

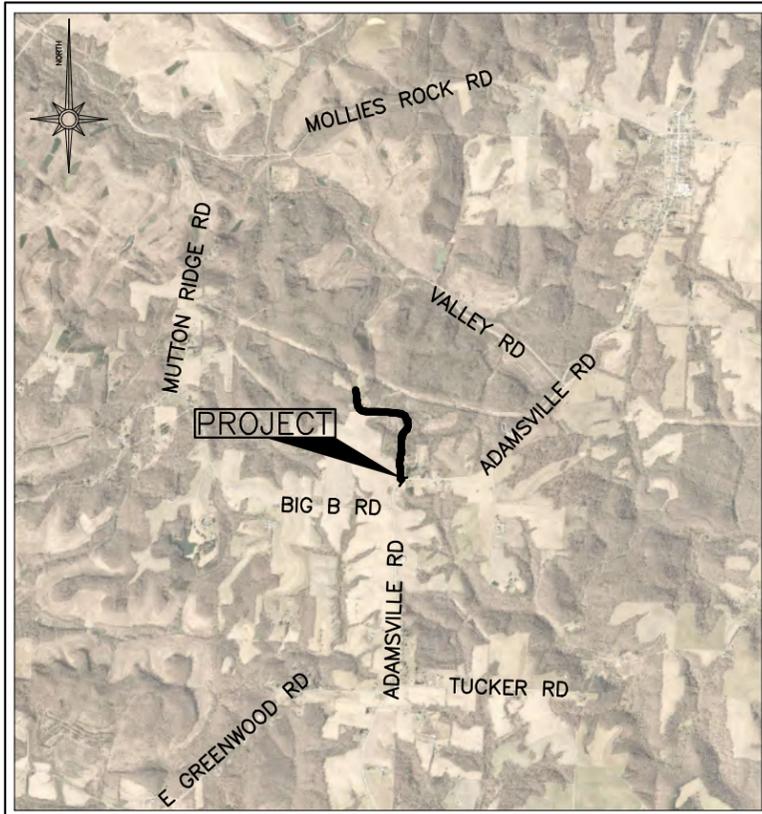


FERRELL ROAD WATERLINE EXTENSION

WASHINGTON, SALEM & MADISON TOWNSHIPS MUSKINGUM COUNTY, OHIO

PROJECT DESCRIPTION

THE CONSTRUCTION OF A WATERLINE EXTENSION ON FERRELL ROAD FROM ADAMSVILLE ROAD TO 7000 FERRELL ROAD



INDEX OF SHEETS:

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NOTE TO CONTRACTOR:

ANY MODIFICATIONS TO THE WATERLINE IMPROVEMENTS SHOWN ARE SUBJECT TO THE APPROVAL OF THE PROJECT ENGINEER. THIS POLICY SHALL BE ADHERED TO THROUGHOUT THE LIFE OF THIS PROJECT. ANY MODIFICATIONS MADE THAT HAVE NOT BEEN APPROVED BY THE PROJECT ENGINEER MAY BE SUBJECT TO REMOVAL, AT THE DISCRETION OF THE PROJECT ENGINEER. THE COST TO REMOVE UNAPPROVED WORK SHALL BE BURDENED BY THE CONTRACTOR WHO PERFORMED SAID WORK, NOT THE OWNERS OR THE PROJECT ENGINEER.

Cindy S. Cameron

CINDY S. CAMERON, PRESIDENT
MUSKINGUM COUNTY COMMISSIONER

11-30-2023

DATE

Mollie S. Crooks

MOLLIE S. CROOKS
MUSKINGUM COUNTY COMMISSIONER

11-30-2023

DATE

Melissa J. Bell

MELISSA J. BELL
MUSKINGUM COUNTY COMMISSIONER

11.30.23

DATE

UNDERGROUND UTILITIES
TWO WORKING DAYS
BEFORE YOU DIG
CALL 1-800-362-2764
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

PROPERTY OWNER:
MUSKINGUM COUNTY COMMISSIONERS
401 MAIN STREET
ZANESVILLE, OHIO 43701

CONTACT PERSON:
DON MADDEN, PROJECTS DIRECTOR
401 MAIN STREET
ZANESVILLE, OHIO 43701
(740) 588-4389

ENGINEER'S SEAL:

SIGNED: _____
AT: _____
DDAGW-999



03/25/2024

Mark J. Eicher, P.E., P.S.
109 Graham Street
Zanesville, Ohio 43701
MUSKINGUM COUNTY ENGINEER'S OFFICE 740-454-0155

PREPARED BY: FERRELL ROAD WATERLINE EXTENSION

PROJECT NAME:

PROJECT LOCATION:

PLANS APPROVED BY:

MJE

PLANS PREPARED BY:

GJW

DATE:

03/12/2024

REVISED:

SHEET SIZE:

11" x 17"

SHEET NAME:

TITLE

SHEET NUMBER:

1 / 15

	LIGHT POLE		EXISTING FIRE HYDRANT		EXISTING GAS VALVE		EXISTING ELECTRIC RISER/PULL BOX		STOP CHECK VALVE
	LIGHT/POWER POLE		PROPOSED FIRE HYDRANT		PROPOSED GAS VALVE		PROPOSED ELECTRIC RISER/PULL BOX		EXISTING MAILBOX
	POWER POLE		EXISTING WATER GATE VALVE		EXISTING GAS SERVICE STOP		EXISTING ELECTRIC METER		PROPOSED MAILBOX
	POWER POLE		PROPOSED WATER GATE VALVE		PROPOSED GAS SERVICE STOP		PROPOSED ELECTRIC METER		MAILBOX
	TELECOM POLE		PROPOSED AIR RELEASE VALVE		EXISTING GAS LINE VENT		EXISTING ELECTRIC MANHOLE		EXISTING TREE
	LIGHT/TELECOM POLE		EXISTING WATER METER		EXISTING SANITARY SEWER MANHOLE		PROPOSED ELECTRIC MANHOLE		EXISTING EVERGREEN TREE
	TELECOM/LIGHT/POWER POLE		PROPOSED WATER METER		PROPOSED SANITARY SEWER MANHOLE		EXISTING TELECOM MANHOLE		EXISTING SHRUB
	UNKNOWN POLE		EXISTING WATER MANHOLE		EXISTING SEPTIC TANK		PROPOSED TELECOM MANHOLE		EXISTING STONE FOUND
	SIGN POLE		PROPOSED WATER MANHOLE		PROPOSED SEPTIC TANK		EXISTING TELEPHONE PEDESTAL		EXISTING LARGE ROCK
	GUY WIRE ANCHOR		EXISTING CATCH BASIN NO. 2 - 2B		EXISTING SEWER PUMP STATION		PROPOSED TELEPHONE PEDESTAL		GRINDER PUMP
	CELLPHONE TOWER		PROPOSED CATCH BASIN NO. 2 - 2B		EXISTING SANITARY SEWER VALVE		EXISTING UNKNOWN PULL BOX		SPRING DEVELOPED
	EXISTING TOWER		EXISTING GAS METER		PROPOSED SANITARY SEWER VALVE		EXISTING UNKNOWN MANHOLE		SIGNAL PEDESTAL
	HALF HEADWALL		PROPOSED GAS METER		EXISTING SANITARY SEWER LINE VENT		EXISTING UNKNOWN UTILITY VALVE		PRIVATE/PUBLIC SIGN
	HEADWALL		EXISTING GAS MANHOLE		CLEAN OUT		PLUG VALVE		
			PROPOSED GAS MANHOLE						

LINE TYPES

	PROPOSED WATER
	UNDERGROUND ELECTRIC
	UNDERGROUND TELECOM
	ABANDONED FORCEMAIN
	FORCEMAIN
	EXISTING UNDER DRAIN
	GAS LINE
	WATER LINE
	ELECTRIC LINE
	UTILITY LINE
	SANITARY LINE
	FENCE
	VEGETATION
	EXISTING FENCE
	EXISTING RIGHT OF WAY
	EXISTING LIMITED ACCESS
	EXISTING RAILROAD RIGHT OF WAY
	PROPOSED EASEMENT
	PROPOSED STORM LINE
	EXISTING STORM LINE
	EXISTING SIDEWALK
	SHOULDER AGGREGATE



03/25/2024

Mark J. Eicher, P.E., P.S.
 109 Graham Street
 Zanesville, Ohio 43701
ENGINEER'S OFFICE 740-454-0155

hio
 Ohio Environmental Protection Agency

PROJECT NAME: FERRELL ROAD WATERLINE EXTENSION
 PROJECT LOCATION: FERRELL ROAD, ZANESVILLE, OHIO 43701

PLANS APPROVED BY: MJE
 PLANS PREPARED BY: GJW
 DATE: 12/01/2023
 REVISED:
 SHEET SIZE: 11" x 17"
 SHEET NAME: SYMBOLS & LINE STYLES LEGEND
 SHEET NUMBER: 2/15

GENERAL NOTES

THE CONTRACTOR SHALL NOTIFY THE COUNTY ENGINEER'S OFFICE, TELEPHONE (740) 454-0155 FORTY EIGHT (48) HOURS PRIOR TO COMMENCING WORK ON THE PROJECT, HOLIDAYS AND WEEKENDS EXCLUDED.

AT THE TIME OF THE BID OPENING EACH BIDDER WILL BE PRESUMED TO HAVE INSPECTED THE SITE AND TO HAVE READ AND TO BE THOROUGHLY FAMILIAR WITH THE PLANS AND CONTRACT DOCUMENTS.

ALL PROPERTY LINE MARKERS (IRON PINS, SPIKES, CONCRETE MONUMENTS, ETC.) THAT ARE DISTURBED BY THE CONSTRUCTION OPERATIONS SHALL BE REFERENCED AND PROPERLY RESET FOLLOWING CONSTRUCTION UNDER THE SUPERVISION OF A REGISTERED PROFESSIONAL SURVEYOR OF THE STATE OF OHIO AT THE CONTRACTOR'S EXPENSE.

ALL MANUFACTURED MATERIALS USED FOR THIS PROJECT MUST BE DOMESTIC AND MADE IN THE U.S.A

ALL SHOP DRAWINGS MUST BE APPROVED BY MUSKINGUM COUNTY WATER DEPARTMENT.

MUSKINGUM COUNTY WATER DEPARTMENT IS TO HAVE AN INSPECTOR ON THE JOB SITE AT ALL TIMES WHEN THE CONTRACTOR IS WORKING.

SPECIFICATIONS:

THE REQUIREMENTS OF THE OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS DATED JANUARY 2016, INCLUDING ALL SUPPLEMENTS THERETO IN FORCE ON DATE OF CONTRACT SHALL GOVERN ALL MATERIALS AND WORKMANSHIP INVOLVED IN THE IMPROVEMENTS SHOWN ON THESE PLANS EXCEPT AS SUCH SPECIFICATIONS ARE MODIFIED BY THE FOLLOWING SPECIFICATIONS OR BY THE LATEST EDITION OF THE AWWA STANDARDS, SHALL APPLY AS NEEDED AND ARE HEREBY CONSIDERED A PART OF THESE PLANS.

PERMITS:

PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND HAVE IN HIS POSSESSION AN APPROVED AND SIGNED SET OF CONSTRUCTION DRAWINGS. WITHOUT THE REQUIRED PERMITS AND AN APPROVED SET OF PLANS, CONSTRUCTION WILL NOT BE PERMITTED.

TREES:

TREES ENCOUNTERED DURING CONSTRUCTION OUTSIDE THE RIGHT-OF-WAY LIMITS SHALL BE REMOVED ONLY WHEN NECESSARY AND COSTS OF SAME SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS ITEMS.

SAFETY REQUIREMENTS:

THE CONTRACTOR AND SUBCONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR COMPLYING WITH ALL FEDERAL, STATE, AND LOCAL SAFETY REQUIREMENTS, TOGETHER WITH EXERCISING PRECAUTIONS AT ALL TIMES FOR THE PROTECTION OF PERSONS (INCLUDING EMPLOYEES) AND PROPERTY. IT IS ALSO THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND SUBCONTRACTOR TO INITIATE, MAINTAIN, AND SUPERVISE ALL SAFETY REQUIREMENTS PRECAUTIONS, AND PROGRAMS IN CONNECTION WITH THE WORK

MISCELLANEOUS WORK:

ALL ITEMS OF WORK CALLED FOR ON THE PLANS FOR WHICH NO SPECIFIC METHOD OF PAYMENT IS PROVIDED SHALL BE PERFORMED BY THE CONTRACTOR AND THE COST OF SAME SHALL BE INCLUDED IN THE PRICE FOR VARIOUS RELATED ITEMS. IF NO SCHEDULE OF VALUES IS PROVIDED ALL ITEMS OF WORK INDICATED ON THE PLANS ARE TO BE PERFORMED WITH FULL COMPENSATION TO BE INCLUDED IN THE CONTRACT AMOUNT.

FIELD TILE:

ALL FIELD TILE BROKEN DURING EXCAVATION SHALL BE REPLACED TO ORIGINAL CONDITION OR CONNECTED TO EITHER THE CURB SUB DRAIN OR THE STORM SEWER SYSTEM AS DIRECTED BY THE ENGINEER.

SURPLUS EXCAVATION:

THE CONTRACTOR SHALL DISPOSE ALL SURPLUS EXCAVATION OFFSITE.

TRAFFIC CONTROL:

ALL TRAFFIC CONTROL DEVICES SHALL BE FURNISHED, ERECTED, MAINTAINED, AND REMOVED BY THE CONTRACTOR IN ACCORDANCE WITH THE "OHIO MANUAL OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION AND MAINTENANCE OPERATIONS," COPIES OF WHICH ARE AVAILABLE FROM THE OHIO DEPARTMENT OF TRANSPORTATION, BUREAU OF TRAFFIC, 25 S. FRONT STREET, COLUMBUS, OHIO 43215.

TWO -WAY TRAFFIC MUST BE MAINTAINED AT ALL TIMES.

ALL COSTS ASSOCIATED WITH THIS WORK SHALL BE INCLUDED IN THE BID PRICE FOR VARIOUS ITEMS.

EROSION CONTROL:

EROSION CONTROL MEASURES SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF OHIO'S STANDARDS FOR STORM WATER MANAGEMENT LAND DEVELOPMENT AND URBAN STREAM PROTECTION MANUAL "RAINWATER AND LAND DEVELOPMENT".

TRACKING OR SPILLAGE OF MUD, DIRT, OR DEBRIS UPON STREETS, RESIDENTIAL OR COMMERCIAL DRIVES, SIDEWALKS, OR BIKE PATHS IS PROHIBITED AND ANY SUCH OCCURRENCE SHALL BE CLEANED IMMEDIATELY.

THE PROJECT SITE SHALL BE FREE OF ALL DEBRIS AND MATERIALS RESULTING FROM THIS OPERATION AND ALL SURFACES, STRUCTURES, DITCHES, AND PROPERTY RESTORED TO ORIGINAL CONDITION TO THE SATISFACTION OF THE OWNER.

EXISTING UTILITIES:

THE IDENTITY AND LOCATIONS OF EXISTING UNDERGROUND UTILITIES IN THE CONSTRUCTION AREA HAVE BEEN SHOWN ON THE APPROVED CONSTRUCTION DRAWINGS AS ACCURATELY AS PROVIDED BY THE OWNER OF THE UNDERGROUND UTILITY AS REQUIRED BY SECTION 153.84 OR SECTION 3781.27 OF THE OHIO REVISED CODE. THE COUNTY AND THE ENGINEER ASSUME NO RESPONSIBILITY FOR THE ACCURACY OF LOCATIONS OR DEPTHS OF UNDERGROUND FACILITIES SHOWN ON THE APPROVED CONSTRUCTION DRAWINGS.

THE CONTRACTOR SHALL DESIGNATE FOR EXISTING UTILITIES AROUND ALL PROPOSED STRUCTURES BEFORE DIGGING TO VERIFY NO CONFLICTS EXIST. WHEN UNKNOWN OR INCORRECTLY LOCATED UNDERGROUND UTILITIES ARE ENCOUNTERED DURING DESIGNATION AND/OR CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE UTILITY OWNER, THE COUNTY AND THE ENGINEER.

THE CONTRACTOR SHALL NOTIFY THE OHIO UTILITIES PROTECTION SERVICE (OUPS) AT (1-800-362-2764) AT LEAST 48 HOURS, AND NO MORE THAN 10 DAYS PRIOR TO EXCAVATING WITH SUCH TIME PERIODS NOT INCLUDING WEEKENDS OR HOLIDAYS. CONTRACTOR SHALL SIMILARLY CONTACT ALL UTILITY OWNERS WHO ARE NOT SUBSCRIBERS TO OUPS.

IF THERE ARE MARKERS OR OTHER APPARENT PHYSICAL EVIDENCE IN OUR NEAR THE PROJECT AREA THAT MAY INDICATE THE EXISTENCE OF UNDERGROUND PETROLEUM OR NATURAL GAS PIPELINES. THE CONTRACTOR SHALL ADDITIONALLY CONTACT THE OIL & GAS PRODUCERS UNDERGROUND PROTECTION SERVICE (OGUPS) AT 800-925-0988. TOLL FREE SAID NOTIFICATION SHALL BE GIVEN A MINIMUM OF 48 HOURS PRIOR TO COMMENCEMENT OF CONSTRUCTION.

THE FOLLOWING UTILITIES ARE KNOWN OR CAN BE EXPECTED TO BE LOCATED WITHIN THE LIMITS OF THIS PROJECT:

UTILITY	OWNER	PHONE NUMBER
TELEPHONE	BRIGHTSPEED	833.692.7773
GAS/PETROLEUM	CAMERON DRILLING CO. INC.	740.453.3300
GAS/PETROLEUM	ENERGEX POWER, INC.	724.622.0093
WATER	MUSKINGUM COUNTY WATER DEPT	740.453.0678
ELECTRIC	GUERNSEY MUSKINGUM ELECTRIC	800.521.9879
COMMUNICATIONS	CHARTER/SPECTRUM COMMUNICATIONS	888.438.2427
WATER	CITY OF ZANESVILLE WATER DEPT	740.455.0631

THE CONTRACTOR IS RESPONSIBLE FOR THE INVESTIGATION, LOCATION, SUPPORT, PROTECTION AND RESTORATION OF ALL EXISTING UTILITIES AND APPURTENANCES WHETHER SHOWN ON THE PLANS OR NOT. THE CONTRACTOR SHALL PROCEED WITH THE WORK AND PROTECT ALL UNDERGROUND UTILITIES IN A MANNER AT LEAST AS CAUTIOUS AND PROTECTIVE OF SAFETY AND UNDERGROUND UTILITIES AS THOSE METHODS IDENTIFIED IN SECTIONS 3781.25 THROUGH 3781.30 OF THE OHIO REVISED CODE.

ALL MARKED PRIVATE UTILITY REPAIRS OR RELOCATION (GAS, ELECTRIC, PHONE, ETC.) WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.

ANY REPAIRS OR RELOCATION OF UNMARKED PRIVATE UTILITIES (GAS, ELECTRIC, PHONE, ETC.) SHALL BE THE RESPONSIBILITY OF THE UTILITY OWNER. ANY REPAIRS OR RELOCATION OF UNMARKED PUBLIC UTILITIES SUCH AS WATER SHALL BE THE RESPONSIBILITY OF THE UTILITY OWNER. ANY REPAIRS TO WATER SERVICE LINES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE INCLUDED IN THE UNIT PRICE FOR ITEM SPECIAL WATER SERVICE LINE REPAIR. A QUANTITY OF 20 WATER SERVICE LINE REPAIR UNITS HAVE BEEN INCLUDED IN THE ESTIMATED QUANTITIES FOR THIS PROJECT.

WATER WITHDRAWAL REGISTRATION:

THE OHIO DEPARTMENT OF NATURAL RESOURCES REQUIRES A WATER REGISTRATION WHERE SURFACE OR GROUNDWATER IS WITHDRAWN AT A RATE GREATER THAN 100,000 GALLONS PER DAY. THE CONTRACTOR WILL BE REQUIRED TO APPLY FOR AND SUBMIT THE REQUIRED FORM.

STREET, STORM AND WATER NOTES

PERMITS:

PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND HAVE IN HIS POSSESSION AN APPROVED AND SIGNED SET OF CONSTRUCTION DRAWINGS. WITHOUT THE REQUIRED PERMITS AND AN APPROVED SET OF PLANS, CONSTRUCTION WILL NOT BE PERMITTED.

UNAUTHORIZED STREET EXCAVATION:

IN THE EVENT EXCAVATION FOR THE STREET IS FROM 0" TO 6" BELOW THAT CALLED FOR THE PLANS, THE CONTRACTOR SHALL REPLACE THIS EXCESS EXCAVATED MATERIAL WITH COMPACTED 304 CRUSHED LIMESTONE AGGREGATE AS DIRECTED AND AT NO EXTRA COST TO THE OWNER OR ENGINEER.

BACKFILL REQUIREMENTS:

CONTINUOUS AND UNIFORM BEDDING SHALL BE PROVIDED IN THE TRENCH FOR ALL BURIED PIPE. BACKFILL MATERIAL SHALL BE TAMPED IN LAYERS AROUND THE PIPE AND TO A SUFFICIENT HEIGHT ABOVE THE PIPE TO ADEQUATELY SUPPORT AND PROTECT THE PIPE. STONES FOUND IN THE TRENCH SHALL BE REMOVED FOR A DEPTH OF AT LEAST SIX INCHES BELOW THE BOTTOM OF THE PIPE. STONES IN THE BEDDING SHALL ALSO BE REMOVED.

WHERE THE WATER MAINS AND WATER SERVICES CROSS EXISTING PAVEMENT, THE TRENCH SHALL BE BACKFILLED IN ACCORDANCE WITH THE DETAILS, AND SHALL BE COMPACTED IN 8-INCH LIFTS, FROM THE BOTTOM OF THE TRENCH TO A PLANE SIX INCHES (6") BELOW THE SUBGRADE. THE LIMITS OF PLACEMENT SHALL EXTEND 1 FOOT BEYOND THE EDGE OF PAVEMENT.

WHERE WATER MAINS RUN PARALLEL WITH THE CENTERLINE OF THE ROADWAY, THE TRENCH SHALL BE BACKFILLED IN ACCORDANCE WITH THE DETAILS FOR CROSSING EXISTING PAVEMENT. LIFT REQUIREMENTS SHALL BE COMPACTED IN 8-INCH INCREMENTS TO WITHIN 6" OF THE EXISTING GRADE. COMPACTON SHALL BE AT LEAST THE DENSITY OF THE SURROUNDING GROUND.

BACKFILL OCCURRING UNDER PAVEMENT, SHALL MEET THE REQUIREMENTS OF ODOT SPECIFICATION SUPPLEMENT 1015. COMPACTION TESTING TO VERIFY COMPACTION SHALL BE PAID FOR BY THE "OWNER". ANY BACKFILL WHICH FAILS TO MEET THESE REQUIREMENTS SHALL BE REPLACED AND/OR RE-COMPACTED AND RETESTED AT THE EXPENSE OF THE CONTRACTOR. SEE DETAIL SHEET FOR ADDITIONAL BACKFILL REQUIREMENTS.

ROADSIDE SWALE RESTORATION:

WHERE WATER LINE INSTALLATION DISTURBS EXISTING ROADSIDE SWALES, CONTRACTOR SHALL BE REQUIRED TO RESTORE ROADSIDE SWALES TO PRECONSTRUCTION CONDITIONS FOLLOWING INSTALLATION. COST FOR RESTORATION TO BE INCLUDED IN THE UNIT PRICE FOR WATER LINE.

WATER MAINS:

ALL WATER LINE MATERIALS AND INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE MUSKINGUM COUNTY WATER AUTHORITY CURRENT RULES AND REGULATIONS. ALL WATER LINE MATERIAL 10 INCH DIAMETER OR LESS SHALL BE PVC AWWA C900, DR-18. IN CASE OF CONFLICT IN GRADE BETWEEN WATER LINES AND STORM SEWERS, THE WATER LINES SHALL BE LOWERED DURING CONSTRUCTION.

BACKFILL GROUND OVER THE TOP OF THE PIPE SHALL BE FREE OF ROCKS, ORGANIC REFUSE OR OTHER OBJECTIONABLE MATERIAL. SEE BACKFILL NOTE ABOVE. THE INSTALLING CONTRACTOR IS RESPONSIBLE FOR CONDUCTING PRESSURE AND LEAKAGE TESTS AT A PRESSURE OF 150 PSI IN ACCORDANCE WITH AWWA C600. THE NORMAL WORKING PRESSURE FOR THE WATER MAIN SHALL BE NOT LESS THAN 35 PSI. ANY TAPPING SLEEVES REQUIRED SHALL BE STAINLESS STEEL, INCLUDING BOLTS AND ACCESSORIES.

WATER MAINS SHALL BE LAID AT LEAST 10 FEET HORIZONTALLY FROM ANY EXISTING SANITARY OR STORM SEWER, SEPTIC TANK, OR SURFACE TREATMENT SYSTEM. THE DISTANCE SHALL BE MEASURED EDGE TO EDGE.

WATER MAINS CROSSING SANITARY OR STORM SEWERS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 18 INCHES BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF THE SEWER. THIS SHALL BE THE CASE WHERE THE WATER MAIN IS EITHER ABOVE OR BELOW THE SEWER WITH PREFERENCE TO THE WATER MAIN LOCATED ABOVE THE SEWER.

AT CROSSINGS, ON FULL LENGTH OF WATER PIPE SHALL BE LOCATED SO BOTH JOINTS WILL BE AS FAR FROM THE SEWER AS POSSIBLE. SPECIAL STRUCTURAL SUPPORT FOR THE WATER AND SEWER PIPES MAY BE REQUIRED.

CHLORINATION OF WATER MAINS:

THE CONTRACTOR SHALL BE MADE RESPONSIBLE FOR HAVING THE WATER MAINS CHLORINATED AND TESTED IN ACCORDANCE WITH AWWA SPECIFICATIONS SECTION C651. THE COST OF CHLORINATION SHALL BE INCLUDED IN THE PRICE BID OF THE VARIOUS WATER MAIN ITEMS. THE CONTRACTOR SHALL SUBMIT TWO (2) COPIES OF TEST RESULTS TO THE WATER DEPARTMENT. TABLET CHLORINATION SHALL BE USED, THE TABLETS SHALL BE FIXED TO THE PIPE WITH PERMATEX.

SERVICE CONNECTIONS:

SERVICES SHALL BE MADE USING FORD F-1100 CORPORATION STOPS. VALVE BOXES SHALL BE MUELLER OR BINGHAM-TAYLOR WITH COVERS MARKED "WATER". NO SUBSTITUTION FOR VALVE BOXES WILL BE PERMITTED UNLESS APPROVED BY THE MUSKINGUM COUNTY WATER DEPARTMENT. THE LOCATION OF THE END OF THE SERVICE WILL BE MARKED USING A MINIMUM OF 6 FOOT LONG 4 INCH SQUARE WOOD POLE EXTENDING 3 FEET IN THE GROUND. THE TOP OF THE POLE WILL BE PAINTED BLUE FOR AT LEAST 1 FOOT. SERVICE CONNECTIONS BY CONTRACTOR SHALL BE MADE BY TAPPING THROUGH A SERVICE CLAMP OR SADDLE PROVIDING FULL 360 DEGREE SUPPORT AGAINST THE PIPE. CLAMP AND BOLTS SHALL BE STAINLESS STEEL, WITH MINIMUM 6" BETWEEN BOLT CENTERS. ALL SERVICE LINES MUST GO TO PROPERTY LINE. ALL WATER SERVICE LINES SHALL BE 2" OR LESS, AND SHALL BE 200 PSI C.T.S., TUBING. WATER SERVICE TAP SIZE SHALL BE 3/4". INDIVIDUAL BOOSTER PUMPS SHALL NOT BE ALLOWED FOR ANY INDIVIDUAL SERVICE.

TRACER TAPE:

TRACER TAPE SHALL BE LAID NO LESS THAN 18 INCHES ABOVE THE MAIN LINE PIPE. THE TRACER WIRE SHALL BE MADE OF 12 GAUGE WIRE. TO BE INSTALLED AT ALL MAIN LINE LOCATIONS. TRACER WIRE SHALL ALSO BE LAID WITH ALL SERVICE CONNECTIONS. ALL LOCATE WIRE CONNECTIONS WILL HAVE WATER TIGHT WIRE NUTS

VALVES:

GATE VALVES SHALL COMPLY WITH AWWA C509, IRON BODY, RESILIENT WEDGE VALVES, MANUFACTURED 2500 SERIES AMERICAN FLOW CONTROL. VALVES WILL BE LOCATED CLOSE TO MAIN LINE VALVE, CLOSE RIGHT TEE'S WHEN IN A BRANCH LINE. SUPPLY ONE VALVE WRENCH FOR EACH 10 VALVES INSTALLED. WRENCHES ARE TO BE TURNED OVER TO MUSKINGUM COUNTY WATER DEPARTMENT.

VALVE BOXES:

VALVE BOXES SHALL BE LOCATED WITHIN THE R/W AND 6" FROM THE PROPERTY LINE UNLESS OTHERWISE SHOWN ON THE PLANS OR ORDERED BY THE ENGINEER.

JOINTS:

ALL PVC PIPE SHALL BE PROVIDED WITH PUSH-ON-TYPE WITH A THICKENED BELL AND SHALL CONFORM TO ASTM D 3139 WITH A RUBBER GASKET CONFORMING TO ASTM F477.

FITTINGS:

THE FITTINGS SHALL BE DUCTILE IRON, MADE IN THE UNITED STATES, CONFORMING TO AWWA C153, SHALL BE PROVIDED WITH MECHANICAL JOINT ENDS (WITH RETAINER GLAND) MADE IN ACCORDANCE WITH AWWA C111. ALL C153 FITTINGS SHALL HAVE A BITUMINOUS COATED CEMENT LINING COMPLYING WITH AWWA C104 AND SHALL HAVE AN OUTSIDE COATING COMPLYING WITH AWWA C110. ANCHORAGE METHODS TO BE USED UTILIZING ANCHORING TEES, ELBOWS AND COUPLINGS SHALL BE APPROVED BY THE ENGINEER. FITTINGS SHALL BE EQUIPPED WITH A ROTABLE GLAND OR OTHER METHOD TO FACILITATE VERTICAL POSITIONING OF APPURTENANCES. ALL BENDS SHALL HAVE CONCRETE THRUST BLOCKING. ALL BOLTS SHALL BE FIELD COATED WITH A BITUMINOUS COATING AFTER IN PLACE.

METER PITS:

METER PITS SHALL BE LOCATED AS SHOWN ON THE PLANS, AND SHALL INCLUDE COPPER SETTERS.

METER PITS SHALL BE MIDSTATE 18" X 24".

PIT LID SHALL BE 18" X 24" MIDSTATES PLASTIC LID AND WITH MXV BRACKET.

COPPER SETTER SHALL BE FORD 5/8" X 3/4" VH72-18W-44-33.

FIRE HYDRANTS:

FIRE HYDRANTS, IF SPECIFIED IN THE PLANS, SHALL BE 12" HIGH FLOW ONLY. FIRE HYDRANTS OPEN RIGHT, WITH A 6" X 2" ANCHOR COUPLER BETWEEN VALVE AND HYDRANT. ALL FIRE HYDRANTS SHALL BE SET A MINIMUM OF 4' FROM THE EDGE OF THE PAVEMENT, BUT NOT MORE THAN 6' UNLESS OTHERWISE SHOWN. THE BREAKAWAY FLANGE SHALL BE A MINIMUM OF 3" ABOVE GRADE BUT NO MORE THAN 6" ABOVE GRADE. USE CLASS "A" SETTING WHERE APPLICABLE. CUT CHAINS OFF OF ALL HYDRANTS, LUBE THREADS OF CAPS WITH SUPER LUBE GREASE.

HYDRANT DRAINS SHOULD BE PLUGGED. WHEN THE DRAINS ARE PLUGGED, THE BARRELS MUST BE PUMPED DRY BEFORE AND DURING COLD WEATHER PERIODS WHEN TEMPERATURES ARE LIKELY TO BE COLD ENOUGH TO FREEZE THE WATER IN THE HYDRANT BARREL.

HYDRANT DRAINS, WHERE ALLOWED, SHALL NOT BE LOCATED WITHIN 10 FEET OF SANITARY SEWERS, STORM SEWERS, OR STORM INLETS.

HYDRANT DRAINS, WHERE ALLOWED, MUST BE ABOVE THE SEASONAL GROUNDWATER TABLE.

WHERE HYDRANT DRAINS ARE NOT PLUGGED, A GRAVEL POCKET OR DRY WELL SHALL BE PROVIDED UNLESS THE NATURAL SOILS WILL PROVIDE ADEQUATE DRAINAGE.

MANUFACTURER:

ALL MANUFACTURED MATERIALS FOR THIS PROJECT ARE TO BE "MADE IN THE U.S.A." OR AS APPROVED BY THE ENGINEER.

WATERLINE SPECIFICATIONS

ACCEPTABLE PIPE & APPURTENANCES
PIPE MATERIAL/PIPE SPECS - PC235 PVC PIPE/DR18/AWWA C900
VALVES/TAPPING SLEEVES - AWWA C500
STOP BOXES/SERVICE BOXES - AWWA C800
DISINFECTION/FLUSHING - AWWA C651
INSTALLATION/TESTING AWWA C600, C605

WATERLINE SYSTEM PRESSURE REQUIREMENTS:

THE SYSTEM SHALL BE DESIGNED TO MAINTAIN A MINIMUM PRESSURE OF 20 PSI (140 KPA) AT GROUND LEVEL AT ALL POINTS IN THE DISTRIBUTION SYSTEM UNDER ALL CONDITIONS OF FLOW. THE NORMAL WORKING PRESSURE IN THE DISTRIBUTION SYSTEM SHOULD BE APPROXIMATELY 60 TO 80 PSI (410 TO 550 KPA) AND SHALL NOT BE LESS THAN 35 PSI (240 KPA) UNLESS OTHERWISE APPROVED BY THE REVIEWING AUTHORITY.



PREPARED BY:

PROJECT NAME: FERRELL ROAD WATERLINE EXTENSION

PROPERTY LOCATION: FERRELL ROAD, ZANESVILLE, OHIO 43701

PLANS APPROVED BY:

MJE

PLANS PREPARED BY:

GJW

DATE:

03/12/2024

REVISED:

SHEET SIZE:

11" x 17"

SHEET NAME:

GENERAL NOTES

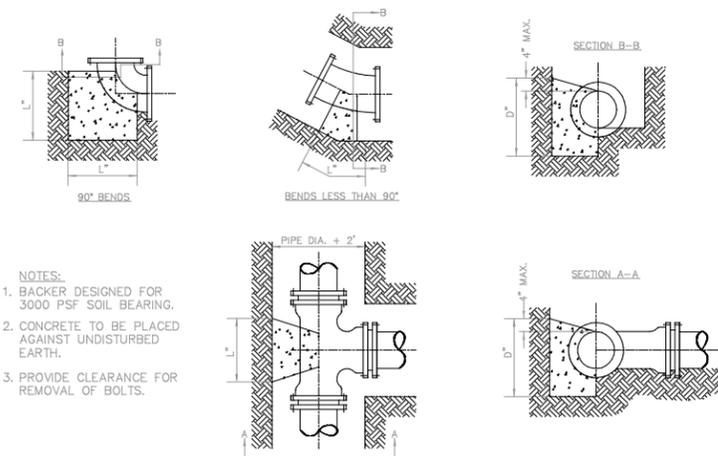
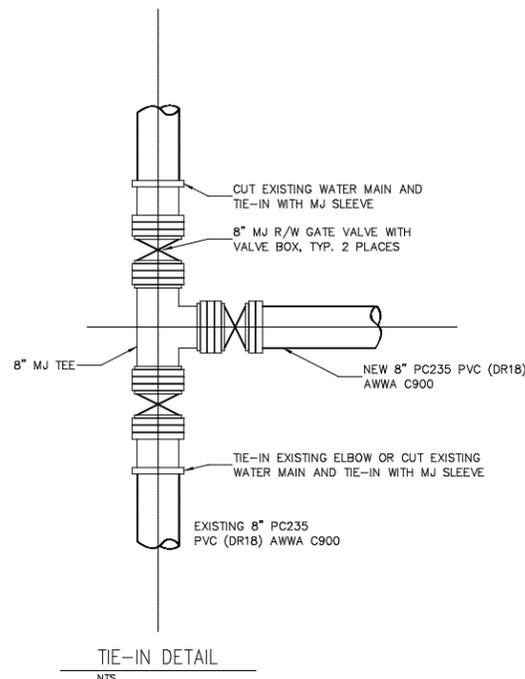
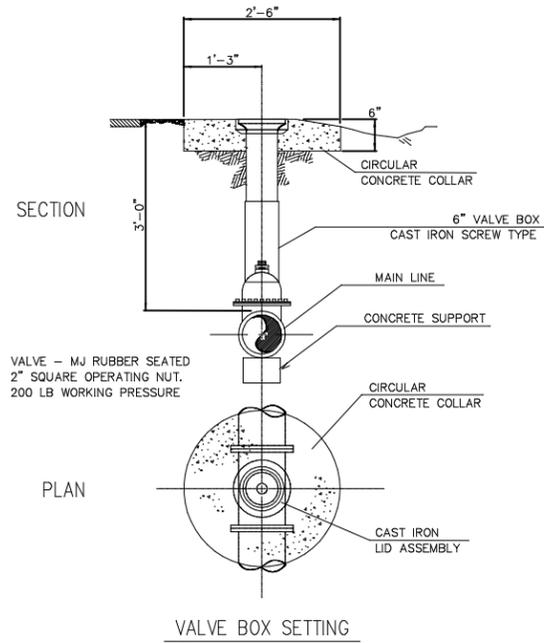
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03/25/2024

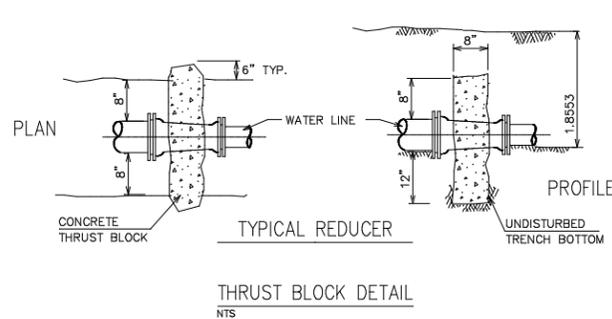
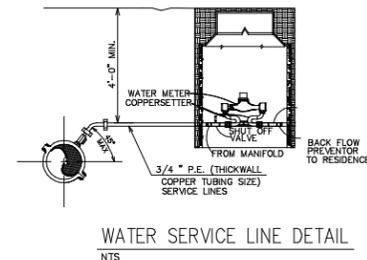


- NOTES:
1. BACKER DESIGNED FOR 3000 PSF SOIL BEARING.
 2. CONCRETE TO BE PLACED AGAINST UNDISTURBED EARTH.
 3. PROVIDE CLEARANCE FOR REMOVAL OF BOLTS.

TYP. BEND AND TEE DETAILS
NTS

SIZE OF PIPE	BENDS				TEES					
	DEGREE OF BEND				BRANCH					
	1 1/4°	22 1/2°	45°	90°	3"	4"	6"	8"	12"	16"
	L" D"	L" D"	L" D"	L" D"	L" D"	L" D"	L" D"	L" D"	L" D"	L" D"
3"	8 6	10 6	20 6	36 8	3"	16 7				
4"	8 6	10 6	20 6	36 8	4"	16 7				
6"	8 6	12 7	20 8	36 9	6"	16 7				
8"	9 8	16 9	24 12	50 11	8"	14 8	18 12			
12"	14 12	24 14	36 18	60 18	12"	14 12	24 14	36 18		
16"	18 16	32 18	36 36	70 26	16"	18 16	32 18	36 36	70 26	

STEEL WILL BE USED AS REQUIRED BY ENGINEER

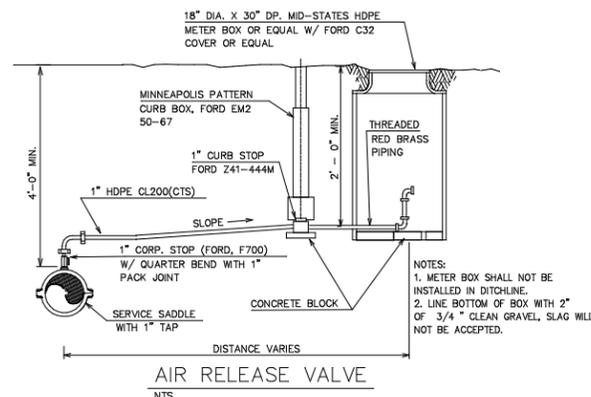
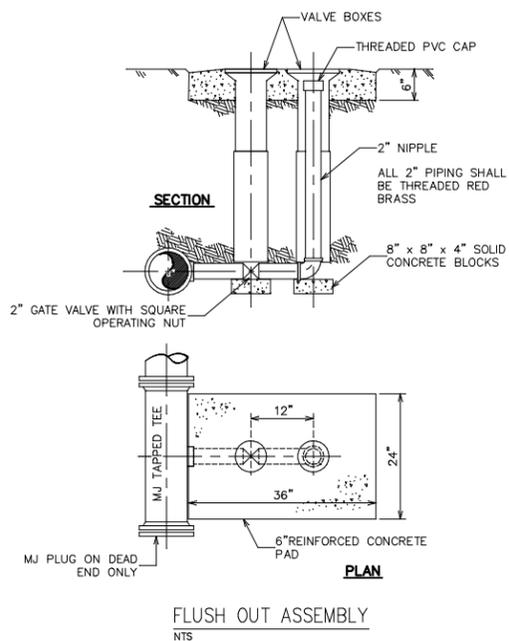


M.J. FITTINGS
DUCTILE - IRON

NOTE:

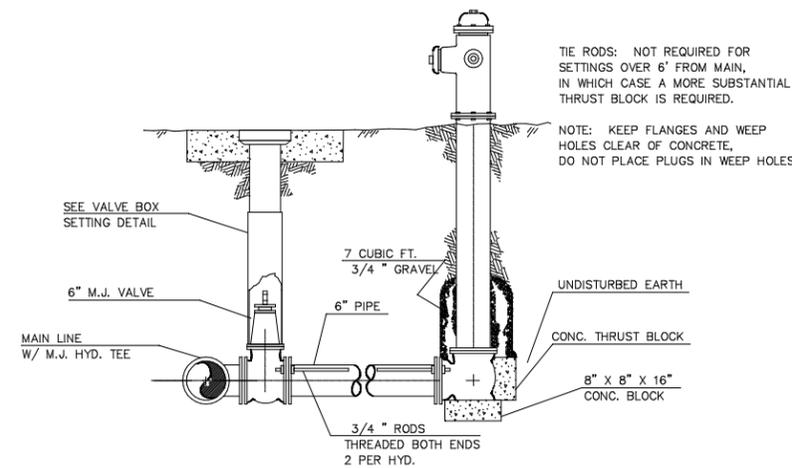
1. PROVIDE SUBSTANTIAL THRUST BLOCKING ON ALL FITTINGS.
2. KEEP ALL FLANGES, BOLTS CLEAN OF CONCRETE.

MINIMUM REQUIREMENTS



- NOTES:
1. METER BOX SHALL NOT BE INSTALLED IN DITCHLINE.
 2. LINE BOTTOM OF BOX WITH 2" OF 3/4" CLEAN GRAVEL, SLAG WILL NOT BE ACCEPTED.

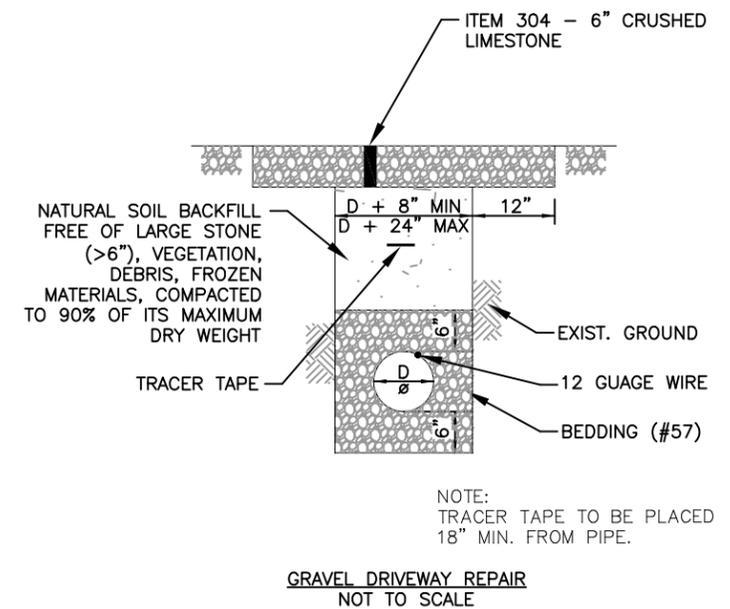
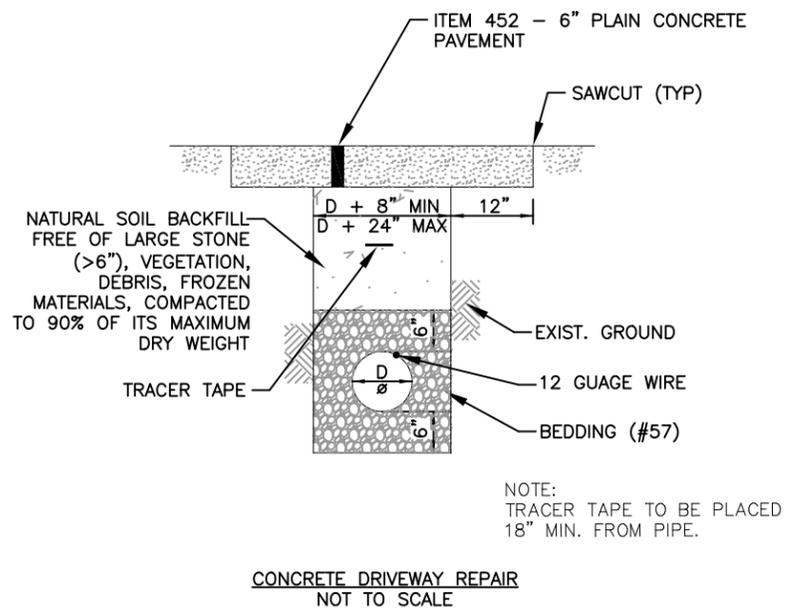
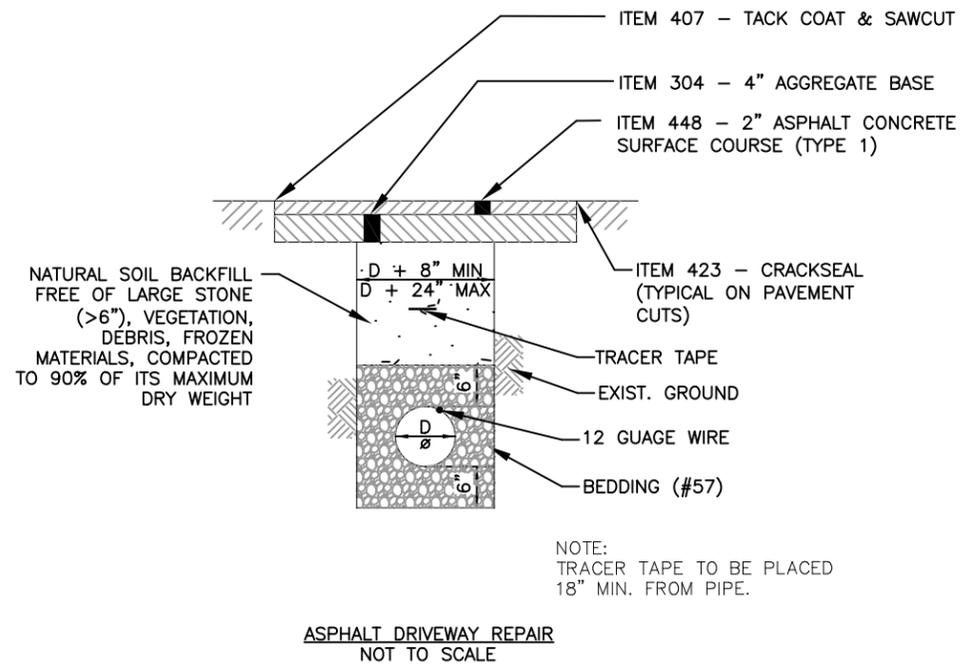
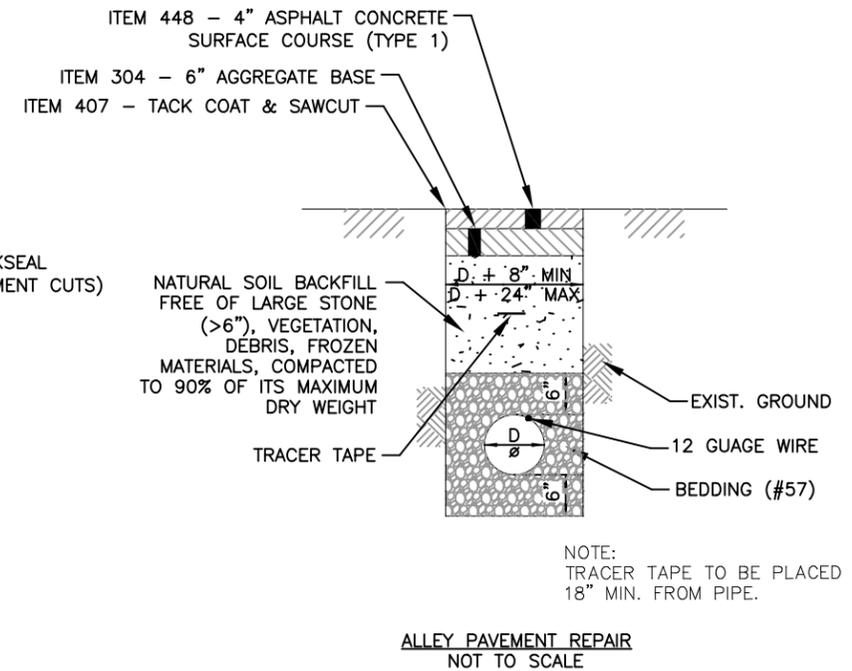
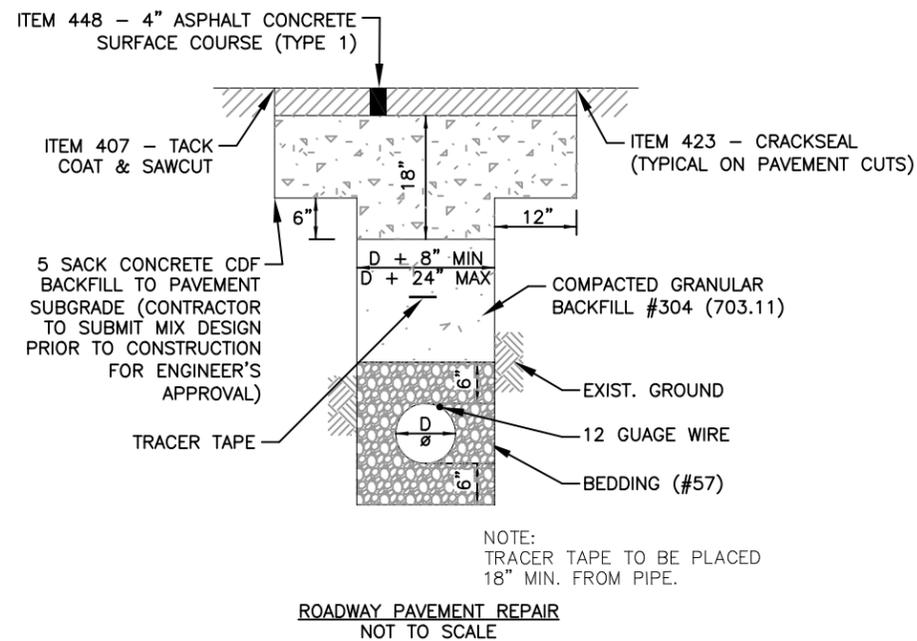
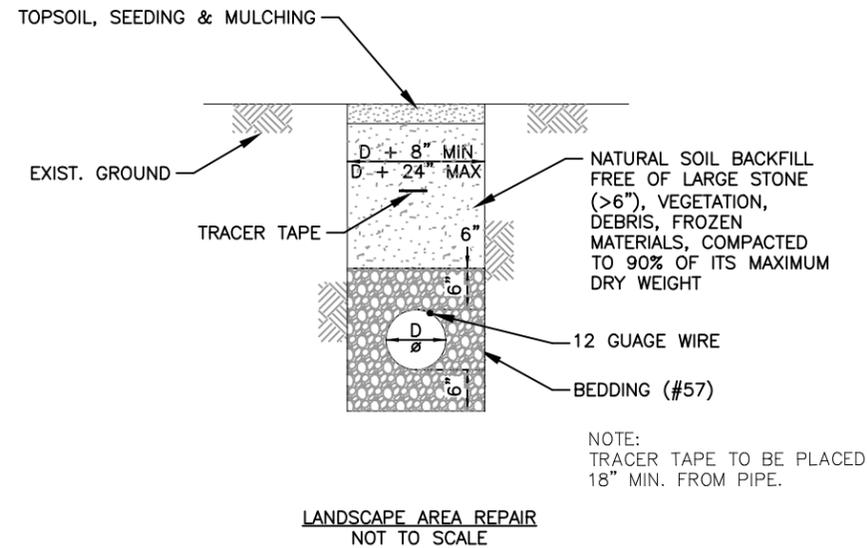
FIRE HYDRANT SHALL BE FLOW CONTROL B 84 B OR CLOW AS APPROVED BY MUSKINGUM COUNTY WATER DEPARTMENT.



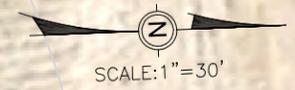
TIE RODS: NOT REQUIRED FOR SETTINGS OVER 6' FROM MAIN, IN WHICH CASE A MORE SUBSTANTIAL THRUST BLOCK IS REQUIRED.

NOTE: KEEP FLANGES AND WEEP HOLES CLEAR OF CONCRETE, DO NOT PLACE PLUGS IN WEEP HOLES.

FIRE HYDRANT ASSEMBLY
NTS



NOTES:
1. RESTORE ALL ROADSIDE SWALES DISTURBED BY THE WATERLINE INSTALLATION.



70-06-51-04-000
JEFFREY R & LINDA A FERRELL
ADAMSVILLE ROAD

ADAMSVILLE RD

4" PVC AWWA C900

FERRELL RD

TIE-IN TO EX 6" WATER MAIN (SEE DETAIL SHEETS FOR MORE INFORMATION)

70-06-51-03-000
MADISON S & TOBY C NEPTUNE
6330 ADAMSVILLE ROAD

70-06-51-02-000
GARY JADWIN
6620 FERRELL ROAD

MATCHLINE PLAN SHEET (2)

Mark J. Eicher, P.E., P.S.
Muskingum
County
ENGINEER'S OFFICE
109 Graham Street
Zanesville, Ohio 43701
740-454-0155

PROJECT NAME: FERRELL ROAD WATERLINE EXTENSION
PROJECT LOCATION: FERRELL ROAD, ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
MJE

PLANS PREPARED BY:
GJW

DATE:
12/01/2023

REVISED:

SHEET SIZE:
11" x 17"

SHEET NAME:
PLAN SHEET (1)

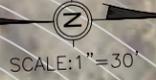
SHEET NUMBER:
6
15



DDAGW-999
03/25/2024

NOTES:
 1. RESTORE ALL ROADSIDE SWALES DISTURBED BY THE WATERLINE INSTALLATION.

70-06-51-04-000
 JEFFREY R & LINDA A FERRELL
 ADAMSVILLE ROAD



4" PVC AWWA C900

AIR RELEASE VALVE NO.1

FERRELL RD

70-06-51-02-000
 GARY JADWIN
 6620 FERRELL ROAD

70-06-51-01-000
 GARY JADWIN
 6620 FERRELL ROAD



DDAGW-999

03/25/2024

MATCHLINE PLAN SHEET (1)

MATCHLINE PLAN SHEET (3)

Mark J. Eicher, P.E., P.S.
 Muskingum County
 ENGINEER'S OFFICE
 109 Graham Street
 Zanesville, Ohio 43701
 740-454-0155

PROJECT NAME:
 FERRELL ROAD WATERLINE EXTENSION

PROJECT LOCATION:
 FERRELL ROAD
 ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
 MJE

PLANS PREPARED BY:
 GJW

DATE:
 12/01/2023

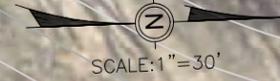
REVISED:

SHEET SIZE:
 11" x 17"

SHEET NAME:
 PLAN SHEET (2)

SHEET NUMBER:
 7
 15

NOTES:
 1. RESTORE ALL ROADSIDE SWALES DISTURBED BY THE WATERLINE INSTALLATION.



70-06-51-04-000
 JEFFREY R & LINDA A FERRELL
 ADAMSVILLE ROAD

4" PVC AWWA C900

FERRELL RD

70-06-51-01-000
 GARY JADWIN
 6620 FERRELL ROAD

MATCHLINE PLAN SHEET (2)

MATCHLINE PLAN SHEET (4)

Mark J. Eicher, P.E., P.S.
 109 Graham Street
 Zanesville, Ohio 43701
Wuskingum
County
ENGINEER'S OFFICE 740-454-0155

PREPARED BY:
 FERRELL ROAD WATERLINE EXTENSION

PROJECT NAME:
 FERRELL ROAD

PROJECT LOCATION:
 ZANESVILLE, OHIO 43701

PLANS APPROVED BY:

MJE

PLANS PREPARED BY:

GJW

DATE:

12/01/2023

REVISED:

SHEET SIZE:

11" x 17"

SHEET NAME:

PLAN SHEET (3)

SHEET NUMBER:

8
15



DDAGW-999

03/25/2024

NOTES:
 1. RESTORE ALL ROADSIDE SWALES DISTURBED BY THE WATERLINE INSTALLATION.

70-06-51-04-000
 JEFFREY R & LINDA A FERRELL
 ADAMSVILLE ROAD

70-06-51-04-001
 JOSEPH W & MELINDA C LEMMON
 6655 FERRELL ROAD

70-06-51-01-000
 GARY JADWIN
 6620 FERRELL ROAD

70-06-51-04-000
 JEFFREY R & LINDA A FERRELL
 ADAMSVILLE ROAD



MATCHLINE PLAN SHEET (3)

MATCHLINE PLAN SHEET (5)

Mark J. Eicher, P.E., P.S.
Muskingum
A COUNTY
 ENGINEER'S OFFICE 740-454-0155

PROJECT NAME: FERRELL ROAD WATERLINE EXTENSION
 PROJECT LOCATION: FERRELL ROAD, ZANESVILLE, OHIO 43701

PLANS APPROVED BY: MJE

PLANS PREPARED BY: GJW

DATE: 12/01/2023

REVISED:

SHEET SIZE: 11" x 17"

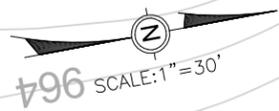
SHEET NAME: PLAN SHEET (4)

SHEET NUMBER: 9 / 15



DDAGW-999
 03/25/2024

NOTES:
 1. RESTORE ALL ROADSIDE SWALES DISTURBED BY THE WATERLINE INSTALLATION.



70-06-51-04-001
 JOSEPH W & MELINDA C LEMMON
 6655 FERRELL ROAD

70-06-51-04-000
 JEFFREY R & LINDA A FERRELL
 ADAMSVILLE ROAD

56-40-15-13-000
 CHRISTIAN M WILLIAMS
 STATE ROAD 93

MATCHLINE PLAN SHEET (4)

MATCHLINE PLAN SHEET (6)

4" PVC AWWA C900

PP

FERRELL RD

946

940

940

940

930

934



DDAGW-999

03/25/2024

Mark J. Eicher, P.E., P.S.
 109 Graham Street
 Zanesville, Ohio 43701
Muskingum COUNTY ENGINEER'S OFFICE 740-454-0155

PREPARED BY:

PROJECT NAME:
 FERRELL ROAD WATERLINE EXTENSION

PROJECT LOCATION:

FERRELL ROAD
 ZANESVILLE, OHIO 43701

PLANS APPROVED BY:

MJE

PLANS PREPARED BY:

GJW

DATE:

12/01/2023

REVISED:

SHEET SIZE:

11" x 17"

SHEET NAME:

PLAN SHEET (5)

SHEET NUMBER:

10
 15

NOTES:
 1. RESTORE ALL ROADSIDE SWALES DISTURBED BY THE WATERLINE INSTALLATION.



70-06-51-04-001
 JOSEPH W & MELINDA C LEMMON
 6655 FERRELL ROAD

70-06-51-04-000
 JEFFREY R & LINDA A FERRELL
 ADAMSVILLE ROAD

MATCHLINE PLAN SHEET (5)

MATCHLINE PLAN SHEET (7)

4" PVC AWWA C900

FERRELL RD

70-06-51-04-000
 JEFFREY R & LINDA A FERRELL
 ADAMSVILLE ROAD

38-90-01-55-002
 FLOYD E & FRANCINE L CARR
 FERRELL ROAD

38-90-01-55-000
 RAYMOND & CHANTELL WOFTER
 6900 FERRELL ROAD



DDAGW-999
 03/25/2024

Mark J. Eicher, P.E., P.S.
 109 Graham Street
 Zanesville, Ohio 43701
Muskingum
County
ENGINEER'S OFFICE 740-454-0155

PREPARED BY:
 PROJECT NAME: FERRELL ROAD WATERLINE EXTENSION
 PROJECT LOCATION: FERRELL ROAD, ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
 MJE

PLANS PREPARED BY:
 GJW

DATE:
 12/01/2023

REVISED:

SHEET SIZE:
 11" x 17"

SHEET NAME:
 PLAN SHEET (6)

SHEET NUMBER:
 11
 15

NOTES:
 1. RESTORE ALL ROADSIDE SWALES DISTURBED BY THE WATERLINE INSTALLATION.

SCALE: 1" = 30'



70-06-51-04-000
 JEFFREY R & LINDA A FERRELL
 ADAMSVILLE ROAD

4" PVC AWWA C900

FERRELL RD

38-90-01-55-000
 RAYMOND & CHANTELL WOFTER
 6900 FERRELL ROAD

38-90-01-55-001
 WOFTER FARMS, LLC
 6880 FERRELL ROAD



DDAGW-999

03/25/2024

MATCHLINE PLAN SHEET (6)

MATCHLINE PLAN SHEET (8)

PREPARED BY:
Markuskingum
 COUNTY ENGINEER'S OFFICE
 Mark J. Eicher, P.E., P.S.
 109 Graham Street
 Zanesville, Ohio 43701
 740-454-0155

PROJECT NAME:
 FERRELL ROAD WATERLINE EXTENSION
 PROJECT LOCATION:
 FERRELL ROAD
 ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
 MJE

PLANS PREPARED BY:
 GJW

DATE:
 12/01/2023

REVISED:

SHEET SIZE:
 11" x 17"

SHEET NAME:
 PLAN SHEET (7)

SHEET NUMBER:
 12
 15



NOTES:
 1. RESTORE ALL ROADSIDE SWALES DISTURBED BY THE WATERLINE INSTALLATION.

SCALE: 1" = 30'

70-06-51-04-000
 JEFFREY R & LINDA A FERRELL
 ADAMSVILLE ROAD

4" PVC AWWA C900

FERRELL RD

38-90-01-55-000
 RAYMOND & CHANTELL WOFTER
 6900 FERRELL ROAD

38-90-01-51-000
 MICHAEL W & SUSAN M KENNEDY TRUST
 7010 FERRELL ROAD

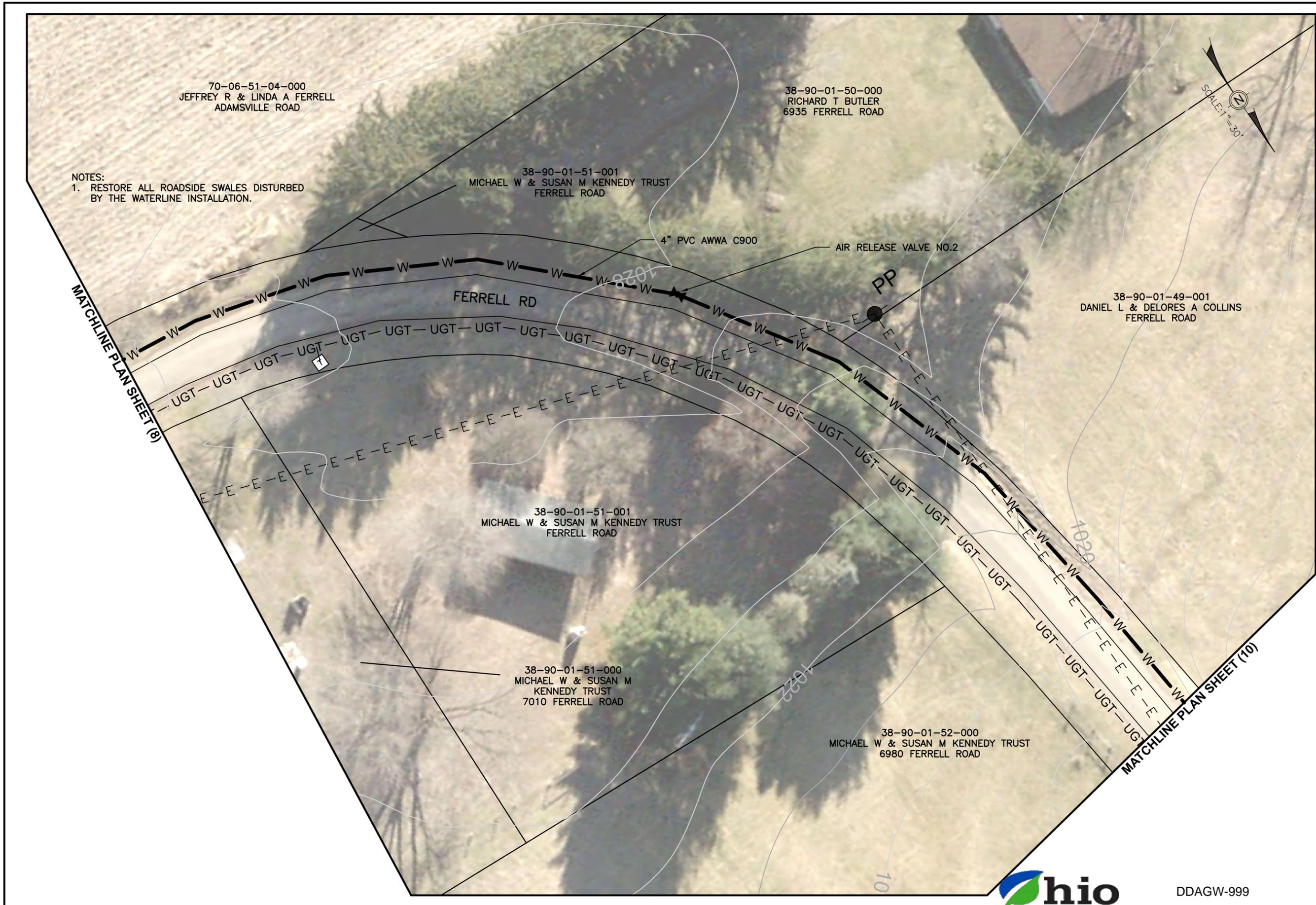
MATCHLINE PLAN SHEET (7)

MATCHLINE PLAN SHEET (9)



DDAGW-999
 03/25/2024

Mark J. Eicher, P.E., P.S. 109 Graham Street Zanesville, Ohio 43701 ENGINEER'S OFFICE 740-454-0155	
PREPARED BY:	FERRELL ROAD WATERLINE EXTENSION
PROJECT NAME:	FERRELL ROAD ZANESVILLE, OHIO 43701
PROJECT LOCATION:	
PLANS APPROVED BY:	MJE
PLANS PREPARED BY:	GJW
DATE:	12/01/2023
REVISED:	
SHEET SIZE:	11" x 17"
SHEET NAME:	PLAN SHEET (8)
SHEET NUMBER:	13 15



NOTES:
1. RESTORE ALL ROADSIDE SWALES DISTURBED BY THE WATERLINE INSTALLATION.

Mark J. Eicher, P.E., P.S.
109 Graham Street
Zanesville, Ohio 43701
Wiskingum
County
ENGINEER'S OFFICE 740-454-0155

PREPARED BY:

PROJECT NAME: FERRELL ROAD WATERLINE EXTENSION
PROJECT LOCATION: FERRELL ROAD, ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
MJE

PLANS PREPARED BY:
GJW

DATE:
12/01/2023

REVISED:

SHEET SIZE:
11" x 17"

SHEET NAME:
PLAN SHEET (9)

SHEET NUMBER:
14
15



DDAGW-999
03/25/2024

NOTES:
 1. RESTORE ALL ROADSIDE SWALES DISTURBED BY THE WATERLINE INSTALLATION.



38-90-01-49-000
 MATTHEW CHARLES TOTMAN
 6995 FERRELL ROAD

NOTE: SOILS AROUND PROPOSED FLUSH OUT ASSEMBLY WILL PROVIDE ADEQUATE DRAINAGE WHEN ASSEMBLY IS OPERATED

INSTALL FLUSHOUT

PP

4" PVC AWWA C900

FERRELL RD

PP

PP

38-90-01-52-000
 MICHAEL W & SUSAN M
 KENNEDY TRUST
 FERRELL ROAD

38-90-01-53-000
 MICHAEL W & SUSAN M KENNEDY TRUST
 6980 FERRELL ROAD

38-90-01-54-000
 MICHAEL W & SANDRA K KENNEDY
 7000 FERRELL ROAD

MATCHLINE PLAN SHEET (9)

Mark J. Eicher, P.E., P.S.
 109 Graham Street
 Zanesville, Ohio 43701
Waskington
County
ENGINEER'S OFFICE 740-454-0155

PREPARED BY:
 PROJECT NAME:
 FERRELL ROAD WATERLINE EXTENSION

PROJECT LOCATION:
 FERRELL ROAD
 ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
 MJE

PLANS PREPARED BY:
 GJW

DATE:
 03/12/2024

REVISED:

SHEET SIZE:
 11" x 17"

SHEET NAME:
 PLAN SHEET (10)

SHEET NUMBER:

15
 15



DDAGW-999

03/25/2024