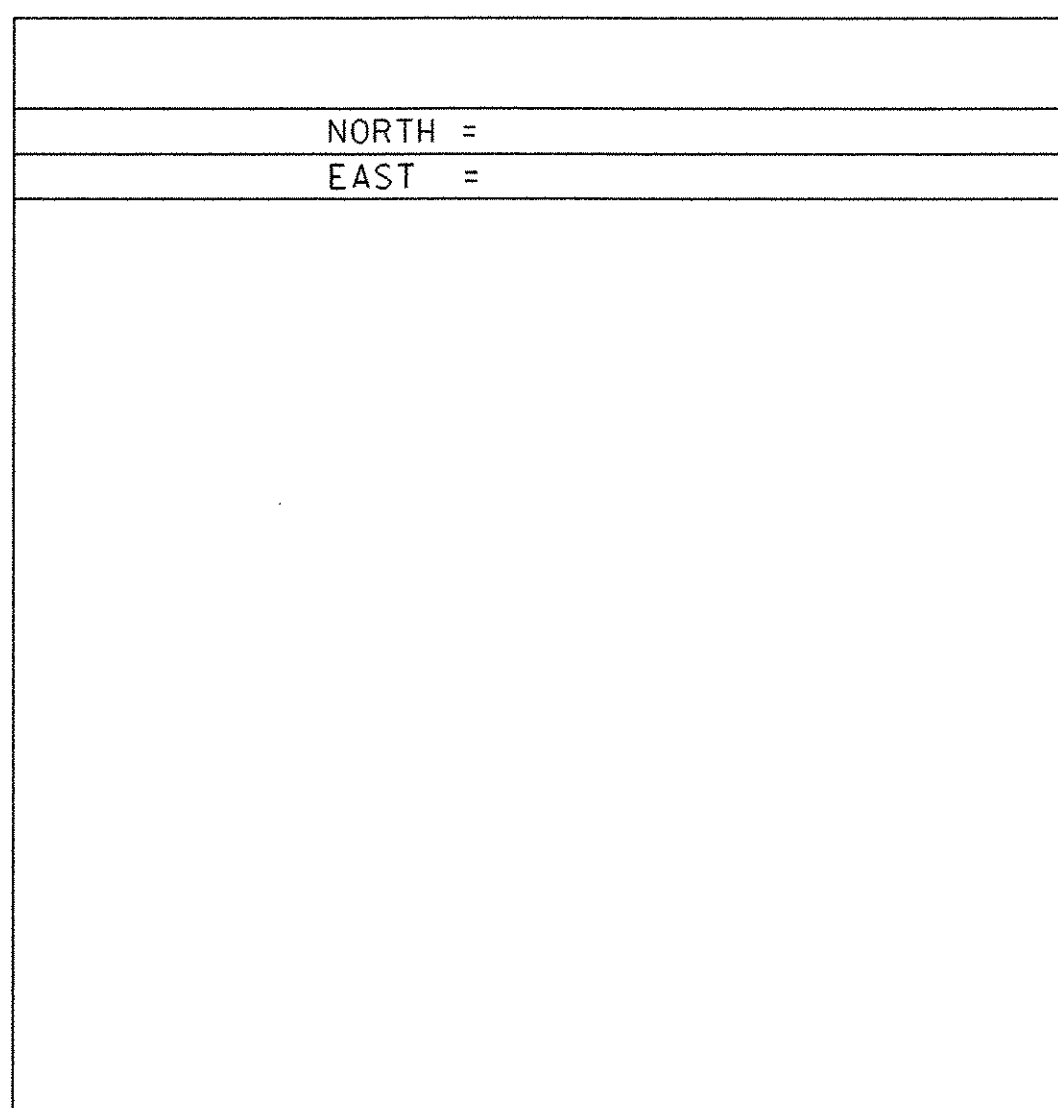
ALIGNMENT TIES



ALIGNMENT TIES



ALIGNMENT TIES



DATUM
 VERTICAL NAVD 88
 HORIZONTAL NAD 83(96)
 ADJUSTMENT COMPASS

PROJECT NAME: HARDWICK
 PROJECT NUMBER: STP ST 030-3(4)
 FILE NAME: x04e060t1.dgn PLOT DATE: 18-OCT-2005
 PROJECT LEADER: J.HULETT DRAWN BY: J.HULETT
 DESIGNED BY: P.BEYOR CHECKED BY: P.BEYOR
 SHEET 13 OF 63

DELINEATORS W/ STEEL POSTS		
199+00	LT & RT	2
200+00	LT & RT	2
201+00	LT & RT	2
202+00	LT & RT	2
203+00	LT & RT	2
204+00	LT & RT	2
205+00	LT & RT	2
14 EA		

REMOVE AND RESETTING LIGHT POLE (MOD. - FLAG POLE)
200+33 - 200+49 LT (3 EA)

CONSTRUCT DRIVE
200+60 LT 24' PAVED
YIELDING MARKER POSTS
10 EA

STEEL BEAM GUARDRAIL
203+00 - 206+25 LT 325'
80 00 214.5
ANCHOR FOR STEEL BEAM GUARDRAIL
1 EA
REMOVAL AND DISPOSAL OF GUARDRAIL
205+60 - 206+25 LT
00

STONE FILL, TYPE I FOR SLOPE STABILIZATION
200+60 - 203+20 RT
STONE FILL, TYPE III FOR SLOPE STABILIZATION
200+60 - 203+20 RT
206+20 +/- LT 130' +/-
PLUG EXISTING 4" STEEL PIPE

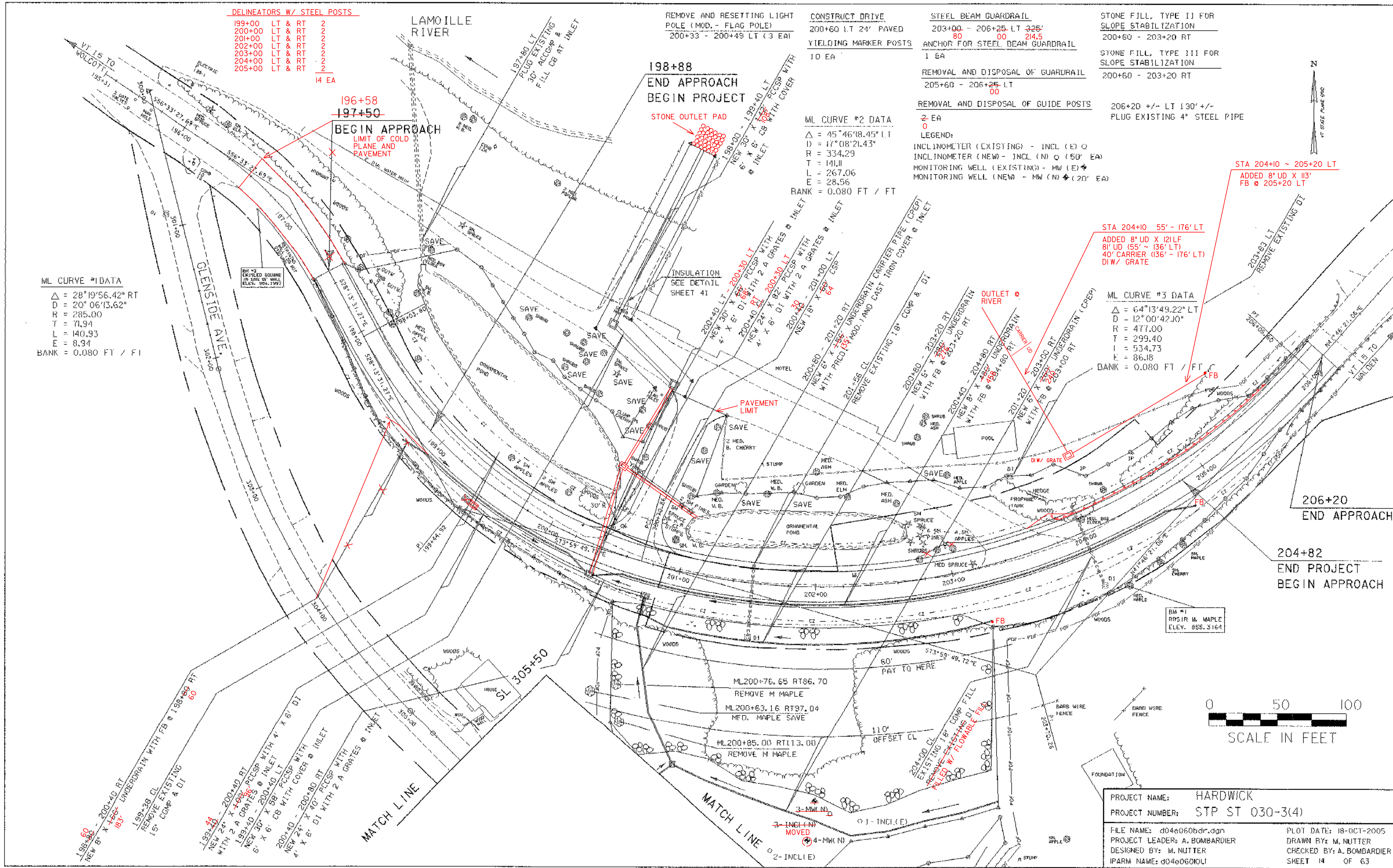
ML CURVE #2 DATA
Δ = 45°46'18.45" LT
D = 17°08'21.43"
R = 334.29
T = 141.11
L = 267.06
E = 28.56
BANK = 0.080 FT / FT

REMOVAL AND DISPOSAL OF GUIDE POSTS
0 EA
LEGEND:
INCLINOMETER (EXISTING) - INCL (E) ○
INCLINOMETER (NEW) - INCL (N) ○ (50' EA)
MONITORING WELL (EXISTING) - MW (E) ♦
MONITORING WELL (NEW) - MW (N) ♦ (20' EA)

ML CURVE #1 DATA
Δ = 28°19'56.42" RT
D = 20°06'13.62"
R = 285.00
T = 71.94
L = 140.93
E = 8.94
BANK = 0.080 FT / FT

STA 204+00 - 55' - 176' LT
ADDED 8" UD X 12LF
8" UD (55' - 136' LT)
40' CARRIER (136' - 176' LT)
DI W/ GRATE

ML CURVE #3 DATA
Δ = 64°13'49.22" LT
D = 12°00'42.10"
R = 477.00
T = 299.40
L = 534.73
E = 86.18
BANK = 0.080 FT / FT



206+20
END APPROACH

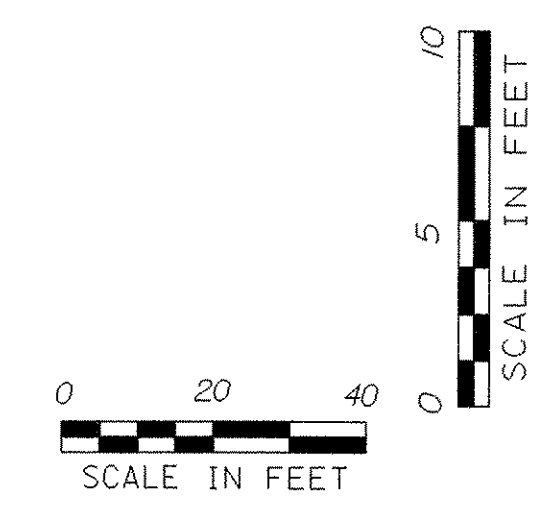
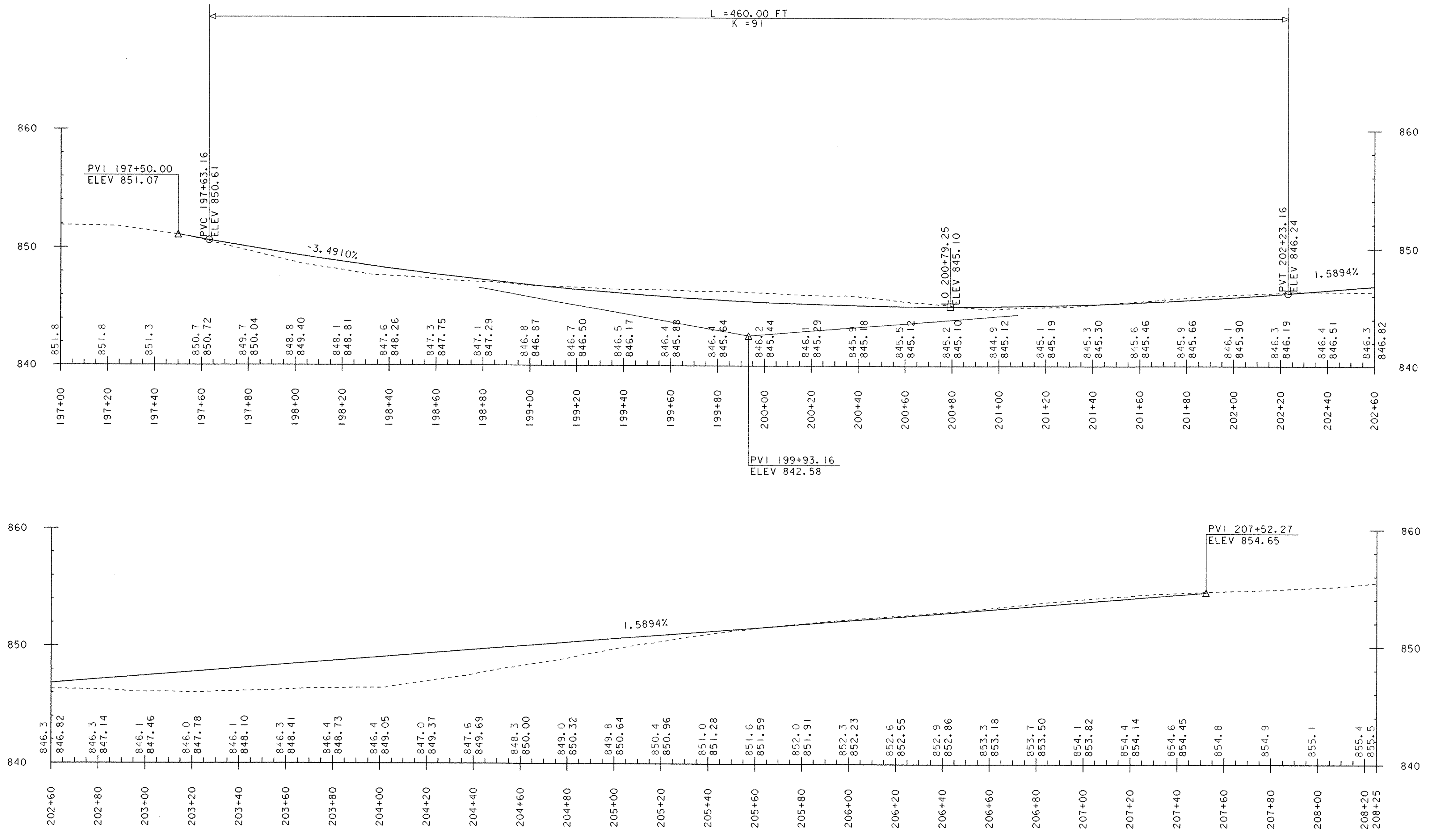
204+82
END PROJECT
BEGIN APPROACH



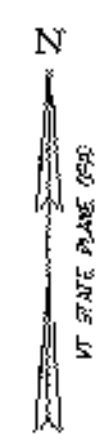
PROJECT NAME:	HARDWICK
PROJECT NUMBER:	STP ST 030-3(4)
FILE NAME:	d04e06bdr.dgn
PROJECT LEADER:	A. BOMBARDIER
DESIGNED BY:	M. NUTTER
IPARM NAME:	d04e060101
PLOT DATE:	18-OCT-2005
DRAWN BY:	M. NUTTER
CHECKED BY:	A. BOMBARDIER
SHEET 14 OF 63	

3MW ELIMINATED 3 - INCL (N) MOVED TO 202+40 208' RT

MAIN LINE PROFILE



PROJECT NAME: HARDWICK	PLOT DATE: 18-OCT-2005
PROJECT NUMBER: STP ST 030-3(4)	DRAWN BY: M. NUTTER
FILE NAME: d04e060xslx.dgn	CHECKED BY: A. BOMBARDIER
DESIGNED BY: M. NUTTER	SHEET 15 OF 63
IPARM NAME: de060pr001.i	



SL306+41.43 LT65.84
 REMOVE L.PINE
 PLANT NEW SUGAR MAPLE
 2-2 1/2" CALIPER

SL CURVE #2 DATA
 $\Delta = 5^{\circ}58'19.00''$ LT
 $D = 2^{\circ}51'53.00''$
 $R = 2000.00$
 $T = 104.32$
 $L = 208.46$
 $E = 2.72$

307+05 - 307+15 LT
 8" UD CARRIER
 18" PIPE AND DIVINSTALLED
 BY J.P. SICARD BEFORE
 CONTRACT WAS LET
 NOVEMBER 05

307+15 - 307+55 LT
 8" UD CARRIER
 PAYMENT FOR CONNECTION, REMOVAL
 EXISTING UNDERDRAIN AND PATCHING
 CONTRACT ITEMS

ADDED PAVED DITCH
 307+45 - 311+00 LT
 ITEM 616.47

SL CURVE #3 DATA
 $\Delta = 18^{\circ}04'17.00''$ RT
 $D = 9^{\circ}42'40.00''$
 $R = 590.00$
 $T = 93.82$
 $L = 186.09$
 $E = 7.41$

ADDED 4' CHAIN LINK FENCE W/ BRACING ASSEMBLIES
 SEE COD #3 DATED 9-14-06.

ADDED 4' CHAIN LINK FENCE W/ BRACING ASSEMBLIES
 SEE COD #3 DATED 9-14-06.

ADDED CEDAR SPLIT RAIL FENCE
 SEE COD #3 DATED 9-14-06.

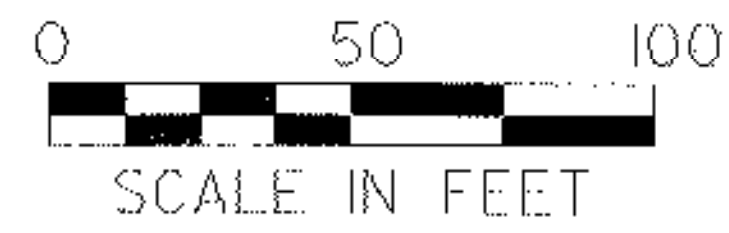
YIELDING MARKER POSTS
 1 EA

LEGEND:

- INCLINOMETER (EXISTING) - INCL (E) ○
- INCLINOMETER (NEW) - INCL (N) ○ (50' EA)
- MONITORING WELL (EXISTING) - MW (E) ◆
- MONITORING WELL (NEW) - MW (N) ◆ (20' EA)

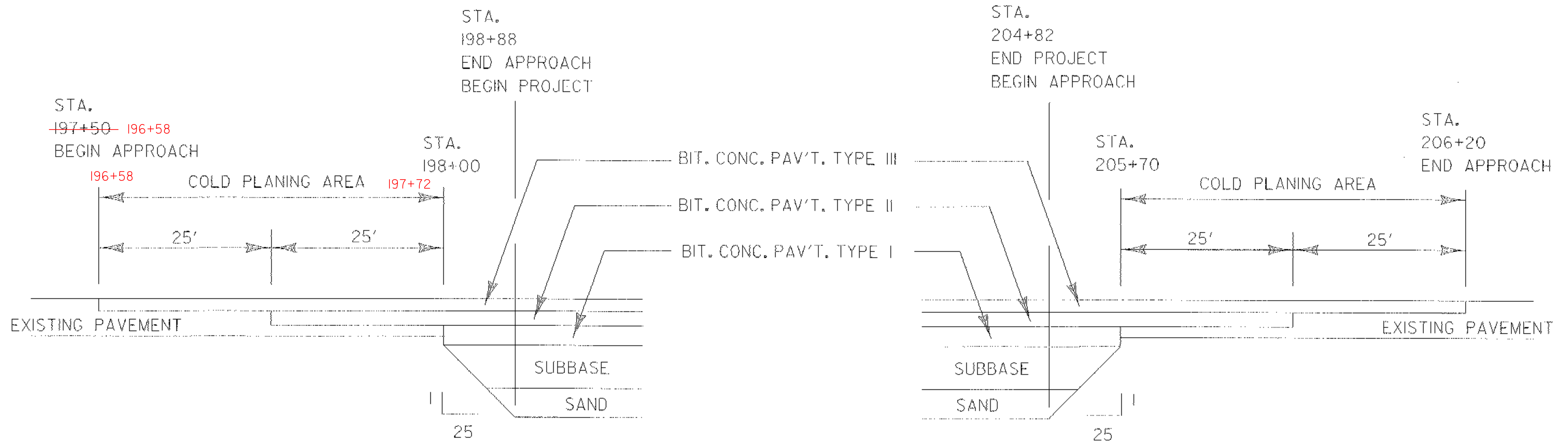
SL CURVE #4 DATA
 $\Delta = 4^{\circ}59'58.00''$ LT
 $D = 4^{\circ}24'27.00''$
 $R = 1300.00$
 $T = 56.75$
 $L = 113.43$
 $E = 1.24$

BM #3
 TOP OF BOLT AT END
 OF ARROW ON HYDRANT
 ELEV. 938.3360



PROJECT NAME:	HARDWICK
PROJECT NUMBER:	STP ST 030-3(4)
FILE NAME:	d04e060bdr.dgn
PROJECT LEADER:	A. BOMBARDIER
DESIGNED BY:	M. NUTTER
IPARM NAME:	d04e060002.T
PLOT DATE:	18-OCT-2005
DRAWN BY:	M. NUTTER
CHECKED BY:	A. BOMBARDIER
SHEET	16 OF 63

MATERIAL TRANSITION DETAIL



N.T.S.

PROJECT NAME: HARDWICK	
PROJECT NUMBER: STP ST 030-3(4)	
FILE NAME: d04e060frim.dgn	PLOT DATE: 18-OCT-2005
PROJECT LEADER: A. BOMBARDIER	DRAWN BY: M. NUTTER
DESIGNED BY: M. NUTTER	CHECKED BY: A. BOMBARDIER
IPARM NAME: d04e060mts.d	SHEET 17 OF 63

EROSION PREVENTION AND SEDIMENT CONTROL PLAN NARRATIVE

PROJECT DESCRIPTION

THE PURPOSE OF THE PROJECT IS TO STABILIZE A SLIDE THAT FORMED ON A ROAD CUT SOUTH OF VT 15. WORK TO BE PERFORMED UNDER THE PROJECT INCLUDES MINOR RE- ALIGNMENT OF VT 15, INSTALLING A COUNTERBERM, WITH ASSOCIATED EARTHWORK, DRAINAGE, GUARDRAIL, PAVEMENT AND OTHER RELATED ROADWAY ITEMS. THERE ARE 3.06 ACRES OF DISTURBED AREA.

SITE INVENTORY AND ANALYSIS

OFF-SITE DRAINAGE CHARACTERISTICS AND VEGETATION

SOUTHEAST OF THE SLIDE AREA AND AT THE TOP OF THE SLOPE ARE RESIDENTIAL LAWNS THAT DRAIN TOWARD THE SLIDE. SOUTH AND SOUTHWEST AND UP SLOPE OF THE SLIDE, THE STORMWATER RUNOFF DRAINS TO A PAVED ROADSIDE DITCH ON GLENSIDE AVE. AND WEST AWAY FROM THE SLIDE. WEST AND EAST OF THE PROJECT ARE FORESTS. NORTH OF THE PROJECT THE STORMWATER RUNOFF DRAINS TO EITHER THE LAMOILLE RIVER OR TWO EXISTING ORNAMENTAL PONDS THAT DRAIN INTO THE LAMOILLE RIVER.

DRAINAGE, WATERWAYS, BODIES OF WATER AND PROXIMITY TO NATURAL OR MAN-MADE WATER FEATURES

THERE ARE TWO ORNAMENTAL PONDS WITHIN THE PROJECT AREA. THERE ARE NO OTHER WATER BODIES WITHIN THE PROJECT. ALL STORMWATER RUNOFF EITHER INFILTRATES OR DRAINS TO THE LAMOILLE RIVER. THE LAMOILLE RIVER IS 190' NORTH OF THE MAJORITY OF THE PROJECT. HOWEVER THE INSTALLATION OF A NEW DRAINAGE CULVERT WILL INVOLVE EXCAVATION AT THE TOP OF THE BANK OF THE LAMOILLE RIVER.

TOPOGRAPHY, EXISTING ROADS, BUILDINGS AND UTILITIES

THE PROJECT IS THE STABILIZATION OF A SLOPE THAT IS SLIDING ONTO VT 15. VT 15 BISECTS THE PROJECT AND WILL BE REALIGNED. THERE IS A MOTEL NORTH OF THE PROJECT WHICH HAS TWO EXISTING DRIVES THAT ENTER THE PROJECT. SOUTH OF THE PROJECT AT THE TOP OF THE SLOPE IS A TOWN OWNED HIGHWAY, GLENSIDE AVE. AND A RESIDENTIAL NEIGHBORHOOD.

SOILS

THE CALEDONIA COUNTY SOIL SURVEY IDENTIFIES THE SOILS AS " URBAN LAND-ADAMS-NICHOLVILLE COMPLEX". THIS SOIL IS HIGHLY ERODIBLE. BECAUSE OF THE TYPE OF PROJECT, EXISTING EXPOSED SOILS, AND OTHER EXISTING FEATURES OF THE PROJECT AREA, SEDIMENT CONTROL SHOULD BE EMPHASIZED.

SENSITIVE RESOURCE AREAS

THE LAMOILLE RIVER IS THE ONLY SENSITIVE RESOURCE WHICH IS LOCATED 190' NORTH OF THE MAJORITY OF THE PROJECT.

HOWEVER THE INSTALLATION OF A NEW DRAINAGE CULVERT WILL INVOLVE EXCAVATION AT THE TOP OF BANK OF THE LAMOILLE RIVER.

INSTALLATION OF THE DRAINAGE CULVERT THAT OUTLETS INTO THE LAMOILLE RIVER: THIS WORK MUST BE DONE IN A WAY THAT DOES NOT RESULT IN A DISCHARGE OF SEDIMENT INTO THE LAMOILLE RIVER. THE PDF SHOULD BE PLACED AT THE TOP OF THE RIVER BANK. CONSTRUCTION EQUIPMENT SHOULD NOT TRAVEL PASSED THE PDF. WORK SHOULD TAKE PLACE DURING CLEAR WEATHER.

TEMPORARY EROSION PREVENTION AND SEDIMENT CONTROL PLAN

PROJECT DEMARCATION FENCE LABELED AS PDF ON THE PLANS DELINEATES THE LIMITS THE CONTRACTOR CAN ACCESS WITH CONSTRUCTION EQUIPMENT. THIS LIMITS THE AREA THAT CAN BE DISTURBED AND EXPOSED.

THE PROJECT WILL INVOLVE THE DEWATERING OF THE TWO ORNAMENTAL PONDS AND BACK FILLING WITH MATERIAL. THIS SHALL BE DONE IN A WAY THAT DOES NOT RESULT IN A DISCHARGE OF SEDIMENT INTO THE LAMOILLE RIVER. THE CONTRACTOR'S EROSION AND SEDIMENT CONTROL PLAN WILL SPECIFY HOW THIS WILL BE ACCOMPLISHED. PAYMENT FOR THIS WORK SHALL NOT BE PAID FOR DIRECTLY BUT WILL BE INCIDENTAL TO ALL EROSION CONTROL ITEMS.

SILT FENCE DETAIL SHEET 24 WILL BE USED AS A GUIDE FOR INSTALLATION OF SILT FENCE AT THE LOCATIONS AS SHOWN ON THE PLAN SHEETS OR AT OTHER LOCATIONS THAT HAVE BEEN IDENTIFIED IN THE CONTRACTOR'S EROSION PREVENTION AND SEDIMENT CONTROL PLAN/ ON SITE COORDINATOR OR RESIDENT ENGINEER.

DROP INLET PROTECTION DETAIL SHEET 25 OR COMPARABLE MEASURES WILL BE USED AT ALL EXISTING AND NEW DI'S, CB'S, OR MH'S UNTIL THE SOILS SURROUNDING THEM HAVE BEEN STABILIZED. THE PURPOSE OF DRAINAGE INLET PROTECTION IS TO PREVENT SEDIMENT FROM ENTERING THE CLOSED DRAINAGE SYSTEMS.

STABILIZED CONSTRUCTION ENTRANCE DETAIL SHEET 26 OR A COMPARABLE MEASURE WILL BE USED AT ALL ENTRANCES WHERE TRUCKS AND OTHER CONSTRUCTION EQUIPMENT EXIT AREAS OF EXPOSED SOILS ONTO PUBLIC ROADWAYS. THE PURPOSE IS TO REDUCE THE TRACKING OF SEDIMENT ONTO PUBLIC ROADWAYS.

PERMANENT EROSION CONTROL MEASURES

GRASS OR OTHER SUITABLE GROUND COVER WILL BE ESTABLISHED OUTSIDE OF THE ROADWAY LIMITS WHERE STONE FILL HAS NOT BEEN SPECIFIED. ALL OTHER SLOPES SHALL BE SEEDED AND MULCHED WITHIN 48 HOURS UPON ACHIEVING FINAL GRADE. ALL SLOPES SHALL RECEIVE EROSION CONTROL MATTING USING DITCH & SLOPE PROTECTION DETAIL SHEET 27 AS A GUIDE.

FOR ADDITIONAL INFORMATION SEE EROSION PREVENTION AND SEDIMENT CONTROL GENERAL NOTES.

FINAL CONDITIONS SITE PLAN

FINAL CONTOURS ARE TO BE TAKEN FROM CROSS SECTIONS.

SHEET NAME:	EROSION CONTROL NARRATIVE
PROJECT NAME:	HARDWICK
PROJECT NUMBER:	STP ST 030-3(4)
FILE NAME:	PW/04e060/design/d04e060frm
DATE:	18-OCT-2005
PROJECT LEADER:	A. BOMBARDIER
DRAWN BY:	M. NUTTER
DESIGNED BY:	M. NUTTER
CHECKED BY:	A. BOMBARDIER
IPARM NAME:	d04e060ernarr.1
SHEET	18 OF 63

EROSION PREVENTION AND SEDIMENT CONTROL PLAN GENERAL NOTES

1. CONTRACTOR'S RESPONSIBILITIES FOR EROSION PREVENTION AND SEDIMENT CONTROL

- A. THE CONTRACTOR SHALL PROVIDE A NARRATIVE AND PLAN SHEETS THAT ADDRESSES ALL ITEMS ON THE VTRANS CONTRACTOR'S CHECK LIST FOR EROSION PREVENTION AND SEDIMENT CONTROL
- B. PREVENT OR MINIMIZE SOIL EROSION OF DISTURBED LAND AND PREVENT THE DISCHARGE OF SEDIMENT AND OTHER CONSTRUCTION RELATED POLLUTANTS TO WATERS OF THE STATE.
- C. FURNISH, INSTALL, INSPECT AND MAINTAIN EROSION AND SEDIMENT CONTROL MATERIALS IN CONJUNCTION WITH THE GENERAL CLEARING, GRADING AND EXCAVATION OF THE SITE.
- D. ESTABLISH LIMITS OF SOIL DISTURBANCE; LOCATION(S) OF TOPSOIL STOCKPILES; CONSTRUCTION STAGING AREAS; STORAGE AREAS; REFUELING AND MAINTENANCE AREAS.
- E. ESTABLISH AND MARK BOUNDARIES FOR ANY UNDISTURBED RIPARIAN BUFFER ZONES AND MAINTAIN ALL EXISTING STREAMS AND RIPARIAN BUFFER ZONES IN THEIR NATURAL CONDITION, EXCEPT IN THE AREA OF STREAM WORK.
- F. SEQUENCE CONSTRUCTION ACTIVITIES TO MINIMIZE THE EXTENT OF DISTURBED SOILS LEFT OPEN TO EROSION AT ANY GIVEN TIME AS DETAILED IN THE CONSTRUCTION PHASING AND EROSION AND SEDIMENT CONTROL PLANS.
- G. MAINTAIN AND PRESERVE TO THE EXTENT POSSIBLE THE SITE'S NATURAL DRAINAGE WAYS THAT CONVEY STORMWATER TO STREAMS, RIVERS, LAKES, PONDS AND WETLANDS.
- H. PREVENT OFF-SITE STORMWATER FROM ENTERING AREAS OF DISTURBED SOIL ON-SITE.
- I. PREVENT THE OFF-SITE DISCHARGE OF SEDIMENT MOBILIZED ON THE CONSTRUCTION SITE, INCLUDING OFF-SITE TRACKING OF SEDIMENT ONTO PAVED PUBLIC OR PRIVATE ROADWAYS BY CONSTRUCTION VEHICLES.
- J. DISPOSE OF SEDIMENTS AND OTHER POLLUTANTS WHICH HAVE BEEN COLLECTED AND REMOVED IN THE COURSE OF STORMWATER TREATMENT IN A MANNER THAT WILL NOT RESULT IN THE SEDIMENTS AND POLLUTANTS ENTERING WATERS OF THE STATE. DISPOSAL SITES REQUIRE RELATIVELY LEVEL TERRAIN WITH AN ISOLATION DISTANCE OF AT LEAST 100 FEET FROM ANY SURFACE WATERS, INCLUDING WETLANDS.

2. LIMITATIONS AND PROHIBITIONS

- A. ANY PROPOSED SOIL DISTURBANCE AND EARTHWORKS BETWEEN OCTOBER 15 AND MAY 1 WILL REQUIRE DEVELOPMENT OF A SPECIAL WINTER EROSION AND SEDIMENT CONTROL PLAN ADDRESSING THE SPECIFIC CONCERNS OF WINTER CONSTRUCTION.
- B. DISCHARGES OF ANY MATERIAL OTHER THAN STORM WATER, SUCH AS VEHICLE AND EQUIPMENT MAINTENANCE SPILLS, FUELS, WASH WATER, CONSTRUCTION DEBRIS, OIL, WET CONCRETE (INCLUDING WASHOUT WATER FROM CONCRETE BATCH TRUCKS OR EQUIPMENT USED TO MIX CONCRETE), AND OTHER SUBSTANCES, ARE PROHIBITED.
- C. DISPOSAL OF SEDIMENT IN A WETLAND OR ANY CORRECTIVE ACTION UNDERTAKEN TO REMOVE SEDIMENT FROM A WETLAND IS PROHIBITED.
- D. THE FAILURE TO PROMPTLY ABATE THE DISCHARGE OF SEDIMENT OR ANY OTHER WASTE WHICH CAUSES A VISIBLE DISCOLORATION OF SURFACE WATERS (INCLUDING WETLANDS), OR IS FOUND TO BE EXCEEDING WATER QUALITY STANDARDS BASED ON MONITORING, IS PROHIBITED.

3. GENERAL CONSTRUCTION NOTES

- A. VEHICLE AND EQUIPMENT STORAGE AREAS OR AREAS ADJACENT TO CONSTRUCTION TRAILER OR OTHER HIGH TRAFFIC AREAS SHALL BE COVERED WITH GEOTEXTILE FABRIC AND 12 INCHES OF GRAVEL. FOLLOWING COMPLETION OF CONSTRUCTION, ALL NON-NATIVE MATERIALS SHALL BE REMOVED FROM THE STAGING AREA. COMPACTED, RUTTED, OR OTHERWISE DISTURBED SOILS SHALL BE TILLED, RAKED, SEEDED AND MULCHED.
- B. ERODIBLE MATERIALS STOCKPILED WITHIN THE MATERIAL STORAGE AREAS SHALL BE ISOLATED WITH FILTER FABRIC. SOIL STOCKPILED ON THE SITE SHALL BE SEEDED AND MULCHED.
- C. ALL EXPOSED AREAS WHICH WILL NOT RECEIVE FURTHER DISTURBANCE FOR A PERIOD OF 7 DAYS OR MORE SHALL BE TEMPORARILY STABILIZED WITH MULCH.
- D. ALL EXPOSED AREAS SHALL BE PERMANENTLY STABILIZED WITH EROSION CONTROL MATTING WITHIN 48 HOURS OF REACHING FINAL GRADE.

4. MONITORING EROSION PREVENTION AND SEDIMENT CONTROL PLAN

- A. THE CONTRACTOR SHALL DESIGNATE A PERSON, ON - SITE PLAN COORDINATOR (OPC), WHO IS DIRECTLY RESPONSIBLE FOR THE ON-SITE IMPLEMENTATION OF THE PLAN. THIS PERSON SHALL GENERALLY BE ON - SITE ON A DAILY BASIS DURING ACTIVE CONSTRUCTION AND HAVE THE AUTHORITY TO HALT CONSTRUCTION ACTIVITIES IF NECESSARY. THE QUALIFICATIONS OF THE OPC SHALL BE INCLUDED IN AND ACCEPTED UPON APPROVAL OF THE PLAN. HOWEVER, THE ENGINEER, IF NOT SATISFIED WITH THE PERFORMANCE MAY AT ANY TIME REQUEST A REPLACEMENT.
- B. THE OPC SHALL BE RESPONSIBLE FOR INSPECTIONS AND REPORTING. THE AGENCY'S EROSION PREVENTION AND SEDIMENT CONTROL WEEKLY PLAN REVIEW SHALL BE COMPLETED TO INFORM THE AGENCY OF THE STATUS OF THE PROJECT WITH REGARD TO EROSION PREVENTION AND SEDIMENT CONTROL. THE AGENCY'S STORM EVENT MONITORING REPORT SHALL BE COMPLETED TO PROVIDE INFORMATION REGARDING THE EFFECTIVENESS OF THE PLAN DURING A STORM EVENT. SHEET 1 OF THE REPORT SHALL BE COMPLETED WITHIN 24 HOURS OF A STORM EVENT GREAT ENOUGH TO CAUSE STORMWATER TO LEAVE THE CONSTRUCTION SITE. BOTH SHEETS 1 AND 2 OF THE REPORT SHALL BE COMPLETED IF THERE IS EVIDENCE OF SEDIMENT OR SEDIMENT LADEN WATER LEAVING THE CONSTRUCTION SITE OR ENTERING SURFACE WATERS (INCLUDING WETLANDS). IMMEDIATE ACTION SHALL BE TAKEN TO CORRECT THE DISCHARGE OF SEDIMENT, INCLUDING HALTING OR REDUCING CONSTRUCTION ACTIVITIES AS NECESSARY UNTIL THE DISCHARGE AND/OR THE CONDITION IS FULLY CORRECTED. CORRECTIVE ACTIONS SHALL BE RECORDED ON MONITORING REPORTS AND SHOWN ON THE PLAN. EACH REPORT SHALL BE SIGNED BY THE OPC.
- C. MONITORING OF EROSION PREVENTION AND SEDIMENT CONTROL MEASURES FOR MULTI YEAR PROJECTS AND PROJECTS THAT HAVE NOT BEEN ACCEPTED DUE TO INSUFFICIENT ESTABLISHMENT OF VEGETATION SHALL BE CONDUCTED THROUGHOUT THE WINTER SEASON. THE CONTRACTOR SHALL CONTACT THE ENGINEER PRIOR TO CONDUCTING ANY REVIEWS, AND THE REVIEWS SHALL BE CONDUCTED AT LEAST ONCE EVERY OTHER WEEK, AND AFTER ANY MAJOR STORM EVENT GREATER THAN 1/2 INCH OF RAIN IN A 24 HOUR PERIOD OR A SIGNIFICANT SNOW MELT EVENT. COPIES OF THE INSPECTION REPORTS SHALL BE SUBMITTED TO THE ENGINEER AS COMPLETED TO BE KEPT IN THE PROJECT FILES.

5. MAINTENANCE

- A. THE CONTRACTOR SHALL REPAIR ALL EROSION AND SEDIMENT CONTROL STRUCTURES AND MEASURES THAT ARE DETERMINED TO BE FAILING, OR NOT FUNCTIONING AS DESIGNED, WITHIN 24 HOURS OF INSPECTION.
- B. THE CONTRACTOR SHALL REMOVE ACCUMULATED SEDIMENT FROM CONTAINMENT SYSTEMS AND OTHER SEDIMENT CONTROL STRUCTURES AS REQUIRED, SUCH THAT PERFORMANCE OF THESE SYSTEMS IS NOT COMPROMISED OR IN ANY WAY IMPAIRED.
- C. THE CONTRACTOR SHALL REMOVE ALL DEBRIS AND REPAIR ALL DAMAGES CAUSED BY SOIL EROSION OR CONSTRUCTION EQUIPMENT AT OR BEFORE THE END OF EACH WORKING DAY.

SHEET NAME: EROSION CONTROL GENERAL NOTES

PROJECT NAME: HARDWICK

PROJECT NUMBER: STP ST 030-3(4)

FILE NAME: PW/04e060/design/d04e060frmPLOT DATE: 18-OCT-2005
PROJECT LEADER: A. BOMBARDIER DRAWN BY: M. NUTTER
DESIGNED BY: M. NUTTER CHECKED BY: A. BOMBARDIER
IPARM NAME: de060eronotes.i SHEET 19 OF 63

LAMOILLE RIVER

NOTES:

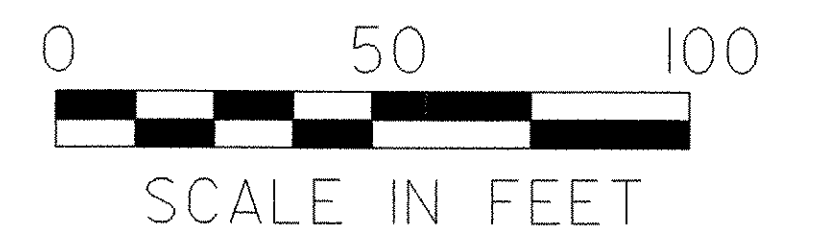
1. ALL INLETS ARE TO BE PROTECTED. SEE SHEET 25.
2. CONSTRUCTION ENTRANCE TO BE DETERMINED IN THE FIELD. SHALL BE CONSTRUCTED PER SHEET 26.
3. FINAL CONTOURS ARE TO BE TAKEN FROM CROSS SECTIONS.

EROSION MATTING - JUTE

197+60 - 205+40 LT
198+20 - 205+20 RT

LEGEND

- SILT FENCE
- PDF PDF
- SNOW FENCE (MOD. - ARCH)

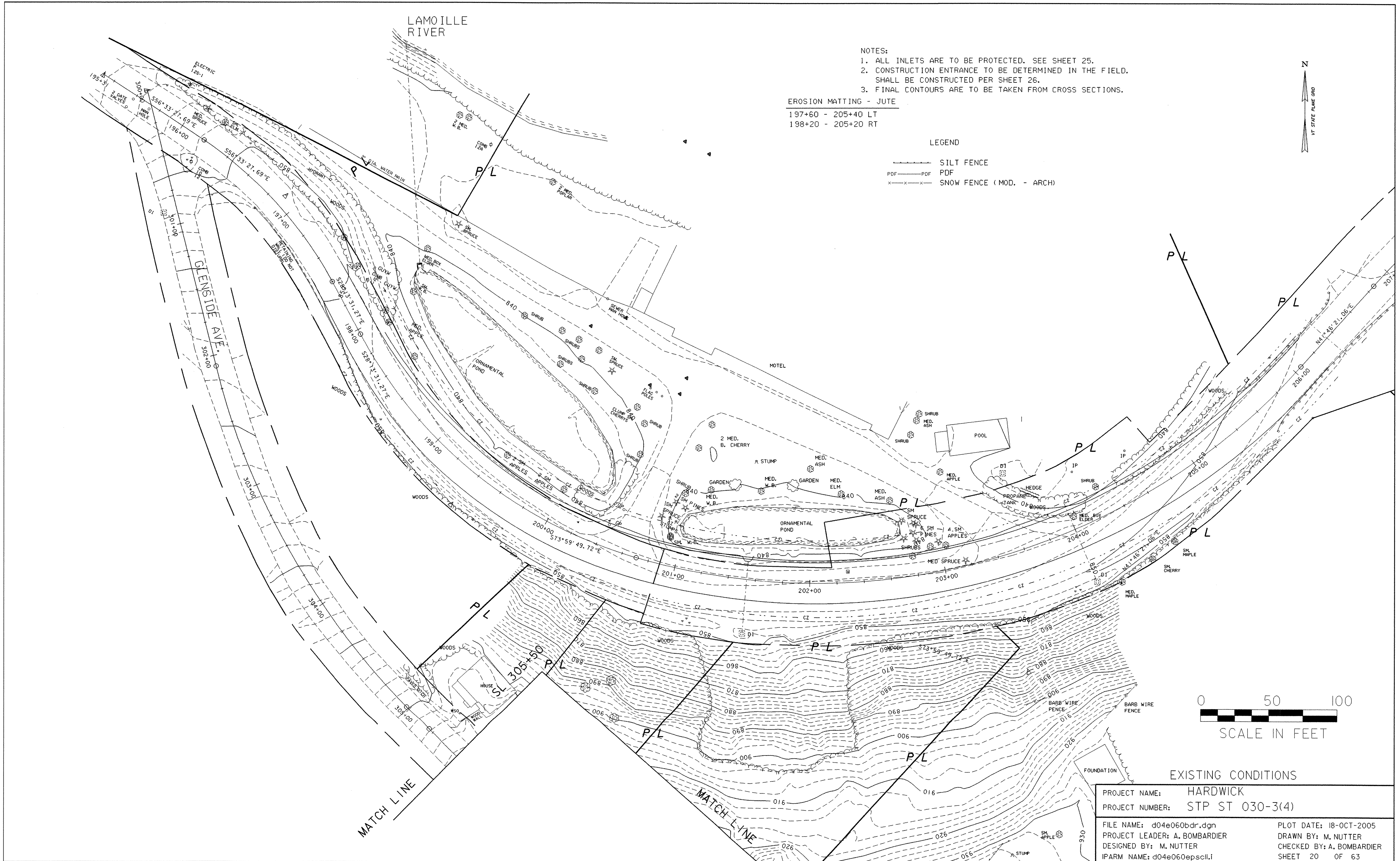


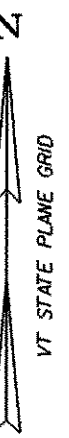
EXISTING CONDITIONS

PROJECT NAME: HARDWICK
PROJECT NUMBER: STP ST 030-3(4)

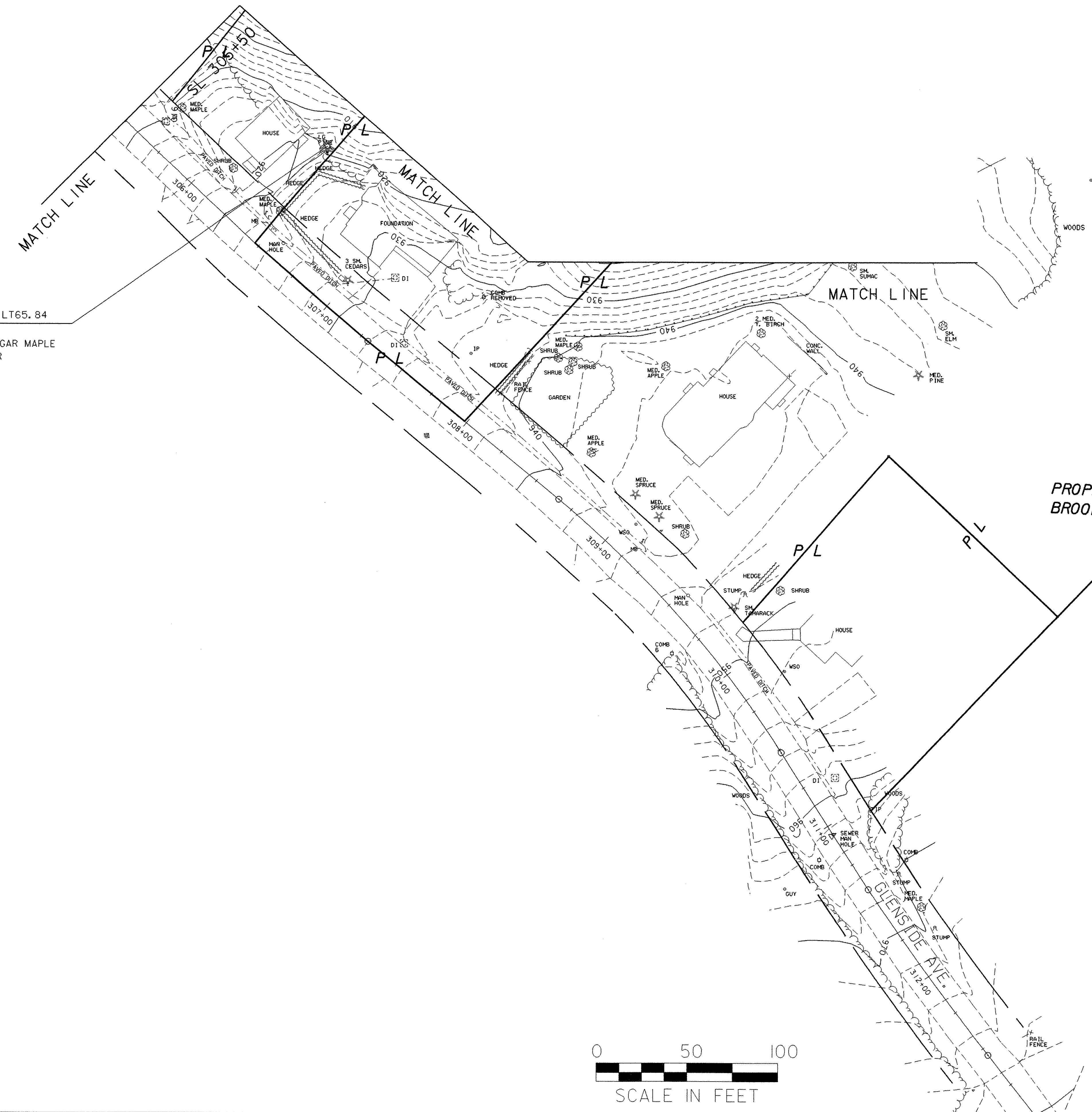
FILE NAME: d04e06bdr.dgn
PROJECT LEADER: A. BOMBARDIER
DESIGNED BY: M. NUTTER
IPARM NAME: d04e06epscli

PLOT DATE: 18-OCT-2005
DRAWN BY: M. NUTTER
CHECKED BY: A. BOMBARDIER
SHEET 20 OF 63





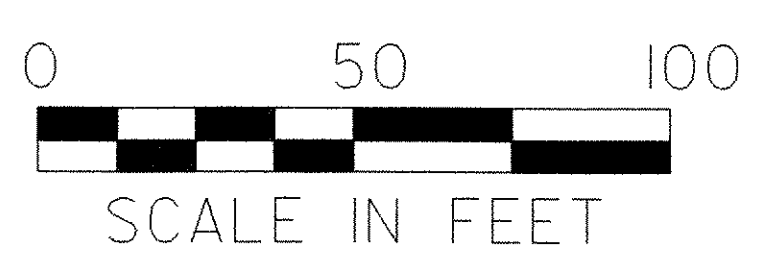
SL306+41.43 LT65.84
 REMOVE L.PINE
 PLANT NEW SUGAR MAPLE
 2-2 1/2" CALIPER



PROPERTY LINE FOLLOWS
 BROOK TO HIGHWAY

- NOTES:
1. ALL INLETS ARE TO BE PROTECTED, SEE SHEET 25.
 2. CONSTRUCTION ENTRANCE TO BE DETERMINED IN THE FIELD. SHALL BE CONSTRUCTED PER SHEET 26.
 3. FINAL CONTOURS ARE TO BE TAKEN FROM CROSS SECTIONS.

- LEGEND
- SILT FENCE
 - PDF PDF
 - x-x-x SNOW FENCE (MOD. - ARCH)



EXISTING CONDITIONS	
PROJECT NAME:	HARDWICK
PROJECT NUMBER:	STP ST 030-3(4)
FILE NAME:	d04e060bdr.dgn
PROJECT LEADER:	A. BOMBARDIER
DESIGNED BY:	M. NUTTER
IPARM NAME:	d04e060epscl2.1
PLOT DATE:	18-OCT-2005
DRAWN BY:	M. NUTTER
CHECKED BY:	A. BOMBARDIER
SHEET	21 OF 63

LAMOILLE RIVER

NOTES:

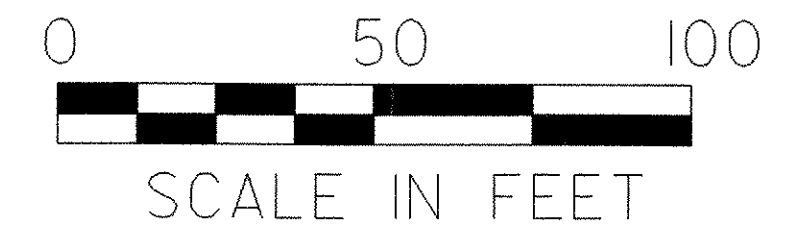
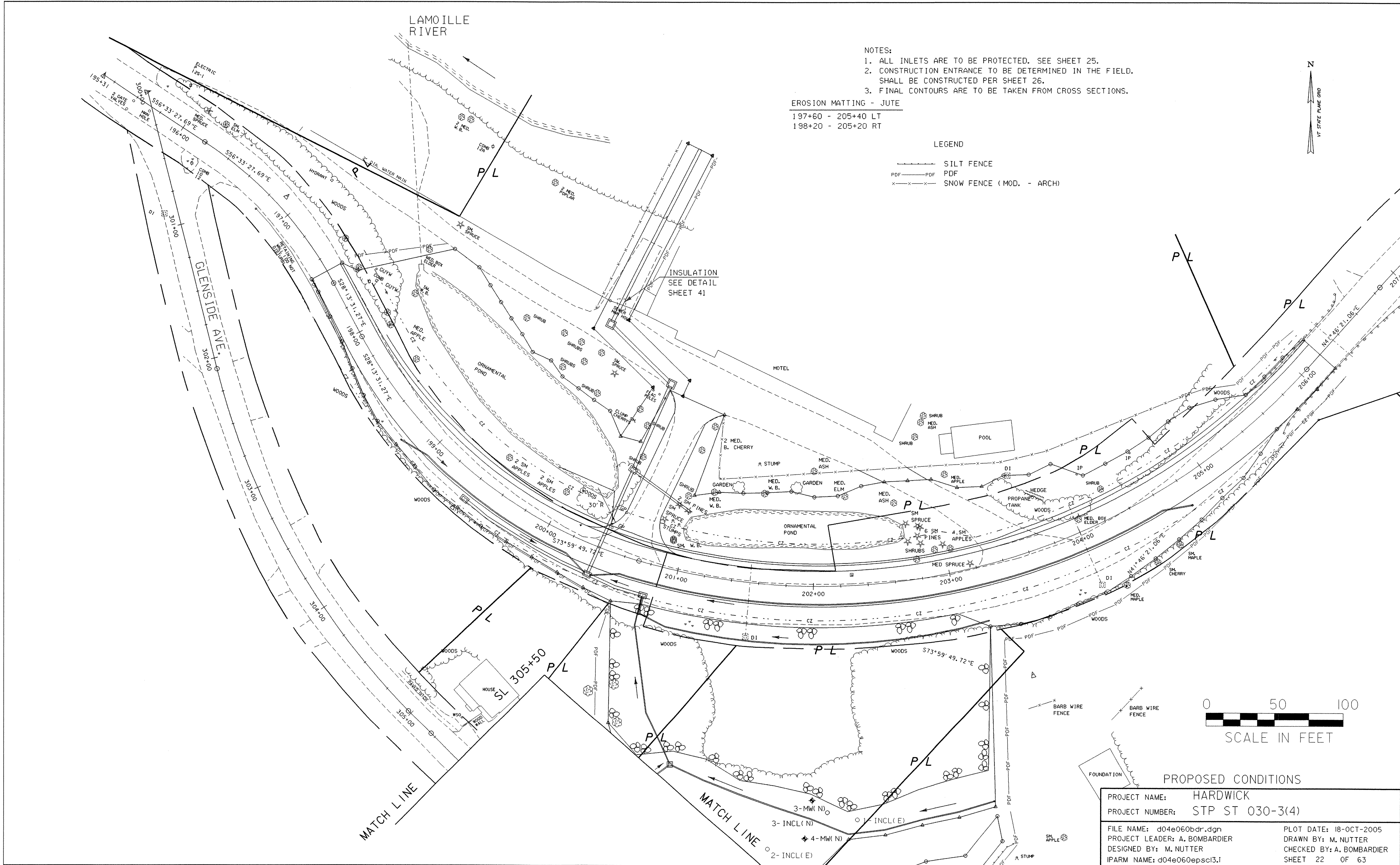
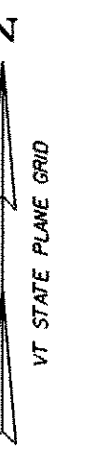
1. ALL INLETS ARE TO BE PROTECTED. SEE SHEET 25.
2. CONSTRUCTION ENTRANCE TO BE DETERMINED IN THE FIELD. SHALL BE CONSTRUCTED PER SHEET 26.
3. FINAL CONTOURS ARE TO BE TAKEN FROM CROSS SECTIONS.

EROSION MATTING - JUTE

197+60 - 205+40 LT
198+20 - 205+20 RT

LEGEND

- SILT FENCE
- PDF PDF
- x-x-x-x SNOW FENCE (MOD. - ARCH)

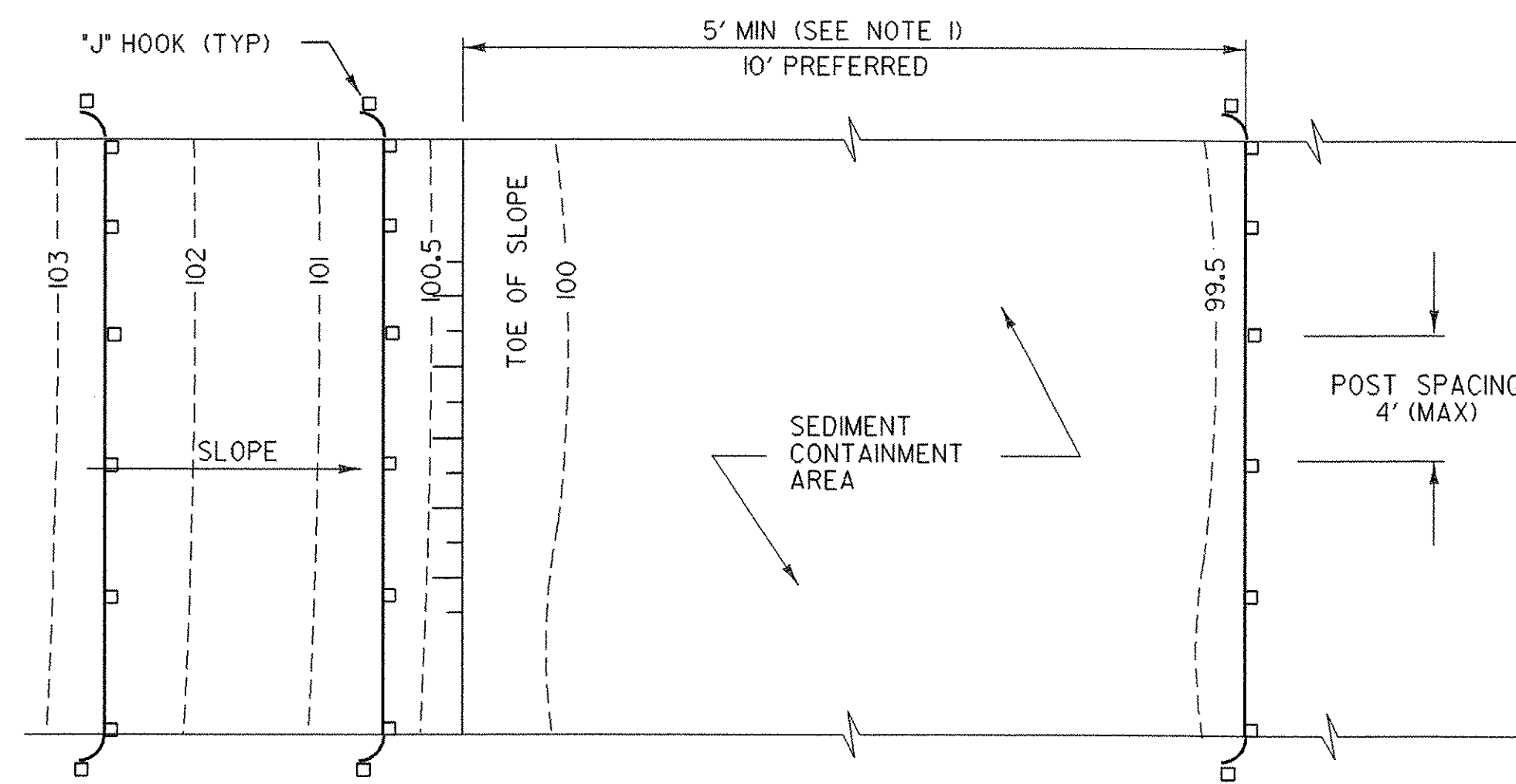


PROPOSED CONDITIONS

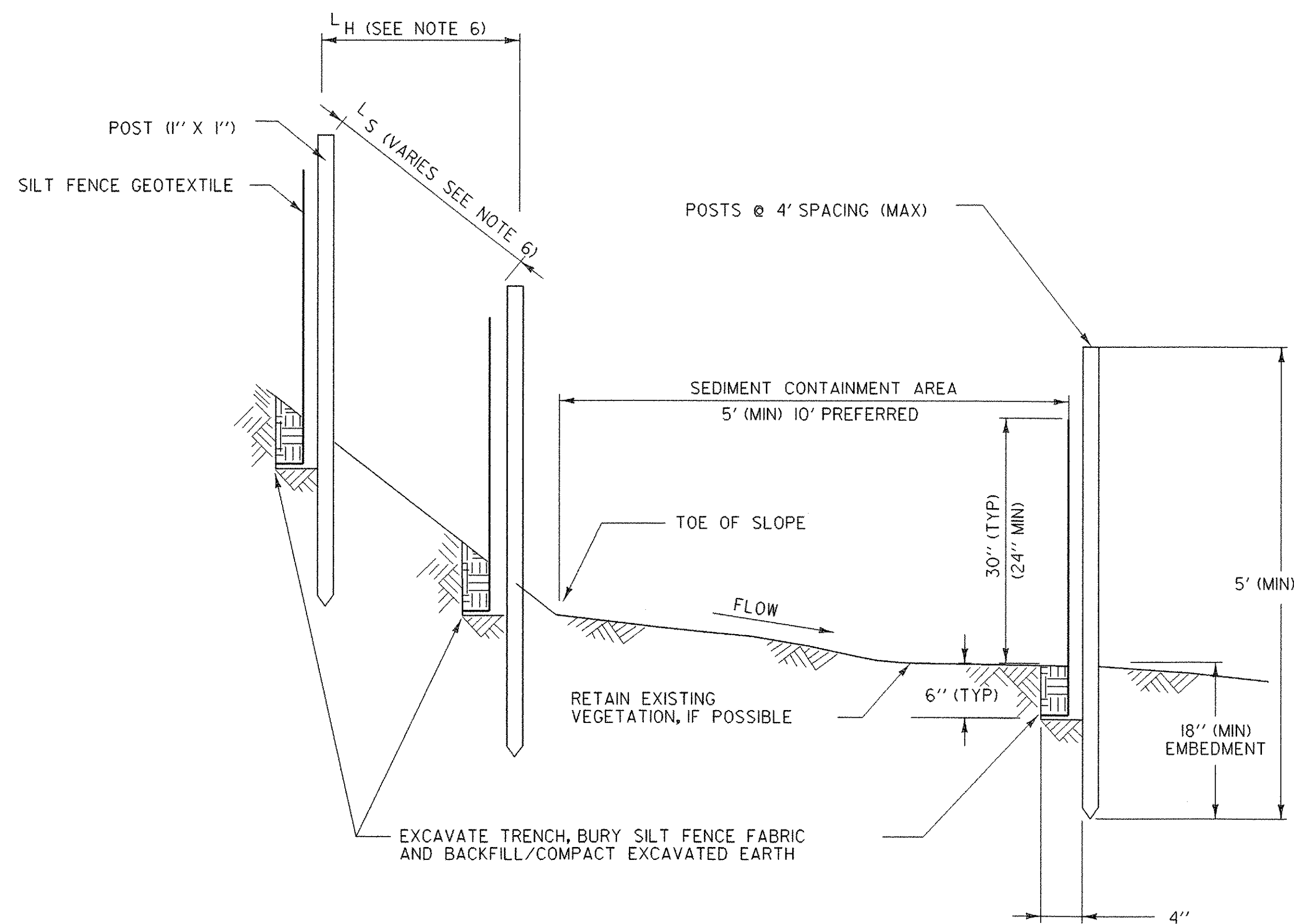
PROJECT NAME:	HARDWICK
PROJECT NUMBER:	STP ST 030-3(4)
FILE NAME:	d04e060bdr.dgn
PROJECT LEADER:	A. BOMBARDIER
DESIGNED BY:	M. NUTTER
IPARM NAME:	d04e060epscl3.1
PLOT DATE:	18-OCT-2005
DRAWN BY:	M. NUTTER
CHECKED BY:	A. BOMBARDIER
SHEET	22 OF 63

EROSION PREVENTION & SEDIMENT CONTROL DETAILS

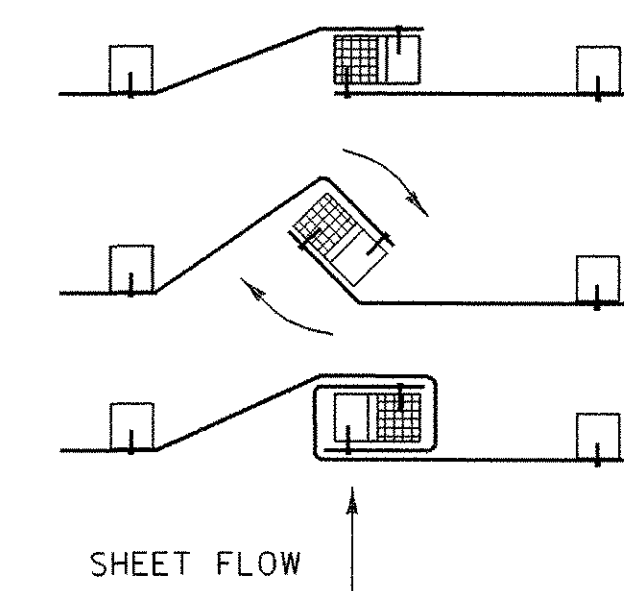
SILT FENCE



PLAN



SECTION
SILT FENCE - TEMPORARY



1. PLACE THE END POST OF ONE FENCE INSIDE THE END POST OF THE OTHER FENCE.
2. ROTATE BOTH POSTS AT LEAST 180 DEGREES IN A CLOCKWISE DIRECTION TO CREATE A TIGHT SEAL WITH THE FABRIC MATERIAL.
3. DRIVE BOTH POSTS 18 INCHES INTO THE GROUND AND BURY THE FLAP IN THE TRENCH.

SPlicing DETAIL

APPLICATION NOTES:

- A. THE PRIMARY PURPOSE OF SILT FENCE IS TO REDUCE RUNOFF VELOCITY AND TRAP SEDIMENT. VELOCITY IS REDUCED, WATER IS IMPOUNDED BEHIND THE MEASURE, AND SEDIMENT FALLS OUT OF SUSPENSION.
- B. SILT FENCE SHALL BE INSTALLED ON A LINE OF EQUAL ELEVATION (CONTOUR). IT MAY BE INSTALLED AT INTERMEDIATE POINTS UP SLOPES AS WELL AS AT THE BOTTOM, AS SHOWN IN THE DETAIL.
- C. SILT FENCE SHALL NOT BE USED ACROSS CONCENTRATED FLOW.

GENERAL NOTES:

1. SILT FENCE SHALL GENERALLY BE PLACED A MINIMUM OF 5 FEET BEYOND TOE OF SLOPE, 10 FEET PREFERRED, TO PROVIDE ADEQUATE AREA FOR SEDIMENT STORAGE AND FACILITATE MAINTENANCE OF SEDIMENT CONTAINMENT AREA.
2. ALL ENDS SHALL BE 'J' HOOKED TO TRAP SEDIMENT.
3. IN AREAS WITH TWO SLOPES, SILT FENCE SHALL BE USED TO ERECT A DAM AND TRAP SEDIMENT AT THE BASE OF THE STEEPER SLOPE.
4. THE BOTTOM EDGE OF SILT FENCE SHALL BE BURIED A MINIMUM OF 6 INCHES BELOW GROUND, AND KEYED IN 4 INCHES. THE FENCE SHALL BE INSTALLED WITH THE POSTS ON THE DOWNSTREAM SIDE OF THE FABRIC.
5. MAXIMUM DRAINAGE AREA TRIBUTARY TO 100 FEET OF SILT FENCE SHALL BE 0.25 ACRES.
6. THE FOLLOWING ARE MAXIMUM SLOPE LENGTHS FOR THESE MEASURES:

CONSTRUCTED SLOPE	SLOPE LENGTH (LS) FT	HORIZONTAL LENGTH (LH) FT
3 - 1	80	75
4 - 1	130	125
5 - 1	200	200
> 5 - 1	250	250

7. MEASURES SHALL BE INSPECTED EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF A STORM EVENT GREAT ENOUGH TO CAUSE WATER TO LEAVE THE CONSTRUCTION SITE.
8. MEASURES SHALL BE CLEANED AND REPAIRED AS NEEDED. SEDIMENT SHALL BE REMOVED WHEN ACCUMULATION REACHES ONE-HALF OF THE MEASURE HEIGHT. SEDIMENT SHALL BE DISPOSED OF AS UNSUITABLE MATERIAL.
9. SILT FENCE SHALL BE REMOVED WHEN THE AREA HAS BEEN STABILIZED. AT TIME OF REMOVAL OF THE SILT FENCE, THE DISTURBED AREA SHALL BE REPAIRED AND STABILIZED.
10. PAYMENT FOR INSTALLATION AND REMOVAL OF SILT FENCE SHALL BE MADE UNDER THE GEOTEXTILE FOR SILT FENCE ITEM.
11. PAYMENT FOR MONITORING SILT FENCE SHALL BE MADE UNDER THE MONITORING EROSION PREVENTION & SEDIMENT CONTROL PLAN ITEM.

N.T.S.

PROJECT NAME: HARDWICK
PROJECT NUMBER: STP ST 030-3(4)

FILE NAME: d04e060frm.dgn	PLOT DATE: 18-OCT-2005
PROJECT LEADER: A. BOMBARDIER	DRAWN BY: M. NUTTER
DESIGNED BY: M. NUTTER	CHECKED BY: A. BOMBARDIER
IPARM NAME: d04e060epscl.i	SHEET 24 OF 63

EROSION PREVENTION & SEDIMENT CONTROL DETAILS

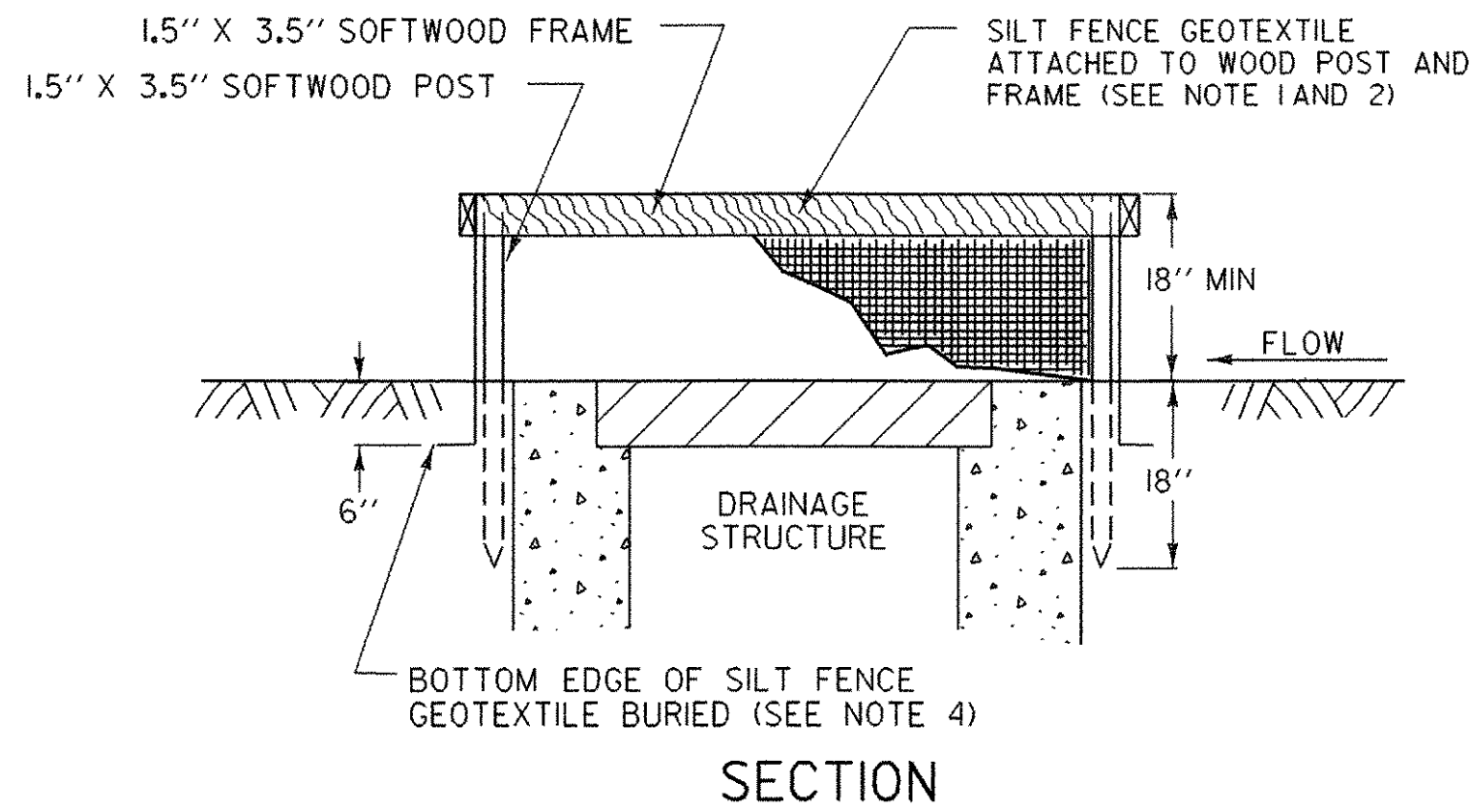
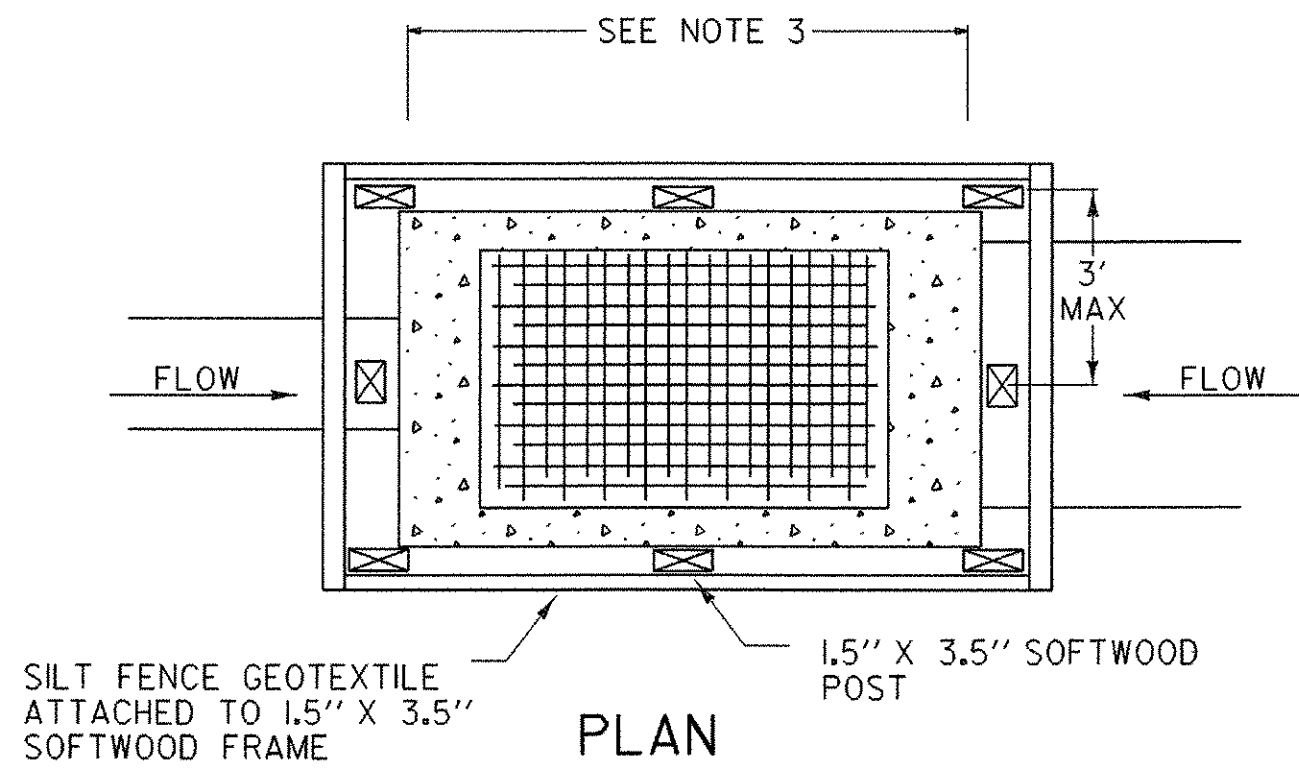
DROP INLET PROTECTION

APPLICATION NOTES:

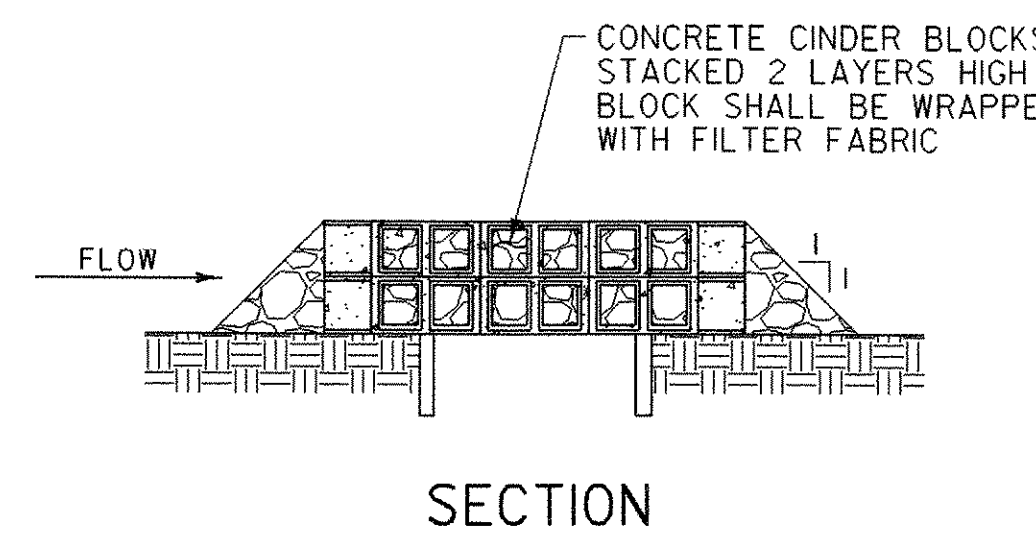
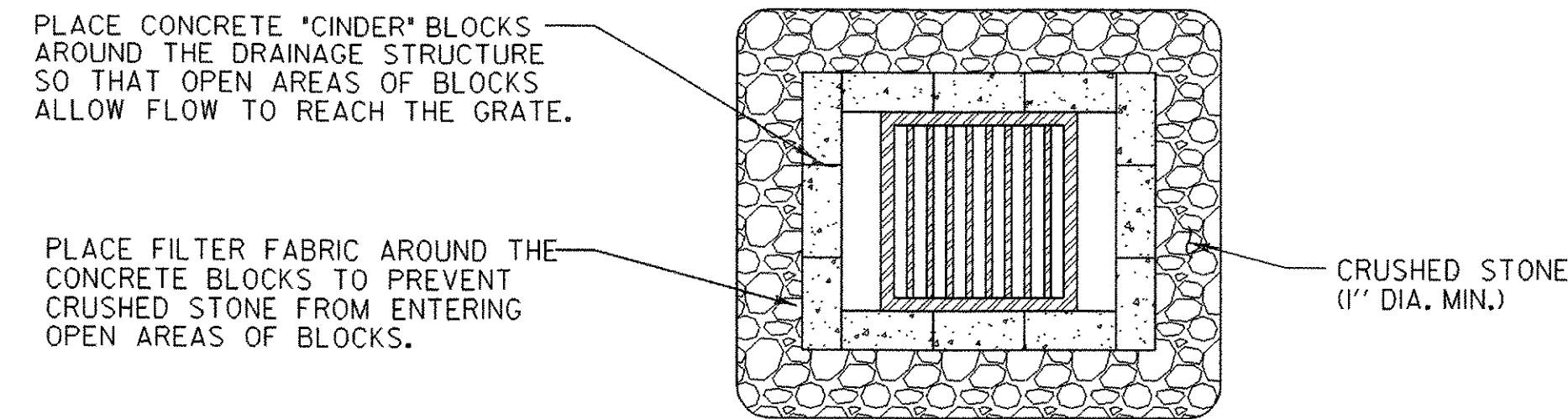
- A. THE PRIMARY PURPOSE OF DRAINAGE STRUCTURE INLET PROTECTION IS TO PREVENT SEDIMENT FROM ENTERING A DRAINAGE SYSTEM BY PONDING WATER WHICH ALLOWS SEDIMENT TO FALL OUT OF SUSPENSION.
- B. THESE EXAMPLES OF DROP INLET PROTECTION ARE NOT INTENDED FOR USE ON GRADES. ON GRADE THEY MAY CAUSE WATER TO BYPASS THE STRUCTURE, CREATING ADDITIONAL EROSION OR FLOODING.
- C. POSSIBLE MODIFICATIONS FOR USE ON GRADE INCLUDE ADDING A BERM DOWNSTREAM OF THE INLET TO CREATE PONDING. CHECK DAMS MAY ALSO BE USED UPSTREAM OF THE INLET TO SLOW VELOCITIES.
- D. PREFABRICATED DROP INLET PROTECTION SPECIFICATIONS SHALL BE PROVIDED TO THE ENGINEER FOR APPROVAL PRIOR TO USE.

GENERAL NOTES:

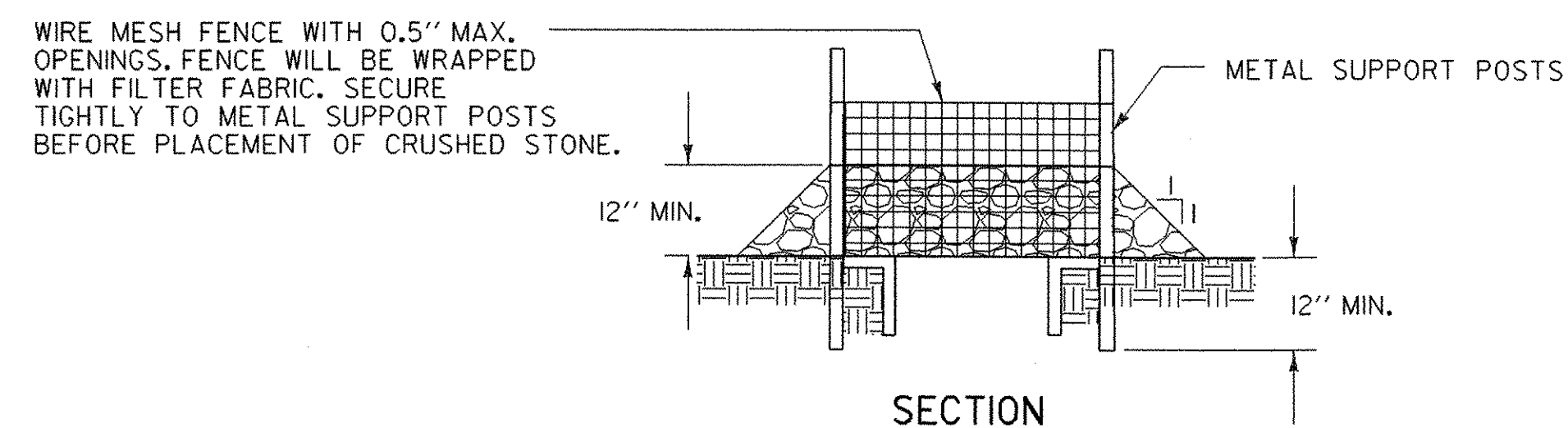
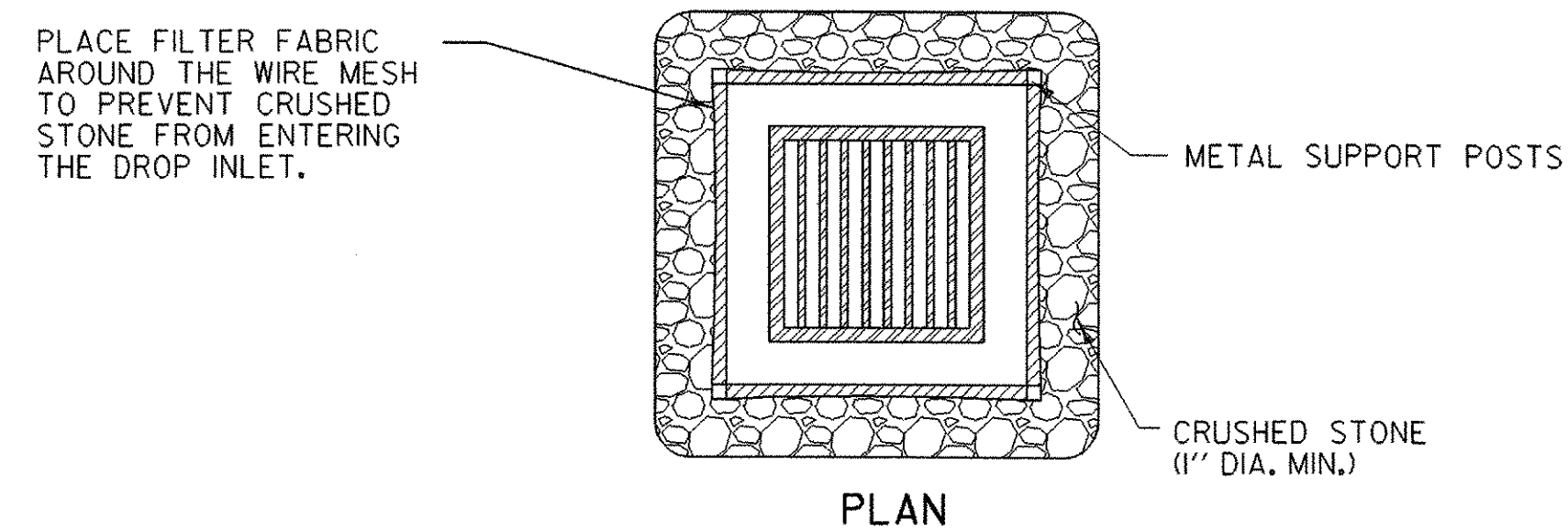
1. THE TOP OF THE INLET PROTECTION SHALL BE SET AT THE MAXIMUM DESIRED WATER LEVEL, BASED ON FIELD LOCATION AND CONDITIONS.
2. SILT FENCE GEOTEXTILE SHALL BE A SINGLE CONTINUOUS PIECE TO ELIMINATE JOINTS.
3. SPACE SILT FENCE POSTS EVENLY AROUND INLET WITH A MAXIMUM SPACING OF 3 FEET. DRIVE POSTS A MINIMUM OF 18 INCHES INTO GROUND. WIRE MESH MAY BE REQUIRED BEHIND GEOTEXTILE TO PROVIDE SUPPORT.
4. SILT FENCE GEOTEXTILE SHALL BE EMBEDDED A MINIMUM OF 6 INCHES AND BACKFILLED. GEOTEXTILE SHALL BE SECURELY FASTENED TO POSTS AND FRAME.
5. MEASURES SHALL BE INSPECTED EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF A STORM EVENT GREAT ENOUGH TO CAUSE WATER TO LEAVE THE CONSTRUCTION SITE.
6. MEASURES SHALL BE CLEANED AND REPAIRED AS NEEDED. SEDIMENT SHALL BE REMOVED WHEN ACCUMULATION REACHES ONE-HALF OF THE MEASURE HEIGHT. SEDIMENT SHALL BE DISPOSED OF AS UNSUITABLE MATERIAL.
7. PAYMENT FOR SILT FENCE DROP INLET PROTECTION SHALL BE MADE UNDER GEOTEXTILE FOR SILT FENCE. PAYMENT FOR ROCK BARRIER DROP INLET PROTECTION SHALL BE MADE UNDER STONE FILL, TYPE 1 (MOD - INLET PROTECTION).
8. PAYMENT FOR MONITORING INLET PROTECTION SHALL BE MADE UNDER THE MONITORING EROSION PREVENTION & SEDIMENT CONTROL PLAN ITEM.



SILT FENCE DROP INLET PROTECTION



ROCK BARRIER DROP INLET PROTECTION
TEMPORARY PAVED AREAS



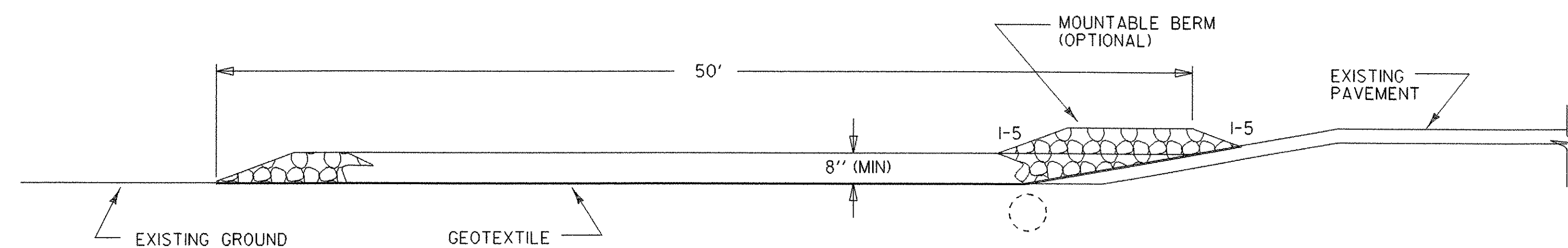
ROCK BARRIER INLET PROTECTION
TEMPORARY UNPAVED AREAS

N.T.S.

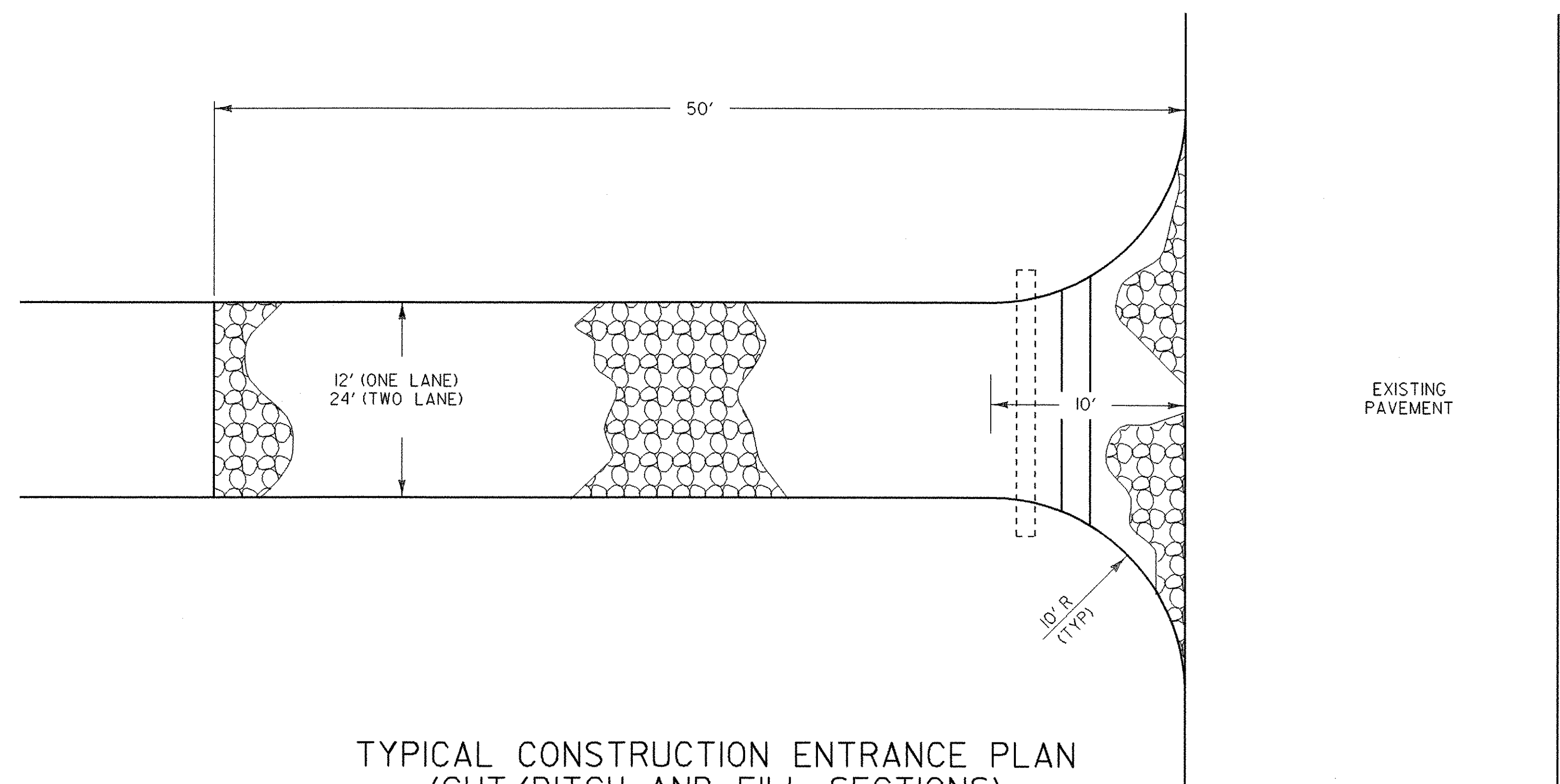
PROJECT NAME: HARDWICK	
PROJECT NUMBER: STP ST 030-3(4)	
FILE NAME: d04e060frm.dgn	PLOT DATE: 18-OCT-2005
PROJECT LEADER: A. BOMBARDIER	DRAWN BY: M. NUTTER
DESIGNED BY: M. NUTTER	CHECKED BY: A. BOMBARDIER
IPARM NAME: d04e060epsc3.i	SHEET 25 OF 63

EROSION PREVENTION & SEDIMENT CONTROL DETAILS

CONSTRUCTION ENTRANCE



TYPICAL CONSTRUCTION ENTRANCE PROFILE
(CUT AND DITCH SECTIONS)



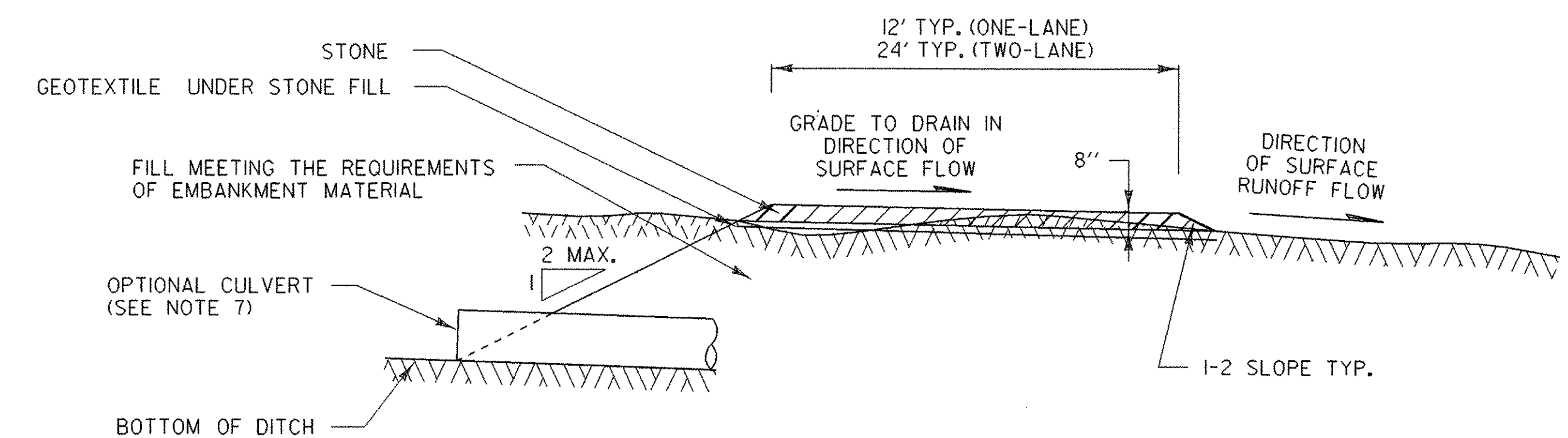
TYPICAL CONSTRUCTION ENTRANCE PLAN
(CUT/DITCH AND FILL SECTIONS)

APPLICATION NOTES:

A. THE PURPOSE OF A STABILIZED CONSTRUCTION ENTRANCE IS TO REDUCE OR ELIMINATE THE TRACKING OF SEDIMENT ONTO PUBLIC RIGHTS OF WAY OR STREETS.

GENERAL NOTES:

1. STONE SIZE - USE CLEAN STONE WITH GRADATION BETWEEN 2 INCHES AND 4 INCHES .
2. LENGTH - 50 FEET (MIN)
3. THICKNESS - 8 INCHES (MIN)
4. WIDTH - 12 FEET (MIN)
5. GEOTEXTILE UNDER STONE WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE AS DIRECTED BY THE ENGINEER. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 1-5 SLOPES WILL BE PERMITTED.
7. PROPOSED DRAINAGE PIPE SHALL BE SIZED WITH SUFFICIENT CAPACITY TO CARRY DITCH FLOWS. ALTERNATIVE WAYS OF TRANSPORTING DITCH DRAINAGE ACROSS CONSTRUCTION ENTRANCES MAY BE PROPOSED BY THE CONTRACTOR FOR APPROVAL BY THE ENGINEER.
8. WHEN WASHING OF VEHICLE IS NECESSARY, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. MEASURES SHALL BE INSPECTED EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF A STORM EVENT GREAT ENOUGH TO CAUSE WATER TO LEAVE THE CONSTRUCTION SITE.
10. MAINTENANCE- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
11. AT THE TIME OF REMOVAL OF THE STABILIZED CONSTRUCTION ENTRANCE THE DISTURBED AREA SHALL BE REPAIRED AND STABILIZED.
12. PAYMENT OF THE STABILIZED CONSTRUCTION ENTRANCE SHALL BE MADE UNDER STONE FILL, TYPE I (MOD - CONSTRUCTION ENTRANCE).
13. PAYMENT FOR MONITORING STABILIZED CONSTRUCTION ENTRANCES SHALL BE MADE UNDER THE MONITORING EROSION PREVENTION & SEDIMENT CONTROL PLAN ITEM.



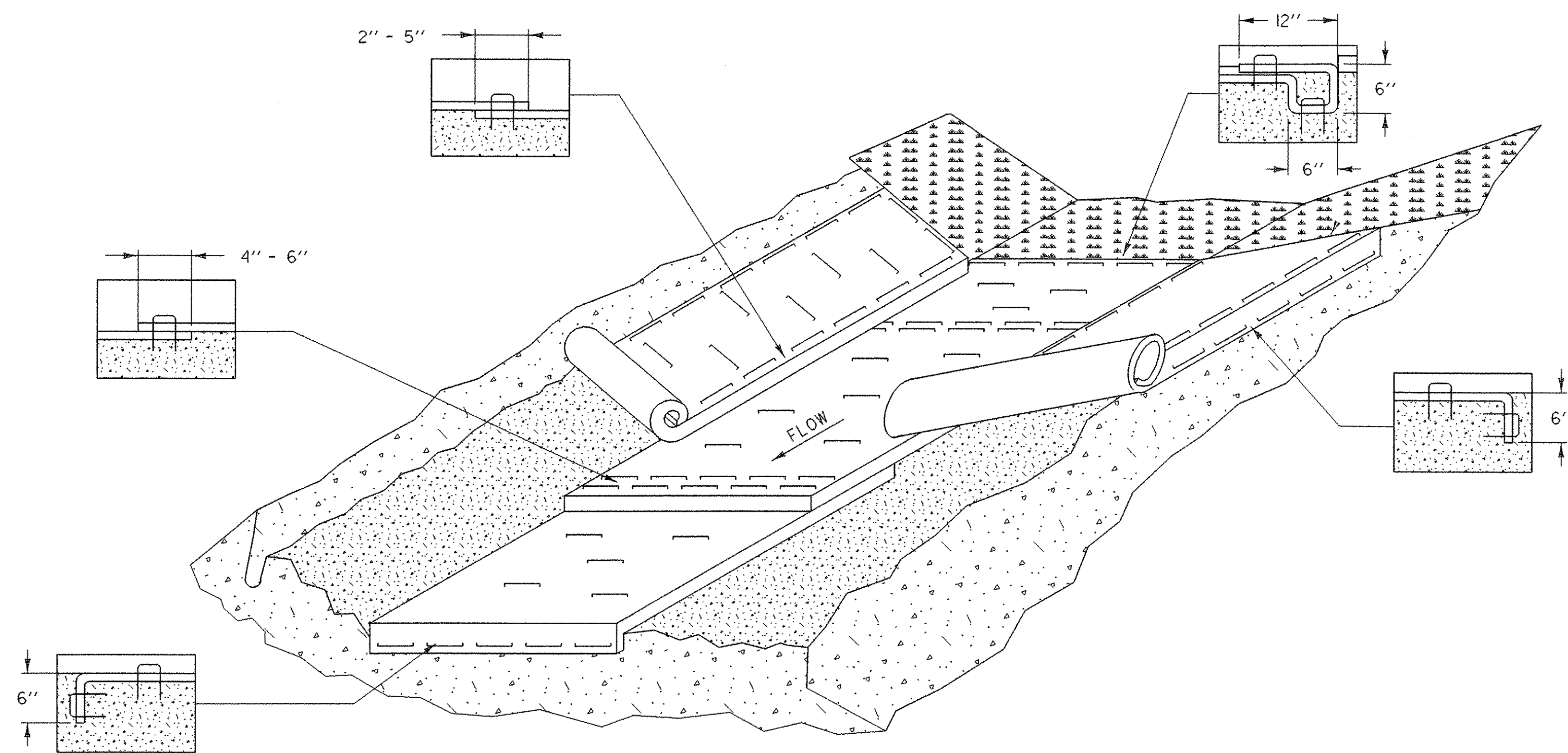
TYPICAL CONSTRUCTION ENTRANCE SECTION

N.T.S.

PROJECT NAME: HARDWICK	
PROJECT NUMBER: STP ST 030-3(4)	
FILE NAME: d04e060frm.dgn	PLOT DATE: 18-OCT-2005
PROJECT LEADER: A. BOMBARDIER	DRAWN BY: M. NUTTER
DESIGNED BY: M. NUTTER	CHECKED BY: A. BOMBARDIER
IPARM NAME : d04e060epsc4.i	SHEET 26 OF 63

EROSION PREVENTION & SEDIMENT CONTROL DETAILS

DITCH & SLOPE PROTECTION



EROSION PROTECTION FOR DITCHES

APPLICATION NOTES:

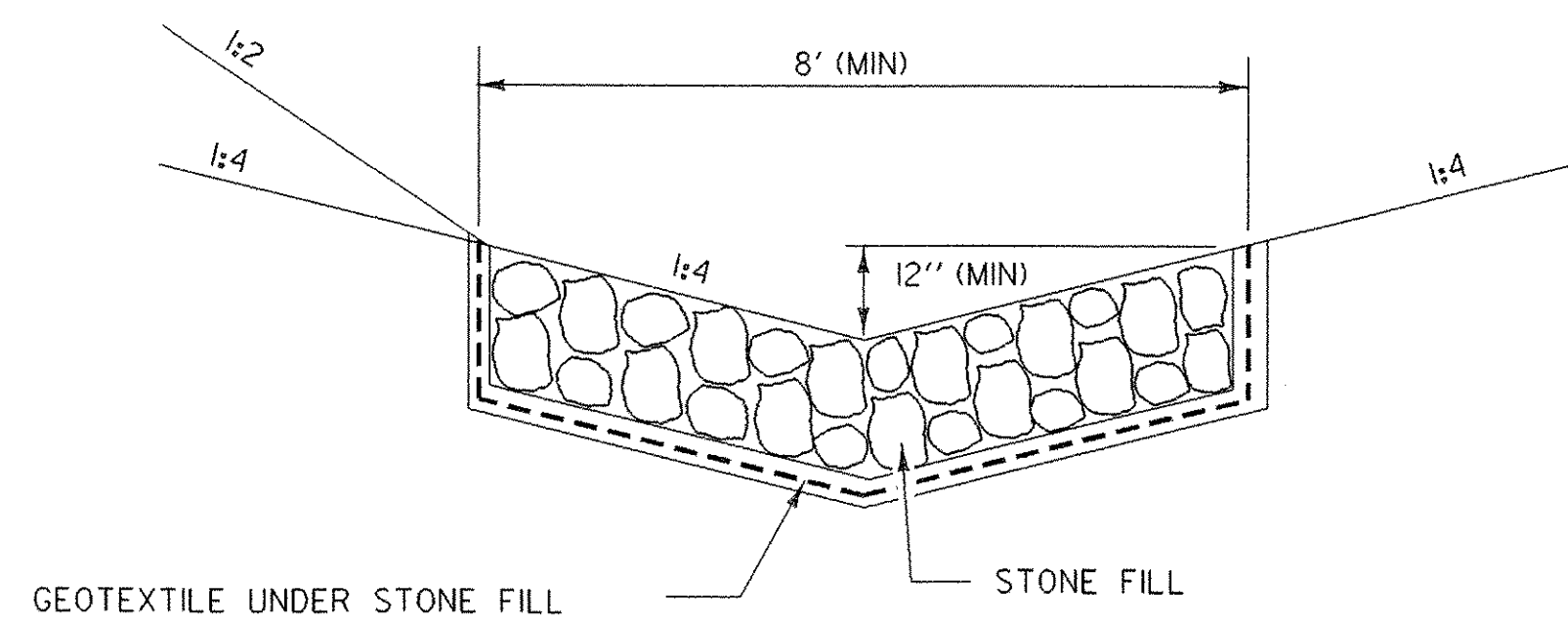
- A. THE PURPOSE OF LINING THE DITCH WITH EROSION MATTING IS TO REDUCE EROSION AND AID THE ESTABLISHMENT OF VEGETATION AT LOW VELOCITIES.
- B. THE FOLLOWING CHARTS SHALL BE USED TO DETERMINE THE APPROPRIATE EROSION CONTROL MEASURE:

DITCH AND CHANNEL PROTECTION	
SLOPE	LINING
< 1%	GRASS
1% TO 4%	EROSION MATTING
4% TO 10%	STONE FILL, TYPE I
> 10%	STONE FILL, TYPE II

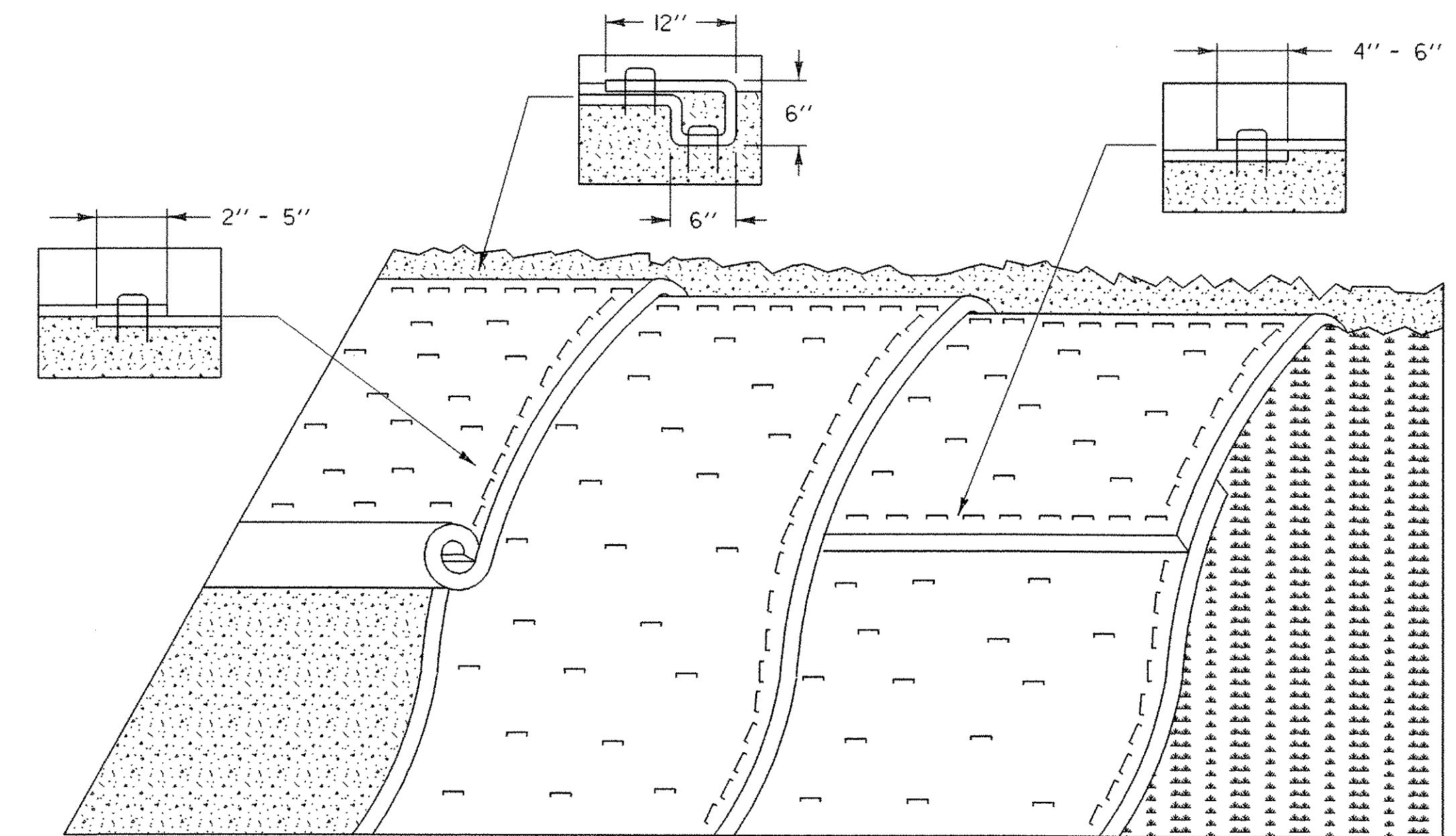
STONE FILL THICKNESS	
STONE FILL TYPE	THICKNESS
TYPE I	1 FT
TYPE II	2 FT

GENERAL NOTES:

1. WATER MAY NEED TO BE DIVERTED TO ALLOW PROPER MATTING INSTALLATION.
2. GRADE AND SMOOTH CHANNEL TO PROVIDE GOOD MATTING TO SOIL SURFACE CONTACT.
3. APPLY FERTILIZER, LIME, AND SEED PRIOR TO PLACING MATTING.
4. INSTALL MATTING IN THE CENTER OF THE CHANNEL, IN THE DIRECTION OF THE WATER FLOW.
5. INSTALL MATTING ON THE SIDE SLOPES OF THE CHANNEL, OVERLAPPING THE CENTER MAT.
6. ANCHOR MATTING AS SHOWN, UTILIZING ANCHOR STAPLES. STAPLE PLACEMENT SHALL BE DETERMINED BY THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
7. MEASURES SHALL BE INSPECTED EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF A STORM EVENT GREAT ENOUGH TO CAUSE WATER TO LEAVE THE CONSTRUCTION SITE.
8. MEASURES SHALL BE REPAIRED AND RESTAPLED AS NECESSARY TO ENSURE PROPER FUNCTION.
9. PAYMENT FOR INSTALLATION OF MATTING SHALL BE MADE UNDER THE EROSION CONTROL WITH MATTING ITEM.
10. PAYMENT FOR MONITORING EROSION CONTROL MATTING SHALL BE MADE UNDER THE MONITORING EROSION PREVENTION & SEDIMENT CONTROL PLAN ITEM.



TEMPORARY STONE LINED DITCH



EROSION PREVENTION FOR SIDE SLOPES

APPLICATION NOTES:

- A. THE PURPOSE OF MATTING ON SIDE SLOPES IS TO REDUCE EROSION AND AID THE ESTABLISHMENT OF VEGETATION
- B. EROSION CONTROL MATTING SHALL BE USED FOR THE FOLLOWING REASONS:
 - SIDE SLOPES > 1-3
 - AREAS WHERE SEED AND MULCH WILL NOT STAY IN PLACE ALONE
 - WHERE SEEDING IS OUTSIDE THE GROWING SEASON.

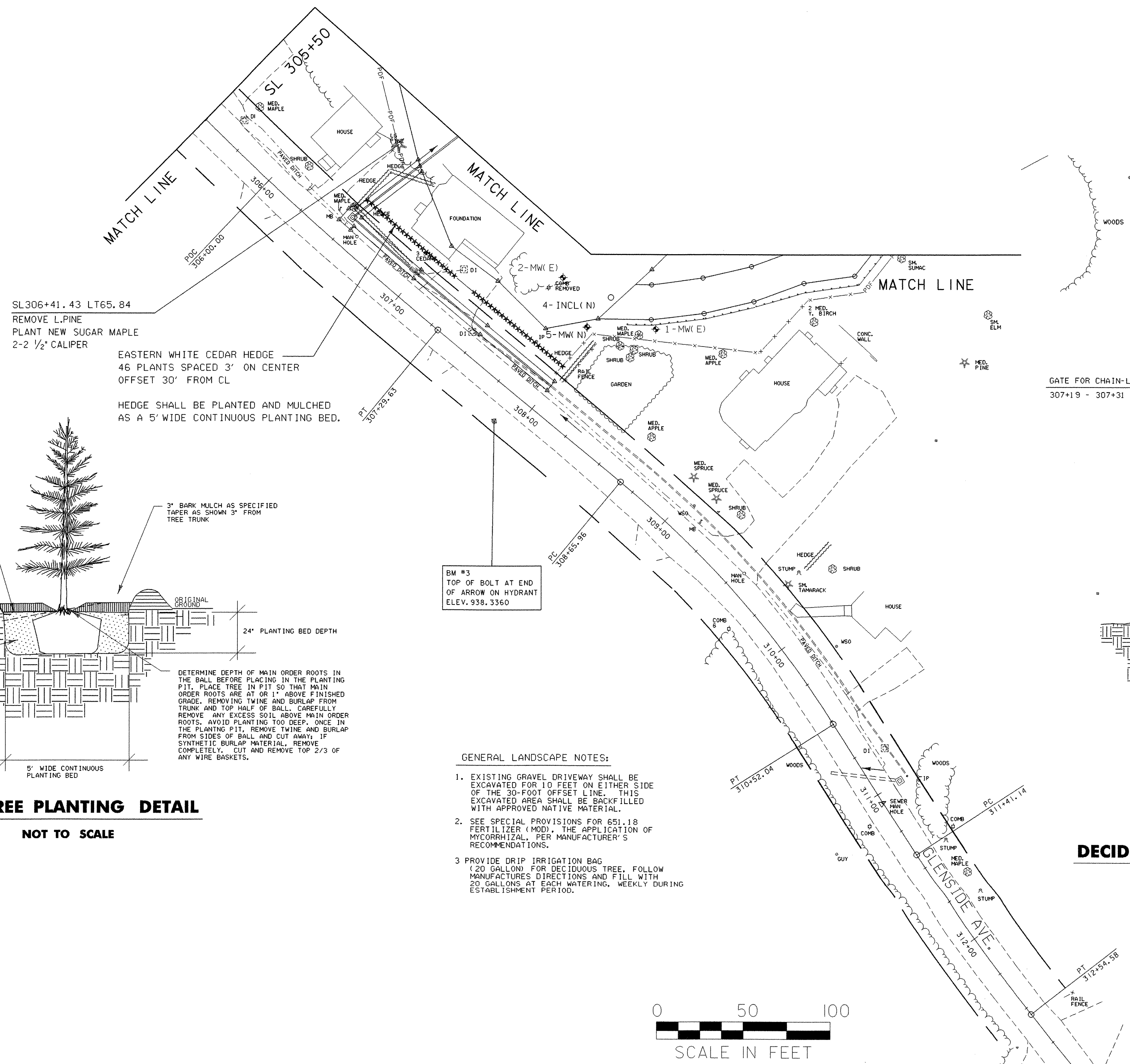
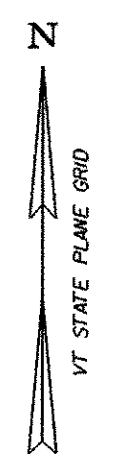
GENERAL NOTES:

1. GRADE AND SMOOTH THE SLOPE TO PROVIDE GOOD MATTING TO SOIL SURFACE CONTACT.
2. APPLY FERTILIZER, LIME, AND SEED PRIOR TO PLACING MATTING.
3. ANCHOR MATTING AS SHOWN, UTILIZING ANCHOR STAPLES. STAPLE PLACEMENT SHALL BE DETERMINED BY THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
4. UNROLL MATTING VERTICALLY DOWN SLOPE IN THE DIRECTION OF WATER FLOW.
5. OVERLAP UPPER MATTING OVER LOWER MATTING AS SHOWN.
6. OVERLAP ADJACENT MATTING AS SHOWN.
7. CUT EXCESS MATTING AT END OF SLOPE AND ANCHOR THE END.
8. MEASURES SHALL BE INSPECTED EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF A STORM EVENT GREAT ENOUGH TO CAUSE WATER TO LEAVE THE CONSTRUCTION SITE.
9. MATTING SHALL BE REPAIRED AND RESTAPLED AS NECESSARY TO ENSURE PROPER FUNCTION.
10. PAYMENT FOR INSTALLATION OF MATTING SHALL BE MADE UNDER THE EROSION CONTROL WITH MATTING ITEM.
11. PAYMENT FOR MONITORING EROSION CONTROL MATTING SHALL BE MADE UNDER THE MONITORING EROSION PREVENTION & SEDIMENT CONTROL PLAN ITEM.

N.T.S.

PROJECT NAME: HARDWICK
PROJECT NUMBER: STP ST 030-3(4)

FILE NAME: D04e060frm.dgn	PLOT DATE: 18-OCT-2005
PROJECT LEADER: A. BOMBARDIER	DRAWN BY: M. NUTTER
DESIGNED BY: M. NUTTER	CHECKED BY: A. BOMBARDIER
IPARM NAME: D04e060epsc5.1	SHEET 27 OF 63

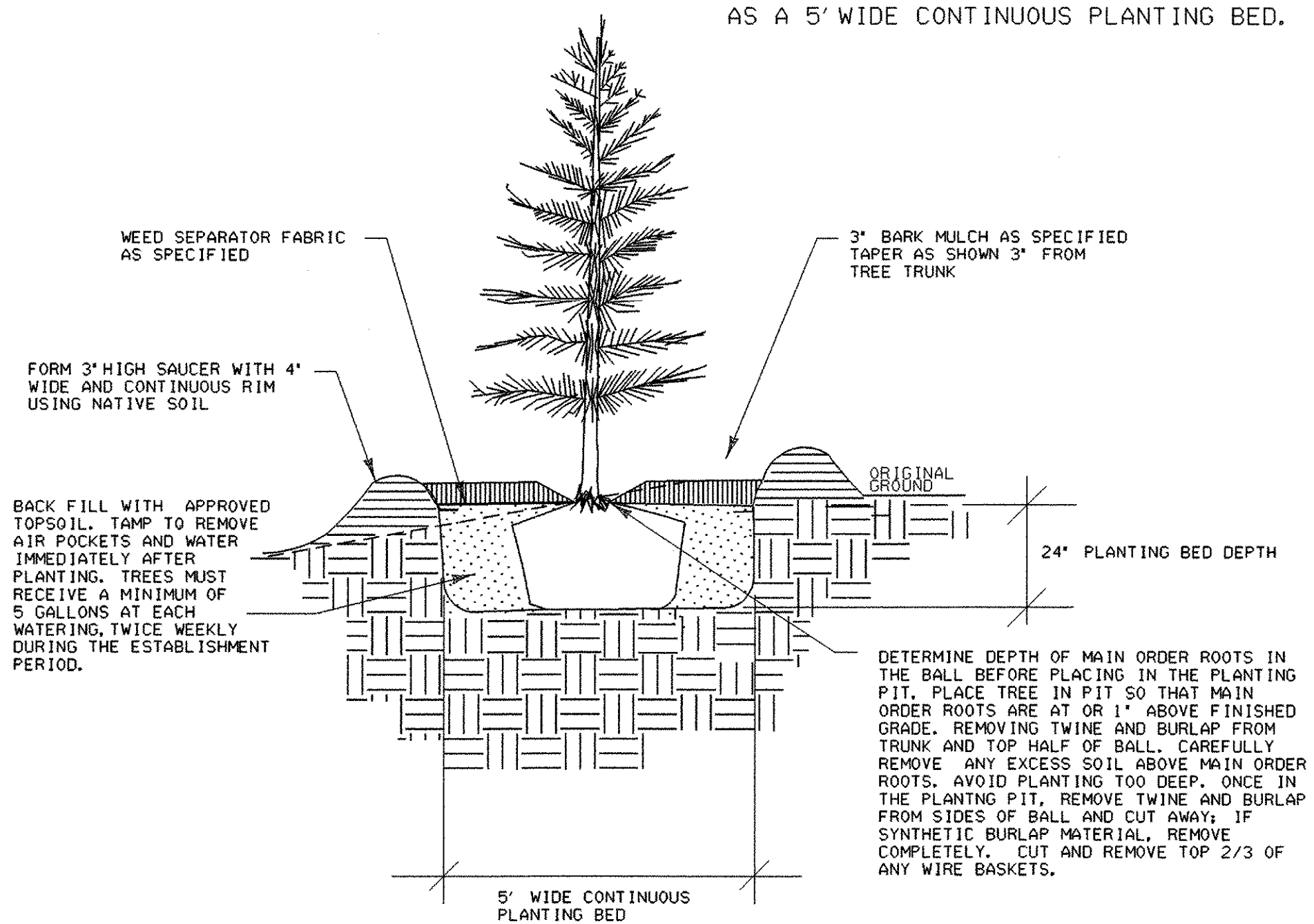


SL306+41.43 LT65.84
 REMOVE L.PINE
 PLANT NEW SUGAR MAPLE
 2-2 1/2" CALIPER

EASTERN WHITE CEDAR HEDGE
 46 PLANTS SPACED 3' ON CENTER
 OFFSET 30' FROM CL

HEDGE SHALL BE PLANTED AND MULCHED
 AS A 5' WIDE CONTINUOUS PLANTING BED.

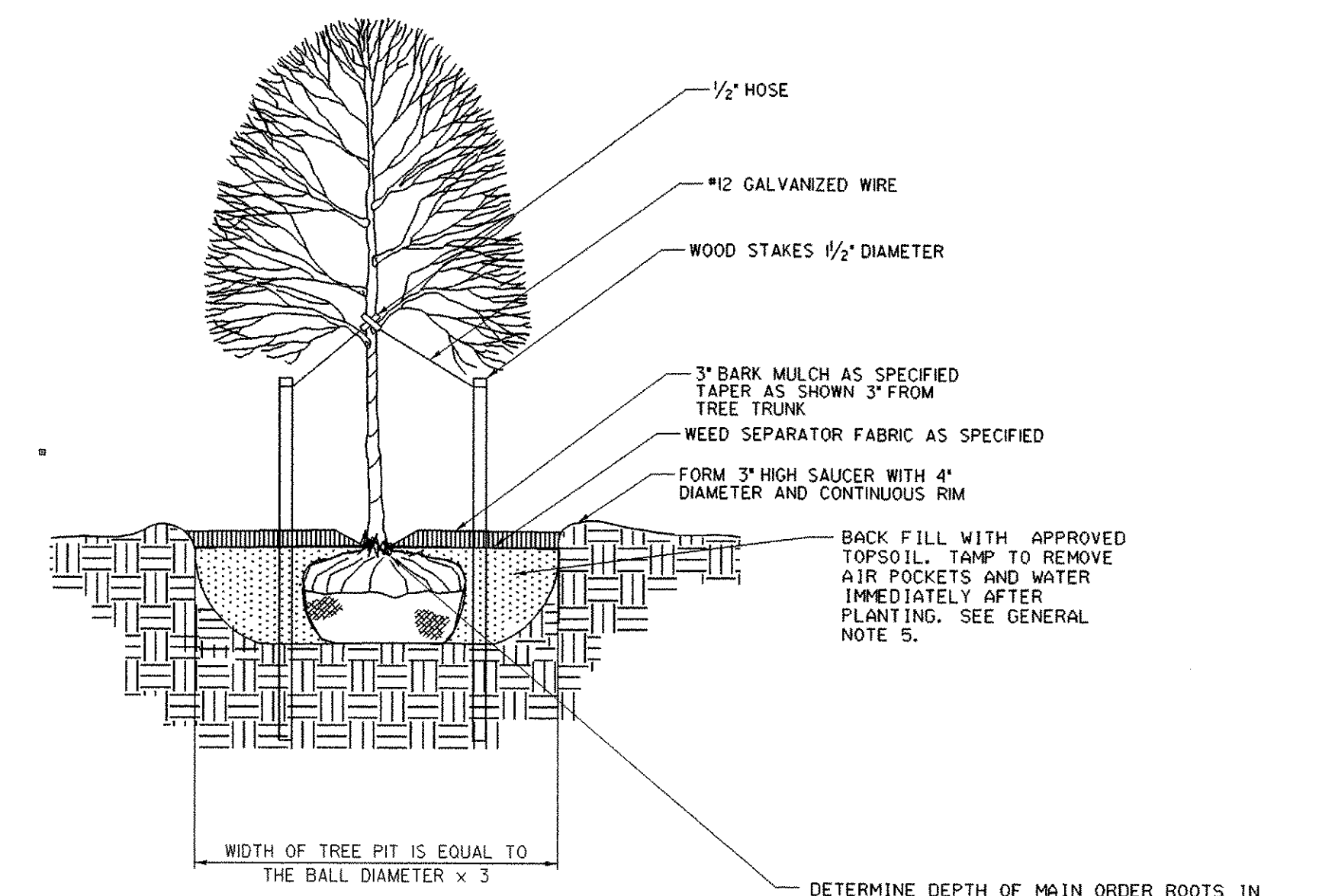
GATE FOR CHAIN-LINK FENCE, 4 FEET
 307+19 - 307+31 LT



EVERGREEN TREE PLANTING DETAIL

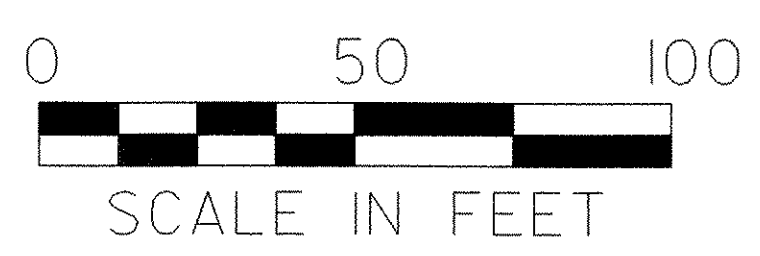
NOT TO SCALE

- GENERAL LANDSCAPE NOTES:**
- EXISTING GRAVEL DRIVEWAY SHALL BE EXCAVATED FOR 10 FEET ON EITHER SIDE OF THE 30-FOOT OFFSET LINE. THIS EXCAVATED AREA SHALL BE BACKFILLED WITH APPROVED NATIVE MATERIAL.
 - SEE SPECIAL PROVISIONS FOR 651.18 FERTILIZER (MOD), THE APPLICATION OF MYCORRHIZAL, PER MANUFACTURER'S RECOMMENDATIONS.
 - PROVIDE DRIP IRRIGATION BAG (20 GALLON) FOR DECIDUOUS TREE. FOLLOW MANUFACTURER'S DIRECTIONS AND FILL WITH 20 GALLONS AT EACH WATERING, WEEKLY DURING ESTABLISHMENT PERIOD.

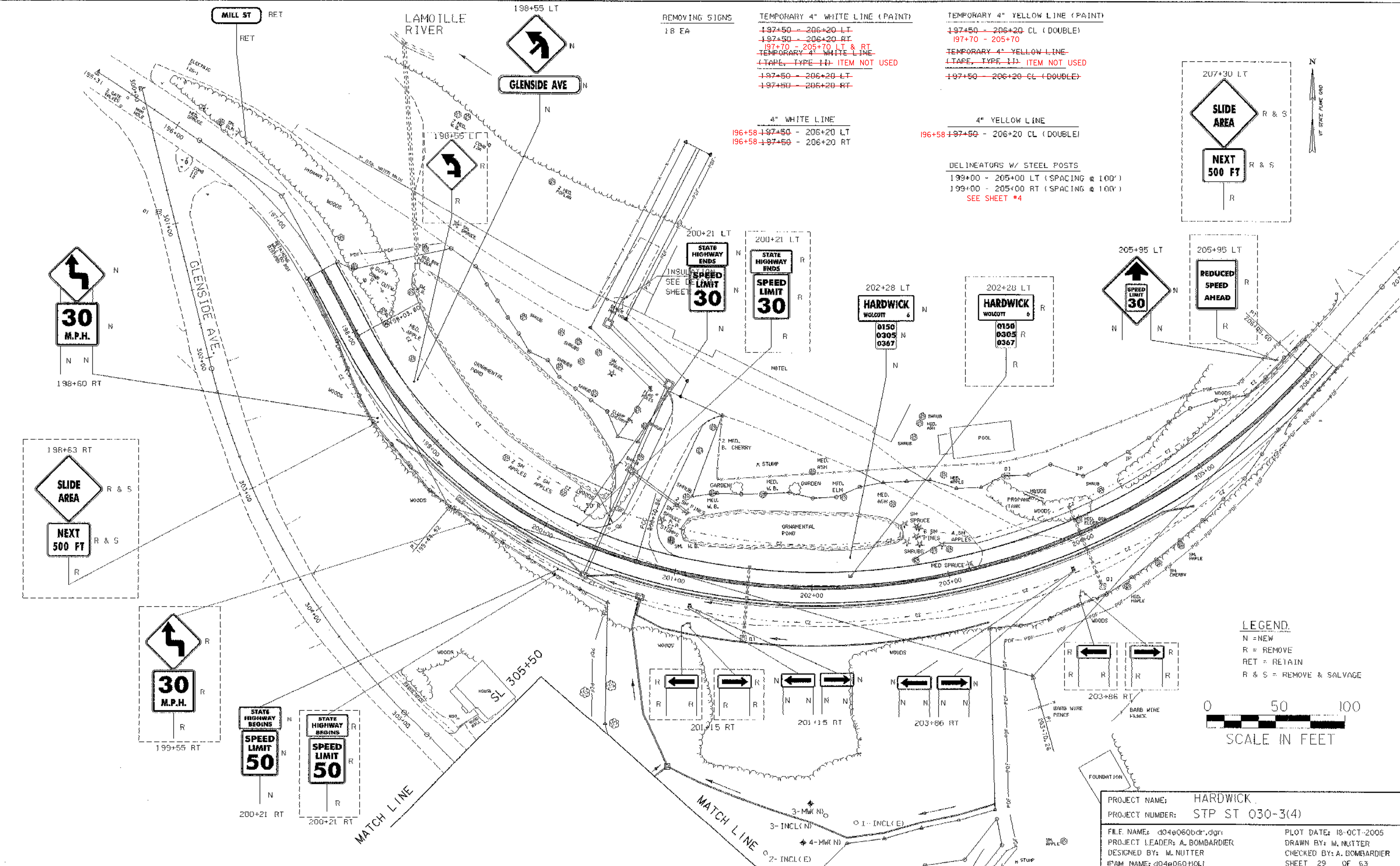


DECIDUOUS TREE PLANTING DETAIL

NOT TO SCALE



PROJECT NAME:	HARDWICK	PLOT DATE:	18-OCT-2005
PROJECT NUMBER:	STP ST 030-3(4)	DRAWN BY:	M. NUTTER
FILE NAME:	d04e060bdr.dgn	CHECKED BY:	A. BOMBARDIER
PROJECT LEADER:	A. BOMBARDIER	SHEET	28 OF 63
DESIGNED BY:	M. NUTTER		
IPARM NAME:	d04e060land01.l		



REMOVING SIGNS
18 EA

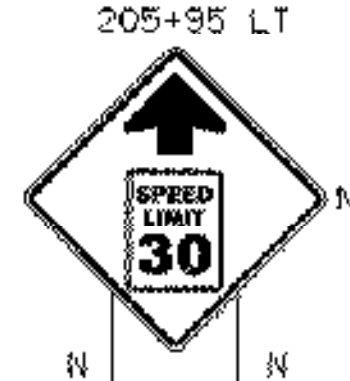
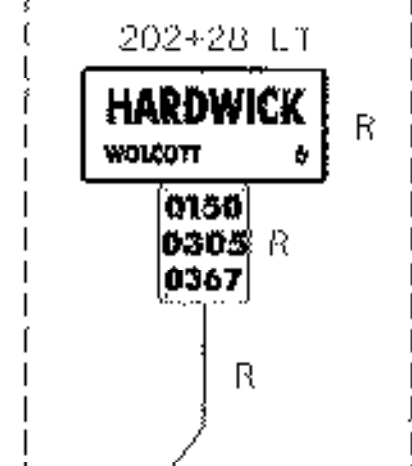
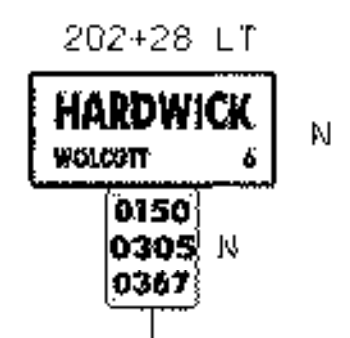
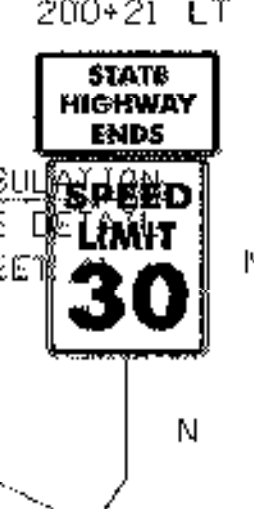
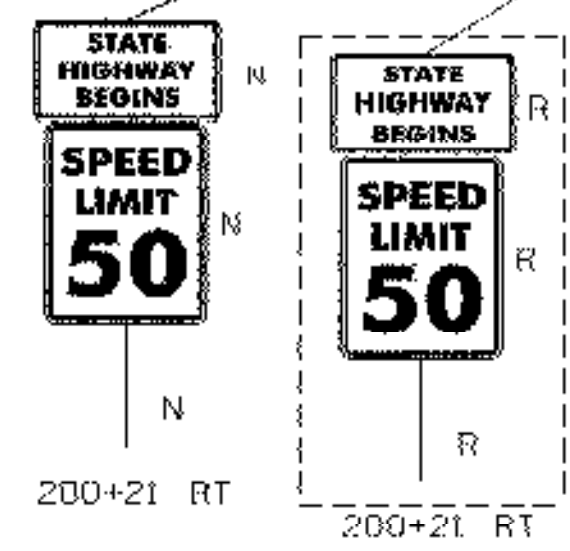
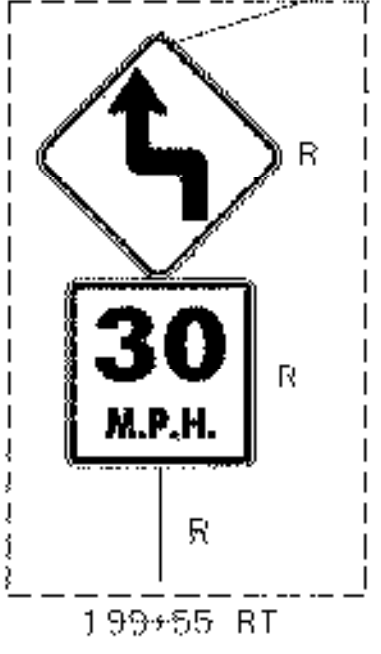
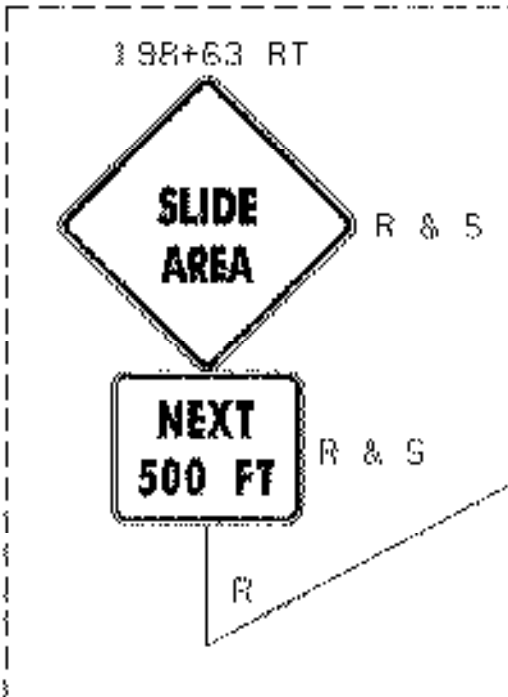
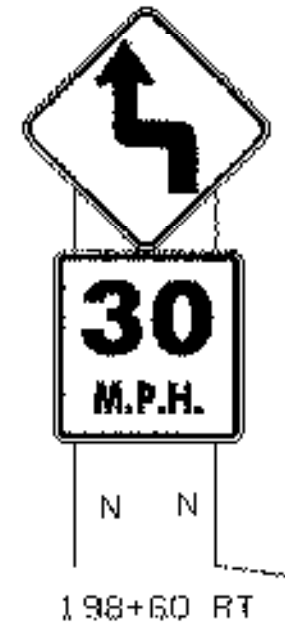
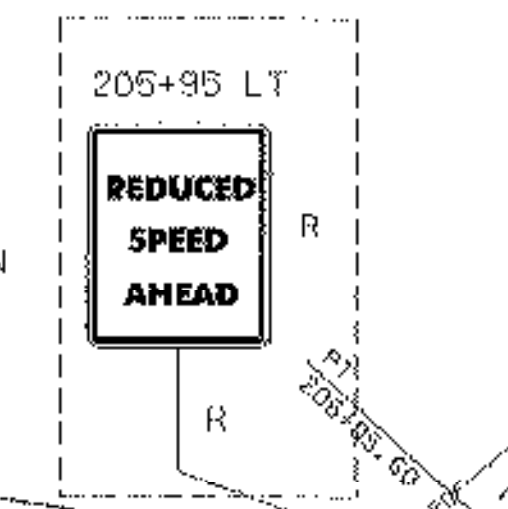
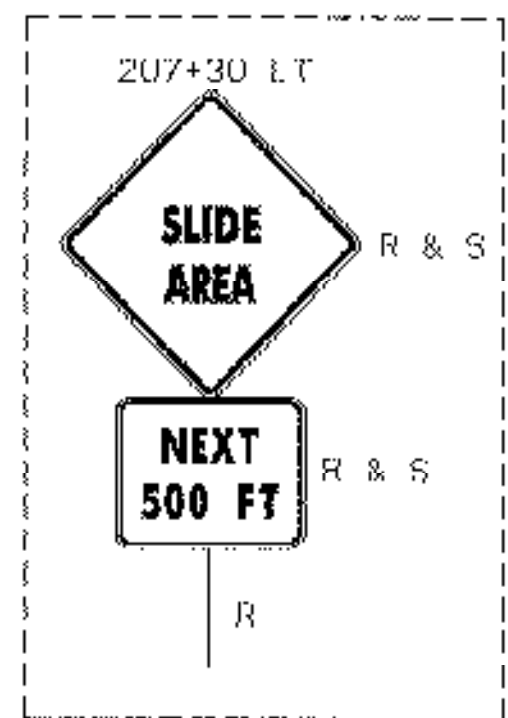
TEMPORARY 4" WHITE LINE (PAINT)
~~197+50 - 206+20 LT~~
~~197+50 - 206+20 RT~~
~~197+70 - 205+70 LT & RT~~
~~TEMPORARY 4" WHITE LINE~~
~~(TAPE, TYPE 1) ITEM NOT USED~~
~~197+50 - 206+20 LT~~
~~197+50 - 206+20 RT~~

TEMPORARY 4" YELLOW LINE (PAINT)
~~197+50 - 206+20 CL (DOUBLE)~~
~~197+70 - 205+70~~
~~TEMPORARY 4" YELLOW LINE~~
~~(TAPE, TYPE 1) ITEM NOT USED~~
~~197+50 - 206+20 CL (DOUBLE)~~

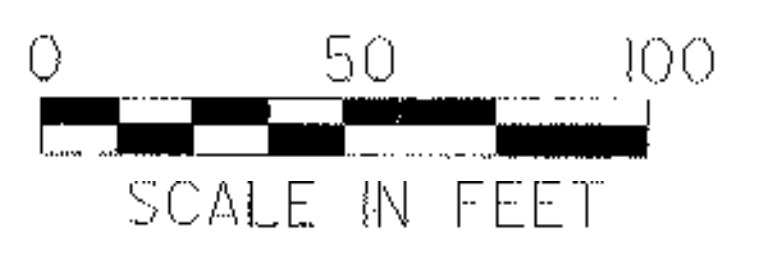
4" WHITE LINE
 196+58 - 197+50 - 206+20 LT
 196+58 - 197+50 - 206+20 RT

4" YELLOW LINE
 196+58 - 197+50 - 206+20 CL (DOUBLE)

DELINEATORS W/ STEEL POSTS
 199+00 - 205+00 LT (SPACING @ 100')
 199+00 - 205+00 RT (SPACING @ 100')
 SEE SHEET #4

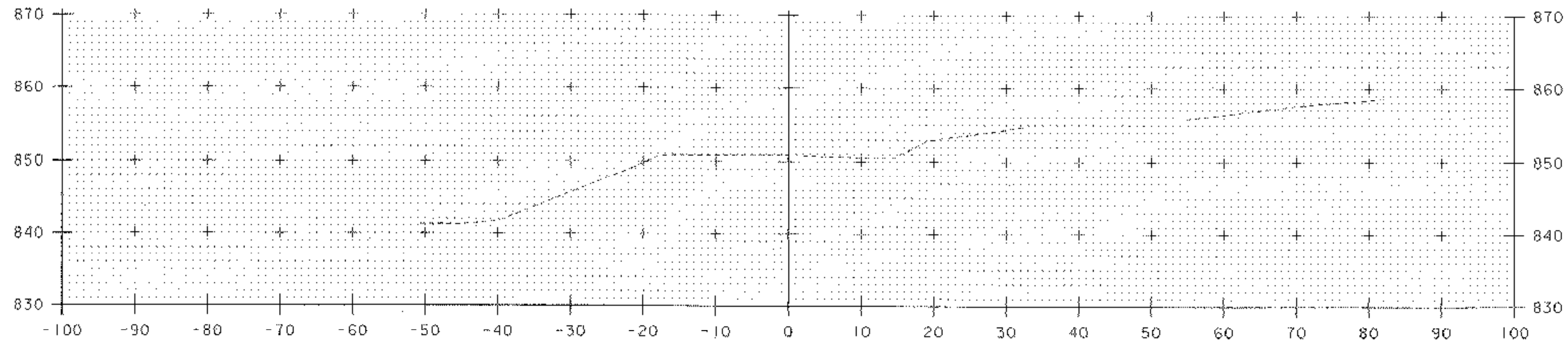


LEGEND:
 N = NEW
 R = REMOVE
 RET = RETAIN
 R & S = REMOVE & SALVAGE

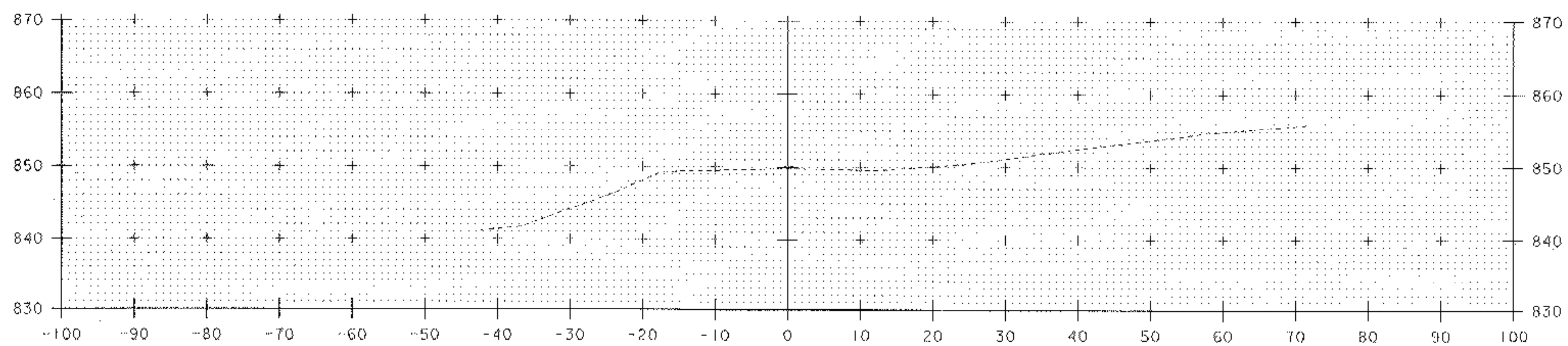


PROJECT NAME: HARDWICK
 PROJECT NUMBER: STP ST 030-3(4)
 FILE NAME: d04e060bdr.dgn
 PROJECT LEADER: A. BOMBARDIER
 DESIGNED BY: M. NUTTER
 PLOT DATE: 18-OCT-2005
 DRAWN BY: M. NUTTER
 CHECKED BY: A. BOMBARDIER
 SHEET 29 OF 63

CADD
CWP
2907



196+60 ~~58~~ MATCH EXISTING

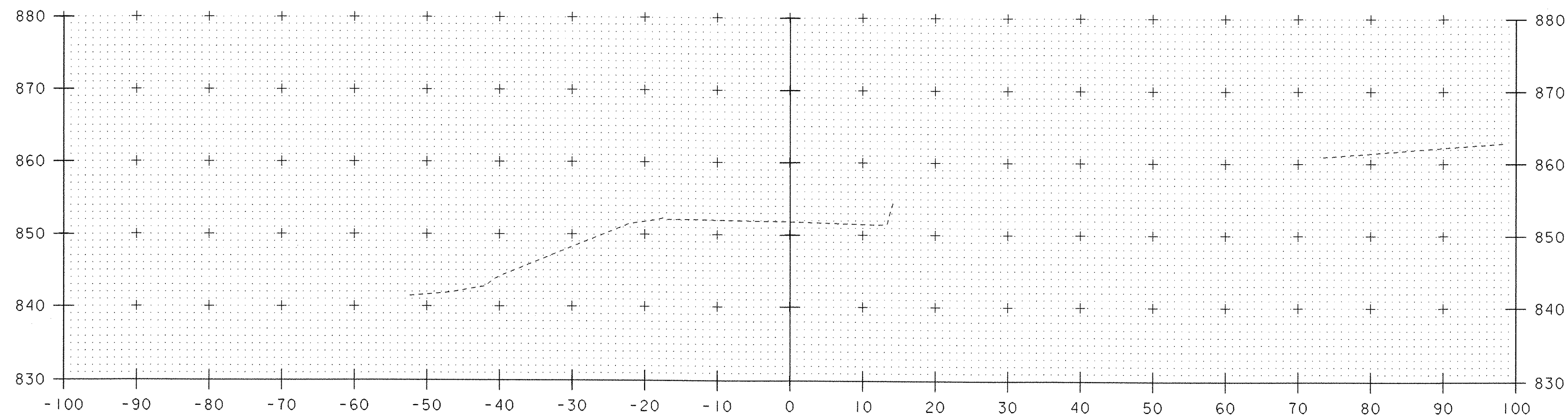


196+40

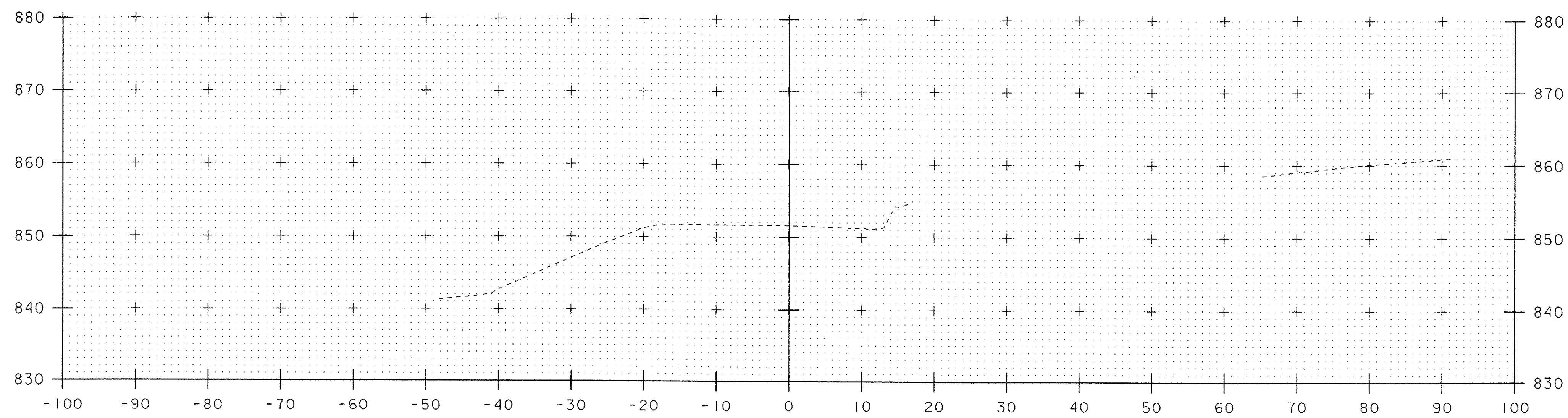


STA. 196+40 TO STA. 196+60

PROJECT NAME: HARDWICK	PLOT DATE: 18-OCT-2005
PROJECT NUMBER: STP ST 030-3(4)	DRAWN BY: M. NUTTER
FILE NAME: d04e060xslx.dgn	CHECKED BY: A. BOMBARDIER
PROJECT LEADER: A. BOMBARDIER	SHEET 32 OF 63
DESIGNED BY: M. NUTTER	
IPARM NAME: de060xslx.dgn	



197+00



196+80

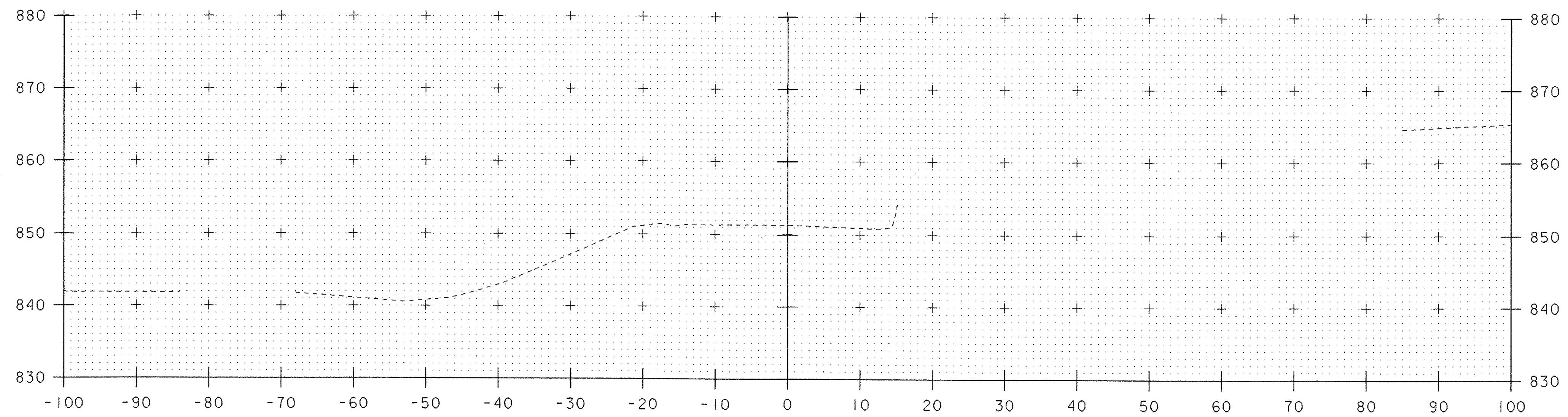


STA. 196+80 TO STA. 197+00

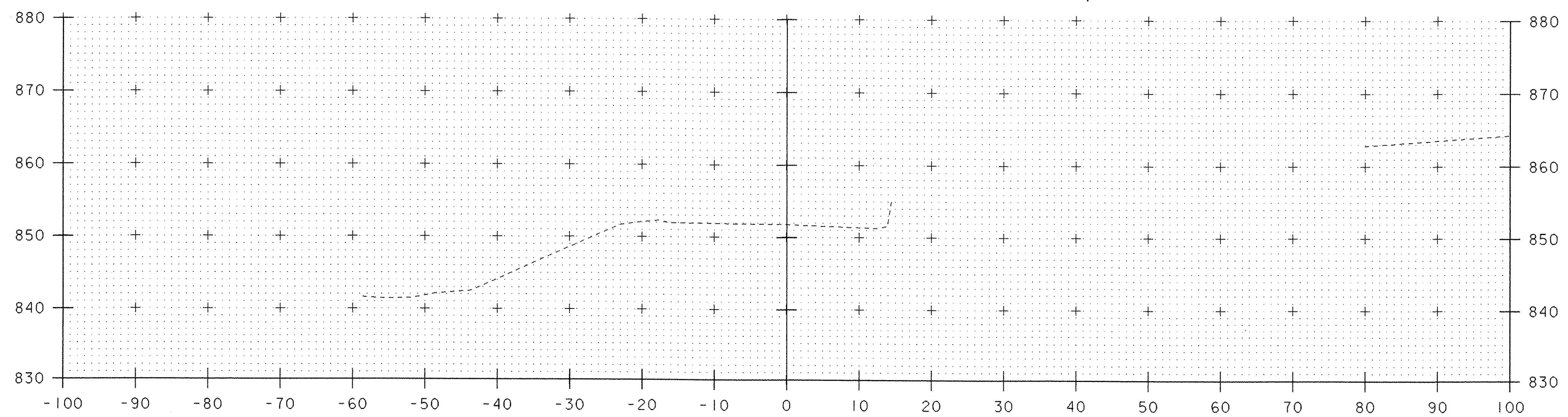
PROJECT NAME: HARDWICK
PROJECT NUMBER: STP ST 030-3(4)

FILE NAME: d04e060xslx.dgn
PROJECT LEADER: A. BOMBARDIER
DESIGNED BY: M. NUTTER
IPARM NAME: de060xs02.i

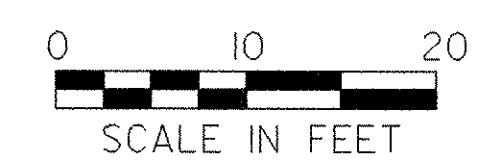
PLOT DATE: 18-OCT-2005
DRAWN BY: M. NUTTER
CHECKED BY: A. BOMBARDIER
SHEET 33 OF 63



197+40



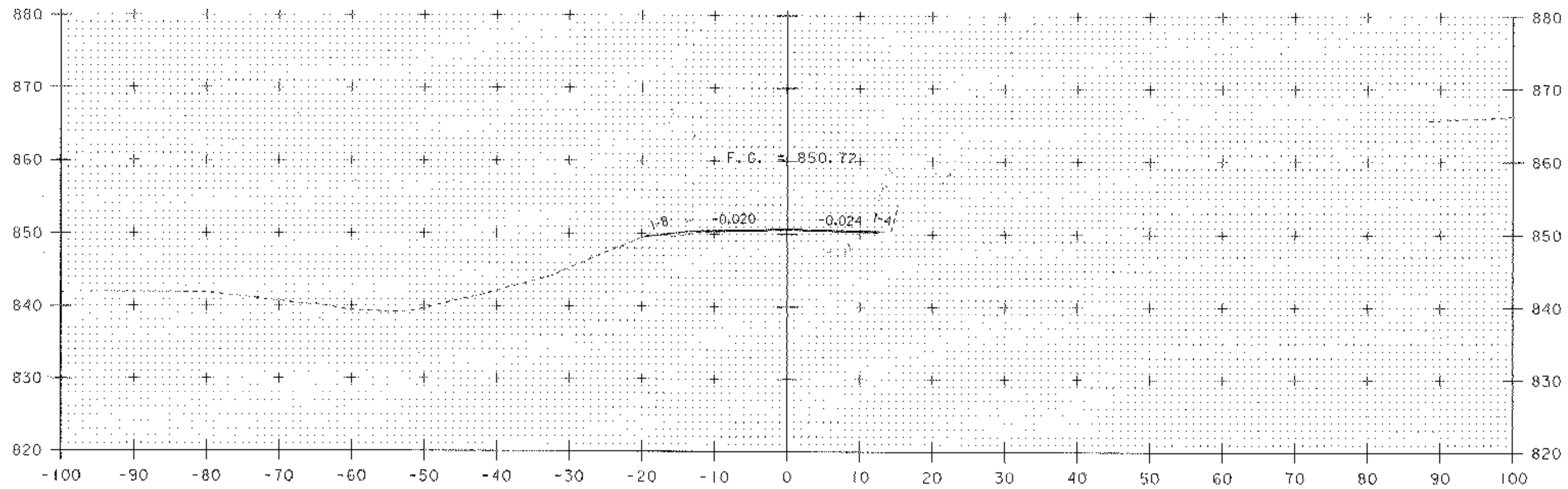
197+20



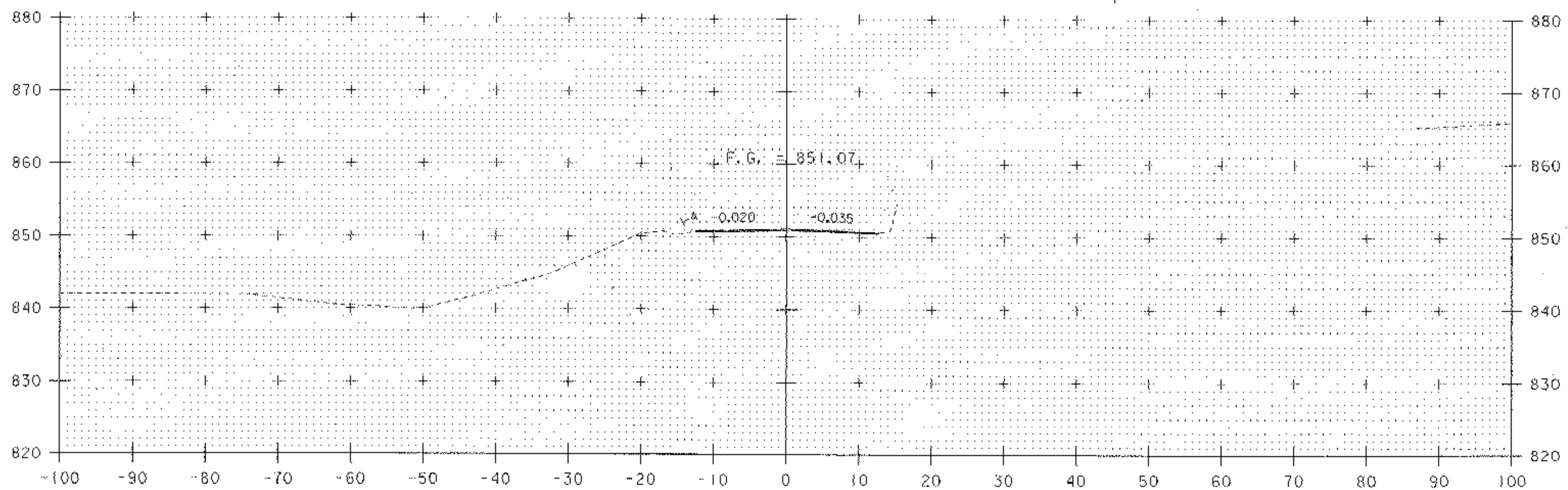
PROJECT NAME: HARDWICK	PLOT DATE: 18-OCT-2005
PROJECT NUMBER: STP ST 030-3(4)	DRAWN BY: M. NUTTER
FILE NAME: d04e060xslx.dgn	CHECKED BY: A. BOMBARDIER
PROJECT LEADER: A. BOMBARDIER	SHEET 34 OF 63
DESIGNED BY: M. NUTTER	
IPARM NAME: de060xs03.l	

STA. 197+20 TO STA. 197+40

000
649
2-2-07

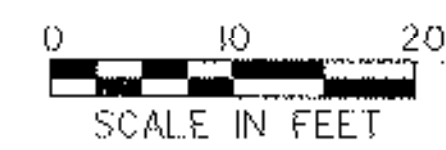


197+60



197+50

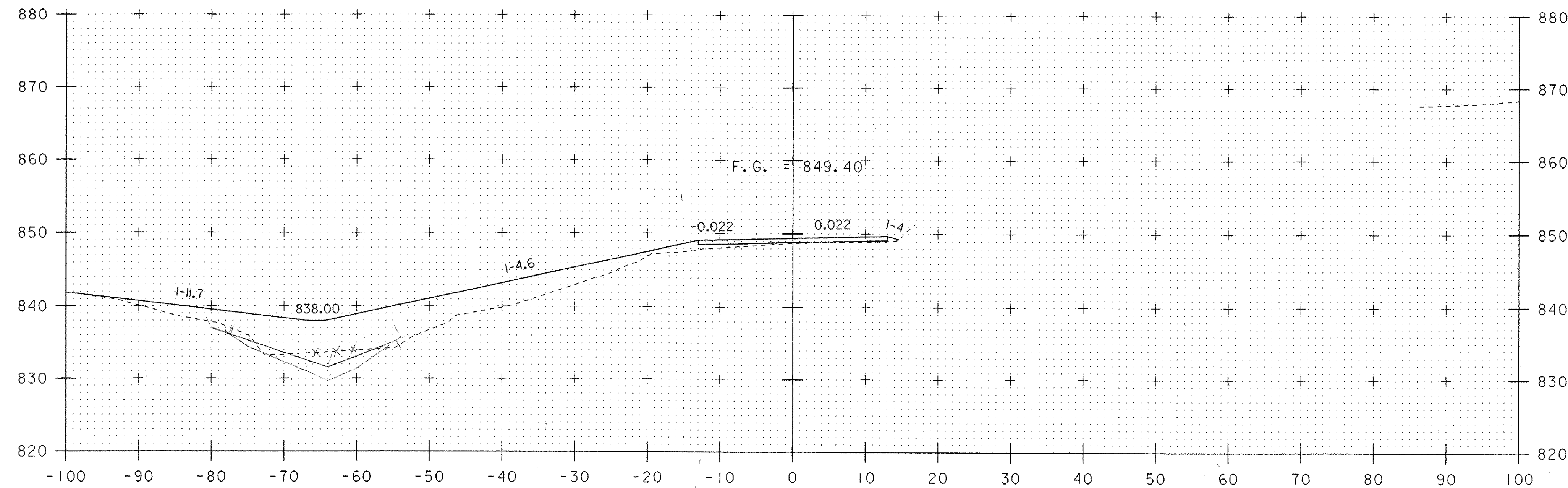
~~MATCH EXISTING~~
SEE SHEET 32



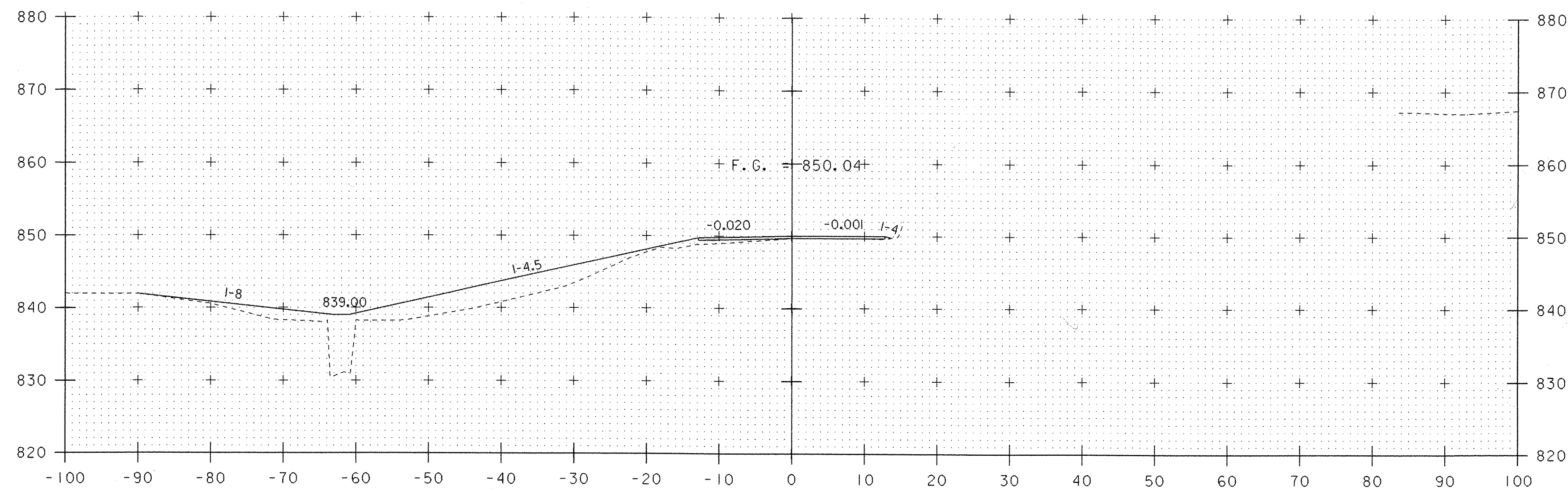
SCALE IN FEET

STA. 197+50 TO STA. 197+60

PROJECT NAME: HARDWICK	PLOT DATE: 18-OCT-2005
PROJECT NUMBER: STP ST 030-3(4)	DRAWN BY: M. NUTTER
FILE NAME: d04e060xelx.dgn	CHECKED BY: A. BOMBARDIER
PROJECT LEADER: A. BOMBARDIER	SHEET 35 OF 63
DESIGNED BY: M. NUTTER	
IPARM NAME: d060xs04.i	



198+00



197+80

Nut (17)

22
40

16
34

20 19.5

39 19

20 19

19.25 / 0.64 30.08 Fr 2

KRM 1-10-07

Common KRM 12-12-06

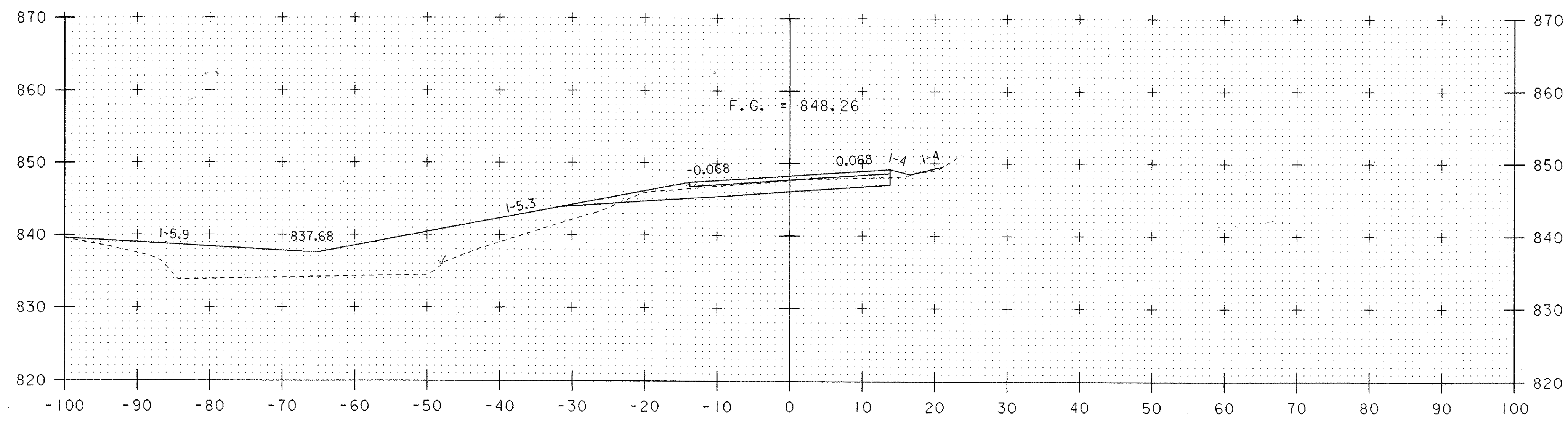


STA. 197+80 TO STA. 198+00

PROJECT NAME: HARDWICK
PROJECT NUMBER: STP ST 030-3(4)

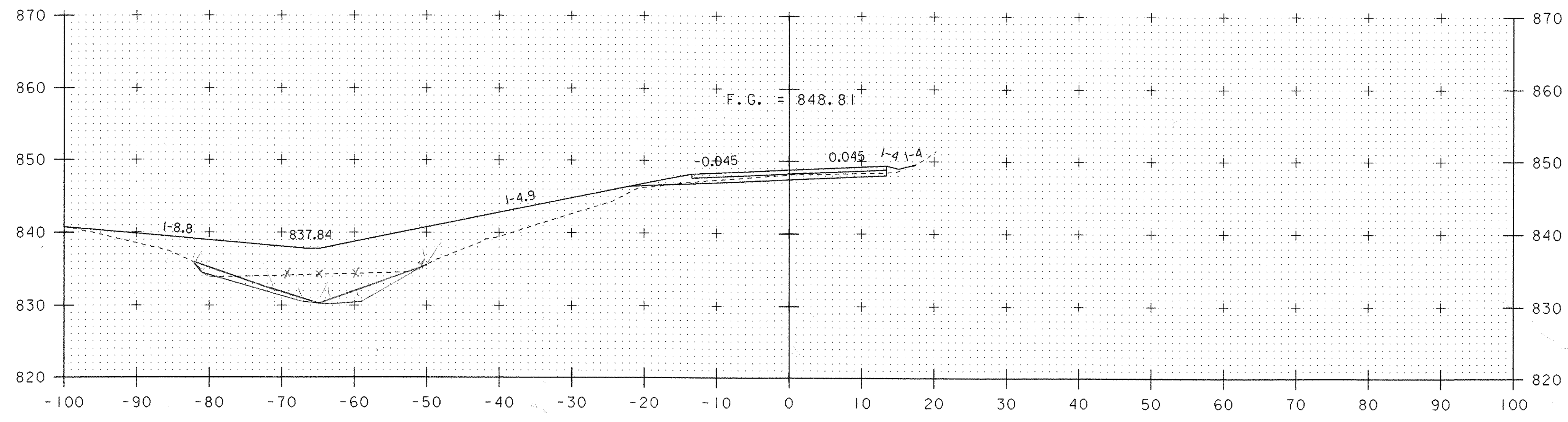
FILE NAME: d04e060xslx.dgn
PROJECT LEADER: A. BOMBARDIER
DESIGNED BY: M. NUTTER
IPARM NAME: de060xs05.i

PLOT DATE: 18-OCT-2005
DRAWN BY: M. NUTTER
CHECKED BY: A. BOMBARDIER
SHEET 36 OF 63



198+40

COMMON
 33 32.5
 67 32.5
 32 32.5
 65 32.5
 KRM 12-12-06
 GJ 12-07
 $\frac{33.0}{0.64} = 51.56 \text{ FT}^2$



198+20

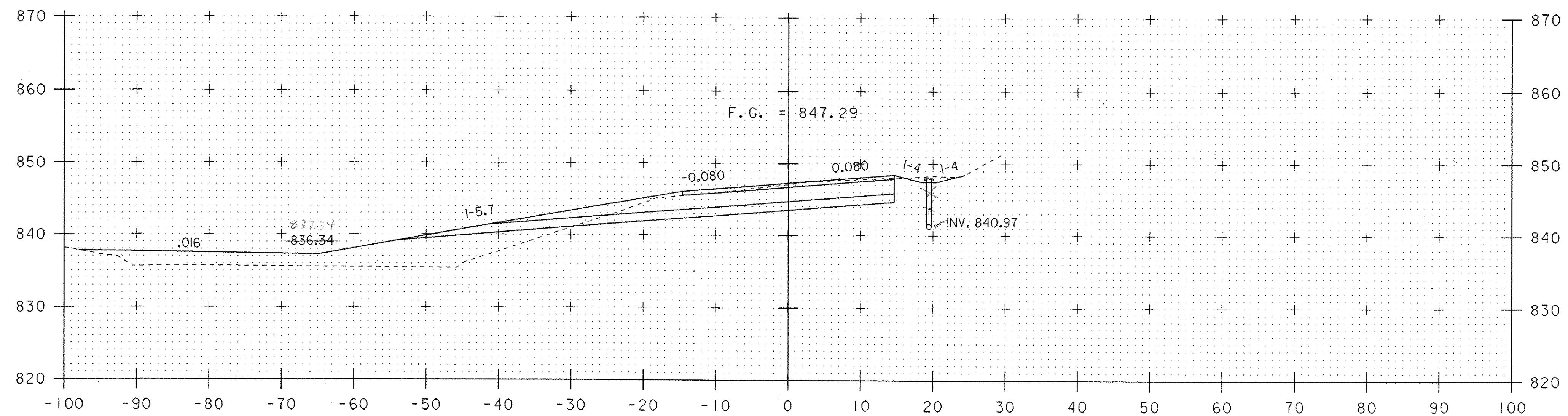
Muck (33)
 16 16
 32 16
 17 16.5
 33
 $\frac{16.25}{0.64} = 25.39 \text{ FT}^2$
 LTN
 KRM 1-10-07

COMMON
 9 9.5
 19 10
 20 10
 KRM 12-12-06
 GJ 11-29-06
 $\frac{9.8}{0.64} = 15.23 \text{ FT}^2$



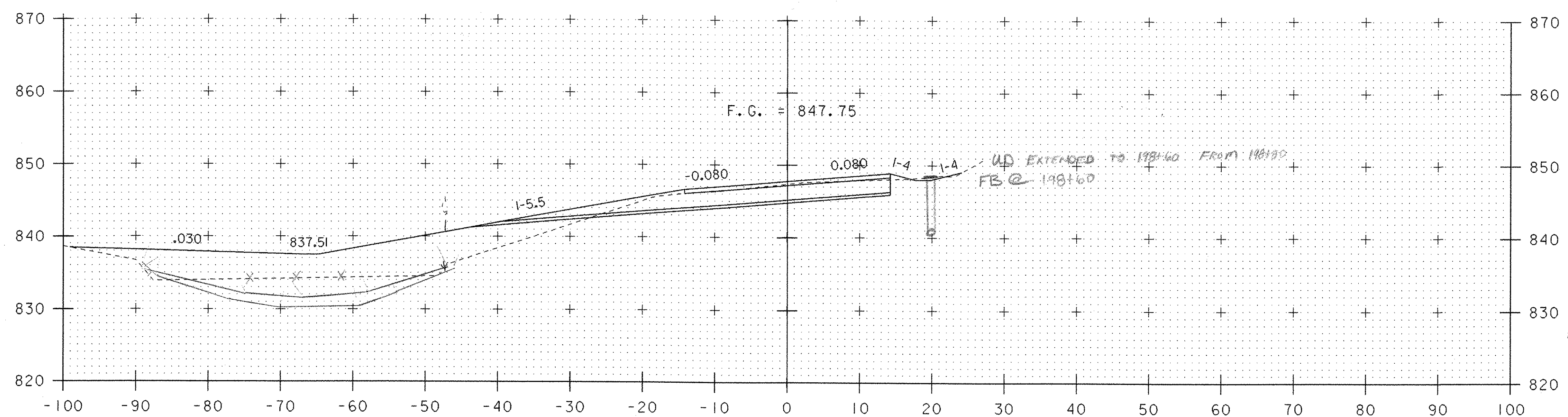
STA. 198+20 TO STA. 198+40

PROJECT NAME: HARDWICK	PLOT DATE: 18-OCT-2005
PROJECT NUMBER: STP ST 030-3(4)	DRAWN BY: M. NUTTER
FILE NAME: d04e060xslx.dgn	CHECKED BY: A. BOMBARDIER
PROJECT LEADER: A. BOMBARDIER	SHEET 37 OF 63
DESIGNED BY: M. NUTTER	
IPARM NAME: de060xs06.i	



198+80

Common KRM 12-12-06
 84 ✓
 170 85
 84 84 $\frac{84.5}{0.64} = 132.03 \text{ FT}^2$
 168 84



198+60

Mux (CS)
 29 ✓
 58 29 ✓
 31
 63 wyl
 28
 55 low
 28
 58 29.5 ✓

Common KRM 12-12-06
 55 56
 55 54.5 $\frac{55.25}{0.64} = 86.33 \text{ FT}^2$
 109

$\frac{29.25}{.64} = 45.7 \text{ FT}^2$
 LTN
 KRM
 1-10-07

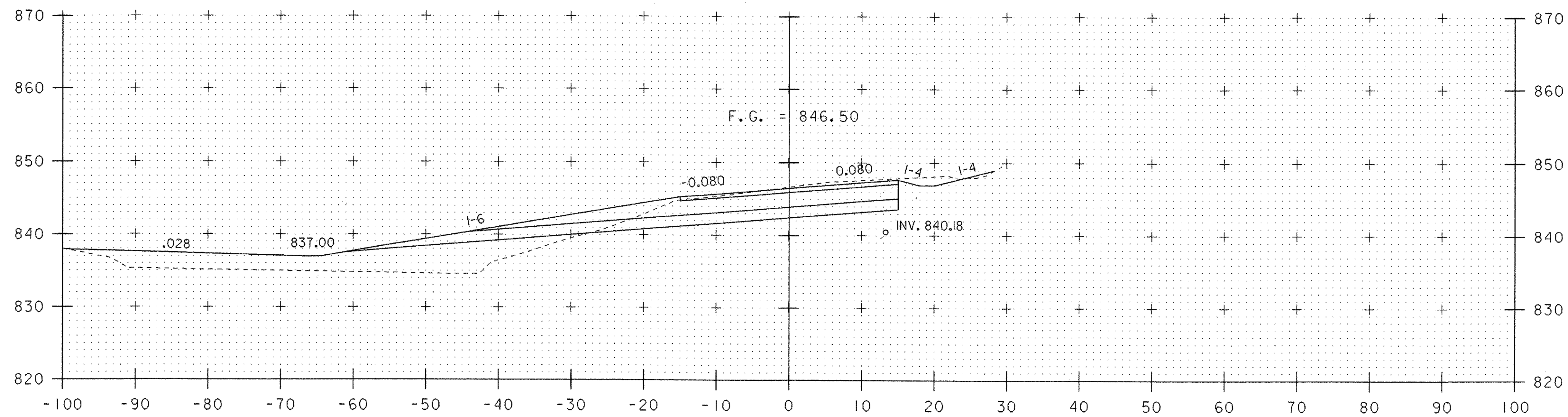


STA. 198+60 TO STA. 198+80

PROJECT NAME: HARDWICK
 PROJECT NUMBER: STP ST 030-3(4)

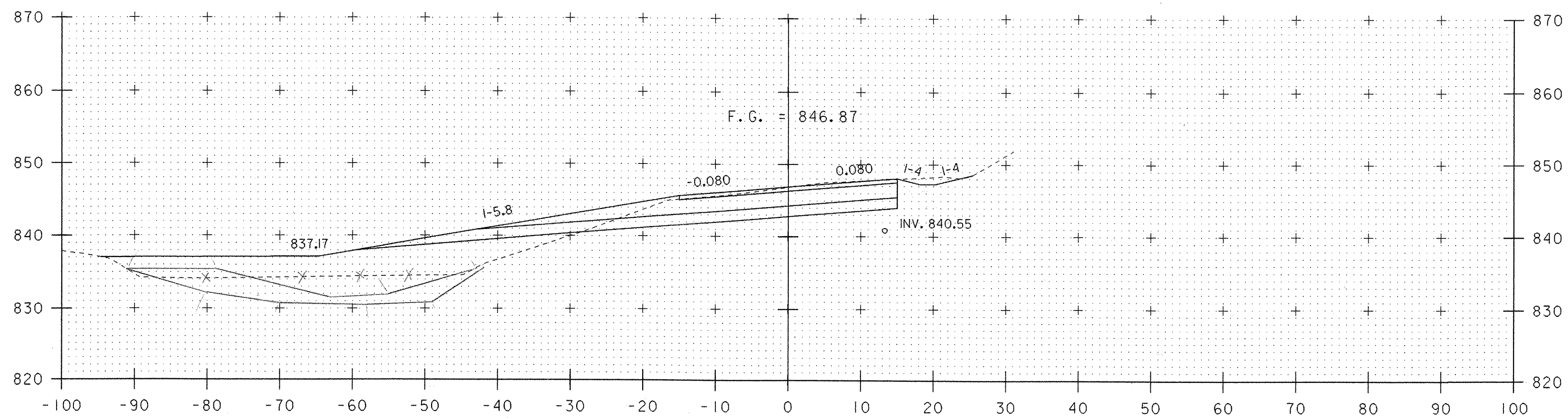
FILE NAME: d04e060xslx.dgn
 PROJECT LEADER: A. BOMBARDIER
 DESIGNED BY: M. NUTTER
 IPARM NAME: de060xs07.i

PLOT DATE: 18-OCT-2005
 DRAWN BY: M. NUTTER
 CHECKED BY: A. BOMBARDIER
 SHEET 38 OF 63



199+20

Common KRM 12-12-06
 94 95
 190
 $\frac{95.75}{0.64} = 149.61 \text{ FT}^2$
 96 96.5
 193



199+00

Muck (60)
 60 61
 122
 $\frac{60.5}{0.64} = 94.53 \text{ FT}^2$
 61 60
 120
 KRM 1-10-07

Common KRM 12-12-06
 93 94
 188
 $\frac{94}{0.64} = 146.88 \text{ FT}^2$
 93 94
 188

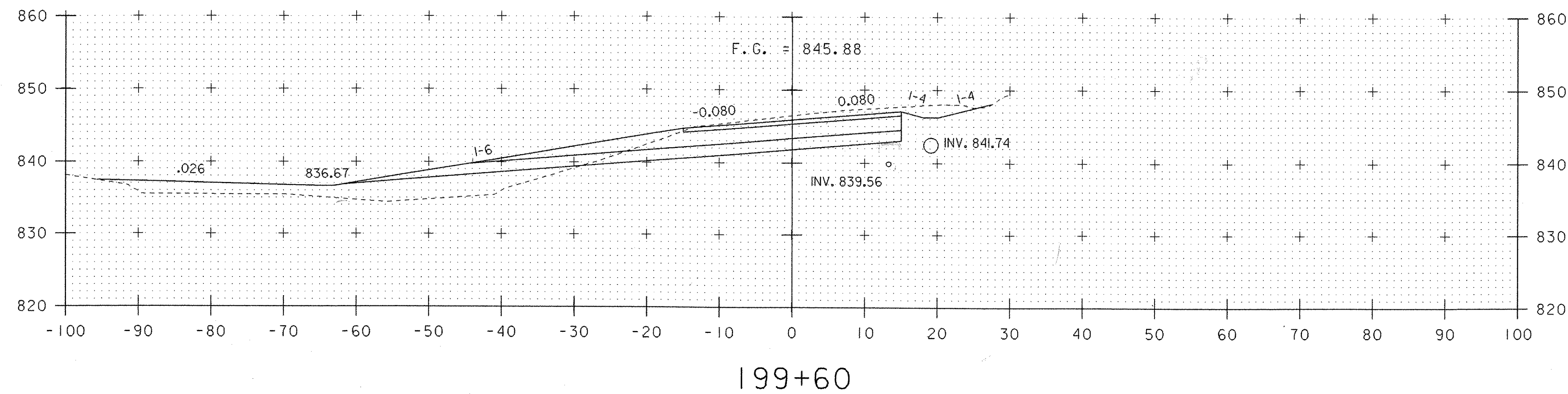


STA. 199+00 TO STA. 199+20

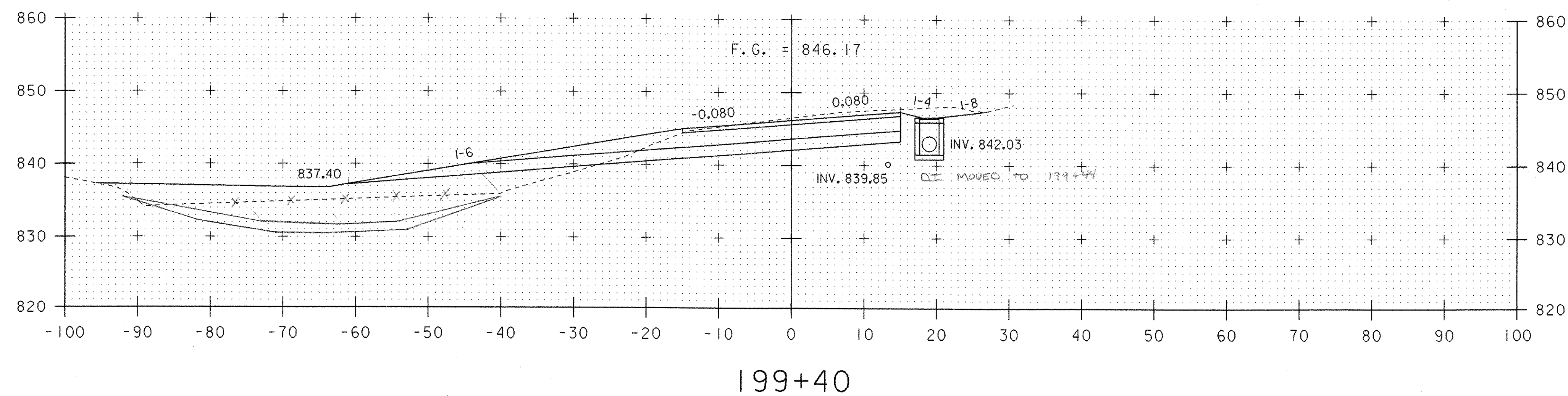
PROJECT NAME: HARDWICK
 PROJECT NUMBER: STP ST 030-3(4)

FILE NAME: d04e060xslx.dgn
 PROJECT LEADER: A. BOMBARDIER
 DESIGNED BY: M. NUTTER
 IPARM NAME: de060xs08.1

PLOT DATE: 18-OCT-2005
 DRAWN BY: M. NUTTER
 CHECKED BY: A. BOMBARDIER
 SHEET 39 OF 63



COMMON 12-14-06
 108 108
 $\frac{108.6}{0.64} = 169.53 \text{ FT}^2$
 110 109
 218



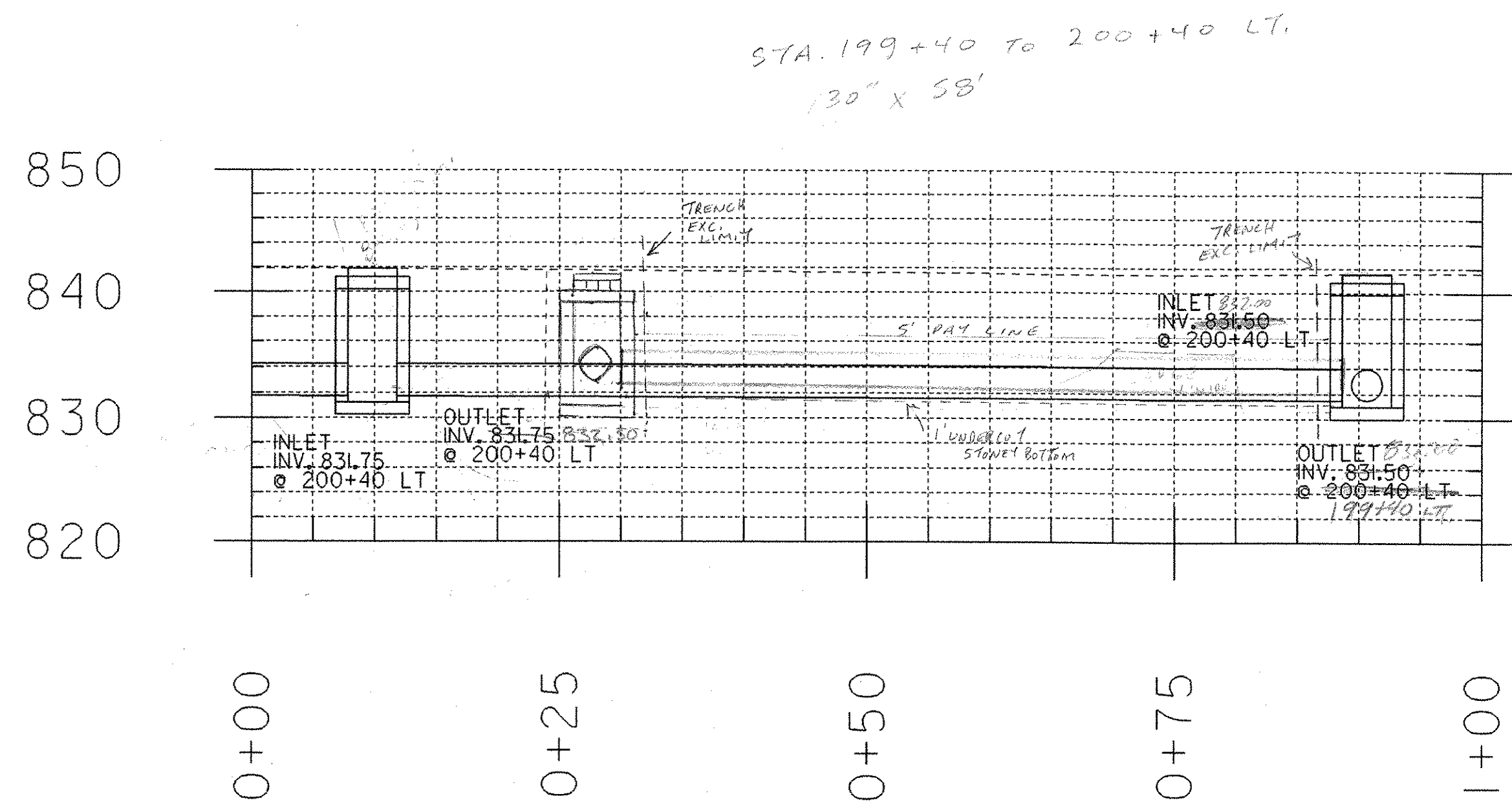
MURK (3)
 33
 70
 33
 69
 36 34.5
 69
 35 34.35
 $\frac{34.35}{0.41} = 83.78 \text{ FT}^2$
 70 25
 KRM 1-10-07

COMMON KRM 12-12-06
 99 98.5
 $\frac{99}{0.64} = 154.69 \text{ FT}^2$
 100
 199 99.5



PROJECT NAME: HARDWICK
 PROJECT NUMBER: STP ST 030-3(4)
 FILE NAME: d04e060xslx.dgn
 PROJECT LEADER: A. BOMBARDIER
 DESIGNED BY: M. NUTTER
 IPARM NAME: de060xs09.1
 PLOT DATE: 18-OCT-2005
 DRAWN BY: M. NUTTER
 CHECKED BY: A. BOMBARDIER
 SHEET 40 OF 63

STA. 199+40 TO STA. 199+60



TRENCH ROCK
 $4 \times 4.2 \times 10 \div 27 = 6.2$
 $3/2 \times 4.2 \times 4 \div 27 = 2.5$
 8.7 CY

TRENCH EARTH
 $4.5 \times 30 \times 58 \div 27 = 337.5 \text{ CY}$
 $0.5' \text{ } 54 \times 5 \times 58 \div 27 = 82.5 \text{ CY}$
 $OVERS' \text{ } 1.5 (54 \times 5 \times 5) \div 27 = 67.5 \text{ CY}$
 737.5 CY
 Rock - 8.7 CY
 Subtotal = 738.8 CY

CB TRENCHER
 $0.5' \text{ } 8 \times 8 \times 5 \div 27 = 11.3$
 $OVERS' \text{ } 8 \times 8 \times 15 \div 27 = 22.2$
 33.5 CY

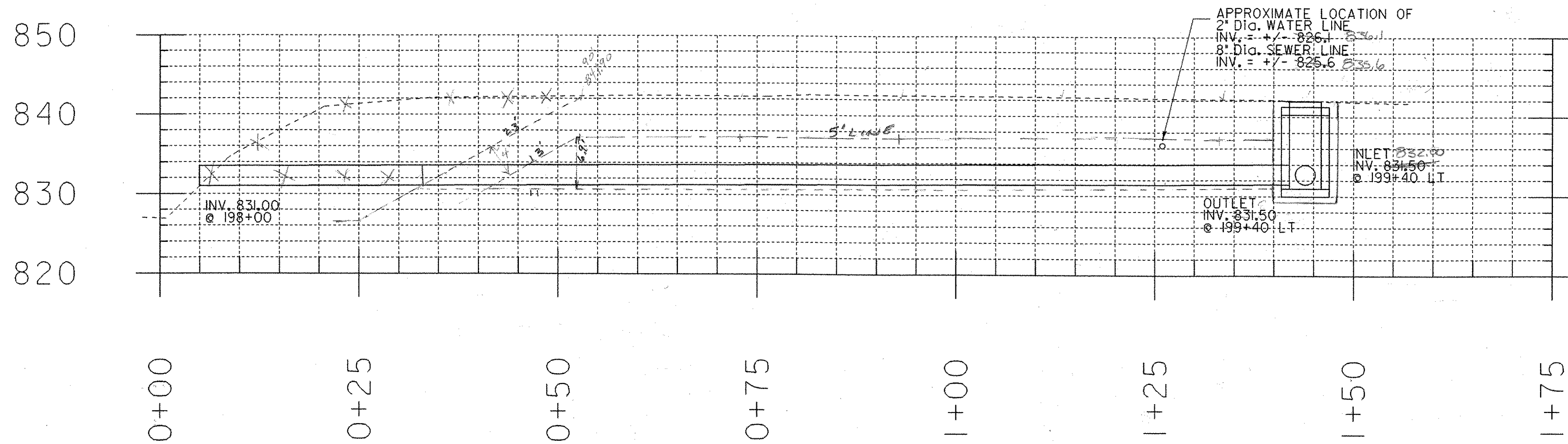
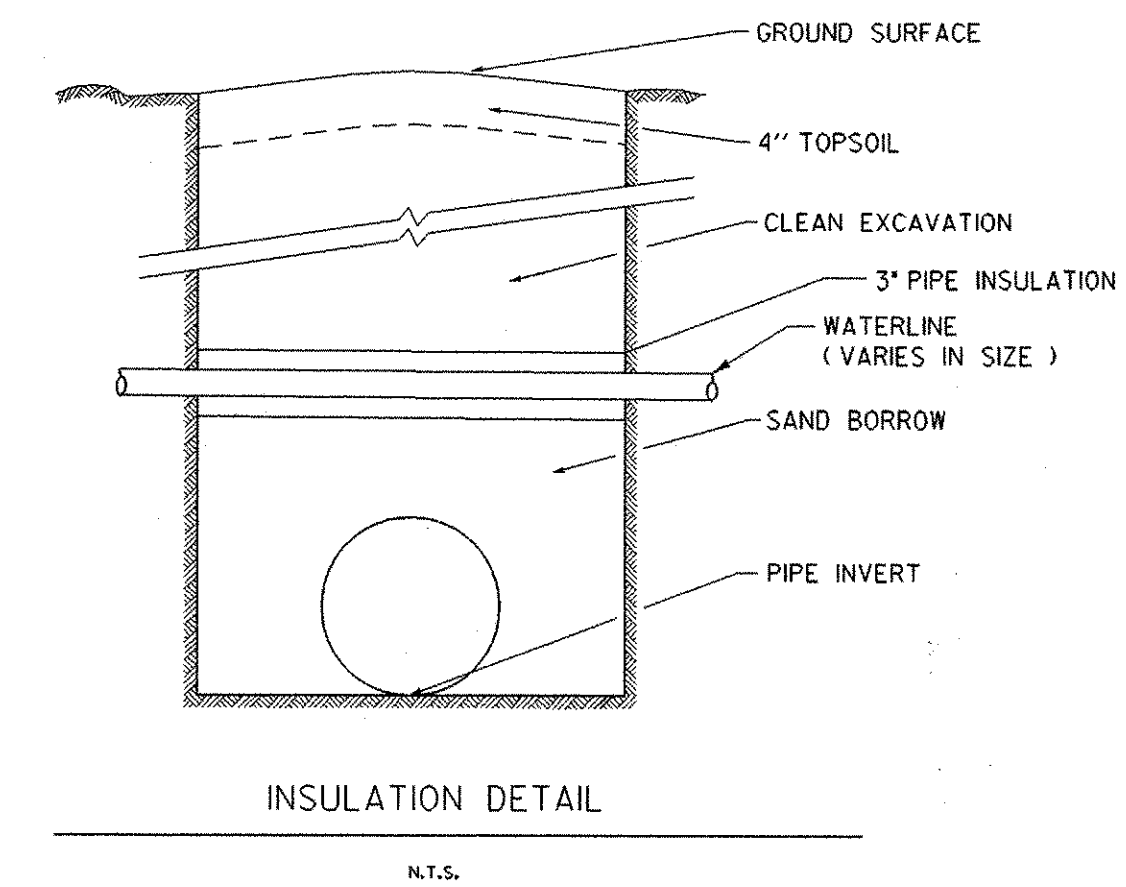
TRENCH TOT. = 772.3 CY

GRANULAR BACKFILL FOR STRUCTURES
 PIPE $54 \times 1 \times 58 \div 27 = 11.4 \text{ CY}$
 $8 \times 8 \times 1 \div 27 = 2.4 \text{ CY}$
 TOT. GBF = 13.8 CY

200+40 CB
 S. O. 06
 LTN

CB 200+40 DEPTH = 11.2'
 $(8 \times 8 \times 11.2) - (6 \times 6 \times 11.2) = 116 \text{ CY}$ KRM 1-10-07

9.0 CY
 2.4 CY
 11.6 CY
 23.0 CY KRM 1-10-07



STA. 198+40 TO 199+40 LT.
 30" x 142' PCCSP w/
 6x6" C.B. WITH COVER ON INLET

TRENCH EARTH
 $4.5 \times 30 \times 142 \div 27 = 707 \text{ CY}$
 $0.5' \text{ } 86 \times 5 \times 142 \div 27 = 874 \text{ CY}$
 $OVERS' \text{ } 1.5 (86 \times 5 \times 4) \div 27 = 246 \text{ CY}$
 $OVERS' \text{ } 86 \times 6.9 \times 4 \div 27 = 1013.4 \text{ CY}$
 $OVERS' \text{ } 1/2 \times 6.9 \times 4 \div 27 = 46.9 \text{ CY}$
 1463.7 CY

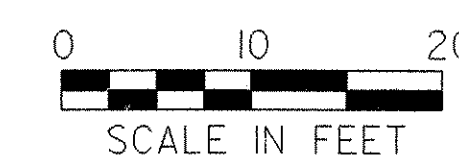
6x6" CB
 $0.5' \text{ } 8 \times 8 \times 5 \div 27 = 11.3 \text{ CY}$
 $OVERS' \text{ } 8 \times 8 \times 7.7 \times 1.5 \div 27 = 27.4 \text{ CY}$

TOT. TR. EARTH = 1491.1 CY

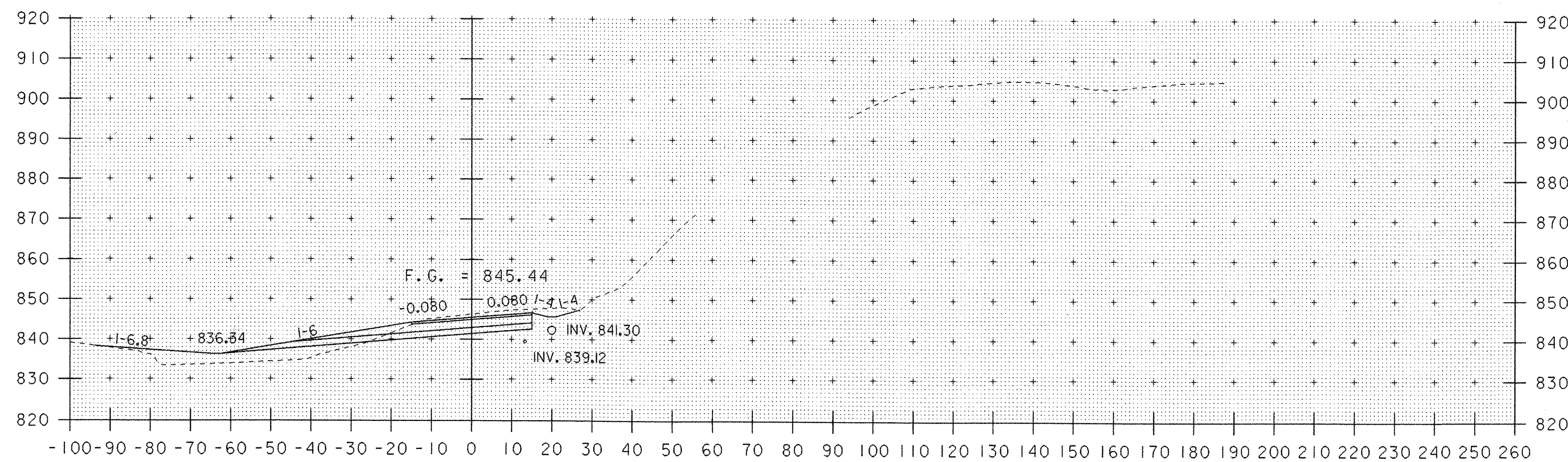
GRANULAR B.C. FOR STRUCTURES
 CB 198+40 $8 \times 8 \times 1 \div 27 = 2.4 \text{ CY}$
 $106 \times 5 \times 5 \div 27 = 116.3 \text{ CY}$
 118.7 CY
 LSN
 4.23.06

CB 199+40 DEPTH = 11.2'
 $(8 \times 8 \times 11.2) - (6 \times 6 \times 11.2) = 114 \text{ CY}$ KRM 1-10-07

2.4
 116.3
 118.7
 315.4 CY KRM 1-10-07

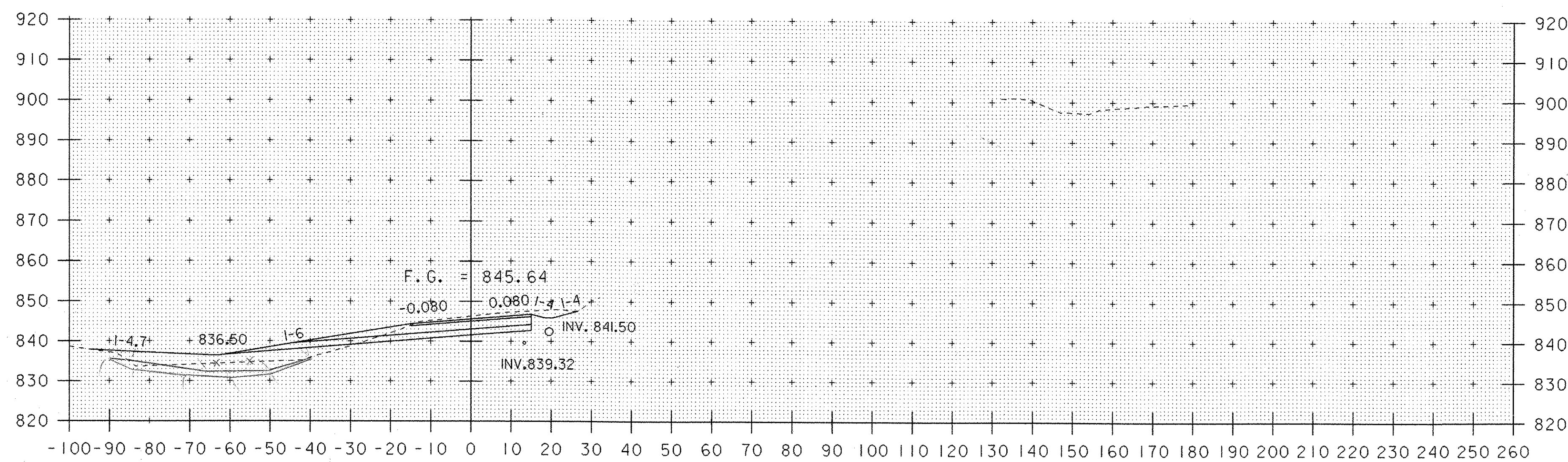


PROJECT NAME: HARDWICK	PLOT DATE: 18-OCT-2005
PROJECT NUMBER: STP ST 030-3(4)	DRAWN BY: M. NUTTER
FILE NAME: d04e060xsix.dgn	DESIGNED BY: M. NUTTER
PROJECT LEADER: A. BOMBARDIER	CHECKED BY: A. BOMBARDIER
IPARM NAME: de060xs32.i	SHEET 41 OF 63



200+00

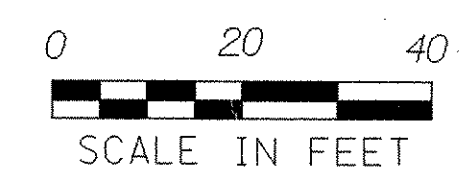
COMMON KRM 12-14-00
 CS 12-20-00
 28 28.5
 57 28.5
 27 28
 56 28
 $\frac{28.5}{0.16} = 176.56 \text{ FT}^2$



199+80

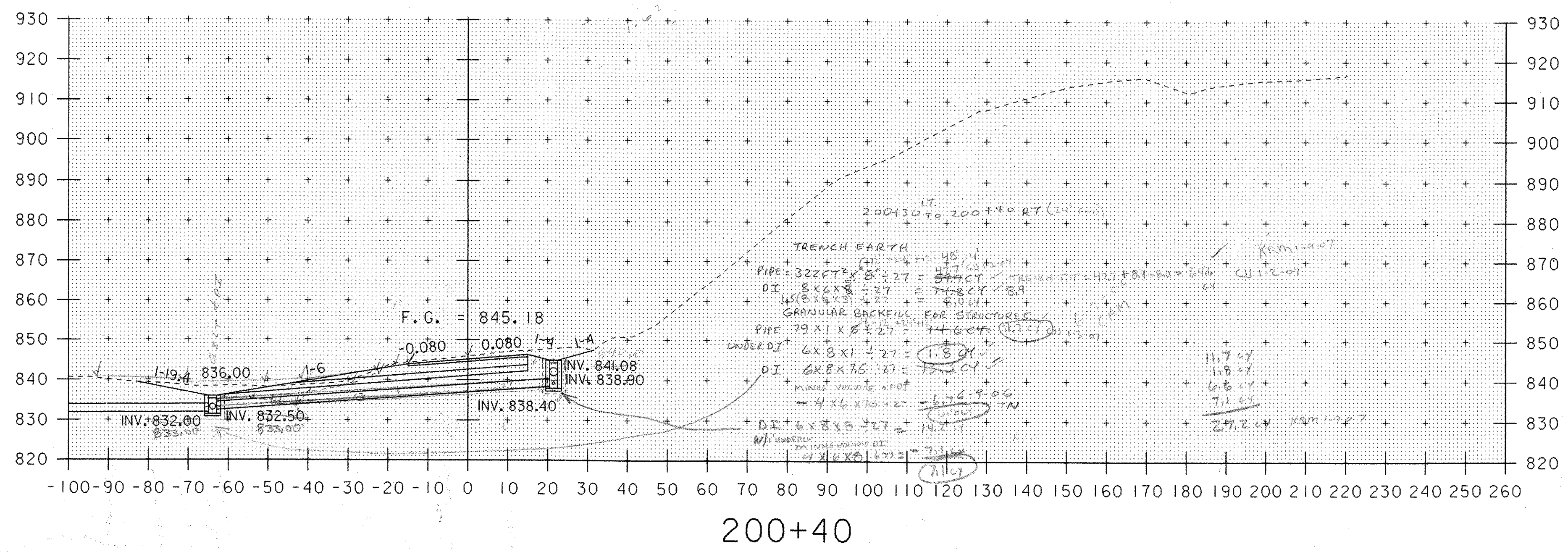
Muck (CS)
 10 10.5
 21 10.5
 10 11
 22 11
 $\frac{10.75}{16} = 67.19 \text{ FT}^2$
 CS

COMMON KRM 12-14-00
 CS 12-07
 28 28
 56 28
 28 28
 56 28
 $\frac{28}{0.16} = 175.00 \text{ FT}^2$

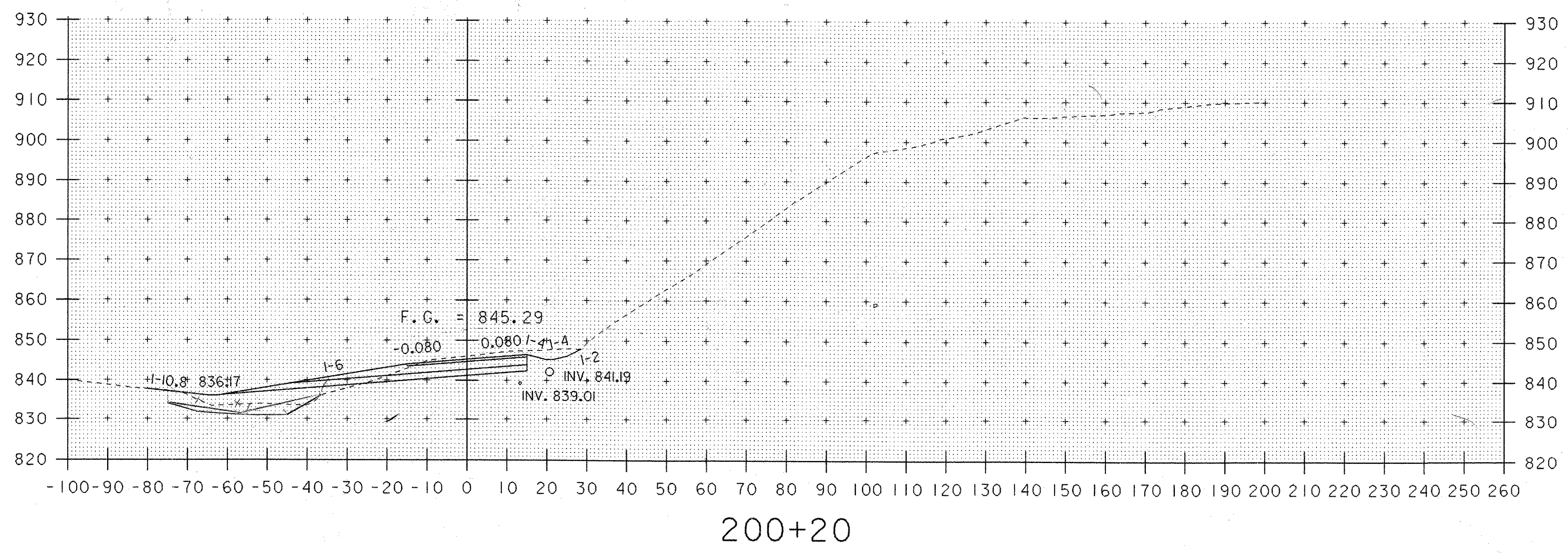


PROJECT NAME: HARDWICK	
PROJECT NUMBER: STP ST 030-3(4)	
FILE NAME: d04e060xslx.dgn	PLOT DATE: 18-OCT-2005
PROJECT LEADER: A. BOMBARDIER	DRAWN BY: M. NUTTER
DESIGNED BY: M. NUTTER	CHECKED BY: A. BOMBARDIER
IPARM NAME: de060xsl0.i	SHEET 42 OF 63

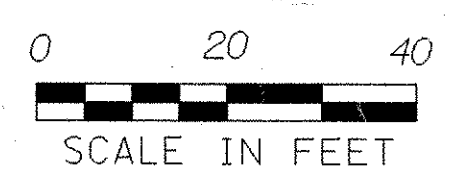
STA. 199+80 TO STA. 200+00



Common KRM 12-14-06
 38 38.5
 77
 $\frac{38.25}{0.16} = 239.06 \text{ FT}^2$
 39 38.0
 76

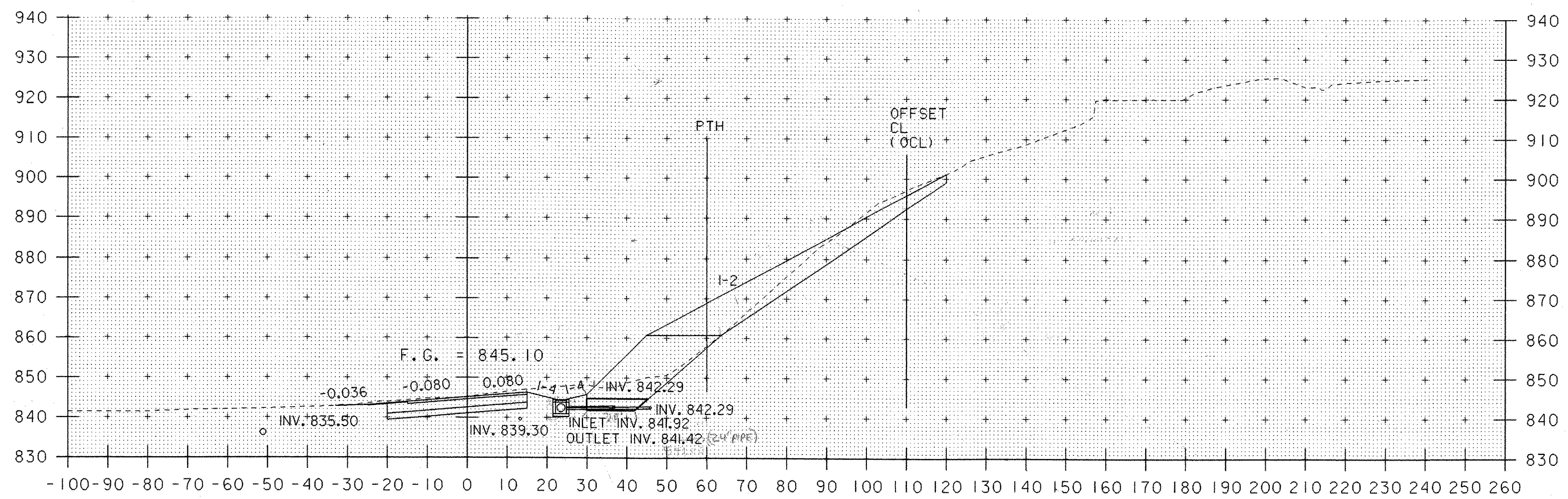


MULL (S)
 8
 16 8
 $\frac{8 \times 50 \text{ SF}}{16} = 25 \text{ FT}^2$
 8
 16 8
 COMMON KRM 12-14-06
 30 29
 58
 $\frac{29}{0.16} = 181.25 \text{ FT}^2$
 29 29
 58

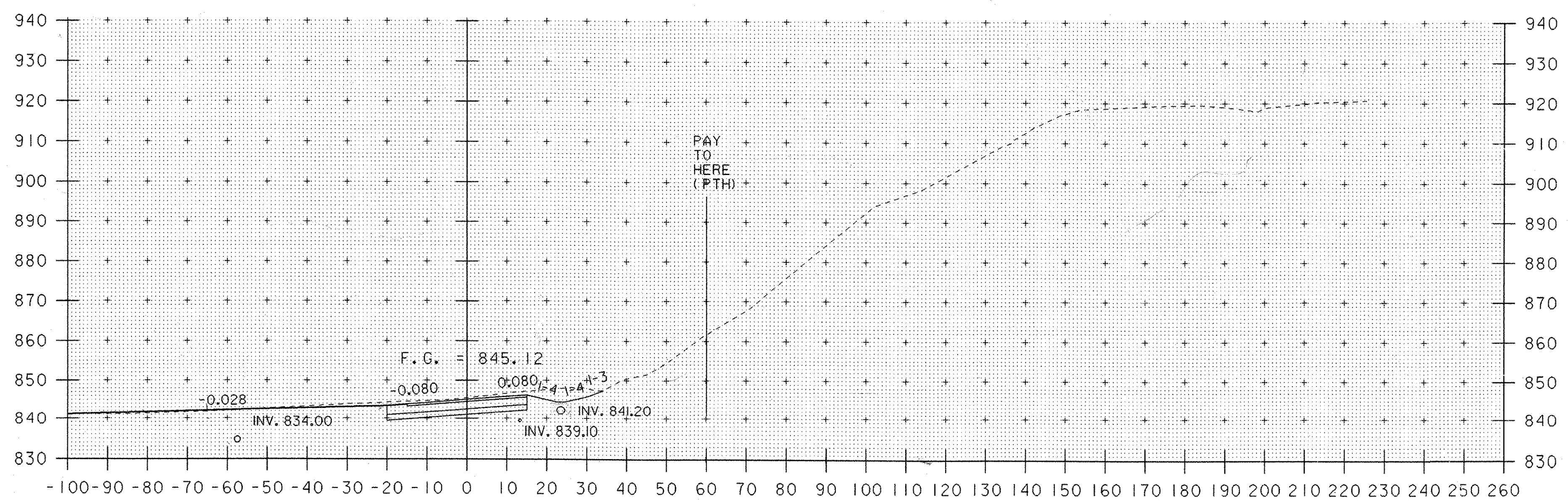


STA. 200+20 TO STA. 200+40

PROJECT NAME: HARDWICK	
PROJECT NUMBER: STP ST 030-3(4)	
FILE NAME: d04e060xstx.dgn	PLOT DATE: 18-OCT-2005
PROJECT LEADER: A. BOMBARDIER	DRAWN BY: M. NUTTER
DESIGNED BY: M. NUTTER	CHECKED BY: A. BOMBARDIER
IPARM NAME: de060xsl1	SHEET 43 OF 63

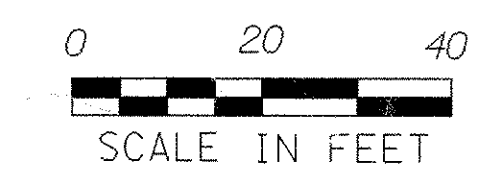


200+80



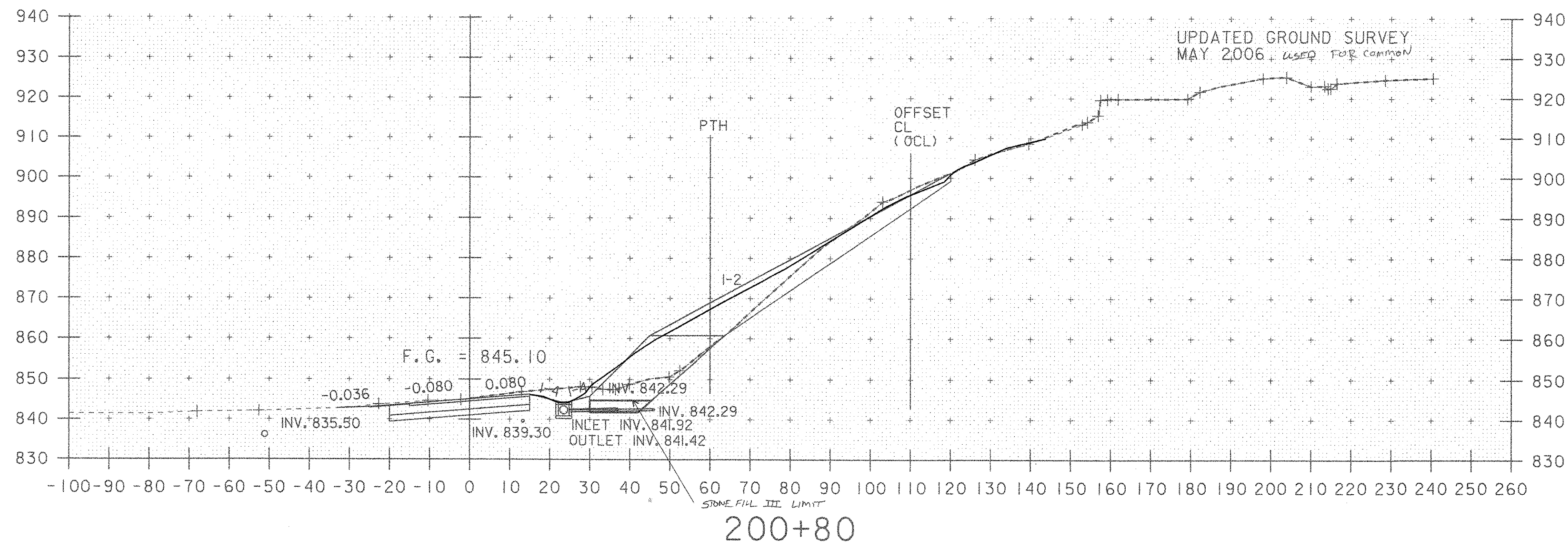
200+60

SEE FINAL SECTIONS PLOT DATE 11-20-06
 FOR PLANIMETERED AREAS, STATIONS 200+60 ~ 203+00,
 (COMMON EXCAVATION, STONE FILL TYPE III AND STONE FILL TYPE II)

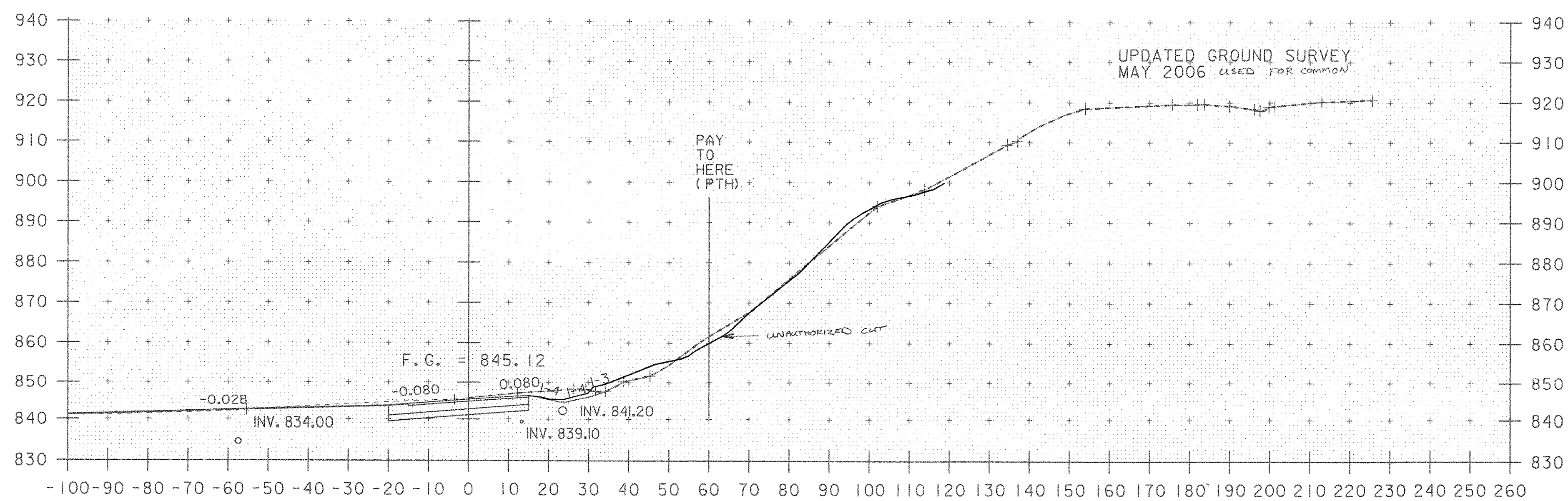


STA. 200+60 TO STA. 200+80

PROJECT NAME: HARDWICK	PLOT DATE: 18-OCT-2005
PROJECT NUMBER: STP ST 030-3(4)	DRAWN BY: M. NUTTER
FILE NAME: d04e060xslx.dgn	CHECKED BY: A. BOMBARDIER
PROJECT LEADER: A. BOMBARDIER	SHEET 44 OF 63
DESIGNED BY: M. NUTTER	
IPARM NAME: de060xsl2.l	



200+80



200+60

COMMON KRM 12-14-06
 MAINLINE 110' LT TO THE PTH LINE @ 60' RT

50	51
102	
53	52
104	

$\frac{51.5}{0.16} = 321.88 \text{ FT}^2$

PTH @ 60' RT TO 260' RT

39	39
78	
39	40
80	

$\frac{39.5}{0.16} = 246.88 \text{ FT}^2$

STONE FILL TYPE III KRM 1-2-07
 MAINLINE 110' LT TO PTH LINE @ 60' RT

48	48
96	
48	48
96	

$\frac{48}{0.16} = 300 \text{ FT}^2$

PTH @ 60' RT TO 260' RT

1	1
2	
1	1
2	

$\frac{1}{0.16} = 6.25 \text{ FT}^2$

STONE FILL TYPE II KRM 1-2-07
 MAINLINE 110' LT TO PTH @ 60' RT

7	7.5
15	
8	7.5
15	

$\frac{7.5}{0.16} = 46.88 \text{ FT}^2$

PTH @ 60' RT TO 260' RT

57	56.5
113	
55	56.0
112	

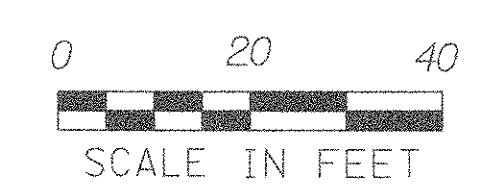
$\frac{56.25}{0.16} = 351.56 \text{ FT}^2$

COMMON KRM 12-14-06

34	34.5
69	
34	34
68	

$\frac{34.25}{0.16} = 214.06 \text{ FT}^2$

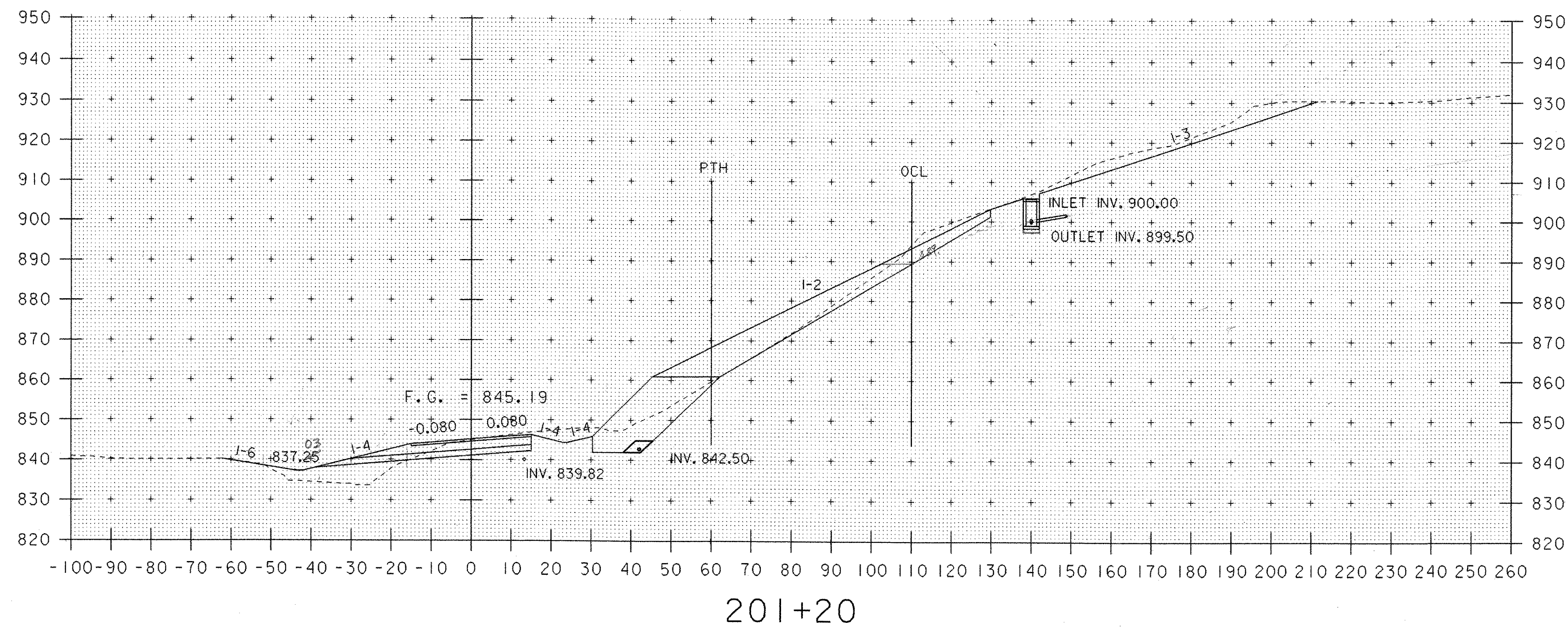
STONE FILL TYPE II & III KRM 1-2-07 0 FT²
 SEE PLAN SHEET 14 OF 63



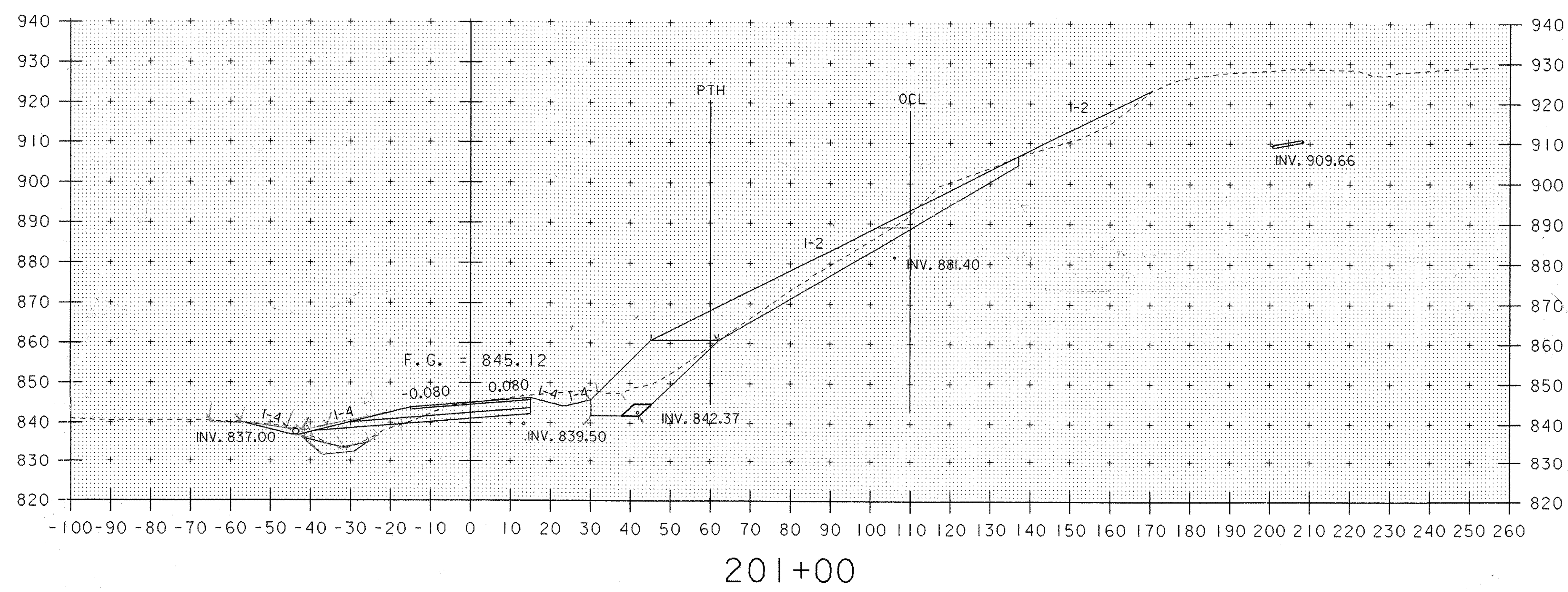
PROJECT NAME: HARDWICK
 PROJECT NUMBER: STP ST 030-3(4)
 FILE NAME: d04e060xslx.dgn
 PROJECT LEADER: A. BOMBARDIER
 DESIGNED BY: M. NUTTER
 IPARM NAME: de060xsl2.l

PLOT DATE: 20-NOV-2006
 DRAWN BY: M. NUTTER
 CHECKED BY: A. BOMBARDIER
 SHEET 44A OF 63

SEE FINAL SECTIONS PLOT DATE 11-20-06



TRENCH EARTH - DI @ 1.40 FT @ 1:2.07
 6' W x 6' L x 5' 0" DEEP = 6.67 CY
 15' (6' W x 6' L x 4.5' DEEP) = 9.0 CY
 15.67 CY / 11.8 M = 1-7-07

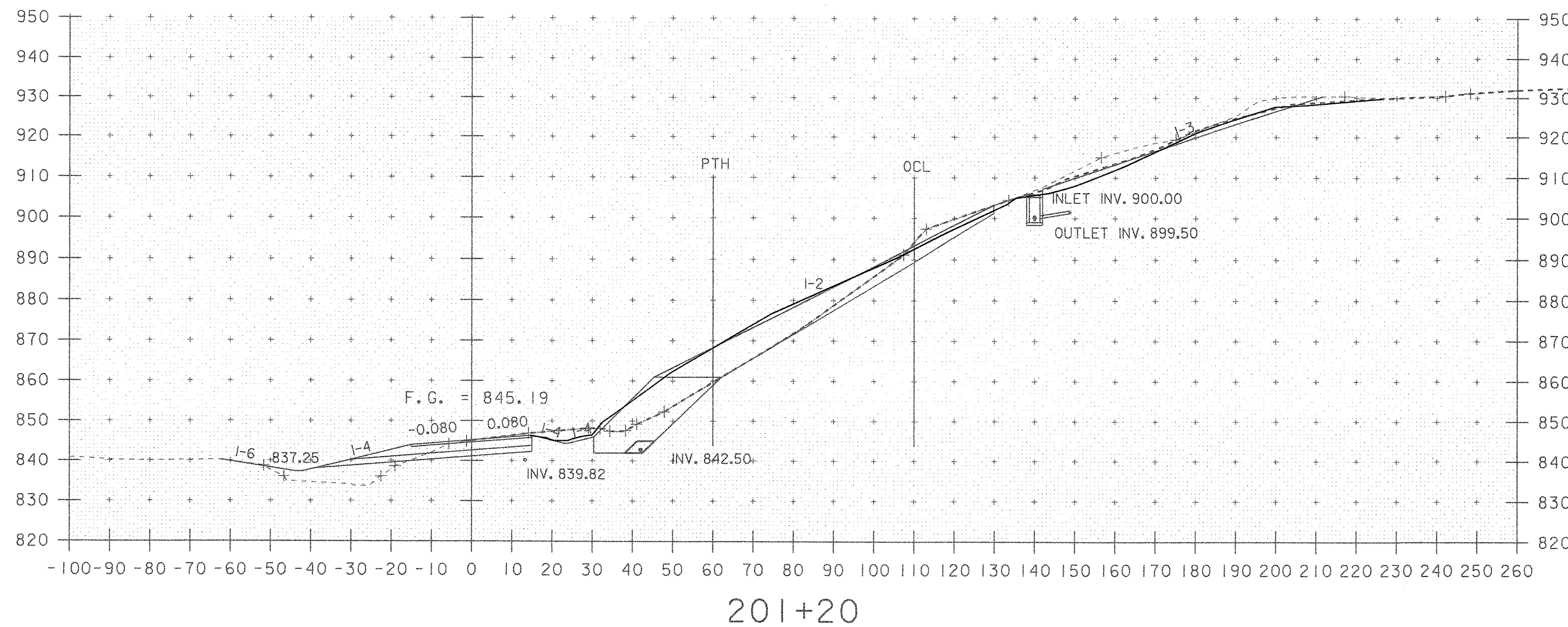


MUCK (4.5')
 4.5' x 4.5' = 20.25 FT²
 20.25 / 0.10 = 202.5
 202.5 / 11.8 M = 1-7-07



STA. 201+00 TO STA. 201+20

PROJECT NAME: HARDWICK	PLOT DATE: 18-OCT-2005
PROJECT NUMBER: STP ST 030-3(4)	DRAWN BY: M. NUTTER
FILE NAME: d04e060xslx.dgn	CHECKED BY: A. BOMBARDIER
PROJECT LEADER: A. BOMBARDIER	SHEET 45 OF 63
DESIGNED BY: M. NUTTER	
IPARM NAME: de060xst3.1	



UPDATED GROUND SURVEY
MAY 2006 USED FOR COMMON

COMMON KRM 12-14-06
MAINLINE 110' LT TO THE PTH LINE @ 60' RT
45' 45
90 45.75
46 46.5
93 46.5

STONE FILL TYPE III KRM 1-2-07
MAINLINE 110' LT TO THE PTH @ 60' RT
46 47
94 46.5
46 46
92 46

STONE FILL TYPE II KRM 1-2-07
MAINLINE 110' LT TO PTH @ 60' RT
8
16 8
7 8
16 8

PTH @ 60' RT TO 260' RT
37 37.5
75 37.5
38 37.5
75 37.5

PTH @ 60' RT TO 260' RT
SCALED 1/2(2' X 2') = 2 FT²

PTH @ 60' RT TO 260' RT
62 62
124 61.75
61 61.5
123 61.5

UPDATED GROUND SURVEY
MAY 2006 USED FOR COMMON

COMMON KRM 12-14-06
MAINLINE 110' LT TO THE PTH LINE @ 60' RT
45 45.5
91 46
46 46.5
93 46.5

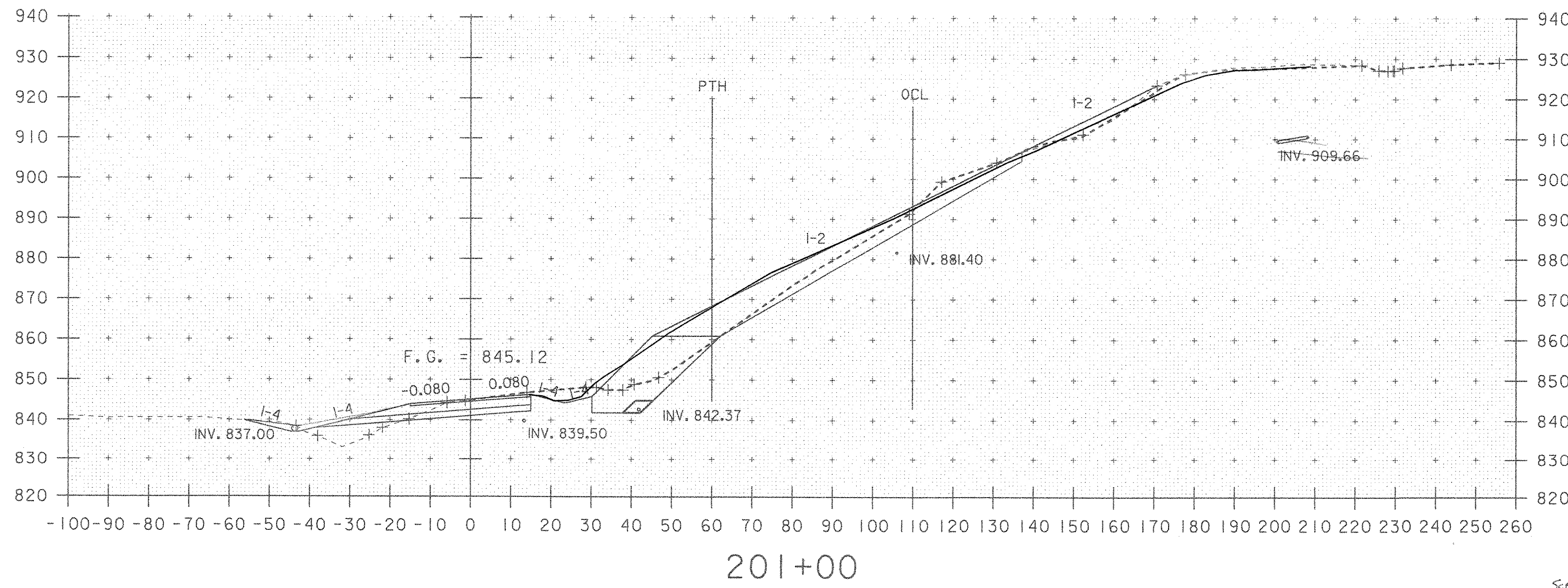
STONE FILL TYPE III KRM 1-2-07
MAINLINE 110' LT TO THE PTH @ 60' RT
48 48
96 48
48 48
96 48

STONE FILL TYPE II KRM 1-2-07
MAINLINE 110' LT TO PTH @ 60' RT
7 7
14 7
14 7
14 7

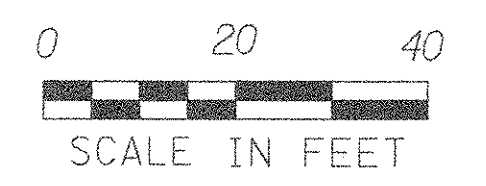
PTH @ 60' RT TO 260' RT
38 38
76 38
37 38
76 38

PTH @ 60' RT TO 260' RT
SCALED 1/2(2' X 2') = 2 FT²

PTH @ 60' RT TO 260' RT
68 67.5
135 67.5
67 67
134 67

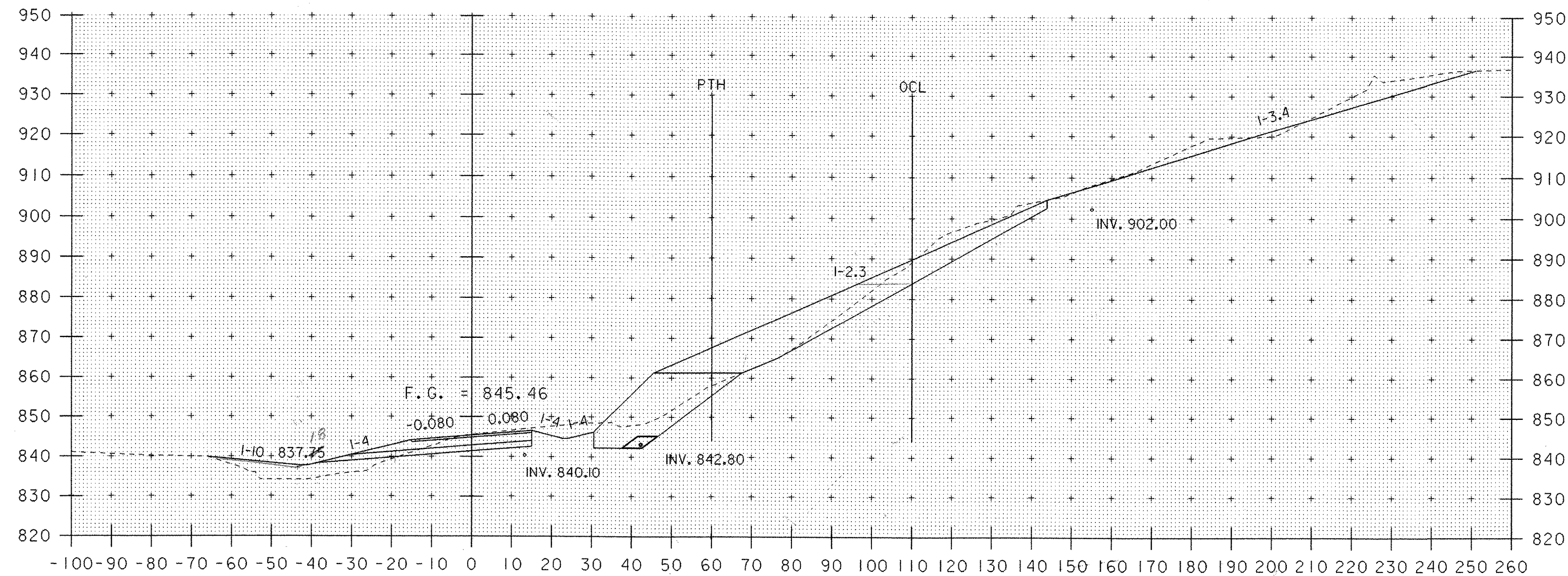


SCALED TO CHECK
1/2(2' X 7.2') = 7.2 FT²

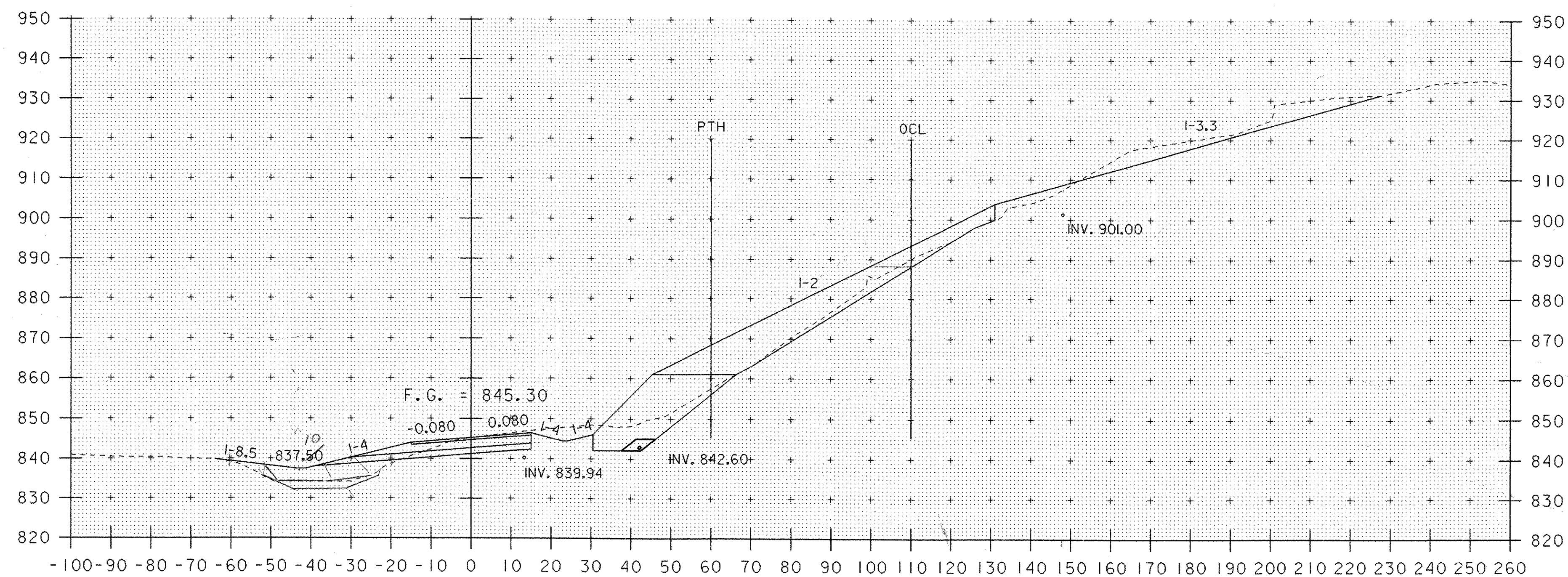


PROJECT NAME:	HARDWICK	FILE NAME:	d04e060xsix.dgn	PLOT DATE:	20-NOV-2006
PROJECT NUMBER:	STP ST 030-3(4)	PROJECT LEADER:	A. BOMBARDIER	DRAWN BY:	M. NUTTER
		DESIGNED BY:	M. NUTTER	CHECKED BY:	A. BOMBARDIER
		IPARM NAME:	de060xsl3.1	SHEET	45 A OF 63

SEE FINAL SECTIONS PLOT DATE 11-20-06

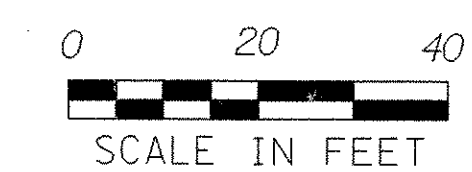


201+60



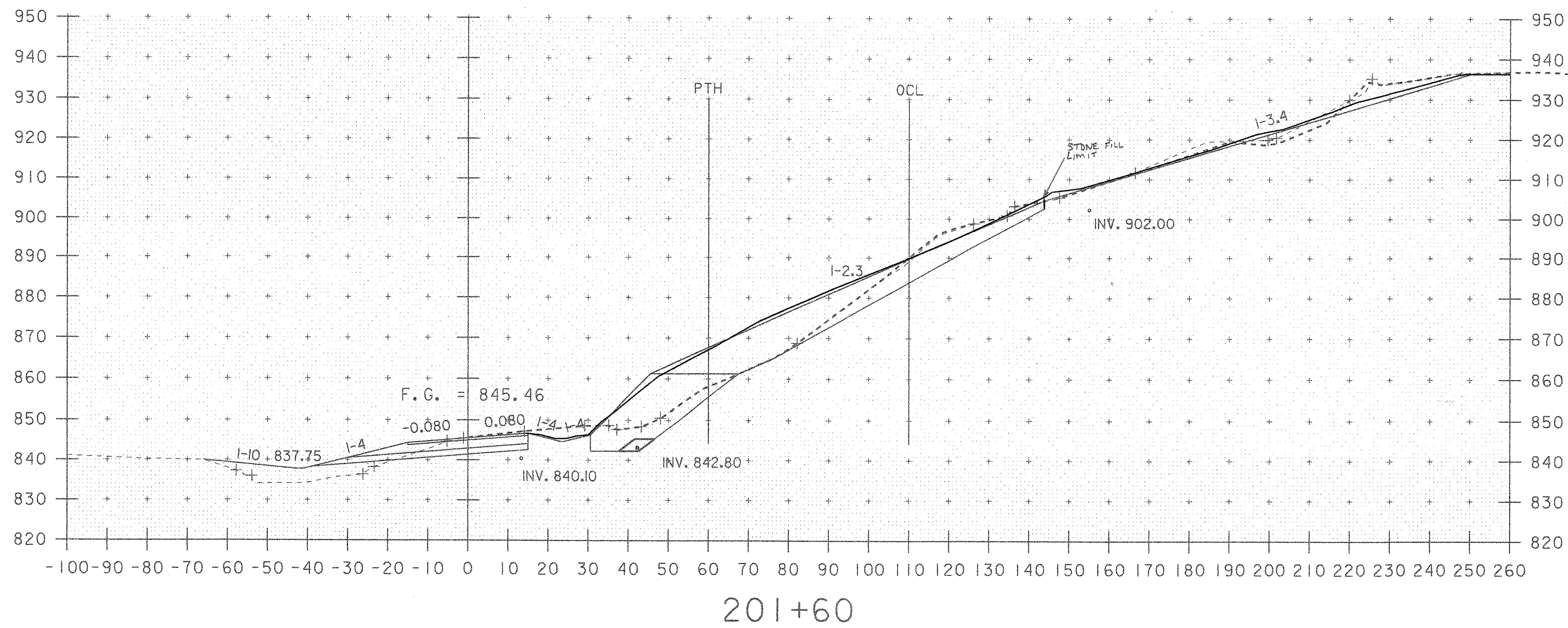
201+40

Muck
 8
 16
 8
 16
 $8/0.16 = 50' \text{ ft}^2$
 LTH
 KRM 11-10-07



PROJECT NAME: HARDWICK	PLOT DATE: 18-OCT-2005
PROJECT NUMBER: STP ST 030-3(4)	DRAWN BY: M. NUTTER
FILE NAME: d04e060xslx.dgn	CHECKED BY: A. BOMBARDIER
PROJECT LEADER: A. BOMBARDIER	SHEET 46 OF 63
DESIGNED BY: M. NUTTER	
IPARM NAME: de060xsl4.1	

STA. 201+40 TO STA. 201+60



UPDATED GROUND SURVEY
MAY 2006 USED FOR COMMON

COMMON EXCAVATION KRM 12-18-06
MAINLINE 110' LT TO THE PTH @ 60' RT

47	47.5
95	
46	47
94	

$\frac{47.25}{0.16} = 295.31 \text{ FT}^2$

PTH @ 60' RT TO 260' RT

65	66
132	
67	68.5
137	

$\frac{67.25}{0.16} = 420.31 \text{ FT}^2$

STONE FILL TYPE III KRM 1-3-07
MAINLINE 110' LT TO PTH @ 60' RT

50	50.5
101	
50	49.5
99	

$\frac{50}{0.16} = 312.5 \text{ FT}^2$

PTH @ 60' RT TO 260' RT

3	3
6	3
4	4
8	

$\frac{3.5}{0.16} = 21.88 \text{ FT}^2$
 $\frac{4}{0.16} = 25 \text{ FT}^2$

STONE FILL TYPE II KRM 1-3-07
MAINLINE 110' LT TO PTH @ 60' RT

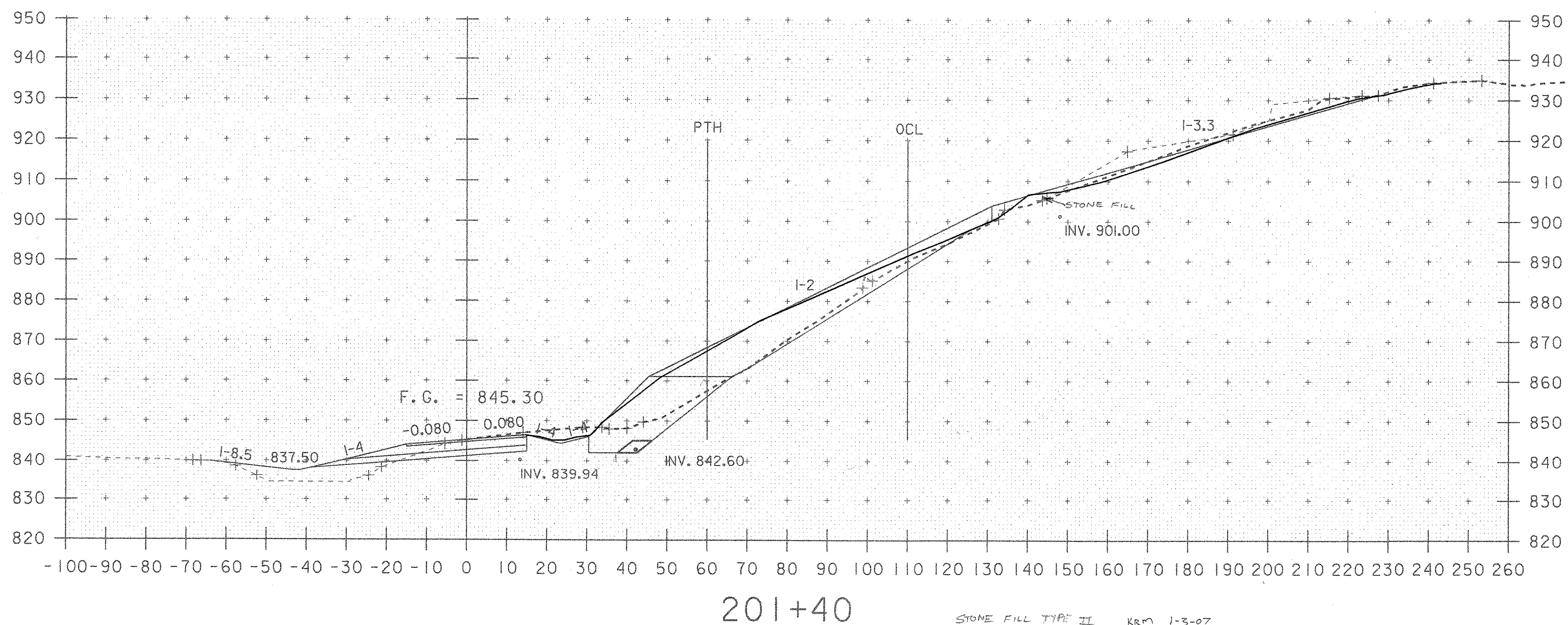
6	6
12	
5	6
12	

$\frac{6}{0.16} = 37.5 \text{ FT}^2$

PTH @ 60' RT TO 260' RT

96	96
192	
95	95
190	95

$\frac{95.5}{0.16} = 596.88 \text{ FT}^2$



UPDATED GROUND SURVEY
MAY 2006 USED FOR COMMON

COMMON EXCAVATION KRM 12-18-06
MAINLINE 110' LT TO THE PTH @ 60' RT

45	45
90	
45	45.5
91	

$\frac{45.25}{0.16} = 282.81 \text{ FT}^2$

PTH 60' RT TO 260' RT
BROKE INTO TWO PARTS
(PTH 60' RT TO 120' RT)

15	15.5
31	
16	15.5
31	

$\frac{15.5}{0.16} = 96.88 \text{ FT}^2$

(120' RT TO 260' RT)

19	20
40	
20	20
40	

$\frac{20.0}{0.16} = 125.00 \text{ FT}^2$

$\frac{221.88}{0.16} = 1386.75 \text{ FT}^2$

STONE FILL TYPE III KRM 1-3-07
MAINLINE 110' LT TO PTH @ 60' RT

48	48
49	49
96	
96	

$\frac{48}{0.16} = 300.00 \text{ FT}^2$

PTH 60' RT TO 260' RT
SCALE
 $\frac{1}{2}(6.5' \times 5') = 16.25 \text{ FT}^2$

STONE FILL TYPE II KRM 1-3-07
MAINLINE 110' LT TO PTH @ 60' RT

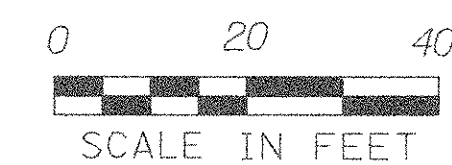
6	7
14	
6	7
14	

$\frac{7}{0.16} = 43.75 \text{ FT}^2$

PTH 60' RT TO 260' RT

69	68.5
137	
69	69.5
139	

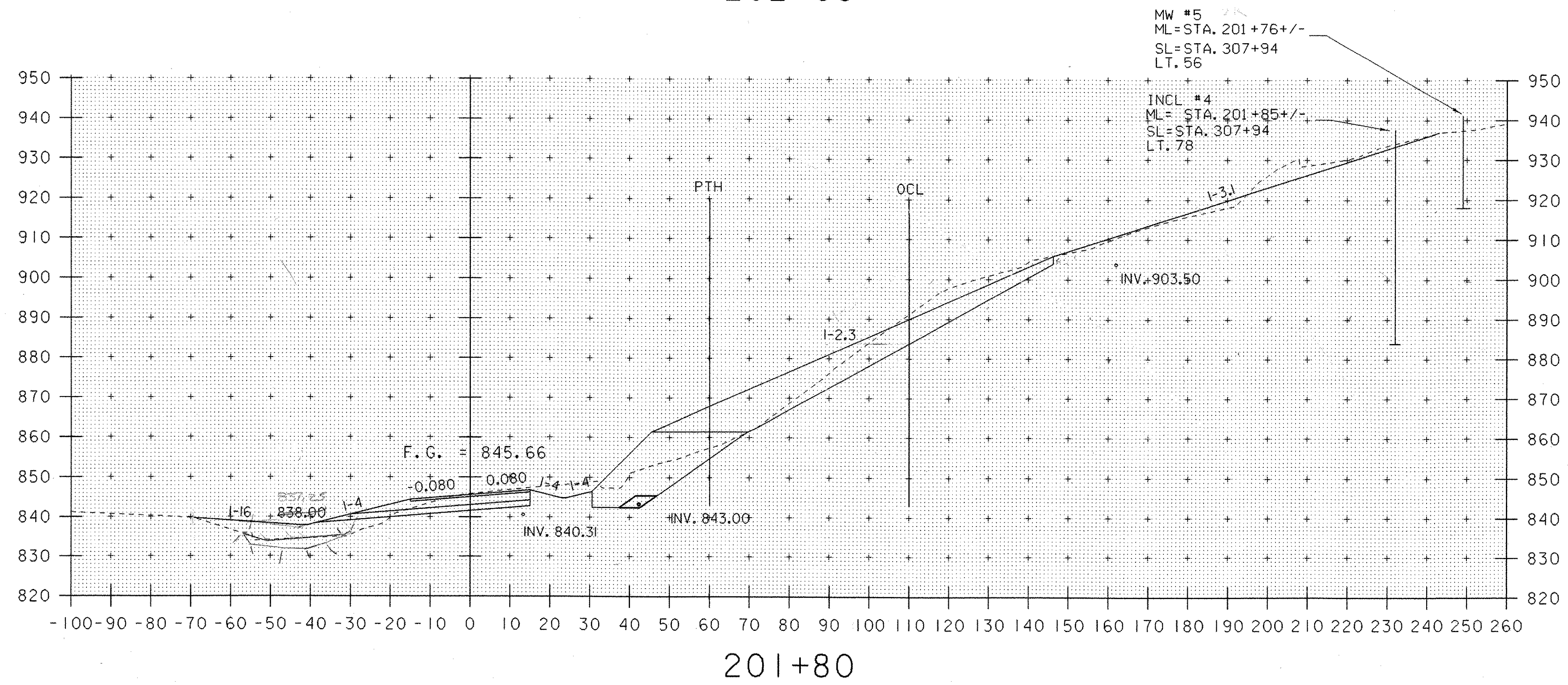
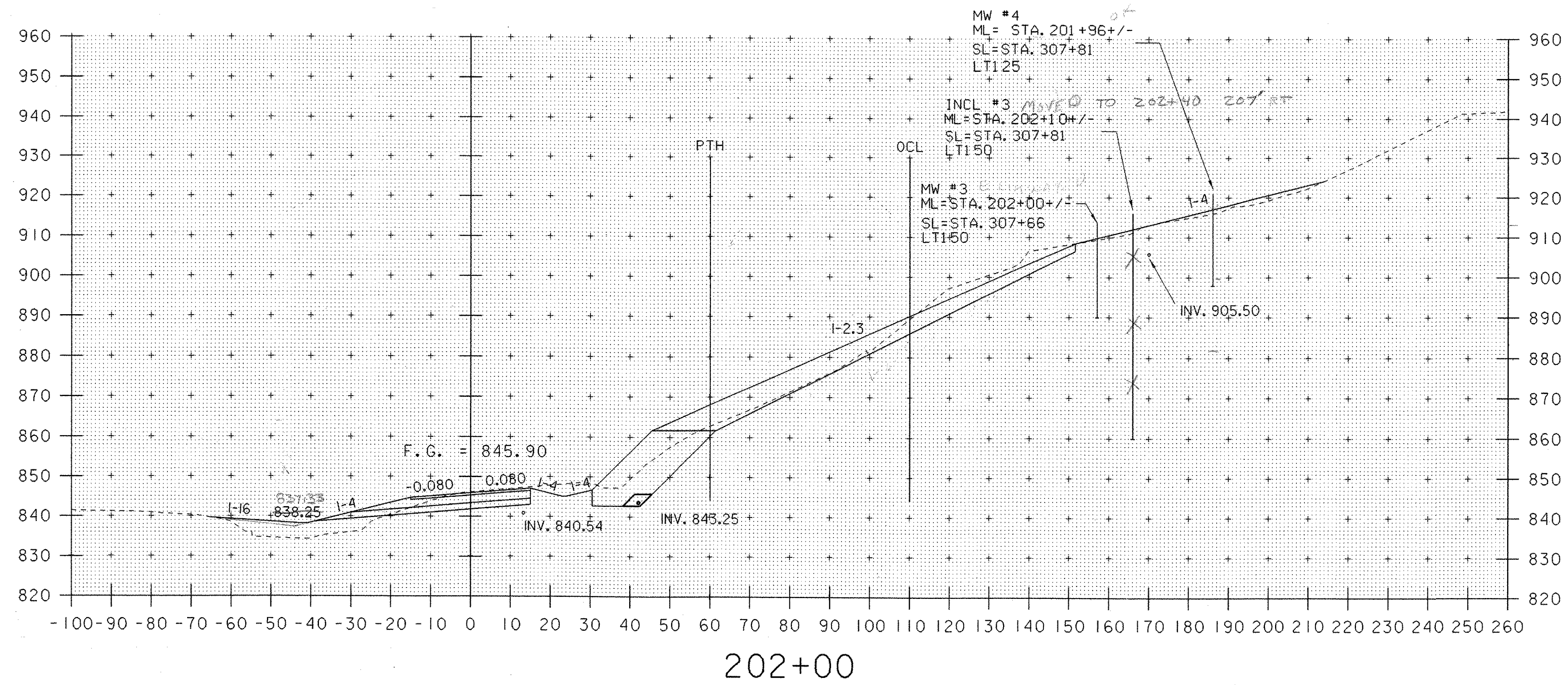
$\frac{69}{0.16} = 431.25 \text{ FT}^2$



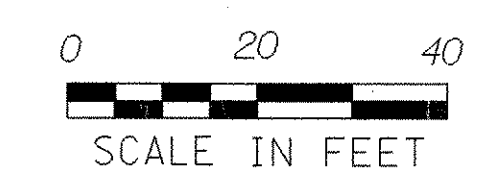
STA. 201+40 TO STA. 201+60

PROJECT NAME: HARDWICK	PLLOT DATE: 20-NOV-2006
PROJECT NUMBER: STP ST 030-3(4)	DRAWN BY: M. NUTTER
FILE NAME: d04e060xslx.dgn	CHECKED BY: A. BOMBARDIER
DESIGNED BY: M. NUTTER	SHEET 46 A OF 63
IPARM NAME: d060xsl4.l	

SEE FINAL SECTIONS PLOT DATE 11-20-06.

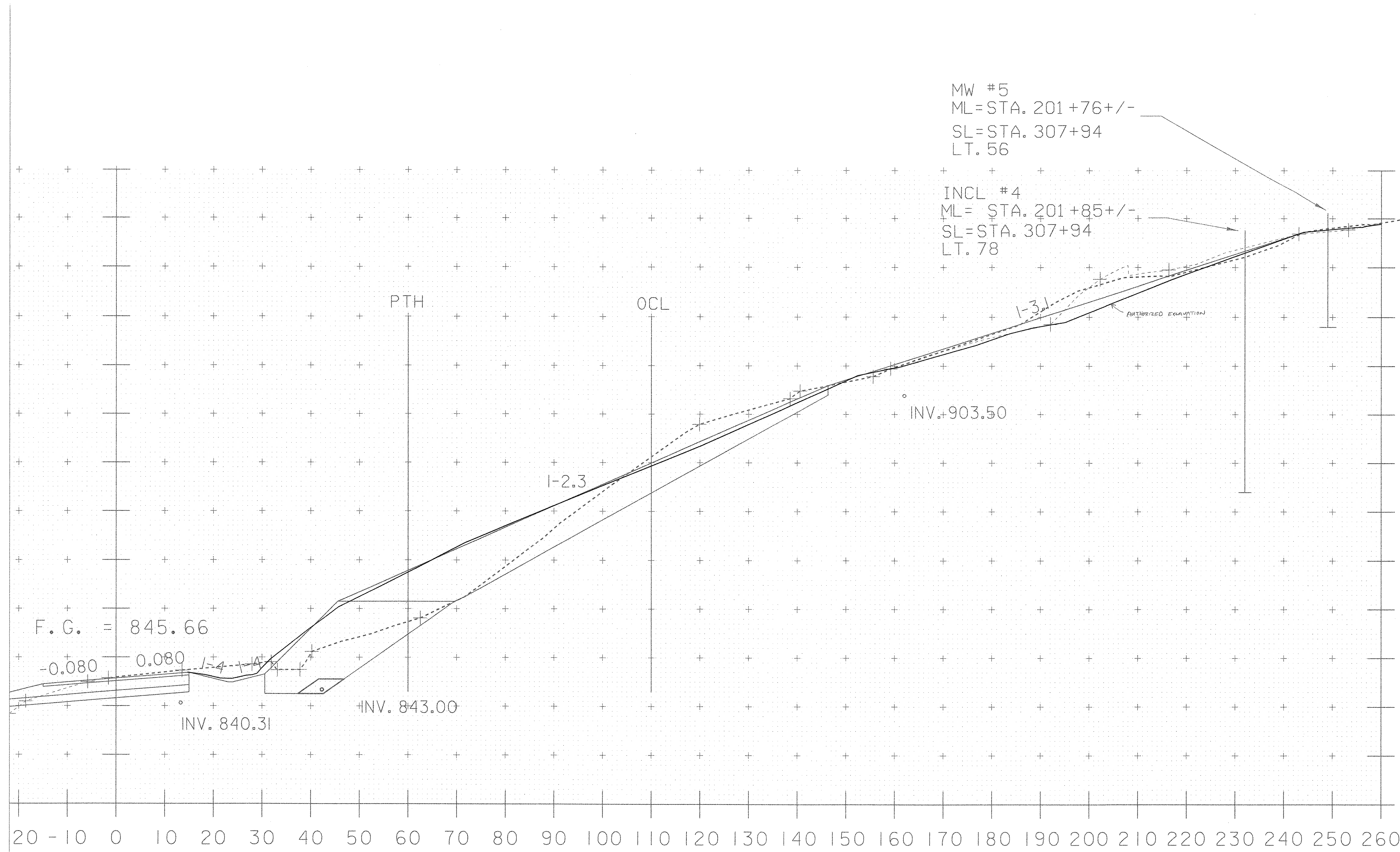


Muck (C1)
 17 00 8.5
 16 00 8.25 / 0.16 = 51.56 FT²
 2.3
 KRM 1-10-07



STA. 201+80 TO STA. 202+00

PROJECT NAME: HARDWICK	PLOT DATE: 18-OCT-2005
PROJECT NUMBER: STP ST 030-3(4)	DRAWN BY: M. NUTTER
FILE NAME: d04e060xslx.dgn	CHECKED BY: A. BOMBARDIER
PROJECT LEADER: A. BOMBARDIER	SHEET 47 OF 63
DESIGNED BY: M. NUTTER	
IPARM NAME: de060xsl5.l	



MW #5
 ML=STA. 201+76+/-
 SL=STA. 307+94
 LT. 56

INCL #4
 ML= STA. 201+85+/-
 SL=STA. 307+94
 LT. 78

UPDATED
 GROUND SURVEY
 MAY 2006

COMMON KRM 12-18-00
 USED FOR COMMON
 MAINLINE 110' LT TO THE PTH @ 60' RT

219			
437	218.5		
219	220	$\frac{219.25}{0.64} = 342.58 \text{ FT}^2$	
440			

PTH @ 60' RT TO 260' RT
 BROKE INTO TWO PARTS
 (PTH @ 60' RT TO 150' RT)

255			
508	254		
253	253.5	$\frac{253.25}{0.64} = 396.48 \text{ FT}^2$	
507			

(150' RT TO 260' RT)

97	96.5		
193	96.5	$\frac{96.5}{0.64} = 150.78 \text{ FT}^2$	
96	96.5		
193		$\frac{96.5}{0.64} = 150.78 \text{ FT}^2$	

STONE TYPE III KRM 12-18-00
 110' LT TO THE PTH @ 60' RT

215			
427	213.5		
214	213	$\frac{213.25}{0.64} = 333.20 \text{ FT}^2$	
426			

PTH @ 60' RT TO 260' RT

21	21		
42	21		
21	21	$\frac{21}{0.64} = 32.81 \text{ FT}^2$	
42			

STONE TYPE II KRM 12-18-00
 110' LT TO THE PTH @ 60' RT

25			
49	24.5		
24	25	$\frac{24.75}{0.64} = 38.67 \text{ FT}^2$	
50			

PTH @ 60' RT TO 260' RT

355			
711	355.5		
356	356	$\frac{356.00}{0.64} = 556.25 \text{ FT}^2$	
713	356.5		

F.G. = 845.66

-0.080 0.080

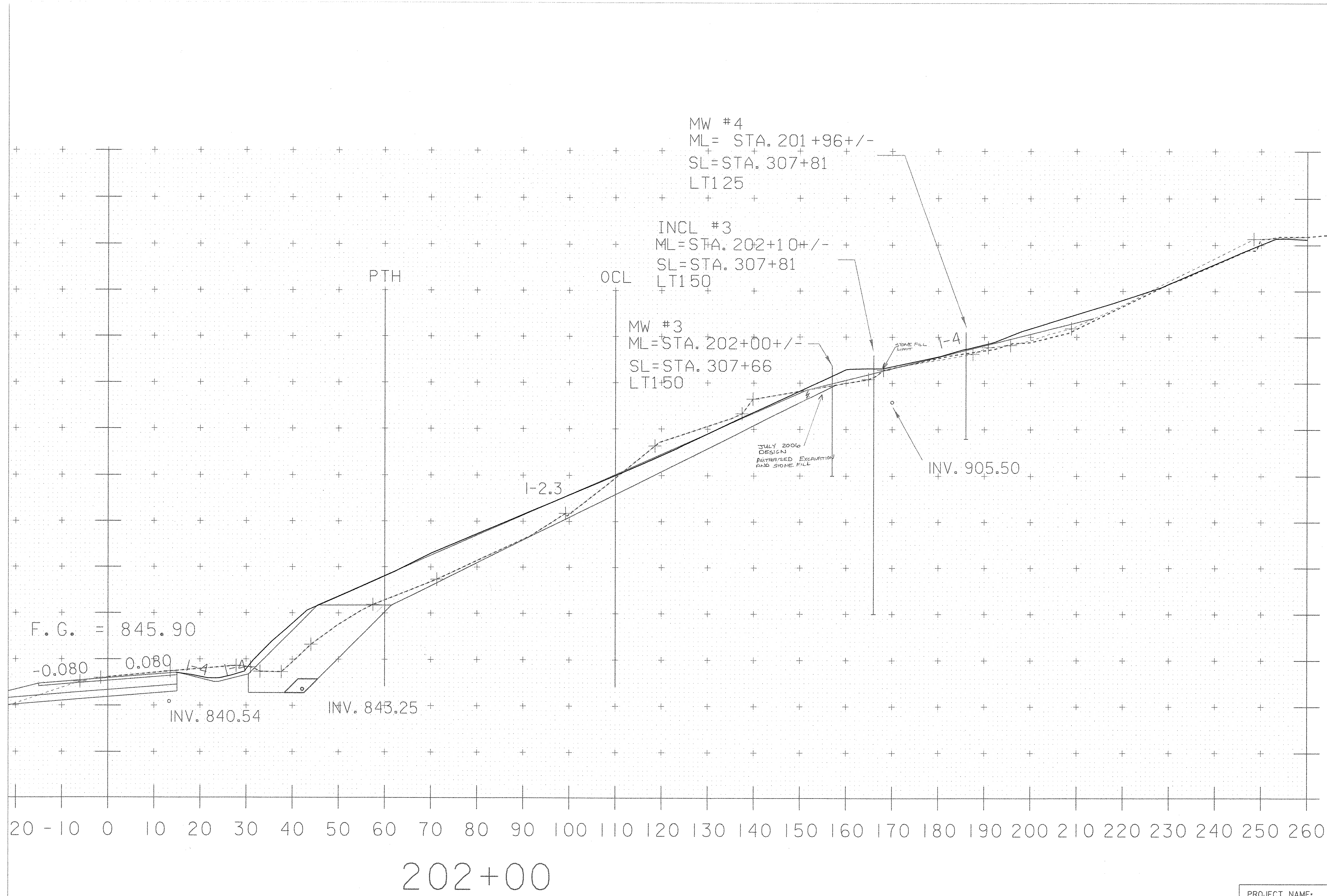
INV. 840.31

INV. 843.00

INV. +903.50

201+80

PROJECT NAME:	HARDWICK
PROJECT NUMBER:	STP ST 030-3(4)
FILE NAME:	d04e060xslx.dgn
PROJECT LEADER:	A. BOMBARDIER
DESIGNED BY:	M. NUTTER
IPARM NAME:	de060xsl5.1
PLOT DATE:	20-NOV-2006
DRAWN BY:	M. NUTTER
CHECKED BY:	A. BOMBARDIER
SHEET	47A OF 63



UPDATED
GROUND SURVEY
MAY 2006
USED FOR COMMON

COMMON EXCAVATION KRM 12-18-06
 MAINLINE 110' LT TO THE PTH @ 60' RT
 210 211
 422 $\frac{210.50}{0.64} = 328.91 \text{ FT}^2$
 212' 210
 420 $\frac{210}{0.64} = 328.125 \text{ FT}^2$
CU 12-19-07

PTH @ 60' RT TO 260' RT
 BROKE INTO TWO PARTS
 (PTH @ 60' RT TO 158' RT)
CU 12-07
 175' 174
 348 $\frac{174.25}{0.64} = 272.27 \text{ FT}^2$
 176 174.5
 349
 (158' RT TO 260' RT) +
 3'
 6 3 $\frac{3}{0.64} = 4.69 \text{ FT}^2$
 3 3
 6 3
 276.96 FT²

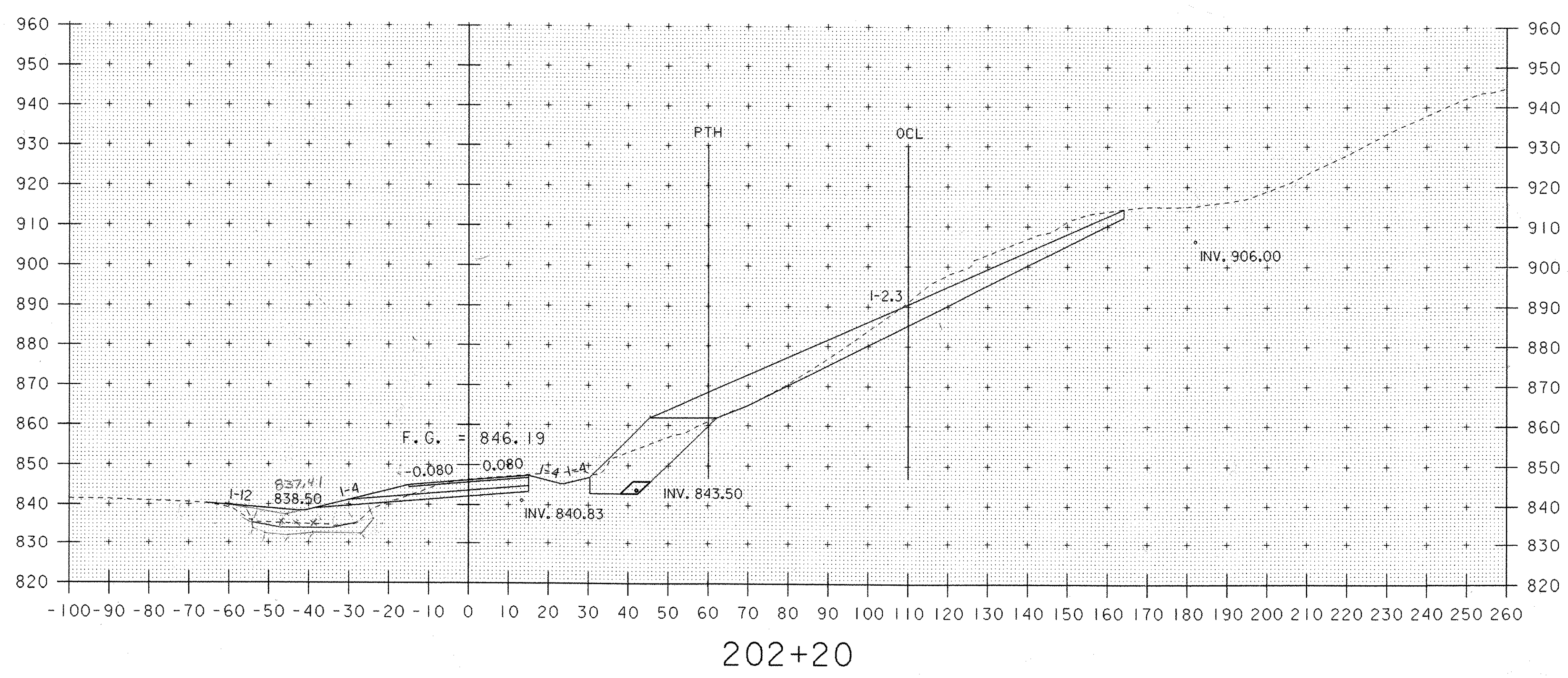
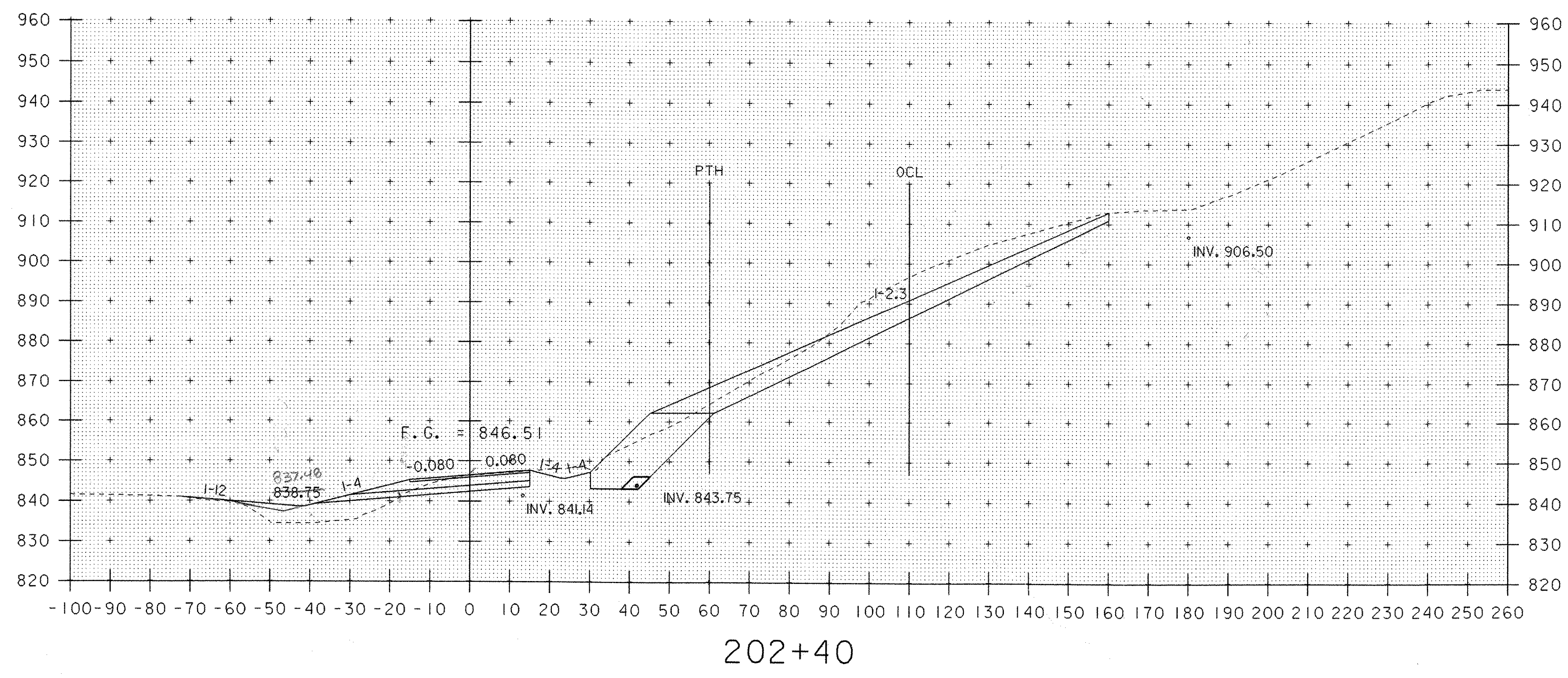
STONE FILL TYPE III KRM 12-19-06
CU 11-07
 110' LT TO PTH @ 60' RT
 202 202
 404 202
 202 202 $\frac{205}{0.64} = 315.63 \text{ FT}^2$
 404 202
 PTH @ 60' RT TO 260' RT
 SCALED
 $\frac{1}{2}(15' \times 15') = 1.13 \text{ FT}^2$

STONE FILL TYPE II KRM 12-19-06
CU 11-07
 110' LT TO PTH @ 60' RT
 30'
 61 30.5
 31 30.5 $\frac{30.5}{0.64} = 47.66 \text{ FT}^2$
 61 30.5
 PTH
 306 305
 610 305
 304' $\frac{304}{0.64} = 475.00 \text{ FT}^2$
 606 303

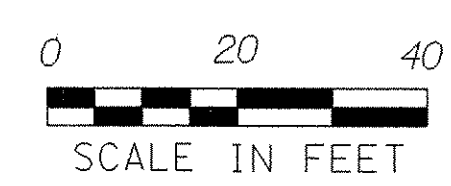
PROJECT NAME:	HARDWICK	FILE NAME:	d04e060xslx.dgn	PLOT DATE:	20-NOV-2006
PROJECT NUMBER:	STP ST 030-3(4)	DESIGNED BY:	M. NUTTER	CHECKED BY:	A. BOMBARDIER
		IPARM NAME:	de060xsl5.l	SHEET	47 B OF 63

3
5
5

SEE FINAL SECTIONS PLOT DATE 11-20-06.



Max 4.0
 9.5
 9.25 / 0.16 = 57.81 ft
 LJM
 HRM 1-10-05



STA. 202+20 TO STA. 202+40

PROJECT NAME: HARDWICK	PLOT DATE: 18-OCT-2005
PROJECT NUMBER: STP ST 030-3(4)	DRAWN BY: M. NUTTER
FILE NAME: d04e060xslx.dgn	CHECKED BY: A. BOMBARDIER
PROJECT LEADER: A. BOMBARDIER	SHEET 48 OF 63
DESIGNED BY: M. NUTTER	
IPARM NAME: de060xsl6.i	

GEOTEXTILE UNDER STONE FILL - ITEM 649.31
TO EXTEND TO UPPER LIMITS OF
STONE FILL TYPE II (MODIFIED)

ADDITIONAL
STONE FILL
TYPE II
239 SF

202+20 - 165.95'
N 729805.6945
E 1676421.0756

202+20 - 172.72'
N 729798.9283
E 1676421.3013

202+20 - 213.28'
N 729758.4876
E 1676422.6505

EARTH BORROW
ROUNDING

UPDATED
GROUND SURVEY
MAY 2006
USED FOR COMMON

COMMON KRM 12-22-06
MANLINE 110' LT TO PTH @ 60' RT
221 220.5
441 220.5
218 220
440 220
 $\frac{220.25}{0.164} = 344.14 \text{ FT}^2$

PTH @ 60' RT TO 200' RT
286 285
570 285
284 284
508 284
 $\frac{284.5}{0.164} = 444.53 \text{ FT}^2$

STONE FILL TYPE III KRM 12-22-06
MANLINE 110' LT TO PTH @ 60' RT
200 200.5
401 200.5
200 199.5
299 199.5
 $\frac{200}{0.164} = 312.50 \text{ FT}^2$

PTH @ 60' RT TO 200' RT
SCALED
 $\frac{1}{2}(2' \times 2') = 2.00 \text{ FT}^2$

STONE FILL TYPE II KRM 12-22-06
MANLINE 110' LT TO PTH @ 60' RT
32 32
64 32
32 32
64 32
 $\frac{32}{0.164} = 50.00 \text{ FT}^2$

PTH @ 60' RT TO 260' RT
648 648.5
1297 648.5
650 648.5
1297 648.5
 $\frac{648.5}{0.164} = 1013.28 \text{ FT}^2$

ADDITIONAL
STONE FILL
TYPE II
366 SF

INV. 906.00

175"
OFFSET
LINE

STONE FILL TYPE II (MODIFIED) - C.O. #
TRANSITION FROM
202+10 (ORIGINAL DESIGN)
TO 202+20 (JULY 2006 DESIGN)

PTH

OCL

1-2.3

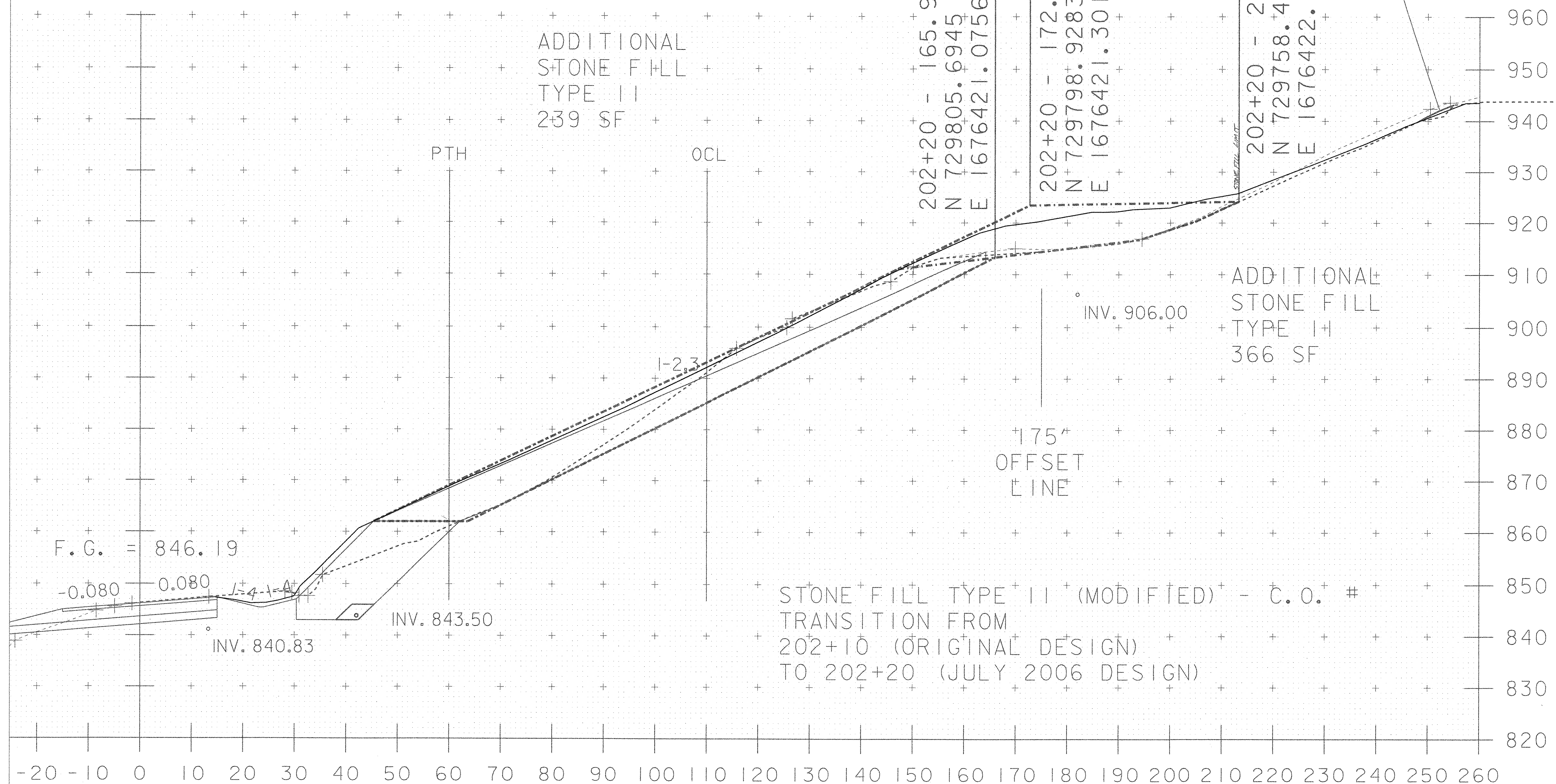
F.G. = 846.19

-0.080 0.080

1-4 1-4

INV. 840.83

INV. 843.50



202+20

PROJECT NAME:	HARDWICK	FILE NAME:	d04e060xslx.dgn	PLOT DATE:	20-NOV-2006
PROJECT NUMBER:	STP ST 030-3(4)	PROJECT LEADER:	A. BOMBARDIER	DRAWN BY:	M. NUTTER
		DESIGNED BY:	M. NUTTER	CHECKED BY:	A. BOMBARDIER
		IPARM NAME:	de060xsl5.1	SHEET	48 A OF 63

GEOTEXTILE UNDER STONE FILL - ITEM 649.31
TO EXTEND TO UPPER LIMITS OF
STONE FILL TYPE II (MODIFIED)

ADDITIONAL
STONE FILL
TYPE II
262 SF

202+40 - 164.74'
N 729808.3705
E 1676447.9007

202+40 - 169.89'
N 729803.1828
E 1676448.2920

202+40 - 205.08
N 729768.1447
E 1676450.9346

EARTH BORROW
ROUNDING

UPDATED
GROUND SURVEY
MAY 2006
USED FOR COMMON

COMMON KRM 12-22-06
MAINLINE 110' LT TO PTH @ 60' RT
231 230
460 229 $\frac{229.5}{0.64} = 358.59 \text{ FT}^2$
458

PTH @ 60' RT TO 260' RT
(BROKE INTO TWO PARTS)
(PTH @ 60' RT TO 165' RT)
450 449 $\frac{450.5}{0.64} = 703.91 \text{ FT}^2$
898 452
453 904

(165' RT TO 260' RT)
9 8.5
10 9 $\frac{8.75}{0.64} = 136.7 \text{ FT}^2$
18
717.58 FT²
CJ 11-2-07

STONE FILL TYPE III KRM 12-22-06
MAINLINE 110' LT TO PTH @ 60' RT
197 196
392 196 $\frac{196.5}{0.64} = 307.03 \text{ FT}^2$
198 197

PTH @ 60' RT TO 260' RT
 $\frac{1}{2}(1.5' \times 1.3') = 0.98 \text{ FT}^2$

STONE FILL TYPE II KRM 12-22-06
MAINLINE 110' LT TO PTH @ 60' RT
36 36
72 36 $\frac{35.75}{0.64} = 55.86 \text{ FT}^2$
35 35.5
71

PTH @ 60' RT TO 260' RT
649 649.5
1299 649.5 $\frac{649.25}{0.64} = 1014.45 \text{ FT}^2$
652 649
1298

ADDITIONAL
STONE FILL
TYPE II
304 SF

INV. 906.50

175'
OFFSET
LINE

PTH

OCL

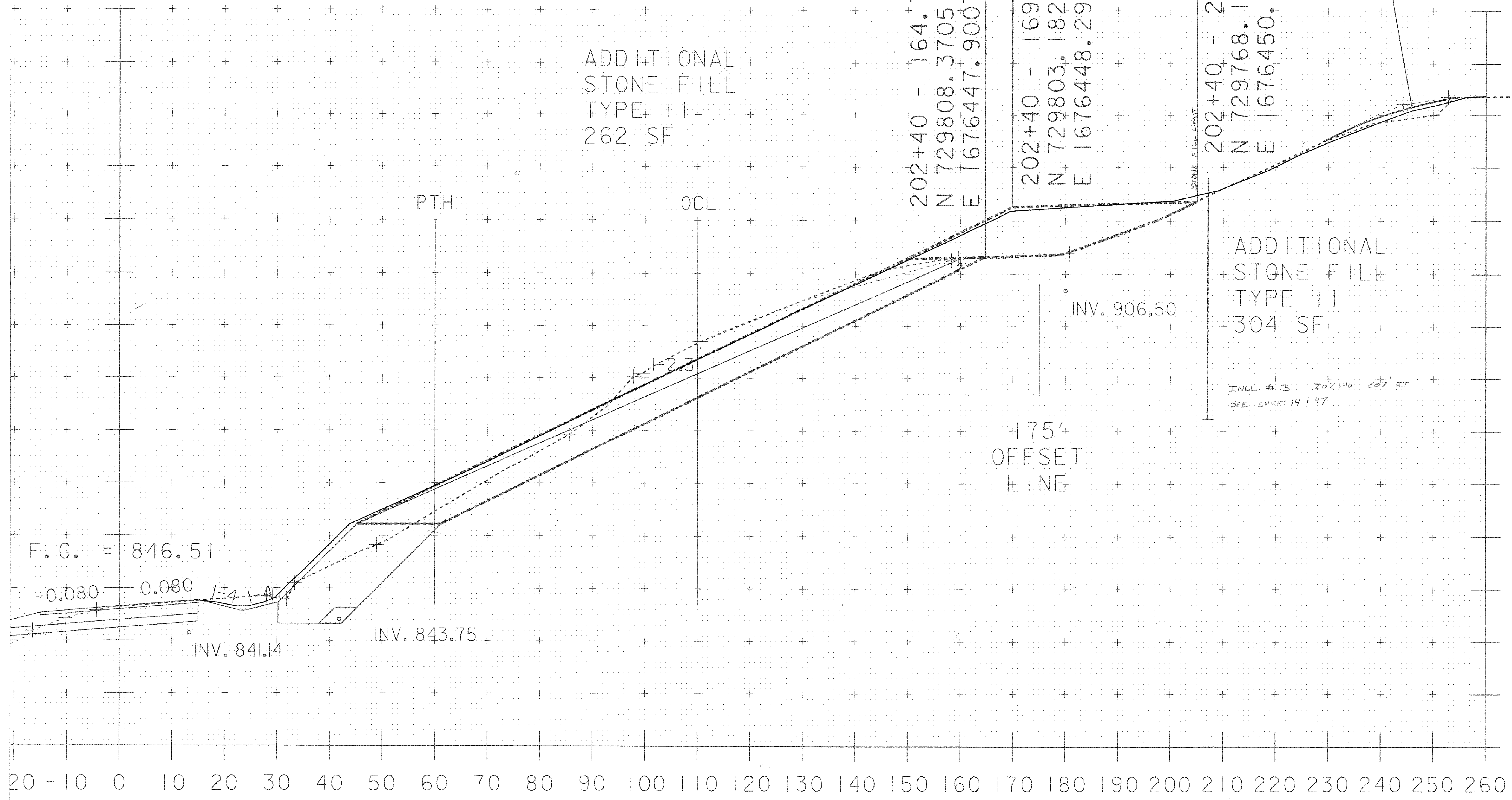
F.G. = 846.51

-0.080 0.080

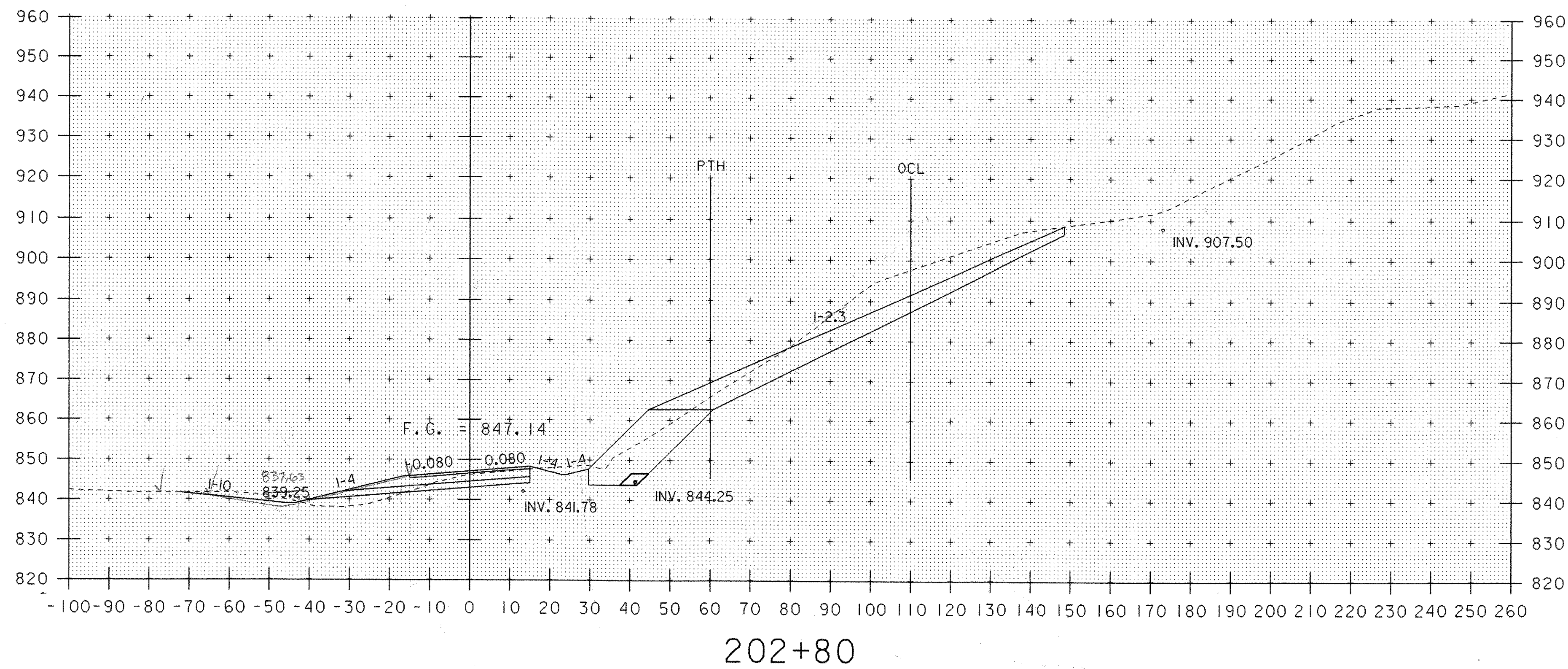
INV. 841.14

INV. 843.75

202+40

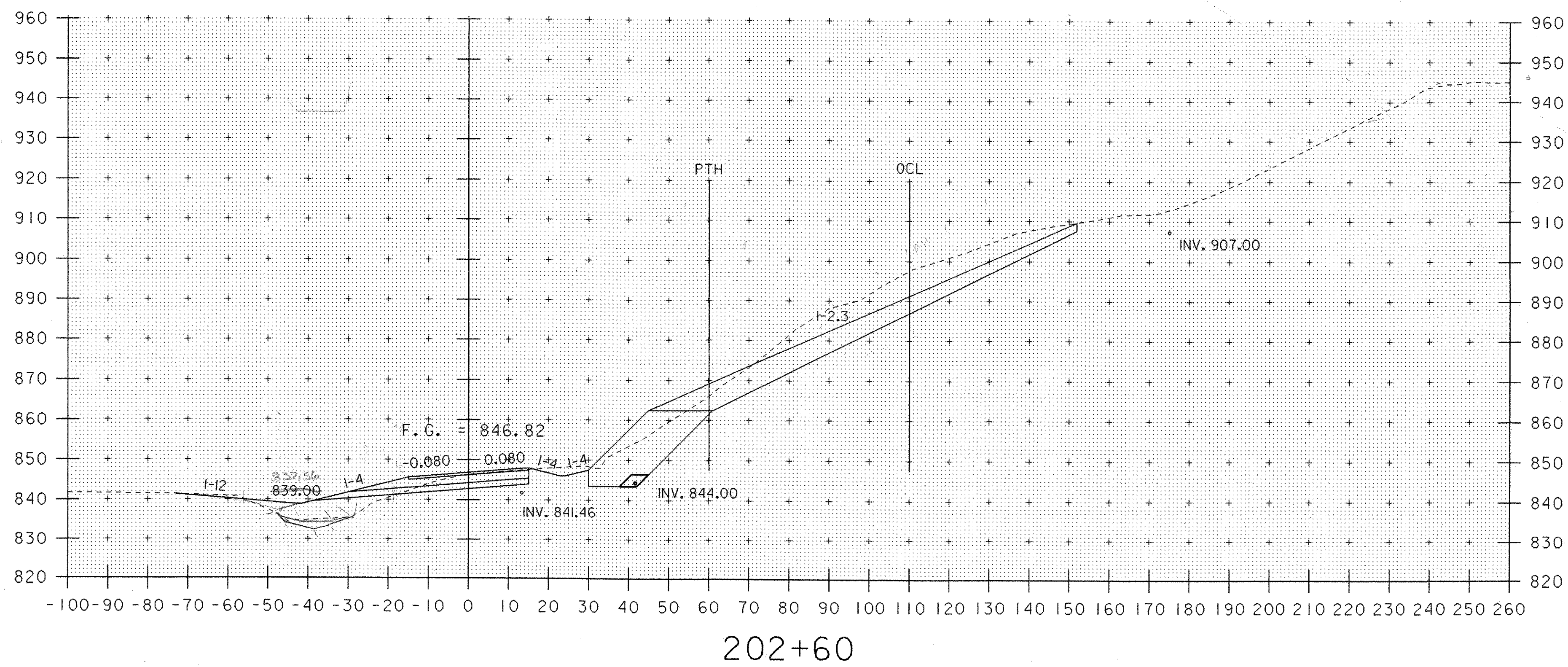


PROJECT NAME:	HARDWICK	PLOT DATE:	20-NOV-2006
PROJECT NUMBER:	STP ST 030-3(4)	DESIGNED BY:	M. NUTTER
FILE NAME:	d04e060xslx.dgn	CHECKED BY:	A. BOMBARDIER
DESIGNED BY:	M. NUTTER	SHEET	4B OF 63
IPARM NAME:	d060xsl5.1		



SEE FINAL SECTIONS PLOT DATE 11-20-06
 FOR COMMON, STONE FILL III & III,
 COMMON AREA FOR 42' LT TO 70' LT KRM 12-27-06

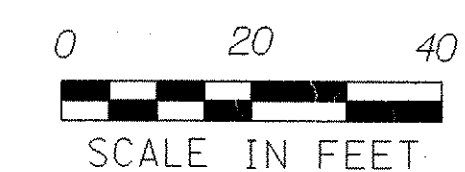
8	7.5
15	
8	$\frac{7.75}{0.16} = 48.44 \text{ FT}^2$
16	



Much 3
 325 / 0.16 = 2031 FT²

SEE FINAL SECTIONS PLOT DATE 11-20-06
 FOR COMMON, STONE FILL III & III,
 COMMON AREA FOR 58' LT TO 72' LT KRM 12-27-06

1	1	$\frac{1}{0.16} = 6.25 \text{ FT}^2$
2	1	
1	1	
2		



STA. 202+60 TO STA. 202+80

PROJECT NAME: HARDWICK	PLOT DATE: 18-OCT-2005
PROJECT NUMBER: STP ST 030-3(4)	DRAWN BY: M. NUTTER
FILE NAME: d04e060xslx.dgn	CHECKED BY: A. BOMBARDIER
PROJECT LEADER: A. BOMBARDIER	SHEET 49 OF 63
DESIGNED BY: M. NUTTER	
IPARM NAME: de060xsl7.1	

STONE FILL TYPE II (MODIFIED) - C.O. #
 TRANSITION FROM
 202+65 (JULY 2006 DESIGN)
 TO 202+75 (ORIGINAL DESIGN)

ADDITIONAL
 STONE FILL
 TYPE I
 244 SF

202+60 - 157.39'
 N 729818.2555
 E 1676473.8221

202+60 - 162.97'
 N 729812.6617
 E 1676474.4807

202+60 - 196.82'
 N 729779.0960
 E 1676478.4330

EARTH BORROW
 ROUNDING

UPDATED
 GROUND SURVEY
 MAY 2006
 USED FOR COMMON

COMMON KRM 12-27-06
 110' LT TO PTH @ 60' RT
 SEE PLAN SHEET 49 OF 63
 COMMON FOR 55' LT TO 72' LT 6.25 FT

PTH @ 60' RT TO 260' RT
 218 217.5
 435 218.25
 218 219
 428 219
 $\frac{218.25}{0.64} = 341.02 \text{ FT}^2$
 $\frac{341.02}{\sqrt{2}} = 241.26 \text{ FT}$
 $\frac{347.27}{\sqrt{2}} = 245.12 \text{ FT}$

PTH @ 60' RT TO 260' RT
 496 494.5
 989 495.5
 498 496.5
 993 496.5
 $\frac{495.5}{0.64} = 774.22 \text{ FT}^2$
 $\frac{774.22}{\sqrt{2}} = 547.27 \text{ FT}$

STONE FILL TYPE III KRM 12-27-06
 110' LT TO PTH @ 60' RT
 207 206
 412 206
 206 204.5
 409 204.5
 $\frac{205.25}{0.64} = 320.70 \text{ FT}^2$

PTH @ 60' RT TO 260' RT
 1/2 (1' x 1') = 0.50 FT²

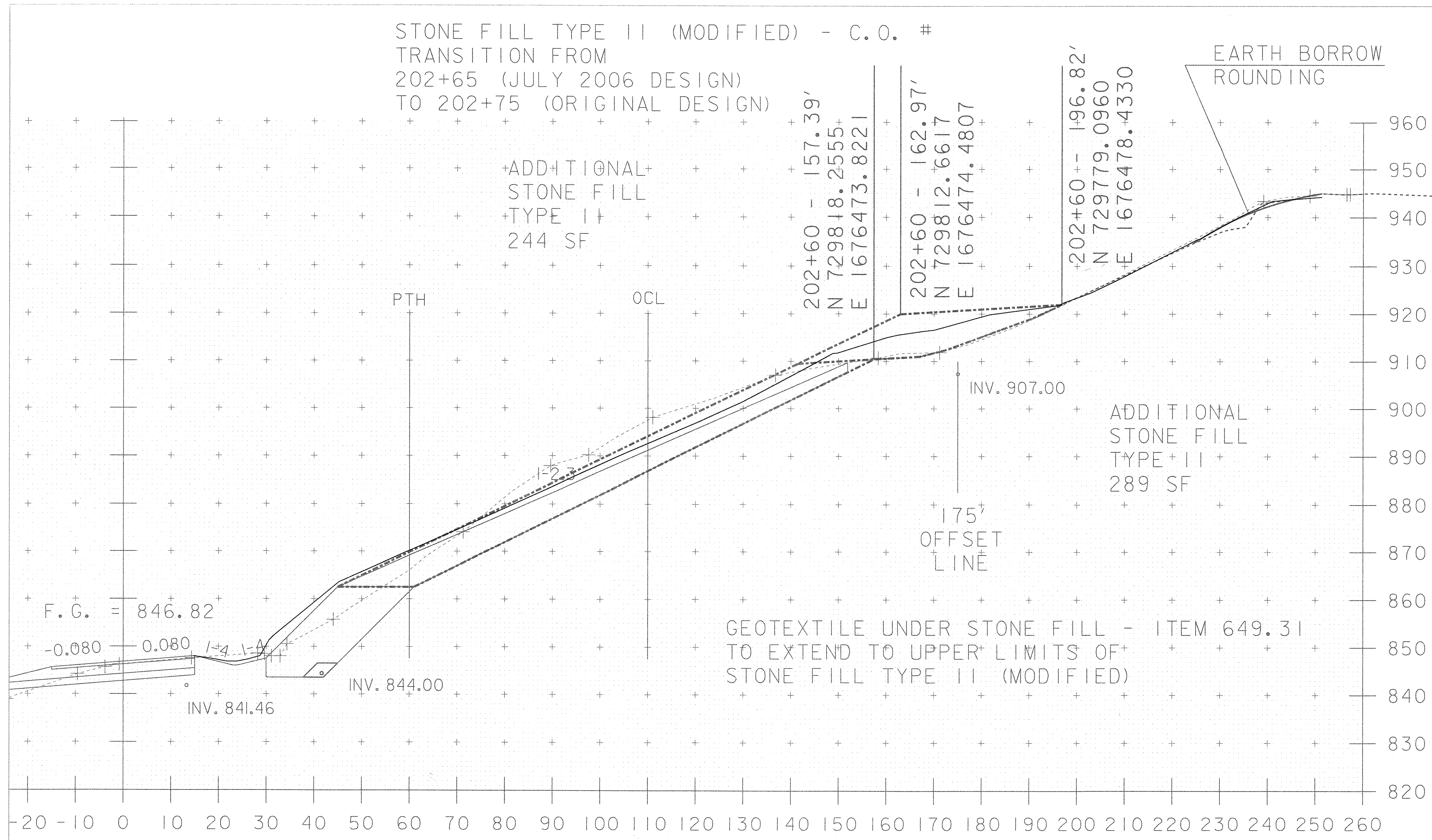
STONE FILL TYPE II KRM 12-27-06
 110' LT TO PTH @ 60' RT
 42 42
 84 42
 41 42
 84 42
 $\frac{42}{0.64} = 65.63 \text{ FT}^2$

PTH @ 60' RT TO 260' RT
 494 494
 988 494.5
 496 495
 990 495
 $\frac{494.5}{0.64} = 772.66 \text{ FT}^2$

ADDITIONAL
 STONE FILL
 TYPE II
 289 SF

175'
 OFFSET
 LINE

GEOTEXTILE UNDER STONE FILL - ITEM 649.31
 TO EXTEND TO UPPER LIMITS OF
 STONE FILL TYPE II (MODIFIED)



F.G. = 846.82

-0.080 0.080

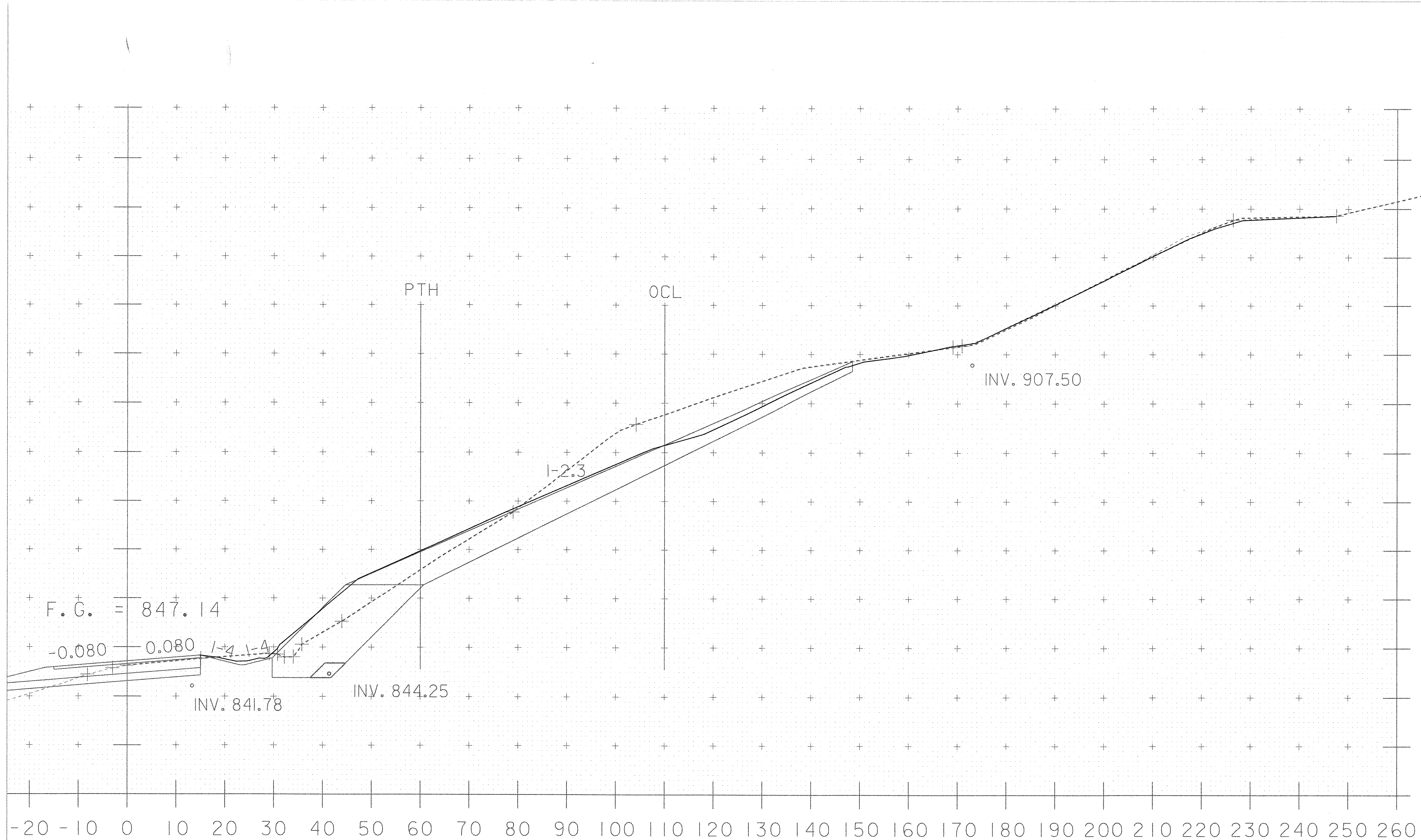
INV. 841.46

INV. 844.00

INV. 907.00

202+60

PROJECT NAME:	HARDWICK	FILE NAME:	d04e060xslx.dgn	PLOT DATE:	20-NOV-2006
PROJECT NUMBER:	STP ST 030-3(4)	PROJECT LEADER:	A. BOMBARDIER	DRAWN BY:	M. NUTTER
		DESIGNED BY:	M. NUTTER	CHECKED BY:	A. BOMBARDIER
		IPARM NAME:	de060xsl5.1	SHEET	49A OF 63



202+80

UPDATED
GROUND SURVEY
MAY 2006

USED FOR COMMON

COMMON KRM 12-27-06
MAINLINE 110' LT TO PTH @ 60' RT
SEE PLAN SHEET 49 OF 63
COMMON 42' LT TO 70' LT 48.44 FT²

COMMON 20' LT TO PTH @ 60' RT

188	189	
378	189	$\frac{188.5}{0.64} = 294.53 \text{ FT}^2$
187	188	
376	188	342.97 FT^2

PTH @ 60' RT TO 260' RT

429	429.5	
859	429.5	
428	430	$\frac{429.75}{0.64} = 671.48 \text{ FT}^2$
860	430	$160 \cdot 1.2 = 192$

STONE FILL TYPE III KRM 12-27-06
(3) 1-4-07
MAINLINE 110' LT TO PTH @ 60' RT

186	186	
372	186	
186	185	$\frac{185.5}{0.64} = 289.84 \text{ FT}^2$
370	185	

PTH @ 60' RT TO 260' RT
SCALED
 $\frac{1}{2} (0.7' \times 0.7') = 0.25 \text{ FT}^2$

STONE FILL TYPE III KRM 12-27-06
(3) 1-4-07
MAINLINE 110' LT TO PTH @ 60' RT

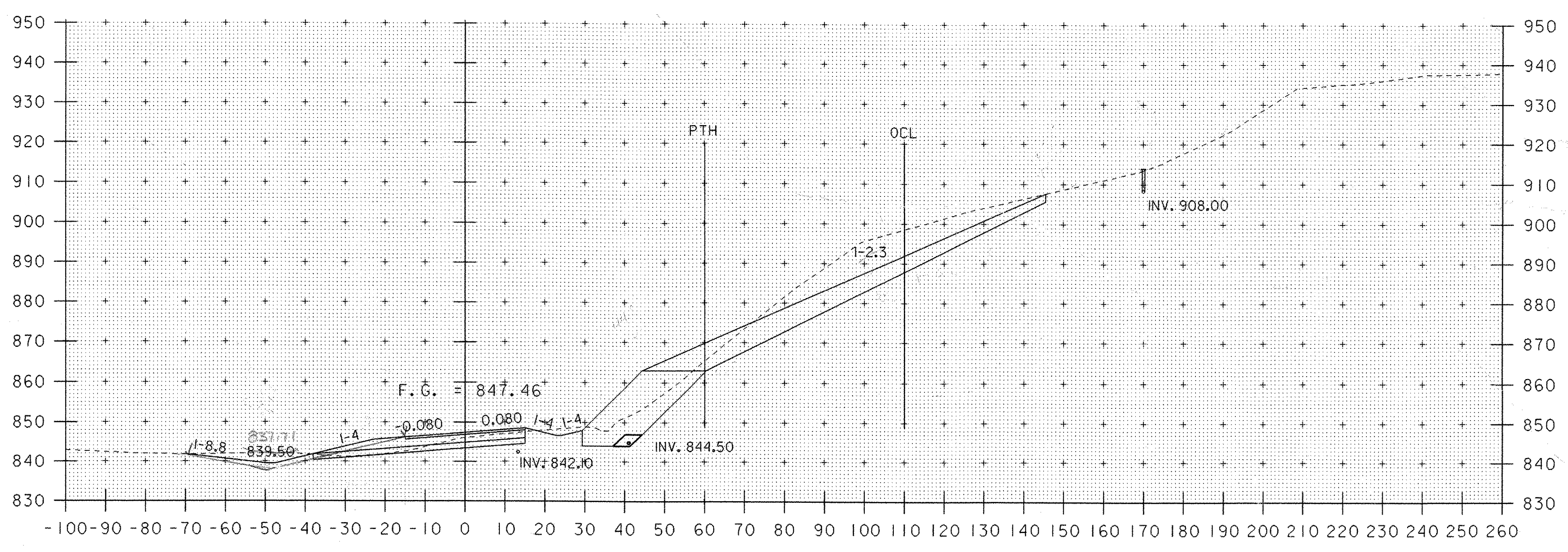
34	34	
68	34	
34	34	$\frac{34}{0.64} = 53.13 \text{ FT}^2$
68	34	

PTH @ 60' RT TO 260' RT

254	259	
508	259	
255	259	$\frac{254.25}{0.64} = 397.26 \text{ FT}^2$
509	259	

PROJECT NAME:	HARDWICK
PROJECT NUMBER:	STP ST 030-3(4)
FILE NAME:	d04e060xslx.dgn
PROJECT LEADER:	A. BOMBARDIER
DESIGNED BY:	M. NUTTER
IPARM NAME:	de060xsl5.l
PLOT DATE:	20-NOV-2006
DRAWN BY:	M. NUTTER
CHECKED BY:	A. BOMBARDIER
SHEET	49 IS OF 63

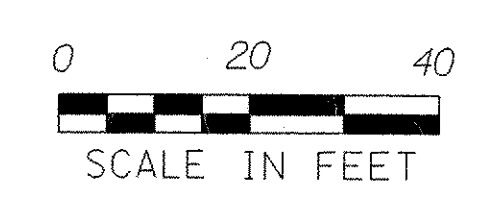
SEE FINAL SECTIONS PLOT DATE 11-20-06



SEE FINAL SECTIONS PLOT DATE 11-20-06 FOR COMMON, STONE FALL III & II
 PLANIMETERED AREAS,
 COMMON AREA FOR 20' LT TO 70' LT. Rem 12-27-06
 CJJ 12-07

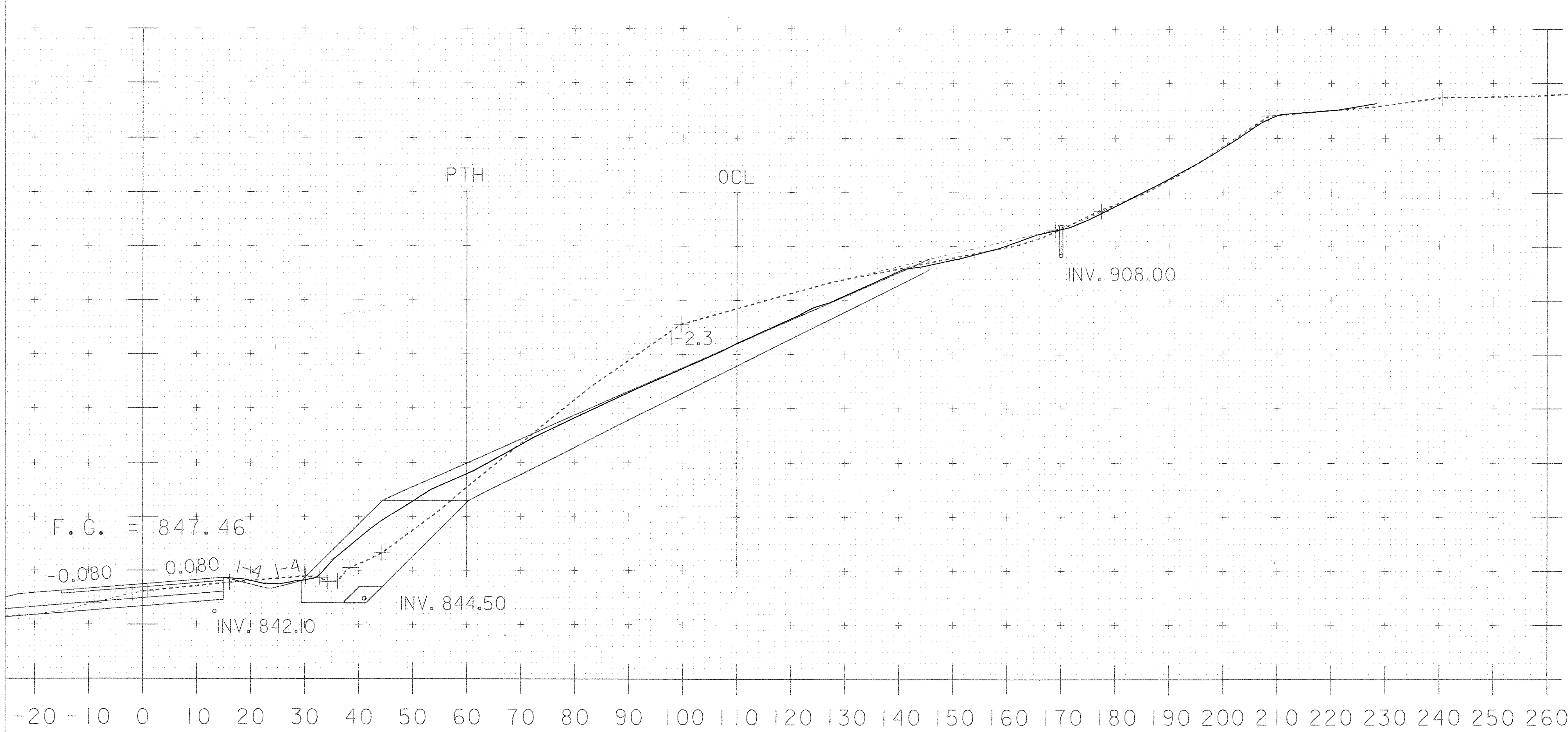
11	
20	10
10	$\frac{10}{0.16} = 62.50 \text{ FT}^2$
20	10

203+00



STA. 203+00 TO STA. 203+00

PROJECT NAME: HARDWICK	
PROJECT NUMBER: STP ST 030-3(4)	
FILE NAME: d04e060xslx.dgn	PLOT DATE: 18-OCT-2005
PROJECT LEADER: A. BOMBARDIER	DRAWN BY: M. NUTTER
DESIGNED BY: M. NUTTER	CHECKED BY: A. BOMBARDIER
IPARM NAME: de060xsl8.1	SHEET 50 OF 63



203+00

UPDATED
GROUND SURVEY
MAY 2006
USED FOR COMMON

COMMON KRM 12-27-06
MAINLINE 110' LT TO PTH @ 60' RT
SEE PLAN SHEET 50 OF 63
COMMON 20' LT - 70' LT 621.50 FT²
20' LT TO PTH @ 60' RT
151 150
300 150
148 149.5 $\frac{149.75}{0.64} = 233.98 \text{ FT}^2$
299 $\frac{299}{0.64} = 296.48 \text{ FT}^2$
CS 1-2-07

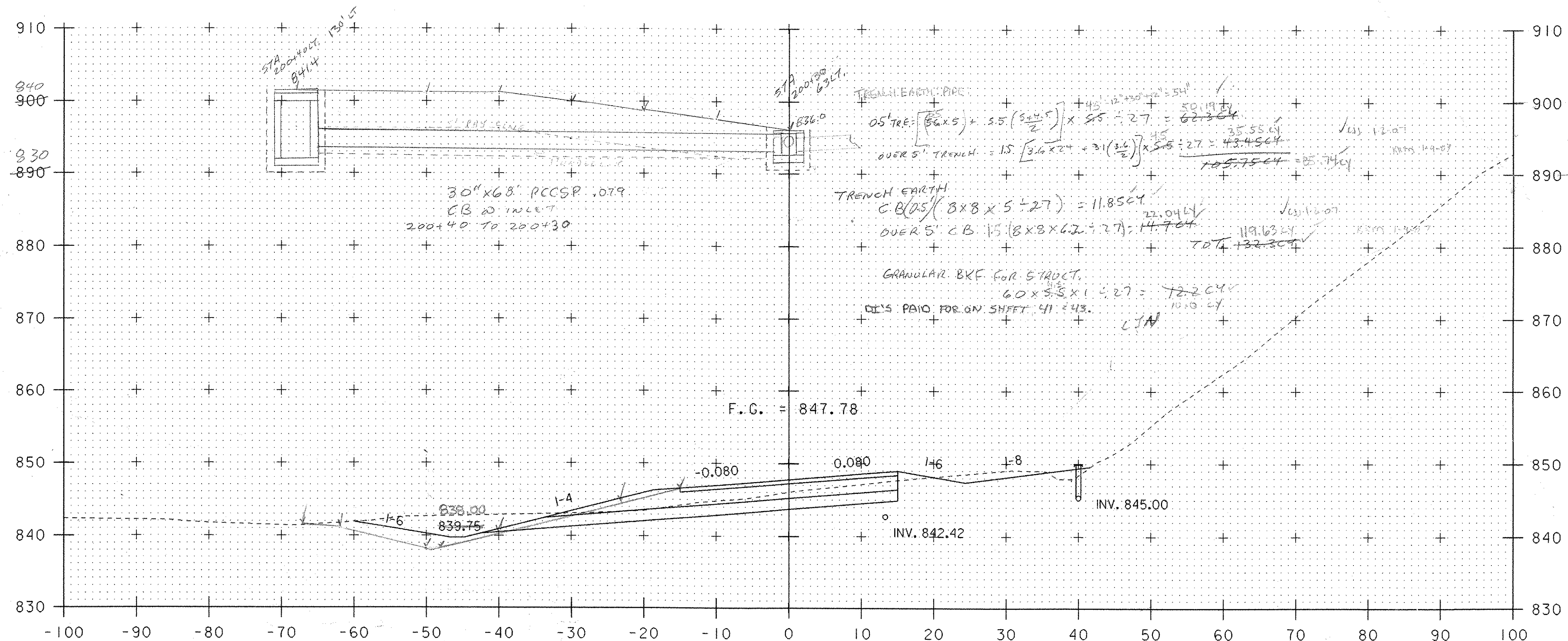
PTH 60' RT TO 260' RT
443 444.5
889 444.5 $\frac{443.25}{0.64} = 692.58 \text{ FT}^2$
440 442 $\frac{440}{0.64} = 687.5 \text{ FT}^2$
884 442

STONE FILL TYPE III KRM 12-27-06
CS 1-4-07
110' LT TO PTH @ 60' RT
157 157
314 157
156 156 $\frac{156.5}{0.64} = 244.53 \text{ FT}^2$
312 156

STONE FILL TYPE II KRM 12-27-06
CS 1-4-07
110' LT TO PTH @ 60' RT
18 18
36 18
18 18 $\frac{18}{0.64} = 28.13 \text{ FT}^2$
36 18

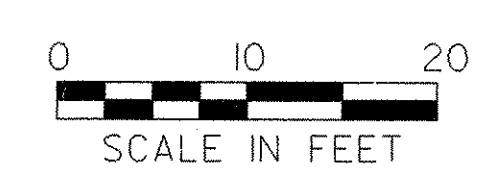
PTH @ 60' RT TO 260' RT
241 239.5
479 239.5 $\frac{239.5}{0.64} = 374.22 \text{ FT}^2$
239 239.5
479 239.5

PROJECT NAME:	HARDWICK	FILE NAME:	d04e060xslx.dgn	PLOT DATE:	20-NOV-2006
PROJECT NUMBER:	STP ST 030-3(4)	DESIGNED BY:	M. NUTTER	CHECKED BY:	A. BOMBARDIER
		IPARM NAME:	de060xsl5.1	SHEET	50 A OF 63



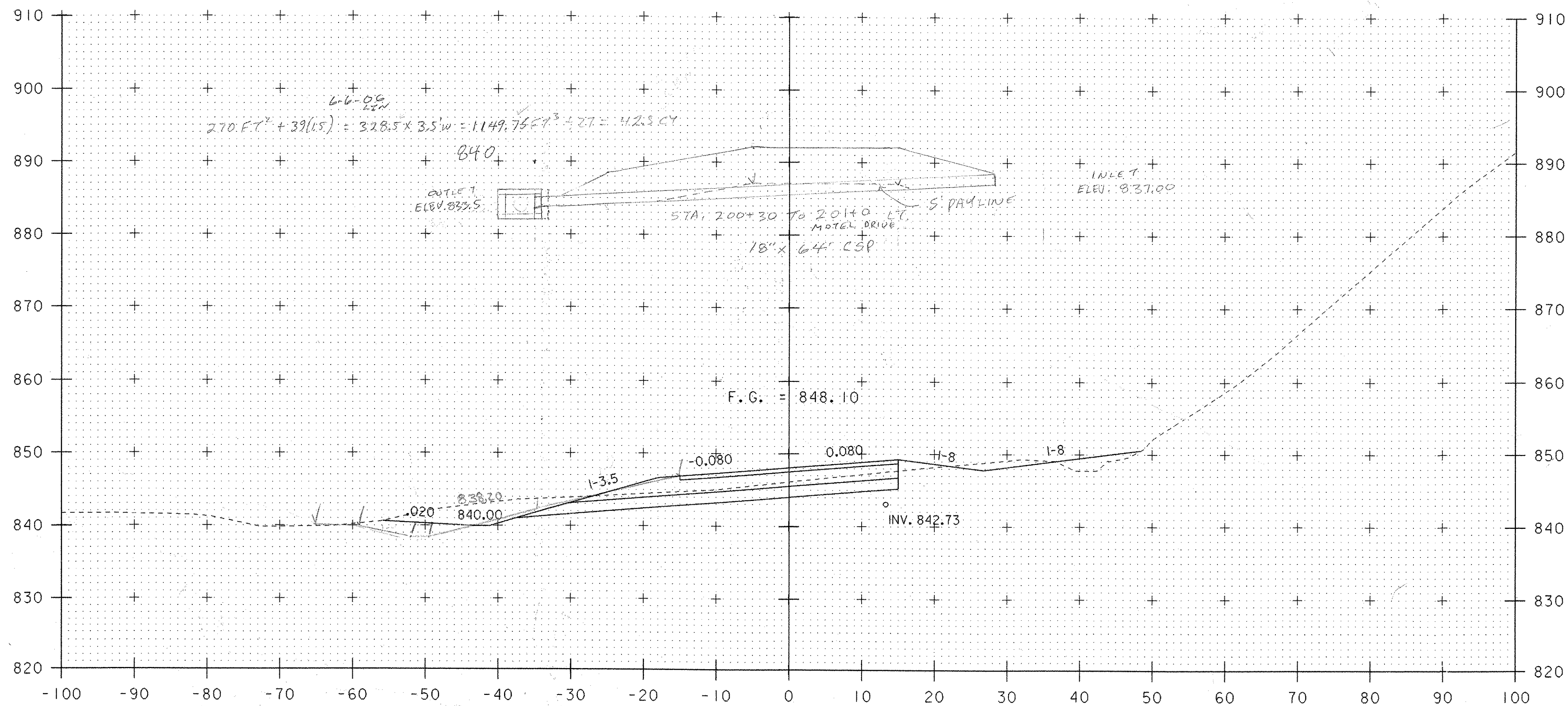
203+20

Common KRM 12-27-06
 132 131
 262
 $\frac{131}{0.104} = 204.69 \text{ FT}$
 131 131
 262
 Common KRM 12-28-06
 PTH @ 60' RT TO 260' RT
 STONE FILL TYPE II / III KRM 1-3-07
 SEE PLAN SHEET 14 OF 63



PROJECT NAME: HARDWICK	PLOT DATE: 18-OCT-2005
PROJECT NUMBER: STP ST 030-3(4)	DRAWN BY: M. NUTTER
FILE NAME: d04e060xslx.dgn	CHECKED BY: A. BOMBARDIER
DESIGNED BY: M. NUTTER	SHEET 51 OF 63
IPARM NAME: de060xsl9.1	

STA. 203+20 TO STA. 203+20



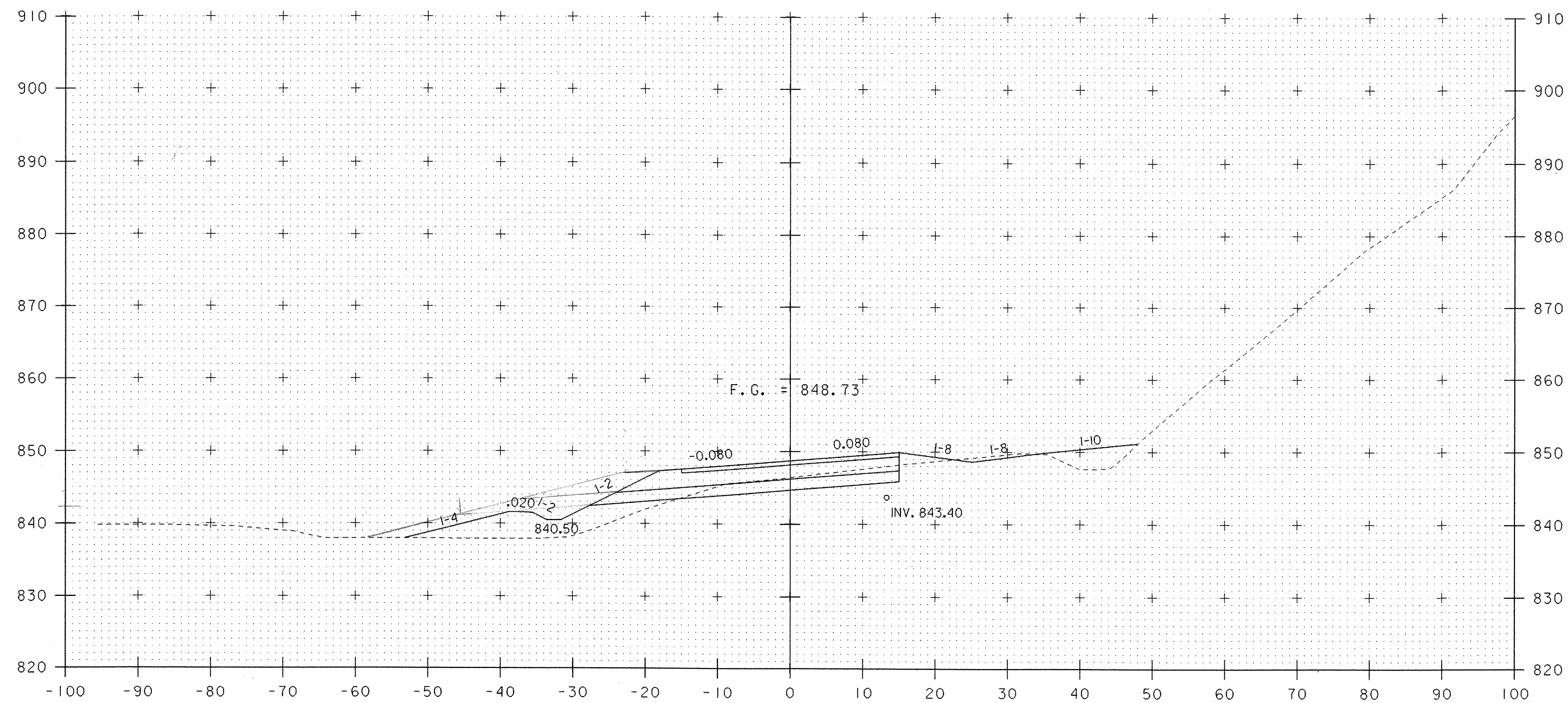
203+40

Common KRM 12-27-06
 WJ 1-2-07
 122 120
 240
 118 $\frac{119}{0.64} = 185.94 \text{ FT}^2$
 236 118



PROJECT NAME: HARDWICK	
PROJECT NUMBER: STP ST 030-3(4)	
FILE NAME: d04e060xslx.dgn	PLOT DATE: 18-OCT-2005
PROJECT LEADER: A. BOMBARDIER	DRAWN BY: M. NUTTER
DESIGNED BY: M. NUTTER	CHECKED BY: A. BOMBARDIER
IPARM NAME: de060xs20.1	SHEET 52 OF 63

STA. 203+40 TO STA. 203+40



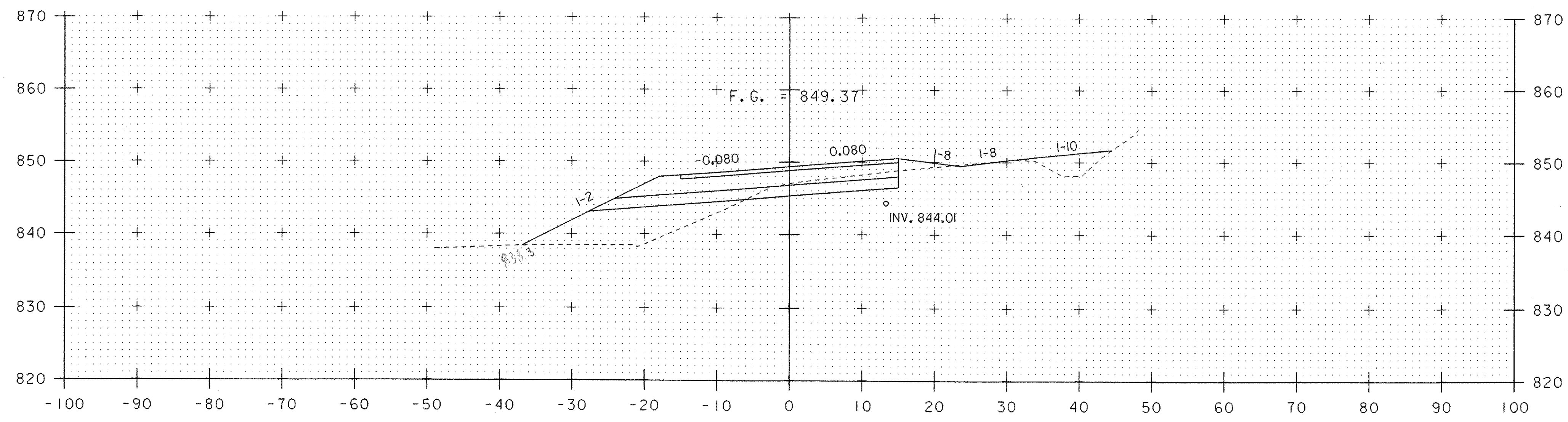
203+80

Common Rem 12-28-06
 35 35 W 1-2-07
 70 35
 36 35 $\frac{35}{0.69} = 54.69 \text{ FT}^2$
 70 35

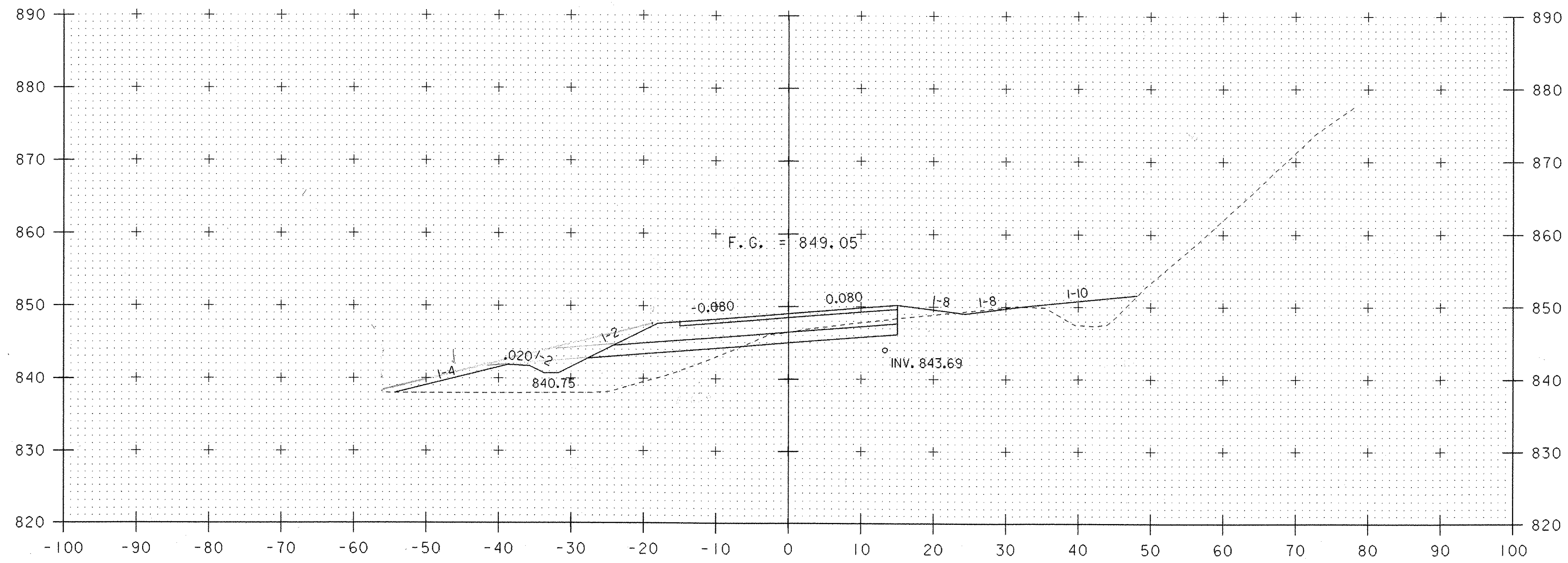


STA. 203+80 TO STA. 203+80

PROJECT NAME: HARDWICK	PLOT DATE: 18-OCT-2005
PROJECT NUMBER: STP ST 030-3(4)	DRAWN BY: M. NUTTER
FILE NAME: d04e060xslx.dgn	CHECKED BY: A. BOMBARDIER
PROJECT LEADER: A. BOMBARDIER	SHEET 54 OF 63
DESIGNED BY: M. NUTTER	
IPARM NAME: de060xs22.i	



204+20



204+00

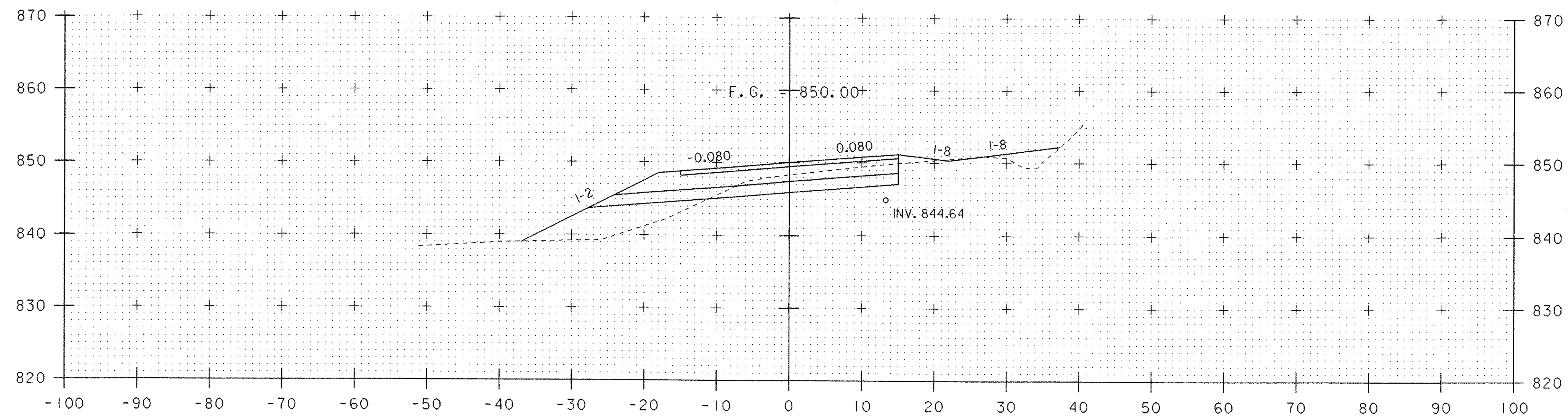
Common KRM 12-28-06
 24 25
 50
 23 24
 48
 $\frac{24.5}{0.64} = 38.28 \text{ FT}^2$

Common KRM 12-28-06
 23 24
 48
 24 24
 48
 $\frac{24}{0.64} = 37.50 \text{ FT}^2$



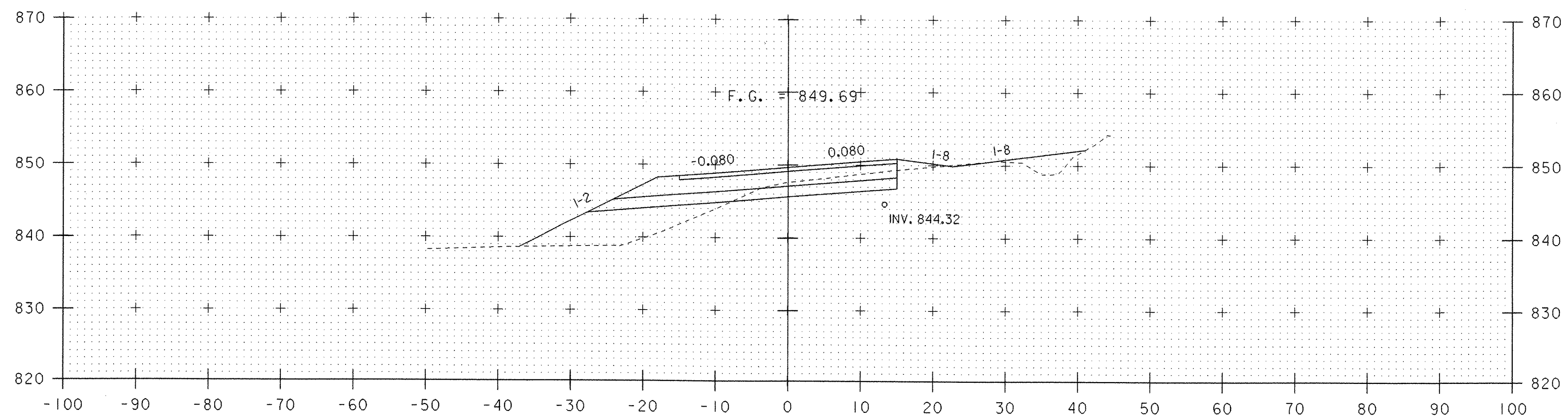
STA. 204+00 TO STA. 204+20

PROJECT NAME: HARDWICK	
PROJECT NUMBER: STP ST 030-3(4)	
FILE NAME: d04e060xslx.dgn	PLOT DATE: 18-OCT-2005
PROJECT LEADER: A. BOMBARDIER	DRAWN BY: M. NUTTER
DESIGNED BY: M. NUTTER	CHECKED BY: A. BOMBARDIER
IPARM NAME: de060xs23.j	SHEET 55 OF 63



204+60

COMMON KRM 12-28-00
 (3) 1-2-01
 38 38
 76 38
 $\frac{38}{0.64} = 59.38 \text{ FT}^2$
 38 38
 76 38



204+40

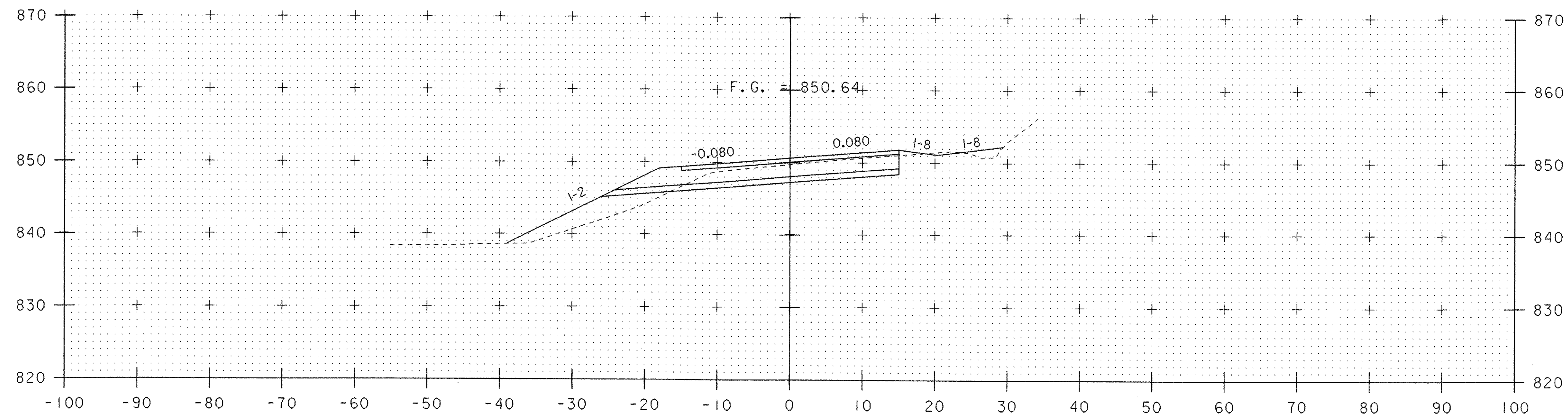
COMMON KRM 12-28-00
 (3) 12-29-06
 29 28.5
 57 28.5
 $\frac{28.75}{0.64} = 44.92 \text{ FT}^2$
 29 29
 58 29



SCALE IN FEET

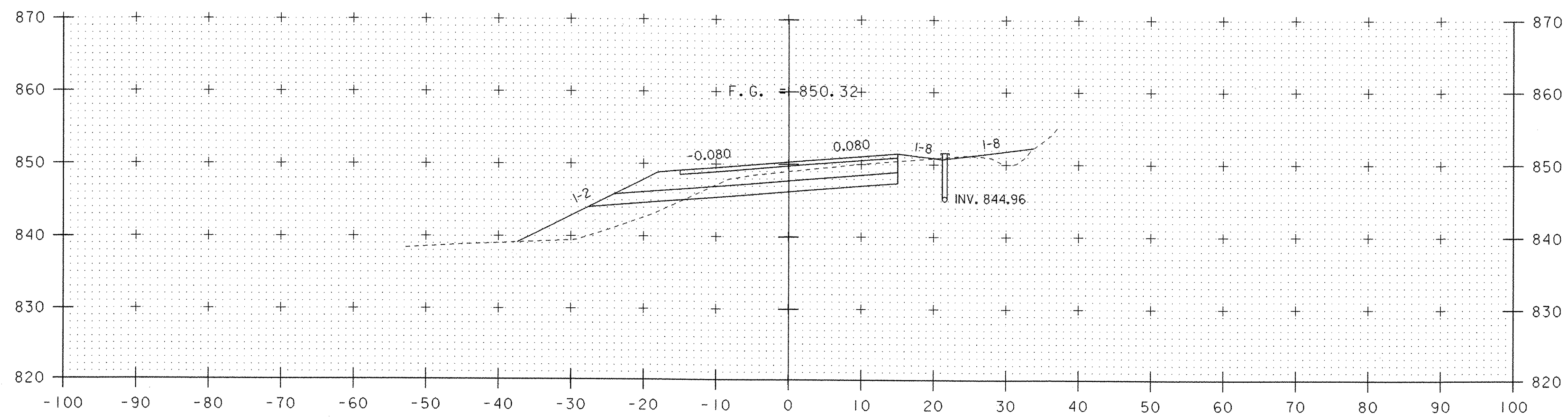
STA. 204+40 TO STA. 204+60

PROJECT NAME: HARDWICK	PLOT DATE: 18-OCT-2005
PROJECT NUMBER: STP ST 030-3(4)	DRAWN BY: M. NUTTER
FILE NAME: d04e060xslx.dgn	CHECKED BY: A. BOMBARDIER
PROJECT LEADER: A. BOMBARDIER	SHEET 56 OF 63
DESIGNED BY: M. NUTTER	
PARM NAME: de060xs24.i	



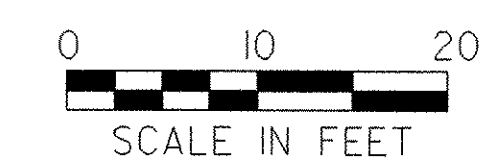
205+00

Common KRM 12-28-06
 (3) 1 2 07
 47 46.5
 93 $\frac{46.75}{2.64} = 73.05 \text{ FT}^2$
 47 47.0
 94



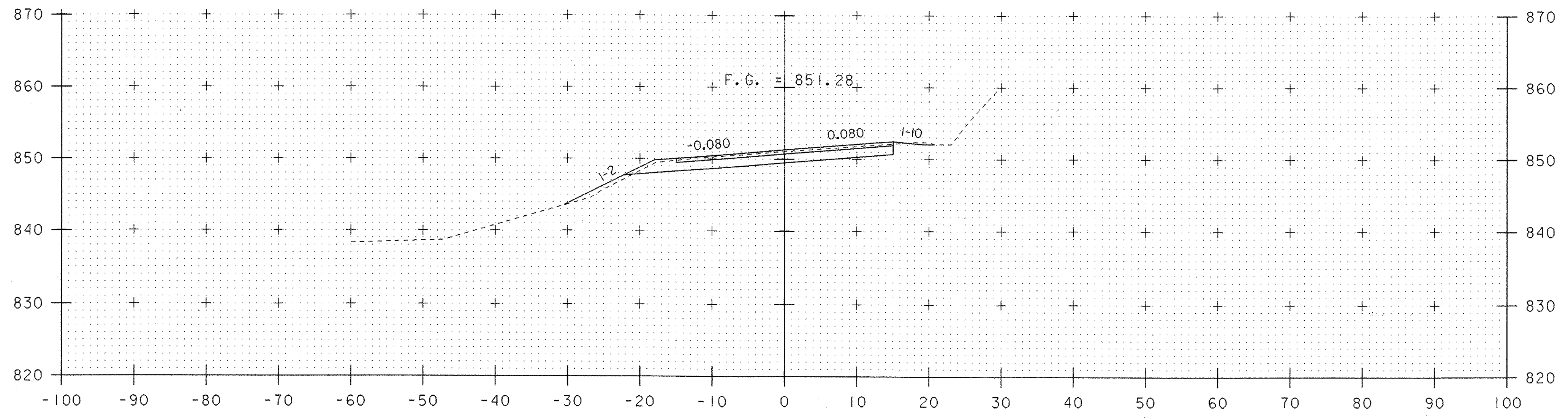
204+80

Common KRM 12-28-06
 48 47.5
 95 $\frac{47.5}{2.64} = 74.22 \text{ FT}^2$
 47 47.5
 95



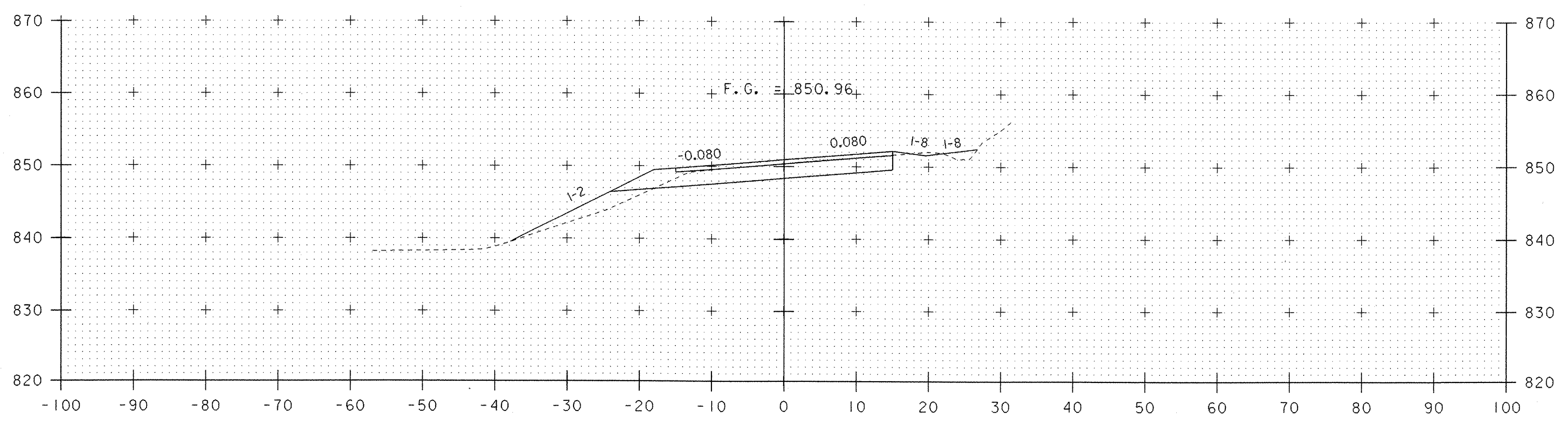
STA. 204+80 TO STA. 205+00

PROJECT NAME: HARDWICK	PLOT DATE: 18-OCT-2005
PROJECT NUMBER: STP ST 030-3(4)	DRAWN BY: M. NUTTER
FILE NAME: d04e060xslx.dgn	CHECKED BY: A. BOMBARDIER
PROJECT LEADER: A. BOMBARDIER	SHEET 57 OF 63
DESIGNED BY: M. NUTTER	
IPARM NAME: de060xs25.1	



205+40

Common KRM 12-28-00
 (3) 1-2-07
 35
 71 35.5
 33 34.5
 69
 $\frac{35.0}{0.64} = 54.69 \text{ FT}^2$



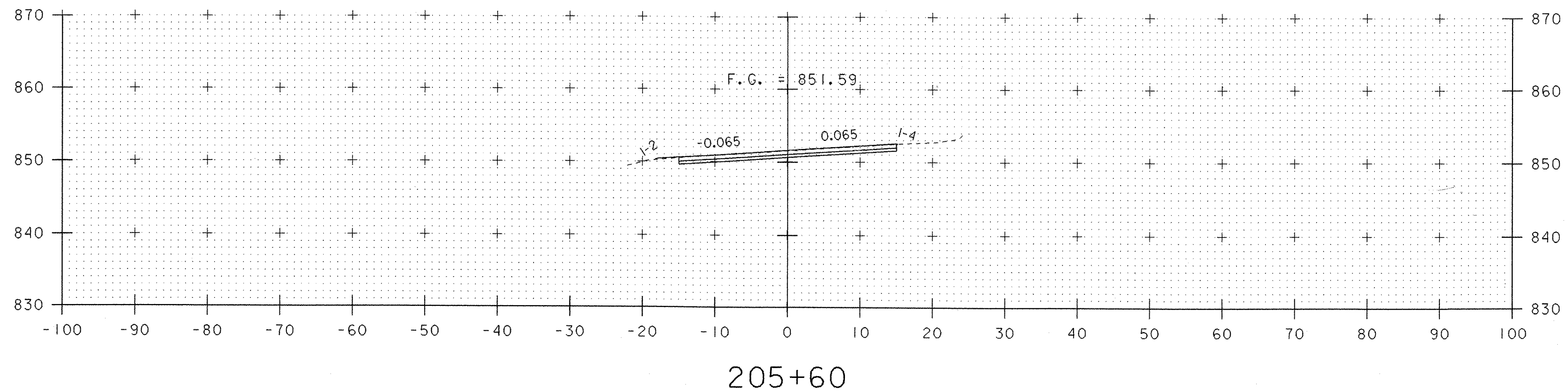
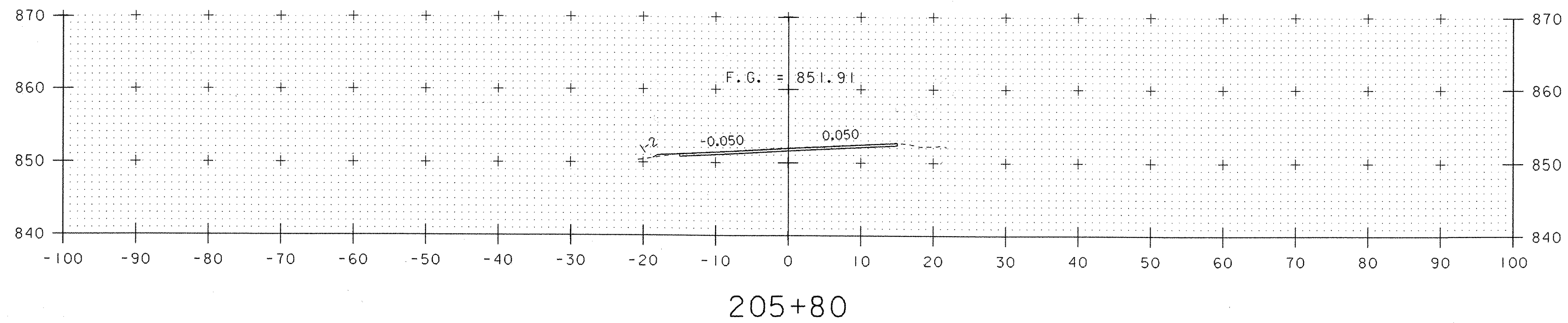
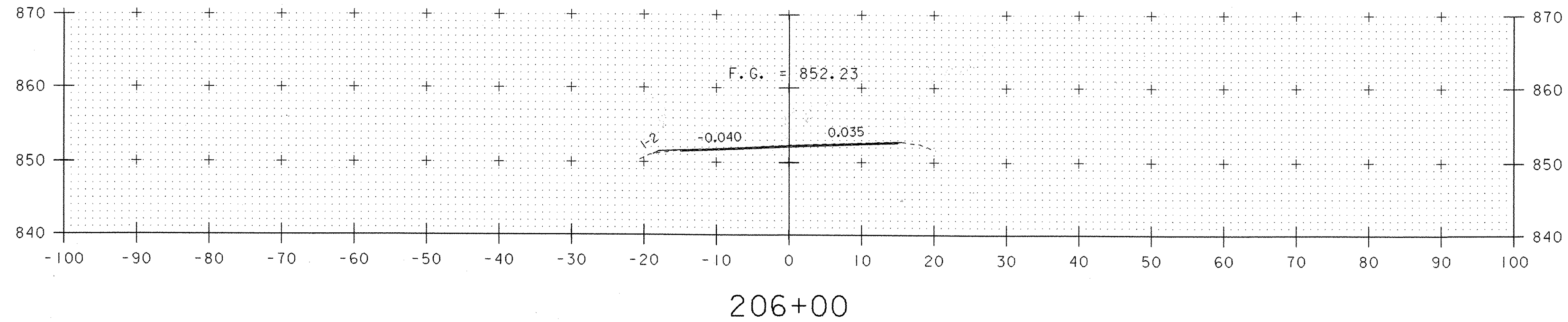
205+20

Common KRM 12-28-00
 40
 80 40
 39 40
 80
 $\frac{40}{0.64} = 62.50 \text{ FT}^2$



STA. 205+20 TO STA. 205+40

PROJECT NAME: HARDWICK	
PROJECT NUMBER: STP ST 030-3(4)	
FILE NAME: d04e060xslx.dgn	PLOT DATE: 18-OCT-2005
PROJECT LEADER: A. BOMBARDIER	DRAWN BY: M. NUTTER
DESIGNED BY: M. NUTTER	CHECKED BY: A. BOMBARDIER
IPARM NAME: de060xs26.1	SHEET 58 OF 63



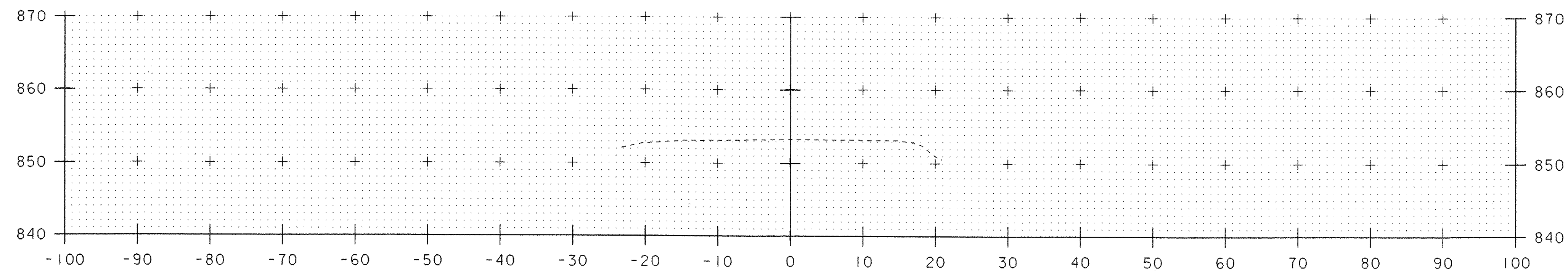
COMMON KRM 12-28-06
CS 12-29-06

COMMON KRM 12-28-06
CS 12-29-06
18
36 18
18
36 18
 $\frac{18}{0.64} = 28.13 \text{ FT}$

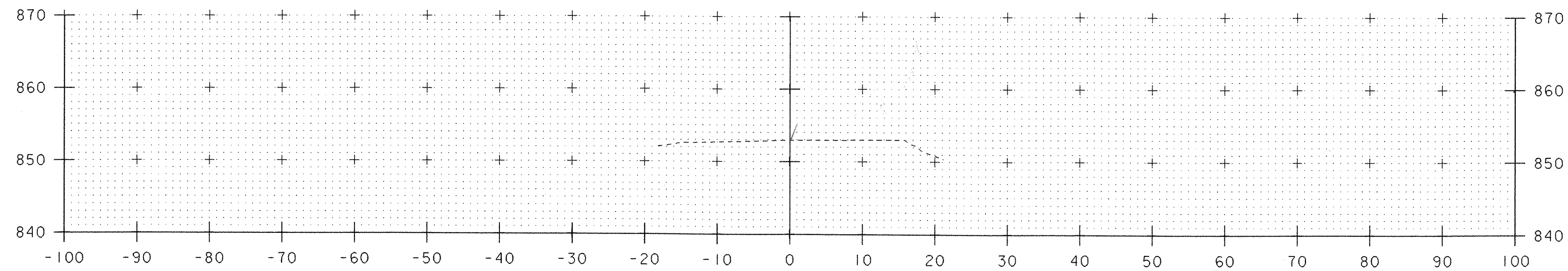


STA. 205+60 TO STA. 206+00

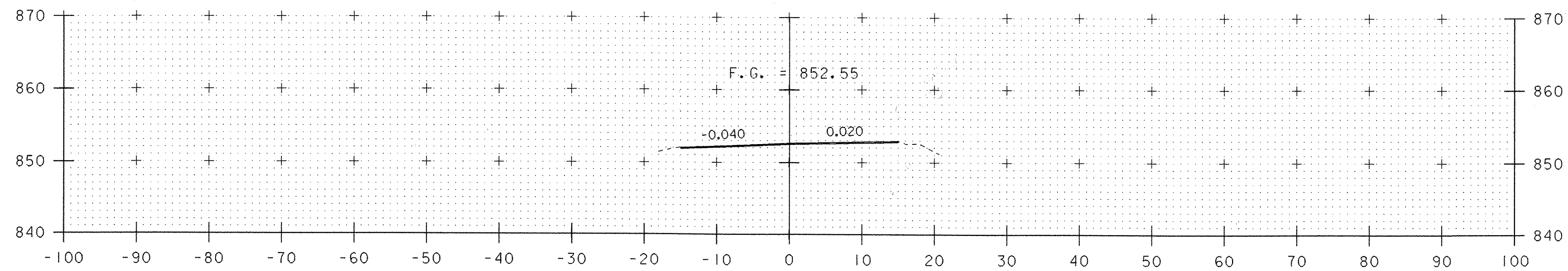
PROJECT NAME: HARDWICK	
PROJECT NUMBER: STP ST 030-3(4)	
FILE NAME: d04e060xslx.dgn	PLOT DATE: 18-OCT-2005
PROJECT LEADER: A. BOMBARDIER	DRAWN BY: M. NUTTER
DESIGNED BY: M. NUTTER	CHECKED BY: A. BOMBARDIER
IPARM NAME: de060xs27.i	SHEET 59 OF 63



206+60

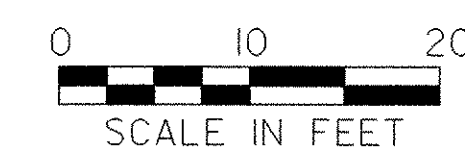


206+40



206+20

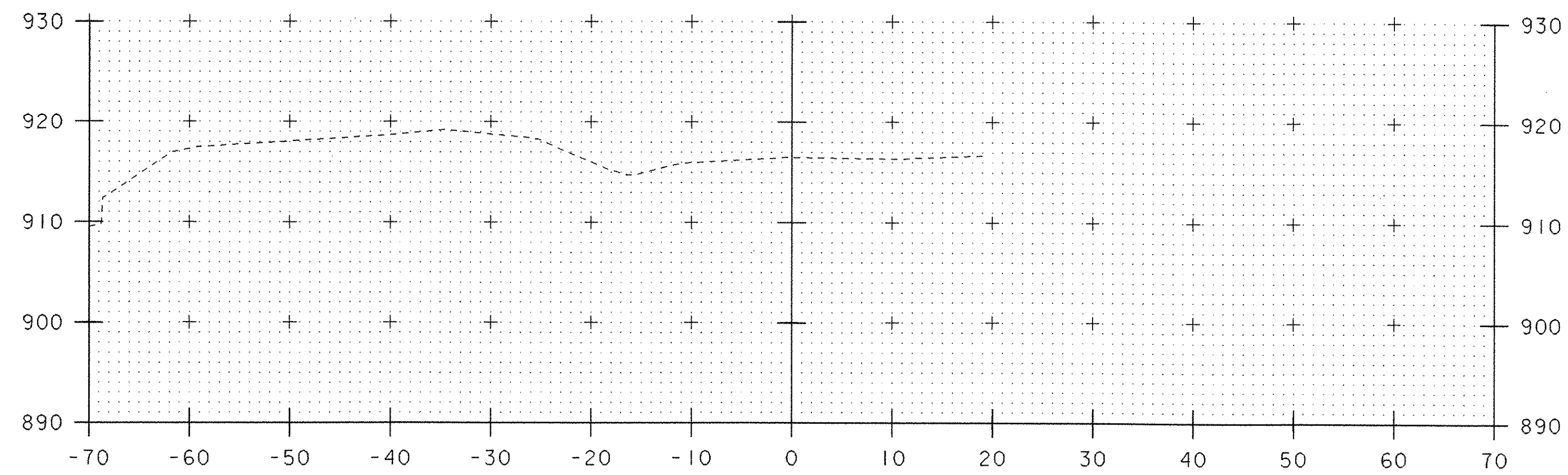
MATCH EXISTING



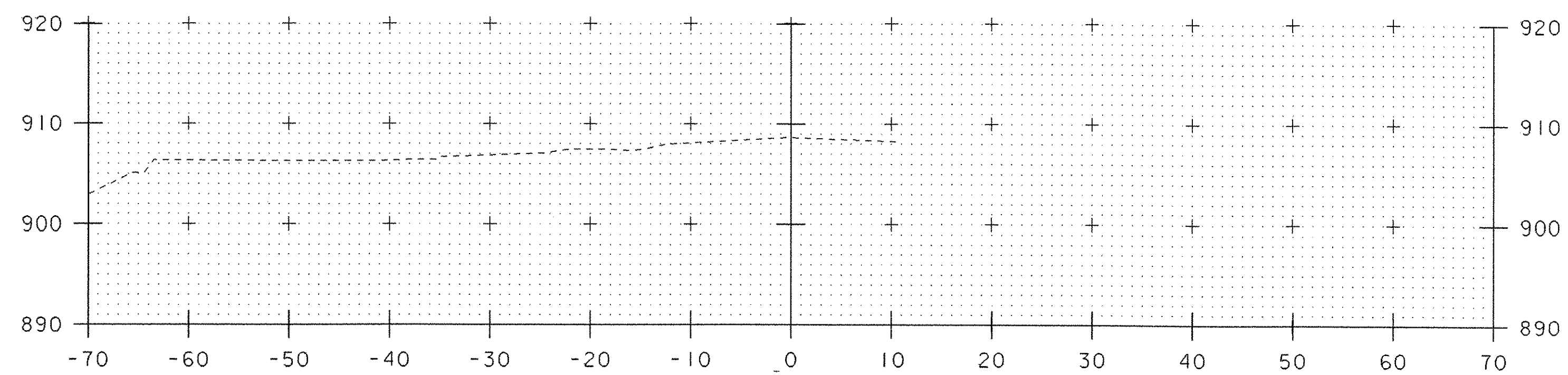
STA. 206+20 TO STA. 206+60

PROJECT NAME: HARDWICK
PROJECT NUMBER: STP ST 030-3(4)

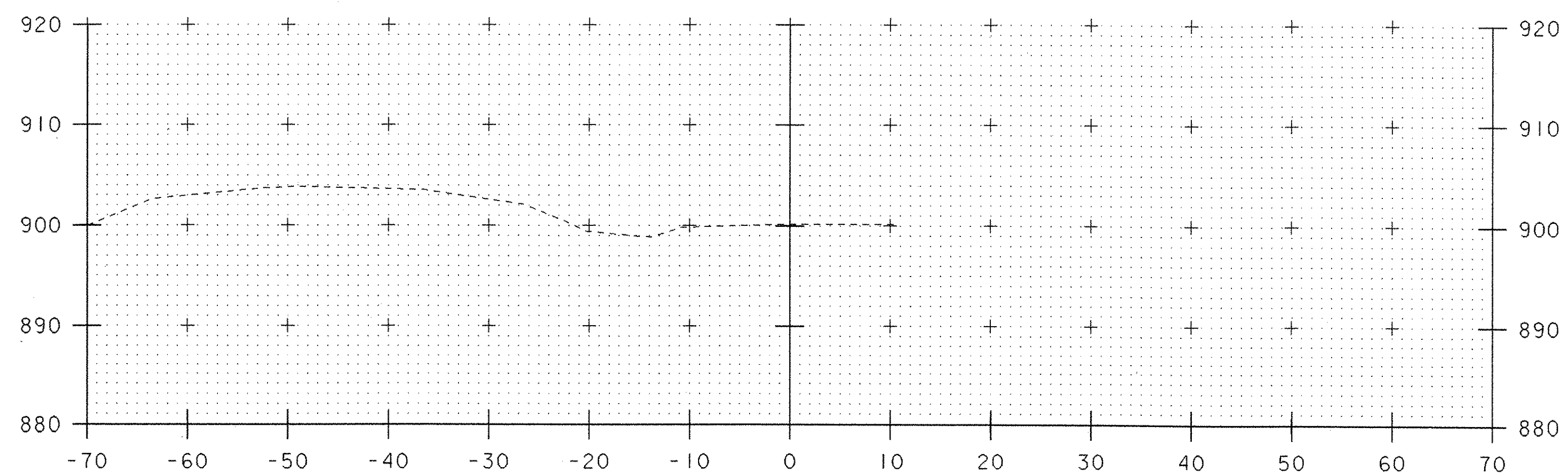
FILE NAME: d04e060xslx.dgn	PLOT DATE: 18-OCT-2005
PROJECT LEADER: A. BOMBARDIER	DRAWN BY: M. NUTTER
DESIGNED BY: M. NUTTER	CHECKED BY: A. BOMBARDIER
IPARM NAME: de060xs28.i	SHEET 60 OF 63



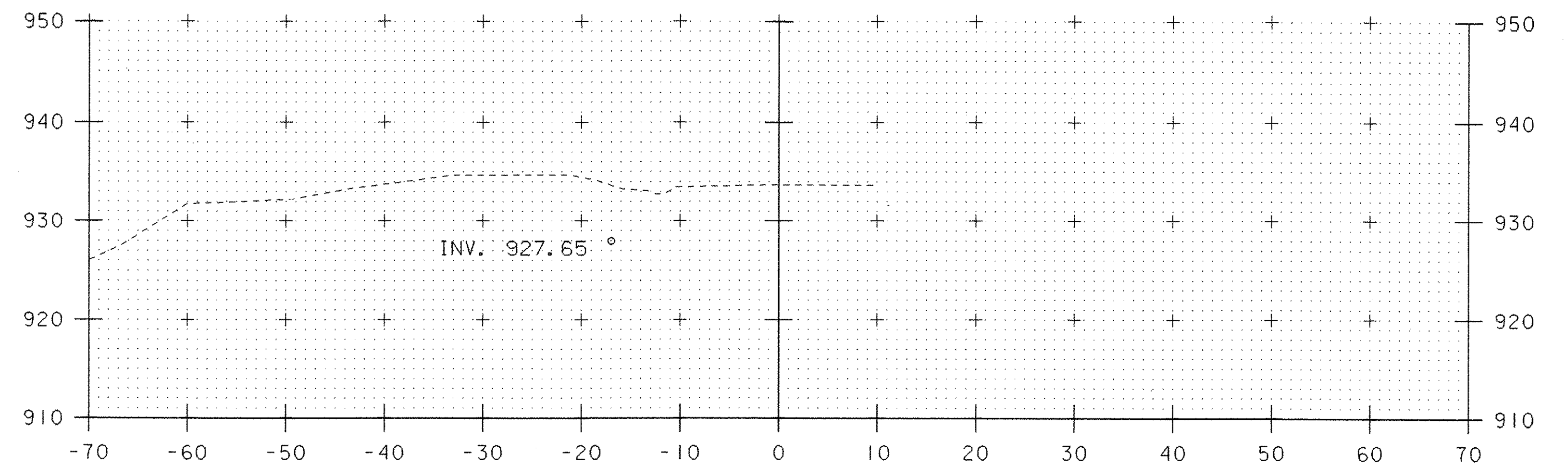
306+00



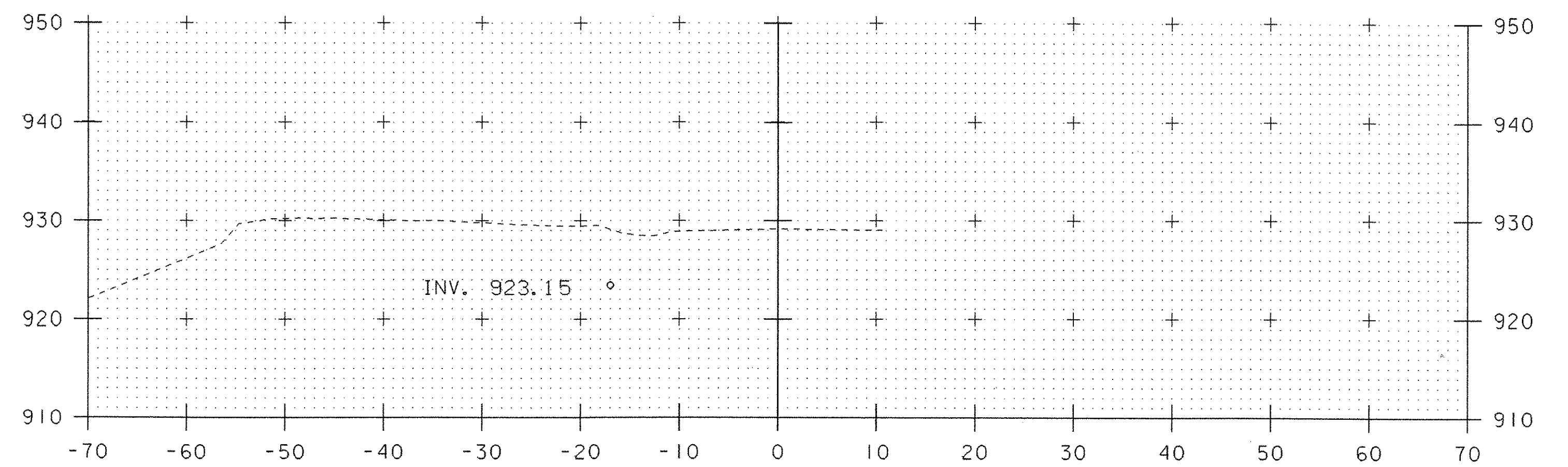
305+50



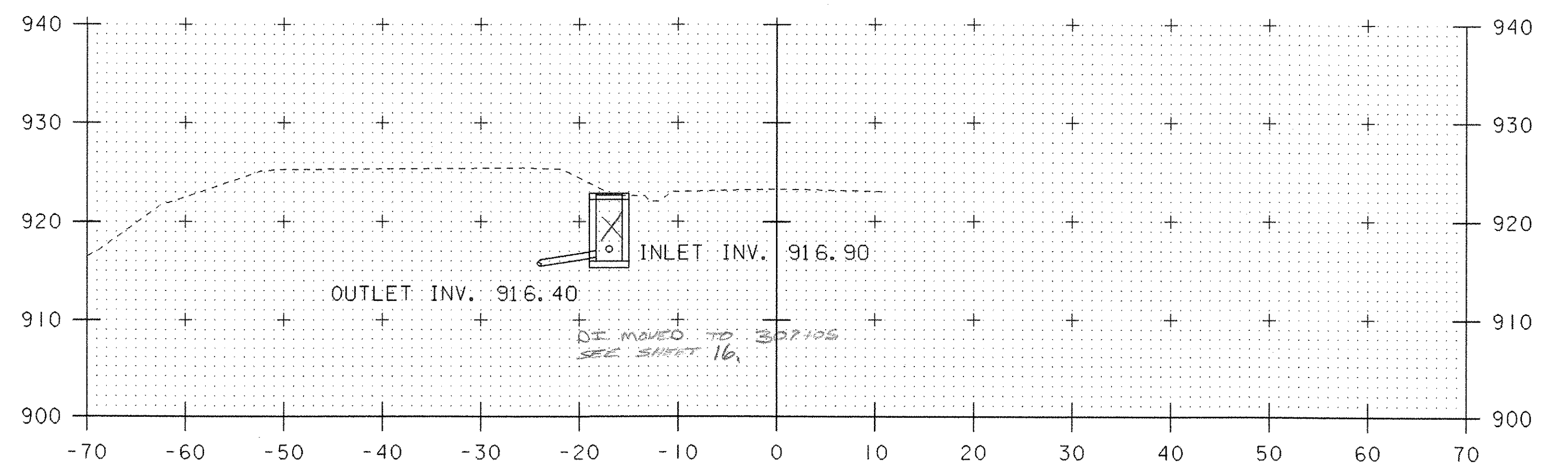
305+00



307+50



307+00

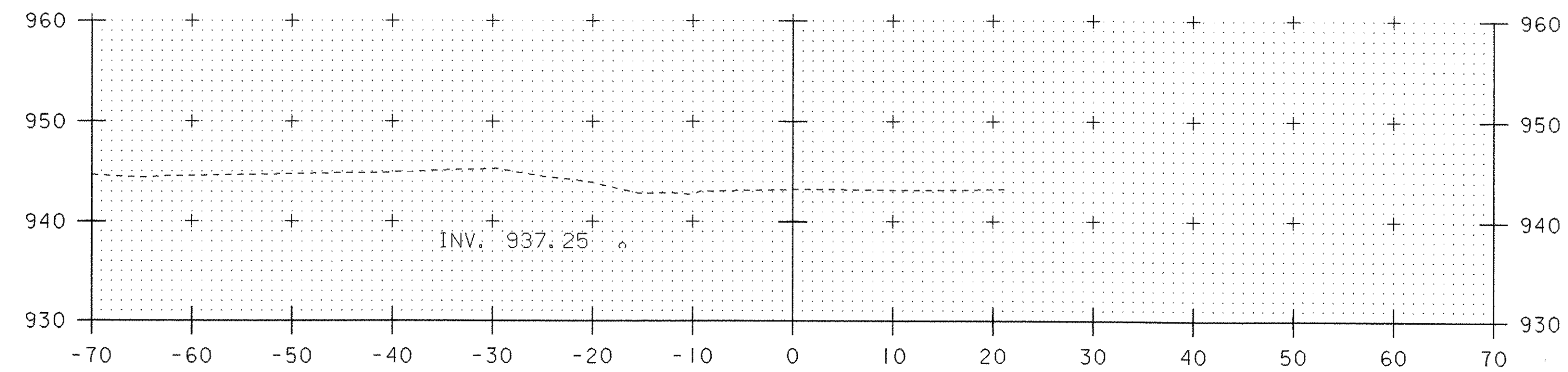


306+50

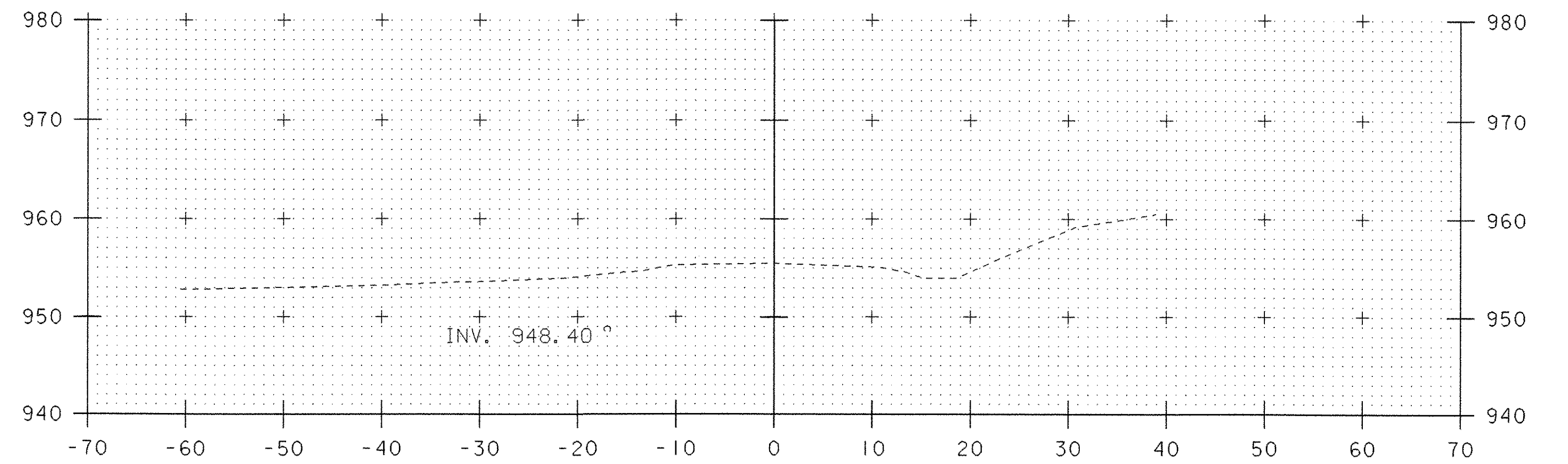


STA. 305+00 TO STA. 307+50

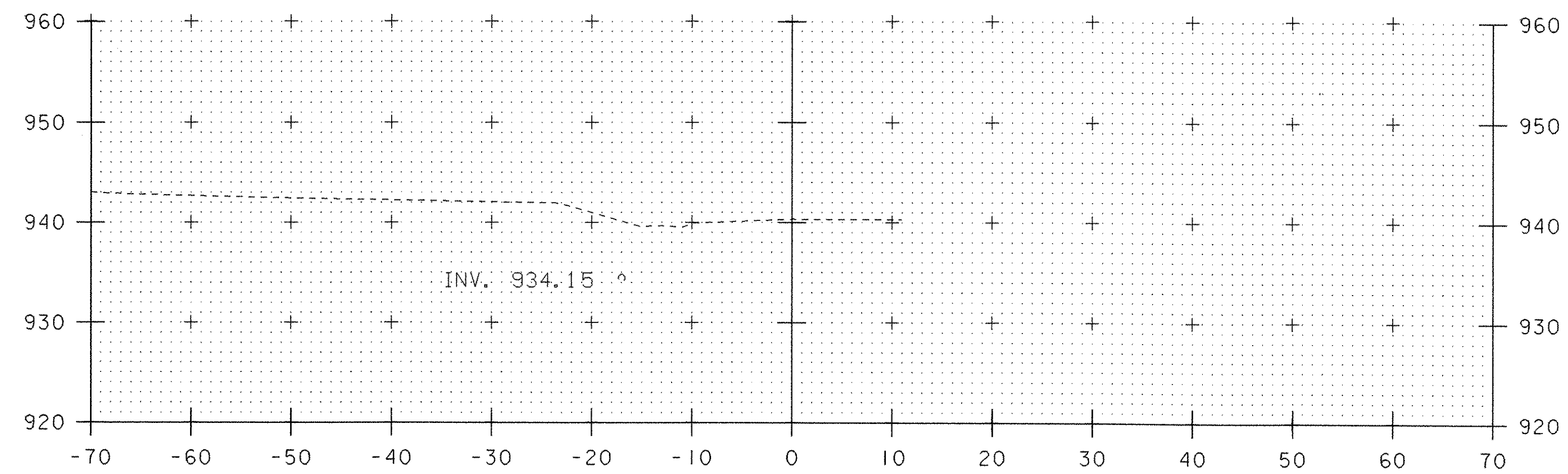
PROJECT NAME: HARDWICK	PLOT DATE: 18-OCT-2005
PROJECT NUMBER: STP ST 030-3(4)	DRAWN BY: M. NUTTER
FILE NAME: d04e060xslx.dgn	CHECKED BY: A. BOMBARDIER
PROJECT LEADER: A. BOMBARDIER	SHEET 61 OF 63
DESIGNED BY: M. NUTTER	
IPARM NAME: de060xs29.i	



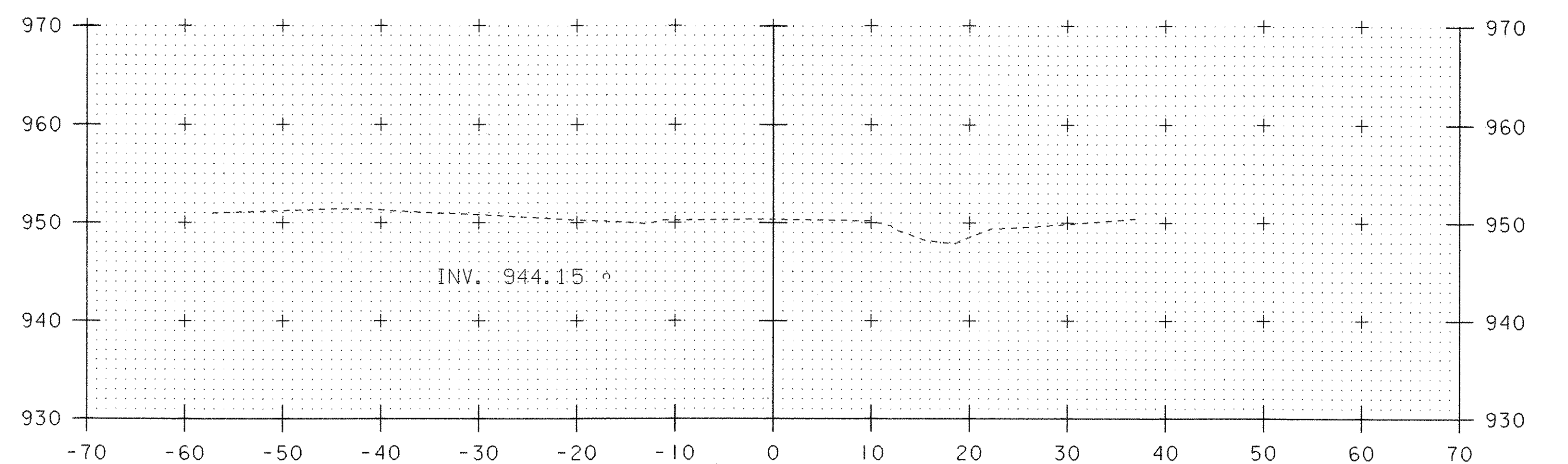
309+00



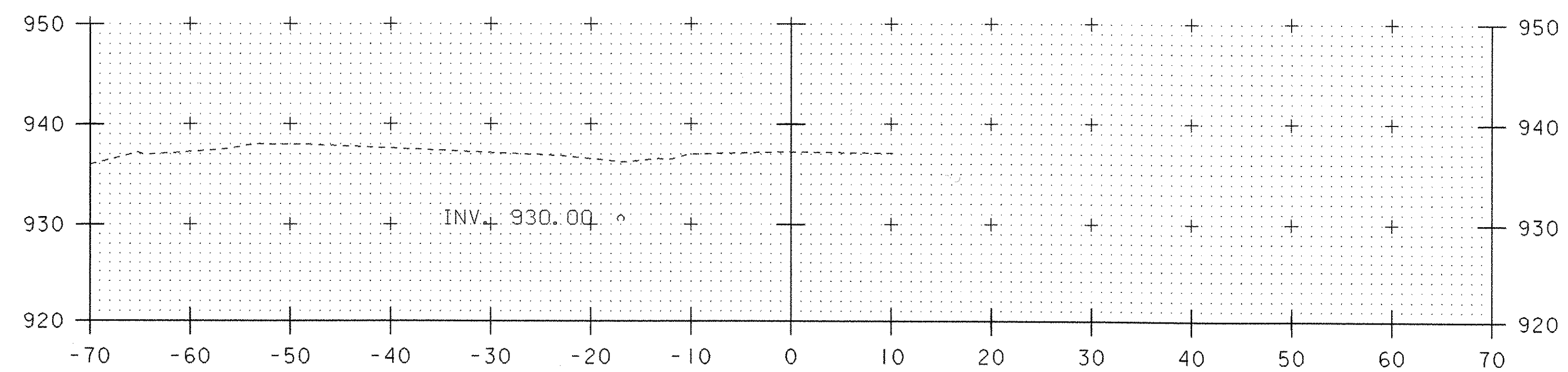
310+50



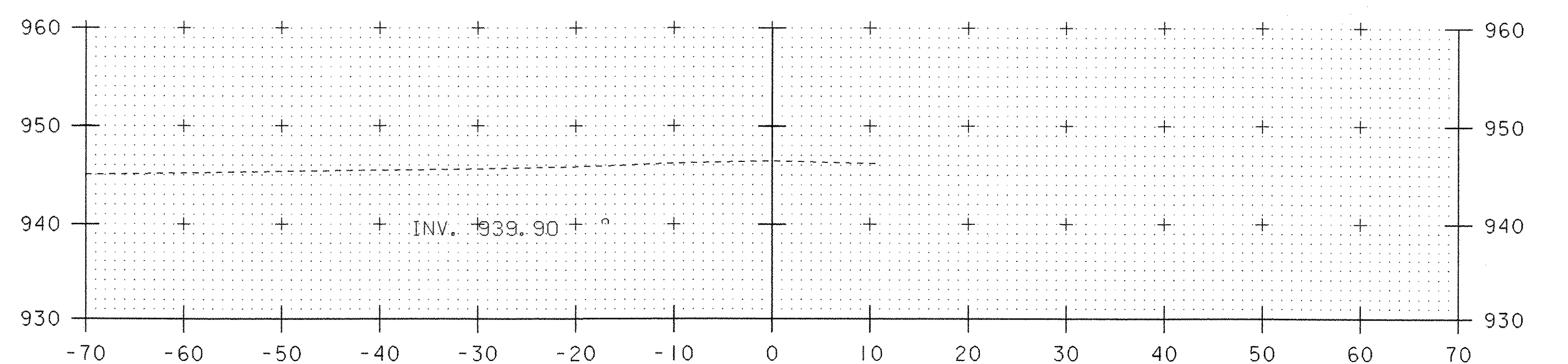
308+50



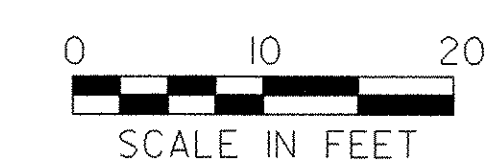
310+00



308+00

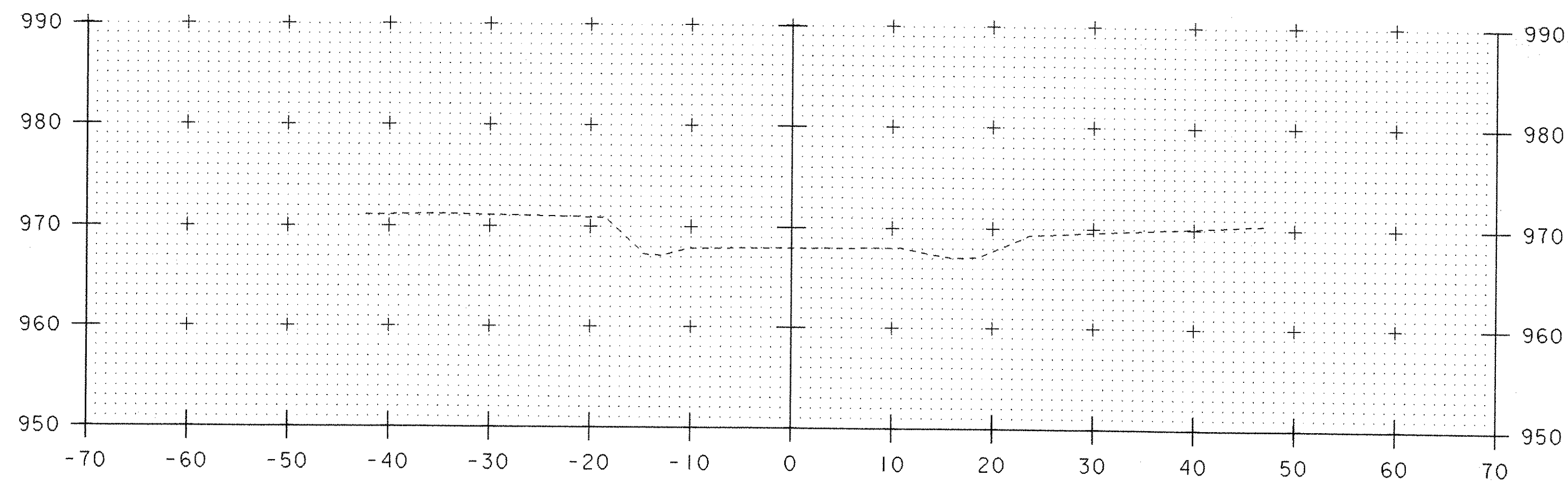


309+50

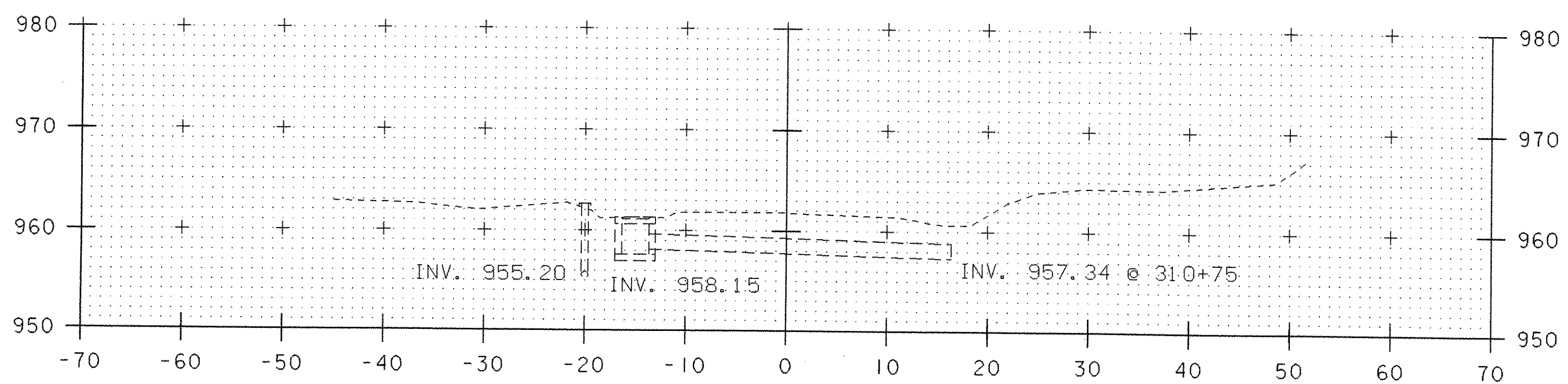


STA. 308+00 TO STA. 310+50

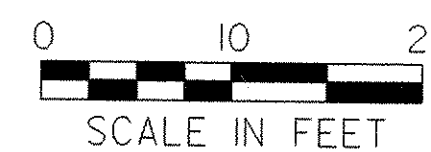
PROJECT NAME: HARDWICK	PLLOT DATE: 18-OCT-2005
PROJECT NUMBER: STP ST 030-3(4)	DRAWN BY: M. NUTTER
FILE NAME: d04e060xslx.dgn	CHECKED BY: A. BOMBARDIER
PROJECT LEADER: A. BOMBARDIER	SHEET 62 OF 63
DESIGNED BY: M. NUTTER	
IPARM NAME: de060xs30.i	



311+50



311+00



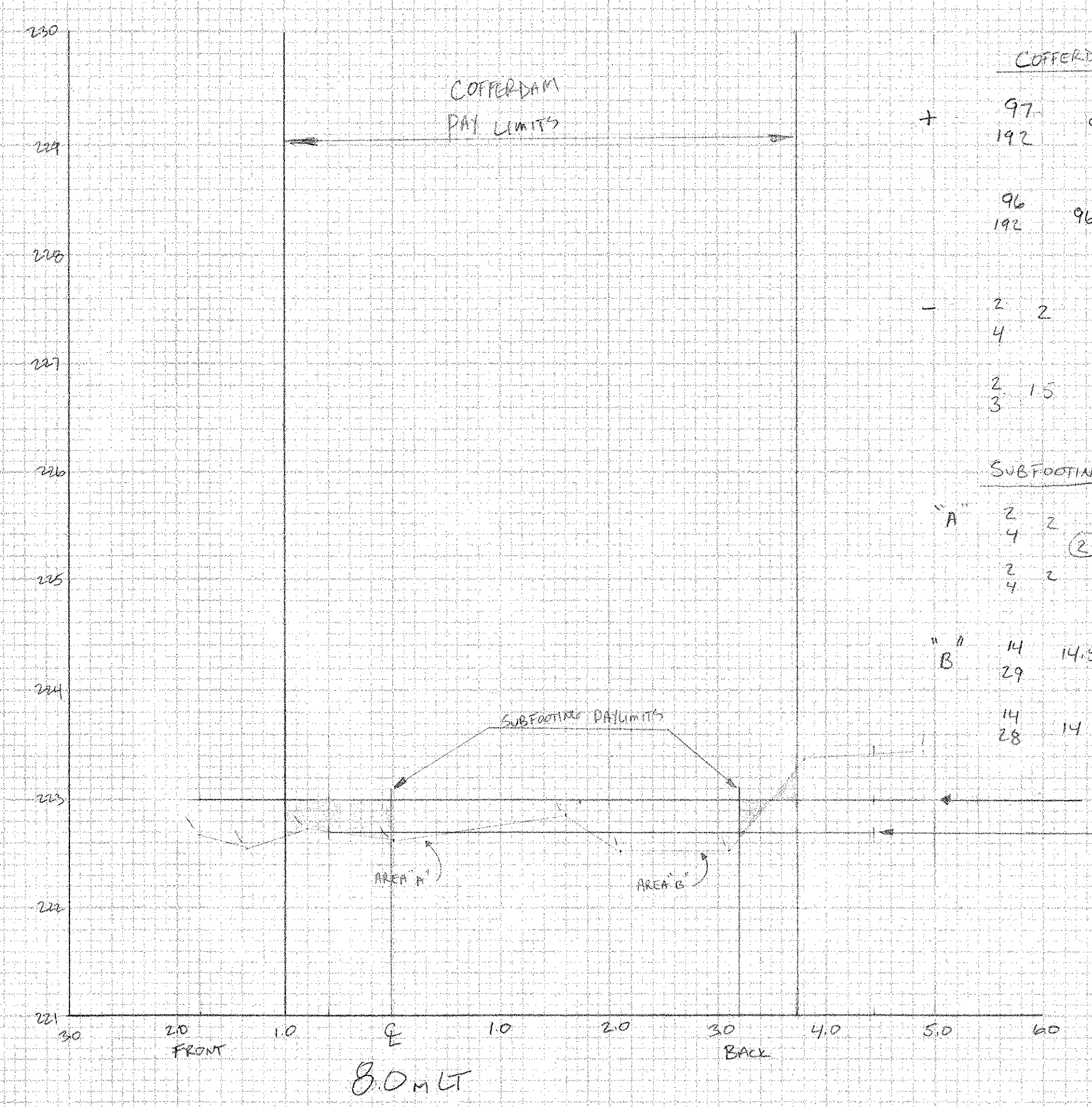
STA. 311+00 TO STA. 311+50

PROJECT NAME: HARDWICK	PLOT DATE: 18-OCT-2005
PROJECT NUMBER: STP ST 030-3(4)	DRAWN BY: M. NUTTER
FILE NAME: d04e060xslx.dgn	CHECKED BY: A. BOMBARDIER
PROJECT LEADER: A. BOMBARDIER	SHEET 63 OF 63
DESIGNED BY: M. NUTTER	
IPARM NAME: de060xs31.i	

FINAL SURVEY
 IN PARTIAL
 FULFILLMENT OF THE
 OBLIGATIONS OF THE
 SURVEYOR TO THE PUBLIC
 AS REQUIRED BY THE
 PROFESSIONAL
 REGULATORY BOARD
 OF SURVEYORS
 ON BEHALF OF THE
 PUBLIC

COFFERDAM SURVEY
 SHEET 1 OF 7

LYNDON BR3 0269 (B)
 LEDGE SHOTS @ ABUT #1
 Q15 B-2-00



COFFERDAM PAULIMITS

+	97	96
	192	96
	96	96
-	2	2
	4	2
	2	1.5
	3	

$96 - 1.75 = 94.25 \div 64 = 1.47 \text{ m}^2$

SUBFOOTINGS

"A"

+	2	2
	4	2
	2	2
	4	2

$14.25 + 2 = 16.25 \div 64 = 0.25 \text{ m}^2$

"B"

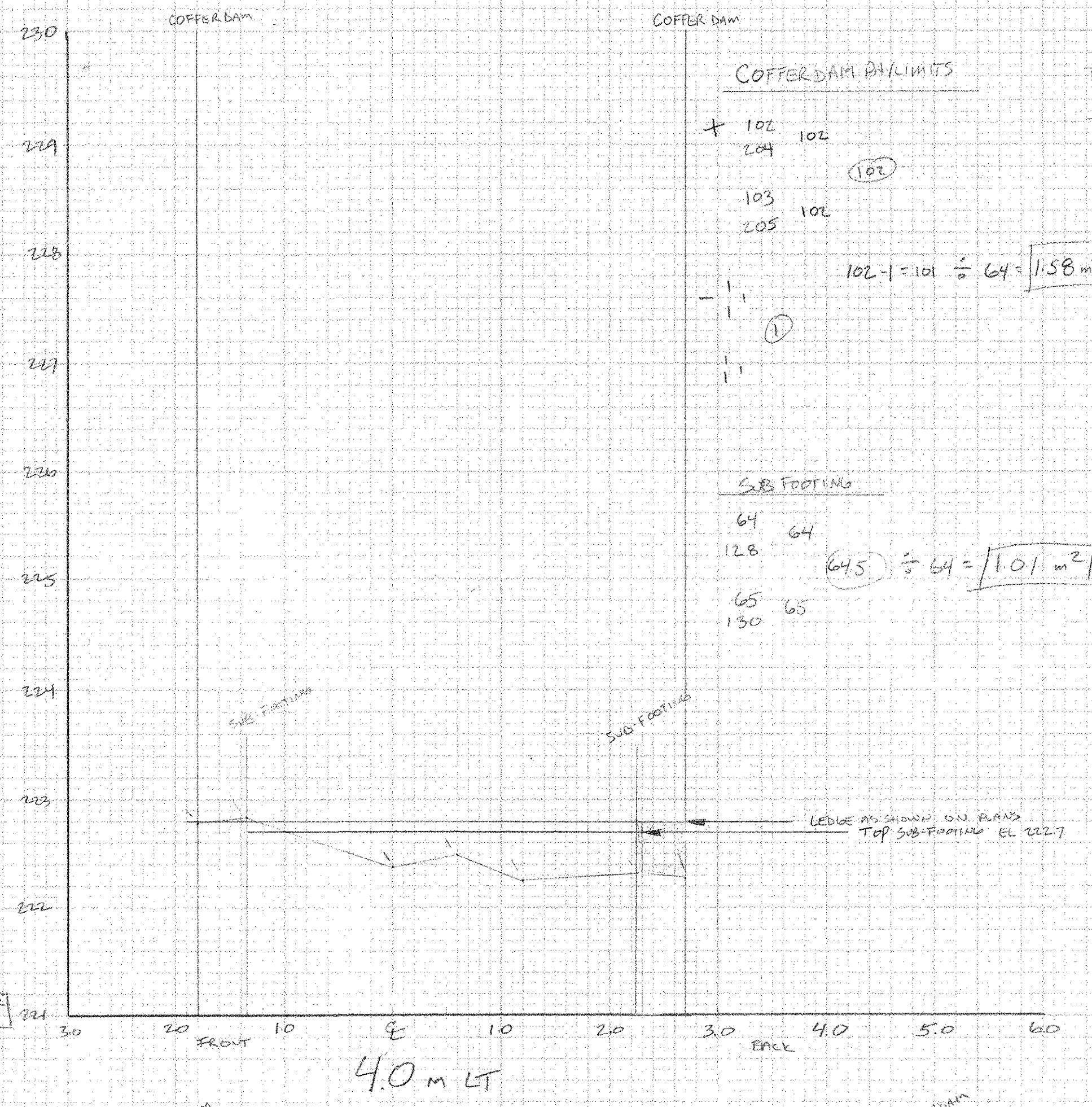
+	14	14.5
	29	14.5
	14	14
	28	14

$20.25 + 2.5 = 22.75 \div 64 = 0.32 \text{ m}^2$

GRANULAR BACKFILL

+	20	20
	40	20.5
	20	20.5
+	3	2.5
	2	2.5
	2	2.5
-	2	2
	2	2.5
	5	2.5

$20.25 + 2.5 = 22.75$
 $20.5 \div 64 = 0.32 \text{ m}^2$



COFFERDAM PAULIMITS

+	102	102
	204	102
	103	102
	205	102
-	1	1
	1	1
	1	1

$102 - 1 = 101 \div 64 = 1.58 \text{ m}^2$

SUBFOOTINGS

+	64	64
	128	64
	65	65
	130	65

$64.5 \div 64 = 1.01 \text{ m}^2$

COFFERDAM EX. PAULIMITS FOR

4.0 LT - 4.0 RT
 FRONT: $\frac{1}{2}(6) + .9 + .6 = 1.8 \text{ m}$
 BACK: $\frac{1}{2}(6) + 1.8 + .6 = 2.7 \text{ m}$

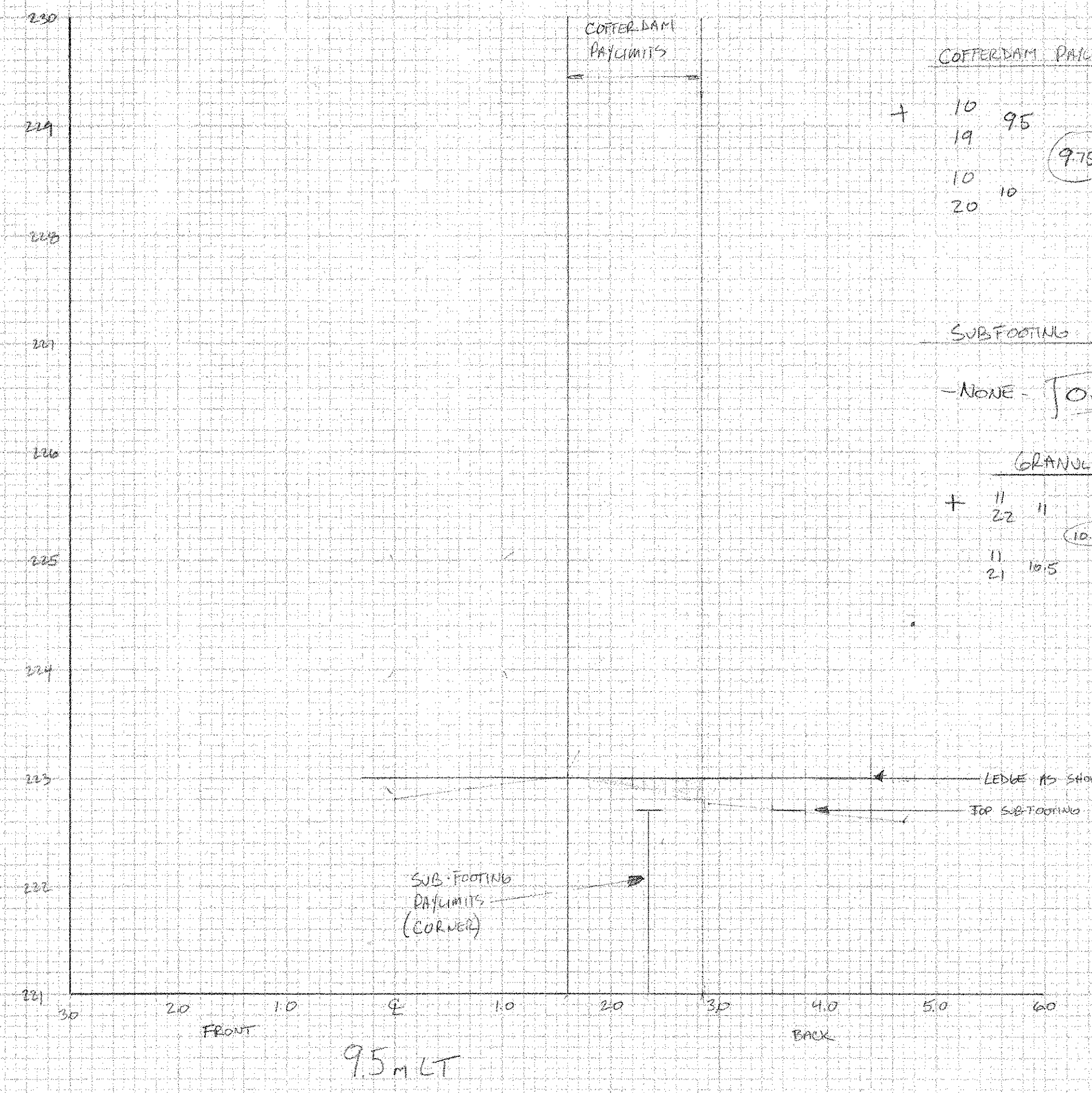
SUBFOOTING PAULIMITS FOR

4.0 LT - 4.0 RT
 FRONT: $\frac{1}{2}(6) + .9 + 1.5 = 1.35 \text{ m}$
 BACK: $\frac{1}{2}(6) + 1.8 + 1.5 = 2.25 \text{ m}$

GRANULAR BACKFILL

+	4	15
	30	15
	4	14.5
	29	14.5

$14.5 \div 64 = 0.23 \text{ m}^2$



COFFERDAM PAULIMITS

+	10	9.5
	19	9.5
	10	10
	20	10

$9.75 \div 64 = 0.15 \text{ m}^2$

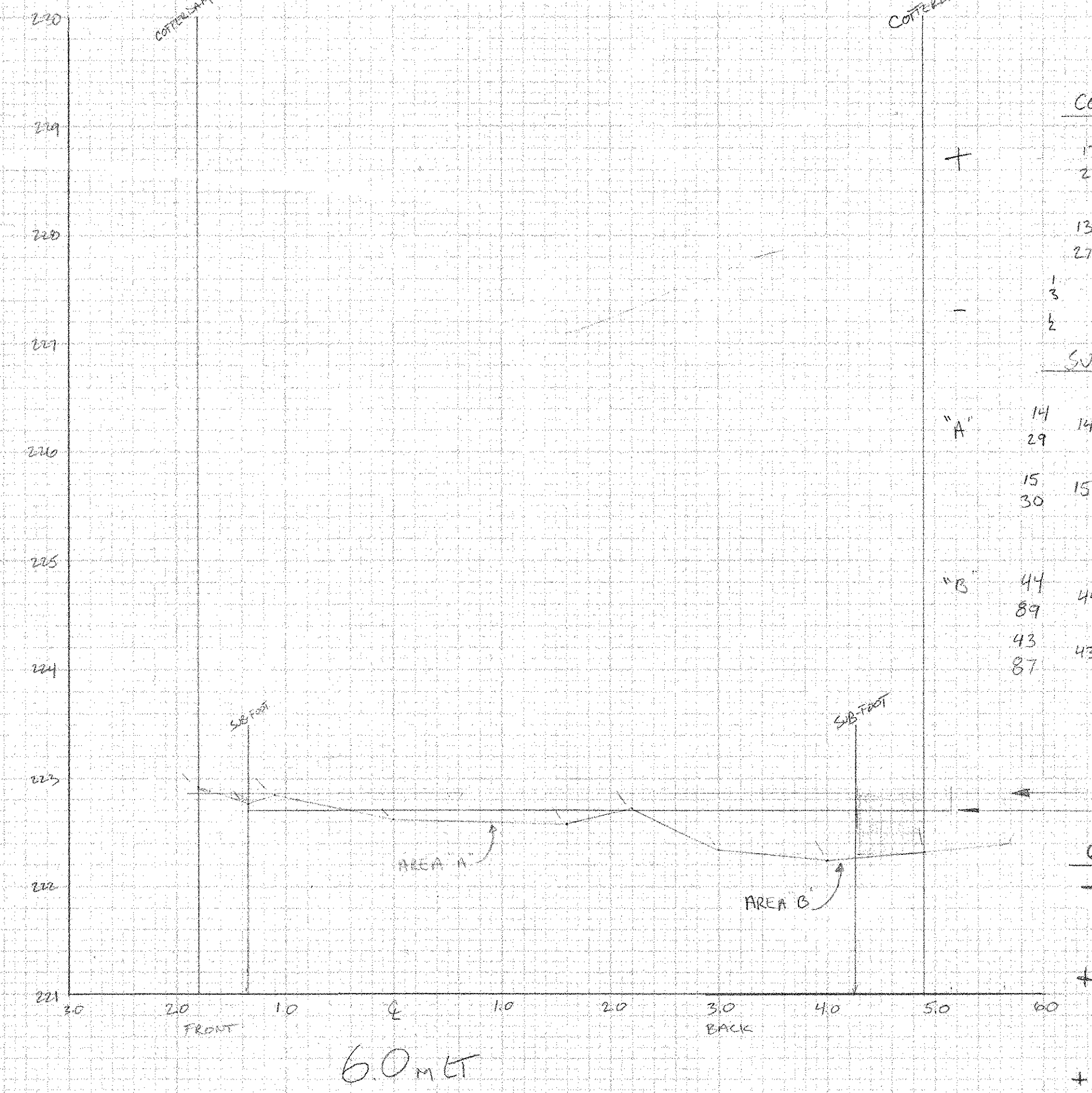
SUBFOOTINGS

- NONE - 0 m^2

GRANULAR BACKFILL

+	11	11
	22	11
	11	10.5
	21	10.5

$10.75 \div 64 = 0.17 \text{ m}^2$



COFFERDAM PAULIMITS

+	136	135
	270	135
	137	136.5
	273	136.5
-	1/3	1.5
	1/2	1

$135.75 - 1.25 = 134.5 \div 64 = 2.10 \text{ m}^2$

SUBFOOTINGS

"A"

+	14	14.5
	29	14.5
	15	15
	30	15

$14.75 \div 64 = 0.23 \text{ m}^2$

"B"

+	44	44.5
	89	44.5
	43	43.5
	87	43.5

$44 \div 64 = 0.69 \text{ m}^2$

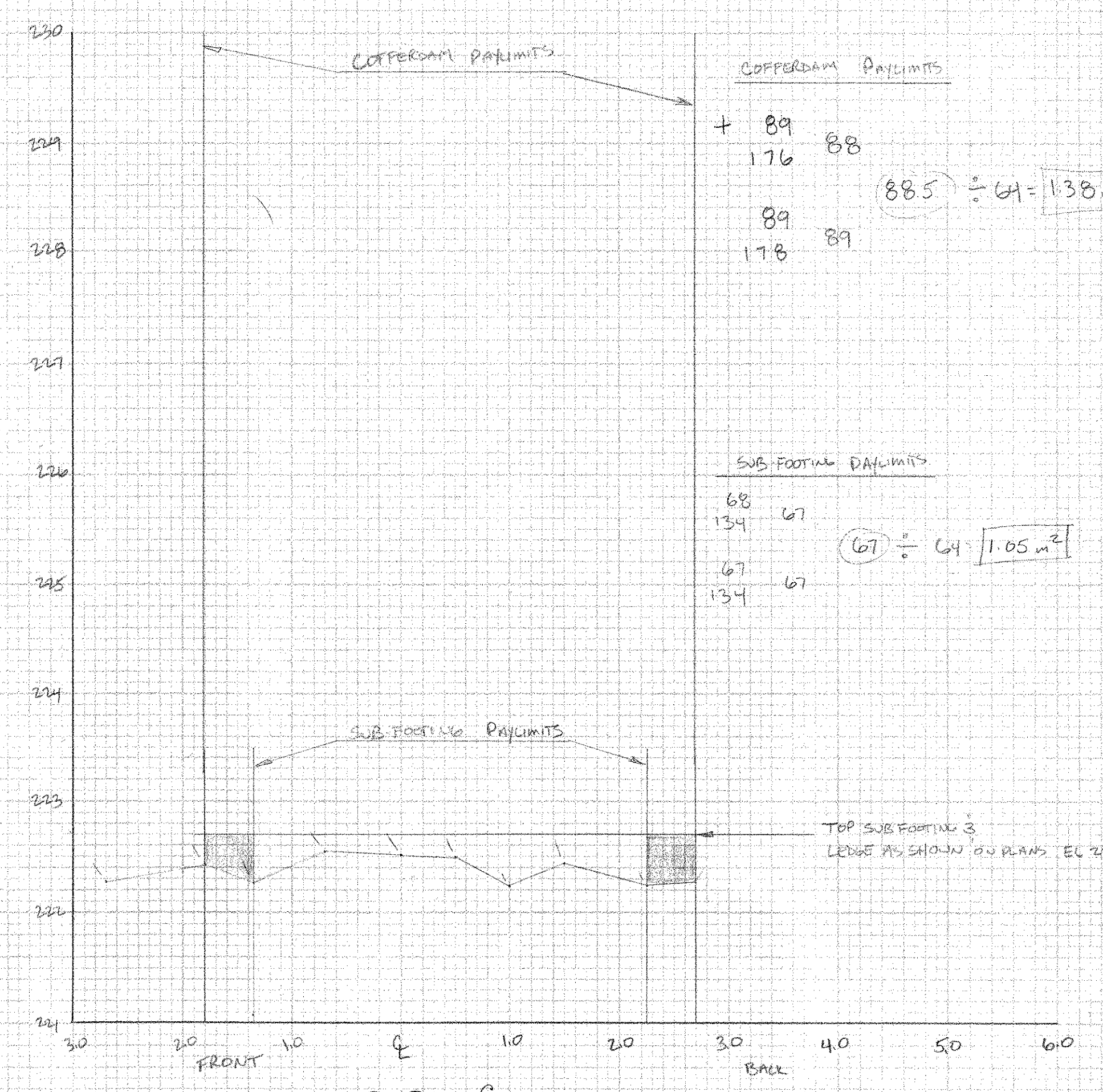
GRANULAR BACKFILL

-	0	0
	0	0
+	2	2
	4	2.5
	2	2.5
+	24	24.5
	49	24.5
	25	24
	48	24

$24.25 + 2.25 = 26.5 \div 64 = 0.41 \text{ m}^2$

ORIGINAL SURVEY
PLANS
NOTES
DATE

ORIGINAL SURVEY
PLANS
NOTES
DATE
SHEET 2 OF 7



COFFERDAM PAULIMITS

+	89	88
	176	
	89	89
	178	

$885 \div 64 = 13.8 \text{ m}^2$

GRANULAR BACKFILL

+	10	10.5
	21	
	10	10
	20	

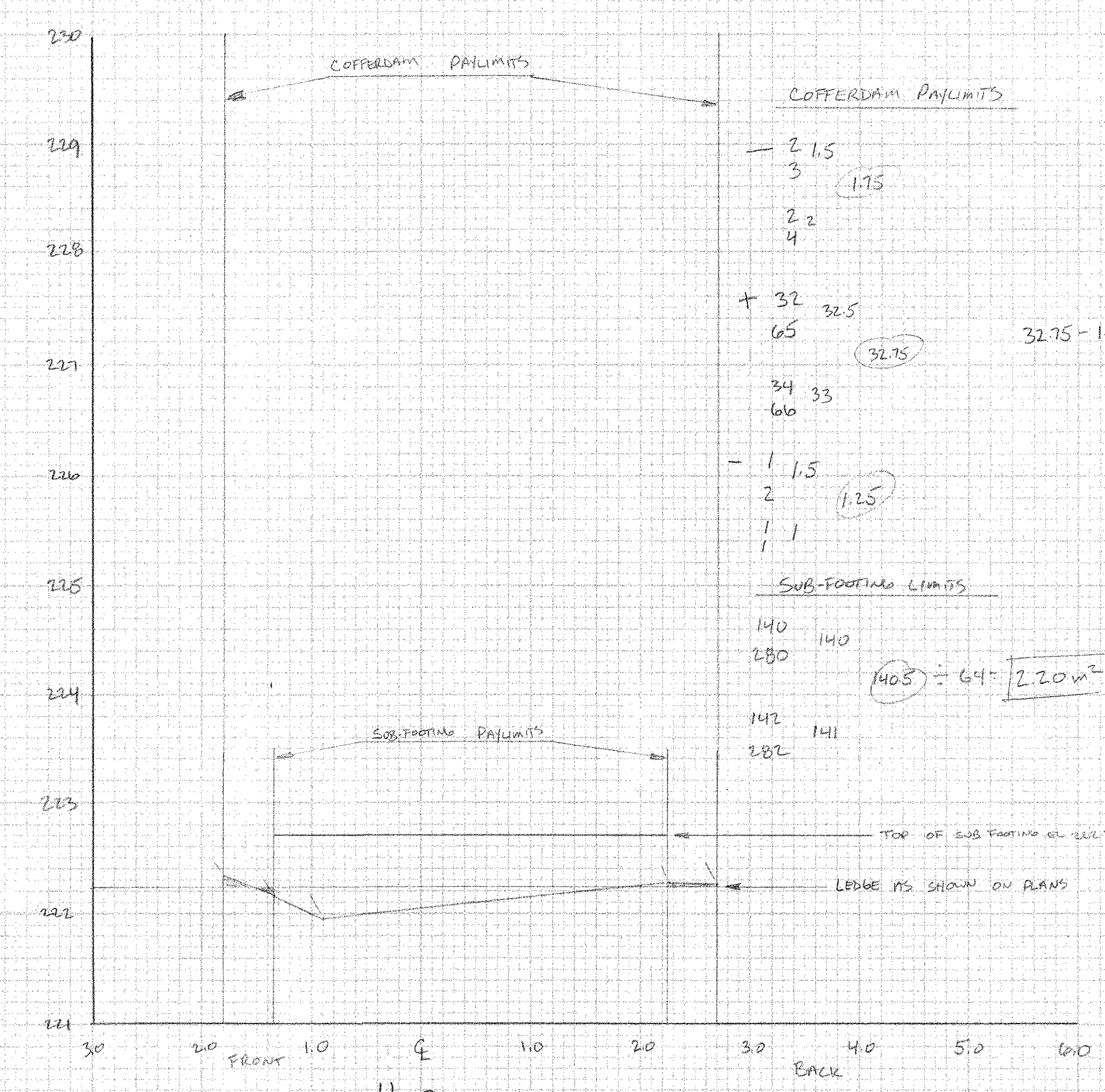
$10.25 + 13.25 = 23.5 \div 64 = 0.37 \text{ m}^2$

SUB-FOOTING PAULIMITS

68	67
134	
67	67
134	

$67 \div 64 = 1.05 \text{ m}^2$

0.0_m - E



COFFERDAM PAULIMITS

-	2.15
	3
	1.75
	2.2
	4

GRANULAR BACKFILL

+	32	32.5
	65	
	34	33
	66	

$32.75 - 1.75 + 1.25 = 29.75 \div 64 = 0.46 \text{ m}^2$

SUB-FOOTING LIMITS

-	1	1.5
	2	
	1	1.25
	1	

GRANULAR BACKFILL

-	1	1
	2	1.5
	3	

SUB-FOOTING LIMITS

140	140
280	
142	141
282	

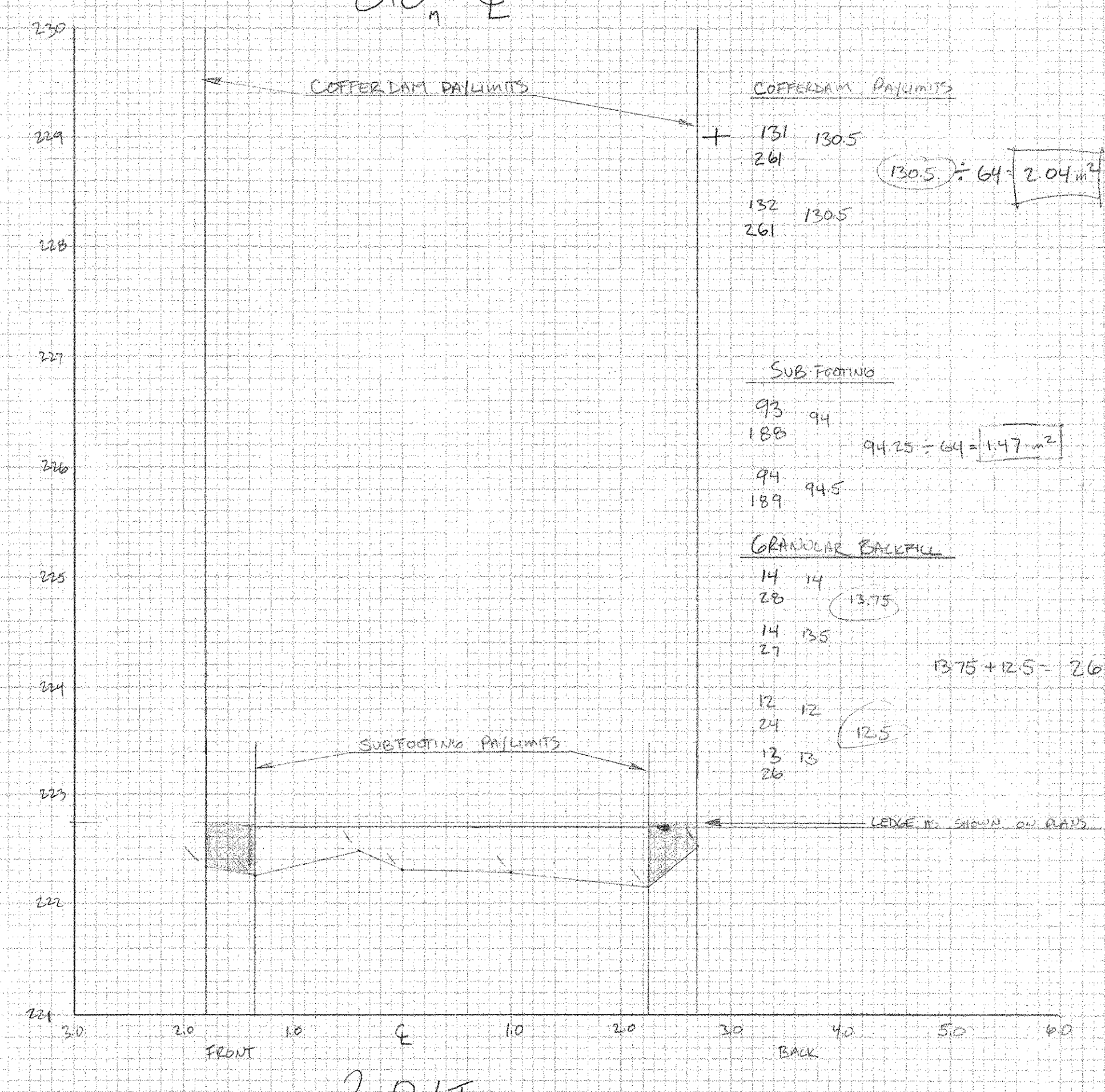
$140.5 \div 64 = 2.20 \text{ m}^2$

GRANULAR BACKFILL

+	1	1
	2	1.5
	1	1.25
	2	1.5
	3	1.5

$1.25 + 1.25 = 2.5 \div 64 = 0.02 \text{ m}^2$

4.0_m RT



COFFERDAM PAULIMITS

+	131	130.5
	261	
	132	130.5
	261	

$130.5 \div 64 = 2.04 \text{ m}^2$

SUB FOOTING

93	94
186	
94	94.5
189	

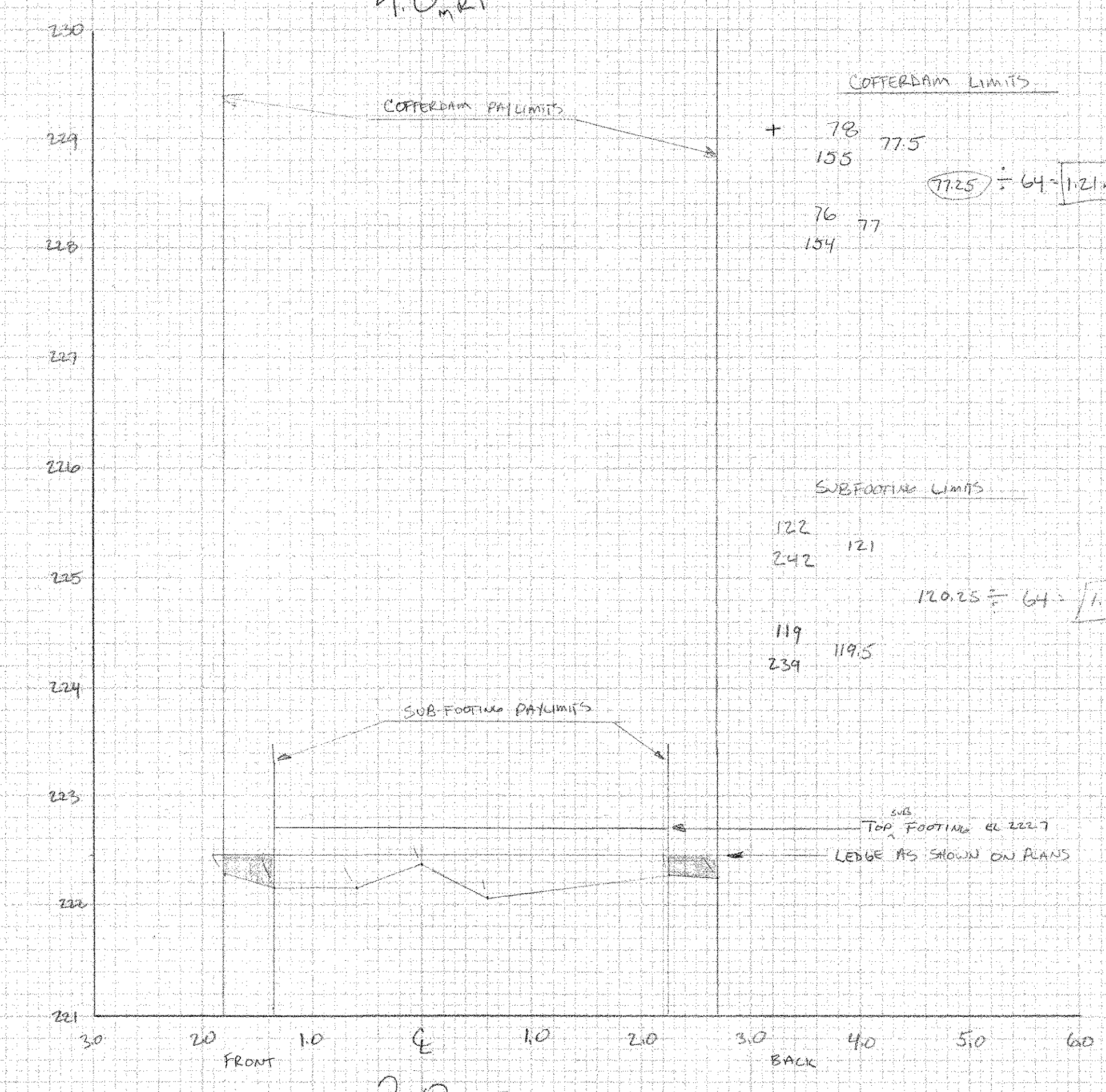
$94.25 \div 64 = 1.47 \text{ m}^2$

GRANULAR BACKFILL

14	14
28	13.75
14	13.5
27	

$13.75 + 12.5 = 26.25 \div 64 = 0.41 \text{ m}^2$

2.0_m LT



COFFERDAM LIMITS

+	78	77.5
	155	
	76	77
	154	

$77.25 \div 64 = 1.21 \text{ m}^2$

SUB FOOTING LIMITS

122	121
242	
119	119.5
234	

$120.25 \div 64 = 1.88 \text{ m}^2$

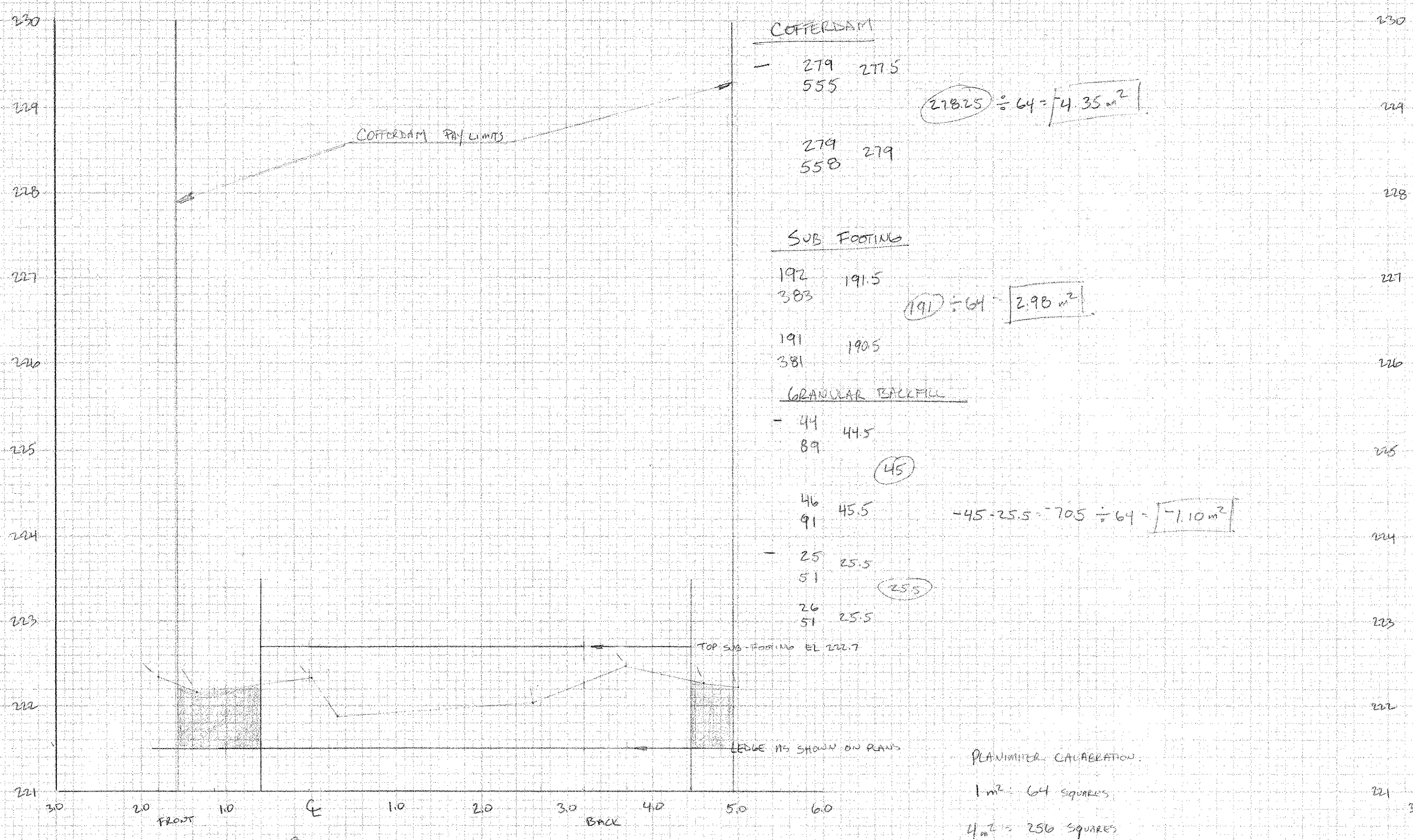
GRANULAR BACKFILL

+	8	8
	16	
	8	7.5
	15	
+	6	6
	12	
	7	6.5
	13	

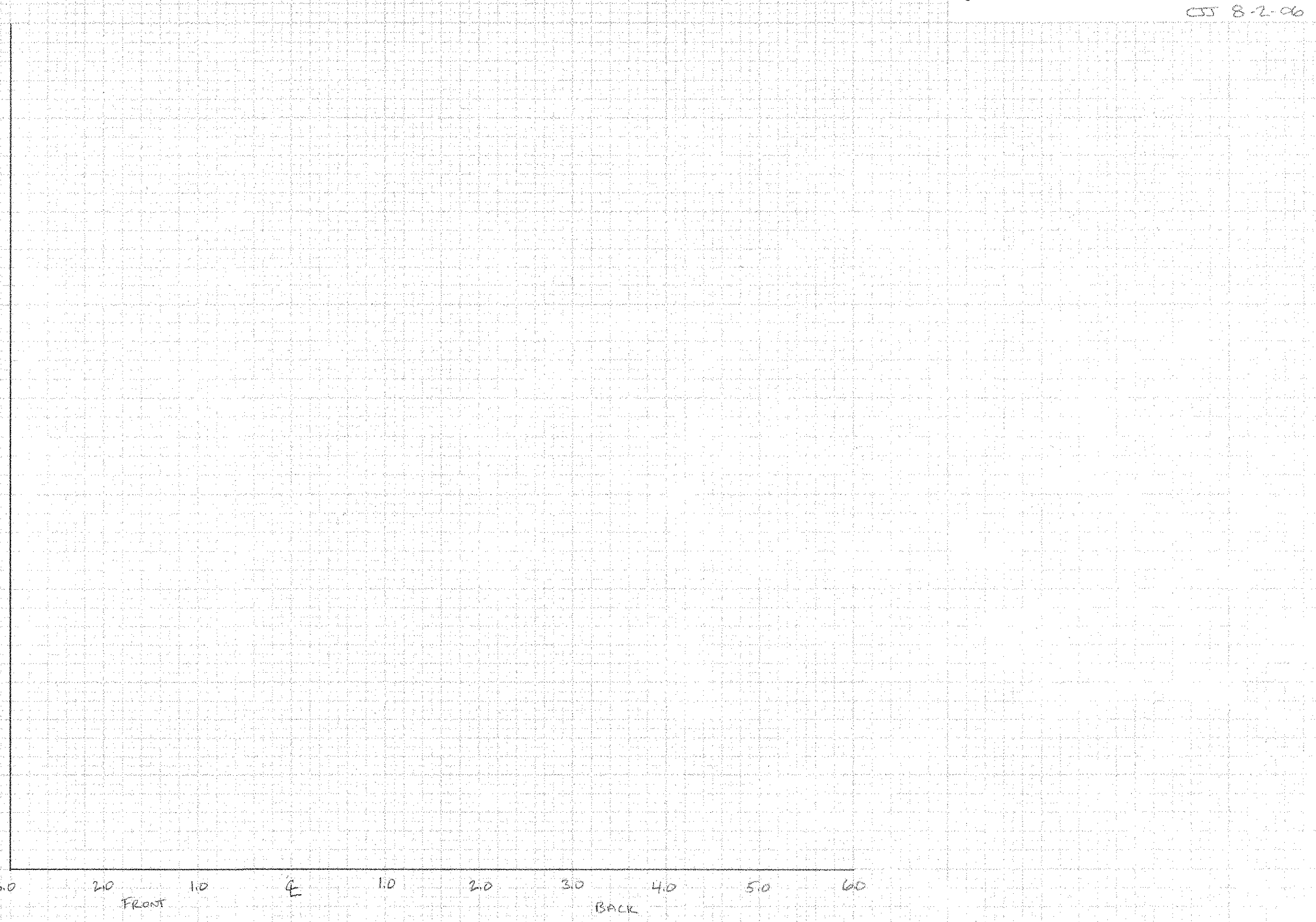
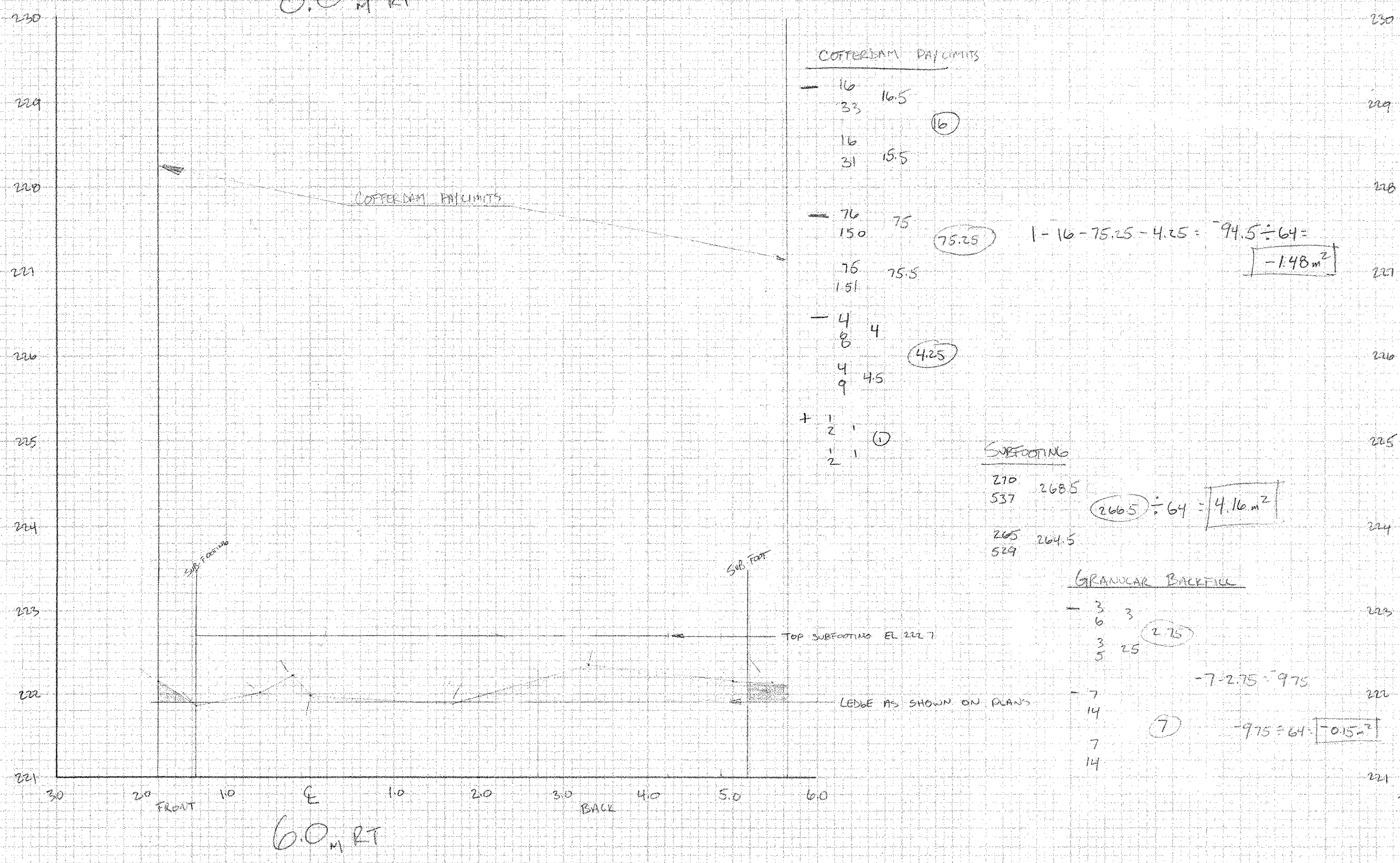
$7.75 + 6.25 = 14 \div 64 = 0.22 \text{ m}^2$

2.0_m RT

FINAL SURVEY

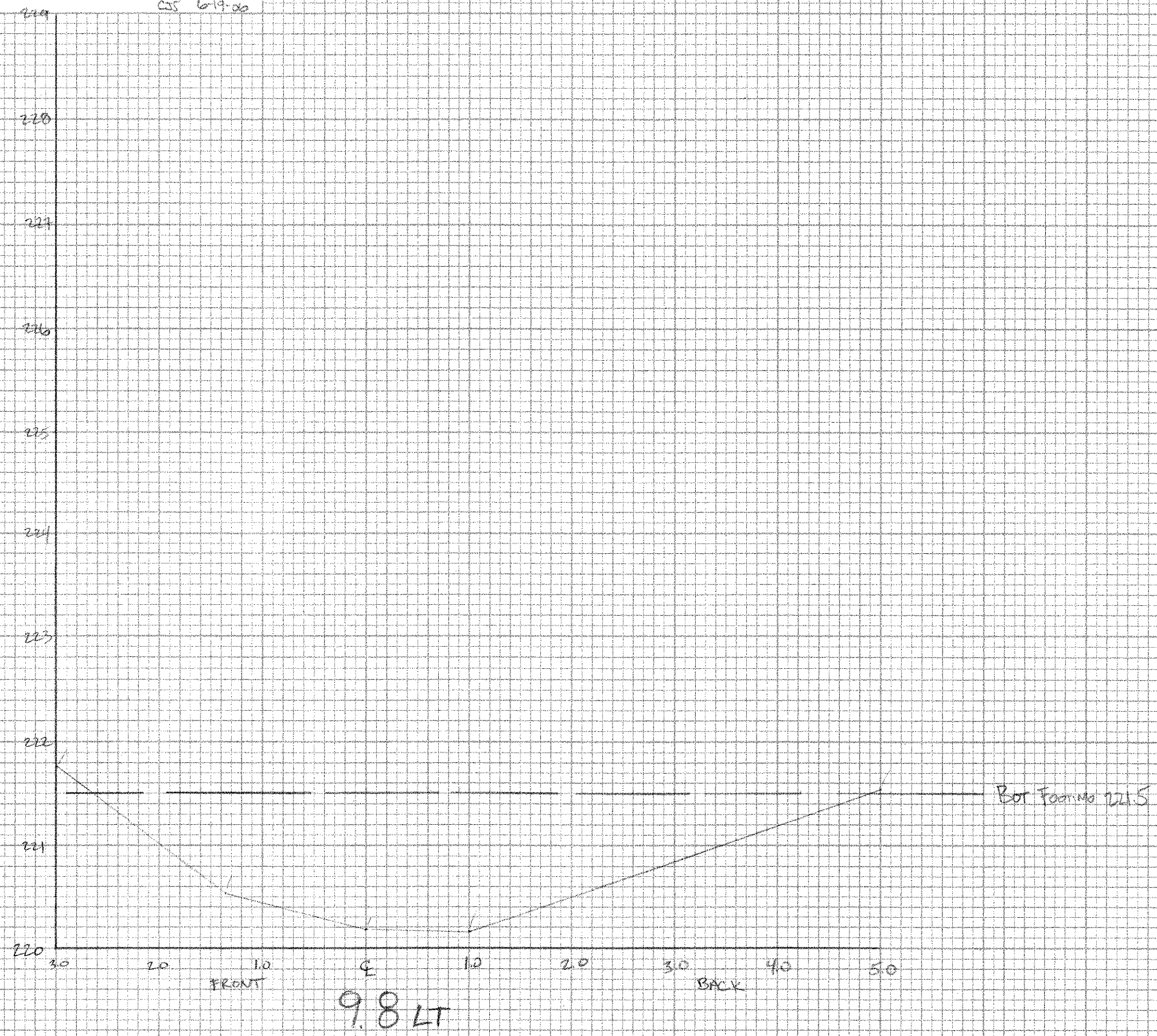


FINAL SURVEY SHEET 3 OF 7



LYNDON BRS 0269(8)

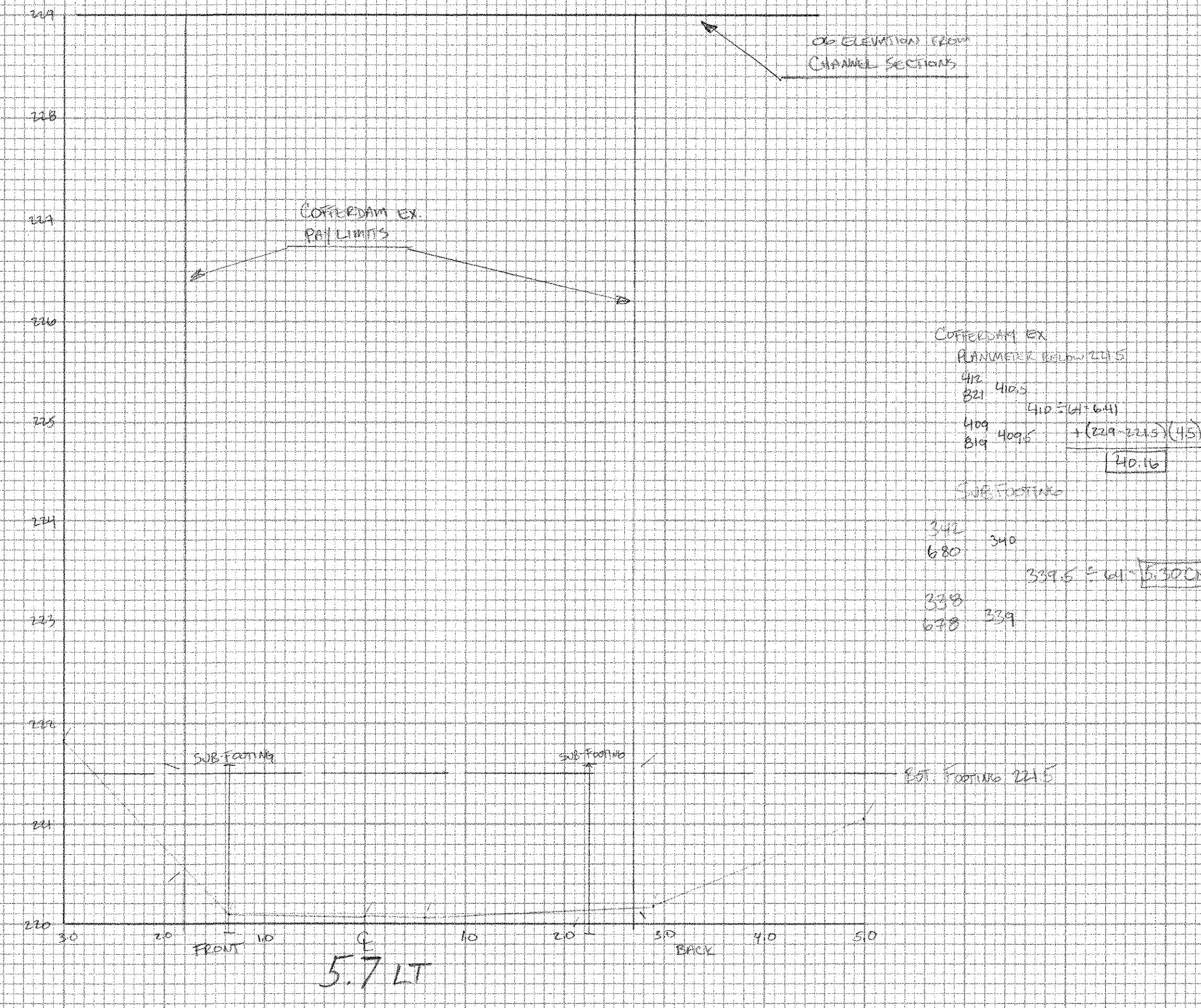
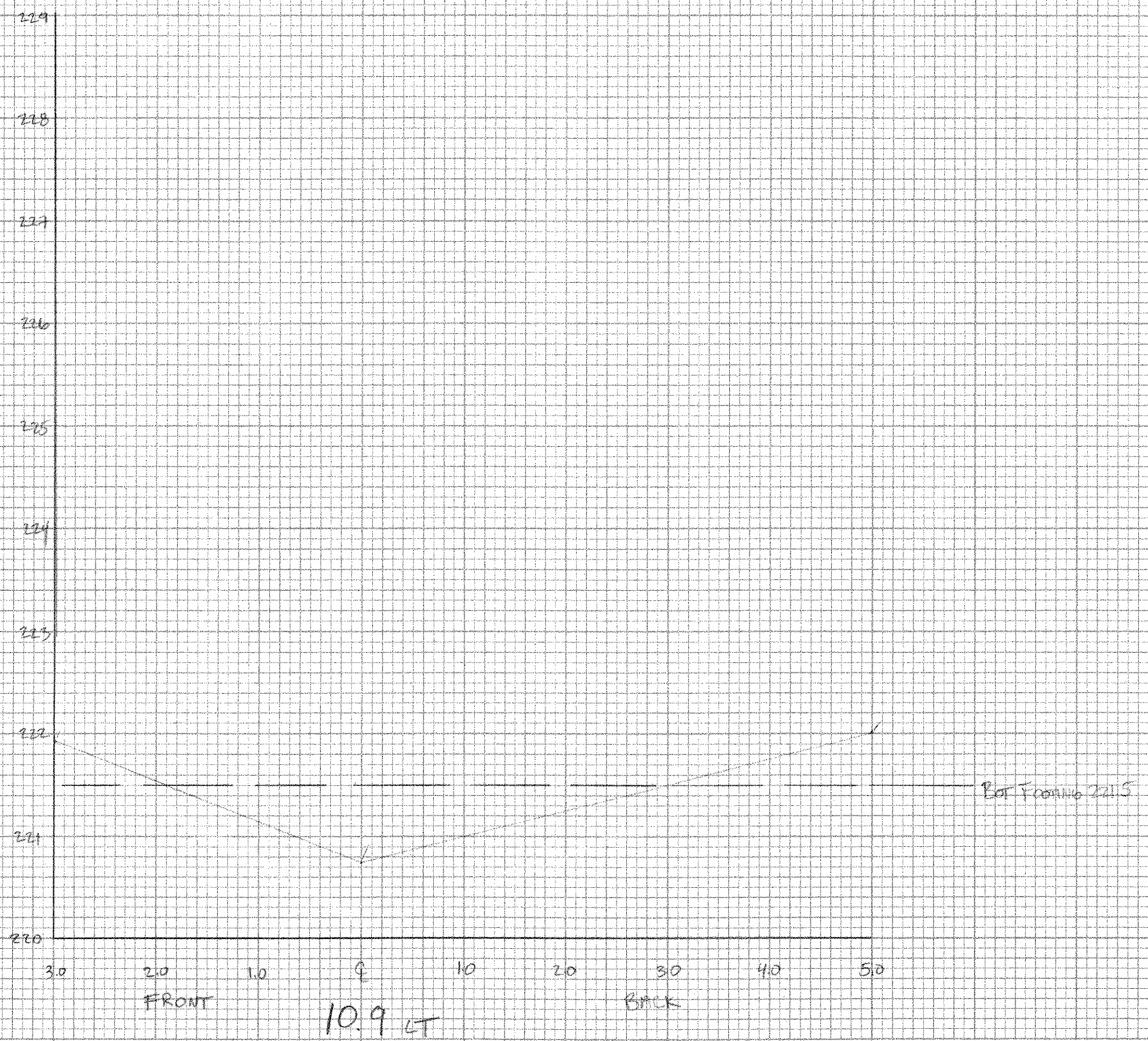
SECTIONS ALONG E BRG ABUT #2
CS 619.00



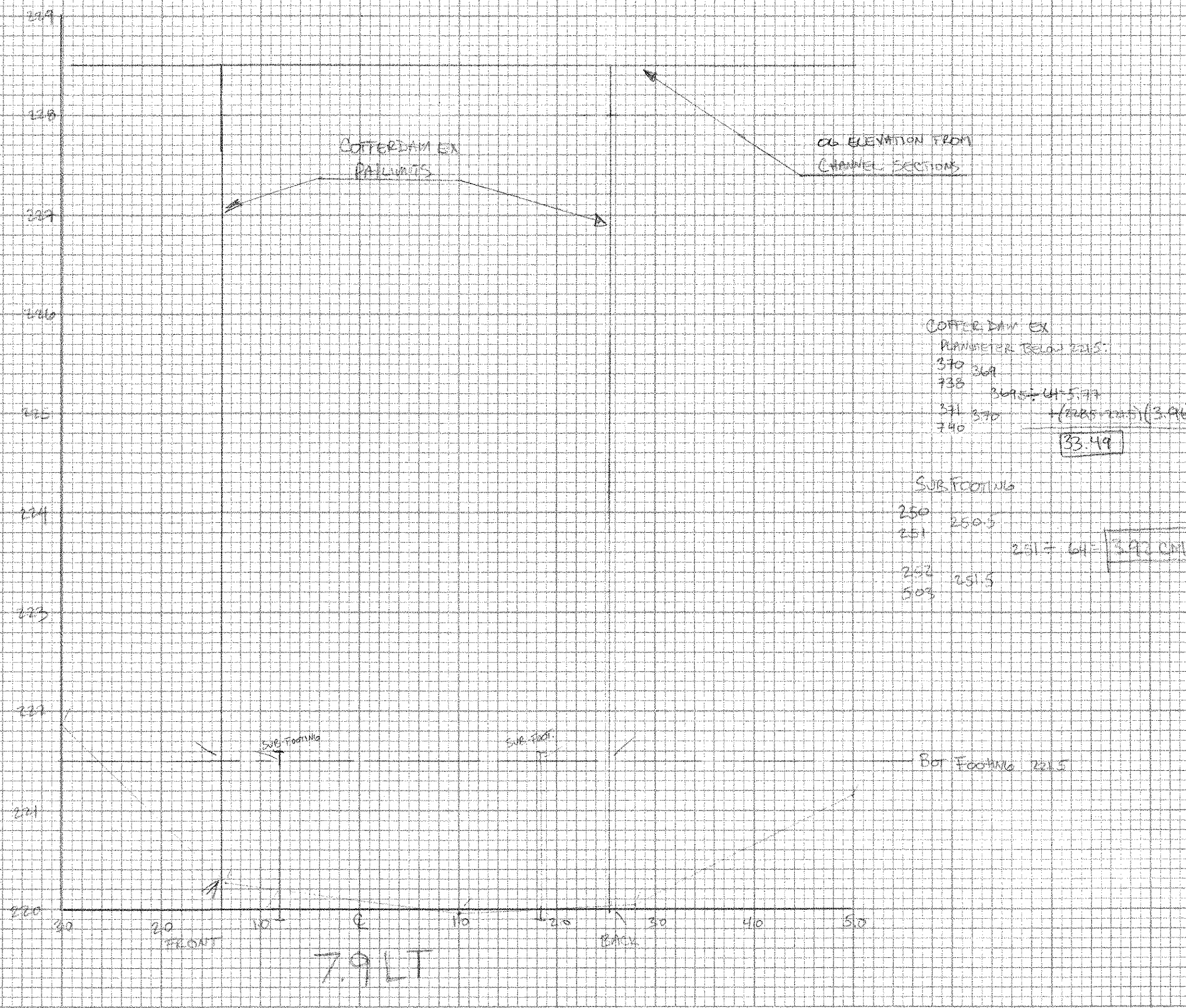
PLANIMETER CALIBRATION:

1 sm = 64 sq

4 sm = 256 sq



CORRECTION EX
PLANIMETER BELOW 221.5
392 390
680
409 409.5
819 409.5 + (221.5 - 221.5) (4.5)
140.16
SUB FOOTING
392 390
680
399.5 = 641 = 330 CM
399 399
678



CORRECTION EX
PLANIMETER BELOW 221.5:
390 390
738
391 390 + (221.5 - 221.5) (3.96)
740
133.49
SUB FOOTING
250 250.5
251
250 = 641 = 393 CM
250 251.5
509

NO.	DATE
BY	BY
CHECKED	CHECKED
APPROVED	APPROVED

NO.	DATE
BY	BY
CHECKED	CHECKED
APPROVED	APPROVED

LYNDON BRS 0269(B)
 SECTIONS ALONG E R26 ABUT #2

CSJ 6/19/06

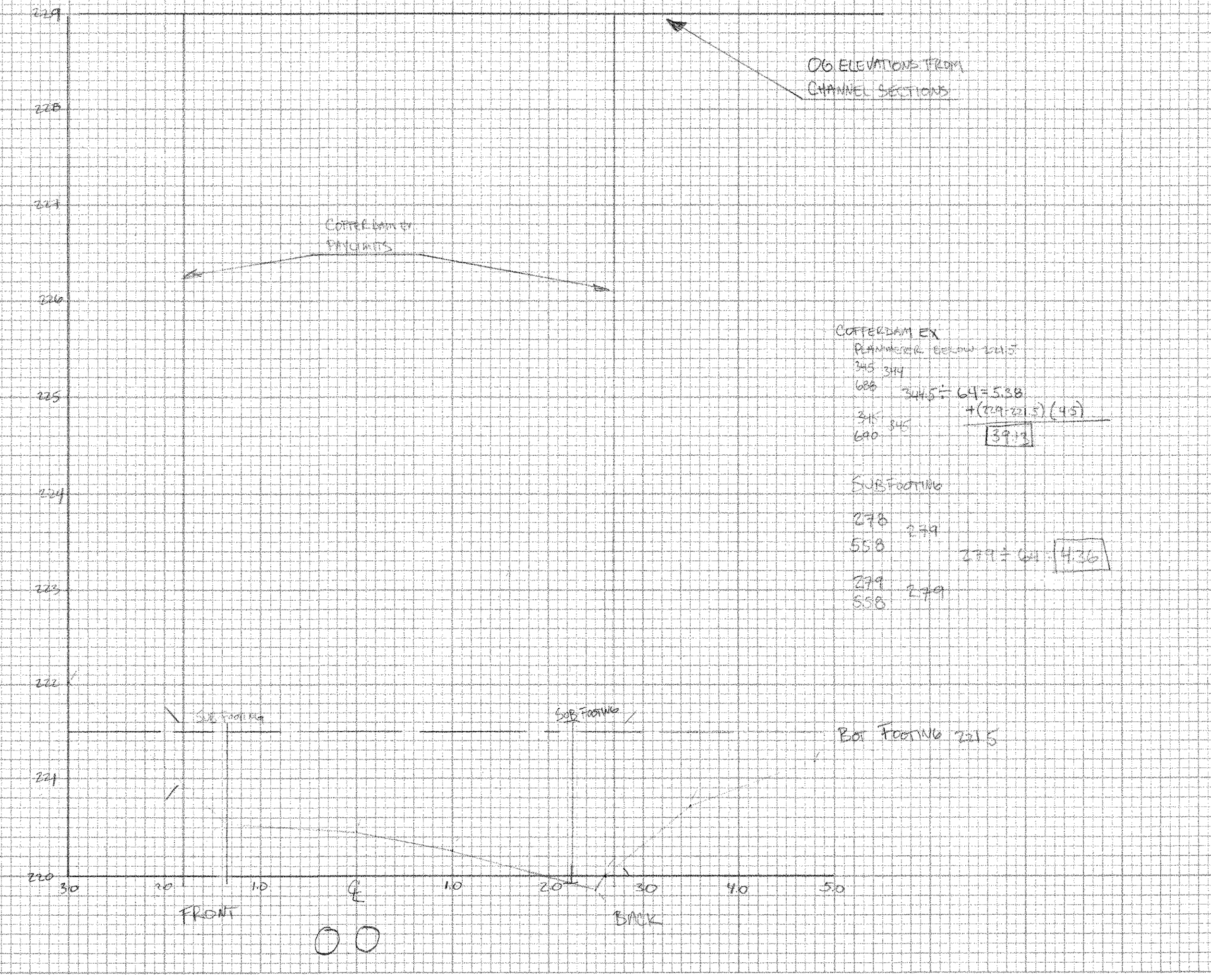
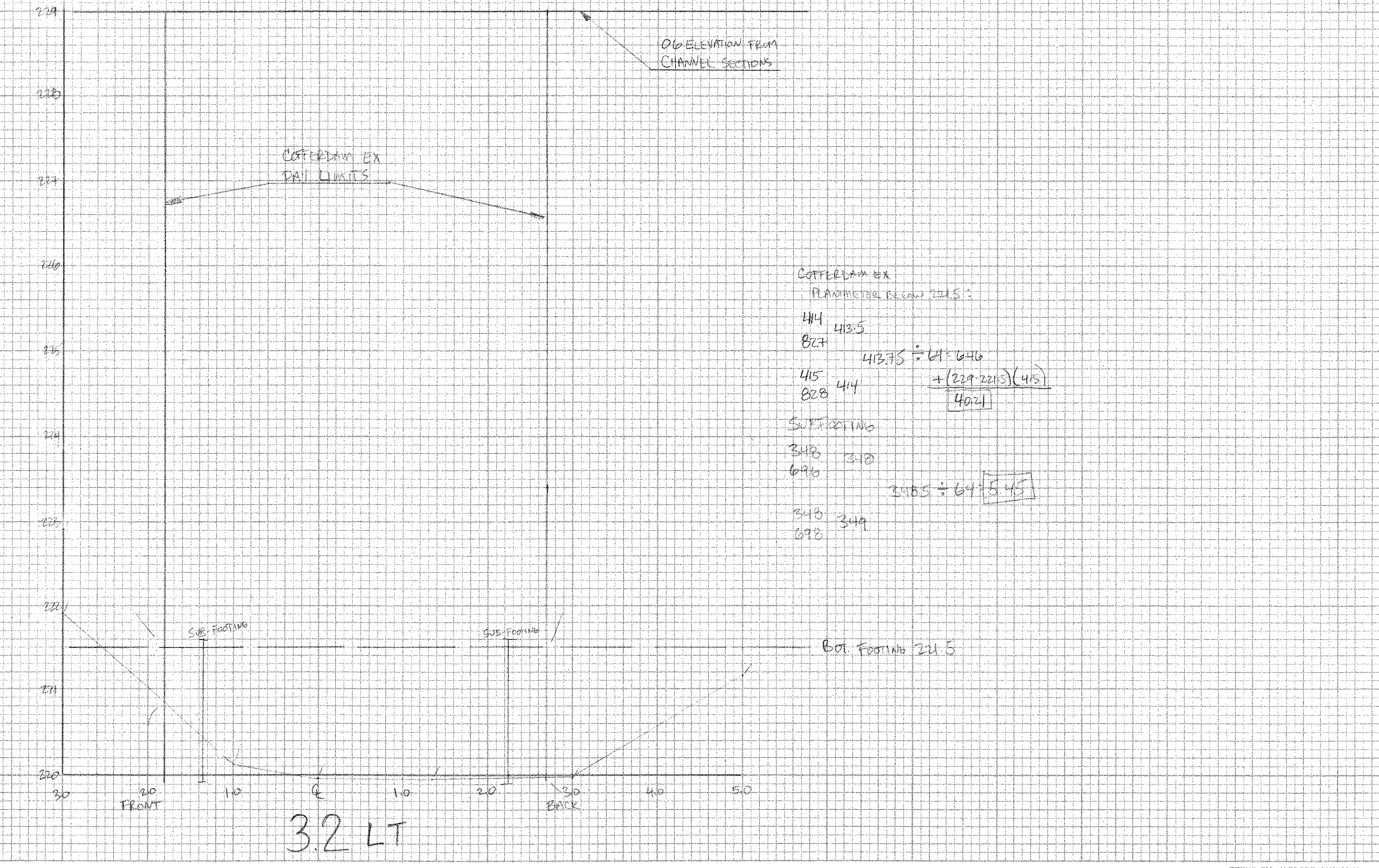
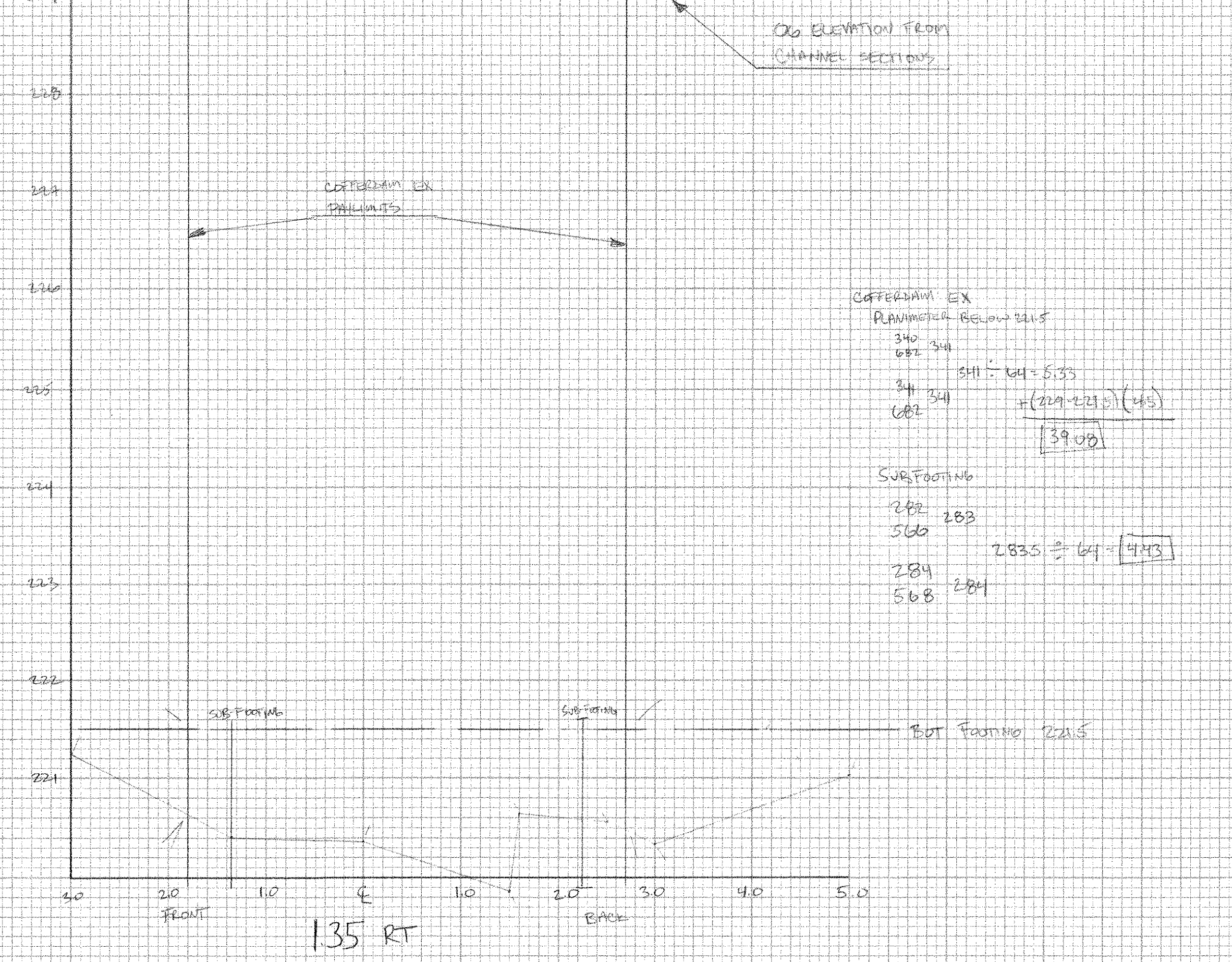
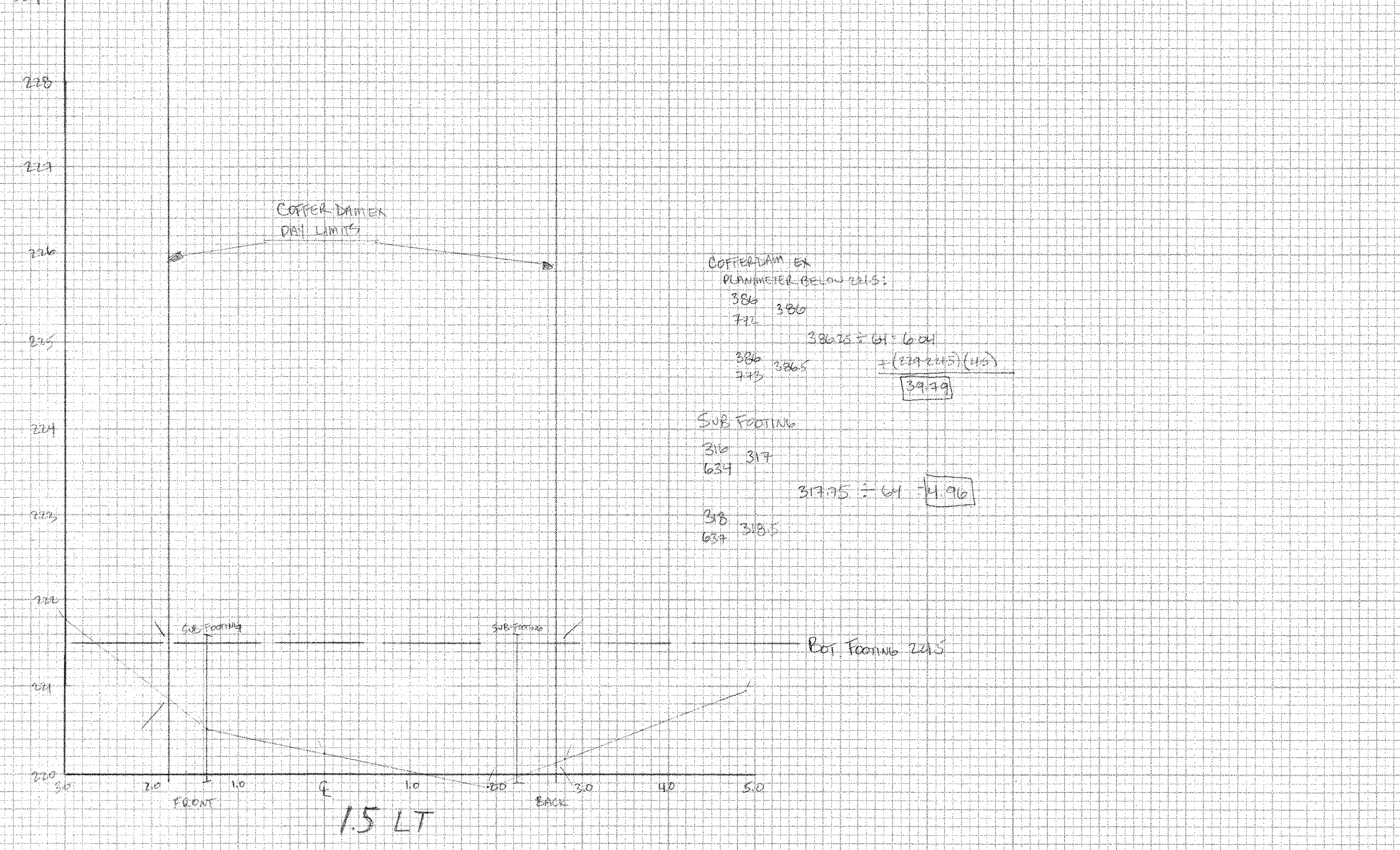
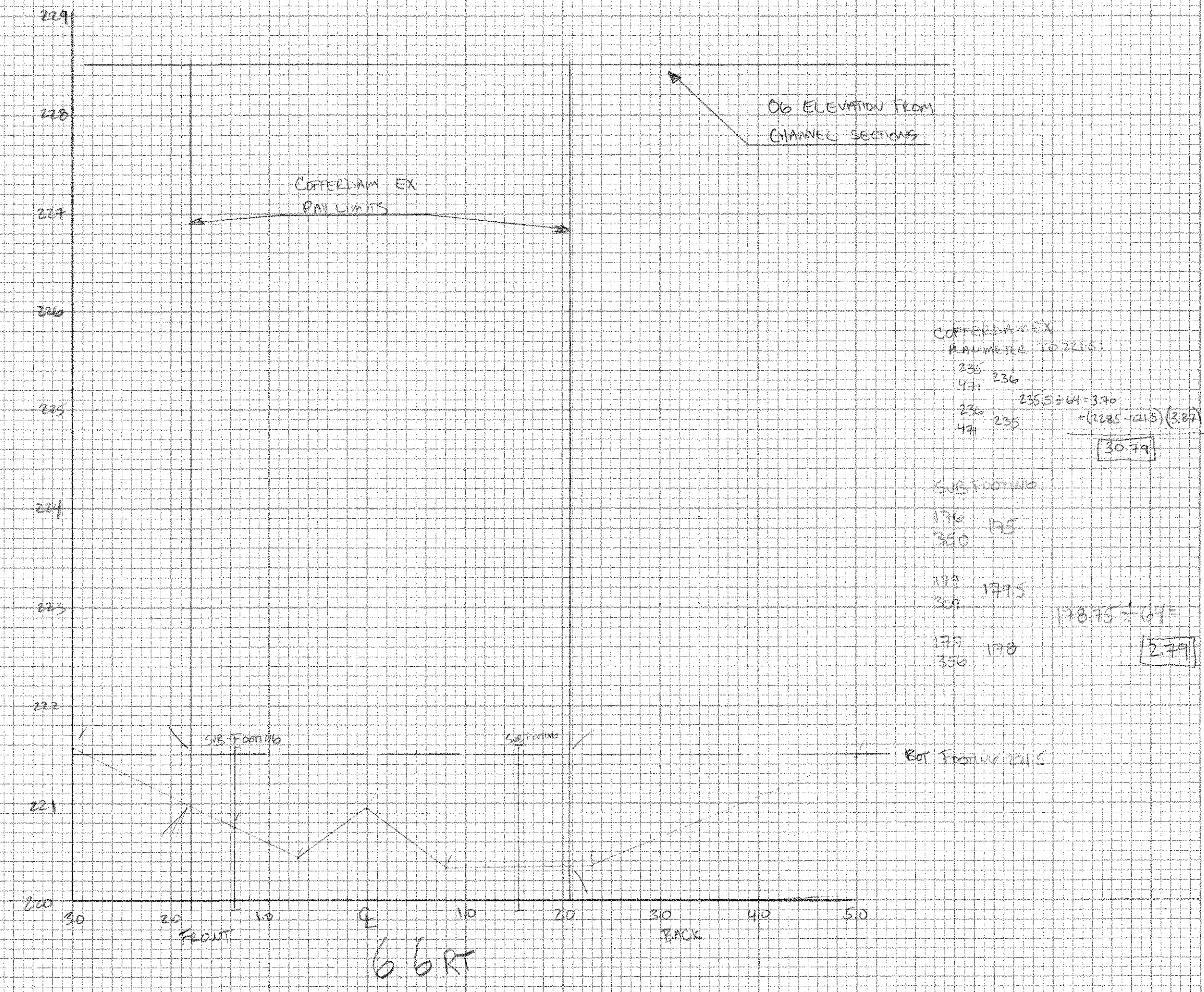
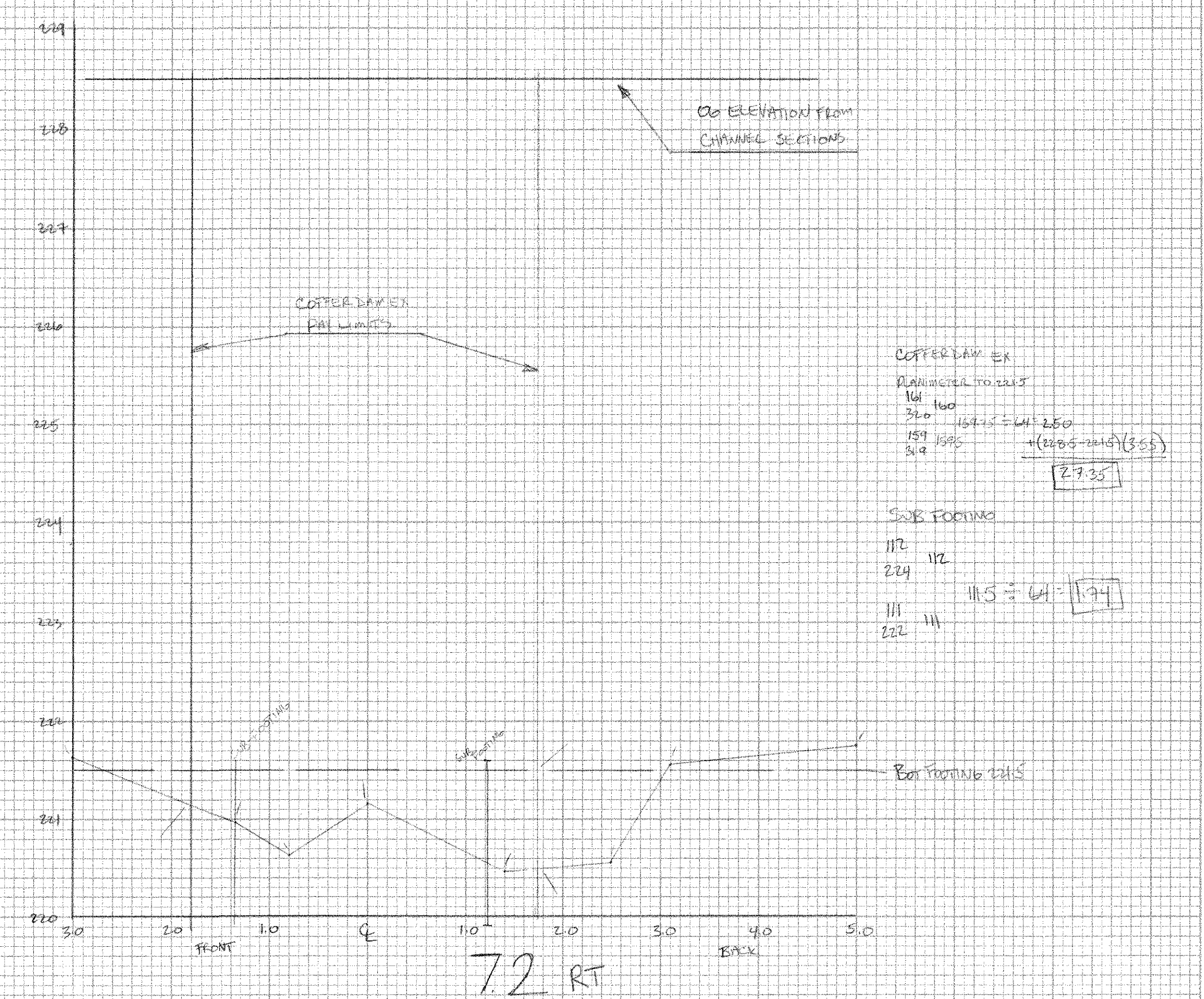
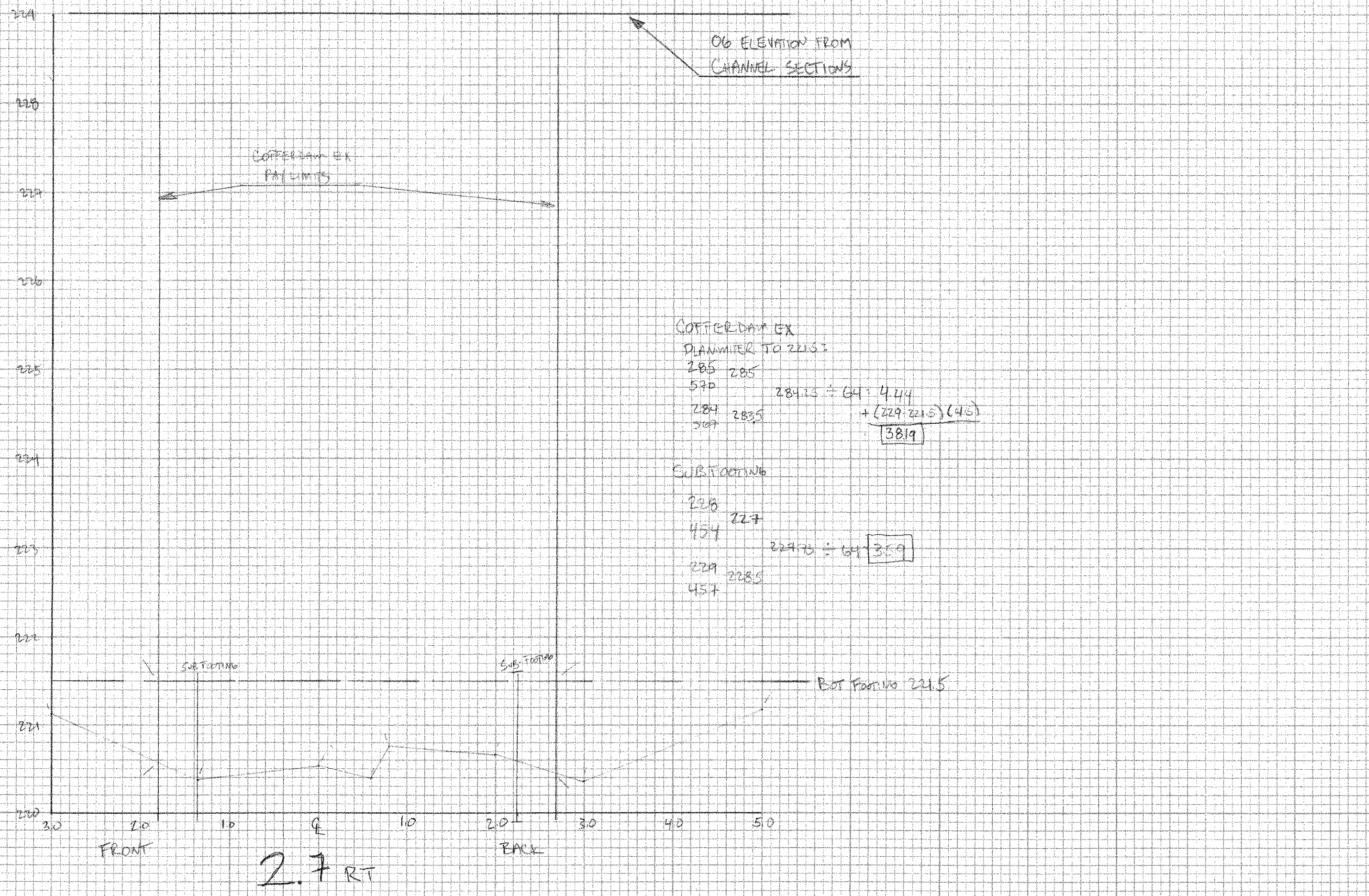
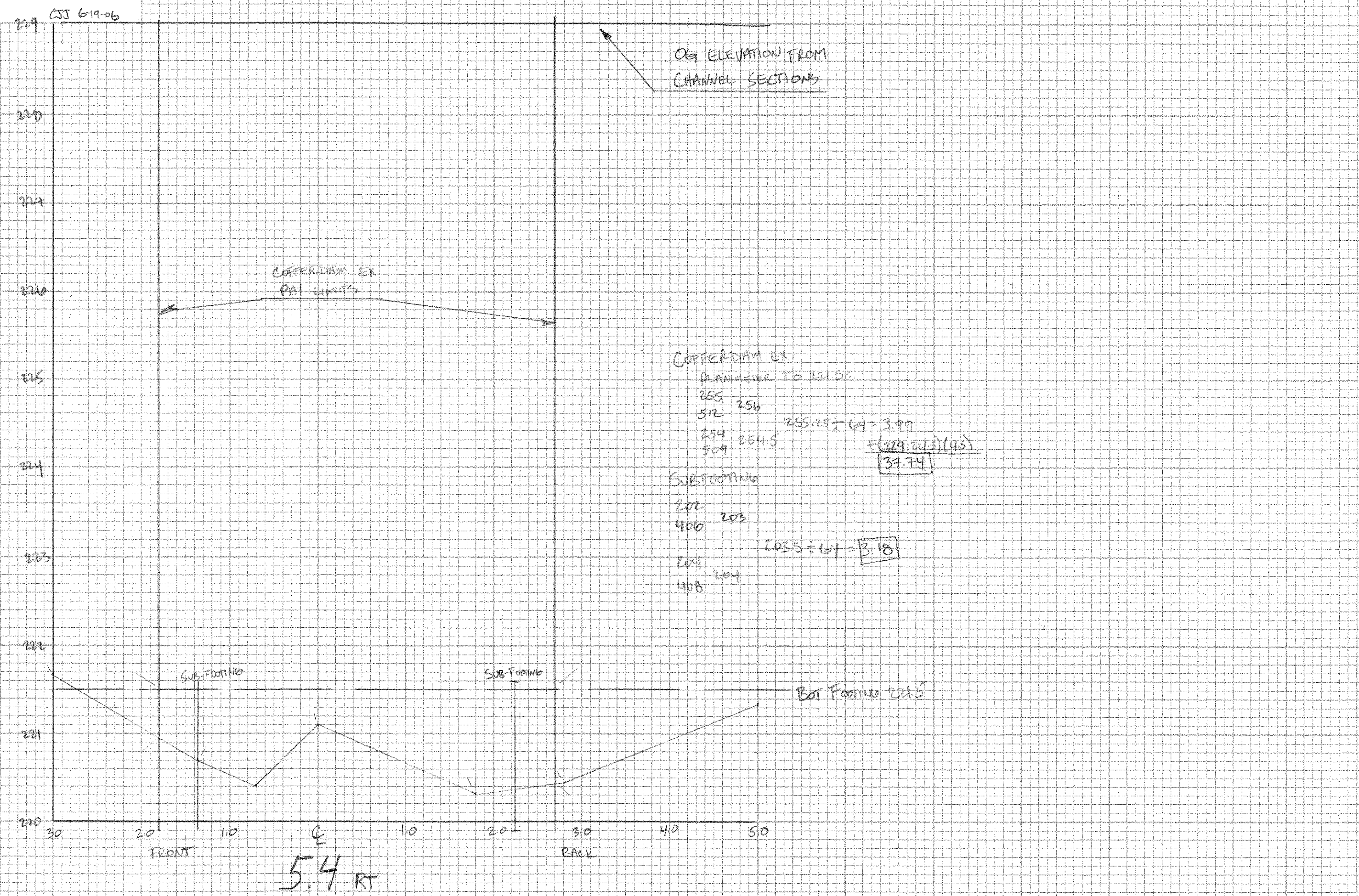


PLATE 3-FULL CROSS SECTION-FRONT LINE
 4-11-06
 4-11-06

NO. OF SHEETS 24
 SHEET NO. 24
 DATE 06/19/06

NO. OF SHEETS 5
 SHEET NO. 5 OF 7
 DATE 06/19/06

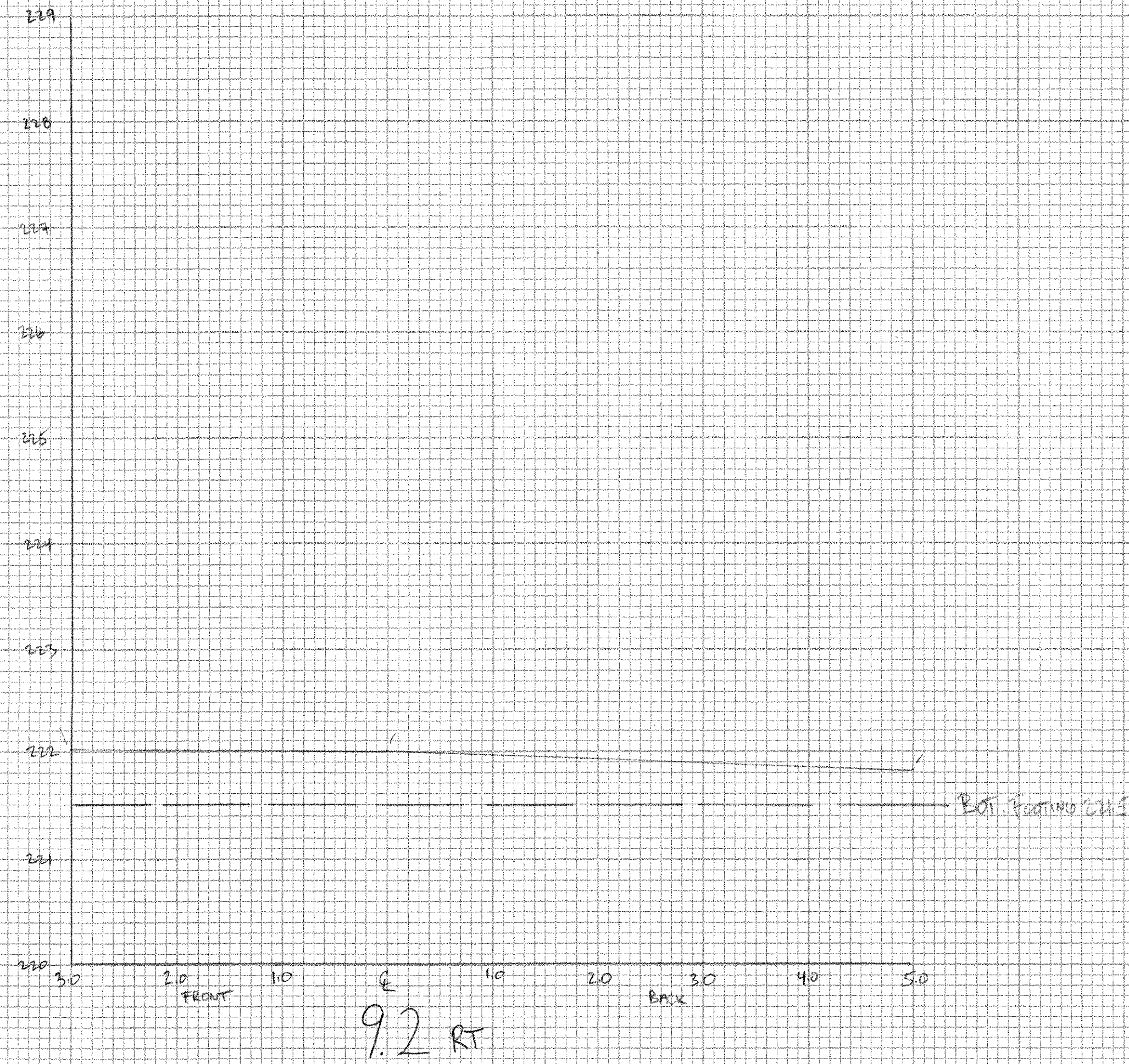
LYNDON BR 0269 (8)S
SECTIONS ALONG C-ERB ABST #2



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LYNDON BRS 0269(a)
SECTIONS ALONG E BRG PROJ #2
CS 6-19-06



NO.	DATE CHECKED	BY	DATE

NO.	DATE CHECKED	BY	DATE