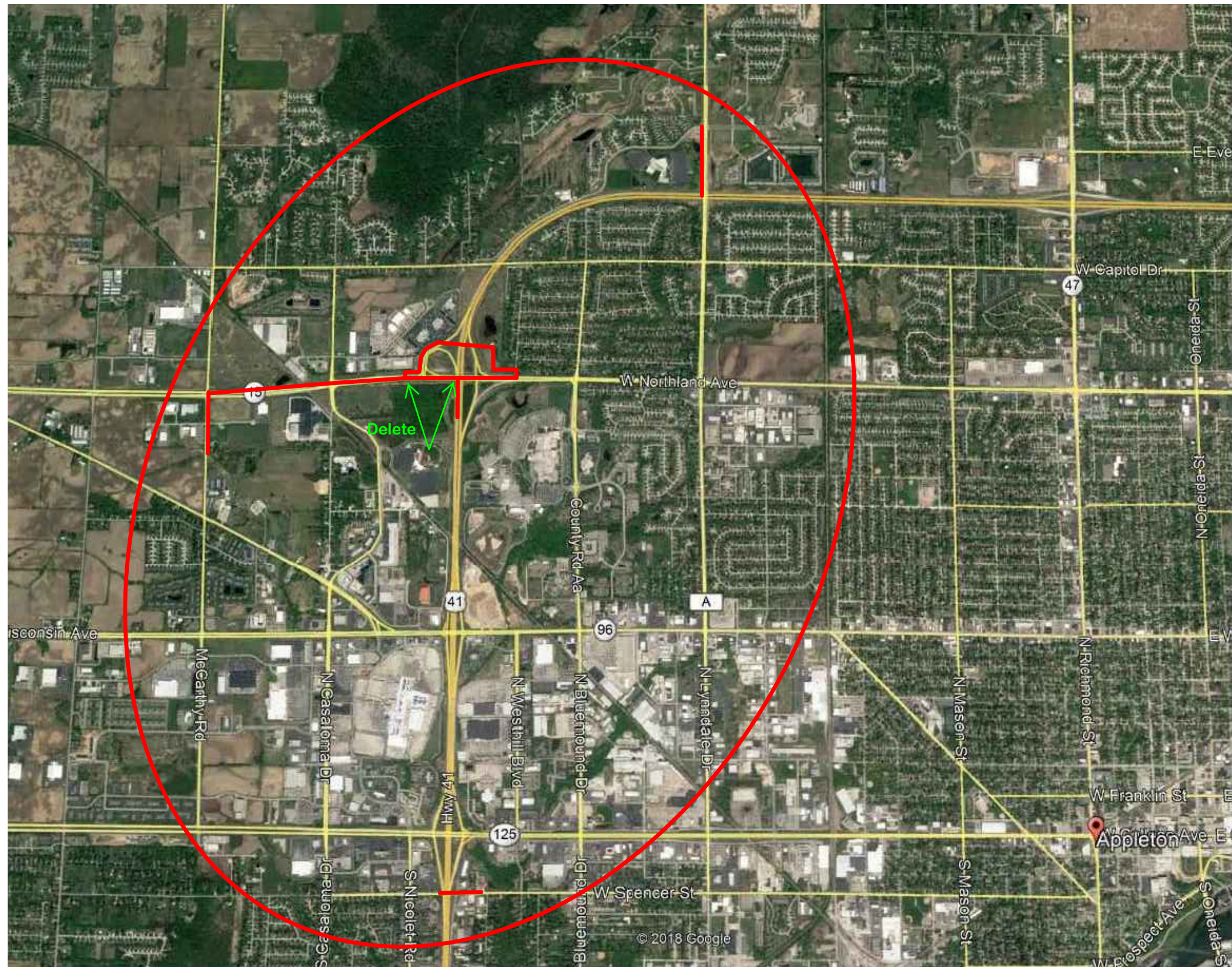


FIBER BUILD AREA MAP



AAMFON
GRAND CHUTE

FIBER BUILD
LEGEND





ESTIMATED MATERIALS w/ 5% ADDED		
12 FIBER OPTIC CABLE		3,500'
48 FIBER OPTIC CABLE		14,800'
1¼" DUCT		15,200'
TRACER WIRE		15,200'

ESTIMATED TOTALS		
PLACE CABLE IN EXISTING DUCT W/FIBER		960'
BORE		7,615'
PLOW		6,830'
DUCT COUPLERS-PROVIDED BY CONSTRUCTION CONTRACTOR		-
HAND HOLES		9
GROUND RODS		9
WARNING MARKERS		9
POLE ATTACHMENTS		-
ANCHORS		-
DOWN GUYS		-

LINETYPE LEGEND	
	PROPOSED CABLE (BURIED)
	EXISTING CABLE (BURIED)
	PROPOSED CABLE (AERIAL)
	EXISTING CABLE (AERIAL)
	BORE
	FENCE
	CENTERLINE
	EDGE-OF-TRAVEL PORTION
	RIGHT-OF-WAY
	EASEMENT
	WATER MAIN
	TELEPHONE
	FIBER
	COMMUNICATIONS
	SANITARY SEWER
	STORM SEWER
	ELECTRICAL POWER
	CABLE TV
	GAS
	CONDUIT
	EDGE OF BUILDING
	PROPERTY LINE
	WETLAND POLYGON
	WATERWAY POLYGON

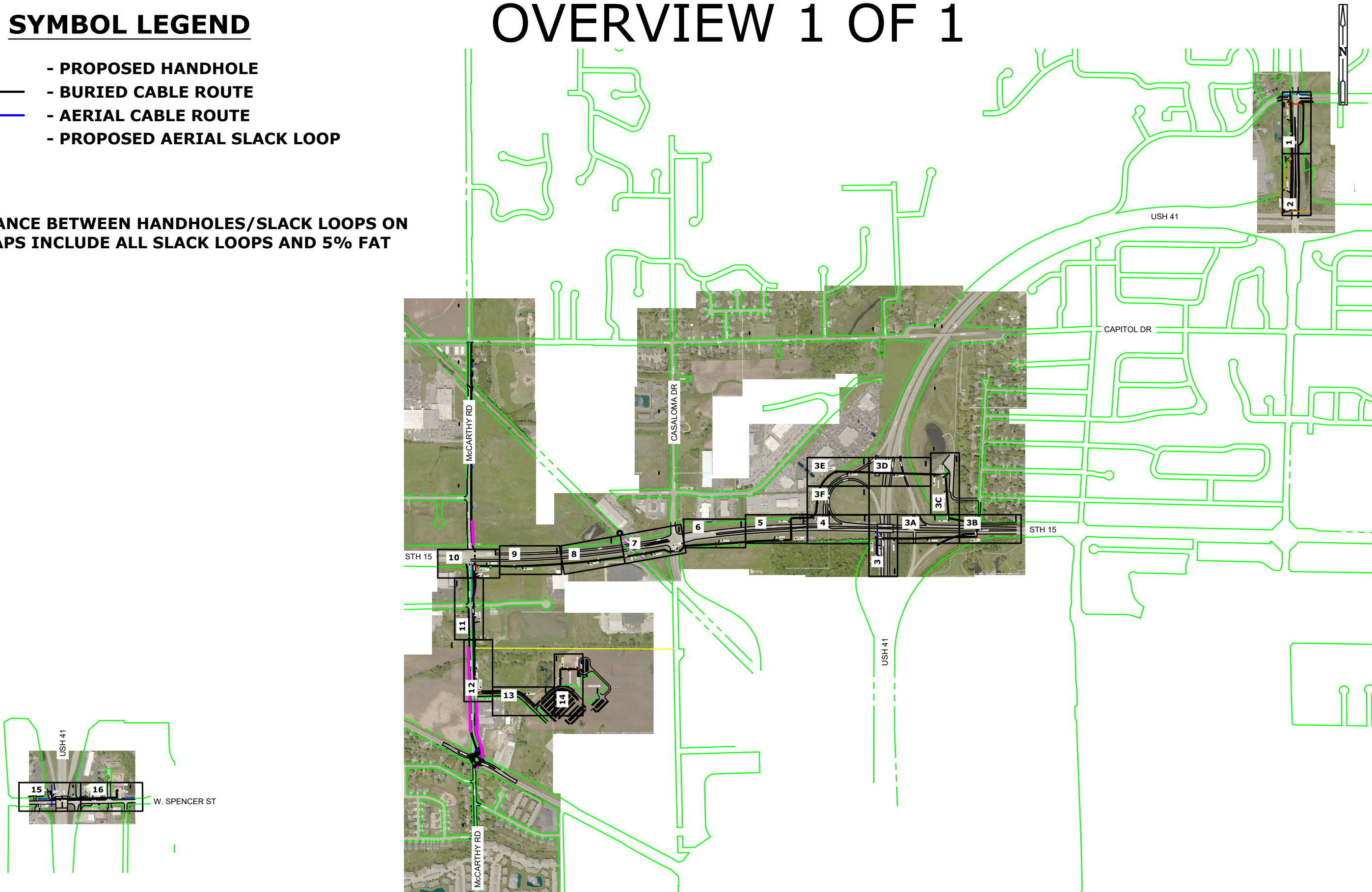
SYMBOL LEGEND	
	WETLAND BORE PIT
	CELL TOWER
	NEW COIL
	EXISTING COIL
	TREE
	POWER POLE
	COMMUNICATION POLE
	JOINT POLE
	POWER TRANSFORMER/CAPACITOR POLE
	JOINT TRANSFORMER POLE
	PROPOSED NSIGHT POLE
	EXISTING UTILITY PED/CABINET
	BURIED TRANSFORMER
	PROPOSED PED
	WATER VALVE
	HYDRANT
	LIGHT POLE
	TRAFFIC LIGHT
	UTILITY MANHOLE (* = S,E,T,etc.)
	INLET
	EXISTING DOWNGUY & ANCHOR
	PROPOSED DOWNGUY & ANCHOR
	RIGHT-OF-WAY MARKER
	PROPOSED WARNING MARKER
	SIDEWALK OR PAVEMENT REMOVAL
	CULVERT
	PROPOSED HANDHOLE
	EXISTING HANDHOLE
	PROPOSED GROUND
	EXISTING GROUND
	SPLICE POINT
	AERIAL SLACK LOOP
	SIGN
	BOX CULVERT

SYMBOL LEGEND

-  - PROPOSED HANDHOLE
-  - BURIED CABLE ROUTE
-  - AERIAL CABLE ROUTE
-  - PROPOSED AERIAL SLACK LOOP

NOTE:
- DISTANCE BETWEEN HANDHOLES/SLACK LOOPS ON
KEY MAPS INCLUDE ALL SLACK LOOPS AND 5% FAT

OVERVIEW 1 OF 1



GENERAL CONSTRUCTION NOTES:

1. CONSTRUCTION PERMITS OR NOTIFICATIONS HAVE BEEN COMPLETED OR APPLIED FOR BY MI-TECH SERVICES.
2.

CONTACTS:

MI-TECH SERVICESDENNIS LAFAVE(920) 619-9774TOWN OF GRAND CHUTEBRENT BRAUN(920) 419-7337
3. ANY ADJACENT AREAS DAMAGED DURING CONSTRUCTION MUST BE RESTORED TO THEIR ORIGINAL CONDITION.
4. THE CONTRACTOR SHALL PROTECT EXISTING PROPERTY IRONS DURING CONSTRUCTION AND RESET BY A LICENSED LAND SURVEYOR IF DISTURBED.
5. ROUTE DEVIATIONS SHALL NOT BE ALLOWED WITHOUT CONCURRENCE OF DESIGNER.
6. BRUSHING AND TREE REMOVAL IS THE RESPONSIBILITY OF THE CONTRACTOR WITH THE FOLLOWING CONDITIONS:

-ALL BRUSH AND TREES ARE TO BE REMOVED AND DISPOSED OF BY THE CONTRACTOR.
7. ALL ROCKS TURNED UP DURING PLACEMENT MUST BE REMOVED BY CONTRACTOR OR PLACED BACK IN TRENCH DURING RESTORATION SO AS NOT TO CAUSE A HAZARD FOR VEHICLE OR FOOT TRAVEL.
8. ALL ABRUPT CHANGES IN GRADE SUCH AS BERMS AND DITCHES SHALL BE GRADUALLY SLOPED AND RESTORED TO THEIR NATURAL STATE.
9. UNLESS OTHERWISE SPECIFIED BY THE DESIGNER, THE CABLE PLACING DEPTHS ARE:

FIBER OPTIC CABLE

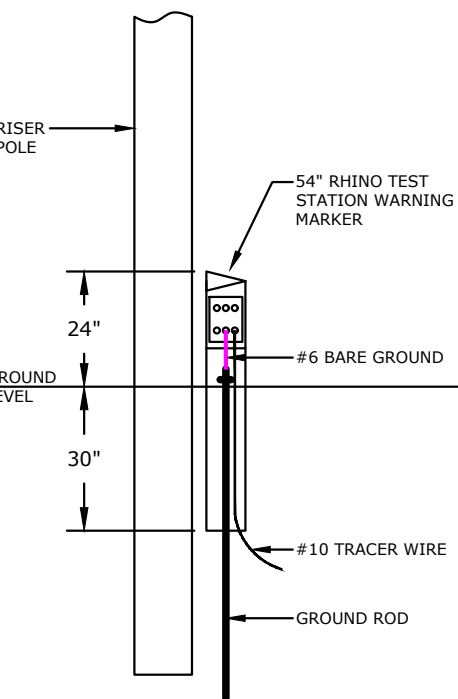
MINIMUM DEPTH IN SOIL 36"

MINIMUM DEPTH AT ROAD CROSSING 60" (IN RURAL AREAS)
10. THE CONTRACTOR IS RESPONSIBLE FOR PLACING ROAD GRAVEL IN ALL HAND HOLES PLACED OR ENTERED.
11. A MINIMUM 6" BED OF ROAD GRAVEL SHOULD BE PLACED PRIOR TO SETTING HAND HOLES.
12. ACORN TYPE HEX HEAD THREADED GROUND ROD CLAMPS SHOULD BE USED TO FASTEN GROUND WIRE TO GROUND RODS IN HAND HOLES WITHOUT RHINO TEST STATIONS.
13. ALL CABLE, DUCT & TRACER WIRE SHOULD BE TAGGED BY CONSTRUCTION CONTRACTOR.
14. BORES OVER 500 FT. MAY BE BROKEN UP INTO SHORTER BORES FOR CONTRACTORS CONVENIENCE, WITH THE EXCEPTION TO PLACING BORE PITS IN WETLANDS WHICH WILL HAVE TO BE APPROVED BY DESIGNER.
15. PROPOSED WETLAND BORE PITS SHOULD BE RECEIVING PITS ONLY, PREFERABLY COUPLING OF DUCT BE COMPLETED BY HAND-DIGGING ONLY. DO NOT SET UP THE BORE RIG IN WETLANDS, WITHOUT PRIOR AUTHORIZATION.
16. ALL AERIAL CONSTRUCTION TO MEET NESC AND RUS SPECIFICATIONS.
17. THE CONSTRUCTION CONTRACTOR SHALL SUPPLY DUCT PLUGS AND PLUG ALL DUCT IN HAND HOLES AND AT RISERS.
18. PROPOSED PLACEMENT OF FACILITIES IS BASED ON DESIGN AND PLANNING LOCATES OBTAINED THROUGH THE STATE ONE CALL SYSTEM. ACTUAL FACILITY PLACEMENT IS SUBJECT TO CHANGE BASED ON FIELD LOCATES ENCOUNTERED DURING CONSTRUCTION.
19. PERMITS (PERMIT BOOK WILL BE PROVIDED PRIOR TO CONSTRUCTION). THE CONSTRUCTION CONTRACTOR IS RESPONSIBLE FOR REVIEWING AND FOLLOWING ANY AND ALL STIPULATIONS SET FORTH BY THE PERMIT ENTITIES. DOOR COUNTY PERMIT IS REQUIRED FOR THIS PROJECT. PERMITS REQUIRED: YES FOR WIS DOT, TOWN OF GRAND CHUTE, OUTAGAMIE COUNTY & CN RAILROAD.

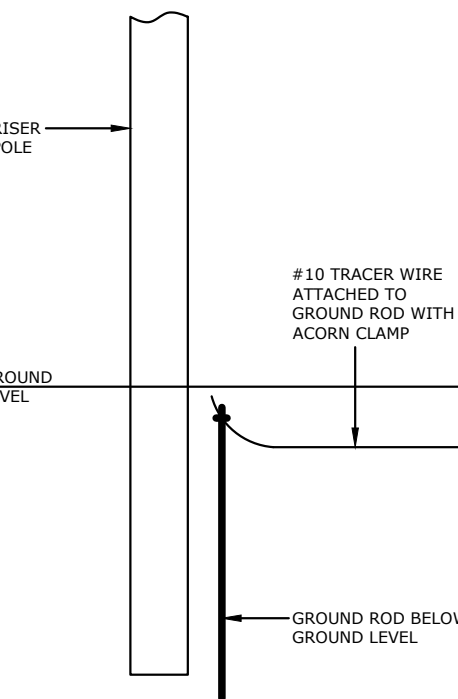
<i>UNITS</i>	<i>DESCRIPTIONS</i>	<i>LABOR</i>	<i>MATERIAL</i>	<i>TOTAL</i>	<i>QUANTITY</i>	<i>TOTAL \$</i>
WHM	Install new cable in existing handhole				4	\$-
BM2 (5/8) (8')	Ground Rod				9	\$-
BM53	Warning Marker (Rhino Test Station)				9	\$-
BMCB 8"	Core bore street to pot utility & repair				1	\$-
BM61 (1.25) 1 w/TRACER WIRE	Directional bore 1-1.25" HDPE w/tracer wire				7,615	\$-
BMSC (100) 48F	Fiber slack coil				11	\$-
BM82 (8')	U Guard 8'-3"					\$-
UO (12)	Place fiber in duct				2,610	\$-
UD (1x1x1.25) w/TRACER WIRE	Place 1-1.25" HDPE by plow or trench w/tracer wire				6,830	\$-
UH2 (24x36x36) TIER 15	Labor and material to place handhole				9	\$-
R 1-10	ROW clearing					\$-
PM11	Anchor Guard					\$-
CO (96) 5/16" EHS	Place strand (5/16" EHS) & lash new fiber to strand					\$-
BM72	Remove and replace asphalt					\$-
PMBT (96) 150'	Place aerial slack loop					\$-
PE1-3 (5/16" EHS)	Place down guy					\$-
PF1-5	Place anchor rod 5/8" X 8' 10,000 LB					\$-
BM73	Remove and replace concrete					\$-
PM 21 METAL BUILDING	Core Bore through metal wall, place conduit & pull box				1	\$-
XXPF	Abandon existing anchor					\$-
XXPE	Remove & dispose of downguy					\$-
BM98	Backhoe existing cable					\$-
PM21 - Occupied	Pull fiber thru existing duct with existing cable				960'	\$-
BMSC (100) 12F	Fiber slack coil				7	\$-
UO (48)	Place fiber in duct				12,950	\$-

NOTE:
NO PERCENTAGE OF FAT HAS BEEN
ADDED TO THE TOTALS ON THIS PAGE

TYPICAL GROUNDING OF TRACER WIRE AT RISER POLE WITH RHINO TEST STATION



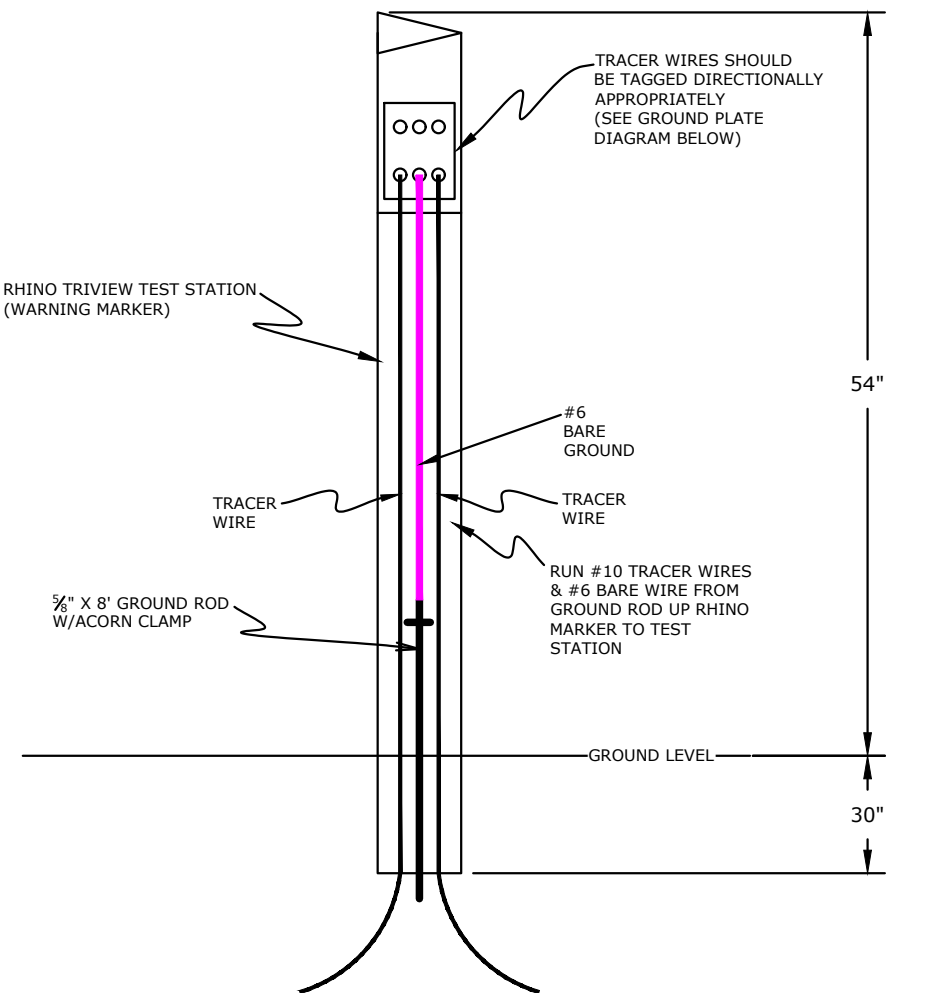
TYPICAL GROUNDING OF TRACER WIRE AT RISER POLE WITHOUT A RHINO TEST STATION



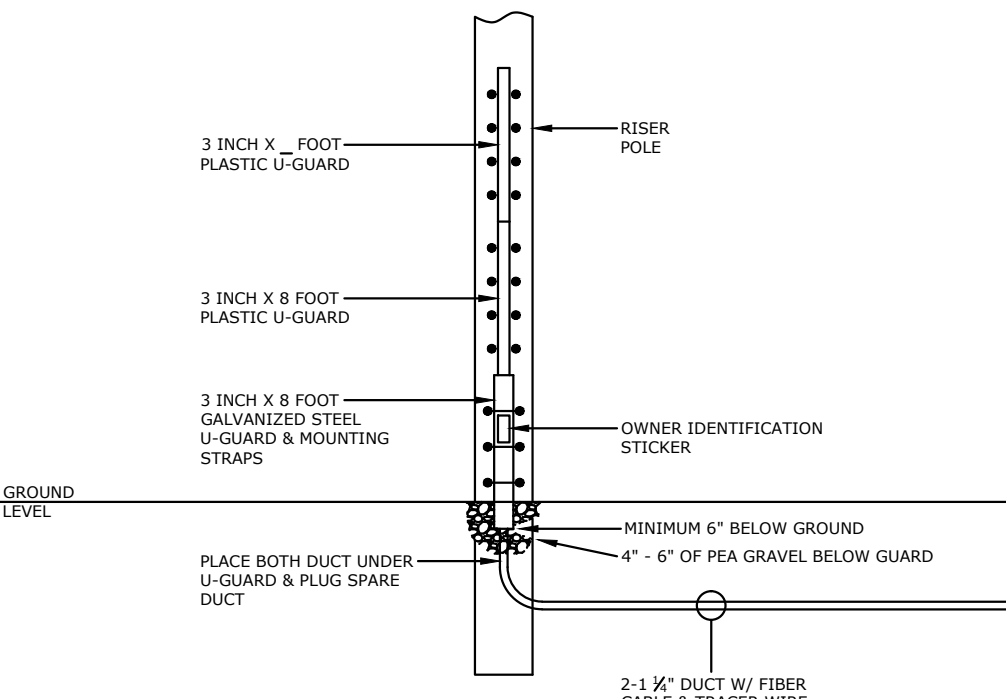
AAMFON
GRAND CHUTE

FIBER BUILD
TYPICAL CONSTRUCTION DRAWINGS

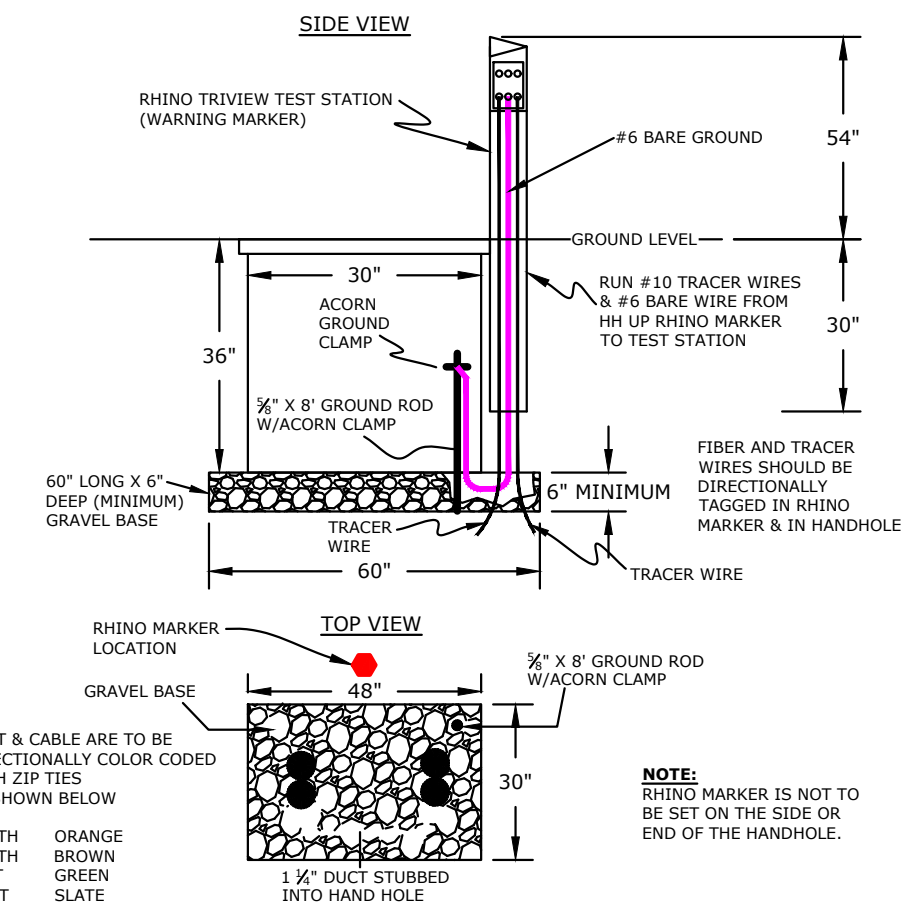
TYPICAL RHINO TEST STATION INSTALLATION (WITHOUT HANDHOLE)
SIDE VIEW



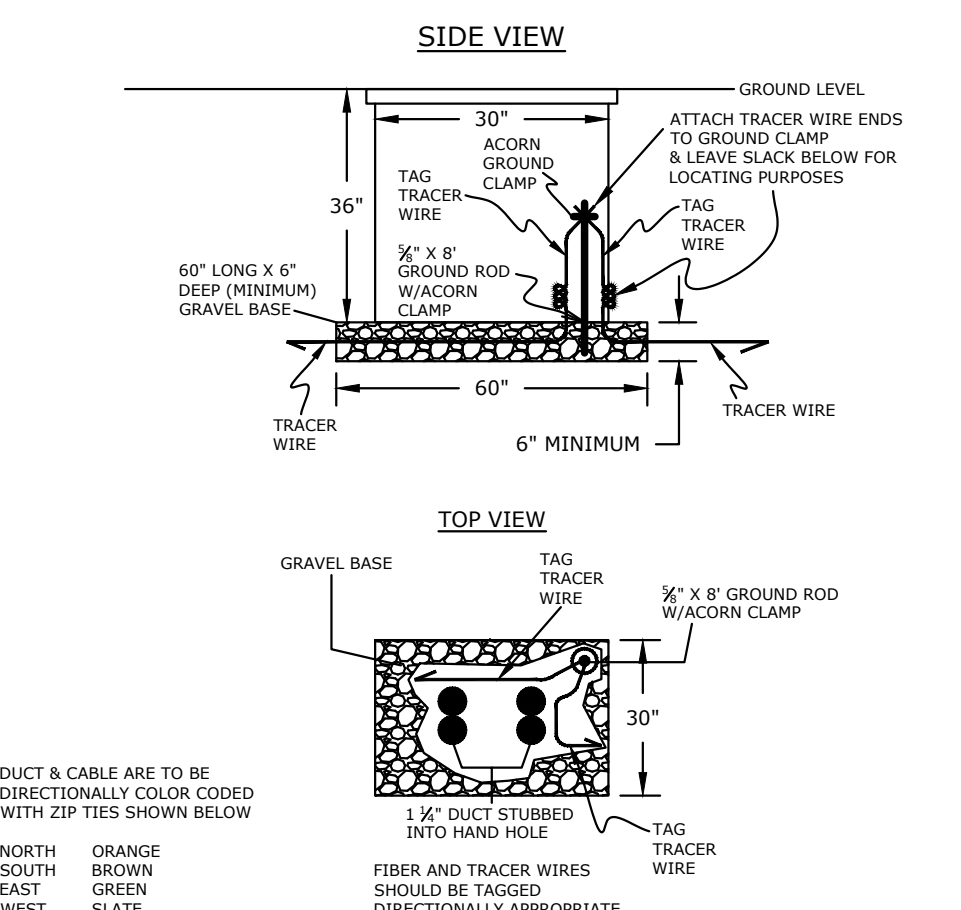
TYPICAL RISER GUARD INSTALLATION



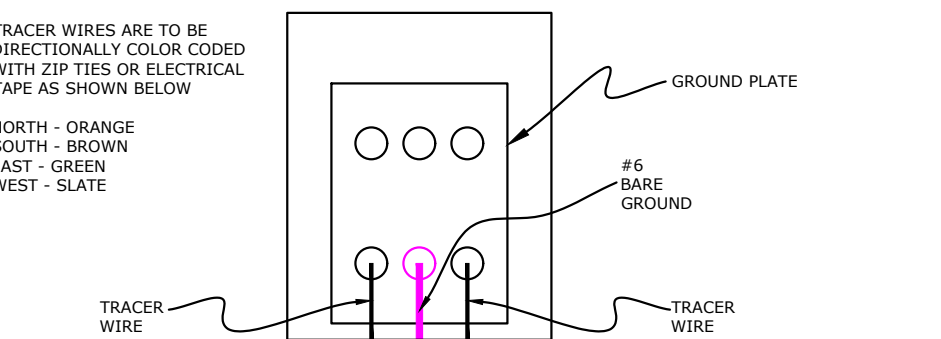
TYPICAL HAND HOLE INSTALLATION (WITH RHINO TEST STATION)
QUAZITE HAND HOLE AND COVER 30" X 48" X 36"



TYPICAL HAND HOLE INSTALLATION (WITHOUT RHINO TEST STATION)
QUAZITE HAND HOLE AND COVER 30" X 48" X 36"



TYPICAL RHINO TEST STATION (GROUND PLATE DETAIL)

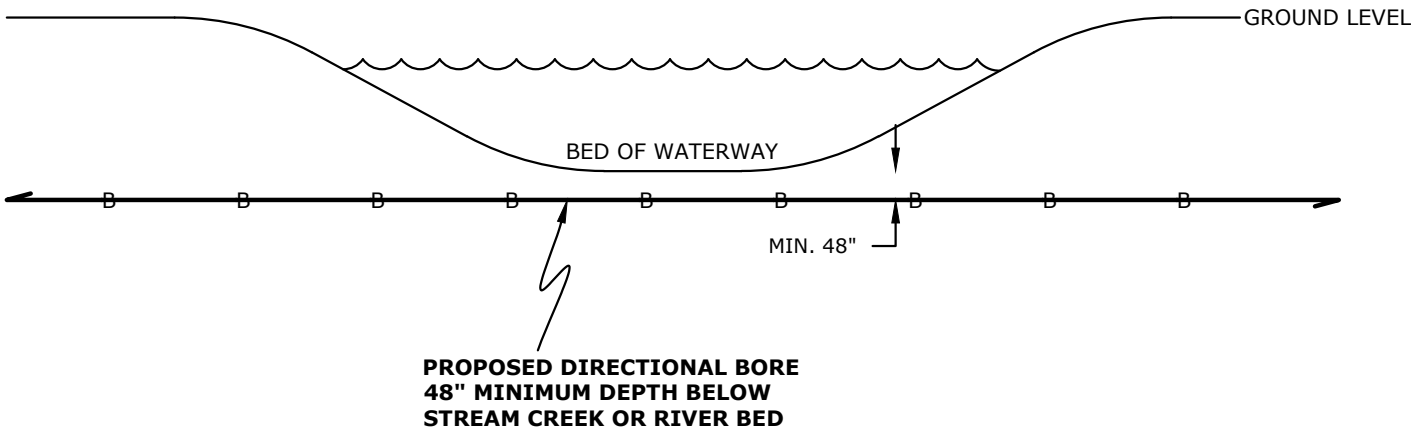


AAMFON
GRAND CHUTE

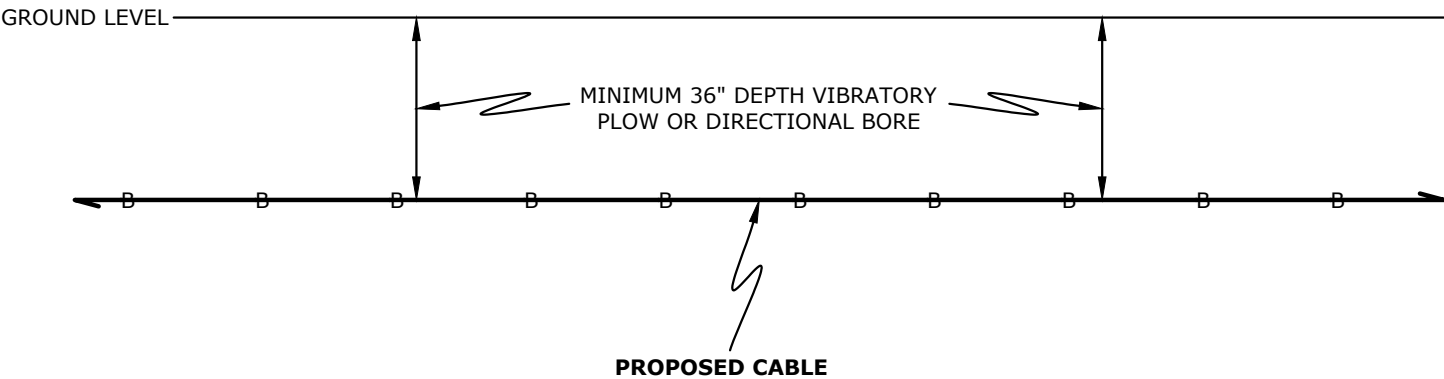
FIBER BUILD
TYPICAL CONSTRUCTION DRAWINGS

TYPICAL RIVER/STREAM/CREEK CROSSING

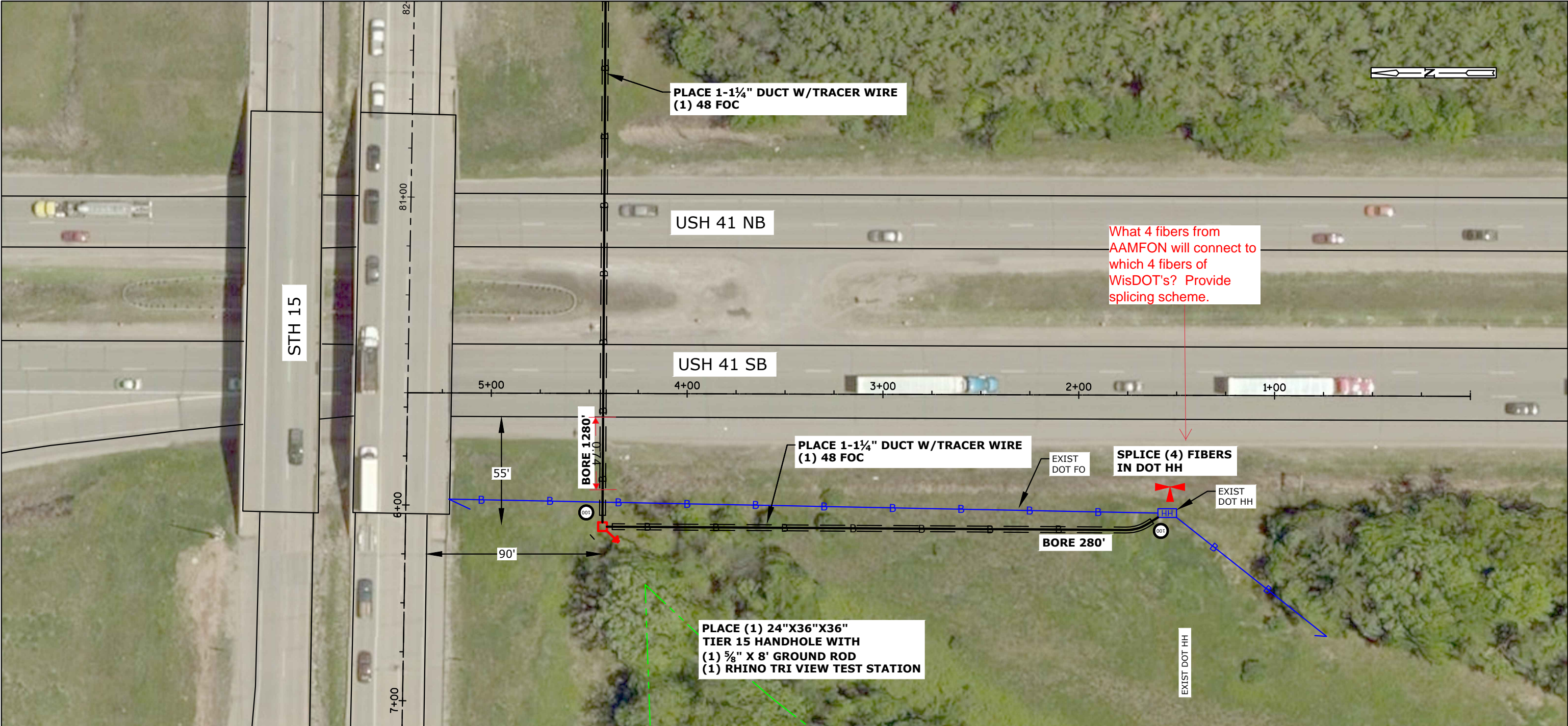
TYPICAL WETLAND CROSSING



***NOTE: BORE PITS TO BE SET UP
OUTSIDE OF WETLAND BOUNDARIES
UNLESS OTHERWISE NOTED ON PRINTS**

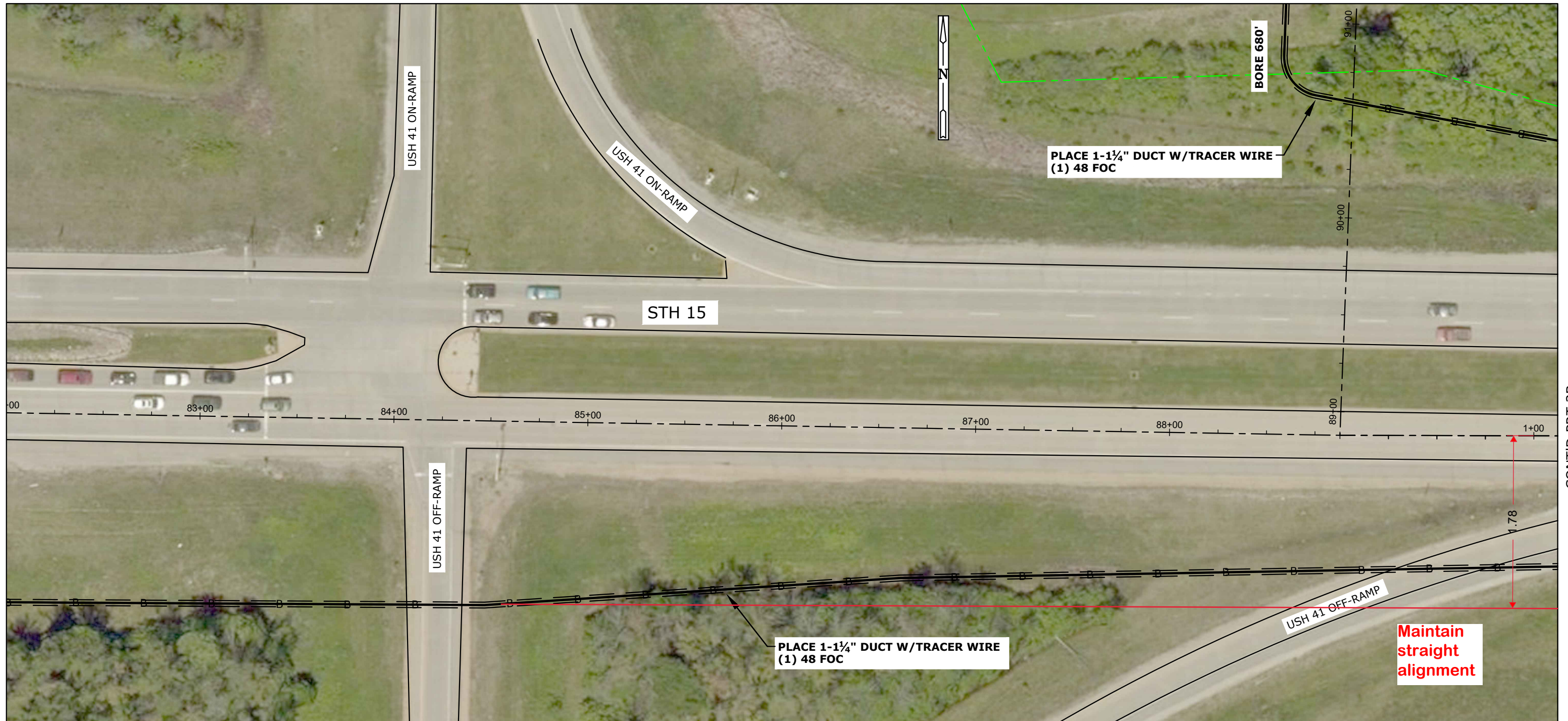
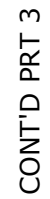


***NOTE: BORE PITS TO BE SET UP
OUTSIDE OF WETLAND BOUNDARIES
UNLESS OTHERWISE NOTED ON PRINTS**



CONT'D PRT 4

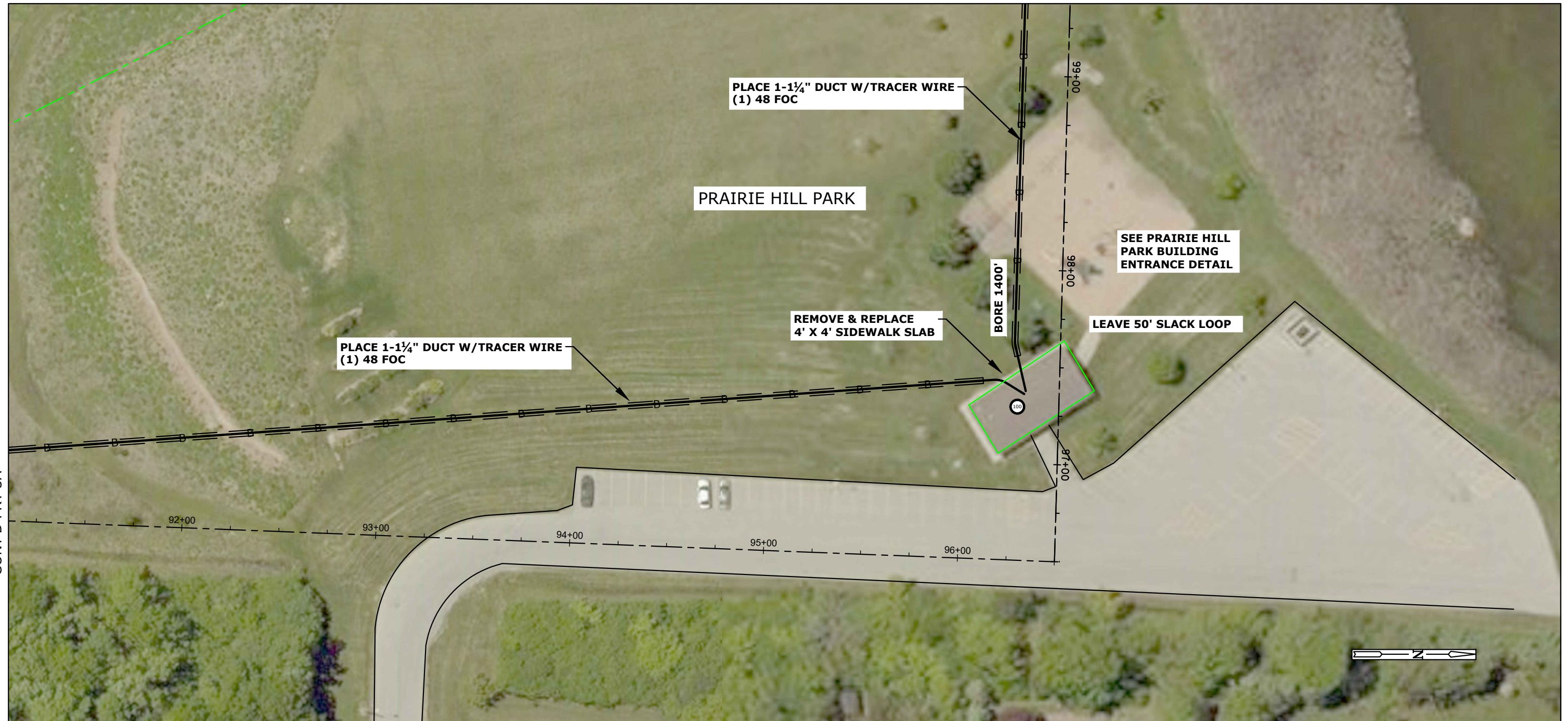
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OBJECT	STATION	UH 2 (24X36X36) TIER 15	BM 53	BM 2 (5/8) (8)	UO 48	UD (1.25) 1 W/TRACER WIRE	BM61D (1.25) 1 W/TRACE	UO (1X2X1.25) W/TRACE WIRE		BMSC (100)	BMSC (200)	CO 96 (5/16"EHS)	PE 1-3 (5/16"EHS)	PF 1-5	BM82 (8')	PM 11	A35-5	A40-5	PM 2	PM 2A	PE2-3 (5/16"EHS)	BM 72	BM 73	R 3-5		WHM	PM 21		EPA						
HH		1	1	1	280		280			1																									
EX HH										1																1									

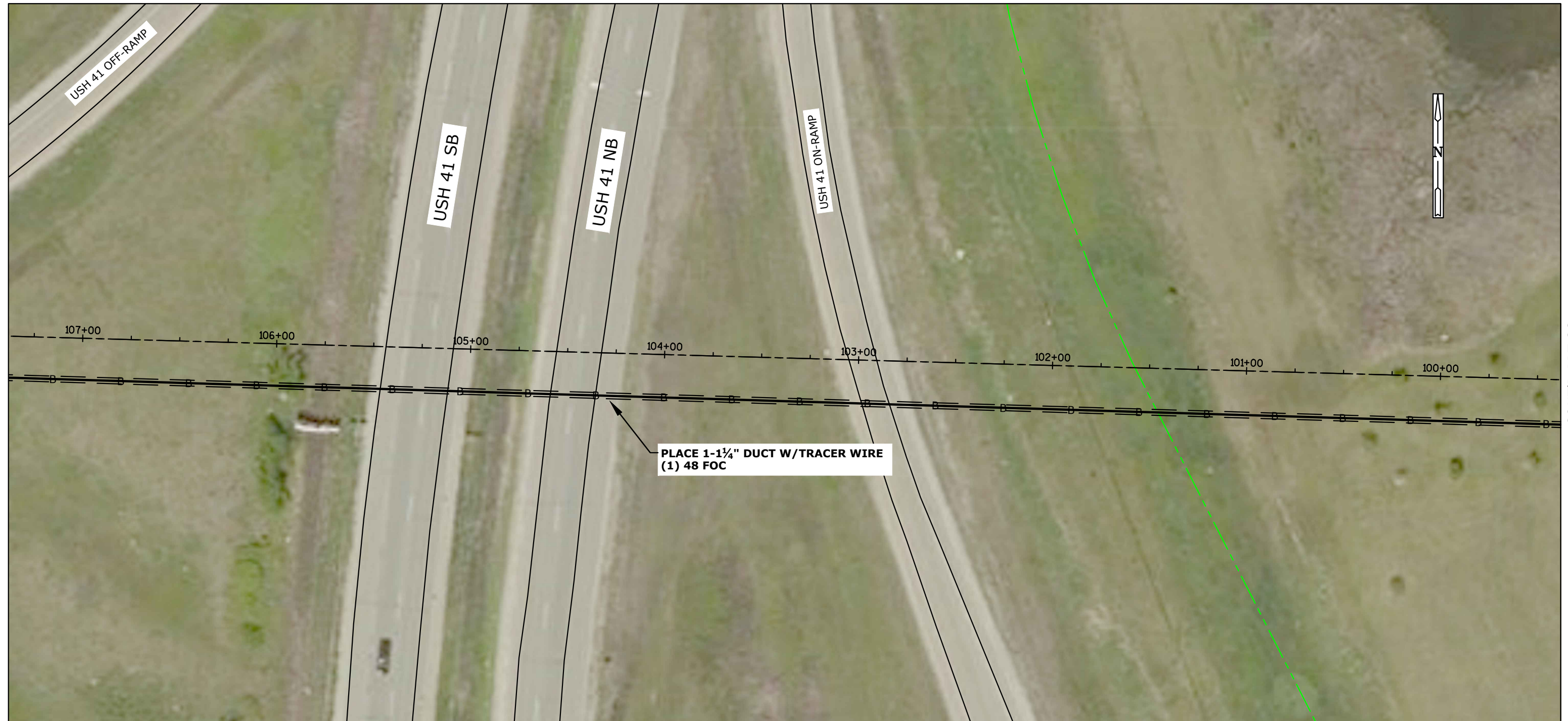


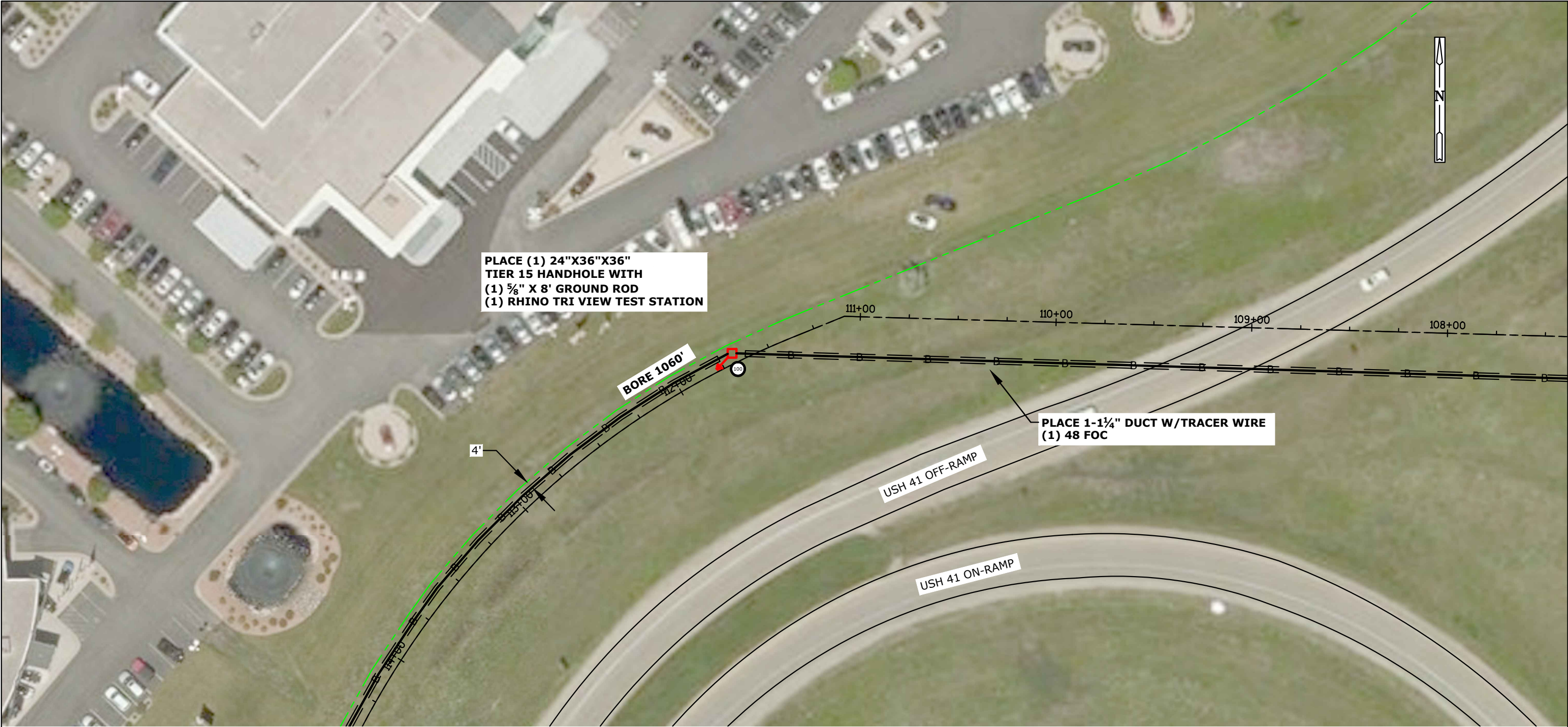
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CONT'D PRT 3D

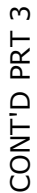
CONT'D PRT 3F

STATIONING INFO		HANDHOLE - MARKER-GND			BURIED					STORAGE		AERIAL										REMOVAL/REPLACEMENT				MISC.				<div>WARNING: BURIED UTILITIES IN AREA NOTE: UTILITIES SHOWN ON MAP ARE FOR REFERENCE ONLY CALL FOR LOCATES</div>	AAMFON GRAND CHUTE FIBER BUILD GRAND CHUTE, WISCONSIN			
OBJECT	STATION	UH 2 (24X36X36) TIER 15	BM 53	BM 2 (5/8) (8)	UO 48	UD (1.25) 1 W/TRACER WIRE	BM61D (1.25) 1 W/TRACE	UO (1X2X1.25) W/TRACE WIRE		BMSC (100)	PMBT (96) 150'	CO 96 (5/16"EHS)	PE 1-3 (5/16"EHS)	PF 1-5	BM82 (8')	PM 11	A35-5	A40-5	PM 2	PM 2A	PE2-3 (5/16"EHS)	BM 72	BM 73	R 3-5		WHM	PM 21		EPA		SHEET 3E OF 16			
HH		1	1	1	1400		1400			1																								



CONT'D PRT 4

STATIONING INFO		HANDHOLE - MARKER-GND			BURIED						STORAGE		AERIAL										REMOVAL/REPLACEMENT				MISC.				<div>WARNING: BURIED UTILITIES IN AREA NOTE: UTILITIES SHOWN ON MAP ARE FOR REFERENCE ONLY CALL FOR LOCATES</div>	<div>AAMFON GRAND CHUTE FIBER BUILD GRAND CHUTE, WISCONSIN SHEET 3F OF 16</div>		
OBJECT	STATION	UH 2 (30X48X36) TIER 15	BM 53	BM 2 (5/8) (8)	UO 12	UD (1.25) 1 W/TRACER WIRE	BM61D (1.25) 1 W/TRACE		UO (1X2X1.25) W/TRACE WIRE		BMSC (100)	PMBT (96) 150'	CO 96 (5/16"EHS)	PE 1-3 (5/16"EHS)	PF 1-5	BM82 (8')	PM 11	A35-5	A40-5	PM 2	PM 2A	PE2-3 (5/16"EHS)	BM 72	BM 73	R 3-5		WHM	PM 21		EPA				

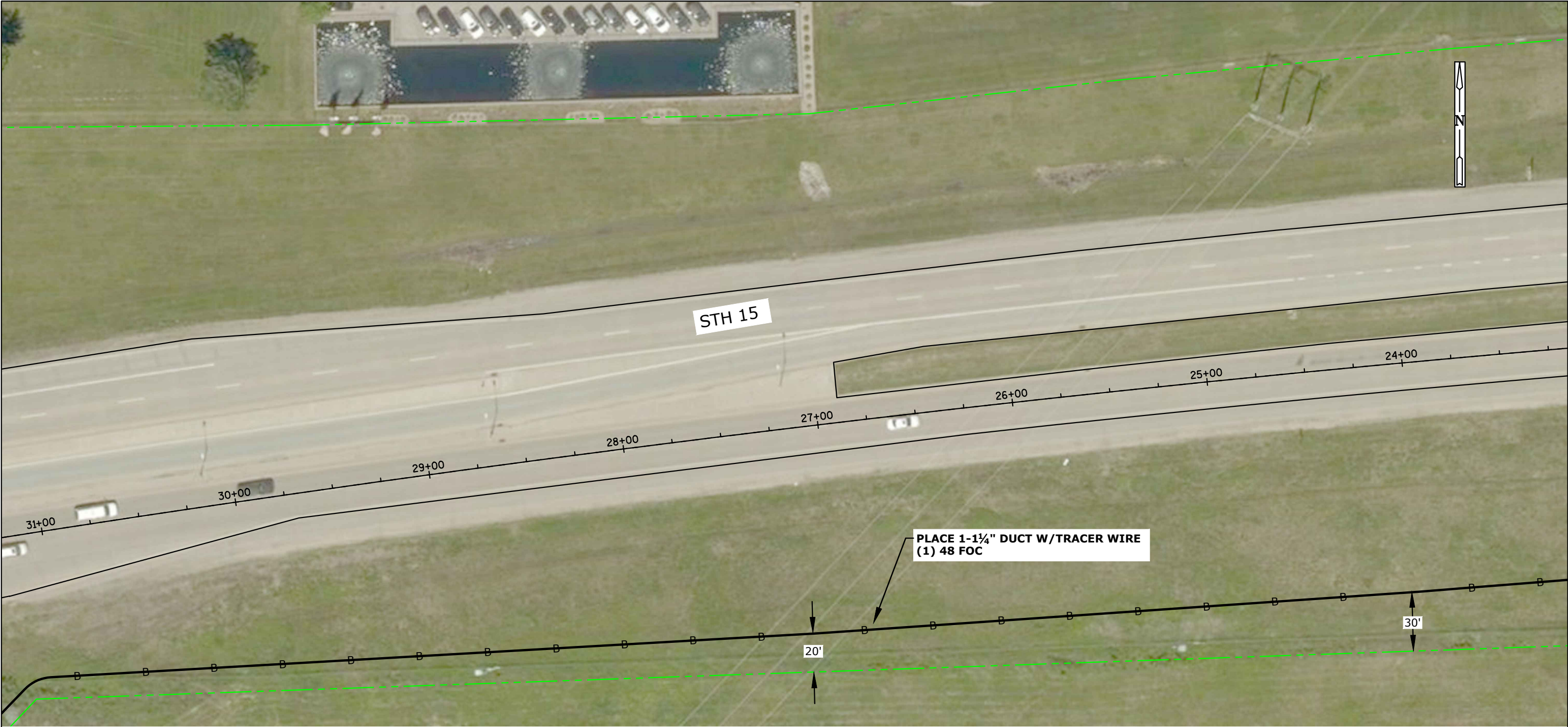
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CONT'D PRT 6

CONT'D PRT 4

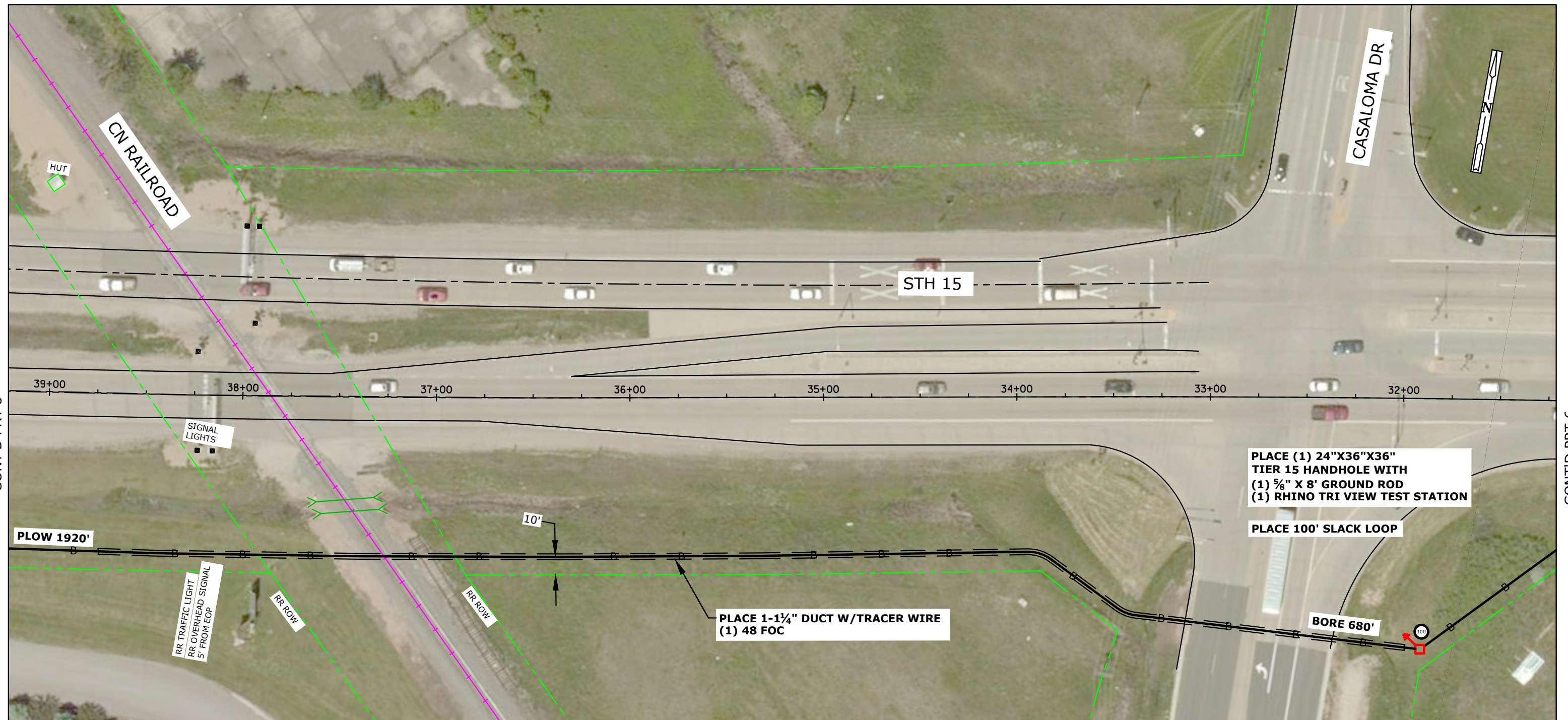
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CONT'D PRT 7



CONT'D PRT 5

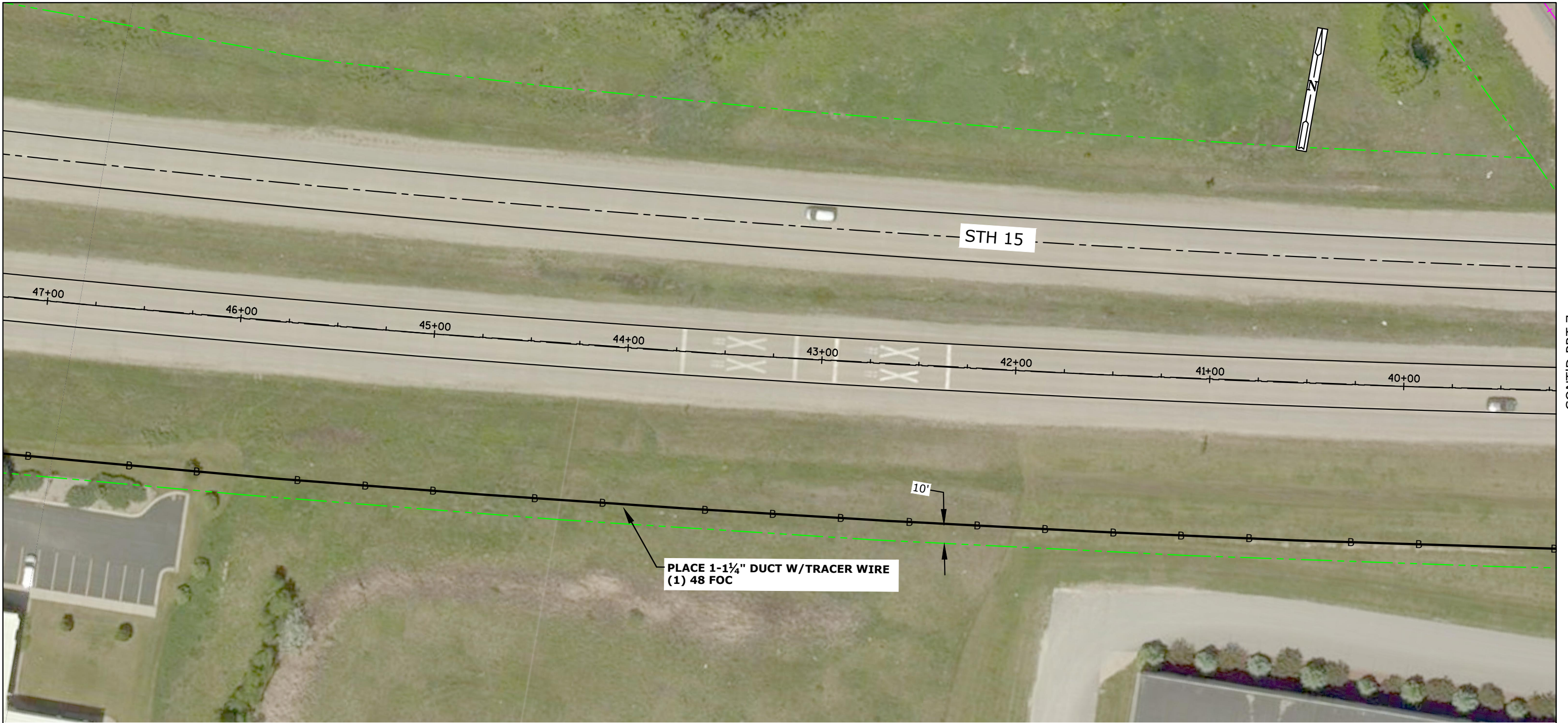
STATIONING INFO		HANDHOLE - MARKER-GND			BURIED					STORAGE		AERIAL										REMOVAL/REPLACEMENT				MISC.				<div><div>WARNING: BURIED UTILITIES IN AREA</div><div>NOTE: UTILITIES SHOWN ON MAP ARE FOR REFERENCE ONLY</div><div>CALL FOR LOCATES</div></div>	AAMFON								
OBJECT	STATION	UH 2 (30X48X36) TIER 15	BM 53	BM 2 (5/8) (8)	UO 48	UD (1.25) 1 W/TRACER WIRE	BM61D (1.25) 1 W/TRACE		UO (1X2X1.25) W/TRACE WIRE		BMSC (100)	PMBT (96) 150'	CO 96 (5/16"EHS)	PE 1-3 (5/16"EHS)	PF 1-5	BM82 (8')	PM 11	A35-5	A40-5	PM 2	PM 2A	PE2-3 (5/16"EHS)	BM 72	BM 73	R 3-5		WHM	PM 21		EPA	GRAND CHUTE FIBER BUILD		GRAND CHUTE, WISCONSIN						
																															SHEET 6 OF 16								
																															BY		DATE			MAP NO.			
																															FIELDIED					FILE NAME: AAMFON GRAND CHUTE.dwg			
																															PLACE CABLE					P.O. #			
																															TAB					DRAFTING		BY	DATE
																															FINAL QC					BASE		AL	
																															STAKED					DESIGN		DL	
																															BUILT								
TOTAL:		####	####	####	####	####	####	####	####	####	####	####	####	####	####	####	####	####	####	####	####	####	####	####	####	####	####	####	####	#	ASBUILT					NOT TO SCALE			



STATIONING INFO		HANDHOLE - MARKER-GND			BURIED						STORAGE		AERIAL										REMOVAL/REPLACEMENT						MISC.					
OBJECT	STATION	UH 2 (24X36X36) TIER 15	BM 53	BM 2 (5/8) (8)	UO 48	UD (1.25) 1 W/TRACER WIRE	BM61D (1.25) 1 W/TRACE		UO (1X2X1.25) W/TRACE WIRE		BMSC (100) 48	PMBT (96) 150'	CO 96 ($\frac{5}{16}$ "EHS)	PE 1-3 ($\frac{5}{16}$ "EHS)	PF 1-5	BM82 (8')	PM 11	A35-5	A40-5	PM 2	PM 2A	PE2-3 (5/16"EHS)	BM 72	BM 73	R 3-5		WHM	PM 21		EPA				
HH		1	1	1	1560	1560					1																							

CONT'D PRT 9

CONT'D PRT 7



STATIONING INFO		HANDHOLE - MARKER-GND			BURIED						STORAGE		AERIAL										REMOVAL/REPLACEMENT				MISC.				<div>WARNING: BURIED UTILITIES IN AREA</div> <div>NOTE: UTILITIES SHOWN ON MAP ARE FOR REFERENCE ONLY</div> <div>CALL FOR LOCATES</div>	<div>AAMFON</div> <div>GRAND CHUTE FIBER BUILD</div> <div>GRAND CHUTE, WISCONSIN</div> <div>SHEET 8 OF 16</div>		
OBJECT	STATION	UH 2 (30X48X36) TIER 15	BM 53	BM 2 (5/8) (8)	UO 96	UD (1.25) 2 W/TRACER WIRE	BM61D (1.25) 2 W/TRACE		UO (1X2X1.25) W/TRACE WIRE		BMSC (100)	PMBT (96) 150'	CO 96 (5/16"EHS)	PE 1-3 (5/16"EHS)	PF 1-5	BM82 (8')	PM 11	A35-5	A40-5	PM 2	PM 2A	PE2-3 (5/16"EHS)	BM 72	BM 73	R 3-5		WHM	PM 21	EPA					

CONT'D PRT 10

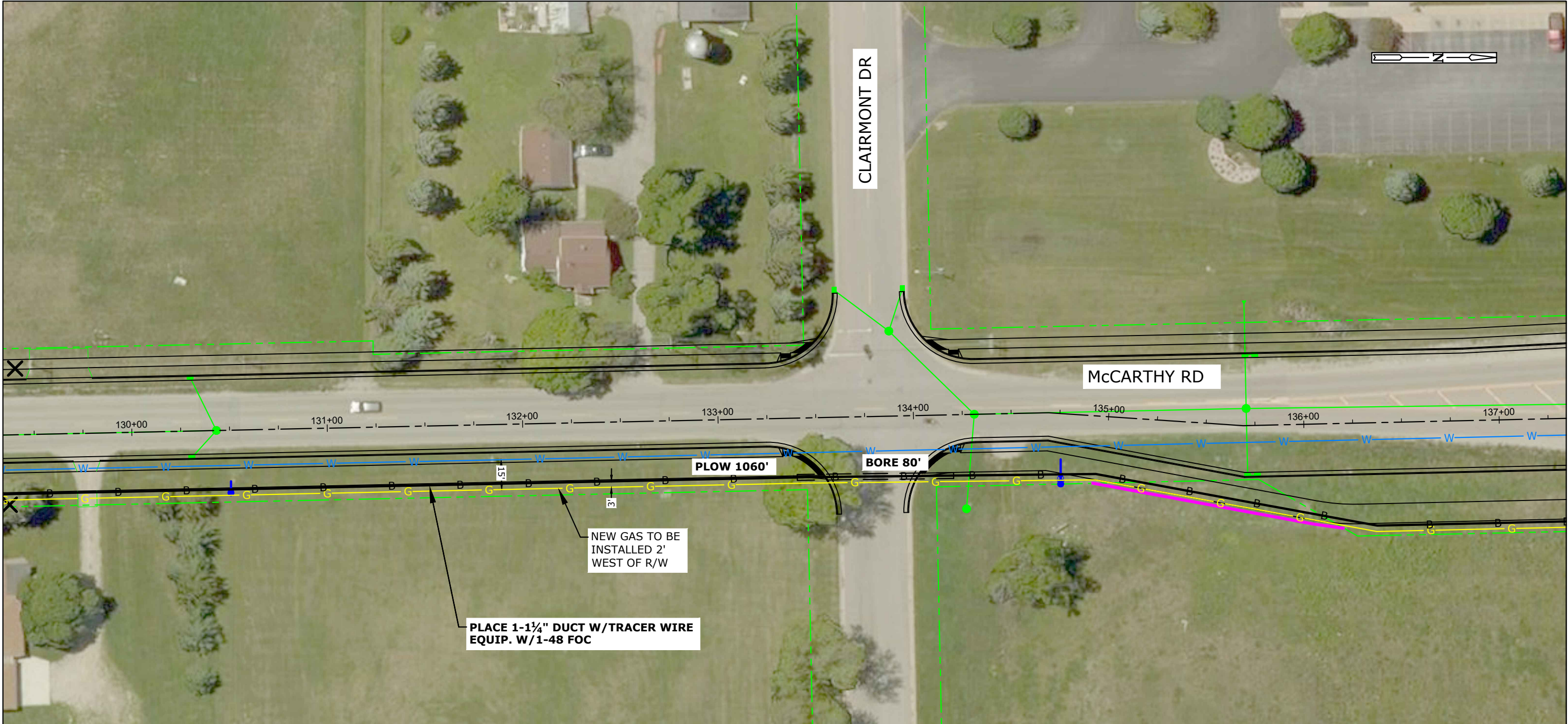


CONT'D PRT 8

STATIONING INFO		HANDHOLE - MARKER-GND			BURIED						STORAGE		AERIAL										REMOVAL/REPLACEMENT				MISC.				<div>WARNING: BURIED UTILITIES IN AREA NOTE: UTILITIES SHOWN ON MAP ARE FOR REFERENCE ONLY CALL FOR LOCATES</div>	AAMFON		
OBJECT	STATION	UH 2 (30X48X36) TIER 15	BM 53	BM 2 (5/8) (8)	UO 96	UD (1.25) 2 W/TRACER WIRE	BM61D (1.25) 2 W/TRACE		UO (1X2X1.25) W/TRACE WIRE		BMSC (100)	PMBT (96) 150'	CO 96 ($\frac{5}{16}$ "EHS)	PE 1-3 ($\frac{5}{16}$ "EHS)	PF 1-5	BM82 (8')	PM 11	A35-5	A40-5	PM 2	PM 2A	PE2-3 (5/16"EHS)	BM 72	BM 73	R 3-5		WHM	PM 21		EPA		GRAND CHUTE FIBER BUILD GRAND CHUTE, WISCONSIN		
																																		SHEET 9 OF 16

CONT'D PRT 12

CONT'D PRT 10

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