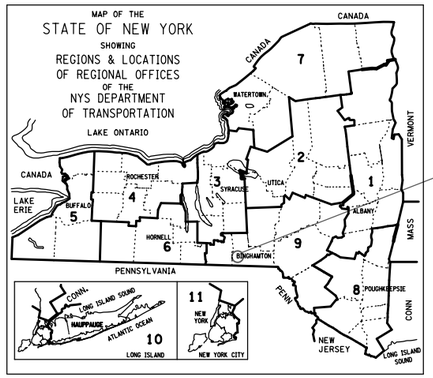


PROJECT LOCATION

THIS PROJECT INVOLVES THE REPLACEMENT OF THE EXISTING WATER MAIN ALONG A PORTION OF NORTH ARTHUR AVE. MAJOR WORK INCLUDES: TRENCH EXCAVATION, INSTALLATION OF NEW WATER MAIN, NEW HYDRANT, AND NEW SERVICE CONNECTIONS, NEW CURB BOXES, SAND TRENCH BACKFILL NORTH ARTHUR AVE. IN THE VILLAGE OF ENDICOTT, BROOME COUNTY, NEW YORK.

CONTRACTOR'S NAME _____

AWARD DATE _____

COMPLETION DATE _____

FINAL ACCEPTANCE DATE _____

ENGINEER IN CHARGE _____

FINAL COST TOTAL _____

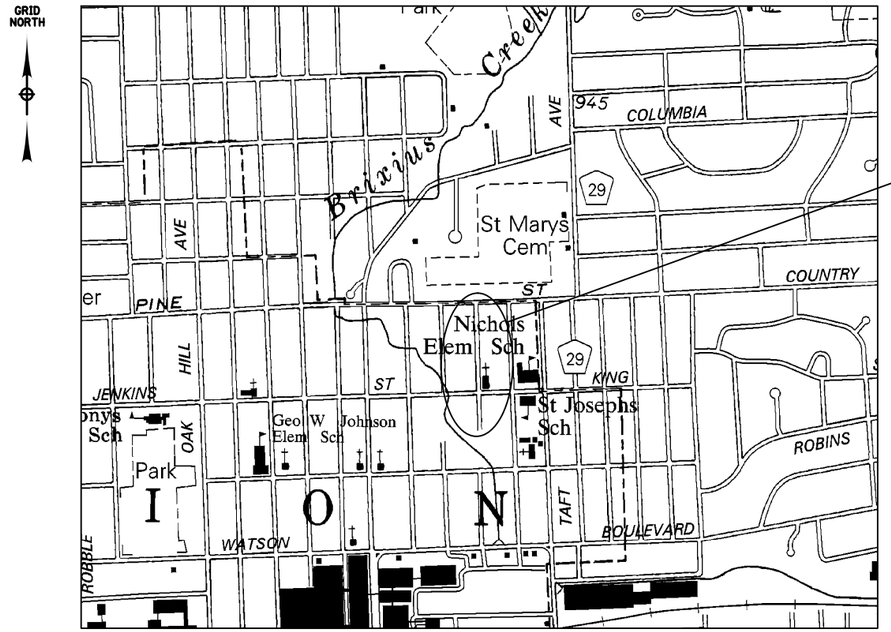
FISCAL SHARE COST(S)

VILLAGE OF ENDICOTT

VILLAGE OF ENDICOTT
DEPARTMENT OF PUBLIC WORKS

WATER MAIN REPLACEMENT
ALONG NORTH ARTHUR AVE.
VILLAGE OF ENDICOTT
BROOME COUNTY, NEW YORK

15 CONSTRUCTION PLAN SHEETS
13 NYSDOT STANDARD SHEETS



PROJECT LOCATION

LOCATION MAP

NOT TO SCALE

THIS PROJECT IS LOCATED ON NORTH ARTHUR AVENUE IN THE VIALLAGE OF ENDICOTT, BROOME COUNTY, STATE OF NEW YORK.

THE LATEST REVISIONS OF THE STANDARD SHEETS MAINTAINED BY THE NYSDOT, WHICH ARE CURRENT ON THE DATE OF ADVERTISEMENT FOR BIDS, SHALL BE CONSIDERED TO BE IN EFFECT. ALL PAY ITEMS AND WORK CONTAINED IN THE CONTRACT AND ANY ADDITIONAL PAY ITEMS AND WORK ENCOUNTERED DURING THE COURSE OF THE CONTRACT SHALL BE SUBJECT TO THE APPLICABLE STANDARD SHEET(S) UNLESS OTHERWISE SPECIFIED IN THE CONTRACT DOCUMENTS.

ALL WORK CONTEMPLATED UNDER THIS CONTRACT IS TO BE COVERED BY AND IN CONFORMITY WITH THE NYSDOT STANDARD SPECIFICATIONS (ENGLISH UNITS) OF MAY 1, 2024, WITH CURRENT ADDITIONS AND MODIFICATIONS, EXCEPT AS MODIFIED ON THESE PLANS AND IN THE PROPOSAL.

CHANGES MADE TO THESE PLANS AND RELATED CONTRACT DOCUMENTS SINCE COMPLETION BY THE CONSULTING ENGINEER MAY BE DETERMINED BY COMPARISON WITH SUCH CONTRACT PLANS AND RELATED DOCUMENTS FILED AT THE OFFICE OF THE CONSULTING ENGINEER.

FOR DRAWING INDEX, SEE SHEET NO. 2

STATE OF NEW YORK
BRIAN ROBERT TYLER
095229
LICENSED PROFESSIONAL ENGINEER

03/28/2024

PREPARED AND RECOMMENDED BY

03/28/2024

BRIAN R TYLER, PE DATE
DELTA ENGINEERS, ARCHITECTS, LAND SURVEYORS, & LANDSCAPE ARCHITECTS, D.P.C.
ENDWELL, NY
N.Y.S.P.E. NO. 095229

VILLAGE OF ENDICOTT DPW
REPLACEMENT OF N. ARTHUR ST. WATER MAIN
BROOME COUNTY, NEW YORK

TITLE SHEET

DELTA ENGINEERS, ARCHITECTS, & SURVEYORS

SCALE	DRAWING NO.
NONE	COVER
DATE	SHEET
MARCH 2024	1 OF 15

FILE NAME = T:\2023\2023.561.001 Trans - Town of Union 300 Block N.Ave\Drawings\Highway\typicals\2023.561.001.cph.cov.dgn
DATE = 3/28/2024 11:09:25 AM
USER = ssmith

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

IN CHARGE OF : CJM DESIGNED BY: SMS CHECKED BY : CJM/VOE WATER DEPT.
DETAILED BY : SMS CHECKED BY : CJM

ALIGNMENT

ABBR.	DESCRIPTION
AH	AHEAD
AZ	AZIMUTH
BK	BACK
℄	BASELINE
BRG	BEARING
℄	CENTERLINE
CS	CURVE TO SPIRAL
e	SUPERELEVATION RATE (CROSS SLOPE)
EQ	EQUALITY
EXT	EXTERNAL
HCL	HORIZONTAL CONTROL LINE
HSD	HEADLIGHT SIGHT DISTANCE
L	LENGTH OF CIRCULAR CURVE
LS	LENGTH OF SPIRAL
LVC	LENGTH OF VERTICAL CURVE
E	CENTER CORRECTION OF VERTICAL CURVE
ML	MAIN LINE
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
POL	POINT ON LINE
PSD	PASSING SIGHT DISTANCE
PT	POINT OF TANGENT
PVC	POINT OF VERTICAL CURVE
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENT
R	RADIUS
SC	SPIRAL TO CURVE
SSD	STOPPING SIGHT DISTANCE
ST	SPIRAL TO TANGENT
STA	STATION
T	TANGENT LENGTH
TGL	THEORETICAL GRADE LINE
TS	TANGENT TO SPIRAL
VC	VERTICAL CURVE

TOPOGRAPHY (DRAINAGE)

ABBR.	DESCRIPTION
BB	BOTTOM OF BANK (STREAM)
BC	BOTTOM OF CURB
BO	BOTTOM OF OPENING
CAP	CORRUGATED ALUMINUM PIPE
CB	CATCH BASIN
CIP	CAST IRON PIPE
℄ STRM	CENTERLINE OF STREAM
CMP	CORRUGATED METAL PIPE
CP	CONCRETE PIPE
CSP	CORRUGATED STEEL PIPE
CULV	CULVERT
DIA	DIAMETER
DMH	DRAINAGE MANHOLE
DS	DRAINAGE STRUCTURE PIPE
D'XING	DITCH CROSSING
EHW	EXTREME HIGH WATER
EL	ELEVATION
ELEV	ELEVATION
ELW	EXTREME LOW WATER
ES	END SECTION
HW	HEADWALL
INV	INVERT
MH	MANHOLE
MHW	MEAN HIGH WATER
OHW	ORDINARY HIGH WATER
OLW	ORDINARY LOW WATER
RCP	REINFORCED CONCRETE PIPE
SICPP	SMOOTH INTERIOR CORRUGATED POLYETHYLENE PIPE
TB	TOP OF BANK (STREAM)
TC	TOP OF CURB
TG	TOP OF GRATE
VCP	VITRIFIED CLAY PIPE

TOPOGRAPHY (MISCELLANEOUS)

ABBR.	DESCRIPTION
ABUT	ABUTMENT
AOBE	AS ORDERED BY ENGINEER
ASPH	ASPHALT
BDY	BOUNDARY
BLDG	BUILDING
BM	BENCH MARK
CC	CENTER TO CENTER
CONC	CONCRETE
CONST	CONSTRUCTION
CR	COUNTY ROAD
D	DEED DISTANCE
DM	DIRECT MEASUREMENT
DWY	DRIVEWAY
EP	EDGE OF PAVEMENT
ES	EDGE OF SHOULDER
FEE	FEE ACQUISITION
FEE WO/A	FEE ACQUISITION WITHOUT ACCESS
FP	FENCE POST
FD	FOUNDATION
FL	FENCE LINE
GAR	GARAGE
GR	GRAVEL
HO	HOUSE
HWY	HIGHWAY
IP	IRON PIN OR IRON PIPE
MB	MAILBOX
MON	MONUMENT
N&W	NAIL AND WASHER
OG	ORIGINAL GROUND
O/H	OVERHEAD
P	PARCEL
PAV'T	PAVEMENT
PE	PERMANENT EASEMENT
PED POLE	PEDESTRIAN POLE
ℙ	PROPERTY LINE
POR	PORCH
RR	RAILROAD
RTE	ROUTE
ROW	RIGHT OF WAY
RW	RETAINING WALL
SH	STATE HIGHWAY
SHLDR	SHOULDER
SPK	SPIKE
ST	STREET
STK	STAKE
STY	STORY
SW	SIDEWALK
TE	TEMPORARY EASEMENT
TO	TEMPORARY OCCUPANCY
U/G	UNDERGROUND
WW	WING WALL

UTILITIES

ABBR.	DESCRIPTION
E	ELECTRIC
EMH	ELECTRIC MANHOLE
G	GAS
GP	GUY POLE
GSB	GAS SERVICE BOX (HOUSE LINE)
GV	GAS VALVE (MAIN LINE)
HYD	HYDRANT
LP	LIGHT POLE
LPG	LOW PRESSURE GAS
PP	POWER POLE
SA	SANITARY SEWER
SMH	SANITARY MANHOLE
ST	STORM SEWER
T	TELEPHONE
TCB	TRAFFIC CONTROL BOX
TELBOX	TELEPHONE BOX
TEL P	TELEPHONE POLE
TMH	TELEPHONE MANHOLE
CTV	CABLE TELEVISION
W	WATER
WSB	WATER SERVICE BOX (HOUSE LINE)
WV	WATER VALVE (MAIN LINE)

SUBSURFACE EXPLORATION

ABBR.	DESCRIPTION
	REPLACE ABBREVIATION "AB" WITH:
AH	HAND AUGER
CP	CONE PENTROMETER
DA	2¼ INCHES CASED DRILL HOLE
DM	DRILLING MUD
DN	4 INCHES CASED DRILL HOLE
FH	HOLLOW FLIGHT AUGER
PA	POWER AUGER
PH	PROBE
PT	PERCOLATION TEST HOLE
RP	1 INCH SAMPLER (RETRACTABLE PLUG)
	TO BE DEFINED AT THE TIME OF EXPLORATION
SP	SEISMIC POINT
TP	TEST PIT
	ABBREVIATION "C" IN CATEGORIES: DA, DM, DN, AND FH WITH:
B	BRIDGE
C	CUT
D	DAM
F	FILL
K	CULVERT
W	WALL
X	TO BE USED IF ONE OF THE ABOVE CANNOT BE DEFINED AT THE TIME THE EXPLORATION IS MADE

STANDARD SYMBOL (PLANS)	ITEM PAYMENT UNIT: ESTIMATE OF QUANTITIES SHEET	EQUIVALENT NOMENCLATURE: (SPECS/PROPOSAL)
"	-	INCHES
'	LF	LINEAR FEET
mi	MI	MILES
ft^2	SF	SQUARE FEET
YD^2	SY	SQUARE YARD
AC	AC	ACRES
YD^3	CY	CUBIC YARD
GAL	GAL	GALLON
lb	LB	POUND
TON	TON	TON

DRAWING INDEX

NYSDOT STANDARD SHEETS

209-03 DRAINAGE STRUCTURE INLET PROTECTION (2 SHEETS)
619-002 TYPE III CONSTRUCTION BARRICADES (2 SHEETS)
619-004 PORTABLE TEMPORARY WOODEN SIGN SUPPORT
619-010 WORK ZONE TRAFFIC CONTROL GENERAL NOTES
619-011 WORK ZONE TRAFFIC CONTROL GENERAL TABLES AND LEGEND
619-012 SIGN TABLE (2 SHEETS)
663-01 WATER MAIN PIPE INSTALLATION DETAILS
663-02 WATER MAIN HORIZONTAL THRUST RESTRAINT DETAILS
663-03 WATER MAIN VERTICAL THRUST RESTRAINT DETAILS
663-04 WATER MAIN UTILITY CROSSING RELOCATION DETAILS
663-05 WATER MAIN HYDRANT AND VALVE DETAILS
663-07 WATER MAIN SERVICE CONNECTION DETAILS

VILLAGE OF ENDICOTT DPW
REPLACEMENT OF N. ARTHUR ST. WATER MAIN
BROOME COUNTY, NEW YORK

INDEX AND ABBREVIATIONS

DELTA ENGINEERS, ARCHITECTS, & SURVEYORS

SCALE	DRAWING NO.
NONE	INDEX
DATE	SHEET
MARCH 2024	2 OF 15

ALIGNMENT

CELL	NAME	DESCRIPTION
	ACC	CENTER OF CURVATURE
	ACOGO	COGO
	ACS	CURVE TO SPIRAL
	ADPI_P	DETOUR, POINT OF INTERSECT.
	ADPL_P	DETOUR, POINT ON LINE
	AEQN	EQUATION
A	AEQNAHD	EQUATION AHEAD
B	AEQNBK	EQUATION BACK
	AEVT	EVENT STATION
	APC	POINT OF CURVATURE
	APCC	POINT OF COMPOUND CURVATURE
	API	POINT OF INTERSECTION
	APOB	POINT OF BEGINNING
	APOC	POINT OF CURVATURE
	APOE	POINT OF END
	APOL	POINT ON LINE
	APOS	POINT ON SPIRAL
	APOT	POINT ON TANGENT
	APOVC	POINT ON VERTICAL CURVE
	APOVT	POINT ON VERTICAL TANGENT
	APORC	POINT ON REVERSE CURVE
	APT	POINT OF TANGENCY
	APVC	POINT OF VERTICAL CURVATURE
	APVCC	POINT OF VERT. CMPND CURVE
	APVI	POINT OF VERT. INTERSECTION
	APVRC	POINT OF VERT. REVERSE CURVE
	APVT	POINT OF VERTICAL TANGENCY
	ASC	SPIRAL TO CURVE
	ASPI	SPIRAL POINT OF INTERSECTION
	ASTS	SPIRAL TO SPIRAL
	AST	SPIRAL TO TANGENT
	ATS	TANGENT TO SPIRAL
	AVEVT	VERTICAL EVENT POINT
	AVHIGH	VERTICAL HIGH POINT
	AVLOW	VERTICAL LOW POINT

BRIDGE

	BSC	BRIDGE, SCUPPER

CONTROL

	CBP	BASELINE, POINT
	CBPOL	BASELINE, POINT ON LINE
	CBSP	BASELINE, SPUR POINT
	CBTP	BASELINE, TIE POINT
	CPBM	BENCHMARK
	CPH	POINT, HORIZ. PHOTOGRAMMETRY
	CPSM	POINT, SURVEY MARKER, PERM.
	CPSV	POINT, VERT., PHOTOGRAMMETRY

DRAINAGE

CELL	NAME	DESCRIPTION
	DINV	INVERT
	DS	STRUCTURE, RECTANGULAR
	DSI	STRUCTURE, INVERT
	DSM	STRUCTURE, MANHOLE
	DSMTXX_P	STRUCTURE, MANHOLE, TYPE "XX" "XX" = 48, 60, 72, 96
	DSR	STRUCTURE, ROUND
	DST"X"CB P	STRUCTURE, RECT., WITH CURB TYPE "X" "X" = F, G, N, O, P, R
	DST"X" P	STRUCTURE, RECT., TYPE "X" "X" = I, K, L, M, O, P, U

ENVIRONMENTAL

CULV	EIOP_P	STR., INLET, OUTLET PROT.
GB	EIPGB_P	STR., INLET PROT., GRAVEL BAG
H/S	EIPHS_P	STR., INLET PROT., HAY/STRAW
PRFB	EIPP_P	STR., INLET PROT., PREFAB.
SF	EIPSF_P	STR., INLET PROT., SILT FENCE
	ERCB	RISER, CONCRETE BOX
	ETRS_P	TRAP, SEDIMENT
	EWFG	WETLAND FLAG

GEOTECHNICAL

	GDH	DRILL HOLE

LANDSCAPE

	LELS	ELEVATION, SPOT
P	LFP	FLAG POLE
	LMB	MAILBOX
	LPB	PAPER BOX
	LPST	POST, SINGLE
	LRB	ROCK, BOULDER
	LSHC	SHRUB, CONIFEROUS
	LSHD	SHRUB, DECIDUOUS
	LTC	TREE, CONIFEROUS
	LTD	TREE, DECIDUOUS
	LTS	TREE, STUMP
	LTW P	TREE, WELL OR WALL
	LUKP	UNKNOWN POINT

ITS

CELL	NAME	DESCRIPTION
A	IANT P	ANTENNAS
A	IASCTS	ACCOU. SPEED/COUNT SNSR.S
P	ICABPAD	CABINET & PAD
	ICCTV	CCTV SITE
CDPD	ICDPD	CDPD TRANSCEIVER
	ICELLT	CELL PHONE TOWER
	ICJB	CONDUIT JACK OR BORING
	ICNTLCAB	CONTROLLER CABINET
C	ICPB	COMMUNICATION PULL BOX
	ICTD	CONDUIT TURNING DOWN
	ICTU	CONDUIT TURNING UP
C	ICVTRT	COMM. VEH. ROAD TRANSCEIVER
	IDEFAULT	DEFAULT
EZ	IEZR	E-ZPASS READER
EZ-T	IEZTR	TRANSMITTAL READER
XC	IFOXCAB	FIBER OPTIC X-CONNECT CABINET
	IFUSSPL	FUSION SPLICE
	IHARADV	HAR ADVISORY SIGN
	IHARST	HAR SITE
LC	ILC	LOAD CENTER
	IMECSPL	MECHANICAL SPLICE
PM	IMSCS	PORT. SPEED & COUNT SENSOR
M	IMSCTS	MICRO SPEED & COUNT SENSOR
M	IMT	MICROWAVE TRANSCEIVER
VMS	IOVHVMS	PERM. OVERHEAD VMS
PA	IPASCS	PORT. ACCOU. SPD & CNT. SENSOR
	IPEDS	PEDESTRIAN SIGNAL HEAD
	IPSS	PAVEMENT SURFACE SENSOR
PVMS	IPVMS	PERM. VMS
RM	IRM	RAMP METER
RWIS	IRWIS	RDWY WEATHER INFO. SENSOR
	ISP	SOLAR PANEL
SS	ISST	SPREAD SPECT. TRANSCEIVER
TC	ITDB	TELEPHONE DEMARCATION BLK
TP	ITP	SUBSURFACE TEMP. PROBE
	IVTRT	VEHICLE TO RDWY TRANSCEIVER
WIM	IWIMD	WEIGHT IN MOTION DETECTOR
WVR	IWVR	WIRELESS VIDEO REPEATER
V	IWVRC	WIRELESS VIDEO RECEIVER
V	IWVTT	WIRELESS VIDEO TRANSMITTER

ROW MAPPING

CELL	NAME	DESCRIPTION
	MDL1P	DEED LINE, TYPE 1
	MDL2P	DEED LINE, TYPE 2
	MDL3P	DEED LINE, TYPE 3
	MDL4P	DEED LINE, TYPE 4
	MDL5P	DEED LINE, TYPE 5
	MEEP	EASEMENT, EXISTING
A	MEPAP_P	EASEMENT, PERM., APPROX.
	MEPP_P	EASEMENT, PERM., BACK LINE
	MEPSP_P	EASEMENT, PERM., SHAPE
A	MFAP_P	FEE ACQUISITION, APPROX.
	MFP_P	FEE ACQUISITION, BACK LINE
	MFSP_P	FEE ACQUISITION, SHAPE
	MHBAP	HIGHWAY BNDRY., APPROX.
	MHBCP	HISTORICAL, BLDG. CORNERS
	MHBP	HIGHWAY BNDRY, PT.
	MJCP	PT., JURIS. CITY
	MPBC	PT., BUILDING CORNER
	MPCC	PT., CROSS CUT
	MPDH	PT., DRILL HOLE
	MPF	PT., FENCE LOCATION
	MPIP	PT., IRON PIPE
	MPIR	PT., IRON ROD
	MPM	PT., MONUMENT
	MPMM	PT., MONUMENT, MISC.
	MPN	PT., NAIL
	MPRS	PT., RAILROAD SPIKE
	MPSP	PT., SPIKE
	MPST	PT., STAKE
	MPTW	PT., TREE W/ WIRE
	MPWL	PT., WALL LOCATION

ROW ACQUISITION

M1 P1 FEE	MFS_P_T	FEE ACQUISITION
M1 P1 PE	MEPS_P_T	EASEMENT, PERMANENT
M1 P1 TE	METS_P_T	EASEMENT, TEMPORARY
M1 P1 TO	METS_P_T	OCCUPANCY, TEMPORARY
M1 P1 FEE WO/A	MFS_P_T	FEE ACQUISITION W/O ACCESS

ROADWAY

	RES P	ELEVATION, SPOT
	RGA	GUIDE RAIL, ANCHOR
	RGP	GUIDE POST, SINGLE

SIGNS

CELL	NAME	DESCRIPTION
	S	SINGLE POST
	S_P	SINGLE POST, PROPOSED
	SB_P	BACK TO BACK, PROPOSED
	SDEL	DELINEATORS
	SPM	PARKING METER
RFM	SRM	REFERENCE MARKERS
	SRSC3	SHLD, CTY, 123 DIG.
	SRSC4	SHLD, CTY, 4 DIG.
	SRSCT2	SHLD, CTY TOUR, 1-2 DIG.
	SRSCT4	SHLD, CTY TOUR, 3-4 DIG.
	SRSI	SHLD, INTERSTATE
	SRSN2	SHLD, NATIONAL, 2 DIG.
	SRSN3	SHLD, NATIONAL, 3 DIG.
	SRSS2	SHLD, STATE, 2 DIG.
	SRSS3	SHLD, STATE, 3 DIG.
	SRSS4	SHLD, STATE, 4 DIG.

TRAFFIC CONTROL

	TCBJ	BOX, JUNCTION
	TCBP	BOX, PULL BOX
	TCBS	BOX, SPLICE
	TCMC	MICROCOMPUTER CABINET
	TCPP	PED POLE
	TCSH	SIGNAL HEADS
	TCSP	SIGNAL POLE

TRAFFIC WORK ZONE

	TWZAP_P	ARROW PANEL
	TWZAPC_P	ARROW PANEL, CAUTION MODE
	TWZAPT_P	ARROW PANEL, TRAILER OR SUPPORT
	TWZBCD_P	BARRICADE (TYPE III)
	TWZCMS_P	CHANGEABLE MESSAGE SIGN (PVMS)
	TWZFLG_P	FLAGGER
	TWZFT_P	FLAG TREE
	TWZIA_P	IMPACT ATTENUATOR / CRASH CUSHION (TEMPORARY)
	TWZLUM_P	LUMINAIRE (TEMPORARY)
	TWZSDT_P	SYMBOL, DIRECTION OF TRAFFIC
	TWZSDTD_P	SYMBOL, DIRECTION OF TEMPORARY TRAFFIC DETOUR
	TWZSGN_P	SIGN (TEMPORARY)
	TWZSIG_P	SIGNAL, TRAFFIC OR PEDESTRIAN (TEMPORARY)
	TWZWL_P	WARNING LIGHT
	TWZWV_P	WORK VEHICLE
	TWZWVA_P	WORK VEHICLE WITH TRUCK MOUNTED ATTENUATOR

UTILITIES

CELL	NAME	DESCRIPTION
E	UEB	ELECTRIC, BOX
E	UEM	ELECTRIC, METER
E	UEMH	ELECTRIC, MANHOLE
	UEPT	ELECTRIC, POLE, TRANS.
G	UGM	GAS, METER
G	UGMH	GAS, MANHOLE
	UGLM	GAS, LINE MARKER
FP	UGP	GAS/FUEL PUMP
	UGV	GAS, VALVE
	UGVT	GAS, VENT
	ULP	LIGHTING, POLE
	ULPM	LIGHTING, POLE, MEDIAN
	ULPP	LIGHTING, POLE, PED.
	UMFC	MISC. FILLER CAP
	UOLM	OIL, LINE MARKER
	UP	POLE, WITH UTILITY
	UPD	POLE, DEAD (NO UTILITY)
	UPL	POLE, WITH LIGHT
S	USMH	SANITARY SEWER MANHOLE
P	UTB	TELEPHONE, BOOTH
	UTLM	TELEPHONE, LINE MARKER
T	UTMH	TELEPHONE, MANHOLE
	UTVLM	CABLE TV, LINE MARKER
C	UTVPB	CABLE TV, PULL BOX
	UUB	UNKNOWN, BOX
	UUJB	UNKNOWN, JUNCTION BOX
	UUMH	UNKNOWN, MANHOLE
	UUPB	UNKNOWN, PULL BOX
	UUVL	UNKNOWN, VALVE
	UUVT	UNKNOWN, VENT
	UUW	UNKNOWN, WELL
	UWFH	WATER, FIRE HYDRANT
W	UWM	WATER, METER
W	UWMH	WATER, MANHOLE
	UWV	WATER, VALVE
W	UWW	WATER, WELL

1. THE LEGEND ILLUSTRATES MAPPING FEATURES (EXISTING AND PROPOSED).
2. FEATURES ARE SHOWN AS EITHER LINEAR (ROADWAY GUIDERAIL, ROADWAY SIDEWALK, UTILITY LINES, ETC.) OR POINT (SIGN, UTILITY POLE, ETC.).
3. FEATURES SHOWN ON THE LEGEND AS EXISTING FEATURES ALSO HAVE CORRESPONDING PROPOSED FEATURES.
4. PROPOSED FEATURE SYMBOLOGY IS IDENTICAL TO EXISTING FEATURE SYMBOLOGY EXCLUDING LINE WEIGHT. LINE WEIGHT FOR PROPOSED FEATURES IS THICKER (0.015 in ON B SIZE DRAWINGS).
5. MAPPING FEATURES NOT INCLUDED ON THE LEGEND SHEET DO NOT HAVE A UNIQUE SYMBOLOGY (SUCH AS THE PAVEMENT EDGE, PAVEMENT EDGE OF TRAVEL WAY) AND SHOULD BE LABELED ON THE PLANS.
6. FEATURES SHOWN AT THE HEAVIER WEIGHT ARE PROPOSED ONLY AND DO NOT HAVE CORRESPONDING EXISTING FEATURES.

VILLAGE OF ENDICOTT DPW
REPLACEMENT OF N. ARTHUR ST. WATER MAIN
BROOME COUNTY, NEW YORK

LEGEND AND POINT SYMBOLOGY

DELTA ENGINEERS, ARCHITECTS, & SURVEYORS

SCALE	DRAWING NO.
NONE	LEG-1
DATE	SHEET
MARCH 2024	3 OF 15

IN CHARGE OF : CJM/VoE WATER DEPT.
DESIGNED BY : SMS
DETAILED BY : SMS
CHECKED BY : CJM

FILE NAME = T:\2023\2023.561.001 Trans - Town of Union 300 Block N.Ave\Drawings\Highway\typicals\2023.561.001_cph_leg_01.dgn
DATE = 3/28/2024 11:09:40 AM
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ALIGNMENT

STYLE	NAME	DESCRIPTION
	AC	CONTROL (CENTERLINE)
	AD_P	DETOUR
	AT_P	TRANSITION CONTROL

BRIDGE

STYLE	NAME	DESCRIPTION
	BR	RAIL
	BSHT	SHEET PILING

CONTROL

STYLE	NAME	DESCRIPTION
	CB	BASELINE
	CBPR	BASELINE, PROJECTION

DRAINAGE

STYLE	NAME	DESCRIPTION
ST	DCP	CULVERT PIPE
ST	DCP_P	CULVERT PIPE (DIR)
	DDG_P	DITCH, GRASS LINED
	DDP_P	DITCH, PAVED INVERT
	DDS_P	DITCH, STONE LINED
	DFL_P	FLOW LINE
	DSSD	SLOTTED DRAIN
UD	DUD_P	UNDERDRAIN

ENVIRONMENTAL

STYLE	NAME	DESCRIPTION
S	EBLHS	BALE, STRAW
	ECT	CURTAIN, TURBIDITY
	EDMC	DAM, COFFER
	EDMEC_P	DAM, EARTHEN CHECK
	EDMGSC_P	DAM, GRAVEL BAG/SAND BAG CHECK
	EDMPC_P	DAM, PREFABRICATED CHECK
	EDMSC_P	DAM, STONE CHECK
	EFNS	FENCE, SILT
	EFNSV	FENCE, SILT & VEGETATION
	EFNV	FENCE, VEGETATION
AA	EWAA_P	WETLAND, ADJACENT AREA
FW	EWF	WETLAND, FEDERAL
FW SW	EWFS	WETLAND, FEDERAL AND STATE
SW	EWM	WETLAND, MITIGATION AREA
SW	EWS	WETLAND, STATE

LANDSCAPE

STYLE	NAME	DESCRIPTION
	LABL	AREA, BRUSH LINE
	LAHR	AREA, HEDGE ROW
	LAPB	AREA, PLANTING BED
	LAWA	AREA, WOODED AREA OUTLINE
	LAWE	AREA, WATERS EDGE
	LCUT_P	CUT LIMIT
	LFILL_P	FILL LIMIT
	LFNC	FENCE
	LTRC	TREE ROW, CONIFEROUS
	LTRD	TREE ROW, DECIDUOUS
	LWH	WALL, H PILE
	LWR	WALL, RETAINING
	LWS	WALL, STONE

ROW MAPPING

STYLE	NAME	DESCRIPTION
	MDL	DEED LINE
PE	MEE	EASEMENT, EXISTING
PE	MEP_P	EASEMENT, PERMANENT
APE	MEPA_P	EASEMENT, PERMANENT, APPROX.
TE	MET_P	EASEMENT, TEMPORARY
ATE	META_P	EASEMENT. TEMPORARY, APPROX.
FEE	MF_P	FEE ACQUISITION, W/ ACCESS
AFEE	MFA_P	FEE ACQUISITION, APPROXIMATE
	MFS_P	FEE ACQUISITION, SHAPE
FEE W/OA	MFWOA_P	FEE ACQUISITION, W/O ACCESS
	MHA	HISTORICAL, ACQUISITION
HB	MHB	HIGHWAY BOUNDARY
AHB	MHBA	HIGHWAY BOUNDARY, APPROX.
	MHBW	HWY BOUNDARY, FACE OF WALL
HB W/OA	MHBWOA	HIGHWAY BOUNDARY, W/O ACCESS
	MJC	JURISDICTION, CITY
	MJCY	JURISDICTION, COUNTY
	MJHD	JURISDICTION, HISTORIC DISTRICT
	MJLL	JURIS., (GREAT, MILITARY) LOT LINE
	MJN	JURISDICTION, NATION
	MJPB	JURISDICTION, PUBLIC LANDS
	MJS	JURISDICTION, STATE
	MJT	JURISDICTION, TOWN
	MJV	JURISDICTION, VILLAGE
	MPL	PROPERTY LOT LINE
	MPLA	PROPERTY LOT LINE, APPROXIMATE
	MSL	SUB LOT LINE

ROADWAY

STYLE	NAME	DESCRIPTION
CZ	RCZ_P	CLEAR ZONE
	RG	GUIDE RAIL, MISCELLANEOUS
	RGB	GUIDE RAIL, BOX BEAM
	RGBM	GUIDE RAIL, BOX BEAM, MEDIAN
	RGC	GUIDE RAIL, CABLE
	RGCB	GUIDE RAIL, CONCRETE BARRIER
	RGP_P	GUIDE POST
	RGW	GUIDE RAIL, W BEAM
	RGWM	GUIDE RAIL, W BEAM, MEDIAN
	RPB	PARKING BUMPER
	RRC	RAIL ROAD, CATENARY
3R	RRER	RAIL ROAD, 3RD RAIL
	RRPLS_P	RAIL, PHOTO, LARGE SCALE
	RRPSS	RAIL, PHOTO, SMALL SCALE
	RRS	RUMBLE STRIP
	RRSLS_P	RAIL, SURVEY, LARGE SCALE
	RRSSS	RAIL, SURVEY, SMALL SCALE

SIGNS

STYLE	NAME	DESCRIPTION
	SBLB	BILLBOARDS
	SM	MULTIPLE POST
	SSO	STRUCTURE, OVERHEAD
	SSOC	STRUCTURE, OVHD. CANTILEVER

STRIPING

STYLE	NAME	DESCRIPTION
	STB•	BROKEN LINE
	STDB•	DOUBLE BROKEN LINE
	STDL•	DOTTED LINE LONG
	STDS•	DOTTED LINE SHORT
	STFB•	FULL BARRIER LINE
	STH•	HATCH LINE
	STPB•	PARTIAL BARRIER LINE
	STRCT	ROUNDABOUT, CAT TRACKS
	STRYL	ROUNDABOUT, YIELD LINE
	STSB	STOP BAR
	STSE•	SOLID, EDGE
	STXL	X WALK, LADDER LINE
	STXLB	X WALK, LADDER BAR LINE

• = W (WHITE) OR Y (YELLOW)

TRAFFIC CONTROL

STYLE	NAME	DESCRIPTION
	TCSW	SIGNAL, SPAN WIRE

TRAFFIC WORK ZONE

	TWZBT_P	BARRIER, TEMPORARY
	TWZBTWL_P	BARRIER, TEMPORARY, W/ WARNING LIGHTS
	TWZCD_P	CHANNELIZING DEVICE
	TWZPMRC_P	PAVEMENT MARKING REMOVAL OR COVERING

UTILITIES

STYLE	NAME	DESCRIPTION
C	UC	CONDUIT, UNDERGROUND
]C[	UCH	CONDUIT, HANGING
OC	UCO	CONDUIT, OVERHEAD
E	UE	ELECTRIC LINE, UNDERGROUND
]E[	UEH	ELECTRIC LINE, HANGING
OE	UEO	ELECTRIC LINE, OVERHEAD
OET	UETO	ELECTRIC TRANSMISSION, OVERHEAD
	UESS	ELECTRIC, SUBSTATIONS
FO	UFO	FIBER OPTIC, UNDERGROUND
]FO[	UFOH	FIBER OPTIC, HANGING
OFO	UFOO	FIBER OPTIC, OVERHEAD
G	UG	GAS, UNDERGROUND
]G[	UGH	GAS, HANGING
OG	UGO	GAS, OVERHEAD
IC	UIC	INFORM CABLE, UNDERGROUND
]IC[	UICH	INFORM CABLE, HANGING
O	UO	OIL LINE, UNDERGROUND
]O[	UOH	OIL LINE, HANGING
	UPBP	POLE, BRACE, PUSH BRACE
	UPGW	POLE, GUY WIRE
SA	USA	SANITARY SEWER, UNDERGROUND
]SA[	USAH	SANITARY SEWER, HANGING
SAF	USAF	SANITARY SEWER, FORCE MAIN, UGND
]SAF[	USAFH	SANITARY SEWER, FORCE MAIN, HANG
T	UT	TELEPHONE, UNDERGROUND
]T[	UTH	TELEPHONE, HANGING
OT	UTO	TELEPHONE, OVERHEAD
CTV	UTV	CABLE TV, UNDERGROUND
]CTV[	UTVH	CABLE TV, HANGING
OCTV	UTVO	CABLE TV, OVERHEAD
UU	UUU	UNKNOWN, UNDERGROUND
]UU[	UUH	UNKNOWN, HANGING
OUU	UUO	UNKNOWN, OVERHEAD
W	UW	WATER LINE, UNDERGROUND
]W[	UWH	WATER LINE, HANGING
OW	UWO	WATER LINE, OVERHEAD

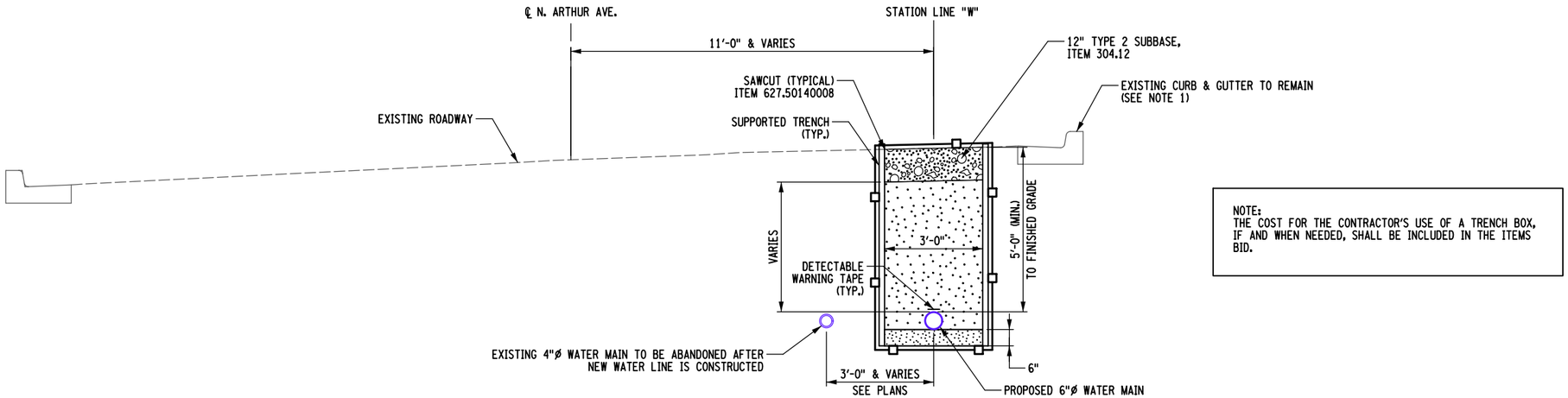
1. THE LEGEND ILLUSTRATES MAPPING FEATURES (EXISTING AND PROPOSED).
2. FEATURES ARE SHOWN AS EITHER LINEAR (ROADWAY GUIDERAIL, ROADWAY SIDEWALK, UTILITY LINES, ETC.) OR POINT (SIGN, UTILITY POLE, ETC.).
3. FEATURES SHOWN ON THE LEGEND AS EXISTING FEATURES ALSO HAVE CORRESPONDING PROPOSED FEATURES.
4. PROPOSED FEATURE SYMBOLOGY IS IDENTICAL TO EXISTING FEATURE SYMBOLOGY EXCLUDING LINE WEIGHT. LINE WEIGHT FOR PROPOSED FEATURES IS THICKER (0.015 in ON B SIZE DRAWINGS).
5. MAPPING FEATURES NOT INCLUDED ON THE LEGEND SHEET DO NOT HAVE A UNIQUE SYMBOLOGY (SUCH AS THE PAVEMENT EDGE, PAVEMENT EDGE OF TRAVEL WAY) AND SHOULD BE LABELED ON THE PLANS.
6. FEATURES SHOWN AT THE HEAVIER WEIGHT ARE PROPOSED ONLY AND DO NOT HAVE CORRESPONDING EXISTING FEATURES.

VILLAGE OF ENDICOTT DPW
REPLACEMENT OF N. ARTHUR ST. WATER MAIN
BROOME COUNTY, NEW YORK

LEGEND AND LINE SYMBOLOGY

DELTA ENGINEERS, ARCHITECTS, & SURVEYORS

SCALE	DRAWING NO.
NONE	LEG-2
DATE	SHEET
MARCH 2024	4 OF 15



1 / TYP-1 WATERLINE DETAIL

NOTE:
THE COST FOR THE CONTRACTOR'S USE OF A TRENCH BOX, IF AND WHEN NEEDED, SHALL BE INCLUDED IN THE ITEMS BID.

LEGEND

- NEW DUCTILE IRON CEMENT LINED WATER PIPE, 6", ITEM 663.0106
- SELECT GRANULAR FILL, ITEM 203.07
- AREA ENCLOSED WITHIN THESE LINES DESIGNATES PAYMENT LINES FOR TRENCH AND CULVERT EXCAVATION, ITEM 206.0201
- SUBBASE TYPE 2, ITEM 304.12

2' 0 2' 4'
SCALE BAR

NOTES:

1. CONCRETE CURB & GUTTER IS PRESENT ALONG THE EAST SIDE OF NORTH ARTHUR AVE. CONTRACTOR SHALL PROTECT THE CURB AT ALL TIMES. ANY DAMAGE CAUSED BY THIS PROJECT TO THE EXISTING CURB SHALL BE REPAIRED OR REPLACED AT NO ADDITIONAL COST TO THE VILLAGE.
2. CONTRACTOR SHALL REFER TO CURRENT NYSDOT HIGHWAY STANDARD SHEET 663-01 TITLED, "WATER MAIN PIPE INSTALLATION DETAILS" FOR ADDITIONAL DETAILS AND NOTES.
3. SEE DWG. MSD-01 FOR WATER MAIN DETAILS.
4. TRENCH RESTORATION SHALL BE BROUGHT TO AND MATCH ADJACENT FINISHED GRADE USING ITEM 304.12.

VILLAGE OF ENDICOTT DPW
REPLACEMENT OF N. ARTHUR ST. WATER MAIN
BROOME COUNTY, NEW YORK

WATER MAIN TRENCH SECTION

DELTA ENGINEERS, ARCHITECTS, & SURVEYORS

SCALE	DRAWING NO.
AS SHOWN	TYP-01
DATE	SHEET
MARCH 2024	5 OF 15

STATE OF NEW YORK
BRIAN ROBERT TYLER
095229
LICENSED PROFESSIONAL ENGINEER
03/28/2024

IN CHARGE OF : CJM
DESIGNED BY: SMS
CHECKED BY : CJM
DETAILED BY : SMS
CHECKED BY : CJM/VoE WATER DEPT.

FILE NAME = T:\2023\2023.561.001 Trans - Town of Union 300 Block N.Ave\Drawings\Highway\typicals\2023.561.001_cph_rwy_sec_typ_01.dgn
DATE = 3/28/2024
USER = ssmith
11:09:52 AM

SCOPE OF WORK

1. THE SCOPE OF WORK FOR THIS PROJECT IS THE CONSTRUCTION OF NEW WATER LINE FROM ITS DEAD END SOUTH OF JENNINGS STREET, TO THE INTERSECTION OF N. ARTHUR AVE, AND PINE STREET IN THE NORTH. THE PROPOSED WATER LINE, VALVE AND FITTING LOCATIONS ARE AS SHOWN ON THE PLANS. THE EXISTING WATER MAIN SHALL THEN BE ABANDONED UPON COMPLETION OF NEW WATER MAIN INSTALLATION, AND SUBSEQUENT TESTING.

2. THE CONTRACTOR SHALL PROVIDE MAINTENANCE AND PROTECTION OF TRAFFIC AS NEEDED AND ALSO AS ORDERED BY THE ENGINEER.

GENERAL NOTES

1. ALL DRIVEWAYS ARE TO REMAIN ACCESSIBLE AND UNDISTURBED. ANY DRIVEWAYS DAMAGED BY THE CONTRACTOR'S OPERATIONS DURING CONSTRUCTION, SHALL BE REPAIRED TO THEIR PRE-CONSTRUCTION CONDITION AT NO ADDITIONAL COST TO THE VILLAGE.

2. CONTRACTOR SHALL NOTIFY UDIG NY NOT LESS THAN 48 HOURS PRIOR TO ANY SUBSURFACE CONSTRUCTION AT 811.

3. THE CONTRACTOR SHALL RESTORE AND REPAIR ANY GRADES, SOD, SLOPED OR VEGETATION DAMAGED DURING CONSTRUCTION, TO ITS PRE CONSTRUCTION CONDITION AOBE UNLESS NOTED OTHERWISE.

4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL DIMENSIONS, QUANTITIES, AND FIELD CONDITIONS PRIOR TO BIDDING THE WORK OR ORDERING MATERIALS.

5. ALL EXISTING TOPOGRAPHIC FEATURES AND UNDERGROUND UTILITIES ADJACENT TO THE WORK SHALL BE MAINTAINED IN THEIR CURRENT CONDITION UNLESS NOTED OTHERWISE ON THE DRAWINGS. THE CONTRACTOR SHALL VERIFY THE CONDITION AND LOCATION OF THOSE ITEMS IN THE FIELD PRIOR TO STARTING WORK. ANY ITEMS FOUND TO CONFLICT WITH THE WORK REQUIRED AS PART OF THIS CONTRACT, SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER. THE CONTRACTOR SHALL FIELD VERIFY EXISTING TOPOGRAPHY PRIOR TO COMMENCEMENT OF EARTHWORK OPERATIONS. ANY ELEVATION DISCREPANCIES WHICH WILL AFFECT THE WORK, SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER. COMMENCEMENT OF WORK WITHOUT ANY WRITTEN NOTIFICATION SHALL CONSTITUTE CONTRACTOR ACCEPTANCE OF THE EXISTING TOPOGRAPHY INDICATED ON THE DRAWINGS AS ACCURATE. NO ADJUSTMENT TO THE CONTRACT WILL BE MADE FOR DISCREPANCIES BROUGHT TO THE ENGINEER'S ATTENTION AFTER THE WORK HAS BEGUN.

6. THE CONTRACTOR WILL BE RESPONSIBLE FOR HAVING A PORT-A-JOHN ON SITE FOR THE DURATION OF THE CONTRACT FOR USE BY ALL CONTRACTOR'S EMPLOYEES AND SUB-CONTRACTORS. COST IS INCIDENTAL TO THE PROJECT.

7. ALL IMPERVIOUS SURFACES (ASPHALT, COCNRETE, ETC.) IMPACTED BY TRENCH WORK SHALL BE SAW CUT. COST FOR SAWCUTTING PAVEMENT SHAL BE INCLUEDED IN THE PRICE BID FOR ITEM 627.50140008.

UTILITY NOTES

1. UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLACED ON THIS DRAWING FROM FIELD LOCATIONS, WHERE VISIBLE OR FROM RECORDED DRAWINGS PROVIDED TO THE UNDERSIGNED. THEREFORE, LOCATIONS SHOULD BE CONSIDERED APPROXIMATE ONLY. THERE MAY BE OTHER FACILITIES OR UTILITIES, THE EXISTENCE OF WHICH ARE NOT KNOWN; FOR THIS REASON, UDIG NY SHALL BE CONTACTED A MINIMUM OF 48 HOURS PRIOR TO ANY UNDERGROUND EXCAVATION.

2. WATER VALVES SHALL BE ADJUSTED BY THE VILLAGE WATER DEPARTMENT. EFFORT TO BE COORDINATED BY THE CONTRACTOR WITH NOTIFICATION TO THE VILLAGE WITH A MINIMUM OF 72 HOURS IN ADVANCE.

WATER MAIN PHASING

1. PHASING OF WORK SHALL BE SUCH WHICH MINIMIZES SERVICE INTERRUPTION TO CUSTOMERS.

WATER MAINS AND VALVES

1. KENNEDY HYDRANTS (YELLOW 4"/2½"), KENNEDY VALVES, AND DUCTILE CEMENT LINED WATER PIPE SHALL BE USED, UNLESS OTHERWISE APPROVED BY THE VILLAGE.

2. CONCRETE THRUST BLOCKS TO BE USED AT ALL VALVE AND FITTINGS.

3. PIPE JOINTS WITHIN 8" OF A FITTING OR VALVE SHALL UTILIZE A GRIPPER CLAMP.

4. RISERS REQUIRED ON ALL VALVE BOXES.

5. DETECTABLE WARNING TAPE SHALL BE INSTALLED ON ALL NEW MAINS.

CONCRETE WASHOUT

1. ONE OR MORE FACILITIES MEETING THE REQUIREMENTS OF NYSDEC'S NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL, AKA "THE BLUE BOOK", ARE REQUIRED ON THIS PROJECT SITE TO COLLECT CLEANING WATER AND WASTE FROM ALL CONCRETE WORK. COSTS TO CONSTRUCT THE FACILITY(IES) ARE TO BE INCLUDED IN THE LUMP SUM BID FOR THE CONTRACT. IF A FACILITY IS NOT CONSTRUCTED FOR THIS CONTRACT, ALL CONCRETE TRUCKS SHALL BE REQUIRED TO RETURN TO THE PLANT TO WASH OUT.

STATE OF NEW YORK
BRIAN ROBERT TYLER
095229
LICENSED PROFESSIONAL ENGINEER
03/28/2024

TESTING

1. ALL PIPELINES CARRYING POTABLE WATER SHALL BE TESTED FOR STRENGTH AND TIGHTNESS AFTER INSTALLATION. ALL TESTING SHALL CONFORM TO AWWA C600, LATEST REVISION. ALL LEAKS AT JOINTS SHALL BE CORRECTED IN A MANNER SATISFACTORY TO THE ENGINEER, AND ANY DEFECTIVE PIPE SHALL BE REMOVED AND REPLACED WITH SOUND PIECES AT THE EXPENSE OF THE CONTRACTOR, AND THE LINE AGAIN TESTED.

2. PRIOR TO BEGINNING A TEST, THE CONTRACTOR SHALL TAKE MEASURES TO BLEED ALL AIR FROM THE PIPELINE UNDER TEST. IF NECESSARY, TAPS SHALL BE PROVIDED AT THE CONTRACTOR'S EXPENSE FOR BLEEDING AIR FROM THE HIGH POINTS IN THE LINE.

3. PRESSURE TEST: PIPE SHALL BE TESTED FOR STRENGTH AND TIGHTNESS UNDER A HYDROSTATIC PRESSURE OF 150 POUNDS PER SQUARE INCH, BASED ON THE ELEVATION OF THE LOWEST POINT OF THE LINE OR SECTION UNDER TEST. THIS PRESSURE SHALL BE APPLIED IN A MANNER SATISFACTORY TO THE ENGINEER AND SHALL BE MAINTAINED FOR A PERIOD OF AT LEAST ONE HOUR WITH ALL VALVES AND CONNECTIONS SHUT. THE TEST PRESSURE SHALL NOT VARY BY MORE THAN ±5 PSI FOR THE DURATION OF THE TEST. ANY EXPOSED PIPE, FITTINGS, AND JOINTS SHALL BE EXAMINED CAREFULLY DURING THE TEST. ANY DAMAGED OR DEFECTIVE PIPE SHALL BE REPAIRED OR REPLACED. PRESSURE TESTS SHALL NORMALLY BE MADE BETWEEN GATE VALVES. INTERMEDIATE TESTS MAY BE MADE WITH THE CONSENT OF THE ENGINEER.

4. LEAKAGE TEST: CONCURRENTLY WITH THE PRESSURE TEST, A LEAKAGE TEST IS TO BE CONDUCTED IN A MANNER SATISFACTORY TO THE ENGINEER. THE PIPE SHALL BE SUBJECTED TO A HYDROSTATIC PRESSURE OF 150 POUNDS PER SQUARE INCH, BASED ON THE ELEVATION OF THE LOWEST POINT OF THE LINE OR SECTION UNDER TEST. THIS PRESSURE SHALL BE MAINTAINED FOR A PERIOD OF AT LEAST 2 HOURS, OR LONGER AS MAY BE DIRECTED BY THE ENGINEER. THE MINIMUM HYDROSTATIC PRESSURE ON THE PIPE SHALL BE NOT LESS THAN 150 POUNDS PER SQUARE INCH, BASED ON THE HIGHEST POINT OF THE LINE OR SECTION UNDER TEST.

5. THE PERMISSIBLE LEAKAGE FOR A COMPLETED SECTION OF PIPELINE, INCLUDING SHORT LENGTHS, LINE VALVES, HYDRANT BRANCHES, FITTINGS AND SERVICE CONNECTION SHALL NOT EXCEED THE VALUES TABULATED BELOW. THE PERMISSIBLE LEAKAGE FOR A LINE OR SECTION, WHICH CONTAINS SEVERAL DIAMETERS OF PIPE, SHALL BE THE SUM OF THE ALLOWABLE LEAKAGE FOR EACH SIZE.

6. AT AN AVERAGE TEST PRESSURE OF 150 PSI, THE TEST LEAKAGE SHALL NOT EXCEED:

PIPE SIZE:	PERMISSBLE LEAKAGE PER 1000 FEET (GAL/HR)
6"	0.55

CHLORINATING AND FLUSHING

1. BEFORE THE USE OF WATER IS PERMITTED FROM ANY PORTION OF NEWLY CONSTRUCTED WATERLINE, IT SHALL BE CHLORINATED AND FLUSHED IN THE PRESENCE OF AND AS DIRECTED BY THE ENGINEER.

2. PRIOR TO CHLORINATION, ALL DIRT AND FOREIGN MATTER SHALL BE REMOVED BY A THOROUGH FLUSHING OF THE NEWLY LAID PIPELINE. THE FLUSHING VELOCITY SHALL BE A MINIMUM OF 2.5 FT./SEC. THE CONTRACTOR SHALL ASSUME THAT THE RATE OF FLOW AVAILABLE FROM THE EXISTING WATER SYSTEM IS MINIMAL, UNLESS OTHER WISE STATED IN THE INFORMATION FOR BIDDERS AND SHALL PLAN HIS FLUSHING OPERATION ACCORDINGLY. THE CONTRACTOR SHALL CONFER WITH THE RESPONSIBLE PERSON IN CHARGE OF THE MUNICIPAL OR PRIVATE WATER SYSTEM REGARDING NOTIFICATION OF WATER USERS BEFORE COMMENCING THE FLUSHING OPERATIONS.

3. THE CONTRACTOR SHALL CHLORINATE THE NEW WATER MAINS BY THE USE OF LIQUID CHLORINE GAS-WATER MIXTURE ORBY USE OF 15% LIQUID SODIUM HYPOCHLORITE, OR OTHER APPROVED METHODS.

A. LIQUID CHLORINE APPLICATION:
A CHLORINE GAS-WATER MIXTURE SHALL BE APPLIED BY MEANS OF A SOLUTION FEED CHLORINATING DEVICE AT THE BEGINNING OF THE NEW PIPELINE OR ANY VALVED SECTION THEREOF, THROUGH A CORPORATION STOP INSERTED IN THE HORIZONTAL AXIS OF THE PIPE. THE RATE OF CHLORINE GAS-WATER MIXTURE FLOW SHALL BE IN SUCH PROPORTION TO THE RATE OF WATER ENTERING THE PIPE THAT THE CHLORINE CONCENTRATION OF THE WATER ENTERING THE NEWLY LAID PIPE SHALL BE AT LEAST 100 PARTS PER MILLION (PPM). THE TREATED WATER SHALL BE RETAINED IN THE PIPE AT LEAST 24 HOURS UNLESS OTHERWISE DIRECTED BY THE ENGINEER. THE CHLORINE RESIDUAL SHALL NOT BE LESS THAN 50 PPM AT ANY POINT IN THE PIPE AT THE END OF THE RETENTION PERIOD.

B. 15% LIQUID SODIUM HYPOCHLORITE:
THE CONTRACTOR MAY SUBSTITUTE AS AN ALTERNATIVE FOR LIQUID CHLORINE A 15% LIQUID SODIUMHYPOCHLORITE SOLUTION, WHICH SHALL BE INJECTED OR PUMPED INTO THE NEWLY LAID PIPE UNDER CONDITIONS HEREINBEFORE SPECIFIED FOR LIQUID CHLORINE APPLICATION.

4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST OF WATER FOR TESTING AND FLUSHING. ALL TESTING TO BE OMPLETED IN ACCORDANCE WITH NYS. DEPARTMENT OF HEALTH REGULATIONS.

5. CHLORINATION AND FLUSHING OF WATER MAINS ARE TO BE FULLY COORDINATED WITH THE ENGINEER, AND THE VILLAGE OF ENDICOTT WATER DEPARTMENT.

6. FOLLOWING CHLORINATION, ALL TREATED WATER SHALL BE THOROUGHLY FLUSHED FROM THE NEW LAID PIPELINE AT ITS EXTREMITIES UNTIL THE REPLACEMENT WATER THROUGHOUT ITS LENGTH SHALL, UPON TEST, BOTH CHEMICALLY AND BACTERIOLOGICALLY, BE PROVED EQUAL TO THE WATER QUALITY SERVED TO THE PUBLIC FROM THE EXISTING WATER SUPPLY SYSTEM, AND APPROVED BY THE PUBLIC HEALTH AUTHORITY HAVING JURISDICTION. ALL SUCH TESTS SHALL BE PERFORMED BY A QUALIFIED INDEPENDENT 3RD PARTY AND SUBJECT TO THE ENGINEER'S APPROVAL. THE COST OF SUCH TESTS SHALL BE AT THE CONTRACTOR'S EXPENSE. TWO BACTERIOLOGICAL TESTS SHALL BE TAKEN FOR 2 CONSECUTIVE DAYS.

7. THE CONTRACTOR SHALL NOT BE ALLOWED TO DISCHARGE CHLORINATED WATER. THE CONTRACTOR SHALL NEUTRALIZE THE CHLORINATED WATER USED FOR THE DISINFECTION OF THE WATER MAIN TO A MAXIMUM RESIDUAL OF 0.5 PPM WITH NYSDOH APPROVED CHEMICALS, OR THE CONTRACTOR SHALL MAKE PROVISIONS FOR THE CHLORINATED WATER TO BE TANKED AWAY AND DISPOSED OF.

SPECIFICATIONS FOR WATER WORKS MATERIALS

NOTE: ALL REFERENCE TO STANDARD ANSI, AWWA OR ASTM SPECIFICATIONS SHALL BE THE LATEST EDITION.

CONTRACTORS MUST ADHERE TO SPECIFIC MATERIALS AS INDICATED BELOW OR OBTAIN WRITTEN VILLAGE OF ENDICOTT APPROVAL FOR PROPOSED EQUIVALENTS OR SUBSTITUTIONS PRIOR TO INSTALLATION.

IF PROPOSED EQUIVALENT OR SUBSTITUTE MATERIALS ARE INSTALLED THAT ARE NOT PRE-APPROVED, THE VILLAGE OF ENDICOTT RESERVES THE RIGHT TO STOP CONSTRUCTION (AND NOT PROVIDE WATER SERVICE UNTIL SUITABLE MATERIALS ARE INSTALLED) OR ACCEPT THE WORK.

CONTRACTORS MUST SUPPLY THE VILLAGE OF ENDICOTT WITH A LIST OF ALL MATERIALS SPECIFICATIONS (MAKE, MODEL, SIZE, QUANTITY, ETC.) ON PROJECTS REQUIRING AS-BUILT DRAWINGS. REFER TO VILLAGE OF JOHNSON CITY AS-BUILT DRAWING REQUIREMENTS FOR COMPLETE REQUIREMENTS.

MAINS, FITTINGS & APPURTENANCES LARGER THAN 2" DIAMETER

1. WATER MAINS/SERVICES (LARGER THAN 2" DIAMETER): DUCTILE IRON, C111 (PUSH-ON JOINT); C104 CEMENT LINING (INSIDE) AND ASPHALTIC COATINGS (OUTSIDE) AND TWO (2) BRASS WEDGES PER JOINT.
-MAIN PRESSURE (OR POTENTIAL PRESSURE) GREATER THAN OR EQUAL TO 100 PSI: CLASS 52 PER SPECIFICATION AWWA151

2. CAST COUPLINGS: STRAIGHT COUPLINGS; MANUFACTURER: SMITH-BLAIR SERIES 441 OR APPROVED EQUAL. ALL HARDWARE SHALL BE 304 SS PER ASTM F593 AND F594.

3. FITTINGS: CAST OR DUCTILE IRON PER SPECIFICATIONS AWWA C110; C153; C111 (MECHANICAL JOINT); C104 CEMENT LINING (INSIDE) AND ASPHALTIC COATINGS (OUTSIDE) WITH TWO (2) EACH MECHANICAL JOINT RETAINER GLANDS AND BOLT KITS. ALL HARDWARE SHALL BE 304 SS PER ASTM F593 AND F594. CASING SPACERS MANUFACTUREDBY CCI PIPELINE SYSTEMS OR APPROVED EQUAL.

4. FITTINGS (HYDRANT): IN ADDITION TO "FITTINGS" SPECIFICATION, HYDRANT TEES SHALL BE ANCHORING TYPE; MANUFACTURER: KENNEDY OR VILLAGE OF ENDICOTT APPROVED EQUAL. ALL HARDWARE SHALL BE 304 SS PER ASTM F593 AND F594.

5. HYDRANTS: AWWA C502, C111 (MECHANICAL JOINT CONNECTION - 6"); OPEN COUNTER-CLOCKWISE; ALL HYDRANT OPERATING AND CAP NUTS WILL BE 1½" PENTAGON, 5½" BURY; TWO (2) 2½" AND ONE (1) 5" STORZ OUTLET; 5¼" BOTTOM VALVE OPENING. ALL HARDWARE SHALL BE 304 SS PER ASTM F593 AND F594.
-VILLAGE OF JOHNSON CITY HYDRANTS TO BE PAINTED YELLOW WITH BLACK BONNET AND NOZZLE CAPS.
-HYDRANT THREAD AND OPERATING NUTS SHALL CONFIRM TO "WHITESTOWN", OR OTHER THREADING AS APPROVED BY THE VILLAG OF ENDICOTT.
-ACCEPTABLE MODELS: CLOW MEDAILLION. NO OTHER HYDRANT MANUFACTURERS OR MODELS WILL BE ACCEPTED BY THE VILLAGE OF ENDICOTT.

6. HYDRANT EXTENSIONS: ALL COMPONENTS OF THE FIVE HYDRANT EXTENSION KIT SHALL BE DESIGNED FOR, AND PROPERLY FIT, THE FIRE HYDRANT. NEITHER THE EXTENSION KIT NOR ANY COMPONENT OF THE KIT SHALL DIMINISH THE OPERATING EFFICIENCY OR SERVICE LIFE OF THE FIRE HYDRANT OR WHICH THEY ARE ATTACHED. ALL COMPONENTS SHALL CONFORM TO ANSI/AWWA C502. FIRE HYDRANT EXTENSION KITS SHALL INCLUDE THE APPROPRIATE QUANTITY OF BARRELS, FLANGES, COUPLINGS, STEMS OR RODS, GASKETS, LUBRICANT AND HARDWARE TO COMPLETE THE INSTALLATION. ALL HARDWARE SHALL BE 304 SS PER ASTM F593 AND F 594. HYDRANT DRAIN HOLES TO BE PLUGGED WHERE SEASONAL HIGH GROUNDWATER MAY EXIST AND THAT LOCAL FIRE DEPARTMENT BE NOTIFIED OF THE PLUGGED DRAINS.

7. MECHANICAL JOINT RESTRAINTS, BOLT-THROUGH (FOSTER ADAPTER): DUCTILE IRON CONFORMING TO ANSI/AWWA C153/A21.53 (CURRENT REVISION). FUSION BONDED EPOXY COATED. MECHANICAL JOINT (MJ) VALVES AND FITTINGS SHALL BE CONNECTED USING BOLT-THROUGH POSITIVE RESTRAINT MECHANISM MANUFACTURED OF DUCTILE IRON CONFORMING TO ASTM A 80-55-06. THE POSITIVE RESTRAINT DEVICE SHALL CONNECT THE VALVES AND/OR FITTINGS AT A LINEAR DISTANCE NOT TO EXCEED ONE (1) INCH AND WITHOUT ATTACHMENT TO PIPE. THE BOLT-THROUGH MJ POSITIVE RESTRAINING DEVICE SHALL BE SUPPLIED WITH ASPHALTIC/EPOXY COATINGS IN ACCORDANCE WITH ANSI/AWWA C104/A21.4 AND SIZED TO BE USED WITH STANDARD MECHANICAL JOINT FITTINGS (AWWA C110 OR C153) AND VALVES. THE DEVICE SHALL HAVE A MINIMUM WORKING PRESSURE RATING OF 350 PSI. MANUFACTURER; INFACT CORPORATION OR APPROVED EQUAL. T-BOLT HARDWARE SHALL BE 304 SS PER ASTM F593 AND F594.

8. RETAINER GLANDS: MANUFACTURER: FORD, UNI-FLANGE WEDGE ACTION RETAINER FOR DUCTILE IRON PIPE (SERIES 1400); EBAA "MEGA LUG" (SERIES 1100); OR APPROVED EQUAL (SET SCREW NOT ACCEPTABLE). ALL RETAINER GLANDS SHALL INCLUDE APPROPRIATE RUBBER AND BOLT KIT. T-BOLT HARDWARE SHALL BE 304 SS PER ASTM F593 AND F594.

9. TAPPING SLEEVES AND TAPPING VALVES: CLOW F-5205 AND F-5093 OR APPROVED EQUAL. ALL HARDWARE SHALL BE 304 SS PER ASTM F593 AND F594.

10. TAPPING SLEEVES AND TAPPING VALVES, FAST-STYLE: FORD STYLE FAST STAINLESS STEEL SLEEVE WITH STAINLESS STEEL FLANGE AND RESILIENT WEDGE GATE VALVES, OR APPROVED EQUAL (FURNISHED AND INSTALLED BY THE MVWA PER ESTABLISHED FEE SCHEDULE). ALL HARDWARE SHALL BE 304 SS PER ASTM F593 AND F594.

11. VALVES: GATE VALVES (RESILIENT WEDGE), AWWA C509;C515; C111 (MECHANICAL JOINT); OPEN CLOCKWISE; MANUFACTURER: KENNEDY OR APPROVED EQUAL WITH TWO (2) EACH MECHANICAL JOINT RETAINER GLANDS AND BOLT KITS. ALL EXPOSED HARDWARE SHALL BE 304 SS PER ASTM F593 AND F594.

12. VALVE BOXES: MANUFACTURER; BINGHAM TAYLOR OR APPROVED EQUAL. RISERS SHALL BE PROVIDED WITH ALL BOXES.

13. THRUST BLOCKING SHALL BE USED FOR ALL MECHANICAL JOINT DIRECTIONAL CHANGE FITTINGS IN ADDITION TO MECHANICAL JOINT RESTRAINTS.

14. THE MATERIALS USED SHALL BE IN CONFORMANCE WITH VILLAGE OF ENDICOTT SPECIFICATIONS OF MATERIALS.

15. THE CONTRACTOR SHALL PRESSURE TEST THE SERVICE TO 150% OF NORMAL SYSTEM PRESSURE OR 150PSI, WHICHEVER IS GREATER, OF THE EXISTING WATER PRESSURE TO ENSURE THERE ARE NO LEAKS. THE PRESSURE TEST MUST BE WITNESSED BY VILLAGE PERSONNEL BEFORE BACKFILLING.

16. ONCE THE PRESSURE TEST IS APPROVED BY THE VILLAGE, THE CONTRACTOR MUST DISINFECT THE SERVICE IN A MANNER REQUIRED BY THE NYS DEPARTMENT OF HEALTH, AT A MINIMUM, COMPLYING WITH AWWA STANDARD C651. THE MVWA WILL THEN DRAW A SAMPLE AND PERFORM A BACTERIAL TEST AT THE COST PER THE ESTABLISHED FEE SCHEDULE. ONCE ALL TESTING IS APPROVED, AND APPROPRIATE METERING AND/OR BACKFLOW PREVENTER INSTALLED, THE SERVICE MAY BE TURNED ON.

VILLAGE OF ENDICOTT DPW
REPLACEMENT OF N. ARTHUR ST. WATER MAIN
BROOME COUNTY, NEW YORK

GENERAL NOTES

DELTA ENGINEERS, ARCHITECTS, & SURVEYORS

SCALE	DRAWING NO.
NONE	GN-01
DATE	SHEET
MARCH 2024	6 OF 15

ROADWAY ALIGNMENT CONTROL

PROJECT NAME: ARTHUR AVE
DESCRIPTION:
HORIZONTAL ALIGNMENT NAME: ARTHUR AVE
DESCRIPTION:
STYLE: AC P

		STATION	NORTHING	EASTING
ELEMENT: LINEAR				
POB	(1)	A 10+00.00	770053.0270	967132.2731
EQNBK	( )	0+00.00	770053.0270	967132.2731
EQNAHD	( )	A 10+00.00	770053.0270	967132.2731
PC	(2)	A 13+26.63	770379.1780	967114.5632
TANGENT DIRECTION:		356°53'30.8911"		
TANGENT LENGTH:		326.63		
ELEMENT: CIRCULAR				
PC	(2)	A 13+26.63	770379.1780	967114.5632
PI	( )	A 15+91.41	770643.5668	967100.2070
CC	(4)		780138.7294	1146849.7883
PT	(5)	A 18+56.19	770907.9966	967086.6287
RADIUS:		180000.00		
DELTA:		0°10'06.8266" RIGHT		
DEGREE OF CURVATURE(ARC):		0°01'54.5916"		
LENGTH:		529.56		
TANGENT:		264.78		
CHORD:		529.56		
MIDDLE ORDINATE:		0.19		
EXTERNAL:		0.19		
TANGENT DIRECTION:		356°53'30.8911"		
RADIAL DIRECTION:		86°53'30.8911"		
CHORD DIRECTION:		356°58'34.3044"		
RADIAL DIRECTION:		87°03'37.7177"		
TANGENT DIRECTION:		357°03'37.7177"		
ELEMENT: LINEAR				
PT	(5)	A 18+56.19	770907.9966	967086.6287
POE	(3)	A 20+29.54	771081.1180	967077.7390
TANGENT DIRECTION:		357°03'37.7177"		
TANGENT LENGTH:		173.35		

6" WATER MAIN ALIGNMENT CONTROL

PROJECT NAME: ARTHUR AVE
DESCRIPTION:
HORIZONTAL ALIGNMENT NAME: WATER MAIN ALG
DESCRIPTION:
STYLE: AC P

		STATION	NORTHING	EASTING
ELEMENT: LINEAR				
POB	(6)	W 20+00.00	770059.1526	967144.5884
EQNBK	( )	0+00.00	770059.1526	967144.5884
EQNAHD	( )	W 20+00.00	770059.1526	967144.5884
PI	(7)	W 20+04.50	770063.6475	967144.3757
TANGENT DIRECTION:		357°17'25.2111"		
TANGENT LENGTH:		4.50		
ELEMENT: LINEAR				
PI	(7)	W 20+04.50	770063.6475	967144.3757
PI	(8)	W 20+39.59	770098.7008	967142.7167
TANGENT DIRECTION:		357°17'25.2111"		
TANGENT LENGTH:		35.09		
ELEMENT: LINEAR				
PI	(8)	W 20+39.59	770098.7008	967142.7167
PI	(9)	W 20+51.63	770110.7269	967142.1475
TANGENT DIRECTION:		357°17'25.2111"		
TANGENT LENGTH:		12.04		
ELEMENT: LINEAR				
PI	(9)	W 20+51.63	770110.7269	967142.1475
PI	(10)	W 21+06.96	770165.9910	967139.5320
TANGENT DIRECTION:		357°17'25.2111"		
TANGENT LENGTH:		55.33		
ELEMENT: LINEAR				
PI	(10)	W 21+06.96	770165.9910	967139.5320
PI	(11)	W 21+18.37	770177.3941	967138.9923
TANGENT DIRECTION:		357°17'25.2111"		
TANGENT LENGTH:		11.42		
ELEMENT: LINEAR				
PI	(11)	W 21+18.37	770177.3941	967138.9923
PI	(12)	W 21+50.00	770208.9842	967137.4972
TANGENT DIRECTION:		357°17'25.2111"		
TANGENT LENGTH:		31.63		
ELEMENT: LINEAR				
PI	(12)	W 21+50.00	770208.9842	967137.4972
PI	(13)	W 22+23.29	770282.0668	967132.0416
TANGENT DIRECTION:		355°43'50.7197"		
TANGENT LENGTH:		73.29		
ELEMENT: LINEAR				
PI	(13)	W 22+23.29	770282.0668	967132.0416
PI	(14)	W 22+56.59	770315.3188	967130.1866
TANGENT DIRECTION:		356°48'25.3886"		
TANGENT LENGTH:		33.30		
ELEMENT: LINEAR				
PI	(14)	W 22+56.59	770315.3188	967130.1866
PI	(15)	W 22+64.58	770323.2985	967129.7407
TANGENT DIRECTION:		356°48'05.3614"		
TANGENT LENGTH:		7.99		
ELEMENT: LINEAR				
PI	(15)	W 22+64.58	770323.2985	967129.7407
PI	(16)	W 23+24.21	770382.8405	967126.4524
TANGENT DIRECTION:		356°50'20.5048"		
TANGENT LENGTH:		59.63		
ELEMENT: LINEAR				
PI	(16)	W 23+24.21	770382.8405	967126.4524
PI	(17)	W 23+81.42	770439.9574	967123.3029
TANGENT DIRECTION:		356°50'37.5146"		
TANGENT LENGTH:		57.20		
ELEMENT: LINEAR				
PI	(17)	W 23+81.42	770439.9574	967123.3029
PI	(18)	W 24+18.04	770476.5193	967121.1746
TANGENT DIRECTION:		356°40'07.0413"		
TANGENT LENGTH:		36.62		
ELEMENT: LINEAR				
PI	(18)	W 24+18.04	770476.5193	967121.1746
PI	(19)	W 25+01.22	770559.5799	967116.7411
TANGENT DIRECTION:		356°56'40.6438"		
TANGENT LENGTH:		83.18		
ELEMENT: LINEAR				
PI	(19)	W 25+01.22	770559.5799	967116.7411
PI	(20)	W 25+03.65	770562.0037	967116.6117
TANGENT DIRECTION:		356°56'40.6438"		
TANGENT LENGTH:		2.43		
ELEMENT: LINEAR				
PI	(20)	W 25+03.65	770562.0037	967116.6117
PI	(21)	W 25+44.60	770602.9061	967114.5484
TANGENT DIRECTION:		357°06'43.7608"		
TANGENT LENGTH:		40.95		
ELEMENT: LINEAR				
PI	(21)	W 25+44.60	770602.9061	967114.5484
PI	(22)	W 25+90.07	770648.3207	967112.3914
TANGENT DIRECTION:		357°16'50.5294"		
TANGENT LENGTH:		45.47		
ELEMENT: LINEAR				
PI	(22)	W 25+90.07	770648.3207	967112.3914
PI	(23)	W 26+17.00	770675.2185	967111.1138
TANGENT DIRECTION:		357°16'50.5294"		
TANGENT LENGTH:		26.93		
ELEMENT: LINEAR				
PI	(23)	W 26+17.00	770675.2185	967111.1138
PI	(24)	W 26+72.24	770730.3816	967108.2080
TANGENT DIRECTION:		356°59'04.4769"		
TANGENT LENGTH:		55.24		

6" WATER MAIN ALIGNMENT CONTROL (CONT'D)

PROJECT NAME: ARTHUR AVE
DESCRIPTION:
HORIZONTAL ALIGNMENT NAME: WATER MAIN ALG
DESCRIPTION:
STYLE: AC P

		STATION	NORTHING	EASTING
ELEMENT: LINEAR				
PI	(24)	W 26+72.24	770730.3816	967108.2080
PI	(25)	W 27+23.72	770781.7885	967105.3525
TANGENT DIRECTION:		356°49'14.5367"		
TANGENT LENGTH:		51.49		
ELEMENT: LINEAR				
PI	(25)	W 27+23.72	770781.7885	967105.3525
PI	(26)	W 27+29.63	770787.6911	967105.0119
TANGENT DIRECTION:		356°41'50.1718"		
TANGENT LENGTH:		5.91		
ELEMENT: LINEAR				
PI	(26)	W 27+29.63	770787.6911	967105.0119
PI	(27)	W 27+73.87	770831.8580	967102.4631
TANGENT DIRECTION:		356°41'50.1718"		
TANGENT LENGTH:		44.24		
ELEMENT: LINEAR				
PI	(27)	W 27+73.87	770831.8580	967102.4631
PI	(28)	W 27+82.60	770840.5738	967101.9602
TANGENT DIRECTION:		356°41'50.1718"		
TANGENT LENGTH:		8.73		
ELEMENT: LINEAR				
PI	(28)	W 27+82.60	770840.5738	967101.9602
PI	(29)	W 28+22.80	770880.7020	967099.6445
TANGENT DIRECTION:		356°41'50.1718"		
TANGENT LENGTH:		40.19		
ELEMENT: LINEAR				
PI	(29)	W 28+22.80	770880.7020	967099.6445
PI	(30)	W 28+68.74	770926.5674	967097.0192
TANGENT DIRECTION:		356°43'26.7073"		
TANGENT LENGTH:		45.94		
ELEMENT: LINEAR				
PI	(30)	W 28+68.74	770926.5674	967097.0192
PI	(31)	W 28+74.50	770932.3181	967096.6991
TANGENT DIRECTION:		356°48'48.8334"		
TANGENT LENGTH:		5.76		
ELEMENT: LINEAR				
PI	(31)	W 28+74.50	770932.3181	967096.6991
PI	(32)	W 28+79.43	770935.6070	967093.0224
TANGENT DIRECTION:		311°48'48.8334"		
TANGENT LENGTH:		4.93		
ELEMENT: LINEAR				
PI	(32)	W 28+79.43	770935.6070	967093.0224
PI	(33)	W 29+73.43	771029.4814	967088.2202
TANGENT DIRECTION:		357°04'17.5051"		
TANGENT LENGTH:		94.00		
ELEMENT: LINEAR				
PI	(33)	W 29+73.43	771029.4814	967088.2202
PI	(34)	W 29+96.29	771052.3095	967087.0524
TANGENT DIRECTION:		357°04'17.5051"		
TANGENT LENGTH:		22.86		
ELEMENT: LINEAR				
PI	(34)	W 29+96.29	771052.3095	967087.0524
POE	(35)	W 29+98.59	771053.8535	967085.3420
TANGENT DIRECTION:		312°04'17.5051"		
TANGENT LENGTH:		2.30		

NOTE:

BENCHMARK DATA WILL BE PROVIDED TO THE CONTRACTOR THAT IS AWARDED THE PROJECT.

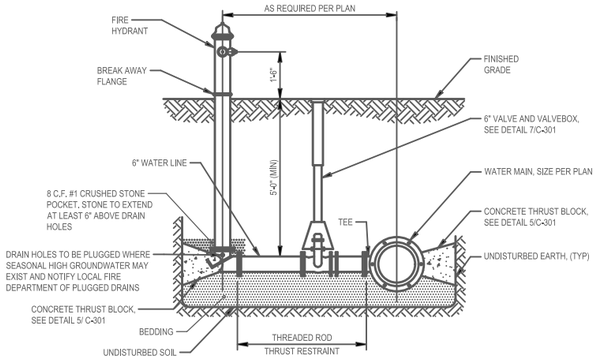
STATE OF NEW YORK
BRIAN ROBERT TYLER
095229
LICENSED PROFESSIONAL ENGINEER
03/28/2024

VILLAGE OF ENDICOTT DPW
REPLACEMENT OF N. ARTHUR ST. WATER MAIN
BROOME COUNTY, NEW YORK

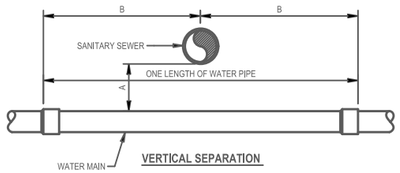
ALIGNMENT CONTROLS

DELTA ENGINEERS, ARCHITECTS, & SURVEYORS

SCALE	DRAWING NO.
NONE	ALG-01
DATE	SHEET
MARCH 2024	OF 15



1 MSD-01 **FIRE HYDRANT INSTALLATION DETAIL**
SCALE: NONE

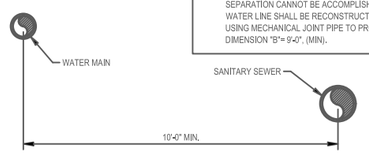


VERTICAL SEPARATION

CONCRETE ENCASEMENT

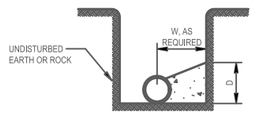
GENERAL NOTES:

1. CONCRETE ENCASEMENT SHALL BE USED ON SANITARY SEWER WHEN DIMENSION "A" IS LESS THAN 1'-6". CONCRETE ENCASEMENT SHALL EXTEND FOR A MINIMUM 3'-0" ON EACH SIDE OF WATER LINE.
2. IF DIMENSION "B" IS LESS THAN 9'-0", THE WATERLINE SHALL BE RELOCATED TO PROVIDE DIMENSION "A"= 1'-6" MIN, IF SUCH VERTICAL SEPARATION CANNOT BE ACCOMPLISHED, THE WATER LINE SHALL BE RECONSTRUCTED USING MECHANICAL JOINT PIPE TO PROVIDE DIMENSION "B"= 9'-0". (MIN).

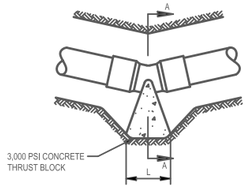


HORIZONTAL SEPARATION

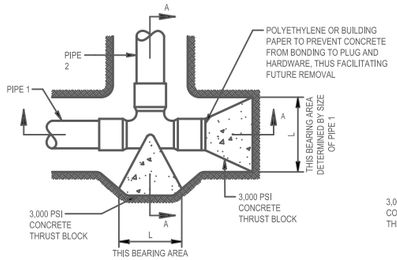
2 MSD-01 **OPTIONAL WATER LINE SEPERATION DETAIL**
SCALE: NONE



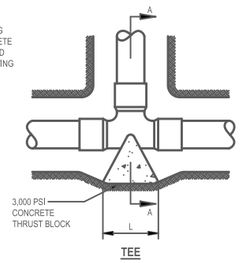
SECTION A-A



BEND



TEE WITH PLUG



TEE

NOTES:

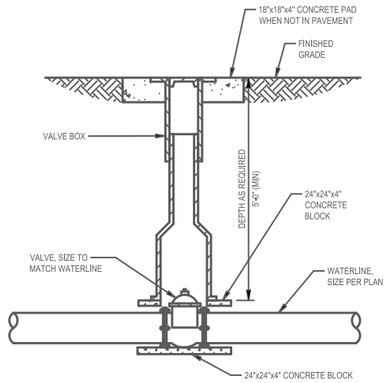
1. FOR REQUIRED THRUST BLOCK DIMENSIONS, SEE NYSDOT STANDARD SHEETS 663-02 & 663-03.
2. CONCRETE NOT TO OVERLAP ANY JOINT.
3. CONCRETE TO BE PLACED SO AS NOT TO INTERFERE WITH REMOVING OR INSTALLING ANY OF THE JOINT HARDWARE.
4. VALUES FOR TEE ALSO APPLY TO END PLUGS, CAPS AND TAPPING SLEEVES.
5. REQUIRED BEARING AREAS ARE DUE TO THRUSTS CAUSED BY 150 P.S.I. WORKING PRESSURE PLUS 50% (75 P.S.I.) SURGE ALLOWANCE RESULTING IN 225 P.S.I. TOTAL INTERNAL PRESSURE, NOMINAL PIPE DIAMETER USED.
6. REQUIRED BEARING AREAS ARE BASED ON ALLOWABLE SOIL BEARING CAPACITY OF 2,000 POUNDS PER SQUARE FOOT FOR SAND. DUE TO OTHER SOIL CONDITIONS ENCOUNTERED, BEARING AREAS MAY BE MODIFIED BY THE ENGINEER BY MULTIPLYING THE AREA GIVEN IN TABLE 1 FOR THE APPROPRIATE PIPE SIZE AND FITTING BY THE LISTED CORRECTION FACTORS.
7. IN MUCK, PEAT OR RECENTLY PLACED FILL, ALL THRUSTS SHALL BE RESISTED BY PILES OR TOE RODS TO SOLID FOUNDATIONS, OR BY REMOVAL OF SUCH UNSTABLE MATERIAL AND REPLACEMENT WITH BALLAST OF SUFFICIENT STABILITY TO RESIST THE THRUSTS, ALL AS REQUIRED BY THE ENGINEER.

TABLE 1:

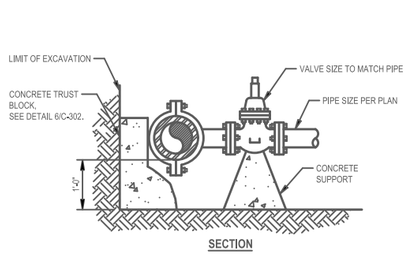
SAFE BEARING LOADS OF SOILS AND MULTIPLICATION FACTORS FOR MODIFICATION OF THRUST BLOCK AREAS

SOIL	SAFE BEARING LOAD (LBS/SQ. FT.)	FACTOR
MUCK, PEAT	0	0
SOFT CLAY	1,000	2.00
SAND	2,000	1.00
SAND & GRAVEL	3,000	0.67
SAND & GRAVEL CEMENTED WITH CLAY	4,000	0.50
SHALE	10,000	0.20

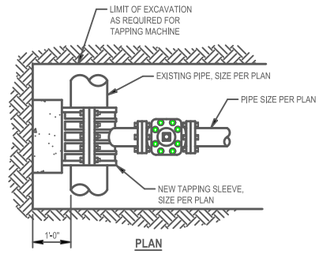
3 MSD-01 **CONCRETE THRUST BLOCK DETAIL**
SCALE: NONE



5 MSD-01 **VALVE AND VALVE BOX DETAIL**
SCALE: NONE

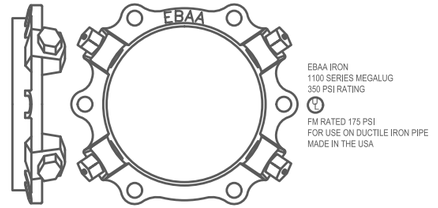


SECTION



PLAN

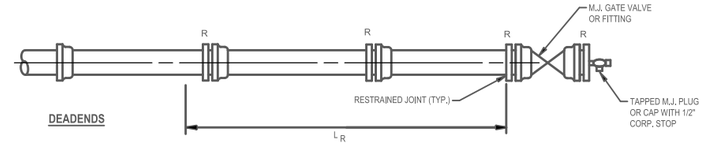
6 MSD-01 **TAPPING SLEEVE AND VALVE DETAIL**
SCALE: NONE



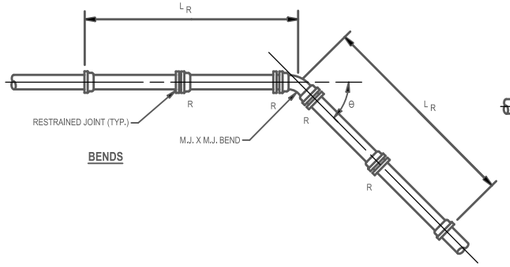
NOTES:

1. MECHANICAL JOINT RESTRAINT TO BE INSTALLED AT A SCHEDULE IN ACCORDANCE WITH DETAIL 4 / C-302.
2. MECHANICAL JOINT RESTRAINTS TO BE INSTALLED IN ADDITION TO CONCRETE THRUST BLOCKS.

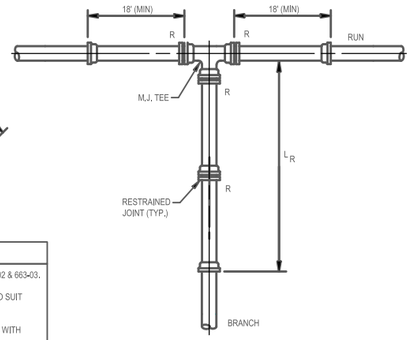
4 MSD-01 **MECHANICAL JOINT RESTRAINT DETAIL**
SCALE: NONE



DEADENDS



BENDS



TEES

GENERAL NOTES:

1. RESTRAINED PIPE LENGTH REQUIREMENTS CAN BE FOUND ON NYSDOT STANDARD SHEETS 663-02 & 663-03.
2. LENGTH OF PIPE SHOWN RESTRAINED ARE MINIMUM REQUIREMENTS AND MAY BE INCREASED TO SUIT FIELD CONDITIONS.
3. JOINT RESTRAINTS SHALL BE 1100 SERIES MEGALUG JOINT RESTRAINTS FOR DUCTILE IRON PIPE WITH MECHANICAL JOINTS BY EBBA IRON OR EQUAL.

7 MSD-01 **RESTRAINED JOINT PIPE SCHEDULE AND DETAIL**
SCALE: NONE

VILLAGE OF ENDICOTT DPW
REPLACEMENT OF N. ARTHUR ST. WATER MAIN
BROOME COUNTY, NEW YORK

WATER MAIN DETAILS

DELTA ENGINEERS, ARCHITECTS, & SURVEYORS

SCALE	DRAWING NO.
NONE	MSD-01
DATE	SHEET
MARCH 2024	8 OF 15

GRID NORTH

EXISTING WATER MAIN TO BE ABANDONED
6"-45° BEND, ITEM 663.2603
DUCTILE IRON CEMENT LINED WATER PIPE, 6", ITEM 663.0106
(4) RESILIENT WEDGE VALVE & VALVE BOX, 6"
CURB STOP & CURB BOX, 3/4"
WATER SERVICE CONNECTION, 3/4"
EXISTING WATER MAIN TO BE ABANDONED
CURB STOP & CURB BOX, 3/4"
WATER SERVICE CONNECTION, 3/4"
DUCTILE IRON CEMENT LINED WATER PIPE, 6"
POB A 10+00.00
POB W 20+00.00
PI W 20+04.50
PI W 20+51.63
PI W 21+06.96
PI W 21+50.00
PI W 22+56.59
A 10+00
A 10+50
A 11+00
A 11+50
A 12+00
A 12+50
W 20+00
W 20+50
W 21+00
W 21+50
W 22+00
W 22+50
MATCH LINE STA. A 12+80 - SEE DWG. GNP-02
6" RUN x 6" BRANCH TEE
PI W 22+23.29
PI W 22+64.58
CURB STOP & CURB BOX, 3/4"
EX-1
DRAINAGE STRUCTURE INLET PROTECTION, PREFABRICATED-TEMPORARY, ITEM 209.1703
COPPER WATER SERVICE PIPE 3/4"
6"-45° BEND
DUCTILE IRON CEMENT LINED WATER PIPE, 6"
6"-45° BEND
WATER SERVICE CONNECTION, 3/4"
6" RUN x 6" BRANCH TEE
EX-2
DRAINAGE STRUCTURE INLET PROTECTION, PREFABRICATED-TEMPORARY, ITEM 209.1703
COPPER WATER SERVICE PIPE 3/4"
WATER SERVICE CONNECTION, 3/4"
CURB STOP & CURB BOX, 3/4"
PI W 21+18.37
DUCTILE IRON CEMENT LINED WATER PIPE, 6"
PI W 20+39.59
HYDRANT
RESILIENT WEDGE VALVE & VALVE BOX, 6"
6" CAP
COPPER WATER SERVICE PIPE 3/4", ITEM 663.0603
WATER SERVICE CONNECTION, 3/4"
CURB STOP & CURB BOX, 3/4"

10′ 0 10′ 20′
SCALE BAR

NOTE:

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STATE OF NEW YORK
BRIAN ROBERT TYLER
095229
LICENSED PROFESSIONAL ENGINEER
03/28/2024

VILLAGE OF ENDICOTT DPW
REPLACEMENT OF N. ARTHUR ST. WATER MAIN
BROOME COUNTY, NEW YORK

GENERAL PLAN - I

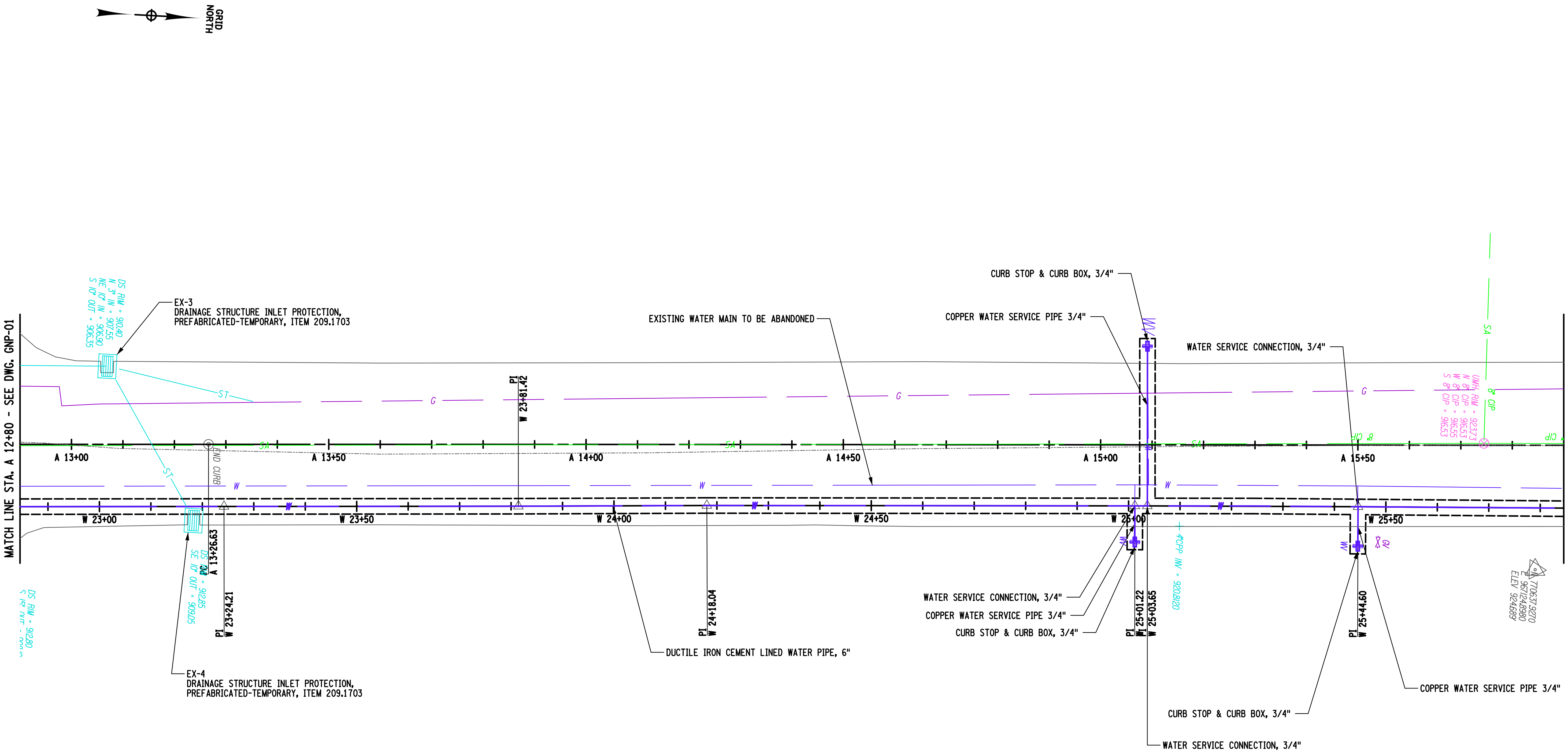
DELTA ENGINEERS, ARCHITECTS, & SURVEYORS

SCALE	DRAWING NO.
AS SHOWN	GNP-01
DATE	SHEET
MARCH 2024	9 OF 15

FILE NAME = T:\2023\2023.561.001 Trans - Town of Union 300 Block N. Ave\Drawings\Highway\plans\2023.561.001_cph_rwy_pln_gnp_01.dgn
DATE = 3/28/2024
USER = ssmith
11:10:17 AM

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

IN CHARGE OF : CJM DESIGNED BY: SMS CHECKED BY : CJM/VoE
DETAILED BY : SMS CHECKED BY : CJM
WATER DEPT.



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STATE OF NEW YORK
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LICENSED PROFESSIONAL ENGINEER
03/28/2024

VILLAGE OF ENDICOTT DPW
REPLACEMENT OF N. ARTHUR ST. WATER MAIN
BROOME COUNTY, NEW YORK

GENERAL PLAN - II

DELTA ENGINEERS, ARCHITECTS, & SURVEYORS	SCALE AS SHOWN	DRAWING NO. GNP-02
	DATE MARCH 2024	SHEET 10 OF 15

FILE NAME = T:\2023\2023.561.001 Trans - Town of Union 300 Block N.Ave\Drawings\Highway\plans\2023.561.001.cph.rwy-pln-gnp.02.dgn
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USER = ssmith

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IN CHARGE OF: CJM
DESIGNED BY: SMS
CHECKED BY: CJM/VOE WATER DEPT.
DETAILED BY: SMS
CHECKED BY: CJM

IN CHARGE OF : CJM/VoE WATER DEPT. DESIGNED BY: SMS DETAILED BY : SMS CHECKED BY : CJM

FILE NAME = T:\2023\2023.561.001 Trans - Town of Union 300 Block N.Ave\Drawings\Highway\plans\2023.561.001_cph_rwy_pln_gnp_03.dgn
DATE = 3/28/2024 11:10:29 AM
USER = ssmith

GRID NORTH

MATCH LINE STA. A 15+90 - SEE DWG. GNP-02

MATCH LINE STA. A 18+90 - SEE DWG. GNP-01

CURB STOP & CURB BOX, 3/4"
COPPER WATER SERVICE PIPE 3/4"
WATER SERVICE CONNECTION, 3/4"
EXISTING WATER MAIN TO BE ABANDONED
END CURB
BEG CURB
MONITORING WELL
8" CIP
DUCTILE IRON CEMENT LINED WATER PIPE, 6"
6"-45° BEND

PI W 25+90.07
PT A 16+00
PI W 26+17.00
PT A 16+50
PI W 26+72.24
PT A 17+00
PI W 27+23.72
PT A 17+50
PI W 27+73.87
PT A 18+00
PT A 18+56.19
PI W 28+22.80
PT A 18+50
PI W 28+50
PI W 28+74.50
PI W 27+82.60
PI W 28+66.74

W 26+00 W 26+50 W 27+00 W 27+50 W 28+00 W 28+50

4"pp - NW • 924570
4"pp - NW • 926830
4"pp - NW • 931430
4"pp - NW • 940.46

10′ 0 10′ 20′
SCALE BAR

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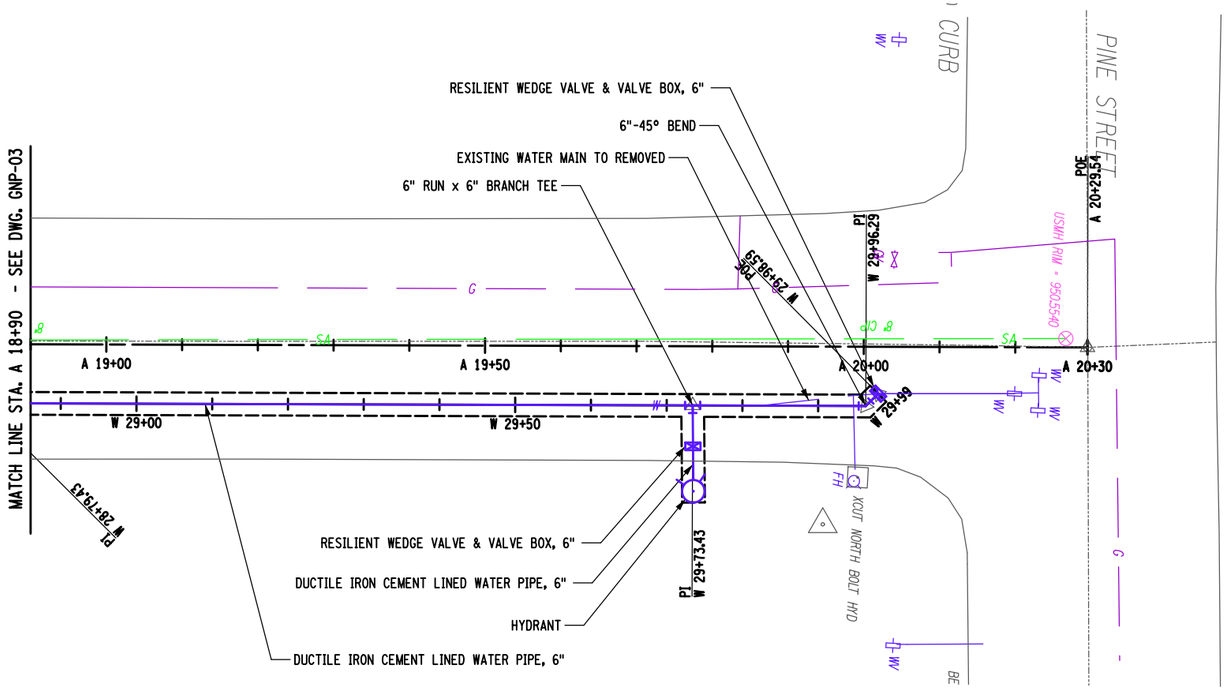
03/28/2024

VILLAGE OF ENDICOTT DPW
REPLACEMENT OF N. ARTHUR ST. WATER MAIN
BROOME COUNTY, NEW YORK

GENERAL PLAN - III

DELTA ENGINEERS, ARCHITECTS, & SURVEYORS

SCALE	DRAWING NO.
AS SHOWN	GNP-03
DATE	SHEET
MARCH 2024	11 OF 15



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LICENSED PROFESSIONAL ENGINEER
095229
03/28/2024

VILLAGE OF ENDICOTT DPW
REPLACEMENT OF N. ARTHUR ST. WATER MAIN
BROOME COUNTY, NEW YORK

GENERAL PLAN - IV

DELTA ENGINEERS, ARCHITECTS, & SURVEYORS

SCALE	DRAWING NO.
AS SHOWN	GNP-04
DATE	SHEET
MARCH 2024	12 OF 15

IN CHARGE OF : CJM DESIGNED BY: SMS CHECKED BY : CJM/VoE WATER DEPT.
DETAILED BY : SMS CHECKED BY : CJM

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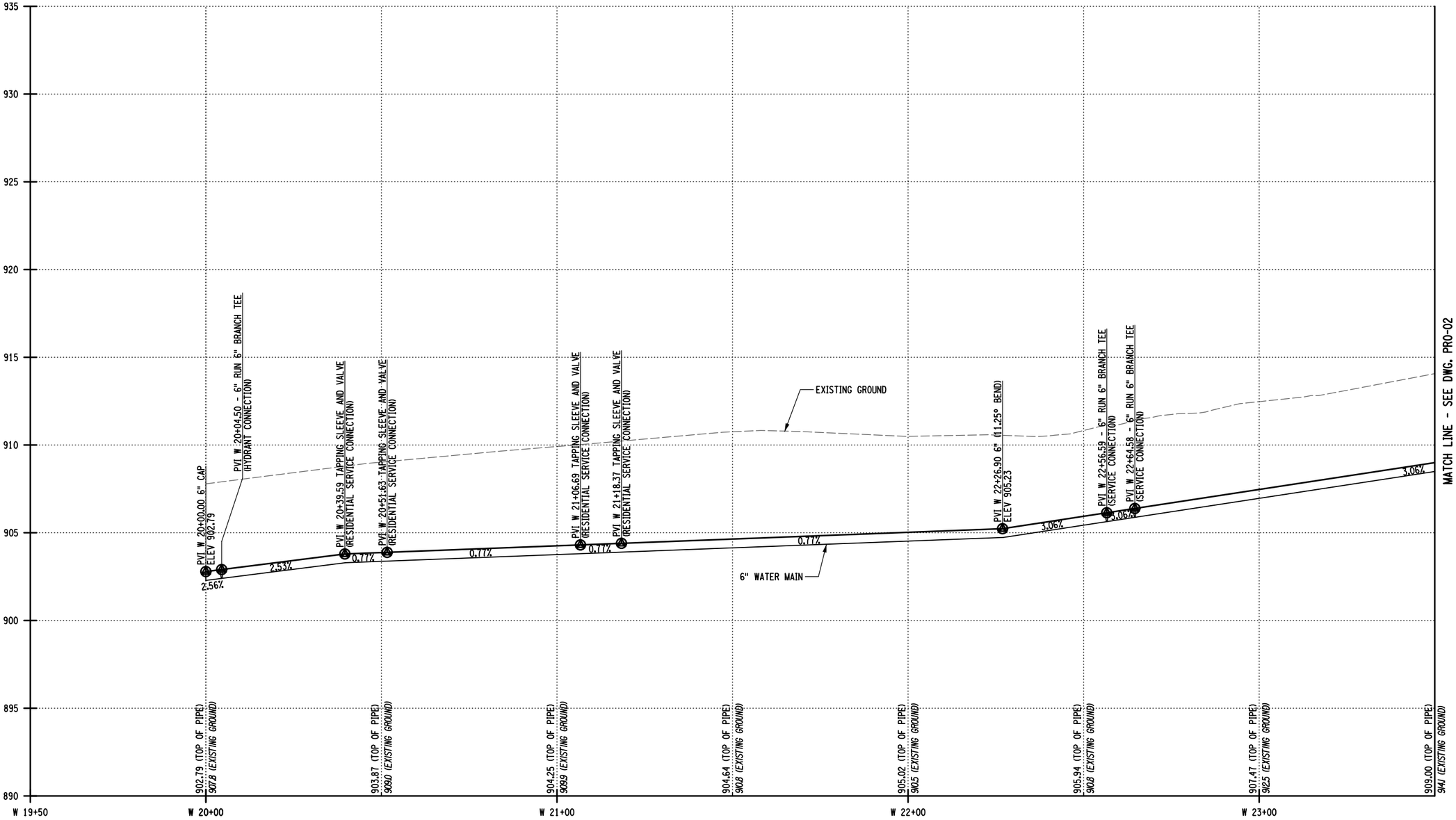

STATE OF NEW YORK
BRIAN ROBERT TYLER
095229
LICENSED PROFESSIONAL ENGINEER
03/28/2024

15' 0 15' 30'
SCALE BAR
HORIZ.

VILLAGE OF ENDICOTT DPW
REPLACEMENT OF N. ARTHUR ST. WATER MAIN
BROOME COUNTY, NEW YORK

WATER MAIN PROFILE - I

DELTA ENGINEERS, ARCHITECTS, & SURVEYORS

SCALE	DRAWING NO.
AS SHOWN	PRO-01
DATE	SHEET
MARCH 2024	13 OF 15

IN CHARGE OF : CJM DETAILED BY : SMS CHECKED BY : CJM

DESIGNED BY: SMS CHECKED BY : CJM/VOE WATER DEPT.

ELEVATION

MATCH LINE - SEE DWG. PRO-01

EXISTING GROUND

PVI W 24+24.81 6" (11.25° BEND)
ELEV 911.28

PVI W 25+01.22 TAPPING SLEEVE AND VALVE (RESIDENTIAL SERVICE CONNECTION)

PVI W 25+03.65 TAPPING SLEEVE AND VALVE (RESIDENTIAL SERVICE CONNECTION)

PVI W 25+44.60 TAPPING SLEEVE AND VALVE (RESIDENTIAL SERVICE CONNECTION)

PVI W 25+90.07 TAPPING SLEEVE AND VALVE (RESIDENTIAL SERVICE CONNECTION)

PVI W 26+17.00 TAPPING SLEEVE AND VALVE (RESIDENTIAL SERVICE CONNECTION)

PVI W 26+72.24 TAPPING SLEEVE AND VALVE (RESIDENTIAL SERVICE CONNECTION)

PVI W 27+23.72 TAPPING SLEEVE AND VALVE (RESIDENTIAL SERVICE CONNECTION)

PVI W 27+29.63 TAPPING SLEEVE AND VALVE (RESIDENTIAL SERVICE CONNECTION)

5.10%

6.91%

6.32%

6" WATER MAIN

MATCH LINE - SEE DWG. PRO-03

W 24+00	W 25+00	W 26+00	W 27+00
909.00 (TOP OF PIPE)	910.52 (TOP OF PIPE)	912.57 (TOP OF PIPE)	915.12 (TOP OF PIPE)	917.67 (TOP OF PIPE)	920.22 (TOP OF PIPE)	922.77 (TOP OF PIPE)	926.18 (TOP OF PIPE)	930.17 (TOP OF PIPE)
944 (EXISTING GROUND)	946 (EXISTING GROUND)	948 (EXISTING GROUND)	920.3 (EXISTING GROUND)	922.7 (EXISTING GROUND)	925.2 (EXISTING GROUND)	927.9 (EXISTING GROUND)	931.2 (EXISTING GROUND)	935.3 (EXISTING GROUND)

945 940 935 930 925 920 915 910 905 900

SCALE BAR VERT.
4′ 2′ 0

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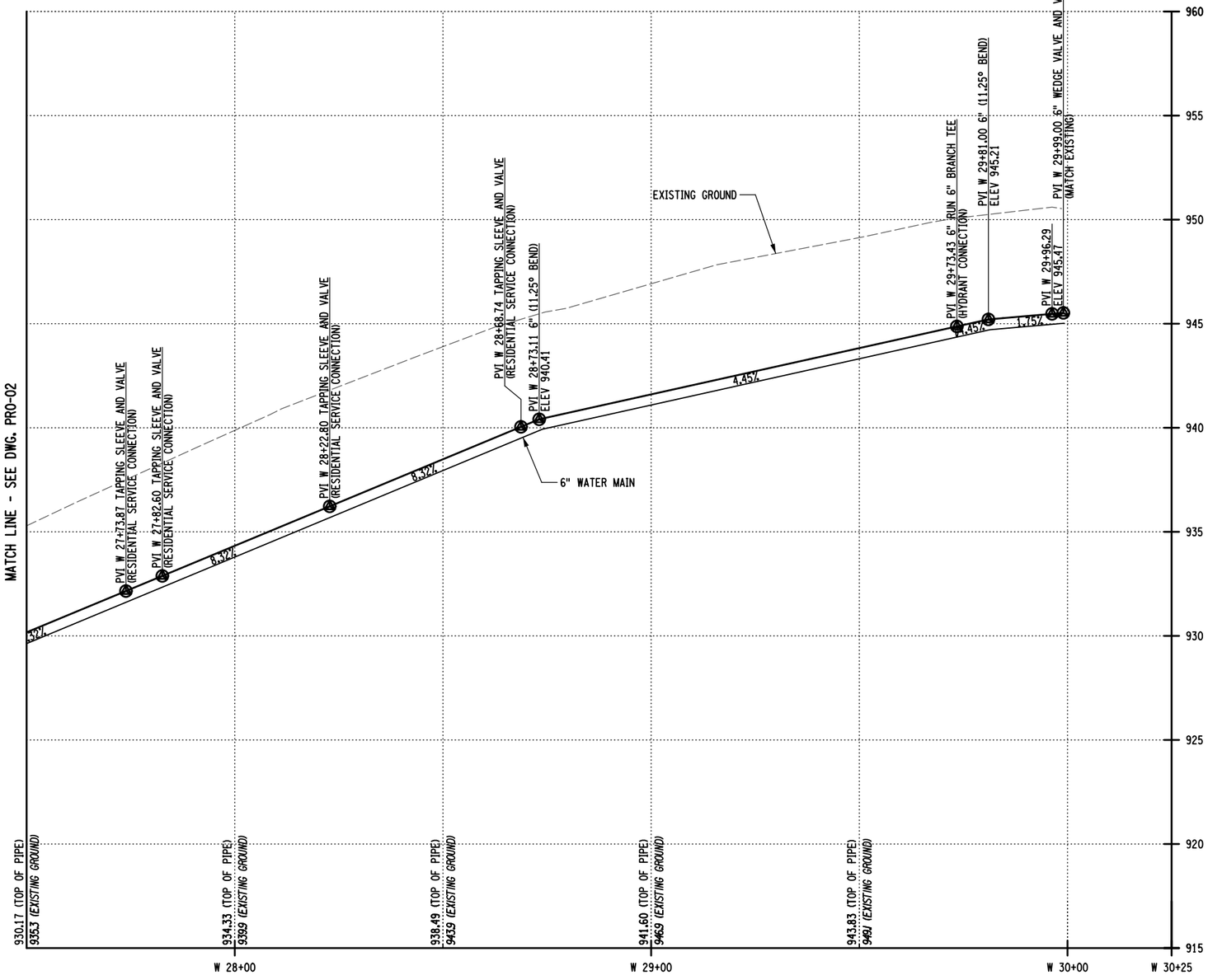
SCALE BAR HORIZ.
15′ 0 15′ 30′

VILLAGE OF ENDICOTT DPW
REPLACEMENT OF N. ARTHUR ST. WATER MAIN
BROOME COUNTY, NEW YORK

WATER MAIN PROFILE - II

DELTA ENGINEERS, ARCHITECTS, & SURVEYORS

SCALE	DRAWING NO.
AS SHOWN	PRO-02
DATE	SHEET
MARCH 2024	14 OF 15



VILLAGE OF ENDICOTT DPW
REPLACEMENT OF N. ARTHUR ST. WATER MAIN
BROOME COUNTY, NEW YORK

WATER MAIN PROFILE - III

DELTA ENGINEERS, ARCHITECTS, & SURVEYORS

SCALE	DRAWING NO.
AS SHOWN	PRO-03
DATE	SHEET
MARCH 2024	15 OF 15

STATE OF NEW YORK
BRIAN ROBERT TYLER
LICENSED PROFESSIONAL ENGINEER
095229
03/28/2024

FILE NAME = T:\2023\2023.561.001 Trans - Town of Union 300 Block N. Ave\Drawings\Highway\profiles\2023.561.001_cph_pro_03.dgn
DATE = 3/28/2024 11:10:53 AM
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