



Structure Table	Structure Table	Structure Table	Structure Table	Structure Table	Structure Table	Structure Table	Structure Table	Structure Table	Structure Table		
Storm #	Structure Details	Storm #	Structure Details	Storm #	Structure Details	Sanitary #	Structure Details	Sanitary #	Structure Details		
1	STA.19+06,13'L.T. T/G=744.29 ODOT CB-3A 12"(N)INV=743.12	6	STA.2+06,13'R.T. T/G=743.66 ODOT CB-3A 12"(SE)INV=739.00 12"(W)INV=739.00	11	STA.13+66,13'R.T. T/G=744.02 ODOT CB-3A 12"(N)INV=740.00 12"(E)INV=740.00	16	STA.8+21,178'R.T. T/G=744.96 ODOT HW-1 24"(SE)INV=712.00	A	STA.17+12,18'R.T. SANITARY MANHOLE T/Rim=748.20 8"(W)INV=732.80 8"(NE)INV=732.80 8"(SE)INV=734.79	G	STA.9+87,117'L.T. SANITARY MANHOLE T/Rim=737.08 8"(SW)INV=727.02
2	STA.1+13,126'R.T. T/G=743.90 ODOT CB-3A 12"(W)INV=742.42 12"(S)INV=742.42	7	STA.1+23,21'R.T. T/G=744.51 CONNECT TO EX.15" W/ STORM MANHOLE 12"(NW)INV=737.42 15"(SE)INV=737.42	12	STA.10+68,13'L.T. T/G=738.58 ODOT CB-3A 12"(NW)INV=734.58	17	STA.4+74,27'R.T. T/G=739.48 ODOT CB-3 12"(E)INV=736.25	B	STA.16+10,27'R.T. SANITARY MANHOLE T/Rim=747.36 8"(SW)INV=733.51 8"(N)INV=733.51	H	STA.7+12,161'L.T. SANITARY MANHOLE T/Rim=745.39 8"(SE)INV=725.24 8"(NW)INV=725.24
3	STA.19+29,10'R.T. T/G=743.22 STORM MANHOLE 12"(NW)INV=739.60 12"(E)INV=739.60	8Ex	STA.6+90,0' T/G=743.60 ODOT CB2-2B 15"(NW)INV=736.58 15"(E)INV=736.58	13	STA.10+36,13'R.T. T/G=738.37 ODOT CB-3 MODIFIED 12"(SE)INV=733.25 12"(S)INV=733.25 24"(N)INV=732.25	18	STA.5+85,105'R.T. T/G=725.39 ODOT CB2-2B 12"(E)INV=721.00 12"(E)INV=716.50	C	STA.14+71,27'R.T. SANITARY MANHOLE T/Rim=745.81 8"(S)INV=734.55	I	STA.7+07,230'L.T. SANITARY MANHOLE T/Rim=743.50 8"(SE)INV=727.00 8"(W)INV=728.99 8"(NE)INV=727.00
4	STA.3+04,13'R.T. T/G=743.71 ODOT CB-3A 12"(SE)INV=740.00	9Ex	STA.8+25,1'R.T. T/G=740.80 ODOT CB2-2B 15"(W)INV=735.29 15"(E)INV=735.29	14	STA.8+10,12'R.T. T/G=736.50 ODOT CB-3 24"(S)INV=731.50 24"(W)INV=731.50	19	STA.8+43,208'R.T. T/G=715.83 ODOT HW-1 12"(W)INV=714.00	D	STA.17+02,88'L.T. SANITARY MANHOLE T/Rim=749.17 8"(NW)INV=737.75	J	STA.6+86,426'L.T. SANITARY MANHOLE T/Rim=745.79 8"(E)INV=734.26
5	STA.2+52,13'L.T. T/G=743.35 ODOT CB-3 12"(NW)INV=739.50 12"(E)INV=739.50	10	STA.13+60,13'L.T. T/G=743.95 ODOT CB-3A 12"(W)INV=740.51	15	STA.8+10,150'R.T. T/G=720.82 ODOT CB2-3 24"(S)INV=718.53 24"(NW)INV=714.00			E	STA.10+75,18'R.T. SANITARY MANHOLE T/Rim=739.07 8"(NW)INV=726.75 8"(S)INV=726.75	K	STA.7+80,323'L.T. SANITARY MANHOLE T/Rim=740.51 8"(SW)INV=729.25
								F	STA.13+78,27'R.T. SANITARY MANHOLE T/Rim=744.86 8"(N)INV=733.25		

## UTILITY NOTES:

1. LOCATION OF EXISTING UTILITIES TO BE DETERMINED IN THE FIELD PRIOR TO BEGINNING WORK.
2. SANITARY MANHOLES & LATERALS ARE STATIONED FROM THE CENTERLINE OF THE ROAD.
3. EXISTING SANITARY SEWER INVERTS TO BE FIELD VERIFIED PRIOR TO CONSTRUCTION.
4. LOWER WATER SERVICES AS NEEDED TO AVOID CONFLICTS WITH PROPOSED STORM SEWER.
5. THE STATIONS FOR THE 3/4" WATER SERVICES ARE GIVEN TO THE ANGLE VALVE. THE LENGTHS OF THE 3/4" SERVICES DO NOT INCLUDE 2 FEET OF ADDITIONAL COPPER TO ACCOUNT FOR TURN UP TO THE ANGLE VALVE.
6. WATERMAIN SHALL HAVE RESTRAINED JOINTS USED AT LEAST THREE (3) FULL PIPE LENGTHS FROM ANY HORIZONTAL/VERTICAL BEND OR TEMPORARY/PERMANENT DEAD END. RESTRAINED JOINTS SHALL BE MEGALUG, FIELD LOC GASKETS, AMERICAN LOK-RING TYPE OR APPROVED EQUAL.
7. AT CROSSINGS, THE WATER MAIN SHALL HAVE A MINIMUM VERTICAL DISTANCE OF TWENTY-FOUR (24") INCHES FROM STORM AND SANITARY SEWERS. ALSO, ONE FULL LENGTH OF WATER MAIN SHALL BE LOCATED SO THE JOINTS ARE AS FAR FROM THE STORM AND SANITARY SEWERS AS POSSIBLE.
8. CLEAN OUTS SHALL BE INSTALLED ON SUMP MAINS AT THE END OF THE LINE AND ON RUNS LONGER THAN 200'.
9. SUMP MAIN MATERIAL SHALL BE PVC SDR-35, HDPE, OR APPROVED EQUAL.
10. ALL UTILITY TRENCHES SHALL BE COMPACTED TO 98% STANDARD PROCTOR.
11. SEE SHEET C1.0 FOR ADDITIONAL UTILITY NOTES.
12. CONTRACTOR TO LOCATE AND MARK ALL EXISTING TAPS WITH A WITNESS POST.

## WATERMAIN RESTRAINED JOINT PIPE TABLE

FREDERICK TRAIL  
Sta.02+14.6' to Sta.3+98.0'

FREDERICK TRAIL  
Sta.02+69.3' to Sta.4+45.0'

GRANTS FREDERICK  
Sta.00+25.9' to Sta.11+22.6'

Sta.15+95.1' to Sta.18+22.0'

LOOP 1  
Sta.07+00.0' to Sta.09+34.7'

LOOP 2  
Sta.02+00.0' to Sta.03+78.3'

**LEGEND**

- U.E. UTILITY EASEMENT
- DR.E. DRAINAGE EASEMENT
- ST.E. STORM SEWER EASEMENT
- S.S.E. SANITARY SEWER EASEMENT
- W.M.E. WATER MAIN EASEMENT
- M.O.E. MINIMUM OPENING ELEVATION
- M.R.O.E. MINIMUM REAR OPENING ELEVATION
- M.F.O.E. MINIMUM FRONT OPENING ELEVATION
- EXISTING PAVEMENT TO BE REMOVED
- CONCRETE WALK
- TRANSITION FROM V ROAD SECTION PAVEMENT TO CROWNED ROAD SECTION (SEE DETAILS ON SHEET #6.0)

**GRANT FREDERICK LOOP 1 WATER MAIN BEND CHART**

No.	Station & Offset	Bend	No.	Station & Offset	Bend
1	Sta.02+13.8, 32.4' R.T.	22.5°	8	Sta.02+09.0, 17.3' R.T.	22.5°
2	Sta.02+21.7, 28.9' R.T.	11.25°	9	Sta.03+21.1, 17.5' R.T.	22.5°
3	Sta.02+44.9, 16.8' R.T.	11.25°	10	Sta.03+33.2, 16.8' R.T.	11.25°
4	Sta.02+57.0, 17.5' R.T.	22.5°	11	Sta.03+45.2, 18.8' R.T.	11.25°
5	Sta.02+69.1, 17.3' R.T.	22.5°	12	Sta.03+57.2, 20.1' R.T.	22.5°
6	Sta.02+81.3, 16.2' R.T.	11.25°	13	Sta.03+63.8, 31.1' R.T.	22.5°
7	Sta.02+96.8, 16.2' R.T.	11.25°			

**GRANT FREDERICK LOOP 2 WATER MAIN BEND CHART**

No.	Station & Offset	Bend
1	Sta.07+00.0, 0.62, 33' R.T.	22.5°
2	Sta.07+07.8, 41.8' R.T.	22.5°
3	Sta.07+19.9, 28.8' R.T.	22.5°
4	Sta.07+36.4, 20.8' R.T.	11.25°
5	Sta.07+55.0, 16.7' R.T.	22.5°
6	Sta.07+77.8, 16.7' R.T.	22.5°
7	Sta.07+90.6, 16.7' R.T.	22.5°
8	Sta.08+03.3, 16.7' R.T.	22.5°
9	Sta.08+16.1, 16.7' R.T.	22.5°
10	Sta.08+28.8, 16.7' R.T.	22.5°
11	Sta.08+41.6, 16.7' R.T.	22.5°
12	Sta.08+54.3, 16.7' R.T.	22.5°
13	Sta.08+67.1, 16.7' R.T.	22.5°
14	Sta.08+80.0, 16.7' R.T.	22.5°
15	Sta.09+02.7, 16.7' R.T.	11.25°
16	Sta.09+15.4, 16.7' R.T.	22.5°
17	Sta.09+28.1, 16.7' R.T.	22.5°

**THE VILLAGES AT RIVERS BEND**  
**GRANTS FREDERICK**  
**SECTION TWO, BLOCKS A, B & C**  
**MILITARY SURVEY NO. 1546**  
**VILLAGE OF SOUTH LEBANON,**  
**WARREN COUNTY, OHIO**

**bayer becker**  
www.bayerbecker.com  
6900 Tyersville Road, Suite A  
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Drawing: 11C009-003 CD C3.0  
Drawn by: TJ  
Checked by: G  
Issue Date: 03-11  
Sheet: C4.0

**UTILITY NOTES:**

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**WATERMAIN RESTRAINED JOINT PIPE TABLE**

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Sta.02+14.6' to Sta.3+98.0'

FREDERICK TRAIL  
Sta.02+69.3' to Sta.4+45.0'

GRANTS FREDERICK  
Sta.00+25.9' to Sta.11+22.6'  
Sta.15+95.1' to Sta.19+22.0'

LOOP 1  
Sta.07+00.0' to Sta.09+34.7'

LOOP 2  
Sta.02+00.0' to Sta.03+78.3'

**LEGEND**

U.E. UTILITY EASEMENT  
D.R.E. DRAINAGE EASEMENT  
S.T.E. STORM SEWER EASEMENT  
S.S.E. SANITARY SEWER EASEMENT  
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M.O.E. MINIMUM OPENING ELEVATION  
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M.F.O.E. MINIMUM FRONT OPENING ELEVATION

EXISTING PAVEMENT TO BE REMOVED  
CONCRETE WALK  
TRANSITION FROM V ROAD SECTION PAVEMENT TO CROWNED ROAD SECTION (SEE DETAILS ON SHEET #6.0)

**THE VILLAGES AT RIVERS BEND  
GRANTS FREDERICK  
SECTION TWO, BLOCKS A, B & C  
MILITARY SURVEY NO. 1648  
VILLAGE OF SOUTH LEBANON,  
WARREN COUNTY, OHIO**

**UTILITY PLAN**

**GRANT FREDERICK LOOP 1  
WATER MAIN BEND CHART**

**GRANT FREDERICK LOOP 2  
WATER MAIN BEND CHART**

**PROPOSED AMENITY  
AREA DESIGNED BY OTHERS  
GRANT FREDERICK LOOP 2  
WATER MAIN BEND CHART**

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

LOCATION OF ALL EXISTING UTILITIES TO BE DETERMINED IN THE FIELD PRIOR TO CONSTRUCTION

**Stationing and Offsets Table:**

No.	Station & Offset	Bend	No.	Station & Offset	
1	Sta.02+13.8,32.4' R.T.	22.5°	8	Sta.02+09.0,17.5' R.T.	22.5°
2	Sta.02+21.7,28.0' R.T.	11.25°	9	Sta.02+11.7,9.0' R.T.	22.5°
3	Sta.02+44.9,16.8' R.T.	11.25°	10	Sta.03+33.2,16.8' R.T.	11.25°
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5	Sta.02+69.1,17.3' R.T.	22.5°	12	Sta.03+50.2,20.1' R.T.	22.5°
6	Sta.02+81.3,16.2' R.T.	11.25°	13	Sta.03+63.8,31.7' R.T.	22.5°
7	Sta.02+96.6,16.2' R.T.	11.25°			