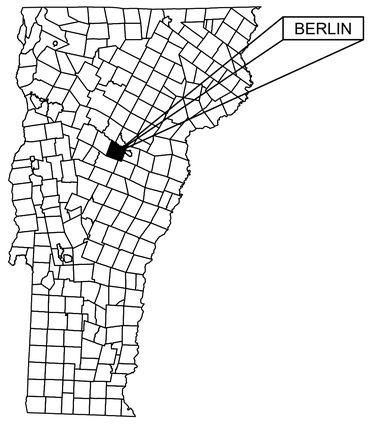
TOWN OF BERLIN

PAINE TURNPIKE NORTH WASTEWATER IMPROVEMENTS

BERLIN, VERMONT

SPRING 2020



RECORD SET

RECORD DRAWING

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Prepared by : Otter Creek Engineering, Inc., East Middlebury, Vermont.

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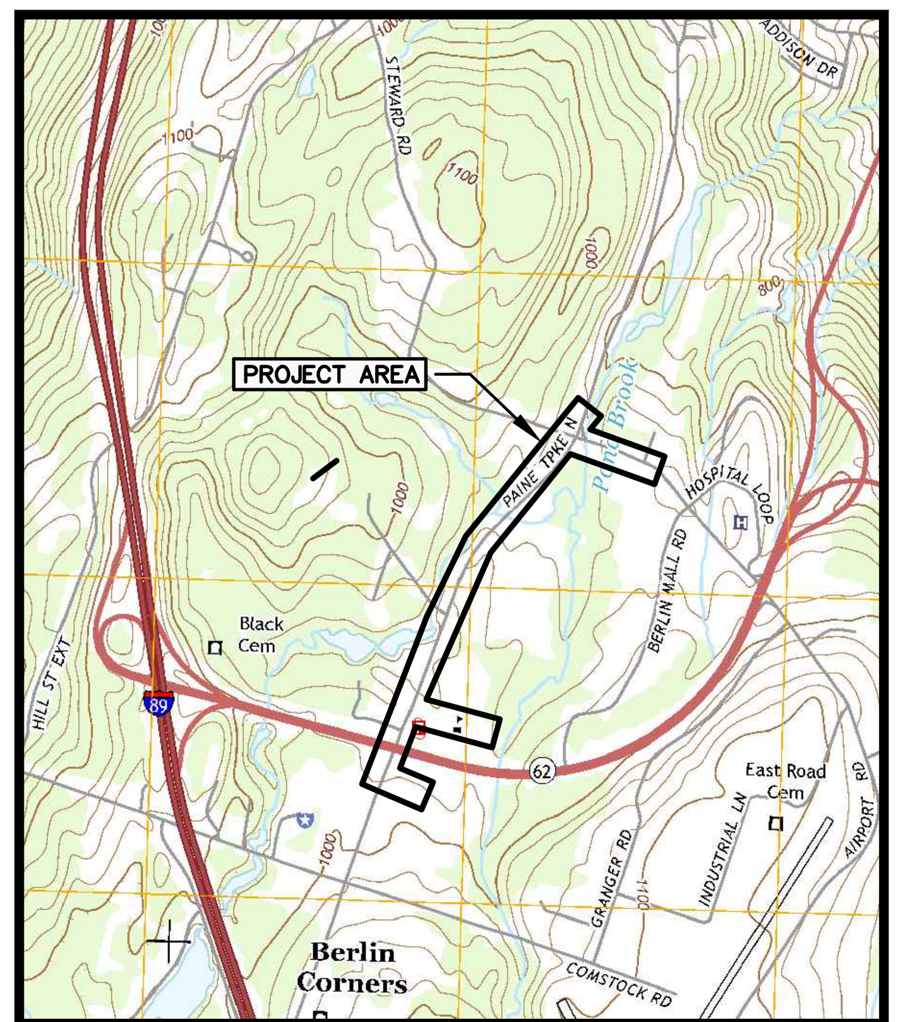

PROJECT LOCATION MAP

LEGEND

	boundary line/r.o.w.
	easement
	road/parking (paved/gravel)
	drive (paved/gravel)
	tree line/hedge row
	2 foot contour
100 — 100	10 foot contour
	area of depression
	stone wall
	fence
e	underground electric
o/h	overhead utility
t	underground telephone
fo	fiber optic
dl	ditch line/drainage
sd	storm drain
w	water main
s	sanitary sewer
fm	force main
	guardrail
	retaining wall
	culvert (size noted)
	railroad tracks
	sign
	light pole
	utility pole
	utility pole with light
	guy
co	cleanout
	gate valve
	curb stop
	hydrant
	iron pipe found
	property monument
fp	flag pole
B-A-4	boring designation
wl C-1	wetland marker
W	drilled well
mw	monitoring well
	post
m	mailbox
	boulder
	catch basin
	sewer manhole
	telephone manhole
	deciduous tree
	coniferous tree
	bush/bushes
	stump
	hedges/treeline
1	traverse station
TBM 1	temporary bench mark
TWB	tracer wire box
100	FINISH GRADE
	SANITARY SEWER
FM	SEWER FORCE MAIN
	SEWER MANHOLE
	WATER MAIN
	GATE VALVE
	REDUCER

NOTE:
FOR CLARITY, TEXT DENOTING EXISTING ITEMS IS SHOWN IN LOWER CASE, AND TEXT DENOTING PROPOSED ITEMS IS UPPERCASE AND BOLD.

ABBREVIATIONS

AC	– ASBESTOS CEMENT	MH	– MANHOLE
CI	– CAST IRON	NC	– NORMALLY CLOSED
CB	– CATCH BASIN	NFL	– NOT FIELD LOCATED
CL	– CLASS	NLTD	– NO LEDGE TO DEPTH
CMP	– CORRUGATED METAL PIPE	NO	– NORMALLY OPEN
CS	– CURB STOP	NTS	– NOT TO SCALE
DI	– DUCTILE IRON	RCP	– REINFORCED CONCRETE PIPE
FM	– FORCE MAIN	ROW	– RIGHT OF WAY
GPM	– GALLON PER MINUTE	S	– SANITARY SEWER
GV	– GATE VALVE	SD	– STORM DRAIN
GND	– GROUND	SMH	– SEWER MANHOLE
HYD	– HYDRANT	TBM	– TEMPORARY BENCH MARK
HDPE	– HIGH DENSITY POLYETHYLENE	TBA	– TO BE ABANDONED
INV	– INVERT	TBR	– TO BE REMOVED
IP	– IRON PIPE/PIN	TMH	– TELEPHONE MANHOLE
IPF	– IRON PIPE/PIN FOUND	WMH	– WATER MANHOLE
I.P.S.	– IRON PIPE SIZE	U.N.O.	– UNLESS NOTED OTHERWISE
		VC	– VITRIFIED CLAY

GENERAL NOTES

1. THESE PLANS ARE BASED ON PLANIMETRIC MAPPING PREPARED BY MINUTEMAN MAPPING PHOTOGRAMMETRIC SERVICES, BEDFORD, NH, FROM PHOTOGRAPHY DATED 11/11/10, MAP COMPILED 11/24/12.

2. IN THE PREPARATION OF THESE PLANS, DATA FROM THE FOLLOWING SOURCES WAS INCORPORATED:

   A. PLAN TITLED "TOWN OF BERLIN, BERLIN CORNERS MUNICIPAL WATER SYSTEM, BERLIN, VERMONT", PREPARED BY OTTER CREEK ENGINEERING, DATED 8/8/16.

   B. PLAN TITLED "NORTHFIELD SAVINGS BANK OPERATIONS CENTER", PREPARED BY DUBOIS & KING INC., SOUTH BURLINGTON, VERMONT, DATED 3/17/2014.

   C. PLAN TITLED "802 HONDA BUILDING ADDITION" PREPARED BY DEWOLFE ENGINEERING ASSOCIATES, MONTPELIER, VERMONT, DATED 1/30/17, REVISED 2/10/17.

   D. PLAN TITLED "BEAULIEU PLACE, CENTRAL VERMONT CHAMBER OF COMMERCE, BERLIN, VERMONT ~ JUNE, 1992", BY KELLER AND LOWE INC. ~ WATERBURY, VERMONT.

3. ELEVATION IS BASED ON NAVD 88.

4. COORDINATE SYSTEM IS BASED ON NAD83 VT FEET.

5. FOR CLARITY, TEXT DENOTING EXISTING ITEMS IS SHOWN IN LOWER CASE, AND TEXT DENOTING PROPOSED ITEMS IS UPPERCASE AND BOLD.

6. REFER TO LEGEND LOCATED ON THIS SHEET FOR SYMBOL AND ABBREVIATION DESIGNATIONS.

7. ALL UNDERGROUND UTILITIES ARE SHOWN AS APPROXIMATE LOCATIONS.

8. THIS IS NOT A BOUNDARY SURVEY.

9. CONTRACT DOCUMENTS AND TECHNICAL SPECIFICATIONS ACCOMPANY THESE PLANS AND ARE ESSENTIAL FOR CONSTRUCTION OF THIS PROJECT.

CONSTRUCTION NOTES

1. PRIOR TO ANY CONSTRUCTION AND FOLLOWING DIG SAFE MARKING, THE CONTRACTOR'S SUPERINTENDENT AND TOWN REPRESENTATIVES SHALL LOCATE, MARK OUT AND/OR STAKE EXISTING UNMARKED UTILITIES THROUGHOUT ALL CONSTRUCTION AREAS. CONTRACTOR SHALL ALSO CONTACT SIGNAL MAINTENANCE SUPERVISOR DAN ERTEL TO LOCATE AND MARK OUT SIGNAL CONTROLS. FOLLOWING ALL MARKING, THE CONTRACTOR SHALL PRESENT THE TOWN AND ENGINEER WITH AN UPDATED SCHEDULE AND ALL PARTIES SHALL DISCUSS AND RESOLVE HOW CONSTRUCTION WILL BE COMPLETED IN ANY LOCATIONS OF CONCERN.

2. THE CONTRACTOR SHALL CONTACT TOWN AND OCCUPANTS OF EACH BUILDING A MINIMUM OF 48 HOURS PRIOR TO SHUTTING OFF ANY UTILITY.

3. CONTRACTOR SHALL SUBMIT A CONSTRUCTION SCHEDULE AND A SITE SPECIFIC TRAFFIC CONTROL/DETOUR PLAN TO TOWN AND VTRANS FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION. ALL TRAFFIC CONTROL AND DETOUR MEASURES SHALL MEET CURRENT MUTCD STANDARDS, AND ACCEPTANCE OF PLAN BY VTRANS IS A REQUIREMENT OF THIS CONTRACT.

4. CONTRACTOR SHALL PROVIDE ADEQUATE VEHICULAR BARRIERS AROUND WORK AREAS. WORK AREAS SHALL BE ADEQUATELY SIGNED.

5. CONTRACTOR SHALL CONTACT TOWN OF BERLIN POLICE AND FIRE DEPARTMENTS, VERMONT STATE POLICE AND CENTRAL VERMONT MEDICAL CENTER AND LOCAL EMT SERVICE A MINIMUM OF 3 DAYS PRIOR TO ANY ROAD CLOSURES. IN ADDITION, THE CONTRACTOR SHALL NOTIFY LOCAL BUS SERVICES OF ANY SHUTDOWN.

6. CONTRACTOR SHALL MAKE EVERY EFFORT TO ALLOW ACCESS TO AND FROM DRIVEWAYS LOCATED ALONG THE PROJECT SITE. OCCUPANTS SHALL BE NOTIFIED A MINIMUM OF 24 HOURS IN ADVANCE OF ANY DRIVEWAY CROSSINGS WHICH WILL LIMIT THE ACCESS TO THEIR PROPERTY.

7. CONTRACTOR SHALL MAINTAIN SAFE PEDESTRIAN ACCESS THROUGHOUT THE SITE. BICYCLE ACCOMMODATIONS SHOULD BE TAKEN TO ENSURE THAT OBSTACLES, EQUIPMENT, CONSTRUCTION MATERIALS, AND TRAFFIC CONTROL DEVICES DO NOT ENCROACH INTO THE BICYCLE PATH OF TRAVEL. IT IS IMPORTANT THAT CYCLIST ROUTES ARE FREE OF RUTS, SAND, AND MUD TO PREVENT CYCLIST CRASHES. REFER TO SPECIAL CONDITIONS SPECIFICATIONS.

8. CONTRACTOR SHALL MAINTAIN WATER AND SEWER SERVICES TO ALL CUSTOMERS DURING CONSTRUCTION UNLESS A SCHEDULED, SHORT-TERM SHUTDOWN IS PREVIOUSLY APPROVED BY TOWN. CONTRACTOR SHALL INSTALL TEMPORARY WATER AND SEWER SERVICE LINES IN AREAS WHERE THE CONSTRUCTION WILL LIKELY DAMAGE THE EXISTING WATER MAIN OR SERVICE.

9. EXPLORATORY EXCAVATIONS ARE REQUIRED PRIOR TO COMMENCING WITH ORDERING OF STRUCTURES. REFER TO SPECIAL CONDITIONS FOR A LIST OF PROPOSED LOCATIONS. THE TOWN AND ENGINEER ARE REQUIRED TO BE NOTIFIED A MINIMUM OF 24 HOURS PRIOR TO EXCAVATION. INFORMATION RESULTING FROM EXCAVATIONS MUST BE PROVIDED TO THE ENGINEER WITHIN 24 HOURS OF COMPLETING EXCAVATION.

10. ALL WATER, STORM, SEWER, AND SERVICES CROSSED BY PROPOSED SEWER MAINS ARE PRESUMED TO REQUIRE PORTIONS TO BE REPAIRED/REPLACED.

11. OVERHEAD UTILITIES ARE NOT SHOWN ON THE DRAWINGS FOR CLARITY. CONTRACTOR SHALL REVIEW OVERHEAD UTILITY LOCATIONS, AND TAKE APPROPRIATE MEASURES TO PROTECT UTILITIES FROM DAMAGE. CONTRACTOR TO ARRANGE FOR POLE OWNER TO SUPPORT POLES DURING CONSTRUCTION, AS REQUIRED. ALL COSTS ASSOCIATED WITH POLE SUPPORT, TEMPORARY RELOCATION OR LIKEWISE SHALL BE ON THE RESPONSIBILITY OF THE CONTRACTOR.

DEMOLITION AND ABANDONMENT NOTES

1. THE PROJECT REQUIRES THE DEMOLITION AND ABANDONMENT OF THREE EXISTING WASTEWATER PUMP STATIONS AND THEIR ASSOCIATED APPURTENANCES. THE FOLLOWING SEQUENCE OF WORK SHALL BE COMPLETED AT ALL STATIONS:

   A. PUMPS, CONTROLS, MOTORS AND EQUIPMENT IN THE WET WELL SHALL BE COMPLETELY REMOVED FROM THE WET WELL.

   B. ELECTRICAL SERVICE SHALL BE DISCONNECTED AND WIRES AND CONDUCTORS REMOVED. ALL CONDUITS SHALL BE SEALED.

   C. ALL PIPE PENETRATIONS SHALL BE CAPPED OR PLUGGED IN THE WET WELL AND VALVE VAULTS.

   D. ALL PIPE AND APPURTENANCES SHALL BE DEMOLISHED AND REMOVED FROM THE VALVE PITS.

2. WHERE PUMP STATIONS ARE ABANDONED IN PLACE, CONTRACTOR SHALL DEMO THE TOP FRAME AND ACCESS RISER OF ALL STRUCTURES. PERFORATE THE BOTTOM OF EACH STRUCTURE WITH 3/4" DRILL HOLES AND FILL THE VOID WITH 3/4" CRUSHED STONE.

3. WHERE PUMP STATIONS ARE TO BE REMOVED, THE VOID SHALL BE FILLED WITH COMPACTED CRUSHED GRAVEL AND ALL PIPES SHALL BE CAPPED.

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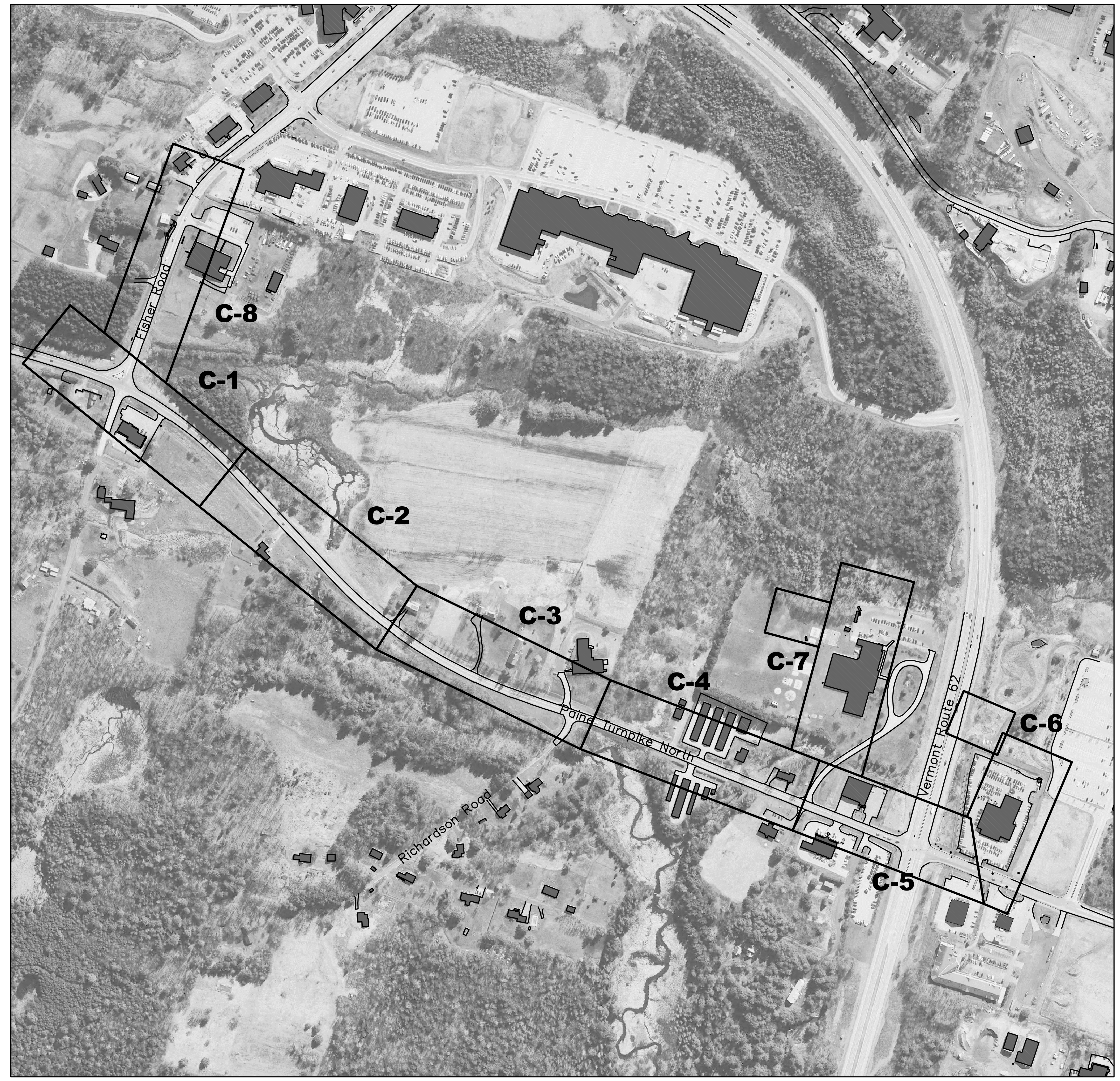

GRAPHIC SCALE

300 0 150 300 600 1200

(IN FEET)
1 inch = 300 ft.

SHEET	TITLE	REV. NO.	DATE
I-1	INDEX PLAN	-	-
C-1	SITE PLAN AND PROFILE	-	-
C-2	SITE PLAN AND PROFILE	-	-
C-3	SITE PLAN AND PROFILE	-	-
C-4	SITE PLAN AND PROFILE	-	-
C-5	SITE PLAN AND PROFILE	-	-
C-6	SITE PLAN AND PROFILE	-	-
C-7	SITE PLAN AND PROFILE	-	-
C-8	SITE PLAN AND PROFILE	-	-
C-9	PROFILES	-	-
C-10	PUMP STATION DETAILS	-	-
C-11	DETAILS	-	-
C-12	DETAILS AND NOTES	-	-
C-13	DETAILS AND NOTES	-	-
C-14	DETAILS AND NOTES	-	-
E1	ELECTRICAL LEGEND	-	-
E2	ELECTRICAL SITE PLAN	-	-

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STAMP AND SIGNATURE:
STATE OF VERMONT ROBERT M. CLARK NO. 100955 CIVIL LICENSED PROFESSIONAL ENGINEER
DESIGN ENGINEER

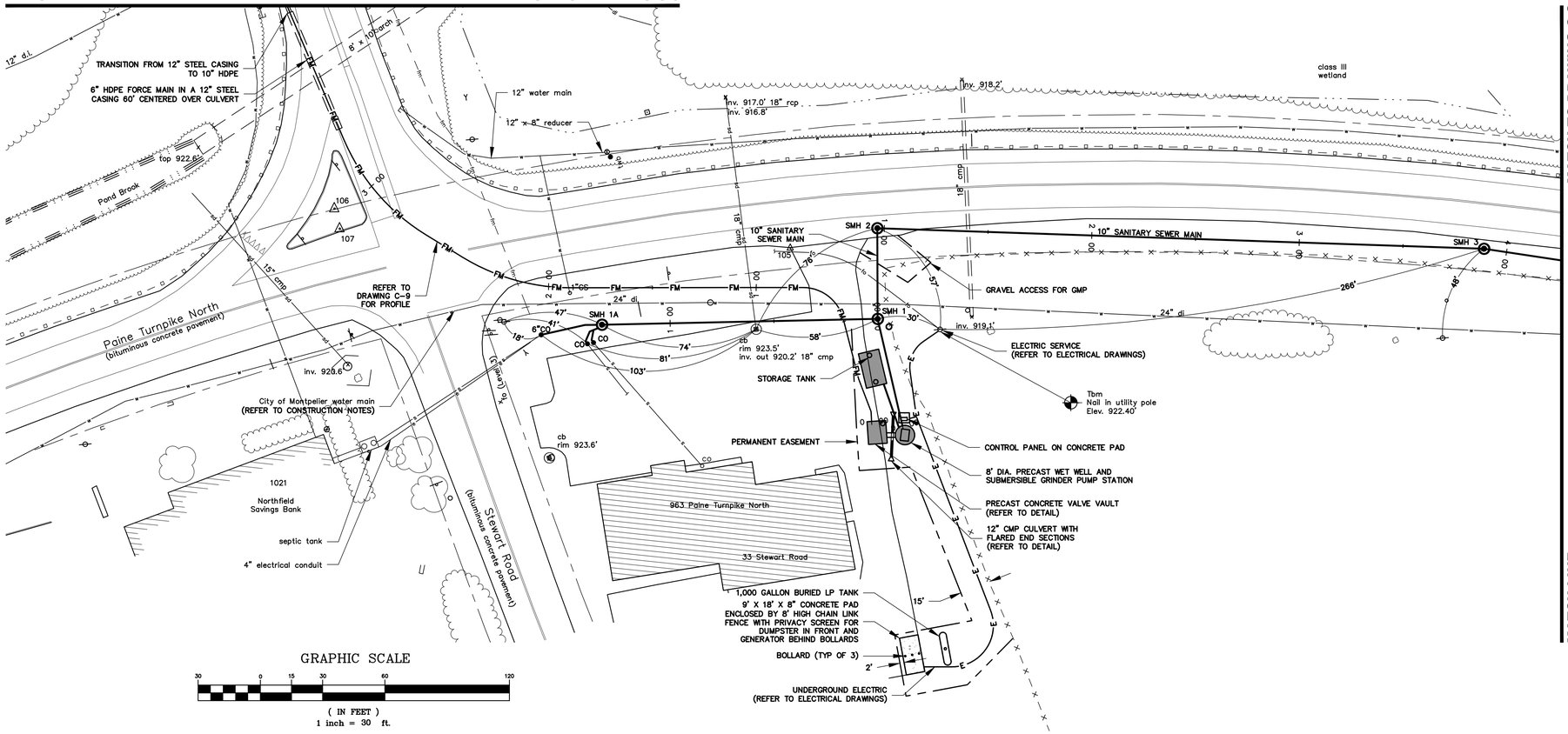
GRID NORTH

TOWN OF BERLIN
PAINE TURNPIKE NORTH WASTEWATER IMPROVEMENTS
BERLIN, VERMONT

RECORD

DATE ISSUED:	6/30/2021
REVISIONS:	
DRAWN BY:	RR
CHECKED BY:	JK
SCALE:	1"=300'
PROJECT NO.:	519.005
CADD FILE:	
TITLE:	INDEX PLAN
DRAWING NO.	I-1

MATCH LINE **MATCH TO DRAWING C-8**



GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
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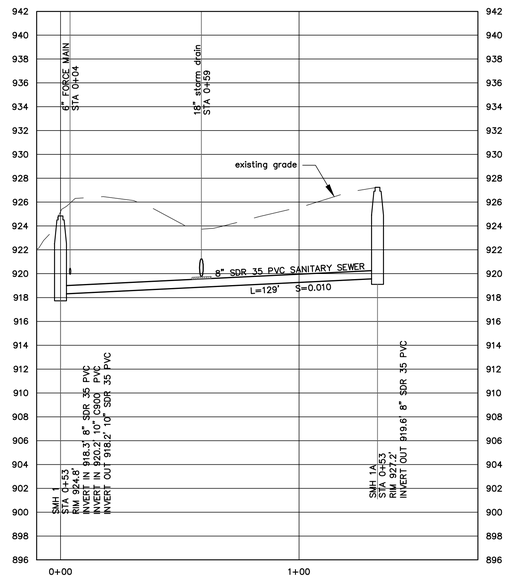
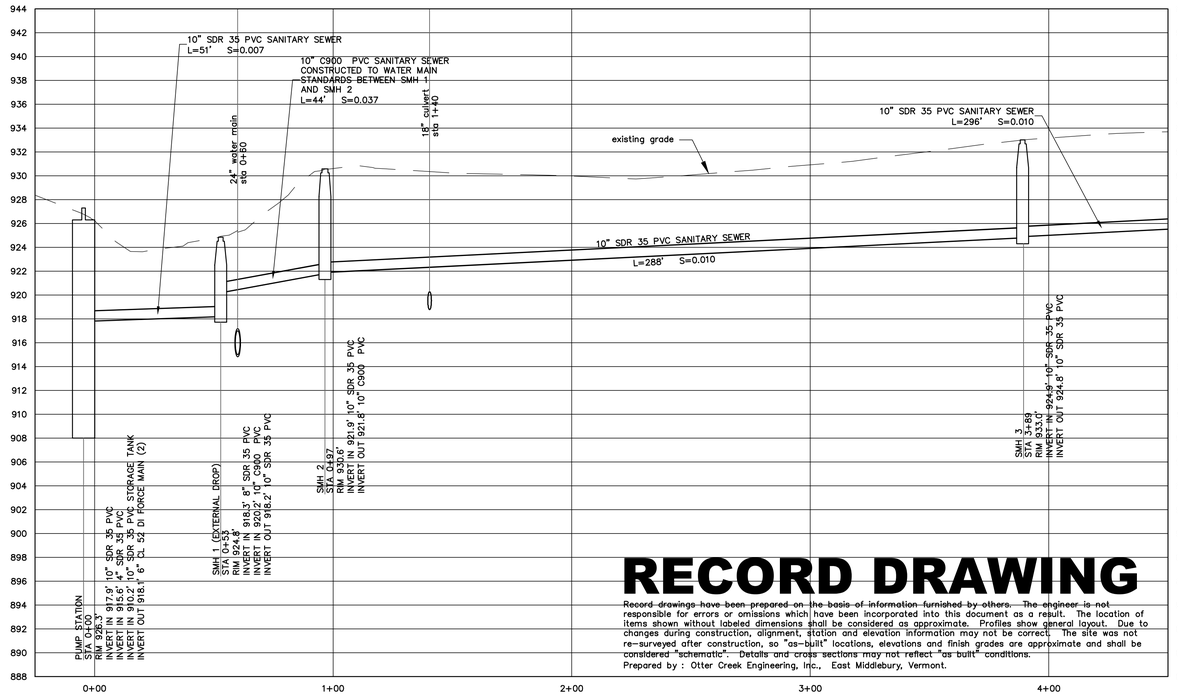


963 PAINE TURNPIKE NORTH/ 33 STEWART ROAD SEWER PROFILE

SCALE: 1" = 30' HORIZONTAL
1" = 6' VERTICAL



PAINE TURNPIKE NORTH SEWER MAIN PROFILE

SCALE: 1" = 30' HORIZONTAL
1" = 6' VERTICAL

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MATCH TO DRAWING C-2

MATCH LINE

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STATE OF VERMONT ROBERT M. ROSS NO. 10095 DATE LICENSED PROFESSIONAL ENGINEER

DESIGN ENGINEER

GRID NORTH

TOWN OF BERLIN
PAINE TURNPIKE NORTH WASTEWATER IMPROVEMENTS
BERLIN, VERMONT

RECORD

DATE ISSUED:	6/30/2021
REVISIONS:	
DRAWN BY:	RR
CHECKED BY:	JK
SCALE:	1"=30'
PROJECT NO.:	519.005
CADD FILE:	519-005

TITLE: SITE PLAN AND PROFILE

DRAWING NO.

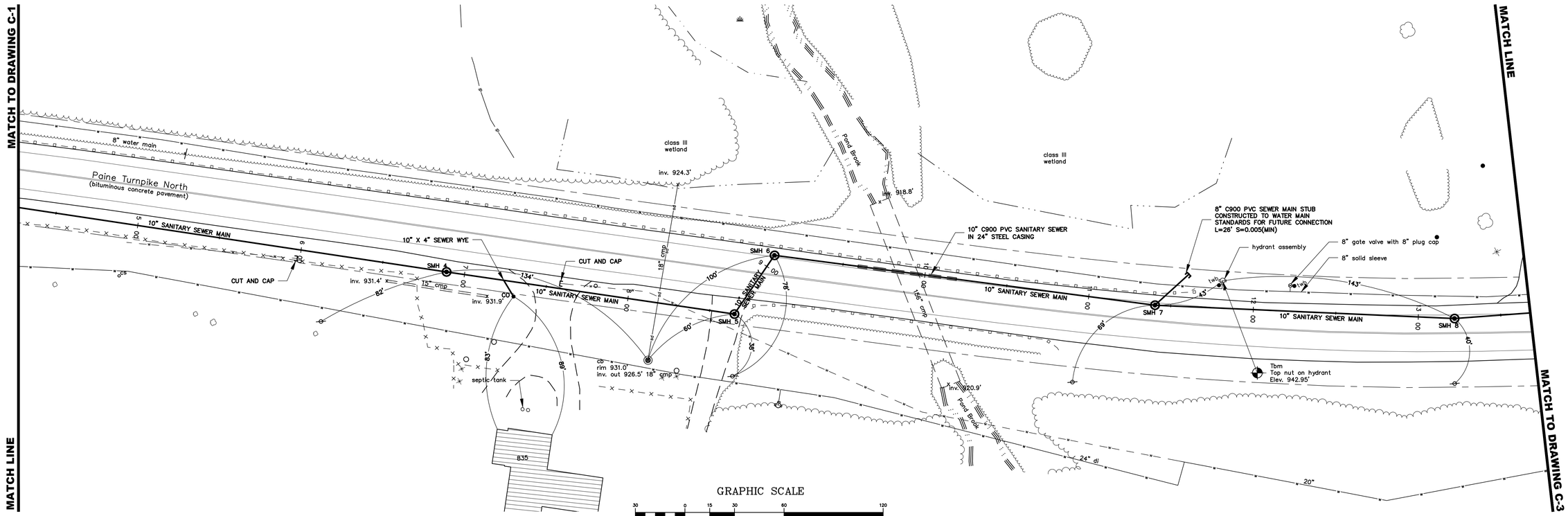
C-1

MATCH TO DRAWING C-1

MATCH LINE

MATCH LINE

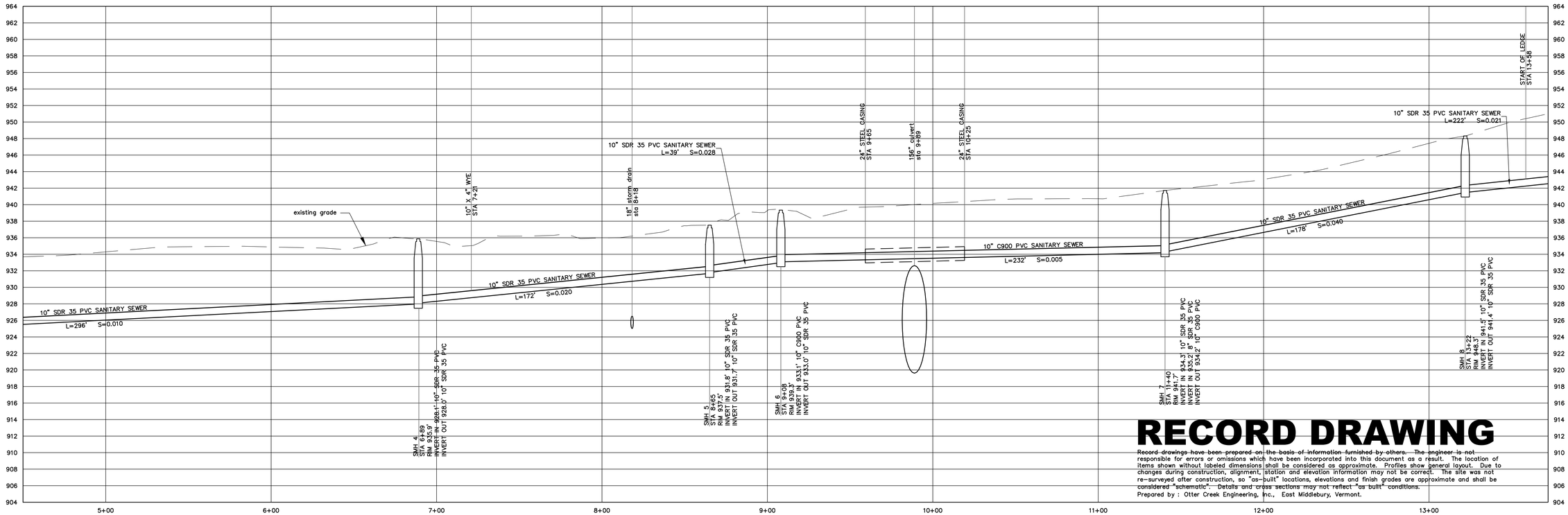
MATCH TO DRAWING C-3



GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.



PAINE TURNPIKE NORTH SEWER MAIN PROFILE
SCALE: 1" = 30' HORIZONTAL
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PROFESSIONAL ENGINEER

DESIGN ENGINEER

GRID NORTH

TOWN OF BERLIN
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TITLE:
SITE PLAN AND PROFILE

DRAWING NO.
C-2

MATCH TO DRAWING C-2

MATCH LINE

MATCH LINE

MATCH TO DRAWING C-4

720

656

624

578

FP

FP

cb
rim 948.9'

18" cmp

inv. 945.7'

10" SANITARY SEWER MAIN

8" water main

117'

SMH 9

10" SANITARY SEWER MAIN

Tbm
Top nut on hydrant
Elev. 961.63'

twb

8" gate valve with 8" plug cap

inv. 955.3'

18" cmp inv. 955.8'

184'

10" X 6" WYE

10" X 6" WYE

Paine Turnpike North
(bituminous concrete pavement)

SMH 10

10" SANITARY SEWER MAIN

274'

Tbm
Top nut on hydrant
Elev. 961.25'

4" SDR 35 PVC SANITARY SEWER SERVICE

inv. 953.6'

18" cmp

inv. 954.2'

171'

8" SANITARY SEWER MAIN

SMH 11

8" water main

8" SANITARY SEWER MAIN

REFER TO SHEET C-9
FOR PROFILE

8" SANITARY SEWER MAIN FUTURE

SMH 11A

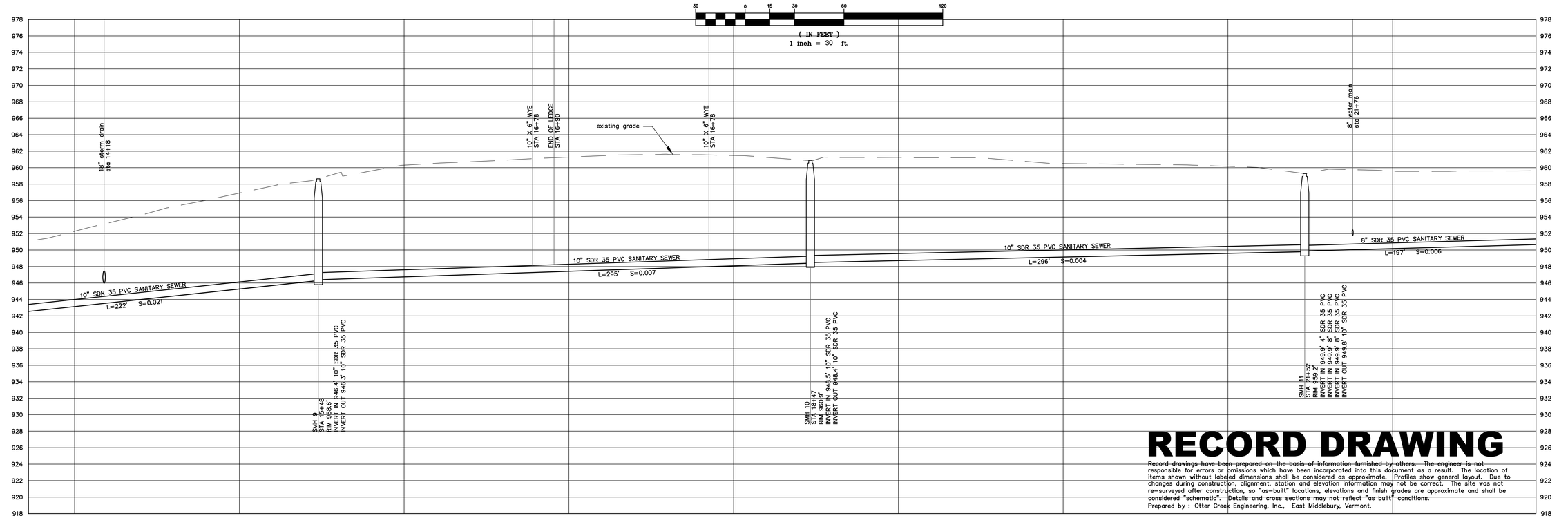
00 + i

Richardson Road
(bituminous concrete pavement)

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.



PAINE TURNPIKE NORTH SEWER MAIN PROFILE

SCALE: 1" = 30' HORIZONTAL
1" = 6' VERTICAL

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DESIGN ENGINEER

GRID NORTH

TOWN OF BERLIN
PAINE TURNPIKE NORTH WASTEWATER IMPROVEMENTS
BERLIN, VERMONT

RECORD

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DRAWN BY:	RR
CHECKED BY:	JK
SCALE:	1"=30'
PROJECT NO.:	519.005
CADD FILE:	

TITLE: SITE PLAN AND PROFILE

DRAWING NO.

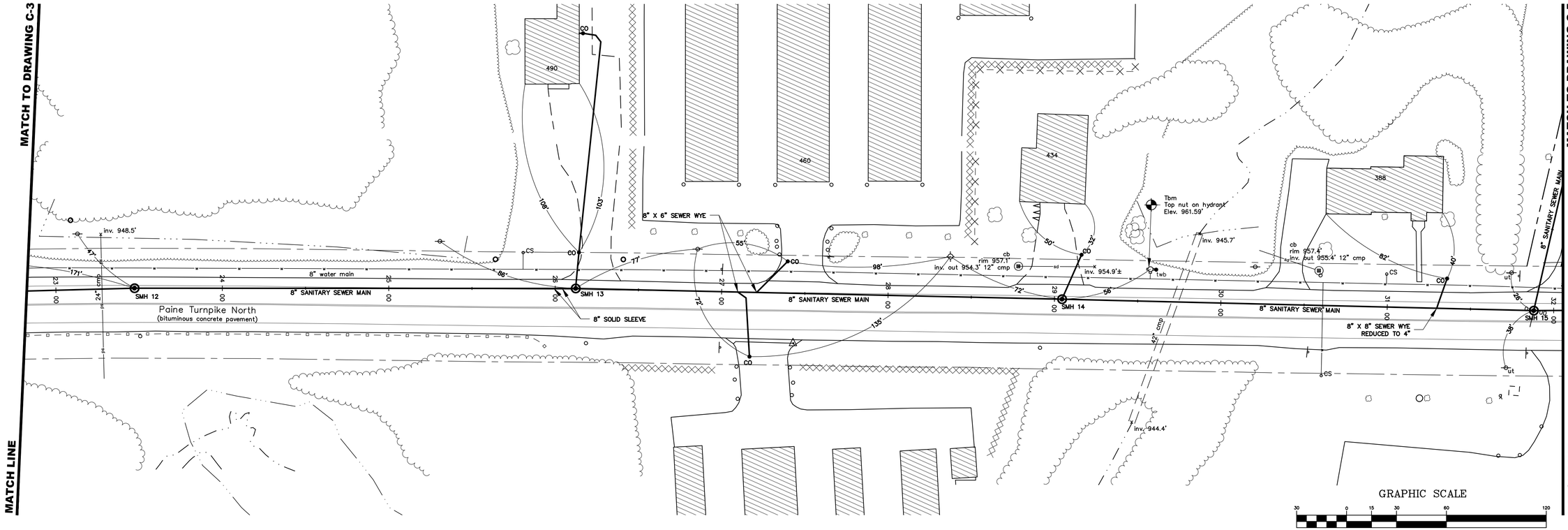
C-3

MATCH LINE

MATCH TO DRAWING C-3

MATCH TO DRAWING C-5

MATCH LINE



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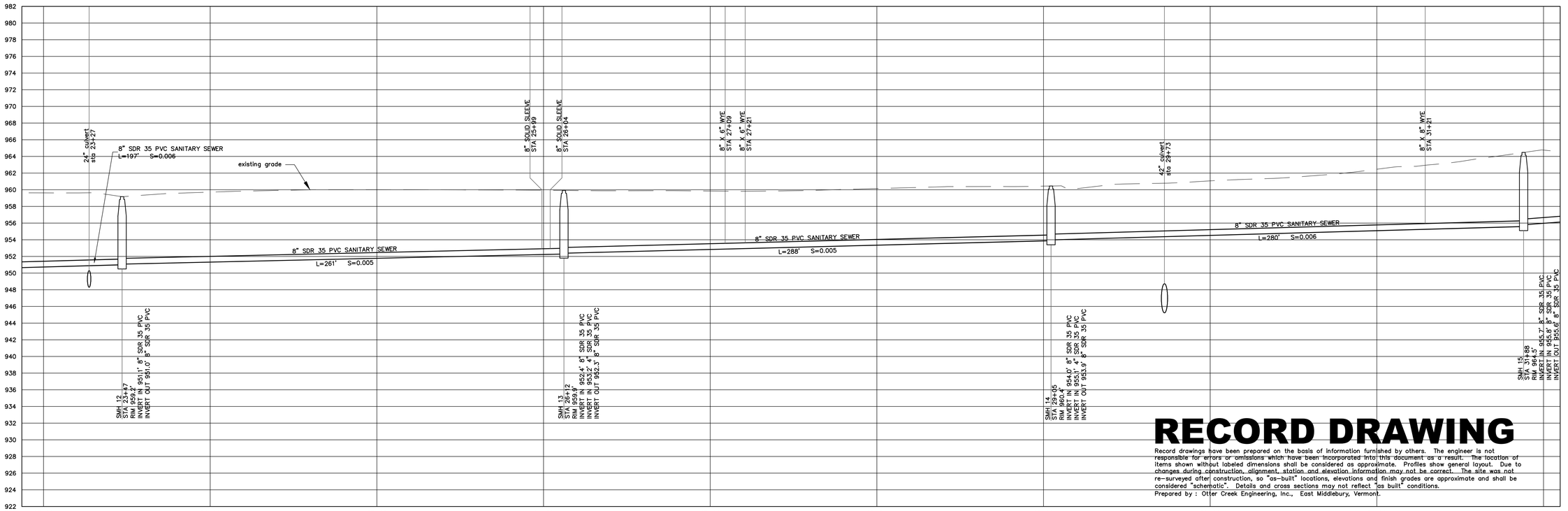

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TITLE:
SITE PLAN AND PROFILE

DRAWING NO.
C-4

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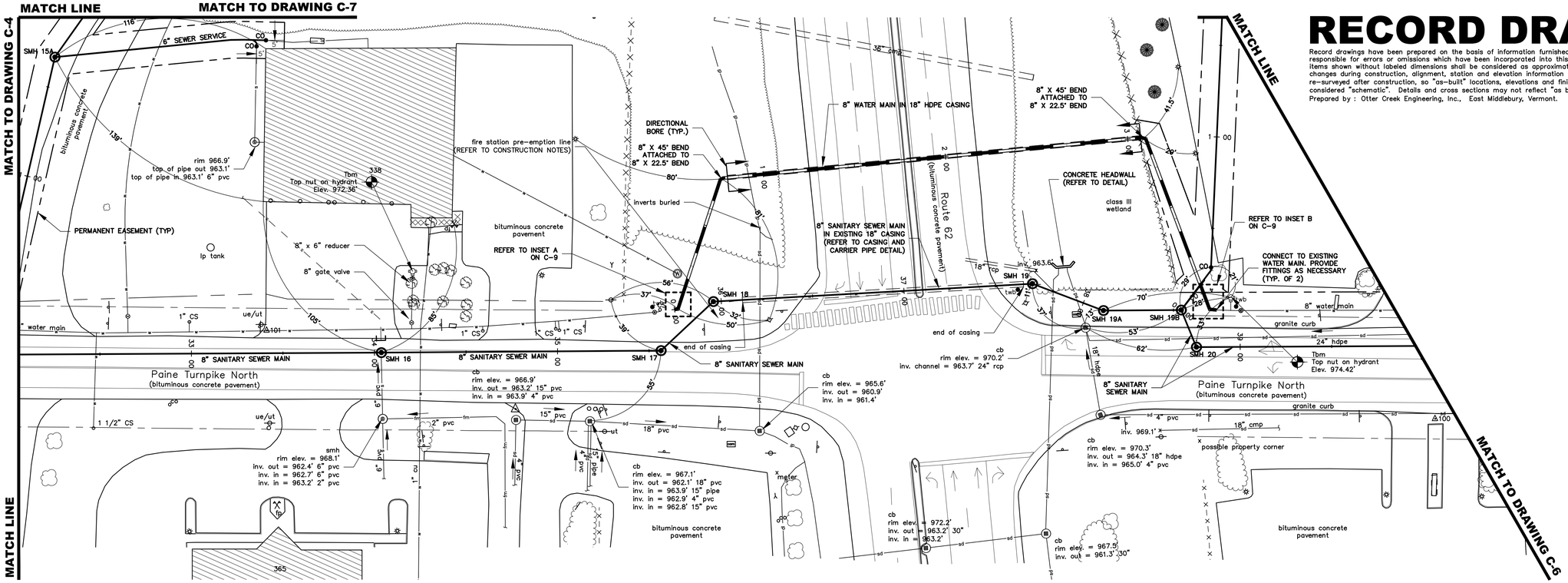
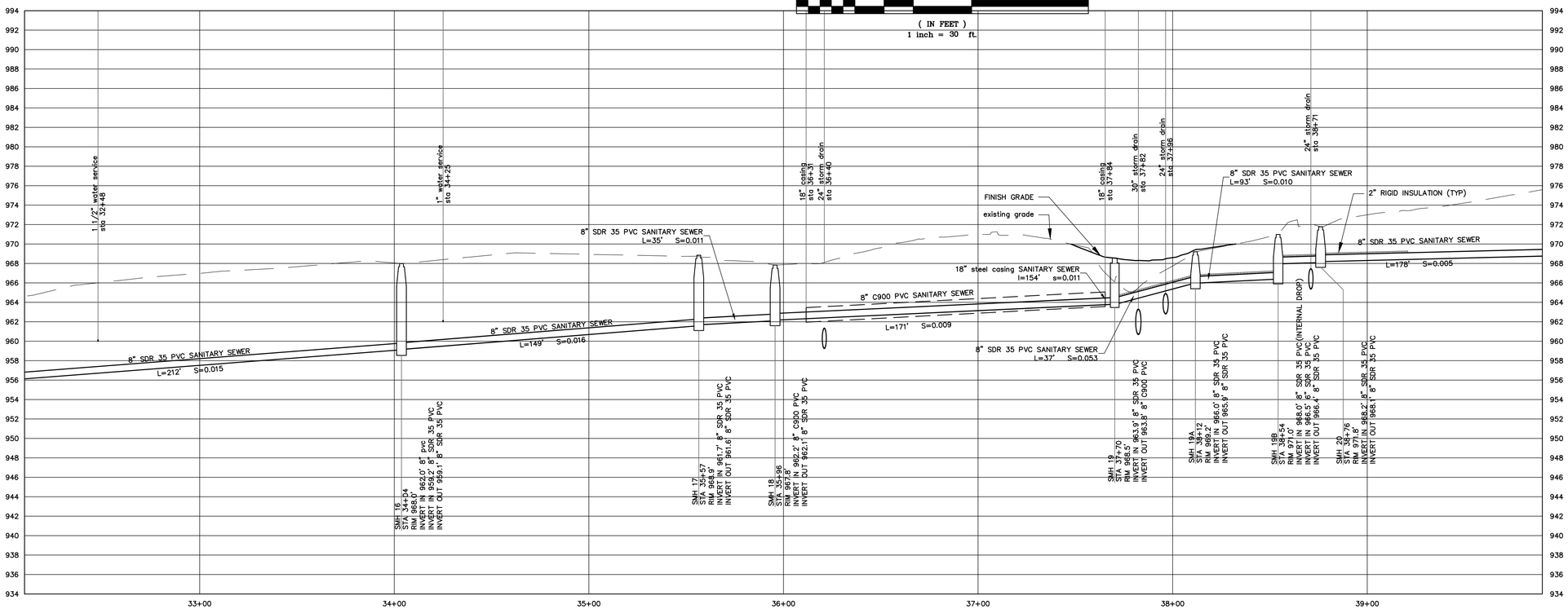


GRAPHIC SCALE

(IN FEET)
1 inch = 30 ft.



PAINE TURNPIKE NORTH SEWER MAIN PROFILE
SCALE: 1" = 30' HORIZONTAL
1" = 6' VERTICAL

OTTER CREEK ENGINEERING
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Fax: 802 747-4820
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E-mail: info@ottercrk.com

STAMP AND SIGNATURE:

STATE OF VERMONT · ROBERT M. BLOW · NO. 10095 · LICENSED · PROFESSIONAL ENGINEER

DESIGN ENGINEER

GRID NORTH

TOWN OF BERLIN
PAINE TURNPIKE NORTH WASTEWATER IMPROVEMENTS
BERLIN, VERMONT

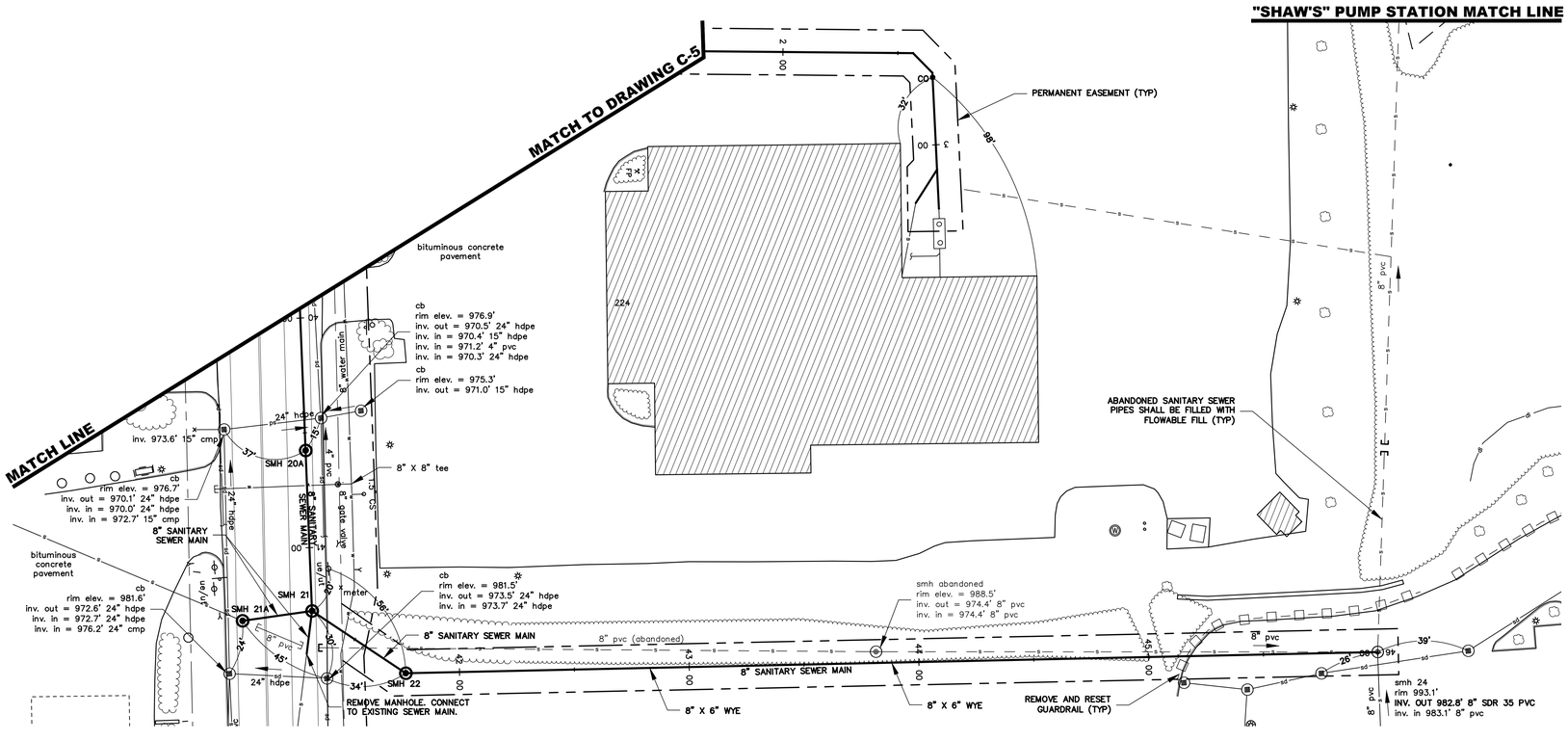
RECORD

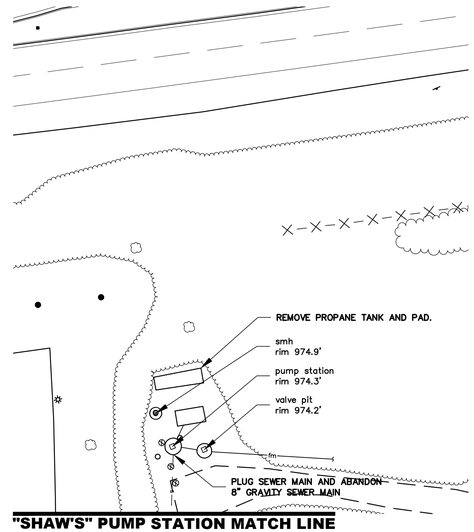
DATE ISSUED:	6/30/2021
REVISIONS:	
DRAWN BY:	RR
CHECKED BY:	JK
SCALE:	1"=30'
PROJECT NO.:	519.005
CADD FILE:	

TITLE: SITE PLAN AND PROFILE

DRAWING NO.

C-5





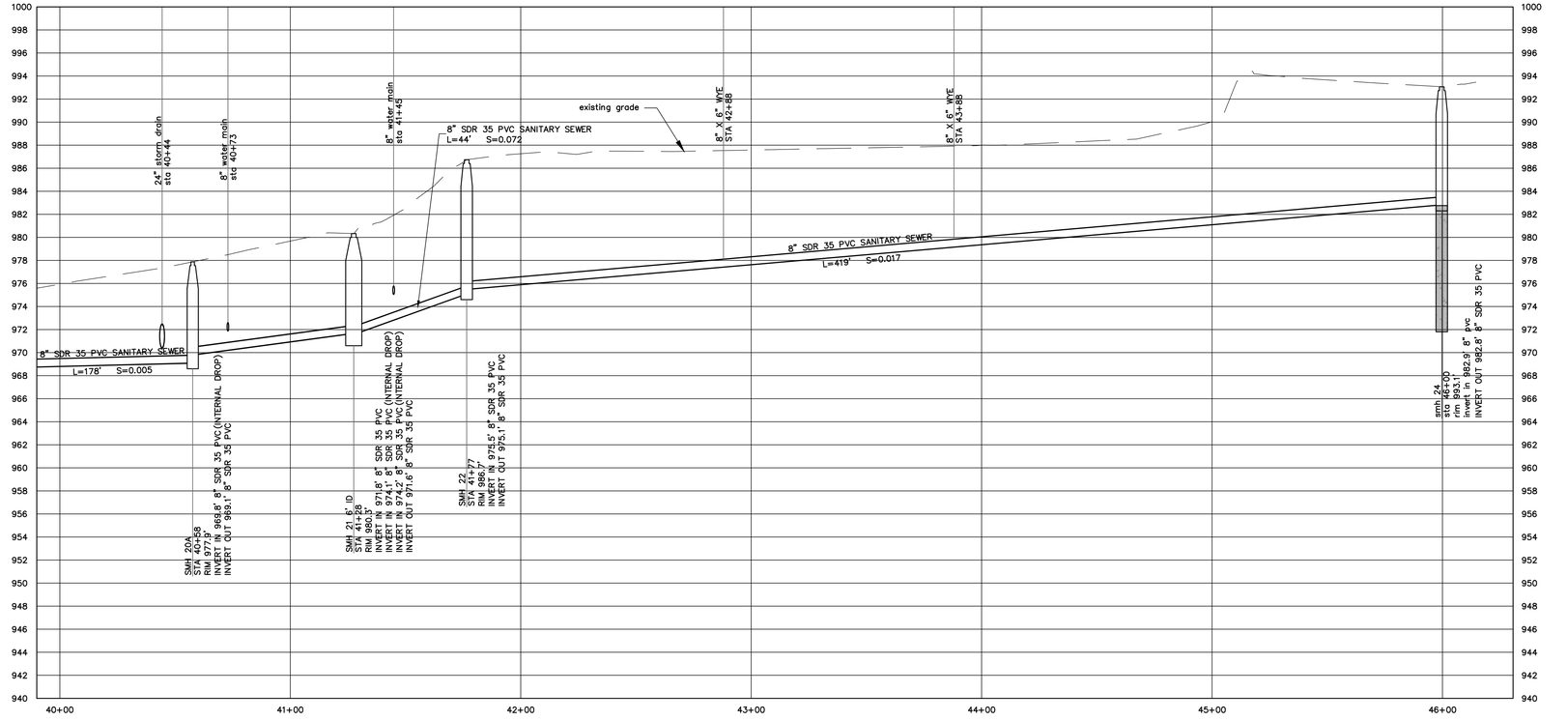
"SHAW'S" PUMP STATION MATCH LINE

NOTE:
CONTRACTOR TO RETURN HOMA PUMPS AND GENERATOR TO TOWN OF BERLIN PUBLIC WORKS.

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.



PAINE TURNPIKE NORTH SEWER MAIN PROFILE
SCALE: 1" = 30' HORIZONTAL
1" = 6' VERTICAL

RECORD DRAWING

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Prepared by : Otter Creek Engineering, Inc., East Middlebury, Vermont.

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STATE OF VERMONT ROBERT M. BLOW NO. 10095 REGISTERED PROFESSIONAL ENGINEER
DESIGN ENGINEER

GRID NORTH

TOWN OF BERLIN
PAINE TURNPIKE NORTH
WASTEWATER
IMPROVEMENTS
BERLIN, VERMONT

RECORD

DATE ISSUED:	6/30/2021
REVISIONS:	
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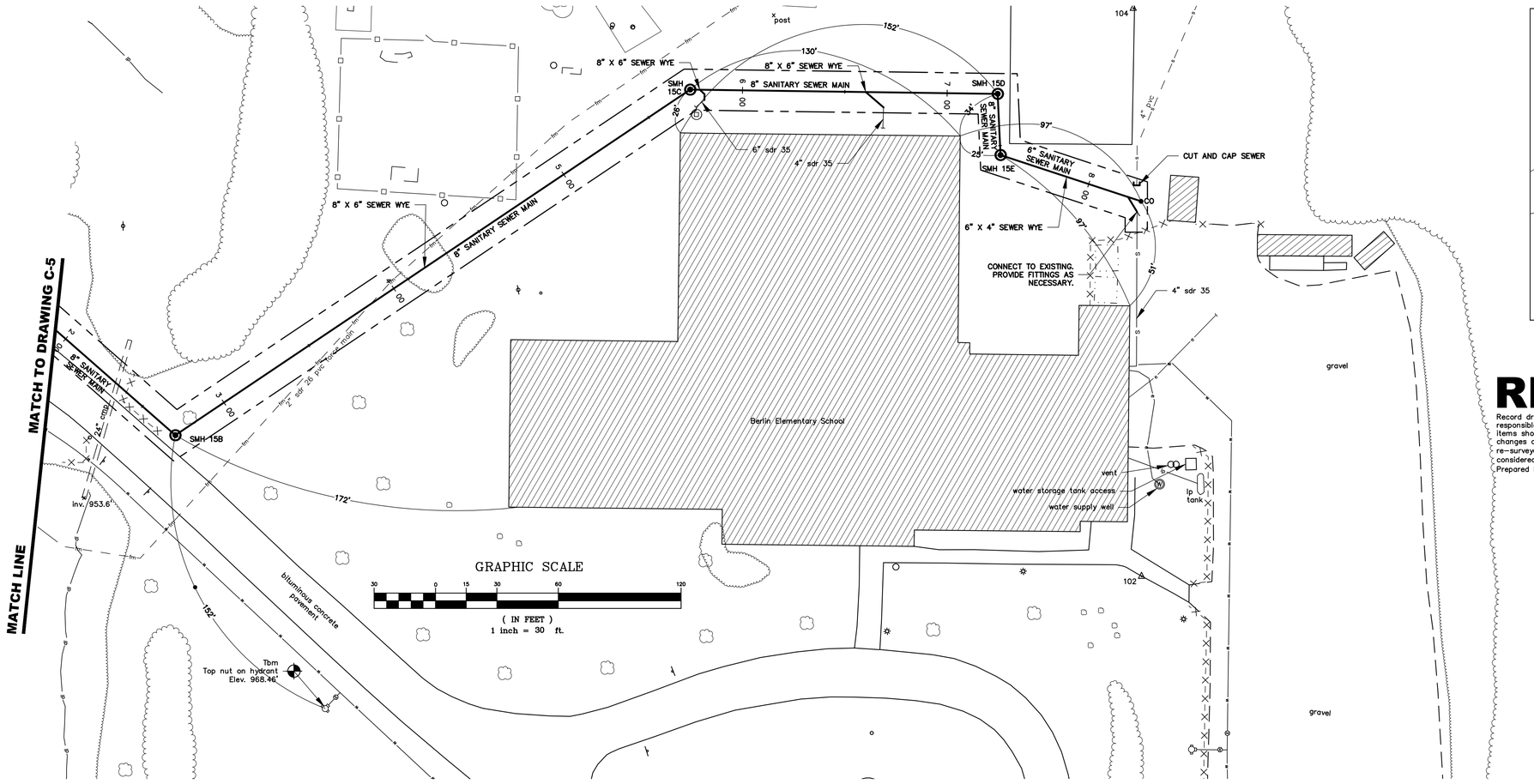
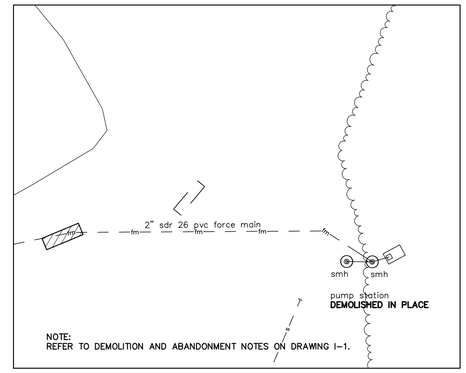
CHECKED BY:	JK
SCALE:	1"=30'
PROJECT NO.:	519.005
CADD FILE:	519-005

TITLE:
SITE PLAN AND PROFILE

DRAWING NO.
C-6





BERLIN ELEMENTARY SCHOOL PUMP STATION INSET
SCALE: 1" = 30'

RECORD DRAWING

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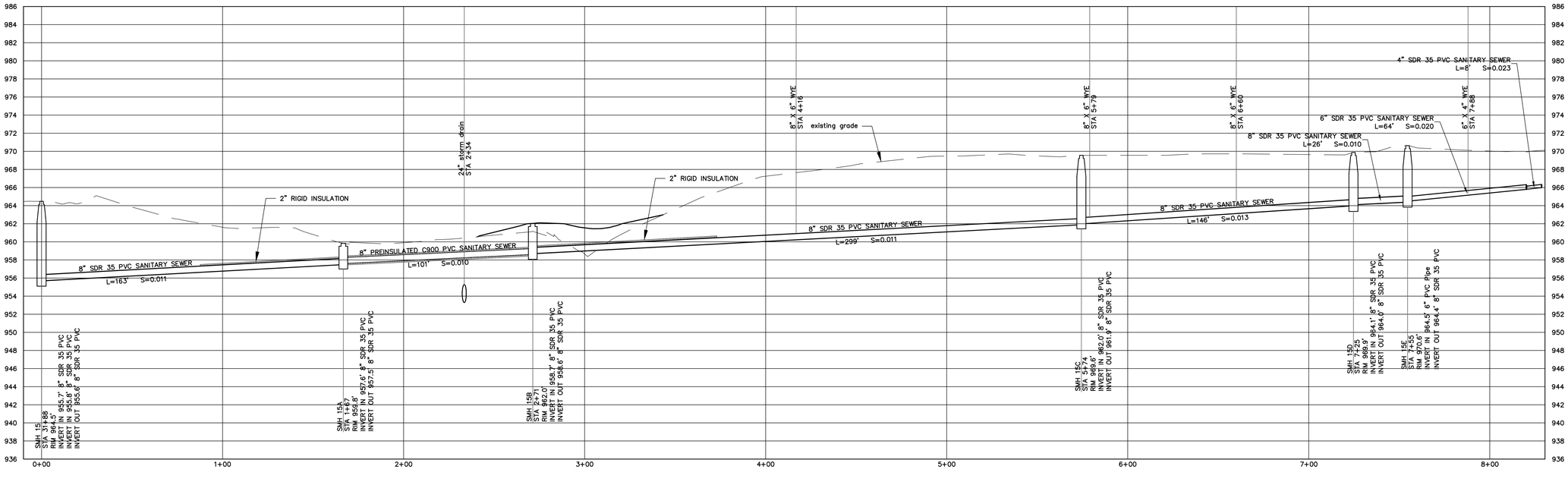

BERLIN ELEMENTARY SCHOOL SEWER PROFILE
HORIZ. 1" = 30'
VERT. 1" = 6'

OTTER CREEK ENGINEERING
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STAMP AND SIGNATURE:
STATE OF VERMONT
ROBERT M. BLOW
NO. 010995
LICENSED
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DESIGN ENGINEER

GRID NORTH

TOWN OF BERLIN
PAINE TURNPIKE NORTH WASTEWATER IMPROVEMENTS
BERLIN, VERMONT

RECORD

DATE ISSUED:	6/30/2021
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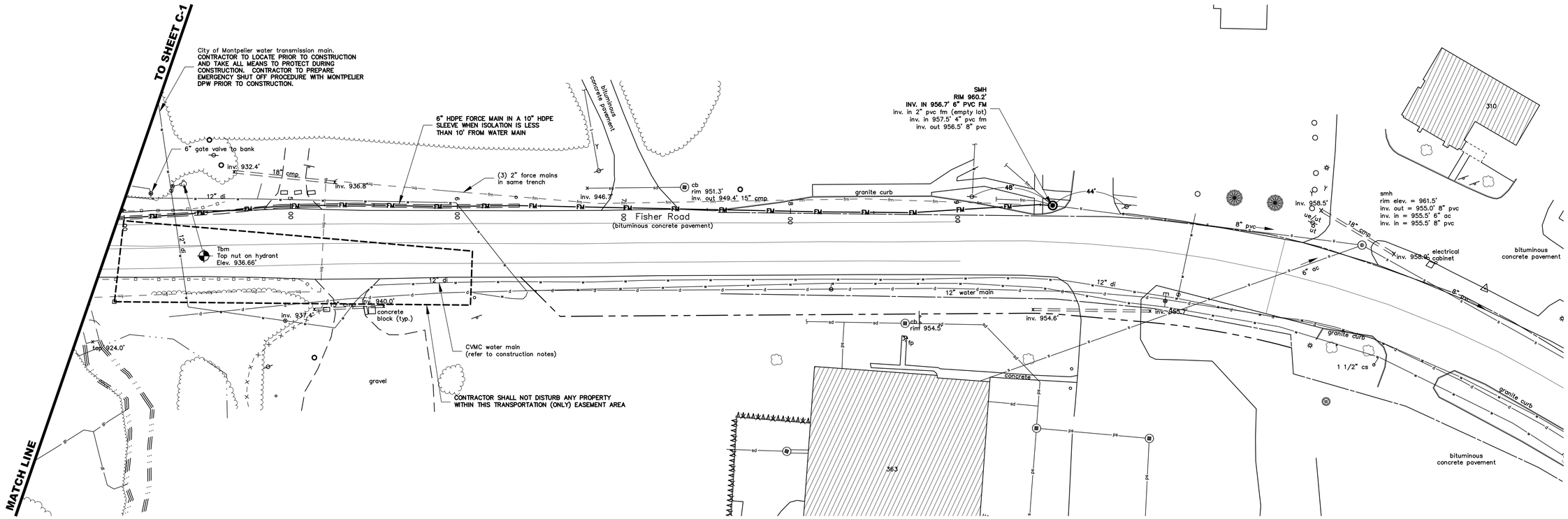
DRAWN BY:	RR
CHECKED BY:	JK
SCALE:	1"=30'
PROJECT NO.:	519.005
CADD FILE:	519-005

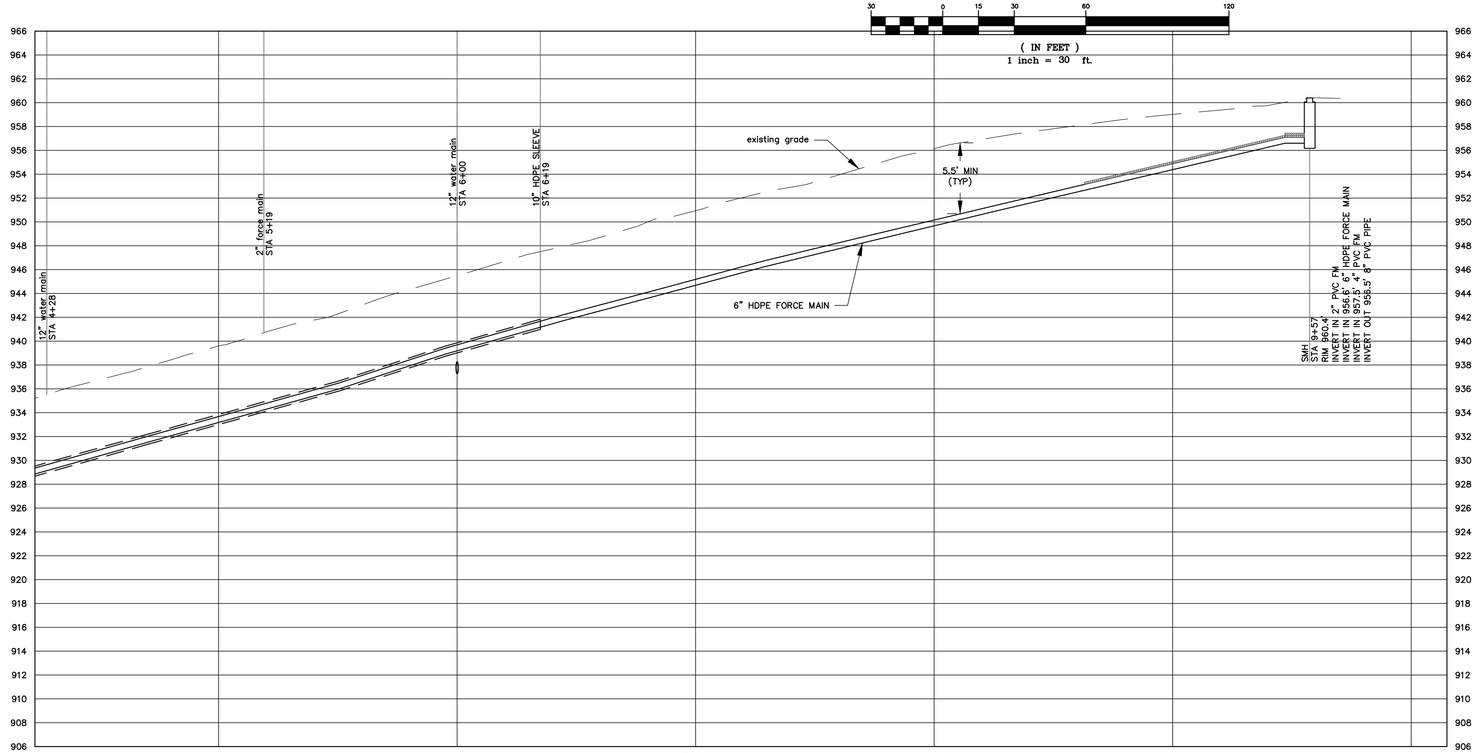
TITLE:
SITE PLAN AND PROFILE

DRAWING NO.
C-7



GRAPHIC SCALE

(IN FEET)
1 inch = 30 ft.



SEWER FORCE MAIN PROFILE
SCALE: 1" = 30' HORIZONTAL
1" = 6' VERTICAL

RECORD DRAWING

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STAMP AND SIGNATURE:
STATE OF VERMONT ROBERT M. KLEIN NO. 10095 LICENSED PROFESSIONAL ENGINEER
DESIGN ENGINEER

GRID NORTH

TOWN OF BERLIN
PAINE TURNPIKE NORTH WASTEWATER IMPROVEMENTS
BERLIN, VERMONT

RECORD

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CHECKED BY:	JK
SCALE:	1"=30'
PROJECT NO.:	519-005
CADD FILE:	519-005

TITLE:
SITE PLAN AND PROFILE

DRAWING NO.
C-8

RECORD DRAWING

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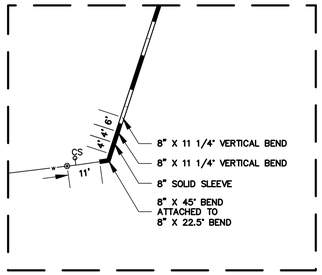
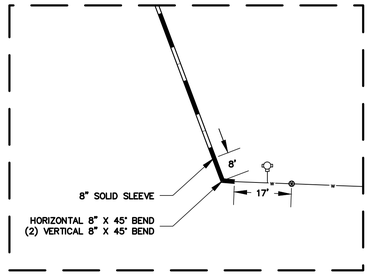
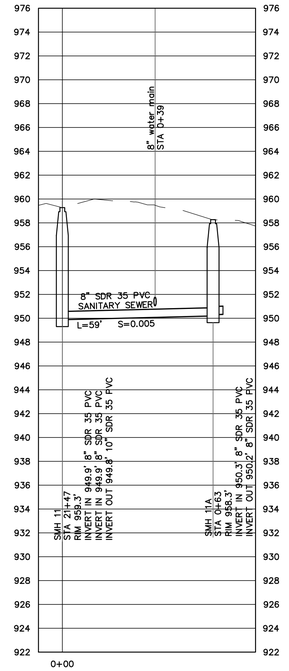


INSET A
NOT TO SCALE

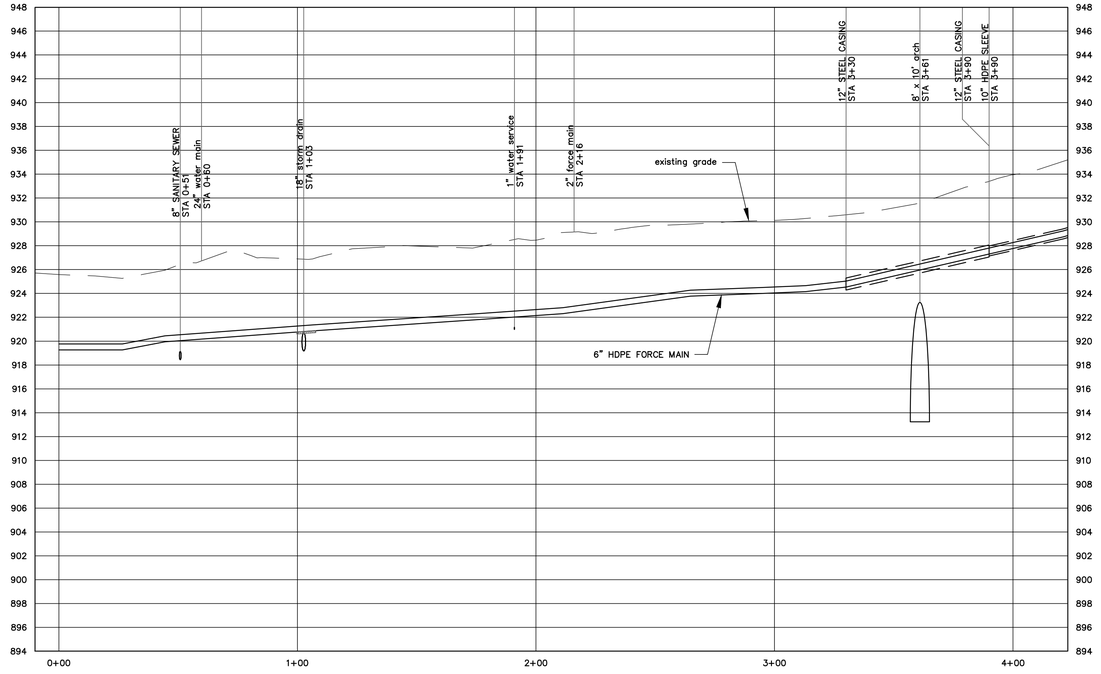


INSET B
NOT TO SCALE



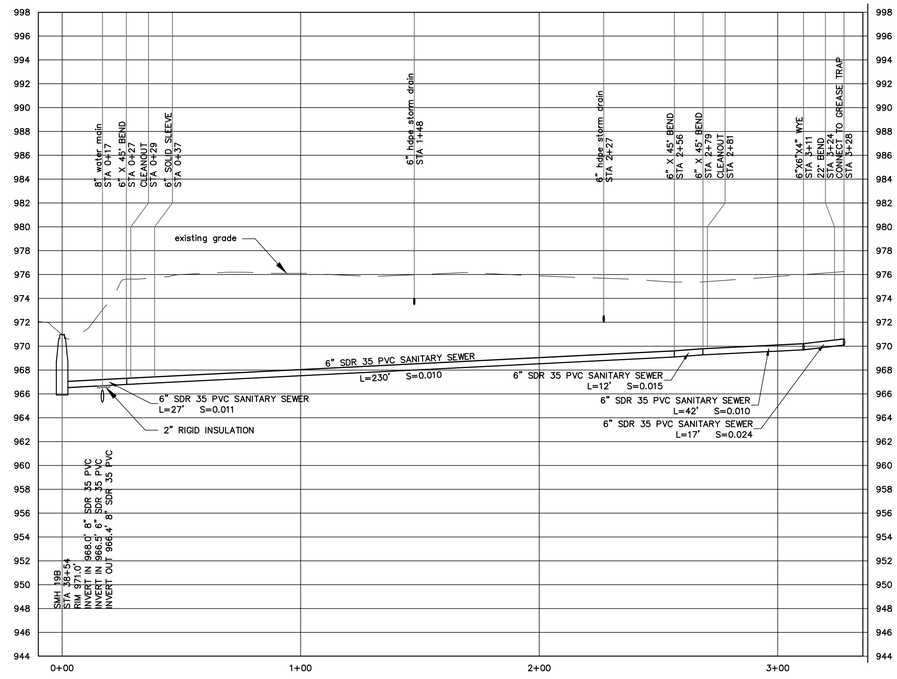
RICHARDSON ROAD SEWER MAIN PROFILE

HORIZ. 1" = 30'
VERT. 1" = 6'



SEWER FORCE MAIN PROFILE

SCALE: 1" = 30' HORIZONTAL
1" = 6' VERTICAL



224 PAINE TURNPIKE NORTH SEWER SERVICE PROFILE

SCALE: 1" = 30' HORIZONTAL
1" = 6' VERTICAL

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STAMP AND SIGNATURE:

DESIGN ENGINEER

TOWN OF BERLIN
PAINE TURNPIKE NORTH WASTEWATER IMPROVEMENTS
BERLIN, VERMONT

RECORD

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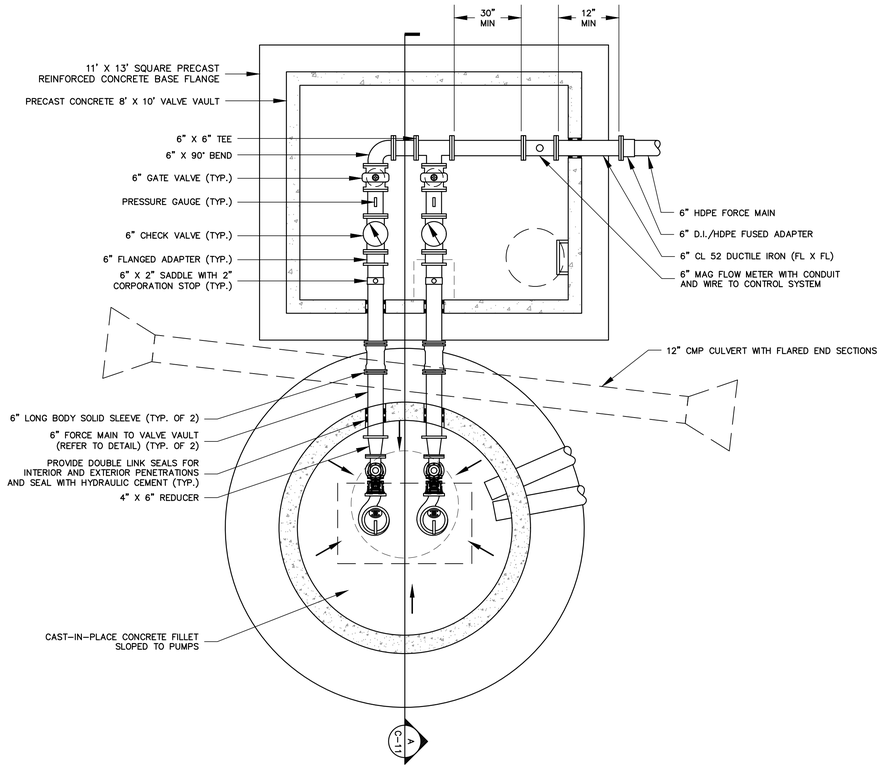
REVISIONS:	
DRAWN BY:	RR
CHECKED BY:	JK
SCALE:	AS SHOWN
PROJECT NO.:	519.005
CADD FILE:	

TITLE: PROFILES

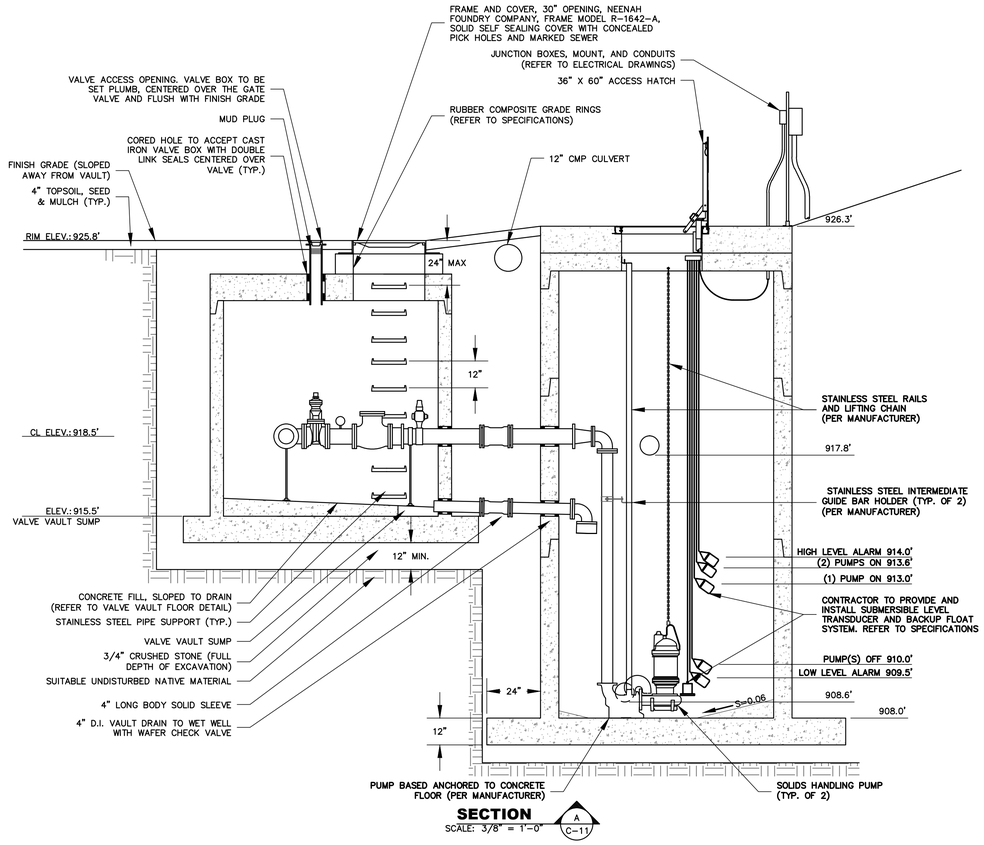
DRAWING NO.

C-9



PROPOSED PUMP STATION PLAN

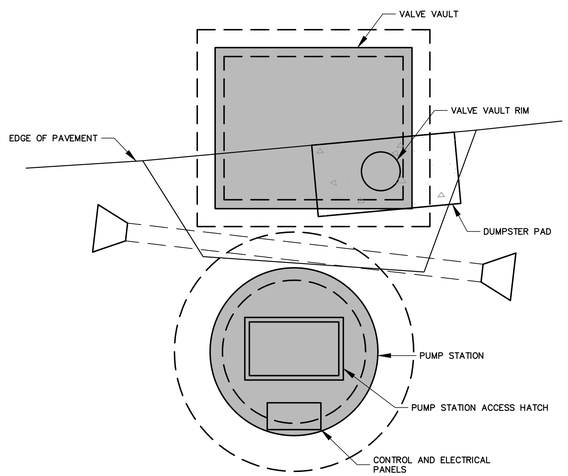
SCALE: 3/8" = 1'-0"



SECTION

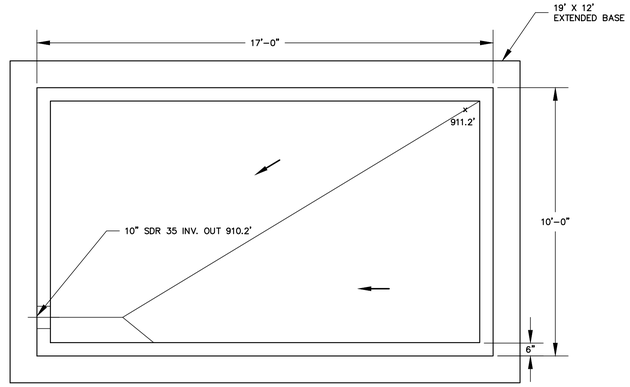
SCALE: 3/8" = 1'-0"

A
C-11



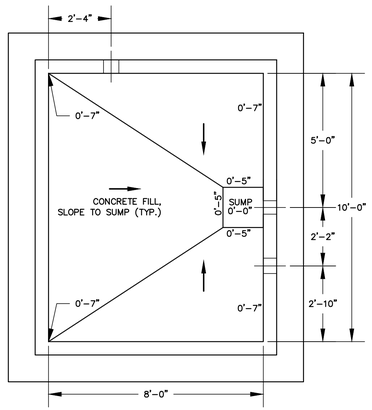
PROPOSED PUMP SITE

SCALE: 1/4" = 1'-0"



9,500 GALLON STORAGE TANK FLOOR PLAN

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



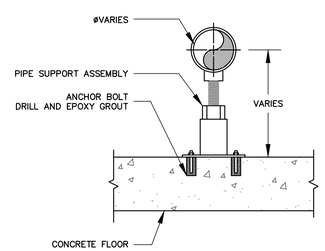
NOTE:
ELEVATIONS ON THIS DETAIL ARE BASED ON A DATUM OF 0'-0" AT THE FLOOR OF THE PRECAST STRUCTURE.

VALVE VAULT FLOOR PLAN

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

ANTI-BUOYANCY DESIGN NOTES:

1. ANTI-BUOYANCY DESIGN IS BASED ON GROUNDWATER TABLE AT FINISHED GRADE, A UNIT WEIGHT OF SATURATED SOIL OF 120 POUNDS PER CUBIC FOOT, AND A SAFETY FACTOR OF 1.80.
2. THE DESIGN INCLUDES A COMBINATION OF EXTENDED PRECAST BASE SLABS AND CONCRETE FILL ABOVE TANKS.
3. ALTERNATIVE DESIGNS WILL BE ACCEPTED FROM PRECAST SUPPLIERS WITH DRAWINGS STAMPED BY A VERMONT PROFESSIONAL ENGINEER AND ASSOCIATED DESIGN CALCULATIONS DURING THE SUBMITTAL PROCESS.



PIPE STAND DETAIL

NOT TO SCALE

PIPE STAND GENERAL NOTES:
1. FINAL QUANTITY, LOCATION, SIZE AND TYPE OF PIPE HANGERS, SUPPORTS, AND ANCHOR BOLTS SHALL BE SELECTED PER MANUFACTURER'S RECOMMENDATIONS BASED ON THE INSTALLED PIPE SIZE AND TYPE.

2. PIPE HANGERS AND SUPPORTS TO BE FULLY ADJUSTABLE TO ALLOW FOR PROPER VERTICAL ALIGNMENT.

3. HANGERS AND SUPPORTS TO BE PLUMB AND TRUE.

4. PAINT TO MATCH PIPE.

5. REFER TO PROCESS WATER PIPING SPECIFICATION.

RECORD DRAWING

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STAMP AND SIGNATURE:

STATE OF VERMONT ROBERT M. PALMER NO. 10095 REGISTERED PROFESSIONAL ENGINEER

DESIGN ENGINEER

TOWN OF BERLIN
PAINE TURNPIKE NORTH WASTEWATER IMPROVEMENTS
BERLIN, VERMONT

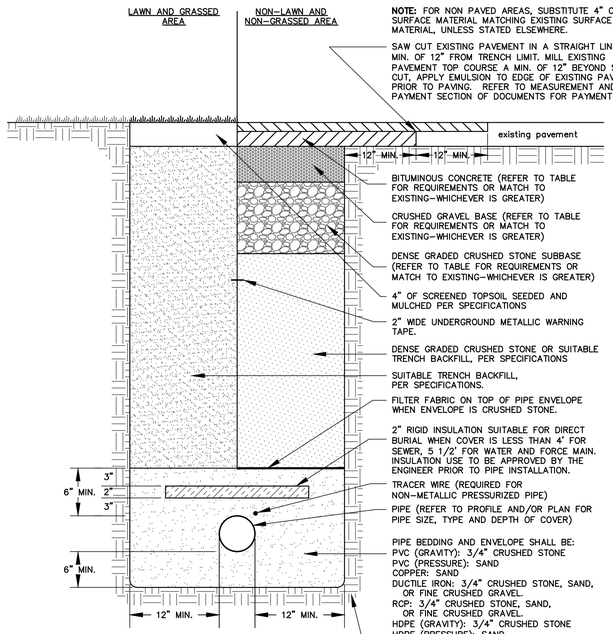
RECORD

DATE ISSUED:	6/30/2021
REVISIONS:	
DRAWN BY:	RR
CHECKED BY:	JK
SCALE:	AS SHOWN
PROJECT NO.:	519.005
CADD FILE:	519-005 DETAILS

TITLE: PUMP STATION DETAILS

DRAWING NO.

C-10



NOTE: FOR NON PAVED AREAS, SUBSTITUTE 4" OF SURFACE MATERIAL MATCHING EXISTING SURFACE MATERIAL, UNLESS STATED ELSEWHERE.

SAW CUT EXISTING PAVEMENT IN A STRAIGHT LINE, A MIN. OF 12" FROM TRENCH LIMIT. MILL EXISTING PAVEMENT TOP COURSE A MIN. OF 12" BEYOND SAW CUT, APPLY EMULSION TO EDGE OF EXISTING PAVEMENT PRIOR TO PAVING. REFER TO MEASUREMENT AND PAYMENT SECTION OF DOCUMENTS FOR PAYMENT LIMITS.

BITUMINOUS CONCRETE (REFER TO TABLE FOR REQUIREMENTS OR MATCH TO EXISTING-WHICHEVER IS GREATER)

CRUSHED GRAVEL BASE (REFER TO TABLE FOR REQUIREMENTS OR MATCH TO EXISTING-WHICHEVER IS GREATER)

DENSE GRADED CRUSHED STONE SUBBASE (REFER TO TABLE FOR REQUIREMENTS OR MATCH TO EXISTING-WHICHEVER IS GREATER)

4" OF SCREENED TOPSOIL SEEDED AND MULCHED PER SPECIFICATIONS

2" WIDE UNDERGROUND METALLIC WARNING TAPE.

DENSE GRADED CRUSHED STONE OR SUITABLE TRENCH BACKFILL, PER SPECIFICATIONS

SUITABLE TRENCH BACKFILL, PER SPECIFICATIONS.

FILTER FABRIC ON TOP OF PIPE ENVELOPE WHEN ENVELOPE IS CRUSHED STONE.

2" RIGID INSULATION SUITABLE FOR DIRECT BURIAL WHEN COVER IS LESS THAN 4' FOR SEWER, 5 1/2' FOR WATER AND FORCE MAIN. INSULATION USE TO BE APPROVED BY THE ENGINEER PRIOR TO PIPE INSTALLATION.

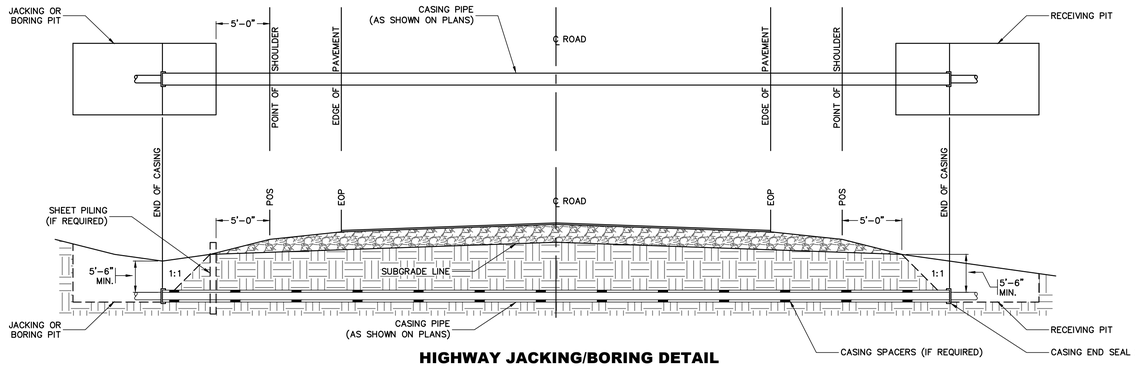
TRACER WIRE (REQUIRED FOR NON-METALLIC PRESSURIZED PIPE)

PIPE (REFER TO PROFILE AND/OR PLAN FOR PIPE SIZE, TYPE AND DEPTH OF COVER)

PIPE BEDDING AND ENVELOPE SHALL BE:
PVC (GRAVITY): 3/4" CRUSHED STONE
PVC (PRESSURE): SAND
COPPER: SAND
DUCTILE IRON: 3/4" CRUSHED STONE, SAND, OR FINE CRUSHED GRAVEL.
RCP: 3/4" CRUSHED STONE, SAND, OR FINE CRUSHED GRAVEL.
HDPE (GRAVITY): 3/4" CRUSHED STONE
HDPE (PRESSURE): SAND

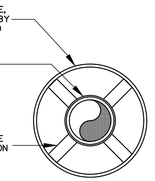
SUITABLE UNDISTURBED MATERIAL. UNSUITABLE MATERIAL SHALL BE EXCAVATED, THEN AREA BACKFILLED AND COMPACTED WITH PIPE BED MATERIAL AS DIRECTED BY THE ENGINEER.

PIPE IN TRENCH DETAIL
NOT TO SCALE



HIGHWAY JACKING/BORING DETAIL
NOT TO SCALE

NOTES:
1. SHEET PILING MAY BE DRIVEN VERTICALLY FIVE (5) FEET OUTSIDE THE SHOULDER POINT, TO ALLOW FOR A SHORTER SLEEVE.
2. EARTH BACKFILL TO BE MADE IN SIX (6) INCH LIFTS AND COMPACTED TO NOT LESS THAN 95% MAXIMUM DRY DENSITY.
3. SEE PLANS FOR DETERMINING SLEEVE LENGTH.
4. IN THE EVENT THAT PERMISSION IS GRANTED TO CUT EXISTING BITUMINOUS PAVEMENT, ALL CUTS, IF POSSIBLE, SHALL BE MADE WITH A SAW TO A MINIMUM DEPTH OF 1 1/2".
5. SUB-BASE TO BE REPLACED IN KIND. MATERIAL BELOW SUB-GRADE TO BE REPLACED WITH EXCAVATED MATERIAL OR AS DIRECTED BY THE ENGINEER.
6. SUB-BASE TO BE PLACED IN SIX (6) INCH COMPACTED LAYERS.



3/8" MIN. STEEL CASING PIPE, SECTIONS SHALL BE JOINED BY CONTINUOUS WELD. REFER TO PLAN AND PROFILE FOR SIZE

CARRIER PIPE - REFER TO PLAN AND PROFILE FOR SIZE AND TYPE.

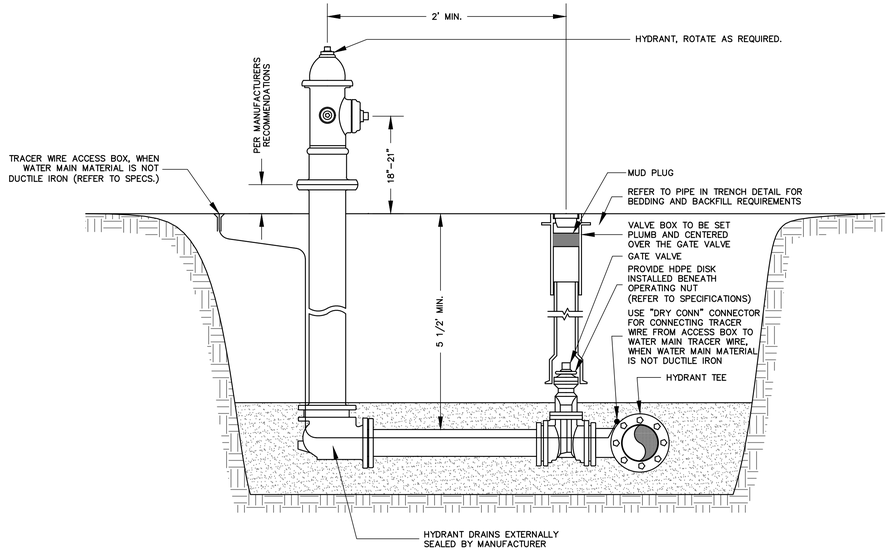
STAINLESS STEEL CASING SPACERS WITH POLYETHYLENE SKIDS. TWO SETS PER SECTION OF CARRIER PIPE.

NOTES:
1. BOTH ENDS OF CASING PIPE SHALL BE SEALED WITH END SEALS WITH STAINLESS STEEL BAND CLAMPS.
2. LIMITS OF BORING AND RECEIVING PIT SHALL BE NO LESS THAN 5' FROM THE POINT OF SHOULDER.

CASING AND CARRIER PIPE DETAIL
NOT TO SCALE

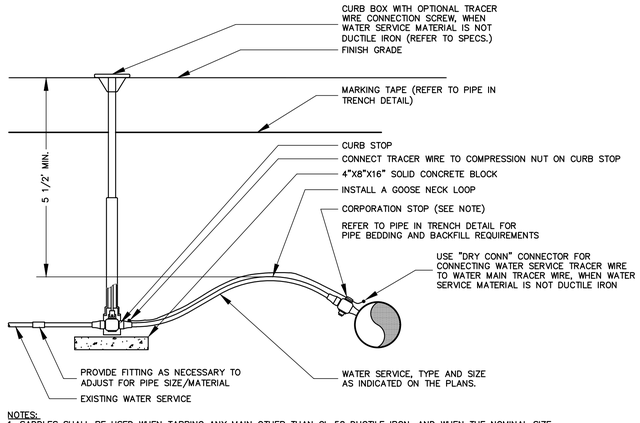
TRENCH RESTORATION TABLE

LOCATION	BITUMINOUS PAVEMENT (THICKNESS/TYPE)	CRUSHED GRAVEL BASE	DENSE GRADED CRUSHED STONE SUBBASE
STATE VTRANS	TOP: 1.5"/TYPE 3 (1/2") BASE: 2.5"/TYPE 2 (3/4")	6"	18"
TOWN ROADS	TOP: 1.5"/TYPE 4 (3/8") BASE: 2.5"/TYPE 2 (3/4")	6"	18"
PRIVATE/DRIVE	TOP: 1.5"/TYPE 4 (3/8") BASE: 2.5"/TYPE 2 (3/4")	6"	18"



NOTE:
1. ALL MECHANICAL JOINT FITTINGS SHALL HAVE RESTRAINED RETAINER GLANDS.

HYDRANT ASSEMBLY DETAIL
NOT TO SCALE



NOTES:
1. SADDLES SHALL BE USED WHEN TAPPING ANY MAIN OTHER THAN CL 52 DUCTILE IRON, AND WHEN THE NOMINAL SIZE ON THE CORPORATION IS GREATER THAN 1/5 THE NOMINAL DIAMETER OF THE MAIN.

2. CURB BOXES SHALL BE SET AS FOLLOWS:
   A. WHEN IN PAVED OR CONCRETE SURFACE, THE CURB BOX SHALL BE INSTALLED FLUSH TO FINISH GRADE.
   B. WHEN IN GRAVEL SURFACE, THE CURB BOX SHALL BE BURIED 2".
   C. WHEN IN A LAWN OR OTHER MOWED AREA, CURB BOX SHALL BE INSTALLED 1/2" ABOVE FINISH GRADE.
   D. WHEN IN A FIELD OR WOODS, THE CURB STOP SHALL BE INSTALLED 1/2" ABOVE FINISH GRADE AND MARKED WITH A STEEL FENCE POST.

3. WHEN SERVICE IS BEING INSTALLED AT A DEPTH LESS THAN 5 1/2 FEET, IT SHALL BE INSULATED AS SHOWN ON THE PIPE IN TRENCH DETAIL.

4. CORPORATIONS, CURB STOPS AND CURB BOXES SHALL COMPLY WITH THE MUNICIPALITY'S STANDARDS.

5. CURB STOP AND CURB BOX SHALL REST ON THE CONCRETE BLOCK.

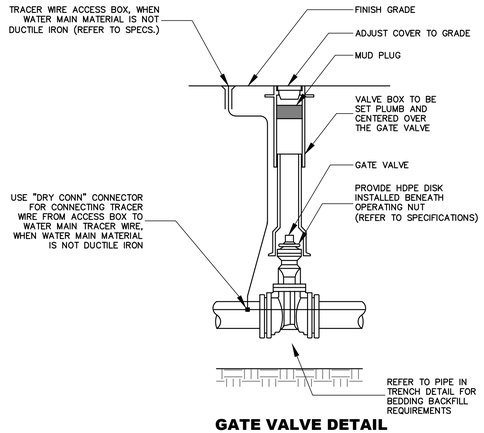
6. CURB BOX SHALL BE SET PLUMB AND CENTERED ON THE CURB STOP.

7. CURB BOX SHALL BE LOCATED AT THE RIGHT OF WAY, OR AS SHOWN ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.

8. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH A MINIMUM OF THREE SWING TIES FOR EACH OF THE FOLLOWING: CORPORATION, CURB STOP, END OF SERVICE AND ANY OTHER FITTINGS OR BENDS INCORPORATED INTO THE SERVICE.

9. WHEN A SERVICE IS NOT GOING TO BE CONNECTED TO THE CURB STOP BY THE CONTRACTOR, AS DIRECTED BY ENGINEER INSTALL A STUB PIECE OUT OF THE CURB STOP. IF THE STUB PIECE IS LESS THAN 1 FOOT, THE CONTRACTOR SHALL CRIMP THE END TO PREVENT DIRT FROM ENTERING THE CURB STOP. IF THE STUB PIECE IS TO BE GREATER THAN 1 FOOT, THEN THE CONTRACTOR SHALL INSTALL A COMPRESSION STYLE CAP AT THE END OF THE SERVICE.

WATER SERVICE DETAIL
NOT TO SCALE



GATE VALVE DETAIL
NOT TO SCALE

RECORD DRAWING

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STAMP AND SIGNATURE:

DESIGN ENGINEER

TOWN OF BERLIN
PAINE TURNPIKE NORTH WASTEWATER IMPROVEMENTS
BERLIN, VERMONT

RECORD

DATE ISSUED:	6/30/2021
REVISIONS:	
DRAWN BY:	RR
CHECKED BY:	JK
SCALE:	AS SHOWN
PROJECT NO.:	519.005
CADD FILE:	519-005 DETAILS

TITLE: DETAILS

DRAWING NO.
C-11

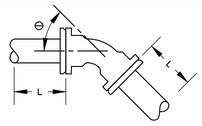
ASSUMED CONDITIONS:
DEPTH 5.5' MIN.
SAFETY FACTOR = 2.0 TO 1
LAYING CONDITION = TYPE 4
18'-0" MIN. PIPE LAY LENGTH

REFERENCED STANDARD:
EBAA IRONS SALES, INC.

SOIL DESIGNATION:
COHESIVE GRANULAR

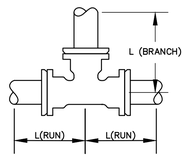
DESIGN PRESSURE:
200 PSI

POLYWRAP:
NONE



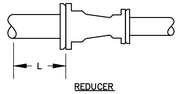
BEND

DESCRIPTION	Θ	L (FEET) 3"	4"	6"	8"	10"	12"	16"
VERTICAL DOWN BEND	11 1/4°	5	5	7	9	11	13	16
	22 1/2°	9	10	14	19	22	26	31
	45°	19	21	29	38	46	55	64
VERTICAL UP BEND OR HORIZONTAL BEND	11 1/4°	2	2	2	3	4	4	5
	22 1/2°	3	3	5	6	7	8	10
	45°	6	6	9	12	14	16	21
	90°	14	15	21	27	32	38	50



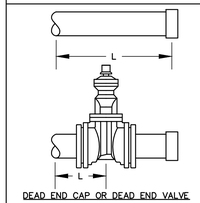
TEE

SIZE	L (BRANCH) (FEET)	L (RUN) (FEET)
4" x 4"	1	10
6" x 4"	1	10
6" x 6"	1	10
8" x 4"	1	10
8" x 6"	1	10
8" x 8"	1	10
10" x 4"	1	10
10" x 6"	1	10
10" x 8"	1	10
10" x 10"	11	10
12" x 4"	1	10
12" x 6"	1	10
12" x 8"	1	10
12" x 10"	1	10
12" x 12"	28	10
16" x 4"	1	10
16" x 6"	1	10
16" x 8"	1	10
16" x 10"	1	10
16" x 12"	1	10
16" x 16"	61	10



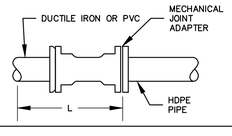
REDUCER

SIZE	L (FEET)
4" x 3"	14
6" x 3"	39
6" x 4"	30
8" x 4"	56
8" x 6"	33
10" x 4"	76
10" x 6"	57
10" x 8"	32
12" x 4"	96
12" x 6"	81
12" x 8"	59
12" x 10"	33
16" x 6"	122
16" x 8"	105
16" x 10"	86
16" x 12"	62
24" x 12"	155



DEAD END CAP OR DEAD END VALVE

SIZE	L (FEET)
3"	38
4"	41
6"	59
8"	77
10"	93
12"	111
16"	144
24"	209



SIZE	L (FEET)
3"	40
4"	40
6"	40
8"	40
10"	60
12"	60
16"	80
24"	100

NOTES:
RESTRAINED PIPE AND FITTING JOINTS SHALL BE PROVIDED FOR ALL PIPE AND FITTING JOINTS WITHIN THE REQUIRED MINIMUM LENGTH (L) OF PIPE, EACH SIDE OF THE FITTING.

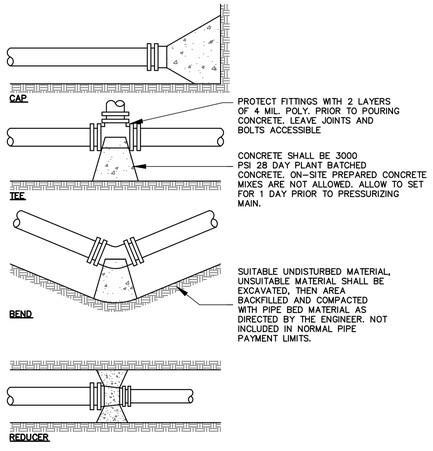
FOR FIELD CONDITIONS DIFFERENT FROM THOSE LISTED IN TABLE, RESTRAINED JOINT REQUIREMENTS SHALL BE ASSESSED.

RESTRAINED PVC PIPE JOINT DETAIL (200 psi)
NOT TO SCALE

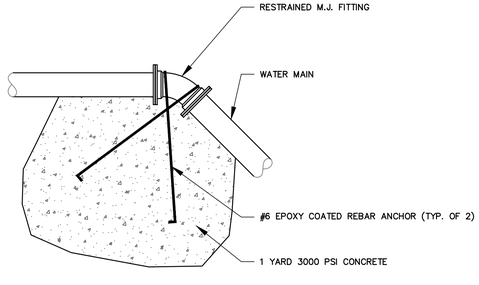
AREA OF BEARING FACE OF CONCRETE THRUST BLOCKS (IN SQUARE FEET)

PIPE SIZE (INCHES)	SOFT WET CLAY, SAND OR SILT (1000 PSF)	DRY SAND (3000 PSF)	COMPACT SAND, COARSE GRAVEL OR HARDPAN (5000 PSF)
HORIZONTAL CAP OR TEE			
8 OR LESS	20 SF	7 SF	4 SF
10	29	10	6
12	41	14	8
16	60	20	12
HORIZONTAL 90° BEND			
8 OR LESS	27 SF	9 SF	6 SF
10	41	14	8
12	58	19	12
16	85	28	17
HORIZONTAL 45° BEND			
8 OR LESS	15 SF	5 SF	3 SF
10	22	7	5
12	31	11	6
16	46	15	9
HORIZONTAL 22 1/2° BEND OR LESS			
8 OR LESS	8	3	2
10	11	4	2
12	16	5	3
16	23	8	5
REDUCER			
8 X 6	8 SF	7 SF	3 SF
10 X 8	11	7	5
12 X 8	16	11	6
12 X 10	24	14	8
16 X 12	27	16	10

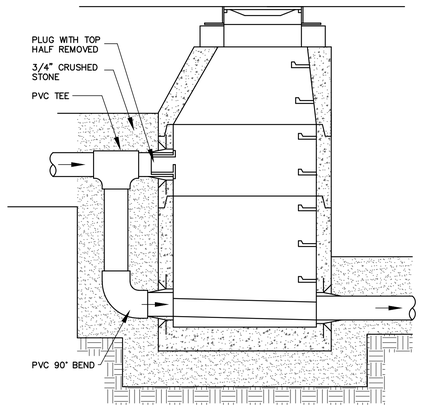
NOTE: BEARING SURFACE AREAS CALCULATED ASSUMING A MAXIMUM WORKING PRESSURE OF 150 PSI AND A 2:1 SAFETY FACTOR FOR SURGE



THRUST BLOCK DETAIL
NOT TO SCALE

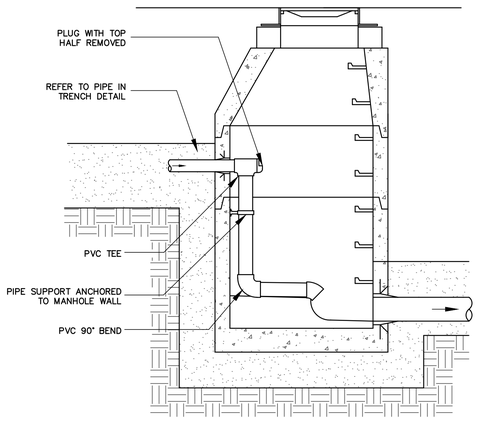


THRUST BLOCK FOR VERTICAL BENDS DETAIL
NOT TO SCALE



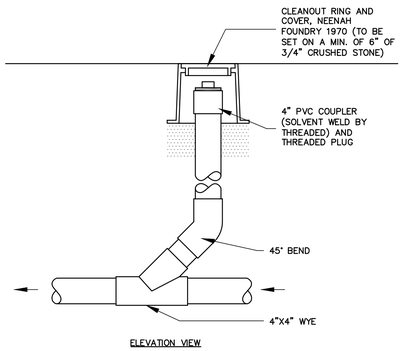
NOTES:
REFER TO "SEWER MANHOLE DETAIL" FOR NOTES AND DETAILS. THIS DETAIL COVERS ONLY THE EXTERNAL DROP PORTION OF THE MANHOLE.

EXTERNAL DROP MANHOLE
NOT TO SCALE



NOTES:
REFER TO "SEWER MANHOLE DETAIL" FOR NOTES AND DETAILS. THIS DETAIL COVERS ONLY THE INTERNAL DROP PORTION OF THE MANHOLE.

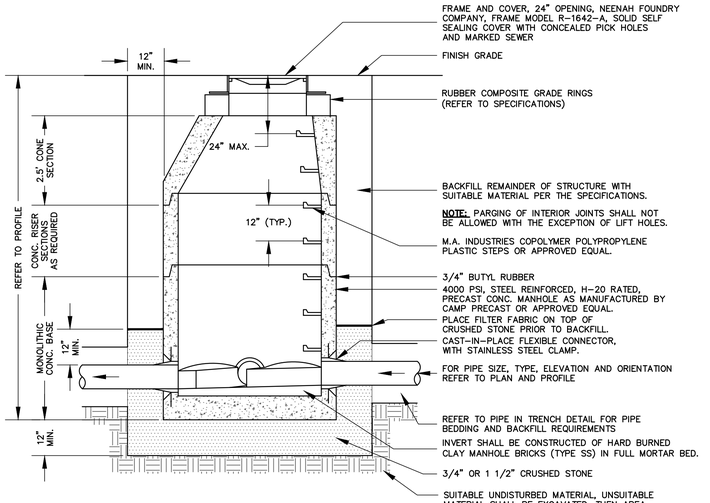
INTERNAL DROP MANHOLE
NOT TO SCALE



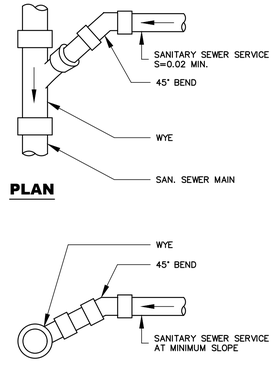
ELEVATION VIEW

IN-LINE CLEANOUT DETAIL
NOT TO SCALE

NOTES:
1. REFER TO PIPE IN TRENCH DETAIL FOR BEDDING AND BACKFILL MATERIAL.
2. CONTRACTOR TO INSTALL CLEANOUTS ON EACH NEW SEWER SERVICE AT THE RIGHT-OF-WAY (ROW) LINE.
3. CLEANOUT SIZE IS BASED ON THE SIZE OF SEWER SERVICE.



SEWER MANHOLE DETAIL
NOT TO SCALE



PLAN

ELEVATION

NOTE:
1. REFER TO SITE PLANS AND PROFILES FOR PIPE SIZE AND TYPE.
2. REFER TO PIPE IN TRENCH DETAIL FOR BEDDING AND BACKFILL REQUIREMENTS.

SEWER LATERAL CONNECTION DETAIL
NOT TO SCALE

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STAMP AND SIGNATURE:
STATE OF VERMONT ROBERT M. CLARK NO. 100695 DATE LICENSED PROFESSIONAL ENGINEER
DESIGN ENGINEER

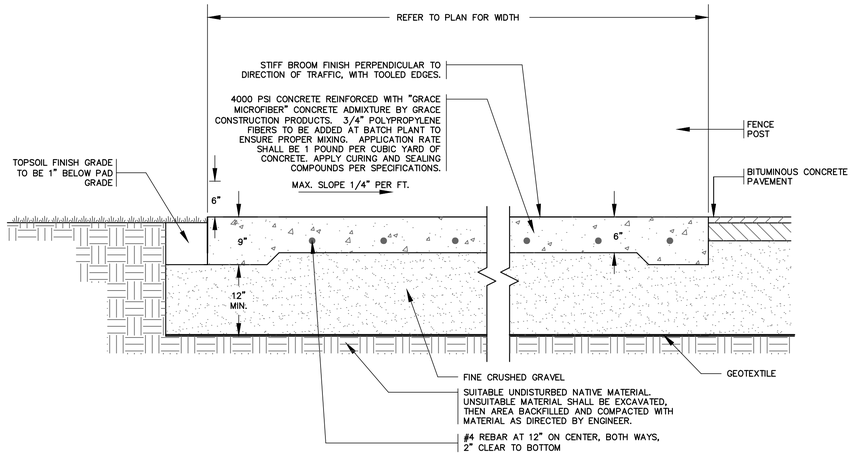
TOWN OF BERLIN
PAINE TURNPIKE NORTH WASTEWATER IMPROVEMENTS
BERLIN, VERMONT

RECORD

DATE ISSUED:	6/30/2021
REVISIONS:	
DRAWN BY:	RR
CHECKED BY:	JK
SCALE:	AS SHOWN
PROJECT NO.:	519.005
CADD FILE:	519-005 DETAILS

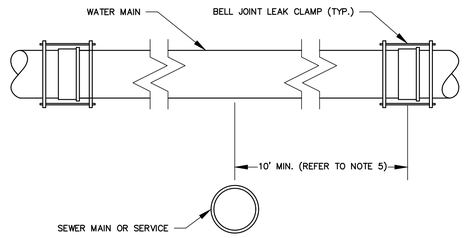
TITLE: DETAILS AND NOTES

DRAWING NO.
C-12



CONCRETE DUMPSTER PAD DETAIL

NOT TO SCALE



WATER / SEWER CROSSING DETAIL

NOT TO SCALE

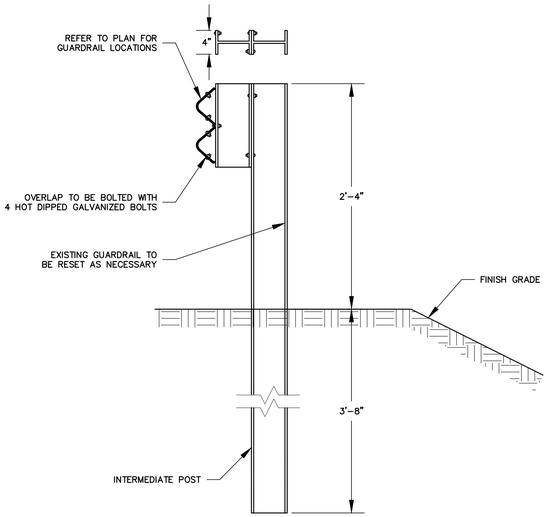
1. WATER MAINS CROSSING OVER SEWER MAINS OR SERVICES SHALL HAVE A MINIMUM VERTICAL CLEARANCE OF 18 INCHES.

2. WATER AND SEWER PIPE JOINTS SHALL BE LOCATED AS FAR APART AS POSSIBLE.

3. PROVIDE STRUCTURAL SUPPORT FOR EXPOSED WATER AND SEWER PIPES.

4. FOR PARALLEL INSTALLATION, THERE SHALL BE A HORIZONTAL SEPARATION OF 10 FEET BETWEEN WATER MAINS AND SANITARY SEWER, AND A SEPARATION OF 5 FT BETWEEN WATER MAINS AND STORM SEWERS.

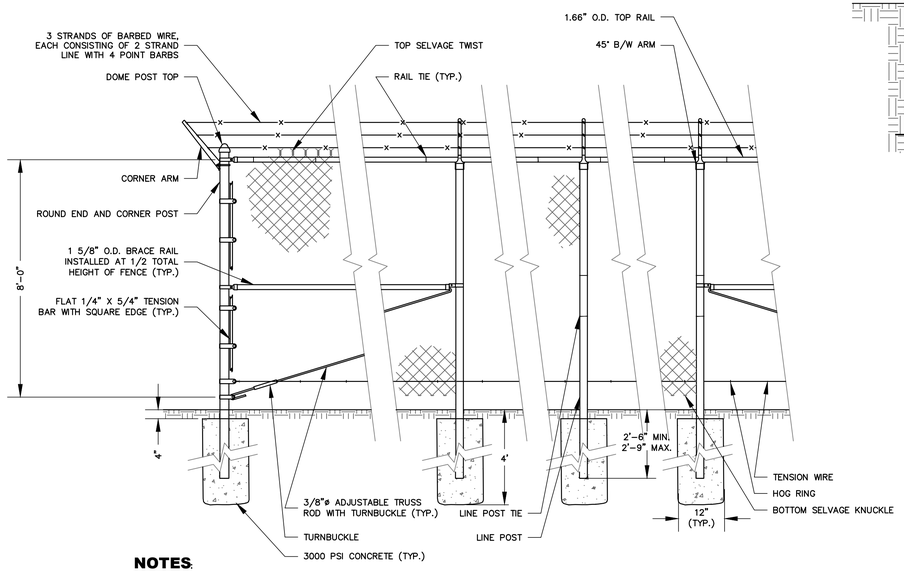
5. IN THE EVENT 18 INCHES OF VERTICAL CLEARANCE (WATER OVER SEWER) OR 10' OF HORIZONTAL SEPARATION CANNOT BE ACHIEVED OR IN ALL CASES WHERE SEWER IS OVER WATER (REGARDLESS OF VERTICAL SEPARATION), CONTRACTOR SHALL INSTALL BELL JOINT LEAK CLAMPS, AT EACH WATER MAIN BELL JOINT. REFER TO SPECIFICATIONS.



NOTE:
REFER TO VTRANS STANDARD DETAIL G-1 & G-2d FOR ADDITIONAL INFORMATION.

GUARDRAIL DETAIL

NOT TO SCALE

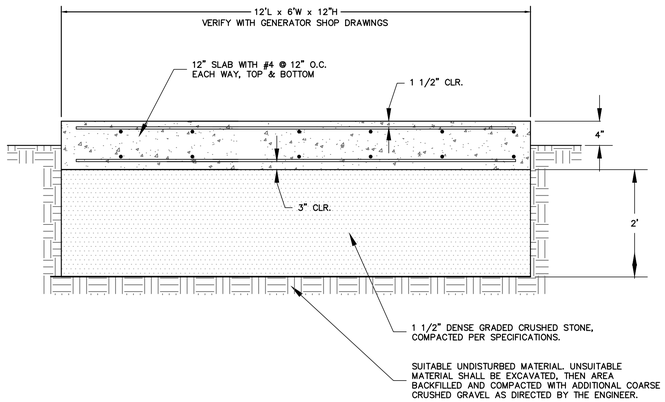


NOTES.

1. HEIGHT OF FENCE SHALL BE 8'-0".
2. FABRIC SHALL BE CHAIN LINK, #9 WIRE WOVEN IN A 2" MESH ZINC COATED STEEL OR ALUMINUM COATED STEEL. TOP TO HAVE 3 STRANDS OF OUTWARD FACING BARBED WIRE. THE BOTTOM OF FENCE IS TO BE 2" ABOVE THE GROUND LINE.
3. LINE POSTS TO BE 2 3/8" O.D. PIPE WEIGHING 3.65 POUNDS PER LINEAR FOOT. POSTS SHALL BE SPACED EQUIDISTANT WITH A MAXIMUM SPACING OF 10'-0" CENTER TO CENTER.
4. CORNER POSTS TO BE 3" O.D.
5. ALL POSTS TO HAVE DOME CAPS.
6. FABRIC TO BE FASTENED TO POSTS AND GATE FRAMES WITH #9 GAUGE WIRE.
7. TENSION WIRE SHALL BE #9 GAUGE WIRE ATTACHED 1" BELOW TOP SELVAGE AND 2" ABOVE THE BOTTOM SELVAGE BY MEANS OF HOG RINGS ON 24" CENTERS.
8. AN END SECTION ASSEMBLY IS TO BE ERECTED ON A MAXIMUM OF 200' CENTER TO CENTER.

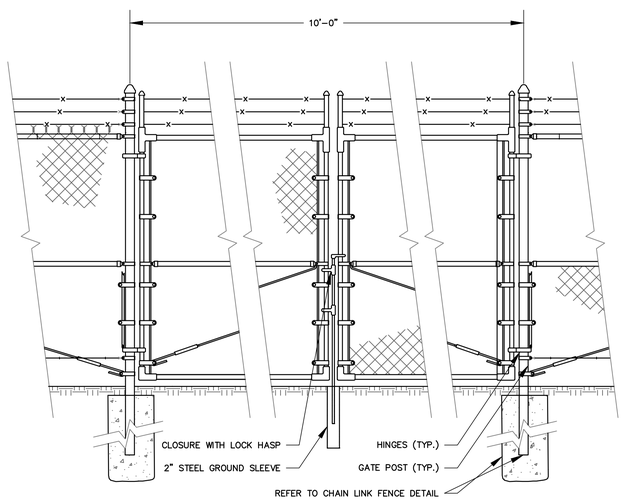
CHAIN LINK FENCE DETAIL

NOT TO SCALE



EMERGENCY GENERATOR PAD

NOT TO SCALE



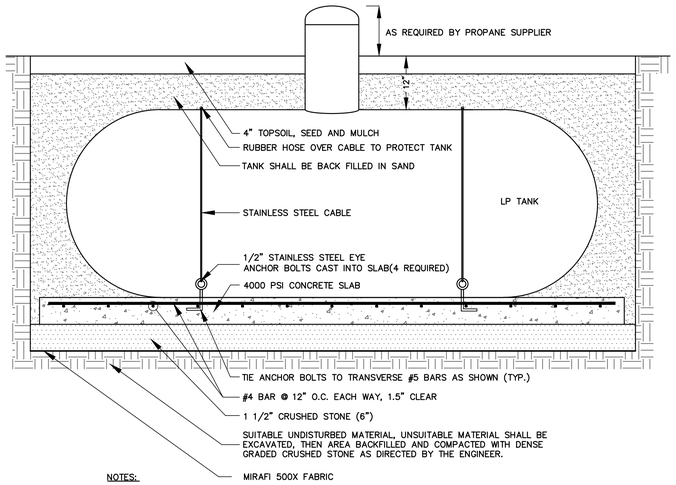
NOTES.

1. GATE POSTS TO BE 4" O.D.

2. PROVIDE LOCKING GATE ACCESS AS SHOWN ON SITE PLAN.

GATE DETAIL

NOT TO SCALE



NOTES:

1. ALL TANKS TO HAVE ANTI-BUOYANCY SYSTEM. ANTI-BUOYANCY SLAB SHALL BE DESIGNED AND CONSTRUCTED FOR THE 1,000 GALLON LP TANK, IN ACCORDANCE WITH PROPANE SUPPLIER, ALL APPLICABLE CODES AND DESIGN GUIDELINES. SLABS SHALL BE A MINIMUM OF ONE FOOT CLEAR OF TANKS ON ALL SIDES.

2. COMPLY WITH NFPA-58 AND ALL OTHER APPLICABLE CODES.

3. CONTRACTOR SHALL COORDINATE WITH GILLESPIE FUELS AND PROPANE, INC., 141 WALL STREET, NORTHFIELD, VERMONT, 05663 FOR MATERIAL ORDERING AND DELIVERY.

4. CONTRACTOR SHALL ALLOW PERSONNEL FROM GILLESPIE TO BE ON SITE TO REVIEW AND INSPECT THE INSTALLATION OF THE BURIED LP TANK AND ASSOCIATED PIPING.

5. ALL PIPING SHALL BE INSTALLED BY THE PROPANE SUPPLIER OR A VERMONT LICENSED PLUMBER.

6. IN ADVANCE OF SUBMITTING A BID, CONTRACTOR SHALL COORDINATE WITH PROPANE SUPPLIER TO DETERMINE WHAT MATERIALS SHALL BE SUPPLIED AND WORK SHOULD BE COMPLETED BY SUPPLIER OR CONTRACTOR.

7. ALL WORK SHALL BE COMPLETED TO THE PROPANE SUPPLIER'S STANDARDS FOR CONSTRUCTION.

8. ALL NEW PROPANE PIPE MATERIAL SHALL BE INSTALLED AS SPECIFIED BY THE PROPANE SUPPLIER.

9. CONTRACTOR SHALL FURNISH AND INSTALL SACRIFICIAL ANODES FOR CATHODIC PROTECTION IN ACCORDANCE WITH THE PROPANE SUPPLIER SPECIFICATIONS.

10. IT IS THE TOWN'S INTENTION THAT THE TANK WILL BE UNDER THE OWNERSHIP AND CONTROL OF THE TOWN. GILLESPIE MAY INVOICE THE TOWN DIRECTLY FOR THE TANK. ALL OTHER COSTS SHALL BE THE CONTRACTOR'S RESPONSIBILITY.

11. THE TOWN WILL PURCHASE AND FILL THE PROPANE TANK UPON DELIVERY. CONTRACTOR SHALL BE REQUIRED TO "TOP OFF" THE TANK AT FINAL COMPLETION.

BURIED LP TANK DETAIL

NOT TO SCALE

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E-mail: info@ottercrk.com

STAMP AND SIGNATURE:

STATE OF VERMONT · ROBERT M. ROSS · NO. 100995 · LICENSED · PROFESSIONAL ENGINEER

DESIGN ENGINEER

TOWN OF BERLIN
PAINE TURNPIKE NORTH WASTEWATER IMPROVEMENTS
BERLIN, VERMONT

RECORD

DATE ISSUED:	6/30/2021
REVISIONS:	
DRAWN BY:	RR
CHECKED BY:	JK
SCALE:	AS SHOWN
PROJECT NO.:	519.005
CADD FILE:	519-005 DETAILS

TITLE: DETAILS AND NOTES

DRAWING NO.

C-13

SAFETY NOTES

1. CONTRACTOR SHALL BE RESPONSIBLE FOR INITIATING, MAINTAINING AND SUPERVISING ALL WORK SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK. CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT DAMAGE, INJURY OR LOSS TO:

   A. ALL EMPLOYEES ON THE WORK SITE AND OTHER PERSONS WHO MAY BE AFFECTED.

   B. THE WORK SITE AND ALL THE MATERIALS AND EQUIPMENT TO BE INCORPORATED WHETHER IN STORAGE ON OR OFF THE SITE.

   C. OTHER PROPERTY AT THE SITE OR ADJACENT, INCLUDING BUT NOT LIMITED TO TREES, SHRUBS, LAWNS, WALKS, PAVEMENTS, ROADWAYS, STRUCTURES AND UTILITIES NOT DESIGNATED FOR REMOVAL, RELOCATION, OR REPLACEMENT IN THE COURSE OF CONSTRUCTION.

2. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE LAWS, ORDINANCES, RULES, REGULATIONS AND ORDERS (INCLUDING O.S.H.A. REGULATIONS) OF ANY PUBLIC BODY HAVING JURISDICTION OVER THE SAFETY OF PERSONS OR PROPERTY.

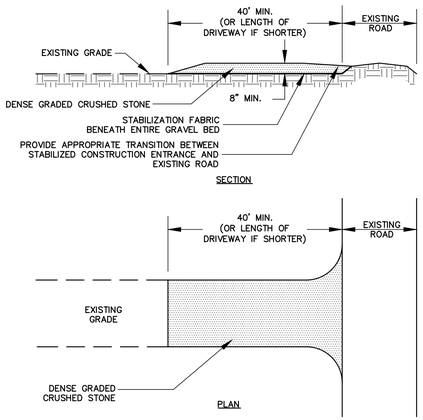
3. THE CONTRACTOR SHALL NOTIFY OWNERS OF ADJACENT PROPERTY AND UTILITIES WHEN EXECUTION OF THE WORK WILL AFFECT THEM.

4. THE CONTRACTOR'S DUTIES AND RESPONSIBILITIES FOR THE SAFETY AND PROTECTION OF THE WORK SHALL CONTINUE UNTIL SUCH TIME AS ALL THE WORK IS COMPLETED.

5. THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH OCCUR BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. IF PIPELINE DAMAGES OCCUR WHICH RESULTS IN A GAS RELEASE, CONTRACTOR IS REQUIRED BY LAW TO CALL 911.

6. CONTRACTOR SHALL COORDINATE WITH DIG-SAFE (888)-344-7233 OR WWW.DIGSAFE.COM A MINIMUM OF 48 HOURS PRIOR TO PERFORMING ANY EXCAVATION.

7. AT THE CLOSE OF EACH WORK DAY, THE CONTRACTOR SHALL BACKFILL OR ADEQUATELY BARRICADE ALL OPEN TRENCHES.



NOTES:

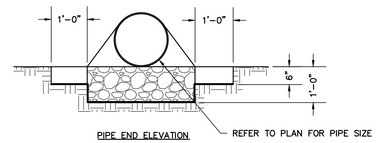
1. WIDTH SHALL BE 12 FEET MINIMUM.

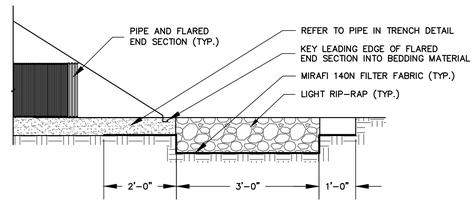
2. VEHICLE WASHING: WHEN NECESSARY, WHEELS AND TIRES SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE, WHICH DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH, OR WATERCOURSE THROUGH USE OF SAND BAGS, GRAVEL, BOARDS, OR OTHER APPROVED METHODS.

3. MAINTENANCE: THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED ONTO PUBLIC RIGHT-OF-WAYS MUST BE REMOVED IMMEDIATELY.

TEMPORARY STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE





FLARED END SECTION DETAIL

NOT TO SCALE

EROSION CONTROL NOTES

1. THIS PROJECT IS SUBJECT TO THE STATE OF VERMONT'S CONSTRUCTION GENERAL PERMIT 3-9020, AS REQUIRED. THE CONTRACTOR SHALL APPLY FOR COVERAGE AS A CO-PERMITTEE, PRIOR TO THE START OF CONSTRUCTION.

2. THE CONTRACTOR IS RESPONSIBLE FOR EROSION PREVENTION AND SEDIMENT CONTROL FOR THIS PROJECT. ANY FINES ASSESSED BY REGULATORY AGENCIES FOR THE NONCOMPLIANCE WITH STATE WATER QUALITY STANDARDS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE ON-SITE COORDINATOR REQUIRED BY GENERAL PERMIT 3-9020.

3. THE ON-SITE COORDINATOR SHALL HAVE THE AUTHORITY TO STOP AND/OR MODIFY CONSTRUCTION ACTIVITIES AS NECESSARY TO COMPLY WITH THE TERMS AND CONDITIONS OF THE PERMIT AND SHALL BE RESPONSIBLE FOR INSPECTIONS AND RECORD KEEPING.

4. THE EROSION PREVENTION AND SEDIMENT CONTROL MEASURES SHOWN ON THE PLANS DO NOT RELIEVE THE CONTRACTOR'S RESPONSIBILITY TO OBSERVE, EVALUATE AND CONSIDER ALTERNATIVES AND TO PROPOSE APPROPRIATE RECOMMENDATIONS IN ORDER TO LIMIT POTENTIAL WATER QUALITY IMPACTS.

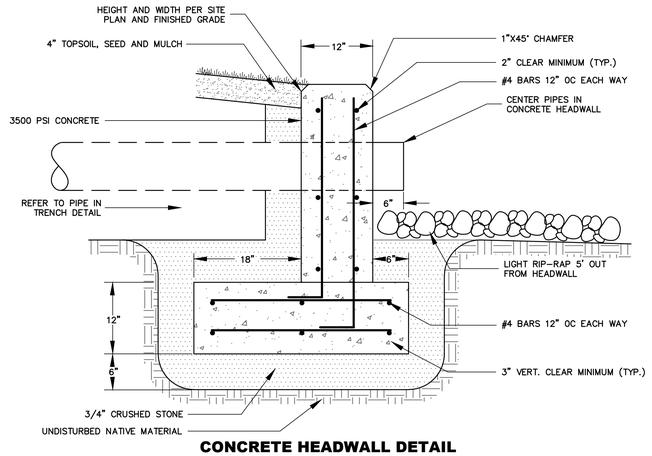
5. ANY MAJOR CHANGES PROPOSED BY THE CONTRACTOR MUST BE APPROVED BY THE STATE OF VERMONT, AGENCY OF NATURAL RESOURCES, AND DEPARTMENT OF ENVIRONMENTAL CONSERVATION. THE CONTRACTOR IS RESPONSIBLE FOR ALL COST, AMENDMENT APPLICATIONS AND SUPPORTING MATERIAL NECESSARY AND SCHEDULE IMPACTS ASSOCIATED WITH THE MAJOR CHANGES.

6. EROSION PREVENTION AND SEDIMENT SHALL BE MONITORED AND MAINTAINED THROUGHOUT CONSTRUCTION AND REMOVED AFTER PROJECT AREA AND DRAINAGE COURSES ARE FULLY ESTABLISHED AND STABLE.

7. ALL DISTURBED AREAS NOT UNDER ACTIVE CONSTRUCTION SHALL BE STABILIZED BY ROUGH GRADING TO MINIMIZE SLOPES AND MULCHED. FOLLOWING FINAL GRADING OF ANY PORTION OF THE SITE, CONTRACTOR SHALL LOAM, SEED AND MULCH WITHIN ONE WEEK.

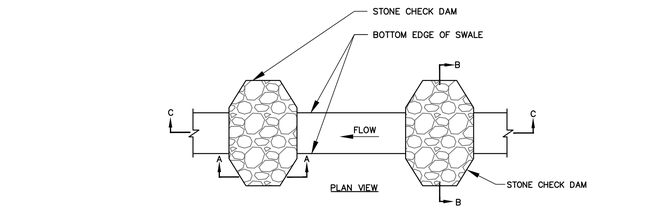
8. REFER TO CONTRACT SPECIFICATIONS, DETAILS AND GENERAL PERMIT FOR ADDITIONAL INFORMATION.

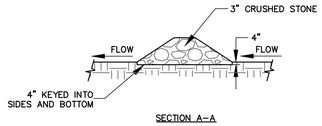
9. THE CONTRACTOR SHALL INSTALL INLET PROTECTION ON ALL CATCH BASINS WITHIN 100 FEET DOWN GRADIENT OF THE ACTIVELY WORKED CONSTRUCTION AREA. INLET PROTECTION BEST MANAGEMENT PRACTICES SHALL BE INSTALLED PRIOR TO THE START OF WORK AND IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

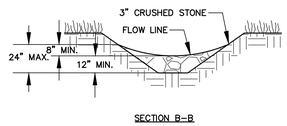


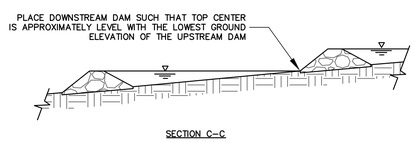
CONCRETE HEADWALL DETAIL

NOT TO SCALE







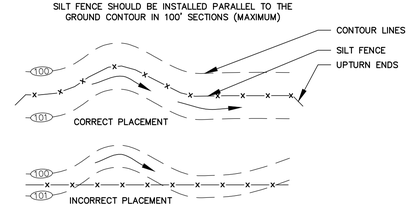


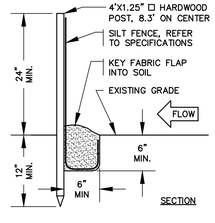
DITCH SLOPE	CHECK DAM SPACING(S)
0.02 FT/FT	70 FT
0.03 FT/FT	45 FT
0.04 FT/FT	35 FT
0.05 FT/FT	25 FT
0.06 FT/FT	20 FT

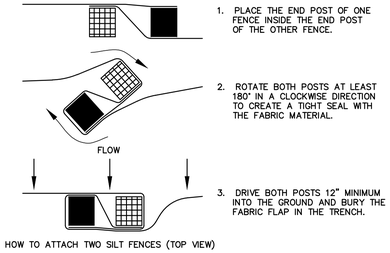
DO NOT USE CHECK DAMS BELOW 2% OR ABOVE 6% DITCH GRADES

STONE CHECK DAM DETAIL

NOT TO SCALE







1. PLACE THE END POST OF ONE FENCE INSIDE THE END POST OF THE OTHER FENCE.

2. ROTATE BOTH POSTS AT LEAST 180° IN A CLOCKWISE DIRECTION TO CREATE A TIGHT SEAL WITH THE FABRIC MATERIAL.

3. DRIVE BOTH POSTS 12" MINIMUM INTO THE GROUND AND BURY THE FABRIC FLAP IN THE TRENCH.

HOW TO ATTACH TWO SILT FENCES (TOP VIEW)

NOTES:
1. SILT FENCE SHALL BE INSTALLED AT THE DOWNHILL SIDE OF CONSTRUCTION ACTIVITIES BEFORE UPSLOPE LAND DISTURBANCE BEGINS.

2. REFER TO TECHNICAL SPECIFICATIONS FOR ADDITIONAL INFORMATION.

SILT FENCE DETAIL

NOT TO SCALE

RECORD DRAWING

Record drawings have been prepared on the basis of information furnished by others. The engineer is not responsible for errors or omissions which have been incorporated into this document as a result. The location of items shown without labeled dimensions shall be considered as approximate. Profiles show general layout. Due to changes during construction, alignment, station and elevation information may not be correct. The site was not re-surveyed after construction, so "as-built" locations, elevations and finish grades are approximate and shall be considered "schematic". Details and cross sections may not reflect "as built" conditions.
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STAMP AND SIGNATURE:

DESIGN ENGINEER

TOWN OF BERLIN
PAINE TURNPIKE NORTH WASTEWATER IMPROVEMENTS
BERLIN, VERMONT

RECORD

DATE ISSUED:	6/30/2021
REVISIONS:	
DRAWN BY:	RR
CHECKED BY:	JK
SCALE:	AS SHOWN
PROJECT NO.:	519.005
CADD FILE:	519-005 DETAILS

TITLE: DETAILS AND NOTES

DRAWING NO.

C-14