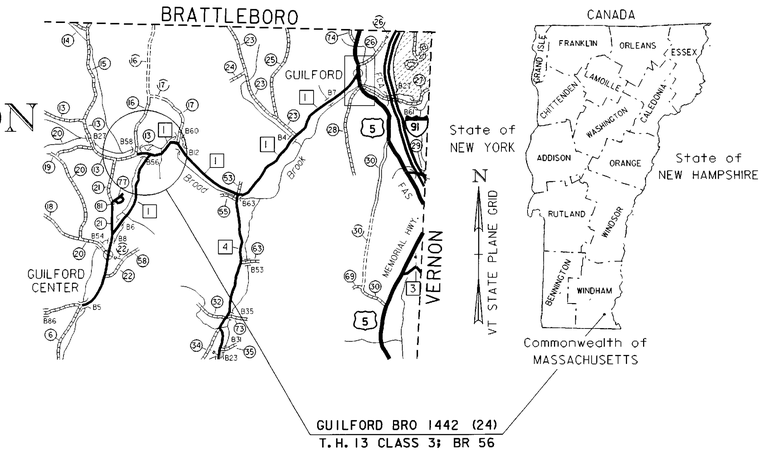
SEE SHEET NO. 2 FOR INDEX OF SHEETS & STANDARDS

STATE OF VERMONT
AGENCY OF TRANSPORTATION



RECORD PLANS

CONTRACTOR: RENAUD BROTHERS, INC. – VERNON, VT

RESIDENT ENGINEER: FRED ROSS

CONSTRUCTION BEGAN: JULY 21, 2008

CONSTRUCTION COMPLETE: JULY 19, 2009

RECORD PLANS BY: FRED ROSS & CRAIG PIERCE

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

BY _____ RESIDENT ENGINEER

DATE 1-25-11

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.

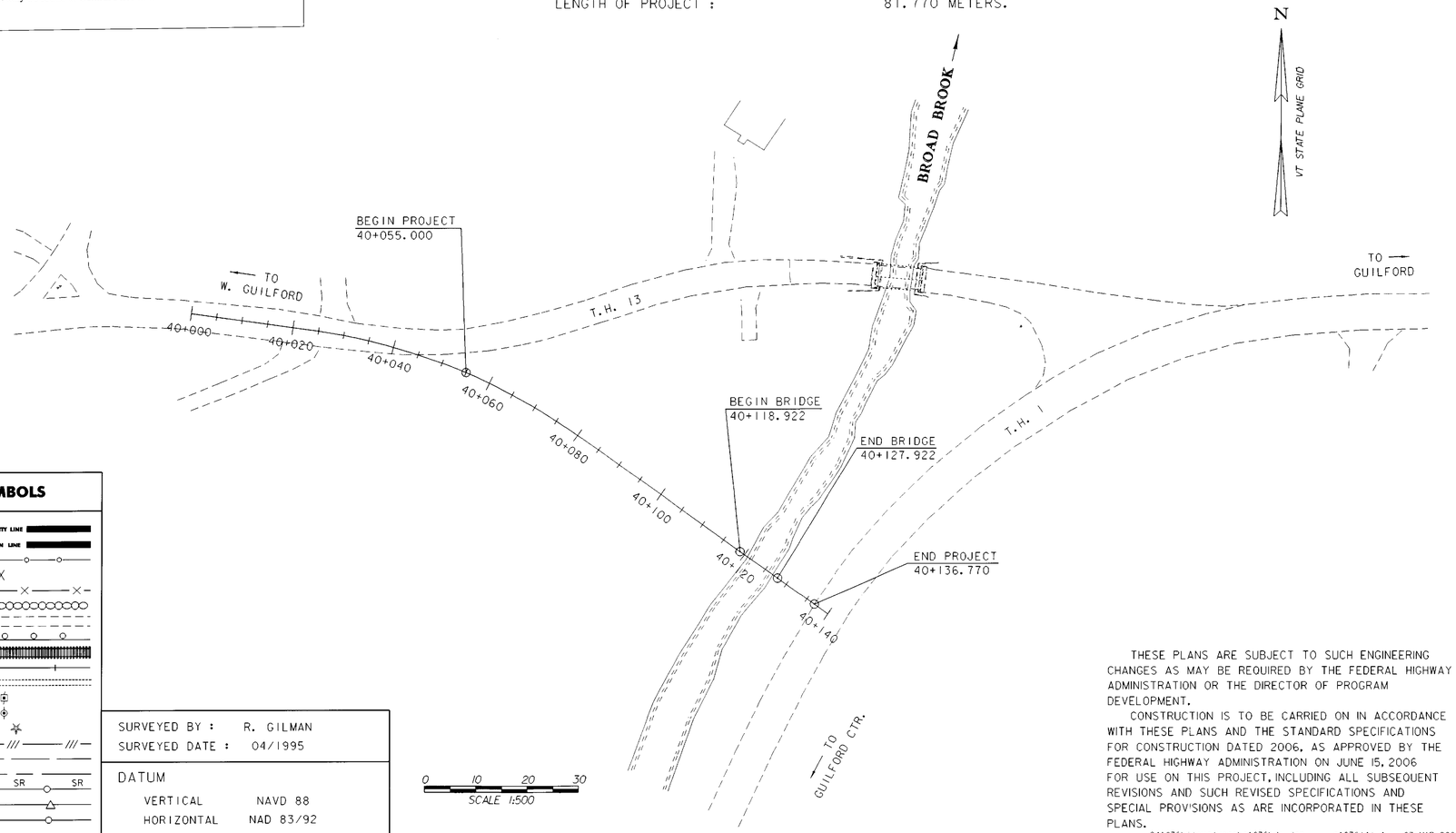
PROPOSED IMPROVEMENT
TOWN OF GUILFORD
COUNTY OF WINDHAM

ROUTE NO : T.H. 13 CLASS 3 BRIDGE NO : 56

PROJECT LOCATION : BEGINNING ON T.H. 13, 0.1 KILOMETER WEST OF THE EXISTING INTERSECTION OF T.H. 1 AND T.H. 13 AND PROCEEDING SOUTH-EASTERLY 0.8 KILOMETER ALONG REALIGNED T.H. 13.

PROJECT DESCRIPTION : THE PROJECT WILL REPLACE THE EXISTING BRIDGE WITH A NEW CONCRETE SLAB BRIDGE ON A NEW ALIGNMENT AND INCLUDE RELATED APPROACH ROADWAY AND CHANNEL WORK.

LENGTH OF STRUCTURE :	9.000 METERS.
LENGTH OF ROADWAY :	72.770 METERS.
LENGTH OF PROJECT :	81.770 METERS.



CONVENTIONAL SYMBOLS

COUNTY LINE
TOWN LINE
LIMITS OF ACCESS
POINT OF ACCESS
FENCE LINE
STONE WALL
TRAVELED WAY
GUARD RAIL
RAILROAD
SURVEY LINE
CULVERT
POWER POLE
TELEPHONE POLE
TREES
CONTROL OF ACCESS
PROPERTY LINE
R.O.W. TAKING LINE
SLOPE RIGHTS (SR SR SR)
TOP OF CUT
TOE OF SLOPE

SURVEYED BY : R. GILMAN
SURVEYED DATE : 04/1995

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83/92

Metric
UNLESS NOTED OTHERWISE
STATIONS ARE IN KILOMETERS
ELEVATIONS ARE IN METERS
DIMENSIONS ARE IN MILLIMETERS

THESE PLANS ARE SUBJECT TO SUCH ENGINEERING CHANGES AS MAY BE REQUIRED BY THE FEDERAL HIGHWAY ADMINISTRATION OR THE DIRECTOR OF PROGRAM DEVELOPMENT.

CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2006, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JUNE 15, 2006 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

94j076\structures\sj076bdr.dgn sj076tit.i 03-MAR-2008

DIRECTOR OF PROGRAM DEVELOPMENT
APPROVED _____ DATE 3-13-2008

PROJECT MANAGER : R. R. WHITCOMB

PROJECT NAME : GUILFORD
PROJECT NUMBER : BRO 1442 (24)

SHEET 1 OF 59 SHEETS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET

Metric

INDEX OF SHEETS

1. Title Sheet
2. Preliminary Information Sheet
3. Project Notes
4. Typical Sections
5. Quantity Sheet 1
6. Quantity Sheet 2
7. Quantity Sheet 3
8. Quantity Sheet 4
9. Right of Way Detail Sheet
10. Right of Way Layout Plan (1)
11. Right of Way Layout Plan (2)
12. Survey Ties
13. Layout Plan 1
14. Layout Plan 2
15. Mainline Profile
16. Drive Profiles
17. Material Transition & Superelevation
18. Traffic Sign Layout Plan 1
19. Traffic Sign Layout Plan 2
20. Traffic Sign Summary
21. Geotechnical Plan
22. Geotechnical Logs
23. Plan & Elevation
24. Resource Plan 1
25. Resource Plan 2
26. EPSC Narrative
27. EPSC Existing Site Plan
28. EPSC Construction Site Plan
29. EPSC Final Site Plan
30. EPSC Details 1
31. EPSC Details 2
32. EPSC Details 3
33. EPSC Landscape Details 1
34. EPSC Landscape Details 2
35. Slab Reinforcing Details
36. Deck Reinforcing Plan
37. Approach Slab Details
38. Abutment 1 Details
39. Abutment 2 Details
40. Footing Reinforcing Details
41. Wingwall Details
42. Misc. Structural Details
43. Reinforcing Steel Schedule
44. Mainline Cross Sections 1
45. Mainline Cross Sections 2
46. Mainline Cross Sections 3
47. Mainline Cross Sections 4
48. Mainline Cross Sections 5
49. Mainline Cross Sections 6
50. Drive Cross Sections 1
51. Drive Cross Sections 2
52. Channel Cross Sections 1
53. Channel Cross Sections 2
54. Channel Cross Sections 3
55. Channel Cross Sections 4
56. Channel Cross Sections 5
57. Channel Cross Sections 6
58. Channel Cross Sections 7
59. Channel Cross Sections 8

STANDARD DRAWINGS

B-71	RESIDENTIAL AND COMMERCIAL DRIVES	7/8/2005
D-4	FLUSHING BASINS, END SECTION, ELBOWS TYPICAL WATERFALL FOR CULVERTS UP TO AND INCLUDING 48" DIA EXTENSION SERVICE BOX AND CURB STOP CORRUGATED PIPE ELBOW GRANULAR BORROW AT CULVERT LOCATIONS UNDERDRAIN FLUSHING BASIN CORRUGATED STEEL PIPE END SECTION CORRUGATED STEEL PIPE ARCH END SECTION	8/13/2007
D-20	HIGHWAY CROSSING FOR UNDERGROUND UTILITIES	3/3/2003
E-100	CONSTRUCTION APPROACH SIGNS	1/2/2004
E-101	CONSTRUCTION SIGN DETAILS	5/30/2003
E-102	CONSTRUCTION SIGN DETAILS	6/30/2003
E-102A	CONSTRUCTION SIGN DETAILS	5/1/2004
E-121	STANDARD SIGN PLACEMENT - CONVENTIONAL ROAD	8/8/1995
E-123	GUIDE SIGN PLACEMENT - MISCELLANEOUS DETAILS	3/16/2004
E-141	REGULATORY SIGN DETAILS	9/20/1995
E-143	REGULATORY SIGN DETAILS	6/15/2004
E-155	WARNING SIGN DETAILS	5/1/2004
E-160	FLANGED CHANNEL STEEL SIGN POST	5/20/1999
G-1	STEEL BEAM GUARDRAIL (50MPH & OVER) HEAVY DUTY STEEL BEAM GUARDRAIL TWISTED END TERMINAL ANCHOR FOR STEEL BEAM RAIL	1/3/2000
G-1D	STEEL BEAM GUARDRAIL (40MPH & LESS) HEAVY DUTY STEEL BEAM GUARDRAIL STEEL BEAM MEDIAN BARRIER ANCHOR FOR STEEL BEAM RAIL	1/3/2000
G-4	MARKERS - GUIDE POSTS - PLANK GUARD RAIL PLANK RAIL GUIDE POSTS WOOD MARKER POSTS STEEL MARKER POSTS	6/1/1994
J-3	MAILBOX SUPPORT DETAILS	8/7/1995
SB-R6-82M	BRIDGE RAILING - HEAVY DUTY STEEL BEAM	7/10/1997

FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date: August 26, 2004

DRAINAGE AREA : 11.9 sq. km
CHARACTER OF TERRAIN : Hilly to Mountainous with mixed rural cover
STREAM CHARACTERISTICS : Mostly Straight, Semi-Alluvial, probably incised
NATURE OF STREAMBED : Gravel, Cobbles, and Boulders

PEAK FLOW DATA

Q 2.33 =	8.5 cms	Q 50 =	29.7 cms
Q 10 =	18.4 cms	Q 100 =	35.4 cms
Q 25 =	24.6 cms	Q 500 =	56.6 cms

DATE OF FLOOD OF RECORD : unknown
ESTIMATED DISCHARGE: unknown
WATER SURFACE ELEV.: unknown
NATURAL STREAM VELOCITY : @ Q25 = 2.7 m/s, at new bridge location
ICE CONDITIONS : Moderate
DEBRIS: Modetate to heavy
DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY? Yes
IS ORDINARY RISE RAPID? Yes
IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? No
IF YES, DESCRIBE:

WATERSHED STORAGE: 1%
HEADWATERS:
UNIFORM: X
IMMEDIATELY ABOVE SITE:

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE: Single span steel beam bridge
YEAR BUILT: unknown
CLEAR SPAN(NORMAL TO STREAM): 6.8 m
VERTICAL CLEARANCE ABOVE STREAMBED: 3.4 m
WATERWAY OF FULL OPENING: 22.0 sm
DISPOSITION OF STRUCTURE: Removal of old structure and roadway fill.
TYPE OF MATERIAL UNDER SUBSTRUCTURE: unknown

WATER SURFACE ELEVATIONS AT:

Q2.33 =	171.4 m*	VELOCITY =	2.3 m/s*
Q10 =	172.1 m*	"	3.0 m/s*
Q25 =	172.4 m*	"	3.3 m/s*
Q50 =	172.4 m*	"	3.5 m/s*
Q100 =	172.6 m*	"	3.7. m/s*

LONG TERM STREAMBED CHANGES: None noted.

IS THE ROADWAY OVERTOPPED BELOW Q100: No
FREQUENCY: N/A
RELIEF ELEVATION: 174.3 m
DISCHARGE OVER ROAD @Q100: No

UPSTREAM STRUCTURE

TOWN: Guilford — DISTANCE: 1.2 km
HIGHWAY# : T.H. # 1 — STRUCTURE #: *6
CLEAR SPAN: 4.6 m — CLEAR HEIGHT: 3.0 m
YEAR BUILT: *1957 — FULL WATERWAY: 11.0 sm
STRUCTURE TYPE: CMPPA

DOWNSTREAM STRUCTURE

TOWN: Guilford — DISTANCE: 0.7 km
HIGHWAY# : T.H. # 17 — STRUCTURE #: *60
CLEAR SPAN: 9.1 m — CLEAR HEIGHT: 4.3 m
YEAR BUILT: unknown — FULL WATERWAY: 39.0 sm
STRUCTURE TYPE: Steel pony truss w/ wooden deck

LOAD FACTOR - LOAD RATING (METRIC TONS)

LOADING LEVELS	TRUCK						
	M	MS	3S2	6 AXLE	3A. STR.	4A. STR.	5A. SEMI
INVENTORY	33	54					
POSTED	46	75	93		54	56	93
OPERATING		90	111	101	65	67	
COMMENTS:							

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
1999	380	50	55	8	25
2019	510	70	55	11	40

20 year ESAL for flexible pavement from 1999 to 2019 : 217,000
40 year ESAL for flexible pavement from 1999 to 2039 : 576,000
Design Speed : 40 km/h

PROPOSED STRUCTURE

STRUCTURE TYPE: Singal span concrete slab bridge, concrete deck

CLEAR SPAN(NORMAL TO STREAM): 8.0 m
VERTICAL CLEARANCE ABOVE STREAMBED: 2.8 m
WATERWAY OF FULL OPENING: 22.2 sm

WATER SURFACE ELEVATIONS AT:

Q2.33 =	172.3 m*	VELOCITY=	1.7 m/s*
Q10 =	172.9 m*	"	2.2 m/s*
Q25 =	173.0 m*	"	3.1 m/s*
Q50 =	173.2 m*	"	3.3 m/s*
Q100 =	173.4 m*	"	3.5 m/s*

IS THE ROADWAY OVERTOPPED BELOW Q100: No
FREQUENCY: N/A
RELIEF ELEVATION: 175.0 m
DISCHARGE OVER ROAD @Q100: No

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 174.4 m
VERTICAL CLEARANCE: @ Q100 = 1.5 m

SCOUR: Contraction scour 0.6 m @ Q 500

REQUIRED CHANNEL PROTECTION: Type III Stone Fill

PERMIT INFORMATION

AVERAGE DAILY FLOW:	0.3 cms	DEPTH OR ELEVATION:
ORDINARY LOW WATER:	0.1 cms	Depth 0.1 m
ORDINARY HIGH WATER:	3.6 cms	Depth 0.3 m

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: Existing bridge remains in use.
CLEAR SPAN (NORMAL TO STREAM): N/A
VERTICAL CLEARANCE ABOVE STREAMBED: N/A
WATERWAY AREA OF FULL OPENING: N/A

ADDITIONAL INFORMATION

* The new structure is 60 m upstream from the existing bridge. Water surface elevations are listed at the approach to each structure, and are therefore higher for the proposed bridge.
Velocities listed are an average channel velocity through the area of the structure.

DESIGN CRITERIA

*1. DESIGN LIVE LOAD AASHTO MS 22.5
*2. DESIGN SPAN 8.5 m
*3. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL 287kPa
ON LEDGE N/A
*4. ALLOWABLE LOAD FOR PILING N/A
TYPE N/A
ESTIMATED LENGTH
*5. STRUCTURAL STEEL AASHTO M270M/M270 GRADE N/A
*6. REINFORCING STEEL GRADE 420
*7. CONCRETE, HIGH PERFORMANCE CLASS A f'c: N/A
CONCRETE, HIGH PERFORMANCE CLASS B f'c: 25 Mpa

*8. DESIGN SOIL UNIT WEIGHT 22.00 kN/m³
*9. DESIGN LOAD FOR SPREAD FOOTINGS ON SOIL 190 kPa

TRAFFIC MAINTENANCE

*1. IS TRAFFIC TO BE MAINTAINED? YES
IF YES, ON EXISTING STRUCTURE? YES
OR ON TEMPORARY BRIDGE? N/A
ONE OR TWO-WAY TRAVEL? N/A
*2. TRAFFIC CONTROL SIGNALS REQUIRED? N/A
*3. ARE SIDEWALKS REQUIRED? N/A
IF SO, ON WHAT SIDE? N/A

PROJECT NAME: **Guilford**
PROJECT NUMBER: **BRO 1442(24)**

FILE NAME: **94j076\structures\sj076pi.xls** — PLOT DATE: **4/9/2008**
PROJECT MANAGER: **R. Whitcomb** — DRAWN BY: **L. Bullock**
DESIGNED BY: **T. Lackey** — CHECKED BY: **J. Perrigo**
PRELIMINARY INFORMATION SHEET — SHEET **2** OF **59**

GENERAL

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE STATE OF VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2006, AND ITS LATEST REVISIONS, AND THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DATED 2005, AND ITS LATEST REVISIONS.

2. THE EXISTING STRUCTURAL STEEL IS PAINTED WITH A MATERIAL THAT MAY CONTAIN LEAD. THE CONTRACTOR SHALL FOLLOW ALL APPLICABLE REGULATIONS WHEN HANDLING AND WORKING WITH THIS STEEL. THE CONTRACTOR SHALL INDEMNIFY AND HOLD THE STATE, ITS OFFICERS, AND EMPLOYEES HARMLESS CONCERNING THE CONTRACTOR'S DISPOSITION OF THE EXISTING STRUCTURAL STEEL.

3. ALL DIMENSIONS SHOWN ON THE PLANS ARE HORIZONTAL OR VERTICAL AND ARE GIVEN AT 20 DEGREES CELSIUS.

TRAFFIC CONTROL

4. TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH STANDARD SHEETS, CURRENT MUTCD REQUIREMENTS, SUBSECTION 104.04 AND SECTION 641.

5. IF THE CONTRACTOR SUBMITS AN ALTERNATE TRAFFIC CONTROL PLAN, THE PLAN MUST MAINTAIN TRAFFIC ON A ROADWAY WIDTH EQUAL TO THE EXISTING TRAVEL LANES. PERMANENT GUARD RAIL MAY BE INCORPORATED IN THE PLAN. NO ADDITIONAL PAYMENT WILL BE MADE IF THE RAILING HAS TO BE REMOVED AND RESET OR REPLACED TO BE ACCEPTABLE FOR THE COMPLETED PROJECT.

6. THE TERMINAL ENDS OF ANY POSITIVE BARRIER MUST BE PROTECTED BY ENERGY ABSORPTION ATTENUATORS OR OTHER APPROVED TERMINAL END TREATMENT IF A MIMIMUM CLEAR ZONE OF TWO METERS FROM THE EDGE OF TRAVELLED WAY IS NOT MAINTAINED. IF USED, ENERGY ABSORPTION ATTENUATORS AND/OR TEMPORARY TRAFFIC BARRIER SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 621.

7. ANY COSTS ASSOCIATED WITH THE CONTRACTOR'S TRAFFIC CONTROL PLAN AND ANY OTHER TRAFFIC CONTROL ON THE PROJECT INCLUDING SIGNS, TRAFFIC CONTROL DEVICES, TEMPORARY PAVEMENT MARKINGS, ENERGY ABSORPTION ATTENUATORS AND TEMPORARY TRAFFIC BARRIER SHALL BE INCLUDED IN ITEM 641.10, TRAFFIC CONTROL. TEMPORARY PAVEMENT MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 646.

EARTHWORK AND RELATED ITEMS

8. "STONE FILL, TYPE I" SHALL BE USED AT THE DISCRETION OF THE RESIDENT ENGINEER TO PREVENT EROSION BEHIND THE WINGWALLS.

9. THE "STONE FILL, TYPE III" UNDER THE BRIDGE AS SHOWN IN THE PLANS SHALL BE PLACED PRIOR TO FORMING THE CONCRETE DECK SLAB.

10. AT THE DISCRETION OF THE RESIDENT ENGINEER, AREAS OF EXISTING CHANNEL BANKS THAT APPEAR ADEQUATELY STABLE IN THOSE AREAS OF PROPOSED NEW "STONE FILL, TYPE III" AS SHOWN IN THE PLANS MAY REMAIN UNDISTURBED. THE TRANSITION FROM NEW STONE FILL TO EXISTING STONE FILL SHALL BE SMOOTH AND SHALL NOT IMPEDE NORMAL CHANNEL FLOW.

11. ITEM 529.20, "PARTIAL REMOVAL OF STRUCTURE." SHALL INCLUDE REMOVAL OF THE EXISTING SUPERSTRUCTURE AND BRIDGE RAILING. ITEM 203.17, "UNCLASSIFIED EXCAVATION" SHALL INCLUDE REMOVAL OF THE EXISTING SUBSTRUCTURE AND EXCAVATION TO THE GRADES AND LIMITS SHOWN IN THE CROSS SECTIONS AND PLANS.

12. THE FENCE TO BE REMOVED AND RESET FROM STA 40+030 RT. TO DRIVE STA. 6+040 RT. IS FOR HORSES. IT WILL BE RESET TO THE RIGHT OF THE NEW ALIGNMENT IN A LOCATION AGREED UPON BY THE RESIDENT ENGINEER AND THE LANDOWNER. PAYMENT SHALL BE UNDER ITEM 620.50, "REMOVING AND RESETTING FENCE."

13. A PRIVATE WATERLINE CROSSES TH 13 AT STA. 40+076 AND DRIVE 1 AT STA. 6+036. CONTRACT WORK ON THIS WATERLINE SHALL CONSIST OF INSTALLING NEW CURB STOPS, EXTENSION SERVICE BOXES, PLACING NEW WATERLINE WITHIN NEW SLEEVES BETWEEN THE SHUT-OFFS AND TRANSFERRING THE WATER TO THE NEW SYSTEM. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE SUBSECTIONS OF SECTION 629-WATER SYSTEMS. THE CONTRACTOR SHALL VERIFY THE EXISTING WATERLINE DIAMETER AND TYPE PRIOR TO ORDERING MATERIALS. ITEM 204.22, TRENCH EXCAVATION OF EARTH, EXPLORATORY, HAS BEEN INCLUDED FOR LOCATING THE WATERLINE. ALL OTHER EXCAVATION AND BACKFILL ASSOCIATED WITH THIS WORK WILL BE CONSIDERED INCIDENTAL TO THE ITEM "SLEEVES FOR UTILITIES". AGENCY PERSONNEL WILL CONDUCT WATER SAMPLING (SPECIMEN WILL BE TESTED BY THE VERMONT DEPARTMENT OF HEALTH LABORATORY) AFTER THIS WORK IS COMPLETED AND THE WATER SYSTEM HAS BEEN DISINFECTED. NO PAYMENT WILL BE MADE FOR ANY OF THE WATERLINE WORK UNTIL THE TESTS RESULTS SHOW A BACTERIA LEVEL OF ZERO (0) AND THE TESTS SHOW THAT IT IS POTABLE.

14. DURING THE WATERLINE WORK AND TESTING, THE CONTRACTOR MUST MAINTAIN A WATER SUPPLY FOR THE PROPERTY OWNER. THE WATER SUPPLY MUST BE ADEQUATE TO MEET THE NEEDS OF THE PROPERTY OWNER AND BE APPROVED BY THE OWNER AND ENGINEER. A POTABLE WATER SUPPLY WILL ALSO BE SUPPLIED AND REPLENISHED AS NECESSARY. ALL COSTS ASSOCIATED WITH MAINTAINING THE WATER SUPPLY WILL BE CONSIDERED INCIDENTAL TO ITEM 629.42 "TRANSFER TO NEW SYSTEM, WATER SYSTEM".

15. BEDROCK MAY BE ENCOUNTERED DURING EXCAVATION FOR ABUTMENT FOOTINGS. EXCAVATION OF THE LEDGE SHALL BE PAID FOR UNDER ITEM 208.35, "COFFERDAM EXCAVATION, ROCK".

15.1. FOOTINGS OR SUBFOOTINGS FOR SUBSTRUCTURES FOUNDED ON BEDROCK SHALL BE PLACED ON CLEAN COMPETENT ROCK. ALL LOOSE ROCK AND DEBRIS SHALL BE REMOVED.

15.2. UPON COMPLETION OF THE EXCAVATION FOR SUBSTRUCTURES FOUNDED ON BEDROCK AND PRIOR TO PLACING FORMWORK, THE RESIDENT ENGINEER SHALL CONTACT THE VTRANS SOILS AND FOUNDATION ENGINEER TO INSPECT THE BEDROCK. THE STRUCTURES ENGINEER WILL BE NOTIFIED THAT THE BEDROCK IS READY FOR INSPECTION. THE SOILS AND FOUNDATION ENGINEER WILL DETERMINE IF THE BEDROCK IS COMPETENT TO OBTAIN THE NOMINAL BEARING RESISTANCE AS SHOWN ON THE PLANS. FIVE (5) WORKING DAYS FROM NOTIFICATION SHALL BE ALLOWED TO MAKE THE INSPECTION AND THE DETERMINATION OF THE COMPETENCY OF THE BEDROCK.

15.3. IF COMPETENT BEDROCK IS WITHIN 1'-0" BELOW THE DESIGN BOTTOM OF FOOTING FOR THE EXTENT OF THE SUBSTRUCTURE AS SHOWN IN THE CONTRACT PLANS, THE FOOTING MAY BE PLACED INTEGRALLY TO THE TOP OF THE BEDROCK USING THE CONCRETE ITEM SPECIFIED FOR THE FOOTING AT THE CONTRACT UNIT PRICE.

15.4. WHERE COMPETENT BEDROCK IS BELOW THE DESIGN BOTTOM OF FOOTING BY MORE THAN 1'-0" FOR ANY PORTION OF THE SUBSTRUCTURE AND A SUBFOOTING IS NOT SHOWN IN THE CONTRACT PLANS, THE STRUCTURES ENGINEER SHALL BE CONTACTED TO DETERMINE WHETHER OR NOT THE FOOTING SHALL BE LOWERED OR IF THE CONSTRUCTION OF A SUBFOOTING IS REQUIRED. IF THE DESIGN BOTTOM OF FOOTING ELEVATION IS TO BE LOWERED, THE CONTRACTOR SHALL PROVIDE A BEDROCK PROFILE TO THE STRUCTURES ENGINEER. THREE (3) WORKING DAYS FROM RECEIPT OF THE BEDROCK PROFILE SHALL BE ALLOWED TO MAKE THIS DETERMINATION. NO WORK SHALL BE DONE ON THE FOOTINGS UNTIL A REPLY IS RECEIVED.

15.5. THE LIMITS OF SUBFOOTINGS SHALL BE 1'-0" OUTSIDE OF THE HORIZONTAL LIMITS OF THE FOOTING. IF A SUBFOOTING IS REQUIRED AND NOT SHOWN IN THE CONTRACT IT SHALL BE DONE AS EXTRA WORK. THE TOP SURFACE OF ALL SUBFOOTINGS SHALL BE INTENTIONALLY ROUGHENED TO ¼" AMPLITUDE.

15.6. WHERE COMPETENT BEDROCK IS ABOVE THE DESIGN BOTTOM OF FOOTING ELEVATION, IT SHALL BE REMOVED WITH CONTRACT PAY ITEMS OR A BEDROCK PROFILE SHALL BE PROVIDED BY THE CONTRACTOR TO THE STRUCTURES ENGINEER TO DETERMINE WHETHER THE DESIGN BOTTOM OF FOOTING ELEVATION MAY BE RAISED. THREE (3) WORKING DAYS FROM RECEIPT OF THE BEDROCK PROFILE SHALL BE ALLOWED TO MAKE THE DETERMINATION. FOOTING ELEVATIONS SHALL NOT BE ADJUSTED WITHOUT APPROVAL OF THE STRUCTURES ENGINEER.

15.7. OVERBREAKAGE AND REPLACEMENT WITH THE FOOTING CONCRETE BEYOND THE AVERAGE MAXIMUM ALLOWANCE SPECIFIED IN SUBSECTIONS 204.09(B)(1) AND 208.11(C) WILL BE AT THE CONTRACTOR'S EXPENSE.

15.8. DOWELS SHALL BE DRILLED AND GROUTED INTO BEDROCK WHEN SHOWN ON THE PLANS OR AS ORDERED BY THE ENGINEER. THE DOWELS SHALL HAVE A 2'-0" MINIMUM EMBEDMENT IN THE BEDROCK AND SHALL EXTEND IN THE FOOTING OR SUBFOOTING A MINIMUM OF 1'-6", UNLESS NOTED OTHERWISE.

CONCRETE AND REINFORCING STEEL

16. ALL DECK SLAB, APPROACH SLAB, CURB, AND SUBSTRUCTURE CONCRETE SHALL BE ITEM 501.34 "CONCRETE, HIGH PERFORMANCE CLASS B".

17. APPLY "WATER REPELLENT, SILANE" TO ALL EXPOSED CONCRETE SURFACES EXCEPT THE TOP OF DECK SLAB AND THE UNDERSIDE OF DECK SLAB BETWEEN DRIP NOTCHES.

18. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 25 MILLIMETERS X 25 MILLIMETERS.

19. JOINTS AND SCORE MARKS IN CONCRETE SHALL BE CONSTRUCTED AS SHOWN ON THE DRAWINGS OR AS DIRECTED BY THE RESIDENT ENGINEER.

20. THE KEY IN CONCRETE CONSTRUCTION JOINTS SHALL BE MONOLITHIC AND CONTINUOUS FOR THE FULL LENGTH OF THE JOINT. PLACE UPWARD KEYS INTEGRALLY WITH THE CONCRETE BELOW THE JOINT.

21. ALL SUPERSTRUCTURE REINFORCING STEEL SHALL BE ITEM 507.17 "EPOXY COATED REINFORCING STEEL". FLAME CUTTING OF EPOXY COATED REINFORCING STEEL WILL NOT BE PERMITTED. REPAIR CUT ENDS WITH MATERIALS AND PROCEDURES APPROVED BY THE COATING MANUFACTURER.

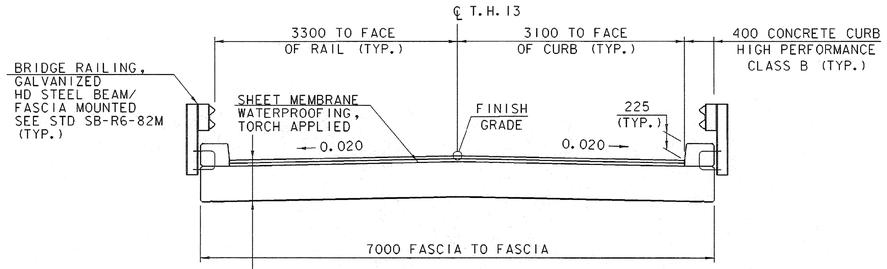
22. MINIMUM COVER FOR REINFORCING STEEL SHALL BE AS INDICATED IN THE PLANS.

PROJECT NOTES

PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442(24)

FILE NAME: sj076pn.i
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: T. LACKEY
94j076\str\sj076pn.dgn

PLOT DATE: 22-APR-2008
DRAWN BY: T. LACKEY
CHECKED BY: R. WHITCOMB



BRIDGE TYPICAL SECTION

0 1 2 3 4

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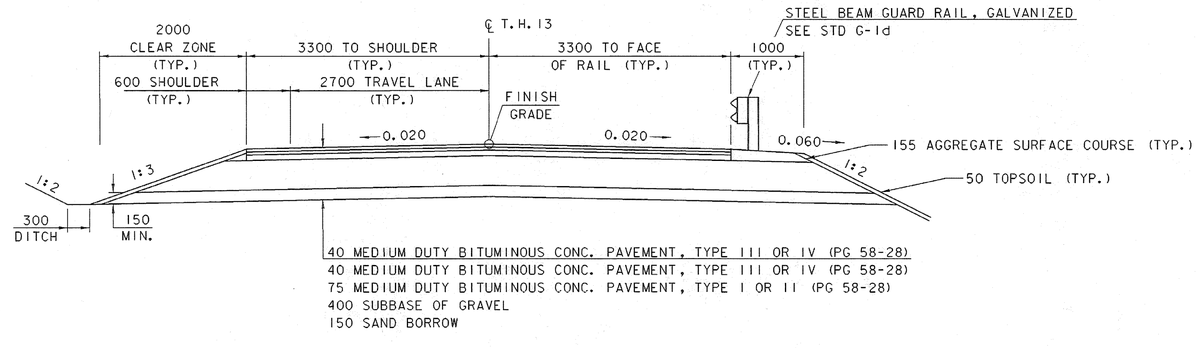

TH 13 ROADWAY TYPICAL SECTION

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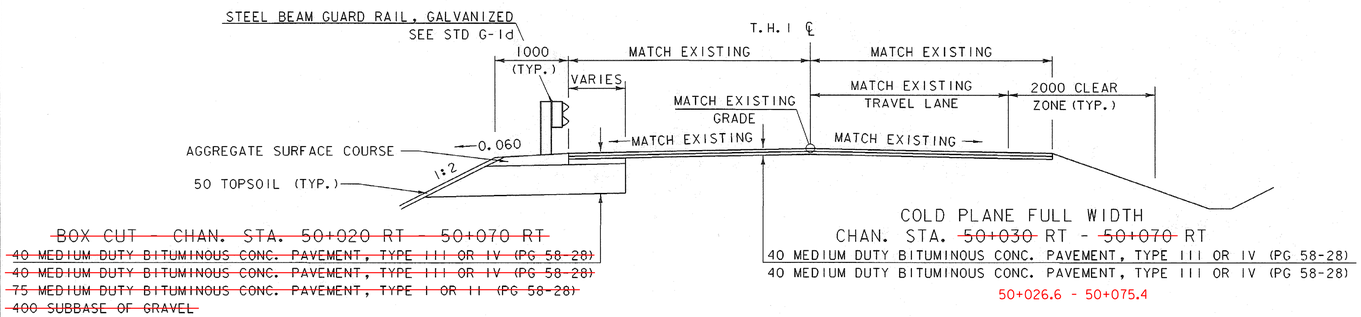

TH 1 ROADWAY SECTION

4 3 2 1 0

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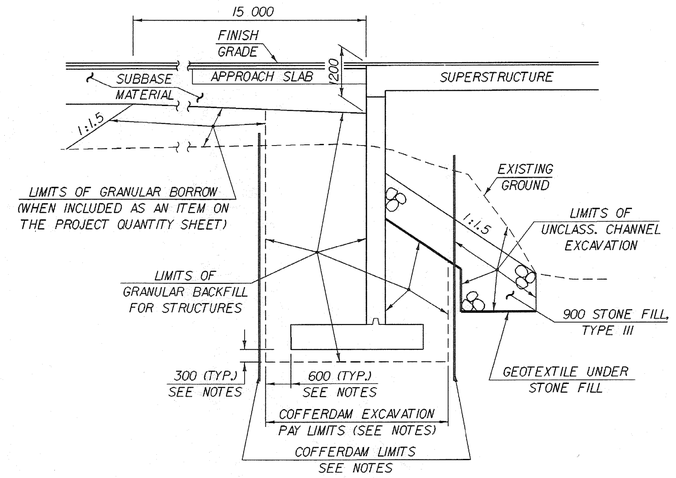
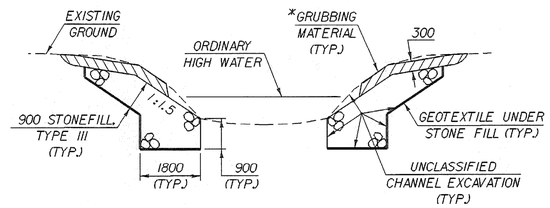


TYPICAL ABUTMENT SECTION

(NOT TO SCALE)

NOTES

1. COFFERDAM LIMITS TO BE DETERMINED BY THE CONTRACTOR.
2. THE PAY LIMITS OF "COFFERDAM EXCAVATION, EARTH" AND "COFFERDAM EXCAVATION, ROCK" SHALL BE 600 OUTSIDE THE PERIMETER OF THE FOOTING, UP TO EXISTING GROUND OR BOTTOM OF SUBBASE, WHICHEVER IS LOWER.
3. 300 UNDERCUT AS DETERMINED NECESSARY BY THE RESIDENT ENGINEER.
4. IF A COFFERDAM IS CONSTRUCTED WHICH IS LARGER THAN THE INDICATED COFFERDAM EXCAVATION PAY LIMITS, PAYMENT FOR ALL UNCLASSIFIED CHANNEL EXCAVATION, INCLUDING THAT PORTION WHICH IS INSIDE THE COFFERDAM BUT OUTSIDE THE COFFERDAM EXCAVATION PAY LIMITS, WILL BE MADE AT THE CONTRACT UNIT PRICE FOR UNCLASSIFIED CHANNEL EXCAVATION.



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.

MATERIAL ITEM	TOLERANCE
PAVEMENT	±5 mm TOTAL THICKNESS
SUBBASE	±30 mm
SAND BORROW	±30 mm

TYPICAL SECTIONS

PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442(24)

FILE NAME: sj076typ.i
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: J. PERRIGO
94J076\structures\sj076typ.dgn

PLOT DATE: 30-APR-2008
DRAWN BY: J. PERRIGO
CHECKED BY: T. LACKEY
SHEET 4 OF 59

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 1

Metric

SUMMARY OF ESTIMATED QUANTITIES

ROADWAY	EROSION CONTROL	BRIDGE	FULL E & C ITEMS
1			
260			
960			
		180	
770			
90			
280			
80	10		
1			
		410	
		470	
		20	
		1	
		1	
550			
570	30		
40			
163			
305			
		192	
		10439	
		5067	
		16	
		65	
		23	
1			
1			
30			
30			
30			
30			
	10		
1			
1			
40	10	20	
		290	
1			
4			

TOTALS

GRAND TOTAL	FINAL
1	
260	
960	
180	
770	
90	
280	
90	
1	
410	
470	
20	
1	
1	
550	
600	
40	
163	
305	
192	
10439	
5067	
16	
65	
23	
1	
1	
30	
30	
30	
30	
10	
1	
1	
70	
290	
1	
4	

DESCRIPTIONS

UNIT	ITEMS	ITEM NUMBER	ROUND
LS	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	201.10	
CM	COMMON EXCAVATION	203.15	
CM	UNCLASSIFIED EXCAVATION	203.17	
CM	UNCLASSIFIED CHANNEL EXCAVATION	203.27	
CM	EARTH BORROW	203.30	
CM	SAND BORROW	203.31	
CM	GRANULAR BORROW	203.32	
CM	TRENCH EXCAVATION OF EARTH	204.20	
CM	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	204.22	
CM	GRANULAR BACKFILL FOR STRUCTURES	204.30	
CM	COFFERDAM EXCAVATION, EARTH	208.30	
CM	COFFERDAM EXCAVATION, ROCK	208.35	
LS	COFFERDAM (STA. 40+118.9)	208.40	
LS	COFFERDAM (STA. 40+127.9)	208.40	
SM	COLD PLANING, BITUMINOUS PAVEMENT	210.10	
CM	SUBBASE OF GRAVEL	301.15	
CM	AGGREGATE SURFACE COURSE	401.10	
KG	EMULSIFIED ASPHALT	404.65	
T	MEDIUM DUTY BITUMINOUS CONCRETE PAVEMENT (PG 58-28)	406.27	
CM	CONCRETE, HIGH PERFORMANCE CLASS B	501.34	
KG	REINFORCING STEEL	507.15	
KG	EPOXY COATED REINFORCING STEEL	507.17	
L	WATER REPELLENT, SILANE	514.10	
SM	SHEET MEMBRANE WATERPROOFING, TORCH APPLIED	519.20	
M	BRIDGE RAILING, GALVANIZED HD STEEL BEAM/FASCIA MOUNTED	525.41	
LS	MAINTENANCE OF STRUCTURES AND APPROACHES	527.10	
EACH	PARTIAL REMOVAL OF STRUCTURE	529.20	
	BEGIN OPTION AA		
M	450 CAAP 2.67 (68 X 12)	601.0217	
M	450 PCCSP 2.01 (68 X 12)	601.0416	
M	450 RCP CLASS III	601.0815	
M	450 CPEP(SL)	601.2615	
	END OPTION AA		
HR	ALL PURPOSE EXCAVATOR RENTAL, TYPE I	608.25	
CM	DUST CONTROL WITH WATER	609.10	
T	DUST AND ICE CONTROL WITH CALCIUM CHLORIDE	609.15	
CM	STONE FILL, TYPE I	613.10	
CM	STONE FILL, TYPE III	613.12	
EACH	RELOCATE MAILBOX, SINGLE SUPPORT	617.10	
EACH	YIELDING MARKER POSTS	619.17	

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS
		EARTHWORK SUMMARY
		FILL REQUIRED
1058	CM	COMMON FILL(1.15*920 CM)
		FILL AVAILABLE
78	CM	COMMON EXCAVATION(0.3*260 CM)
0	CM	UNCLASSIFIED EXCAVATION(0*960 CM)
54	CM	UNCLASSIFIED CHANNEL EXCAVATION(0.3*180 CM)
24	CM	TRENCH EXCAVATION OF EARTH(0.3*80 CM)
141	CM	COFFERDAM EXCAVATION, EARTH(0.3*470 CM)

297	CM	TOTAL
1058	CM	FILL REQUIRED
297	CM	FILL AVAILABLE

761	CM	EARTH BORROW, CALC.
20	CM	EARTH BORROW, MIN.

761	CM	EARTH BORROW
770	CM	EARTH BORROW
		TEMPORARY EROSION CONTROL ITEMS
10	CM	204.20 TRENCH EXCAVATION OF EARTH
30	CM	301.15 SUBBASE OF GRAVEL
10	HR	608.25 ALL PURPOSE EXCAVATOR RENTAL, TYPE I
10	CM	613.10 STONE FILL, TYPE I
100	M	620.26 WOVEN WIRE FENCE WITH WOOD POSTS
30	SM	649.51 GEOTEXTILE FOR SILT FENCE
450	SM	649.61 GEOTEXTILE FOR FILTER CURTAIN
10	KG	651.17 SEED, WINTER RYE
1	LS	652.10 EPSC PLAN
30	HR	652.20 MONITORING EPSC PLAN
1	LU	652.30 MAINTENANCE OF EPSC PLAN (N.A.B.I.)
1100	SM	653.20 TEMPORARY EROSION MATTING
10	CM	653.25 TEMPORARY STONE CHECK DAM, TYPE I
30	CM	653.35 VEHICLE TRACKING PAD
230	M	653.50 BARRIER FENCE
120	M	653.55 PROJECT DEMARCATION FENCE

PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442 (24)

FILE NAME: sj076qty.dgn
PROJECT MANAGER: R. WHITCOMB
DESIGNED BY: T. LACKEY
QUANTITY SHEET #1

PLOT DATE: 04/30/2008
DRAWN BY: T. LACKEY
CHECKED BY: R. WHITCOMB
SHEET 5 OF 59

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 2

Metric

SUMMARY OF ESTIMATED QUANTITIES									TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
						ROADWAY	EROSION CONTROL	BRIDGE	FULL E & C ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
							100			100		M	WOVEN WIRE FENCE WITH WOOD POSTS	620.26				
						65				65		M	REMOVING AND RESETTING FENCE	620.50				
						6				6		M	PLANK RAIL	621.15				
						167.6				167.6		M	STEEL BEAM GUARDRAIL, GALVANIZED	621.20				
						72.4				72.4		M	HD STEEL BEAM GUARDRAIL, GALVANIZED	621.21				
						6				6		EACH	ANCHOR FOR STEEL BEAM RAIL	621.60				
						13				13		EACH	REMOVAL AND DISPOSAL OF GUIDE POSTS	621.81				
						30				30		M	SLEEVES FOR UTILITIES (2 X 50 MM)	625.10				
						4				4		EACH	EXTENSION SERVICE BOX AND CURB STOP (19 MM)	629.25				
						30				30		M	PLASTIC WATER PIPE, RIGID (19 MM)	629.33				
						1				1		LS	TRANSFER TO NEW SYSTEM, WATER SYSTEM	629.42				
						100				100		HR	UNIFORMED TRAFFIC OFFICERS	630.10				
						300				300		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	TRAFFIC CONTROL	641.10				
						230				230		M	100 MM WHITE LINE	646.20				
						230				230		M	100 MM YELLOW LINE	646.21				
						5				5		M	600 MM STOP BAR	646.26				
								530		530		SM	GEOTEXTILE UNDER STONE FILL	649.31				
							30			30		SM	GEOTEXTILE FOR SILT FENCE	649.51				
							450			450		SM	GEOTEXTILE FOR FILTER CURTAIN	649.61				
							20			20		KG	SEED	651.15				
							10			10		KG	SEED, WINTER RYE	651.17				
							200			200		KG	FERTILIZER	651.18				
							1			1		T	AGRICULTURAL LIMESTONE	651.20				
							1			1		T	HAYMULCH	651.25				
							130			130		CM	TOPSOIL	651.35				
							790			790		SM	GRUBBING MATERIAL	651.40				
							1			1		LS	EPSC PLAN	652.10				
							30			30		HR	MONITORING EPSC PLAN	652.20				
							1			1		LU	MAINTENANCE OF EPSC PLAN (N.A.B.I.)	652.30				
							1100			1100		SM	TEMPORARY EROSION MATTING	653.20				
							10			10		CM	TEMPORARY STONE CHECK DAM, TYPE I	653.25				
							30			30		CM	VEHICLE TRACKING PAD	653.35				
							230			230		M	BARRIER FENCE	653.50				
							120			120		M	PROJECT DEMARCATION FENCE	653.55				

PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442 (24)

FILE NAME: sj076qty.dgn
PROJECT MANAGER: R. WHITCOMB
DESIGNED BY: T. LACKEY
QUANTITY SHEET #2

PLOT DATE: 04/30/2008
DRAWN BY: T. LACKEY
CHECKED BY: R. WHITCOMB
SHEET 6 OF 59

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 3

Metric

SUMMARY OF ESTIMATED QUANTITIES									TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
						ROADWAY	EROSION CONTROL	BRIDGE	FULL E & C ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
							8			8		EACH	DECIDUOUS TREES (CHOKE CHERRY) (8 L) (1200 TO 1500 MM)	656.30				
							16			16		EACH	DECIDUOUS TREES (GREEN ASH) (8 L)(1200 TO 1500 MM)	656.30				
							45			45		EACH	DECIDUOUS SHRUBS (BLACK CHOKEBERRY) (4 L) (500 MM)	656.35				
							90			90		EACH	DECIDUOUS SHRUBS (STREAMCO WILLOW) (4 L) (500 MM)	656.35				
						2.05				2.05		SM	TRAFFIC SIGNS, TYPE A	675.20				
													BEGIN OPTION BB					
						16.3				16.3		M	FLANGED CHANNEL SIGN POST	675.301				
						16.3				16.3		M	SQUARE TUBE SIGN POST AND ANCHOR	675.341				
													END OPTION BB					
						1				1		EACH	REMOVING SIGNS	675.50				
						1				1		EACH	ERECTING SALVAGED SIGNS	675.60				

PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442 (24)

FILE NAME: sj076qty.dgn
PROJECT MANAGER: R. WHITCOMB
DESIGNED BY: T. LACKEY
QUANTITY SHEET #3

PLOT DATE: 04/15/2008
DRAWN BY: T. LACKEY
CHECKED BY: R. WHITCOMB

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 4

Metric

SUMMARY OF BRIDGE QUANTITIES

DECK	APP SLAB 1	APP SLAB 2	ABUT 1	ABUT 2	TOTALS: BRIDGE TOTAL	DESCRIPTIONS: UNIT	ITEMS	ITEM NUMBER
			90	90	180	CM	UNCLASSIFIED CHANNEL EXCAVATION	203.27
			200	210	410	CM	GRANULAR BACKFILL FOR STRUCTURES	204.30
			230	240	470	CM	COFFERDAM EXCAVATION, EARTH	208.30
			20		20	CM	COFFERDAM EXCAVATION, ROCK	208.35
			1		1	LS	COFFERDAM (STA. 40+118.9)	208.40
				1	1	LS	COFFERDAM (STA. 40+127.9)	208.40
32	11	13	65	71	192	CM	CONCRETE, HIGH PERFORMANCE CLASS B	501.34
			5032	5407	10439	KG	REINFORCING STEEL	507.15
3391	627	807	121	121	5067	KG	EPOXY COATED REINFORCING STEEL	507.17
6			5	5	16	L	WATER REPELLENT, SILANE	514.10
65					65	SM	SHEET MEMBRANE WATERPROOFING, TORCH APPLIED	519.20
23					23	M	BRIDGE RAILING, GALVANIZED HD STEEL BEAM/FASCIA MOUNTED	525.41
			10	10	20	CM	STONE FILL, TYPE I	613.10
			140	150	290	CM	STONE FILL, TYPE III	613.12
			255	275	530	SM	GEOTEXTILE UNDER STONE FILL	649.31

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442 (24)

FILE NAME: sj076qty.dgn
PROJECT MANAGER: R. WHITCOMB
DESIGNED BY: T. LACKEY
QUANTITY SHEET #4

PLOT DATE: 04/15/2008
DRAWN BY: T. LACKEY
CHECKED BY: R. WHITCOMB

STATE OF VERMONT
AGENCY OF TRANSPORTATION

RIGHT - OF - WAY DETAIL SHEET

Metric

TABLE OF PROPERTY ACQUISITION

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	RATHBUN, DONNA C.	9	40+023.39 RT.	40+105.90 RT.	.07HA					WDOE	10/29/2004	GUILFORD	110	186-9	710SM± (.18A±)
	AKA COVEY, DONNA R.		40+040.00 RT.	40+097.99 RT.			CONST.	(T)	210 SM						INCLUDES EROSION CONTROL & PDF
	RATHBUN, CHRISTOPHER M.														
	COVEY, RENA W. - LIFE ESTATE		40+058.19 RT.	40+081.17 RT.			SLOPE	(P)	19 SM						2260 S.F.±
			40+097.99 RT.	40+101.40 RT.			INSTALL	(T)	22 SM						205 S.F.±
			40+103.20 RT.				DRIVE	(T)							PDF & EROSION CONTROL; 237 S.F.±
			40+106.50 RT.	40+108.39 RT.			INSTALL	(T)	15 SM						12' GRAVEL
			40+067.12 LT.	40+098.34 LT.			SLOPE	(P)	31 SM						PDF & EROSION CONTROL; 161 S.F.±
			40+072.03 LT.	40+098.00 LT.			CONST.	(T)	123 SM						334 S.F.±
															INCLUDES EROSION CONTROL & PDF
			40+068.15 LT.	40+077.44 LT.			REMOVE	(T)							1,324 S.F.±
			DRIVE STA. 6+044.16 RT.				DRAINAGE	(P)							STONE WALL
			DRIVE STA. 6+045.00 RT.	DRIVE STA. 6+047.10 RT.											INCLUDES TEMP. PDF
			40+030 RT.	DRIVE STA. 6+040 RT.			REMOVE & RESET	(T)							EXCEPT & RESERVE STONE WALL
															FENCE
2A	OGDEN, ETHAN M. & EILEEN L.	9	40+098.30 LT.	40+133.10 RT.	.05HA					WDOE	11/15/2004	GUILFORD	110	253-55	480 SM± (.11A±)
			40+105.90 RT.	40+107.47 RT.			SLOPE	(T)	1 SM						11 S.F.±
			40+108.39 RT.	40+135.98 RT.			CONST.	(T)	173 SM						INCLUDES EROSION CONTROL & PDF
															1,862 S.F.±
			40+114.68 RT.	40+133.28 RT.			CHANNEL	(P)	137 SM						1,475 S.F.±
			40+095.76 LT.	40+133.27 LT.			CONST.	(T)	202 SM						INCLUDES EROSION CONTROL & PDF
															2,174 S.F.±
			40+114.58 LT.	40+132.78 LT.			CHANNEL	(P)	160 SM						1,722 S.F.±
			40+128.54 LT.	40+132.33 LT.			CUL. & DR.	(P)							
			40+098.10 LT.	40+100.30 LT.			SLOPE	(P)	1 SM						11 S.F.±
			40+095.53 LT.	40+141.43 LT.			CONST.	(T)	200 SM						INCLUDES EROSION CONTROL & PDF
															2,153 S.F.±
			40+101.45 LT.	40+113.67 LT.			SLOPE	(T)	30 SM						323 S.F.±
			40+123.56 LT.	40+145.39 LT.			SLOPE	(T)	87 SM						936 S.F.±
			40+085.79 LT.	40+101.40 LT.			REMOVE & RESET	(T)							FENCE
			DRIVE STA. 6+031.06 RT.	DRIVE STA. 6+042.13 LT.			ALL R.T. & I.								WATERLINE
			40+074.64 LT.	40+078.00 RT.			ALL R.T. & I.								WATERLINE
			40+133.40 RT.	40+135.00 RT.			SLOPE	(P)	8 SM						86 S.F.±
			DRIVE STA. 6+045.69 RT.				DRAINAGE	(P)							
2B		9	40+111.04 LT.	40+135.32 LT.			CONST.	(T)	99 SM						INCLUDES EROSION CONTROL & PDF
															1,066 S.F.±
			40+115.75 LT.	40+130.24 LT.			SLOPE	(T)	26 SM						280 S.F.±
3	MINER, SHAWN M. & LYNN M.	9	DRIVE STA. 6+016.30 LT.	DRIVE STA. 6+039.20 LT.											EXCEPT & RESERVE STONE WALL
			40+033.40 LT.	40+034.80 LT.											EXCEPT & RESERVE STONE WALL
4	CENTRAL VERMONT PUBLIC SERVICE CORPORATION														UTILITY
5	VERIZON NEW ENGLAND, INC.														UTILITY

TABLE OF REVISIONS

REVISION NO.	SHEET NO.	DESCRIPTION	DATE
1	8	GENERAL. ADD PARCEL NO.4 CENTRAL VERMONT PUBLIC	3/12/2004
		SERVICE CORPORATION. ADD PARCEL NO. 5 VERIZON	
		NEW ENGLAND, INC. PER C.O. 9342	
		MADE BY: MR APPROVED BY: RPD	
2	8	PARCEL NO. 1 COVEY. REVISE PROPERTY OWNER NAME TO:	5/24/2004
		RATHBUN, DONNA C.; AKA COVEY, DONNA R.;	
		COVEY, RENA W. - LIFE ESTATE; RATHBUN, CHRISTOPHER M.	
		PER C.O. 9352. MADE BY: MR APPROVED BY: RPD	
3	8,9	PARCEL NO. 1 COVEY & PARCEL NO. 2 OGDEN.	5/24/2004
		ADD "PDF" TO ALL THE TEXT IN THE REMARKS COLUMN	
		WHERE "EROSION CONTROL" HAS BEEN PLACED. REVISE	
		MISC. ITEMS ON LAYOUT. REPLOT ROW SHEETS 2,3,5,6,7,10	
		PER C.O. 9351. MADE BY: MR APPROVED BY: RPD	
4	8	PARCEL NO. 2 OGDEN. ADD "DRAINAGE (P)" AT STA.	5/24/2004
		6+045.69 RT. PER C.O. 9353.	
		MADE BY: MR APPROVED BY: RPD	
5	8,9	PARCEL NO. 1 COVEY. ADD REMOVE & RESET (T) FOR FENCE	9/3/2004
		AT STA. 40+030 RT. ~ DRIVE STA. 6+040 RT. PER C.O. 9385.	
		MADE BY: MR APPROVED BY: RPD	
		ELECTRONIC FILES TO STRUCTURES	8/16/2005

PLOT DATE: 4/10/2008

PLAN LEGEND

- EXISTING RIGHT-OF-WAY
- TAKING WITH ACCESS
- TAKING WITHOUT ACCESS
- CZ — CLEAR ZONE
- P / L — PROPERTY LINE
- TOE OF SLOPE
- TOP OF CUT
- SR (P) — SLOPE RIGHT
- CONST. (T) — CONSTRUCTION RIGHT

(P) -PERMANENT
(T) -TEMPORARY
DR. -DRAINAGE RIGHT
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: 03-07-05
CHIEF, PLANS & TITLES

PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442(24)

FILE NAME: 94J076
PROJECT LEADER: 0
DESIGNED BY: 0
R.O.W. SHEET 8 OF 10

PLOT DATE:
DRAWN BY: M.J.R.
CHECKED BY: T.F.
SHEET 9 OF 59

END R.O.W. PROJECT

BRO 1442(24)
STA. 40+145.39
65M (213') LT.

Metric

BEGIN R.O.W. PROJECT

BRO 1442(24)
STA. 40+023.39
7.54M (24.75') RT.

N

VT STATE PLANE GRID

MINER, SHAWN M. & LYNN M. (3)

6+039.2 LT - 6+043.3 RT
REPLACE EXISTING 310 mm CGMP WITH NEW 450 mm X 10 800 mm OPTION PIPE INLET EL. 174.940: OUTLET EL. 174.540
CONSTRUCT 900 mm X 1800 mm X 600 mm DEEP PAD STONE FILL, TYPE I @ OUTLET
(SEE PIPE OPTIONS)

DRIVE PI 6+009.316 AH=
6+008.876 BK
△ = 30°27'45" RT

PI 40+052.851 AH=
40+051.708 BK
△ = 27°35'19" RT

DRIVE #1 CURVE DATA
△ = 30°27'45" RT
R = 34.215
T = 9.316
L = 18.191
E = 1.246
BANK = N.C.

APPROX. LOCATION EXISTING UNDERGROUND WATERLINE

APPROX. LOCATION OF NEW 50 SLEEVE FOR EXISTING WATERLINE

POT 40+000.000

PC 40+023.389

40+067.12
7.54M (24.75') LT.

DRIVE PT 6+018.191

EXCEPT & RESERVE

3-ROD R.O.W. CLAIMED BY TOWN

ART. WELL
AVOID THIS SENSITIVE ARCH AREA

SATELLITE DISH

TO WEST GUILFORD

S82°00'45"E

N73°39'11"E

DRIVE 1

380 CGMP

TRAV PT 4 (152.1')

46.35M

BEGIN APPROACH
MATCH EXISTING
40+017.000

BEGIN PAVEMENT
40+032.000

40+030
7.54M (24.75') RT.
COVEY, RATHBUN ET AL
COVEY, RENA W -LIFE ESTATE

ML CURVE DATA
△ = 27°35'19" RT
R = 120.000
T = 29.462
L = 57.781
E = 3.564
BANK = N.C.

END APPROACH
BEGIN PROJECT
ML 40+055.000=
DRIVE PC 6+000.000
△ = 69°54'45" LT

78.95M (259.0')

40+080
7.54M (24.75') RT.

40+105.90
7.54M (24.75') RT.

BRIDGE(T)
INSTALL (T)
BEGIN BRIDGE
40+118.922
FG=175.095

DRIVE POT
7+025.000

CHANNEL POT
50+000.000

APPROX. LOCATION EXISTING 19 DIA. PVC WATER SPRING LINE

HORSE PASTURE

CONSTRUCTION LIMITS

INSTALL (T)

REMOVE(T)
6+040
7.54M (24.75') RT.

REMOVING AND RESETTING FENCE

PT 40+081.170

ML 40+103.200=
DRIVE POT 7+000.000
△ = 90° RT

ML 40+123.500 =
CHAN 50+050.000
DELTA = 90° LT

CONST. (T)

OGDEN, ETHAN M. & EILEEN L. (2B)

OGDEN, ETHAN M. & EILEEN L. (2A)

DRIVE POT
6+050.000

NEW PLANK RAIL

LANDSCAPING
SEE EROSION DETAILS

CHANNEL POT
50+140.000

AVOID THIS SENSITIVE ARCH AREA

REMOVAL LIMITS

EXISTING T.H. 13

(REMOVE PAVEMENT)

GRAVEL ROAD

PAVED ROAD

REMOVE & RESET(T)

BM NO. 2
RRSIT M. ELM
EL. = 174.173

40+098.30
7.54M (24.75') LT.

900 STONE FILL, TYPE III (TYP)

CLASS III WETLAND

BROAD BROOK

TRAV PT 1

TRAV PT 3

GUY WIRE

WOOD RETAINING WALL

WFHO

TO GUILFORD

TO GUILFORD CTR.

COLD PLANING, BITUMINOUS PAVEMENT

BM NO. 1
USGS TT5 F1 1942
RESET 1954
EL. = 172.295

40+132.29
8.20M (26.9') LT.

40+128.6 LT - 40+145.8 LT
REPLACE EXISTING 380mm RCP WITH NEW 450mm X 17.68m OPTION PIPE
INLET EL. 173.020: OUTLET EL. 172.600
(SEE PIPE OPTIONS)

END BRIDGE
40+127.922
FG=175.050

POT
40+140.000

40+133.10
7.54M (24.75') RT.
END APPROACH
MATCH EXISTING
40+143.484

END PROJECT
40+136.770

LINES SHOWN ON THIS PLAN AS EXISTING PROPERTY LINES P/L ARE BELIEVED TO BE ACCURATE BUT SHOULD NOT BE RELIED UPON FOR PURPOSES UNRELATED TO THE TOWN OF GUILFORD'S ACQUISITION OF LAND AND RIGHTS FOR THIS PROJECT.

EXISTING BRIDGE DATA

WOOD PLANK WITH WOOD RUNNERS
ON 7 - W305mm X 1270mm BEAMS
ABUT. NO. 1: CONCRETE FACED LAID UP STONE
ABUT. NO. 2: CONCRETE FACED LAID UP STONE

FOR EROSION CONTROL DETAILS SEE ROW SHEET 7 OF 10

RATHBUN ET AL
COVEY, RENA W -LIFE ESTATE

MATCH LINE

TO SHEET 10 OF 10

0 10 20
SCALE 1:250

CONSTRUCT DRIVE 1
ML 40+055.0 LT

CONSTRUCT DRIVE 2
ML 40+103.2 RT

CONSTRUCT PAVED DRIVE APRON
ML 40+055.0 LT
ML 40+103.2 RT

COLD PLANNING, BITUMINOUS PAVEMENT
CHA 50+030 RT - 50+070 RT

CONSTRUCT STONE LINED DITCH WITH STONE FILL, TYPE I
DRIVE 6+012.2 LT - DRIVE 6+040.1 LT

BRIDGE RAILING, GALVANIZED HD STEEL BEAM/FASCIA MOUNTED
ML 40+117.7 RT - ML 40+129.1 RT
ML 40+117.7 LT - ML 40+129.1 LT

RELOCATE MAIL BOX, SINGLE SUPPORT
FROM DRIVE 6+058.3 LT TO ML 40+052.5 LT

YIELDING MARKER POSTS
ML 40+075.1 LT
ML 40+078.2 RT
DRIVE 6+031.2 RT
DRIVE 6+042.1 LT

PLANK RAIL
CH 50+094.3 LT - CH 50+098.5 LT (5.30m)

REMOVAL AND DISPOSAL OF GUIDE POSTS
CHAN 50+040 RT - CHAN 50+110 RT

STEEL BEAM GUARD RAIL, GALVANIZED
ML 40+057.1 RT - ML 40+100.0 RT
ML 40+063.4 LT - ML 40+102.5 LT
CHAN 50+065.9 RT - CHAN 50+123.7 RT

HEAVY DUTY STEEL BEAM GUARD RAIL, GALVANIZED
ML 40+102.5 LT - ML 40+117.7 LT
ML 40+106.4 RT - ML 40+117.7 LT
ML 40+129.1 RT - CHAN 50+031.4 RT
ML 40+129.1 LT - CHAN 50+065.9 RT

ANCHOR FOR STEEL BEAM RAIL
ML 40+055.5 RT
ML 40+063.8 LT
ML 40+098.3 RT
ML 40+108.1 RT
CHAN 50+033.4 RT
CHAN 50+138.3 RT

SLEEVES FOR UTILITIES
ML 40+075.1 LT - ML 40+078.3 RT
DRIVE 6+031.2 RT - DRIVE 6+042.1 LT

EXTENSION SERVICE BOX AND CURB STOP
ML 40+075.1 LT
ML 40+078.2 RT
DRIVE 6+031.2 RT
DRIVE 6+042.1 LT

REMOVING AND RESETTING FENCE
ML 40+030± RT. - DRIVE 6+040± RT

LANDSCAPING
CH 50+097 LT - CH 50+115 LT
CH 50+107 LT - CH 50+124 LT

RIGHT OF WAY LAYOUT PLAN 1

FOR R.O.W. USE ONLY

PROJECT NAME:	GUILFORD
PROJECT NUMBER:	BRO 1442(24)
FILE NAME: sj076101.i	PLOT DATE: 15-APR-2008
PROJECT LEADER: R. WHITCOMB	DRAWN BY: L. BULLOCK
DESIGNED BY: J. PERRIGO	CHECKED BY: T. LACKEY

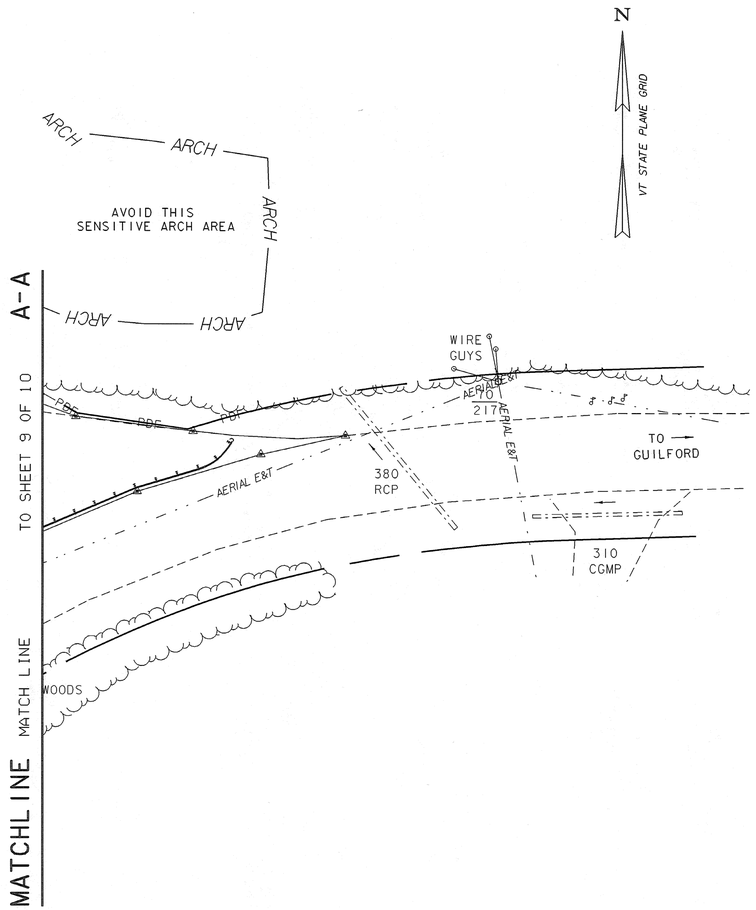
R. O. W. SHEET 9 OF 10 SHEETS — SHEET 10 OF 59

STEEL BEAM GUARD RAIL, GALVANIZED

CHAN 50+123.7 RT - CHAN 50+140.6 RT

ANCHOR FOR STEEL BEAM RAIL

CHAN 50+138.3 RT



FOR R.O.W. USE ONLY

LINES SHOWN ON THIS PLAN AS EXISTING PROPERTY LINES P/L ARE BELIEVED TO BE ACCURATE BUT SHOULD NOT BE RELIED UPON FOR PURPOSES UNRELATED TO THE TOWN OF GUILFORD'S ACQUISITION OF LAND AND RIGHTS FOR THIS PROJECT.

0 10 20

SCALE 1:250

RIGHT OF WAY LAYOUT PLAN 2

PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442(24)

FILE NAME: sj076102.1
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: J. PERRIGO
R. O. W. SHEET 10 OF 10 SHEETS

PLOT DATE: 15-APR-2008
DRAWN BY: L. BULLOCK
CHECKED BY: T. LACKEY

GPS CONTROL POINTS

TT 5 FI RESET
SURFACE MARK IS A BENCH MARK DISK SET IN A ROCK OUTCROP. THE MARK IS STAMPED TT 5 FI 1942 RESET 1954.

APPROX. LATITUDE: 424824N
APPROX. LONGITUDE: 0723700W
APPROX. ELEVATION: 172M

LOCATION:
GUILFORD CENTER, VT., ABOUT 4.4 MI (7.1 KM) SOUTHWEST OF BRATTLEBORO, ABOUT 13.3 MI (21.4 KM) SOUTHEAST OF WILMINGTON, AND ABOUT 5.1 MI (8.2 KM) NORTH OF THE MASSACHUSETTS/VERMONT STATE LINE.

THE MARK IS 11.9 M (39.0 FT) NORTHWEST OF AND ABOUT 2.5 M (8.2 FT) LOWER THAN THE CENTERLINE OF THE GUILFORD CENTER ROAD, 1.7 M (5.6 FT) SOUTHEAST OF THE SOUTHEAST EDGE OF THE BRANCH OF THE BROAD BROOK, 37.9M (124.3 FT) SOUTHWEST OF POLE NO. 1/171/2-12/2/218, 3.4 M (11.2 FT) NORTH-NORTHWEST OF THE NORTH-NORTHWEST (OUTLET) END OF A 40 CM DIAMETER CONCRETE CULVERT, 2.8 M (9.2 FT) NORTHEAST OF A 50 CM PINE, AND 0.3 M (1.0 FT) NORTHWEST OF A FIBERGLASS WITNESS POST. IT IS SET IN THE TOP OF A 0.5 M (1.6 FT) X 1.0 M (3.3 FT) ROCK OUTCROP FLUSH WITH GROUND SURFACE.

GUIL TEMP 1
SURFACE MARK IS A METAL ROD DRIVEN INTO THE GROUND.

APPROX. LATITUDE: 424826N
APPROX. LONGITUDE: 0723702W
APPROX. ELEVATION: 177M

LOCATION:
GUILFORD CENTER, VT., ABOUT 4.4 MI (7.1 KM) SOUTHWEST OF BRATTLEBORO, ABOUT 13.3 MI (21.4 KM) SOUTHEAST OF WILMINGTON, AND ABOUT 5.1 MI (8.2 KM) NORTH OF THE MASSACHUSETTS/VERMONT STATE LINE.

THE MARK IS 13.6 M (44.6 FT) NORTHWEST OF AND ABOUT 1.0 M (3.3 FT) LOWER THAN THE CENTERLINE OF THE GUILFORD CENTER ROAD, 7.2 M (23.6 FT) SOUTH OF THE CENTERLINE OF BONNYVALE ROAD, 22.6 M (74.1 FT) NORTHEAST OF POLE NO. 1/171/2-12/2/218, 1.8 M (5.9 FT) SOUTHEAST OF "BONNYVALE ROAD" SIGN POST, AND 1.7 M (5.6 FT) SOUTHWEST OF THE SOUTHWEST EDGE OF PAVEMENT (ON CURVE) OF BONNYVALE ROAD. IT IS A CENTERPUNCHED REBAR SET FLUSH WITH GROUND SURFACE.

GUIL TEMP 2
SURFACE MARK IS A METAL ROD DRIVEN INTO THE GROUND.

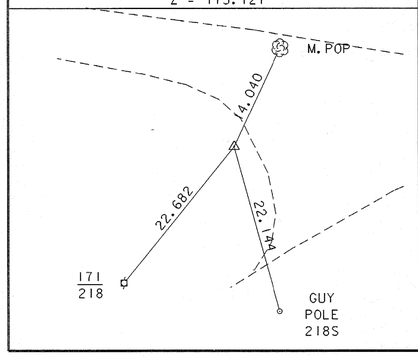
APPROX. LATITUDE: 424815N
APPROX. LONGITUDE: 0723707W
APPROX. ELEVATION: 182M

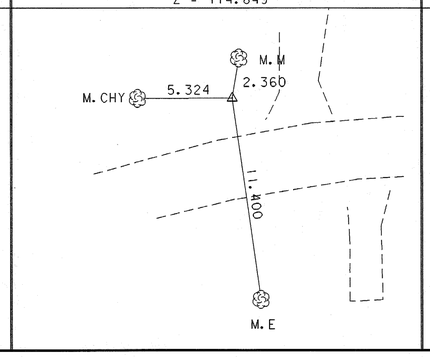
LOCATION:
GUILFORD CENTER, VT., ABOUT 4.6 MI (7.4 KM) SOUTHWEST OF BRATTLEBORO, ABOUT 13.4 MI (21.6 KM) SOUTHEAST OF WILMINGTON, AND ABOUT 4.9 MI (7.9 KM) NORTH OF THE MASSACHUSETTS/VERMONT STATE LINE.

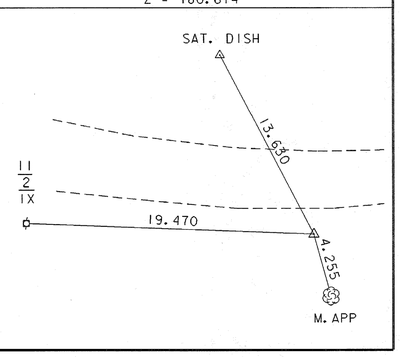
THE MARK IS 5.0 M (16.4 FT) WEST OF AND ABOUT 0.1 M (0.3 FT) LOWER THAN THE CENTERLINE OF THE GUILFORD CENTER ROAD, 5.8 M (19.0 FT) EAST OF THE EAST EDGE OF OF A BRANCH OF BROAD BROOK, 3.6 M (11.8 FT) SOUTH OF POLE NO. 222/1/176, 0.5 M (1.6 FT) WEST OF A METAL GUARD RAIL, AND 32.7 M (107.3 FT) SOUTH-SOUTHEAST OF THE SOUTHEAST CORNER OF THE MOBILE HOME. IT IS A CENTERPUNCHED REBAR 2 CM BELOW GROUND SURFACE.

TRAVERSE TIES

TRAV. PT. 1	TRAV. PT. 3	TRAV. PT. 4
N = 34111.1940	N = 34127.3180	N = 34105.2039
E = 490459.0340	E = 490393.4581	E = 490343.8465
Z = 175.127	Z = 174.849	Z = 180.674

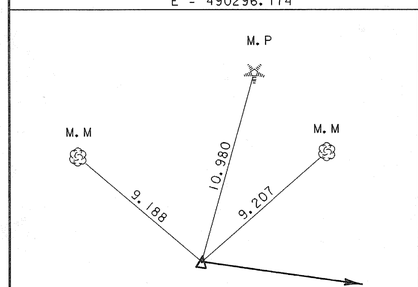


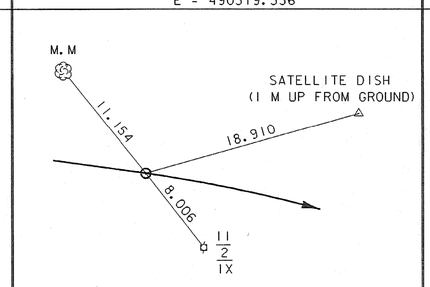


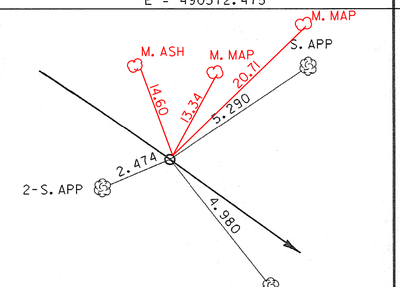


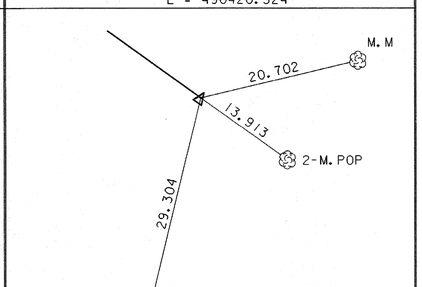
ALIGNMENT TIES

POB 40+000.000	PC 40+023.389	PT 40+081.170	POE 40+140.000
N = 34115.479	N = 34112.229	N = 34090.994	N = 34056.768
E = 490296.174	E = 490319.336	E = 490372.475	E = 490420.324









DATUM

VERTICAL	NAVD 88
HORIZONTAL	NAD 83/92

SURVEY TIES

PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442(24)

FILE NAME: sj076tie.1
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: J. PERRIGO
94j076\structures\sj076tie.dgn

PLOT DATE: 15-APR-2008
DRAWN BY: L. BULLOCK
CHECKED BY: T. LACKEY
SHEET 12 OF 59

Metric

N

VT STATE PLANE GRID

6+039.2 LT - 6+043.3 RT
REPLACE EXISTING 310 mm CGMP WITH
NEW 450 mm X 10 800 mm OPTION PIPE
INLET EL. 174.940; OUTLET EL. 174.540
CONSTRUCT 900 mm X 1800 mm X 600 mm DEEP
PAD STONE FILL, TYPE I @ OUTLET
(SEE PIPE OPTIONS)

DRIVE PI 6+009.316 AH=
6+008.876 BK
△ = 30°27'45" RT

PI 40+052.851 AH=
40+051.708 BK
△ = 27°35'19" RT

DRIVE #1 CURVE DATA
△ = 30°27'45" RT
R = 34.215
T = 9.316
L = 18.191
E = 1.246
BANK = N.C.

ELIMINATED
~~APPROX. LOCATION OF NEW 50 SLEEVE FOR EXISTING WATERLINE~~

APPROX. LOCATION
EXISTING UNDERGROUND
WATERLINE

POT 40+000.000

PC 40+023.389

DRIVE PT
6+018.191

RAN LINE TO
CROSS SECTION
OLD ROADWAY

DRIVE POT
6+050.000

AVOID THIS
SENSITIVE ARCH AREA

LANDSCAPING
SEE EROSION DETAILS

NEW
PLANK RAIL

CHANNEL POT
50+140.000

REMOVAL
LIMITS

EXISTING 3-ROD R.O.W.

TO WEST GUILFORD

S82°00'45"E

N73°39'11"E
DRIVE 1

S35°34'35"W
DRIVE 2

TRAV PT 1

TRAV PT 3

TRAV PT 4

EXISTING T.H. 13
(REMOVE PAVEMENT)

PAVED ROAD
(REMOVE PAVEMENT)

GRAVEL ROAD

REMOVING AND
RESETTING FENCE

BM NO. 2
RRS1T M. ELM
EL. = 174.173

BM NO. 3
RRSIT M. MAP
EL. = 177.058

PT 40+081.170

HORSE PASTURE

900 STONE FILL,
TYPE III (TYP)

ML 40+103.200=
DRIVE POT 7+000.000
△ = 90° RT

ML 40+123.500 =
CHAN 50+050.000
DELTA = 90° LT

END PAVEMENT
40+110

BROAD BROOK

CLASS III WETLAND

COLD PLANING,
BITUMINOUS PAVEMENT

BM NO. 1
USGS TT5 F1 1942
RESET 1954
EL. = 172.295
← DESTROYED

40+128.6 LT - 40+145.8 LT
REPLACE EXISTING 380mm RCP WITH
NEW 450mm X 17.68m OPTION PIPE
INLET EL. 173.020; OUTLET EL. 172.600
(SEE PIPE OPTIONS)

END BRIDGE
40+127.922
FG=175.050

POT
40+140.000

2-M.POP

CLASS III WETLAND

END APPROACH
MATCH EXISTING
40+143.484

END PROJECT
40+136.770

BEGIN APPROACH
MATCH EXISTING
40+017.000

BEGIN PAVEMENT
40+032.000

380 CGMP

END APPROACH
BEGIN PROJECT
ML 40+055.000=
DRIVE PC 6+000.000
△ = 69°54'45" LT

BEGIN BRIDGE
40+118.922
FG=175.095

DRIVE POT
7+025.000

CHANNEL POT
50+000.000

APPROX. LOCATION
OF NEW 50 SLEEVE FOR
EXISTING WATERLINE

CONSTRUCTION LIMITS

APPROX. LOCATION
EXISTING 19 DIA. PVC
WATER SPRING LINE

BM NO. 4
RRSIT M. HEM
EL. = 172.924

TO GUILFORD CTR.

TO GUILFORD

WOOD RETAINING WALL

WFHO

WOODS

SATELLITE DISH

M. BAL

S. ASH

M. CHY

S. PINE

M. POP

GUY WIRE

WIRE GUY

GUY POLE 2-8S

M. CED

S. SPRUCE

S. E

M. P

ART. WELL
AVOID THIS
SENSITIVE ARCH AREA

AERIAL E&T

DR GR

MB

IP

WSO

M. E

M. M

L. M

M. APP

S. APP

2-S. APP

4-S. APP

APP. CLUMP

CZ

TYP.

R 10 m TYP.

R 15 m TYP.

R 30 m TYP.

R 45 m TYP.

R 60 m TYP.

R 90 m TYP.

R 120 m TYP.

R 180 m TYP.

R 240 m TYP.

R 300 m TYP.

R 360 m TYP.

R 420 m TYP.

R 480 m TYP.

R 540 m TYP.

R 600 m TYP.

R 660 m TYP.

R

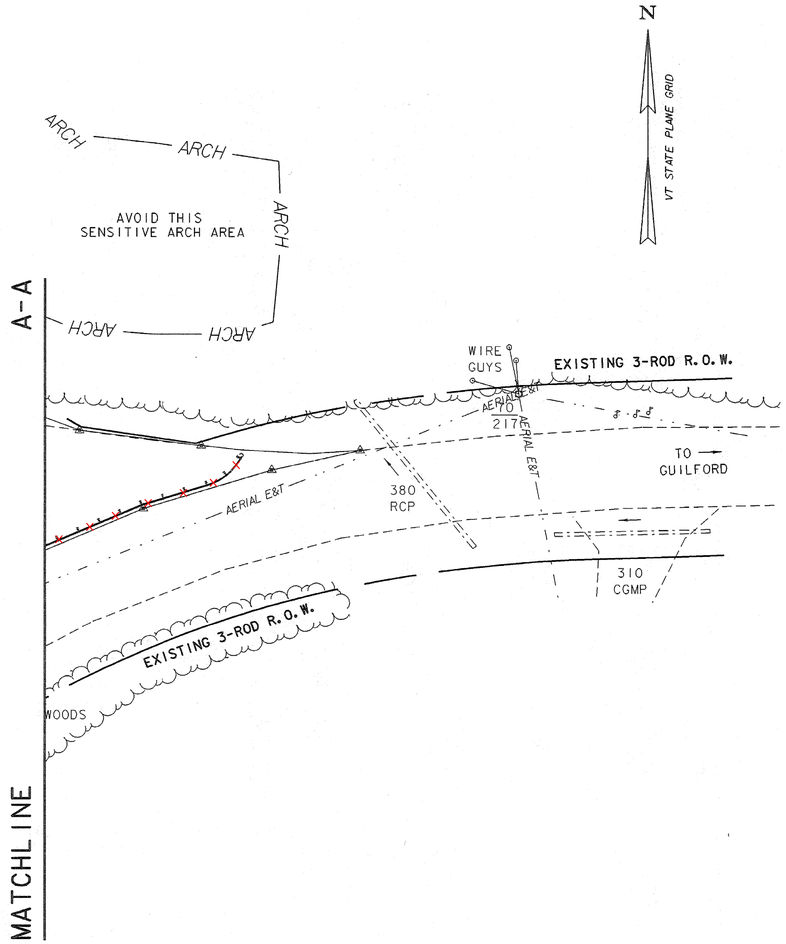
ELIMINATED

STEEL BEAM GUARD RAIL, GALVANIZED

~~CHAN 50+123.7 RT - CHAN 50+140.6 RT~~

ANCHOR FOR STEEL BEAM RAIL

CHAN 50+~~138.3~~ RT
+066



0 10 20

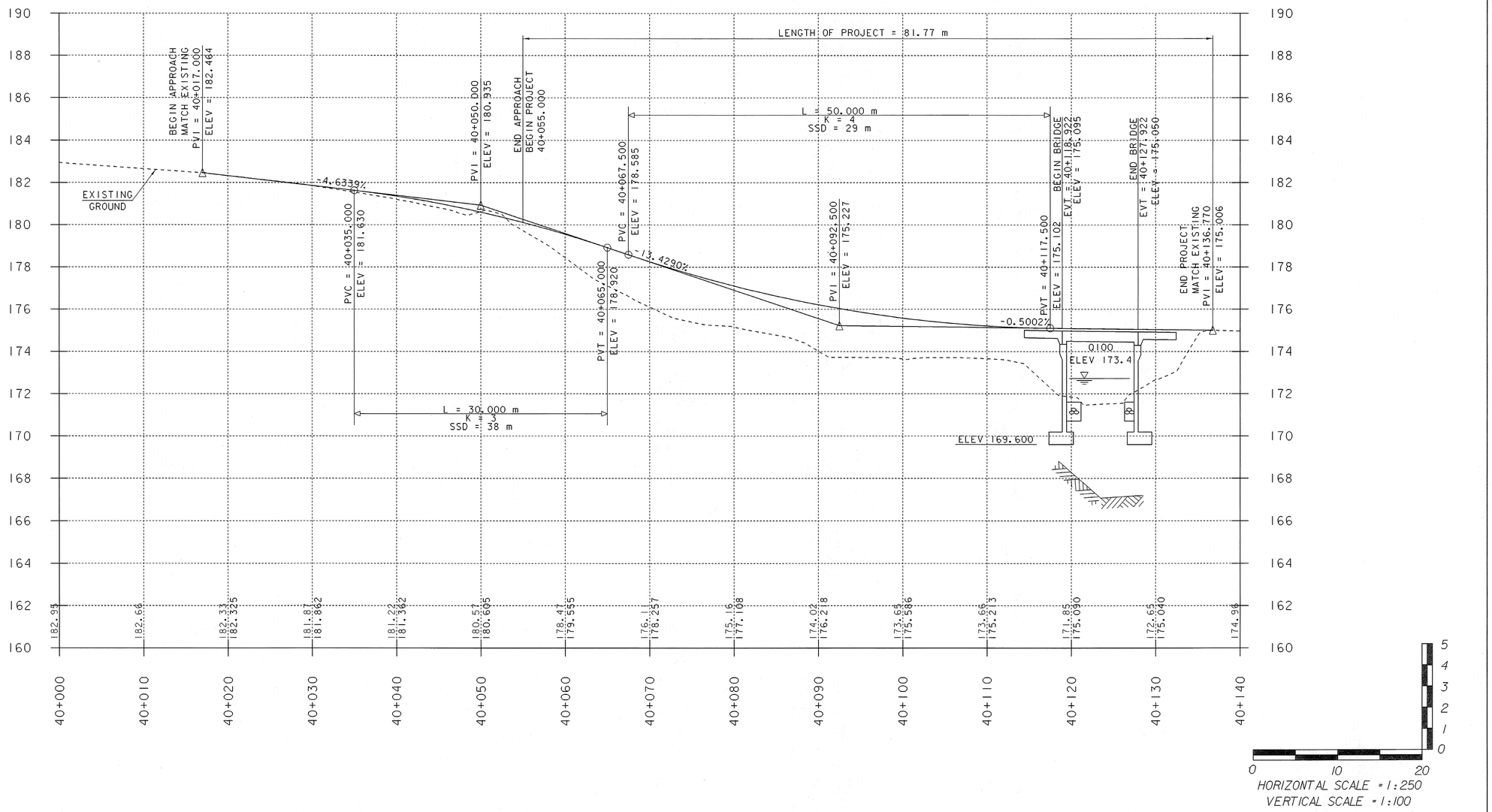
SCALE 1:250

LAYOUT PLAN 2

PROJECT NAME:	GUILFORD
PROJECT NUMBER:	BRO 1442(24)

FILE NAME: sj076102.i	PLOT DATE: 15-APR-2008
PROJECT LEADER: R. WHITCOMB	DRAWN BY: L. BULLOCK
DESIGNED BY: J. PERRIGO	CHECKED BY: T. LACKEY
94J076\Structures\sj076bdr.dgn	SHEET 14 OF 59

Profile



MAINLINE PROFILE

PROJECT NAME:	GUILFORD
PROJECT NUMBER:	BRO 1442(24)

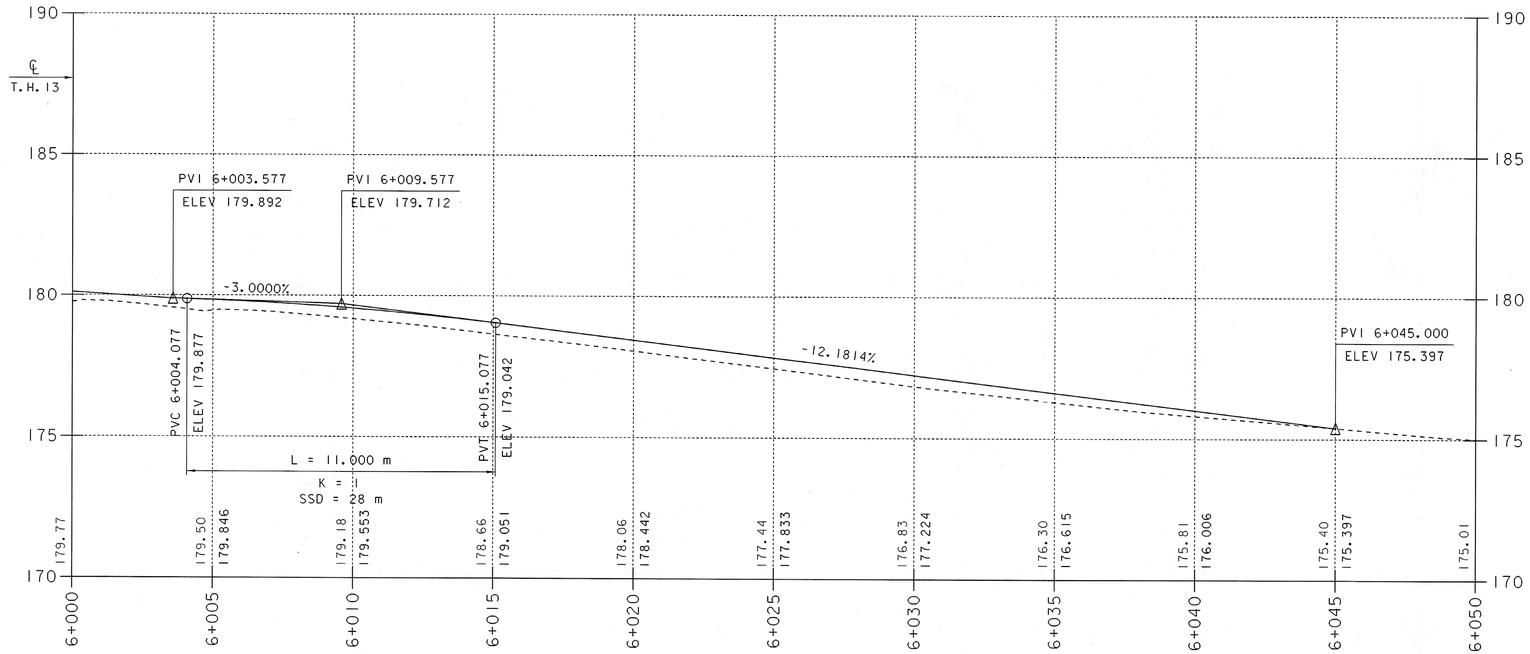
FILE NAME: sj076pfl.i	PLOT DATE: 15-APR-2008
PROJECT LEADER: R. WHITCOMB	DRAWN BY: T. LACKEY
DESIGNED BY: T. LACKEY	CHECKED BY: J. PERRIGO
94J076\Structures\sj076xs3.dgn	SHEET 15 OF 59

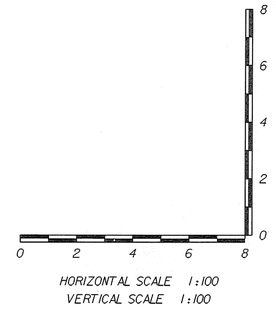
NOTES:

1. ELEVATIONS SHOWN TO THE NEAREST HUNDREDTH METER ARE EXISTING GROUND ALONG CENTERLINE.

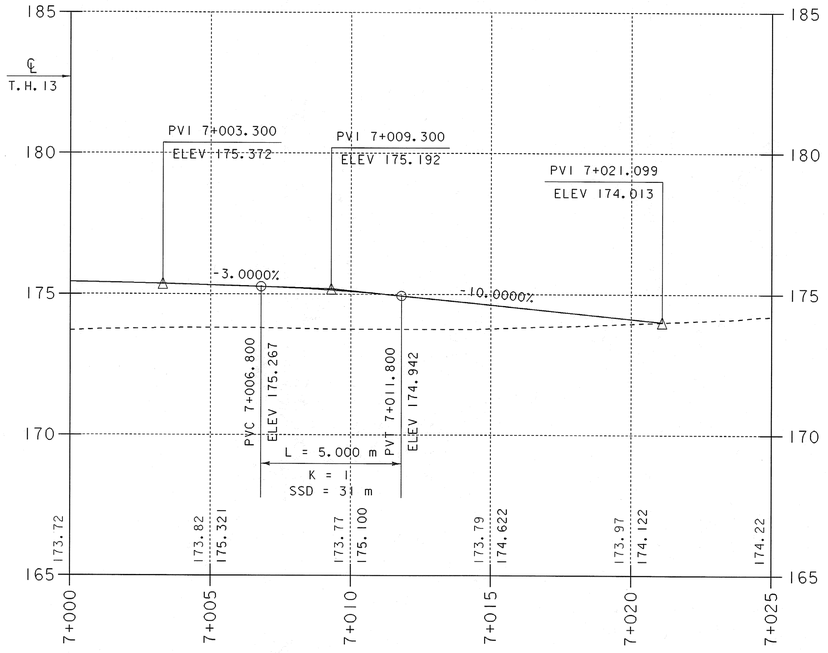
2. ELEVATIONS SHOWN TO THE NEAREST THOUSANDTH METER ARE FINAL GRADE ALONG CENTERLINE.

Drive #1 Profile
(ML STA. 40+055 LT.)



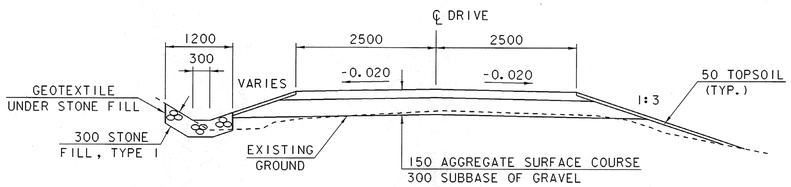


Drive #2 Profile
(ML STA. 40+103.2 RT.)

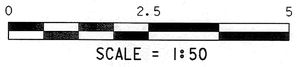


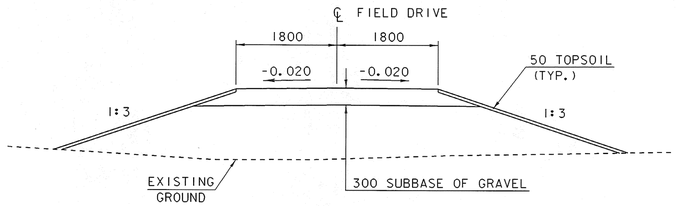
NOTES:

1. ELEVATIONS SHOWN TO THE NEAREST HUNDREDTH METER ARE EXISTING GROUND ALONG CENTERLINE.
2. ELEVATIONS SHOWN TO THE NEAREST THOUSANDTH METER ARE FINAL GRADE ALONG CENTERLINE.

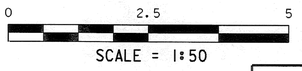


Drive 1 Typical Section





Drive 2 Typical Section

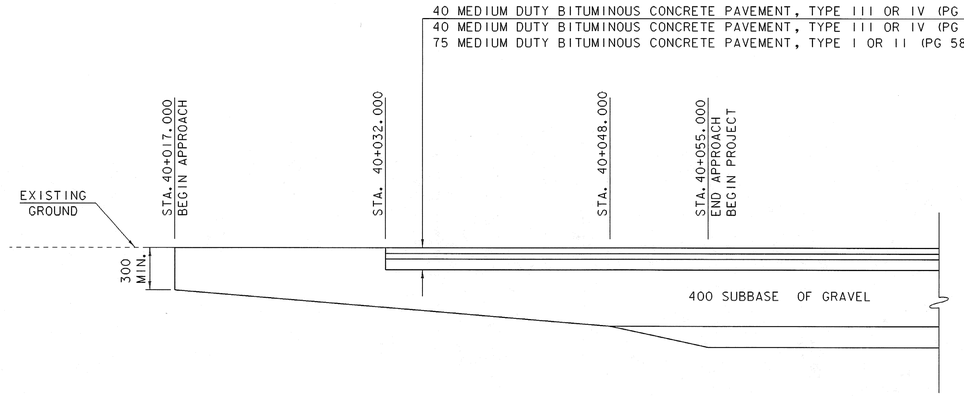


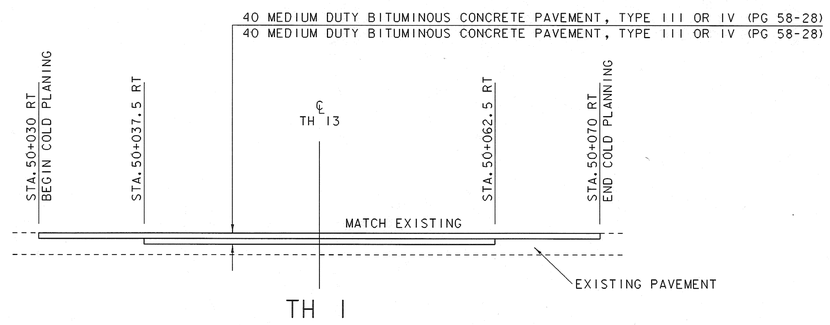
DRIVE PROFILES

PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442(24)

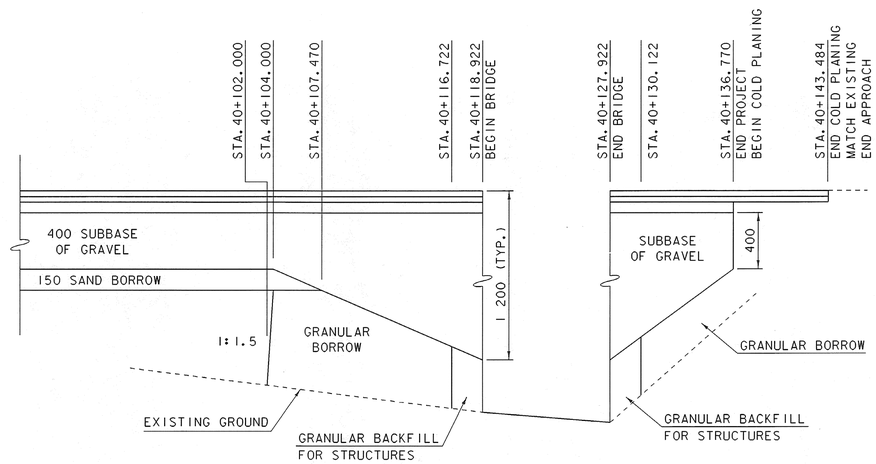
FILE NAME: sj076pf2.i
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: T. LACKEY
94J076\Structures\sj076xs3.dgn

PLOT DATE: 15-APR-2008
DRAWN BY: T. LACKEY
CHECKED BY: J. PERRIGO
SHEET 16 OF 59





TH 13



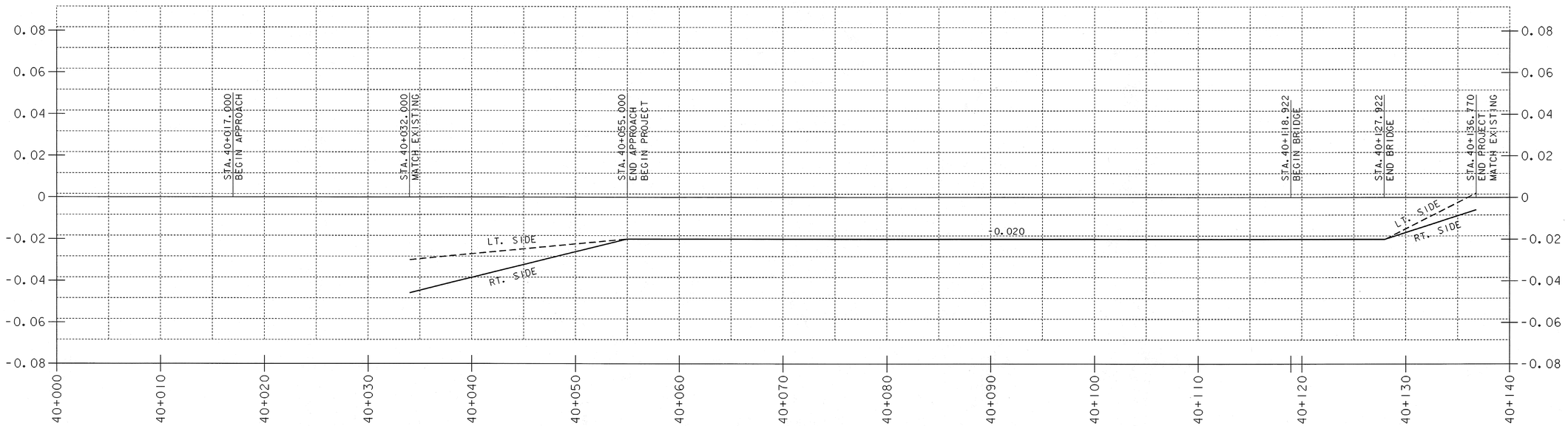
MATERIAL TRANSITION DETAILS

0 10 20

HORZ. SCALE = 1:200

0 1 2

VERT. SCALE = 1:20



SUPERELEVATION

HORIZ.: 0 10 20

SCALE = 1:200

VERT.: 0 0.05 0.1

SCALE = 1:1

MATERIAL TRANSITION & SUPERELEVATION

PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442(24)

FILE NAME: sj076mat.i
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: T. LACKEY
94j076\Structures\sj076xs3.dgn

PLOT DATE: 15-APR-2008
DRAWN BY: T. LACKEY
CHECKED BY: J. PERRIGO
SHEET 17 OF 59

N

1995 MAG

ML 40+065.3 LT

NO OUTLET

N

N

W

TO WESTBOUND GUILFORD

40+000

40+020

40+040

40+060

40+080

40+100

AERIAL E&T

EXISTING T.H. 13

BONNYVALE RD R&S

R

50+140

50+120

50+100

50+080

50+060

50+040

50+020

50+000

BROAD BROOK

T.H. 1

A-A

MATCHLINE

TO GUILFORD CTR.

REMOVING SIGNS

CHAN 50+117.3 RT

TRAFFIC SIGNS, TYPE A

ML 40+065.3 LT
ML 40+132.3 RT
ML 40+133.9 LT
T.H. 1 NORTH LT (SEE NEXT SHEET)
T.H. 1 SOUTH RT (SEE THIS SHEET)
CL 50+130 RT

ERECTING SALVAGED SIGNS

ML 40+132.3 RT

2 - 100 MM WHITE LINE

ML 40+017 TO 40+130

2 - 100 MM YELLOW LINE

ML 40+017 TO 40+130

600 MM STOP BAR

ML 40+135 RT

LEGEND

EXISTING SIGNS

NEW SIGNS

R	REMOVE
R&S	REMOVE AND SALVAGE
N	NEW
S	SALVAGE

0 10 20

SCALE 1:250

PLACE SIGN 120M - 145M SOUTH ALONG T.H. 1 FROM NEW INTERSECTION

N

N

ML 40+132.3 RT

BONNYVALE RD S

STOP

N

N

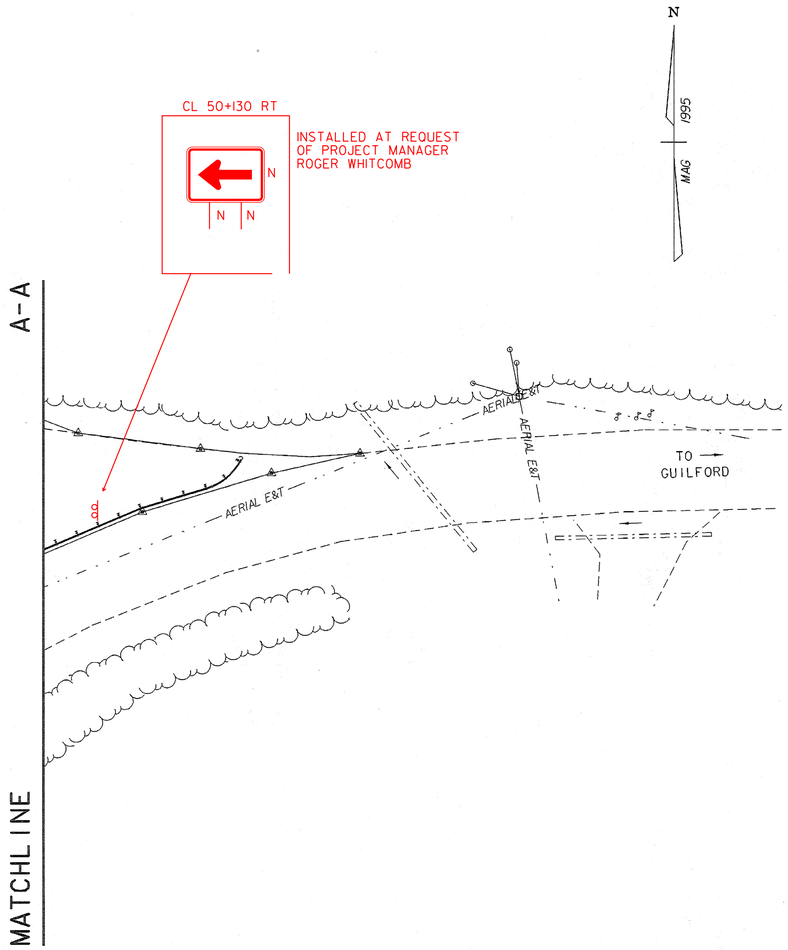
TRAFFIC SIGN LAYOUT PLAN 1

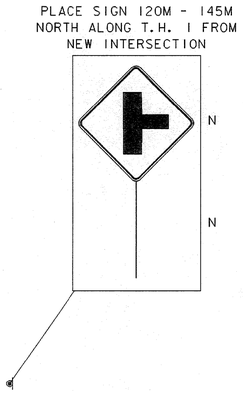
PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442(24)

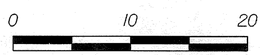
FILE NAME: sj076t01.i
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: J. PERRIGO
94J076\Structures\sj076trf.dgn

PLOT DATE: 15-APR-2008
DRAWN BY: L. BULLOCK
CHECKED BY: T. LACKEY
SHEET 18 OF 59

Metric







TRAFFIC SIGN LAYOUT PLAN 2

PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442(24)

FILE NAME: sj076t02.i
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: J. PERRIGO
94j076\Structures\sj076trf.dgn

PLOT DATE: 15-APR-2008
DRAWN BY: L. BULLOCK
CHECKED BY: T. LACKEY
SHEET 19 OF 59

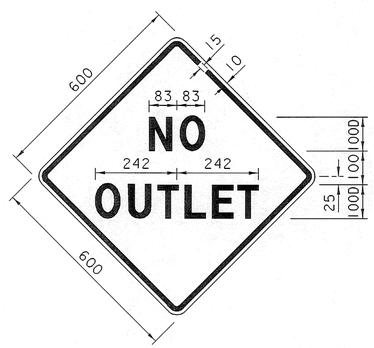
STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET

VAOT Metric

KILOMETER MARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS EA	WIDTH (mm)	HEIGHT (mm)	NEW & SALVAGED SIGNS "A"	"B"	SALV SIGN	SALV TIS	EXIST POST RETAIN	EXIST POST SALVAGE	NO. OF POSTS	NEW SIGN POSTS: FLANGED CHANNEL kg/m 1.7	3.0	4.5	SQUARE STEEL (mm) 44 kg/m 3.4	50 kg/m 3.9	63 kg/m 5.0	ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (mm) 75 kg/m 1.9	100 kg/m 2.5	100 MOD kg/m 2.5	TUBULAR STEEL Ø (mm) FOUNDATION	75 kg/m 11.3	89 kg/m 13.4	100 kg/m 16.1	125 kg/m 21.7	W-SHAPE STEEL FTG. SIZE 600 mm	750 mm	WEIGHT	POST SIZE	SIGN FRAME REQUIRED	REMARKS	SIGN DETAIL: DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
											OPTION ITEMS																										
ML 40+065.3 LT	NO OUTLET	1	600	600	0.36						1		X		X																			MUTCD W14-2	SEE BELOW	
ML 40+132.3 RT	BONNYVALE RD						X																												MUTCD D3		E-123
ML 40+132.3 RT	STOP	1	750	750	0.56						1			X	X																			MUTCD R1-1		E-143
120M-145M NORTH ALONG T.H. 1 FROM NEW INTER.		1	750	750	0.56						1		X		X																			MUTCD W2-2		E-155
120M-145M SOUTH ALONG T.H. 1 FROM NEW INTER.		1	750	750	0.56						1		X		X																			MUTCD W2-2		E-155
											m	m 12.1	m 4.2	m 16.3	m	m		EA	kg	kg	kg		kg	kg	kg	kg									
TOTALS		m^2 2.05	m^2		EA. 1	m^2					m 16.3			m 16.3					kg			EA.	kg				EA.	EA.							

FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE ROADWAY, TRAFFIC & SAFETY SECTION'S "SIGN POST DESIGN GUIDELINE."



W14-2

TEXT LAYOUT DIMENSIONS ARE BASED ON THE "LETTER & NUMERAL WIDTHS AND SPACE" TABLES FOUND IN THE "STANDARD HIGHWAYS SIGNS" BOOKLET. MINOR VARIATIONS IN TEXT DIMENSIONS ARE ACCEPTABLE BASED ON INDIVIDUAL MANUFACTURER'S LETTER FABRICATION. SIGNIFICANT CHANGES WHICH AFFECT SIGN APPEARANCE SHALL BE BROUGHT TO THE ATTENTION OF THE VAOT'S TRAFFIC DESIGN UNIT BEFORE FABRICATION.

SEE STD. E-100 FOR SIGN MATERIALS.

COLORS: BACKGROUND - REFL. YELLOW
TEXT & BORDER - BLACK

TRAFFIC SIGN SUMMARY

PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442(24)

FILE NAME: sj076t03.i
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: J. PERRIGO
94J076\Structures\sj076tss.dgn

PLOT DATE: 15-APR-2008
DRAWN BY: L. BULLOCK
CHECKED BY: T. LACKEY
SHEET 20 OF 59

SOIL CLASSIFICATION

AASHTO	
A1	Gravel and Sand
A3	Fine Sand
A2	Silty or Clayey Gravel and Sand
A4	Silty Soil - Low Compressibility
A5	Silty 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
51 to 75	Fair
76 to 90	Good
>90	Excellent

SHEAR STRENGTH

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

CORRELATION GUIDE OF "N" TO DENSITY/CONSISTENCY

DENSITY (GRANULAR SOILS)		CONSISTENCY (COHESIVE SOILS)	
N	DESCRIPTIVE TERM	N	DESCRIPTIVE TERM
<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
N	Standard Penetration Test 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
VS	Field Vane Shear Test
US	Undisturbed Soil Sample
B	Blast
DC	Diamond Core
MD	Mud Drill
WA	Wash Ahead
HSA	Hollow Stem Auger
AX	Core Size 30.1mm
BX	Core Size 42.0 mm
NX	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
Si	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	mltc	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.

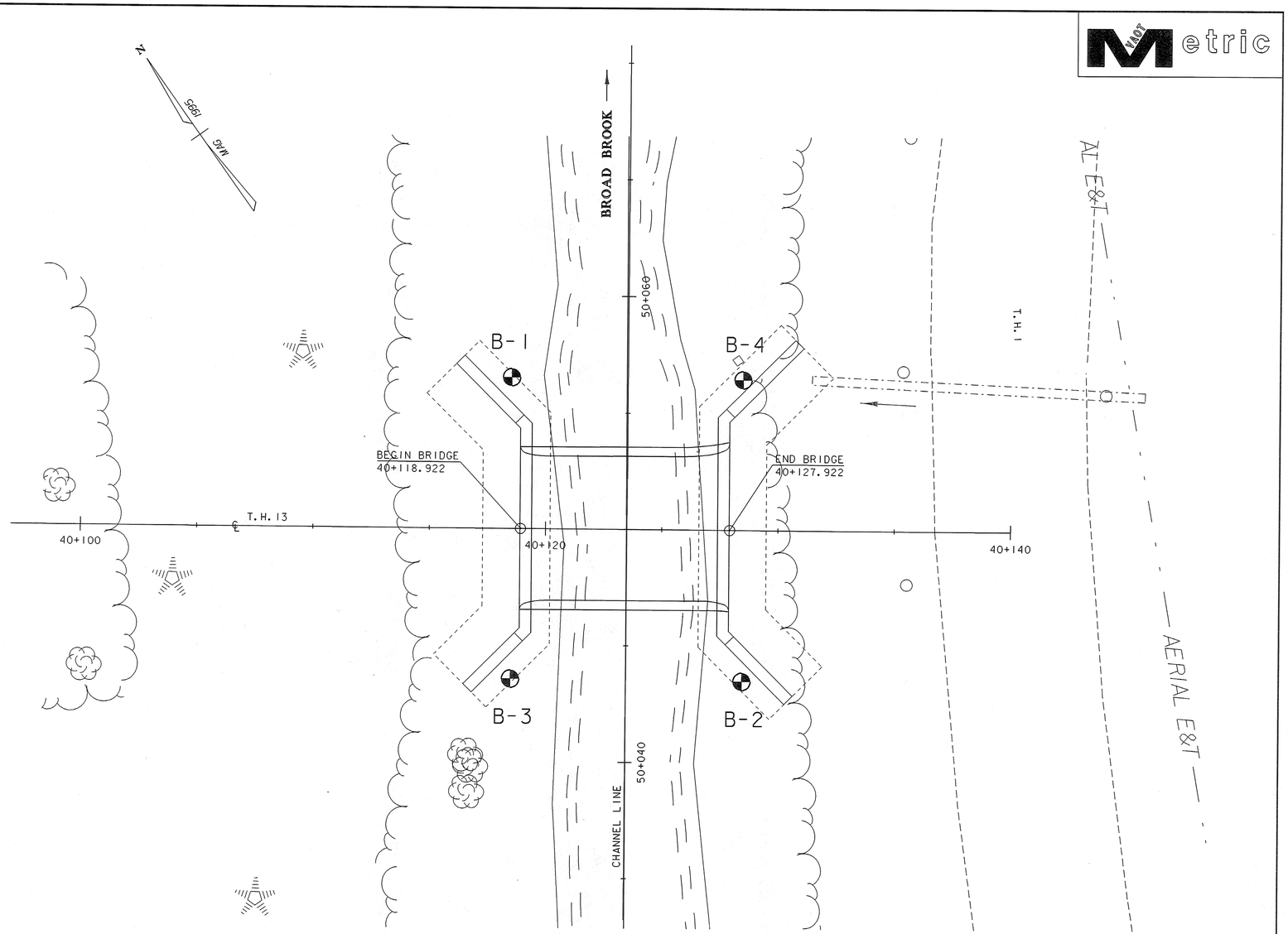
MUCK - Soft organic soil (containing > 10% organic material.

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.



BORING CHART

0 1 2 4 6 8 10

SCALE = 1:100

GENERAL NOTES

1. The subsurface explorations shown herein were made between 6/17/99 and 10/21/04 by the Agency.
2. 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.
3. 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.
4. 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.
5. 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.
6. 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.	FOOTING ELEV.	BEDROCK ELEV.
B-1	40+118.50	6.5 LT	172.048	169.60	168.188
B-2	40+128.50	6.5 RT	172.447	169.60	169.677
B-3	40+118.50	6.5 RT	172.270	169.60	169.520
B-4	40+128.50	6.5 LT	172.240	169.60	165.600

GEOTECHNICAL PLAN

PROJECT NAME: GUILFORD

PROJECT NUMBER: BRO 1442(24)

FILE NAME: sj076b01.i
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: T. LACKEY
94J076\Structures\sj076bor.dgn

PLOT DATE: 15-APR-2008
DRAWN BY: T. LACKEY
CHECKED BY: J. PERRIGO
SHEET 21 OF 59

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH DIVISION
SUBSURFACE INFORMATION

HOLE NO.: B-1
SHEET 1 OF 1
DATE STARTED: 6/18/99
DATE COMPLETED: 6/18/99

PROJECT NAME: GUILFORD
SITE NAME: BR-56
STATION: 40+118.50
GROUND EL.: 172.048

PROJECT NUMBER: BRO 1442 (24)
SITE NO.: TH-13
OFFSET: -6.50
G.W. DEPTH:

BORING CREW
CREW CHIEF: CHABOT
DRILLER: YOUNG
LOGGER: HOLT
ADDITIONAL CREW:

BORING RIG: TRACTOR
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

BOTTOM OF FOOTING ABUT. NO. 1 EL. 169.6

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		A-4, SaSi, gry, Moist, Rec. = 0.21m	R	10.2	17.9	35.8	46.3		
		BXDC, 2.49m-3.16m, No Rec. (Apparently silty-hardpan and stones.) Advanced casing to 3.86m							
		Top of bedrock @ 3.86 m							
		Run #1: BXMDC, 3.86m-4.58m, Rec. = 0.61m, See Geologist's Report.	RUN 1	REC% 85	RQD% 14	Dip° 50			
5		Run #2: BXMDC, 4.58m-5.72m, Rec. = 0.66m, See Geologist's Report.	2	58	17	60			
		Run #3: BXMDC, 5.72m-7.10m, Rec. = 1.32m, See Geologist's Report.	3	96	70	60			
		Hole stopped @ 7.10m							
10									

Note:

4.58m-5.72m: Many 0.05m to 0.08m layers of very soft rock. Some of which were ground up and washed out while coring.

Material from surface to 0.75m below surface appeared to be a soft SaSi then changed to a dense gray material.

GEOLOGISTS REPORT:

RUN#1: Gray Interbedded Impure Limestone and Schist. Moderately Hard. Moderately Weathered. Poor Competency.

RUN#2: Same as Run #1. Poor Competency.

RUN#3: Same as Run #1. But Unweathered and Competent.

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH DIVISION
SUBSURFACE INFORMATION

HOLE NO.: B-2
SHEET 1 OF 1
DATE STARTED: 6/17/99
DATE COMPLETED: 6/17/99

PROJECT NAME: GUILFORD
SITE NAME: BR-56
STATION: 40+128.50
GROUND EL.: 172.447

PROJECT NUMBER: BRO 1442 (24)
SITE NO.: TH-13
OFFSET: 6.50
G.W. DEPTH:

BORING CREW
CREW CHIEF: CHABOT
DRILLER: YOUNG
LOGGER: MCGLYNN
ADDITIONAL CREW:

BORING RIG: TRACTOR
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

BOTTOM OF FOOTING ABUT. NO. 2 EL. 169.6

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		A-2-4, SaSiGr HP, gry, Dry, Rec. = 0.18m	R	9.4	44.5	25.3	30.2		
		Top of bedrock @ 2.77 m							
		Run #1: BXMDC, 2.77m-3.74m, Rec. = 0.65m, See Geologist's Report.	RUN 1	REC% 67	RQD% 41	Dip° 60			
		Run #2: BXMDC, 3.74m-5.24m, Rec. = 1.48m, See Geologist's Report.	2	97	80	60			
5		Run #3: BXMDC, 5.24m-6.27m, Rec. = 0.96m, See Geologist's Report.	3	96	80	60			
		Hole stopped @ 6.27m							
10									

Note: Material from surface to 0.75m below surface appeared to be a soft SaSi then changed to a dense gray material.

GEOLOGISTS REPORT:

RUN#1: Gray Interbedded Impure Limestone and Schist. Moderately Hard. Unweathered. Fair Competency.

RUN#2: Same as Run #1. Competent.

RUN#3: Same as Run #1. Competent.

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING NUMBER: B-3
SHEET 1 of 1
DATE STARTED: 10/19/04
DATE COMPLETED: 10/19/04

PROJECT NAME: GUILFORD
SITE NAME: BR-56
STATION: 40+118.50
OFFSET: 6.50

PROJECT NUMBER: BRO 1442(24)
SITE NUMBER: TH-13
GROUND ELEVATION: 172.27 m
GROUNDWATER DEPTH:

BORING CREW
CREW CHIEF: HOLT
DRILLER: HOLT
LOGGER: GARROW

BORING RIG: LAG TRACK RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: DLG

BOTTOM OF FOOTING ABUT. NO. 1 EL. 169.6

DEPTH (m)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 300mm RUN	M.C. (%) REC (%)	GRAVEL (%) RQD (%)	SAND (%) Dip (deg)	FINES (%) Drill Rate (min/0.3m)
		A-2-4, Sa, brn, Moist, Rec. = 0.33 m	2	31.7	1.8	86.9	11.3
1		A-2-4, GrSiSa HP, gry, Moist, Rec. = 0.47 m	39	10.0	23.4	44.5	32.1
2		A-4, GrSaSi HP, gry, Moist, Rec. = 0.44 m	51	10.4	29.6	33.7	36.7
		Top of Bedrock @ 2.75 m					
3		Light gray, Micaceous and Feldspathic Schist, Competent, Moderately hard, Unweathered, BXMDC, 2.75 m - 3.57 m, Rec. = 0.75 m	1	91	48	55	
4		Light gray, Micaceous and Feldspathic Schist, Competent, Moderately hard, Unweathered, BXMDC, 3.57 m - 5.07 m, Rec. = 1.40 m	2	93	79	55	
5		Hole stopped @ 5.07 m					
6		DRILLER'S NOTES: Station and offset were obtained from topographic features. Unable to obtain ground water elevations.					
7							
8							
9							
10							
11							
12							
13							
14							

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING NUMBER: B-4
SHEET 1 of 1
DATE STARTED: 10/20/04
DATE COMPLETED: 10/21/04

PROJECT NAME: GUILFORD
SITE NAME: BR-56
STATION: 40+128.50
OFFSET: -6.50

PROJECT NUMBER: BRO 1442(24)
SITE NUMBER: TH-13
GROUND ELEVATION: 172.24 m
GROUNDWATER DEPTH:

BORING CREW
CREW CHIEF: HOLT
DRILLER: HOLT
LOGGER: GARROW

BORING RIG: LAG TRACK RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: DLG

BOTTOM OF FOOTING ABUT. NO. 2 EL. 169.6

DEPTH (m)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 300mm RUN	M.C. (%) REC (%)	GRAVEL (%) RQD (%)	SAND (%) Dip (deg)	FINES (%) Drill Rate (min/0.3m)
		A-1-b, GrSa, Dk/brn, Moist, Rec. = 0.35 m	5	23.9	36.3	49.5	14.2
1		A-1-b, SiSaGr HP, gry, Moist, Rec. = 0.41 m	51	7.2	55.1	22.5	22.4
2		A-4, GrSaSi HP, gry, Moist, Rec. = 0.42 m	46	11.0	20.2	36.7	43.1
3		A-4, GrSaSi HP, gry, Moist, Rec. = 0.60 m	80	10.4	30.8	31.9	37.3
4		A-4, SaSi HP, gry, Moist, Rec. = 0.29 m	R	10.1	18.2	35.9	45.9
		A-1-b, SaGr HP, gry, Moist		8.4	44.0	42.3	13.7
5		5.00 m - 5.41 m, Visual Class: Very Weathered Rock	R	19.1			
6		6.00 m - 6.09 m, Visual Class: Weathered Rock	R	9.1			
		Top of Bedrock @ 6.64 m					
7		Light gray, Micaceous and Feldspathic Schist, with closely spaced jointing, Not competent, Moderately hard, Moderately weathered, BXMDC, 6.64 m - 7.71 m, Rec. = 0.54 m	1	50	0	70	
8		Light gray, Micaceous and Feldspathic Schist, with closely spaced jointing, Not competent, Moderately hard, Moderately weathered, BXMDC, 7.71 m - 8.83 m, Rec. = 0.35 m	2	31	0	70	
9		Hole stopped @ 8.83 m					
10		DRILLER'S NOTES: Station and offset were obtained from topographic features. Unable to obtain ground water elevations.					
11							
12							
13							
14							

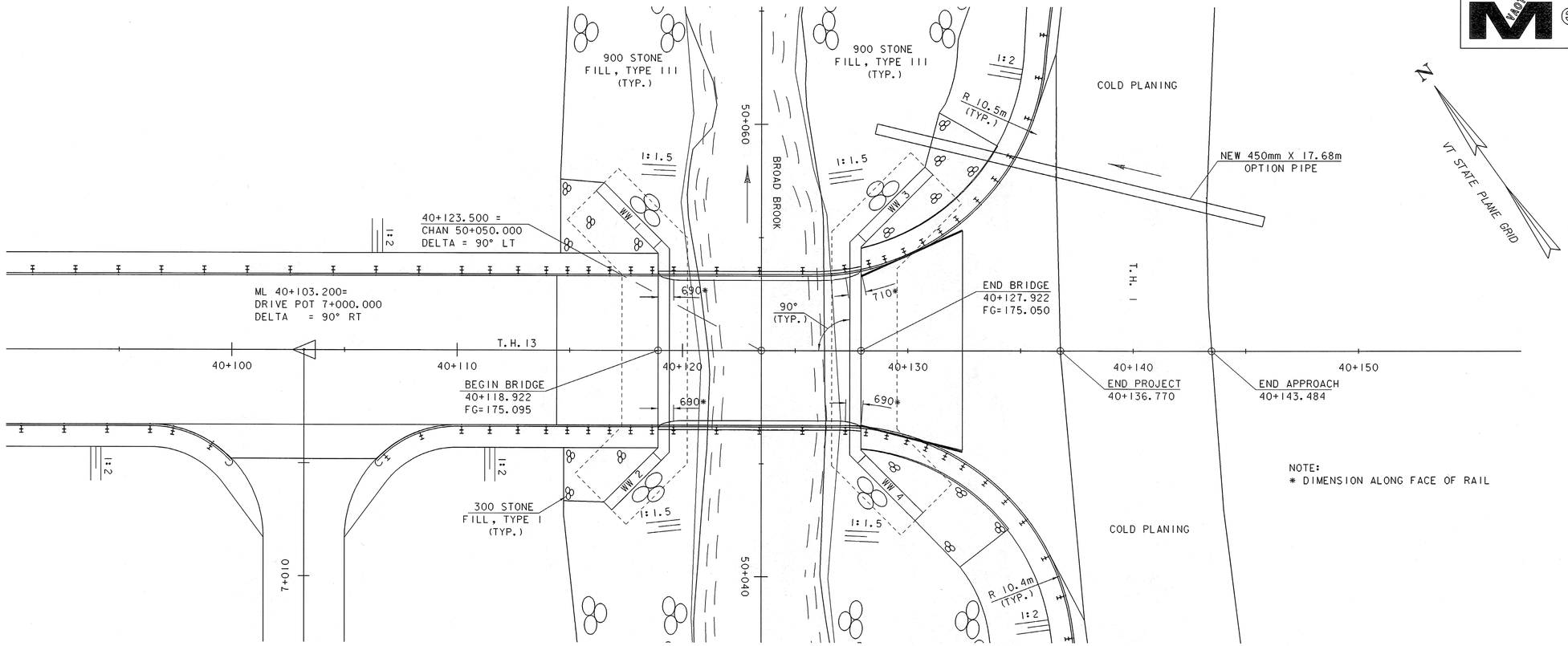
GEOTECHNICAL LOGS

PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442(24)

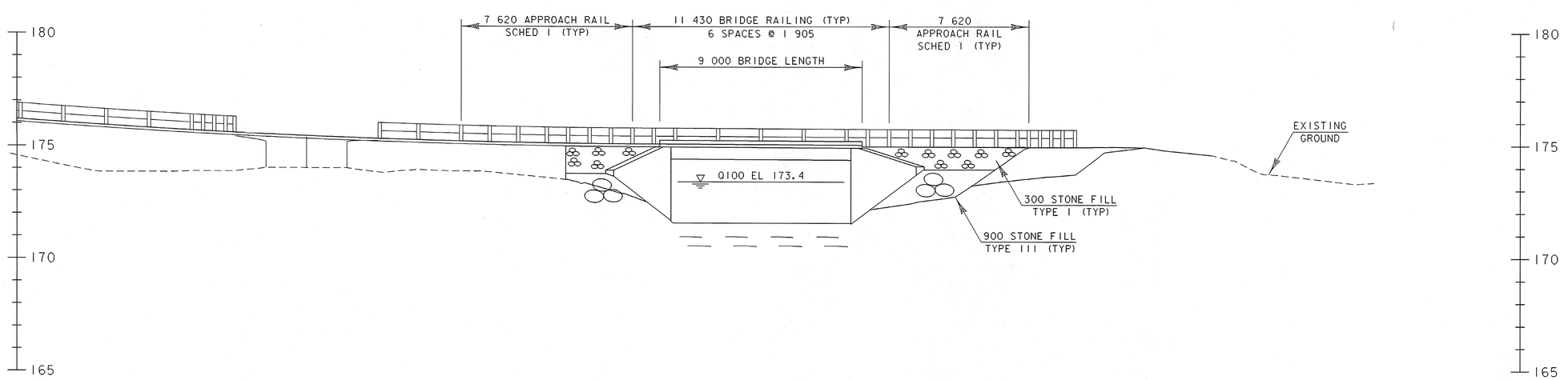
FILE NAME: sj076b02.i
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: T. LACKEY
94J076\Structures\sj076bor.dgn

PLOT DATE: 15-APR-2008
DRAWN BY: T. LACKEY
CHECKED BY: J. PERRIGO
SHEET 22 OF 59

VAOT Metric



PLAN



ELEVATION

0 5 10

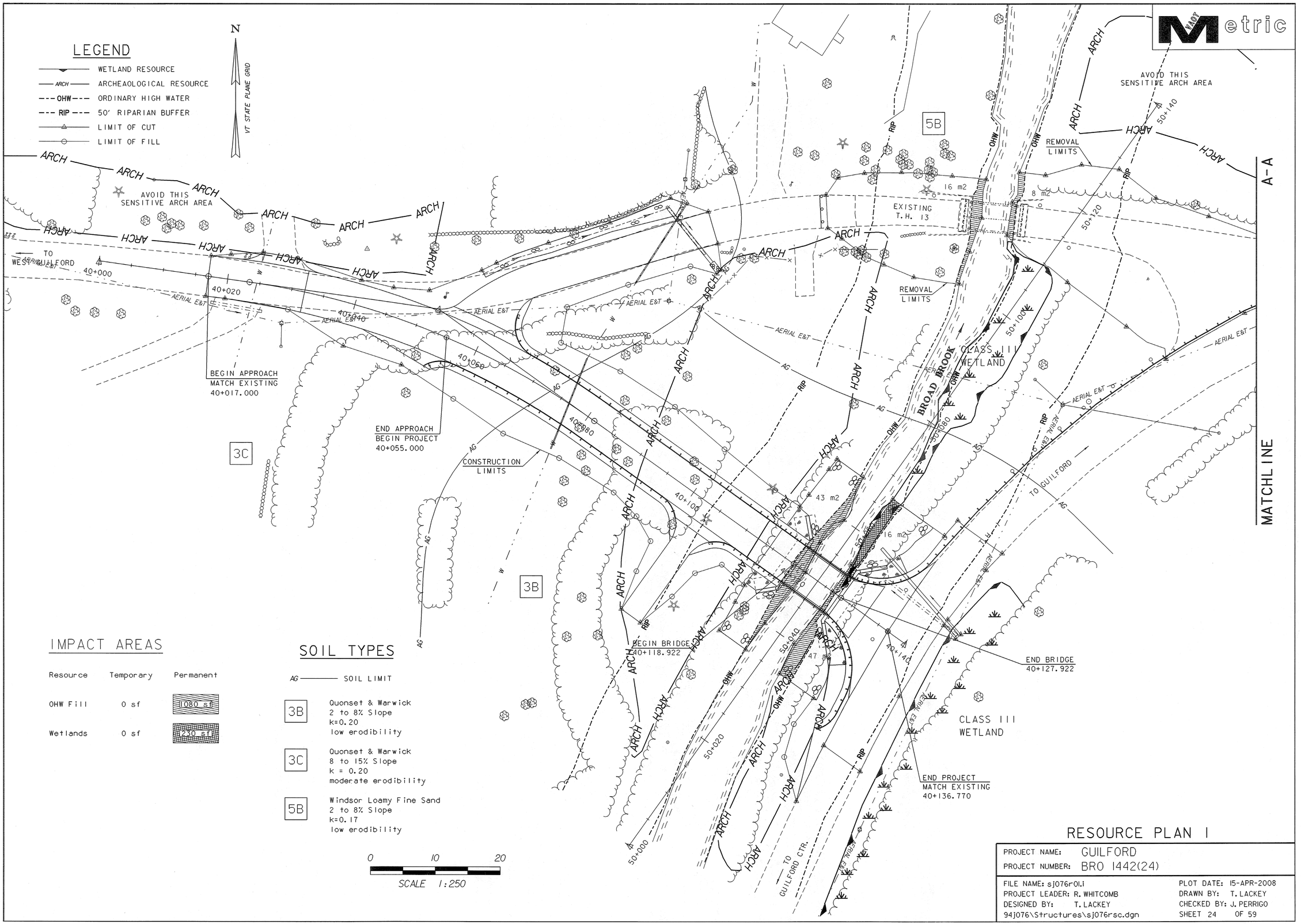
SCALE = 1:100

PLAN AND ELEVATION

PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442(24)

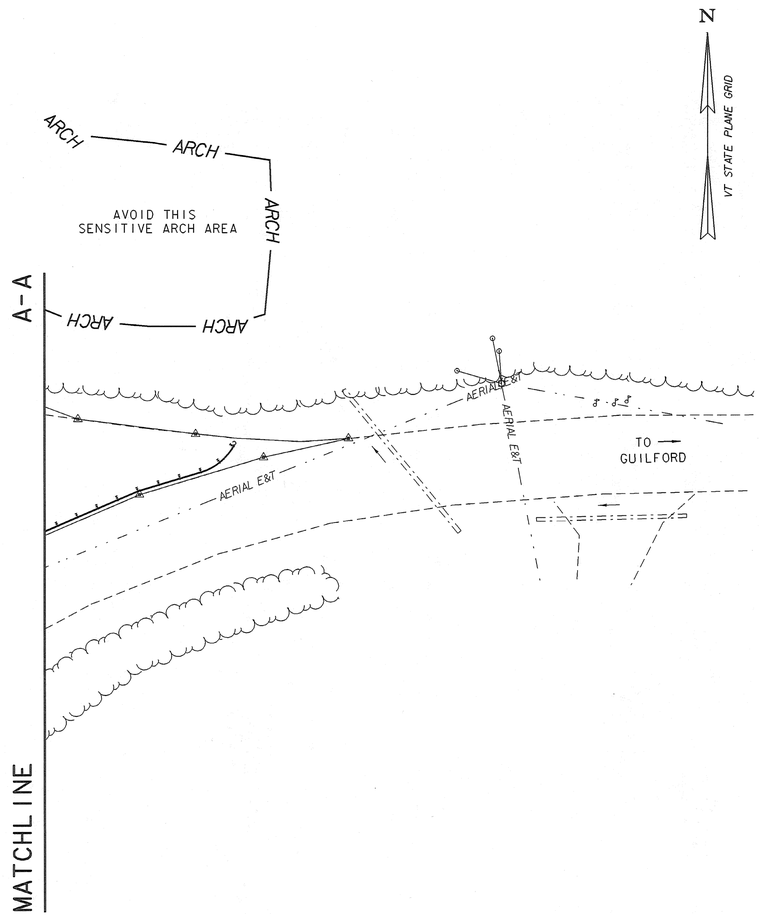
FILE NAME: sj076pe.i
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: T. LACKEY
94J076\Structures\sj076pe.dgn

PLOT DATE: 01-MAY-2008
DRAWN BY: T. LACKEY
CHECKED BY: J. PERRIGO
SHEET 23 OF 59



RESOURCE PLAN I

PROJECT NAME:	GUILFORD
PROJECT NUMBER:	BRO 1442(24)
FILE NAME: sj076r01.i	PLOT DATE: 15-APR-2008
PROJECT LEADER: R. WHITCOMB	DRAWN BY: T. LACKEY
DESIGNED BY: T. LACKEY	CHECKED BY: J. PERRIGO
94j076\Structures\sj076rsc.dgn	SHEET 24 OF 59



0 10 20

SCALE 1:250

RESOURCE PLAN 2

PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442(24)

FILE NAME: sj076r02.i
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: T. LACKEY
94j076\Structures\sj076rsc.dgn

PLOT DATE: 15-APR-2008
DRAWN BY: T. LACKEY
CHECKED BY: J. PERRIGO
SHEET 25 OF 59

1. NARRATIVE

1.1. Project Description.

1.1.1. Guilford BRO 1442(24)S will replace Bridge 56 on Town Highway 13 over the Broad Brook in the Town of Guilford on new alignment. The new alignment will shift the bridge 60 m upstream. It will shift the nearby intersection with TH 1 south 75 m. The new bridge will be a two lane, single span, concrete slab bridge. The project will maintain traffic on the existing bridge during construction. Finally it will remove the existing bridge and approaches. Part of the existing western approach will become a driveway.

1.1.2. The total length of roadway work is 73 m.

1.1.3. The total disturbed area (excluding waste, borrow and staging areas) is approx. 0.34 ha (0.85 ac.).

1.1.4. This project will involve part of two construction seasons.

1.2. SITE INVENTORY & ANALYSIS

1.2.1. Off Site Drainage Characteristics (Up And Down Gradient). The land in the project area is rolling former farmland. It consists of old fields and pasture growing in with brush, softwood and hardwood trees. The soil is "very deep, gently to very steep and excessively drained. The soils formed in gravelly, sandy, and loamy glacial deposits on stream terraces."

1.2.2. Drainage, Waterways, Bodies of Water. The bridges cross Broad Brook. The brook is mostly straight, semi-alluvial, probably incised, and unbraided. The brook at the new bridge is 5 m wide at the bottom and 18 m wide at the top and 2 m deep from top to bottom. The watershed area is 1200 ha.

1.2.2.1. Ditch from TH 13 6+012 to 6+040 left and Culvert at Drive #1 Sta. 6+040.

1.2.2.2. Culvert at ML 40+140 left.

1.2.3. Topography, Existing Roads, Buildings, Utilities.

1.2.3.1. Topography. The project site is a rolling country road through a mixture of stone walls, maple trees, old fields and new woods.

1.2.3.2. Existing Roads TH 13 is a Class III dirt town highway.

1.2.3.3. Buildings. Two homes are near the project. One is within 35 m of the existing bridge.

1.2.3.4. Utilities. Power and Utility poles run along the mainline from 40+020 to 40+050 right and 40+050 to 40+140 left. A waterline runs under the mainline at 40+075 and drive at 6+035.

1.2.4. Vegetation.. The vegetation is old fields growing into brush, hardwoods and softwood. Construction will replace some brush and trees. Stone Fill capped with grubbing material will stabilize slopes steeper than 66%. Seed & Mulch will stabilize slopes flatter than 66%.

1.2.5. Soils. The Soil Conservation Service "Soil Survey of Windham County" identifies three soil types in the project site.

1.2.5.1. 3B Quonset/Warwick 2 to 8% slope. This soil is in the area of the new bridge. It is a combination of Quonset and Warwick Soils, which are similar in use and management. The soil profile is typically: 175 mm fine sandy loam over; 325 mm channery (fragments of sandstone, shale, slate, limestone, or schist), or gravelly loamy sand; over 1000 mm channery sand. Its erodibility rating is low (kw = 0.20). The slope suggests low erodibility.

1.2.5.2. 3C Quonset/Warwick 8 to 15% slope. This soil is in the west approach to the new bridge. The soil profile is the same as 3B. Its erodibility rating is low (kw = 0.20). The slope suggests medium erodibility. Sensitive Resource Areas.

1.2.5.3. 5B Windsor Loamy Fine Sane 2 to 8% slope. This soil is in the area of the old bridge. The soil profile is typically: 75 mm loamy fine sandy over; 275 mm loamy sand; over 1150 mm sand. Its erodibility rating is low (kw = 0.17). The slope suggests low erodibility.

1.2.6. Sensitive Resource Areas.

1.2.6.1. Riparian Buffer. A 50' Riparian Buffer borders the Brook. Minimize impacts within the Buffer. Restore disturbed areas to their previous conditions.

1.2.6.2. Wetlands. Class III Wetlands are on the east side of the Brook between the new and old bridges.

1.2.6.3. Critical Habitat. Trout are in the Broad Brook. Grubbing Material on the stream banks of the old and new bridge will propagate stream side trees and shrubs and restore fish habitat.

1.2.6.4. Archaeological Sites. Open Area beside TH 13 at ML 39+990 to 40+050 Left. Woods northeast of the Existing Bridge at the existing intersection of TH 1 & TH 13. These areas are outside of the project limits and protected by the Barrier Fence.

1.2.6.5. Non-Sensitive Resources

1.2.6.5.1. Threatened & Endangered Species.

1.2.6.5.2. Historic Features

1.2.6.5.3. Prime Agricultural Land

1.3. RISK EVALUATION

1.3.1. The project area is less than 1 acre. Therefore the project does not fall under the jurisdiction of Construction General Permit 3-9020.

1.3.2. Should changes prior to or during construction result in one or more acres of earth disturbance or should the project become part of a larger plan of development then the selected contractor will be responsible for additional permitting with VANR via filing of the appropriate Notice Of Intent under the Construction General Permit process.

1.4. EROSION PREVENTION & SEDIMENT CONTROL

1.4.1. Mark Site Boundaries

1.4.1.1. PROJECT DEMARCATION FENCING will delineate the construction area for construction equipment. This measure limits the area that can be disturbed and exposed to erosion.

1.4.2. Limit Disturbance Area

1.4.2.1. PROJECT DEMARCATION FENCING will delineate the construction area for construction equipment. This measure limits the area that can be disturbed and exposed to erosion.

1.4.3. Stabilize Construction Entrance

1.4.3.1. VEHICLE TRACKING PAD will control tracking of sediment transport on to public roads. The entrance is a stabilized pad of crushed stone located wherever construction vehicles leave construction areas. The sites include: the project site; staging areas; and waste and borrow areas. The minimum area is 3700 x 15 000 mm (12' x 50'). Pipe all surface water flowing to or diverted towards a construction entrance under the stone. Size pipes for their watersheds. The minimum pipe diameter is 150 mm.

1.4.4. Install Silt Fence

1.4.4.1. SILT FENCE placed level on slopes will control sheet flow sediment transport. Place level silt fence 1500 to 3000 mm (5'-10') from the toe of slopes. Turn the ends of silt fence slightly uphill to stop concentrated water from flowing around the ends. The maximum slope length between separate runs of silt fence is 30 m (100'). Place silt fence before beginning upslope earthwork.

1.4.5. Divert Upland Runoff

1.4.5.1. Not Applicable

1.4.6. Slow Down Channelized Runoff

1.4.6.1. STONE CHECK DAMS placed in ditches will reduce flow velocities and prevent erosion. Place dams in ditches so that the elevation of the top of a check dam is level with the toe of the next upslope check dam. The check dams may be removed once the stone lining of the ditches is complete and the surrounding area stabilized.

1.4.6.2. FILTER CURTAIN placed around the abutments will control sediment disturbed in the water by excavation.

1.4.7. Construct Permanent Controls

1.4.7.1. Roadway Typical Section

1.4.7.1.1. BITUMINOUS CONCRETE PAVEMENT on the road surface will prevent erosion.

1.4.7.1.2. GRAVEL OR CRUSHED STONE SUBBASE on the shoulder will allow runoff to infiltrate and prevent erosion.

1.4.7.2. Channel Typical Section

1.4.7.3. STONE FILL, TYPE I at the ends of the wing walls will prevent erosion and control sediment transport.

1.4.7.4. STONE FILL, TYPE III around the abutments on slopes greater than 66% will prevent erosion and control sediment transport.

1.4.7.5. GEOTEXTILE UNDER STONE FILL will prevent erosion and control sediment transport.

1.4.8. Stabilize Exposed Soils

1.4.8.1. TRACKING & MULCHING will temporarily stabilize slopes. Use tracking for short term (two weeks) exposed slopes. Drive heavy equipment on the slopes to leave level tracks (small check dams) that will catch water flow. Stabilize slopes within 48 hours or sooner considering rain.

1.4.8.2. SEEDING & MULCHING will establish vegetation on side slopes less than 66% that will prevent erosion and control sediment transport. Add TEMPORARY EROSION MATTING (with 100% natural fibers) to slopes ranging from 33% to 66%.

1.4.8.2.1. ML 40+017 to 40+119 left and right

1.4.8.2.2. Drive 6+010 to 6+040 left and right

1.4.8.2.3. Channel 50+025 to 50+130 left and right

1.4.9. Winter Stabilization

1.4.9.1. The "Winter Construction" season occurs between October 15 and April 15, when erosion prevention and sediment control is significantly more difficult.

1.4.9.2. If Winter Construction is necessary, revise this plan according to the VANR "Low Risk Site Handbook".

1.4.10. Stabilize Soil at Final Grade

1.4.10.1. SEEDING & MULCHING will stabilize slopes ranging from 0% to 66%. Add TEMPORARY EROSION MATTING (with 100% natural fibers) to slopes ranging from 33% to 66%. Use seeding for long term exposed slopes. Grass takes 2 weeks to establish itself. Stabilize slopes within 48 hours or sooner considering rain.

1.4.10.2. STONE FILL, TYPE I in roadway ditches will prevent erosion and control sediment transport.

1.4.10.3. CULVERTS will convey concentrated flow under roads and prevent erosion.

1.4.10.4. STONE FILL, TYPE I at culvert outlets will dissipate water velocities and prevent erosion and control sediment transport.

1.4.11. Dewatering Activities

1.4.11.1.1. COFFERDAMS will prevent erosion and control sediment transport in the abutment excavation.

1.4.12. Inspect your Site

1.4.12.1. Inspect all control measures weekly and after each rainfall event. Repair measures promptly once damage is discovered.

1.4.12.2. Note any changes on the plans, in the weekly inspection report, and report them to the appropriate authority in a timely manner.

1.4.12.3. Check temporary measures (e.g. stone check dams, silt fence, and sand bags) regularly for accumulation of sediment. Remove sediment build-up when the level of sediment reaches one-half the height of the control measure. Dispose of sediments in an approved area where they will not be subject to erosion.

EPSC
NARRATIVE

PROJECT NAME:	GUILFORD
PROJECT NUMBER:	BRO 1442 (24)
FILE NAME: sj076e01.i	PLOT DATE: 15-APR-2008
PROJECT LEADER: R. WHITCOMB	DRAWN BY: T. LACKEY
DESIGNED BY: T. LACKEY	CHECKED BY: J. PERRIGO
94j076\str\sj076ero.dgn	SHEET 26 OF 59

LEGEND

- WETLAND RESOURCE
- ARCH — ARCHEAOLOGICAL RESOURCE
- OHW — ORDINARY HIGH WATER
- RIP — 50' RIPARIAN BUFFER
- RIGHT OF WAY
- P/L — PROPERTY LINE
- LIMIT OF CUT
- LIMIT OF FILL

N — VT STATE PLANE GRID

NOT Metric

Miner,
Shawn M. & Lynn M.

Ogden,
Ethan M. & Eileen L.

Covey/Rathbun et al.
Covey, Rena W. Life Estate

SENSITIVE ARCH AREA

EXISTING ROW

TO WEST GUILFORD

TO GUILFORD CTR.

BROAD BROOK

CLASS III WETLAND

LAWN

WOODS

FIELD

AERIAL E&T

SOIL TYPES

AG — SOIL LIMIT

3B — Quonset & Warwick
2 to 8% Slope
k=0.20
low erodibility

3C — Quonset & Warwick
8 to 15% Slope
k = 0.20
moderate erodibility

5B — Windsor Loamy Fine Sand
2 to 8% Slope
k=0.17
low erodibility

0 10 20
SCALE 1:250

DATUM
VERTICAL: NAVD 88
HORIZONTAL: NAD 83/92

EPSC
EXISTING SITE PLAN

PROJECT NAME:	GUILFORD
PROJECT NUMBER:	BRO 1442 (24)

FILE NAME: sj076e02.i	PLOT DATE: 15-APR-2008
PROJECT LEADER: R. WHITCOMB	DRAWN BY: T. LACKEY
DESIGNED BY: T. LACKEY	CHECKED BY: J. PERRIGO
94j076\str\sj076ero.dgn	SHEET 27 OF 59

LEGEND

- WETLAND RESOURCE
- ARCH — ARCHEAOLOGICAL RESOURCE
- OHW — ORDINARY HIGH WATER
- RIP — 50' RIPARIAN BUFFER
- RIGHT OF WAY
- P/L — PROPERTY LINE
- LIMIT OF CUT
- LIMIT OF FILL

N

VT STATE PLANE GRID

VAOT Metric

AVOID THIS SENSITIVE ARCH AREA

EXISTING ROW

TO WEST GUILFORD

BEGIN APPROACH MATCH EXISTING 40+017.000

END APPROACH BEGIN PROJECT 40+055.000

CONSTRUCTION LIMITS

DEWATERING AREA

BEGIN BRIDGE 40+118.922

END BRIDGE 40+127.922

BROAD BROOK CLASS III WETLAND

NEW ROW

EXISTING ROW

TO GUILFORD CTR.

CLASS III WETLAND

END PROJECT MATCH EXISTING 40+136.770

3B

3C

5B

LEGEND

- GEOTEXTILE FOR FILTER CURTAIN
- GEOTEXTILE FOR SILT FENCE
- WOVEN WIRE FENCE WITH WOOD POSTS
- TEMPORARY STONE CHECK DAM, TYPE I
- PDF — PROJECT DEMARCATION FENCE
- PDF — BARRIER FENCE
- SEED & MULCH
- TEMPORARY EROSION MATTING
- VEHICLE TRACKING PAD
- SURFACE ROUGHENING
- RIPRAP OUTLET PROTECTION

SOIL TYPES

AG — SOIL LIMIT

3B Quonset & Warwick
2 to 8% Slope
k=0.20
low erodibility

3C Quonset & Warwick
8 to 15% Slope
k = 0.20
moderate erodibility

5B Windsor Loamy Fine Sand
2 to 8% Slope
k=0.17
low erodibility

0 10 20

SCALE 1:250

DATUM
VERTICAL: NAVD 88
HORIZONTAL: NAD 83/92

EPSC CONSTRUCTION SITE PLAN

PROJECT NAME:	GUILFORD
PROJECT NUMBER:	BRO 1442 (24)
FILE NAME: sj076e03.i	PLOT DATE: 15-APR-2008
PROJECT LEADER: R. WHITCOMB	DRAWN BY: T. LACKEY
DESIGNED BY: T. LACKEY	CHECKED BY: J. PERRIGO
94j076\str\sj076ero.dgn	SHEET 28 OF 59

LEGEND

SHRUB & SAPLING TREE BED

SOIL TYPES

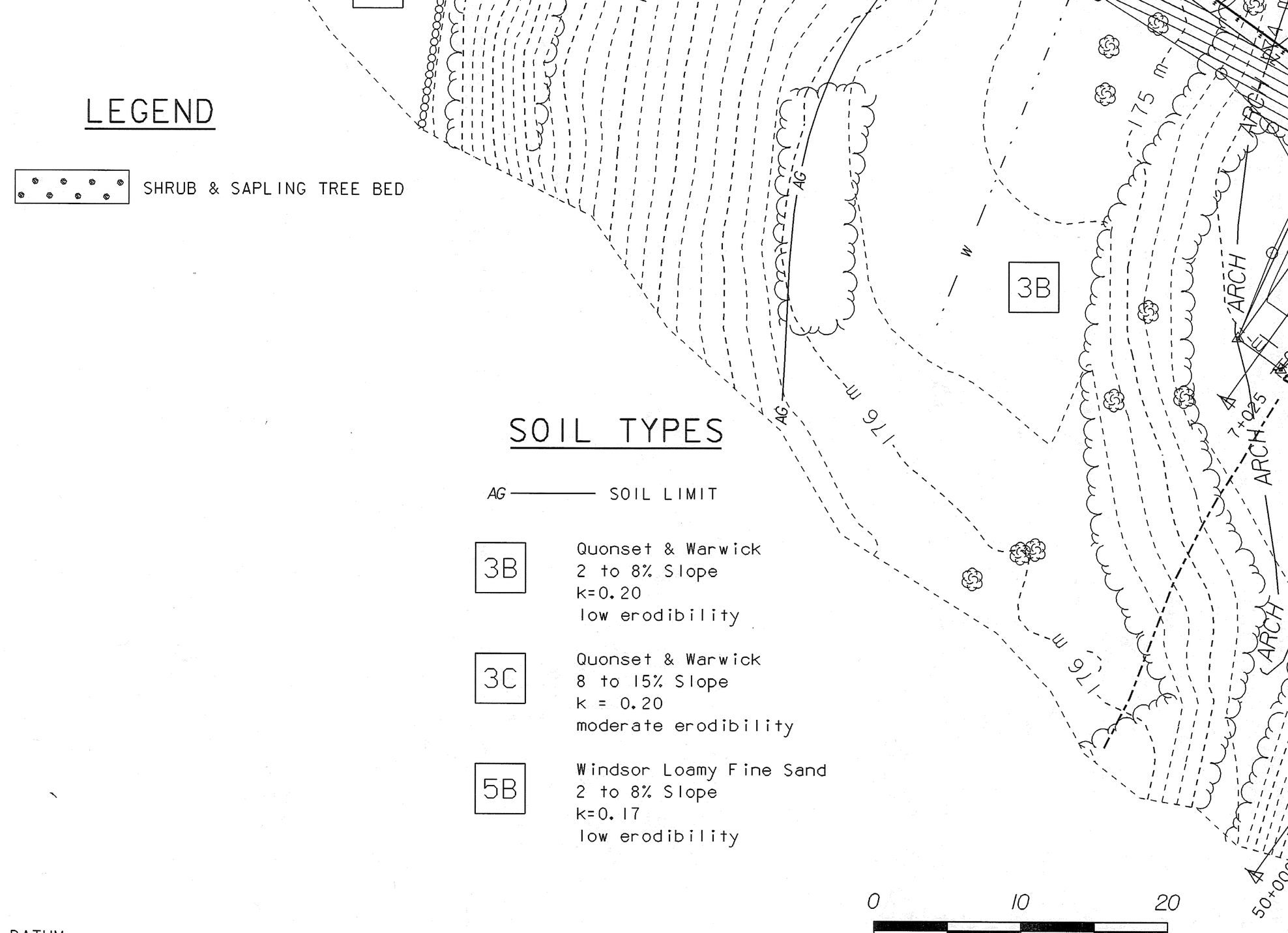
AG ——— SOIL LIMIT

3B — Quonset & Warwick
2 to 8% Slope
k=0.20
low erodibility

3C — Quonset & Warwick
8 to 15% Slope
k = 0.20
moderate erodibility

5B — Windsor Loamy Fine Sand
2 to 8% Slope
k=0.17
low erodibility

DATUM
VERTICAL: NAVD 88
HORIZONTAL: NAD 83/92



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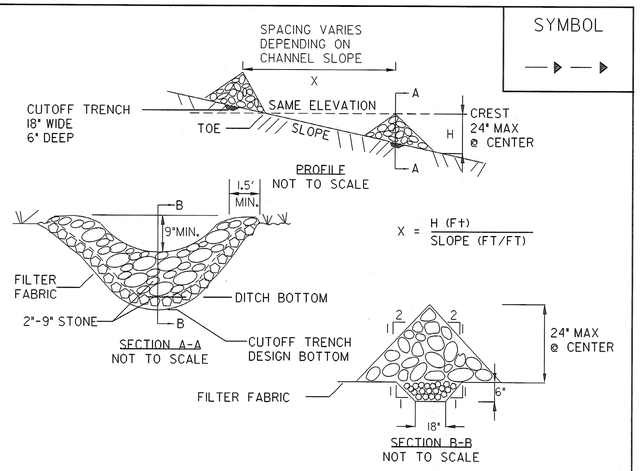


CONSTRUCTION SPECIFICATIONS

1. STONE WILL BE PLACED ON A FILTER FABRIC FOUNDATION.
2. SET SPACING OF CHECK DAMS SO THAT THE ELEVATION OF THE CREST OF THE DOWNSTREAM DAM IS AT THE SAME ELEVATION AS THE TOE OF THE UPSTREAM DAM.
3. EXTEND THE STONE A MINIMUM OF 1.5 FEET BEYOND THE DITCH BANKS TO PREVENT CUTTING AROUND THE DAM.
4. PROTECT THE CHANNEL DOWNSTREAM OF THE LOWEST CHECK DAM FROM SCOUR AND EROSION WITH STONE OR LINER AS APPROPRIATE.
5. ENSURE THAT CHANNEL APPURTENANCES SUCH AS CULVERT ENTRANCES BELOW CHECK DAMS ARE NOT SUBJECT TO DAMAGE OR BLOCKAGE FROM DISPLACED STONE.

MAXIMUM DRAINAGE AREA 2 ACRES.

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DECORIGINALLY DEVELOPED BY USDA-NRCSVERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

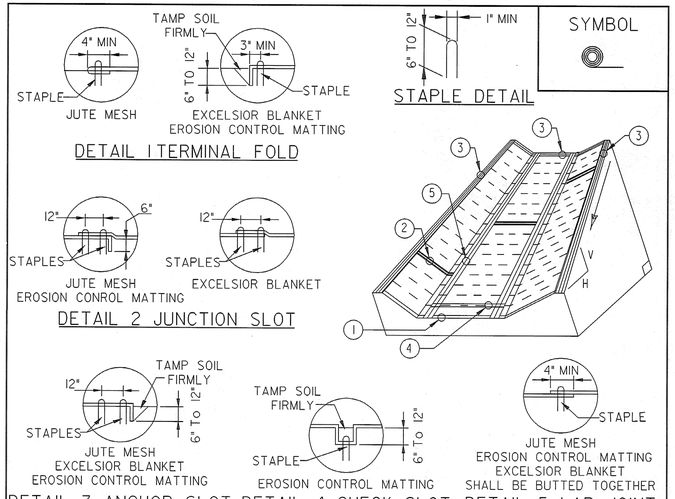
CHECK DAM

NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- " FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

THIS ITEM SHALL BE PAID FOR UNDER ITEM
653.25 TEMPORARY STONE CHECK DAM, TYPE I

REVISIONS	
MARCH 8, 2007	JMF

SYMBOL



CONSTRUCTION SPECIFICATIONS

1. EROSION MATTING, CHECK SLOTS, SHALL BE SPACED IN DITCH CHANNEL SO THAT ONE OCCURS WITHIN EACH 50' ON SLOPES OF MORE THAN 4% AND LESS THAN 6%. ON SLOPES OF 6% OR MORE, THEY SHALL BE SPACED SO THAT ONE OCCURS WITHIN EACH 25'.
2. APPLY FERTILIZER, LIME SEED PRIOR TO PLACING MATTING.
3. STAPLES ARE TO BE PLACED ALTERNATELY, IN COLUMNS APPROXIMATELY 2' APART AND IN ROWS APPROXIMATELY 3' APART. APPROXIMATELY 175 STAPLES ARE REQUIRED PER 4'X225' ROLL OF MATERIAL AND 125 STAPLES ARE REQUIRED PER 4'X150' ROLL OF MATERIAL.
4. DISTURBED AREAS SHALL BE SMOOTHLY GRADED. EROSION CONTROL MATERIAL SHALL BE PLACED LOOSELY OVER GROUND SURFACE. DO NOT STRETCH.
5. ALL TERMINAL ENDS AND TRANSVERSE LAPS SHALL BE STAPLED AT APPROXIMATELY 12" INTERVALS.

ADAPTED FROM DETAILS PROVIDED BY: ILLINOIS USDA-NRCS
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

ROLLED EROSION CONTROL PRODUCT (RECP) DITCH

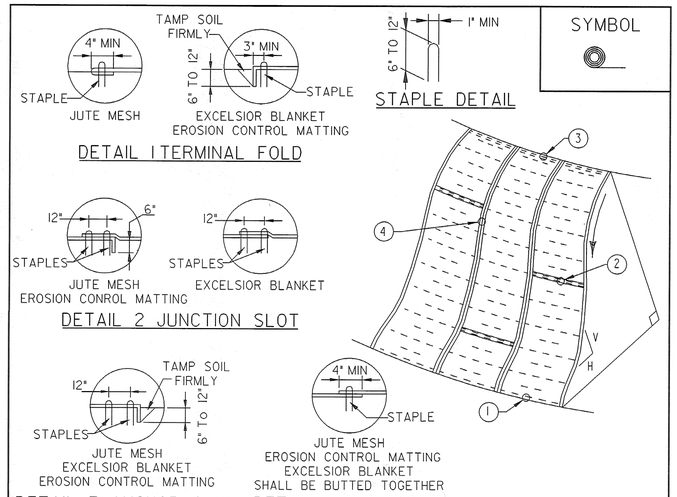
NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- " FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

THIS ITEM SHALL BE PAID FOR UNDER ITEM
653.20 TEMPORARY EROSION MATTING

USE ONLY 100% NATURAL FIBER MATTING.

REVISIONS	
MARCH 8, 2007	JMF
APRIL 16, 2007	WHF

SYMBOL



CONSTRUCTION SPECIFICATIONS

1. APPLY TO SLOPES GREATER THAN 3H:1V OR WHERE NECESSARY TO AID IN ESTABLISHING VEGETATION.
2. APPLY FERTILIZER, LIME AND SEED PRIOR TO PLACING MATTING.
3. STAPLES ARE TO BE PLACED ALTERNATELY, IN COLUMNS APPROXIMATELY 2' APART AND IN ROWS APPROXIMATELY 3' APART. APPROXIMATELY 175 STAPLES ARE REQUIRED PER 4'X225' ROLL OF MATERIAL AND 125 STAPLES ARE REQUIRED PER 4'X150' ROLL OF MATERIAL.
4. DISTURBED AREAS SHALL BE SMOOTHLY GRADED. EROSION CONTROL MATERIAL SHALL BE PLACED LOOSELY OVER GROUND SURFACE. DO NOT STRETCH.
5. ALL TERMINAL ENDS AND TRANSVERSE LAPS SHALL BE STAPLED AT APPROXIMATELY 12" INTERVALS.

ADAPTED FROM DETAILS PROVIDED BY: ILLINOIS USDA-NRCS
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

ROLLED EROSION CONTROL PRODUCT (RECP) SIDE SLOPE

NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- " FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

THIS ITEM SHALL BE PAID FOR UNDER ITEM
653.20 TEMPORARY EROSION MATTING

USE ONLY 100% NATURAL FIBER MATTING.

NEW	
APRIL 16, 2007	WHF
REVISIONS	

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	BIRDSFOOT TREFOIL	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.

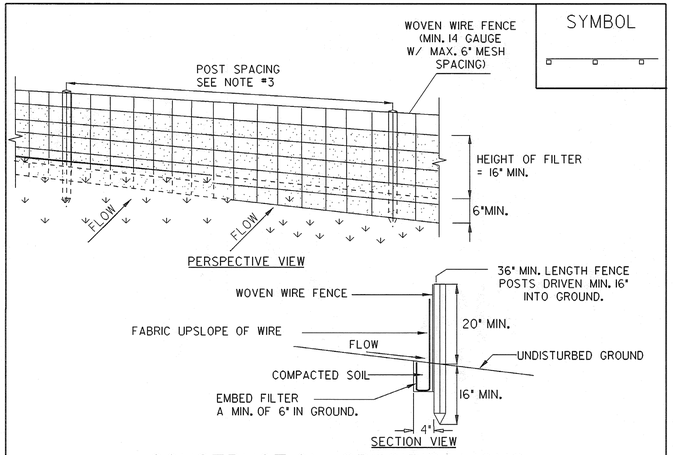
EPSC
DETAILS I

PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442 (24)

FILE NAME: sj076e05.i
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: T. LACKEY
94J076\str\sj076ero.dgn

PLOT DATE: 15-APR-2008
DRAWN BY: T. LACKEY
CHECKED BY: J. PERRIGO
SHEET 30 OF 59

SYMBOL



CONSTRUCTION SPECIFICATIONS

1. WOVEN WIRE FENCE REINFORCEMENT IS ONLY REQUIRED WITHIN 100 FT UPSLOPE OF RECEIVING WATERS.

2. WHERE REQUIRED FENCE SHALL BE WOVEN WIRE, MIN. 14 GAUGE WITH A 6" MAXIMUM MESH OPENING. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI100X, STABILINKA T140N OR APPROVED EQUIVALENT.

3. POST SPACING FOR WIRE-BACKED FENCE SHALL BE 10' MAXIMUM. FOR FILTER-CLOTH FENCE, WHEN ELONGATION IS >50%, POST SPACING SHALL NOT EXCEED 4'. FOR FILTER-CLOTH FENCE, WHEN ELONGATION IS <50%, POST SPACING SHALL NOT EXCEED 6'.

4. WOVEN WIRE FENCE IS TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES. FILTER CLOTH IS TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.

5. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY SIX INCHES AND FOLDED.

6. PREFABRICATED UNITS SHALL BE GEOFAB, ENVIROFENCE, OR APPROVED EQUIVALENT.

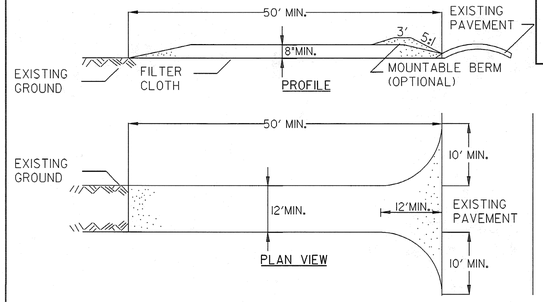
7. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN SEDIMENT REACHES HALF OF FABRIC HEIGHT.

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC ORIGINALLY DEVELOPED BY USDA-NRCS VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION	SILT FENCE

NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- " FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

THIS ITEM SHALL BE PAID FOR UNDER ITEM
STANDARD SPECIFICIATION 649.51 GEOTEXTILE FOR SILT FENCE

SYMBOL



CONSTRUCTION SPECIFICATIONS

1. STONE SIZE - USE 1-4" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH - NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH APPLIES).
3. THICKNESS - NOT LESS THAN EIGHT (8) INCHES.
4. WIDTH - TWELVE (12) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. TWENTY-FOUR (24) FOOT IF SINGLE ENTRANCE TO SITE.
5. GEOTEXTILE MUST BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING STONE.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. 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.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED ACCORDING TO PERMIT REQUIREMENTS.

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC ORIGINALLY DEVELOPED BY USDA-NRCS VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION	STABILIZED CONSTRUCTION ENTRANCE

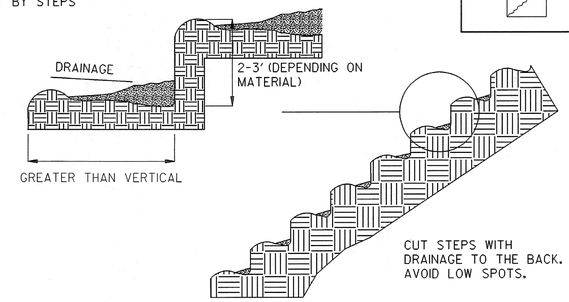
NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- " FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

THIS ITEM SHALL BE PAID FOR UNDER ITEM
653.35 VEHICLE TRACKING PAD

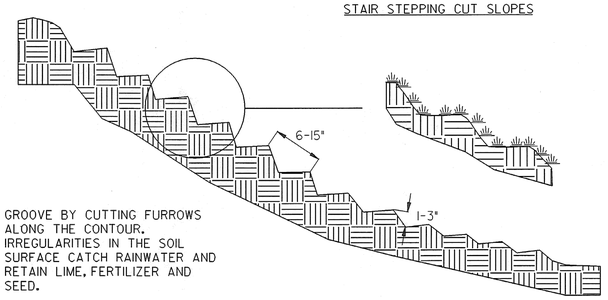
REVISIONS	
FEBRUARY 9, 2007	WHF
MARCH 8, 2007	JMF

SYMBOL

DEBRIS FROM SLOPE ABOVE IS CAUGHT BY STEPS



STAIR STEPPING CUT SLOPES



GROOVE BY CUTTING FURROWS ALONG THE CONTOUR. IRREGULARITIES IN THE SOIL SURFACE CATCH RAINWATER AND RETAIN LIME, FERTILIZER AND SEED.

GROOVING SLOPES

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC ORIGINALLY DEVELOPED BY USDA-NRCS VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION	SURFACE ROUGHENING DETAILS

NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- " FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

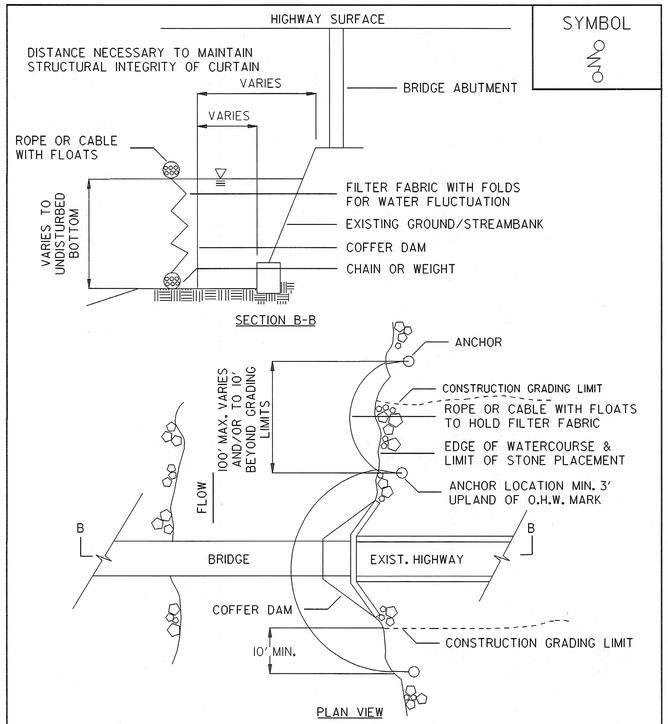
THIS ITEM SHALL BE CONSIDERED INCIDENTAL TO THE MATERIAL ITEM SPECIFIED

NOTE: DETAILS NOT TO SCALE

EPSC DETAILS 2

PROJECT NAME:	GUILFORD
PROJECT NUMBER:	BRO 1442 (24)

FILE NAME: sj076e06.i	PLOT DATE: 15-APR-2008
PROJECT LEADER: R. WHITCOMB	DRAWN BY: T. LACKEY
DESIGNED BY: T. LACKEY	CHECKED BY: J. PERRIGO
94j076\str\sj076ero.dgn	SHEET 31 OF 59

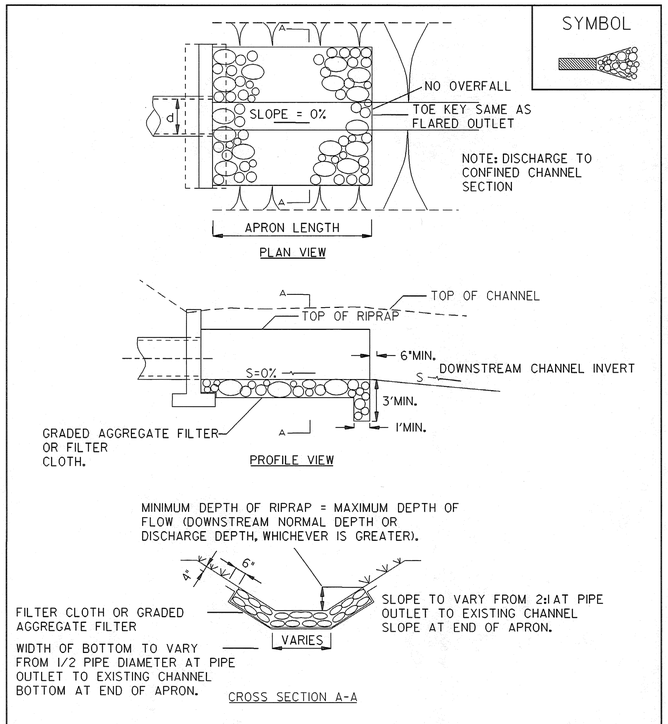


SYMBOL

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC ORIGINALLY DEVELOPED BY USDA-NRCS VERMONT AGENCY OF TRANSPORTATION	TURBIDITY CURTAIN

NOTES:

THIS ITEM SHALL BE PAID FOR UNDER ITEM 649.61 GEOTEXTILE FOR FILTER CURTAIN



SYMBOL

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC ORIGINALLY DEVELOPED BY USDA-NRCS VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION	RIPRAP OUTLET PROTECTION EXAMPLE

NOTES:

REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- " FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

THIS ITEM SHALL BE PAID FOR UNDER ITEM 613.10 STONE FILL TYPE I

EPSC DETAILS 3

PROJECT NAME:	GUILFORD
PROJECT NUMBER:	BRO 1442 (24)

FILE NAME: sj076e07.i	PLOT DATE: 16-APR-2008
PROJECT LEADER: R. WHITCOMB	DRAWN BY: T. LACKEY
DESIGNED BY: T. LACKEY	CHECKED BY: J. PERRIGO
94J076\str\sj076ero.dgn	SHEET 32 OF 59

Metric

PLANT AND TREE LIST

QUANTITY	UNIT	KEY	BOTANICAL NAME	COMMON NAME	SIZE	MIN. SPACING	REMARKS	ITEM #
			DECIDUOUS TREES					
16	EA	FAP	FRAXINUS PENNSYLVANICA	GREEN ASH	1200 TO 1500 MIN HGT	2000 OC	8 L. CONTAINER	656.30
8	EA	PV	PRUNUS VIRGINIANA	CHOKE CHERRY	1200 TO 1500 MIN HGT	2000 OC	8 L. CONTAINER	656.30
			DECIDUOUS SHRUBS					
45	EA	AM	ARONIA MELANOCARPA	BLACK CHOKEBERRY	500 MIN HGT	900 OC	4 L. CONTAINER	656.35
90	EA	SP	SALIX PURPUREA	STREAMCO WILLOW	500 MIN HGT	900 OC	4 L. CONTAINER	656.35

NOTES

1. SEE STATE OF VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, SECTION 656 "PLANTING TREES, SHRUBS, AND VINES."

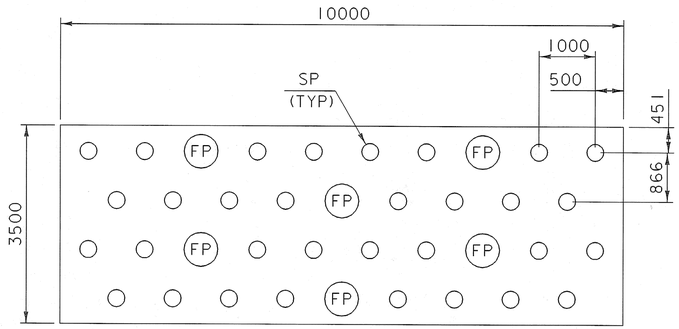
2. APPLY MYCORRHIZAL FUNGI PRODUCT AS PER MANUFACTURER'S RECOMMENDATIONS.

3. UNIT BED PLANS ARE PROVIDED FOR WET AND DRY SOIL. THE ENGINEER WILL DETERMINE THE FINAL LAYOUT OF BEDS AND PLANTS BASED ON THE UNIT BED PLANS.

4. STAKE AND LAY OUT BED SHAPES TO GIVE A NATURAL APPEARANCE.

PLANT LIST

QTY	KEY	COMMON NAME	BOTANICAL NAME
6	FP	GREEN ASH	FRAXINUS PENNSYLVANICA
32	SP	STREAMCO WILLOW	SALIX PURPUREA



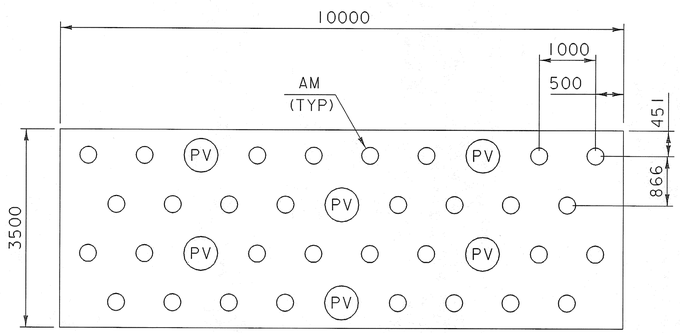
STA 50+098 LT TO 50+114 LT (16 000 X 3 500) 1.60 BEDS

STA 50+109 LT TO 50+122 LT (12 200 X 3 500) 1.22 BEDS

UNIT BED PLAN
OF SHRUB & SAPLING TREE
FOR WET SOIL

PLANT LIST

QTY	KEY	COMMON NAME	BOTANICAL NAME
6	PV	CHOKE CHERRY	PRUNUS VIRGINIANA
32	AM	BLACK CHOKEBERRY	ARONIA MELANOCARPA



STA 50+110 RT TO 50+124 LT (14 100 X 3 500) 1.41 BEDS

UNIT BED PLAN
OF SHRUB & SAPLING TREE
FOR DRY SOIL

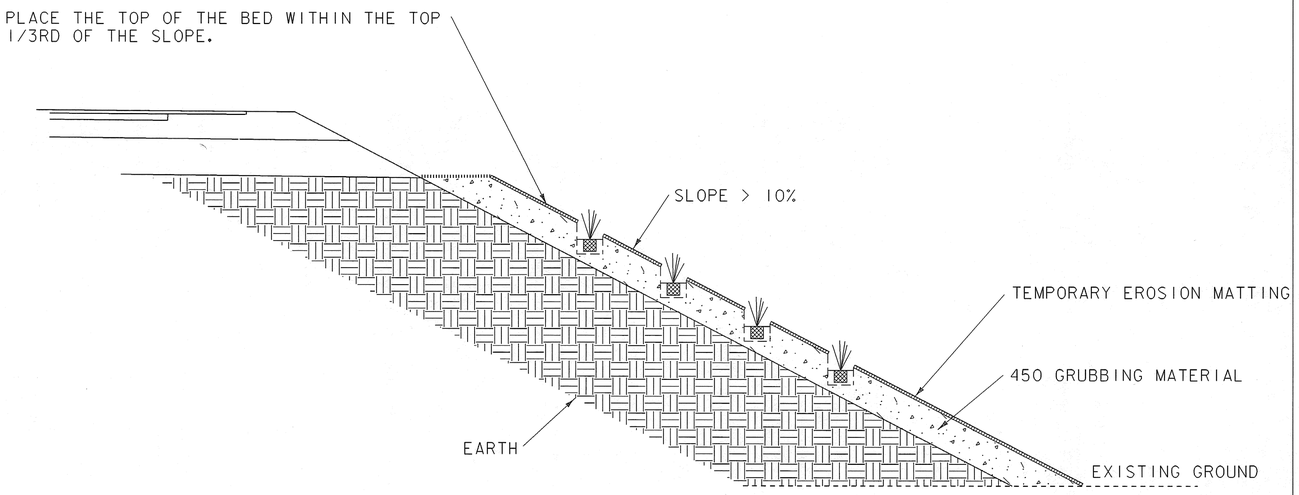
0 20 40
SCALE 1:200

EPSC
LANDSCAPE DETAILS 1

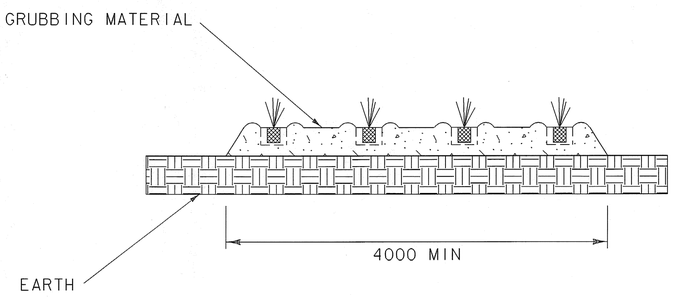
PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442 (24)

FILE NAME: sj076e08.i
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: T. LACKEY
94J076\str\sj076er0.dgn

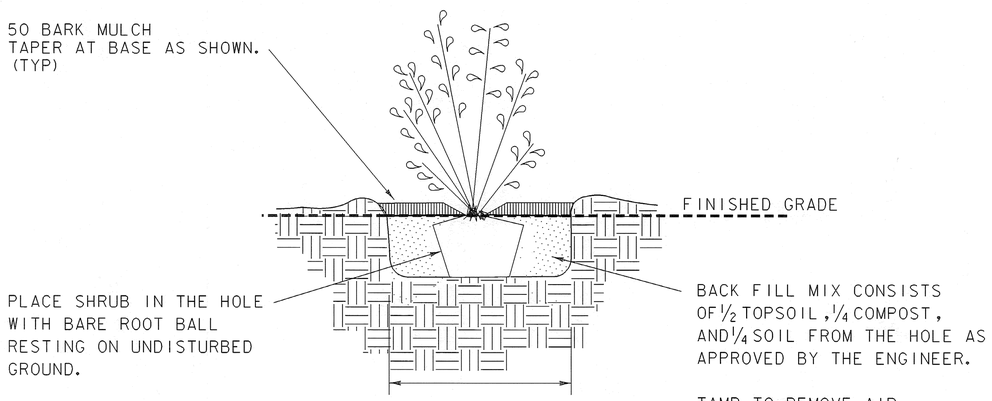
PLOT DATE: 15-APR-2008
DRAWN BY: T. LACKEY
CHECKED BY: J. PERRIGO
SHEET 33 OF 59



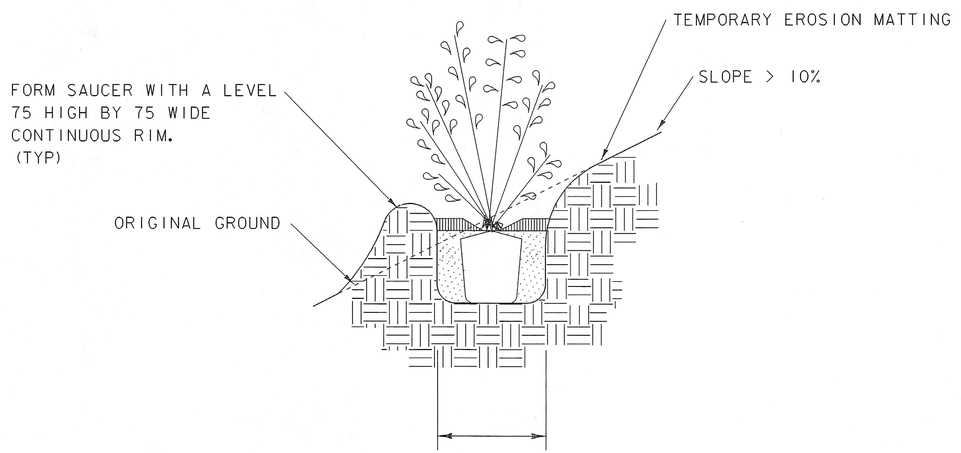
SHRUB AND SAPLING TREE BED
ON EARTH SLOPE
CROSS SECTION



SHRUB AND SAPLING TREE BED
ON FLAT
CROSS SECTION



SHRUB AND SAPLING TREE
PLANTING DETAIL



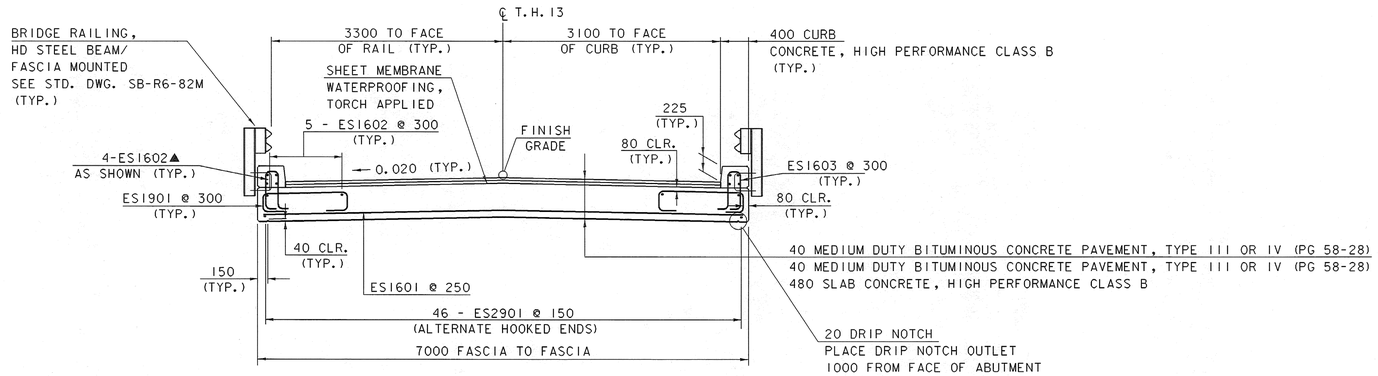
SHRUB AND SAPLING TREE
ON SLOPE
PLANTING DETAIL

EPSC
LANDSCAPE DETAILS 2

PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442 (24)

FILE NAME: sj076e09.i
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: T. LACKEY
94j076\str\sj076ero.dgn

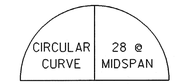
PLOT DATE: 15-APR-2008
DRAWN BY: T. LACKEY
CHECKED BY: J. PERRIGO
SHEET 34 OF 59



BRIDGE TYPICAL SECTION

0 1 2 3 4

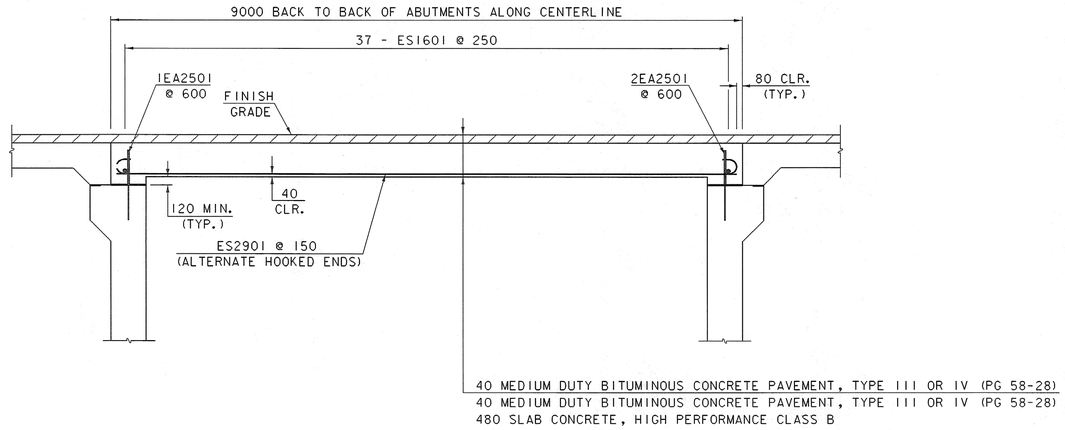
SCALE = 1:40



SET CONSTRUCTION FORMS TO THIS CAMBER

CAMBER DIAGRAM

NTS



ELEVATION ALONG CENTERLINE

0 1 2 3 4

SCALE = 1:40

NOTE:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
80 CLR. UNLESS OTHERWISE SPECIFIED ON THE PLANS.

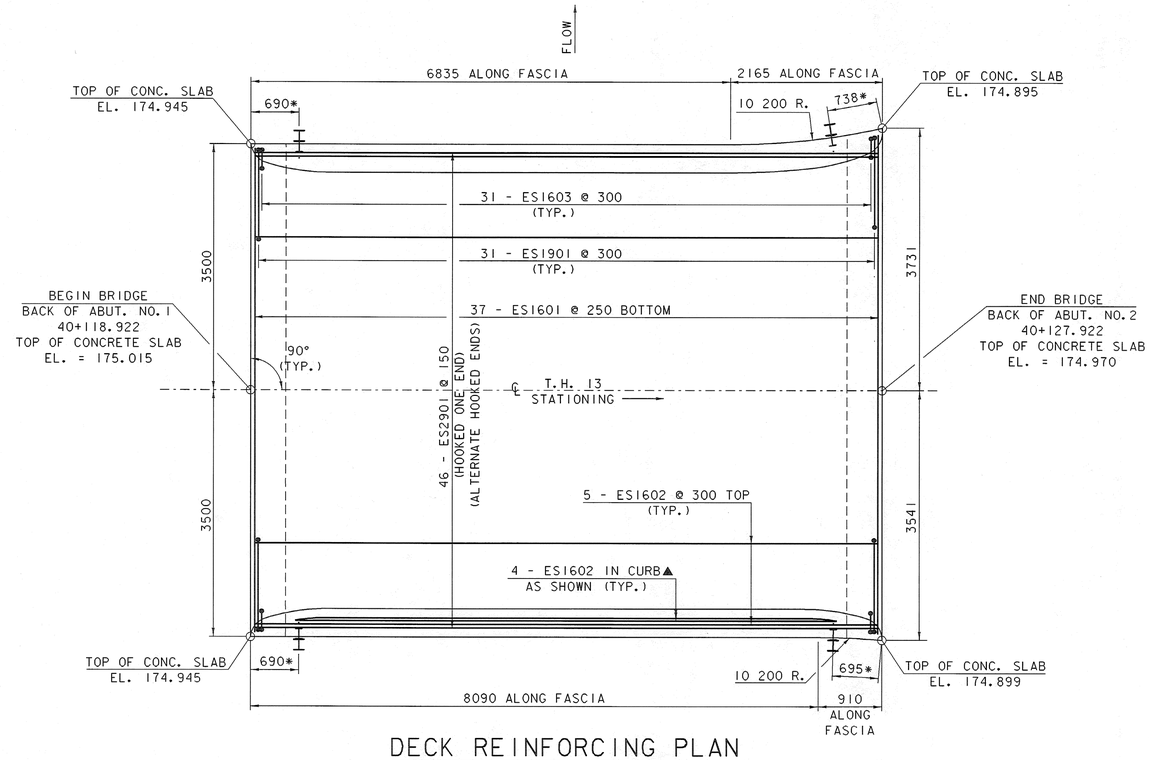
SLAB REINFORCING DETAILS

PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442(24)

FILE NAME: sj076ty2.i
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: J. PERRIGO
94j076\Structures\sj076sup.dgn

PLOT DATE: 15-APR-2008
DRAWN BY: L. BULLOCK
CHECKED BY: T. LACKEY
SHEET 35 OF 59

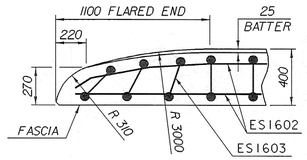
* DISTANCE MEASURED ALONG FASCIA



DECK REINFORCING PLAN

0 1 2 3 4

SCALE = 1:40



FLARED END FOR 400 CURB

BARS SHALL BE TURNED AS
REQUIRED TO FIT FLARED ENDS

0 1 2

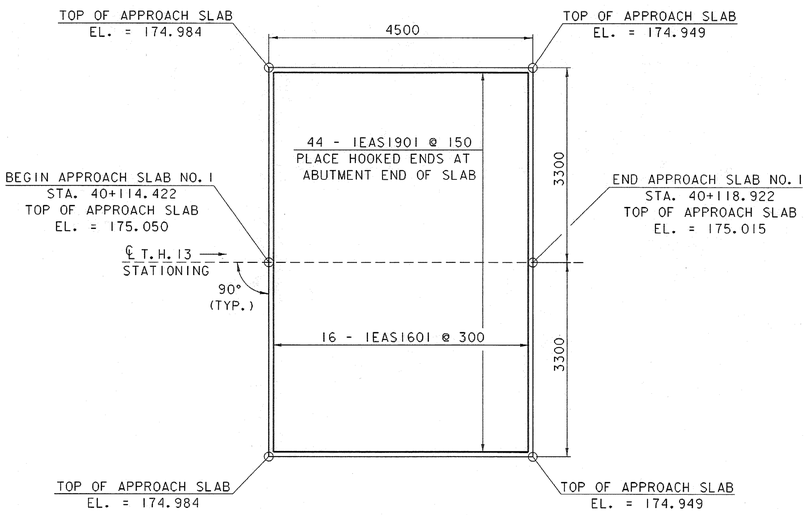
SCALE = 1:20

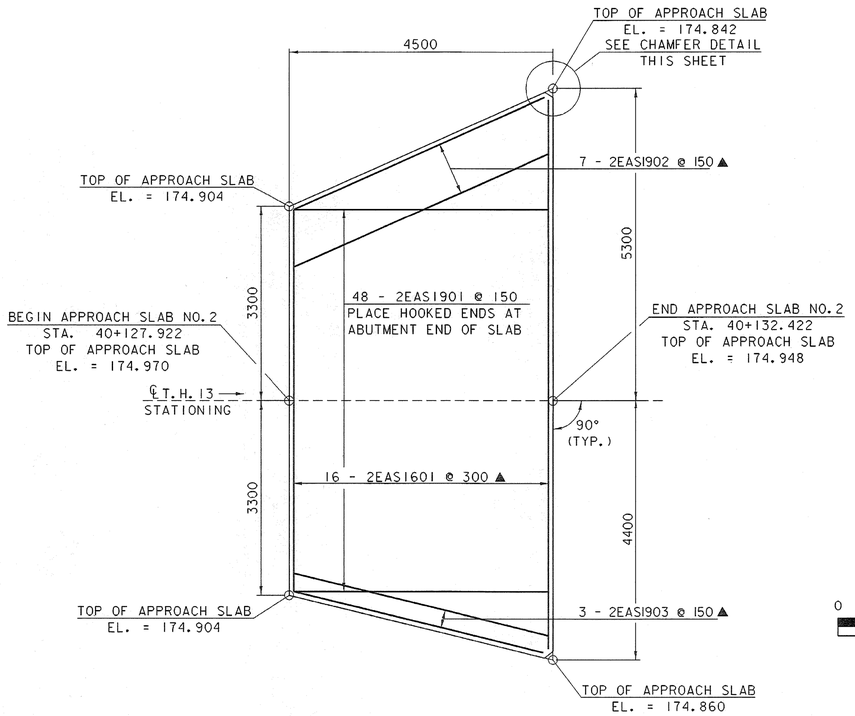
NOTE:

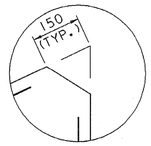
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
80 CLR. UNLESS OTHERWISE
SPECIFIED ON THE PLANS.

DECK REINFORCING PLAN

PROJECT NAME: GUILFORD	
PROJECT NUMBER: BRO 1442(24)	
FILE NAME: sj076ty2.i	PLOT DATE: 15-APR-2008
PROJECT LEADER: R. WHITCOMB	DRAWN BY: L. BULLOCK
DESIGNED BY: J. PERRIGO	CHECKED BY: T. LACKEY
94j076\Structures\sj076sup.dgn	SHEET 36 OF 59







CHAMFER DETAIL

0 1 2

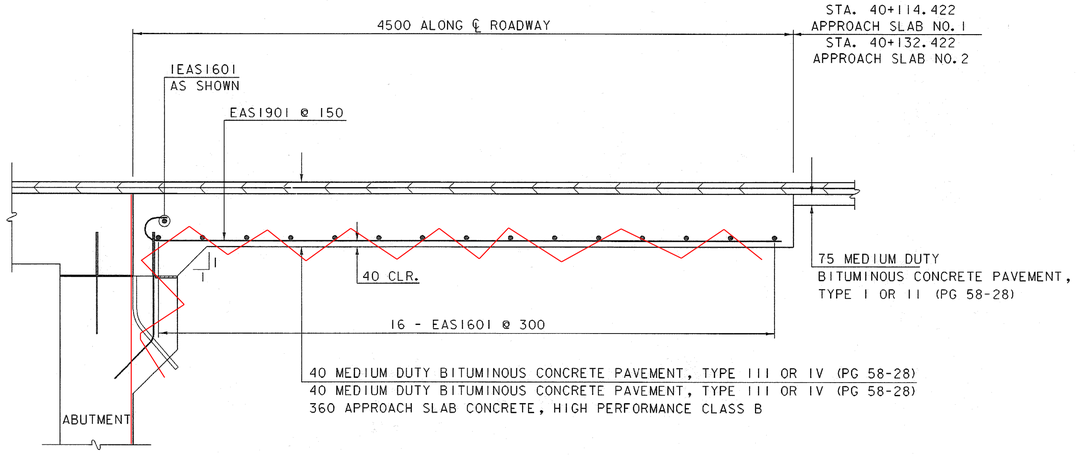
SCALE = 1:20

APPROACH SLABS ELIMINATED

APPROACH SLAB PLAN

0 1 2 3 4 5

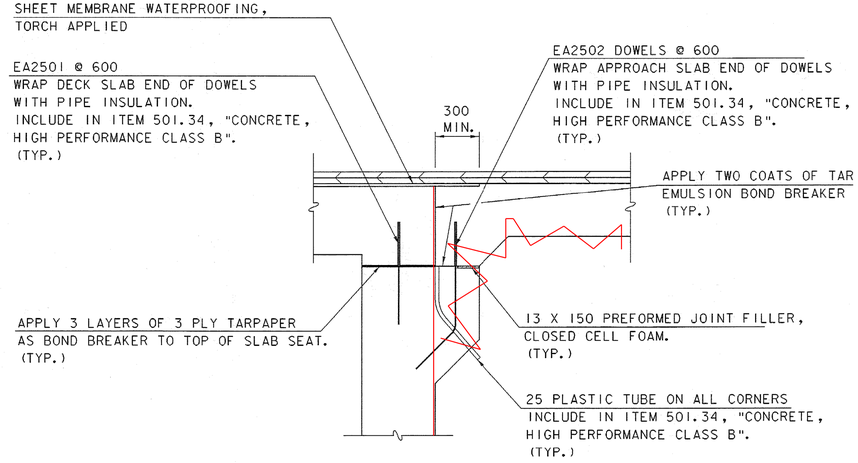
SCALE = 1:50



APPROACH SLAB DETAIL

0 1 2

SCALE = 1:20



BRIDGE END DETAIL

NTS

NOTE:

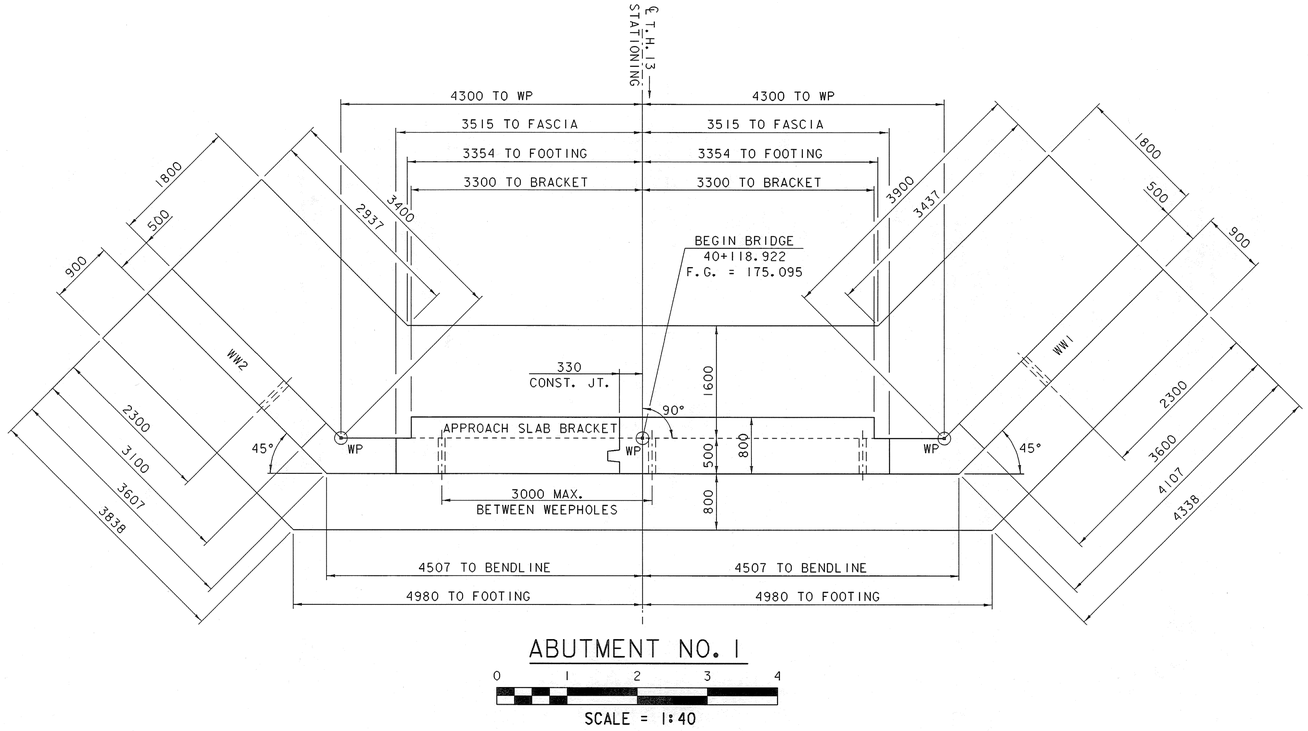
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
80 CLR. UNLESS OTHERWISE
SPECIFIED ON THE PLANS.

APPROACH SLAB DETAILS

PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442(24)

FILE NAME: sj076ty2.i
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: J. PERRIGO
94J076\Structures\sj076sup.dgn

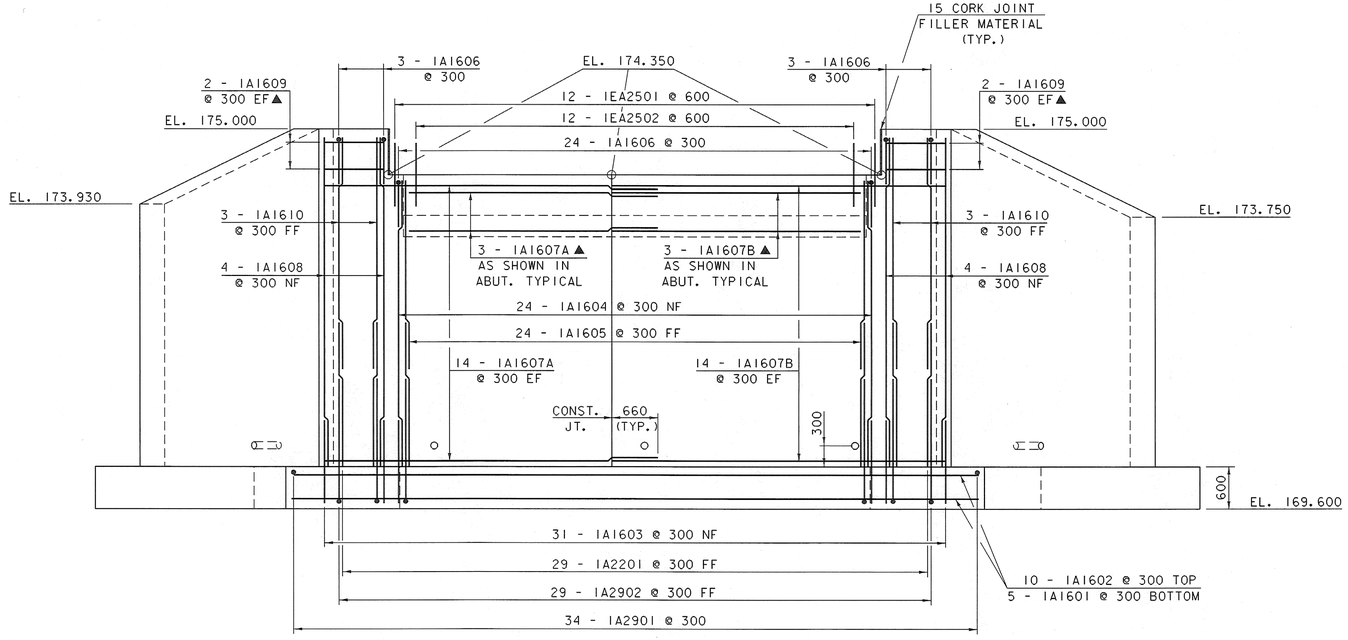
PLOT DATE: 15-APR-2008
DRAWN BY: L. BULLOCK
CHECKED BY: T. LACKEY
SHEET 37 OF 59



ABUTMENT NO. 1

0 1 2 3 4

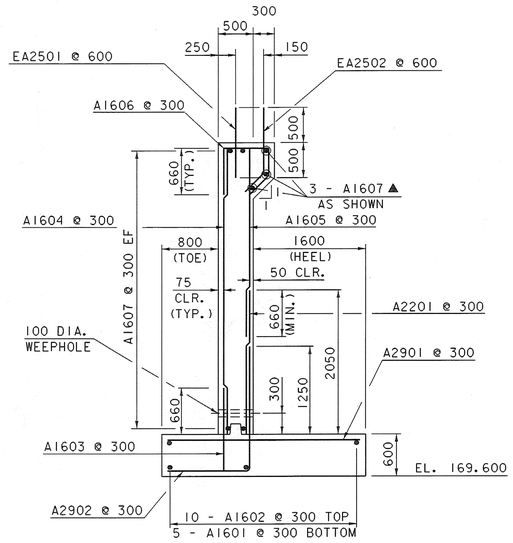
SCALE = 1:40



ABUTMENT NO. 1

0 1 2 3 4

SCALE = 1:40



ABUTMENT TYPICAL

0 1 2 3 4

SCALE = 1:40

NOTE:

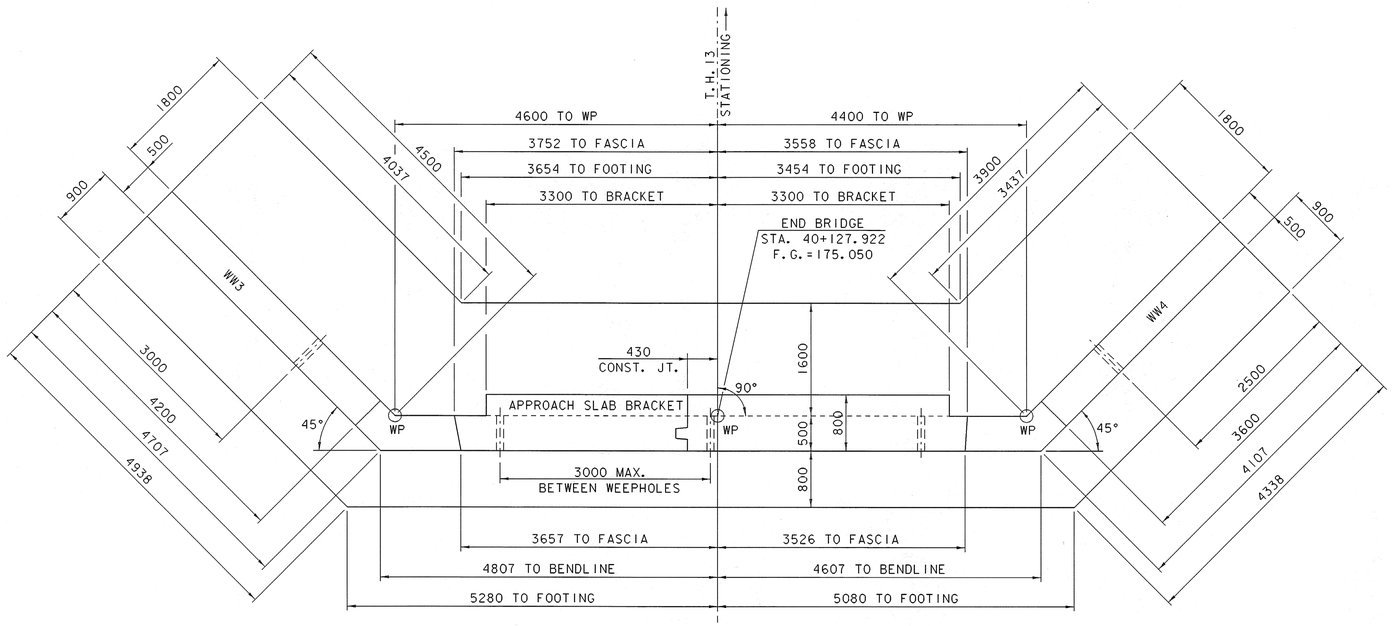
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
80 CLR. UNLESS OTHERWISE SPECIFIED ON THE PLANS.

ABUTMENT 1 DETAILS

PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442(24)

FILE NAME: sj076ab1.i
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: J. PERRIGO
94J076\Structures\sj076ab.dgn

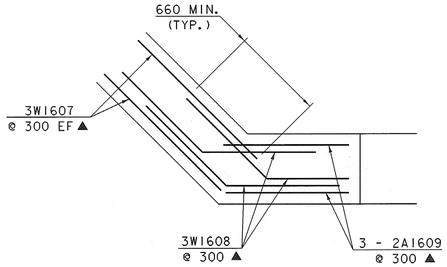
PLOT DATE: 15-APR-2008
DRAWN BY: L. BULLOCK
CHECKED BY: T. LACKEY
SHEET 38 OF 59



ABUTMENT NO. 2

0 1 2 3 4

SCALE = 1:40

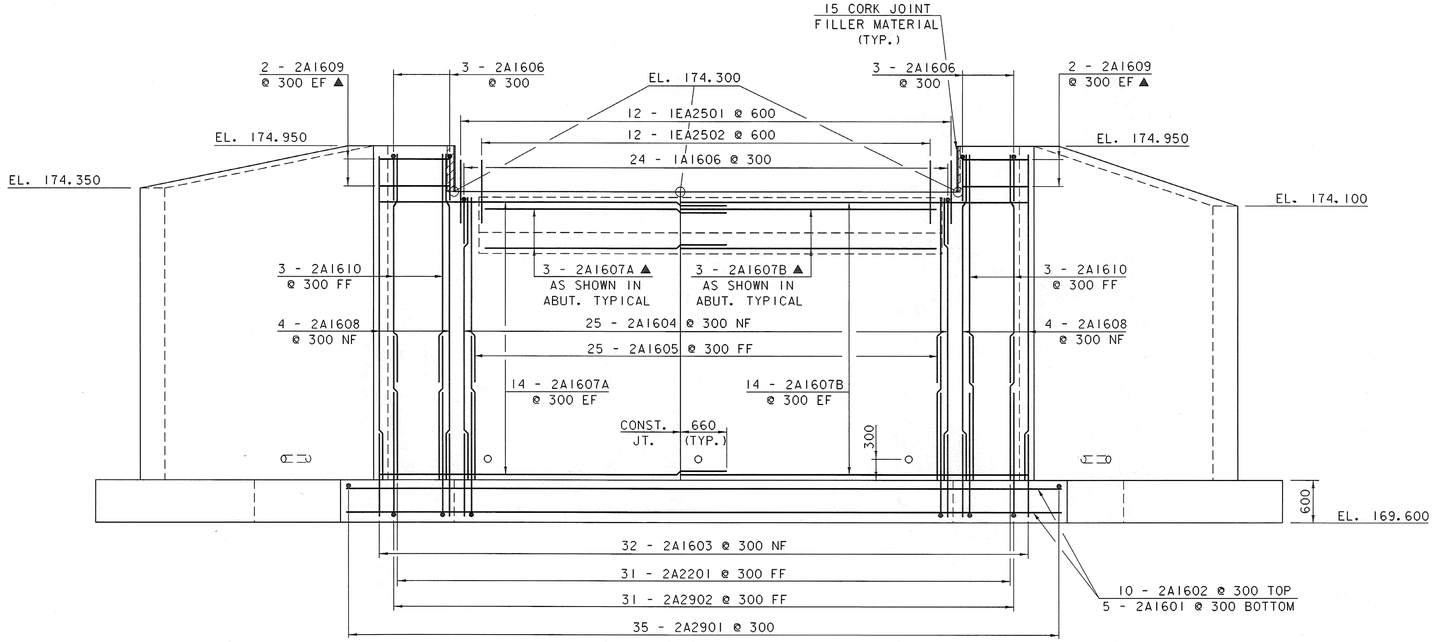


WINGWALL NO. 3
CORNER REINFORCING DETAIL
BELOW BRIDGE SEAT

(WINGWALL NOS. 1, 2, & 4 SIMILAR)

0 1 2

SCALE = 1:20



ABUTMENT NO. 2

0 1 2 3 4

SCALE = 1:40

NOTE:

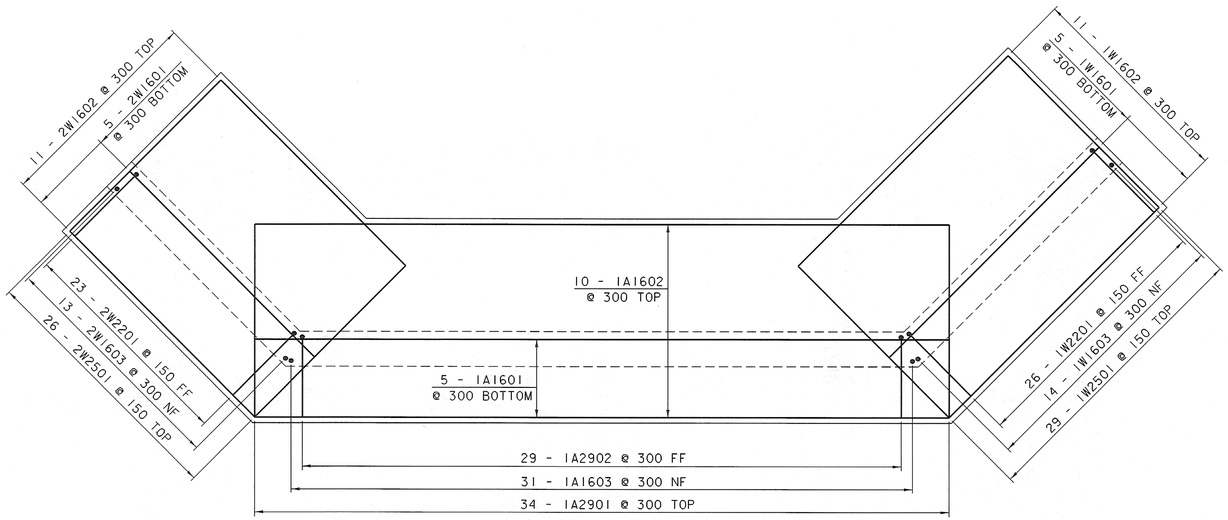
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
80 CLR. UNLESS OTHERWISE SPECIFIED ON THE PLANS.

ABUTMENT 2 DETAILS

PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442(24)

FILE NAME: sj076ab2.i
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: J. PERRIGO
94J076\Structures\sj076ab.dgn

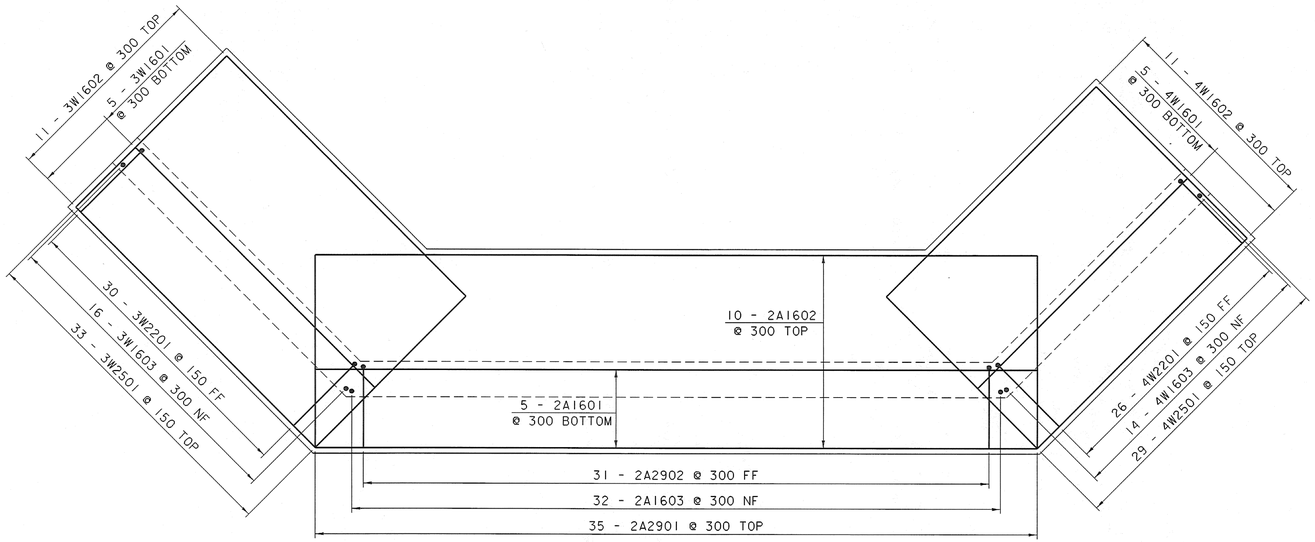
PLOT DATE: 15-APR-2008
DRAWN BY: L. BULLOCK
CHECKED BY: T. LACKEY
SHEET 39 OF 59



ABUTMENT NO. 1 FOOTING REINFORCING PLAN

0 1 2 3 4

SCALE = 1:40



ABUTMENT NO. 2 FOOTING REINFORCING PLAN

0 1 2 3 4

SCALE = 1:40

NOTE:

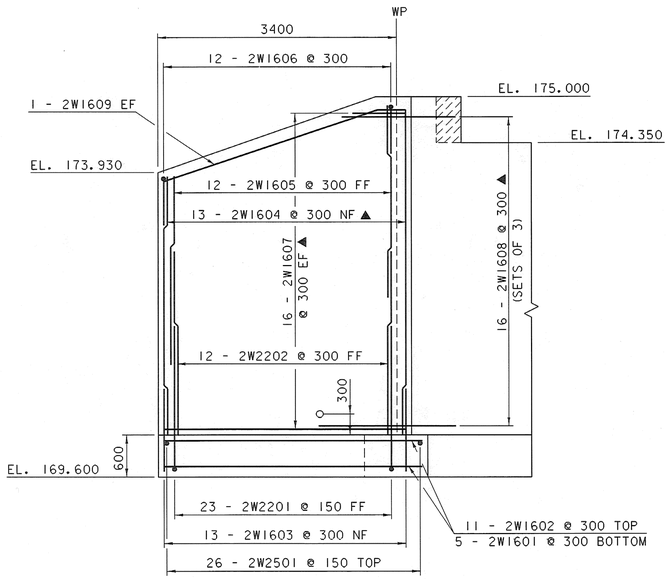
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
80 CLR. UNLESS OTHERWISE SPECIFIED ON THE PLANS.

FOOTING REINFORCING DETAILS

PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442(24)

FILE NAME: sj076ftg.i
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: J. PERRIGO
94J076\Structures\sj076ab.dgn

PLOT DATE: 15-APR-2008
DRAWN BY: L. BULLOCK
CHECKED BY: T. LACKEY
SHEET 40 OF 59



WINGWALL NO. 2

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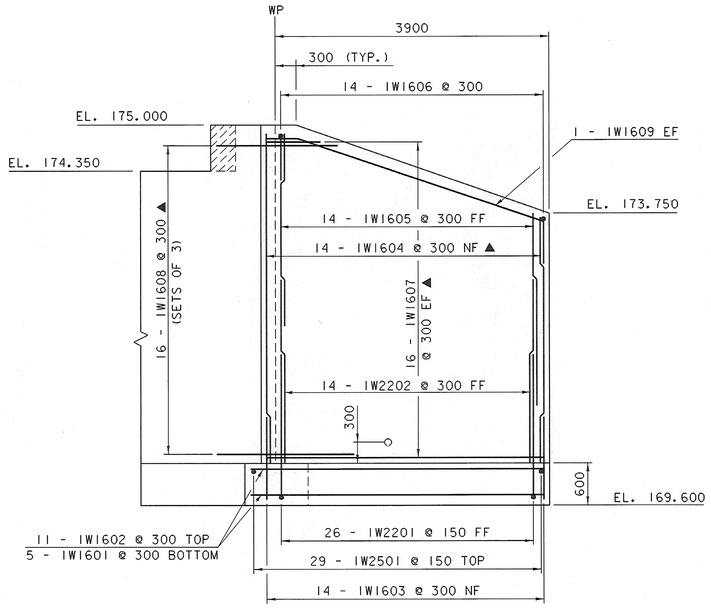
SCALE = 1:40



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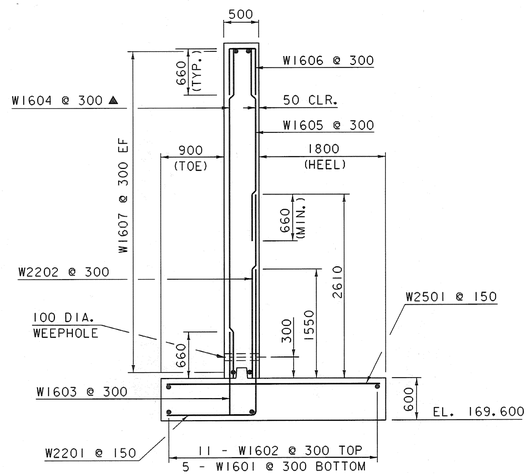

WINGWALL TYPICAL

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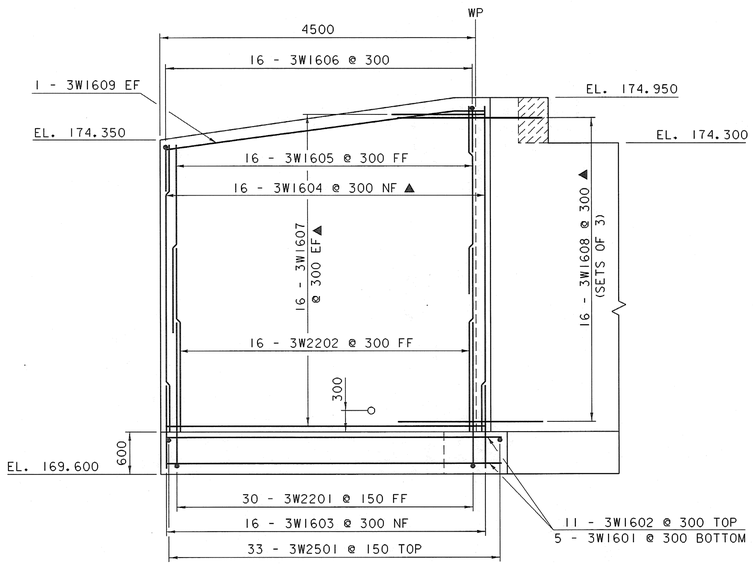

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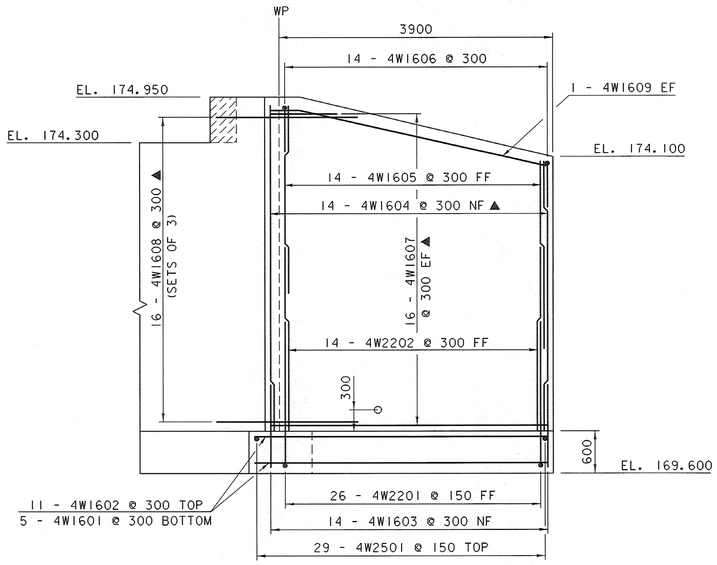


WINGWALL NO. 4

0 1 2 3 4

SCALE = 1:40

NOTE:

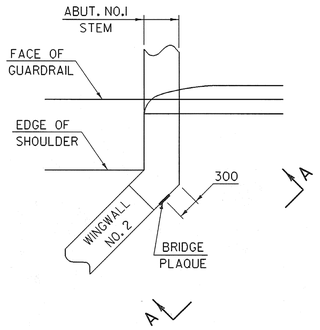
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
80 CLR. UNLESS OTHERWISE SPECIFIED ON THE PLANS.

WINGWALL DETAILS

PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442(24)

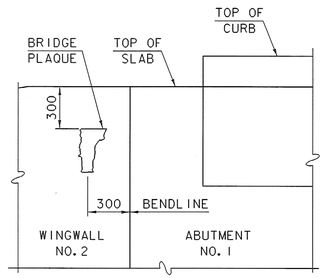
FILE NAME: sj076ww.i
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: J. PERRIGO
94j076\Structures\sj076ww.dgn

PLOT DATE: 15-APR-2008
DRAWN BY: L. BULLOCK
CHECKED BY: T. LACKEY
SHEET 41 OF 59



PLAN

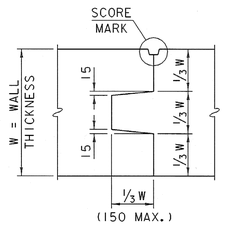
NOT TO SCALE



VIEW "A-A"
BRIDGE PLAQUE DETAIL

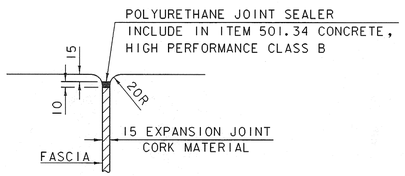
NOT TO SCALE

THE BRIDGE PLAQUE WILL BE SUPPLIED BY THE AGENCY OF TRANSPORTATION AND SHALL BE INSTALLED BY THE CONTRACTOR AS SHOWN OR AS DIRECTED BY THE ENGINEER. PAYMENT SHALL BE INCIDENTAL TO ADJACENT CONCRETE ITEM.



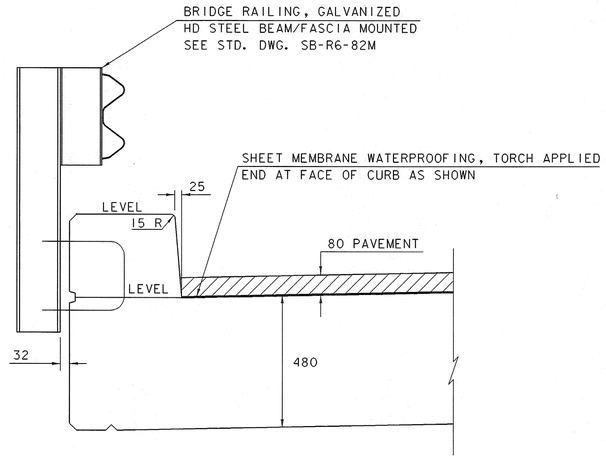
TYPICAL CONCRETE
CONSTRUCTION JOINT

NOT TO SCALE



JOINT BETWEEN FASCIA
AND WINGWALL

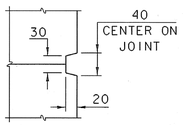
NOT TO SCALE



BRIDGE RAILING DETAIL

0 0.5 1

SCALE = 1:10



SCORE MARK DETAIL

0 0.25 0.5

SCALE = 1:5

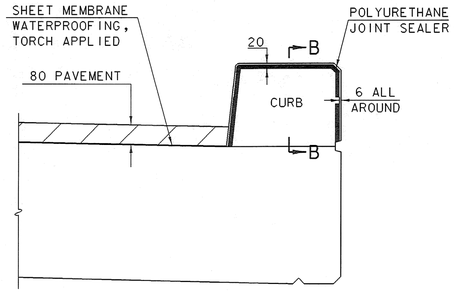
NOTES

1. CONCRETE CURBS MAY BE POURED IN ONE CONTINUOUS POUR IF ONE OF THE APPROVED SHRINKAGE REDUCING ADMIXTURE LISTED IN THE SPECIAL PROVISIONS IS USED. PAYMENT FOR ADMIXTURE WILL BE INCIDENTAL TO PAY ITEM 501.34 CONCRETE, HIGH PERFORMANCE CLASS B.

2. IF CONTRACTOR CHOOSES TO USE CONSTRUCTION JOINTS IN CURB, THE JOINTS SHALL BE SPACED AT A MAXIMUM OF 4500 CENTER TO CENTER AND 550 MINIMUM FROM THE CENTER OF THE NEAREST BRIDGE RAIL POST. PLACE CONCRETE CURBS IN ALTERNATE SECTIONS WITH A MINIMUM OF 48 HOURS DELAY BETWEEN ADJACENT POURS.

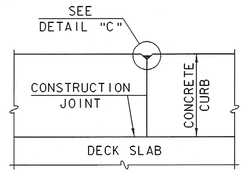
3. PASS LONGITUDINAL REINFORCING THROUGH CONCRETE CONSTRUCTION JOINTS.

4. TURN CURB REINFORCING STIRRUP BARS AS NECESSARY TO FIT FLARED ENDS.



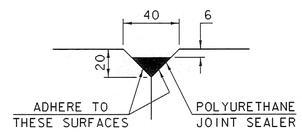
TYPICAL SECTION THROUGH
CONCRETE CURB CONSTRUCTION JOINT

NOT TO SCALE



SECTION B-B

NOT TO SCALE



DETAIL "C"

NOT TO SCALE

POLYURETHANE JOINT SEALER PER SUBSECTION 524.06(c).
MATCH COLOR TO CONCRETE.
INCLUDE IN ITEM 501.34 CONCRETE, HIGH PERFORMANCE CLASS B

MISC. STRUCTURAL DETAILS

PROJECT NAME:	GUILFORD
PROJECT NUMBER:	BRO 1442(24)

FILE NAME: sj076msd.i	PLOT DATE: 16-APR-2008
PROJECT LEADER: R. WHITCOMB	DRAWN BY: L. BULLOCK
DESIGNED BY: J. PERRIGO	CHECKED BY: T. LACKEY
94J076\Structures\sj076ww.dgn	SHEET 42 OF 59

STATE OF VERMONT
AGENCY OF TRANSPORTATION

REINFORCING STEEL SCHEDULE

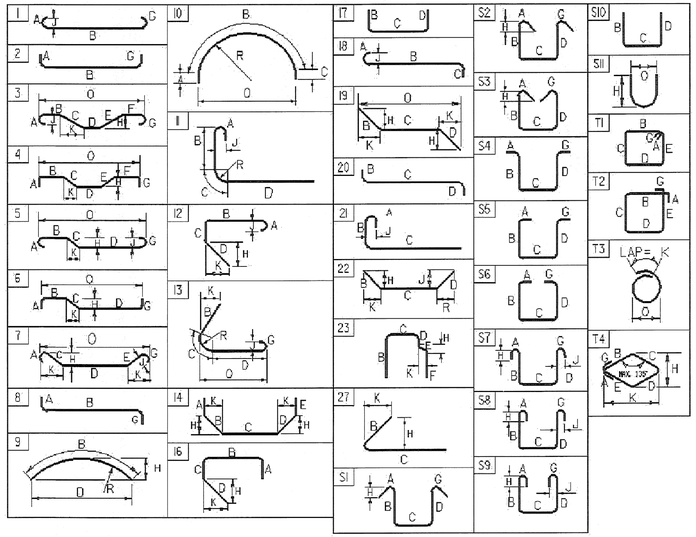
Metric

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
	DECK																
✳	38	16	7110	ES1601	STR												
▲	18	16	8840	ES1602	STR												
	62	16	2070	ES1603	S5	250	665	240	665			250					
✳	63	19	2540	ES1901	S6	300	360	1220	360			300					
✳	47	29	9115	ES2901	1	275	8840					---					
	APPROACH SLAB NO. 1																
✳	17	16	6440	1EAS1601	STR												
✳	45	19	4540	1EAS1901	1	200	4340					---					
	APPROACH SLAB NO. 2																
✳ ▲	17	16	9320	2EAS1601	STR												
✳	45	19	4540	2EAS1901	1	200	4340					---					
▲	7	19	4750	2EAS1902	STR												
▲	3	19	4470	2EAS1903	STR												
	ABUTMENT NO. 1																
	5	16	9800	1A1601	STR												
	10	16	9800	1A1602	STR												
	31	16	1180	1A1603	STR												
	24	16	4110	1A1604	STR												
	24	16	2720	1A1605	STR												
▲	62	16	4760	1A1607	STR												
	8	16	4680	1A1608	STR												
✳ ▲	9	16	850	1A1609	STR												
	6	16	3290	1A1610	STR												
	30	16	2060	1A1606	16	660	640	340	420			300			300		
✳	30	22	2050	1A2201	STR												
✳	13	25	1000	1EA2501	STR												
	12	25	1450	1EA2502	19		450	1000	---								
✳	35	29	2740	1A2901	STR												
	29	29	2940	1A2902	17		1170	1770	---								
	WINGWALL NO. 1																
	5	16	4180	1W1601	STR												
	11	16	4180	1W1602	STR												
	14	16	1180	1W1603	STR												
▲	14	16	5720	1W1604	STR												
	14	16	2770	1W1605	STR												
▲	32	16	3950	1W1607	STR												
	2	16	4140	1W1609	19		410	3730	---			130			390		
	14	16	1690	1W1606	S10		660	370	660								
▲	48	16	2000	1W1608	19		1000	1000	---								
	26	22	3340	1W2201	17		1270	2070	---								
	14	22	2610	1W2202	STR												
✳	30	25	3040	1W2501	STR												
	WINGWALL NO. 2																
	5	16	3680	2W1601	STR												
	11	16	3680	2W1602	STR												
	13	16	1180	2W1603	STR												
▲	13	16	5720	2W1604	STR												
	12	16	2770	2W1605	STR												
▲	32	16	3450	2W1607	STR												

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
	2	16	3610	2W1609	19		410	3200	---				130		390		
	12	16	1690	2W1606	S10		660	370	660								
▲	48	16	2000	2W1608	19		1000	1000	---								
	23	22	3340	2W2201	17		1270	2070	---								
	12	22	2610	2W2202	STR												
	26	25	3040	2W2501	STR												
	ABUTMENT NO. 2																
	5	16	10200	2A1601	STR												
	10	16	10200	2A1602	STR												
	32	16	1180	2A1603	STR												
	25	16	4060	2A1604	STR												
	25	16	2670	2A1605	STR												
▲	62	16	4960	2A1607	STR												
	8	16	4630	2A1608	STR												
✳ ▲	9	16	1000	2A1609	STR												
	6	16	3240	2A1610	STR												
	30	16	2060	1A1606	16	660	640	340	420				300		300		
✳	32	22	2050	1A2201	STR												
✳	13	25	1000	1EA2501	STR												
	12	25	1450	1EA2502	19		450	1000	---								
✳	36	29	2740	1A2901	STR												
	31	29	2940	1A2902	17		1170	1770	---								
	WINGWALL NO. 3																
	5	16	4780	3W1601	STR												
	11	16	4780	3W1602	STR												
	16	16	1180	3W1603	STR												
▲	16	16	4670	3W1604	STR												
	16	16	2720	3W1605	STR												
▲	32	16	4550	3W1607	STR												
	2	16	4580	3W1609	19		420	4160	---				60		420		
	16	16	1690	3W1606	S10		660	370	660								
▲	48	16	2000	3W1608	19		1000	1000	---								
	30	22	3340	3W2201	17		1270	2070	---								
	16	22	2610	3W2202	STR												
✳	34	25	3040	3W2501	STR												
	WINGWALL NO. 4																
	5	16	4180	4W1601	STR												
	11	16	4180	4W1602	STR												
	14	16	1180	4W1603	STR												
▲	14	16	4670	4W1604	STR												
	14	16	2720	4W1605	STR												
▲	32	16	3950	4W1607	STR												
	2	16	4040	4W1609	STR		420	3620	---				90		410		
	14	16	1690	4W1606	S10		660	370	660								
▲	48	16	2000	4W1608	19		1000	1000	---								
	26	22	3340	4W2201	17		1270	2070	---								
	14	22	2610	4W2202	STR												
	29	25	3040	4W2501	STR												

~ NOTES ~

1. UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING 55M 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.
2. 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".
3. BARS WHICH REQUIRE MORE ACCURATE BENDING THAN STANDARD PRACTICES SHOULD HAVE LIMITS INDICATED.
4. ALL DIMENSIONS ARE OUT TO OUT OF BAR EXCEPT "A" AND "G" ON STANDARD 180 DEGREE AND 135 DEGREE HOOKS.
5. "J" DIMENSION ON 180 DEGREE HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE. OTHERWISE, STANDARD HOOKS ARE TO BE USED.
6. "H" DIMENSION ON STIRRUPS TO BE SHOWN ONLY WHEN NECESSARY TO MAINTAIN CLEARANCES.
7. WHERE SLOPE DIFFERS FROM 45 DEGREES, DIMENSIONS "H" AND "K" MUST BE SHOWN.
8. ▲ DENOTES BARS TO BE CUT IN FIELD.
9. ✳ DENOTES ONE EXTRA BAR ADDED FOR TESTING PURPOSES.
10. △ DENOTES TWO EXTRA BARS ADDED FOR TESTING PURPOSES.
11. E IN BAR MARK PREFIX DENOTES EPOXY COATED REINFORCING STEEL.



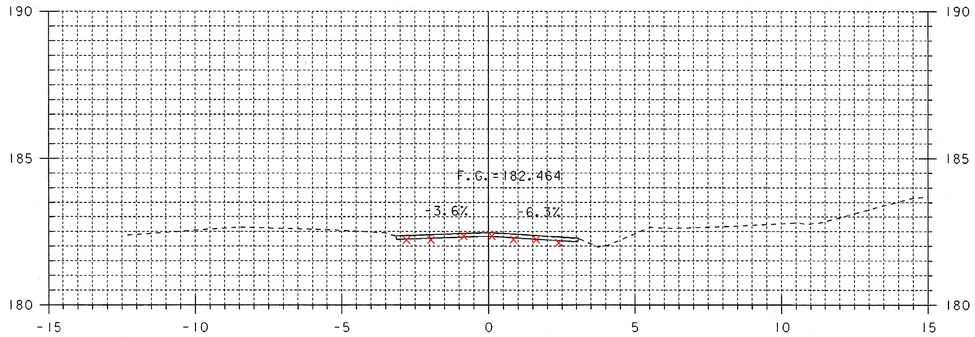
ASTM STANDARD REINFORCING BARS

BAR SIZE	NOMINAL MASS (Kg/m)	NOMINAL DIMENSIONS ROUND SECTION DIAMETER (mm)	CROSS-SECTIONAL AREA (mm²)	PERIMETER (mm)
#10	0.560	9.5	71	29.84
#13	0.994	12.7	129	39.90
#16	1.552	15.9	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	57.3	2581	180.01

PROJECT NAME: **Guilford**
PROJECT NUMBER: **BRO 1442 (24)**

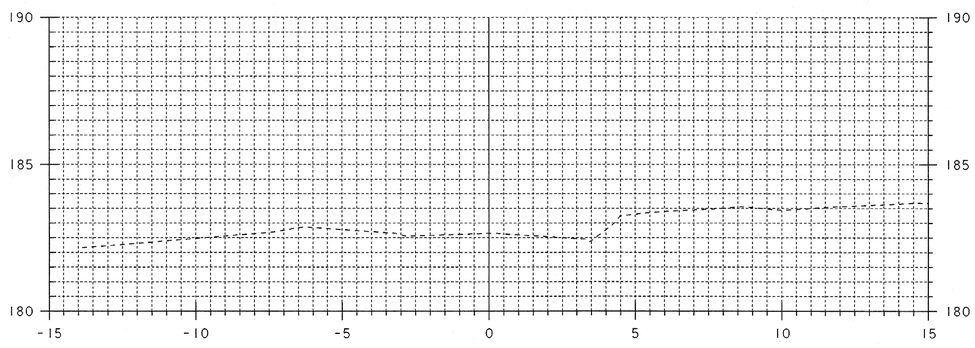
FILE NAME: **sj076rf.xls & sj076rss.dgn**
PROJECT MANAGER: **R.R. WHITCOMB**
DESIGNED BY: **J. PERRIGO**
REINFORCING STEEL SCHEDULE

PLOT DATE: **3/3/2008**
DRAWN BY: **J. PERRIGO**
CHECKED BY: **T. LACKEY**
SHEET **43** OF **59**



40+017

40+017
~~BEGIN APPROACH~~
~~MATCH EXISTING~~



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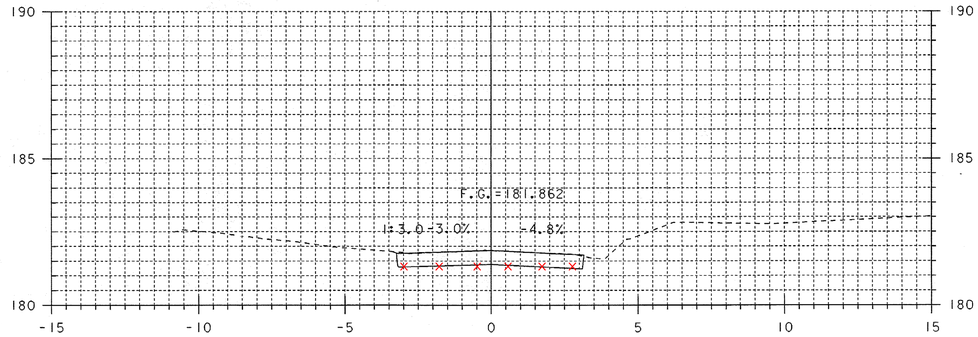

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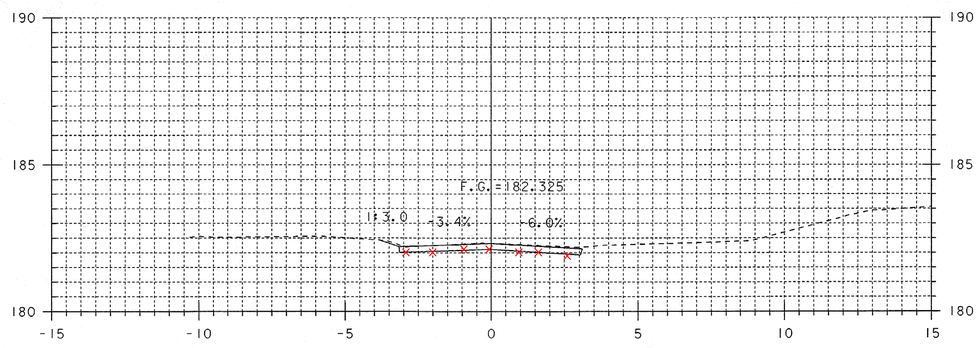


40+020

0 2 4 6 8 10
SCALE 1:100

STA. 40+010 TO STA. 40+030

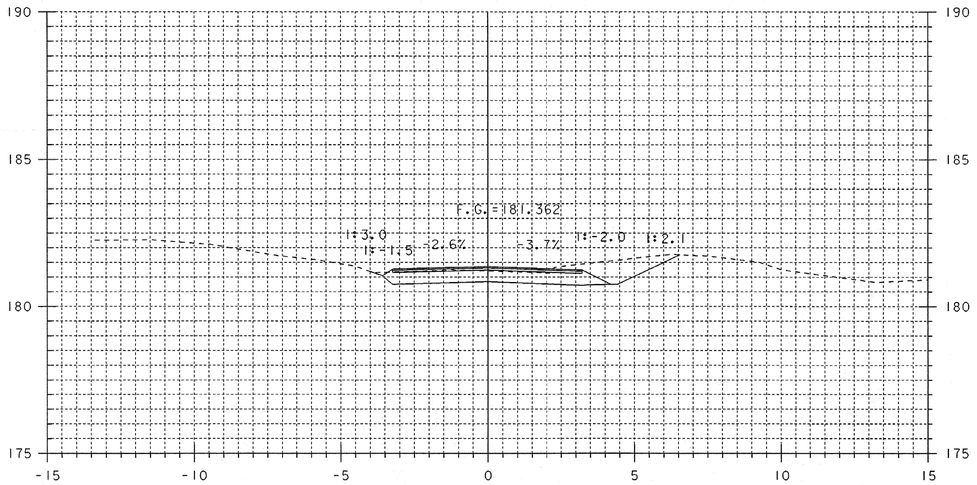
MAINLINE CROSS SECTIONS 1

PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442(24)

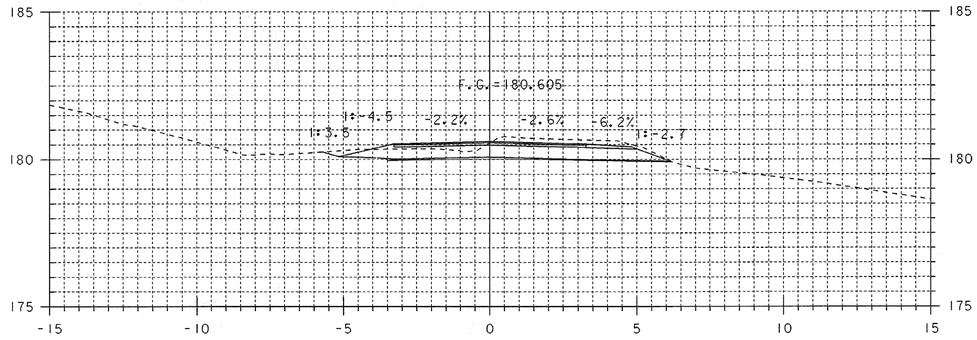
FILE NAME: sj076m01.i
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: J. PERRIGO
94J076\Structures\sj076xs3.dgn

PLOT DATE: 15-APR-2008
DRAWN BY: T. LACKEY
CHECKED BY: T. LACKEY
SHEET 44 OF 59

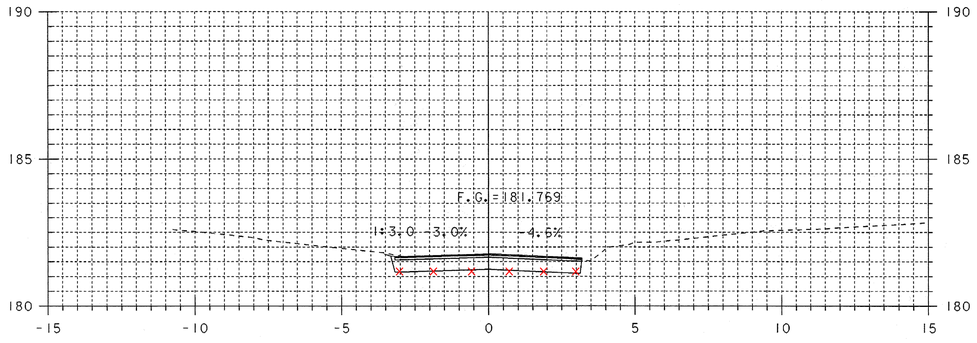
40+042
BEGIN AGGREGATE SURFACE COURSE



40+040

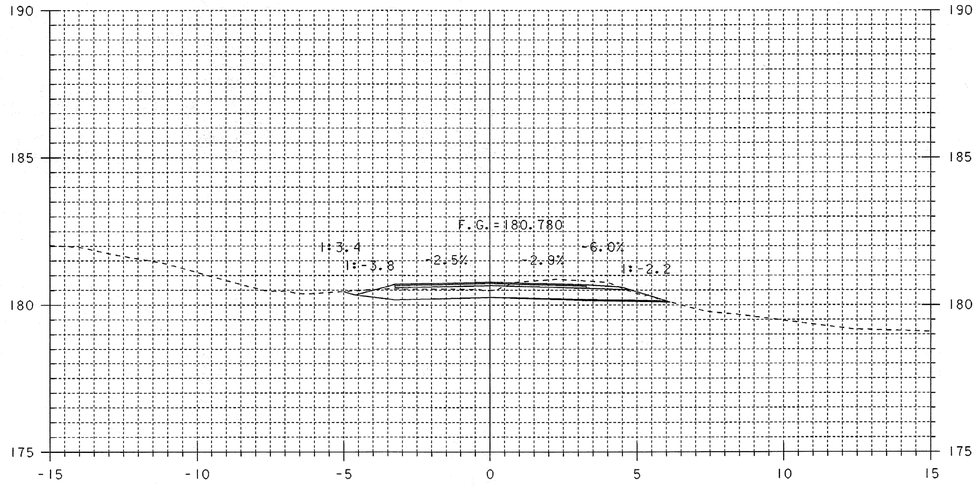


40+050



40+032

40+032
~~BEGIN PAVEMENT~~
MATCH EXISTING



40+048

40+048
BEGIN SAND BORROW

0 2 4 6 8 10
SCALE 1:100

STA. 40+032 TO STA. 40+050

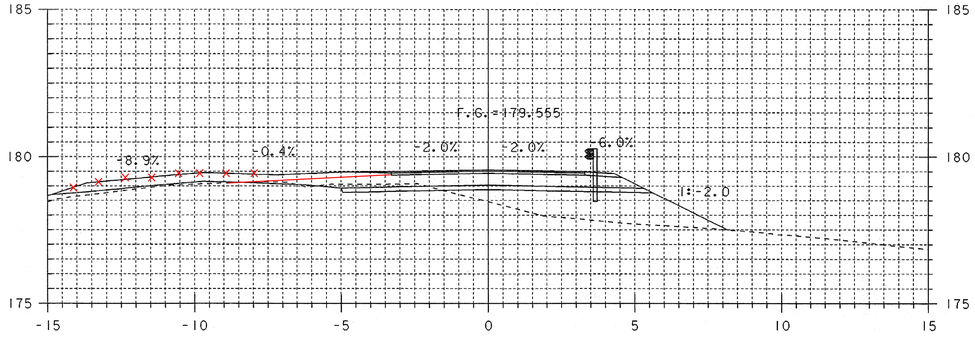
MAINLINE CROSS SECTIONS 2

PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442(24)

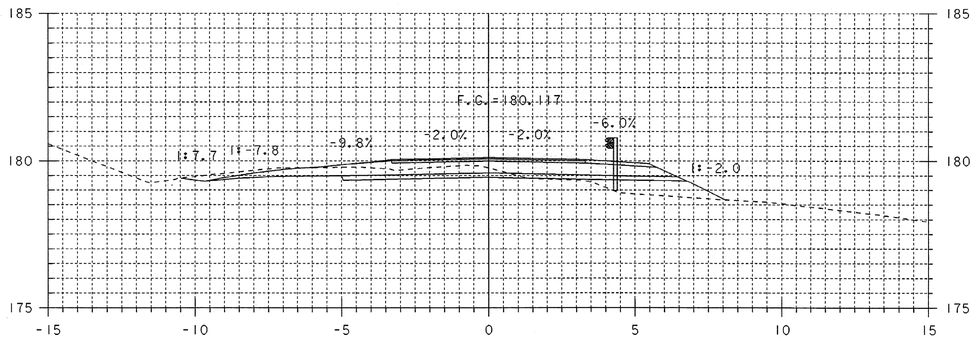
FILE NAME: sj076m02.i
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: J. PERRIGO
94J076\Structures\sj076xs3.dgn

PLOT DATE: 15-APR-2008
DRAWN BY: T. LACKEY
CHECKED BY: T. LACKEY
SHEET 45 OF 59

40+064.000
BEGIN AGGREGATE SURFACE COURSE



40+060



40+055

40+055.000
DRIVE 6+000.000
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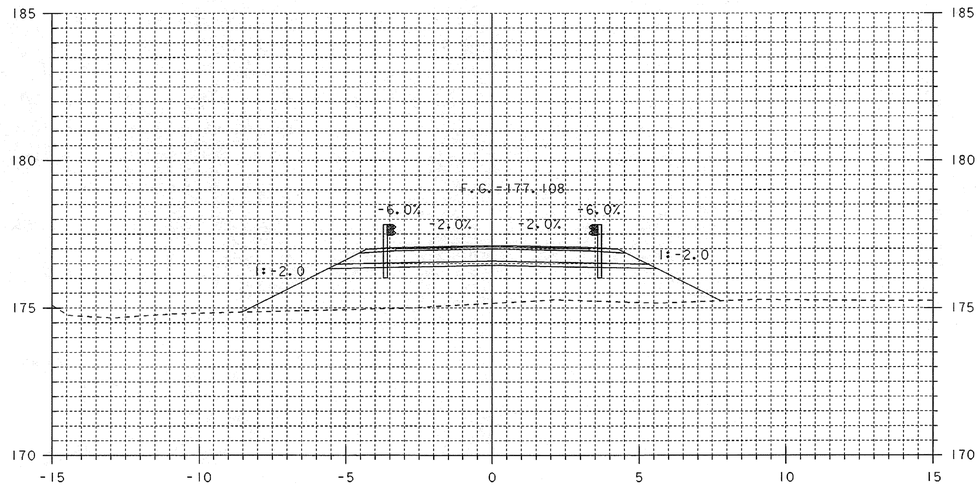
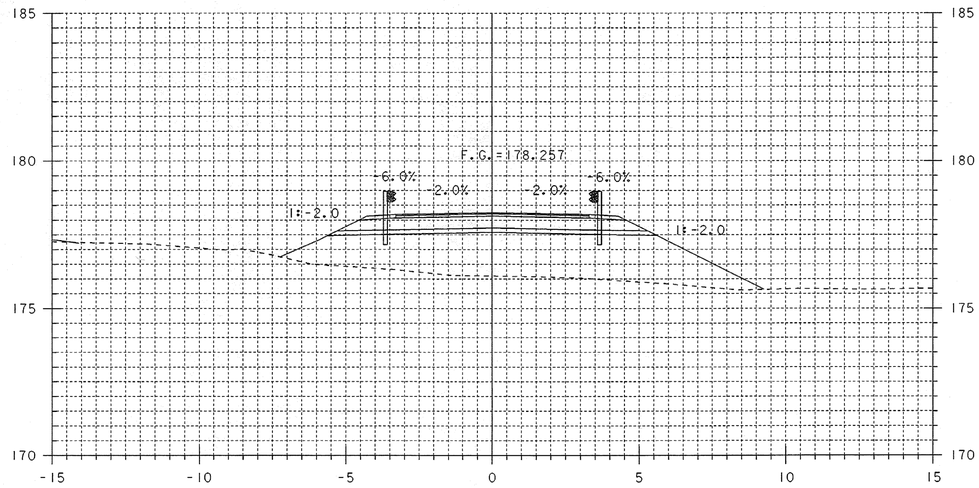


40+080



40+070

0 2 4 6 8 10
SCALE 1:100

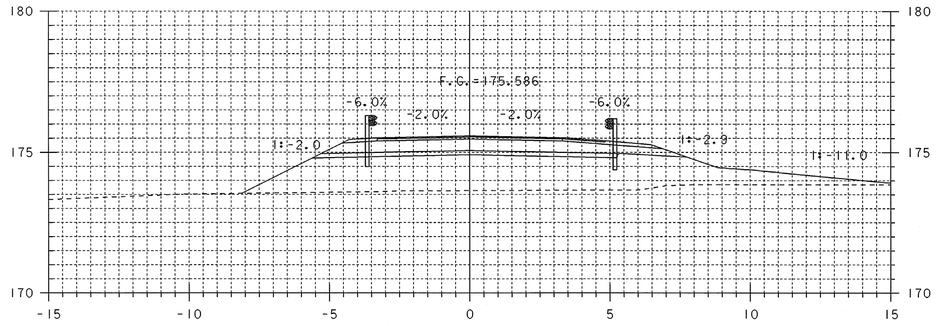
STA. 40+055 TO STA. 40+080

MAINLINE CROSS SECTIONS 3

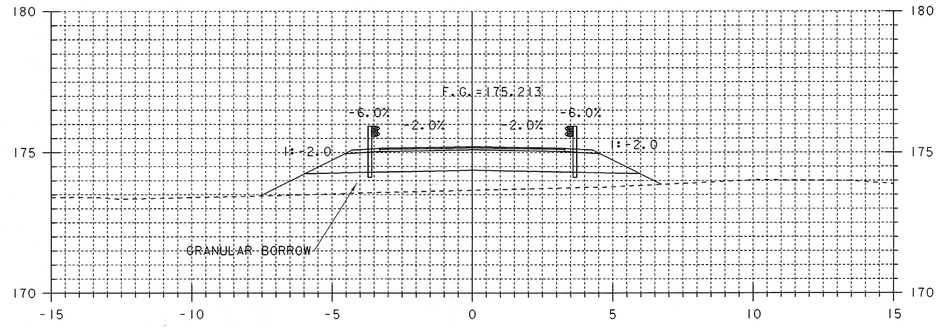
PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442(24)

FILE NAME: sj076m03.i
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: J. PERRIGO
94J076\Structures\sj076xs3.dgn

PLOT DATE: 15-APR-2008
DRAWN BY: T. LACKEY
CHECKED BY: T. LACKEY
SHEET 46 OF 59



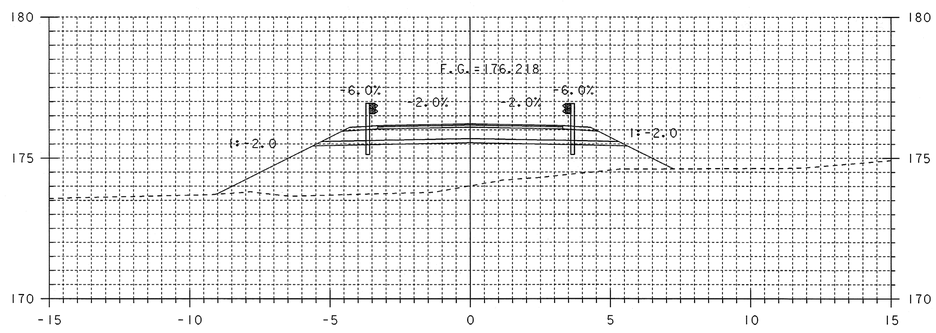
40+100



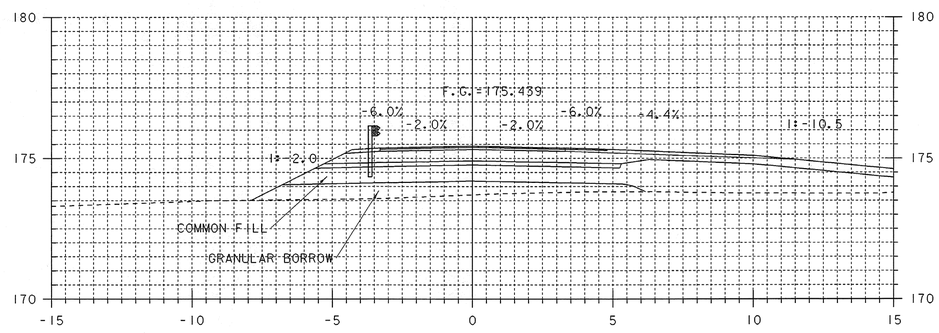
40+110

40+107.470
END SAND BORROW

40+104.000
BEGIN SUBBASE TAPER



40+090



40+103.200

40+103.200 =
FIELD DRIVE 7+000.000

40+102
BEGIN GRANULAR BORROW

0 2 4 6 8 10
SCALE 1:100

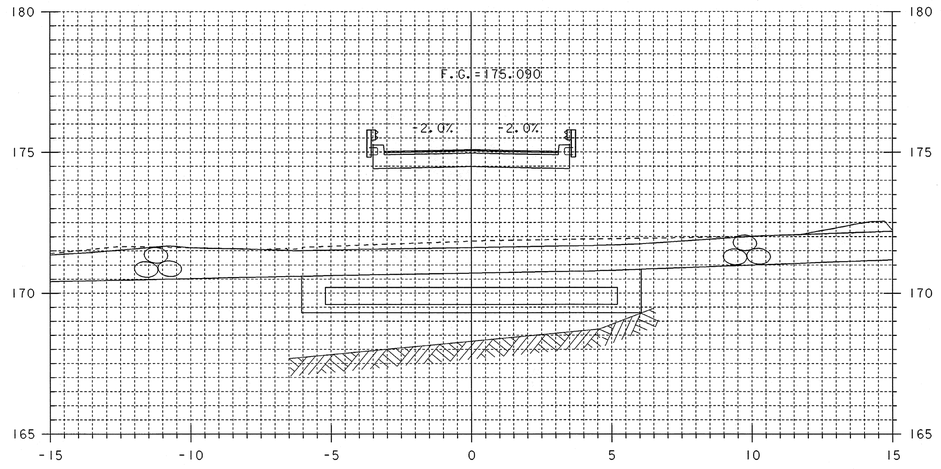
STA. 40+090 TO STA. 40+110

MAINLINE CROSS SECTIONS 4

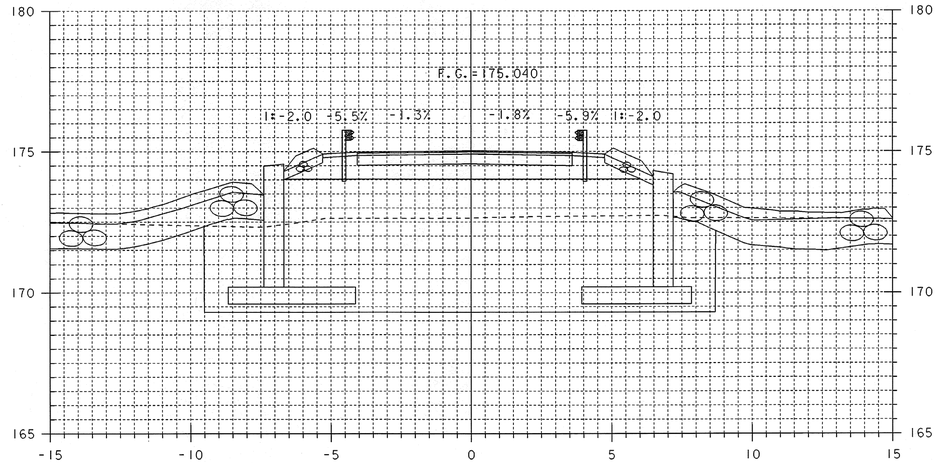
PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442(24)

FILE NAME: sj076m04.i
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: J. PERRIGO
94J076\Structures\sj076xs3.dgn

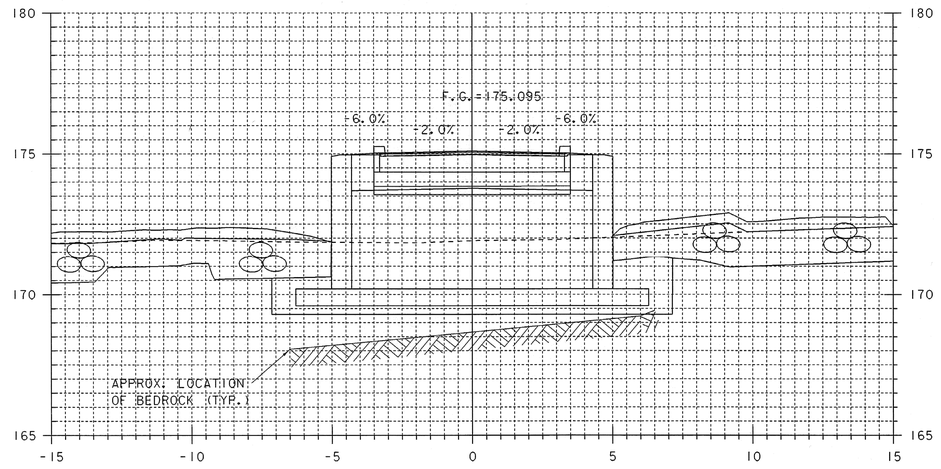
PLOT DATE: 15-APR-2008
DRAWN BY: T. LACKEY
CHECKED BY: T. LACKEY
SHEET 47 OF 59



40+120

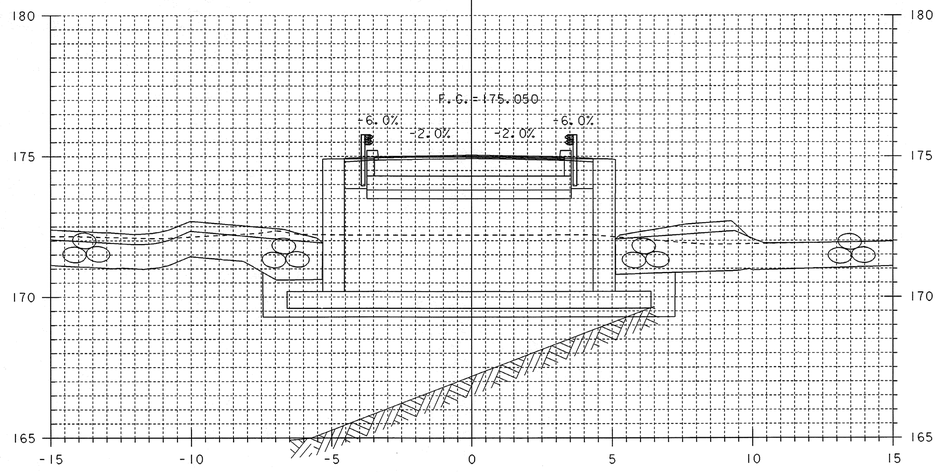


40+130



40+118.922

40+118.922
BEGIN BRIDGE



40+127.922

40+127.922
END BRIDGE

0 2 4 6 8 10
SCALE 1:100

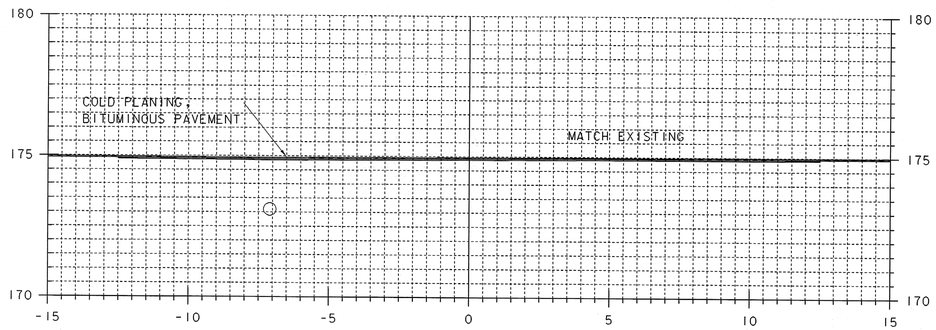
STA. 40+119 TO STA. 40+130

MAINLINE CROSS SECTIONS 5

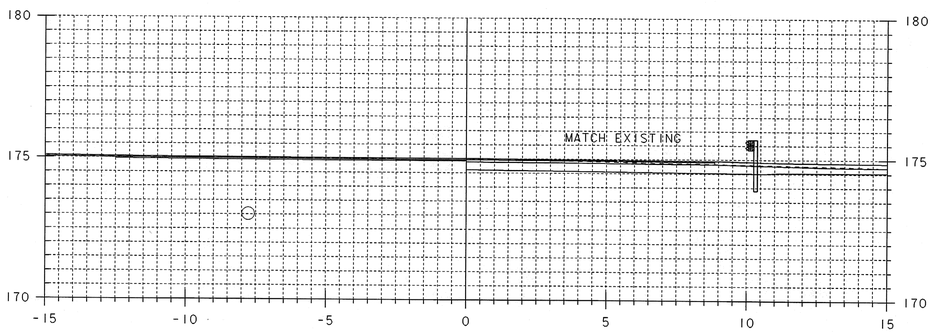
PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442(24)

FILE NAME: sj076m05.i
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: J. PERRIGO
94J076\Structures\sj076xs3.dgn

PLOT DATE: 15-APR-2008
DRAWN BY: T. LACKEY
CHECKED BY: T. LACKEY
SHEET 48 OF 59

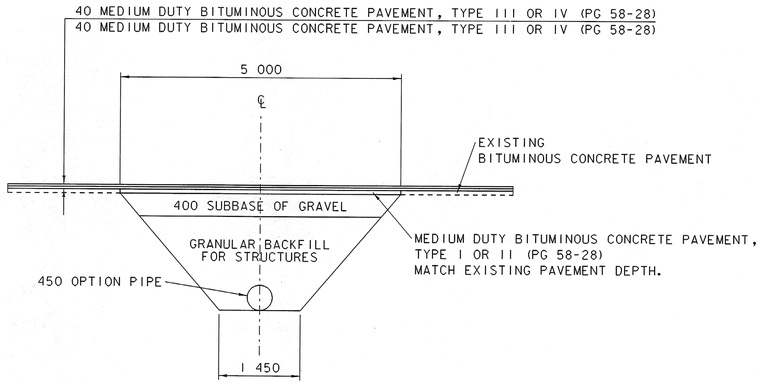


40+140



40+136.770

40+136.770
END PROJECT

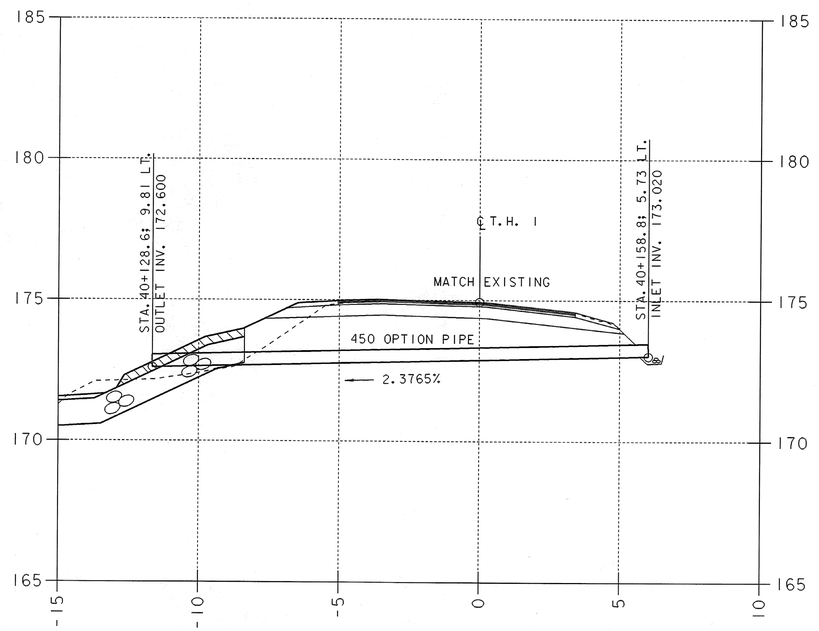


CULVERT TYPICAL CROSS SECTIOIN ACROSS T.H. 1

0 1 2 3 4 5

SCALE = 1:50

CULVERT PROFILE ACROSS T.H. 1



0 1 2 4 6 8 10

SCALE = 1:100

MAINLINE CROSS SECTIONS 6

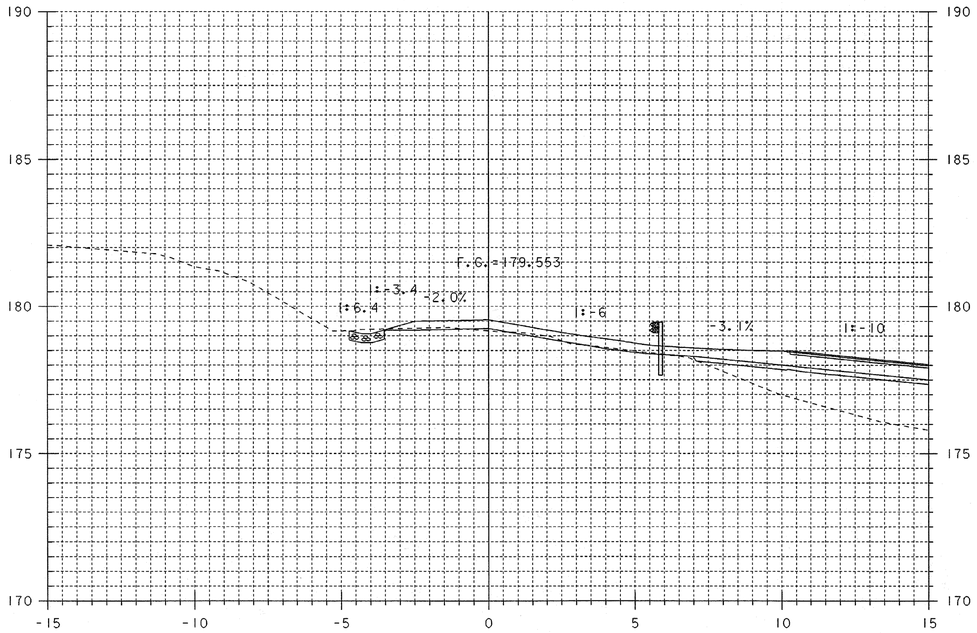
0 2 4 6 8 10

SCALE 1:100

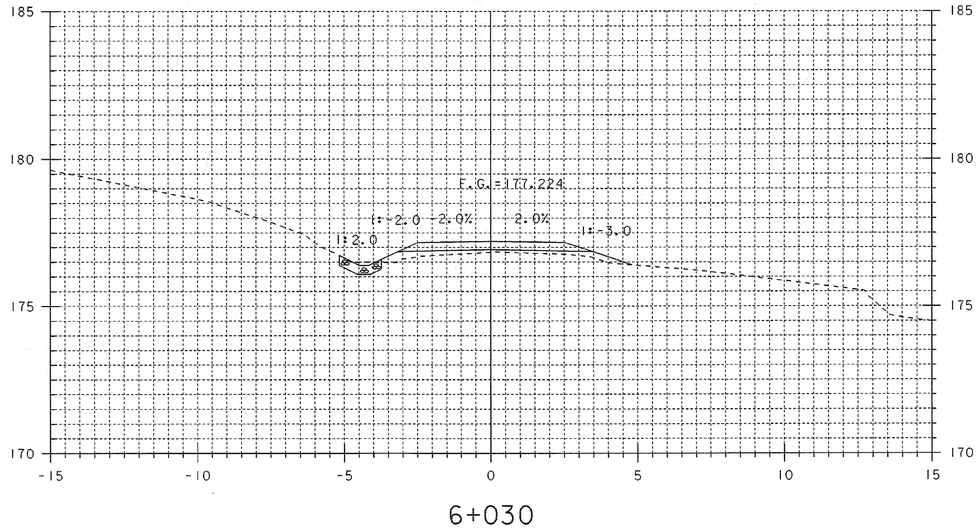
STA. 40+137 TO STA. 40+140

PROJECT NAME: GUILFORD	
PROJECT NUMBER: BRO 1442(24)	
FILE NAME: sj076m06.i	PLOT DATE: 15-APR-2008
PROJECT LEADER: R. WHITCOMB	DRAWN BY: T. LACKEY
DESIGNED BY: J. PERRIGO	CHECKED BY: T. LACKEY
94J076\Structures\sj076xs3.dgn	SHEET 49 OF 59

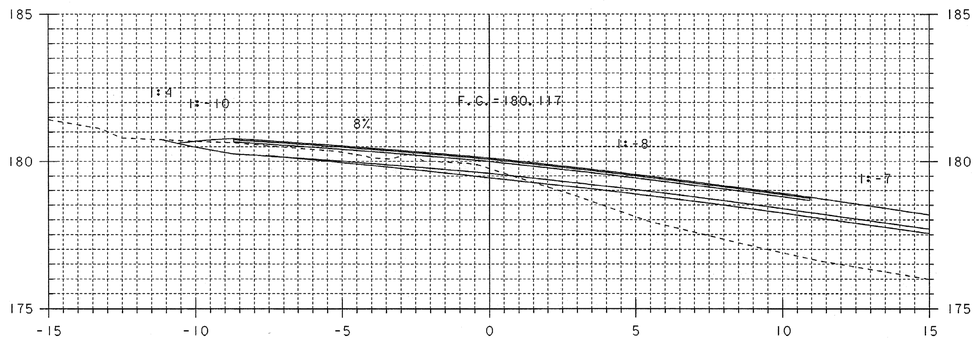
LEFT DRIVE (OLD BONNYVALE RD) AS WAS - NO NEW GRAVEL, ETC.



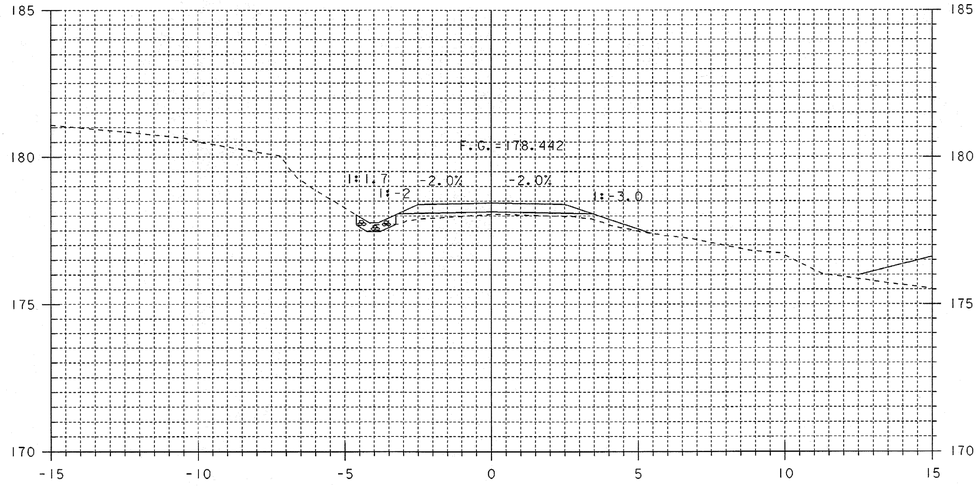
6+010



6+030



6+000



6+020

6+000
BEGIN DRIVE 1
MATCH PROPOSED MAINLINE

0 2 4 6 8 10
SCALE 1:100

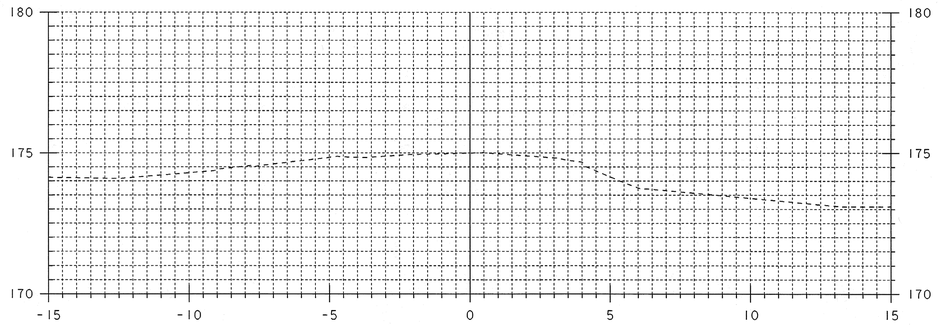
STA. 6+000 TO STA. 6+030

DRIVE CROSS SECTIONS 1

PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442(24)

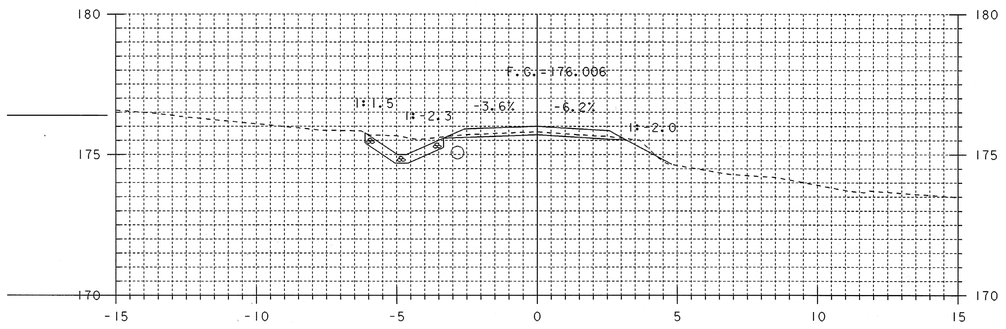
FILE NAME: sj076d01.i
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: J. PERRIGO
94j076\Structures\sj076xs3.dgn

PLOT DATE: 15-APR-2008
DRAWN BY: T. LACKEY
CHECKED BY: T. LACKEY
SHEET 50 OF 59



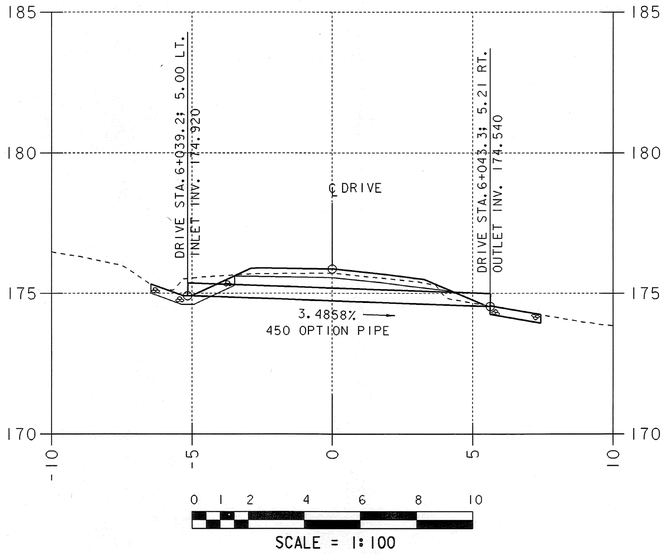
6+050

6+045
END DRIVE
MATCH EXISTING



6+040

CULVERT PROFILE AT DRIVE STA. 6+041.160



SCALE = 1:100

SCALE 1:100

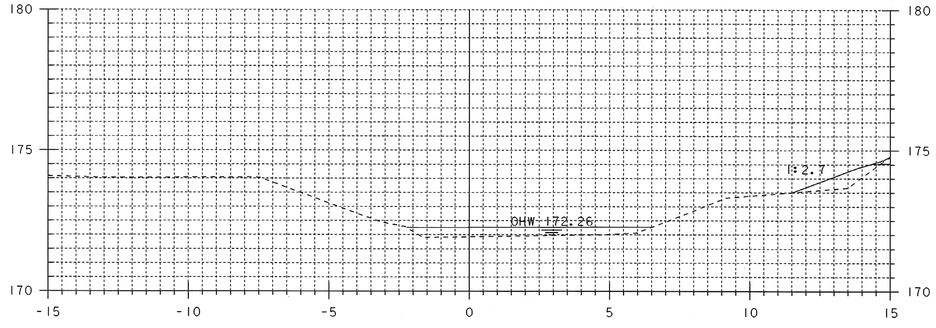
STA. 6+040 TO STA. 6+050

DRIVE CROSS SECTIONS 2

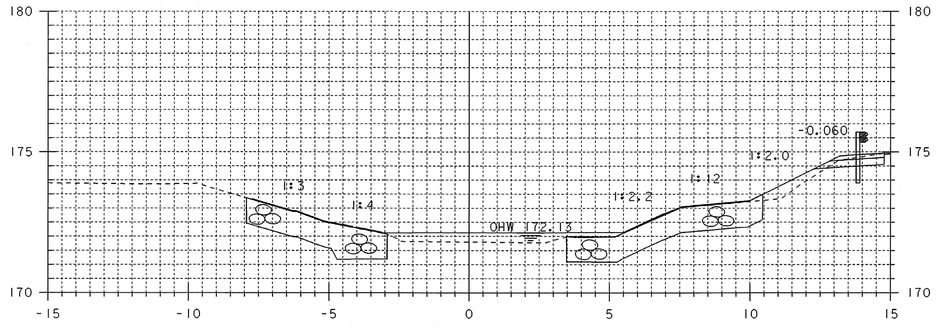
PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442(24)

FILE NAME: sj076d02.i
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: J. PERRIGO
94J076\Structures\sj076xs3.dgn

PLOT DATE: 15-APR-2008
DRAWN BY: T. LACKEY
CHECKED BY: T. LACKEY
SHEET 51 OF 59

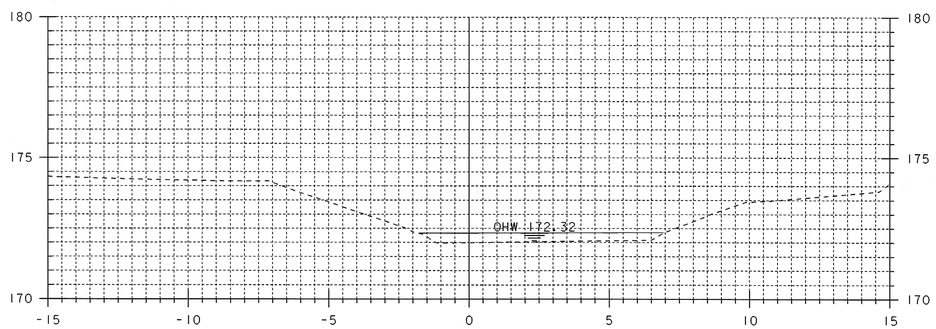


50+025

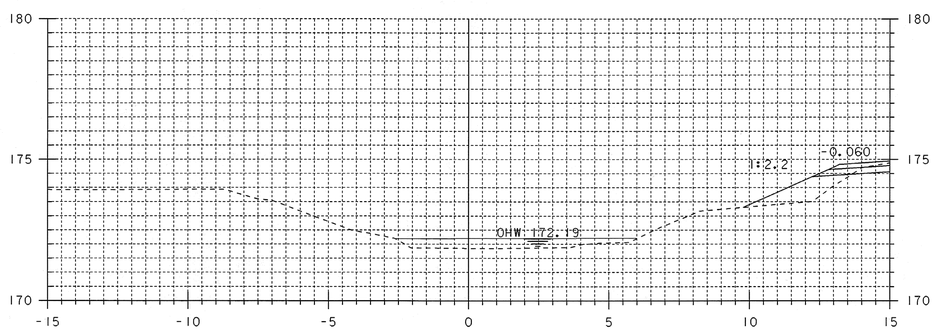


50+035

50+035
BEGIN UNCLASSIFIED CHANNEL EXCAVATION
GEOTEXTILE UNDER STONE FILL
STONE FILL, TYPE III
GRUBBING MATERIAL



50+020



50+030

50+030 RT
BEGIN COLD PLANING, BITUMINOUS CONCRETE PAVEMENT
FULL WIDTH OF TH I

0 2 4 6 8 10
SCALE 1:100

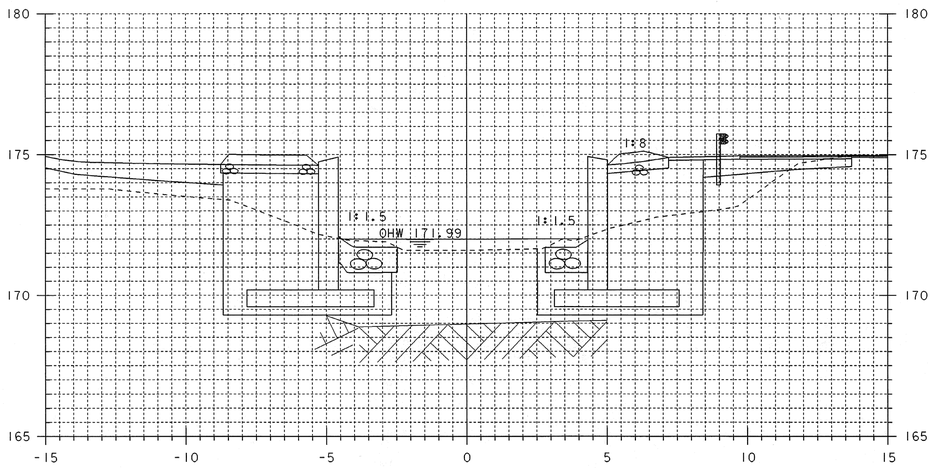
STA. 50+020 TO STA. 50+035

CHANNEL CROSS SECTIONS I

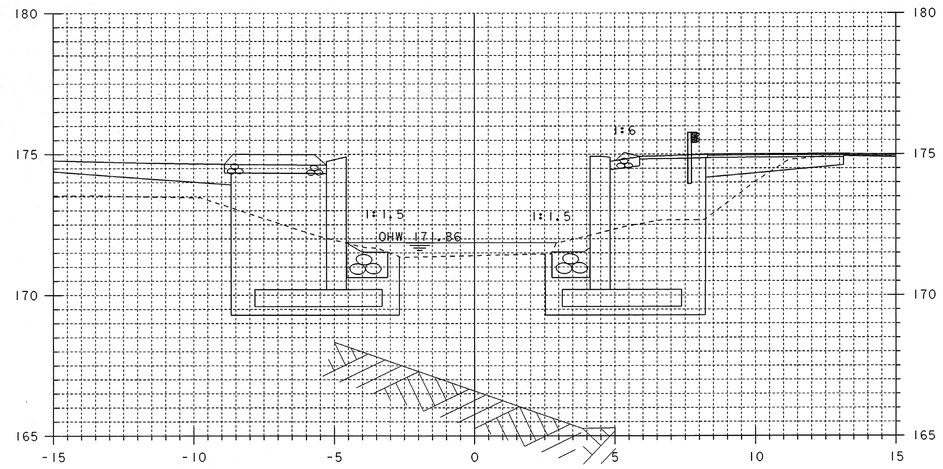
PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442(24)

FILE NAME: sj076c01.i
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: J. PERRIGO
94J076\Structures\sj076xs3.dgn

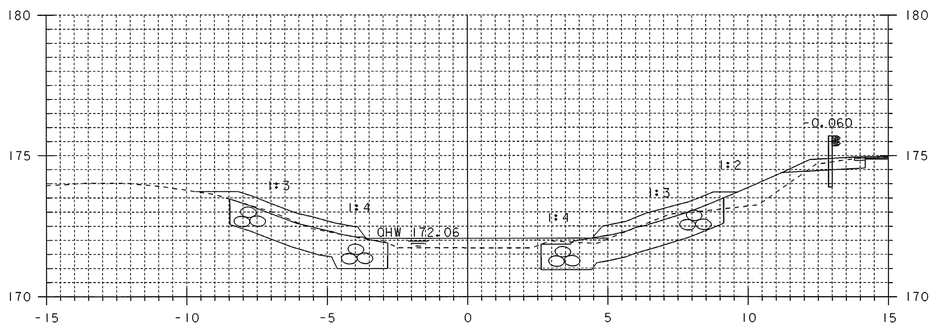
PLOT DATE: 15-APR-2008
DRAWN BY: T. LACKEY
CHECKED BY: T. LACKEY
SHEET 52 OF 59



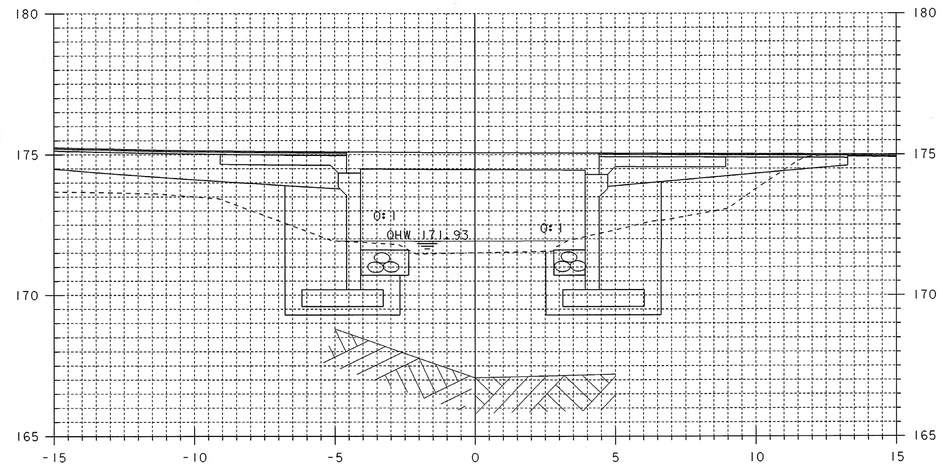
50+045



50+055



50+040



50+050

0 2 4 6 8 10

SCALE 1:100

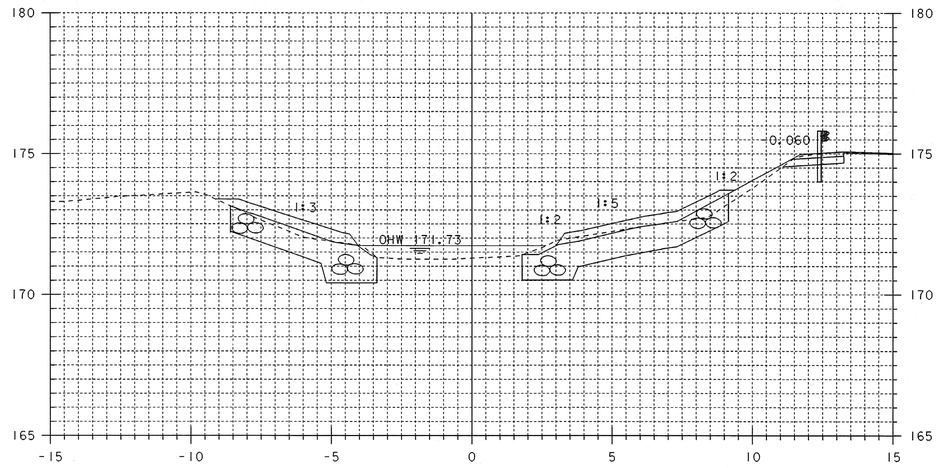
STA. 50+040 TO STA. 50+055

CHANNEL CROSS SECTIONS 2

PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442(24)

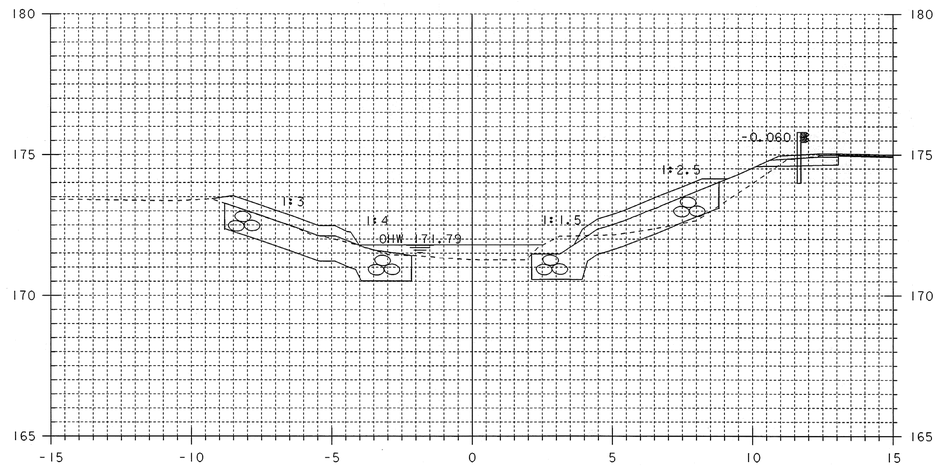
FILE NAME: sj076c02.i
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: J. PERRIGO
94J076\Structures\sj076xs3.dgn

PLOT DATE: 15-APR-2008
DRAWN BY: T. LACKEY
CHECKED BY: T. LACKEY
SHEET 53 OF 59

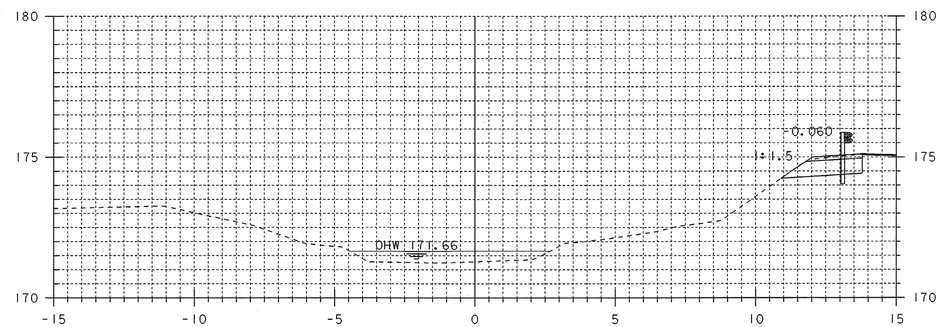


50+065

50+065
END UNCLASSIFIED CHANNEL EXCAVATION
GEOTEXTILE UNDER STONE FILL
STONE FILL, TYPE III
GRUBBING MATERIAL



50+060



50+070

50+070 RT
END COLD PLANING, BITUMINOUS CONCRETE PAVEMENT
FULL WIDTH OF TH I

0 2 4 6 8 10
SCALE 1:100

STA. 50+060 TO STA. 50+070

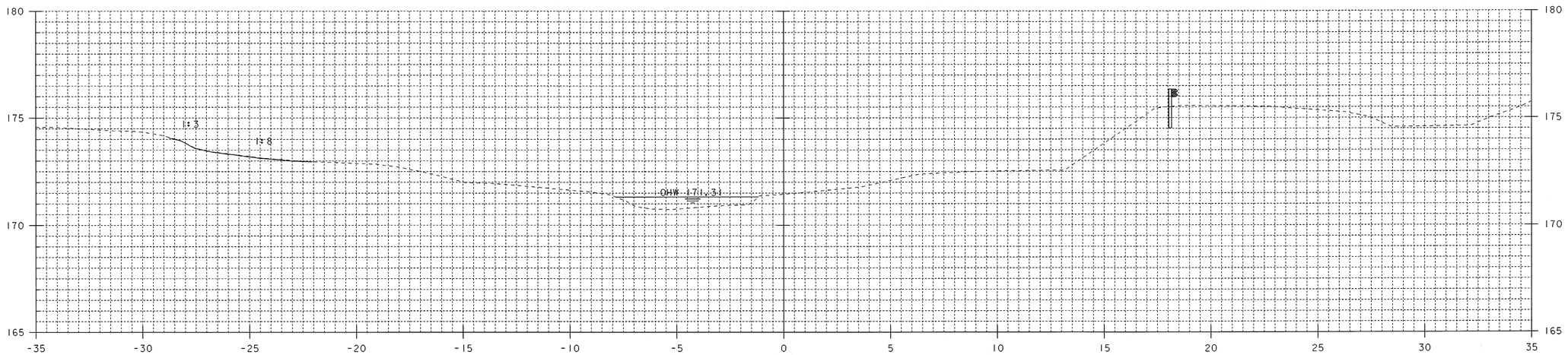
CHANNEL CROSS SECTIONS 3

PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442(24)

FILE NAME: sj076c03.i
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: J. PERRIGO
94j076\Structures\sj076xs3.dgn

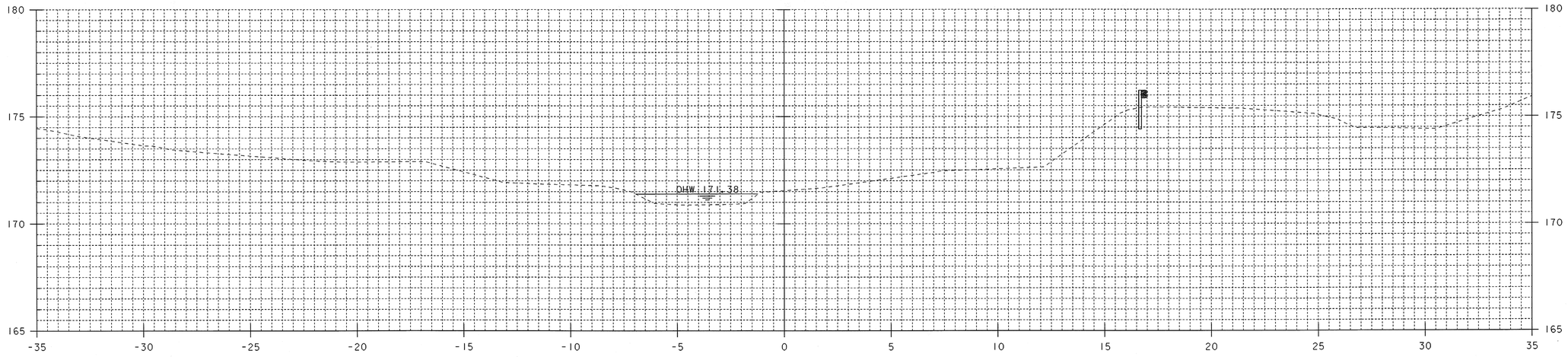
PLOT DATE: 15-APR-2008
DRAWN BY: T. LACKEY
CHECKED BY: T. LACKEY
SHEET 54 OF 59

Metric



50+095
BEGIN UNCLASSIFIED EXCAVATION

50+095.00



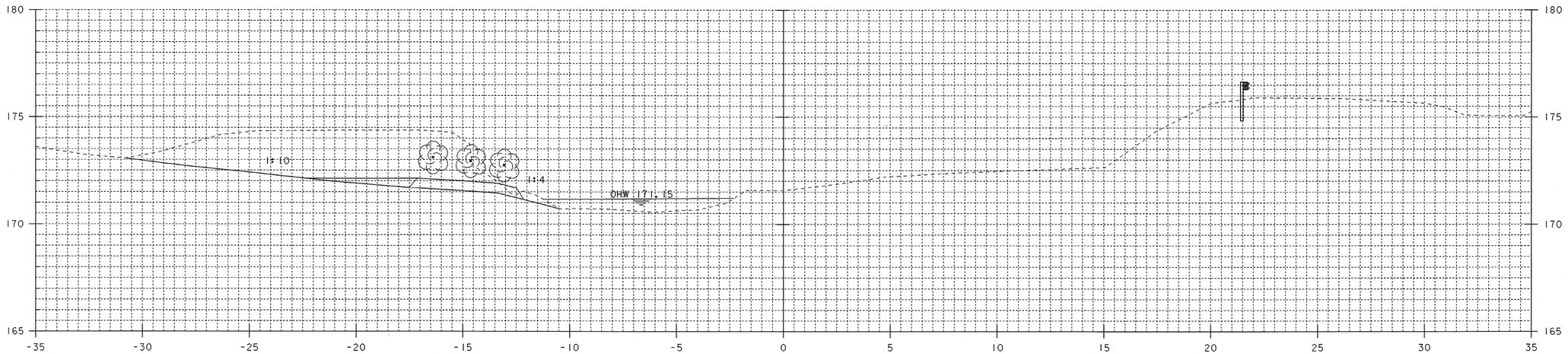
50+090.00

CHANNEL CROSS SECTIONS 4

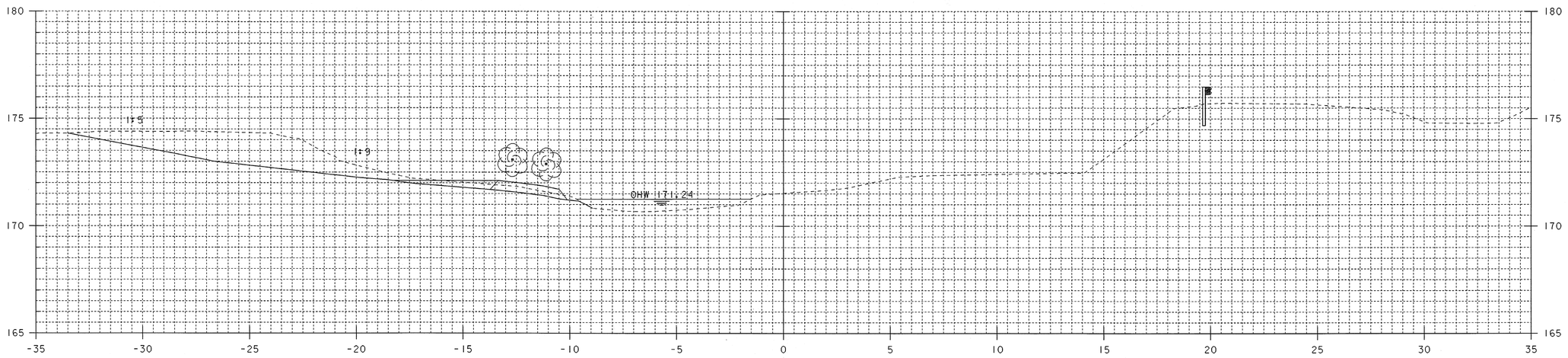
0 2 4 6 8 10
SCALE 1:100

STA. 50+090 TO STA. 50+095

PROJECT NAME: GUILFORD	
PROJECT NUMBER: BRO 1442(24)	
FILE NAME: sj076c04.i	PLOT DATE: 15-APR-2008
PROJECT LEADER: R. WHITCOMB	DRAWN BY: T. LACKEY
DESIGNED BY: J. PERRIGO	CHECKED BY: T. LACKEY
94j076\Structures\sj076xs3.dgn	SHEET 55 OF 59



50+105.00



50+098
BEGIN LANDSCAPING

50+100.00

CHANNEL CROSS SECTIONS 5

0 2 4 6 8 10
SCALE 1:100

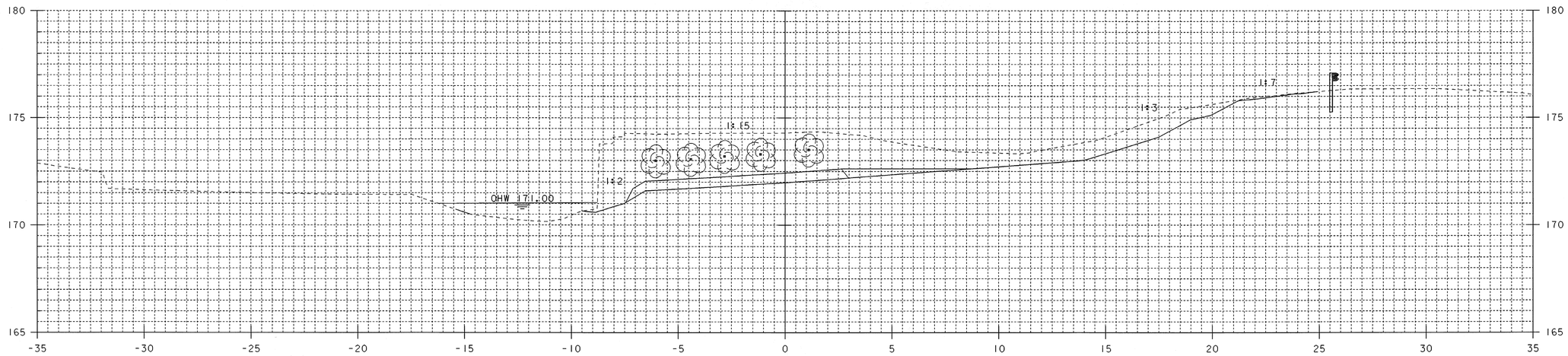
STA. 50+100 TO STA. 50+105

PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442(24)

FILE NAME: sj076c05.i
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: J. PERRIGO
94j076\Structures\sj076xs3.dgn

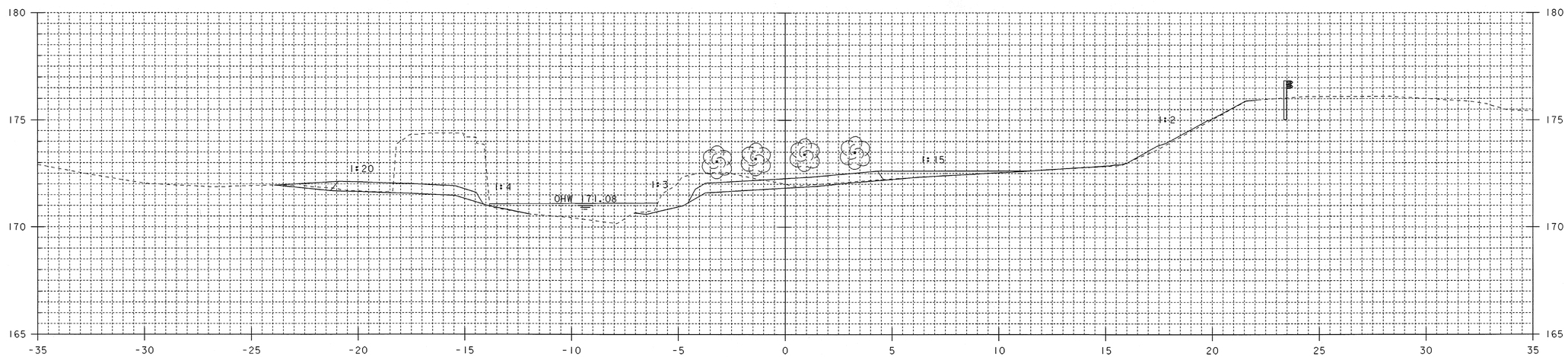
PLOT DATE: 15-APR-2008
DRAWN BY: T. LACKEY
CHECKED BY: T. LACKEY
SHEET 56 OF 59

VAOT Metric



50+114
END LANDSCAPING
END UNCLASSIFIED EXCAVATION

50+115.00



50+110.00

50+108
BEGIN LANDSCAPING
BEGIN UNCLASSIFIED EXCAVATION

0 2 4 6 8 10
SCALE 1:100

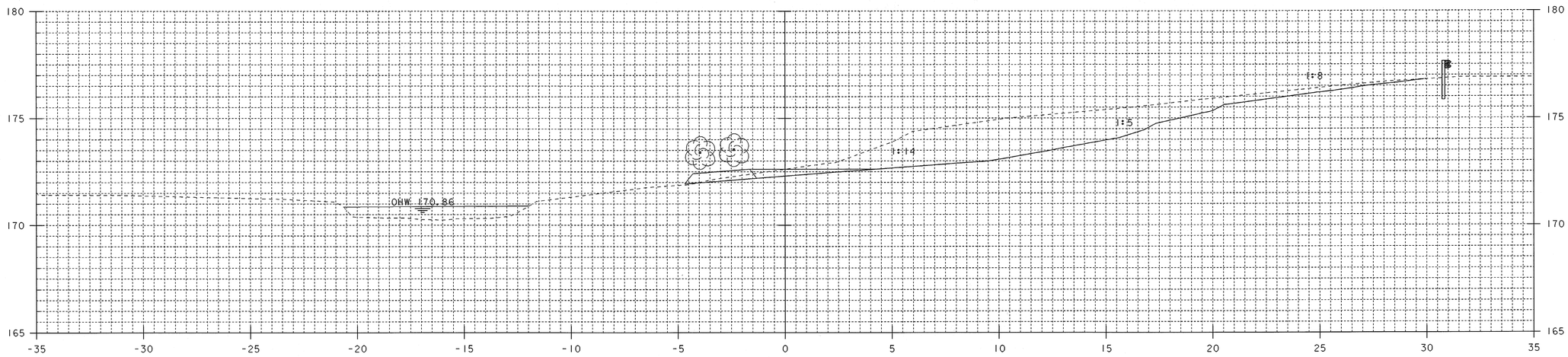
CHANNEL CROSS SECTIONS 6

STA. 50+110 TO STA. 50+115

PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442(24)

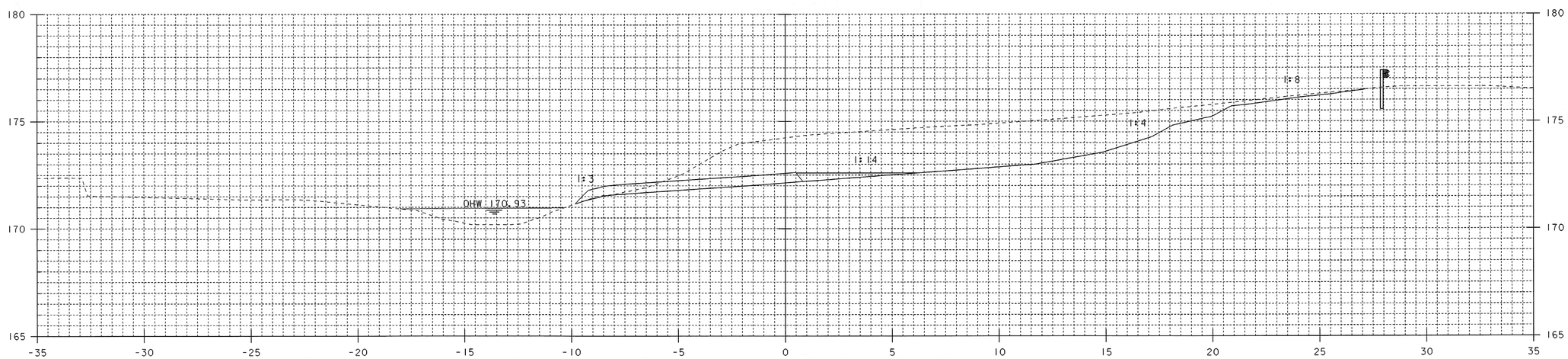
FILE NAME: sj076c06.1
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: J. PERRIGO
94j076\Structures\sj076xs3.dgn

PLOT DATE: 15-APR-2008
DRAWN BY: T. LACKEY
CHECKED BY: T. LACKEY
SHEET 57 OF 59



50+125.00

50+127
END LANDSCAPING



50+120.00

CHANNEL CROSS SECTIONS 7

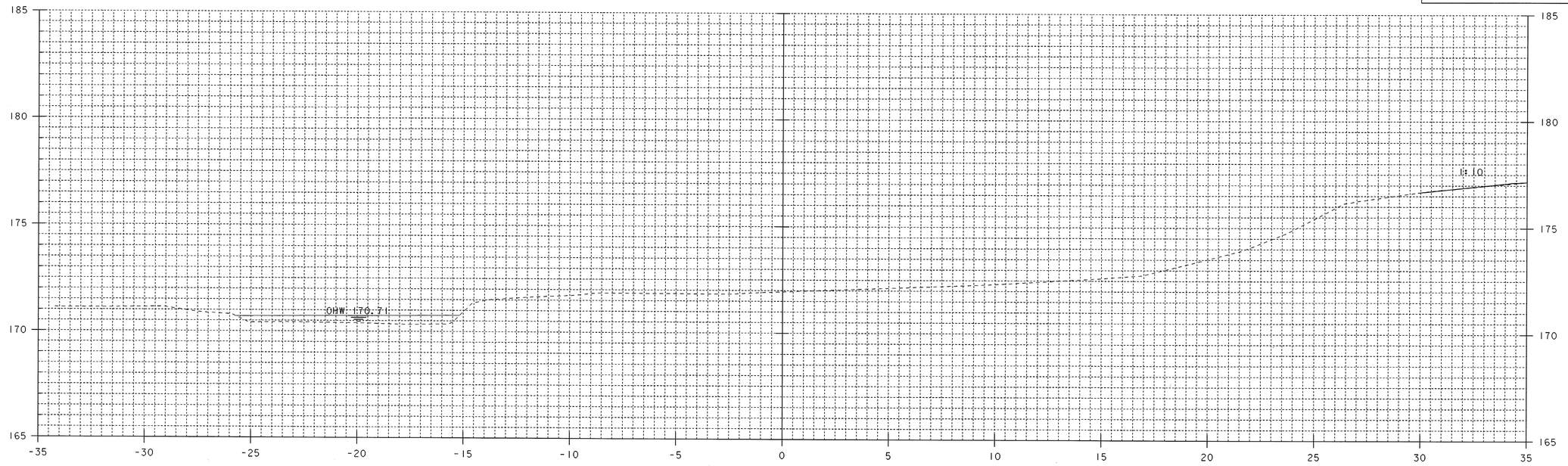
0 2 4 6 8 10
SCALE 1:100

STA. 50+120 TO STA. 50+125

PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442(24)

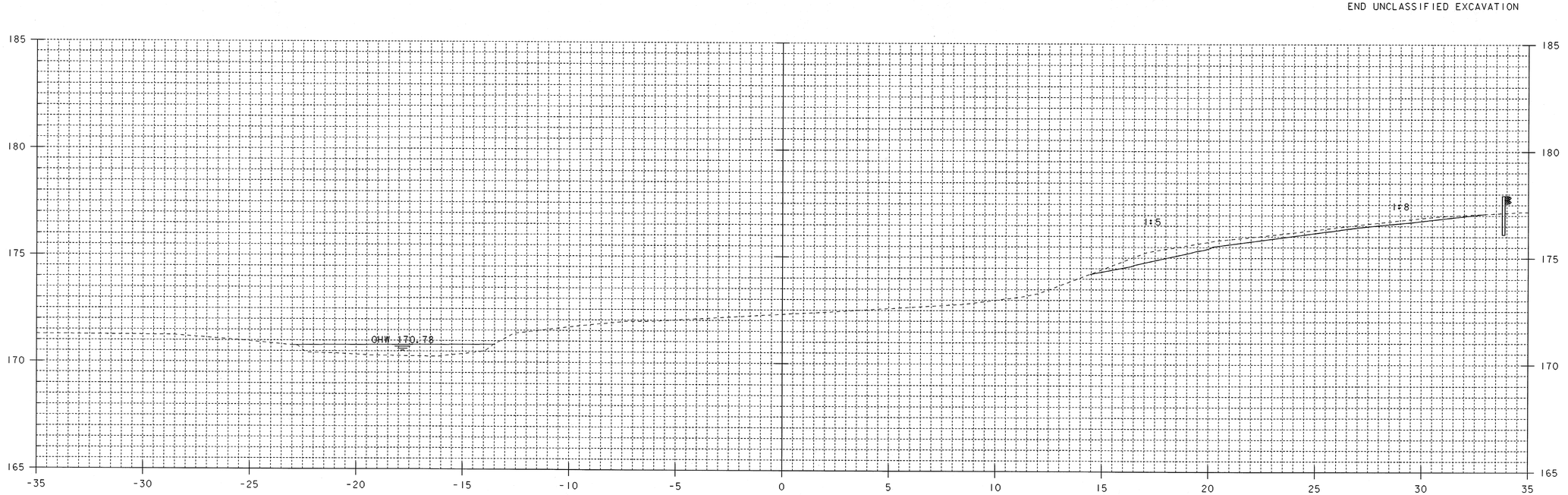
FILE NAME: sj076c07.i
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: J. PERRIGO
94j076\Structures\sj076xs3.dgn

PLOT DATE: 15-APR-2008
DRAWN BY: T. LACKEY
CHECKED BY: T. LACKEY
SHEET 58 OF 59



50+135.00

50+135
END UNCLASSIFIED EXCAVATION



50+130.00

0 2 4 6 8 10
SCALE 1:100

STA. 50+130 TO STA. 50+135

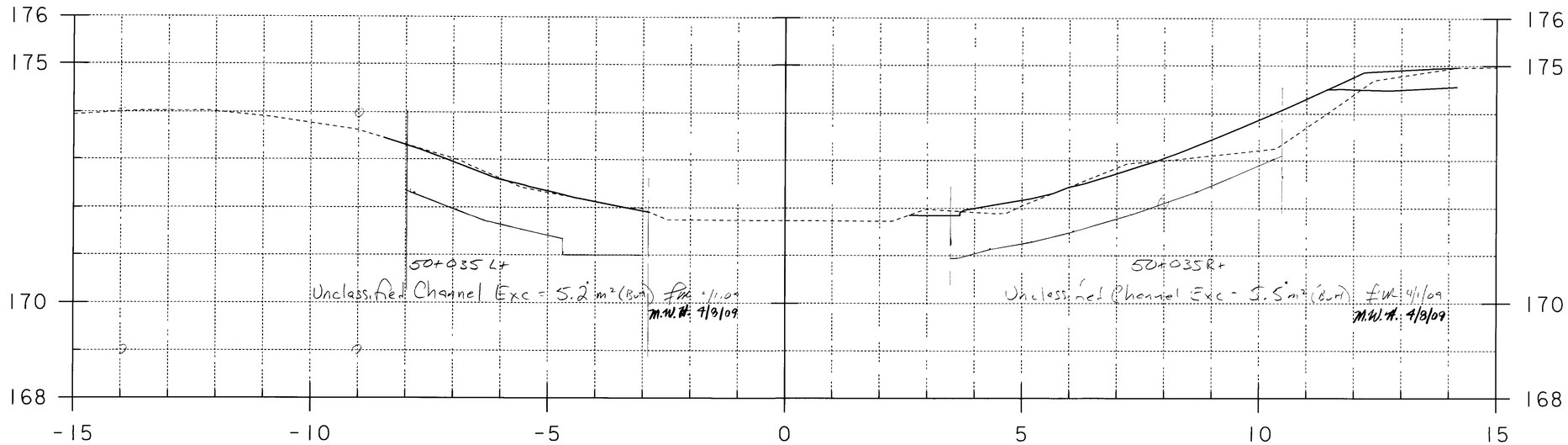
CHANNEL CROSS SECTIONS 8

PROJECT NAME:	GUILFORD
PROJECT NUMBER:	BRO 1442(24)

FILE NAME: sj076c08.i	PLOT DATE: 15-APR-2008
PROJECT LEADER: R. WHITCOMB	DRAWN BY: T. LACKEY
DESIGNED BY: J. PERRIGO	CHECKED BY: T. LACKEY
94j076\Structures\sj076xs3.dgn	SHEET 59 OF 59

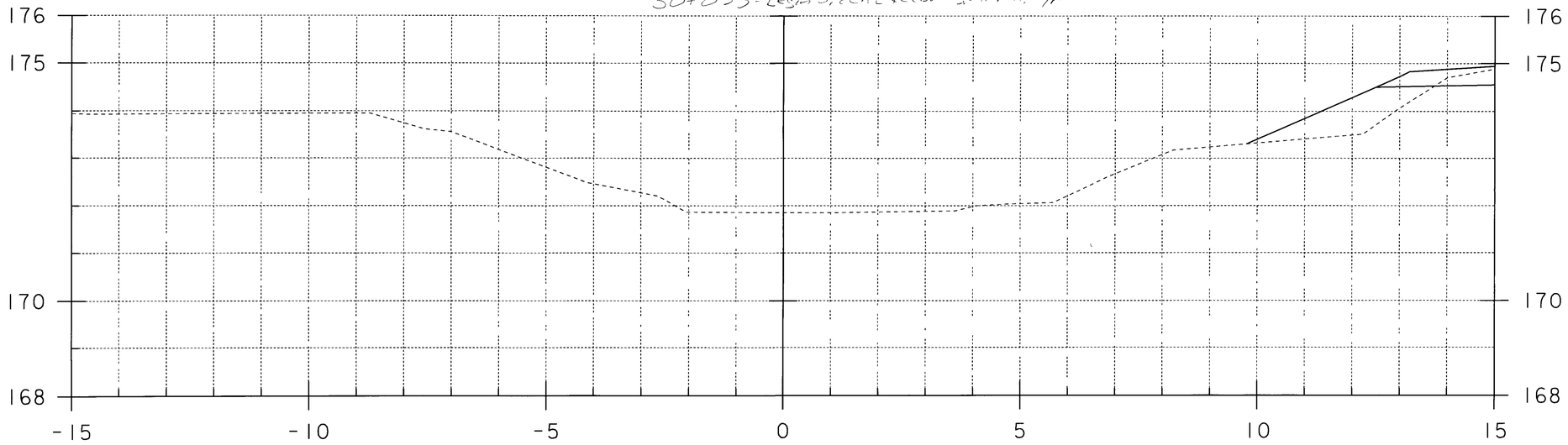
50+041.5 Left = Zero Cofferdam Excavation, Earth
= Zero Granular Backfill for Structures

50+041 Rt = Zero Cofferdam Excavation, Earth
= Zero Granular Backfill for Structures



50+040.000 = Same as 50+035 (Use 50+040 section for 50+035)

50+035 = Begin Unclassified Channel Excavation, Zone Fill, typ. 1.0m, Grade 1V:4H (Use section 50+040)



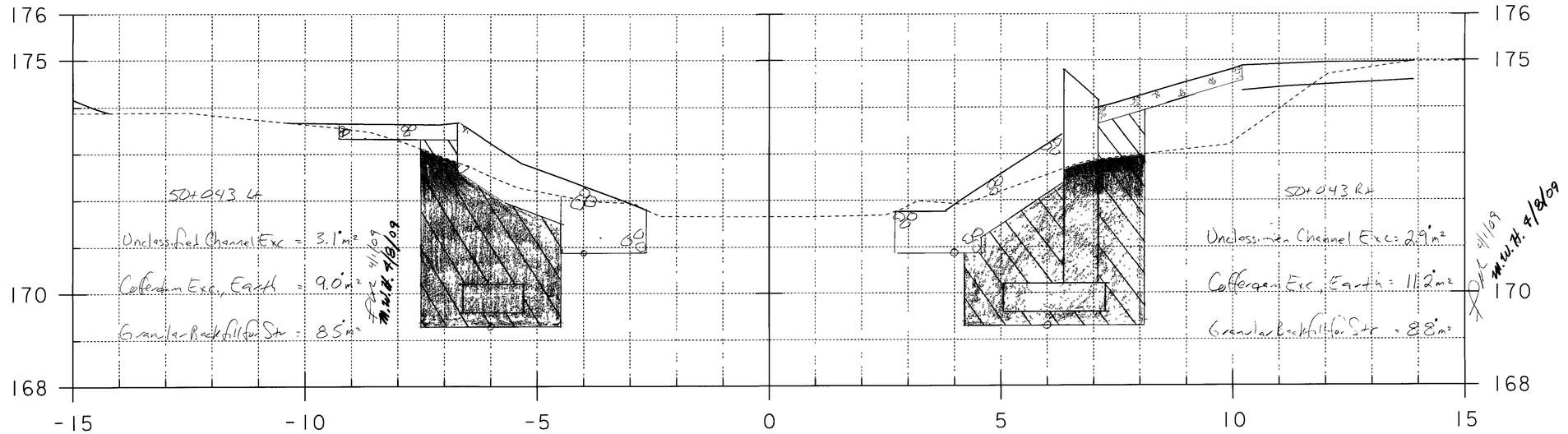
50+030.000

STA. 50+030.000 TO STA. 50+040.000

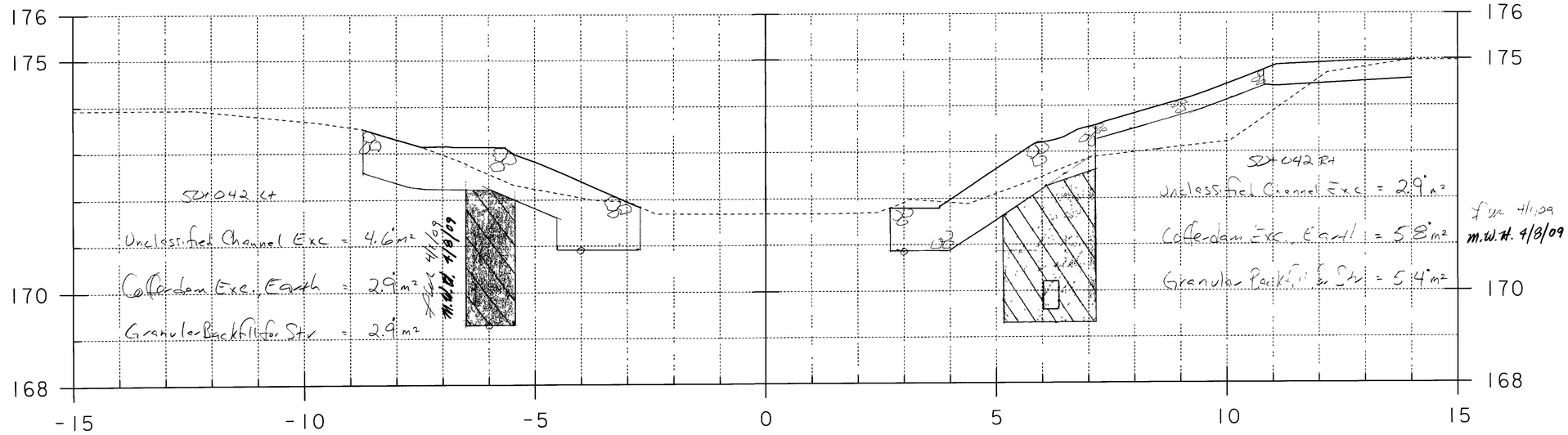
0 1 2 3 4 5
SCALE = 1:50

PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442(24)
project sheet # 1 of 2?

FILE NAME: sj076cl1.i
PROJECT LEADER: R. WHITCOMB
DESIGNED BY:
94076\Structures\sj076xs3.dgn
PLOT DATE: 04-MAR-2009
DRAWN BY: T. LACKEY
CHECKED BY:
SHEET 1 OF 9



50+043.000



50+042.000

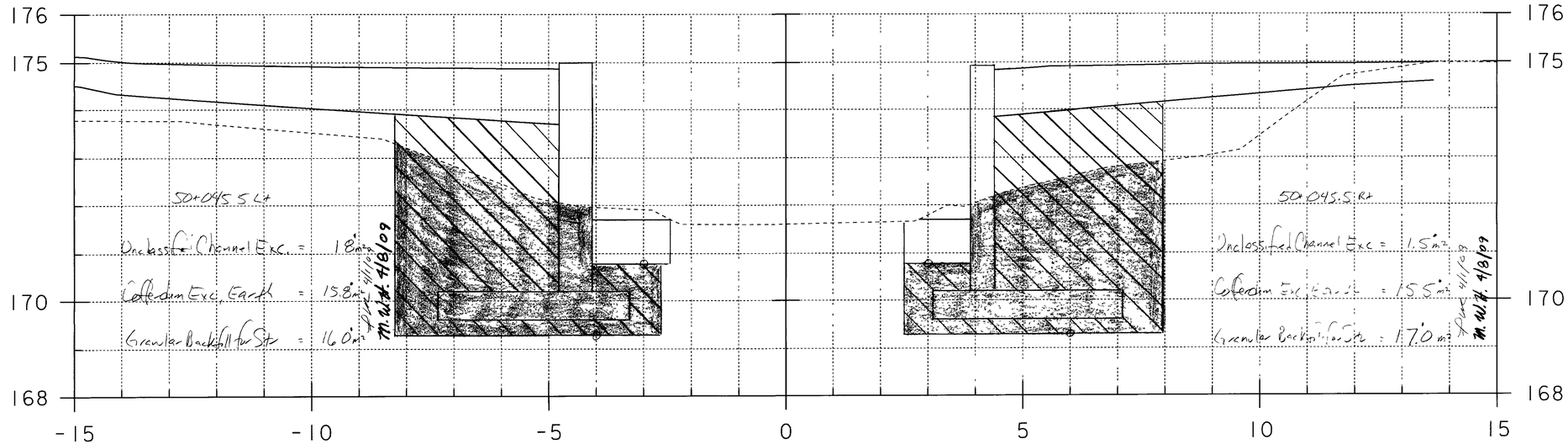
STA. 50+042.000 TO STA. 50+043.000

0 1 2 3 4 5
SCALE = 1:50

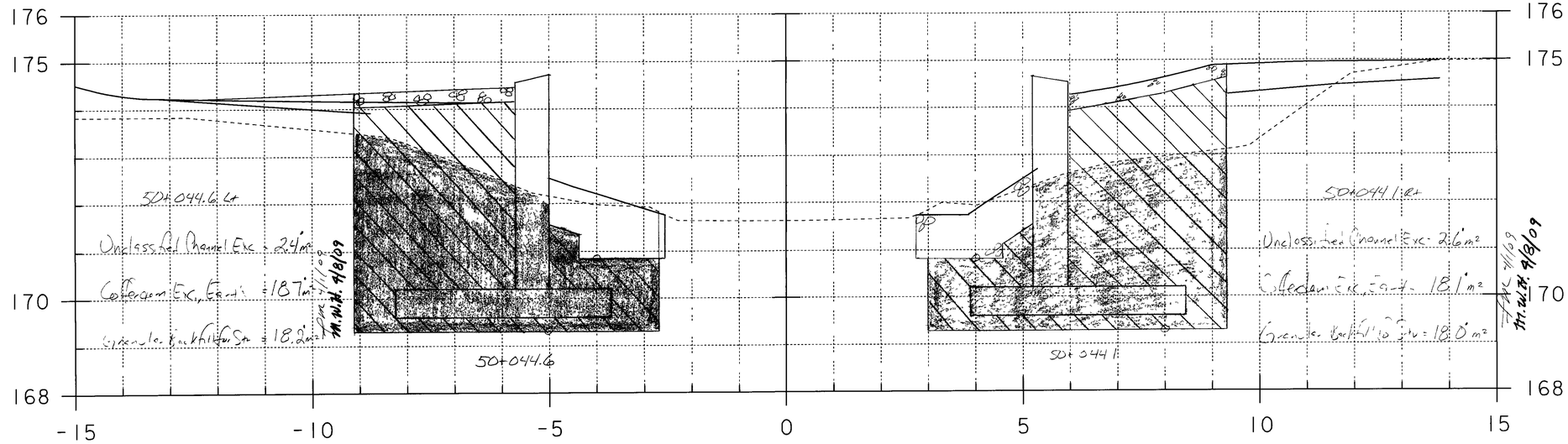
PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442(24) project sheet 2 of 3

FILE NAME: sj076cl2.1
PROJECT LEADER: R. WHITCOMB
DESIGNED BY:
94J076\Structures\sj076xs3.dgn

PLOT DATE: 04-MAR-2009
DRAWN BY: T. LACKEY
CHECKED BY:
SHEET 2 OF 9



50+045.500



50+044.000

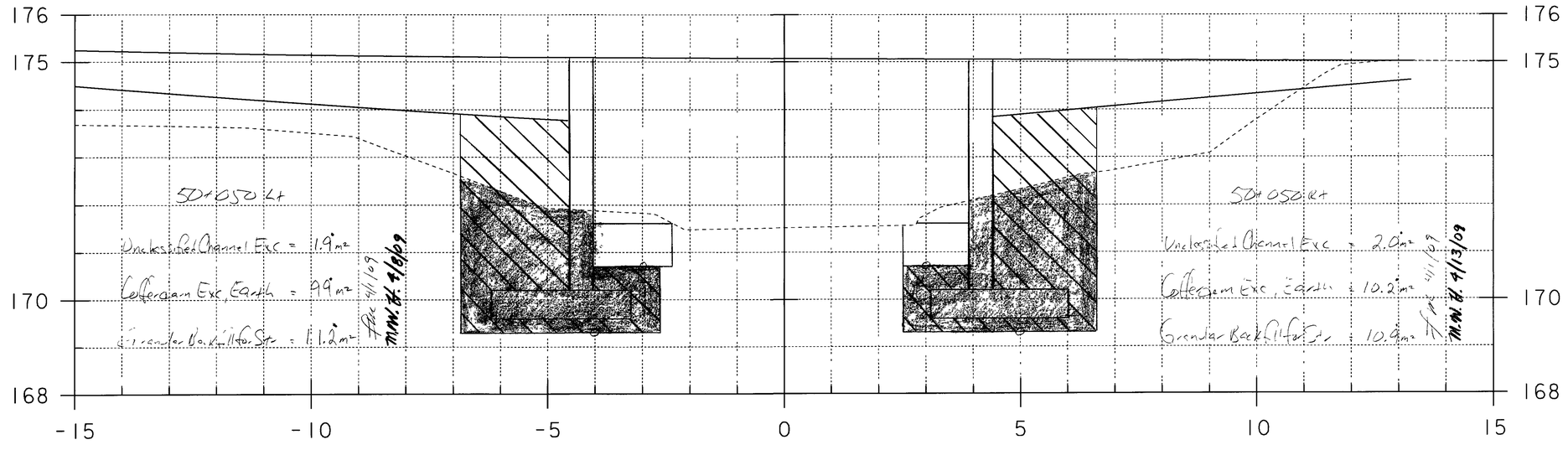
0 1 2 3 4 5
SCALE = 1:50

STA. 50+044.000 TO STA. 50+045.500

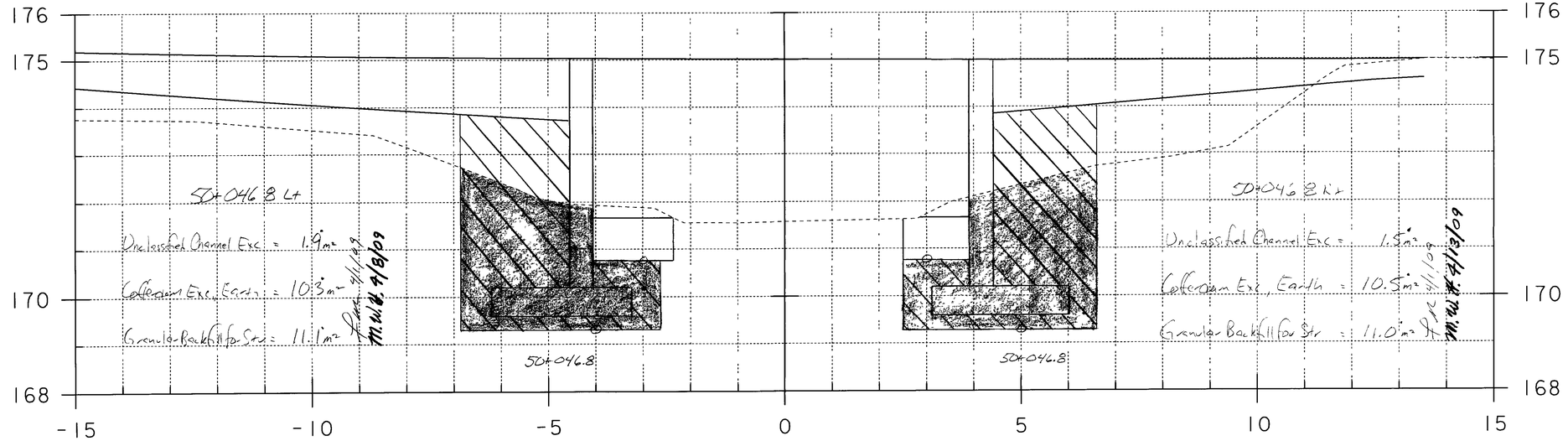
PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442(24)
Project sheet #3 of 12

FILE NAME: sj076cl3.1
PROJECT LEADER: R. WHITCOMB
DESIGNED BY:
94j076\Structures\sj076xs3.dgn

PLOT DATE: 04-MAR-2009
DRAWN BY: T. LACKEY
CHECKED BY:
SHEET 3 OF 9



50+050.000



50+047.000

STA. 50+047.000 TO STA. 50+050.000

0 1 2 3 4 5

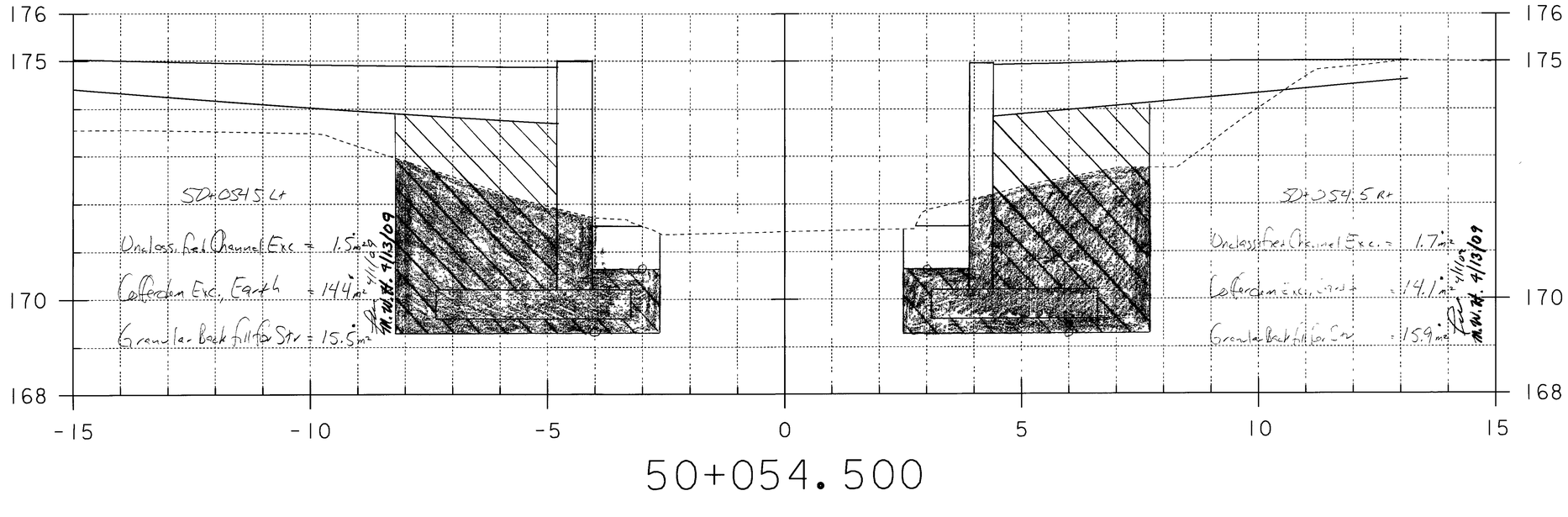
SCALE = 1:50

PROJECT NAME: GUILFORD

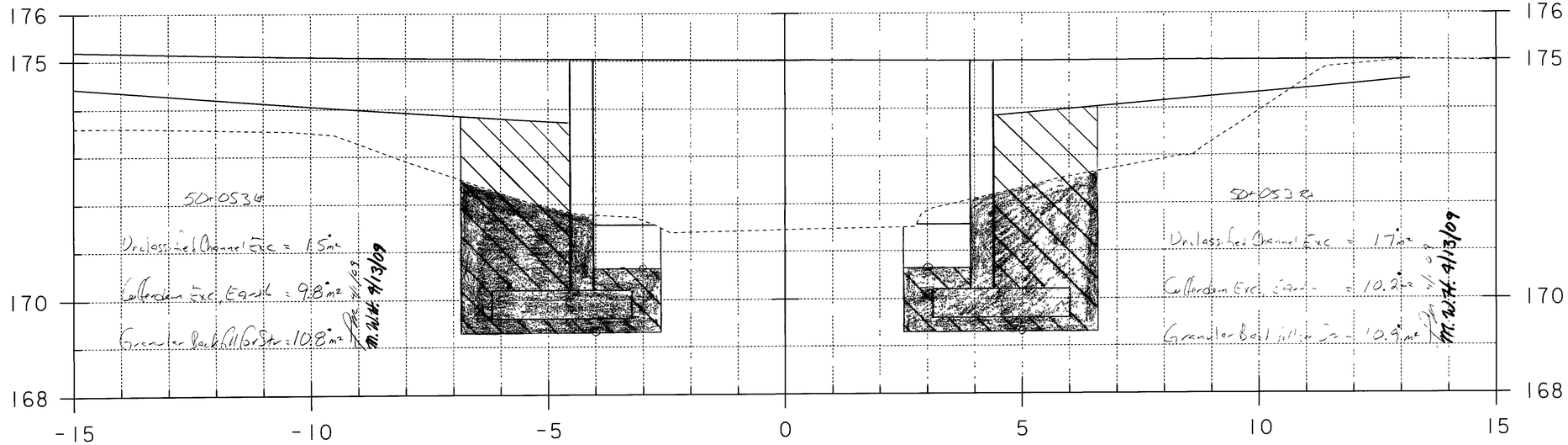
PROJECT NUMBER: BRO 1442(24) project sheet #: 10 of 29

FILE NAME: sj076cl4.i
PROJECT LEADER: R. WHITCOMB
DESIGNED BY:
94J076\Structures\sj076xs3.dgn

PLOT DATE: 04-MAR-2009
DRAWN BY: T. LACKEY
CHECKED BY:
SHEET 4 OF 9



50+054.500



50+053.000

0 1 2 3 4 5

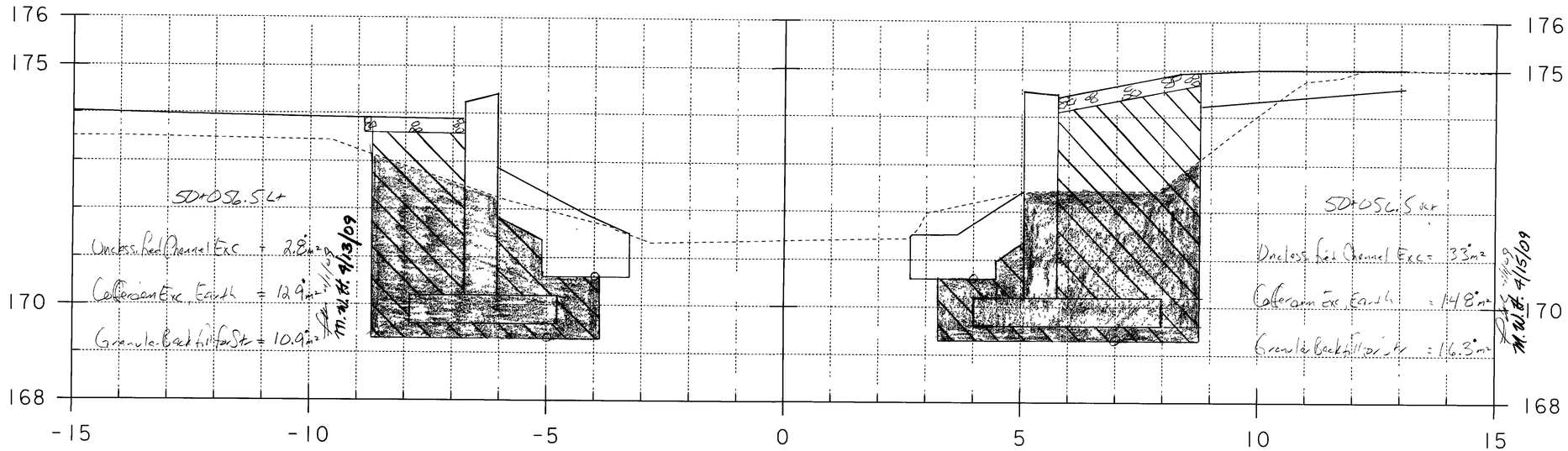
SCALE = 1:50

STA. 50+053.000 TO STA. 50+054.500

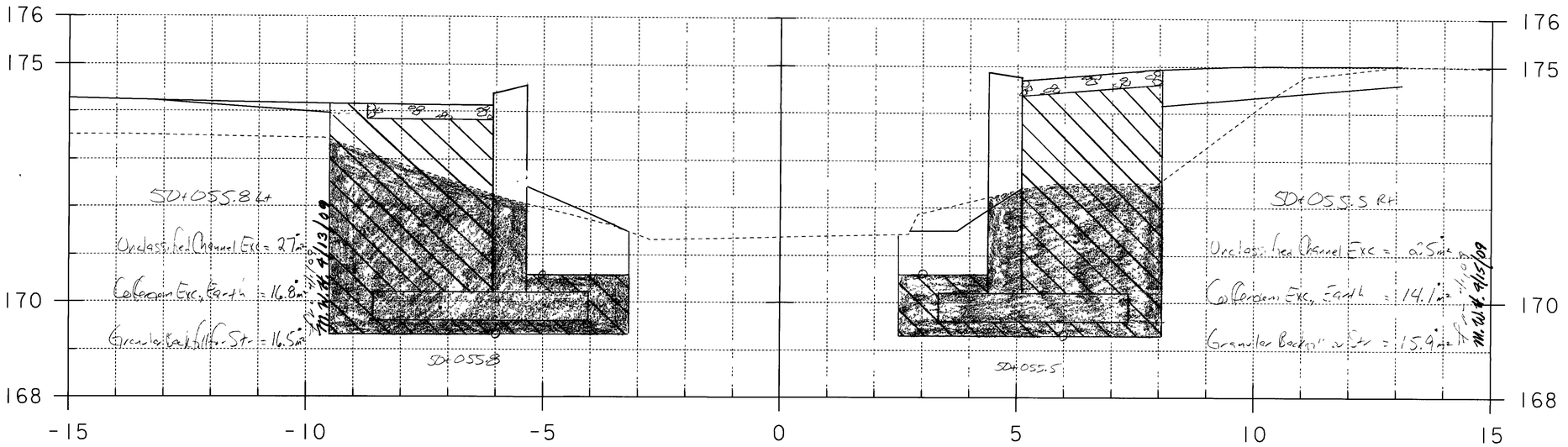
PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442(24)
Project sheet #5 of 28

FILE NAME: sJ076cl5.1
PROJECT LEADER: R. WHITCOMB
DESIGNED BY:
94J076\Structures\sJ076xs3.dgn

PLOT DATE: 04-MAR-2009
DRAWN BY: T. LACKEY
CHECKED BY:
SHEET 5 OF 9



50+056.500



50+056.000

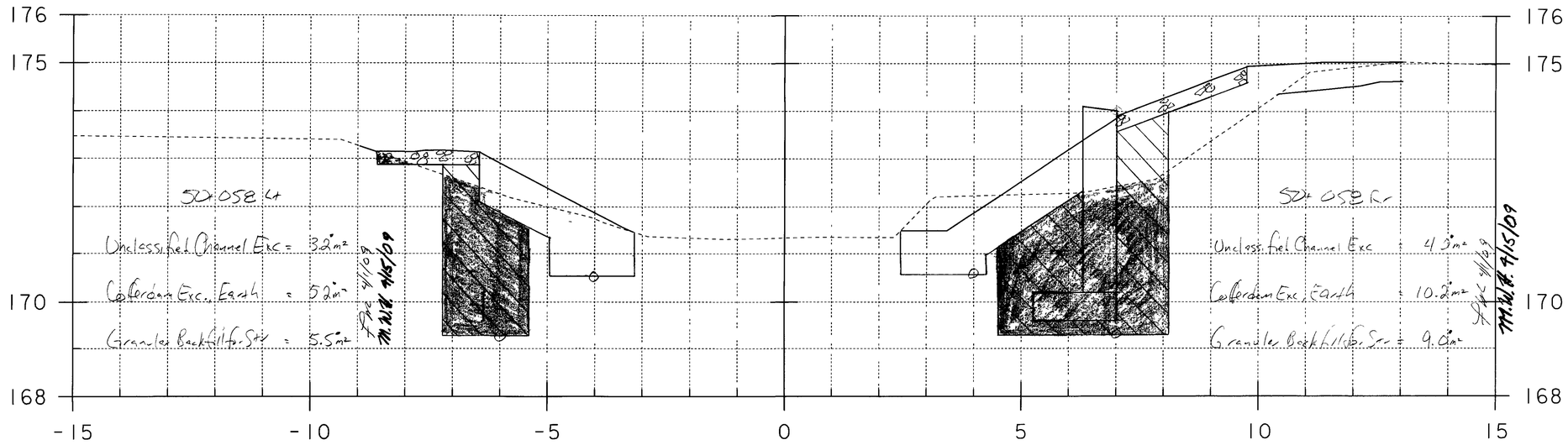
STA. 50+056.000 TO STA. 50+056.500

0 1 2 3 4 5
SCALE = 1:50

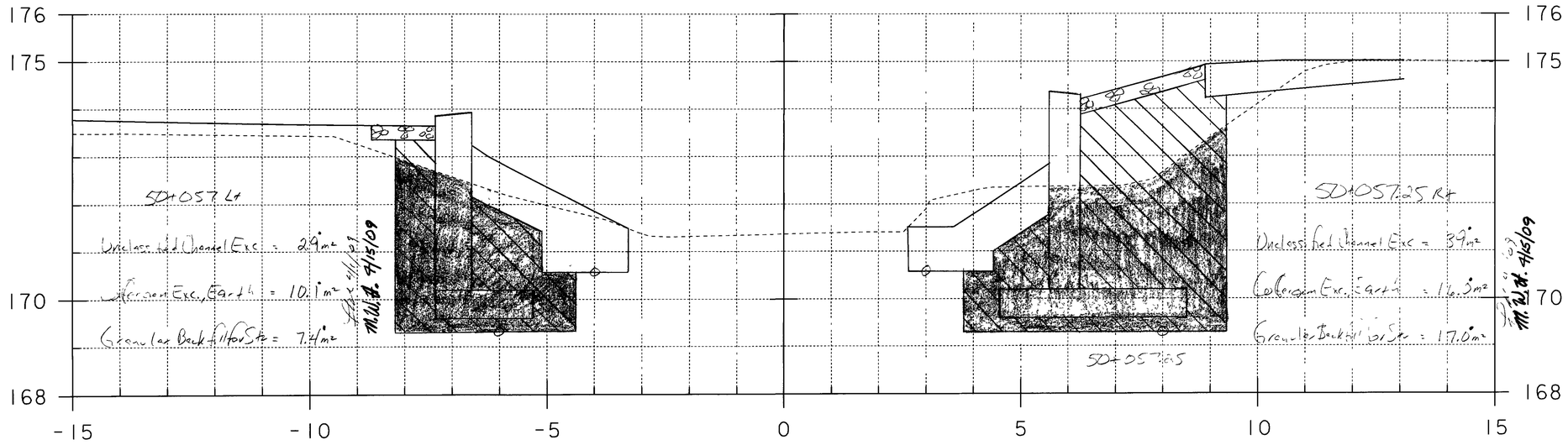
PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442(24)
Project Sheet # 6 of 29

FILE NAME: sJ076cl6.1
PROJECT LEADER: R. WHITCOMB
DESIGNED BY:
94J076\Structures\sJ076xs3.dgn

PLOT DATE: 04-MAR-2009
DRAWN BY: T. LACKEY
CHECKED BY:
SHEET 6 OF 9



50+058.000



50+057.000

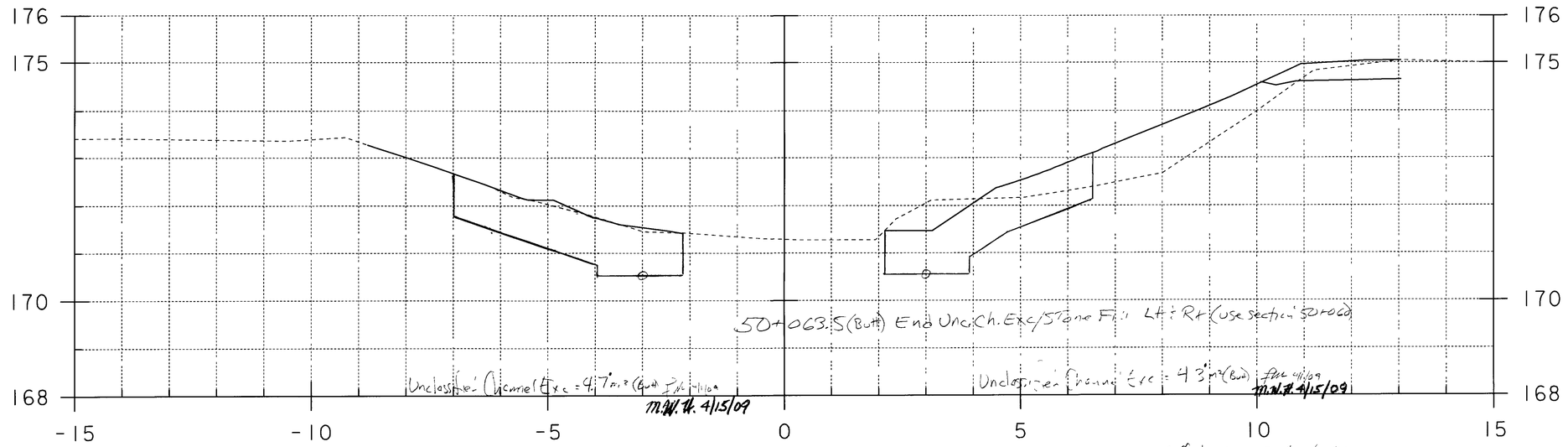
STA. 50+057.000 TO STA. 50+058.000

0 1 2 3 4 5
SCALE = 1:50

PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442(24) Project Sheet # 7 of 13

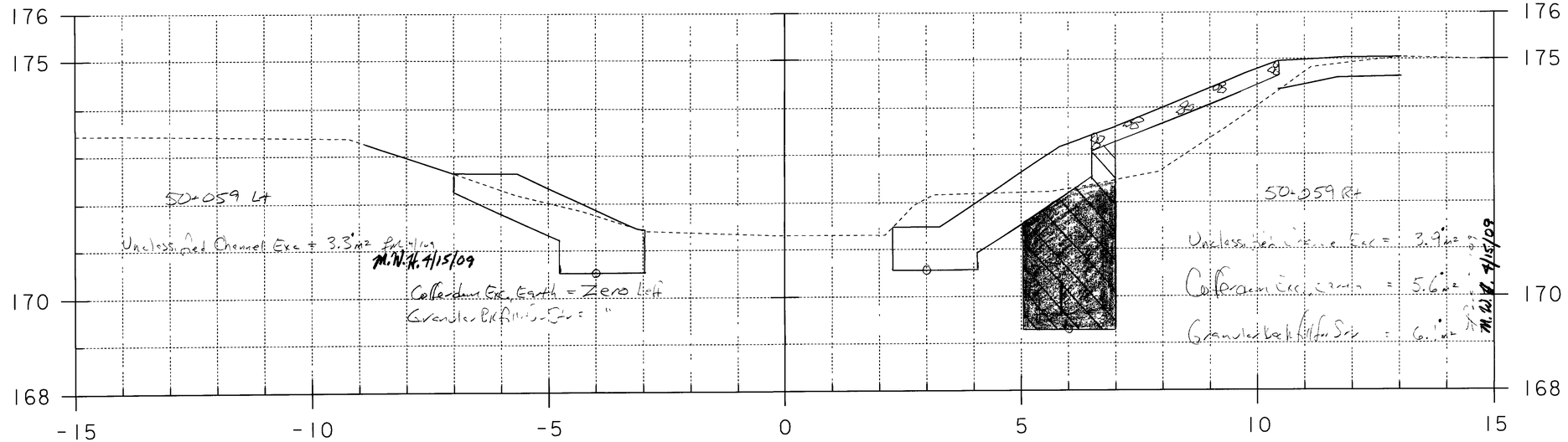
FILE NAME: sJ076cl7.1
PROJECT LEADER: R. WHITCOMB
DESIGNED BY:
94J076\Structures\sJ076xs3.dgn

PLOT DATE: 04-MAR-2009
DRAWN BY: T. LACKEY
CHECKED BY:
SHEET 7 OF 9



50+060.000 Same as 50+062.5

50+059.8 = Zero Cofferdam Exc, Earth Right
= Zero Granular Backfill for Str



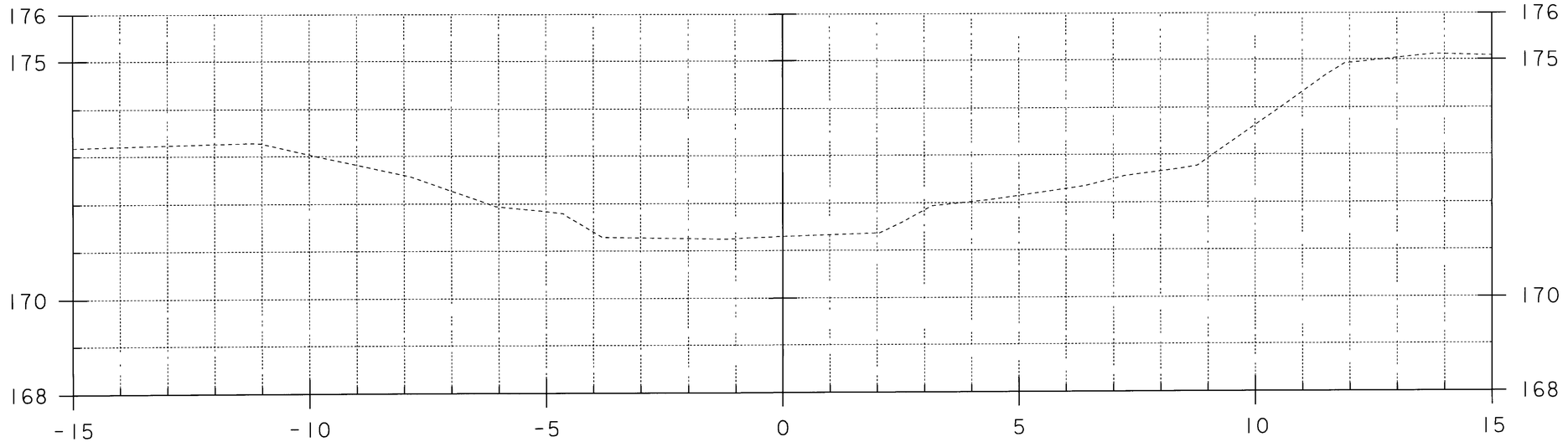
50+059.000

0 1 2 3 4 5
SCALE = 1:50

STA. 50+059.000 TO STA. 50+060.000

PROJECT NAME: GUILFORD	Project Sheet 8 of 25
PROJECT NUMBER: BRO 1442(24)	
FILE NAME: sJ076c18.1	PLOT DATE: 04-MAR-2009
PROJECT LEADER: R. WHITCOMB	DRAWN BY: T. LACKEY
DESIGNED BY:	CHECKED BY:
94J076\Structures\sJ076xs3.dgn	SHEET 8 OF 9

Metric



50+070.000

0 1 2 3 4 5

SCALE = 1:50

STA. 50+070.000 TO STA. 50+070.000

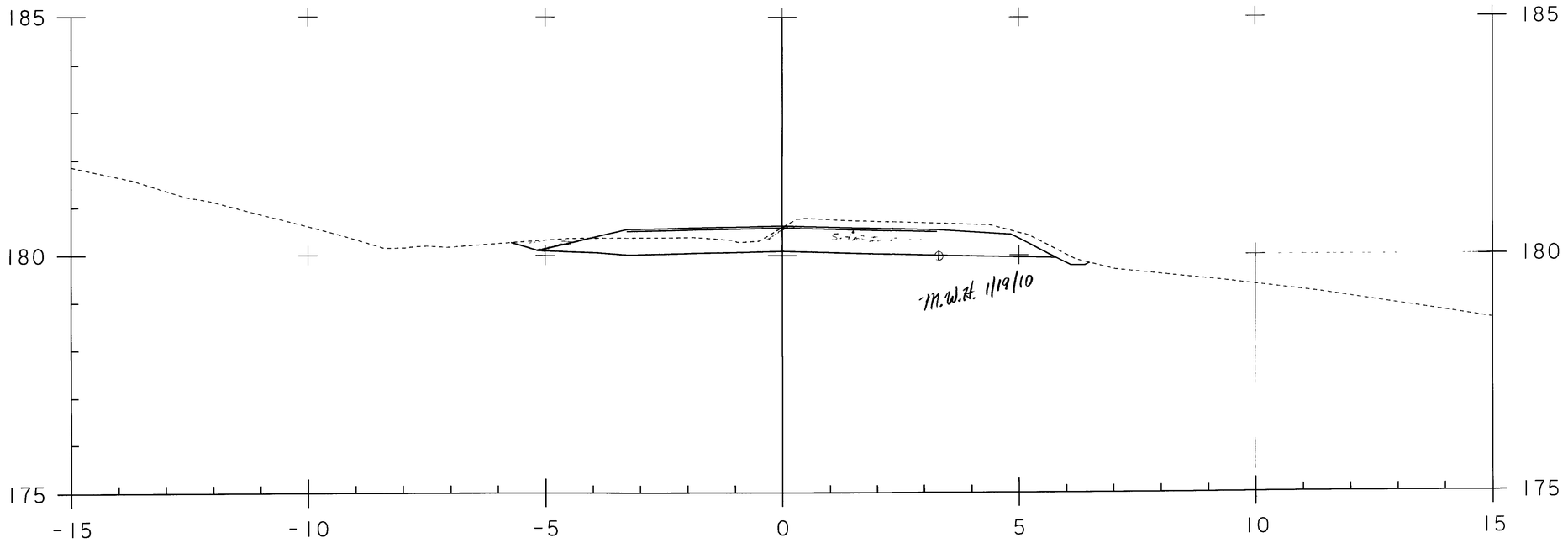
PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442(24)

Project sheet #3 of 28

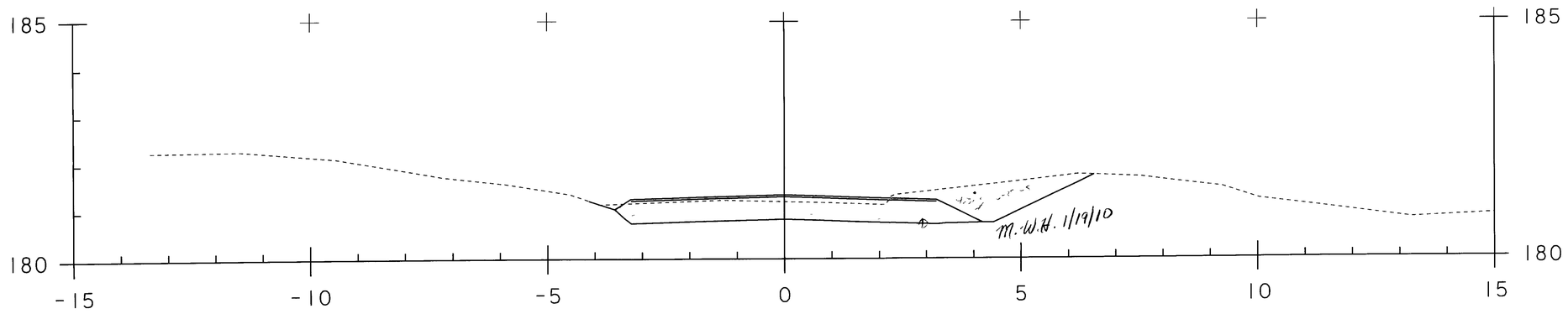
FILE NAME: sj076cl9.1
PROJECT LEADER: R. WHITCOMB
DESIGNED BY:
94J076\Structures\sJ076xs3.dgn

PLOT DATE: 04-MAR-2009
DRAWN BY: T. LACKEY
CHECKED BY:
SHEET 9 OF 9

Metric



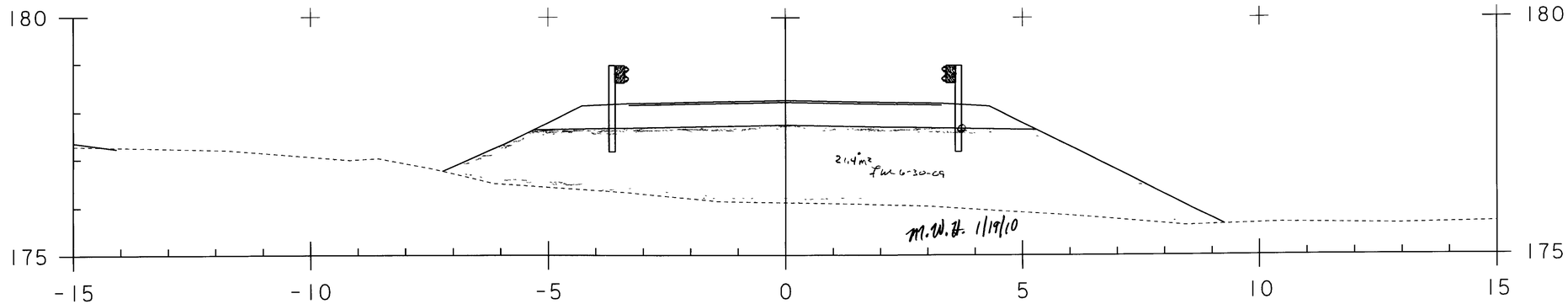
40+050.00



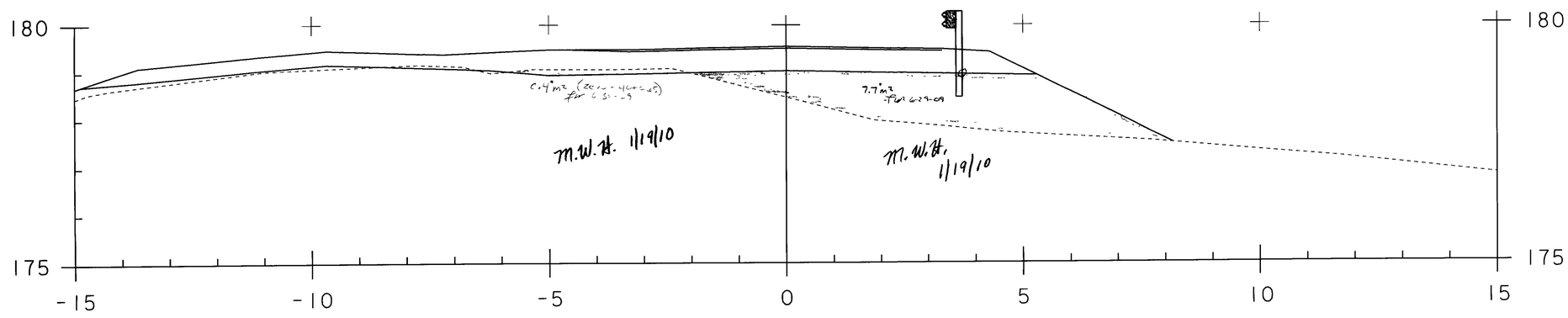
40+040.00

STA. 40+040 TO STA. 40+050

PROJECT NAME: GUILFORD	
PROJECT NUMBER: BRO 1442(24)	
FILE NAME: sJ076c2l.1	PLOT DATE: 16-JUN-2009
PROJECT LEADER: R. WHITCOMB	DRAWN BY: T. LACKEY
DESIGNED BY:	CHECKED BY:
94J076\Structures\sJ076xs3.dgn	SHEET 10 OF 23



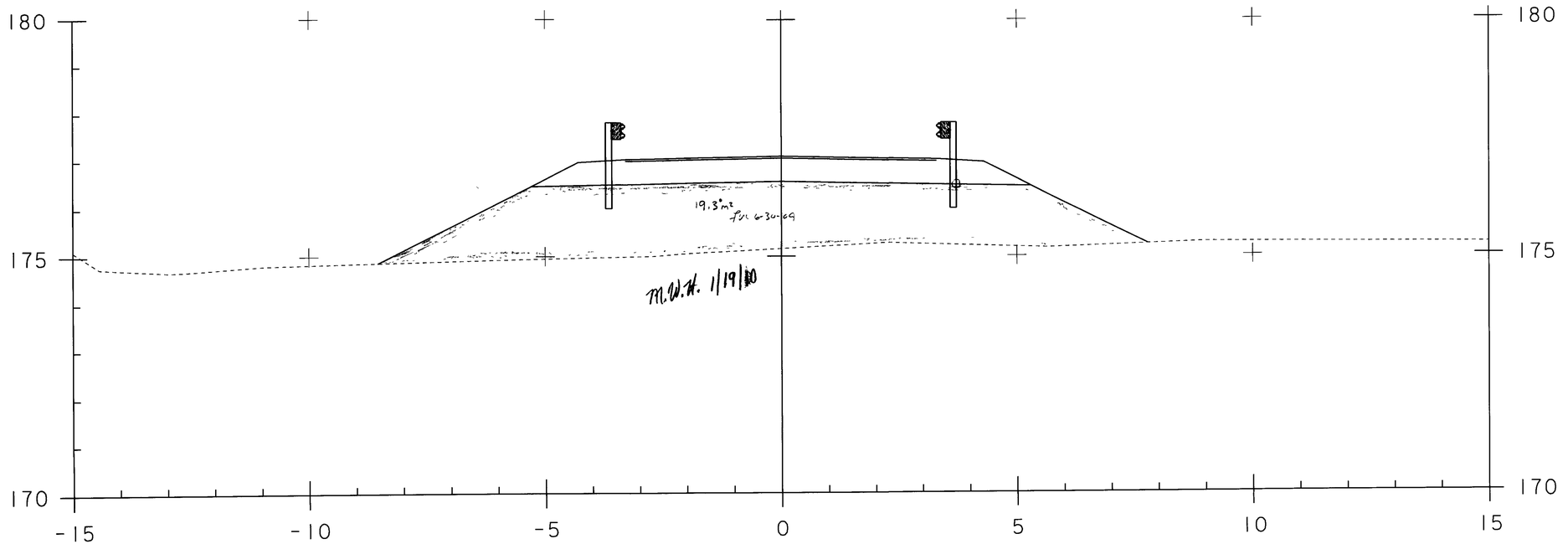
40+070.00



40+060.00

STA. 40+060 TO STA. 40+070

PROJECT NAME: GUILFORD	
PROJECT NUMBER: BRO 1442(24)	
FILE NAME: sJ076c22.1	PLOT DATE: 16-JUN-2009
PROJECT LEADER: R. WHITCOMB	DRAWN BY: T. LACKEY
DESIGNED BY:	CHECKED BY:
94J076\Structures\sJ076xs3.dgn	SHEET 11 OF 23



40+080.00

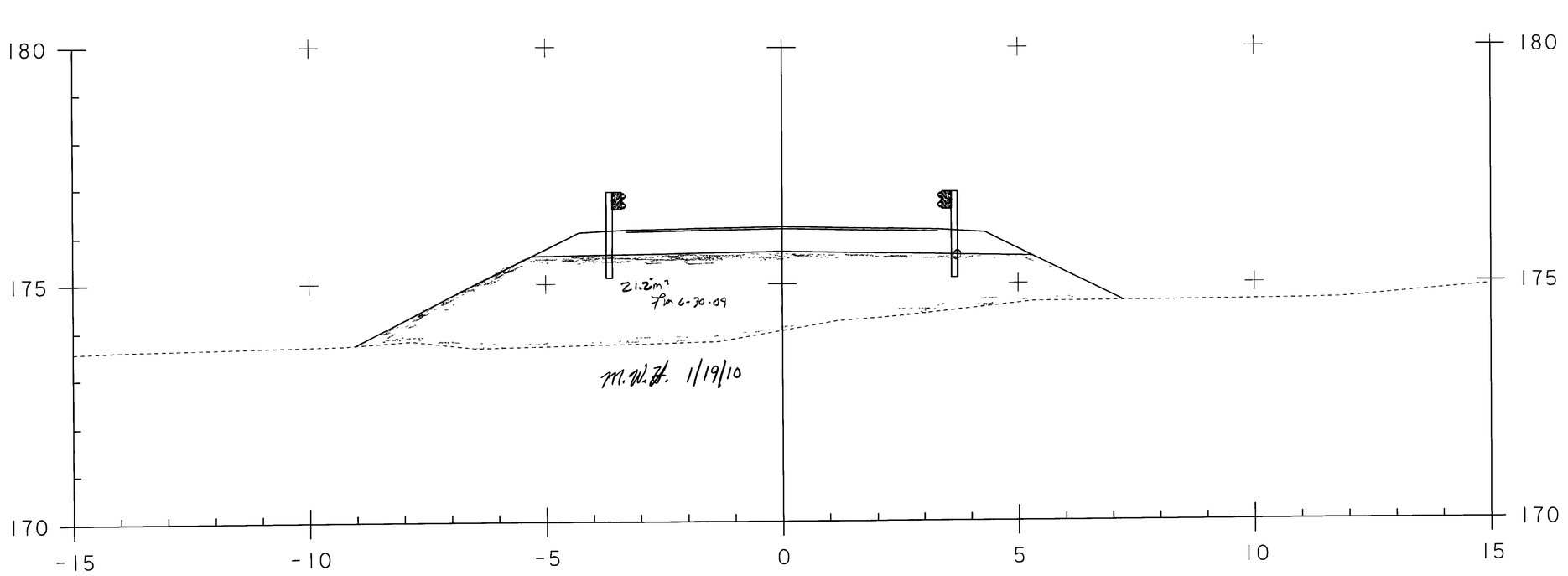
STA. 40+080 TO STA. 40+080

PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442(24)

FILE NAME: sJ076c23.I
PROJECT LEADER: R. WHITCOMB
DESIGNED BY:
94J076\Structures\sJ076xs3.dgn

PLOT DATE: 16-JUN-2009
DRAWN BY: T. LACKEY
CHECKED BY:
SHEET 12 OF 23

Metric



40+090.00

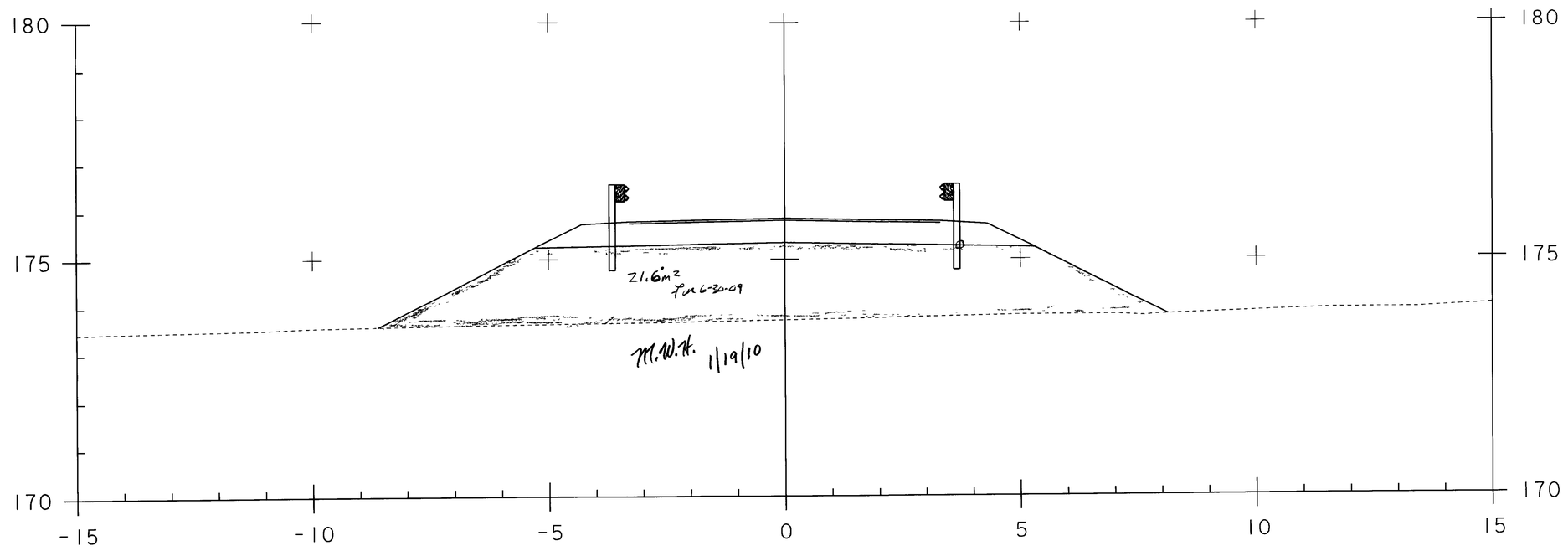
STA. 40+090 TO STA. 40+090

PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442(24)

FILE NAME: sJ076cs24.dgn
PROJECT LEADER: R. WHITCOMB
DESIGNED BY:
94J076\Structures\sJ076xs3.dgn

PLOT DATE: 16-JUN-2009
DRAWN BY: T. LACKEY
CHECKED BY:
SHEET 13 OF 23

Metric



40+095.00

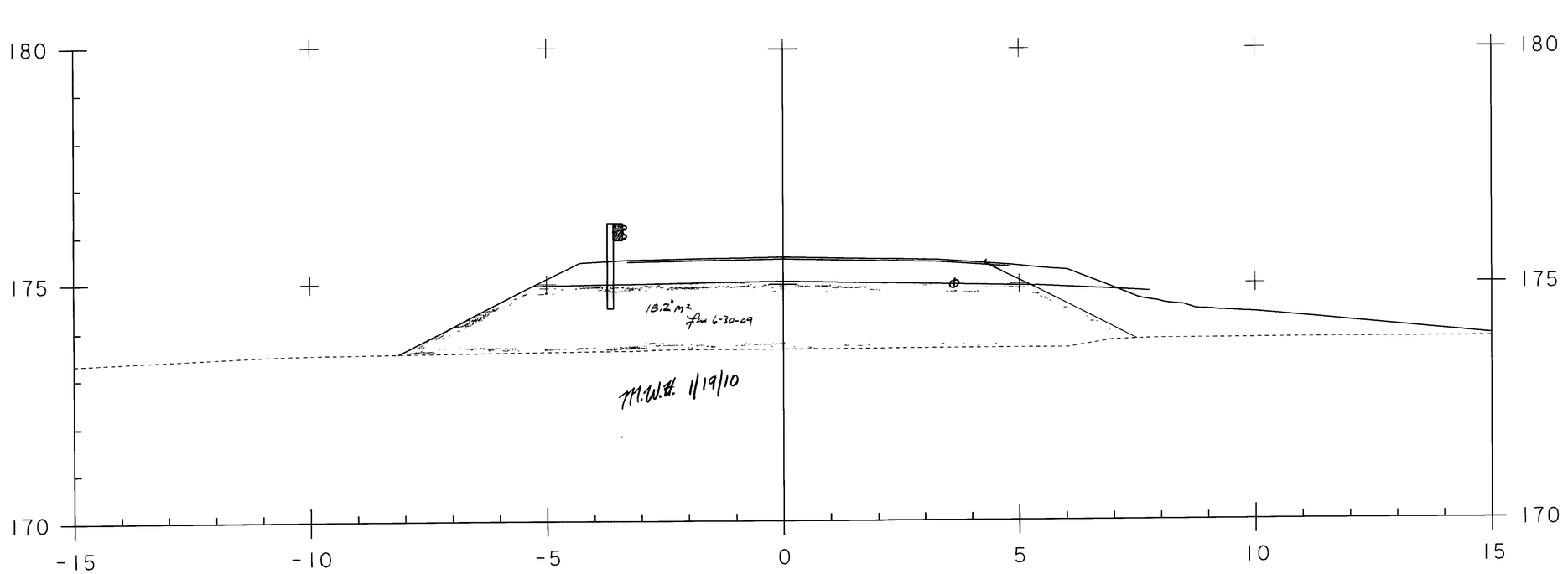
STA. 40+095 TO STA. 40+095

PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442(24)

FILE NAME: sj076c25.1
PROJECT LEADER: R. WHITCOMB
DESIGNED BY:
94J076\Structures\sj076xs3.dgn

PLOT DATE: 16-JUN-2009
DRAWN BY: T. LACKEY
CHECKED BY:
SHEET 14 OF 23

Metric



40+100.00

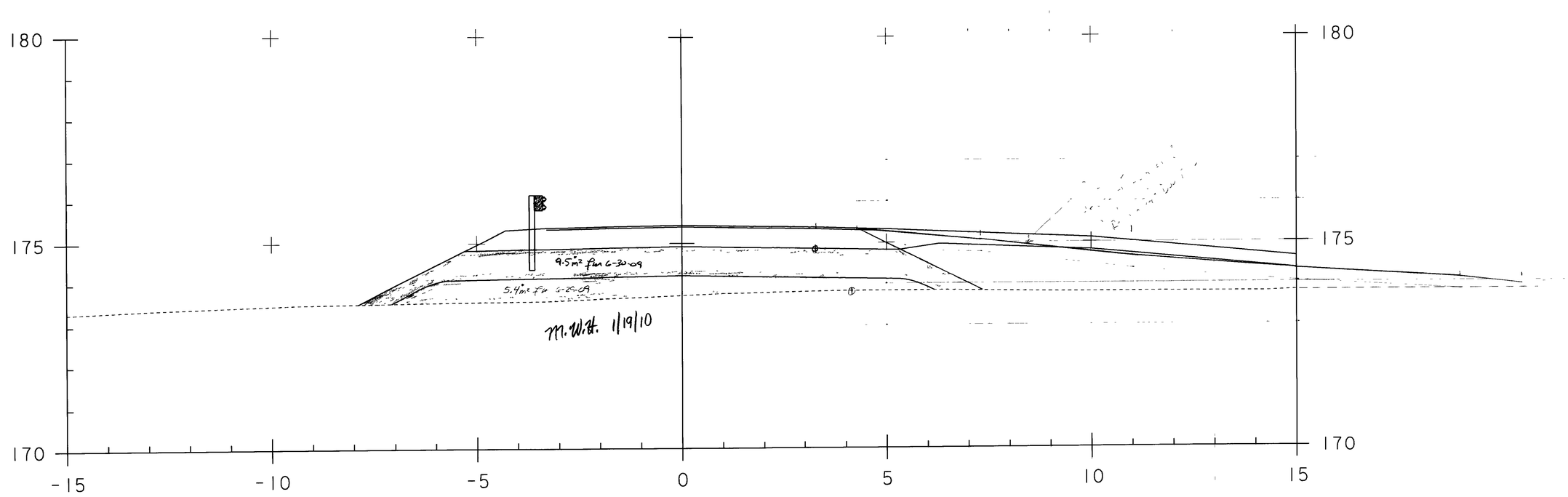
STA. 40+100 TO STA. 40+100

PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442(24)

FILE NAME: sj076c26.1
PROJECT LEADER: R. WHITCOMB
DESIGNED BY:
94J076\Structures\sj076xs3.dgn

PLOT DATE: 16-JUN-2009
DRAWN BY: T. LACKEY
CHECKED BY:
SHEET 15 OF 23

Metric



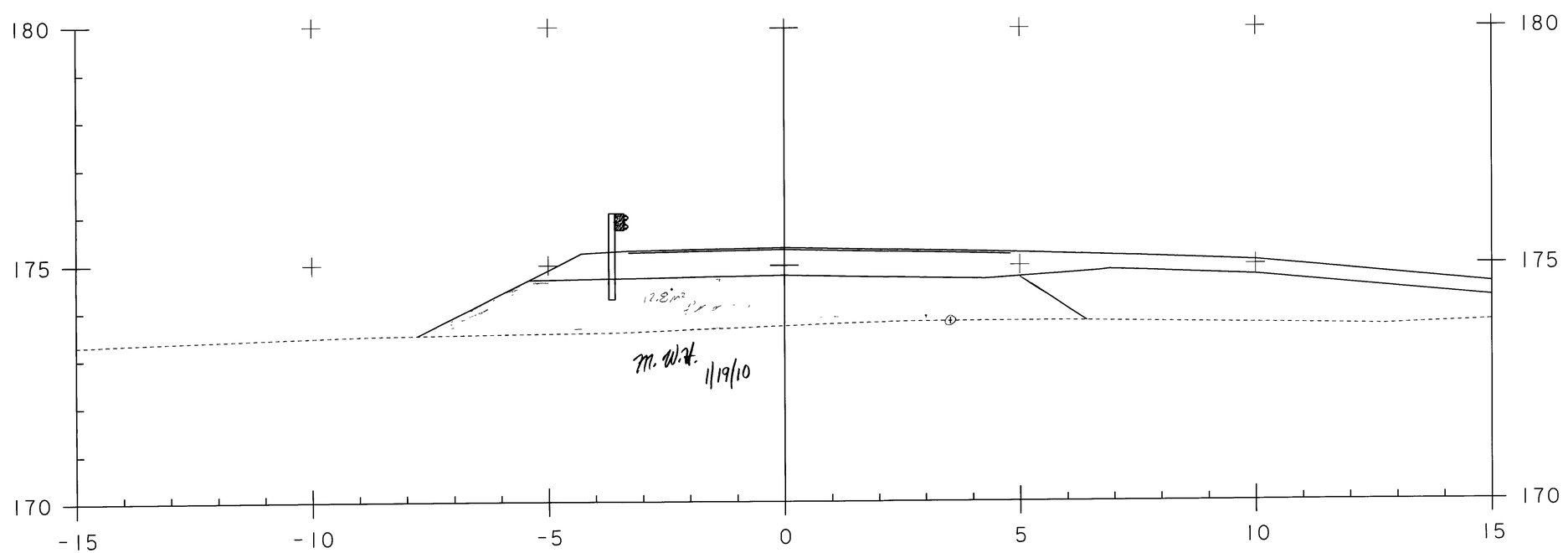
40+103.20

STA. 40+103 TO STA. 40+103

PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442(24)

FILE NAME: sJ076c27.1
PROJECT LEADER: R. WHITCOMB
DESIGNED BY:
94J076\Structures\sJ076xs3.dgn

PLOT DATE: 16-JUN-2009
DRAWN BY: T. LACKEY
CHECKED BY:
SHEET 16 OF 23



40+105.00

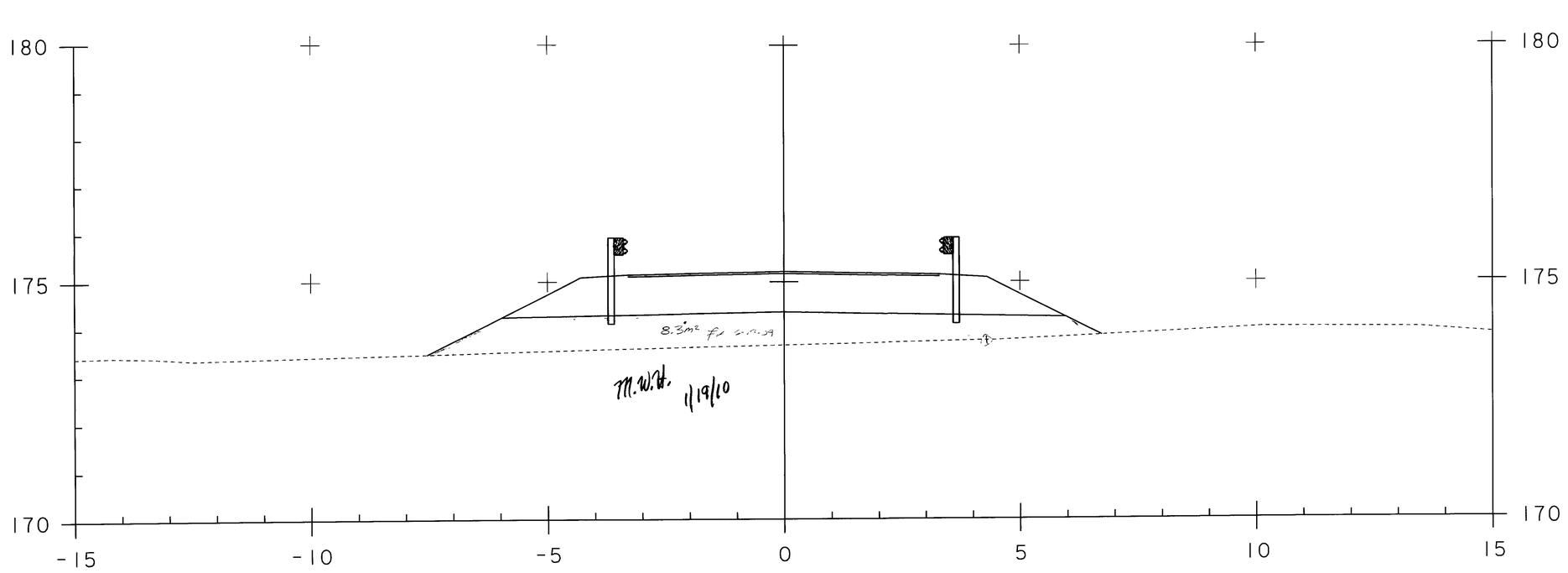
STA. 40+105 TO STA. 40+105

PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442(24)

FILE NAME: sj076c28.1
PROJECT LEADER: R. WHITCOMB
DESIGNED BY:
94J076\Structures\sj076xs3.dgn

PLOT DATE: 16-JUN-2009
DRAWN BY: T. LACKEY
CHECKED BY:
SHEET 17 OF 23

Metric



40+110.00

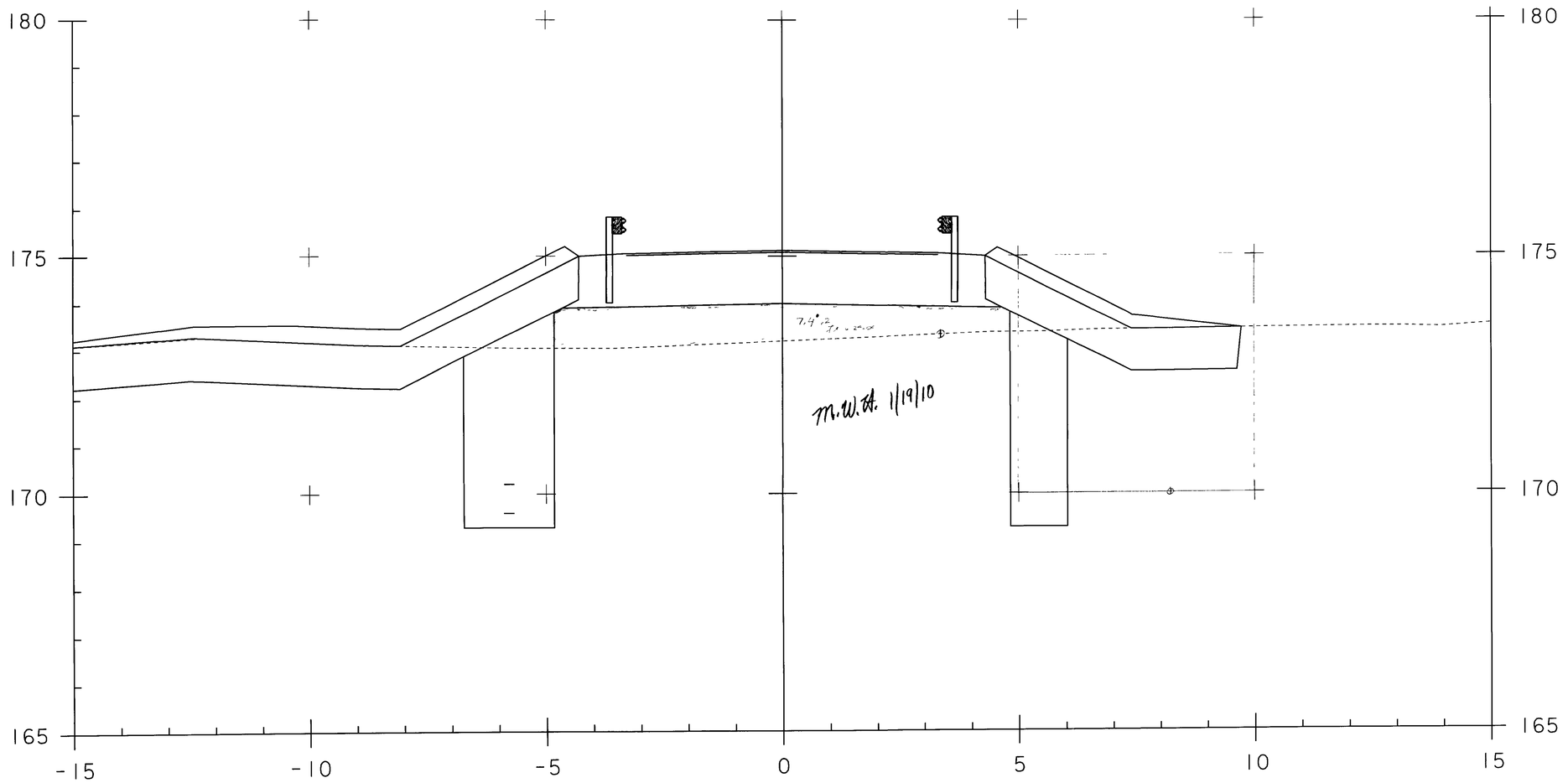
STA. 40+110 TO STA. 40+110

PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442(24)

FILE NAME: sj076c29.1
PROJECT LEADER: R. WHITCOMB
DESIGNED BY:
94J076\Structures\sj076xs3.dgn

PLOT DATE: 16-JUN-2009
DRAWN BY: T. LACKEY
CHECKED BY:
SHEET 18 OF 23

Metric

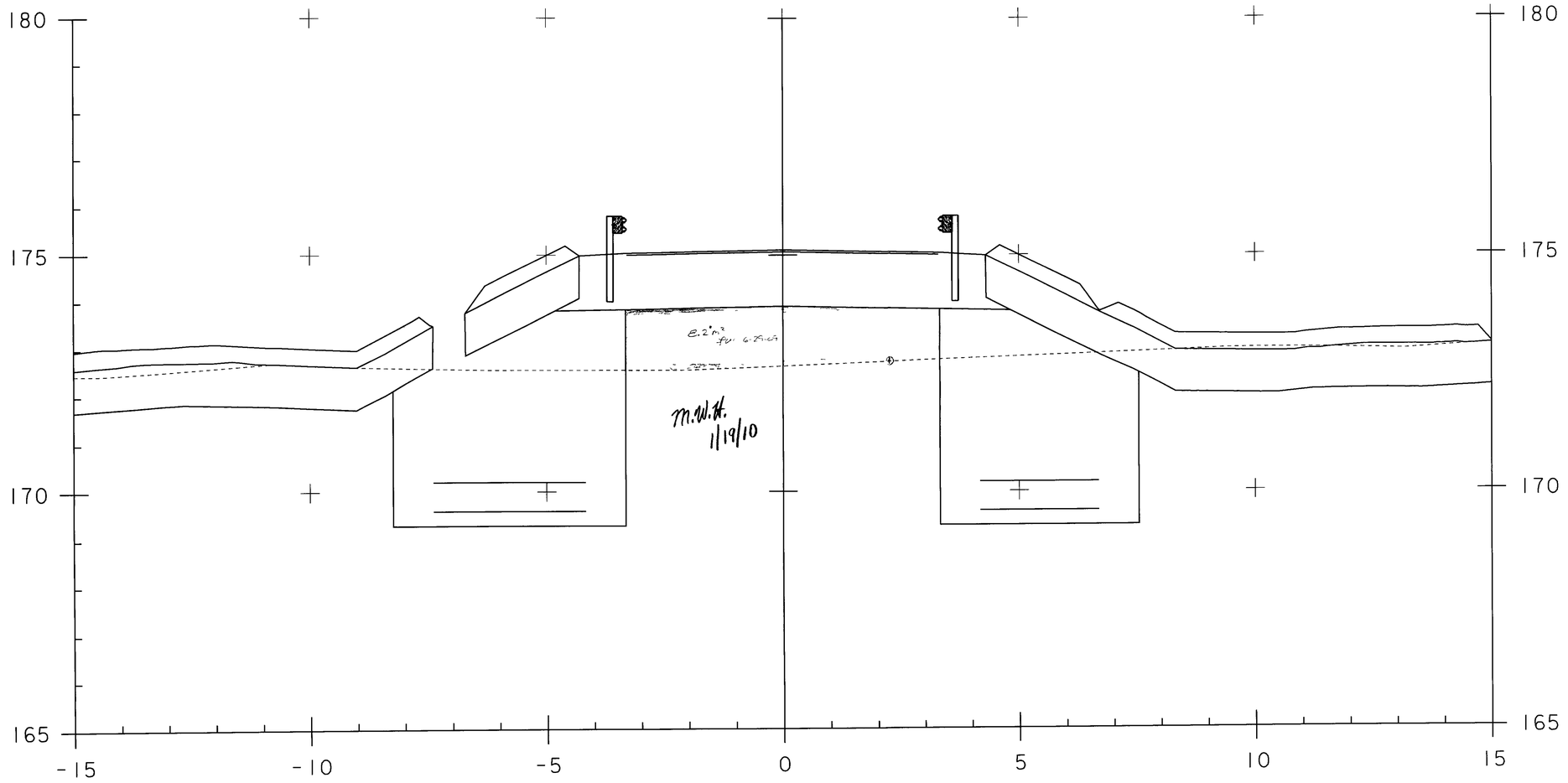


40+115.00

STA. 40+115 TO STA. 40+115

PROJECT NAME: GUILFORD	
PROJECT NUMBER: BRO 1442(24)	
FILE NAME: sJ076c30.1	PLOT DATE: 16-JUN-2009
PROJECT LEADER: R. WHITCOMB	DRAWN BY: T. LACKEY
DESIGNED BY:	CHECKED BY:
94J076\Structures\sJ076xs3.dgn	SHEET 19 OF 23

Metric

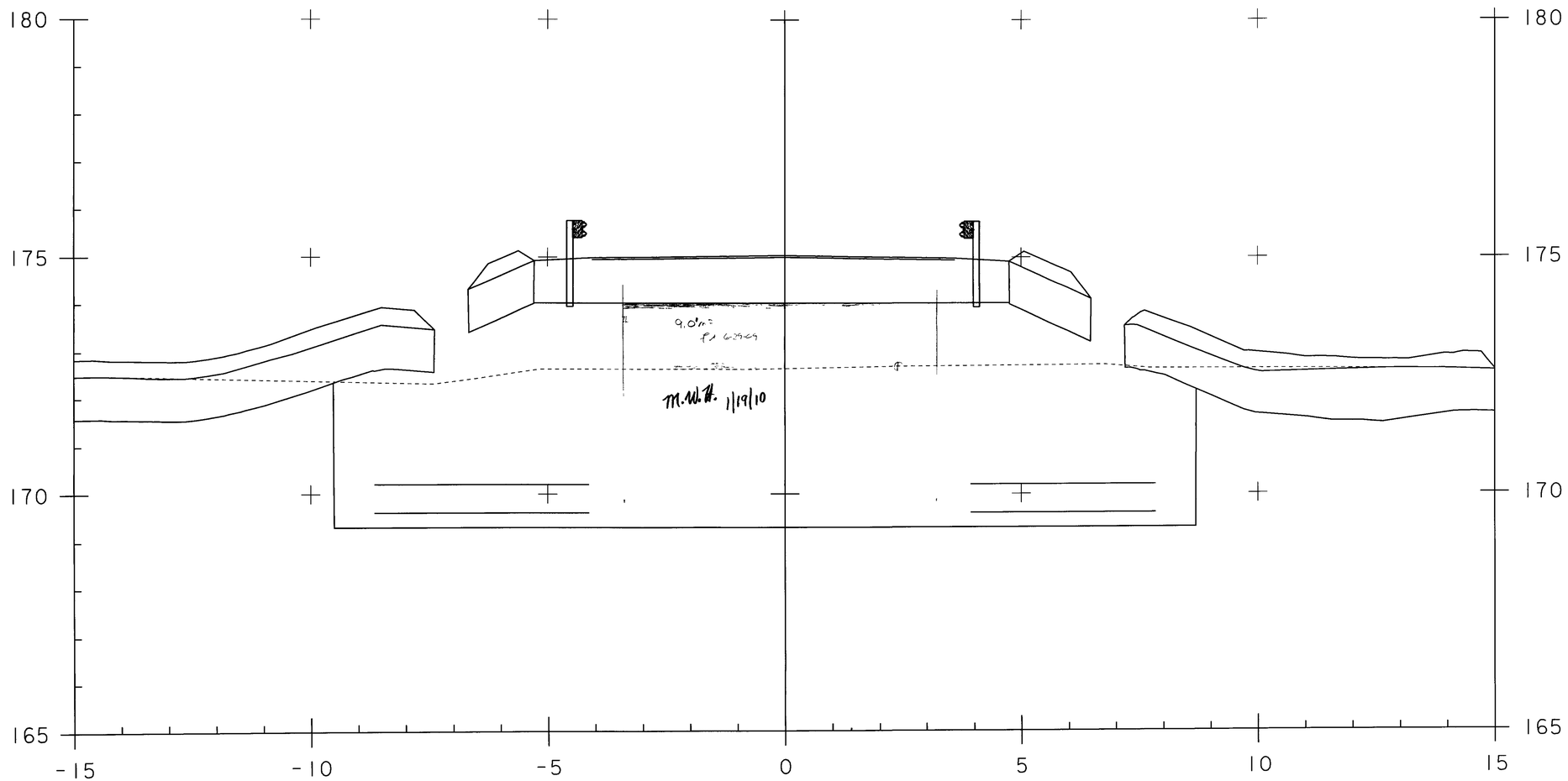


40+116.50

STA. 40+116 TO STA. 40+116

PROJECT NAME:	GUILFORD
PROJECT NUMBER:	BRO 1442(24)
FILE NAME: sj076c31.i	PLOT DATE: 16-JUN-2009
PROJECT LEADER: R. WHITCOMB	DRAWN BY: T. LACKEY
DESIGNED BY:	CHECKED BY:
94J076\Structures\sj076xs3.dgn	SHEET 20 OF 23

Metric



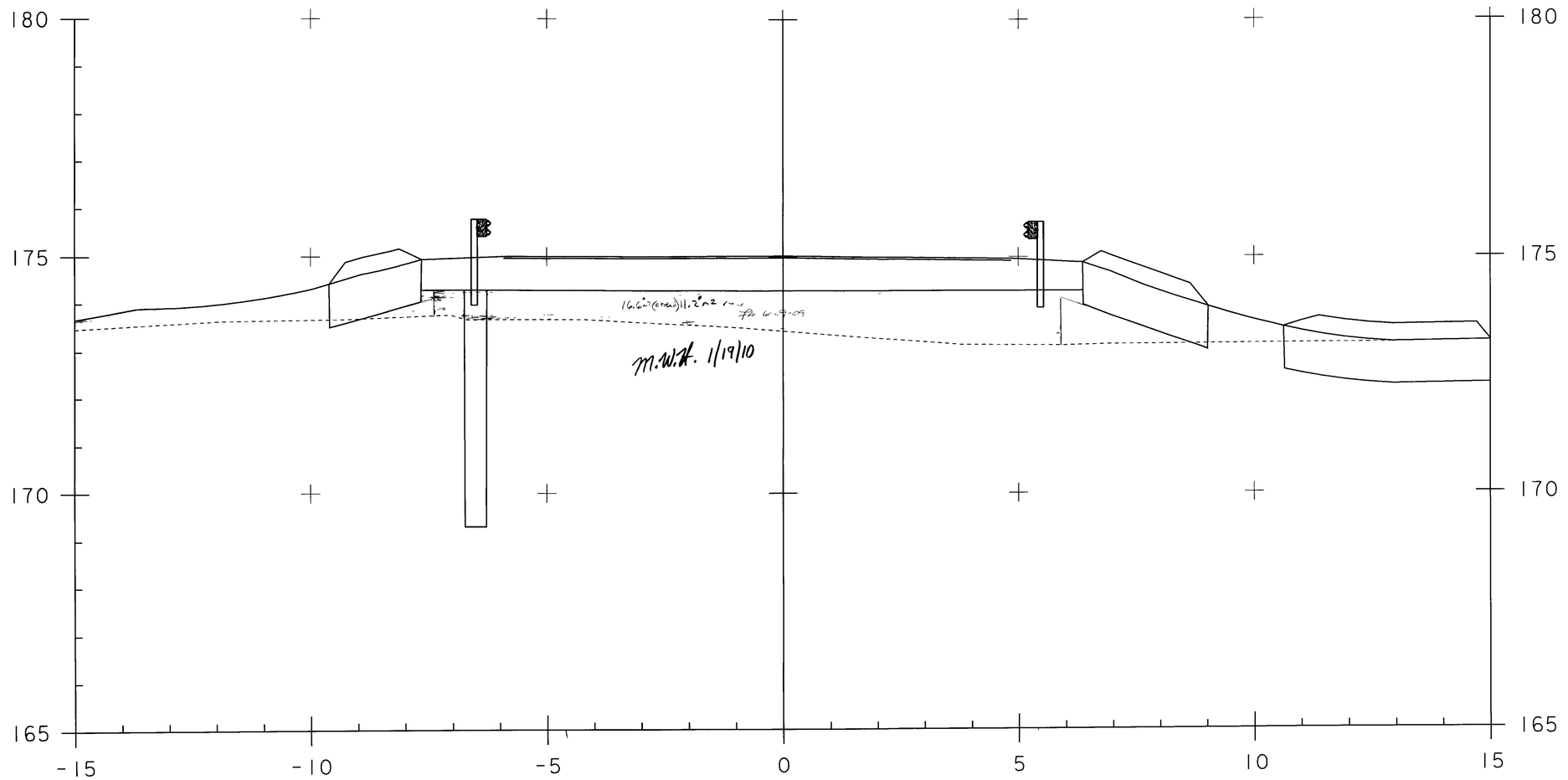
40+130.00

STA. 40+130 TO STA. 40+130

PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442(24)

FILE NAME: sJ076c32.1
PROJECT LEADER: R. WHITCOMB
DESIGNED BY:
94J076\Structures\sJ076xs3.dgn

PLOT DATE: 16-JUN-2009
DRAWN BY: T. LACKEY
CHECKED BY:
SHEET 21 OF 23



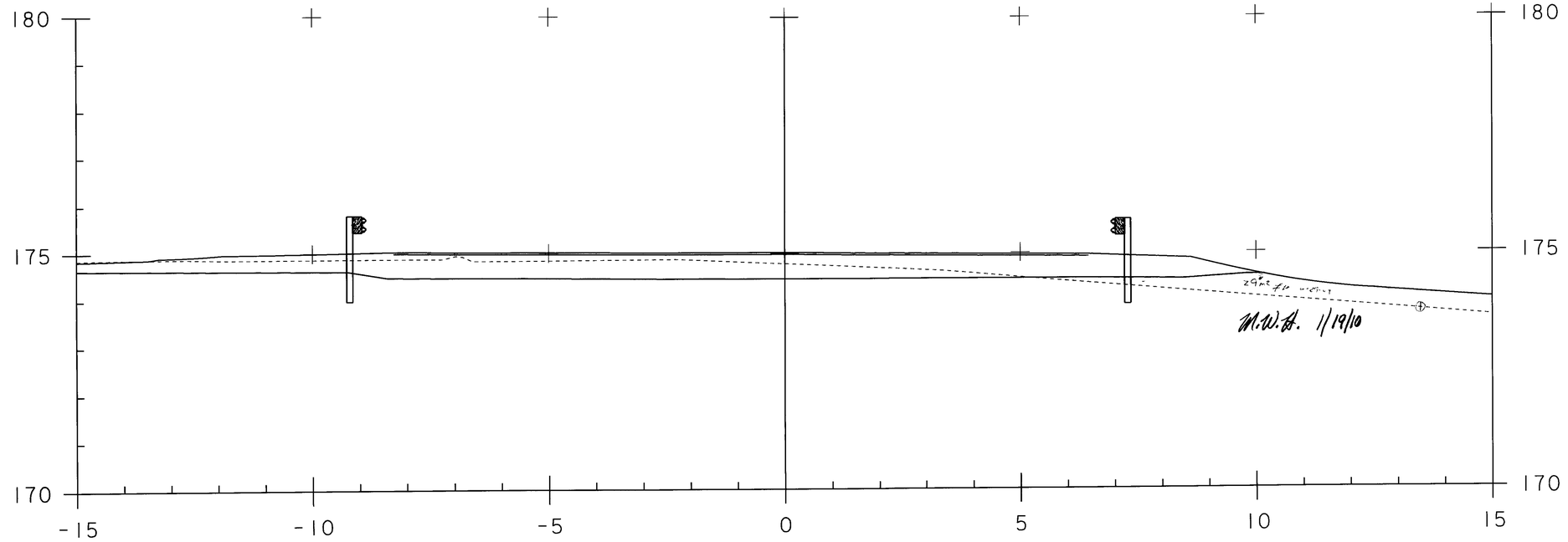
40+133.00

STA. 40+133 TO STA. 40+133

PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442(24)

FILE NAME: sj076c33.i
PROJECT LEADER: R. WHITCOMB
DESIGNED BY:
94J076\Structures\sj076xs3.dgn

PLOT DATE: 16-JUN-2009
DRAWN BY: T. LACKEY
CHECKED BY:
SHEET 22 OF 23



40+135.00

STA. 40+135 TO STA. 40+135

PROJECT NAME: GUILFORD
PROJECT NUMBER: BRO 1442(24)

FILE NAME: sj076c34.1
PROJECT LEADER: R. WHITCOMB
DESIGNED BY:
94J076\Structures\sj076xs3.dgn

PLOT DATE: 16-JUN-2009
DRAWN BY: T. LACKEY
CHECKED BY:
SHEET 23 OF 23

VAOT Metric

900 STONE FILL, TYPE III (TYP.)

900 STONE FILL, TYPE III (TYP.)

COLD PLANING

NEW 450mm X 17.68m OPTION PIPE

VT STATE PLANE GRID

R 10.5m (TYP.)

1:2

1:1.5

BROAD BROOK

50+060

50+040

40+123.500 = CHAN 50+050.000 DELTA = 90° LT

ML 40+103.200= DRIVE POT 7+000.000 DELTA = 90° RT

T.H. 13

T.H. 1

END BRIDGE 40+127.922 FG=175.050

BEGIN BRIDGE 40+118.922 FG=175.095

END PROJECT 40+136.770

END APPROACH 40+143.484

40+100 40+110 40+120 40+130 40+140 40+150

690* 680* 710*

90° (TYP.)

175.000

300 STONE FILL, TYPE I (TYP.)

173.930

174.950

174.100

174.400

7+010

NOTE:
* DIMENSION ALONG FACE OF RAIL

PLAN

7 620 APPROACH RAIL SCHED I (TYP)

11 430 BRIDGE RAILING (TYP) 6 SPACES @ 1 905

7 620 APPROACH RAIL SCHED I (TYP)

9 000 BRIDGE LENGTH

180 175 170 165

Q100 EL 173.4

EXISTING GROUND

300 STONE FILL TYPE I (TYP)

900 STONE FILL TYPE III (TYP)

ELEVATION

0 5 10

SCALE = 1:100

PLAN AND ELEVATION

PROJECT NAME: GUILFORD

PROJECT NUMBER: BRO 1442(24)

FILE NAME: sj076pe.i

PROJECT LEADER: R. WHITCOMB

DESIGNED BY: T. LACKEY

94J076\Structures\sj076pe.dgn

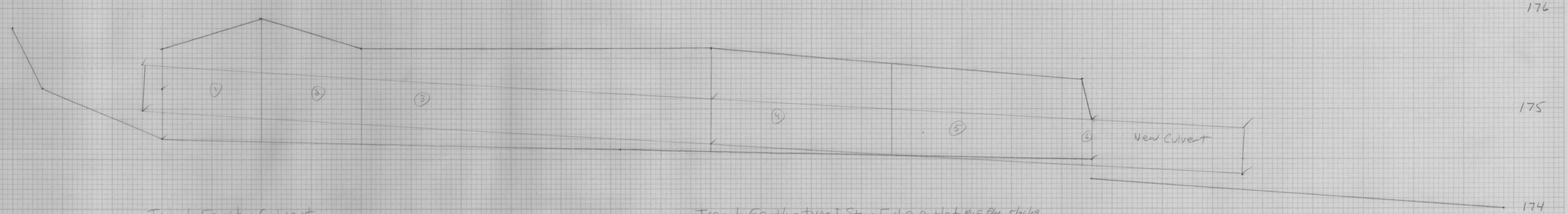
PLOT DATE: 01-MAY-2008

DRAWN BY: T. LACKEY

CHECKED BY: J. PERRIGO

SHEET 23 OF 59

Drive Culvert @ 6+041



Trench Earth - Culvert

① $1.0 \times \left(\frac{0.9+1.25}{2}\right) \times 1.45 = 1.56^{\circ}$

② $1.0 \times \left(\frac{1.25+0.95}{2}\right) \times 1.45 = 1.60^{\circ}$

③ $3.5 \times \left(\frac{0.95+1.05}{2}\right) \times 1.45 = 5.08^{\circ}$

④ $1.8 \times \left(\frac{1.05+0.95}{2}\right) \times 1.45 = 2.61^{\circ}$

⑤ $1.9 \times \left(\frac{0.95+0.9}{2}\right) \times 1.45 = 2.55^{\circ}$

⑥ $0.1 \times \left(\frac{0.9+0.5}{2}\right) \times 1.45 = 0.10^{\circ}$

total = $13.50^{\circ} m^3$ fwc 5/27/09

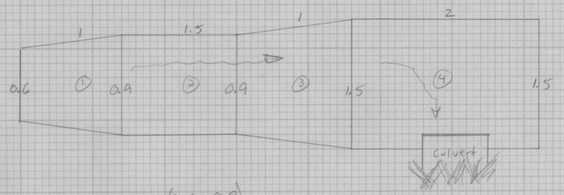
✓ M.W.H. 1/27/10

Trench Earth - Type I Stone Fill @ Outlet MIF fwc 5/26/09

$1.4 \times 2.2 \times 0.3 = 0.92^{\circ} m^3$ fwc 5/27/09

✓ M.W.H. 1/27/10

Trench Earth - Type I Stone Fill @ Inlet MIF fwc 5/27/09



① $1 \times \left(\frac{0.6+0.9}{2}\right) \times 0.3 = 0.23^{\circ}$

② $1.5 \times 0.9 \times 0.3 = 0.41^{\circ}$

③ $1 \times \left(\frac{0.9+1.5}{2}\right) \times 0.3 = 0.36^{\circ}$

④ $2 \times 1.5 \times 0.3 = 0.90^{\circ}$

total $1.90^{\circ} m^3$ fwc 5/27/09

✓ M.W.H. 1/27/10

Total Trench Earth for Drive Culvert @ 6+041

Culvert = 13.50°

Inlet S.F. = 1.90°

Outlet S.F. = 0.92°

~~total~~ = $16.32^{\circ} m^3$ fwc 5/27/09

✓ M.W.H. 1/27/10

FINAL SURVEY — ORIGINAL SURVEY
DATE, BY, SURVEYED, PLOTTED, TEMPLATE, NOTE BOOK, AREA, NO., AREAS CHECKED
PLATE 3-FULL CROSS SECTION-FULL LINE
NATIONAL PRINTING CO.

8 7 6 5 4 3 2 1

174

172

174

172

174

172

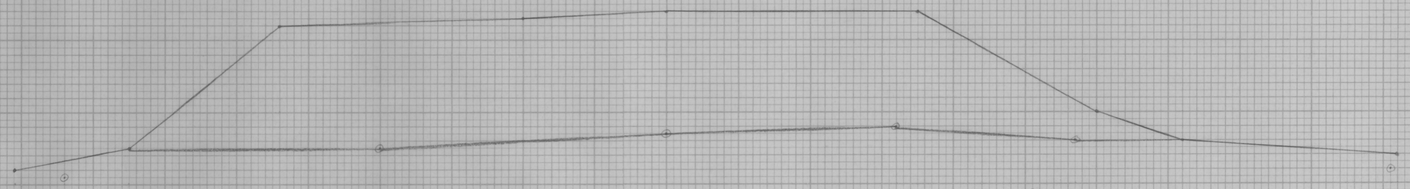
FINAL SURVEY
SURVEYED
PLOTTED
TEMPLATE
NOTE BOOK
NO.
AREAS CHECKED
BY
DATE

ORIGINAL SURVEY
SURVEYED
PLOTTED
TEMPLATE
NOTE BOOK
NO.
AREAS CHECKED
BY
DATE

Guilford BRD 1442(24)
Old Bonnyvale Road Cross Sections
project sheet # 12 of 28

10 9 8 7 6 5 4 3 2 1 ℄ 1 2 3 4 5 6 7 8 9 10

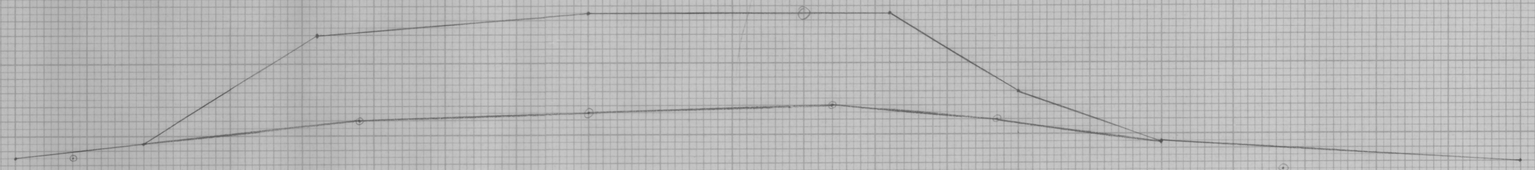
174
172



Unclassified Exc = 19.6 m²

0+055

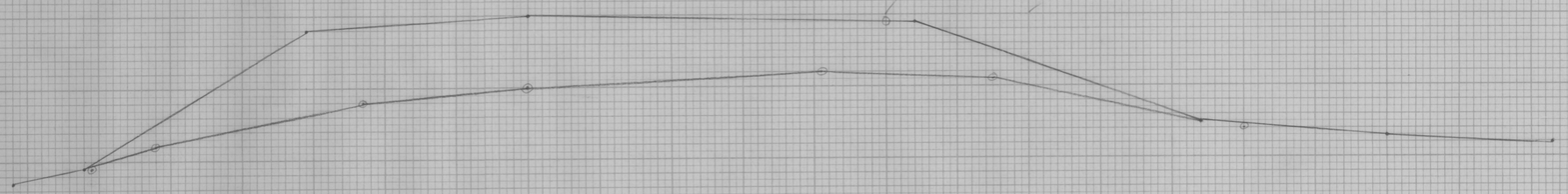
174
172



Unclassified Exc = 14.1 m²

0+060

174
172



Unclassified Exc = 11.0 m²

0+065

I = 65

713

4 = 2.61
E = 5.19
4 = 2.60

for 6/4/08
M.W.H. 1/26/10

FINAL SURVEY — SURVEYED, PLOTTED, TEMPLATE, NOTE BOOK, AREAS CHECKED, BY, DATE, NO

ORIGINAL SURVEY — SURVEYED, PLOTTED, TEMPLATE, NOTE BOOK, AREAS CHECKED, BY, DATE, NO

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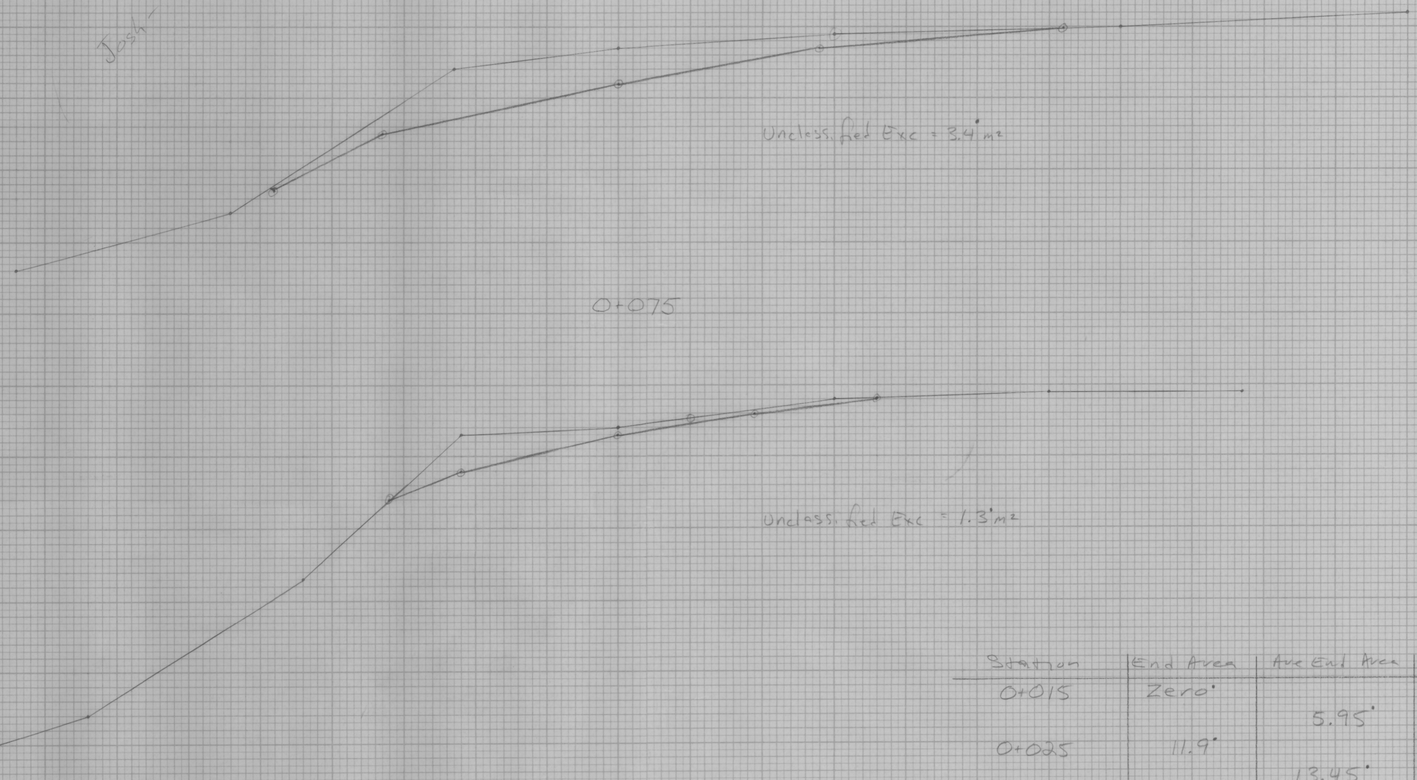
Guilford BRD 1442(24)
Old Bannyrale Road Cross Sections
Project sheet #13 of 28



Station	End Area	Ave End Area	Distance	Volume
0+015	Zero'			
		5.95'	10'	59.5'
0+025	11.9'			
		13.45'	4'	53.8'
0+029	15.0'			
		15.75'	5'	78.8'
0+034	16.5'			
		18.45'	4'	73.8'
0+038 (b+Bk)	20.4'			
0+045 (b+Ak)	22.2'			
		21.6'	5'	108.0'
0+050	21.0'			
		20.3'	5'	101.5'
0+055	19.6'			
		16.85'	5'	84.3'
0+060	14.1'			
		12.35'	5'	62.8'
0+065	11.0'			
		7.2'	10'	72.0'
0+075	3.4'			
		2.35'	10'	23.5'
0+085	1.3'			
		0.65'	15'	9.8'
0+100	Zero			

total = 727.8 m³ fm 6-4-08
W.M. W.H. 11/26/10

FINAL SURVEY — SURVEYED, PLOTTED, TEMPLATE, AREAS, AREAS CHECKED, NOTE BOOK, NO., BY, DATE

ORIGINAL SURVEY — SURVEYED, PLOTTED, TEMPLATE, AREAS, AREAS CHECKED, NOTE BOOK, NO., BY, DATE

HIGHWAY FEDERAL AID SHEET
PLATE 3-FULL CROSS SECTION-FULL LINE
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