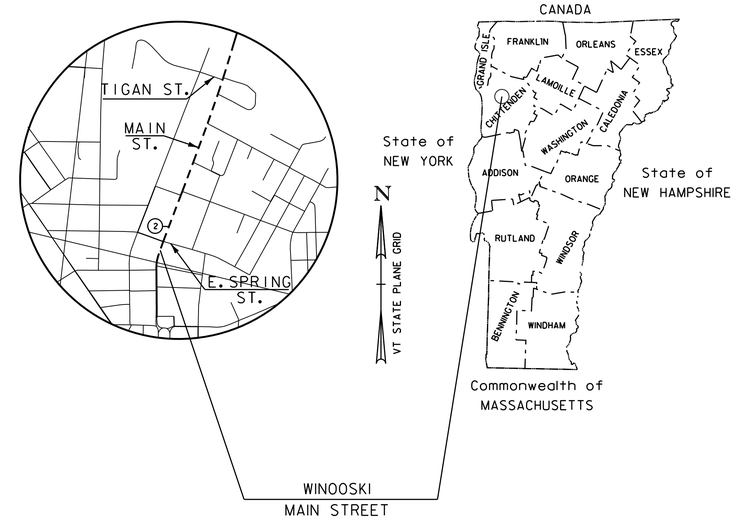
PROPOSED IMPROVEMENT
MAIN STREET RECONSTRUCTION
CITY OF WINOOSKI

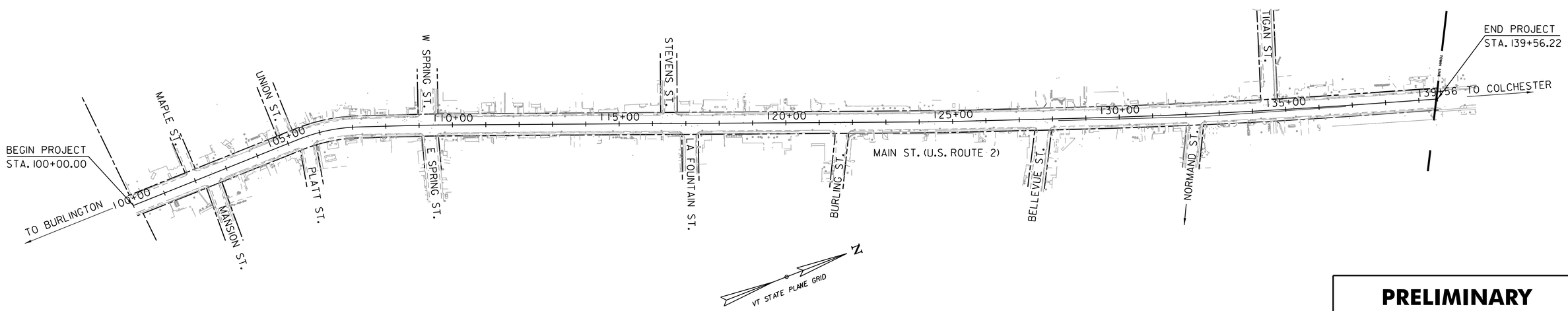


COUNTY OF CHITTENDEN
MAIN STREET (US ROUTE 2)
CLASS I TOWN HIGHWAY

PROJECT LOCATION: THE PROJECT BEGINS AT NEW ENGLAND CENTRAL RAILROAD BRIDGE (BRIDGE 151) AND CONTINUES NORTHERLY FOR APPROXIMATELY 4000 FT TO THE COLCHESTER TOWN LINE.

LENGTH OF PROJECT: 3,953 FT = 0.749 MILES

PROJECT DESCRIPTION: WORK TO BE PERFORMED UNDER THIS PROJECT INCLUDES THE RECONSTRUCTION OF MAIN STREET, TO INCLUDE NEW CURBING, SIDEWALK, STORMWATER INFRASTRUCTURE, NEW SEWER AND WATER INFRASTRUCTURE, UNDERGROUNDING OF AERIAL UTILITIES, STREETSCAPE ENHANCEMENTS TO INCLUDE NEW LIGHTING AND LANDSCAPING, NEW SIGNS AND PAVEMENT MARKINGS, AND OTHER HIGHWAY RELATED ITEMS.



QUALITY ASSURANCE PROGRAM : LEVEL 3
SURVEYED BY : VHB SURVEYED DATE : JANUARY 2018
DATUM VERTICAL NAVD 88 HORIZONTAL VT STATE PLANE (NAD 83)

CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE VERMONT AGENCY OF TRANSPORTATION 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.

150 0 150
SCALE IN FEET

PRELIMINARY PLANS

NOVEMBER 2019

PROJECT MANAGER : E.P. DETRICK, PE

PROJECT NAME: WINOOSKI MAIN STREET
PROJECT NUMBER : 58011.00

SHEET 1 OF 178 SHEETS

INDEX OF SHEETS

1	TITLE SHEET
2	INDEX OF SHEETS
3	CONVENTIONAL SYMBOLOGY LEGEND SHEET
4	GENERAL NOTES
5-6	TYPICAL SECTIONS
7	DETAIL SHEET
8-10	ALIGNMENT LAYOUT SHEETS
11-18	GENERAL PLAN SHEETS
19-22	PROFILE SHEETS
23	UTILITY DETAIL SHEET
24-31	ELEC/COMM & GAS LAYOUT SHEETS
32-51	DUFRESNE GROUP WATER AND SEWER PLANS
52-60	DUFRESNE GROUP WATER AND SEWER PROFILES
61-68	DRAINAGE LAYOUT SHEETS
69-77	EXISTING SIGNS SHEETS
78-86	SIGNS & PAVEMENT MARKINGS SHEETS
87-93	TRAFFIC SIGN SUMMARY SHEETS
94	TRAFFIC SIGN DETAIL SHEET
95-100	TRAFFIC SIGNAL PLANS #1
101-108	TRAFFIC SIGNAL PLANS #2
109	LANDSCAPE KEY PLAN
110-123	LANDSCAPE LAYOUT & MATERIALS
124	LANDSCAPE DETAILS
125-138	PLANTING PLAN
139	PLANTING DETAILS
140-153	LIGHTING PLAN
154	LIGHTING DETAILS
155	EPSC NARRATIVE
156-157	EPSC DETAIL SHEETS
158	TRAFFIC CONTROL NARRATIVE
159	TRAFFIC CONTROL PLAN DETAILS SHEET
160	CONSTRUCTION APPROACH SIGNING SHEET
161	DETOUR SHEET
162-178	CROSS SECTION SHEETS

VTRANS STANDARDS

A-76	STANDARDS FOR TOWN & DEVELOPMENT ROADS	03-03-2003
B-71	STANDARD FOR RESIDENTIAL AND COMMERCIAL DRIVES	07-08-2005
C-2A	PORTLAND CEMENT CONCRETE SIDEWALK DRIVE ENTRANCES WITH SIDEWALK ADJACENT TO CURB	10-14-2005
C-2B	PORTLAND CEMENT CONCRETE SIDEWALK DRIVE ENTRANCES WITH SIDEWALK AND GREEN STRIP	10-14-2005
C-3A	SIDEWALK RAMPS	03-10-2018
C-3B	SIDEWALK RAMPS AND MEDIAN ISLANDS	03-10-2008
C-10	CURBING	02-11-2008
D-1	PRECAST REINFORCED CONCRETE DROP INLET DETAILS	06-01-1994
D-15	PRECAST REINF CONC. MH-GRATES, CAST IRON GRATE WITH FRAME, TYPE D & E	06-01-1994
D-20	HIGHWAY CROSSING FOR UNDERGROUND UTILITIES	03-03-2003
D-22	SANITARY SEWER SYSTEMS	03-10-1995
E-121	STANDARD SIGN PLACEMENT - CONVENTIONAL ROAD	08-08-1995
E-170	TRAFFIC CONTROL SIGNALS PEDESTAL POST MOUNTED	11-04-1999
E-171A	TRAFFIC CONTROL SIGNALS GENERAL NOTES & DETAILS	08-09-1995
E-171B	TRAFFIC CONTROL SIGNALS MISC. DETAILS	08-09-1995
E-171C	TRAFFIC CONTROL SIGNALS CANTILEVER MOUNTING DETAILS	08-09-1995
E-175	POWER DROP STANCHIONS	06-08-2009
E-191	PAVEMENT MARKING DETAILS	02-01-1999
E-192	PAVEMENT MARKING DETAILS	10-12-2000
E-193	PAVEMENT MARKING DETAILS	08-18-1995
E-194	BICYCLE LANE PAVEMENT MARKINGS AND SIGN LAYOUT	03-15-2005
T-1	TRAFFIC CONTROL GENERAL NOTES	04-25-2016
T-2	TRAFFIC SIGN GENERAL NOTES	04-25-2016
T-10	CONVENTIONAL ROADS CONSTRUCTION APPROACH SIGNING	08-06-2012
T-45	SQUARE TUBE SIGN POST AND ANCHOR	01-02-2013
T-56	STANDARD SIGN PLACEMENT	10-26-2015
T-133	LIGHT POLE FOUNDATION DETAILS	07-25-2016
T-134	LIGHT POLE & TRANSFORMER BASE DETAILS	03-10-2017

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
	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
	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	BENCH MARK
	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 RADUIS OF
T	CURVE TANGENT LENGTH
L	CURVE LENGTH OF
E	CURVE EXTERNAL DISTANCE

UTILITY SYMBOLOGY

UNDERGROUND UTILITIES

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)

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 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

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: WINOOSKI MAIN STREET
PROJECT NUMBER: 58011.00

FILE NAME: 58011_legend.dgn
PROJECT LEADER: E.P.DETRICK
DESIGNED BY: D.M.PECK
CONVENTIONAL SYMBOLOGY LEGEND SHEET

PLOT DATE: 11/27/2019
DRAWN BY: C.K.FORD
CHECKED BY: E.P.DETRICK
SHEET 3 OF 178

GENERAL NOTES

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE STATE OF VERMONT AGENCY OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 2018, AND ITS LATEST REVISIONS, AND SUCH SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THE FINAL CONTRACT DOCUMENTS.

2. PER ADA GUIDELINES, SIDEWALK CROSS SLOPES SHALL NOT EXCEED 2%.

3. IN THE EVENT THAT SUSPECTED CONTAMINATED SOIL, GROUNDWATER, AND OTHER MEDIA ARE ENCOUNTERED DURING EXCAVATION AND CONSTRUCTION ACTIVITIES BASED ON VISUAL, OLFACTORY OR OTHER EVIDENCE, THE CONTRACTOR SHALL STOP WORK IN THE VICINITY OF THE SUSPECT MATERIAL TO AVOID FURTHER SPREADING OF THE MATERIAL, AND SHALL NOTIFY THE RESIDENT ENGINEER IMMEDIATELY SO THAT THE APPROPRIATE TESTING AND SUBSEQUENT ACTION CAN BE TAKEN.

CONSTRUCTION NOTES

1. FULL ACCESS TO ALL DRIVES WITHIN THE PROJECT LIMITS SHALL BE MAINTAINED AT ALL TIMES. IF FULL ACCESS CANNOT BE MAINTAINED, THE CONTRACTOR SHALL CONTACT AND COORDINATE WITH THE BUSINESS OR PROPERTY OWNER AT LEAST 24 HOURS IN ADVANCE OF TEMPORARILY CLOSING OFF THE ACCESS.

2. RECONSTRUCT EXISTING STAIRS AS REQUIRED TO TIE THESE FEATURES INTO THE NEW SIDEWALKS AS INDICATED ON THE PLANS OR AS DIRECTED BY THE RESIDENT ENGINEER.

3. ALL SIDEWALK RAMPS SHALL BE CONSTRUCTED PER VTRANS STANDARDS C-3A AND C-3B. DRIVE ENTRANCES SHALL BE CONSTRUCTED IN ACCORDANCE WITH VTRANS STANDARD C-2B. RESIDENTIAL DRIVES SHALL BE TYPE 6, AND COMMERCIAL DRIVEWAYS SHALL BE TYPE 5 ENTRANCES.

4. TACK COAT: EMULSIFIED ASPHALT IS TO BE APPLIED AT THE RATE OF 0.050 GAL/SY BETWEEN SUCCESSIVE COURSES OF PAVEMENT, AND 0.080 GAL/SY ON MILLED SURFACES AS DIRECTED BY THE ENGINEER.

5. SIDEWALK RAMP DETECTABLE WARNING SURFACES SHALL BE TRUNCATED DOME DETECTABLE WARNING CAST IRON PLATES PER VTRANS STANDARDS C-3A AND C-3B.

6. TREES OUTSIDE OF THE PROPOSED LIMITS OF DISTURBANCE SHALL BE AVOIDED. UNLESS OTHERWISE NOTED, TREES WITHIN THE PROPOSED LIMITS OF DISTURBANCE SHALL BE SAVED AND CARE SHALL BE TAKEN DURING CONSTRUCTION OPERATIONS IN THE VICINITY OF THESE TREES, INCLUDING BUT NOT LIMITED TO FILL PLACEMENT AND COMPACTION EFFORTS, EXCAVATION, AND EQUIPMENT USE. EFFORTS SHALL BE MADE TO MINIMIZE DAMAGE TO THE TREE, INCLUDING ROOT SYSTEM AND BRANCHES. ROOTS AND BRANCHES REQUIRING TRIMMING SHALL BE DONE SO WITH PROPER CARE AND PRUNING TECHNIQUES.

7. ALL DRIVES SHALL BE REPAVED ACCORDING TO THE DRIVE DETAILS ON SHEET 7 TO THE LIMITS SHOWN ON THE LAYOUT SHEETS.

UTILITY NOTES

1. THE LOCATIONS, SIZES, AND TYPES OF EXISTING UTILITIES ARE SHOWN AS AN APPROXIMATE REPRESENTATION ONLY. THE OWNER OR DESIGN ENGINEER HAVE NOT INDEPENDENTLY VERIFIED ALL OF THIS INFORMATION AS SHOWN ON THE PLANS. THE UTILITY INFORMATION SHOWN DOES NOT GUARANTEE THE ACTUAL EXISTENCE, SERVICEABILITY, OR OTHER DATA CONCERNING THE UTILITIES, NOR DOES IT GUARANTEE AGAINST THE POSSIBILITY THAT ADDITIONAL UTILITIES MAY BE PRESENT THAT ARE NOT SHOWN ON THE PLANS. PRIOR TO ORDERING MATERIALS AND BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL VERIFY AND DETERMINE THE EXACT LOCATIONS, SIZES, AND ELEVATIONS OF THE POINTS OF CONNECTIONS TO EXISTING UTILITIES AND, SHALL CONFIRM THAT THERE ARE NO INTERFERES WITH EXISTING UTILITIES AND THE PROPOSED UTILITY ROUTES, INCLUDING ROUTES WITHIN THE PUBLIC RIGHTS OF WAY.

2. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, OR EXISTING CONDITIONS DIFFER FROM THOSE SHOWN SUCH THAT THE WORK CANNOT BE COMPLETED AS INTENDED, THE LOCATION, ELEVATION, AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED AND THE INFORMATION FURNISHED IN WRITING TO THE RESIDENT ENGINEER FOR THE RESOLUTION OF THE CONFLICT.

3. SET CATCH BASIN RIMS, AND INVERTS OF SEWERS AND DRAINS IN ACCORDANCE WITH THE ELEVATIONS ON THE PLANS, CROSS SECTIONS, AND DRAINAGE NOTES.

4. RIM ELEVATIONS FOR DRAIN AND SEWER MANHOLES, WATER VALVE COVERS, GAS GATES, ELECTRIC AND TELEPHONE PULL BOXES, AND MANHOLES, AND OTHER SUCH ITEMS, ARE APPROXIMATE AND SHALL BE SET/RESET AS FOLLOWS:
   A. PAVEMENTS AND CONCRETE SURFACES: FLUSH
   B. ALL SURFACES ALONG ACCESSIBLE ROUTES: FLUSH
   C. LANDSCAPE, LOAM AND SEED, AND OTHER EARTH SURFACE AREAS: ONE INCH ABOVE SURROUNDING AREA AND TAPER EARTH TO THE RIM ELEVATION.

5. ALL DRAINAGE AND SANITARY STRUCTURE INTERIOR DIAMETERS (4' MIN.) SHALL BE VERIFIED BY THE MANUFACTURER BASED ON THE PIPE CONFIGURATIONS SHOWN ON THESE PLANS AND LOCAL MUNICIPAL STANDARDS.

6. ALL CONNECTIONS BETWEEN SANITARY SEWER STRUCTURES AND NEW SANITARY SEWER PIPES SHALL BE A BOOTED CONNECTION. CORING AND BOOTS SHALL BE INCIDENTAL TO THE PIPE.

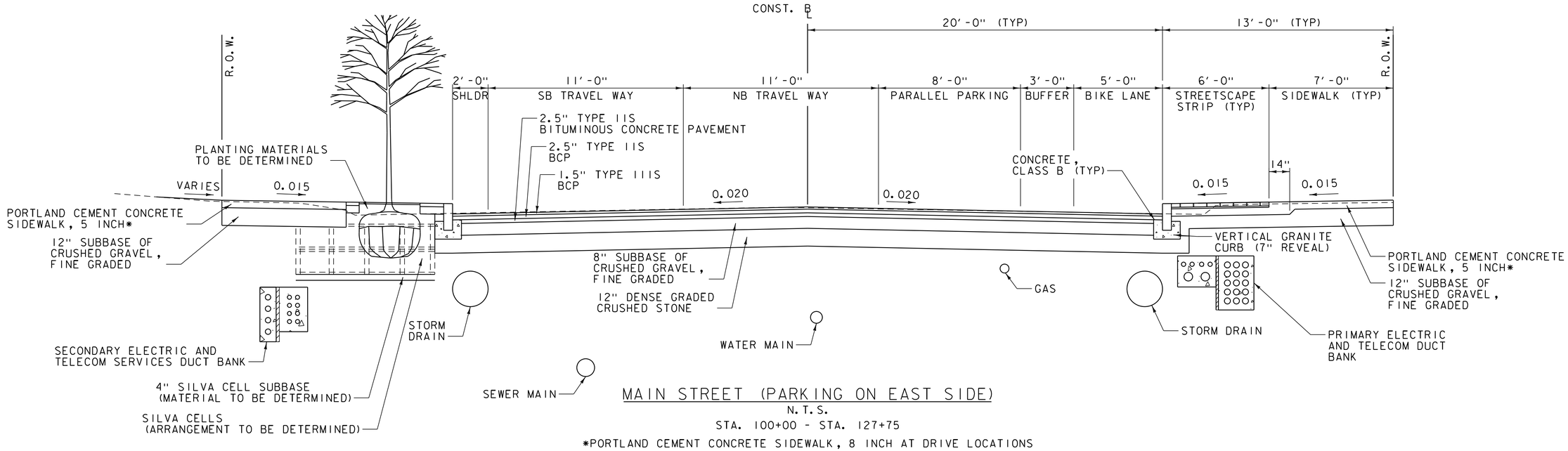
7. CONTRACTOR IS RESPONSIBLE FOR ADJUSTING ALL CURB STOPS, WATER VALVES, MANHOLES, & DRAINAGE STRUCTURES WITHIN THE PROJECT LIMITS TO THE FINAL GRADE ELEVATION.

8. ALL CONNECTIONS BETWEEN PRECAST DRAINAGE STRUCTURES AND NEW DRAINAGE PIPES SHALL BE A BOOTED CONNECTION.

9. ACT NO. 86 OF 1987 (30 VSA CHAPTER 86) ("DIG SAFE") REQUIRES THAT NOTICE BE GIVEN PRIOR TO MAKING AN EXCAVATION. IT IS SUGGESTED THAT THE CONTRACTOR TELEPHONE 1-888-344-7233 AT LEAST 48 HOURS BEFORE, AND NOTE MORE THAN 30 DAYS BEFORE, BEGINNING ANY EXCAVATION AT ANY LOCATION. NOTE THAT CITY OF WINOOSKI WILL NOT BE NOTIFIED BY DIG SAFE AND MUST BE CONTACTED SEPARATELY.

MATERIAL TOLERANCES	
MATERIAL ITEM	THICKNESS TOLERANCE
PAVEMENT (FULL DEPTH)	± 1/4" (TOTAL THICKNESS)
SUBBASE	± 1"
CRUSHED STONE	± 1"

TYPICAL SECTIONS

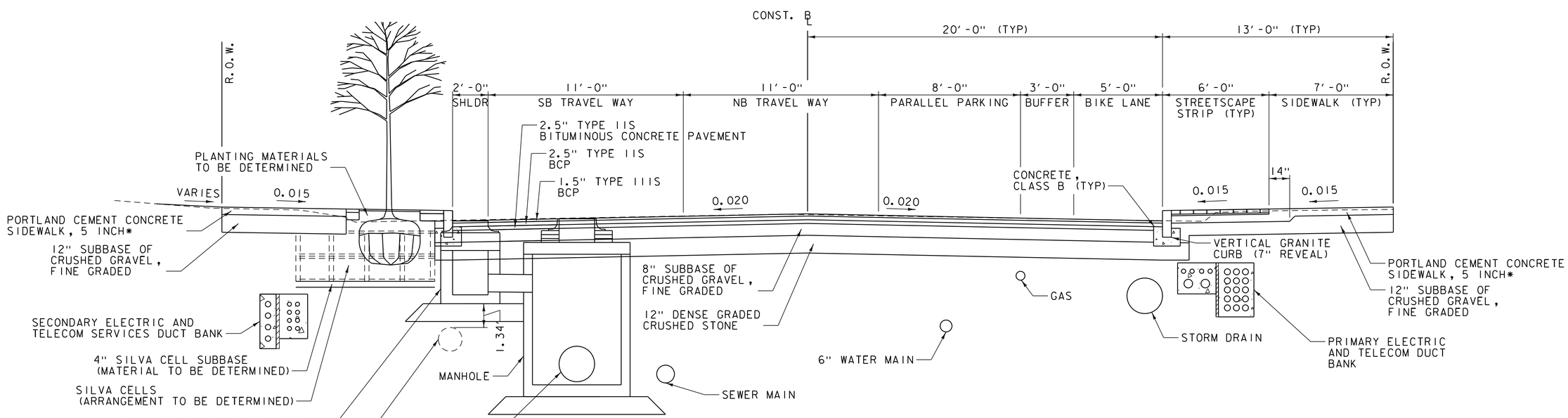


MAIN STREET (PARKING ON EAST SIDE)

N.T.S.

STA. 100+00 - STA. 127+75

*PORTLAND CEMENT CONCRETE SIDEWALK, 8 INCH AT DRIVE LOCATIONS



MAIN STREET (PARKING ON EAST SIDE)

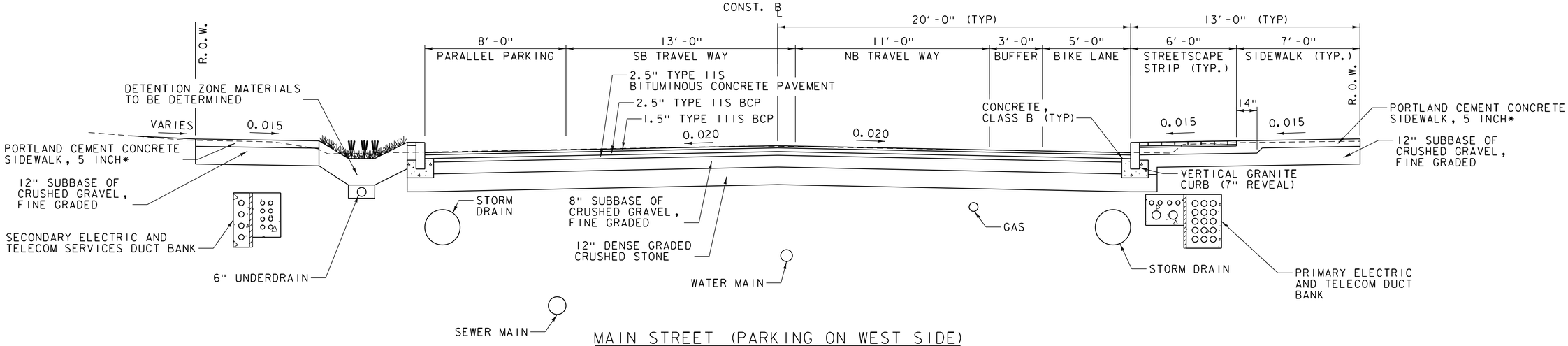
N.T.S.

STA. 127+75 - 135+00

*PORTLAND CEMENT CONCRETE SIDEWALK, 8 INCH AT DRIVE LOCATIONS

vhb

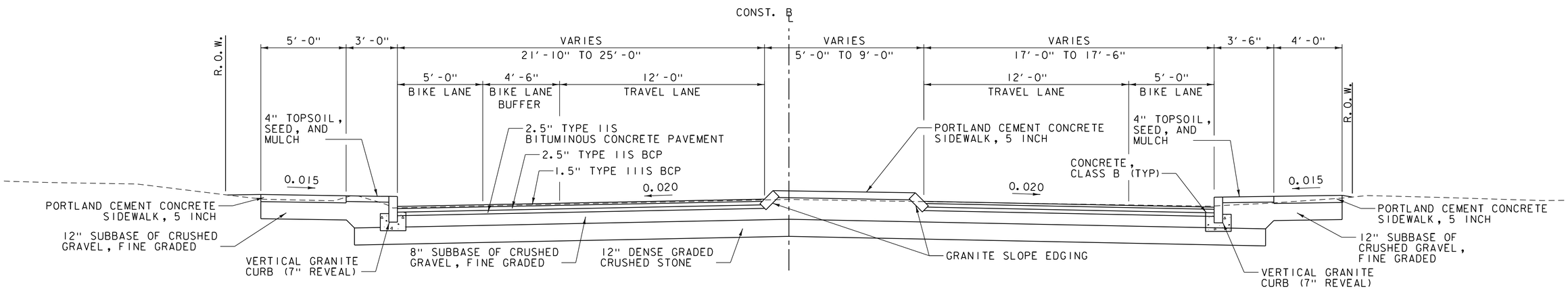
PROJECT NAME: WINOOSKI MAIN STREET	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_typ.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P. DETRICK	DRAWN BY: B.M. ROBERTS
DESIGNED BY: D.M. PECK	CHECKED BY: E.P. DETRICK
TYPICAL SECTIONS (SHEET 1 OF 2)	SHEET 5 OF 178



MAIN STREET (PARKING ON WEST SIDE)

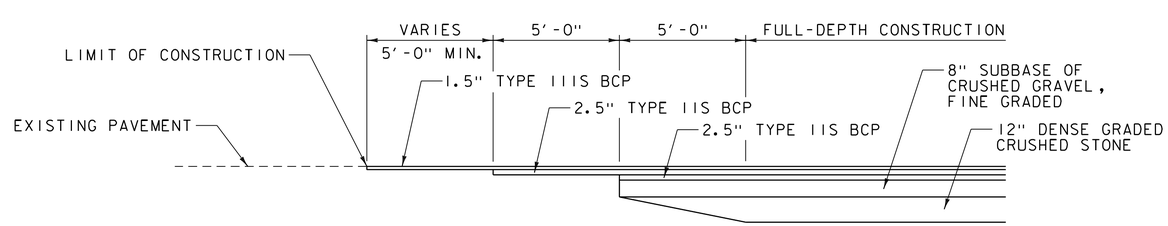
N.T.S.

*PORTLAND CEMENT CONCRETE SIDEWALK, 8 INCH AT DRIVE LOCATIONS



MAIN STREET (NORTH OF TIGAN STREET)

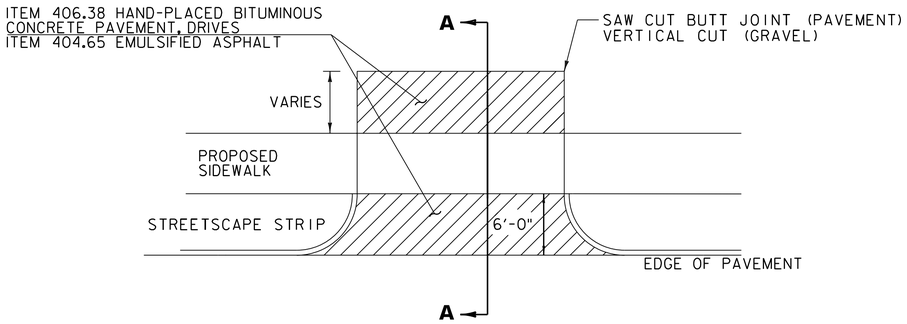
N.T.S.



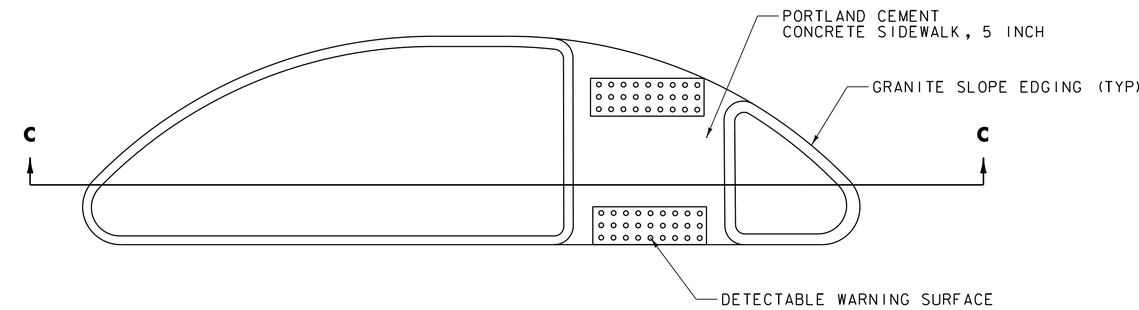
PAVEMENT TRANSITION DETAIL FOR SIDE ROADS

N.T.S.

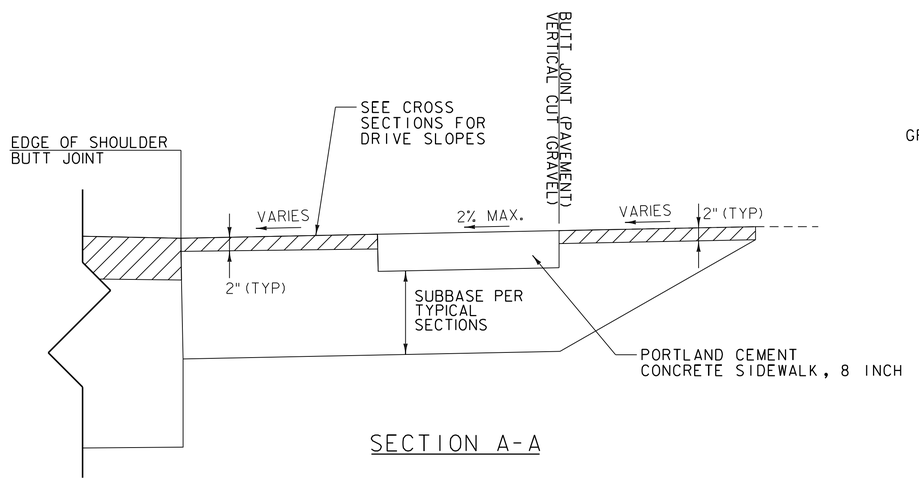
PROJECT NAME: WINOOSKI MAIN STREET	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_typ.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P. DETRICK	DRAWN BY: B.M. ROBERTS
DESIGNED BY: D.M. PECK	CHECKED BY: E.P. DETRICK
TYPICAL SECTIONS (SHEET 2 OF 2)	SHEET 6 OF 178



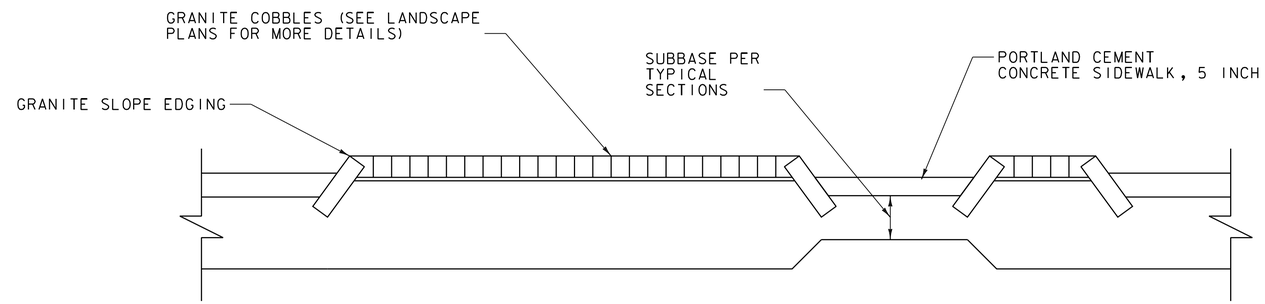
HANDWORK DETAILS FOR PAVED COMMERCIAL DRIVE
N.T.S.



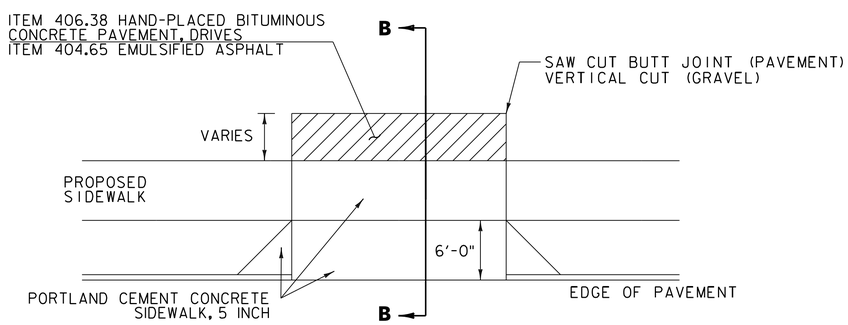
BUMPOUT DETAIL
N.T.S.



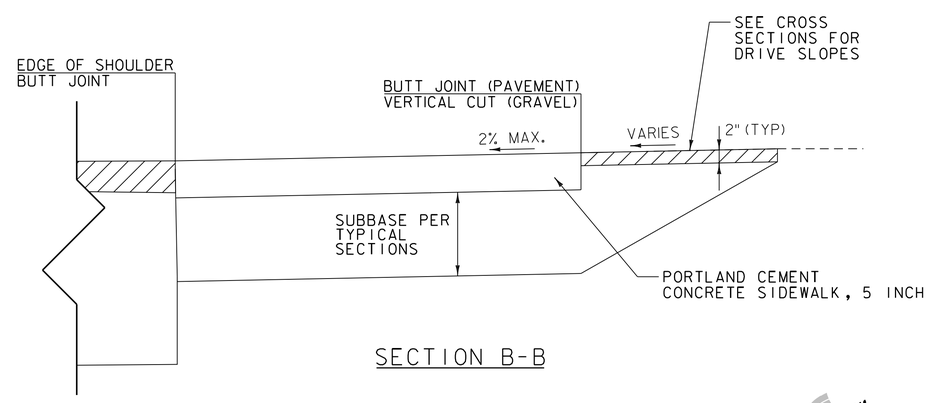
SECTION A-A



SECTION C-C



HANDWORK DETAILS FOR RESIDENTIAL DRIVES
N.T.S.



SECTION B-B

PROJECT NAME: WINOOSKI MAIN STREET	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_det.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P.DETRICK	DRAWN BY: C.K.FORD
DESIGNED BY: C.K.FORD	CHECKED BY: E.P.DETRICK
DETAIL SHEET	SHEET 7 OF 178

MAIN STREET			
POINT TYPE	STATION	NORTHING	EASTING
POB	99+50.00	726870.0912	1461273.6843
PC	105+29.56	727449.6141	1461266.9562
PI	106+22.49	727542.5323	1461265.8775
PT	107+13.47	727630.0733	1461297.0470
PC	108+79.33	727786.3223	1461352.6804
PI	109+30.71	727834.7237	1461369.9139
PT	109+82.08	727882.7608	1461388.1385
PC	124+20.93	729228.0462	1461898.5205
PI	124+68.67	729272.6835	1461915.4552
PT	125+16.41	729317.6361	1461931.5346
PC	128+54.71	729636.1771	1462045.4752
PI	132+40.96	729999.8528	1462175.5604
PT	136+27.09	730368.4830	1462290.8600
POE	140+00.00	730724.3886	1462402.1797

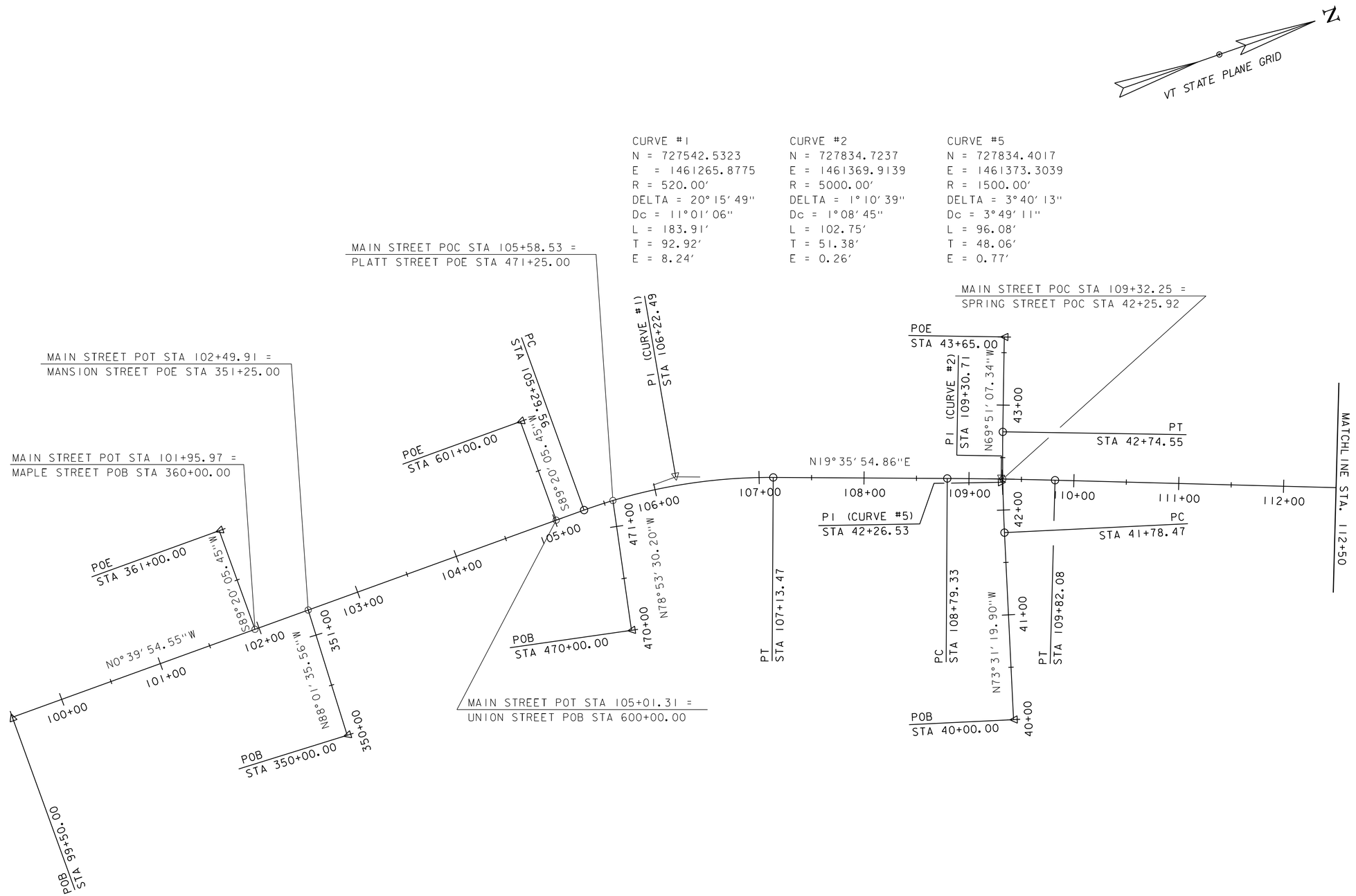
MAPLE STREET			
POINT TYPE	STATION	NORTHING	EASTING
POB	360+00.00	727116.0450	1461270.8288
POE	361+00.00	727114.8841	1461170.8356

MANSION STREET			
POINT TYPE	STATION	NORTHING	EASTING
POB	350+00.00	727165.6793	1461395.1285
POE	351+25.00	727169.9839	1461270.2026

UNION STREET			
POINT TYPE	STATION	NORTHING	EASTING
POB	600+00.00	727421.3623	1461267.2842
POE	601+00.00	727420.2014	1461167.2909

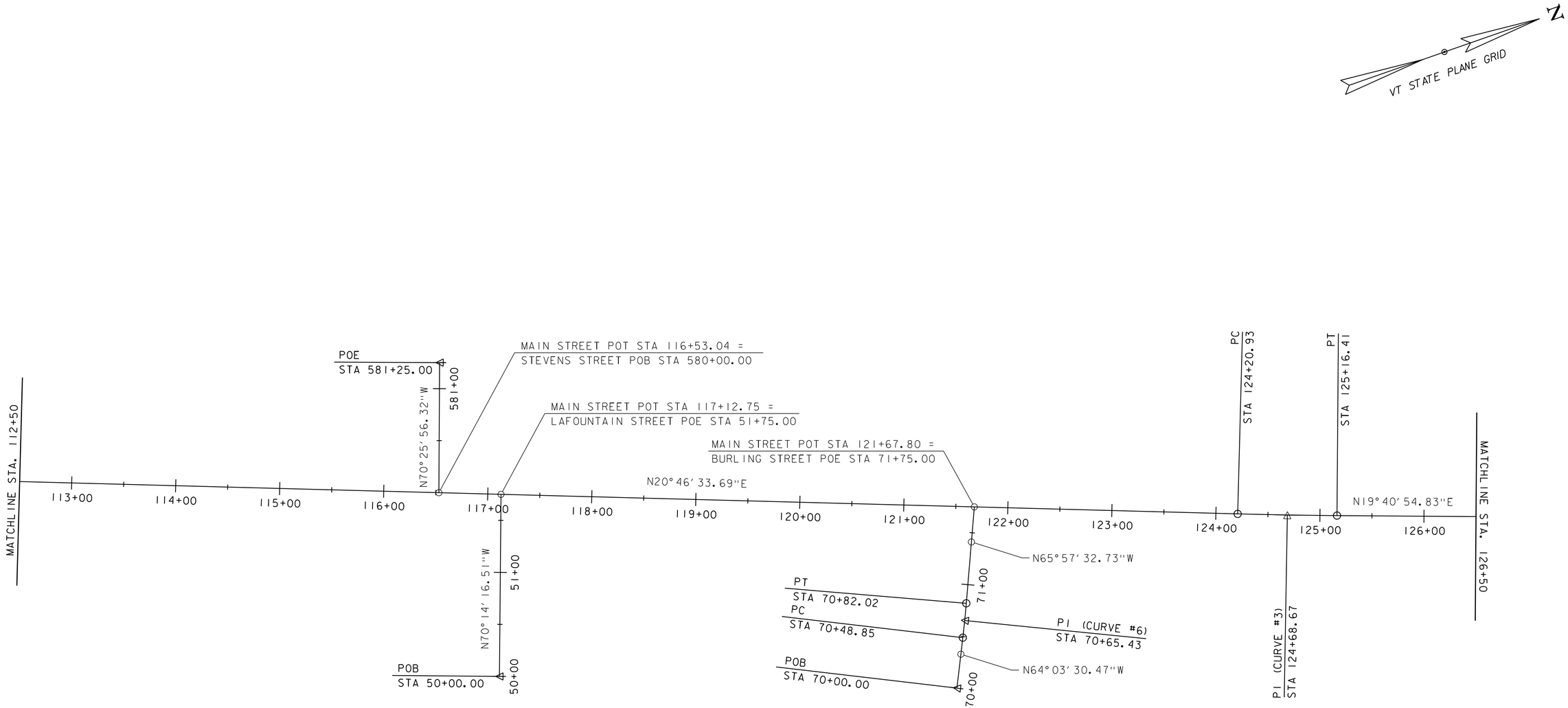
PLATT STREET			
POINT TYPE	STATION	NORTHING	EASTING
POB	470+00.00	727454.4902	1461390.0848
POE	471+25.00	727478.5732	1461267.4267

SPRING STREET			
POINT TYPE	STATION	NORTHING	EASTING
POB	40+00.00	727770.1481	1461590.5292
PC	41+78.47	727820.7701	1461419.3887
PI	42+26.53	727834.4017	1461373.3039
PT	42+74.55	727850.9552	1461328.1861
POE	43+65.00	727882.1087	1461243.2756



PROJECT NAME:	WINOOSKI MAIN ST.
PROJECT NUMBER:	58011.00

FILE NAME: 58011_BDR_AL1.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P. DETRICK	DRAWN BY: B.M. ROBERTS
DESIGNED BY: D.M. PECK	CHECKED BY: E.P. DETRICK
ALIGNMENT LAYOUT SHEET (1 OF 3)	SHEET 8 OF 178



STEVENS STREET			
POINT TYPE	STATION	NORTHING	EASTING
POB	580+00.00	728510.0909	1461626.1386
POE	581+25.00	728551.9559	1461508.3577

LAFOUNTAIN STREET			
POINT TYPE	STATION	NORTHING	EASTING
POB	50+00.00	728506.7455	1461812.0110
POE	51+75.00	728565.9157	1461647.3177

BURLING STREET			
POINT TYPE	STATION	NORTHING	EASTING
POB	70+00.00	728918.1136	1461967.6363
PC	70+48.85	728939.4818	1461923.7114
PI	70+65.43	728946.7381	1461908.7952
PT	70+82.02	728953.4957	1461893.6464
POE	71+75.00	728991.3752	1461808.7309

CURVE #3
N = 729272.6835
E = 1461915.4552
R = 5000.00'
DELTA = 1°05'39"
Dc = 1°08'45"
L = 95.48'
T = 47.74'
E = 0.23'

CURVE #6
N = 728946.7381
E = 1461908.7952
R = 1000.00'
DELTA = 1°54'02"
Dc = 5°43'46"
L = 33.17'
T = 16.59'
E = 0.14'

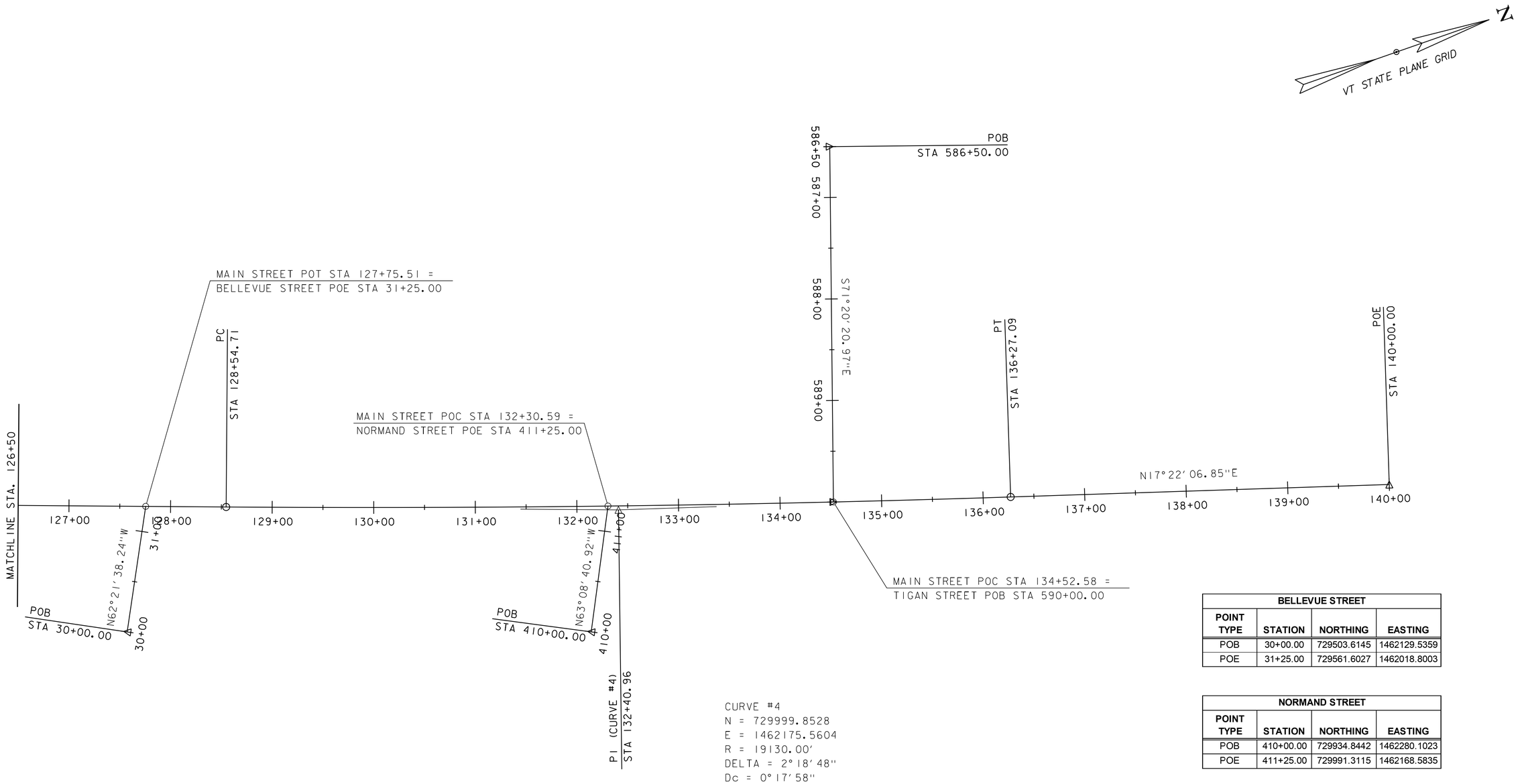
0 50 100
SCALE IN FEET

vhb

PROJECT NAME: WINOOSKI MAIN ST.
PROJECT NUMBER: 58011.00

FILE NAME: 58011_BDR_AL1.dgn
PROJECT LEADER: E.P. DETRICK
DESIGNED BY: D.M. PECK
ALIGNMENT LAYOUT SHEET (2 OF 3)

PLOT DATE: 11/27/2019
DRAWN BY: B.M. ROBERTS
CHECKED BY: E.P. DETRICK
SHEET 9 OF 178



BELLEVUE STREET			
POINT TYPE	STATION	NORTHING	EASTING
POB	30+00.00	729503.6145	1462129.5359
POE	31+25.00	729561.6027	1462018.8003

NORMAND STREET			
POINT TYPE	STATION	NORTHING	EASTING
POB	410+00.00	729934.8442	1462280.1023
POE	411+25.00	729991.3115	1462168.5835

TIGAN STREET			
POINT TYPE	STATION	NORTHING	EASTING
POB	586+50.00	730314.1582	1461906.4068
POE	590+00.00	730202.1703	1462238.0070

PROJECT NAME: WINOOSKI MAIN ST.
PROJECT NUMBER: 58011.00

FILE NAME: 58011_BDR_AL1.dgn
PROJECT LEADER: E.P. DETRICK
DESIGNED BY: D.M. PECK
ALIGNMENT LAYOUT SHEET (3 OF 3)

PLOT DATE: 11/27/2019
DRAWN BY: B.M. ROBERTS
CHECKED BY: E.P. DETRICK
SHEET 10 OF 178

PORTLAND CEMENT
CONCRETE SIDEWALK, 5 INCH

100+00 - 101+82, LT
100+00 - 102+34, RT
102+06 - 103+42, LT
102+62 - 105+36, RT
103+85 - 104+87, LT
105+14 - 105+22, RT
105+17 - 105+50, LT

PORTLAND CEMENT
CONCRETE SIDEWALK, 8 INCH

103+42 - 103+85, LT

HAND-PLACED BITUMINOUS
CONCRETE MATERIAL, DRIVES

100+78 - 101+03, RT
102+88 - 103+11, LT
103+23 - 103+33, RT
103+42 - 103+85, LT
104+15 - 104+25, RT
104+63 - 104+76, RT

GRANITE SLOPE EDGING

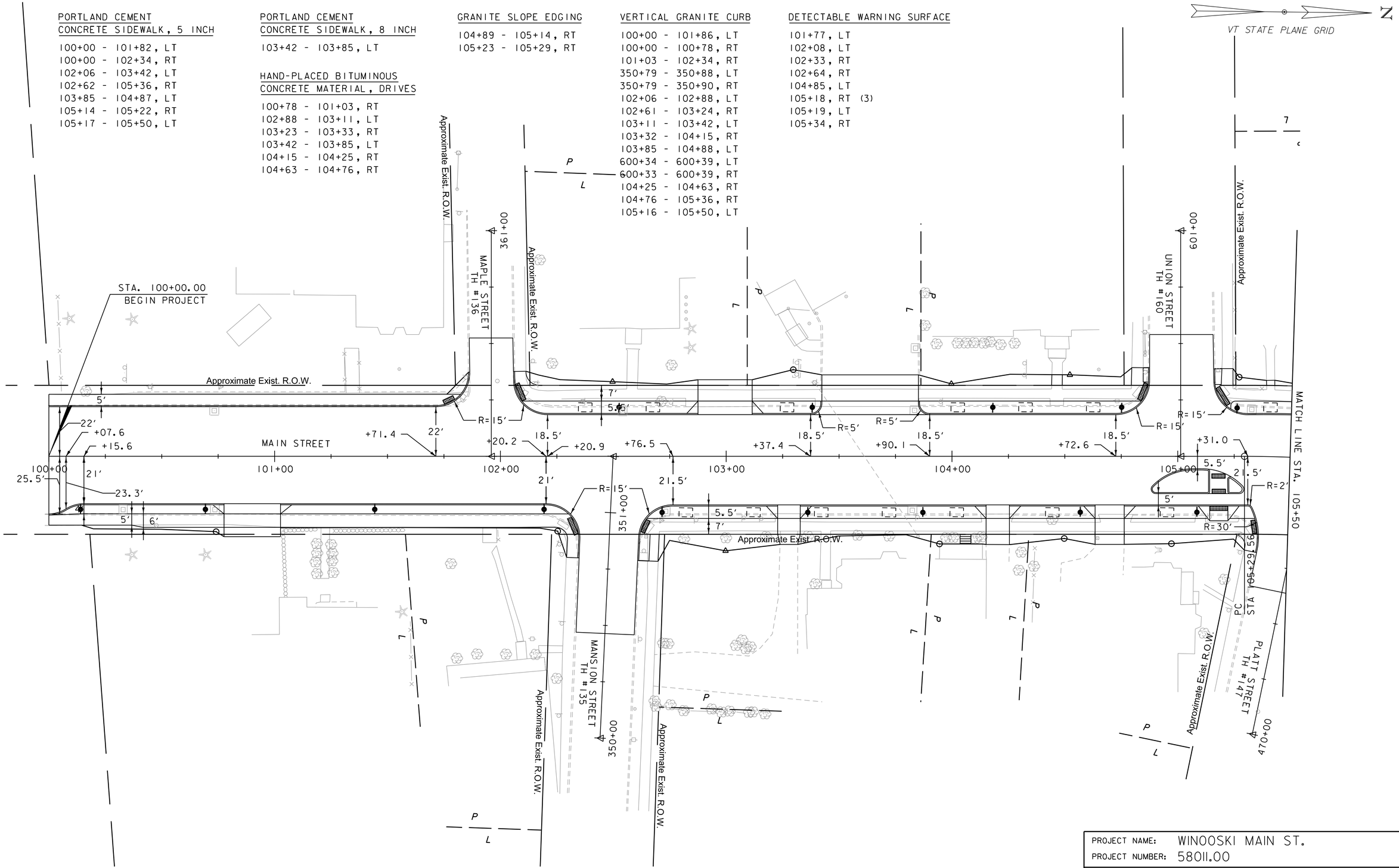
104+89 - 105+14, RT
105+23 - 105+29, RT

VERTICAL GRANITE CURB

100+00 - 101+86, LT
100+00 - 100+78, RT
101+03 - 102+34, RT
350+79 - 350+88, LT
350+79 - 350+90, RT
102+06 - 102+88, LT
102+61 - 103+24, RT
103+11 - 103+42, LT
103+32 - 104+15, RT
103+85 - 104+88, LT
600+34 - 600+39, LT
600+33 - 600+39, RT
104+25 - 104+63, RT
104+76 - 105+36, RT
105+16 - 105+50, LT

DETECTABLE WARNING SURFACE

101+77, LT
102+08, LT
102+33, RT
102+64, RT
104+85, LT
105+18, RT (3)
105+19, LT
105+34, RT



PROJECT NAME: WINOOSKI MAIN ST.	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_bdr_nul.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P. DETRICK	DRAWN BY: C.K. FORD
DESIGNED BY: D.M. PECK	CHECKED BY: E.P. DETRICK
GENERAL PLAN SHEET (1 OF 8)	SHEET 11 OF 178

PORTLAND CEMENT
CONCRETE SIDEWALK, 5 INCH

105+50 - 109+06, LT
105+70 - 105+90, RT
106+27 - 106+40, RT
106+75 - 109+19, RT
109+46 - 110+50, LT
109+51 - 110+50, RT

PORTLAND CEMENT
CONCRETE SIDEWALK, 8 INCH

105+90 - 106+27, RT
106+40 - 106+75, RT

HAND-PLACED BITUMINOUS
CONCRETE MATERIAL, DRIVES

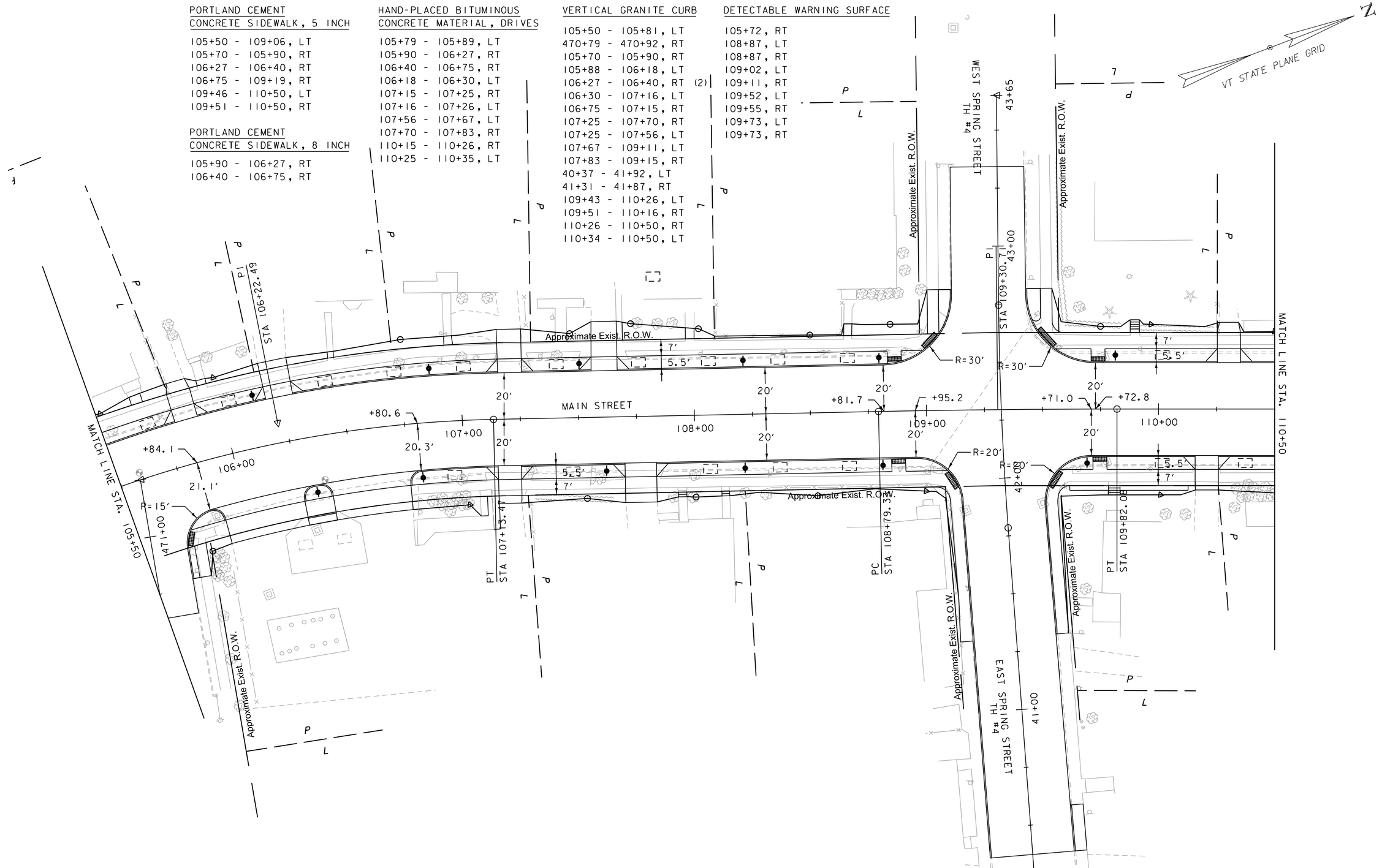
105+79 - 105+89, LT
105+90 - 106+27, RT
106+40 - 106+75, RT
106+18 - 106+30, LT
107+15 - 107+25, RT
107+16 - 107+26, LT
107+56 - 107+67, LT
107+70 - 107+83, RT
110+15 - 110+26, RT
110+25 - 110+35, LT

VERTICAL GRANITE CURB

105+50 - 105+81, LT
470+79 - 470+92, RT
105+70 - 105+90, RT
105+88 - 106+18, LT
106+27 - 106+40, RT (2)
106+30 - 107+16, LT
106+75 - 107+15, RT
107+25 - 107+70, RT
107+25 - 107+56, LT
107+67 - 109+11, LT
107+83 - 109+15, RT
40+37 - 41+92, LT
41+31 - 41+87, RT
109+43 - 110+26, LT
109+51 - 110+16, RT
110+26 - 110+50, RT
110+34 - 110+50, LT

DETECTABLE WARNING SURFACE

105+72, RT
108+87, LT
108+87, RT
109+02, LT
109+11, RT
109+52, LT
109+55, RT
109+73, LT
109+73, RT



0 20 40
SCALE IN FEET

vhb

PROJECT NAME: WINOOSKI MAIN ST.	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_bdr_nul.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P. DETRICK	DRAWN BY: C.K. FORD
DESIGNED BY: D.M. PECK	CHECKED BY: E.P. DETRICK
GENERAL PLAN SHEET (2 OF 8)	SHEET 12 OF 178

HAND-PLACED BITUMINOUS CONCRETE MATERIAL, DRIVES

110+79 - 110+89, RT
110+79 - 110+89, LT
111+22 - 111+32, RT
111+32 - 111+47, LT
111+86 - 111+97, RT
112+14 - 112+30, LT
112+50 - 112+64, RT
112+66 - 112+77, LT
113+11 - 113+21, RT
113+15 - 113+27, LT
113+65 - 113+82, RT
113+74 - 113+89, LT
114+47 - 114+71, RT
114+99 - 115+17, LT

DETECTABLE WARNING SURFACE

113+43, LT
113+43, RT

PORTLAND CEMENT CONCRETE SIDEWALK, 8 INCH

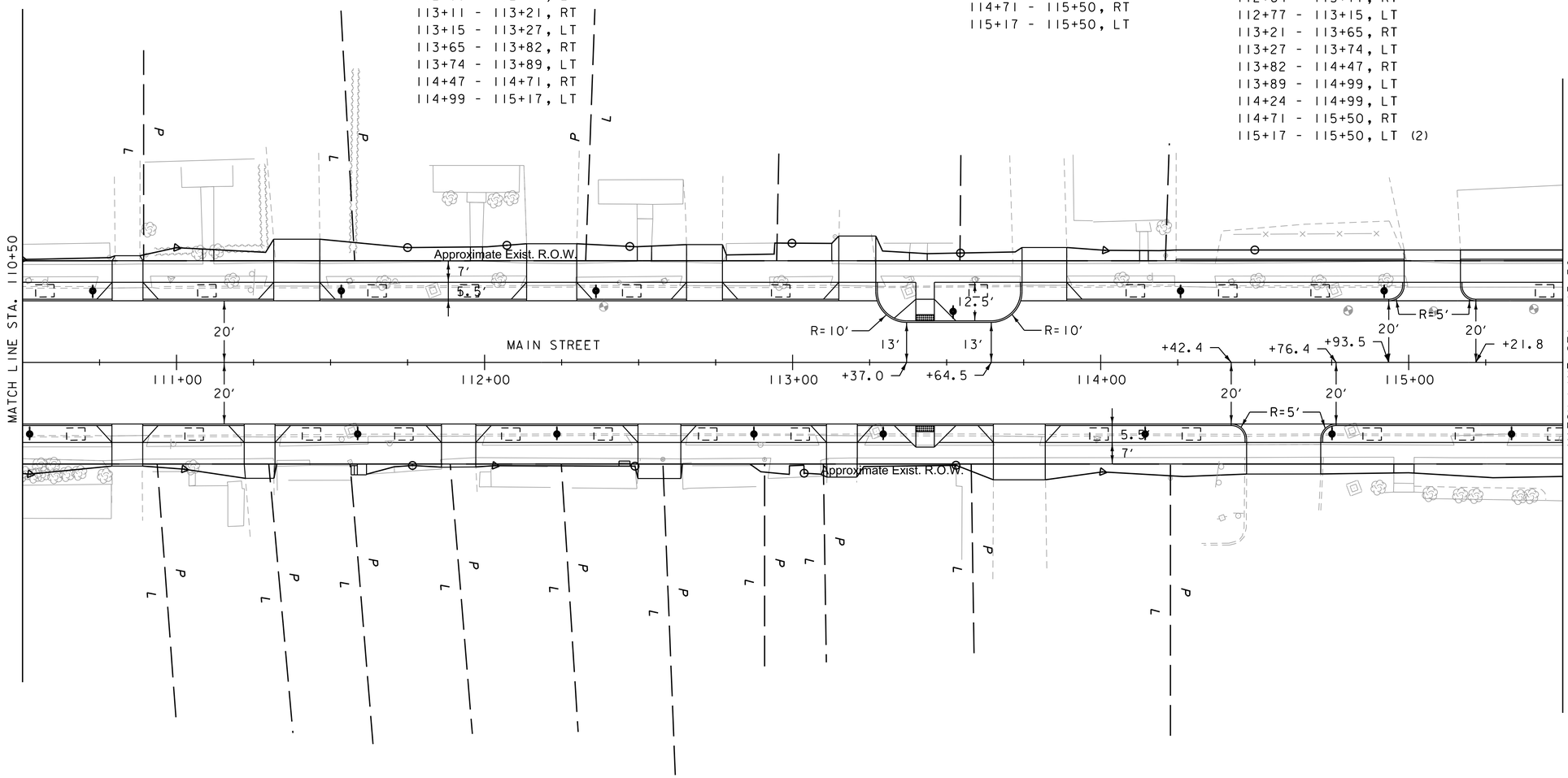
114+47 - 114+71, RT
114+99 - 115+17, LT

PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH

110+50 - 114+99, LT
110+50 - 114+47, RT
114+71 - 115+50, RT
115+17 - 115+50, LT

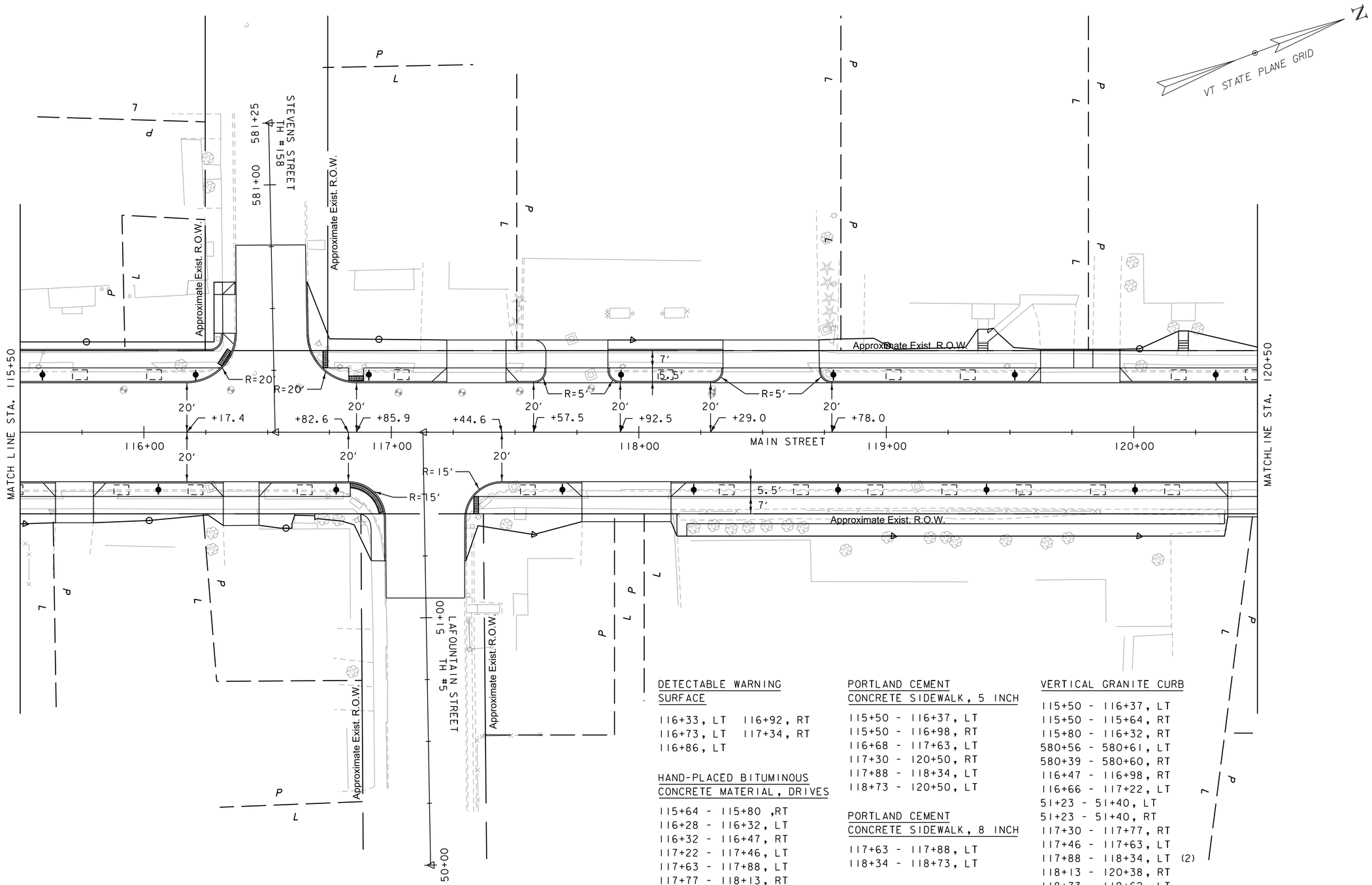
VERTICAL GRANITE CURB

110+50 - 110+80, LT
110+50 - 110+79, RT
110+88 - 111+32, LT
110+89 - 111+22, RT
111+32 - 111+86, RT
111+47 - 112+14, LT
111+97 - 112+50, RT
112+30 - 112+66, LT
112+64 - 113+11, RT
112+77 - 113+15, LT
113+21 - 113+65, RT
113+27 - 113+74, LT
113+82 - 114+47, RT
113+89 - 114+99, LT
114+24 - 114+99, LT
114+71 - 115+50, RT
115+17 - 115+50, LT (2)



0 20 40
SCALE IN FEET

PROJECT NAME: WINOOSKI MAIN ST.	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_bdr_nul.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P. DETRICK	DRAWN BY: C.K. FORD
DESIGNED BY: D.M. PECK	CHECKED BY: E.P. DETRICK
GENERAL PLAN SHEET (3 OF 8)	SHEET 13 OF 178



DETECTABLE WARNING SURFACE

116+33, LT 116+92, RT
116+73, LT 117+34, RT
116+86, LT

HAND-PLACED BITUMINOUS CONCRETE MATERIAL, DRIVES

115+64 - 115+80 ,RT
116+28 - 116+32, LT
116+32 - 116+47, RT
117+22 - 117+46, LT
117+63 - 117+88, LT
117+77 - 118+13, RT
118+34 - 118+73, LT
119+62 - 119+94, LT
120+38 - 120+50, RT

PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH

115+50 - 116+37, LT
115+50 - 116+98, RT
116+68 - 117+63, LT
117+30 - 120+50, RT
117+88 - 118+34, LT
118+73 - 120+50, LT

PORTLAND CEMENT CONCRETE SIDEWALK, 8 INCH

117+63 - 117+88, LT
118+34 - 118+73, LT

VERTICAL GRANITE CURB

115+50 - 116+37, LT
115+50 - 115+64, RT
115+80 - 116+32, RT
580+56 - 580+61, LT
580+39 - 580+60, RT
116+47 - 116+98, RT
116+66 - 117+22, LT
51+23 - 51+40, LT
51+23 - 51+40, RT
117+30 - 117+77, RT
117+46 - 117+63, LT
117+88 - 118+34, LT (2)
118+13 - 120+38, RT
118+73 - 119+62, LT
119+94 - 120+50, LT

0 20 40
SCALE IN FEET

vhb

PROJECT NAME: WINOOSKI MAIN ST.	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_bdr_nul.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P. DETRICK	DRAWN BY: C.K. FORD
DESIGNED BY: D.M. PECK	CHECKED BY: E.P. DETRICK
GENERAL PLAN SHEET (4 OF 8)	SHEET 14 OF 178

PORTLAND CEMENT
CONCRETE SIDEWALK, 5 INCH

120+50 - 123+75, LT
120+50 - 121+50, RT
121+84 - 122+65, RT
122+89 - 124+28, RT
124+01 - 125+75, LT
124+49 - 125+75, RT

PORTLAND CEMENT
CONCRETE SIDEWALK, 8 INCH

122+65 - 122+89, RT
123+75 - 124+01, LT
124+28 - 124+49, RT

VERTICAL GRANITE CURB

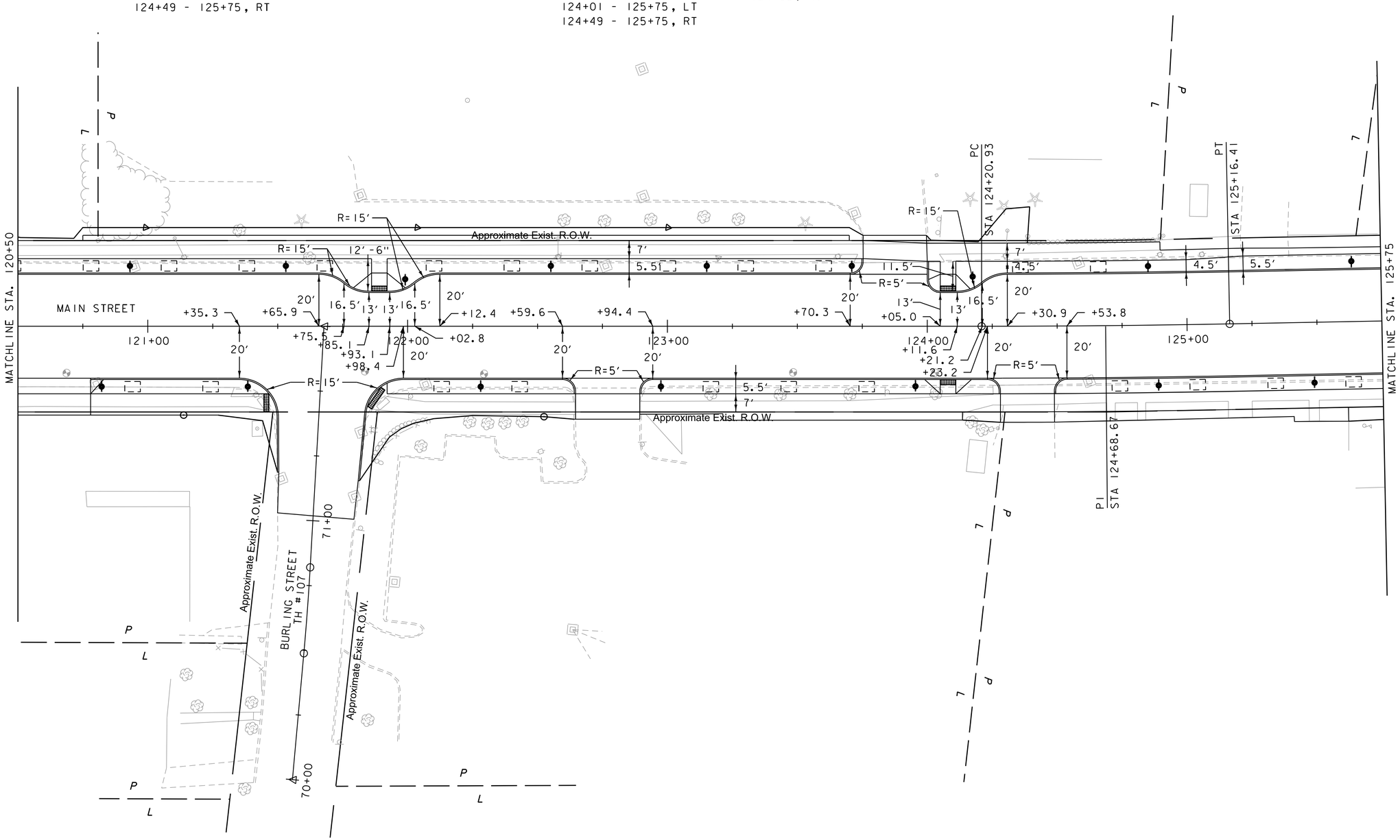
120+50 - 123+75, LT
120+78 - 121+50, RT
71+18 - 71+39, LT
71+16 - 71+43, RT
121+83 - 122+65, RT
122+89 - 124+28, RT
124+01 - 125+75, LT
124+49 - 125+75, RT

DETECTABLE WARNING
SURFACE

121+46, RT
121+87, RT
121+89, LT
124+08, LT
124+08, RT

HAND-PLACED BITUMINOUS
CONCRETE MATERIAL, DRIVES

120+50 - 120+78, RT
122+65 - 122+89, RT
123+75 - 124+01, LT
124+28 - 124+49, RT



0 20 40
SCALE IN FEET

PROJECT NAME: WINOOSKI MAIN ST.	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_bdr_nul.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P. DETRICK	DRAWN BY: C.K. FORD
DESIGNED BY: D.M. PECK	CHECKED BY: E.P. DETRICK
GENERAL PLAN SHEET (5 OF 8)	SHEET 15 OF 178

VERTICAL GRANITE CURB

125+75 - 126+74, LT
125+75 - 126+77, RT
126+28 - 126+77, RT
126+94 - 127+54, RT
126+98 - 127+62, LT
30+40 - 30+85, LT
30+82 - 31+03, RT
127+88 - 128+51, RT
127+93 - 128+07, RT
127+94 - 128+68, LT
128+85 - 128+98, LT
128+89 - 128+99, RT
129+09 - 130+65, RT
129+32 - 129+89, LT
130+19 - 130+59, LT

GRANITE SLOPE EDGING

127+94 - 128+08, RT
128+17 - 128+30, RT

DETECTABLE WARNING SURFACE

127+49, RT
127+88, RT
128+12, RT (3)
128+12, LT

PORTLAND CEMENT
CONCRETE SIDEWALK, 5 INCH

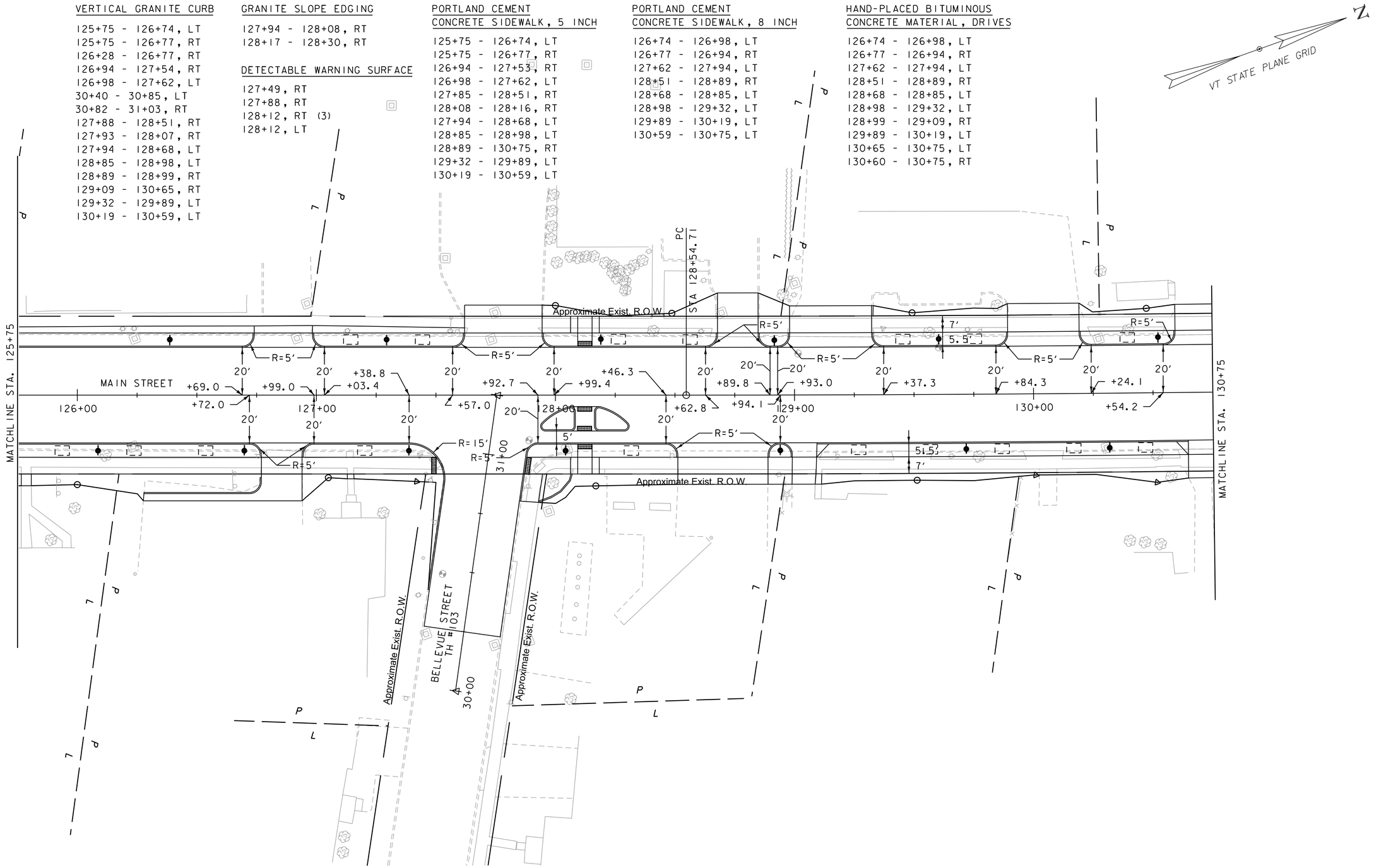
125+75 - 126+74, LT
125+75 - 126+77, RT
126+94 - 127+53, RT
126+98 - 127+62, LT
127+85 - 128+51, RT
128+08 - 128+16, RT
127+94 - 128+68, LT
128+85 - 128+98, LT
128+89 - 130+75, RT
129+32 - 129+89, LT
130+19 - 130+59, LT

PORTLAND CEMENT
CONCRETE SIDEWALK, 8 INCH

126+74 - 126+98, LT
126+77 - 126+94, RT
127+62 - 127+94, LT
128+51 - 128+89, RT
128+68 - 128+85, LT
128+98 - 129+32, LT
129+89 - 130+19, LT
130+59 - 130+75, LT

HAND-PLACED BITUMINOUS
CONCRETE MATERIAL, DRIVES

126+74 - 126+98, LT
126+77 - 126+94, RT
127+62 - 127+94, LT
128+51 - 128+89, RT
128+68 - 128+85, LT
128+98 - 129+32, LT
128+99 - 129+09, RT
129+89 - 130+19, LT
130+65 - 130+75, LT
130+60 - 130+75, RT



0 20 40
SCALE IN FEET

PROJECT NAME: WINOOSKI MAIN ST.	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_bdr_nul.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P. DETRICK	DRAWN BY: C.K. FORD
DESIGNED BY: D.M. PECK	CHECKED BY: E.P. DETRICK
GENERAL PLAN SHEET (6 OF 8)	SHEET 16 OF 178

VERTICAL GRANITE CURB

130+75 - 131+37, RT
130+88 - 131+50, LT
131+60 - 132+10, RT
131+70 - 133+62, LT
410+79 - 410+85, LT
410+78 - 410+94, RT
132+42 - 132+60, RT
132+94 - 133+51, RT
133+77 - 134+38, LT
133+83 - 134+09, RT
589+16 - 589+31, RT
589+16 - 589+21, LT
134+29 - 134+71, RT
134+68 - 135+89, LT
134+94 - 135+42, RT
135+65 - 136+75, RT
136+15 - 136+75, LT

GRANITE SLOPE EDGING

131+89 - 132+01, LT/RT
132+09 - 132+16, LT/RT
135+28 - 135+80, RT
136+23 - 136+75, LT/RT

PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH

130+75 - 132+10, RT
130+88 - 131+50, LT
131+70 - 134+31, LT
131+89 - 132+01, LT/RT
132+09 - 132+16, LT/RT
132+42 - 132+60, RT
132+94 - 133+51, RT
133+83 - 134+09, RT
134+29 - 134+71, RT
134+71 - 135+89, LT
134+94 - 135+42, RT
135+28 - 135+80, RT
135+65 - 136+75, RT
136+15 - 136+75, LT
136+23 - 136+75, LT/RT

DETECTABLE WARNING SURFACE

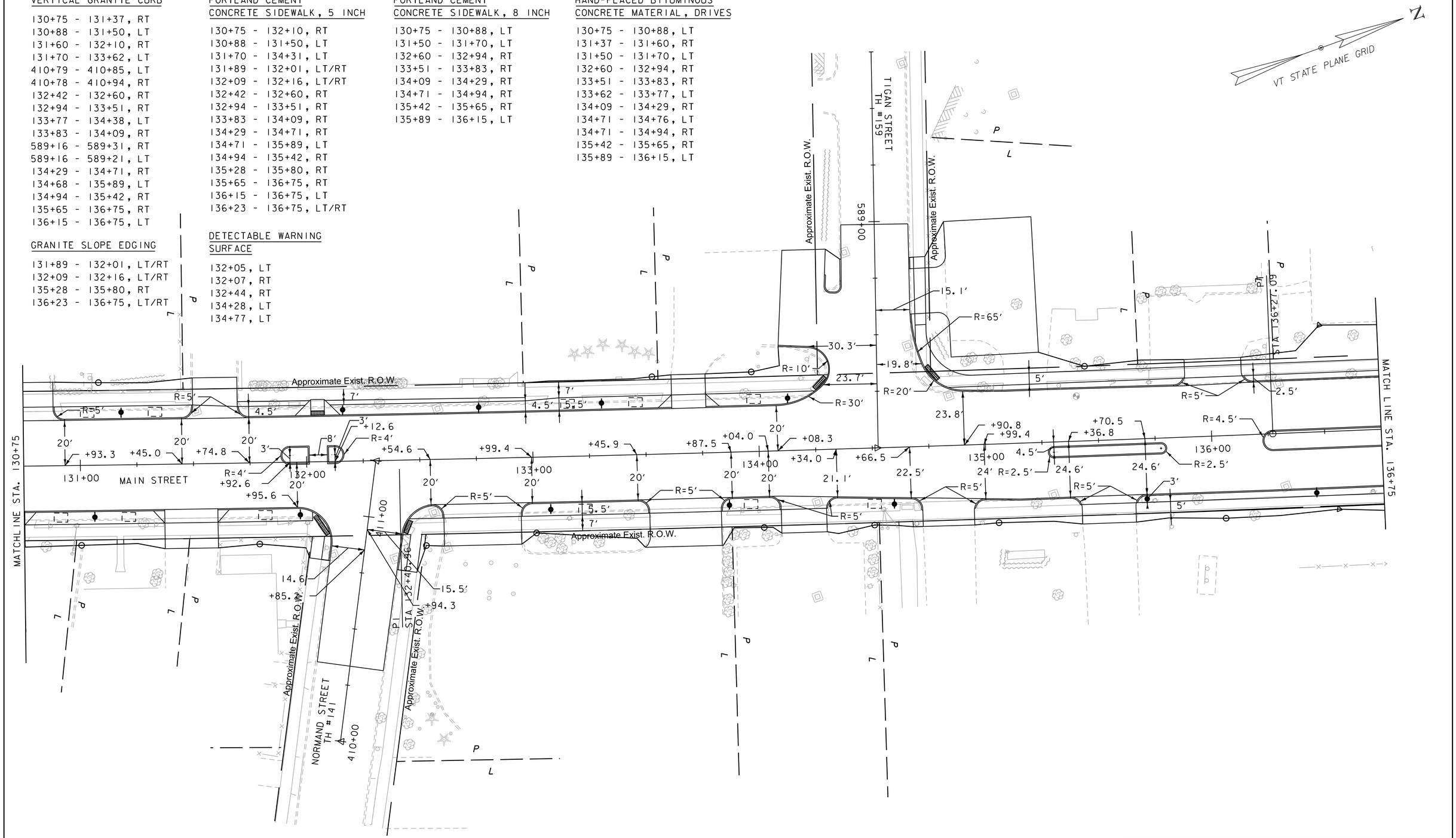
132+05, LT
132+07, RT
132+44, RT
134+28, LT
134+77, LT

PORTLAND CEMENT CONCRETE SIDEWALK, 8 INCH

130+75 - 130+88, LT
131+50 - 131+70, LT
132+60 - 132+94, RT
133+51 - 133+83, RT
134+09 - 134+29, RT
134+71 - 134+94, RT
135+42 - 135+65, RT
135+89 - 136+15, LT

HAND-PLACED BITUMINOUS CONCRETE MATERIAL, DRIVES

130+75 - 130+88, LT
131+37 - 131+60, RT
131+50 - 131+70, LT
132+60 - 132+94, RT
133+51 - 133+83, RT
133+62 - 133+77, LT
134+09 - 134+29, RT
134+71 - 134+76, LT
134+71 - 134+94, RT
135+42 - 135+65, RT
135+89 - 136+15, LT



PROJECT NAME: WINOOSKI MAIN ST.	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_bdr_nul.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P. DETRICK	DRAWN BY: C.K. FORD
DESIGNED BY: D.M. PECK	CHECKED BY: E.P. DETRICK
GENERAL PLAN SHEET (7 OF 8)	SHEET 17 OF 178

PORTLAND CEMENT
CONCRETE SIDEWALK, 5 INCH

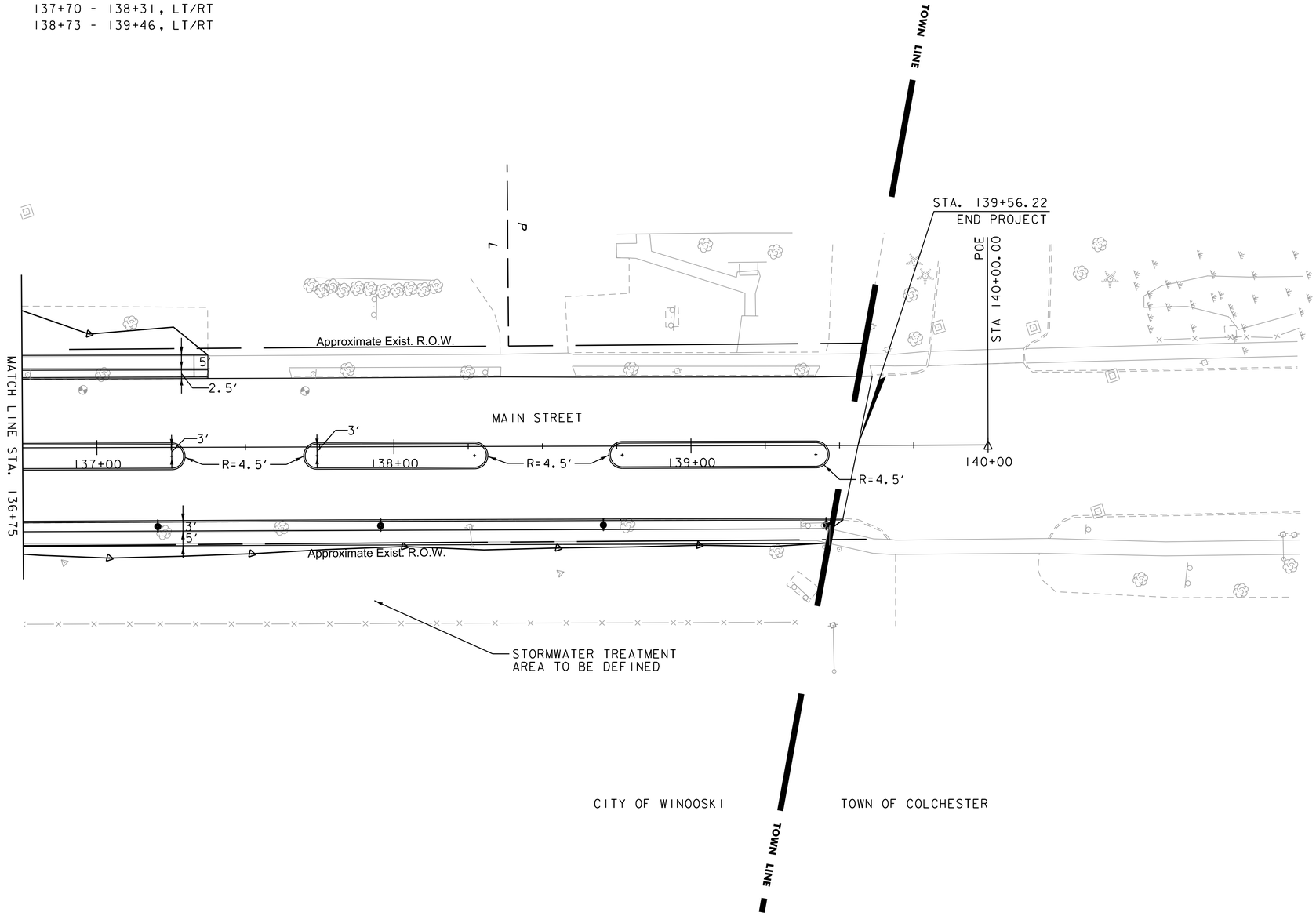
136+75 - 137+29, LT/RT
136+75 - 137+38, LT
136+75 - 139+47, RT
137+70 - 138+31, LT/RT
138+73 - 139+46, LT/RT

VERTICAL GRANITE CURB

136+75 - 137+38, LT
136+75 - 139+51, RT

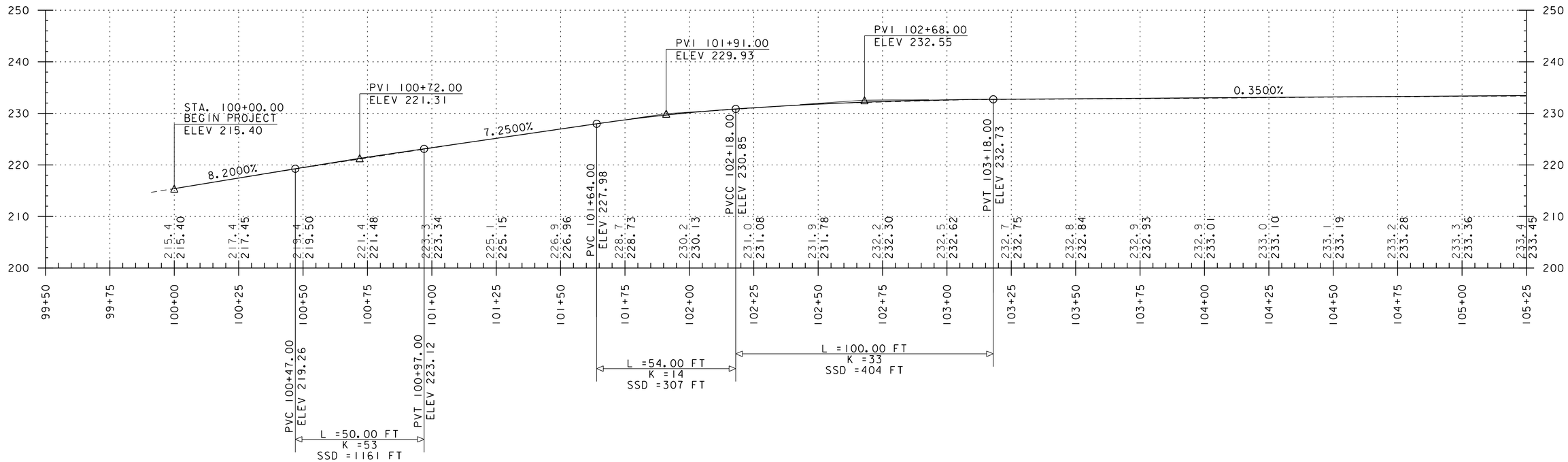
GRANITE SLOPE EDGING

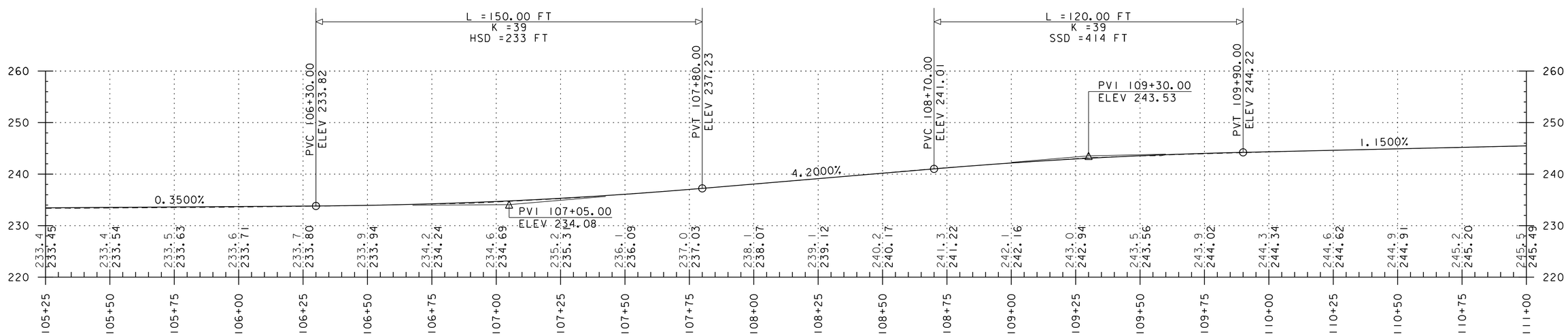
136+75 - 137+29, LT/RT
137+70 - 138+31, LT/RT
138+73 - 139+46, LT/RT



0 20 40
SCALE IN FEET

PROJECT NAME: WINOOSKI MAIN ST.	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_bdr_nul.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P. DETRICK	DRAWN BY: C.K. FORD
DESIGNED BY: D.M. PECK	CHECKED BY: E.P. DETRICK
GENERAL PLAN SHEET (8 OF 8)	SHEET 18 OF 178



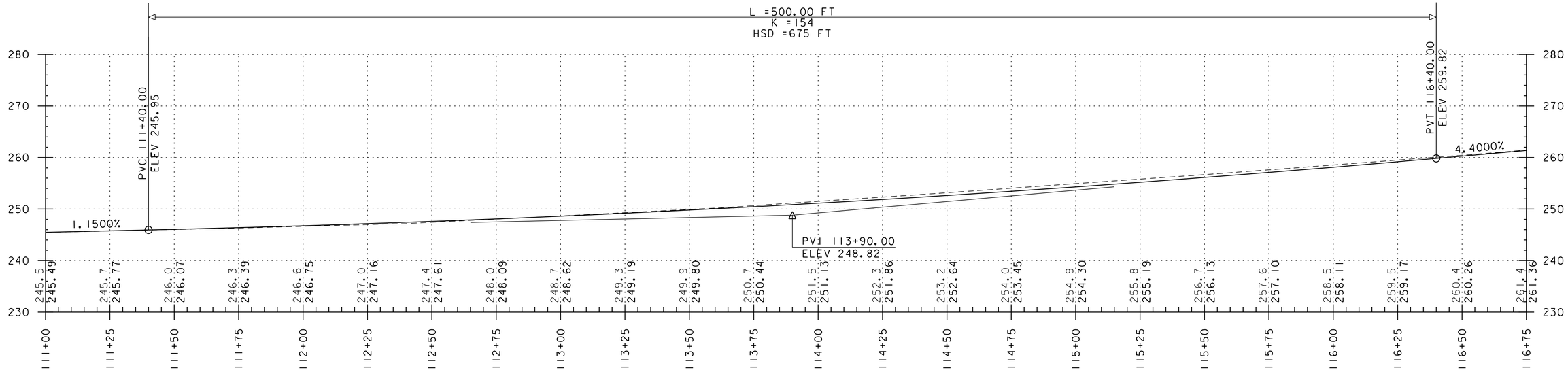


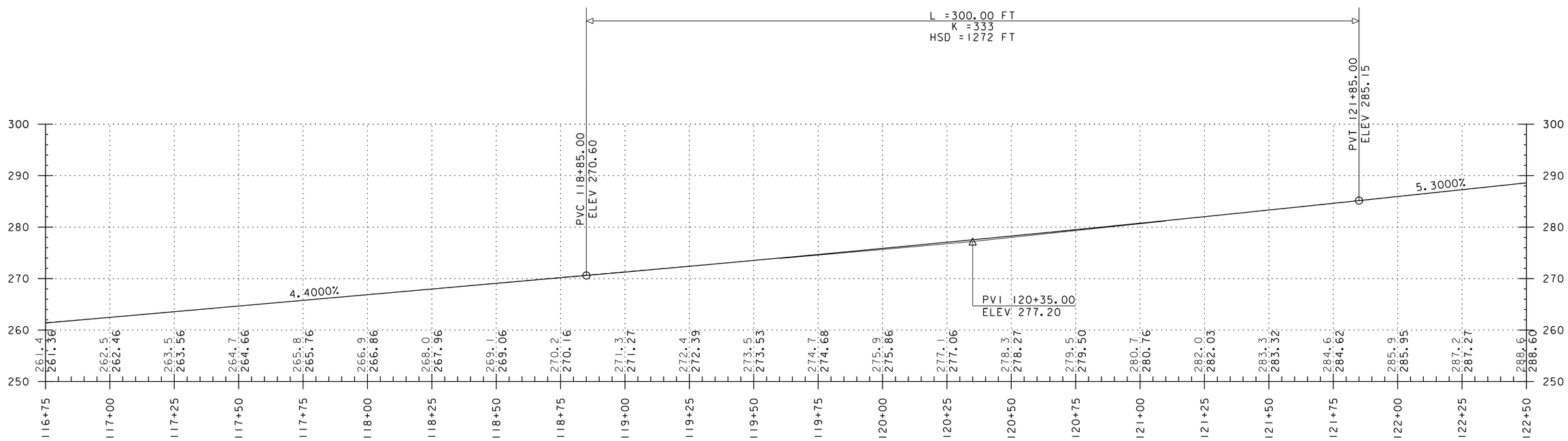
THE GRADES SHOWN TO THE NEAREST TENTH OF A FOOT IN THE PROFILE ARE THE ORIGINAL GROUND ELEVATIONS ALONG THE PROPOSED ALIGNMENT.

THE GRADES SHOWN TO THE NEAREST HUNDREDTH OF A FOOT IN THE PROFILE ARE THE FINISH GRADES ALONG THE PROPOSED ALIGNMENT.

STATIONING AND ELEVATIONS IN FEET.

PROJECT NAME: WINOOSKI MAIN STREET	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_Pro.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P. DETRICK	DRAWN BY: J.D. BACHIOCHI
DESIGNED BY: D.M. PECK	CHECKED BY: E.P. DETRICK
PROFILE SHEET (SHEET 1 OF 4)	SHEET 19 OF 178



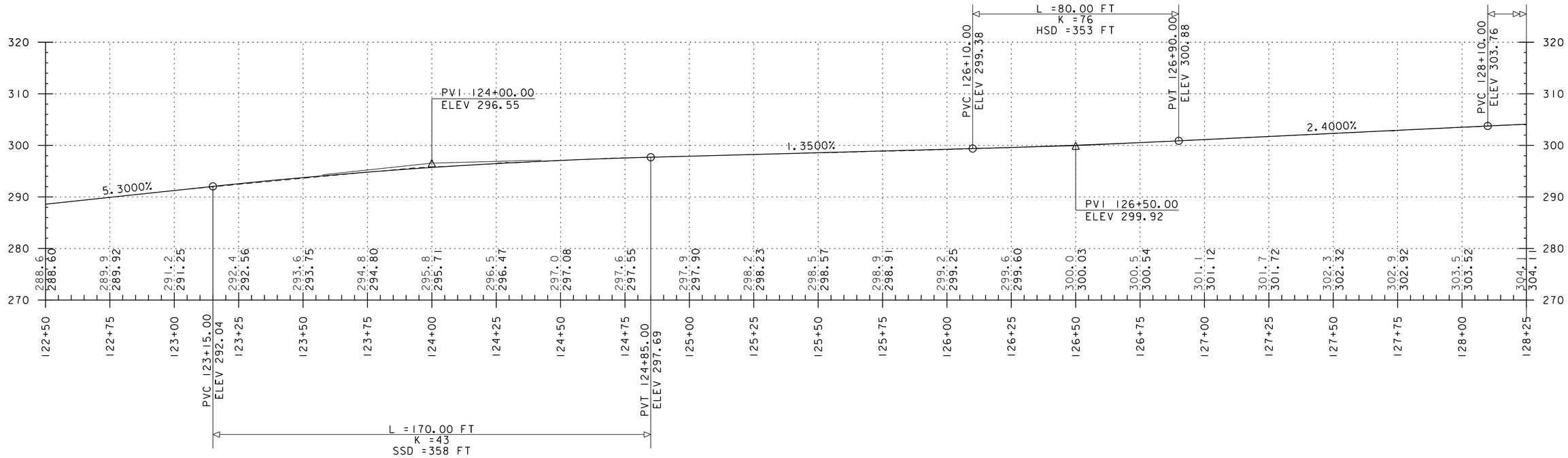


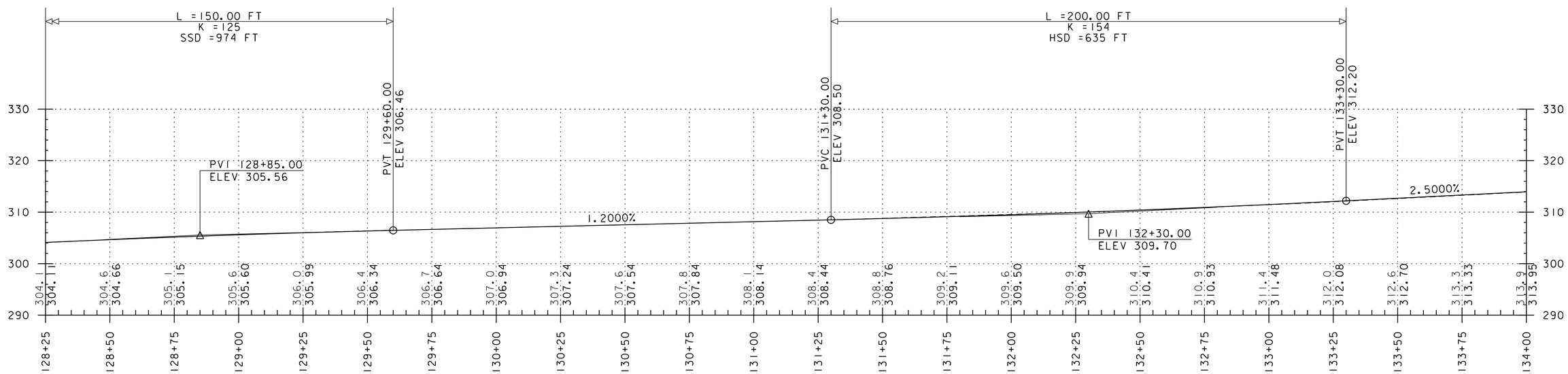
THE GRADES SHOWN TO THE NEAREST TENTH OF A FOOT IN THE PROFILE ARE THE ORIGINAL GROUND ELEVATIONS ALONG THE PROPOSED ALIGNMENT.

THE GRADES SHOWN TO THE NEAREST HUNDREDTH OF A FOOT IN THE PROFILE ARE THE FINISH GRADES ALONG THE PROPOSED ALIGNMENT.

STATIONING AND ELEVATIONS IN FEET.

PROJECT NAME: WINOOSKI MAIN STREET	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_Pro.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P. DETRICK	DRAWN BY: J.D. BACHIOCHI
DESIGNED BY: D.M. PECK	CHECKED BY: E.P. DETRICK
PROFILE SHEET (SHEET 2 OF 4)	SHEET 20 OF 178



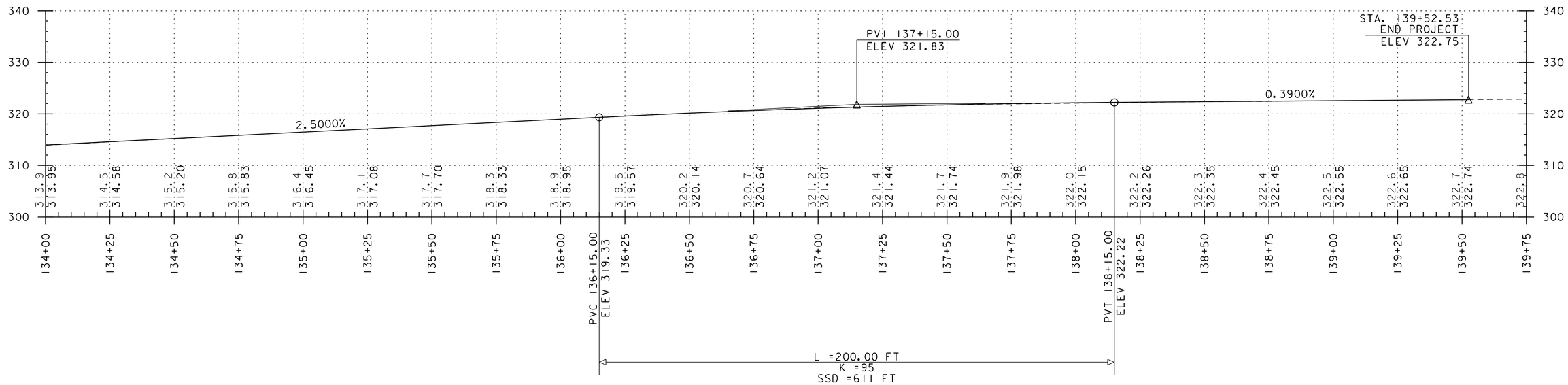


THE GRADES SHOWN TO THE NEAREST TENTH OF A FOOT IN THE PROFILE ARE THE ORIGINAL GROUND ELEVATIONS ALONG THE PROPOSED ALIGNMENT.

THE GRADES SHOWN TO THE NEAREST HUNDREDTH OF A FOOT IN THE PROFILE ARE THE FINISH GRADES ALONG THE PROPOSED ALIGNMENT.

STATIONING AND ELEVATIONS IN FEET.

PROJECT NAME: WINOOSKI MAIN STREET	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_Pro.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P. DETRICK	DRAWN BY: J.D. BACHIOCHI
DESIGNED BY: D.M. PECK	CHECKED BY: E.P. DETRICK
PROFILE SHEET (SHEET 3 OF 4)	SHEET 21 OF 178

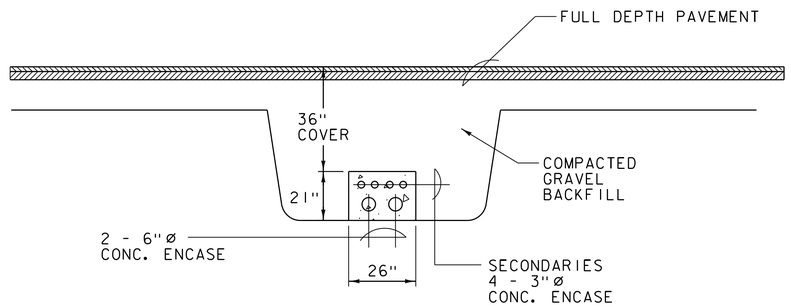


THE GRADES SHOWN TO THE NEAREST TENTH OF A FOOT IN THE PROFILE ARE THE ORIGINAL GROUND ELEVATIONS ALONG THE PROPOSED ALIGNMENT.

THE GRADES SHOWN TO THE NEAREST HUNDREDTH OF A FOOT IN THE PROFILE ARE THE FINISH GRADES ALONG THE PROPOSED ALIGNMENT.

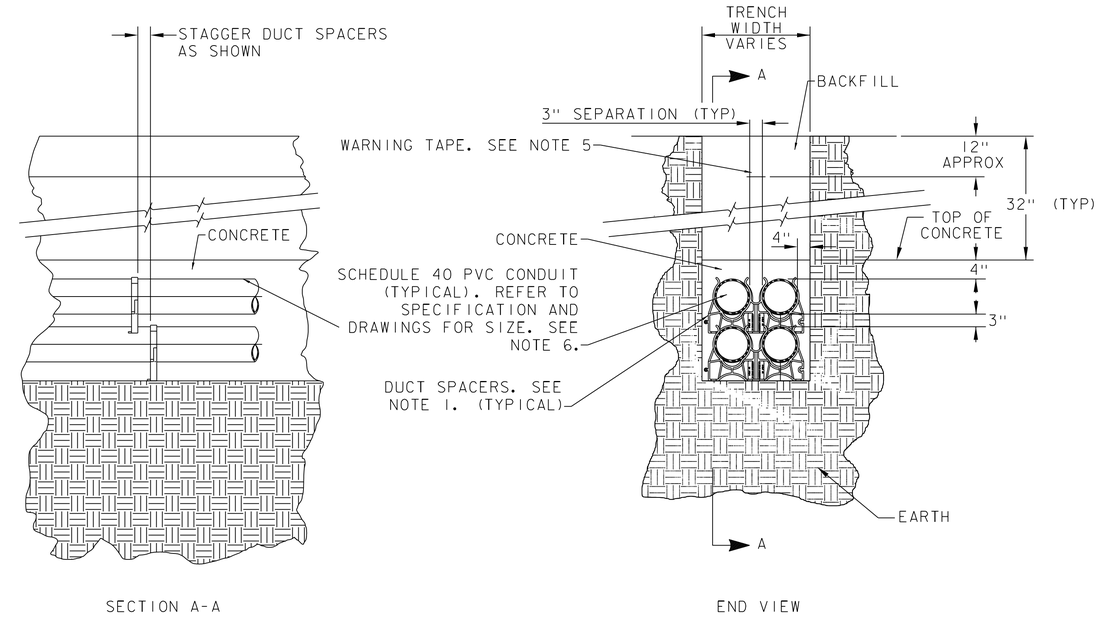
STATIONING AND ELEVATIONS IN FEET.

PROJECT NAME: WINOOSKI MAIN STREET	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_Pro.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P. DETRICK	DRAWN BY: J.D. BACHIOCHI
DESIGNED BY: D.M. PECK	CHECKED BY: E.P. DETRICK
PROFILE SHEET (SHEET 4 OF 4)	SHEET 22 OF 178



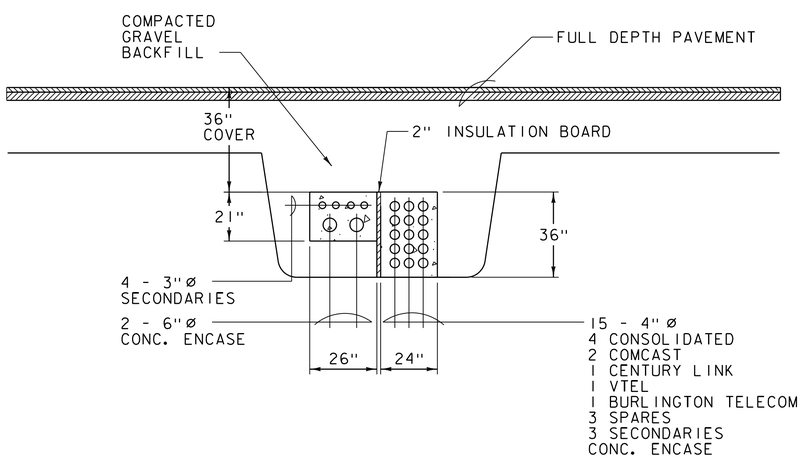
ELECTRIC DUCT BANK

N. T. S.



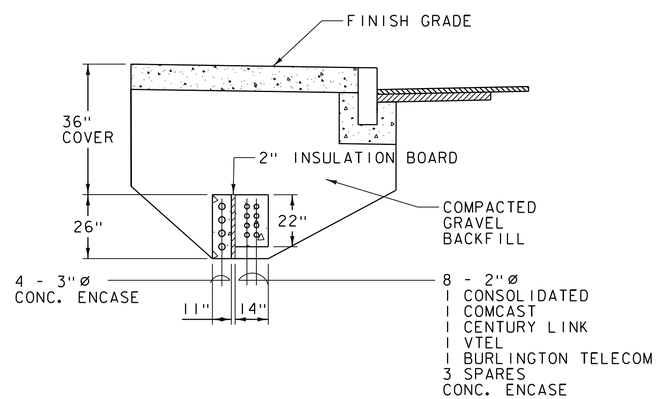
TYPICAL DUCT BANK

N. T. S.



ELECTRICAL AND TELECOM DUCT BANK

N. T. S.



ELECTRICAL SECONDARY AND

TELECOM SERVICE DUCT BANK

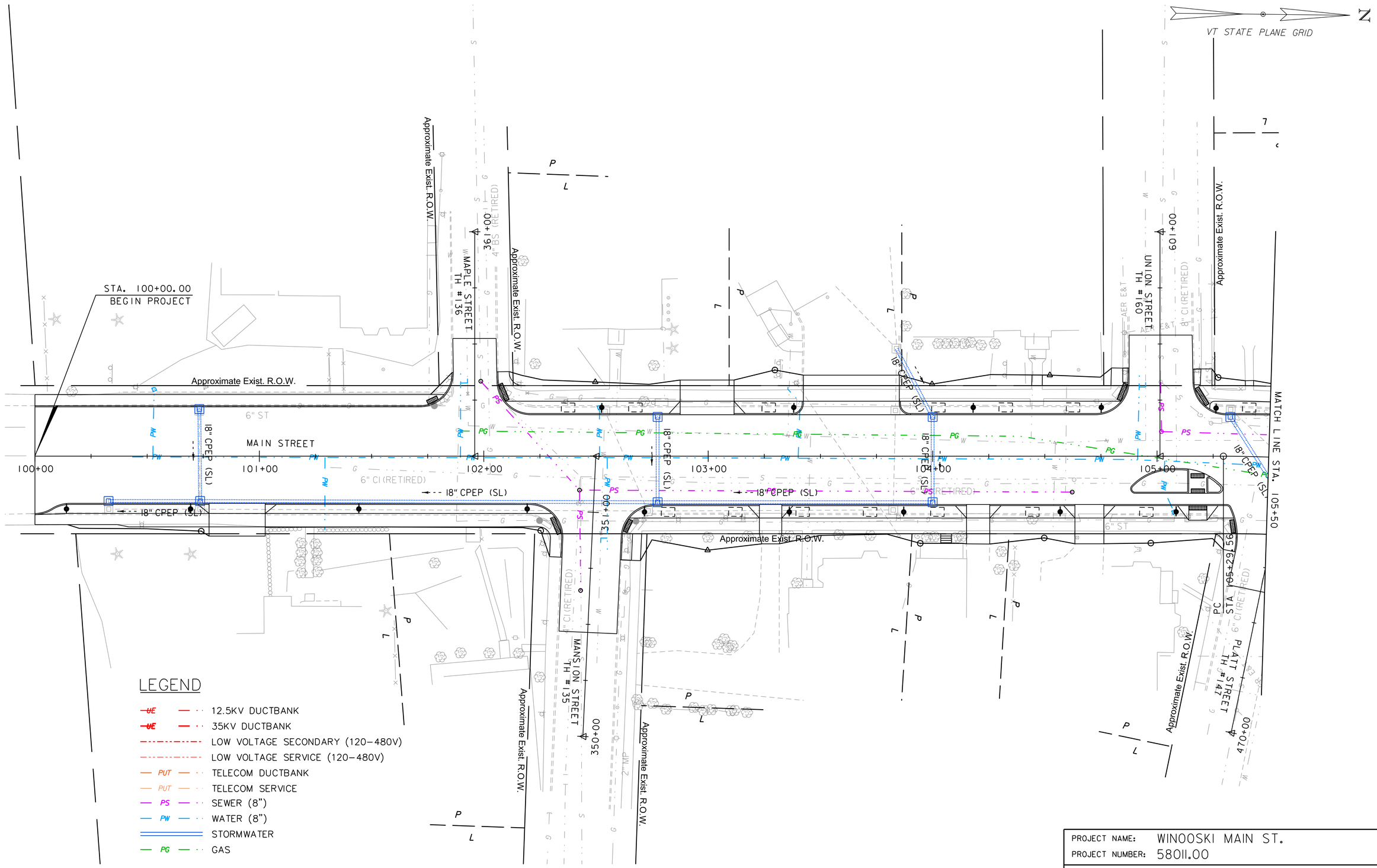
N. T. S.

GUIDE SPECIFICATIONS AND RELATED NOTES:

1. DUCT BANK SHALL BE ENCASED IN CONCRETE WITH AT LEAST FOUR INCHES OF CONCRETE AT THE TOP, THREE INCHES AT BOTTOM AND FOUR INCHES ON EACH SIDE. A HORIZONTAL AND VERTICAL SEPARATION BETWEEN THE DUCTS OF THREE INCHES SHALL BE MAINTAINED BY INSTALLING UNDERGROUND DEVICES HIGH IMPACT POLYSTYRENE SPACERS. SPACERS SHALL BE INTERLOCKED HORIZONTALLY ONLY. ALONG THE DUCT RUN SPACERS SHALL BE STAGGERED VERTICALLY AND SHALL BE PLACED AT AN INTERVAL OF FOUR SPACERS PER 20 FEET (5 FEET APART).
2. THE CONCRETE SHALL INCORPORATE 3/8" AGGREGATE WITH A NOMINAL COMPRESSIVE STRENGTH OF 3,000 LBS. PER SQUARE INCH. THE SLUMP SHALL BE AT THE UPPER END OF THE RANGE, PREFERABLY 7 TO 8 INCHES. IT SHOULD HAVE JUST ENOUGH SLUMP TO FLOW TO THE BOTTOM OF THE DUCT BANK AND YET NOT BE SO WET AT TO CAUSE THE CONDUITS TO FLOAT EXCESSIVELY.
3. WHEN PLACING CONCRETE AROUND CONDUITS ADJUST THE DELIVERY CHUTE SO THE FALL OF THE CONCRETE INTO THE TRENCH IS MINIMAL. POUR THE CONCRETE SLOWLY AND DISTRIBUTE IT EVENLY SO AS NOT TO DISLODGE THE SPACERS.
4. THE DUCT BANK SHOULD BE OF MONOLITHIC CONSTRUCTION.
5. PLASTIC WARNING TAPE SHALL BE "EXTRA-STRETCH" 6" WIDE AS MANUFACTURED BY TERRA-TAPE OR APPROVED EQUAL. COLOR CODE SHALL BE AS FOLLOWS: RED-ELECTRIC, ORANGE-COMMUNICATIONS. IMPRINTED TEXT SHALL IDENTIFY DUCT BANK SERVICE. UTILIZE NON-DETECTABLE TAPE FOR ELECTRIC DUCTS AND METALLIZED DETECTABLE TAPE FOR COMMUNICATION DUCTS.
6. DETAIL SHOWS TYPICAL LAYOUT FOR (4) 3" CONDUITS. SPACING SHOWN ON THIS DETAIL BETWEEN CONDUITS AND CONCRETE ENVELOPE AROUND CONDUITS IS TYPICAL FOR ALL CONDUIT TYPES AND SIZES. REFER TO SITE PLAN DRAWINGS FOR VIEWS OF ACTUAL DUCTBANK SECTIONS.

NOTE: NOT ALL CONDUITS WILL BE PRESENT IN ALL LOCATIONS

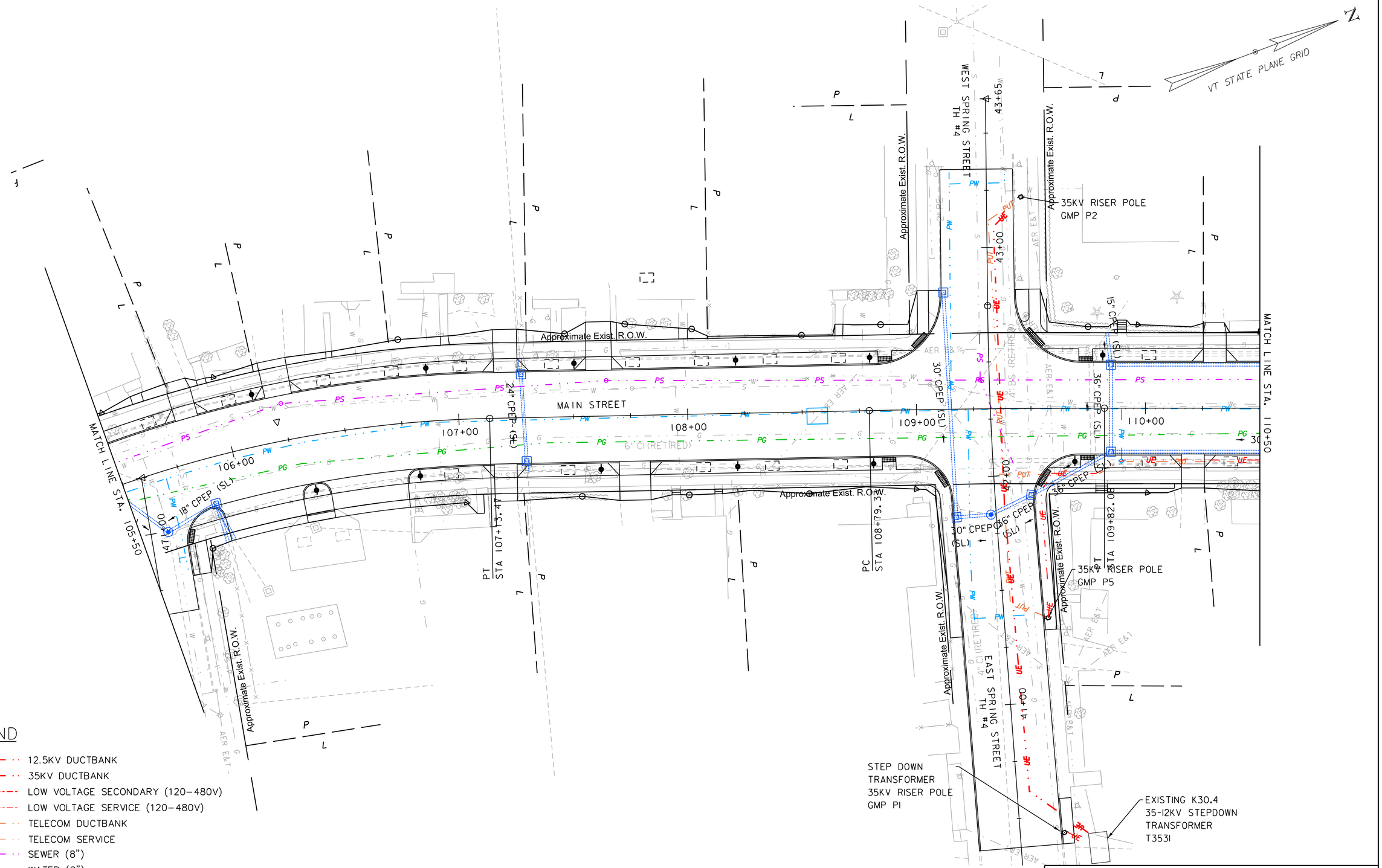
PROJECT NAME: WINOOSKI MAIN ST.	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_UT_det.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P.DETRICK	DRAWN BY: C.K.FORD
DESIGNED BY: C.K.FORD	CHECKED BY: D.M.PECK
UTILITY DETAIL SHEET	SHEET 23 OF 178



PROJECT NAME: WINOOSKI MAIN ST.
PROJECT NUMBER: 58011.00

FILE NAME: 58011_bdr_ut.dgn
PROJECT LEADER: E.P. DETRICK
DESIGNED BY: D.M. PECK
ELEC/COMM & GAS LAYOUT SHEET (1 OF 8)

PLOT DATE: 11/27/2019
DRAWN BY: C.K. FORD
CHECKED BY: E.P. DETRICK
SHEET 24 OF 178



LEGEND

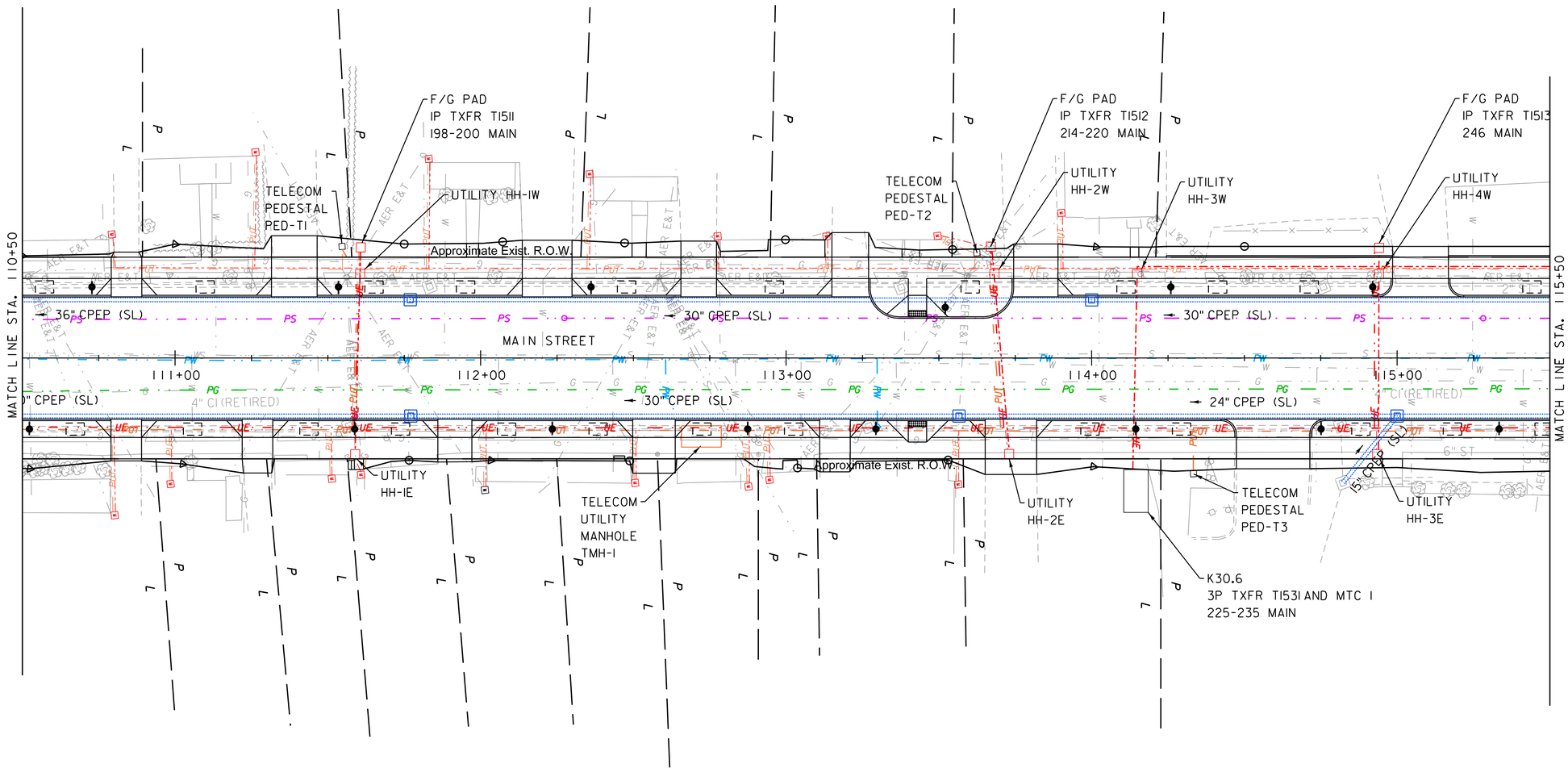
- UE — 12.5KV DUCTBANK
- UE — 35KV DUCTBANK
- LOW VOLTAGE SECONDARY (120-480V)
- LOW VOLTAGE SERVICE (120-480V)
- PUT — TELECOM DUCTBANK
- PUT — TELECOM SERVICE
- PS — SEWER (8")
- PW — WATER (8")
- STORMWATER
- PG — GAS

0 20 40
SCALE IN FEET

vhb

PROJECT NAME:	WINOOSKI MAIN ST.
PROJECT NUMBER:	58011.00

FILE NAME: 58011_bdr_ut.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P. DETRICK	DRAWN BY: C.K. FORD
DESIGNED BY: D.M. PECK	CHECKED BY: E.P. DETRICK
ELEC/COMM & GAS LAYOUT SHEET (2 OF 8)	SHEET 25 OF 178



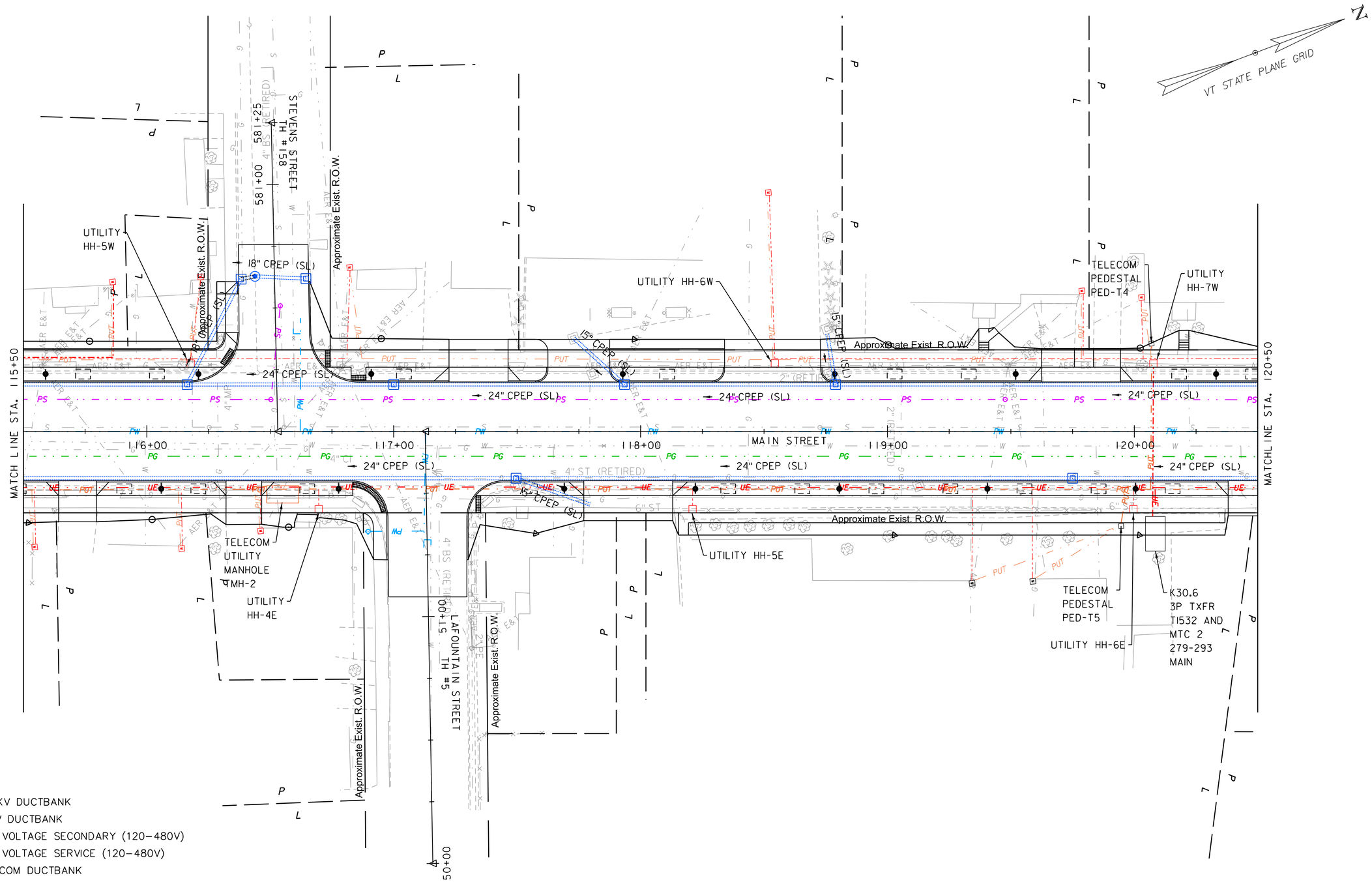
LEGEND

- UE — 12.5KV DUCTBANK
- UE — 35KV DUCTBANK
- LOW VOLTAGE SECONDARY (120–480V)
- LOW VOLTAGE SERVICE (120–480V)
- PUT — TELECOM DUCTBANK
- PUT — TELECOM SERVICE
- PS — SEWER (8")
- PW — WATER (8")
- STORMWATER
- PG — GAS

0 20 40
SCALE IN FEET

vhb

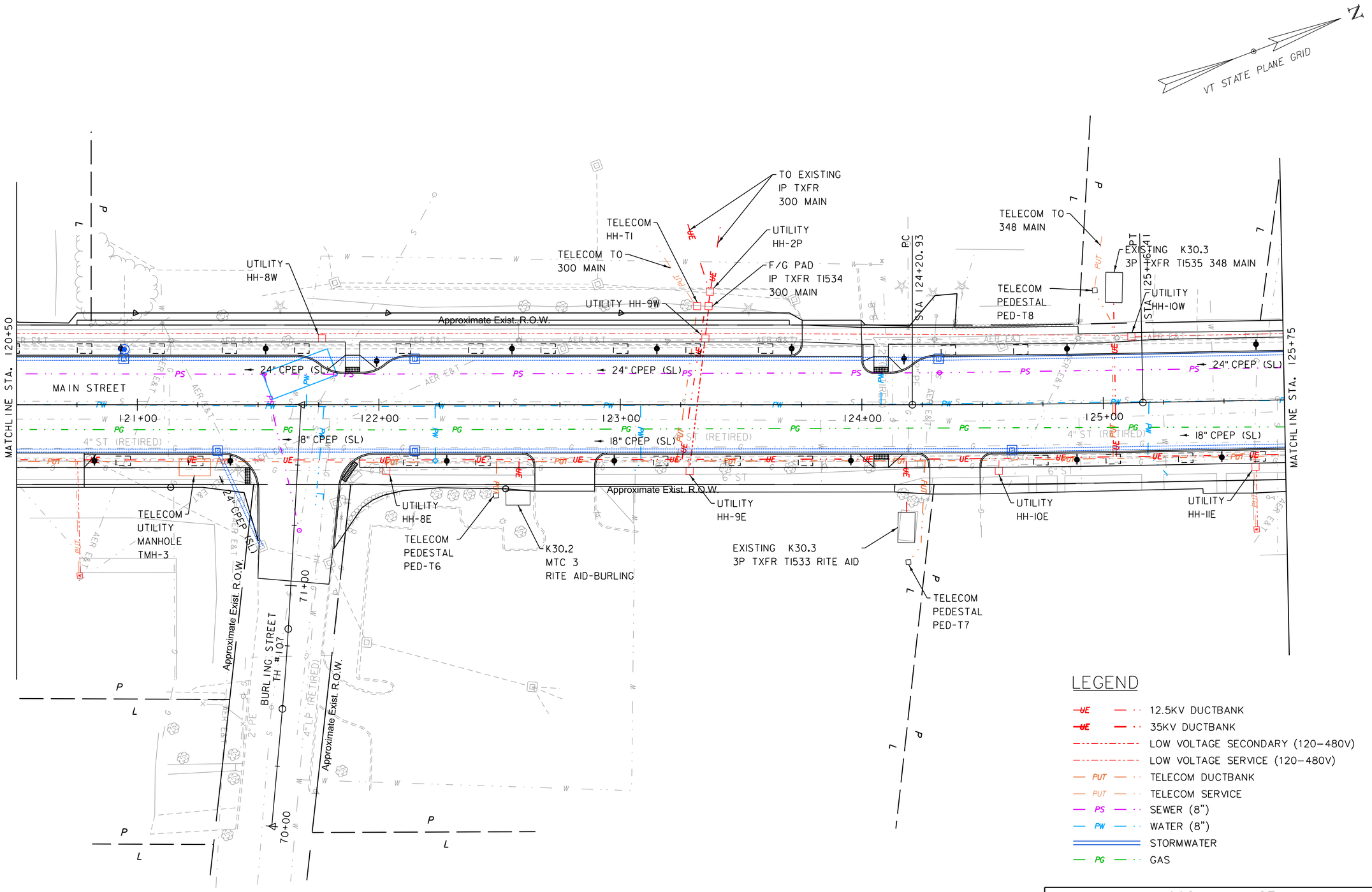
PROJECT NAME: WINOOSKI MAIN ST.	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_bdr_ut.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P. DETRICK	DRAWN BY: C.K. FORD
DESIGNED BY: D.M. PECK	CHECKED BY: E.P. DETRICK
ELEC/COMM & GAS LAYOUT SHEET (3 OF 8)	SHEET 26 OF 178



PROJECT NAME: WINOOSKI MAIN ST.
PROJECT NUMBER: 58011.00

FILE NAME: 58011_bdr_ut.dgn
PROJECT LEADER: E.P. DETRICK
DESIGNED BY: D.M. PECK
ELEC/COMM & GAS LAYOUT SHEET (4 OF 8)

PLOT DATE: 11/27/2019
DRAWN BY: C.K. FORD
CHECKED BY: E.P. DETRICK
SHEET 27 OF 178



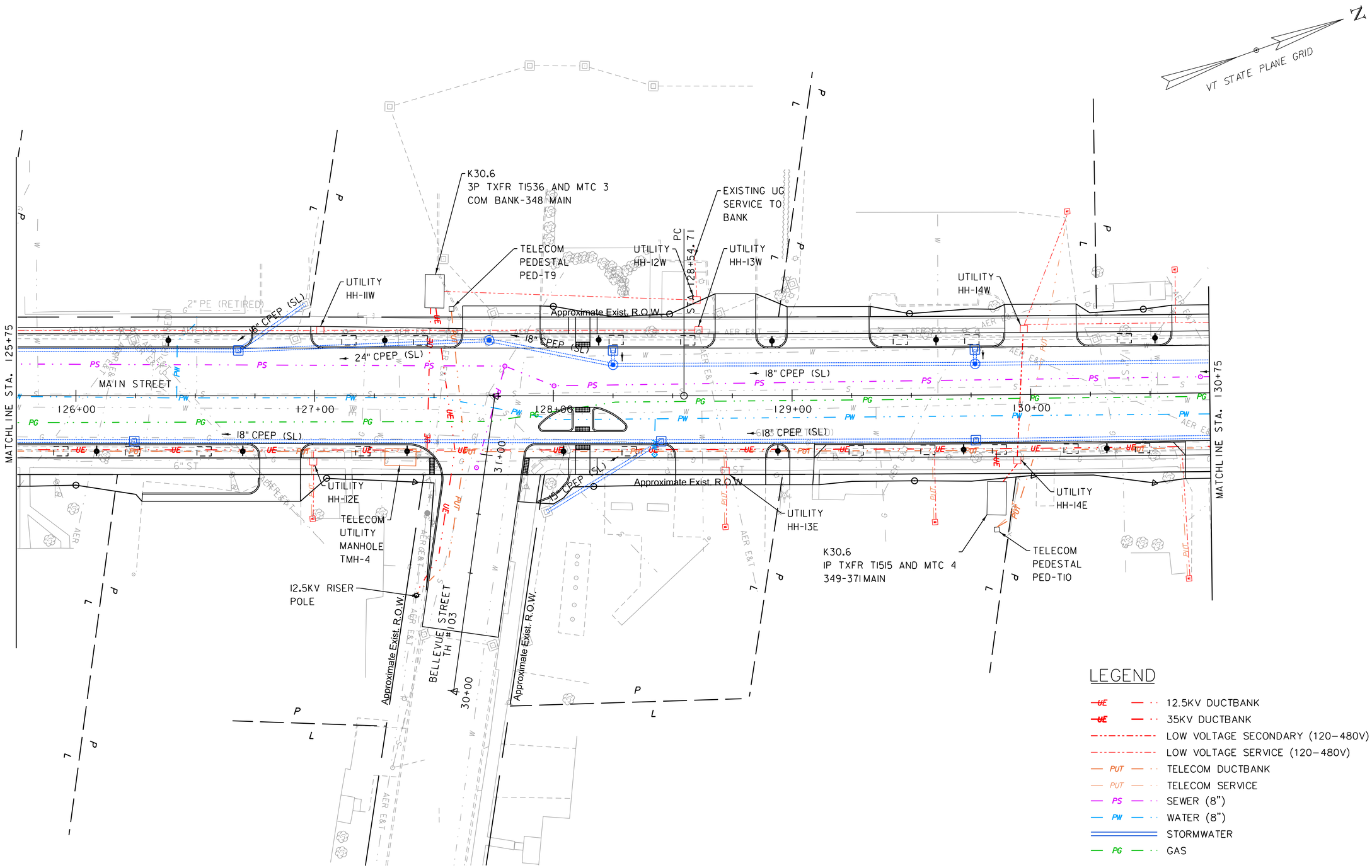
LEGEND

- UE — 12.5KV DUCTBANK
- UE — 35KV DUCTBANK
- LOW VOLTAGE SECONDARY (120–480V)
- LOW VOLTAGE SERVICE (120–480V)
- PUT — TELECOM DUCTBANK
- PUT — TELECOM SERVICE
- PS — SEWER (8")
- PW — WATER (8")
- STORMWATER
- PG — GAS

PROJECT NAME:	WINOOSKI MAIN ST.
PROJECT NUMBER:	58011.00

FILE NAME: 58011_bdr_ut.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P. DETRICK	DRAWN BY: C.K. FORD
DESIGNED BY: D.M. PECK	CHECKED BY: E.P. DETRICK
ELEC/COMM & GAS LAYOUT SHEET (5 OF 8)	SHEET 28 OF 178

vhb



LEGEND

- UE — 12.5KV DUCTBANK
- UE — 35KV DUCTBANK
- LOW VOLTAGE SECONDARY (120-480V)
- LOW VOLTAGE SERVICE (120-480V)
- PUT — TELECOM DUCTBANK
- PUT — TELECOM SERVICE
- PS — SEWER (8")
- PW — WATER (8")
- STORMWATER
- PG — GAS

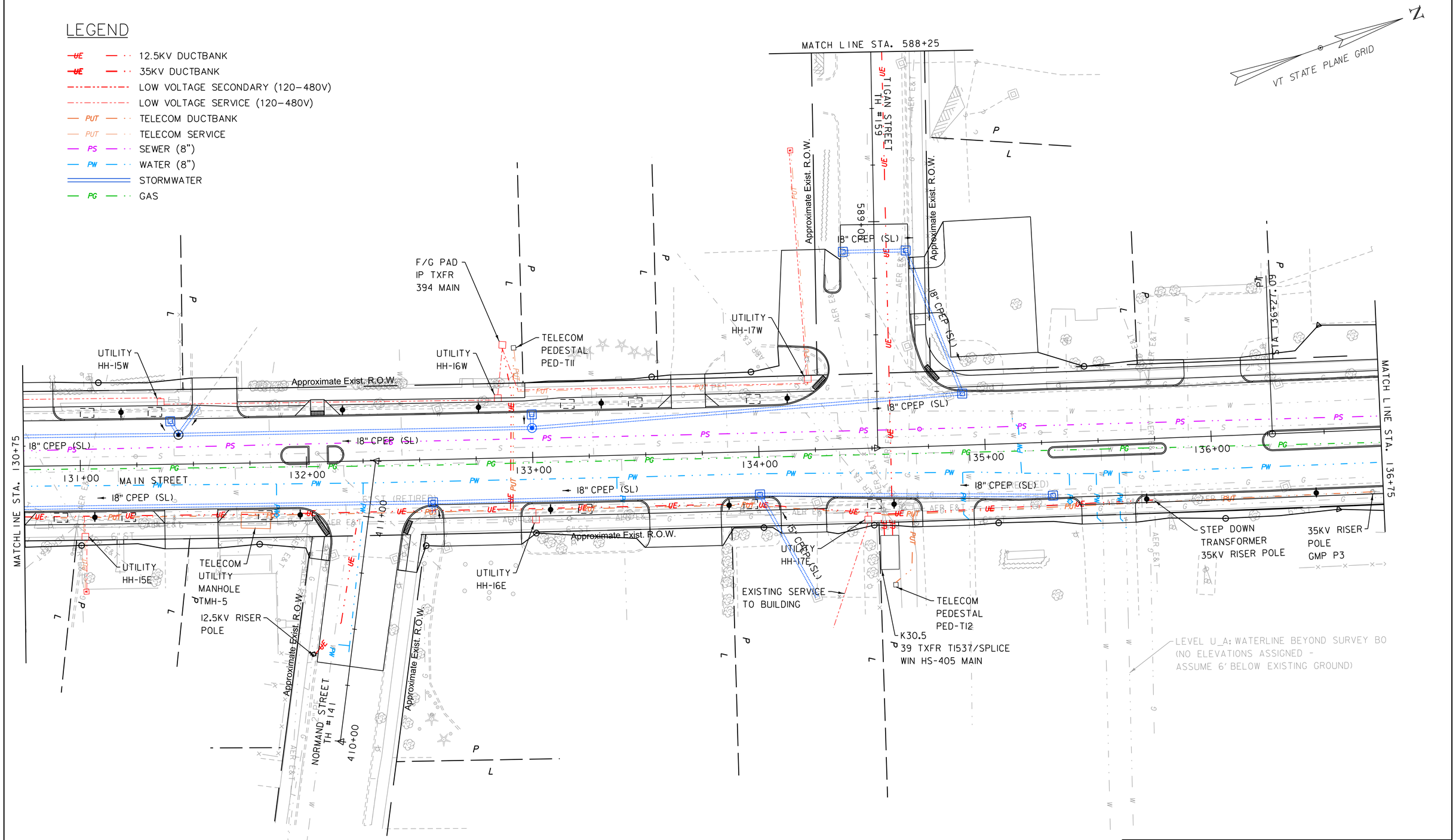
PROJECT NAME:	WINOOSKI MAIN ST.
PROJECT NUMBER:	58011.00

FILE NAME: 58011_bdr_ut.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P. DETRICK	DRAWN BY: C.K. FORD
DESIGNED BY: D.M. PECK	CHECKED BY: E.P. DETRICK
ELEC/COMM & GAS LAYOUT SHEET (6 OF 8)	SHEET 29 OF 178

vhb

LEGEND

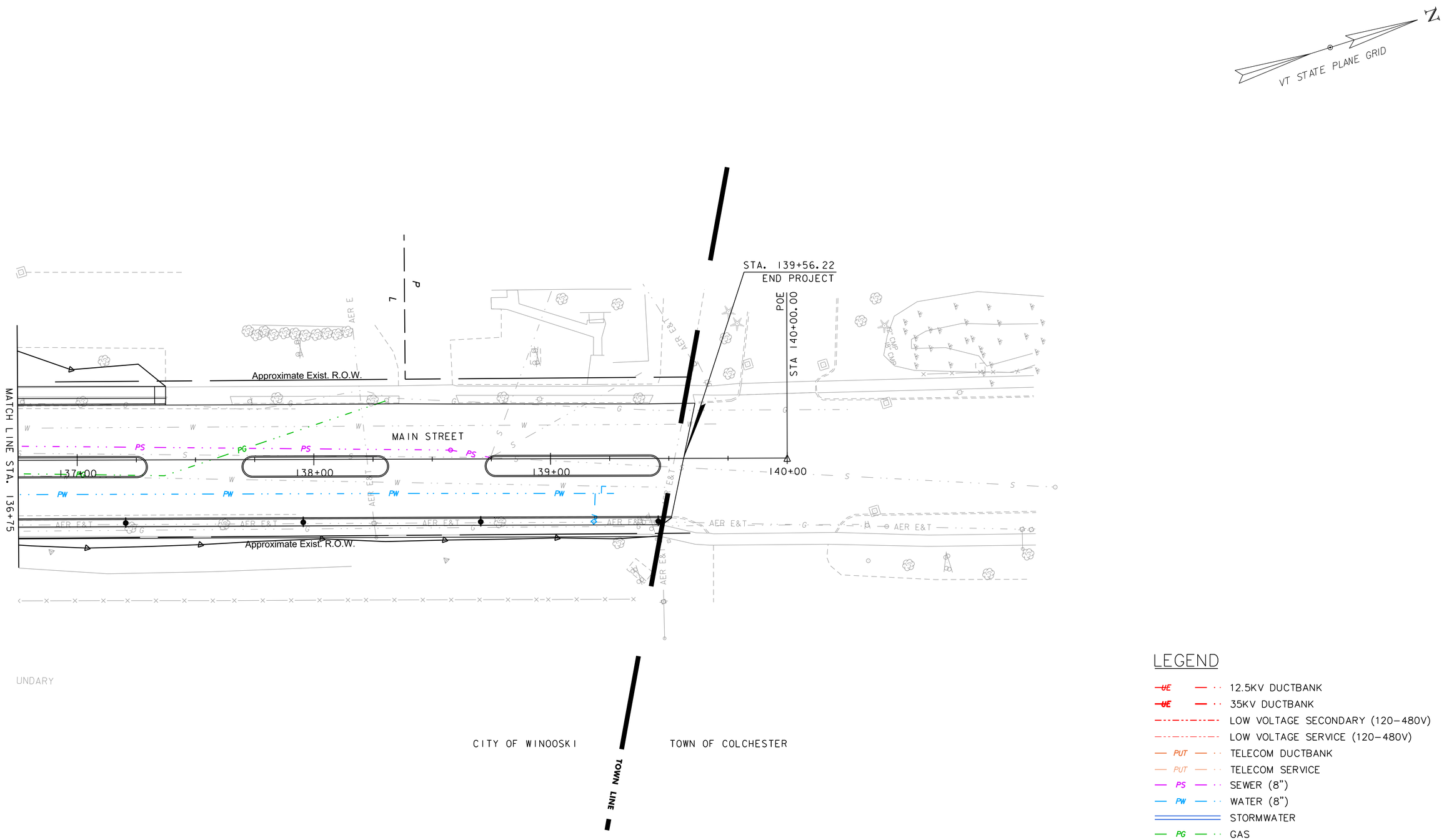
- UE — 12.5KV DUCTBANK
- UE — 35KV DUCTBANK
- LOW VOLTAGE SECONDARY (120–480V)
- LOW VOLTAGE SERVICE (120–480V)
- PUT — TELECOM DUCTBANK
- PUT — TELECOM SERVICE
- PS — SEWER (8")
- PW — WATER (8")
- STORMWATER
- PG — GAS



PROJECT NAME:	WINOOSKI MAIN ST.
PROJECT NUMBER:	58011.00

FILE NAME: 58011_bdr_ut.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P. DETRICK	DRAWN BY: C.K. FORD
DESIGNED BY: D.M. PECK	CHECKED BY: E.P. DETRICK
ELEC/COMM & GAS LAYOUT SHEET (7 OF 8)	SHEET 30 OF 178

vhb



PROJECT NAME: WINOOSKI MAIN ST.	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_bdr_ut.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P. DETRICK	DRAWN BY: C.K. FORD
DESIGNED BY: D.M. PECK	CHECKED BY: E.P. DETRICK
ELEC/COMM & GAS LAYOUT SHEET (8 OF 8)	SHEET 31 OF 178

WATER AND SEWER GENERAL NOTES

1. THERE ARE NUMEROUS EXISTING BURIED UTILITIES IN THIS PROJECT AREA. THE LOCATION OF PIPES, DUCTS CONDUITS, AND OTHER UNDERGROUND STRUCTURES SHOWN HERE ARE NOT WARRANTED TO BE EXACT, NOR IS IT WARRANTED THAT ALL UNDERGROUND STRUCTURES ARE SHOWN. THESE UTILITIES ARE SHOWN BASED ON BEST AVAILABLE FIELD EVIDENCE AND RECORDED DATA PROVIDED BY THE OWNER. ALL UNDERGROUND UTILITIES MUST BE LOCATED AND MARKED, BY THE CONTRACTOR, DURING THE PROJECT.
2. THE CONTRACTOR SHALL PERFORM EXPLORATORY EXCAVATION TO VERIFY LOCATIONS AND SIZES OF EXISTING WATER, SEWER, STORM DRAIN SYSTEMS, AND SERVICES, PRIOR TO INSTALLATION OF ANY SEGMENT OF NEW UTILITIES. CONTRACTOR SHALL USE EXTREME CAUTION TO PREVENT DAMAGE TO EXISTING UTILITIES. CONTRACTOR IS RESPONSIBLE FOR PROTECTION OF ALL UTILITIES WHETHER OR NOT THEY ARE SHOWN ON THE PLANS. ALL REPAIRS TO DAMAGED UTILITIES SHALL BE MADE BY THE CONTRACTOR, USING MATERIALS APPROVED BY THE ENGINEER, AT NO ADDITIONAL EXPENSE OF THE OWNER.
3. CONTRACTOR TO USE EXTREME CAUTION WHEN EXCAVATING NEAR BUILDINGS AND OTHER STRUCTURES.
4. CONTRACTORS SHALL COORDINATE WITH DIG SAFE A MINIMUM OF 72 HOURS PRIOR TO ANY EXCAVATION.
5. GENERALLY DARK OR HEAVY LINE WEIGHT REFERS TO PROPOSED IMPROVEMENTS. NORMAL FONT OR LIGHT LINE WORK REFERS TO EXISTING FACILITIES.
6. ALL WORK SHALL BE DONE ON LANDS OWNED BY CITY OF WINOOSKI OR IN THE PUBLIC RIGHT-OF-WAY OR EASEMENT AREAS.
7. TEMPORARY WATER SERVICE IS NECESSARY ON ALL PORTIONS OF THIS PROJECT. WATER SERVICE SHALL NOT BE INTERRUPTED FOR MORE THAN FOUR (4) HOURS. ALL CUSTOMERS THAT MAY BE TEMPORARILY OUT OF WATER SHALL BE NOTIFIED TWENTY-FOUR (24) HOURS PRIOR TO ACTIVITY BY THE CONTRACTOR. THE TOWN SHALL BE GIVEN THE SAME NOTICE TO PREPARE FOR ALL SYSTEM SHUTDOWNS. CONTRACTOR SHALL PERFORM EXPLORATORY EXCAVATION TO LOCATE EXISTING WATER MAIN. A WRITTEN PLAN FOR TEMPORARY WATER SHALL BE SUBMITTED FOR APPROVAL PRIOR TO COMMENCEMENT OF WORK. ALL CAPPING, BYPASSING, OR OTHER MEANS OF TEMPORARILY FEEDING WATER DURING THE CONSTRUCTION PERIOD SHALL REQUIRE APPROVAL PRIOR TO INSTALLATION.
8. THE CONTRACTOR IS REQUIRED TO CONSTRUCT THE SANITARY SEWER MAIN WHILE MAINTAINING SEWER SERVICE THROUGH THE EXISTING COLLECTION SYSTEM OR A BY-PASS PUMPING SYSTEM. SEWER SERVICE SHALL NOT BE INTERRUPTED FOR MORE THAN FOUR (4) HOURS. ALL CUSTOMERS THAT MAY BE TEMPORARILY OUT OF SEWER SERVICE SHALL BE NOTIFIED TWENTY-FOUR (24) HOURS PRIOR TO ACTIVITY BY THE CONTRACTOR.
9. WHEN REPLACING STRUCTURES AND/OR CONNECTING TO EXISTING PIPING SYSTEMS, CONFIRM EXISTING LOCATIONS, SIZES AND ELEVATIONS OF INVERTS PRIOR TO ORDERING PRE-CAST STRUCTURES.
10. MINIMUM VERTICAL CLEARANCE BETWEEN NEW WATER MAINS AND ALL EXISTING UTILITIES, EXCEPT SEWERS AND STORM DRAINS TO BE SIX (6) INCHES AT CROSSING LOCATIONS. SEE WATER AND SEWER SEPARATION NOTES ON THIS SHEET FOR MINIMUM CLEARANCE FROM SEWERS AND STORM DRAINS.
11. ANY EXISTING WATER AND SEWER SERVICES WILL BE REPAIRED OR RELOCATED AS NECESSARY IN ORDER TO MAINTAIN SERVICE. THE UTILITY OWNER WILL ASSIST IN THE LOCATION AND MARKING OF THESE SERVICES BUT THE CONTRACTOR MAY BE REQUIRED TO CONDUCT EXPLORATORY EXCAVATION AS REQUIRED.
12. LISTING OF ADAPTERS, FITTINGS, NIPPLES, ETC. IS FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. ADDITIONAL MATERIAL MAY BE REQUIRED. SOLID SLEEVE COUPLINGS WILL BE REQUIRED FOR CONNECTION TO EXISTING MAINS.
13. CONTRACTOR TO PROVIDE CAPS FOR ALL ABANDONED PIPING AS REQUIRED. ALL TYPES OF PIPE CAPPING TO BE PAID FOR UNDER THE PIPE UNIT PRICE. ALL MAIN LINE UTILITIES TO BE ABANDONED SHALL BE FILLED WITH FLOWABLE FILL. ALL SERVICE LINES TO BE REMOVED.
14. WHERE NEW MECHANICALLY RESTRAINED PIPE IS CONNECTED TO EXISTING PUSH ON JOINT PIPE, THE CONTRACTOR MUST ADEQUATELY RESTRAIN EXISTING PUSH ON PIPE AS NECESSARY.
15. ALL WATER MAIN PIPE, VALVES, FITTINGS, AND HYDRANTS ARE TO BE MECHANICALLY RESTRAINED USING MECHANICAL JOINTS WITH WEDGE TYPE RETAINER GLANDS AND THRUST BLOCKS.
16. WATER MAINS TO HAVE 6.0 FEET MINIMUM COVER UNLESS OTHERWISE STATED OR SHOWN ON THE PROFILES. WHEN 6.0 FEET OF COVER CANNOT BE MAINTAINED 4" RIGID BOARD INSULATION SHALL BE USED. DEPTH COVER SHALL NOT BE LESS THAN 4 FEET EVEN WITH INSULATION. SEWER MAIN SHALL HAVE A MINIMUM OF 6.0' OF COVER UNLESS OTHERWISE STATED OR SHOWN ON THE PROFILES.
17. CONTRACTOR IS RESPONSIBLE FOR FLUSHING, PRESSURE TESTING AND DISINFECTING ALL NEW WATER MAIN. CHLORINE INJECTION POINTS SHALL BE INSTALLED WHERE REQUIRED AND APPROVED BY THE ENGINEER PRIOR TO INSTALLATION AND REMOVED UPON COMPLETION OF TESTING. CONTRACTOR TO DISCUSS PROCEDURES WITH ENGINEER PRIOR TO COMMENCEMENT OF TESTING.
18. ALL CHLORINATED WATER FROM DEWATERING, TESTING, OR ANY OTHER CONSTRUCTION ACTIVITIES SHALL BE PLACED IN THE EXISTING COMBINED SEWER SYSTEM AND CONVEYED TO THE WASTEWATER TREATMENT FACILITY. METHODS TO PROVIDE DECHLORINATION SHALL BE IN PLACE IN THE CATCH BASINS OR MANHOLES USED TO RECEIVE HEAVILY CHLORINATED WATER. THE CONTRACTOR SHALL NOTIFY THE OPERATOR AT THE WASTEWATER TREATMENT FACILITY IN ADVANCE OF ANY FLUSHING ACTIVITIES.
19. ALL EXISTING HYDRANTS NOTED FOR REMOVAL ARE THE PROPERTY OF THE CITY OF WINOOSKI AND SHALL BE DELIVERED TO THE WATER DEPARTMENT AFTER REMOVAL.
20. A BELL JOINT CLAMP ON THE PUSH-ON JOINT OF THE DUCTILE IRON WATER MAIN SHALL BE UTILIZED IN LOCATIONS WHERE WATER MAIN IS WITHIN 5 FEET (EDGE TO EDGE) OF STORM DRAIN PIPES OR STRUCTURES, OR WITHIN 10 FEET (EDGE TO EDGE) OF SANITARY SEWER PIPES OR STRUCTURES. ENGINEER SHALL BE NOTIFIED AND MUST APPROVE THIS WORK PRIOR TO INSTALLATION. REFER TO SHEET C18 FOR FURTHER SEPARATION REQUIREMENTS.
21. ALL WATER MAIN (INCLUDING INTERCONNECTION POINTS, SPRINKLER LINES, AND FUTURE STUBS) MUST BE FLUSHED PRIOR TO DISINFECTION. TEMPORARY FLUSHING CONNECTIONS AS REQUIRED IN MOST CASES. SEE DETAIL ON SHEET XX.
22. CONTRACTOR SHALL MAKE EVERY EFFORT TO ALLOW ACCESS TO AND FROM DRIVEWAYS, RESIDENCES, AND BUSINESSES LOCATED ALONG THE ROUTE OF CONSTRUCTION.
23. TECHNICAL SPECIFICATIONS PROVIDE NECESSARY INFORMATION AND ARE PART OF THE CONTRACT DOCUMENTS FOR THIS PROJECT.
24. CONTRACTOR SHALL COORDINATE WITH PROPERTY OWNERS TO GAIN ACCESS TO BASEMENTS WHERE NECESSARY
25. LISTING OF ADAPTERS, FITTINGS, NIPPLES, ETC IS FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. ADDITIONAL MATERIAL MAY BE REQUIRED. SOLID SLEEVE COUPLINGS WILL BE REQUIRED FOR CONNECTION TO EXISTING MAINS OR SERVICES.
26. ALL EXISTING PIPES AND STRUCTURES ENCOUNTERED SHALL BE VERIFIED WITH THE TOWN AND ENGINEER TO DETERMINE WHETHER OR NOT THEY SHOULD BE CONNECTED TO THE NEW UTILITY SYSTEMS OR BE REMOVED AND ABANDONED. ALL WORK FOR ABANDONING OR REMOVING UTILITIES SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS.
27. CONTRACTOR SHALL REMOVE ALL WATER AND SEWER PIPE ENCOUNTERED THAT IS DETERMINED TO BE ABANDONED. CONTRACTOR TO PROVIDE CAPS FOR ALL PIPING NOT REMOVED AS REQUIRED UNLESS OTHERWISE SPECIFIED. ALL TYPES OF PIPE CAPPING SHALL BE PAID FOR UNDER MISCELLANEOUS WORK AND CLEANUP. WATER PIPE TO BE DRAINED AND CAPPED. SEWER AND DRAIN PIPING TO BE ABANDONED SHALL BE DRAINED, FILLED WITH FLOWABLE FILL AND CAPPED UNLESS OTHERWISE SPECIFIED.
28. MANHOLES AND CATCH BASINS THAT ARE NOT COMPLETELY REMOVED DURING CONSTRUCTION SHALL HAVE STRUCTURE REMOVED TO 3 FEET BELOW FINISHED GRADE AND FILLED WITH FLOWABLE FILL.

LEGEND

EXISTING		PROPOSED	
	BUILDING	S	SANITARY SEWER
	CURB	S	SEWER SERVICE
	EDGE OF PAVEMENT	W	WATER MAIN
	EDGE OF SIDEWALK	WS	WATER SERVICE
	EDGE OF GRAVEL DRIVE		SEWER MANHOLE
W	WATER MAIN		GATE VALVE
S	SANITARY SEWER		FIRE HYDRANT
	STORM DRAIN		CURB STOP
S	SEWER MANHOLE		MANUAL AIR RELEASE
	CATCH BASIN	t	END CAP
D	DRAIN MANHOLE		PIPE FITTINGS
T	TELEPHONE MANHOLE		SOLID SLEEVE
E	ELECTRIC MANHOLE		CATCH BASIN (BY OTHERS)
	FIRE HYDRANT		STORM MANHOLE (BY OTHERS)
	GATE VALVE		STORM DRAIN (BY OTHERS)
	CURB STOP	T	TELEPHONE (BY OTHERS)
T	TELEPHONE	UE	UNDERGROUND ELECTRIC (BY OTHERS)
GAS	GAS LINE		
UE	UNDERGROUND ELECTRIC		
	UTILITY POLE		
	GUY WIRE		
	TREELINE		
	SIGN		
	LIGHT		
	CHAINLINK FENCE		
	MAIL BOX		
	RIGHT OF WAY		

ABBREVIATIONS

CPEP	CORRUGATED POLYETHYLENE PIPE
DI	DUCTILE IRON
FF	FINISHED FLOOR
ID	INSIDE DIAMETER
MJ	MECHANICAL JOINT
N/F	NOW OR FORMALLY
PP	PRESSURE PIPE
ROW	RIGHT-OF-WAY
SMH	SEWER MANHOLE
SS	SEWER SERVICE
TYP	TYPICAL
WS	WATER SERVICE
MIN	MINIMUM
TBR	TO BE REMOVED
TBV	TO BE VERIFIED

INDEX OF SHEETS

NUMBER	TITLE
XX	WATER/SEWER GENERAL NOTES AND LEGEND
XX	WATER PLAN 1
XX	WATER PLAN 2
XX	WATER PLAN 3
XX	WATER PLAN 4
XX	WATER PLAN 5
XX	WATER PLAN 6
XX	WATER PLAN 7
XX	WATER PLAN 8
XX	SEWER PLAN 1
XX	SEWER PLAN 2
XX	SEWER PLAN 3
XX	SEWER PLAN 4
XX	SEWER PLAN 5
XX	SEWER PLAN 6
XX	SEWER PLAN 7
XX	SEWER PLAN 8
XX	SEWER PROFILES 1
XX	SEWER PROFILES 2
XX	SEWER PROFILES 3
XX	SEWER PROFILES 4
XX	SEWER PROFILES 5
XX	WATER PROFILES 1
XX	WATER PROFILES 2
XX	WATER PROFILES 3
XX	WATER PROFILES 4
XX	SEWER DETAILS
XX	WATER DETAILS
XX	PRESSURE REDUCING VALVE VAULT DETAILS

60% DESIGN SUBMITTAL

DUFRESNE GROUP
CONSULTING ENGINEERS

56 Main Street, Suite 200
Springfield, Vermont 05156
Tel: (802) 674-2904 Fax: (802) 674-2913
info@dufresnegroup.com | dufresnegroup.com

PROJECT NAME: WINOOSKI MAIN ST.
PROJECT NUMBER: 58011.00

FILE NAME: G1.DWG
PROJECT LEADER: E.P. DETRICK
DESIGNED BY: T.P. KNAPP
WATER/SEWER LEGEND & GENERAL NOTES

PLOT DATE: XX.XX.2019
DRAWN BY: K.M. MENEES.
CHECKED BY: R.N. GOODWIN
SHEET 32 OF 178

VT STATE PLANE GRID

N

HYDRANT ASSEMBLY

8" WATER STUB

8" WATER MAIN

4" INTERCONNECTION

REMOVE EXISTING HYDRANT

HYDRANT ASSEMBLY

4" INTERCONNECTION

8" WATER STUB

4" INTERCONNECTION

8" WATER STUB

REMOVE EXISTING HYDRANT

MATCH LINE STA. 104+75

MAIN ST

MAPLE ST

MANSION ST

100+00

101+00

102+00

103+00

104+00

6 MAPLE ST

114 MAIN ST

120 MAIN ST

132 MAIN ST

101 MAIN ST

109 MAIN ST

121 MAIN ST

125 MAIN ST

11 MANSION ST

14 PLATT ST

6" CLAY

8" CLAY

6" ST

8" CIP

6" CI (RETIRED)

4" CI (RETIRED)

4" BS (RETIRED)

2" CIP

18" RCP

24" RCP

18" CMP

6" PVC

GAS

CVS

W

S

D

0 20 40

SCALE IN FEET

60% DESIGN SUBMITTAL

NOTES:

1. SEE SHEET XX FOR GENERAL NOTES, LEGEND, AND ABBREVIATIONS.
2. SEE SHEET XX–XX FOR WATER MAIN PROFILES.
3. SEE SHEETS XX–XX FOR STANDARD WATER DETAILS.
4. SEE PLANS PROVIDED BY VANASSE HANGEN BRUSTLIN, INC FOR ADDITIONAL INFORMATION, INCLUDING STORM DRAIN AND ROAD IMPROVEMENTS.

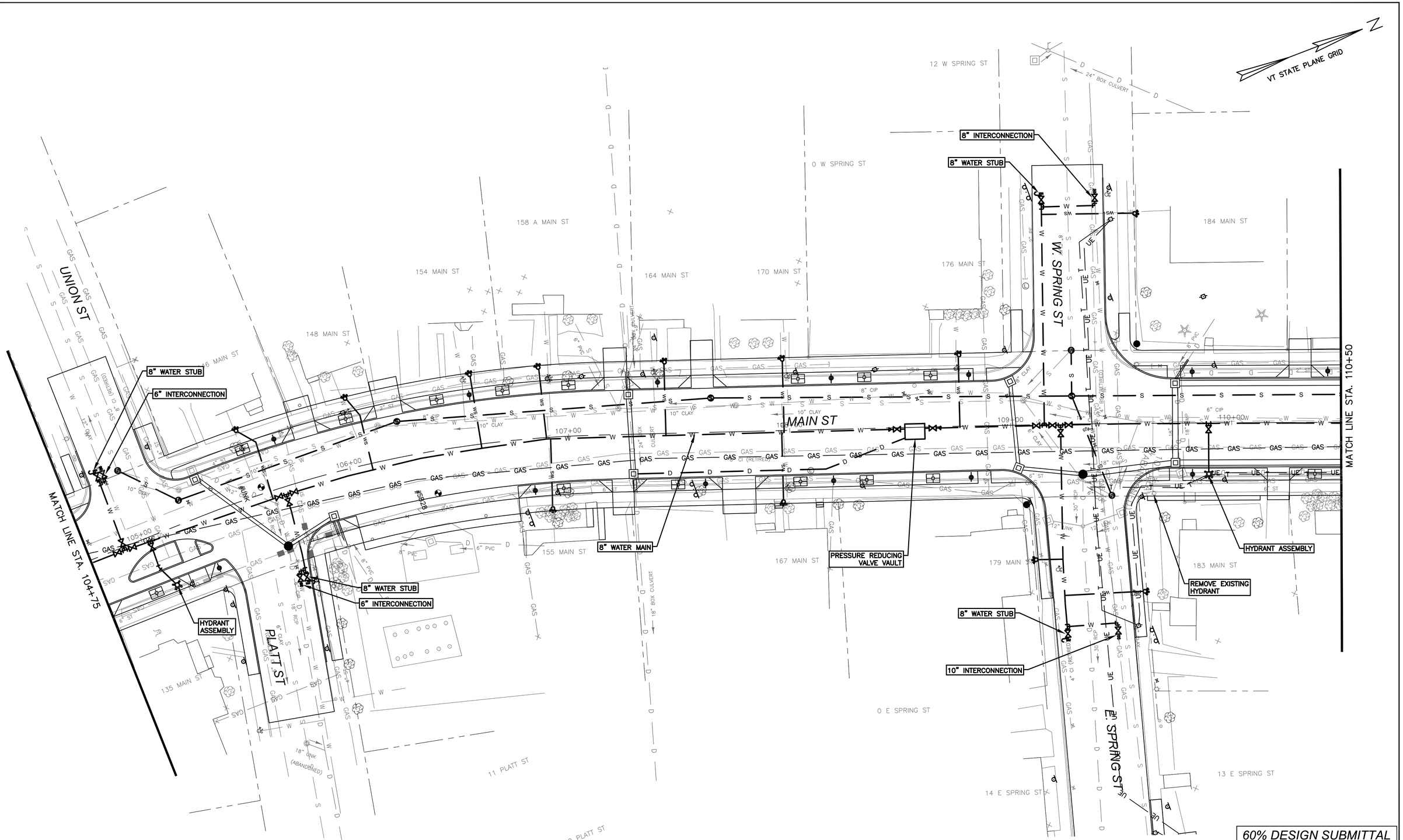
DUFRESNE GROUP CONSULTING ENGINEERS

56 Main Street, Suite 200
Springfield, Vermont 05156
Tel: (802) 674-2904 Fax: (802) 674-2913
info@dufresnegroup.com | dufresnegroup.com

PROJECT NAME: WINOOSKI MAIN ST.
PROJECT NUMBER: 58011.00

FILE NAME: WATER.DWG
PROJECT LEADER: E.P. DETRICK
DESIGNED BY: T.P. KNAPP
WATER PLAN 1

PLOT DATE: XX.XX.2019
DRAWN BY: K.M. MENEES.
CHECKED BY: R.N. GOODWIN
SHEET 33 OF 178



60% DESIGN SUBMITTAL

NOTES:

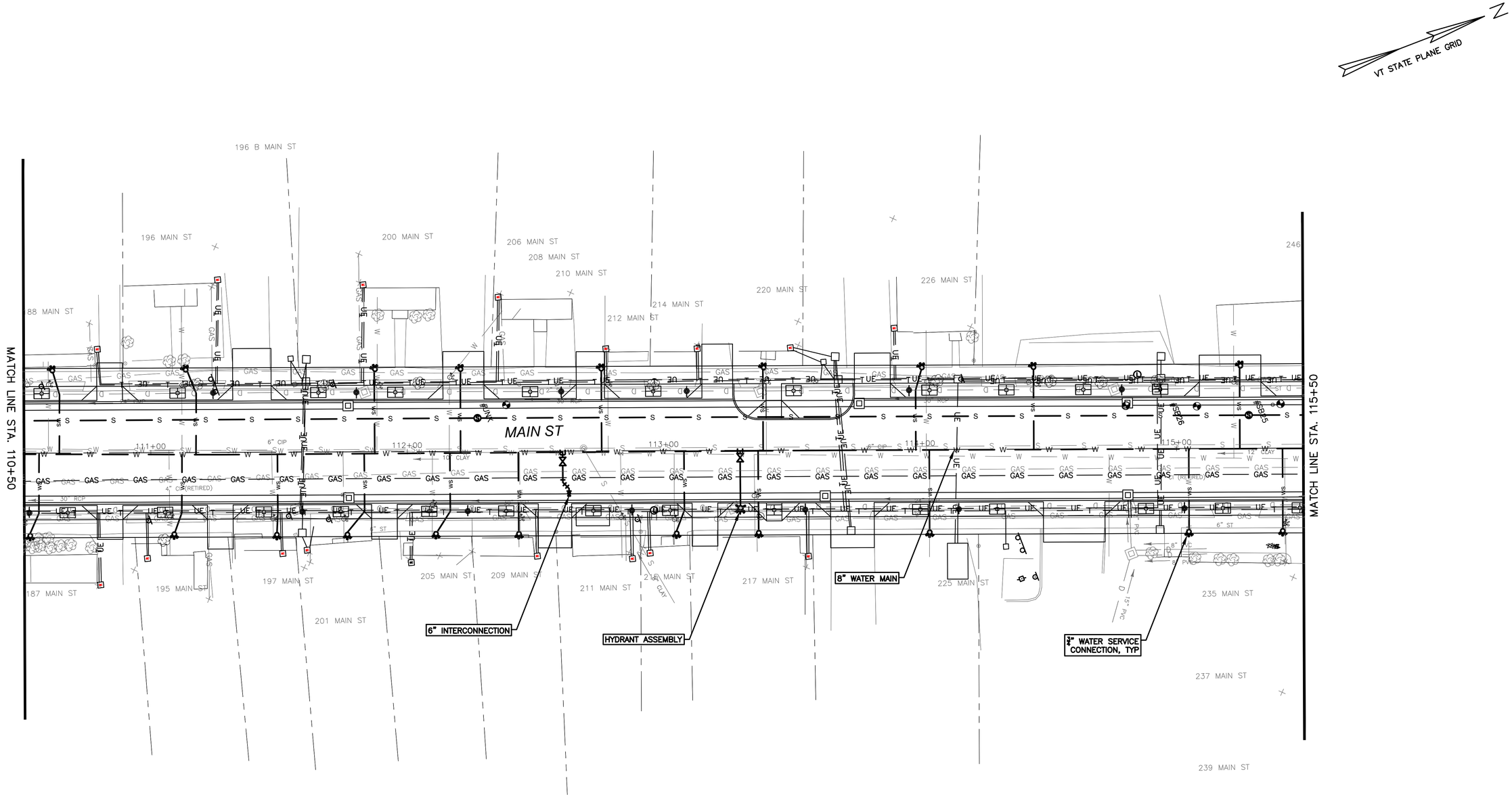
1. SEE SHEET XX FOR GENERAL NOTES, LEGEND, AND ABBREVIATIONS.
2. SEE SHEET XX–XX FOR WATER MAIN PROFILES.
3. SEE SHEETS XX–XX FOR STANDARD WATER DETAILS.
4. SEE PLANS PROVIDED BY VANASSE HANGEN BRUSTLIN, INC FOR ADDITIONAL INFORMATION, INCLUDING STORM DRAIN AND ROAD IMPROVEMENTS.

DUFRESNE GROUP
CONSULTING ENGINEERS
56 Main Street, Suite 200
Springfield, Vermont 05156
Tel: (802) 674-2904 Fax: (802) 674-2913
info@dufresnegroup.com | dufresnegroup.com

PROJECT NAME: WINOOSKI MAIN ST.
PROJECT NUMBER: 58011.00

FILE NAME: WATER.DWG
PROJECT LEADER: E.P. DETRICK
DESIGNED BY: T.P. KNAPP
WATER PLAN 2

PLOT DATE: XX.XX.2019
DRAWN BY: K.M. MENEES.
CHECKED BY: R.N. GOODWIN
SHEET 34 OF 178



60% DESIGN SUBMITTAL

NOTES:

1. SEE SHEET XX FOR GENERAL NOTES, LEGEND, AND ABBREVIATIONS.
2. SEE SHEET XX-XX FOR WATER MAIN PROFILES.
3. SEE SHEETS XX-XX FOR STANDARD WATER DETAILS.
4. SEE PLANS PROVIDED BY VANASSE HANGEN BRUSTLIN, INC FOR ADDITIONAL INFORMATION, INCLUDING STORM DRAIN AND ROAD IMPROVEMENTS.

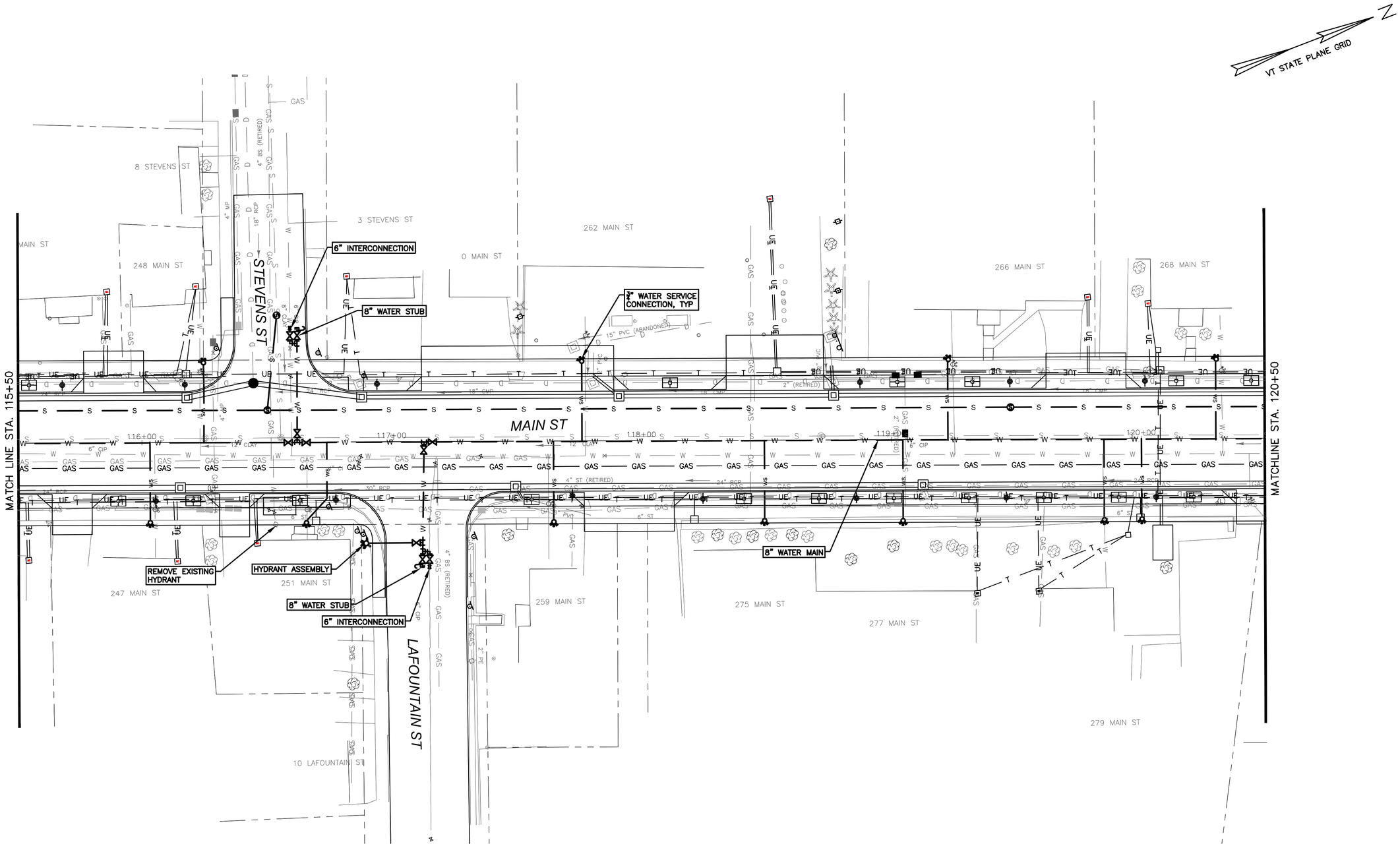
0 20 40
SCALE IN FEET

DUFRESNE GROUP
CONSULTING ENGINEERS
56 Main Street, Suite 200
Springfield, Vermont 05156
Tel: (802) 674-2904 Fax: (802) 674-2913
info@dufresnegroup.com | dufresnegroup.com

PROJECT NAME: WINOOSKI MAIN ST.
PROJECT NUMBER: 58011.00

FILE NAME: WATER.DWG
PROJECT LEADER: E.P. DETRICK
DESIGNED BY: T.P. KNAPP
WATER PLAN 3

PLOT DATE: XX.XX.2019
DRAWN BY: K.M. MENEES.
CHECKED BY: R.N. GOODWIN
SHEET 35 OF 178



60% DESIGN SUBMITTAL

NOTES:

1. SEE SHEET XX FOR GENERAL NOTES, LEGEND, AND ABBREVIATIONS.
2. SEE SHEET XX-XX FOR WATER MAIN PROFILES.
3. SEE SHEETS XX-XX FOR STANDARD WATER DETAILS.
4. SEE PLANS PROVIDED BY VANASSE HANGEN BRUSTLIN, INC FOR ADDITIONAL INFORMATION, INCLUDING STORM DRAIN AND ROAD IMPROVEMENTS.

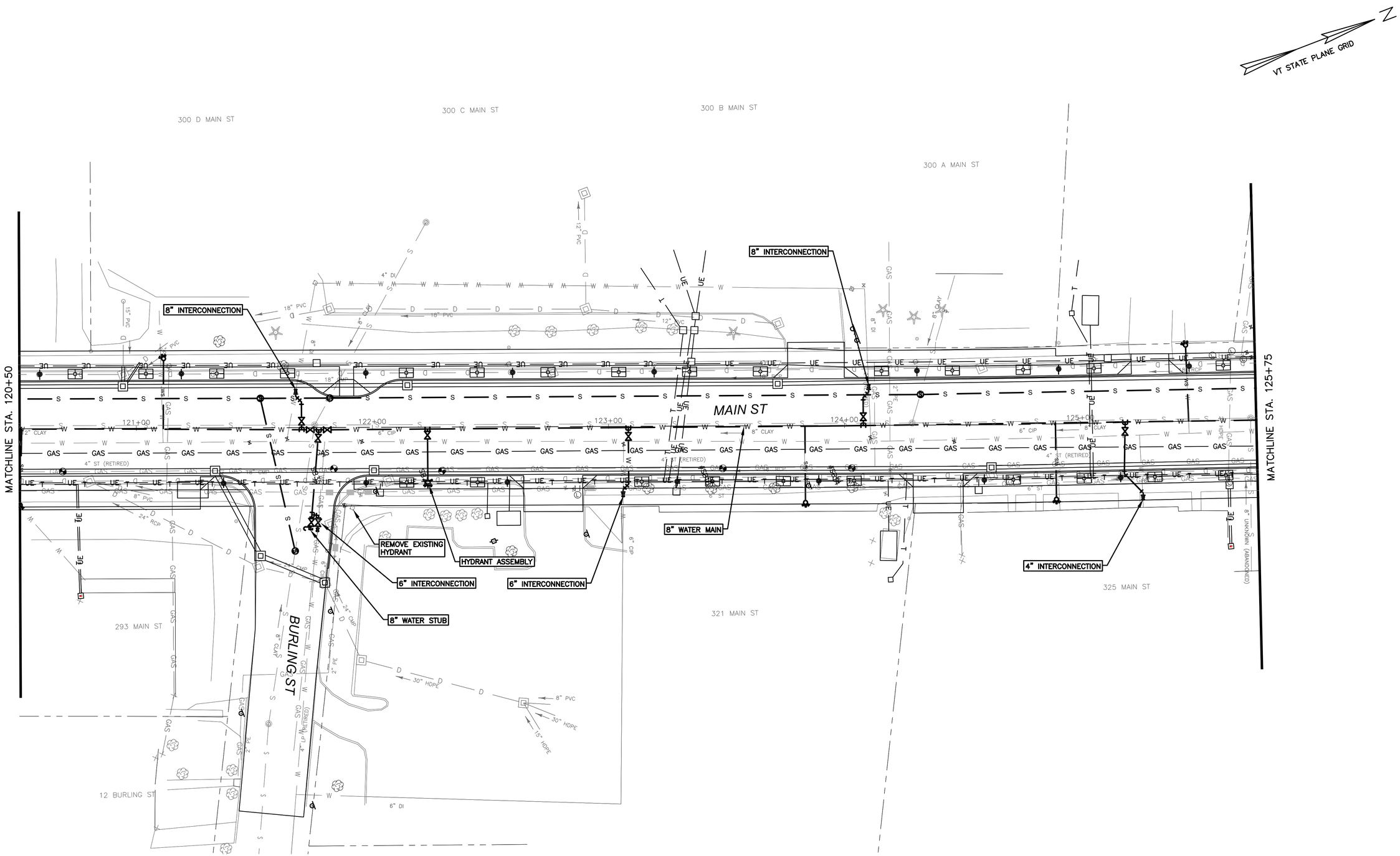
0 20 40
SCALE IN FEET

DUFRESNE GROUP CONSULTING ENGINEERS
56 Main Street, Suite 200
Springfield, Vermont 05156
Tel: (802) 674-2904 Fax: (802) 674-2913
info@dufresnegroup.com | dufresnegroup.com

PROJECT NAME: WINOOSKI MAIN ST.
PROJECT NUMBER: 58011.00

FILE NAME: WATER.DWG
PROJECT LEADER: E.P. DETRICK
DESIGNED BY: T.P. KNAPP
WATER PLAN 4

PLOT DATE: XX.XX.2019
DRAWN BY: K.M. MENEES.
CHECKED BY: R.N. GOODWIN
SHEET 36 OF 178



60% DESIGN SUBMITTAL

NOTES:

1. SEE SHEET XX FOR GENERAL NOTES, LEGEND, AND ABBREVIATIONS.
2. SEE SHEET XX-XX FOR WATER MAIN PROFILES.
3. SEE SHEETS XX-XX FOR STANDARD WATER DETAILS.
4. SEE PLANS PROVIDED BY VANASSE HANGEN BRUSTLIN, INC FOR ADDITIONAL INFORMATION, INCLUDING STORM DRAIN AND ROAD IMPROVEMENTS.

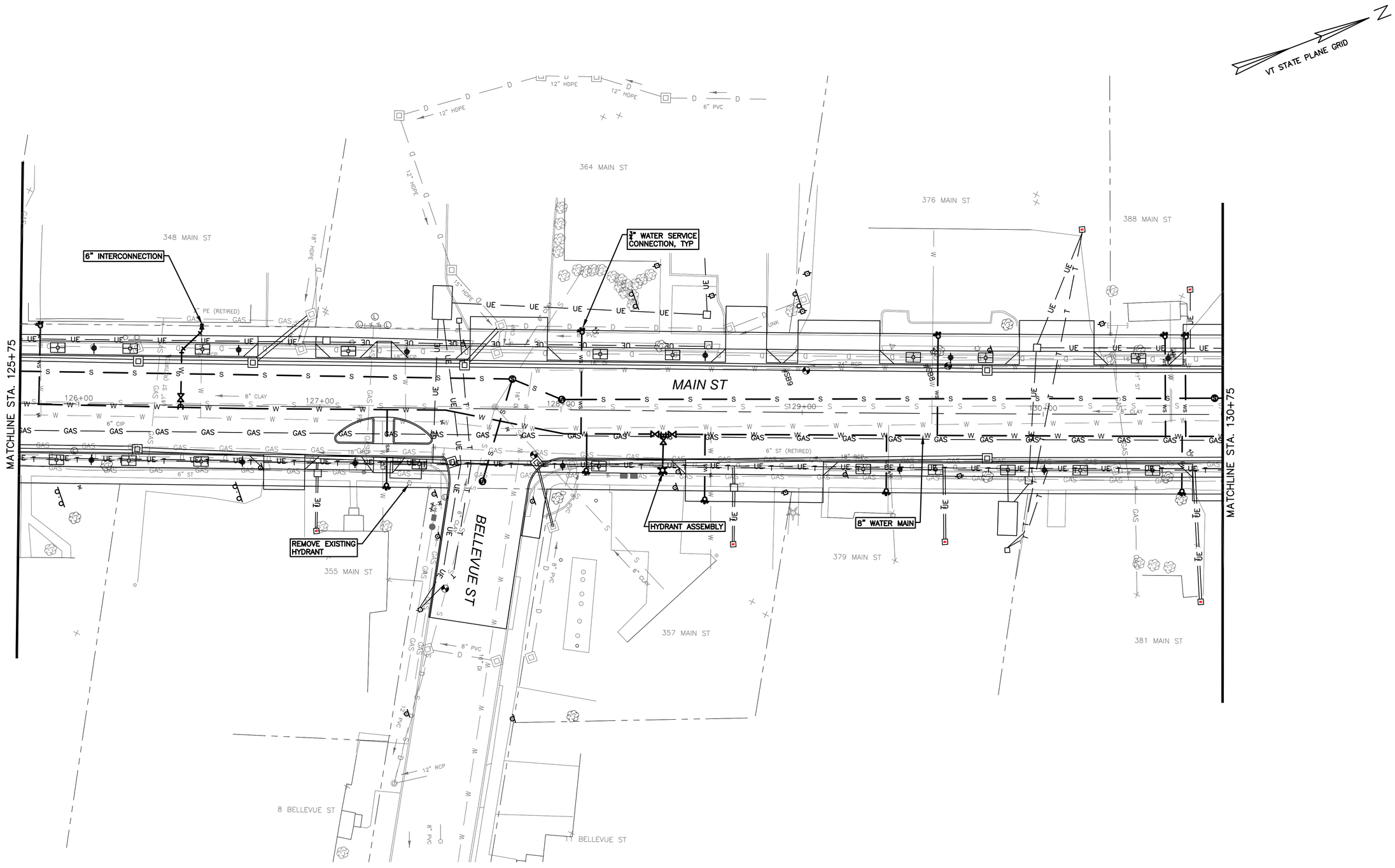
0 20 40
SCALE IN FEET

DUFRESNE GROUP
CONSULTING ENGINEERS
56 Main Street, Suite 200
Springfield, Vermont 05156
Tel: (802) 674-2904 Fax: (802) 674-2913
info@dufresnegroup.com | dufresnegroup.com

PROJECT NAME: WINOOSKI MAIN ST.
PROJECT NUMBER: 58011.00

FILE NAME: WATER.DWG
PROJECT LEADER: E.P. DETRICK
DESIGNED BY: T.P. KNAPP
WATER PLAN 5

PLOT DATE: XX.XX.2019
DRAWN BY: K.M. MENEES.
CHECKED BY: R.N. GOODWIN
SHEET 37 OF 178



60% DESIGN SUBMITTAL

NOTES:

1. SEE SHEET XX FOR GENERAL NOTES, LEGEND, AND ABBREVIATIONS.
2. SEE SHEET XX-XX FOR WATER MAIN PROFILES.
3. SEE SHEETS XX-XX FOR STANDARD WATER DETAILS.
4. SEE PLANS PROVIDED BY VANASSE HANGEN BRUSTLIN, INC FOR ADDITIONAL INFORMATION, INCLUDING STORM DRAIN AND ROAD IMPROVEMENTS.

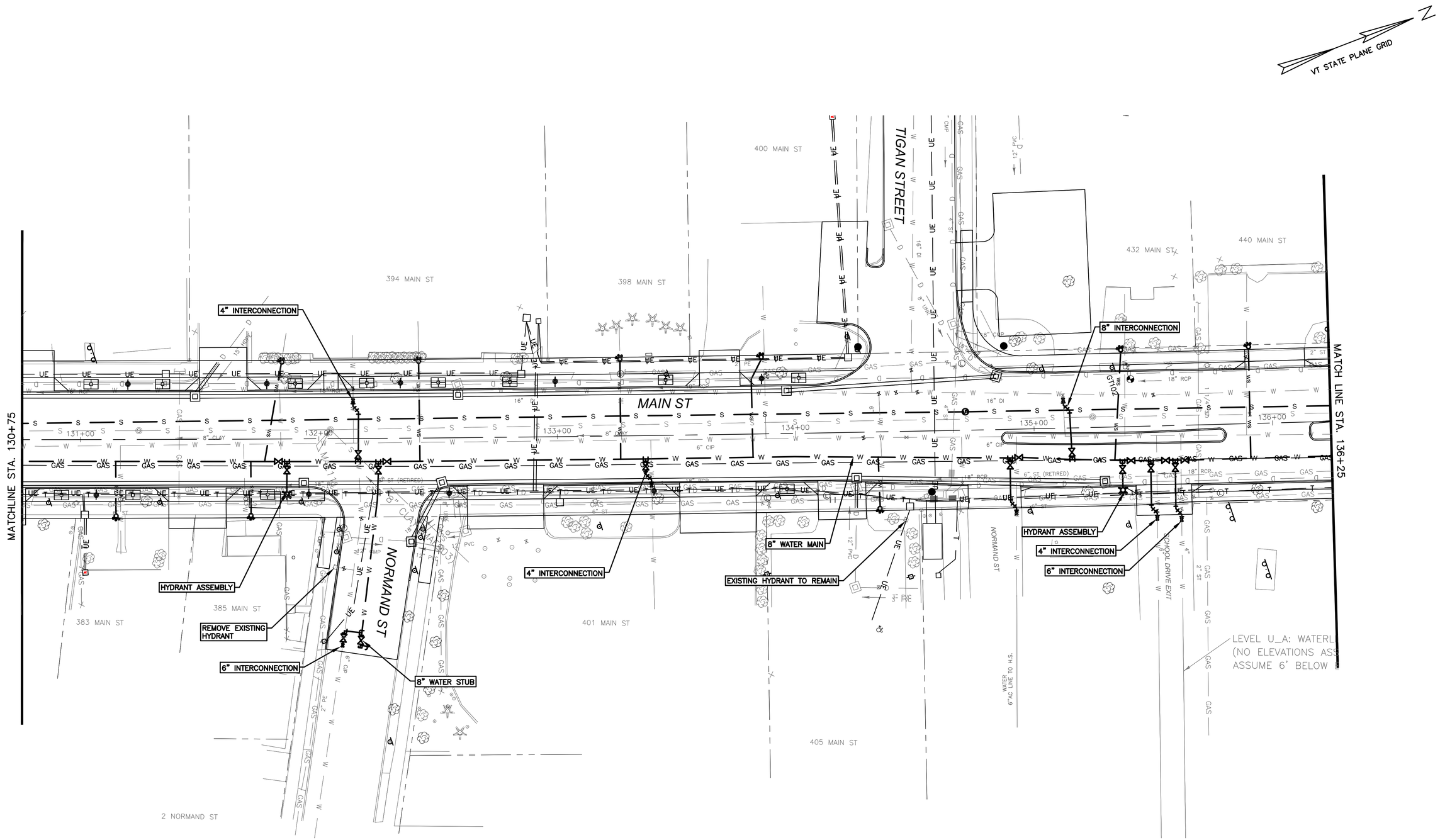
0 20 40
SCALE IN FEET

DUFRESNE GROUP
CONSULTING ENGINEERS
56 Main Street, Suite 200
Springfield, Vermont 05156
Tel: (802) 674-2904 Fax: (802) 674-2913
info@dufresnegroup.com | dufresnegroup.com

PROJECT NAME: WINOOSKI MAIN ST.
PROJECT NUMBER: 58011.00

FILE NAME: WATER.DWG
PROJECT LEADER: E.P. DETRICK
DESIGNED BY: T.P. KNAPP
WATER PLAN 6

PLOT DATE: XX.XX.2019
DRAWN BY: K.M. MENEES.
CHECKED BY: R.N. GOODWIN
SHEET 38 OF 178



60% DESIGN SUBMITTAL

NOTES:

1. SEE SHEET XX FOR GENERAL NOTES, LEGEND, AND ABBREVIATIONS.
2. SEE SHEET XX–XX FOR WATER MAIN PROFILES.
3. SEE SHEETS XX–XX FOR STANDARD WATER DETAILS.
4. SEE PLANS PROVIDED BY VANASSE HANGEN BRUSTLIN, INC FOR ADDITIONAL INFORMATION, INCLUDING STORM DRAIN AND ROAD IMPROVEMENTS.

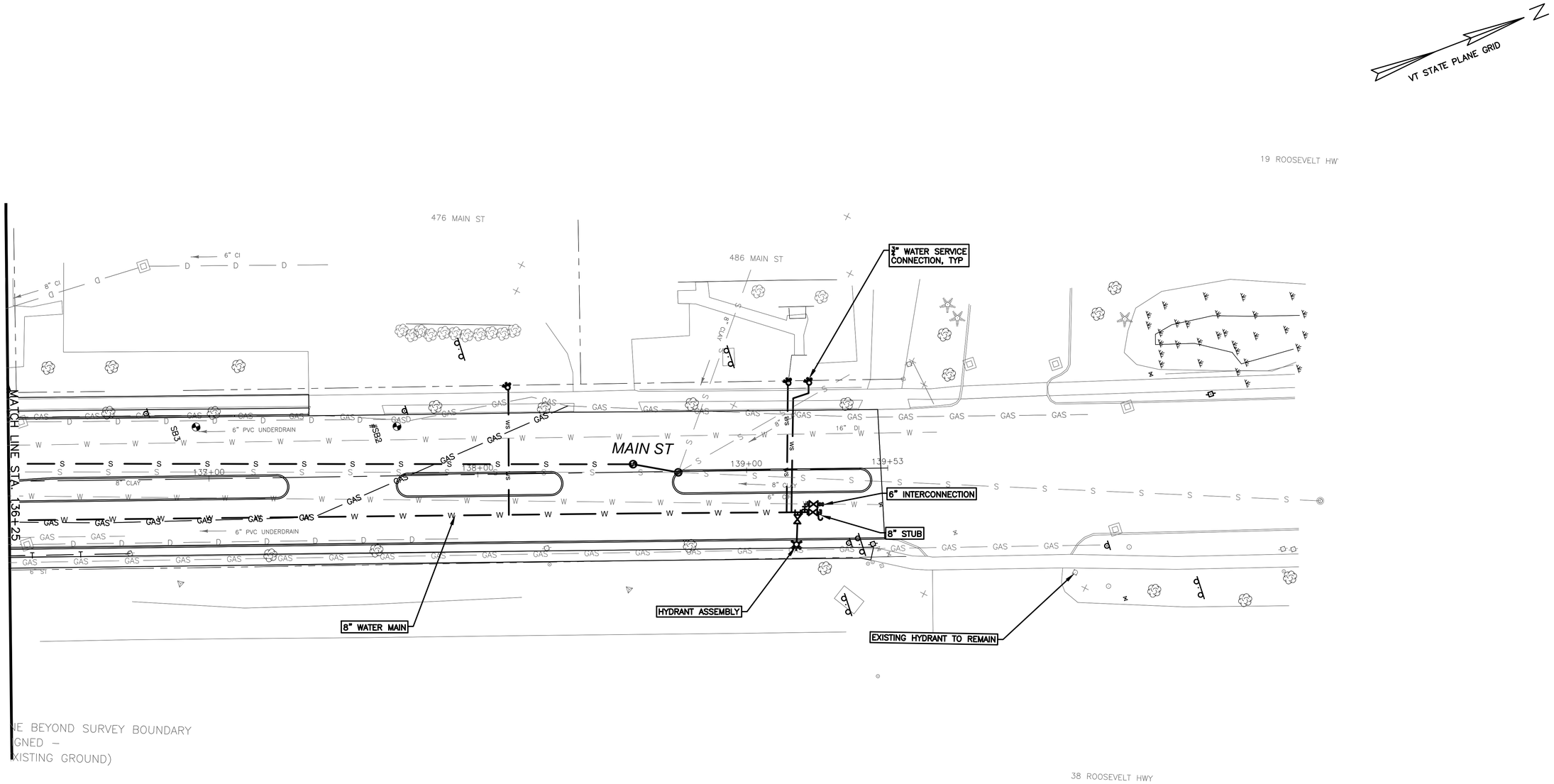
0 20 40
SCALE IN FEET

DUFRESNE GROUP
CONSULTING ENGINEERS
56 Main Street, Suite 200
Springfield, Vermont 05156
Tel: (802) 674-2904 Fax: (802) 674-2913
info@dufresnegroup.com | dufresnegroup.com

PROJECT NAME: WINOOSKI MAIN ST.
PROJECT NUMBER: 58011.00

FILE NAME: WATER.DWG
PROJECT LEADER: E.P. DETRICK
DESIGNED BY: T.P. KNAPP
WATER PLAN 7

PLOT DATE: XX.XX.2019
DRAWN BY: K.M. MENEES.
CHECKED BY: R.N. GOODWIN
SHEET 39 OF 178



60% DESIGN SUBMITTAL

NOTES:

1. SEE SHEET XX FOR GENERAL NOTES, LEGEND, AND ABBREVIATIONS.
2. SEE SHEET XX–XX FOR WATER MAIN PROFILES.
3. SEE SHEETS XX–XX FOR STANDARD WATER DETAILS.
4. SEE PLANS PROVIDED BY VANASSE HANGEN BRUSTLIN, INC FOR ADDITIONAL INFORMATION, INCLUDING STORM DRAIN AND ROAD IMPROVEMENTS.

0 20 40
SCALE IN FEET

DUFRESNE GROUP
CONSULTING ENGINEERS
56 Main Street, Suite 200
Springfield, Vermont 05156
Tel: (802) 674-2904 Fax: (802) 674-2913
info@dufresnegroup.com | dufresnegroup.com

PROJECT NAME: WINOOSKI MAIN ST.
PROJECT NUMBER: 58011.00

FILE NAME: WATER.DWG
PROJECT LEADER: E.P. DETRICK
DESIGNED BY: T.P. KNAPP
WATER PLAN 8

PLOT DATE: XX.XX.2019
DRAWN BY: K.M. MENEES.
CHECKED BY: R.N. GOODWIN
SHEET 40 OF 178

VT STATE PLANE GRID

N

MAPLE ST

6 MAPLE ST

114 MAIN ST

120 MAIN ST

132 MAIN ST

MAIN ST

101 MAIN ST

109 MAIN ST

121 MAIN ST

125 MAIN ST

MANSION ST

MATCH LINE STA. 104+75

SMH1 4' I.D.

8" C900 PVC

8" SDR 35 PVC

SMH2 4' I.D.

SMH3 4' I.D.

SMH2A 4' I.D.

100+00

101+00

102+00

103+00

104+00

6" ST

6" CI (RETIRED)

8" CIP

4" BS (RETIRED)

4" CI (RETIRED)

2" CIP

GAS

0 20 40

SCALE IN FEET

NOTES:

1. SEE SHEET XX FOR GENERAL NOTES, LEGEND, AND ABBREVIATIONS.
2. SEE SHEET XX-XX FOR SEWER MAIN PROFILES.
3. SEE SHEETS XX-XX FOR STANDARD SEWER DETAILS.
4. SEE PLANS PROVIDED BY VANASSE HANGEN BRUSTLIN, INC FOR ADDITIONAL INFORMATION, INCLUDING STORM DRAIN AND ROAD IMPROVEMENTS.

60% DESIGN SUBMITTAL

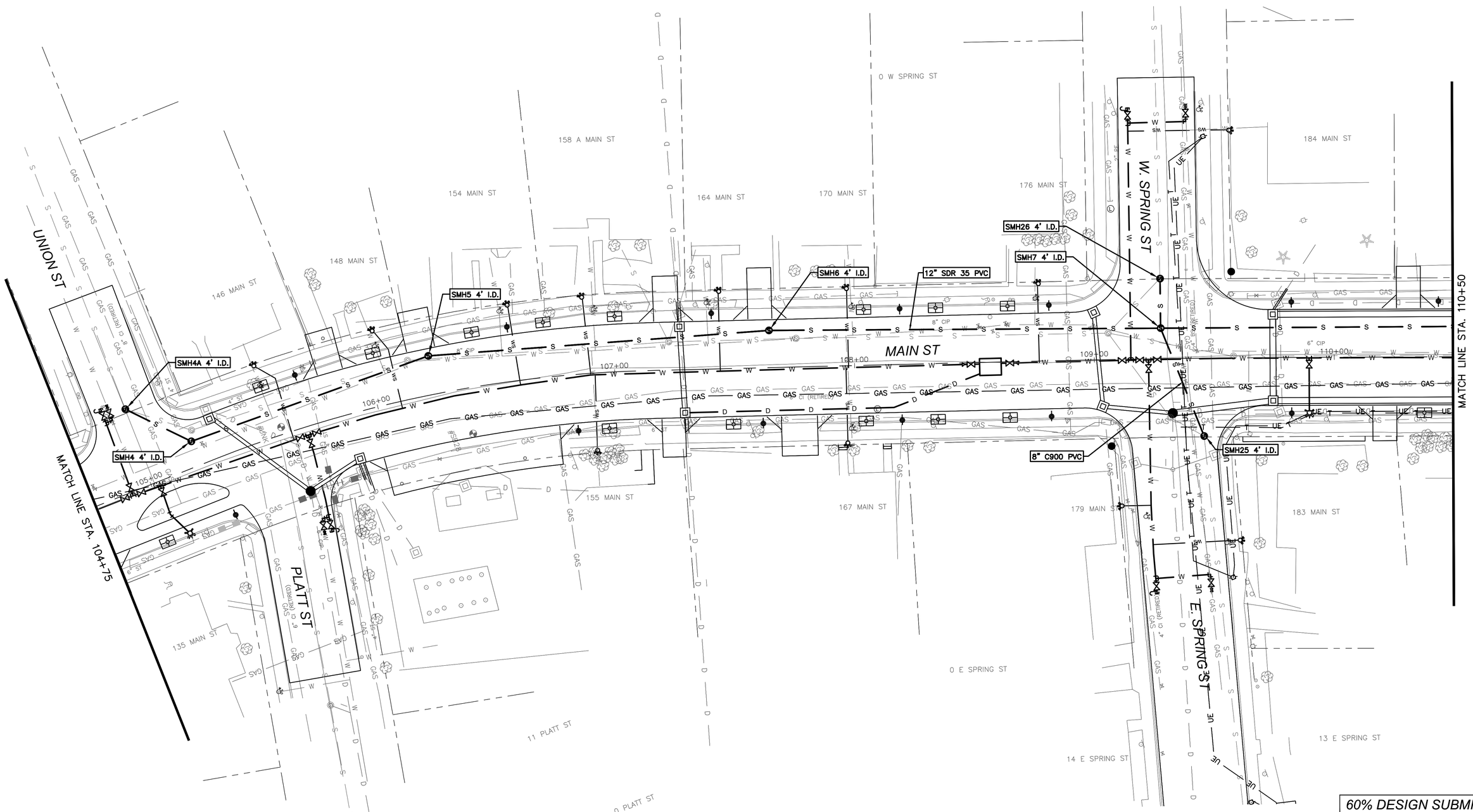
DUFRESNE GROUP
CONSULTING ENGINEERS

56 Main Street, Suite 200
Springfield, Vermont 05156
Tel: (802) 674-2904 Fax: (802) 674-2913
info@dufresnegroup.com | dufresnegroup.com

PROJECT NAME: WINOOSKI MAIN ST.
PROJECT NUMBER: 58011.00

FILE NAME: SEWER.DWG
PROJECT LEADER: E.P. DETRICK
DESIGNED BY: T.P. KNAPP
SEWER PLAN 1

PLOT DATE: XX.XX.2019
DRAWN BY: K.M. MENEES.
CHECKED BY: R.N. GOODWIN
SHEET 41 OF 178



60% DESIGN SUBMITTAL

NOTES:

1. SEE SHEET XX FOR GENERAL NOTES, LEGEND, AND ABBREVIATIONS.
2. SEE SHEET XX-XX FOR SEWER MAIN PROFILES.
3. SEE SHEETS XX-XX FOR STANDARD SEWER DETAILS.
4. SEE PLANS PROVIDED BY VANASSE HANGEN BRUSTLIN, INC FOR ADDITIONAL INFORMATION, INCLUDING STORM DRAIN AND ROAD IMPROVEMENTS.

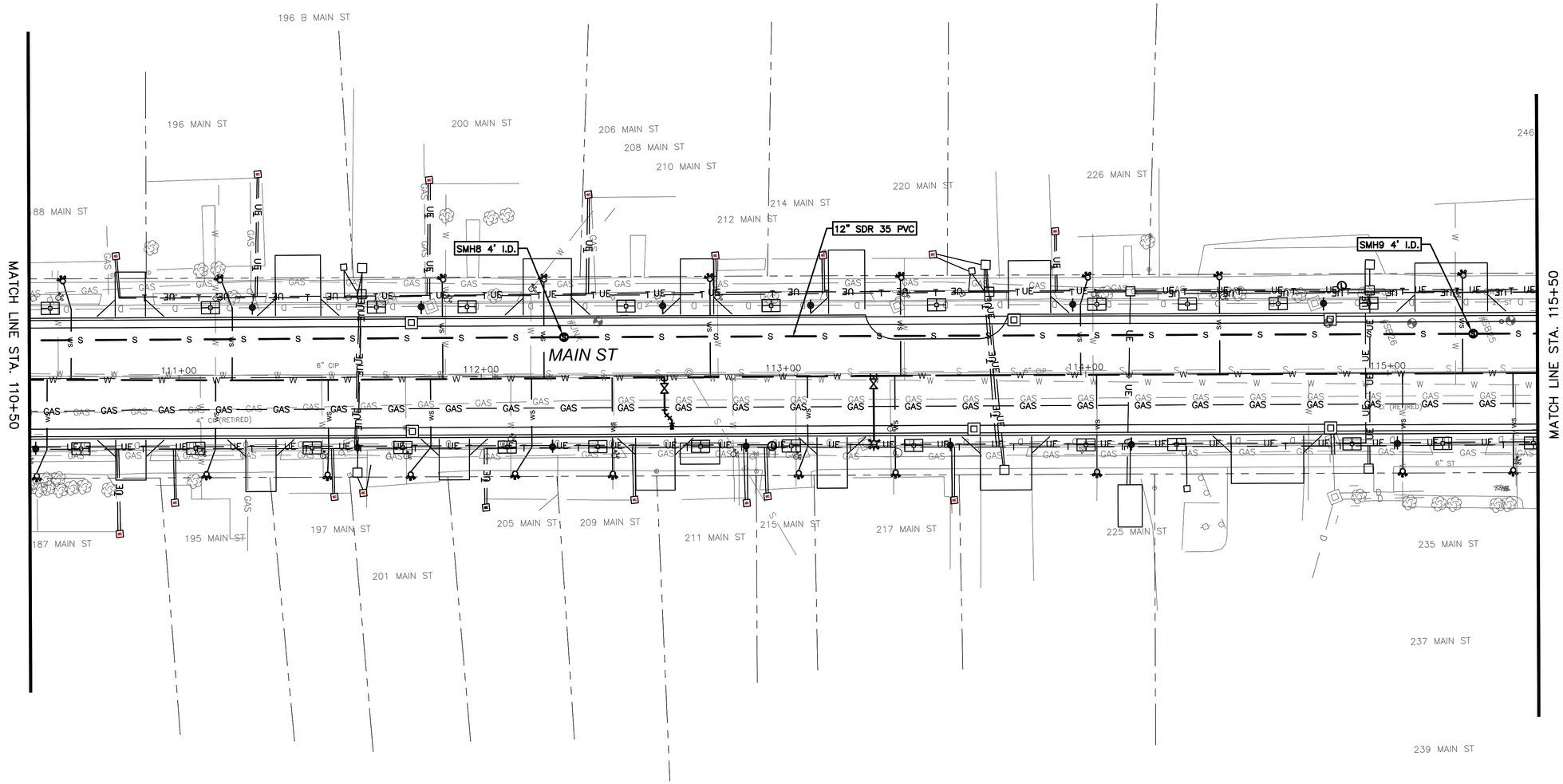
0 20 40
SCALE IN FEET

DUFRESNE GROUP
CONSULTING ENGINEERS
56 Main Street, Suite 200
Springfield, Vermont 05156
Tel: (802) 674-2904 Fax: (802) 674-2913
info@dufresnegroup.com | dufresnegroup.com

PROJECT NAME: WINOOSKI MAIN ST.
PROJECT NUMBER: 58011.00

FILE NAME: SEWER.DWG
PROJECT LEADER: E.P. DETRICK
DESIGNED BY: T.P. KNAPP
SEWER PLAN 2

PLOT DATE: XX.XX.2019
DRAWN BY: K.M. MENEES.
CHECKED BY: R.N. GOODWIN
SHEET 42 OF 178



NOTES:

1. SEE SHEET XX FOR GENERAL NOTES, LEGEND, AND ABBREVIATIONS.
2. SEE SHEET XX–XX FOR SEWER MAIN PROFILES.
3. SEE SHEETS XX–XX FOR STANDARD SEWER DETAILS.
4. SEE PLANS PROVIDED BY VANASSE HANGEN BRUSTLIN, INC FOR ADDITIONAL INFORMATION, INCLUDING STORM DRAIN AND ROAD IMPROVEMENTS.

0 20 40
SCALE IN FEET

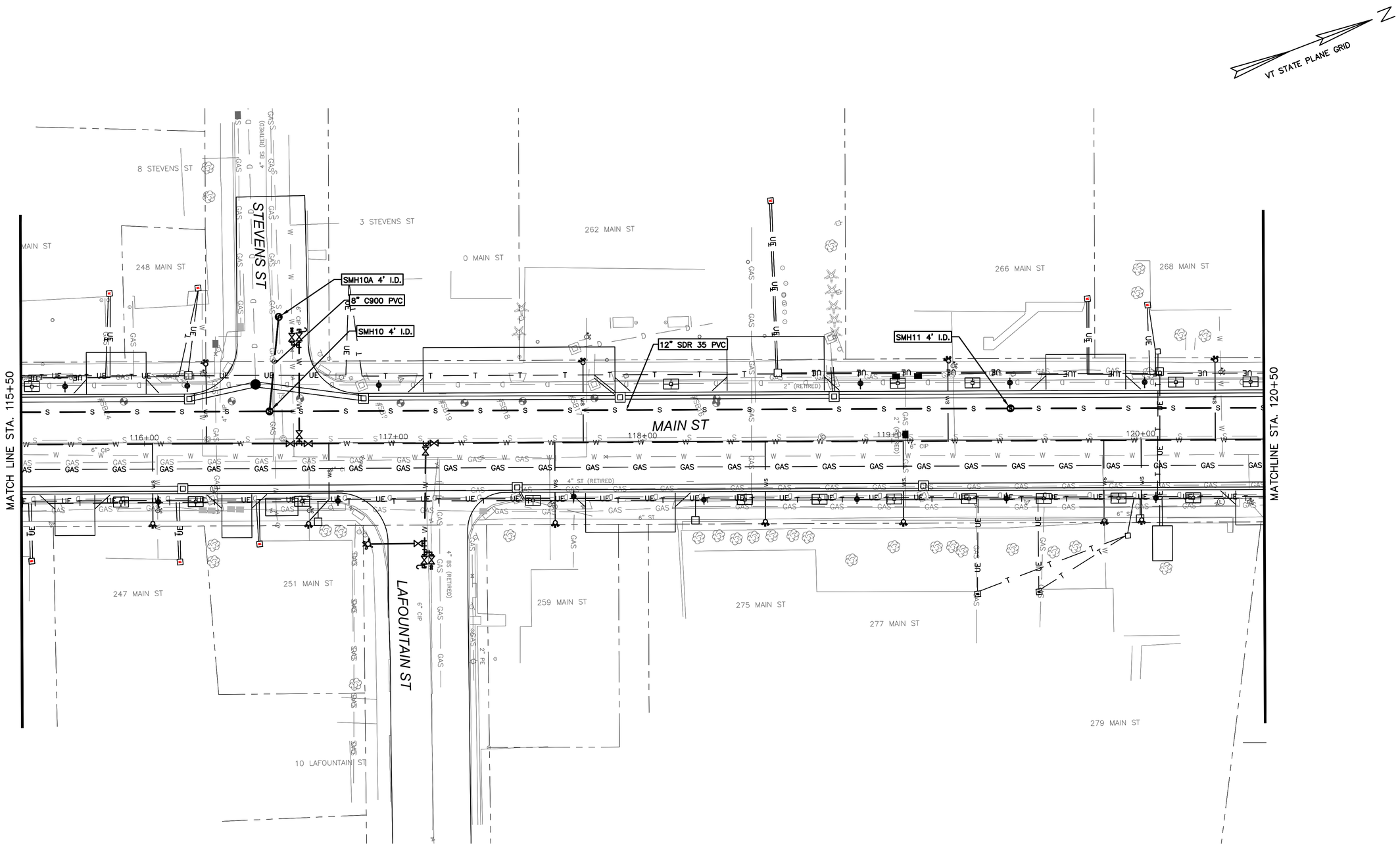
60% DESIGN SUBMITTAL

DUFRESNE GROUP
CONSULTING ENGINEERS
56 Main Street, Suite 200
Springfield, Vermont 05156
Tel: (802) 674-2904 Fax: (802) 674-2913
info@dufresnegroup.com | dufresnegroup.com

PROJECT NAME: WINOOSKI MAIN ST.
PROJECT NUMBER: 58011.00

FILE NAME: SEWER.DWG
PROJECT LEADER: E.P. DETRICK
DESIGNED BY: T.P. KNAPP
SEWER PLAN 3

PLOT DATE: XX.XX.2019
DRAWN BY: K.M. MENEES.
CHECKED BY: R.N. GOODWIN
SHEET 43 OF 178



60% DESIGN SUBMITTAL

NOTES:

1. SEE SHEET XX FOR GENERAL NOTES, LEGEND, AND ABBREVIATIONS.
2. SEE SHEET XX-XX FOR SEWER MAIN PROFILES.
3. SEE SHEETS XX-XX FOR STANDARD SEWER DETAILS.
4. SEE PLANS PROVIDED BY VANASSE HANGEN BRUSTLIN, INC FOR ADDITIONAL INFORMATION, INCLUDING STORM DRAIN AND ROAD IMPROVEMENTS.

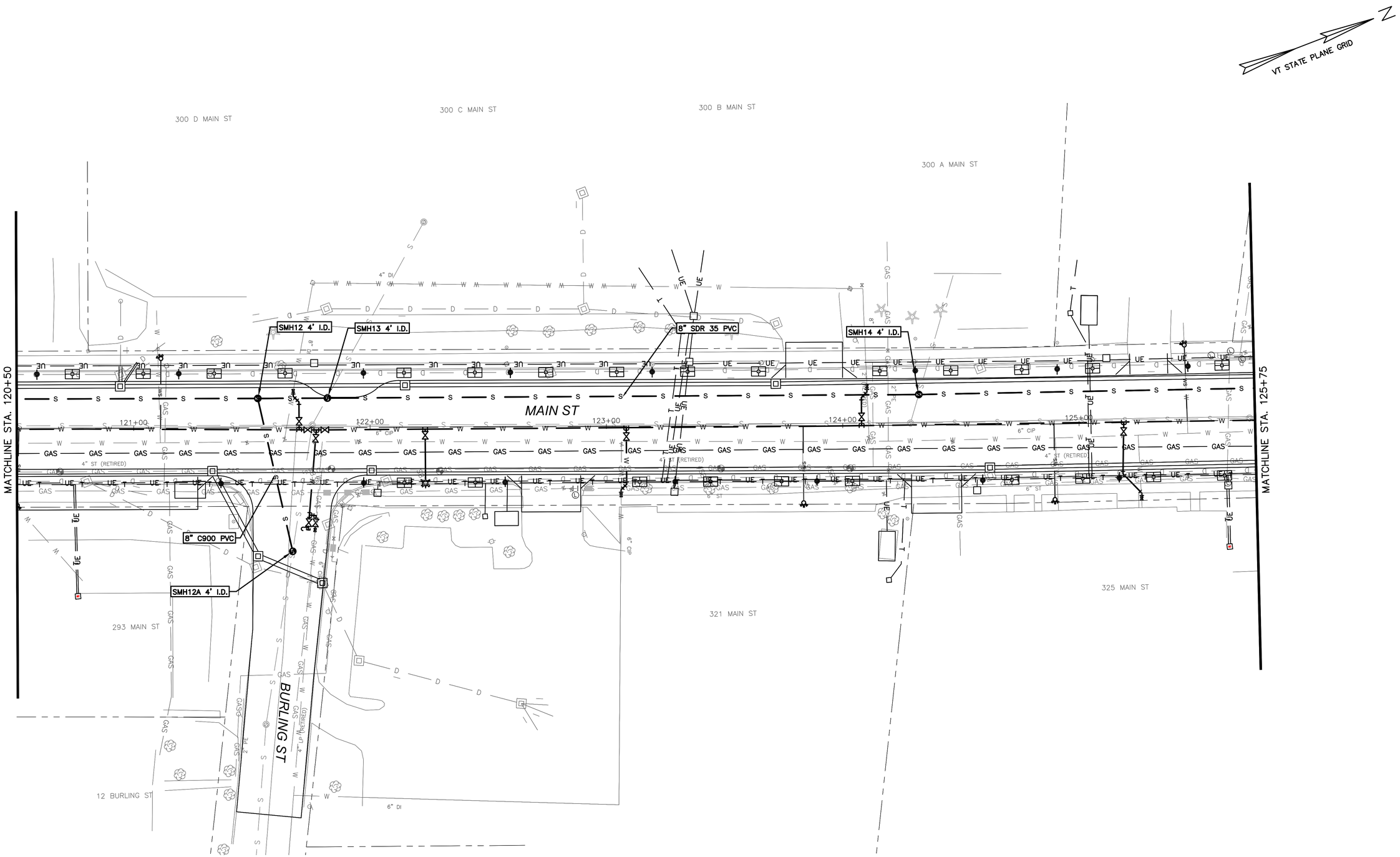
0 20 40
SCALE IN FEET

DUFRESNE GROUP
CONSULTING ENGINEERS
56 Main Street, Suite 200
Springfield, Vermont 05156
Tel: (802) 674-2904 Fax: (802) 674-2913
info@dufresnegroup.com | dufresnegroup.com

PROJECT NAME: WINOOSKI MAIN ST.
PROJECT NUMBER: 58011.00

FILE NAME: SEWER.DWG
PROJECT LEADER: E.P. DETRICK
DESIGNED BY: T.P. KNAPP
SEWER PLAN 4

PLOT DATE: XX.XX.2019
DRAWN BY: K.M. MENEES.
CHECKED BY: R.N. GOODWIN
SHEET 44 OF 178



60% DESIGN SUBMITTAL

NOTES:

1. SEE SHEET XX FOR GENERAL NOTES, LEGEND, AND ABBREVIATIONS.
2. SEE SHEET XX-XX FOR SEWER MAIN PROFILES.
3. SEE SHEETS XX-XX FOR STANDARD SEWER DETAILS.
4. SEE PLANS PROVIDED BY VANASSE HANGEN BRUSTLIN, INC FOR ADDITIONAL INFORMATION, INCLUDING STORM DRAIN AND ROAD IMPROVEMENTS.

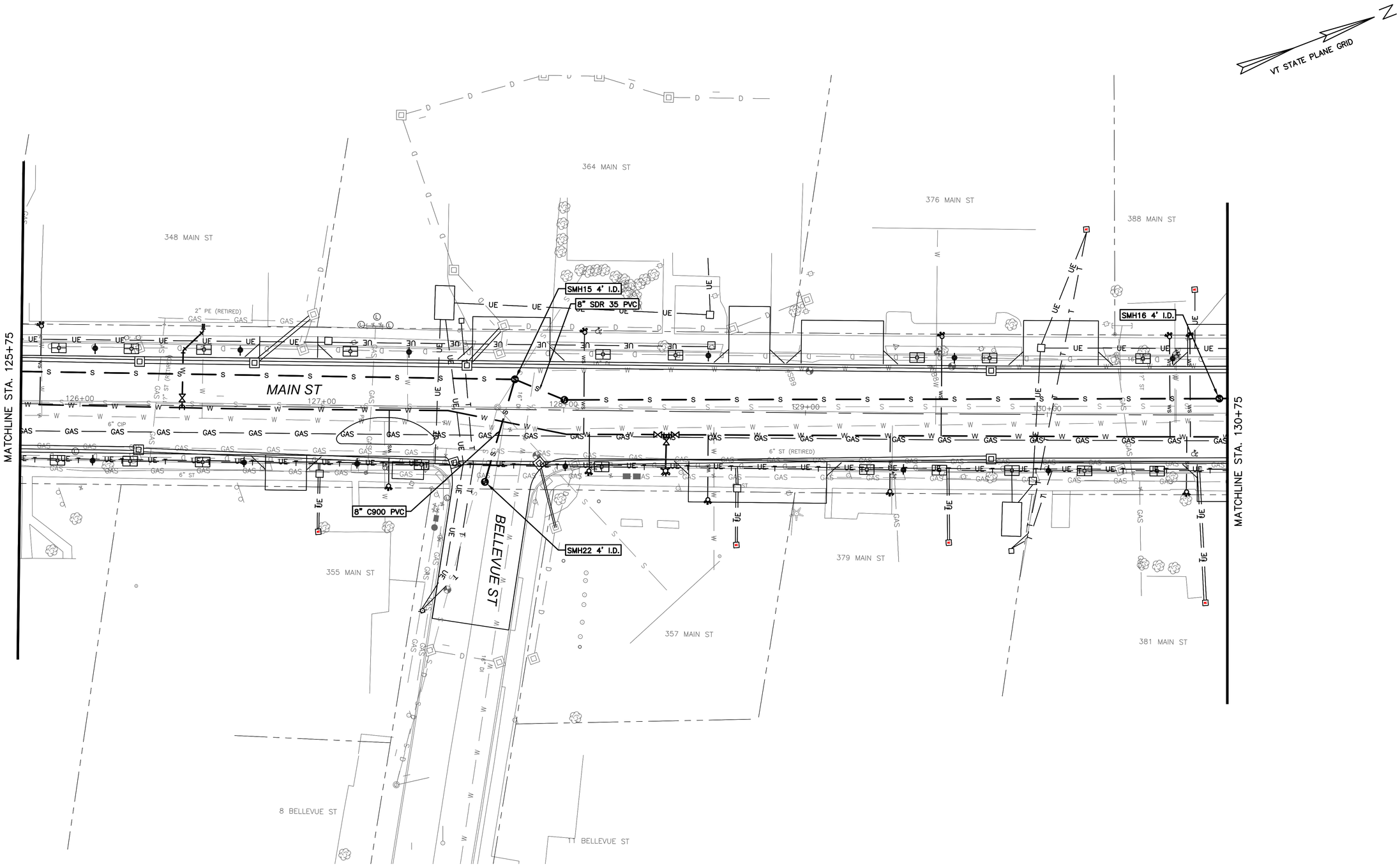
0 20 40
SCALE IN FEET

DUFRESNE GROUP
CONSULTING ENGINEERS
56 Main Street, Suite 200
Springfield, Vermont 05156
Tel: (802) 674-2904 Fax: (802) 674-2913
info@dufresnegroup.com | dufresnegroup.com

PROJECT NAME: WINOOSKI MAIN ST.
PROJECT NUMBER: 58011.00

FILE NAME: SEWER.DWG
PROJECT LEADER: E.P. DETRICK
DESIGNED BY: T.P. KNAPP
SEWER PLAN 5

PLOT DATE: XX.XX.2019
DRAWN BY: K.M. MENEES.
CHECKED BY: R.N. GOODWIN
SHEET 45 OF 178



NOTES:

1. SEE SHEET XX FOR GENERAL NOTES, LEGEND, AND ABBREVIATIONS.
2. SEE SHEET XX–XX FOR SEWER MAIN PROFILES.
3. SEE SHEETS XX–XX FOR STANDARD SEWER DETAILS.
4. SEE PLANS PROVIDED BY VANASSE HANGEN BRUSTLIN, INC FOR ADDITIONAL INFORMATION, INCLUDING STORM DRAIN AND ROAD IMPROVEMENTS.

0 20 40
SCALE IN FEET

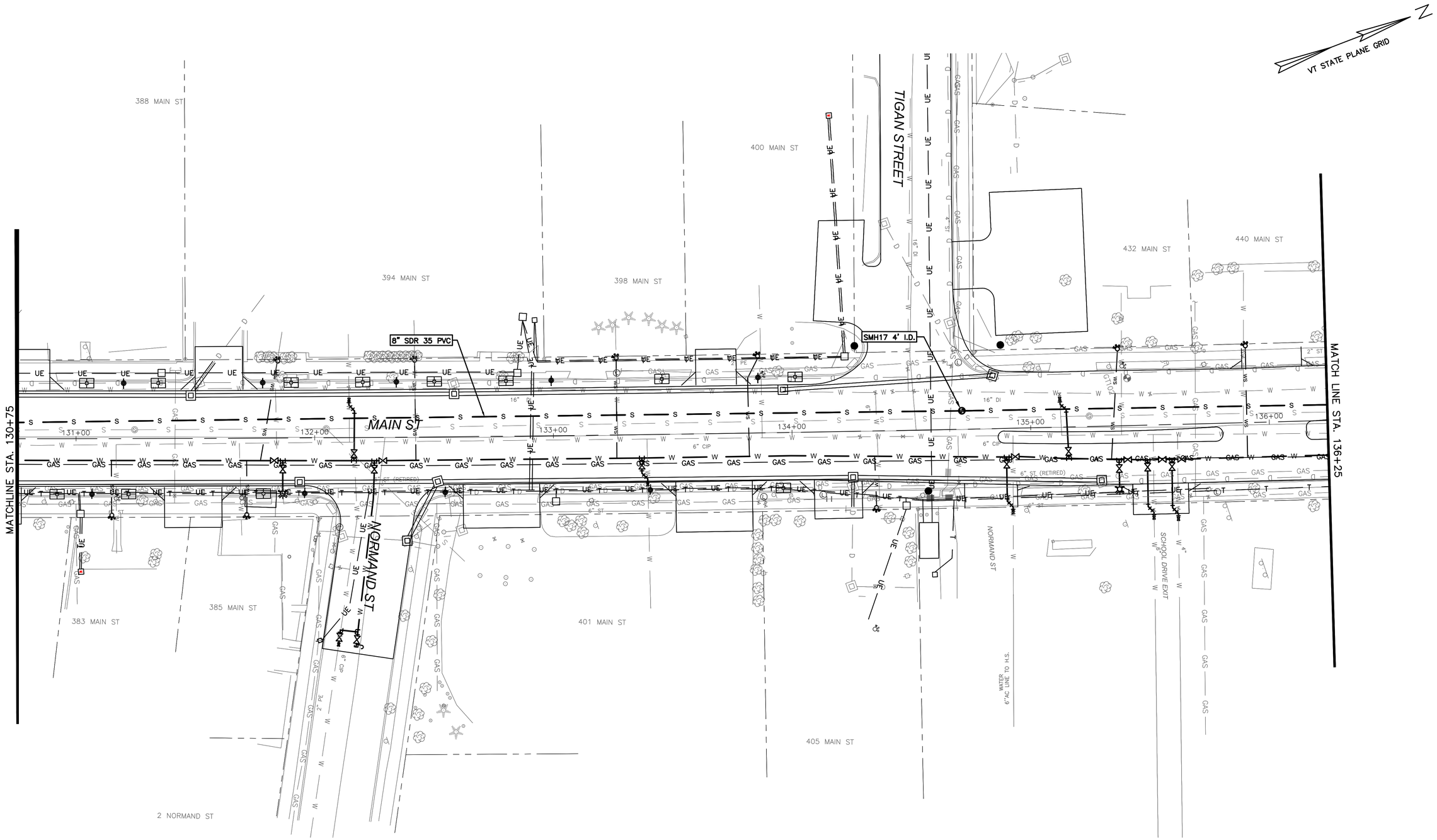
60% DESIGN SUBMITTAL

DUFRESNE GROUP
CONSULTING ENGINEERS
56 Main Street, Suite 200
Springfield, Vermont 05156
Tel: (802) 674-2904 Fax: (802) 674-2913
info@dufresnegroup.com | dufresnegroup.com

PROJECT NAME: WINOOSKI MAIN ST.
PROJECT NUMBER: 58011.00

FILE NAME: SEWER.DWG
PROJECT LEADER: E.P. DETRICK
DESIGNED BY: T.P. KNAPP
SEWER PLAN 6

PLOT DATE: XX.XX.2019
DRAWN BY: K.M. MENEES.
CHECKED BY: R.N. GOODWIN
SHEET 46 OF 178



60% DESIGN SUBMITTAL

NOTES:

1. SEE SHEET XX FOR GENERAL NOTES, LEGEND, AND ABBREVIATIONS.
2. SEE SHEET XX-XX FOR SEWER MAIN PROFILES.
3. SEE SHEETS XX-XX FOR STANDARD SEWER DETAILS.
4. SEE PLANS PROVIDED BY VANASSE HANGEN BRUSTLIN, INC FOR ADDITIONAL INFORMATION, INCLUDING STORM DRAIN AND ROAD IMPROVEMENTS.

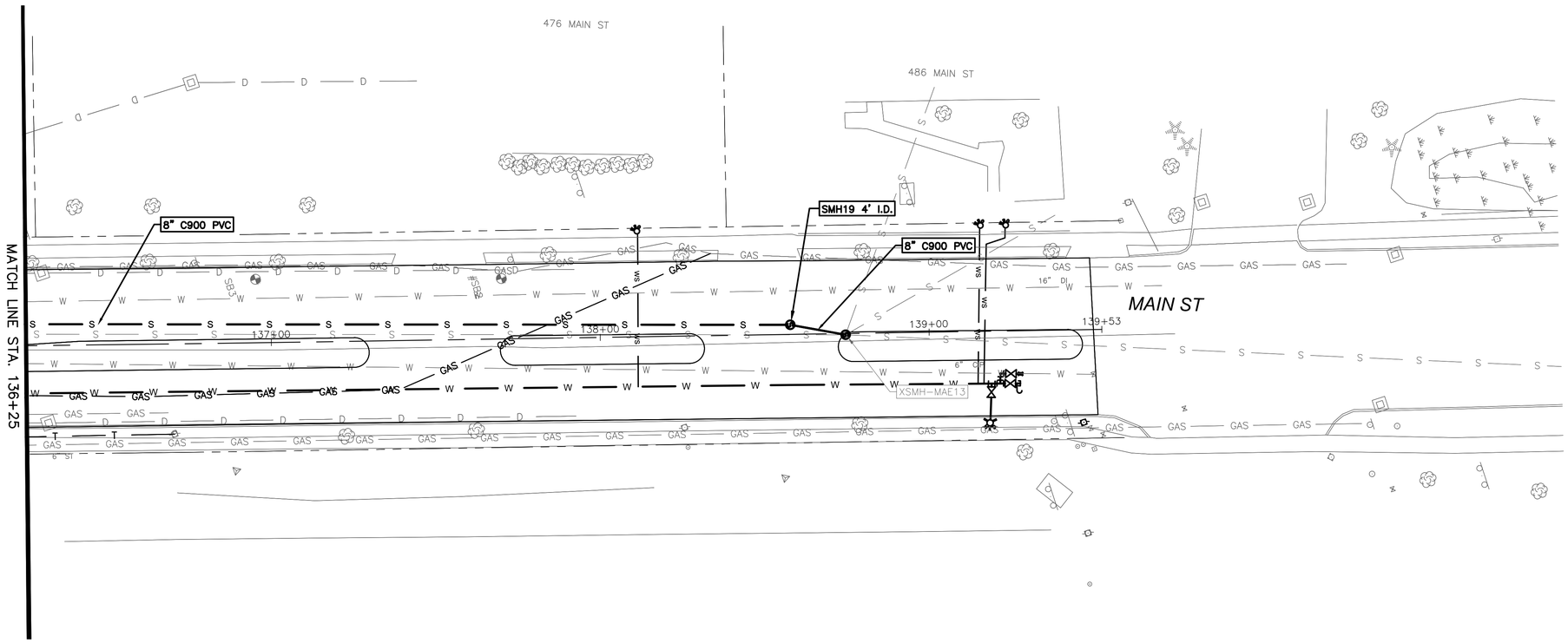
0 20 40
SCALE IN FEET

DUFRESNE GROUP
CONSULTING ENGINEERS
56 Main Street, Suite 200
Springfield, Vermont 05156
Tel: (802) 674-2904 Fax: (802) 674-2913
info@dufresnegroup.com | dufresnegroup.com

PROJECT NAME: WINOOSKI MAIN ST.
PROJECT NUMBER: 58011.00

FILE NAME: SEWER.DWG
PROJECT LEADER: E.P. DETRICK
DESIGNED BY: T.P. KNAPP
SEWER PLAN 7

PLOT DATE: XX.XX.2019
DRAWN BY: K.M. MENEES.
CHECKED BY: R.N. GOODWIN
SHEET 47 OF 178



NOTES:

1. SEE SHEET XX FOR GENERAL NOTES, LEGEND, AND ABBREVIATIONS.
2. SEE SHEET XX-XX FOR SEWER MAIN PROFILES.
3. SEE SHEETS XX-XX FOR STANDARD SEWER DETAILS.
4. SEE PLANS PROVIDED BY VANASSE HANGEN BRUSTLIN, INC FOR ADDITIONAL INFORMATION, INCLUDING STORM DRAIN AND ROAD IMPROVEMENTS.

0 20 40
SCALE IN FEET

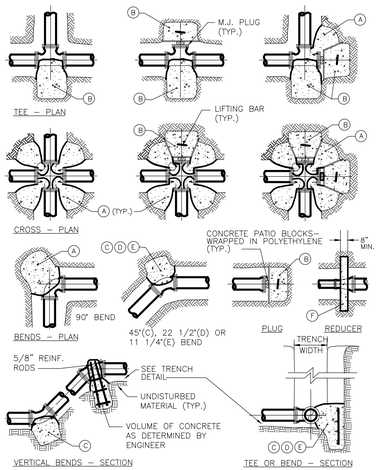
60% DESIGN SUBMITTAL

DUFRESNE GROUP
CONSULTING ENGINEERS
56 Main Street, Suite 200
Springfield, Vermont 05156
Tel: (802) 674-2904 Fax: (802) 674-2913
info@dufresnegroup.com | dufresnegroup.com

PROJECT NAME: WINOOSKI MAIN ST.
PROJECT NUMBER: 58011.00

FILE NAME: SEWER.DWG
PROJECT LEADER: E.P. DETRICK
DESIGNED BY: T.P. KNAPP
SEWER PLAN 8

PLOT DATE: XX.XX.2019
DRAWN BY: K.M. MENEES.
CHECKED BY: R.N. GOODWIN
SHEET 48 OF 178



THRUST BLOCK SCHEDULE SQUARE FEET OF CONCRETE THRUST BLOCKING BEARING ON UNDISTURBED MATERIAL										
REACTION TYPE		PIPE SIZE								
		4"	6"	8"	10"	12"	14"	16"	18"	20"	24"
TEST PRESSURE = 200 PSIG	Ⓐ	5.12	10.58	18.19	27.37	38.71	52.00	67.26	84.47	103.64	147.87
	Ⓑ	3.62	7.48	12.87	19.35	27.37	36.77	47.56	59.73	73.29	104.56
	Ⓒ	2.77	5.72	9.85	14.81	20.95	28.14	36.40	45.72	56.09	80.03
	Ⓓ	1.41	2.92	5.02	7.55	10.68	14.35	18.56	23.31	28.60	40.80
	Ⓔ	0.71	1.47	2.52	3.79	5.37	7.21	9.32	11.71	14.37	20.50
	Ⓕ	–	3.86	9.25	15.73	23.75	29.29	40.08	46.86	53.93	77.19

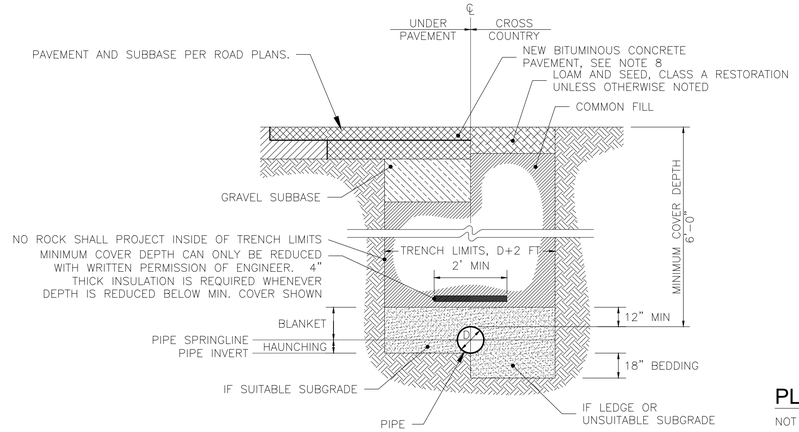
NOTES:
1. THRUST RESTRAINT IS REQUIRED FOR ALL TEES, BENDS, REDUCERS, CAPS, PLUGS, OR CROSSES.
2. POUR THRUST BLOCKS AGAINST UNDISTURBED MATERIAL. WHERE TRENCH WALL HAS BEEN DISTURBED, EXCAVATE LOOSE MATERIAL AND EXTEND THRUST BLOCK TO UNDISTURBED MATERIAL. NO JOINTS SHALL BE COVERED WITH CONCRETE.
3. ON BENDS AND TEES, EXTEND THRUST BLOCKS FULL LENGTH OF FITTING.
4. PLACE CONCRETE PATIO BLOCKS IN FRONT OF ALL PLUGS BEFORE POURING THRUST BLOCK.
5. PRE-FORMED AND PRE-POURED THRUST BLOCKS ARE NORMALLY NOT ACCEPTABLE AND SHALL ONLY BE USED WHEN SPECIFICALLY APPROVED BY THE OWNER.
6. THE USE OF A MECHANICAL JOINT RESTRAINT SYSTEM DOES NOT REDUCE THE REQUIREMENTS SHOWN IN THIS DETAIL.
7. ALL FITTINGS SHALL BE WRAPPED IN POLYETHYLENE OR BUILDING PAPER PRIOR TO INSTALLATION OF CONCRETE RESTRAINT.
8. IF THREADED ROD IS USED, IT SHALL BE ANSI A242 FY50 PIPE RESTRAINT NUTS TO MATCH AWWA C111.
9. SIZES FOR REDUCERS SHOWN ARE BASED ON THE SMALLEST AVAILABLE RUN SIZE FOR A GIVEN PIPE SIZE.
10. INSTALL LIFT HOOKS INTO THRUST BLOCKS AT END CAPS AND PLUGS.
11. TEST PRESSURE TO BE 200 PSI MIN. AT LOW END OF THE TEST SECTION. SQUARE FEET OF CONCRETE THRUST BLOCKING FOR OTHER TEST PRESSURES IS DIRECTLY PROPORTIONAL TO THE ABOVE TABLE. FOR INSTANCE, AT 300 PSI TEST PRESSURE, THE NUMBERS SHOWN IN THE ABOVE TABLE ARE MULTIPLIED BY 1.5. SEE BELOW FOR EXAMPLE CALCULATION.
12. THRUST BLOCK AREA IS BASED ON A SOIL BEARING STRENGTH OF 1500 LBS/SF AND A SAFETY FACTOR OF 1.5. MULTIPLY THE BEARING AREA FROM ABOVE (WITH CONSIDERATION OF TEST PRESSURE) AND MULTIPLY BY THE FOLLOWING FACTORS TO DETERMINE BEARING AREA REQUIRED FOR VARIOUS SOIL CONDITIONS:

SOIL TYPE	BEARING CAPACITY (LB/SF)	FACTOR
SOFT CLAY	1,000	1.50
SILT	1,500	1.00
SANDY SILT	3,000	0.50
SAND	4,000	0.38
SANDY GRAVEL	5,000	0.30
SANDY CLAY	6,000	0.25
GRAVEL W/ ROCK	7,000	0.21
HARD CLAY	9,000	0.17

EXAMPLE: AN 8–INCH 90° BEND IN SANDY GRAVEL SOILS, TEST PRESSURE OF 200 PSI:
AREA REQUIRED = 18.19SF x 1 x 0.30 = 5.46SF

THRUST BLOCK DETAILS AND NOTES

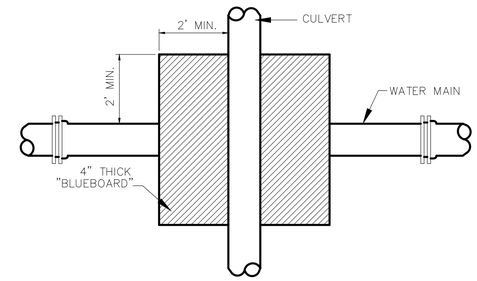
NOT TO SCALE



WATER MAIN TYPICAL TRENCH DETAIL

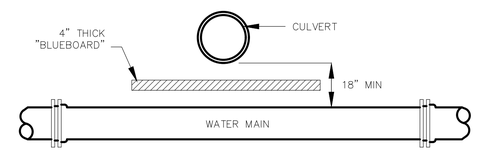
NOT TO SCALE

NOTES:
1. REFER TO SPECIFICATIONS FOR PAVEMENT THICKNESS REQUIREMENTS.
2. REFER TO THE SPECIFICATIONS FOR COMPACTION, PAY LIMITS, AND SPECIALTY MATERIALS FOR BLANKET, HAUNCHING, BEDDING, AND GRAVELS. HAND TAMP HAUNCHING TO REMOVE ALL VOIDS UNDER PIPE.
3. REMOVE EXISTING PAVEMENT TO A DEPTH EQUAL TO NEW WEARING COURSE PAVEMENT THICKNESS FOR A MINIMUM DISTANCE OF 12–INCHES FROM SAWCUT #1. CLEAN SURFACES AND TACK COAT ALL EDGES OF EXISTING PAVEMENT.
4. TRENCH WIDTH SHALL BE SUFFICIENT TO ALLOW PIPE TO BE LAID AND JOINED PROPERLY AND FOR PLACEMENT AND COMPACTION OF BEDDING. TRENCH SUPPORT SHALL BE ADEQUATE TO PERMIT SAFE ACCESS BY INSPECTOR FOR COMPACTION SAMPLES.
5. WHERE PIPE IS INSTALLED IN GRAVEL SHOULDER OR IN GRAVELED ROAD, GRAVEL SUBBASE MATERIAL AND COMPACTION SHALL BE AS SPECIFIED.
6. REFER TO THE NOTES ON SHEET G1 AND SECTION 02740 FOR PAVEMENT RESTORATION REQUIREMENTS.
7. PIPE SHALL BE ENCASED IN PIPE WRAP IN ACCORDANCE WITH AWWA C105/A21.5.



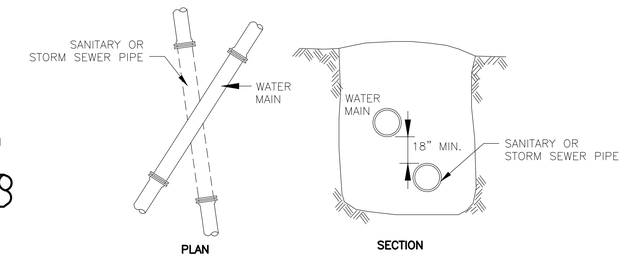
PLAN WATER MAIN / SEWER OR DRAIN CROSSING

NOT TO SCALE



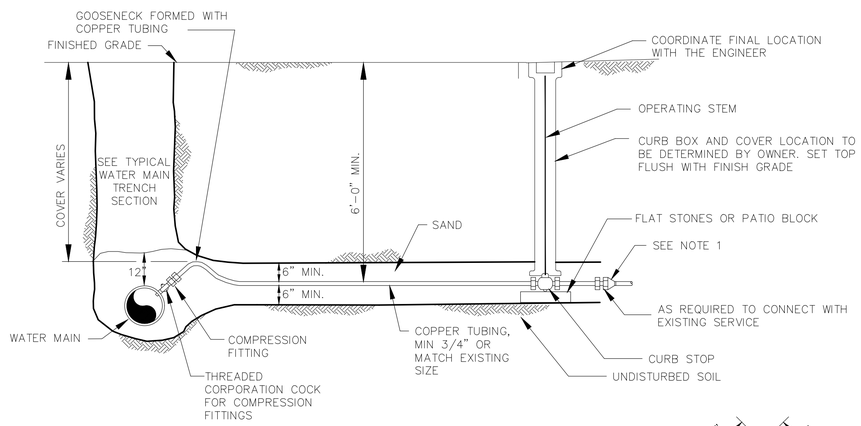
SECTION WATER MAIN / SEWER OR DRAIN CROSSING

NOT TO SCALE



NOTES:
1. PARALLEL INSTALLATION: WATER MAINS SHALL BE LAID AT LEAST 10 FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED MANHOLE OR SANITARY SEWER. THIS DISTANCE CAN BE REDUCED TO 5 FEET FOR STORM SEWERS. THE DISTANCE SHALL BE MEASURED EDGE TO EDGE.
2. CROSSINGS: WATER MAINS CROSSING SEWERS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 18 INCHES BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF THE SANITARY OR STORM SEWER. THIS SHALL BE THE CASE WHERE THE WATER MAIN IS EITHER ABOVE OR BELOW THE SEWER. AT CROSSINGS, ONE FULL LENGTH OF WATER PIPE SHALL BE LOCATED SO BOTH JOINTS WILL BE AS FAR FROM THE SEWER AS POSSIBLE. IF THE SEWER MAIN IS OVER THE WATER MAIN, THE FIRST SEWER PIPE JOINTS ON EACH SIDE OF THE WATER MAIN MUST BE CONCRETE ENCASED. SPECIAL STRUCTURAL SUPPORT FOR THE WATER AND SEWER PIPES MAY BE REQUIRED. WATER MAINS SHALL NOT PASS THROUGH SEWER MANHOLES OR BE SUBMERGED IN BASINS CONTAINING SEWAGE OR OTHER GROSSLY CONTAMINATED OR HAZARDOUS MATERIAL.
3. EXCEPTION: THE ENGINEER MUST SPECIFICALLY APPROVE ANY VARIANCE FROM THESE REQUIREMENTS WHEN IT IS IMPOSSIBLE TO OBTAIN THE SPECIFIED SEPARATION DISTANCES.

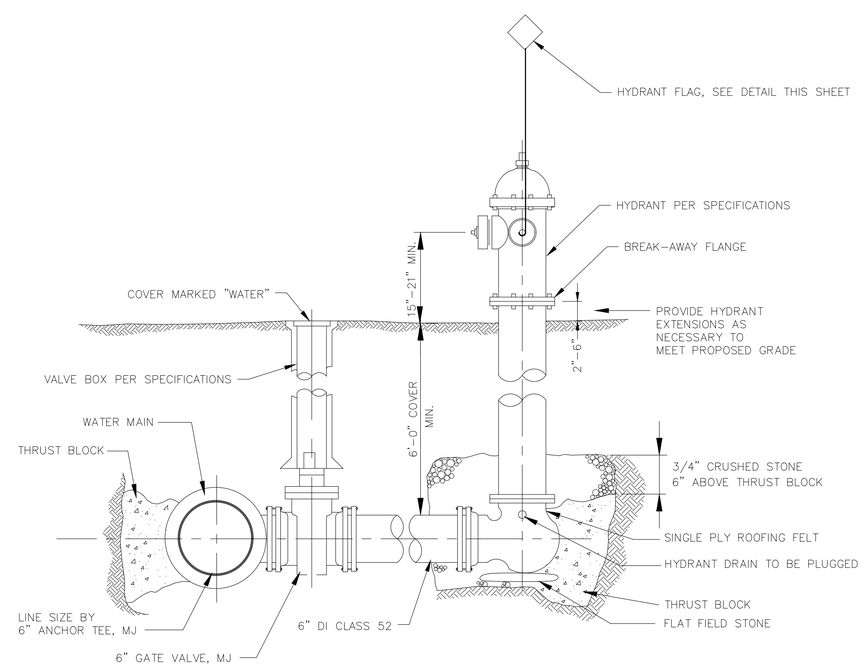
SANITARY AND/OR STORM SEWER PIPE AND WATER MAIN CROSSING



TYPICAL SERVICE CONNECTION DETAIL

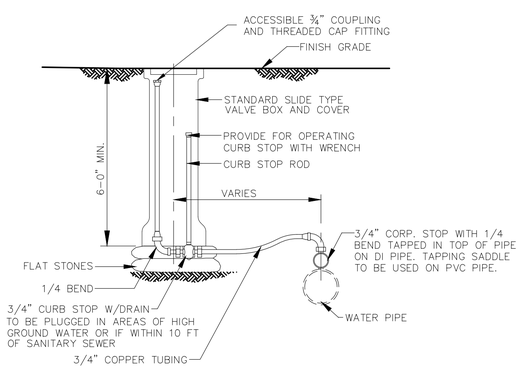
NOT TO SCALE

NOTES:
1. TAPPING SADDLE TO BE UTILIZED FOR ALL SERVICE TAPS ON PVC WATER MAIN.M
2. PROVIDE TEMPORARY PLUG FOR TESTING PURPOSES.



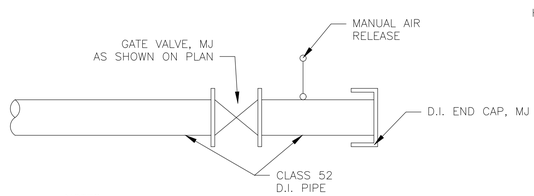
HYDRANT ASSEMBLY DETAIL

NOT TO SCALE



MANUAL AIR RELEASE

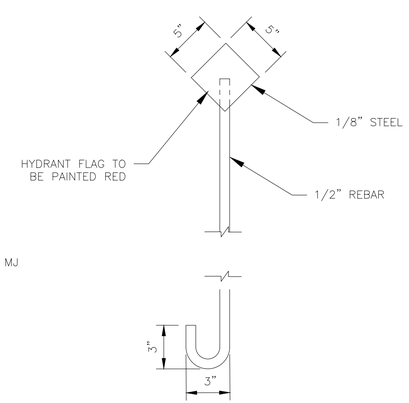
NOT TO SCALE



NOTES:
1. SEE PLANS FOR LINE SIZES AND VALVE LOCATIONS.
2. ADDITIONAL BENDS OR FITTINGS MAY BE REQUIRED, SEE PLAN SHEETS.

FUTURE CONNECTION DETAIL

NOT TO SCALE



HYDRANT FLAG DETAIL

NOT TO SCALE

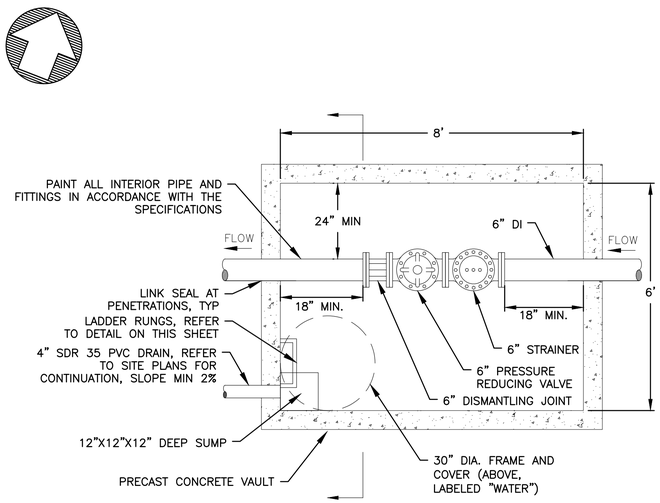
60% DESIGN SUBMITTAL

DUFRESNE GROUP CONSULTING ENGINEERS
56 Main Street, Suite 200
Springfield, Vermont 05156
Tel: (802) 674-2904 Fax: (802) 674-2913
info@dufresnegroup.com | dufresnegroup.com

PROJECT NAME: WINOOSKI MAIN ST.
PROJECT NUMBER: 58011.00

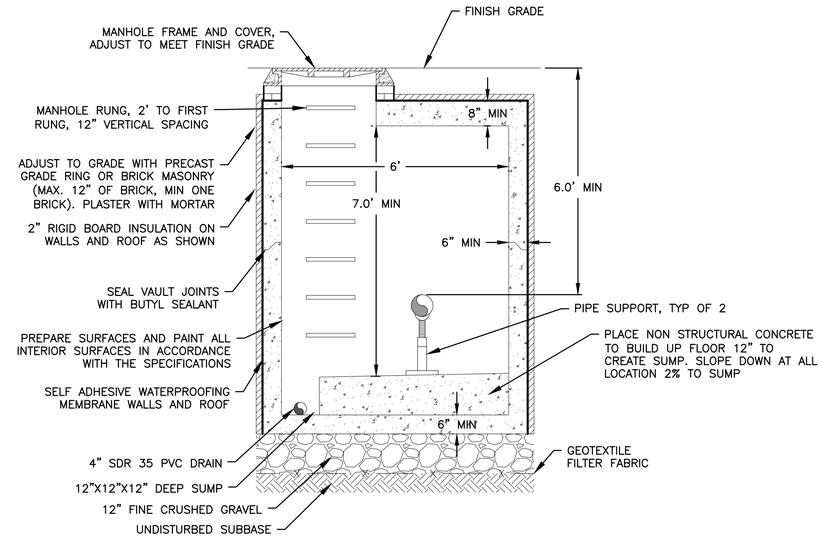
FILE NAME: DETAILS.DWG
PROJECT LEADER: E.P. DETRICK
DESIGNED BY: T.P. KNAPP
WATER DETAILS

PLOT DATE: XX.XX.2019
DRAWN BY: K.M. MENEES.
CHECKED BY: R.N. GOODWIN
SHEET 49 OF 178



PRV VAULT PLAN

SCALE: 1/2"=1'



PRV VAULT SECTION

SCALE: 1/2"=1'

60% DESIGN SUBMITTAL

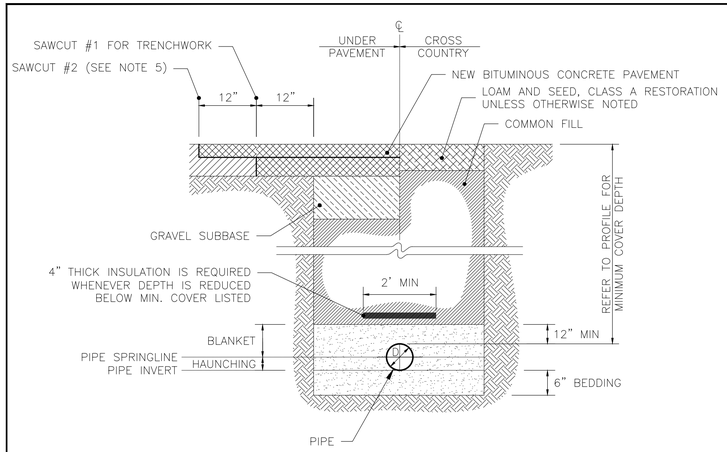
DUFRESNE GROUP
CONSULTING ENGINEERS

56 Main Street, Suite 200
Springfield, Vermont 05156
Tel: (802) 674-2904 Fax: (802) 674-2913
info@dufresnegroup.com | dufresnegroup.com

PROJECT NAME: WINOOSKI MAIN ST.
PROJECT NUMBER: 58011.00

FILE NAME: DETAILS.DWG
PROJECT LEADER: E.P. DETRICK
DESIGNED BY: T.P. KNAPP
PRESSURE REDUCING VALVE VAULT DETAILS

PLOT DATE: XX.XX.2019
DRAWN BY: K.M. MENEES.
CHECKED BY: R.N. GOODWIN
SHEET 50 OF 178

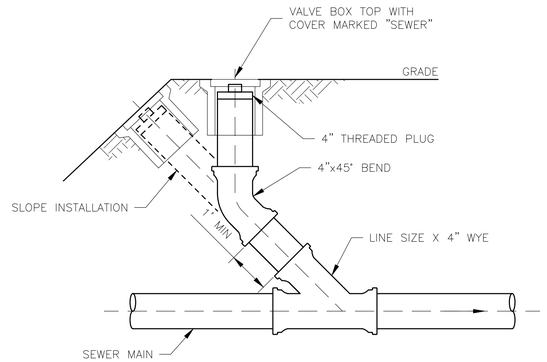


SANITARY SEWER MAIN TYPICAL TRENCH DETAIL

NOT TO SCALE

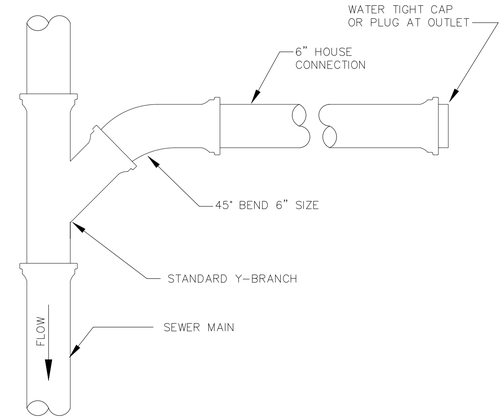
NOTES:

1. TYPICAL TRENCH DETAILS SHOWN HEREIN ARE BASED ON THE USE OF PVC OR HDPE PIPE.
2. REFER TO SPECIFICATIONS FOR PAVEMENT THICKNESS REQUIREMENTS.
3. REFER TO THE SPECIFICATIONS FOR COMPACTION, PAY LIMITS, AND SPECIALTY MATERIALS FOR BLANKET, HAUNCHING, BEDDING, AND GRAVELS.
4. NORMALLY, EXCAVATED MATERIAL FROM THE TRENCH CAN BE USED AS COMMON FILL BACKFILL AND COMPACTED AS NECESSARY TO ACHIEVE COMPLIANCE WITH THE SPECIFICATIONS. IF IN THE OPINION OF THE ENGINEER, THE EXCAVATED MATERIAL WHEN REMOVED IS TOO WET TO BE USED AS BACKFILL TO ACHIEVE THE MINIMUM SPECIFIED COMPACTION, MATERIAL MEETING THE COMMON FILL SPECIFICATION WILL BE FURNISHED AND INSTALLED AT THE UNIT PRICE PROVIDED.
5. IF THE EXCAVATED MATERIAL BECOMES TOO WET DUE TO WEATHER CONDITIONS OR DUE TO IMPROPER HANDLING PROCEDURES AND CANNOT BE REUSED FOR BACKFILL, THE MATERIAL SHALL BE SUFFICIENTLY DRIED OR MIXED WITH DRY MATERIAL TO OBTAIN PROPER MOISTURE CONTENT AT NO ADDITIONAL CHARGE TO THE OWNER.
6. SAWCUT #2 FOR PERMANENT TRENCH PAVEMENT: CUT EXISTING PAVEMENT IN A STRAIGHT LINE TO A DEPTH EQUAL TO NEW WEARING COURSE PAVEMENT THICKNESS AND REMOVE EXISTING PAVEMENT. CLEAN SURFACES AND TACK COAT ALL EDGES OF EXISTING PAVEMENT.
7. TRENCH WIDTH SHALL BE SUFFICIENT TO ALLOW PIPE TO BE LAID AND JOINED PROPERLY AND FOR PLACEMENT AND COMPACTION OF BEDDING. TRENCH SUPPORT SHALL BE ADEQUATE TO PERMIT SAFE ACCESS BY INSPECTOR FOR COMPACTION SAMPLES.
8. WHERE PIPE IS INSTALLED IN GRAVEL SHOULDER OR IN GRAVELED ROAD, GRAVEL SUBBASE MATERIAL AND COMPACTION SHALL BE AS SPECIFIED.



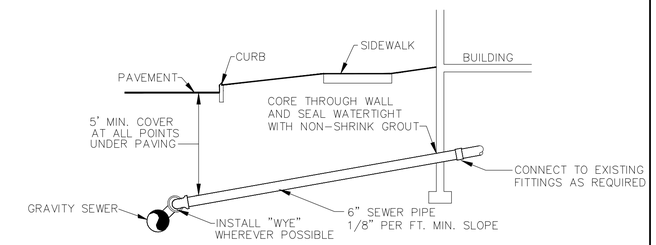
SEWER CLEANOUT DETAIL

NOT TO SCALE



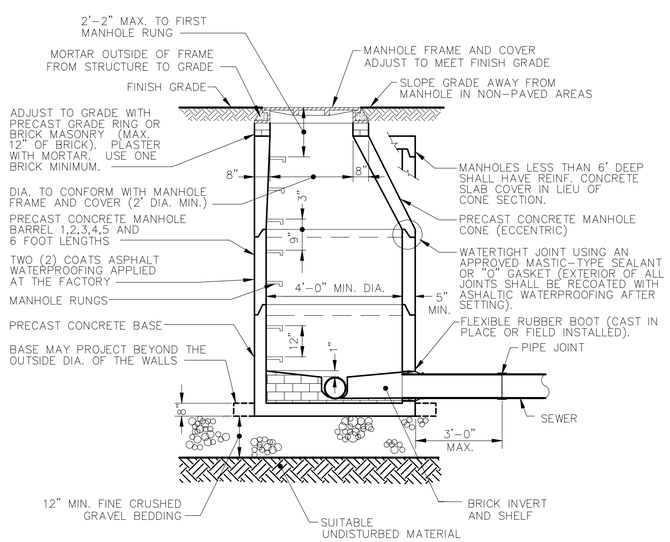
LATERAL CONNECTION DETAIL

NOT TO SCALE



TYPICAL SEWER SERVICE LATERALS

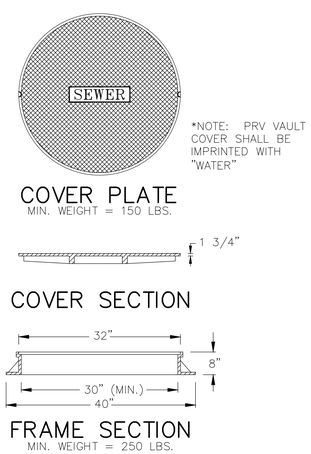
NOT TO SCALE



PRECAST CONCRETE MANHOLE

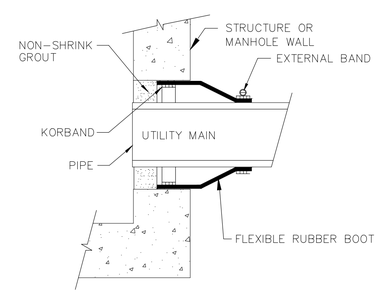
NOT TO SCALE

NOTE:
PRECAST MANHOLE FRAME AND COVER SHALL BE CAPABLE OF AASHTO HL-93 LOADING WITHOUT FAILURE



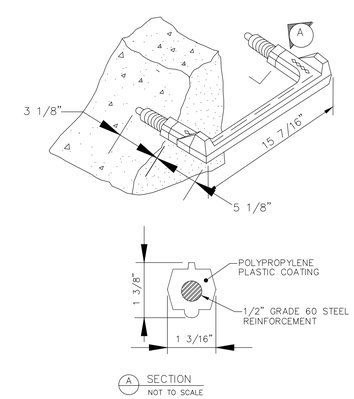
MANHOLE FRAME COVER DETAIL

NOT TO SCALE



SEWER PIPE TO STRUCTURE DETAIL

NOT TO SCALE



MANHOLE STEP DETAIL

NOT TO SCALE

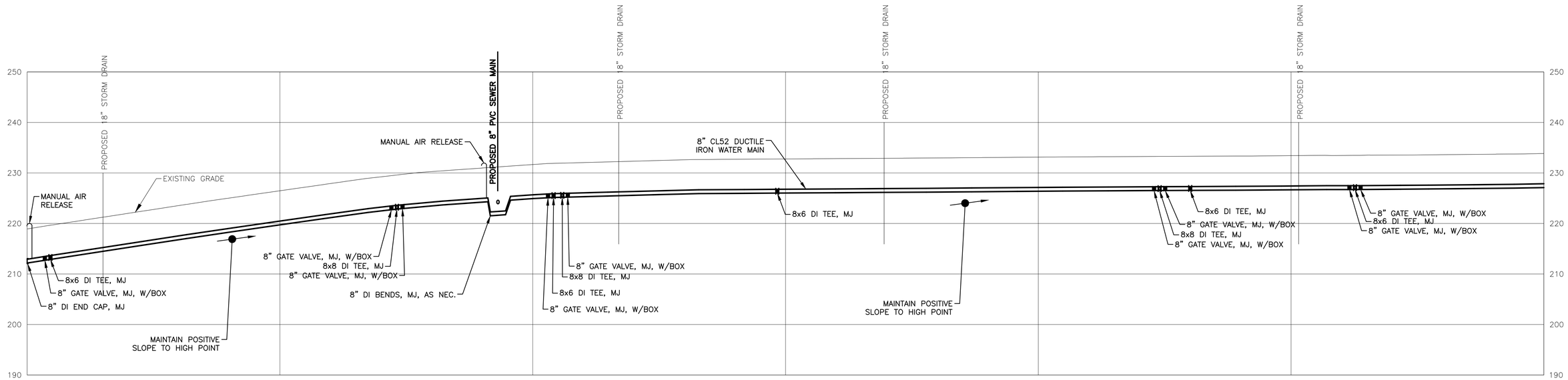
60% DESIGN SUBMITTAL

DUFRESNE GROUP CONSULTING ENGINEERS
56 Main Street, Suite 200
Springfield, Vermont 05156
Tel: (802) 674-2904 Fax: (802) 674-2913
info@dufresnegroup.com | dufresnegroup.com

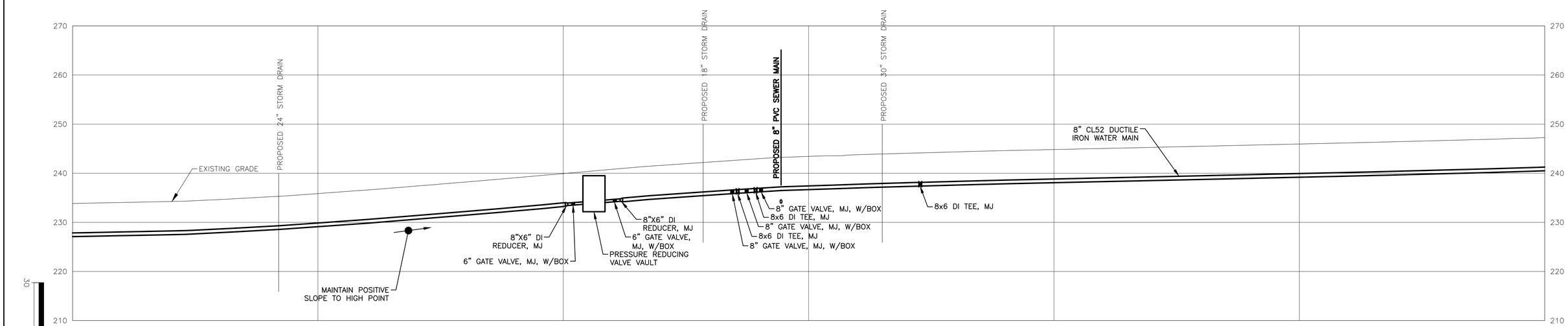
PROJECT NAME: WINOOSKI MAIN ST.
PROJECT NUMBER: 58011.00

FILE NAME: DETAILS.DWG
PROJECT LEADER: E.P. DETRICK
DESIGNED BY: T.P. KNAPP
SEWER DETAILS

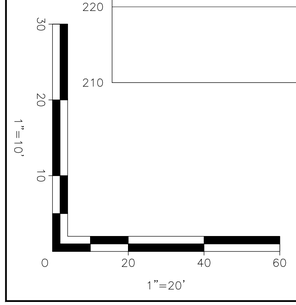
PLOT DATE: XX.XX.2019
DRAWN BY: K.M. MENEES.
CHECKED BY: R.N. GOODWIN
SHEET 51 OF 178



WATER PROFILE 1



WATER PROFILE 2



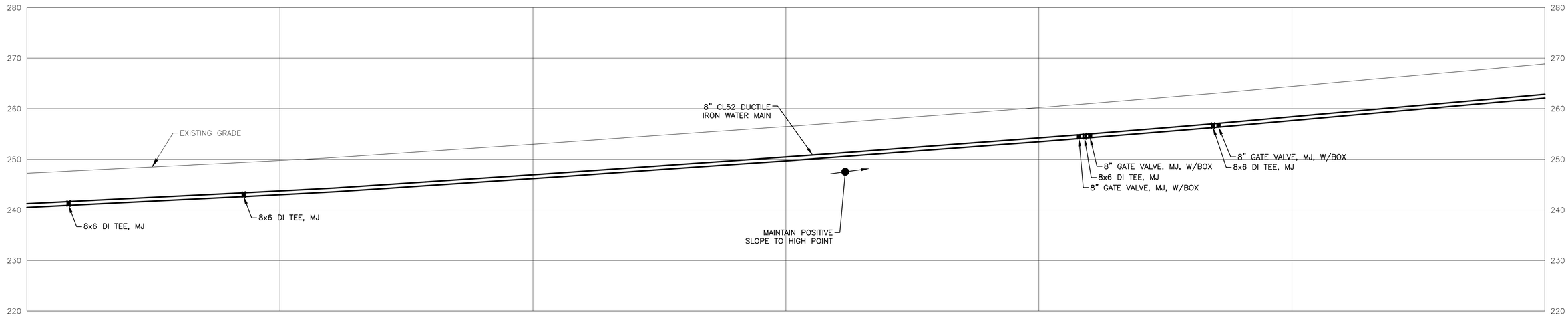
60% DESIGN SUBMITTAL

DUFRESNE GROUP
CONSULTING ENGINEERS
56 Main Street, Suite 200
Springfield, Vermont 05156
Tel: (802) 674-2904 Fax: (802) 674-2913
info@dufresnegroup.com | dufresnegroup.com

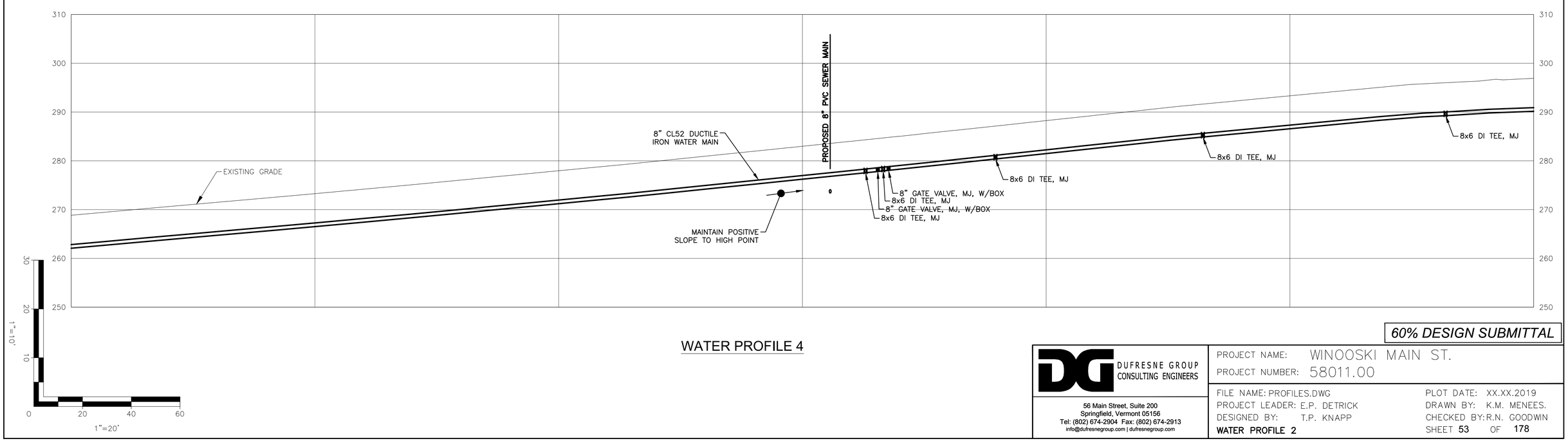
PROJECT NAME: WINOOSKI MAIN ST.
PROJECT NUMBER: 58011.00

FILE NAME: PROFILES.DWG
PROJECT LEADER: E.P. DETRICK
DESIGNED BY: T.P. KNAPP
WATER PROFILE 1

PLOT DATE: XX.XX.2019
DRAWN BY: K.M. MENEES.
CHECKED BY: R.N. GOODWIN
SHEET 52 OF 178



WATER PROFILE 3



WATER PROFILE 4

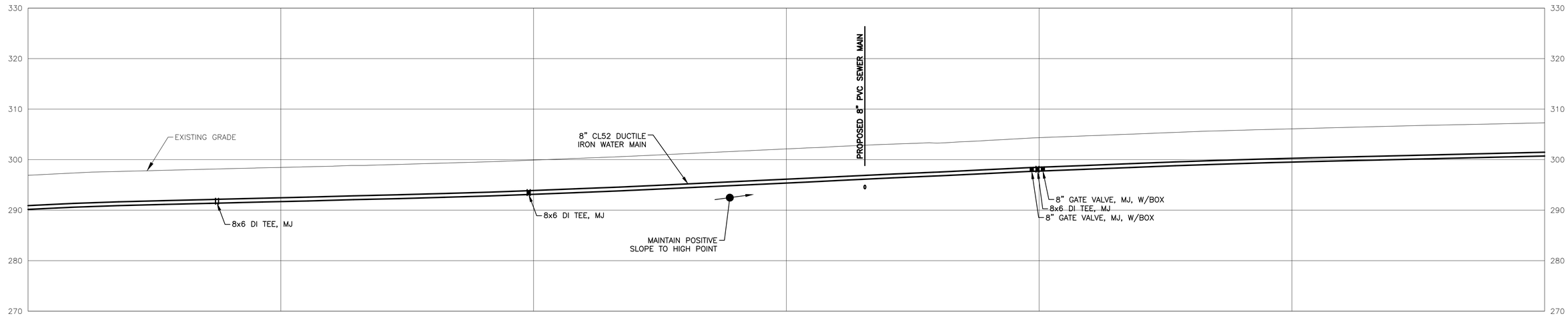
60% DESIGN SUBMITTAL

DUFRESNE GROUP
CONSULTING ENGINEERS
56 Main Street, Suite 200
Springfield, Vermont 05156
Tel: (802) 674-2904 Fax: (802) 674-2913
info@dufresnegroup.com | dufresnegroup.com

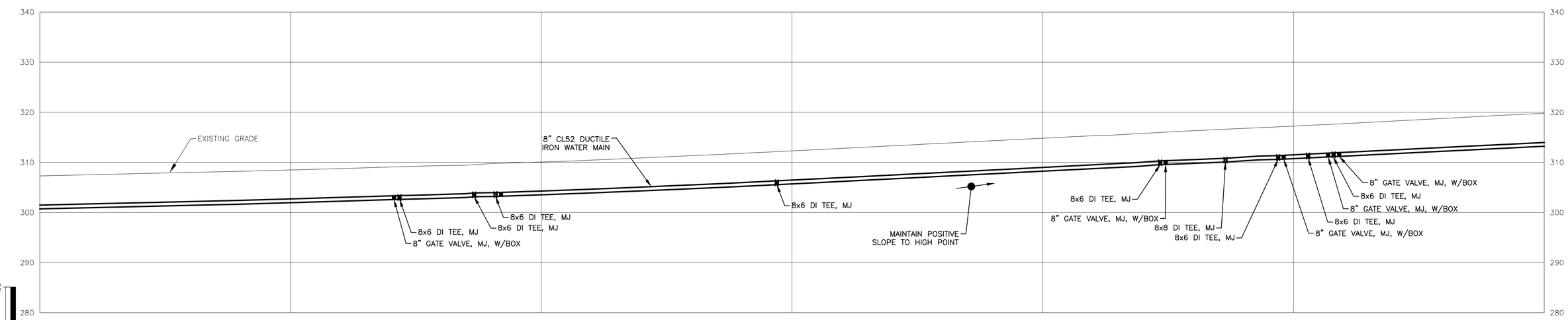
PROJECT NAME: WINOOSKI MAIN ST.
PROJECT NUMBER: 58011.00

FILE NAME: PROFILES.DWG
PROJECT LEADER: E.P. DETRICK
DESIGNED BY: T.P. KNAPP
WATER PROFILE 2

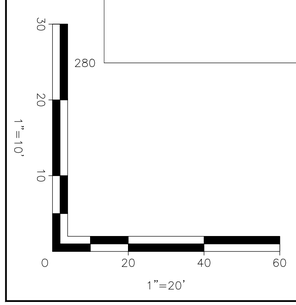
PLOT DATE: XX.XX.2019
DRAWN BY: K.M. MENEES.
CHECKED BY: R.N. GOODWIN
SHEET 53 OF 178



WATER PROFILE 5



WATER PROFILE 6



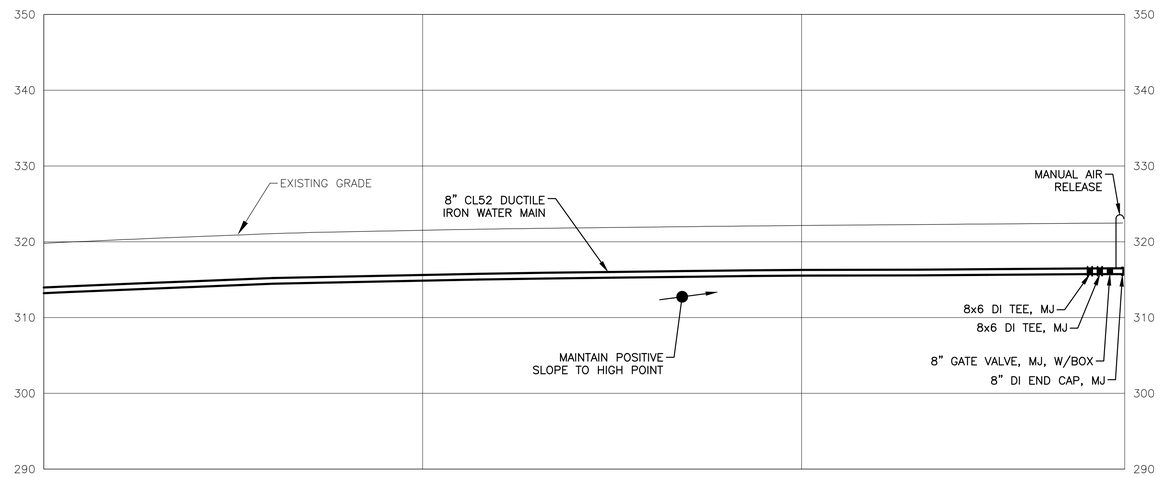
60% DESIGN SUBMITTAL

DUFRESNE GROUP
CONSULTING ENGINEERS
56 Main Street, Suite 200
Springfield, Vermont 05156
Tel: (802) 674-2904 Fax: (802) 674-2913
info@dufresnegroup.com | dufresnegroup.com

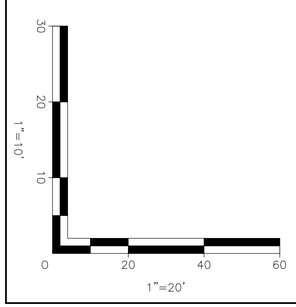
PROJECT NAME: WINOOSKI MAIN ST.
PROJECT NUMBER: 58011.00

FILE NAME: PROFILES.DWG
PROJECT LEADER: E.P. DETRICK
DESIGNED BY: T.P. KNAPP
WATER PROFILE 3

PLOT DATE: XX.XX.2019
DRAWN BY: K.M. MENEES.
CHECKED BY: R.N. GOODWIN
SHEET 54 OF 178



WATER PROFILE 7



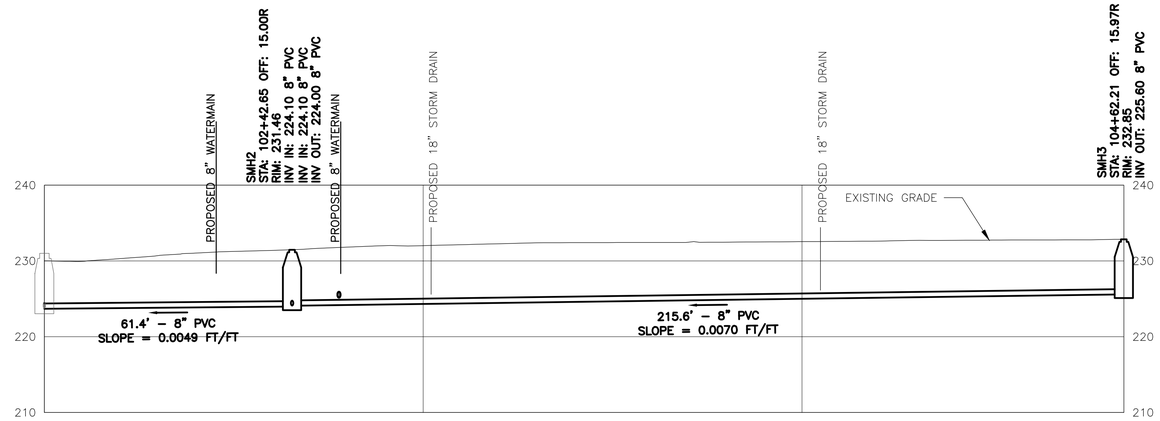
60% DESIGN SUBMITTAL

DUFRESNE GROUP
CONSULTING ENGINEERS
56 Main Street, Suite 200
Springfield, Vermont 05156
Tel: (802) 674-2904 Fax: (802) 674-2913
info@dufresnegroup.com | dufresnegroup.com

PROJECT NAME: WINOOSKI MAIN ST.
PROJECT NUMBER: 58011.00

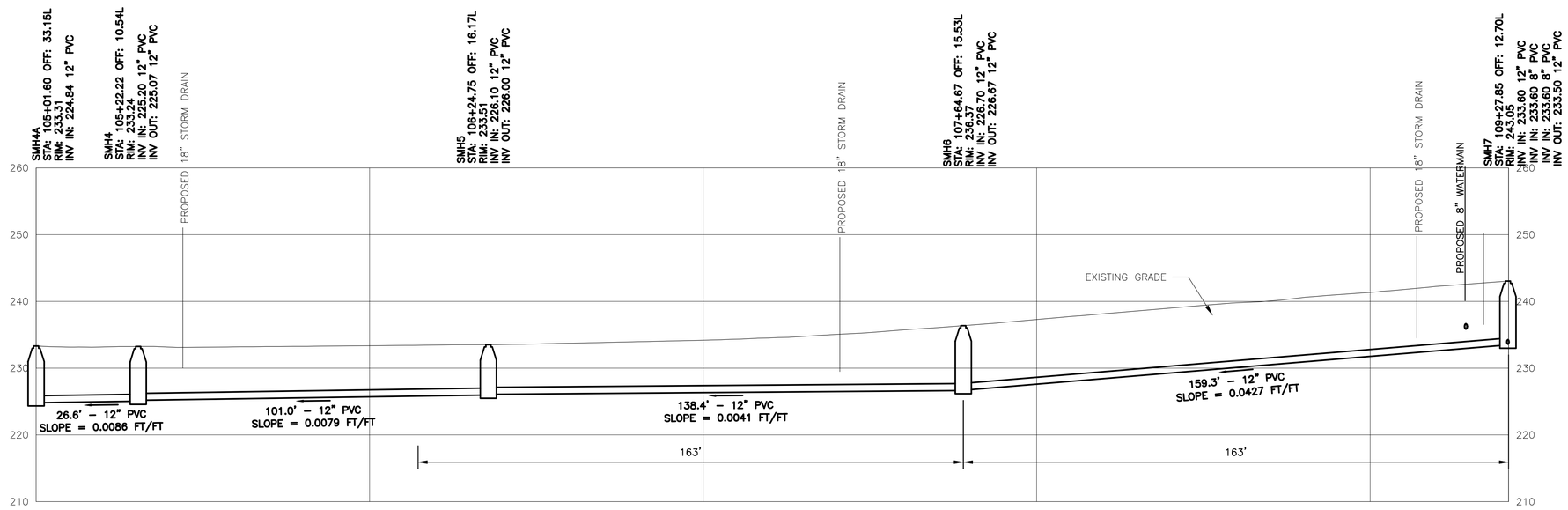
FILE NAME: PROFILES.DWG
PROJECT LEADER: E.P. DETRICK
DESIGNED BY: T.P. KNAPP
WATER PROFILE 4

PLOT DATE: XX.XX.2019
DRAWN BY: K.M. MENEES.
CHECKED BY: R.N. GOODWIN
SHEET 55 OF 178



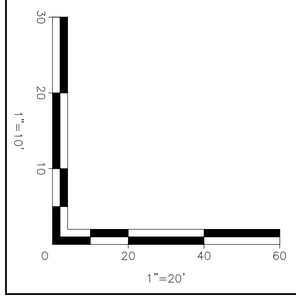
SEWER MAIN PROFILE - STATION 0+00S TO 3+36S

SCALE: H 1" = 20'
V 1" = 5'



SEWER MAIN PROFILE - STATION 4+00S TO 10+36S

SCALE: H 1" = 20'
V 1" = 5'



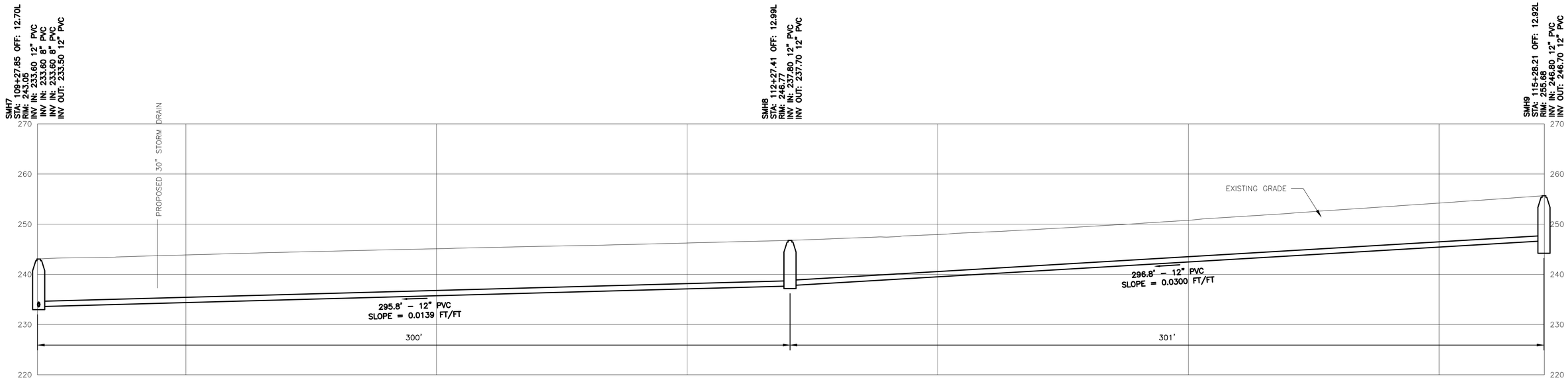
60% DESIGN SUBMITTAL

DUFRESNE GROUP
CONSULTING ENGINEERS
56 Main Street, Suite 200
Springfield, Vermont 05156
Tel: (802) 674-2904 Fax: (802) 674-2913
info@dufresnegroup.com | dufresnegroup.com

PROJECT NAME: WINOOSKI MAIN ST.
PROJECT NUMBER: 58011.00

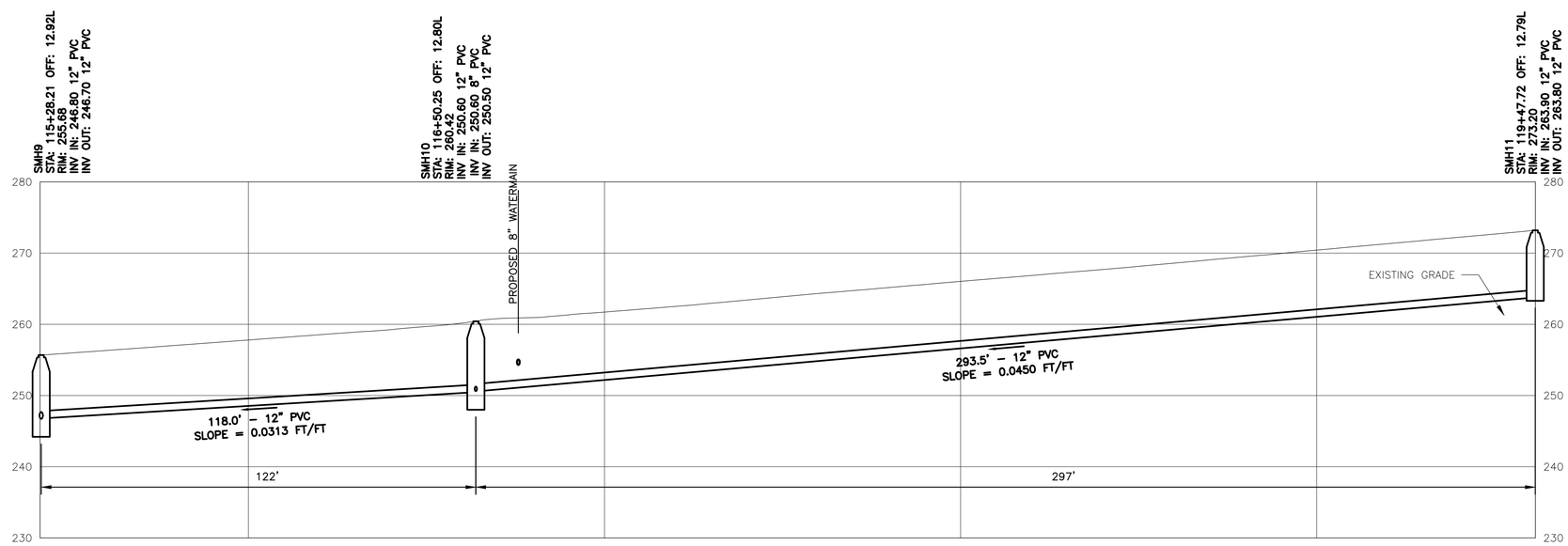
FILE NAME: PROFILES.DWG
PROJECT LEADER: E.P. DETRICK
DESIGNED BY: T.P. KNAPP
SEWER PROFILE 1

PLOT DATE: XX.XX.2019
DRAWN BY: K.M. MENEES.
CHECKED BY: R.N. GOODWIN
SHEET 56 OF 178



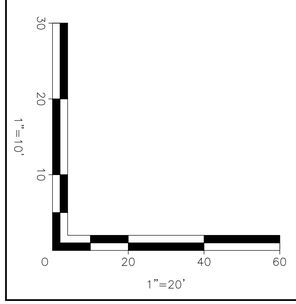
SEWER MAIN PROFILE - STATION 8+41S TO 14+42S

SCALE: H 1" = 20'
V 1" = 5'



SEWER MAIN PROFILE - STATION 14+42S TO18+81S

SCALE: H 1" = 20'
V 1" = 5'



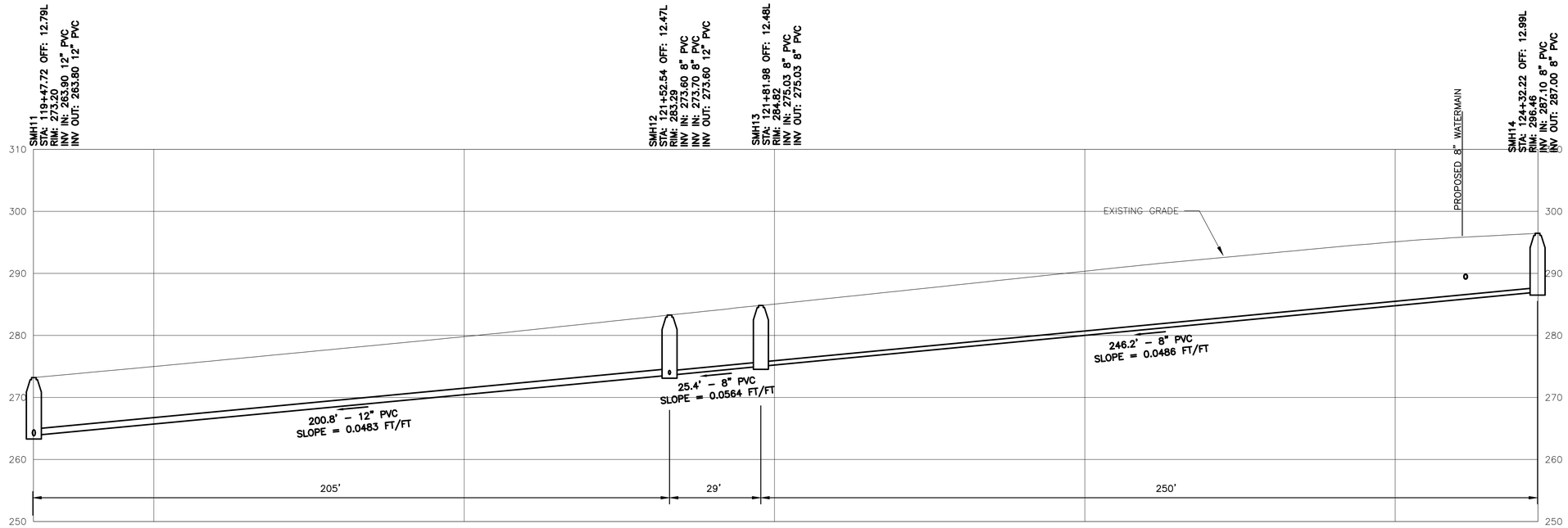
60% DESIGN SUBMITTAL

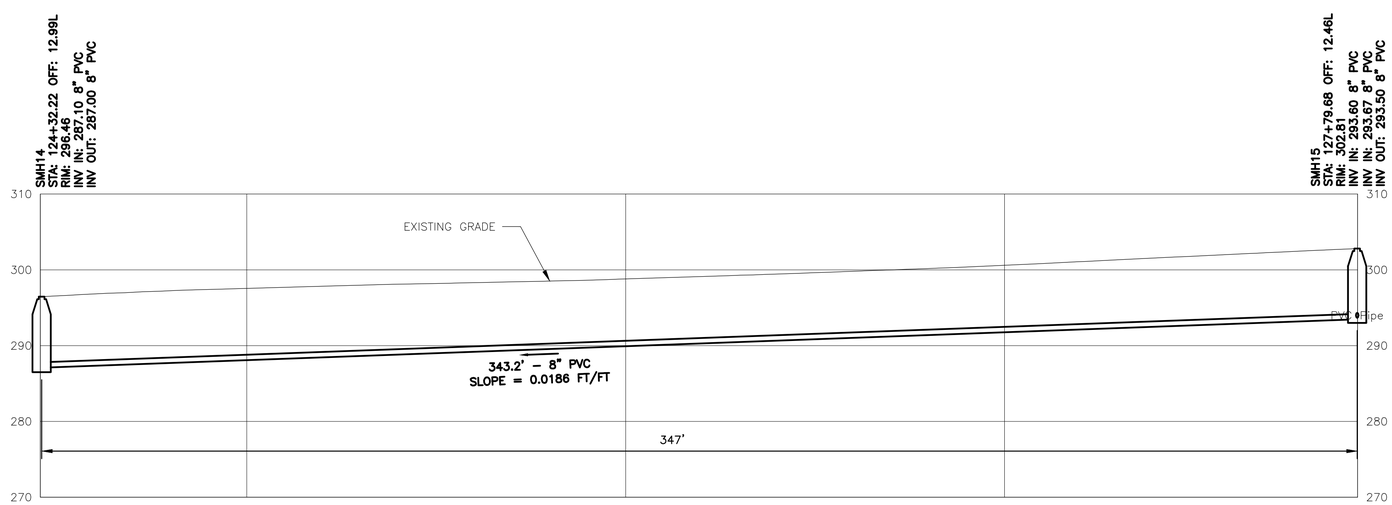
DUFRESNE GROUP
CONSULTING ENGINEERS
56 Main Street, Suite 200
Springfield, Vermont 05156
Tel: (802) 674-2904 Fax: (802) 674-2913
info@dufresnegroup.com | dufresnegroup.com

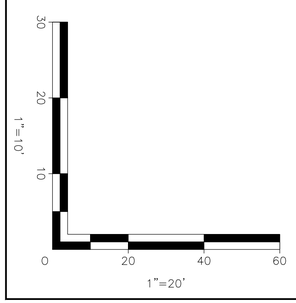
PROJECT NAME: WINOOSKI MAIN ST.
PROJECT NUMBER: 58011.00

FILE NAME: PROFILES.DWG
PROJECT LEADER: E.P. DETRICK
DESIGNED BY: T.P. KNAPP
SEWER PROFILE 2

PLOT DATE: XX.XX.2019
DRAWN BY: K.M. MENEES.
CHECKED BY: R.N. GOODWIN
SHEET 57 OF 178







SEWER MAIN PROFILE - STATION 23+46S TO 26+93S

SCALE: H 1" = 20'
V 1" = 5'

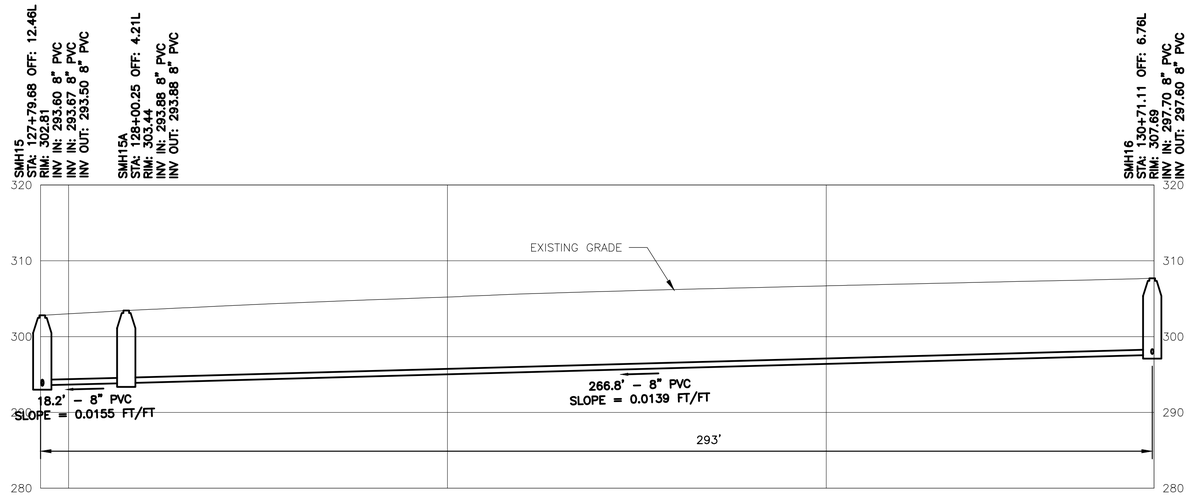
60% DESIGN SUBMITTAL

DUFRESNE GROUP
CONSULTING ENGINEERS
56 Main Street, Suite 200
Springfield, Vermont 05156
Tel: (802) 674-2904 Fax: (802) 674-2913
info@dufresnegroup.com | dufresnegroup.com

PROJECT NAME: WINOOSKI MAIN ST.
PROJECT NUMBER: 58011.00

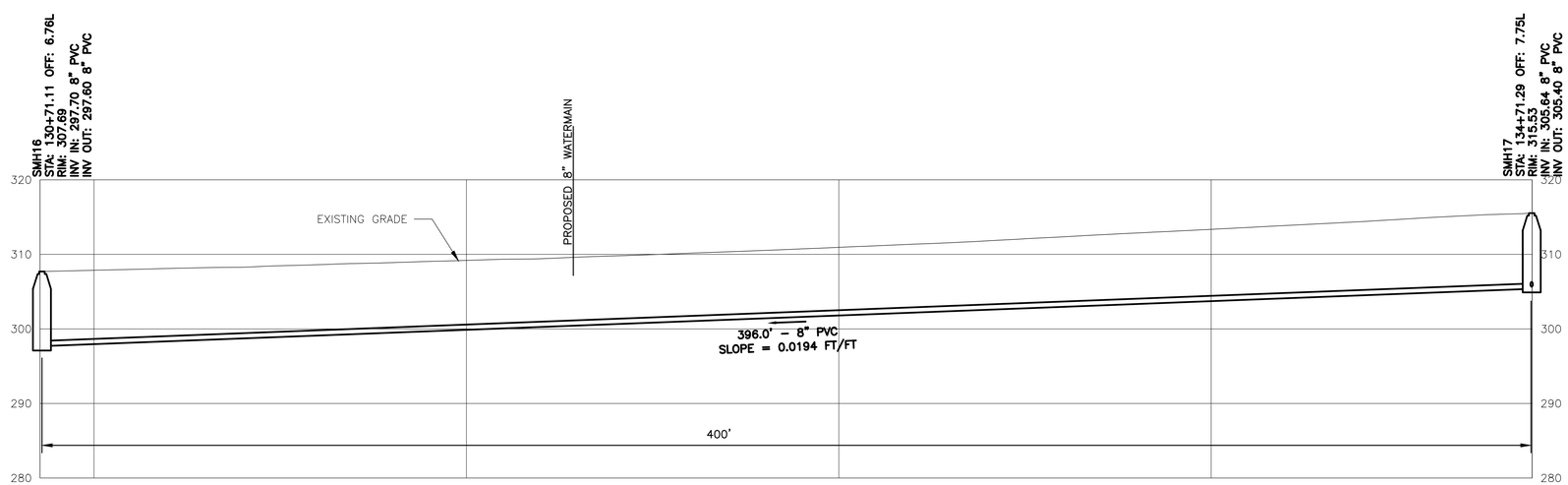
FILE NAME: PROFILES.DWG
PROJECT LEADER: E.P. DETRICK
DESIGNED BY: T.P. KNAPP
SEWER PROFILE 3

PLOT DATE: XX.XX.2019
DRAWN BY: K.M. MENEES.
CHECKED BY: R.N. GOODWIN
SHEET 58 OF 178



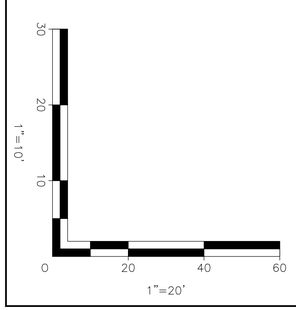
SEWER MAIN PROFILE - STATION 26+93S TO 29+84S

SCALE: H 1" = 20'
V 1" = 5'



SEWER MAIN PROFILE - STATION 29+84S TO 33+84S

SCALE: H 1" = 20'
V 1" = 5'



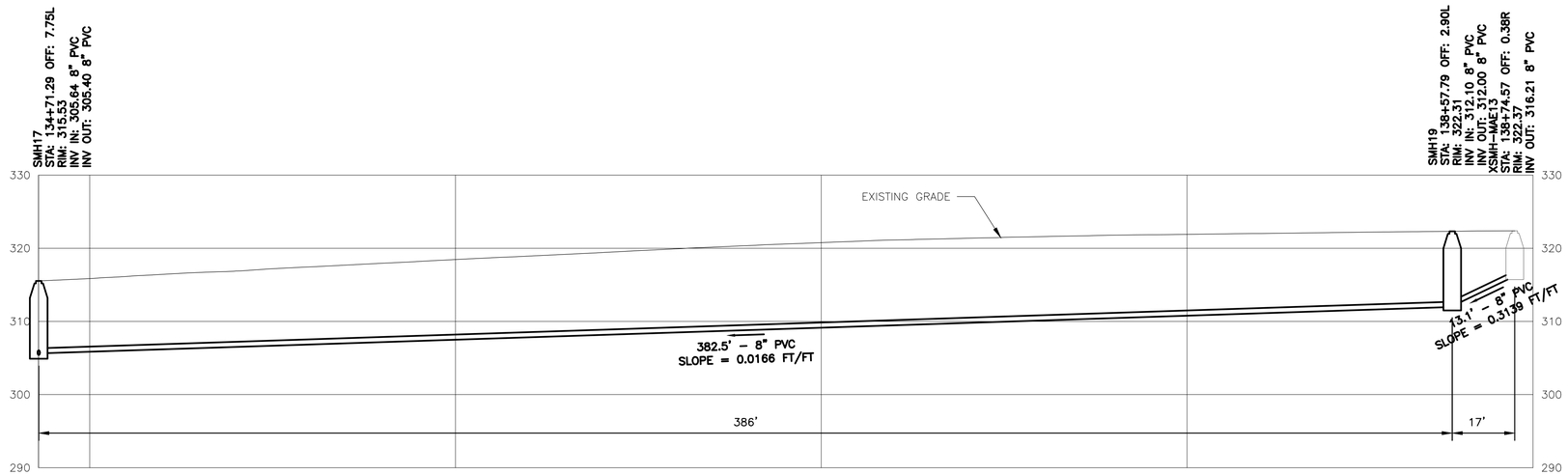
60% DESIGN SUBMITTAL

DUFRESNE GROUP
CONSULTING ENGINEERS
56 Main Street, Suite 200
Springfield, Vermont 05156
Tel: (802) 674-2904 Fax: (802) 674-2913
info@dufresnegroup.com | dufresnegroup.com

PROJECT NAME: WINOOSKI MAIN ST.
PROJECT NUMBER: 58011.00

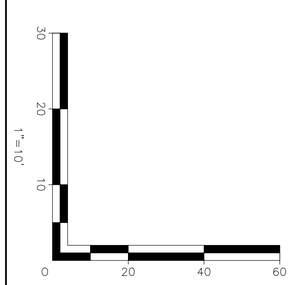
FILE NAME: PROFILES.DWG
PROJECT LEADER: E.P. DETRICK
DESIGNED BY: T.P. KNAPP
SEWER PROFILE 4

PLOT DATE: XX.XX.2019
DRAWN BY: K.M. MENEES.
CHECKED BY: R.N. GOODWIN
SHEET 59 OF 178



SEWER MAIN PROFILE - STATION 33+84S TO 37+95S

SCALE: H 1" = 20'
V 1" = 5'



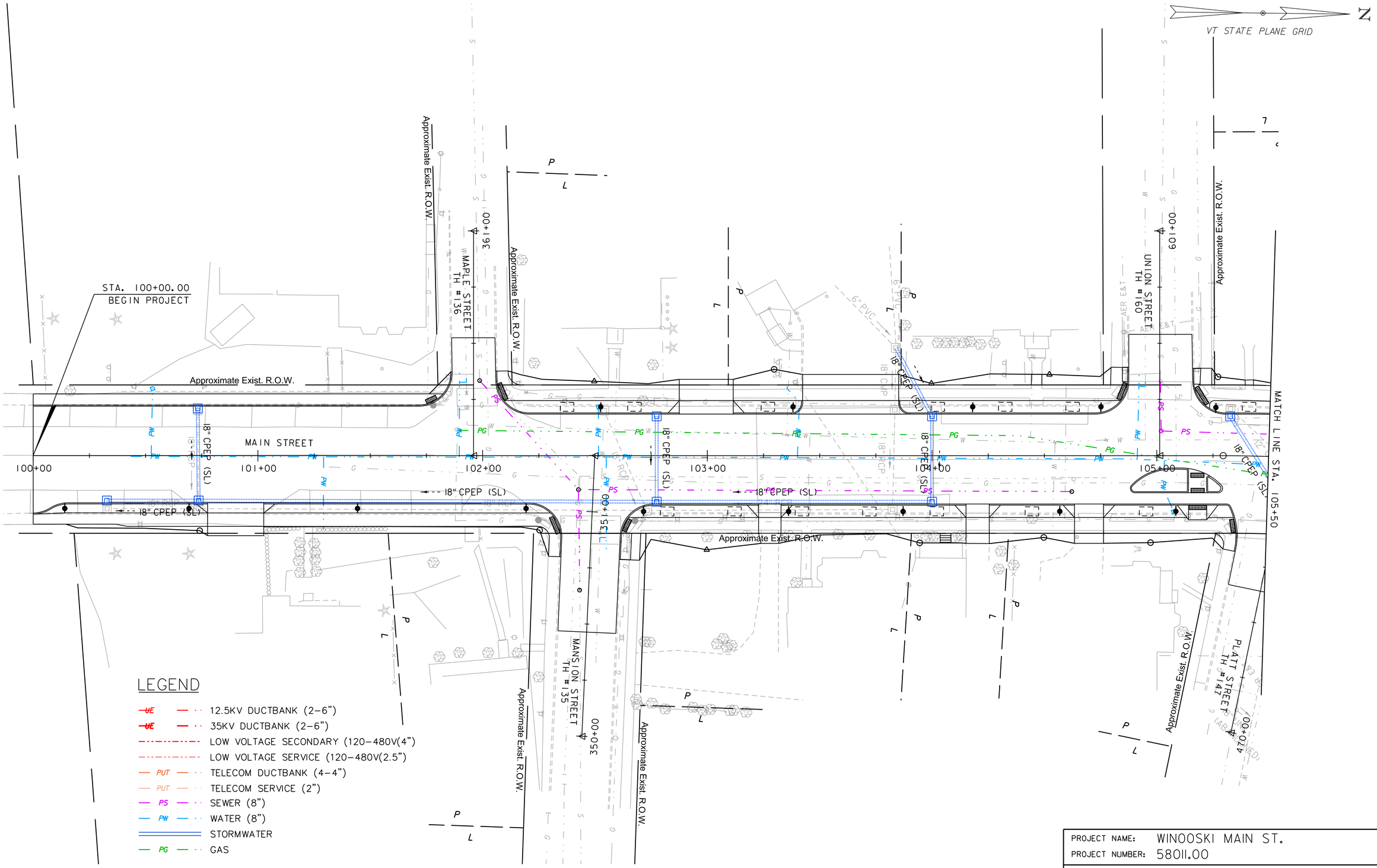
60% DESIGN SUBMITTAL

DUFRESNE GROUP
CONSULTING ENGINEERS
56 Main Street, Suite 200
Springfield, Vermont 05156
Tel: (802) 674-2904 Fax: (802) 674-2913
info@dufresnegroup.com | dufresnegroup.com

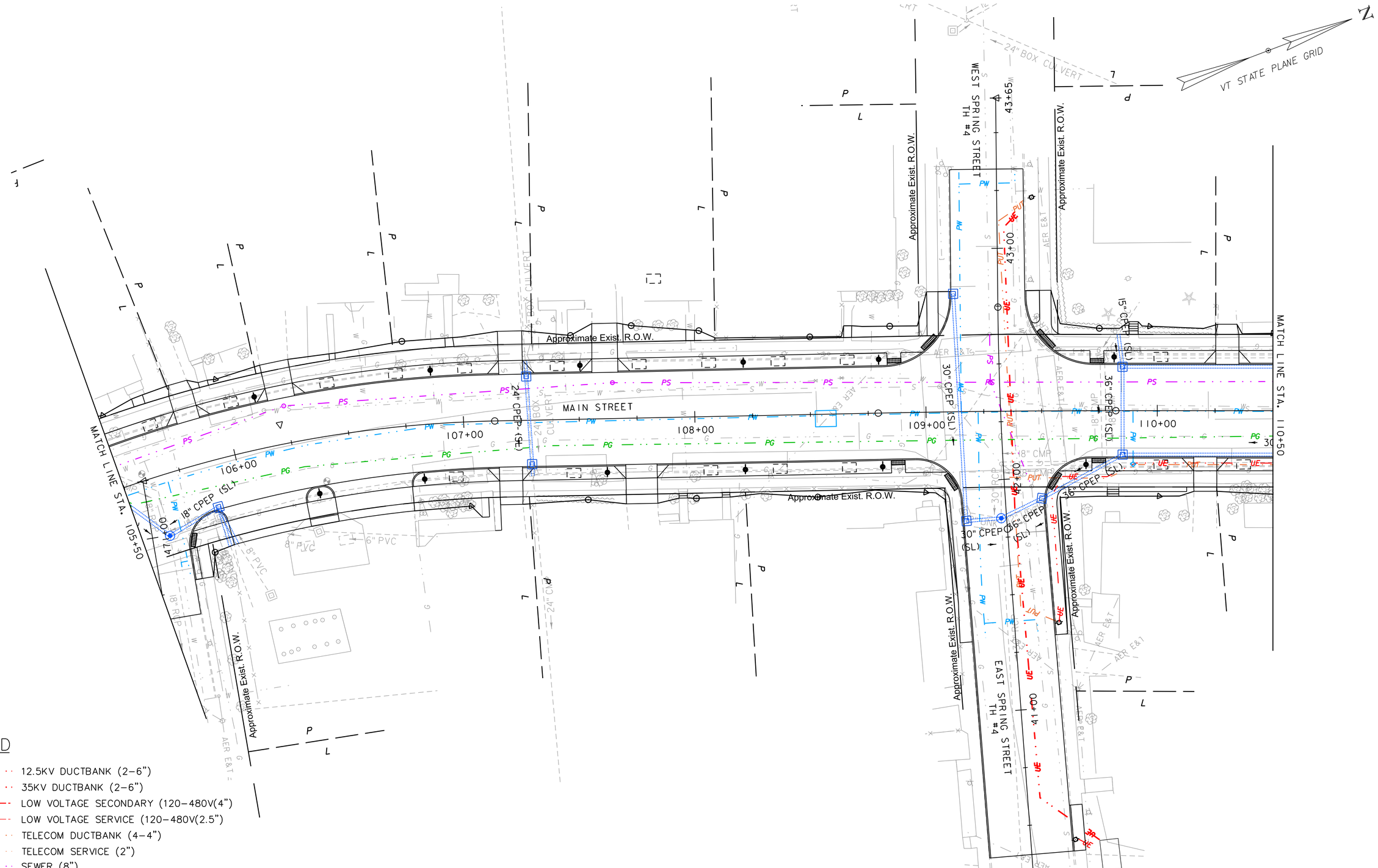
PROJECT NAME: WINOOSKI MAIN ST.
PROJECT NUMBER: 58011.00

FILE NAME: PROFILES.DWG
PROJECT LEADER: E.P. DETRICK
DESIGNED BY: T.P. KNAPP
SEWER PROFILE 5

PLOT DATE: XX.XX.2019
DRAWN BY: K.M. MENEES.
CHECKED BY: R.N. GOODWIN
SHEET 60 OF 178



PROJECT NAME: WINOOSKI MAIN ST.	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_bdr_dr.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P. DETRICK	DRAWN BY: C.K. FORD
DESIGNED BY: D.M. PECK	CHECKED BY: E.P. DETRICK
DRAINAGE LAYOUT SHEET (1 OF 8)	SHEET 61 OF 178



LEGEND

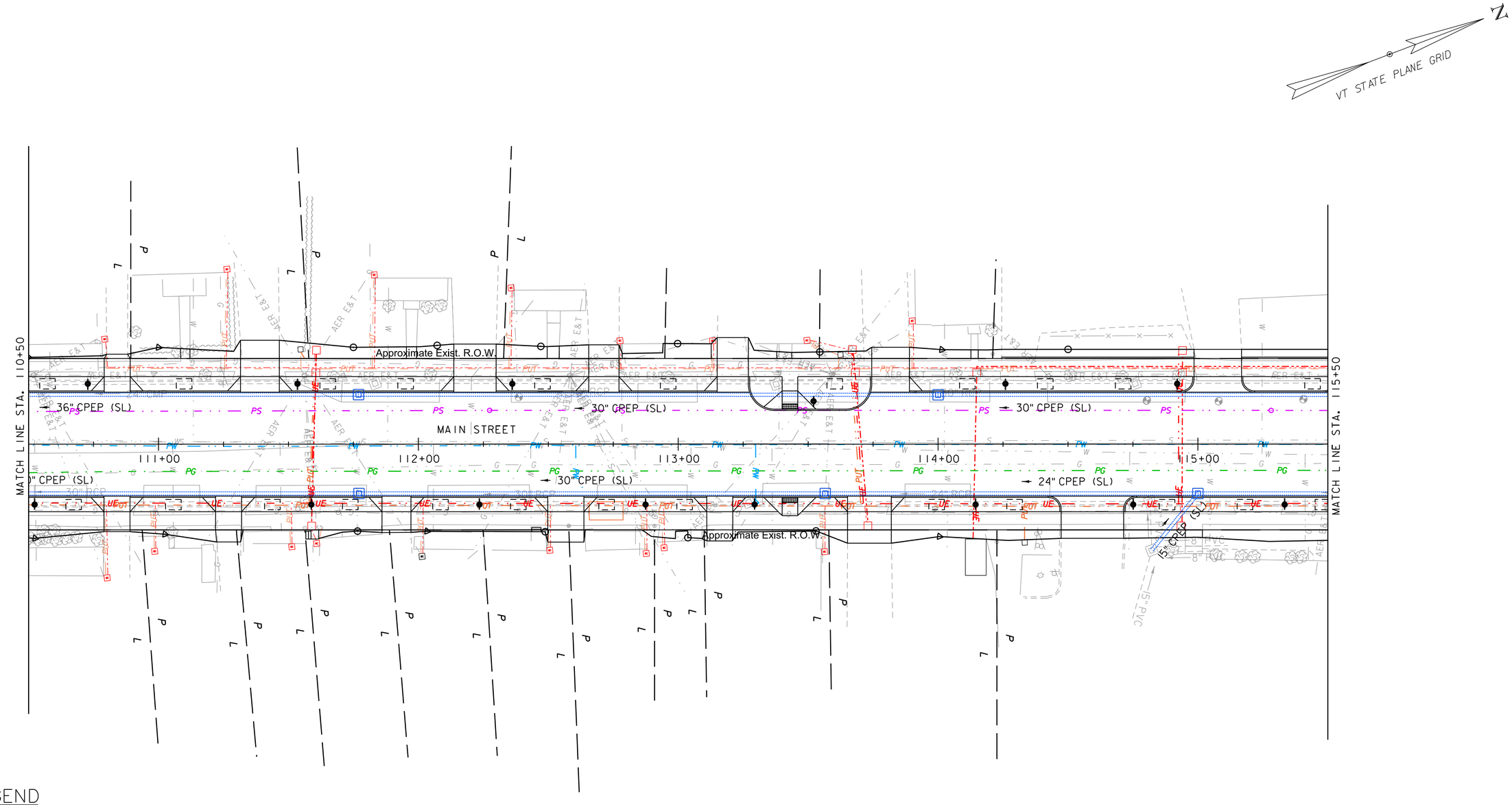
- UE — 12.5KV DUCTBANK (2-6")
- UE — 35KV DUCTBANK (2-6")
- LOW VOLTAGE SECONDARY (120-480V(4")
- LOW VOLTAGE SERVICE (120-480V(2.5")
- PUT — TELECOM DUCTBANK (4-4")
- PUT — TELECOM SERVICE (2")
- PS — SEWER (8")
- PW — WATER (8")
- STORMWATER
- PG — GAS

0 20 40
SCALE IN FEET

vhb

PROJECT NAME:	WINOOSKI MAIN ST.
PROJECT NUMBER:	58011.00

FILE NAME: 58011_bdr_dr.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P. DETRICK	DRAWN BY: C.K. FORD
DESIGNED BY: D.M. PECK	CHECKED BY: E.P. DETRICK
DRAINAGE LAYOUT SHEET (2 OF 8)	SHEET 62 OF 178



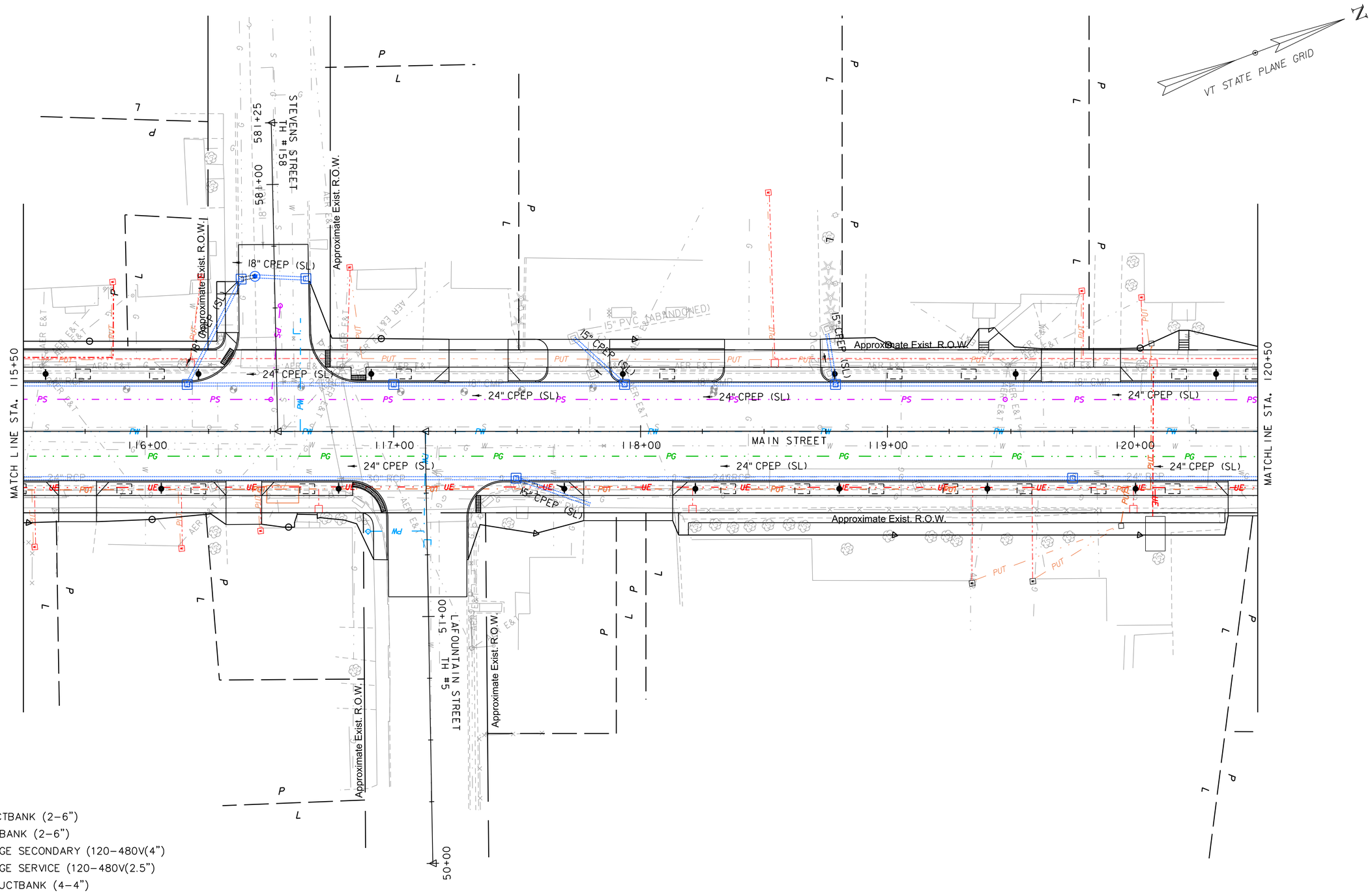
LEGEND

- UE — 12.5KV DUCTBANK (2-6")
- UE — 35KV DUCTBANK (2-6")
- LOW VOLTAGE SECONDARY (120-480V(4")
- LOW VOLTAGE SERVICE (120-480V(2.5")
- PUT — TELECOM DUCTBANK (4-4")
- PUT — TELECOM SERVICE (2")
- PS — SEWER (8")
- PW — WATER (8")
- STORMWATER
- PG — GAS

0 20 40
SCALE IN FEET

vhb

PROJECT NAME: WINOOSKI MAIN ST.	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_bdr_dr.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P. DETRICK	DRAWN BY: C.K. FORD
DESIGNED BY: D.M. PECK	CHECKED BY: E.P. DETRICK
DRAINAGE LAYOUT SHEET (3 OF 8)	SHEET 63 OF 178



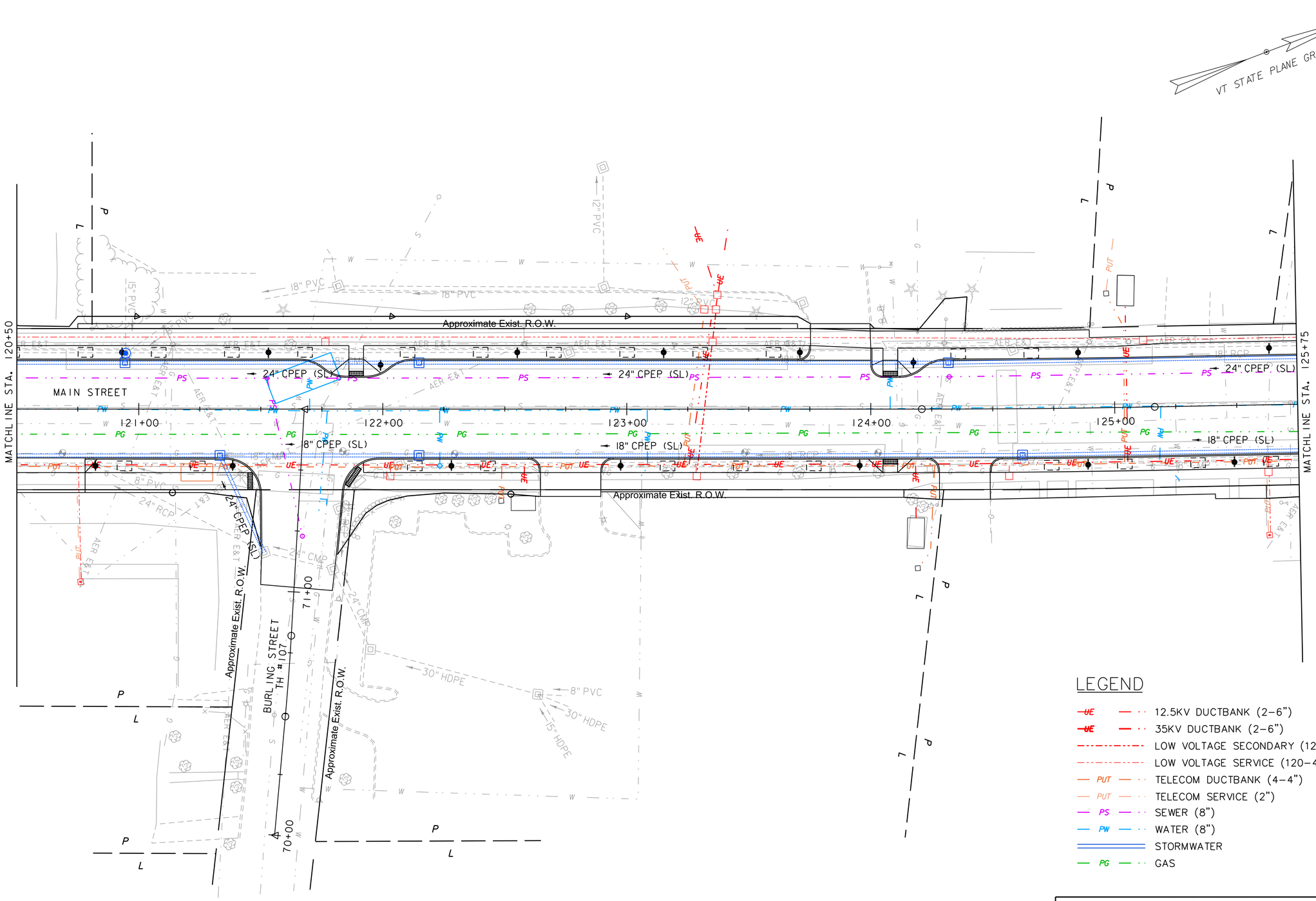
LEGEND

- UE — 12.5KV DUCTBANK (2-6")
- UE — 35KV DUCTBANK (2-6")
- LOW VOLTAGE SECONDARY (120-480V(4")
- LOW VOLTAGE SERVICE (120-480V(2.5")
- PUT — TELECOM DUCTBANK (4-4")
- PUT — TELECOM SERVICE (2")
- PS — SEWER (8")
- PW — WATER (8")
- STORMWATER
- PG — GAS

0 20 40
SCALE IN FEET

vhb

PROJECT NAME: WINOOSKI MAIN ST.	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_bdr_dr.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P. DETRICK	DRAWN BY: C.K. FORD
DESIGNED BY: D.M. PECK	CHECKED BY: E.P. DETRICK
DRAINAGE LAYOUT SHEET (4 OF 8)	SHEET 64 OF 178



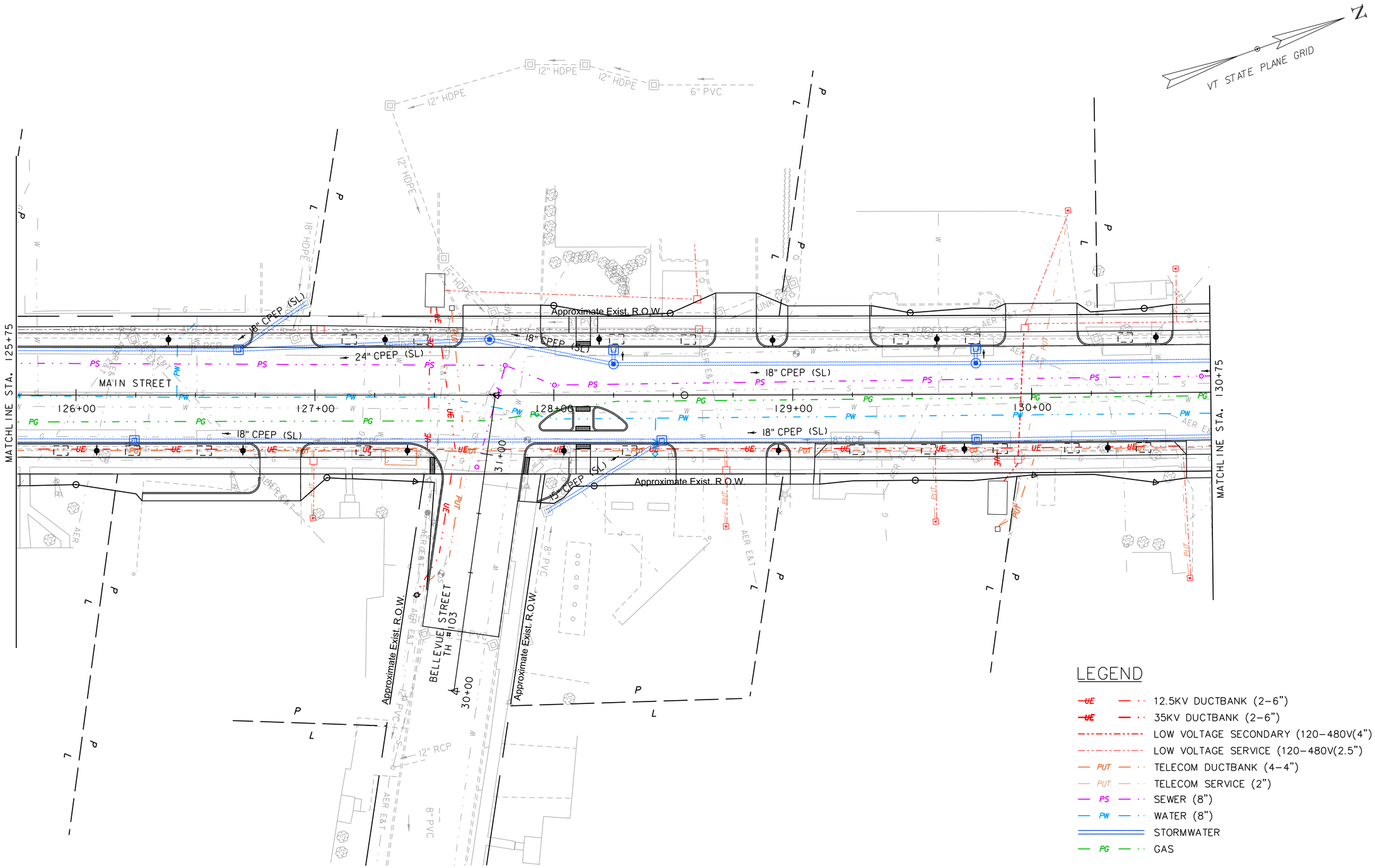
LEGEND

UE	12.5KV DUCTBANK (2-6")
UE	35KV DUCTBANK (2-6")
	LOW VOLTAGE SECONDARY (120-480V(4")
	LOW VOLTAGE SERVICE (120-480V(2.5")
PUT	TELECOM DUCTBANK (4-4")
PUT	TELECOM SERVICE (2")
PS	SEWER (8")
PW	WATER (8")
	STORMWATER
PG	GAS

PROJECT NAME: WINOOSKI MAIN ST.
PROJECT NUMBER: 58011.00

FILE NAME: 58011_bdr_dr.dgn
PROJECT LEADER: E.P. DETRICK
DESIGNED BY: D.M. PECK
DRAINAGE LAYOUT SHEET (5 OF 8)

PLOT DATE: 11/27/2019
DRAWN BY: C.K. FORD
CHECKED BY: E.P. DETRICK
SHEET 65 OF 178



LEGEND

- UE — 12.5KV DUCTBANK (2–6")
- UE — 35KV DUCTBANK (2–6")
- LOW VOLTAGE SECONDARY (120–480V(4")
- LOW VOLTAGE SERVICE (120–480V(2.5")
- PUT — TELECOM DUCTBANK (4–4")
- PUT — TELECOM SERVICE (2")
- PS — SEWER (8")
- PW — WATER (8")
- STORMWATER
- PG — GAS

0 20 40
SCALE IN FEET

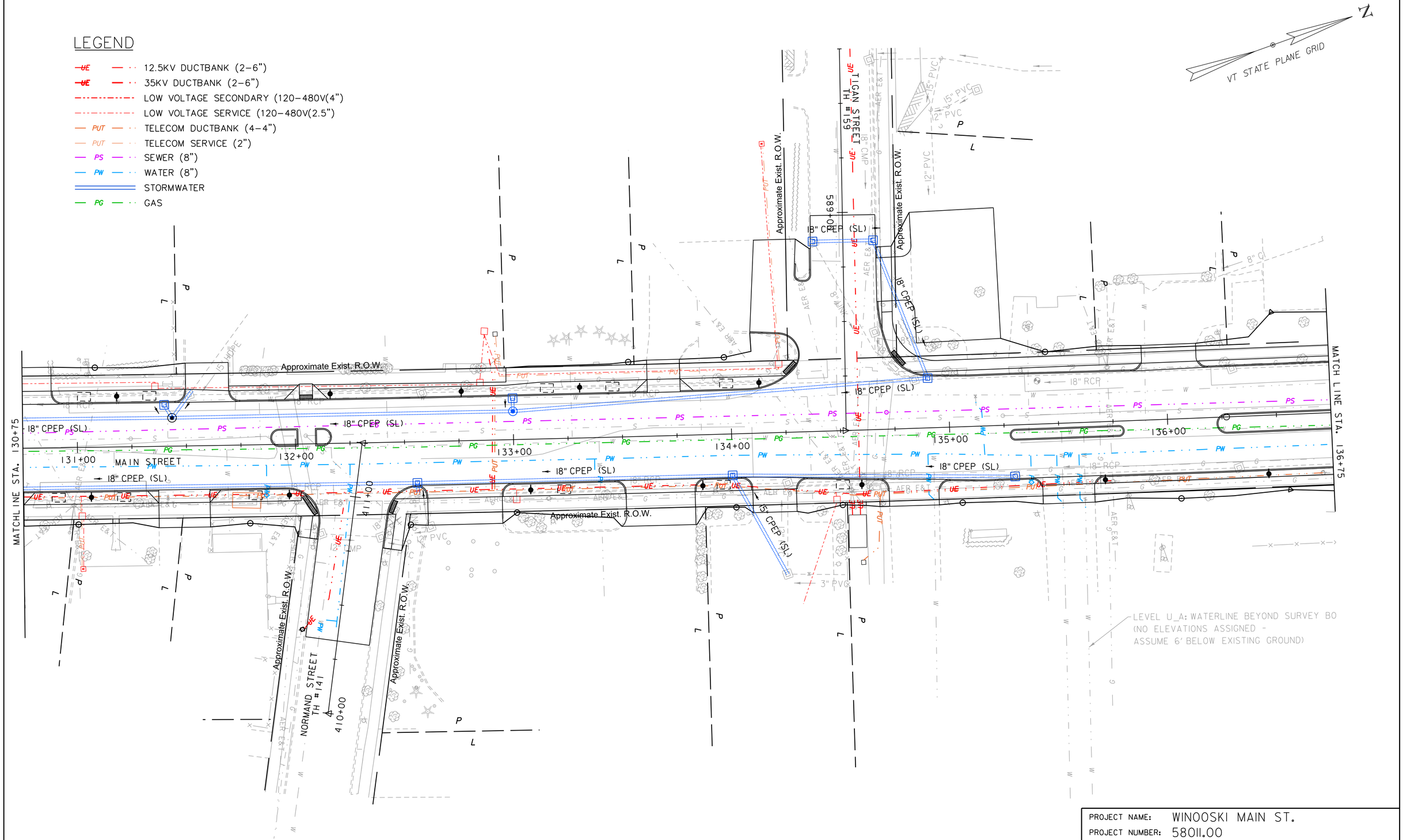
vhb

PROJECT NAME:	WINOOSKI MAIN ST.
PROJECT NUMBER:	58011.00

FILE NAME: 58011_bdr_dr.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P. DETRICK	DRAWN BY: C.K. FORD
DESIGNED BY: D.M. PECK	CHECKED BY: E.P. DETRICK
DRAINAGE LAYOUT SHEET (6 OF 8)	SHEET 66 OF 178

LEGEND

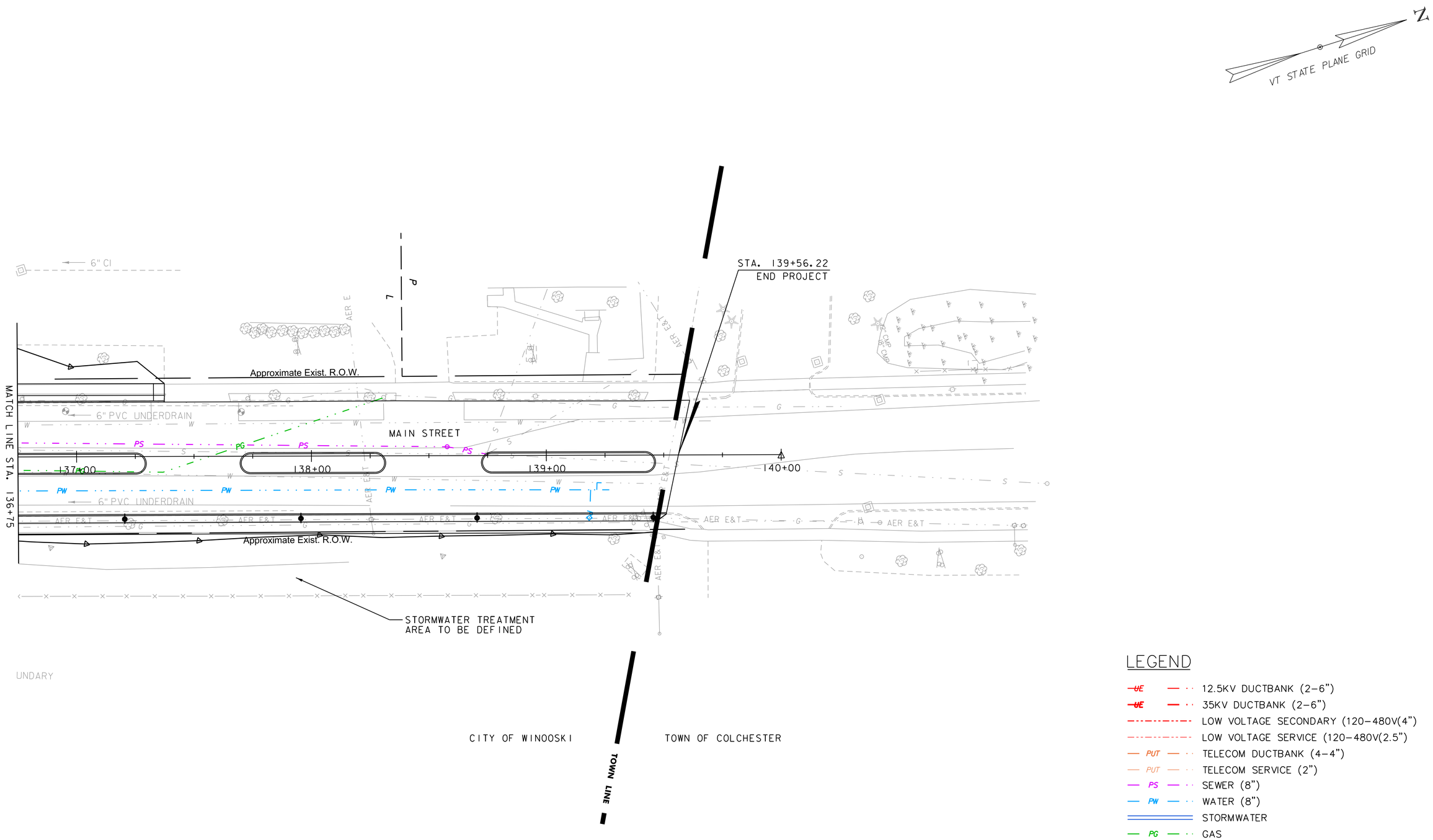
- UE — 12.5KV DUCTBANK (2–6")
- UE — 35KV DUCTBANK (2–6")
- LOW VOLTAGE SECONDARY (120–480V(4")
- LOW VOLTAGE SERVICE (120–480V(2.5")
- PUT — TELECOM DUCTBANK (4–4")
- PUT — TELECOM SERVICE (2")
- PS — SEWER (8")
- PW — WATER (8")
- STORMWATER
- PG — GAS



0 20 40
SCALE IN FEET

PROJECT NAME:	WINOOSKI MAIN ST.
PROJECT NUMBER:	58011.00

FILE NAME: 58011_bdr_dr.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P. DETRICK	DRAWN BY: C.K. FORD
DESIGNED BY: D.M. PECK	CHECKED BY: E.P. DETRICK
DRAINAGE LAYOUT SHEET (7 OF 8)	SHEET 67 OF 178



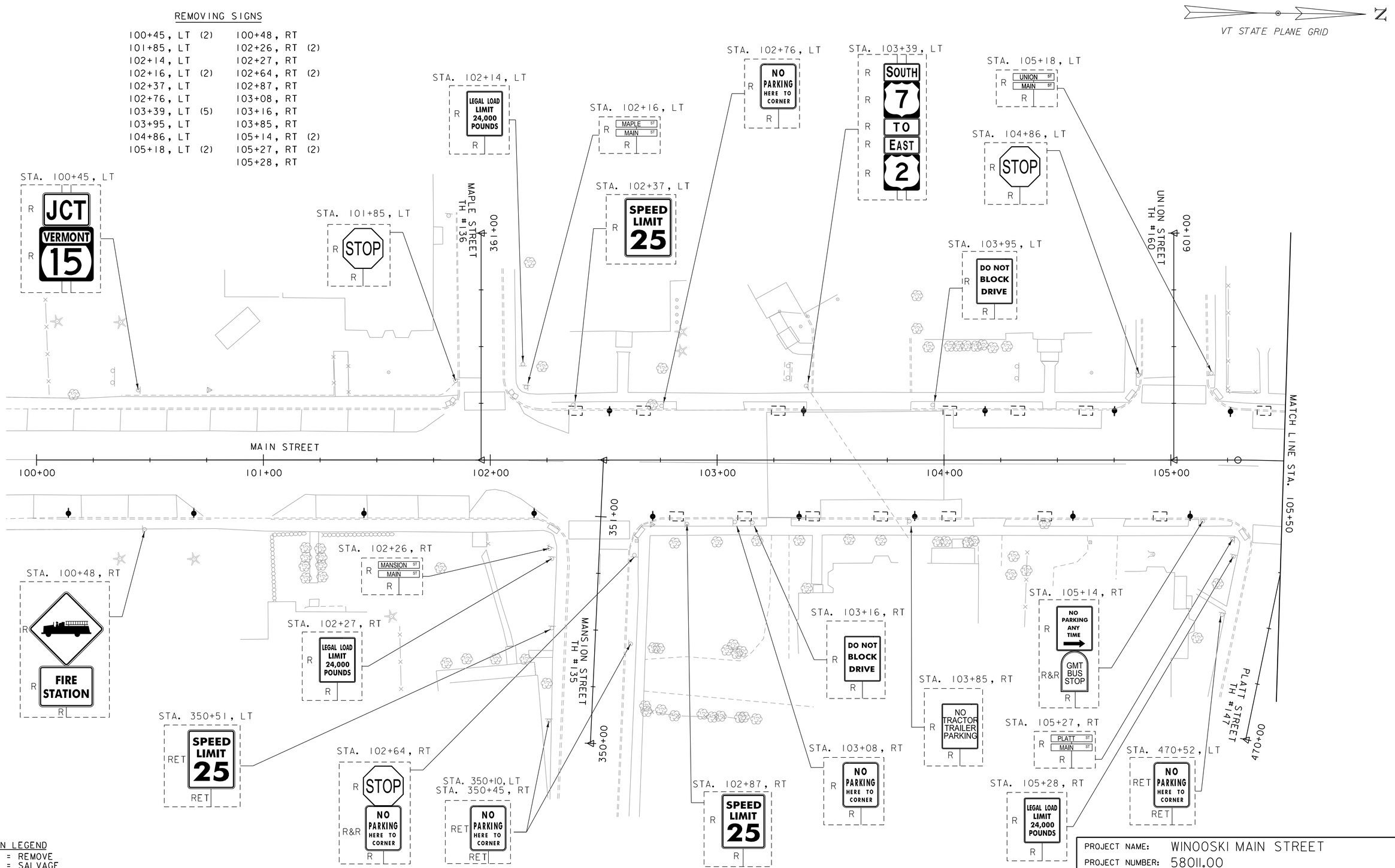
LEGEND

- UE — 12.5KV DUCTBANK (2-6")
- UE — 35KV DUCTBANK (2-6")
- LOW VOLTAGE SECONDARY (120-480V(4")
- LOW VOLTAGE SERVICE (120-480V(2.5")
- PUT — TELECOM DUCTBANK (4-4")
- PUT — TELECOM SERVICE (2")
- PS — SEWER (8")
- PW — WATER (8")
- STORMWATER
- PG — GAS

PROJECT NAME: WINOOSKI MAIN ST.	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_bdr_dr.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P. DETRICK	DRAWN BY: C.K. FORD
DESIGNED BY: D.M. PECK	CHECKED BY: E.P. DETRICK
DRAINAGE LAYOUT SHEET (8 OF 8)	SHEET 68 OF 178

REMOVING SIGNS

100+45, LT (2)	100+48, RT
101+85, LT	102+26, RT (2)
102+14, LT	102+27, RT
102+16, LT (2)	102+64, RT (2)
102+37, LT	102+87, RT
102+76, LT	103+08, RT
103+39, LT (5)	103+16, RT
103+95, LT	103+85, RT
104+86, LT	105+14, RT (2)
105+18, LT (2)	105+27, RT (2)
	105+28, RT



SIGN LEGEND

R = REMOVE
S = SALVAGE
N = NEW
RET = RETAIN
R&R = REMOVE AND RESET
B-B = BACK TO BACK

PROJECT NAME: WINOOSKI MAIN STREET
PROJECT NUMBER: 58011.00

FILE NAME: 58011_bdr_spm-ex.dgn
PROJECT LEADER: E.P. DETRICK
DESIGNED BY: D.M. PECK
EXISTING SIGNS SHEET 1 OF 9

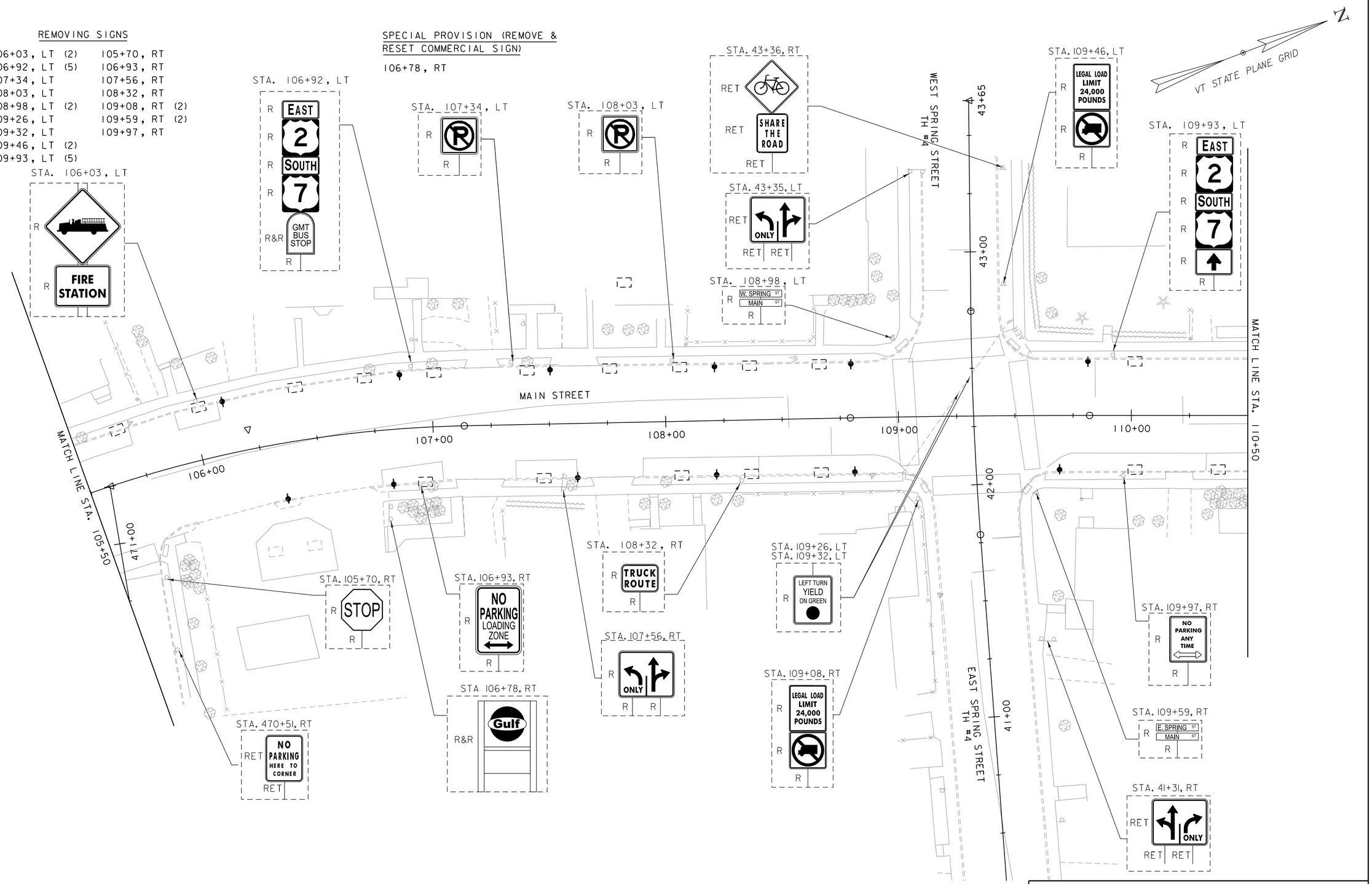
PLOT DATE: 11/27/2019
DRAWN BY: C.K. FORD
CHECKED BY: E.P. DETRICK
SHEET 69 OF 178

REMOVING SIGNS

106+03, LT (2)
106+92, LT (5)
107+34, LT
108+03, LT
108+98, LT (2)
109+26, LT
109+32, LT
109+46, LT (2)
109+93, LT (5)
105+70, RT
106+93, RT
107+56, RT
108+32, RT
109+08, RT (2)
109+59, RT (2)
109+97, RT

SPECIAL PROVISION (REMOVE & RESET COMMERCIAL SIGN)

106+78, RT



SIGN LEGEND

R = REMOVE
S = SALVAGE
N = NEW
RET = RETAIN
R&R = REMOVE AND RESET
B-B = BACK TO BACK

0 20 40
SCALE IN FEET

vhb

PROJECT NAME:	WINOOSKI MAIN STREET
PROJECT NUMBER:	58011.00

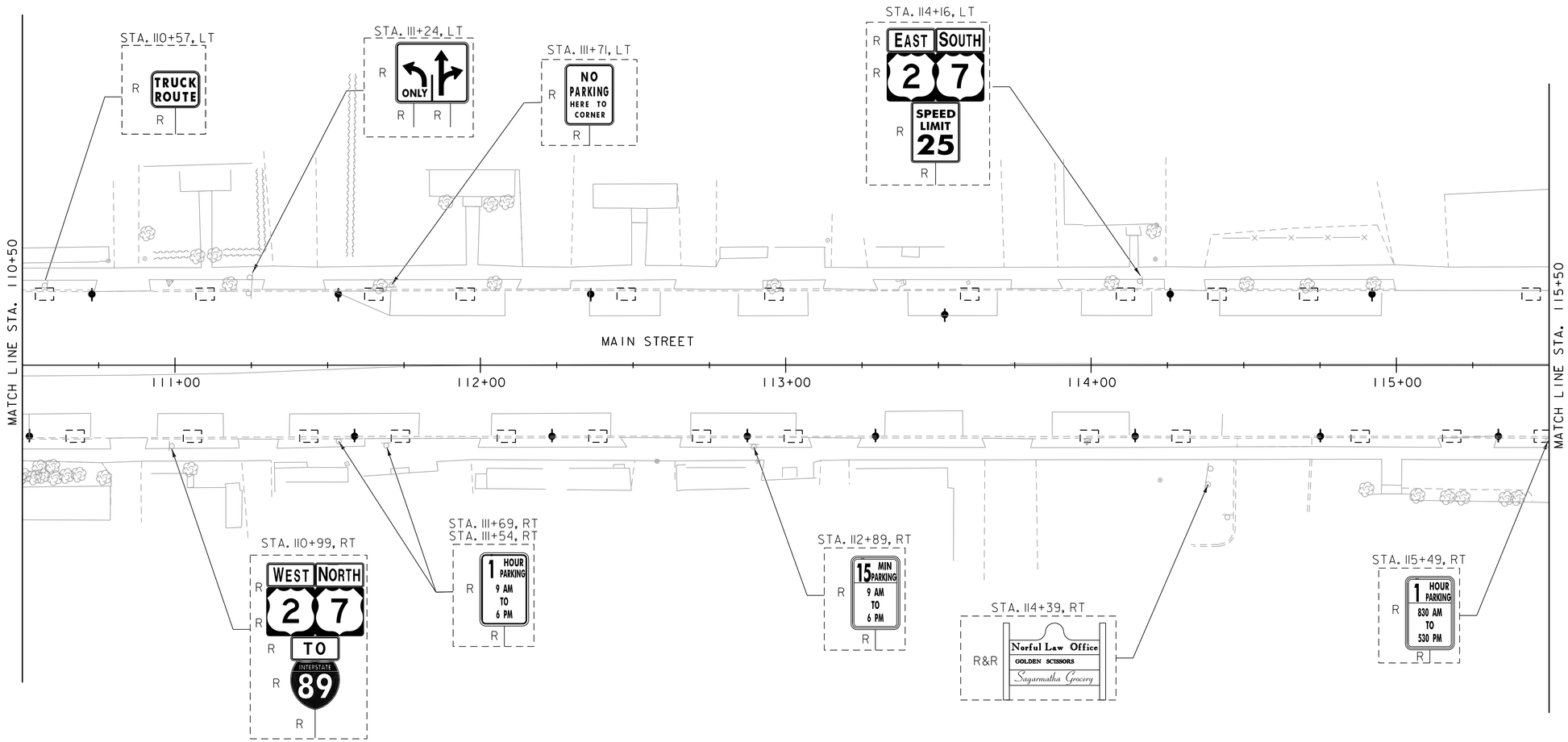
FILE NAME: 58011_bdr_spm-ex.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P. DETRICK	DRAWN BY: C.K. FORD
DESIGNED BY: D.M. PECK	CHECKED BY: E.P. DETRICK
EXISTING SIGNS SHEET 2 OF 9	SHEET 70 OF 178

REMOVING SIGNS

110+57, LT	110+99. RT (6)
111+24, LT	111+54, RT
111+71, LT	111+69, RT
114+16, LT (5)	112+89, RT
	115+49, RT

SPECIAL PROVISION (REMOVE & RESET COMMERCIAL SIGN)

114+39, RT



SIGN LEGEND

R = REMOVE
S = SALVAGE
N = NEW
RET = RETAIN
R&R = REMOVE AND RESET
B-B = BACK TO BACK

0 20 40
SCALE IN FEET

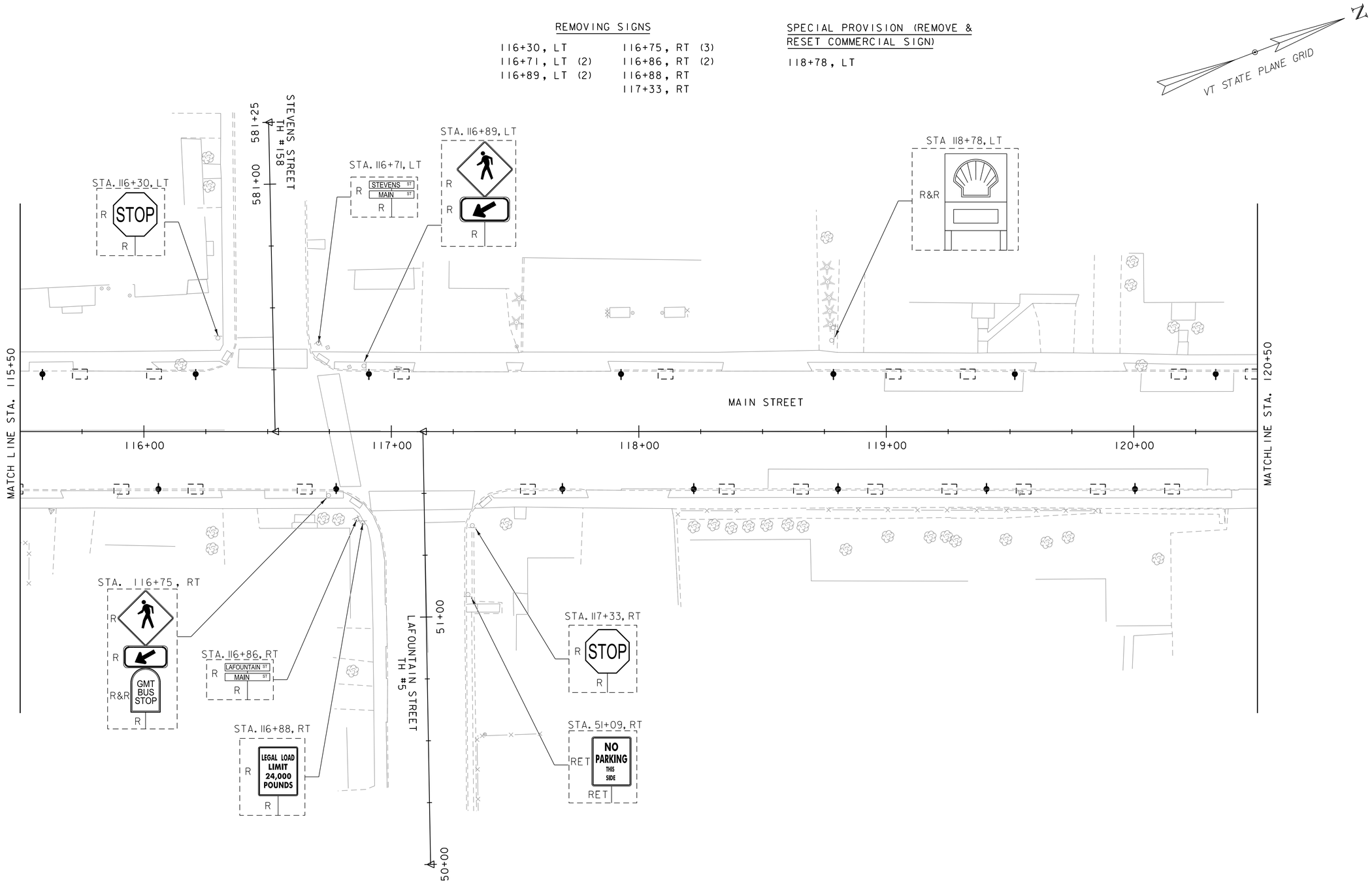
PROJECT NAME: WINOOSKI MAIN STREET	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_bdr_spm-ex.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P. DETRICK	DRAWN BY: C.K. FORD
DESIGNED BY: D.M. PECK	CHECKED BY: E.P. DETRICK
EXISTING SIGNS SHEET 3 OF 9	SHEET 71 OF 178

REMOVING SIGNS

116+30, LT
116+71, LT (2)
116+89, LT (2)
116+75, RT (3)
116+86, RT (2)
116+88, RT
117+33, RT

SPECIAL PROVISION (REMOVE & RESET COMMERCIAL SIGN)

118+78, LT



SIGN LEGEND

R = REMOVE
S = SALVAGE
N = NEW
RET = RETAIN
R&R = REMOVE AND RESET
B-B = BACK TO BACK

0 20 40
SCALE IN FEET

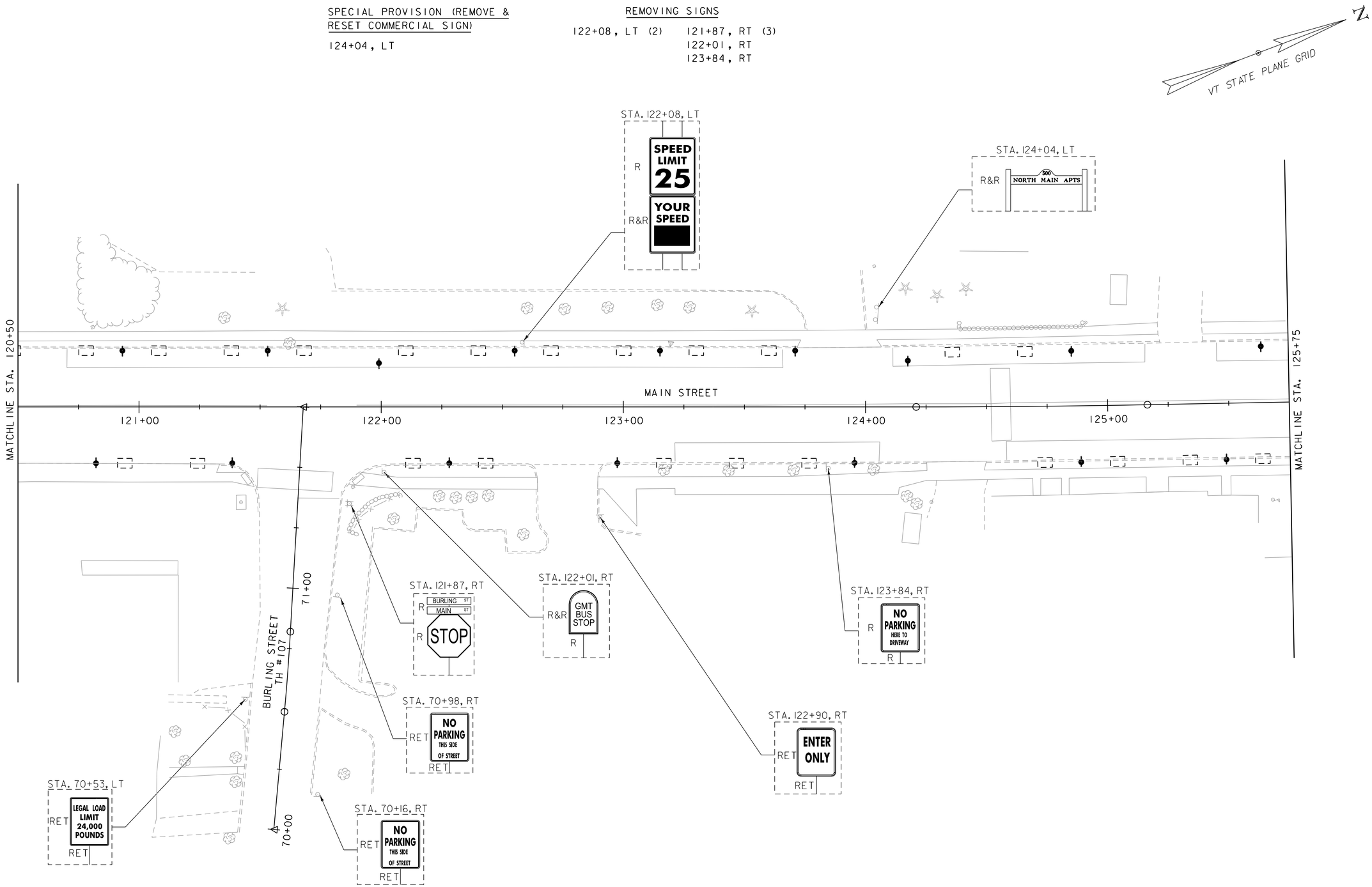
PROJECT NAME: WINOOSKI MAIN STREET	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_bdr_spm-ex.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P. DETRICK	DRAWN BY: C.K. FORD
DESIGNED BY: D.M. PECK	CHECKED BY: E.P. DETRICK
EXISTING SIGNS SHEET 4 OF 9	SHEET 72 OF 178

SPECIAL PROVISION (REMOVE & RESET COMMERCIAL SIGN)

124+04, LT

REMOVING SIGNS

122+08, LT (2)
121+87, RT (3)
122+01, RT
123+84, RT



SIGN LEGEND
R = REMOVE
S = SALVAGE
N = NEW
RET = RETAIN
R&R = REMOVE AND RESET
B-B = BACK TO BACK

0 20 40
SCALE IN FEET

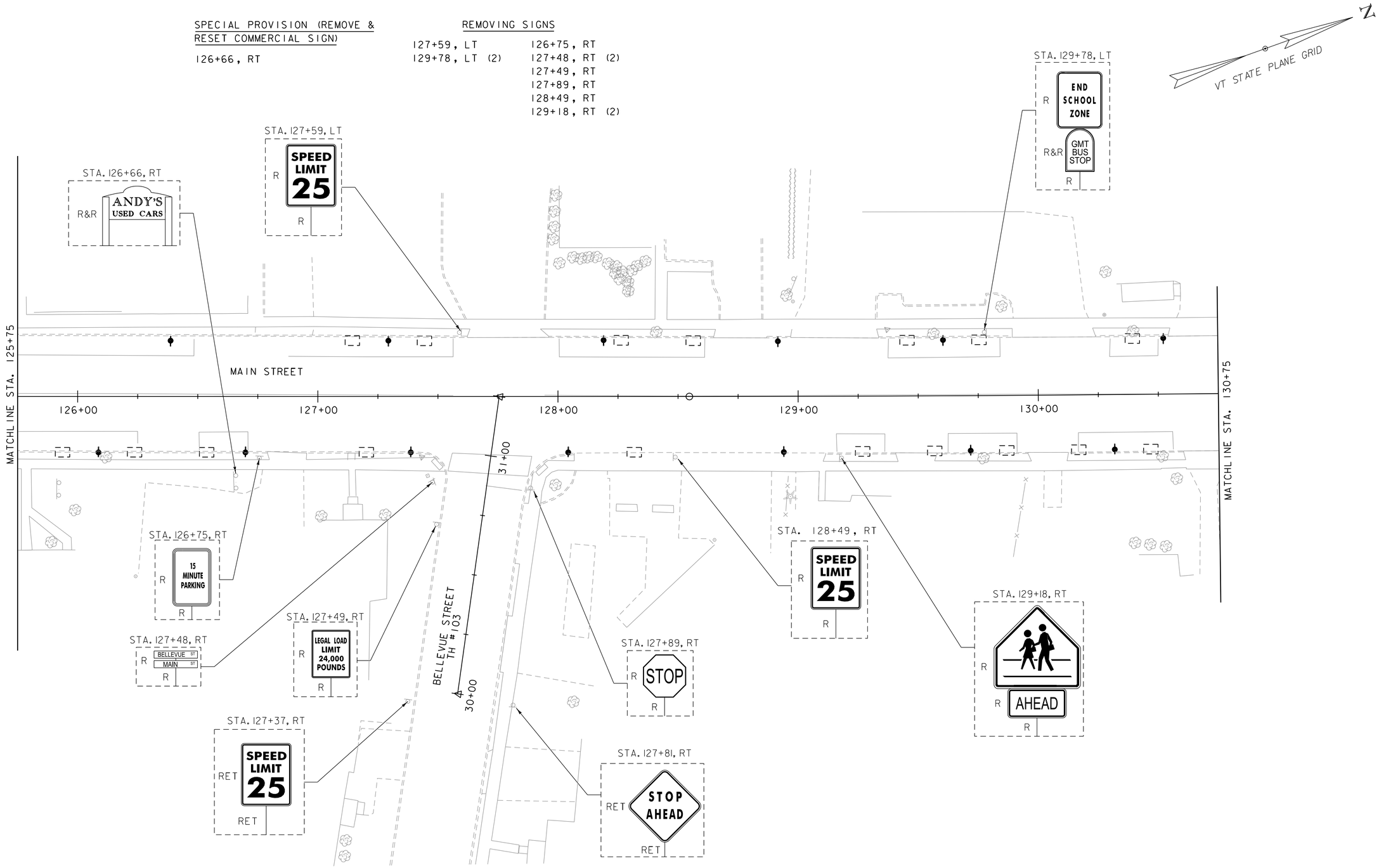
PROJECT NAME: WINOOSKI MAIN STREET	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_bdr_spm-ex.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P. DETRICK	DRAWN BY: C.K. FORD
DESIGNED BY: D.M. PECK	CHECKED BY: E.P. DETRICK
EXISTING SIGNS SHEET 5 OF 9	SHEET 73 OF 178

SPECIAL PROVISION (REMOVE & RESET COMMERCIAL SIGN)

126+66, RT

REMOVING SIGNS

127+59, LT
129+78, LT (2)
126+75, RT
127+48, RT (2)
127+49, RT
127+89, RT
128+49, RT
129+18, RT (2)



SIGN LEGEND
R = REMOVE
S = SALVAGE
N = NEW
RET = RETAIN
R&R = REMOVE AND RESET
B-B = BACK TO BACK

0 20 40
SCALE IN FEET

vhb

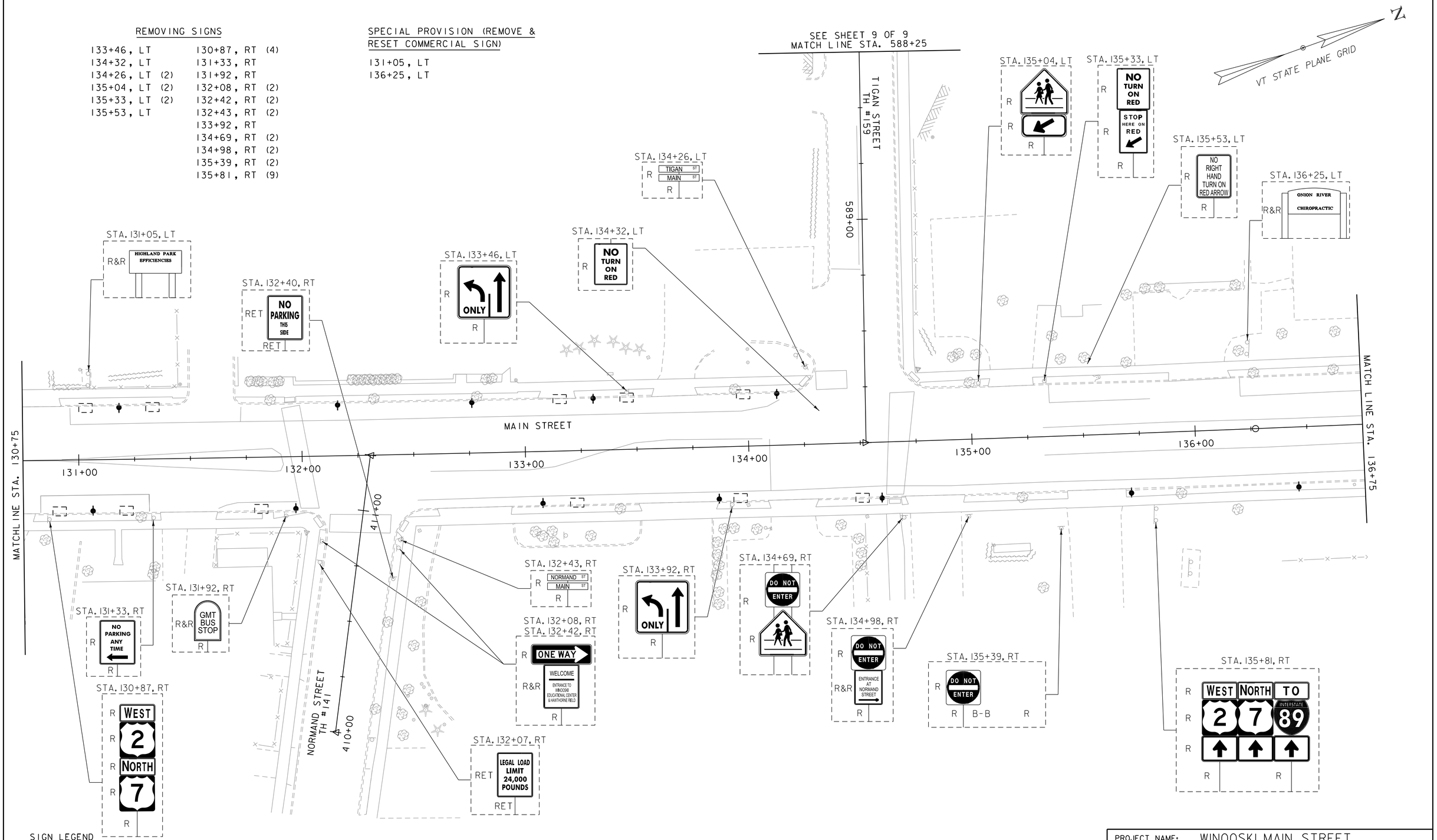
PROJECT NAME: WINOOSKI MAIN STREET	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_bdr_spm-ex.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P. DETRICK	DRAWN BY: C.K. FORD
DESIGNED BY: D.M. PECK	CHECKED BY: E.P. DETRICK
EXISTING SIGNS SHEET 6 OF 9	SHEET 74 OF 178

REMOVING SIGNS

133+46, LT	130+87, RT (4)
134+32, LT	131+33, RT
134+26, LT (2)	131+92, RT
135+04, LT (2)	132+08, RT (2)
135+33, LT (2)	132+42, RT (2)
135+53, LT	132+43, RT (2)
	133+92, RT
	134+69, RT (2)
	134+98, RT (2)
	135+39, RT (2)
	135+81, RT (9)

SPECIAL PROVISION (REMOVE & RESET COMMERCIAL SIGN)

131+05, LT
136+25, LT



SIGN LEGEND

R = REMOVE
S = SALVAGE
N = NEW
RET = RETAIN
R&R = REMOVE AND RESET
B-B = BACK TO BACK

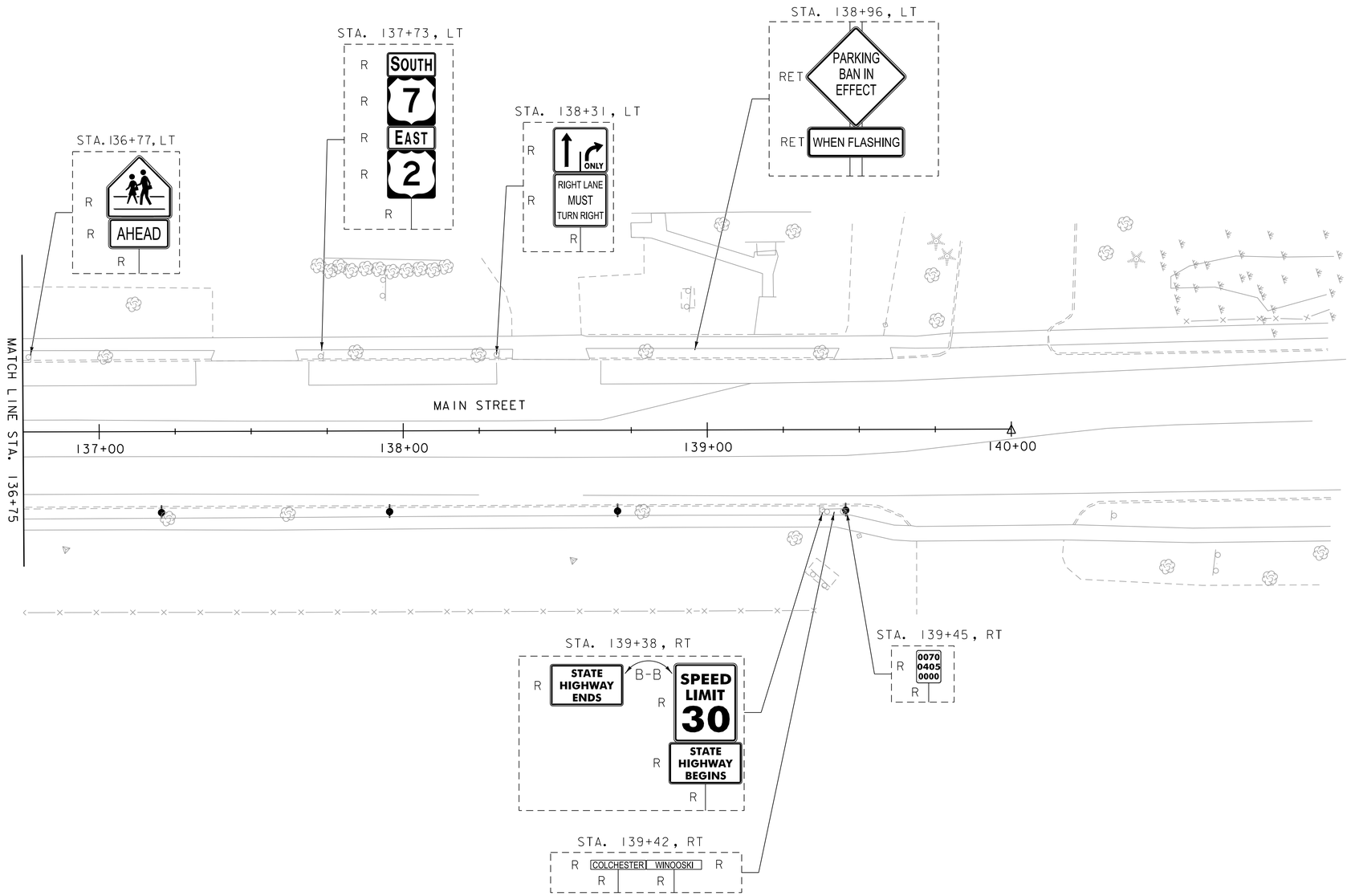
0 20 40
SCALE IN FEET

vhb

PROJECT NAME: WINOOSKI MAIN STREET	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_bdr_spm-ex.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P. DETRICK	DRAWN BY: C.K. FORD
DESIGNED BY: D.M. PECK	CHECKED BY: E.P. DETRICK
EXISTING SIGNS SHEET 7 OF 9	SHEET 75 OF 178

REMOVING SIGNS

136+77, LT (2)
137+73, LT (4)
138+31, LT (2)
139+38, RT (3)
139+42, RT (2)
139+45, RT

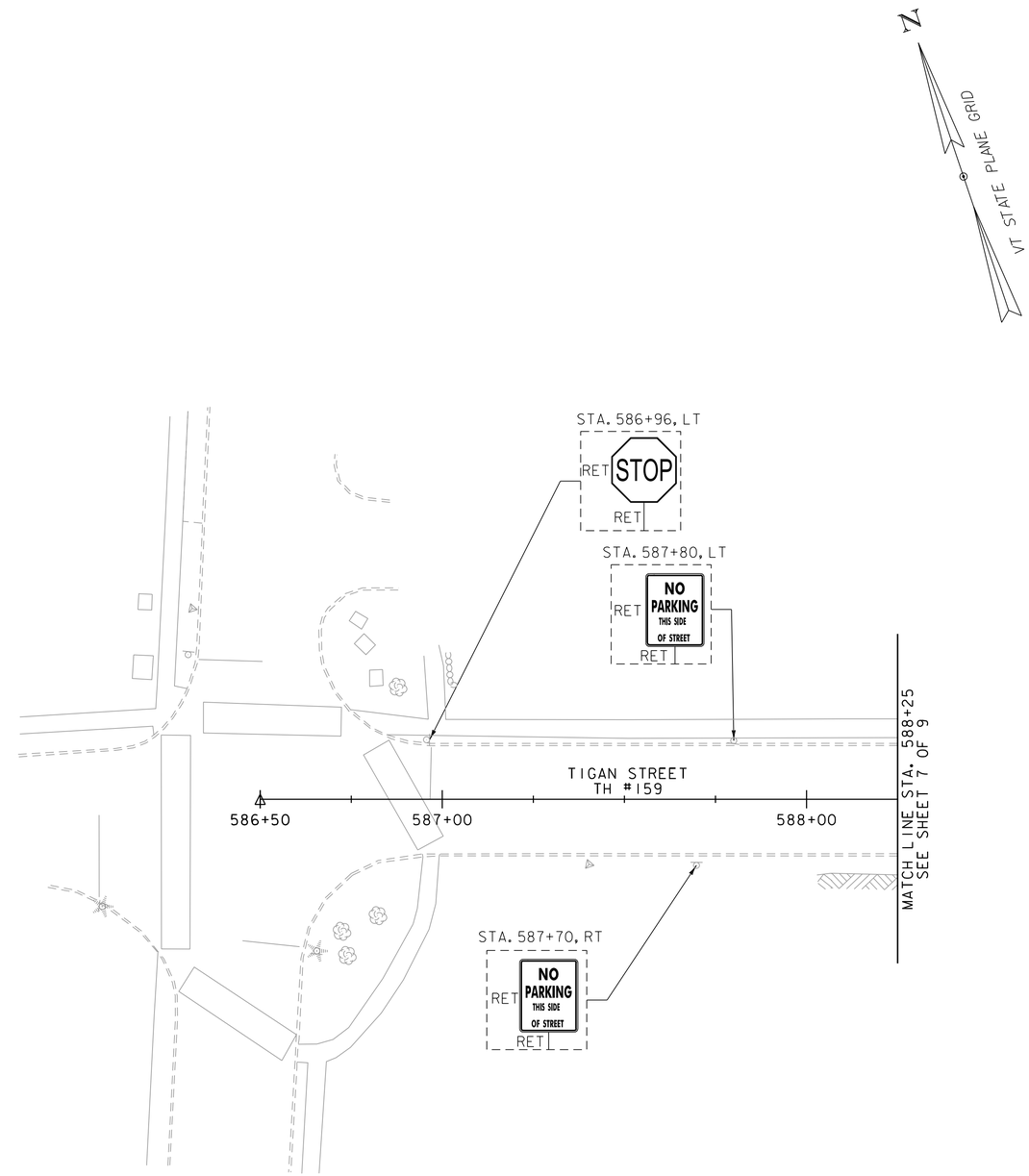


SIGN LEGEND

R = REMOVE
S = SALVAGE
N = NEW
RET = RETAIN
R&R = REMOVE AND RESET
B-B = BACK TO BACK

0 20 40
SCALE IN FEET

PROJECT NAME: WINOOSKI MAIN STREET	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_bdr_spm-ex.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P. DETRICK	DRAWN BY: C.K. FORD
DESIGNED BY: D.M. PECK	CHECKED BY: E.P. DETRICK
EXISTING SIGNS SHEET 8 OF 9	SHEET 76 OF 178



SIGN LEGEND

R = REMOVE
S = SALVAGE
N = NEW
RET = RETAIN
R&R = REMOVE AND RESET
B-B = BACK TO BACK

0 20 40
SCALE IN FEET

vhb

PROJECT NAME: WINOOSKI MAIN STREET	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_bdr_spm-ex.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P. DETRICK	DRAWN BY: J.D. BACHIOCHI
DESIGNED BY: D.M. PECK	CHECKED BY: E.P. DETRICK
EXISTING SIGNS SHEET 9 OF 9	SHEET 77 OF 178

4 INCH WHITE LINE, WATERBORNE PAINT
STA. 100+00 - 101+72, LT (PARKING SPACES)
STA. 100+15 - 102+15, RT (BIKE LANE BUFFER)
STA. 102+27 - 104+85, LT (SHOULDER)
STA. 102+77 - 104+97, RT (BIKE LANE AND BUFFER
STA. 105+22 - 105+50, LT (SHOULDER)

RESETTING SIGNS
STA. 102+64, RT
STA. 104+60, RT

4 INCH YELLOW LINE, WATERBORNE PAINT
STA. 100+00 - 101+66, BL
STA. 102+22 - 103+06, LT
STA. 350+55 - 350+85, BL
STA. 104+04 - 104+87, LT
STA. 600+38 - 600+48, LT
STA. 470+45 - 470+74, BL

LETTER OR SYMBOL, WATERBORNE PAINT
STA. 100+25, RT (BIKE LANE) (2)
STA. 101+50, LT (SHARROW) (3)
STA. 102+50, LT (SHARROW) (3)
STA. 102+95, RT (BIKE LANE) (2)
STA. 104+46, RT (BIKE LANE) (2)
STA. 104+75, LT (SHARROW) (3)
STA. 105+00, RT (PED XING) (7)

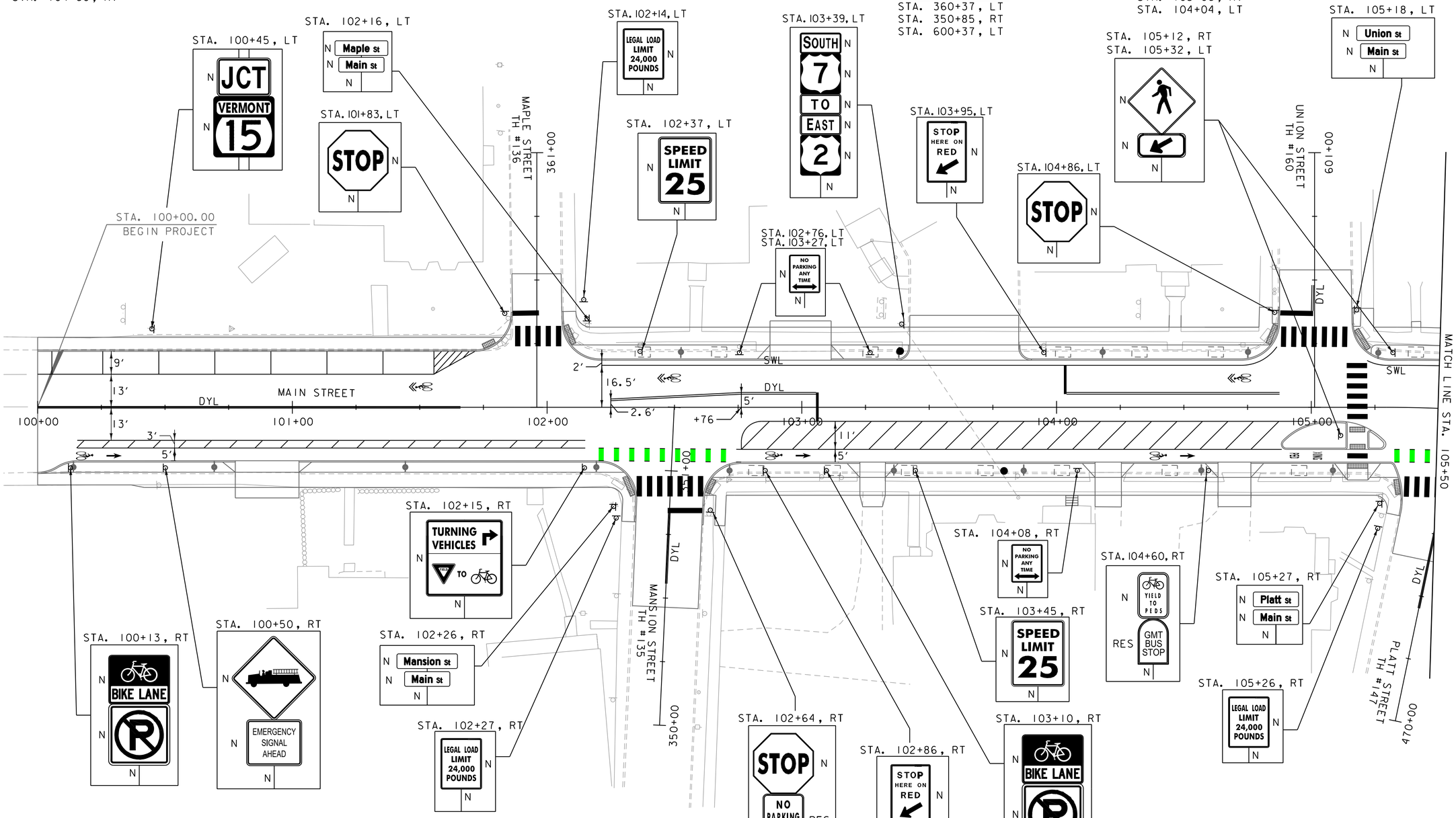
CROSSWALK MARKING, WATERBORNE PAINT
STA. 360+28, LT/RT
STA. 350+94, LT/RT
STA. 600+28, LT/RT
STA. 105+18, LT/RT
STA. 470+91 - 470+93, LT

24 INCH STOP BAR, WATERBORNE PAINT
STA. 360+37, LT
STA. 350+85, RT
STA. 600+37, LT

SPECIAL PROVISION (GREEN/WHITE BIKE LANE EXTENSION, WATERBORNE PAINT)
STA. 102+15 - 102+77, RT
STA. 105+32 - 105+50, RT

12 INCH STOP BAR, WATERBORNE PAINT
STA. 103+06, RT
STA. 104+04, LT

VT STATE PLANE GRID
N



SIGN LEGEND
R = REMOVE
S = SALVAGE
N = NEW
RET = RETAIN
R&R = REMOVE AND RESET
RES = RESET
B-B = BACK TO BACK

0 20 40
SCALE IN FEET

vhb

PROJECT NAME: WINOOSKI MAIN STREET	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_bdr_spm-pr.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P. DETRICK	DRAWN BY: J.D. BACHIOCHI
DESIGNED BY: D.M. PECK	CHECKED BY: E.P. DETRICK
SIGNS & PAVEMENT MARKINGS SHEET 10F 9	SHEET 78 OF 178

4 INCH WHITE LINE, WATERBORNE PAINT
STA. 105+50 - 108+83, LT (SHOULDER)
STA. 105+81 - 106+79, RT (BIKE LANE, DASHED)
STA. 105+81 - 106+79, RT (BIKE LANE, DASHED)
STA. 106+79 - 108+79, RT (BIKE LANE)
STA. 106+69 - 107+35, RT (TURN LANE, DASHED)
STA. 107+35 - 108+69, RT (TURN LANE)
STA. 42+83 - 43+28, LT (TURN LANE)
STA. 41+27 - 41+76, RT (TURN LANE)
STA. 109+80 - 110+50, RT (BIKE LANE)
STA. 109+84 - 110+50, LT (TURN LANE)

4 INCH YELLOW LINE, WATERBORNE PAINT
STA. 470+74 - 470+86, BL
STA. 105+78 - 108+56, LT/RT
STA. 40+37 - 41+62, LT/RT
STA. 43+01 - 43+28, BL
STA. 110+21 - 110+50, RT

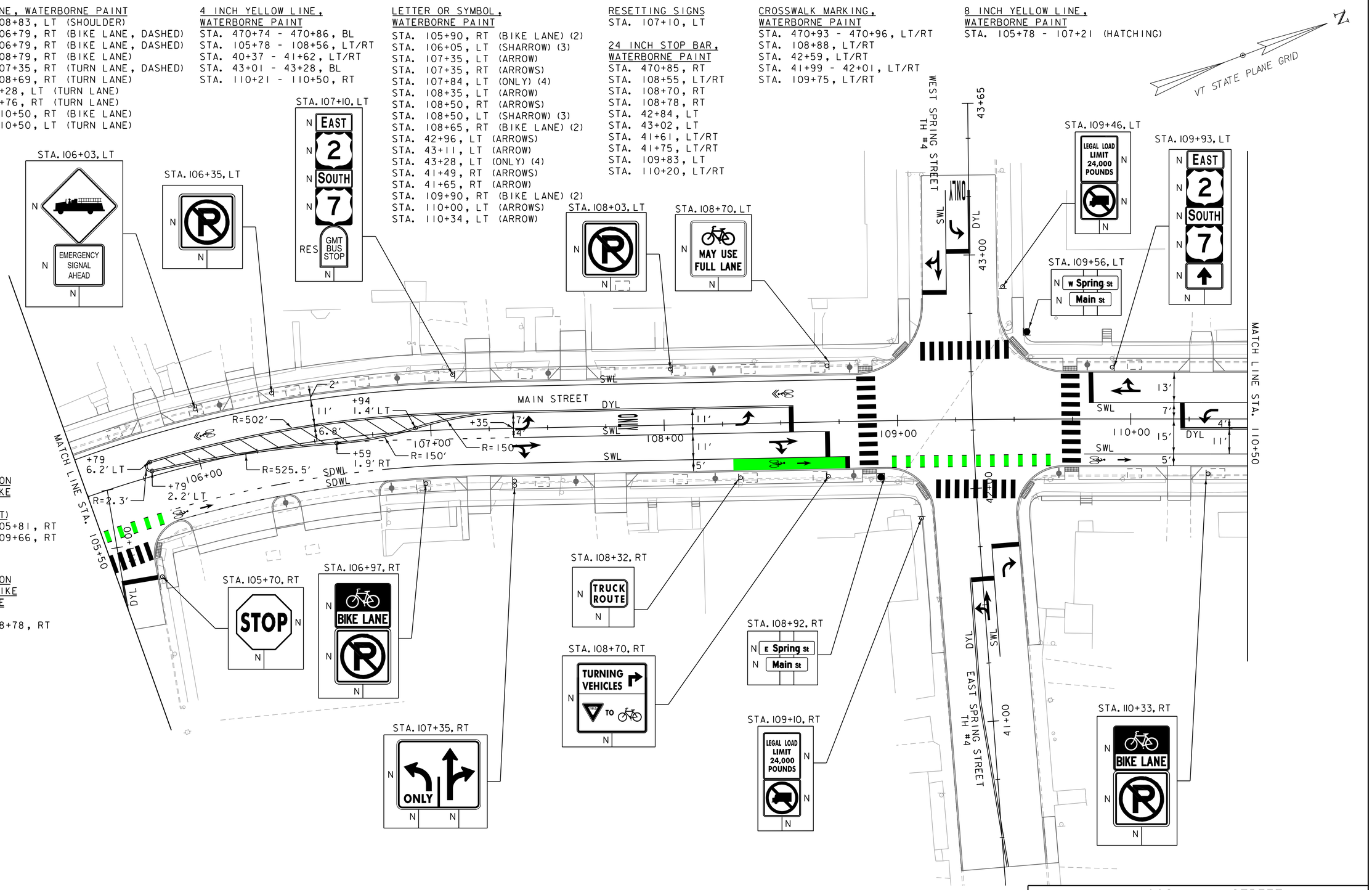
LETTER OR SYMBOL, WATERBORNE PAINT
STA. 105+90, RT (BIKE LANE) (2)
STA. 106+05, LT (SHARROW) (3)
STA. 107+35, LT (ARROW)
STA. 107+35, RT (ARROWS)
STA. 107+84, LT (ONLY) (4)
STA. 108+35, LT (ARROW)
STA. 108+50, RT (ARROWS)
STA. 108+50, LT (SHARROW) (3)
STA. 108+65, RT (BIKE LANE) (2)
STA. 42+96, LT (ARROWS)
STA. 43+11, LT (ARROW)
STA. 43+28, LT (ONLY) (4)
STA. 41+49, RT (ARROWS)
STA. 41+65, RT (ARROW)
STA. 109+90, RT (BIKE LANE) (2)
STA. 110+00, LT (ARROWS)
STA. 110+34, LT (ARROW)

RESETTING SIGNS
STA. 107+10, LT

24 INCH STOP BAR, WATERBORNE PAINT
STA. 470+85, RT
STA. 108+55, LT/RT
STA. 108+70, RT
STA. 108+78, RT
STA. 42+84, LT
STA. 43+02, LT
STA. 41+61, LT/RT
STA. 41+75, LT/RT
STA. 109+83, LT
STA. 110+20, LT/RT

CROSSWALK MARKING, WATERBORNE PAINT
STA. 470+93 - 470+96, LT/RT
STA. 108+88, LT/RT
STA. 42+59, LT/RT
STA. 41+99 - 42+01, LT/RT
STA. 109+75, LT/RT

8 INCH YELLOW LINE, WATERBORNE PAINT
STA. 105+78 - 107+21 (HATCHING)



SPECIAL PROVISION (GREEN/WHITE BIKE LANE EXTENSION, WATERBORNE PAINT)
STA. 105+50 - 105+81, RT
STA. 108+82 - 109+66, RT

SPECIAL PROVISION (5 FOOT GREEN BIKE LANE, WATERBORNE PAINT)
STA. 108+29 - 108+78, RT

SIGN LEGEND
R = REMOVE
S = SALVAGE
N = NEW
RET = RETAIN
R&R = REMOVE AND RESET
RES = RESET
B-B = BACK TO BACK

0 20 40
SCALE IN FEET

vhb

PROJECT NAME: WINOOSKI MAIN STREET
PROJECT NUMBER: 58011.00

FILE NAME: 58011_bdr_spm-pr.dgn
PROJECT LEADER: E.P. DETRICK
DESIGNED BY: D.M. PECK
SIGNS & PAVEMENT MARKINGS SHEET 2 OF 9
PLOT DATE: 11/27/2019
DRAWN BY: J.D. BACHIOCHI
CHECKED BY: E.P. DETRICK
SHEET 79 OF 178

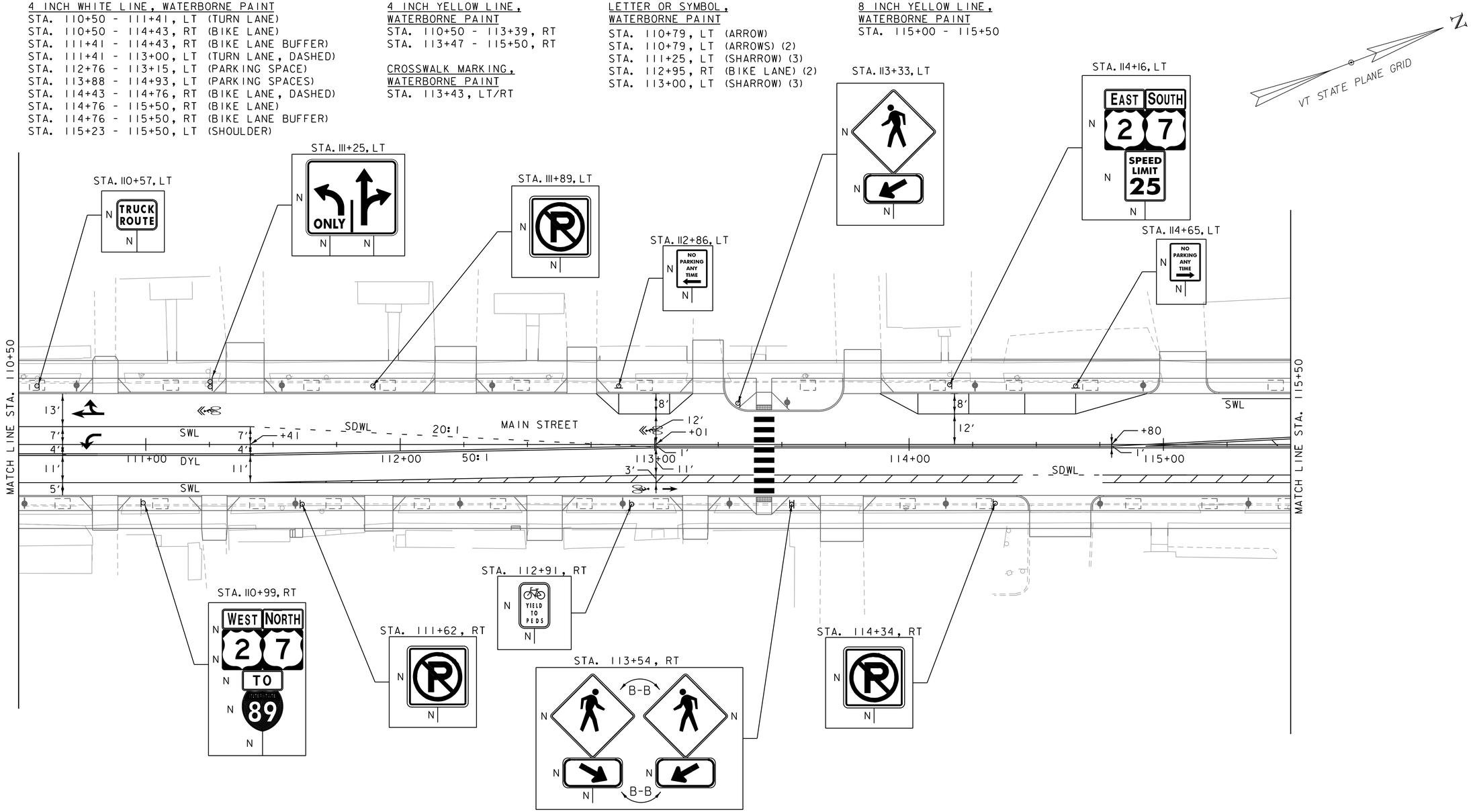
4 INCH WHITE LINE, WATERBORNE PAINT
STA. 110+50 - 111+41, LT (TURN LANE)
STA. 110+50 - 114+43, RT (BIKE LANE)
STA. 111+41 - 114+43, RT (BIKE LANE BUFFER)
STA. 111+41 - 113+00, LT (TURN LANE, DASHED)
STA. 112+76 - 113+15, LT (PARKING SPACE)
STA. 113+88 - 114+93, LT (PARKING SPACES)
STA. 114+43 - 114+76, RT (BIKE LANE, DASHED)
STA. 114+76 - 115+50, RT (BIKE LANE)
STA. 114+76 - 115+50, RT (BIKE LANE BUFFER)
STA. 115+23 - 115+50, LT (SHOULDER)

4 INCH YELLOW LINE, WATERBORNE PAINT
STA. 110+50 - 113+39, RT
STA. 113+47 - 115+50, RT

CROSSWALK MARKING, WATERBORNE PAINT
STA. 113+43, LT/RT

LETTER OR SYMBOL, WATERBORNE PAINT
STA. 110+79, LT (ARROW)
STA. 110+79, LT (ARROWS) (2)
STA. 111+25, LT (SHARROW) (3)
STA. 112+95, RT (BIKE LANE) (2)
STA. 113+00, LT (SHARROW) (3)

8 INCH YELLOW LINE, WATERBORNE PAINT
STA. 115+00 - 115+50



SIGN LEGEND
R = REMOVE
S = SALVAGE
N = NEW
RET = RETAIN
R&R = REMOVE AND RESET
RES = RESET
B-B = BACK TO BACK

0 20 40
SCALE IN FEET

vhb

PROJECT NAME: WINOOSKI MAIN STREET	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_bdr_spm-pr.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P. DETRICK	DRAWN BY: J.D. BACHIOCHI
DESIGNED BY: D.M. PECK	CHECKED BY: E.P. DETRICK
SIGNS & PAVEMENT MARKINGS SHEET 3 OF 9	SHEET 80 OF 178

SPECIAL PROVISION
(GREEN/WHITE BIKE
LANE EXTENSION,
WATERBORNE PAINT)
STA. 116+90 - 117+35, RT

4 INCH WHITE LINE, WATERBORNE PAINT
STA. 115+50 - 116+15, LT (SHOULDER)
STA. 115+50 - 116+32, RT (BIKE LANE BUFFER)
STA. 116+32 - 116+80, RT (BIKE LANE, DASHED)
STA. 117+35 - 120+50, RT (BIKE LANE BUFFER)
STA. 117+35 - 120+50, LT (SHOULDER)
STA. 118+36 - 120+44, RT (PARKING SPACES)

4 INCH YELLOW LINE,
WATERBORNE PAINT
STA. 115+50 - 116+37, LT/RT
STA. 51+13 - 51+39, BL/LT
STA. 117+30 - 120+50, LT

CROSSWALK MARKING,
WATERBORNE PAINT
STA. 580+29, LT/RT
STA. 116+86, LT/RT
STA. 51+47, LT/RT

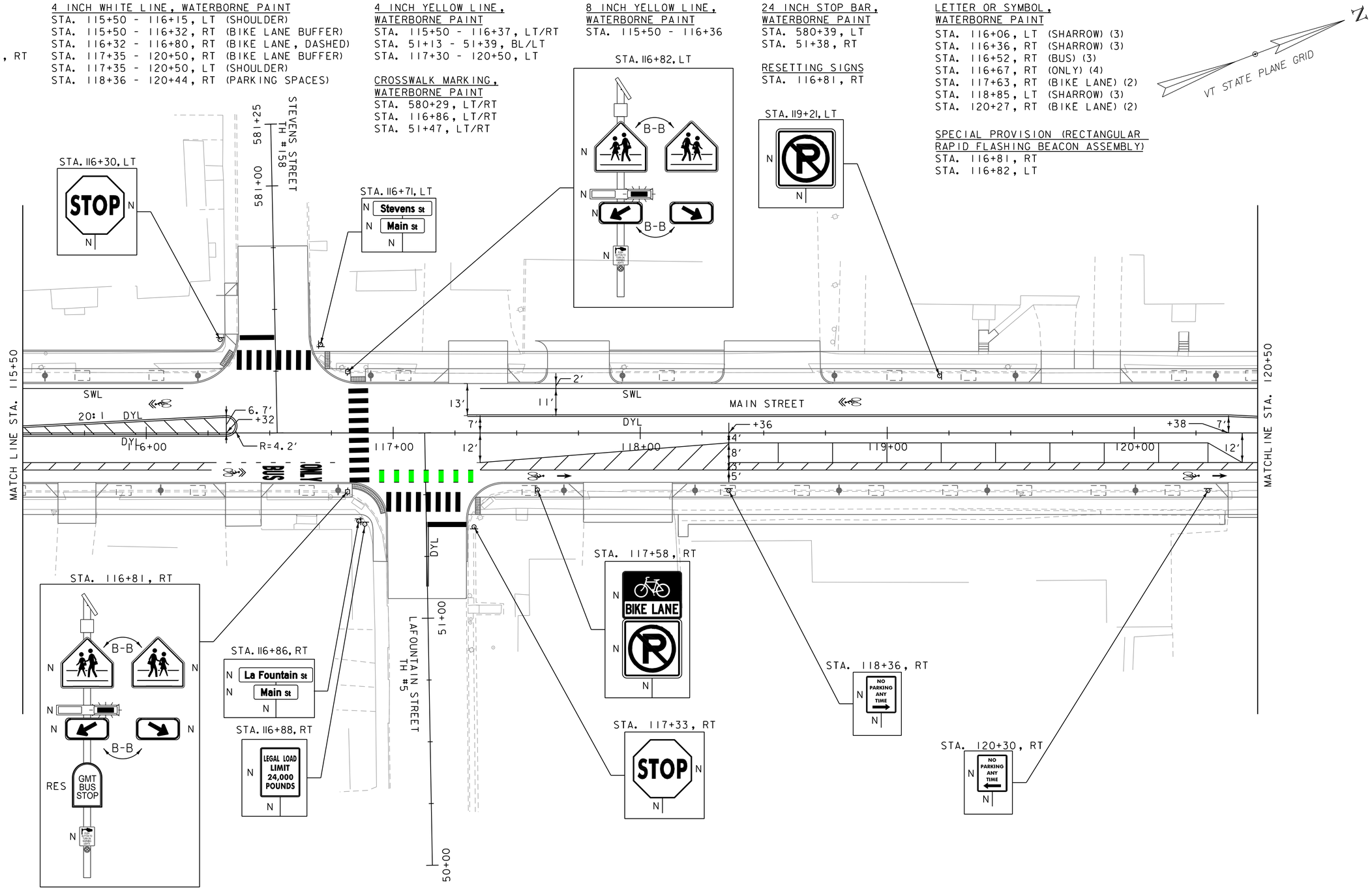
8 INCH YELLOW LINE,
WATERBORNE PAINT
STA. 115+50 - 116+36

24 INCH STOP BAR,
WATERBORNE PAINT
STA. 580+39, LT
STA. 51+38, RT

RESETTING SIGNS
STA. 116+81, RT

LETTER OR SYMBOL,
WATERBORNE PAINT
STA. 116+06, LT (SHARROW) (3)
STA. 116+36, RT (SHARROW) (3)
STA. 116+52, RT (BUS) (3)
STA. 116+67, RT (ONLY) (4)
STA. 117+63, RT (BIKE LANE) (2)
STA. 118+85, LT (SHARROW) (3)
STA. 120+27, RT (BIKE LANE) (2)

SPECIAL PROVISION (RECTANGULAR
RAPID FLASHING BEACON ASSEMBLY)
STA. 116+81, RT
STA. 116+82, LT



SIGN LEGEND
R = REMOVE
S = SALVAGE
N = NEW
RET = RETAIN
R&R = REMOVE AND RESET
RES = RESET
B-B = BACK TO BACK

0 20 40
SCALE IN FEET

vhb

PROJECT NAME: WINOOSKI MAIN STREET	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_bdr_spm-pr.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P. DETRICK	DRAWN BY: J.D. BACHIOCHI
DESIGNED BY: D.M. PECK	CHECKED BY: E.P. DETRICK
SIGNS & PAVEMENT MARKINGS SHEET 4 OF 9	SHEET 81 OF 178

4 INCH WHITE LINE, WATERBORNE PAINT
STA. 120+50 - 121+43, RT (BIKE LANE BUFFER)
STA. 120+50 - 121+66, LT (SHOULDER)
STA. 122+00 - 122+95, RT (BIKE LANE, DASHED)
STA. 122+95 - 124+04, RT (BIKE LANE BUFFER)
STA. 122+12 - 123+62, LT (PARKING SPACES)
STA. 123+25 - 123+55, RT (BIKE LANE, DASHED)
STA. 123+55 - 125+75, RT (BIKE LANE BUFFER)
STA. 124+31 - 125+15, LT (PARKING SPACES)
STA. 125+46 - 125+75, LT (PARKING SPACES)

SPECIAL PROVISION (GREEN/WHITE BIKE LANE EXTENSION, WATERBORNE PAINT)
STA. 121+40 - 121+84, RT

4 INCH YELLOW LINE, WATERBORNE PAINT
STA. 120+50 - 121+43, LT
STA. 71+17 - 71+37, BL
STA. 122+00 - 124+04, RT/LT
STA. 124+12 - 125+75, RT

CROSSWALK MARKING, WATERBORNE PAINT
STA. 71+44 - 71+46, RT/LT
STA. 121+89, RT/LT
STA. 124+08, RT/LT

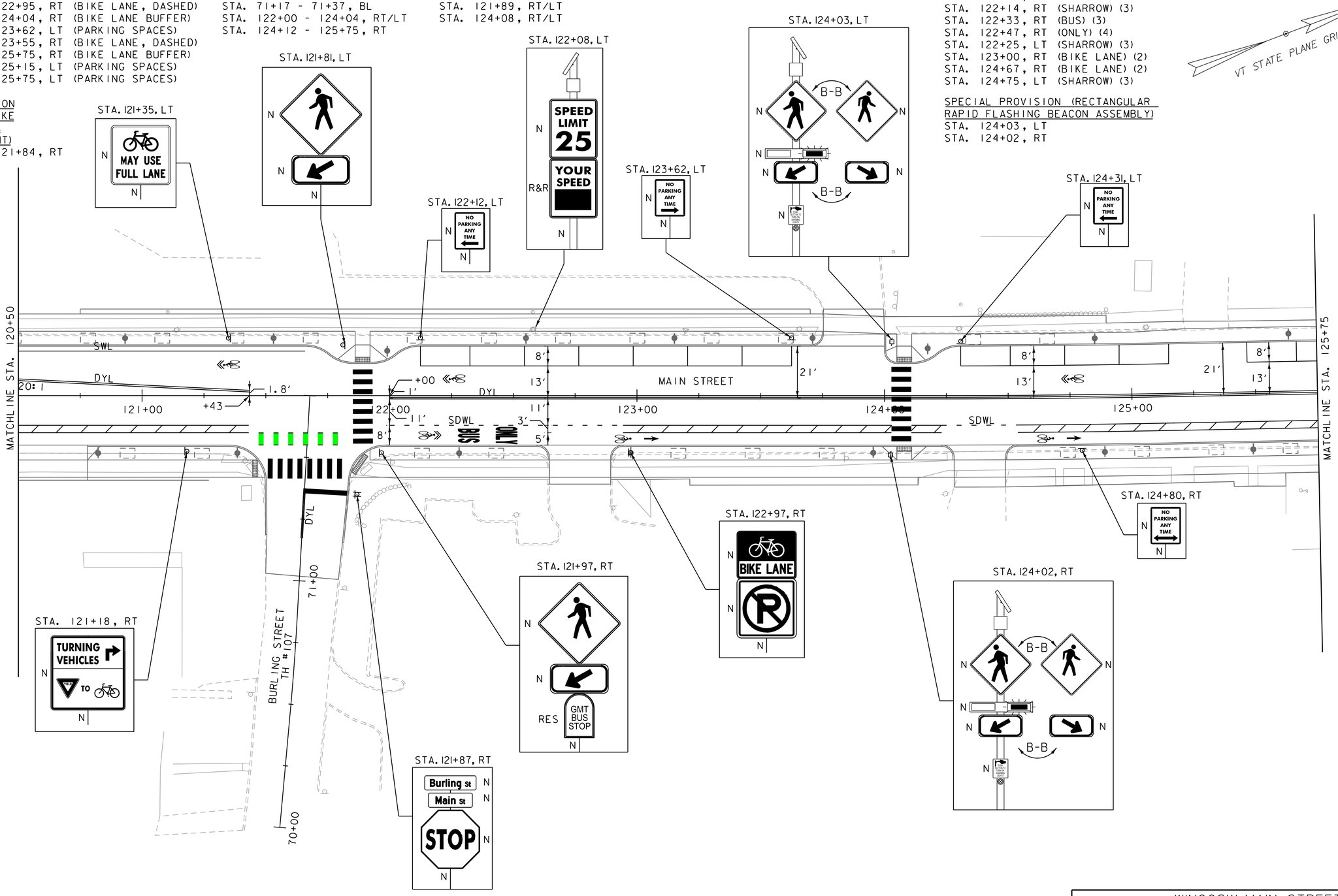
24 INCH STOP BAR, WATERBORNE PAINT
STA. 71+36, RT

RESETTING SIGNS
STA. 121+97, RT

LETTER OR SYMBOL, WATERBORNE PAINT
STA. 121+40, LT (SHARROW) (3)
STA. 122+14, RT (SHARROW) (3)
STA. 122+33, RT (BUS) (3)
STA. 122+47, RT (ONLY) (4)
STA. 122+25, LT (SHARROW) (3)
STA. 123+00, RT (BIKE LANE) (2)
STA. 124+67, RT (BIKE LANE) (2)
STA. 124+75, LT (SHARROW) (3)

SPECIAL PROVISION (RECTANGULAR RAPID FLASHING BEACON ASSEMBLY)
STA. 124+03, LT
STA. 124+02, RT

SPECIAL PROVISION (REMOVE & RESET RADAR SPEED SIGN ASSEMBLY)
STA. 122+08, LT



SIGN LEGEND
R = REMOVE
S = SALVAGE
N = NEW
RET = RETAIN
R&R = REMOVE AND RESET
RES = RESET
B-B = BACK TO BACK

0 20 40
SCALE IN FEET

PROJECT NAME: WINOOSKI MAIN STREET	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_bdr_spm-pr.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P. DETRICK	DRAWN BY: J.D. BACHIOCHI
DESIGNED BY: D.M. PECK	CHECKED BY: E.P. DETRICK
SIGNS & PAVEMENT MARKINGS SHEET 5 OF 9	SHEET 82 OF 178

4 INCH WHITE LINE, WATERBORNE PAINT
STA. 125+75 - 126+53, RT (BIKE LANE BUFFER)
STA. 125+75 - 126+60, LT (PARKING SPACES)
STA. 126+53 - 127+45, RT (BIKE/BUS LANE, DASHED)
STA. 127+02 - 128+06, LT (SHOULDER)
STA. 128+14 - 130+75, LT (SHOULDER)
STA. 128+30 - 128+48, RT (BIKE LANE BUFFER)
STA. 128+48 - 129+10, RT (BIKE LANE, DASHED)
STA. 129+09 - 130+57, RT (PARKING SPACES)
STA. 129+10 - 130+75, RT (BIKE LANE BUFFER)

SPECIAL PROVISION (GREEN/WHITE BIKE LANE EXTENSION, WATERBORNE PAINT)
STA. 127+45 - 127+92, RT

4 INCH YELLOW LINE, WATERBORNE PAINT
STA. 125+75 - 127+53, LT/RT
STA. 128+14 - 130+75, LT
STA. 30+35 - 30+87, BL

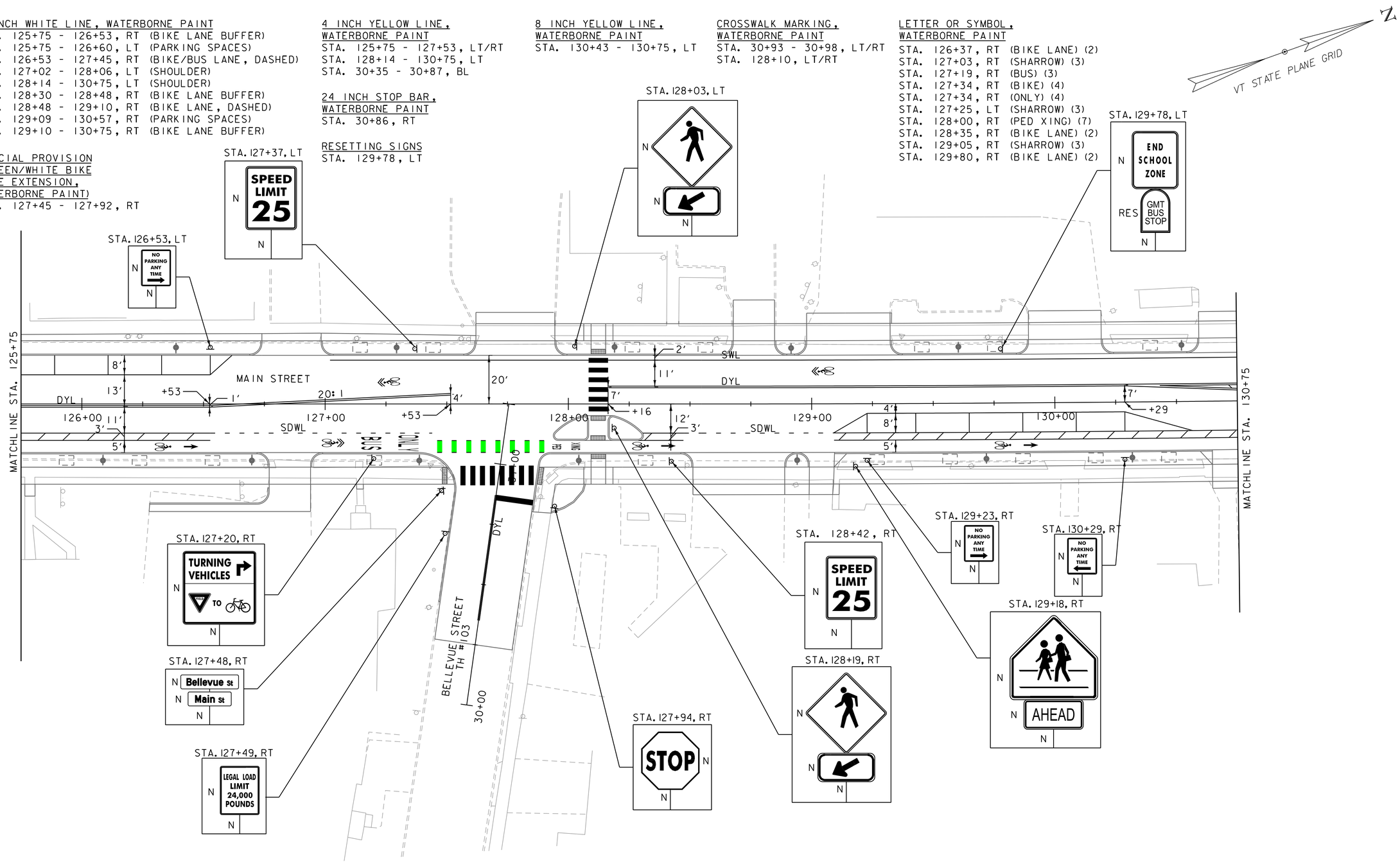
24 INCH STOP BAR, WATERBORNE PAINT
STA. 30+86, RT

RESETTING SIGNS
STA. 129+78, LT

8 INCH YELLOW LINE, WATERBORNE PAINT
STA. 130+43 - 130+75, LT

CROSSWALK MARKING, WATERBORNE PAINT
STA. 30+93 - 30+98, LT/RT
STA. 128+10, LT/RT

LETTER OR SYMBOL, WATERBORNE PAINT
STA. 126+37, RT (BIKE LANE) (2)
STA. 127+03, RT (SHARROW) (3)
STA. 127+19, RT (BUS) (3)
STA. 127+34, RT (BIKE) (4)
STA. 127+34, RT (ONLY) (4)
STA. 127+25, LT (SHARROW) (3)
STA. 128+00, RT (PED XING) (7)
STA. 128+35, RT (BIKE LANE) (2)
STA. 129+05, RT (SHARROW) (3)
STA. 129+80, RT (BIKE LANE) (2)



SIGN LEGEND
R = REMOVE
S = SALVAGE
N = NEW
RET = RETAIN
R&R = REMOVE AND RESET
RES = RESET
B-B = BACK TO BACK

0 20 40
SCALE IN FEET

vhb

PROJECT NAME: WINOOSKI MAIN STREET	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_bdr_spm-pr.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P. DETRICK	DRAWN BY: J.D. BACHIOCHI
DESIGNED BY: D.M. PECK	CHECKED BY: E.P. DETRICK
SIGNS & PAVEMENT MARKINGS SHEET 6 OF 9	SHEET 83 OF 178

4 INCH WHITE LINE, WATERBORNE PAINT
STA. 130+75 - 132+01, LT (SHOULDER)
STA. 130+75 - 131+36, RT (BIKE LANE BUFFER)
STA. 131+36 - 132+00, RT (BIKE/BUS LANE, DASHED)
STA. 132+09 - 134+08, LT (SHOULDER)
STA. 132+47 - 133+08, LT (TURN LANE)
STA. 132+56 - 133+00, RT (BIKE LANE, DASHED)
STA. 133+00 - 134+07, RT (BIKE LANE, SHOULDER)
STA. 133+08 - 133+57, LT (TURN LANE, DASHED)
STA. 133+08 - 133+57, RT (TURN LANE, DASHED)
STA. 133+57 - 134+07, RT (TURN LANE)
STA. 134+35 - 134+62, RT (BIKE LANE, SHOULDER)
STA. 134+91 - 135+50, LT (TURN LANE)
STA. 135+00 - 135+40, RT (BIKE LANE)
STA. 135+40 - 135+70, RT (BIKE LANE, DASHED)
STA. 135+50 - 136+00, LT (TURN LANE, DASHED)
STA. 135+52 - 136+75, LT (BIKE LANE BUFFER)
STA. 135+70 - 136+75, RT (BIKE LANE, SHOULDER)
STA. 588+25 - 589+32, RT (BIKE LANE)
STA. 588+25 - 589+23, LT (BIKE LANE)
STA. 588+32 - 588+57, RT (BIKE LANE, DASHED)
STA. 588+32 - 588+57, RT (BIKE LANE, DASHED)
STAS. 588+57 - 589+15, RT (BIKE LANE, SHOULDER)

RESETTING SIGNS
STA. 132+00, RT
STA. 132+08, RT
STA. 132+42, RT
STA. 134+98, RT

SPECIAL PROVISION
(5 FOOT GREEN BIKE
LANE, WATERBORNE PAINT)
STA. 132+33 - 134+07, RT

4 INCH YELLOW LINE,
WATERBORNE PAINT
STA. 130+75 - 132+01, LT/RT
STA. 132+46 - 133+92, RT/LT
STA. 134+89 - 136+75, RT
STA. 134+89 - 136+75, RT/LT
STA. 588+25 - 589+15, BL

CROSSWALK MARKING,
WATERBORNE PAINT
STA. 132+05, LT/RT
STA. 410+93 - 410+98, LT/RT
STA. 134+32 - 134+72, LT
STA. 134+66, RT - 134+74, LT

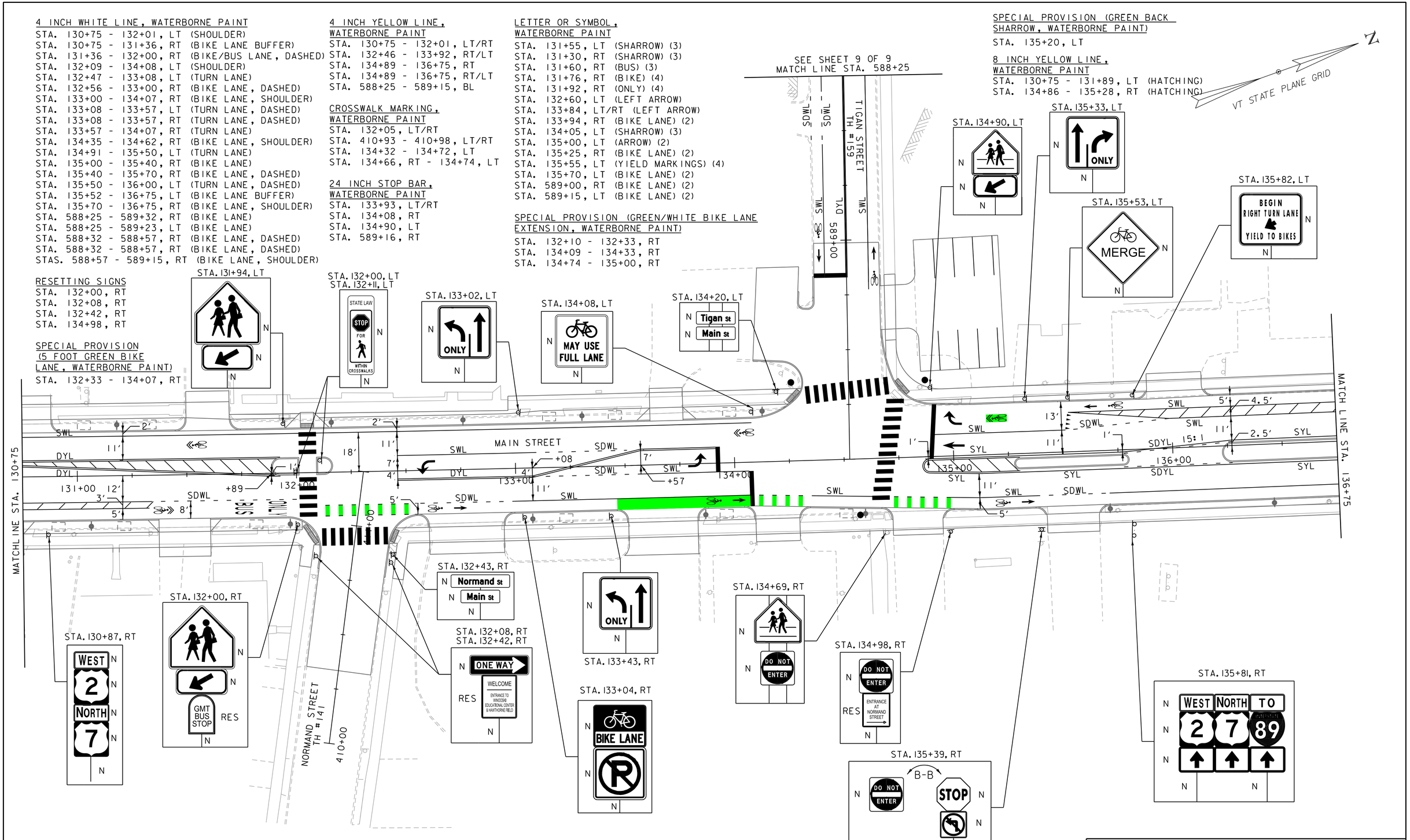
24 INCH STOP BAR,
WATERBORNE PAINT
STA. 133+93, LT/RT
STA. 134+08, RT
STA. 134+90, LT
STA. 589+16, RT

LETTER OR SYMBOL,
WATERBORNE PAINT
STA. 131+55, LT (SHARROW) (3)
STA. 131+30, RT (SHARROW) (3)
STA. 131+60, RT (BUS) (3)
STA. 131+76, RT (BIKE) (4)
STA. 131+92, RT (ONLY) (4)
STA. 132+60, LT (LEFT ARROW)
STA. 133+84, LT/RT (LEFT ARROW)
STA. 133+94, RT (BIKE LANE) (2)
STA. 134+05, LT (SHARROW) (3)
STA. 135+00, LT (ARROW) (2)
STA. 135+25, RT (BIKE LANE) (2)
STA. 135+55, LT (YIELD MARKINGS) (4)
STA. 135+70, LT (BIKE LANE) (2)
STA. 589+00, RT (BIKE LANE) (2)
STA. 589+15, LT (BIKE LANE) (2)

SPECIAL PROVISION (GREEN/WHITE BIKE LANE
EXTENSION, WATERBORNE PAINT)
STA. 132+10 - 132+33, RT
STA. 134+09 - 134+33, RT
STA. 134+74 - 135+00, RT

SPECIAL PROVISION (GREEN BACK
SHARROW, WATERBORNE PAINT)
STA. 135+20, LT

8 INCH YELLOW LINE,
WATERBORNE PAINT
STA. 130+75 - 131+89, LT (HATCHING)
STA. 134+86 - 135+28, RT (HATCHING)



SIGN LEGEND
R = REMOVE
S = SALVAGE
N = NEW
RET = RETAIN
R&R = REMOVE AND RESET
RES = RESET
B-B = BACK TO BACK

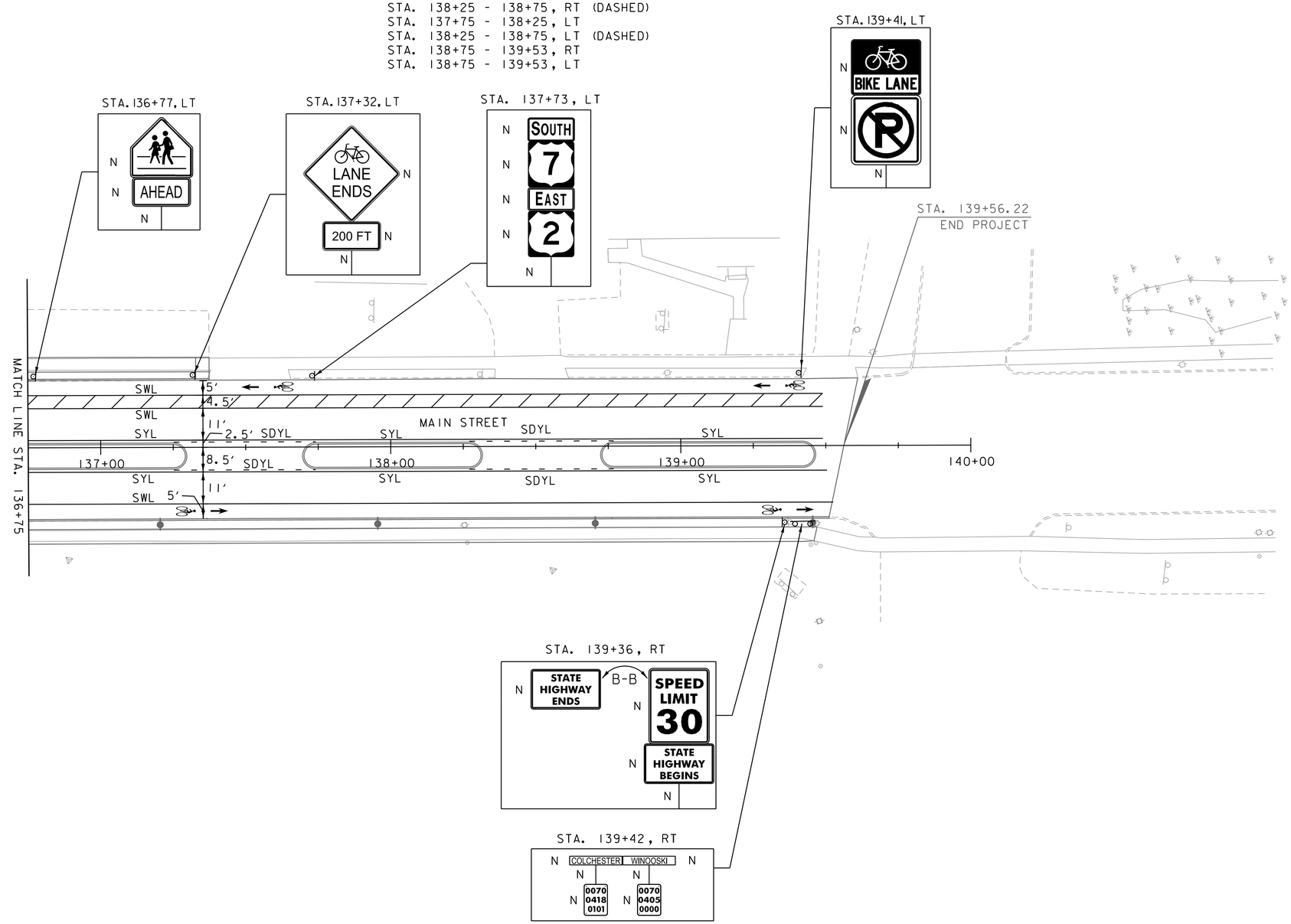
0 20 40
SCALE IN FEET

PROJECT NAME: WINOOSKI MAIN STREET	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_bdr_spm-pr.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P. DETRICK	DRAWN BY: J.D. BACHIOCHI
DESIGNED BY: D.M. PECK	CHECKED BY: E.P. DETRICK
SIGNS & PAVEMENT MARKINGS SHEET 7 OF 9	SHEET 84 OF 178

4 INCH WHITE LINE, WATERBORNE PAINT
STA. 136+75 - 139+53, RT (BIKE LANE)
STA. 136+75 - 139+50, LT (BIKE LANE BUFFER)

4 INCH YELLOW LINE, WATERBORNE PAINT
STA. 136+75 - 137+25, RT
STA. 137+25 - 137+75, RT (DASHED)
STA. 136+75 - 137+25, LT
STA. 137+25 - 137+75, LT (DASHED)
STA. 137+75 - 138+25, RT
STA. 138+25 - 138+75, RT (DASHED)
STA. 137+75 - 138+25, LT
STA. 138+25 - 138+75, LT (DASHED)
STA. 138+75 - 139+53, RT
STA. 138+75 - 139+53, LT

LETTER OR SYMBOL, WATERBORNE PAINT
STA. 137+35, RT (BIKE LANE) (2)
STA. 137+58, LT (BIKE LANE) (2)
STA. 139+34, LT (BIKE LANE) (2)
STA. 139+34, RT (BIKE LANE) (2)



SIGN LEGEND
R = REMOVE
S = SALVAGE
N = NEW
RET = RETAIN
R&R = REMOVE AND RESET
RES = RESET
B-B = BACK TO BACK

0 20 40
SCALE IN FEET

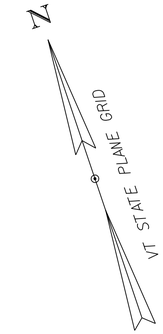
PROJECT NAME: WINOOSKI MAIN STREET	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_bdr_spm-pr.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P. DETRICK	DRAWN BY: J.D. BACHIOCHI
DESIGNED BY: D.M. PECK	CHECKED BY: E.P. DETRICK
SIGNS & PAVEMENT MARKINGS SHEET 8 OF 9	SHEET 85 OF 178

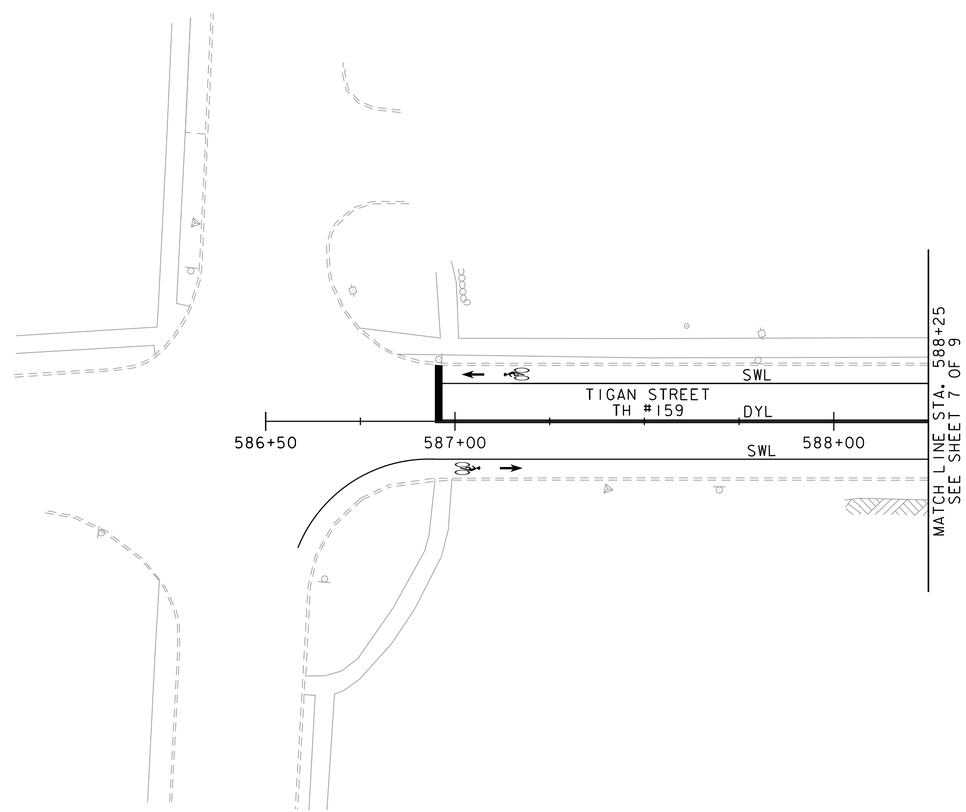
4 INCH YELLOW LINE,
WATERBORNE PAINT
STA. 586+95 - 588+25, BL

4 INCH WHITE LINE, WATERBORNE PAINT
STA. 586+58 - 588+25, RT (BIKE LANE)
STA. 586+95 - 588+25, LT (BIKE LANE)

24 INCH STOP BAR,
WATERBORNE PAINT
STA. 586+95, LT

LETTER OR SYMBOL,
WATERBORNE PAINT
STA. 587+10, RT (BIKE LANE) (2)
STA. 587+10, LT (BIKE LANE) (2)





SIGN LEGEND
R = REMOVE
S = SALVAGE
N = NEW
RET = RETAIN
R&R = REMOVE AND RESET
RES = RESET
B-B = BACK TO BACK

0 20 40
SCALE IN FEET

PROJECT NAME: WINOOSKI MAIN STREET	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_bdr_spm-pr.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P. DETRICK	DRAWN BY: J.D. BACHIOCHI
DESIGNED BY: D.M. PECK	CHECKED BY: E.P. DETRICK
SIGNS & PAVEMENT MARKINGS SHEET 9 OF 9	SHEET 86 OF 178

DIR	MILEPOINT	LOCATION CODE	MUTCD CODE	WIDTH	HEIGHT	SHEETING REMARKS	SIGN LEGEND	NEW SIGNS "A"	NEW SIGNS "B"	EXISTING SIGNS RETAIN	EXISTING SIGNS SALVAGE FROM	EXISTING SIGNS SALVAGE TO	EXISTING SIGNS REMOVE	EXIST POST RETAIN	EXIST POST REMOVE	NUMBER OF NEW POSTS	SQUARE STEEL (in) 1.75 (LB / FT) 1.88	SQUARE STEEL (in) 2.00 (LB / FT) 2.42	SQUARE STEEL (in) 2.50 (LB / FT) 3.35	FOUNDATION	TUBULAR STEEL Ø (IN) 3.00 (LB / FT) 7.60	TUBULAR STEEL Ø (IN) 3.50 (LB / FT) 9.00	TUBULAR STEEL Ø (IN) 4.00 (LB / FT) 10.80	TUBULAR STEEL Ø (IN) 5.00 (LB / FT) 14.60	SIGN FRAME REQUIRED	REMARKS	SIGN DETAIL DETAIL IN SHS	SIGN DETAIL DETAIL ON SHEET NUMBER	SIGN DETAIL DETAIL ON STD SHEET NUMBER
Winooski - Main Street																													
9	101+83 102+64 104+86 105+70 116+30 117+33 121+87 127+94 135+39	LT RT LT RT LT RT RT RT RT	R1-1	30	30			56.25								9											X		
2	132+00 132+11	LT LT	R1-6a	12	36			6.00								2											X		
6	102+37 102+86 114+16 122+08 127+37 128+42	LT RT LT LT LT RT	R2-1	24	30			30.00								6											X		
1	139+36	RT	R2-1	24	30			5.00								1											X		
1	135+39	RT	R3-2	24	24			4.00								0											X		
8	100+13 103+10 106+97 110+33 117+58 122+97 133+04 139+41	RT RT RT RT RT RT RT LT	R3-17	24	18											8											X		
1	135+82	LT	R4-4	36	30			7.50								1											X		
3	108+70 121+35 134+08	LT LT LT	R4-11	30	30			18.75								3											X		
3	134+69 134+98 135+39	RT RT RT	R5-1	30	30			18.75								1											X		
2	109+10 109+46	RT LT	R5-2	24	24			8.00								0											X		
SIGN SUMMARY SHEET							SHEET TOTALS	154.3 SF	0.00 SF	0 EA	0 EA	0 EA	0 EA	0 EA	0 EA	31 EA	465 FT												
							TOWN TOTALS	870.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	116	1740.0												

PROJECT NAME: WINOOSKI MAIN STREET
PROJECT NUMBER: 58011.00

FILE NAME: 58011_tsss.dgn
PROJECT LEADER: E.P.DETRICK
DESIGNED BY: E.L.QUALLEN
TRAFFIC SIGN SUMMARY SHEET 1 OF 7

PLOT DATE: 11/27/2019
DRAWN BY: E.L.QUALLEN
CHECKED BY: E.P.DETRICK
SHEET 87 OF 178

DIR	MILEPOINT	LOCATION CODE	MUTCD CODE	WIDTH	HEIGHT	SHEETING REMARKS	SIGN LEGEND	NEW SIGNS "A"	NEW SIGNS "B"	EXISTING SIGNS RETAIN	EXISTING SIGNS SALVAGE FROM	EXISTING SIGNS SALVAGE TO	EXISTING SIGNS REMOVE	EXIST POST RETAIN	EXIST POST REMOVE	NUMBER OF NEW POSTS	SQUARE STEEL (in) 1.75 (LB / FT) 1.88	SQUARE STEEL (in) 2.00 (LB / FT) 2.42	SQUARE STEEL (in) 2.50 (LB / FT) 3.35	TUBULAR STEEL Ø (IN) FOUNDATION	TUBULAR STEEL Ø (IN) 3.00 (LB / FT) 7.60	TUBULAR STEEL Ø (IN) 3.50 (LB / FT) 9.00	TUBULAR STEEL Ø (IN) 4.00 (LB / FT) 10.80	TUBULAR STEEL Ø (IN) 5.00 (LB / FT) 14.60	SIGN FRAME REQUIRED	REMARKS	SIGN DETAIL: DETAIL IN SHS	SIGN DETAIL: DETAIL ON SHEET NUMBER	SIGN DETAIL: DETAIL ON STD SHEET NUMBER
Winooski - Main Street																												
2	132+08 RT 132+42 RT		R6-1R	36	12			6.00								2										X		
4	102+76 LT 103+27 LT 104+08 RT 124+80 RT		R7-1	12	18			6.00								4										X		
5	112+86 LT 120+30 RT 122+12 LT 124+31 LT 130+29 RT		R7-1L	12	18			7.50								5										X		
5	114+65 LT 118+36 RT 123+62 LT 126+53 LT 129+23 RT		R7-1R	12	18			7.50								5										X		
14	100+13 RT 103+10 RT 106+35 LT 106+97 RT 108+03 LT 110+33 RT 111+62 RT 111+89 LT 114+34 RT 117+58 RT 119+21 LT 122+97 RT 133+04 RT 139+41 LT		R8-3a	24	24			56.00								6										X		
2	104+60 RT 112+91 RT		R9-6	12	18			3.00								2										X		
2	*109+35 (2) LT		R10-12	30	36			15.00								0									*MOUNT SIGNS TO MAST ARMS	X		
2	*103+45 (2) LT		R10-13	42	30			17.50								0									*MOUNT SIGNS TO MAST ARMS	X		
SIGN SUMMARY SHEET							SHEET TOTALS	##### SF	0.00 SF	0 EA	0 EA	0 EA	0 EA	0 EA	0 EA	24 EA	360 FT											
							TOWN TOTALS	870.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	116	1740.0											

vhb

PROJECT NAME: WINOOSKI MAIN STREET
PROJECT NUMBER: 58011.00

FILE NAME: 58011_tsss.dgn
PROJECT LEADER: E.P.DETRICK
DESIGNED BY: E.L.QUALLEN
TRAFFIC SIGN SUMMARY SHEET 2 OF 7

PLOT DATE: 11/27/2019
DRAWN BY: E.L.QUALLEN
CHECKED BY: E.P.DETRICK
SHEET 88 OF 178

DIR	MILEPOINT	LOCATION CODE	MUTCD CODE	WIDTH	HEIGHT	SHEETING REMARKS	SIGN LEGEND	NEW SIGNS "A"	NEW SIGNS "B"	EXISTING SIGNS RETAIN	EXISTING SIGNS SALVAGE FROM	EXISTING SIGNS SALVAGE TO	EXISTING SIGNS REMOVE	EXIST POST RETAIN	EXIST POST REMOVE	NUMBER OF NEW POSTS	SQUARE STEEL (in) 1.75 (LB / FT) 1.88	SQUARE STEEL (in) 2.00 (LB / FT) 2.42	SQUARE STEEL (in) 2.50 (LB / FT) 3.35	FOUNDATION	TUBULAR STEEL Ø (IN) 3.00 (LB / FT) 7.60	TUBULAR STEEL Ø (IN) 3.50 (LB / FT) 9.00	TUBULAR STEEL Ø (IN) 4.00 (LB / FT) 10.80	TUBULAR STEEL Ø (IN) 5.00 (LB / FT) 14.60	SIGN FRAME REQUIRED	REMARKS	SIGN DETAIL DETAIL IN SHS	SIGN DETAIL DETAIL ON SHEET NUMBER	SIGN DETAIL DETAIL ON STD SHEET NUMBER
Winooski - Main Street																												
4	102+15 108+70 121+18 127+20	RT RT RT RT	R10-15a	30	30			25.00								4											X		
2	*109+15 (2)	RT	R10-101	30	36			15.00								0									*MOUNT SIGNS TO MAST ARMS		SIGNAL PLANS	
2	108+32 110+57	RT LT	R14-1	24	18			6.00								2											X		
7	102+14 102+27 105+26 109+10 109+46 116+88 127+49	LT RT RT RT LT RT RT	VR-017	24	30			35.00								7													T-70
1	139+36	RT	VR-038	24	18			3.00								0													T-71
1	139+36	RT	VR-039	24	18			3.00								0													T-71
2	103+45 103+95	RT LT	R10-6A	24	30			10.00								2											X		
2	133+02 133+43	LT RT	VR-921	30	30			12.50								2													E-145A
1	135+33	LT	VR-921	30	30			6.25								1													E-145A
2	107+35 111+25	RT LT	VR-922	36	30			15.00								4													E-145A
6	105+12 105+32 113+33 113+54 121+81 121+97	RT LT LT RT LT RT	W11-2	30	30			37.50								6									*MOUNTED TO RRFB PEDESTAL	X		
							SHEET TOTALS	168.3 SF	0.00 SF	0 EA	0 EA	0 EA	0 EA	0 EA	0 EA	28 EA	420 FT											
							TOWN TOTALS	870.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	116	1740.0											

SIGN SUMMARY SHEET

PROJECT NAME: WINOOSKI MAIN STREET
PROJECT NUMBER: 58011.00

FILE NAME: 58011_tsss.dgn
PROJECT LEADER: E.P.DETRICK
DESIGNED BY: E.L.QUALLEN
TRAFFIC SIGN SUMMARY SHEET 3 OF 7

PLOT DATE: 11/27/2019
DRAWN BY: E.L.QUALLEN
CHECKED BY: E.P.DETRICK
SHEET 89 OF 178

DIR	MILEPOINT	LOCATION CODE	MUTCD CODE	WIDTH	HEIGHT	SHEETING REMARKS	SIGN LEGEND	NEW SIGNS "A"	NEW SIGNS "B"	EXISTING SIGNS RETAIN	EXISTING SIGNS SALVAGE FROM	EXISTING SIGNS SALVAGE TO	EXISTING SIGNS REMOVE	EXIST POST RETAIN	EXIST POST REMOVE	NUMBER OF NEW POSTS	SQUARE STEEL (in) 1.75 (LB / FT) 1.88	SQUARE STEEL (in) 2.00 (LB / FT) 2.42	SQUARE STEEL (in) 2.50 (LB / FT) 3.35	FOUNDATION	TUBULAR STEEL Ø (IN) 3.00 (LB / FT) 7.60	TUBULAR STEEL Ø (IN) 3.50 (LB / FT) 9.00	TUBULAR STEEL Ø (IN) 4.00 (LB / FT) 10.80	TUBULAR STEEL Ø (IN) 5.00 (LB / FT) 14.60	SIGN FRAME REQUIRED	REMARKS	SIGN DETAIL: DETAIL IN SHS	SIGN DETAIL: DETAIL ON SHEET NUMBER	SIGN DETAIL: DETAIL ON STD SHEET NUMBER
Winooski - Main Street																												
6	*124+02 (2) *124+03 (2) 128+03 128+19	RT LT LT RT	W11-2	30	30		CONT. FROM PREVIOUS PAGE	37.50								2										*MOUNTED TO RRFB PEDESTAL	X		
2	100+50 106+03	RT LT	W11-8	30	30			12.50								2											X		
2	100+50 106+03	RT LT	W11-12P	36	30		EMERGENCY SIGNAL AHEAD	15.00								0											X		
1	135+53	LT	W11-X1	30	30		MERGE	6.25								1												SIGN DETAILS	
1	137+32	LT	W11-X2	30	30		LANE ENDS	6.25								1												SIGN DETAILS	
1	137+32	LT	W16-2a	24	12		200 FT	2.00								0											X		
15	105+12 105+32 113+33 113+54 116+81 116+82 121+81 121+97 124+02 124+03 128+03 128+19 131+94 132+00 134+90	RT LT LT RT RT LT LT RT RT LT LT RT LT RT LT	W16-7pL	24	12			30.00								0											X		
4	116+81 116+82 124+02 124+03	RT RT LT LT	W16-7pR	24	12			8.00								0											X		
2	129+18 136+77	RT LT	W16-9p	24	12		AHEAD	4.00								0													
SIGN SUMMARY SHEET							SHEET TOTALS	121.5 SF	0.00 SF	0 EA	0 EA	0 EA	0 EA	0 EA	0 EA	6 EA			90 FT									
							TOWN TOTALS	870.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	116			1740.0									

PROJECT NAME: WINOOSKI MAIN STREET
PROJECT NUMBER: 58011.00

FILE NAME: 58011_tsss.dgn
PROJECT LEADER: E.P.DETRICK
DESIGNED BY: E.L.QUALLEN
TRAFFIC SIGN SUMMARY SHEET 4 OF 7

PLOT DATE: 11/27/2019
DRAWN BY: E.L.QUALLEN
CHECKED BY: E.P.DETRICK
SHEET 90 OF 178

DIR	MILEPOINT	LOCATION CODE	MUTCD CODE	WIDTH	HEIGHT	SHEETING REMARKS	SIGN LEGEND	NEW SIGNS "A"	NEW SIGNS "B"	EXISTING SIGNS RETAIN	EXISTING SIGNS SALVAGE FROM	EXISTING SIGNS SALVAGE TO	EXISTING SIGNS REMOVE	EXIST POST RETAIN	EXIST POST REMOVE	NUMBER OF NEW POSTS	SQUARE STEEL (in) 1.75 (LB / FT) 1.88	SQUARE STEEL (in) 2.00 (LB / FT) 2.42	SQUARE STEEL (in) 2.50 (LB / FT) 3.35	TUBULAR STEEL Ø (IN) FOUNDATION	TUBULAR STEEL Ø (IN) 3.00 (LB / FT) 7.60	TUBULAR STEEL Ø (IN) 3.50 (LB / FT) 9.00	TUBULAR STEEL Ø (IN) 4.00 (LB / FT) 10.80	TUBULAR STEEL Ø (IN) 5.00 (LB / FT) 14.60	SIGN FRAME REQUIRED	REMARKS	SIGN DETAIL DETAIL IN SHS	SIGN DETAIL DETAIL ON SHEET NUMBER	SIGN DETAIL DETAIL ON STD SHEET NUMBER
Winooski - Main Street																												
2	110+99 135+81	RT RT	M1-1	24	24		INTERSTATE 89	8.00								0										X		
8	103+39 107+10 109+93 114+16 110+99 130+87 135+81 137+73	LT LT LT LT RT RT RT LT	M1-4 (2)	24	24		2	32.00								9										X		
8	103+39 107+10 109+93 114+16 110+99 130+87 135+81 137+73	LT LT LT LT RT RT RT LT	M1-4 (7)	24	24		7	32.00								0										X		
1	100+45	LT	M1-5 (15)	24	24	GRN WHT	VERMONT 15	4.00								0												E-136B
1	100+45	LT	M2-1	21	15	GRN WHT	JCT	2.19								0												E-136B
3	110+99 130+87 135+81	RT RT RT	M3-1	24	12	BLK WHT	NORTH	6.00								0										X		
5	103+39 107+10 109+93 114+16 137+73	LT LT LT LT LT	M3-2	24	12	BLK WHT	SOUTH	10.00								0										X		
5	103+39 107+10 109+93 114+16 137+73	LT LT LT LT LT	M3-3	24	12	BLK WHT	EAST	10.00 0.00								0 0										X X		
3	110+99 130+87 135+81	RT RT RT	M3-4	24	12	BLK WHT	WEST	6.00								0										X		
							SHEET TOTALS	##### SF	0.00 SF	0 EA	0 EA	0 EA	0 EA	0 EA	0 EA	9 EA	135 FT											
							TOWN TOTALS	870.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	116	1740.0											

SIGN SUMMARY SHEET

vhb

PROJECT NAME: WINOOSKI MAIN STREET
PROJECT NUMBER: 58011.00

FILE NAME: 58011_tsss.dgn
PROJECT LEADER: E.P.DETRICK
DESIGNED BY: E.L.QUALLEN
TRAFFIC SIGN SUMMARY SHEET 5 OF 7

PLOT DATE: 11/27/2019
DRAWN BY: E.L.QUALLEN
CHECKED BY: E.P.DETRICK
SHEET 91 OF 178

DIR	MILEPOINT	LOCATION CODE	MUTCD CODE	WIDTH	HEIGHT	SHEETING REMARKS	SIGN LEGEND	NEW SIGNS "A"	NEW SIGNS "B"	EXISTING SIGNS RETAIN	EXISTING SIGNS SALVAGE FROM	EXISTING SIGNS SALVAGE TO	EXISTING SIGNS REMOVE	EXIST POST RETAIN	EXIST POST REMOVE	NUMBER OF NEW POSTS	SQUARE STEEL (in) 1.75 (LB / FT) 1.88	SQUARE STEEL (in) 2.00 (LB / FT) 2.42	SQUARE STEEL (in) 2.50 (LB / FT) 3.35	FOUNDATION	TUBULAR STEEL Ø (IN) 3.00 (LB / FT) 7.60	TUBULAR STEEL Ø (IN) 3.50 (LB / FT) 9.00	TUBULAR STEEL Ø (IN) 4.00 (LB / FT) 10.80	TUBULAR STEEL Ø (IN) 5.00 (LB / FT) 14.60	SIGN FRAME REQUIRED	REMARKS	SIGN DETAIL: DETAIL IN SHS	SIGN DETAIL: DETAIL ON SHEET NUMBER	SIGN DETAIL: DETAIL ON STD SHEET NUMBER
Winooski - Main Street																												
1	103+39	LT	M4-5	24	12	BLK WHT	TO	2.00								0											X	
2	110+99 135+81	RT RT	M4-5 INTERSTATE	24	12	WHT BLU	TO	4.00								0											X	
3	109+93 135+81 (2)	LT RT	M6-3	21	15	BLK WHT	↑	6.56								0											X	
1	135+81	RT	M6-3 INTERSTATE	21	15	WHT BLU	↑	2.19								0											X	
12	102+16 102+26 105+18 105+27 108+92* 109+56* 116+71 116+88 121+87 127+48 132+43 134+20**	LT RT LT RT RT LT LT RT RT RT RT LT	D3-1	36	12	WHT GRN	Main St	36.00								0										*MOUNTED TO MAST ARM POLE **MOUNTED TO STRAIN POLE		SIGN DETAILS	
1	102+16	LT	D3-1	42	12	WHT GRN	Maple St	3.50								1												SIGN DETAILS	
1	102+26	RT	D3-1	48	12	WHT GRN	Mansion St	4.00								1												SIGN DETAILS	
1	105+18	LT	D3-1	42	12	WHT GRN	Union St	3.50								1												SIGN DETAILS	
1	105+27	RT	D3-1	36	12	WHT GRN	Platt St	3.00								1												SIGN DETAILS	
1	108+92*	RT	D3-1	48	12	WHT GRN	E Spring St	4.00								0										*MOUNTED TO MAST ARM POLE		SIGN DETAILS	
1	109+56*	LT	D3-1	48	12	WHT GRN	W Spring St	4.00								0										*MOUNTED TO MAST ARM POLE		SIGN DETAILS	
1	116+71	LT	D3-1	48	12	WHT GRN	Stevens St	4.00								1												SIGN DETAILS	
							SHEET TOTALS	76.75 SF	0.00 SF	0 EA	0 EA	0 EA	0 EA	0 EA	0 EA	5 EA	75 FT											
							TOWN TOTALS	870.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	116	1740.0											

SIGN SUMMARY SHEET

vhb

PROJECT NAME: WINOOSKI MAIN STREET
PROJECT NUMBER: 58011.00

FILE NAME: 58011_tsss.dgn
PROJECT LEADER: E.P.DETRICK
DESIGNED BY: E.L.QUALLEN
TRAFFIC SIGN SUMMARY SHEET 6 OF 7

PLOT DATE: 11/27/2019
DRAWN BY: E.L.QUALLEN
CHECKED BY: E.P.DETRICK
SHEET 92 OF 178

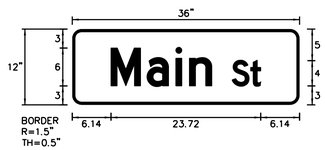
DIR	MILEPOINT	LOCATION CODE	MUTCD CODE	WIDTH	HEIGHT	SHEETING REMARKS	SIGN LEGEND	NEW SIGNS "A"	NEW SIGNS "B"	EXISTING SIGNS RETAIN	EXISTING SIGNS SALVAGE FROM	EXISTING SIGNS SALVAGE TO	EXISTING SIGNS REMOVE	EXIST POST RETAIN	EXIST POST REMOVE	NUMBER OF NEW POSTS	SQUARE STEEL (in) 1.75 (LB / FT) 1.88	SQUARE STEEL (in) 2.00 (LB / FT) 2.42	SQUARE STEEL (in) 2.50 (LB / FT) 3.35	FOUNDATION	TUBULAR STEEL Ø (IN) 3.00 (LB / FT) 7.60	TUBULAR STEEL Ø (IN) 3.50 (LB / FT) 9.00	TUBULAR STEEL Ø (IN) 4.00 (LB / FT) 10.80	TUBULAR STEEL Ø (IN) 5.00 (LB / FT) 14.60	SIGN FRAME REQUIRED	REMARKS	SIGN DETAIL: DETAIL IN SHS	SIGN DETAIL: DETAIL ON SHEET NUMBER	SIGN DETAIL: DETAIL ON STD SHEET NUMBER
Winooski - Main Street																												
1	116+86	RT	D3-1	60	12	WHT GRN	La Fountain St	5.00								1											SIGN DETAILS	
1	121+87	RT	D3-1	42	12	WHT GRN	Burling St	3.50								1											SIGN DETAILS	
1	127+48	RT	D3-1	48	12	WHT GRN	Bellevue St	4.00								1											SIGN DETAILS	
1	132+43	RT	D3-1	54	12	WHT GRN	Normand St	4.50								1											SIGN DETAILS	
1	134+20	LT	D3-1	36	12	WHT GRN	Tigan St	3.00								1											SIGN DETAILS	
1	139+42	RT	VD-024	72	10	WHT GRN	Colchester | Winooski	5.00								2											SIGN DETAILS	T-94
10	*116+81 (2) RT *116+82 (2) LT 129+18 RT 131+94 LT 132+00 RT **134+69 RT 134+90 LT 136+77 LT		S1-1	36	36			90.00								5										*MOUNTED TO RRFB PEDESTAL **MOUNTED TO STRAIN POLE	X		
1	129+78	LT	S5-2	24	30		END SCHOOL ZONE	5.00								1											X		
1	139+42	RT	VD-700	6	10		0070 0418 0101	0.42																		MOUNT ON SOUTHERN POLE OF TOWN LINE ASSEMBLY			T-44
1	139+42	RT	VD-700	6	10		0070 0405 0000	0.42																		MOUNT ON NORTHERN POLE ON TOWN LINE ASSEMBLY			T-44
							SHEET TOTALS	120.8 SF	0.00 SF	0 EA	0 EA	0 EA	0 EA	0 EA	0 EA	13 EA			195 FT									
							TOWN TOTALS	870.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	116			1740.0									

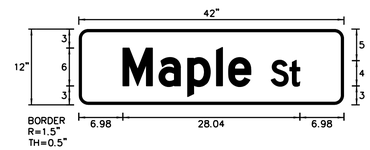
SIGN SUMMARY SHEET

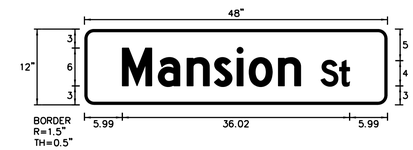
PROJECT NAME: WINOOSKI MAIN STREET
PROJECT NUMBER: 58011.00

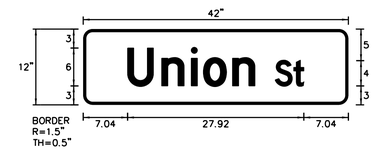
FILE NAME: 58011_tsss.dgn
PROJECT LEADER: E.P.DETRICK
DESIGNED BY: E.L.QUALLEN
TRAFFIC SIGN SUMMARY SHEET 7 OF 7

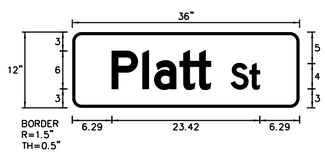
PLOT DATE: 11/27/2019
DRAWN BY: E.L.QUALLEN
CHECKED BY: E.P.DETRICK
SHEET 93 OF 178

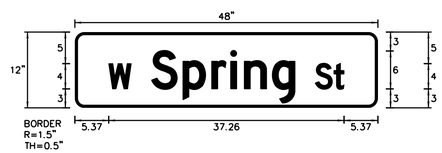


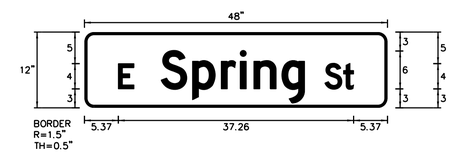


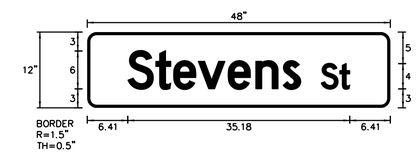


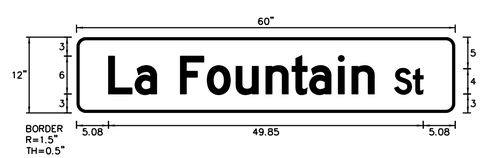


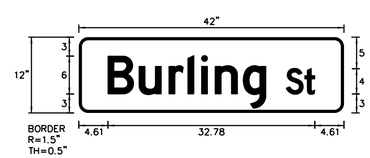


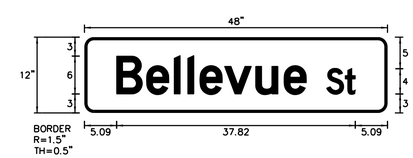


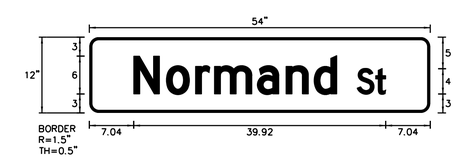


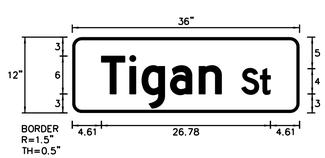


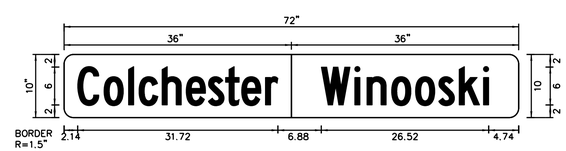




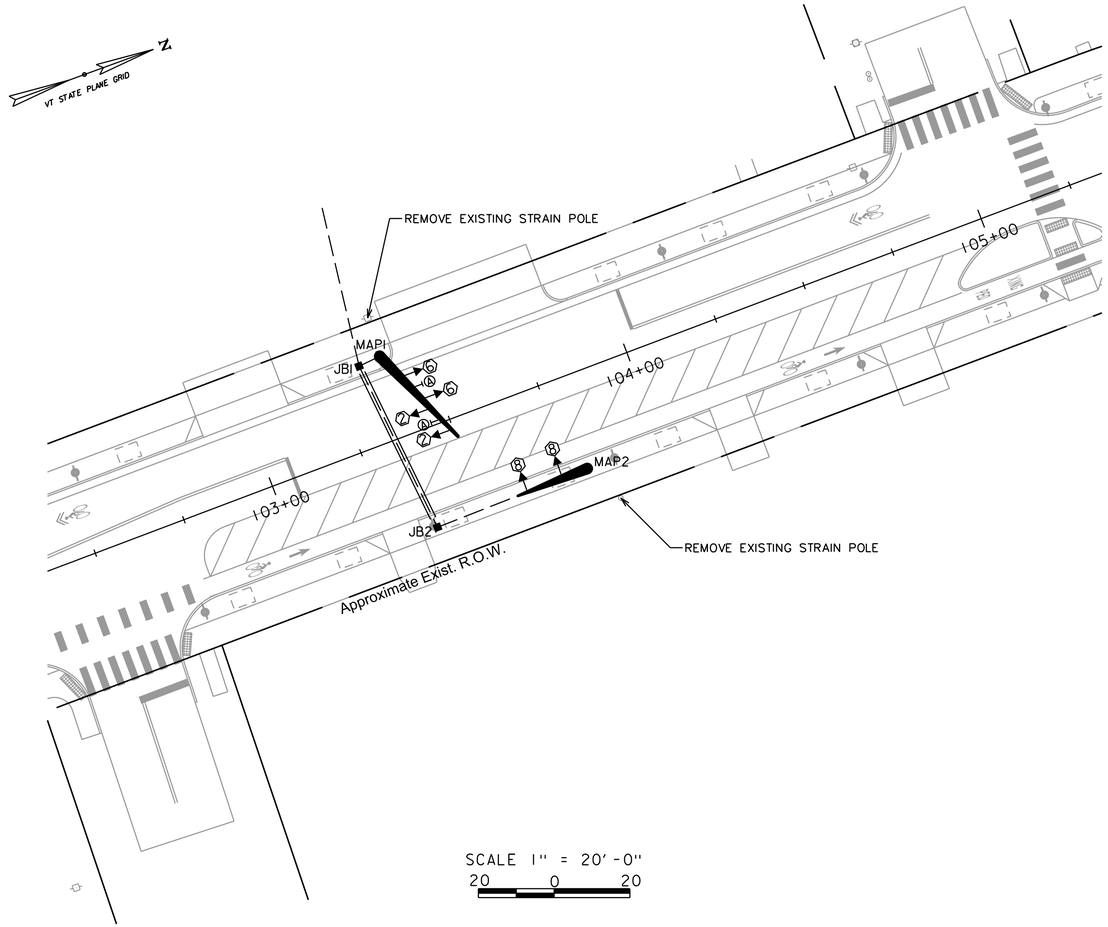








PROJECT NAME: WINOOSKI MAIN STREET	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_ts_det.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P.DETRICK	DRAWN BY: E.L.QUALLEN
DESIGNED BY: E.L.QUALLEN	CHECKED BY: E.P.DETRICK
TRAFFIC SIGN DETAIL SHEET	SHEET 94 OF 178



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

LIST OF MAJOR EQUIPMENT

ITEM 678.15 - TRAFFIC CONTROL SIGNAL SYSTEM, INTERSECTION	QUANTITY	REMARKS
GALVANIZED STEEL MAST ARM SIGNAL POLE (FLAT BLACK)	2	
GALVANIZED STEEL MAST ARM (FLAT BLACK)	2	MAP1 - 30'; MAP2 - 20'
ONE-WAY, 3-SECTION, 12-INCH POLYCARBONATE MAST ARM MOUNTED LED TRAFFIC SIGNAL HEADS WITH TUNNEL VISORS AND LOUVERED BACKPLATES WITH 2" RETROREFLECTIVE TAPE WITH ALL PIECES PAINTED BLACK	6	
SIGNAL HEAD BRACKETS AND EQUIPMENT	6	
PREEMPTION AC STROBE, RED	2	
GPS TIME CLOCK	1	
MODIFY EXISTING TS CONTROLLER	1	
FIRE STATION REMOTES (FOR RETURNING VEHICLES)	X	

WIRED CONDUIT (PVC) SCHEDULE

ITEM NUMBER	678.23	
CONDUIT	WIRED 2" PVC SCH. 80	DESCRIPTION
STATION TO JB-1	44'	SIGNAL/LIGHTING
STATION TO JB-1	44'	FUTURE USE
JB-1 TO MAP-1	6'	SIGNAL/LIGHTING
JB-1 TO MAP-1	6'	FUTURE USE
JB-1 TO JB-2	48'	SIGNAL/LIGHTING
JB-1 TO JB-2	48'	FUTURE USE
JB-2 TO MAP-2	43'	SIGNAL/LIGHTING
JB-2 TO MAP-2	43'	FUTURE USE
SUB-TOTALS	282'	
ROUNDING	8'	
TOTALS	290'	

TRAFFIC CONTROL SIGNAL SYSTEM, INTERSECTION

SEE LIST OF MAJOR EQUIPMENT

WIRED CONDUIT (2") (PVC) (SCH 80)

SEE WIRED CONDUIT SCHEDULE

ELECTRICAL CONDUIT SLEEVE (10" DIA. HDPE)

STA. 103+33 LT - STA. 103+34 RT (45')

MAST ARM POLES

STA. 103+39, LT 22' (MAP1)
STA. 103+80, RT 25' (MAP2)

SPECIAL PROVISION (JUNCTION BOX, HEAVY DUTY)

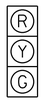
STA. 103+33, LT 22' (JB1)
STA. 103+37, RT 26' (JB2)

PREEMPTION TIMINGS

	PREEMPTOR
	1
DIRECTION	EB
HOLD PHASE	8
DET LOCK	YES
DURATION TIME	19
MIN GREEN	8
HOLD GREEN	12
HOLD YELLOW	4
HOLD RED	2

SIGNAL FACE ARRANGEMENT

(12" LED LENSES W/ 5" BACKPLATES)



FACE 2,6,8

SIGN DETAIL

A

LEGEND

NEW	LEGEND
	SIGNAL HEAD
	CONDUIT
	CONDUIT IN SLEEVE
	MAST ARM
JB	JUNCTION BOX
A	OVERHEAD SIGN

NOTES

1. TRAFFIC ITEMS LISTED ARE APPROXIMATE LOCATIONS AND MAY BE MODIFIED BY THE ENGINEER IN THE FIELD.

PROJECT NAME: WINOOSKI MAIN STREET
PROJECT NUMBER: 58011.00

FILE NAME: 58011_bdr_tsps.dgn
PROJECT LEADER: E.P.DETRICK
DESIGNED BY: E.L.QUALLEN
TRAFFIC SIGNAL LAYOUT SHEET #1

PLOT DATE: 11/27/2019
DRAWN BY: E.L. QUALLEN
CHECKED BY: E.P.DETRICK
SHEET 95 OF 178

TRAFFIC SIGNAL SYSTEM NOTES

A. NEW TRAFFIC SIGNAL EQUIPMENT

1. ALL SIGNAL HEAD HOUSINGS SHALL BE 12" POLYCARBONATE. THE SIGNAL HEAD EQUIPMENT SHALL BE FLAT BLACK AND INCLUDE FLAT BLACK VISORS.

2. ALL SIGNAL HEADS SHALL HAVE FLAT BLACK LOUVERED BACK PLATES WITH A 2-INCH RETROREFLECTIVE TAPE BORDER.

3. ALL SIGNAL HEADS SHALL HAVE RED, YELLOW, AND GREEN L.E.D. INDICATORS WITH A VISIBLE SPREAD OF 80 DEGREES.

4. ALL SIGNAL HEADS SHALL BE MOUNTED ON THE BRACKET SUCH THAT THE MIDDLE ONE-THIRD OF THE SIGNAL HEAD ALIGNS WITH THE MAST ARM.

5. THE TRAFFIC SIGNAL CONTROLLER SHALL BE AN ECONOLITE COBALT (NEMA TS2, TYPE 2) WITH TELEMETRY MODULE IN A NEMA P44 TRAFFIC SIGNAL CONTROL CABINET WITH A 15-INCH BASE EXTENSION INSTALLED AT THE LOCATION SHOWN ON THE PLANS. THE CABINET AND BASE EXTENSIONS SHALL BE FLAT BLACK.

6. THE CONCRETE CABINET FOUNDATION SHALL HAVE A 18" X 12" OPENING FOR SIGNAL CONDUIT LOCATED IN THE CENTER.

7. THE TRAFFIC SIGNAL CONTROL CABINET SHALL BE ORIENTED SUCH THAT THE DOOR DOES NOT FACE THE ROADWAY.

8. RELATED TRAFFIC SIGNAL EQUIPMENT SUCH AS THE BUS INTERFACE UNIT (BIU) AND THE MALFUNCTION MANAGEMENT UNIT (MMU) SHALL BE ECONOLITE BRAND.

9. ALL SIGNAL EQUIPMENT AND SIGNS MOUNTED ON CANTILEVERED MAST ARMS SHALL HAVE SAFETY CABLES.

10. A DISCONNECT BREAKER FOR EACH CIRCUIT SHALL BE INSTALLED IN A RAINPROOF (NEMA 3R), LOCKED CABINET ON A STANCHION NEXT TO OR BELOW THE METER SOCKET. IF STREET LIGHTING IS PRESENT, THE TRAFFIC SIGNAL CIRCUITS MUST BE SEPARATE FROM THE STREET LIGHTING CIRCUITS. ALL METER DISCONNECTS SHALL HAVE BYPASS.

B. MAST ARM POLE FOUNDATIONS

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FOUNDATION DESIGN. FOUNDATIONS SHALL BE DESIGNED IN ACCORDANCE WITH THE MREI 10-01 GUIDELINES. IN ADDITION TO FABRICATION DRAWINGS, THE BORING LOGS DESIGN CRITERIA, AND DESIGN CALCULATIONS SHALL BE SUBMITTED AS WORKING DRAWINGS IN ACCORDANCES WITH SECTION 105.03. ADDITIONAL REQUIREMENTS CAN BE FOUND IN THE TRAFFIC SIGNAL GENERAL NOTES IN THIS PLAN SET.

C. TRAFFIC SIGNAL CONDUIT

1. WHEN CONDUIT IS PLACED BELOW THE ROADWAY OR ACROSS SIDE ROADS, IT SHALL BE PLACED IN A 10" HDPE SLEEVE. 10" DIAMETER HDPE ELECTRICAL CONDUIT SLEEVE SHALL BE INSTALLED BY OPEN CUT INSTALLATION.

2. ALL CONDUIT SHALL BE FILLED WITH STEEL WOOL PRIOR TO BEING CAPPED.

D. EMERGENCY PRE-EMPTION

1. EMERGENCY PRE-EMPTION RECEIVER AND STROBE LOCATIONS SHALL BE DETERMINED BY THE CONTRACTOR IN ACCORDANCE WITH THE MANUFACTURER'S GUIDANCE, IF AVAILABLE. THE CONTRACTOR SHALL SUBMIT PROPOSED MOUNTING LOCATIONS AND DOCUMENTATION OF CONFORMANCE WITH THE MANUFACTURER'S GUIDANCE TO THE ENGINEER.

E. GENERAL

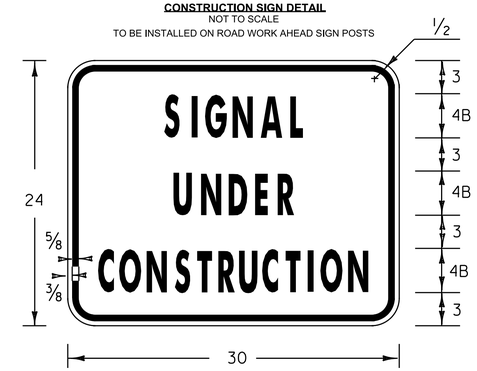
1. A UNIFORMED TRAFFIC OFFICER WITH A BLUE LIGHT SHALL BE PRESENT DURING ALL LANE CLOSURES.

2. THE CONTRACTOR SHALL ACQUIRE ALL THE NECESSARY PERMITS AND MAKE ALL NECESSARY ARRANGEMENTS WITH THE UTILITY COMPANY TO PROVIDE A PERMANENT POWER SUPPLY TO THE TRAFFIC SIGNAL EQUIPMENT, IF APPLICABLE. THE ROUTING OF POWER TO THE INTERSECTION SHALL BE SUCH THAT THE AGENCY OF TRANSPORTATION HAS FULL RESPONSIBILITY FROM THE TRANSFORMER THROUGH THE TRAFFIC SIGNAL SYSTEM. NO INTERVENING OWNERSHIP OR RESPONSIBILITY SHALL BE ALLOWED.

3. THE ENGINEER SHALL COORDINATE WITH THE PROJECT MANAGER TO SCHEDULE ONE PRE-FINAL INSPECTION AFTER THE CONTRACTOR HAS DEMONSTRATED TO THE ENGINEER THAT ALL TRAFFIC SIGNAL WORK AT EACH INTERSECTION HAS BEEN COMPLETED IN THEIR ENTIRETY.

4. WHERE WORK WOULD LEAVE HOLES IN EXISTING SIGNAL EQUIPMENT, INCLUDING POLES, THOSE HOLES SHALL BE PLUGGED/ REPAIRED USING METHODS APPROVED BY THE ENGINEER. THIS WORK SHALL BE PAID INCIDENTAL TO ALL OTHER SIGNAL ITEMS.

CONSTRUCTION SIGN DETAIL
NOT TO SCALE
TO BE INSTALLED ON ROAD WORK AHEAD SIGN POSTS



VTRANS STANDARD SIGN: VC-820 (T-30)

PROJECT NAME: WINOOSKI MAIN STREET	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_bdr_tsps.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P.DETRICK	DRAWN BY: C.K.FORD
DESIGNED BY: E.L.QUALLEN	CHECKED BY: E.P.DETRICK
TRAFFIC SIGNAL SYSTEM NOTES #1	SHEET 96 OF 178

TRAFFIC SIGNAL GENERAL NOTES

1. OVERHEAD SIGN/SIGNAL SUPPORTS SHALL CONFORM TO AASHTO'S "SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS", DATED 2013.

2. THE DESIGN CALCULATIONS SHALL TAKE INTO ACCOUNT THE FOLLOWING CRITERIA:

   STRUCTURE CRITERIA
   - DESIGN LIFE AND RECURRANCE INTERVAL: 50 YEARS
   - WIND LOAD: 90 M.P.H.; REFER TO ASCE 7-05 TO VERIFY IF THE SITE IS WITHIN THE SPECIAL WIND REGION AND IF CONFIRMED, USE A WIND LOAD OF 120 MPH

   FATIGUE CRITERIA
   - FATIGUE CATEGORY: 1 FOR OVERHEAD SIGN STRUCTURES, 2 FOR STRUCTURES LOCATED ON ROADWAYS WITH A SPEED LIMIT GREATER THAN 35 MPH, 3 FOR STRUCTURES LOCATED ON ROADWAYS WITH A SPEED LIMIT LESS THAN OR EQUAL TO 35 MPH.
   - VORTEX SHEDDING: NOT REQUIRED
   - NATURAL WIND GUSTS: INCLUDE
   - TRUCK INDUCED WIND GUSTS: INCLUDE FOR ROADWAYS WHERE THE POSTED SPEED LIMIT FOR THE MAINLINE APPROACHES ARE 40 M.P.H. OR GREATER
   - GALLOPING: DO NOT INCLUDE

   FOUNDATION CRITERIA
   - CONCRETE: CONCRETE, CLASS B, VTrans' "STANDARD SPECIFICATIONS FOR CONSTRUCTION", DATED 2018, SECTION 541.
   - REINFORCING STEEL: REINFORCING STEEL, LEVEL 1 VTrans' "STANDARD SPECIFICATIONS FOR CONSTRUCTION", DATED 2018, SECTION 507.
   - GEOTECHNICAL SOIL RESISTANCES TO BE DETERMINED BY CONTRACTOR; GEOTECHNICAL DATA REPORT SUMMARIZING SUBSURFACE INVESTIGATION INCLUDED IN CONTRACT DOCUMENTS TO BE DETERMINED.

3. ANCHOR BOLTS

   A) GALVANIZED ANCHOR BOLTS WITH TWO HEXAGON NUTS AND TWO WASHERS PER BOLT SHALL BE FURNISHED WITH EACH POLE. ANCHOR BOLT PLATES, WHEN USED, SHALL ALSO BE GALVANIZED. SEE SECTION 714.09. AFTER INSTALLATION, A MINIMUM OF TWO THREADS ON THE BOLT SHOULD BE EXPOSED ABOVE THE NUT.

   B) A MINIMUM OF SIX ANCHOR BOLTS SHALL BE PROVIDED AT EACH SINGLE UPRIGHT POST FOUNDATION. A MINIMUM OF FOUR ANCHOR BOLTS SHALL BE PROVIDED AT EACH FOUNDATION OF OVERHEAD NONCANTILIVERED BRIDGE STRUCTURES.

4. FLANGE BOLTS

   ALL FLANGE BOLTS, HEX NUTS, AND WASHERS SHALL CONFORM TO SUBSECTION 714.05. THE FLANGE BOLTS SHALL BE CAPABLE OF RESISTING 133% OF THE FULL DESIGN STRESS OF THE TUBE AT ITS YIELD STRENGTH STRESS. FLANGE BOLTS SHALL TENSIONED IN ACCORDANCE WITH SUBSECTION 506.19. DIRECT TENSION INDICATORS ARE REQUIRED.

5. U-BOLTS

   U-BOLTS AND ASSOCIATED HARDWARE SHALL CONFORM TO SUBSECTION 714.04 AND GALVANIZED IN ACCORDANCE WITH SUBSECTION 726.08.

6. STEEL FOR SIGN AND SIGNAL STRUCTURES

   A) ALL MATERIAL GREATER THAN 1/2" THICK SHALL MEET THE CHARPY V-NOTCH IMPACT REQUIREMENTS FOR THE SPECIFIED MATERIAL. TESTING AND SAMPLING SHALL BE IN ACCORDANCE WITH AASHTO T 243.

   B) PIPE AND TUBES SHALL MEET THE REQUIREMENTS OF ONE OF THE FOLLOWING SPECIFICATIONS:

   CANTILEVER MAST ARM STRUCTURES:
   ASTM A595, GRADE A WELDED, ROUND, TAPERED STEEL TUBE
   ASTM A1011, GRADE 50 WELDED, ROUND, TAPERED STEEL TUBE

   NON-CANTILEVERED OVERHEAD SIGN AND SIGNAL STRUCTURES:
   ASTM A500, GRADE B WELDED AND SEAMLESS STEEL PIPE (ROUNDS ONLY)
   API 5L GRADE X42 AMERICAN PETROLIUM INSTITUE SPECIFICAITON 5L

7. PROTECTIVE COATING

   ALL STEEL COMPONENTS, EXCEPT CONCRETE REINFORCING, ARE TO BE HOT DIPPED GALVANIZED AND POWDER COATED AFTER FABRICATION. THE ASSEMBLIES SHALL BE DESIGNED AND FABRICATED TO PERMIT GALVANIZING ON ALL INTERIOR AND EXTERIOR SURFACES AND SHALL BE FREE OF POCKETS AND OTHER STRUCTURAL OBSTRUCTIONS THAT WILL NOT PERMIT PROPER DEPOSITION OF ZINC COATING. GALVANIZING SHALL BE IN ACCORDANCE WITH SECTION 752.02. POWDER COATING SHALL BE IN ACCORDANCE WITH SECTION 753.07.

8. WELDING

   A) ALL WELDING SHALL BE PERFORMED PER SECTION 506.10.

   B) ALL WELDS SHALL BE AT LEAST AS STRONG AS THE MATERIAL(S) BEING WELDED.

9. FOUNDATIONS

   A) THE EXISTING STRAIN POLE FOUNDATIONS SHALL BE ENTIRELY REMOVED. THE COST FOR REMOVAL IS INCLUDED UNDER CONTRACT ITEM 678.45, REMOVAL OF EXISTING TRAFFIC CONTROL SIGNAL SYSTEM.

   B) NEW FOOTINGS SHALL BE DESIGNED IN ACCORDANCE WITH VTrans' MATERIALS & RESEARCH ENGINEERING INSTRUCTIONS - GEOTECHNICAL DESIGN PROCEDURES FOR MAST ARM AND OVERHEAD SIGN SUPPORT FOUNDATIONS (MREI 10-01), DATED MARCH 9, 2010, A COPY OF WHICH CAN BE FOUND ON THE AGENCY'S WEBSITE: WWW.VTRANS.VERMONT.GOV.

   C) FOUNDATIONS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE FOLLOWING NOTES:
   SUBMIT ANY CHANGES TO THE CONCRETE SPECIFICATION FOR REVIEW BY THE VTrans PROJECT MANAGER.
   1. A MINIMUM EMBEDMENT DEPTH OF FIVE FEET SHALL BE USED FOR ALL SPREAD FOOTING FOUNDATIONS: MEASURED FROM THE GROUND SURFACE ELEVATION TO THE BOTTOM OF THE FOOTING ELEVATION.
   2. FOR THE DRILLED SHAFT FOUNDATIONS, CONCRETE SHALL BE POURED AGAINST UNDISTURBED SOIL UNLESS A PERMANENT CASING IS DESIGNED FOR AND APPROPRIATE SUPPORTING CALCULATIONS ARE PROVIDED. THE TOP TWO FEET OF SOIL SHALL BE NEGLECTED FOR DESIGN PURPOSES. A DISPOSABLE CIRCULAR CONCRETE FORM, IF USED, SHALL NOT BE PLACED DEEPER THAN TWO FEET, IN ORDER NOT TO REDUCE THE FRICTION BETWEEN THE SOIL AND THE CONCRETE.
   3. AS AN ALTERNATIVE TO THE DRILLED HOLES, FOOTINGS MAY BE POURED IN EXCAVATED HOLES USING THE PROPER FORMS, WHICH MUST BE REMOVED. THE EXCAVATED HOLES SHALL BE AT LEAST TWO FEET CLEAR OF THE FOUNDATION SIDES AND ONE FOOT DEEPER THAN THE FOUNDATION. CARE SHALL BE TAKEN TO AVOID EXCAVATING AROUND THE TOP OF THE FOUNDATION. THE BACKFILL MATERIAL SHALL BE COMPACTED AS DESCRIBED IN SECTION 204.08. DESIGN LIMITS AS FOR AUGURED FOOTINGS APPLIES.
   4. ANY BACKFILL PLACED ADJACENT TO THE FOOTING SHALL BE GRANULAR MATERIAL MEETING THE REQUIREMENTS FOR GRANULAR BACKFILL FOR STRUCTURES, SECTION 704.08. IT SHALL BE COMPACTED AS DESCRIBED IN SECTION 204.08.
   5. CONCRETE FOR THE FOUNDATION SHALL CONFORM TO THE REQUIREMENTS OF CONCRETE, SECTION 541 STRUCTURAL CONCRETE. IF DRILLED SHAFT FOUNDATIONS
   6. STEEL PILES IF USED, SHALL MEET THE REQUIREMENTS OF SECTION 505.
   7. WHEN THE DESIGN DEPTH OF A FOUNDATION CANNOT BE OBTAINED DUE TO UNFORESEEN FIELD CONDITIONS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER FOR THE MANUFACTURER TO OBTAIN A REVISED FOUNDATION DESIGN. SUCH A REVISION SHALL BE SUBMITTED TO THE VTrans PROJECT MANAGER AND MAY REQUIRE UP TO A FOUR-WEEK REVIEW PERIOD BY VTrans.

   D) SIGNALS/SIGNS SHALL BE INSTALLED AND LEVELED. POLES SHALL BE PLUMB. STAINLESS STEEL STANDARD GRADE WIRE CLOTH WITH A 1/4" MAXIMUM OPENING WITH MINIMUM WIRE DIAMETER OF NO. 16 AWG WITH A 2" OVERLAP SHALL USED AT POLE BASES AND SECURED WITH 3/4" STAINLESS STEEL BANDING AFTER ANCHOR BOLTS ARE FULLY TIGHTENED.

10. EACH OVERHEAD TRAFFIC SIGNAL/SIGN SUPPORT SHALL BE GROUNDED. THE GROUND SHALL CONSIST OF THE FOLLOWING:

    A) AN INTERNAL GROUND LUG OPPOSITE THE HAND HOLE

    B) A #6 (MIN.) SOFT DRAWN COPPER GROUNDING ELECTRODE CONDUCTOR

    C) A 5/8" X 8' (MIN.) COPPER CLAD GROUNDING ELECTRODE THE RESISTANCE TO GROUND SHALL BE 25 OHMS OR LESS. ADDITIONAL GROUNDING ELECTRODES MAY BE REQUIRED (MINIMUM SPACING SHALL BE 6'). WHEN A POWER SERVICE, METER AND DISCONNECT ARE ATTACHED TO A POLE, THERE SHALL BE A CONTINUOUS GROUND WIRE FROM THE METER AND DISCONNECT WITH MAY RUN INTERNAL TO THE UPRIGHT, THROUGH THE 1/2" FLEXIBLE TUBING IN THE CONCRETE BASE TO THE REQUIRED GROUNDING ELECTRODE(S). THE GROUND WIRE FROM THE POLE GROUNDING LUG, CONTROLLER CABINET AND/OR LUMINAIRE MAY ATTACH TO THIS CONTINUOUS GROUNDING ELECTRODE CONDUCTOR FROM THE SERVICE METER AND DISCONNECT. THE CONTRACTOR SHALL PERFORM A RESISTANCE TO GROUND TEST ON THE CONTINUOUS GROUNDING ELECTRODE CONDUCTOR FROM THE SERVICE METER AND DISCONNECT AND PROVIDE A WRITTEN STATEMENT TO THE AREA ELECTRICAL INSPECTOR THAT THE GROUNDING ELECTRODE CONDUCTOR IS CONTINUOUS FROM THE SERVICE METER AND DISCONNECT AND THE RESISTANCE TO GROUND IS 25 OHMS OR LESS.

11. HORIZONTAL MEMBERS SHALL BE CAMBERED AND THE VERTICAL POLES BACK RAKED, WHERE APPLICABLE, TO THE ANTICIPATED DEAD LOAD DEFLECTION PLUS THE CAMBER, IF ANY, SPECIFIED ON THE PLANS.

12. AN EQUIVALENT ALTERNATE DESIGN MAY BE SUBSTITUTED FOR THE DETAILS AND MATERIALS SHOWN.

13. THE DETAILS OF DESIGN FOR THE STRUCTURE AND FOUNDATION ARE TO BE SUPPLIED BY THE CONTRACTOR AND/OR BY THE MANUFACTURER, THE STRUCTURE SHALL BE DESIGNED TO RESIST THE MAXIMUM LOADING AS OUTLINED IN THE AASHTO STANDARD SPECIFICATIONS, SEE NOTE 2. ALL DESIGN CALCULATIONS FOR THE STRUCTURE AND THE FOUNDATION SHALL BE CHECKED AND STAMPED BY A LICENSED PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF VERMONT PRIOR TO SUBMITTAL OF THE FABRICATION DRAWINGS TO VTrans.

14. THE CONTRACTOR SHALL SUBMIT ONE DIGITAL VERSION OF THE DESIGN CALCULATIONS TO THE CITY OF WINOOSKI PROJECT MANAGER SHOWING THE FOLLOWING INFORMATION FOR EACH OF THE VERTICAL AND HORIZONTAL COMPONENTS OF THE STRUCTURE AND FOUNDATION:

    A) THE DESIGN AXIAL AND SHEAR FORCES AND BENDING AND TORSIONAL MOMENTS ACTING AT THE TOP OF THE FOUNDATION.

    B) THE DESIGN AXIAL, BENDING AND SHEAR STRESSES AND THE COMBINED STRESS RATIO.

    C) VIBRATION AND FATIGUE CALCULATIONS AS SET FORTH IN SECTION 11 OF THE AASHTO PUBLICATION REFERENCED IN NOTE 1.

    D) THE ALLOWABLE AXIAL, BENDING, AND SHEAR STRESSES.

    E) ITEMS A, B, AND D SHALL BE SHOWN FOR EACH OF THE GROUP LOADINGS (I, II, III) AND FOR THE BASIC WIND LOAD APPLIED TO THE TWO CASES OUTLINED IN THE AASHTO STANDARD SPECIFICATIONS (SEE NOTE 2), SECTION 1.2.5(D)(4).

    F) FAILURE TO SUPPLY THE PROPER DESIGN INFORMATION SHALL BE CAUSE FOR REJECTION OF THE STRUCTURE.

    G) A MINIMUM OF TWO WEEKS SHALL BE REQUIRED FOR REVIEW BY THE CITY OF WINOOSKI.

    H) EVERY MEMBER AND CONNECTION IN A CANTILEVERED OVERHEAD TRAFFIC SIGNAL SUPPORT SHALL BE DESIGNED TO PROVIDE ADDITIONAL RESIDUAL CAPACITY FOR FUTURE MODIFICATION EQUIVALENT TO A 5-SECTION TRAFFIC SIGNAL HEAD WITH A 5-INCH LOUVERED BACKPLATE LOCATED ON THE OUTERMOST EXTENT OF THE MAST ARM. OVERHEAD SIGN STRUCTURES AND NON-CANTILEVERED TRAFFIC SIGNAL STRUCTURES SHALL BE DESIGNED TO A MAXIMUM DESIGN RATIO OF 85% FOR EVERY MEMBER AND CONNECTION.

15. FABRICATION DRAWINGS IN A DIGITAL FORMAT SHALL BE SUBMITTED TO THE CITY OF WINOOSKI PROJECT MANAGER FOR APPROVAL PRIOR TO FABRICATION. THE FABRICATION DRAWINGS SHALL INCLUDE THE FOLLOWING INFORMATION:

    A) DETAILED DRAWING OF EACH COMPONENT OF THE STRUCTURE.

    B) MATERIAL SPECIFICATION FOR EACH COMPONENT OF THE STRUCTURE, EITHER BY COMPLETE SPECIFICATION OR REFERENCE TO APPLICABLE ASTM STANDARDS.

    C) NOTATION OF PROJECT NAME, PROJECT NUMBER, ROUTE NUMBER, AND STRUCTURE STATIONING TO BE INCLUDED ON EACH SHEET.

    D) DETAILS FOR LOCATION OF SIGNS/SIGNALS AND ATTACHMENT HARDWARE FOR THE SUPPORT STRUCTURE.

    E) ALL ELEVATIONS AND DIMENSIONS NECESSARY TO PROVIDE A COMPLETE SET OF RECORD PLANS.

    F) DEAD LOAD DEFLECTION AND CAMBER INFORMATION.

    G) WELDING DETAILS AND PROCEDURES ARE REQUIRED FOR ALL WELDS. PROCEDURES SHALL BE SUBMITTED FOR APPROVAL WITH REFERENCE TO EACH WELD IDENTIFIED ON THE FABRICATION DRAWINGS. SEE SECTION 506.10.

    H) BOLT TENSIONING REQUIREMENTS.

16. THE TRAFFIC SIGNALS SHALL BE MOUNTED TO THE ARM OR POLE USING A FIXED MOUNT SYSTEM, UNLESS OTHERWISE NOTED ON THE CROSS SECTION SHEET. FOR SIGNALS MOUNTED ON A MAST ARM, THE MAST ARM AND MOUNTING POINT SHALL BE IN THE MIDDLE OF THE SIGNAL HEAD.

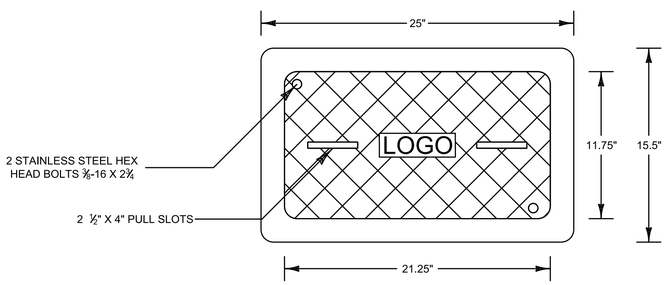
17. BASE PLATES SHALL BE STAMPED WITH POLE INFORMATION INCLUDING: POLE DIAMETER, HEIGHT, YIELD STRENGTH, AND GAUGE; ARM INFORMATION SHALL INCLUDE: HORIZONTAL MEMBER DIAMETER, LENGTH, YIELD STRENGTH, AND GAUGE. THE INFORMATION SHALL BE STAMPED ON A METAL TAG RIVETED TO THE POLE NEAR THE HAND HOLE.

18. SEE STANDARD(S) E-171A FOR ADDITIONAL NOTES AND INFORMATION.

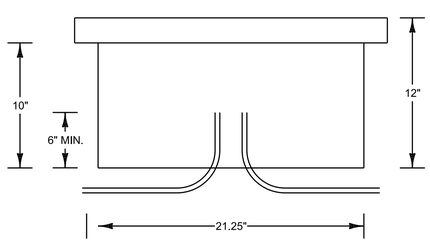
19. THE CONTRACTOR SHALL NOTIFY THE ENGINEER TO SCHEDULE A FINAL INSPECTION AND OBTAIN WRITTEN APPROVAL OF WORK PER SECTION 678.17.

JUNCTION BOX (HEAVY DUTY) NOTES:

1. JUNCTION BOX SHALL BE CONSTRUCTED WITH PRECAST MONOLITHIC POLYMER CONCRETE.
2. CONDUIT SIZE SHALL BE AS SHOWN ON THE PLANS.
3. EXCAVATION FOR JUNCTION BOX SHALL INCLUDE EXCAVATION OF AN AREA ONE FOOT OUTSIDE AND EXTENDING ONE FOOT BELOW THE FINISH GRADE OF THE BOTTOM OF THE JUNCTION BOX. ONE FOOT OF GRANULAR MATERIAL THAT MEETS THE REQUIREMENTS OF SUBSECTION 703.04, SHALL BE PLACED IN THE EXCAVATED AREA AND PROPERLY COMPACTED PRIOR TO INSTALLATION. COMPACTION SHALL MEET REQUIREMENTS OF SUBSECTION 301.06. WHERE NECESSARY AND AT THE DISCRETION OF THE ENGINEER, A DRAINAGE PIPE (MINIMUM 3" PERFORATED PVC) SHALL BE PROVIDED FROM THE JUNCTION BOX TO THE NEAREST APPROPRIATE OUTLET. ANY EXCAVATION AND DRAINAGE SHALL BE INCIDENTAL TO 900.620 SPECIAL PROVISION (JUNCTION BOX, HEAVY DUTY).
4. COVER BOLTS SHALL BE STAINLESS STEEL.
5. A SUFFICIENT COVER GASKET SHALL BE PROVIDED TO REDUCE THE INFLOW OF FLUIDS. THE COVER GAPS SHALL BE FILLED WITH CAULKING JUST PRIOR TO PROJECT COMPLETION.
6. WHEN INSTALLING ON SLOPES, JUNCTION BOXES SHALL BE TIPPED TO MATCH THE EXISTING SLOPE UP TO A 1 ON 4 SLOPE. EXCAVATED MATERIAL SHALL BE USED TO SHAPE AROUND THE LOW SIDE OF THE BOX TO THE SATISFACTION OF THE ENGINEER AND SHALL BE MOW-ABLE. IF SUFFICIENT MATERIAL IS NOT AVAILABLE, MATERIAL MEETING THE REQUIREMENTS OF EARTH BORROW (SUBSECTION 703.02) SHALL BE USED. PAYMENT SHALL BE CONSIDERED INCIDENTAL TO 900.620 SPECIAL PROVISION (JUNCTION BOX, HEAVY DUTY).
7. ALL COVERS SHALL BE FLUSH WITH THE BOXES AND FRAMES.
8. ALL CONDUIT ENTERING THE JUNCTION BOX THROUGH A CUTOUT SHALL HAVE BUSHINGS TO PROTECT THE CABLES.
9. ALL JUNCTION BOX COVERS SHALL BE SKID RESISTANT.
10. ALL COVERS SHALL HAVE THE LOGO PUNCHED, FORMED OR STAMPED INTO A FLAT RECTANGULAR AREA IN ACCORDANCE WITH STANDARD E-173. MINIMUM LETTER HEIGHT IS ½". MINIMUM DEPTH IS 1/16".
11. DIMENSIONS SHOWN ARE MINIMUM SIZE REQUIRED. EQUIVALENT JUNCTION BOX OF LARGER DIMENSIONS MAY BE USED.
12. LOAD RATING SHALL BE NO LESS THAN 15,000 LBS.
13. ALL JUNCTION BOX SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 678.
14. ALL JUNCTION BOXES SHALL MEET THE ANSI/SCTE 77-2007, TIER 15 SPECIFICATION FOR UNDERGROUND ENCLOSURE INTEGRITY.



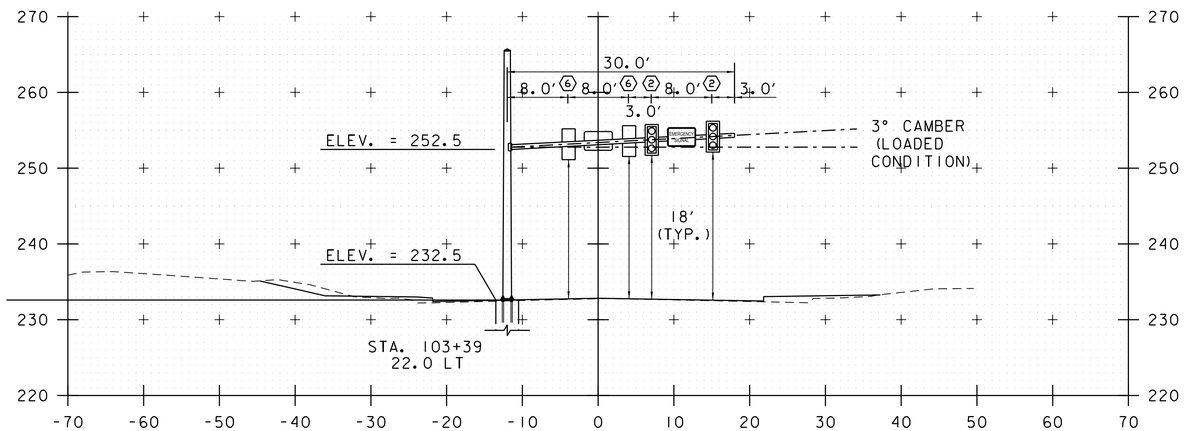
PLAN VIEW
NOT TO SCALE



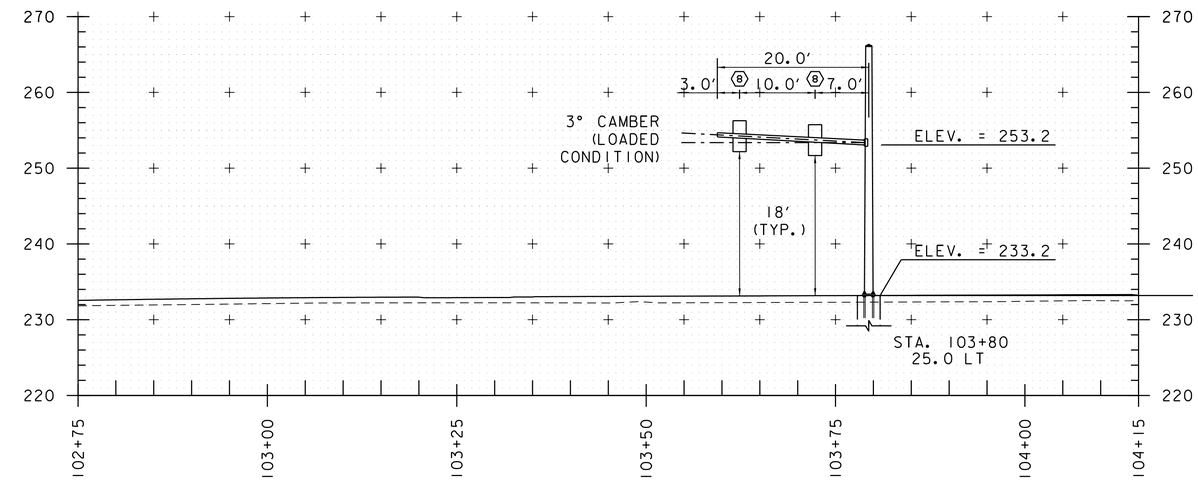
ELEVATION VIEW
NOT TO SCALE

PROJECT NAME: WINOOSKI MAIN STREET	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_bdr_tsps.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P.DETRICK	DRAWN BY: C.K.FORD
DESIGNED BY: E.L.QUALLEN	CHECKED BY: E.P.DETRICK
TRAFFIC SIGNAL DETAIL SHEET #1	SHEET 98 OF 178

INTERSECTION OF MAIN STREET AND WINOOSKI FIRE DEPARTMENT



LOOKING NORTH ALONG MAIN STREET
MAP-1



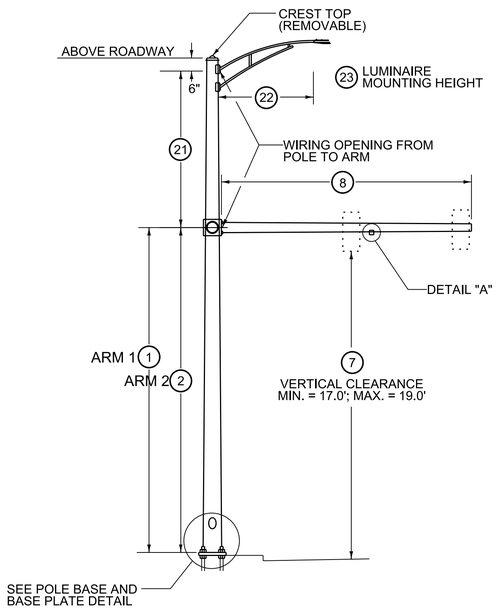
ALONG MAIN STREET, OFFSET 25' RT
LOOKING WEST TOWARD FIRE DEPT
MAP-2

NOTES:

1. DISTANCE FROM GROUND TO BOTTOM OF SIGNAL HEAD SHALL BE 17' MIN. AND 19' MAX.
2. PLEASE REFER TO BORING LOG SHEETS FOR BORING INFORMATION. FOR ADDITIONAL INFORMATION PLEASE REFER TO THE GEOTECHNICAL REPORT IN THE CONTRACT DOCUMENTS.
3. SIGNAL HEADS SHALL BE MOUNTED ON THE VERTICAL CENTER OF THE MAST ARM.

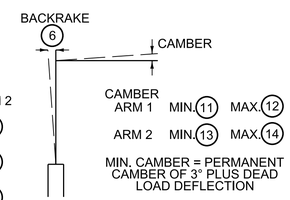
PROJECT NAME: WINOOSKI MAIN STREET	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_bdr_tsps.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P.DETRICK	DRAWN BY: C.K.FORD
DESIGNED BY: E.L.QUALLEN	CHECKED BY: E.P.DETRICK
MAST ARM DETAIL SHEET #1(SHEET 1 OF 2)	SHEET 99 OF 178

MAST ARM, POLE & FOOTING DETAILS



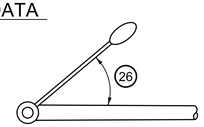
TYPE B MAST POLE & ARM

POLE BASE DIAMETER	(3)	
POLE GAUGE	(4)	
POLE TAPER RATE	(5)	
	ARM 1	ARM 2
ARM DIAMETER	(15)	(18)
ARM GAUGE	(16)	(19)
ARM TAPER RATE	(17)	(20)

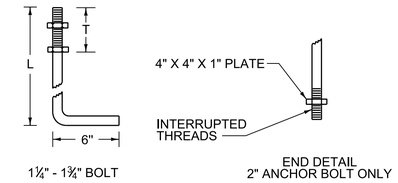


CAMBER DATA

LUMINAIRE ARM RISE

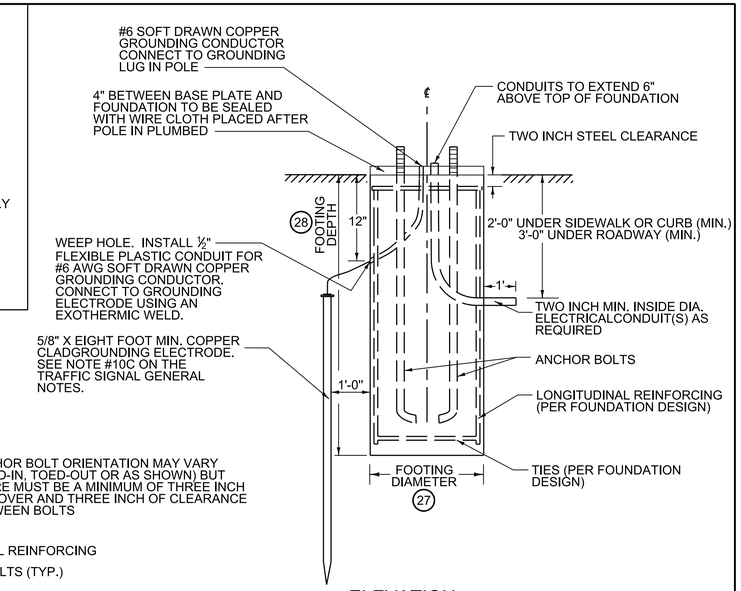


LUMINAIRE ORIENTATION

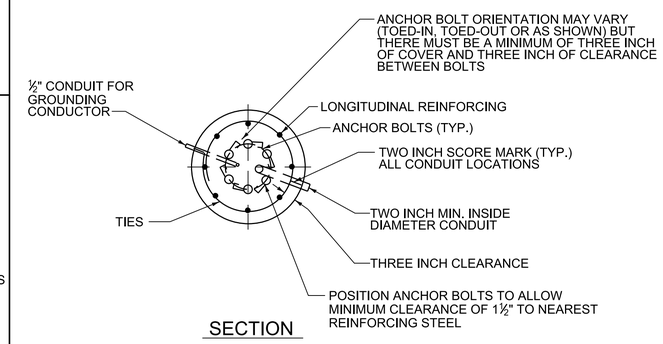


ANCHOR BOLT DETAIL

NOTE:
1. SEE SECTION 678.09 FOR MORE INFORMATION REGARDING BOLT TIGHTENING.

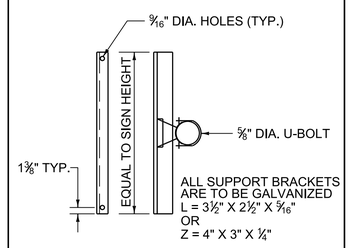


ELEVATION



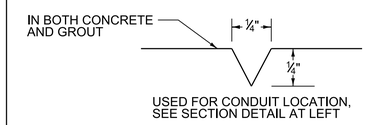
SECTION

MAST POLE FOOTING DETAIL
(SPREAD FOOTINGS OR PILES ARE OPTIONAL)



SIGN ON SINGLE MAST ARM

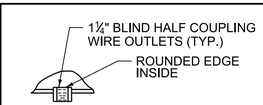
SIGN BRACKET DETAILS



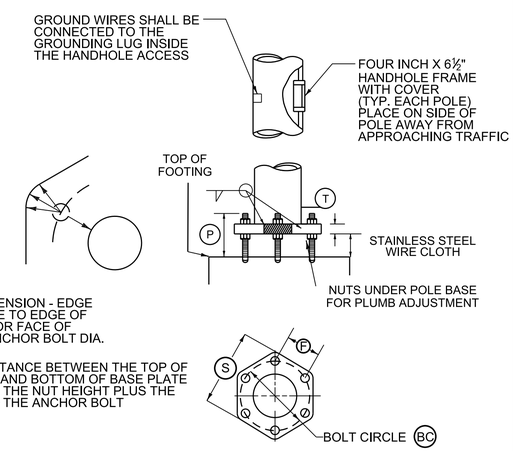
USED FOR CONDUIT LOCATION, SEE SECTION DETAIL AT LEFT

2" SCORE MARK DETAIL

NOTES
1. SEE TRAFFIC SIGNAL GENERAL NOTES FOR ADDITIONAL INFORMATION.
2. MANUFACTURER TO DETERMINE TYPE OF STRUCTURE REQUIRED.
3. MONOTUBES SHALL NOT BE USED FOR SIGNS OVER 10' HIGH.
4. MINIMUM CLEARANCE FROM SIGNS TO ANY TRAVEL LANE SHALL BE 17'.
5. CONTRACTOR SHALL VERIFY ALL GROUND ELEVATIONS.
6. LUMINAIRES, ALL ASSOCIATED EQUIPMENT AND LABOR TO INSTALL SHALL BE PAID FOR UNDER CONTRACT ITEM NOS. 679.47 AND 679.50.



DETAIL "A"



POLE BASE AND BASE PLATE DETAIL

STRUCTURE DIMENSIONS (IN FEET)

POLE DATA									ARM DATA															LIGHTING DATA						FOOTING DATA		BASE PLATE / BOLT DATA					
POLE	TYPE	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(BC)	(F)	(S)	(T)	(P)	ANCHOR BOLT SIZE
#1	B	20'						18'	30'			X																MAN	MAN						
#2	B	20'						18'	20'			X																MAN	MAN						

MAN = TO BE DETERMINED BY MANUFACTURER

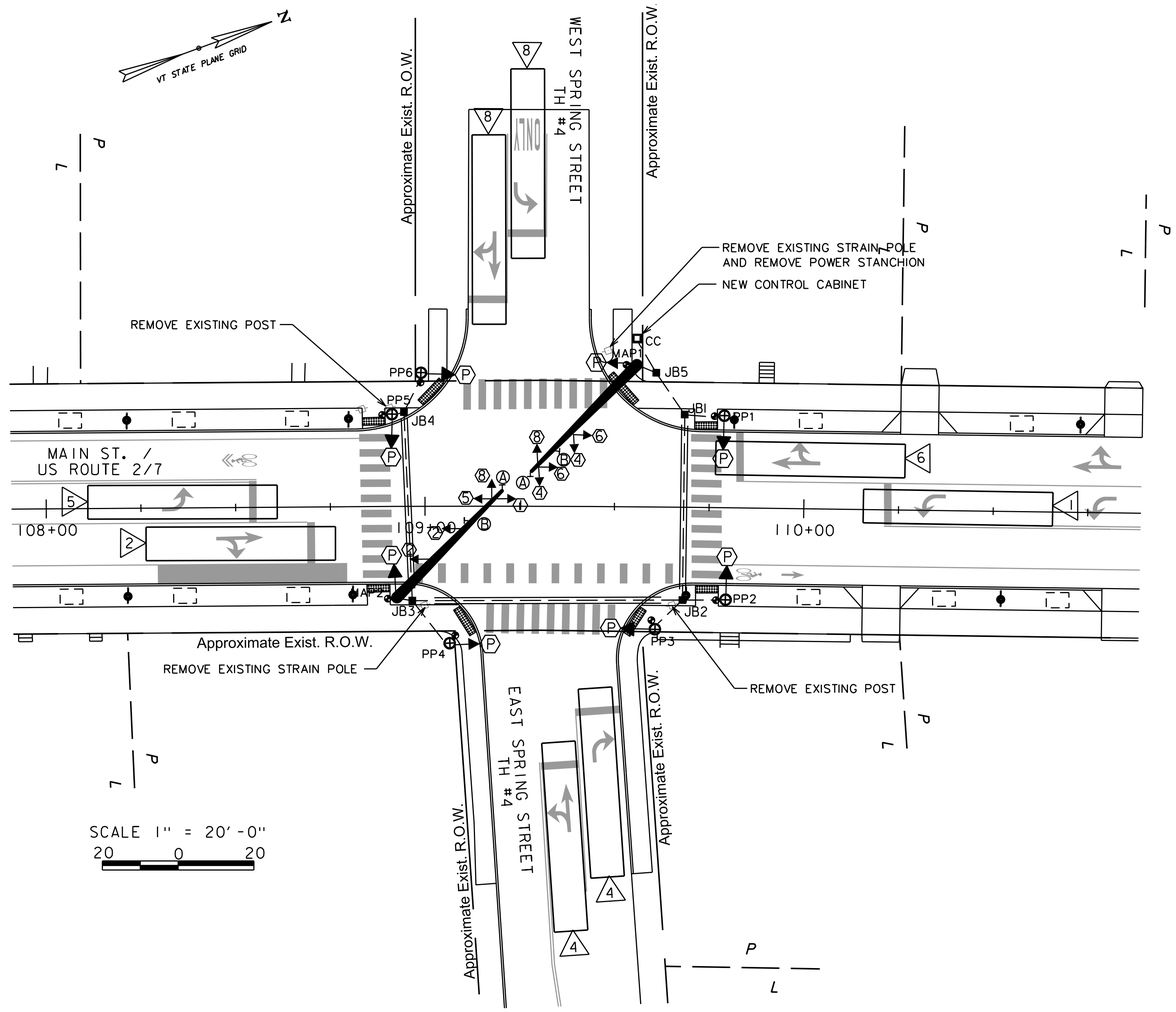
SINGLE MAST ARM CANTILEVER / FOOTING DETAIL SHEET

vhb

PROJECT NAME: WINOOSKI MAIN STREET
PROJECT NUMBER: 58011.00

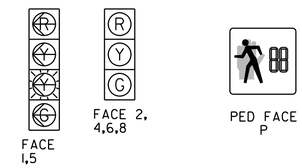
FILE NAME: 58011_bdr_tsps.dgn
PROJECT LEADER: E.P.DETRICK
DESIGNED BY: E.L.QUALLEN
MAST ARM DETAIL SHEET #1(2 OF 2)

PLOT DATE: 11/27/2019
DRAWN BY: C.K.FORD
CHECKED BY: E.P.DETRICK
SHEET 100 OF 178

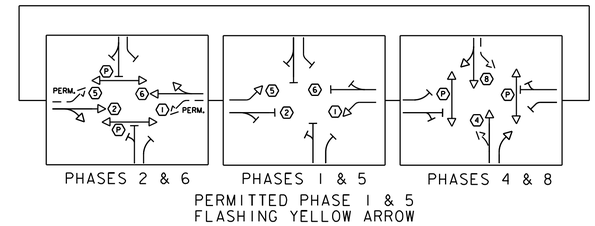


SIGNAL FACE ARRANGEMENT

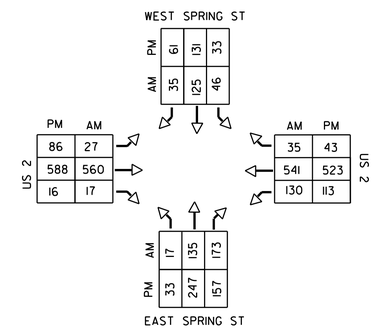
(12" LED LENSES W/ 5" BACKPLATES) (16" LED)

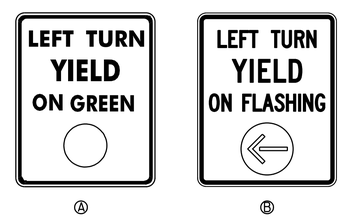


TRAFFIC SIGNAL PHASING DIAGRAM



2025 AVERAGE WEEKDAY PEAK HOUR TRAFFIC DATA





NOTES

1. TRAFFIC ITEMS LISTED ARE APPROXIMATE LOCATIONS AND MAY BE MODIFIED BY THE ENGINEER IN THE FIELD.

TRAFFIC CONTROL SIGNAL SYSTEM, INTERSECTION

SEE LIST OF MAJOR EQUIPMENT, TRAFFIC SIGNAL INFORMATION SHEET

CONTROLLER CABINET

STA. 109+56, LT 44'

WIRED CONDUIT (2") (PVC) (SCH 80)

SEE WIRED CONDUIT SCHEDULE, TRAFFIC SIGNAL INFORMATION SHEET

ELECTRICAL CONDUIT SLEEVE (10" DIA. HDPE)

STA. 108+95 LT - STA. 108+96 RT (45')
STA. 109+03 RT - STA. 109+63 RT (60')
STA. 109+68 LT - STA. 109+68 RT (45')

MAST ARM POLES

STA. 109+56, LT 37' (MAP1)
STA. 108+92, RT 24' (MAP2)

LUMINAIRE

STA. ??

SPECIAL PROVISION (JUNCTION BOX, HEAVY DUTY)

STA. 109+68, LT 23' (JB1)
STA. 109+68, RT 25' (JB2)
STA. 108+98, RT 25' (JB3)
STA. 108+95, LT 24' (JB4)
STA. 109+59, LT 34' (JB5)

REMOVAL OF EXISTING TRAFFIC CONTROL SIGNAL SYSTEM

STA. 108+91, LT 26' (PEDESTRIAN PEDESTAL POST)
STA. 108+98, RT 27' (STRAIN POLE)
STA. 109+48, LT 40' (STRAIN POLE, CONTROLLER, STANCHION)
STA. 109+65, RT 26' (PEDESTRIAN PEDESTAL POST)

PEDESTRIAN PEDESTAL POST AND BASE

STA. 109+79, LT 24' (PP1)
STA. 109+80, RT 24' (PP2)
STA. 109+61, RT 32' (PP3)
STA. 109+06, RT 36' (PP4)
STA. 108+91, LT 24' (PP5)
STA. 108+99, LT 35' (PP6)

LEGEND

NEW	LEGEND
CC	CONTROLLER CABINET
	SIGNAL HEAD
	CONDUIT
	CONDUIT IN SLEEVE
	MAST ARM
	PEDESTRIAN PUSH BUTTON
JB	JUNCTION BOX
	OVERHEAD SIGN
	LUMINAIRE
	PEDESTRIAN PEDESTAL POST AND BASE
	STOP BAR DETECTOR ZONE

PROJECT NAME: WINOOSKI MAIN STREET
PROJECT NUMBER: 58011.00

FILE NAME: 58011_bdr_tsps.dgn
PROJECT LEADER: E.P.DETRICK
DESIGNED BY: E.L.QUALLEN
TRAFFIC SIGNAL LAYOUT SHEET #2

PLOT DATE: 11/27/2019
DRAWN BY: C.K.FORD
CHECKED BY: E.P.DETRICK
SHEET 101 OF 178

LIST OF MAJOR EQUIPMENT

ITEM 678.15 - TRAFFIC CONTROL SIGNAL SYSTEM, INTERSECTION	QUANTITY	REMARKS
TRAFFIC SIGNAL CONTROLLER NEMA TS2, TYPE 2	1	CONTROLLER SHALL BE ECONOLITE COBALT. MMU SHALL BE ECONOLITE MMU2-16LE SMART MONITOR. BIU SHALL BE ECONOLITE BIU-64.
NEMA "P44" SIZE CONTROLLER CABINET WITH 15-INCH EXTENDED BASE FLAT BLACK, ON A CONCRETE FOUNDATION WITH ANCILLARY CONTROL EQUIPMENT	1	
GALVANIZED STEEL MAST ARM SIGNAL POLE (FLAT BLACK)	2	
GALVANIZED STEEL MAST ARM (FLAT BLACK)	2	MAP1 - 40', MAP2 - 40'
ONE-WAY, 3-SECTION, 12-INCH POLYCARBONATE MAST ARM MOUNTED LED TRAFFIC SIGNAL HEADS WITH TUNNEL VISORS AND LOUVERED BACKPLATES WITH 2" RETROREFLECTIVE TAPE WITH ALL PIECES PAINTED BLACK	8	
ONE-WAY, 4-SECTION, 12-INCH POLYCARBONATE MAST ARM MOUNTED LED TRAFFIC SIGNAL HEADS WITH TUNNEL VISORS AND LOUVERED BACKPLATES WITH 2" RETROREFLECTIVE TAPE WITH ALL PIECES PAINTED BLACK	2	
PEDESTRIAN PEDESTAL POST AND BASE (FLAT BLACK)	6	PP1, PP2, PP3, PP4, PP5, PP6
16-INCH LED COUNTDOWN PEDESTRIAN SIGNAL HEAD, POLE MOUNTED	8	
ACCESSIBLE PEDESTRIAN PUSH BUTTON WITH R10-3e TYPE SIGN ASSEMBLY AND AUDIBLE INDICATIONS	8	
METER SOCKET DISCONNECT WITH BYPASS ON PEDESTAL	6	
SIGNAL HEAD BRACKETS AND EQUIPMENT	10	
RADAR STOP BAR DETECTION SYSTEM	4	WAVETRONIX SMARTSENSOR MATRIX
VEHICLE DETECTION PROCESSOR	1	WAVETRONIX CLICK 656
360 DEGREE CAMERA, POST MOUNTED	1	
ETHERNET SWITCH	1	
5.8 GHZ WIRELESS ETHERNET INTERCONNECT SYSTEM	1	
OPTICAL PREEMPTION DETECTORS	4	
OPTICAL PREEMPTION SIGNAL PROCESS CARD & CAGE	2	
PREEMPTION AC STROBE, RED	2	
GPS TIME CLOCK	1	

CONTROLLER TIMING CHART

PHASE	1	2	3	4	5	6	7	8	9
IN USE	X	X		X	X	X		X	
TRAFFIC MOVEMENT	—	— —		|	—	— —		|	
MIN. GREEN	5	8		8	5	8		8	
WALK	0	0		4	0	0		5	
PED CLEAR	0	0		12	0	0		12	
DELAYED GREEN	0	0		0	0	0		0	
MAX 2 - GREEN (AM)	10	35		25	10	35		25	
MAX 1- GREEN (OFF)	15	25		15	15	25		15	
MAX 3 - GREEN (PM)	10	35		25	10	35		25	
YELLOW CLEARANCE	4	4		4	4	4		4	
ALL RED CLEARANCE	2.5	2.5		2.5	2.5	2.5		2.5	
VEHICLE EXTENSION	3	3		2	3	3		2	
RECALL MODE	NONE	SOFT		NONE	NONE	SOFT		NONE	

TIME OF DAY PROGRAM

	WEEKDAY TIMINGS		
MAX 1- OFF PEAK	12:00 AM	TO	6:00 AM
MAX 2 - AM PEAK	6:00 AM	TO	8:00 AM
MAX 1- OFF PEAK	8:00 AM	TO	2:00 PM
MAX 3 - PM PEAK	2:00 PM	TO	6:00 PM
MAX 1- OFF PEAK	6:00 PM	TO	12:00 AM
	WEEKEND TIMINGS		
MAX 1- OFF PEAK	12:00 AM	TO	6:00 AM
	6:00 AM	TO	8:00 AM
	8:00 AM	TO	2:00 PM
	2:00 PM	TO	6:00 PM
	6:00 PM	TO	12:00 AM

PREEMPTION TIMINGS

	PREEMPTOR			
	1	2	3	4
DIRECTION	NB	SB	EB	WB
HOLD PHASE	2 & 5	1& 6	2 & 8	1& 4
DET LOCK	YES	YES	YES	YES
DURATION TIME	19	19	19	19
MIN GREEN	8	8	8	8
HOLD GREEN	12	12	12	12
HOLD YELLOW	4	4	4	4
HOLD RED	2	2	2	2

WIRED CONDUIT (PVC) SCHEDULE

ITEM NUMBER	678.23	
CONDUIT	WIRED 2" PVC SCH. 80	DESCRIPTION
CC TO JB-5	9'	SIGNAL/LIGHTING
CC TO JB-5	9'	DETECTION
CC TO JB-5	9'	FUTURE USE
JB-5 TO MAP-1	4'	SIGNAL/LIGHTING
JB-5 TO MAP-1	4'	DETECTION
JB-5 TO MAP-1	4'	FUTURE USE
JB-5 TO JB-1	14'	SIGNAL/LIGHTING
JB-5 TO JB-1	14'	DETECTION
JB-5 TO JB-1	14'	FUTURE USE
JB-1 TO PP-1	9'	SIGNAL/LIGHTING
JB-1 TO PP-1	9'	DETECTION
JB-1 TO PP-1	9'	FUTURE USE
JB-1 TO JB-2	49'	SIGNAL/LIGHTING
JB-1 TO JB-2	49'	DETECTION
JB-1 TO JB-2	49'	FUTURE USE
JB-2 TO PP-2	10'	SIGNAL/LIGHTING
JB-2 TO PP-2	10'	DETECTION
JB-2 TO PP-2	10'	FUTURE USE
JB-2 TO PP-3	9'	SIGNAL/LIGHTING
JB-2 TO PP-3	9'	DETECTION
JB-2 TO PP-3	9'	FUTURE USE
JB-2 TO JB-3	71'	SIGNAL/LIGHTING
JB-2 TO JB-3	71'	DETECTION
JB-2 TO JB-3	71'	FUTURE USE
JB-3 TO PP-4	13'	SIGNAL/LIGHTING
JB-3 TO PP-4	13'	DETECTION
JB-3 TO PP-4	13'	FUTURE USE
JB-3 TO MAP-2	4'	SIGNAL/LIGHTING
JB-3 TO MAP-2	4'	DETECTION
JB-3 TO MAP-2	4'	FUTURE USE
JB-3 TO JB-4	50'	SIGNAL/LIGHTING
JB-3 TO JB-4	50'	DETECTION
JB-3 TO JB-4	50'	FUTURE USE
JB-4 TO PP-5	3'	SIGNAL/LIGHTING
JB-4 TO PP-5	3'	DETECTION
JB-4 TO PP-5	3'	FUTURE USE
JB-4 TO PP-6	10'	SIGNAL/LIGHTING
JB-4 TO PP-6	10'	DETECTION
JB-4 TO PP-6	10'	FUTURE USE
SUB-TOTALS	765'	
ROUNDING	5'	
TOTALS	770'	

PROJECT NAME: WINOOSKI MAIN STREET
PROJECT NUMBER: 58011.00

FILE NAME: 58011_bdr_tsps.dgn
PROJECT LEADER: E.P.DETRICK
DESIGNED BY: E.L.QUALLEN
TRAFFIC SIGNAL INFORMATION SHEET #2

PLOT DATE: 11/27/2019
DRAWN BY: C.K.FORD
CHECKED BY: E.P.DETRICK
SHEET 102 OF 178

TRAFFIC SIGNAL SYSTEM NOTES

A. NEW TRAFFIC SIGNAL EQUIPMENT

1. ALL SIGNAL HEAD HOUSINGS SHALL BE 12" POLYCARBONATE. THE SIGNAL HEAD EQUIPMENT SHALL BE FLAT BLACK AND INCLUDE FLAT BLACK VISORS.

2. ALL SIGNAL HEADS SHALL HAVE FLAT BLACK LOUVERED BACK PLATES WITH A 2-INCH RETROREFLECTIVE TAPE BORDER.

3. ALL SIGNAL HEADS SHALL HAVE RED, YELLOW, AND GREEN L.E.D. INDICATORS WITH A VISIBLE SPREAD OF 80 DEGREES.

4. ALL SIGNAL HEADS SHALL BE MOUNTED ON THE BRACKET SUCH THAT THE MIDDLE ONE-THIRD OF THE SIGNAL HEAD ALIGNS WITH THE MAST ARM.

5. THE TRAFFIC SIGNAL CONTROLLER SHALL BE AN ECONOLITE COBALT (NEMA TS2, TYPE 2) WITH TELEMETRY MODULE IN A NEMA P44 TRAFFIC SIGNAL CONTROL CABINET WITH A 15-INCH BASE EXTENSION INSTALLED AT THE LOCATION SHOWN ON THE PLANS. THE CABINET AND BASE EXTENSIONS SHALL BE FLAT BLACK.

6. THE CONCRETE CABINET FOUNDATION SHALL HAVE A 18" X 12" OPENING FOR SIGNAL CONDUIT LOCATED IN THE CENTER.

7. THE TRAFFIC SIGNAL CONTROL CABINET SHALL BE ORIENTED SUCH THAT THE DOOR DOES NOT FACE THE ROADWAY.

8. RELATED TRAFFIC SIGNAL EQUIPMENT SUCH AS THE BUS INTERFACE UNIT (BIU) AND THE MALFUNCTION MANAGEMENT UNIT (MMU) SHALL BE ECONOLITE BRAND.

9. ALL SIGNAL EQUIPMENT AND SIGNS MOUNTED ON CANTILEVERED MAST ARMS SHALL HAVE SAFETY CABLES.

10. A DISCONNECT BREAKER FOR EACH CIRCUIT SHALL BE INSTALLED IN A RAINPROOF (NEMA 3R), LOCKED CABINET ON A STANCHION NEXT TO OR BELOW THE METER SOCKET. IF STREET LIGHTING IS PRESENT, THE TRAFFIC SIGNAL CIRCUITS MUST BE SEPARATE FROM THE STREET LIGHTING CIRCUITS. ALL METER DISCONNECTS SHALL HAVE BYPASS.

B. TRAFFIC SIGNAL OPERATIONS

1. SIGNAL TIMINGS SHOWN ON THE PLANS MAY REQUIRE FINE-TUNING IN THE FIELD BASED ON TRAFFIC OBSERVATIONS AND/OR ADDITIONAL FIELD STUDIES.

2. SWITCH-OVER TO INSTALLED SIGNAL SYSTEM SHALL NOT OCCUR DURING PEAK TRAFFIC PERIODS. UNIFORMED TRAFFIC OFFICERS SHALL CONTROL TRAFFIC DURING THE SWITCH-OVER.

3. ALL SIGNALS SHALL DWELL ON MAIN STREET (US 2/7) UNLESS OTHERWISE NOTED.

4. THE MAIN STREET (US 2/7) THRU PHASE SHALL BE USED FOR THE START-UP PHASE FOLLOWING FLASH OPERATIONS.

C. VEHICLE DETECTION

1. STOP BAR AND ADVANCED VEHICLE DETECTOR LOCATIONS SHALL BE DETERMINED BY THE CONTRACTOR IN ACCORDANCE WITH THE MANUFACTURER'S GUIDANCE FOR THE TYPE OF DETECTOR SUPPLIED. THE CONTRACTOR SHALL SUBMIT PROPOSED MOUNTING LOCATIONS AND DOCUMENTATION OF CONFORMANCE WITH THE MANUFACTURER'S GUIDANCE TO THE ENGINEER.

2. ALL VEHICLE DETECTORS SHALL BE PLACED SUCH THAT OCCLUSION IS MINIMIZED AND PHASING IS NOT NEGATIVELY AFFECTED.

3. STOP BAR VEHICLE DETECTION ZONES SHALL EXTEND FIVE FEET PAST THE FINAL, PERMANENT STOP BAR.

4. ADVANCED VEHICLE DETECTION ZONES SHALL BE A MINIMUM OF 350 TO 400 FEET UPSTREAM OF THE FINAL, PERMANENT STOP BAR.

5. DILEMMA ZONE DETECTION BY THE ADVANCED VEHICLE DETECTION SYSTEM SHALL PROVIDE DETECTION OF RANGE, SPEED AND ESTIMATED TIME OF ARRIVAL OF APPROACHING VEHICLES IN A CONTINUOUS RANGE OF 350 TO 600 FEET FROM THE FINAL LOCATION OF THE DETECTOR UNIT.

6. THERE SHALL BE NO WIRING SPLICES BETWEEN THE VEHICLE DETECTORS AND THE TRAFFIC SIGNAL CONTROLLER EQUIPMENT UNLESS IN A MANUFACTURER RECOMMENDED JUNCTION BOX.

7. THE VEHICLE DETECTION SYSTEM SHALL BE WAVETRONIX SmartSensor MATRIX/SmartSensor ADVANCE BRANDS.

8. SEE THE PLANS FOR A DETAILED LIST OF EQUIPMENT.

D. MAST ARM POLE FOUNDATIONS

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FOUNDATION DESIGN. FOUNDATIONS SHALL BE DESIGNED IN ACCORDANCE WITH THE MREI 10-01 GUIDELINES. IN ADDITION TO FABRICATION DRAWINGS, THE BORING LOGS DESIGN CRITERIA, AND DESIGN CALCULATIONS SHALL BE SUBMITTED AS WORKING DRAWINGS IN ACCORDANCES WITH SECTION 105.03. ADDITIONAL REQUIREMENTS CAN BE FOUND IN THE TRAFFIC SIGNAL GENERAL NOTES IN THIS PLAN SET.

E. TRAFFIC SIGNAL CONDUIT

1. WHEN CONDUIT IS PLACED BELOW THE ROADWAY OR ACROSS SIDE ROADS, IT SHALL BE PLACED IN A 10" HDPE SLEEVE. 10" DIAMETER HDPE ELECTRICAL CONDUIT SLEEVE SHALL BE INSTALLED BY OPEN CUT INSTALLATION.

2. ALL CONDUIT SHALL BE FILLED WITH STEEL WOOL PRIOR TO BEING CAPPED.

F. EMERGENCY PRE-EMPTION

1. EMERGENCY PRE-EMPTION RECEIVER AND STROBE LOCATIONS SHALL BE DETERMINED BY THE CONTRACTOR IN ACCORDANCE WITH THE MANUFACTURER'S GUIDANCE, IF AVAILABLE. THE CONTRACTOR SHALL SUBMIT PROPOSED MOUNTING LOCATIONS AND DOCUMENTATION OF CONFORMANCE WITH THE MANUFACTURER'S GUIDANCE TO THE ENGINEER.

G. CLOSED CIRCUIT MONITORING

1. THIS PROJECT REQUIRES RADAR STOP BAR DETECTION. AS SUCH, THE CONTRACTOR SHALL INCLUDE A CLOSED CIRCUIT VIDEO CAMERA FOR TRAFFIC MONITORING PURPOSES.

2. THE CAMERA SHALL BE IP-ADDRESSABLE AND HAVE A 360-DEGREE VIEW ANGLE.

3. THE CAMERA SHALL BE AN AXIS Q6044-E PTZ Dome Network Camera OR EQUIVALENT.

H. GENERAL

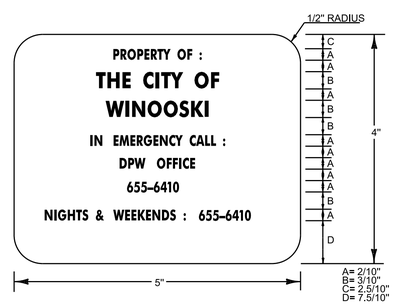
1. A UNIFORMED TRAFFIC OFFICER WITH A BLUE LIGHT SHALL BE PRESENT DURING ALL LANE CLOSURES.

2. THE CONTRACTOR SHALL ACQUIRE ALL THE NECESSARY PERMITS AND MAKE ALL NECESSARY ARRANGEMENTS WITH THE UTILITY COMPANY TO PROVIDE A PERMANENT POWER SUPPLY TO THE TRAFFIC SIGNAL EQUIPMENT, IF APPLICABLE. THE ROUTING OF POWER TO THE INTERSECTION SHALL BE SUCH THAT THE AGENCY OF TRANSPORTATION HAS FULL RESPONSIBILITY FROM THE TRANSFORMER THROUGH THE TRAFFIC SIGNAL SYSTEM. NO INTERVENING OWNERSHIP OR RESPONSIBILITY SHALL BE ALLOWED.

3. THE ENGINEER SHALL COORDINATE WITH THE PROJECT MANAGER TO SCHEDULE ONE PRE-FINAL INSPECTION AFTER THE CONTRACTOR HAS DEMONSTRATED TO THE ENGINEER THAT ALL TRAFFIC SIGNAL WORK AT EACH INTERSECTION HAS BEEN COMPLETED IN THEIR ENTIRETY. THE PRE-FINAL INSPECTION SHALL NOT OCCUR UNTIL AFTER FINAL STOP BARS ARE INSTALLED AND DETECTION ZONES ARE APPROPRIATELY ADJUSTED.

4. WHERE WORK WOULD LEAVE HOLES IN EXISTING SIGNAL EQUIPMENT, INCLUDING POLES, THOSE HOLES SHALL BE PLUGGED/REPAIRED USING METHODS APPROVED BY THE ENGINEER. THIS WORK SHALL BE PAID INCIDENTAL TO ALL OTHER SIGNAL ITEMS.

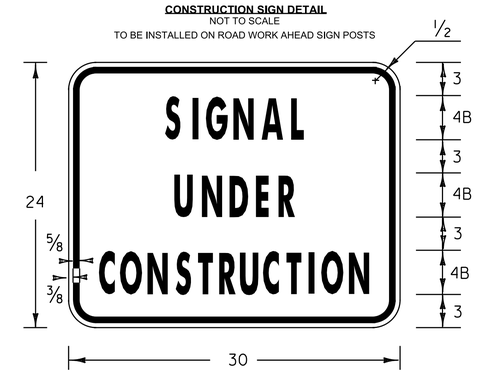
CONTROLLER IDENTIFICATION PLAQUE
NOT TO SCALE



LEGEND: - BLACK (NON-REFL.) - STAMPED PRIOR TO PAINTING
BACKGROUND: NATURAL ALUMINUM OR BRASS SURFACE

NOTES:
1.) THE PLAQUE SHALL BE MOUNTED ON THE TRAFFIC SIGNAL CONTROLLER CABINET. IT SHALL BE FASTENED TO THE CONTROLLER CABINET IN SUCH A MANNER AS TO BE NOT EASILY REMOVED, SUCH AS WELDED, RIVETED OR BOLTED WITH VANDAL PROOF BOLTS.
2.) THE LETTERS SHALL BE PUNCHED OR STAMPED, SUCH STAMPING SHALL PENETRATE AT LEAST 1/2 THE BASE MATERIAL THICKNESS.
3.) THE BASE MATERIAL FOR THE PLAQUE SHALL BE BRASS OR ALUMINUM WITH A MINIMUM THICKNESS OF 0.100 INCHES.

CONSTRUCTION SIGN DETAIL
NOT TO SCALE
TO BE INSTALLED ON ROAD WORK AHEAD SIGN POSTS



VTRANS STANDARD SIGN: VC-820 (T-30)

PROJECT NAME: WINOOSKI MAIN STREET	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_bdr_tsps.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P.DETRICK	DRAWN BY: C.K.FORD
DESIGNED BY: E.L.QUALLEN	CHECKED BY: E.P.DETRICK
TRAFFIC SIGNAL SYSTEM NOTES #2	SHEET 103 OF 178

TRAFFIC SIGNAL GENERAL NOTES

1. OVERHEAD SIGN/SIGNAL SUPPORTS SHALL CONFORM TO AASHTO'S "SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS", DATED 2013.

2. THE DESIGN CALCULATIONS SHALL TAKE INTO ACCOUNT THE FOLLOWING CRITERIA:

   STRUCTURE CRITERIA
   - DESIGN LIFE AND RECURRANCE INTERVAL: 50 YEARS
   - WIND LOAD: 90 M.P.H.; REFER TO ASCE 7-05 TO VERIFY IF THE SITE IS WITHIN THE SPECIAL WIND REGION AND IF CONFIRMED, USE A WIND LOAD OF 120 MPH

   FATIGUE CRITERIA
   - FATIGUE CATEGORY: 1 FOR OVERHEAD SIGN STRUCTURES, 2 FOR STRUCTURES LOCATED ON ROADWAYS WITH A SPEED LIMIT GREATER THAN 35 MPH, 3 FOR STRUCTURES LOCATED ON ROADWAYS WITH A SPEED LIMIT LESS THAN OR EQUAL TO 35 MPH.
   - VORTEX SHEDDING: NOT REQUIRED
   - NATURAL WIND GUSTS: INCLUDE
   - TRUCK INDUCED WIND GUSTS: INCLUDE FOR ROADWAYS WHERE THE POSTED SPEED LIMIT FOR THE MAINLINE APPROACHES ARE 40 M.P.H. OR GREATER
   - GALLOPING: DO NOT INCLUDE

   FOUNDATION CRITERIA
   - CONCRETE: CONCRETE, CLASS B, VTrans' "STANDARD SPECIFICATIONS FOR CONSTRUCTION", DATED 2018, SECTION 541.
   - REINFORCING STEEL: REINFORCING STEEL, LEVEL 1 VTrans' "STANDARD SPECIFICATIONS FOR CONSTRUCTION", DATED 2018, SECTION 507.
   - GEOTECHNICAL SOIL RESISTANCES TO BE DETERMINED BY CONTRACTOR; GEOTECHNICAL DATA REPORT SUMMARIZING SUBSURFACE INVESTIGATION INCLUDED IN CONTRACT DOCUMENTS TO BE DETERMINED.

3. ANCHOR BOLTS

   A) GALVANIZED ANCHOR BOLTS WITH TWO HEXAGON NUTS AND TWO WASHERS PER BOLT SHALL BE FURNISHED WITH EACH POLE. ANCHOR BOLT PLATES, WHEN USED, SHALL ALSO BE GALVANIZED. SEE SECTION 714.09. AFTER INSTALLATION, A MINIMUM OF TWO THREADS ON THE BOLT SHOULD BE EXPOSED ABOVE THE NUT.

   B) A MINIMUM OF SIX ANCHOR BOLTS SHALL BE PROVIDED AT EACH SINGLE UPRIGHT POST FOUNDATION. A MINIMUM OF FOUR ANCHOR BOLTS SHALL BE PROVIDED AT EACH FOUNDATION OF OVERHEAD NONCANTILIVERED BRIDGE STRUCTURES.

4. FLANGE BOLTS

   ALL FLANGE BOLTS, HEX NUTS, AND WASHERS SHALL CONFORM TO SUBSECTION 714.05. THE FLANGE BOLTS SHALL BE CAPABLE OF RESISTING 133% OF THE FULL DESIGN STRESS OF THE TUBE AT ITS YIELD STRENGTH STRESS. FLANGE BOLTS SHALL TENSIONED IN ACCORDANCE WITH SUBSECTION 506.19. DIRECT TENSION INDICATORS ARE REQUIRED.

5. U-BOLTS

   U-BOLTS AND ASSOCIATED HARDWARE SHALL CONFORM TO SUBSECTION 714.04 AND GALVANIZED IN ACCORDANCE WITH SUBSECTION 726.08.

6. STEEL FOR SIGN AND SIGNAL STRUCTURES

   A) ALL MATERIAL GREATER THAN 1/2" THICK SHALL MEET THE CHARPY V-NOTCH IMPACT REQUIREMENTS FOR THE SPECIFIED MATERIAL. TESTING AND SAMPLING SHALL BE IN ACCORDANCE WITH AASHTO T 243.

   B) PIPE AND TUBES SHALL MEET THE REQUIREMENTS OF ONE OF THE FOLLOWING SPECIFICATIONS:

   CANTILEVER MAST ARM STRUCTURES:
   ASTM A595, GRADE A WELDED, ROUND, TAPERED STEEL TUBE
   ASTM A1011, GRADE 50 WELDED, ROUND, TAPERED STEEL TUBE

   NON-CANTILEVERED OVERHEAD SIGN AND SIGNAL STRUCTURES:
   ASTM A500, GRADE B WELDED AND SEAMLESS STEEL PIPE (ROUNDS ONLY)
   API 5L GRADE X42 AMERICAN PETROLIUM INSTITUE SPECIFICAITON 5L

7. PROTECTIVE COATING

   ALL STEEL COMPONENTS, EXCEPT CONCRETE REINFORCING, ARE TO BE HOT DIPPED GALVANIZED AND POWDER COATED AFTER FABRICATION. THE ASSEMBLIES SHALL BE DESIGNED AND FABRICATED TO PERMIT GALVANIZING ON ALL INTERIOR AND EXTERIOR SURFACES AND SHALL BE FREE OF POCKETS AND OTHER STRUCTURAL OBSTRUCTIONS THAT WILL NOT PERMIT PROPER DEPOSITION OF ZINC COATING. GALVANIZING SHALL BE IN ACCORDANCE WITH SECTION 752.02. POWDER COATING SHALL BE IN ACCORDANCE WITH SECTION 753.07.

8. WELDING

   A) ALL WELDING SHALL BE PERFORMED PER SECTION 506.10.

   B) ALL WELDS SHALL BE AT LEAST AS STRONG AS THE MATERIAL(S) BEING WELDED.

9. FOUNDATIONS

   A) THE EXISTING STRAIN POLE FOUNDATIONS SHALL BE ENTIRELY REMOVED. THE COST FOR REMOVAL IS INCLUDED UNDER CONTRACT ITEM 678.45, REMOVAL OF EXISTING TRAFFIC CONTROL SIGNAL SYSTEM.

   B) NEW FOOTINGS SHALL BE DESIGNED IN ACCORDANCE WITH VTrans' MATERIALS & RESEARCH ENGINEERING INSTRUCTIONS - GEOTECHNICAL DESIGN PROCEDURES FOR MAST ARM AND OVERHEAD SIGN SUPPORT FOUNDATIONS (MREI 10-01), DATED MARCH 9, 2010, A COPY OF WHICH CAN BE FOUND ON THE AGENCY'S WEBSITE: WWW.VTRANS.VERMONT.GOV.

   C) FOUNDATIONS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE FOLLOWING NOTES:
   SUBMIT ANY CHANGES TO THE CONCRETE SPECIFICATION FOR REVIEW BY THE VTrans PROJECT MANAGER.
   1. A MINIMUM EMBEDMENT DEPTH OF FIVE FEET SHALL BE USED FOR ALL SPREAD FOOTING FOUNDATIONS: MEASURED FROM THE GROUND SURFACE ELEVATION TO THE BOTTOM OF THE FOOTING ELEVATION.
   2. FOR THE DRILLED SHAFT FOUNDATIONS, CONCRETE SHALL BE POURED AGAINST UNDISTURBED SOIL UNLESS A PERMANENT CASING IS DESIGNED FOR AND APPROPRIATE SUPPORTING CALCULATIONS ARE PROVIDED. THE TOP TWO FEET OF SOIL SHALL BE NEGLECTED FOR DESIGN PURPOSES. A DISPOSABLE CIRCULAR CONCRETE FORM, IF USED, SHALL NOT BE PLACED DEEPER THAN TWO FEET, IN ORDER NOT TO REDUCE THE FRICTION BETWEEN THE SOIL AND THE CONCRETE.
   3. AS AN ALTERNATIVE TO THE DRILLED HOLES, FOOTINGS MAY BE POURED IN EXCAVATED HOLES USING THE PROPER FORMS, WHICH MUST BE REMOVED. THE EXCAVATED HOLES SHALL BE AT LEAST TWO FEET CLEAR OF THE FOUNDATION SIDES AND ONE FOOT DEEPER THAN THE FOUNDATION. CARE SHALL BE TAKEN TO AVOID EXCAVATING AROUND THE TOP OF THE FOUNDATION. THE BACKFILL MATERIAL SHALL BE COMPACTED AS DESCRIBED IN SECTION 204.08. DESIGN LIMITS AS FOR AUGURED FOOTINGS APPLIES.
   4. ANY BACKFILL PLACED ADJACENT TO THE FOOTING SHALL BE GRANULAR MATERIAL MEETING THE REQUIREMENTS FOR GRANULAR BACKFILL FOR STRUCTURES, SECTION 704.08. IT SHALL BE COMPACTED AS DESCRIBED IN SECTION 204.08.
   5. CONCRETE FOR THE FOUNDATION SHALL CONFORM TO THE REQUIREMENTS OF CONCRETE, SECTION 541 STRUCTURAL CONCRETE. IF DRILLED SHAFT FOUNDATIONS
   6. STEEL PILES IF USED, SHALL MEET THE REQUIREMENTS OF SECTION 505.
   7. WHEN THE DESIGN DEPTH OF A FOUNDATION CANNOT BE OBTAINED DUE TO UNFORESEEN FIELD CONDITIONS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER FOR THE MANUFACTURER TO OBTAIN A REVISED FOUNDATION DESIGN. SUCH A REVISION SHALL BE SUBMITTED TO THE VTrans PROJECT MANAGER AND MAY REQUIRE UP TO A FOUR-WEEK REVIEW PERIOD BY VTrans.

   D) SIGNALS/SIGNS SHALL BE INSTALLED AND LEVELED. POLES SHALL BE PLUMB. STAINLESS STEEL STANDARD GRADE WIRE CLOTH WITH A 1/4" MAXIMUM OPENING WITH MINIMUM WIRE DIAMETER OF NO. 16 AWG WITH A 2" OVERLAP SHALL USED AT POLE BASES AND SECURED WITH 3/4" STAINLESS STEEL BANDING AFTER ANCHOR BOLTS ARE FULLY TIGHTENED.

10. EACH OVERHEAD TRAFFIC SIGNAL/SIGN SUPPORT SHALL BE GROUNDED. THE GROUND SHALL CONSIST OF THE FOLLOWING:

    A) AN INTERNAL GROUND LUG OPPOSITE THE HAND HOLE

    B) A #6 (MIN.) SOFT DRAWN COPPER GROUNDING ELECTRODE CONDUCTOR

    C) A 5/8" X 8' (MIN.) COPPER CLAD GROUNDING ELECTRODE THE RESISTANCE TO GROUND SHALL BE 25 OHMS OR LESS. ADDITIONAL GROUNDING ELECTRODES MAY BE REQUIRED (MINIMUM SPACING SHALL BE 6'). WHEN A POWER SERVICE, METER AND DISCONNECT ARE ATTACHED TO A POLE, THERE SHALL BE A CONTINUOUS GROUND WIRE FROM THE METER AND DISCONNECT WITH MAY RUN INTERNAL TO THE UPRIGHT, THROUGH THE 1/2" FLEXIBLE TUBING IN THE CONCRETE BASE TO THE REQUIRED GROUNDING ELECTRODE(S). THE GROUND WIRE FROM THE POLE GROUNDING LUG, CONTROLLER CABINET AND/OR LUMINAIRE MAY ATTACH TO THIS CONTINUOUS GROUNDING ELECTRODE CONDUCTOR FROM THE SERVICE METER AND DISCONNECT. THE CONTRACTOR SHALL PERFORM A RESISTANCE TO GROUND TEST ON THE CONTINUOUS GROUNDING ELECTRODE CONDUCTOR FROM THE SERVICE METER AND DISCONNECT AND PROVIDE A WRITTEN STATEMENT TO THE AREA ELECTRICAL INSPECTOR THAT THE GROUNDING ELECTRODE CONDUCTOR IS CONTINUOUS FROM THE SERVICE METER AND DISCONNECT AND THE RESISTANCE TO GROUND IS 25 OHMS OR LESS.

11. HORIZONTAL MEMBERS SHALL BE CAMBERED AND THE VERTICAL POLES BACK RAKED, WHERE APPLICABLE, TO THE ANTICIPATED DEAD LOAD DEFLECTION PLUS THE CAMBER, IF ANY, SPECIFIED ON THE PLANS.

12. AN EQUIVALENT ALTERNATE DESIGN MAY BE SUBSTITUTED FOR THE DETAILS AND MATERIALS SHOWN.

13. THE DETAILS OF DESIGN FOR THE STRUCTURE AND FOUNDATION ARE TO BE SUPPLIED BY THE CONTRACTOR AND/OR BY THE MANUFACTURER, THE STRUCTURE SHALL BE DESIGNED TO RESIST THE MAXIMUM LOADING AS OUTLINED IN THE AASHTO STANDARD SPECIFICATIONS, SEE NOTE 2. ALL DESIGN CALCULATIONS FOR THE STRUCTURE AND THE FOUNDATION SHALL BE CHECKED AND STAMPED BY A LICENSED PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF VERMONT PRIOR TO SUBMITTAL OF THE FABRICATION DRAWINGS TO VTrans.

14. THE CONTRACTOR SHALL SUBMIT ONE DIGITAL VERSION OF THE DESIGN CALCULATIONS TO THE CITY OF WINOOSKI PROJECT MANAGER SHOWING THE FOLLOWING INFORMATION FOR EACH OF THE VERTICAL AND HORIZONTAL COMPONENTS OF THE STRUCTURE AND FOUNDATION:

    A) THE DESIGN AXIAL AND SHEAR FORCES AND BENDING AND TORSIONAL MOMENTS ACTING AT THE TOP OF THE FOUNDATION.

    B) THE DESIGN AXIAL, BENDING AND SHEAR STRESSES AND THE COMBINED STRESS RATIO.

    C) VIBRATION AND FATIGUE CALCULATIONS AS SET FORTH IN SECTION 11 OF THE AASHTO PUBLICATION REFERENCED IN NOTE 1.

    D) THE ALLOWABLE AXIAL, BENDING, AND SHEAR STRESSES.

    E) ITEMS A, B, AND D SHALL BE SHOWN FOR EACH OF THE GROUP LOADINGS (I, II, III) AND FOR THE BASIC WIND LOAD APPLIED TO THE TWO CASES OUTLINED IN THE AASHTO STANDARD SPECIFICATIONS (SEE NOTE 2), SECTION 1.2.5(D)(4).

    F) FAILURE TO SUPPLY THE PROPER DESIGN INFORMATION SHALL BE CAUSE FOR REJECTION OF THE STRUCTURE.

    G) A MINIMUM OF TWO WEEKS SHALL BE REQUIRED FOR REVIEW BY THE CITY OF WINOOSKI.

    H) EVERY MEMBER AND CONNECTION IN A CANTILEVERED OVERHEAD TRAFFIC SIGNAL SUPPORT SHALL BE DESIGNED TO PROVIDE ADDITIONAL RESIDUAL CAPACITY FOR FUTURE MODIFICATION EQUIVALENT TO A 5-SECTION TRAFFIC SIGNAL HEAD WITH A 5-INCH LOUVERED BACKPLATE LOCATED ON THE OUTERMOST EXTENT OF THE MAST ARM. OVERHEAD SIGN STRUCTURES AND NON-CANTILEVERED TRAFFIC SIGNAL STRUCTURES SHALL BE DESIGNED TO A MAXIMUM DESIGN RATIO OF 85% FOR EVERY MEMBER AND CONNECTION.

15. FABRICATION DRAWINGS IN A DIGITAL FORMAT SHALL BE SUBMITTED TO THE CITY OF WINOOSKI PROJECT MANAGER FOR APPROVAL PRIOR TO FABRICATION. THE FABRICATION DRAWINGS SHALL INCLUDE THE FOLLOWING INFORMATION:

    A) DETAILED DRAWING OF EACH COMPONENT OF THE STRUCTURE.

    B) MATERIAL SPECIFICATION FOR EACH COMPONENT OF THE STRUCTURE, EITHER BY COMPLETE SPECIFICATION OR REFERENCE TO APPLICABLE ASTM STANDARDS.

    C) NOTATION OF PROJECT NAME, PROJECT NUMBER, ROUTE NUMBER, AND STRUCTURE STATIONING TO BE INCLUDED ON EACH SHEET.

    D) DETAILS FOR LOCATION OF SIGNS/SIGNALS AND ATTACHMENT HARDWARE FOR THE SUPPORT STRUCTURE.

    E) ALL ELEVATIONS AND DIMENSIONS NECESSARY TO PROVIDE A COMPLETE SET OF RECORD PLANS.

    F) DEAD LOAD DEFLECTION AND CAMBER INFORMATION.

    G) WELDING DETAILS AND PROCEDURES ARE REQUIRED FOR ALL WELDS. PROCEDURES SHALL BE SUBMITTED FOR APPROVAL WITH REFERENCE TO EACH WELD IDENTIFIED ON THE FABRICATION DRAWINGS. SEE SECTION 506.10.

    H) BOLT TENSIONING REQUIREMENTS.

16. THE TRAFFIC SIGNALS SHALL BE MOUNTED TO THE ARM OR POLE USING A FIXED MOUNT SYSTEM, UNLESS OTHERWISE NOTED ON THE CROSS SECTION SHEET. FOR SIGNALS MOUNTED ON A MAST ARM, THE MAST ARM AND MOUNTING POINT SHALL BE IN THE MIDDLE OF THE SIGNAL HEAD.

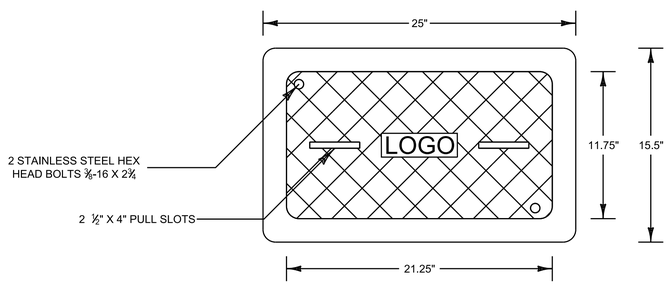
17. BASE PLATES SHALL BE STAMPED WITH POLE INFORMATION INCLUDING: POLE DIAMETER, HEIGHT, YIELD STRENGTH, AND GAUGE; ARM INFORMATION SHALL INCLUDE: HORIZONTAL MEMBER DIAMETER, LENGTH, YIELD STRENGTH, AND GAUGE. THE INFORMATION SHALL BE STAMPED ON A METAL TAG RIVETED TO THE POLE NEAR THE HAND HOLE.

18. SEE STANDARD(S) E-171A FOR ADDITIONAL NOTES AND INFORMATION.

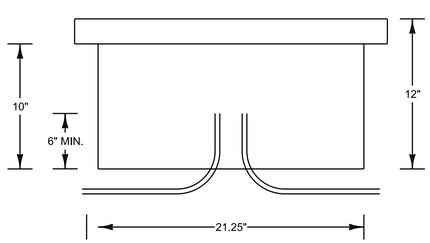
19. THE CONTRACTOR SHALL NOTIFY THE ENGINEER TO SCHEDULE A FINAL INSPECTION AND OBTAIN WRITTEN APPROVAL OF WORK PER SECTION 678.17.

JUNCTION BOX (HEAVY DUTY) NOTES:

1. JUNCTION BOX SHALL BE CONSTRUCTED WITH PRECAST MONOLITHIC POLYMER CONCRETE.
2. CONDUIT SIZE SHALL BE AS SHOWN ON THE PLANS.
3. EXCAVATION FOR JUNCTION BOX SHALL INCLUDE EXCAVATION OF AN AREA ONE FOOT OUTSIDE AND EXTENDING ONE FOOT BELOW THE FINISH GRADE OF THE BOTTOM OF THE JUNCTION BOX. ONE FOOT OF GRANULAR MATERIAL THAT MEETS THE REQUIREMENTS OF SUBSECTION 703.04, SHALL BE PLACED IN THE EXCAVATED AREA AND PROPERLY COMPACTED PRIOR TO INSTALLATION. COMPACTION SHALL MEET REQUIREMENTS OF SUBSECTION 301.06. WHERE NECESSARY AND AT THE DISCRETION OF THE ENGINEER, A DRAINAGE PIPE (MINIMUM 3" PERFORATED PVC) SHALL BE PROVIDED FROM THE JUNCTION BOX TO THE NEAREST APPROPRIATE OUTLET. ANY EXCAVATION AND DRAINAGE SHALL BE INCIDENTAL TO 900.620 SPECIAL PROVISION (JUNCTION BOX, HEAVY DUTY).
4. COVER BOLTS SHALL BE STAINLESS STEEL.
5. A SUFFICIENT COVER GASKET SHALL BE PROVIDED TO REDUCE THE INFLOW OF FLUIDS. THE COVER GAPS SHALL BE FILLED WITH CAULKING JUST PRIOR TO PROJECT COMPLETION.
6. WHEN INSTALLING ON SLOPES, JUNCTION BOXES SHALL BE TIPPED TO MATCH THE EXISTING SLOPE UP TO A 1 ON 4 SLOPE. EXCAVATED MATERIAL SHALL BE USED TO SHAPE AROUND THE LOW SIDE OF THE BOX TO THE SATISFACTION OF THE ENGINEER AND SHALL BE MOW-ABLE. IF SUFFICIENT MATERIAL IS NOT AVAILABLE, MATERIAL MEETING THE REQUIREMENTS OF EARTH BORROW (SUBSECTION 703.02) SHALL BE USED. PAYMENT SHALL BE CONSIDERED INCIDENTAL TO 900.620 SPECIAL PROVISION (JUNCTION BOX, HEAVY DUTY).
7. ALL COVERS SHALL BE FLUSH WITH THE BOXES AND FRAMES.
8. ALL CONDUIT ENTERING THE JUNCTION BOX THROUGH A CUTOUT SHALL HAVE BUSHINGS TO PROTECT THE CABLES.
9. ALL JUNCTION BOX COVERS SHALL BE SKID RESISTANT.
10. ALL COVERS SHALL HAVE THE LOGO PUNCHED, FORMED OR STAMPED INTO A FLAT RECTANGULAR AREA IN ACCORDANCE WITH STANDARD E-173. MINIMUM LETTER HEIGHT IS ½". MINIMUM DEPTH IS 1/16".
11. DIMENSIONS SHOWN ARE MINIMUM SIZE REQUIRED. EQUIVALENT JUNCTION BOX OF LARGER DIMENSIONS MAY BE USED.
12. LOAD RATING SHALL BE NO LESS THAN 15,000 LBS.
13. ALL JUNCTION BOX SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 678.
14. ALL JUNCTION BOXES SHALL MEET THE ANSI/SCTE 77-2007, TIER 15 SPECIFICATION FOR UNDERGROUND ENCLOSURE INTEGRITY.



PLAN VIEW
NOT TO SCALE



ELEVATION VIEW
NOT TO SCALE

STREET LIGHTING NOTES:

BRACKET ARMS SHALL BE TRUSS-STYLE TYPE AND SHALL BE DESIGNED IN ACCORDANCE WITH THE 2013 AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINARIES AND TRAFFIC SIGNALS AND ITS LATEST REVISIONS.

STREET LIGHT ASSEMBLIES SHALL BE PAINTED FLAT BLACK AND HAVE FLAT BLACK HOUSINGS. FINISHES SHALL BE PER SECTION 679 OF THE LATEST SPECIFICATIONS FOR CONSTRUCTION.

LUMINAIRES
A. LUMINAIRES SHALL BE ONE OF THE FOLLOWING OR APPROVED EQUAL:
   1. BETA LEDWAY IP-SERIES
   2. HOLOPHANE LEDGENDS SERIES
   3. LRL LED NXT SERIES
B. ALL LUMINAIR HOUSINGS SHALL BE EQUIPPED WITH BIRD SPIKES.

WIRING AND GROUNDING
A. CIRCUIT CONDUCTORS SHALL BE CLEARLY IDENTIFIED BY CORROSION RESISTANT TAGS INDICIATION CIRCUIT NUMBERS AND PANEL SOURCES AT EVERY LIGHT POLE AND HAND HOLE.
B. ALL CONDUIT MUST INCLUDE A GROUNDING CONDUCTOR. RIGID STEEL CONDUIT SHALL BE PROPERLY CONNECTED AT THE JOINTS SO AS TO BE WATERTIGHT AND MAINTAIN ELECTRICAL CONTINUITY AND HAVE GROUNDING BUSHINGS TO ACT AS A GROUNDING CONDUCTOR.
C. THE GROUNDING CONDUCTOR SHALL BE CONTINUOUS.
D. ALUMINUM WIRE SHALL NOT BE USED FOR GROUND WIRE.

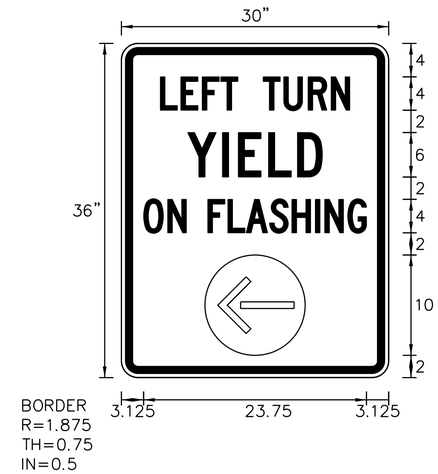
STREET LIGHTING CONTROL DEVICE
A. STREET LIGHTING CONTROL DEVICE SHALL BE A PHOTOCELL MOUNTED ON THE SIDE OF THE POWER STANCHION.
B. STREET LIGHTING EQUIPMENT SHALL BE WIRED SUCH THAT ONE CONTROL DEVICE COMMANDS THE FUNCTIONS ASSOCIATED WITH POWERING UP AND DOWN ALL LUMINAIRES.
C. THE RELAY SHALL HAVE A TIME DELAY TO AVOID OPERATION DUE TO LIGHTING AND TRANSIENT LIGHT.
D. IN THE EVENT OF A FAILURE, THE RELAY SHALL FAIL SAFE, THAT IS, THE LIGHTS ARE LEFT ON IN THE EVENT OF ANY FAILURE IN THE ELECTRICAL CONDUIT.

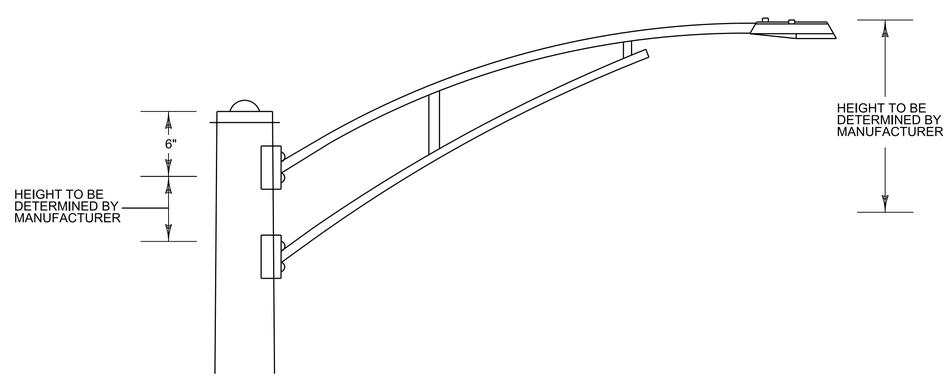
LIGHT FIXTURE OPTION A:
MANUFACTURER: HOLOPHANE
LIGHT FIXTURE: LEDGEND - LEDG-084-70-4K-AS-2H-L4
MOUNTING HEIGHT: 33 FEET

LIGHT FIXTURE OPTION B:
MANUFACTURER: CREE
LIGHT FIXTURE: LEDWAY 700MA-80LED-4K-TYPE IV
MOUNTING HEIGHT: 33 FEET

LIGHT FIXTURE OPTION C:
MANUFACTURER: LUMEC
LIGHT FIXTURE: RX2 LEDGINE RX2-96-G2-530ma-4K-Type IV
MOUNTING HEIGHT: 33 FEET

ALL LIGHT FIXTURES WERE MODELED FOR THIS INTERSECTION TO ACHIEVE A MINIMUM ILLUMINATION LEVELS BASED ON THE 2015 VERMONT AGENCY OF TRANSPORTATION LIGHTING DESIGN GUIDE; "INTERSECTION AND ROUNDABOUT CRITERIA" PG 28. FOR AN INTERSECTION CLASSIFICATION OF "COLLECTOR/LOCAL".

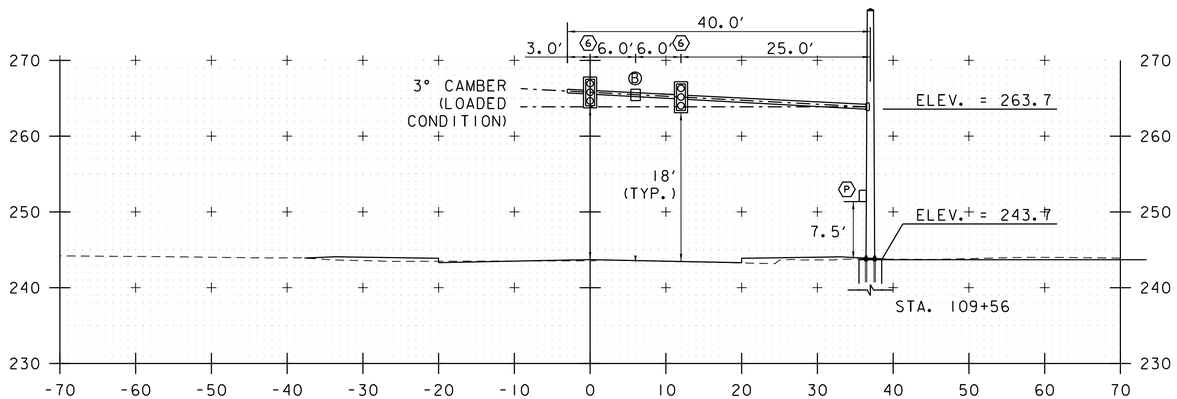




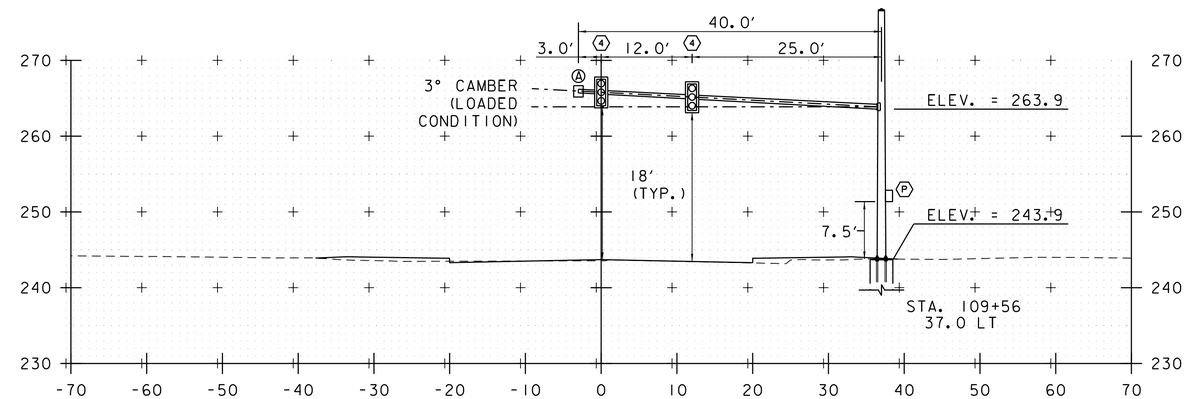
LUMINAIRE BRACKET ARM DETAIL
NOT TO SCALE

PROJECT NAME: WINOOSKI MAIN STREET	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_bdr_tsps.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P.DETRICK	DRAWN BY: C.K.FORD
DESIGNED BY: E.L.QUALLEN	CHECKED BY: E.P.DETRICK
TRAFFIC SIGNAL DETAIL SHEET #2	SHEET 105 OF 178

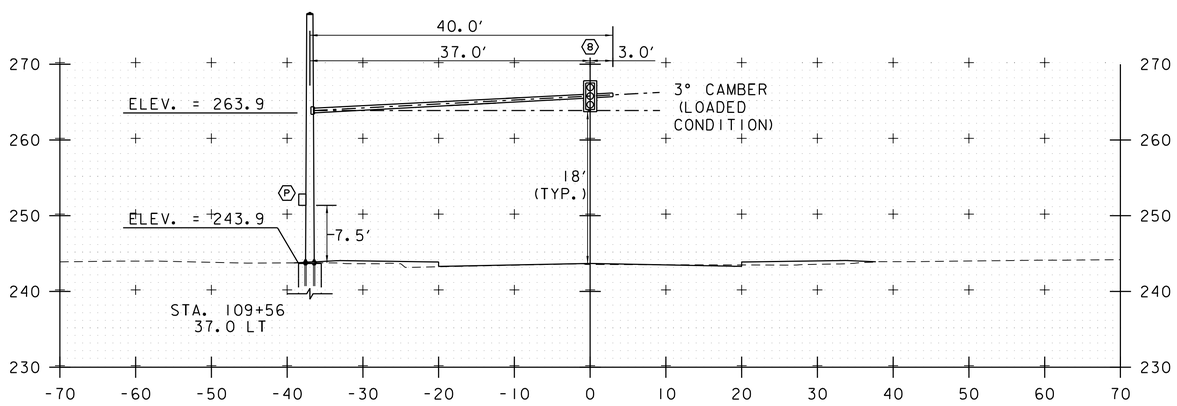
INTERSECTION OF MAINT STREET AND EAST/WEST SPRING STREET



IN LINE WITH MAST ARM
LOOKING SOUTH ALONG MAIN STREET
MAP-1



IN LINE WITH MAST ARM
LOOKING WEST ALONG EAST SPRING STREET
MAP-1



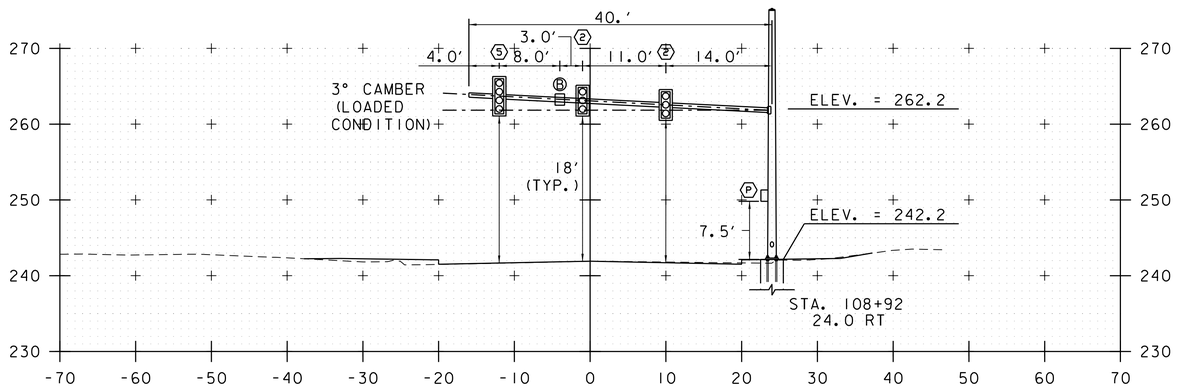
IN LINE WITH MAST ARM
LOOKING EAST ALONG WEST SPRING STREET
MAP-1

NOTES:

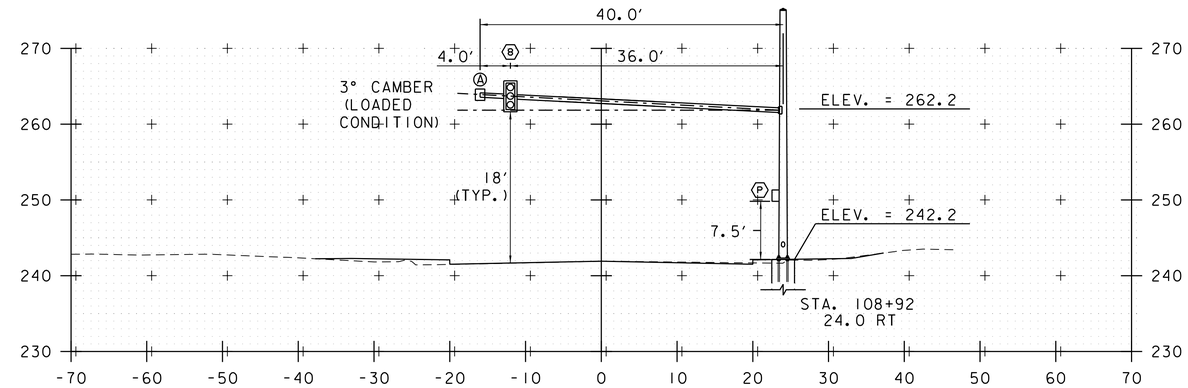
1. DISTANCE FROM GROUND TO BOTTOM OF SIGNAL HEAD SHALL BE 17' MIN. AND 19' MAX.
2. PLEASE REFER TO BORING LOG SHEETS FOR BORING INFORMATION. FOR ADDITIONAL INFORMATION PLEASE REFER TO THE GEOTECHNICAL REPORT IN THE CONTRACT DOCUMENTS.
3. SIGNAL HEADS SHALL BE MOUNTED ON THE VERTICAL CENTER OF THE MAST ARM.

PROJECT NAME: WINOOSKI MAIN STREET	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_bdr_tsps.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P.DETRICK	DRAWN BY: C.K.FORD
DESIGNED BY: E.L.QUALLEN	CHECKED BY: E.P.DETRICK
MAST ARM DETAIL SHEET #2 (1 OF 3)	SHEET 106 OF 178

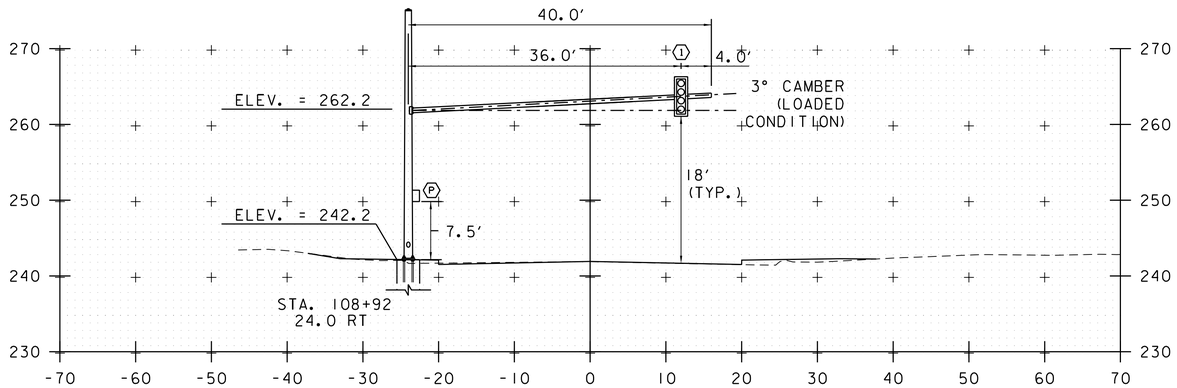
INTERSECTION OF MAINT STREET AND EAST/WEST SPRING STREET



IN LINE WITH MAST ARM
LOOKING NORTH ALONG MAIN STREET
MAP-2



IN LINE WITH MAST ARM
LOOKING EAST ALONG WEST SPRING STREET
MAP-2



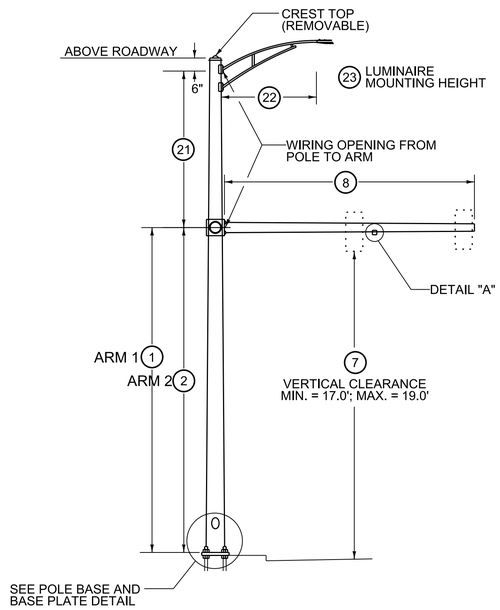
IN LINE WITH MAST ARM
LOOKING SOUTH ALONG MAIN STREET
MAP-2

NOTES:

1. DISTANCE FROM GROUND TO BOTTOM OF SIGNAL HEAD SHALL BE 17' MIN. AND 19' MAX.
2. PLEASE REFER TO BORING LOG SHEETS FOR BORING INFORMATION. FOR ADDITIONAL INFORMATION PLEASE REFER TO THE GEOTECHNICAL REPORT IN THE CONTRACT DOCUMENTS.
3. SIGNAL HEADS SHALL BE MOUNTED ON THE VERTICAL CENTER OF THE MAST ARM.

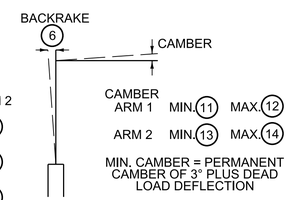
PROJECT NAME: WINOOSKI MAIN STREET	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_bdr_tsps.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P.DETRICK	DRAWN BY: C.K.FORD
DESIGNED BY: E.L.QUALLEN	CHECKED BY: E.P.DETRICK
MAST ARM DETAIL SHEET #2 (2 OF 3)	SHEET 107 OF 178

MAST ARM, POLE & FOOTING DETAILS



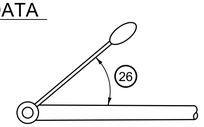
TYPE B MAST POLE & ARM

POLE BASE DIAMETER	(3)	
POLE GAUGE	(4)	
POLE TAPER RATE	(5)	
	ARM 1	ARM 2
ARM DIAMETER	(15)	(18)
ARM GAUGE	(16)	(19)
ARM TAPER RATE	(17)	(20)

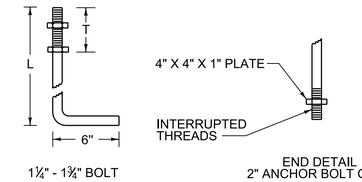


CAMBER DATA

LUMINAIRE ARM RISE

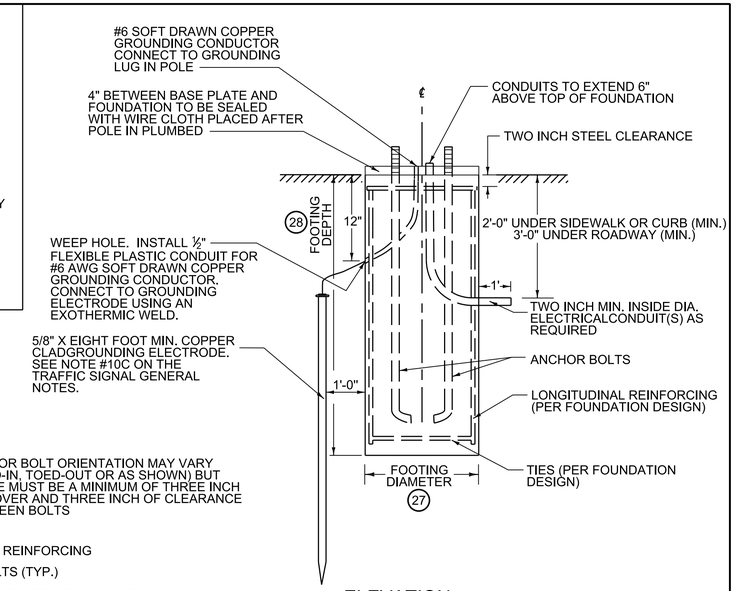


LUMINAIRE ORIENTATION

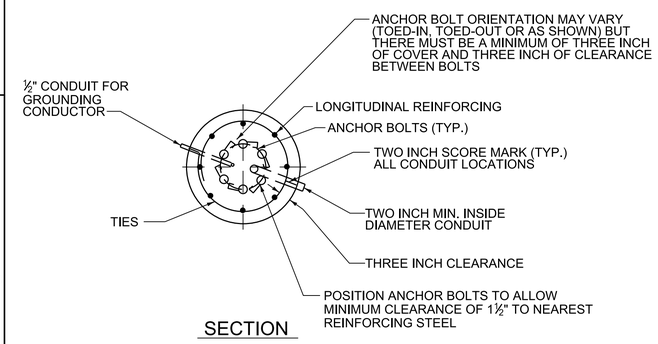


ANCHOR BOLT DETAIL

NOTE:
1. SEE SECTION 678.09 FOR MORE INFORMATION REGARDING BOLT TIGHTENING.

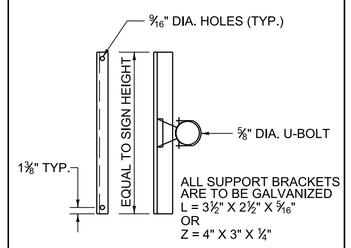


ELEVATION



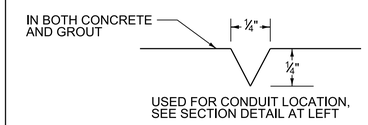
SECTION

MAST POLE FOOTING DETAIL
(SPREAD FOOTINGS OR PILES ARE OPTIONAL)



SIGN ON SINGLE MAST ARM

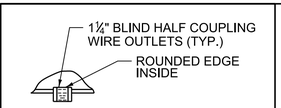
SIGN BRACKET DETAILS



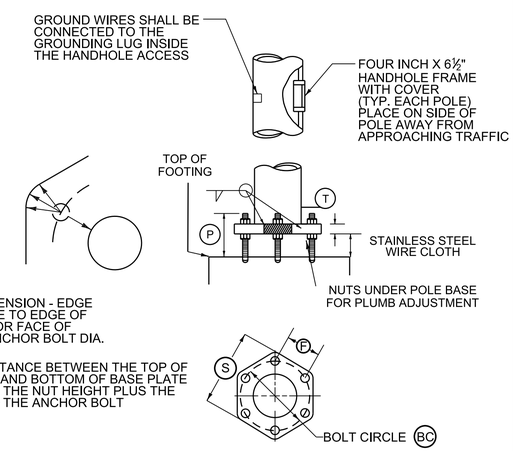
USED FOR CONDUIT LOCATION, SEE SECTION DETAIL AT LEFT

2" SCORE MARK DETAIL

NOTES
1. SEE TRAFFIC SIGNAL GENERAL NOTES FOR ADDITIONAL INFORMATION.
2. MANUFACTURER TO DETERMINE TYPE OF STRUCTURE REQUIRED.
3. MONOTUBES SHALL NOT BE USED FOR SIGNS OVER 10' HIGH.
4. MINIMUM CLEARANCE FROM SIGNS TO ANY TRAVEL LANE SHALL BE 17'.
5. CONTRACTOR SHALL VERIFY ALL GROUND ELEVATIONS.
6. LUMINAIRES, ALL ASSOCIATED EQUIPMENT AND LABOR TO INSTALL SHALL BE PAID FOR UNDER CONTRACT ITEM NOS. 679.47 AND 679.50.



DETAIL "A"



POLE BASE AND BASE PLATE DETAIL

STRUCTURE DIMENSIONS (IN FEET)

POLE DATA									ARM DATA														LIGHTING DATA						FOOTING DATA		BASE PLATE / BOLT DATA					
POLE	TYPE	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(BC)	(F)	(S)	(T)	(P)	ANCHOR BOLT SIZE
#1	B	20'						17'	45'			X										MAN	12'	X	MAN	MAN	0	MAN	MAN						
#2	B	20'						17.5'	45'			X										MAN	12'	X	MAN	MAN	0	MAN	MAN						

MAN = TO BE DETERMINED BY MANUFACTURER

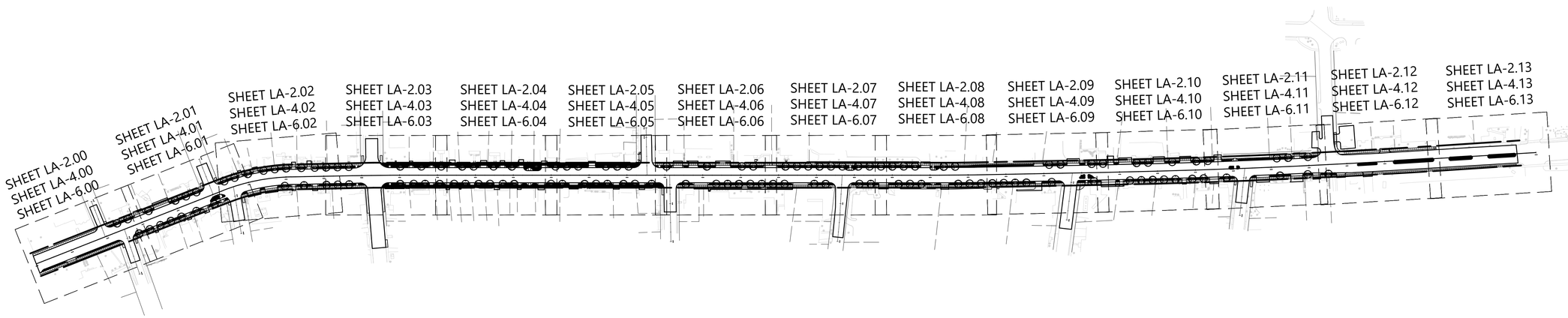
SINGLE MAST ARM CANTILEVER / FOOTING DETAIL SHEET

vhb

PROJECT NAME: WINOOSKI MAIN STREET
PROJECT NUMBER: 58011.00

FILE NAME: 58011_bdr_tsps.dgn
PROJECT LEADER: E.P.DETRICK
DESIGNED BY: E.L.QUALLEN
MAST ARM DETAIL SHEET #2 (3 OF 3)

PLOT DATE: 11/27/2019
DRAWN BY: C.K.FORD
CHECKED BY: E.P.DETRICK
SHEET 108 OF 178



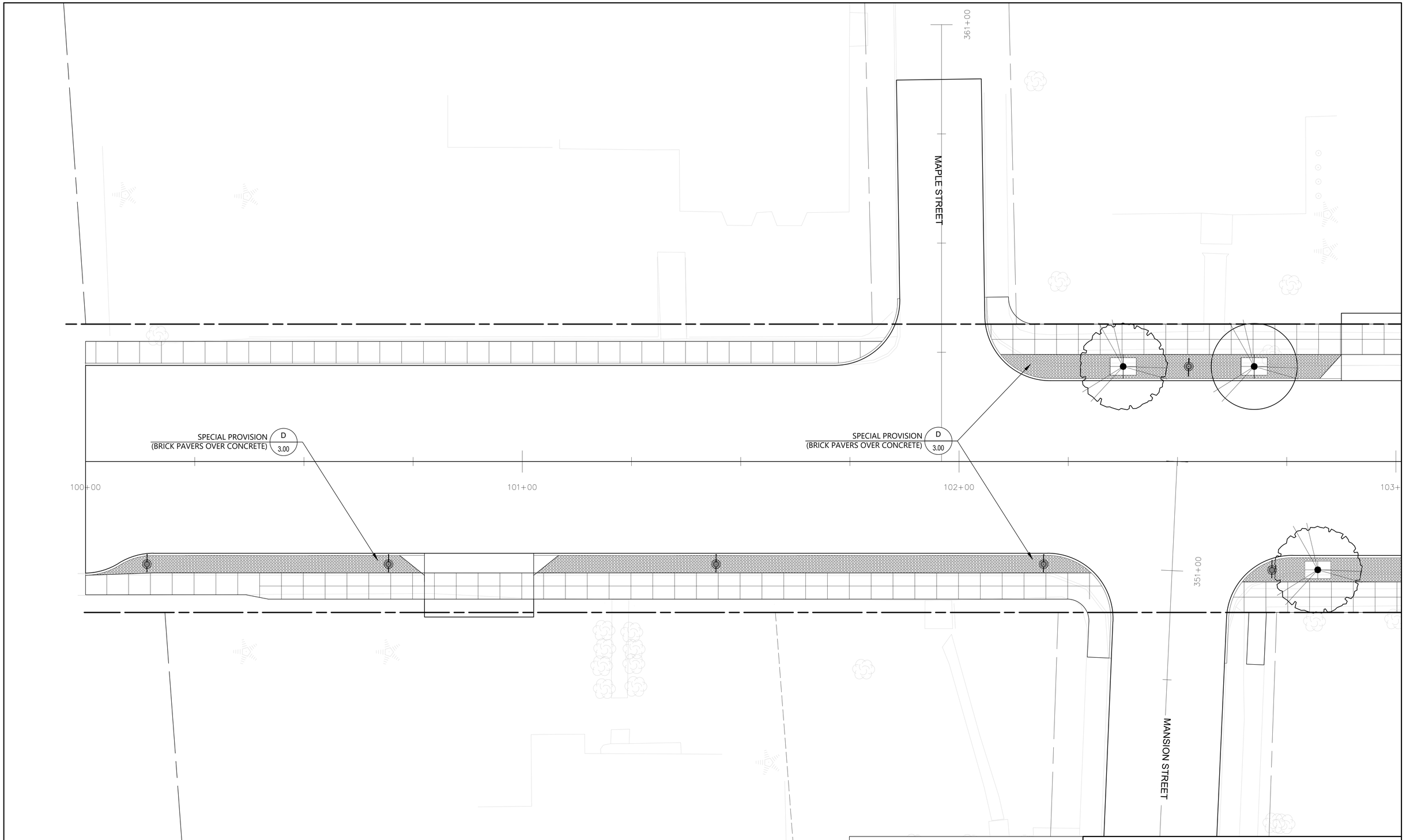
0 75 150 300 Feet

vhb

PROJECT NAME: WINOOSKI MAIN ST.
PROJECT NUMBER: 58011.00

FILE NAME:
PROJECT LEADER: E.P.DETRICK
DESIGNED BY: M.K.WILLARD
LA.1.00 LANDSCAPE KEY PLAN

PLOT DATE: 11/26/2019
DRAWN BY: M.K.WILLARD
CHECKED BY: E.P.DETRICK
SHEET 109 OF 178



0 5 10 20 Feet

vhb

PROJECT NAME: WINOOSKI MAIN ST.

PROJECT NUMBER: 58011.00

FILE NAME:

PROJECT LEADER: E.P.DETRICK

DESIGNED BY: M.K.WILLARD

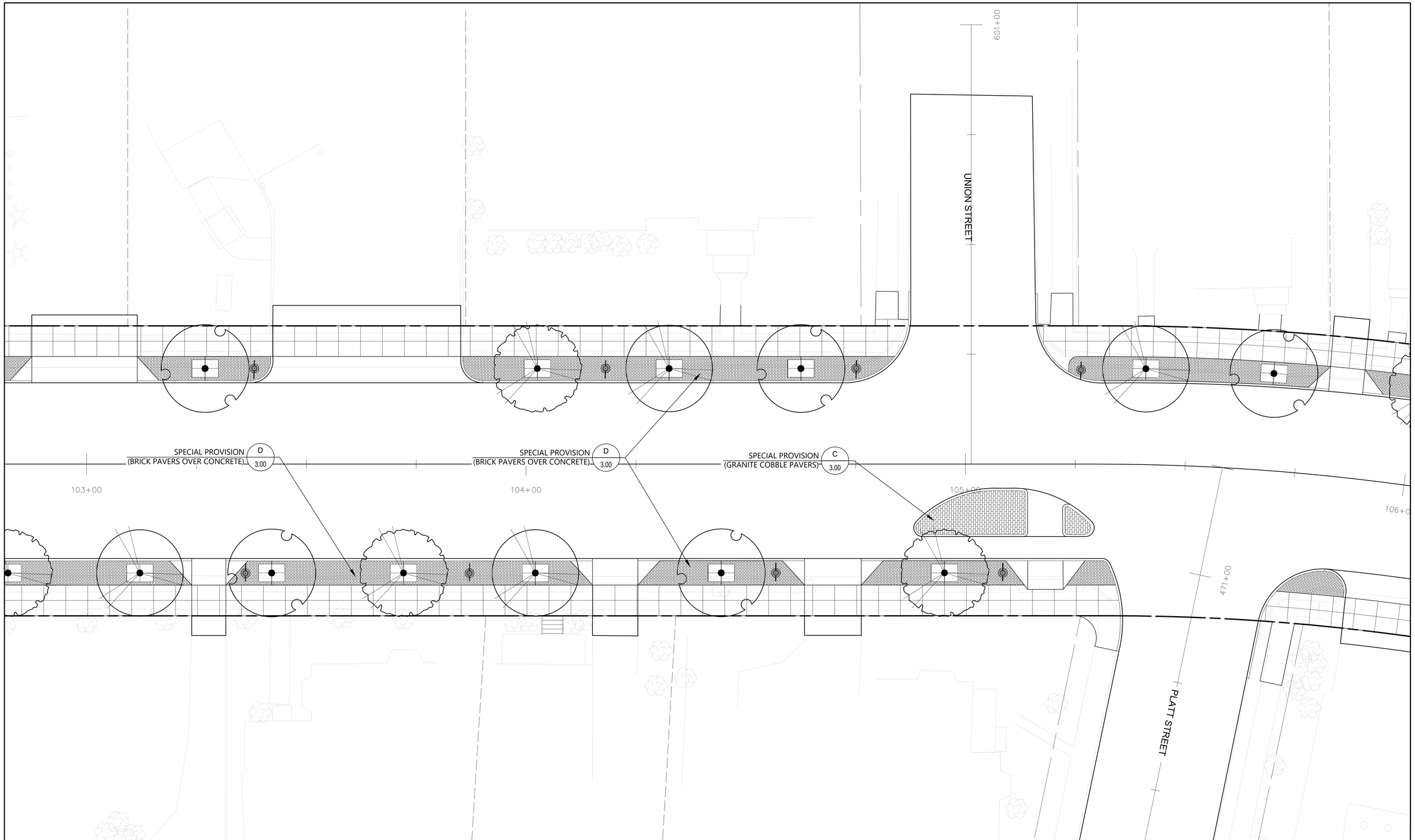
LA.2.00 LAYOUT AND MATERIALS

PLOT DATE: 11/26/2019

DRAWN BY: M.K.WILLARD

CHECKED BY: E.P.DETRICK

SHEET 110 OF 178



0 5 10 20 Feet

vhb

PROJECT NAME: WINOOSKI MAIN ST.

PROJECT NUMBER: 58011.00

FILE NAME:

PROJECT LEADER: E.P.DETRICK

DESIGNED BY: M.K.WILLARD

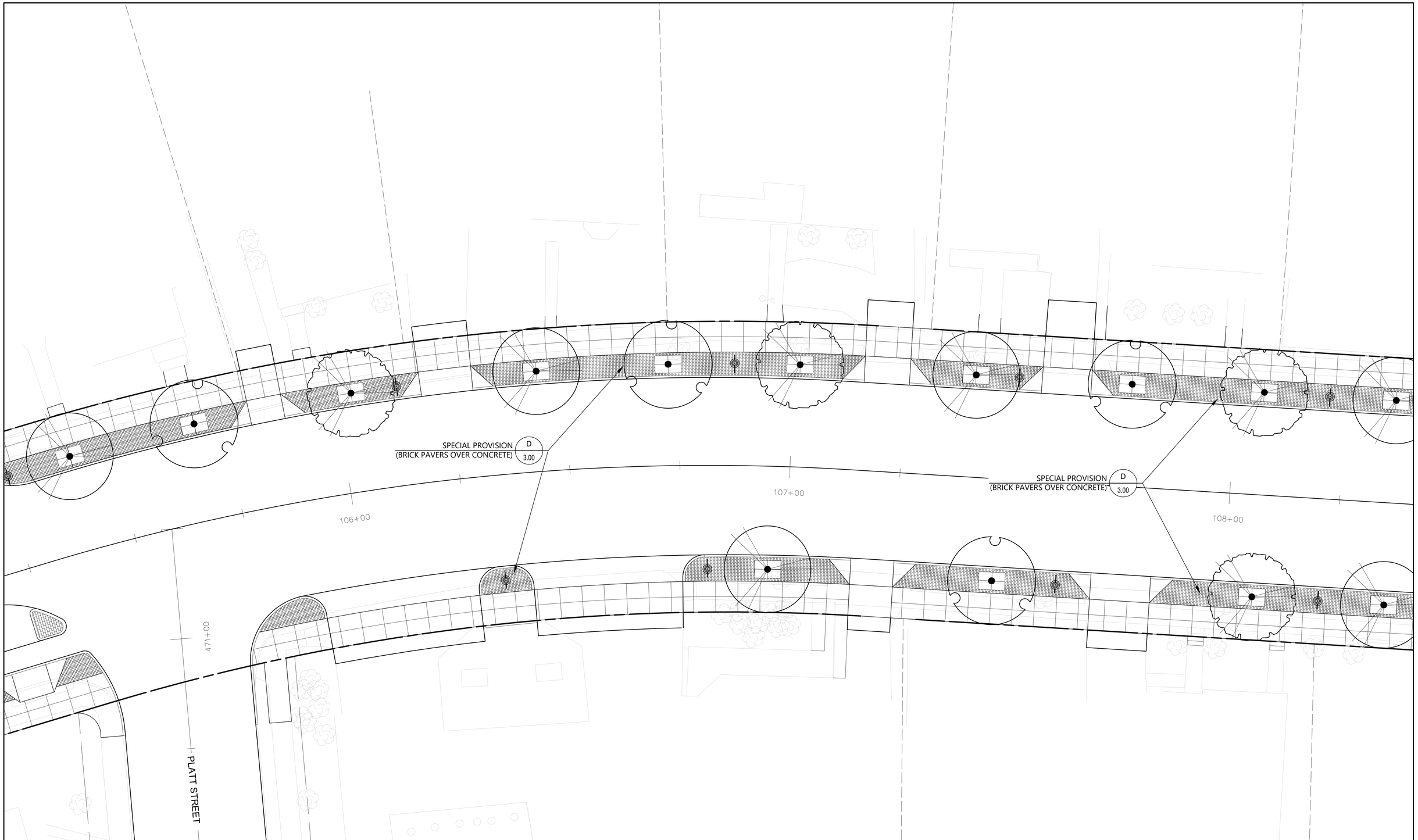
LA.2.01 LAYOUT AND MATERIALS

PLOT DATE: 11/26/2019

DRAWN BY: M.K.WILLARD

CHECKED BY: E.P.DETRICK

SHEET 111 OF 178



0 5 10 20 Feet

vhb

PROJECT NAME: WINOOSKI MAIN ST.

PROJECT NUMBER: 58011.00

FILE NAME:

PROJECT LEADER: E.P.DETRICK

DESIGNED BY: M.K.WILLARD

LA.2.02 LAYOUT AND MATERIALS

PLOT DATE: 11/26/2019

DRAWN BY: M.K.WILLARD

CHECKED BY: E.P.DETRICK

SHEET 112 OF 178

SPRING STREET

SPECIAL PROVISION (D / 3.00)
(BRICK PAVERS OVER CONCRETE)

SPECIAL PROVISION (D / 3.00)
(BRICK PAVERS OVER CONCRETE)

109+00

110+00

111+00

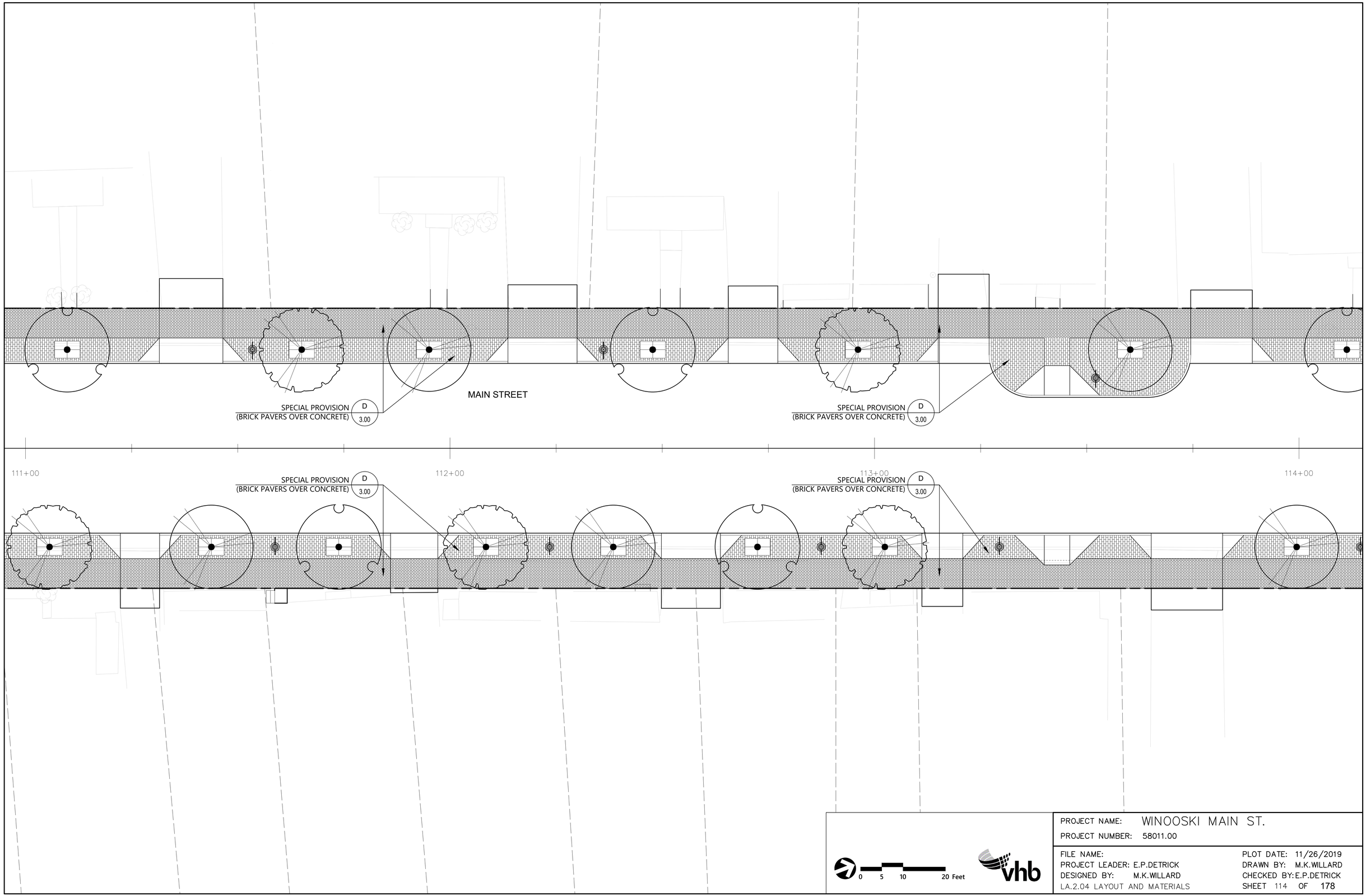
SPECIAL PROVISION (D / 3.00)
(BRICK PAVERS OVER CONCRETE)

SPRING STREET

0 5 10 20 Feet

vhb

PROJECT NAME: WINOOSKI MAIN ST.	
PROJECT NUMBER: 58011.00	
FILE NAME:	PLOT DATE: 11/26/2019
PROJECT LEADER: E.P.DETRICK	DRAWN BY: M.K.WILLARD
DESIGNED BY: M.K.WILLARD	CHECKED BY: E.P.DETRICK
LA.2.03 LAYOUT AND MATERIALS	SHEET 113 OF 178



PROJECT NAME: WINOOSKI MAIN ST.

PROJECT NUMBER: 58011.00

FILE NAME:

PROJECT LEADER: E.P.DETRICK

DESIGNED BY: M.K.WILLARD

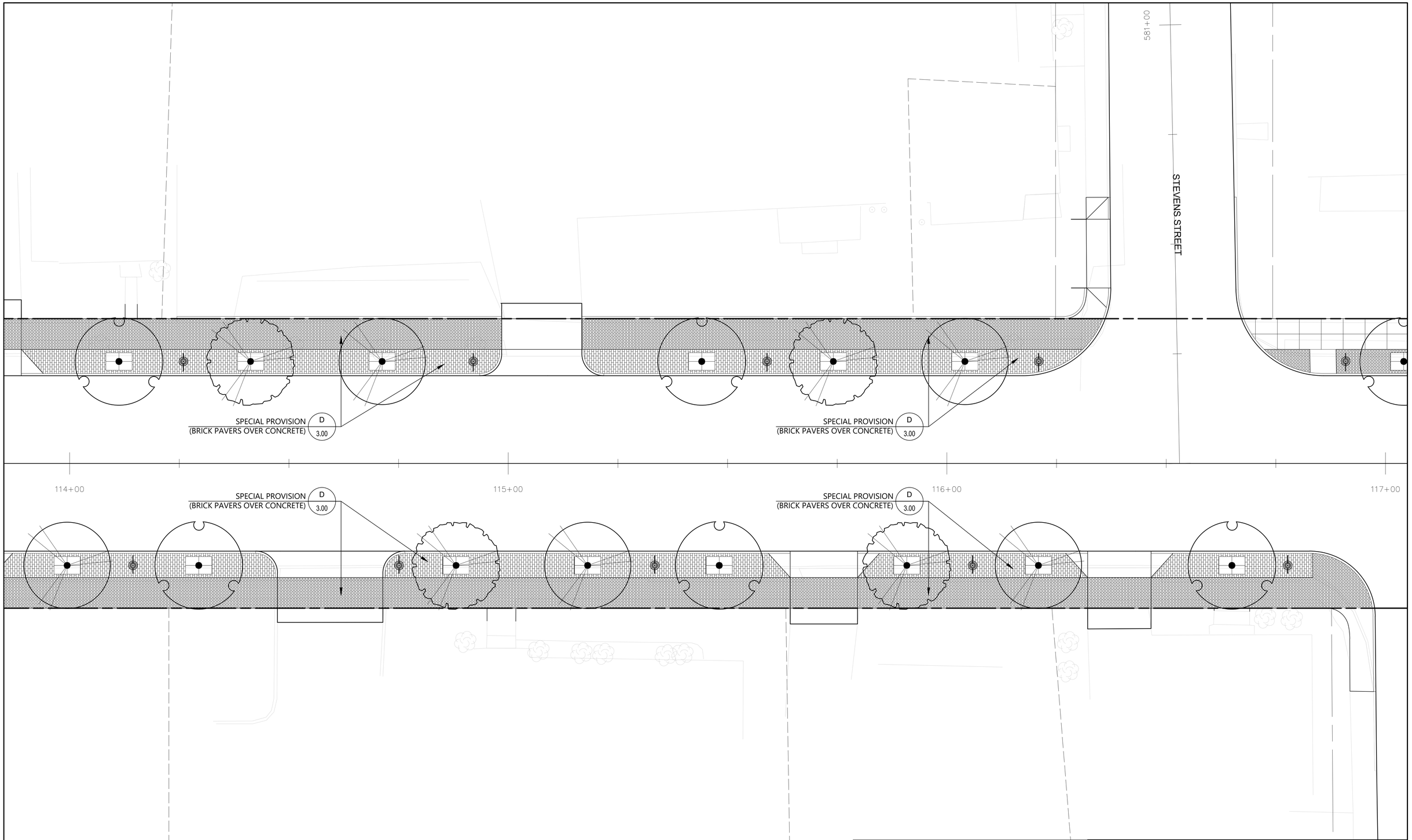
LA.2.04 LAYOUT AND MATERIALS

PLOT DATE: 11/26/2019

DRAWN BY: M.K.WILLARD

CHECKED BY: E.P.DETRICK

SHEET 114 OF 178



PROJECT NAME: WINOOSKI MAIN ST.

PROJECT NUMBER: 58011.00

FILE NAME:

PROJECT LEADER: E.P.DETRICK

DESIGNED BY: M.K.WILLARD

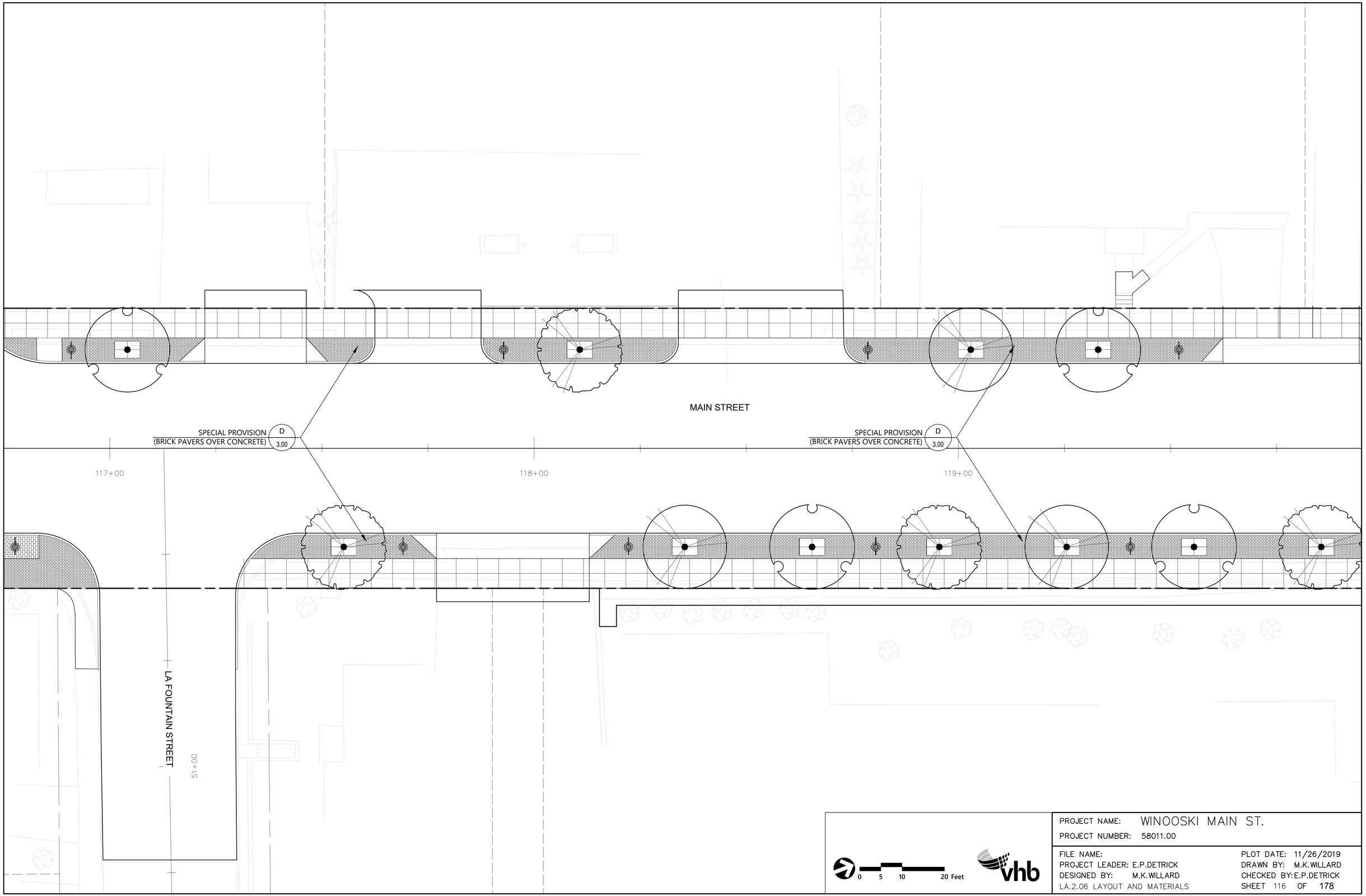
LA.2.05 LAYOUT AND MATERIALS

PLOT DATE: 11/26/2019

DRAWN BY: M.K.WILLARD

CHECKED BY: E.P.DETRICK

SHEET 115 OF 178



PROJECT NAME: WINOOSKI MAIN ST.

PROJECT NUMBER: 58011.00

FILE NAME:

PROJECT LEADER: E.P.DETRICK

DESIGNED BY: M.K.WILLARD

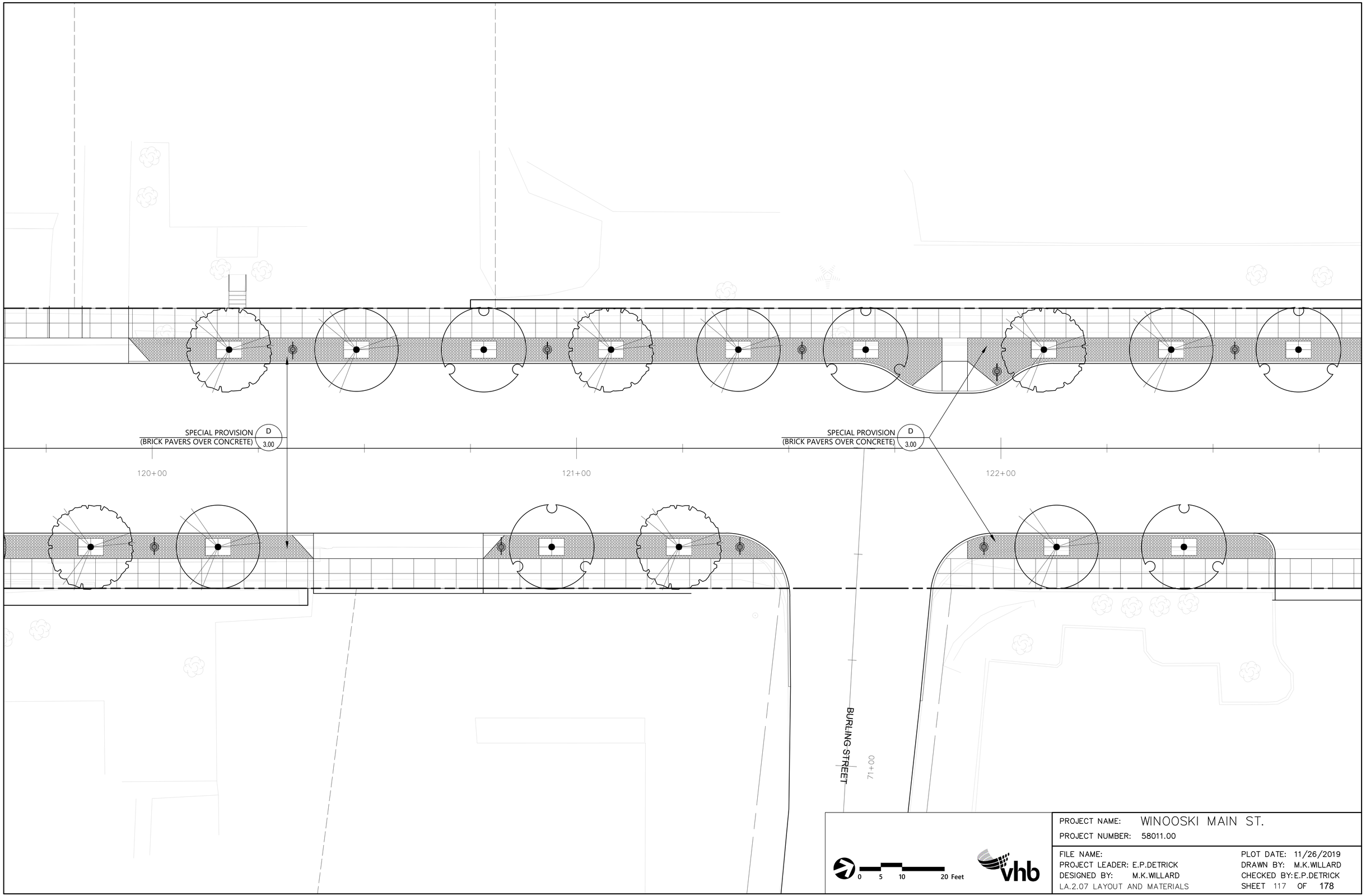
LA.2.06 LAYOUT AND MATERIALS

PLOT DATE: 11/26/2019

DRAWN BY: M.K.WILLARD

CHECKED BY: E.P.DETRICK

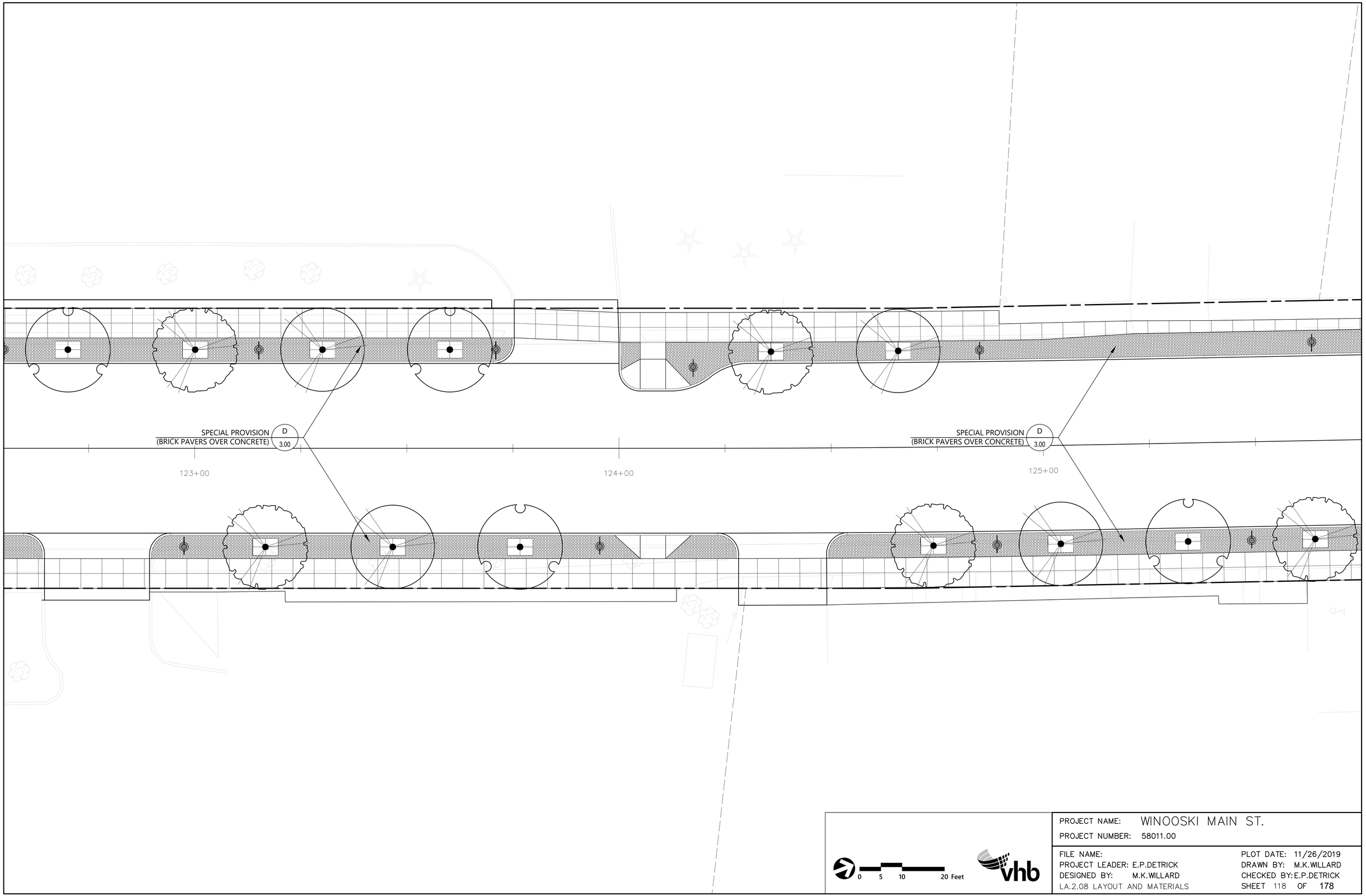
SHEET 116 OF 178



PROJECT NAME: WINOOSKI MAIN ST.
PROJECT NUMBER: 58011.00

FILE NAME:
PROJECT LEADER: E.P.DETRICK
DESIGNED BY: M.K.WILLARD
LA.2.07 LAYOUT AND MATERIALS

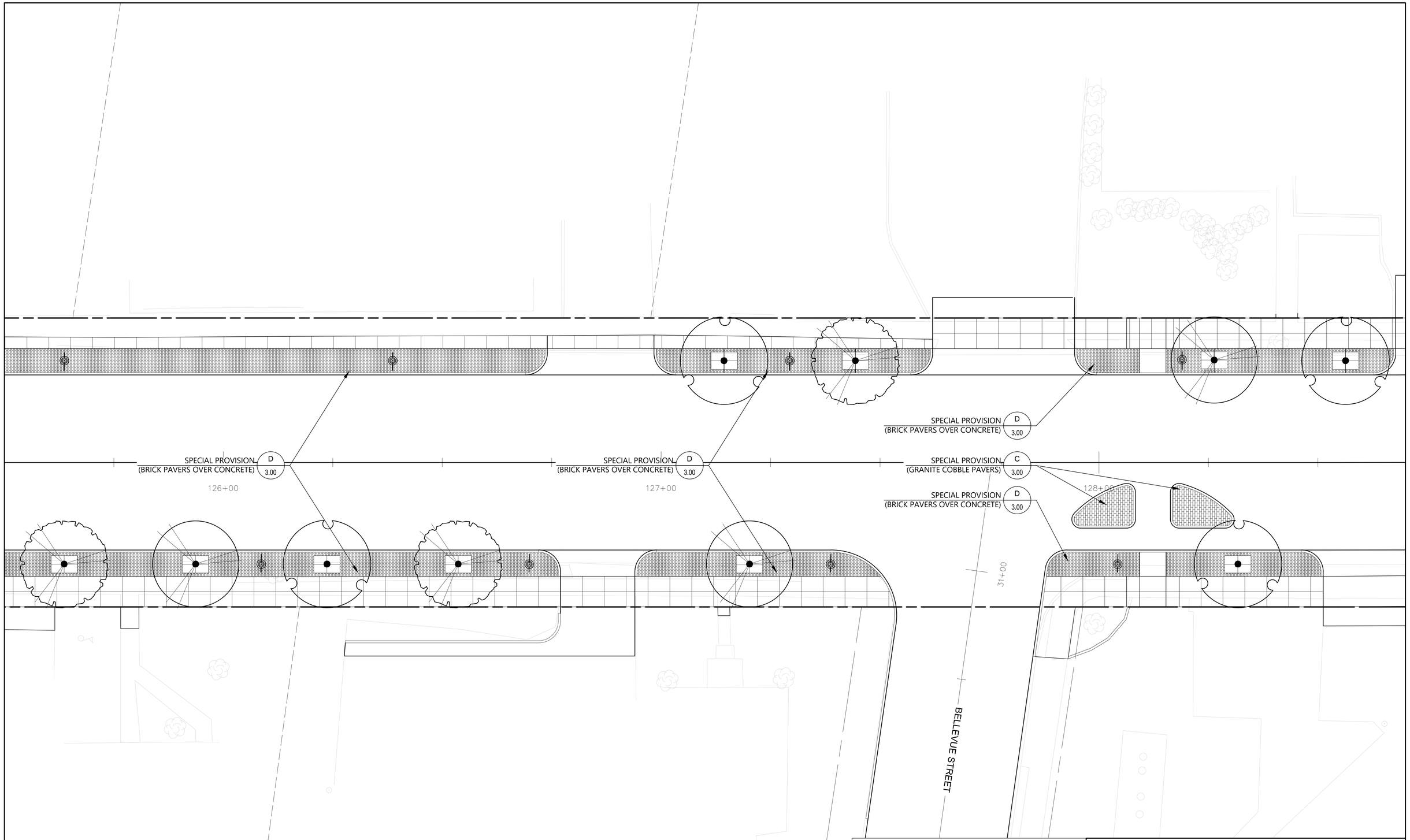
PLOT DATE: 11/26/2019
DRAWN BY: M.K.WILLARD
CHECKED BY: E.P.DETRICK
SHEET 117 OF 178



PROJECT NAME: WINOOSKI MAIN ST.
PROJECT NUMBER: 58011.00

FILE NAME:
PROJECT LEADER: E.P.DETRICK
DESIGNED BY: M.K.WILLARD
LA.2.08 LAYOUT AND MATERIALS

PLOT DATE: 11/26/2019
DRAWN BY: M.K.WILLARD
CHECKED BY: E.P.DETRICK
SHEET 118 OF 178



0 5 10 20 Feet

vhb

PROJECT NAME: WINOOSKI MAIN ST.

PROJECT NUMBER: 58011.00

FILE NAME:

PROJECT LEADER: E.P.DETRICK

DESIGNED BY: M.K.WILLARD

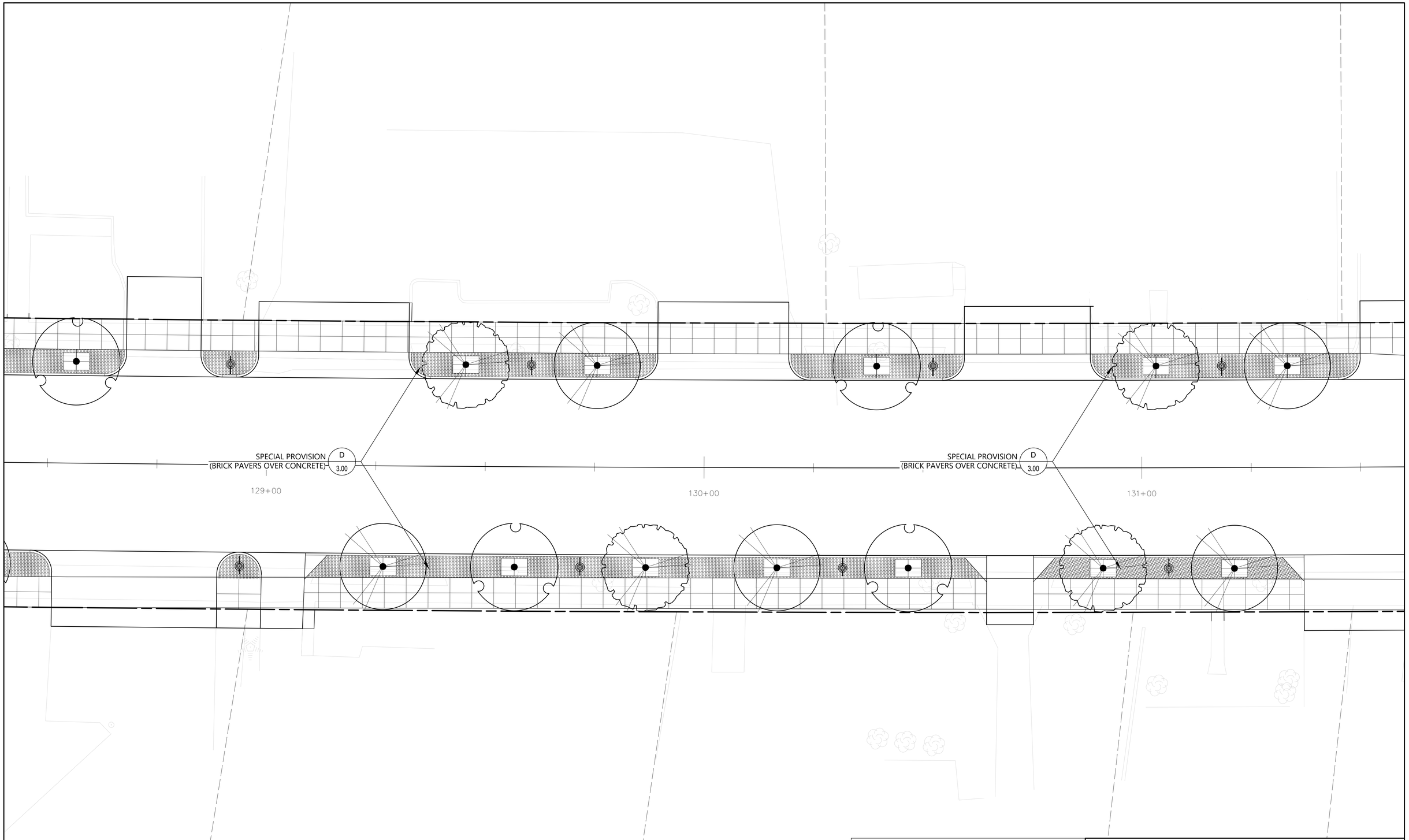
LA.2.09 LAYOUT AND MATERIALS

PLOT DATE: 11/26/2019

DRAWN BY: M.K.WILLARD

CHECKED BY: E.P.DETRICK

SHEET 119 OF 178



0 5 10 20 Feet

vhb

PROJECT NAME: WINOOSKI MAIN ST.

PROJECT NUMBER: 58011.00

FILE NAME:

PROJECT LEADER: E.P.DETRICK

DESIGNED BY: M.K.WILLARD

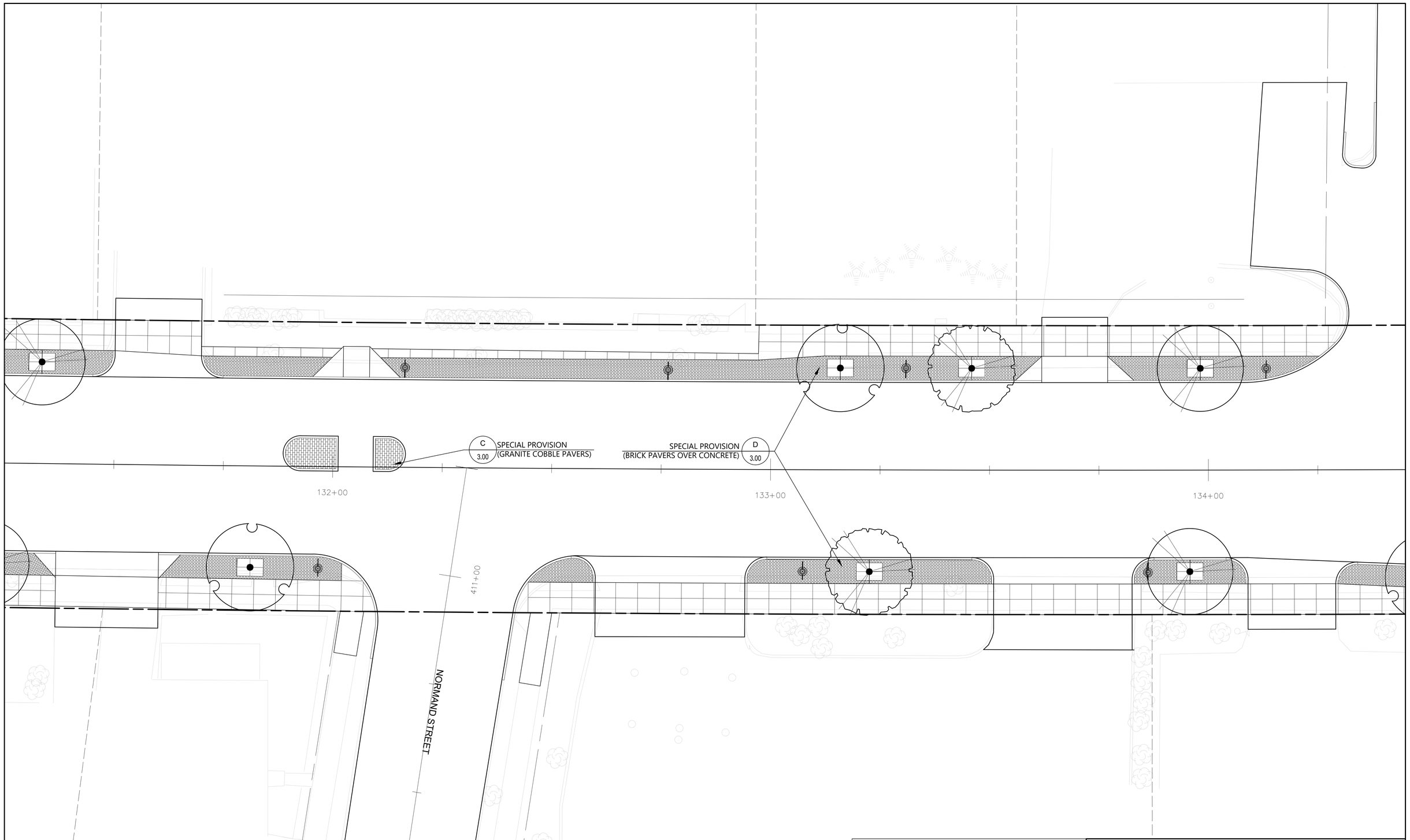
LA.2.10 LAYOUT AND MATERIALS

PLOT DATE: 11/26/2019

DRAWN BY: M.K.WILLARD

CHECKED BY: E.P.DETRICK

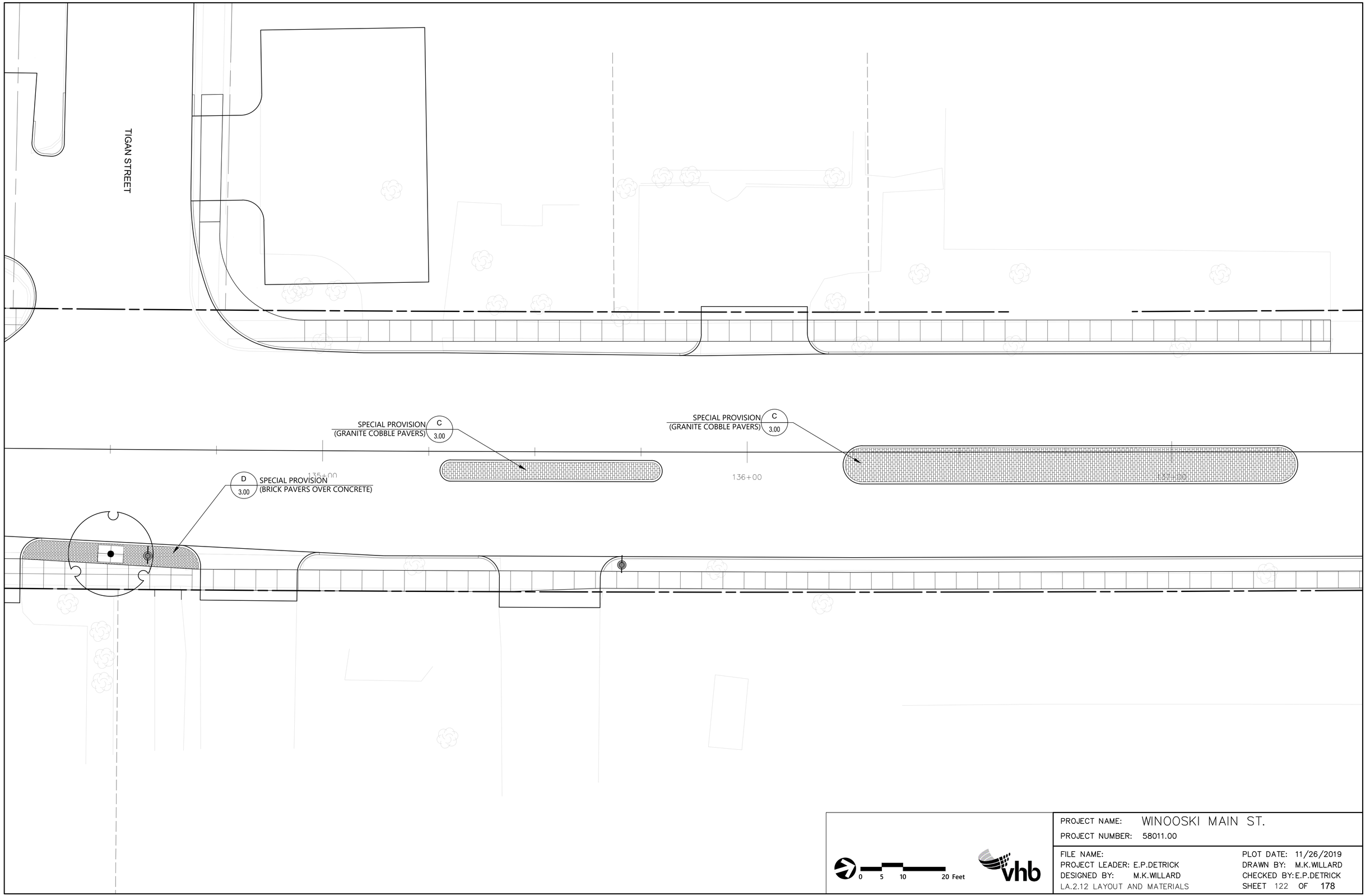
SHEET 120 OF 178



0 5 10 20 Feet

vhb

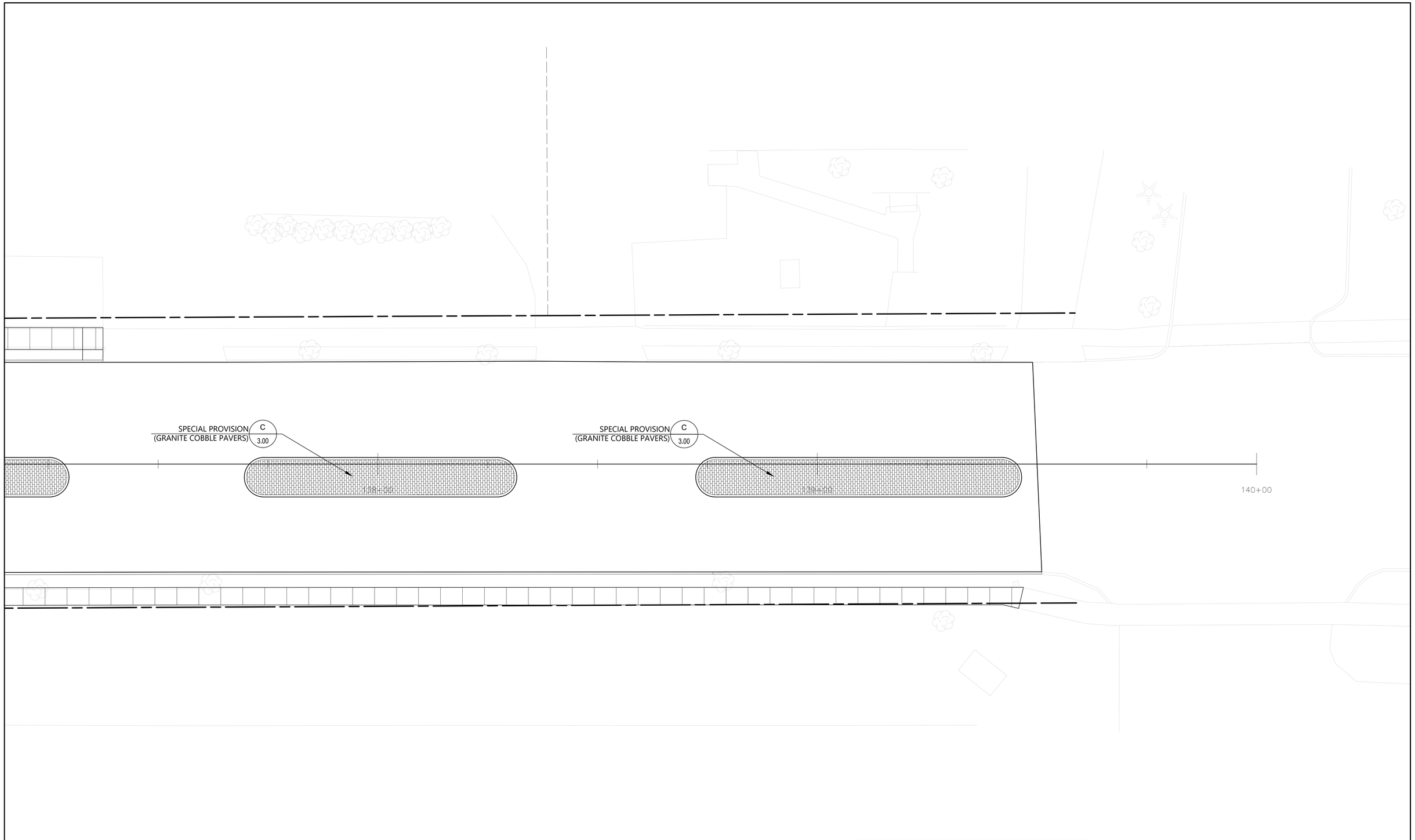
PROJECT NAME: WINOOSKI MAIN ST.	
PROJECT NUMBER: 58011.00	
FILE NAME:	PLOT DATE: 11/26/2019
PROJECT LEADER: E.P.DETRICK	DRAWN BY: M.K.WILLARD
DESIGNED BY: M.K.WILLARD	CHECKED BY: E.P.DETRICK
LA.2.11 LAYOUT AND MATERIALS	SHEET 121 OF 178



PROJECT NAME: WINOOSKI MAIN ST.
PROJECT NUMBER: 58011.00

FILE NAME:
PROJECT LEADER: E.P.DETRICK
DESIGNED BY: M.K.WILLARD
LA.2.12 LAYOUT AND MATERIALS

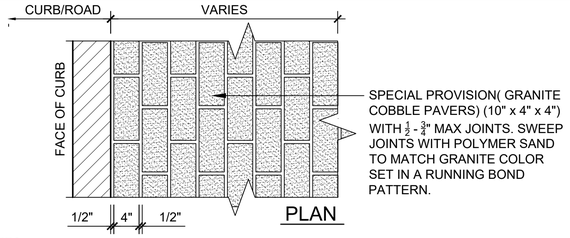
PLOT DATE: 11/26/2019
DRAWN BY: M.K.WILLARD
CHECKED BY: E.P.DETRICK
SHEET 122 OF 178



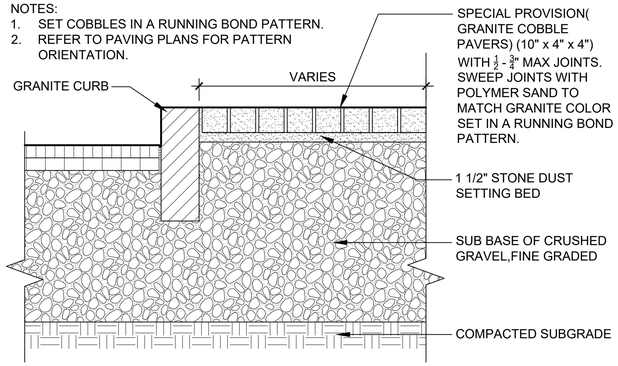
0 5 10 20 Feet

vhb

PROJECT NAME: WINOOSKI MAIN ST.	
PROJECT NUMBER: 58011.00	
FILE NAME:	PLOT DATE: 11/26/2019
PROJECT LEADER: E.P.DETRICK	DRAWN BY: M.K.WILLARD
DESIGNED BY: M.K.WILLARD	CHECKED BY: E.P.DETRICK
LA.2.13 LAYOUT AND MATERIALS	SHEET 123 OF 178



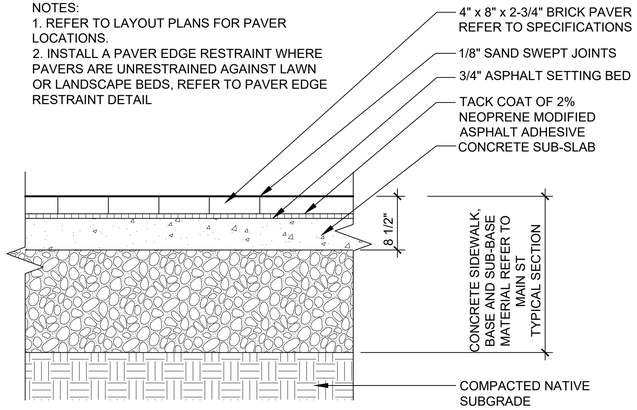
NOTES:
1. SET COBBLES IN A RUNNING BOND PATTERN.
2. REFER TO PAVING PLANS FOR PATTERN ORIENTATION.



C SPECIAL PROVISION (GRANITE COBBLE PAVERS) (10"X4"X4")

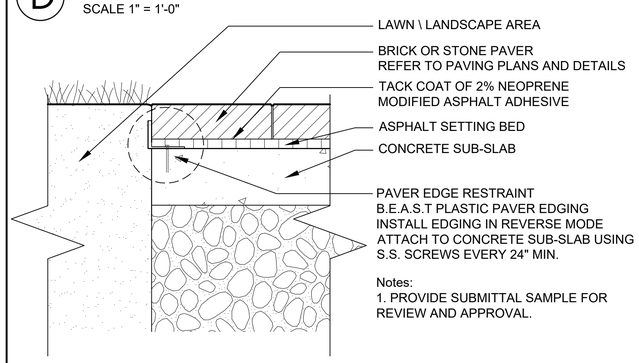
SCALE 1" = 1'-0"

NOTES:
1. REFER TO LAYOUT PLANS FOR PAVER LOCATIONS.
2. INSTALL A PAVER EDGE RESTRAINT WHERE PAVERS ARE UNRESTRAINED AGAINST LAWN OR LANDSCAPE BEDS, REFER TO PAVER EDGE RESTRAINT DETAIL



D SPECIAL PROVISION (BRICK PAVERS OVER CONCRETE)

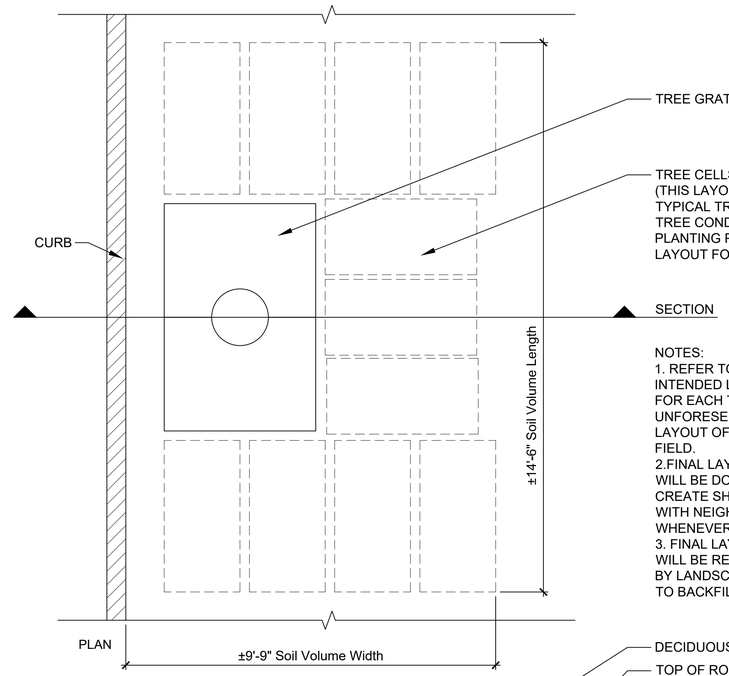
SCALE 1" = 1'-0"



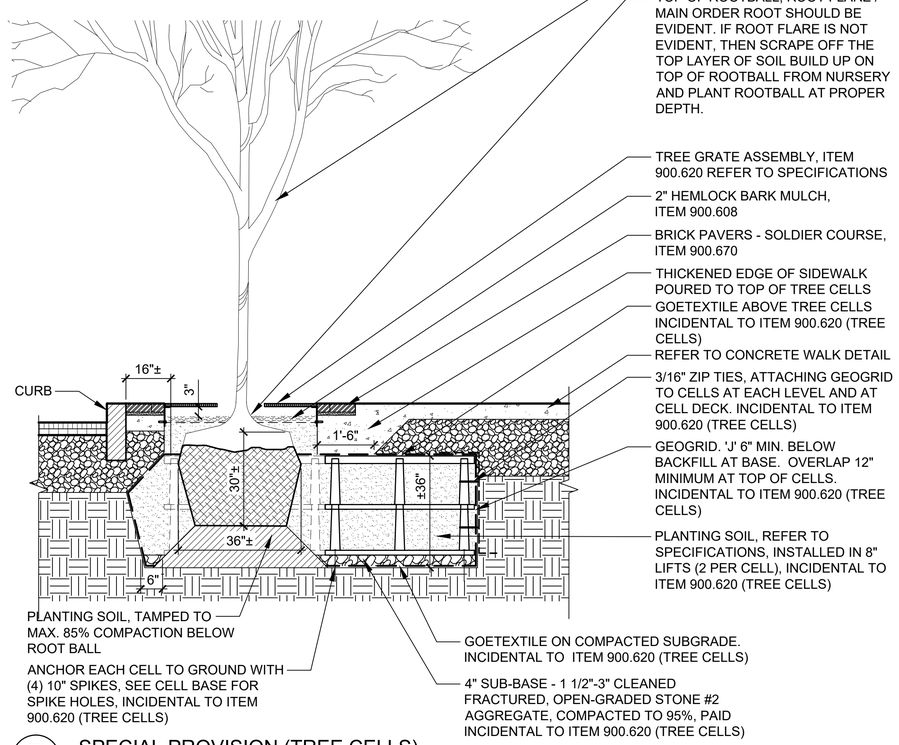
Notes:
1. PROVIDE SUBMITTAL SAMPLE FOR REVIEW AND APPROVAL.

E PAVER EDGE RESTRAINT

SCALE 2" = 1'-0"

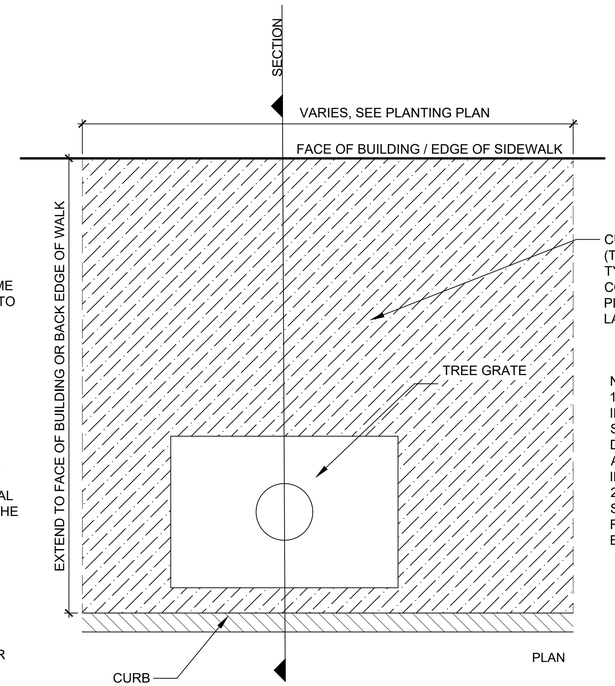


NOTES:
1. REFER TO PLANTING PLAN FOR INTENDED LAYOUT OF THE CELLS FOR EACH TREE. DUE TO UNFORESEEN CONDITIONS ACTUAL LAYOUT OF CELLS MAY VARY IN THE FIELD.
2.FINAL LAYOUT OF TREE CELLS WILL BE DONE IN A MANNER TO CREATE SHARED SOIL VOLUME WITH NEIGHBORING TREES WHENEVER POSSIBLE.
3. FINAL LAYOUT OF TREE CELLS WILL BE REVIEWED BY LANDSCAPE ARCHITECT PRIOR TO BACKFILLING.

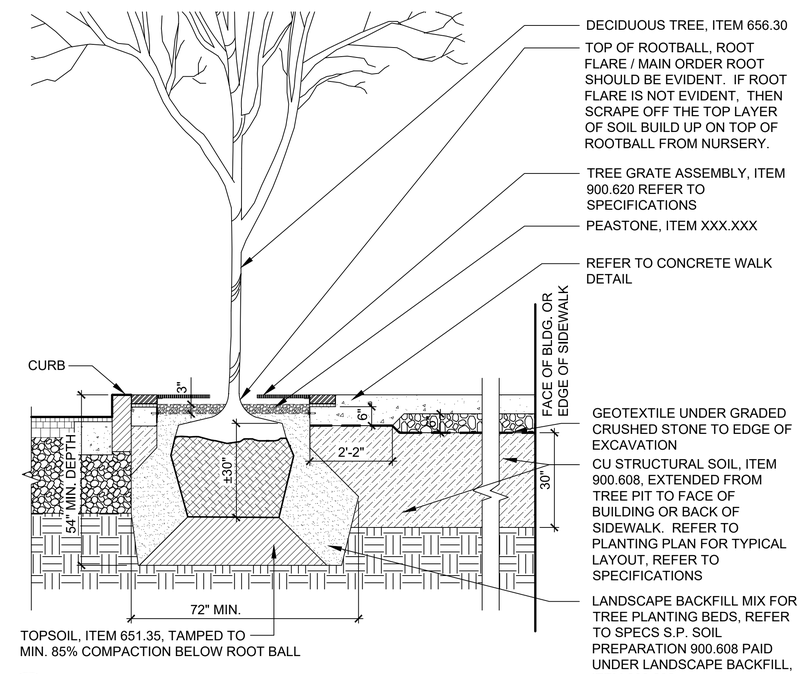


B SPECIAL PROVISION (TREE CELLS)

SCALE 1/2" = 1'-0"



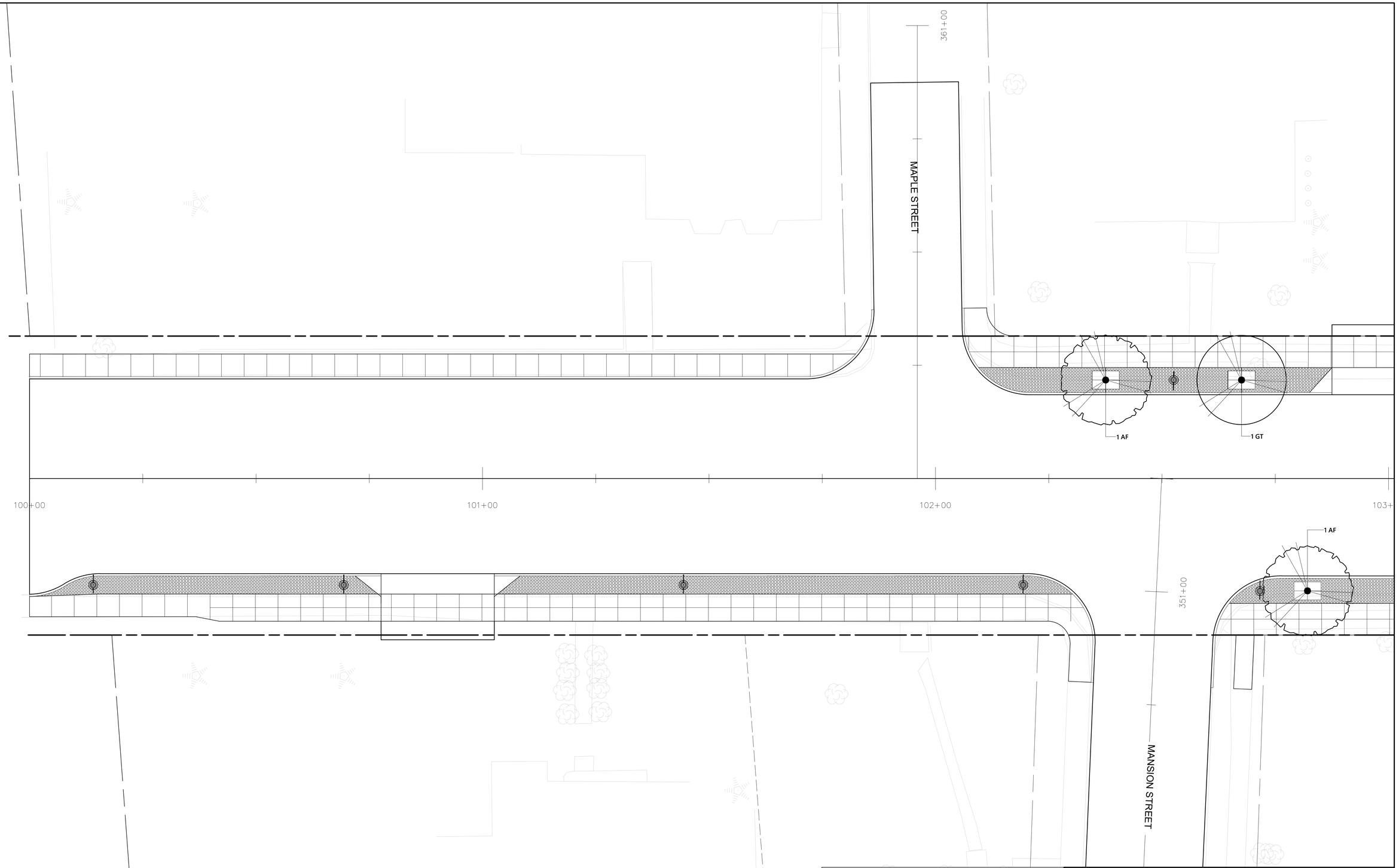
NOTES:
1. REFER TO PLANTING PLAN FOR INTENDED LAYOUT OF THE STRUCTURAL SOIL FOR EACH TREE. DUE TO UNFORESEEN CONDITIONS ACTUAL LAYOUT OF SOIL MAY VARY IN THE FIELD.
2. FINAL LAYOUT OF STRUCTURAL SOIL WILL BE REVIEWED BY RESIDENT ENGINEER PRIOR TO BACKFILLING.



A SPECIAL PROVISION (TREE PIT)

SCALE 1/2" = 1'-0"

PROJECT NAME: WINOOSKI MAIN ST.	
PROJECT NUMBER: 58011.00	
FILE NAME:	PLOT DATE: 11/26/2019
PROJECT LEADER: E.P.DETRICK	DRAWN BY: M.K.WILLARD
DESIGNED BY: M.K.WILLARD	CHECKED BY: E.P.DETRICK
LA.3.00 LANDSCAPE DETAILS	SHEET 124 OF 178



PLANT SCHEDULE

DECIDUOUS TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE
AF	41	Acer x freemanii `Sienna`	Sienna Glen Maple	2 1/2 - 3" CAL./ B&B
GT	43	Gleditsia triacanthos `Shademaster`	Shademaster Honeylocust	2 1/2 - 3" CAL.
TC2	42	Tilia cordata `Greenspire`	Greenspire Littleleaf Linden	2 1/2 - 3" CAL.

0 5 10 20 Feet

vhb

PROJECT NAME: WINOOSKI MAIN ST.

PROJECT NUMBER: 58011.00

FILE NAME:

PROJECT LEADER: E.P.DETRICK

DESIGNED BY: M.K.WILLARD

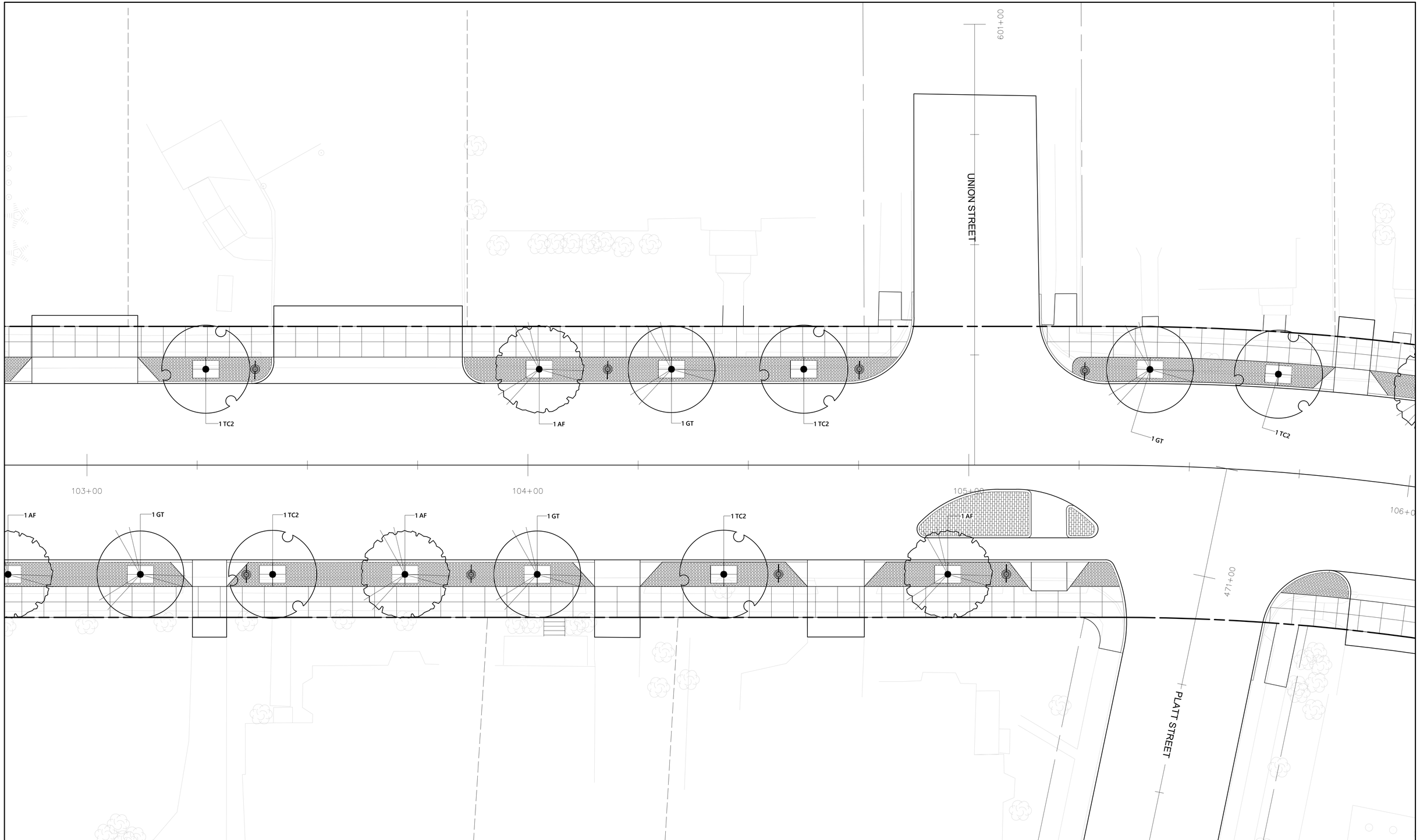
LA.4.00 PLANTING PLAN

PLOT DATE: 11/26/2019

DRAWN BY: M.K.WILLARD

CHECKED BY: E.P.DETRICK

SHEET 125 OF 178



PLANT SCHEDULE

DECIDUOUS TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE
AF	41	Acer x freemanii `Sienna`	Sienna Glen Maple	2 1/2 - 3" CAL./ B&B
GT	43	Gleditsia triacanthos `Shademaster`	Shademaster Honeylocust	2 1/2 - 3" CAL.
TC2	42	Tilia cordata `Greenspire`	Greenspire Littleleaf Linden	2 1/2 - 3" CAL.

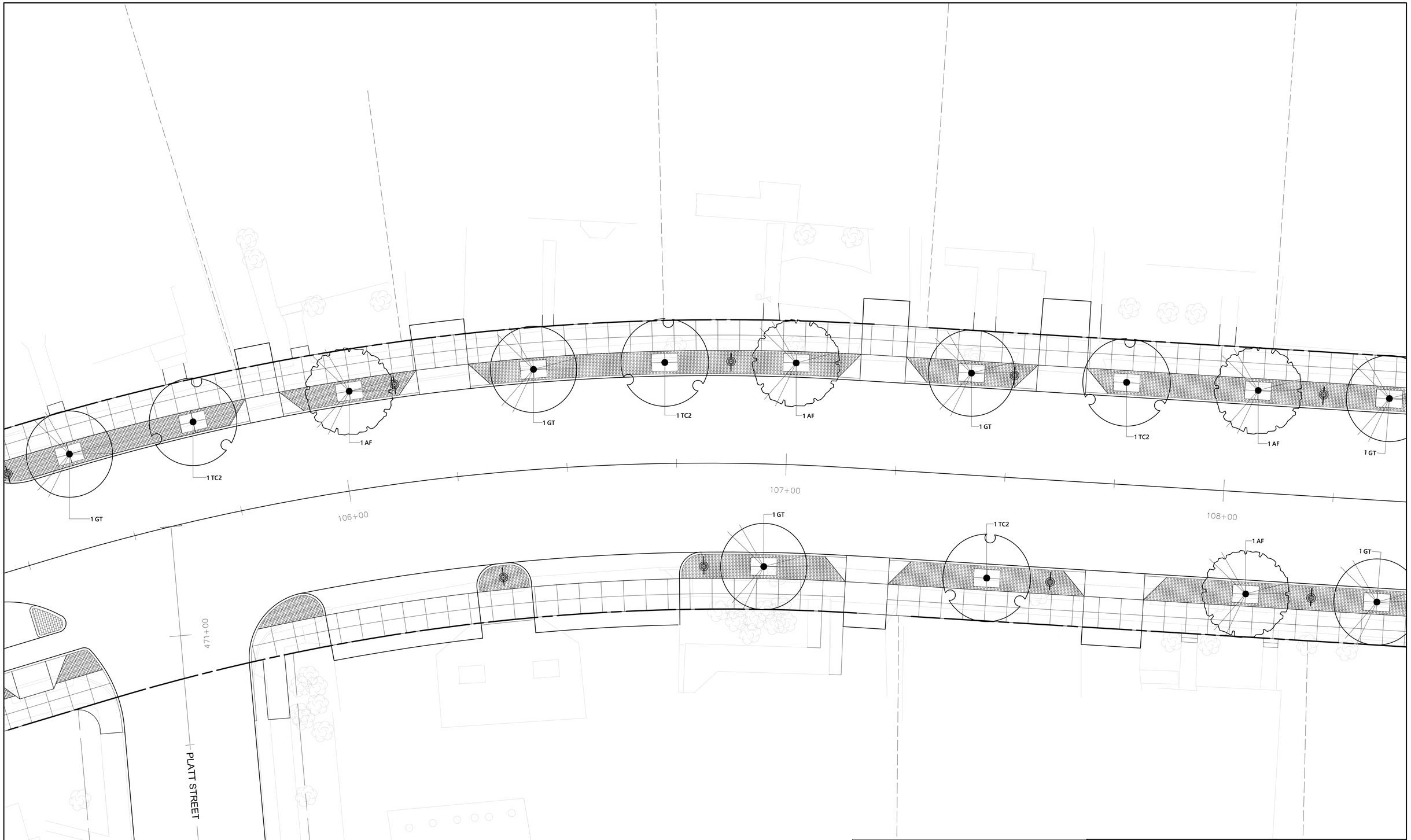
0 5 10 20 Feet

vhb

PROJECT NAME: WINOOSKI MAIN ST.
PROJECT NUMBER: 58011.00

FILE NAME:
PROJECT LEADER: E.P.DETRICK
DESIGNED BY: M.K.WILLARD
LA.4.01 PLANTING PLAN

PLOT DATE: 11/26/2019
DRAWN BY: M.K.WILLARD
CHECKED BY: E.P.DETRICK
SHEET 126 OF 178



PLANT SCHEDULE

DECIDUOUS TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE
AF	41	Acer x freemanii `Sienna`	Sienna Glen Maple	2 1/2 - 3" CAL./ B&B
GT	43	Gleditsia triacanthos `Shademaster`	Shademaster Honeylocust	2 1/2 - 3" CAL.
TC2	42	Tilia cordata `Greenspire`	Greenspire Littleleaf Linden	2 1/2 - 3" CAL.

0 5 10 20 Feet

vhb

PROJECT NAME: WINOOSKI MAIN ST.

PROJECT NUMBER: 58011.00

FILE NAME:

PROJECT LEADER: E.P.DETRICK

DESIGNED BY: M.K.WILLARD

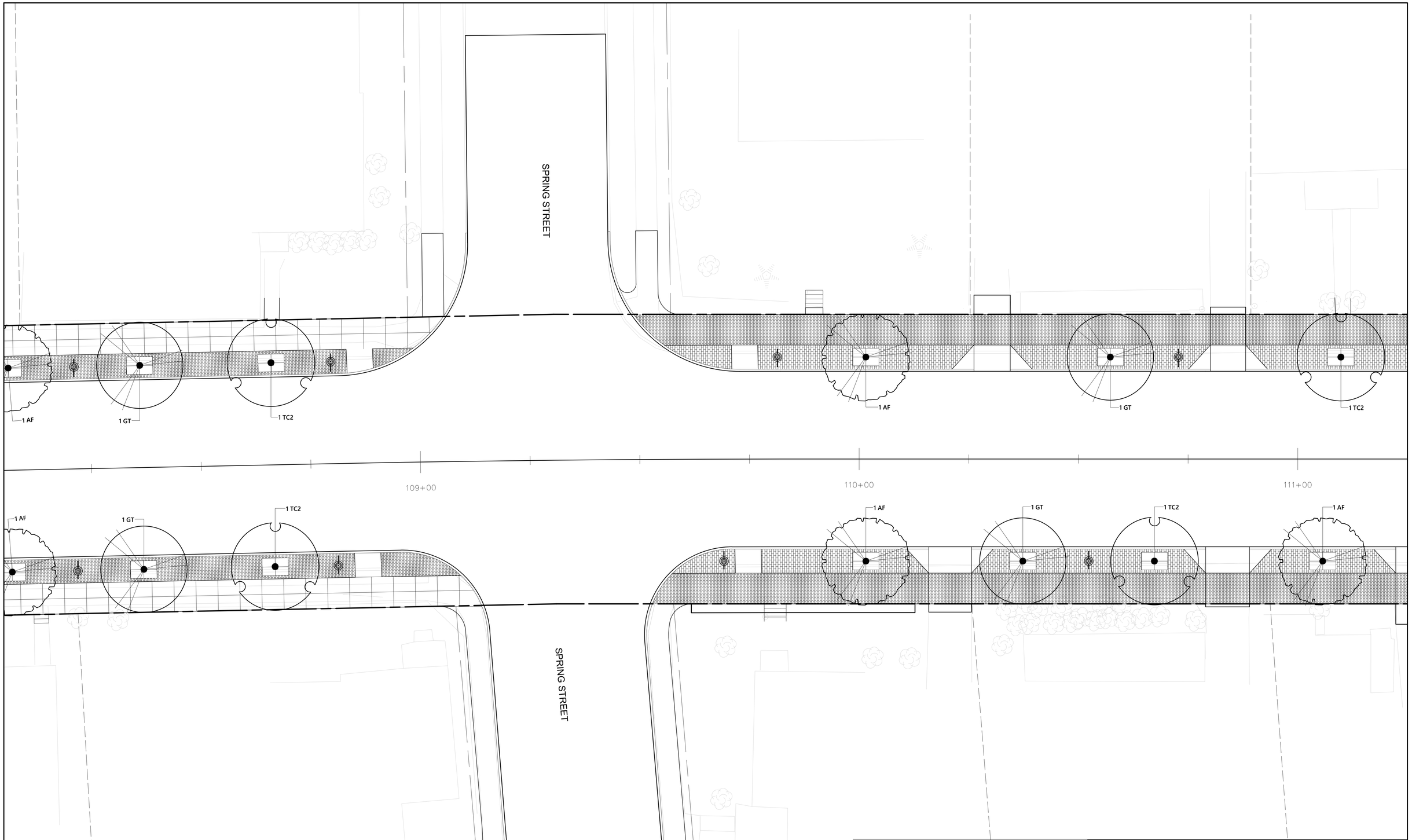
LA.4.02 PLANTING PLAN

PLOT DATE: 11/26/2019

DRAWN BY: M.K.WILLARD

CHECKED BY: E.P.DETRICK

SHEET 127 OF 178



PLANT SCHEDULE

DECIDUOUS TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE
AF	41	Acer x freemanii `Sienna`	Sienna Glen Maple	2 1/2 - 3" CAL./ B&B
GT	43	Gleditsia triacanthos `Shademaster`	Shademaster Honeylocust	2 1/2 - 3" CAL.
TC2	42	Tilia cordata `Greenspire`	Greenspire Littleleaf Linden	2 1/2 - 3" CAL.

0 5 10 20 Feet

vhb

PROJECT NAME: WINOOSKI MAIN ST.

PROJECT NUMBER: 58011.00

FILE NAME:

PROJECT LEADER: E.P.DETRICK

DESIGNED BY: M.K.WILLARD

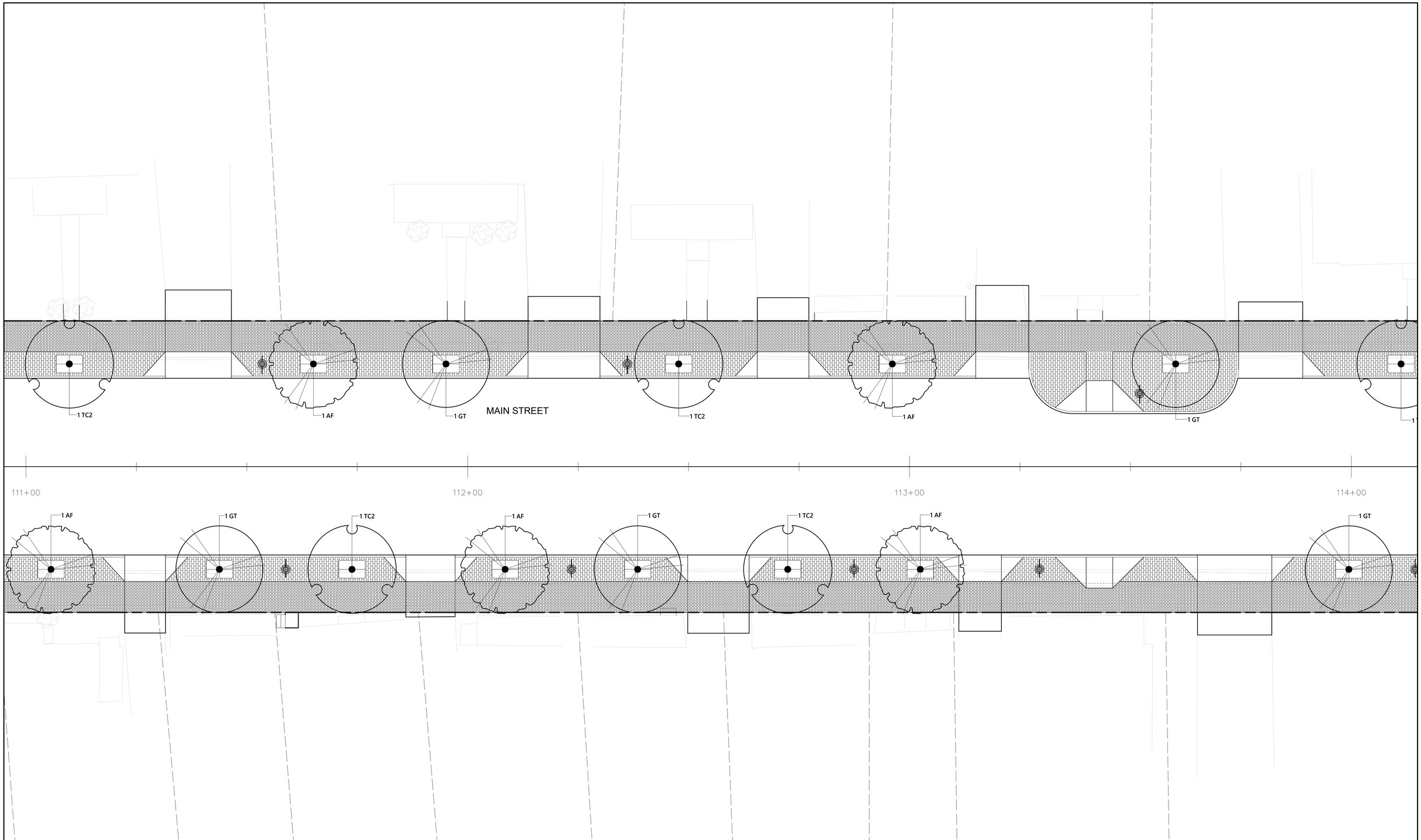
LA.4.03 PLANTING PLAN

PLOT DATE: 11/26/2019

DRAWN BY: M.K.WILLARD

CHECKED BY: E.P.DETRICK

SHEET 128 OF 178



PLANT SCHEDULE

DECIDUOUS TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE
AF	41	Acer x freemanii `Sienna`	Sienna Glen Maple	2 1/2 - 3" CAL./ B&B
GT	43	Gleditsia triacanthos `Shademaster`	Shademaster Honeylocust	2 1/2 - 3" CAL.
TC2	42	Tilia cordata `Greenspire`	Greenspire Littleleaf Linden	2 1/2 - 3" CAL.

0 5 10 20 Feet

vhb

PROJECT NAME: WINOOSKI MAIN ST.

PROJECT NUMBER: 58011.00

FILE NAME:

PROJECT LEADER: E.P.DETRICK

DESIGNED BY: M.K.WILLARD

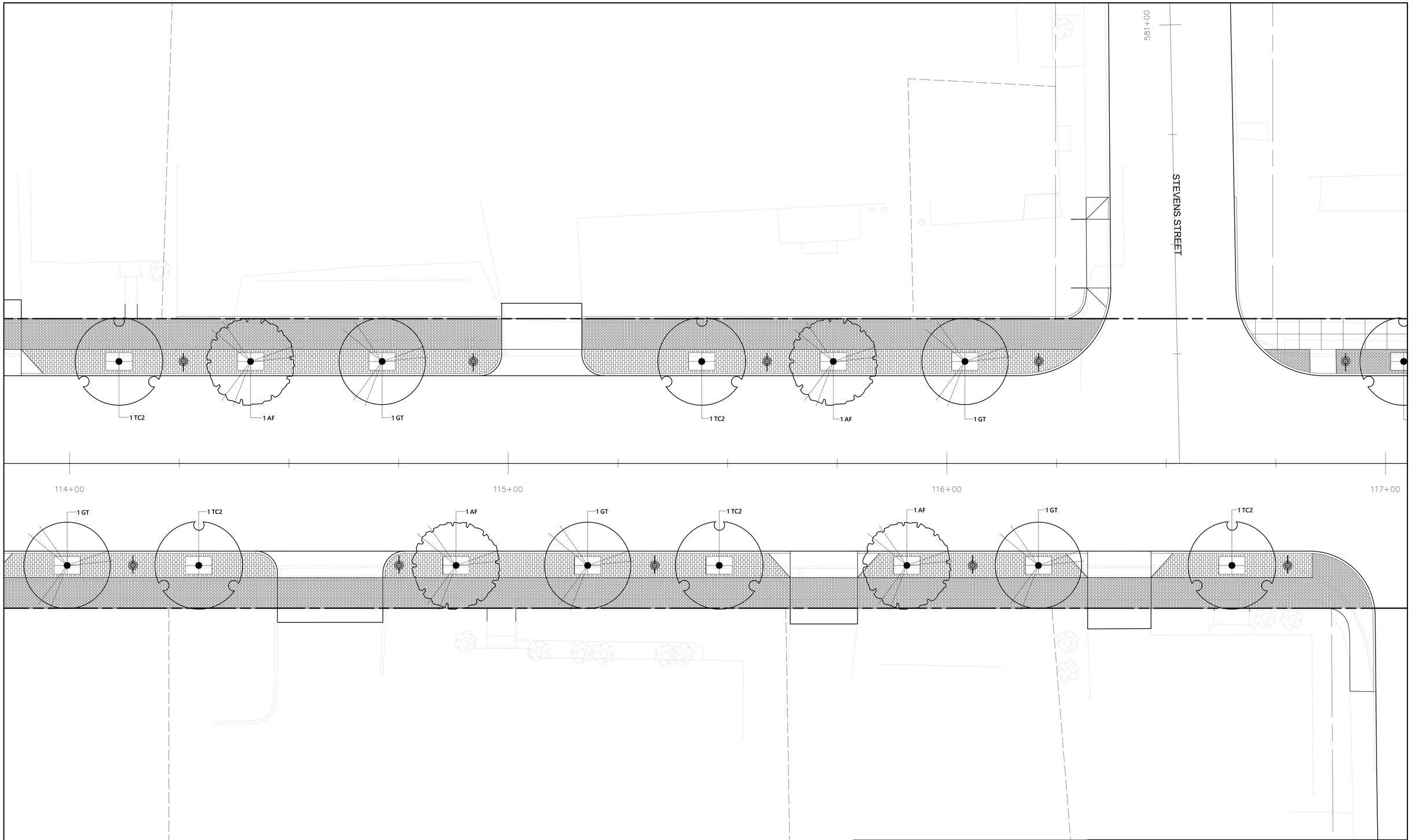
LA.4.04 PLANTING PLAN

PLOT DATE: 11/26/2019

DRAWN BY: M.K.WILLARD

CHECKED BY: E.P.DETRICK

SHEET 129 OF 178



PLANT SCHEDULE

DECIDUOUS TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE
AF	41	Acer x freemanii `Sienna`	Sienna Glen Maple	2 1/2 - 3" CAL./ B&B
GT	43	Gleditsia triacanthos `Shademaster`	Shademaster Honeylocust	2 1/2 - 3" CAL.
TC2	42	Tilia cordata `Greenspire`	Greenspire Littleleaf Linden	2 1/2 - 3" CAL.

0 5 10 20 Feet

vhb

PROJECT NAME: WINOOSKI MAIN ST.

PROJECT NUMBER: 58011.00

FILE NAME:

PROJECT LEADER: E.P.DETRICK

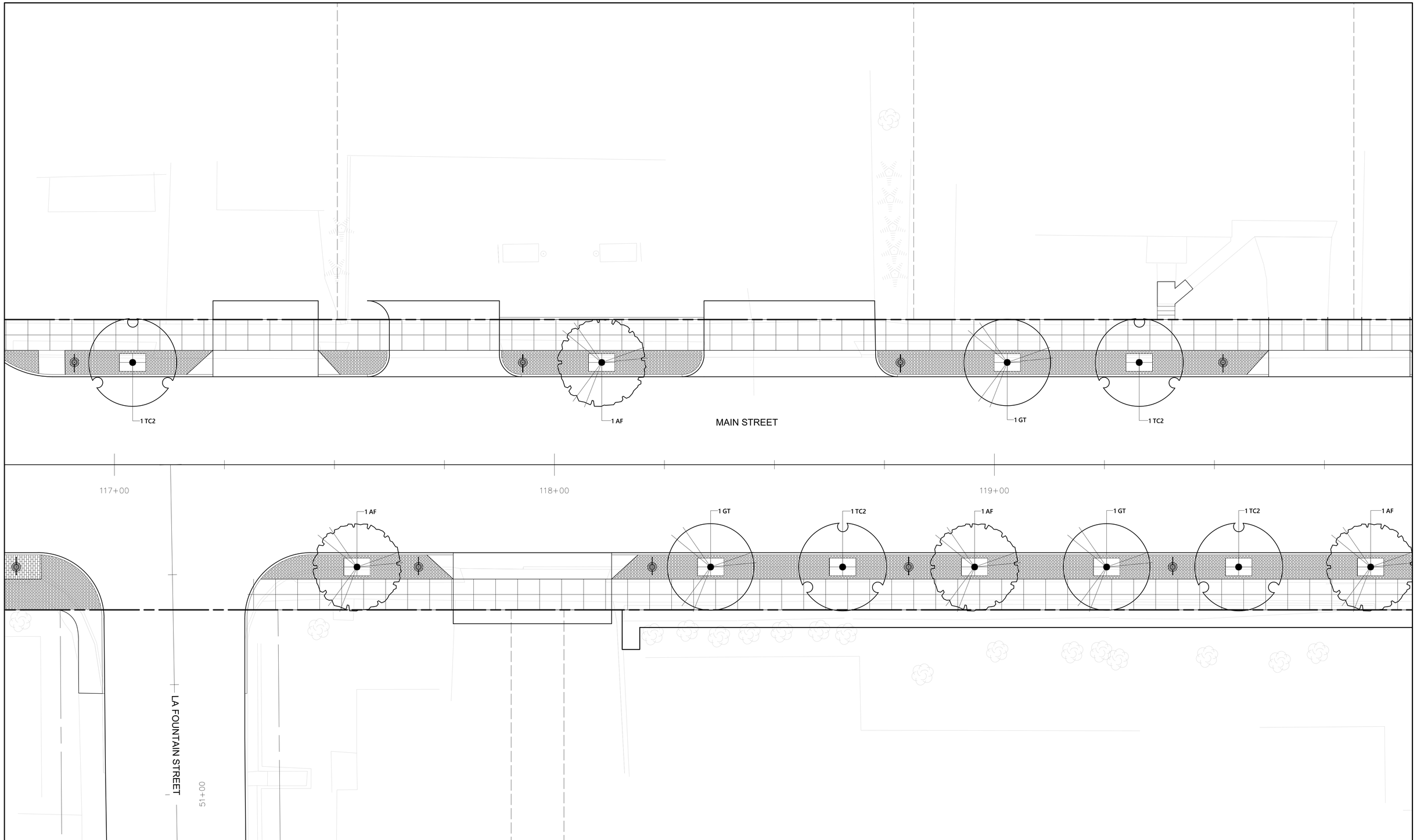
DESIGNED BY: M.K.WILLARD

LA.4.05 PLANTING PLAN

PLOT DATE: 11/26/2019

DRAWN BY: M.K.WILLARD

CHECKED BY: E.P.DETRICK



PLANT SCHEDULE

DECIDUOUS TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE
AF	41	Acer x freemanii `Sienna`	Sienna Glen Maple	2 1/2 - 3" CAL./ B&B
GT	43	Gleditsia triacanthos `Shademaster`	Shademaster Honeylocust	2 1/2 - 3" CAL.
TC2	42	Tilia cordata `Greenspire`	Greenspire Littleleaf Linden	2 1/2 - 3" CAL.

0 5 10 20 Feet

vhb

PROJECT NAME: WINOOSKI MAIN ST.

PROJECT NUMBER: 58011.00

FILE NAME:

PROJECT LEADER: E.P.DETRICK

DESIGNED BY: M.K.WILLARD

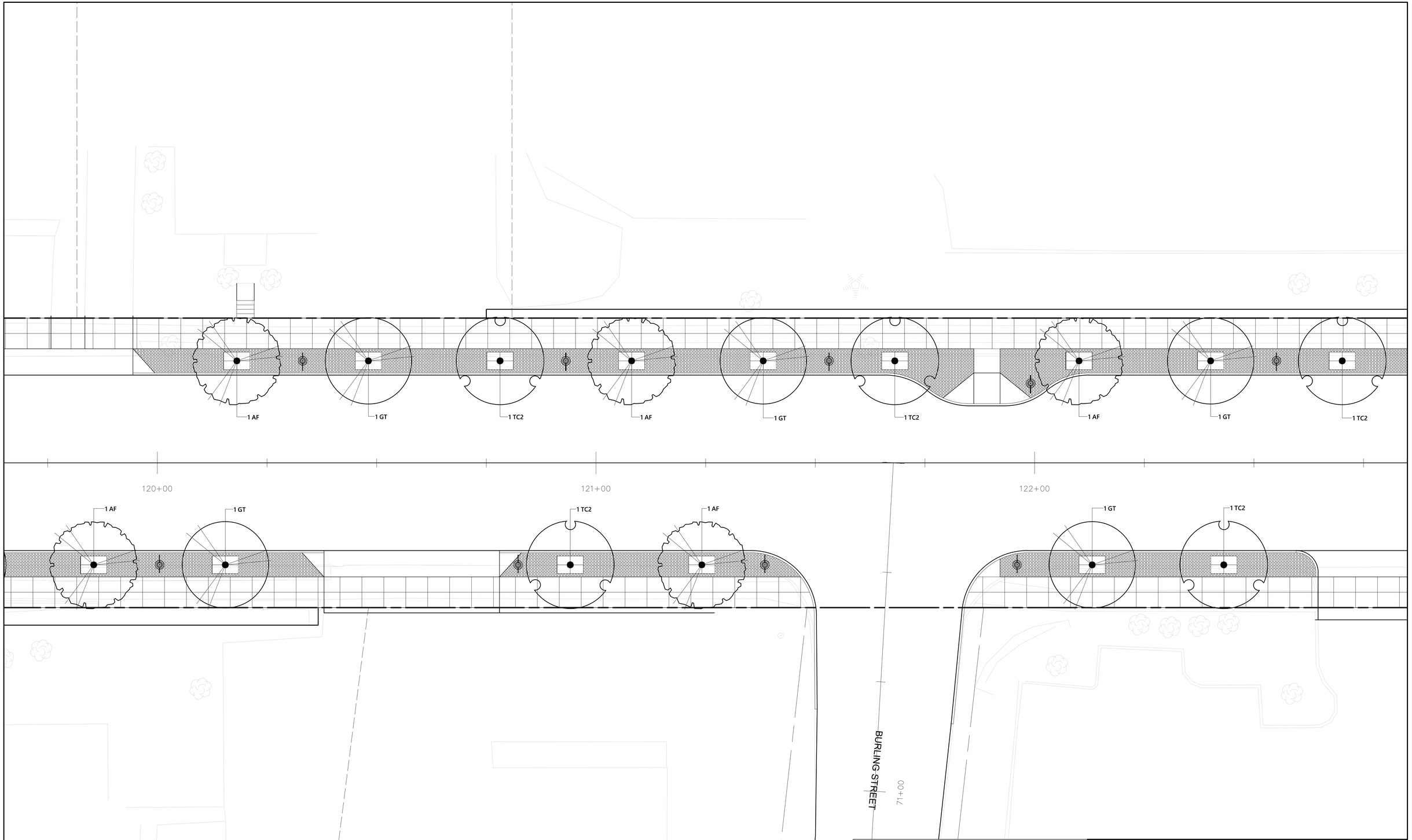
LA.4.06 PLANTING PLAN

PLOT DATE: 11/26/2019

DRAWN BY: M.K.WILLARD

CHECKED BY: E.P.DETRICK

SHEET 131 OF 178



PLANT SCHEDULE

DECIDUOUS TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE
AF	41	Acer x freemanii `Sienna`	Sienna Glen Maple	2 1/2 - 3" CAL./ B&B
GT	43	Gleditsia triacanthos `Shademaster`	Shademaster Honeylocust	2 1/2 - 3" CAL.
TC2	42	Tilia cordata `Greenspire`	Greenspire Littleleaf Linden	2 1/2 - 3" CAL.

0 5 10 20 Feet

vhb

PROJECT NAME: WINOOSKI MAIN ST.

PROJECT NUMBER: 58011.00

FILE NAME:

PROJECT LEADER: E.P.DETRICK

DESIGNED BY: M.K.WILLARD

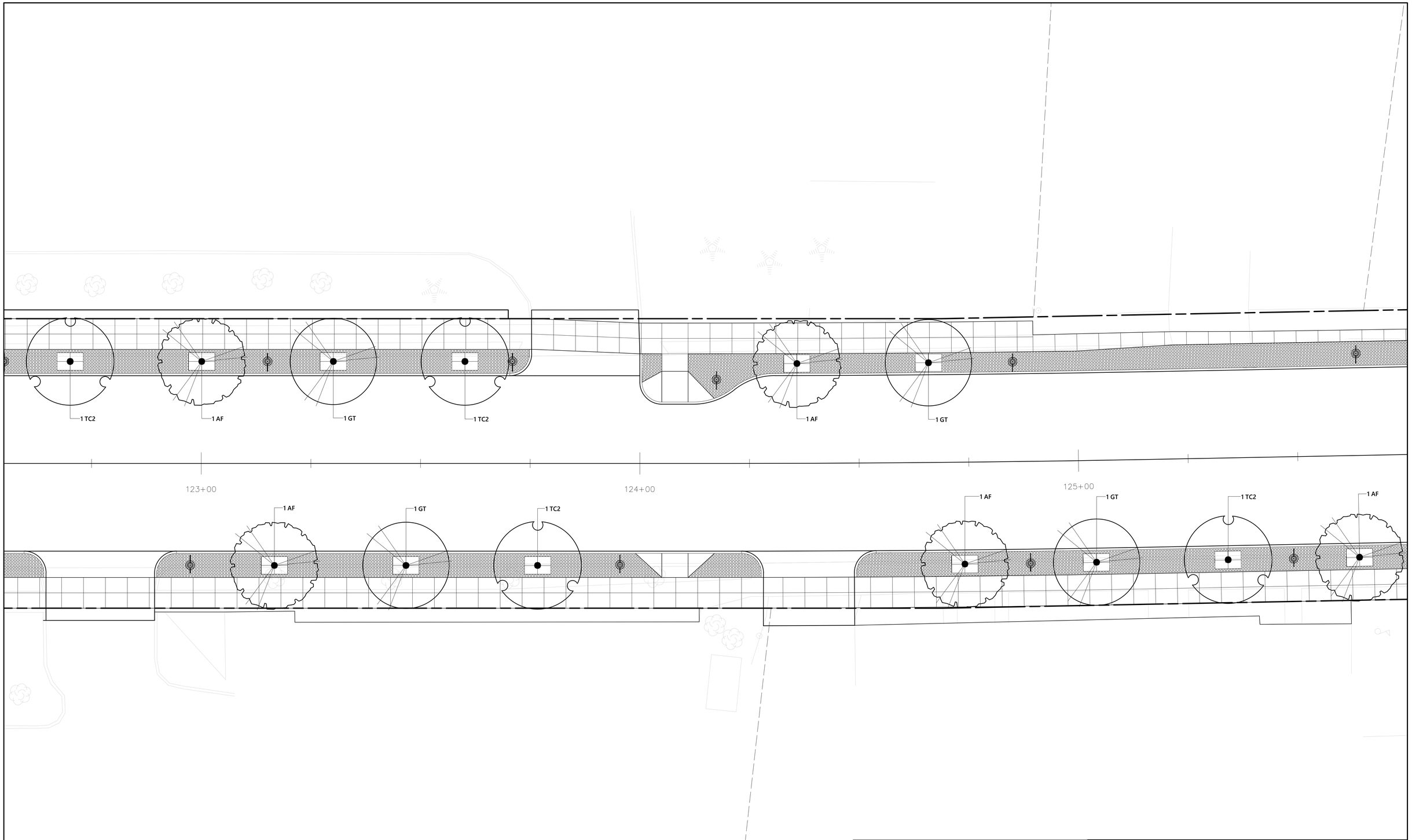
LA.4.07 PLANTING PLAN

PLOT DATE: 11/26/2019

DRAWN BY: M.K.WILLARD

CHECKED BY: E.P.DETRICK

SHEET 132 OF 178



PLANT SCHEDULE

DECIDUOUS TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE
AF	41	Acer x freemanii `Sienna`	Sienna Glen Maple	2 1/2 - 3" CAL./ B&B
GT	43	Gleditsia triacanthos `Shademaster`	Shademaster Honeylocust	2 1/2 - 3" CAL.
TC2	42	Tilia cordata `Greenspire`	Greenspire Littleleaf Linden	2 1/2 - 3" CAL.

0 5 10 20 Feet

vhb

PROJECT NAME: WINOOSKI MAIN ST.

PROJECT NUMBER: 58011.00

FILE NAME:

PROJECT LEADER: E.P.DETRICK

DESIGNED BY: M.K.WILLARD

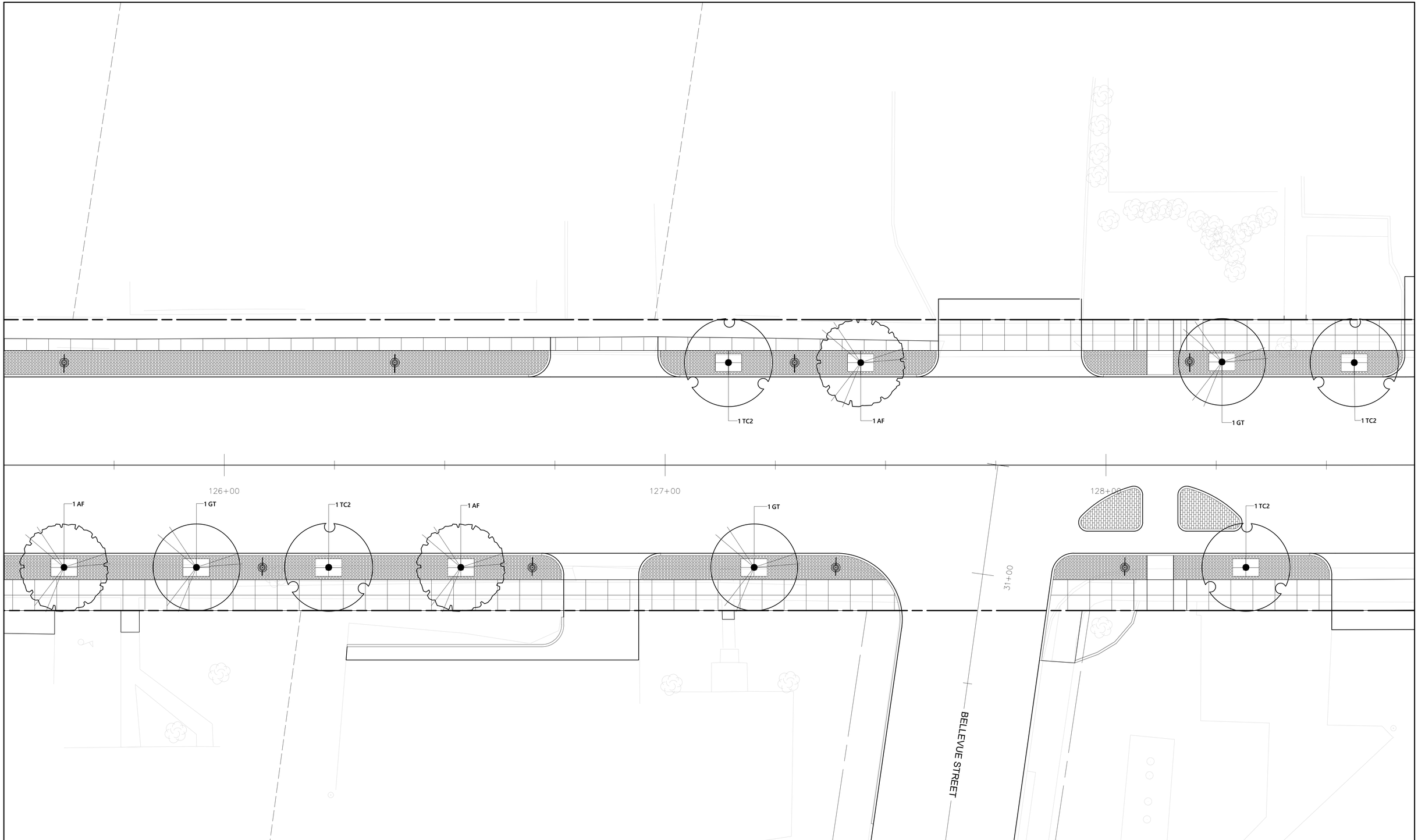
LA.4.08 PLANTING PLAN

PLOT DATE: 11/26/2019

DRAWN BY: M.K.WILLARD

CHECKED BY: E.P.DETRICK

SHEET 133 OF 178



PLANT SCHEDULE

DECIDUOUS TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE
AF	41	Acer x freemanii `Sienna`	Sienna Glen Maple	2 1/2 - 3" CAL./ B&B
GT	43	Gleditsia triacanthos `Shademaster`	Shademaster Honeylocust	2 1/2 - 3" CAL.
TC2	42	Tilia cordata `Greenspire`	Greenspire Littleleaf Linden	2 1/2 - 3" CAL.

0 5 10 20 Feet

vhb

PROJECT NAME: WINOOSKI MAIN ST.

PROJECT NUMBER: 58011.00

FILE NAME:

PROJECT LEADER: E.P.DETRICK

DESIGNED BY: M.K.WILLARD

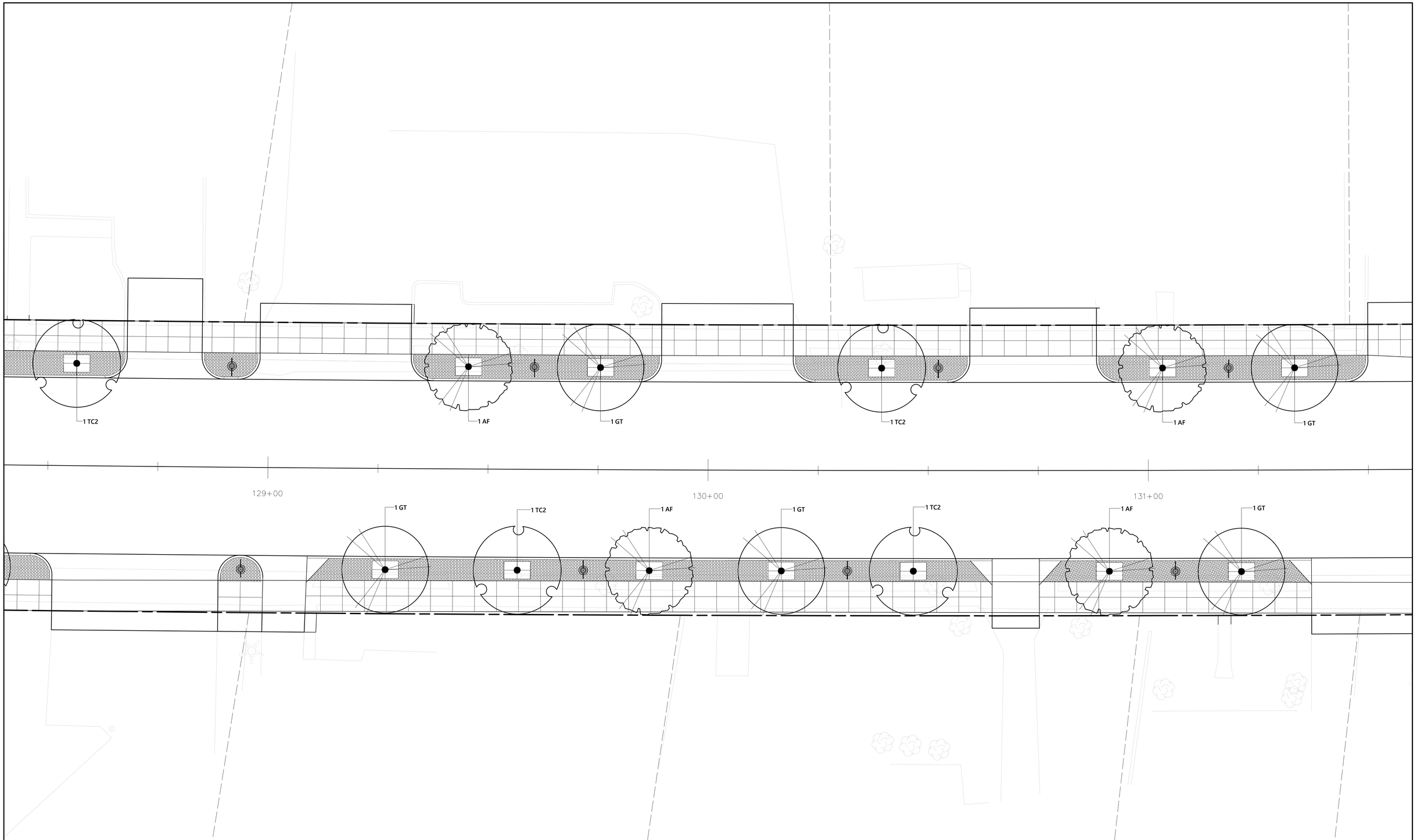
LA.4.09 PLANTING PLAN

PLOT DATE: 11/26/2019

DRAWN BY: M.K.WILLARD

CHECKED BY: E.P.DETRICK

SHEET 134 OF 178



PLANT SCHEDULE

DECIDUOUS TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE
AF	41	Acer x freemanii `Sienna`	Sienna Glen Maple	2 1/2 - 3" CAL./ B&B
GT	43	Gleditsia triacanthos `Shademaster`	Shademaster Honeylocust	2 1/2 - 3" CAL.
TC2	42	Tilia cordata `Greenspire`	Greenspire Littleleaf Linden	2 1/2 - 3" CAL.

0 5 10 20 Feet

vhb

PROJECT NAME: WINOOSKI MAIN ST.

PROJECT NUMBER: 58011.00

FILE NAME:

PROJECT LEADER: E.P.DETRICK

DESIGNED BY: M.K.WILLARD

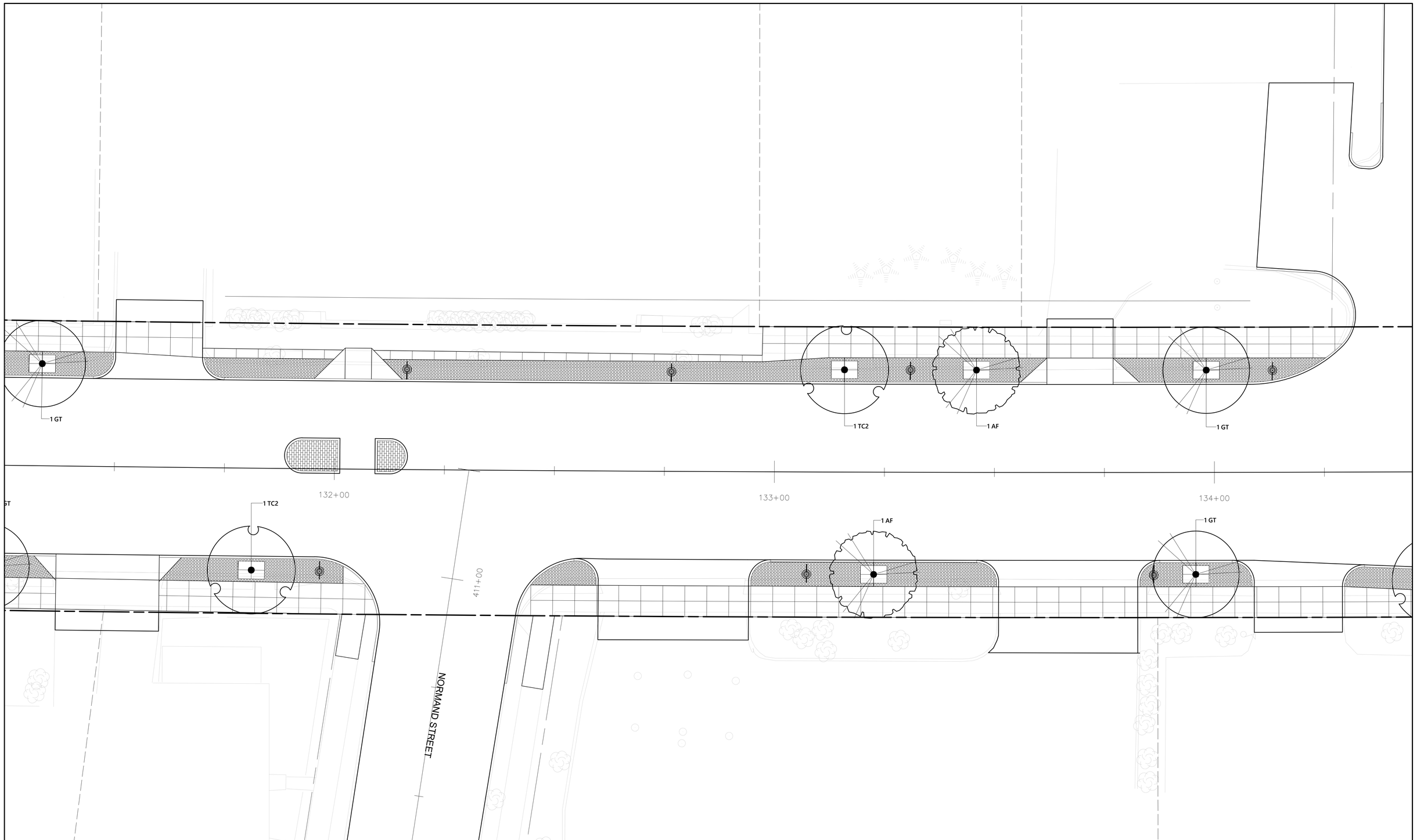
LA.4.10 PLANTING PLAN

PLOT DATE: 11/26/2019

DRAWN BY: M.K.WILLARD

CHECKED BY: E.P.DETRICK

SHEET 135 OF 178



PLANT SCHEDULE

DECIDUOUS TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE
AF	41	Acer x freemanii `Sienna`	Sienna Glen Maple	2 1/2 - 3" CAL./ B&B
GT	43	Gleditsia triacanthos `Shademaster`	Shademaster Honeylocust	2 1/2 - 3" CAL.
TC2	42	Tilia cordata `Greenspire`	Greenspire Littleleaf Linden	2 1/2 - 3" CAL.

0 5 10 20 Feet

vhb

PROJECT NAME: WINOOSKI MAIN ST.

PROJECT NUMBER: 58011.00

FILE NAME:

PROJECT LEADER: E.P.DETRICK

DESIGNED BY: M.K.WILLARD

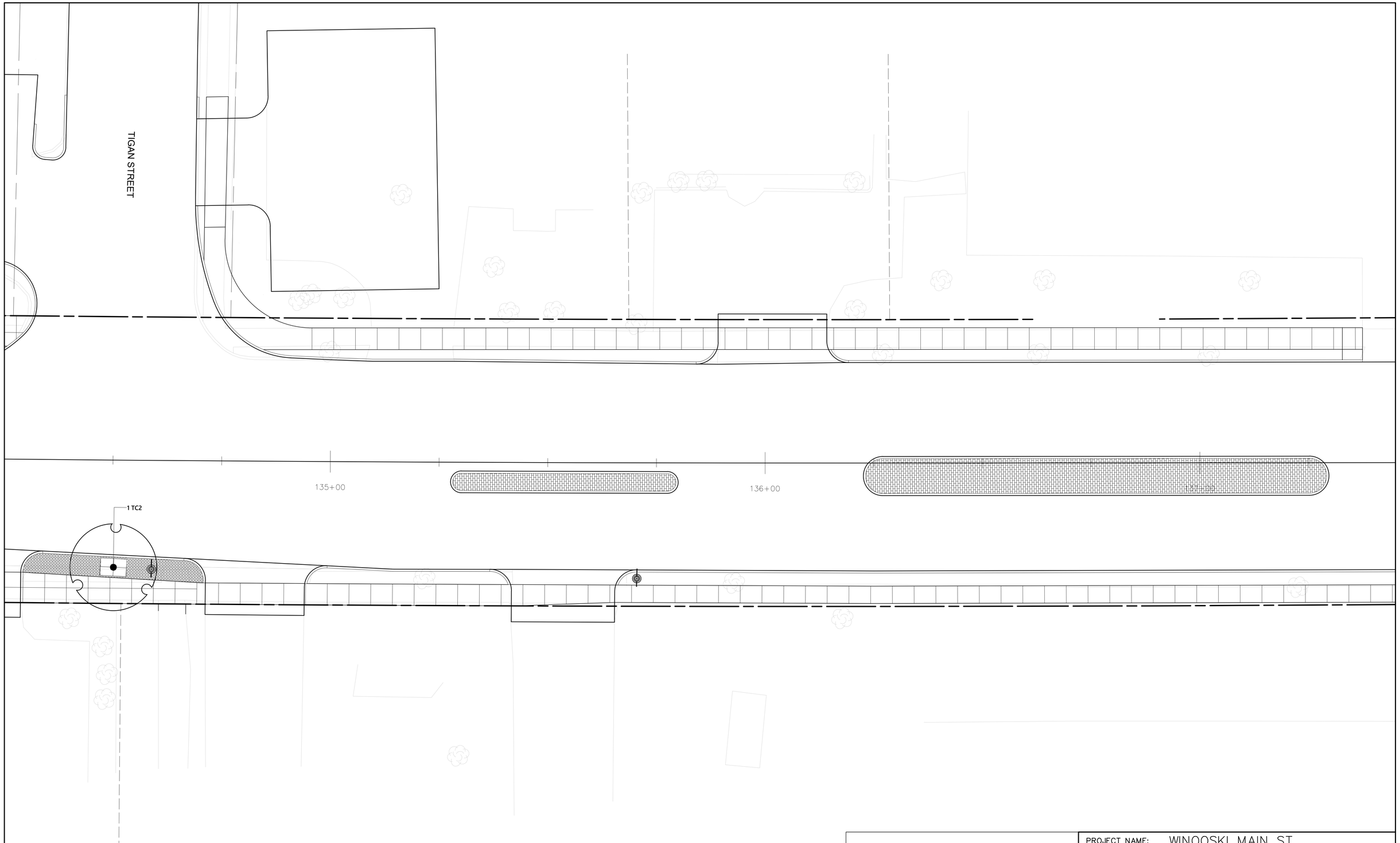
LA.4.11 PLANTING PLAN

PLOT DATE: 11/26/2019

DRAWN BY: M.K.WILLARD

CHECKED BY: E.P.DETRICK

SHEET 136 OF 178



PLANT SCHEDULE

DECIDUOUS TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE
AF	41	Acer x freemanii `Sienna`	Sienna Glen Maple	2 1/2 - 3" CAL./ B&B
GT	43	Gleditsia triacanthos `Shademaster`	Shademaster Honeylocust	2 1/2 - 3" CAL.
TC2	42	Tilia cordata `Greenspire`	Greenspire Littleleaf Linden	2 1/2 - 3" CAL.

0 5 10 20 Feet

vhb

PROJECT NAME: WINOOSKI MAIN ST.

PROJECT NUMBER: 58011.00

FILE NAME:

PROJECT LEADER: E.P.DETRICK

DESIGNED BY: M.K.WILLARD

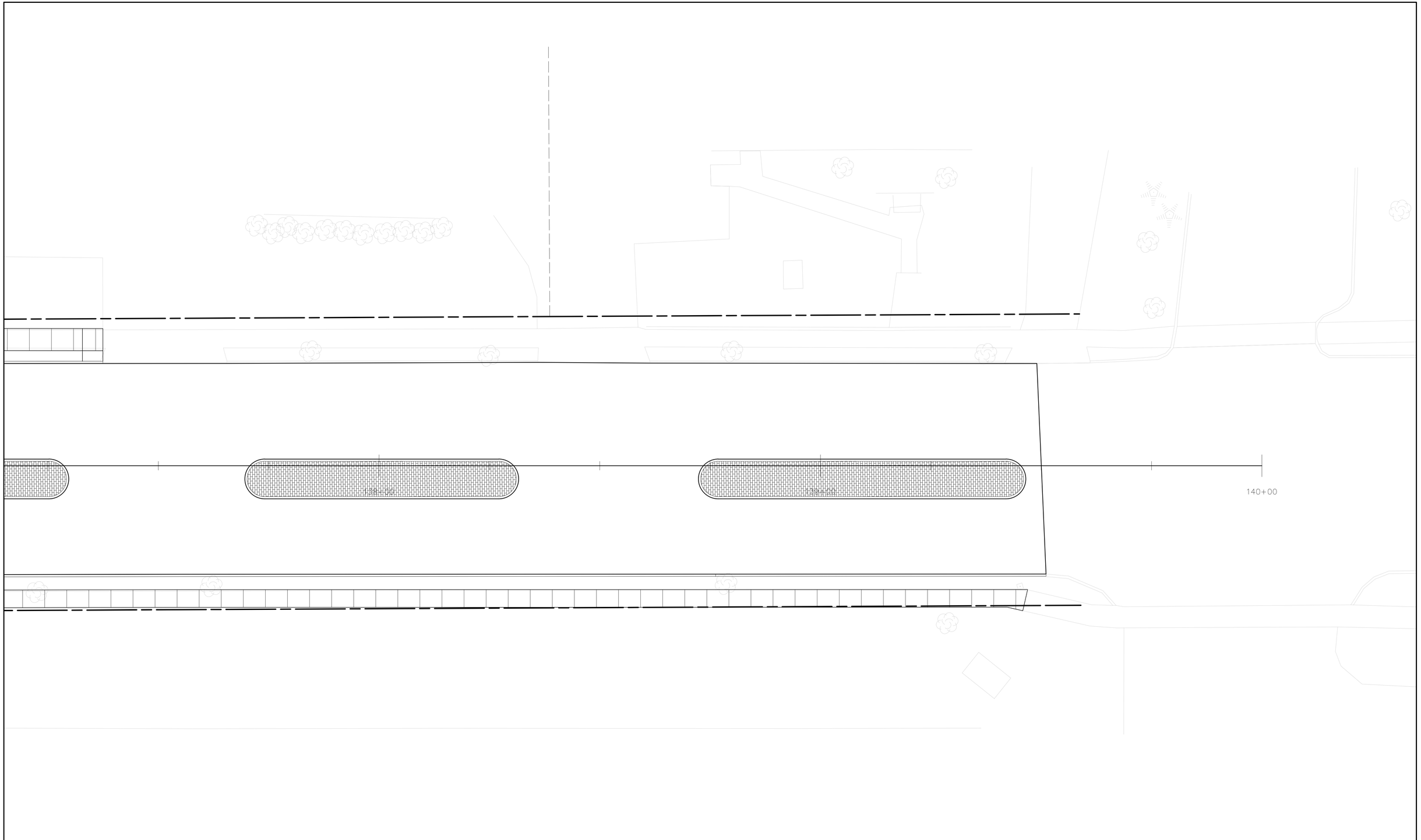
LA.4.12 PLANTING PLAN

PLOT DATE: 11/26/2019

DRAWN BY: M.K.WILLARD

CHECKED BY: E.P.DETRICK

SHEET 137 OF 178



PLANT SCHEDULE

DECIDUOUS TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE
AF	41	Acer x freemanii `Sienna`	Sienna Glen Maple	2 1/2 - 3" CAL./ B&B
GT	43	Gleditsia triacanthos `Shademaster`	Shademaster Honeylocust	2 1/2 - 3" CAL.
TC2	42	Tilia cordata `Greenspire`	Greenspire Littleleaf Linden	2 1/2 - 3" CAL.

0 5 10 20 Feet

vhb

PROJECT NAME: WINOOSKI MAIN ST.

PROJECT NUMBER: 58011.00

FILE NAME:

PROJECT LEADER: E.P.DETRICK

DESIGNED BY: M.K.WILLARD

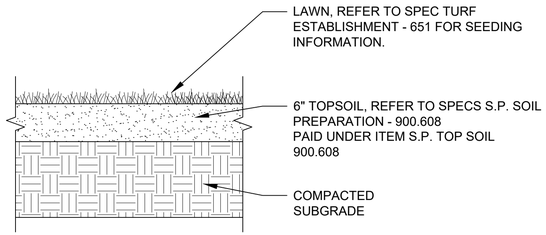
LA.4.13 PLANTING PLAN

PLOT DATE: 11/26/2019

DRAWN BY: M.K.WILLARD

CHECKED BY: E.P.DETRICK

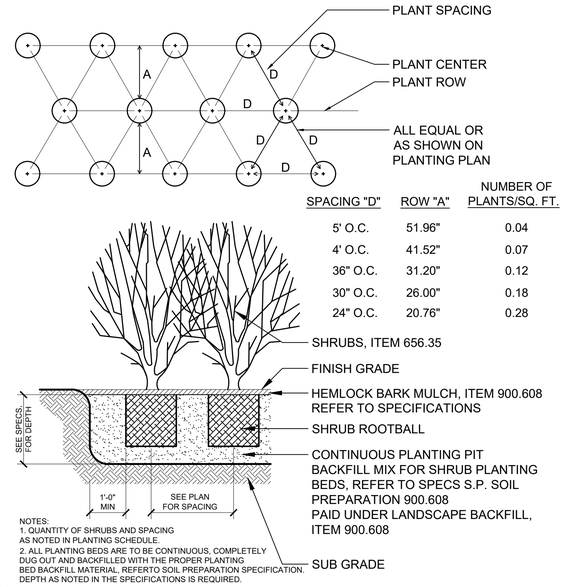
SHEET 138 OF 178



E LAWN

SCALE 1" = 1'-0"

p-lawn.dwg

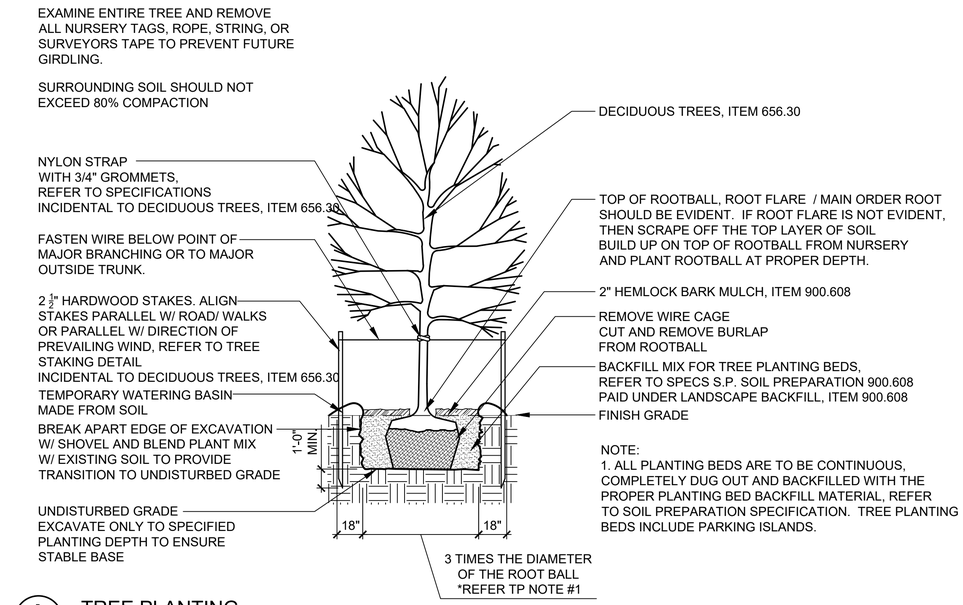


SPACING "D"	ROW "A"	NUMBER OF PLANTS/SQ. FT.
5' O.C.	51.96"	0.04
4' O.C.	41.52"	0.07
36" O.C.	31.20"	0.12
30" O.C.	26.00"	0.18
24" O.C.	20.76"	0.28

NOTES:
1. QUANTITY OF SHRUBS AND SPACING AS NOTED IN PLANTING SCHEDULE.
2. ALL PLANTING BEDS ARE TO BE CONTINUOUS, COMPLETELY DUG OUT AND BACKFILLED WITH THE PROPER PLANTING BED BACKFILL MATERIAL, REFERTO SOIL PREPARATION SPECIFICATION. DEPTH AS NOTED IN THE SPECIFICATIONS IS REQUIRED.

C SHRUB PLANTING

SCALE: 1/2" = 1'-0"



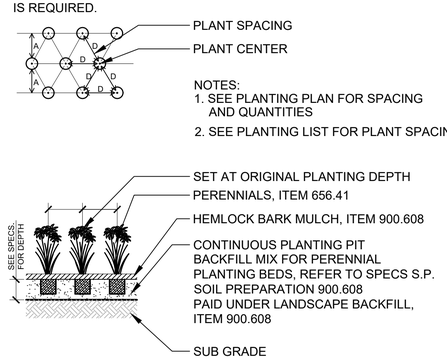
A TREE PLANTING

SCALE 1/4" = 1'-0"

p-decidtree.dwg

SPACING "D"	ROW "A"	NUMBER OF PLANTS/SQ.FT.
36" O.C.	31.20"	0.125
30" O.C.	26.00"	0.180
24" O.C.	20.76"	0.281
12" O.C.	10.44"	1.125
10" O.C.	8.64"	1.660
8" O.C.	6.96"	2.600
6" O.C.	5.16"	4.610

NOTE:
1. PLANT QUANTITIES DETERMINED BY MULTIPLYING AREA (SQ. FT.) BY NUMBER OF PLANTS/SQ. FT. FOR REQUIRED SPACING.
2. ALL PLANTING BEDS ARE TO BE CONTINUOUS, COMPLETELY DUG OUT AND BACKFILLED WITH THE PROPER PLANTING BED BACKFILL MATERIAL, REFER TO SOIL PREPARATION SPECIFICATION. DEPTH AS NOTED IN THE SPECIFICATIONS IS REQUIRED.

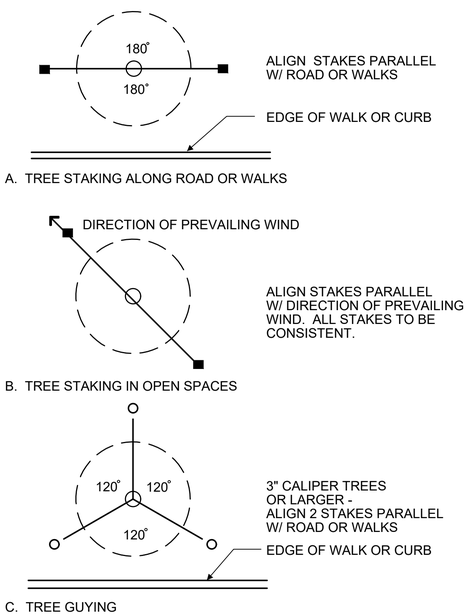


NOTES:
1. SEE PLANTING PLAN FOR SPACING AND QUANTITIES
2. SEE PLANTING LIST FOR PLANT SPACING

D PERENNIAL PLANTING

SCALE: 1/2" = 1'-0"

p-perennial.dwg



A. TREE STAKING ALONG ROAD OR WALKS

B. TREE STAKING IN OPEN SPACES

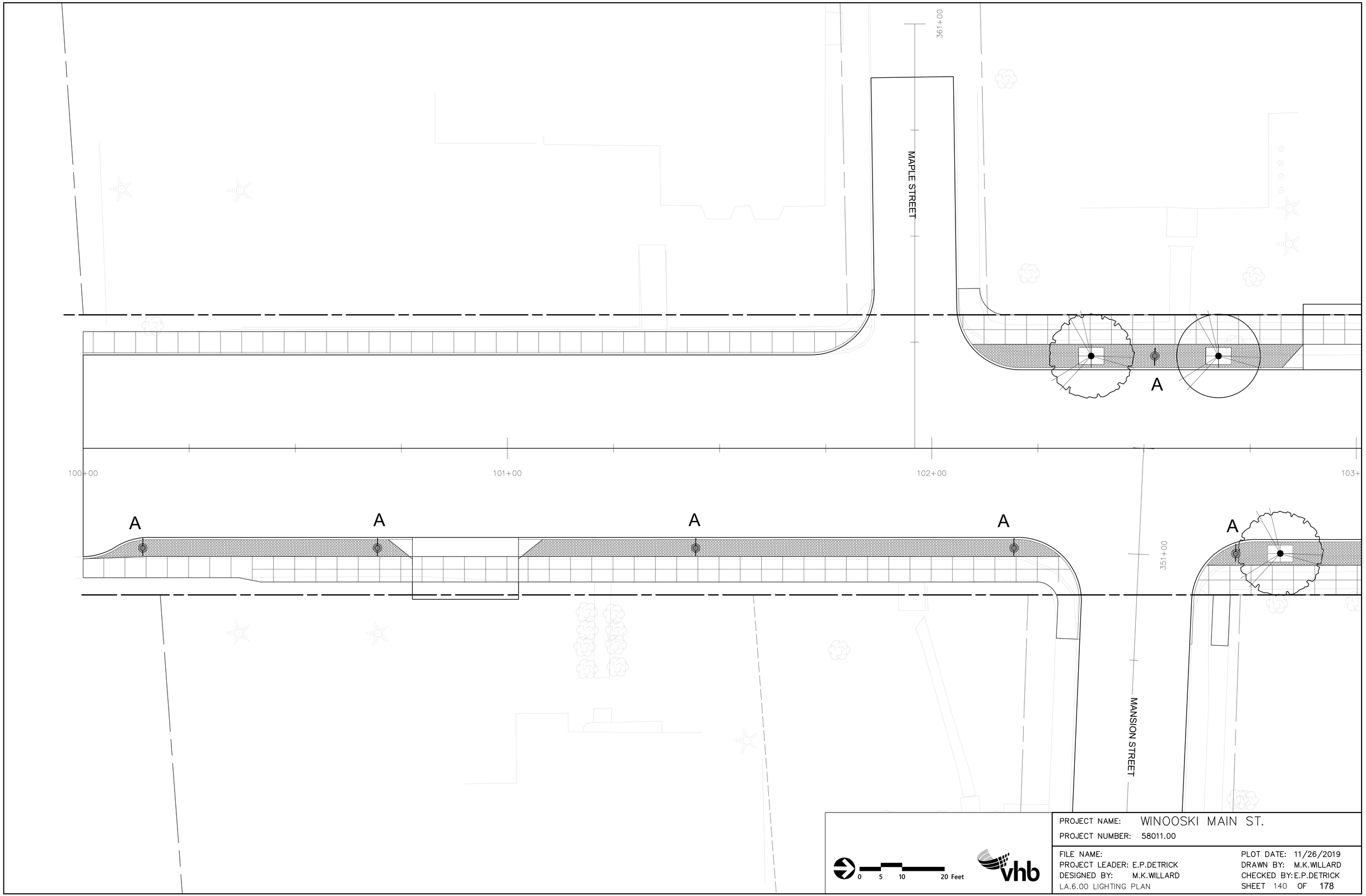
C. TREE GUYING

B TREE STAKING LAYOUT

INCIDENTAL TO DECIDUOUS TREES, ITEM 656.30

NO SCALE

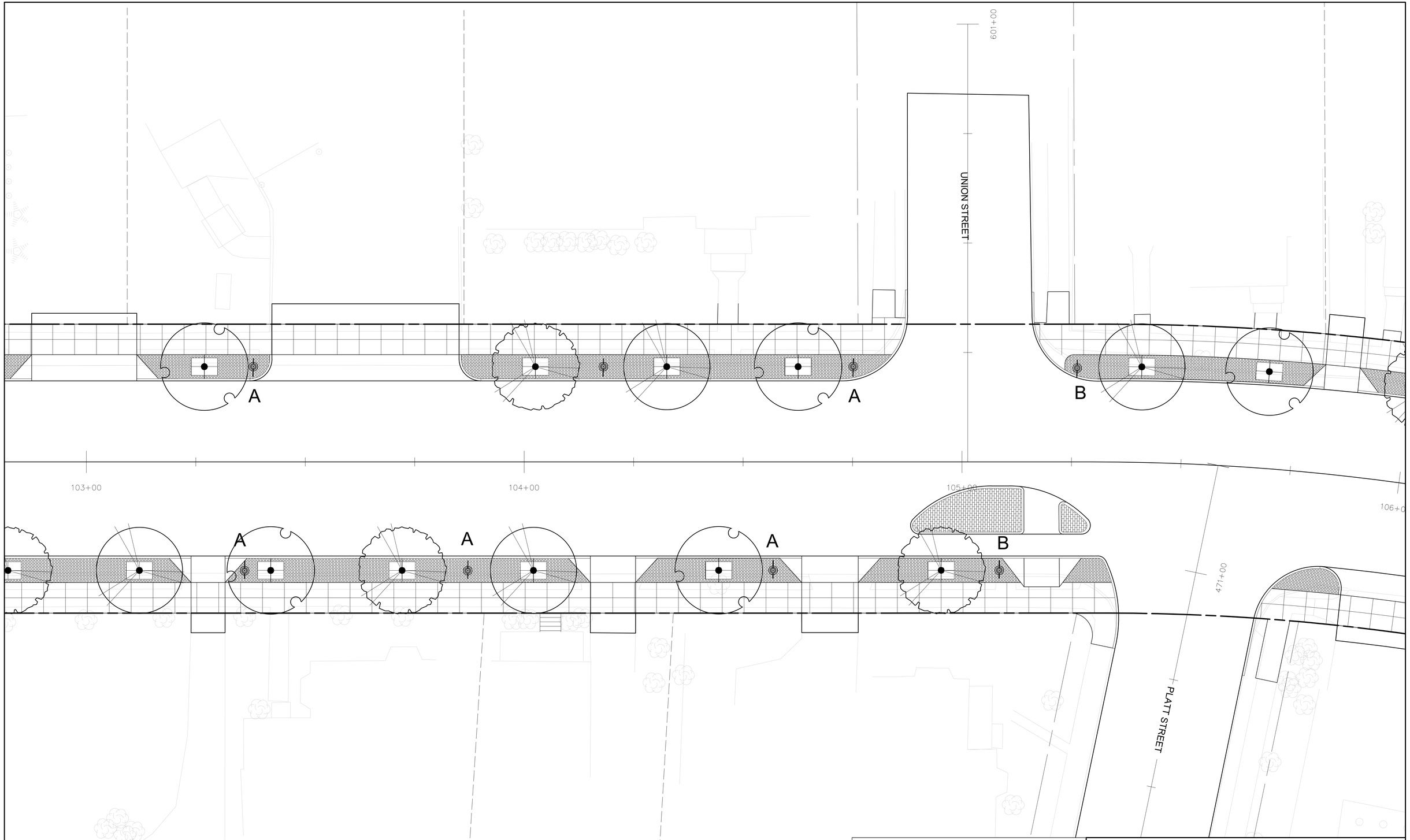
PROJECT NAME: WINOOSKI MAIN ST.	
PROJECT NUMBER: 58011.00	
FILE NAME:	PLOT DATE: 11/26/2019
PROJECT LEADER: E.P.DETRICK	DRAWN BY: M.K.WILLARD
DESIGNED BY: M.K.WILLARD	CHECKED BY: E.P.DETRICK
LA.5.00 PLANTING DETAILS	SHEET 139 OF 178



PROJECT NAME: WINOOSKI MAIN ST.
PROJECT NUMBER: 58011.00

FILE NAME:
PROJECT LEADER: E.P.DETRICK
DESIGNED BY: M.K.WILLARD
LA.6.00 LIGHTING PLAN

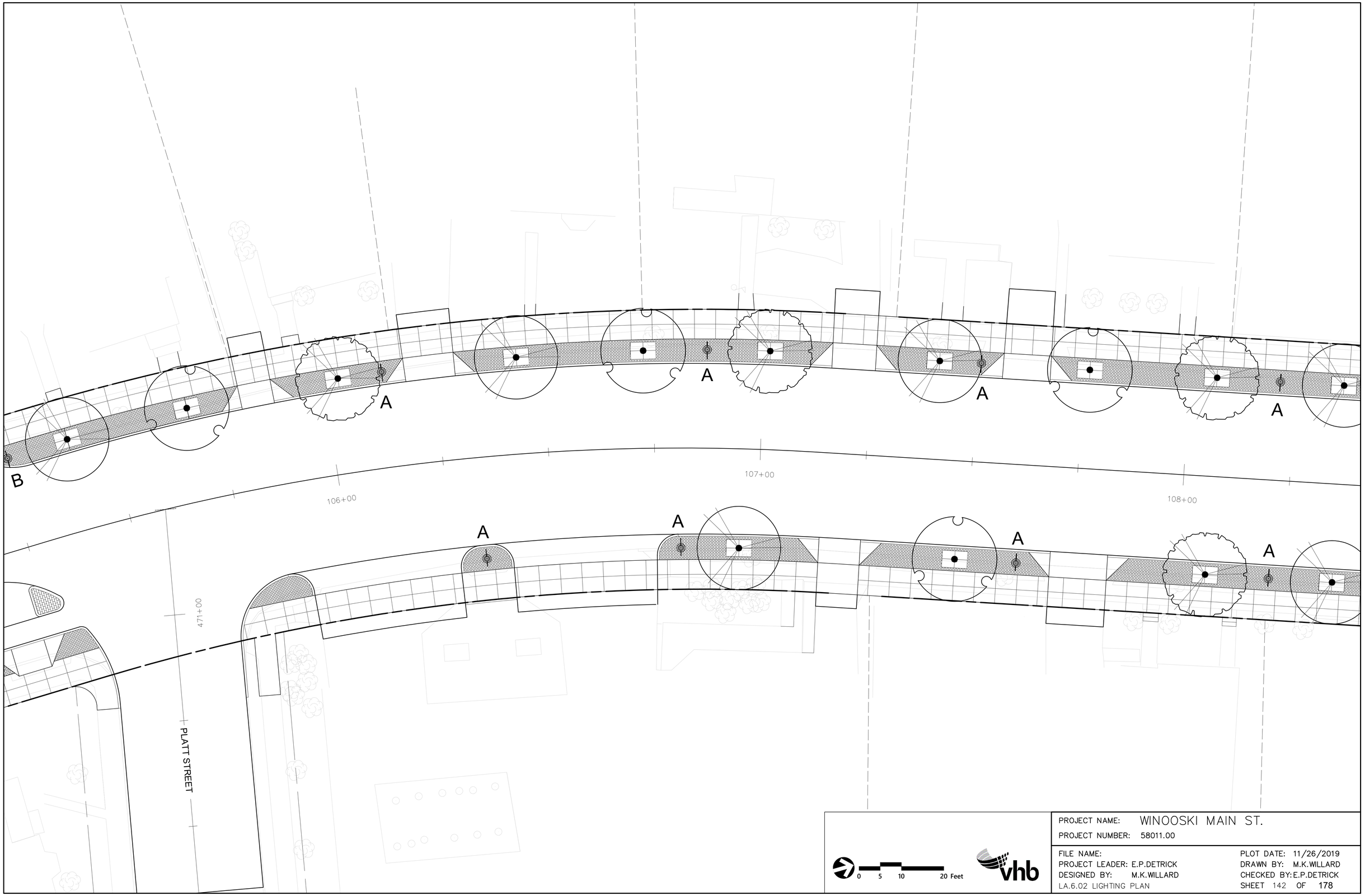
PLOT DATE: 11/26/2019
DRAWN BY: M.K.WILLARD
CHECKED BY: E.P.DETRICK
SHEET 140 OF 178



0 5 10 20 Feet

vhb

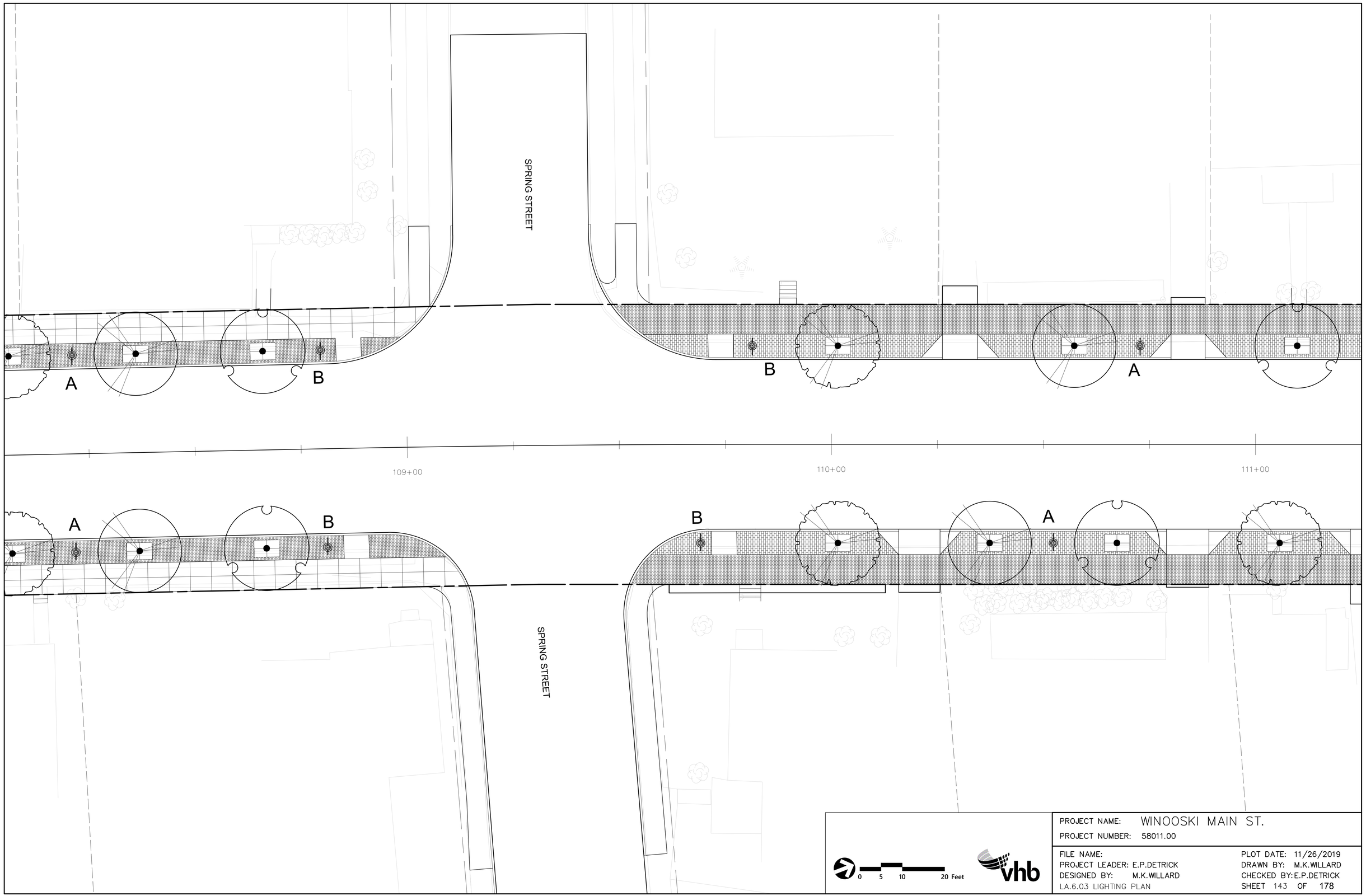
PROJECT NAME: WINOOSKI MAIN ST.	
PROJECT NUMBER: 58011.00	
FILE NAME:	PLOT DATE: 11/26/2019
PROJECT LEADER: E.P.DETRICK	DRAWN BY: M.K.WILLARD
DESIGNED BY: M.K.WILLARD	CHECKED BY: E.P.DETRICK
LA.6.01 LIGHTING PLAN	SHEET 141 OF 178



PROJECT NAME: WINOOSKI MAIN ST.
PROJECT NUMBER: 58011.00

FILE NAME:
PROJECT LEADER: E.P.DETRICK
DESIGNED BY: M.K.WILLARD
LA.6.02 LIGHTING PLAN

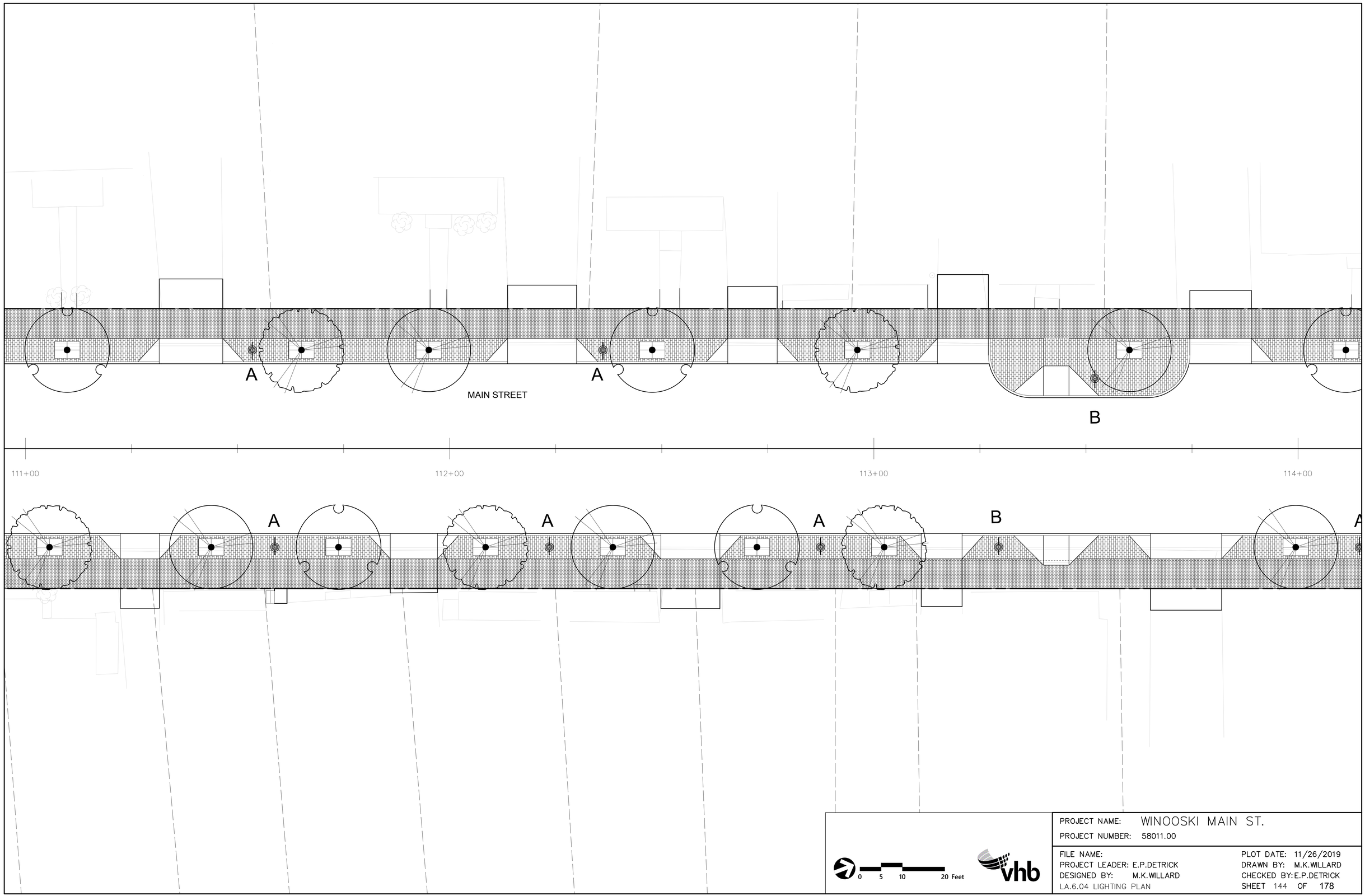
PLOT DATE: 11/26/2019
DRAWN BY: M.K.WILLARD
CHECKED BY: E.P.DETRICK
SHEET 142 OF 178



PROJECT NAME: WINOOSKI MAIN ST.
PROJECT NUMBER: 58011.00

FILE NAME:
PROJECT LEADER: E.P.DETRICK
DESIGNED BY: M.K.WILLARD
LA.6.03 LIGHTING PLAN

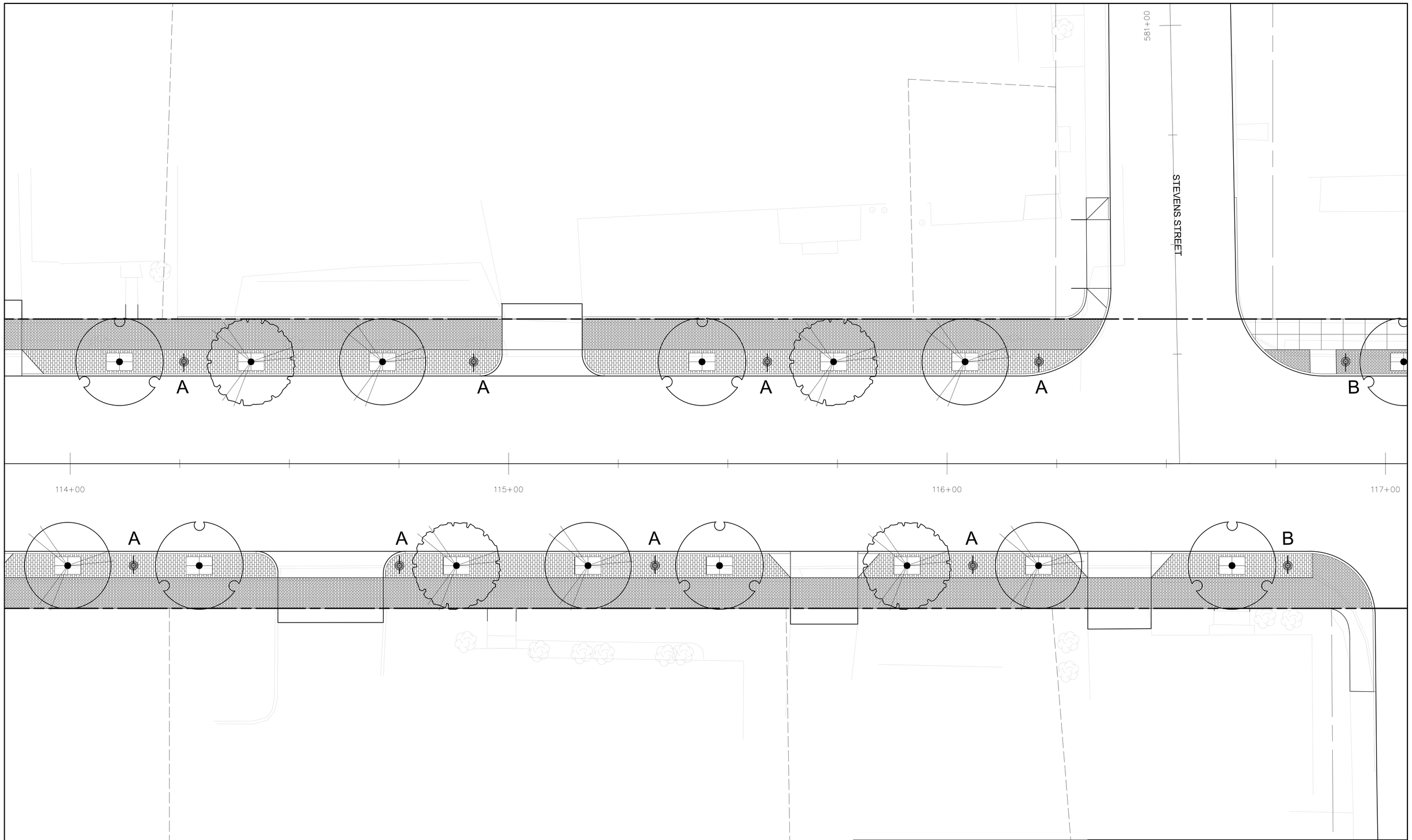
PLOT DATE: 11/26/2019
DRAWN BY: M.K.WILLARD
CHECKED BY: E.P.DETRICK
SHEET 143 OF 178



PROJECT NAME: WINOOSKI MAIN ST.
PROJECT NUMBER: 58011.00

FILE NAME:
PROJECT LEADER: E.P.DETRICK
DESIGNED BY: M.K.WILLARD
LA.6.04 LIGHTING PLAN

PLOT DATE: 11/26/2019
DRAWN BY: M.K.WILLARD
CHECKED BY: E.P.DETRICK
SHEET 144 OF 178



0 5 10 20 Feet

vhb

PROJECT NAME: WINOOSKI MAIN ST.

PROJECT NUMBER: 58011.00

FILE NAME:

PROJECT LEADER: E.P.DETRICK

DESIGNED BY: M.K.WILLARD

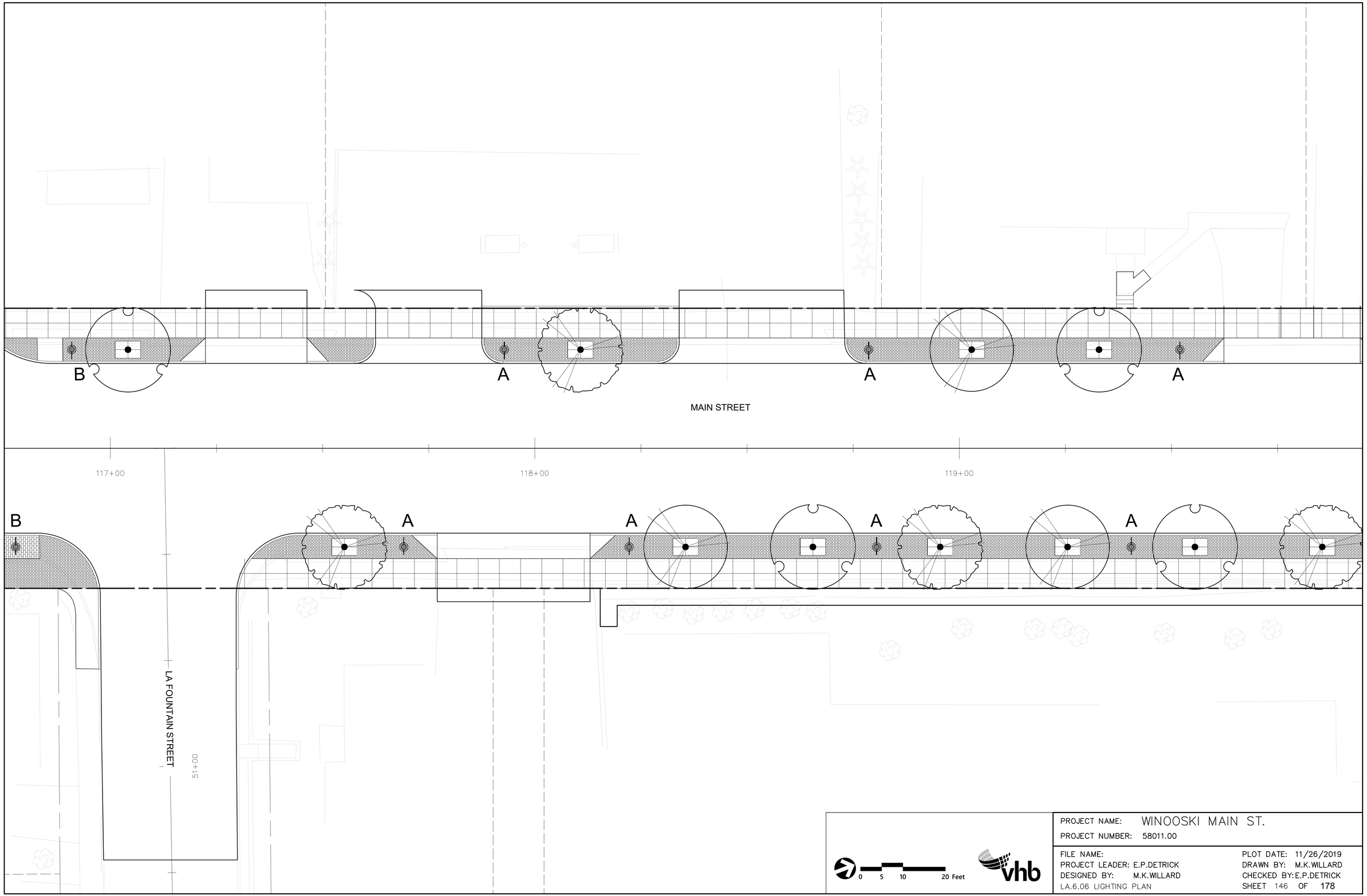
LA.6.05 LIGHTING PLAN

PLOT DATE: 11/26/2019

DRAWN BY: M.K.WILLARD

CHECKED BY: E.P.DETRICK

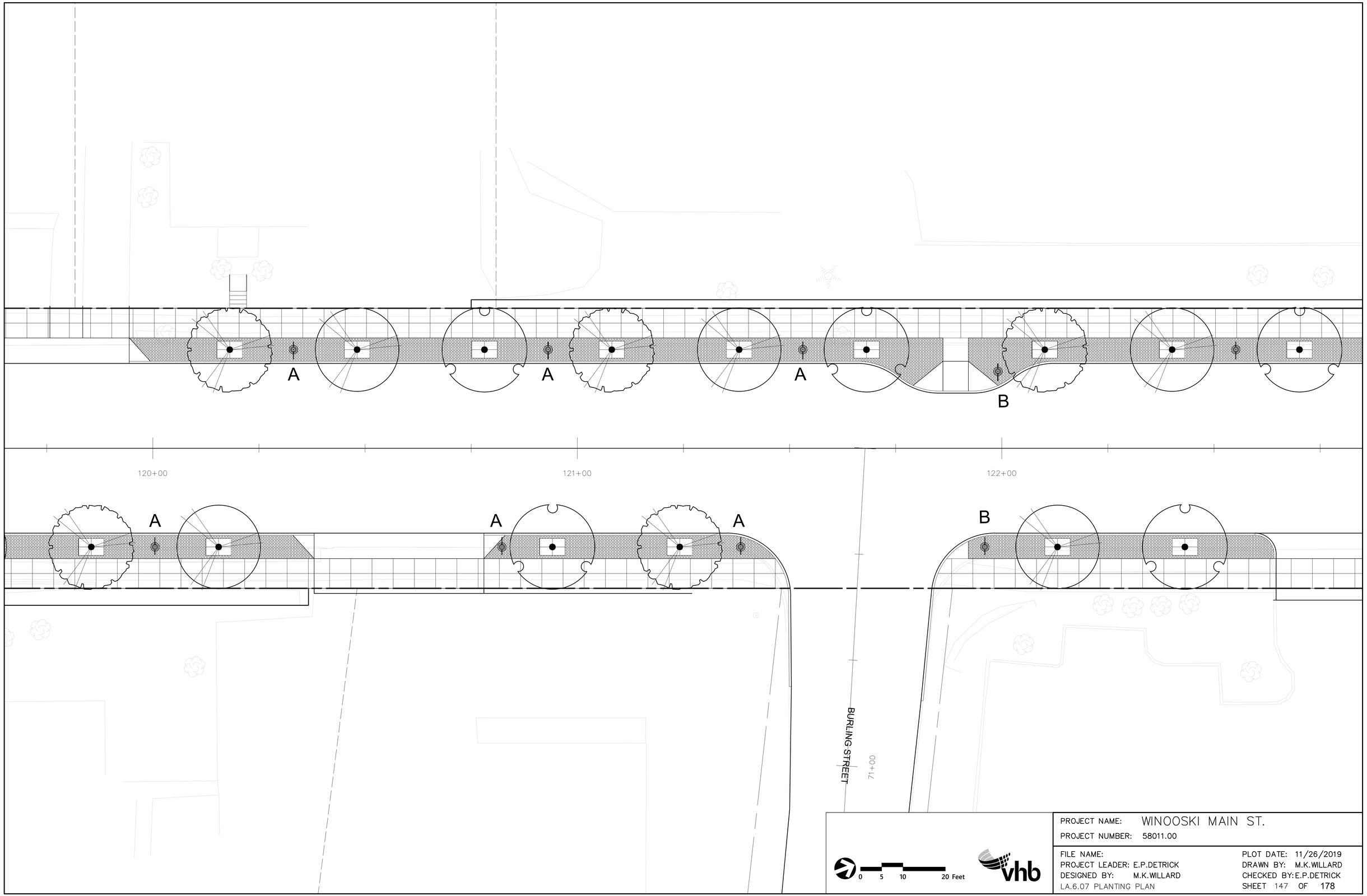
SHEET 145 OF 178



0 5 10 20 Feet

vhb

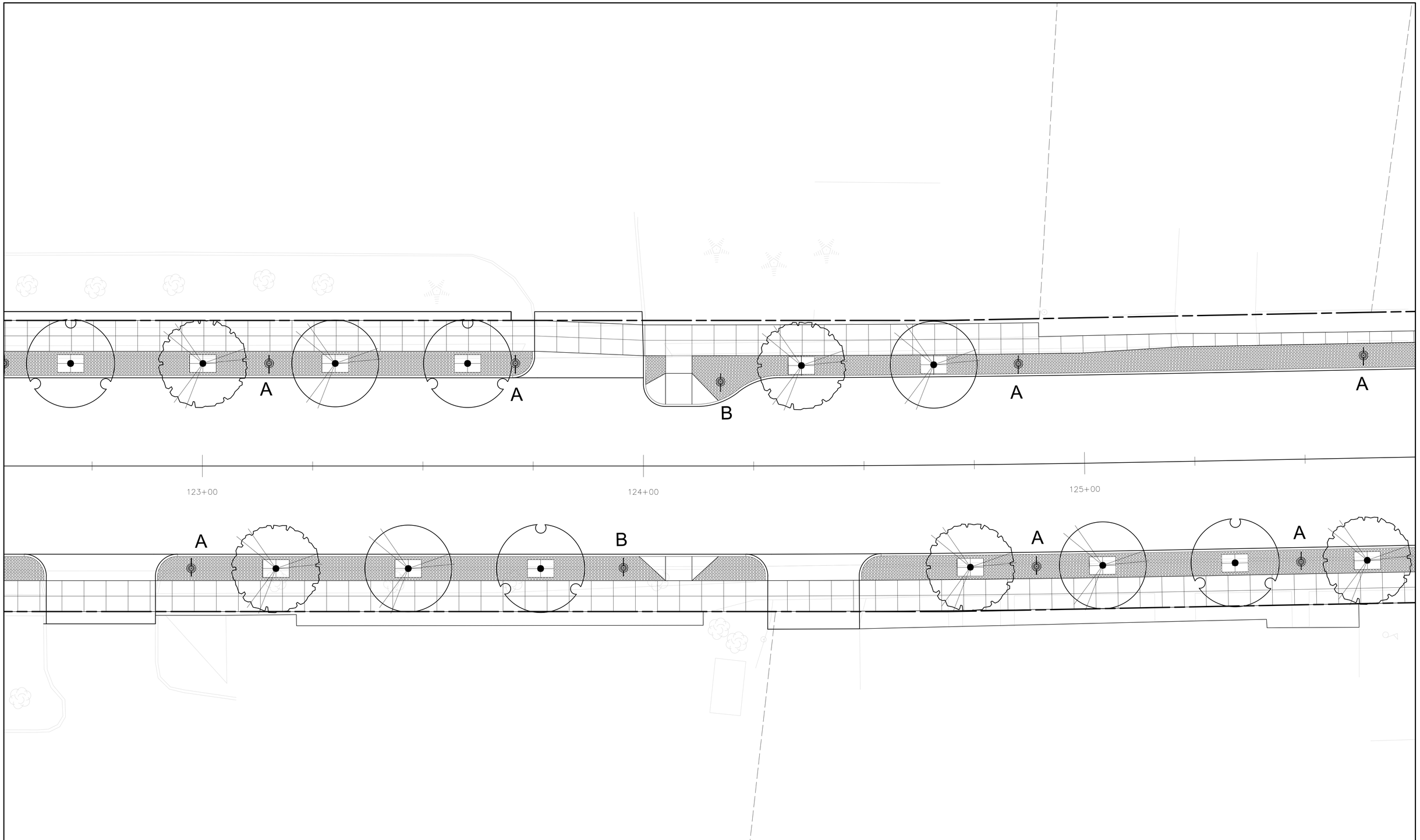
PROJECT NAME: WINOOSKI MAIN ST.	
PROJECT NUMBER: 58011.00	
FILE NAME:	PLOT DATE: 11/26/2019
PROJECT LEADER: E.P.DETRICK	DRAWN BY: M.K.WILLARD
DESIGNED BY: M.K.WILLARD	CHECKED BY: E.P.DETRICK
LA.6.06 LIGHTING PLAN	SHEET 146 OF 178



PROJECT NAME: WINOOSKI MAIN ST.
PROJECT NUMBER: 58011.00

FILE NAME:
PROJECT LEADER: E.P.DETRICK
DESIGNED BY: M.K.WILLARD
LA.6.07 PLANTING PLAN

PLOT DATE: 11/26/2019
DRAWN BY: M.K.WILLARD
CHECKED BY: E.P.DETRICK
SHEET 147 OF 178



0 5 10 20 Feet

vhb

PROJECT NAME: WINOOSKI MAIN ST.

PROJECT NUMBER: 58011.00

FILE NAME:

PROJECT LEADER: E.P.DETRICK

DESIGNED BY: M.K.WILLARD

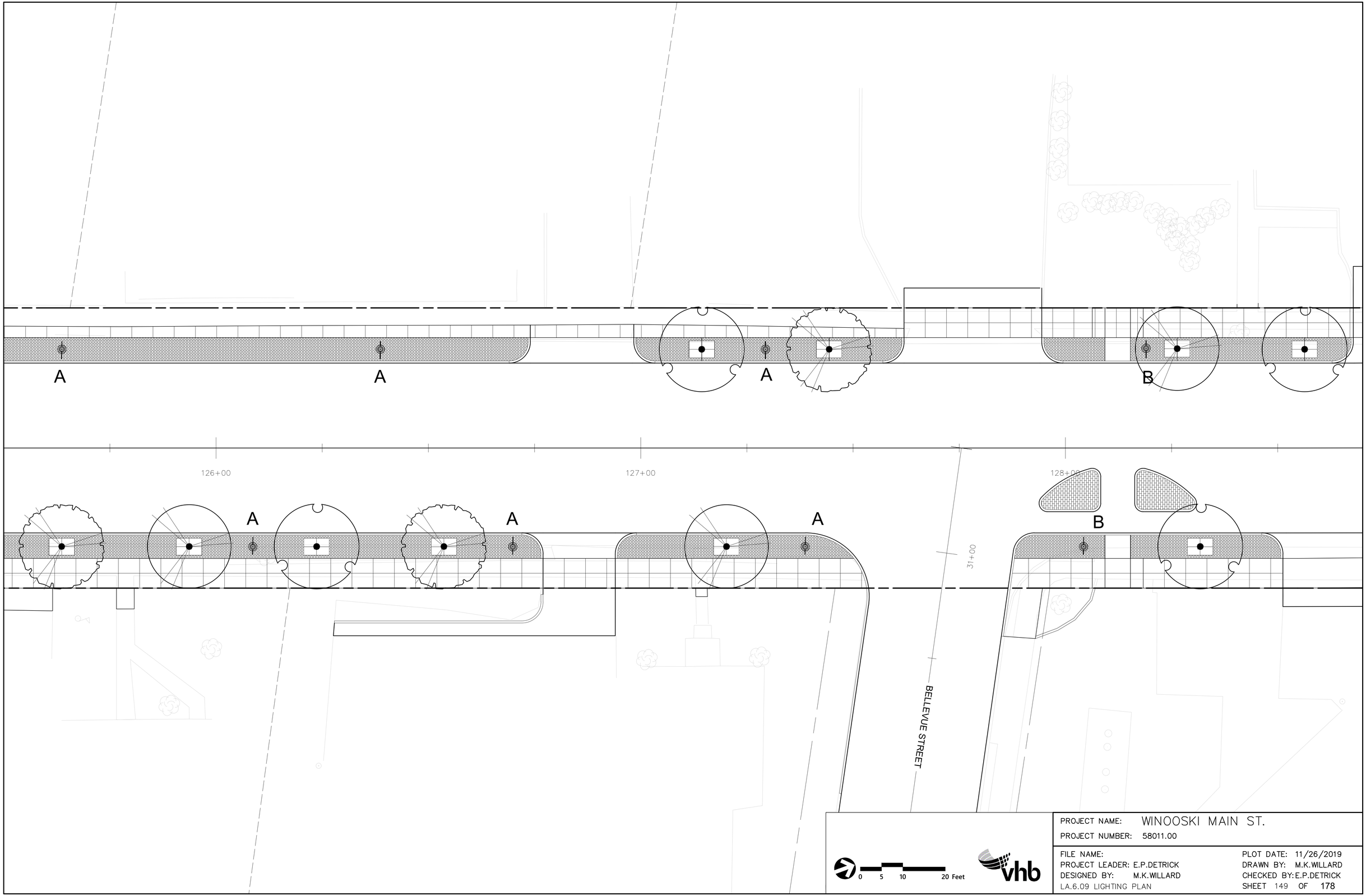
LA.6.08 LIGHTING PLAN

PLOT DATE: 11/26/2019

DRAWN BY: M.K.WILLARD

CHECKED BY: E.P.DETRICK

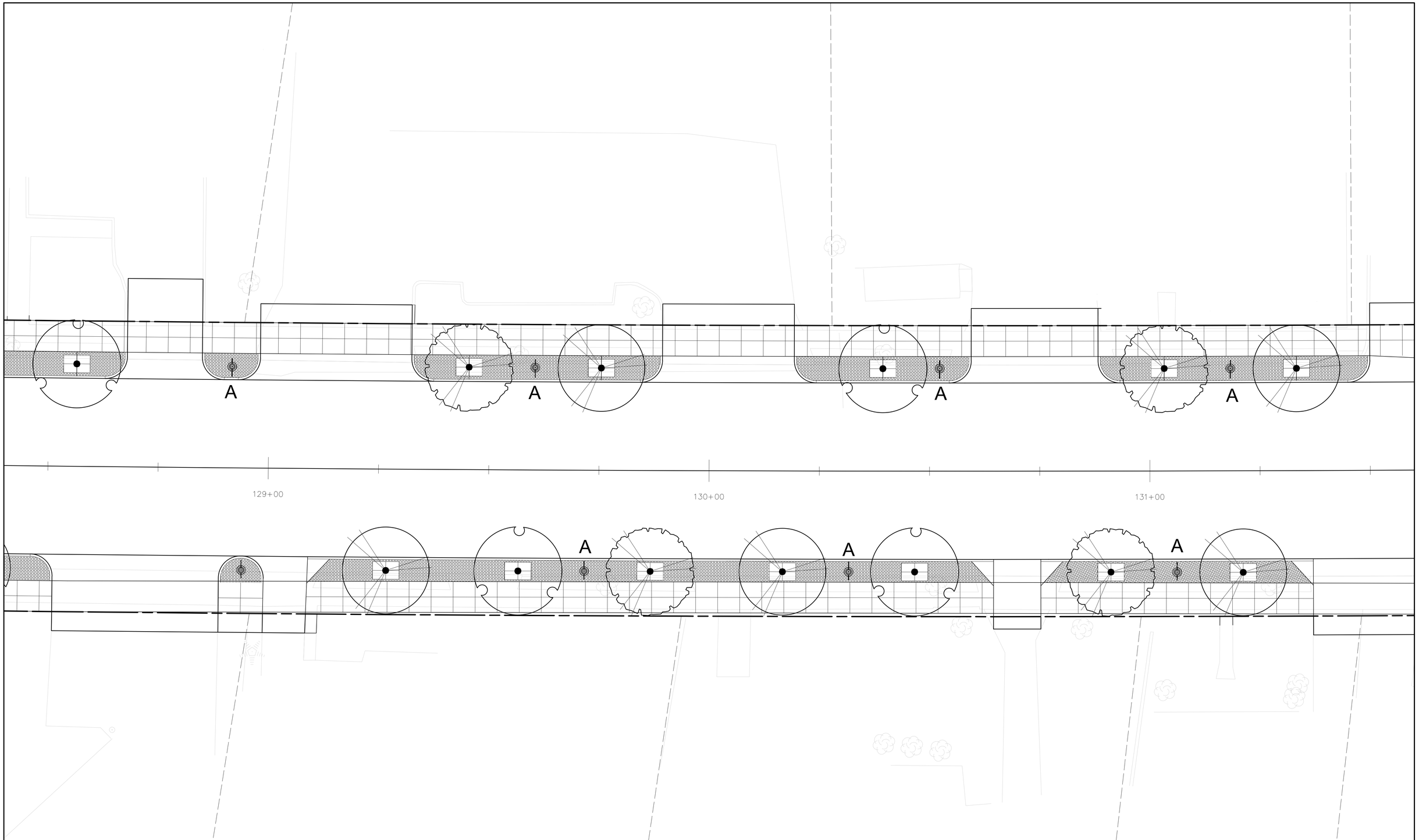
SHEET 148 OF 178



PROJECT NAME: WINOOSKI MAIN ST.
PROJECT NUMBER: 58011.00

FILE NAME:
PROJECT LEADER: E.P.DETRICK
DESIGNED BY: M.K.WILLARD
LA.6.09 LIGHTING PLAN

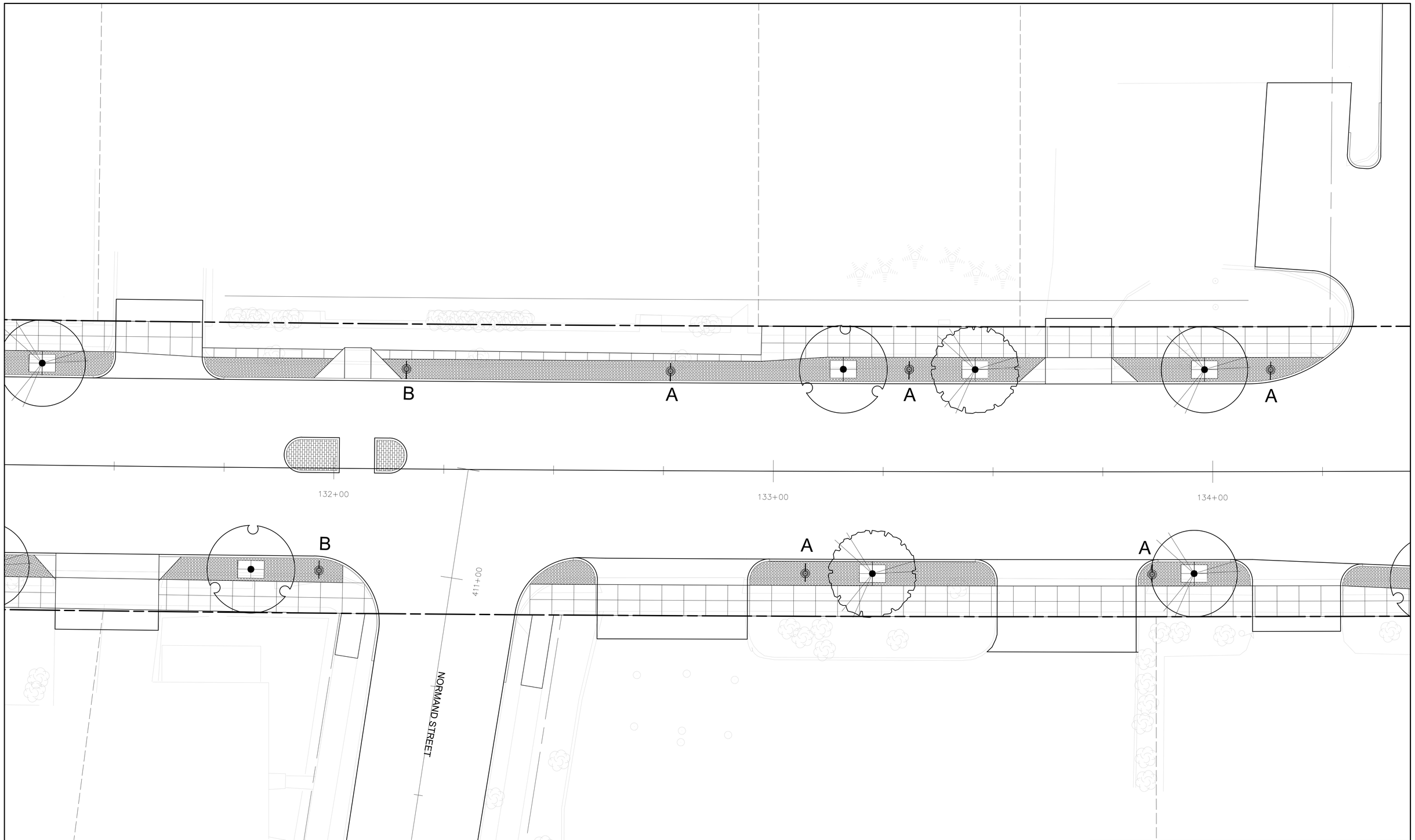
PLOT DATE: 11/26/2019
DRAWN BY: M.K.WILLARD
CHECKED BY: E.P.DETRICK
SHEET 149 OF 178



0 5 10 20 Feet

vhb

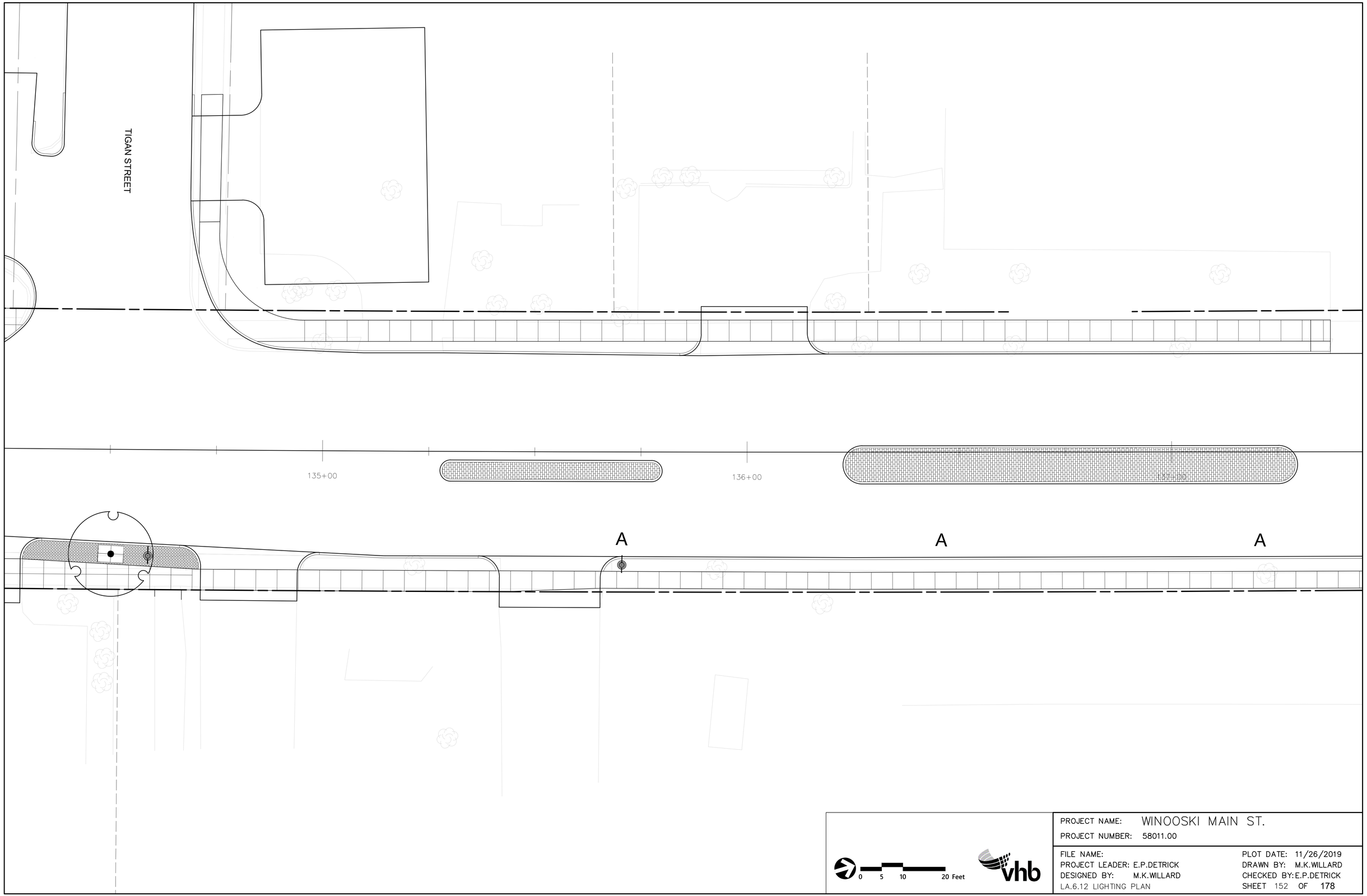
PROJECT NAME: WINOOSKI MAIN ST.	
PROJECT NUMBER: 58011.00	
FILE NAME:	PLOT DATE: 11/26/2019
PROJECT LEADER: E.P.DETRICK	DRAWN BY: M.K.WILLARD
DESIGNED BY: M.K.WILLARD	CHECKED BY: E.P.DETRICK
LA.6.10 LIGHTING PLAN	SHEET 150 OF 178



0 5 10 20 Feet

vhb

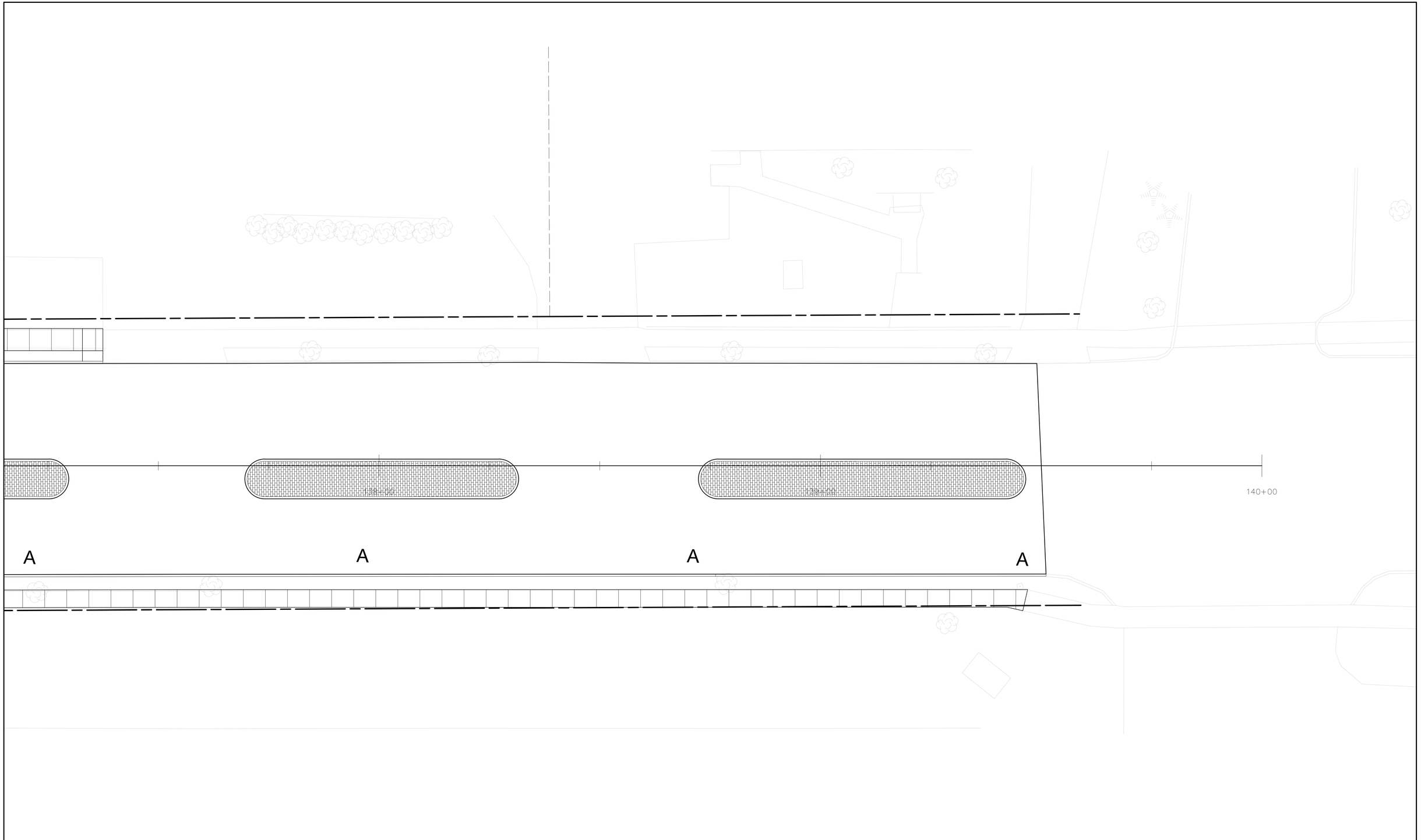
PROJECT NAME: WINOOSKI MAIN ST.	
PROJECT NUMBER: 58011.00	
FILE NAME:	PLOT DATE: 11/26/2019
PROJECT LEADER: E.P.DETRICK	DRAWN BY: M.K.WILLARD
DESIGNED BY: M.K.WILLARD	CHECKED BY: E.P.DETRICK
LA.6.11 LIGHTING PLAN	SHEET 151 OF 178



0 5 10 20 Feet

vhb

PROJECT NAME: WINOOSKI MAIN ST.	
PROJECT NUMBER: 58011.00	
FILE NAME:	PLOT DATE: 11/26/2019
PROJECT LEADER: E.P.DETRICK	DRAWN BY: M.K.WILLARD
DESIGNED BY: M.K.WILLARD	CHECKED BY: E.P.DETRICK
LA.6.12 LIGHTING PLAN	SHEET 152 OF 178

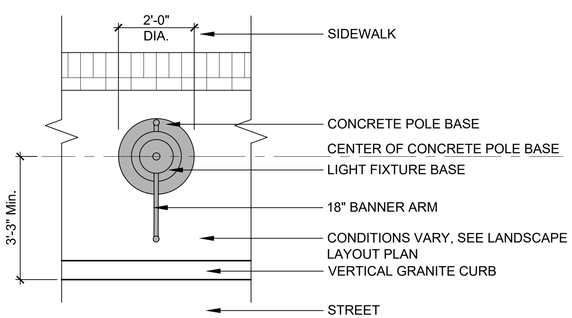


0 5 10 20 Feet

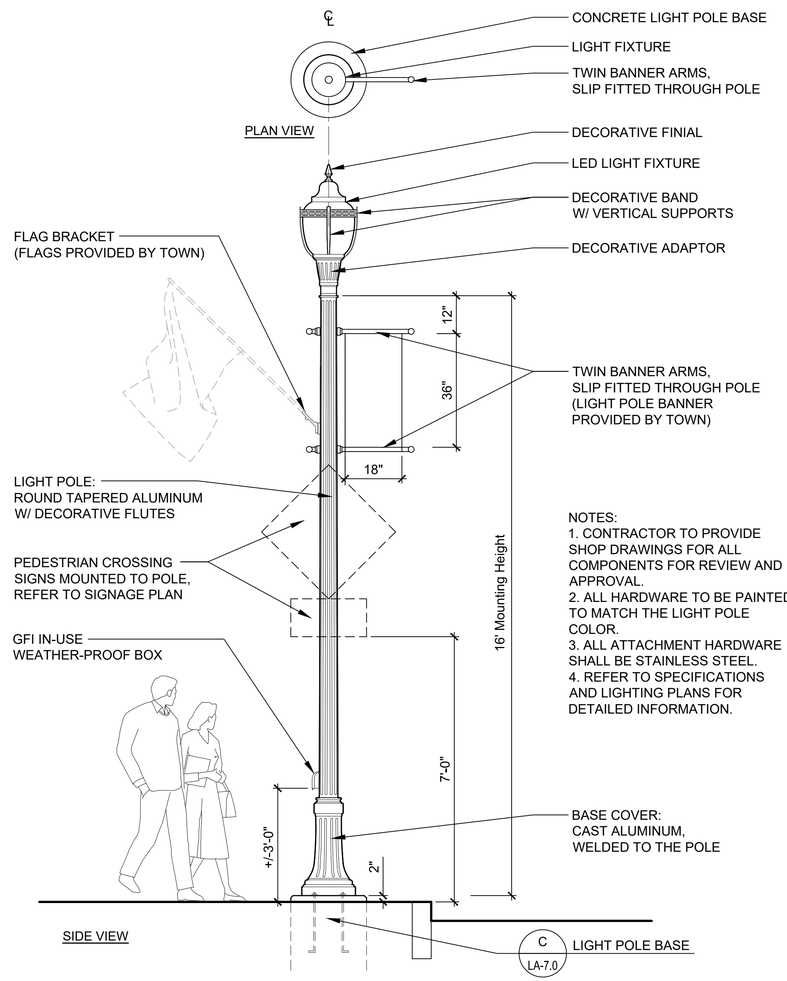
vhb

PROJECT NAME: WINOOSKI MAIN ST.	
PROJECT NUMBER: 58011.00	
FILE NAME:	PLOT DATE: 11/26/2019
PROJECT LEADER: E.P.DETRICK	DRAWN BY: M.K.WILLARD
DESIGNED BY: M.K.WILLARD	CHECKED BY: E.P.DETRICK
LA.6.13 LIGHTING PLAN	SHEET 153 OF 178

NOTES:
1. CONTRACTOR IS TO TAKE SPECIAL CARE WHEN SETTING THE LIGHT POLES BASES TO ENSURE THE BASES LINE UP PROPERLY WITHIN THE GREENBELT AREAS. MISALIGNED POLE BASES WILL NOT BE ACCEPTED, UNLESS NOTED OTHERWISE.
2. REFER TO LIGHTING PLAN FOR LIGHT POLE BASE LOCATIONS.

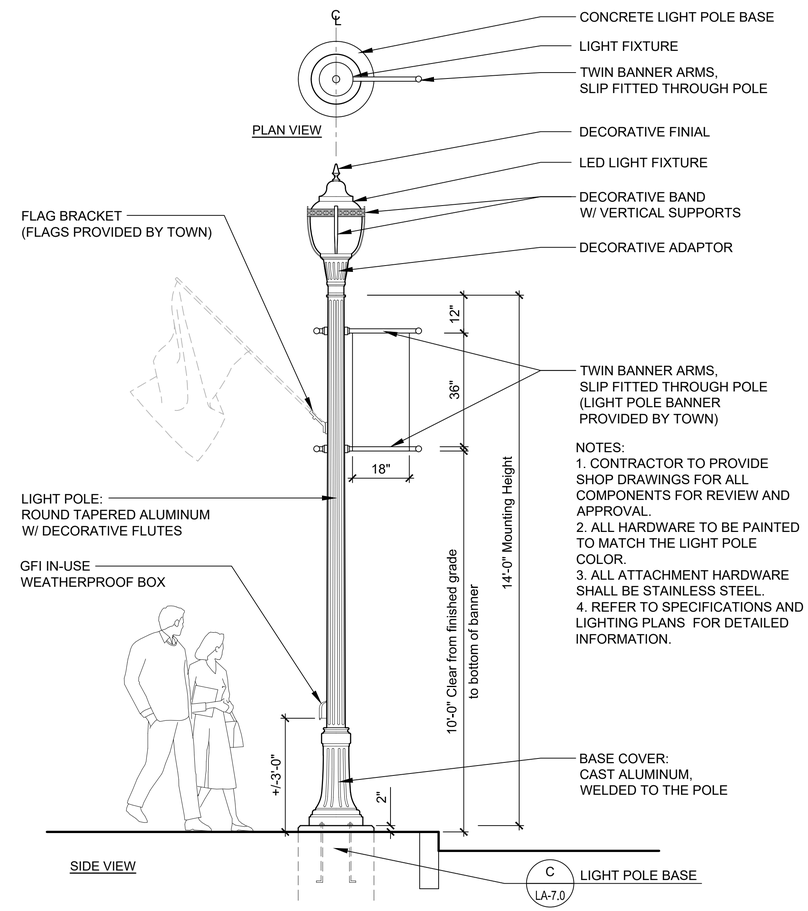


C LIGHT POLE BASE LAYOUT
SCALE 1/2" = 1'-0"



NOTES:
1. CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR ALL COMPONENTS FOR REVIEW AND APPROVAL.
2. ALL HARDWARE TO BE PAINTED TO MATCH THE LIGHT POLE COLOR.
3. ALL ATTACHMENT HARDWARE SHALL BE STAINLESS STEEL.
4. REFER TO SPECIFICATIONS AND LIGHTING PLANS FOR DETAILED INFORMATION.

B ORNAMENTAL STREET LIGHT - FIXTURE B
SCALE 1/2" = 1'-0"



NOTES:
1. CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR ALL COMPONENTS FOR REVIEW AND APPROVAL.
2. ALL HARDWARE TO BE PAINTED TO MATCH THE LIGHT POLE COLOR.
3. ALL ATTACHMENT HARDWARE SHALL BE STAINLESS STEEL.
4. REFER TO SPECIFICATIONS AND LIGHTING PLANS FOR DETAILED INFORMATION.

A ORNAMENTAL STREET LIGHT - FIXTURE A
SCALE 1/2" = 1'-0"

PROJECT NAME: WINOOSKI MAIN ST.	
PROJECT NUMBER: 58011.00	
FILE NAME:	PLOT DATE: 11/26/2019
PROJECT LEADER: E.P.DETRICK	DRAWN BY: M.K.WILLARD
DESIGNED BY: M.K.WILLARD	CHECKED BY: E.P.DETRICK
LA.7.00 LIGHTING DETAILS	SHEET 154 OF 178

EPSC PLAN NARRATIVE

1.1 PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE RECONSTRUCTION OF MAIN STREET(us route 2/7) CORRIDOR FROM COLCHESTER TOWN LINE SOUTH APPROXOMATLY 4,000 FT TO THE BRIDGE OVER THE NEW ENGLAND CENTRAIL RAILROAD. THE PROJECT, INCLUDS STORMWATER MANAGEMENT ENHANCEMENTS, UPGRADES TO EXISTING WATER AND WASTEWATER INFRSTRUCTURE, BURLIAL OF ELECTIC AND TELECOMMUICATION INFRASTRUCTURE, ROADWAY RECONSTRUCTION, AND COMPREHENSIVE LANDSCAPE, TRAFFIC CONTROL, AND PEDESTERIAN SAFETY ENHANCEMENTS ALONG THE LENGTH OF MAIN STREET.

TOTAL AREA OF DISTURBANCE AS IS APPROXIMATELY 6.84 ACRES.

IT IS ANTICIPATED THAT THIS PROJECT WILL LAST ONE CONSTRUCTION SEASON.

1.2 SITE INVENTORY

1.2.1 TOPOGRAPHY

THE TOPOGRAPHY OF PROJECT AREA IS URBAN ROADWAY.SLOPES ARE MODERATE BUT MINIMAL EXISITNG VEGETATION. LIMITS OF WORK WILL MOSTLY BE WITHIN THE EXISITNG TOWN HIGHWAY CORRIDOR.

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

THE PROJECT IS LOCATED WITHIN 0.25 MILES OF THE WINOOSKI RIVER, STORMWATER DISCHARGE IS INTO THE WINOOSI RIVER THROUGH STORMWATER NETWORK. STORMWATER TREAMENT PRACTICES ARE INCLUDED IN THIS PROJECT.

1.2.3 VEGETATION

THE VEGETATION IN THE PROJECT AREA CONSISTS OF MAINLY GRASS THE IMPACT TO VEGETATION WILL BE LIMITED TO THAT WHICH IS DIRECTLY AFFECTED BY THE WIDENING OF THE TOWN HIGHWAY CORRIDOR. THERE WILL BE MINIMAL VEGITATION DISTURBANCE AND LANDSCAPING AND STREET SCAPING PRACTICICES HABVE BEEN DESIGNED ALONG THIS CORRIDOR.

1.2.4 SOILS

ALL SOIL DATA CAME FROM THE U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE FOR THE COUNTYS OF CHITENDEN, VERMONT. SOILS ON THE PROJECT SITE ARE ADAMS AND WINDSOR, LOAMY SAND, 12% TO 30% SLOPES, “K FACTOR” = 0.15., ADAMS AND WINDSOR LOAMY SAND, 0-5% SLOPES, “K FACTOR” = 0.15, ADAMS AND WINDSOR LOAMY SAND, 5-12% SLOPES, “K FACTOR” = 0.15, AND MUNSON AND BELGRADE SILT LOAM, 12-25% SLOPE, “K FACTOR” = 0.32. THE SOILS ARE CONSIDERED LOW TO MODERATELY ERODIBLE DUE TO MODERATE SLOPES.

NOTE: K-VALUES GENERALLY INDICATE THE FOLLOWING:
0.0-0.23 = LOW EROSION POTENTIAL
0.24-0.36 = MODERATE EROSION POTENTIAL
0.37 AND HIGHER = HIGH EROSION POTENTIAL

1.2.5 SENSITIVE RESOURCE AREAS
CRITICAL HABITATS: NO
HISTORICAL OR ARCHEOLOGICAL AREAS: NO
PRIME AGRICULTURAL LAND: NO
THREATENED AND ENDANGERED SPECIES: NO
WATER RESOURCE: WINOOSKI RIVER
WETLANDS: CLASS II WETLAND ON SITE (NO IMPACTS TO WETLAND ONLY, BUFFER ONLY IMPACTS)

1.3 RISK EVALUATION
THIS PROJECT FALLS UNDER THE JURISDICTION OF GENERAL PERMIT 3-9020 FOR STORMWATER RUNOFF FROM CONSTRUCTION SITES FOR LOW RISK PROJECTS. ANY MODIFICATIONS TO THE PROJECT THAT INCREASE THE RISK TO ENVIRONMENTAL RESOURCES SHALL BE EVALUATED IN ACCORDANCE WITH THE PERMIT REQUIREMENTS. THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY ADDITIONAL PERMITTING.

1.4 EROSION PREVENTION AND SEDIMENT CONTROL

THE PRINCIPLES OUTLINED IN THIS NARRATIVE CONSIST OF APPLYING MEASURES THROUGHOUT CONSTRUCTION OF THE PROJECT IN ORDER TO MINIMIZE SEDIMENT TRANSPORT TO THE RECEIVING WATERS. THE MEASURES INCLUDE STABILIZATION AND STRUCTURAL PRACTICES, STORM WATER CONTROLS AND OTHER POLLUTION PREVENTION PRACTICES. THEY HAVE BEEN PROPOSED BY THE DESIGNER AS A BASIS FOR PROTECTING RESOURCES AND WILL NEED TO BE BUILT UPON BASED ON THE SPECIFIC MEANS AND METHODS OF THE CONTRACTOR. REFER TO THE LOW RISK SITE HANDBOOK AND APPROPRIATE DETAIL SHEETS FOR SPECIFIC GUIDANCE AND CONSTRUCTION DETAILING.

ALL MEASURES SHALL BE REGULARLY MAINTAINED AND SHALL BE CHECKED FOR SEDIMENT BUILD-UP. SEDIMENT SHALL BE DISPOSED OF AT AN APPROVED SITE WHERE IT WILL NOT BE SUBJECT TO EROSION.

1.4.1 MARK SITE BOUNDARIES
SITE BOUNDARIES AND AREAS CONSTRUCTION EQUIPMENT CAN ACCESS SHALL BE DELINEATED. PROJECT DEMARCATION FENCING (PDF) SHALL BE USED TO PHYSICALLY MARK SITE BOUNDARIES. BECAUSE THIS PROJECT FALLS UNDER THE CGP 3-9020, BARRIER FENCE SHALL BE USED INSTEAD OF PROJECT DEMARCATION FENCE WITHIN 100 FEET OF A WATER RESOURCE (STREAM, BROOK, LAKE, POND, WETLAND, ETC).

1.4.2 LIMIT DISTURBANCE AREA
PREVENTING INITIAL SOIL EROSION BY MINIMIZING THE EXPOSED AREA IS MUCH MORE EFFECTIVE THAN TREATING ERODED SEDIMENT. EARTH DISTURBANCE CAN BE MINIMIZED THROUGH CONSTRUCTION PHASING BY ONLY OPENING UP EARTH AS NECESSARY. THIS CAN LIMIT THE AREA THAT WILL BE DISTURBED AND EXPOSED TO EROSION. EMPLOY TEMPORARY CONSTRUCTION STABILIZATION PRACTICES IN INCREMENTAL STAGES AS PHASES CHANGE. FOR PROJECTS WHICH FALL UNDER THE CONSTRUCTION GENERAL PERMIT, ONLY THE ACREAGE LISTED ON THE PERMIT AUTHORIZATION MAY BE EXPOSED AT ANY GIVEN TIME.

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.

1.4.3 SITE ENTRANCE/EXIT STABILIZATION
TRACKING OF SEDIMENT ONTO PUBLIC HIGHWAYS SHALL BE MINIMIZED TO REDUCE THE POTENTIAL FOR RUNOFF ENTERING RECEIVING WATERS. INSTALLATION SHALL COINCIDE WITH THE CONTRACTORS PROGRESS SCHEDULE.

STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED ANYWHERE EQUIPMENT WILL BE GOING FROM AREAS OF EXPOSED SOILS TO PAVED SURFACES.

1.4.4 INSTALL SEDIMENT BARRIERS
SEDIMENT BARRIERS SHALL BE UTILIZED TO INTERCEPT RUNOFF AND ALLOW SUSPENDED SEDIMENT TO SETTLE OUT. THEY SHALL BE INSTALLED PRIOR TO ANY UP SLOPE WORK.

SILT FENCE WILL BE INSTALLED AS REQUIRED. BECAUSE THIS PROJECT FALLS UNDER THE CGP 3-9020, WOVEN WIRE REINFORCED SILT FENCE SHALL BE USED INSTEAD OF SILT FENCE WITHIN 100 FEET UPSLOPE OF RECEIVING WATERS. FIBER ROLLS ARE AN ACCEPTABLE ALTERNATIVE TO SILT FENCE.

INLET PROTECTION SHALL BE INSTALLED ON CATCHBASINS TO PROTECT RUNOFF FROM ENTERING THE STORMWATER SYSTEM. SILT SACKS ARE AN ACCEPTABLE SUBISTUTE TO TRATITIONAL INLET PROTECTION PRACTICIES.

1.4.5 DIVERT UPLAND RUNOFF
DIVERSIONARY MEASURES SHALL BE USED TO INTERCEPT RUNOFF FROM ABOVE THE CONSTRUCTION AND DIRECT IT AROUND THE DISTURBED AREA SO THAT CLEAN WATER DOES NOT BECOME MUDDIED WHILE TRAVELING OVER EXPOSED SOILS ON THE CONSTRUCTION SITE.

THE PROJECT AREA IS RELATIVELY FLAT. THEREFORE IT IS NOT ANTICIPATED THAT DIVERSION MEASURES WILL BE NECESSARY.

1.4.6 SLOW DOWN CHANNELIZED RUNOFF
CHECK STRUCTURES SHALL BE UTILIZED TO REDUCE THE VELOCITY, AND THUS THE EROSIVE POTENTIAL, OF CONCENTRATED FLOW IN CHANNELS.

STONE CHECK DAMS ARE NOT ANTICIPATED TO BE USED ON THIS PROJECT.

1.4.7 CONSTRUCT PERMANENT CONTROLS
PERMANENT STORMWATER TREATMENT DEVICES SHALL BE INSTALLED AS SHOWN ON THE PLANS AND IN ACCORDANCE WITH PERMIT CONDITIONS.

1.4.8 STABILIZE EXPOSED SOILS DURING CONSTRUCTION
ALL AREAS OF DISTURBANCE MUST HAVE TEMPORARY STABILIZATION IN PLACE WITHIN 48 HOURS OF DISTURBANCE OR IN ACCORDANCE WITH THE CONSTRUCTION GENERAL PERMIT 3-9020 AUTHORIZATION.

SURFACE ROUGHENING OF ALL EXPOSED SLOPES, COMBINED WITH TEMPORARY MULCHING, SHALL BE UTILIZED ON A REGULAR BASIS. BIODEGRADABLE EROSION CONTROL MATTING OR AN EQUIVALENT SHALL BE USED TO STABILIZE ALL SLOPES STEEPER THAN 1:3.

THE FORECAST OF RAINFALL EVENTS SHALL TRIGGER IMMEDIATE PROTECTION OF EXPOSED SOILS.

1.4.9 WINTER STABILIZATION
VARIOUS MEASURES SPECIFIC TO WINTER MAY BE NECESSARY SHOULD THE PROJECT EXTEND INTO WINTER (OCTOBER 15 THROUGH APRIL 15). REFER TO THE LOW RISK SITE HANDBOOK FOR GUIDANCE.

1.4.10 STABILIZE SOIL AT FINAL GRADE
EXPOSED SOIL MUST BE STABILIZED WITHIN 48 HOURS OF REACHING FINAL GRADE.

SEED, MULCH, FERTILIZER AND LIME SHALL BE USED TO ESTABLISH PERMANENT VEGETATION. FOR SLOPES STEEPER THAN 1:3, BIODEGRADABLE EROSION CONTROL MATTING OR AN EQUIVALENT SHALL BE USED INSTEAD OF MULCH.

1.4.11 DE-WATERING ACTIVITIES
DISCHARGE FROM DEWATERING ACTIVITIES THAT FLOWS OFF OF THE CONSTRUCTION SITE MUST NOT CAUSE OR CONTRIBUTE TO A VIOLATION OF THE VERMONT WATER QUALITY STANDARDS.

TREATMENT OF DEWATERING COFFERDAM IS NOT ANTICIPATED

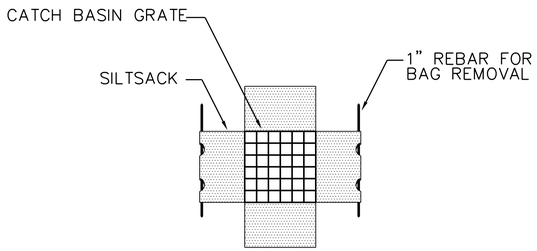
1.4.12 INSPECT YOUR SITE
INSPECT THE PROJECT SITE BASED ON SPECIAL PROVISION REQUIREMENTS OR CONSTRUCTION GENERAL PERMIT AUTHORIZATION STIPULATIONS.

1.5 SEQUENCE AND STAGING

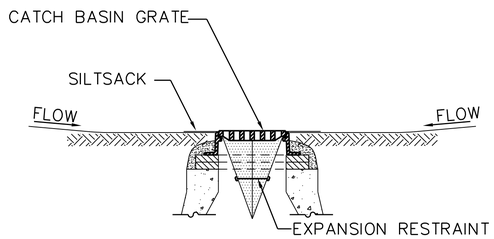
THIS SECTION WILL BE DEVELOPED BY THE CONTRACTOR USING THE GUIDANCE OUTLINED IN THE VTRANS EPSC PLAN CONTRACTOR CHECKLIST.

1.5.1 CONSTRUCTION SEQUENCE

1.5.2 OFF-SITE ACTIVITIES
IN ADDITION TO THE CONTRACTOR CHECKLIST ANY ACTIVITIES OUTSIDE THE CONSTRUCTION LIMITS SHALL FOLLOW SPECIFICATION 105.25- 105.29 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.



PLAN VIEW

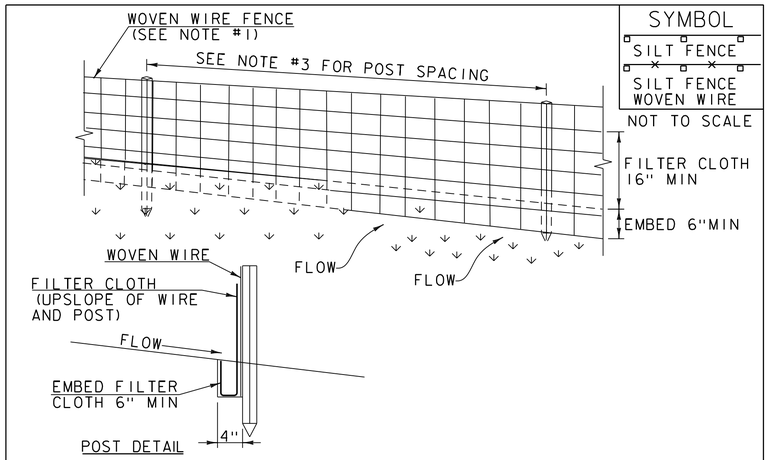


SECTION VIEW

INLET PROTECTION DEVICE, TYPE II
NTS

Notes:

1. INSTALL SILTSACK IN ALL CATCH BASINS WHERE INDICATED ON THE PLAN BEFORE COMMENCING WORK OR IN PAVED AREAS AFTER BINDER COURSE IS PLACED.
2. GRATE TO BE PLACED OVER SILTSACK.
3. SILTSACK SHALL BE INSPECTED WEEKLEY (IN ACCORDANCE WITH REGULAR EPSC INSPECTION) AND AFTER ALL STORM EVENTS AND CLEANING OR REPLACEMENT SHALL BE PERFORMED PROMPTLY AS NEEDED. MAINTAIN UNTIL UPSTREAM AREAS HAVE BEEN PERMANENTLY STABILIZED



CONSTRUCTION SPECIFICATIONS

1. WOVEN WIRE REINFORCED FENCE IS REQUIRED WITHIN 100' UPSLOPE OF RECEIVING WATERS WHEN THE PROJECT FALLS UNDER A CONSTRUCTION STORMWATER PERMIT. WOVEN WIRE SHALL BE A MIN. 14 GAUGE WITH A 6" MAX. MESH OPENING.
2. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI100X, STABILINKA T140N OR APPROVED EQUIVALENT.
3. POST SPACING FOR WIRE-BACKED FENCE SHALL BE 10' MAXIMUM. FOR FILTER-CLOTH FENCE, WHEN ELONGATION IS >50%, POST SPACING SHALL NOT EXCEED 4' AND WHEN ELONGATION IS <50%, POST SPACING SHALL NOT EXCEED 6'.
4. WOVEN WIRE FENCE IS TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES. FILTER CLOTH IS TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
5. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY 6" AND FOLDED.
6. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN SEDIMENT REACHES HALF OF FABRIC HEIGHT.

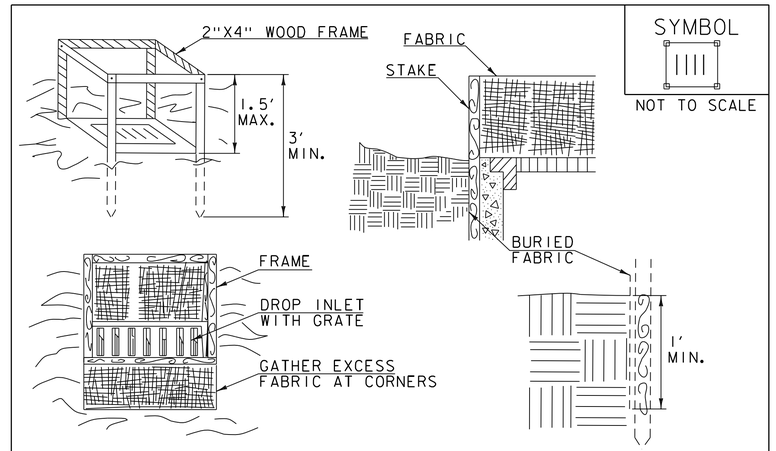
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SILT FENCE

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

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 649 AND AS SHOWN IN THE PLANS FOR GEOTEXTILE FOR SILT FENCE (PAY ITEM 649.51) ~~OR GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED (PAY ITEM 649.515).~~

REVISIONS	
MARCH 21, 2008	WHF
DECEMBER 11, 2008	WHF
JANUARY 13, 2009	WHF



CONSTRUCTION SPECIFICATIONS

1. FILTER FABRIC SHALL HAVE AN APPARENT OPENING SIZE OF 40-85. BURLAP MAY BE USED FOR SHORT TERM APPLICATIONS.
2. CUT FABRIC FROM A CONTINUOUS ROLL TO ELIMINATE JOINTS. IF JOINTS ARE NEEDED THEY WILL BE OVERLAPPED TO THE NEXT STAKE.
3. STAKE MATERIALS WILL BE STANDARD 2"x 4" WOOD OR EQUIVALENT METAL WITH A MINIMUM LENGTH OF 3'.
4. SPACE STAKES EVENLY AROUND INLET 3' APART AND DRIVE A MINIMUM 18" DEEP. SPANS GREATER THAN 3' MAY BE BRIDGED WITH THE USE OF WIRE MESH BEHIND THE FILTER FABRIC FOR SUPPORT.
5. FABRIC SHALL BE EMBEDDED 1' MINIMUM BELOW GROUND AND BACKFILLED. IT SHALL BE SECURELY FASTENED TO THE STAKES AND FRAME.
6. A 2" x 4" WOOD FRAME SHALL BE COMPLETED AROUND THE CREST OF THE FABRIC FOR OVER FLOW STABILITY.
7. MAXIMUM DRAINAGE AREA 1 ACRE

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

FILTER FABRIC DROP INLET PROTECTION

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 INLET PROTECTION DEVICE, TYPE I (PAY ITEM 653.40).

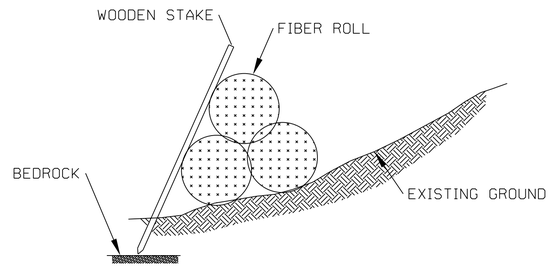
REVISIONS	
MARCH 7, 2008	WHF
JANUARY 13, 2009	WHF

vhb

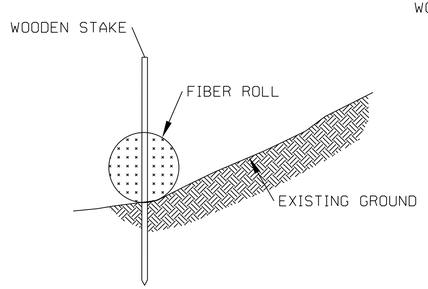
PROJECT NAME: WINOOSKI MAIN STREET
PROJECT NUMBER: 58011.00

FILE NAME: 58011_EPSC_details.dgn
PROJECT LEADER: E.P. DETRICK
DESIGNED BY: B.O. CRONIN
EPSC DETAIL SHEET (1 OF 2)

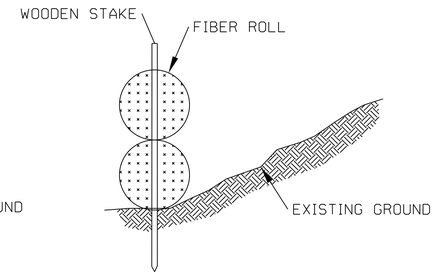
PLOT DATE: 11/27/2019
DRAWN BY: B.O. CRONIN
CHECKED BY: E.P. DETRICK
SHEET 156 OF 178



SHALLOW BEDROCK / PYRAMID FIBER ROLL



SINGLE STAKED FIBER ROLL



STACKED STAKED FIBER ROLL

Notes:

1. FIBER ROLL SHALL BE PLACED IN SHALLOW TRENCH UP TO 4", WHERE FEASIBLE, PLACING SOIL REMOVED FROM TRENCH BEHIND THE ROLL.
2. FIBER ROLLS SHALL BE ANCHORED WITH 2" BY 2" WOODEN STAKES (36" LONG), OR SIMILAR, WHERE FEASIBLE, EITHER INSTALLED THROUGH CENTER OF ROLL (AS SHOWN) OR PLACED ON BOTH SIDES OF ROLL.
3. STAKES TO BE PLACED 4 FT APART, MINIMUM.
4. SINGLE OR DOUBLE STACKED STAKED FIBER ROLLS TO BE INSTALLED WHERE SOIL DEPTH ALLOWS. WHERE SHALLOW TO BEDROCK, PYRAMID FIBER ROLLS TO BE UTILIZED WITH STAKES, AS FEASIBLE.
5. FIBER ROLLS TO BE REPLACED OR REPLENISHED AS NEEDED DURING ACTIVE EARTH WORK.
6. PERIMETER CONTROLS SHALL NOT CROSS ACTIVE ACCESS ROUTES (E.G., ROADS) OR ACTIVE FLOW PATHS (E.G., STREAMS/RIVERS).
7. PERIMETER CONTROLS SHALL REMAIN IN PLACE AND BE MAINTAINED/REPLACED AS NEEDED UNTIL FINAL STABILIZATION IN AREA HAS BEEN ACHIEVED.

STAKED FIBER ROLL 12/12

N.T.S Source: VHB LD_

VAOT URBAN LAWN MIX

	LBS/AC					
WEIGHT	BROADCAST	HYDROSEED	NAME	LATIN NAME	GERM	PURITY
42.5%	34	68	CREEPING RED FESCUE	FESTUCA RUBRA X RUBRA	85%	98%
20.0%	16	32	PERENNIAL RYE GRASS	LOLIUM PERENNE	90%	95%
32.5%	26	52	KENTUCKY BLUE GRASS	POA PRATENSIS	85%	85%
5.0%	4	8	ANNUAL RYE GRASS	LOLIUM MULTIFLORUM	85%	95%
100%	80	160				

GENERAL AMENDMENT GUIDANCE		
FERTILIZER	LIME	
10/20/10	AG LIME	PELLITIZED
500 LBS/AC	2 TONS/AC	1 TONS/AC

CONSTRUCTION GUIDANCE

1. SEED MIX: THE URBAN AREA MIX SHALL NOT BE USED IN WETLANDS OR ANY WATERS OF THE STATE OF VERMONT.
2. SEED MIX: USE ONLY AS INDICATED IN THE PLANS.
3. SEED MIX: SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY WEIGHT AND SHALL BE FREE OF ALL NOXIOUS SEED.
4. FERTILIZER AND LIMESTONE: SHALL FOLLOW RATES SHOWN ON PLAN OR AS DIRECTED BY THE ENGINEER
5. HAY MULCH: TO BE PLACED ON EARTH SLOPES AT THE RATE OF 2 TONS/ACRE, ACHIEVE 90% GROUND COVER OR AS DIRECTED BY THE ENGINEER.
6. HYDROSEEDING: ALTHOUGH GUIDANCE IS GIVEN ABOVE THE SITE CONDITIONS AND THE TYPE OF HYDROSEED WILL ULTIMATELY DICTATE THE AMOUNTS AND TYPES OF SOIL AMENDMENTS TO BE APPLIED
7. TURF ESTABLISHMENT: PLACING SEED, FERTILIZER, LIME AND MULCH PRIOR TO SEPTEMBER 15 AND AFTER APRIL 15 CAN BETTER ENSURE A VIGOROUS GROWTH OF GRASS.

ADAPTED FROM VTRANS TECHNICAL LANDSCAPE MANUAL FOR ROADWAYS AND TRANSPORTATION FACILITIES

TURF ESTABLISHMENT

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 651 FOR SEED (PAY ITEM 651.15)

REVISIONS
JANUARY 22, 2015 WHF

PROJECT NAME: WINOOSKI MAIN STREET
PROJECT NUMBER: 58011.00

FILE NAME: 58011_EPSC_details.dgn
PROJECT LEADER: E.P. DETRICK
DESIGNED BY: B.O. CRONIN
EPSC DETAIL SHEET (2 OF 2)

PLOT DATE: 11/27/2019
DRAWN BY: B.O. CRONIN
CHECKED BY: E.P. DETRICK
SHEET 157 OF 178

GENERAL

1. THE FOLLOWING TRAFFIC CONTROL INFORMATION IS INTENDED TO BE A CONCEPTUAL NARRATIVE FOR HOW THE WORK MAY PROCEED. THE CONTRACTOR SHALL SUBMIT A DETAILED TRAFFIC CONTROL PLAN TO THE ENGINEER VIA THE ENGINEER FOR APPROVAL. THE CONTRACTOR SHALL ALLOW AT LEAST TWO (2) WEEKS FOR THE ENGINEER REVIEW AND APPROVAL. ALL CHANGES TO THE TRAFFIC CONTROL PLAN MUST BE APPROVED BY THE ENGINEER. MODIFICATIONS TO THE APPROVED TRAFFIC CONTROL PLAN FOR VEHICLES OR PEDESTRIANS SHALL BE SUBMITTED TO THE ENGINEER AT LEAST TWO WEEKS PRIOR TO THE IMPLEMENTATION OF THE CHANGE.

2. THE CONTRACTOR'S TRAFFIC CONTROL PLAN SHALL BE DEVELOPED IN ACCORDANCE WITH THE 2018 EDITION OF VTRANS STANDARD SPECIFICATIONS SECTION 641 - TRAFFIC CONTROL AND IN SUBSTANTIAL CONFORMANCE WITH THE 2009 EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) WITH LATEST INTERIMS. THE PLAN SHALL ACCOMMODATE VEHICLE TRAFFIC, PEDESTRIAN TRAFFIC, AND EMERGENCY SERVICES. THE TRAFFIC CONTROL PLAN SHALL INCLUDE ALL TEMPORARY SIGNS, PAVEMENT MARKINGS, CHANNELIZING DEVICES, ARROW PANELS, AND OTHER DEVICES REQUIRED TO PROVIDE COMPLETE MANAGEMENT OF TRAFFIC. ANY SIGNS NOT INCLUDED IN THE FHWA STANDARD HIGHWAY SIGNS BOOK SHALL INCLUDE SIGN FACE DIMENSIONS AND LAYOUT.

3. TRAFFIC CONTROL PLANS SHALL BE IMPLEMENTED TO MAINTAIN THE CONTINUITY OF VEHICLE AND PEDESTRIAN TRAFFIC THROUGH THE CORRIDOR. TRAFFIC CONTROL SIGNS SHALL BE ADJUSTED AT THE BEGINNING AND COMPLETION OF EACH CONSTRUCTION PHASE AS DIRECTED BY THE ENGINEER. SIGNING, AND OTHER SUPPORTING TRAFFIC CONTROL DEVICES SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION. INSTALLING, MAINTAINING, ADJUSTING, MODIFYING, AND REMOVING THE TRAFFIC CONTROL DEVICES SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONTRACT ITEM 641.11 TRAFFIC CONTROL, ALL INCLUSIVE. THE TEMPORARY TRAFFIC SIGNAL SHALL BE PAID FOR BY THE UNIT PRICE BID FOR CONTRACT ITEM 678.40 TEMPORARY TRAFFIC SIGNAL SYSTEM.

4. TRAFFIC SHALL NOT BE CHANGED FROM ONE PHASE TO THE NEXT UNTIL ALL TEMPORARY MARKINGS, SIGNING, AND TRAFFIC SIGNAL WORK REQUIRED FOR THE SUBSEQUENT PHASE IS COMPLETED. ANY CONFLICTING PAVEMENT MARKINGS SHALL BE MASKED WITH PAVEMENT MARKING MASK OR REMOVED BY GRINDING. EXISTING PAVEMENT MARKINGS THAT ARE TO REMAIN FOR LATER USE SHALL BE MASKED WITH PAVEMENT MARKING MASK. THE SIGNALIZED INTERSECTION SHALL BE CONTROLLED BY UNIFORMED TRAFFIC OFFICERS AT ANY TIME IT IS NOT IN NORMAL OPERATION (FULL GREEN-YELLOW-RED COLOR OPERATIONS IN ACCORDANCE WITH THE SIGNAL PLANS). ALL NON-OPERATING TRAFFIC SIGNAL HEADS SHALL BE REMOVED OR COMPLETELY COVERED.

5. THE CONTRACTOR SHALL ERECT, MAINTAIN, REMOVE AND/OR RESET AS REQUIRED ALL ON-PROJECT CONSTRUCTION SIGNS AND BARRICADES. ALL SIGNS AND BARRICADES SHALL BE INSPECTED AND REPAIRED DAILY. ALL SIGNS AND BARRICADES SHALL CONFORM TO THE LATEST VERSION OF THE MUTCD AND SHALL BE CLEANED OF DUST AND DEBRIS BIWEEKLY. PAYMENT FOR THIS SHALL BE INCIDENTAL TO ITEM 641.11 - TRAFFIC CONTROL, ALL INCLUSIVE.

6. ANY MUTCD COMPLIANT SIGNS REMOVED AND NOT REUSED SHALL REMAIN THE PROPERTY OF THE CITY AS APPROPRIATE. THESE SIGNS SHALL BE REMOVED BY THE CONTRACTOR AND STOCKPILED. STOCKPILE LOCATION TO BE DETERMINED BY THE CITY.

7. EXISTING SIGNS SHALL REMAIN UNTIL THEY ARE NO LONGER REQUIRED. EXISTING SIGNS WHICH CONFLICT WITH TEMPORARY TRAFFIC CONTROLS SHALL BE COMPLETELY COVERED WITH SOLID COVERS PAINTED BLACK OR REMOVED/RELOCATED AS NEEDED. TEMPORARY S SIGNS SHALL BE INSTALLED AS SHOWN IN THE CONTRACTOR'S APPROVED TRAFFIC CONTROL PLANS. NEW SIGNING SHALL BE INSTALLED AS IT BECOMES APPLICABLE. ALL PROPOSED SIGNING SHALL BE INSTALLED AND ALL SIGNS TO BE REMOVED SHALL BE REMOVED PRIOR TO THE APPLICATION OF THE FINAL PAVEMENT MARKINGS.

8. SPECIAL CARE MUST BE TAKEN TO PROVIDE ACCESS THROUGH THE WORK ZONES FOR EMERGENCY VEHICLES. THE CONTRACTOR SHALL COORDINATE WITH BOTH POLICE AND FIRE DEPARTMENTS TO DETERMINE THEIR MINIMUM ACCESS REQUIREMENTS BEFORE PROCEEDING TO THE NEXT PHASE OF CONSTRUCTION. CONTRACTOR SHALL ENSURE THAT ACCESS IS AVAILABLE TO ALL PROPERTIES AT ALL TIMES FOR EMERGENCY VEHICLES.

9. IN THE EVENT CONSTRUCTION IS TO OCCUR WHILE SCHOOL IS IN SESSION, THE CONTRACTOR SHALL COORDINATE WITH THE ENGINEER, SCHOOL DISTRICT AND CITY IN ORDER TO MAINTAIN SAFE AND OPERABLE STOPS AND STUDENT FOOT ROUTES DURING CONSTRUCTION.

10. ACCOMMODATIONS FOR POSTAL DELIVERIES, NEWSPAPER ROUTES, TRASH SERVICES AND/OR OTHER DELIVERY SERVICES INTERRUPTED BY THE PROJECT OR DETOUR SHALL BE COMMUNICATED WITH THE PROPER CONTACTS.

11. CONCRETE BARRIER SIDE EXPOSED TO TRAFFIC SHALL BE DELINEATED USING REFLECTORS OF THE COLOR CORRESPONDING TO THE TEMPORARY PAVEMENT MARKINGS. REFLECTORS SHALL BE MOUNTED EVERY 20 FEET ALONG THE SIDE OF THE BARRIER EXPOSED TO TRAFFIC.

12. IF LANE CLOSURES OR RESTRICTIONS ARE NEEDED, THE CONTRACTOR SHALL REFER TO TA-6, TA-10, AND TA-13 OF THE MUTCD FOR GUIDANCE REGARDING ADDITIONAL TRAFFIC CONTROL MEASURES.

PEDESTRIAN TEMPORARY TRAFFIC CONTROL NOTES

1. THE CONTRACTOR SHALL PROVIDE A TEMPORARY PEDESTRIAN ACCESS ROUTE (TPAR) FOR REVIEW AND WRITTEN APPROVAL BY THE ENGINEER A MINIMUM OF THREE WEEKS BEFORE SUCH PLAN IS IMPLEMENTED. THIS PLAN SHALL DETAIL THE CONSTRUCTION PHASING AND SCHEDULE AND THE SPECIFIC METHODS OF MAINTAINING SAFE PEDESTRIAN ACCESS THROUGHOUT THE CONSTRUCTION AREA. THIS PLAN SHALL PROVIDE THE LOCATION AND DETAILS OF TEMPORARY CONSTRUCTION SIGNING, MARKINGS, BARRICADES, CHANNELIZING DEVICES, TPARs AND METHODS TO MAINTAIN ACCESS TO ADJACENT PROPERTIES, BUSINESSES, RESIDENCES, ETC.

2. THE CONTRACTOR SHALL MAINTAIN PEDESTRIAN THROUGH MOVEMENTS FROM ONE END OF THE CONSTRUCTION AREA TO THE OTHER, ON AT LEAST ONE SIDE OF THE STREET DURING CONSTRUCTION. ANY SIDEWALK CLOSURES SHALL MEET THE REQUIREMENTS OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), PART 6.

3. PEDESTRIAN ACCESS SHALL BE PROVIDED TO ALL ADJACENT PROPERTIES, BUILDINGS, RESIDENCES, COMMERCIAL PROPERTIES AND TRANSIT STOPS. THIS MAY INCLUDE TEMPORARY WALKWAYS SPANNING THE CONSTRUCTION AREA.

4. IF SIDEWALKS ARE CLOSED, A TEMPORARY PEDESTRIAN ACCESS ROUTE (TPAR) SHALL BE PROVIDED ON THE SAME SIDE OF THE ROAD AS THE CLOSED SIDEWALK, IF POSSIBLE. SIGNS AND BARRICADES SHALL BE USED TO PROVIDE ADVANCE NOTICE OF THE CLOSURE AND THE ROUTE OF ANY PEDESTRIAN DETOURS. THE TPAR SHALL HAVE A MINIMUM UNOBSTRUCTED WIDTH OF 4 FEET. IF THE TPAR IS LESS THAN 5 FEET IN WIDTH, A 5 FOOT BY 5 FOOT PASSING SPACE SHOULD BE PROVIDED AT LEAST EVERY 200 FEET. THE SURFACE OF THE TPAR SHALL BE SMOOTH AND CONTINUOUS FOR THE LENGTH OF THE TPAR. THE TPAR SHALL MAINTAIN THE SAME LEVEL OF ACCESSIBILITY AND DETECTABILITY AS THE FACILITY THAT IS BEING CLOSED. THE TPAR SHALL NOT LEAD PEDESTRIANS INTO CONFLICTS WITH VEHICLES, EQUIPMENT, OR CONSTRUCTION OPERATIONS.

5. WHEN TEMPORARY CROSSWALKS ARE UTILIZED FOR THE TPAR, TEMPORARY DETECTABLE WARNINGS SHALL BE PLACED AT EACH END OF THE TEMPORARY CROSSWALKS. THE TEMPORARY CROSSWALK SHALL BE DELINEATED WITH TEMPORARY PAVEMENT MARKINGS OR TAPE. THE MARKINGS SHALL BE PARALLEL 12-INCH-WIDE WHITE LINES PLACED 7 FEET ON CENTER APART. IT SHOULD BE NOTED THAT CURB PARKING SHALL BE PROHIBITED FOR AT LEAST 50 FEET IN ADVANCE OF MIDBLOCK CROSSWALKS. TEMPORARY CROSSWALK SIGNS SHALL BE PROVIDED FOR THE CROSSWALK.

6. IF THERE IS WORK OCCURRING OVER AN OPEN SIDEWALK, PROTECTIVE OVERHEAD COVERING MUST BE PROVIDED AS NECESSARY TO ENSURE PROTECTION FROM FALLING OBJECTS AND DRIPPING FROM OVERHEAD STRUCTURES. COVERED WALKWAYS SHOULD BE STURDILY CONSTRUCTED AND ADEQUATELY LIGHTED FOR NIGHTTIME USE.

7. INDIVIDUAL CHANNELIZING DEVICES, TAPE, OR ROPE USED TO CONNECT INDIVIDUAL DEVICES AND OTHER DISCONTINUOUS BARRIERS AND DEVICES, AND PAVEMENT MARKINGS ARE NOT DETECTABLE BY PERSONS WITH VISUAL DISABILITIES. THESE MEASURES DO NOT PROVIDE ACCEPTABLE PATH GUIDANCE ON TEMPORARY OR RE-ALIGNED SIDEWALKS OR OTHER PEDESTRIAN FACILITIES. PEDESTRIAN CHANNELIZING DEVICES SHALL INCLUDE A CONTINUOUSLY DETECTABLE BOTTOM AND TOP EDGE THROUGHOUT THE LENGTH OF THE FACILITY SUCH THAT IT CAN BE FOLLOWED BY PEDESTRIANS USING LONG CANES FOR GUIDANCE.

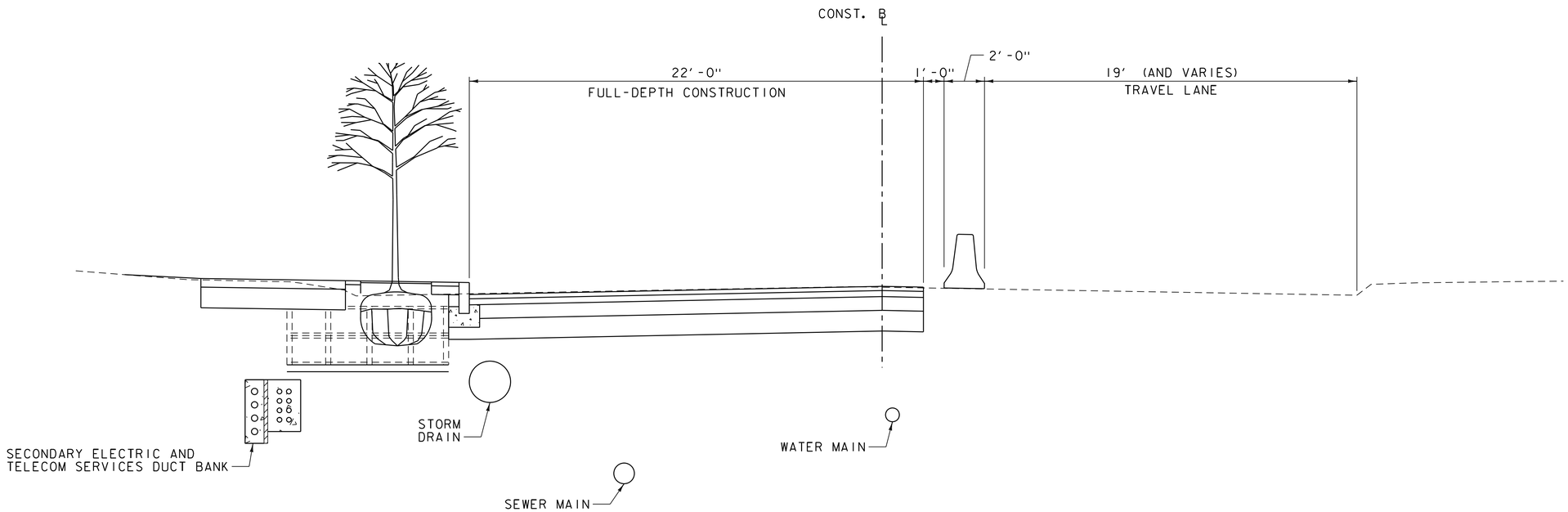
8. CHANNELIZING DEVICES ON BOTH SIDES OF THE TPAR SHALL INCLUDE A CONTINUOUS SOLID TOP AND BOTTOM RAILS. THE TOP EDGE OF THE TOP RAIL SHALL BE BETWEEN 32 INCHES AND 38 INCHES ABOVE THE GROUND LEVEL. THE BOTTOM RAIL SHALL BE AT LEAST 6 INCHES WIDE, WITH THE BOTTOM EDGE OF THE BOTTOM RAIL SURFACE NO HIGHER THAN 2 INCHES ABOVE THE GROUND.

9. IF THE TPAR IS ADJACENT TO MOVING TRAFFIC, CONSTRUCTION OPERATIONS/EQUIPMENT, OR DROP-OFFS, THEN CRASH WORTHY CHANNELIZING DEVICES THAT MEET THE REQUIRMENTS OF THE MUTCD SHALL BE USED.

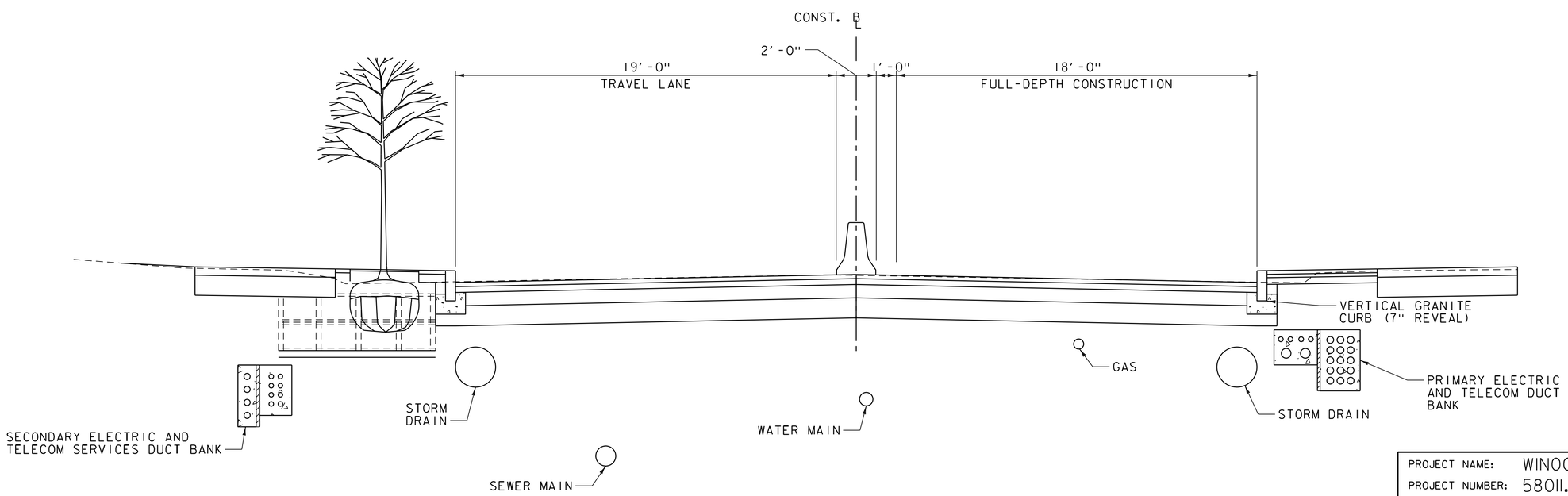
10. THE CONTRACTOR SHALL NOT STORE OR PLACE ANY CONSTRUCTION MATERIALS, EQUIPMENT OR SIGNS IN THE PEDESTRIAN PATH OF TRAVEL.

11. PROVISION OF THE TPAR AND ALL ITS ELEMENTS, INCLUDING BUT NOT LIMITED TO SIGNS, CHANNELIZING DEVICES, BARRICADES, TEMPORARY CURB RAMPS, TEMPORARY PAVEMENT MARKINGS AND OTHER TRAFFIC CONTROL DEVICES IS TO BE PAID FOR INCIDENTAL TO TRAFFIC CONTROL, ALL INCLUSIVE (ITEM 641.11).

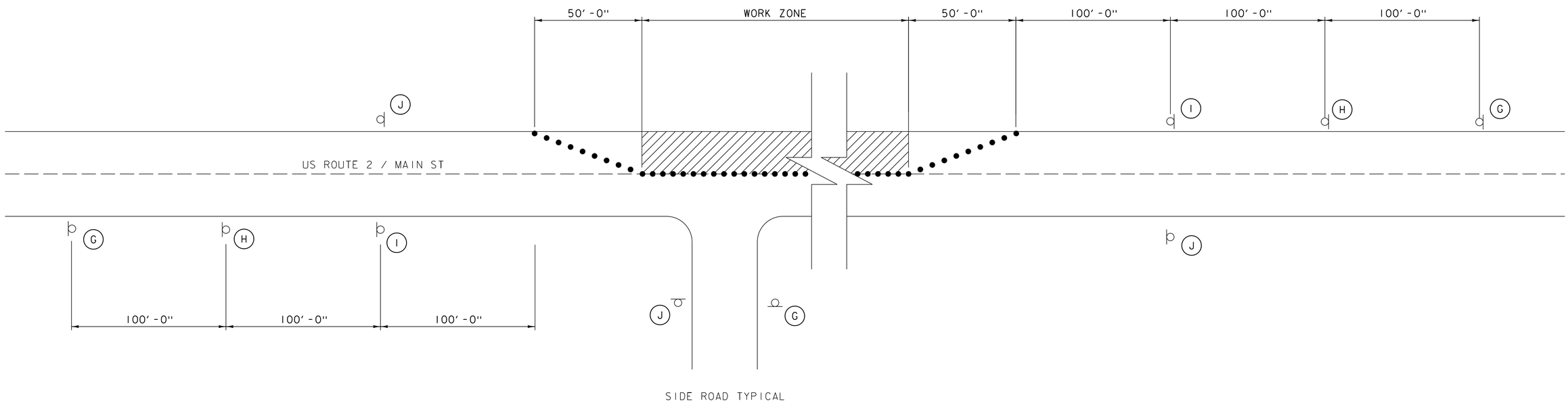
PHASE 1



PHASE 2



PROJECT NAME: WINOOSKI MAIN STREET	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_TCP_det.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P.DETRICK	DRAWN BY: C.K.FORD
DESIGNED BY: C.K.FORD	CHECKED BY: E.P.DETRICK
TRAFFIC CONTROL PLAN DETAILS SHEET	SHEET 159 OF 178



ID	SIZE OF SIGN WIDTH (IN)	SIZE OF SIGN HEIGHT (IN)	TEXT	SIGNS REQ'D	AREA (SF)	TOTAL AREA (SF)	REMARKS
G	48	48	ROAD WORK AHEAD	2	16.00	32.00	
H	48	48	ONE LANE ROAD 200 FT	2	16.00	32.00	
I	48	48		2	16.00	32.00	
	24	12	100 FT	2	2.00	4.00	
J	48	24	END ROAD WORK	2	8.00	16.00	

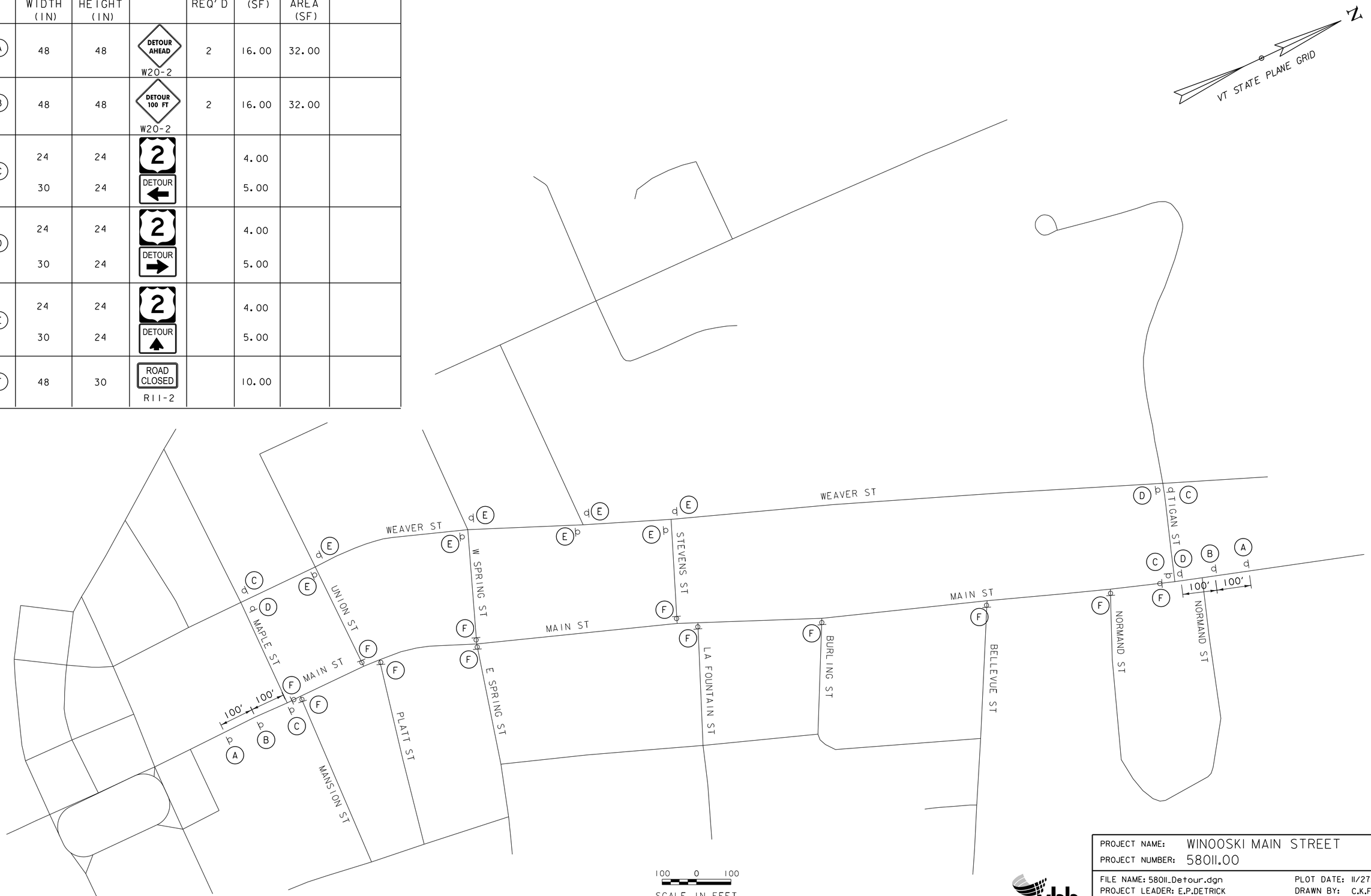
WARNING SIGNS IN TEMPORARY TRAFFIC CONTROL ZONES SHALL HAVE A BLACK LEGEND AND BORDER ON AN ORANGE BACKGROUND.

PROJECT NAME: WINOOSKI MAIN STREET
PROJECT NUMBER: 58011.00

FILE NAME: 58011_Const.dgn
PROJECT LEADER: E.P.DETRICK
DESIGNED BY: C.K.FORD
CONSTRUCTION APPROACH SIGNING SHEET

PLOT DATE: 11/27/2019
DRAWN BY: C.K.FORD
CHECKED BY: E.P.DETRICK
SHEET 160 OF 178

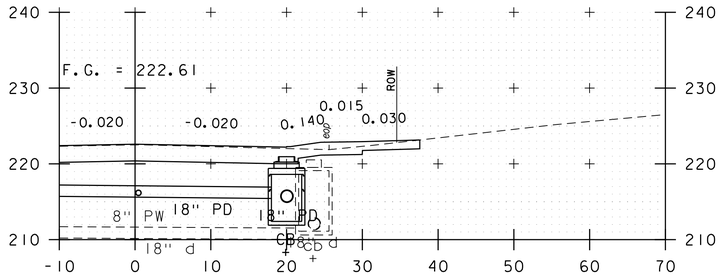
ID	SIZE OF SIGN WIDTH (IN)	SIZE OF SIGN HEIGHT (IN)	TEXT	SIGNS REQ'D	AREA (SF)	TOTAL AREA (SF)	REMARKS
A	48	48	DETOUR AHEAD W20-2	2	16.00	32.00	
B	48	48	DETOUR 100 FT W20-2	2	16.00	32.00	
C	24	24	2		4.00		
	30	24	DETOUR ←		5.00		
D	24	24	2		4.00		
	30	24	DETOUR →		5.00		
E	24	24	2		4.00		
	30	24	DETOUR ↑		5.00		
F	48	30	ROAD CLOSED R11-2		10.00		



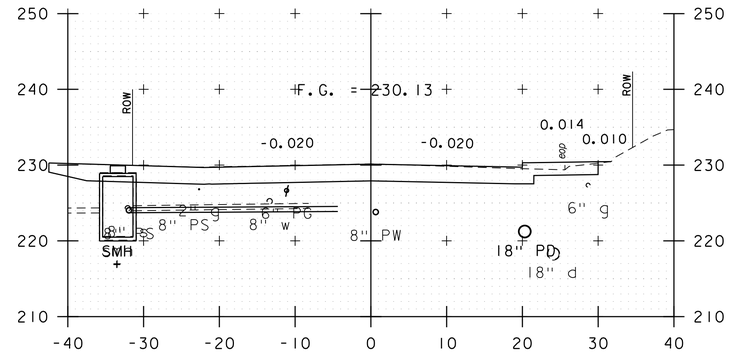
PROJECT NAME: WINOOSKI MAIN STREET
PROJECT NUMBER: 58011.00

FILE NAME: 58011_Detour.dgn
PROJECT LEADER: E.P.DETRICK
DESIGNED BY: C.K.FORD
DETOUR SHEET

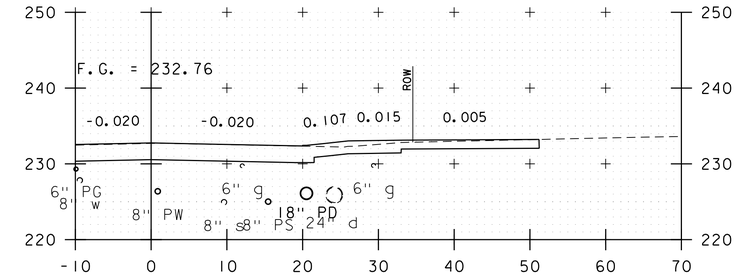
PLOT DATE: 11/27/2019
DRAWN BY: C.K.FORD
CHECKED BY: E.P.DETRICK
SHEET 161 OF 178



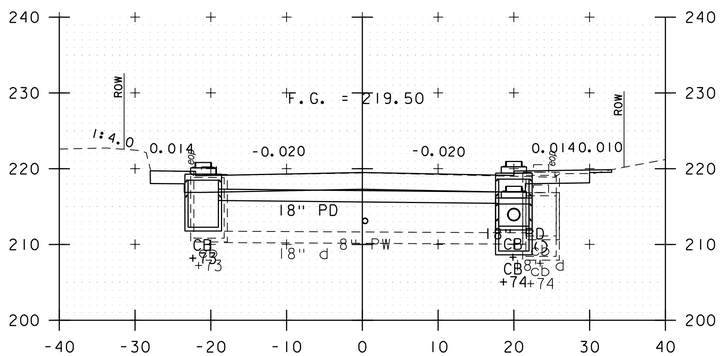
100+90



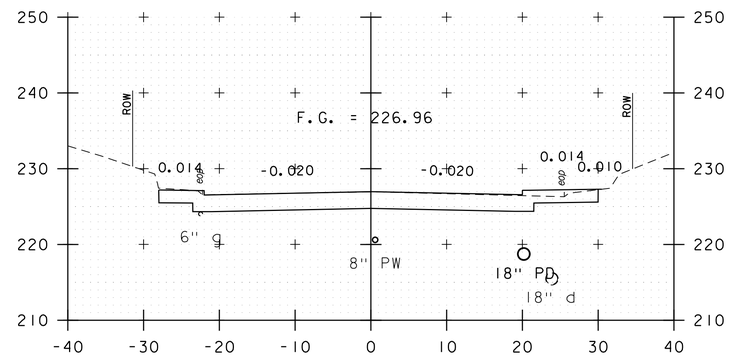
102+00



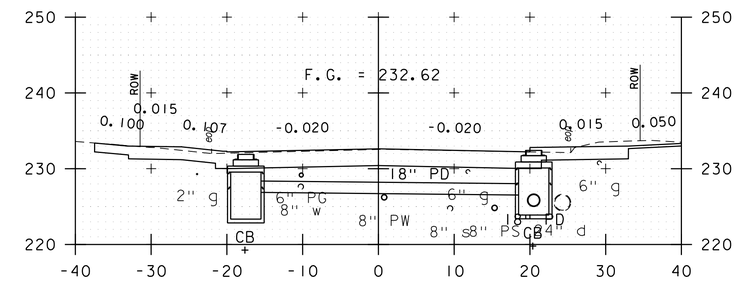
103+28



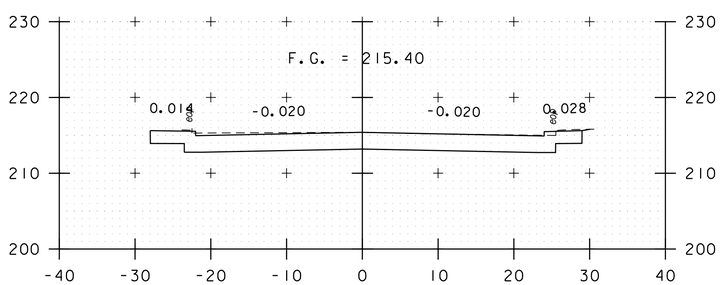
100+50



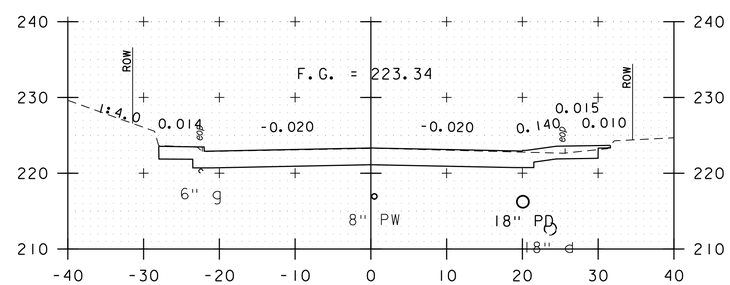
101+50



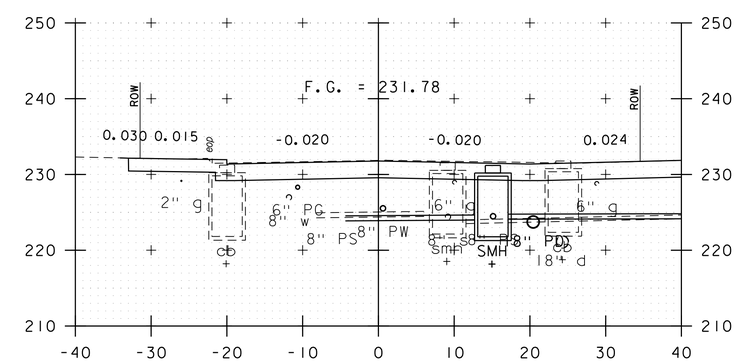
103+00



100+00

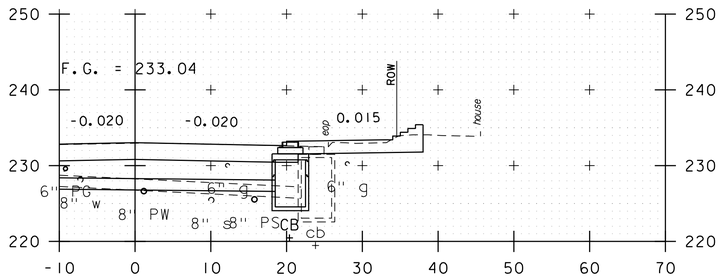


101+00

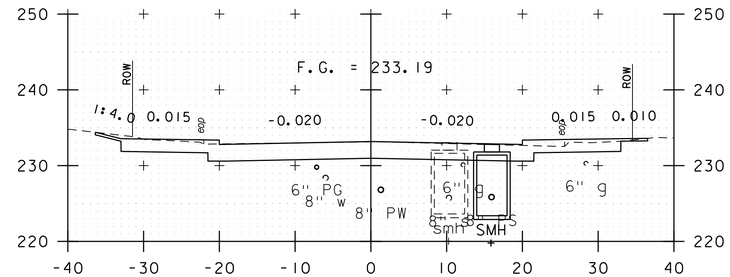


102+50

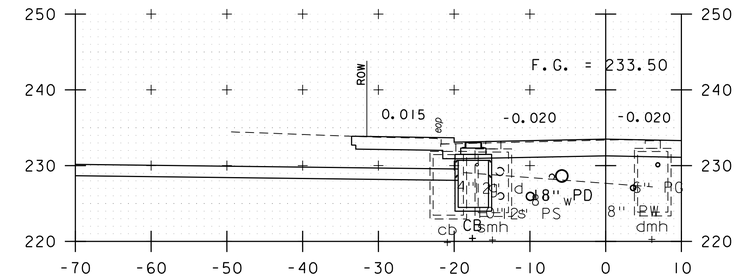
PROJECT NAME: WINOOSKI MAIN STREET	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_XS.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P.DETRICK	DRAWN BY: B.M.ROBERTS
DESIGNED BY: B.M.ROBERTS	CHECKED BY: D.M.PECK
CROSS SECTIONS (SHEET 1 OF 17)	SHEET 162 OF 178



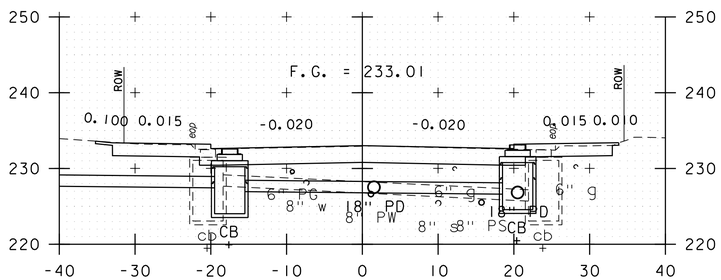
104+06



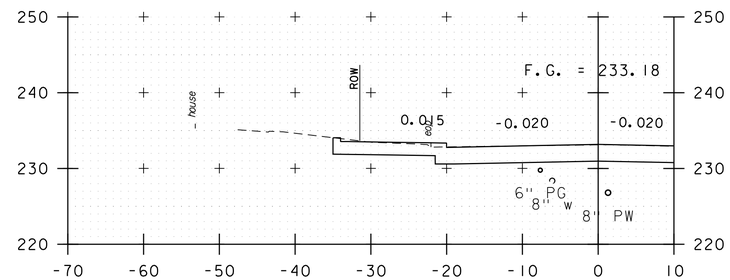
104+50



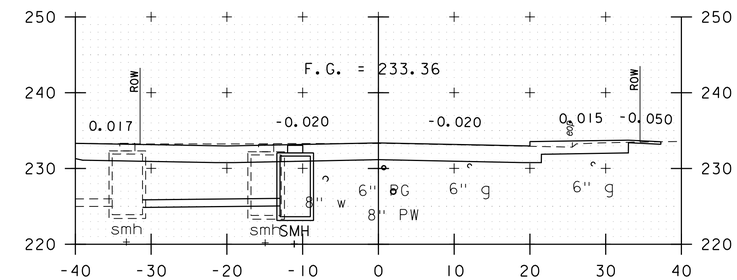
105+40



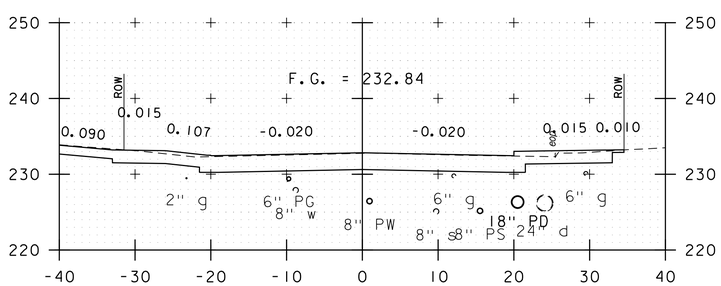
104+00



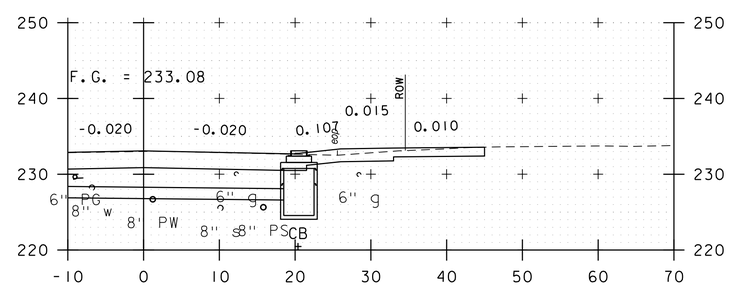
104+47



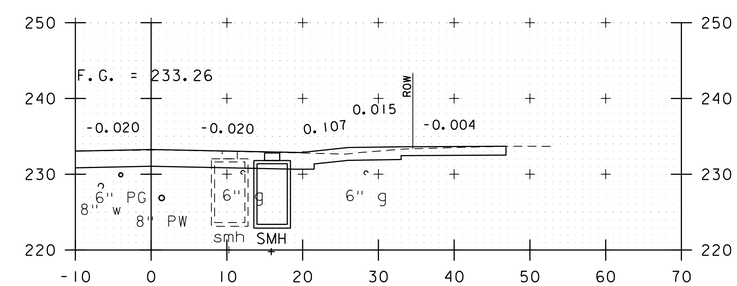
105+00



103+50

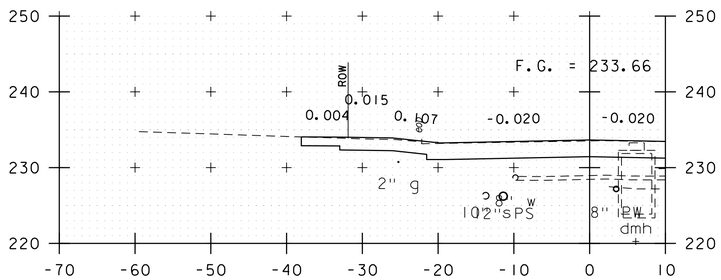


104+20

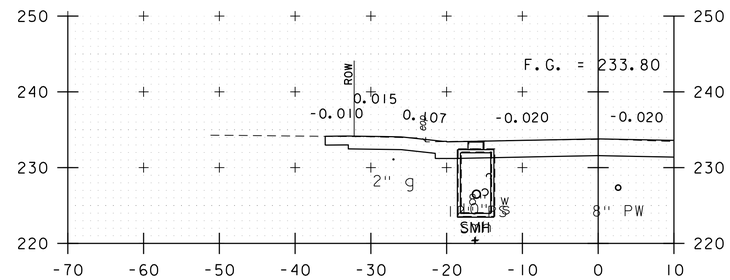


104+70

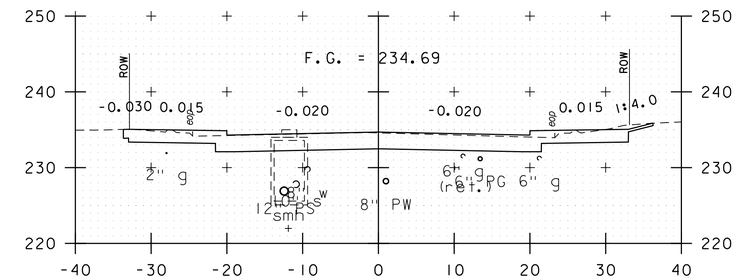
PROJECT NAME: WINOOSKI MAIN STREET	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_XS.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P.DETRICK	DRAWN BY: B.M.ROBERTS
DESIGNED BY: B.M.ROBERTS	CHECKED BY: D.M.PECK
CROSS SECTIONS (SHEET 2 OF 17)	SHEET 163 OF 178



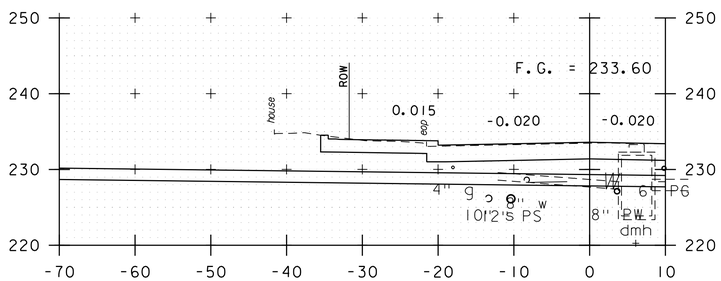
105+84



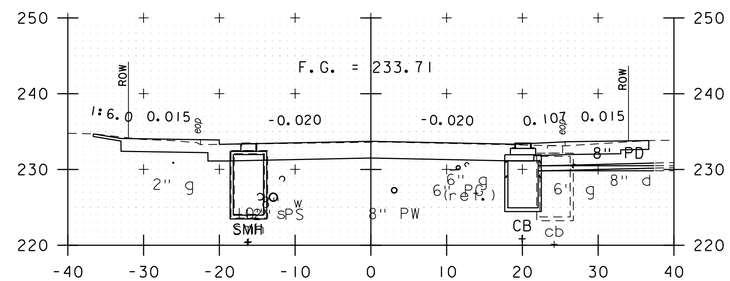
106+24



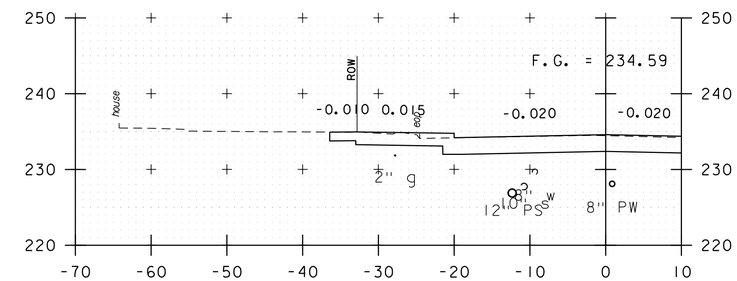
107+00



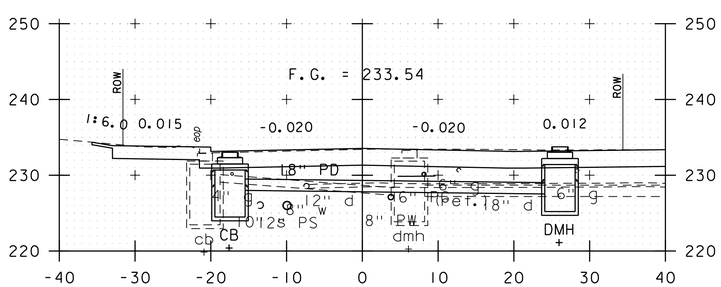
105+67



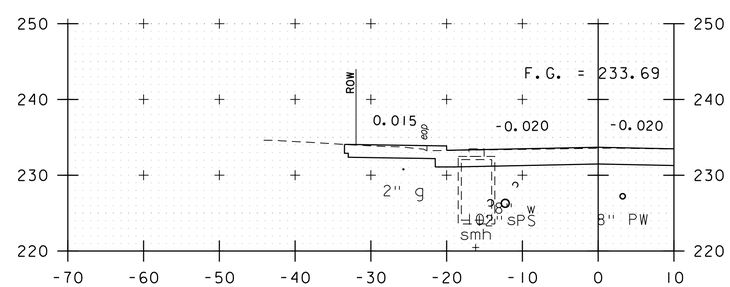
106+00



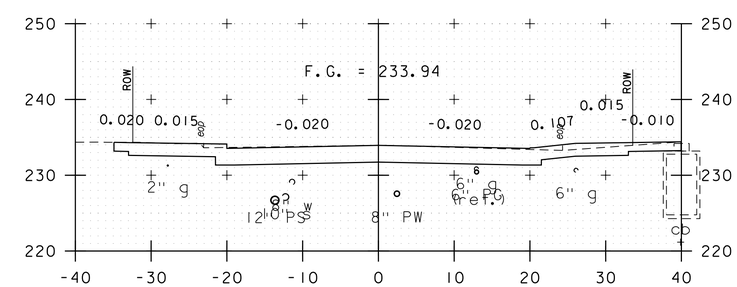
106+95



105+50

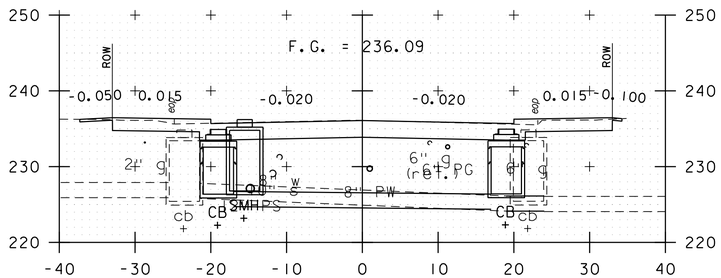


105+94

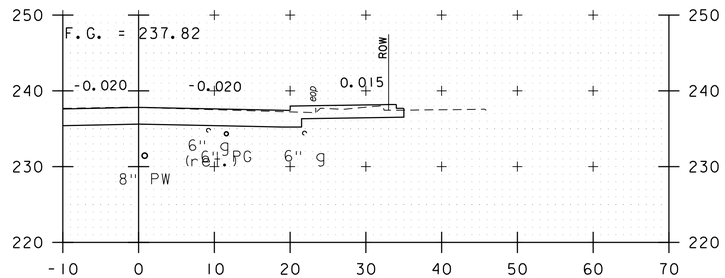


106+50

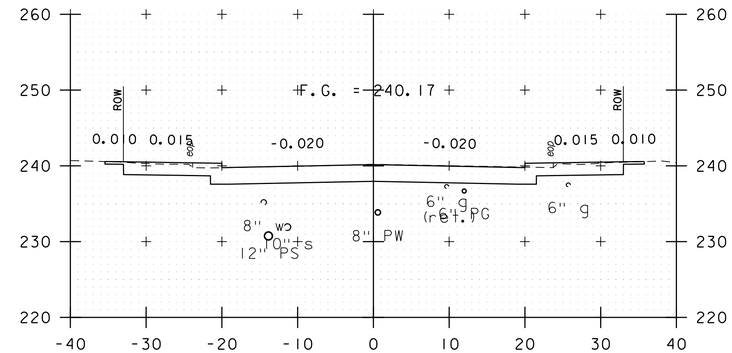
PROJECT NAME: WINOOSKI MAIN STREET	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_XS.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P.DETRICK	DRAWN BY: B.M.ROBERTS
DESIGNED BY: B.M.ROBERTS	CHECKED BY: D.M.PECK
CROSS SECTIONS (SHEET 3 OF 17)	SHEET 164 OF 178



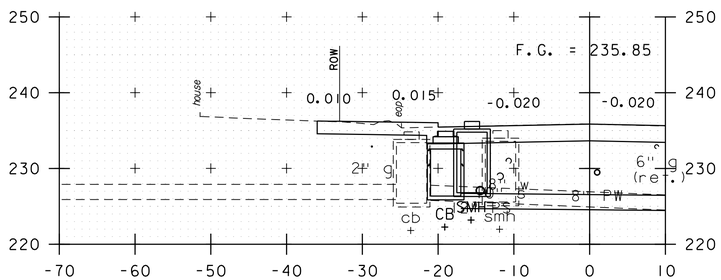
107+50



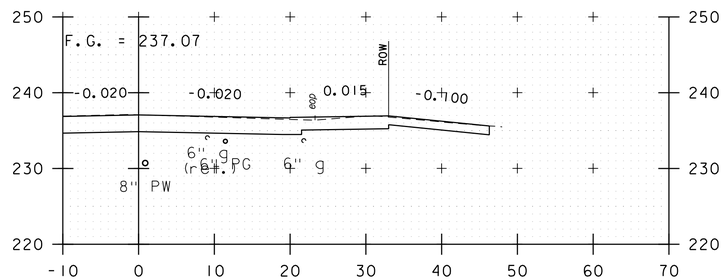
107+94



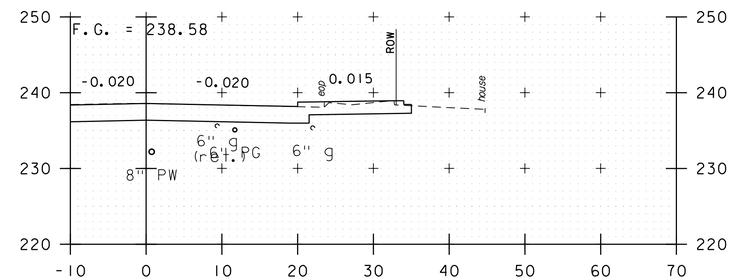
108+50



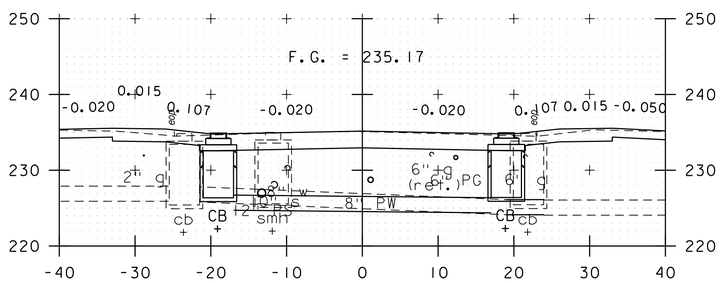
107+43



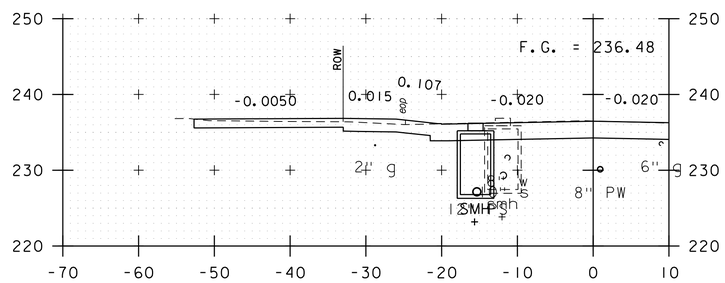
107+76



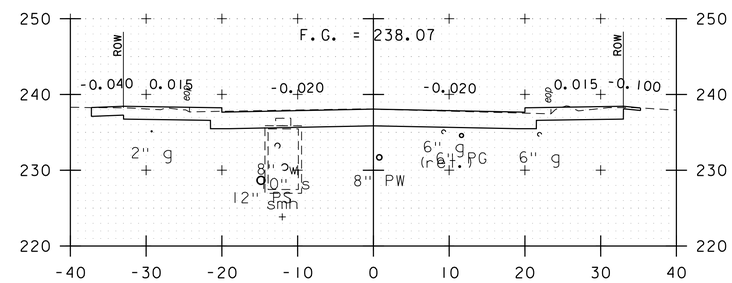
108+12



107+20

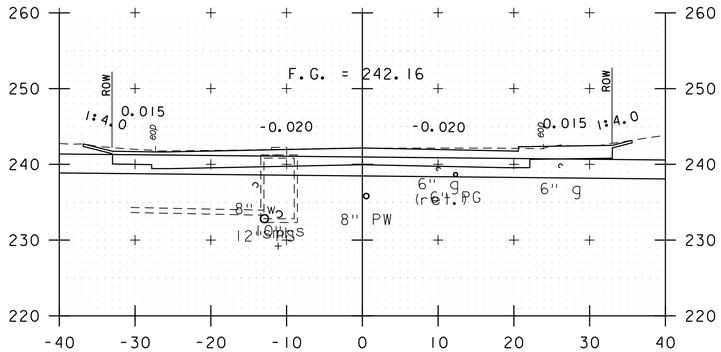


107+61

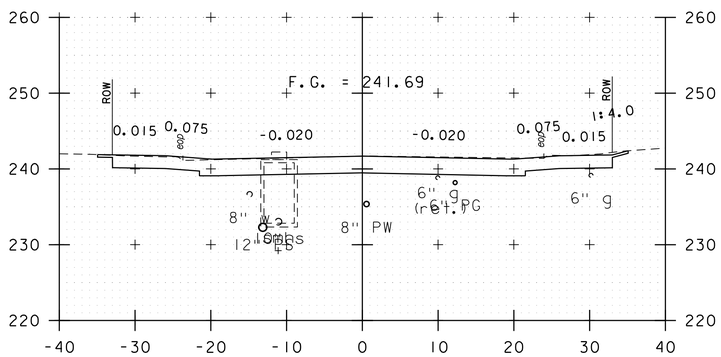


108+00

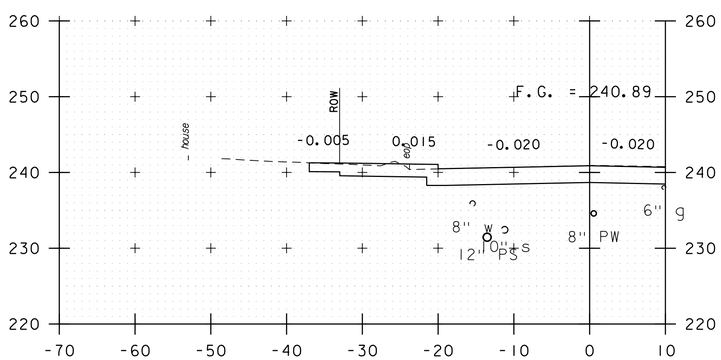
PROJECT NAME: WINOOSKI MAIN STREET	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_XS.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P.DETRICK	DRAWN BY: B.M.ROBERTS
DESIGNED BY: B.M.ROBERTS	CHECKED BY: D.M.PECK
CROSS SECTIONS (SHEET 4 OF 17)	SHEET 165 OF 178



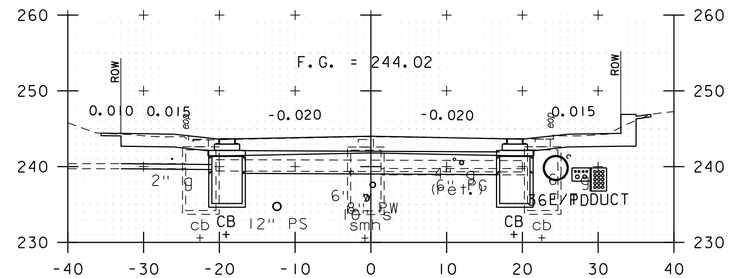
109+00



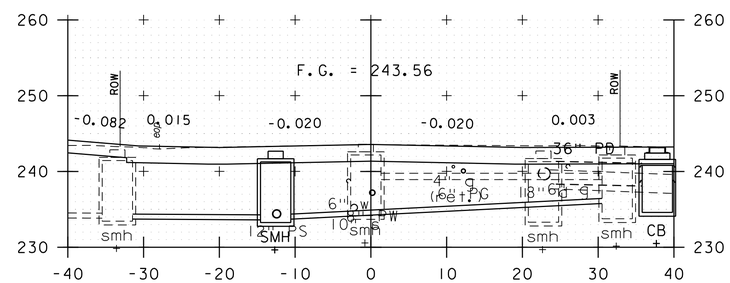
108+87



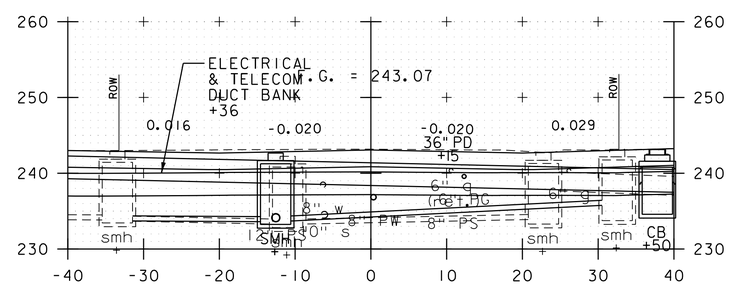
108+67



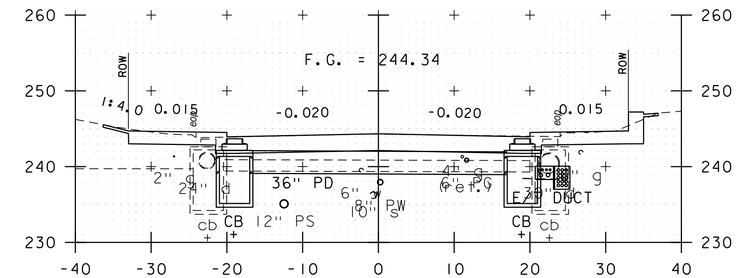
109+75



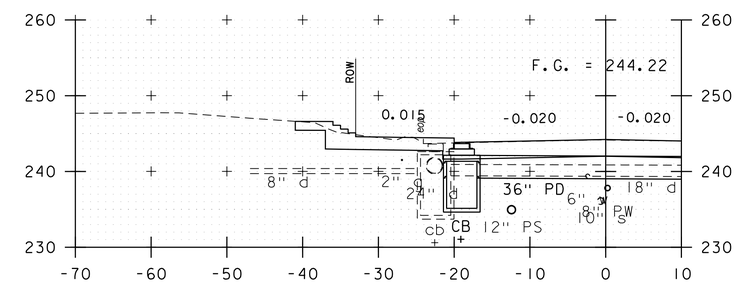
109+50



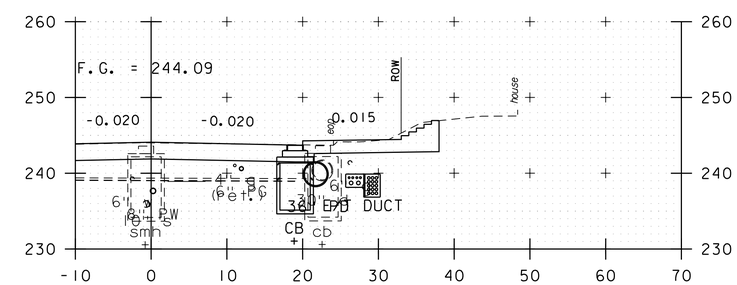
109+30



110+00



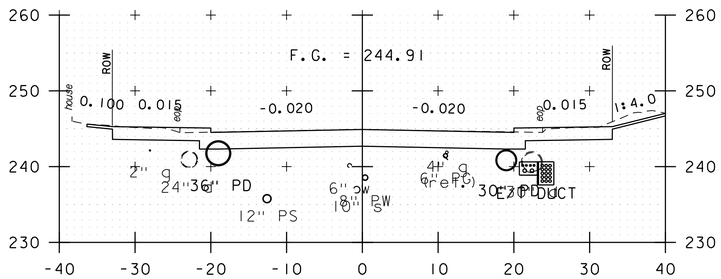
109+90



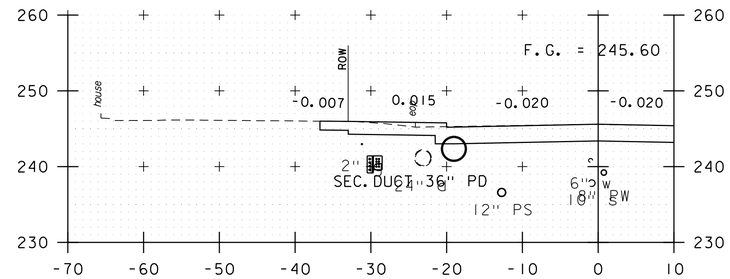
109+80

PROJECT NAME: WINOOSKI MAIN STREET	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_XS.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P.DETRICK	DRAWN BY: B.M.ROBERTS
DESIGNED BY: B.M.ROBERTS	CHECKED BY: D.M.PECK
CROSS SECTIONS (SHEET 5 OF 17)	SHEET 166 OF 178

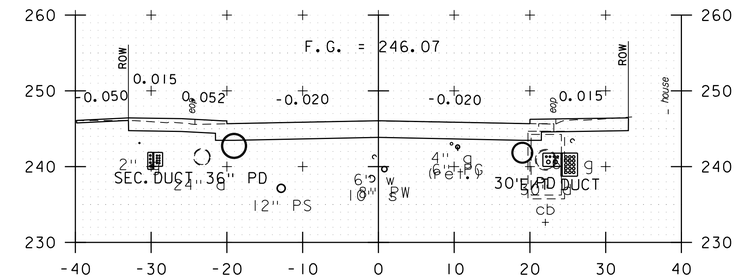
vhb



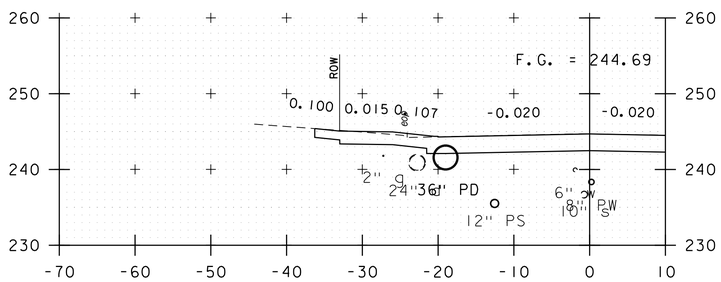
110+50



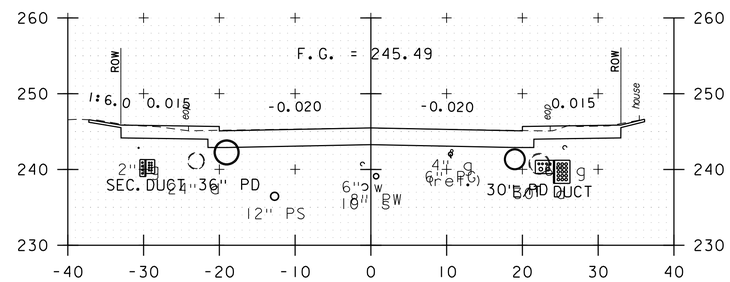
111+10



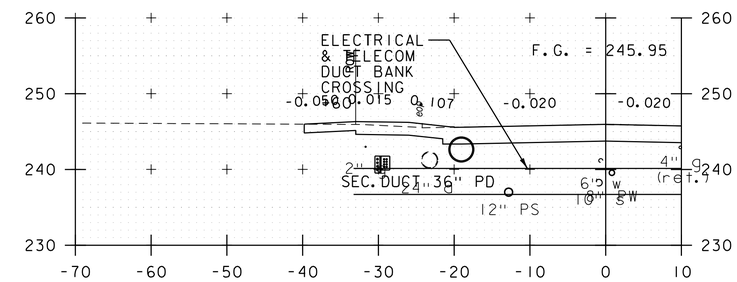
111+50



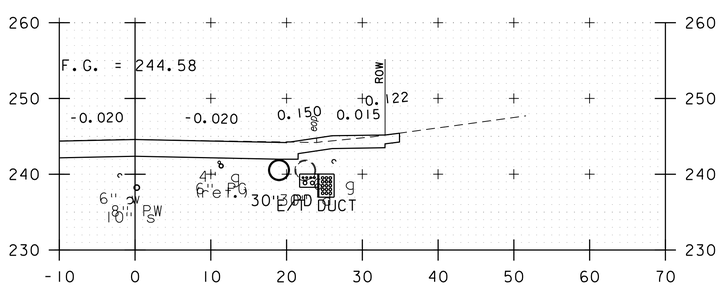
110+31



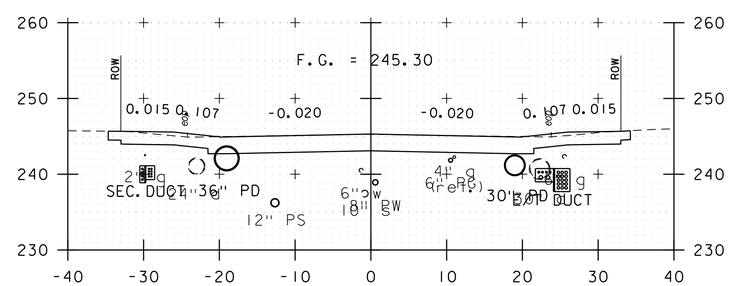
111+00



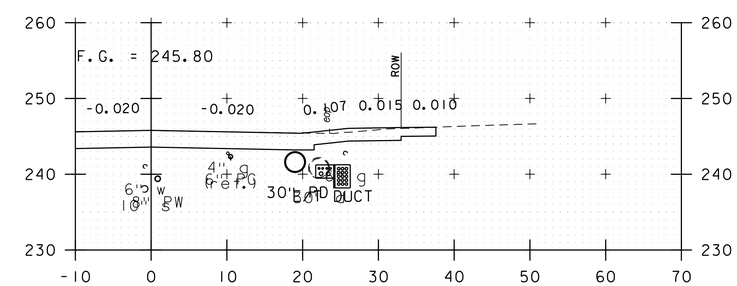
111+40



110+21

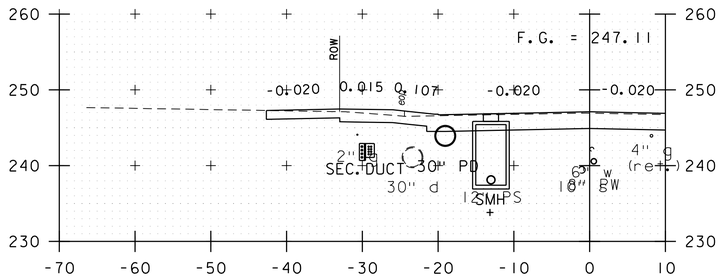


110+84

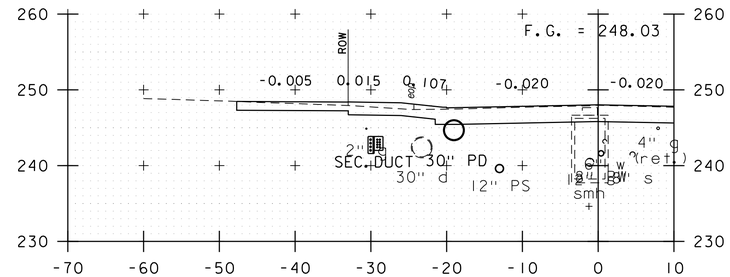


111+27

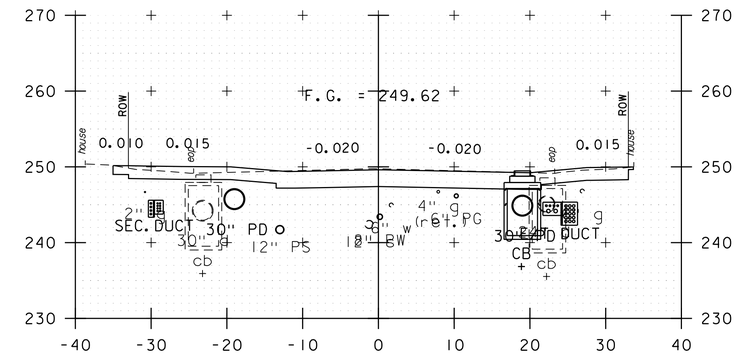
PROJECT NAME: WINOOSKI MAIN STREET	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_XS.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P.DETRICK	DRAWN BY: B.M.ROBERTS
DESIGNED BY: B.M.ROBERTS	CHECKED BY: D.M.PECK
CROSS SECTIONS (SHEET 6 OF 17)	SHEET 167 OF 178



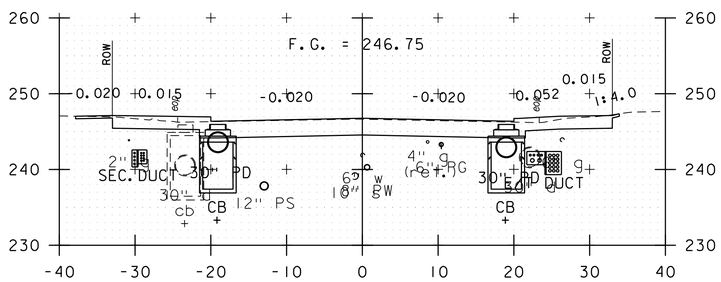
112+22



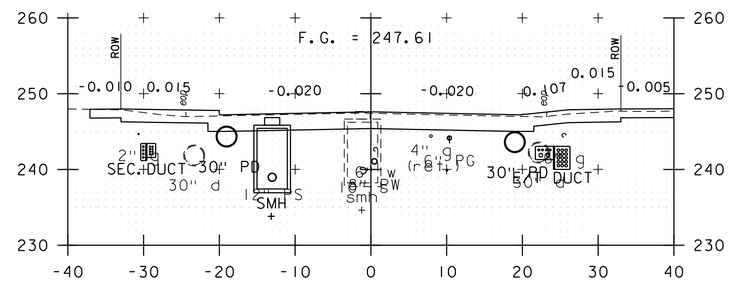
112+72



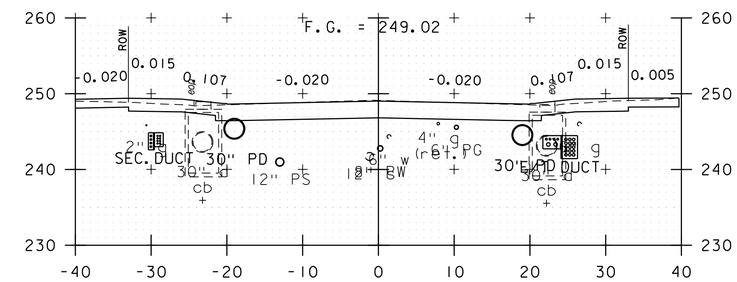
113+43



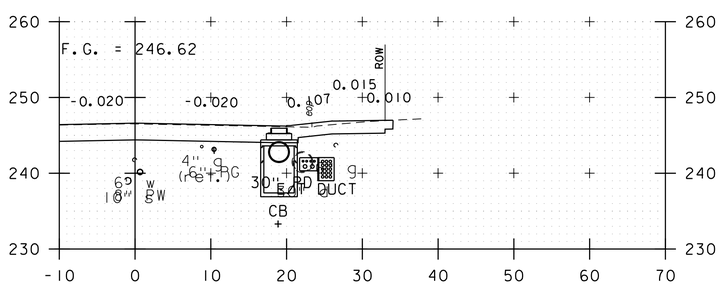
112+00



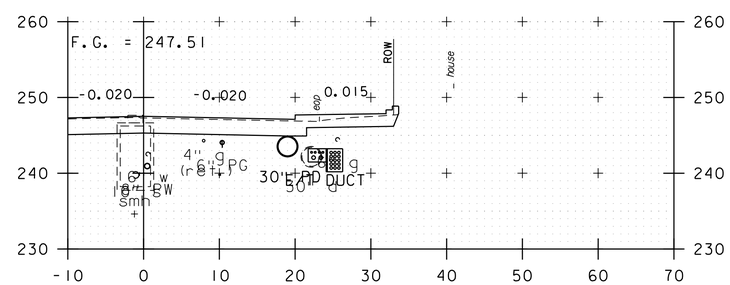
112+50



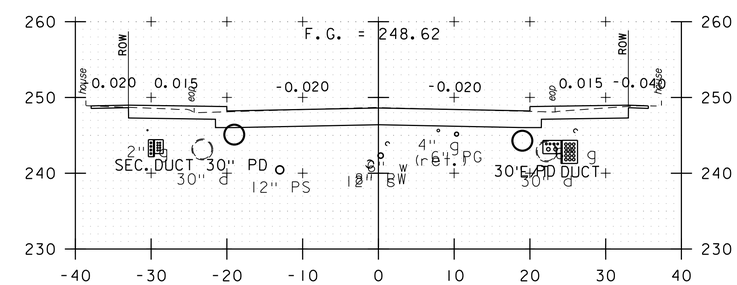
113+18



111+91

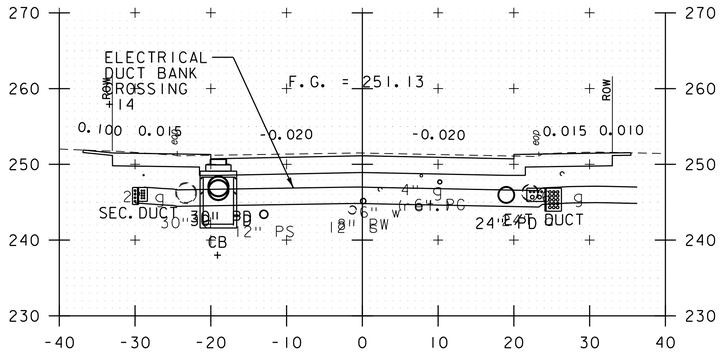


112+45

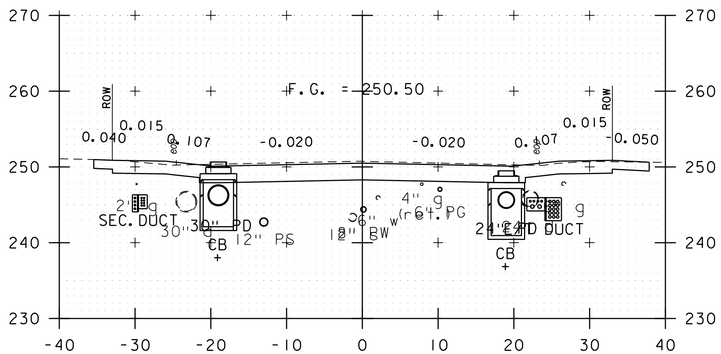


113+00

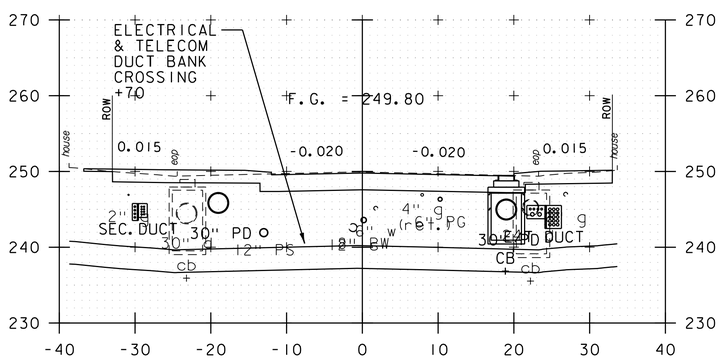
PROJECT NAME: WINOOSKI MAIN STREET	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_XS.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P.DETRICK	DRAWN BY: B.M.ROBERTS
DESIGNED BY: B.M.ROBERTS	CHECKED BY: D.M.PECK
CROSS SECTIONS (SHEET 7 OF 17)	SHEET 168 OF 178



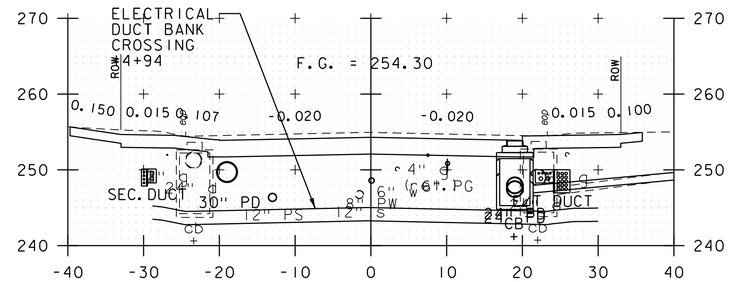
114+00



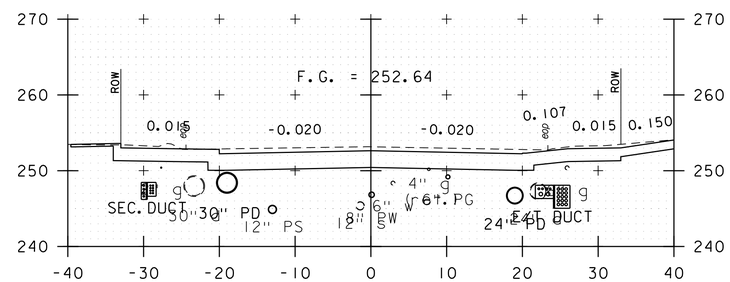
113+77



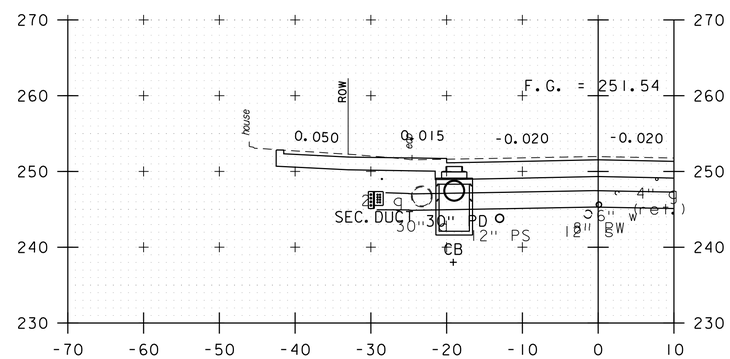
113+50



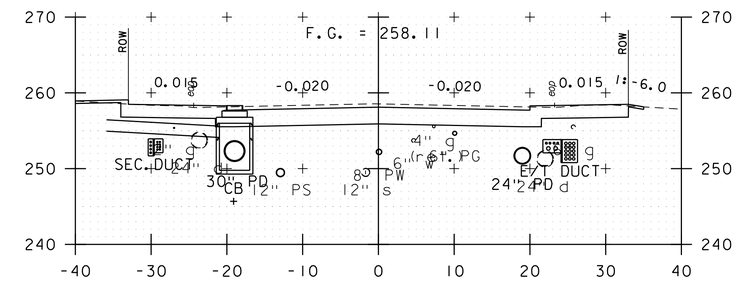
115+00



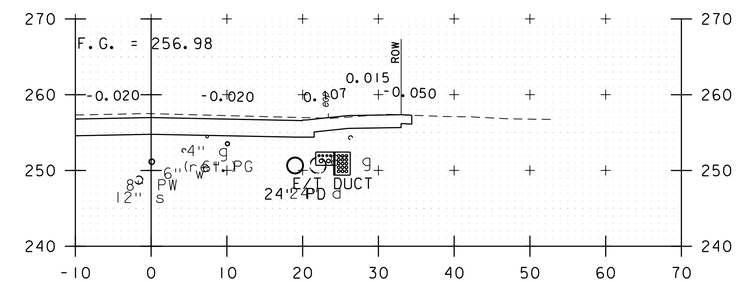
114+50



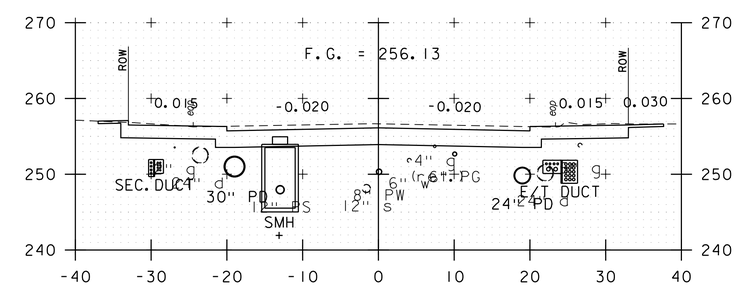
114+14



116+00

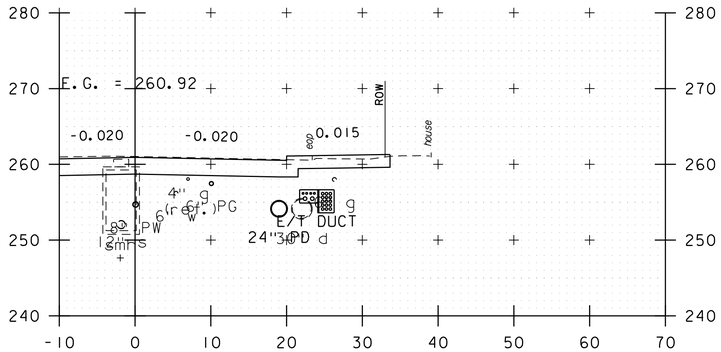


115+72

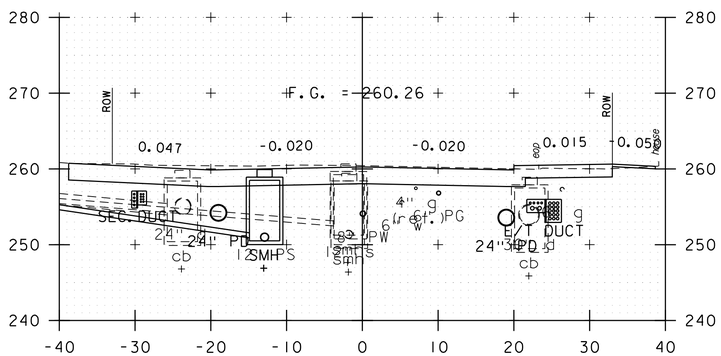


115+50

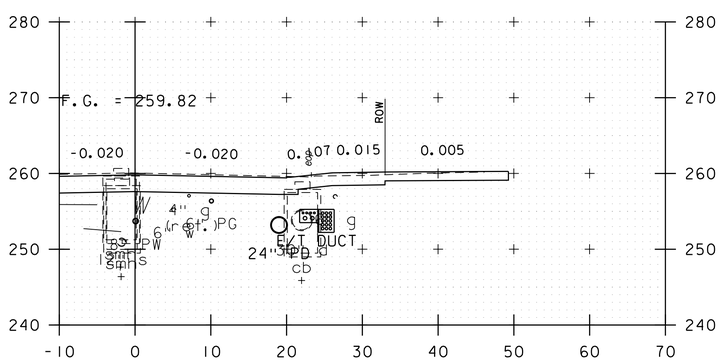
PROJECT NAME: WINOOSKI MAIN STREET	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_XS.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P.DETRICK	DRAWN BY: B.M.ROBERTS
DESIGNED BY: B.M.ROBERTS	CHECKED BY: D.M.PECK
CROSS SECTIONS (SHEET 8 OF 17)	SHEET 169 OF 178



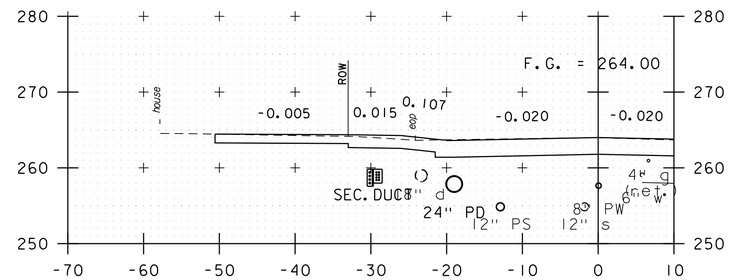
116+65



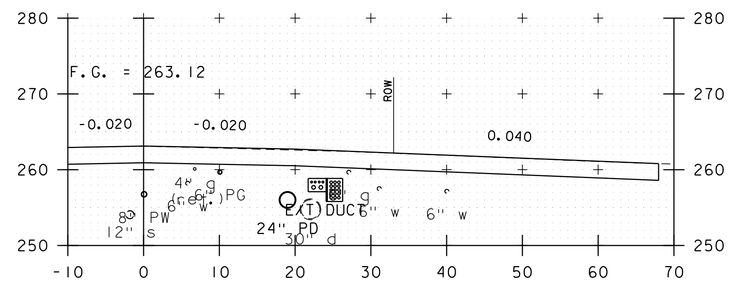
116+50



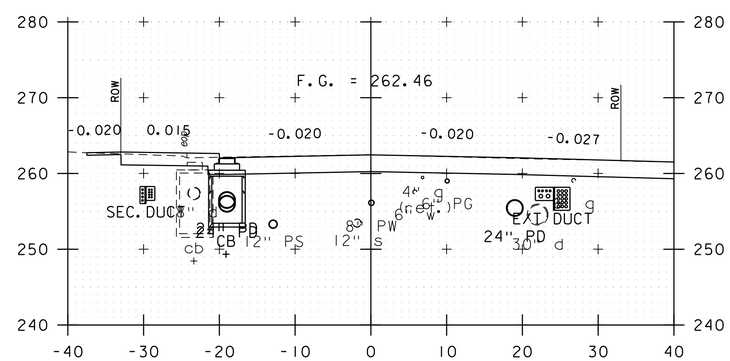
116+40



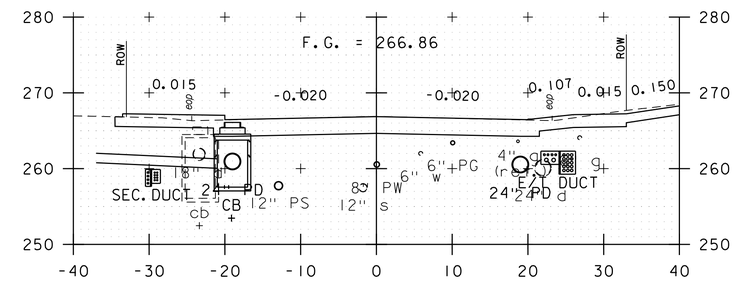
117+35



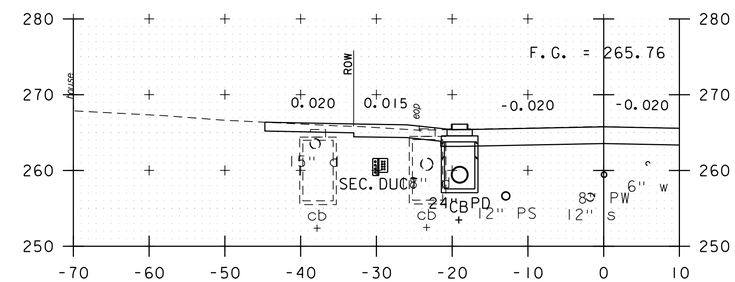
117+15



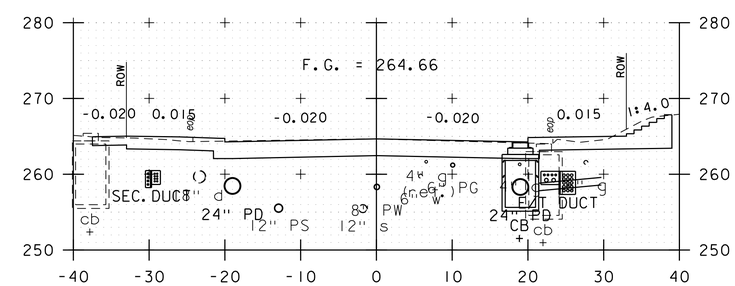
117+00



118+00

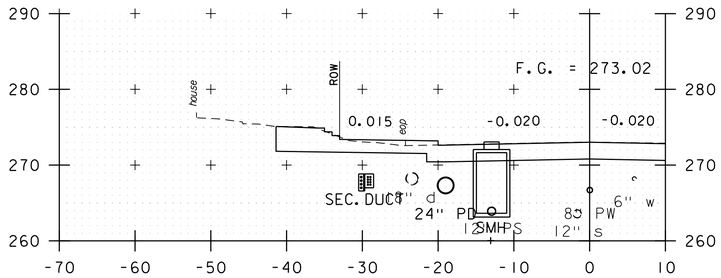


117+75

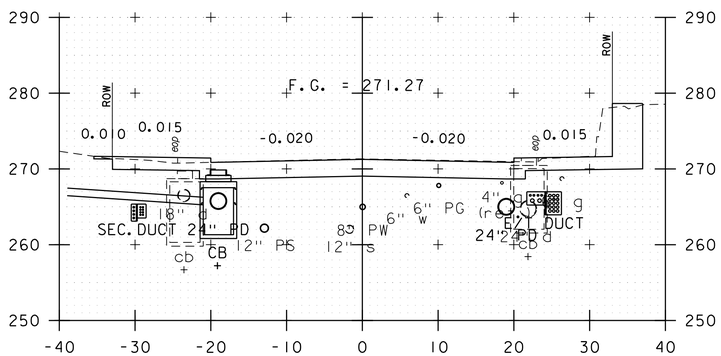


117+50

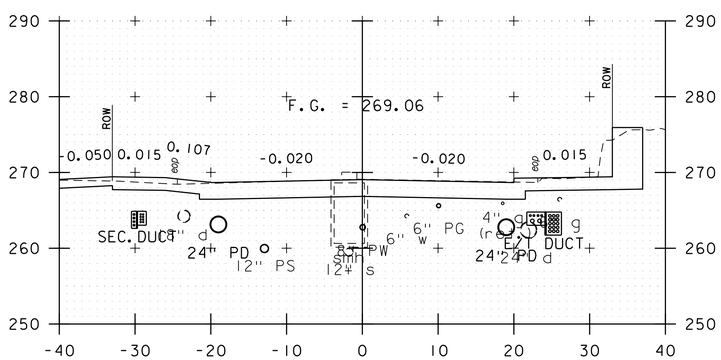
PROJECT NAME: WINOOSKI MAIN STREET	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_XS.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P.DETRICK	DRAWN BY: B.M.ROBERTS
DESIGNED BY: B.M.ROBERTS	CHECKED BY: D.M.PECK
CROSS SECTIONS (SHEET 9 OF 17)	SHEET 170 OF 178



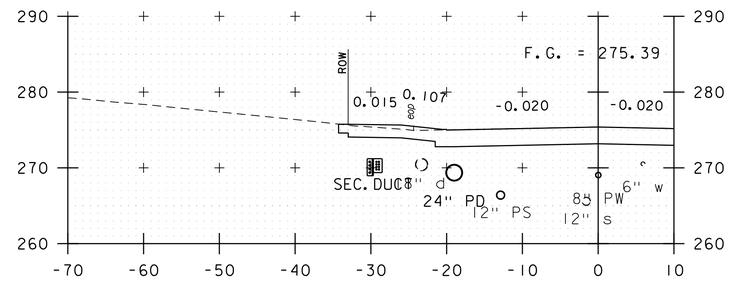
119+39



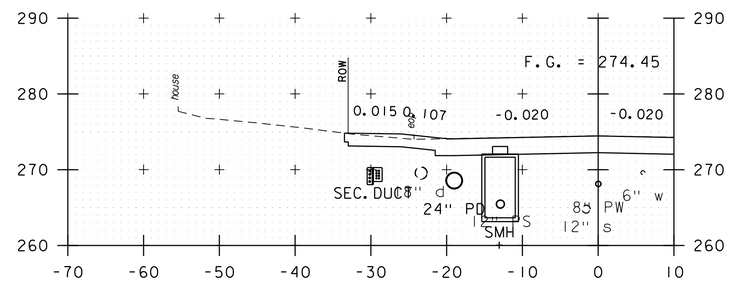
119+00



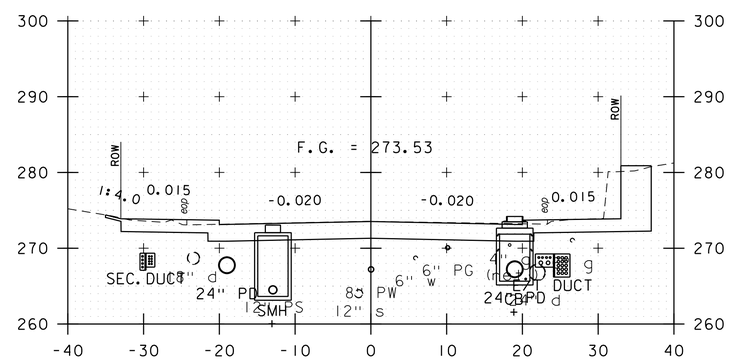
118+50



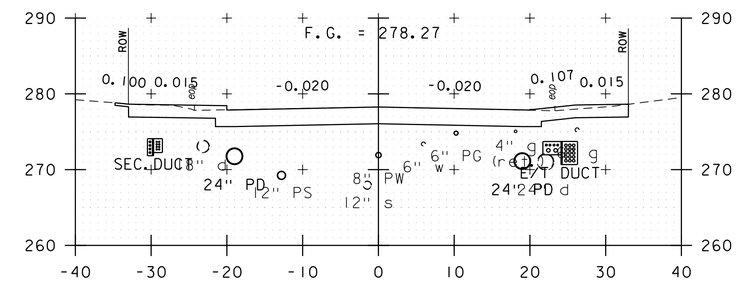
119+90



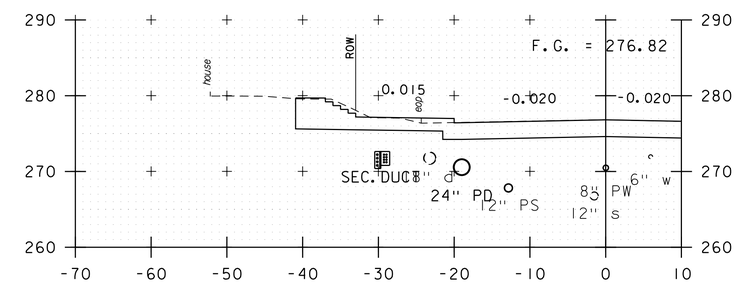
119+70



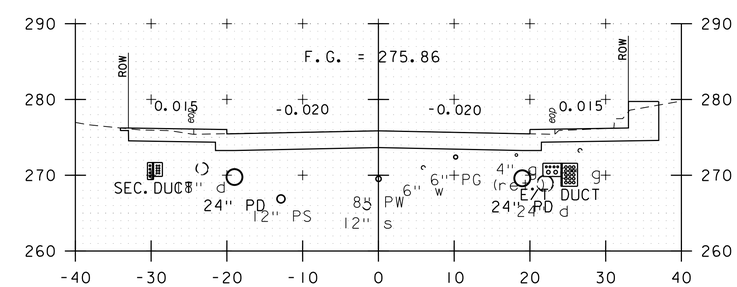
119+50



120+50

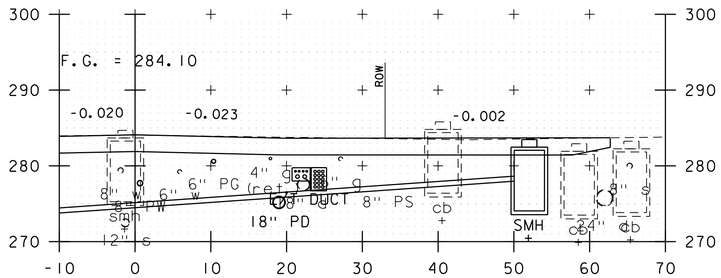


120+20

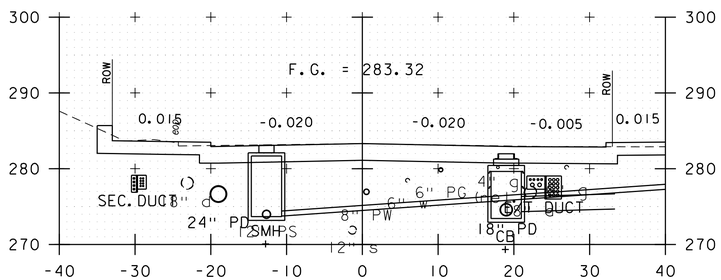


120+00

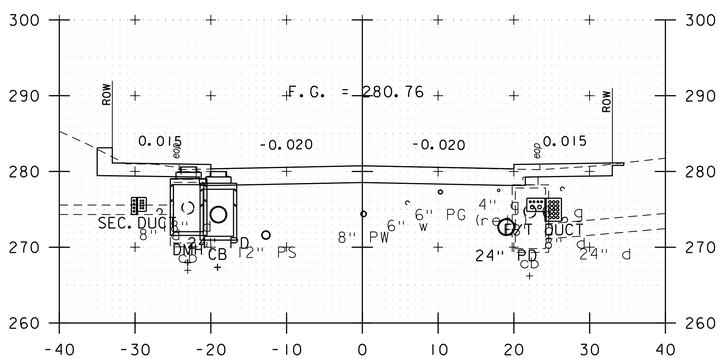
PROJECT NAME: WINOOSKI MAIN STREET	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_XS.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P.DETRICK	DRAWN BY: B.M.ROBERTS
DESIGNED BY: B.M.ROBERTS	CHECKED BY: D.M.PECK
CROSS SECTIONS (SHEET 10 OF 17)	SHEET 171 OF 178



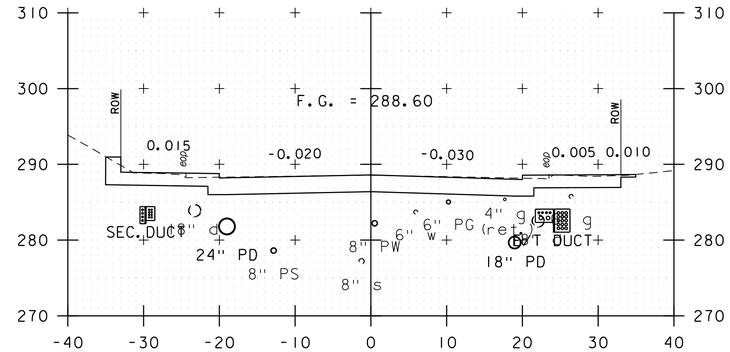
121+65



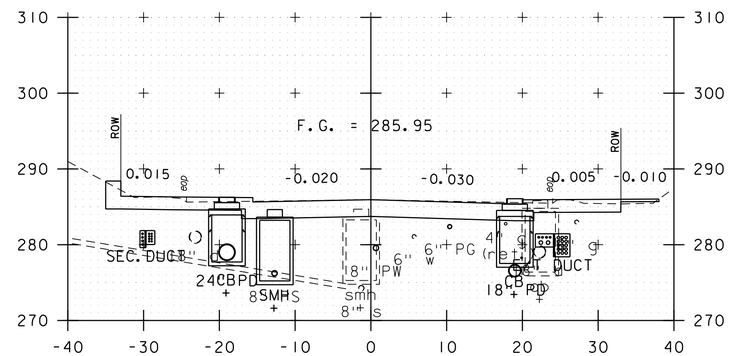
121+50



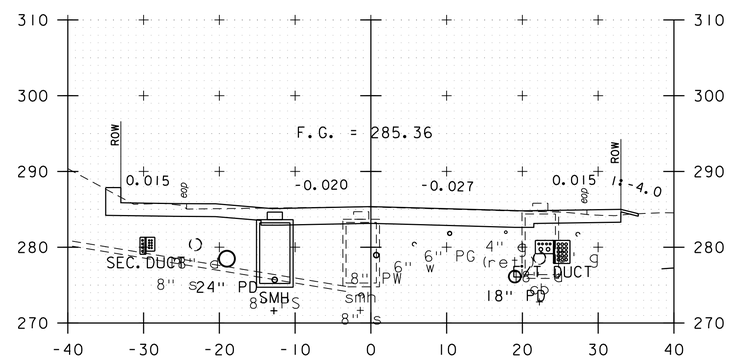
121+00



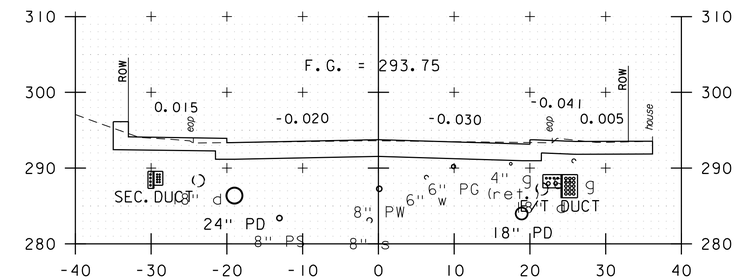
122+50



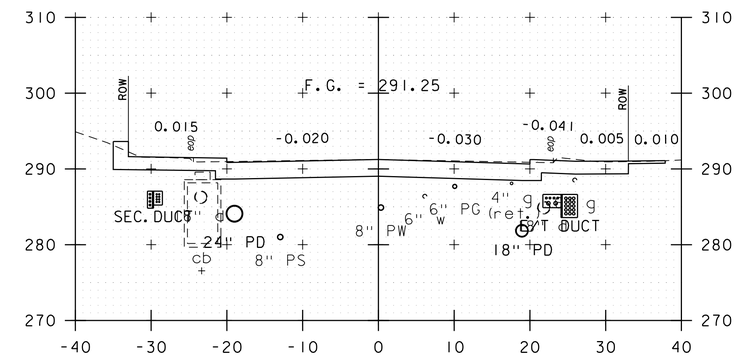
122+00



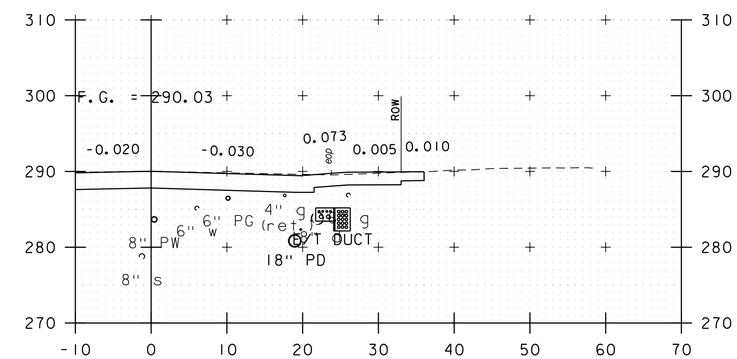
121+89



123+50

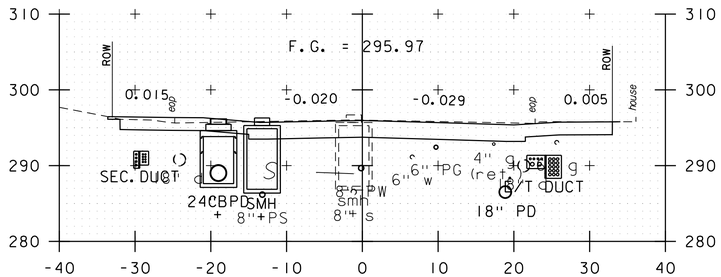


123+00

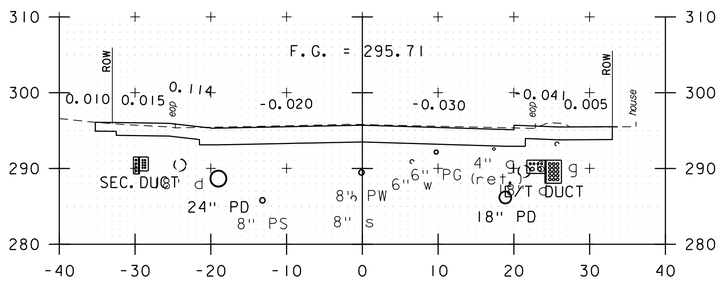


122+77

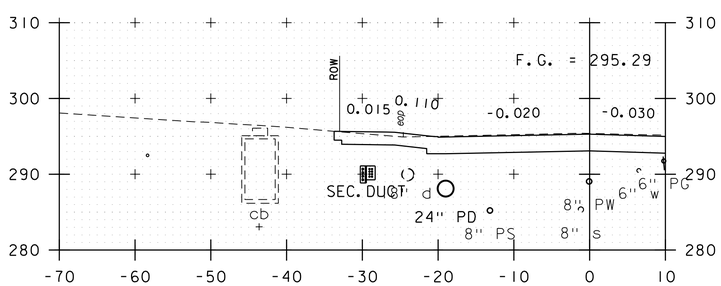
PROJECT NAME: WINOOSKI MAIN STREET	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_XS.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P.DETRICK	DRAWN BY: B.M.ROBERTS
DESIGNED BY: B.M.ROBERTS	CHECKED BY: D.M.PECK
CROSS SECTIONS (SHEET 11 OF 17)	SHEET 172 OF 178



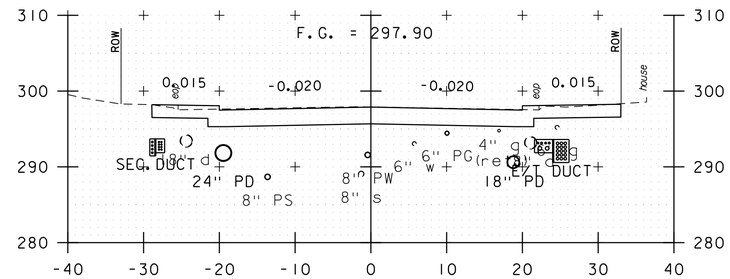
124+08



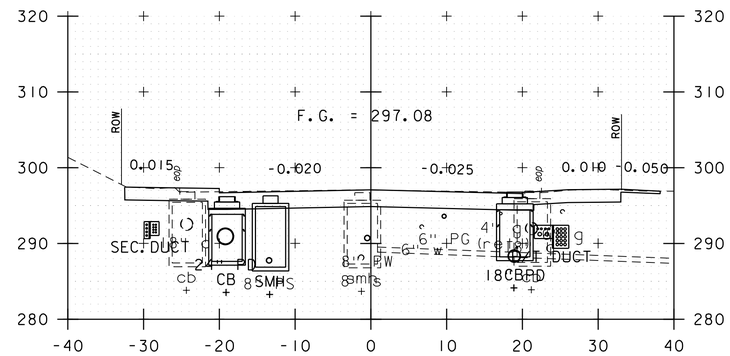
124+00



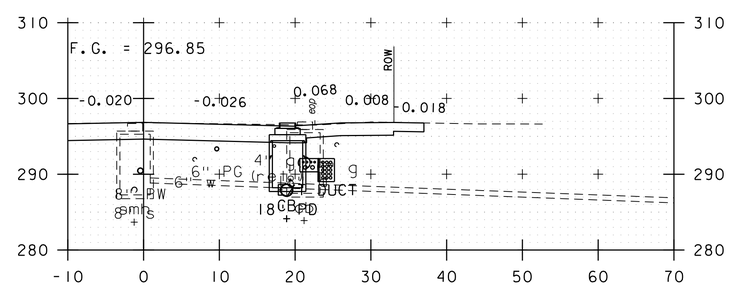
123+88



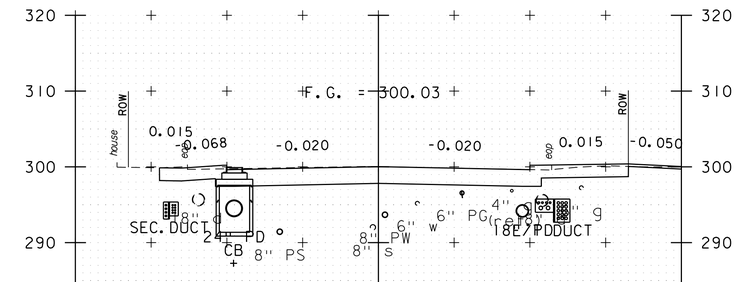
125+00



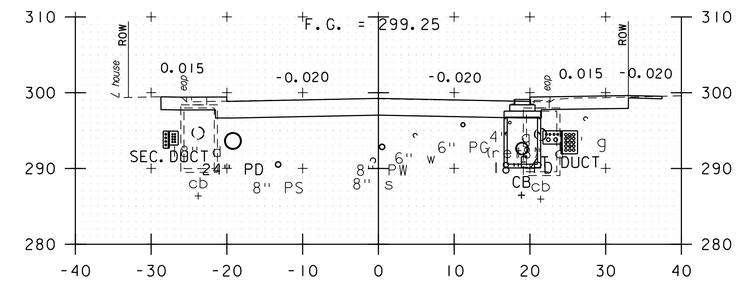
124+50



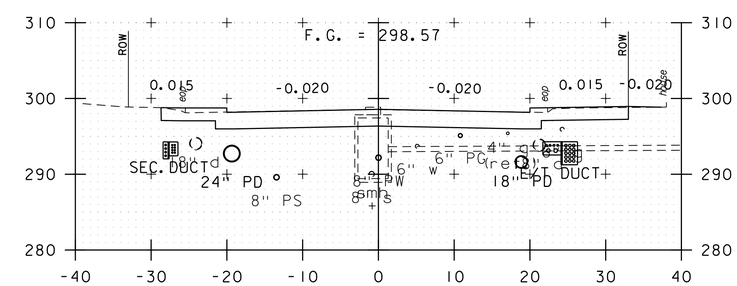
124+40



126+50

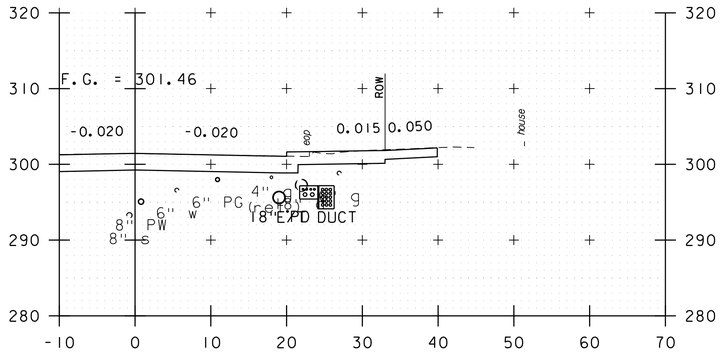


126+00

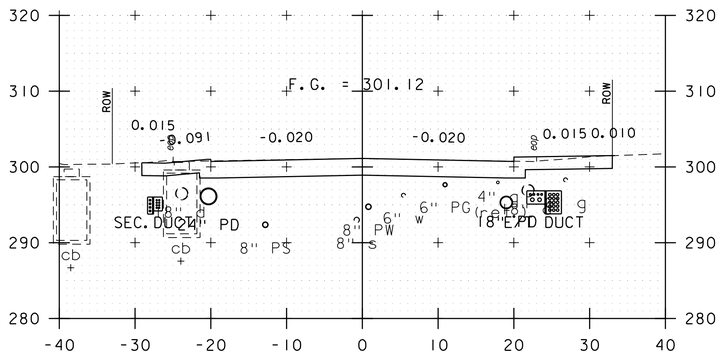


125+50

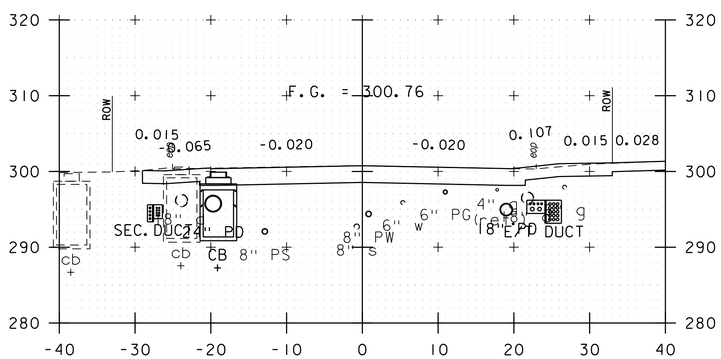
PROJECT NAME: WINOOSKI MAIN STREET	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_XS.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P.DETRICK	DRAWN BY: B.M.ROBERTS
DESIGNED BY: B.M.ROBERTS	CHECKED BY: D.M.PECK
CROSS SECTIONS (SHEET 12 OF 17)	SHEET 173 OF 178



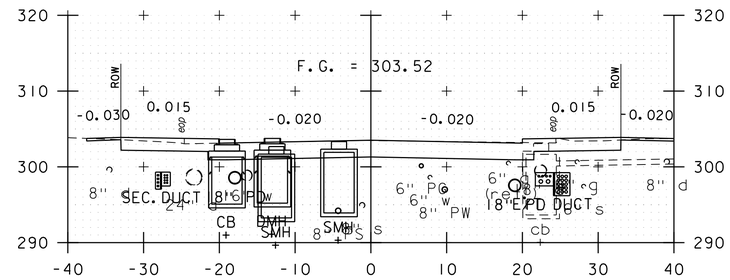
127+14



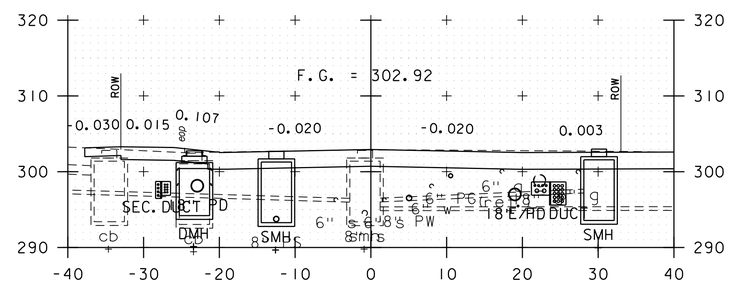
127+00



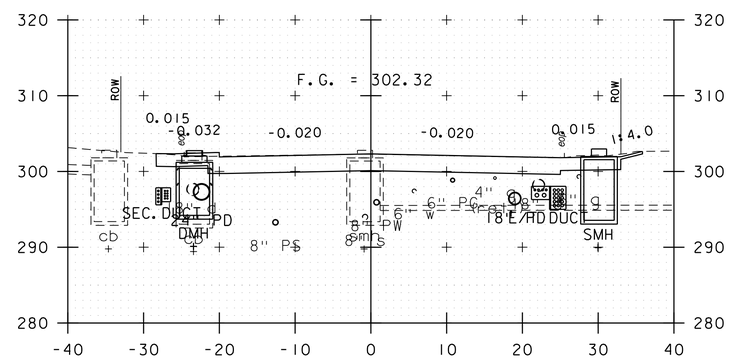
126+85



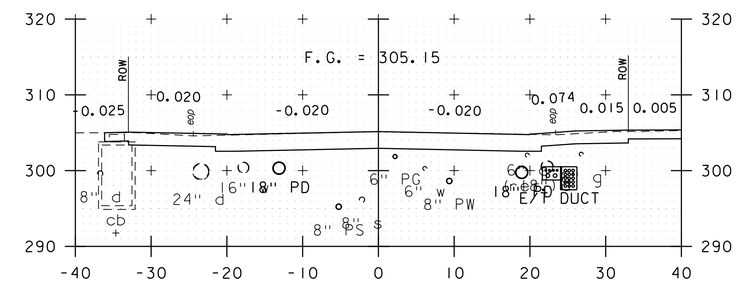
128+00



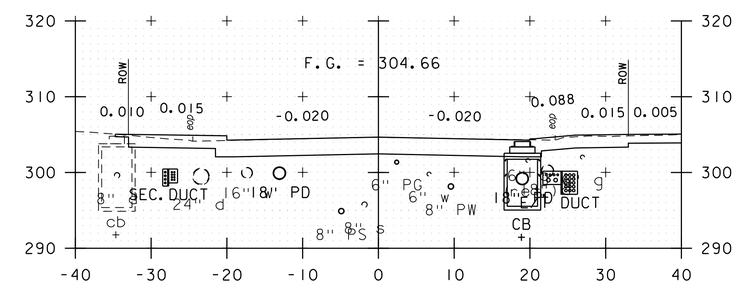
127+75



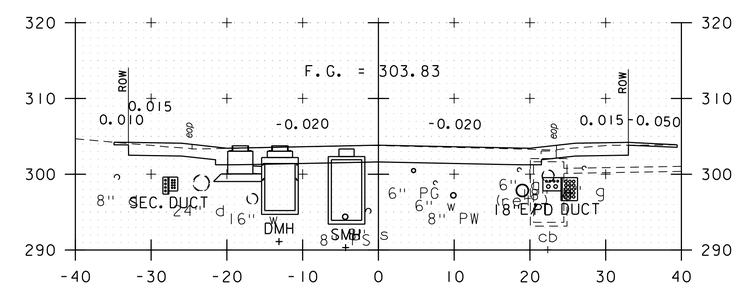
127+50



128+75

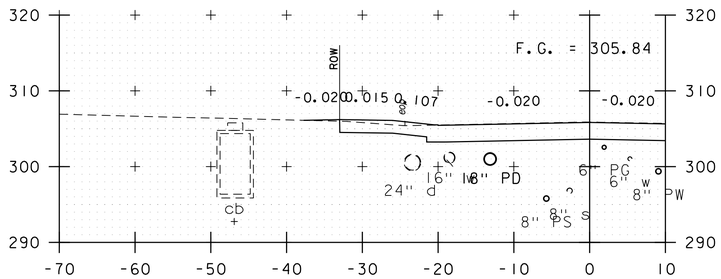


128+50

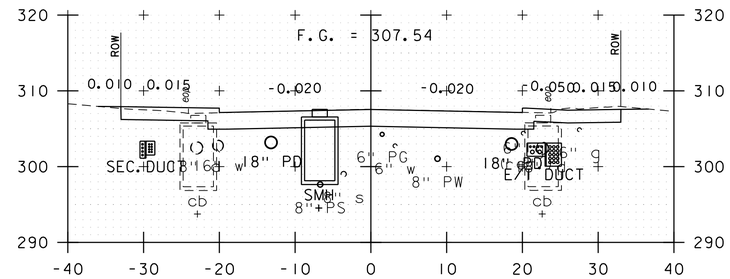


128+13

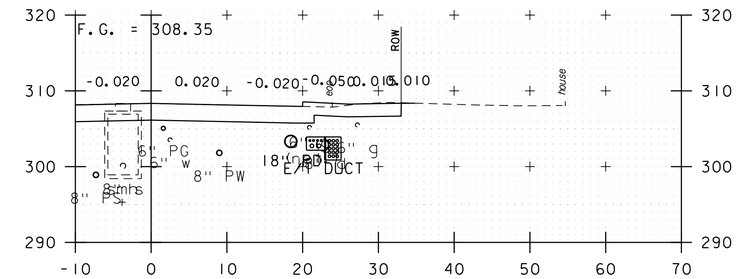
PROJECT NAME: WINOOSKI MAIN STREET	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_XS.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P.DETRICK	DRAWN BY: B.M.ROBERTS
DESIGNED BY: B.M.ROBERTS	CHECKED BY: D.M.PECK
CROSS SECTIONS (SHEET 13 OF 17)	SHEET 174 OF 178



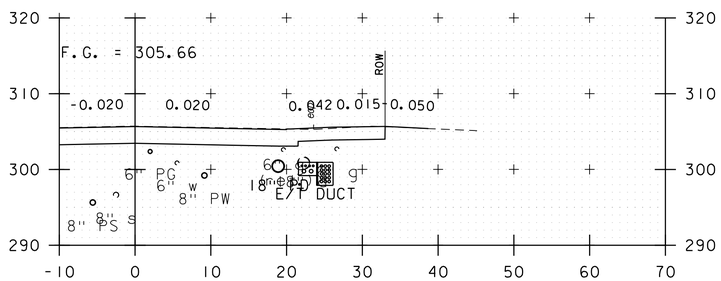
129+15



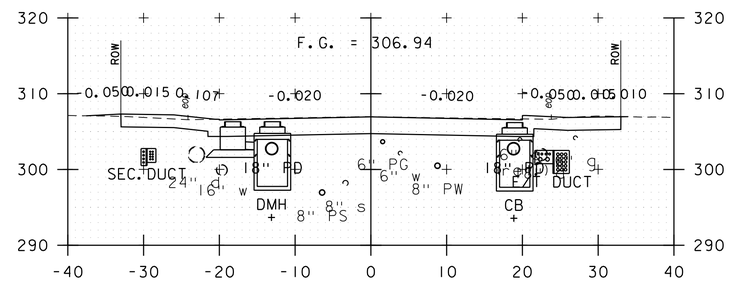
130+50



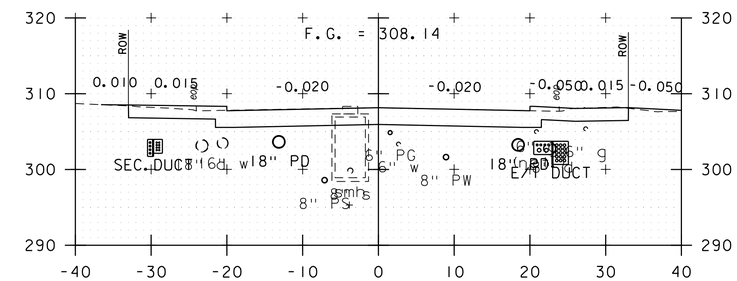
131+17



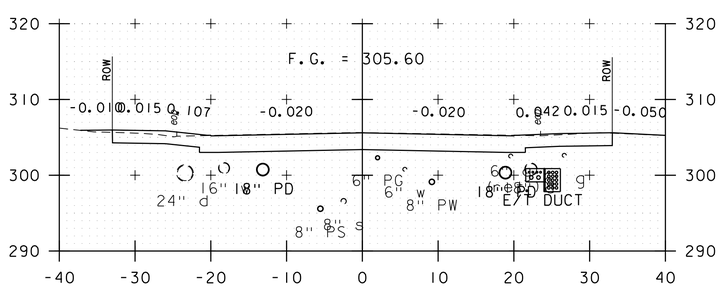
129+04



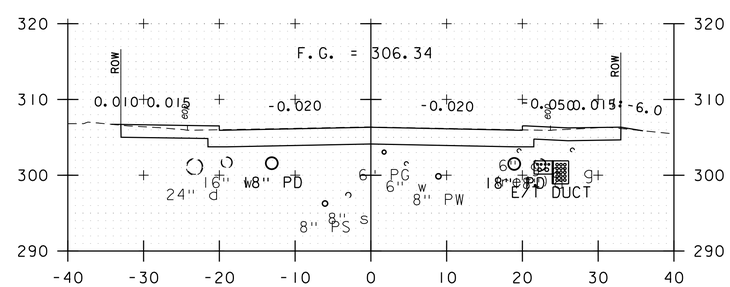
130+00



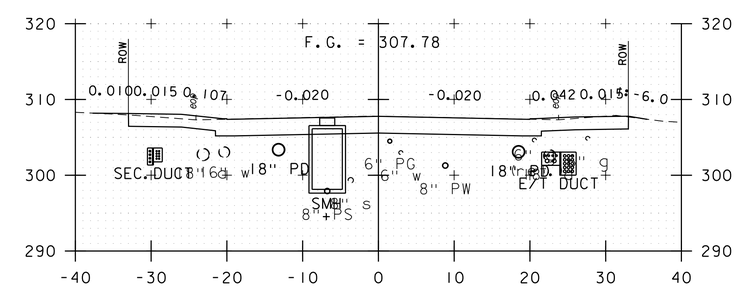
131+00



129+00

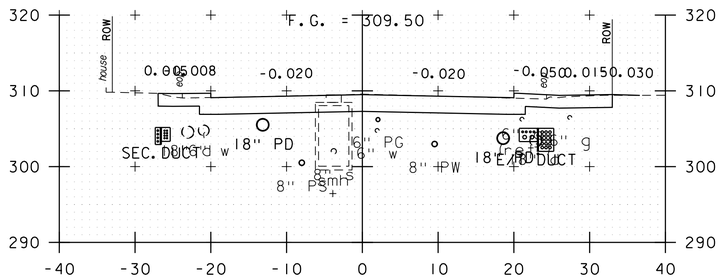


129+50

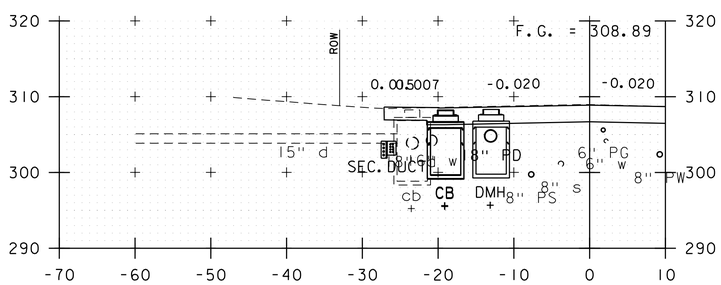


130+70

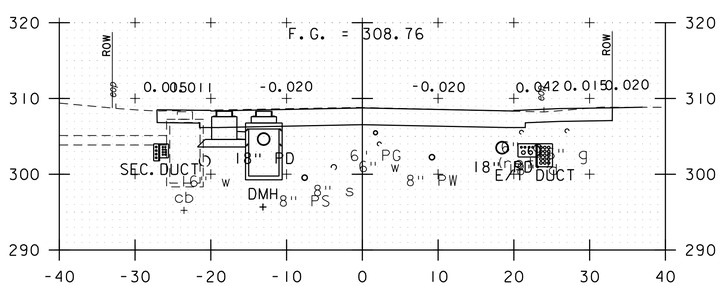
PROJECT NAME: WINOOSKI MAIN STREET	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_XS.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P.DETRICK	DRAWN BY: B.M.ROBERTS
DESIGNED BY: B.M.ROBERTS	CHECKED BY: D.M.PECK
CROSS SECTIONS (SHEET 14 OF 17)	SHEET 175 OF 178



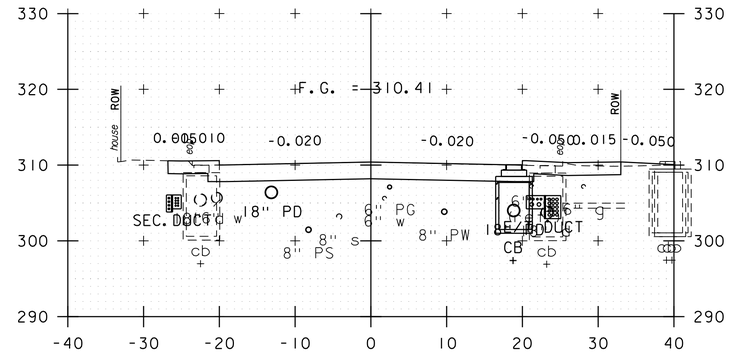
132+00



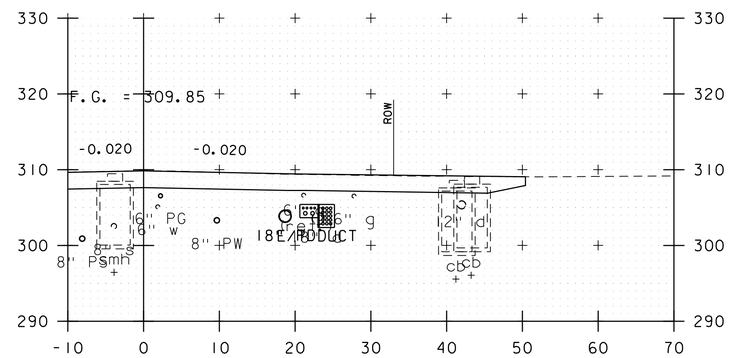
131+60



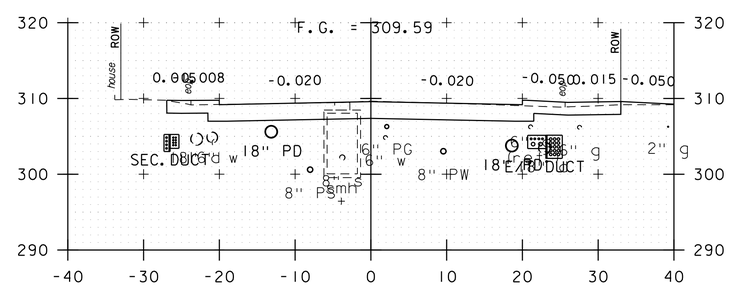
131+50



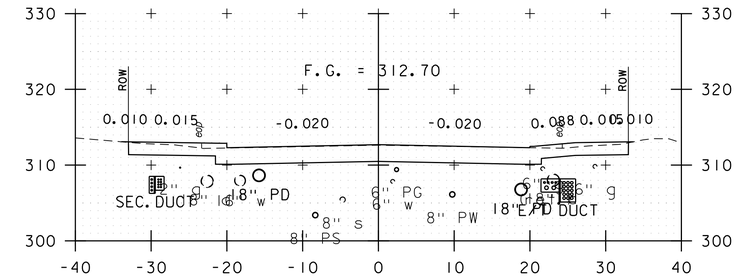
132+50



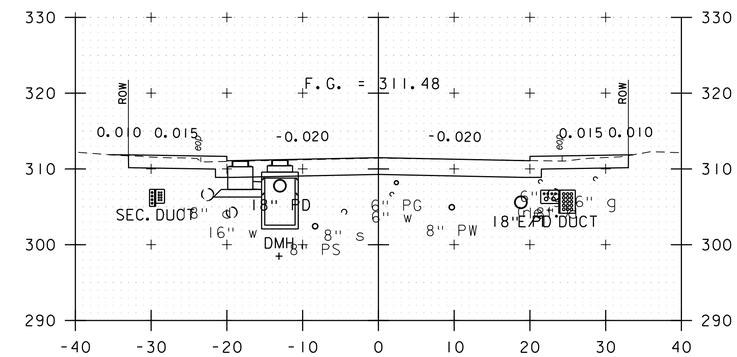
132+20



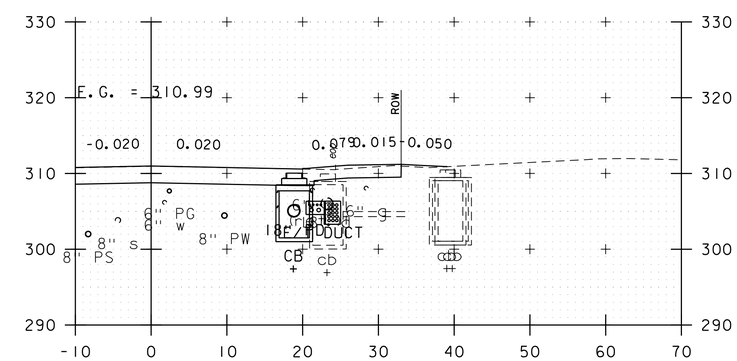
132+05



133+50

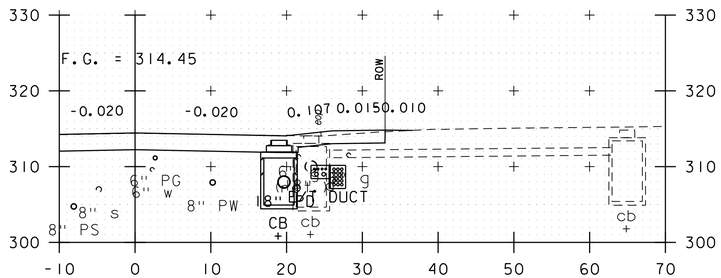


133+00

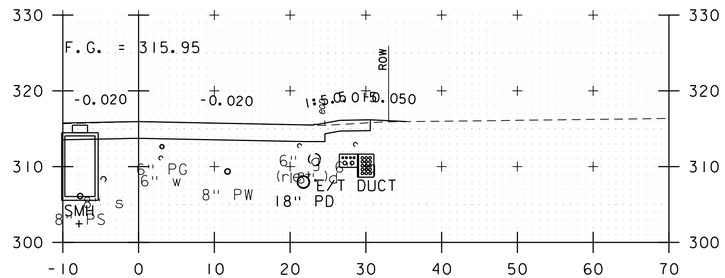


132+78

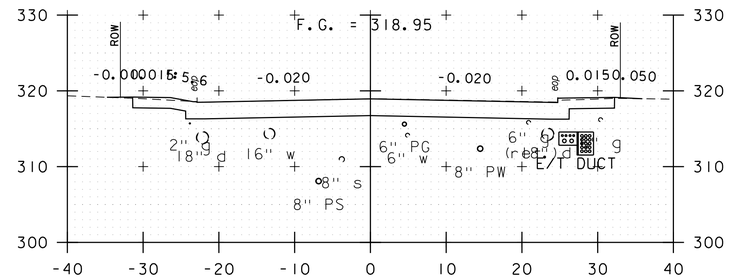
PROJECT NAME: WINOOSKI MAIN STREET	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_XS.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P.DETRICK	DRAWN BY: B.M.ROBERTS
DESIGNED BY: B.M.ROBERTS	CHECKED BY: D.M.PECK
CROSS SECTIONS (SHEET 15 OF 17)	SHEET 176 OF 178



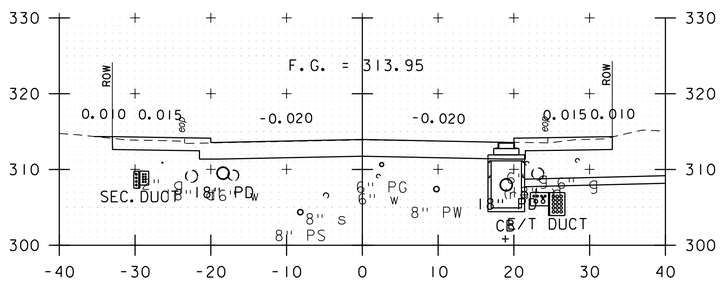
134+20



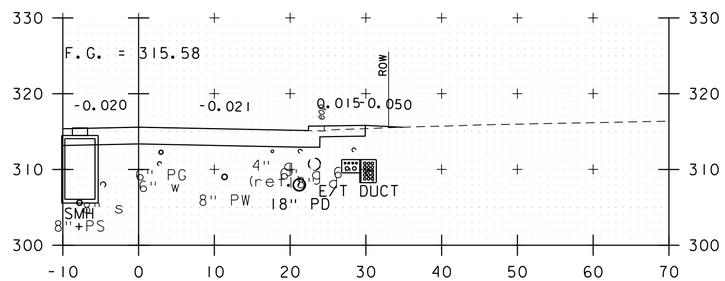
134+80



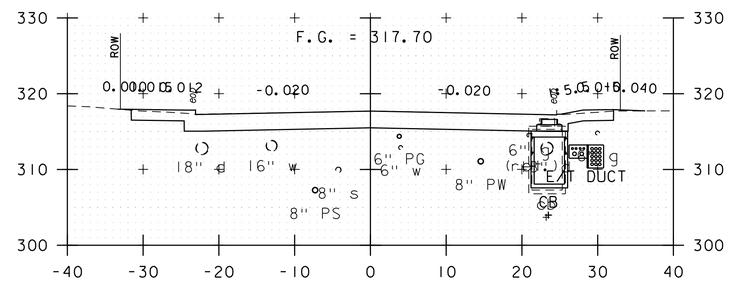
136+00



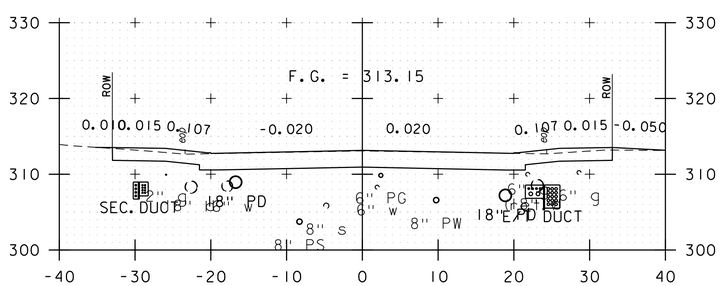
134+00



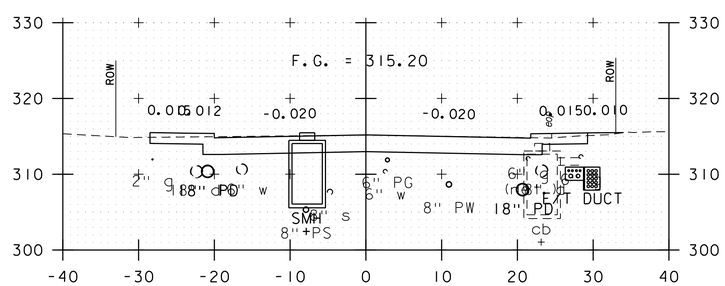
134+65



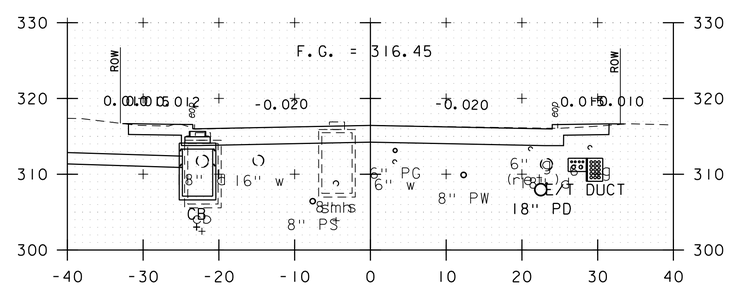
135+50



133+68

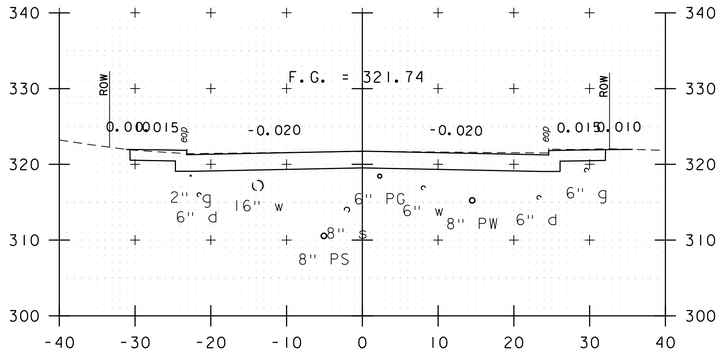


134+50

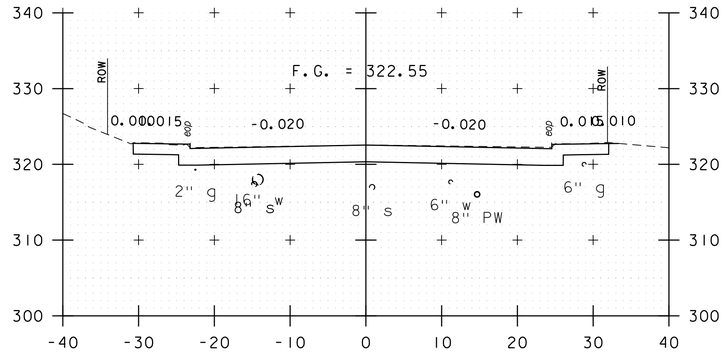


135+00

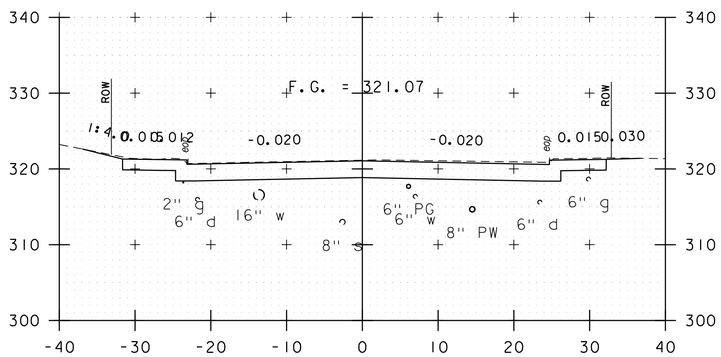
PROJECT NAME: WINOOSKI MAIN STREET	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_XS.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P.DETRICK	DRAWN BY: B.M.ROBERTS
DESIGNED BY: B.M.ROBERTS	CHECKED BY: D.M.PECK
CROSS SECTIONS (SHEET 16 OF 17)	SHEET 177 OF 178



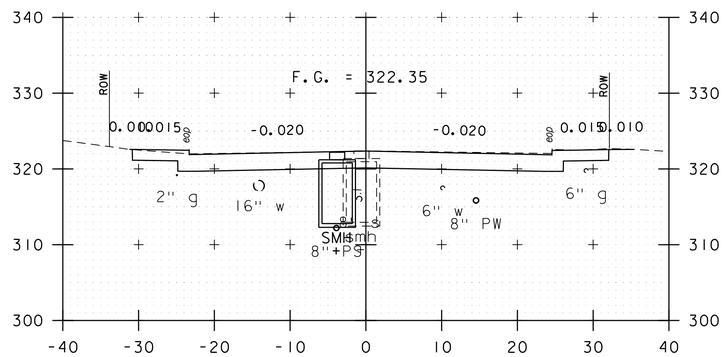
137+50



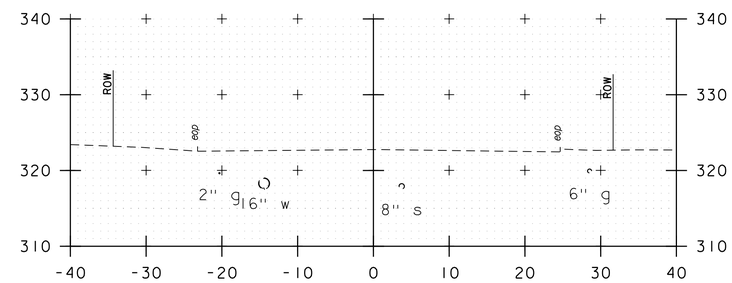
139+00



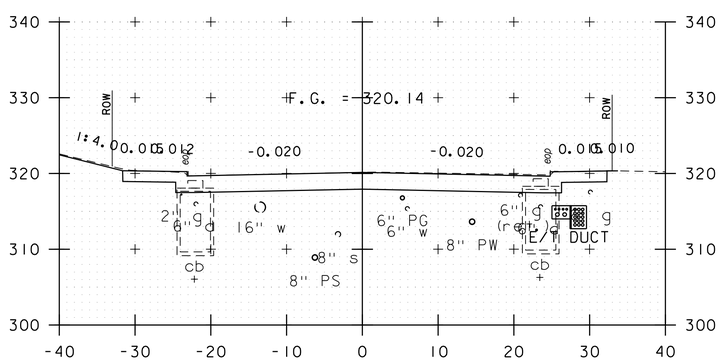
137+00



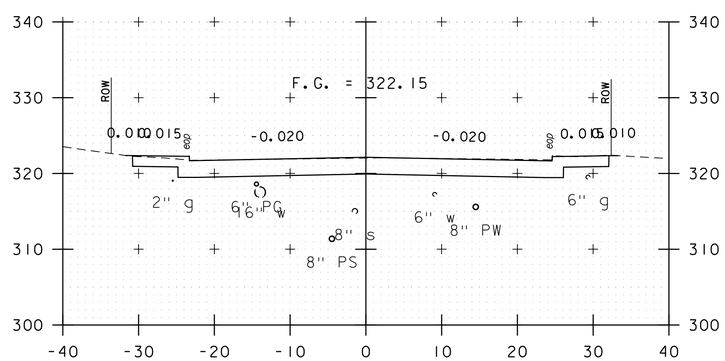
138+50



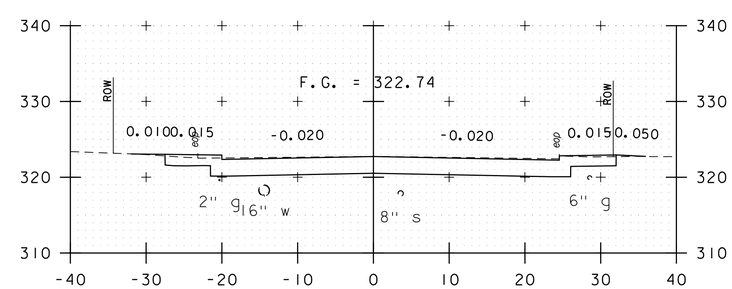
139+53



136+50



138+00



139+50

PROJECT NAME: WINOOSKI MAIN STREET	
PROJECT NUMBER: 58011.00	
FILE NAME: 58011_XS.dgn	PLOT DATE: 11/27/2019
PROJECT LEADER: E.P.DETRICK	DRAWN BY: B.M.ROBERTS
DESIGNED BY: B.M.ROBERTS	CHECKED BY: D.M.PECK
CROSS SECTIONS (SHEET 17 OF 17)	SHEET 178 OF 178