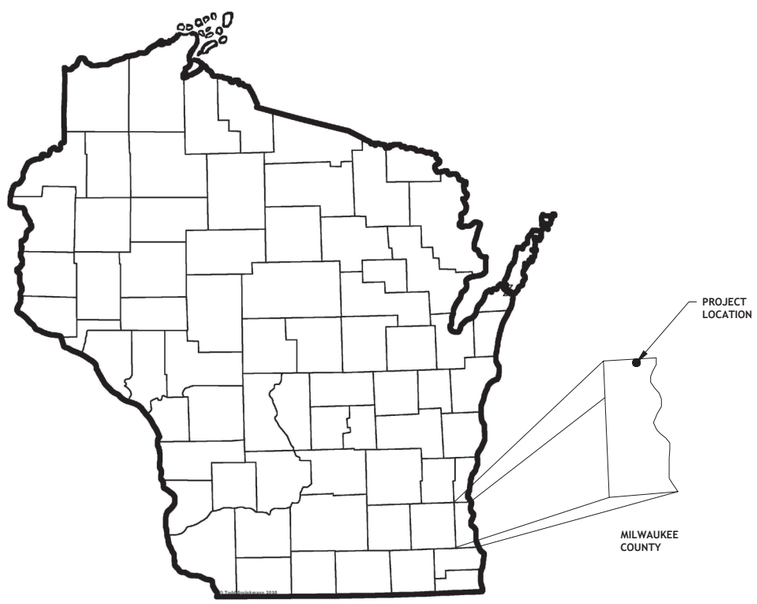
VILLAGE OF BROWN DEER

2019 WATER MAIN RELAY PROJECT

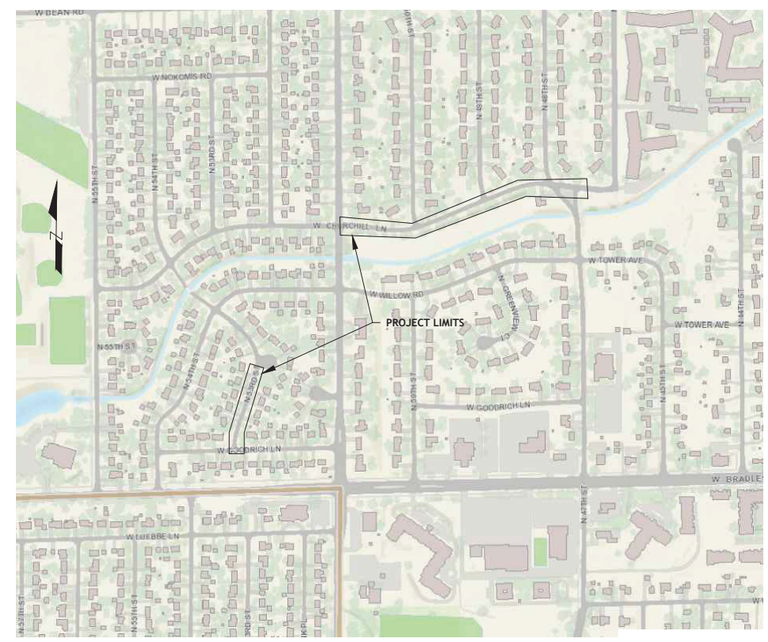
BROWN DEER, WI

MILWAUKEE COUNTY, WI

FEB. 2019



GENERAL LOCATION MAP



PROJECT LOCATION MAP

SHEET	DESCRIPTION
G0.01	COVER PAGE
G0.02	SYMBOLS & ABBREVIATIONS
G0.03	DETAILS & NOTES
C1.00	SHEET OVERVIEW
C1.01-03	CHURCHILL LN - WATER MAIN P&P
C1.04	53rd ST - WATER MAIN P&P
C1.05	SIDE STREETS - WATER MAIN P&P

WISCONSIN
THOMAS S. NENNIG
E-34953
MENOMONEE FALLS, WI
2-5-19
PROFESSIONAL ENGINEER

VILLAGE OF BROWN DEER

CITY WATER

Date of Preparation:

	BY	DATE
SURVEYED		
DRAWN	EF	10/16/2018
DESIGNED	CW	
CHECKED		

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REVISIONS

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RECORD DRAWING OF COMPLETED CONSTRUCTION BY

RECORD DRAWINGS OF COMPLETED CONSTRUCTION CONFORMING TO CONTRACTOR AND/OR OWNERS RECORDS.

BY DATE

2019 WATER MAIN RELAY

BROWN DEER WATER UTILITY

MILWAUKEE COUNTY BROWN DEER, WISCONSIN

COVER PAGE

VERTICAL SCALE: NA

HORIZONTAL SCALE: 0 NA 0

PROJECT ID 2019-01

G0.01

SHEET 1 OF 9

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MAPPING & TOPOGRAPHY SYMBOLOGY

DESCRIPTION	SYMBOL EXISTING	SYMBOL PROPOSED
SANITARY SEWER (PLAN)	SAN	SAN
SANITARY FORCE MAIN (PLAN)	FM	FM
STORM SEWER (PLAN)	STM	STM
WATER MAIN (PLAN)	W	W
ABANDONED WATER SERVICE (PLAN)	AWS	
SANITARY SEWER (PROFILE)		XXX'- XX" PVC SAN @ 0.00%
SANITARY FORCEMAIN (PROFILE)		XXX'- XX" FORCEMAIN @ 0.00%
STORM SEWER (PROFILE)		XXX'- XX" RCP STM @ 0.00%
WATER MAIN (PROFILE)		XX LF @ 0.00%
DRAINAGE DITCH		
GAS MAIN	GAS	
ELECTRIC - BURIED	UGE	
OVERHEAD CABLE (ANY)	OHW	
TELEPHONE - BURIED	T	
FIBER OPTIC - BURIED	FO	
PROPERTY LINE		
EASEMENT LINE		
SECTION LINE		
QUARTER SECTION LINE		
OFFSET OR SETBACK LINE		
PAVEMENT (STREET, DRIVE, SIDEWALK, ETC.)		
RAILROAD		
FENCELINE		
EDGE OF RIVER OR LAKE		
MARSH OR WETLAND		

MAPPING & TOPOGRAPHY SYMBOLOGY

DESCRIPTION	SYMBOL EXISTING	SYMBOL PROPOSED
BENCH MARK	BM 5 ELEV 891.22	
CATCH BASIN/INLET		
CLEAN OUT		
CONTROLLER BOX		
CONTROL POINT		CP
CULVERT		
CURB STOP G=GAS W=WATER		
DRAINAGE ARROW		
ELECTRIC PEDESTAL		
ELECTRIC TRANSFORMER		
FIRE ALARM BOX	F	F
FIRE HYDRANT		
WATER VALVE		
GAS PROBE		
GAS VENT		
GUY ANCHOR		
GUY POLE		
IRON PIPE = IP IRON ROD = IR	IP OR IR	IP OR IR
LIFT STATION	LS	LS
LIGHT - ORNAMENTAL		
LIGHT - STREET		
MAILBOX	MB	MB
CENTER SECTION	CENTER 32 SECTION	

MAPPING & TOPOGRAPHY SYMBOLOGY

DESCRIPTION	SYMBOL EXISTING	SYMBOL PROPOSED
MANHOLE GAS	G	
MANHOLE MISCELANEOUS	MH	MH
MANHOLE SANITARY	SA	SA
MANHOLE ELECTRIC	EL	SI
MANHOLE STORM	ST	ST
MANHOLE WATER	W	W
MANHOLE TELEPHONE	T	
METER - GAS	G	
METER - WATER	W	
PARKING METER	PM	PM
PEDESTAL CABLE TV		
PEDESTAL TELEPHONE		
REBAR	RB	RB
RIGHT-OF-WAY MARKER	ROW	
RAILROAD SIGNAL		
TRAFFIC JUNCTION BOX		
SOIL BORING	B	
SIGN		
SEPTIC TANK		
STUMP		
SHRUB		
BUSH CONIFER		
BUSH DECIDUOUS		
SECTION CORNER	SECTION CORNER NWNE SWSE	

MAPPING & TOPOGRAPHY SYMBOLOGY

DESCRIPTION	SYMBOL EXISTING	SYMBOL PROPOSED
TREE DECIDUOUS/INCH DIA	12"	12"
TREE CONIFEROUS/INCH DIA	10"	10"
TREE LINE		
TRANSMISSION TOWER		
WELL (WATER SUPPLY) W=WATER M=MONITORING O=OBSERVATION G=GAS	W/M/O/G	W/M/O/G
VALVE: W=WATER, G=GAS	W OR G	W OR G
UTILITY POLE		
UTILITY POLE W/TRANSFORMER	T	T
UTILITY & LIGHT POLE		
RIPRAP		
ROCK FILLED FILTER BAG		
SEDIMENT LOG		
SILT FENCE	SF	SF
MAJOR CONTOURS	890	695
MINOR CONTOURS		
DEPRESSION		
SPOT ELEVATIONS	+891.2	×696.80
FEDERAL HIGHWAY	141	
INTERSTATE HIGHWAY	43	
STATE TRUNK HIGHWAY	29	
COUNTY TRUNK HIGHWAY	A	
ASPHALT TO BE REMOVED AND REPLACED		
CONCRETE TO BE REMOVED AND REPLACED		
GRAVEL TO BE REMOVED AND REPLACED		
GRADE ELEVATION (PROFILE)	840.9 (EXISTING) 839.81 (PROPOSED)	

DETAIL DESIGNATION

C1.01 | A

- SECTION LETTER
- DRAWING NUMBER– ON PLAN VIEW SHOWS WHERE SECTION IS SHOWN. ON SECTION VIEW SHOWS FIRST DRAWING SECTION IS CUT.

SECTION

C5.01 | 2

- DRAWING NUMBER ON WHICH DETAIL IS SHOWN (ONLY WHEN DETAIL IS NOT SHOWN IN THE SCHEDULES AND DETAILS SECTION OF THE PLANS)
- DETAIL NUMBER

DETAIL

LIST OF STANDARD ABBREVIATIONS

△	CENTRAL ANGLE OR DELTA	DIA	DIAMETER	I	INTERSECTION ANGLE	PVMT	PAVEMENT	SE	SOUTHEAST
ADT	AVERAGE DAILY TRAFFIC	DI	DUCTILE IRON PIPE	ICS	INTERNAL CHIMNEY SEAL	PCC	PORTLAND CEMENT CONCRETE	SF	SILT FENCE
AGGR	AGGREGATE	DISCH	DISCHARGE	ID	INSIDE DIAMETER	PE	PRIVATE ENTRANCE	SIG	SIGNAL
AH	AHEAD	DW	DRIVEWAY	IN	INCH	PI	POINT OF INTERSECTION	SL	SANITARY LATERAL
ASPH	ASPHALT	E	EAST	INL	INLET	PJF	PRE-FORMED JOINT FILLER	SQ FT	SQUARE FEET
B/B	BACK TO BACK	EA	EACH	INTERS	INTERSECTION	PL	PROPERTY LINE	SHLDR	SHOULDER
BARR	BARRICADE	EB	EAST BOUND	INV	INVERT	POC	POINT OF CURVE	SQ YD	SQUARE YARD
BOC	BACK OF CURB	EBS	EXCAVATION BELOW SUBGRADE	IP	IRON PIPE OR PIN	POT	POINT ON TANGENT	SSD	STOPPING SIGHT DISTANCE
BK	BACK	ECS	EXTERNAL CHIMNEY SEAL	JCT	JUNCTION	PP	POWER POLE	STA	STATION
BLDG	BUILDING	EL	ELEVATION	L	LENGTH (OF CURVE)	PRC	POINT OF REVERSE CURVATURE	STD	STANDARD
BM	BENCH MARK	ELEC	ELECTRIC (E WHEN USED IN LINE STYLE)	LF	LINEAL FEET	PROJ	PROJECT	STH	STATE TRUNK HIGHWAY
BRK	BREAK	EMB	EMBANKMENT	LC	LONG CHORD OF CURVE	PROP	PROPOSED	STM	STORM OR STORM SEWER
BSMT	BASEMENT	ENTR	ENTRANCE	LP	LIGHT POLE	PSI	POUND PER SQUARE INCH	STP	SEWAGE TREATMENT PLANT
C	CUT	EP	EDGE OF PAVEMENT	LS	LIFT STATION OR LUMP SUM	PT	POINT OF TANGENCY	STRUCT	STRUCTURE OR STRUCTURAL
C&G	CURB AND GUTTER	ET	ELECTRIC TRANSFORMER	LT	LEFT	PVC	POLYVINYL CHLORIDE	SW	SOUTHWEST
C/C	CENTER TO CENTER	EW	ENDWALL	MAINT	MAINTENANCE	PVC	POINT OF VERTICAL CURVATURE	TAN	TANGENT
CABC	CRUSHED AGGREGATE BASE COURSE	EXC	EXCAVATION EXIST EXISTING	MATL	MATERIAL	PVI	POINT OF VERTICAL INTERSECTION	T	TOWN (T WHEN USED FOR TELEPHONE LINE)
CB	CATCH BASIN	F	FILL	MB	MAILBOX	PVRC	POINT OF VERTICAL REVERSE CURVE	TEL	TELEPHONE
CE	CONSTRUCTION ENTRANCE	F/F	FACE TO FACE	MG	METER-GAS	PVT	POINT OF VERTICAL TANGENCY	TEMP	TEMPORARY
CIP	CAST IRON PIPE	FDN	FOUNDATION	MH	MANHOLE	R	RANGE OR RADIUS	TLE	TEMPORARY LIMITED EASEMENT
CIPP	CURED IN PLACE PIPE	FE	FIELD ENTRANCE	MP	MARKER POST	RCP	REINFORCED CONCRETE PIPE	TOC	TOP OF CURB
CL	CENTERLINE	FERT	FERTILIZER	MW	METER-WATER OR MONITORING WELL	REBAR	REINFORCEMENT BAR	TRANS	TRANSITION
CMP	CORRUGATED METAL PIPE	FH	FIRE HYDRANT	N	NORTH	REL	RELOCATE	TYP	TYPICAL
CNTY	COUNTY	FIN GR	FINISHED GRADE	NB	NORTHBOUND	REM	REMAINING	UG	UNDERGROUND
CO	CLEAN OUT	FL	FLOW LINE	NC	NORMAL CROWN	REQD	REQUIRED	USH	US HIGHWAY
CONC	CONCRETE	FM	FORCE MAIN	NE	NORTHEAST	RL	REFERENCE LINE	VC	VERTICAL CURVE
CONSTR	CONSTRUCTION	FO	FIBER OPTIC	NO	NUMBER	ROW	RIGHT-OF-WAY	VERT	VERTICAL
CONSTR JT	CONSTRUCTION JOINT	FT	FOOT	NTS	NOT TO SCALE	RP	REFERENCE POINT	VOL	VOLUME
CP	CONTROL POINT	FTG	FOOTING	NW	NORTHWEST	RR	RAILROAD	W	WEST
CTH	COUNTY TRUNK HIGHWAY	G	GAS	O	OIL	RT	RIGHT	WB	WESTBOUND
CTRL JT	CONTROL JOINT	GV	GATE VALVE	O&C	OIL & CHIP	RW	RETAINING WALL	WM	WATER MAIN
CTV	CABLE TV	GW	GUY WIRE	OBLIT	OBLITERATE	S	SOUTH	WS	WATER SERVICE
CU YD	CUBIC YARD	HDPE	HIGH DENSITY POLYETHYLENE	OD	OUTSIDE DIAMETER	SALV	SALVAGE	WTP	WATER TREATMENT PLANT
CS	CURB STOP	HORIZ	HORIZONTAL	PC	POINT OF CURVATURE	SAN	SANITARY	WV	WATER VALVE
D	DEGREE OF CURVE	HR	HANDICAP RAMP	PCC	POINT OF COMPOUND CURVE	SC	STORM CONNECTION	WWTP	WASTE WATER TREATMENT PLANT
DD	DIRECTIONAL DRILLED	HSE	HOUSE	PED	PEDESTAL	SB	SOUTHBOUND	YD	YARD
DEG	DEGREE	HT	HEIGHT	PLE	PERMANENT LIMITED EASEMENT	SDWK	SIDEWALK		

VILLAGE OF BROWN DEER

CITY WATER

Date of Preparation:	BY	DATE
SURVEYED		
DRAWN	EF	10/16/2018
DESIGNED	CW	
CHECKED		

REVISIONS

NO.	BY	DATE	DESCRIPTION

RECORD DRAWING OF COMPLETED CONSTRUCTION BY

RECORD DRAWINGS OF COMPLETED CONSTRUCTION CONFORMING TO CONTRACTOR AND/OR OWNERS RECORDS. BY DATE

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2019 WATER MAIN RELAY

BROWN DEER WATER UTILITY

MILWAUKEE COUNTY BROWN DEER, WISCONSIN

SYMBOLS & ABBREVIATIONS

VERTICAL SCALE: NA

HORIZONTAL SCALE: 0 NA 0

PROJECT ID 2019-01

G0.02

SHEET 2 OF 9

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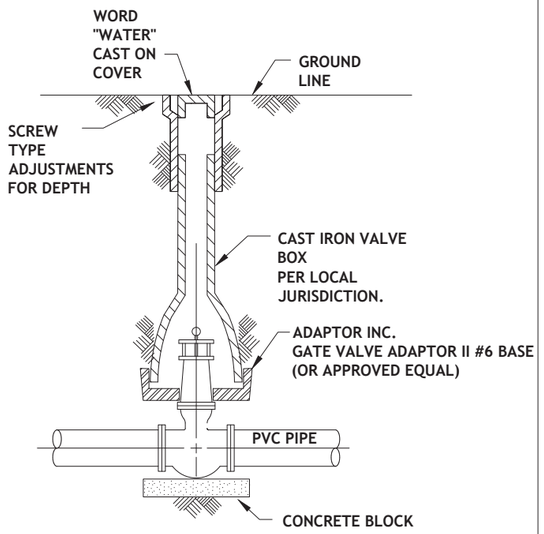
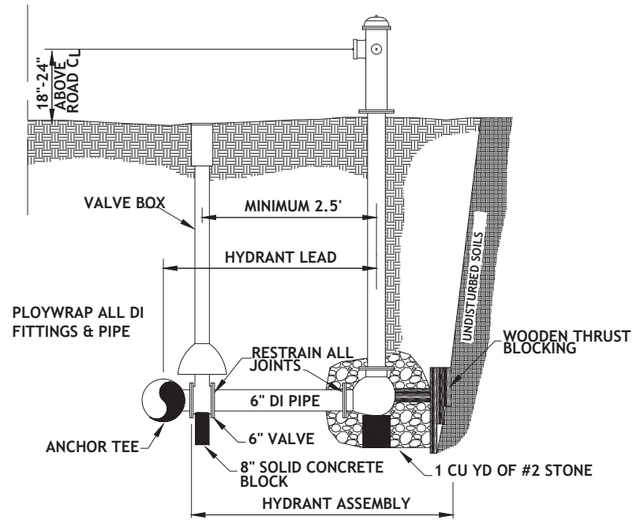
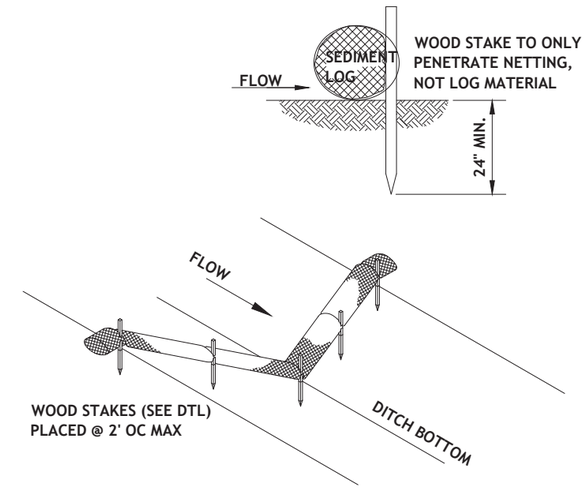


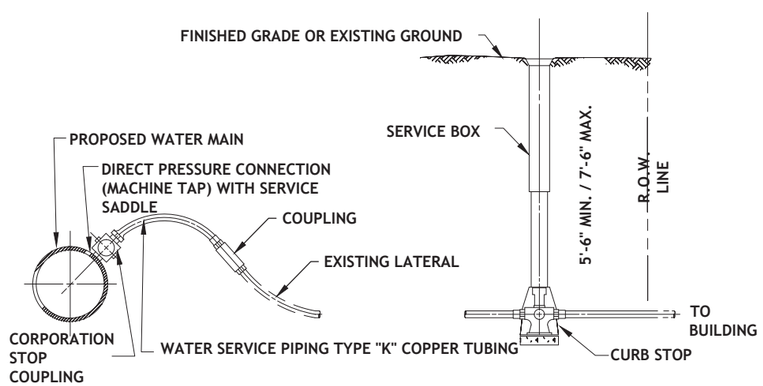
VALVE BOX



HYDRANT INSTALLATION DETAIL



SEDIMENT LOG



1. FITTING REQUIREMENTS: STAINLESS STEEL SADDLE - FORD FS 303-5 OR APPROVED EQUAL
   CORPORATION STOP - FORD FB 1000-3 OR APPROVED EQUAL
2. SERVICE LATERAL RECONNECTIONS SHALL INCLUDE INSTALLATION OF A 5-LB MAGNESIUM ANODE BAG ATTACHED TO EACH COPPER SERVICE LATERAL.

WATER SERVICE RECONNECTION

PROJECT CONTACTS:

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DANA FAULKNER
SANITARY SEWER TECHNICIAN
FIELD SUPERVISOR
PHONE: 414.371.3023
E-MAIL: DFAULKNER@BROWNDEERWI.ORG

GENERAL NOTES:

1. THE EXACT LOCATION OF NEW HYDRANTS SHALL BE DETERMINED IN THE FIELD DURING CONSTRUCTION
2. THE LOCATION OF WATER SERVICES AND SANITARY SEWER LATERALS MAY NOT BE AS SHOWN ON THE PLANS, BUT HAVE BEEN PLACED BASED UPON THE BEST INFORMATION AVAILABLE.
3. CONTRACTOR SHALL MAINTAIN ACCESS TO LOCAL TRAFFIC AT ALL TIMES DURING CONSTRUCTION WITHIN THE PROJECT LIMITS.
4. CONTRACTOR SHALL FOLLOW ALL EROSION CONTROL PRACTICES AS PER THE WISCONSIN DEPT. OF NATURAL RESOURCES. CONTRACTOR SHALL USE SILT BAGS WHEN PUMPING WATER FROM TRENCHES.
5. THE CONTRACTOR SHALL REPAIR ALL BREAKS ON THE EXISTING WATER MAIN WHICH MAY OCCUR AS THE CONTRACTOR IS WORKING IN THE VICINITY (50' RADIUS) OF THE BREAK, DURING NORMAL WORK HOURS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING AND INSTALLING REPAIR CLAMPS OR OTHER REPAIR MATERIAL, AND SHALL DO ALL OF THE WORK REQUIRED TO COMPLETE THE REPAIR AND RESTORE SERVICE. THE COST OF SUCH REPAIRS SHALL BE CONSIDERED AS INCIDENTAL TO THE PROJECT.
6. EXISTING WATER SERVICES DAMAGED AS A RESULT OF THE CONSTRUCTION WORK SHALL BE REPAIRED BY THE CONTRACTOR AS HIS EXPENSE.
7. WHERE THE DEPTH OF COVER OVER THE NEW PIPE APPEARS INSUFFICIENT (≈5' OR LESS), THE CONTRACTOR MAY BE REQUIRED TO INSTALL STYROFOAM OVER THE TOP OF THE NEW PIPE. THE WATER UTILITY WILL FURNISH THE INSULATION; THE COST OF INSTALLATION SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT.
8. A SEPARATE ROADWAY RE-PAVING PROJECT WILL OCCUR AFTER THE VILLAGE'S UTILITY REPLACEMENT PROJECT UNDER A SEPARATE VILLAGE LET CONTRACT.
9. CONTRACTOR WILL BE RESPONSIBLE FOR RESTORATION OF THE AREAS OUTSIDE OF THE PAVEMENT AND GRAVEL SHOULDER AREA. THE VILLAGE WILL BE RESPONSIBLE FOR PAVMENT AND GRAVEL RESTORATION.
10. ALL DRIVEWAYS ON THE WATERMAIN SIDE SHALL BE SAW CUT A MINIMUM OF 3' FROM THE STREET PAVEMENT EDGE PRIOR TO ANY PAVEMENT REMOVALS. STREET PAVEMENT SHALL ALSO BE SAW CUT AS NECESSARY AT POINTS OF CONNECTION TO ADJOINING WATERMAINS, AS MARKED IN THE FIELD.

NOTE: DETAILS ARE NOT TO SCALE

VILLAGE OF BROWN DEER

CITY WATER

Date of Preparation:

	BY	DATE
SURVEYED		
DRAWN	EF	10/16/2018
DESIGNED	CW	
CHECKED		

REVISIONS

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2019 WATER MAIN RELAY

BROWN DEER WATER UTILITY

BROWN DEER, WISCONSIN

MILWAUKEE COUNTY

DETAILS & NOTES

VERTICAL SCALE: NA

HORIZONTAL SCALE: 0 NA 0

PROJECT ID 2019-01

G0.03

SHEET 3 OF 9

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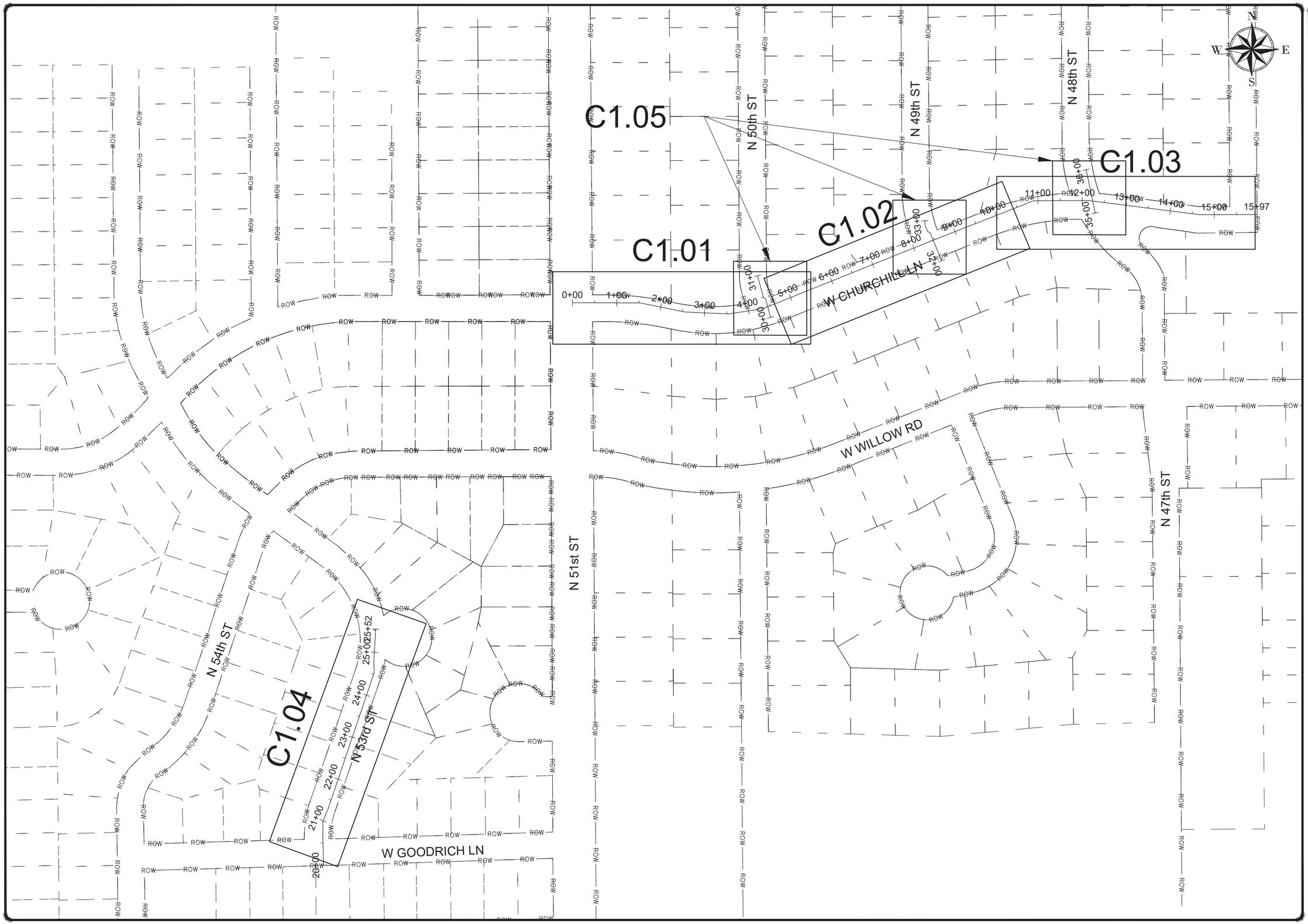

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2019 WATER MAIN RELAY

BROWN DEER WATER UTILITY

MILWAUKEE COUNTY BROWN DEER, WISCONSIN

SHEET OVERVIEW

VERTICAL SCALE: NA

HORIZONTAL SCALE: 0 200 0

PROJECT ID 2019-01

C1.00

SHEET 4 OF 9

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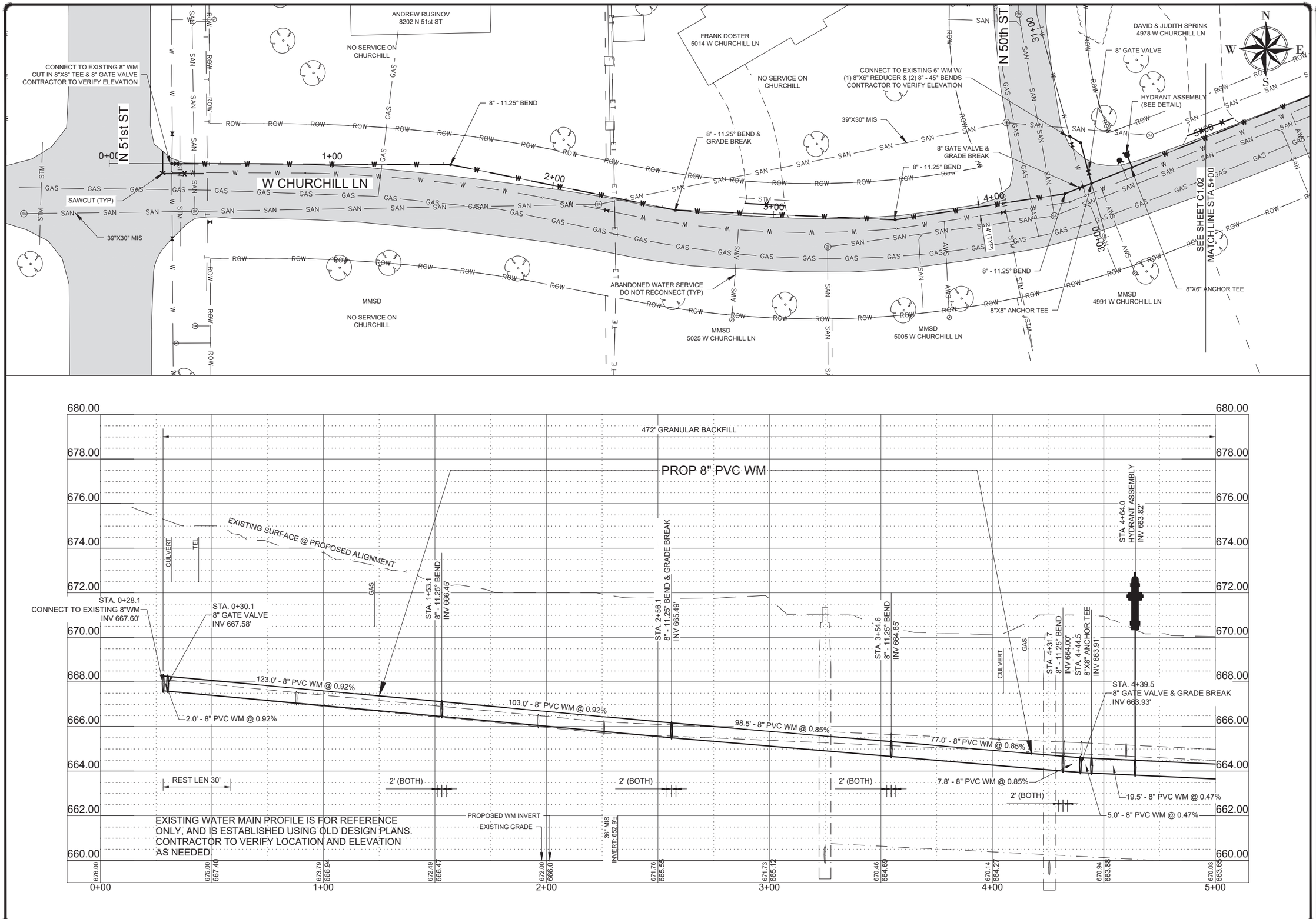

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1	EF	11/26/2018	WATER UTILITY COMMENTS

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2019 WATER MAIN RELAY

BROWN DEER WATER UTILITY

MILWAUKEE COUNTY BROWN DEER, WISCONSIN

W CHURCHILL LN
WATER MAIN
PLAN & PROFILE

VERTICAL SCALE: 2'

HORIZONTAL SCALE: 0 40'

PROJECT ID 2019-01

C1.01

SHEET 5 OF 9

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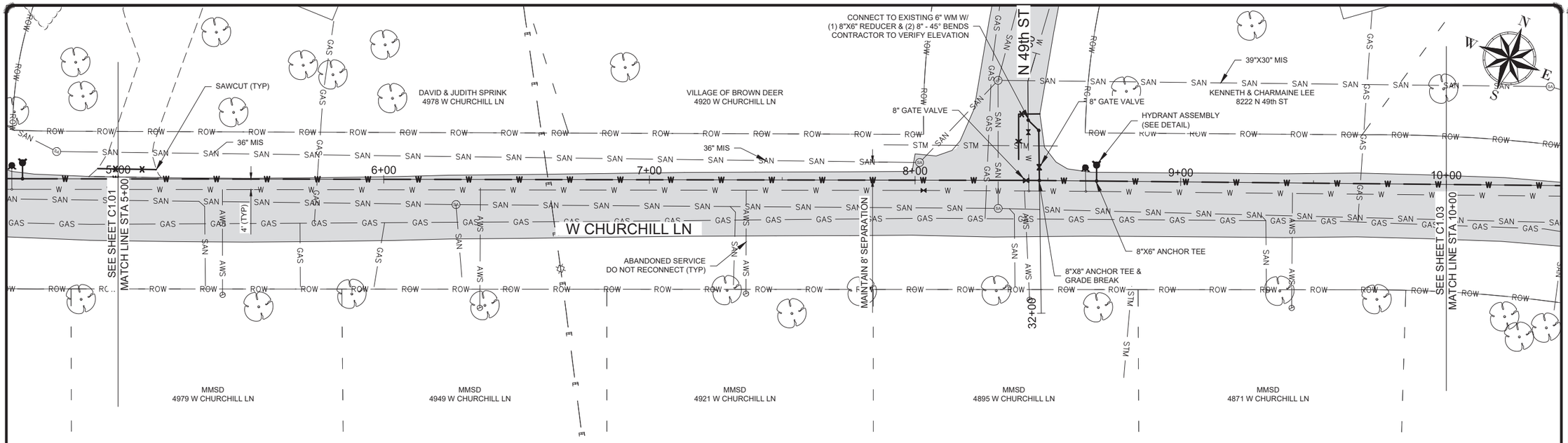

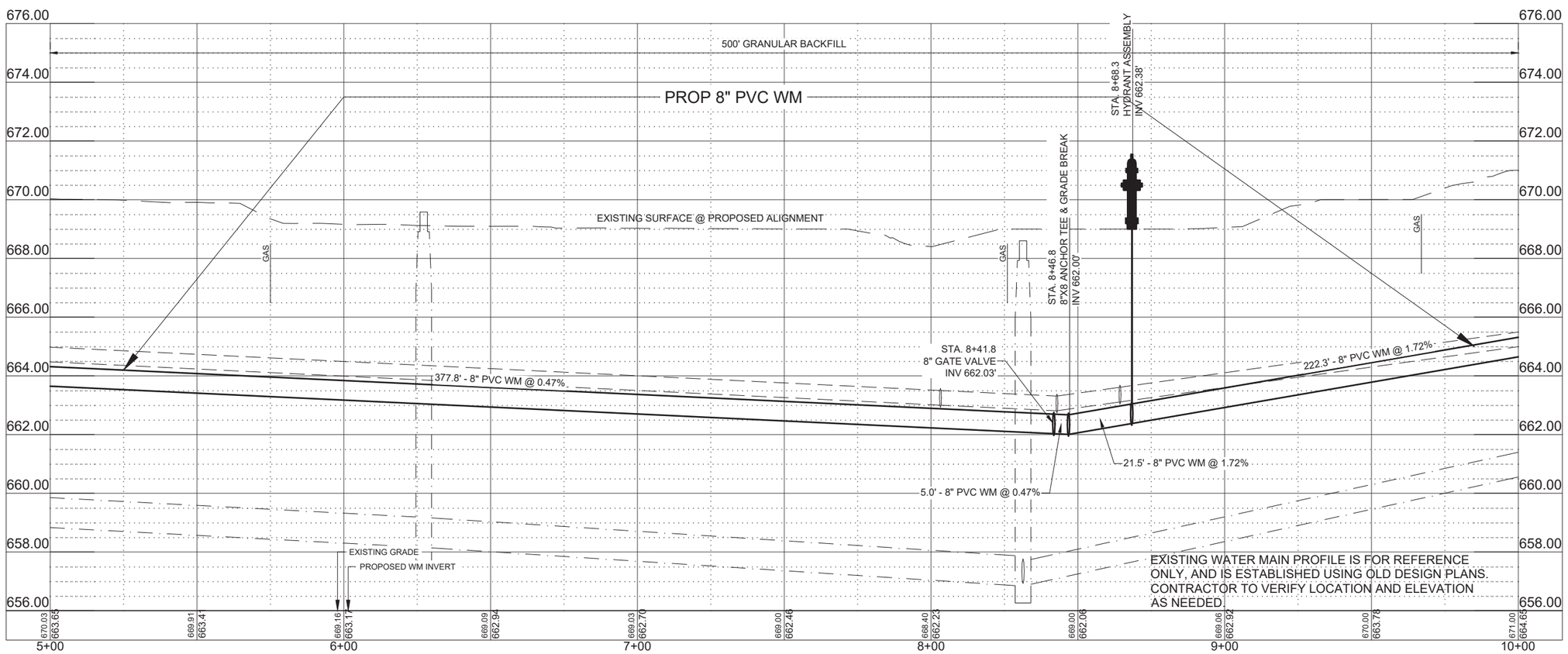

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1	EF	1/28/2019	WATER UTILITY COMMENTS

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2019 WATER MAIN RELAY

BROWN DEER WATER UTILITY

MILWAUKEE COUNTY BROWN DEER, WISCONSIN

W CHURCHILL LN
WATER MAIN
PLAN & PROFILE

VERTICAL SCALE: 2'

HORIZONTAL SCALE: 0 40' 0

PROJECT ID 2019-01

C1.02

SHEET 6 OF 9

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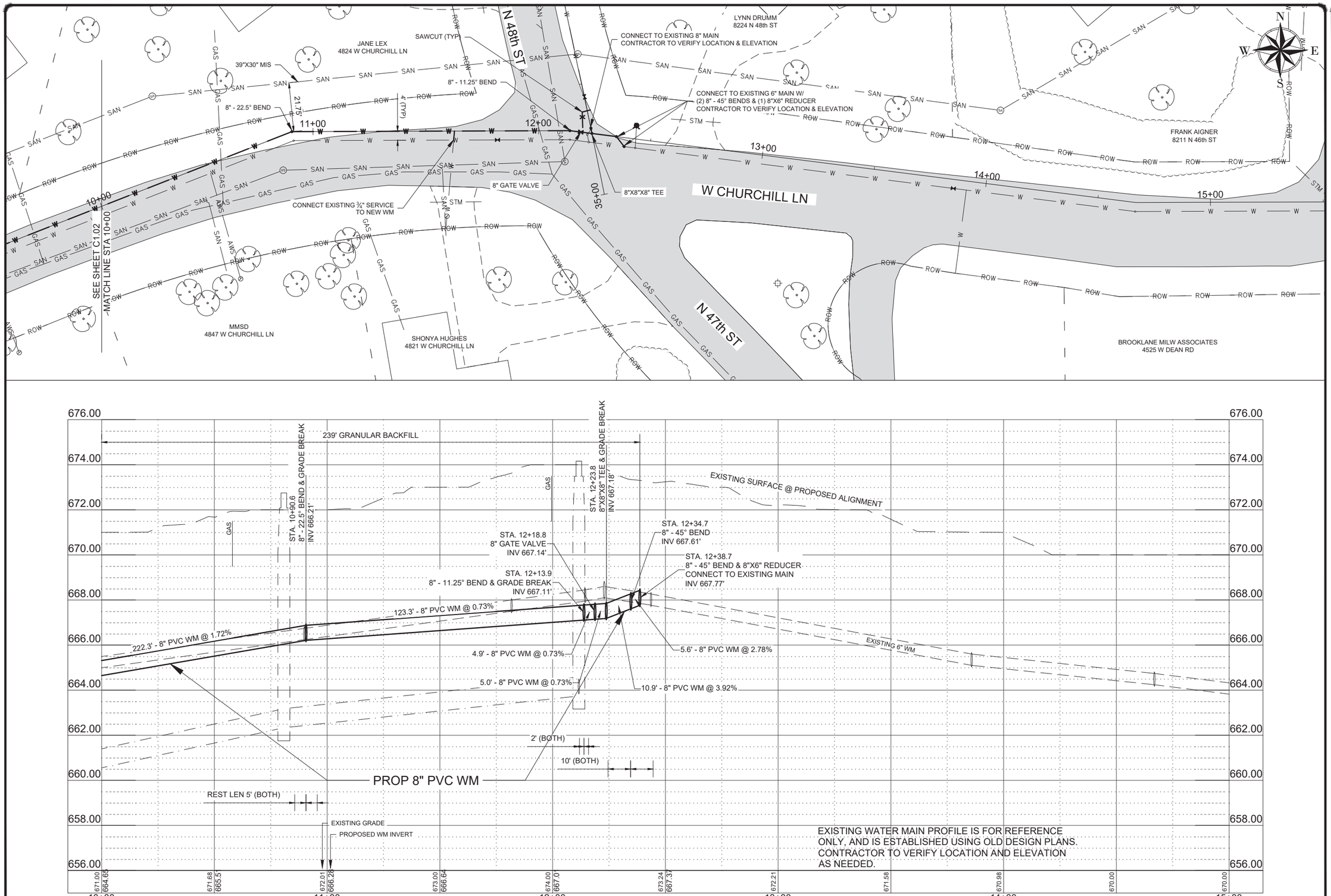

EXISTING WATER MAIN PROFILE IS FOR REFERENCE ONLY, AND IS ESTABLISHED USING OLD DESIGN PLANS. CONTRACTOR TO VERIFY LOCATION AND ELEVATION AS NEEDED.

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BROWN DEER WATER UTILITY

MILWAUKEE COUNTY BROWN DEER, WISCONSIN

W CHURCHILL LN
WATER MAIN
PLAN & PROFILE

VERTICAL SCALE: 2'

HORIZONTAL SCALE: 0 40'

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C1.03

SHEET 7 OF 9

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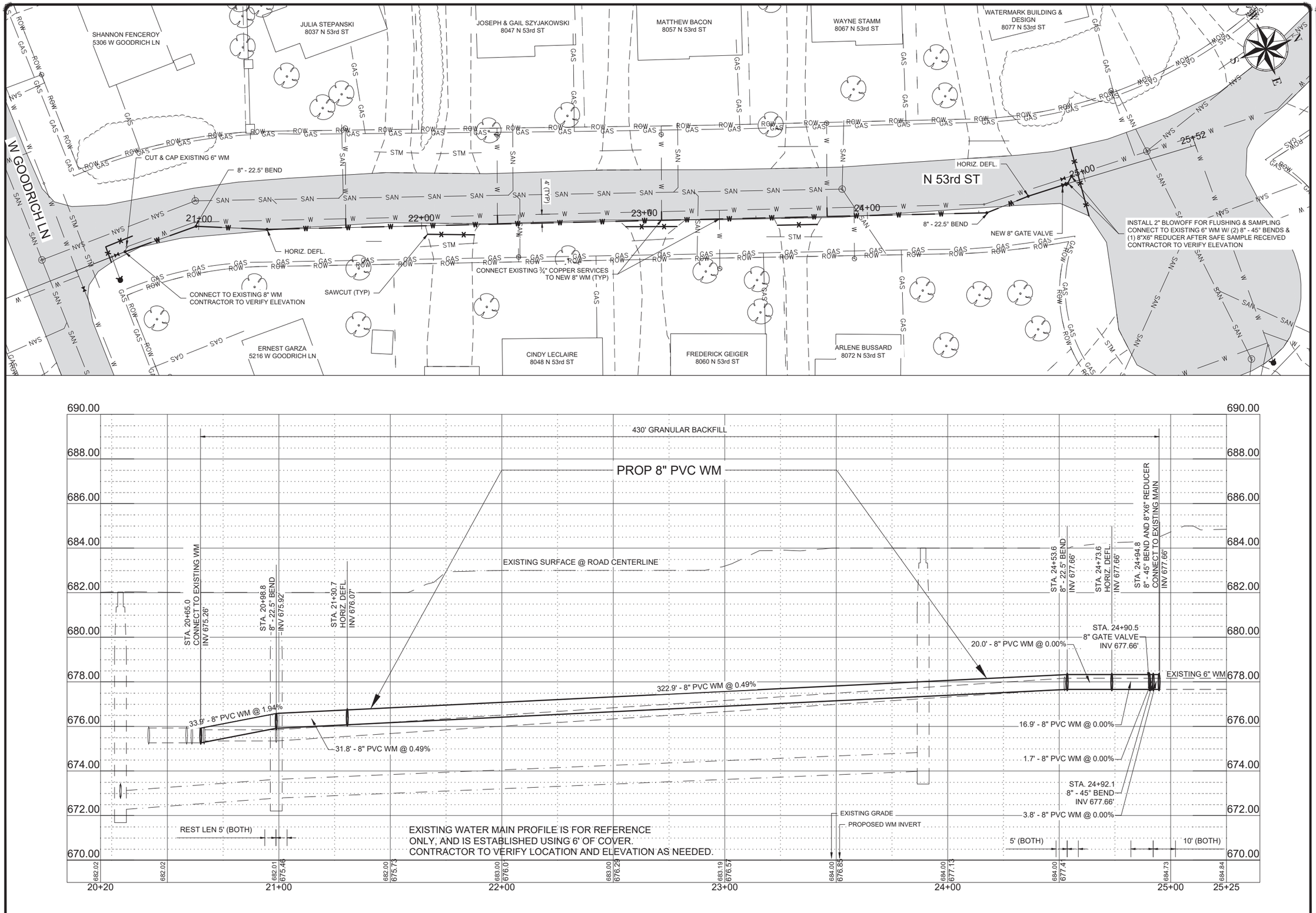

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CHECKED		

REVISIONS

NO.	BY	DATE	DESCRIPTION
1	EF	11/27/2018	WATER UTILITY COMMENTS

RECORD DRAWING OF COMPLETED CONSTRUCTION BY

RECORD DRAWINGS OF COMPLETED CONSTRUCTION CONFORMING TO CONTRACTOR AND/OR OWNERS RECORDS.

BY DATE

2019 WATER MAIN RELAY

BROWN DEER WATER UTILITY

MILWAUKEE COUNTY BROWN DEER, WISCONSIN

N 53rd ST
WATER MAIN
PLAN & PROFILE

VERTICAL SCALE: 2'

HORIZONTAL SCALE: 0 40'

PROJECT ID 2019-01

C1.04

SHEET 8 OF 9

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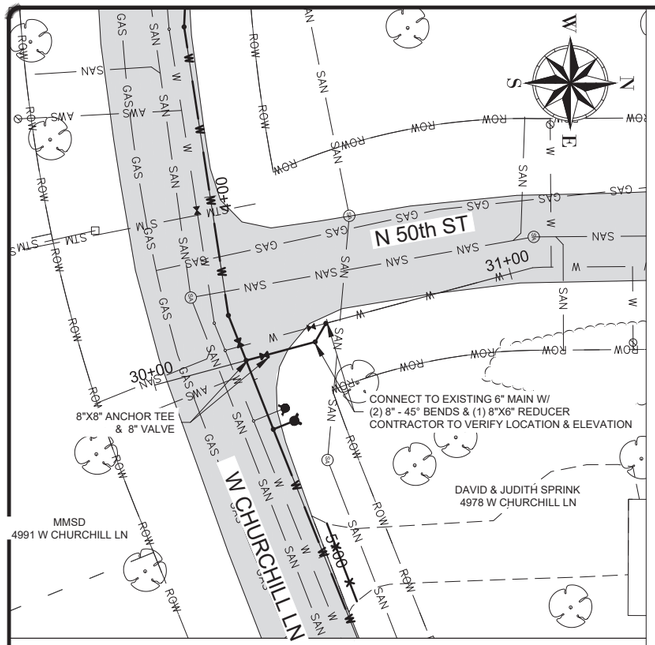
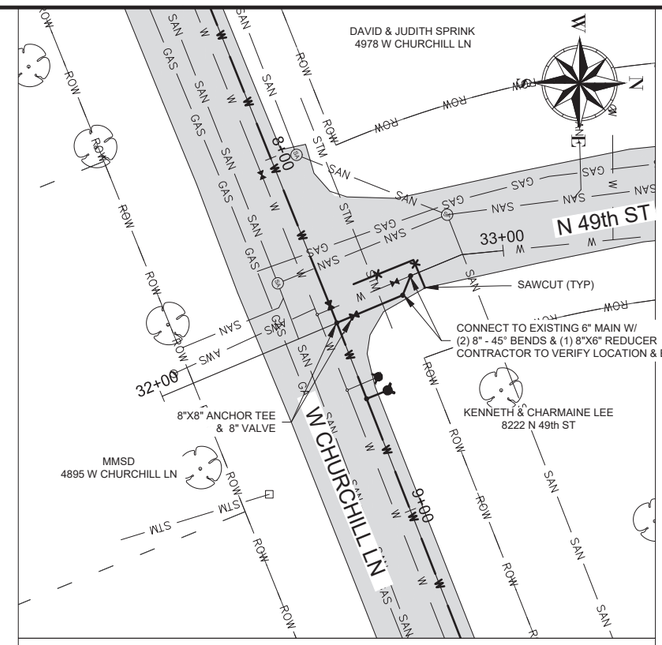
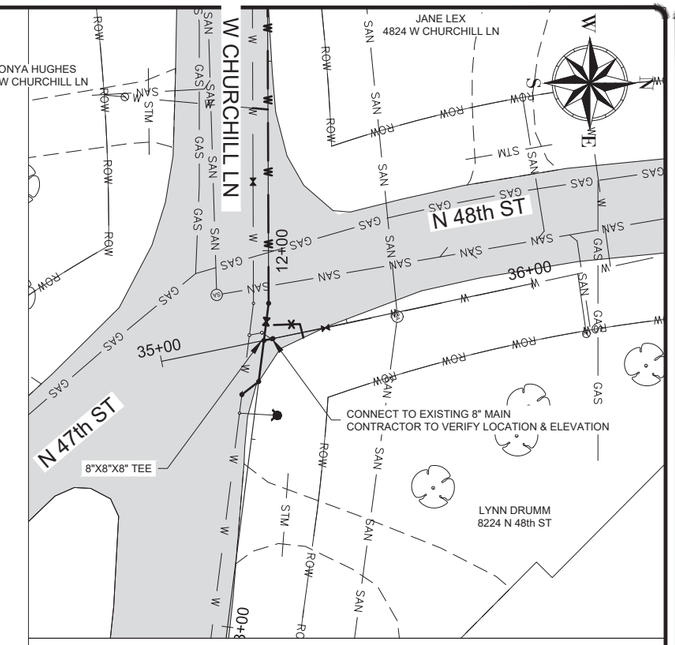
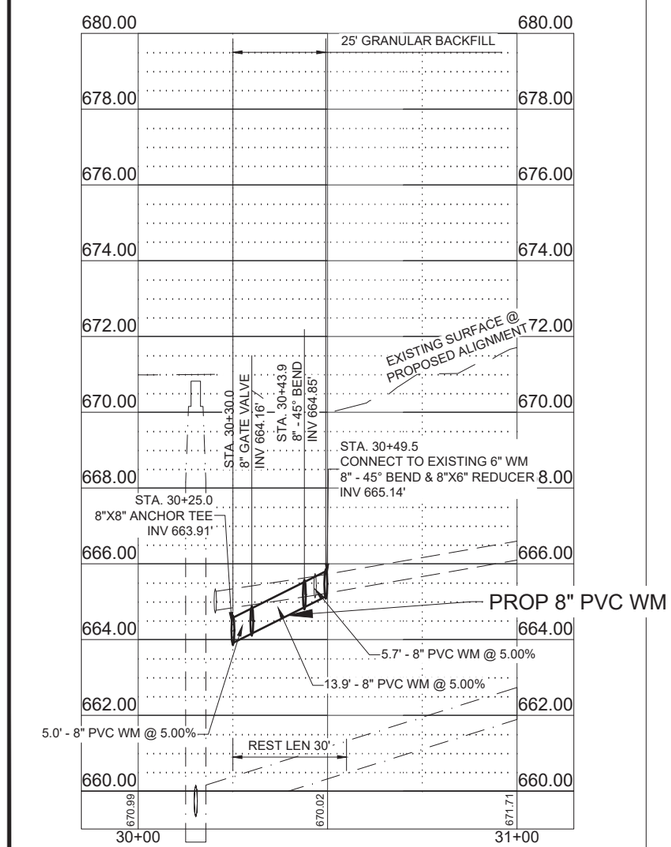
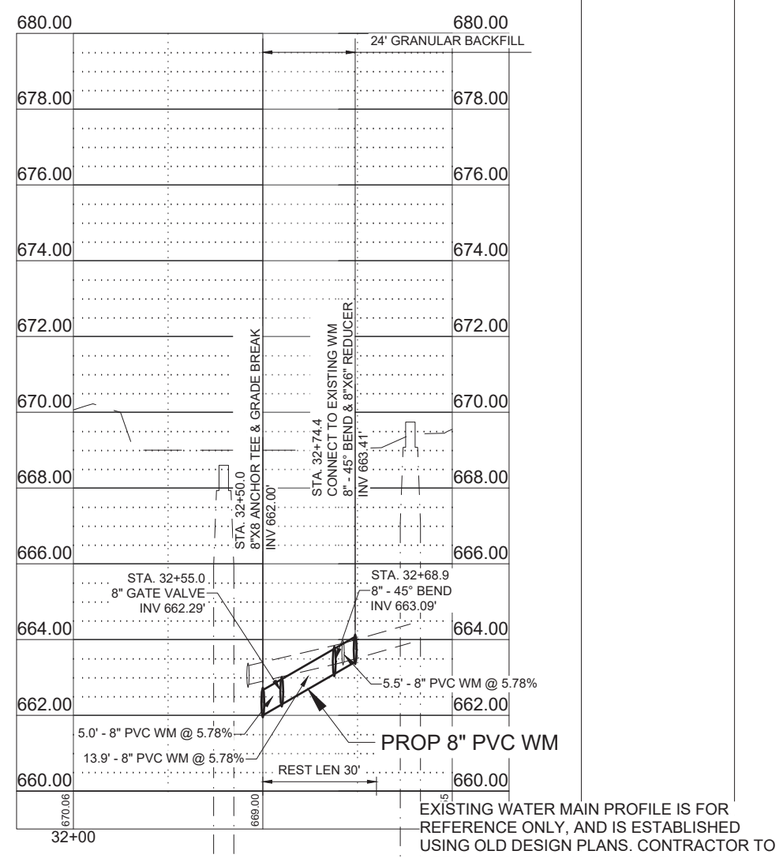


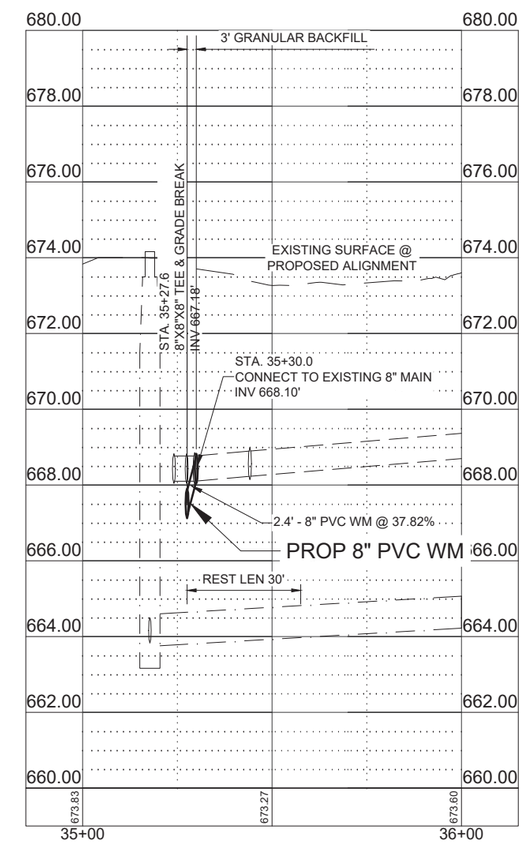








EXISTING WATER MAIN PROFILE IS FOR REFERENCE ONLY, AND IS ESTABLISHED USING OLD DESIGN PLANS. CONTRACTOR TO VERIFY LOCATION AND ELEVATION AS NEEDED.



VILLAGE OF BROWN DEER

CITY WATER

Date of Preparation:			
		BY	DATE
	SURVEYED		
	DRAWN	EF	10/16/2018
	DESIGNED	CW	
	CHECKED		

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REVISIONS

NO.	BY	DATE	DESCRIPTION
1	EF	1/28/2018	WATER UTILITY COMMENTS

RECORD DRAWING OF COMPLETED CONSTRUCTION BY

RECORD DRAWINGS OF COMPLETED CONSTRUCTION CONFORMING TO CONTRACTOR AND/OR OWNERS RECORDS, BY DATE

2019 WATER MAIN RELAY

BROWN DEER WATER UTILITY

BROWN DEER, WISCONSIN

MILWAUKEE COUNTY

W CHURCHILL LN
SIDE STREET
WATER MAIN
PLAN & PROFILE

VERTICAL SCALE: 2'

HORIZONTAL SCALE: 0 40

PROJECT ID 2019-01

C1.05

SHEET 9 OF 9

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