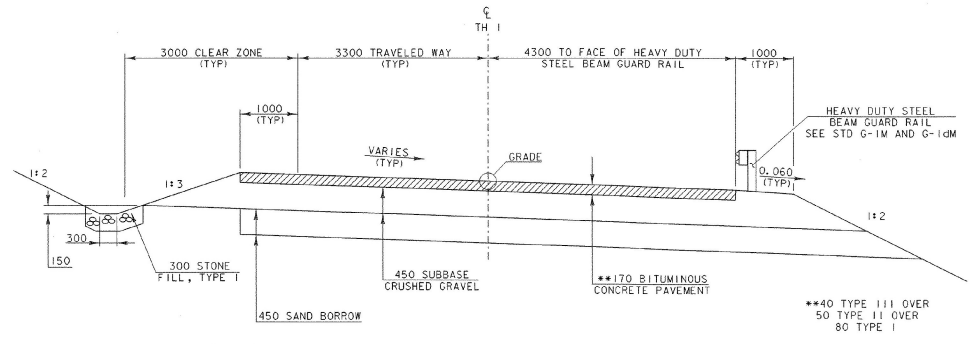


**BRIDGE TYPICAL SECTION**  
SCALE = 1:40



**ROADWAY TYPICAL SECTION**  
SCALE = 1:40

MATERIAL ITEM	TOLERANCE
PAVEMENT	±5 mm TOTAL THICKNESS
AGGREGATE SURFACE COURSE	±10 mm
BASE COURSE	±10 mm
SUBBASE	±30 mm
SAND BORROW	±30 mm
GRANULAR BORROW	±30 mm

**FINAL HYDRAULICS REPORT**



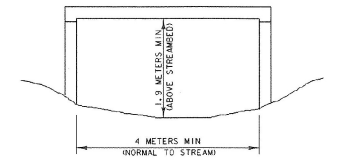
DRAINAGE AREA = 10.9 sq. km  
 02.33 = 4.5 cms HEADWATER ELEVATION = 299.8 m  
 010 = 9.6 cms " " = 300.0 m  
 025 = 13.3 cms " " = 300.1 m  
 050 = 16.1 cms " " = 300.2 m  
 0100 = 19.7 cms " " = 300.4 m  
 TAILWATER ELEVATION @ 025 = 298.5 m  
 OUTLET VELOCITY @ 025 = 4.8 mps  
 AT WHAT FREQUENCY IS THE ROADWAY OVERTOPPED? Over 0100  
 DISCHARGE OVER ROAD @ 0100 None  
 REQUIRED CHANNEL PROTECTION: Stone FILL Type IV

**PERMIT INFORMATION**

AVERAGE DAILY FLOW = 0.2 cms DEPTH 0.1 m  
 ORDINARY LOW WATER = 0.1 cms DEPTH 0.3 m  
 ORDINARY HIGH WATER = 1.9 cms DEPTH 0.3 m

**TEMPORARY BRIDGE REQUIREMENTS**

STRUCTURE TYPE: Bridge  
 CLEAR SPAN NORMAL TO STREAM: 4.0 m  
 VERTICAL CLEARANCE ABOVE STREAMBED: 1.9 m  
 WATERWAY OF FULL OPENING: 7.6 sq.m



**TEMPORARY BRIDGE SKETCH**  
NTS

DESIGN CRITERIA:

- DESIGN LIVE LOAD AASHTO MS 22.5
- DESIGN SPAN 5.75 m
- ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL 369 kpa ON LEDGE N/A
- ALLOWABLE LOAD FOR PILING N/A TYPE N/A ESTIMATED LENGTH N/A
- STRUCTURAL STEEL AASHTO GRADE N/A
- REINFORCING STEEL GRADE 420
- CONCRETE CLASS AASHTO: 30 MPa  
CONCRETE CLASS AASHTO: 25 MPa

TRAFFIC MAINTENANCE:

- IS TRAFFIC TO BE MAINTAINED? YES IF YES, ON EXISTING STRUCTURE NO OR ON TEMPORARY BRIDGE YES
- TEMPORARY BRIDGE REQUIREMENTS: ONE OR TWO WAY ONE WAY TRAFFIC CONTROL SIGNALS REQUIRED NO  
 MINIMUM CLEAR SPAN NORMAL TO STREAM 4.0 m  
 MINIMUM VERTICAL CLEARANCE ABOVE STREAMBED 1.9 m

ARE SIDEWALKS REQUIRED? NO IF SO, ON WHAT SIDE?

LOADING LEVELS (LOAD FACTOR)	LOAD FACTOR LOAD RATING (TONS)						
	M	MS	3S2	6 AXLE	3A.STR.	4A.STR.	5A. SEMI
INVENTORY A=2, IT	28	52					
POSTED A=1.55	40	73	91		50	54	90
OPERATING A=1.30	87	109	98	60	65		

STRENGTH RFR =  $\frac{0.75M}{A \times M_{LL+1}}$   $\frac{0.75M}{A \times M_{LL+1}}$

**TRAFFIC DATA**

YEAR	ADT	DHV	% D	% T	ADTT
1998	390	55	50	3	20
2018	520	75	50	4	30

20 year ESAL for flexible pavement from 1998 to 2018: 394,000  
 40 year ESAL for flexible pavement from 1998 to 2038: 1,497,000  
 Design speed: 50 km/h

**STATE OF VERMONT  
AGENCY OF TRANSPORTATION**

Town Of GROTON Bridge No. 4  
 Log Sta. TH I OVER KEENAN BROOK  
 Highway No. TH I Surv. Sta. 100+136.500

**PRELIMINARY INFORMATION**

Designed By R.S. YOUNG Drawn By R.S. YOUNG  
 Checked By Date Bridge Design Supervisor  
 K.M. HIGGINS 1/99 C.P. WILLIAMS Date 1/99  
 PROJECT GROTON PROJECT NO. TH2-9435  
 I.C.C. Info. 94\120\structures\sj\120p1.dgn sj\120p1.i  
 Bridge Sheet No. Sheet 2 of 40

# QUANTITY SHEET



SUMMARY OF ESTIMATED QUANTITIES										TOTALS			DESCRIPTIONS		DETAILED SUMMARY OF QUANTITIES		
Super Struct.	Abut. #1	Abut. #2	Approch. Stab #1	Approch. Stab #2	Roadway	E & C Items	Erosion Control	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			
					1585					1585		CM	COMMON EXCAVATION	203.15			
	300	265								565		CM	UNCLASSIFIED CHANNEL EXCAVATION	203.27			
					90					90		CM	EXCAVATION OF SURFACES AND PAVEMENTS	203.28			
					1150					1150		CM	EARTH BORROW	203.30			
					670					670		CM	SAND BORROW	203.31			
					4				10	14		CM	TRENCH EXCAVATION OF EARTH	204.20			
	420	420								840		CM	GRANULAR BACKFILL FOR STRUCTURES	204.30			
	500	430								930		CM	COFFERDAM EXCAVATION, EARTH	208.30			
	5	15								20		CM	COFFERDAM EXCAVATION, ROCK	208.35			
	1									1		LS	COFFERDAM (STA 100+133)	208.40			
		1								1		LS	COFFERDAM (STA 100+140)	208.40			
					200					200		SM	COLD PLANING-BIT PAVEMENT	210.10			
					1100					1100		CM	SUBBASE OF CRUSHED GRAVEL (COARSE GRADED)	301.25			
					10					10		CM	AGGREGATE SURFACE COURSE	401.10			
					240					240		KG	EMULSIFIED ASPHALT	404.65			
					700					700		T	BITUMINOUS CONCRETE PAVEMENT (PG 58-34)	406.25			
2	8	4								14		CM	CONCRETE, CLASS A (HPC-A)	501.22			
35	190	165	30	30						450		CM	CONCRETE, CLASS B (HPC-B)	501.25			
	12971	11826								24797		KG	REINFORCING STEEL	507.15			
2359	200	200	2087	2087						6933		KG	EPOXY COATED REINFORCING STEEL	507.17			
8	59	48								115		L	WATER REPELLENT	514.10			
70			65	65						200		SM	SHEET MEMBRANE WATERPROOFING	519.20			
16										16		M	BRIDGE RAILING - HD STEEL BEAM/FASCIA MOUNTED	525.41			
					1					1		LS	ONE-WAY TEMPORARY BRIDGE	528.10			
1										1		EACH	REMOVAL OF STRUCTURE	529.15			
					10.4					10.4		M	**BEGIN PIPE OPTION** 450 mm CSP 1.63 mm (68 mm X 12 mm)	601.0015			
					10.4					10.4		M	450 mm CAAP 1.91 mm (68 mm X 12 mm)	601.0216			
					10.4					10.4		M	450 mm CRFP	601.0916			
													**END PIPE OPTION**				
									10	10		HR	ALL PURPOSE EXCAVATOR RENTAL, TYPE I	606.25			
					1					1		T	DUST AND ICE CONTROL WITH CALCIUM CHLORIDE	609.15			
	1	1			30				10	42		CM	STONE FILL, TYPE I	613.10			
	300	220								520		CM	STONE FILL, TYPE IV	613.13			
					1					1		EACH	RELOCATE MAIL BOX, SINGLE SUPPORT	617.10			
					88					88		M	HEAVY DUTY STEEL BEAM GUARD RAIL	621.21			
					4					4		EACH	ANCHOR FOR STEEL BEAM RAIL	621.60			
					23					23		M	REMOVAL AND DISP OF GUARD RAIL	621.80			
					40					40		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 (NAB)	631.25			
					1					1		LS	MOBILIZATION	635.10			

PROJECT NAME: Groton  
 PROJECT NUMBER: TH2-9435  
 FILE NAME: metquant.xls PLOT DATE: 11/15/01  
 PROJECT LEADER: C.P. Williams DRAWN BY: R.S. Young  
 DESIGNED BY: R.S. Young CHECKED BY: K.M. Higgins  
 QUANTITY SHEET #1 SHEET 3 OF 40

# QUANTITY SHEET



SUMMARY OF ESTIMATED QUANTITIES										TOTALS			DESCRIPTORS		DETAILED SUMMARY OF QUANTITIES		
Super Struct.	Abut. #1	Abut. #2	Apprch. Slab #1	Apprch. Slab #2	Roadway	E & C Items	Erosion Control	BRIDGE QUANTITY	ROUND	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	QUANTITIES	UNIT	ITEMS
										430		M	DURABLE 100 mm WHITE LINE	646.40			
										440		M	DURABLE 100 mm YELLOW LINE	646.41			
										430		M	TEMPORARY 100 mm WHITE LINE	646.60			
										440		M	TEMPORARY 100 mm YELLOW LINE	646.61			
	220	200								420		SM	GEOTEXTILE UNDER STONE FILL	649.31			
									440	440		SM	GEOTEXTILE FOR SILT FENCE	649.51			
									35	35		SM	GEOTEXTILE FOR FILTER CURTAIN	649.61			
									40	40		KG	SEED	651.15			
									20	20		KG	SEED-WINTER RYE	651.17			
									1000	1000		KG	FERTILIZER	651.18			
									1	1		T	AGRICULTURAL LIMESTONE	651.20			
									1	1		T	HAY MULCH	651.25			
									40	40		EACH	HAY BALES FOR EROSION CONTROL	651.26			
									40	40		CM	TOPSOIL	651.35			
									290	290		SM	GRUBBING MATERIAL	651.40			
									30	30		SM	EROSION MATTING	654.10			
									1	1		EACH	REMOVING SIGNS	675.50			

PROJECT NAME: Groton  
 PROJECT NUMBER: TH2-9435  
 FILE NAME: metquant.xls  
 PROJECT LEADER: C.P. Williams  
 DESIGNED BY: R.S. Young  
 PLOT DATE: 11/15/01  
 DRAWN BY: R.S. Young  
 CHECKED BY: K.M. Higgins  
 SHEET 4 OF 49  
 QUANTITY SHEET #2

## GEODETIC CONTROL INFORMATION



### DESIGNATION - GROTON TEMP 1

GENERAL LOCATION, GROTON, VT. TO REACH FROM THE INTERSECTION OF US ROUTE 302 AND VERMONT 232, GO 6.0 KM (3.7 MI) EAST ON US ROUTE 302 TO THE INTERSECTION OF US ROUTE 302 AND TH 1 (POWER SPRING ROAD) ON THE RIGHT. TURN RIGHT ON TH 1 AND PROCEED 1.6 KM (1.0 MI) TO THE INTERSECTION OF TH 1 AND QUARRY ROAD ON THE LEFT AND THE MARK ON THE RIGHT.

THE MARK IS LOCATED IN A FIELD ON THE NORTH SIDE OF THE ROAD. THE MARK IS 106 M (347.8 FT) NORTHEAST OF THE INTERSECTION OF TH 1 AND QUARRY ROAD. THE MARK IS ALSO 15.8 METERS (51.8 FT) NORTHEAST OF A BOULDER WITH AN ORANGE PAINT SPOT FACING THE MARK, SOUTH 24 M (78.7 FT) OF ANOTHER BOULDER WITH AN ORANGE PAINT SPOT FACING THE MARK, 0.3 M (1.0 FT) SOUTH OF A WOODEN WITNESS STAKE. IT IS A CENTERPUNCHED REBAR 2 CM BELOW GROUND SURFACE.

GROTON TEMP 1 (GT01)  
N = 188750.541  
E = 523547.288

### DESIGNATION - GROTON TEMP 2

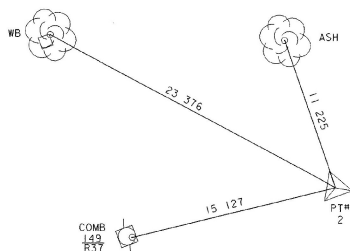
GENERAL LOCATION, GROTON, VT. TO REACH FROM THE THE INTERSECTION OF US ROUTE 302 AND VERMONT 232, GO 6.0 KM (3.7 MI) EAST ON US ROUTE 302 TO THE INTERSECTION OF US ROUTE 302 AND TH 1 (POWER SPRING ROAD) ON THE RIGHT. TURN RIGHT ON TH 1 AND PROCEED 1.6 KM (1.0 MI) TO THE INTERSECTION OF TH 1 AND QUARRY ROAD ON THE LEFT. PROCEED SOUTH ON QUARRY ROAD FOR 0.3 KM (0.2 MI) TO A WOODS DRIVE ON THE RIGHT AND THE MARK.

THE MARK IS LOCATED IN THE CENTER OF THE WOODS DRIVE ON THE RIGHT SIDE OF QUARRY ROAD. THE MARK IS 4 M (13.1 FT) NORTHWEST OF AND 1.1 M (0.3 FT) BELOW THE CENTERLINE OF QUARRY ROAD, NORTH NORTHWEST 18.1 M (59.4 FT) FROM THE INLET OF A 460 MM CGMP, 11.65 M (38.22 FT) NORTH NORTHWEST OF THE OUTLET OF THE SAME 460 MM CGMP, 10.4 M (34.1 FT) WEST OF A STONE WALL, AND 16.0 M (52.5 FT) SOUTHWEST OF A 6 CM WHITE PINE. IT IS A CENTERPUNCHED REBAR 2 CM BELOW GROUND SURFACE.

GROTON TEMP 2 (GT02)  
N = 188442.958  
E = 523289.952

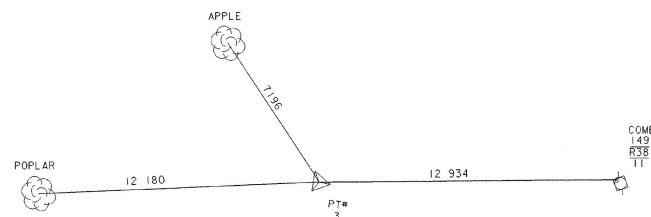
## TRAVERSE TIE INFORMATION

### POINT #2



N = 188697.4700  
E = 523385.4320  
Z = 302.445

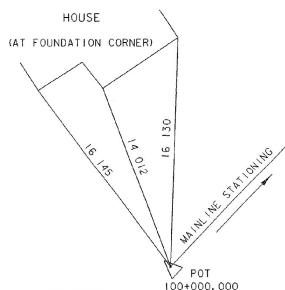
### POINT #3



N = 188758.4670  
E = 523292.5920  
Z = 303.023

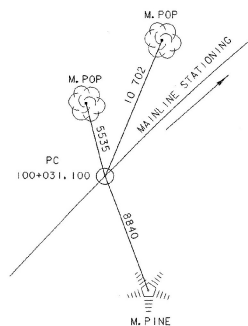
## NEW ALIGNMENT TIE INFORMATION

### POT 100+000.000

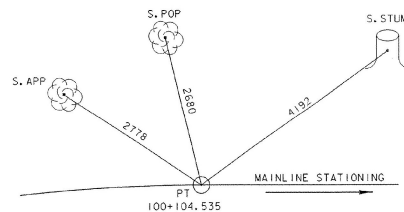


**DATUM**  
VERTICAL NAVD 88  
HORIZONTAL NAD-83 (92)

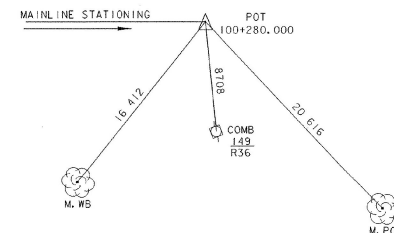
### PC 100+031.100



### PT 100+104.535



### POT 100+280.000



ALL TIES ARE SHOWN NOT TO SCALE

PROJECT: <b>GROTON</b>	PROJECT NO.: <b>TH2-9435</b>
DESIGN FILE NAME: 94j120/structures/sj120tie.dgn	PLOT DATE: 15-MAR-2002
IPARM FILE NAME: sj120tie.i	SURVEY DATE: 3/95
SURVEYED BY: R. MOREAU	DRAWN BY: R. S. YOUNG
SQUAD LEADER: C.P. WILLIAMS	TIE SHEET
	SHEETS: 5 OF 40

DRAINAGE NOTES				
NOTE	DESCRIPTION	STATION	INLET EL	OUTLET EL
1	NEW 450 x 40 400 CSP, CAAP, OR CPEP	STA 100+096.200 - 100+105.500 LT	303.650	302.717

**CONSTRUCT DRIVES**  
 STA 100+030 LT - W/2000 PAVED APRON  
 STA 100+100 LT - W/2000 PAVED APRON  
 - W/150 AGGREGATE SURFACE COURSE  
 - W/300 SUBBASE CRUSHED GRAVEL

**REMOVAL OF EXISTING GUARD RAIL**  
 STA 100+138 LT - 100+148 LT  
 STA 100+141 LT - 100+153 LT

**SPECIAL DITCHES**  
 STA 100+090 LT - 100+138 LT  
 STA 100+127 RT - 100+200 RT

\* PAVEMENT FOR DRIVES SHALL BE ONE 40 LIFT OF TYPE III PAVEMENT.

**REMOVE SIGNS**  
 STA 100+075 LT

**DURABLE 100 mm YELLOW LINE (DOUBLE)**  
 STA 100+010 - STA 100+200 CENTERLINE

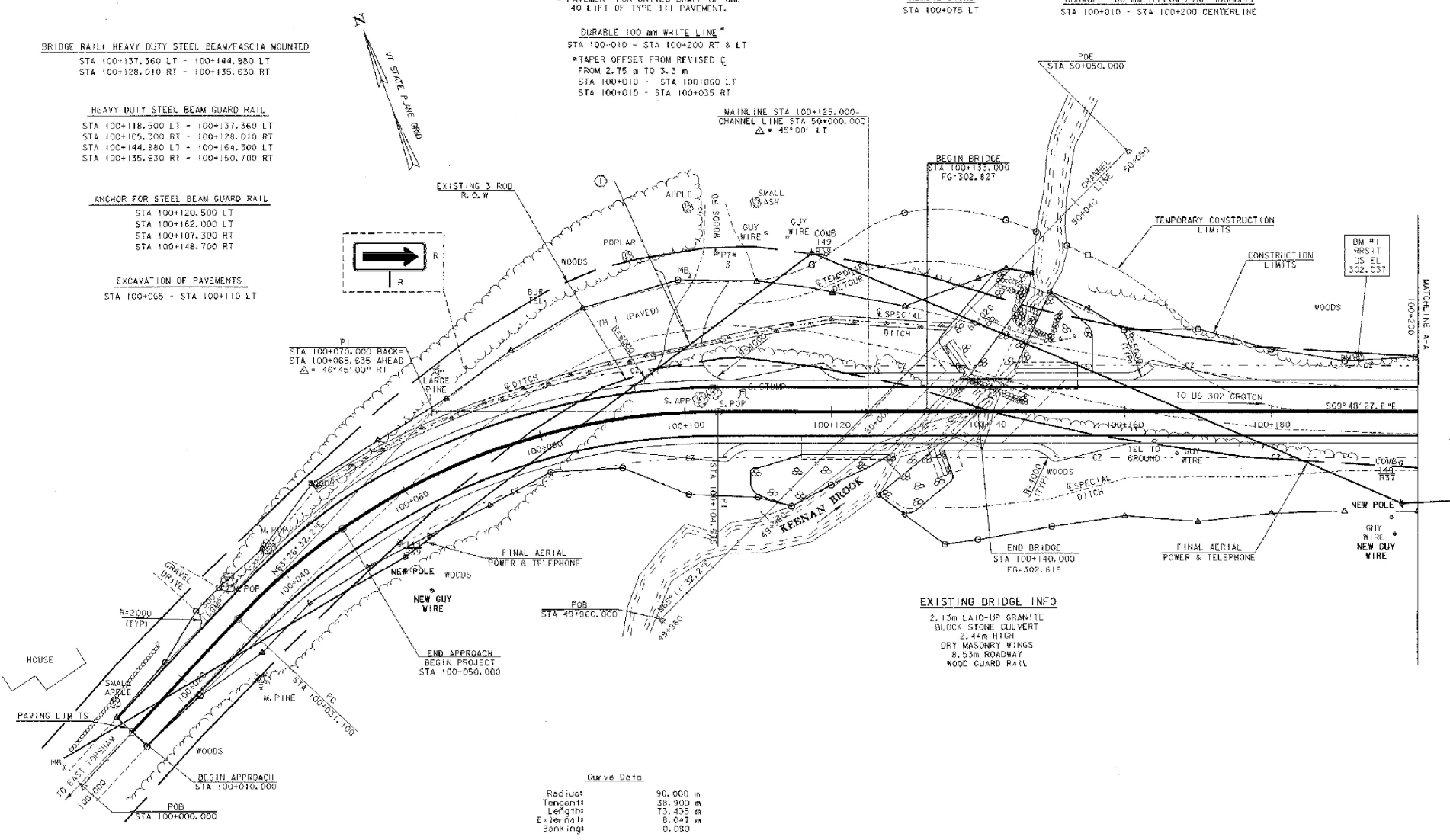
**DURABLE 100 mm WHITE LINE \***  
 STA 100+010 - STA 100+200 RT & LT  
 \* TAPER OFFSET FROM REVISED C FROM 2.75 m TO 3.3 m  
 STA 100+010 - STA 100+060 LT  
 STA 100+010 - STA 100+035 RT

**BRIDGE RAIL: HEAVY DUTY STEEL BEAM/FASCIA MOUNTED**  
 STA 100+137.360 LT - 100+144.980 LT  
 STA 100+128.010 RT - 100+135.630 RT

**HEAVY DUTY STEEL BEAM GUARD RAIL**  
 STA 100+118.500 LT - 100+137.360 LT  
 STA 100+105.300 RT - 100+128.010 RT  
 STA 100+144.980 LT - 100+164.300 LT  
 STA 100+135.630 RT - 100+150.700 RT

**ANCHOR FOR STEEL BEAM GUARD RAIL**  
 STA 100+120.500 LT  
 STA 100+162.000 LT  
 STA 100+107.300 RT  
 STA 100+148.700 RT

**EXCAVATION OF PAVEMENTS**  
 STA 100+065 - STA 100+110 LT



PI  
 STA 100+070.000 BACK-  
 STA 100+065.635 AHEAD  
 $\Delta = 46^{\circ}45'00''$  RT

**EXISTING BRIDGE INFO**  
 2.13m LAID-UP GRANITE  
 BLOCK STONE CULVERT  
 2.44m HIGH  
 DRY MASONRY WINGS  
 8.53m ROADWAY  
 WOOD GUARD RAIL

**Curve Data**

Radius	90.000 m
Tangent	38.900 m
Length	73.435 m
External	8.047 m
Banking	0.030



**DATUM**

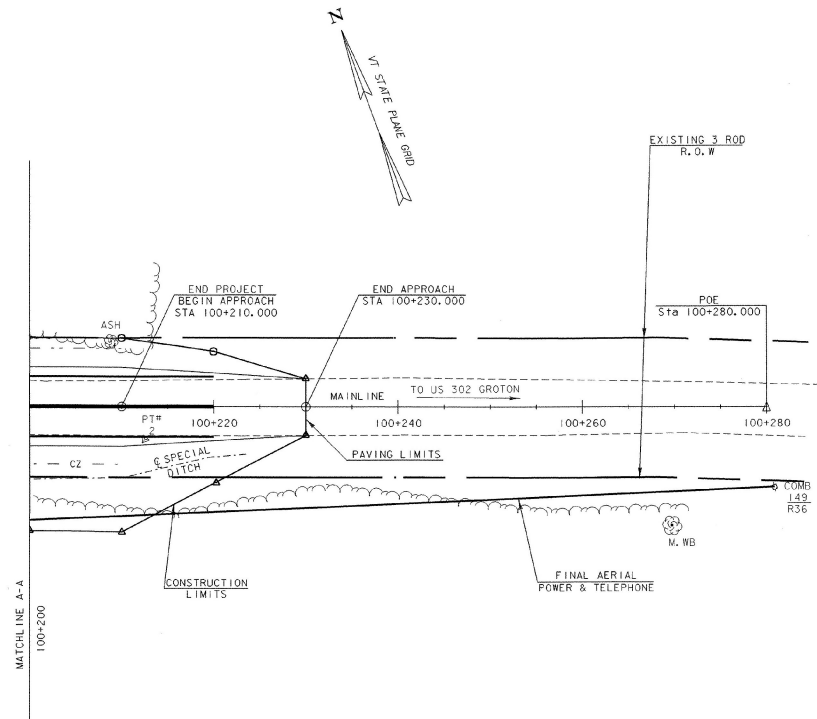
VERTICAL	NAVD88
HORIZONTAL	NAD83 (92)

<b>PROJECT:</b> CROTON	<b>PROJECT NO.:</b> TH2-9435
DESIGN FILE NAME: 94120/structures/6120br.dgn	PLOT DATE: 15-MAR-2002
IPAR: FILE NAME: 6120c01	SURVEYED BY: R. MOREAU
SQUAD LEADER: C.F. WILLIAMS	DRAWN BY: R.S. YOUNG
LAYOUT SHEET #1	SHEET: 6 OF 40

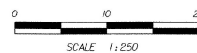
SPECIAL DITCHES  
STA 100+200 RT - 100+225 RT

DURABLE 100 mm WHITE LINE  
STA 100+200 - STA 100+220 RT & LT

DURABLE 100 mm YELLOW LINE (DOUBLE)  
STA 100+200 - STA 100+230 CENTERLINE



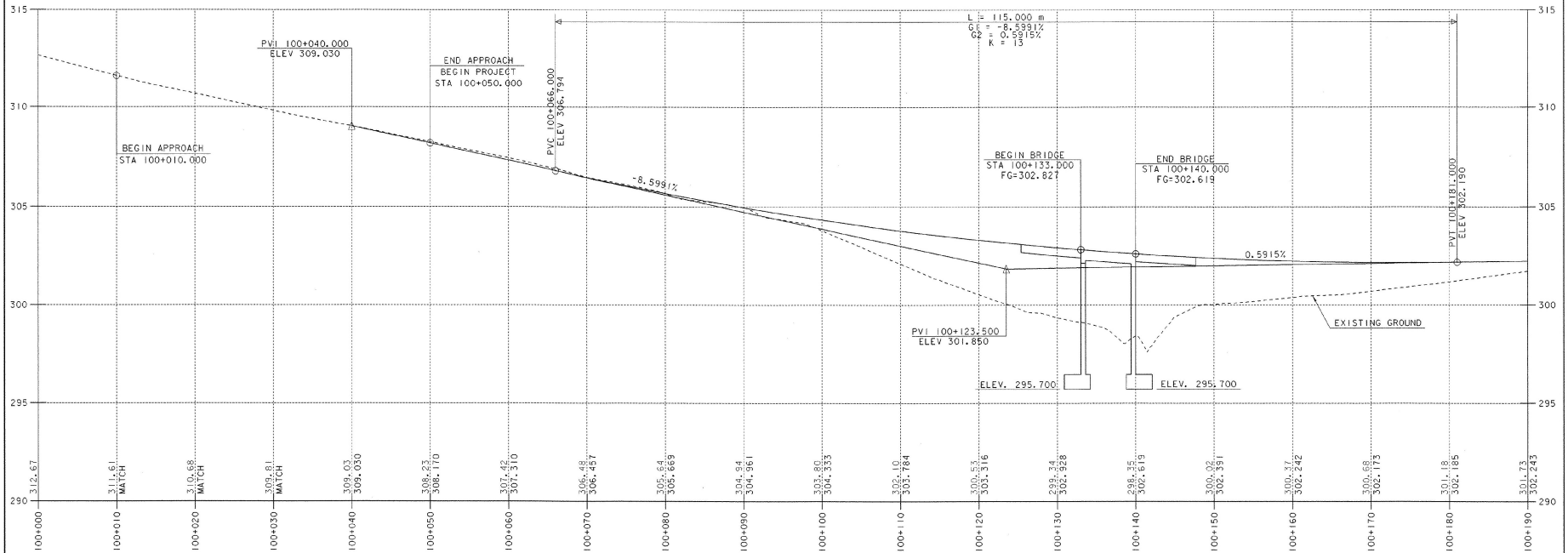
PLAN



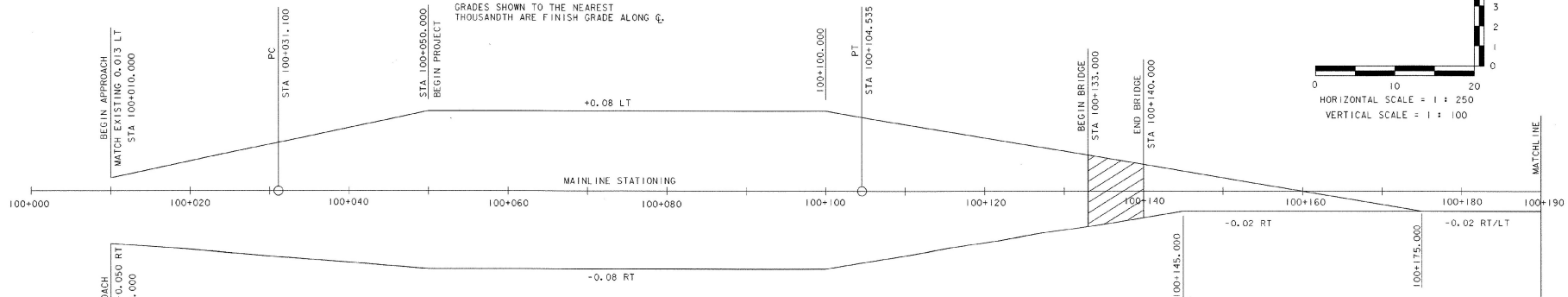
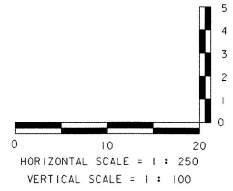
DATUM	
VERTICAL	NAVD88
HORIZONTAL	NAD83 (92)

PROJECT: GROTON	PROJECT NO.: TH2-9435
DESIGN FILE NAME: 94j20/structures/sj20bdr.dgn	PLOT DATE: 15-MAR-2002
IPARM FILE NAME: sj20i021	SURVEY DATE: 3/95
SURVEYED BY: R. MOREAU	DRAWN BY: R. S. YOUNG
SQUAD LEADER: C. P. WILLIAMS	SHEET: 7 OF 40
LAYOUT SHEET *2	

# PROFILE TH 1



NOTE:  
 GRADES SHOWN TO THE NEAREST HUNDRETH ARE EXISTING GROUND ALONG G<sub>1</sub>.  
 GRADES SHOWN TO THE NEAREST THOUSANDTH ARE FINISH GRADE ALONG G<sub>2</sub>.

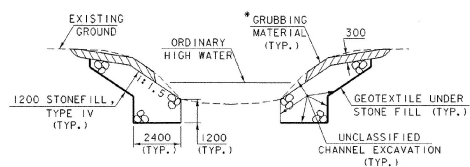


## BANKING DIAGRAM

HORIZONTAL SCALE = 1:250  
 VERTICAL SCALE = 1:2

PROJECT: GROTON	PROJECT NO.: TH2-9435
DESIGN FILE NAME: 94J20/structures/94J20pro.dgn	PLOT DATE: 15-MAR-2002
IPARM FILE NAME: sJ20pr1	SURVEY DATE: 3/95
SURVEYED BY: R. MOREAU	DRAWN BY: S.S. YOUNG
SQUAD LEADER: C.F. WILLIAMS	SHEET: 8 OF 40
PROFILE TH 1 SHEET #1	

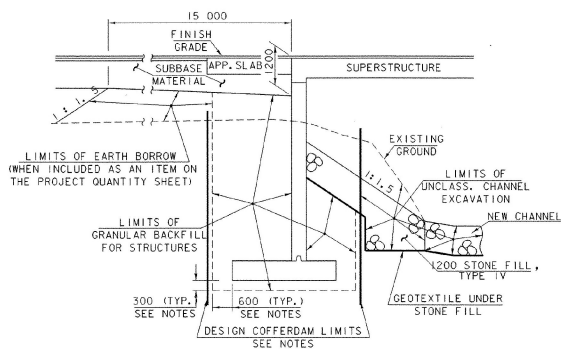
# PROFILE TH 1



**TYPICAL CHANNEL SECTION**

(NOT TO SCALE)

\*GRUBBING MATERIAL SHALL NOT BE PLACED ON THE STONE FILL IN THE AREA UNDER THE BRIDGE. WHENEVER CHANNEL SLOPE INTERSECTS ROADWAY SUBBASE, GRUBBING MATERIAL SHALL BEGIN AT THE BOTTOM OF SUBBASE.

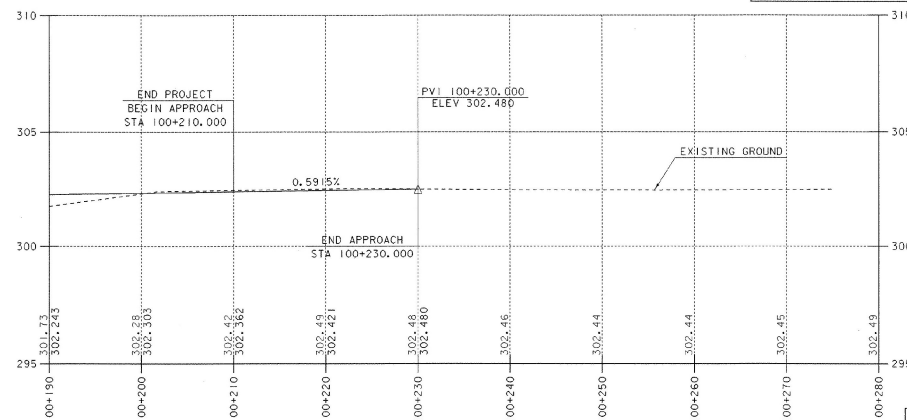


**ABUTMENT EARTHWORK SECTION**

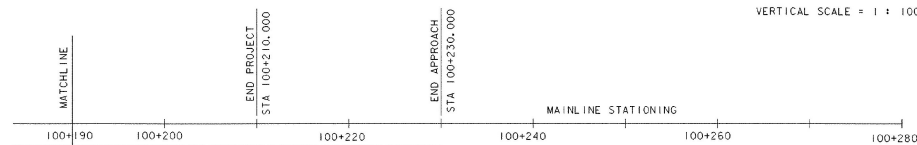
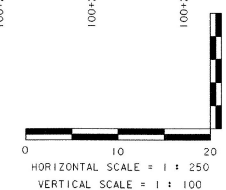
(NOT TO SCALE)

**NOTES**

1. ACTUAL COFFERDAM LIMITS TO BE DETERMINED BY THE CONTRACTOR.
2. THE DESIGN LIMITS OF COFFERDAM SHALL BE 600mm OUTSIDE THE PERIMETER OF SUBSTRUCTURE FOOTING. THE QUANTITY TO BE MEASURED FOR PAYMENT FOR EXCAVATION INSIDE THE COFFERDAM WILL BE MEASURED FROM THE DESIGN LIMITS OF COFFERDAM AS SHOWN IN THE CONTRACT PLANS.
3. 300mm UNDERCUT AS DETERMINED NECESSARY BY THE RESIDENT ENGINEER.
4. IF A COFFERDAM IS CONSTRUCTED WHICH IS MORE THAN THE INDICATED DISTANCE OUTSIDE THE FOOTING LIMITS, PAYMENT FOR ALL UNCLASSIFIED CHANNEL EXCAVATION INCLUDING THAT PORTION WHICH IS INSIDE THE COFFERDAM BUT OUTSIDE THE COFFERDAM LIMITS SHOWN WILL BE MADE AT THE CONTRACT UNIT PRICE FOR UNCLASSIFIED CHANNEL EXCAVATION.

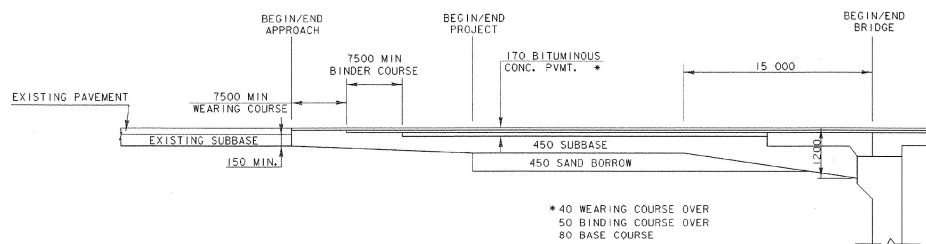


NOTE:  
GRADES SHOWN TO THE NEAREST HUNDREDTH ARE EXISTING GROUND ALONG CL.  
GRADES SHOWN TO THE NEAREST THOUSANDTH ARE FINISH GRADE ALONG CL.



**BANKING DIAGRAM**

HORIZONTAL SCALE = 1 : 250  
VERTICAL SCALE = 1 : 2



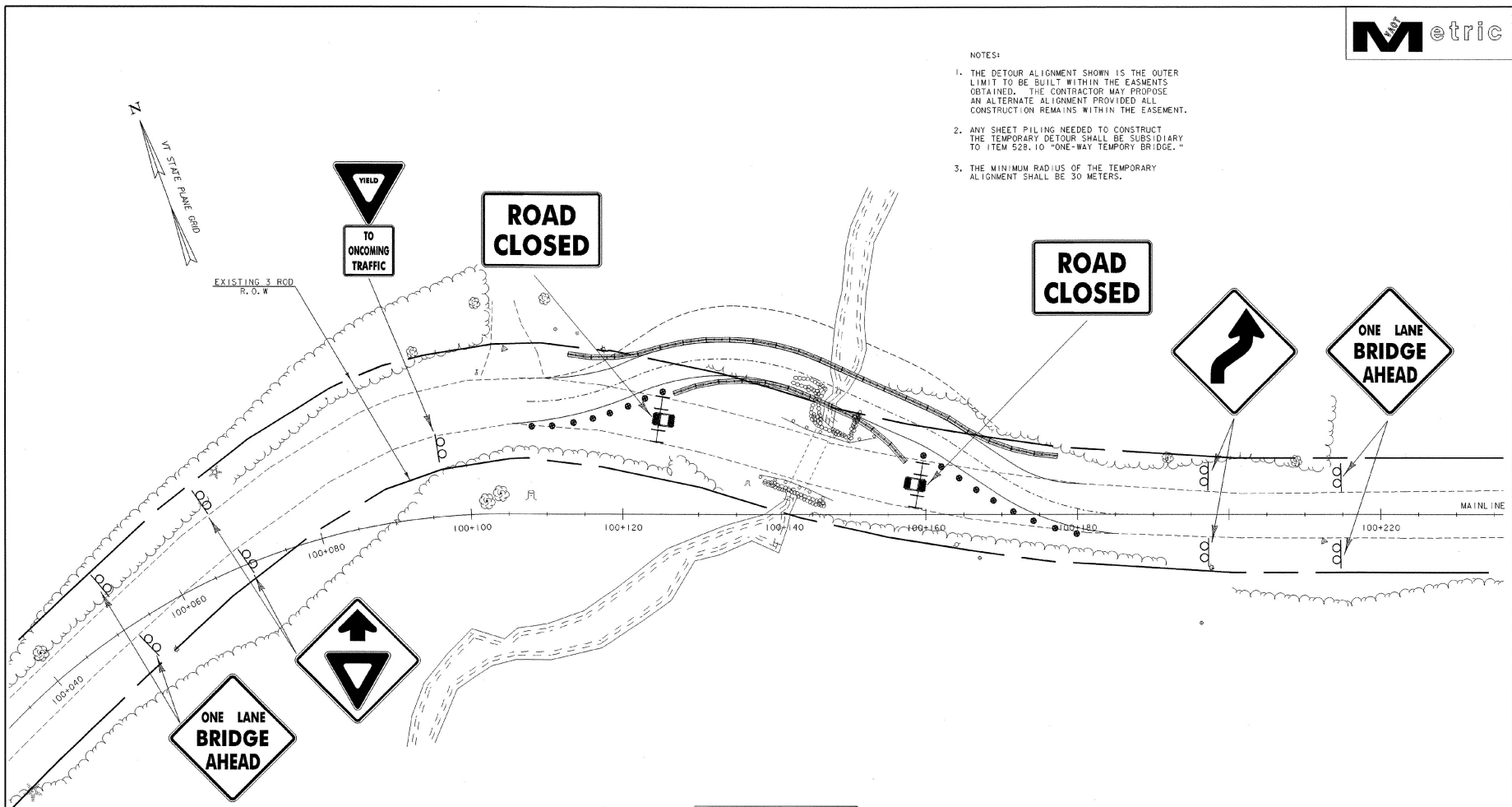
**SUBBASE TAPER**

NTS

PROJECT: GROTON	PROJECT NO.: TH2-9435
DESIGN FILE NAME: 94j20/structures/sj20pro.dgn	PLOT DATE: 15-MAR-2002
IPARM FILE NAME: sj20pr2.i	SURVEY DATE: 3/95
SURVEYED BY: R. MOREAU	DRAWN BY: R.S. YOUNG
SQUAD LEADER: C.P. WILLIAMS	SHEET: 9 OF 40
PROFILE TH 1 SHEET *2	

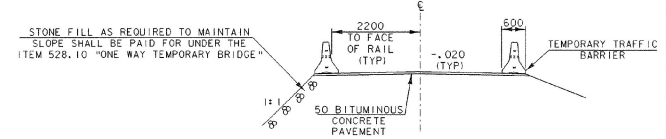
NOTES:

1. THE DETOUR ALIGNMENT SHOWN IS THE OUTER LIMIT TO BE BUILT WITHIN THE EASEMENTS OBTAINED. THE CONTRACTOR MAY PROPOSE AN ALTERNATE ALIGNMENT PROVIDED ALL CONSTRUCTION REMAINS WITHIN THE EASEMENT.
2. ANY SHEET PILING NEEDED TO CONSTRUCT THE TEMPORARY DETOUR SHALL BE SUBSIDIARY TO ITEM 528.10 "ONE-WAY TEMPORARY BRIDGE."
3. THE MINIMUM RADIUS OF THE TEMPORARY ALIGNMENT SHALL BE 30 METERS.

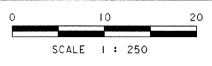


LEGEND

	REFLECTORIZED BARREL
	TYPE III BARRIER
	TYPE III BARRIER (MOD)



TRAFFIC CONTROL PLAN



SIGNS TO BE LOCATED AS PER STANDARDS E-100M & E-107M

DUE TO THE GRADE OF THE WEST APPROACH ADDITIONAL WARNING SIGNS SHALL BE PROVIDED AT THE DISCRETION OF THE RESIDENT ENGINEER

DATUM

VERTICAL	NAVD88
HORIZONTAL	NAD83 (92)

PROJECT: GROTON	PROJECT NO.: TH2-9435
DESIGN FILE NAME: 94j20/structures/sj20detour.dgn	PLOT DATE: 01-APR-2002
IPARM FILE NAME: sj20detour.i	SURVEY DATE: 3/95
SURVEYED BY: R. MOREAU	DRAWN BY: P.G. JARVIS
SQUAD LEADER: C.F. WILLIAMS	SHEET: 10 OF 40
TRAFFIC CONTROL PLAN	



**SOIL CLASSIFICATION**

**AASHTO**

A1	Gravel and Sand
A3	Fine Sand
A2	Stiff or Clayey Gravel and Sand
A4	Stiff Soil - Low Compressibility
A5	Stiff Soil - Highly Compressible
A6	Clayey Soil - Low Compressibility
A7	Clayey Soil - Highly Compressible

**ROCK QUALITY DESIGNATION**

R.Q.D. (%)	ROCK DESCRIPTION
<25	Very Poor
25 to 50	Poor
5 to 75	Fair
76 to 90	Good
>90	Excellent

**SHEAR STRENGTH**

**UNDRAINED SHEAR STRENGTH IN kPa**

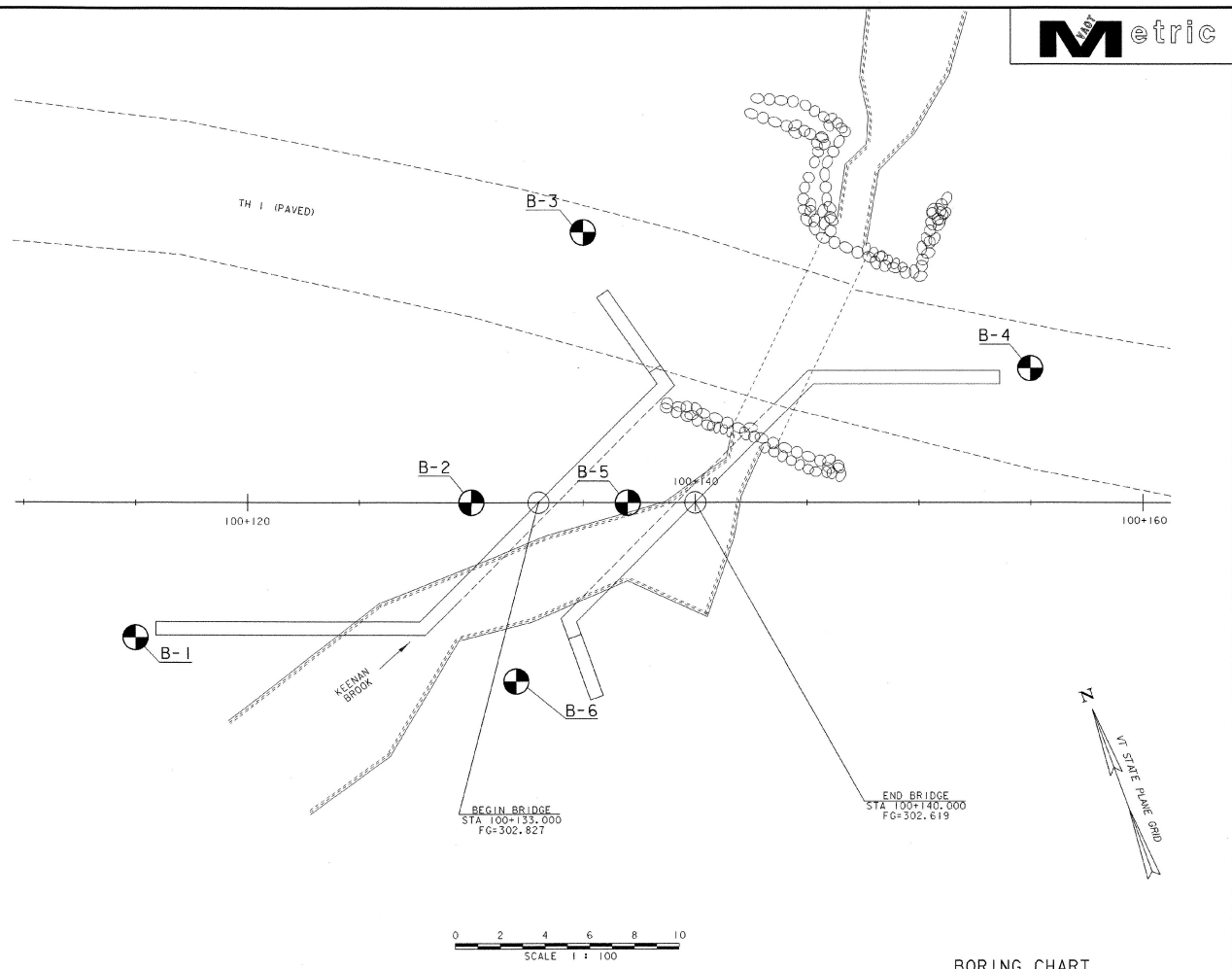
CONSISTENCY	SHEAR STRENGTH (kPa)
Very Soft	<12
Soft	12-24
Med. Stiff	24-48
Stiff	48-96
Very Stiff	96-192
Hard	>192

**CORRELATION GUIDE OF 'N' TO DENSITY/CONSISTENCY**

DENSITY (GRANULAR SOILS)		CONSISTENCY (COHESIVE SOILS)	
DESCRIPTIVE TERM	N	DESCRIPTIVE TERM	N
<5	Very Loose	<2	Very Soft
5-10	Loose	2-4	Soft
11-24	Med. Dense	5-8	Med. Stiff
25-50	Dense	9-15	Stiff
>50	Very Dense	16-30	Very Stiff
		31-60	Hard
		>60	Very Hard

**COMMONLY USED SYMBOLS**

- ▼ Water Elevation
  - ⊙ Standard Penetration Boring
  - ⊕ Auger Boring
  - Rod Sounding
  - S Sample
  - Standard Penetration Test
  - N Blow Count Per 300 mm For:
    - 50.8 mm O.D. Sampler
    - 35.0 mm I.D. Sampler
    - Hammer Weight Of 63.5 kg.
    - Hammer Fall Of 762 mm
  - YS Field Vane Shear Test
  - US Undisturbed Soil Sample
  - B Blast
  - DC Diamond Core
  - MD Mud Drill
  - WA Wash Ahead
  - HS4 Hollow Stem Auger
  - AX Core Size 30mm
  - BX Core Size 42.0 mm
  - NK Core Size 54.7 mm
  - M Double Tube Core Barrel Used
  - LL Liquid Limit
  - PL Plastic Limit
  - PI Plasticity Index
  - NP Non Plastic
  - w Moisture Content (Dry Wgt. Basis)
  - D Dry
  - M Moist
  - MTW Moist To Wet
  - w Wet
  - Sat Saturated
  - Bo Boulder
  - Gr Gravel
  - Sa Sand
  - Sl Silt
  - Cl Clay
  - HP Hardpan
  - Le Ledge
  - NLTD No Ledge To Depth
  - CNPF Can Not Penetrate Further
  - TLOB To Ledge Or Boulder
  - NR No Recovery
  - Rec. Recovery
  - %rec. Percent Recovery
  - ROD Rock Quality Designation
  - CBR California Bearing Ratio
  - < Less Than
  - > Greater Than
  - R Refusal (N > 100)
- 
- COLOR**
- |     |        |     |              |
|-----|--------|-----|--------------|
| blk | Black  | pnk | Pink         |
| bl  | Blue   | pu  | Purple       |
| brn | Brown  | rd  | Red          |
| dk  | Dark   | tn  | Tan          |
| gry | Gray   | wh  | White        |
| gn  | Green  | yel | Yellow       |
| lt  | Light  | mtc | Multicolored |
| or  | Orange |     |              |



**DEFINITIONS (AASHTO)**

- BEDROCK (LEDGE)** - Rock in its native location of indefinite thickness.
- BOULDER** - A rock fragment with an average dimension > 304.8 mm.
- COBBLE** - Rock fragments with an average dimension between 76.2 and 304.8 mm.
- GRAVEL** - Rounded particles of rock < 76.2 mm and > 2 mm (#10 sieve).
- SAND** - Particles of rock < 2 mm (#10 sieve) and > 75 µm (#200 sieve).
- SILT** - Soil < 75 µm (#200 sieve), non or slightly plastic and exhibits no strength when air-dried.
- CLAY** - Fine grained soil, exhibits plasticity when moist and considerable strength when air-dried.
- VARVED** - Alternate layers of silt and clay.
- HARDPAN** - Extremely dense soil, cemented layer, not softened when wet.
- MUCK** - Soft organic soil (containing > 10% organic material).
- MOISTURE CONTENT** - Weight of water divided by dry weight of soil.
- FLOWING SAND** - Granular soil so saturated (loose) that it flows into drill casing during extraction of wash rod.
- STRIKE** - Angle from magnetic north to line of intersection of bed with a horizontal plane.
- DIP** - Inclination of bed with a horizontal plane.

**GENERAL NOTES**

- The subsurface explorations shown herein were made between 7/17/98 and 9/24/98 by the Agency.
- Soil and rock classifications, properties and descriptions are based on engineering interpretation from available subsurface information by the Agency and may not necessarily reflect actual variations in subsurface conditions that may be encountered between individual boring or sample locations.
- Observed water levels and/or conditions indicated are as recorded at the time of exploration and may vary according to the prevailing rainfall, methods of exploration and other factors.
- Engineering judgement was exercised in preparing the subsurface information presented herein. Analysis and interpretation of subsurface data was performed and interpreted for Agency design and estimating purposes. Presentation of the information in the Contract is intended to provide the Contractor access to the same data available to the Agency. The subsurface information is presented in good faith and is not intended as a substitute for personal investigation, independent interpretation, independent analysis or judgement by the Contractor.
- Pictorial structure details shown on the boring plan layout or soils profile are for illustrative purposes only and may not accurately portray final contract details.
- Terminology used on boring logs to describe the hardness, degree of weathering, and spacing of fractures, joints and other discontinuities in the bedrock is defined in the AASHTO Manual on Subsurface Investigations, 1988.

**BORING CHART**

HOLE NO.	STATION	OFFSET (m)	GROUND ELEV.
B-1	100+115	6.0 RT	300.510
B-2	100+130	C.L.	299.290
B-3	100+135	12.0 LT	300.759
B-4	100+155	6.0 LT	300.132
B-5	100+137	C.L.	298.135
B-6	100+132	8.0 RT	299.067

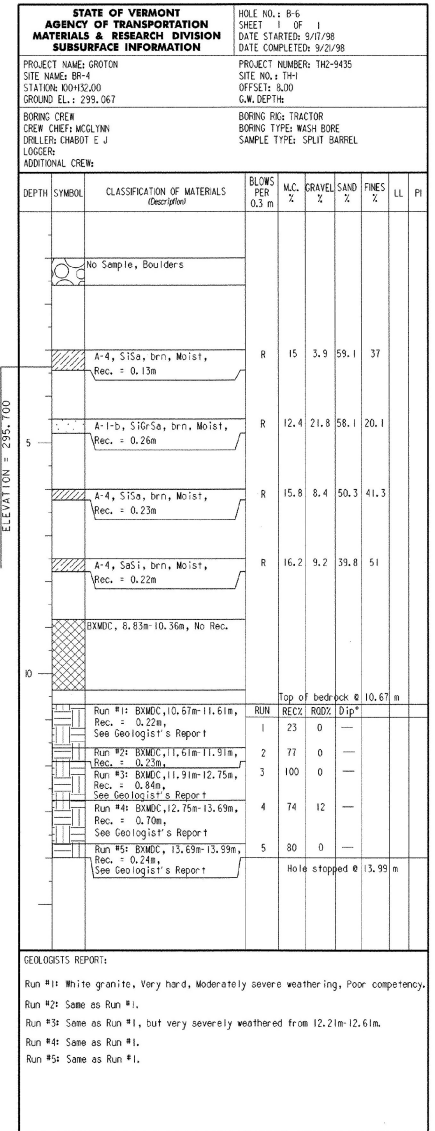
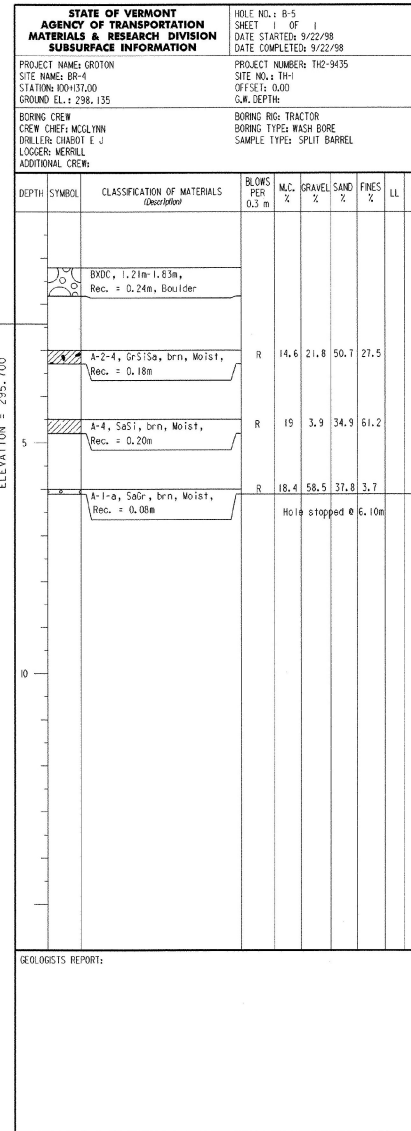
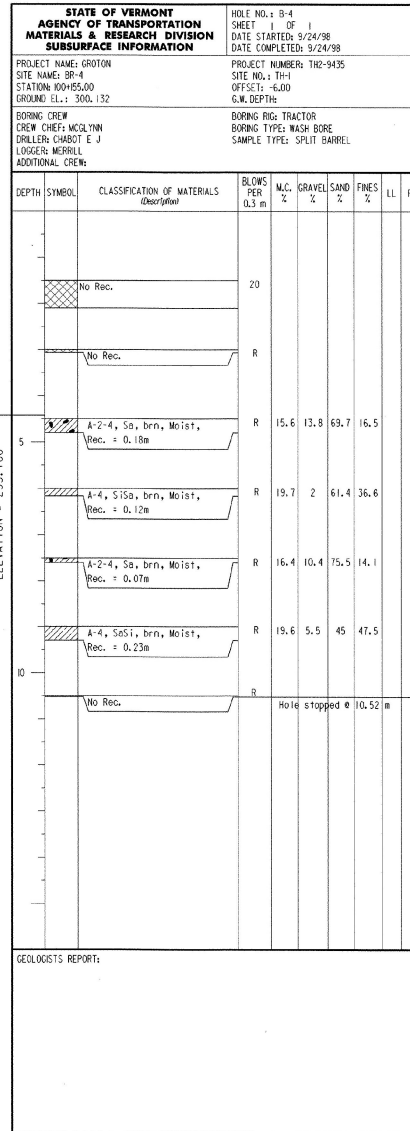
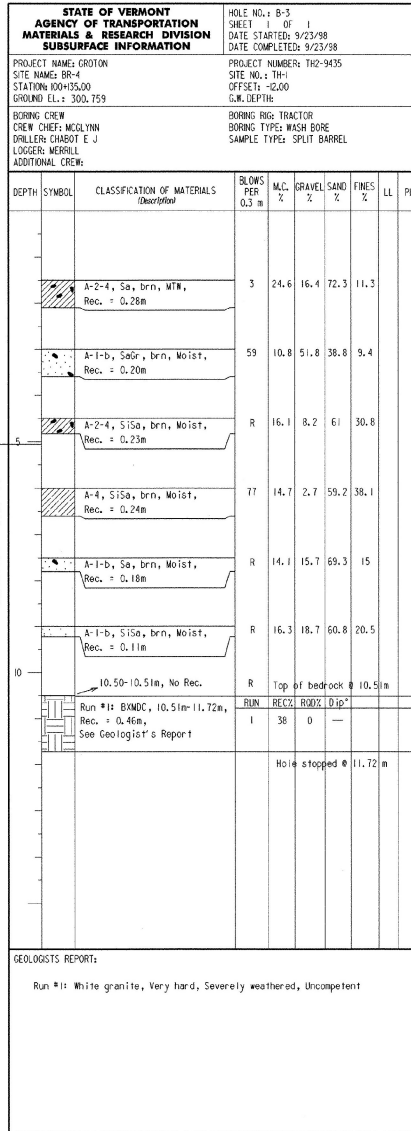
PROJECT:	GROTON	PROJECT NO.:	TH2-9435
DESIGN FILE NAME:	M:\94\20\Structures\sj20bor.dgn	PLOT DATE:	15-MAR-2002
IPARM FILE NAME:	sj20bor.plt		
TH 1 OVER KEENAN BROOK			
BORING INFORMATION SHEET		SHEET:	11 OF 40

STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH DIVISION SUBSURFACE INFORMATION						HOLE NO.: B-1 SHEET 1 OF 1 DATE STARTED: 7/17/98 DATE COMPLETED: 7/18/98					
PROJECT NAME: GROTON SITE NAME: BR-4 STATION: 100+5.00 GROUND E.L.: 300.51						PROJECT NUMBER: TH2-9435 SITE NO.: TH-1 OFFSET: 6.00 G.W. DEPTH:					
BORING CREW CREW CHIEF: MCCLYNN DRILLER: CHABOT E J LOGGER: HILL ADDITIONAL CREW:						BORING RIG: TRACTOR BORING TYPE: WASH BORE SAMPLE TYPE: SPLIT BARREL					
DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL SAND %	FINES %	LL	PI			
		0.30m-1.98m, Boulders, 1.98m wash water changed to brown.									
		A-4, SsSi, brn, Moist, Rec. = 0.46m	76	20	0.6	41.3	58.1				
5		A-2-4, S/Sa, brn, Moist, Rec. = 0.15m	R	13.4	6.4	69.8	23.8				
		A-1-b, Sa, brn, Moist, Rec. = 0.23m	R	14.8	13.6	76.1	10.3				
		A-2-4, S/Sa, gry, Moist, Rec. = 0.07m	R	18.4	6.1	70.9	23				
		3.14m-5.36m, Weathered Granite Run #1: BXMDC, 3.14m-5.36m, Rec. = 0.23m See Geologist's Report. Run #2: BXMDC, 5.36m-11.50m, Rec. = 0.43m, See Geologist's Report.	R	Top of bedrock @ 9.37m							
10		Run #1: BXMDC, 9.14m-10.29m, Rec. = 1.09m, See Geologist's Report	RUN	RECZ	SOOC	Dip					
		Run #2: BXMDC, 10.29m-11.56m, Rec. = 1.19m, See Geologist's Report	2	28	0						
		Run #3: BXMDC, 11.56m-13.03m, Rec. = 0.88m, See Geologist's Report.	3	58	0						
		Run #4: BXMDC, 13.03m-14.55m, Rec. = 0.80m, See Geologist's Report.	4	53	0						
		Hole stopped @ 14.55m in bedrock									
GEOLOGIST'S REPORT:											
Run #1: White granite, Very hard, Slightly weathered, Closely spaced horizontal jointing, Poor competency.											
Run #2: Same as Run#1.											
Run #3: Same as Run#1.											
Run #4: Same as Run#1.											

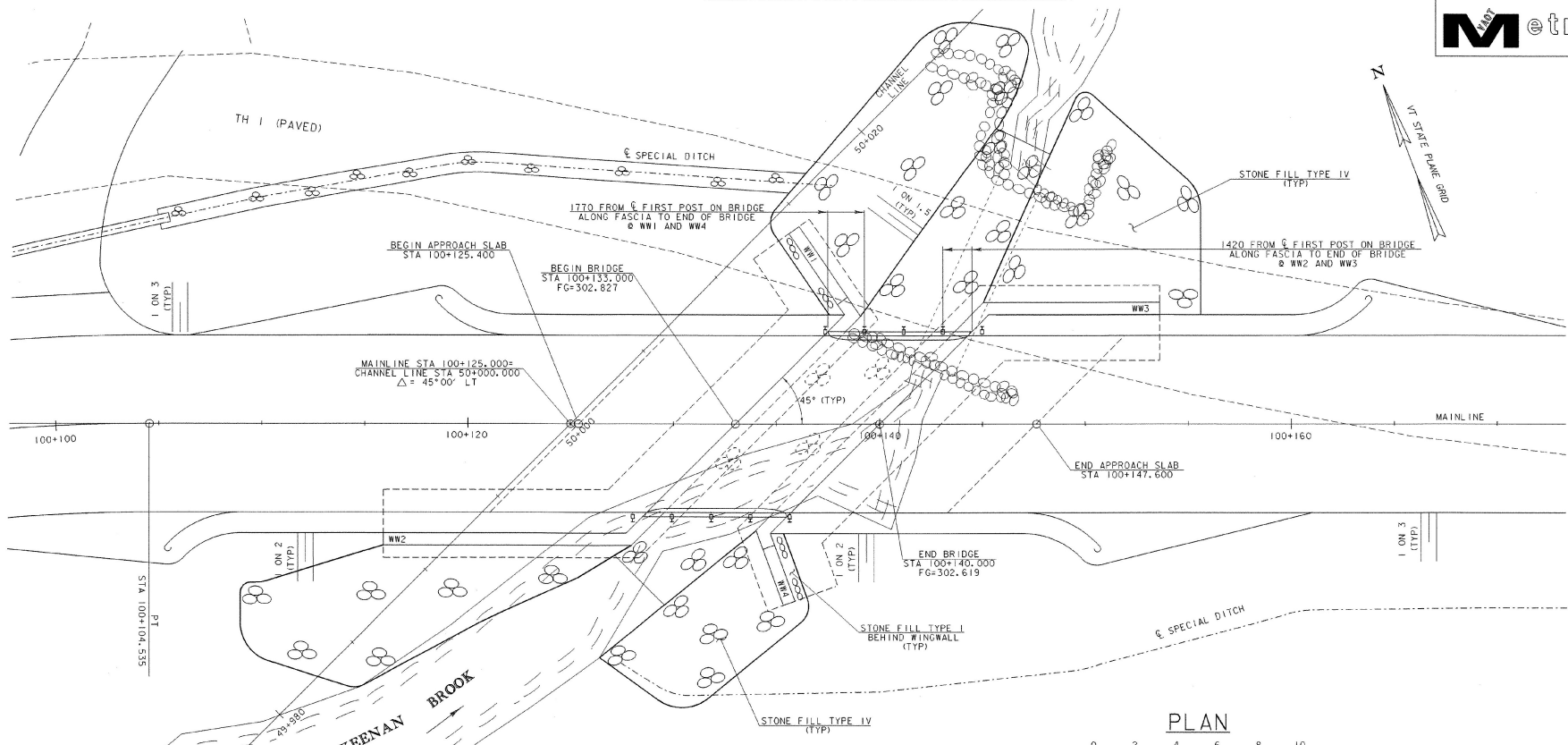
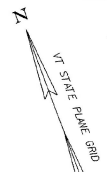
STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH DIVISION SUBSURFACE INFORMATION						HOLE NO.: B-2 SHEET 1 OF 1 DATE STARTED: 9/16/98 DATE COMPLETED: 9/17/98					
PROJECT NAME: GROTON SITE NAME: BR-4 STATION: 100+10.00 GROUND E.L.: 299.290						PROJECT NUMBER: TH2-9435 SITE NO.: TH-1 OFFSET: 0.00 G.W. DEPTH:					
BORING CREW CREW CHIEF: MCCLYNN DRILLER: CHABOT E J LOGGER: ADDITIONAL CREW:						BORING RIG: TRACTOR BORING TYPE: WASH BORE SAMPLE TYPE: SPLIT BARREL					
DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL SAND %	FINES %	LL	PI			
		A-1-b, GrSa, brn, Moist, Rec. = 0.45m	37	12.7	30	56.5	13.5				
		A-1-b, GrSa, brn, Moist, Rec. = 0.07m	R	12.6	46.4	50	3.6				
5		A-1-b, Sa, brn, Moist, Rec. = 0.15m	R	14.9	16	72.7	11.3				
		A-4, SsSi, brn, Moist, Rec. = 0.20m	R	19.9	1.7	29.7	68.6				
		BXMDC, 7.65m-8.99m, Rec. = 0.99m, Boulder									
		Top of bedrock @ 9.14m									
10		Run #1: BXMDC, 9.14m-10.29m, Rec. = 1.09m, See Geologist's Report	RUN	RECZ	SOOC	Dip					
		Run #2: BXMDC, 10.29m-11.56m, Rec. = 1.19m, See Geologist's Report	2	94	28						
		Run #3: BXMDC, 11.56m-12.22m, Rec. = 0.54m, See Geologist's Report	3	97	26						
		Hole stopped @ 12.22m									
GEOLOGIST'S REPORT:											
Run #1: White granite, Very hard, Very slightly weathered, Competent.											
Run #2: Same as Run#1, but severely weathered (11.09m-11.29m & 11.44m-11.56m). Fairly competent.											
Run #3: Same as Run #1.											



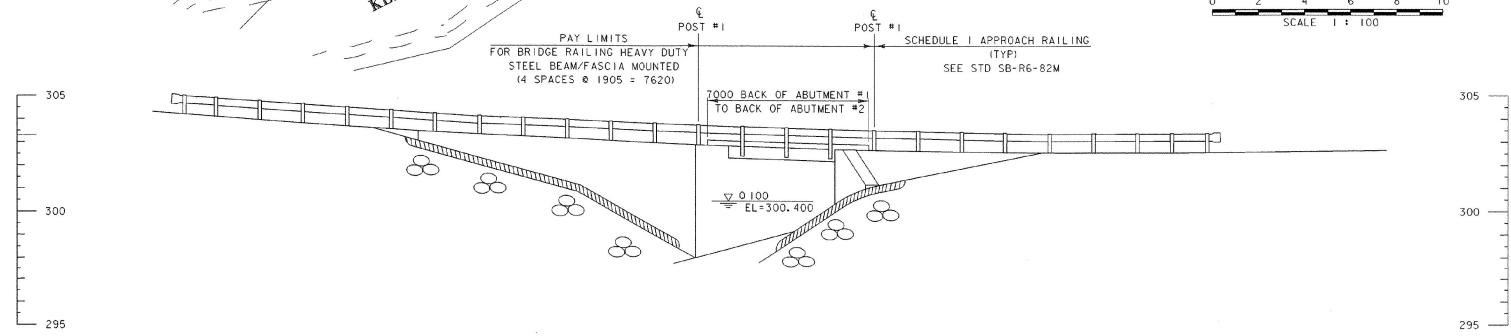
PROJECT:	GROTON	PROJECT NO.:	TH2-9435
DESIGN FILE NAME:	94120/structures/sj20bor.dgn	PLOT DATE:	15-MAR-2002
DRAWN BY:	J. TOUCHETTE	SQUAD LEADER:	C. C. BENDA
DATE:	10/98	SHEET:	12 OF 40



PROJECT: GROTON	PROJECT NO.: TH2-9435
DESIGN FILE NAME: 94J20/structures/sj20bor.dgn	PLOT DATE: 15-MAR-2002
DRAWN BY: J. TOUCHETTE	SQUAD LEADER: C. C. BENDA
DATE: 10/98	SHEET: 13 OF 40



**PLAN**  
SCALE 1 : 100



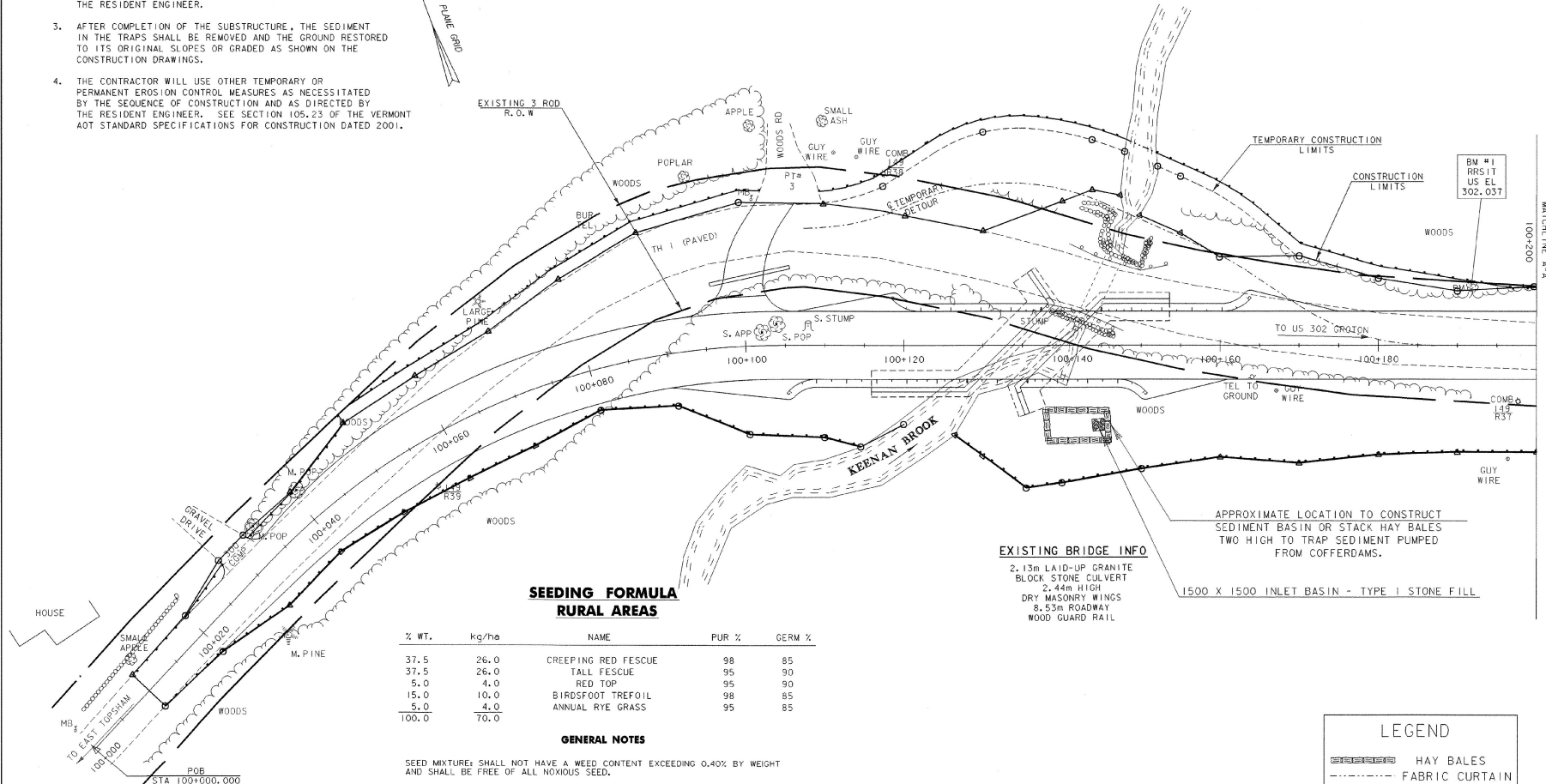
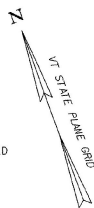
**ELEVATION AT UPSTREAM FASCIA**

SCALE 1 : 100

PROJECT: <b>GROTON</b>	PROJECT NO.: <b>TH2-9435</b>
DESIGN FILE NAME: 94j20/structures/sj20p0.dgn	PLOT DATE: 15-MAR-2002
IFARM FILE NAME: sj20pe.i	SURVEY DATE: 03/95
SURVEYED BY: R. MOREAU	DRAWN BY: R.S. YOUNG
SQUAD LEADER: C.P. WILLIAMS	SHEET: 14 OF 40
PLAN AND ELEVATION	

**NOTES:**

1. AN ALTERNATE TEMPORARY CONTROL PLAN MAY BE SUBMITTED BY THE CONTRACTOR FOR APPROVAL BY THE RESIDENT ENGINEER.
2. SPECIAL CONSIDERATION MUST BE GIVEN TO THE FIRST PUMP-DOWN OF THE COFFERDAMS. THIS WILL CONTAIN THE GREATEST VOLUME OF WATER WITH A HIGH SEDIMENT LOAD. THE CONTRACTOR MAY PROVIDE ADDITIONAL SEDIMENT TRAPS WITHIN THE RIGHT-OF-WAY IF REQUIRED OR CONTROL THE RATE OF DRAW-DOWN. ADDITIONAL SEDIMENT TRAPS MUST BE APPROVED BY THE RESIDENT ENGINEER.
3. AFTER COMPLETION OF THE SUBSTRUCTURE, THE SEDIMENT IN THE TRAPS SHALL BE REMOVED AND THE GROUND RESTORED TO ITS ORIGINAL SLOPES OR GRADED AS SHOWN ON THE CONSTRUCTION DRAWINGS.
4. THE CONTRACTOR WILL USE OTHER TEMPORARY OR PERMANENT EROSION CONTROL MEASURES AS NECESSITATED BY THE SEQUENCE OF CONSTRUCTION AND AS DIRECTED BY THE RESIDENT ENGINEER. SEE SECTION 105.23 OF THE VERMONT AOT STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2001.



**SEEDING FORMULA  
RURAL AREAS**

% WT.	kg/ha	NAME	PUR %	GERM %
37.5	26.0	CREeping RED FESCUE	98	85
37.5	26.0	TALL FESCUE	95	90
5.0	4.0	RED TOP	95	90
15.0	10.0	BIRDFOOT TREFOLI	98	85
5.0	4.0	ANNUAL RYE GRASS	95	85
100.0	70.0			

**GENERAL NOTES**

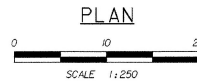
- SEED MIXTURE: SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY WEIGHT AND SHALL BE FREE OF ALL NOXIOUS SEED.
- SEED: TO BE APPLIED PER SEEDING FORMULAS OR AS DIRECTED BY THE ENGINEER.
- FERTILIZER: FORMULA 10-20-10, TO BE USED WITH SEED, APPLIED AT THE RATE OF 560 kg/ha. (HYDRO SEEDERS MAY USE 19-19-19 FORMULA).
- AGRICULTURAL LIMESTONE: TO BE APPLIED AT THE RATE OF 4500 kg/ha, OR AS DIRECTED BY THE ENGINEER.
- HAY MULCH: TO BE PLACED ON EARTH SLOPES AT THE RATE OF 4500 kg/ha, OR AS DIRECTED BY THE ENGINEER.
- TOPSOIL: TO BE USED WITH SEED AS INDICATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.

**EXISTING BRIDGE INFO**  
 2.13m LAID-UP GRANITE  
 BLOCK STONE CULVERT  
 2.44m HIGH  
 DRY MASONRY WINGS  
 8.53m ROADWAY  
 WOOD GUARD RAIL

APPROXIMATE LOCATION TO CONSTRUCT  
 SEDIMENT BASIN OR STACK HAY BALES  
 TWO HIGH TO TRAP SEDIMENT PUMPED  
 FROM COFFERDAMS.  
 1500 X 1500 INLET BASIN - TYPE 1 STONE FILL

**LEGEND**

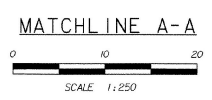
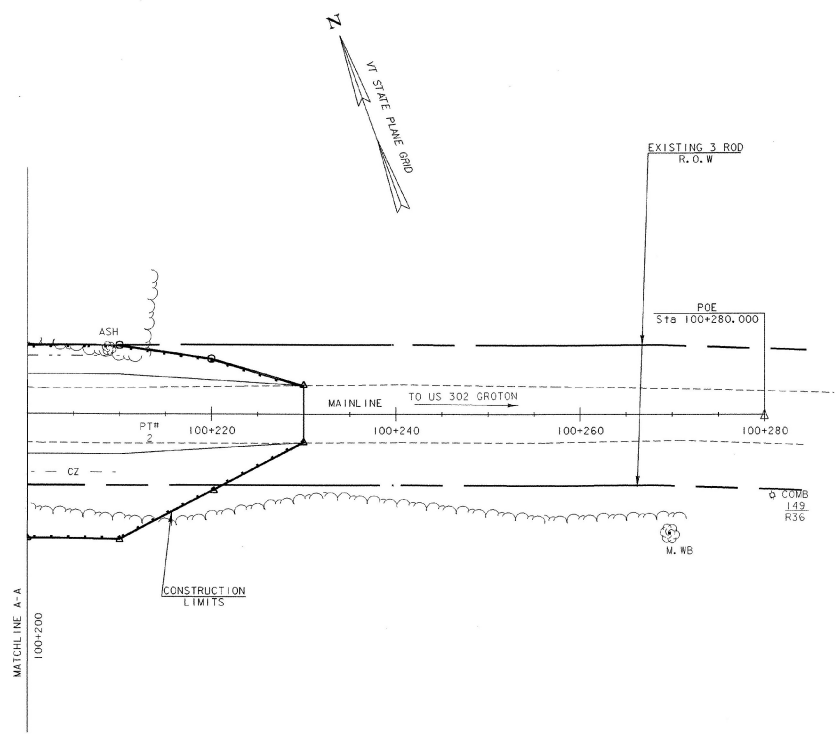
	HAY BALES
	FABRIC CURTAIN
	SILT FENCE



**DATUM**

VERTICAL	NAVD88
HORIZONTAL	NAD83 (92)

PROJECT: GROTON	PROJECT NO.: TH2-9435
DESIGN FILE NAME: 94J020/structures/a120bdr.dgn	PLOT DATE: 15-MAR-2002
IPARM FILE NAME: s120ec11	SURVEY DATE: 3/95
SURVEYED BY: R. MOREAU	DRAWN BY: P.G. JARVIS
SQUAD LEADER: C.P. WILLIAMS	SHEET: 15 OF 40
EROSION CONTROL LAYOUT SHEET #1	



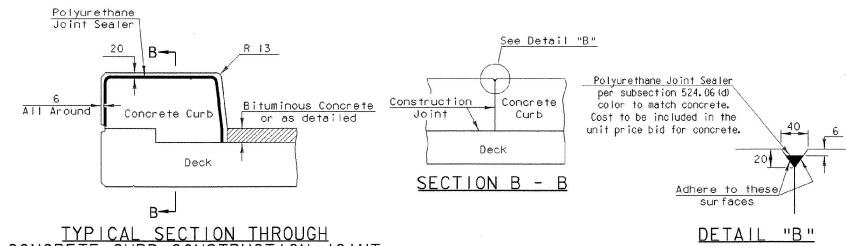
LEGEND	
	HAY BALES
	FABRIC CURTAIN
	SILT FENCE

DATUM	
VERTICAL	NAVD88
HORIZONTAL	NAD83 (92)

PROJECT: GROTON	PROJECT NO.: TH2-9435
DESIGN FILE NAME: 94j20/structures/sj20bdr.dgn	PLOT DATE: 15-MAR-2002
IPARM FILE NAME: sj20ec2.i	SURVEY DATE: 3/95
SURVEYED BY:	DRAWN BY: R. S. YOUNG
SQUAD LEADER: C. P. WILLIAMS	SHEET: 16 OF 40
EROSION CONTROL LAYOUT SHEET #2	

GENERAL NOTES

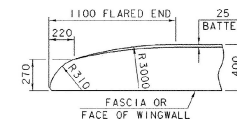
- ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE AGENCY OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 2001, AND ITS LATEST REVISIONS, AND THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, SIXTEENTH EDITION WITH 1998 INTERIMS.
- ALL DIMENSIONS ARE HORIZONTAL OR VERTICAL AND ARE GIVEN AT 20°C, UNLESS OTHERWISE NOTED.
- DESIGN CRITERIA:  
DESIGN LIVE LOAD = MS 22.5
- REINFORCING STEEL PLACEMENT TOLERANCE SHALL BE AS FOLLOWS:  
SPACING +/- 25mm  
CLEARANCE +/- 6mm
- ALL REINFORCING STEEL IN THE CONCRETE BRIDGE SLAB, CURBS, AND APPROACH SLABS SHALL BE EPOXY COATED AND PAID FOR UNDER THE ITEM 507.17. WHEN EPOXY COATED REINFORCING STEEL IS CUT THE UNCOATED ENDS SHALL BE REPAIRED WITH MATERIALS AND PROCEDURES APPROVED BY THE COATING MANUFACTURER. FLAME CUTTING OF EPOXY COATED REINFORCING STEEL WILL NOT BE PERMITTED.
- THE MINIMUM COVER FOR REINFORCING STEEL IN THE SUBSTRUCTURES SHALL BE 50mm ALONG WALL FACES AGAINST EARTH, AND 75mm ELSEWHERE UNLESS DETAILED OTHERWISE.
- ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 25mm X 25mm.
- JOINTS AND SCORE MARKS IN THE CONCRETE SHALL BE CONSTRUCTED AS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
- CONCRETE PORTIONS OF THE ABUTMENT AND WINGWALL ABOVE THE ADJACENT BRIDGE SEAT ELEVATIONS SHALL NOT BE PLACED UNTIL THE FINISH GRADE HAS BEEN DETERMINED BY THE RESIDENT ENGINEER.
- CONCRETE PORTIONS OF THE ABUTMENT AND WINGWALL ABOVE THE ADJACENT BRIDGE SEAT ELEVATIONS AND CONCRETE CURBS SHALL BE "CONCRETE CLASS A (HPC-A)". ALL OTHER CONCRETE WILL BE CLASS "B" (HPC-B).
- THE KEY IN THE CONCRETE CONSTRUCTION JOINTS SHALL BE MONOLITHIC AND CONTINUOUS FOR THE FULL LENGTH OF THE JOINT. UPWARD KEYS SHALL BE PLACED INTEGRALLY WITH THE CONCRETE BELOW THE JOINT.
- WATER REPELLENT SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES EXCEPT THE UNDERSIDE OF THE SLAB BETWEEN DRIP NOTCHES.
- ALL ON AND OFF PROJECT SIGNS AND BARRICADES AS SHOWN ON THE TRAFFIC CONTROL SHEET SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND PAID FOR UNDER THE ITEM 528.10 "ONE-WAY TEMPORARY BRIDGE".
- ANY EXISTING SIGNS NOT REUSED SHALL REMAIN THE PROPERTY OF THE TOWN OF GROTON.
- FULL ACCESS TO ALL THE DRIVES WITHIN THE PROJECT SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION.
- ITEM 529.15 "REMOVAL OF STRUCTURE" SHALL BE USED FOR REMOVAL OF THE EXISTING SUPERSTRUCTURE AND ANY PORTION OF THE SUBSTRUCTURE NOT REMOVED UNDER THE ITEMS 208.30 "COFFERDAM EXCAVATION, EARTH", 208.35 "COFFERDAM EXCAVATION, ROCK", OR 203.27 "UNCLASSIFIED CHANNEL EXCAVATION".
- THE QUANTITY OF 20 CM UNDER ITEM 208.35 "COFFERDAM EXCAVATION, ROCK" IS AN ESTIMATED QUANTITY AND HAS BEEN SUBTRACTED OUT OF THE TOTAL COFFERDAM EXCAVATION.
- "STONE FILL TYPE IV" SHALL BE PLACED IN FRONT OF THE ABUTMENTS BEFORE THE SLAB IS POURED.
- THE ITEM STONE FILL, TYPE I SHALL BE USED AS SHOWN ON THE PLANS TO PREVENT EROSION BEHIND WINGWALLS AND ALONG DITCH.
- A ONE WAY TEMPORARY BRIDGE WILL BE USED TO MAINTAIN TRAFFIC DOWNSTREAM FROM EXISTING STRUCTURE.
- STAKES SHALL BE PLACED SHOWING THE CONSTRUCTION LIMITS FROM STATION 100+180 TO 100+210 LEFT IN ORDER FOR THE PROPERTY OWNER TO TRANSPLANT SOME BUSHES.
- ANY HARDWOOD TREES GREATER THAN 4" DIAMETER REMOVED FROM THE MCLEOD PROPERTY SHALL BE CUT INTO 4' LENGTHS, AND FILED FOR REMOVAL BY THE PROPERTY OWNER.
- THE MAILBOX ON THE WEST SIDE OF WOODS ROAD SHALL BE MOVED TO THE NEW DRIVE LOCATED AT STATION 100+100. THE EXACT LOCATION SHALL BE AGREED UPON BY THE PROPERTY OWNER AND THE RESIDENT ENGINEER AND PAID FOR UNDER THE ITEM 617.10 "RELOCATE MAIL BOX, SINGLE SUPPORT".
- THE BRIDGE PLAQUE SHALL BE FURNISHED BY THE AGENCY OF TRANSPORTATION AND INSTALLED BY THE CONTRACTOR AS SHOWN ON SHEET 21.
- THE NEW BED OF THE KEENAN BROOK SHALL BE CONSTRUCTED TO THE SATISFACTION OF THE RESIDENT AND STREAM ALTERATION ENGINEERS. THE PLACEMENT OF ROCK NEEDS TO ALLOW WATER TO FLOW FREELY OVER THE ROCK RATHER THAN UNDER AND AROUND THE ROCK DURING LOW FLOW CONDITIONS.
- GRADES SHOWN ON THE PLANS FOR THE SPECIAL DITCH AND REVISED CHANNEL CENTER LINE MAY BE ADJUSTED IN THE FIELD IF DEEMED NECESSARY BY THE RESIDENT ENGINEER.



TYPICAL SECTION THROUGH CONCRETE CURB CONSTRUCTION JOINT

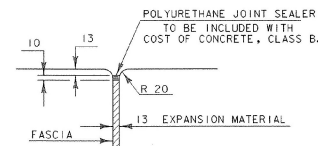
Notes:

- Construction joints through concrete curbs shall be spaced maximum 4.5m center to center and shall be 450 minimum from the center of the nearest bridge rail post. Concrete shall be placed in alternating sections with a minimum of 48 hours delay between adjacent pours.
- Longitudinal reinforcing shall pass through concrete curb construction joints.
- Construction joints through sidewalks shall be similar to concrete curb construction joints.

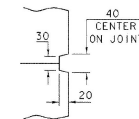


FLARED END FOR 400 CURB

BARS SHALL BE TURNED AS REQUIRED TO FIT FLARED ENDS



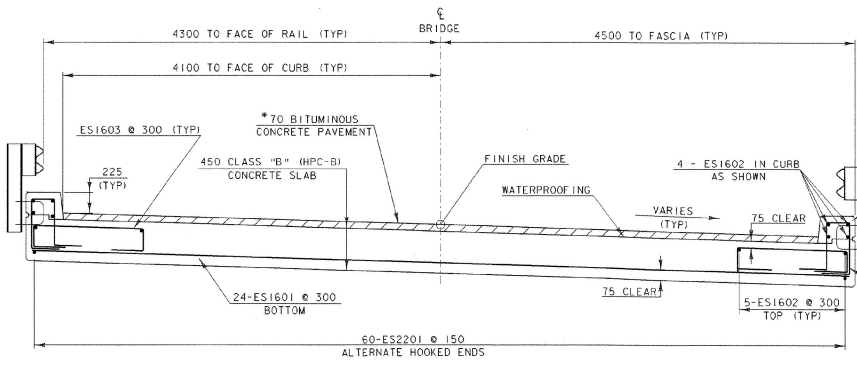
JOINT BETWEEN FASCIA AND WINGWALL



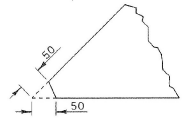
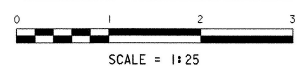
SCORE MARK DETAIL

DETAILS NOT TO SCALE

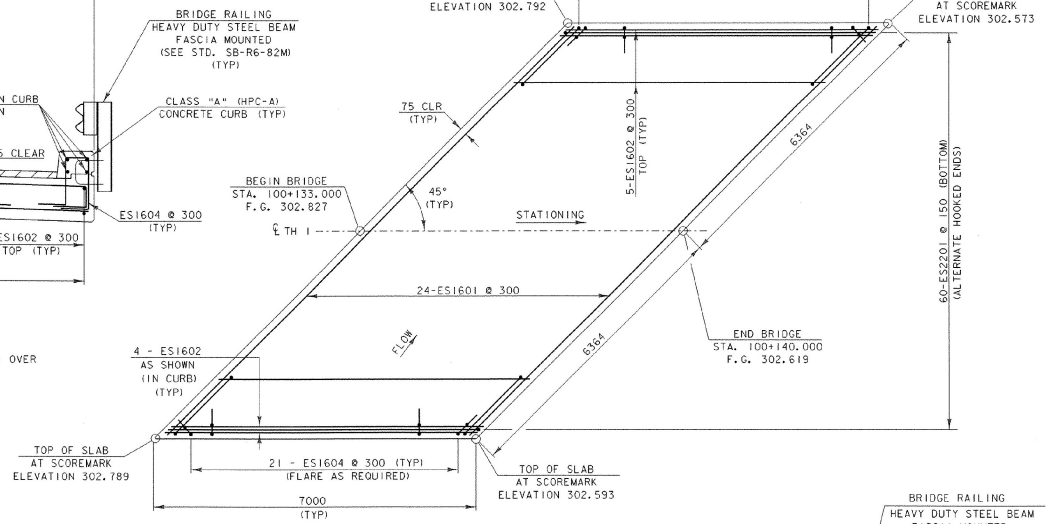
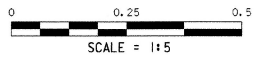
PROJECT: GROTON	PROJECT NO.: TH2-9435
DESIGN FILE NAME: 94J20/structures/sj20notes.dgn	PLOT DATE: 15-MAR-2002
IFARN FILE NAME: sj20notes.i	DRAWN BY: R.S. YOUNG
DESIGNED BY: R.S. YOUNG	CHECKED BY: K.M. HIGGINS
SQUAD LEADER: C.P. WILLIAMS	SHEET: 17 OF 40
GENERAL NOTES/MISC.DETAILS	



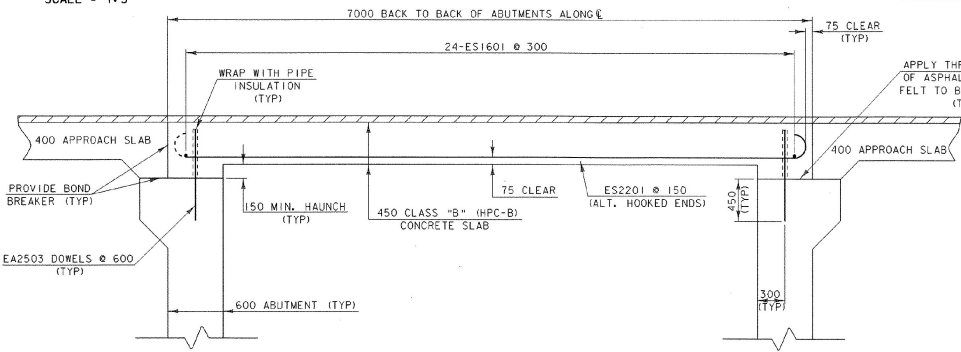
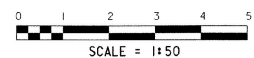
TYPICAL SLAB SECTION



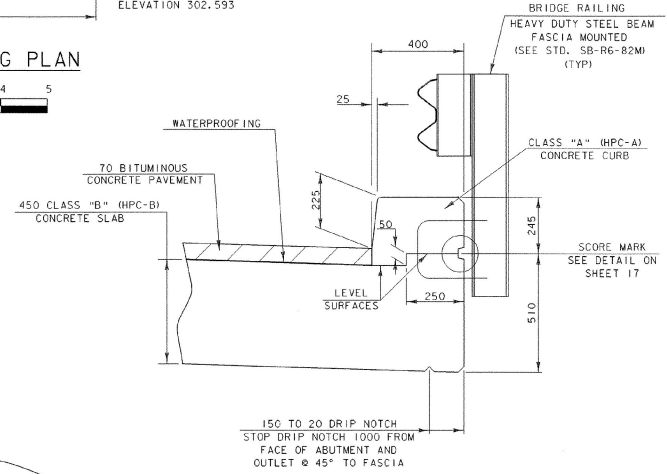
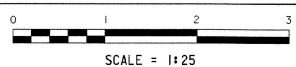
ACUTE CORNER DETAIL



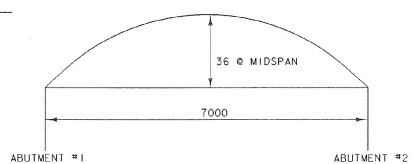
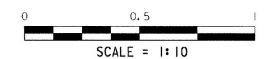
SLAB REINFORCING PLAN



ELEVATION ALONG CL OF ROADWAY



FASCIA AND RAILING DETAIL



CAMBER DIAGRAM

NTS

SET CAMBER OF CONSTRUCTION FORMS TO THIS CAMBER  
CAMBER SHALL APPROXIMATE A CIRCULAR CURVE

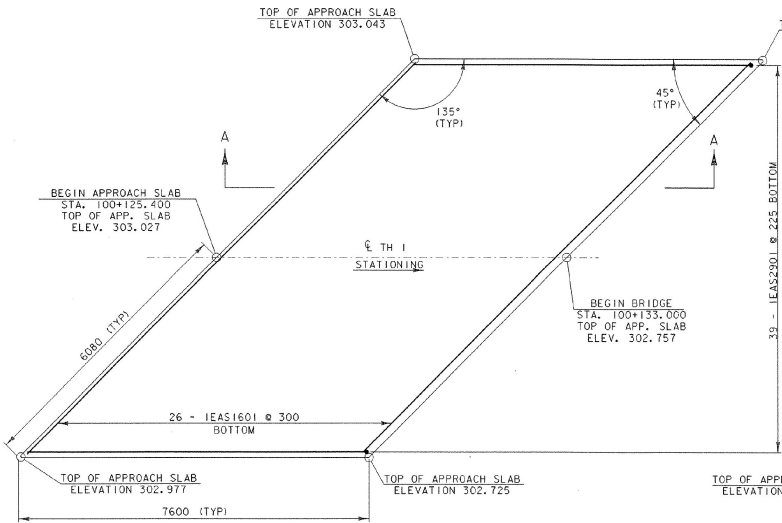
NOTES:

- NF = NEAR FACE
- FF = FAR FACE
- EF = EACH FACE
- ▲ = CUT TO FIT IN FIELD

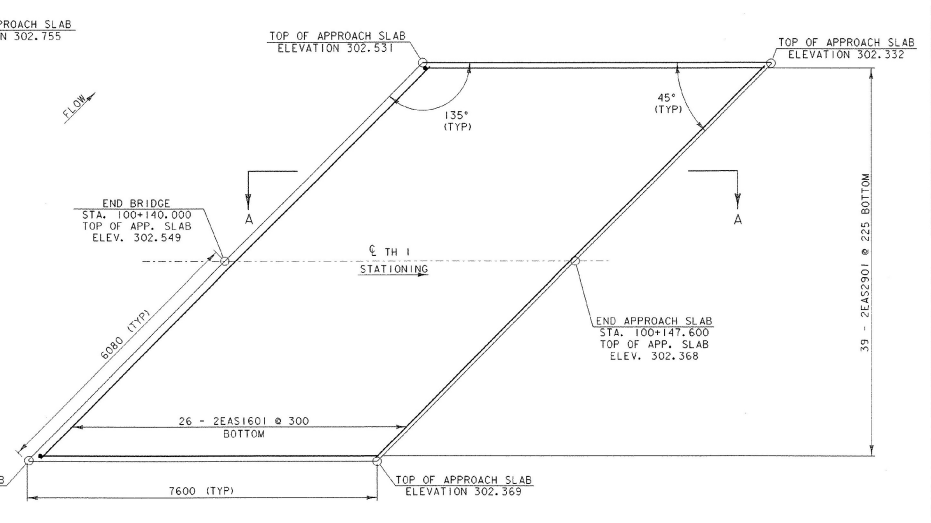
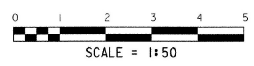
75 CLEAR UNLESS OTHERWISE SPECIFIED ON PLANS

ALL LAPS ARE 660 UNLESS OTHERWISE SPECIFIED ON PLANS

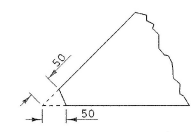
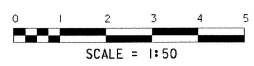
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PROJECT NUMBER: TH2-9435	
FILE NAME: 94j120structures/sj120sup.dgn	PLOT DATE: 15-MAR-2002
IPARM NAME: sj120sup.i	DRAWN BY: D. G. BASSETT
PROJECT LEADER: C.P. WILLIAMS	CHECKED BY: R. S. YOUNG
DESIGNED BY: R. S. YOUNG	SUPERSTRUCTURE DETAILS
SHEET 18 OF 40	



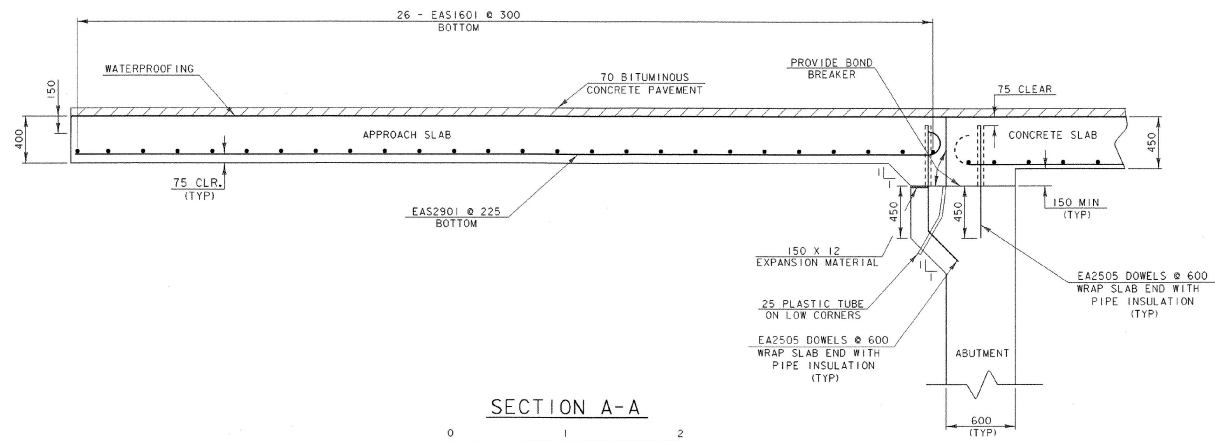
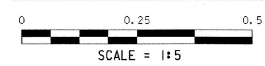
**APPROACH SLAB #1 PLAN**



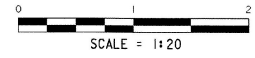
**APPROACH SLAB #2 PLAN**



**ACUTE CORNER DETAIL**

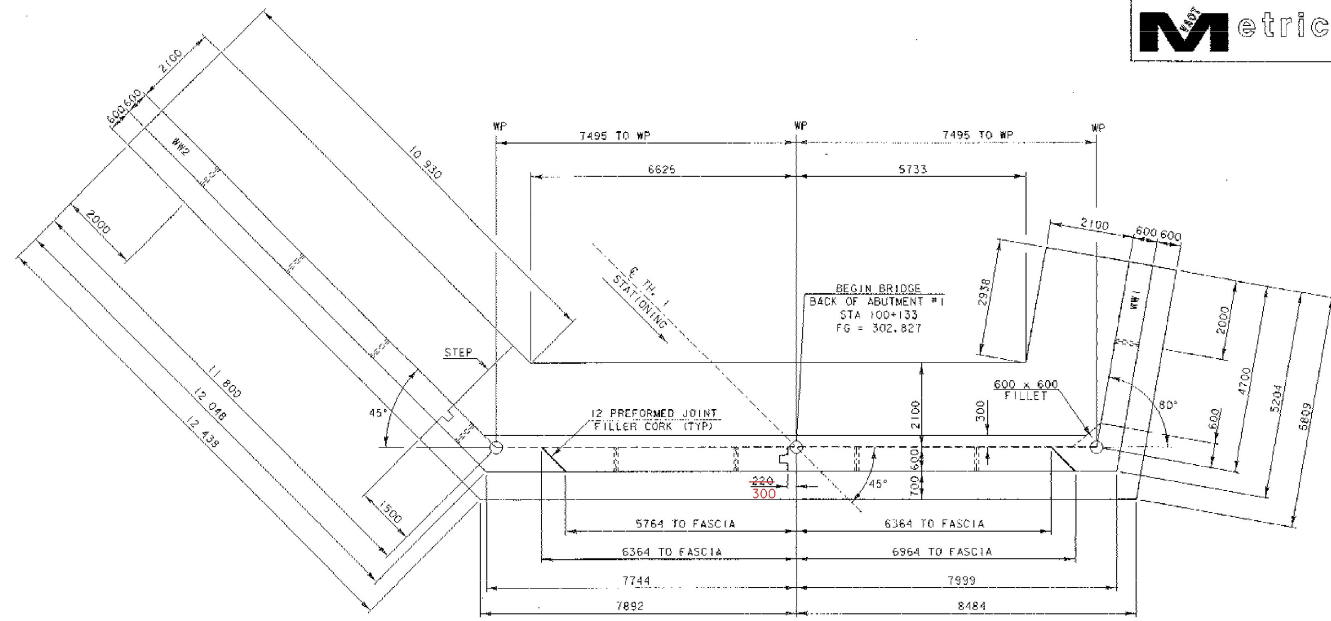


**SECTION A-A**

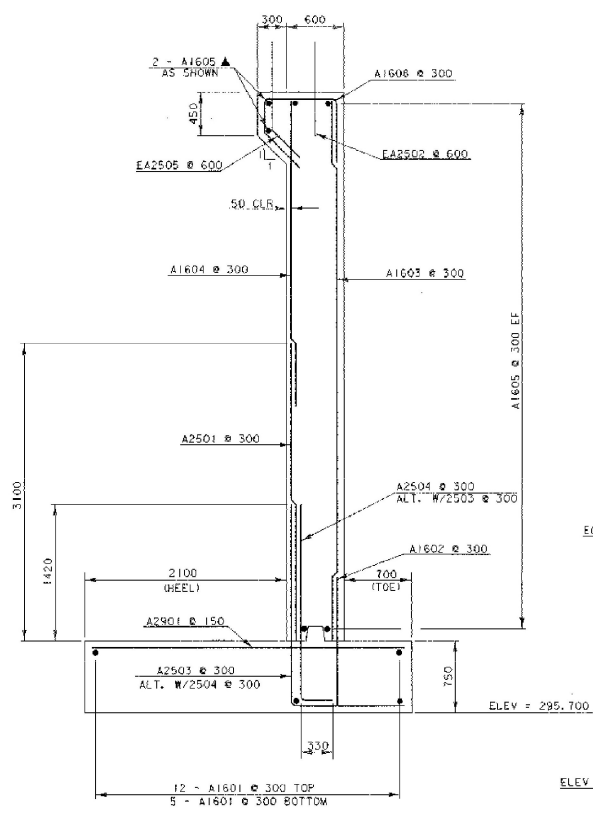
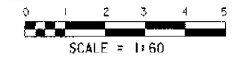


- NOTES:**
- NF = NEAR FACE
  - FF = FAR FACE
  - EF = EACH FACE
  - ▲ = CUT TO FIT IN FIELD
  - 75 CLEAR UNLESS OTHERWISE SPECIFIED ON PLANS
  - ALL LAPS ARE 660 UNLESS OTHERWISE SPECIFIED ON PLANS

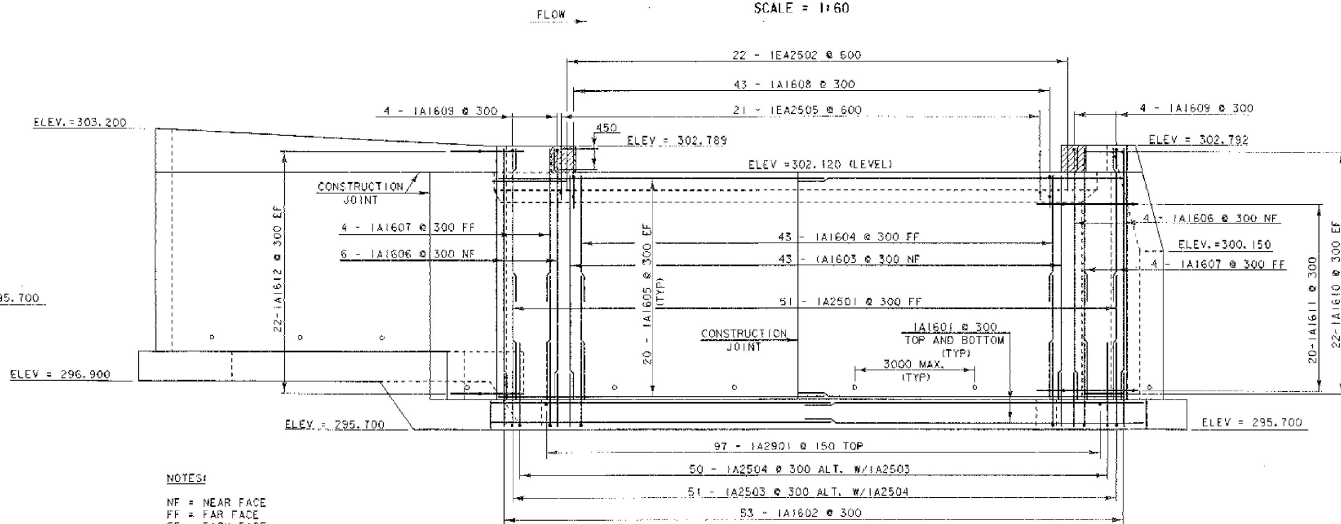
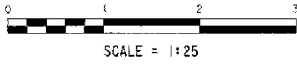
PROJECT NAME: GROTON	PLOT DATE: 15-MAR-2002
PROJECT NUMBER: TH2-9435	DRAWN BY: D. G. BASSETT
FILE NAME: 94j120/structures/sj120sup.dgn	CHECKED BY: R. S. YOUNG
IPARM NAME: sj120aps.i	DESIGNED BY: R. S. YOUNG
PROJECT LEADER: C. P. WILLIAMS	APPROACH SLAB DETAILS
SHEET 19 OF 40	



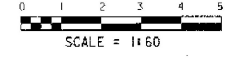
**ABUTMENT #1 PLAN**



**ABUTMENT #1 & #2 TYPICAL SECTION**



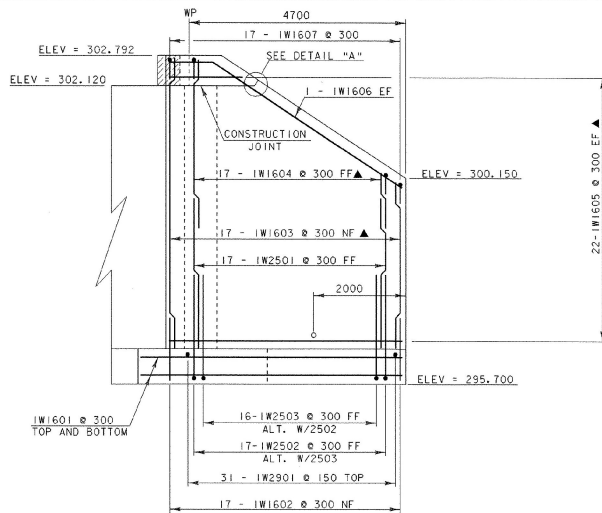
**ABUTMENT #1 ELEVATION**



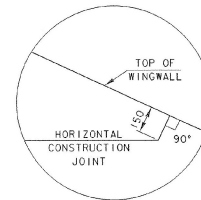
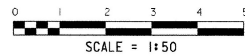
**NOTES:**  
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PROJECT NAME: GROTON  
 PROJECT NUMBER: TH2-9435  
 FILE NAME: 84\120\structures\8\120sub.dgn  
 PLOT DATE: 15-MAR-2002  
 PROJECT LEADER: C.P. WILLIAMS  
 DESIGNED BY: R.S. YOUNG  
 DRAWN BY: D.G. BASSETT  
 CHECKED BY: R.S. YOUNG  
 SHEET 20 OF 40

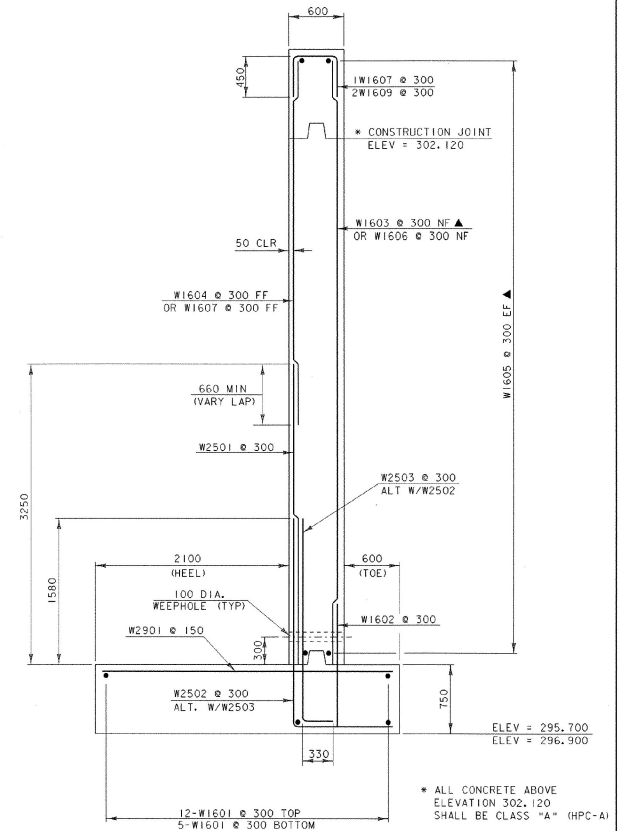




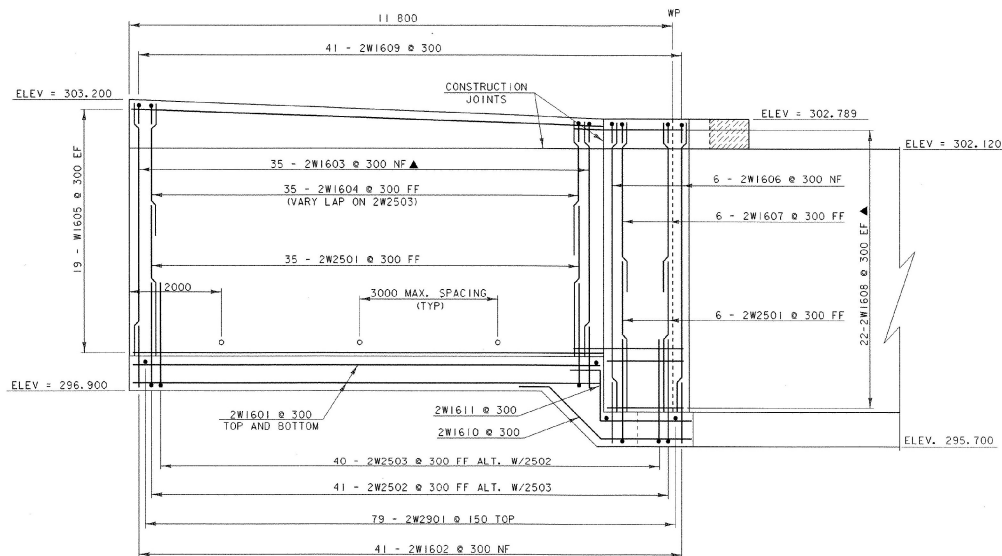
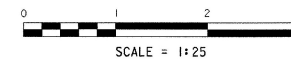
WINGWALL #1 ELEVATION



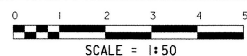
DETAIL "A"  
NTS



WINGWALLS #1 & #2  
TYPICAL SECTION



WINGWALL #2 ELEVATION



NOTES:

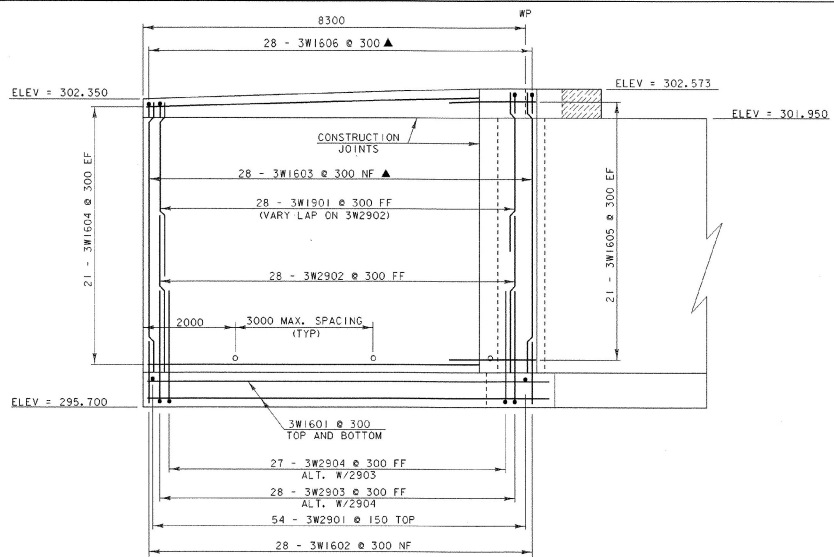
NF = NEAR FACE  
FF = FAR FACE  
EF = EACH FACE  
▲ = CUT TO FIT IN FIELD

75 CLEAR UNLESS OTHERWISE SPECIFIED ON PLANS

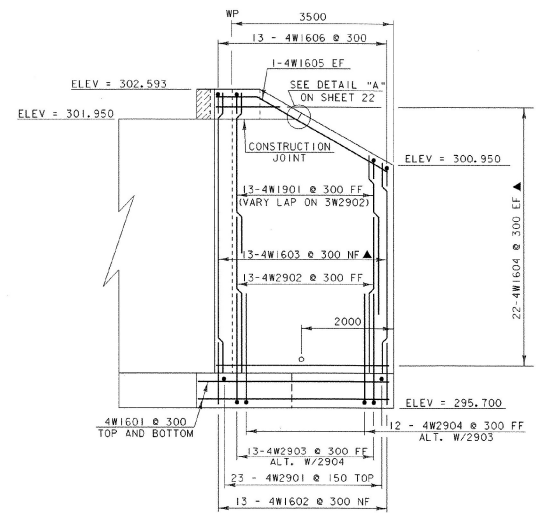
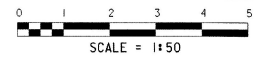
ALL LAPS ARE 660 UNLESS OTHERWISE SPECIFIED ON PLANS

PROJECT NAME: GROTON  
PROJECT NUMBER TH2-9435

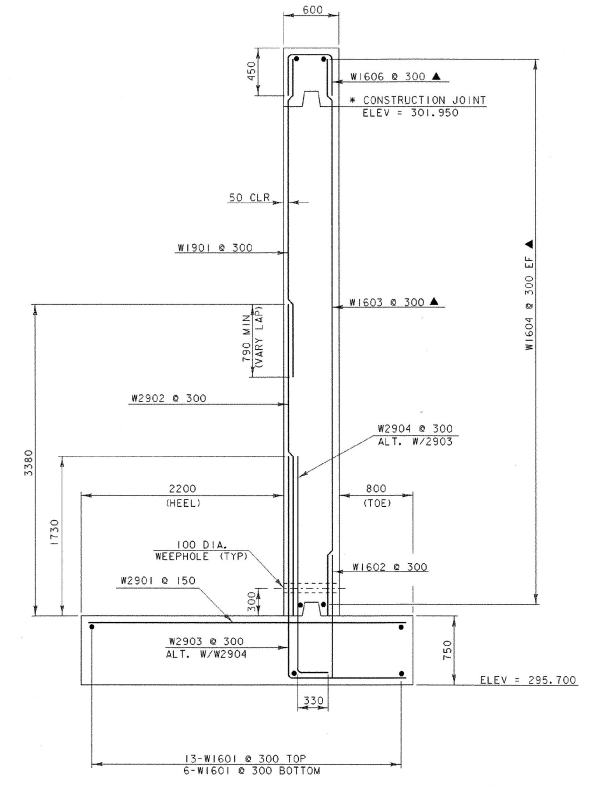
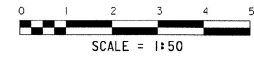
FILE NAME: 94J120/structures/gj120sub.dgn  
IPARM NAME: sj120wv1.i  
PROJECT LEADER: C.P. WILLIAMS  
DESIGNED BY: R.S. YOUNG  
PLOT DATE: 15-MAR-2002  
DRAWN BY: D.G. BASSETT  
CHECKED BY: R.S. YOUNG  
WINGWALL #1 AND #2 DETAILS  
SHEET 22 OF 40



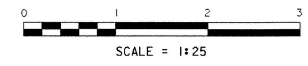
**WINGWALL #3 ELEVATION**



**WINGWALL #4 ELEVATION**



**WINGWALLS #3 & #4 TYPICAL SECTION**

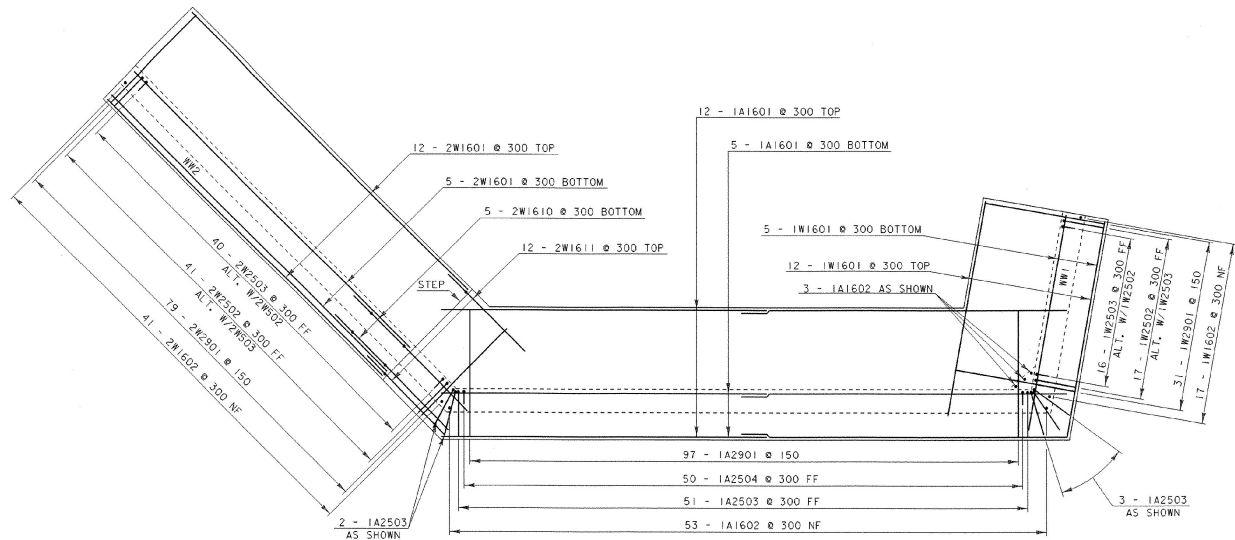


**NOTES:**

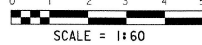
- NF = NEAR FACE
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- ▲ = CUT TO FIT IN FIELD

75 CLEAR UNLESS OTHERWISE SPECIFIED ON PLANS  
ALL LAPS ARE 660 UNLESS OTHERWISE SPECIFIED ON PLANS

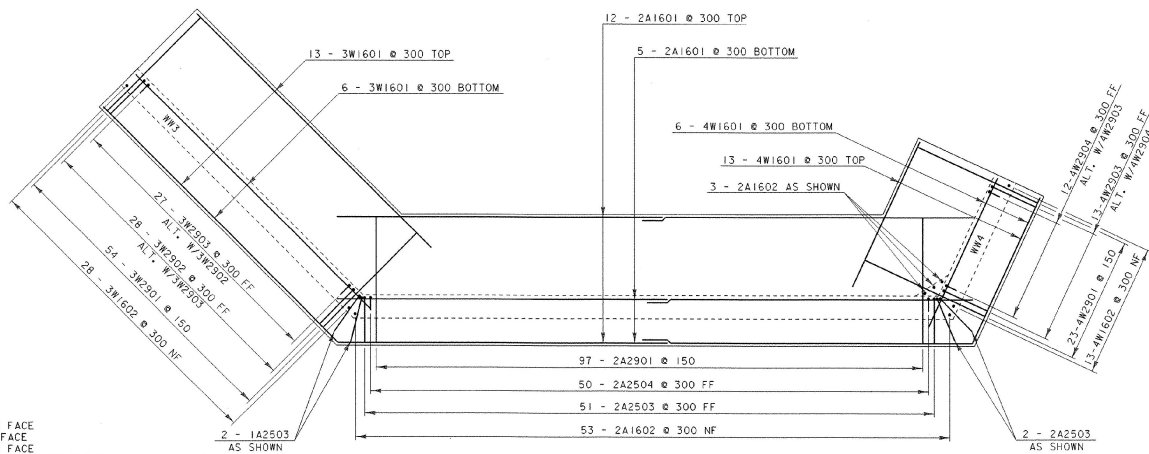
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PROJECT NUMBER: TH2-9435	
FILE NAME: 94j120/structures/sj120sub.dgn	PLOT DATE: 15-MAR-2002
IPARM NAME: sj120w3w4.i	DRAWN BY: D. G. BASSETT
PROJECT LEADER: C.P. WILLIAMS	CHECKED BY: R. S. YOUNG
DESIGNED BY: R. S. YOUNG	WINGWALL #3 AND #4 DETAILS
	SHEET 23 OF 40



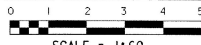
ABUTMENT #1 PLAN



SCALE = 1"=6'



ABUTMENT #2 PLAN



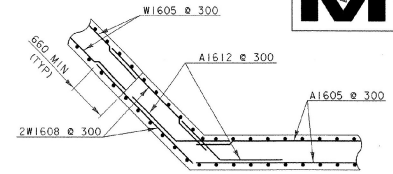
SCALE = 1"=6'

NOTES:

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- FF = FAR FACE
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- ▲ = CUT TO FIT IN FIELD

75 CLEAR UNLESS OTHERWISE SPECIFIED ON PLANS

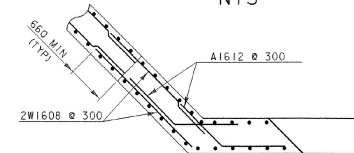
ALL LAPS ARE 660 UNLESS OTHERWISE SPECIFIED ON PLANS



WINGWALL NO. 2 CORNER DETAIL  
BELOW BRIDGE SEAT

(WINGWALL NO. 3 SIMILAR)

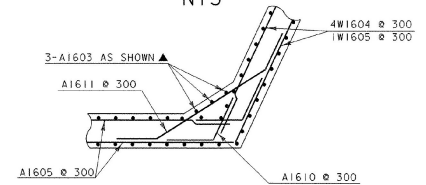
NTS



WINGWALL NO. 2 CORNER DETAIL  
ABOVE BRIDGE SEAT

(WINGWALL NO. 3 SIMILAR)

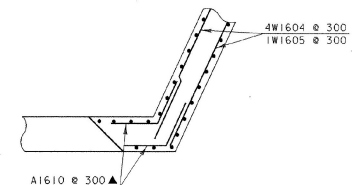
NTS



WINGWALL NO. 4 CORNER DETAIL  
BELOW BRIDGE SEAT

(WINGWALL NO. 1 SIMILAR)

NTS



WINGWALL NO. 4 CORNER DETAIL  
ABOVE BRIDGE SEAT

(WINGWALL NO. 1 SIMILAR)

NTS

PROJECT NAME: GROTON	PROJECT NUMBER: TH2-9435
FILE NAME: 94j120/structures/sj120sub.dgn	PLOT DATE: 15-MAR-2002
IPARM NAME: sj120ftg.1	DRAWN BY: R.S. YOUNG
PROJECT LEADER: C.P. WILLIAMS	CHECKED BY: K.M. HIGGINS
DESIGNED BY: R.S. YOUNG	FOOTING REINFORCING DETAILS
	SHEET 24 OF 40

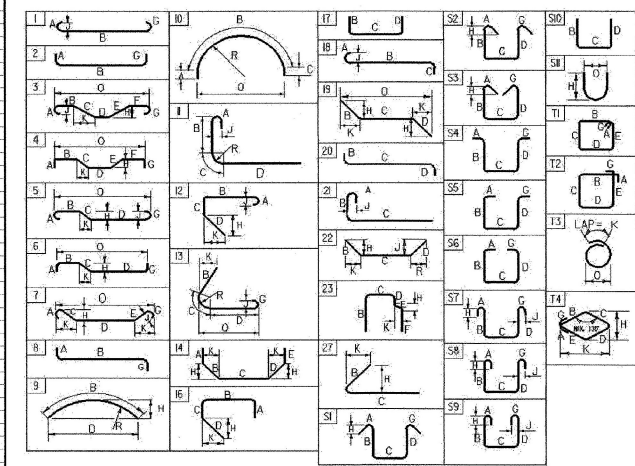
# REINFORCING STEEL SCHEDULE



EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O	ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
<p><b>SLAB</b></p> <p>25 16 12380 ES1901 STR 18 16 6850 ES1902 STR</p> <p>49 16 2670 ES1903 S8 300 270 1730 270 42 16 1900 ES1604 S5 300 550 220 530 300</p> <p>62 22 7100 ES2201 1 250 6850 --- 180</p> <p><b>APPROACH SLAB #1</b></p> <p>27 16 12010 1EA51901 STR</p> <p>40 29 7825 1EA52901 1 375 7450 --- 300</p> <p><b>APPROACH SLAB #2</b></p> <p>27 16 12010 2EA51901 STR</p> <p>40 29 7825 2EA52901 1 375 7450 --- 300</p> <p><b>ABUTMENT #1</b></p> <p>34 16 8470 1A1901 STR 57 16 1330 1A1602 STR 46 16 5590 1A1603 STR 43 16 3160 1A1604 STR 84 16 8150 1A1605 STR 10 16 6260 1A1606 STR 8 16 3630 1A1607 STR</p> <p>52 25 3100 1A2501 STR 22 25 970 1EA2502 STR</p> <p>96 29 3250 1A2901 STR</p> <p>43 16 2280 1A1608 16 660 750 340 530 8 16 1370 1A1609 S10 450 470 450 44 16 1600 1A1610 22 940 660 --- 20 16 3750 1A1611 22 660 2430 660 440 440 520 520 44 16 2200 1A1612 22 1100 1100 780 780</p> <p>56 25 3260 1A2503 17 2090 1170 --- 50 25 2420 1A2504 17 2090 330 --- 21 25 1370 1EA2505 22 970 400 ---</p> <p><b>WINGWALL #1</b></p> <p>17 16 5670 1W1901 STR 17 16 1330 1W1902 STR 17 16 6260 1W1903 STR 17 16 2690 1W1904 STR 44 16 5080 1W1905 STR</p> <p>17 29 3250 1W2901 STR</p> <p>32 29 3150 1W2901 STR</p> <p>2 16 5840 1W1606 22 1110 4730 --- 17 16 1370 1W1607 S10 450 470 450 910 920</p> <p>17 25 3330 1W2502 17 2260 1070 --- 16 25 2590 1W2503 17 2260 330 ---</p> <p><b>WINGWALL #2</b></p> <p>17 16 10140 2W1901 STR 41 16 1330 2W1902 STR</p> <p>36 16 5470 2W1603 STR 36 16 2880 2W1604 STR 38 16 10220 2W1605 STR 6 16 6290 2W1606 STR 6 16 3670 2W1607 STR 44 16 2370 2W1608 STR</p> <p>42 25 3250 2W2501 STR</p> <p>79 29 3150 2W2901 STR</p> <p>41 16 1370 2W1609 S10 450 470 450 5 16 4370 2W1610 19 660 1690 2020 12 16 3840 2W1611 20 660 1200 1980 3600</p> <p>41 25 3330 2W2502 17 2260 1070 --- 40 25 2590 2W2503 17 2260 330 ---</p>																																		
<p><b>ABUTMENT #2</b></p> <p>34 16 8590 2A1901 STR 56 16 1330 2A1602 STR 46 16 5420 2A1603 STR 43 16 2880 2A1604 STR 80 16 8100 2A1605 STR 10 16 6050 2A1606 STR 8 16 3620 2A1607 STR</p> <p>52 25 3100 2A2501 STR 22 25 970 2EA2502 STR</p> <p>97 29 3250 2A2901 STR</p> <p>43 16 2280 2A1906 16 660 750 340 530 8 16 1370 2A1609 S10 450 470 450 42 16 1470 2A1610 22 810 660 --- 19 16 4080 2A1611 22 660 2760 660 740 340 42 16 2200 2A1612 22 1100 1100 --- 380 380 590 590</p> <p>55 25 3260 2A2503 17 2090 1170 --- 51 25 2420 2A2504 17 2090 330 --- 21 25 1370 2EA2505 22 970 400 ---</p> <p><b>WINGWALL #3</b></p> <p>19 16 8630 3W1901 STR 28 16 1330 3W1602 STR 29 16 6040 3W1603 STR 42 16 7220 3W1604 STR 42 16 2370 3W1605 STR</p> <p>29 19 3460 3W1901 STR</p> <p>54 29 3450 3W2901 STR 28 29 3390 3W2902 STR</p> <p>28 16 1370 3W1606 S10 450 470 450</p> <p>28 29 3680 3W2903 17 2410 1270 --- 28 29 2740 3W2904 17 2410 330 ---</p> <p><b>WINGWALL #4</b></p> <p>20 16 4160 4W1901 STR 13 16 1330 4W1902 STR 13 16 8200 4W1603 STR 44 16 3760 4W1604 STR</p> <p>14 19 3480 4W1901 STR</p> <p>24 29 3450 4W2901 STR 13 29 3380 4W2902 STR</p> <p>2 16 4160 4W1605 22 860 3270 --- 13 16 1370 4W1606 S10 450 470 450 440 770</p> <p>13 29 3680 4W2903 17 2410 1270 --- 12 29 2740 4W2904 17 2410 330 ---</p>																																		

~ NOTES ~

- UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING 65M SHALL CONFORM TO THE REQUIREMENTS OF THE "SPECIFICATIONS FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT", AASHTO M 31M (ASTM A 615M-SI). ALL BARS SHALL BE GRADE 420, UNLESS OTHERWISE DESIGNATED.
- FOR TYPICAL BENDING DETAILS, RECOMMENDED PIN DIAMETER "D" OF BENDS AND HOOKS, AND OTHER STANDARD PRACTICE, SEE CURRENT CONCRETE REINFORCING STEEL INSTITUTE "MANUAL OF STANDARD PRACTICE".
- BARS WHICH REQUIRE MORE ACCURATE BENDING THAN STANDARD PRACTICES SHOULD HAVE LIMITS INDICATED.
- ALL DIMENSIONS ARE OUT TO OUT OF BAR EXCEPT "A" AND "G" ON STANDARD 180 DEGREE AND 135 DEGREE HOOKS.
- "J" DIMENSION ON 180 DEGREE HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE. OTHERWISE, STANDARD HOOKS ARE TO BE USED.
- "H" DIMENSION ON STIRRUPS TO BE SHOWN ONLY WHEN NECESSARY TO MAINTAIN CLEARANCES.
- WHERE SLOPE DIFFERS FROM 45 DEGREES, DIMENSIONS "H" AND "K" MUST BE SHOWN.
- ▲ DENOTES BARS TO BE CUT IN FIELD.
- DENOTES ONE EXTRA BAR ADDED FOR TESTING PURPOSES.
- DENOTES TWO EXTRA BARS ADDED FOR TESTING PURPOSES.
- "E" IN PREFIX DENOTES EPOXY COATED REINFORCING STEEL.

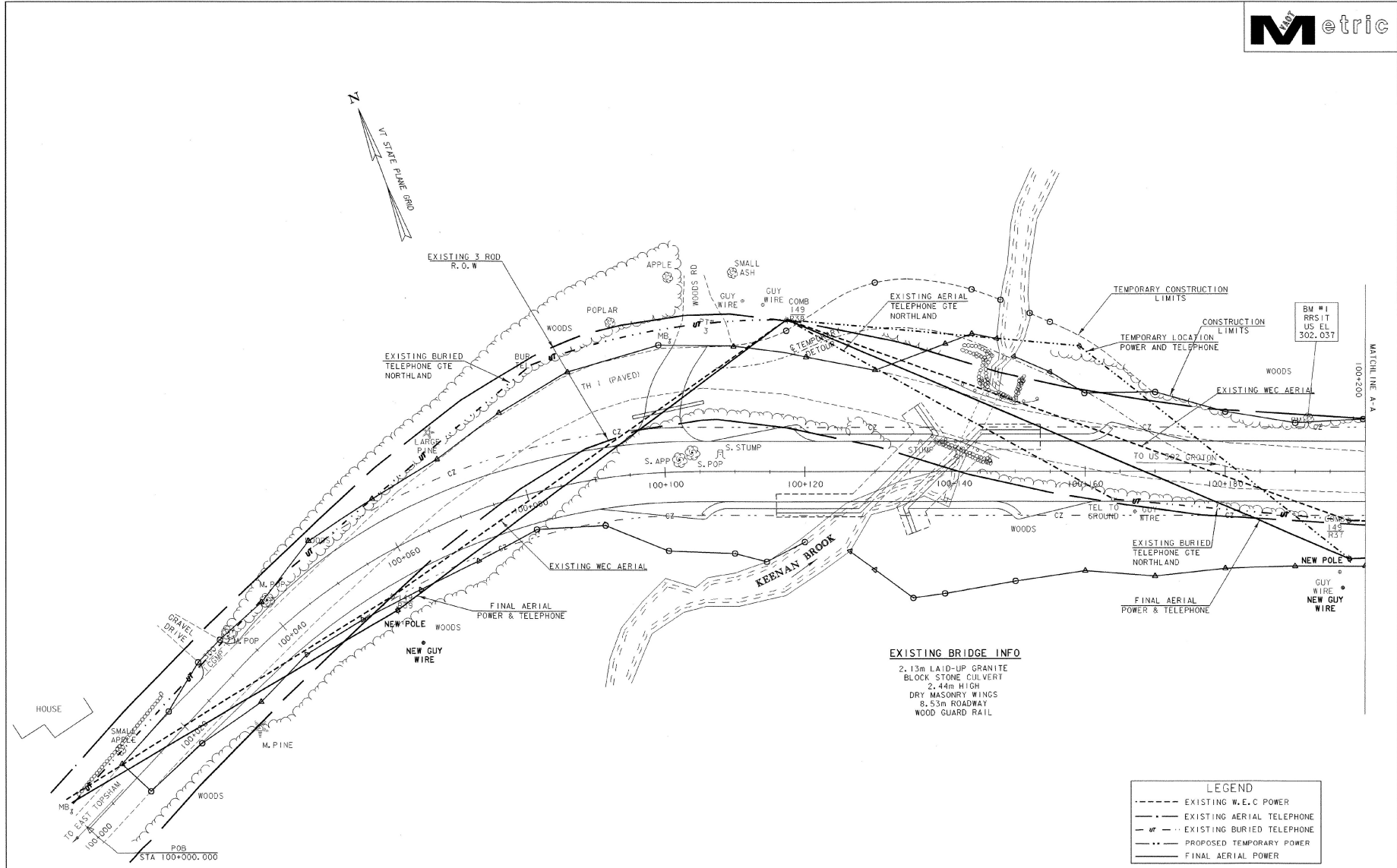
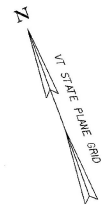


ASTM STANDARD REINFORCING BARS

BAR SIZE	NOMINAL MASS (kg/m)	NOMINAL DIMENSIONS ROUND SECTION		
		NOMINAL DIAMETER (mm)	"GROSS" SECTIONAL AREA (mm²)	PERIMETER (mm)
#10	0.560	9.5	71	29.84
#13	0.994	12.7	129	39.90
#16	1.552	16.9	199	49.95
#19	2.235	19.1	284	60.00
#22	3.042	22.2	387	69.74
#25	3.973	25.4	510	79.80
#29	5.060	28.7	645	90.16
#32	6.404	32.3	819	101.47
#36	7.907	35.8	1006	112.47
#43	11.380	43.0	1452	135.09
#57	20.240	67.3	2581	180.01

PROJECT NAME: **Groton**  
 PROJECT NUMBER: **TH2-9436**  
 FILE NAME: **sj120ssa.ds**  
 PROJECT LEADER: **C.P. Williams**  
 DESIGNED BY: **R.S. Young**  
 REINFORCING STEEL SCHEDULE

PLOT DATE: **11/5/01**  
 DRAWN BY: **R.S. Young**  
 CHECKED BY: **K.M. Higgins**  
 SHEET **25** OF **48**



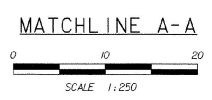
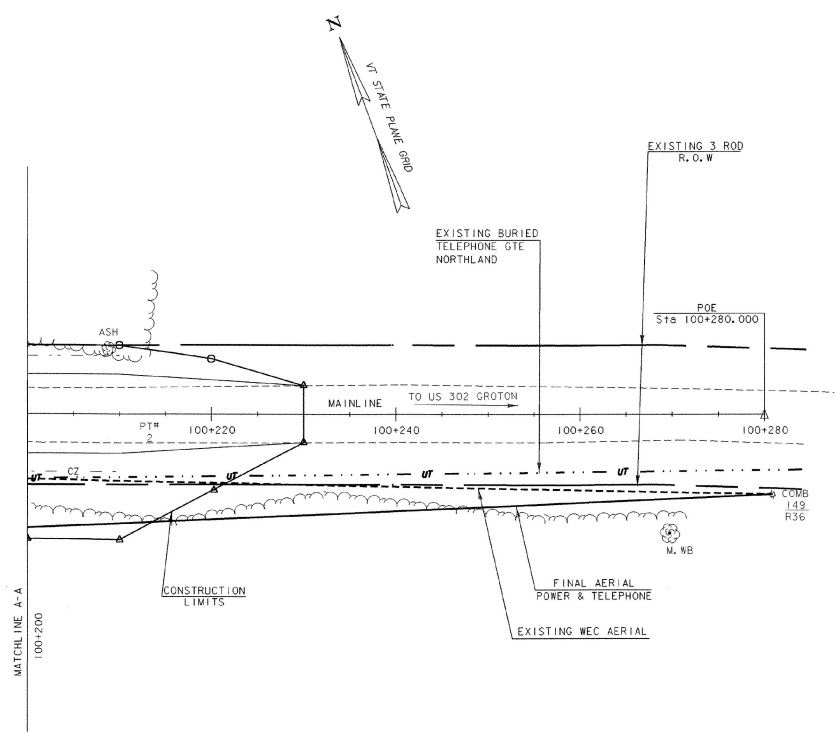
**EXISTING BRIDGE INFO**  
 2.13m LAID-UP GRANITE  
 BLOCK STONE CULVERT  
 2.44m HIGH  
 DRY MASONRY WINGS  
 8.53m ROADWAY  
 WOOD GUARD RAIL

LEGEND	
	EXISTING W.E.C POWER
	EXISTING AERIAL TELEPHONE
	EXISTING BURIED TELEPHONE
	PROPOSED TEMPORARY POWER
	FINAL AERIAL POWER

DATUM	
VERTICAL	NAVD88
HORIZONTAL	NAD83 (92)



PROJECT: GROTON	PROJECT NO.: TH2-9435
DESIGN FILE NAME: 94J20/structures/sj20bdr.dgn	PLOT DATE: 15-MAR-2002
IPARM FILE NAME: sj20u.h1	SURVEY DATE: 3/95
SURVEYED BY: R. MOREAU	DRAWN BY: D. C. BASSETT
SQUAD LEADER: C. P. WILLIAMS	SHEET: 26 OF 40
UTILITY LAYOUT SHEET #1	

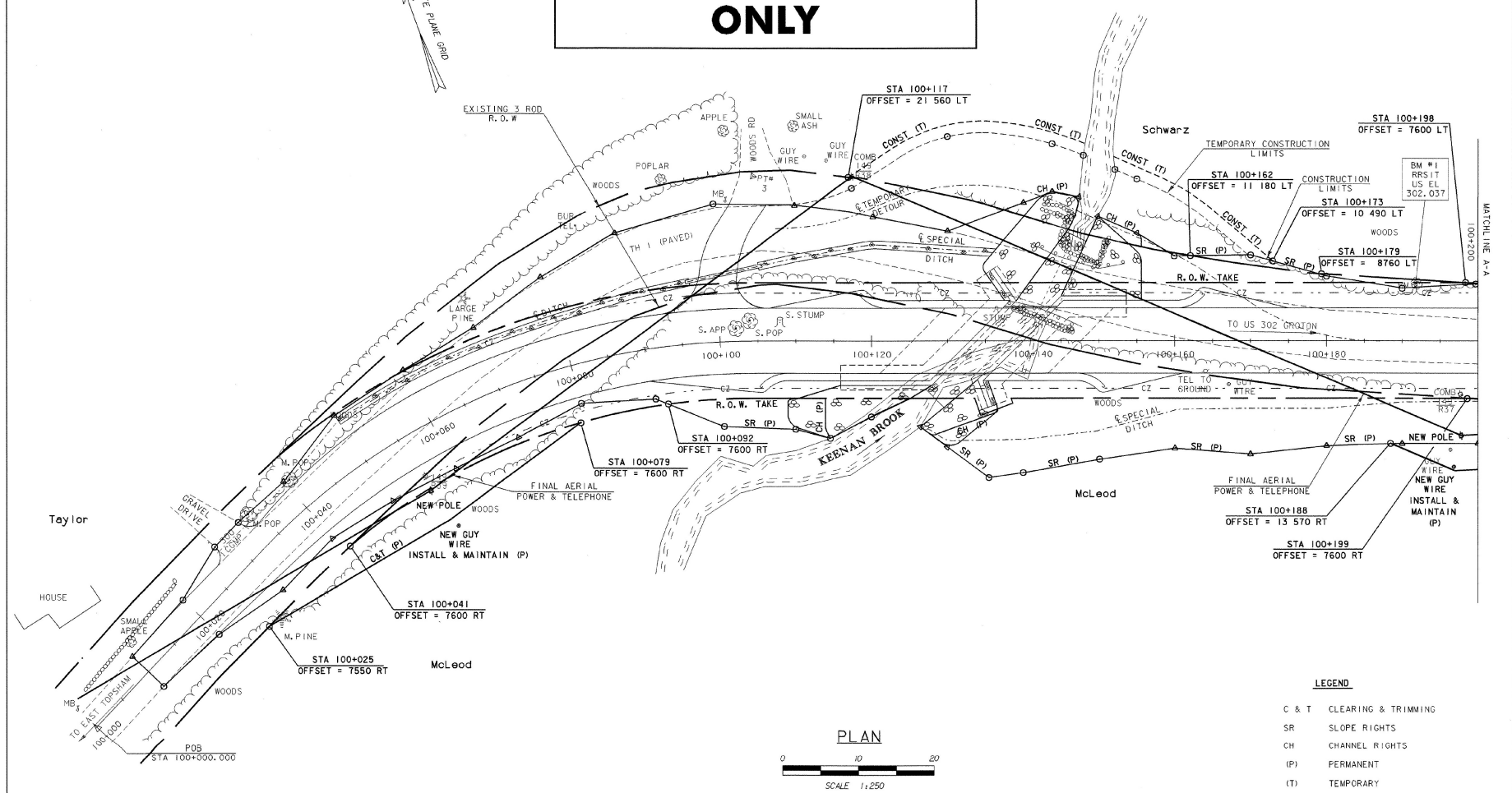
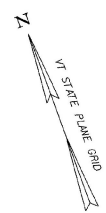


LEGEND	
---	EXISTING W.E.C POWER
- - -	EXISTING AERIAL TELEPHONE
- - -	EXISTING BURIED TELEPHONE
- - -	PROPOSED TEMPORARY POWER
---	FINAL AERIAL POWER

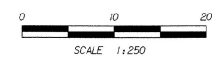
DATUM	
VERTICAL	NAVD88
HORIZONTAL	NAD83 (92)

PROJECT: GROTON	PROJECT NO.: TH2-9435
DESIGN FILE NAME: 94j20/structures/sj20bdr.dgn	PLOT DATE: 15-MAR-2002
IPARM FILE NAME: sj20u12.i	SURVEY DATE: 3/95
SURVEYED BY: R. MOREAU	DRAWN BY: D. G. BASSETT
SQUAD LEADER: C. P. WILLIAMS	SHEET: 27 OF 40
UTILITY LAYOUT SHEET #2	

**THIS SHEET IS FOR  
R.O.W. PURPOSES  
ONLY**



**PLAN**



**LEGEND**

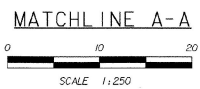
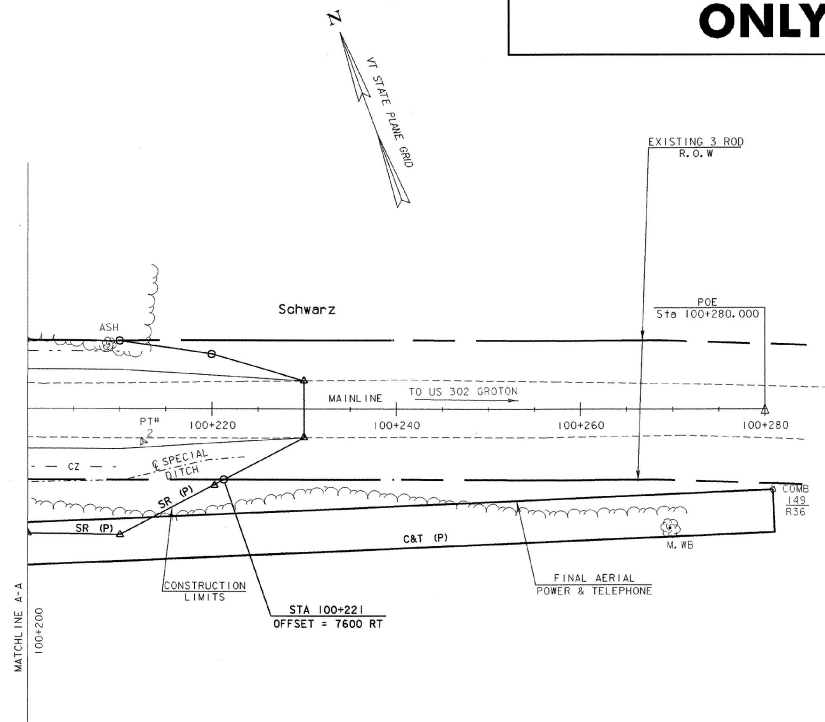
- C & T CLEARING & TRIMMING
- SR SLOPE RIGHTS
- CH CHANNEL RIGHTS
- (P) PERMANENT
- (T) TEMPORARY

**DATUM**

VERTICAL	NAVD88
HORIZONTAL	NAD83 (92)

PROJECT: <b>GROTON</b>	PROJECT NO.: <b>TH2-9435</b>
DESIGN FILE NAME: 94j20/structures/sj20bdr.dgn	PLOT DATE: 15-MAR-2002
IPARM FILE NAME: sj20p.dwg	SURVEY DATE: 3/95
SURVEYED BY: R. MOREAU	DRAWN BY: KMH
SOLID LEADER: C. P. WILLIAMS	SHEET: 28 OF 40
ROW SHEET #1	

**THIS SHEET IS FOR  
R.O.W. PURPOSES  
ONLY**

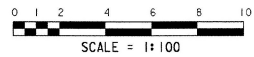
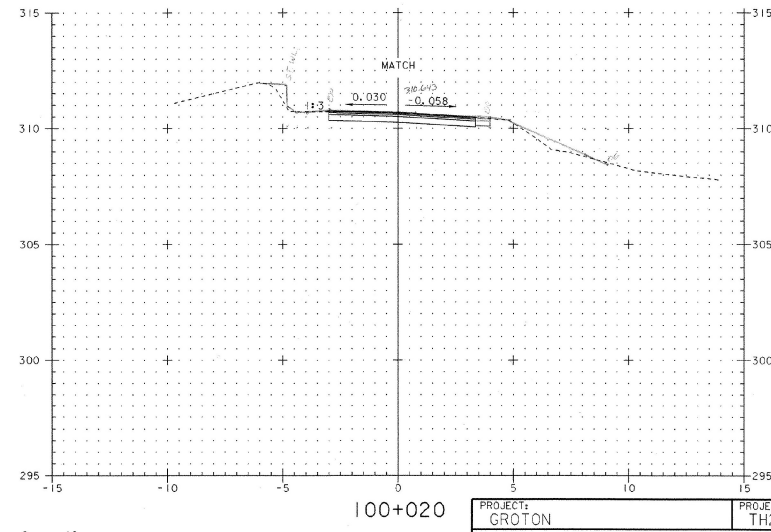
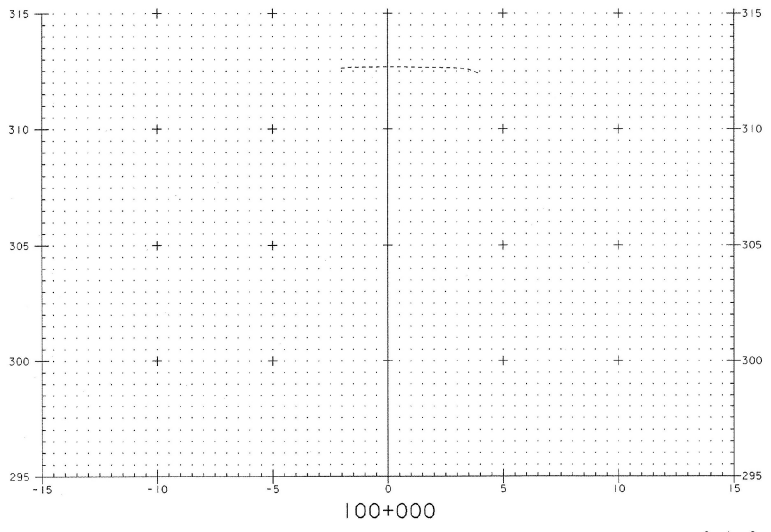
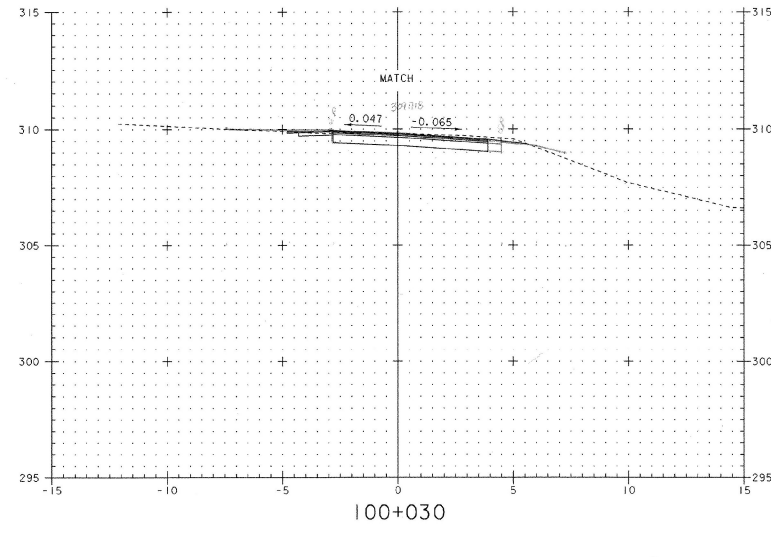
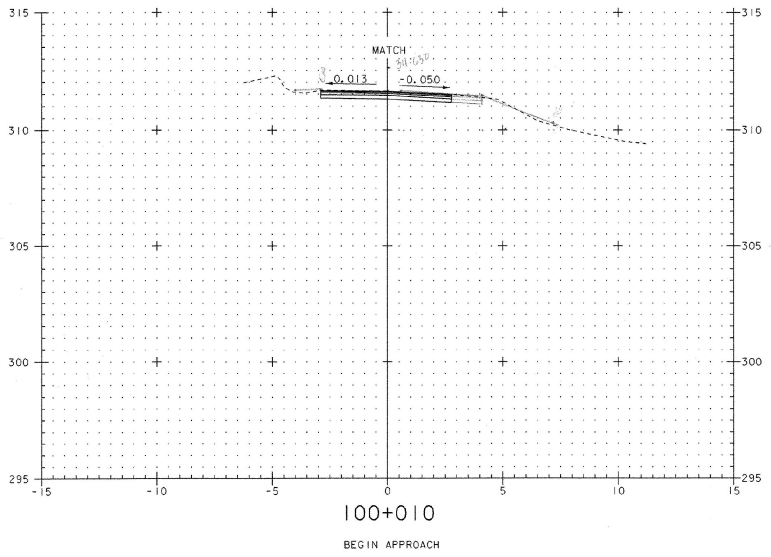


**LEGEND**

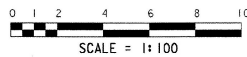
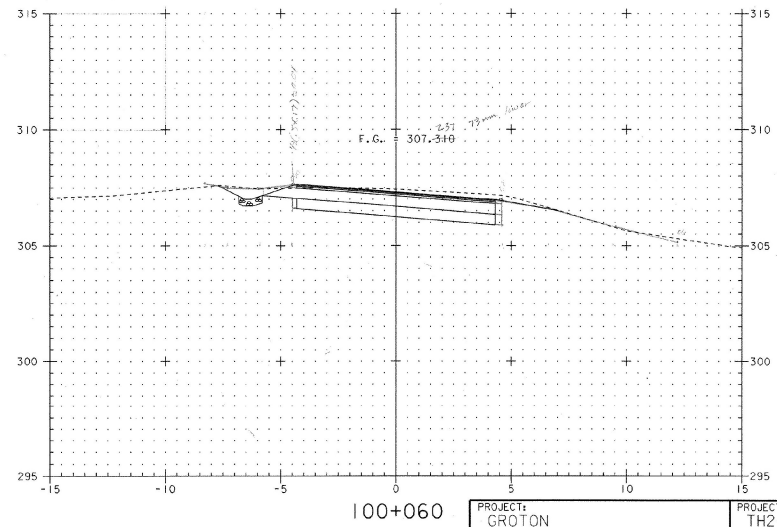
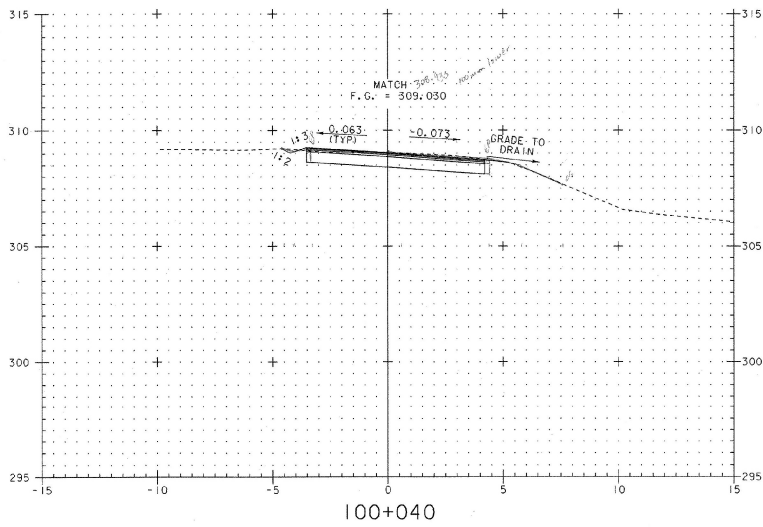
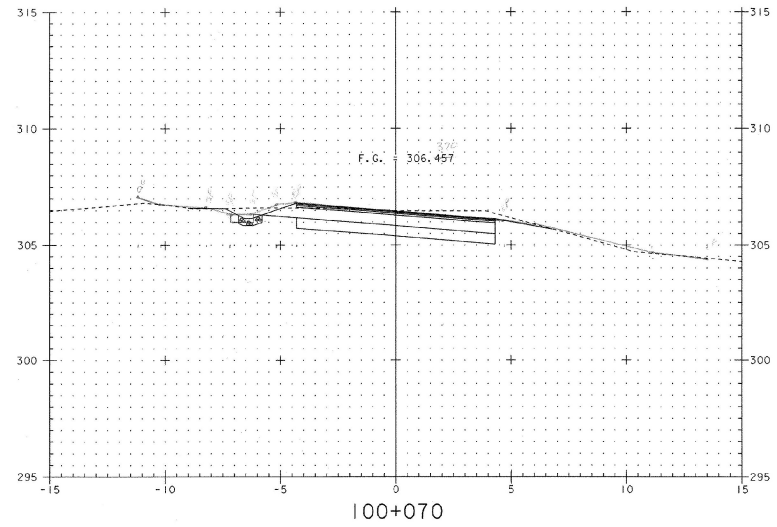
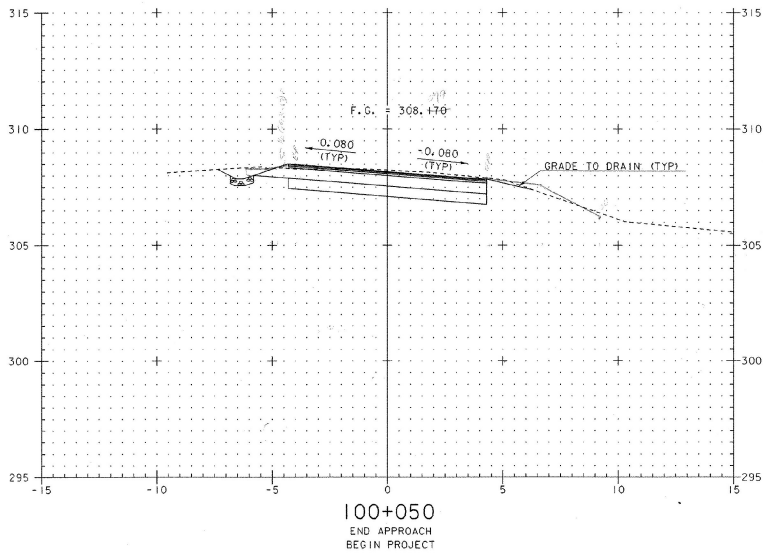
- C & T CLEARING & TRIMMING
- SR SLOPE RIGHTS
- CH CHANNEL RIGHTS
- (P) PERMANENT
- (T) TEMPORARY

<b>DATUM</b>	
VERTICAL	NAVD88
HORIZONTAL	NAD83 (92)

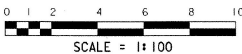
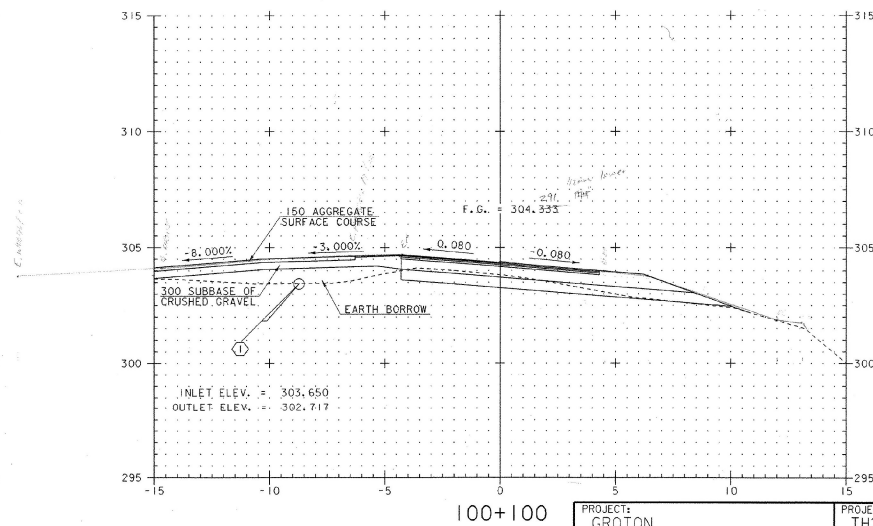
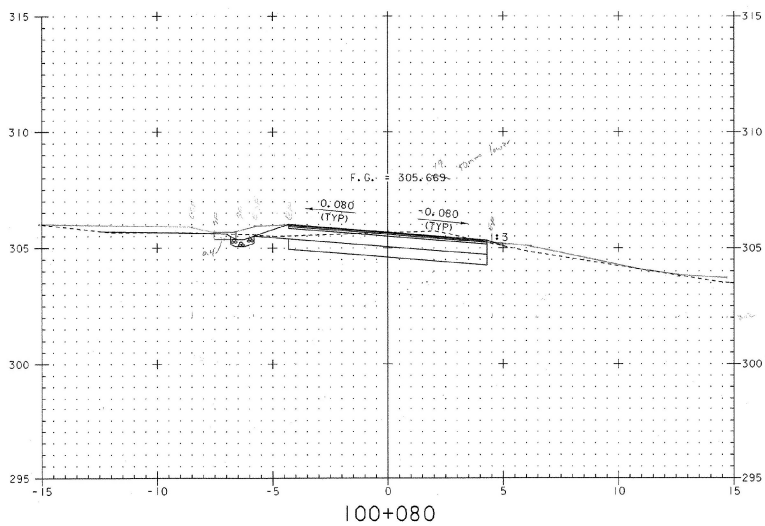
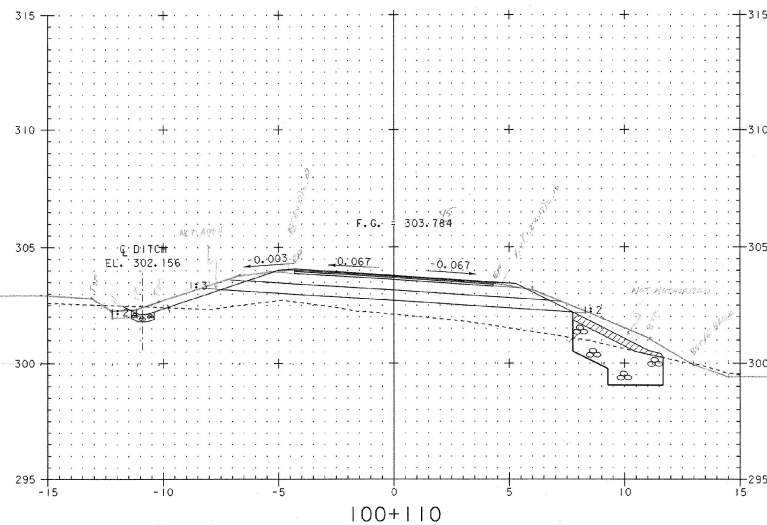
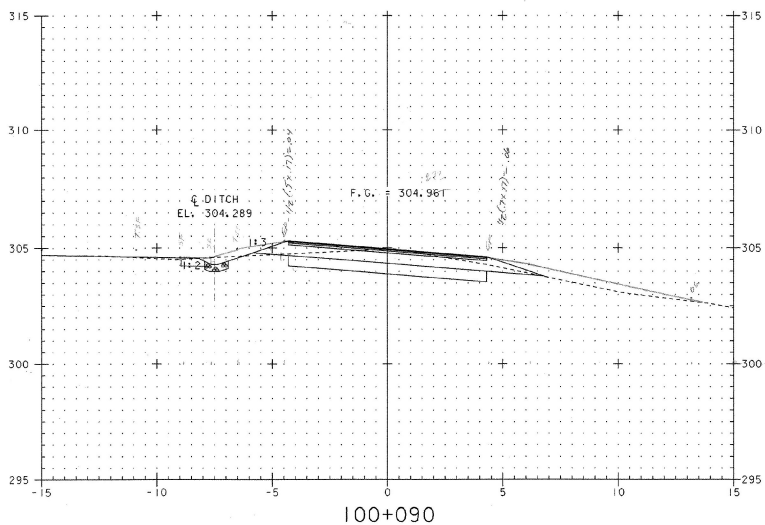
PROJECT: <b>GROTON</b>	PROJECT NO.: <b>TH2-9435</b>
DESIGN FILE NAME: 94j20/structures/sj20bdr.dgn	PLOT DATE: 15-MAR-2002
IPARM FILE NAME: sj20-ow2.i	SURVEY DATE: 3/95
SURVEYED BY: R. MOREAU	DRAWN BY: KMH
SQUAD LEADER: C. P. WILLIAMS	SHEET: 29 OF 40
ROW SHEET #2	



PROJECT: GROTON	PROJECT NO.: TH2-9435
DESIGN FILE NAME: s4\20\structures\s\20x\dgn	PLOT DATE: 15-MAR-2002
IPARM FILE NAME: s\20\m\1	
MAINLINE SECTIONS	
SECTIONS 100+000 - 100+030	SHEET: 30 OF 40

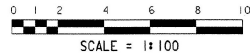
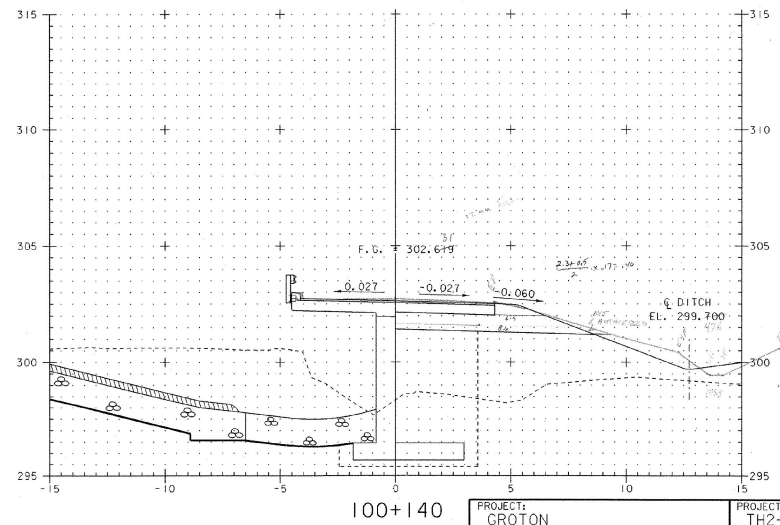
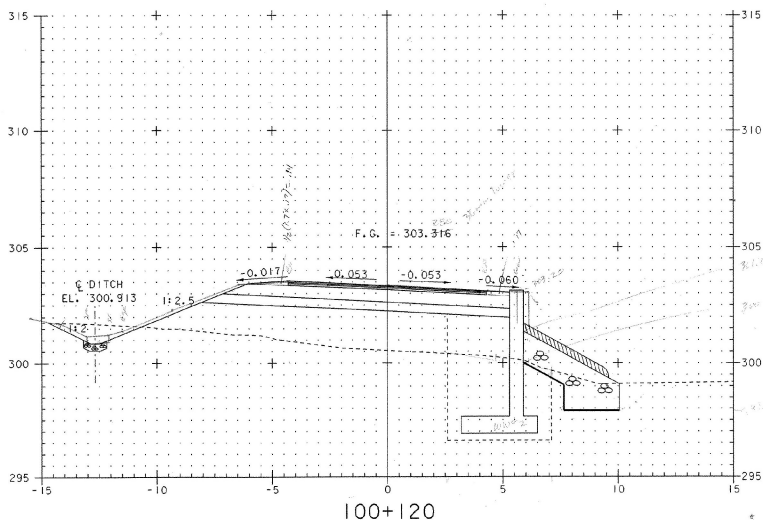
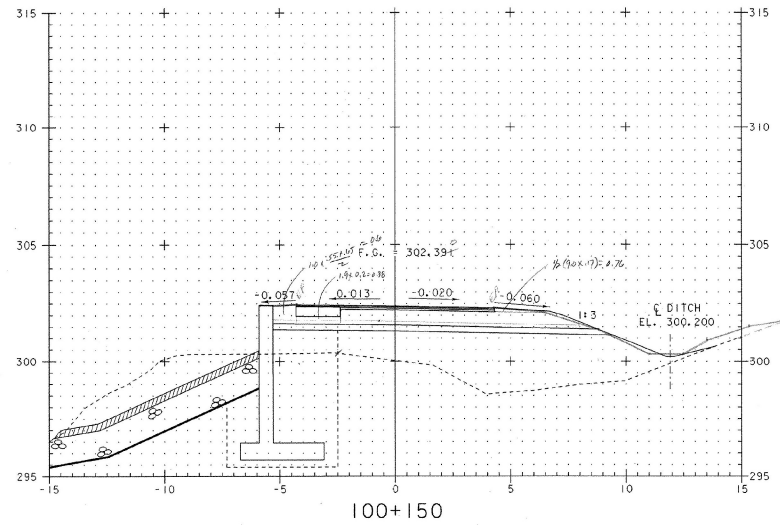
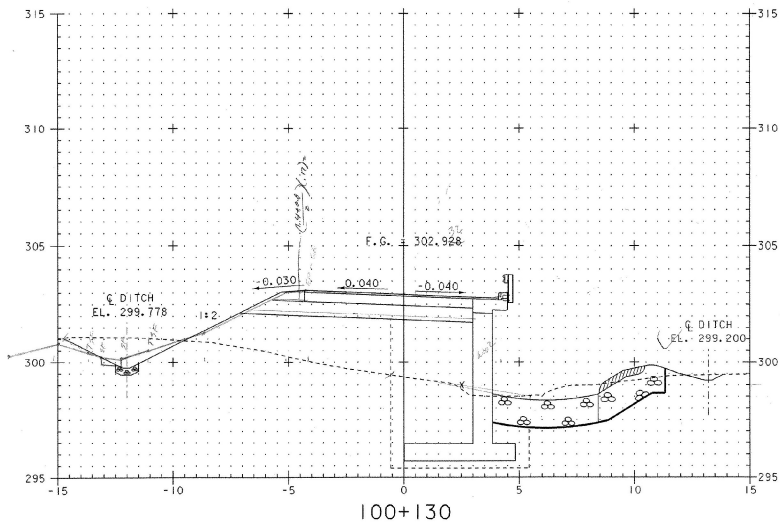


PROJECT: GROTON	PROJECT NO.: TH2-9435
DESIGN FILE NAME: 94J20/structures/sj20xsl.dgn	PLOT DATE: 15-MAR-2002
IPARM FILE NAME: sj20m2.1	
MAINLINE SECTIONS	
SECTIONS 100+040 - 100+070	SHEET: 31 OF 40

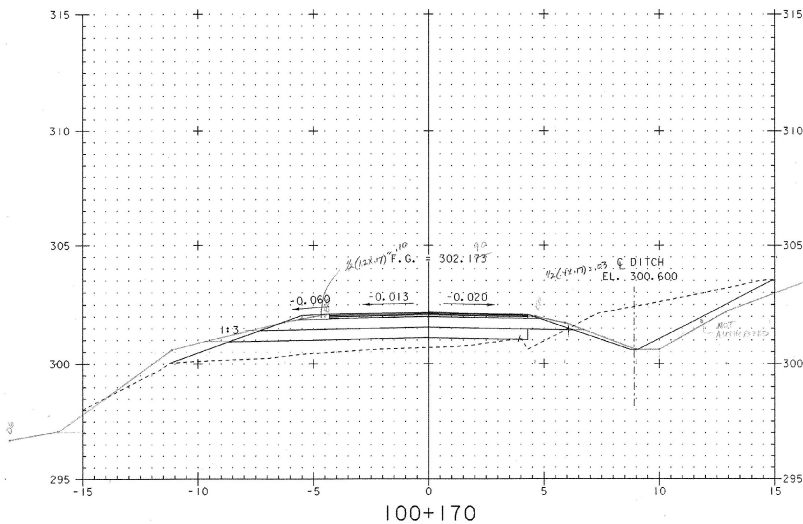


PROJECT: GROTON	PROJECT NO.: TH2-9435
DESIGN FILE NAME: 94J20/structures/sj20xk1.dgn	PLLOT DATE: 15-MAR-2002
IPARM FILE NAME: sj20w3.1	
MAINLINE SECTIONS	
SECTIONS 100+080 - 100+100	SHEET: 32 OF 40

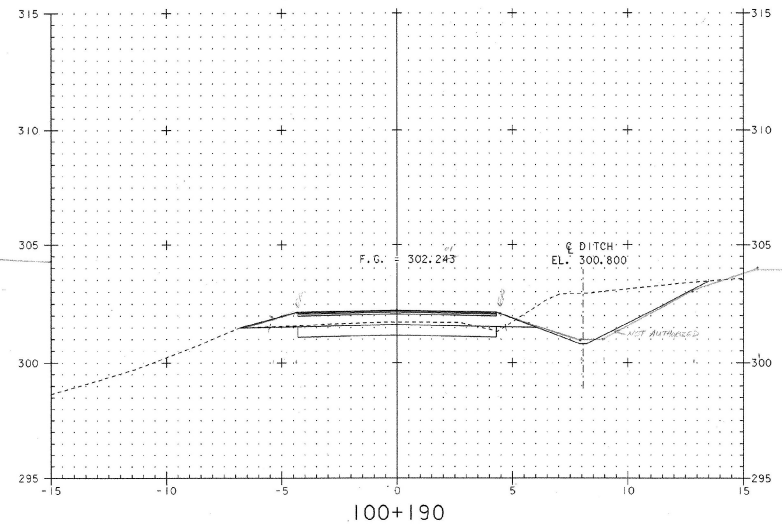
BEGIN BRIDGE  
STA 100+133.000



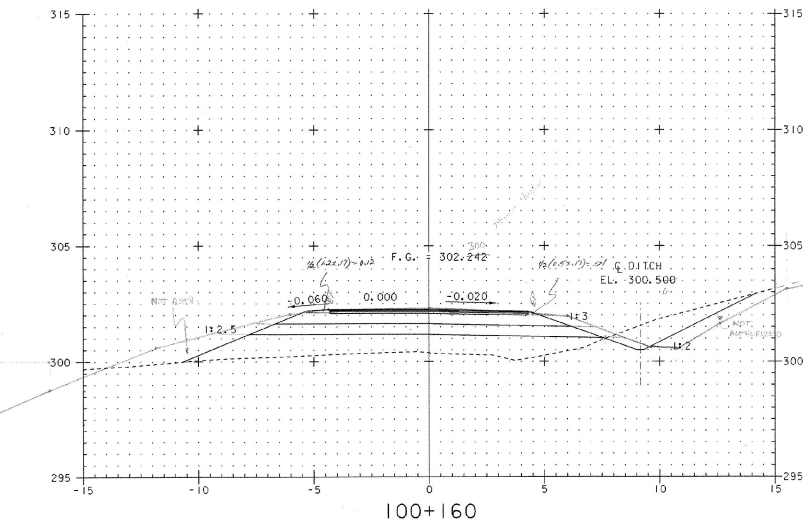
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DESIGN FILE NAME: 94J20/structures/sj20xsl.dgn	PLOT DATE: 15-MAR-2002
IPARM FILE NAME: sj20m4.i	
MAINLINE SECTIONS	
SECTIONS 100+120 - 100+150	SHEET: 33 OF 40



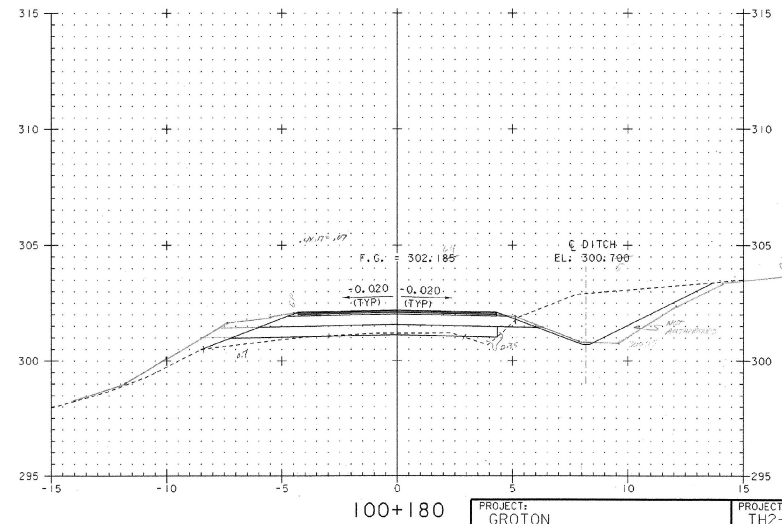
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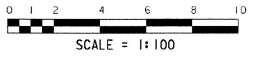
100+190



100+160

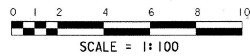
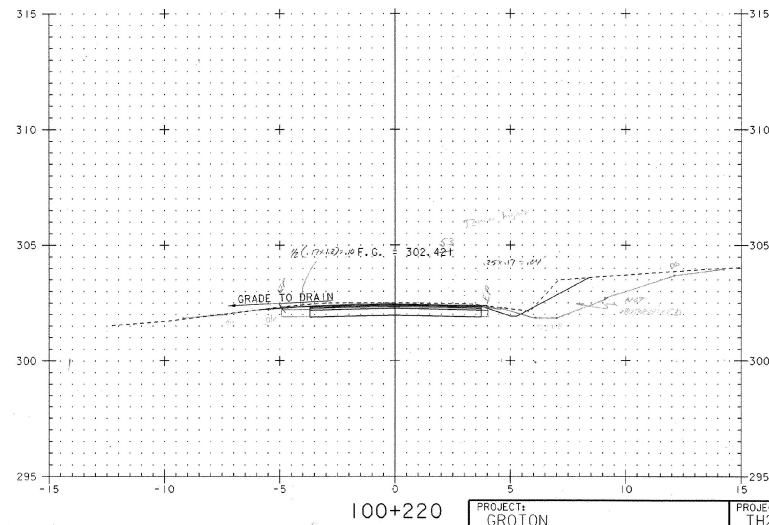
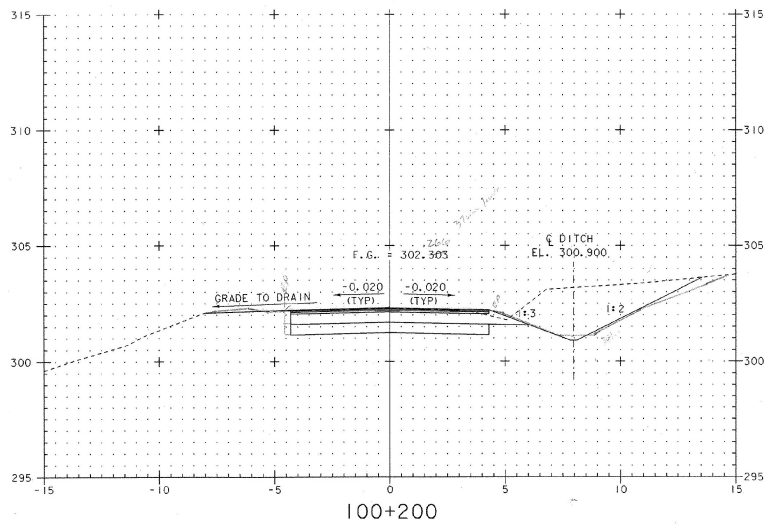
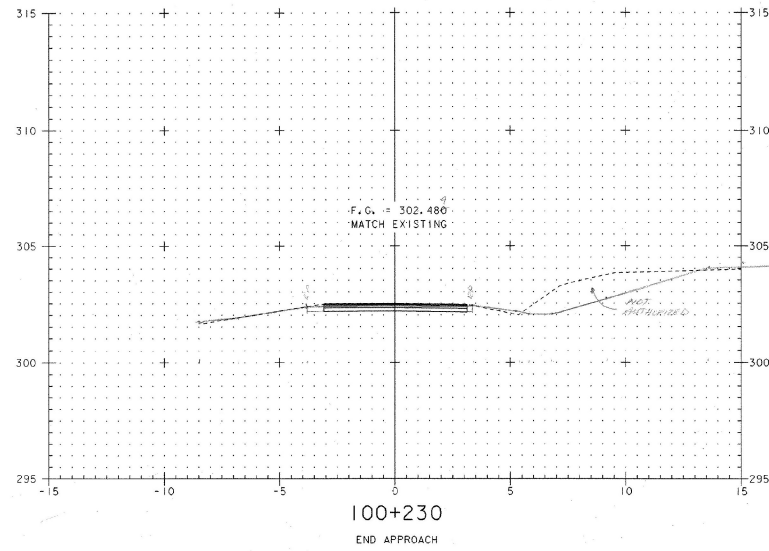
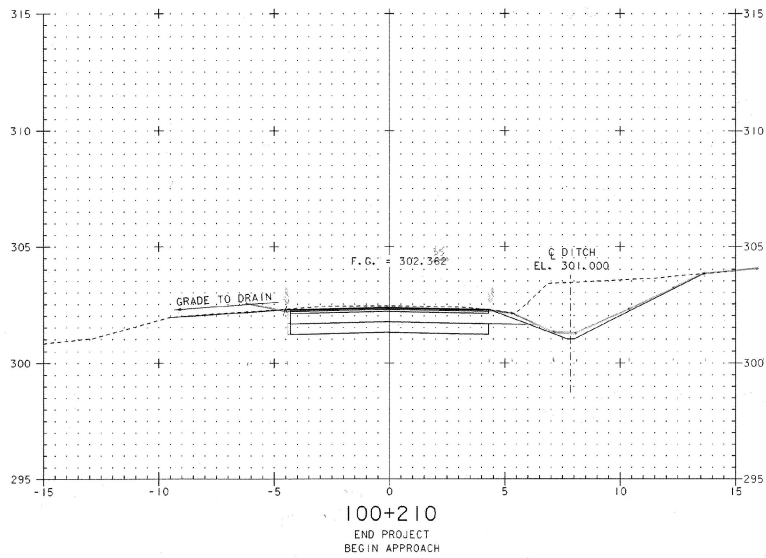


100+180

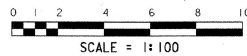
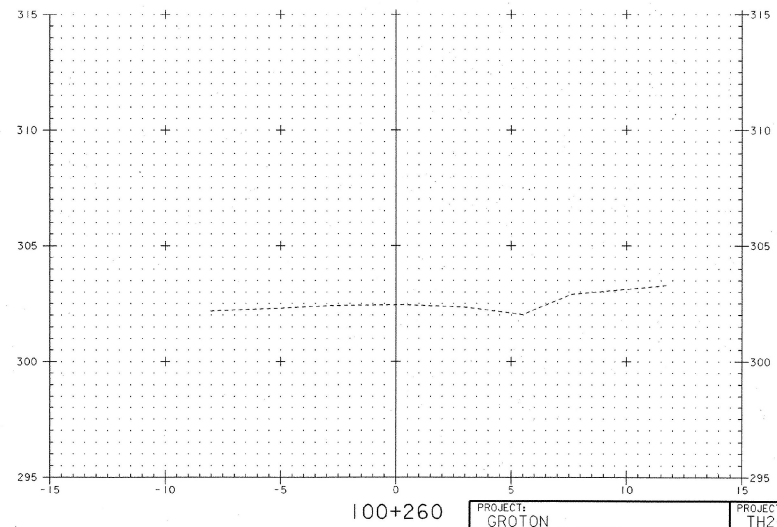
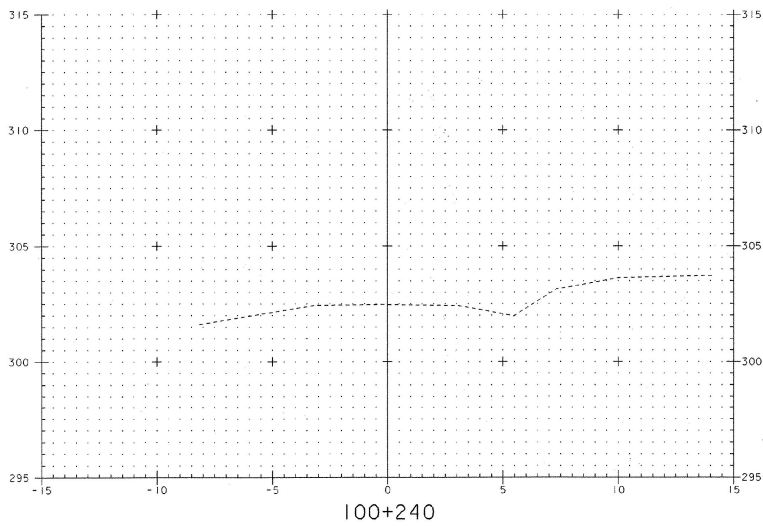
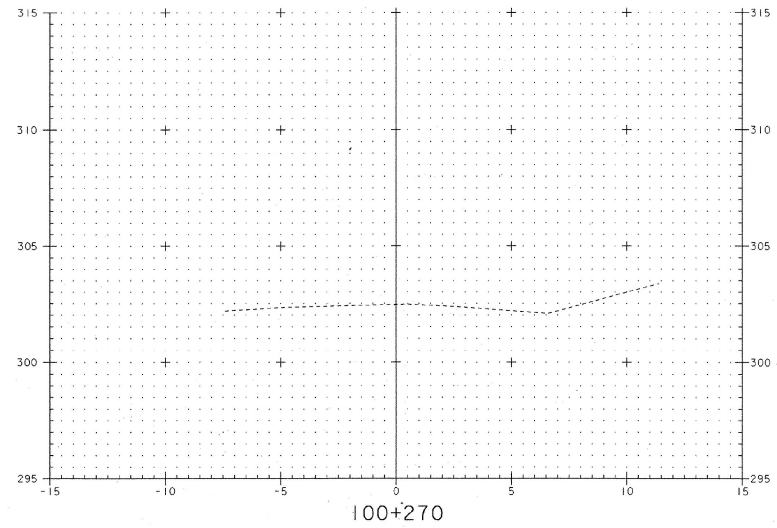
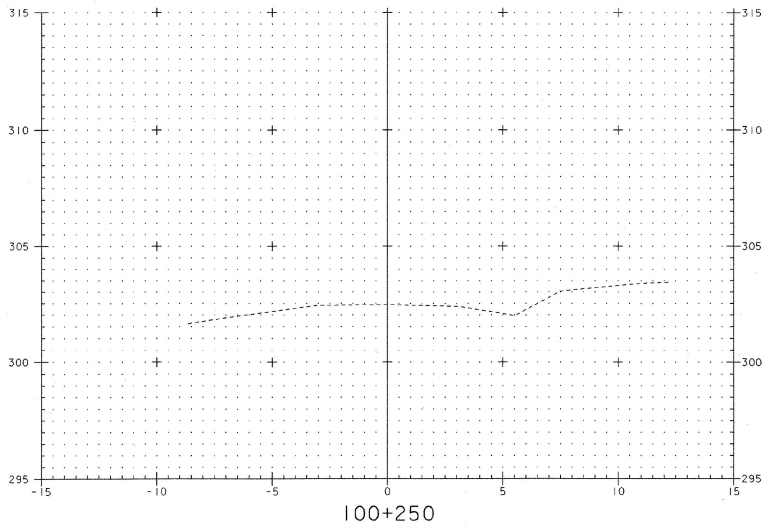


PROJECT: GROTON	PROJECT NO.: TH2-9435
DESIGN FILE NAME: 94320/structures/sj20xsl.dgn	PLOT DATE: 15-MAR-2002
IPARM FILE NAME: sj20m5.j	
MAINLINE SECTIONS	
SECTIONS 100+160 - 100+190	SHEET: 34 OF 40

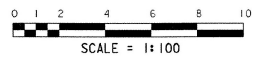
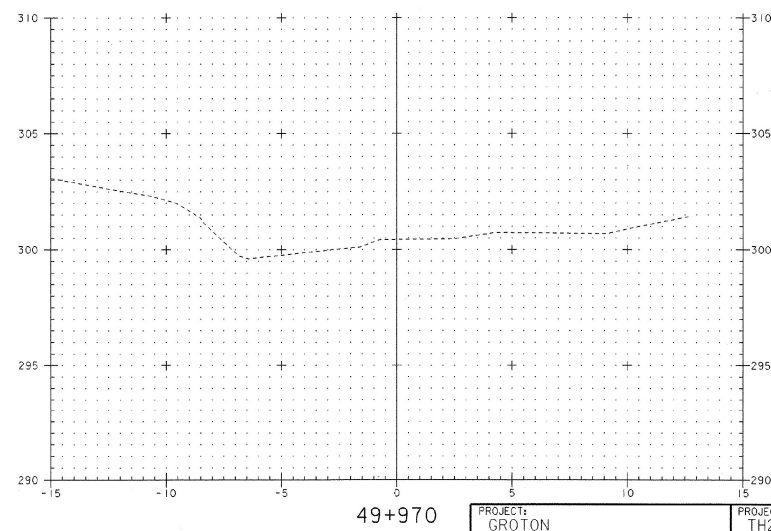
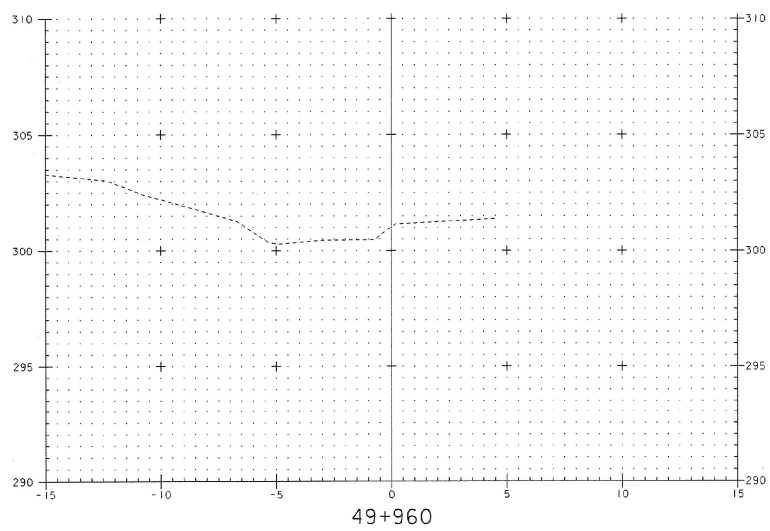
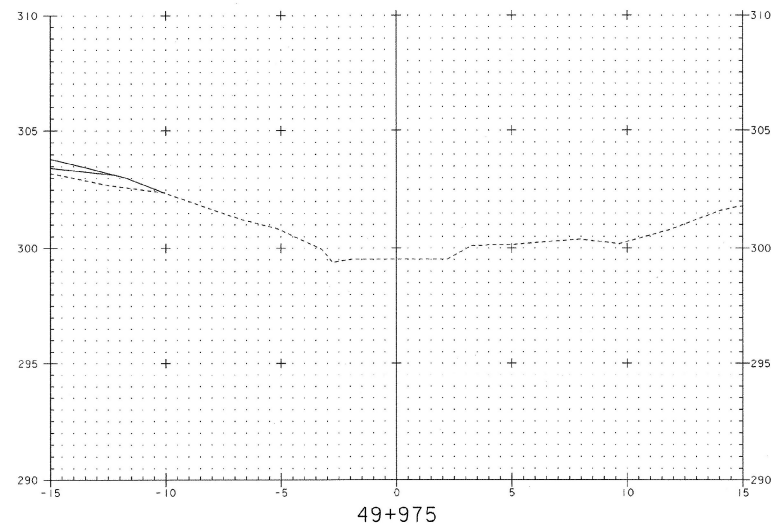
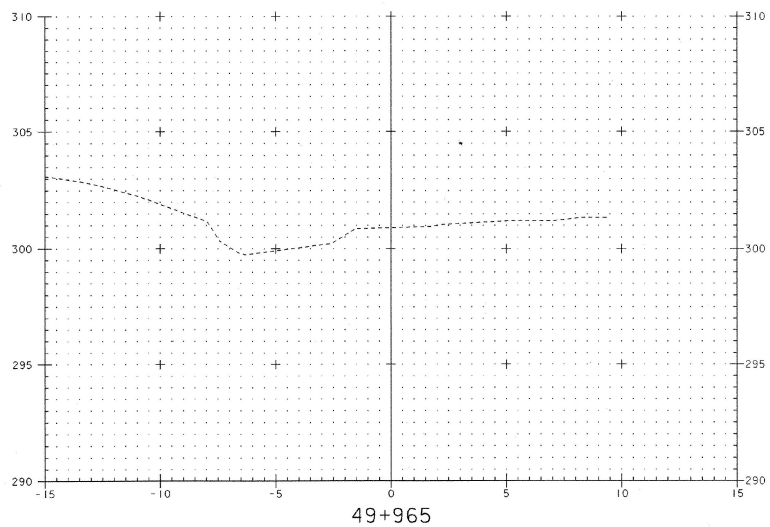
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PROJECT: GROTON	PROJECT NO.: TH2-9435
DESIGN FILE NAME: 94 20 structures s j20xsl.dgn	PLOT DATE: 15-MAR-2002
IPARM FILE NAME: s j20m6.t	
MAINLINE SECTIONS	
SECTIONS 100+200 - 100+230	SHEET: 35 OF 40

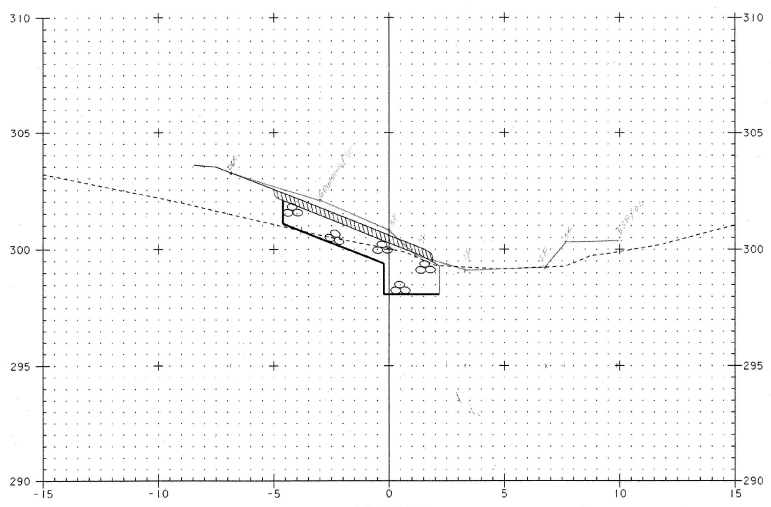


PROJECT: GROTON	PROJECT NO.: TH2-9435
DESIGN FILE NAME: s4\j20\structures\s\j20xsl.dgn	PLOT DATE: 15-MAR-2002
IPARM FILE NAME: s\j20m7.1	
MAINLINE SECTIONS	
SECTIONS 100+240 - 100+270	SHEET: 36 OF 40

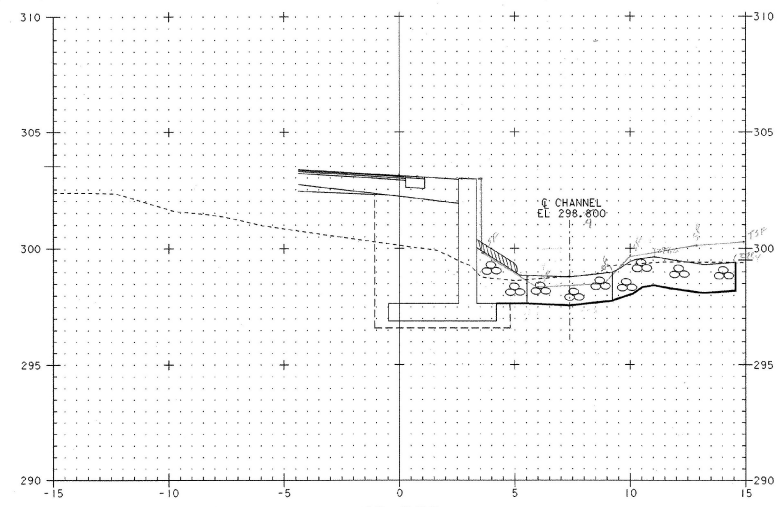


PROJECT: GROTON	PROJECT NO.: TH2-9435
DESIGN FILE NAME: 94j20/structures/sj20x.sldgn	PLOT DATE: 15-MAR-2002
IPARM FILE NAME: sj20cont1	
CHANNEL LINE CROSS SECTIONS	
SECTION 49+960 THROUGH SECTION 49+975	SHEET: 37 OF 40

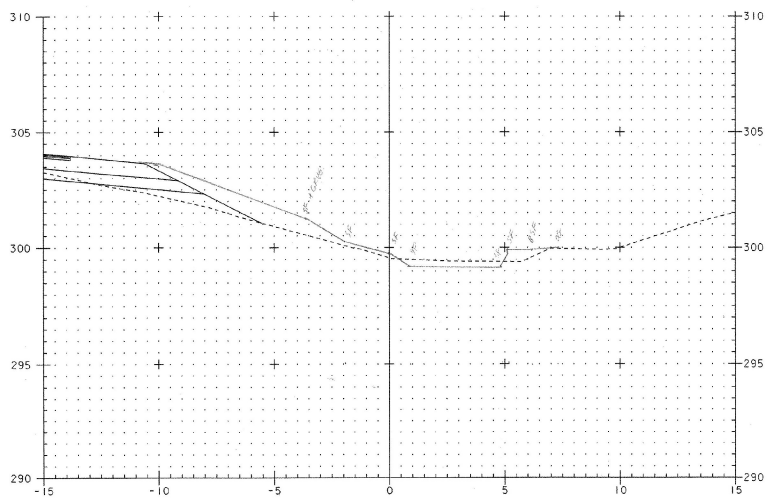
STA 49+993.000 RT  
 (ABUTMENT No. 2)  
 BEGIN STONE FILL TYPE IV  
 BEGIN GEOTEXTILE UNDER STONE FILL  
 BEGIN GRUBBING MATERIAL  
 BEGIN UNCLASSIFIED CHANNEL EXCAVATION



49+985

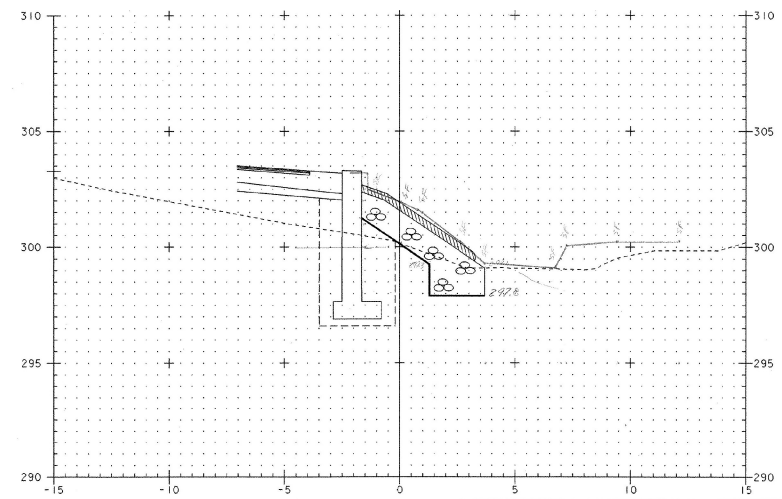


49+995

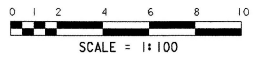


49+980

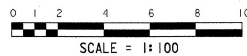
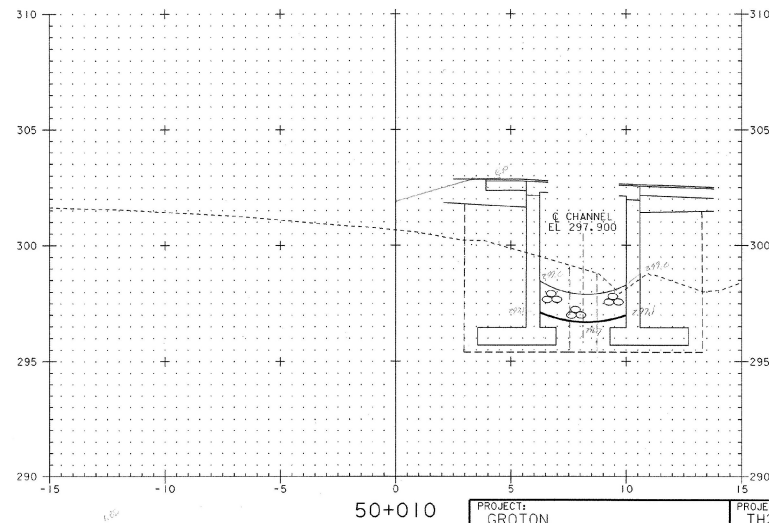
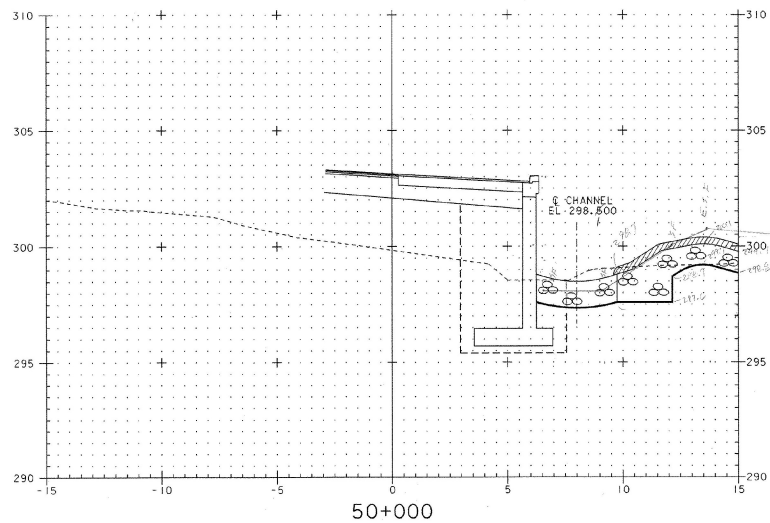
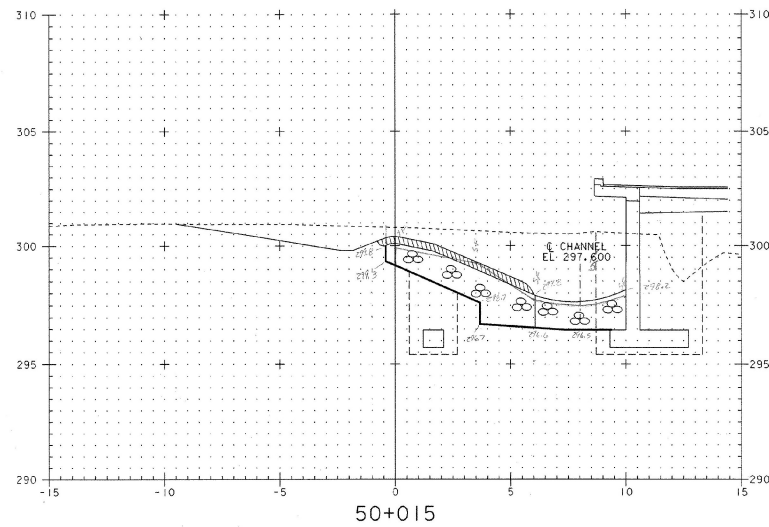
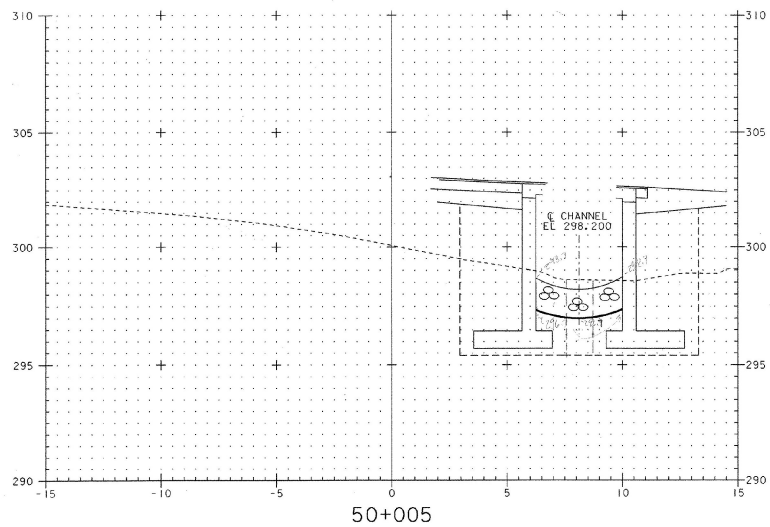
STA 49+983.500  
 (ABUTMENT No. 1)  
 BEGIN STONE FILL TYPE IV  
 BEGIN GEOTEXTILE UNDER STONE FILL  
 BEGIN GRUBBING MATERIAL  
 BEGIN UNCLASSIFIED CHANNEL EXCAVATION



49+990

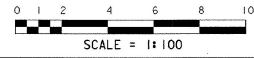
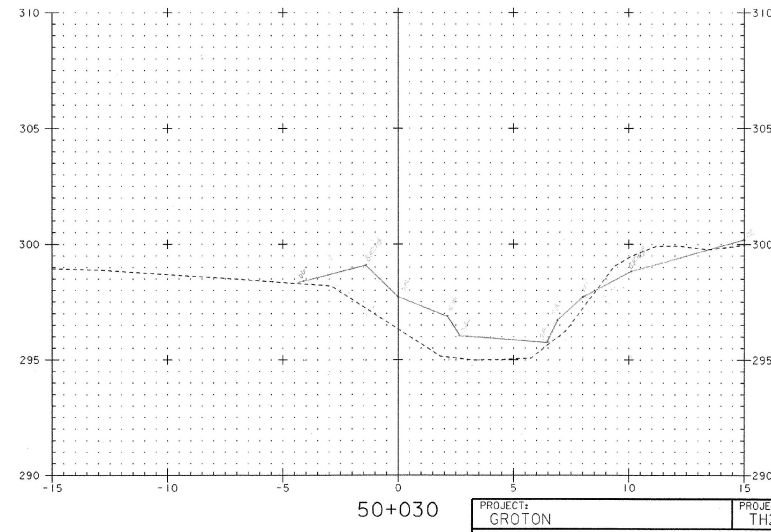
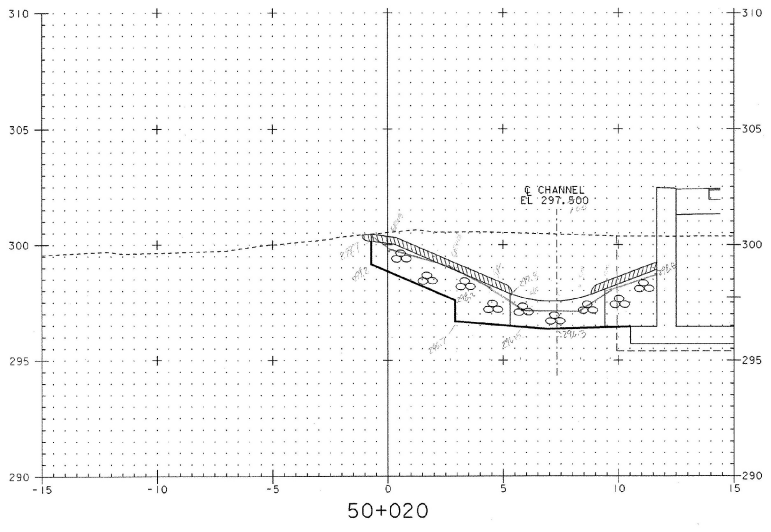
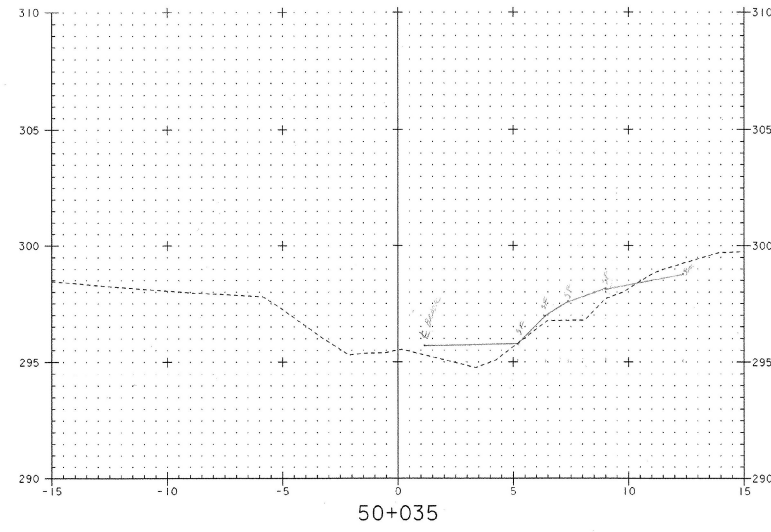
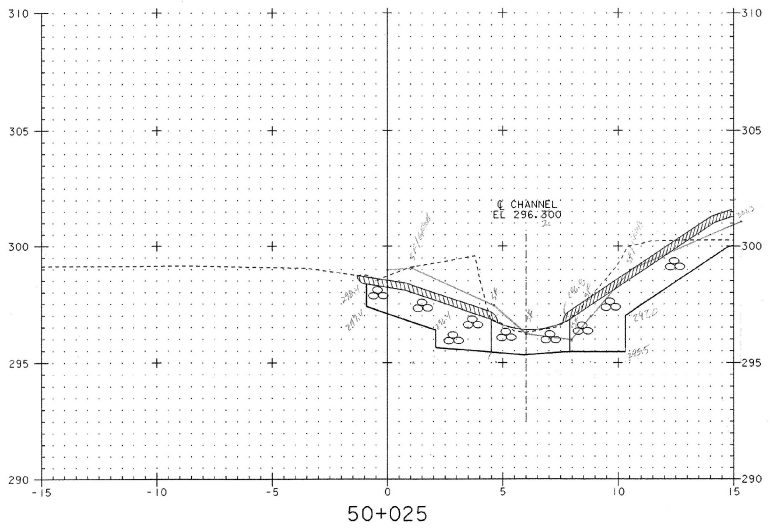


PROJECT: GROTON	PROJECT NO.: TH2-9435
DESIGN FILE NAME: 94J20/structures/sj20xsl.dgn	
IPARM FILE NAME: sj20ch2.j	PLOT DATE: 15-MAR-2002
CHANNEL LINE CROSS SECTIONS	
SECTION 49+980 THROUGH SECTION 49+995	SHEET: 38 OF 40



PROJECT: GROTON	PROJECT NO.: TH2-9435
DESIGN FILE NAME: 94120/structures/sj120xsl.dgn	PLOT DATE: 15-MAR-2002
IPARM FILE NAME: sj120ch3.1	
CHANNEL LINE CROSS SECTIONS	
SECTION: 50+000 THROUGH SECTION 50+015	SHEET: 39 OF 40

STA 50+029.000  
 END STONE FILL TYPE IV  
 END GEOTEXTILE UNDER STONE FILL  
 END GRUBBING MATERIAL  
 END UNCLASSIFIED CHANNEL EXCAVATION



PROJECT: GROTON	PROJECT NO.: TH2-9435
DESIGN FILE NAME: s4j20/structures/sj20xldgn	PLOT DATE: 15-MAR-2002
IPARM FILE NAME: sj20ch4.i	
CHANNEL LINE CROSS SECTIONS	
SECTION 50+020 THROUGH SECTION 50+035	
SHEET: 40 OF 40	