

- Fiber Optic Construction Notes**
- (F1) Install 3" Schedule 40 PVC Conduit with pull string. Maintain 12" minimum horizontal clearance. Trade Contractor to coordinate construction with Century Link.
  - (F2) Install 3" Schedule 40 PVC Conduit with pull string. Maintain 12" minimum horizontal clearance. Trade Contractor to coordinate construction with Charter Communications.
  - (F3) 2'x3' CenturyLink Vault
  - (F4) 2'x3' Charter Vault
  - (F5) Install 3" Schedule 40 PVC Conduit with pull string. Maintain 12" minimum horizontal clearance. Trade Contractor to coordinate construction with the City of O'Fallon.
  - (F6) 2'x3' City Vault
- Electrical General Notes:**
1. All electrical work shall conform to Ameren standards.
  2. Electrical routing reflects the latest, although preliminary design from Ameren. Final routing of conduit shall match Final design from Ameren.
  3. Electrical conduit shall be schedule 40 4" PVC.
  4. Vault installation shall be performed by Trade Contractor.
- Electric Construction Notes**
- (E1) Install 4" Schedule 40 PVC Electrical Conduit. Trade Contractor to coordinate electrical utility construction with Ameren. See Electrical Plans.
  - (E2) Deflect electrical conduit under storm sewer
  - (E3) 3'x5' Fibrecrete Vault
  - (E4) Transformer Pad w/ pipe bollard protection. Coordinate w/ Ameren. Construct Eight (8) pipe bollards surrounding transformer. See Ameren Specification Underground Lines Instruction 59 81 51 10 and Spec 6.
- Irrigation Sleeve Installation Notes**
- (I1) Install 32 LF± 4" Schedule 40 PVC Irrigation sleeve
  - (I2) Install 11 LF± 4" Schedule 40 PVC Irrigation sleeve
  - (I3) Install 32 LF± 4" Schedule 40 PVC Irrigation sleeve
  - (I4) Install 38 LF± 4" Schedule 40 PVC Irrigation sleeve
  - (I5) Install 34 LF± 4" Schedule 40 PVC Irrigation sleeve
  - (I6) Install 43 LF± 4" Schedule 40 PVC Irrigation sleeve
  - (I7) Install 42 LF± 4" Schedule 40 PVC Irrigation sleeve
  - (I8) Install 35 LF± 4" Schedule 40 PVC Irrigation sleeve
  - (I9) Install 23 LF± 4" Schedule 40 PVC Irrigation sleeve
  - (I10) Install 31 LF± 4" Schedule 40 PVC Irrigation sleeve
  - (I11) Install 43 LF± 4" Schedule 40 PVC Irrigation sleeve
  - (I12) Install 40 LF± 4" Schedule 40 PVC Irrigation sleeve
  - (I13) Install 58 LF± 4" Schedule 40 PVC Irrigation sleeve
  - (I14) Install 35 LF± 4" Schedule 40 PVC Irrigation sleeve
  - (I15) Install 41 LF± 4" Schedule 40 PVC Irrigation sleeve
- General Utility Notes:**
1. Numerous existing utilities are on site. Contractor shall be responsible for locating all existing utilities.
  2. All existing utility vaults, lids, valves, etc. shall be adjusted to final grade.
  3. All utilities located within public Right of Way shall adhere to all applicable City of O'Fallon Standards.
  4. Any pavement, curb, pavers, landscape, etc. disturbed by utility services or construction incidental to the improvements shown on these plans shall be repaired to like or better condition.
  5. The Contractor is responsible for any temporary traffic control required for utility work.

REV	DATE	DESCRIPTION
1	3/25/2016	City Comments
2	4/15/2016	City Comments

PROJECT NUMBER	13326.00
DATE	04/15/16
CONSTRUCTION DOCUMENTS	
DESIGNED:	HTR/JWM/JRH
DRAWN:	HTR/JWM/JRH
REVIEWED:	HTR/BBB
SHEET TITLE	
UTILITY PLAN	
SHEET NUMBER	C5.0

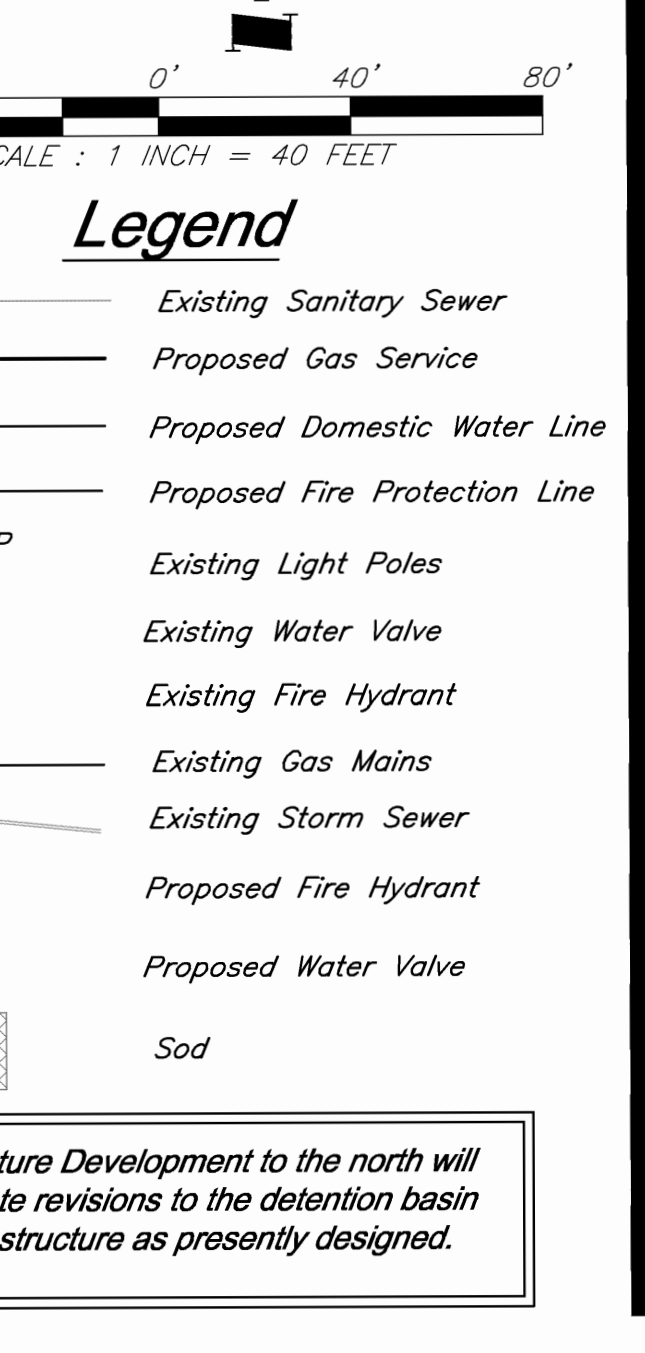
- Existing Utilities:**
1. Numerous existing utilities are on site. Contractor shall be responsible for locating all existing utilities.
  2. The Contractor shall determine the exact location of all existing utilities before commencing work. The Contractor is fully responsible for any and all damages occurring from his failure to do so.
  3. The Contractor shall coordinate the relocation of any utilities that may be encountered prior to the start of construction.
- Water Construction Notes**
1. The City of O'Fallon will supply the meter for domestic service only, contractor to install.
  2. All water lines shall be installed to a minimum depth of 42" cover over pipe.
  3. All water line work shall comply with City of O'Fallon standards. City of O'Fallon details may be found on the construction details sheet and on their website.
  4. All private fire protection work shall conform to O'Fallon Fire Department and NFPA 24 and NFPA 25 requirements.
  5. Backflow preventer is to be inside the building.
  6. Maintain a minimum 5 FT separation between taps, valves, bells or other fittings on the water main.
  7. Maintain a minimum radius unobstructed clearance of 2 FT from any backflow preventer vault or other object from the domestic meter pit.
  8. Service connection for the fire protection line will be an 8" tapping sleeve and valve.
  9. Contractor will be responsible for all coordination with and notifications to the City of O'Fallon.
  10. The City of O'Fallon is to only supply domestic water meter. Contractor to install meter and coordinate ordering meter minimum 1 week in advance prior to installation.
  11. Contractor required to coordinate at a minimum 24 hours in advance for scheduling inspections of the tap and meter installation.
  12. Contractor required to provide, to the city, the pipe coupon that is removed at the tap.
  13. All pipe for proposed water line shall be SDR 21 PVC with rubber gaskets and tracer wire. Minimum length between fittings shall be 18".
- Sanitary Sewer Construction Notes:**
1. All exterior sanitary sewer plumbing from the building foundation to the connection point shall meet City of O'Fallon standards.
  2. A minimum of 42 inches of cover shall be maintained over the top of the service lines and sanitary sewer mains.
  3. 90° turns shall not be installed in the service line. 90° turns are to be accomplished with two 45° bends with a minimum of one foot of pipe between the 45° bends.
  4. Ten feet of horizontal separation and two feet of vertical separation shall be provided between water lines and the sanitary sewer main and service lines.
  5. Roof drains and gutters and downspouts shall not be connected to the sanitary sewer.
  6. All service line material including exterior piping for the sand/oil interceptor shall be SDR-26 PVC w/Rubber Gasket Joints per City of O'Fallon Standards.
  7. In the event of work in or on the O'Fallon sanitary sewer main, any trees or plantings placed within the sewer easement may be removed without replacement or compensation there-of and shall be replaced by the property owner as required by the City.
- Storm Sewer General Notes:**
1. All RCP shall be class III
  2. All HDPE pipe shall be ADS N-12 with water tight gaskets. (As bid alternate)
  3. Storm sewer lengths are calculated from center of structure to center of structure.
  4. All pipe connections to inlets shall occur at center of structure wall unless specifically noted otherwise.
  5. All work shall conform to City of O'Fallon standards.
  6. Precast structures shall be constructed with 4,000 psi concrete. Shop drawings shall be submitted to the Engineer for review prior to casting.
  7. All in grade inlets shall match adjacent slope.
  8. All underdrain shall be ADS N-12 or approved equal. All fittings shall be considered subsidiary to bid.
  9. All proposed precast storm structures shall be precast to accept all pipe connections.
  10. All PVC for storm sewer shall be SDR 26.

- Storm Sewer Construction Notes**
- (ST1) See Sheet C11.0 for Stormwater Treatment Feature and AgriDrain details.
  - (ST2) Connect 12" HDPE pipe to structure 402, E=595.15. Install 36.55 LF 12" HDPE pipe North @ 2%, connect to structure S73.
  - (ST3) Construct 24" Nyloplast Drain Basin w/ standard grate Top Elev.=601.94  
E 6" In (NE)=596.24  
E 6" In (NW)=596.24  
E 4" In (NW)=597.44  
E 12" Out (S)=595.88  
N-1079217.3350 E-752217.6193  
Install 76.81 LF 8" HDPE NW @12.4%, connect to Structure S76
  - (ST4) Connect 8" HDPE pipe to structure S73, E=596.24. Install 53.24 LF 8" HDPE pipe with 45° bend NE and North @ 2%, connect to Building Stub S75
  - (ST5) Connect 8" HDPE pipe to building stub, E=597.30
  - (ST6) Construct 8" Nyloplast Drain Basin w/ standard grate Top Elev.=609.75  
E 8" Out (SE)=606.00  
N-1079294.7981 E-752203.0667  
Install 43.25 LF 8" HDPE NW @1.9% to S77
  - (ST7) Construct 18" Nyloplast Drain Basin w/ standard grate Top Elev.=612.55  
E 6" In (NE)=607.47  
E 8" In (NW)=607.47  
E 8" Out (S)=607.17  
N-1079333.3049 E-752195.0883  
Install 137.53 LF 8" HDPE pipe @ 4.45% to S76
  - (ST8) Install Wye Connection, E=607.92. Install 30.52 LF 6" HDPE pipe @ 4.45% to S710
  - (ST10) Connect 6" HDPE to downspout per detail, E=609.28
  - (ST11) Install 69.20 LF 6" HDPE pipe @ 4.45% to S72
  - (ST12) Connect 6" HDPE to downspout per detail, E=611.00
  - (ST13) Connect 5 LF 6" HDPE pipe @ 4.45% via tee connection E=609.53, to downspout E=609.75
  - (ST14) Install Cleanout
  - (ST15) Install 45° bend
  - (ST16) Install Wye Connection, E=609.93. Install 57.05 LF 6" HDPE pipe @ 1.9% to S717

- (ST17) Connect 6" HDPE to downspout per detail, E=611.00
  - (ST18) Connect 5 LF 6" HDPE pipe @ 2% via tee connection E=610.65, to downspout E=610.78
  - (ST19) Install 10.75 LF 6" HDPE pipe @1.9% from ST16 to building stub, E=610.14
  - (ST20) Connect 12" HDPE pipe to structure S22, E=597.78. Install 163.77 LF 12" HDPE pipe West @ 4.41%, connect to structure S21
  - (ST21) Construct 24" Nyloplast Drain Basin w/ standard grate Top Elev.=608.37  
E 6" In (W)=605.50  
E 6" In (N)=605.50  
E 12" Out (E)=605.00  
N-1079266.8017 E-752382.0230  
Install 41 LF 8" HDPE North @3.26% to S22
  - (ST22) Install 6"x6"x8" tee, E=606.84. Install 127.63 LF 6" HDPE pipe North @ 3.26% to S27
  - (ST23) Install 15.62 LF 6" HDPE pipe @2% from ST21 to building stub, E=610.55
  - (ST24) Install 15.67 LF 6" HDPE pipe @4% from ST22 to building stub, E=607.47
  - (ST25) Connect 15.67 LF 6" HDPE pipe @ 4% via tee connection E=608.18  
E 6" In (W)=608.50  
E 6" In (N)=605.50  
E 12" Out (E)=605.00  
N-1079266.8017 E-752382.0230  
Install 41 LF 8" HDPE North @3.26% to S22
  - (ST26) Connect 4 LF 6" HDPE pipe @ 4% via tee connection E=610.39, to downspout E=610.55
  - (ST27) Connect 6" HDPE to downspout per detail, E=611.00
  - (ST28) Drain Downspout to grade
  - (ST29) Install 49 LF 4" HDPE pipe @1.5% from S73 to Foundation Drain near SW corner of building. Connect to perforated Foundation Drain, E=598.17. See Architectural Plans for Foundation Drain Details.
- Gas Construction Notes**
- (G1) Trade Contractor to coordinate installation with Laclede Gas
  - (G2) Connect 4" gas service line to existing gas main, install 292.5 LF 4" gas service line West
  - (G3) Install 45° bend, install 281 LF 4" gas service line Northwest
  - (G4) Install 45° bend, install 218 LF 4" gas service line West

- (G5) Install 90° bend, install 115 LF 4" gas service line South to building stub
  - (G6) Connect 4" gas service line to building stub
- Sanitary Sewer Construction Notes**
- Anticipated Sanitary Sewer Flow = 18,125 Gallons Per Day
- (S1) Station 0+00.00  
Construct 4" Dia. Manhole  
Top elev.=585.84 (match existing grade)  
E 6" In (N)=586.45  
E Existing 15" In (W)=575.59±  
E Existing 15" In (E)=575.52±  
Manhole to be epoxy lined with Raven Lining Systems liner Raven 405 OR Neopoxy International NPR-5303 Modified Epoxy. See Specifications on sheet C12.2
  - (S2) Connect 6" sanitary service line to proposed manhole S1, install 238 LF 6" SDR 26 PVC north @ 3.7%  
Connect to 6" sanitary service line building stub S3
  - (S3) Station 2+38  
Connect 6" sanitary service line to building stub, install Cleanout, E=595.29
  - (S4) Station 0+85, Install Cleanout
  - (S5) Station 1+84, Install Cleanout
  - (S6) Station 1+74  
Sanitary line crossing under storm line to be 10 LF concrete encased PVC centered on crossing.  
See sheet C12.1 for concrete encasement detail.  
Top 6" San=593.50, Bottom 15" Storm=595.07 (1.57' clear)
  - (S7) See MEP plans for Grease Interceptor details
- Underdrain Construction Notes**
- (U1) Install 289 LF 4" HDPE Perforated Underdrain with Geotextile sock, slope to drain @ minimum 1% with 18" minimum cover, connect to structure 103 via 4"x4"x4" tee
  - (U2) Install 170 LF 4" HDPE Perforated Underdrain with Geotextile sock, slope to drain @ minimum 1% with 18" minimum cover, connect to structure 103
  - (U3) Install 273 LF 4" HDPE Perforated Underdrain with Geotextile sock, slope to drain @ minimum 1% with 18" minimum cover, connect to structure 122 via 4"x4"x4" tee
  - (U4) Install 172 LF 4" HDPE Perforated Underdrain with Geotextile sock, slope to drain @ minimum 1% with 18" minimum cover, connect to structure 102

- Water Construction Notes**
- (W1) Connect 8" PVC water service line to existing water main via 8"x8" tapping sleeve and gate valve per IAWA standards
  - (W2) Install 44 LF 8" PVC Water Service Line
  - (W3) Install 45° bend
  - (W4) Install 260 LF 8" PVC Water Service Line
  - (W5) Install 8"x8"x8" Water Service Line Connection
  - (W6) Install 142 LF 8" PVC Water Service Line
  - (W7) Install 15 LF 8" PVC Water Service Line
  - (W8) Install 259 LF 8" PVC Water Service Line
  - (W9) Install 90 LF 8" PVC Water Service Line
  - (W10) Install 297 LF 8" PVC Water Service Line
  - (W11) Install 80.50 LF 8" PVC Water Service Line
  - (W12) Install 262 LF 8" PVC Water Service Line
  - (W13) Install 15 LF 8" PVC Water Service Line
  - (W14) Install 255 LF 8" PVC Water Service Line
  - (W15) Install 3" Valve-See Details
  - (W16) Install 2" Meter Pit and Sensus Omni C2 2" Meter Meter and Detail to be provided by City
  - (W17) Install 8"x3"x8" Tee
  - (W18) Install 8" Valve-See Details
  - (W19) Install 85 LF 3" PVC Domestic Water Line with 90° bend, Connect to building stub
  - (W20) Install 91.50 LF 6" PVC Fire Protection Water Line, Connect to building stub
  - (W21) Install Fire Hydrant with Valve-See Details
  - (W22) Install 6" Valve-See Details
  - (W23) Water line crosses over top of sanitary line. Maintain minimum 18" clearance



G:\13326\Production Drawings\Construction Site Plans\13326C05.dwg Layout: C5.0 Utility Plan -- Plotted Friday, April 15, 2016, 11:09pm by jheely