



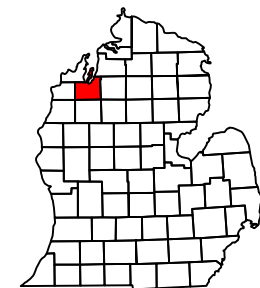
Advanced Communications & Data

**KEPS Technologies, Inc. d/b/a ACD.net**  
**FIBER OPTIC CABLE ROUTE**

Project Number  
**IF014350FO33340**

[517-999-9999](tel:517-999-9999)

1800 Grand River Ave  
Lansing MI 48906



Advanced Communications & Data

517-999-9999  
1800 Grand River Ave  
Lansing MI 48906

**PROPRIETARY**  
**INFORMATION NOT FOR DISCLOSURE**

This Set of Plans contains confidential or proprietary information, and the recipient must not disclose, copy, re-create, or distribute the plans or the information contained therein, either directly or indirectly, to other entities or individuals without written or express permission from ACD.NET

**DRAWING DISCLAIMER**

Facility Locations are general in nature, ACD.NET will not be held accountable for the accuracy of the information provided on these drawings. Contact the Local ONE CALL AGENCY 72 HOURS PRIOR TO CONSTRUCTION FOR EXACT UTILITY LOCATIONS AT:

MISS DIG 1-800-482-7171	O.U.P.S. 1-800-362-2764	INDIANA811 1-800-382-5544
----------------------------	----------------------------	------------------------------

CAD Standard Ver. 72919

**Project Manager**

**B. DIETRICH**

**Permitting**

**B. DIETRICH**

**Transport Manager**

**G. GOULD**

**Drawn By Date**

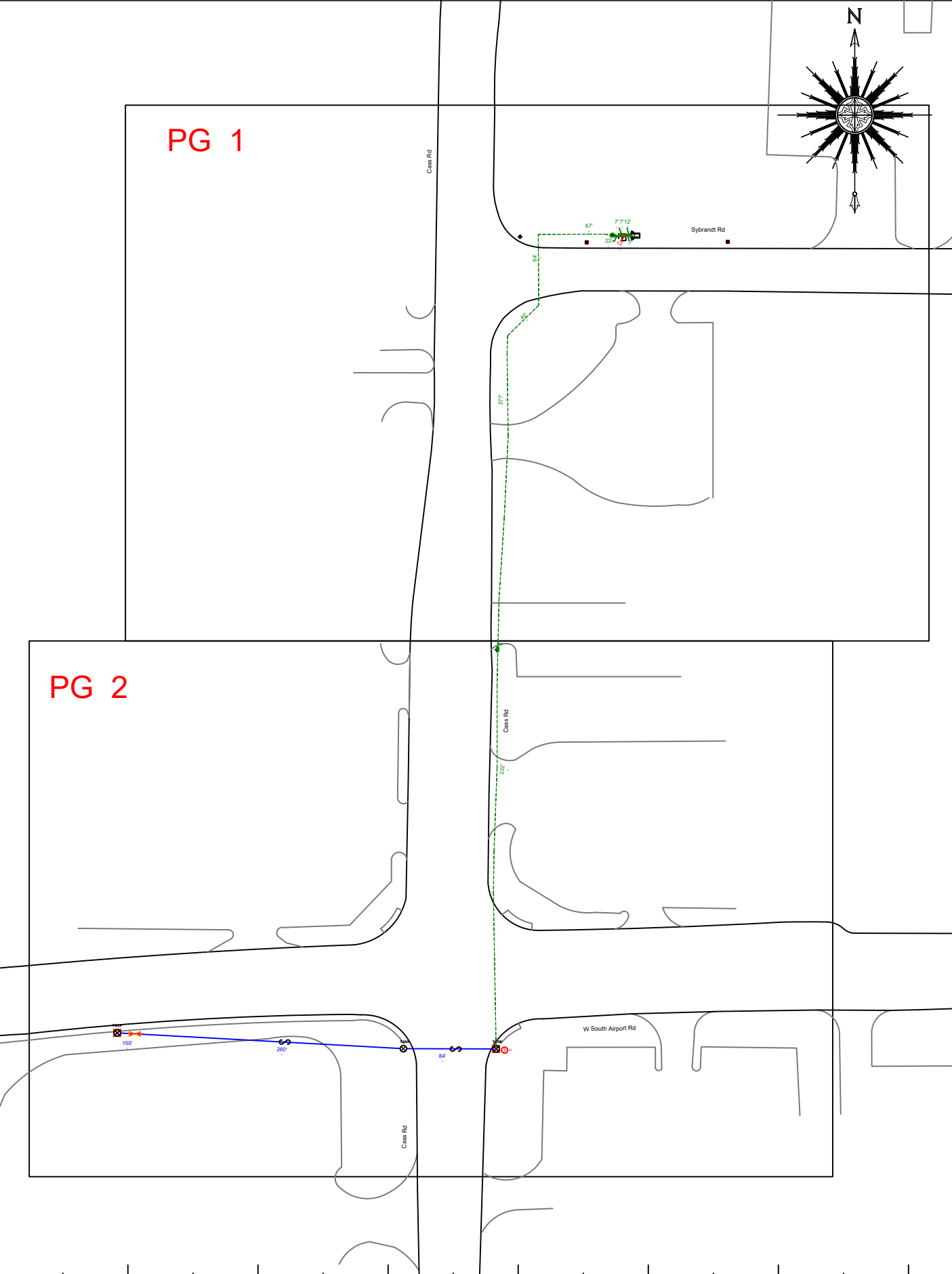
DTW 06/28/22

**As Built Date**

**Revisions**

REV #	DESCRIPTION	BY	DATE
1	ADDED INFRASTRUCTURE	JA	07-25-23
2	Moved Hut To ROW	DW	8-4-23
3	Revised route slightly, added too detail	DW	12-27-23

**Exhibit:** N/A

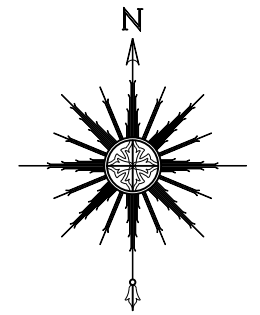


Remarks:		PEACHTREE ID: 33340	
SCALE: 1" = NTS	TRIS:		
COUNTY: GRAND TRAVERSE	TOWNSHIP: GARFIELD	CITY:	PROJECT ID: IF014350FO33340
			CUSTOMER NUMBER: 014350

**GRID KEY**

**CONSTRUCTION NOTES**

1. CONTRACTOR SHALL EMAIL [DIETRICH.BRIAN@ACD.NET](mailto:DIETRICH.BRIAN@ACD.NET) WITH DAILY STATUS UPDATES AND ONCE WORK IS COMPLETE
2. MUNICIPALITY MUST BE NOTIFIED AT LEAST 48 HOURS BEFORE ANY WORK COMMENCES
3. ALL APPROPRIATE PERMITS AND ASSOCIATED DRAWINGS SHALL BE ON-SITE AT ALL TIMES DURING CONSTRUCTION
4. NOTIFY THE APPROPRIATE UTILITY NOTIFICATION SERVICE 72 HOURS PRIOR TO CONSTRUCTION.  
MICHIGAN- MISS DIG (1-800-482-1711), OHIO- O.U.P.S. (1-800-362-2764) OR INDIANA- INDIANA811 (1-800-382-5544)
5. ALL UTILITIES MUST BE FIELD VERIFIED
6. ALL HANDHOLES ARE TO INCLUDE 150' OF COILED FIBER FOR STORAGE
7. NEW INSTALLATION SHALL MAINTAIN 18" CLEARANCE FROM ALL EXISTING UTILITIES UNLESS NOTED OTHERWISE
8. ALL ROAD AND DRIVEWAY CROSSINGS WILL BE DIRECTIONAL BORED
9. CONSTRUCTION SHALL NOT DEVIATE FROM APPROVED PLANS WITHOUT WRITTEN CONSENT FROM BOTH THE MUNICIPALITY AND AN AUTHORIZED ACD.NET REPRESENTATIVE
10. PROPER SIGNAGE AND TRAFFIC CONTROL IS REQUIRED BEFORE STARTING ANY WORK WITHIN THE PUBLIC RIGHT OF WAY
11. ALL BACKFILL MATERIAL WITHIN THE ROAD RIGHT OF WAY OR NEAR SIDEWALKS AND PATHWAYS SHALL MEET THE REQUIREMENTS OF MDOT CLASS II MATERIAL, COMPACTED TO 95% OF ITS MAXIMUM DENSITY IN SUCCESSIVE LAYERS THAT ARE NO MORE THAN 12" THICK, UNLESS OTHERWISE AUTHORIZED
12. ALL SODDED AREAS THAT MAY DISTURBED DURING CONSTRUCTION ARE TO BE RESTORED WITH 3" QUALITY TOP SOIL, SEED AND MULCH
13. CONTRACTOR SHALL PROVIDE AS-BUILTS ON ALL WORK WITHIN 5 BUSINESS DAYS OF COMPLETION



517-999-9999  
1800 Grand River Ave  
Lansing MI 48906

**PROPRIETARY  
INFORMATION NOT FOR  
DISCLOSURE**

This Set of Plans contains confidential or proprietary information, and the recipient must not disclose, copy, re-create, or distribute the plans or the information contained therein, either directly or indirectly, to other entities or individuals without written or express permission from ACD.NET

**DRAWING DISCLAIMER**

Facility Locations are general in nature, ACD.NET will not be held accountable for the accuracy of the information provided on these drawings. Contact the Local ONE CALL AGENCY 72 HOURS PRIOR TO CONSTRUCTION FOR EXACT UTILITY LOCATIONS AT:

MISS DIG 1-800-482-7171	O.U.P.S. 1-800-362-2764	INDIANA811 1-800-382-5544
----------------------------	----------------------------	------------------------------

CAD Standard Ver. 72919

**Project Manager**

**B. DIETRICH**

**Permitting**

**B. DIETRICH**

**Transport Manager**

**G. GOULD**

**Drawn By Date**

DTW 06/28/22

**As Built Date**

**Revisions**

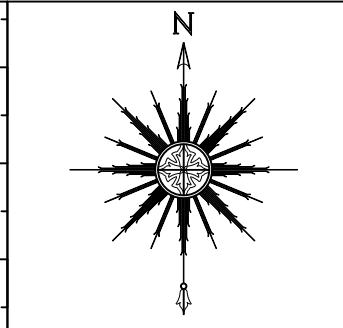
REV #	DESCRIPTION	BY	DATE
1	ADDED INFRASTRUCTURE	JA	07-25-23
2	Moved Hut To ROW	DW	8-4-23
3	Revised route slightly, added too detail	DW	12-27-23

**Exhibit: N/A**

Remarks:			PEACHTREE ID: 33340	
SCALE: 1" = NTS	TRRS:			
COUNTY: GRAND TRAVERSE	TOWNSHIP: GARFIELD	CITY:	PROJECT ID: IF014350FO33340	CUSTOMER NUMBER: 014350

**NOTES**

Proposed Anchor Distance and Direction		Fiber Count W/ Segment Number		Man Hole		<b>Typical Line Types</b> Rail Road Tracks Proposed Underground Fiber Existing Underground Fiber Right Of Way Boundary Side Walk and Driveway Fiber Design Line Aerial Fiber Center Line Water Main Forced Water Main Storm Sewer Sanitary Sewer Gas Main Foreign UG Fiber AT&T UG Fiber UG Electric Oil Line Fence TRS Boundary Civil Boundary Property Boundary Water Boundary
Proposed ACD Communications Poles		Fiber Termination Point		Storm Drain		
Proposed ACD NON Communications Pole		ACD Splice Case Six Way		ACD Regen Cabinet		
Colocation Poles (ACD Communication Equipment on Existing Poles)		ACD Splice Case Four Way		TRS Section Corner		
Joint Use Pole NON Transformer		ACD Splice Case Three Way		Fire Hydrant		
Joint Use Pole Transformer		ACD Splice Case Two Way		Location Address		
Foreign Pole Indicator		ACD Fiber Tap Capsule		Foliage		
Joint Use Pole NON Transformer- UNUSED		ACD RE-Box		Centerline Marker		
Joint Use Pole Transformer- UNUSED		Foreign Splice Case		Station Marker		
Street Light		Storage Loop w/ Footage and Segment		Use of Double Dead End		
Existing Traffic Signal Pole		ACD Buried Cable Marker				
Pole Number Marker		ACD Hand Hole 17" x 12"				
Proposed Riser		ACD Hand Hole 24" x 13"				
Make Ready Symbol w/ Attachment and Sag Heights		ACD Hand Hole 24" x 36"				
Down Ground		ACD Hand Hole 30" x 48"				
Bonding Clamp		Foreign Hand Hole				
Fiber Overlash		Proposed Bore Pit Location				
Overhead Guy Marker		Communications Tower				
Span Length and Segment ID						



**ACD NET**  
 Advanced Communications & Data  
 517-999-9999  
 1800 Grand River Ave  
 Lansing MI 48906

**PROPRIETARY INFORMATION NOT FOR DISCLOSURE**  
 This Set of Plans contains confidential or proprietary information, and the recipient must not disclose, copy, re-create, or distribute the plans or the information contained therein, either directly or indirectly, to other entities or individuals without written or express permission from ACD.NET

**DRAWING DISCLAIMER**  
 Facility Locations are general in nature, ACD.NET will not be held accountable for the accuracy of the information provided on these drawings. Contact the Local ONE CALL AGENCY 72 HOURS PRIOR TO CONSTRUCTION FOR EXACT UTILITY LOCATIONS AT:  
 MISS DIG 1-800-482-7171 O.U.P.S 1-800-362-2764 INDIANA811 1-800-382-5544  
 CAD Standard Ver. 72919

**FIBER DESIGN LINE COLOR CODE**

	432
	288
	216
	144
	96
	72
	48
	36
	24
	12
	2

NOTE:  
 WHEN IN QUESTION DEFAULT TO  
 Fiber Count  
 W/ Segment Number

Our Match Lines can be found in the lower right hand corner and represents the neighboring page numbers.

WEST PAGE	NORTH PAGE	EAST PAGE
	PAGE	
	SOUTH PAGE	

**Project Manager**

B. DIETRICH

**Permitting**

B. DIETRICH

**Transport Manager**

G. GOULD

**Drawn By Date**

DTW 06/28/22

**As Built Date**

**Revisions**

REV #	DESCRIPTION	BY	DATE
1	ADDED INFRASTRUCTURE	JA	07-25-23
2	Moved Hut To ROW	DW	8-4-23
3	Revised route slightly, added too detail	DW	12-27-23

**Exhibit: N/A**

Remarks:

PEACHTREE ID: 33340

SCALE: 1" = NTS

TRS:

COUNTY: GRAND TRAVERSE

TOWNSHIP: GARFIELD

CITY:

PROJECT ID: IF014350FO33340

CUSTOMER NUMBER: 014350

SYMBOLS

LEGEND

## General Site Preparation For Installing Hand Holes (All Sizes)

These guidelines for installing ACD Hand holes are provided as a general guide and actual site conditions may warrant the use of additional installations procedures not covered here. Follow all project specifications when installing ACD Hand holes.

1. Excavate the earth approximately 12" wider and longer than the hand hole as well as 6" deeper than the depth of the hand hole. Fill the excavation with a 6" base of pea stone or crushed rock to ensure proper drainage. Tamping is recommended to provide a compact and level surface for the hand hole to be placed upon.
2. Wood bracing should be used inside the hand hole to ensure minimal sidewall deflection when backfilling. Temporary bracing can be constructed out of construction grade lumber. Start by using (1) 2x4 to brace the end walls and (2) 2x4s to brace the side walls, finish with (1) 2x4 from one side of the ring to the other. Do not install the bracing to tight to prevent damage.
3. Lift the Hand hole into the excavation using the lifting bolts or lifting wires. Check the top of the box is flush with the finished grade. Any necessary adjustments should be made to bring it to finished grade.
4. Backfill with clean, loose soil and compact to a minimum of 90%-95% compaction. Remove bracing materials and secure cover using included hardware.

## General Hand Hole Notes (All Sizes)

1. All Hand holes are to contain 150' of coiled up storage.
2. All Conduits are to be brought up through the bottom of the hand hole. No Conduits are to penetrate the sides of the enclosure. All conduits are to be tagged with the colored zip ties following this system:  
Red= Riser  
Blue= North  
Yellow= West  
Green= South  
Black= East
3. All Hand holes are to contain a 5/8" DIA x 8' grounding rod to be placed in a corner 3" away from each side and 18" above tamped earth.

## Restoration Notes

1. All backfill material within the road right of way or near sidewalks and pathways shall meet the requirements of MDOT Class II material, compacted to 95% of its maximum density in successive layers that are no more than 12" thick, unless otherwise authorized
2. All sodded areas that may disturbed during construction are to be restored with 3" quality top soil, seed and mulch
3. All Concrete/Sidewalk areas that may be disturbed are to be restored to a like or better condition.

## Underground Coupler Detail

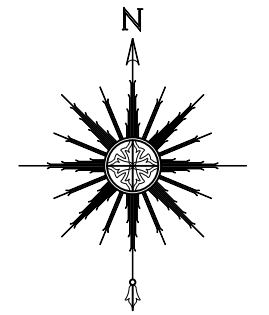
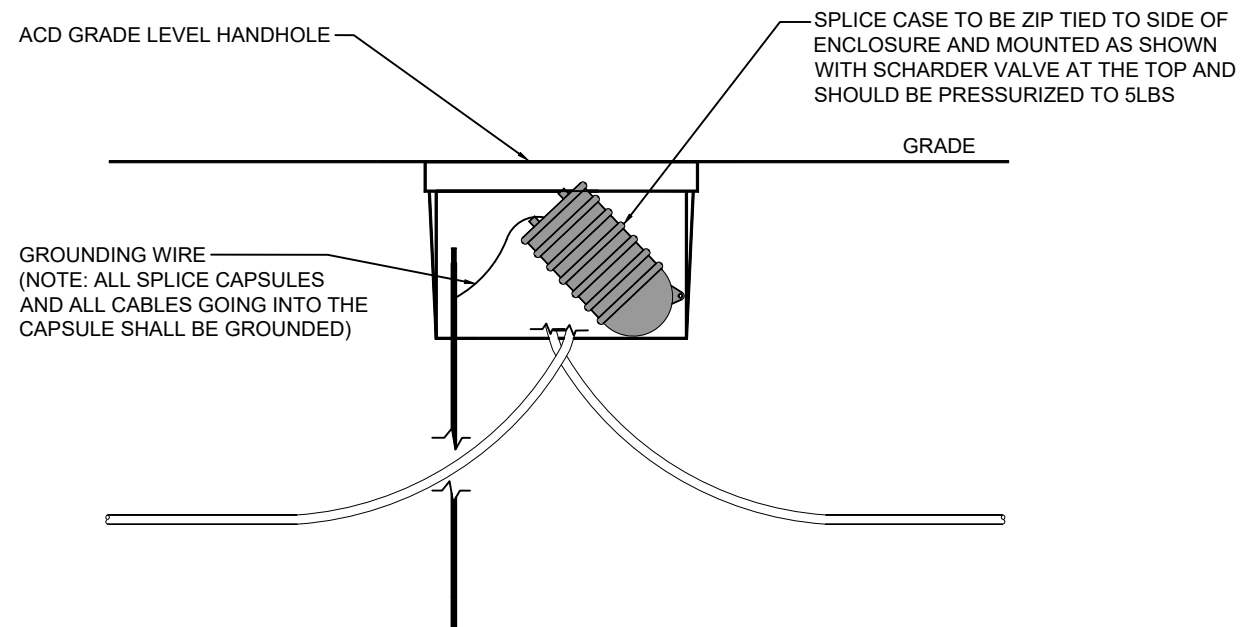
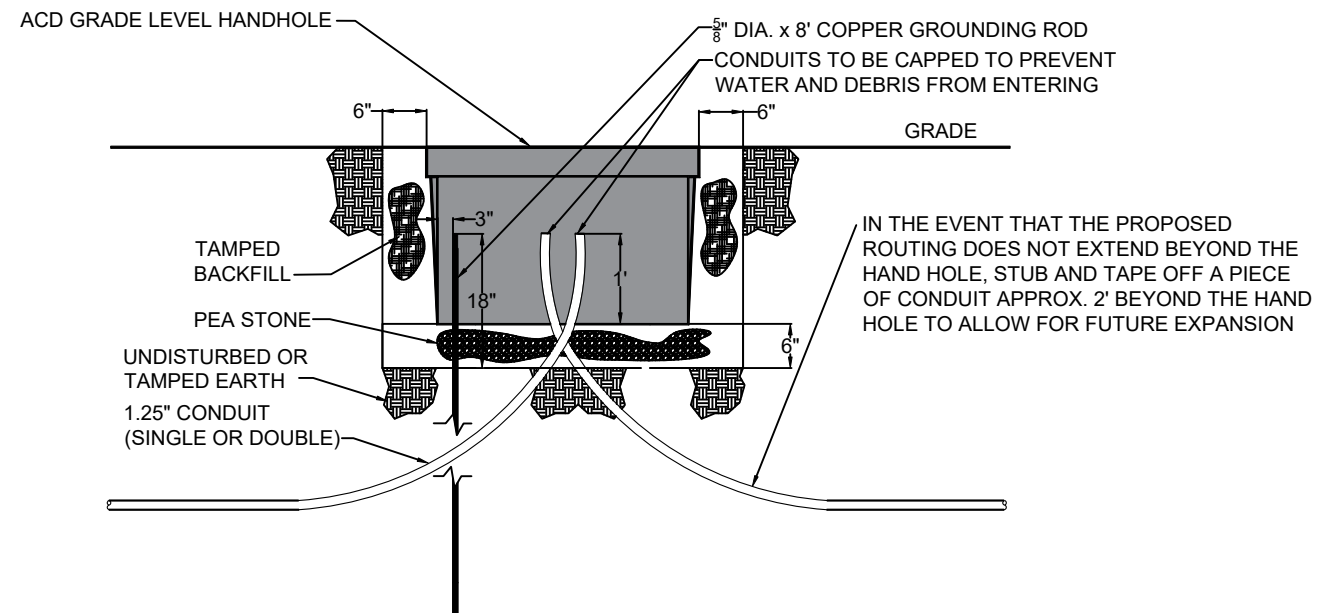
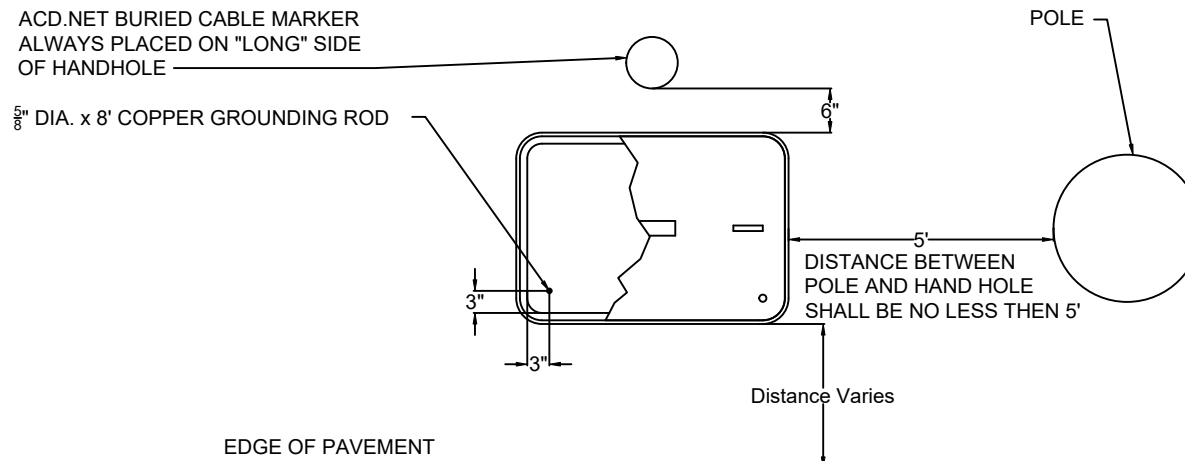
### PUSH2CONNECT™ Coupler

## Do Not Unscrew!

**Push-On-Only!**  
(Loosening collars prior to installing can cause improper installation, create air loss, or coupler failure)

**Air Tight - Water Tight**  
Tested to **GREATER THAN 1500#**  
**Pull-Out**  
**GREATER THAN 450 (psi)** air pass-through

Couplers for the Following Sizes	Duct OD	Color	Box Qty	Part Number
1" Smoothwall HDPE	1.315"	Yellow	85	P2C-1.315
1.25" Smoothwall HDPE	1.66"	Blue	100	P2C-1.66
1.25" Smoothwall HDPE True Sized	1.58"	Black	100	P2C-1.58
2" Smoothwall HDPE	2.375"	Orange	24	P2C-2.375
Transition Coupler 1.25" to 1.25"	1.58" to 1.66"	Black AND Blue	100	P2C-1.66-1.58trans



517-999-9999  
1800 Grand River Ave  
Lansing MI 48906

### PROPRIETARY INFORMATION NOT FOR DISCLOSURE

This Set of Plans contains confidential or proprietary information, and the recipient must not disclose, copy, re-create, or distribute the plans or the information contained therein, either directly or indirectly, to other entities or individuals without written or express permission from ACD.NET

### DRAWING DISCLAIMER

Facility Locations are general in nature, ACD.NET will not be held accountable for the accuracy of the information provided on these drawings. Contact the Local ONE CALL AGENCY 72 HOURS PRIOR TO CONSTRUCTION FOR EXACT UTILITY LOCATIONS AT:

MISS DIG 1-800-482-7171	O.U.P.S. 1-800-362-2764	INDIANA811 1-800-382-5544
----------------------------	----------------------------	------------------------------

CAD Standard Ver. 72919

### Project Manager

B. DIETRICH

### Permitting

B. DIETRICH

### Transport Manager

G. GOULD

### Drawn By Date

DTW 06/28/22

### As Built Date

### Revisions

REV #	DESCRIPTION	BY	DATE
1	ADDED INFRASTRUCTURE	JA	07-25-23
2	Moved Hut To ROW	DW	8-4-23
3	Revised route slightly, added too detail	DW	12-27-23

**Exhibit:** N/A

Remarks:

PEACHTREE ID: 33340

SCALE: 1" = NTS

TRS:

COUNTY: GRAND TRAVERSE

TOWNSHIP: GARFIELD

CITY:

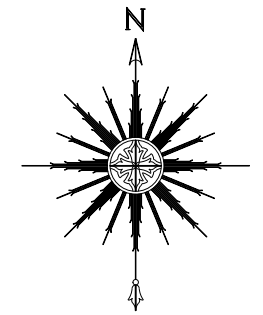
PROJECT ID: IF014350FO33340

CUSTOMER NUMBER: 014350

**HANDHOLE INSTALL**

DETAIL

**UTILITY CROSSING**  
 □ : EXPOSE UTILITY LINES AT CROSSING TO VERIFY LOCATION & DEPTH PRIOR TO CONSTRUCTION



Advanced Communications & Data

517-999-9999  
 1800 Grand River Ave  
 Lansing MI 48906

**PROPRIETARY**  
**INFORMATION NOT FOR DISCLOSURE**

This Set of Plans contains confidential or proprietary information, and the recipient must not disclose, copy, re-create, or distribute the plans or the information contained therein, either directly or indirectly, to other entities or individuals without written or express permission from ACD.NET

**DRAWING DISCLAIMER**

Facility Locations are general in nature, ACD.NET will not be held accountable for the accuracy of the information provided on these drawings. Contact the Local ONE CALL AGENCY 72 HOURS PRIOR TO CONSTRUCTION FOR EXACT UTILITY LOCATIONS AT:

MISS DIG 1-800-482-7171	O.U.P.S. 1-800-362-2764	INDIANA811 1-800-382-5544
----------------------------	----------------------------	------------------------------

CAD Standard Ver. 72919

**Project Manager**

B. DIETRICH

**Permitting**

B. DIETRICH

**Transport Manager**

G. GOULD

**Drawn By**      **Date**

DTW                      06/28/22

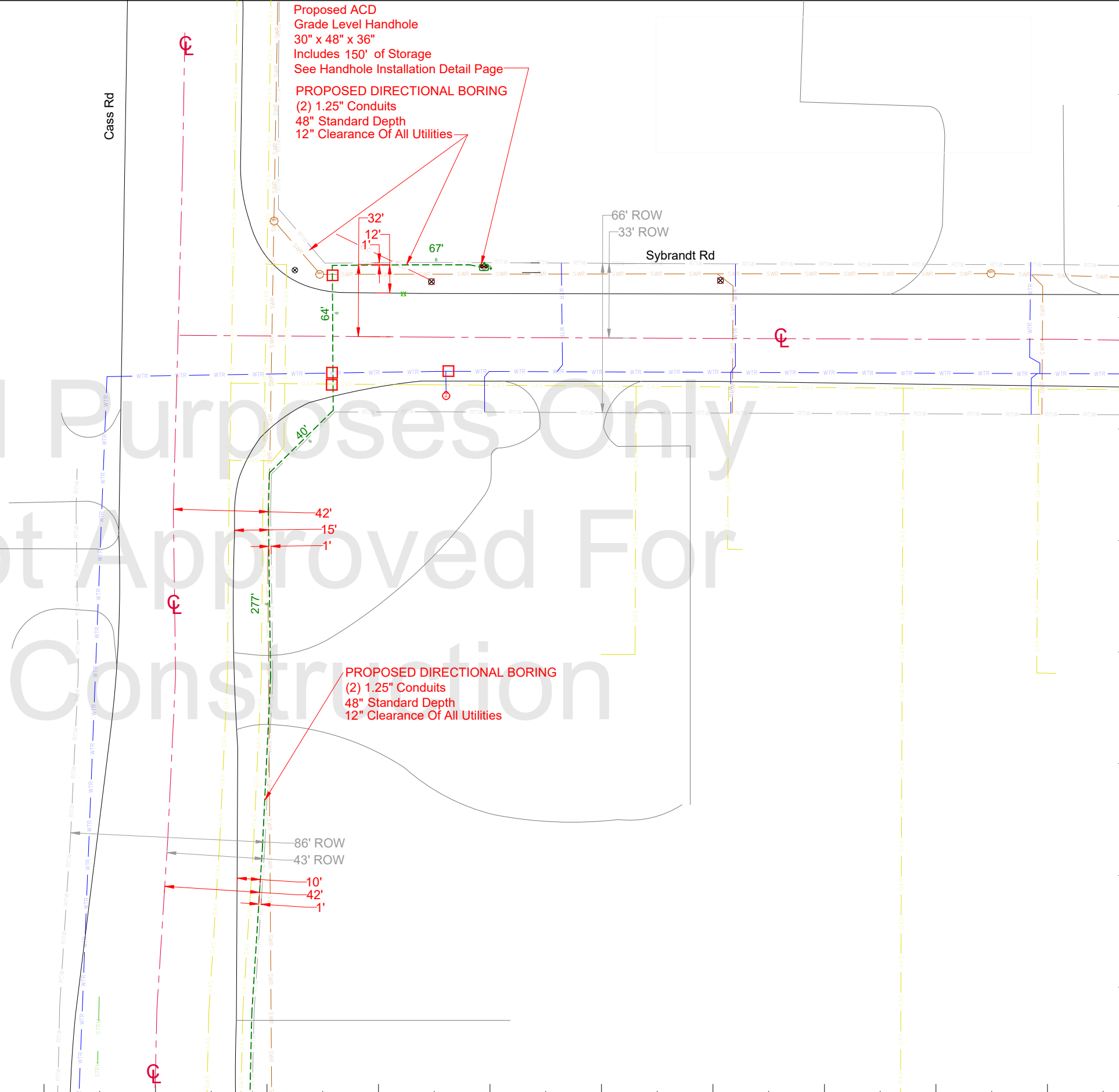
**As Built**      **Date**

**Revisions**

REV #	DESCRIPTION	BY	DATE
1	ADDED INFRASTRUCTURE	JA	07-25-23
2	Moved Hut To ROW	DW	8-4-23
3	Revised route slightly, added too detail	DW	12-27-23

**Exhibit:** N/A

Bid Purposes Only  
 Not Approved For  
 Construction

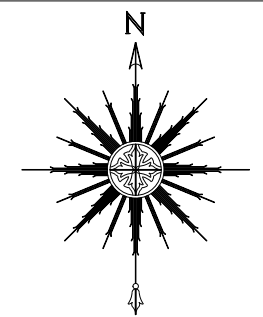
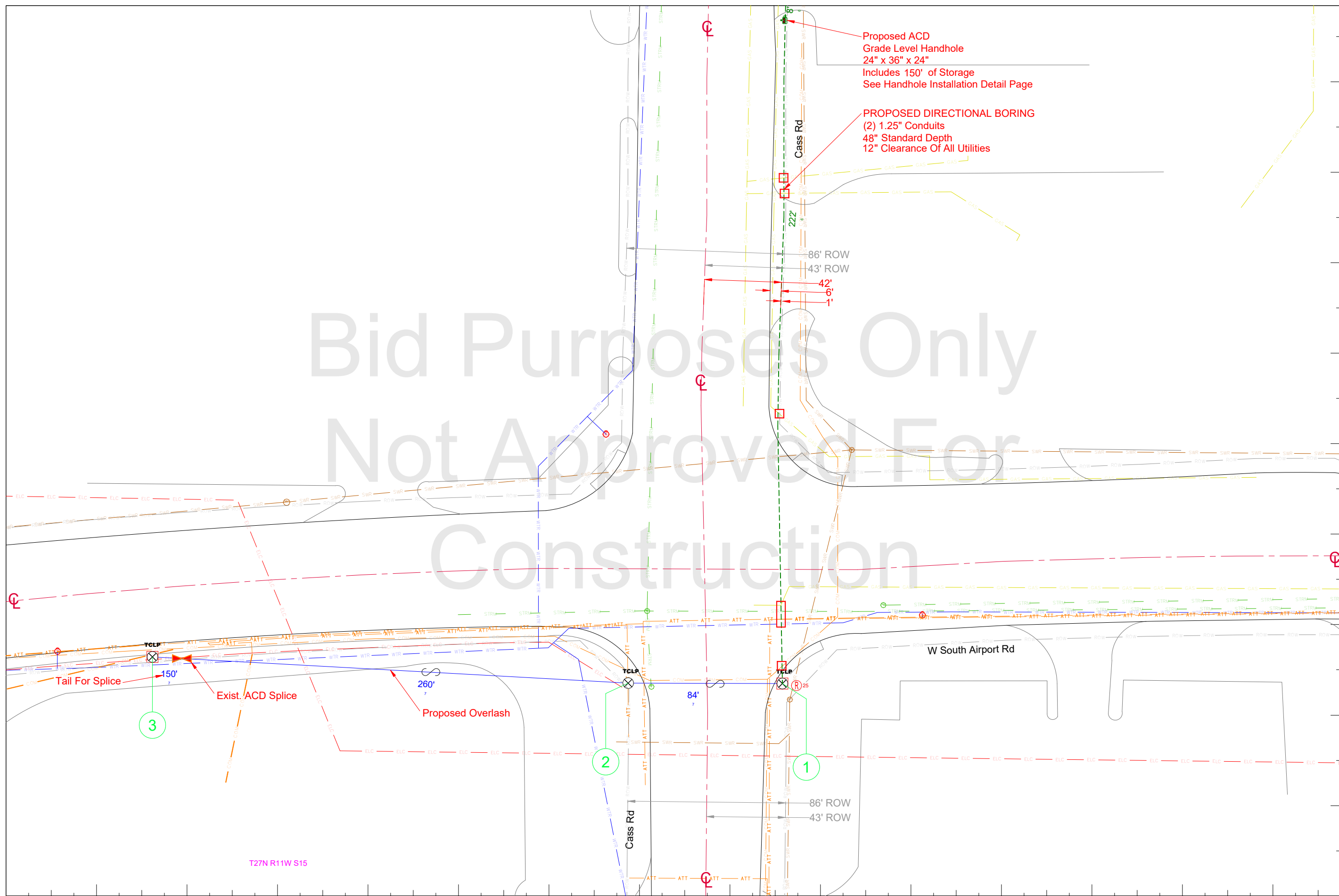


Proposed ACD  
 Grade Level Handhole  
 30" x 48" x 36"  
 Includes 150' of Storage  
 See Handhole Installation Detail Page

PROPOSED DIRECTIONAL BORING  
 (2) 1.25" Conduits  
 48" Standard Depth  
 12" Clearance Of All Utilities

PROPOSED DIRECTIONAL BORING  
 (2) 1.25" Conduits  
 48" Standard Depth  
 12" Clearance Of All Utilities

Remarks:		PEACHTREE ID: 33340	
SCALE: 1" = 30'	TRS: T27N R11W S15	PAGE 1	
COUNTY: GRAND TRAVERSE	TOWNSHIP: GARFIELD	CITY:	PROJECT ID: IF014350FO33340
		CUSTOMER NUMBER: 014350	



517-999-9999  
 1800 Grand River Ave  
 Lansing MI 48906

**PROPRIETARY**  
**INFORMATION NOT FOR DISCLOSURE**  
 This Set of Plans contains confidential or proprietary information, and the recipient must not disclose, copy, re-create, or distribute the plans or the information contained therein, either directly or indirectly, to other entities or individuals without written or express permission from ACD.NET

**DRAWING DISCLAIMER**  
 Facility Locations are general in nature, ACD.NET will not be held accountable for the accuracy of the information provided on these drawings. Contact the Local ONE CALL AGENCY 72 HOURS PRIOR TO CONSTRUCTION FOR EXACT UTILITY LOCATIONS AT:  
 MISS DIG 1-800-482-7171 O.U.P.S. 1-800-362-2764 INDIANA811 1-800-382-5544  
 CAD Standard Ver. 72919

**Project Manager**

**B. DIETRICH**

**Permitting**

**B. DIETRICH**

**Transport Manager**

**G. GOULD**

**Drawn By Date**

DTW 06/28/22

**As Built Date**

**Revisions**

REV #	DESCRIPTION	BY	DATE
1	ADDED INFRASTRUCTURE	JA	07-25-23
2	Moved Hut To ROW	DW	8-4-23
3	Revised route slightly, added too detail	DW	12-27-23

**Exhibit: N/A**

Remarks:		PEACHTREE ID: 33340	
SCALE: 1" = 30'	TRS: T27N R11W S15		
COUNTY: GRAND TRAVERSE	TOWNSHIP: GARFIELD	CITY:	PROJECT ID: IF014350FO33340
			CUSTOMER NUMBER: 014350