

**GENERAL**

- Lineal foot measurements shown on the plans are horizontal measurements, not slope measurements. All payments shall be made on horizontal measurements.
- No geological information is shown on these plans.
- The utility locations shown on these plans are taken from utility company records and are approximate only. They do not constitute actual field locations. The contractor shall verify the location and depth of all utilities prior to construction.
- The contractor shall adhere to the provisions of the Senate Bill Number 583,78th General Assembly of the State of Missouri. The bill requires that any person of firm doing excavation on public right-of-way do so only after giving notice to, and obtaining information from, utility companies. State law requires 48 hours advance notice. The names and telephone numbers of utility companies, even if only remotely involved with this project are provided. Prior to commencement of work, the contractor shall notify all those companies which have facilities in the near vicinity of the construction to be performed.
- All waste material resulting from the project shall be disposed of off-site by the contractor.
- All excavation shall be unclassified. No separate payment will be made for rock excavation.
- The contractor shall control the erosion and siltation during all phases construction, and he shall keep the streets clean of mud and debris.
- All manholes, catch basins, utility valves and meter pits to be adjusted or rebuilt to grade as required. All existing utilities shall be adjusted as required.
- Subgrade soil for all concrete structures, regardless of the type or location, shall be firm, dense and thoroughly compacted and consolidated; shall be free from muck and mud; and shall be sufficiently stable to remain firm and intact under the feet of the workmen or machinery engaged in subgrade surfacing, laying reinforcing steel, and depositing concrete thereon. In all cases where subsoil is mucky or works into mud or muck during such operation, a seal course of either concrete or rock shall be placed below subgrade to provide a firm base for working and for placing the floor slab.
- The contractor is responsible for providing all surveying that may be required.
- Easements indicated on these drawings will be provided for on the final plat and properly dimensions. Easements outside the platted area will be provided for by separate documents prior to issuance of a construction permit.

**SUMMARY OF PUBLIC IMPROVMENT QUANTITIES**

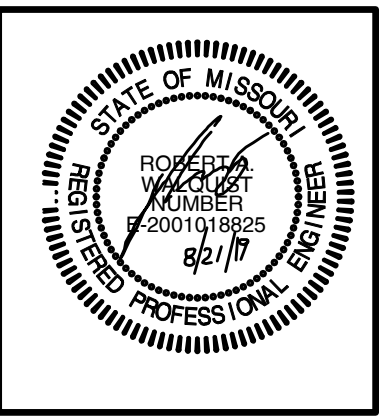
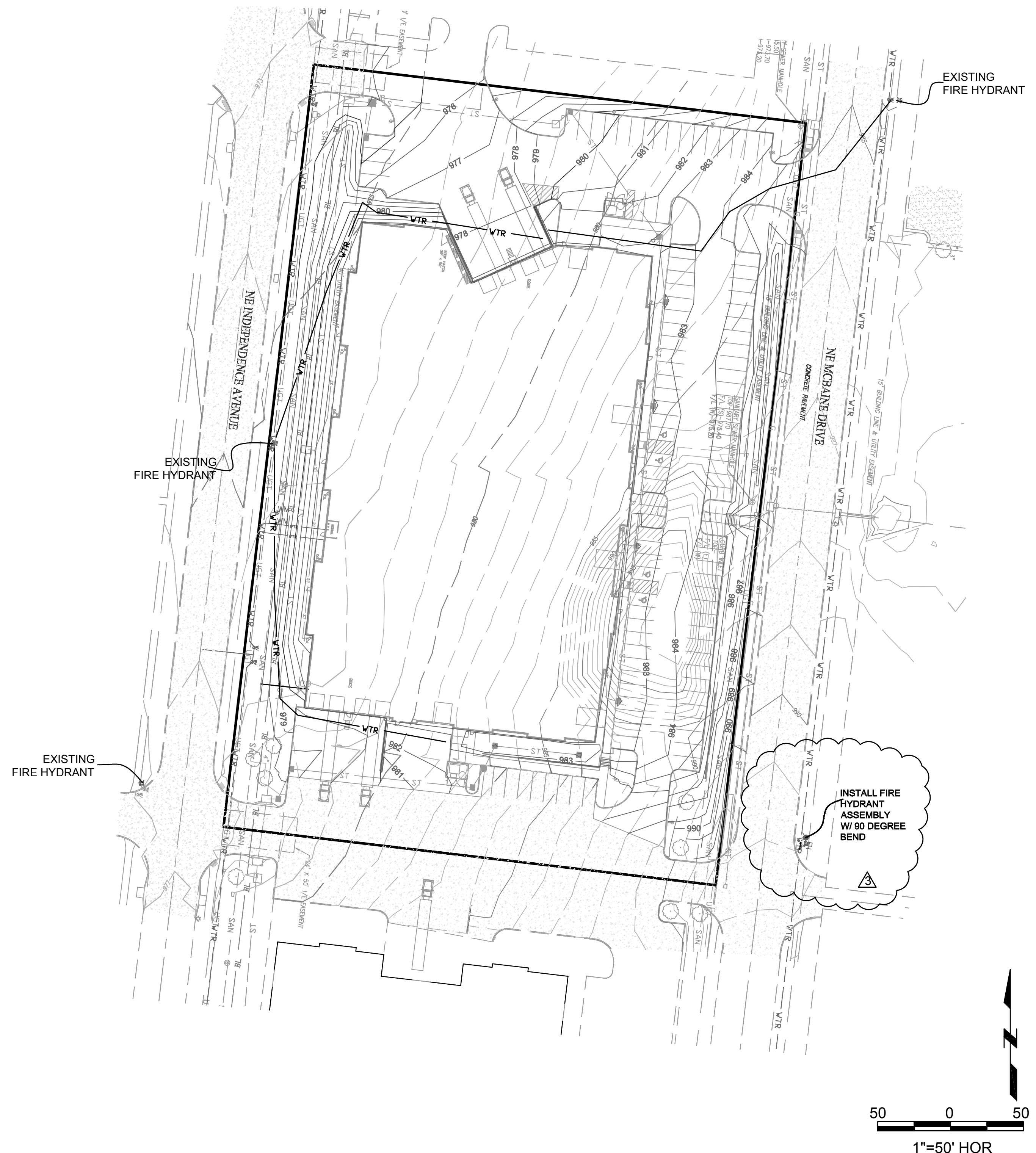
SUMMARY OF QUANTITIES		UNITS
PUBLIC WATER MAIN		
FIRE HYDRANT ASSEMBLY	1	EACH
		L.F.

**UTILITY NOTES:**

- ALL FIRE HYDRANTS AND WATER MAINS SHALL BUILT TO CITY STANDARDS AND DEDICATED TO THE CITY

**WATER**

- All construction shall follow the City of Lee's Summit Design and Construction Manual as adopted by Ordinance 5813 and with all the requirements of the Missouri Department of Health and Missouri Clean Water Commission.
- Class 50 Ductile Iron Pipe or C900 pipe shall be used per city specifications
- All fittings shall be lined inside and out with an asphaltic base or bitumastic coating, and shall be megalug.
- Fire Hydrants shall be Waterous Pacer WB-67 with non-rising stem or approved equal by the City Engineer. Hydrants shall have 5 1/4" valve with 4 1/2" pumper nozzle and 2-2 1/2" hose nozzles (left hand opening).
- Gate Valves to be on city approved product list valves 12 inches and larger shall be Butterfly valves manufactured by the Henry Pratt Company or City Engineer Approved equal Left hand opening minimum 200# testing AWWA.
- Valve boxes shall be Clay & Bailey # P1108 or any on city approved product list. All boxes to be installed out of pavement areas.
- Water lines are to be constructed to a depth of 4 feet below and back of street curbs. Street grading is to be complete prior to waterline placement.
- Easements for water lines located outside the platted area will be provided for by separate documents after the Final Plat is recorded.
- All tees, bends, plugs, valves and hydrants shall be provided with reaction blocking. Pre-cast blocks shall not be used.
- After water mains have been laid and partially backfilled, they shall be subject to a hydrostatic pressure test of not less than 150 psi, in accordance with AWWA C605. The line shall be pressurized to test pressure and closed for two hours. At the end of the two-hour period, the line shall be depressurized and the volume of water required to restore pressure shall be measured. The maximum amount of water to restore pressure shall be 0.5 gallons per 1000 feet of tested main. Testing shall be done by Contractor in presence of Engineer.
- Before connecting to City water mains and prior to wet tap, the new main shall be disinfected in accordance with AWWA C651. A 1 percent solution of chlorine shall be pumped into the water main, such that the water in the line will not have less than 25 mg/l of free chlorine. At the end of a 24 hour period, the water shall be tested to ensure that at least 10 mg/l of free chlorine. After satisfactory testing of chlorination, the main shall be flushed. Disinfection testing and flushing shall be done by Contractor in presence of Engineer.
- After final flushing and before the pipeline is placed in service, two samples shall be collected and shall be tested for bacteriological quality in accordance with the State Department of Health or other regulatory agency. Satisfactory results for both samples is required for successful completion of bacteriological testing. Contractor shall conduct all testing and provide testing results to Engineer.
- Sample Taps must be included in the new line, no less than two (2) feet no more than ten (10) feet from where the new water line connects to the existing lines at each end.
- A representative of the city water department must be present for:
  - Disinfecting
  - Pressure Testing
  - Bacteria Testing (a minimum of three required at perscribed locations to be determined by the water dept.)



**I-470 LOT 13A**  
**LEE'S SUMMIT, JACKSON COUNTY, MISSOURI**

**Quist Engineering, Inc**  
 Civil Engineering for Residential & Commercial Site Development  
 824 NE Columbus St.  
 Lee's Summit, Missouri 64063  
 Phone: (816) 550-5675  
 email: rwalquist@quistengineering.com

COPYRIGHT © 2019

1ST ISSUE  
 6-20-19

REVISIONS	
△	7-24-19
△	8-7-19
△	8-21-19
△	

SHEET NO.  
**C600**

JOB NO.  
 E18-337

**PUBLIC WATER MAIN IMPROVEMENT PLAN**