

R.O.W. PLANS

STATE OF VERMONT
AGENCY OF TRANSPORTATION



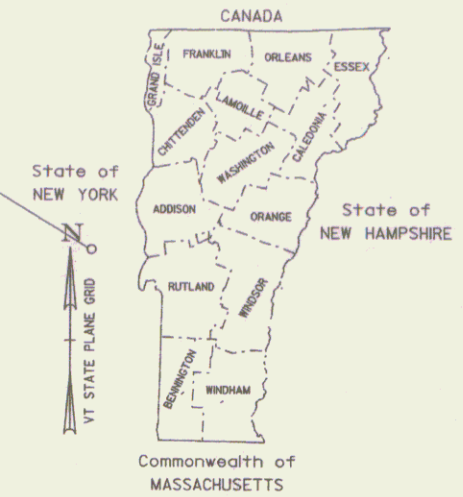
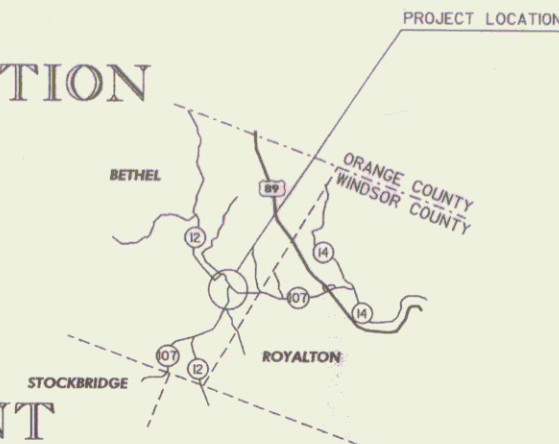
PROPOSED IMPROVEMENT
BRIDGE PROJECT

TOWN OF BETHEL
COUNTY OF WINDSOR
VT ROUTE 107
(MINOR ARTERIAL)
BRIDGE #15

PROJECT LOCATION:
BEGINNING AT A POINT ON VT. ROUTE 107 APPROXIMATELY
3.180 MILES EASTERLY OF THE STOCKBRIDGE / BETHEL TOWN
LINE AND EXTENDING NORTHERLY 0.144 MILES.

LENGTH OF ROADWAY 437.34 FEET
LENGTH OF BRIDGE 324.66 FEET
LENGTH OF PROJECT 762.00 FEET
LENGTH OF R.O.W. PROJECT 807.51 FEET

PROJECT DESCRIPTION:
WORK TO BE PERFORMED UNDER THIS CONTRACT INCLUDES THE
REPLACEMENT OF BRIDGE 15 AND RELATED APPROACH AND
CHANNEL WORK.



MP 3.168
BEGIN R.O.W. PROJECT
BRF 022-1(14)
STA. 121+70.00 24.97' LT.

BEGIN PROJECT
STA 122+34.00

BEGIN BRIDGE
STA. 124+79.00

END BRIDGE
STA. 128+02.50

END PROJECT
129+75.00

MP 3.321
END R.O.W. PROJECT
BRF 022-1(14)
STA. 129+77.51
45.36' LT.

CONVENTIONAL SYMBOLS

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

SURVEYED BY :
SURVEYED DATE :

DATUM
VERTICAL
HORIZONTAL

ALL DRIVES AS INDICATED ON PLANS
ARE SUBJECT TO PERMITS PURSUANT
TO TITLE 19 V.S.A. 1111

BEGIN RELINQUISHMENT
STA. 129+55.80
25.21' LT.

SCALE 1" = 50'-0"
50 0 50

END RELINQUISHMENT
STA. 129+77.51
45.47' LT.

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
State of Vermont's acquisition of land
and rights for this project.

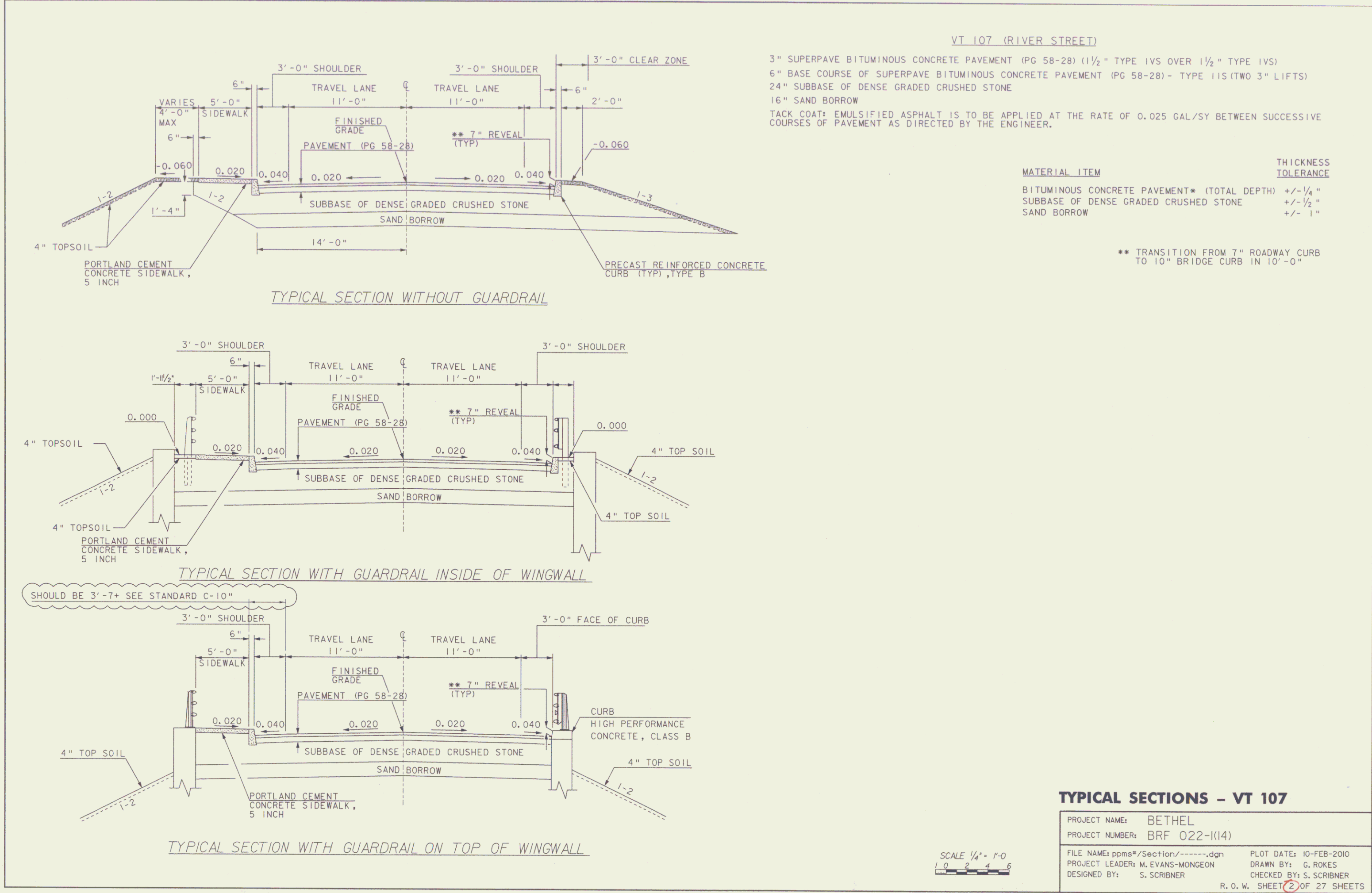
THESE PLANS ARE SUBJECT TO SUCH ENGINEERING
CHANGES AS MAY BE REQUIRED BY THE FEDERAL HIGHWAY
ADMINISTRATION OR THE DIRECTOR OF PROGRAM
DEVELOPMENT.
CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE
WITH THESE PLANS AND THE STANDARD SPECIFICATIONS
FOR CONSTRUCTION DATED 2006, AS APPROVED BY THE
FEDERAL 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.

APPROVED *[Signature]* DATE 2-1-10
Director of Program Development

APPROVED *[Signature]* DATE 2/1/10
Chief of Right of Way

BETHEL
BRF 022-1(14)

R.O.W. SHEET 1 OF 27 SHEETS



VT 107 PROFILE (RIVER STREET)

Profile Data:

Station	Elevation (ft)	Description
121+00.10	541.21	PVI 121+00.10
122+34.00	539.47	PVC 122+34.00
122+67.38	539.26	LO 122+67.38
123+10.00	538.50	PVI 123+10.00
123+85.00	542.02	PVT 123+85.00
124+00.00	542.73	PVC 124+00.00
124+75.00	546.25	PVI 124+75.00
124+79.00	545.355	BRG. #1 STA. 124+79.00
125+33.01	545.85	HI 125+33.01
125+47.50	545.814	BRG. #2 STA. 125+47.50
125+49.00	545.807	PIER STA. 125+49.00
125+50.00	545.800	BRG. #3 STA. 125+50.00
125+50.00	545.80	PVT 125+50.00

Grades: -1.2930%, 4.6977%, -0.6000%

Vertical Curve Data:

Segment	Length (ft)	K	SSD (ft)
1	150.00	25	153
2	150.00	28	279

NOTE:
ELEVATIONS SHOWN TO THE TENTH ARE EXISTING GROUND
ELEVATIONS SHOWN TO THE HUNDREDTH ARE FINISH GRADE

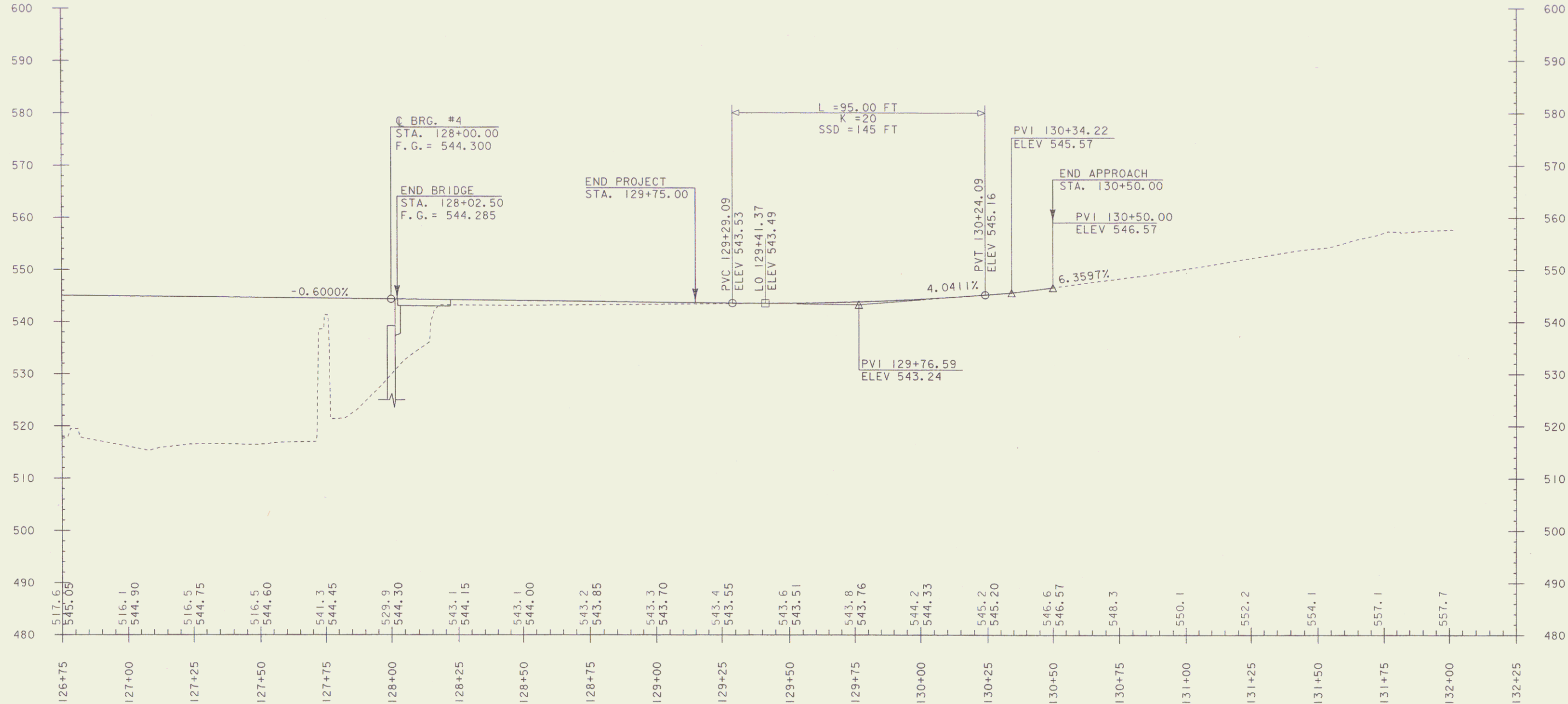
VT 107 PROFILE SHEET 1

PROJECT NAME: BETHEL
PROJECT NUMBER: BRP 022-1(14)

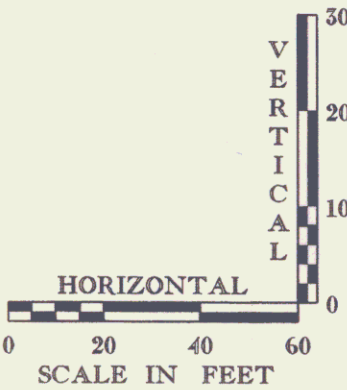
FILE NAME: 78#161NSTRVsf161xs.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER

PLOT DATE: 10-FEB-2010
DRAWN BY: G. ROKES
CHECKED BY: S. SCRIBNER
R.O.W. SHEET 13 OF 27 SHEETS

VT 107 PROFILE (RIVER STREET)

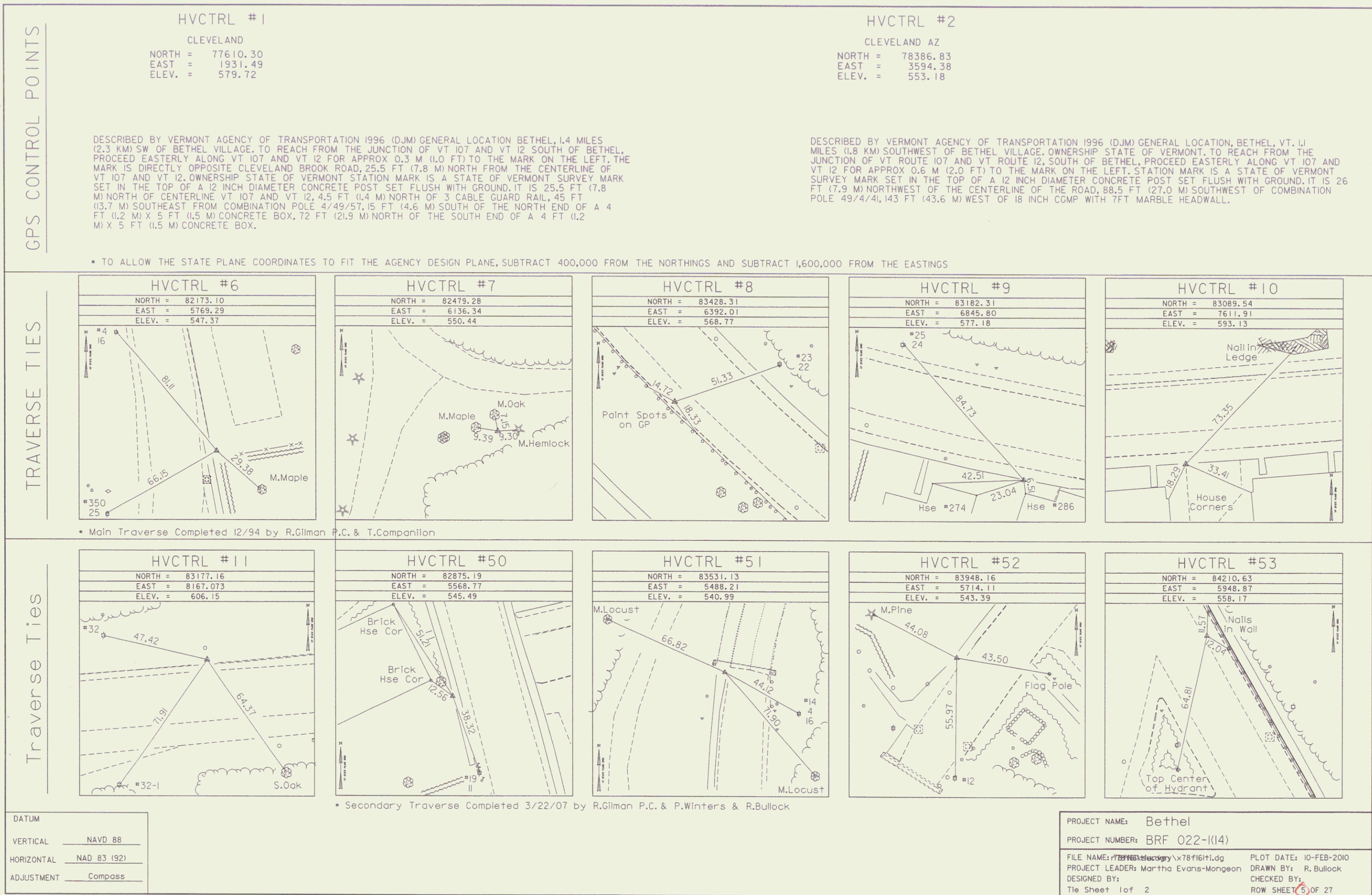


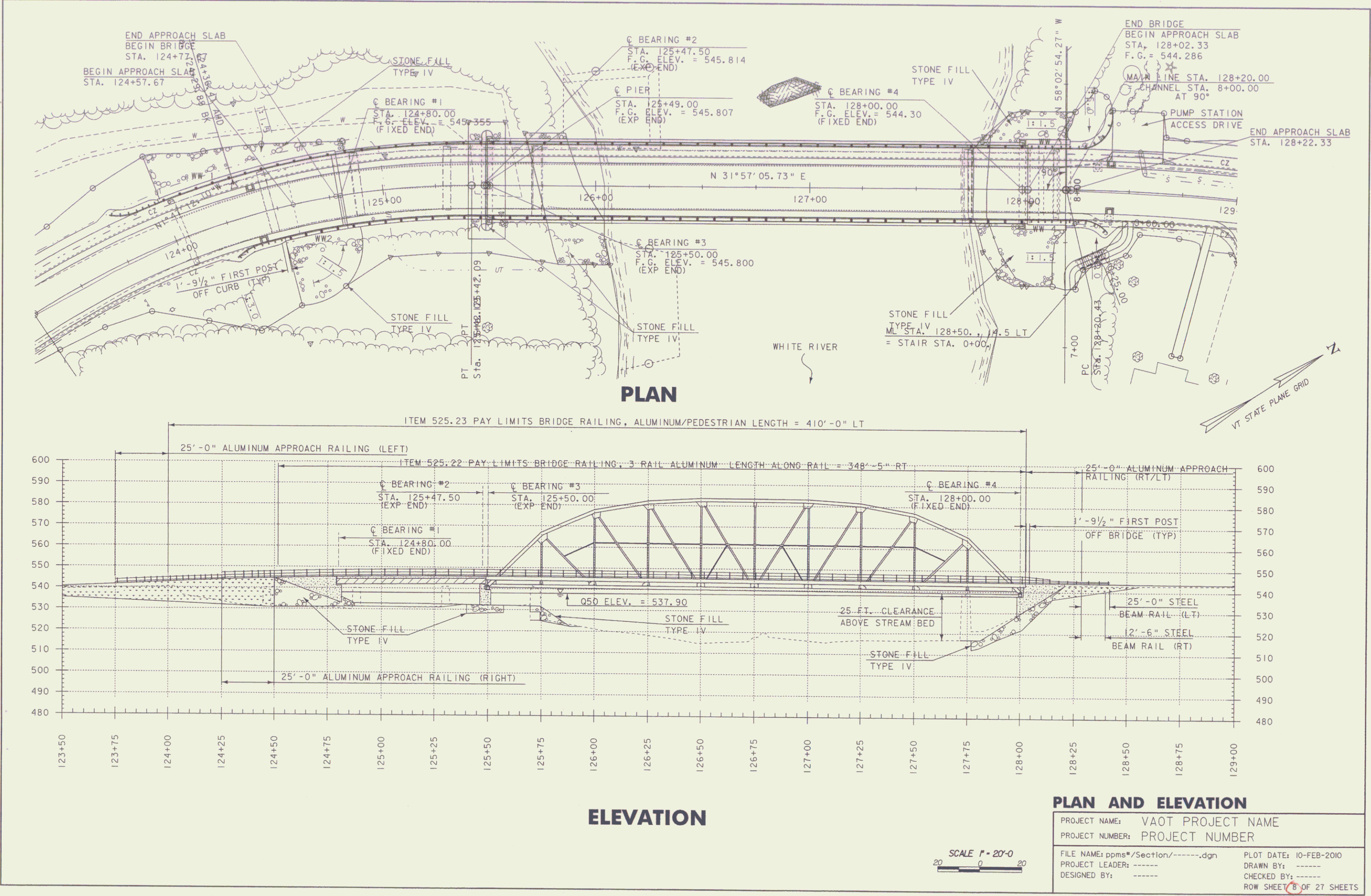
NOTE:
ELEVATIONS SHOWN TO THE TENTH ARE EXISTING GROUND
ELEVATIONS SHOWN TO THE HUNDREDTH ARE FINISH GRADE



VT 107 PROFILE SHEET 2

PROJECT NAME: BETHEL	PLOT DATE: 10-FEB-2010
PROJECT NUMBER: BRF 022-1(14)	DRAWN BY: G. ROKES
FILE NAME: 78f161\STR\sf161xs.dgn	CHECKED BY: S. SCRIBNER
PROJECT LEADER: M. EVANS-MONGEON	R.O.W. SHEET 4 OF 27 SHEETS
DESIGNED BY: S. SCRIBNER	





PRELIMINARY INFORMATION SHEET

INDEX OF SHEETS

INDEX OF SHEETS

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STANDARDS LIST

A-76	STANDARD FOR DEVELOPMENT ROADS	3/3/2003
B-5	SLOPE GRADING, EMBANKMENTS, MUCK	6/1/1994
B-71	RESIDENTIAL AND COMMERCIAL DRIVES	7/08/2005
C-2A	PORTLAND CEMENT CONCRETE SIDEWALK DRIVE ENTRANCES WITH SIDEWALK ADJACENT TO CURB	10/14/2005
C3A	SIDEWALK RAMPS	9/01/2004
C3B	SIDEWALK RAMPS AND MEDIAN ISLANDS	9/01/2004
E-100	CONSTRUCTION APPROACH SIGNS	6/2/2004
E-100A	SIDE ROAD 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	5/01/2004
E-107	DELINEATION, BARRICADES AND DETOURS FOR CONSTRUCTION AREAS	6/30/2003
E-107A	BREAKAWAY BARRICADE DETAILS	8/08/1995
E-121	STANDARD SIGN PLACEMENT - CONVENTIONAL ROAD	8/08/1995
E-123	GUIDE SIGN PLACEMENT MISCELLANEOUS DETAILS	3/16/2004
E-134	BRIDGE NUMBER PLAQUE	8/08/1995
E-135	INTERSTATE ROUTE MARKER SIGN DETAILS	8/18/1995
E-136A	U.S. ROUTE MARKER SIGN DETAILS	8/08/1995
E-136B	STATE ROUTE MARKER SIGN DETAILS	8/08/1995
E-142	REGULATORY SIGN DETAILS	9/20/1995
E-143	REGULATORY SIGN DETAILS	7/15/2004
E-151	WARNING SIGN DETAILS	06/06/1995
E-160	FLANGED CHANNEL STEEL SIGN POSTS	5/20/1999
E-164	SQUARE STEEL SIGN POST	5/20/1999
G-18	PRECAST CONCRETE TEMPORARY TRAFFIC BARRIER	6/01/1994
J-2	CONCRETE STEPS-HAND RAILING	6/01/1994

FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date: April 2000

DRAINAGE AREA : 408 square miles
CHARACTER OF TERRAIN : Mountainous, rolling hills and agricultural lands
STREAM CHARACTERISTICS : Perennial, sinuous, not braided, equiwidth
NATURE OF STREAMBED : Gravel to cobble and boulders with some ledge

PEAK FLOW DATA

Q 2.33 = 11,800 cfs	Q 50 = 42,000 cfs
Q 10 = 25,400 cfs	Q 100 = 51,000 cfs
Q 25 = 34,300 cfs	Q 500 = 76,000 cfs

DATE OF FLOOD RECORD : November 1927
ESTIMATED DISCHARGE : Unknown
WATER SURFACE ELEV. : 542 feet (Approximate according to COE 12/73 Study)
NATURAL STREAM VELOCITY : @ Q50 = 11.6 fps
ICE CONDITIONS : moderate
DEBRIS : moderate
DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY? No
IS ORDINARY RISE RAPID? No
IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? No
IF YES, DESCRIBE :

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

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE: Through truss w/ 5 rolled beam approach spans, 4 to south, 1 to north.
YEAR BUILT: 1928
CLEAR SPAN(NORMAL TO STREAM): Total = 330 feet
VERTICAL CLEARANCE ABOVE STREAMBED: 25 feet (over main channel)
WATERWAY OF FULL OPENING: Total = 6200 square feet
DISPOSITION OF STRUCTURE: Remove
TYPE OF MATERIAL UNDER SUBSTRUCTURE: Unknown

WATER SURFACE ELEVATIONS AT:

Q2.33 = 527.7 feet *	VELOCITY = 6.0 fps
Q10 = 532.4 feet *	- 9.8 fps
Q25 = 535.3 feet *	- 11.2 fps
Q50 = 537.9 feet *	- 11.6 fps
Q100 = 540.7 feet *	- 12.2 fps

LONG TERM STREAMBED CHANGES: Unknown

IS THE ROADWAY OVERTOPPED BELOW Q100: No
FREQUENCY: Above Q100
RELIEF ELEVATION: 539.4 feet
DISCHARGE OVER ROAD @Q100: None - due to drawdown through the bridge

UPSTREAM STRUCTURE

TOWN: N/A - confluence 600 feet upstream** DISTANCE: _____
HIGHWAY #: _____ STRUCTURE #: _____
CLEAR SPAN: _____ CLEAR HEIGHT: _____
YEAR BUILT: _____ FULL WATERWAY: _____
STRUCTURE TYPE: _____

DOWNSTREAM STRUCTURE

TOWN: Royalton DISTANCE: 3.2 miles
HIGHWAY #: I-89 STRUCTURE #: 28-S
CLEAR SPAN: 889 feet CLEAR HEIGHT: 17 feet
YEAR BUILT: 1968 FULL WATERWAY: 12,600 sf
STRUCTURE TYPE: 6-span continuous welded plate girder

LOAD FACTOR - LOAD RATING (TONS)

LOADING LEVELS	TRUCK					
	H	HS	3S2	6 AXLE	3A. STR.	4A. STR. 5A. SEM
INVENTORY						
POSTED						
OPERATING						

COMMENTS:

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
2007	8500	730	56	8	580
2027	8400	920	56	12	1100

20 year ESAL for flexible pavement from 2007 to 2027 : 4,644,000
40 year ESAL for flexible pavement from 2007 to 2047 : 11,775,000
Design Speed : 25 mph

PROPOSED STRUCTURE

STRUCTURE TYPE: Through truss main span w/1 rolled beam approach span on south side

CLEAR SPAN(NORMAL TO STREAM): Total = 311 feet
VERTICAL CLEARANCE ABOVE STREAMBED: 25 feet (over main channel)
WATERWAY OF FULL OPENING: Total = 6250 square feet

WATER SURFACE ELEVATIONS AT:

Q2.33 = 527.7 feet *	VELOCITY= 6.0 fps
Q10 = 532.3 feet *	- 9.8 fps
Q25 = 535.3 feet *	- 11.2 fps
Q50 = 537.9 feet *	- 11.6 fps
Q100 = 540.9 feet *	- 12.1 fps

IS THE ROADWAY OVERTOPPED BELOW Q100: No
FREQUENCY: Above Q100
RELIEF ELEVATION: 539.8 feet
DISCHARGE OVER ROAD @Q100: None - due to drawdown through the bridge

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 540.3 feet
VERTICAL CLEARANCE: @ Q50 = 2.4 feet

SCOUR: Maximum contraction scour @ Q100 = 4 feet
Maximum pier scour @ Q500 = 9 feet
REQUIRED CHANNEL PROTECTION: Type IV Stone Fill

PERMIT INFORMATION

AVERAGE DAILY FLOW: 850 cfs DEPTH OR ELEVATION:
ORDINARY LOW WATER: 375 cfs 515 feet
ORDINARY HIGH WATER: 5000 cfs 520 feet

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: Maximum of 1 pier, low steel elev. = 533.3 feet
CLEAR SPAN (NORMAL TO STREAM): Total = 385 feet
VERTICAL CLEARANCE ABOVE STREAMBED: 23 feet (B.O.S. elev = 537.0 feet)
WATERWAY AREA OF FULL OPENING: 4700 square feet

ADDITIONAL INFORMATION

* WSE's are reported 250 feet upstream of the existing and proposed bridge(s) centerline.
** Confluence of White River and the Third Branch of the White River.
*** Temporary bridge designed to be in through the winter.
Pier piles should be designed to be freestanding above elevation 505.5 feet.

DESIGN CRITERIA

- DESIGN LIVE LOAD AASHTO HL-93
- DESIGN SPAN APPROACH SPAN = 67.5' TRUSS SPAN = 250'
- ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL SEE NOTE
ON LEDGE
- ALLOWABLE LOAD FOR PLING SEE NOTE
TYPE
- ESTIMATED LENGTH SEE NOTE
- STRUCTURAL STEEL AASHTO M270MM270 GRADE 50 GALVANIZED
- REINFORCING STEEL GRADE 60
- CONCRETE, HIGH PERFORMANCE CLASS A fc: 4000 psi
CONCRETE, HIGH PERFORMANCE CLASS B fc: 3500 psi
- DESIGN SOIL UNIT WEIGHT 140 pcf
- DESIGN LOAD FOR SPREAD FOOTINGS ON SOIL

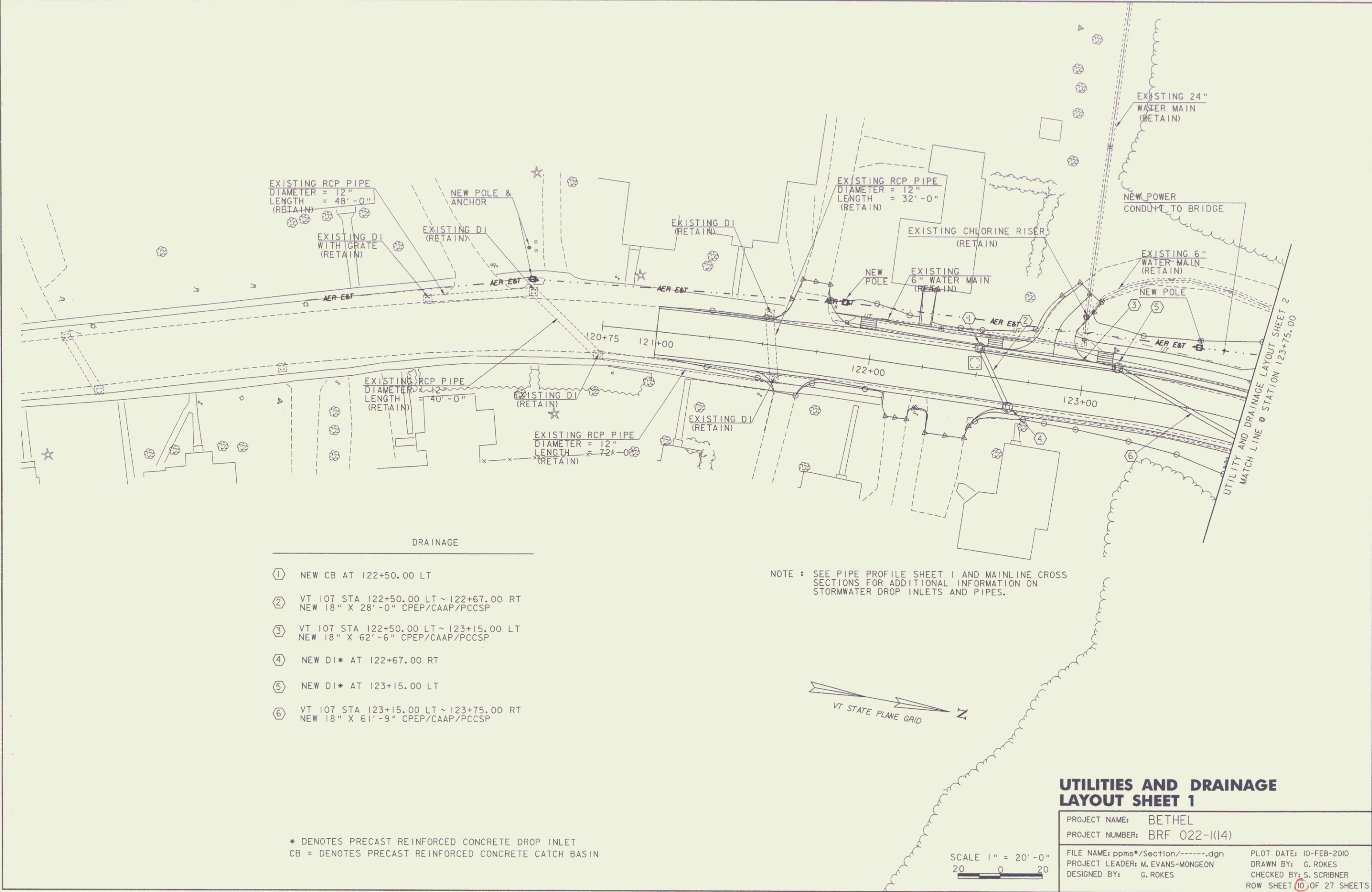
TRAFFIC MAINTENANCE

- IS TRAFFIC TO BE MAINTAINED? YES
IF YES, ON EXISTING STRUCTURE? NO
OR ON TEMPORARY BRIDGE? YES
ONE OR TWO-WAY TRAVEL? TWO
- TRAFFIC CONTROL SIGNALS REQUIRED? NO
- ARE SIDEWALKS REQUIRED? YES (URBAN ENVIRONMENT)
IF SO, ON WHAT SIDE? RIGHT

PROJECT NAME: BETHEL

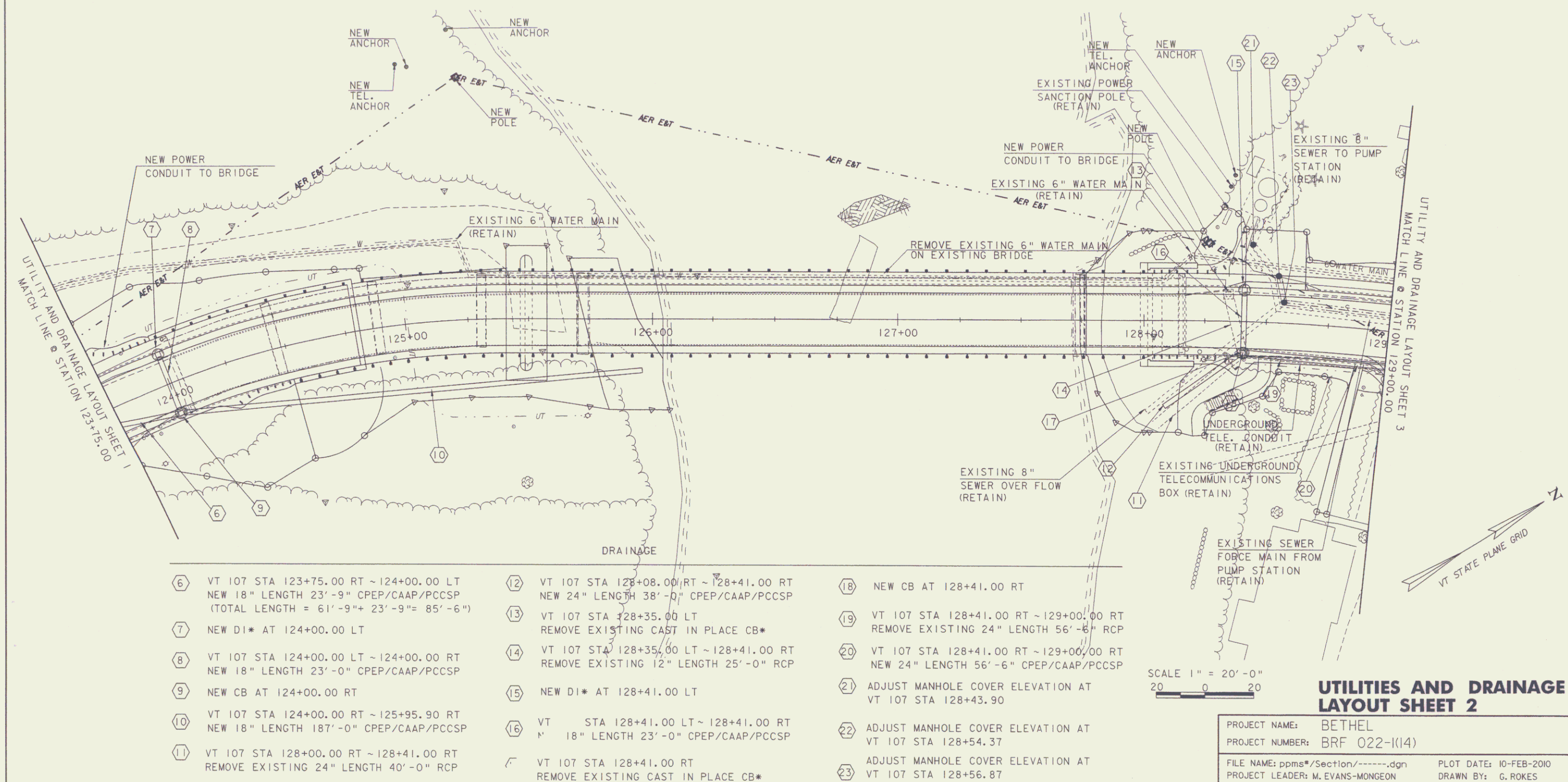
PROJECT NUMBER: BRF 022-1(14)

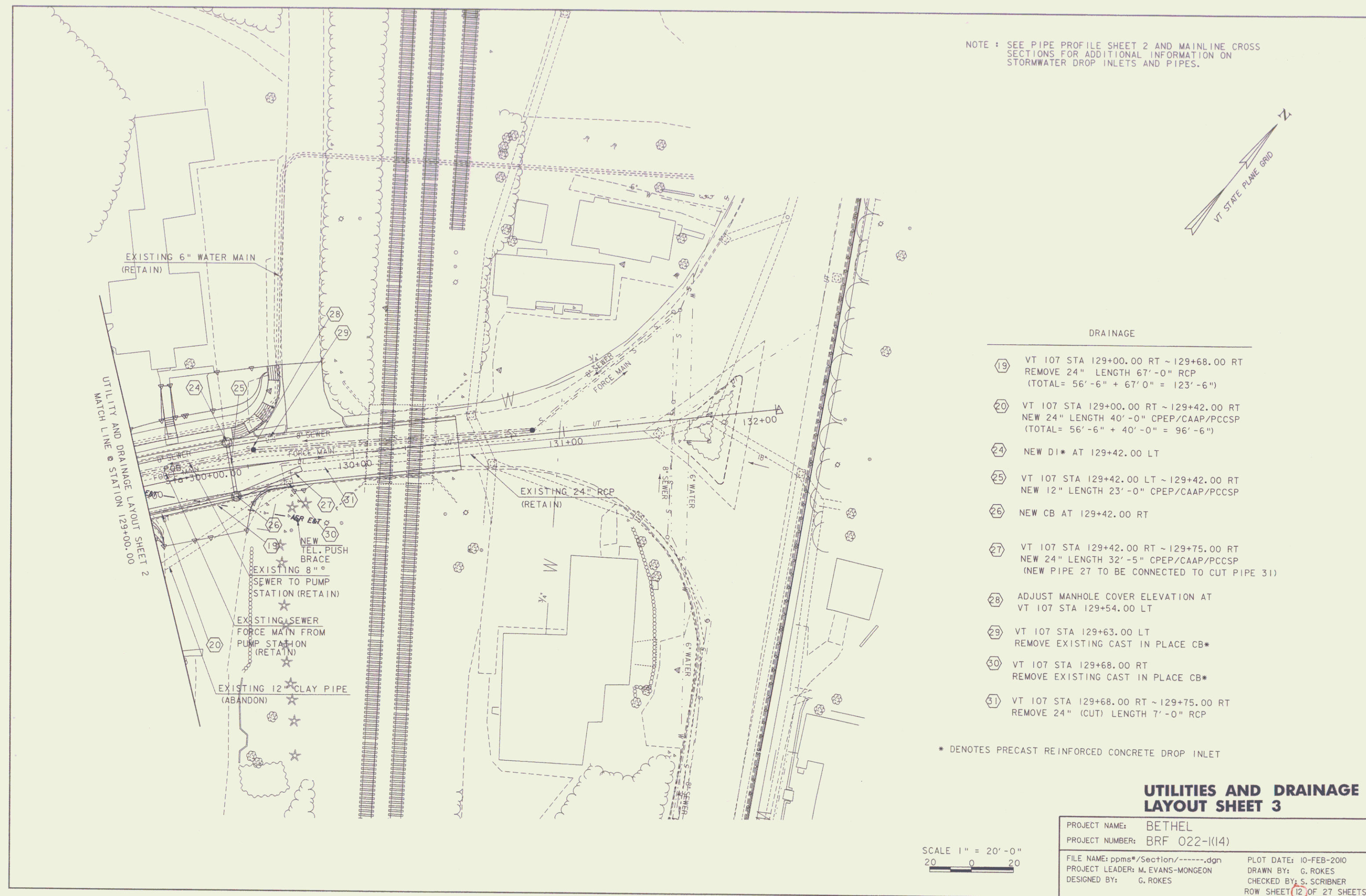
FILE NAME: /s/r2/mf161pi.xls PLOT DATE: 4/8/2008
PROJECT MANAGER: M. EVANS-MONGEON DRAWN BY: T. HUSK
DESIGNED BY: G. COLGROVE CHECKED BY: G. COLGROVE
PRELIMINARY INFORMATION ROW SHEET 9 OF 27



* DENOTES PRECAST REINFORCED CONCRETE DROP INLET

NOTE: SEE PIPE PROFILE SHEET 1 AND SHEET 2 INCLUDING
MAINLINE CROSS SECTIONS FOR ADDITIONAL
INFORMATION ON STORMWATER DROP INLETS AND PIPES.





EROSION CONTROL NARRATIVE

EROSION CONTROL NARRATIVE

1.1 PROJECT DESCRIPTION

This project involves the replacement of a truss bridge over the White River. The project is on VT 107 (River Street) a paved, minor arterial in the Town of Bethel. A temporary two lane bridge will be erected downstream of the existing structure. This temporary bridge will be a continuous span with a temporary pier at mid point by the south river edge. The approach work to the temporary bridge will come close to two property owners. Extra caution will be exercised to prevent erosion from the project to cause damage or adversely affect these property owners. Once the temporary bridge is in place the existing truss, abutments approach spans, and piers can be removed. Upon the completion of the new structure the temporary bridge will be removed. Work including both approaches, is approximately 762.00 feet. The limits of construction approach buildings and other structures. Historic Resources have been identified in the project area. The existing structure has been cleared for removal as it has been photo-documented for Historical purposes. The site is located, based upon NAD 83/92 at 258776.257 N, 491595.522 E.

It is anticipated that this project will last two construction seasons.

Total disturbed area (excluding waste, borrow and staging areas):
1.02 ac.

1.2 SITE INVENTORY

1.2.1 OFF SITE DRAINAGE CHARACTERISTICS:

The property surrounding the project site consists of well established vegetation, moderate to steeply sloping, mixed softwood and hardwood forest with well defined drainage ways. Due to the nature of the surrounding terrain, runoff water entering the project site will be primarily limited to that which is conveyed along roadway ditches, and that which follows River Street along the 14th grade at the end of the project limits. The current roadway ditches are not well defined and are not lined with stone.

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

White River is located in the project area. There are no other water bodies or wetlands within the project area. The White River is classified as perennial, sinuous, not braided and equiwidth containing a streambed of some ledge with some boulders, cobbles and gravel. The contributing drainage area at the bridge crossing is 408 sq. mi.

Disturbance of soils near natural or man-made waterways consists of that which is necessary to construct two new concrete bridge abutments, a pier and applicable roadway approaches as well as the removal of the existing crossing. Stabilization of disturbances to stream banks will be accomplished with Stone Fill, Type IV.

1.2.3 TOPOGRAPHY, EXISTING ROADS, BUILDINGS, UTILITIES:

The topography of the project site is relatively flat. Before the bridge at around STA. 122+90 there is a gravel access road that goes underneath the bridge to a gravel parking lot. After the bridge at approximately STA.129+80 TR 5 runs parallel with the train tracks before coming to a bridge. Development along VT 107 consists of permanent residences two of which exist near the project limits. Underground utilities run throughout the entire project on both sides of VT 107. There is also a sewage pumping station after the bridge at STA. 128+25

1.2.4 VEGETATION:

A mix of hardwood and softwood trees of all sizes exist along VT 107. The residences near the bridge site have small areas of lawn and stone walls with plantings. One field exists near the project. Impacts to vegetation will be limited to that which are effected by the construction of the new bridge.

Following construction of the temporary bridge, the existing bridge and roadway approaches will be removed, the slopes stabilized with stone fill and vegetation reestablished with standard seed & mulch practices.

1.2.5 SOILS:

The Soil Conservation Service has mapped the soils throughout Windsor County. One of the soil type identified for this project site is Urban Land-Windsor-Agawam complex. This soil type is described as '...Moderately steep and hilly, shallow, somewhat excessively drained and excessively drained

soils and rock outcrop in irregularly shaped areas on bedrock ridges... they have a surface layer of very dark grayish brown fine sandy loam 2 inches thick. The subsoil is friable, brown to dark brown gravelly fine sandy loam 10 inches thick. Hard, massive schist bedrock is at a depth of 12 inches... Permeability is moderately rapid...The hazard of erosion is moderate. Runoff is rapid on the rock outcrop part of this complex.

The listed Soil Erodibility Coefficient (K-value) for this soil type is 0.20. Generally, K-values indicate the following: 0.0 - 0.23 = low erodibility; 0.24 - 0.36 = moderate erodibility; 0.37 and higher = high erodibility.

Another soil type identified on this project is Ondawa fine sandy loam, this soil type is described as '...Moderately sloped with slopes ranging from 0 to 3 percent. The soil is considered to be not erodible and is occasionally flooded. It is identified as not a hydric soil. It's in hydraulic group B and its soil depth will be moderately deep to very deep/ bedrock that is either sandy/sandy-skeletal to loamy/loamy-skeletal.

1.2.6 SENSITIVE RESOURCE AREAS:

No 'Threatened & Endangered Species' have been identified within the project limits and there will be no adverse effect to Historic or Archaeological features. The White River is the only identified resource and being a steep, high gradient stream, there are no wetlands within the vicinity of the project.

1.3 RISK EVALUATION

Low Risk Evaluation
The project has been determined to be low risk and as such the low risk site hand book must be on site and complied with.
No changes to the project limits or soil stabilization techniques that may affect the risk level at this point.
Any modifications to the project shall result in a re-evaluation of the risk and the contractor is responsible for re-filing should the risk change.

1.4 EROSION PREVENTION AND SEDIMENT CONTROL

The erosion control plans are meant as a guideline for preventing erosion and controlling sediment transport. The work outlined in this narrative consists of applying measures throughout the life of the project minimizing sediment transport to the receiving waters. The measures include stabilization and structural practices, storm water controls and other pollution prevention controls.

Preventing initial soil erosion is much more effective than treating eroded sediment. Maintaining vegetated buffers along stream banks, wetlands or other sensitive areas is a crucial erosion and sediment control measure that should be established wherever possible.

All measures shall be regularly maintained and shall be checked for sediment build-up. Sediment shall be disposed at an approved site where it will not be subject to erosion.

(Refer to the low risk site handbook and appropriate detail sheets for each practice required on the project to include but not limited to the following.)

1.4.1 MARK SITE BOUNDARIES

Project demarcation fencing, denoted -pdf- on the plans, is used to delineate the limits the contractor can access with construction equipment. This measure limits the area that can be disturbed and exposed to erosion.

1.4.2 LIMIT DISTURBANCE AREA

Employ temporary stabilization practices in incremental stages (PHASING) as construction proceeds. Turbidity curtain shall be used when work is being done for the pier. Additional measures may be needed due to the phasing of the project and as directed by the engineer.

1.4.3 STABILIZE CONSTRUCTION EXIT

Stabilized construction entrance shall be utilized by the direction of the RE.

1.4.4 INSTALL SILT FENCE

Silt fence shall be installed prior to any up slope work as shown on the plans or as necessary.

1.4.5 DIVERT UPLAND RUNOFF

Swale grass lined (Storm water from street collection drainage system)

1.4.6 SLOW DOWN CHANNELIZED RUNOFF

Check dams shall be utilized by the direction of the Resident Engineer.

1.4.7 CONSTRUCT PERMANENT CONTROLS

Type IV stone for slope lining and channel protection
Seed and mulch
Drainage inlets and piping
Soil retention walls

Stream bank vegetation will be introduced in the grubbing material that is to be placed over the stream bank stone fill.

1.4.8 STABILIZED EXPOSED SOILS

Seed and mulch
Erosion matting

Tracking of all exposed slopes, combined with temporary mulching, will be utilized on a regular basis. Slopes shall be stabilized with 48 hours of forecasted rain. Seeding, mulching and biodegradable erosion control matting or an equivalent shall be used to stabilize all slopes steeper than 1:3. These slopes shall be stabilized within 48 hours of reaching intermittent phases of construction.

1.4.9 WINTER STABILIZATION

Various measures specific to winter (See low risk handbook)

1.4.10 STABILIZE SOIL AT FINAL GRADE

Seed and mulch
Erosion matting

Seeding, mulching and biodegradable erosion matting or an equivalent shall be used to stabilize all slopes steeper than 1:3. These slopes shall be stabilized within 48 hours of reaching final grade.

1.4.11 DE-WATERING ACTIVITIES

Sediment basins for pier work shall be used as directed by the Resident Engineer.

1.4.12 INSPECT YOUR SITE

Inspect site based on permit authorization or special provision requirements.

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

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 500 lbs./acre (Hydro seeders may use 19-19-19 formula.)

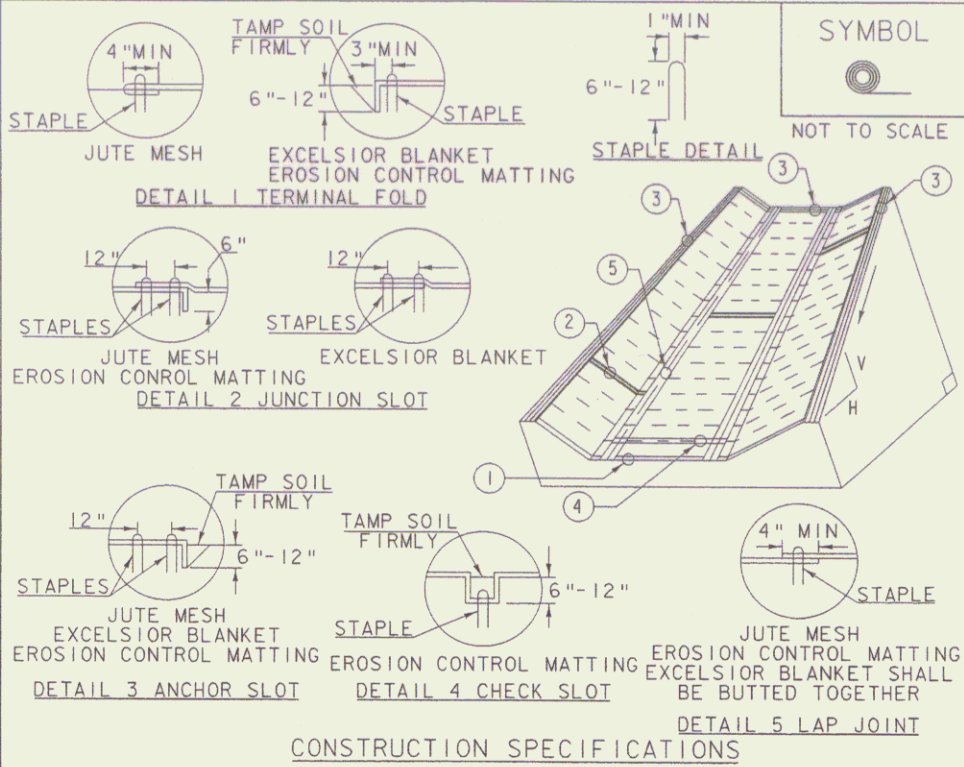
Agricultural limestone to be applied at the rate of 2 tons/acre, or as directed by the engineer

Hay mulch to be placed on earth slopes at the rate of 2 tons/acre or as directed by the engineer.

Topsoil to be used with seed as indicated on the plans, or as directed by the engineer.

EROSION CONTROL NARRATIVE

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)
FILE NAME:	78f161Structures1f161forms.x
PROJECT LEADER:	M. Evans-Mongeon
DESIGNED BY:	G. Colgrove
EROSION CONTROL NARRATIVE	ROW SHEET 13 OF 27
PLOT DATE:	5/5/2008
DRAWN BY:	G. Rokes
CHECKED BY:	S. Scribner



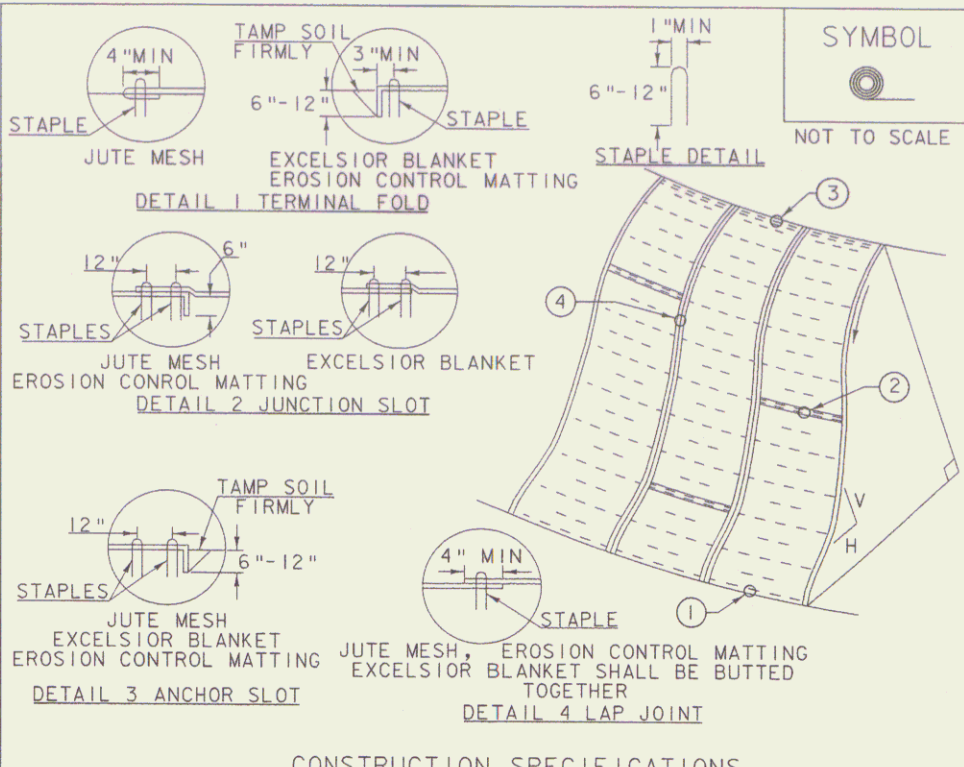
- CONSTRUCTION SPECIFICATIONS**
1. EROSION MATTING, CHECK SLOTS, SHALL BE SPACED IN DITCH CHANNEL SO THAT ONE OCCURS WITHIN EACH 50' ON SLOPES OF MORE THAN 4% AND LESS THAN 6%. ON SLOPES OF 6% OR MORE, THEY SHALL BE SPACED SO THAT ONE OCCURS WITHIN EACH 25'.
 2. APPLY FERTILIZER, LIME SEED PRIOR TO PLACING 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' X 225' ROLL OF MATERIAL AND 125 STAPLES ARE REQUIRED PER 4' X 150' 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: NEW YORK STATE DEC
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 WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION
653 AND AS SHOWN IN THE PLANS FOR TEMPORARY EROSION
MATTING (PAY ITEM 653.20) OR PERMANENT EROSION MATTING
(PAY ITEM 653.21).

REVISIONS		
MARCH 8, 2007	JMF	
APRIL 16, 2007	WHF	
JANUARY 13, 2009	WHF	



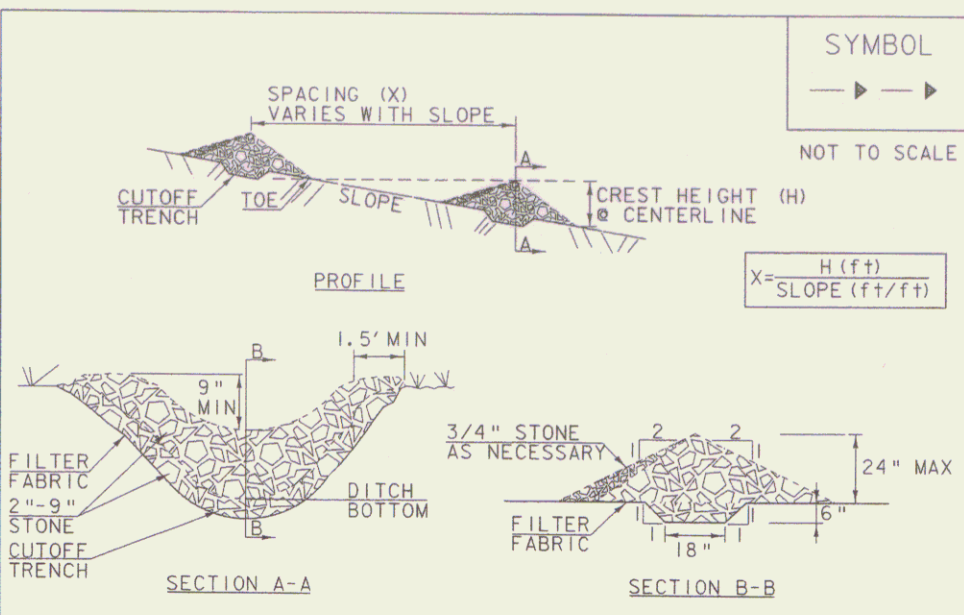
- CONSTRUCTION SPECIFICATIONS**
1. APPLY TO SLOPES GREATER THAN 3H:1V OR WHERE NECESSARY TO AID IN ESTABLISHING VEGETATION.
 2. APPLY FERTILIZER, LIME SEED PRIOR TO PLACING MATTING.
 3. STAPLES ARE TO BE PLACED ALTERNATELY, IN COLUMNS APPROXIMATELY 2' APART AND IN ROWS APPROXIMATELY 3' APART. APPROXIMATELY 175 STAPLES ARE REQUIRED PER 4' X 225' ROLL OF MATERIAL AND 125 STAPLES ARE REQUIRED PER 4' X 150' 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: NEW YORK STATE DEC
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 WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION
653 AND AS SHOWN IN THE PLANS FOR TEMPORARY EROSION
MATTING (PAY ITEM 653.20) OR PERMANENT EROSION MATTING
(PAY ITEM 653.21).

REVISIONS		
APRIL 16, 2007	JMF	
JANUARY 13, 2009	WHF	



- CONSTRUCTION SPECIFICATIONS**
1. STONE WILL BE PLACED ON A FILTER FABRIC FOUNDATION.
 2. CHECK DAMS SHALL BE SPACED SO THAT THE ELEVATION OF THE CREST OF THE DOWNSTREAM DAM IS AT THE SAME ELEVATION AS THE TOE OF THE UPSTREAM DAM.
 3. 3/4" FILTERING STONE MAY BE ADDED TO THE FACE OF THE CHECK DAM AS NECESSARY.
 4. EXTEND THE STONE A MINIMUM OF 1.5' BEYOND THE DITCH BANKS TO PREVENT CUTTING AROUND THE DAM.
 5. PROTECT CHANNEL DOWNSTREAM OF THE LOWEST CHECK DAM FROM SCOUR AND EROSION WITH STONE OR LINER AS APPROPRIATE.
 6. ENSURE THAT CHANNEL APPURTENANCES SUCH AS CULVERT ENTRANCES BELOW CHECK DAMS ARE NOT SUBJECT TO DAMAGE OR BLOCKAGE FROM DISPLACED STONE.
 7. MAXIMUM DRAINAGE AREA 2 ACRES.

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

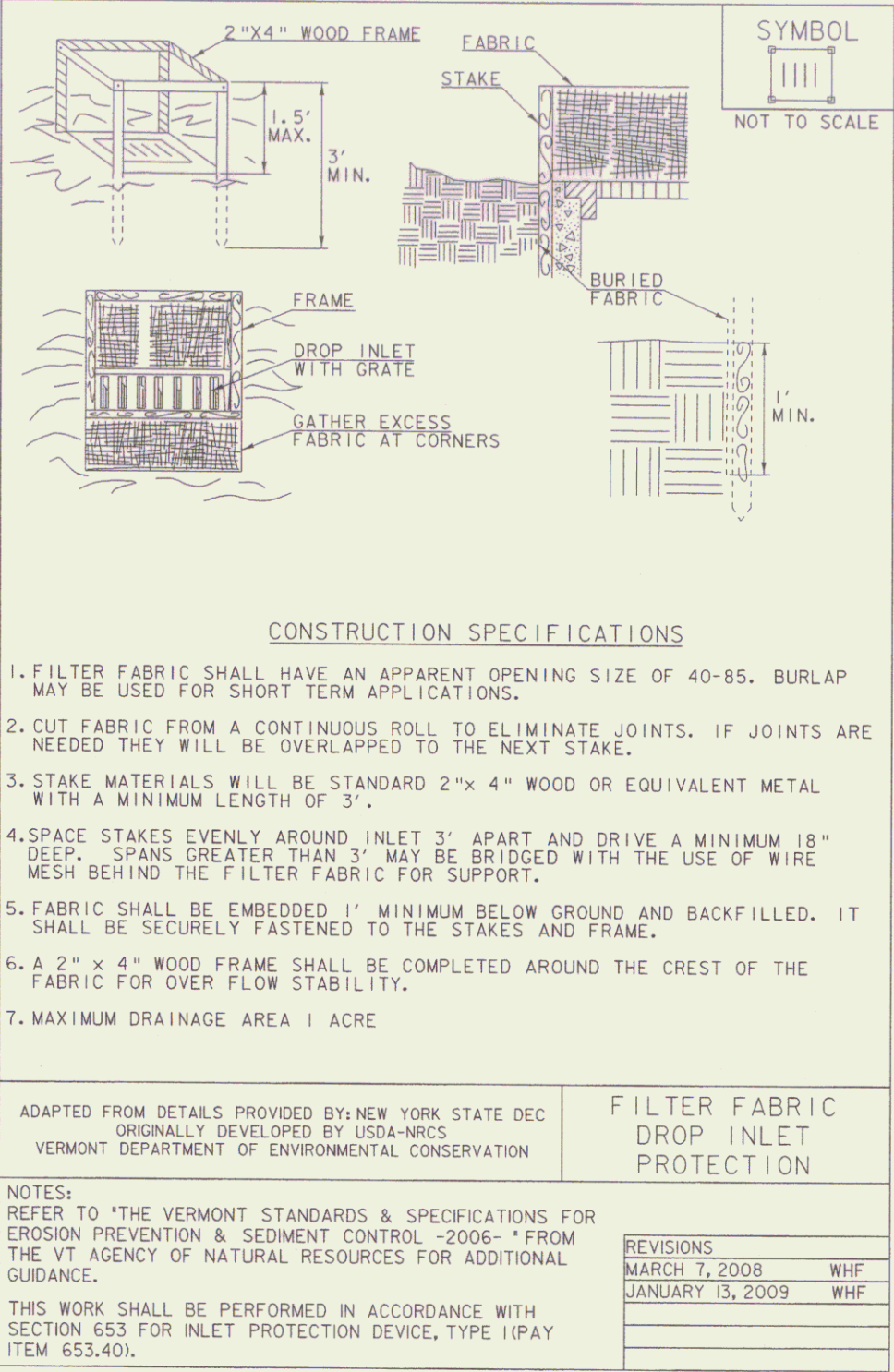
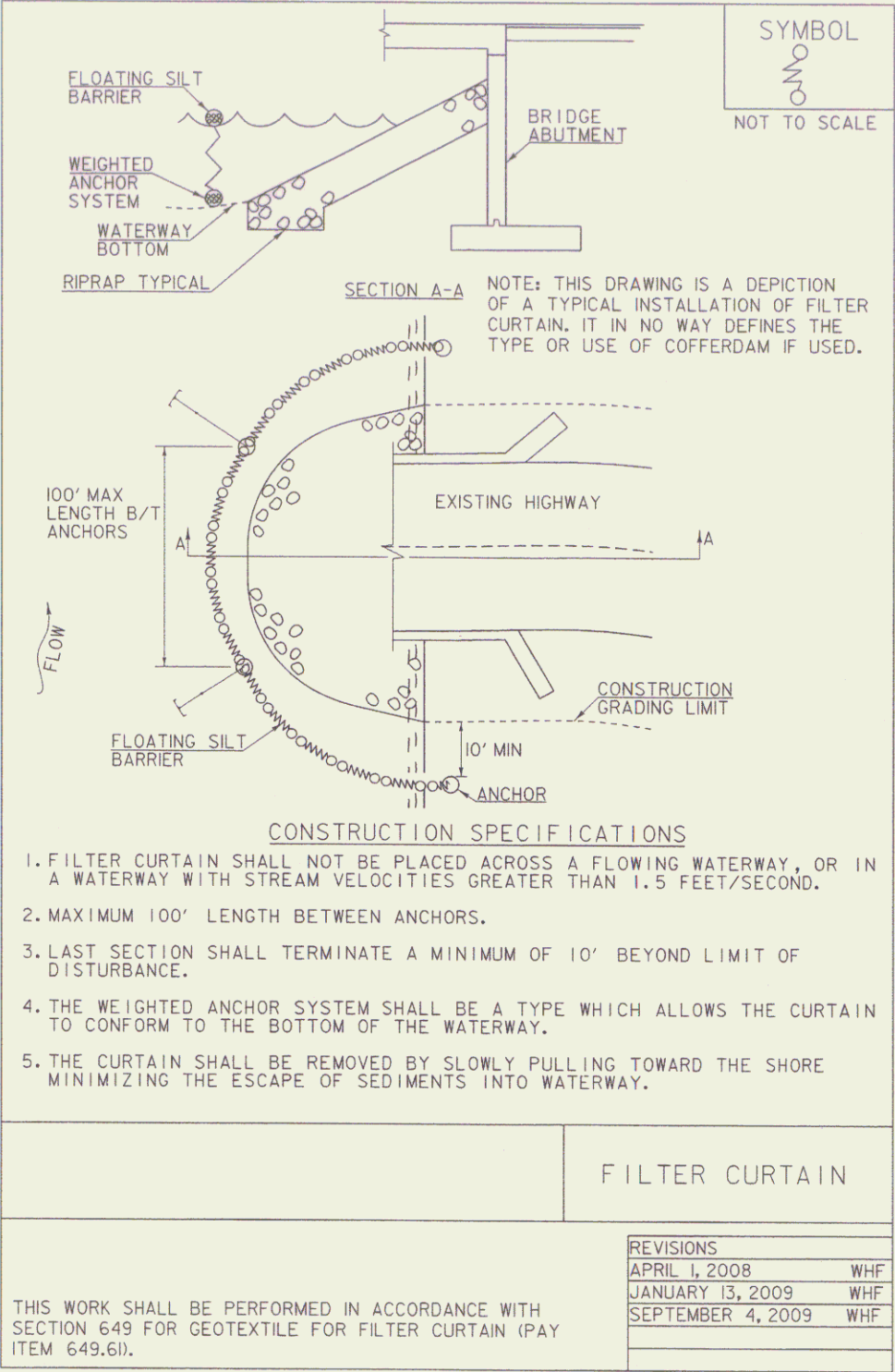
CHECK DAM

NOTES:
REFER TO 'THE VERMONT STANDARDS & SPECIFICATIONS FOR
EROSION PREVENTION & SEDIMENT CONTROL -2006-' FROM
THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL
GUIDANCE.
THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH
SECTION 653 FOR TEMPORARY STONE CHECK DAM, TYPE I (PAY
ITEM 653.25).

REVISIONS		
MARCH 21, 2008	WHF	
JANUARY 8, 2009	WHF	

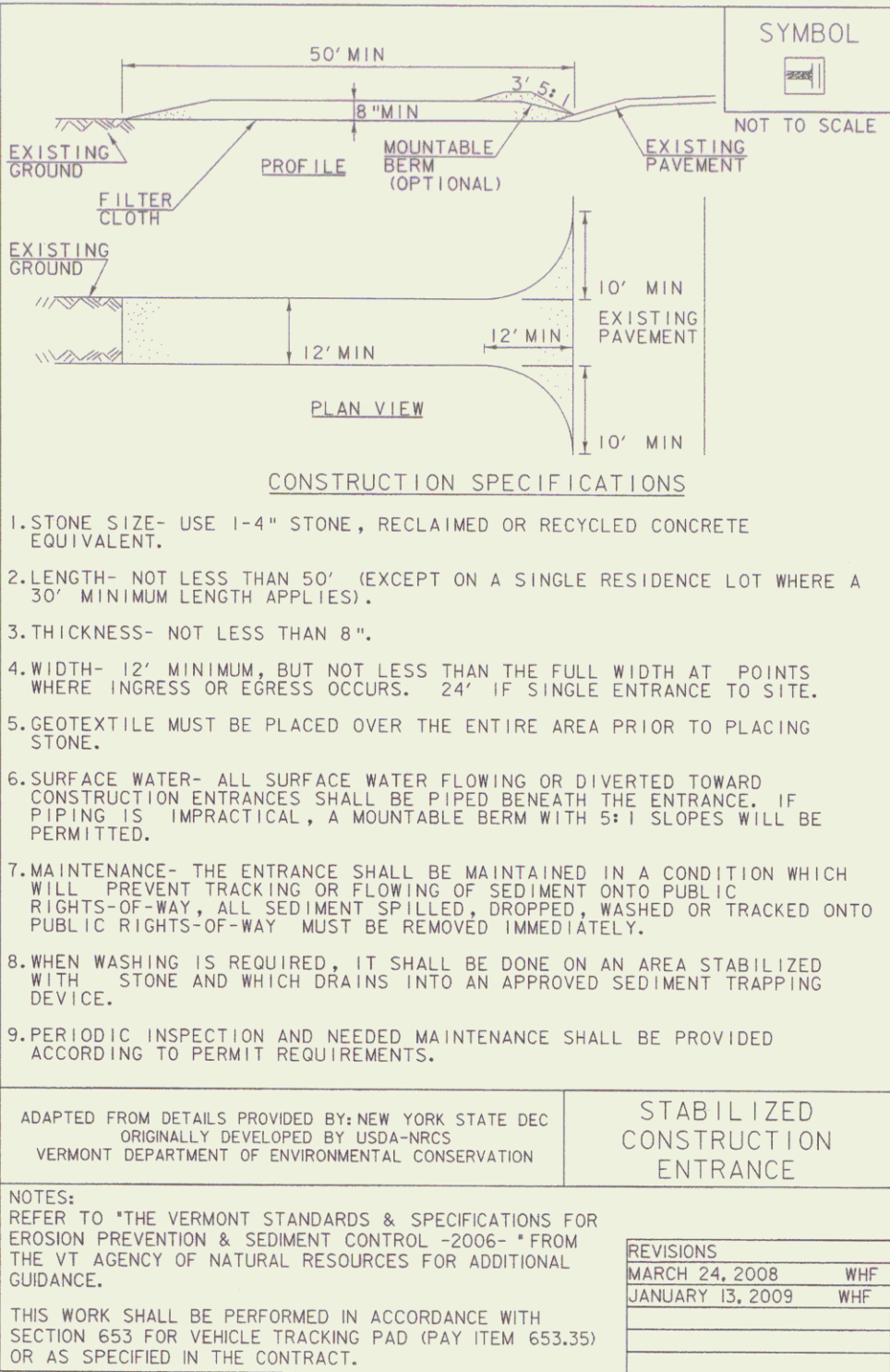
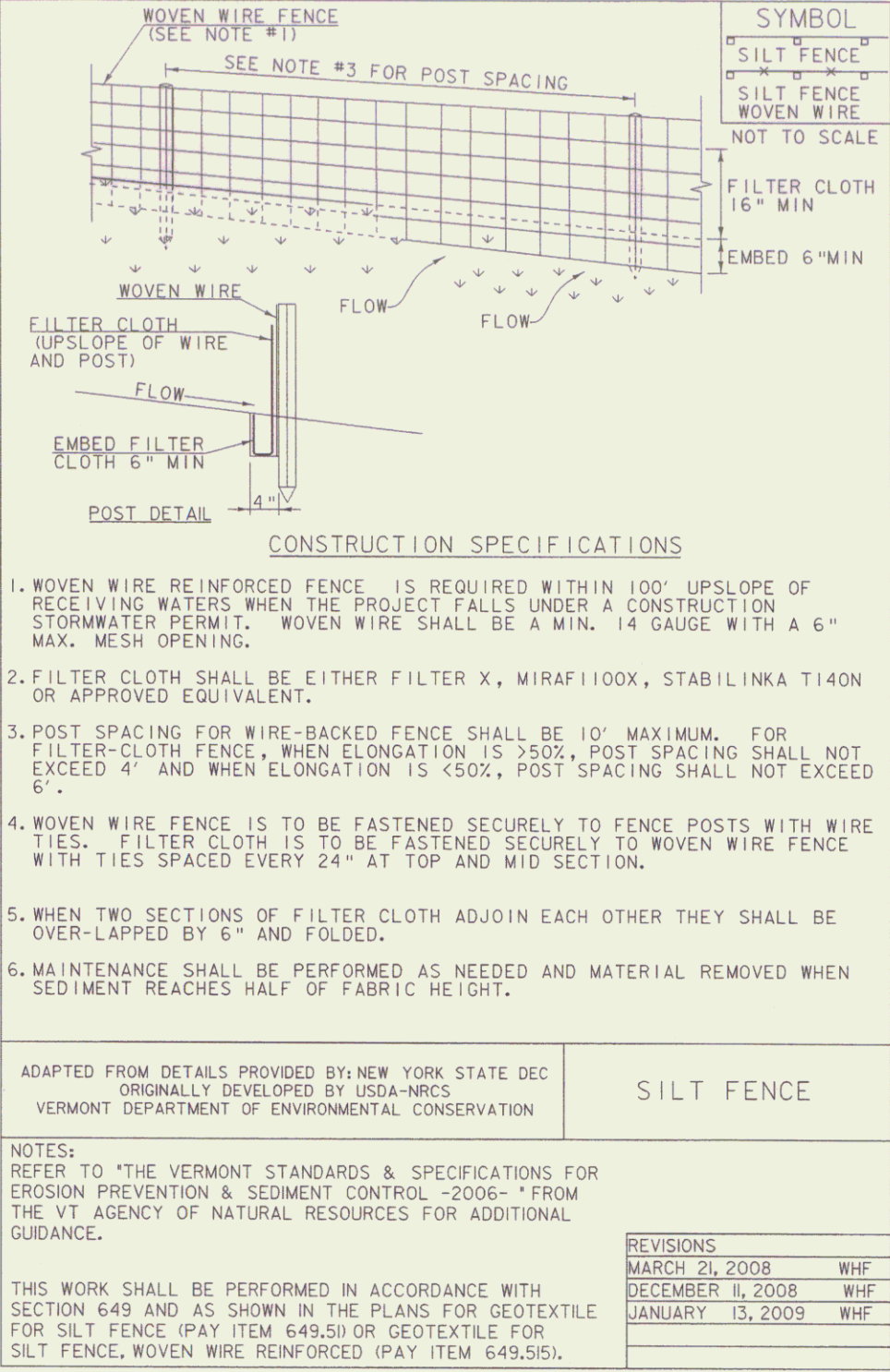
EPSC DETAILS SHEET 1

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)
FILE NAME:	ppms*/Section/-----,dgn
PROJECT LEADER:	M. EVANS-MONGEON
DESIGNED BY:	S. SCRIBNER
PLOT DATE:	10-FEB-2010
DRAWN BY:	T. DREW
CHECKED BY:	S. SCRIBNER
R.O.W. SHEET	14 OF 27 SHEETS



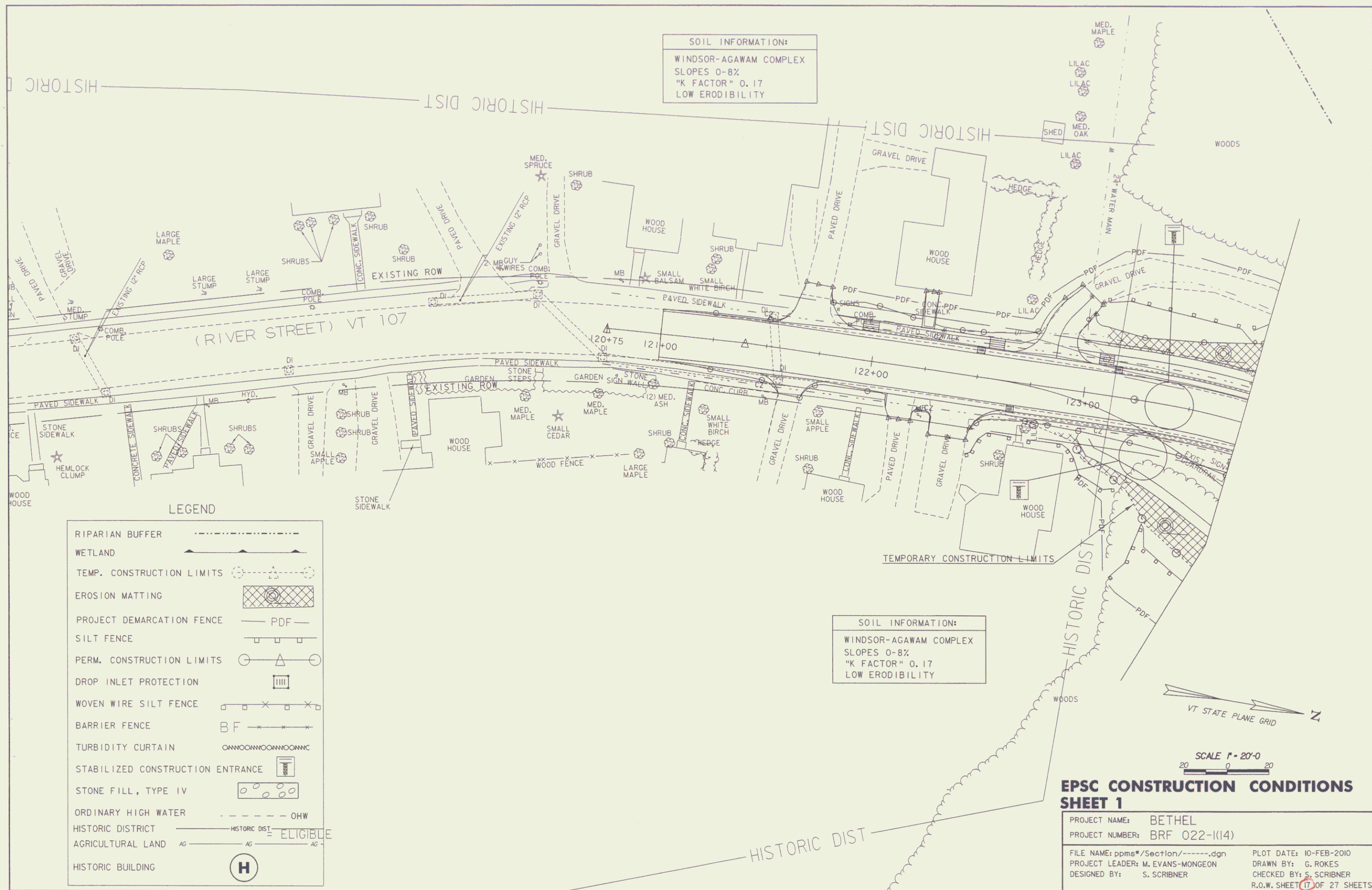
EPSC DETAILS SHEET 2

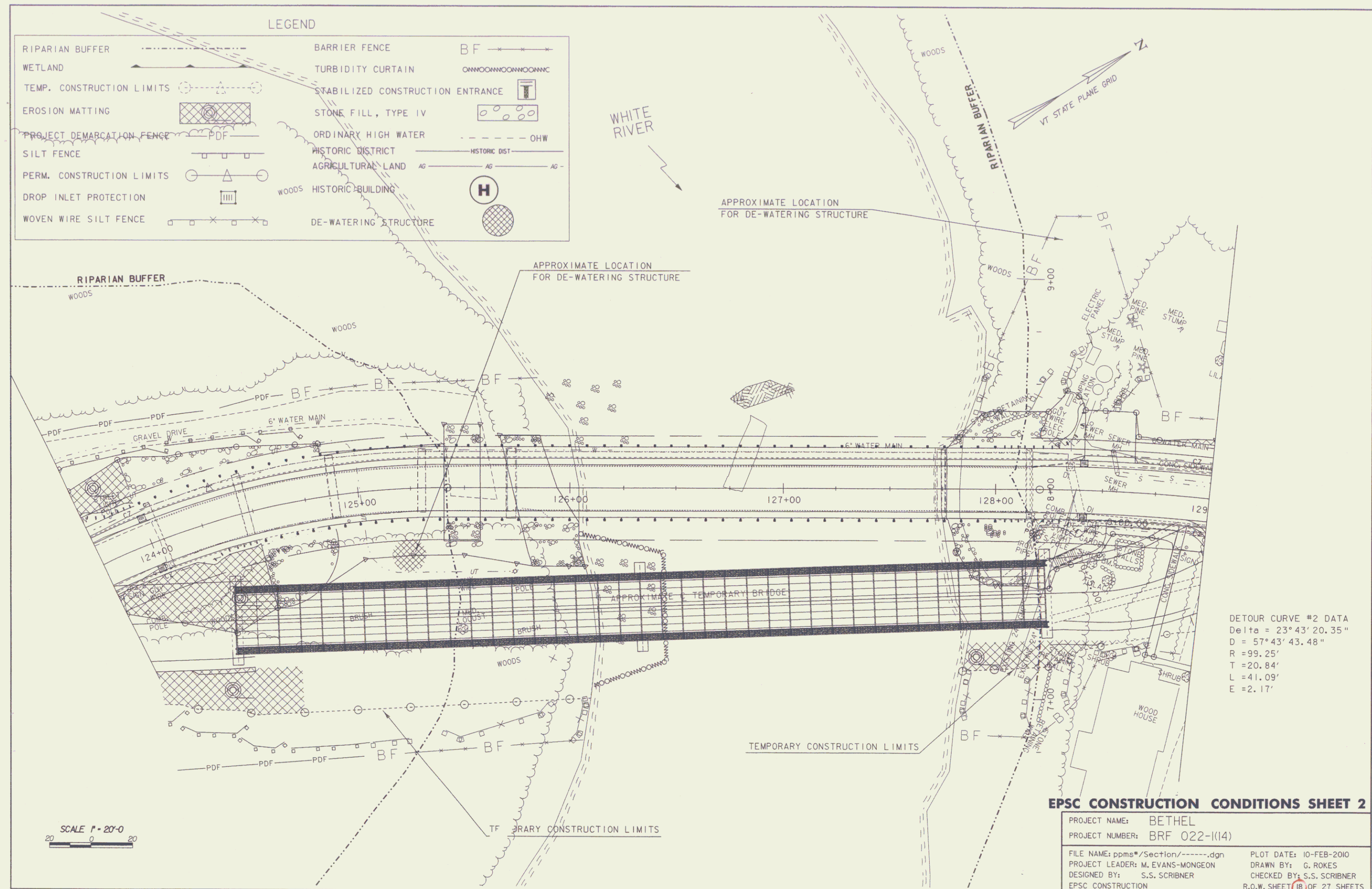
PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-I(14)
FILE NAME:	ppms*/Section/-----.dgn
PROJECT LEADER:	M. EVANS-MONGEON
DESIGNED BY:	S. SCRIBNER
PLOT DATE:	10-FEB-2010
DRAWN BY:	T. DREW
CHECKED BY:	S. SCRIBNER
R.O.W. SHEET	15 OF 27 SHEETS

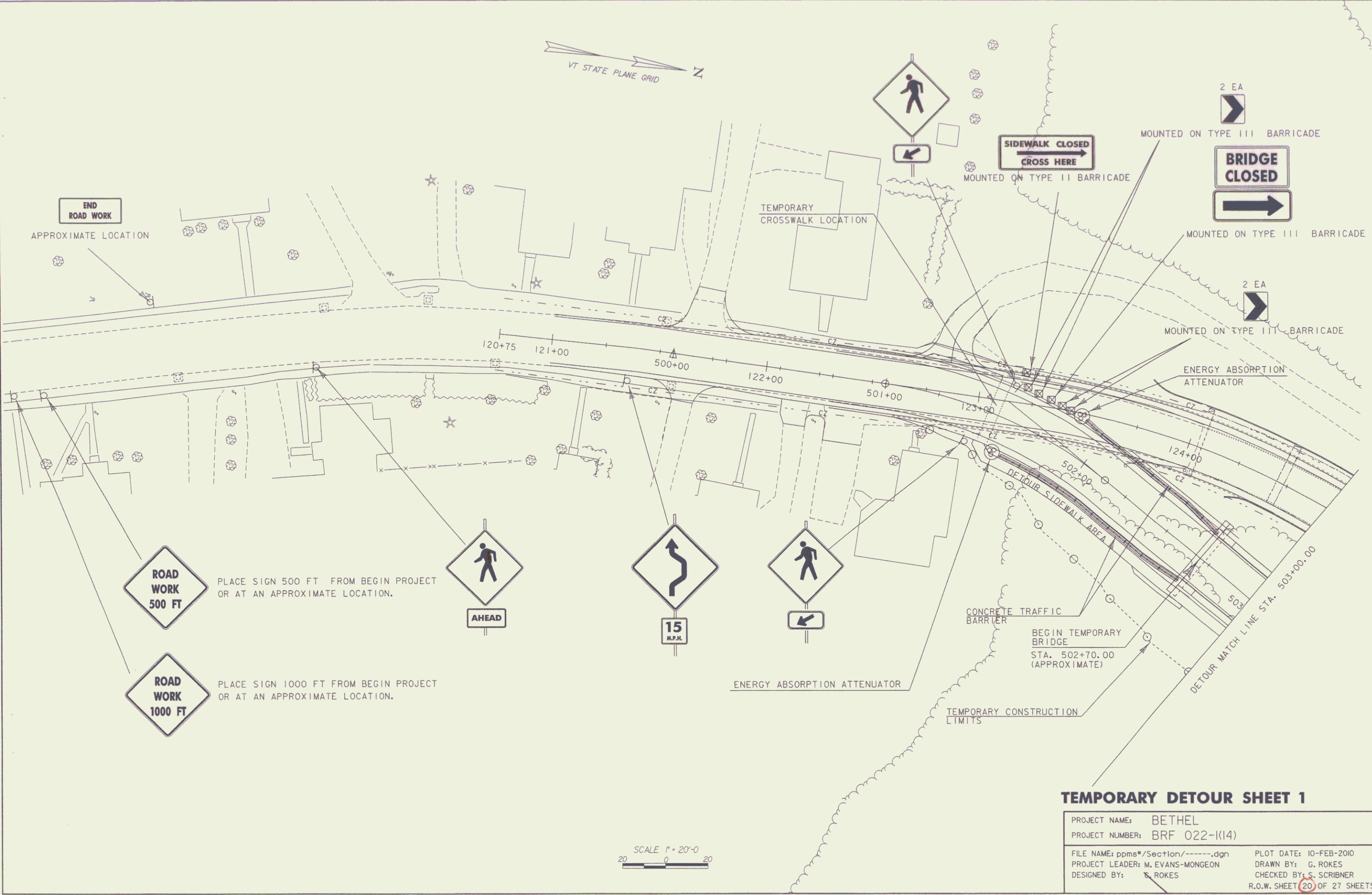


EPSC DETAILS SHEET 3

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-I(14)
FILE NAME:	ppms*/Section/-----.dgn
PROJECT LEADER:	M. EVANS-MONGEON
DESIGNED BY:	S. SCRIBNER
PLOT DATE:	10-FEB-2010
DRAWN BY:	T. DREW
CHECKED BY:	S. SCRIBNER
R.O.W. SHEET	16 OF 27 SHEETS

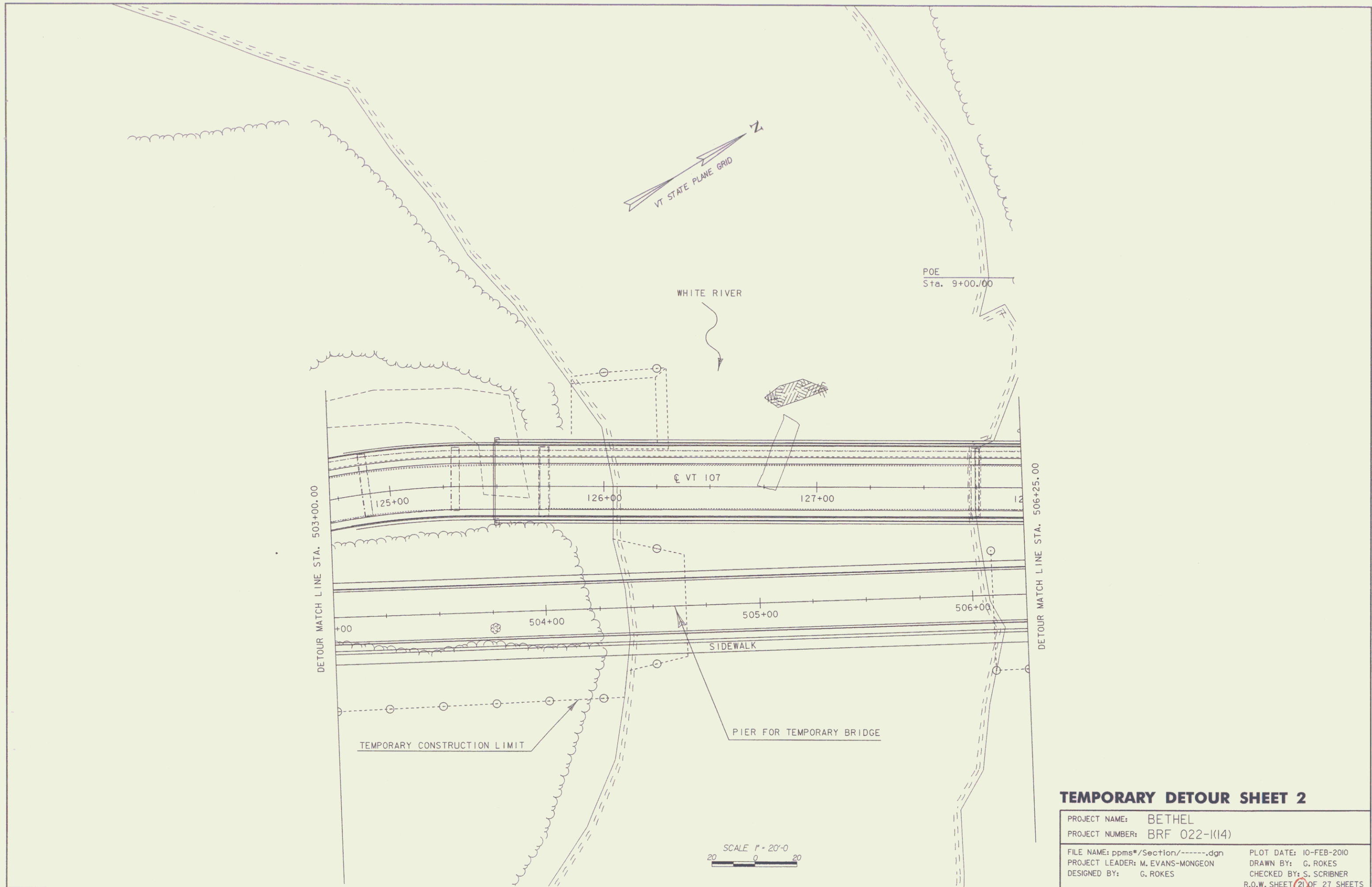






TEMPORARY DETOUR SHEET 1

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)
FILE NAME:	ppme*/Section/-----dgn
PROJECT LEADER:	M. EVANS-MONGEON
DESIGNED BY:	S. ROKES
PLOT DATE:	10-FEB-2010
DRAWN BY:	G. ROKES
CHECKED BY:	S. SCRIBNER
R.O.W. SHEET	20 OF 27 SHEETS



RIGHT - OF - WAY DETAIL SHEET

[illegible]

APPROVED: HARRY PETROVS DATE: 02-01-10
CHIEF, PLANS & TITLES

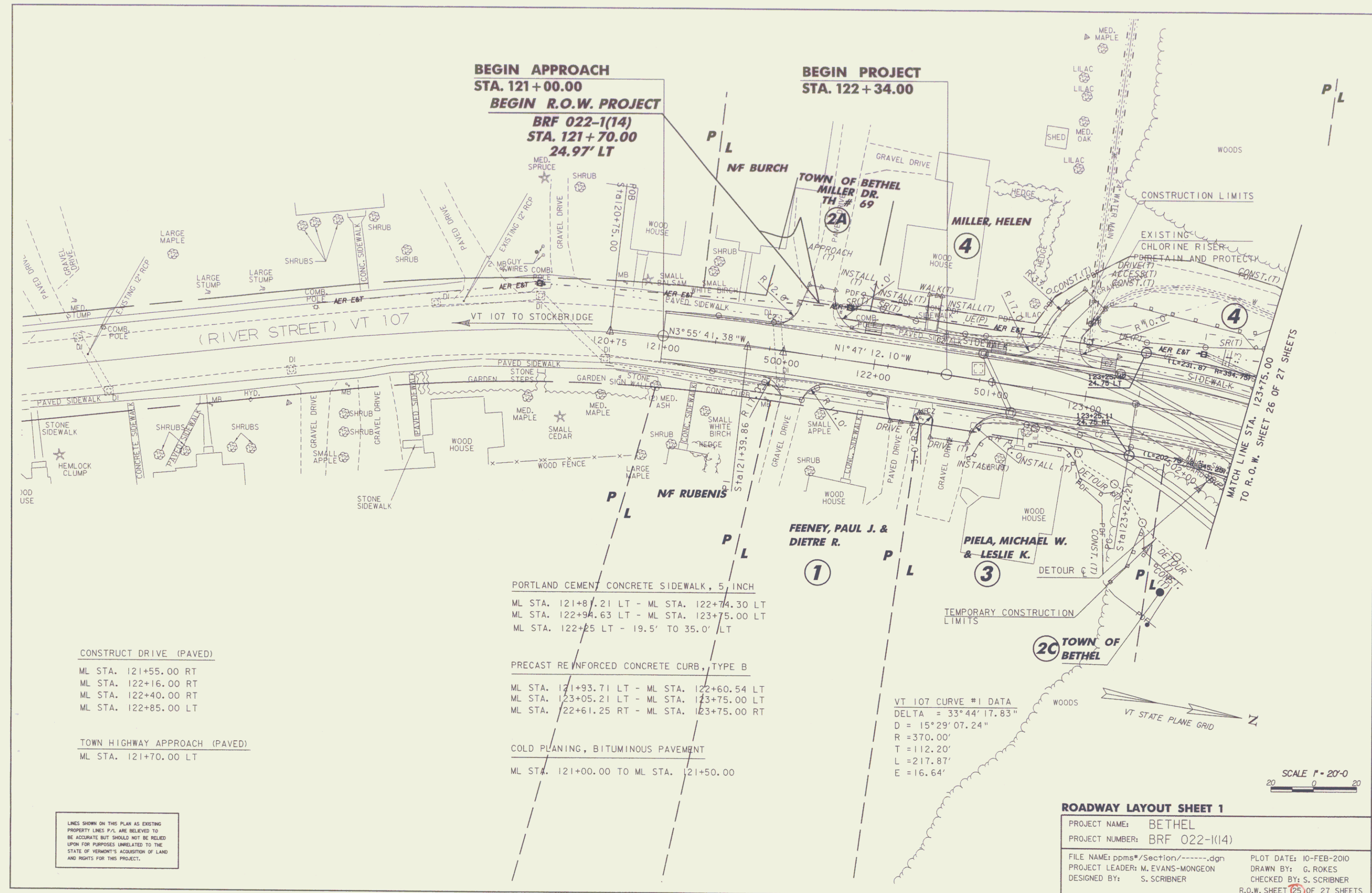
FILE NAME: r 78f161 Detail Sheet.xls
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: S. SCRIBNER
ROW SHEET 23 OF 27

PLOT DATE 05/18/11

PLOT DATE:
DRAWN BY: MR
CHECKED BY: JB
SHEET 28 OF 148

RIGHT - OF - WAY DETAIL SHEET

24



26

