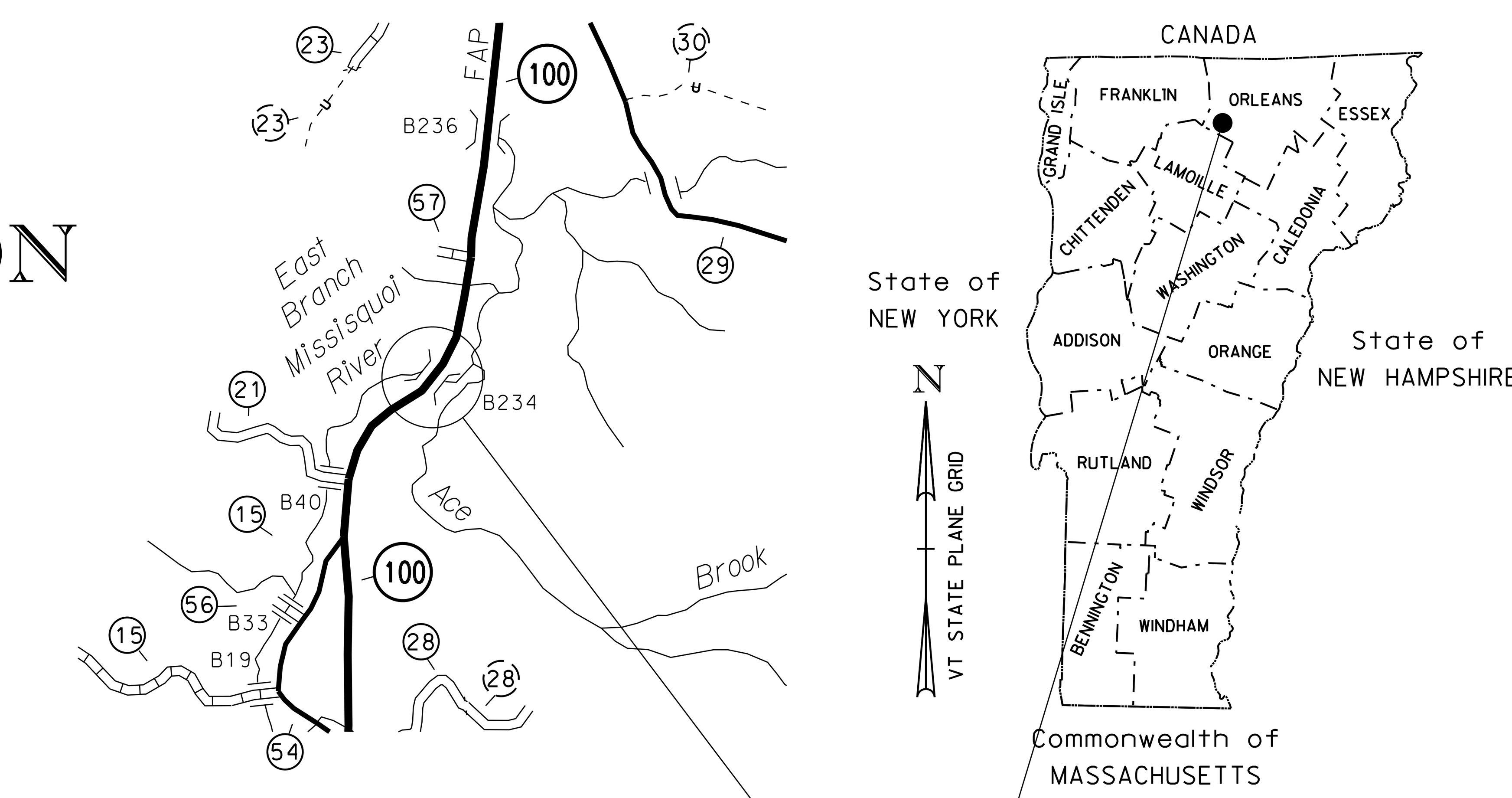
REVIEWER NOTES:

1. TRAFFIC WILL BE MAINTAINED ON AN TWO-WAY TEMPORARY ON-SITE DETOUR LOCATED DOWNSTREAM OF THE EXISTING BRIDGE.
2. ANY STRUCTURAL ELEMENTS SHOWN IN THE PLANS ARE CONCEPTUAL IN NATURE AND HAVE NOT BEEN FULLY DESIGNED.
3. IT IS ANTICIPATED THAT ADDITIONAL R.O.W. WILL BE REQUIRED.
4. IT IS ANTICIPATED THAT OVERHEAD UTIITIES WILL BE RELOCATED.
5. THIS PROJECT HAS AN EARTH DISTURBANCE AREA GREATER THAN ONE ACRE AND WILL REQUIRE EPSC PLANS THAT WILL BE COMPLETED AS PART OF THE PERMIT SUBMITTAL.

STATE OF VERMONT
AGENCY OF TRANSPORTATION



LOCATION MAP

LOWELL
BF 029-2 (14)

PROPOSED IMPROVEMENT
BRIDGE PROJECT

TOWN OF LOWELL

COUNTY OF ORLEANS

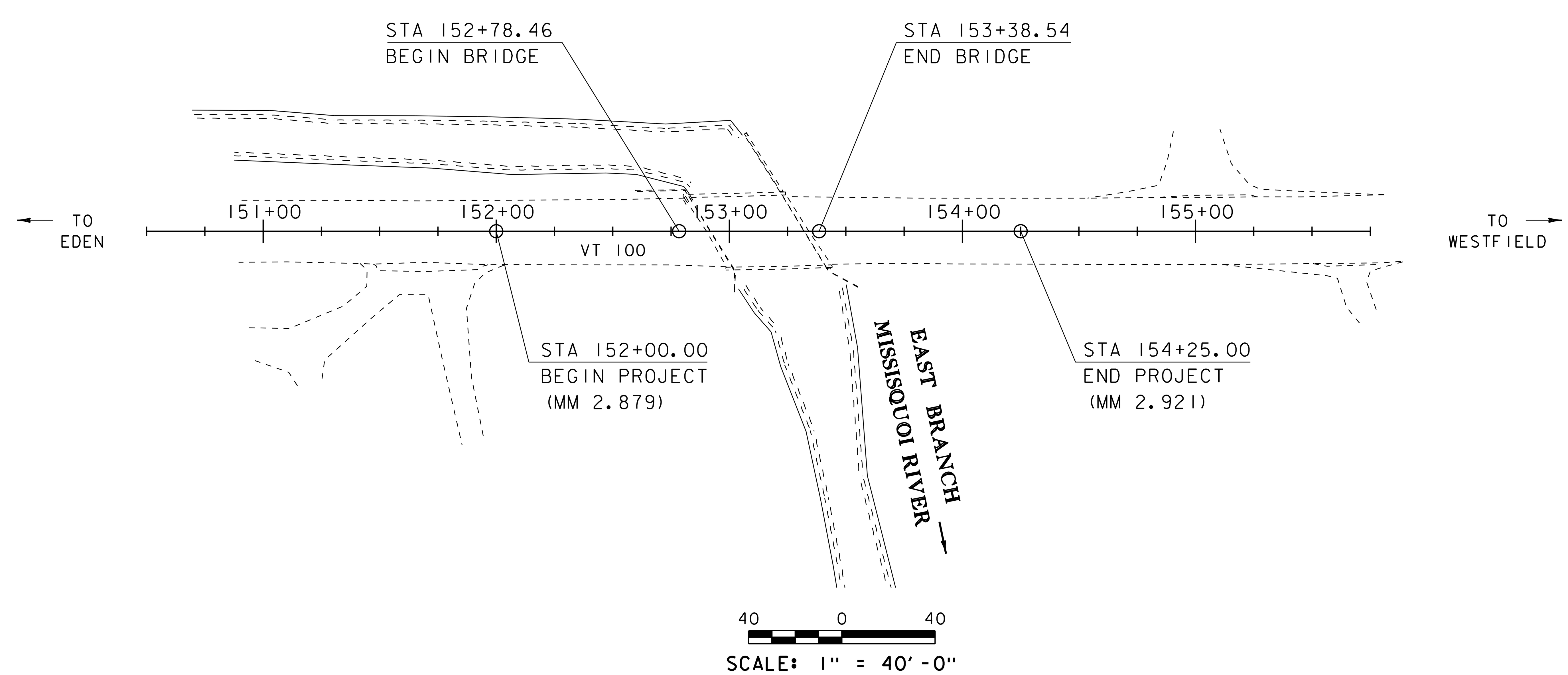
ROUTE NO : VT 100; RURAL MINOR ARTERIAL   BRIDGE NO : 234

PROJECT LOCATION : ON VT 100 BEGINNING APPROXIMATELY 2.879 MILES NORTH FROM EDEN/LOWELL TOWNLINE AND EXTENDING NORTHERLY APPROXIMATELY 0.043 MILE.

PROJECT DESCRIPTION : REPLACEMENT OF EXISTING BRIDGE ALONG WITH RELATED APPROACH ROADWAY AND CHANNEL WORK.

LENGTH OF STRUCTURE :	60.08 FEET
LENGTH OF ROADWAY :	164.92 FEET
LENGTH OF PROJECT :	225.00 FEET

N
VT STATE PLANE GRID



PRELIMINARY PLANS
20-NOV-2020

CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2018, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON APRIL 13, 2018 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 :	02/19/2011
DATUM	
VERTICAL	NAVD88
HORIZONTAL	NAD 83 (96)

HIGHWAY DIVISION, CHIEF ENGINEER	
APPROVED ______	DATE ______
PROJECT MANAGER : CAROLYN COTA, PE	
PROJECT NAME :	LOWELL
PROJECT NUMBER :	BF 029-2 (14)
SHEET 1 OF 24 SHEETS	

STATE OF VERMONT
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET (BRIDGE)

Version 2018.12.18.10

LRFD

INDEX OF SHEETS

PLAN SHEETS

DETAIL SHEETS

HSD-400.01	SAFETY EDGE DETAILS	1/5/2018
HSD-621.01	POST AND BLOCKOUT DETAILS FOR STEEL BEAM GUARDRAIL, GALVANIZED	6/9/2015
HSD-621.07A	MIDWEST GUARDARIL SYSTEM (MGS)	4/17/2019
HSD-621.07B	W-BEAM GUARDRAIL COMPONENTS	4/17/2019
HSD-621.07F	MIDWEST GUARDRAIL SYSTEM TRANSITION SECTION	4/17/2019

STANDARDS LIST

B-71A	RESIDENTIAL DRIVES	04-07-2020
C-10	CURBING	02-11-2008
E-10	ROLLED EROSION CONTROL PRODUCT, TYPE I	04-07-2020
E-11	CHECK DAM, TYPE I	04-07-2020
E-12	STABILIZED CONSTRUCTION ENTRANCE	07-01-2019
E-15	SILT FENCE	04-07-2020
E-121	STANDARD SIGN PLACEMENT - CONVENTIONAL ROAD	08-08-1995
G-1	STEEL BEAM GUARDRAIL DETAILS (POST, DELINEATOR, TYPICALS)	03-10-2017
J-3	MAIL BOX SUPPORT DETAILS	08-07-1995
S-360A	BRIDGE RAILING, GALVANIZED 2 RAIL BOX BEAM	04-07-2020
S-360B	GUARDRAIL APPROACH SECTION, GALVANIZED 2 RAIL BOX BEAM	04-07-2020
S-400	BRIDGE JOINT ASPHALTIC PLUG	04-07-2020
S-501	CONCRETE DETAILS AND NOTES	04-07-2020
S-601	STRUCTURAL DETAILS AND NOTES	04-07-2020
T-1	TRAFFIC CONTROL GENERAL NOTES	04-25-2016
T-2	TRAFFIC SIGN GENERAL NOTES	04-07-2020
T-10	CONVENTIONAL ROADS CONSTRUCTION APPROACH SIGNING	08-06-2012
T-30	CONSTRUCTION SIGN DETAILS	08-06-2012
T-35	CONSTRUCTION ZONE LONGITUDINAL DROP-OFFS	08-06-2012
T-40	DELINEATORS AND MILEPOSTS	01-02-2013
T-42	BRIDGE NUMBER PLAQUE	04-09-2014
T-45	SQUARE TUBE SIGN POST AND ANCHOR	01-02-2013

TRAFFIC DATA

YEAR	ADT	DHV	%D	%T	ADTT
2023	2700	310	62	8.5	260
2043	2900	340	62	12.7	420

20 year ESAL for flexible pavement from 2023 to 2043 : 1604000
40 year ESAL for flexible pavement from 2023 to 2063 : 3571000
Design Speed : 50 mph

AS BUILT "REBAR" DETAIL

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

FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date: 11/13/2020

DRAINAGE AREA : 6.8 sq. miles
CHARACTER OF TERRAIN : Moutainouse to Hilly
STREAM CHARACTERISTICS : Sinuous with narrow to wide floodplain
NATURE OF STREAMBED : Gravel/Sand with Sandy Substrate

PEAK FLOW DATA - ANNUAL EXCEEDANCE PROBABILITY (AEP)

43% =	430 cfs	2% =	1,320 cfs
10% =	801 cfs	1% =	1,580 cfs
4% =	1,080 cfs	0.2% =	2,320 cfs

DATE OF FLOOD OF RECORD : Unknown
ESTIMATED DISCHARGE: Unknown
WATER SURFACE ELEV.: Unknown
NATURAL STREAM VELOCITY : @ 2% AEP = 8 fps +/-
ICE CONDITIONS : Unknown
DEBRIS: Low to Moderate
DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY? Unknown
IS ORDINARY RISE RAPID? Unknown
IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? No
IF YES, DESCRIBE:

WATERSHED STORAGE: 0%
HEADWATERS:
UNIFORM: X
IMMEDIATELY ABOVE SITE:

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE: Concrete T-Beam Bridge
YEAR BUILT: 1929
CLEAR SPAN(NORMAL TO STREAM): 35 ft. +/-
VERTICAL CLEARANCE ABOVE STREAMBED: 7.5 ft
WATERWAY OF FULL OPENING: 171 sq. ft.
DISPOSITION OF STRUCTURE: Replacement
TYPE OF MATERIAL UNDER SUBSTRUCTURE: See Borings

WATER SURFACE ELEVATIONS AT:

43% AEP =	972.0 ft*	VELOCITY =	5.3 fps
10% AEP =	973.5 ft	"	7.7 fps
4% AEP =	974.5 ft	"	9.4 fps
2% AEP =	974.9 ft	"	10.9 fps
1% AEP =	975.7 ft	"	12.2 fps

LONG TERM STREAMBED CHANGES: Unknown

IS THE ROADWAY OVERTOPPED BELOW 1% AEP: No
FREQUENCY: N/A
RELIEF ELEVATION: N/A
DISCHARGE OVER ROAD @ 1% AEP: N/A

UPSTREAM STRUCTURE

TOWN: Lowell
DISTANCE: 2,200 ft
HIGHWAY # : TH-56
STRUCTURE #: 40
CLEAR SPAN: 30 ft
CLEAR HEIGHT: Unknown
YEAR BUILT: 1999
FULL WATERWAY: Unknown
STRUCTURE TYPE: Conrete Slab

DOWNSTREAM STRUCTURE

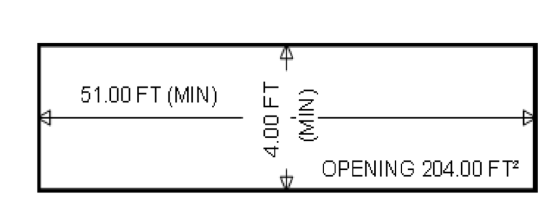
TOWN: Lowell
DISTANCE: 4,700 ft
HIGHWAY # : VT-100
STRUCTURE #: 236
CLEAR SPAN: 29 ft.
CLEAR HEIGHT: Unknown
YEAR BUILT: 1929
FULL WATERWAY: Unknown
STRUCTURE TYPE: Concrete T-Beam

LRFR LOAD RATING FACTORS

LOADING LEVELS	TRUCK						
	H-20	HL-93	3S2	6 AXLE	3A. STR.	4A. STR.	5A. SEMI
TONNAGE	20	36	36	66	30	34.5	38
INVENTORY							
POSTING							
OPERATING							
COMMENTS:							

TEMPORARY BRIDGE PROFILE ALONG TEMP

BOTTOM OF BEAMS ELEV. = 966.78 FT



PROPOSED STRUCTURE

STRUCTURE TYPE: Steel Semi-Integral Bridge

CLEAR SPAN(NORMAL TO STREAM): 47 ft +/-
VERTICAL CLEARANCE ABOVE STREAMBED: 7 ft
WATERWAY OF FULL OPENING: 290 sq. ft. +/-

WATER SURFACE ELEVATIONS AT:

43% AEP =	972.2 ft	VELOCITY=	6.2 fps **
10% AEP =	973.4 ft	"	8.2 fps
4% AEP =	974.2 ft	"	9.7 fps
2% AEP =	974.8 ft	"	10.9 fps
1% AEP =	975.4 ft	"	12.0 fps

IS THE ROADWAY OVERTOPPED BELOW 1% AEP: No
FREQUENCY: N/A
RELIEF ELEVATION: N/A
DISCHARGE OVER ROAD @ 1% AEP: N/A

BRIDGE LOW CHORD ELEVATION: 976.0 ft +/-
FREEBOARD: @ 2% AEP = 1.2 ft

SCOUR:

REQUIRED CHANNEL PROTECTION:

PERMIT INFORMATION

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

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE:
CLEAR SPAN (NORMAL TO STREAM):
VERTICAL CLEARANCE ABOVE STREAMBED:
WATERWAY AREA OF FULL OPENING:

ADDITIONAL INFORMATION

*Freeboard measured from Maximum Water Surface Elevation. Water surface is superelevated
** Velocities increase due to proposed channel grading. Flow depths generally decrease within vicinity of bridge.

TRAFFIC MAINTENANCE NOTES

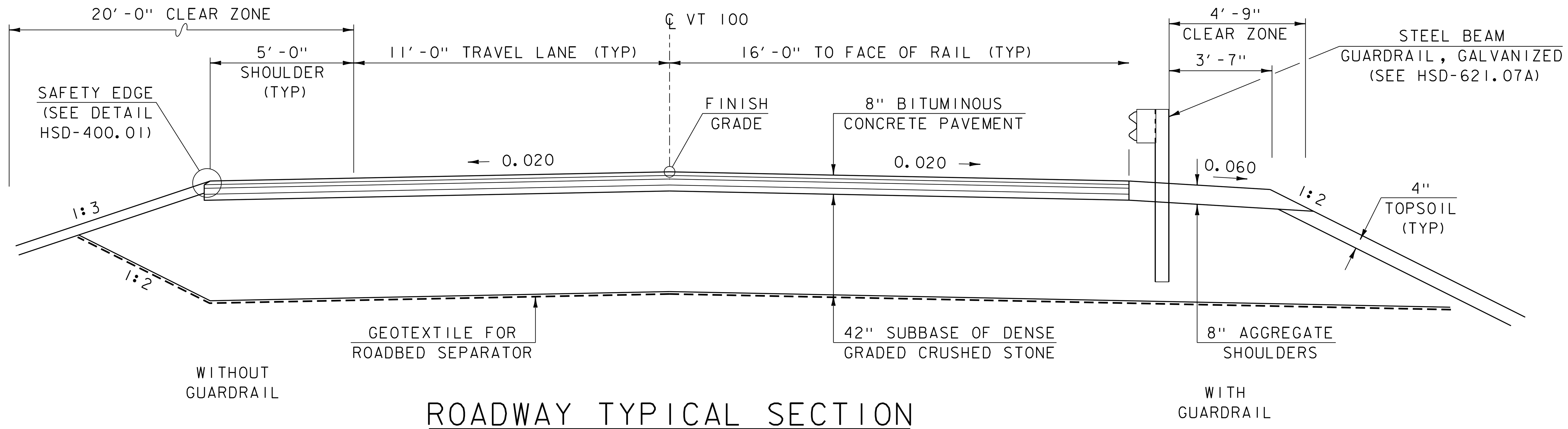
1. MAINTAIN TWO-WAY TRAFFIC ON A TEMPORARY BRIDGE.
2. TRAFFIC SIGNALS ARE NOT NECESSARY.
3. SIDEWALKS ARE NOT NECESSARY
4. THE APPROACHES FOR THE TEMPORARY BRIDGE SHALL BE PAVED.

DESIGN VALUES

1.	DESIGN LIVE LOAD		HL-93
2.	FUTURE PAVEMENT	d_p:	- - -
3.	DESIGN SPAN	L:	57.00 FT
4.	MIN. MID-SPAN POS. CAMBER @ RELEASE (PRESTRESSED UNITS)	Δ:	- - -
5.	PRESTRESSING STRAND	f_y:	- - -
6.	PRESTRESSED CONCRETE STRENGTH	f'_c:	- - -
7.	PRESTRESSED CONCRETE RELEASE STRENGTH	f'_{ci}:	- - -
8.	HIGH PERFORMANCE CONCRETE, CLASS A	f'_c:	4.0 KSI
9.	HIGH PERFORMANCE CONCRETE, CLASS B	f'_c:	3.5 KSI
10.	CONCRETE HIGH PERFORMANCE, CLASS PSS	f'_c:	- - -
11.	CONCRETE, CLASS C	f'_c:	- - -
12.	REINFORCING STEEL	f_y:	60 KSI
13.	STRUCTURAL STEEL AASHTO M270	f_y:	50 KSI
14.	NOMINAL BEARING RESISTANCE OF SOIL	q_n:	- - -
15.	SOIL BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	ϕ:	- - -
16.	NOMINAL BEARING RESISTANCE OF ROCK	q_n:	- - -
17.	ROCK BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	ϕ:	- - -
18.	PILE RESISTANCE FACTOR	ϕ:	- - -
19.	LATERAL PILE DEFLECTION	Δ:	- - -
20.	BASIC WIND SPEED	V_{3s}:	- - -
21.	MINIMUM GROUND SNOW LOAD	p_g:	- - -
22.	SEISMIC DATA PGA: - - -	S_s:	- - -
		S_1:	- - -
23.			
24.			- - -
25.			- - -
26.			- - -

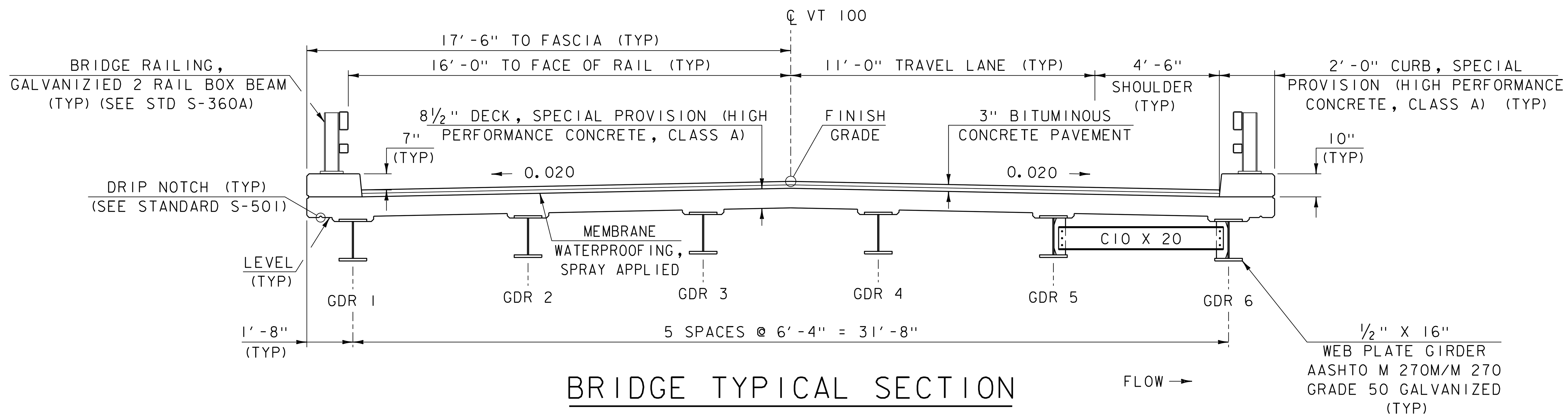
PROJECT NAME: **LOWELL**
PROJECT NUMBER: **BF 029-2(14)**

FILE NAME: s12b592pi.dgn
PLOT DATE: 11/20/2020
PROJECT LEADER: C. COTA
DRAWN BY: J.PAQUETTE
DESIGNED BY: J.PAQUETTE
CHECKED BY: S.COLY
PRELIMINARY INFORMATION SHEET



ROADWAY TYPICAL SECTION

SCALE: 3/8" = 1'-0"



BRIDGE TYPICAL SECTION

PAVEMENT INFORMATION

		DESCRIPTION
BINDER	70-28	PERFORMANCE GRADE ASPHALT BINDER
GYRATION	65	DESIGN NUMBER OF GYRATIONS
WEARING COURSE	1½"	406.36 SUPERPAVE BITUMINOUS CONCRETE PAVEMENT, TYPE IVB
INTERMEDIATE COURSE	1½"	406.36 SUPERPAVE BITUMINOUS CONCRETE PAVEMENT, TYPE IVB
BASE COURSE #1	2½"	406.35 SUPERPAVE BITUMINOUS CONCRETE PAVEMENT, TYPE IIS
BASE COURSE #2	2½"	406.35 SUPERPAVE BITUMINOUS CONCRETE PAVEMENT, TYPE IIS

MATERIAL TOLERANCES

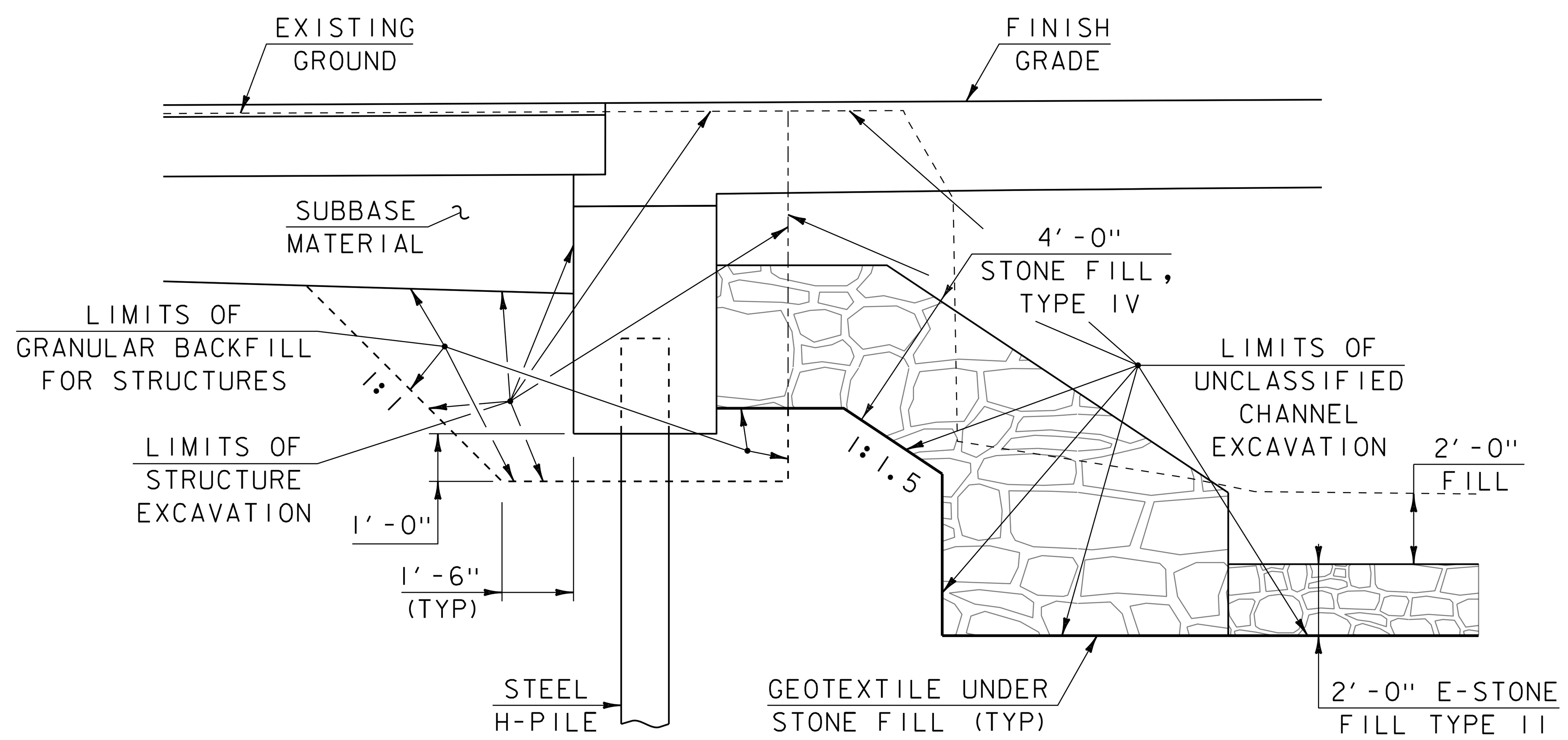
(IF USED ON PROJECT)

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

PROJECT NAME: LOWELL
PROJECT NUMBER: BF 029-2(14)

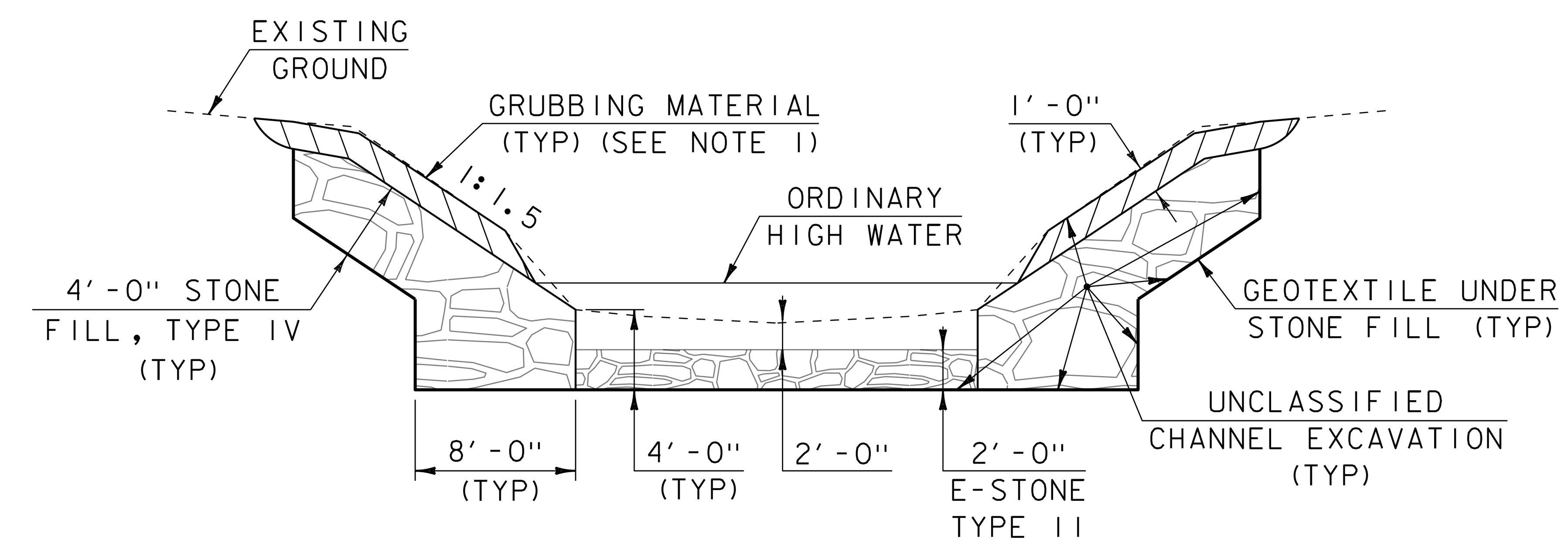
FILE NAME: s12b592typ.dgn
PROJECT LEADER: C.COTA
DESIGNED BY: S.COLEY
TYPICAL SECTIONS (1)

PLOT DATE: 20-NOV-2020
DRAWN BY: J.PAQUETTE
CHECKED BY: S.COLEY



ABUTMENT TYPICAL SECTION

(NOT TO SCALE)



CHANNEL TYPICAL SECTION

(NOT TO SCALE)

1. GRUBBING MATERIAL SHALL BE PLACED UNDERNEATH STRUCTURES WHERE THERE IS MORE THAN 6 FEET VERTICALLY FROM ORDINARY HIGH WATER (OHW) TO THE BOTTOM OF SUPERSTRUCTURE AND MORE THAN 6 FEET HORIZONTALLY FROM OHW LINE TO FRONT FACE OF ABUTMENT. THIS MATERIAL SHALL START JUST ABOVE THE OHW ELEVATION AND TERMINATE 3 FEET HORIZONTALLY FROM THE FRONT FACE OF THE ABUTMENT. THIS MATERIAL SHALL NOT BE PLACED UNDERNEATH DOWNSPOUTS. SEE THE CHANNEL SECTIONS FOR ADDITIONAL DETAILING.

2. WHENEVER CHANNEL SLOPE INTERSECTS ROADWAY SUBBASE, GRUBBING MATERIAL SHALL BEGIN AT THE BOTTOM OF SUBBASE.

3. STONE FILL TYPE 2 ACROSS THE CHANNEL LOCATED 2 FEET BELOW THE STREAMBED IS OPTION ONE. A SECOND OPTION IS TO USE ARMORFLEX 2 FEET BELOW THE STREAM BED UNDER THE STRUCTURE, THEN TAPERING DOWN SO THAT AT THE BEGIN AND END OF THE AROMORING ZONE THE BOTTOM OF THE BLOCKS ARE 3 FEET BELOW THE TOP OF THE BLOCKS AT THE STRUCTURE.

GENERAL INFORMATION

SYMBOLOGY LEGEND NOTE

THE SYMBOLOGY ON THIS SHEET IS INTENDED TO COVER STANDARD CONVENTIONAL SYMBOLOGY. THE SYMBOLOGY 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. SYMBOLOGY ON PLANS MAY VARY, PLAN ANNOTATIONS AND NOTES SHOULD BE USED TO CLARIFY AS NEEDED.

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

POINT CODE	DESCRIPTION
BF	BARRIER FENCE
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
PDF	PROJECT DEMARCATION FENCE
R&RES	REMOVE & RESET
R&REP	REMOVE & REPLACE
R.T.& I.	RIGHT, TITLE, AND INTEREST
SR	SLOPE RIGHT
UE	UTILITY EASEMENT
(P)	PERMANENT EASEMENT
(T)	TEMPORARY EASEMENT
BNDNS	BOUND SET
BNDNS	BOUND TO BE SET
IPNF	IRON PIN FOUND
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 VALVE
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
CB	CHORD BEARING

UTILITY SYMBOLOGY

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+TELEPHONE
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+TELEPHONE
	UTILITY POLE GUY WIRE

PROJECT CONSTRUCTION SYMBOLOGY

PROJECT DESIGN & LAYOUT SYMBOLOGY

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
	TREE PROTECTION ZONE (TPZ)
	STRIPING LINE REMOVAL
	SHEET PILES

CONVENTIONAL BOUNDARY SYMBOLOGY

BOUNDARY LINES

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

EPSC LAYOUT PLAN SYMBOLOGY

EPSC MEASURES

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

SEE EPSC DETAIL SHEETS FOR ADDITIONAL SYMBOLOGY

ENVIRONMENTAL RESOURCES

	WETLAND BOUNDARY
	RIPARIAN BUFFER ZONE
	WETLAND BUFFER ZONE
	SOIL TYPE BOUNDARY
T&E	THREATENED & ENDANGERED SPECIES
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 SYMBOLOGY

EXISTING FEATURES

- ROAD EDGE PAVEMENT
- ROAD EDGE GRAVEL
- DRIVEWAY EDGE
- DITCH
- FOUNDATION
- 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:	LOWELL
PROJECT NUMBER:	BF 029-2(14)

FILE NAME: sl2b592legend.dgn	PLOT DATE: 20-NOV-2020
PROJECT LEADER: C.COTA	DRAWN BY: S.COLEY
DESIGNED BY: S.COLEY	CHECKED BY: J.PAQUETTE
CONVENTIONAL SYMBOLOGY LEGEND	SHEET 5 OF 24

PRIMARY CONTROL

HVCTRL #1
RICKABY AZ MK
NORTH = 827975.4300
EAST = 1651451.9500
ELEV = 1051.7710

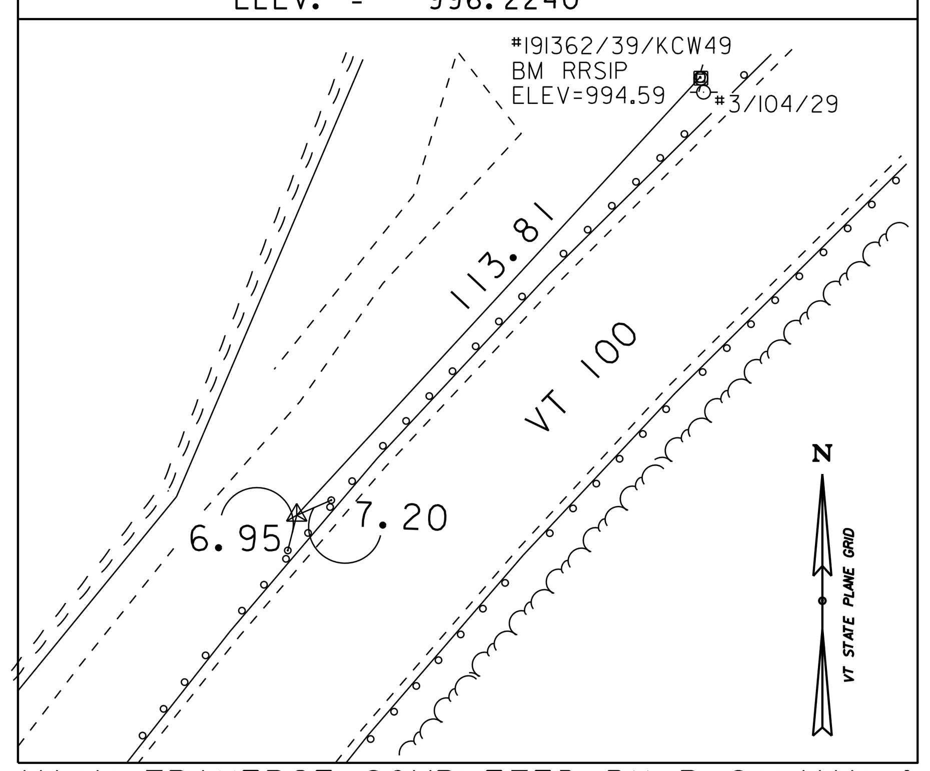
LOWELL, VT.
THE MARK IS SET FLUSH WITH THE GROUND SURFACE IN THE TOP OF A 30 CM (12 INCH) DIAMETER CONCRETE MONUMENT POURED 1.3 M (4.3 FT) DEEP. IT IS 11.9 M (39.0 FT) WEST OF AND ABOUT 2 M (6.6 FT) HIGHER THAN THE CENTERLINE OF VT ROUTE 100, 36.0 M (118.1 FT) NORTH OF THE CENTERLINE OF A FIELD DRIVE, 10.9 M (35.8 FT) SOUTH OF A 12 CM (5 INCH) POPLAR AND 0.3 M (1.0 FT) EAST OF A FIBERGLASS WITNESS POST.

HVCTRL #2
RICKABY
NORTH =829374.4700
EAST = 1651600.3100
ELEV = 1004.0800

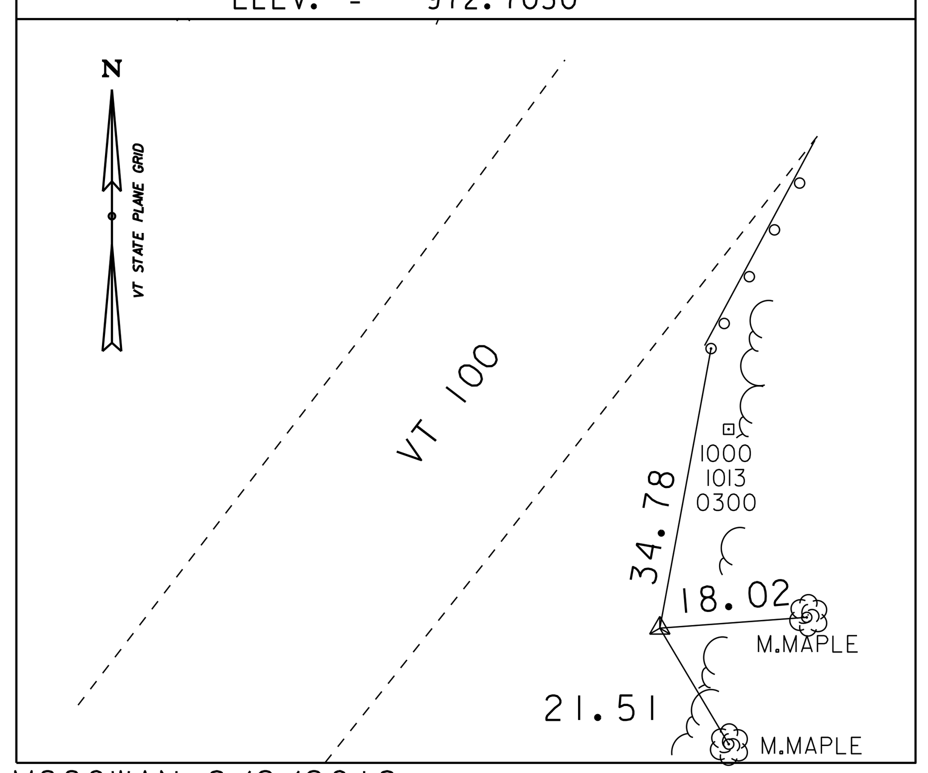
LOWELL, VT.
THE MARK IS SET FLUSH WITH GROUND SURFACE IN THE TOP OF A 30 CM DIAMETER CONCRETE MONUMENT IN A LAWN AND ABOUT 70 M NORTH OF THE INTERSECTION OF RICKABY ROAD. IT IS 7.8 M WEST OF AND ABOUT 0.4 M LOWER THAN THE CENTERLINE OF VT ROUTE 100, 20.5 M EAST OF THE NORTHEAST PORCH CORNER OF A 1 1/2 STORY HOUSE, 22.6 M NORTHEAST OF THE SOUTHEAST CORNER OF THE PORCH AND 16.8 M SOUTH OF AN UNNUMBERED TELEPHONE POLE AND A FIBERGLASS WITNESS POST.

SECONDARY CONTROL

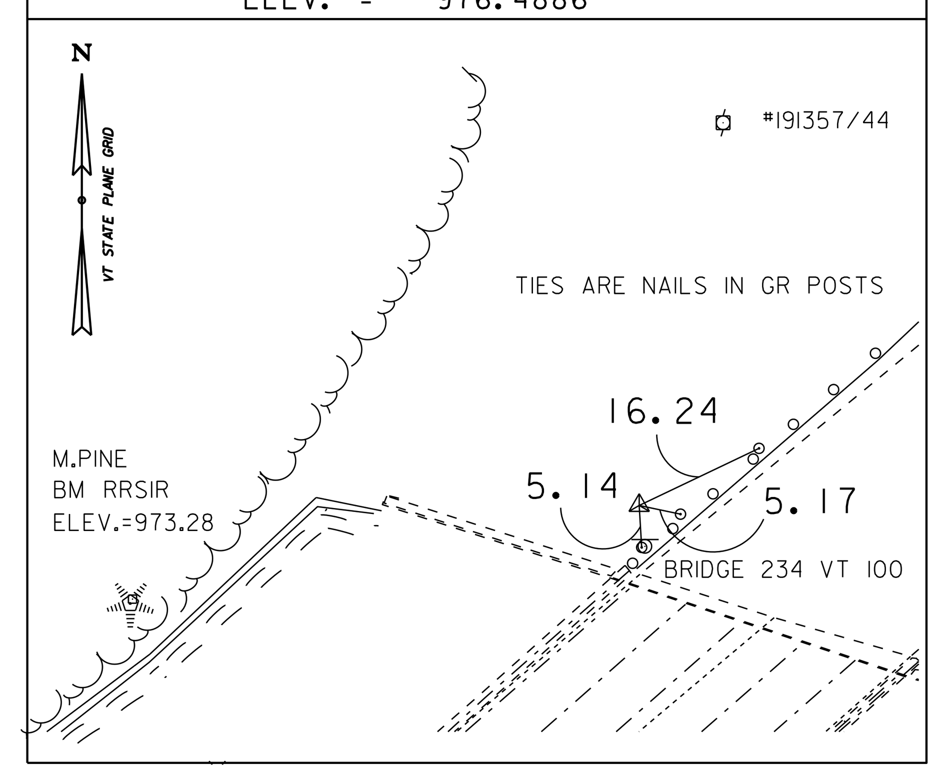
HVCTRL #3
NORTH = 829899.7375
EAST = 1651862.5501
ELEV. = 996.2240



HVCTRL #4
NORTH = 830904.3945
EAST = 1653077.8783
ELEV. = 972.7030



HVCTRL #10
NORTH = 830573.7843
EAST = 1652653.4557
ELEV. = 976.4886



HVCTRL #
NORTH =
EAST =
ELEV. =

HVCTRL #
NORTH =
EAST =
ELEV. =

MAIN TRAVERSE COMPLETED BY R.GILMAN & H.MCGOWAN 8/2/2018

SECONDARY CONTROL

HVCTRL #
NORTH =
EAST =
ELEV. =

HVCTRL #
NORTH =
EAST =
ELEV. =

HVCTRL #
NORTH =
EAST =
ELEV. =

HVCTRL #
NORTH =
EAST =
ELEV. =

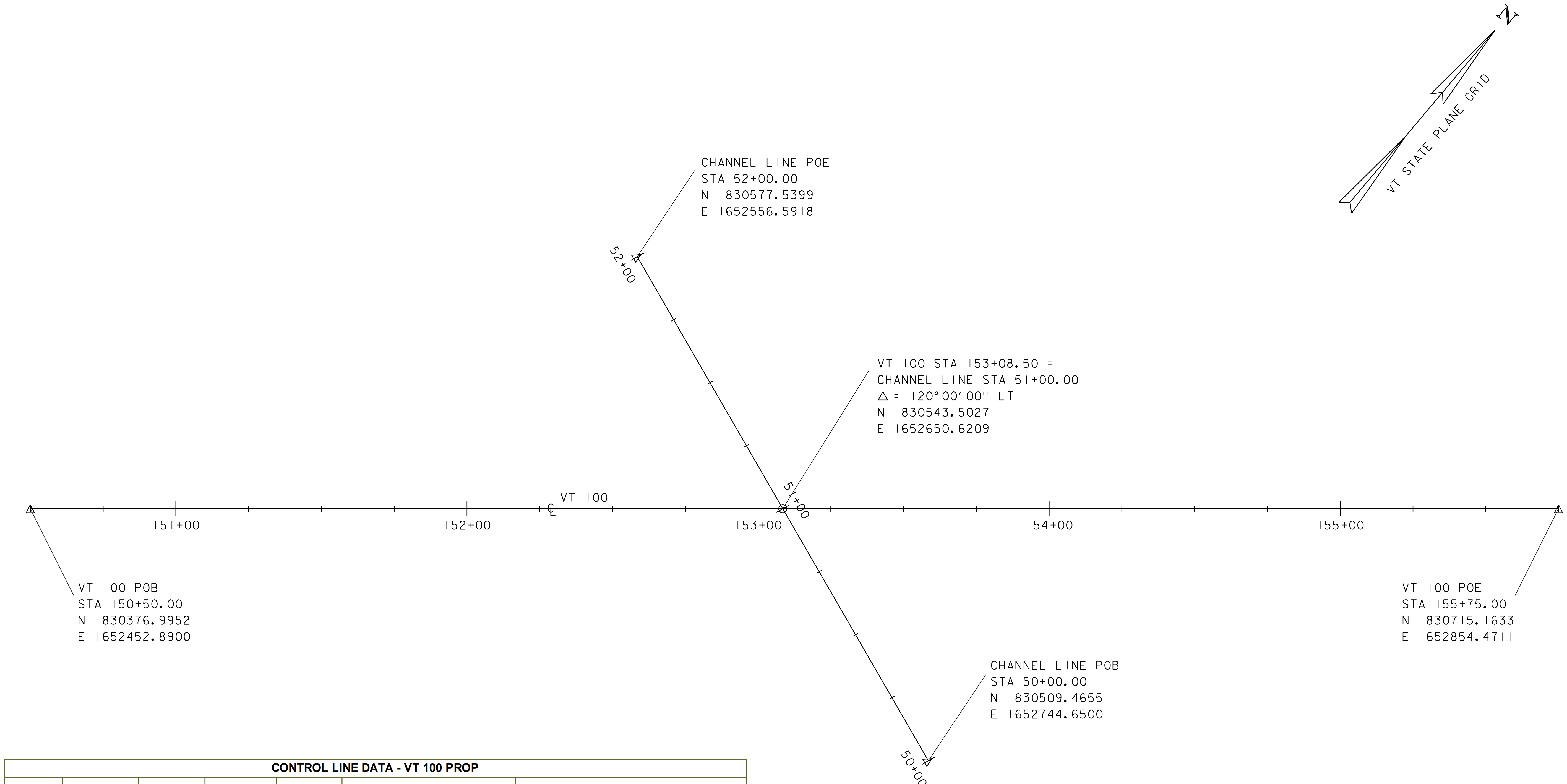
HVCTRL #
NORTH =
EAST =
ELEV. =

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

PROJECT NAME: LOWELL
PROJECT NUMBER: BF 029-2(14)

FILE NAME: s12b592tie.dgn
PROJECT LEADER: C.COTA
DESIGNED BY: S.COLEY
TIES

PLOT DATE: 20-NOV-2020
DRAWN BY: H.MCGOWAN
CHECKED BY: G.HITCHCOCK



CONTROL LINE DATA - VT 100 PROP

POINT ID	BEARING	DISTANCE (FEET)	NORTHING (Y)	EASTING (X)	PC	PI	PT	DELTA	R	L	T
5	49^53'58.36"	525.00 '	830377	1652452.89		150+50.00					
6			830715.16	1652854.47		155+75.00					

CONTROL LINE DATA - CHANNEL

POINT ID	BEARING	DISTANCE (FEET)	NORTHING (Y)	EASTING (X)	PC	PI	PT	DELTA	R	L	T
23	289^53'58.36"	200.00 '	830509.47	1652744.65		50+00.00					
24			830577.54	1652556.59		52+00.00					

20 0 20
SCALE: 1" = 20′-0"

PROJECT NAME: LOWELL
PROJECT NUMBER: BF 029-2(14)

FILE NAME: sl2b592alg.dgn
PROJECT LEADER: C. COTA
DESIGNED BY: S. COLEY
ALIGNMENT

PLOT DATE: 20-NOV-2020
DRAWN BY: S. COLEY
CHECKED BY: J. PAQUETTE

PROJECT NAME: LOWELL
PROJECT NUMBER: BF 029-2(14)

FILE NAME: s12b592bdr_ero.dgn
PROJECT LEADER: C. COTA
DESIGNED BY: S. COLEY
EXISTING SITE CONDITIONS

PLOT DATE: 20-NOV-2020
DRAWN BY: S. COLEY
CHECKED BY: J. PAQUETTE
SHEET 8 OF 24

CONSTRUCT STONE-LINED DITCH, TYPE I

STA 153+16.5 LT - STA 154+79.3 LT

CONSTRUCT GRAVEL DRIVE

STA 155+01.4 LT
STA 151+47.3 RT
STA 151+79.6 RT

CONSTRUCT 5' PAVED APRON

STA 151+36.0 RT - STA 152+00.9 RT
STA 154+68.4 LT - STA 155+34.4 LT
STA 155+52.0 RT - STA 155+83.1 RT

CAST-IN-PLACE CONCRETE CURB, TYPE B

STA 152+28.7 LT - STA 152+68.7 LT
STA 152+46.6 RT - STA 152+86.6 RT
STA 153+30.4 LT - STA 153+70.4 LT
STA 153+48.3 LT - STA 153+88.3 RT

SPECIAL PROVISION (CONCRETE RETAINING WALL)

STA 151+96.4 LT - STA 152+67.3 LT

REMOVE AND RESET MAILBOX

STA 151+67.3 RT

EXISTING BRIDGE DATA

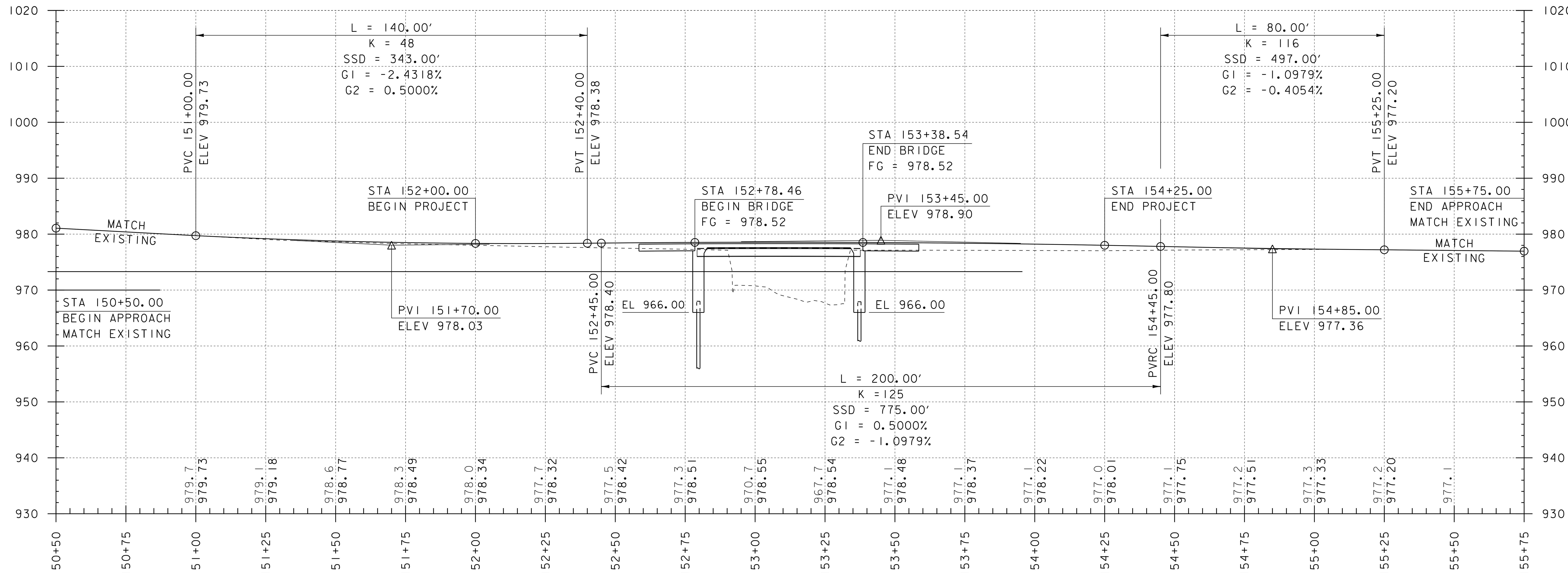
SINGLE SPAN CONCRETE DECK WITH CONCRETE T-BEAMS
ON CONCRETE ABUTMENTS WITH TIMBER PILES
BUILT 1929, RECONSTRUCTED 1948
SPAN LENGTH = 43'
FASCIA TO FASCIA WIDTH = 33.17'

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

PROJECT NAME: LOWELL
PROJECT NUMBER: BF 029-2(14)

FILE NAME: s12b592bdr.dgn
PROJECT LEADER: C.COTA
DESIGNED BY: S.COLEY
LAYOUT

PLOT DATE: 20-NOV-2020
DRAWN BY: S.COLEY
CHECKED BY: J.PAQUETTE



PROFILE ALONG VT 100

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

NOTE:

ELEVATIONS SHOWN TO THE NEAREST TENTH ARE EXISTING GROUND ALONG PROPOSED CENTERLINE.

ELEVATIONS SHOWN TO THE NEAREST HUNDREDTH ARE FINISH GRADES ALONG PROPOSED CENTERLINE.

PROJECT NAME: LOWELL	
PROJECT NUMBER: BF 029-2(14)	
FILE NAME: s12b592pro.dgn	PLOT DATE: 20-NOV-2020
PROJECT LEADER: C. COTA	DRAWN BY: S. COLEY
DESIGNED BY: S. COLEY	CHECKED BY: J. PAQUETTE
VT 100 PROFILE	SHEET 10 OF 24

ALL UTILITY RELOCATION NOTED ON THIS SHEET WILL BE DONE BY OTHERS.

PROJECT NAME: LOWELL
PROJECT NUMBER: BF 029-2 (14)

FILE NAME: s12b592bdr_util.dgn
PROJECT LEADER: C. COTA
DESIGNED BY: S. COLEY
UTILITY LAYOUT

PLOT DATE: 20-NOV-2020
DRAWN BY: S. COLEY
CHECKED BY: J. PAQUETTE

4 INCH WHITE LINE, WATERBORNE PAINT

STA 150+50.0 LT - STA 155+75.0 LT
STA 150+50.0 RT - STA 155+75.0 RT

4 INCH YELLOW LINE, WATERBORNE PAINT

STA 150+50.0 ℄ - STA 150+75.0 ℄ (DOUBLE)

TRAFFIC SIGNS, TYPE A

STA 152+81.9 RT (1 EA)
STA 153+35.1 LT (1 EA)

REMOVING SIGNS

STA 152+88.7 RT (1 EA)
STA 153+27.5 LT (1 EA)

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS			NEW SIGNS	EXIST POST		NEW SIGN POSTS						REMARKS	SIGN DETAIL	
		EA	WIDTH (in)	HEIGHT (in)	"A"	RETAIN	SALVAGE	NO. OF POSTS	SQUARE STEEL (in) 1.75 lb/ft 1.88	2.0 lb/ft 2.42	2.5 lb/ft 3.35	ANCHOR	SLEEVE		DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
152+81.9 RT	BRIDGE 234 VT-100	1	6	10	0.42			1	X			X		VD-701 LINE 2: 234 LINE 3: VT-100		T-42
153+35.1 LT	BRIDGE 234 VT-100	1	6	10	0.42			1	X			X		VD-701 LINE 2: 234 LINE 3: VT-100		T-42
FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND VTRANS "SIGN POST DESIGN GUIDELINE." SHS = STANDARD HIGHWAY SIGNS									FT 24	FT	FT		EA			
				TOTALS	SF 0.84				FT 24							

LEGEND

R: REMOVE
R&S: REMOVE AND SALVAGE
RET: RETAIN
N: NEW
S: SALVAGE

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

PROJECT NAME: LOWELL	
PROJECT NUMBER: BF 029-2(14)	
FILE NAME: sl2b592bdr_trf.dgn	PLOT DATE: 20-NOV-2020
PROJECT LEADER: C. COTA	DRAWN BY: S. COLEY
DESIGNED BY: S. COLEY	CHECKED BY: J. PAQUETTE
SIGNS AND PAVEMENT MARKINGS	SHEET 12 OF 24

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 P.S.F.	CONSISTENCY
<250	Very Soft
250-500	Soft
500-1000	Med. Stiff
1000-2000	Stiff
2000-4000	Very Stiff
>4000	Hard

CORRELATION GUIDE OF "N" TO DENSITY/CONSISTENCY

DENSITY (GRANULAR SOILS)

N	DESCRIPTIVE TERM
<5	Very Loose
5-10	Loose
11-24	Med. Dense
25-50	Dense
>50	Very Dense

CONSISTENCY (COHESIVE SOILS)

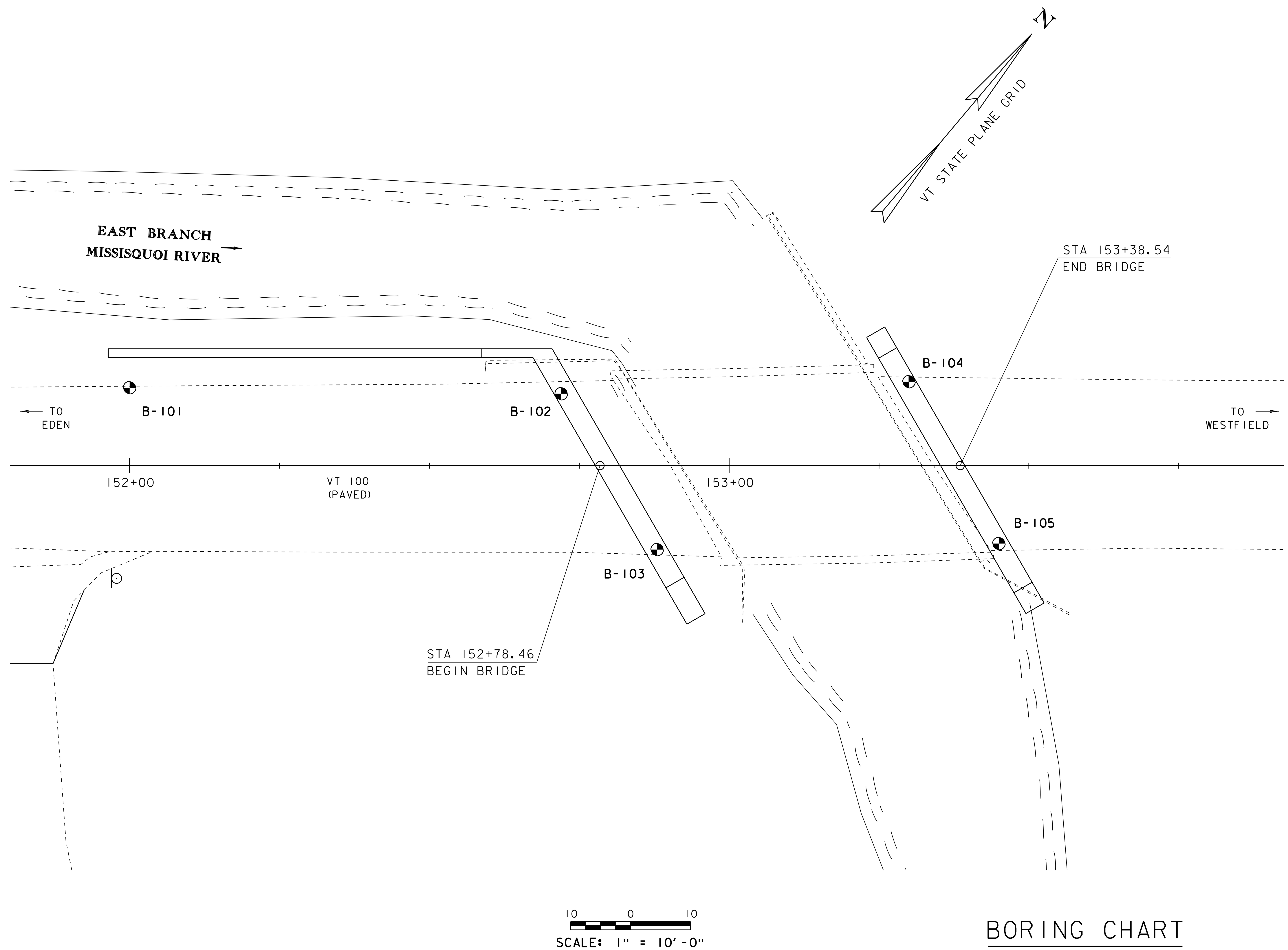
N	DESCRIPTIVE TERM
<2	Very Soft
2-4	Soft
5-8	Med. Stiff
9-15	Stiff
16-30	Very Stiff
31-60	Hard
>60	Very Hard

COMMONLY USED SYMBOLS

▼	Water Elevation
⊗	Standard Penetration Boring
⊕	Auger Boring
⊙	Rod Sounding
S	Sample
N	Standard Penetration Test Blow Count Per Foot For: 2" O.D. Sampler 1 3/8" I.D. Sampler Hammer Weight Of 140 Lbs. Hammer Fall Of 30"
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 1 1/8"
BX	Core Size 1 5/8"
NX	Core Size 2 1/8"
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	Top of Ledge Or Boulder
NR	No Recovery
Rec.	Recovery
%Rec.	Percent Recovery
RQD	Rock Quality Designation
CBR	California Bearing Ratio
<	Less Than
>	Greater Than
R	Refusal (N > 100)
VTSPG	NAD83 - See Note 7

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 > 12 inches.

COBBLE - Rock fragments with an average dimension between 3 and 12 inches.

GRAVEL - Rounded particles of rock < 3" and > 0.0787" (#10 sieve).

SAND - Particles of rock < 0.0787" (#10 sieve) and > 0.0029" (#200 sieve).

SILT - Soil < 0.0029" (#200 sieve), non or slightly plastic and exhibits no strength when air-dried.

CLAY - Fine grained soil, exhibits plasticity when moist and considerable strength when air-dried.

VARVED - Alternate layers of silt and clay.

HARDPAN - Extremely dense soil, cemented layer, not softened when wet.

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

MOISTURE CONTENT - Weight of water divided by dry weight of soil.

FLOWING SAND - Granular soil so saturated (loose) that it flows into drill casing during extraction of wash rod.

STRIKE - Angle from magnetic north to line of intersection of bed with a horizontal plane.

DIP - Inclination of bed with a horizontal plane.

GENERAL NOTES

1. The subsurface explorations shown herein were made between --- and --- 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.

Engineering judgment 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 judgment 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.
7. Northing and Easting coordinates are shown in Vermont State Plane Grid North American Datum 1983 in meters and survey feet.

BORING CHART

HOLE NO.	NORTHING	EASTING	STATION	OFFSET
B-101	830483.56	1652559.25	152+00.00	13.0' LT
B-102	830529.17	1652614.97	152+72.00	12.0' LT
B-103	830519.59	1652643.96	152+88.00	14.0' RT
B-104	830568.06	1652658.05	153+30.00	14.0' LT
B-105	830577.07	1652686.91	153+45.00	13.0' RT

PROJECT NAME: LOWELL

PROJECT NUMBER: BF 029-2(14)

FILE NAME: s12b592bdr_bor.dgn
PROJECT LEADER: C. COTA
DESIGNED BY: S. COLEY
BORING INFORMATION

PLOT DATE: 20-NOV-2020
DRAWN BY: J. PAQUETTE
CHECKED BY: S. COLEY
SHEET 13 OF 24

REMOVAL AND DISPOSAL OF GUARDRAIL

STA 151+08.1 LT - STA 152+80.1 LT
STA 152+45.7 RT - STA 152+98.1 RT
STA 153+24.9 LT - STA 154+02.4 LT
STA 153+44.7 RT - STA 154+21.3 RT

BRIDGE RAILING, GALVANIZIED 2 RAIL BOX BEAM

STA 152+68.5 LT - STA 153+30.1 LT
STA 152+86.9 RT - STA 153+48.5 RT

GUARDRAIL APPROACH SECTION, GALVANIZED 2 RAIL BOX BEAM

STA 152+39.4 LT - STA 152+68.5 LT
STA 152+57.8 RT - STA 152+86.9 RT
STA 153+30.1 LT - STA 153+59.2 LT
STA 153+48.5 RT - STA 153+77.6 RT

STEEL BEAM GUARDRAIL, GALVANIZED

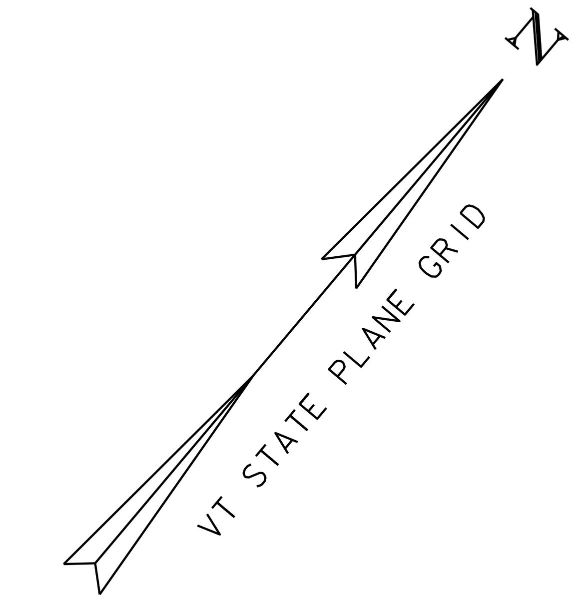
STA 151+08.1 LT - STA 152+39.4 LT
STA 152+48.5 RT - STA 152+57.8 RT
STA 153+59.2 LT - STA 153+68.5 LT
STA 153+77.6 RT - STA 153+87.0 RT

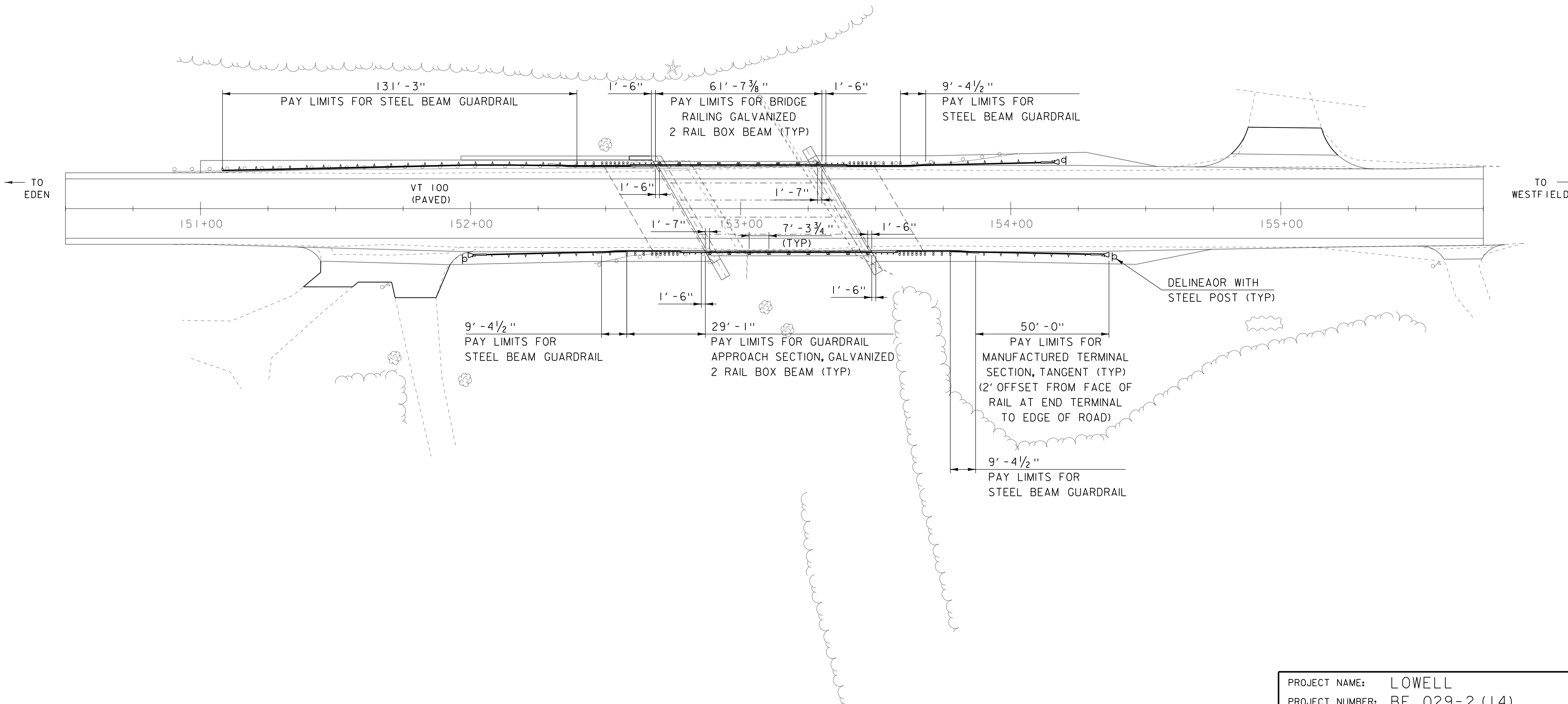
MANUFACTURED TERMINAL SECTION, TANGENT

STA 151+99.1 RT - STA 152+48.5 RT
STA 153+68.5 LT - STA 154+17.9 LT
STA 153+87.0 RT - STA 154+36.4 RT

DELINEATOR WITH STEEL POST

STA 151+97.8 RT (BLUE)
STA 154+38.4 RT (GREEN)
STA 154+19.6 LT (BLUE)

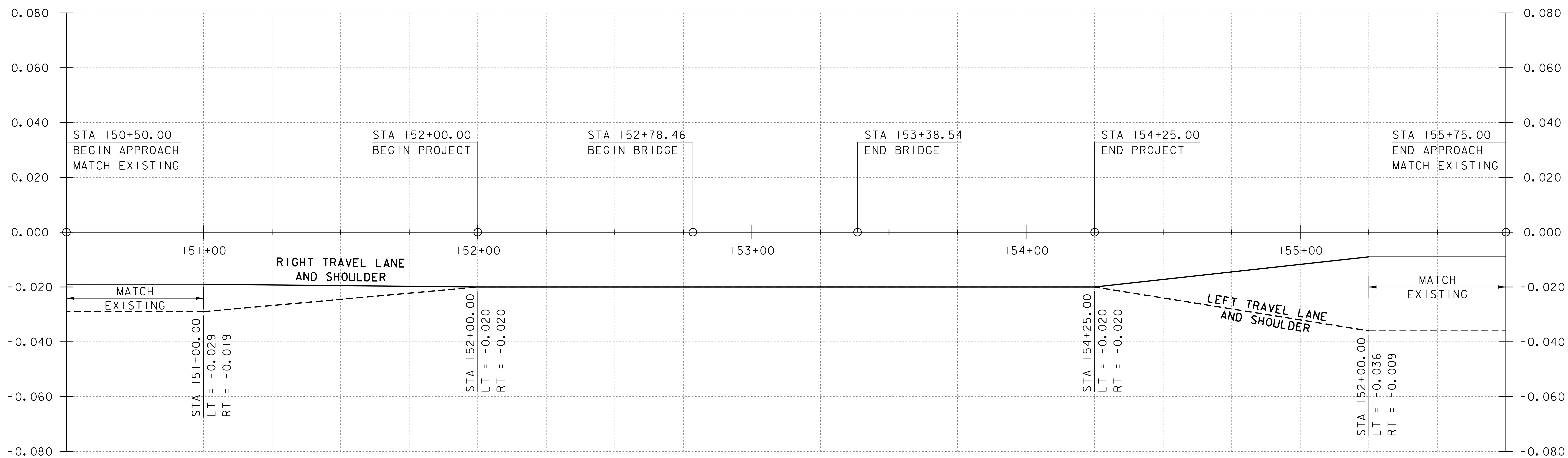




20 0 20
SCALE: 1" = 20'-0"

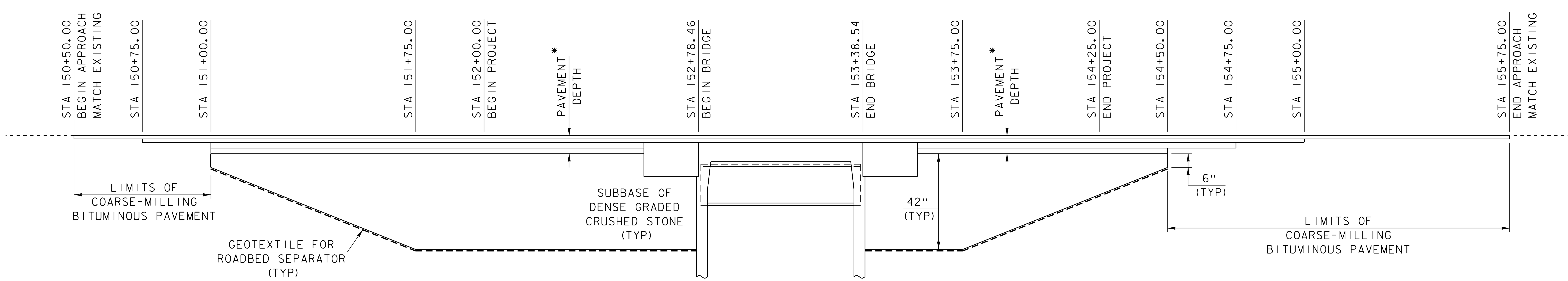
PROJECT NAME:	LOWELL
PROJECT NUMBER:	BF 029-2(14)

FILE NAME: sl2b592rail.dgn	PLOT DATE: 20-NOV-2020
PROJECT LEADER: C. COTA	DRAWN BY: S. COLEY
DESIGNED BY: S. COLEY	CHECKED BY: J.PAQUETTE
GUARDRAIL LAYOUT	SHEET 14 OF 24



VT 100 BANKING DIAGRAM

HORIZONTAL SCALE: 1" = 20'-0"
VERTICAL SCALE: 1" = 0.020'/1'

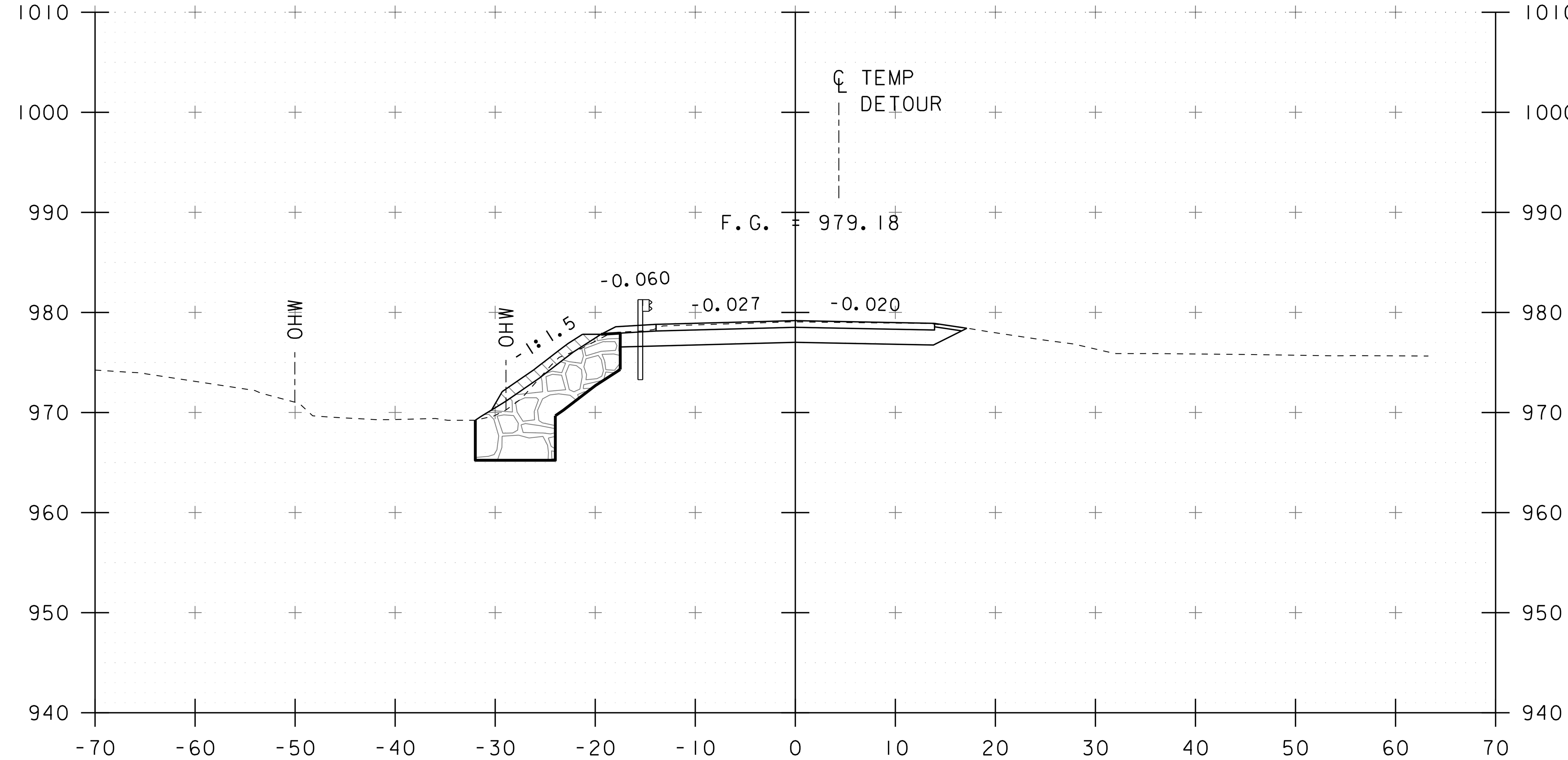


*SEE ROADWAY TYPICAL SECTION FOR PAVEMENT AND SUBBASE MATERIAL DESIGN INFORMATION.

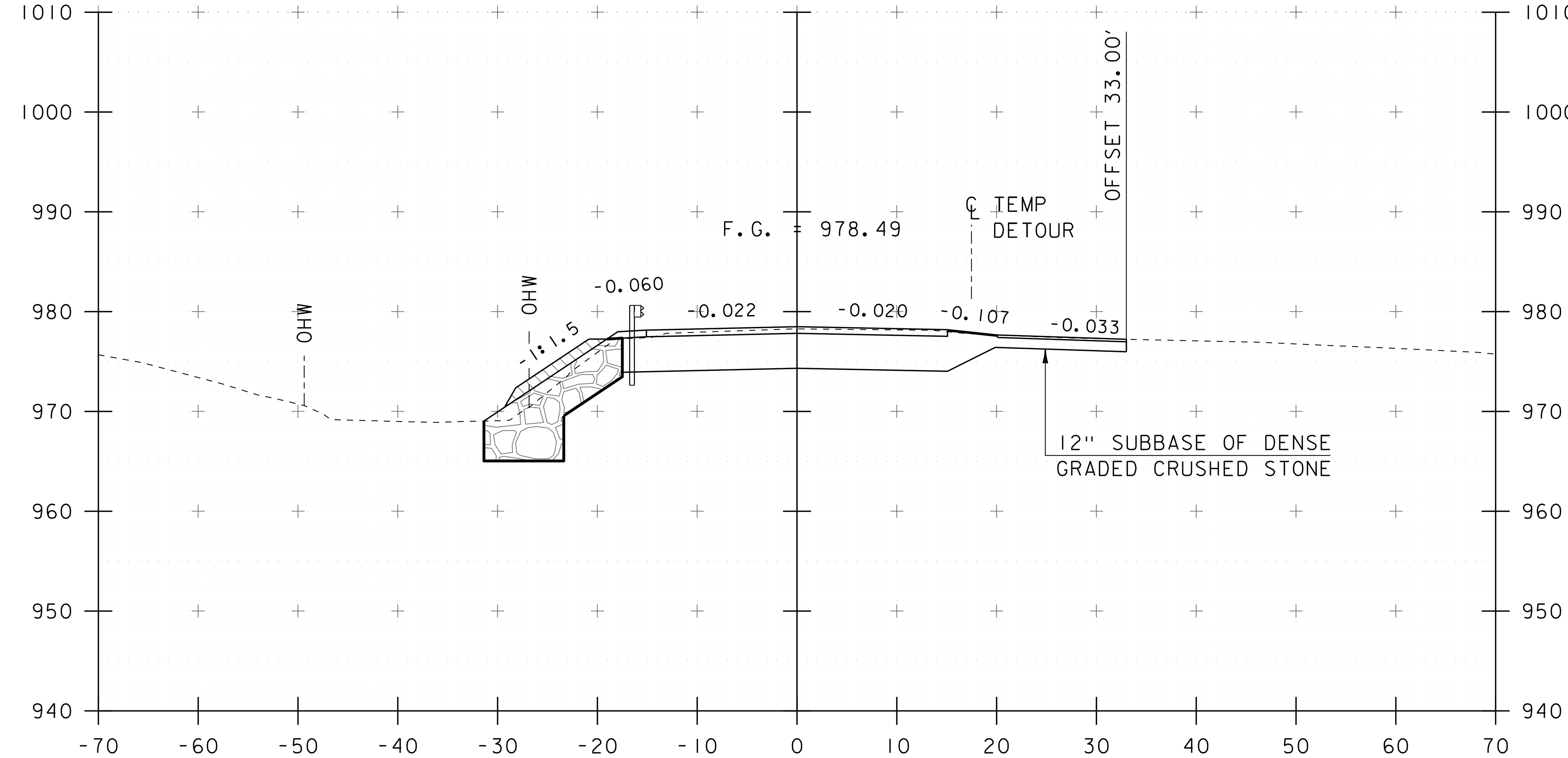
VT 100 MATERIAL TRANSITION

HORIZONTAL SCALE: 1" = 20'-0"
VERTICAL SCALE: 1" = 2'-0"

PROJECT NAME: LOWELL	
PROJECT NUMBER: BF 029-2(14)	
FILE NAME: s12b592pro.dgn	PLOT DATE: 20-NOV-2020
PROJECT LEADER: C. COTA	DRAWN BY: S. COLEY
DESIGNED BY: S. COLEY	CHECKED BY: J. PAQUETTE
VT 100 BANKING AND MATERIAL TRANSITION	SHEET 15 OF 24

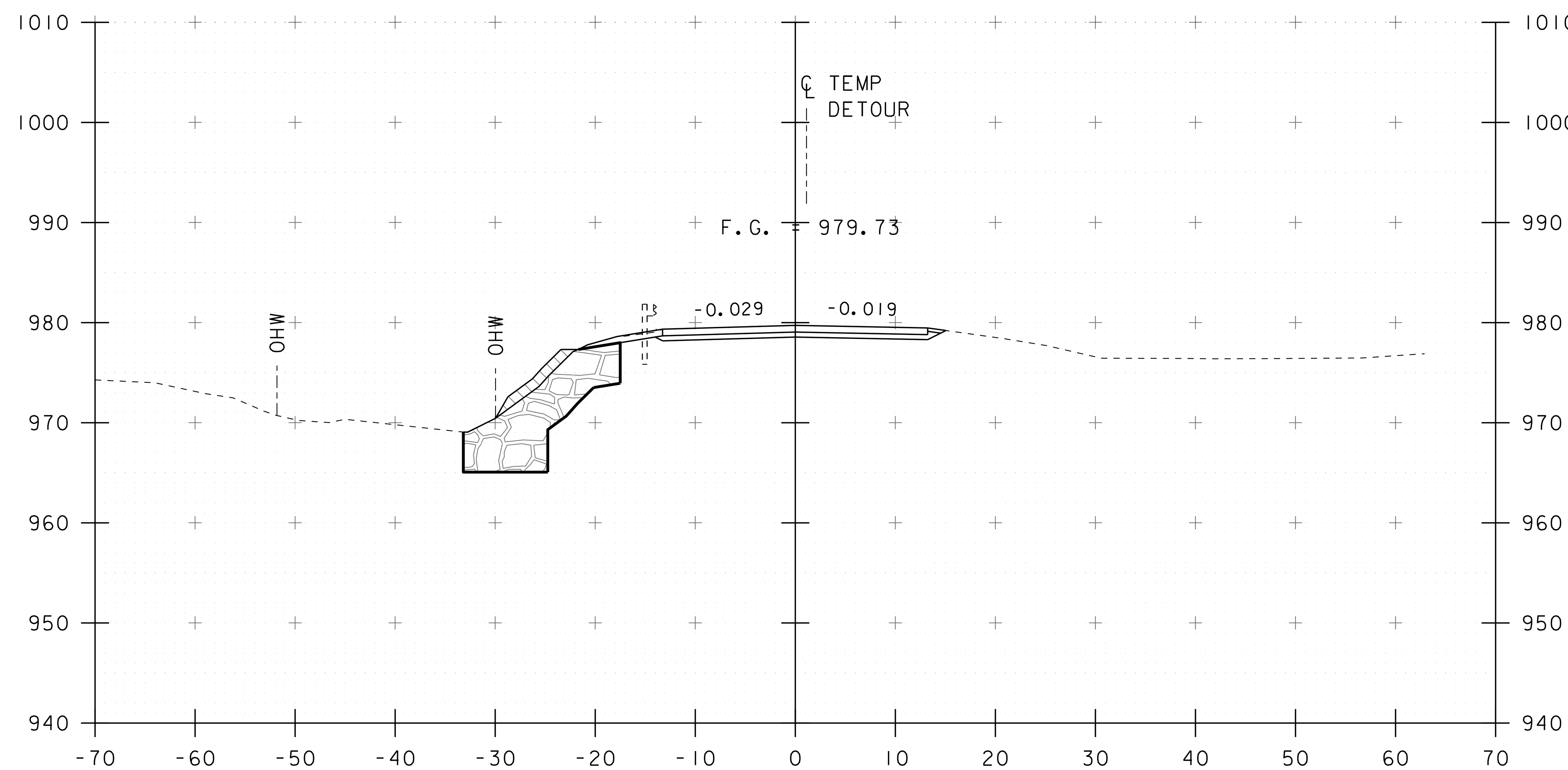


151+25



STA 151+79.6 LT
CONSTRUCT GRAVEL DRIVE

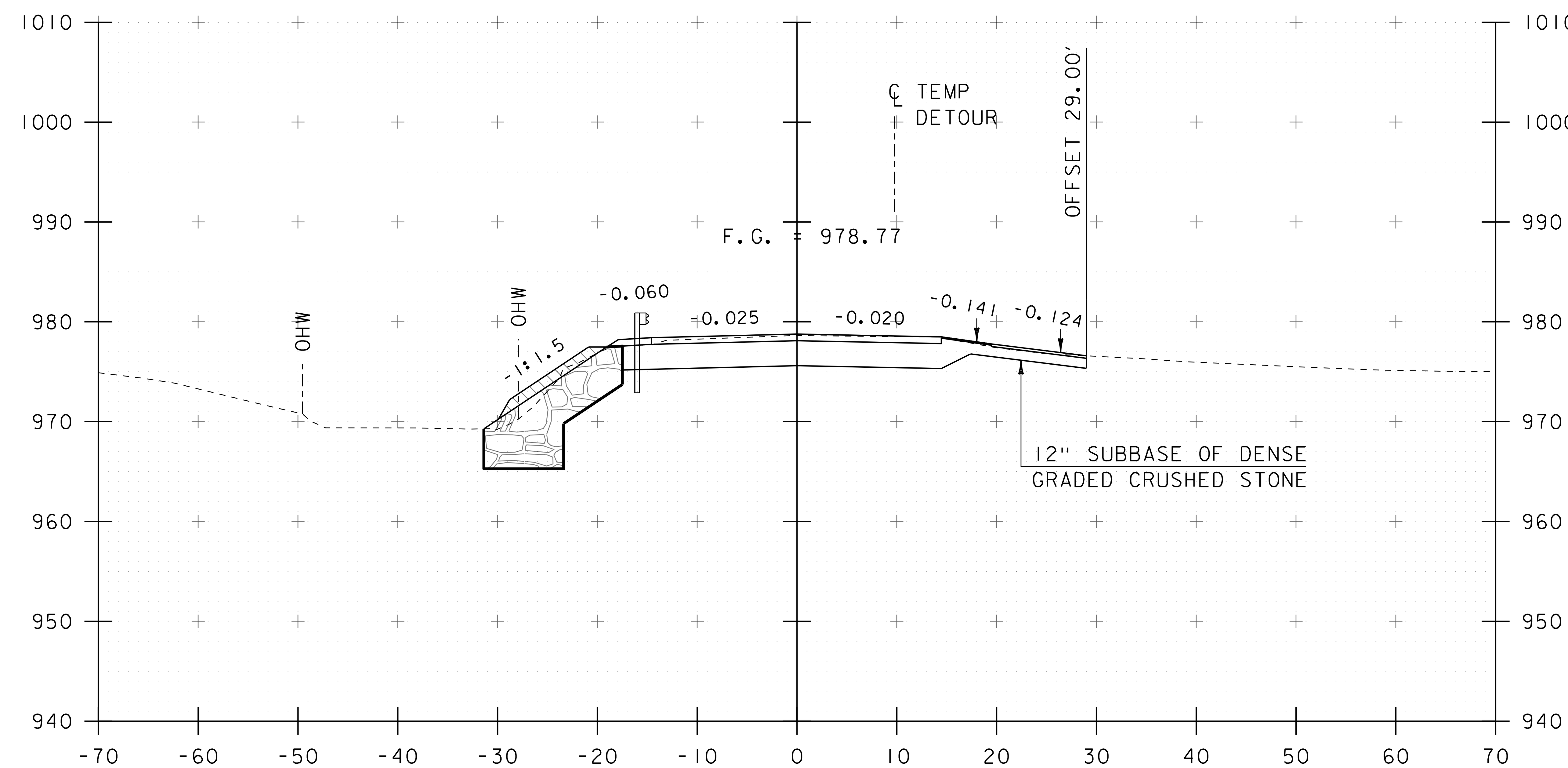
151+75



STA 151+00.0 LT
BEGIN UNCLASSIFIED CHANNEL EXCAVATION
GEOTEXTILE UNDER STONE FILL
STONE FILL, TYPE IV
GRUBBING MATERIAL

151+00

STA 150+50.00
BEGIN APPROACH
MATCH EXISTING



151+50

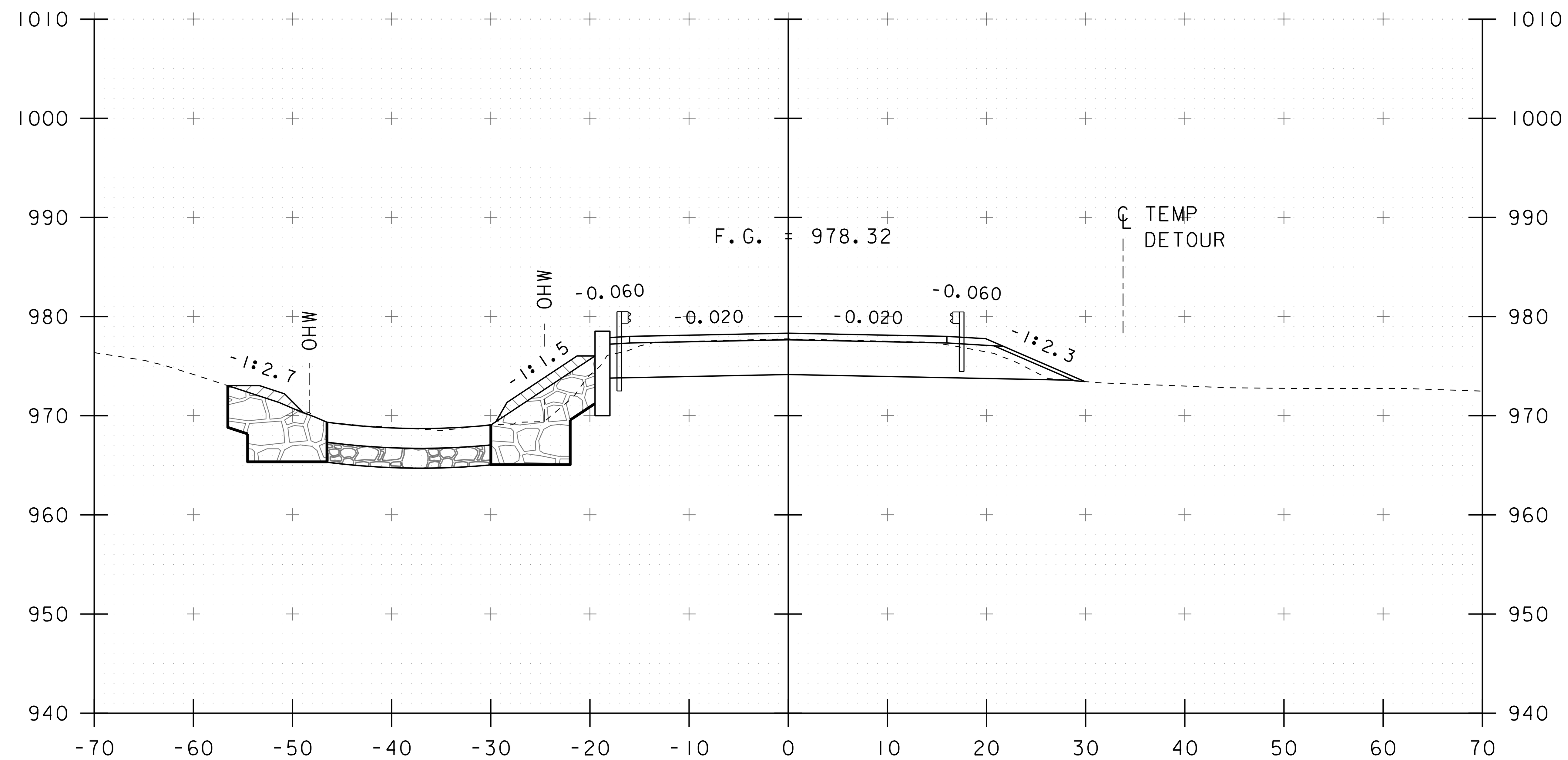
STA 151+36.0 RT - STA 152+00.9 RT
CONSTRUCT 5' PAVED APRON
STA 151+47.3 LT
CONSTRUCT GRAVEL DRIVE

STA. 151+00 TO STA. 151+75

PROJECT NAME: LOWELL
PROJECT NUMBER: BF 029-2(14)

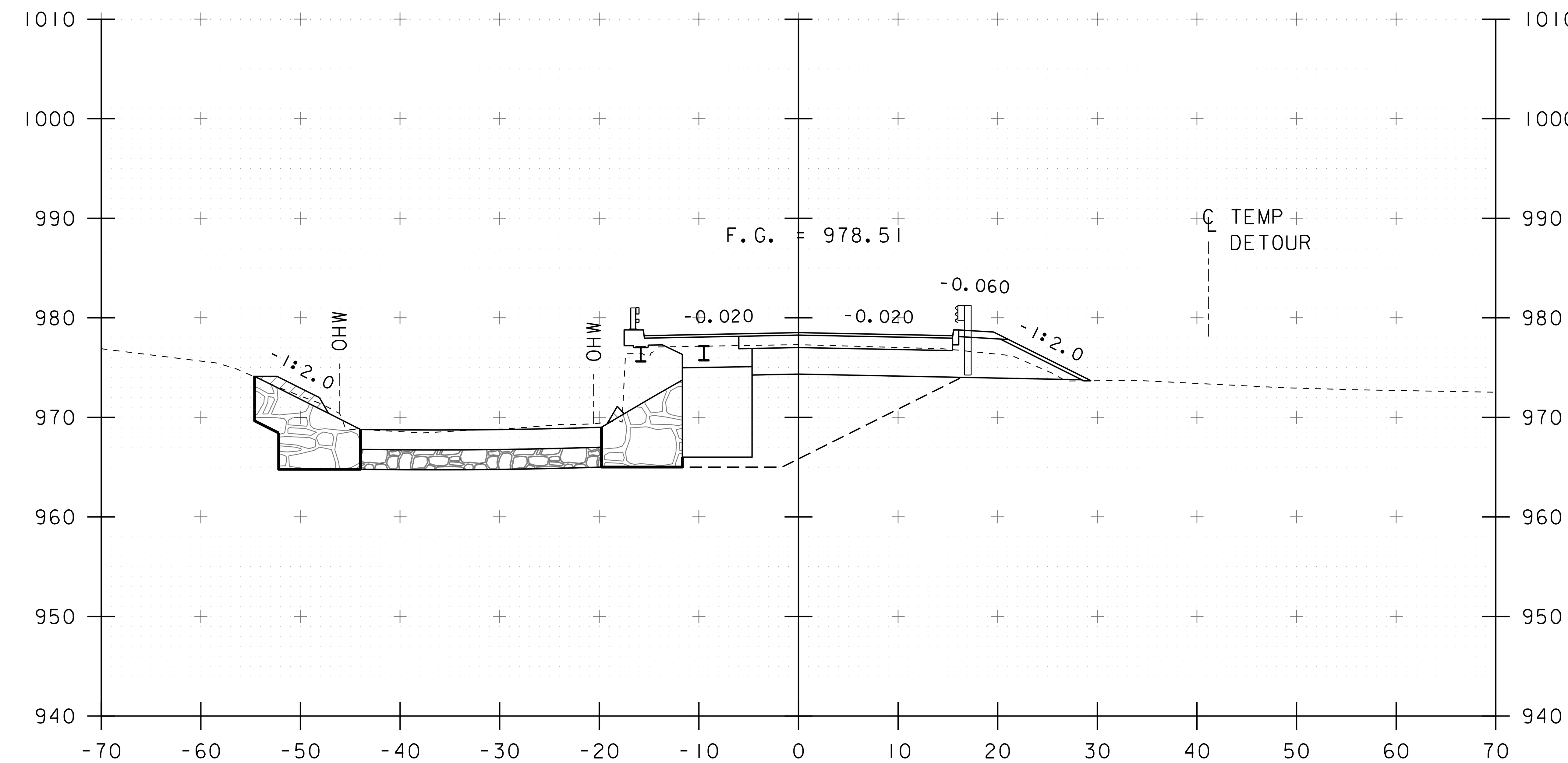
FILE NAME: s12b592xs.dgn
PROJECT LEADER: C. COTA
DESIGNED BY: S. COLEY
VT 100 CROSS SECTIONS (1)

PLOT DATE: 20-NOV-2020
DRAWN BY: S. COLEY
CHECKED BY: J. PAQUETTE
SHEET 16 OF 24

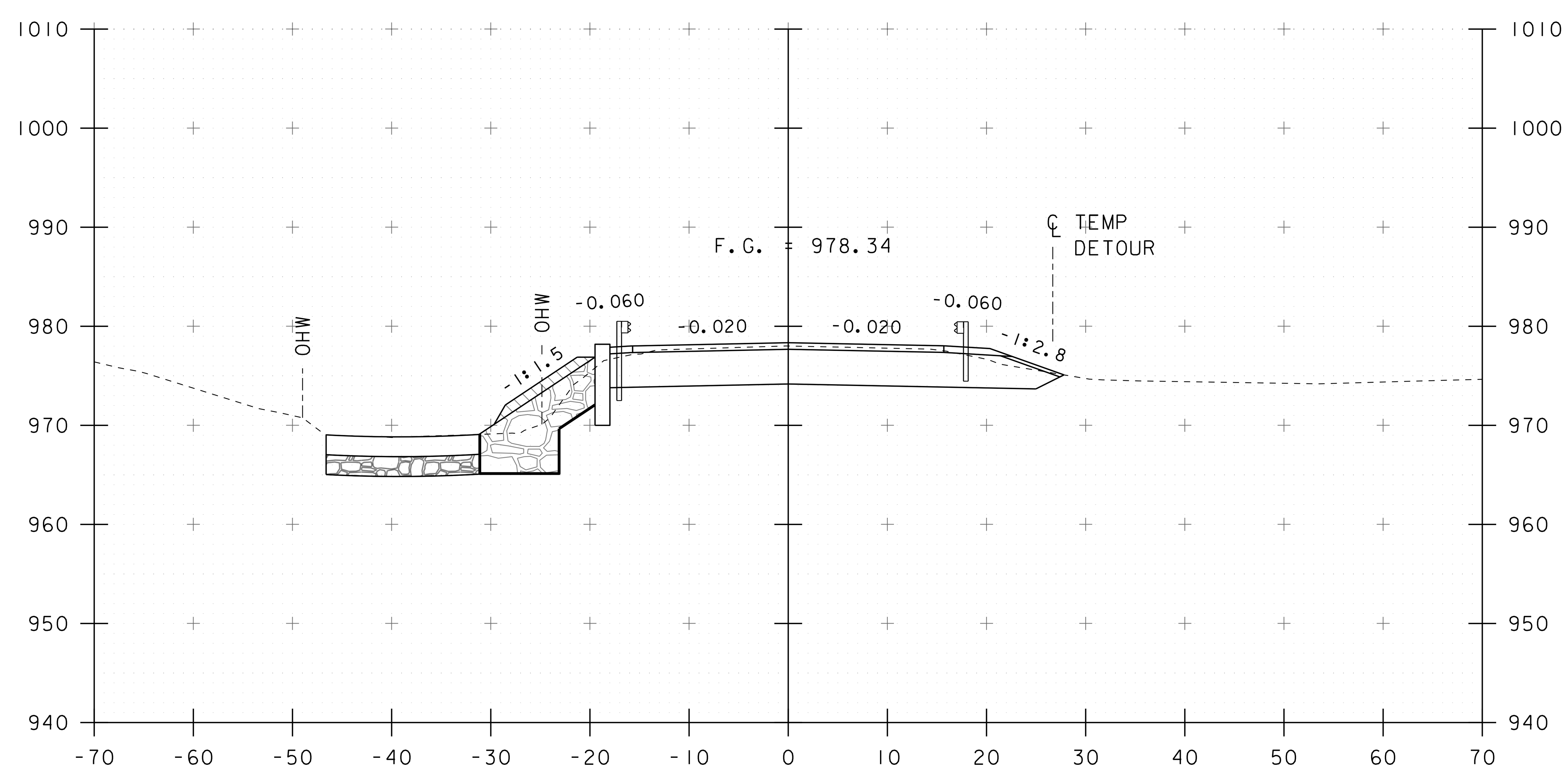


STA 152+25.0 FAR LT
BEGIN UNCLASSIFIED CHANNEL EXCAVATION
GEOTEXTILE UNDER STONE FILL
STONE FILL, TYPE IV
GRUBBING MATERIAL

152+25



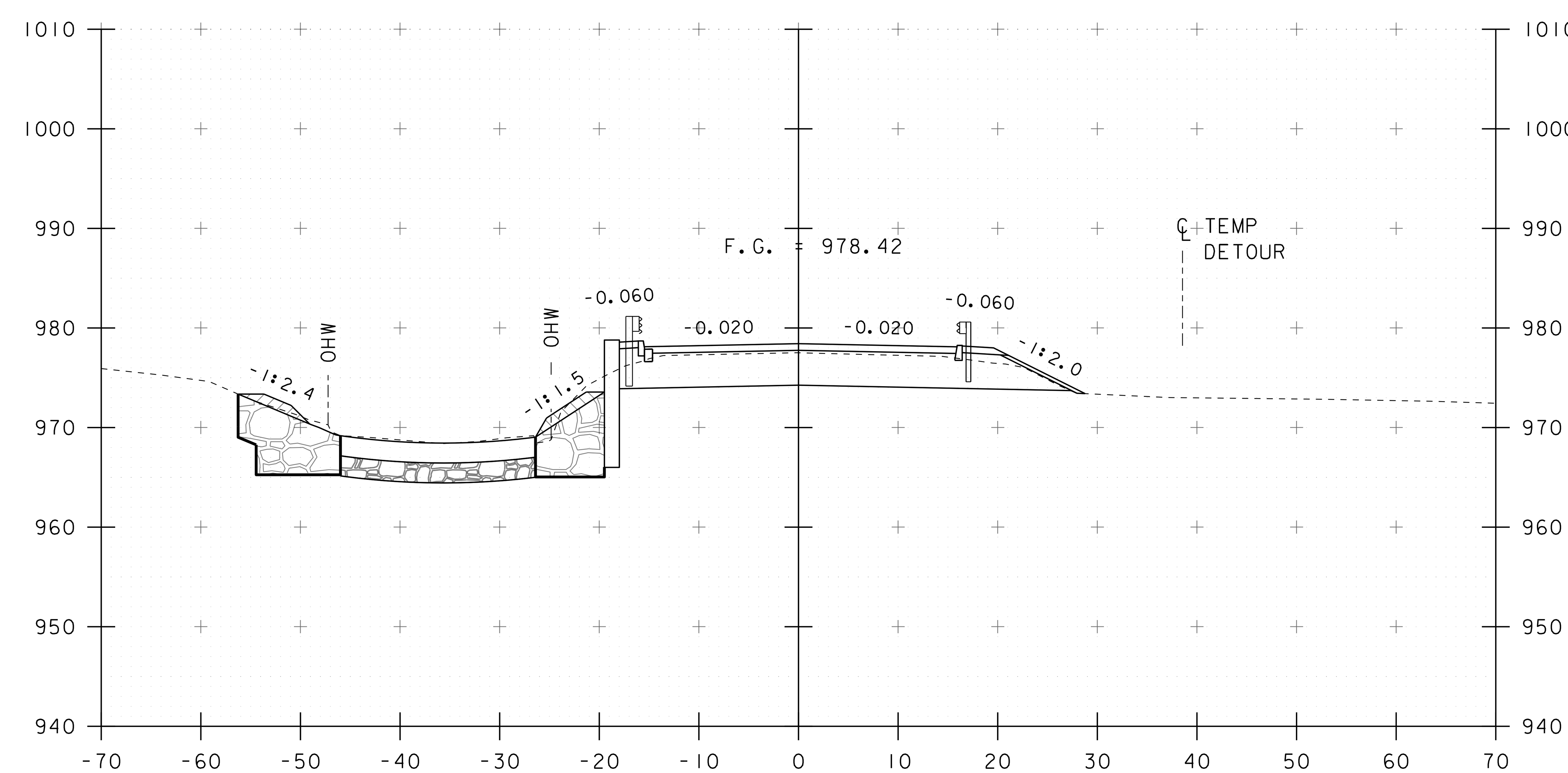
152+75



STA 151+96.4 LT - STA 152+67.3 LT
CONSTRUCT SPECIAL PROVISION
(CONCRETE RETAINING WALL)
STA 152+00.0 CHANNEL
BEGIN UNCLASSIFIED CHANNEL EXCAVATION
GEOTEXTILE UNDER STONE FILL
E-STONE, TYPE II

152+00

STA 152+00.00
BEGIN PROJECT



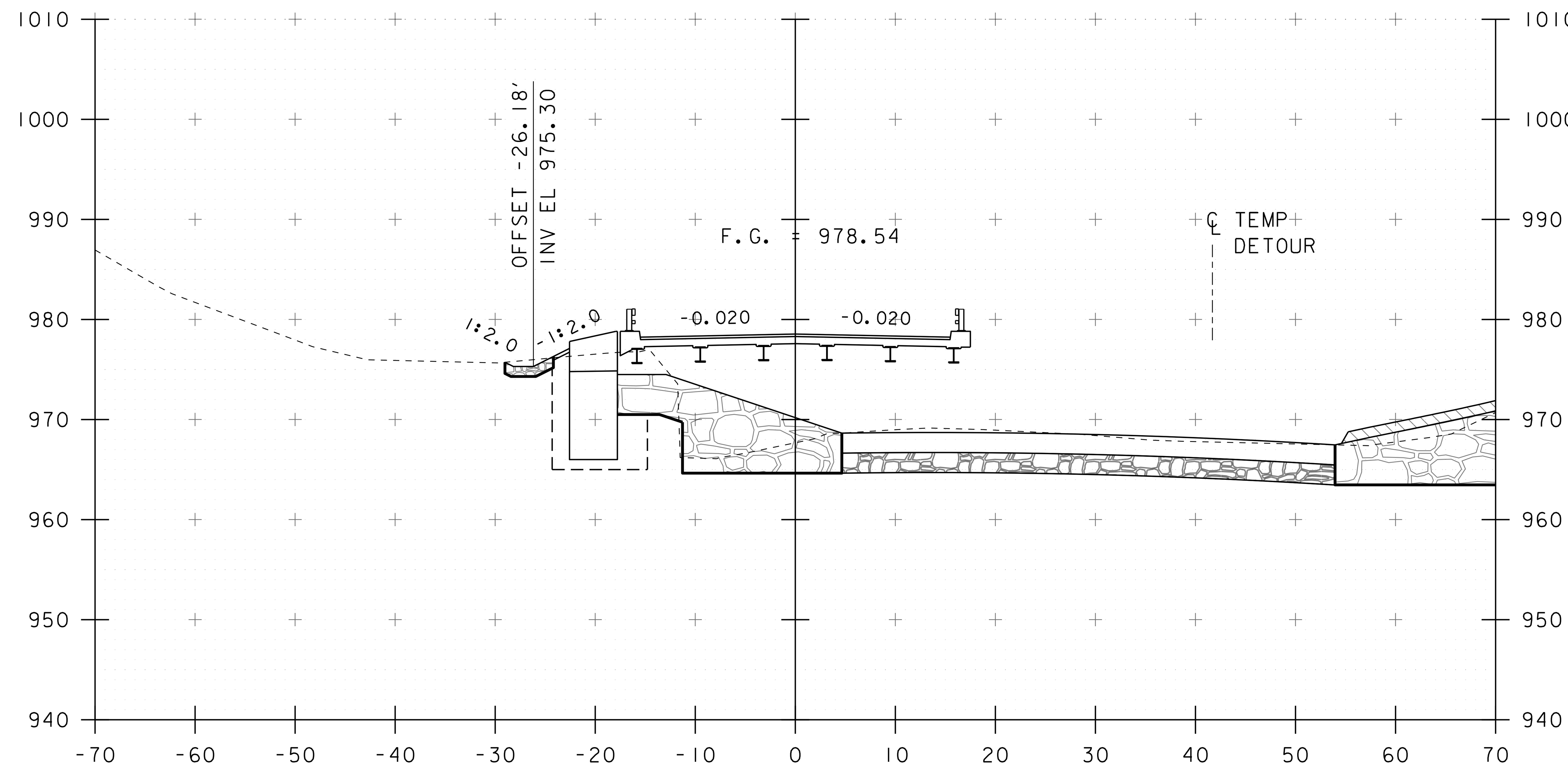
152+50

STA. 152+00 TO STA. 152+75

PROJECT NAME: LOWELL
PROJECT NUMBER: BF 029-2(14)

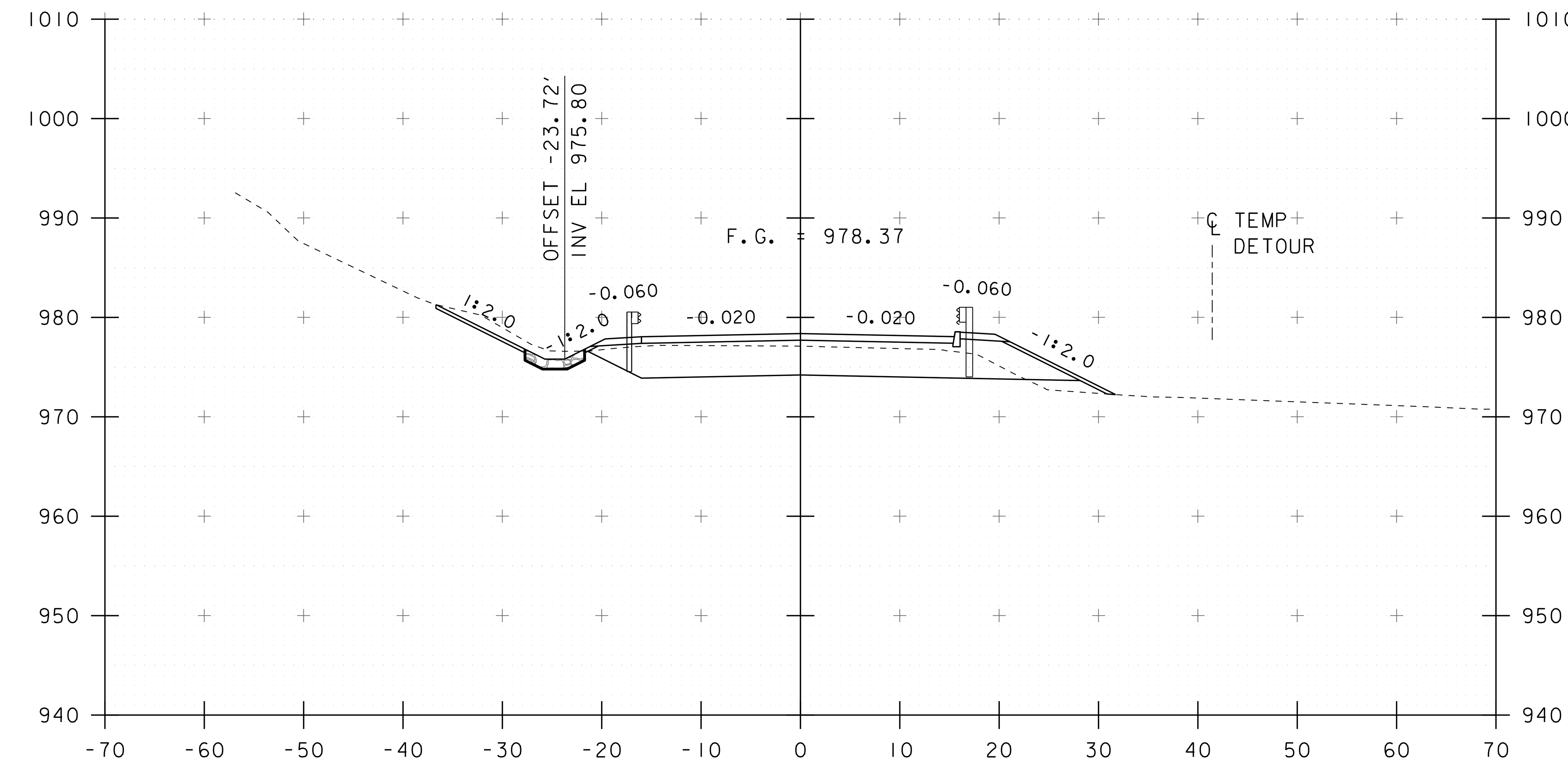
FILE NAME: s12b592xs.dgn
PROJECT LEADER: C. COTA
DESIGNED BY: S. COLEY
VT 100 CROSS SECTIONS (2)

PLOT DATE: 20-NOV-2020
DRAWN BY: S. COLEY
CHECKED BY: J. PAQUETTE

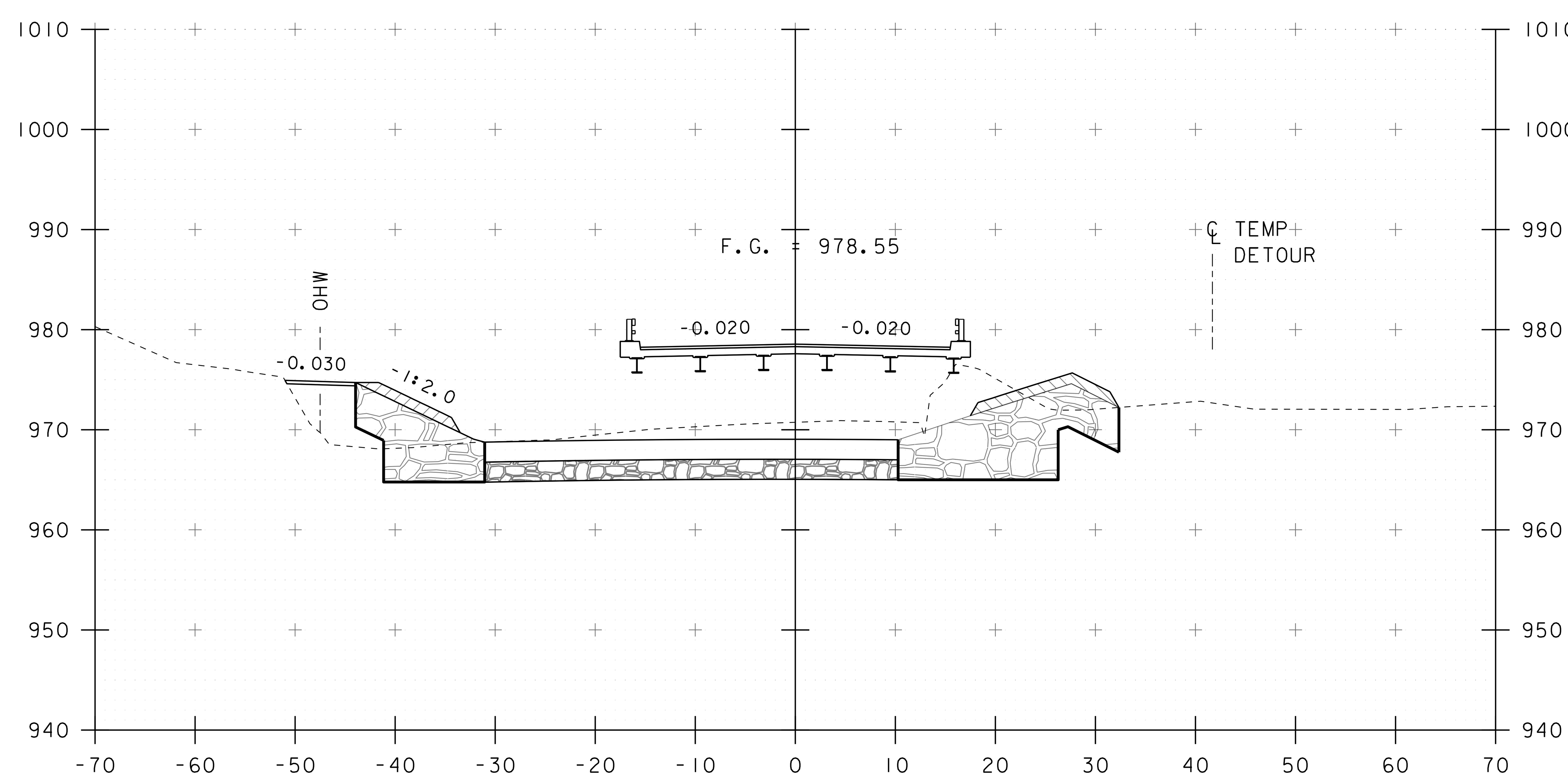


STA 153+16.5 LT - STA 154+79.3 LT
CONSTRUCT STONE-LINED DITCH, TYPE I

153+25

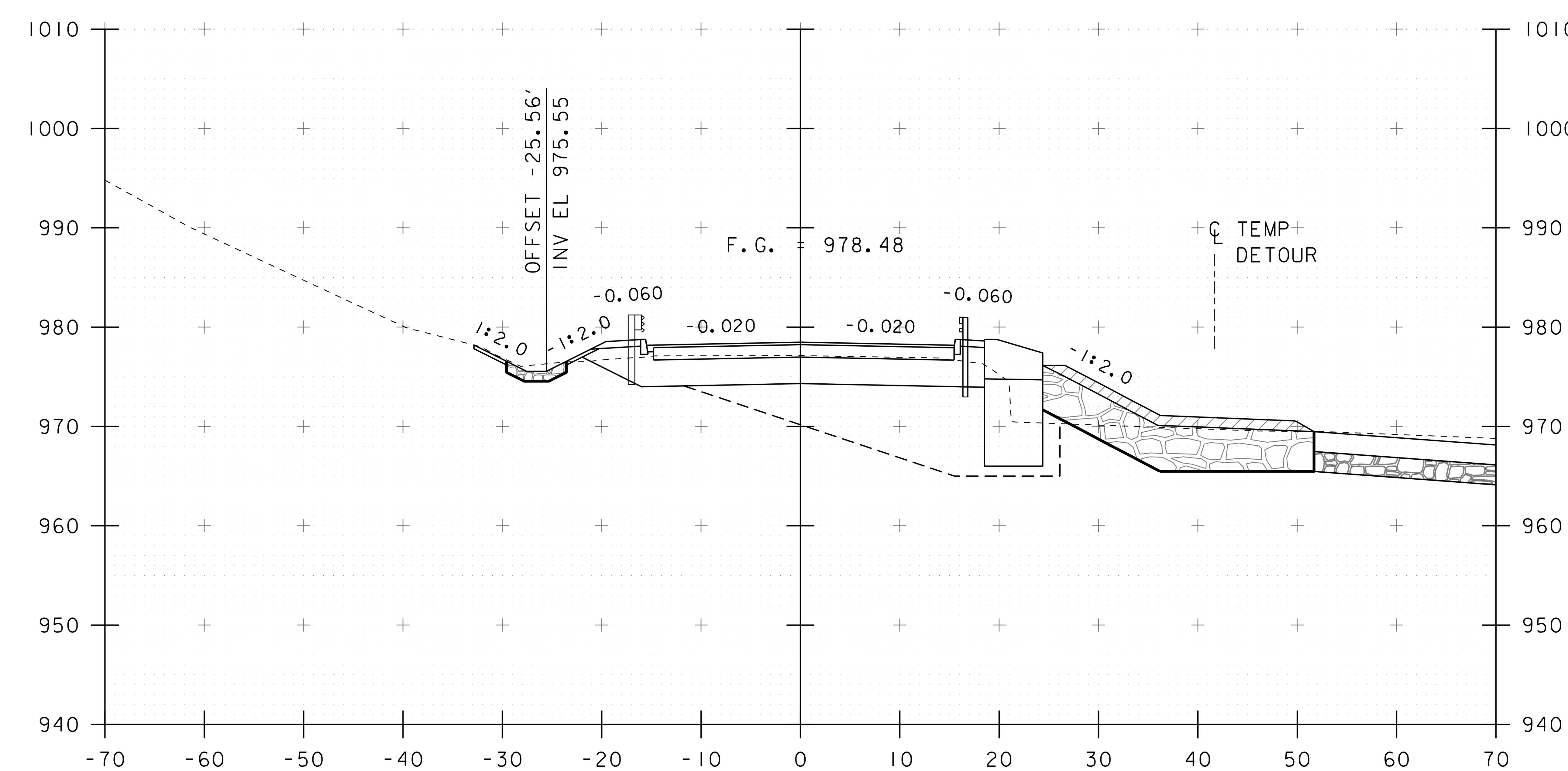


153+75



STA 152+78.46
BEGIN BRIDGE

153+00

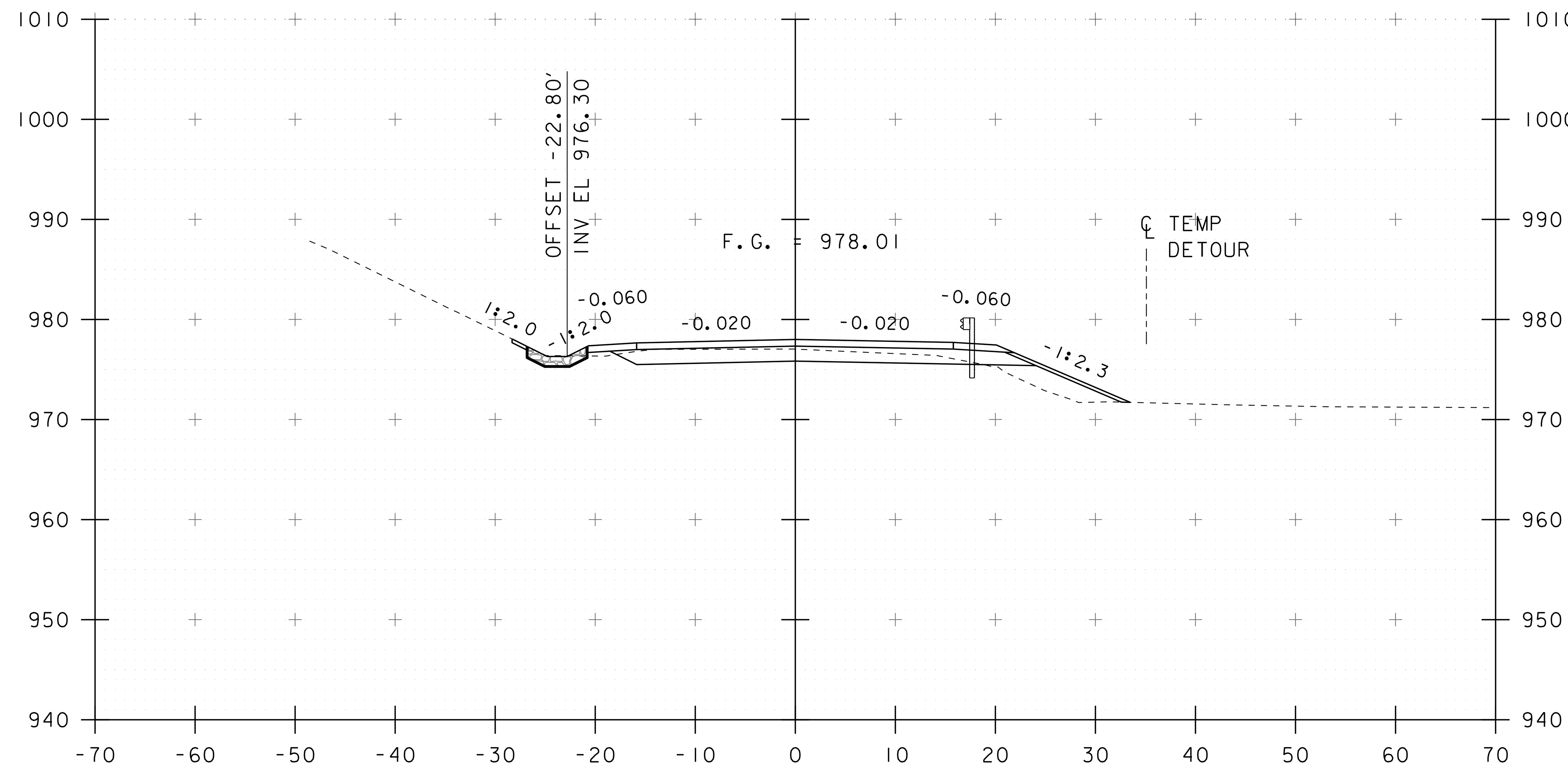


STA 153+38.54
END BRIDGE

153+50

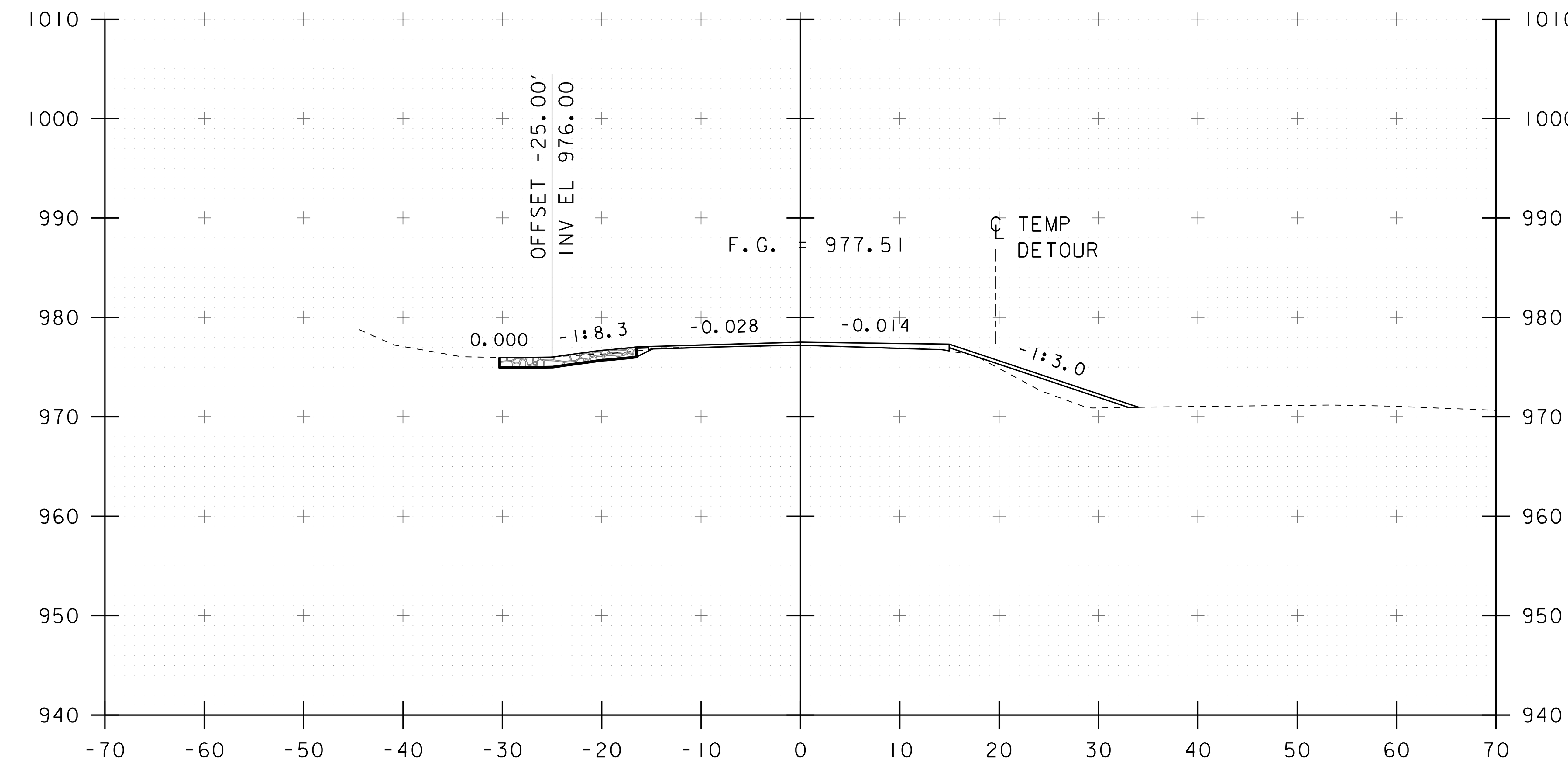
STA. 153+00 TO STA. 153+75

PROJECT NAME: LOWELL	
PROJECT NUMBER: BF 029-2(14)	
FILE NAME: sl2b592xs.dgn	PLOT DATE: 20-NOV-2020
PROJECT LEADER: C. COTA	DRAWN BY: S. COLEY
DESIGNED BY: S. COLEY	CHECKED BY: J. PAQUETTE
VT 100 CROSS SECTIONS (3)	SHEET 18 OF 24



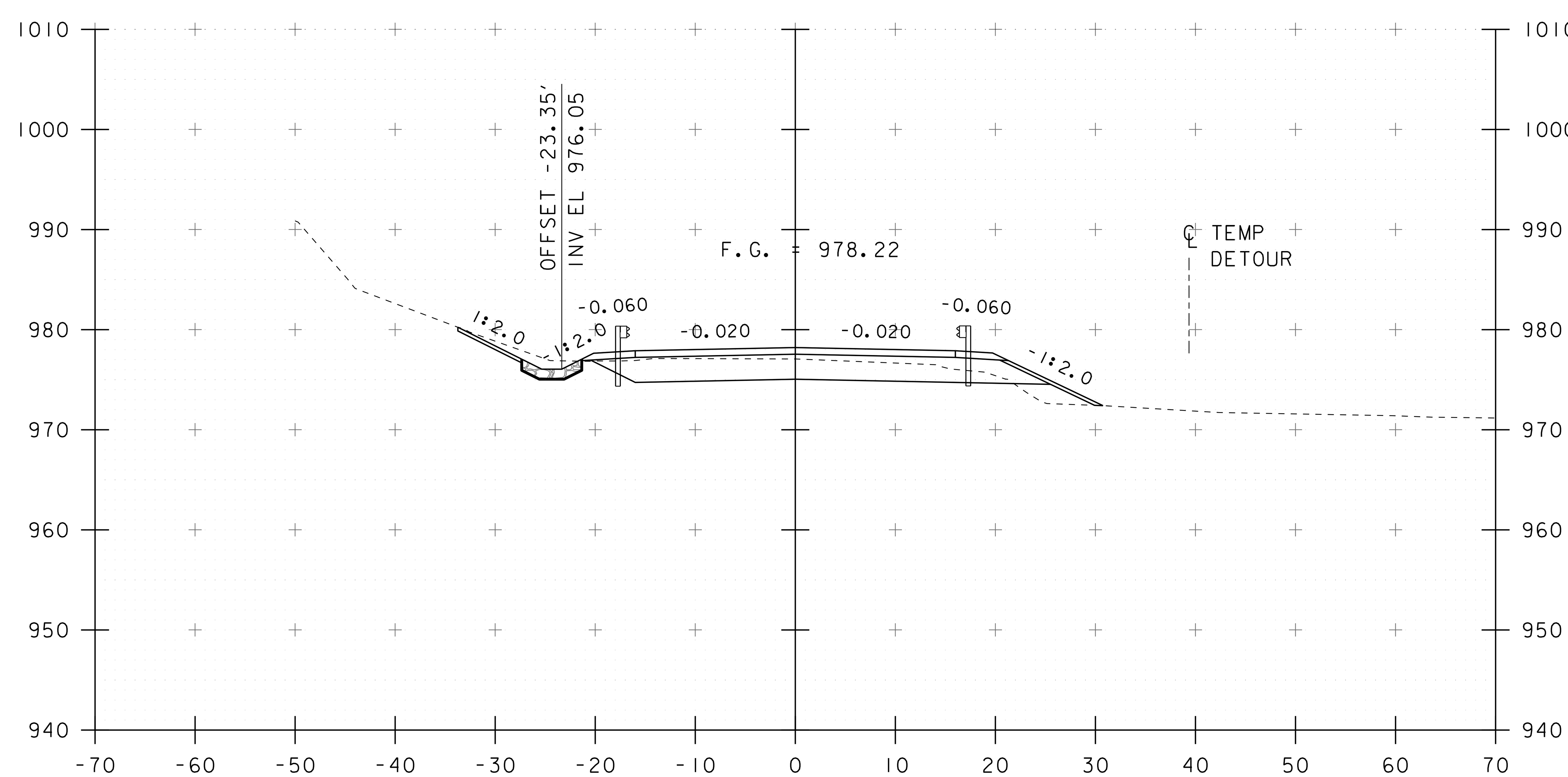
STA 154+25.00
END PROJECT

154+25

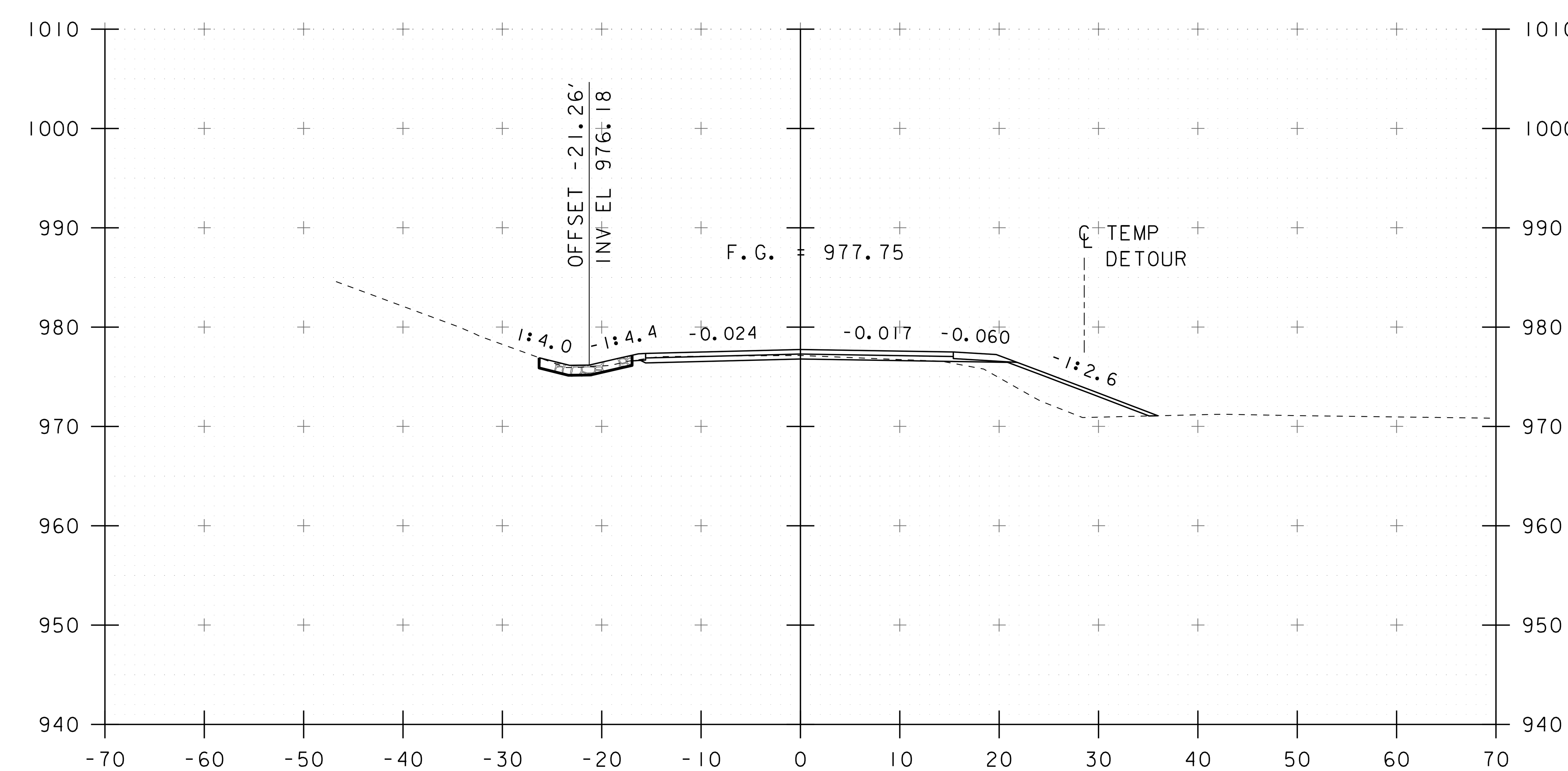


STA 154+68.4 LT - STA 155+34.4 LT
CONSTRUCT 5' PAVED APRON

154+75



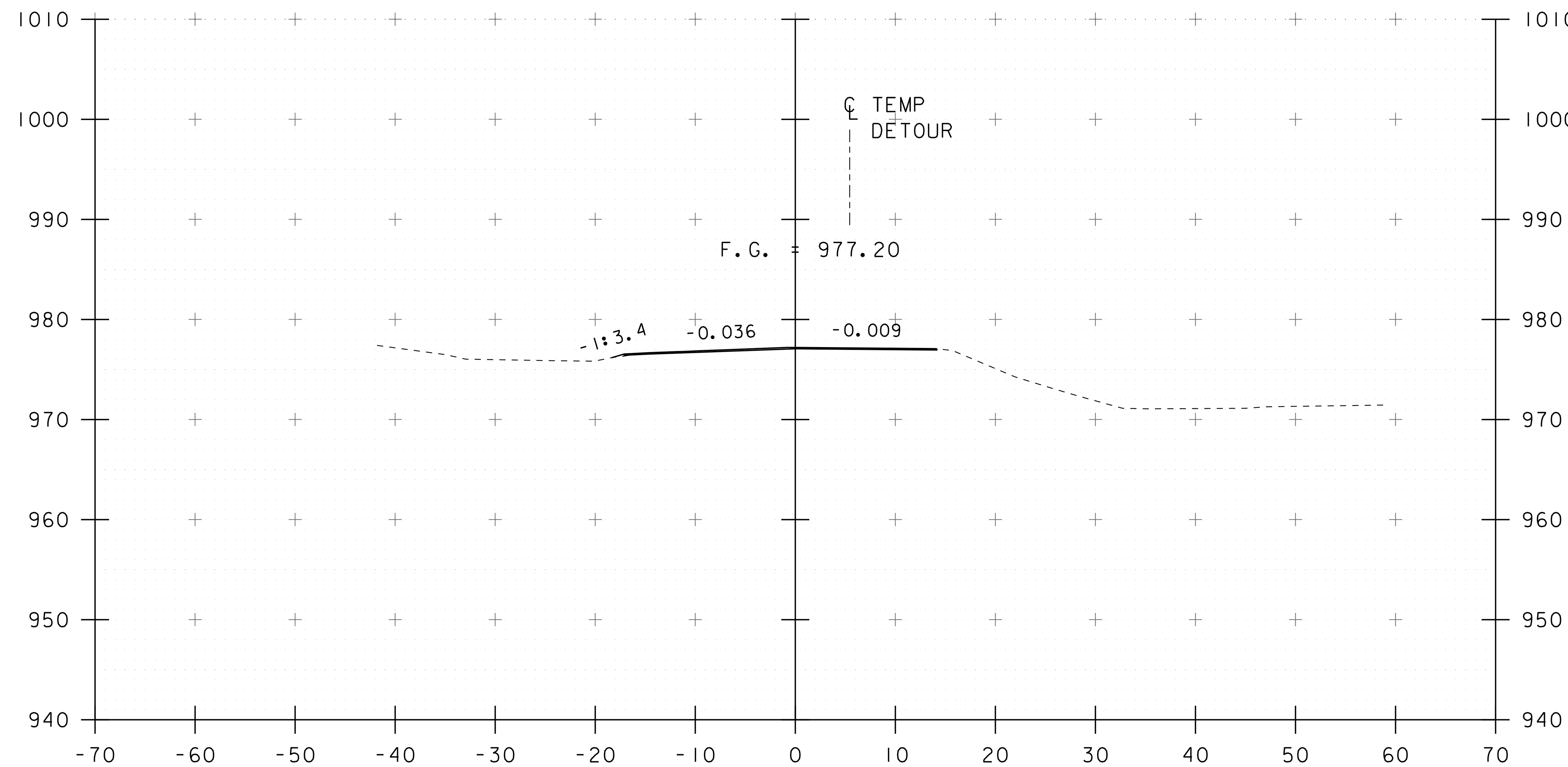
154+00



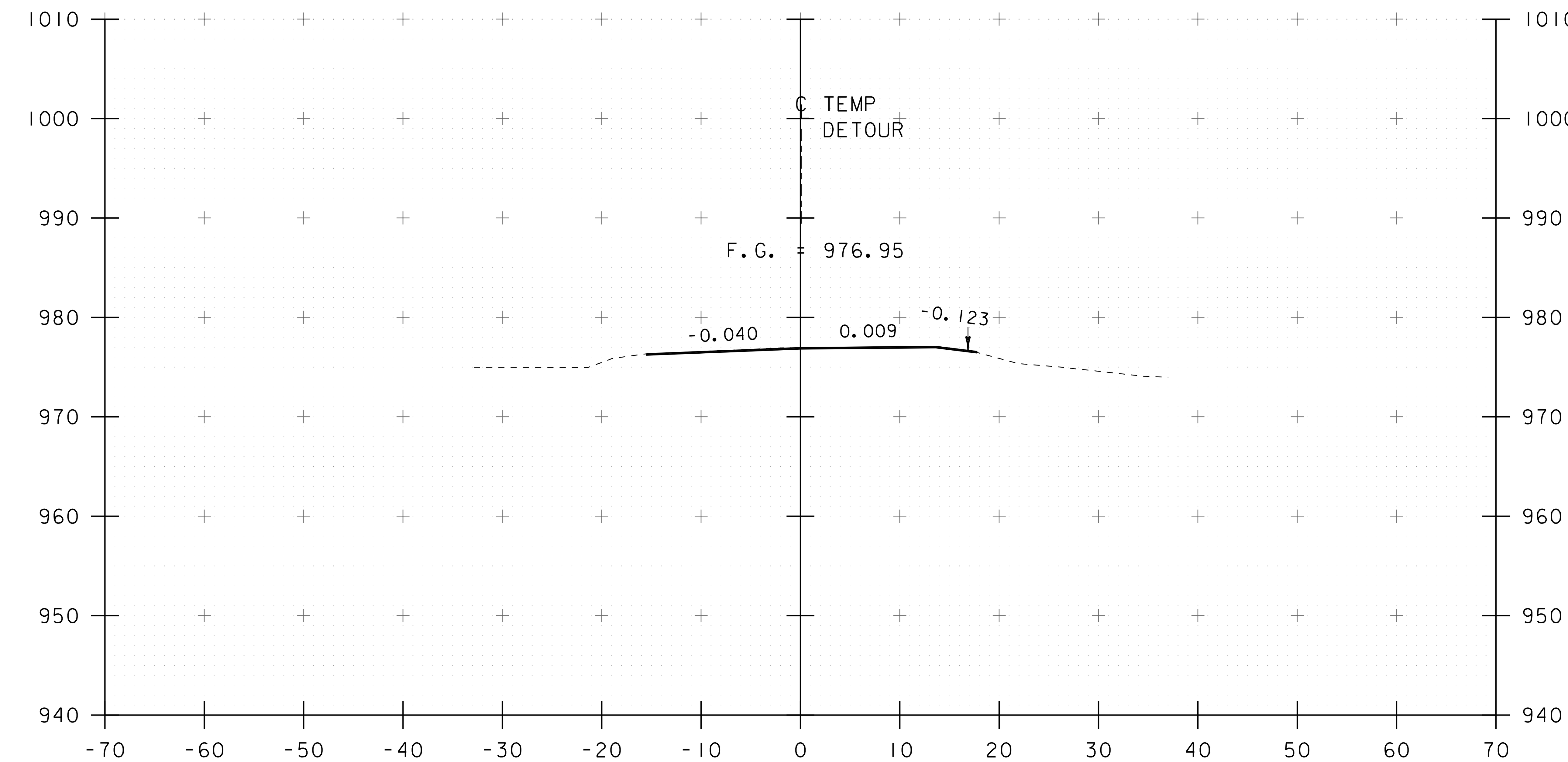
154+50

STA. 154+00 TO STA. 154+75

PROJECT NAME: LOWELL	
PROJECT NUMBER: BF 029-2 (14)	
FILE NAME: sl2b592xs.dgn	PLOT DATE: 20-NOV-2020
PROJECT LEADER: C. COTA	DRAWN BY: S. COLEY
DESIGNED BY: S. COLEY	CHECKED BY: J. PAQUETTE
VT 100 CROSS SECTIONS (4)	SHEET 19 OF 24



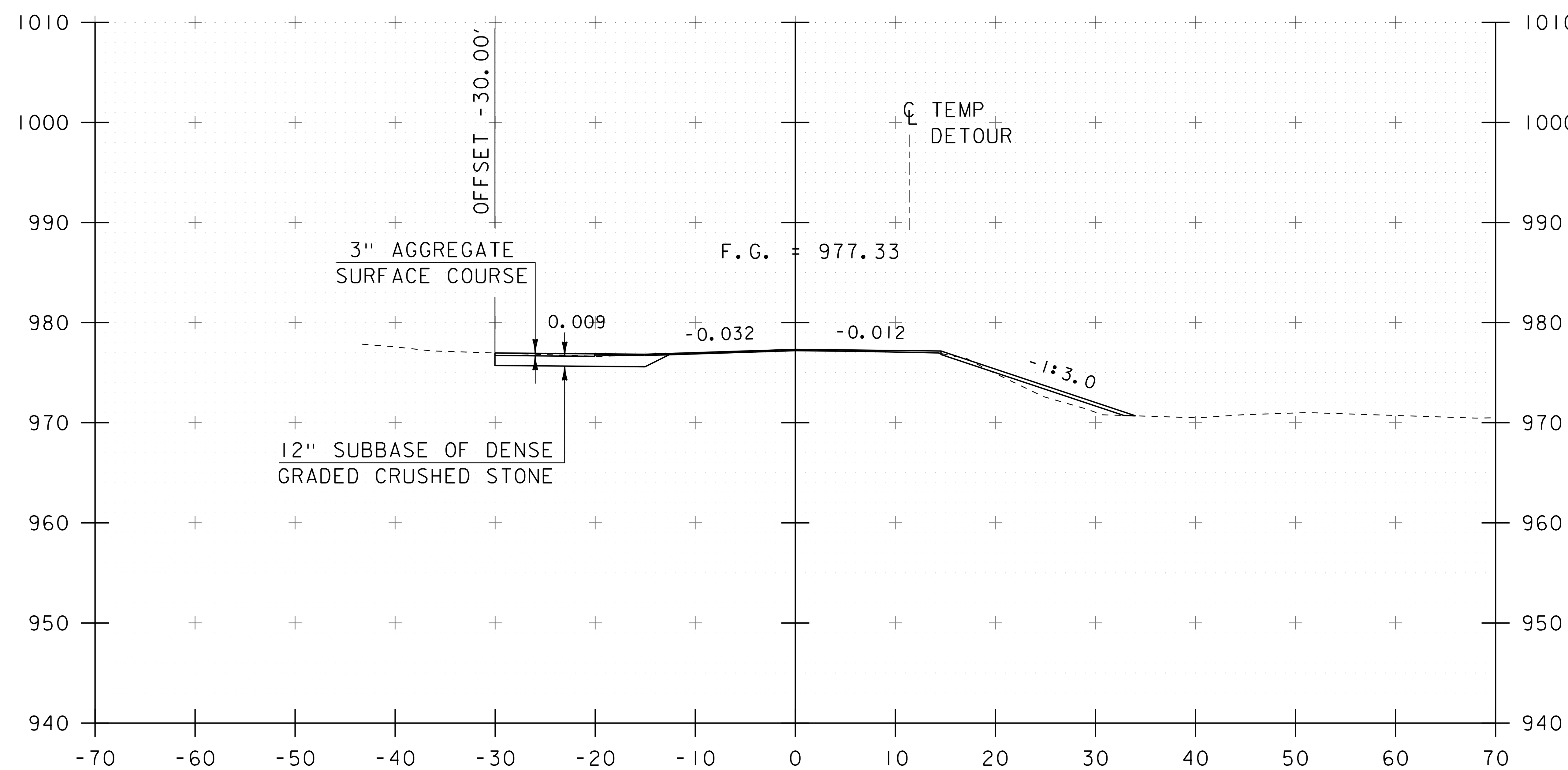
155+25



155+75

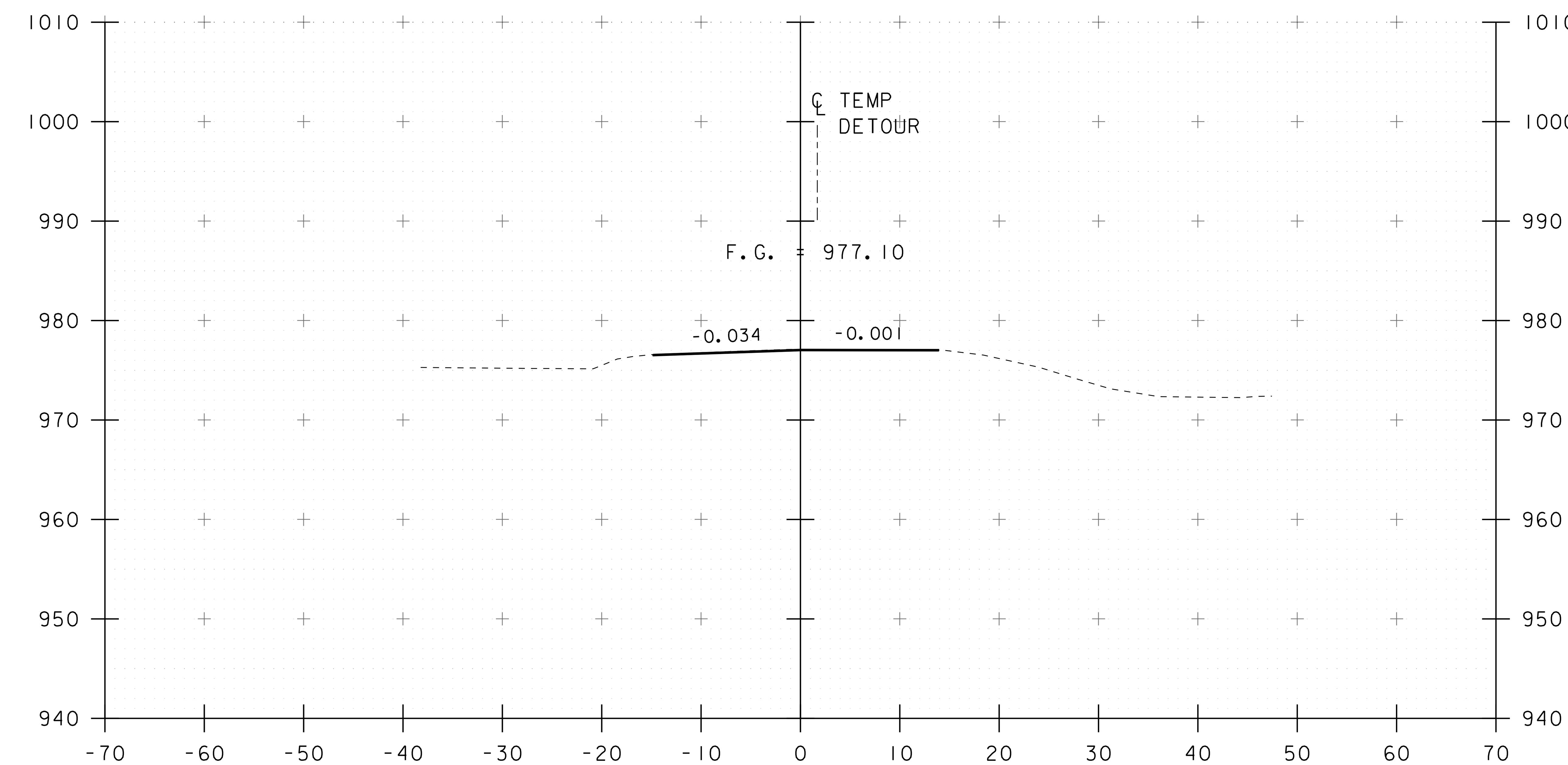
STA 155+52.0 LT - STA 155+83.1 RT
CONSTRUCT 5' PAVED APRON

STA 155+75.00
END APPROACH
MATCH EXISTING



STA 155+01.4 LT
CONSTRUCT GRAVEL DRIVE

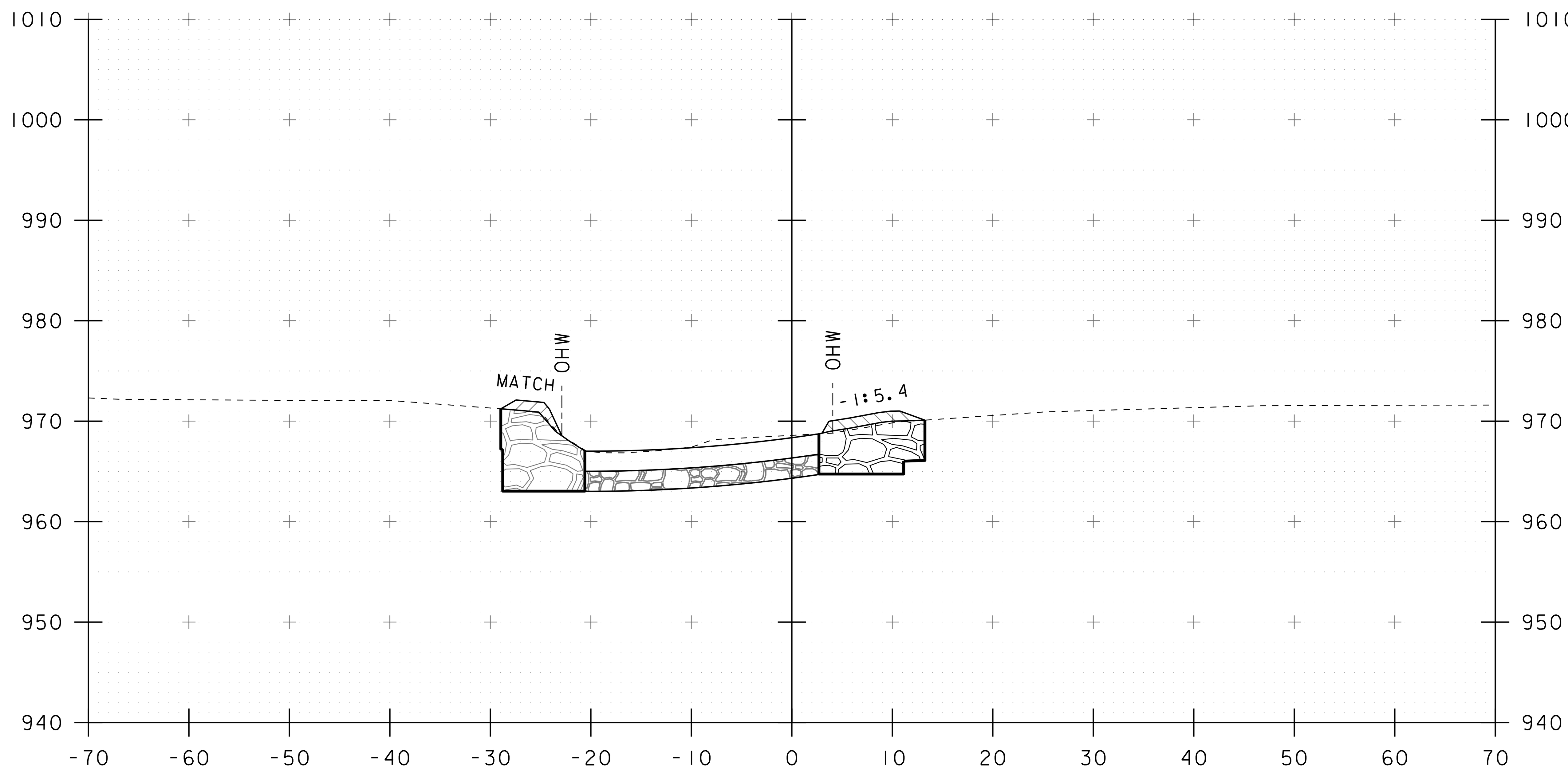
155+00



155+50

STA. 155+00 TO STA. 155+75

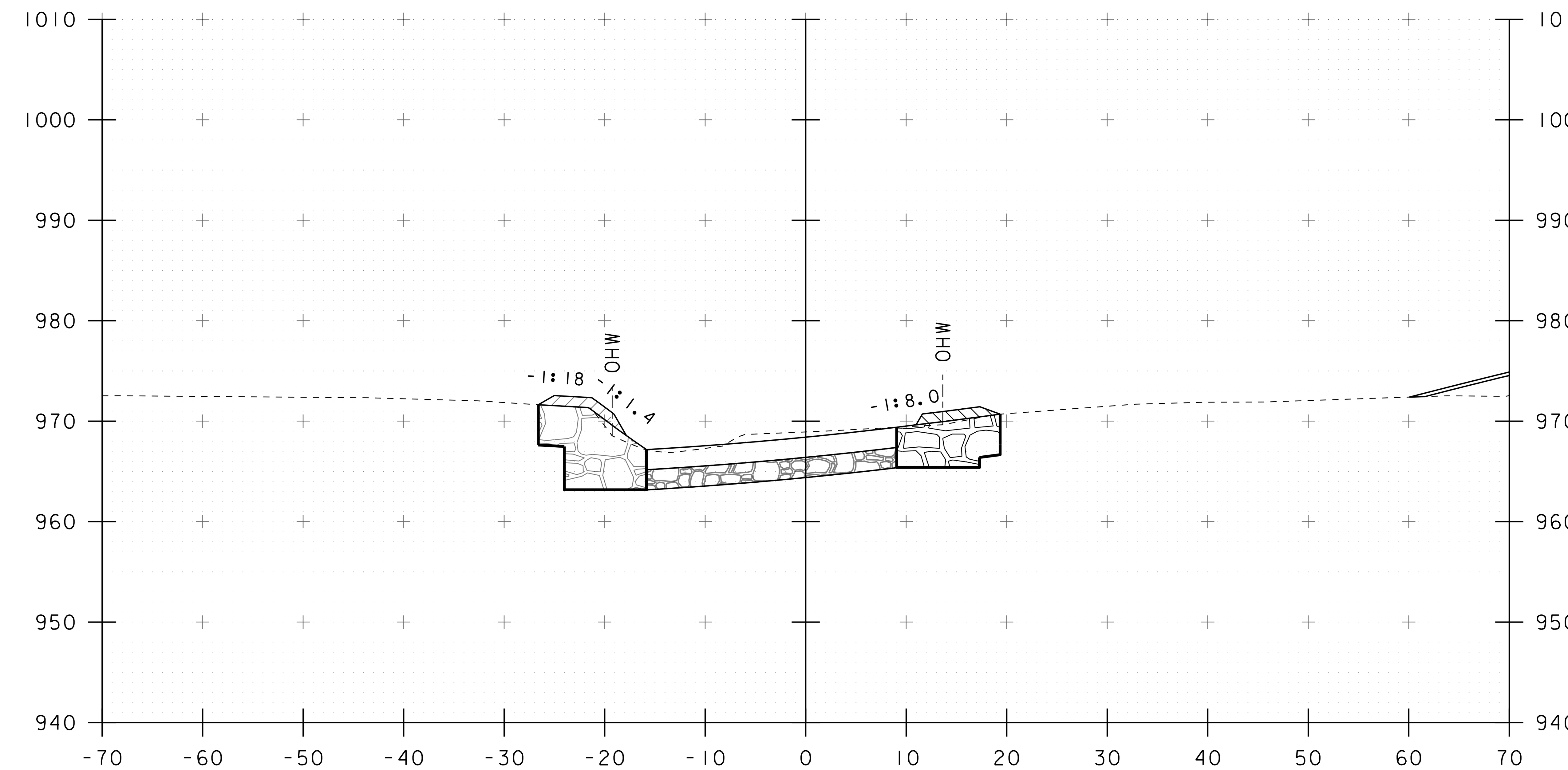
PROJECT NAME: LOWELL	
PROJECT NUMBER: BF 029-2(14)	
FILE NAME: s12b592xs.dgn	PLOT DATE: 20-NOV-2020
PROJECT LEADER: C. COTA	DRAWN BY: S. COLEY
DESIGNED BY: S. COLEY	CHECKED BY: J. PAQUETTE
VT 100 CROSS SECTIONS (5)	SHEET 20 OF 24



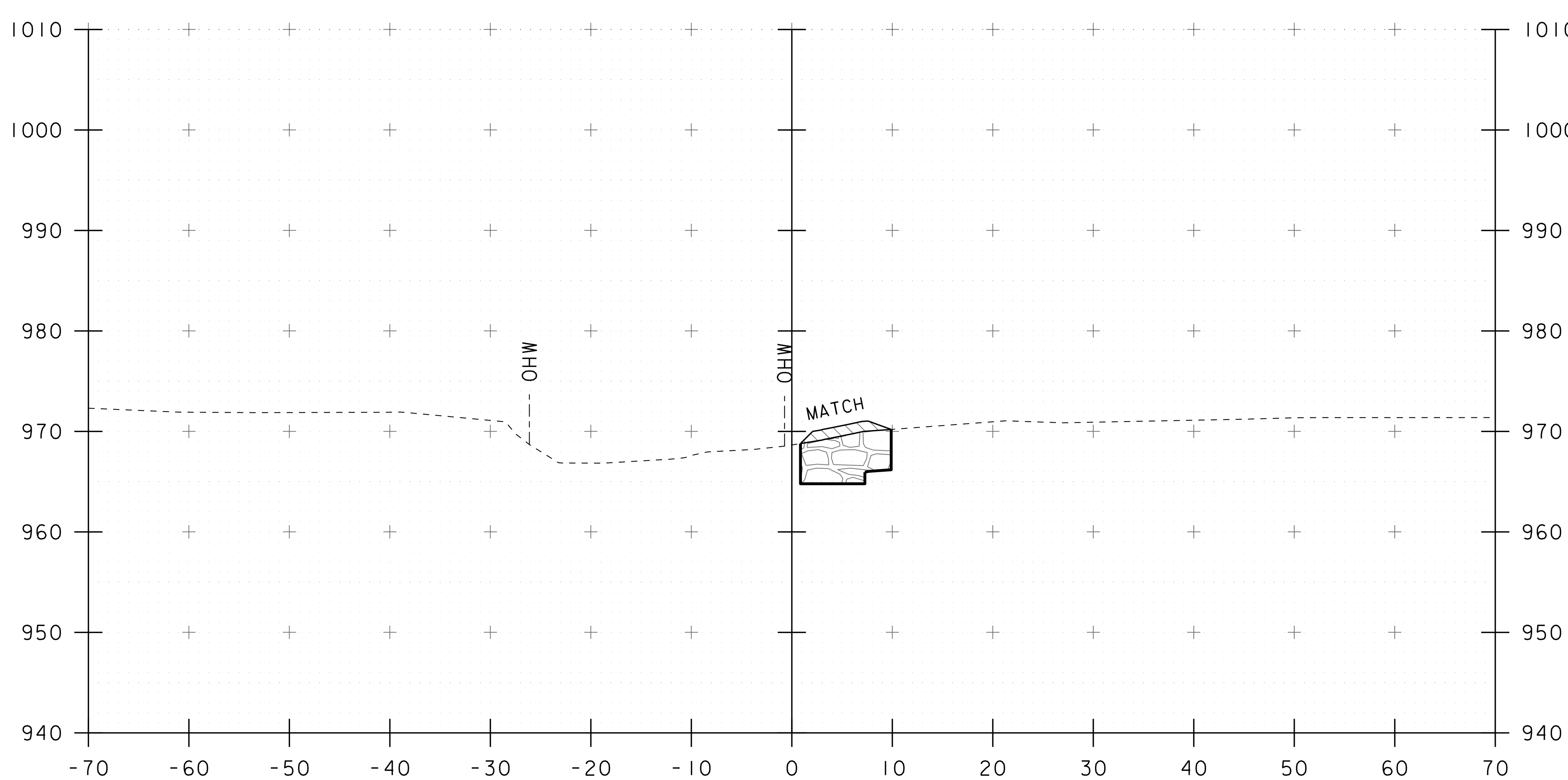
STA 50+07.4 LT
BEGIN UNCLASSIFIED CHANNEL EXCAVATION
GEOTEXTILE UNDER STONE FILL
STONE FILL, TYPE IV
GRUBBING MATERIAL

50+10

STA 50+00.5 CHANNEL
BEGIN UNCLASSIFIED CHANNEL EXCAVATION
GEOTEXTILE UNDER STONE FILL
E-STONE FILL, TYPE II

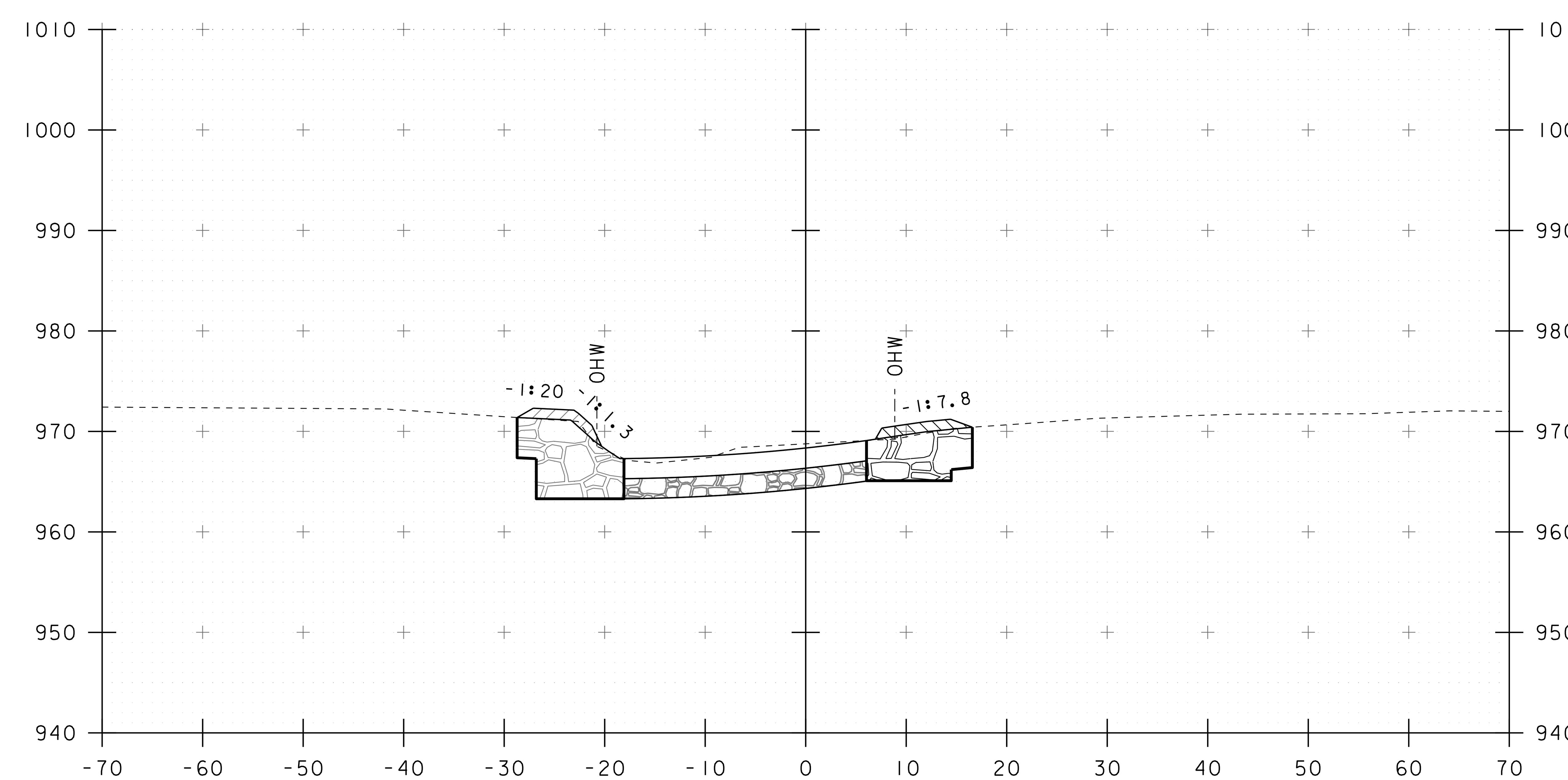


50+30



50+00

STA 49+97.3 RT
BEGIN UNCLASSIFIED CHANNEL EXCAVATION
GEOTEXTILE UNDER STONE FILL
STONE FILL, TYPE IV
GRUBBING MATERIAL



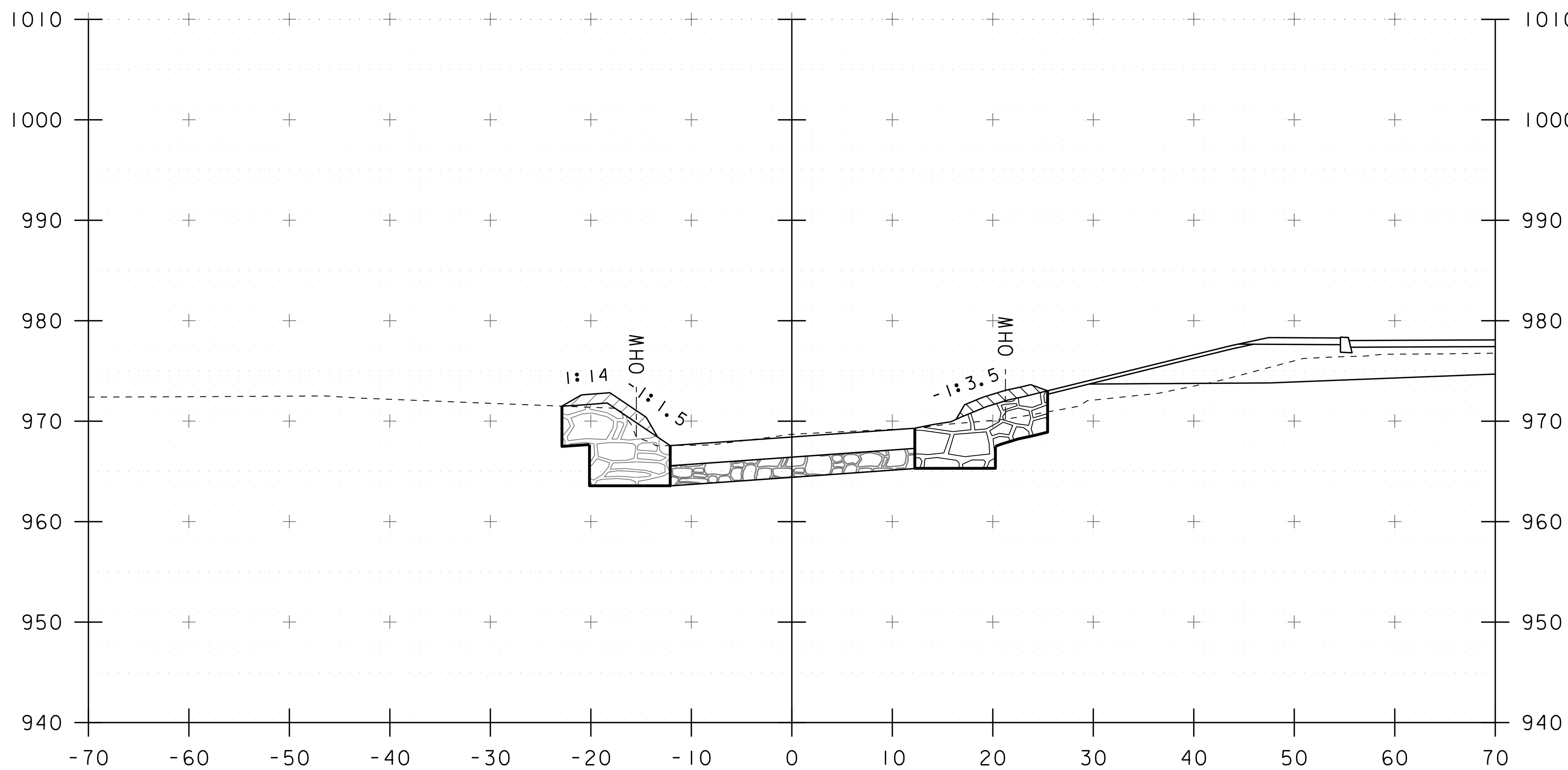
50+20

STA. 50+00 TO STA. 50+30

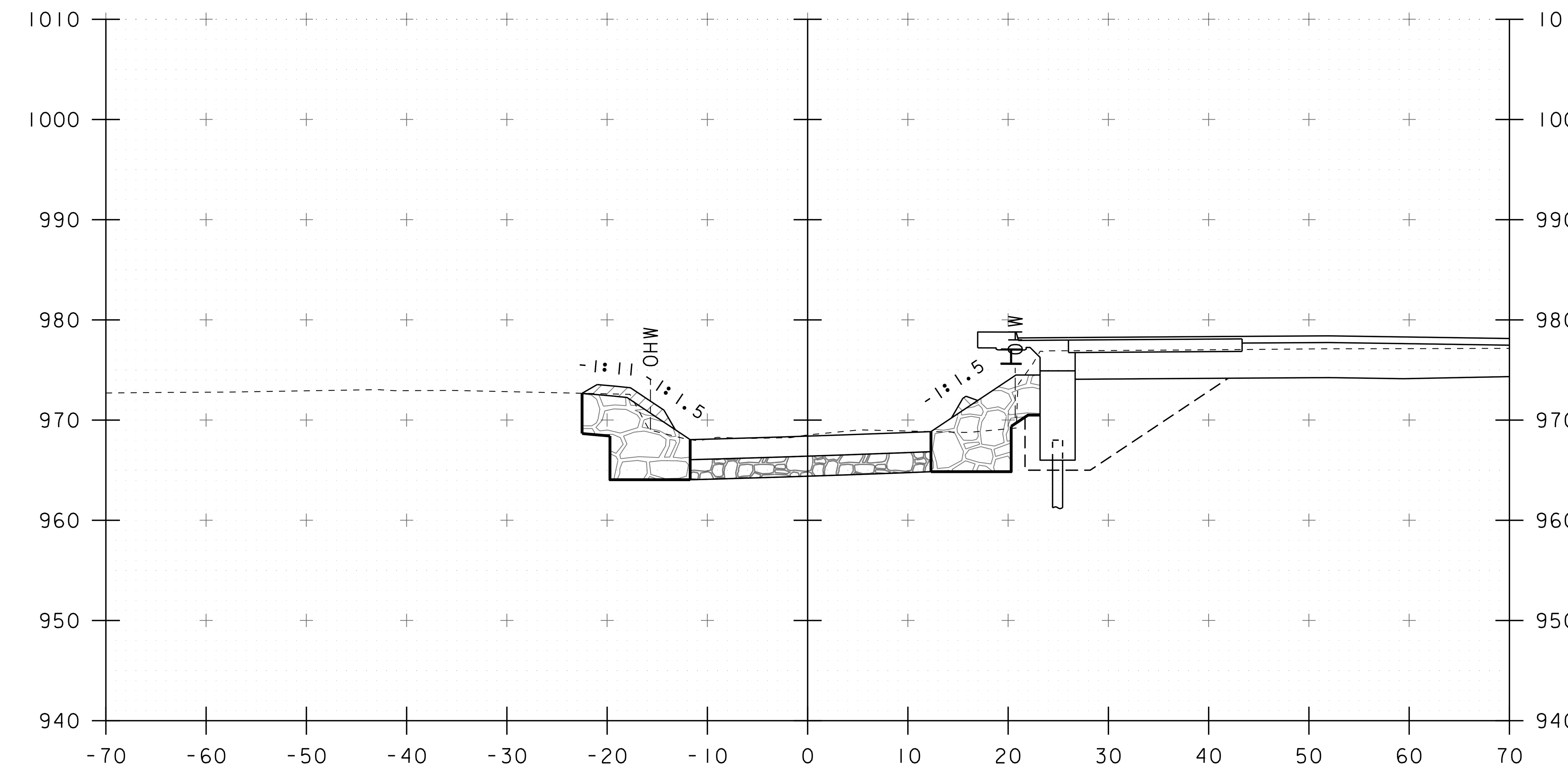
PROJECT NAME: LOWELL
PROJECT NUMBER: BF 029-2 (14)

FILE NAME: s12b592xs.dgn
PROJECT LEADER: C. COTA
DESIGNED BY: S. COLEY
CHANNEL CROSS SECTIONS (1)

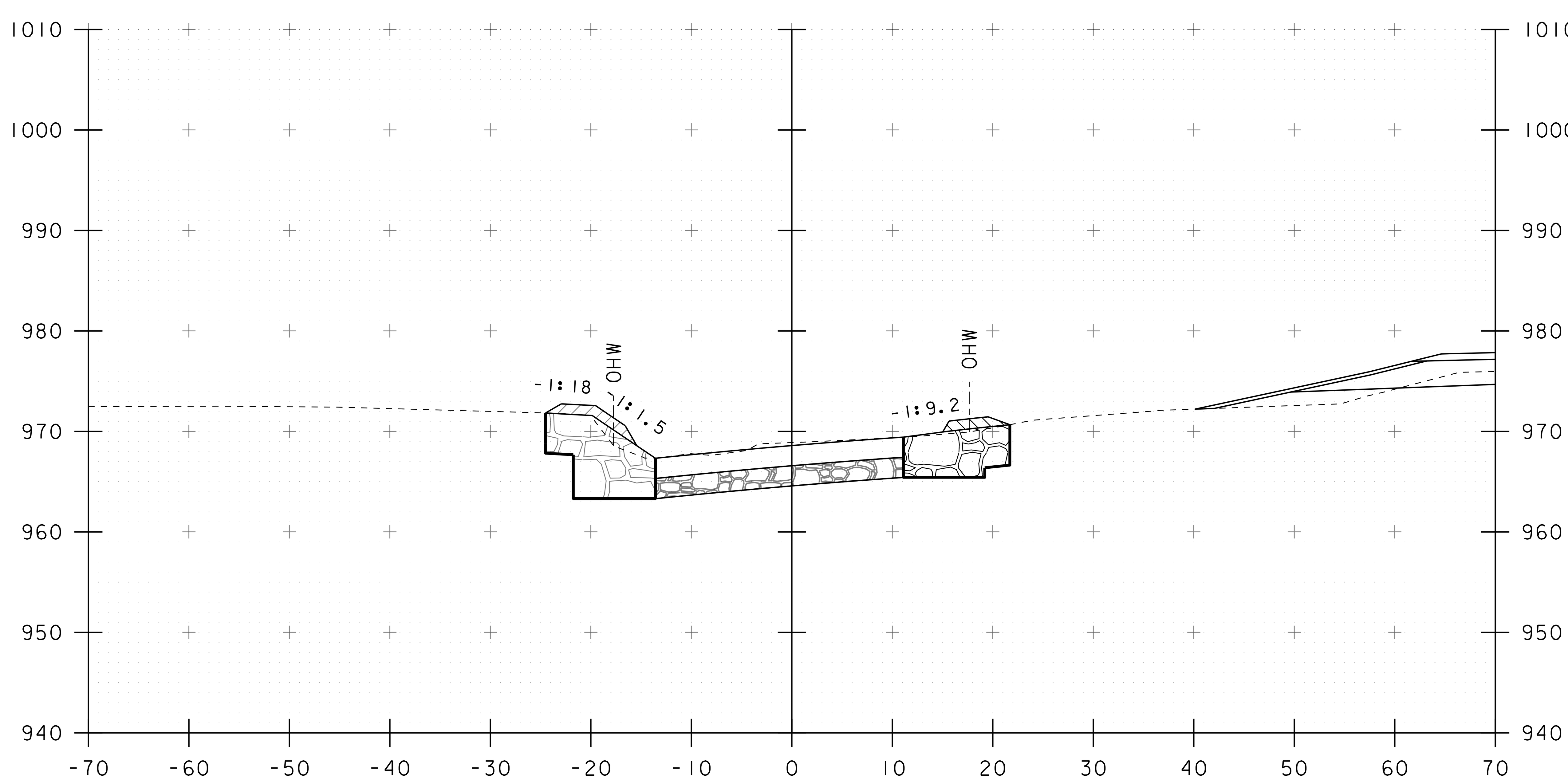
PLOT DATE: 20-NOV-2020
DRAWN BY: S. COLEY
CHECKED BY: J. PAQUETTE
SHEET 21 OF 24



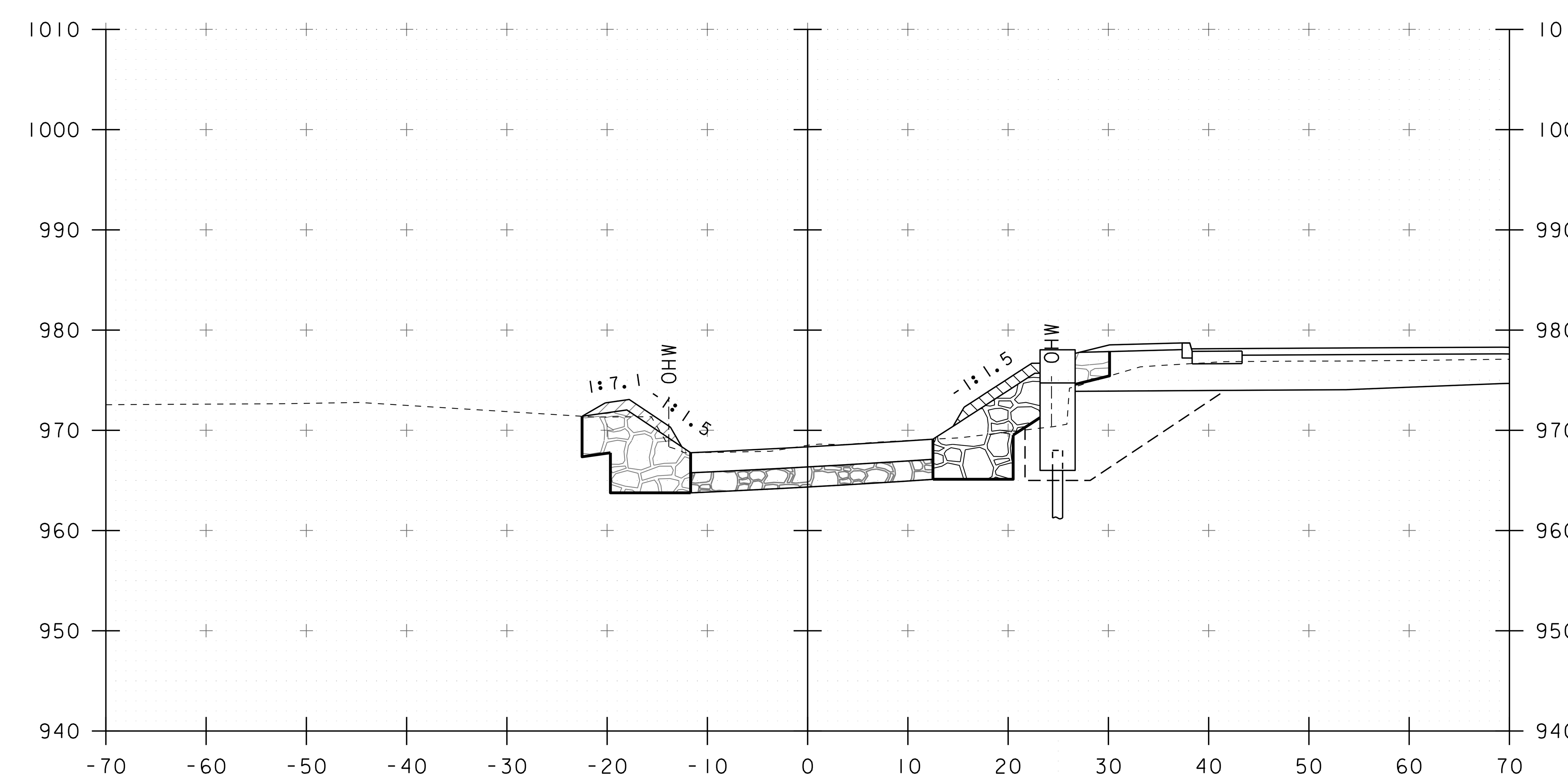
50+50



50+70



50+40

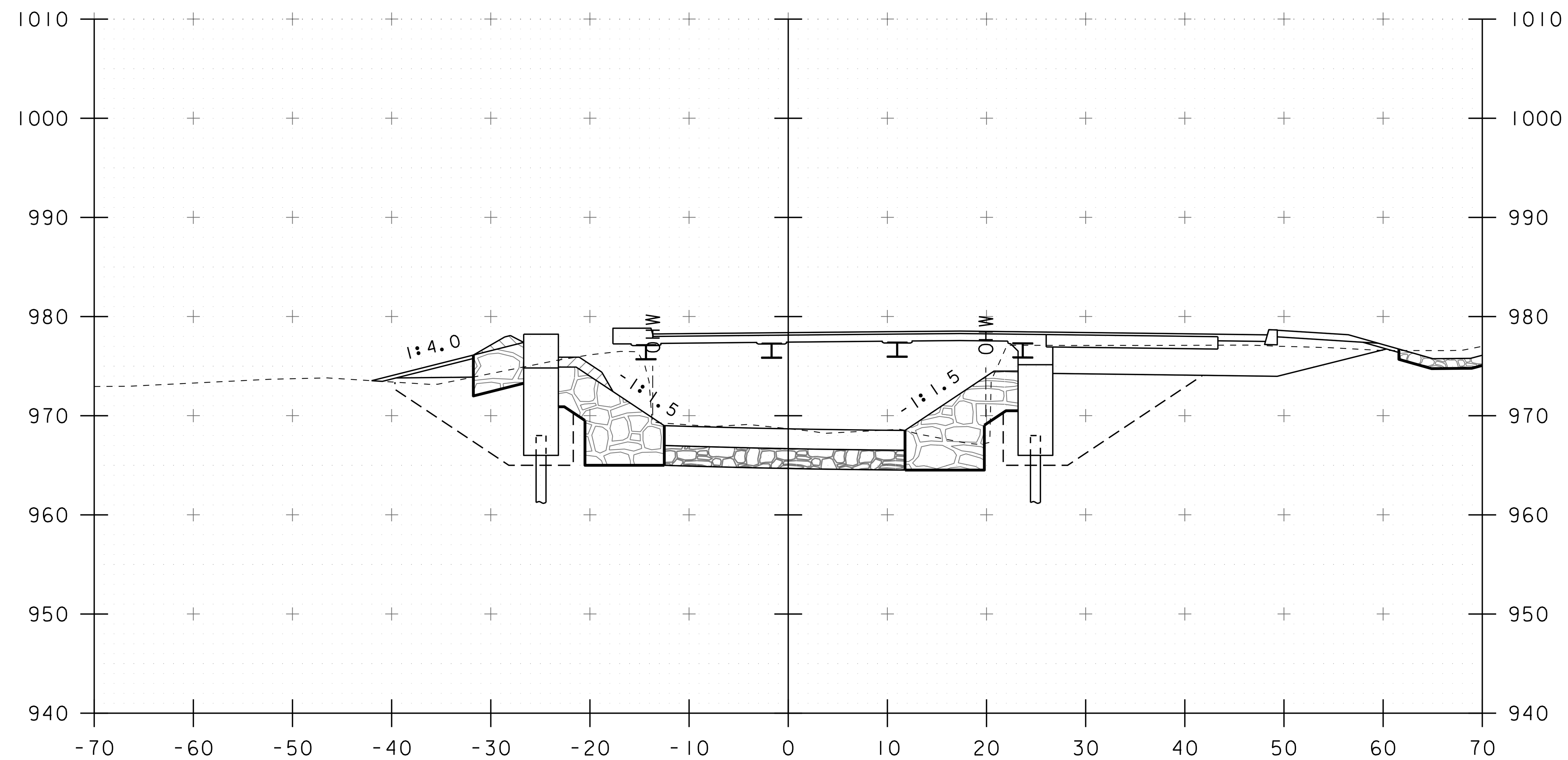


50+60

STA 50+56.6 RT
BEGIN STRUCTURE EXCAVATION
GRANULAR BACKFILL FOR STRUCTURES

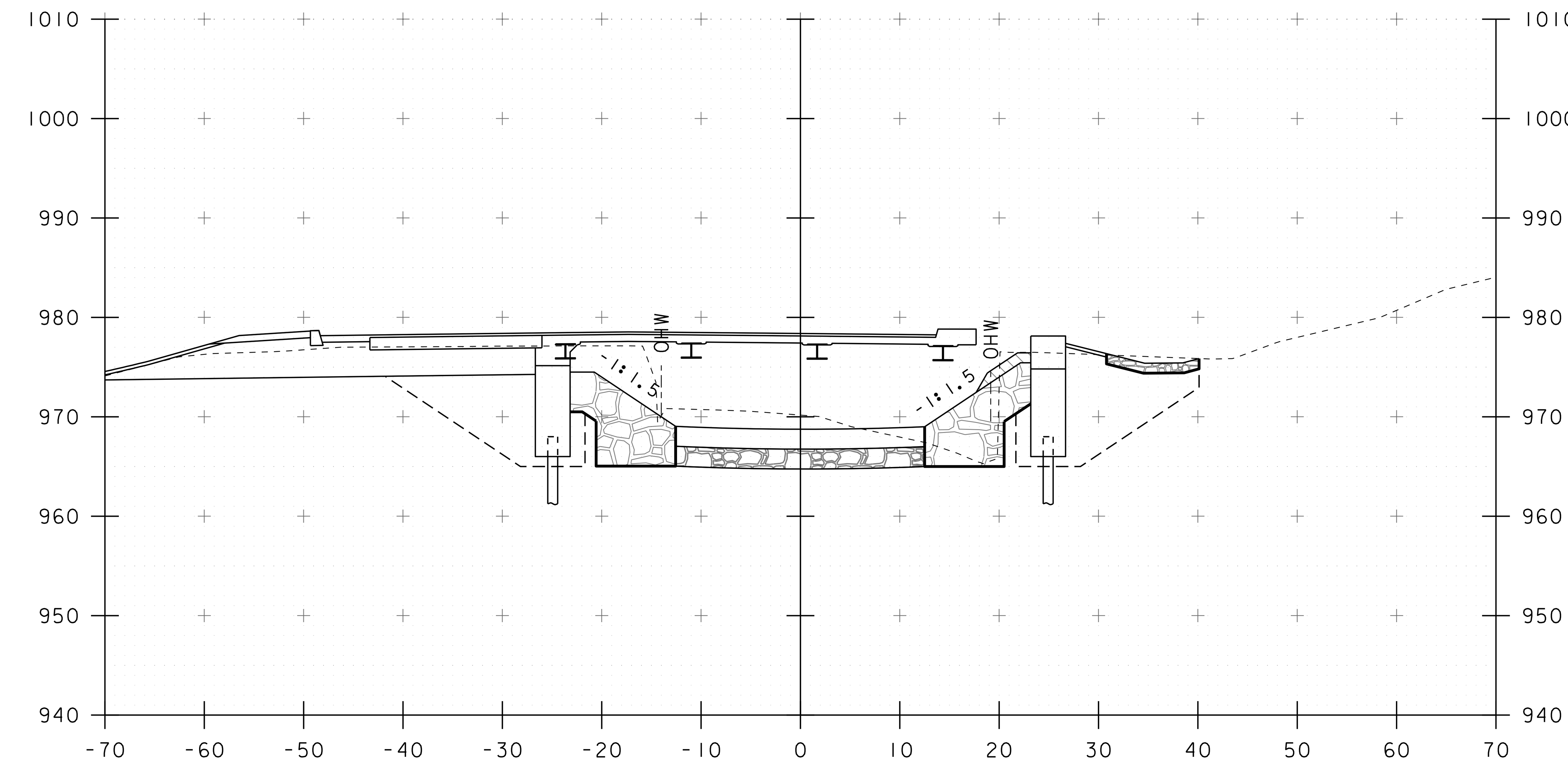
PROJECT NAME: LOWELL	
PROJECT NUMBER: BF 029-2(14)	
FILE NAME: sl2b592xs.dgn	PLOT DATE: 20-NOV-2020
PROJECT LEADER: C. COTA	DRAWN BY: S. COLEY
DESIGNED BY: S. COLEY	CHECKED BY: J. PAQUETTE
CHANNEL CROSS SECTIONS (2)	SHEET 22 OF 24

STA. 50+40 TO STA. 50+70

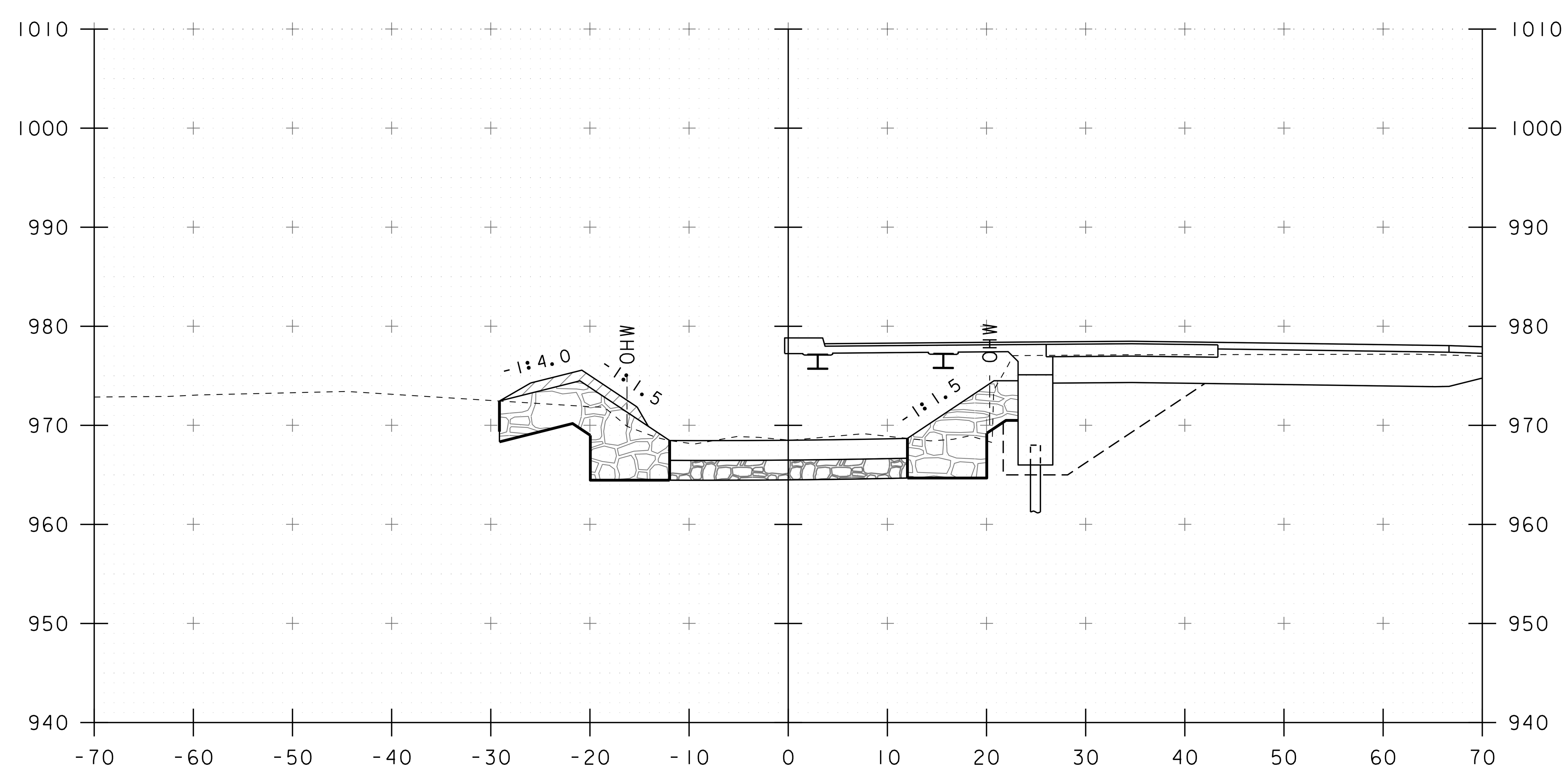


STA 50+83.4 LT
BEGIN STRUCTURE EXCAVATION
GRANULAR BACKFILL FOR STRUCTURES

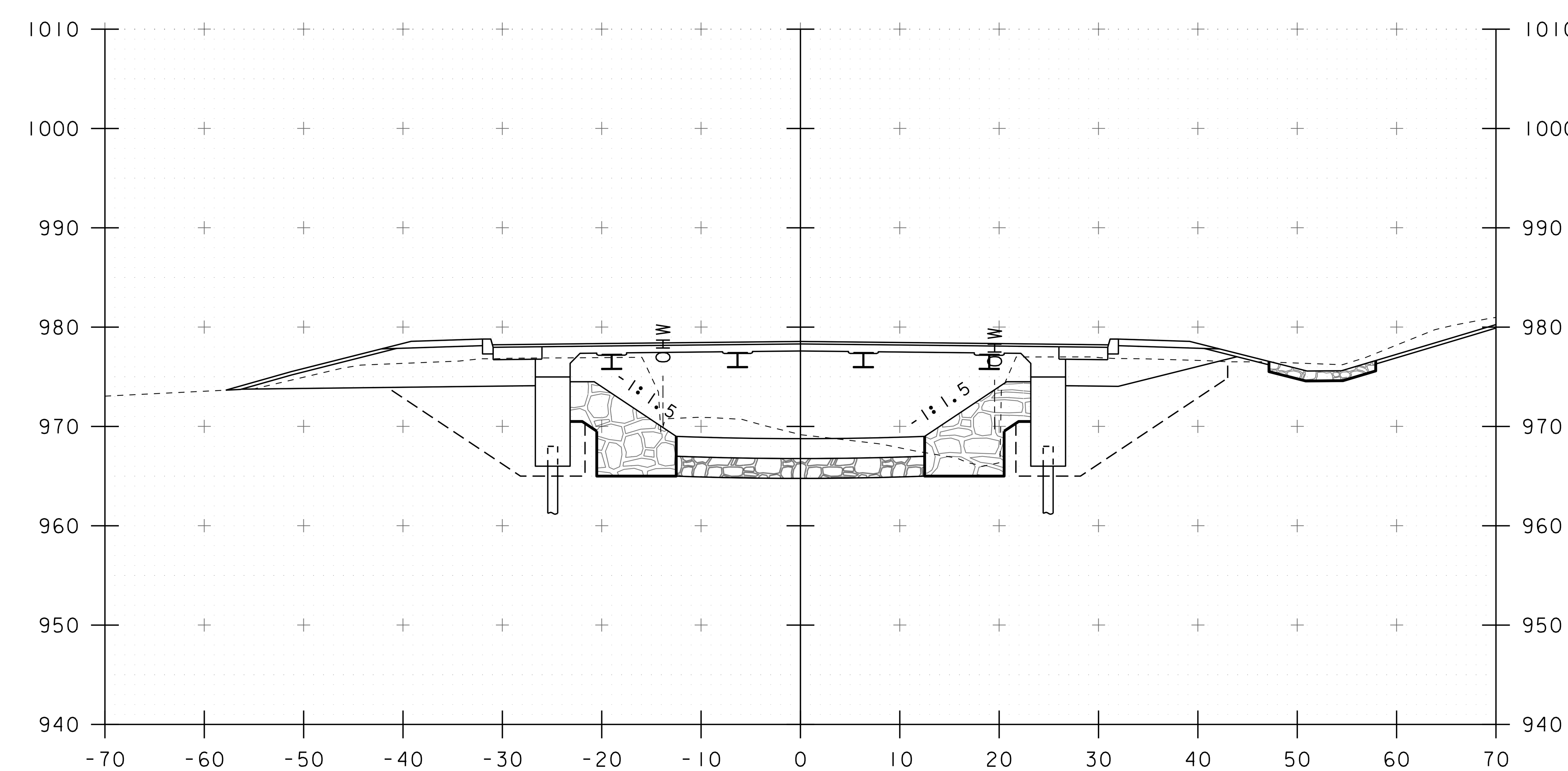
50+90



51+10



50+80

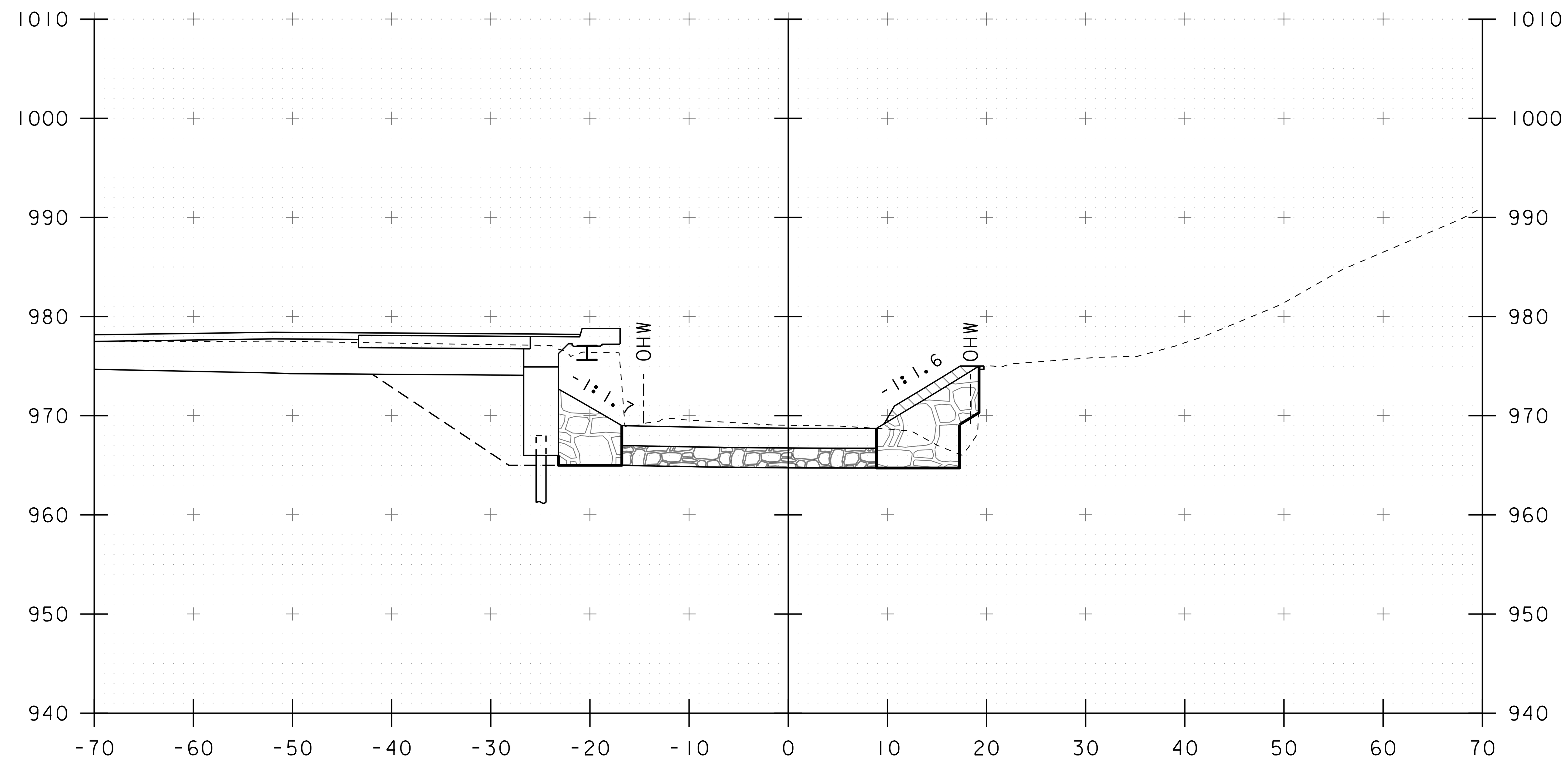


51+00

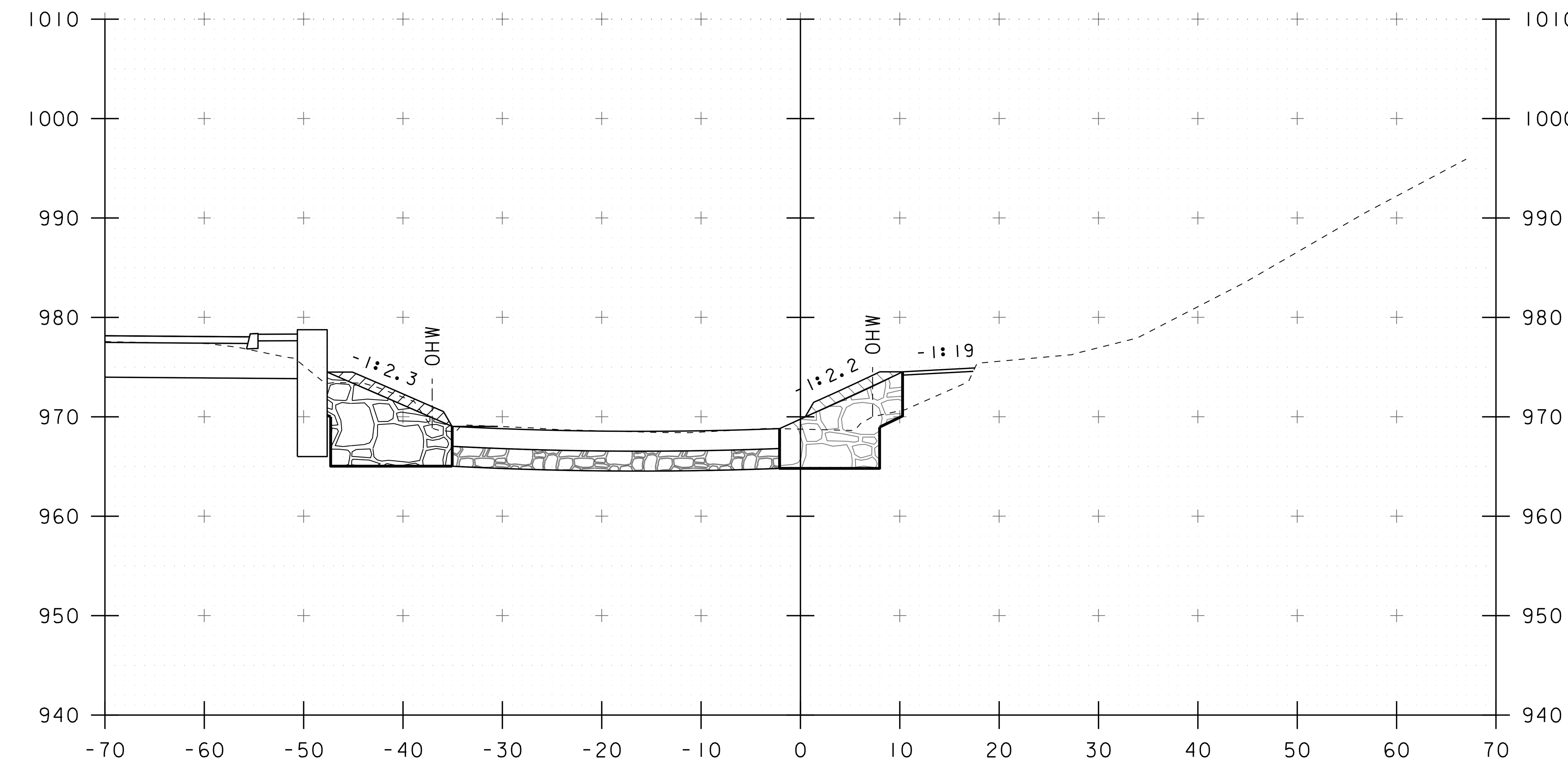
STA. 50+80 TO STA. 51+10

PROJECT NAME: LOWELL
PROJECT NUMBER: BF 029-2 (14)

FILE NAME: sl2b592xs.dgn	PLOT DATE: 20-NOV-2020
PROJECT LEADER: C. COTA	DRAWN BY: S. COLEY
DESIGNED BY: S. COLEY	CHECKED BY: J. PAQUETTE
CHANNEL CROSS SECTIONS (3)	SHEET 23 OF 24

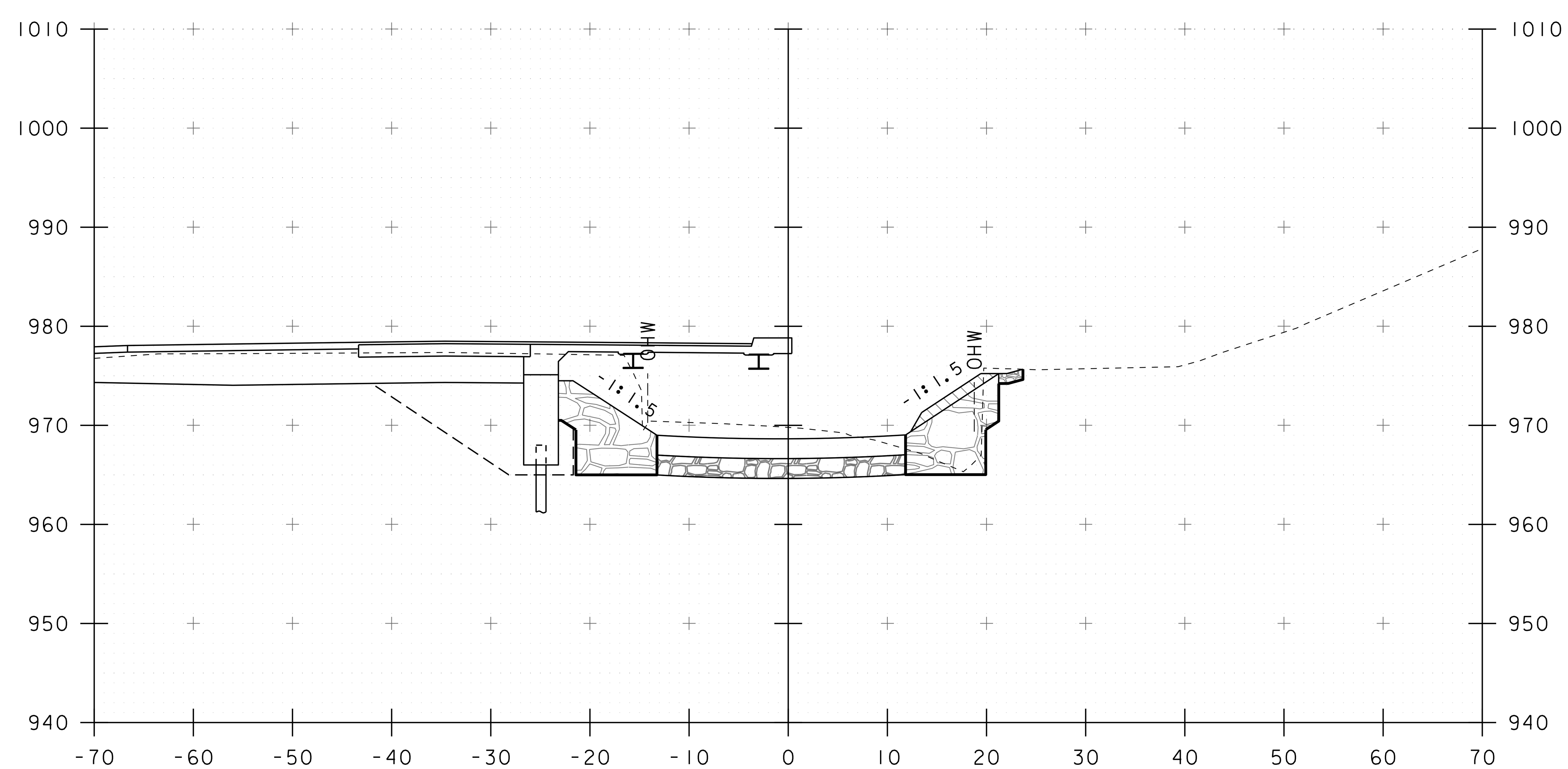


51+30



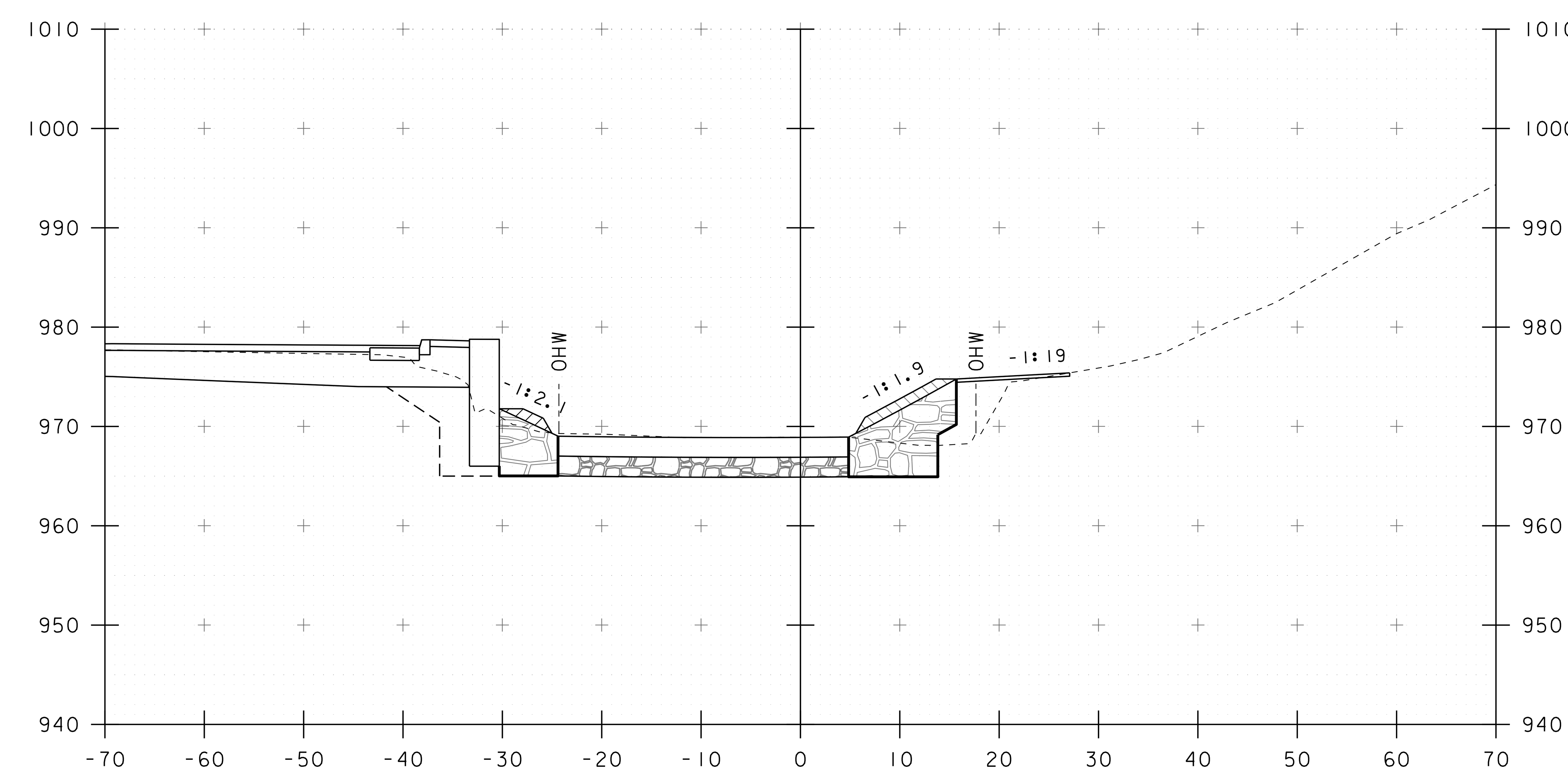
STA 51+40.5 LT
END STRUCTURE EXCAVATION
GRANULAR BACKFILL FOR STRUCTURES

51+50



STA 51+12.8 RT
END STRUCTURE EXCAVATION
GRANULAR BACKFILL FOR STRUCTURES

51+20



51+40

STA. 51+20 TO STA. 51+50

PROJECT NAME: LOWELL	
PROJECT NUMBER: BF 029-2 (14)	
FILE NAME: sl2b592xs.dgn	PLOT DATE: 20-NOV-2020
PROJECT LEADER: C. COTA	DRAWN BY: S. COLEY
DESIGNED BY: S. COLEY	CHECKED BY: J. PAQUETTE
CHANNEL CROSS SECTIONS (4)	SHEET 24 OF 24