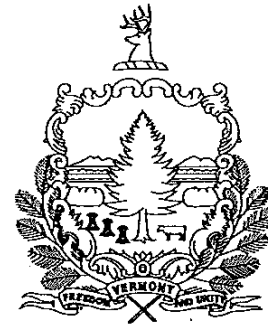


R. O. W. PLANS

INDEX OF SHEETS

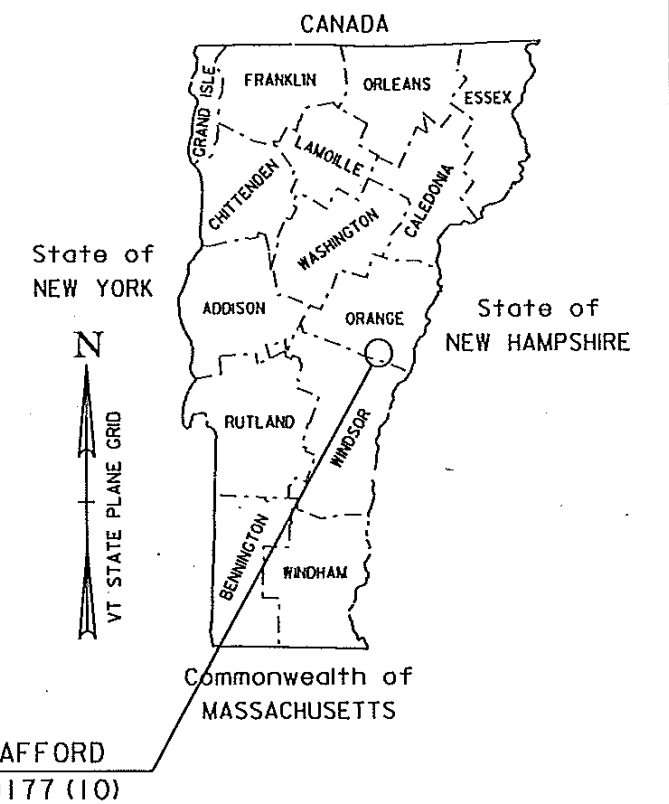
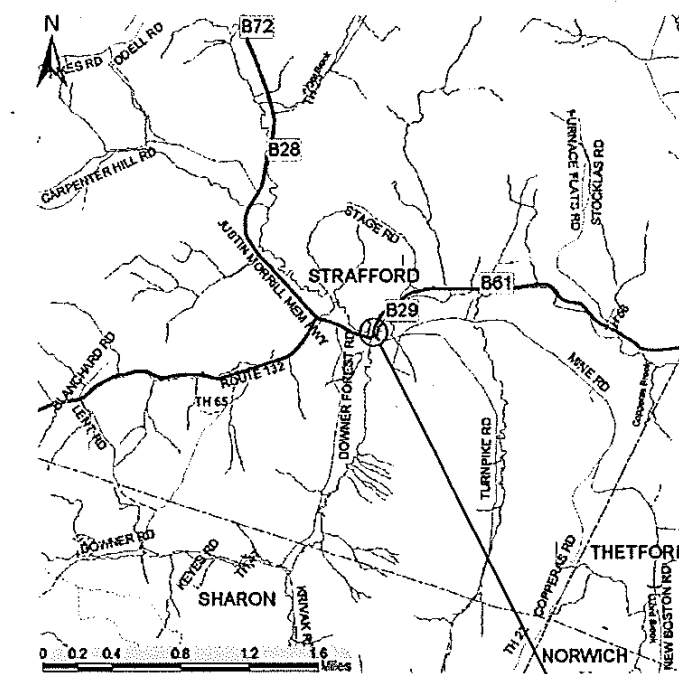
- 1 TITLE
- 2 LEGEND
- 3 DETAIL
- 4 LAYOUT
- 5 PRELIMINARY INFORMATION SHEET
- 6-7 TYPICALS SECTIONS
- 8 TIE SHEET
- 9 MAINLINE PROFILE & BANKING DIAGRAM
- 10 UTILITY LAYOUT SHEET
- 11 EPSC PLAN

STATE OF VERMONT AGENCY OF TRANSPORTATION



PROPOSED IMPROVEMENT BRIDGE PROJECT

TOWN OF STRAFFORD
COUNTY OF ORANGE



ROUTE NO : FAS 0177 (TH 1), RURAL MAJOR COLLECTOR, CLASS 2 TOWN HIGHWAY BRIDGE NO : 29

PROJECT LOCATION: APPROXIMATELY 0.04 MILES NORTH OF THE INTERSECTION OF TOWN HIGHWAY 1 (FAS 0177) AND TOWN HIGHWAY 4.

PROJECT DESCRIPTION: REMOVAL OF THE EXISTING STRUCTURE AND REPLACEMENT WITH A NEW STRUCTURE.

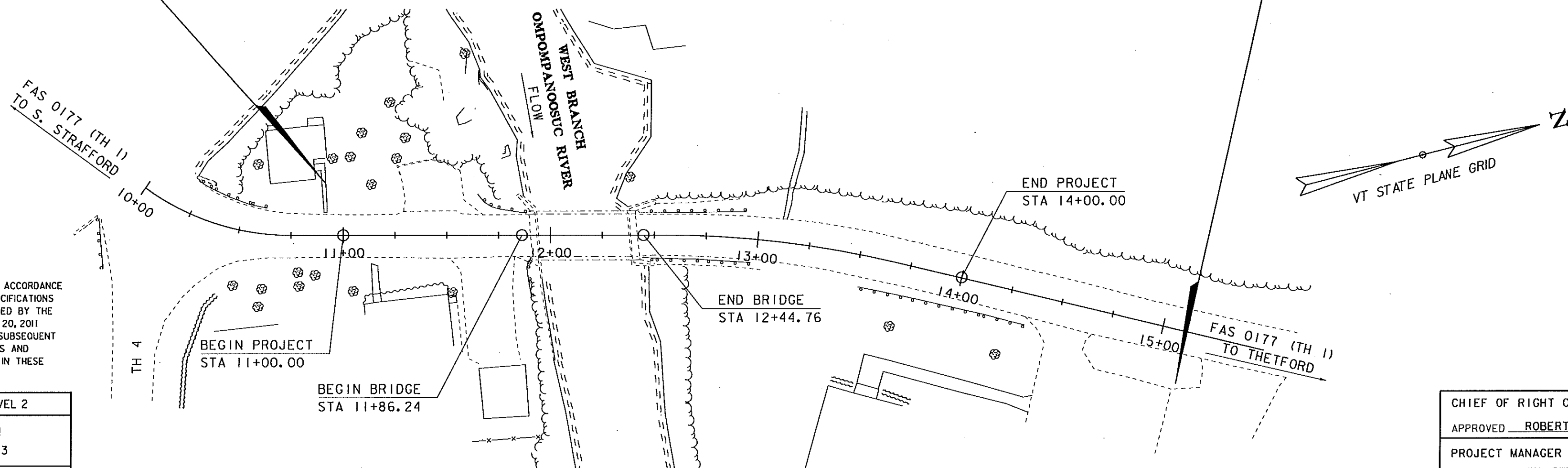
LENGTH OF STRUCTURE: 58.52 FEET
 LENGTH OF ROADWAY: 241.48 FEET
 LENGTH OF PROJECT: 300.00 FEET
 LENGTH OF ROW PROJECT: 420.91 FEET

BEGIN R.O.W. PROJECT
STRAFFORD BF 0177(10)
STA. 10+91.52, 24.75' LT

END R.O.W. PROJECT
STRAFFORD BF 0177(10)
STA. 15+12.43, 25.11' RT

CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2011, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JULY 20, 2011 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

QUALITY ASSURANCE PROGRAM : LEVEL 2	
SURVEYED BY :	R. GILMAN
SURVEYED DATE :	04/18/2013
DATUM	
VERTICAL	NAVD88
HORIZONTAL	NAD 83 (2011)



SCALE 1" = 30' - 0"
 30 0 30

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

CHIEF OF RIGHT OF WAY	
APPROVED	ROBERT M. WHITE DATE 09-10-15
PROJECT MANAGER : KRISTIN HIGGINS, P.E.	
PROJECT NAME :	STRAFFORD
PROJECT NUMBER :	BF 0177 (10)
SHEET 1 OF 11 SHEETS	

GENERAL INFORMATION

SYMBOLOLOGY LEGEND NOTE

THE SYMBOLOLOGY ON THIS SHEET IS INTENDED TO COVER STANDARD CONVENTIONAL SYMBOLOLOGY. THE SYMBOLOLOGY IS USED FOR EXISTING & PROPOSED FEATURES WITH HEAVIER LINEWEIGHT, IN COMBINATION WITH PROJECT ANNOTATION, AS NOTED ON PROJECT PLAN SHEETS. THIS LEGEND SHEET COVERS THE BASICS. SYMBOLOLOGY ON PLANS MAY VARY, PLAN ANNOTATIONS AND NOTES SHOULD BE USED TO CLARIFY AS NEEDED.

R.O.W. ABBREVIATIONS (CODES) & SYMBOLS

POINT CODE	DESCRIPTION
CH	CHANNEL EASEMENT
CONST	CONSTRUCTION EASEMENT
CUL	CULVERT EASEMENT
D&C	DISCONNECT & CONNECT
DIT	DITCH EASEMENT
DR	DRAINAGE EASEMENT
DRIVE	DRIVEWAY EASEMENT
EC	EROSION CONTROL
HWY	HIGHWAY EASEMENT
I&M	INSTALL & MAINTAIN EASEMENT
LAND	LANDSCAPE EASEMENT
R&RES	REMOVE & RESET
R&REP	REMOVE & REPLACE
SR	SLOPE RIGHT
UE	UTILITY EASEMENT
(P)	PERMANENT EASEMENT
(T)	TEMPORARY EASEMENT
■	BNDNS BOUND SET
□	BNDNS BOUND TO BE SET
●	IPNS IRON PIN SET
⊙	IPNS IRON PIN TO BE SET
⊠	CALC EXISTING ROW POINT
○	PROW PROPOSED ROW POINT
[LENGTH]	LENGTH CARRIED ON NEXT SHEET

COMMON TOPOGRAPHIC POINT SYMBOLS

POINT CODE	DESCRIPTION
⊛	APL BOUND APPARENT LOCATION
□	BM BENCHMARK
□	BND BOUND
⊠	CB CATCH BASIN
⊙	COMB COMBINATION POLE
⊠	DITHR DROP INLET THROATED DNC
⊙	EL ELECTRIC POWER POLE
○	FPOLE FLAGPOLE
○	GASFIL GAS FILLER
○	GP GUIDE POST
×	GSO GAS SHUT OFF
○	GUY GUY POLE
○	GUYW GUY WIRE
×	GV GATE VALUE
⊙	H TREE HARDWOOD
△	HCTRL CONTROL HORIZONTAL
△	HVCTRL CONTROL HORIZ. & VERTICAL
◇	HYD HYDRANT
○	IP IRON PIN
○	IPIPE IRON PIPE
⊙	LI LIGHT - STREET OR YARD
⊠	MB MAILBOX
○	MH MANHOLE (MH)
○	MM MILE MARKER
○	PM PARKING METER
□	PMK PROJECT MARKER
○	POST POST STONE/WOOD
⊠	RRSIG RAILROAD SIGNAL
⊠	RRSL RAILROAD SWITCH LEVER
⊙	S TREE SOFTWOOD
⊠	SAT SATELLITE DISH
⊙	SHRUB SHRUB
⊠	SIGN SIGN
⊠	STUMP STUMP
⊙	TEL TELEPHONE POLE
○	TIE TIE
⊠	TSIGN SIGN W/DOUBLE POST
⊠	VCTRL CONTROL VERTICAL
○	WELL WELL
×	WSO WATER SHUT OFF

THESE ARE COMMON VAOT SURVEY POINT SYMBOLS FOR EXISTING FEATURES, ALSO USED FOR PROPOSED FEATURES WITH HEAVIER LINEWEIGHT, IN COMBINATION WITH PROPOSED ANNOTATION.

PROPOSED GEOMETRY CODES

CODE	DESCRIPTION
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
CC	CENTER OF CURVE
PT	POINT OF TANGENCY
PCC	POINT OF COMPOUND CURVE
PRC	POINT OF REVERSE CURVE
POB	POINT OF BEGINNING
POE	POINT OF ENDING
STA	STATION PREFIX
AH	AHEAD STATION SUFFIX
BK	BACK STATION SUFFIX
D	CURVE DEGREE OF (100FT)
R	CURVE RADIUS OF
T	CURVE TANGENT LENGTH
L	CURVE LENGTH OF
E	CURVE EXTERNAL DISTANCE

UTILITY SYMBOLOLOGY

UNDERGROUND UTILITIES

— UGU —	UTILITY (GENERIC-UNKNOWN)
— UT —	TELEPHONE
— UE —	ELECTRIC
— UC —	CABLE (TV)
— UEC —	ELECTRIC+CABLE
— UET —	ELECTRIC+TELEPHONE
— UCT —	CABLE+TELEPHONE
— UECT —	ELECTRIC+CABLE+TELEP.
— G —	GAS LINE
— W —	WATER LINE
— S —	SANITARY SEWER (SEPTIC)

ABOVE GROUND UTILITIES (AERIAL)

— AGU —	UTILITY (GENERIC-UNKNOWN)
— T —	TELEPHONE
— E —	ELECTRIC
— C —	CABLE (TV)
— EC —	ELECTRIC+CABLE
— ET —	ELECTRIC+TELEPHONE
— AER E&T —	ELECTRIC+TELEPHONE
— CT —	CABLE+TELEPHONE
— ECT —	ELECTRIC+CABLE+TELEP.
—	UTILITY POLE GUY WIRE

PROJECT CONSTRUCTION SYMBOLOLOGY

PROJECT DESIGN & LAYOUT SYMBOLOLOGY

— — — CZ — — —	CLEAR ZONE
— — — — —	PLAN LAYOUT MATCHLINE

PROJECT CONSTRUCTION FEATURES

△	TOP OF CUT SLOPE
○	TOE OF FILL SLOPE
⊠	STONE FILL
⊠	BOTTOM OF DITCH
⊠	CULVERT PROPOSED
⊠	STRUCTURE SUBSURFACE
PDF	PROJECT DEMARCATION FENCE
BF	BARRIER FENCE
XXXXXXXXXXXXXXXXXXXX	TREE PROTECTION ZONE (TPZ)
//////	STRIPING LINE REMOVAL
~~~~~	SHEET PILES

**CONVENTIONAL BOUNDARY SYMBOLOLOGY**

**BOUNDARY LINES**

— TOWN LINE —	TOWN BOUNDARY LINE
— COUNTY LINE —	COUNTY BOUNDARY LINE
— STATE LINE —	STATE BOUNDARY LINE
— W —	PROPOSED STATE R.O.W. (LIMITED ACCESS)
— W —	PROPOSED STATE R.O.W.
— W —	STATE ROW (LIMITED ACCESS)
— W —	STATE ROW
— TOWN ROW —	TOWN ROW
— — — — —	PERMANENT EASEMENT LINE (P)
— — — — —	TEMPORARY EASEMENT LINE (T)
— — — — —	SURVEY LINE
— P —	PROPERTY LINE (P/L)
△ SR ○ SR △ SR ○	SLOPE RIGHTS
6F	6F PROPERTY BOUNDARY
4F	4F PROPERTY BOUNDARY
HAZ	HAZARDOUS WASTE

**EPSC LAYOUT PLAN SYMBOLOLOGY**

**EPSC MEASURES**

○ ○ ○ ○ ○ ○ ○ ○ ○ ○	FILTER CURTAIN
— X — X — X — X — X —	SILT FENCE
— X — X — X — X — X —	SILT FENCE WOVEN WIRE
— — — — —	CHECK DAM
⊠	DISTURBED AREAS REQUIRING RE-VEGETATION
⊠	EROSION MATTING

SEE EPSC DETAIL SHEETS FOR ADDITIONAL SYMBOLOLOGY

**ENVIRONMENTAL RESOURCES**

— — — — —	WETLAND BOUNDARY
— — — — —	RIPARIAN BUFFER ZONE
— — — — —	WETLAND BUFFER ZONE
— — — — —	SOIL TYPE BOUNDARY
— T&E —	THREATENED & ENDANGERED SPECIES
— HAZ — HAZ —	HAZARDOUS WASTE AREA
— AG —	AGRICULTURAL LAND
— HABITAT —	FISH & WILDLIFE HABITAT
— FLOOD PLAIN —	FLOOD PLAIN
— OHW —	ORDINARY HIGH WATER (OHW)
— — — — —	STORM WATER
— — — — —	USDA FOREST SERVICE LANDS
— — — — —	WILDLIFE HABITAT SUIT/CONN

**ARCHEOLOGICAL & HISTORIC**

— ARCH —	ARCHEOLOGICAL BOUNDARY
— HISTORIC DIST —	HISTORIC DISTRICT BOUNDARY
— HISTORIC —	HISTORIC AREA
(H)	HISTORIC STRUCTURE

**CONVENTIONAL TOPOGRAPHIC SYMBOLOLOGY**

**EXISTING FEATURES**

— — — — —	ROAD EDGE PAVEMENT
— — — — —	ROAD EDGE GRAVEL
— — — — —	DRIVEWAY EDGE
— — — — —	DITCH
— — — — —	FOUNDATION
— X — X — X — X — X —	FENCE (EXISTING)
— □ — □ — □ — □ — □ —	FENCE WOOD POST
— ○ — ○ — ○ — ○ — ○ —	FENCE STEEL POST
— — — — —	GARDEN
— — — — —	ROAD GUARDRAIL
	RAILROAD TRACKS
— — — — —	CULVERT (EXISTING)
— — — — —	STONE WALL
— — — — —	WALL
— — — — —	WOOD LINE
— — — — —	BRUSH LINE
— — — — —	HEDGE
— — — — —	BODY OF WATER EDGE
— — — — —	LEDGE EXPOSED

PROJECT NAME: STRAFFORD  
PROJECT NUMBER: BF 0177(10)

FILE NAME: r13j088legend.dgn PLOT DATE: 10-SEP-2015  
PROJECT LEADER: K. HIGGINS, P.E. DRAWN BY: M. LONGSTREET  
DESIGNED BY: M. LONGSTREET CHECKED BY: M. LONGSTREET  
LEGEND SHEET SHEET 2 OF 11



**BEGIN R.O.W. PROJECT  
STRAFFORD BF 0177(10)  
STA. 10+91.52, 24.75' LT**

MAINLINE PT #1  
STA 10+74.94  
N = 486296.1699  
E = 1677398.8689

MAINLINE POB/PC #1  
STA 10+00.00  
N = 486233.7153  
E = 1677359.6785

BEGIN APPROACH  
STA 10+25.00  
MATCH EXISTING

MAINLINE CURVE #1:  
DELTA = 35°47'00"  
D = 47°44'47"  
R = 120.00'  
T = 38.74'  
L = 74.94'  
E = 6.10'

MAINLINE CURVE #2:  
DELTA = 13°22'00"  
D = 11°27'33"  
R = 500.00'  
T = 58.59'  
L = 116.65'  
E = 3.42'

CONSTRUCT DRIVE W/5'-0" PAVED  
APRON AND 3" AGGREGATE SURFACE  
COURSE BEYOND APRON  
STA 11+24.65 - 11+62.99 LT  
STA 11+51.96 - 11+87.03 RT

CONSTRUCT 5'-0" PAVED APRON  
STA 14+36.73 - 14+69.72 RT

4" YELLOW LINE (DOUBLE)  
STA 10+25 - 14+75 C

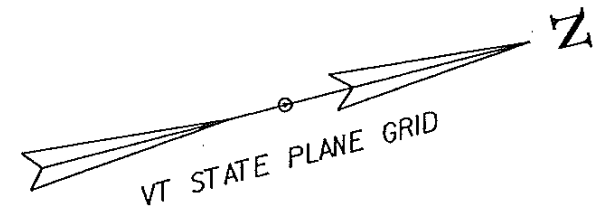
4" WHITE LINE  
STA 10+25 - 14+75 LT  
STA 10+25 - 14+75 RT

STONE FILL, TYPE I DITCH  
STA 13+25 - 14+20 LT

REMOVAL OF CONCRETE OR MASONRY  
STA 12+50 - 13+03 RT  
STA 12+51 - 12+91 LT

REMOVAL AND DISPOSAL OF GUARDRAIL  
STA 11+65 - 11+88 LT  
STA 11+89 - 11+91 RT  
STA 12+43 - 12+93 LT  
STA 12+44 - 12+97 RT  
STA 13+52 - 14+35 RT

SAWED PAVEMENT JOINT  
ALONG APPROACH SLAB EDGE  
STA 11+67.53 - 11+87.03 RT



CONCRETE CURB, TYPE B  
STA 12+48 - 12+85 RT

REMOVING AND RESETTING PROPERTY  
MARKERS (GRANITE BOLLARD)  
STA 11+65 LT  
RELOCATE TO STA 11+67 LT  
N=1677402.4105  
E=486390.2366

MAINLINE PC #2  
STA 12+52.02  
N = 486467.8201  
E = 1677442.3562

MAINLINE PT #2  
STA 13+68.66  
N = 486576.5446  
E = 1677483.8740

MAINLINE PI #2  
STA 13+10.61 BK=  
STA 13+10.07 AHD  
N = 486524.6148  
E = 1677456.7451

**ESTATE OF BRINTON D. SHOEMAKER**

END PROJECT  
STA 14+00.00  
FG = 883.17

END APPROACH  
STA 14+75.00  
MATCH EXISTING

MAINLINE POE  
STA 15+50.00  
N = 486737.2697  
E = 1677567.8396

**N/F WYLIE, ALLAN & JANICE**

BEGIN PROJECT  
STA 11+00.00  
FG = 890.48

MAINLINE PI #1  
STA 10+38.74 BK=  
STA 10+36.20 AHD  
N = 486258.6167  
E = 1677389.3548

BEGIN BRIDGE  
STA 11+85.22  
FG = 888.74

BEARING  
STA 11+87.00  
FG = 888.72

STATE OF VERMONT  
ML STA 12+15.50 =  
CH STA 5/1+00.00  
Δ = 180°00'00" RT

**CHRISTOPHER J. COYNE TRUSTEE  
OF THE OUR LADY OF LIGHT PARISH  
CHARITABLE TRUST**

**END R.O.W. PROJECT  
STRAFFORD BF 0177(10)  
STA. 15+12.43, 25.11' RT**

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 STRAFFORD'S ACQUISITION OF  
LAND AND RIGHTS FOR THIS PROJECT.

**FOR R.O.W.  
USE ONLY**

**LAYOUT SHEET**

SCALE 1" = 20' - 0"  
20 0 20

NOTE:  
ADJUST NEW CENTERLINE AND  
EDGE LINES TO MATCH EXISTING  
LINES AT BEGIN/END APPROACH

PROJECT NAME: STRAFFORD  
PROJECT NUMBER: BF 0177(10)

FILE NAME: r13j08lay.dgn  
PROJECT LEADER: K. HIGGINS, P.E.  
DESIGNED BY: R. KLINEFELTER  
R.O.W. LAYOUT SHEET 1 OF 1

PLOT DATE: 02-MAY-2016  
DRAWN BY: A. EGZI  
CHECKED BY: R. CLOUTIER  
SHEET 4 OF 11

# PRELIMINARY INFORMATION SHEET (BRIDGE)

## FINAL HYDRAULIC REPORT

**HYDROLOGIC DATA** Date: April 2015

DRAINAGE AREA: 34.7 sq. mi.  
 CHARACTER OF TERRAIN: Mostly forested, small ponds, rural  
 STREAM CHARACTERISTICS: Sinuous and alluvial  
 NATURE OF STREAMBED: Cobbles, gravel, and sand

**PEAK FLOW DATA**

Q 2.33 = 1125 cfs	Q 50 = 3900 cfs
Q 10 = 2350 cfs	Q 100 = 4700 cfs
Q 25 = 3150 cfs	Q 500 = 6500 cfs

DATE OF FLOOD OF RECORD: Unknown  
 ESTIMATED DISCHARGE: Unknown  
 WATER SURFACE ELEV.: Unknown  
 NATURAL STREAM VELOCITY: @ Q50 = 8.4 fps  
 ICE CONDITIONS: Moderate  
 DEBRIS: Light to 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% HEADWATERS: UNIFORM: X  
 IMMEDIATELY ABOVE SITE:

**EXISTING STRUCTURE INFORMATION**

STRUCTURE TYPE: Single span concrete t-beam  
 YEAR BUILT: 1923  
 CLEAR SPAN(NORMAL TO STREAM): 43'  
 VERTICAL CLEARANCE ABOVE STREAMBED: ~10'  
 WATERWAY OF FULL OPENING: 425 sq. ft.  
 DISPOSITION OF STRUCTURE: Remove and replace  
 TYPE OF MATERIAL UNDER SUBSTRUCTURE: See borings

**WATER SURFACE ELEVATIONS AT:**

Q2.33 = 879.8'	VELOCITY = 5.2 fps
Q10 = 882.3'	7.5 fps
Q25 = 883.3'	9.5 fps
Q50 = 885.9'	9.5 fps
Q100 = 886.5'	11.2 fps

LONG TERM STREAMBED CHANGES: None noted

IS THE ROADWAY OVERTOPPED BELOW Q100: Yes  
 FREQUENCY: Below Q50  
 RELIEF ELEVATION: 884.7'  
 DISCHARGE OVER ROAD @Q100: 645 cfs

**UPSTREAM STRUCTURE**

TOWN: Stratford DISTANCE: 8600'  
 HIGHWAY #: TH 2 STRUCTURE #: 28  
 CLEAR SPAN: 26' CLEAR HEIGHT:  
 YEAR BUILT: 1919 FULL WATERWAY:  
 STRUCTURE TYPE: Concrete t-beam

**DOWNSTREAM STRUCTURE**

TOWN: Stratford DISTANCE: 4040'  
 HIGHWAY #: TH 39 STRUCTURE #: 61  
 CLEAR SPAN: 62' CLEAR HEIGHT:  
 YEAR BUILT: 1919, Reconstructed in 1971 FULL WATERWAY:  
 STRUCTURE TYPE: Rolled beam

**LRFR LOAD RATING FACTORS**

LOADING LEVELS	TRUCK						
	H-20	HL-93	SS2	6 AXLE	3A STR.	4A STR.	5A SEMI
TONNAGE	20	36	36	66	30	34.5	38
INVENTORY							
POSTING							
OPERATING							
COMMENTS:							

**AS BUILT "REBAR" DETAIL**

LEVEL I	LEVEL II	LEVEL III
TYPE:	TYPE:	TYPE:
GRADE:	GRADE:	GRADE:

**PROPOSED STRUCTURE**

STRUCTURE TYPE: Single span steel beam

CLEAR SPAN(NORMAL TO STREAM): 53'  
 VERTICAL CLEARANCE ABOVE STREAMBED: ~11.5'  
 WATERWAY OF FULL OPENING: 565 sq. ft.

**WATER SURFACE ELEVATIONS AT:**

Q2.33 = 879.4'	VELOCITY = 5.2 fps
Q10 = 882.0'	7.0 fps
Q25 = 883.1'	8.3 fps
Q50 = 884.0'	9.6 fps
Q100 = 884.8'	11.4 fps

IS THE ROADWAY OVERTOPPED BELOW Q100: No  
 FREQUENCY: N/A  
 RELIEF ELEVATION: 884.7'  
 DISCHARGE OVER ROAD @Q100: N/A

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 885.0'  
 VERTICAL CLEARANCE: @ Q50 = 1.0'

SCOUR: 4' of contraction scour up to Q200  
 Piles should be freestanding up to 6' below streambed elevation.  
 REQUIRED CHANNEL PROTECTION: Stone Fill Type III

**PERMIT INFORMATION**

AVERAGE DAILY FLOW: DEPTH OR ELEVATION:  
 ORDINARY LOW WATER:  
 ORDINARY HIGH WATER:

**TEMPORARY BRIDGE REQUIREMENTS**

STRUCTURE TYPE: None required  
 CLEAR SPAN (NORMAL TO STREAM):  
 VERTICAL CLEARANCE ABOVE STREAMBED:  
 WATERWAY AREA OF FULL OPENING:

**ADDITIONAL INFORMATION**

**TRAFFIC MAINTENANCE NOTES**

1. MAINTAIN TRAFFIC ON AN OFF SITE DETOUR.
2. TRAFFIC SIGNALS ARE NOT NECESSARY.
3. SIDEWALKS ARE NOT NECESSARY

**DESIGN VALUES**

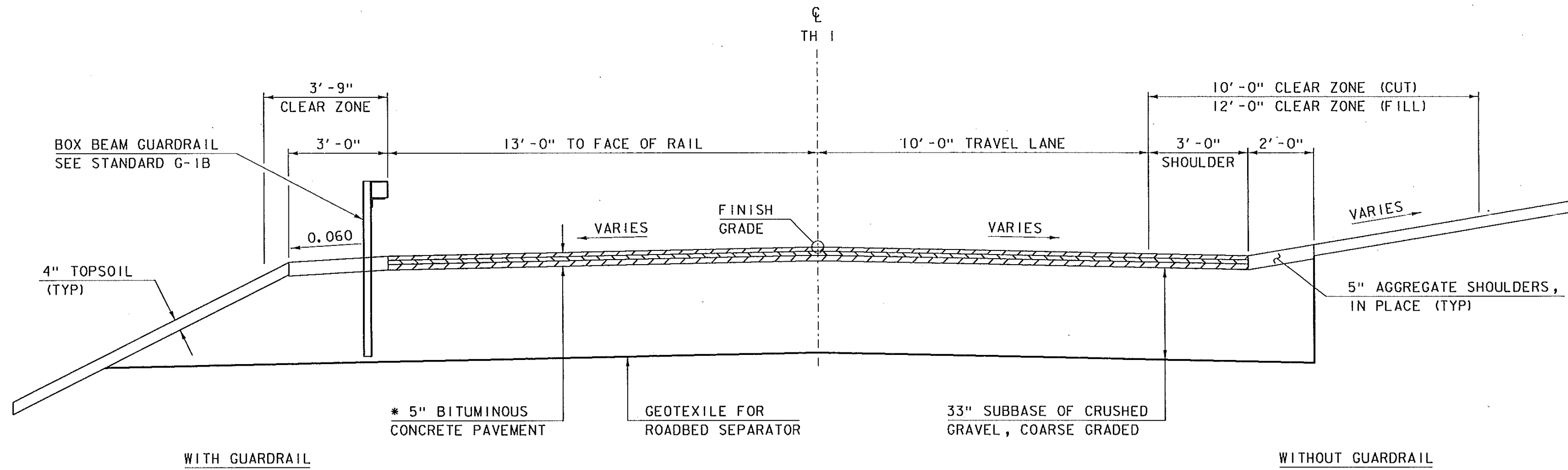
1. DESIGN LIVE LOAD	HL-93
2. FUTURE PAVEMENT	dp: 0.0 INCH
3. DESIGN SPAN	L: 57.00 FT
4. MIN. MID-SPAN POS. CAMBER @ RELEASE (PRESTRESSED UNITS)	Δ: ---
5. PRESTRESSING STRAND	fy: ---
6. PRESTRESSED CONCRETE STRENGTH	f'c: ---
7. PRESTRESSED CONCRETE RELEASE STRENGTH	f'c: ---
8. CONCRETE, HIGH PERFORMANCE CLASS AA	f'c: 4.0 KSI
9. CONCRETE, HIGH PERFORMANCE CLASS A	f'c: 4.0 KSI
10. CONCRETE, HIGH PERFORMANCE CLASS B	f'c: 3.5 KSI
11. CONCRETE, CLASS C	f'c: 3.0 KSI
12. REINFORCING STEEL	fy: 60 KSI
13. STRUCTURAL STEEL AASHTO M270 (WEATHERING)	fy: 50 KSI
14. NOMINAL BEARING RESISTANCE OF SOL	qn: 4.0 KSF
15. SOL BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	φ: ---
16. NOMINAL BEARING RESISTANCE OF ROCK	qn: 10.0 KSF
17. ROCK BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	φ: ---
18. PILE RESISTANCE FACTOR	φ: 0.65
19. LATERAL PILE DEFLECTION	Δ: ---
20. BASIC WIND SPEED	V3s: ---
21. MINIMUM GROUND SNOW LOAD	pg: ---
22. SEISMIC DATA	PGA: 0.65 S _s : --- S _i : ---
23.	---
24.	---
25.	---
26.	---

PROJECT NAME: STRAFFORD  
 PROJECT NUMBER: BF 0177(10)

FILE NAME: r13j088pl.dgn PLOT DATE: 10-SEP-2015  
 PROJECT LEADER: K. HIGGINS, P.E. DRAWN BY: R. KLINEFELTER  
 DESIGNED BY: R. KLINEFELTER CHECKED BY: J. SALVATORI  
 PRELIMINARY INFORMATION SHEET SHEET 5 OF 11

**TRAFFIC DATA**

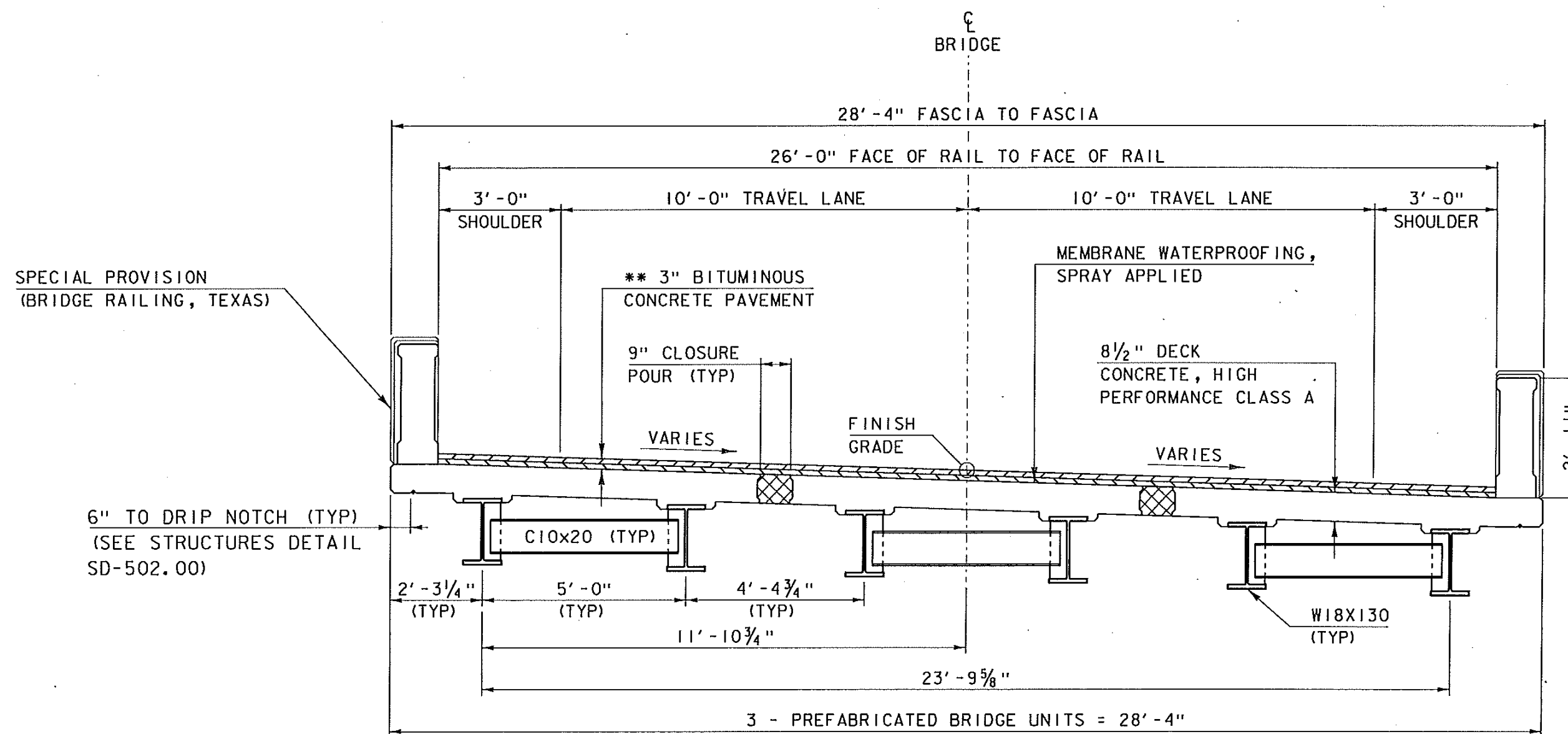
YEAR	ADT	DHV	% D	% T	ADTT	20 year ESAL for flexible pavement from 2016 to 2036 : 228000
2016	1400	180	55	3.7	65	40 year ESAL for flexible pavement from 2016 to 2036 : 542000
2036	1500	190	55	6	110	Design Speed : 25 mph



**ROADWAY TYPICAL SECTION**

SCALE 1/2" = 1'-0"

- * 1 1/2" SUPERPAVE BITUMINOUS CONCRETE PAVEMENT TYPE IVS, OVER
- 1 1/2" SUPERPAVE BITUMINOUS CONCRETE PAVEMENT TYPE IVS, OVER
- 2" SUPERPAVE BITUMINOUS CONCRETE PAVEMENT TYPE I11S



**BRIDGE TYPICAL SECTION**

SCALE 1/2" = 1'-0"

- ** 1 1/2" SUPERPAVE BITUMINOUS CONCRETE PAVEMENT TYPE IVS, OVER
- 1 1/2" SUPERPAVE BITUMINOUS CONCRETE PAVEMENT TYPE IVS

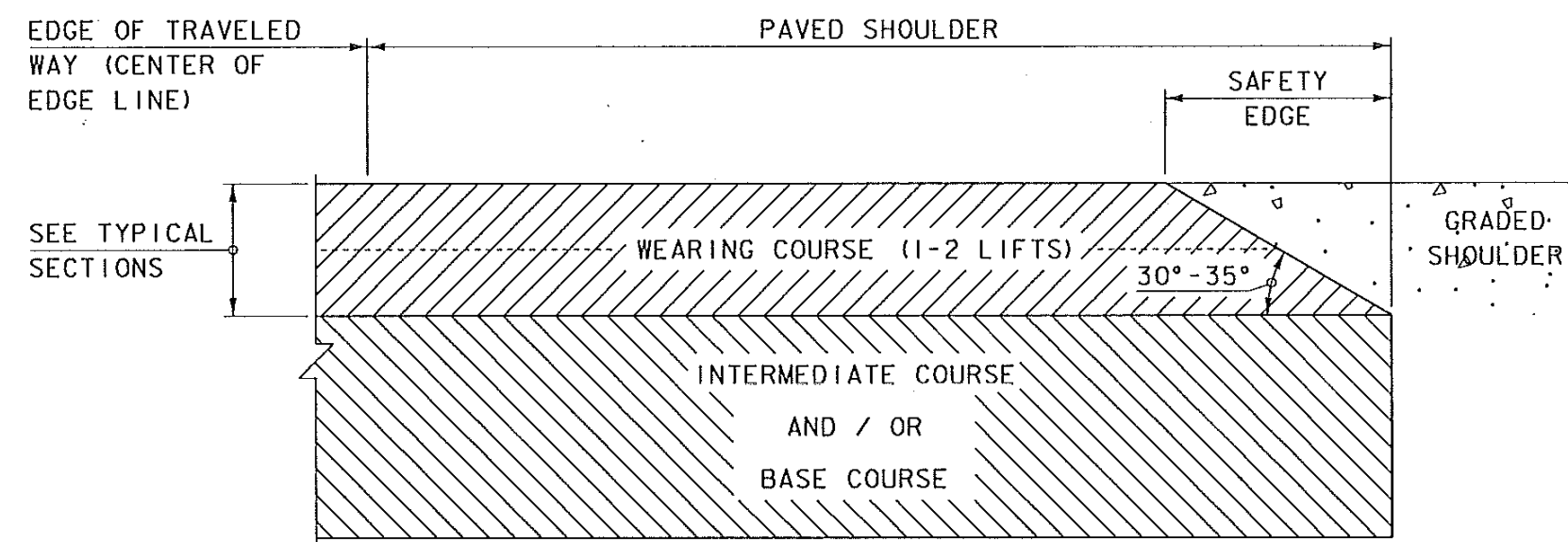
**MATERIAL TOLERANCES**  
(IF USED ON PROJECT)

SURFACE	
- PAVEMENT (TOTAL THICKNESS)	+/- 1/4"
- AGGREGATE SURFACE COURSE	+/- 1/2"
SUBBASE	+/- 1"
SAND BORROW	+/- 1"

PROJECT NAME: STRAFFORD  
PROJECT NUMBER: BF 0177(10)

FILE NAME: sl3j088+typical.dgn  
PROJECT LEADER: K. HIGGINS  
DESIGNED BY: R. KLINEFELTER  
TYPICAL SECTIONS 1

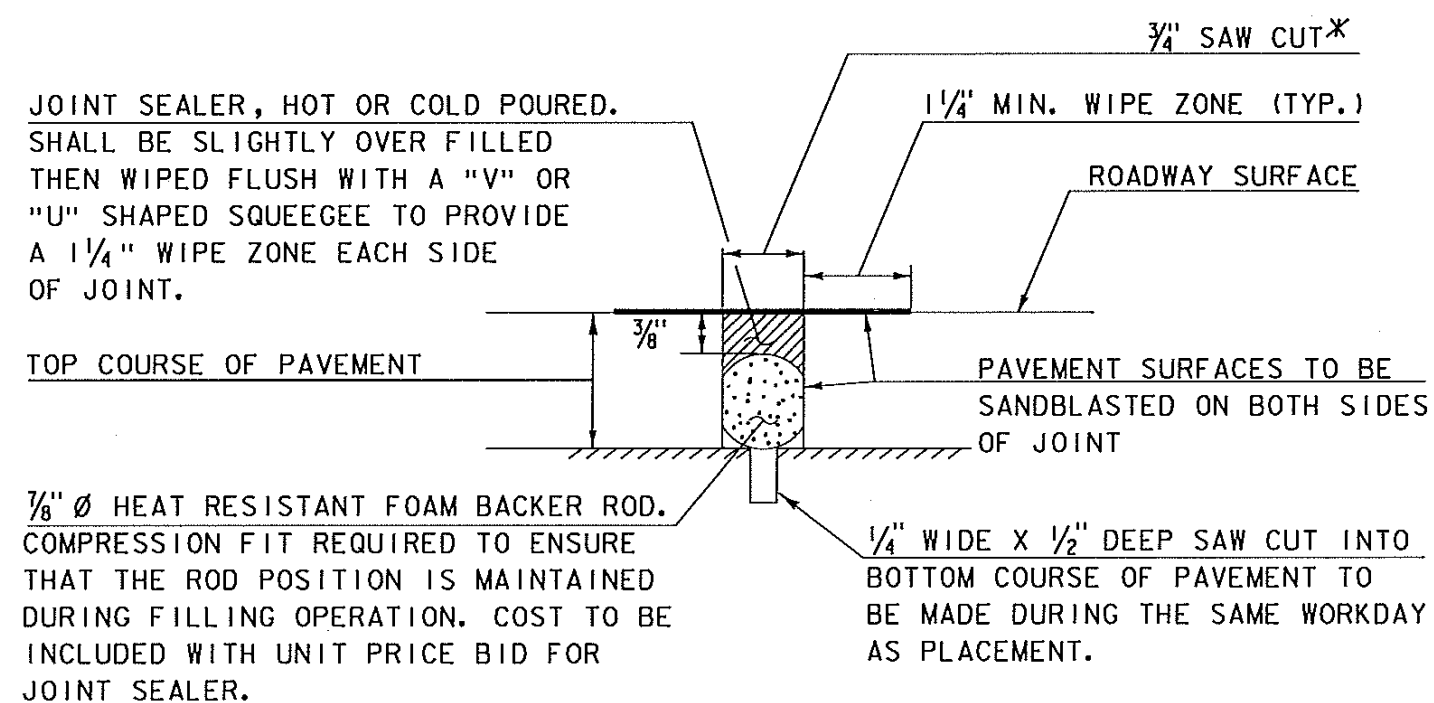
PLOT DATE: 10-SEP-2015  
DRAWN BY: R. KLINEFELTER  
CHECKED BY: J. SALVATORI  
SHEET 6 OF 11



**SAFETY EDGE DETAIL**

NOT TO SCALE

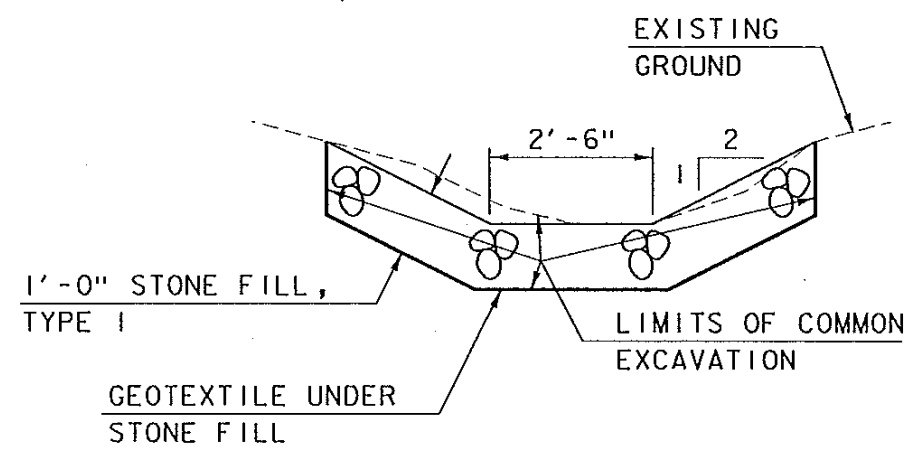
1. LEVELING COURSE MAY INCLUDE THE "SAFETY EDGE" AT THE CONTRACTOR'S CHOICE.
2. THE EDGE OF PAVEMENT SHALL BE FORMED IN SUCH A WAY THAT THE BITUMINOUS CONCRETE PAVEMENT IS EXTRUDED OR COMPRESSED TO FORM THE 30 TO 35 DEGREE ANGLE. DEVICES THAT SIMPLY STRIKE-OFF THE MIX WITHOUT PROVIDING ANY COMPACTIVE EFFORT WILL NOT BE ALLOWED.
3. THE PAVED SHOULDER EXTENDS FROM THE EDGE OF TRAVELED WAY TO THE EDGE OF THE WEARING COURSE, INCLUDING THE "SAFETY EDGE".



**SAWED PAVEMENT JOINT DETAIL**

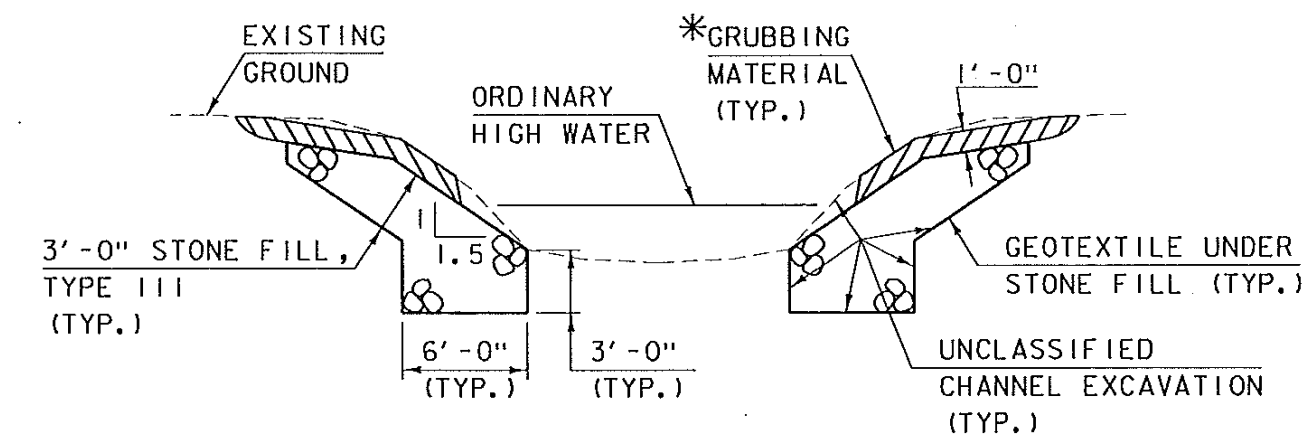
NOT TO SCALE

*JOINT IS TO BE LOCATED ACCURATELY BY STRING LINING, OR OTHER MEANS, PRIOR TO PAVING, SO THAT THE SAW CUTS WILL BE MADE DIRECTLY OVER THE END OF CONCRETE DECK. JOINT SHALL BE CUT DRY IN A SINGLE PASS AND BE SEALED WITHIN 24 HOURS OR PRIOR TO EXPOSURE TO TRAFFIC. JOINT SHALL BE CLEANED PRIOR TO APPLYING THE JOINT SEALER.



**TYPICAL DITCH SECTION**

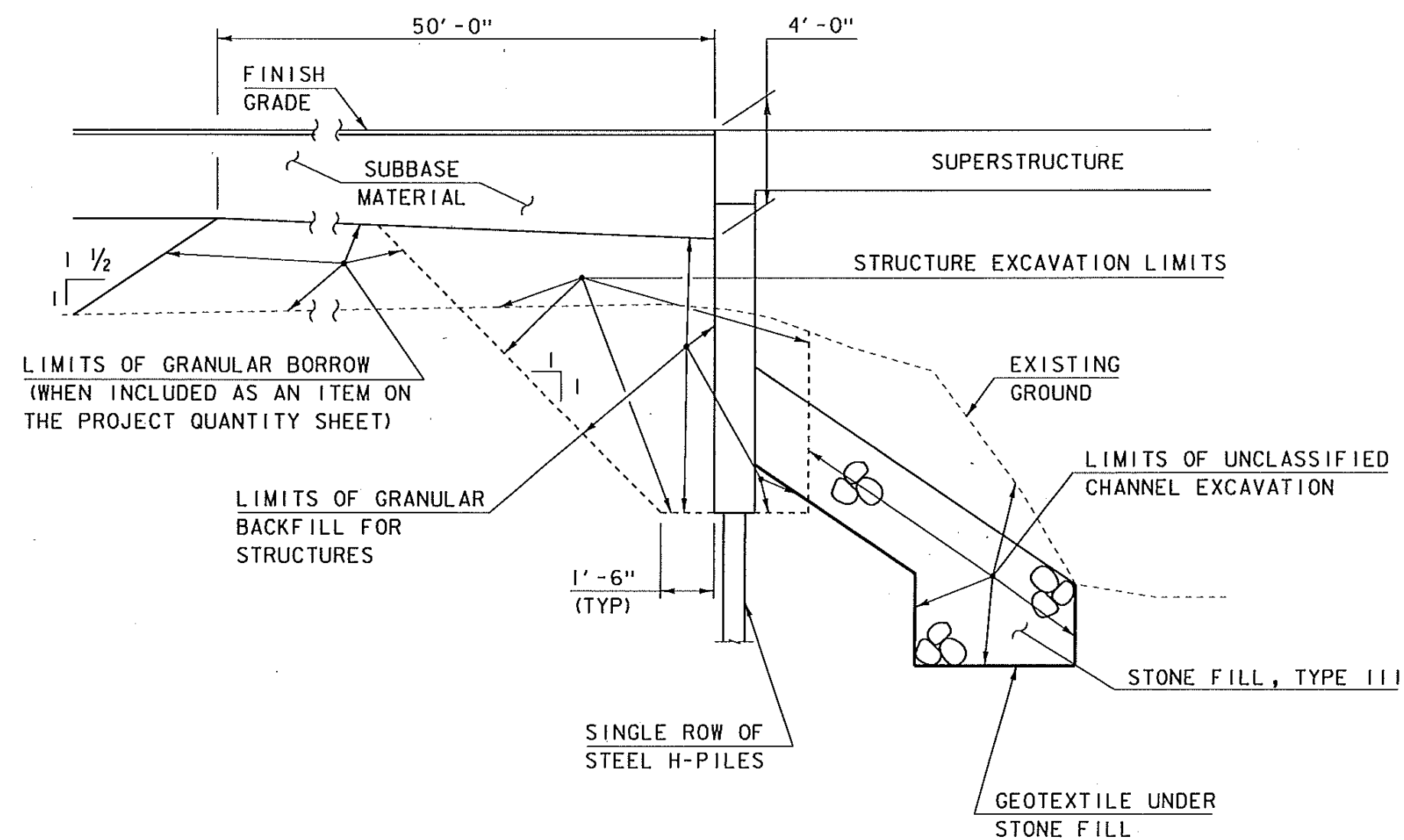
NOT TO SCALE



**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.



**TYPICAL INTEGRAL ABUTMENT SECTION**

NOT TO SCALE

ACTUAL LIMITS OF STRUCTURE EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR. HOWEVER, ONLY EXCAVATION BETWEEN THE LIMITS SHOWN WILL BE PAID FOR UNDER ITEM 204.25 "STRUCTURE EXCAVATION". EXCAVATION BY THE CONTRACTOR OUTSIDE OF THESE LIMITS WILL BE AT THE EXPENSE OF THE CONTRACTOR.

PROJECT NAME:	STRAFFORD
PROJECT NUMBER:	BF 0177(10)
FILE NAME:	sl3j088typical.dgn
PROJECT LEADER:	K. HIGGINS
DESIGNED BY:	R. KLINEFELTER
TYPICAL SECTIONS	2
PLOT DATE:	10-SEP-2015
DRAWN BY:	R. KLINEFELTER
CHECKED BY:	J. SALVATORI
SHEET	7 OF 11

GPS CONTROL POINTS

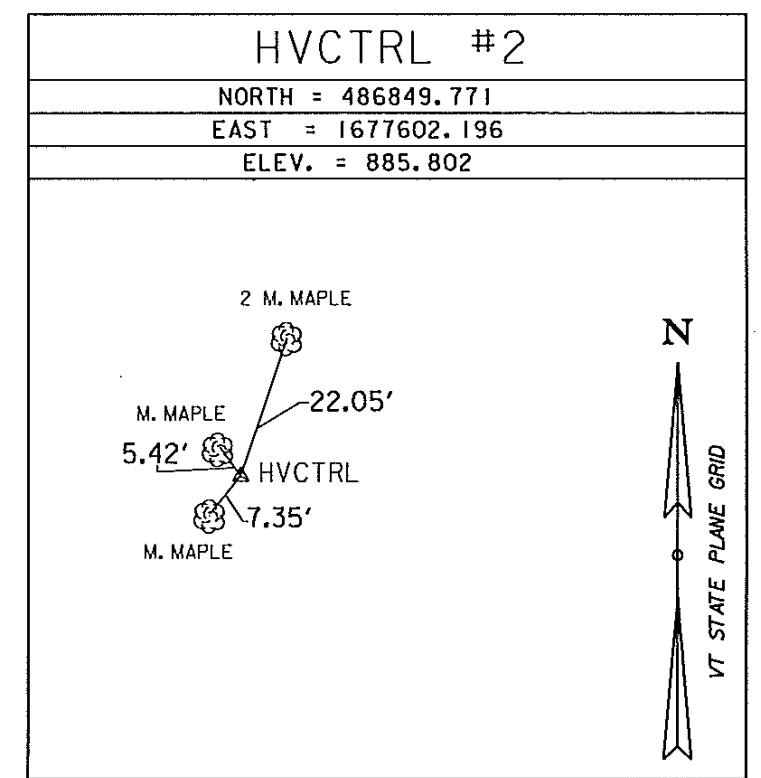
--- HVCTRL #1 ---  
 S STRAFFORD BR 25  
 NORTH = 486206.940  
 EAST = 1677367.840  
 ELEV. = 894.930

GENERAL LOCATION SOUTH STRAFFORD, VT.  
 THE MARK IS SET IN THE TOP OF THE ABUTMENT AT THE SOUTHWEST CORNER OF A BRIDGE OVER A STREAM FEEDING THE WEST BRANCH OF THE OMPOMPANOOSUC RIVER. IT IS ABOUT 100 M SOUTHWEST OF THE BARRETT MEMORIAL BRIDGE OVER THE WEST BRANCH.  
 IT IS 15 CM EAST OF THE WEST EDGE OF THE ABUTMENT, 15 CM WEST OF THE EAST EDGE OF THE ABUTMENT, 0.3 M SOUTH-SOUTHWEST OF THE SOUTH TIP OF THE BRIDGE RAIL, 0.8 M NORTH OF THE ABUTMENT VERTICAL ANGLE POINT AND 5.3 M NORTHWEST OF POLE NO 3.

--- HVCTRL #10 ---  
 JB 1  
 NORTH = 486660.580  
 EAST = 1684339.340  
 ELEV. = 829.260

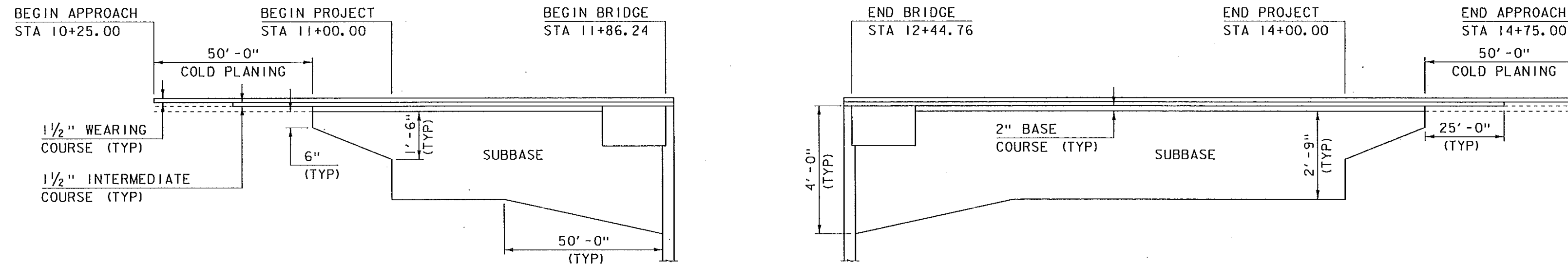
GENERAL LOCATION, SOUTH STRAFFORD, VT.  
 1.6 MI (2.6 KM) EAST OF, AT DESERTED VILLAGE OF COPPER FLAT, 25 FT (7.6 M) SOUTHWEST OF CENTER OF ROAD, 250 FT (76.2 M) NORTHWEST JUNCTION OF DISCONTINUED ROAD SOUTHWEST, IN EMBEDDED BOULDER.

TRAVERSE TIES



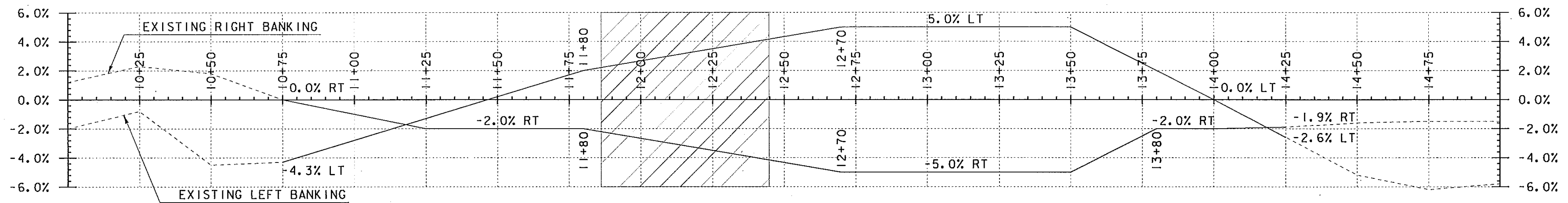
DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83(2011)
ADJUSTMENT	COMPASS

PROJECT NAME: STRAFFORD	
PROJECT NUMBER: BF 0177(10)	
FILE NAME: sl3J088+1.dgn	PLOT DATE: 10-SEP-2015
PROJECT LEADER: K. HIGGINS	DRAWN BY: S. DONOVAN
DESIGNED BY: R. KLINEFELTER	CHECKED BY: J. SALVATORI
TIE SHEET	SHEET 8 OF 11



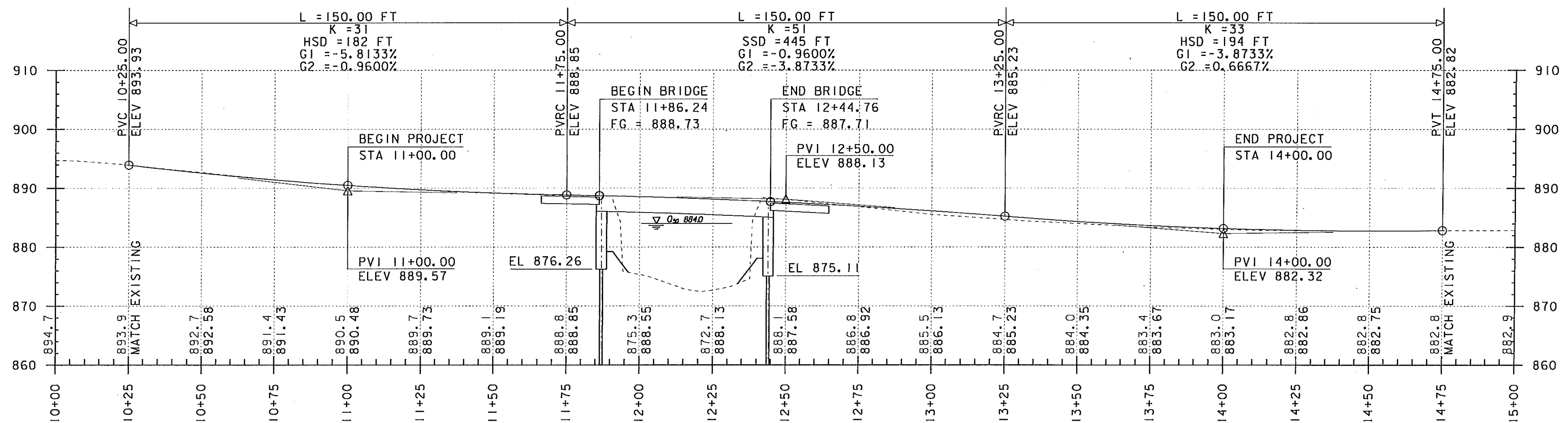
**MATERIAL TRANSITION**

SCALE: HORIZONTAL: 1"=20'-0"  
NO VERTICAL SCALE



**BANKING DIAGRAM**

SCALE: HORIZONTAL: 1"=20'-0"  
VERTICAL: 1"=1.0%



**MAINLINE PROFILE**

SCALE: HORIZONTAL: 1"=20'-0"  
VERTICAL: 1"=10'-0"

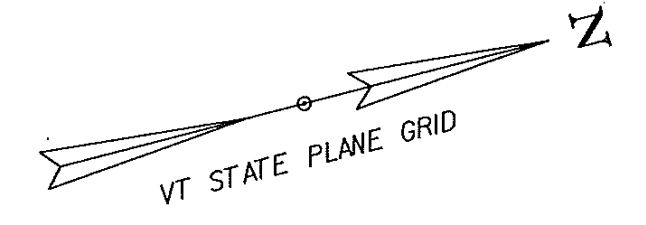
THE GRADES SHOWN TO THE TENTH ARE THE EXISTING GROUND ELEVATIONS ALONG THE PROPOSED ALIGNMENT.  
THE GRADES SHOWN TO THE NEAREST HUNDREDTH ARE THE FINISH GRADES ALONG THE PROPOSED ALIGNMENT.

PROJECT NAME: STRAFFORD  
PROJECT NUMBER: BF 0177(10)

FILE NAME: sl3j088pro.dgn  
PROJECT LEADER: K. HIGGINS  
DESIGNED BY: R. KLINEFELTER  
MAINLINE PROFILE & BANKING DIAGRAM

PLOT DATE: 10-SEP-2015  
DRAWN BY: R. KLINEFELTER  
CHECKED BY: J. SALVATORI  
SHEET 9 OF 11





WINOOSKI VERY FINE SANDY LOAM  
 0-3% SLOPE  
 TYPE C SOIL  
 K VALUE = 0.37  
 HIGH EROSION POTENTIAL

BUCKLAND LOAM  
 3-8% SLOPE  
 TYPE C/D SOIL  
 K VALUE = 0.22  
 MODERATE EROSION POTENTIAL

- NOTES:
- FOR CLARITY, AREAS TO BE SEEDED AND MULCHED ARE NOT SHOWN; HOWEVER, ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED AS APPLICABLE.
  - EXISTING CONTOURS ARE SHOWN. SEE CROSS SECTIONS FOR FINAL CONTOURS.
  - THESE PLANS SHOW A CONCEPTUAL EROSION CONTROL PLAN, THE CONTRACTOR MUST SUBMIT A TEMPORARY EROSION CONTROL PLAN FOR APPROVAL.
  - THE CONTRACTOR SHALL USE OTHER EROSION CONTROL MEASURES AS NECESSITATED BY THE SEQUENCE OF CONSTRUCTION OR AS DIRECTED BY THE RESIDENT ENGINEER AND ON-SITE COORDINATOR.

EPSC PLAN

SCALE 1" = 20' - 0"  
 20 0 20

PROJECT NAME:	STRAFFORD
PROJECT NUMBER:	BF 0177(10)
FILE NAME:	sl3j088bdr_ero.dgn
PROJECT LEADER:	K. HIGGINS
DESIGNED BY:	J. GRIGAS
EPSC PLAN	
PLOT DATE:	02-MAY-2016
DRAWN BY:	J. GRIGAS
CHECKED BY:	T. MATTHEWS
SHEET	II OF II

