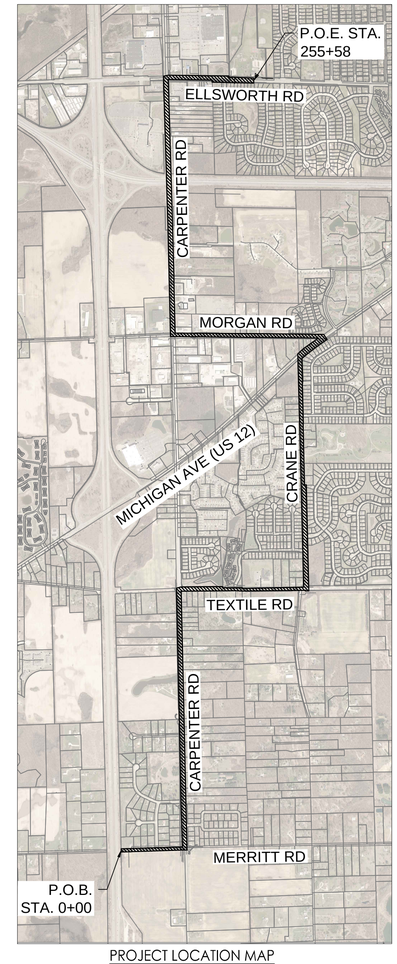
Stantec

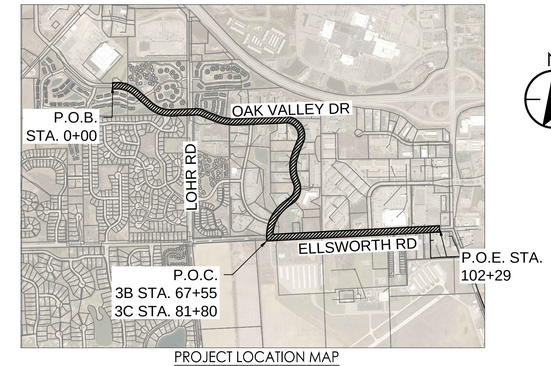
PITTSFIELD CHARTER TOWNSHIP

FIBER OPTIC SYSTEM PHASE 3

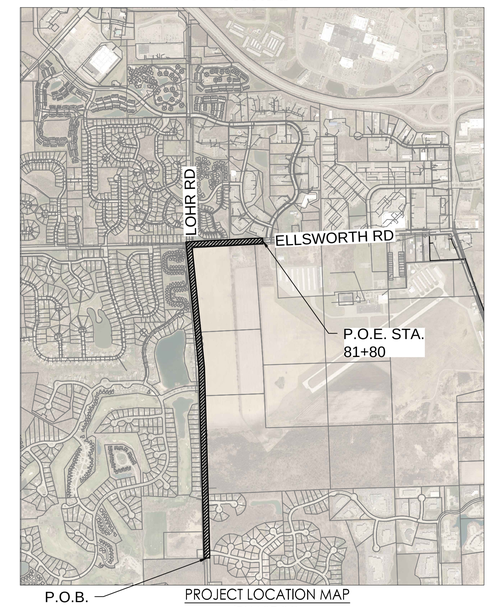
WASHTENAW COUNTY ROAD COMMISSION CONSTRUCTION SET MARCH 05, 2019 PROJECT NUMBER: 2075001805



PROJECT LOCATION MAP (PHASE 3A)
NOT TO SCALE



PROJECT LOCATION MAP (PHASE 3B)
NOT TO SCALE



PROJECT LOCATION MAP (PHASE 3C)
NOT TO SCALE

DRAWING INDEX: PHASE 3A

DWG	SHEET	TITLE
G-01	1	COVER SHEET
G-02	2	OVERVIEW OF PROJECT PHASING
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G-07	7	CONSTRUCTION/INSTALLATION DETAILS
G-08	8	FIBER OPTIC INSTALLATION ROUTING MAP
C-01	9	MERRITT RD. 3A STA. 0+00 TO 15+35
C-02	10	CARPENTER RD. 3A STA. 15+35 TO 35+50
C-03	11	CARPENTER RD. 3A STA. 35+50 TO 55+50
C-04	12	CARPENTER RD. & TEXTILE RD. 3A STA. 55+50 TO 70+40
C-05	13	TEXTILE RD. 3A STA. 70+40 TO 90+50
C-06	14	TEXTILE RD. & CRANE RD 3A STA. 90+50 TO 95+65
C-07	15	CRANE RD. 3A STA. 95+65 TO 115+75
C-08	16	CRANE RD. 3A STA. 115+75 TO 135+75
C-09	17	CRANE RD. & MICHIGAN AVE. 3A STA. 135+75 TO 151+80
C-10	18	MORGAN RD. 3A STA. 151+80 TO 170+75
C-11	19	MORGAN RD. & CARPENTER RD. 3A STA. 170+75 TO 192+72
C-12	20	CARPENTER RD. 3A STA. 192+72 TO 213+00
C-13	21	CARPENTER RD. 3A STA. 213+00 TO 233+00
C-14	22	CARPENTER RD. & ELLSWORTH RD. 3A STA. 233+00 TO 248+50
C-15	23	ELLSWORTH RD. 3A STA. 248+50 TO 255+58

DRAWING INDEX: PHASE 3B

DWG	SHEET	TITLE
C-16	24	OAK VALLEY DR. 3B STA. 0+00 TO 12+50
C-17	25	OAK VALLEY DR. 3B STA. 12+50 TO 34+00
C-18	26	OAK VALLEY DR. 3B STA. 34+00 TO 51+50
C-19	27	OAK VALLET DR. 3B STA. 51+50 TO 68+75
C-20	28	ELLSWORTH RD. 3B STA. 68+75 TO 89+00
C-21	29	ELLSWORTH RD. 3B STA. 89+00 TO 102+29

DRAWING INDEX: PHASE 3C

DWG	SHEET	TITLE
C-22	30	LOHR RD. 3C STA. 0+00 TO 19+00
C-23	31	LOHR RD. 3C STA. 19+00 TO 39+00
C-24	32	LOHR RD. 3C STA. 39+00 TO 59+00
C-25	33	LOHR RD. & ELLSWORTH RD. 3C STA. 59+00 TO 81+80

DRAWING INDEX: CONNECTION DETAILS

DWG	SHEET	TITLE
C-26	34	MEADOW VIEW CONNECTION DETAIL
C-27	35	ASHFORD VILLAGE CONNECTION DETAIL
C-28	36	HICKORY WOODS CONNECTION DETAIL
C-29	37	PHASE 3A POINT OF TERMINATION CONNECTION DETAIL
C-30	38	PHASE 3B POINT OF BEGINNING CONNECTION DETAIL
C-31	39	WATER TOWER CONNECTION DETAIL
C-32	40	PHASE 3C POINT OF BEGINNING CONNECTION DETAIL

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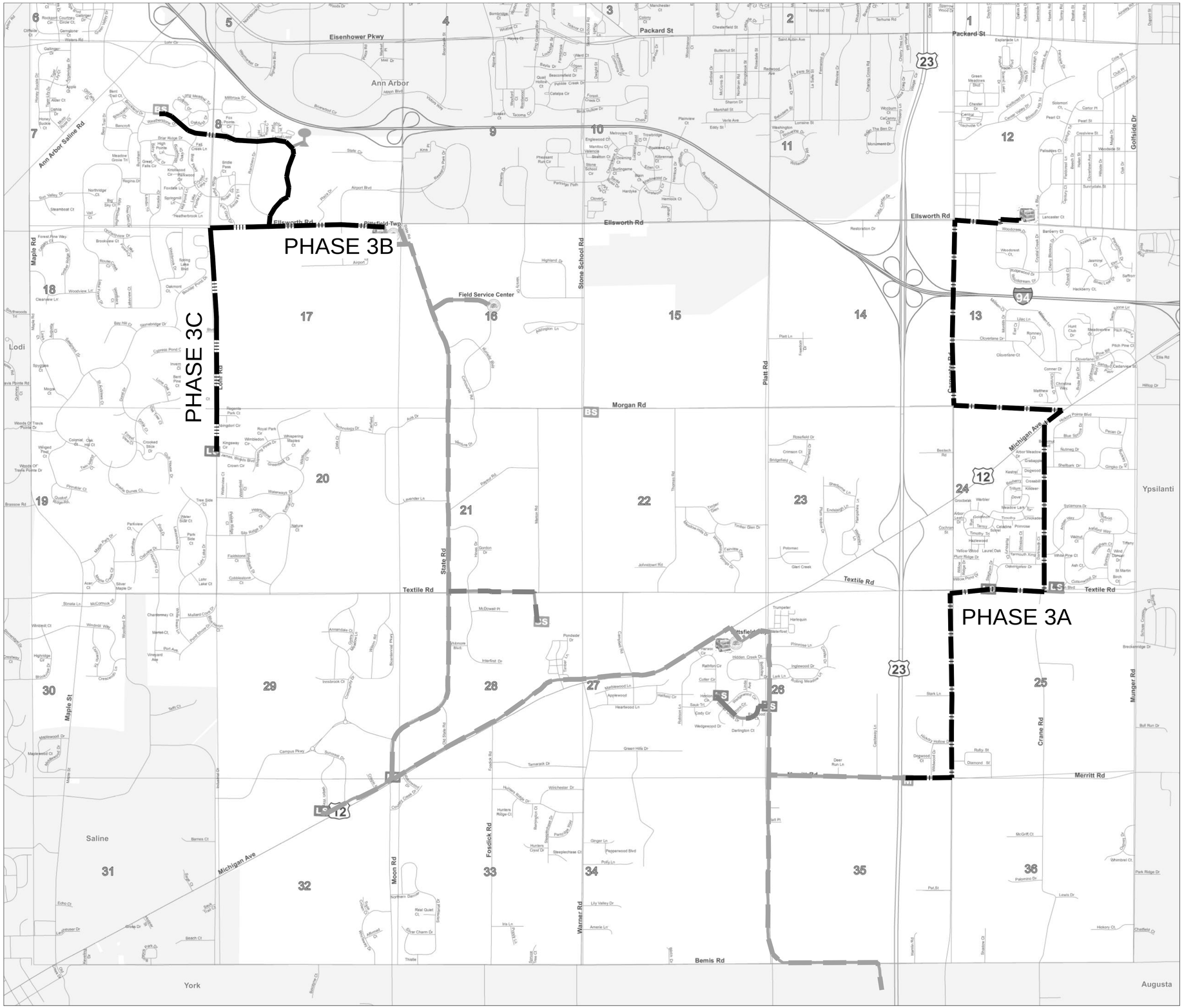

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Notes

Legend

- PHASE 3A
- PHASE 3B
- PHASE 3C
- PRIOR PHASES

Revision	By	Appd	YYYY.MM.DD
CONSTRUCTION SET	PJM		2019.03.05
1 ADDENDUM #1	PJM		2018.11.12
BID SET	PJM		2018.10.29
WCRC PERMIT RESUBMITTAL	PJM		2018.09.12
WCRC PERMIT SUBMITTAL	PJM		2018.06.15

Issued	By	Appd	YYYY.MM.DD
File Name: 001816_G-02	PJM	MP	2018-07-18
	Dwn.	Dsgn.	Chkd. YYYY.MM.DD

Permit/Seal

Client/Project
PITTSFIELD CHARTER TOWNSHIP

PITTSFIELD FIBER PHASE 3

PITTSFIELD TOWNSHIP, MI

Title
OVERVIEW OF PROJECT PHASING

Project No. 2075001805

Scale NTS

Revision 0

Sheet 2 of 40

Drawing No. **G-02**

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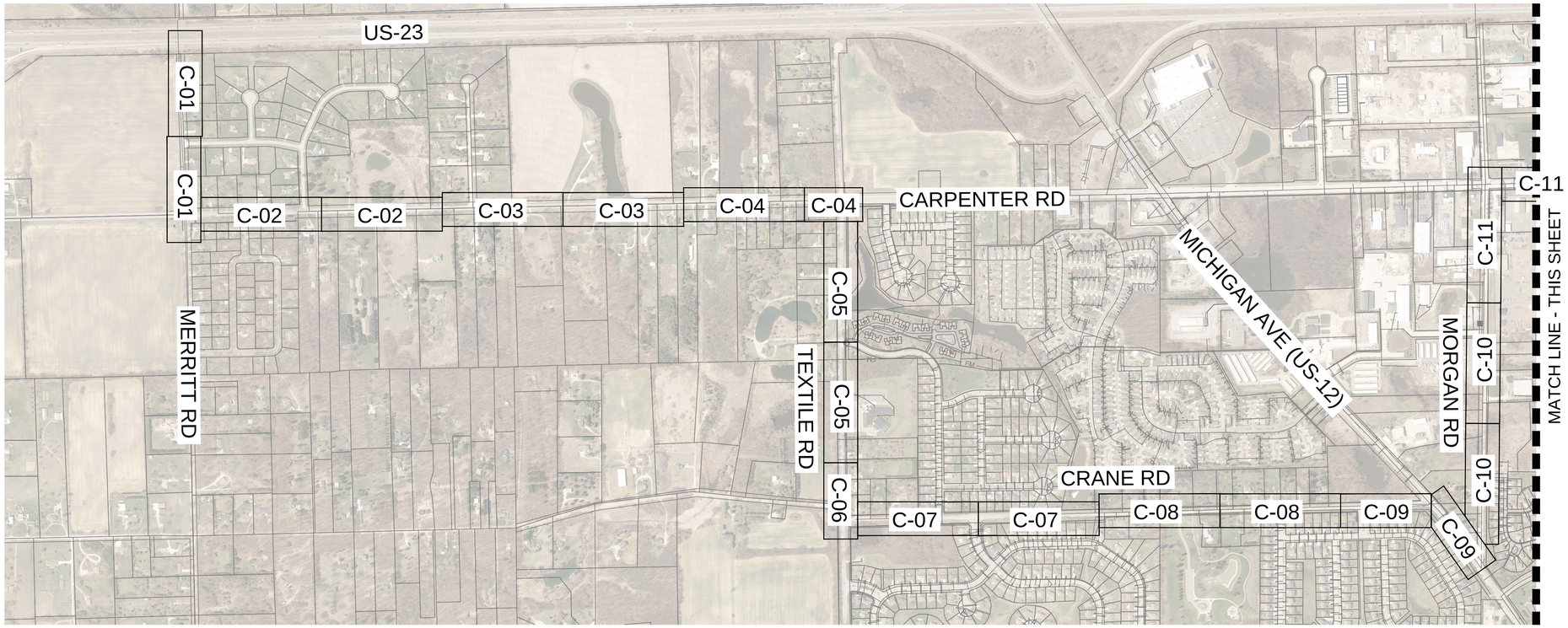
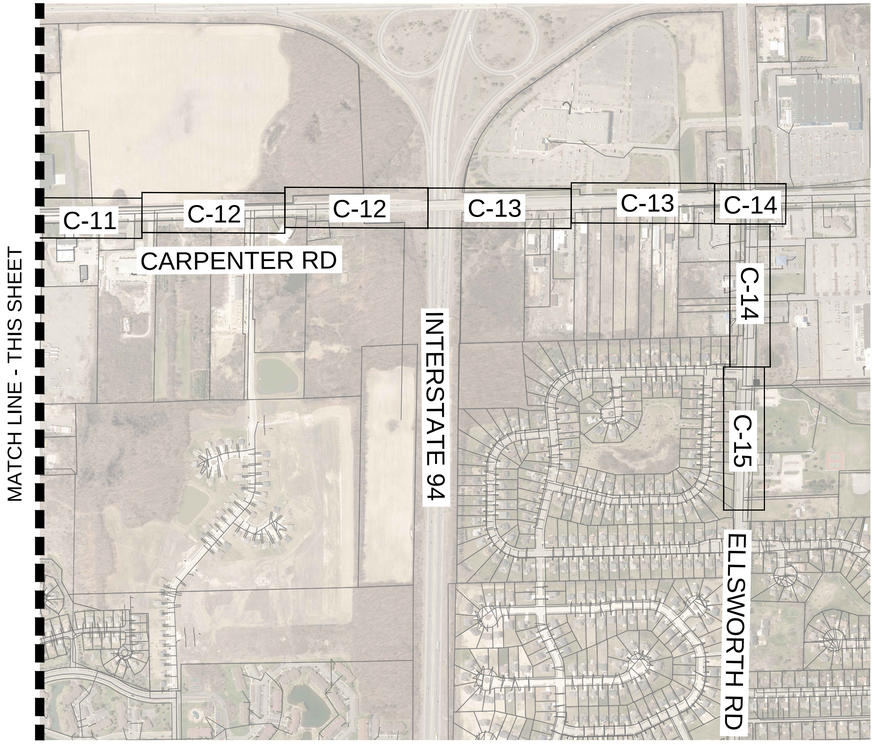


PHASE 3A ROUTE



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WCRC PERMIT SUBMITTAL	PJM		2018.06.15

Issued	By	Appd	YYYY.MM.DD
File Name: 001816_G-03	PJM	MP	2018-07-18
	Dwn. JA	Dsgn.	Chkd.

Permit/Seal

Client/Project
PITTSFIELD CHARTER TOWNSHIP

PITTSFIELD FIBER PHASE 3

PITTSFIELD TOWNSHIP, MI

Title
FIBER OPTIC INSTALLATION ROUTE MAP
PHASE 3A

Project No.
2075001805

Scale
0 500' 1000'

Revision
0

Sheet
3 of 40

Drawing No.
G-03

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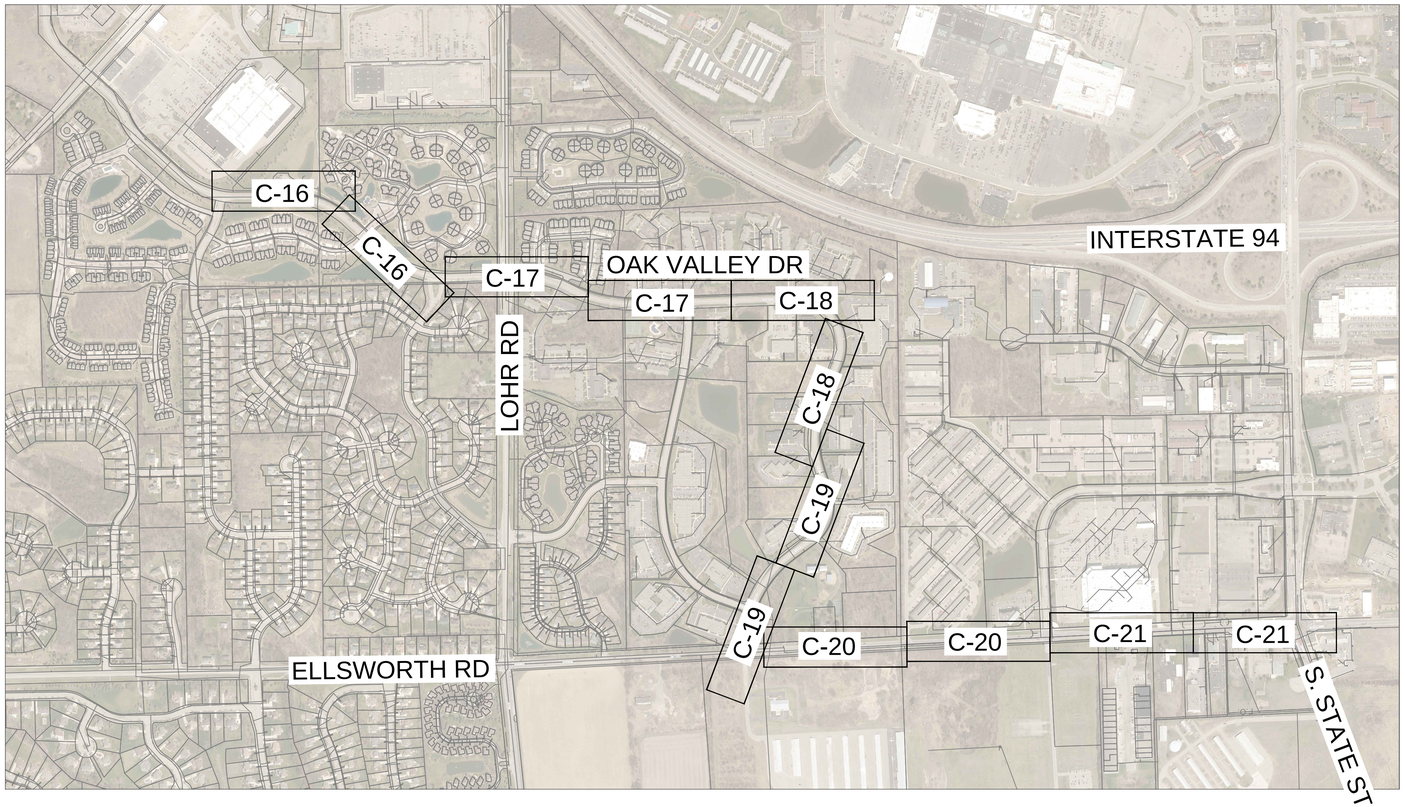

PHASE 3B ROUTE

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WCRC PERMIT RESUBMITTAL	PJM		2018.09.12
WCRC PERMIT SUBMITTAL	PJM		2018.06.15

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File Name: 001816_G-04	JA	PJM	MP	2018-07-18
	Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Permit/Seal

PITTSFIELD CHARTER TOWNSHIP

Client/Project
PITTSFIELD CHARTER TOWNSHIP

PITTSFIELD FIBER PHASE 3

PITTSFIELD TOWNSHIP, MI

Title
FIBER OPTIC INSTALLATION ROUTE MAP
PHASE 3B

Project No.
2075001805

Scale
0 500' 1000'

Revision
0

Sheet
4 of 40

Drawing No.
G-04

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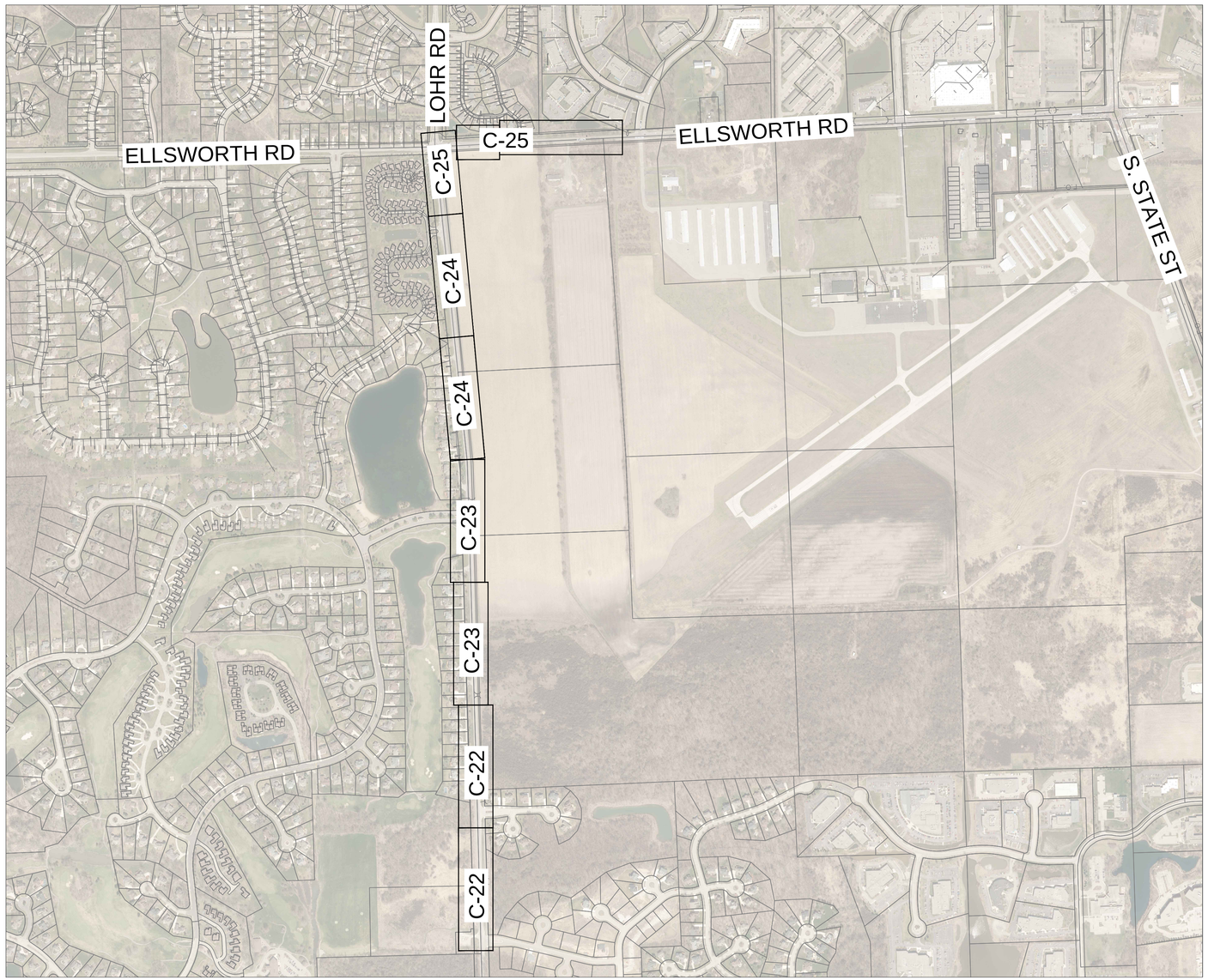

PHASE 3C ROUTE

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File Name: 001816_G-05	PJM		2018-07-18
	Dwn. JA	Dsgn.	Chkd. MP	YYYY.MM.DD

Permit/Seal

Client/Project
PITTSFIELD CHARTER TOWNSHIP

PITTSFIELD FIBER PHASE 3

PITTSFIELD TOWNSHIP, MI

Title
FIBER OPTIC INSTALLATION ROUTE MAP
PHASE 3C

Project No.
2075001805

Scale
0 500' 1000'

Revision
0

Sheet
5 of 40

Drawing No.
G-05

ORIGINAL SHEET - ARCH D

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GENERAL NOTES

1. STANTEC WILL STAKE R.O.W. ALONG ENTIRE PROJECT.
2. THE CONTRACTOR SHALL CONFORM ALL WORK TO WCRC "PROCEDURE & REGULATIONS FOR PERMIT ACTIVITIES" 2006 OR LATEST ISSUE. THIS DOCUMENT SHALL COMPRISE A MINIMUM STANDARD FOR THE PROJECT. MORE STRINGENT REQUIREMENTS ALSO APPLY AS INDICATED IN THESE DRAWINGS.
3. THERE WILL BE NO LANE CLOSURES ALLOWED, SHOULDER CLOSURES ONLY PER MDOT SPECIFICATIONS M0020 AND M0050.
4. BE AWARE; THERE ARE MULTIPLE ROADWAY SIGNS ALONG ROUTE. ANY REMOVAL OR RELOCATION MUST BE PRE-APPROVED BY THE MDOT AND PER MDOT STANDARDS.
5. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER IF ANY UTILITIES (STORM, WATER/SEWER, FIBER, ELECTRICAL, ETC.) SERVICES ARE DAMAGED/COMPROMISED. THE OWNER/ENGINEER WILL INSPECT INDEPENDENTLY AFTER NOTIFICATION.
6. FINAL AS-BUILT PLANS AT DRAIN CROSSINGS/ENCROACHMENTS AND EASEMENT CROSSINGS WILL BE PROVIDED TO THE WCWRC PRIOR TO FINAL PROJECT ACCEPTANCE.

EXISTING UTILITIES NOTES

1. EXISTING UTILITIES ARE SHOWN TO THE EXTENT THAT INFORMATION WAS AVAILBLE. ACCURACY IS NOT GUARANTEED.
2. THE CONTRACTOR IS RESPONSIBLE TO FIELD VERIFY ALL UTILITY CROSSING SHOWN IN PLAN AND ANY OTHER OF RECORD OR IDENTIFIED THROUGH MISS DIG 811.
3. CROSSINGS SHALL MAINTAIN 2'(MIN.) CLEARANCE.
4. PARALLEL INSTALLATION SHALL MAINTAIN 4' (MIN.) VERTICAL CLEARANCE.
5. WHERE DEPTH OF UTILITIES IS NOT SHOWN, THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING DEPTH BEFORE INSTALLING NEW UTILITIES.
6. UNDERGROUND UTILITY CROSSINGS FOR STATIONED FIBER OPTIC INSTALL ARE NOTED. OVERHEAD UTILITIES AND UTILITY CROSSINGS AT SERVICE LEADS ARE NOT SHOWN.
7. THE HORIZONTAL CLEARANCE BETWEEN THE PROPOSED FIBER OPTIC CONDUIT AND WCWRC DRAINS SHALL BE 5' (MIN.) UNLESS PRIOR WRITTEN APPROVAL IS OBTAINED FROM THE WCWRC.

FIBER OPTIC INSTALLATION NOTES

1. IN GENERAL, DUCTS SHALL BE INSTALLED 1' INSIDE R.O.W. BOUNDARY. HAND HOLES SHALL BE INSTALLED 1' CLEAR FROM RESPECTIVE R.O.W. BOUNDARY.
2. DUCTS SHALL BE SDRII, HDPE, 2" DIA. D.I.P.S. INSTALLED BY DIRECTION DRILL METHOD. EVERY RUN IS DESIGNATED BY A LINEAL FOOT MEASUREMENT (LF) THAT INDICATES CENTER TO CENTER DISTANCES BETWEEN HAND HOLES. UNLESS NOTED OTHERWISE EVERY SHALL BE DOUBLE RUN, CONSISTING OF TWO (2) -2" DUCTS. ONE OF THE TWO DUCTS SHALL HAVE A 144-FIBER CABLE WITH PULL CORD. THE OTHER OF THE TWO DUCTS SHALL HAVE ONLY A PULL CORD.
3. HANDHOLES SHALL BE SPACED APPROXIMATELY 1000 FT. APART OR AS SHOWN ON PLANS. 3'x5' BORE PITS WILL BE LOCATED AT EACH HANDHOLE LOCATION AND AS INDICATED ON THE PLANS. HANDHOLES ARE NOT TO BE PLACED IN ROADWAYS OR TRAFFIC AREAS.
4. UNLESS NOTED OTHERWISE HAND HOLES SHALL BE NOMINAL 24"x36"x36" SIZE, HEAVY DUTY SERVICE (H-20 LOAD RATED).
5. MINIMUM DEPTH OF COVER SHALL BE 4' BELOW THE ROAD SURFACE AND 3' BELOW DITCH CROSSINGS. MAXIMUM DEPTH SHALL BE 15'
6. MINIMUM DEPTH OF COVER FOR STRUCTURES IN THE SHOULDER SHALL BE 8".
7. THE DIAMETER OF THE CONE REAMER, OR WING CUTTER SHALL NOT EXCEED 1.5 TIMES THE CASING PIPE O.D. IF THE CONE REAMER OR WING CUTTER EXCEEDS PIPE DIAMETER BY 2 OR MORE INCHES, THE VOID SHALL BE FILLED WITH PRE-APPROVED FILL.
8. ACCESS PITS SHALL BE CONSTRUCTED 10' MINIMUM CLEARANCE FROM PAVEMENTS, EXCEPT FOR ROADS HAVING A POSTED SPEED LIMIT OF 45 MPH OR GREATER, WHICH SHALL HAVE 15' CLEARANCE. BACKFILL OF ACCESS PITS SHALL BE WITH MDOT CLASS II SAND, C.I.P. TO 95% UNIT WEIGHT.
9. UNLESS NOTED OTHERWISE, ALL FIBER CABLES (144 AND 12 SIZE) INSIDE ALL HAND HOLES SHALL HAVE ONE (1) 50-FT SLACK LOOP (MIN.) INCLUDED.
10. THE TYPICAL SERVICE CONNECTION POINT WILL BE SERVED WITH A 12-FIBER CABLE SPLICE TO THE 144-FIBER CABLE INSIDE A NEW SPLICE ENCLOSURE. ONLY THE ACTIVE FIBERS OUT OF THE 12-FIBER CABLE ARE TO BE SPLICED INTO THE 144-FIBER CABLE. THE REMAINING FIBERS IN THE 12-FIBER CABLE WILL BE CONSIDERED "DARK" / UNUSED.
11. SERVICE CONNECTION WILL INCLUDE A 50' SLACK LOOP TO EACH SIDE OF THE SPLICE ENCLOSURE (I.E. A TOTAL OF TWO (2) 50' SLACK LOOPS OF 144-FIBER CABLE, AND ONE (1) 50' SLACK LOOP OF 12-FIBER CABLE.)
12. SPLICES OF FIBER CABLES WILL BE ALLOWED ONLY IN HAND HOLES OR OTHER DESIGNATED LOCATIONS. NEW SPLICE ENCLOSURE SHALL BE PROVIDED WITH ALL SPLICES.
13. PHASE 3A MUST BE COMPLETED AND TESTED FIRST.
14. ALL PENETRATIONS OF CONDUITS INTO EXISTING OUTDOOR STRUCTURES AND ENCLOSURES SHALL BE WATER-TIGHT. HOLES CUT INTO METAL SHALL BE TREATED WITH EPOXY PAINT BEFORE SEALING.

WCRC TRAFFIC NOTES

1. ACCESS TO ALL RESIDENTIAL AND COMMERCIAL DRIVEWAYS MUST BE MAINTAINED AT ALL TIMES.
2. ALL TRAFFIC CONTROL DEVICES AND THEIR USAGE MUST CONFORM TO THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MMUTCD), LATEST EDITION.
3. ALL EXISTING PAVEMENT MARKINGS THAT ARE REMOVED FOR TRAFFIC CONTROL OR OBLITERATED DURING CONSTRUCTION OPERATIONS MUST BE REPLACED WITH WATERBORNE FOR THE LONGITUDINAL, LANE LINES.
4. ALL SIGNS MATERIALS AND SUPPORTS MUST MEET NCHRP-350 CRASH WORTHY REQUIREMENTS.
5. NO WORK WILL BE ALLOWED, OR SHOULDER CLOSURES PERMITTED ON US-12 OR LOCAL ROADS DURING LABOR DAY, THANKSGIVING, CHRISTMAS AND NEW YEAR'S HOLIDAY PERIODS AND ANY OTHER DESIGNED STATE HOLIDAY AS DEFINED IN THE PROJECT SPECIFICATIONS. IN ADDITION, NO WORK WILL BE PERMITTED ON MICHIGAN AVE DURING THE SALINE COMMUNITY FAIR AND MICHIGAN INTERNATIONAL SPEEDWAY RACE WEEKENDS.
6. THERE MUST BE NO HAULING OF MATERIALS INCLUDING TRUCKS ENTERING AND EXITING IN OR OUT OF THE SITE (WORK ZONE) BETWEEN THE HOURS OF 6:00 A.M. TO 9:00 A.M. AND 2:00 P.M. TO 7:00 P.M., MONDAY THROUGH FRIDAY.
7. ALL TRAFFIC LANES ON ROADWAYS MUST BE OPEN TO TRAFFIC. ALL TRAFFIC DEVICES MUST BE TAKEN DOWN OR COVERED WHILE WORK IS NOT IN PROGRESS.

RESTORATION/SESC NOTES

1. GROUND DISTURBANCES IN THE R.O.W. SHALL BE LIMITED BY DIRECTIONAL DRILLING OPERATIONS.
2. OPEN CUT EXCAVATION IS ONLY PROPOSED AT TIE IN POINTS OF DIRECTIONALLY DRILLED FIBER DUCTS. SILT FENCE SHALL BE INSTALLED AT EXCAVATION AREAS AND SPOILS PILES.
3. SEE DETAIL ON SHEET G-07 FOR RESTORATION AT BORE PITS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL TEMPORARY SESC MEASURES ND REMOVAL UPON COMPLETION OF UTILITY CONSTRUCTION AND ALL SOILS ARE STABILIZED.

PERMIIT

THE FOLLOWING PERMITS SHALL BE REQUIRED FOR THIS PROJECT:

1. WASHTENAW COUNTY ROAD COMMISSION.
2. MICHIGAN DEPARTMENT OF TRANSPORTATION.

LEGEND

FO	PROP. FIBER OPTIC DUCT
	PROP. FIBER OPTIC HANDHOLE
FO	EXIST. FIBER OPTIC DUCT
ST	EXIST. STORM SEWER
	EXIST. MANHOLE
	EXIST. CATCH BASIN/INLET
	END SECTION/HEAD WALL
	CULVERT
SS	EXIST. SANITARY SEWER
SAN FM	EXIST. SANITARY SEWER FORCEMAIN
W	EXIST. WATER MAIN
	EXIST. HYDRANT
P.I.V.	EXIST. POST INDICATOR VALVE
	EXIST. GATE VALVE AND BOX
	EXIST. GATE VALVE AND WELL
OHP	EXIST. OVERHEAD ELECTRIC
UGE	EXIST. UNDERGROUND ELECTRIC
	EXIST. LIGHT POLE
U.P.	EXIST. UTILITY POLE
	GUY WIRE
	EXIST. ELECTRIC TRANSFORMER
OHT	EXIST. OVERHEAD TELECOM
UGT	EXIST. UNDERGROUND TELECOM
C	EXIST. UNDERGROUND CABLE
G	EXIST. GAS
	EXIST. MAILBOX
	EXIST. GAS RISER
	EXIST. TELECOM RISER
	EXIST. DECIDUOUS TREE
	EXIST. EVERGREEN TREE
	EXIST. SHRUB
	EXIST. TREE OR BRUSH LIMIT
	EXIST. GUARDRAIL
	EXIST. SIGN

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Permit/Seal

Client/Project
PITTSFIELD CHARTER TOWNSHIP

PITTSFIELD FIBER PHASE 3

PITTSFIELD TOWNSHIP, MI

Title
GENERAL NOTES & LEGEND

Project No. 2075001805

Scale 0 500' 1000'

Revision 0

Sheet 6 of 40

Drawing No. G-06

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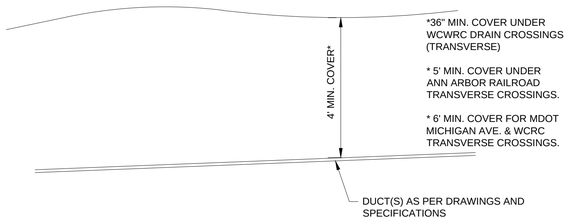
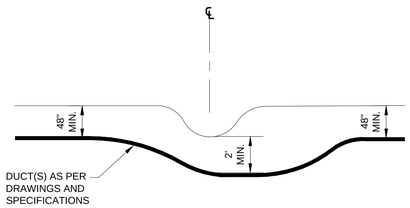


FIBER OPTIC DUCT PROFILE (TYPICAL)

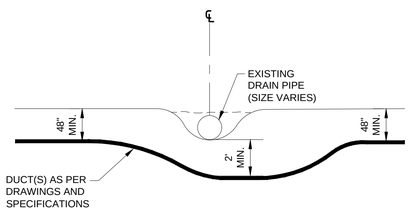
NOT TO SCALE

NOTE: PCT FIBER DUCT TO BE INSTALLED AT MINIMUM OF 48" BELOW ROAD GRADE OR 36" MINIMUM BELOW DITCH BOTTOM WHICHEVER IS GREATER, UNLESS SPECIFIED OTHERWISE ON THE PLANS.



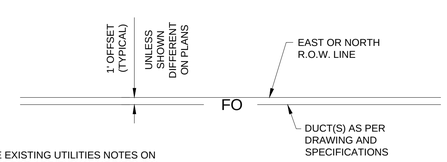
FIBER OPTIC DUCT OPEN DRAIN CROSSING (TYPICAL)

NOT TO SCALE



FIBER OPTIC DUCT DRAIN CROSSING (TYPICAL)

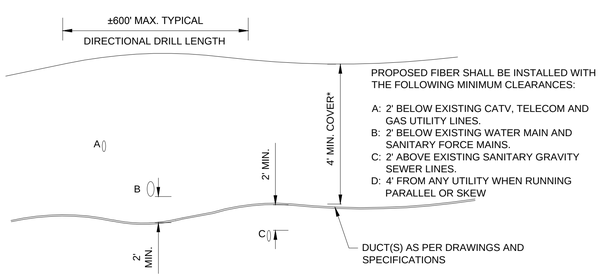
NOT TO SCALE



NOTE: SEE EXISTING UTILITIES NOTES ON SHEET G-06 FOR ADDITIONAL HORIZONTAL CLEARANCE REQUIREMENTS.

FIBER OPTIC PLAN VIEW (TYPICAL)

NOT TO SCALE



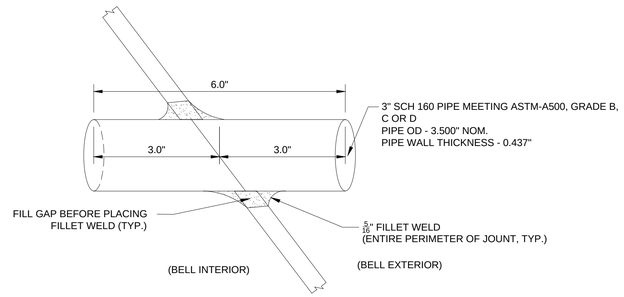
PROPOSED FIBER SHALL BE INSTALLED WITH THE FOLLOWING MINIMUM CLEARANCES:

A: 2' BELOW EXISTING CATV, TELECOM AND GAS UTILITY LINES.
B: 2' BELOW EXISTING WATER MAIN AND SANITARY FORCE MAINS.
C: 2' ABOVE EXISTING SANITARY GRAVITY SEWER LINES.
D: 4' FROM ANY UTILITY WHEN RUNNING PARALLEL OR SKEW

UTILITY CROSSING DETAIL (TYPICAL)

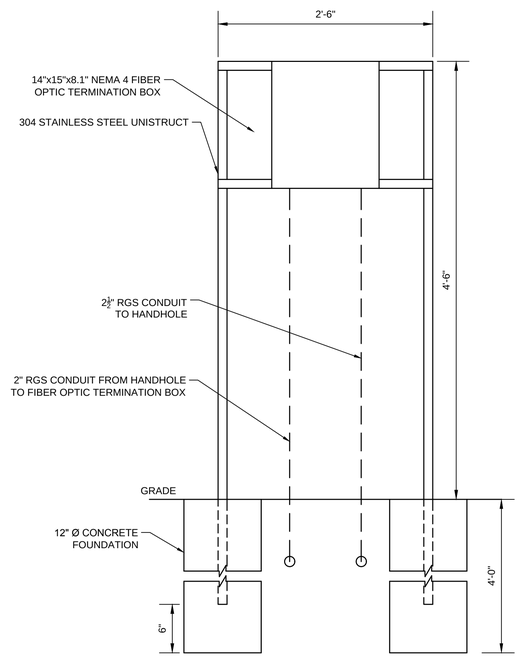
NOT TO SCALE

1. REMOVE PAINT 3' AROUND THE PERIMETER AND BETWEEN THE TWO (2) PENETRATIONS ON THE BELL EXTERIOR AND INTERIOR. CONTRACTOR SHALL STRICTLY ADHERE TO SSPC. SP10 SURFACE PREPARATION STANDARDS.
2. CONTRACTOR SHALL REMOVE, STORE AND REINSTALL INSULATION ON THE INTERIOR WALL OF THE BELL AFFECTED BY THE WORK.
3. TANK BELL PENETRATIONS SHALL NOT BE INSTALLED WITHIN 6" OF ANY VERTICAL OR HORIZONTAL PANEL WELDS.
4. CONTRACTOR, SHALL INSTALL PLUGS IN THE UNUSED PIPE PENETRATION. THE USE OF THREADED CAPS OR OTHER TYPES OF CAPS THAT WOULD DAMAGE THE PAINT SURFACES OF THE BELL IS PROHIBITED.
5. THE USE OF THREADED PIPE PENETRATIONS IS PROHIBITED.
6. WELDER SHALL BE CERTIFIED PER AWS D1.1 AND SHALL HAVE 5 YEARS EXPERIENCE PERFORMING SIMILAR WORK.
7. THE COMPLETED WELDS SHALL BE TESTED BY AN APPROVED THIRD PARTY TESTING COMPANY. THE WELDS SHALL BE INSPECTED BY MAG PARTICLE TESTING, OR BY DYE PENETRATION TESTING.
8. CONTRACTOR SHALL PAINT THE INTERIOR AND EXTERIOR AREAS OF THE BELL IN STRICT ACCORDANCE W/ SECTION 09900 OF THE CONTRACT DOCUMENTS.



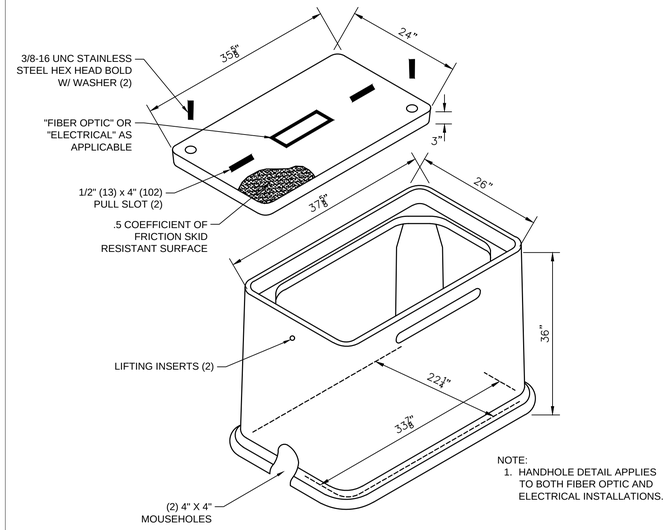
ELEVATED STORAGE TANK PIPE PENETRATION DETAIL

NOT TO SCALE



TYPICAL PUMP STATION FIBER OPTIC DETAIL

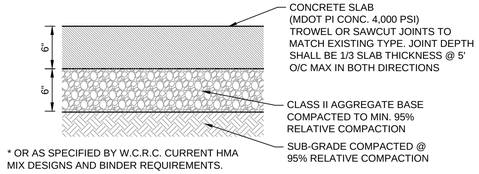
NOT TO SCALE



NOTE:
1. HANDHOLE DETAIL APPLIES TO BOTH FIBER OPTIC AND ELECTRICAL INSTALLATIONS.

HEAVY DUTY QUAZITE PG2436BA36 HANDHOLE DETAIL

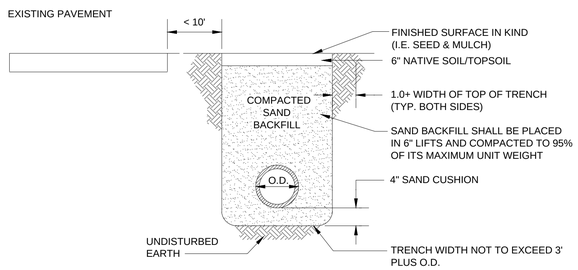
NOT TO SCALE



* OR AS SPECIFIED BY W.C.R.C. CURRENT HMA MIX DESIGNS AND BINDER REQUIREMENTS.

CONCRETE SIDEWALK DETAIL

NOT TO SCALE



BORE PIT BACKFILL DETAIL

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1 ADDENDUM #1	PJM		2018.11.12
BID SET	PJM		2018.10.29
WCRC PERMIT RESUBMITTAL	PJM		2018.09.12
WCRC PERMIT SUBMITTAL	PJM		2018.06.15

Issued	By	Appd	YYYY.MM.DD
File Name: 001816_G-07	PJM	MP	2018-07-18
	Chkd.	Dsgn.	YYYY.MM.DD

Dwn. JA

Permit/Seal

Client/Project
PITTSFIELD CHARTER TOWNSHIP

PITTSFIELD FIBER PHASE 3

PITTSFIELD TOWNSHIP, MI

Title
CONSTRUCTION & INSTALLATION DETAILS

Project No. 2075001805

Scale

Revision 0

Sheet 7 of 40

Drawing No. G-07

ORIGINAL SHEET - ARCH D

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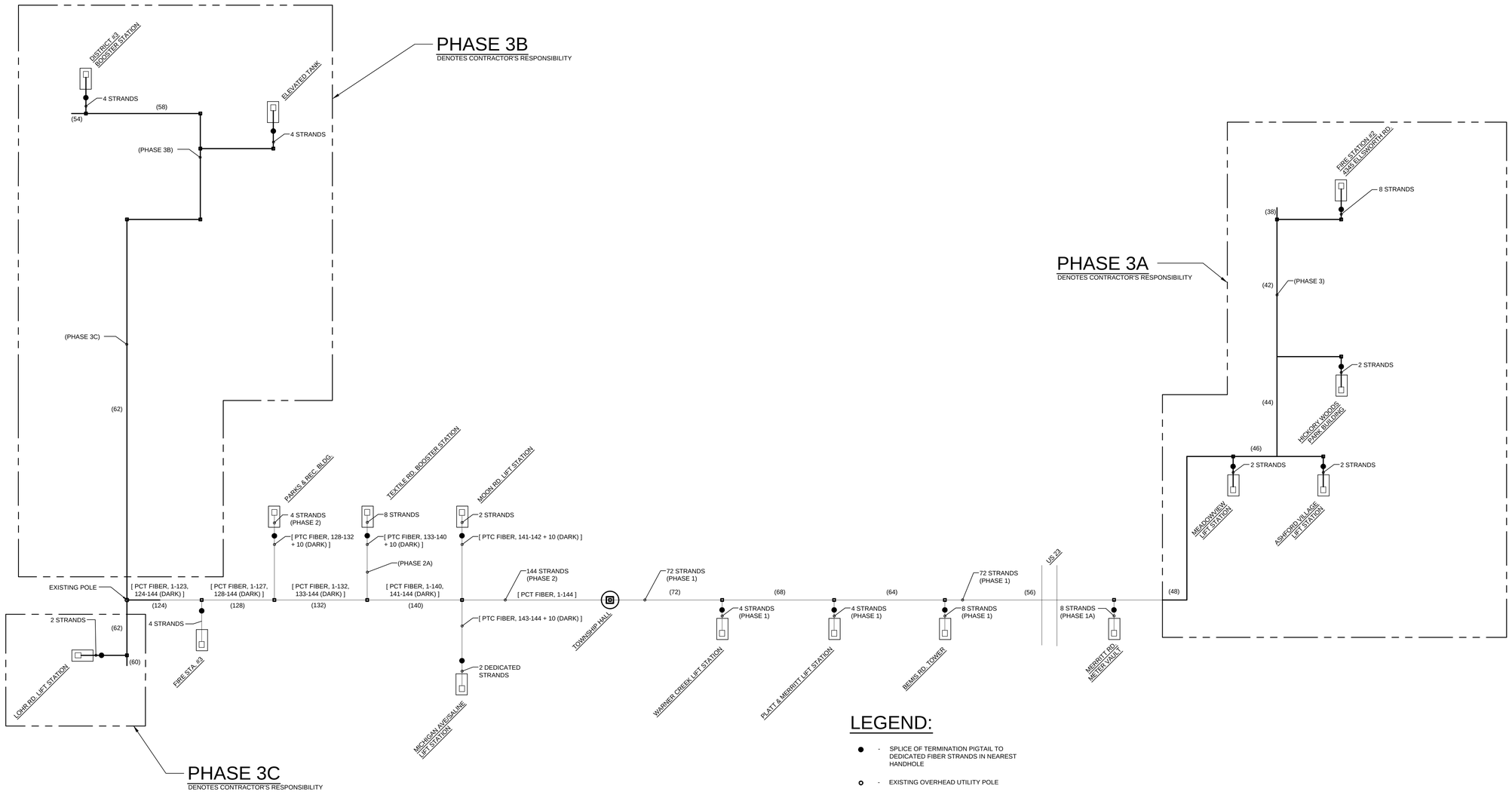

LEGEND:

- ● - SPLICE OF TERMINATION PIGTAIL TO DEDICATED FIBER STRANDS IN NEAREST HANDHOLE
- ○ - EXISTING OVERHEAD UTILITY POLE
- ⊡ - EXISTING OVERHEAD UTILITY POLE
- □ - EXISTING SITE PANEL OR BUILDING TO BE CONNECTED TO NETWORK
- (XX) - NUMBER IN PARENTHESES INDICATES NUMBER OF STRANDS IN CABLE AVAILABLE FOR ASSIGNMENT

FIBER OPTIC INSTALLATION
PHASE 3 - SITE MAP

SCALE: NONE

Fiber Optic Network				Strands	
Loc#	Type	Location	Phase	Used	Available
					72
1	DPS	Bemis Rd. Tower	1	8	64
2	LS	Platt/Merrit	1	4	60
3	LS	Warner Creek	1	4	56
4	WA	Merritt Rd. Meter Vault	8	8	48
5	LS	Ashford	3A	2	46
6	LS	Meadow View	3A	2	44
7	PAR	Hickory Woods Park	3A	2	42
8	DPS	Fire Station #2	3A	4	38
					144
9	LS	Moon Rd	2	2	142
10	LS	Saline	2	2	140
11	WA	Textile Booster	2A	8	132
12	WA	Morgan Rd. Booster	4	0	132
13	PAR	Parks and Rec	2	4	128
14	DPS	Fire Station #3	2	4	124
					62
15	LS	Lohr Rd	3C	2	60
16	WA	District #3 Booster	3B	4	56
17	WA	Elevated Tank	3B	4	52
18	OT	Future Municipality Connection	(future)	4	48
19	OT	Saline City	(future)	6	42
20	OT	Saline High School	(future)	6	36

Site Types: WA-water
UTIL-Utility
LS-Lift Station
DPS-Police
PAR-Parks
OT-Other

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WCRC PERMIT RESUBMITTAL	PJM		2018.09.12
WCRC PERMIT SUBMITTAL	PJM		2018.06.15

Issued	By	Appd	YYYY.MM.DD
File Name: 001816_G-08	JA	PJM	MP	2018-07-18
	Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Permit/Seal

Client/Project
PITTSFIELD CHARTER TOWNSHIP

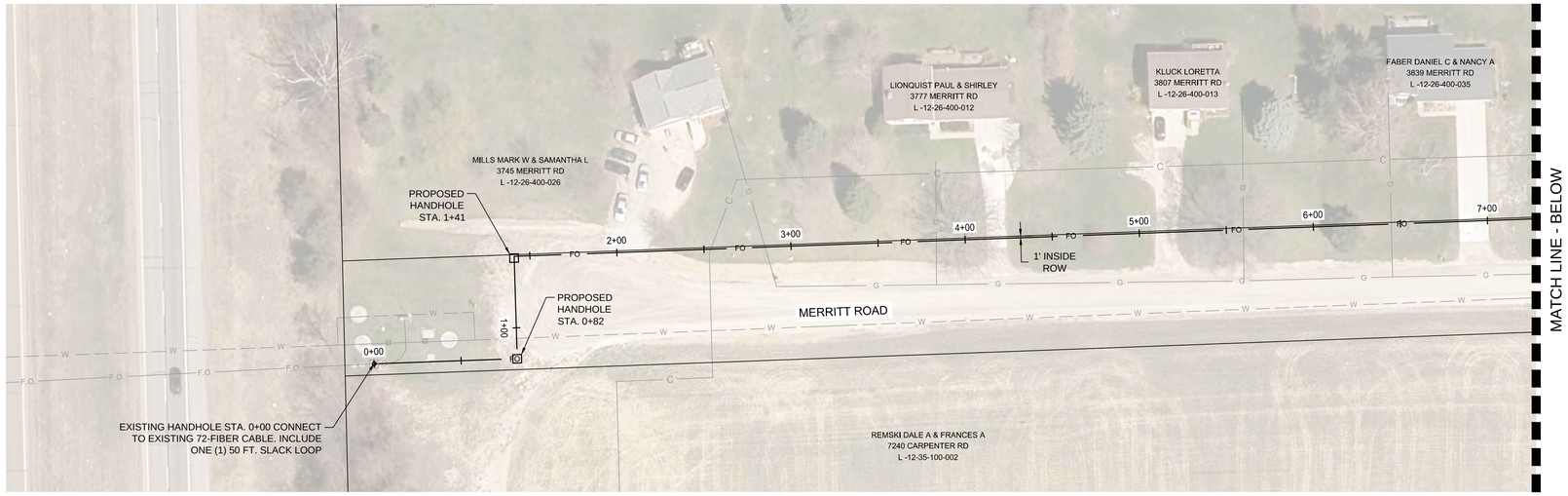
PITTSFIELD FIBER PHASE 3

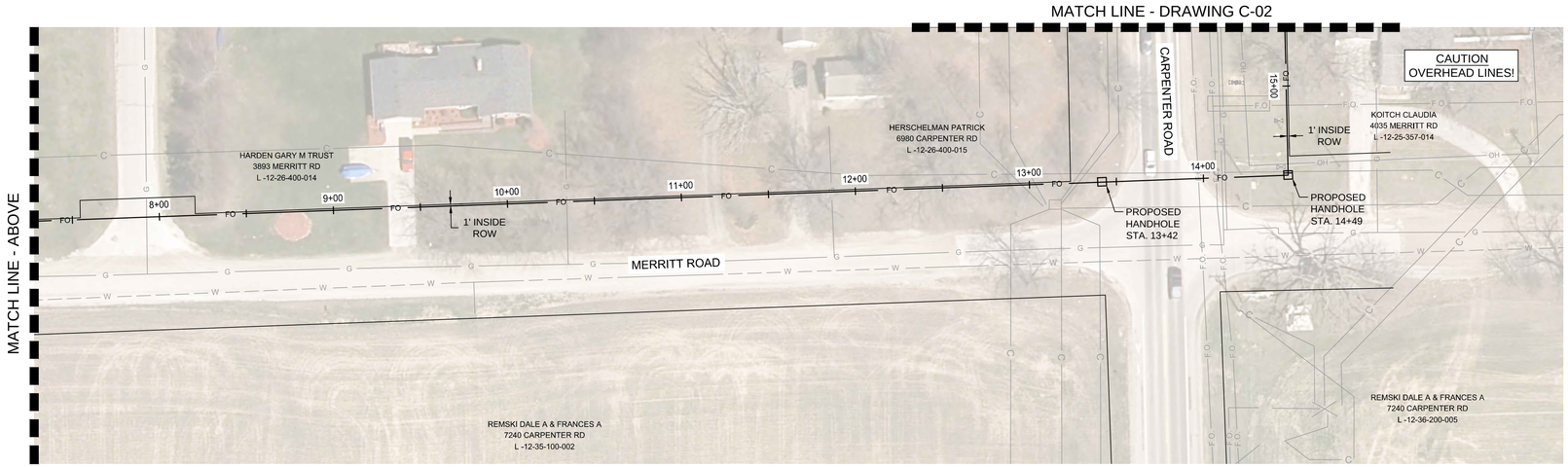
PITTSFIELD TOWNSHIP, MI

Title
FIBER OPTIC INSTALLATION
ROUTING MAP

Project No. 2075001805
Scale
Revision 0
Sheet 8 of 40
Drawing No. G-08

ORIGINAL SHEET - ARCH D





UNDERGROUND CROSSINGS AND CONFLICTS ALONG STATIONED ALIGNMENT
(OVERHEAD CROSSINGS NOT LISTED)

STATION	TYPE OF UTILITY
2+51 ±	CABLE
2+83 ±	GAS
3+80 ±	GAS
5+60 ±	GAS
6+40 ±	GAS
7+90 ±	GAS
10+30 ±	GAS
11+85 ±	GAS
12+95 ±	CABLE
13+08 ±	CABLE
13+30 ±	CABLE
13+35 ±	CABLE
13+95 ±	FIBER OPTIC
14+05 ±	FIBER OPTIC
14+10 ±	GAS
14+12 ±	GAS
14+50 ±	CABLE
14+90 ±	FIBER OPTIC

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BID SET	PJM		2018.10.29
WCRC PERMIT RESUBMITTAL	PJM		2018.09.12
WCRC PERMIT SUBMITTAL	PJM		2018.06.15

Issued	By	Appd	YYYY.MM.DD
File Name: 001816C-01	PJM	MP	2018-07-18
	Dsgn.	Chkd.	YYYY.MM.DD
	JA		
	Dwn.		

Permit/Seal

PITTSFIELD CHARTER TOWNSHIP

Client/Project
PITTSFIELD CHARTER TOWNSHIP

PITTSFIELD FIBER PHASE 3

PITTSFIELD TOWNSHIP, MI

Title
MERRITT RD & CARPENTER RD
3A STA. 0+00 TO 15+35

Project No.
2075001805

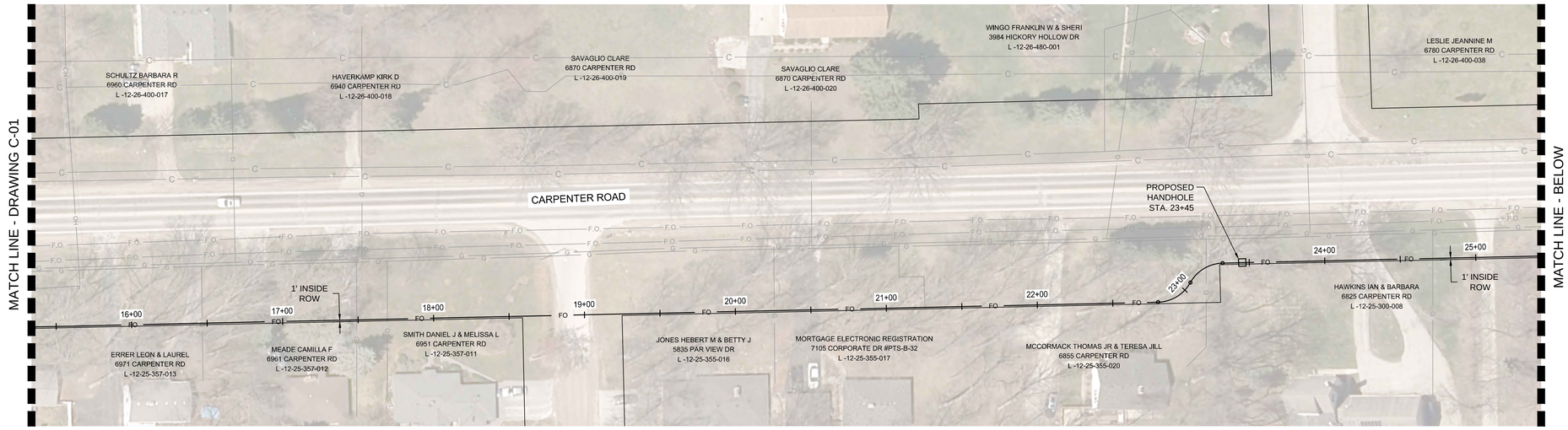
Scale
0 40' 80'

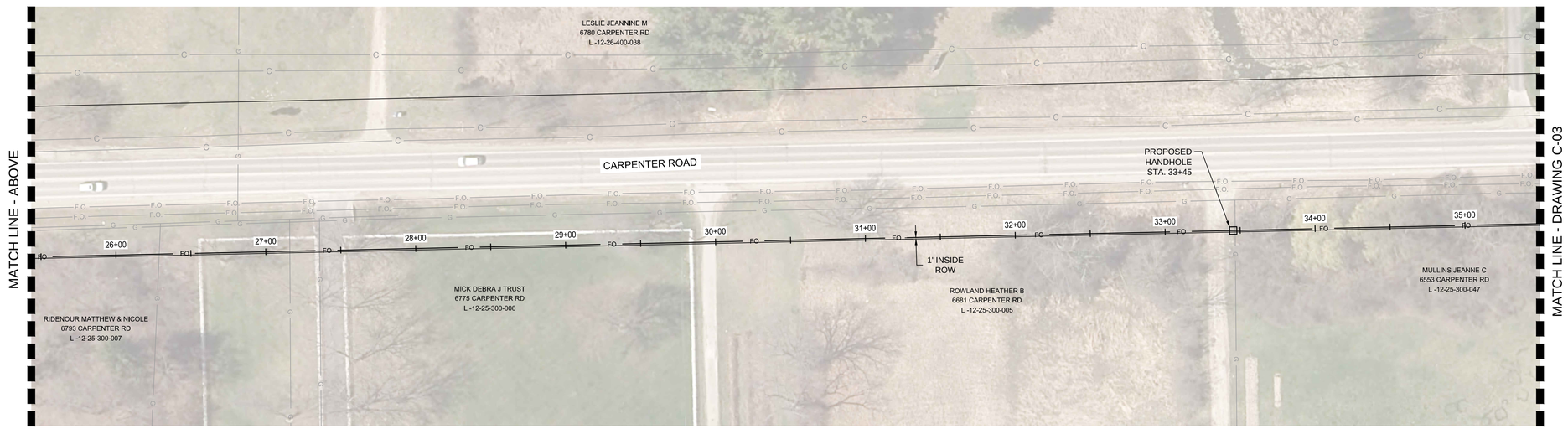
Revision 0

Sheet 9 of 40

Drawing No.
C-01

ORIGINAL SHEET - ARCH D





UNDERGROUND CROSSINGS AND CONFLICTS ALONG STATIONED ALIGNMENT
(OVERHEAD CROSSINGS NOT LISTED)

STATION	TYPE OF UTILITY
6+47 ±	GAS
17+49 ±	GAS
17+65 ±	GAS
20+25 ±	GAS
21+25 ±	GAS
23+15 ±	GAS
24+68 ±	GAS
26+25 ±	GAS
27+15 ±	GAS
27+40 ±	GAS
33+48 ±	GAS

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WCRC PERMIT RESUBMITTAL	PJM		2018.09.12
WCRC PERMIT SUBMITTAL	PJM		2018.06.15

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File Name: 001816C-02	JA	PJM	MP	2018-07-18
	Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Permit/Seal

PITTSFIELD CHARTER TOWNSHIP

Client/Project
PITTSFIELD CHARTER TOWNSHIP

PITTSFIELD FIBER PHASE 3

PITTSFIELD TOWNSHIP, MI

Title
CARPENTER RD
3A STA. 15+35 TO 35+50

Project No.
2075001805

Scale
0 40' 80'

Revision
0

Sheet
10 of 40

Drawing No.
C-02

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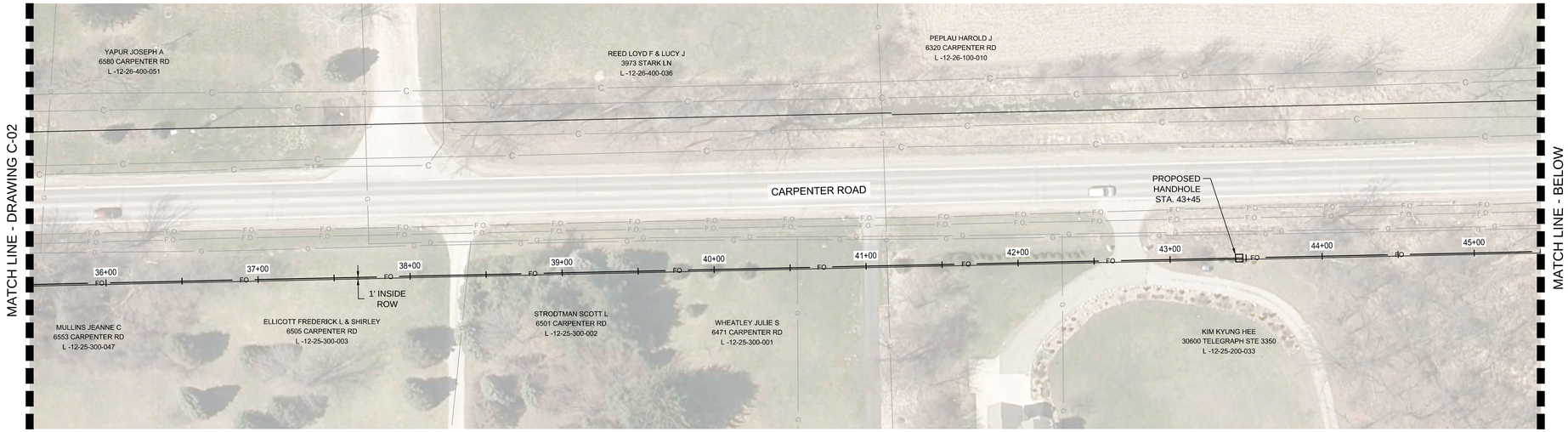

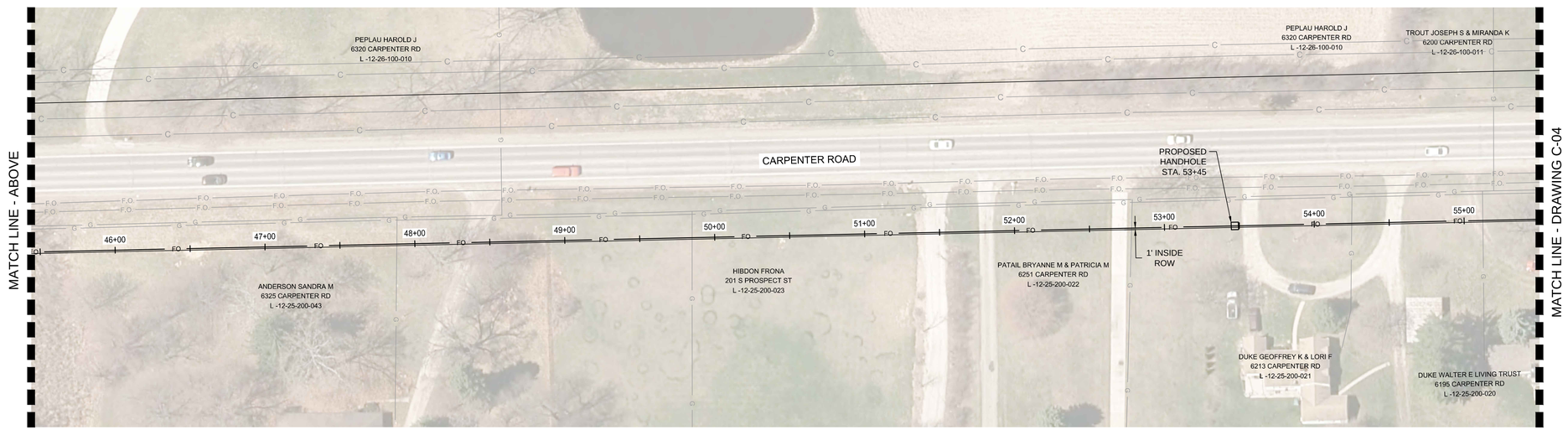

UNDERGROUND CROSSINGS AND CONFLICTS ALONG STATIONED ALIGNMENT
(OVERHEAD CROSSINGS NOT LISTED)

STATION	TYPE OF UTILITY
38+40 ±	GAS
40+55 ±	GAS
41+10 ±	GAS
42+28 ±	GAS
47+90 ±	GAS
49+85 ±	GAS
52+75 ±	GAS
54+25 ±	GAS
55+10 ±	GAS

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1 ADDENDUM #1	PJM		2018.11.12
BID SET	PJM		2018.10.29
WCRC PERMIT RESUBMITTAL	PJM		2018.09.12
WCRC PERMIT SUBMITTAL	PJM		2018.06.15

Issued	By	Appd	YYYY.MM.DD
File Name: 001816C-03	PJM	MP	2018-07-18
JA Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Permit/Seal

Client/Project
PITTSFIELD CHARTER TOWNSHIP

PITTSFIELD FIBER PHASE 3

PITTSFIELD TOWNSHIP, MI

Title
CARPENTER RD
3A STA. 35+50 TO 55+50

Project No.
2075001805

Scale
0 40' 80'

Revision 0

Sheet 11 of 40

Drawing No.
C-03

ORIGINAL SHEET - ARCH D
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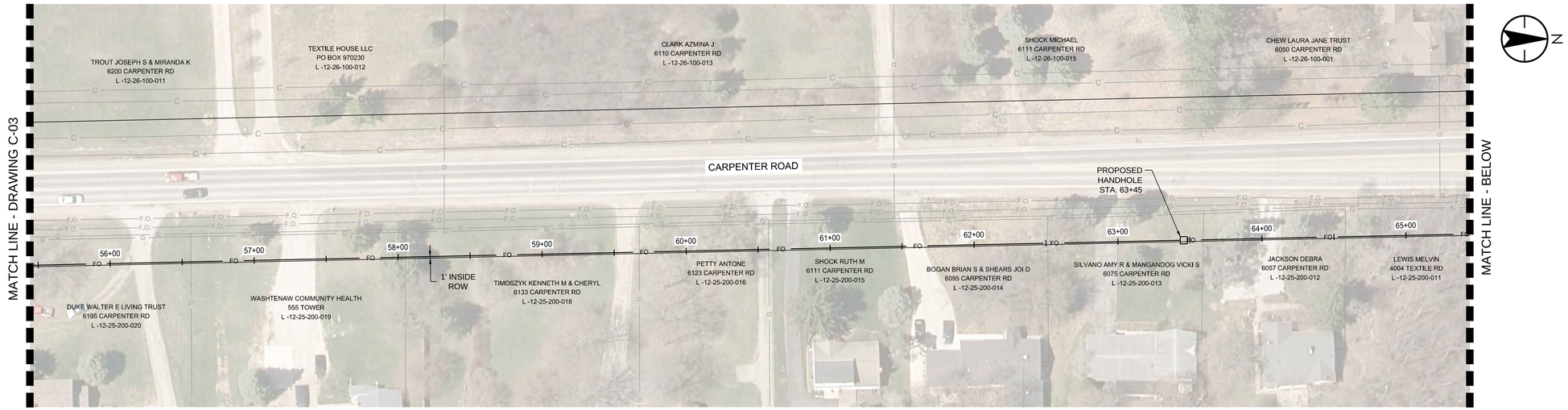

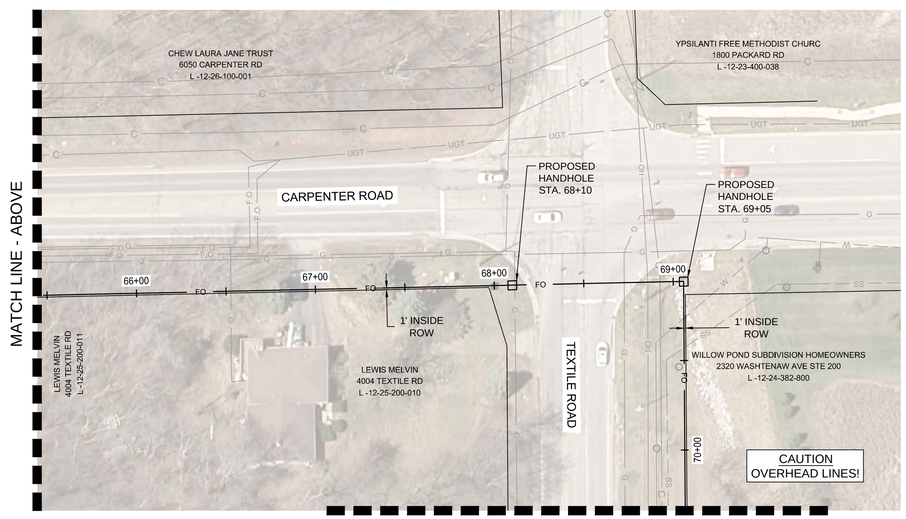

UNDERGROUND CROSSINGS AND CONFLICTS ALONG STATIONED ALIGNMENT
(OVERHEAD CROSSINGS NOT LISTED)

STATION	TYPE OF UTILITY
56+55 ±	GAS
58+05 ±	GAS
59+65 ±	GAS
60+55 ±	GAS
62+51 ±	GAS
63+60 ±	GAS
64+55 ±	GAS
66+51 ±	GAS
68+08 ±	GAS
68+70 ±	GAS
68+93 ±	CABLE
69+25 ±	WATER
69+45 ±	SANITARY SEWER

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WCRC PERMIT RESUBMITTAL	PJM		2018.09.12
WCRC PERMIT SUBMITTAL	PJM		2018.06.15

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File Name: 001816C-04	PJM	MP	2018-07-18
	Dwn.	Dsgn.	Chkd.

Permit/Seal

PITTSFIELD CHARTER TOWNSHIP

Client/Project
PITTSFIELD CHARTER TOWNSHIP

PITTSFIELD FIBER PHASE 3

PITTSFIELD TOWNSHIP, MI

Title
CARPENTER RD & TEXTILE RD
3A STA. 55+50 TO 70+40

Project No. 2075001805

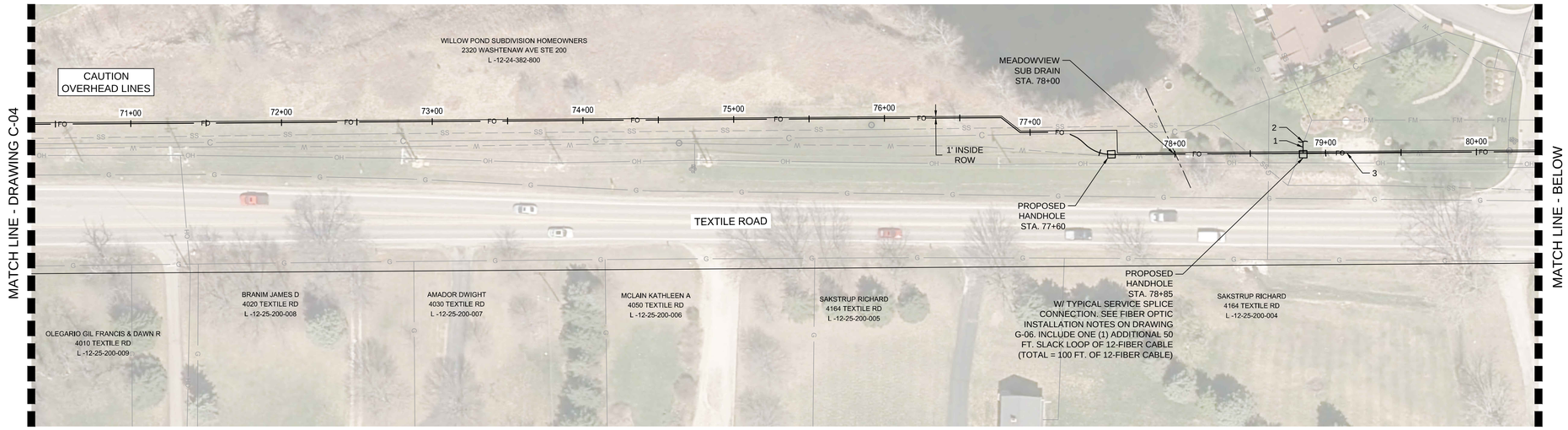
Scale 0 40' 80'

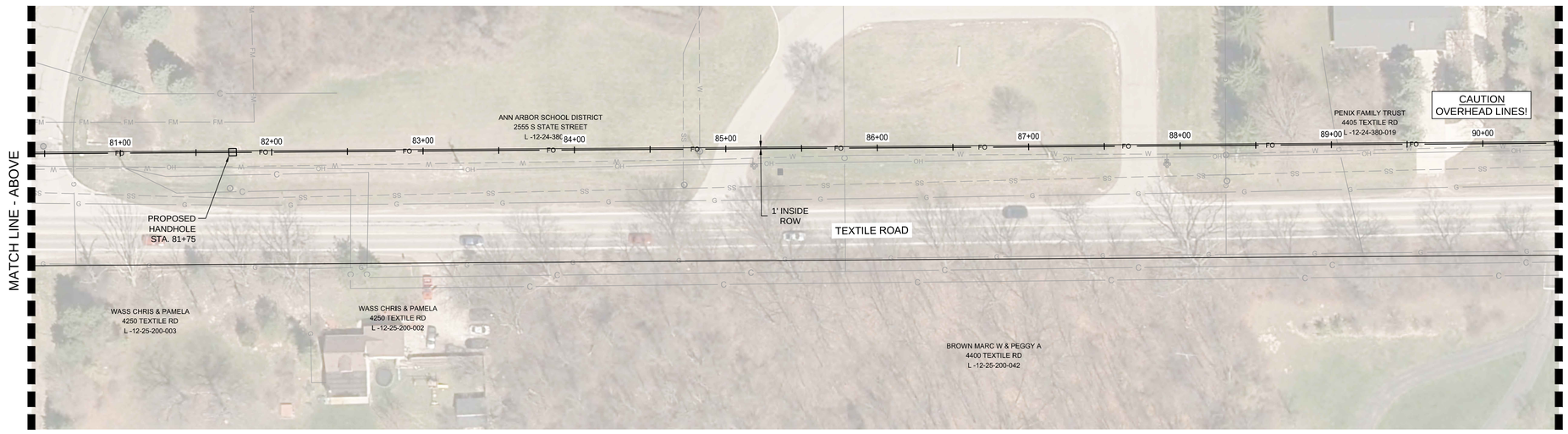
Revision 0

Sheet 12 of 40

Drawing No. C-04

ORIGINAL SHEET - ARCH D





UNDERGROUND CROSSINGS AND CONFLICTS ALONG STATIONED ALIGNMENT
(OVERHEAD CROSSINGS NOT LISTED)

STATION	TYPE OF UTILITY
76+94 ±	SANITARY SEWER
77+10 ±	CABLE
78+50 ±	SANITARY SEWER
78+60 ±	GAS
78+80 ±	FORCE MAIN
80+25 ±	WATER
80+70 ±	GAS
84+70 ±	SANITARY SEWER
84+80 ±	WATER
85+75 ±	CABLE
88+30 ±	GAS
89+05 ±	GAS

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Notes

1. INSTALL TWO(2) 2" DUCT WITH ONE(1) 12-FIBER OPTIC CABLE IN EACH.
2. SEE MEADOW VIEW PUMP STATION CONNECTION DETAIL ON DRAWING C-26.
3. 100 LF OF 4" RGS CONDUIT TO BE INSTALLED PRIOR TO ANY WORK ON MEADOW VIEW PUMP STATION.

Revision	By	Appd	YYYY.MM.DD
CONSTRUCTION SET	PJM		2019.03.05
1 ADDENDUM #1	PJM		2018.11.12
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WCRC PERMIT RESUBMITTAL	PJM		2018.09.12
WCRC PERMIT SUBMITTAL	PJM		2018.06.15

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File Name: 001816C-05	JA	PJM	MP	2018-07-18
	Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Permit/Seal

Client/Project
PITTSFIELD CHARTER TOWNSHIP

PITTSFIELD FIBER PHASE 3

PITTSFIELD TOWNSHIP, MI

Title
TEXTILE RD
3A STA. 70+40 TO 90+50

Project No.
2075001805

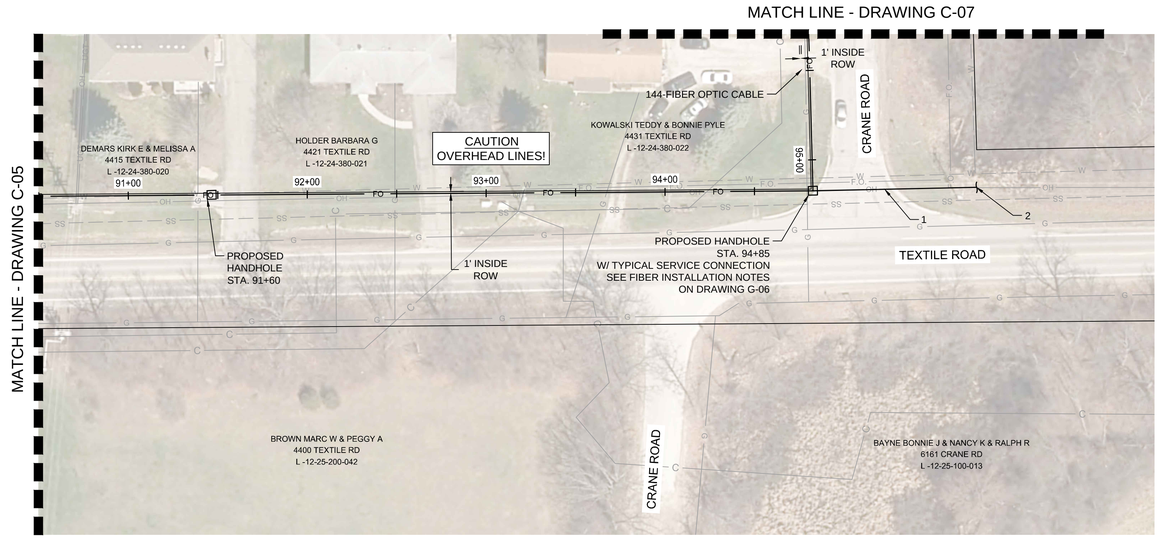
Scale
0 40' 80'

Revision 0

Sheet 13 of 40

Drawing No.
C-05

ORIGINAL SHEET - ARCH D



N

UNDERGROUND CROSSINGS AND CONFLICTS ALONG STATIONED ALIGNMENT
(OVERHEAD CROSSINGS NOT LISTED)

STATION	TYPE OF UTILITY
90+75 ±	UNDER GRND TELECOM
91+00 ±	WATER
91+40 ±	GAS
92+49 ±	GAS
93+20 ±	FIBER OPTIC
93+60 ±	GAS
94+25 ±	CABLE
94+82 ±	GAS
94+87 ±	FIBER OPTIC
94+90 ±	WATER

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Notes

1. INSTALL TWO(2) 2" DUCTS WITH ONE(1) 12-FIBER OPTIC CABLE IN EACH.
2. SEE ASHFORD VILLAGE PUMP STATION CONNECTION DETAIL ON DRAWING C-27.

Legend

Revision	By	Appd	YYYY.MM.DD
CONSTRUCTION SET	PJM		2019.03.05
△1 ADDENDUM #1	PJM		2018.11.12
BID SET	PJM		2018.10.29
WCRC PERMIT RESUBMITTAL	PJM		2018.09.12
WCRC PERMIT SUBMITTAL	PJM		2018.06.15

Issued	By	Appd	YYYY.MM.DD
File Name: 001816C-06	PJM	MP	2018-07-18
	Dwn.	Chkd.	YYYY.MM.DD

Permit/Seal

PITTSFIELD CHARTER TOWNSHIP

Client/Project
PITTSFIELD CHARTER TOWNSHIP

PITTSFIELD FIBER PHASE 3

PITTSFIELD TOWNSHIP, MI

Title
TEXTILE RD & CRANE RD
3A STA. 89+75 TO 95+65

Project No.
2075001805

Scale
0 40' 80'

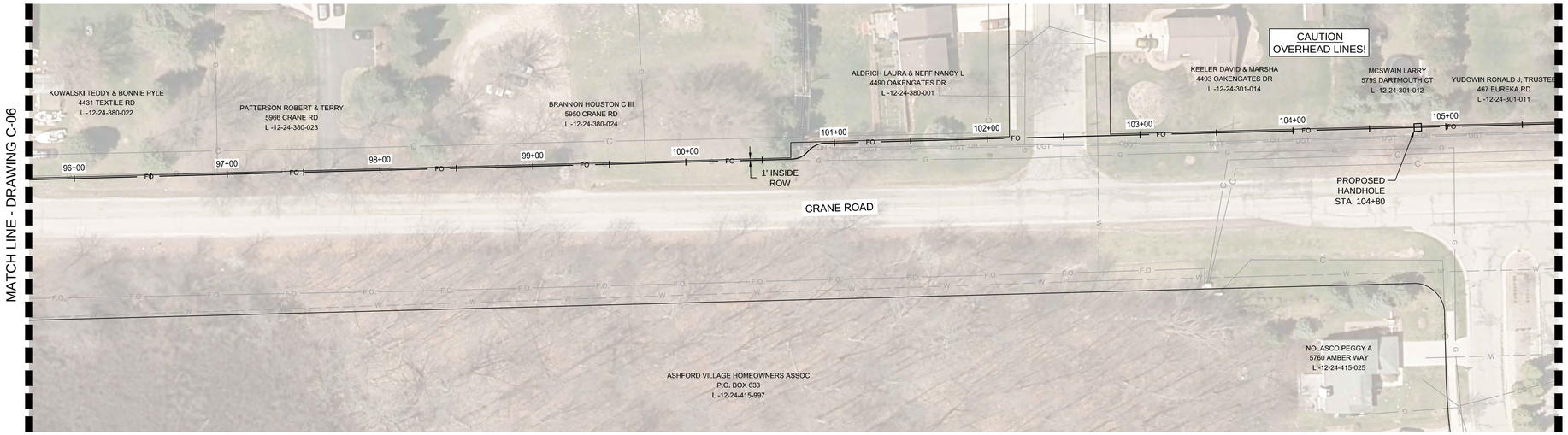
Revision
0

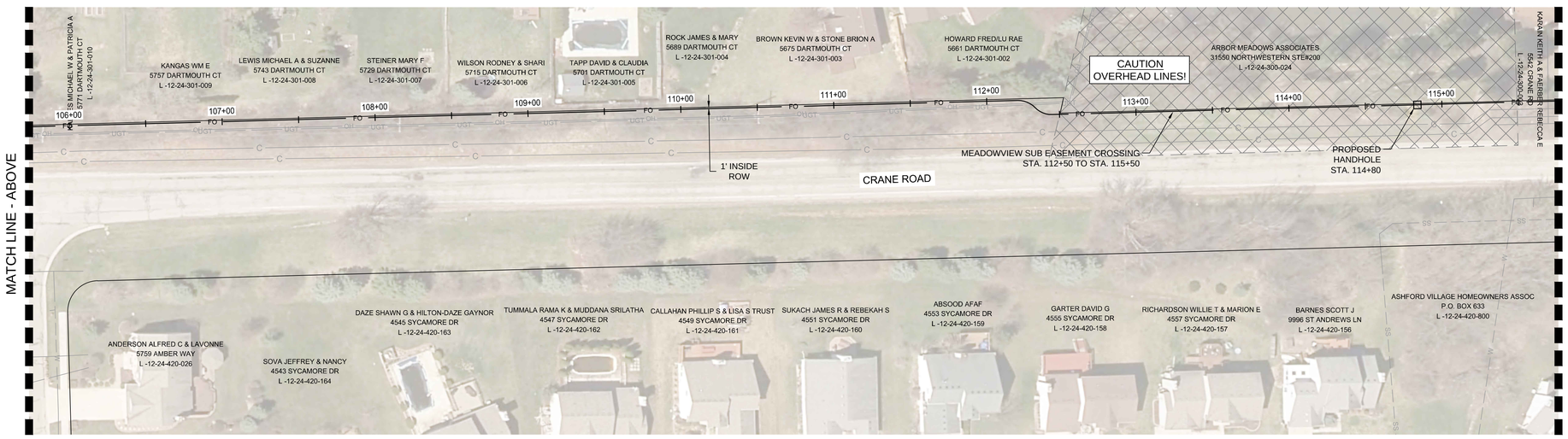
Sheet
14 of 40

Drawing No.
C-06

v:\2075\active\075001805\design\drawings\001816c-06
2019.03.07 1:44:05 AM

ORIGINAL SHEET - ARCH D





UNDERGROUND CROSSINGS AND CONFLICTS ALONG STATIONED ALIGNMENT
(OVERHEAD CROSSINGS NOT LISTED)

STATION	TYPE OF UTILITY
99+75 ±	GAS
100+00 ±	GAS
100+85 ±	UNDRGRND TELECOM
102+25 ±	GAS
102+70 ±	WATER
112+25 ±	UNDRGRND TELECOM
115+70 ±	CABLE

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Legend

Revision	By	Appd	YYYY.MM.DD
CONSTRUCTION SET	PJM		2019.03.05
1 ADDENDUM #1	PJM		2018.11.12
BID SET	PJM		2018.10.29
WCRC PERMIT RESUBMITTAL	PJM		2018.09.12
WCRC PERMIT SUBMITTAL	PJM		2018.06.15

Issued	By	Appd	YYYY.MM.DD
File Name: 001816C-07	JA	PJM	MP	2018-07-18
	Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Permit/Seal

PITTSFIELD CHARTER TOWNSHIP

Client/Project
PITTSFIELD CHARTER TOWNSHIP

PITTSFIELD FIBER PHASE 3

PITTSFIELD TOWNSHIP, MI

Title
CRANE RD
3A STA. 95+65 TO 115+75

Project No.
2075001805

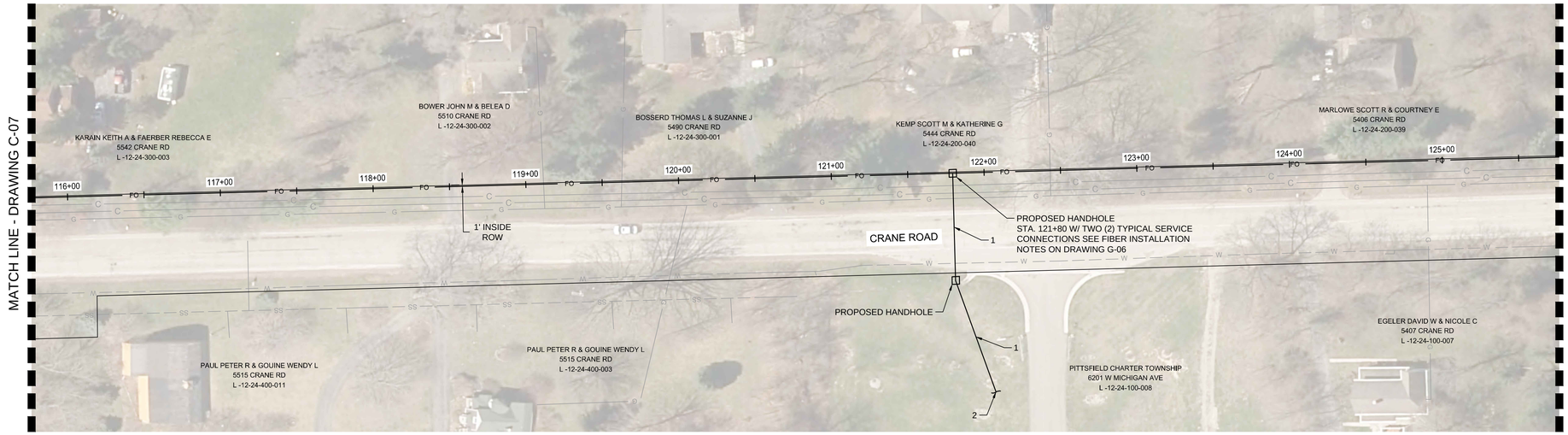
Scale
0 40' 80'

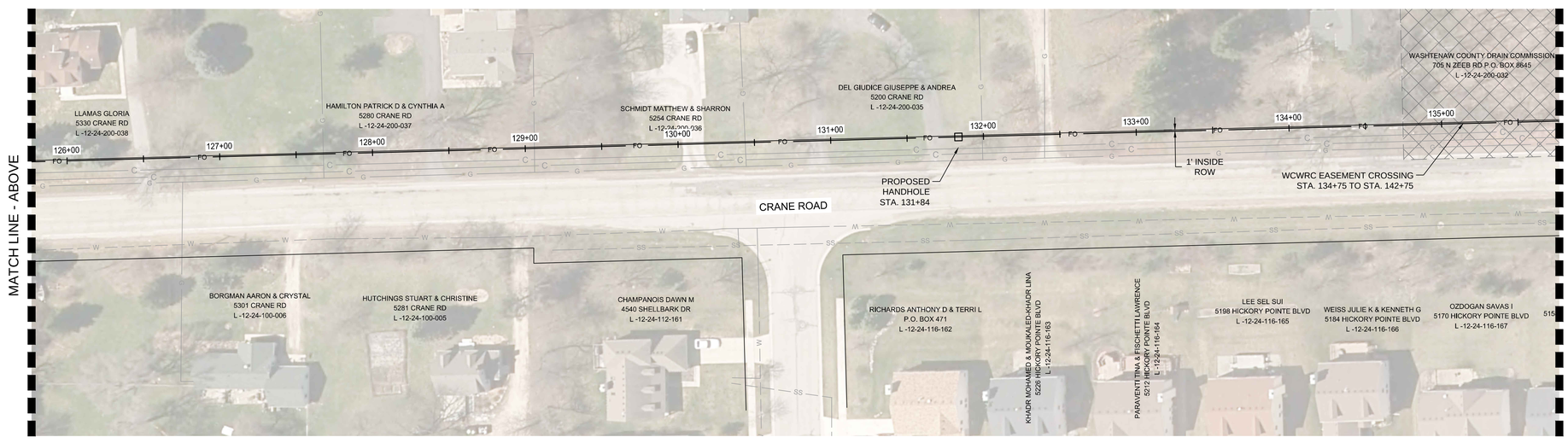
Revision
0

Sheet
15 of 40

Drawing No.
C-07

ORIGINAL SHEET - ARCH D





UNDERGROUND CROSSINGS AND CONFLICTS ALONG STATIONED ALIGNMENT
(OVERHEAD CROSSINGS NOT LISTED)

STATION	TYPE OF UTILITY
119+12 ±	GAS
119+62 ±	GAS
122+43 ±	GAS
127+67 ±	GAS
129+04 ±	GAS
130+45 ±	GAS
131+99 ±	GAS
132+41 ±	GAS

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Notes

1. INSTALL TWO(2) 2" DUCTS WITH ONE(1) 12-FIBER OPTIC CABLE IN EACH.
2. SEE HICKORY WOODS CONNECTION DETAIL ON DRAWING C-28.

Legend

Revision	By	Appd	YYYY.MM.DD
CONSTRUCTION SET	PJM		2019.03.05
1 ADDENDUM #1	PJM		2018.11.12
BID SET	PJM		2018.10.29
WCRC PERMIT RESUBMITTAL	PJM		2018.09.12
WCRC PERMIT SUBMITTAL	PJM		2018.06.15

Issued	By	Appd	YYYY.MM.DD
File Name: 001816C-08	PJM	MP	2018-07-18
JA	PJM	MP	2018-07-18
Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Permit/Seal

PITTSFIELD CHARTER TOWNSHIP

Client/Project
PITTSFIELD CHARTER TOWNSHIP

PITTSFIELD FIBER PHASE 3

PITTSFIELD TOWNSHIP, MI

Title
CRANE RD
3A STA. 115+75 TO 135+75

Project No.
2075001805

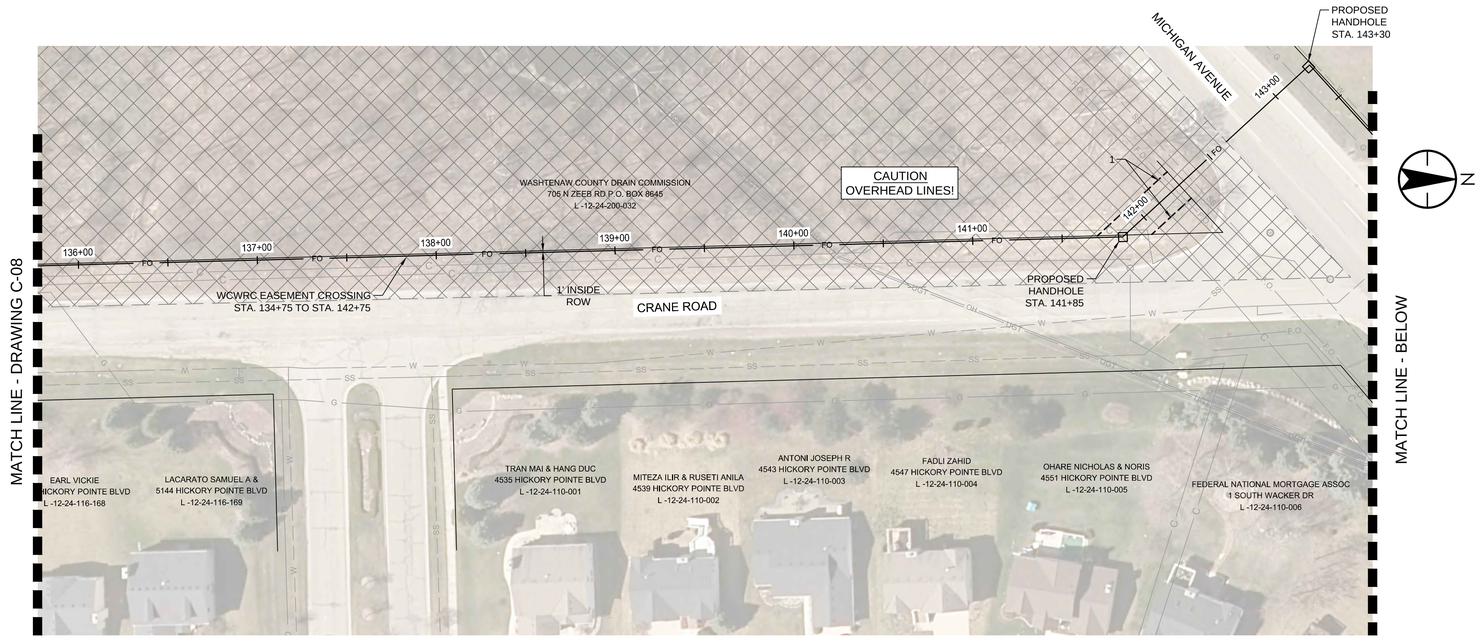
Scale
0 40' 80'

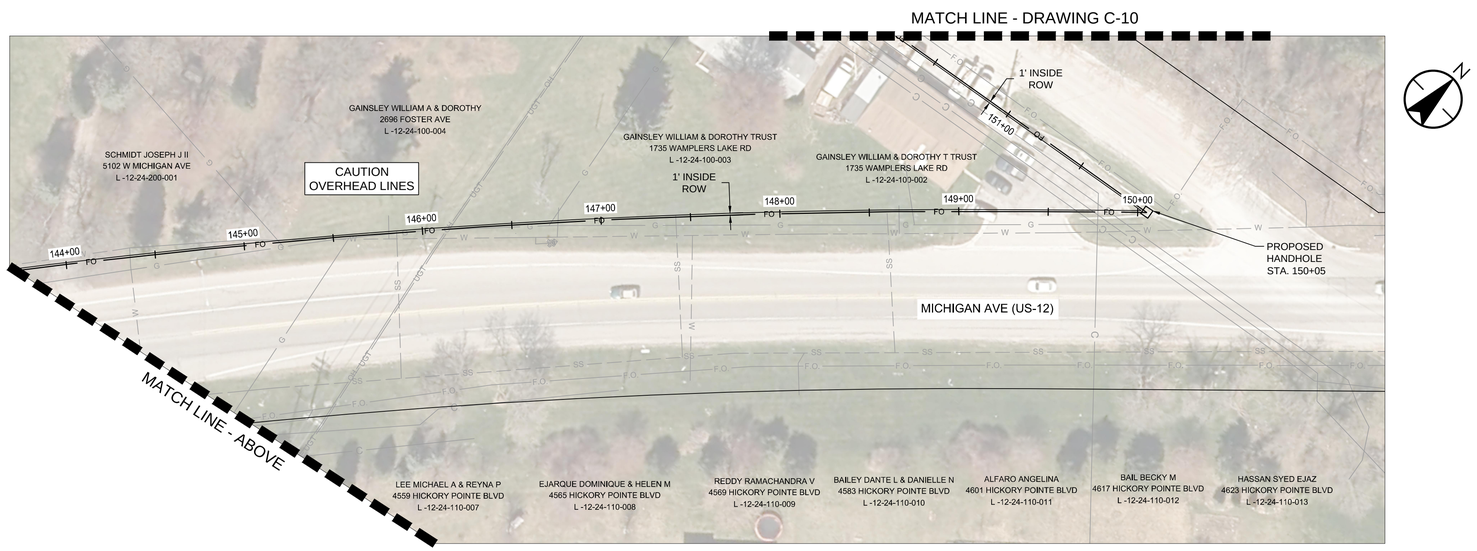
Revision 0

Sheet 16 of 40

Drawing No.
C-08

ORIGINAL SHEET - ARCH D





UNDERGROUND CROSSINGS AND CONFLICTS ALONG STATIONED ALIGNMENT
(OVERHEAD CROSSINGS NOT LISTED)

STATION	TYPE OF UTILITY
140+15 ±	UNDER GRND TELECOM
140+48 ±	CABLE
141+90 ±	CABLE
142+22 ±	FIBER OPTIC
142+35 ±	SANITARY SEWER
143+15 ±	GAS
144+35 ±	WATER
145+20 ±	GAS
145+35 ±	WATER
145+80 ±	WATER
145+90 ±	SANITARY SEWER
146+10 ±	UNDER GRND TELECOM
146+65 ±	GAS
147+42 ±	SANITARY SEWER
148+60 ±	SANITARY SEWER
148+70 ±	WATER
148+75 ±	GAS
149+65 ±	CABLE
149+75 ±	CABLE
149+85 ±	CABLE

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Notes

1. 20' EASEMENT
   (NEEDS TO BE OBTAINED)

Legend

Revision	By	Appd	YYYY.MM.DD
CONSTRUCTION SET	PJM		2019.03.05
1 ADDENDUM #1	PJM		2018.11.12
BID SET	PJM		2018.10.29
WCRC PERMIT RESUBMITTAL	PJM		2018.09.12
WCRC PERMIT SUBMITTAL	PJM		2018.06.15

Issued	By	Appd	YYYY.MM.DD
File Name: 001816C-09	JA	PJM	MP	2018-07-18
	Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Permit/Seal

PITTSFIELD CHARTER TOWNSHIP

Client/Project
PITTSFIELD CHARTER TOWNSHIP

PITTSFIELD FIBER PHASE 3

PITTSFIELD TOWNSHIP, MI

Title
CRANE RD & MICHIGAN AVE
3A STA. 135+75 TO 151+80

Project No.
2075001805

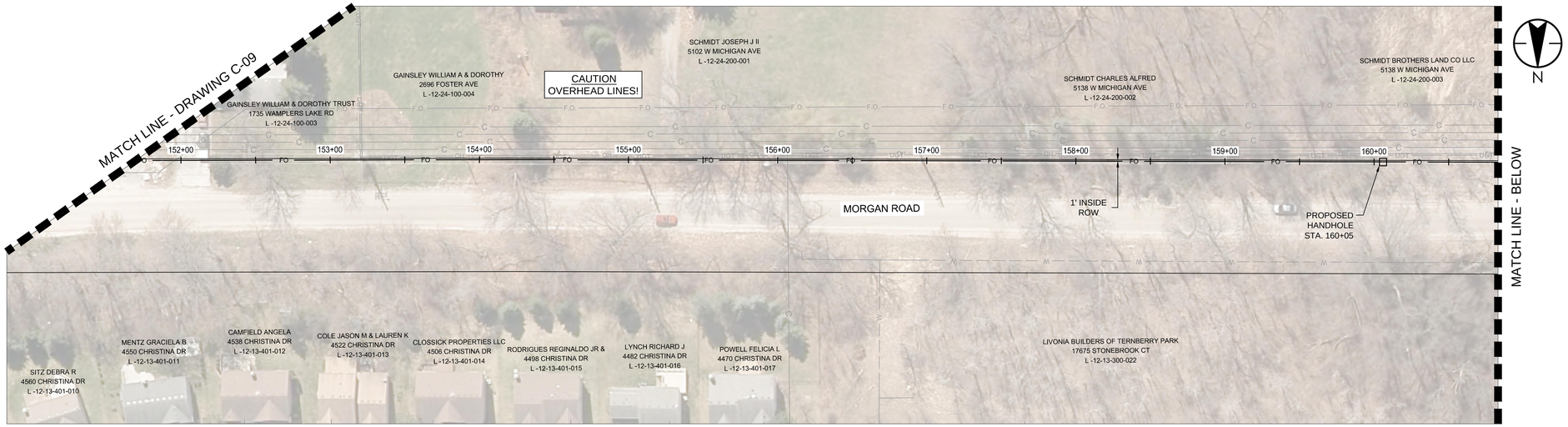
Scale
0 40' 80'

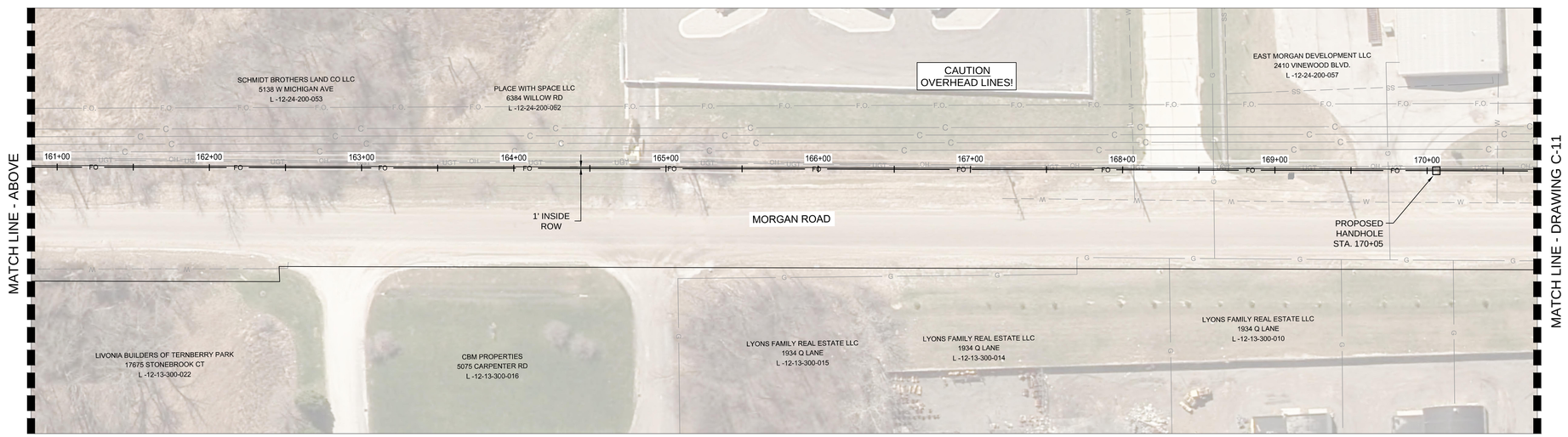
Revision 0

Sheet 17 of 40

Drawing No.
C-09

ORIGINAL SHEET - ARCH D





UNDERGROUND CROSSINGS AND CONFLICTS ALONG STATIONED ALIGNMENT
(OVERHEAD CROSSINGS NOT LISTED)

STATION	TYPE OF UTILITY
151+98 ±	FIBER OPTIC
156+05 ±	CABLE
168+05 ±	WATER
168+60 ±	GAS
168+70 ±	GAS
168+75 ±	SANITARY SEWER
169+70 ±	GAS
170+45 ±	WATER

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Revision	By	Appd	YYYY.MM.DD
CONSTRUCTION SET	PJM		2019.03.05
1 ADDENDUM #1	PJM		2018.11.12
BID SET	PJM		2018.10.29
WCRC PERMIT RESUBMITTAL	PJM		2018.09.12
WCRC PERMIT SUBMITTAL	PJM		2018.06.15

Issued	By	Appd	YYYY.MM.DD
File Name: 001816C-10	PJM	MP	2018-07-18
	Dsgn.	Chkd.	YYYY.MM.DD

JA
Dwn.

Permit/Seal

PITTSFIELD CHARTER TOWNSHIP

Client/Project
PITTSFIELD CHARTER TOWNSHIP

PITTSFIELD FIBER PHASE 3

PITTSFIELD TOWNSHIP, MI

Title
MORGAN RD
3A STA. 151+80 TO 170+75

Project No.
2075001805

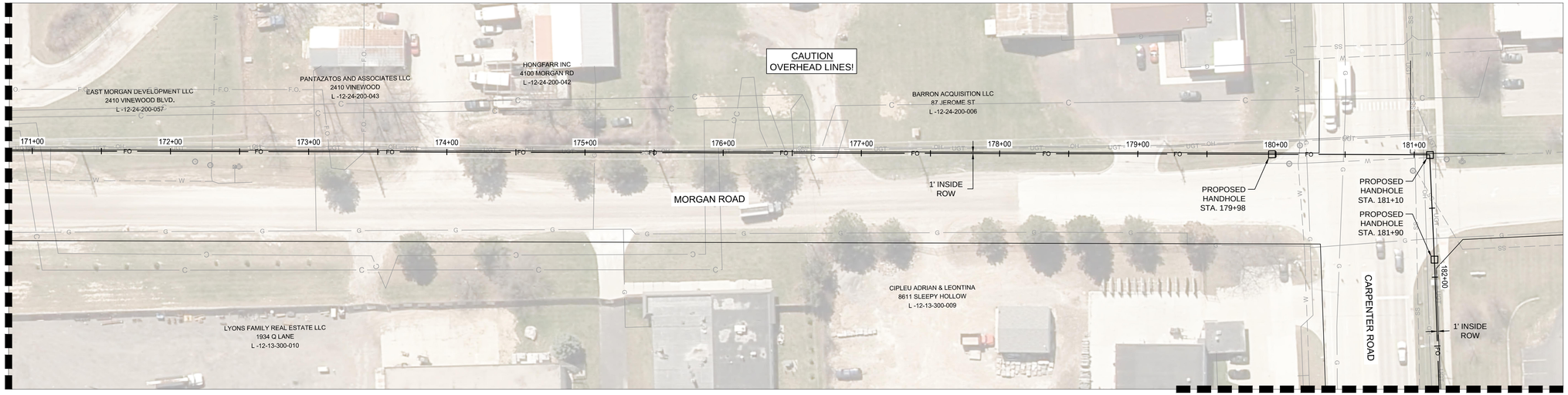
Scale
0 40' 80'

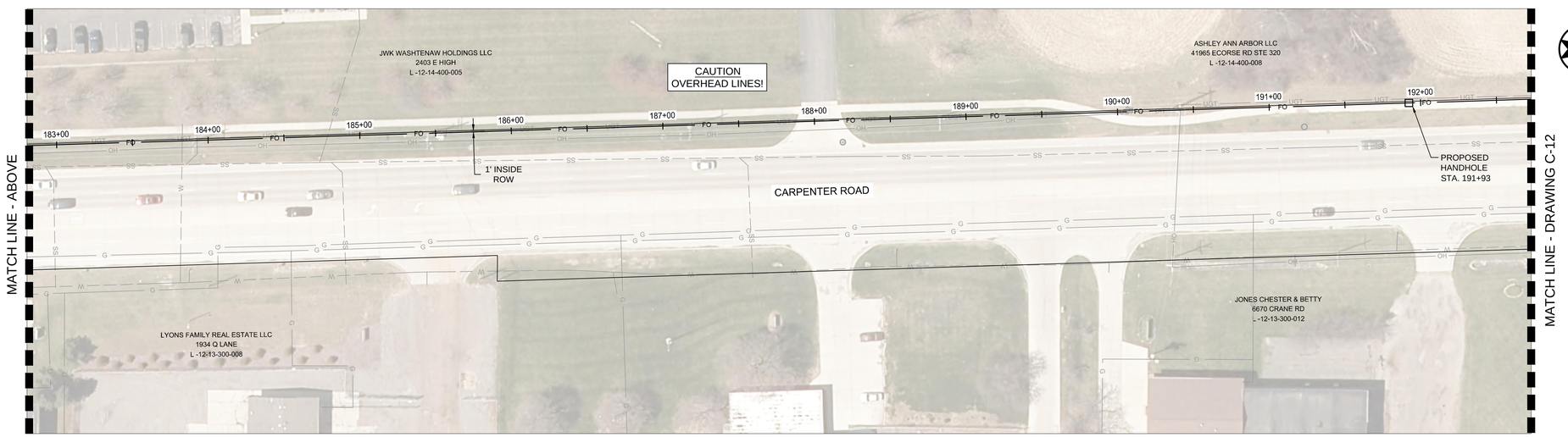
Revision
0

Sheet
18 of 40

Drawing No.
C-10

ORIGINAL SHEET - ARCH D





UNDERGROUND CROSSINGS AND CONFLICTS ALONG STATIONED ALIGNMENT
(OVERHEAD CROSSINGS NOT LISTED)

STATION	TYPE OF UTILITY	STATION	TYPE OF UTILITY
170+95 ±	CABLE	183+92 ±	CABLE
171+05 ±	CABLE	190+40 ±	UNDER GRND TELECOM
171+10 ±	WATER		
172+30 ±	WATER		
173+10 ±	GAS		
173+25 ±	FIBER OPTIC		
173+40 ±	FIBER OPTIC		
175+05 ±	GAS		
175+90 ±	CABLE		
175+95 ±	CABLE		
176+05 ±	CABLE		
176+40 ±	CABLE		
176+45 ±	CABLE		
176+70 ±	CABLE		
176+85 ±	CABLE		
180+15 ±	WATER		
180+20 ±	GAS		
180+50 ±	GAS		
181+00 ±	SANITARY SEWER		
181+15 ±	WATER		
181+40 ±	SANITARY SEWER		
181+70 ±	GAS		
183+85 ±	WATER		
184+75 ±	SANITARY SEWER		

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Legend

Revision	By	Appd	YYYY.MM.DD
CONSTRUCTION SET	PJM		2019.03.05
1 ADDENDUM #1	PJM		2018.11.12
BID SET	PJM		2018.10.29
WCRC PERMIT RESUBMITTAL	PJM		2018.09.12
WCRC PERMIT SUBMITTAL	PJM		2018.06.15

Issued		By	Appd	YYYY.MM.DD
File Name: 001816C-11	JA	PJM	MP	2018-07-18
	Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Permit/Seal

PITTSFIELD CHARTER TOWNSHIP

Client/Project
PITTSFIELD CHARTER TOWNSHIP

PITTSFIELD FIBER PHASE 3

PITTSFIELD TOWNSHIP, MI

Title
MORGAN RD & CARPENTER RD
3A STA. 170+75 TO 192+72

Project No. 2075001805

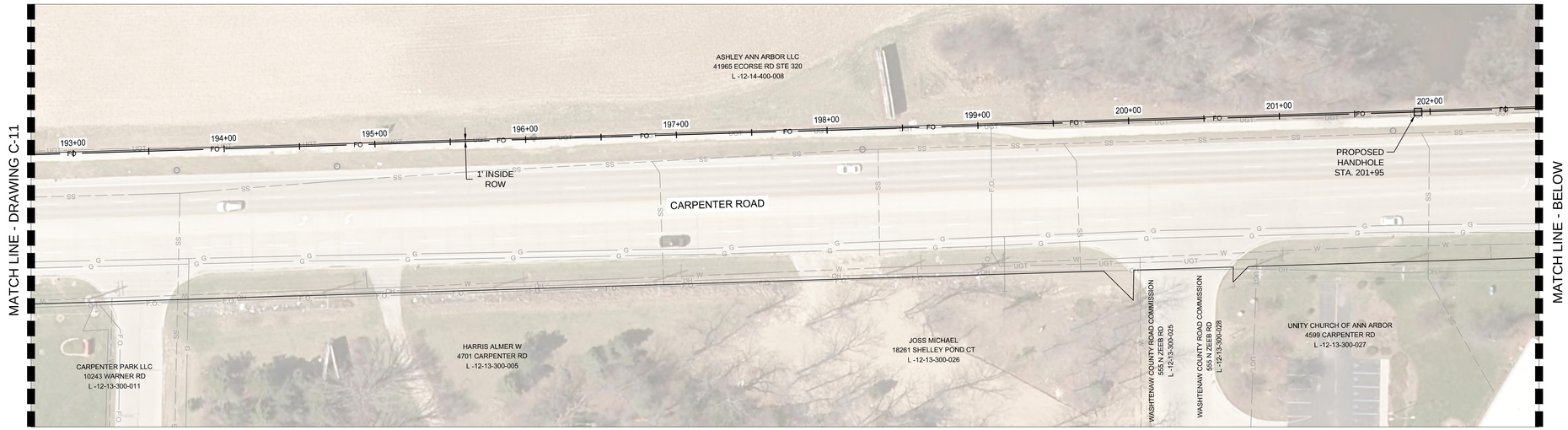
Scale 0 40' 80'

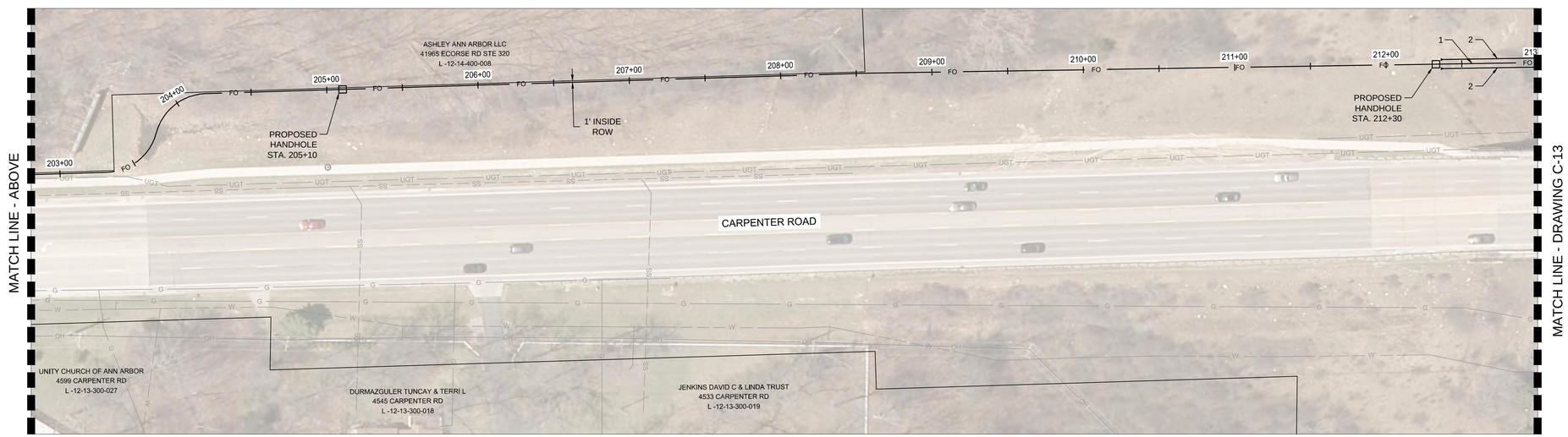
Revision 0

Sheet 19 of 40

Drawing No. C-11

ORIGINAL SHEET - ARCH D





UNDERGROUND CROSSINGS AND CONFLICTS ALONG STATIONED ALIGNMENT
(OVERHEAD CROSSINGS NOT LISTED)

STATION	TYPE OF UTILITY
197+50 ±	UNDER GRND TELECOM

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Notes
1. INSTALL ONE (1) 4" SDR11 HDPE DUCT WITH ONE (1) 144-FBER OPTIC CABLE.
2. INSTALL TWO (2) 4" SDR11 HDPE DUCTS, CAP AND STAKE FOR FUTURE USE.
3. 4" DUCTS ARE TO BE INSTALLED SEPARATELY IN SEPARATE BORE HOLES 3' APART ON CENTER.

Revision	By	Appd	YYYY.MM.DD
CONSTRUCTION SET	PJM		2019.03.05
1 ADDENDUM #1	PJM		2018.11.12
BID SET	PJM		2018.10.29
WCRC PERMIT RESUBMITTAL	PJM		2018.09.12
WCRC PERMIT SUBMITTAL	PJM		2018.06.15

Issued	By	Appd	YYYY.MM.DD
File Name: 001816C-12	JA	PJM	MP	2018-07-18
	Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Permit/Seal

PITTSFIELD CHARTER TOWNSHIP

Client/Project
PITTSFIELD CHARTER TOWNSHIP

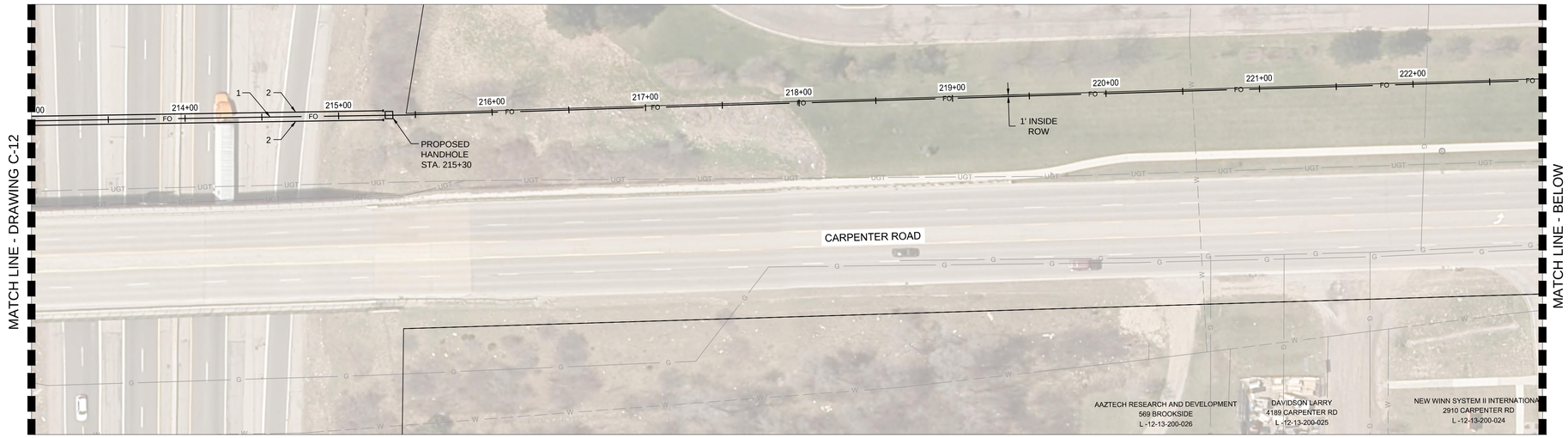
PITTSFIELD FIBER PHASE 3

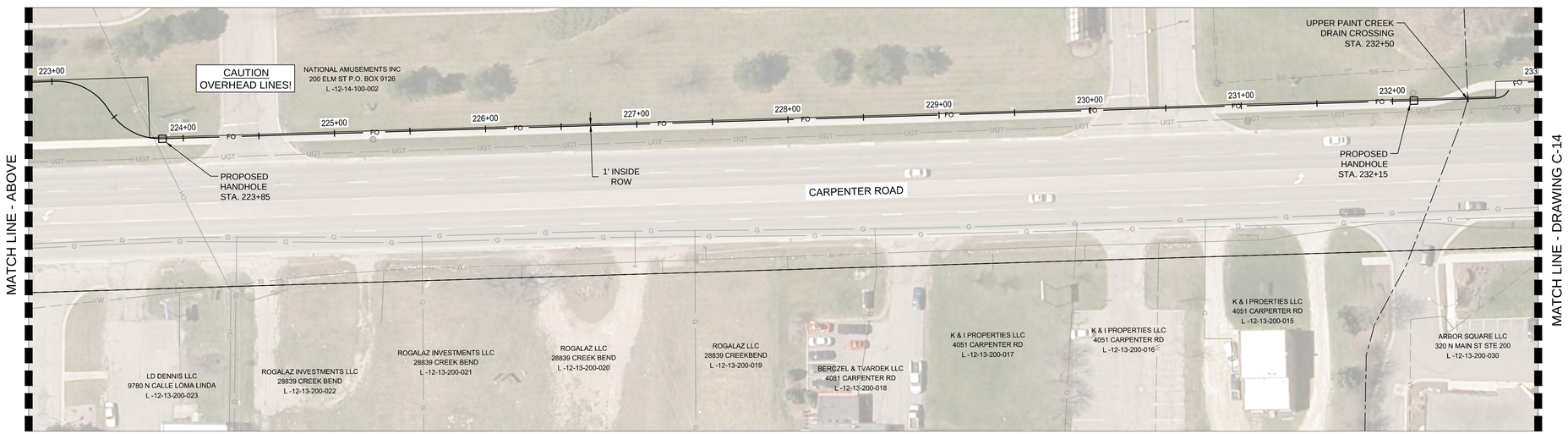
PITTSFIELD TOWNSHIP, MI

Title
CARPENTER RD
3A STA. 192+72 TO 213+00

Project No. 2075001805
Scale 0 40' 80'
Revision 0
Sheet 20 of 40
Drawing No. C-12

ORIGINAL SHEET - ARCH D





UNDERGROUND CROSSINGS AND CONFLICTS ALONG STATIONED ALIGNMENT
(OVERHEAD CROSSINGS NOT LISTED)

STATION	TYPE OF UTILITY
220+55 ±	WATER
222+07 ±	GAS
223+90 ±	UNDER GRND TELECOM

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Notes

1. INSTALL ONE (1) 4" SDR11 HDPE DUCT WITH ONE (1) 144-FBER OPTIC CABLE.
2. INSTALL TWO (2) 4" SDR11 HDPE DUCTS, CAP AND STAKE FOR FUTURE USE.
3. 4" DUCTS ARE TO BE INSTALLED SEPARATELY IN SEPARATE BORE HOLES 3' APART ON CENTER.

Revision	By	Appd	YYYY.MM.DD
CONSTRUCTION SET	PJM		2019.03.05
1 ADDENDUM #1	PJM		2018.11.12
BID SET	PJM		2018.10.29
WCRC PERMIT RESUBMITTAL	PJM		2018.09.12
WCRC PERMIT SUBMITTAL	PJM		2018.06.15

Issued	By	Appd	YYYY.MM.DD
File Name: 001816C-13	PJM	MP	2018-07-18
	Dwn.	Dsgn.	Chkd.

Permit/Seal

PITTSFIELD CHARTER TOWNSHIP

Client/Project
PITTSFIELD CHARTER TOWNSHIP

PITTSFIELD FIBER PHASE 3

PITTSFIELD TOWNSHIP, MI

Title
CARPENTER RD
3A STA. 212+80 TO 233+00

Project No. 2075001805

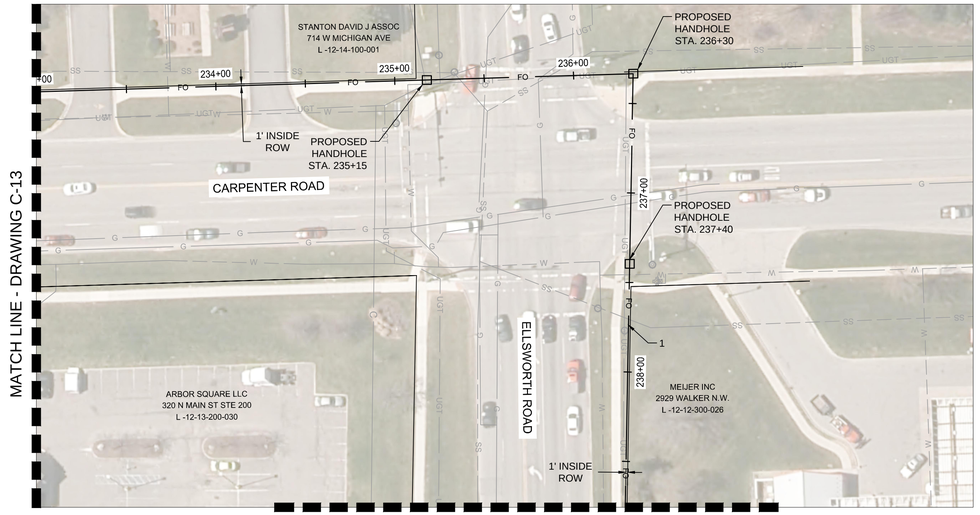
Scale 0 40' 80'

Revision 0

Sheet 21 of 40

Drawing No. C-13

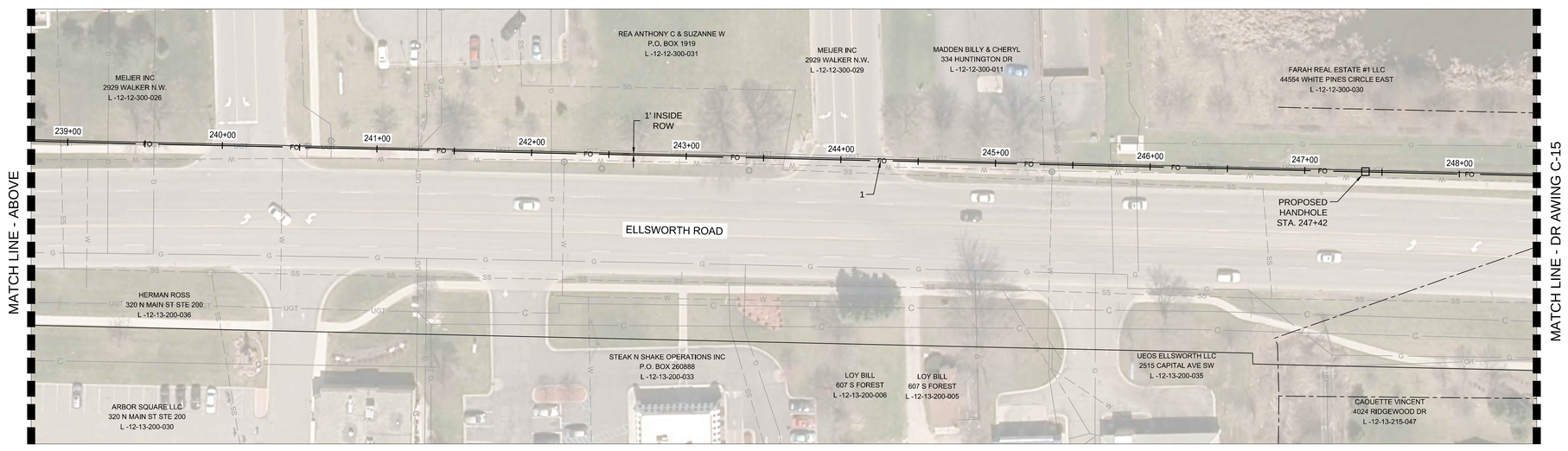
ORIGINAL SHEET - ARCH D



N

UNDERGROUND CROSSINGS AND CONFLICTS ALONG STATIONED ALIGNMENT
(OVERHEAD CROSSINGS NOT LISTED)

STATION	TYPE OF UTILITY
233+70 ±	WATER
235+15 ±	UNDER GRND TELECOM
235+20 ±	UNDER GRND TELECOM
235+35 ±	SANITARY SEWER
235+50 ±	GAS
235+80 ±	SANITARY SEWER/GAS
236+30 ±	UNDER GRND TELECOM
237+00 ±	GAS
237+10 ±	GAS
237+47 ±	WATER
237+65 ±	SANITARY SEWER
238+95 ±	SANITARY SEWER
239+25 ±	GAS
239+55 ±	GAS
240+00 ±	UNDER GRND TELECOM
240+55 ±	WATER
241+25 ±	UNDER GRND TELECOM/F.O./CABLE
242+07 ±	GAS
243+40 ±	WATER
243+60 ±	SANITARY SEWER
245+35 ±	WATER
245+43 ±	SANITARY SEWER
245+75 ±	GAS
245+93 ±	GAS



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Notes

1. LOCATE NEW FIBER MINIMUM 2' DEEPER THAN SURROUNDING UTILITIES

Legend

Revision	By	Appd	YYYY.MM.DD
CONSTRUCTION SET	PJM		2019.03.05
1 ADDENDUM #1	PJM		2018.11.12
BID SET	PJM		2018.10.29
WCRC PERMIT RESUBMITTAL	PJM		2018.09.12
WCRC PERMIT SUBMITTAL	PJM		2018.06.15

Issued	By	Appd	YYYY.MM.DD
File Name: 001816C-14	JA	PJM	MP	2018-07-18
	Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Permit/Seal

Client/Project
PITTSFIELD CHARTER TOWNSHIP

PITTSFIELD FIBER PHASE 3

PITTSFIELD TOWNSHIP, MI

Title
CARPENTER RD & ELLSWORTH RD 3A STA. 233+00 TO 248+50

Project No. 2075001805

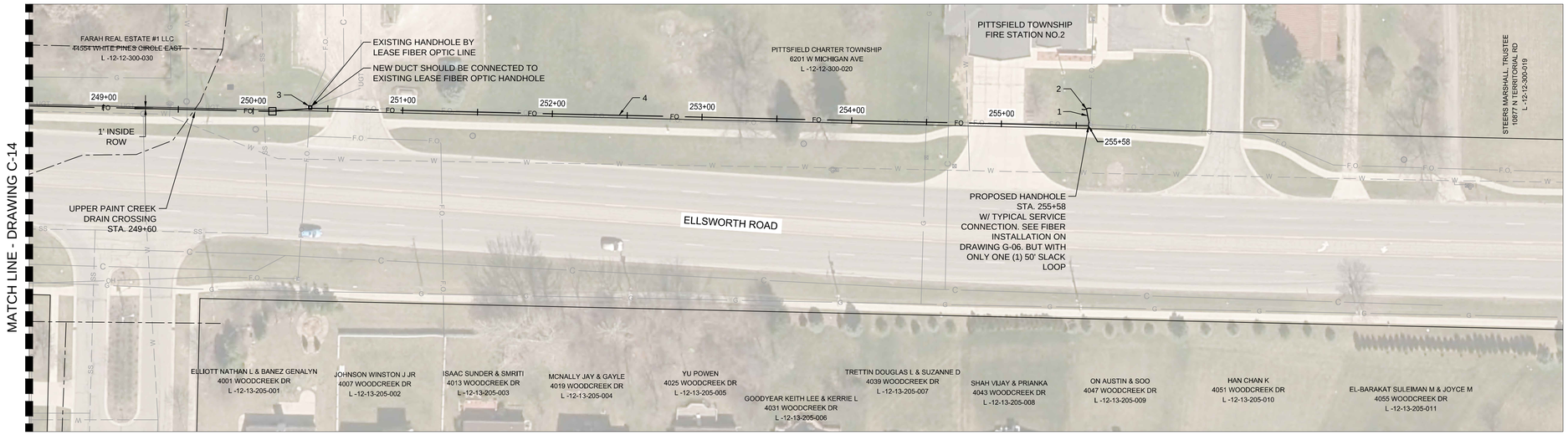
Scale 0 40' 80'

Revision 0

Sheet 22 of 40

Drawing No. **C-14**

ORIGINAL SHEET - ARCH D



UNDERGROUND CROSSINGS AND CONFLICTS ALONG STATIONED ALIGNMENT
(OVERHEAD CROSSINGS NOT LISTED)

STATION	TYPE OF UTILITY
249+45 ±	WATER
249+55 ±	WATER
250+07 ±	SANITARY SEWER
250+40 ±	FIBER OPTIC
253+40 ±	FIBER OPTIC
254+50 ±	GAS
254+62 ±	CABLE
254+77 ±	WATER

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Notes

1. INSTALL TWO(2) 2" DUCTS WITH ONE(1) 12-FIBER OPTIC CABLE IN EACH.
2. SEE FIRE STATION CONNECTION DETAIL ON DRAWING C-29.
3. CONNECT NEW 2" DUCTS TO EXISTING FIBER OPTIC LEASE LINE HANDHOLE. ALLOWING FOR INSTALLATION OF NEW 144-FIBER CABLE THROUGH THE EXISTING STRUCTURE.
4. EXISTING FIBER LINE IS TO REMAIN IN PLACE, IN DARK STATUS. NEW FIBER LINE (SHOWN) IS ALONG SAME ALIGNMENT AND DEEPER THAN EXISTING LINE.

Revision	By	Appd	YYYY.MM.DD
CONSTRUCTION SET	PJM		2019.03.05
1 ADDENDUM #1	PJM		2018.11.12
BID SET	PJM		2018.10.29
WCRC PERMIT RESUBMITTAL	PJM		2018.09.12
WCRC PERMIT SUBMITTAL	PJM		2018.06.15

Issued	By	Appd	YYYY.MM.DD
File Name: 001816C-15	JA	PJM	MP	2018-07-18
	Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Permit/Seal

Client/Project
PITTSFIELD CHARTER TOWNSHIP

PITTSFIELD FIBER PHASE 3

PITTSFIELD TOWNSHIP, MI

Title
ELLSWORTH RD
3A STA. 248+50 TO 255+58

Project No.
2075001805

Scale
0 40' 80'

Revision 0

Sheet 23 of 40

Drawing No.
C-15

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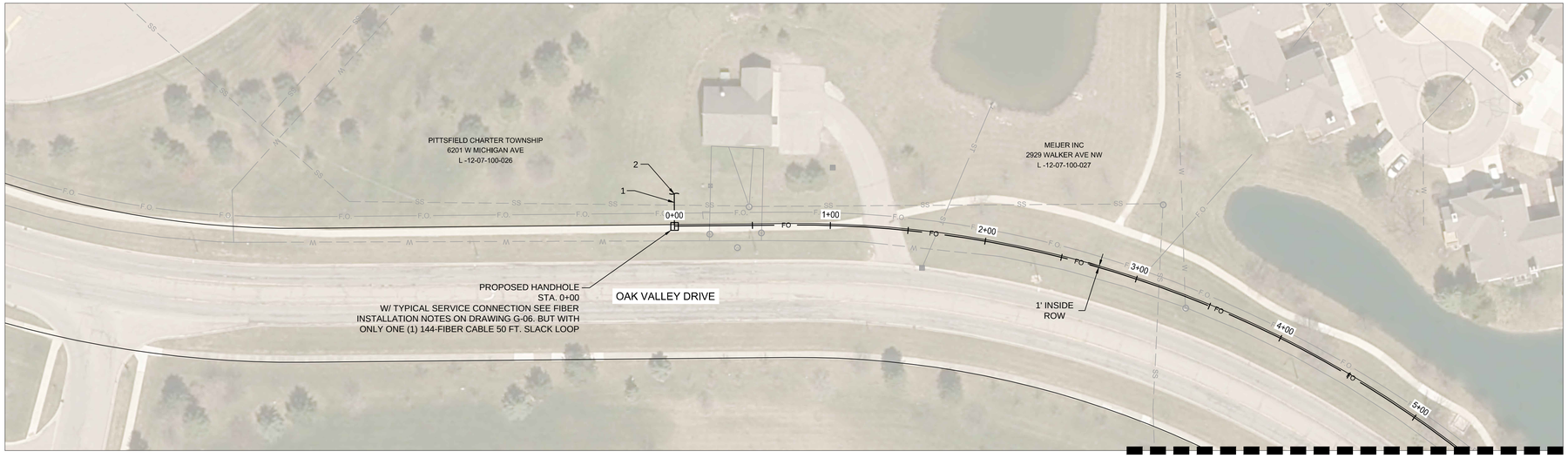
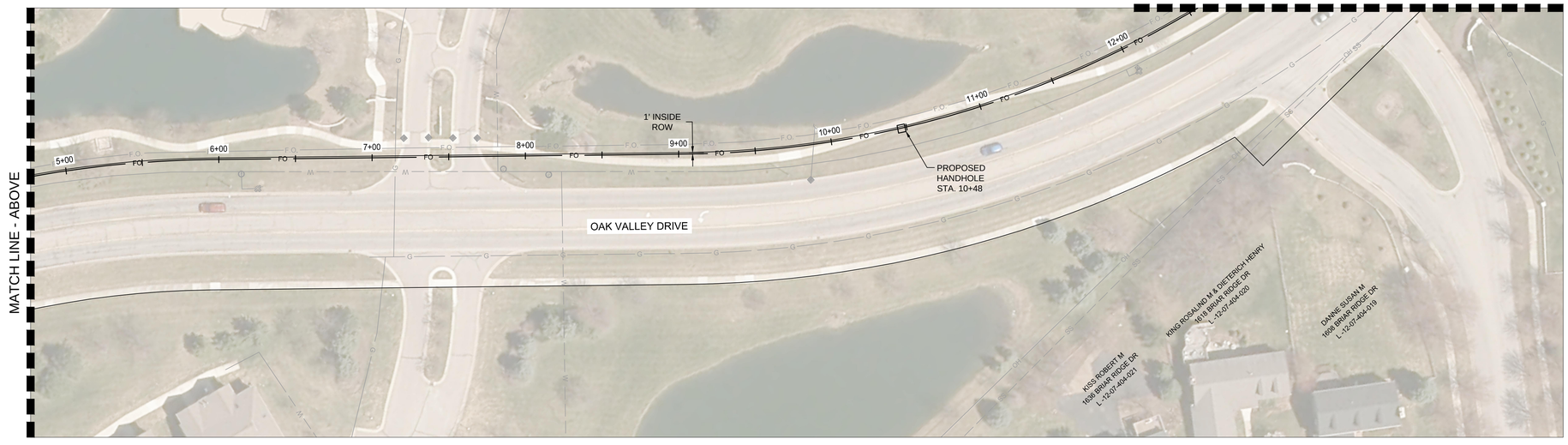
ORIGINAL SHEET - ARCH D



MATCH LINE - BELOW

MATCH LINE - DRAWING C-17



UNDERGROUND CROSSINGS AND CONFLICTS ALONG STATIONED ALIGNMENT
(OVERHEAD CROSSINGS NOT LISTED)

STATION	TYPE OF UTILITY
0+20 ±	WATER
0+55 ±	WATER
1+70 ±	STORM
3+10 ±	SANITARY SEWER
3+30 ±	WATER
7+10 ±	GAS
7+85 ±	WATER
9+90 ±	STORM

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Notes

1. INSTALL TWO(2) 2" DUCTS WITH ONE(1) 12-FIBER OPTIC CABLE IN EACH.
2. SEE PHASE 3B POINT OF BEGINNING CONNECTION DETAIL DRAWING C-30.

Legend

Revision	By	Appd	YYYY.MM.DD
CONSTRUCTION SET	PJM		2019.03.05
△1 ADDENDUM #1	PJM		2018.11.12
BID SET	PJM		2018.10.29
WCRC PERMIT RESUBMITTAL	PJM		2018.09.12
WCRC PERMIT SUBMITTAL	PJM		2018.06.15

Issued	By	Appd	YYYY.MM.DD
File Name: 001816C-16	JA	PJM	MP	2018-07-18
	Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Permit/Seal

Client/Project
PITTSFIELD CHARTER TOWNSHIP

PITTSFIELD FIBER PHASE 3

PITTSFIELD TOWNSHIP, MI

Title
OAK VALLEY DR
3B STA. 0+00 TO 12+50

Project No.
2075001805

Scale
0 40' 80'

Revision 0

Sheet 24 of 40

Drawing No.
C-16

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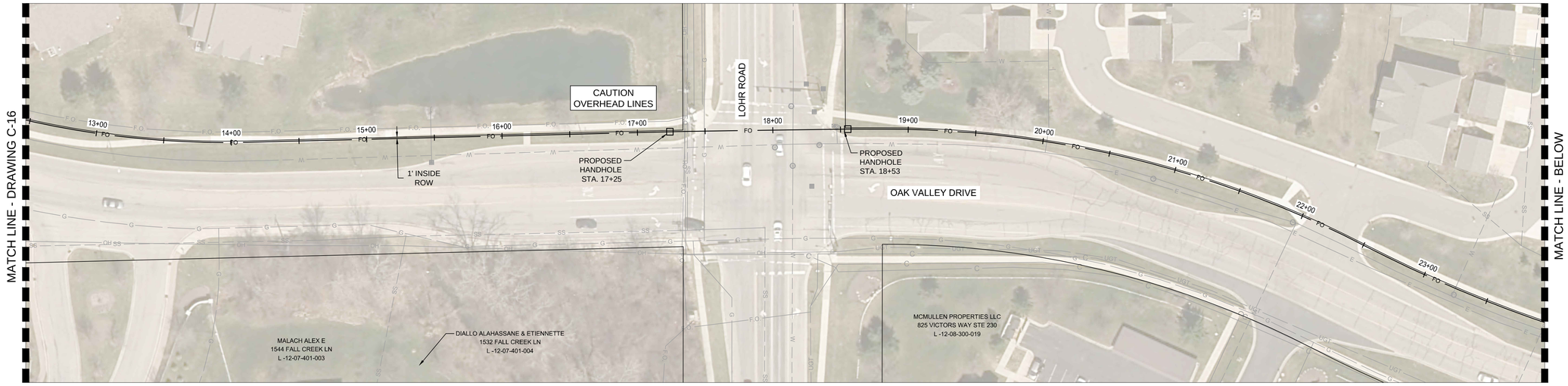
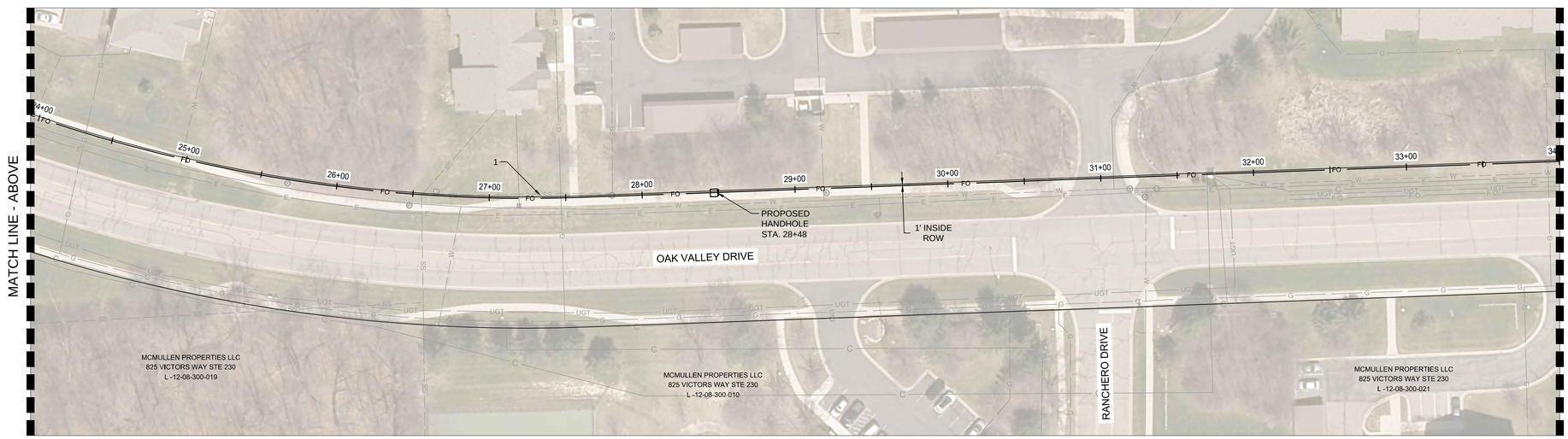
ORIGINAL SHEET - ARCH D





UNDERGROUND CROSSINGS AND CONFLICTS ALONG STATIONED ALIGNMENT
(OVERHEAD CROSSINGS NOT LISTED)

STATION	TYPE OF UTILITY
15+48 ±	STORM
17+38 ±	FIBER OPTIC
17+40 ±	SANITARY SEWER
17+48 ±	GAS
18+10 ±	WATER
18+48 ±	WATER
20+02 ±	WATER
23+25 ±	WATER
23+98 ±	SANITARY SEWER
24+35 ±	GAS
24+97 ±	WATER
26+53 ±	SANITARY SEWER
26+80 ±	SANITARY SEWER
27+20 ±	WATER
27+47 ±	GAS
27+80 ±	SANITARY SEWER
29+15 ±	WATER
31+10 ±	WATER
31+65 ±	CABLE
31+68 ±	UNDER GRND TELECOM
33+95 ±	GAS

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Notes

1. LOCATE NEW FIBER MINIMUM 2' DEEPER THAN EXISTING SEWER

Legend

Revision	By	Appd	YYYY.MM.DD
CONSTRUCTION SET	PJM		2019.03.05
1 ADDENDUM #1	PJM		2018.11.12
BID SET	PJM		2018.10.29
WCRC PERMIT RESUBMITTAL	PJM		2018.09.12
WCRC PERMIT SUBMITTAL	PJM		2018.06.15

Issued		By	Appd	YYYY.MM.DD
File Name: 001816C-17	JA	PJM	MP	2018-07-18
	Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Permit/Seal

PITTSFIELD CHARTER TOWNSHIP

Client/Project
PITTSFIELD CHARTER TOWNSHIP

PITTSFIELD FIBER PHASE 3

PITTSFIELD TOWNSHIP, MI

Title
OAK VALLEY DR
3B STA. 12+50 TO 34+00

Project No.
2075001805

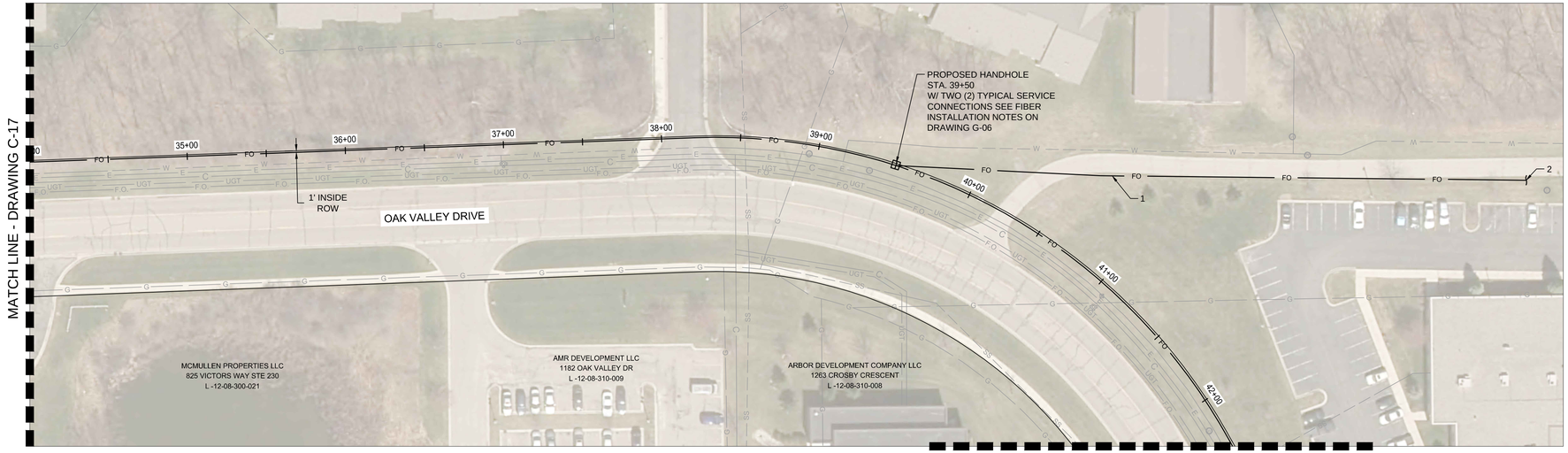
Scale
0 40' 80'

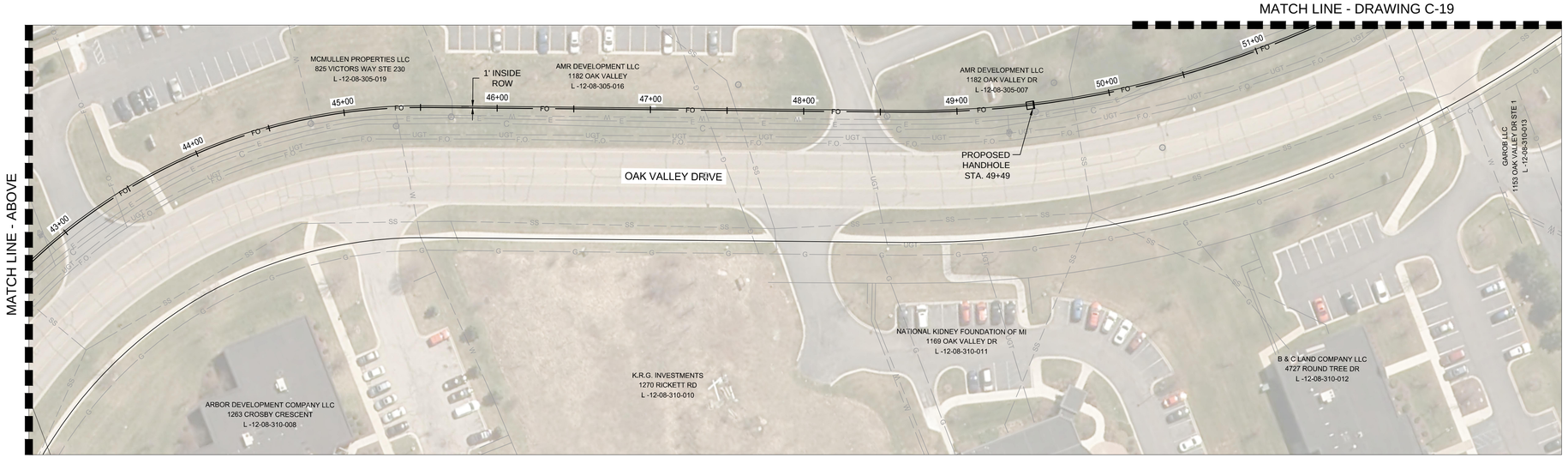
Revision 0

Sheet 25 of 40

Drawing No.
C-17

ORIGINAL SHEET - ARCH D





UNDERGROUND CROSSINGS AND CONFLICTS ALONG STATIONED ALIGNMENT
(OVERHEAD CROSSINGS NOT LISTED)

STATION	TYPE OF UTILITY
38+52 ±	SANITARY SEWER
38+90 ±	GAS
39+15 ±	WATER
41+20 ±	GAS
42+85 ±	WATER/CABLE/S.S.
43+40 ±	FIBER OPTIC
44+75 ±	WATER
45+70 ±	WATER
47+30 ±	GAS
47+53 ±	SANITARY SEWER
48+51 ±	WATER
49+75 ±	SANITARY SEWER
50+25 ±	ELECTRIC
50+50 ±	CABLE

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Notes

1. INSTALL TWO (2) 2" DUCTS WITH ONE(1) 12-FIBER OPTIC CABLE IN EACH.
2. SEE WATER TANK CONNECTION DETAIL ON DRAWING C-31.

Legend

Revision	By	Appd	YYYY.MM.DD
CONSTRUCTION SET	PJM		2019.03.05
1 ADDENDUM #1	PJM		2018.11.12
BID SET	PJM		2018.10.29
WCRC PERMIT RESUBMITTAL	PJM		2018.09.12
WCRC PERMIT SUBMITTAL	PJM		2018.06.15

Issued	By	Appd	YYYY.MM.DD
File Name: 001816C-18	PJM	MP	2018-07-18
	Dwn.	Dsgn.	Chkd.

Permit/Seal

Client/Project
PITTSFIELD CHARTER TOWNSHIP

PITTSFIELD FIBER PHASE 3

PITTSFIELD TOWNSHIP, MI

Title
OAK VALLEY DR
3B STA. 34+00 TO 51+50

Project No.
2075001805

Scale
0 40' 80'

Revision 0

Sheet 26 of 40

Drawing No.
C-18

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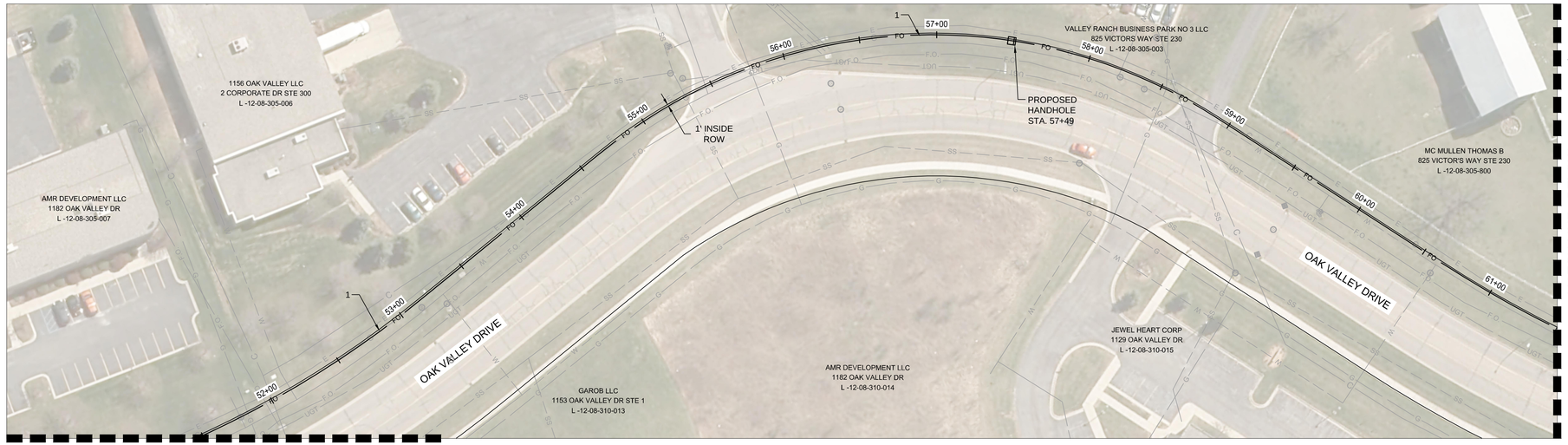
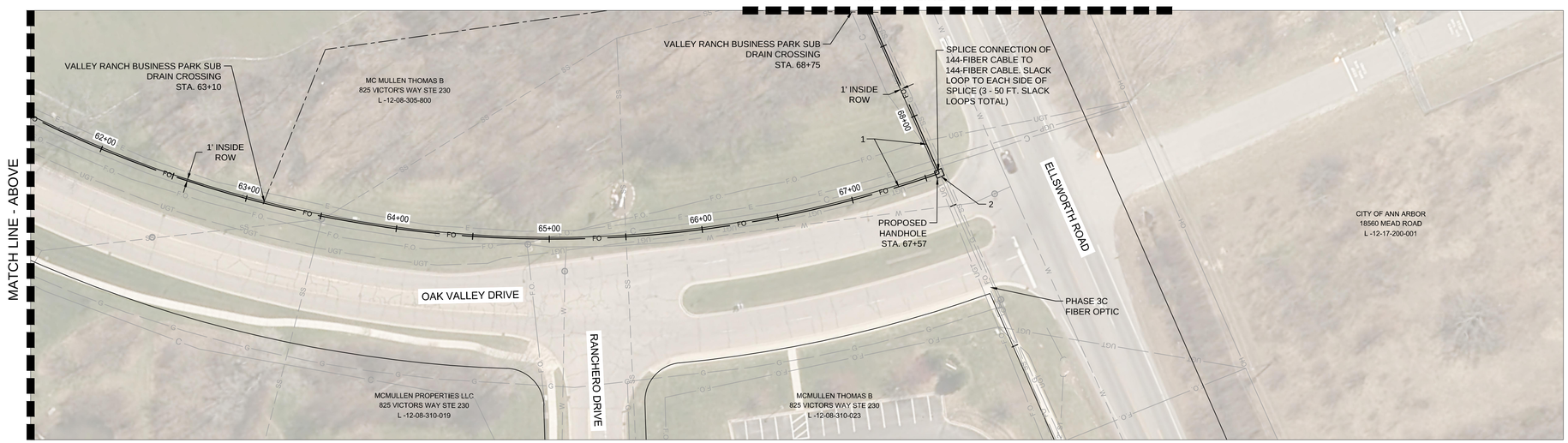
ORIGINAL SHEET - ARCH D



MATCH LINE - DRAWING C-18

MATCH LINE - DRAWING C-20



UNDERGROUND CROSSINGS AND CONFLICTS ALONG STATIONED ALIGNMENT
(OVERHEAD CROSSINGS NOT LISTED)

STATION	TYPE OF UTILITY
51+75 ±	WATER
51+80 ±	GAS
51+95 ±	FIBER OPTIC
52+00 ±	CABLE
52+10 ±	WATER
55+30 ±	SANITARY SEWER
55+45 ±	WATER
55+65 ±	UNDER GRND TELECOM
55+75 ±	GAS
56+25 ±	STORM
58+20 ±	WATER
58+50 ±	GAS
58+55 ±	SANITARY SEWER/CABLE
63+50 ±	SANITARY SEWER
64+90 ±	FIBER OPTIC
65+49 ±	SANITARY SEWER
67+60 ±	CABLE
67+65 ±	UNDER GRND POWER
67+85 ±	UNDER GRND TELECOM

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Notes

1. LOCATE NEW FIBER 2' MINIMUM DEEPER THAN LOWEST EXISTING UTILITY
2. CONNECT TO PROPOSED HANDHOLE STA. 67+12 (P.O.C. - PHASE 3C STA. 83+96). REFER TO PHASE 3C FOR CONTINUATION WEST OF OAK VALLEY DRIVE

Legend

Revision	By	Appd	YYYY.MM.DD
CONSTRUCTION SET	PJM		2019.03.05
1 ADDENDUM #1	PJM		2018.11.12
BID SET	PJM		2018.10.29
WCRC PERMIT RESUBMITTAL	PJM		2018.09.12
WCRC PERMIT SUBMITTAL	PJM		2018.06.15

Issued	By	Appd	YYYY.MM.DD
File Name: 001816C-19	PJM	MP	2018-07-18
	Dsgn.	Chkd.	YYYY.MM.DD

JA Dwn.

Permit/Seal

Client/Project
PITTSFIELD CHARTER TOWNSHIP

PITTSFIELD FIBER PHASE 3

PITTSFIELD TOWNSHIP, MI

Title
OAK VALLEY DR
3B STA. 51+50 TO 68+75

Project No. 2075001805

Scale 0 40' 80'

Revision 0

Sheet 27 of 40

Drawing No. C-19

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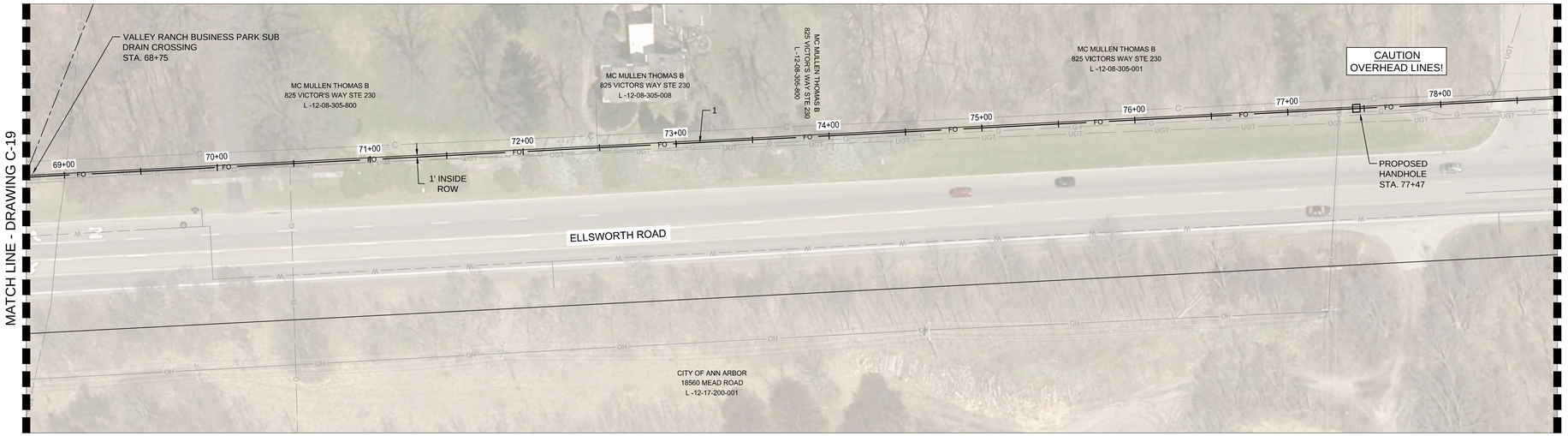

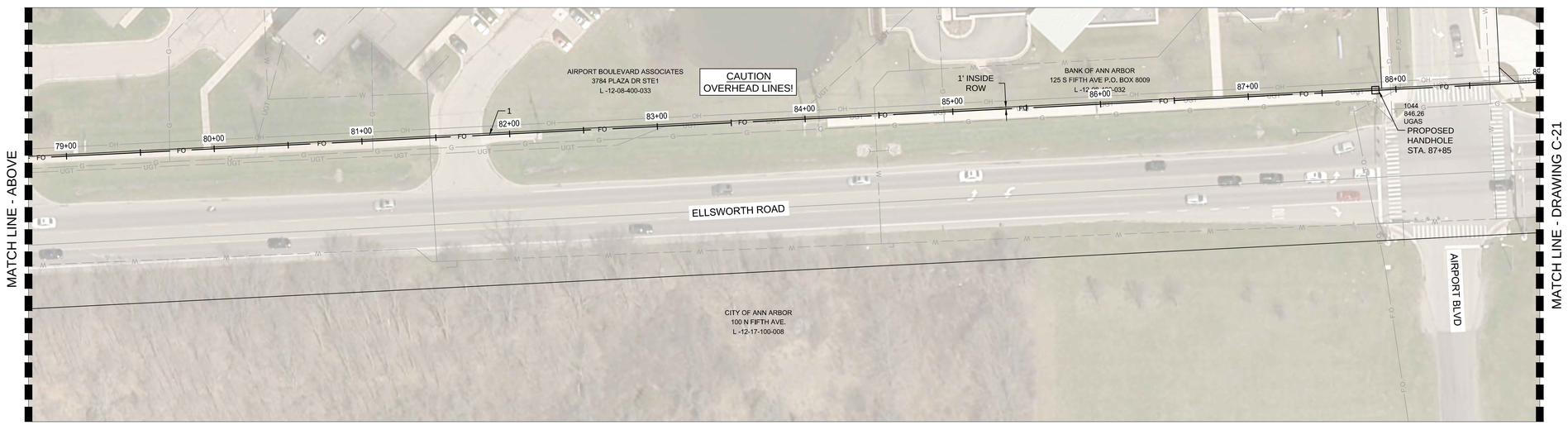

UNDERGROUND CROSSINGS AND CONFLICTS ALONG STATIONED ALIGNMENT
(OVERHEAD CROSSINGS NOT LISTED)

STATION	TYPE OF UTILITY
69+00 ±	SANITARY SEWER
72+50 ±	GAS
79+70 ±	GAS
81+10 ±	GAS
81+49 ±	WATER
83+05 ±	UNDER GRND TELECOM
84+50 ±	WATER
84+97 ±	GAS
87+95 ±	GAS
88+05 ±	FIBER OPTIC
88+60 ±	WATER

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Notes

1. LOCATE NEW FIBER 2' MINIMUM DEEPER THAN LOWEST EXISTING UTILITY

Legend

Revision	By	Appd	YYYY.MM.DD
CONSTRUCTION SET	PJM		2019.03.05
1 ADDENDUM #1	PJM		2018.11.12
BID SET	PJM		2018.10.29
WCRC PERMIT RESUBMITTAL	PJM		2018.09.12
WCRC PERMIT SUBMITTAL	PJM		2018.06.15

Issued	By	Appd	YYYY.MM.DD
File Name: 001816C-20	PJM	MP	2018-07-18
Dwn. JA	Dsgn.	Chkd.	YYYY.MM.DD

Permit/Seal

PITTSFIELD CHARTER TOWNSHIP

Client/Project
PITTSFIELD CHARTER TOWNSHIP

PITTSFIELD FIBER PHASE 3

PITTSFIELD TOWNSHIP, MI

Title
ELLSWORTH RD
3B STA. 68+75 TO 89+00

Project No. 2075001805

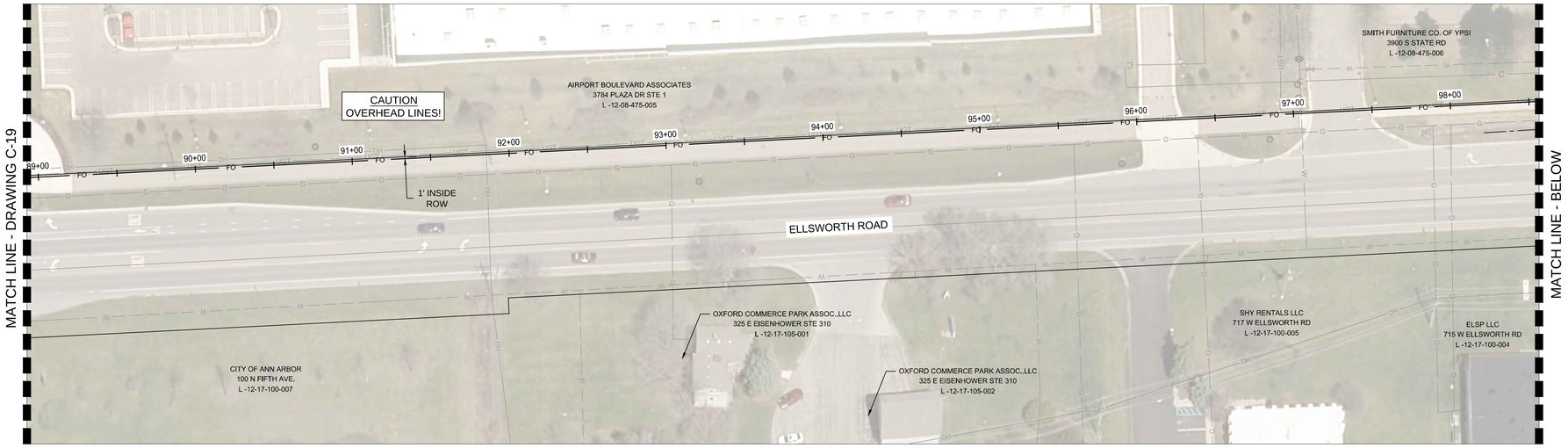
Scale 0 40' 80'

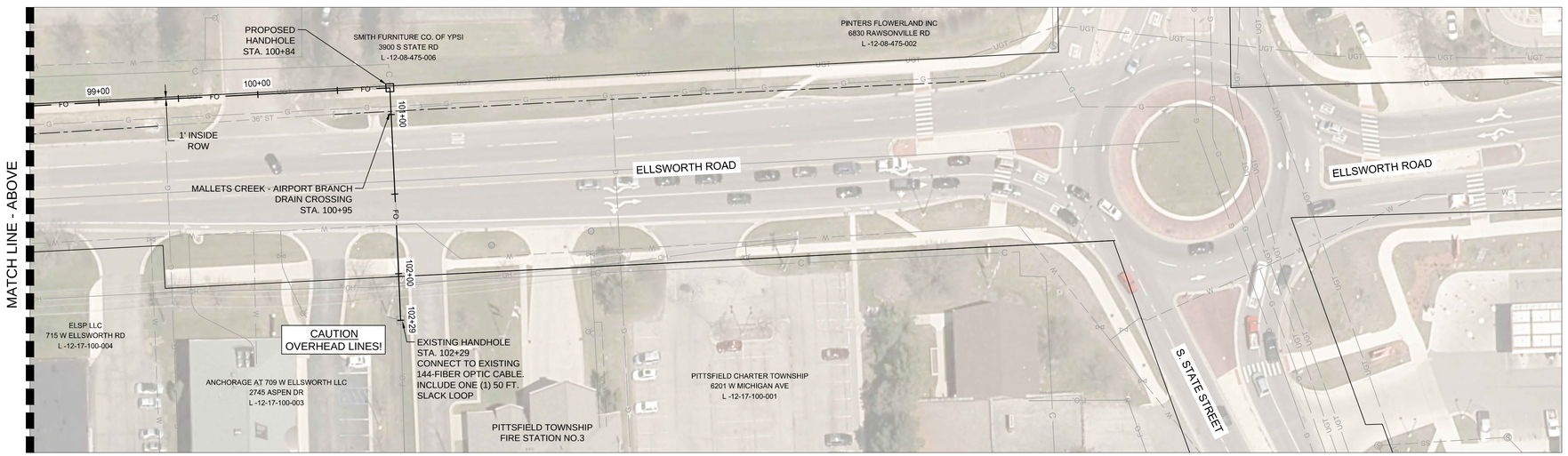
Revision 0

Sheet 28 of 40

Drawing No. C-20

ORIGINAL SHEET - ARCH D





UNDERGROUND CROSSINGS AND CONFLICTS ALONG STATIONED ALIGNMENT
(OVERHEAD CROSSINGS NOT LISTED)

STATION	TYPE OF UTILITY
97+05 ±	WATER
100+88 ±	UNDER GRND TELECOM
100+95 ±	GAS
101+60 ±	WATER

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Legend

Revision	By	Appd	YYYY.MM.DD
CONSTRUCTION SET	PJM		2019.03.05
1 ADDENDUM #1	PJM		2018.11.12
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WCRC PERMIT RESUBMITTAL	PJM		2018.09.12
WCRC PERMIT SUBMITTAL	PJM		2018.06.15

Issued	By	Appd	YYYY.MM.DD
File Name: 001816C-21	PJM	MP	2018-07-18
JA	Dwn.	Dsgn.	Chkd.

Permit/Seal

Client/Project
PITTSFIELD CHARTER TOWNSHIP

PITTSFIELD FIBER PHASE 3

PITTSFIELD TOWNSHIP, MI

Title
ELLSWORTH RD
3B STA. 89+00TO 102+29

Project No.
2075001805

Scale
0 40' 80'

Revision 0

Sheet 29 of 40

Drawing No.
C-21

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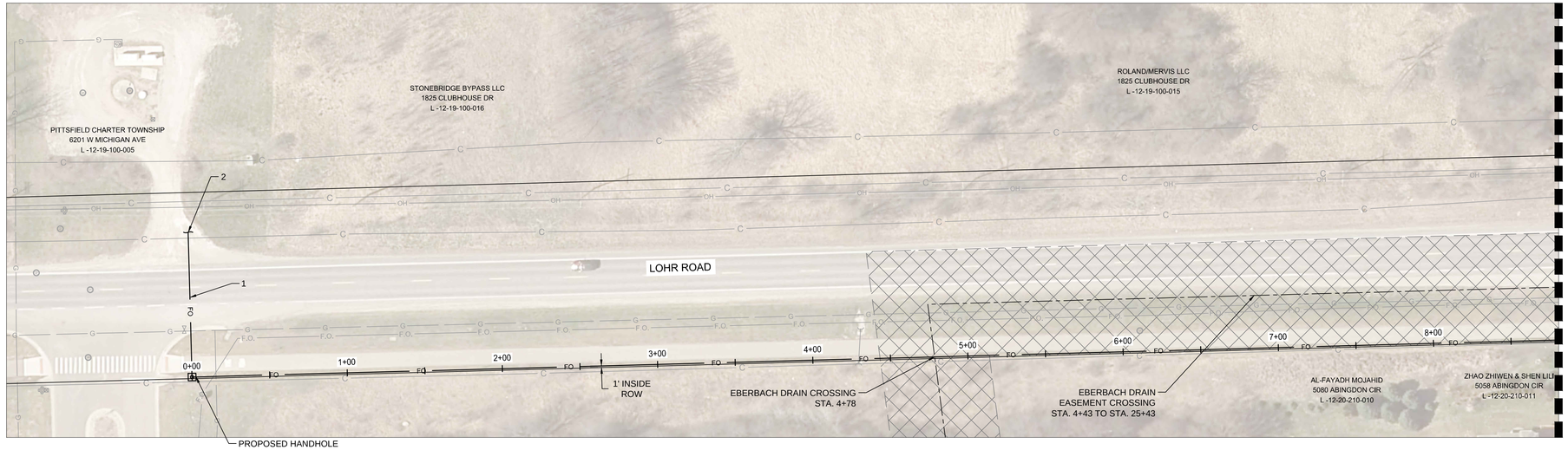
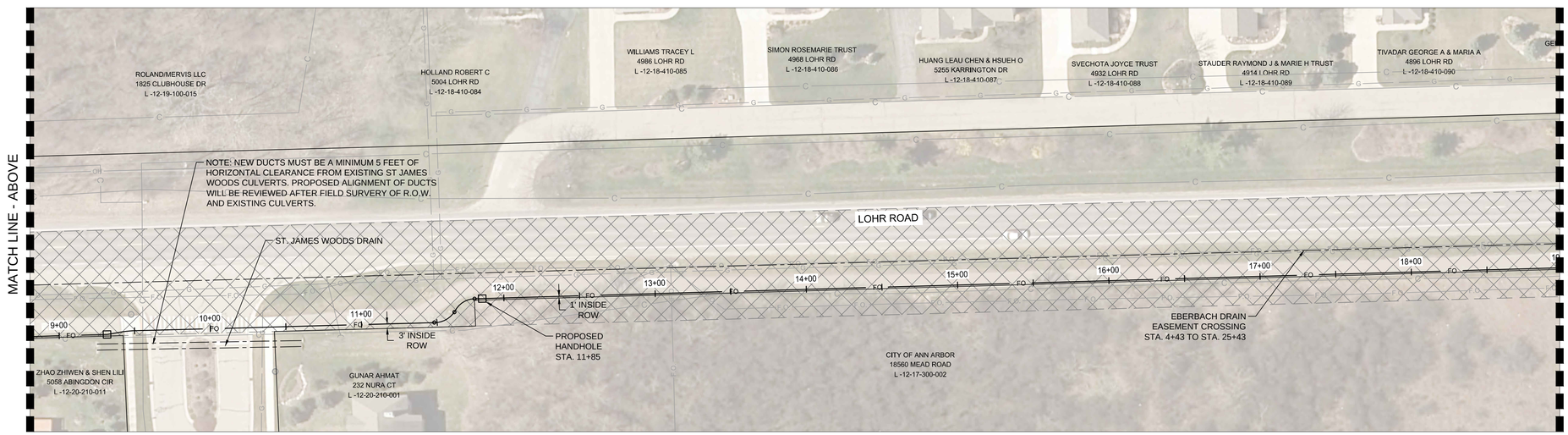
2019.03.07 10:00:58 AM

ORIGINAL SHEET - ARCH D





UNDERGROUND CROSSINGS AND CONFLICTS ALONG STATIONED ALIGNMENT
(OVERHEAD CROSSINGS NOT LISTED)

STATION	TYPE OF UTILITY
0+15 ±	FIBER OPTIC/GAS
4+30 ±	STORM
9+52 ±	CABLE
10+42 ±	GAS
10+90 ±	STORM
13+10 ±	FIBER OPTIC
13+42 ±	FIBER OPTIC/U.G. CABLE

811
Know what's **below.**
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NOTE:

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Notes

1. INSTALL TWO(2) 2" DUCTS WITH ONE(1) 12-FIBER OPTIC CABLE IN EACH.
2. SEE PUMP STATION CONNECTION DETAIL ON DRAWING C-32.

Legend

Revision	By	Appd	YYYY.MM.DD
CONSTRUCTION SET	PJM		2019.03.05
1 ADDENDUM #1	PJM		2018.11.12
BID SET	PJM		2018.10.29
WCRC PERMIT RESUBMITTAL	PJM		2018.09.12
WCRC PERMIT SUBMITTAL	PJM		2018.06.15

Issued	By	Appd	YYYY.MM.DD
File Name: 001816C-22	JA	PJM	MP	2018-07-18
	Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Permit/Seal

PITTSFIELD CHARTER TOWNSHIP

Client/Project
PITTSFIELD CHARTER TOWNSHIP

PITTSFIELD FIBER PHASE 3

PITTSFIELD TOWNSHIP, MI

Title
LOHR RD
3C STA. 0+00 TO 19+00

Project No. 2075001805

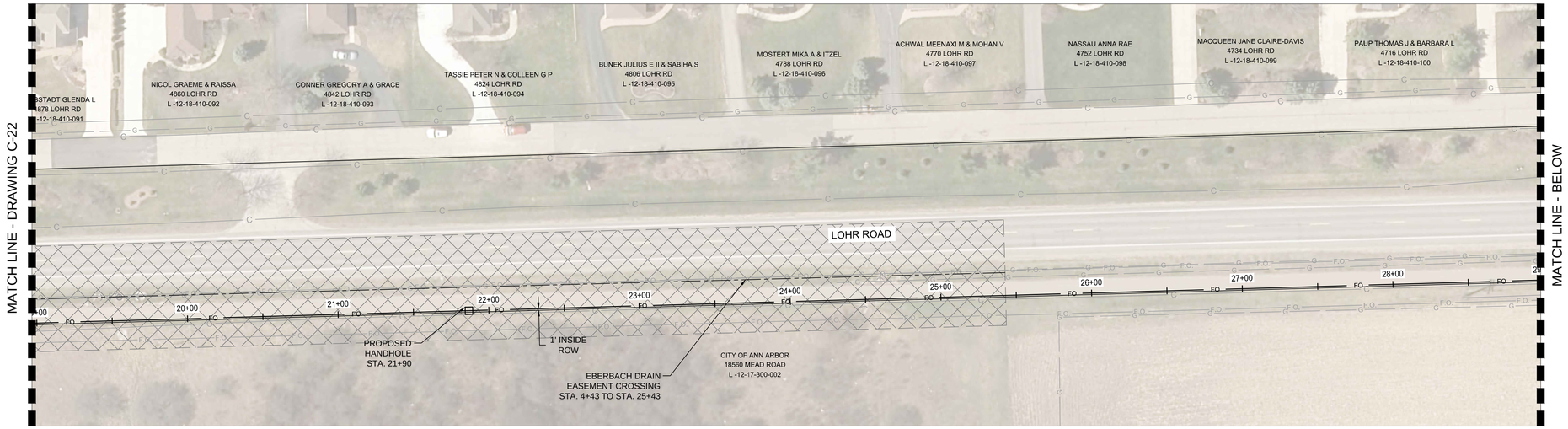
Scale 0 40' 80'

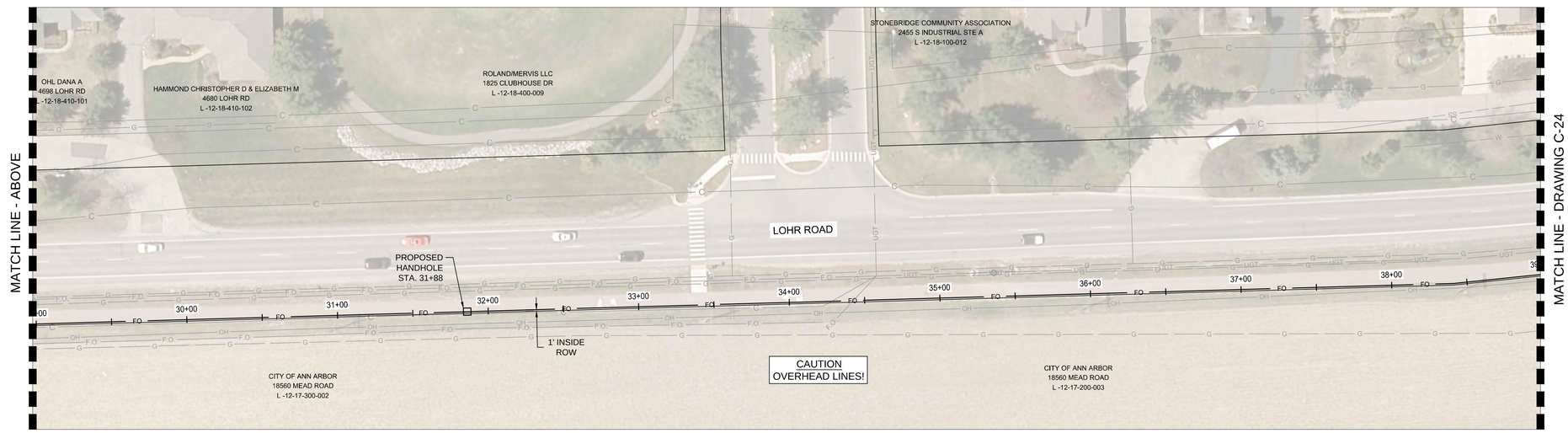
Revision 0

Sheet 30 of 40

Drawing No. C-22

ORIGINAL SHEET - ARCH D





UNDERGROUND CROSSINGS AND CONFLICTS ALONG STATIONED ALIGNMENT
(OVERHEAD CROSSINGS NOT LISTED)

STATION	TYPE OF UTILITY
34+27 ±	CABLE
34+45 ±	FIBER OPTIC

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Notes

Legend

Revision	By	Appd	YYYY.MM.DD
CONSTRUCTION SET	PJM		2019.03.05
1 ADDENDUM #1	PJM		2018.11.12
BID SET	PJM		2018.10.29
WCRC PERMIT RESUBMITTAL	PJM		2018.09.12
WCRC PERMIT SUBMITTAL	PJM		2018.06.15

Issued	By	Appd	YYYY.MM.DD
File Name: 001816C-23	JA	PJM	MP	2018-07-18
	Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Permit/Seal

PITTSFIELD CHARTER TOWNSHIP

Client/Project
PITTSFIELD CHARTER TOWNSHIP

PITTSFIELD FIBER PHASE 3

PITTSFIELD TOWNSHIP, MI

Title
LOHR RD
3C STA. 19+00 TO 39+00

Project No.
2075001805

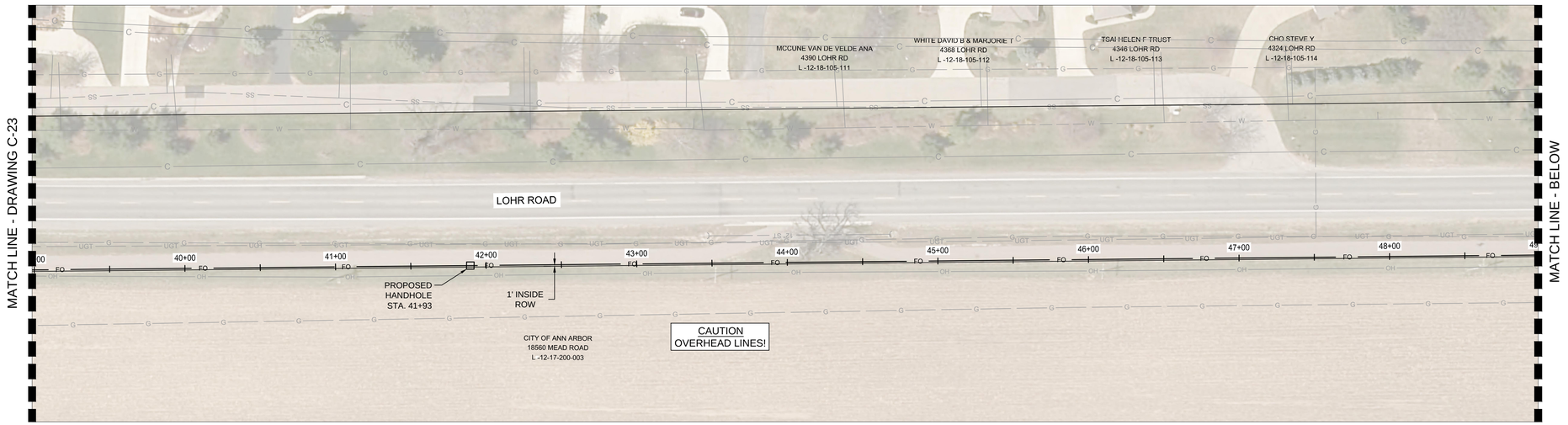
Scale
0 40' 80'

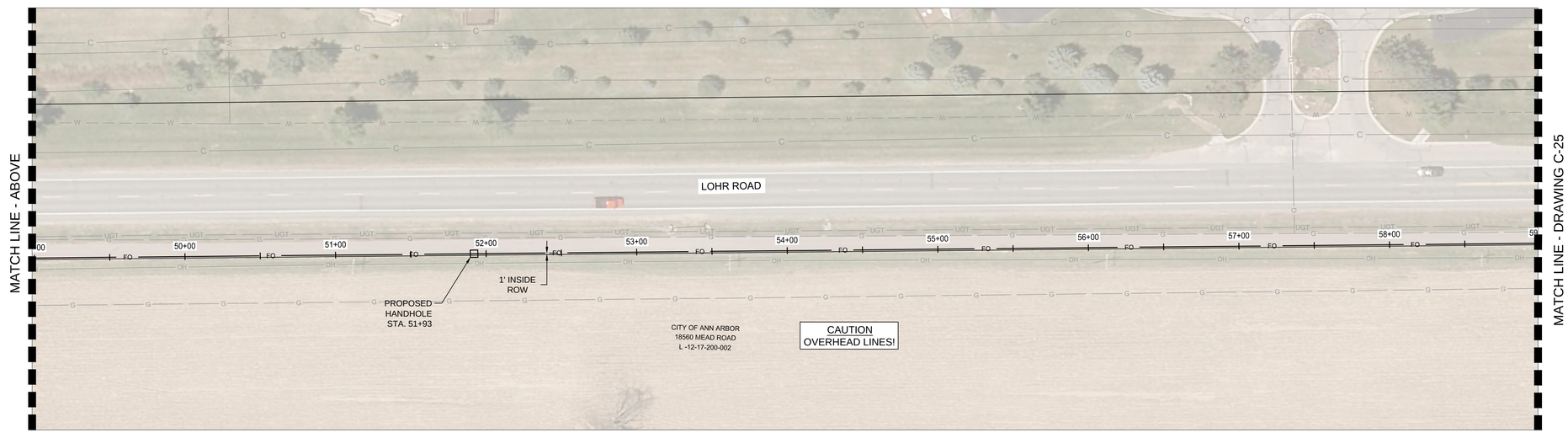
Revision
0

Sheet
31 of 40

Drawing No.
C-23

ORIGINAL SHEET - ARCH D





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ORIGINAL SHEET - ARCH D

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Notes

Legend

Revision	By	Appd	YYYY.MM.DD
CONSTRUCTION SET	PJM		2019.03.05
1 ADDENDUM #1	PJM		2018.11.12
BID SET	PJM		2018.10.29
WCRC PERMIT RESUBMITTAL	PJM		2018.09.12
WCRC PERMIT SUBMITTAL	PJM		2018.06.15

Issued	By	Appd	YYYY.MM.DD
File Name: 001816C-24	PJM	MP	2018-07-18
JA			
Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Permit/Seal

PITTSFIELD CHARTER TOWNSHIP

Client/Project
PITTSFIELD CHARTER TOWNSHIP

PITTSFIELD FIBER PHASE 3

PITTSFIELD TOWNSHIP, MI

Title
LOHR RD
3C STA. 39+00 TO 59+00

Project No.
2075001805

Scale
0 40' 80'

Revision
0

Sheet
32 of 40

Drawing No.
C-24

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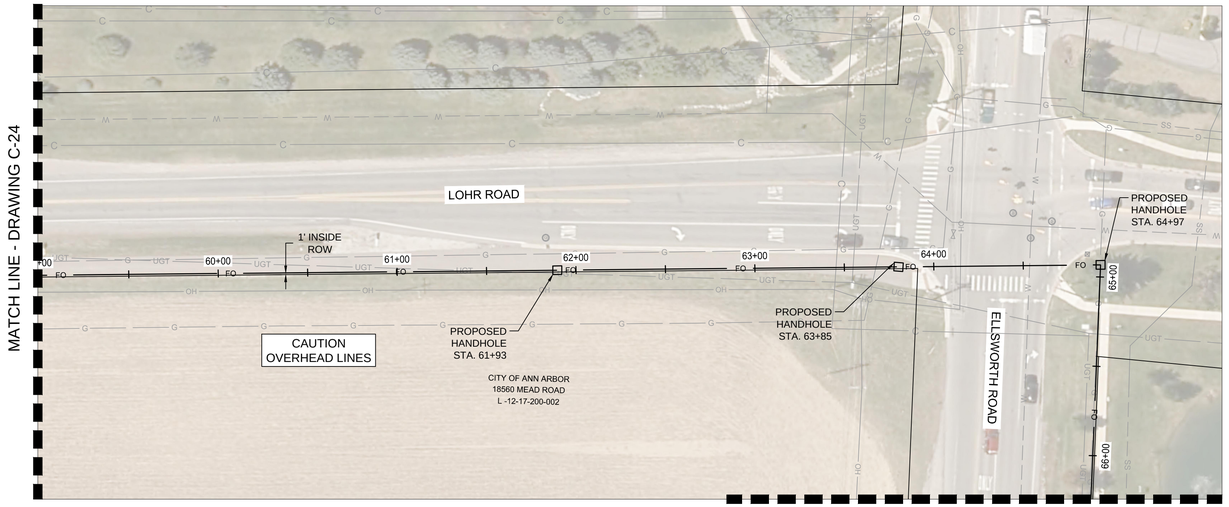
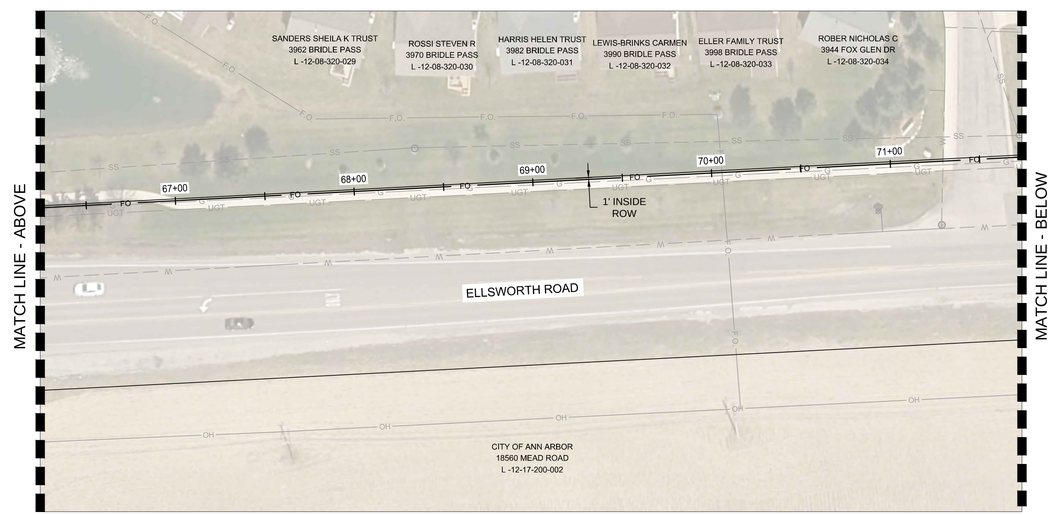
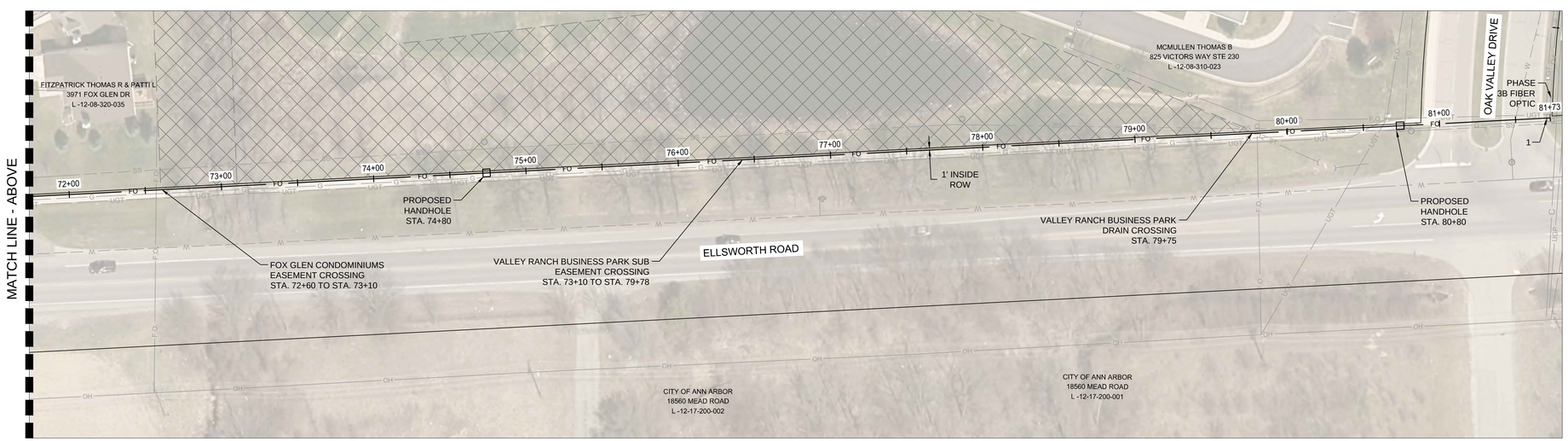




UNDERGROUND CROSSINGS AND CONFLICTS ALONG STATIONED ALIGNMENT
(OVERHEAD CROSSINGS NOT LISTED)

STATION	TYPE OF UTILITY
61+50 ±	UNDER GRND TELECOM
63+48 ±	CABLE
63+55 ±	UNDER GRND TELECOM
63+60 ±	GAS
64+55 ±	WATER
64+93 ±	GAS
65+35 ±	UNDER GRND TELECOM
70+08 ±	FIBER OPTIC
71+35 ±	WATER
72+58 ±	FIBER OPTIC
79+90 ±	STORM/FIBER OPTIC
80+45 ±	SANITARY SEWER
80+57 ±	UNDER GRND TELECOM
80+62 ±	UNDER GRND TELECOM
80+87 ±	GAS
81+55 ±	WATER



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Notes

1. CONNECT TO PROPOSED HANDHOLE STA. 81+78 (PHASE 3C P.O.E. - PHASE 3B STA. 67+55). REFER TO PHASE 3B FOR CONTINUATION EAST OF OAK VALLEY DRIVE.

Legend

Revision	By	Appd	YYYY.MM.DD
CONSTRUCTION SET	PJM		2019.03.05
1 ADDENDUM #1	PJM		2018.11.12
BID SET	PJM		2018.10.29
WCRC PERMIT RESUBMITTAL	PJM		2018.09.12
WCRC PERMIT SUBMITTAL	PJM		2018.06.15

Issued	By	Appd	YYYY.MM.DD
File Name: 001816C-25	JA	PJM	MP	2018-07-18
	Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Permit/Seal

PITTSFIELD CHARTER TOWNSHIP

Client/Project
PITTSFIELD CHARTER TOWNSHIP

PITTSFIELD FIBER PHASE 3

PITTSFIELD TOWNSHIP, MI

Title
LOHR RD & ELLSWORTH RD
3C STA. 59+00 TO 81+80

Project No. 2075001805

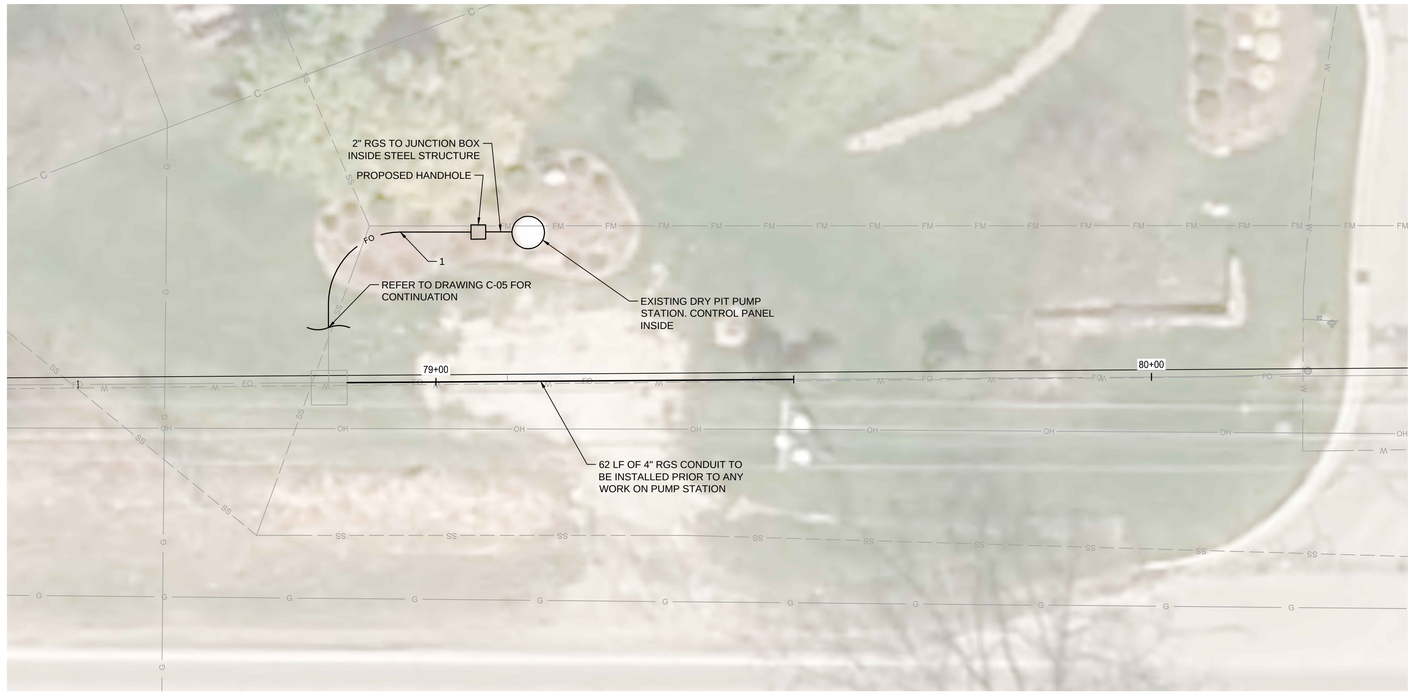
Scale 0 40' 80'

Revision 0

Sheet 33 of 40

Drawing No. C-25

ORIGINAL SHEET - ARCH D



DETAIL A
(IN DRY WELL, APPROX. 30' BELOW GRADE)
CONTROL CABINET EL. 782.0'

811
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Notes

1. INSTALL TWO(2) 2" DUCT WITH ONE(1) 12-FIBER CABLE IN EACH TO TEMPORARY.
2. INSTALL CORNING FIBER OPTIC DISTRIBUTION PANEL (WCH-02P) W/ ALL REQUIRED APPURTENANCES, OR APPROVED EQUAL INSIDE PROPOSED 24"x24"x6" NEMA 12 FIBER OPTIC CABINET.
3. INSTALL TEMPORARY BELDEN MAGNUM 6KL MANAGED ETHERNET OR APPROVED EQUAL INSIDE PROPOSED 24"x24"x6" NEMA 12 FIBER OPTIC CABINET.
4. ATTACH THE CONNECTOR HOUSING TO THE ETHERNET SWITCH USING SC/APC TO LC/APC JUMPERS.
5. CONNECT THE ETHERNET SWITCH TO THE MULTISMART PUMP STATION CONTROLLER.
6. INSTALL TEMPORARY OWNER SUPPLIED UPS TO POWER THE ETHERNET SWITCH.
7. CONTRACTOR TO SUPPLY POWER TO UPS AND ETHERNET SWITCH AS REQUIRED.

Revision	By	Appd	YYYY.MM.DD
CONSTRUCTION SET	PJM		2019.03.05
1 ADDENDUM #1	PJM		2018.11.12
BID SET	PJM		2018.10.29
WCRC PERMIT RESUBMITTAL	PJM		2018.09.12
WCRC PERMIT SUBMITTAL	PJM		2018.06.15

Issued	By	Appd	YYYY.MM.DD
File Name: 001816C-05	PJM	MP	2018-07-18
	Dwn.	Dsgn.	Chkd. YYYY.MM.DD

Permit/Seal

PITTSFIELD CHARTER TOWNSHIP

Client/Project
PITTSFIELD CHARTER TOWNSHIP

PITTSFIELD FIBER PHASE 3

PITTSFIELD TOWNSHIP, MI

Title
MEADOW VIEW
CONNECTION DETAIL
TEXTILE RD

Project No.
2075001805

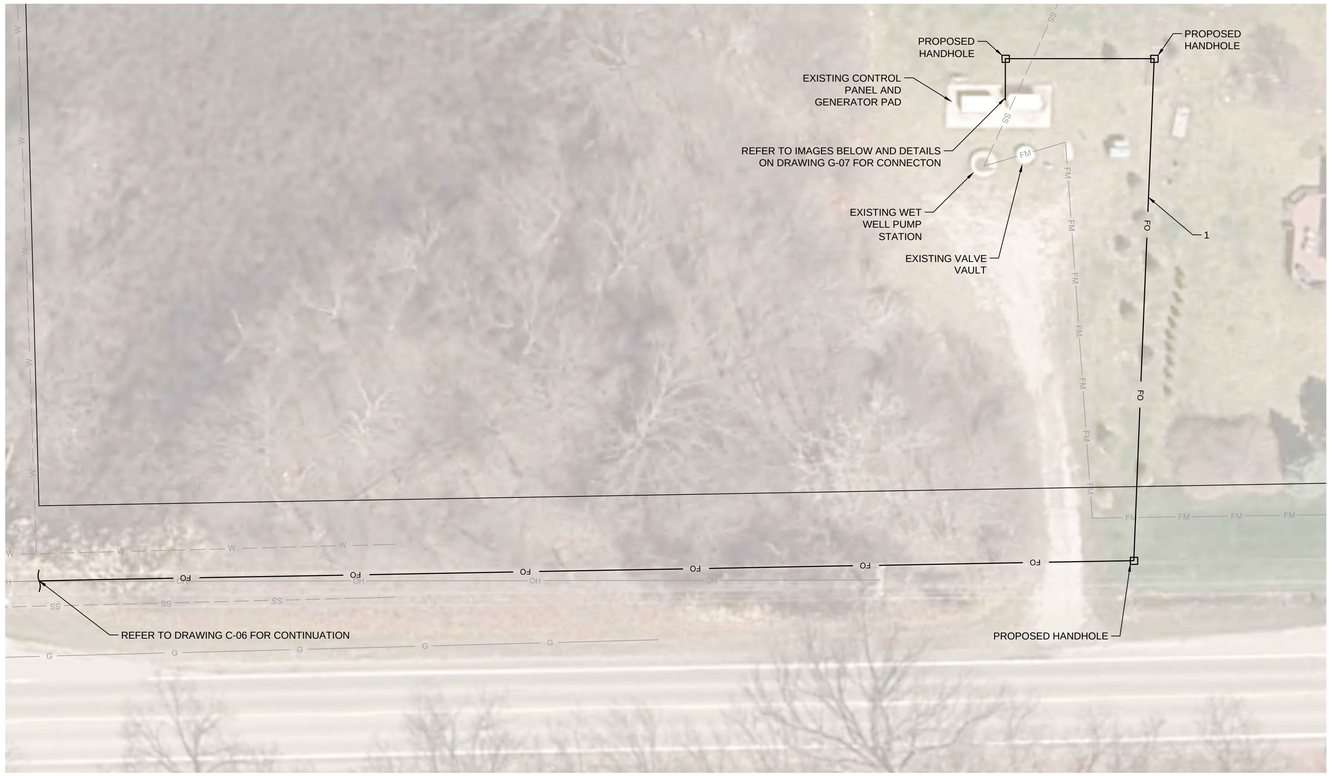
Scale
0 10' 20'

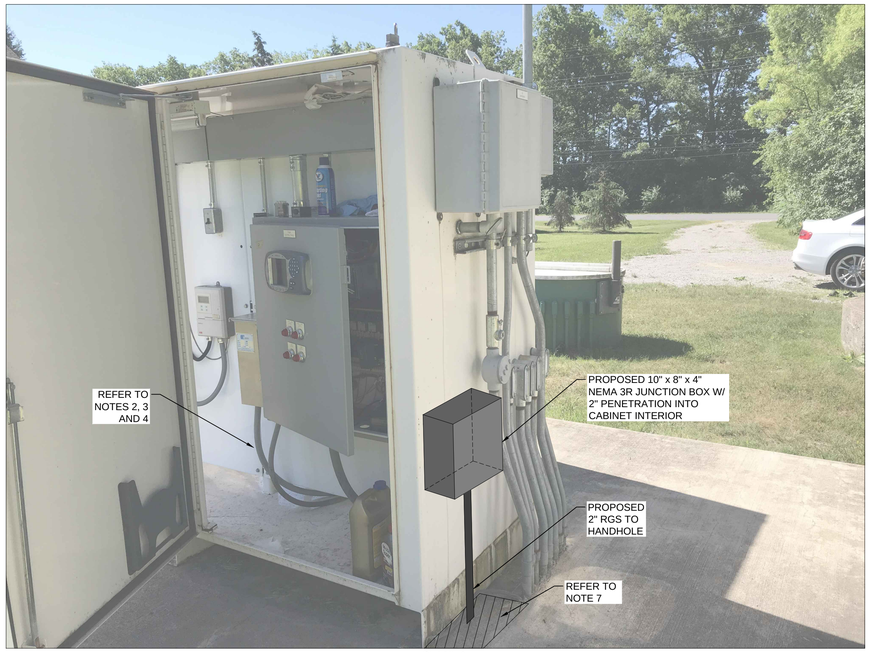
Revision 0

Sheet 34 of 40

Drawing No.
C-26

ORIGINAL SHEET - ARCH D





DETAIL A

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ORIGINAL SHEET - ARCH D

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Notes

1. INSTALL TWO(2) 2" DUCTS WITH ONE(1) 12-FIBER OPTIC CABLE IN EACH.
2. INSTALL CORNING FIBER OPTIC DISTRIBUTION PANEL (WCH-02P) W/ ALL REQUIRED APPURTENANCES, OR APPROVED EQUAL INSIDE PROPOSED 24"x24"x6" NEMA 12 FIBER OPTIC CABINET.
3. INSTALL BELDEN MAGNUM 6KL MANAGED ETHERNET OR APPROVED EQUAL INSIDE PROPOSED FIBER OPTIC CABINET.
4. ATTACH THE CONNECTOR HOUSING TO THE ETHERNET SWITCH USING SC/APC TO LC/APC JUMPERS.
5. CONNECT THE ETHERNET SWITCH TO THE MULTISMART PUMP STATION CONTROLLER.
6. INSTALL OWNER SUPPLIED UPS TO POWER THE ETHERNET SWITCH INSIDE FIBER OPTIC CABINET.
7. SAW-CUT SLAB TO INSTALL 2" RGS CONDUIT TO CONTROL CABINET THEN REPAIR SLAB. COMPLETE SLAB REPAIR USING NO.3 DOWELS AND 4,000 PSI CONCRETE.
8. CONTRACTOR TO SUPPLY POWER TO UPS AND ETHERNET SWITCH AS REQUIRED.

Revision	By	Appd	YYYY.MM.DD
CONSTRUCTION SET	PJM		2019.03.05
1 ADDENDUM #1	PJM		2018.11.12
BID SET	PJM		2018.10.29
WCRC PERMIT RESUBMITTAL	PJM		2018.09.12
WCRC PERMIT SUBMITTAL	PJM		2018.06.15

Issued	By	Appd	YYYY.MM.DD
File Name: 001816C-06	PJM	MP	2018-07-18
	Dwn.	Chkd.	YYYY.MM.DD

Permit/Seal

Client/Project
PITTSFIELD CHARTER TOWNSHIP

PITTSFIELD FIBER PHASE 3

PITTSFIELD TOWNSHIP, MI

Title
ASHFORD VILLAGE CONNECTION DETAIL TEXTILE RD

Project No. 2075001805

Scale 0 20' 40'

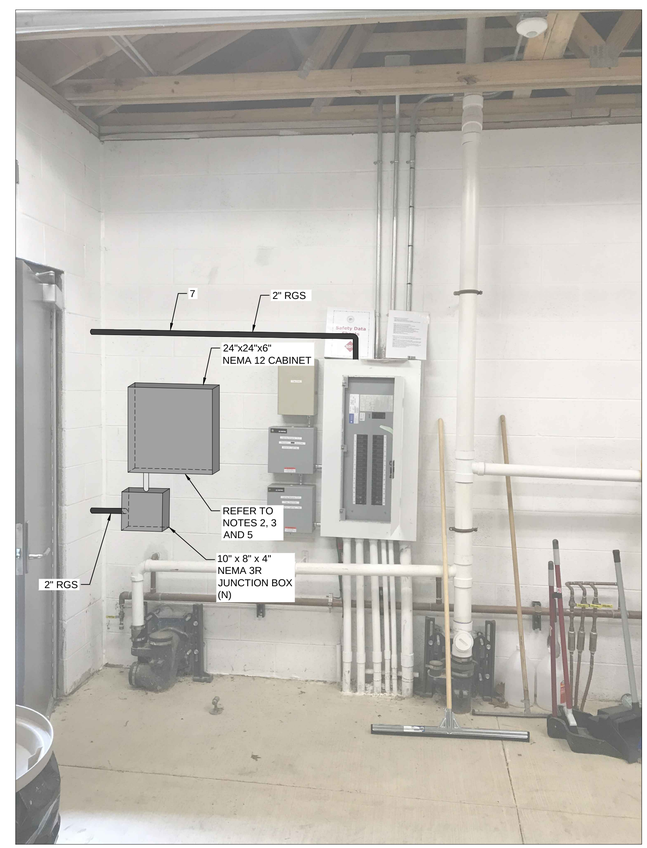
Revision 0

Sheet 35 of 40

Drawing No. C-27

N

DETAIL A



DETAIL B

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Notes

1. INSTALL TWO(2) 2" DUCTS WITH ONE(1) 12-FIBER OPTIC CABLE IN EACH.
2. INSTALL CORNING FIBER OPTIC DISTRIBUTION PANEL (WCH-02P) W/ ALL REQUIRED APPURTENANCES, OR APPROVED EQUAL INSIDE PROPOSED 24"x24"x6" NEMA 12 FIBER OPTIC CABINET.
3. INSTALL BELDEN MAGNUM 6KL MANAGED ETHERNET OR APPROVED EQUAL INSIDE PROPOSED FIBER OPTIC CABINET.
4. ATTACH THE CONNECTOR HOUSING TO THE ETHERNET SWITCH USING SC/APC TO LC/APC JUMPERS.
5. INSTALL OWNER SUPPLIED UPS TO POWER THE ETHERNET SWITCH.
6. DEMOLISH AND REPLACE ONE SECTION OF SIDEWALK AND SLAB TO INSTALL 2" RGS.
7. PROPOSED 2" DUCT WITH 2 - #12, 2 - #12 GND AND 2 PULL STRINGS.
8. TERMINATE 2" ELECTRICAL CONDUIT AND WIRING IN HANDHOLE FOR FUTURE USE. COORDINATE HANDHOLE LOCATION W/ OWNER.
9. CONTRACTOR TO SUPPLY POWER TO UPS AND ETHERNET SWITCH AS REQUIRED.

Revision	By	Appd	YYYY.MM.DD
CONSTRUCTION SET	PJM		2019.03.05
1 ADDENDUM #1	PJM		2018.11.12
BID SET	PJM		2018.10.29
WCRC PERMIT RESUBMITTAL	PJM		2018.09.12
WCRC PERMIT SUBMITTAL	PJM		2018.06.15

Issued	By	Appd	YYYY.MM.DD
File Name: 001816C-08	JA	PJM	MP	2018-07-18
	Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Permit/Seal

PITTSFIELD CHARTER TOWNSHIP

Client/Project
PITTSFIELD CHARTER TOWNSHIP

PITTSFIELD FIBER PHASE 3

PITTSFIELD TOWNSHIP, MI

Title
HICKORY WOODS CONNECTION DETAIL

Project No. 2075001805

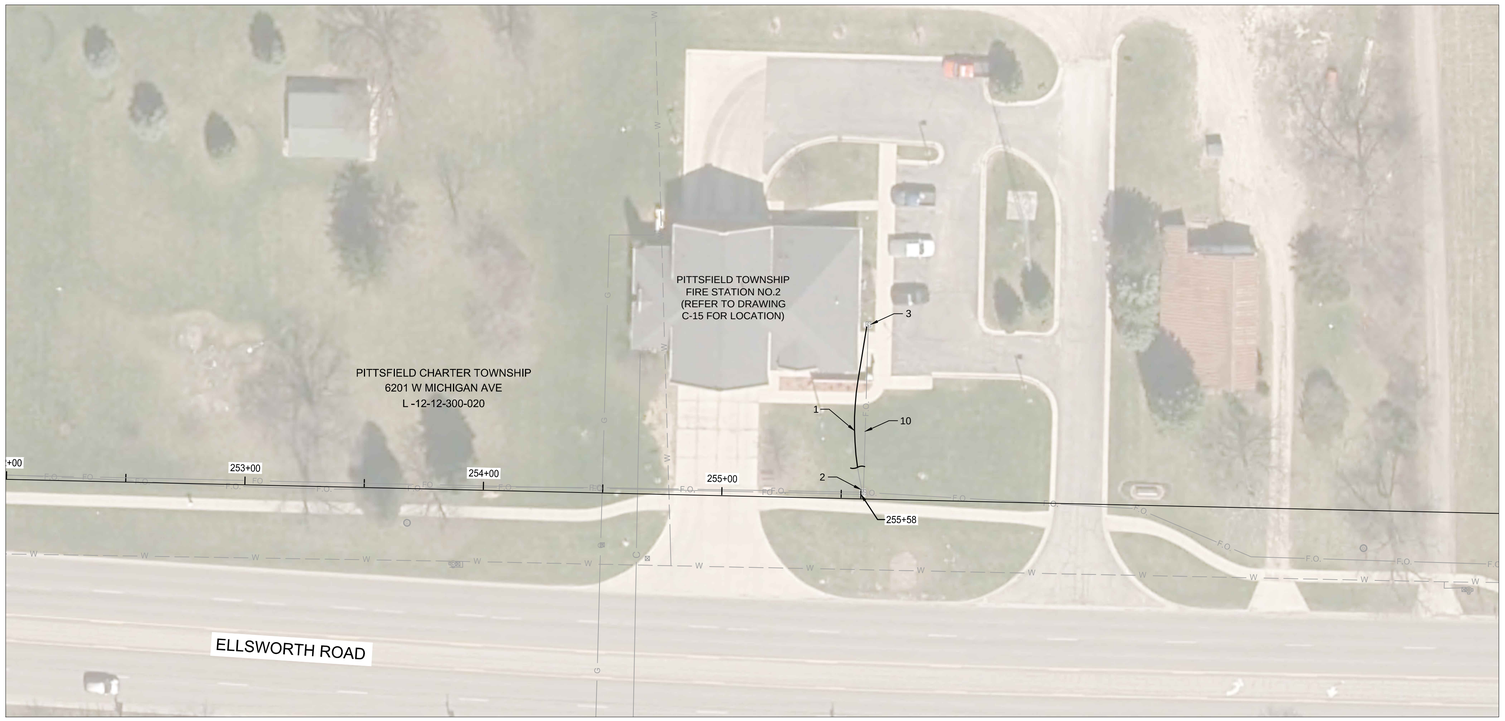
Scale 0 40' 80'

Revision 0

Sheet 36 of 40

Drawing No. C-28

ORIGINAL SHEET - ARCH D



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Notes

1. INSTALL TWO(2) 2" DUCTS WITH ONE(1) 12-FIBER OPTIC CABLE IN EACH.
2. TIE NEW 2" FIBER OPTIC CONDUIT INTO EXISTING HANDHOLE. INCLUDE ONE (1) 50 FT. SLACK LOOP OF 12-FIBER CABLE.
3. PULL NEW 12 FIBER OPTIC CABLE THROUGH 2" CONDUIT AND TERMINATE AT EXISTING TERMINATION POINT RESTABLISHING SERVICE.
4. INSTALL CORNING FIBER OPTIC DISTRIBUTION PANEL (WCH-02P) W/ ALL REQUIRED APPURTENANCES, OR APPROVED EQUAL INSIDE FIREHOUSE.
5. INSTALL BELDEN MAGNUM 6KL MANAGED ETHERNET, OR APPROVED EQUAL INSIDE THE FIREHOUSE.
6. INSTALL OWNER SUPPLIED UPS TO POWER THE ETHERNET SWITCH.
7. ATTACH THE CONNECTOR HOUSING TO THE ETHERNET SWITCH USING SC/APC TO LC/APC JUMPERS.
8. DEMOLISH AND REPLACE SIDEWALK AS REQUIRED TO INSTALL 2" RGS.
9. CONTRACTOR TO SUPPLY POWER TO UPS AND ETHERNET SWITCH AS REQUIRED.
10. EXISTING FIBER LINE IS TO REMAIN IN PLACE, IN DARK STATUS.

Revision	By	Appd	YYYY.MM.DD
CONSTRUCTION SET	PJM		2019.03.05
△1 ADDENDUM #1	PJM		2018.11.12
BID SET	PJM		2018.10.29
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File Name: 001816C-15	PJM	MP	2018-07-18
	Dsgn.	Chkd.	YYYY.MM.DD

Permit/Seal

Client/Project
PITTSFIELD CHARTER TOWNSHIP

PITTSFIELD FIBER PHASE 3

PITTSFIELD TOWNSHIP, MI

Title
PHASE 3A POINT OF TERMINATION CONNECTION DETAIL PITTSFIELD TWNSHP. FIRE STAITON NO.2

Project No.
2075001805

Scale
0 20' 40'

Revision
0

Sheet
37 of 40

Drawing No.
C-29

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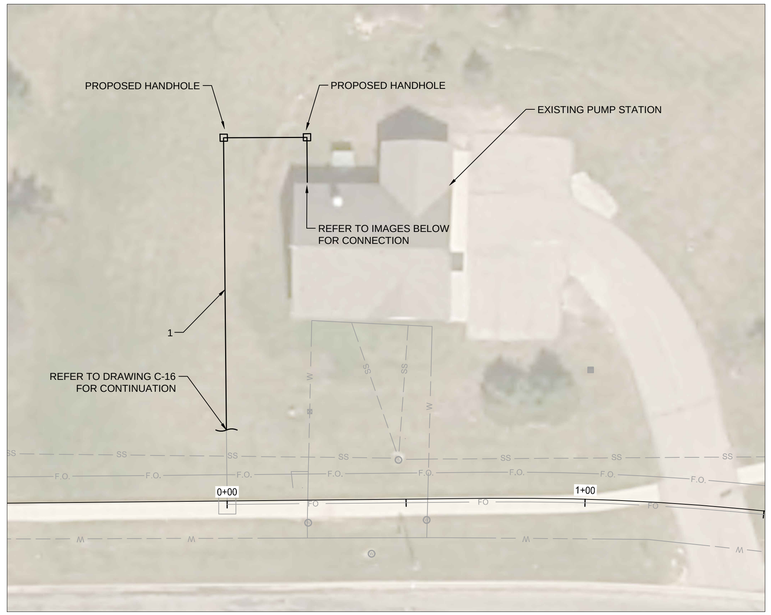
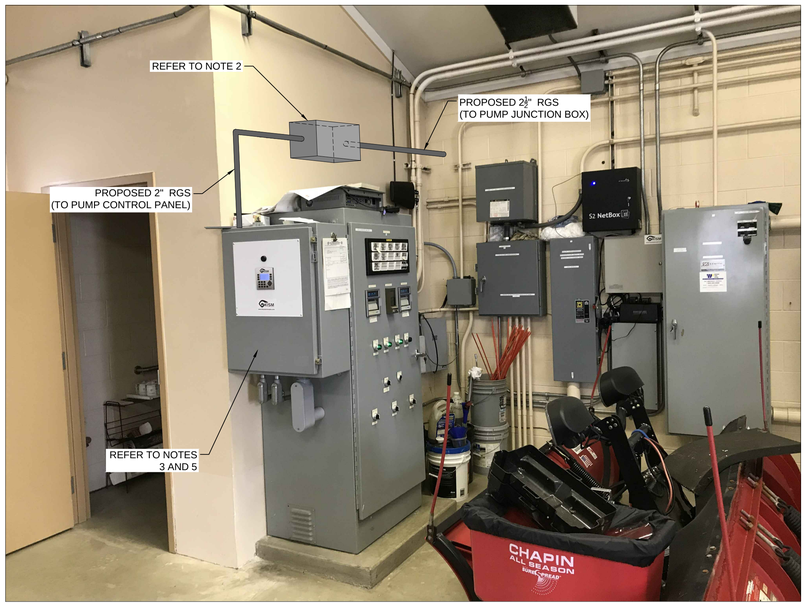
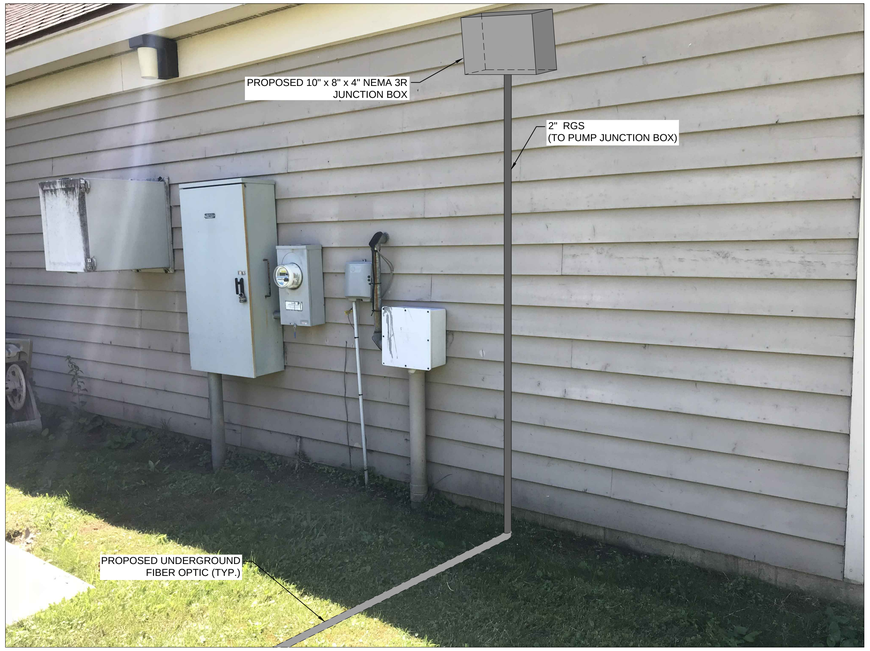
ORIGINAL SHEET - ARCH D





DETAIL A



DETAIL B

811 Know what's below. Call before you dig.

NOTE:

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ORIGINAL SHEET - ARCH D

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Notes

1. INSTALL TWO(2) 2" DUCTS WITH ONE(1) 12-FIBER OPTIC CABLE IN EACH.
2. INSTALL CORNING FIBER OPTIC DISTRIBUTION PANEL (WCH-02P) W/ ALL REQUIRED APPURTENANCES, OR APPROVED EQUAL INSIDE PROPOSED 24"x24"x6" NEMA 12 FIBER OPTIC CABINET.
3. INSTALL BELDEN MAGNUM 6KL MANAGED ETHERNET OR APPROVED EQUAL INSIDE PROPOSED FIBER OPTIC CABINET.
4. ATTACH THE CONNECTOR HOUSING TO THE ETHERNET SWITCH USING SC/APC TO LC/APC JUMPERS.
5. CONNECT THE ETHERNET SWITCH TO THE KISM PIMP CONTROLLER AND STATIONS ALARMS.
6. INSTALL OWNER SUPPLIED UPS TO POWER THE ETHERNET SWITCH.
7. CONTRACTOR TO SUPPLY POWER TO UPS AND ETHERNET SWITCH AS REQUIRED.

Revision	By	Appd	YYYY.MM.DD
CONSTRUCTION SET	PJM		2019.03.05
1 ADDENDUM #1	PJM		2018.11.12
BID SET	PJM		2018.10.09
WCRC PERMIT RESUBMITTAL	PJM		2018.09.12
WCRC PERMIT SUBMITTAL	PJM		2018.06.15

Issued	By	Appd	YYYY.MM.DD
File Name: 001816C-16	PJM	MP	2018-07-18
	Dsgn.	Chkd.	YYYY.MM.DD

Dwn. JA

Permit/Seal

Client/Project
PITTSFIELD CHARTER TOWNSHIP

PITTSFIELD FIBER PHASE 3

PITTSFIELD TOWNSHIP, MI

Title
PHASE 3B POINT OF BEGINNING CONNECTION DETAIL OAK VALLEY DR

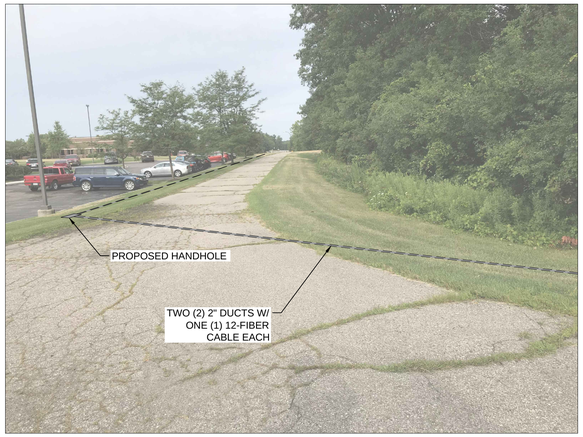
Project No. 2075001805

Scale 0 20' 40'

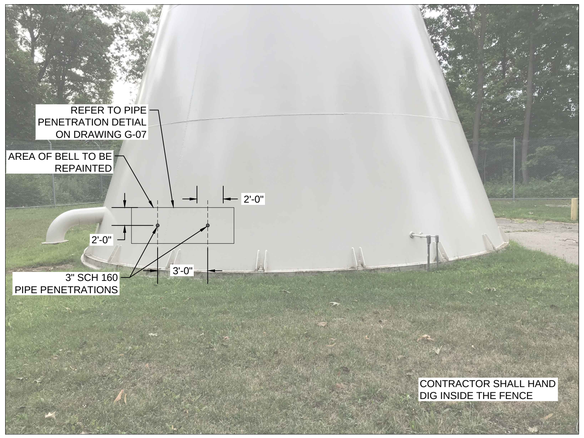
Revision 0

Sheet 38 of 40

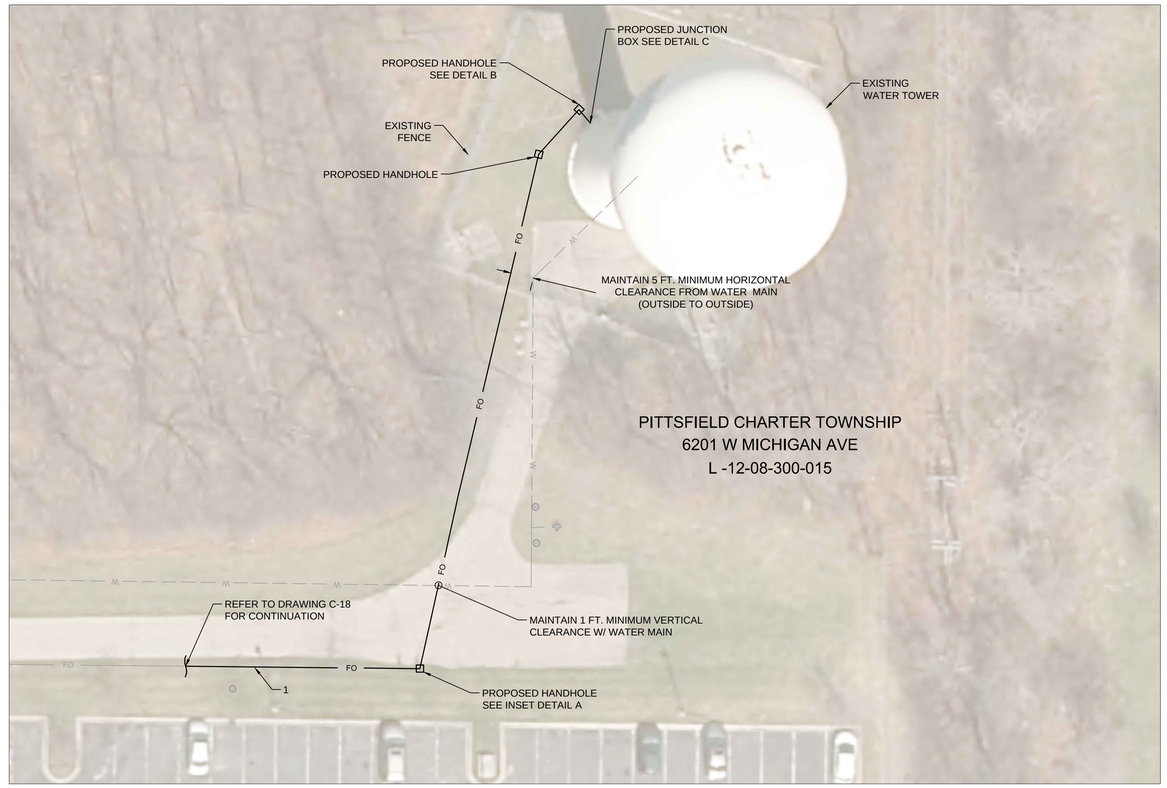
Drawing No. C-30

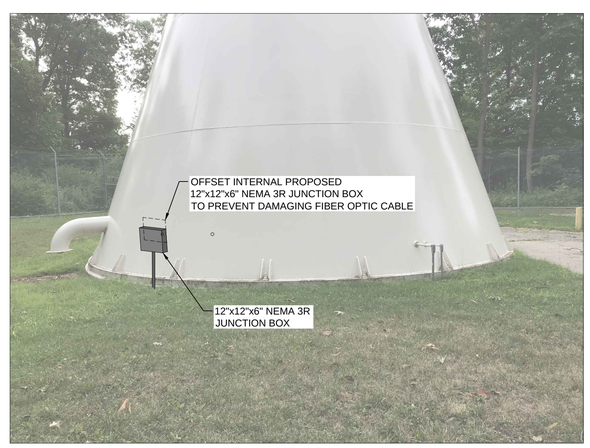


DETAIL A

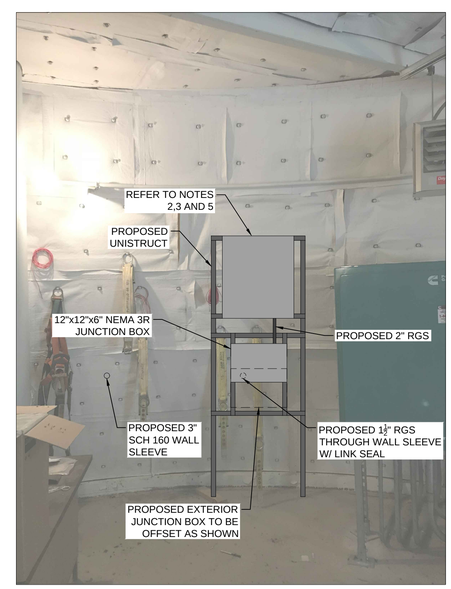


DETAIL B





DETAIL C



DETAIL D

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Notes

1. INSTALL TWO(2) 2" DUCTS WITH ONE(1) 12-FIBER CABLE IN EACH.
2. INSTALL CORNING FIBER OPTIC DISTRIBUTION PANEL (WCH-02P) W/ ALL REQUIRED APPURTENANCES, OR APPROVED EQUAL INSIDE PROPOSED 36"x36"x6" NEMA 12 FIBER OPTIC CABINET.
3. INSTALL BELDEN MAGNUM 6KL MANAGED ETHERNET OR APPROVED EQUAL INSIDE PROPOSED FIBER OPTIC CABINET.
4. ATTACH THE CONNECTOR HOUSING TO THE ETHERNET SWITCH USING SC/APC TO LC/APC JUMPERS.
5. INSTALL OWNER SUPPLIED UPS TO POWER THE ETHERNET SWITCH.
6. CONNECT THE ETHERNET SWITCH TO THE TANKS LEVEL CONTROLLER AND ALARM SYSTEM.
7. CONTRACTOR TO SUPPLY POWER TO UPS AND ETHERNET SWITCH AS REQUIRED.

Revision	By	Appd	YYYY.MM.DD
CONSTRUCTION SET	PJM		2019.03.05
1 ADDENDUM #1	PJM		2018.11.12
BID SET	PJM		2018.10.29
WCRC PERMIT RESUBMITTAL	PJM		2018.09.12
WCRC PERMIT SUBMITTAL	PJM		2018.06.15

Issued				
	By	Appd		YYYY.MM.DD
File Name: 001816C-18	JA	PJM	MP	2018-07-18
	Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Permit/Seal

Client/Project
PITTSFIELD CHARTER TOWNSHIP

PITTSFIELD FIBER PHASE 3

PITTSFIELD TOWNSHIP, MI

Title
WATER TOWER CONNECTION DETAIL

Project No. 2075001805

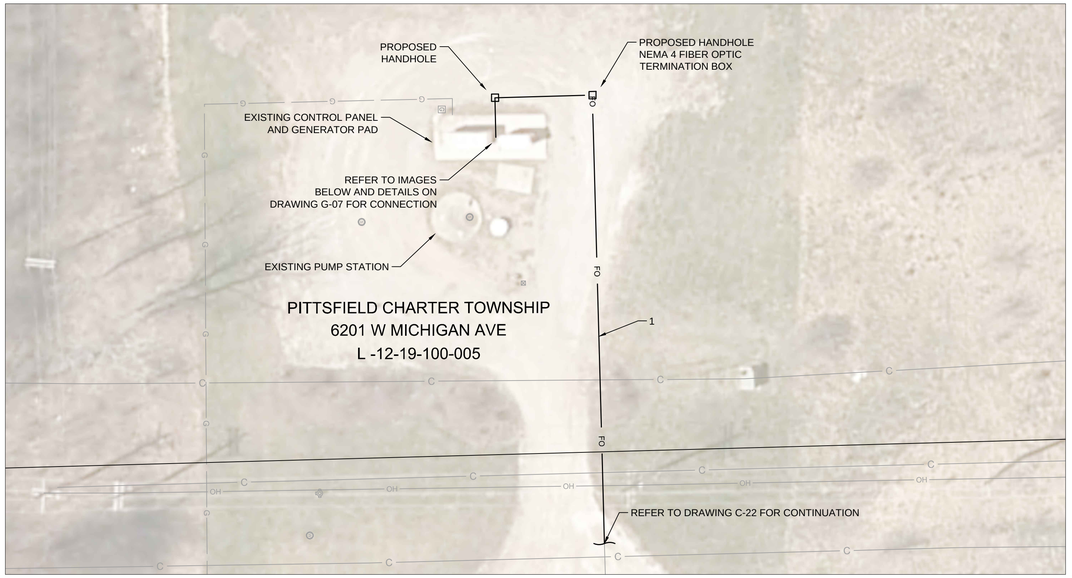
Scale 0 20' 40'

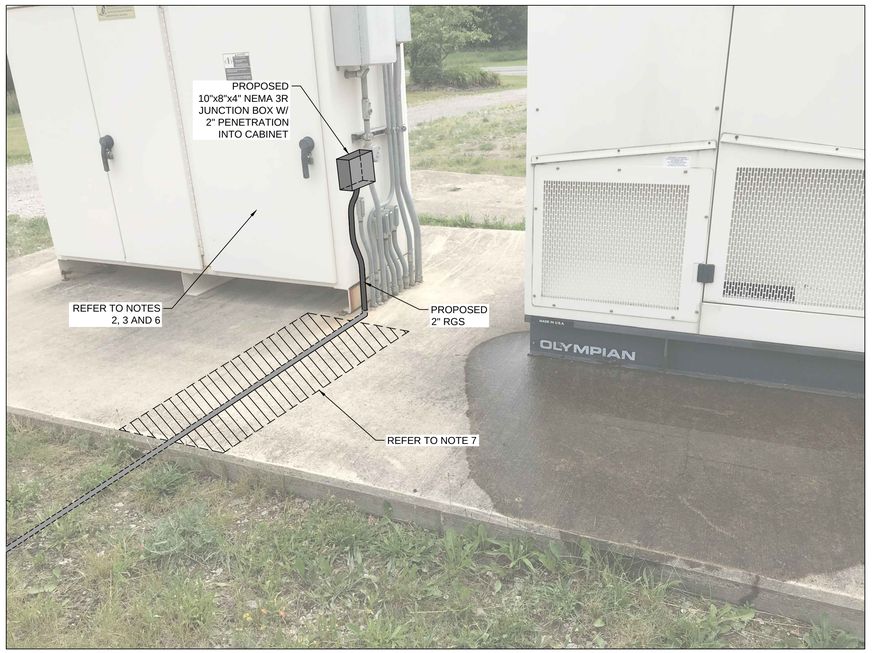
Revision 0

Sheet 39 of 40

Drawing No. **C-31**

ORIGINAL SHEET - ARCH D





DETAIL A

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3. INSTALL BELDEN MAGNUM 6KL MANAGED ETHERNET OR APPROVED EQUAL INSIDE PROPOSED FIBER OPTIC CABINET.
4. ATTACH THE CONNECTOR HOUSING TO THE ETHERNET SWITCH USING SC/APC TO LC/APC JUMPERS.
5. CONNECT THE ETHERNET SWITCH TO THE MULTISMART PUMP STATION CONTROLLER.
6. INSTALL OWNER SUPPLIED UPS TO POWER THE ETHERNET SWITCH INSIDE FIBER OPTIC CABINET.
7. SAW-CUT SLAB TO INSTALL 2" RGS CONDUIT TO CONTROL CABINET THEN REPAIR SLAB. COMPLETE SLAB REPAIR USING NO.3 DOWELS AND 4,000 PSI CONCRETE.
8. CONTRACTOR TO SUPPLY POWER TO UPS AND ETHERNET SWITCH AS REQUIRED.

Revision	By	Appd	YYYY.MM.DD
CONSTRUCTION SET	PJM		2019.03.05
1 ADDENDUM #1	PJM		2018.11.12
BID SET	PJM		2018.10.29
WCRC PERMIT RESUBMITTAL	PJM		2018.09.12
WCRC PERMIT SUBMITTAL	PJM		2018.06.15

Issued	By	Appd	YYYY.MM.DD
File Name: 001816C-22	PJM	MP	2018-07-18
	Dwn.	Chkd.	YYYY.MM.DD

Permit/Seal

Client/Project
PITTSFIELD CHARTER TOWNSHIP

PITTSFIELD FIBER PHASE 3

PITTSFIELD TOWNSHIP, MI

Title
PHASE 3C POINT OF BEGINNING CONNECTION DETAIL LOHR RD

Project No. 2075001805

Scale 0 20' 40'

Revision 0

Sheet 40 of 40

Drawing No. **C-32**

ORIGINAL SHEET - ARCH D