SIGNAL RELATED REMOVAL & MODIFICATIONS

S25°45'02"W(D)

SIJ.

VISUAL INDICATIONS OF UTILITIES ARE AS SHOWN.

UNDERGROUND LOCATIONS SHOWN, AS FURNISHED BY THEIR LESSORS, ARE APPROXIMATE AND SHOULD BE VERIFIED IN THE FIELD AT THE TIME OF CONSTRUCTION. FOR ACTUAL FIELD LOCATIONS OF UNDERGROUND UTILITIES CALL 811.

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

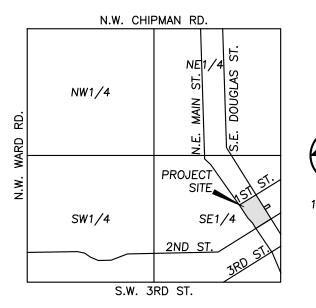
DEMOLITION NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR THE DEMOLITION, REMOVAL, AND DISPOSAL (IN A LOCATION APPROVED BY ALL GOVERNING AUTHORITIES) ALL CURBS, PARKING, DRIVES, DRAINAGE STRUCTURES, UTILITIES, ETC., SUCH THAT THE IMPROVEMENTS SHOWN ON THE REMAINING PLANS CAN BE CONSTRUCTED. ALL FACILITIES TO BE REMOVED SHALL BE UNDERCUT TO SUITABLE MATERIAL AND BROUGHT

2. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING ALL DEBRIS FROM THE SITE AND DISPOSING THE DEBRIS IN A LAWFUL MANNER. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED FOR DEMOLITION AND DISPOSAL.

DAMAGE TO ALL EXISTING CONDITIONS TO REMAIN WILL BE REPLACED AT CONTRACTOR'S EXPE

CONTRACTOR MUST COORDINATE WITH OWNER PRIOR TO ANY CONSTRUCTION TO ESTABLISH



VICINITY MAP SEC. 6-T47N-R31W **DEMOLITION KEY NOTES:**

- ALL UTILITIES SERVING STRUCTURES IMMEDIATELY SURROUNDING THE DEMOLITION BOUNDARY SHALL REMAIN IN SERVICE THROUGHOUT THE PROJECT. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT ANY DAMAGE TO SUCH UTILITIES. TYPICAL LOCATION.
- THE CONTRACTOR SHALL REMOVE ALL UNDERGROUND GAS LINES, WATER LINES, SANITARY AND STORM SEWER SERVICE LINES AND THEIR APPURTENANCES.

 APPURTENANCES INCLUDE, BUT NOT LIMITED TO, ALL PIPES, MANHOLES, JUNCTION BOXES, CATCH BASINS, YARD INLETS, FLUMES AND METER PITS. THE UTILITY SERVICES SHALL BE DISCONNECTED ALONG THE PROJECT BOUNDARY LINE TO THE

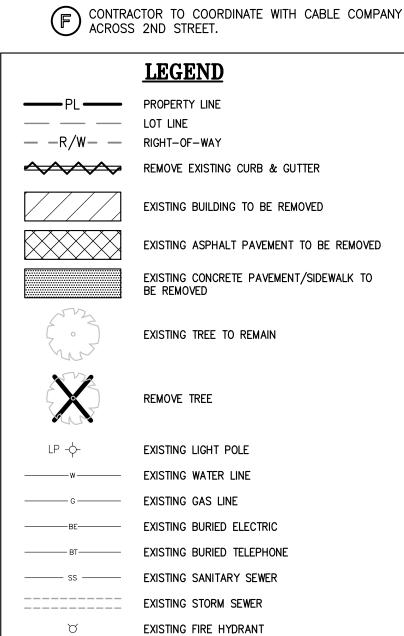
THE CONTRACTOR SHALL REMOVE ALL UNDERGROUND/OVERHEAD ELECTRICAL SERVICES, TELEPHONE AND CABLE SERVICE LINES AND THEIR APPURTENANCES WITHIN THE PROJECT BOUNDARY. THE UTILITY SERVICES SHALL BE DISCONNECTED ALONG THE PROJECT BOUNDARY. TYPICAL LOCATION.

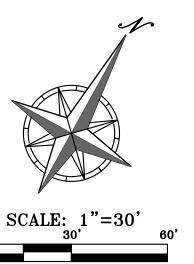
- THE CONTRACTOR SHALL REMOVE EXISTING DRIVE ENTRANCE, EXISTING CONCRETE PARKING LOT, & EXISTING ASPHALT PARKING LOT. REMOVE EXISTING ASPHALT, CONCRETE, AND THE SUB-BASE GRAVEL TO THE NATURAL SOIL ELEVATION.
- THE CONTRACTOR SHALL REMOVE ALL PRE-EXISTING STRUCTURES, FOUNDATIONS, FOOTINGS, PIERS, WATER WELLS, SEPTIC TANKS, LATERAL LINES, BURIED DEBRIS, MISCELLANEOUS CONCRETE, ETC. WHICH MAY BE ENCOUNTERED DURING DEMOLITION ACTIVITIES. THE CONTRACTOR SHALL DISPOSE OF THESE MATERIALS IN A LOCATION APPROVED BY ALL GOVERNING AUTHORITIES.

SHADED AREAS INDICATE MAIN STRUCTURES AND OUTBUILDINGS TO BE DEMOLISHED. IN ADDITION TO SHADED DEMOLITION AREAS, ALL MISCELLANEOUS CONCRETE, STONE STRUCTURES, OUTBUILDINGS, PRIVATE SIDEWALKS, RETAINING WALLS, SIGNS, PATIOS, FOUNDATION WALLS AND FOOTINGS ASSOCIATED WITH THE STRUCTURES SHALL BE REMOVED UNLESS OTHERWISE NOTED ON THE PLANS. TYPICAL LOCATION.

THE CONTRACTOR SHALL BE REQUIRED TO BACKFILL ALL EXCAVATIONS/DEPRESSIONS CREATED BY THE REMOVAL OF STRUCTURES, FOUNDATIONS, FOOTINGS, PAVING, SEPTIC TANKS, WELLS, PIPES, TREE ROOTS, DEBRIS AND UTILITY STRUCTURES, ETC. ALL EXCAVATIONS SHALL BE BACKFILLED TO EXISTING GROUND ELEVATIONS ON ALL SIDES OF THE EXCAVATION.

- REMOVE EXISTING LIGHT POLE AND FOUNDATION.
- CONTRACTOR TO COORDINATE WITH CABLE COMPANY TO REMOVE OVERHEAD CABLE ACROSS 2ND STREET.





DOUGLAS EVGENF UBBEN, IR WOMBER PE-2011010998

CONSTRUCTION

1270 N. Winchester 1270 N. Winchester Olathe, Kansas 66061 (913) 393-1155 Fax (913) 393-1166 W. Dhelbsendineering.com

12/0 N. Wind Olathe, Kansas (913) 393-1 Fax (913) 393 www.phelpsengin

PLANNIN

DEMOLITION PLAN

OWNTOWN LEE'S SUMMIT APARTMEN

114 S.E. DOUGLAS STREET

'S SUMMIT, JACKSON COUNTY MISS

DATE: 01–28–20 | DRAWN: SNH 1. 3–16–20 | REVISED PER CITY C CHECKED: DAF | APPROVED: DEU | CERTIFICATE OF AUTHORIZATION | CERTIFICATION | C

SHEET C1

FINAL PLAT OF

DOWNTOWN LEE'S SUMMIT APARTMENTS

RESURVEY AND REPLAT OF TRACT A, REPLAT OF LOTS 1 THRU 9 AND 11 THRU 23, INCLUSIVE, BLOCK 4 THE TOWN OF STROTHER, AND THE WEST 130 FEET OF LOTS 11 AND 12, BLOCK 4, CITY OF LEE'S SUMMIT, FORMERLY THE TOWN OF STROTHER, A SUBDIVISION OF LAND IN THE CITY OF LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

LEGAL DESCRIPTION

Resurvey and replat of Tract A, REPLAT OF LOTS 1 THRU 9 AND 11 THRU 23, INCLUSIVE, BLOCK 4 TOWN OF STROTHER and the West 130 feet of Lots 11 and 12, Block 4, CITY OF LEE'S SUMMIT, FORMERLY THE TOWN OF STROTHER, a platted subdivision of land and vacated right-of-way of Main Street, as now established lying adjacent to said Tract A, all in the City of Lee's Summit, Jackson County, Missouri, being

Beginning at the Northwest corner of said Lot 11, said point also being on the Southerly right-of-way line of SE 1ST Street, as now established; thence N 61°05'33" E, thence along the Northerly line of said Lot 11 and said Tract A and the Southerly right—of—way line of said SE 1st Street, a distance of 190.00 feet to an angle point on the Northerly line of said Tract A; thence S 28°54'14" E, along the Northerly line of said Tract A, a distance of 52.00 feet; thence N 61°05'33" E, along the Northerly line of said Tract A, a distance of 150.00 feet to the Northeast corner of said Tract A, said point also being on the Westerly right-of-way line of SE Douglas Street, as now established; thence S 28°54'14" E, along the Easterly line of said Tract A and the Westerly right-of-way line of said SE Douglas Street, a distance of 434.97 feet; thence along the Westerly right—of—way line of SE Douglas Street, for the following four (4) courses; thence S 64°59'11" W, a distance of 1.33 feet; thence S 31°25'32" E, a distance of 7.54 feet; thence S 28°15'14" E, a distance of 12.45 feet; thence S 25°44'49" W, a distance of 6.19 feet to a point on the Southerly line of said Tract A, said point also being on the Northerly right-of-way line of SE 2nd Street, as now established; thence along the Southerly right—of—way line of said Tract A and the Northerly right—of—way line of said SE 2nd Street, for the following two (2) courses; thence S 57°00'25" W, a distance of 134.16 feet; thence S 61°05'33" W, a distance of 160.00 feet to a point on the Easterly right—of—way line of SE Main Street, as now established; thence along the Easterly right—of—way line of said SE Main Street, for the following five (5) courses; thence N 73°54'20" W, a distance of 14.14 feet; thence N 28°54'14" W, a distance of 50.60 feet; thence N 32°44'09" W, a distance of 36.61 feet; thence N 42°41'34" W, a distance of 115.60 feet; thence N 28°54'14" W, along the Westerly line of said Tract A and its Southeasterly extension, a distance of 310.59 feet to the point of beginning, containing 3.7603 acres, more or less, of replatted land.

The undersigned proprietors of the above described tract of land have caused the same to be subdivided in the manner shown on accompanying plat, which subdivision shall hereafter be known as: "DOWNTOWN LEE'S SUMMIT APARTMENTS".

An easement or license is hereby granted to the City of Lee's Summit, Missouri, to locate, construct and maintain or to authorize the location, construction and maintenance of poles. wires, anchors, conduits, and/or structures for water. gas. sanitary sewer, surface drainage channel, electricity. telephone, cable television, or any other necessary public utility or services, any of them, upon, over or under those areas outlined or designated upon this plot as "Utility Easement" (U/E) and "Sanitary Sewer Easement" (SS/E) or within any street or thoroughfares dedicated to public use on this plat. Grantor, on behalf of himself, his heirs, his assigns and successors in interest, hereby waives, to the fullest extent allowed by law, including. without limitation, Section 527.188. RSMo. (2006). any right to request restoration of rights previously transferred and vacation of the easement herein granted.

Individual lot owner(s) shall not change or obstruct the drainage flow lines on the lots, unless specific application is made and approved by the

IN TESTIMONY WHEREOF, undersigned proprietors has caused this instrument to be executed on this _____

DTLS Apartments, LLC

STATE OF MISSOURI

ACKNOWLEDGEMENT

COUNTY OF JACKSON

____, before me, the undersigned, a Notary Public in and for said County and State, came James Thomas, Jr., Managing Member of DTLS Apartments, LLC, who is personally known to me to be such person who executed, as such officer, the within instrument on behalf of said company, and such person duly acknowledged the execution of the

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year last above written.

My Appointment Expires: .

This is to certify that the plat of "DOWNTOWN LEE'S SUMMIT APARTMENTS" was submitted and duly approved by the City of Lee's Summit, pursuant to Chapter 33, the Unified Development Ordinance, of the City of Lee's Summit Code of Ordinances.

Director of Planning and Codes Administration, Ryan A. Elam, P.E.

City Engineer, George M. Binger III, P.E.

City Clerk, Trisha Fowler Arcuri

Approved by Jackson County Assessor:

I hereby certify that the within plat of "DOWNTOWN LEE'S SUMMIT APARTMENTS"

Planning Commission Secretary,

Approved by GIS Department:

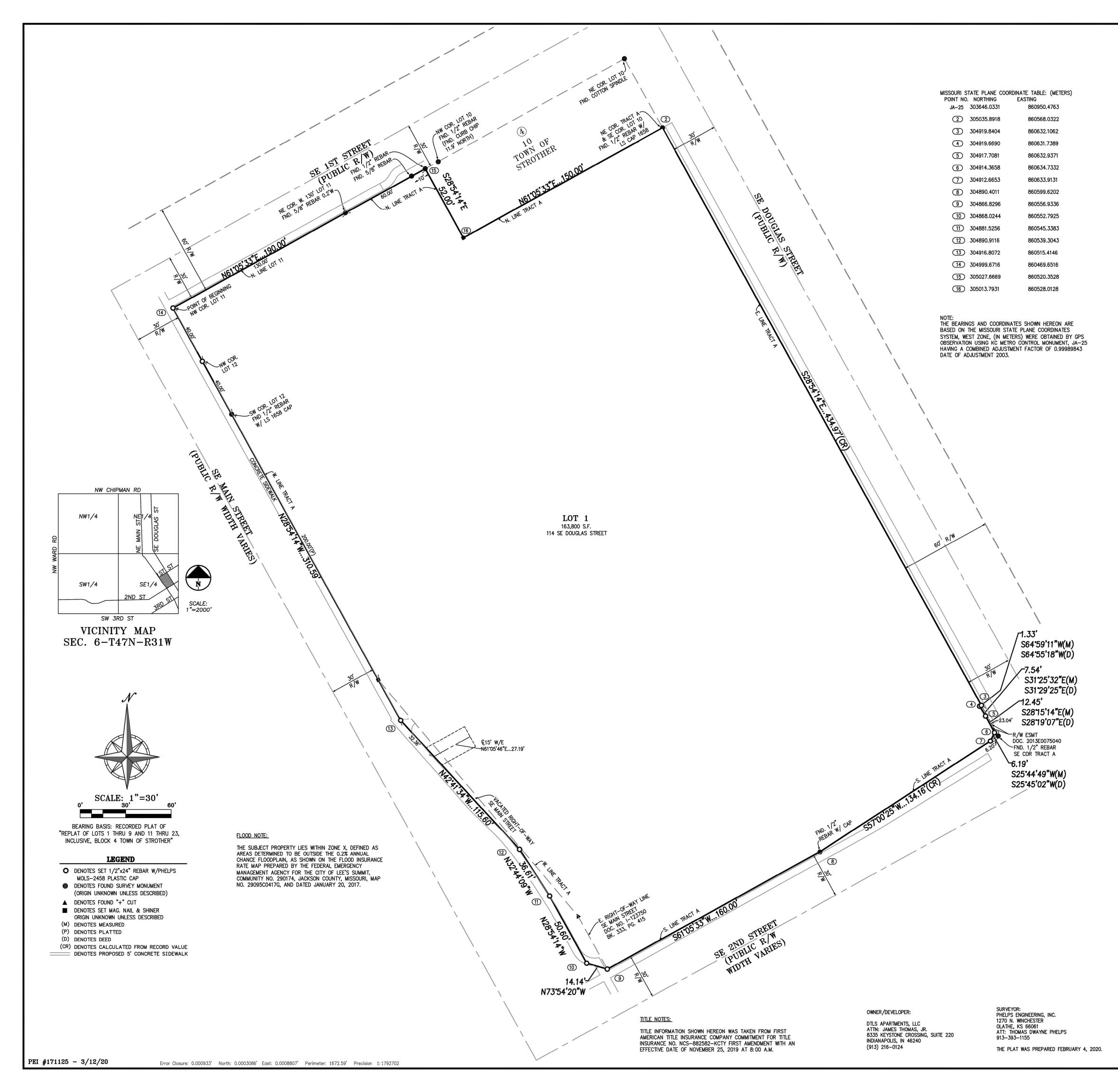
is based on an actual survey made by me or under my direct supervision and that said survey meets or exceeds the current MINIMUM STANDARD FOR PROPERTY BOUNDARY SURVEYS as adopted by the Missouri Board for Architects, Professional Engineers, and Land Surveyors and the Missouri Department of Natural Resources. I further certify that the Section and Sectional Subdivision set as indicated on this plat; that I have complied with all State and City of Lee's Summit statues, ordinances and regulations governing the practice of surveying and platting of subdivisions to the best of my knowledge and belief.

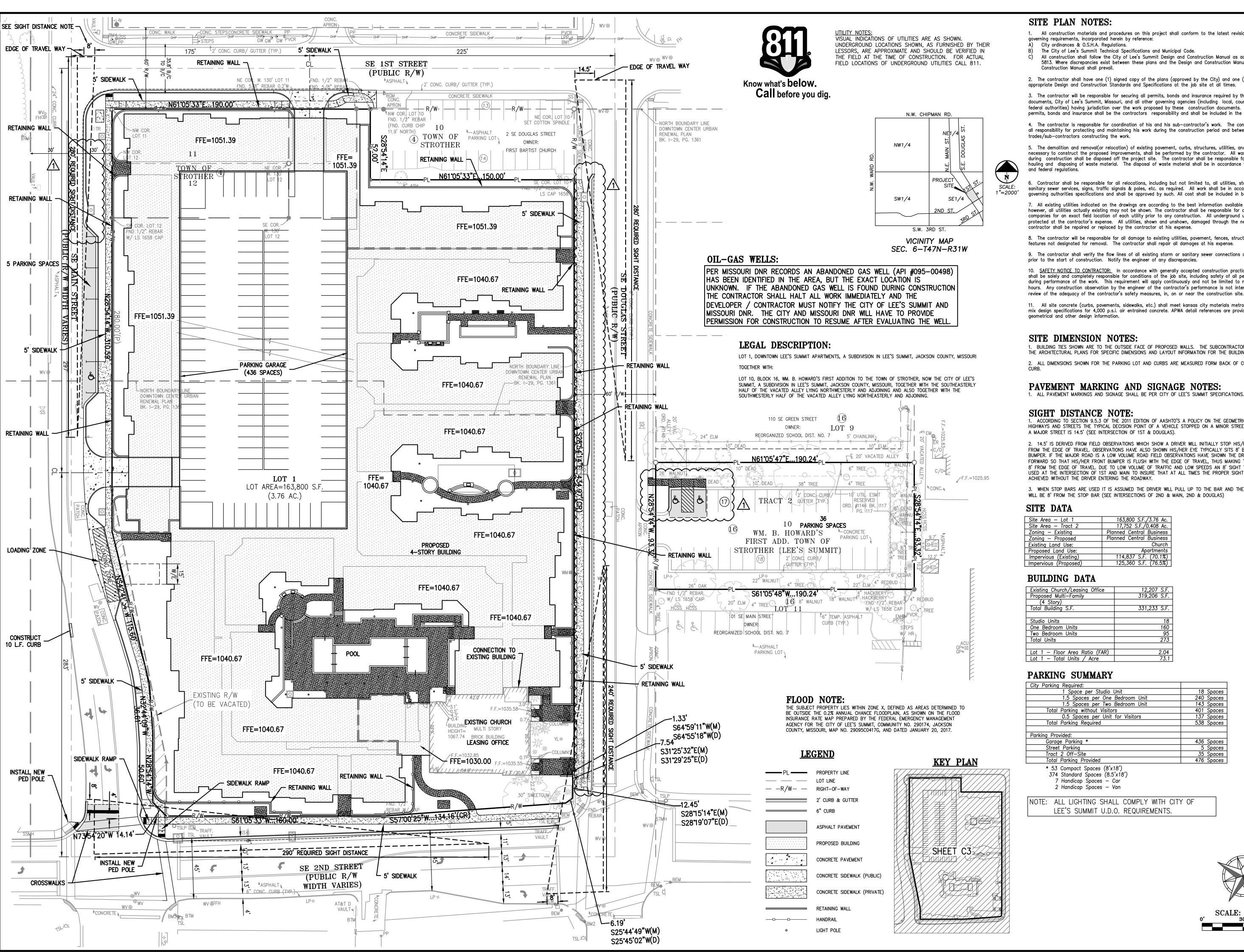
THOMAS DWAYNE

CERTIFICATE OF AUTHORIZATION LAND SURVEYING — LS-82 ENGINEERING — E-391 CERTIFICATE OF AUTHORIZATION MISSOURI LAND SURVEYING—2007001128 ENGINEERING—2007005058



PHELPS ENGINEERING, INC 1270 N. Winchester Olathe, Kansas 66061 (913) 393-1155 Fax (913) 393-1166





SITE PLAN NOTES:

- 1. All construction materials and procedures on this project shall conform to the latest revision of the following governing requirements, incorporated herein by reference:
- A) City ordinances & O.S.H.A. Regulations. The City of Lee's Summit Technical Specifications and Municipal Code.
- All construction shall follow the City of Lee's Summit Design and Construction Manual as adopted by Ordinance 5813. Where discrepancies exist between these plans and the Design and Construction Manual, the Design and Construction Manual shall prevail.
- 2. The contractor shall have one (1) signed copy of the plans (approved by the City) and one (1) copy of the appropriate Design and Construction Standards and Specifications at the job site at all times.
- 3. The contractor will be responsible for securing all permits, bonds and insurance required by the contract documents, City of Lee's Summit, Missouri, and all other governing agencies (including local, county, state and federal authorities) having jurisdiction over the work proposed by these construction documents. The cost for all permits, bonds and insurance shall be the contractors responsibility and shall be included in the bid for the work.
- 4. The contractor is responsible for coordination of his and his sub-contractor's work. The contractor shall assume all responsibility for protecting and maintaining his work during the construction period and between the various trades/sub-contractors constructing the work.
- 5. The demolition and removal(or relocation) of existing pavement, curbs, structures, utilities, and all other features necessary to construct the proposed improvements, shall be performed by the contractor. All waste material removed during construction shall be disposed off the project site. The contractor shall be responsible for all permits for hauling and disposing of waste material. The disposal of waste material shall be in accordance with all local, state
- Contractor shall be responsible for all relocations, including but not limited to, all utilities, storm drainage, sanitary sewer services, signs, traffic signals & poles, etc. as required. All work shall be in accordance with governing authorities specifications and shall be approved by such. All cost shall be included in base bid.
- 7. All existing utilities indicated on the drawings are according to the best information available to the Engineer; however, all utilities actually existing may not be shown. The contractor shall be responsible for contacting all utility companies for an exact field location of each utility prior to any construction. All underground utilities shall be protected at the contractor's expense. All utilities, shown and unshown, damaged through the negligence of the contractor shall be repaired or replaced by the contractor at his expense.
- 8. The contractor will be responsible for all damage to existing utilities, pavement, fences, structures and other features not designated for removal. The contractor shall repair all damages at his expense.
- 9. The contractor shall verify the flow lines of all existing storm or sanitary sewer connections and utility crossings prior to the start of construction. Notify the engineer of any discrepancies.
- 10. <u>SAFETY NOTICE TO CONTRACTOR:</u> In accordance with generally accepted construction practices, the contractor shall be solely and completely responsible for conditions of the job site, including safety of all persons and property during performance of the work. This requirement will apply continuously and not be limited to normal working hours. Any construction observation by the engineer of the contractor's performance is not intended to include review of the adequacy of the contractor's safety measures, in, on or near the construction site.
- 11. All site concrete (curbs, pavements, sidewalks, etc.) shall meet kansas city materials metro board (kcmmb) mix design specifications for 4,000 p.s.i. air entrained concrete. APWA detail references are provided for all geometrical and other design information.

SITE DIMENSION NOTES:

- 1. BUILDING TIES SHOWN ARE TO THE OUTSIDE FACE OF PROPOSED WALLS. THE SUBCONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR SPECIFIC DIMENSIONS AND LAYOUT INFORMATION FOR THE BUILDINGS.
- 2. ALL DIMENSIONS SHOWN FOR THE PARKING LOT AND CURBS ARE MEASURED FORM BACK OF CURB TO BACK OF

PAVEMENT MARKING AND SIGNAGE NOTES:

SIGHT DISTANCE NOTE: 1. ACCORDING TO SECTION 9.5.3 OF THE 2011 EDITION OF AASHTO'S A POLICY ON THE GEOMETRIC DESIGN OF HIGHWAYS AND STREETS THE TYPICAL DECISION POINT OF A VEHICLE STOPPED ON A MINOR STREET WHICH INTERSECTS A MAJOR STREET IS 14.5' (SEE INTERSECTION OF 1ST & DOUGLAS).

2. 14.5' IS DERIVED FROM FIELD OBSERVATIONS WHICH SHOW A DRIVER WILL INITIALLY STOP HIS/HER VEHICLE 6.5' FROM THE EDGE OF TRAVEL. OBSERVATIONS HAVE ALSO SHOWN HIS/HER EYE TYPICALLY SITS 8' BEHIND THE FRONT BUMPER. IF THE MAJOR ROAD IS A LOW VOLUME ROAD FIELD OBSERVATIONS HAVE SHOWN THE DRIVER WILL CREEP FORWARD SO THAT HIS/HER FRONT BUMPER IS FLUSH WITH THE EDGE OF TRAVEL, THUS MAKING THE DECISION POINT 8' FROM THE EDGE OF TRAVEL. DUE TO LOW VOLUME OF TRAFFIC AND LOW SPEEDS AN 8' SIGHT TRIANGLE HAS BEEN USED AT THE INTERSECTION OF 1ST AND MAIN TO INSURE THAT AT ALL TIMES THE PROPER SIGHT DISTANCE IS ACHIEVED WITHOUT THE DRIVER ENTERING THE ROADWAY.

3. WHEN STOP BARS ARE USED IT IS ASSUMED THE DRIVER WILL PULL UP TO THE BAR AND THE DECISION POINT WILL BE 8' FROM THE STOP BAR (SEE INTERSECTIONS OF 2ND & MAIN, 2ND & DOUGLAS)

SITE DATA

Site Area — Lot 1	163,800 S.F./3.76 Ac.
Site Area — Tract 2	17,752 S.F./0.408 Ac.
Zoning – Existing	Planned Central Business
Zoning - Proposed	Planned Central Business
Existing Land Use:	Church
Proposed Land Use:	Apartments
Impervious (Existing)	114,837 S.F. (70.1%)
Impervious (Proposed)	125,360 S.F. (76.5%)

BUILDING DATA

Existing Church/Leasing Office	12,207 S.F.
Proposed Multi-Family	319,206 S.F.
(4 Story)	
Total Building S.F.	331,233 S.F.
Studio Units	18
One Bedroom Units	160
Two Bedroom Units	95
Total Units	273
Lot 1 — Floor Area Ratio (FAR)	2.04

PARKING SUMMARY

City Parking Required:	
1 Space per Studio Unit	18 Spaces
1.5 Spaces per One Bedroom Unit	240 Spaces
1.5 Spaces per Two Bedroom Unit	143 Spaces
Total Parking without Visitors	401 Spaces
0.5 Spaces per Unit for Visitors	137 Spaces
Total Parking Required	538 Spaces
Parking Provided:	
Garage Parking *	436 Spaces
Street Parking	5 Spaces
Tract 2 Off-Site	35 Spaces
Total Parking Provided	476 Spaces
·	

* 53 Compact Spaces (8'x18') 374 Standard Spaces (8.5'x18')

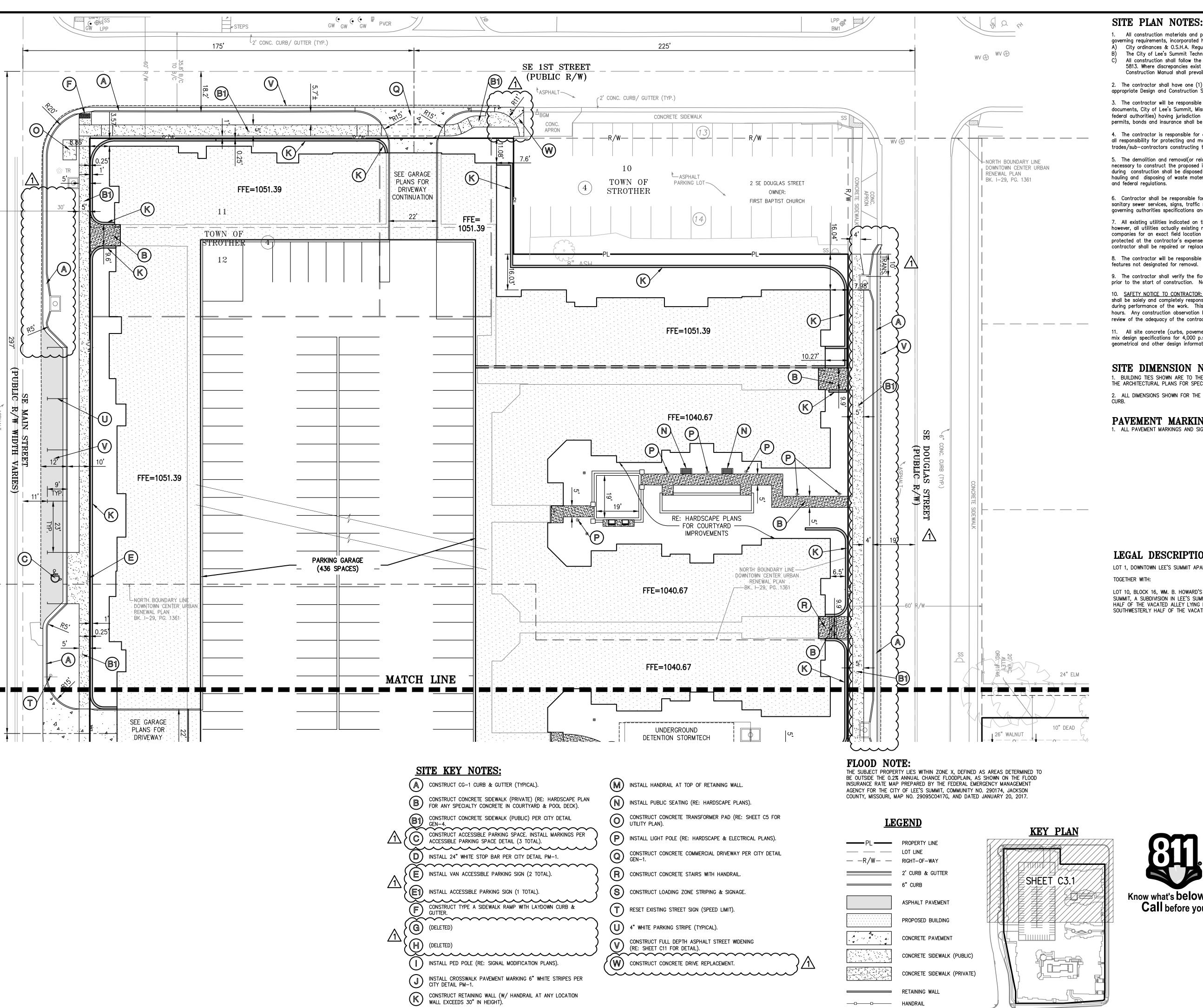
7 Handicap Spaces — Car 2 Handicap Spaces — Van

NOTE: ALL LIGHTING SHALL COMPLY WITH CITY OF LEE'S SUMMIT U.D.O. REQUIREMENTS



RELEASE FOR CONSTRUCTION

SOURI



CONSTRUCT UNDERGROUND STORMTECH CHAMBERS

CONSTRUCT UNDERGROUND STORI (RE: SHEETS C16 FOR DETAILS).

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- 2. The contractor shall have one (1) signed copy of the plans (approved by the City) and one (1) copy of the appropriate Design and Construction Standards and Specifications at the job site at all times.
- 3. The contractor will be responsible for securing all permits, bonds and insurance required by the contract documents, City of Lee's Summit, Missouri, and all other governing agencies (including local, county, state and federal authorities) having jurisdiction over the work proposed by these construction documents. The cost for all permits, bonds and insurance shall be the contractors responsibility and shall be included in the bid for the work.
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SITE DIMENSION NOTES:

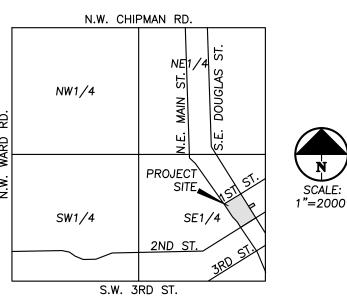
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- 2. ALL DIMENSIONS SHOWN FOR THE PARKING LOT AND CURBS ARE MEASURED FORM BACK OF CURB TO BACK OF

PAVEMENT MARKING AND SIGNAGE NOTES:

1. ALL PAVEMENT MARKINGS AND SIGNAGE SHALL BE PER CITY OF LEE'S SUMMIT SPECIFICATIONS.

LEGAL DESCRIPTION:

- LOT 1, DOWNTOWN LEE'S SUMMIT APARTMENTS, A SUBDIVISION IN LEE'S SUMMIT, JACKSON COUNTY, MISSOURI
- LOT 10, BLOCK 16, WM. B. HOWARD'S FIRST ADDITION TO THE TOWN OF STROTHER, NOW THE CITY OF LEE'S SUMMIT, A SUBDIVISION IN LEE'S SUMMIT, JACKSON COUNTY, MISSOURI, TOGETHER WITH THE SOUTHEASTERLY HALF OF THE VACATED ALLEY LYING NORTHWESTERLY AND ADJOINING AND ALSO TOGETHER WITH THE SOUTHWESTERLY HALF OF THE VACATED ALLEY LYING NORTHEASTERLY AND ADJOINING.

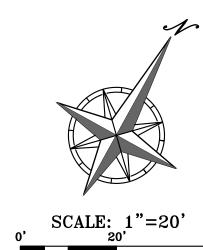


VICINITY MAP SEC. 6-T47N-R31W

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

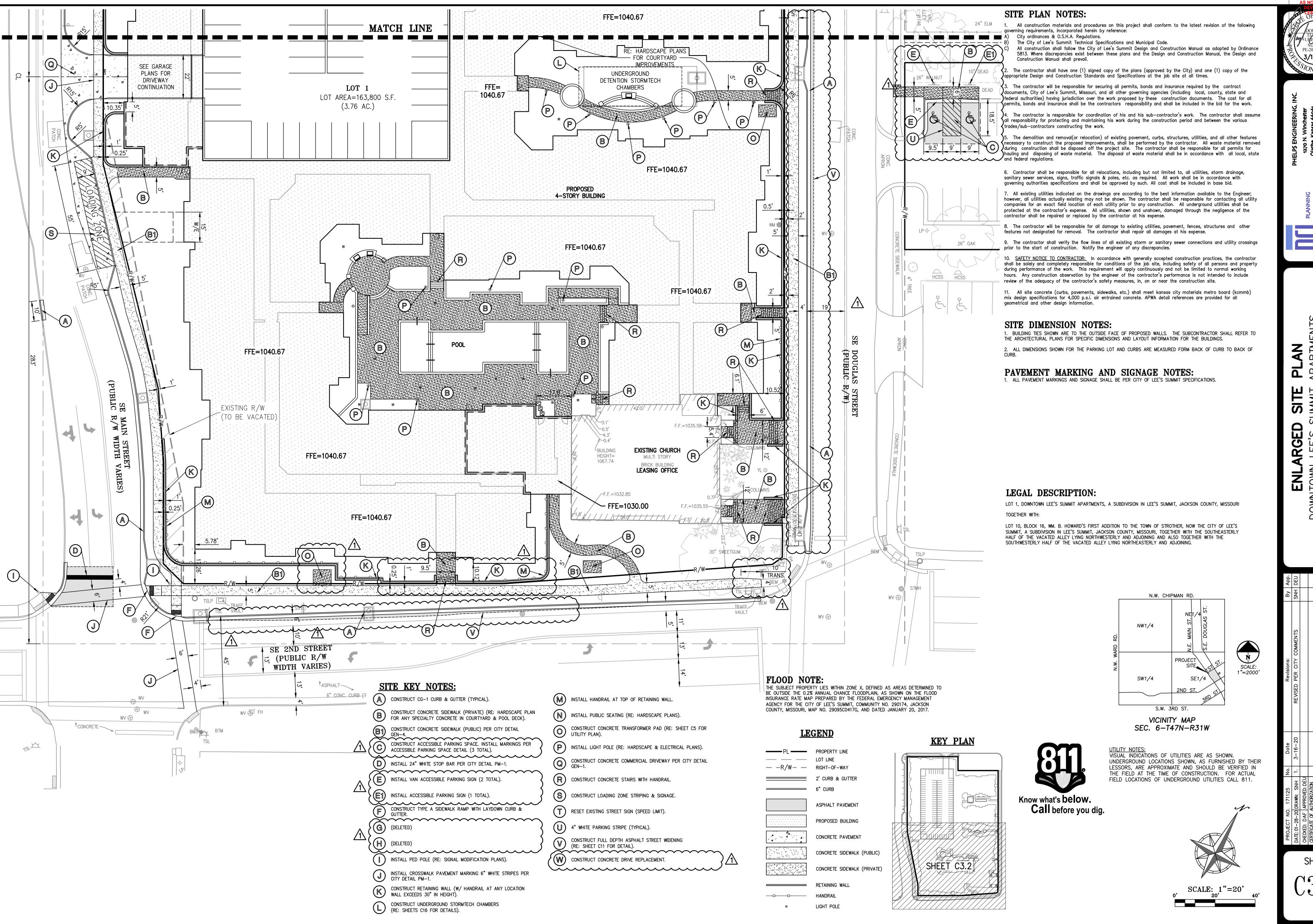
LIGHT POLE



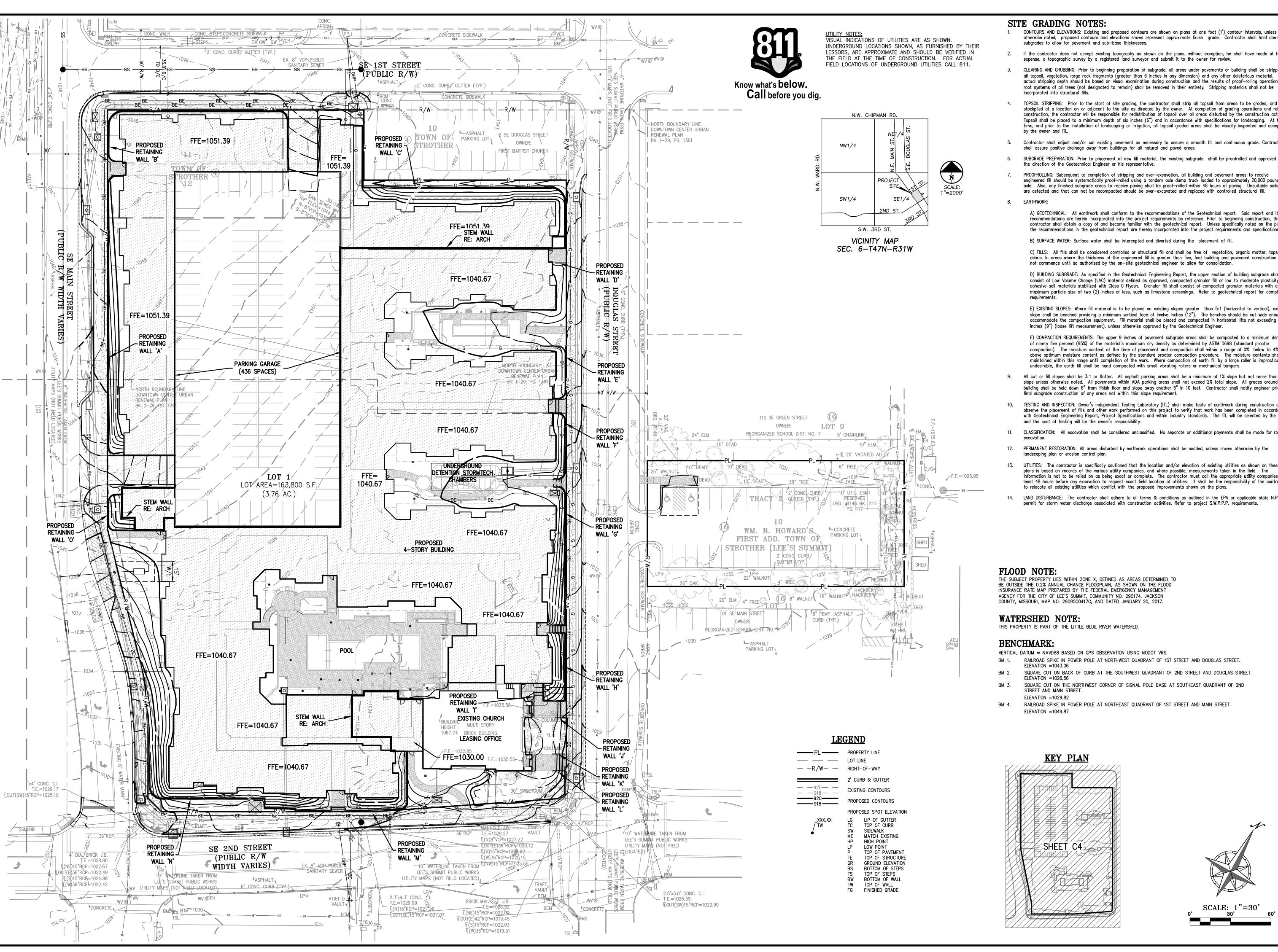
SHEET

CONSTRUCTION

OURI



CONSTRUCTION



CONTOURS AND ELEVATIONS: Existing and proposed contours are shown on plans at one foot (1') contour intervals, unless otherwise noted, proposed contours and elevations shown represent approximate finish grade. Contractor shall hold down subgrades to allow for pavement and sub-base thicknesses.

If the contractor does not accept existing topography as shown on the plans, without exception, he shall have made at his expense, a topographic survey by a registered land surveyor and submit it to the owner for review.

CLEARING AND GRUBBING: Prior to beginning preparation of subgrade, all areas under pavements or building shall be stripped of all topsoil, vegetation, large rock fragments (greater than 6 inches in any dimension) and any other deleterious material. The actual stripping depth should be based on visual examination during construction and the results of proof-rolling operations. TI

TOPSOIL STRIPPING: Prior to the start of site grading, the contractor shall strip all topsoil from areas to be graded, and stockpiled at a location on or adjacent to the site as directed by the owner. At completion of grading operations and related construction, the contractor will be responsible for redistribution of topsoil over all areas disturbed by the construction activities. Topsoil shall be placed to a minimum depth of six inches (6") and in accordance with specifications for landscaping. At that time, and prior to the installation of landscaping or irrigation, all topsoil graded areas shall be visually inspected and accepted

Contractor shall adjust and/or cut existing pavement as necessary to assure a smooth fit and continuous grade. Contractor shall assure positive drainage away from buildings for all natural and paved areas.

SUBGRADE PREPARATION: Prior to placement of new fill material, the existing subgrade shall be proofrolled and approved under the direction of the Geotechnical Engineer or his representative.

PROOFROLLING: Subsequent to completion of stripping and over-excavation, all building and pavement areas to receive engineered fill should be systematically proof-rolled using a tandem axle dump truck loaded to approximately 20,000 pounds per axle. Also, any finished subgrade areas to receive paving shall be proof-rolled within 48 hours of paving. Unsuitable soils that

A) GEOTECHNICAL: All earthwork shall conform to the recommendations of the Geotechnical report. Said report and its recommendations are herein incorporated into the project requirements by reference. Prior to beginning construction, the contractor shall obtain a copy of and become familiar with the geotechnical report. Unless specifically noted on the plans, the recommendations in the geotechnical report are hereby incorporated into the project requirements and specifications.

B) SURFACE WATER: Surface water shall be intercepted and diverted during the placement of fill.

C) FILLS: All fills shall be considered controlled or structural fill and shall be free of vegetation, organic matter, topsoil a debris. In areas where the thickness of the engineered fill is greater than five, feet building and pavement construction shou not commence until so authorized by the on-site geotechnical engineer to allow for consolidation.

D) BUILDING SUBGRADE: As specified in the Geotechnical Engineering Report, the upper section of building subgrade shall consist of Low Volume Change (LVC) material defined as approved, compacted granular fill or low to moderate plasticity cohesive soil materials stabilized with Class C Flyash. Granular fill shall consist of compacted granular materials with a maximum particle size of two (2) inches or less, such as limestone screenings. Refer to geotechnical report for complete

E) EXISTING SLOPES: Where fill material is to be placed on existing slopes greater than 5:1 (horizontal to vertical), existing slope shall be benched providing a minimum vertical face of twelve inches (12"). The benches should be cut wide enough to accommodate the compaction equipment. Fill material shall be placed and compacted in horizontal lifts not exceeding nine inches (9") (loose lift measurement), unless otherwise approved by the Geotechnical Engineer.

F) COMPACTION REQUIREMENTS: The upper 9 inches of pavement subgrade areas shall be compacted to a minimum density of ninety five percent (95%) of the material's maximum dry density as determined by ASTM D698 (standard proctor compaction). The moisture content at the time of placement and compaction shall within a range of 0% below to 4% above optimum moisture content as defined by the standard proctor compaction procedure. The moisture contents shall be maintained within this range until completion of the work. Where compaction of earth fill by a large roller is impractical or undesirable, the earth fill shall be hand compacted with small vibrating rollers or mechanical tampers.

All cut or fill slopes shall be 3:1 or flatter. All asphalt parking areas shall be a minimum of 1% slope but not more than 5% slope unless otherwise noted. All pavements within ADA parking areas shall not exceed 2% total slope. All grades around building shall be held down 6" from finish floor and slope away another 6" in 10 feet. Contractor shall notify engineer prior to

10. TESTING AND INSPECTION: Owner's Independent Testing Laboratory (ITL) shall make tests of earthwork during construction and observe the placement of fills and other work performed on this project to verify that work has been completed in accordance with Geotechnical Engineering Report, Project Specifications and within industry standards. The ITL will be selected by the owner

CLASSIFICATION: All excavation shall be considered unclassified. No separate or additional payments shall be made for rock

12. PERMANENT RESTORATION: All areas disturbed by earthwork operations shall be sodded, unless shown otherwise by the landscaping plan or erosion control plan.

UTILITIES: The contractor is specifically cautioned that the location and/or elevation of existing utilities as shown on these plans is based on records of the various utility companies, and where possible, measurements taken in the field. The information is not to be relied on as being exact or complete. The contractor must call the appropriate utility companies at least 48 hours before any excavation to request exact field location of utilities. It shall be the responsibility of the contractor to relocate all existing utilities which conflict with the proposed improvements shown on the plans.

LAND DISTURBANCE: The contractor shall adhere to all terms & conditions as outlined in the EPA or applicable state N.P.D. permit for storm water discharge associated with construction activities. Refer to project S.W.P.P.P. requirements.

THE SUBJECT PROPERTY LIES WITHIN ZONE X, DEFINED AS AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN. AS SHOWN ON THE FLOOD INSURANCE RATE MAP PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY FOR THE CITY OF LEE'S SUMMIT, COMMUNITY NO. 290174, JACKSON COUNTY, MISSOURI, MAP NO. 29095C0417G, AND DATED JANUARY 20, 2017.

THIS PROPERTY IS PART OF THE LITTLE BLUE RIVER WATERSHED.

VERTICAL DATUM = NAVD88 BASED ON GPS OBSERVATION USING MODOT VRS.

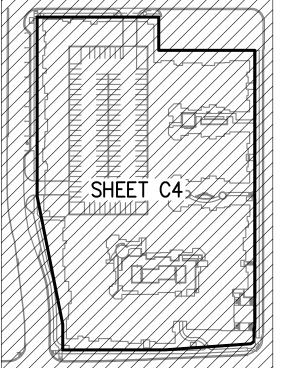
RAILROAD SPIKE IN POWER POLE AT NORTHWEST QUADRANT OF 1ST STREET AND DOUGLAS STREET.

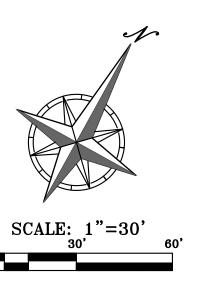
SQUARE CUT ON BACK OF CURB AT THE SOUTHWEST QUADRANT OF 2ND STREET AND DOUGLAS STREET.

SQUARE CUT ON THE NORTHWEST CORNER OF SIGNAL POLE BASE AT SOUTHEAST QUADRANT OF 2ND

RAILROAD SPIKE IN POWER POLE AT NORTHEAST QUADRANT OF 1ST STREET AND MAIN STREET.

KEY PLAN

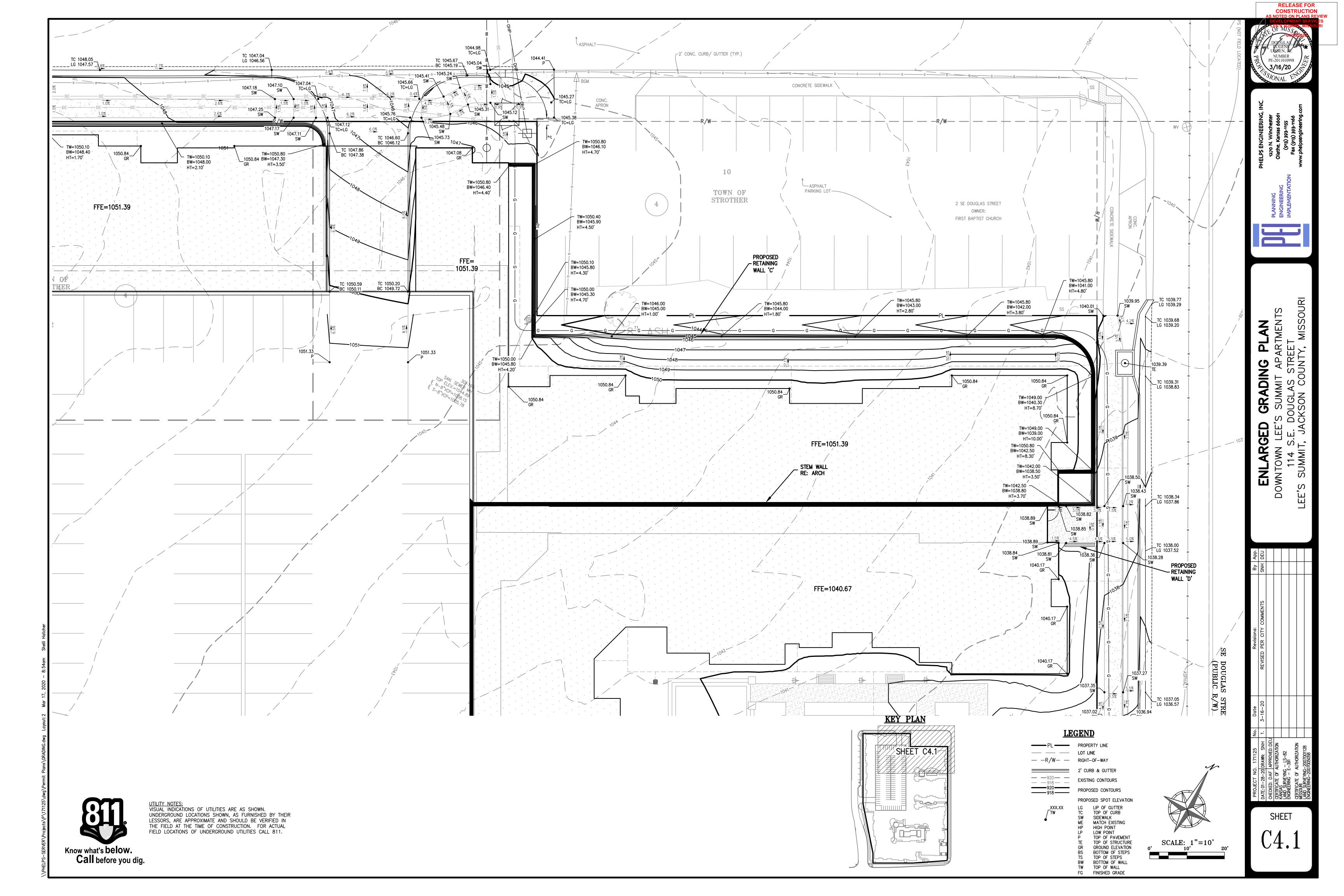


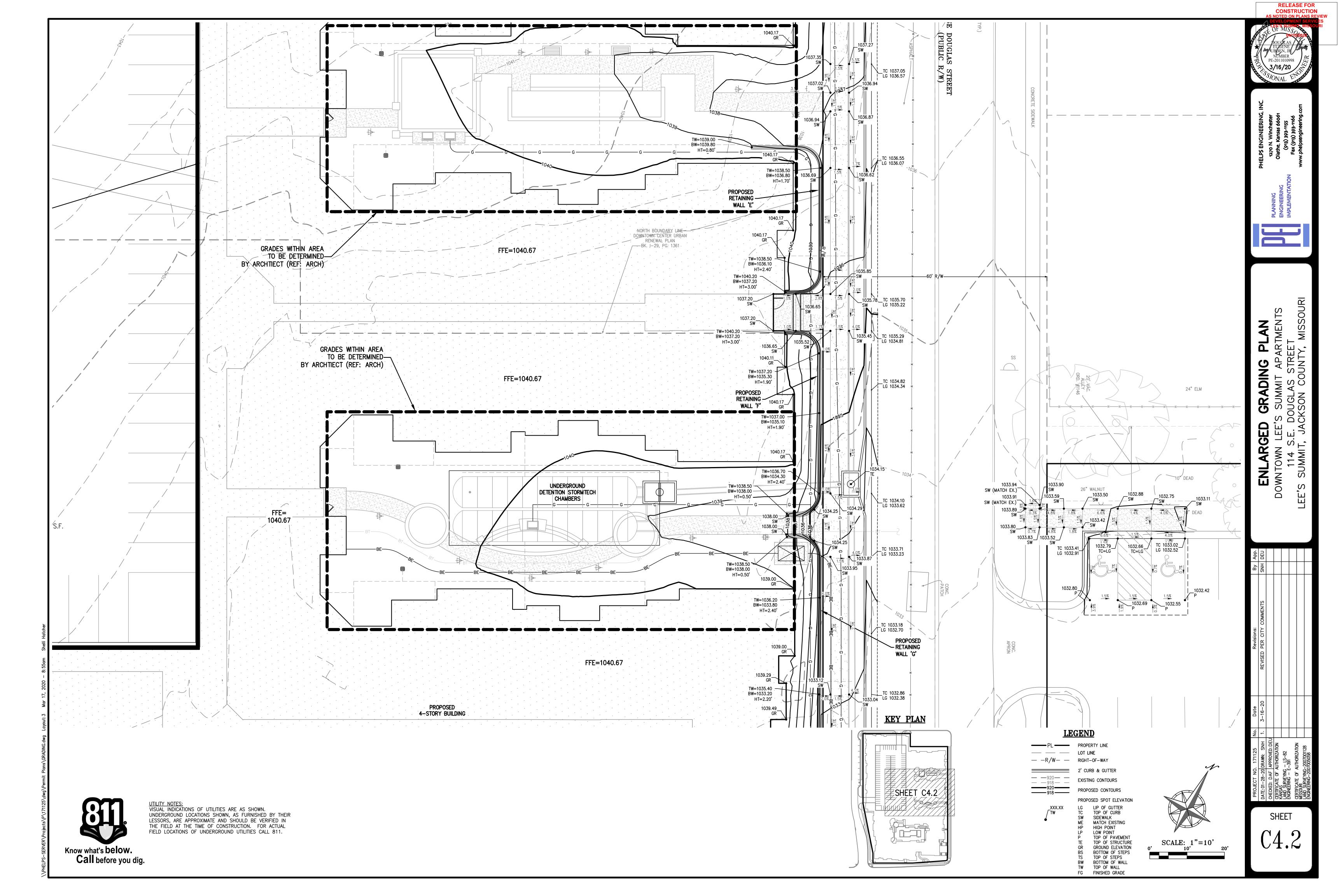


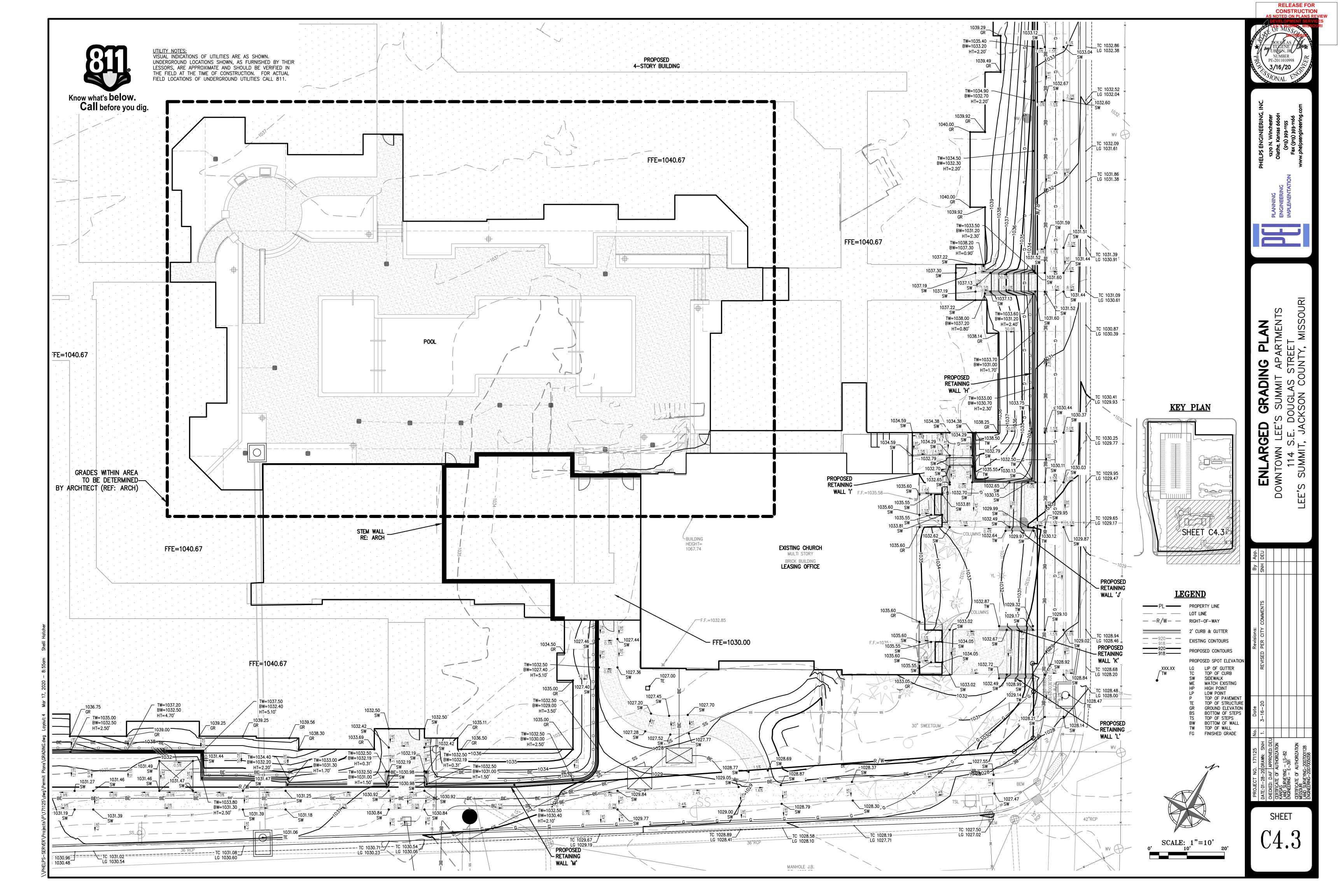
3/16/20

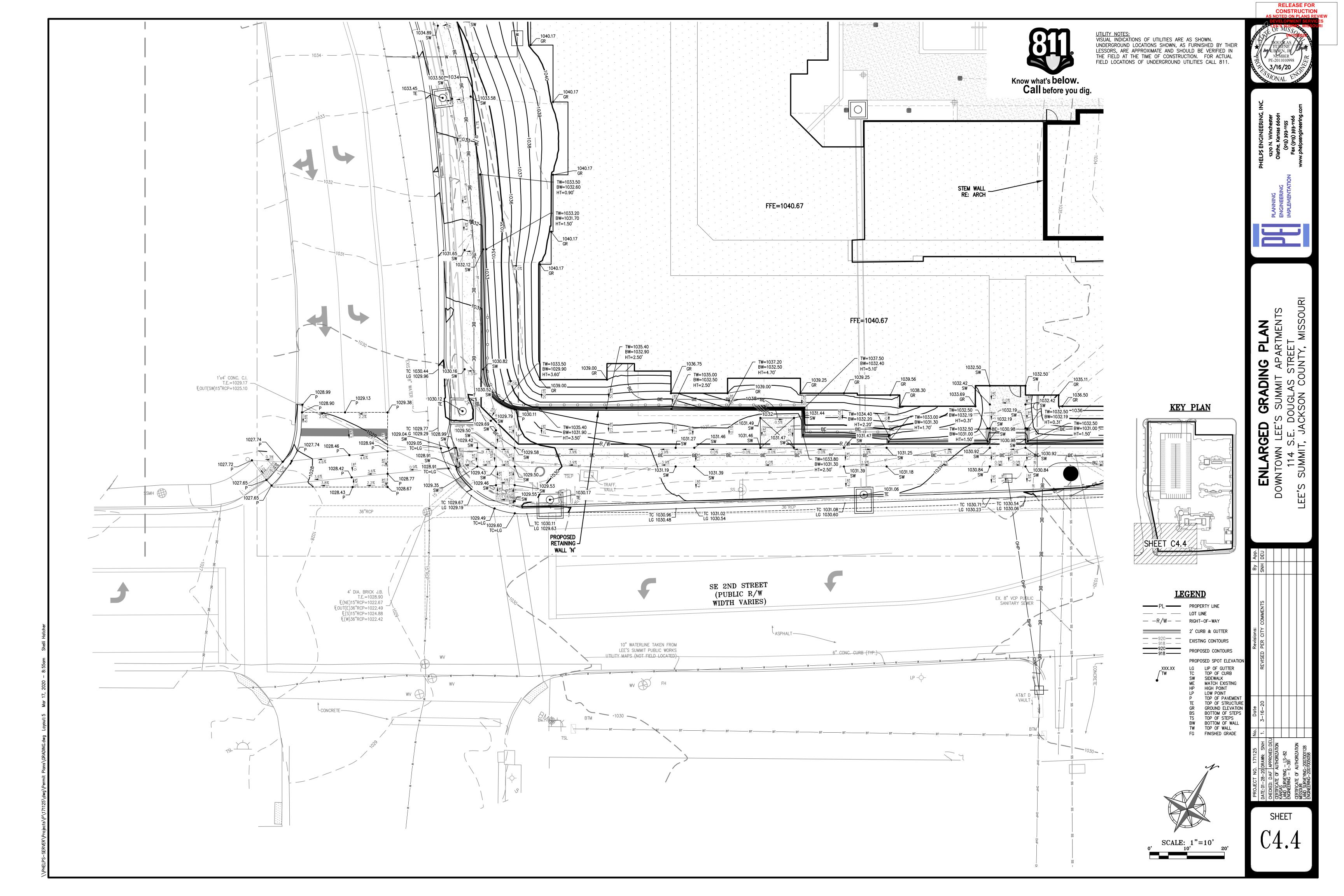
RELEASE FOR CONSTRUCTION

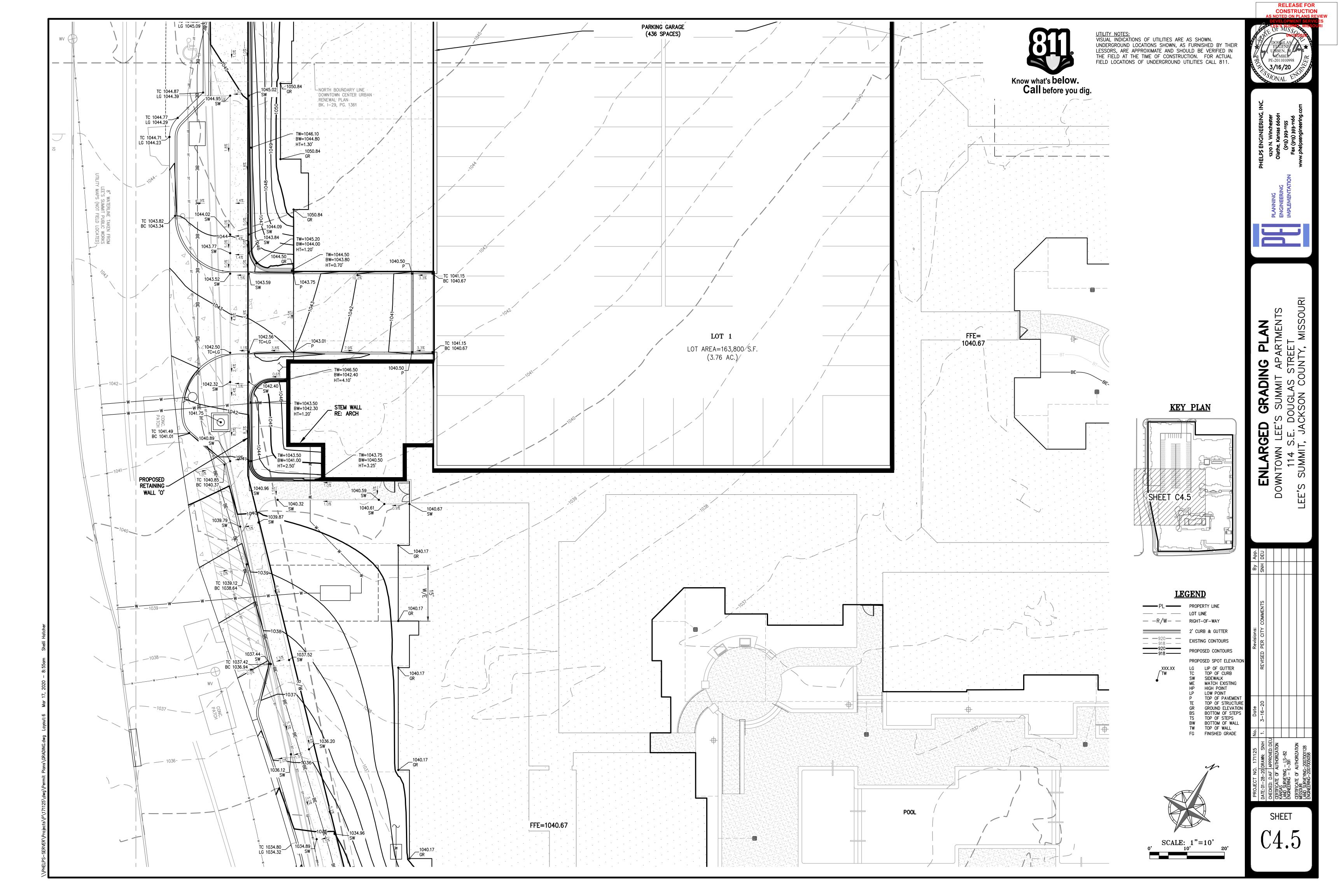
MISSOURI TMEN.

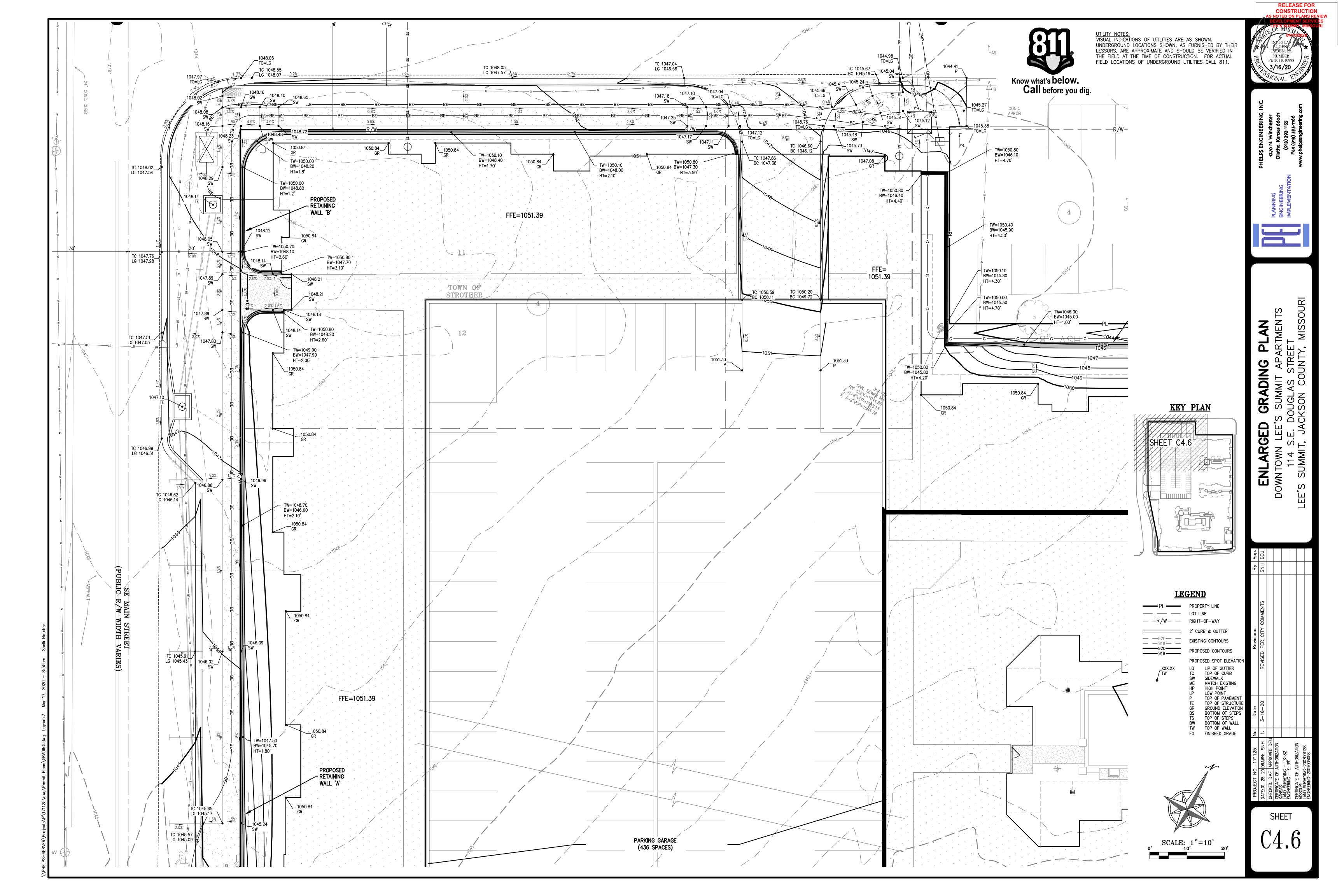


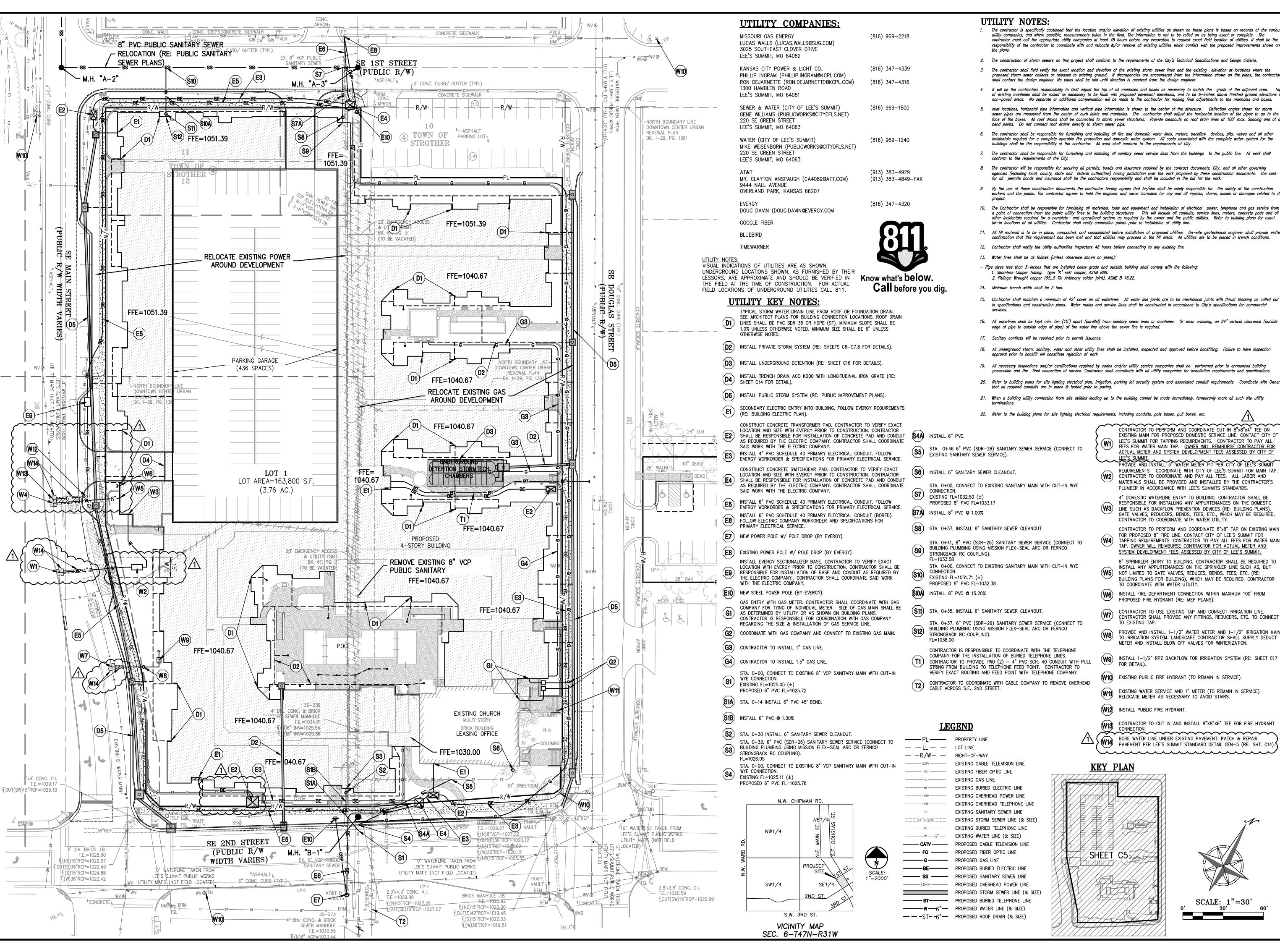












- 1. The contractor is specifically cautioned that the location and/or elevation of existing utilities as shown on these plans is based on records of the vario utility companies, and where possible, measurements taken in the field. The information is not to be relied on as being exact or complete. The contractor must call the appropriate utility companies at least 48 hours before any excavation to request exact field location of utilities. It shall be the responsibility of the contractor to coordinate with and relocate &/or remove all existing utilities which conflict with the proposed improvements shown or
- 2. The construction of storm sewers on this project shall conform to the requirements of the City's Technical Specifications and Design Criteria.
- 3. The contractor shall field verify the exact location and elevation of the existing storm sewer lines and the existing elevation at locations where the proposed storm sewer collects or releases to existing ground. If discrepancies are encountered from the information shown on the plans, the contractor
- 4. It will be the contractors responsibility to field adjust the top of all manholes and boxes as necessary to match the grade of the adjacent area. Top of existing manholes shall be raised as necessary to be flush with proposed pavement elevations, and to be 6-inches above finished ground elevations in
- non-paved areas. No separate or additional compensation will be made to the contractor for making final adjustments to the manholes and boxes. 5. Inlet locations, horizontal pipe information and vertical pipe information is shown to the center of the structure. Deflection angles shown for storm sewer pipes are measured from the center of curb inlets and manholes. The contractor shall adjust the horizontal location of the pipes to go to the
- 6. The contractor shall be responsible for furnishing and installing all fire and domestic water lines, meters, backflow devices, pits, valves and all other incidentals required for a complete operable fire protection and domestic water system. All costs associated with the complete water system for the buildings shall be the responsibility of the contractor. All work shall conform to the requirements of City.
- 7. The contractor shall be responsible for furnishing and installing all sanitary sewer service lines from the buildings to the public line. All work shall
- 8. The contractor will be responsible for securing all permits, bonds and insurance required by the contract documents, City, and all other governing
- 9. By the use of these construction documents the contractor hereby agrees that he/she shall be solely responsible for the safety of the construction workers and the public. The contractor agrees to hold the engineer and owner harmless for any and all injuries, claims, losses or damages related to t
- 10. The Contractor shall be responsible for furnishing all materials, tools and equipment and installation of electrical power, telephone and gas service from a point of connection from the public utility lines to the building structures. This will include all conduits, service lines, meters, concrete pads and all
- 11. All fill material is to be in place, compacted, and consolidated before installation of proposed utilities. On-site geotechnical engineer shall provide writte confirmation that this requirement has been met and that utilities may proceed in the fill areas. All utilities are to be placed in trench conditions.
- 12. Contractor shall notify the utility authorities inspectors 48 hours before connecting to any existing line.
- 13. Water lines shall be as follows (unless otherwise shown on plans):
- Pipe sizes less than 3-inches that are installed below grade and outside building shall comply with the following: 1. Seamless Copper Tubing: Type "K" soft copper, ASTM B88.
- 15. Contractor shall maintain a minimum of 42" cover on all waterlines. All water line joints are to be mechanical joints with thrust blocking as called out in specifications and construction plans. Water mains and service lines shall be constructed in accordance to City's specifications for commercial
- All waterlines shall be kept min. ten (10') apart (parallel) from sanitary sewer lines or manholes. Or when crossing, an 24" vertical clearance (outside edge of pipe to outside edge of pipe) of the water line above the sewer line is required.
- 18. All underground storm, sanitary, water and other utility lines shall be installed, inspected and approved before backfilling. Failure to have inspection
- 19. All necessary inspections and/or certifications required by codes and/or utility service companies shall be performed prior to announced building possession and the final connection of service. Contractor shall coordinate with all utility companies for installation requirements and specifications.
- 20. Refer to building plans for site lighting electrical plan, irrigation, parking lot security system and associated conduit requirements. Coordinate with Owner
- 21. When a building utility connection from site utilities leading up to the building cannot be made immediately, temporarily mark all such site utility

22. Refer to the building plans for site lighting electrical requirements, including conduits, pole bases, pull boxes, etc.

CONTRACTOR TO PERFORM AND COORDINATE CUT IN 8"x8"x4" TEE ON EXISTING MAIN FOR PROPOSED DOMESTIC SERVICE LINE. CONTACT CITY OF LEE'S SUMMIT FOR TAPPING REQUIREMENTS. CONTRACTOR TO PAY ALL

REQUIREMENTS. COORDINATE WITH CITY OF LEE'S SUMMIT FOR MAIN TAP. CONTRACTOR TO COORDINATE AND PAY ALL FEES. ALL LABOR AND MATERIALS SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR'S

PLUMBER IN ACCORDANCE WITH LEE'S SUMMITS STANDARDS.

FEES FOR WATER MAIN TAP. OWNER WILL REIMBURSE CONTRACTOR FOR

<u>ACTUAL METER AND SYSTEM DEVELOPMENT FEES ASSESSED BY CITY O</u>

4" DOMESTIC WATERLINE ENTRY TO BUILDING. CONTRACTOR SHALL BI RESPONSIBLE FOR INSTALLING ANY APPURTENANCES ON THE DOMESTIC (W3) LINE SUCH AS BACKFLOW PREVENTION DEVICES (RE: BUILDING PLANS), GATE VALVES, REDUCERS, BENDS, TEES, ETC., WHICH MAY BE REQUIRED. CONTRACTOR TO COORDINATE WITH WATER UTILITY.

CONTRACTOR TO PERFORM AND COORDINATE 8"x8" TAP ON EXISTING MAIN FOR PROPOSED 8" FIRE LINE, CONTACT CITY OF LEE'S SUMMIT FOR TAPPING REQUIREMENTS, CONTRACTOR TO PAY ALL FEES FOR WATER MAIN TAP. <u>OWNER WILL REIMBURSE CONTRACTOR FOR ACTUAL METER AND</u> SYSTEM DEVELOPMENT FEES ASSESSED BY CITY OF LEE'S SUMMIT.

8" SPRINKLER ENTRY TO BUILDING. CONTRACTOR SHALL BE REQUIRED TO INSTALL ANY APPURTENANCES ON THE SPRINKLER LINE SUCH AS, BUT NOT LIMITED TO GATE VALVES, REDUCES, BENDS, TEES, ETC. (RE:

BUILDING PLANS FOR BUILDING), WHICH MAY BE REQUIRED. CONTRACTOR O COORDINATE WITH WATER UTILITY.

INSTALL FIRE DEPARTMENT CONNECTION WITHIN MAXIMUM 100' FROM PROPOSED FIRE HYDRANT (RE: MEP PLANS).

CONTRACTOR TO USE EXISTING TAP AND CONNECT IRRIGATION LINE. CONTRACTOR SHALL PROVIDE ANY FITTINGS, REDUCERS, ETC. TO CONNECT

PROVIDE AND INSTALL 1-1/2" WATER METER AND 1-1/2" IRRIGATION MAIN TO IRRIGATION SYSTEM. LANDSCAPE CONTRACTOR SHALL SUPPLY DEDUCT METER AND INSTALL BLOW OFF VALVES FOR WINTERIZATION.

INSTALL 1-1/2" RPZ BACKFLOW FOR IRRIGATION SYSTEM (RE: SHEET C17

(W10) EXISTING PUBLIC FIRE HYDRANT (TO REMAIN IN SERVICE). EXISTING WATER SERVICE AND 1" METER (TO REMAIN IN SERVICE).

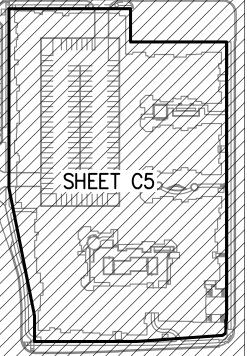
RELOCATE METER AS NECESSARY TO AVOID STAIRS.

(W12) INSTALL PUBLIC FIRE HYDRANT.

CONTRACTOR TO CUT IN AND INSTALL 8"X8"X6" TEE FOR FIRE HYDRANT BORE WATER LINE UNDER EXISTING PAVEMENT. PATCH & REPAIR

PAVEMENT PER LEE'S SUMMIT STANDARD DETAIL GEN-5 (RE: SHT. C14)

KEY PLAN

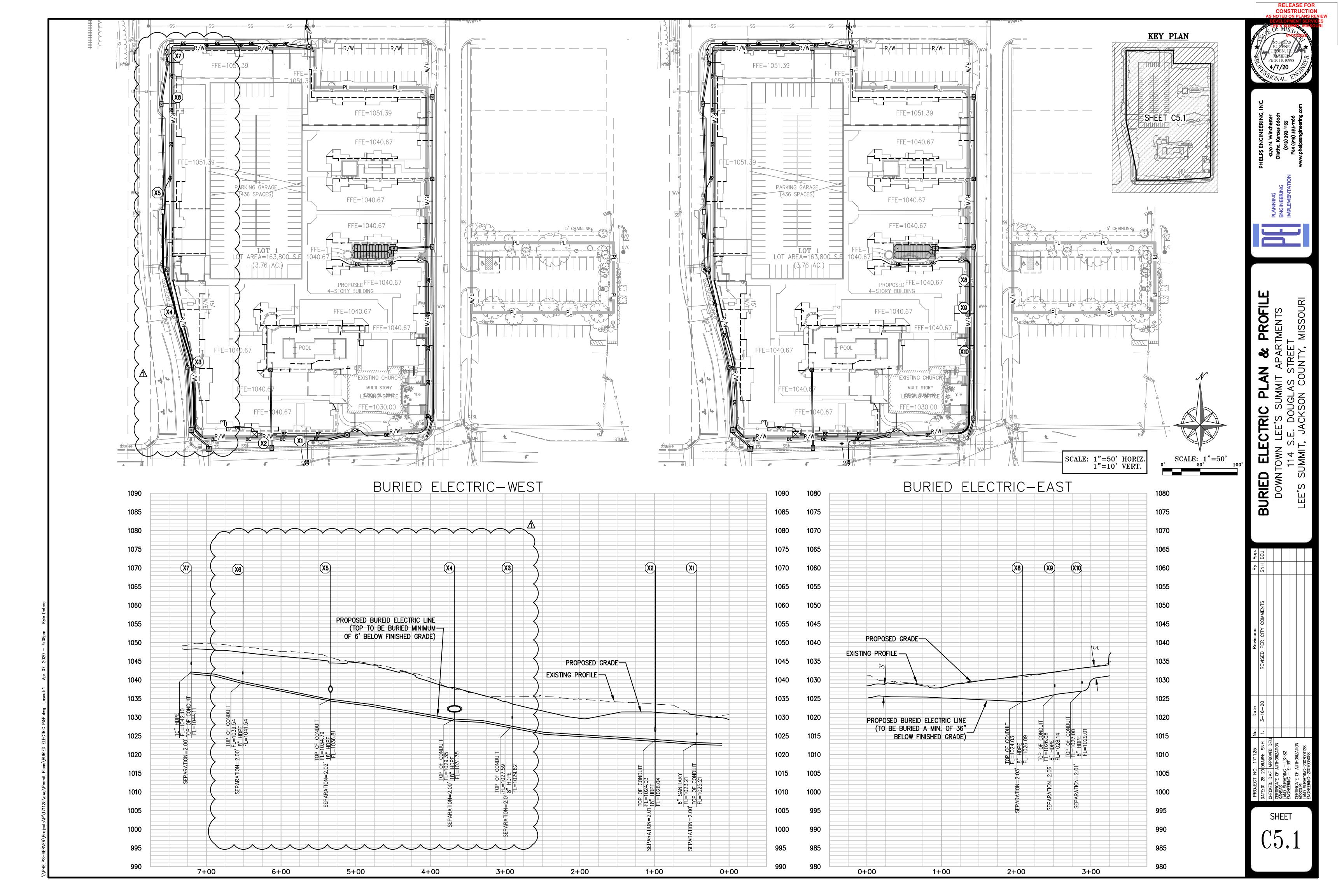


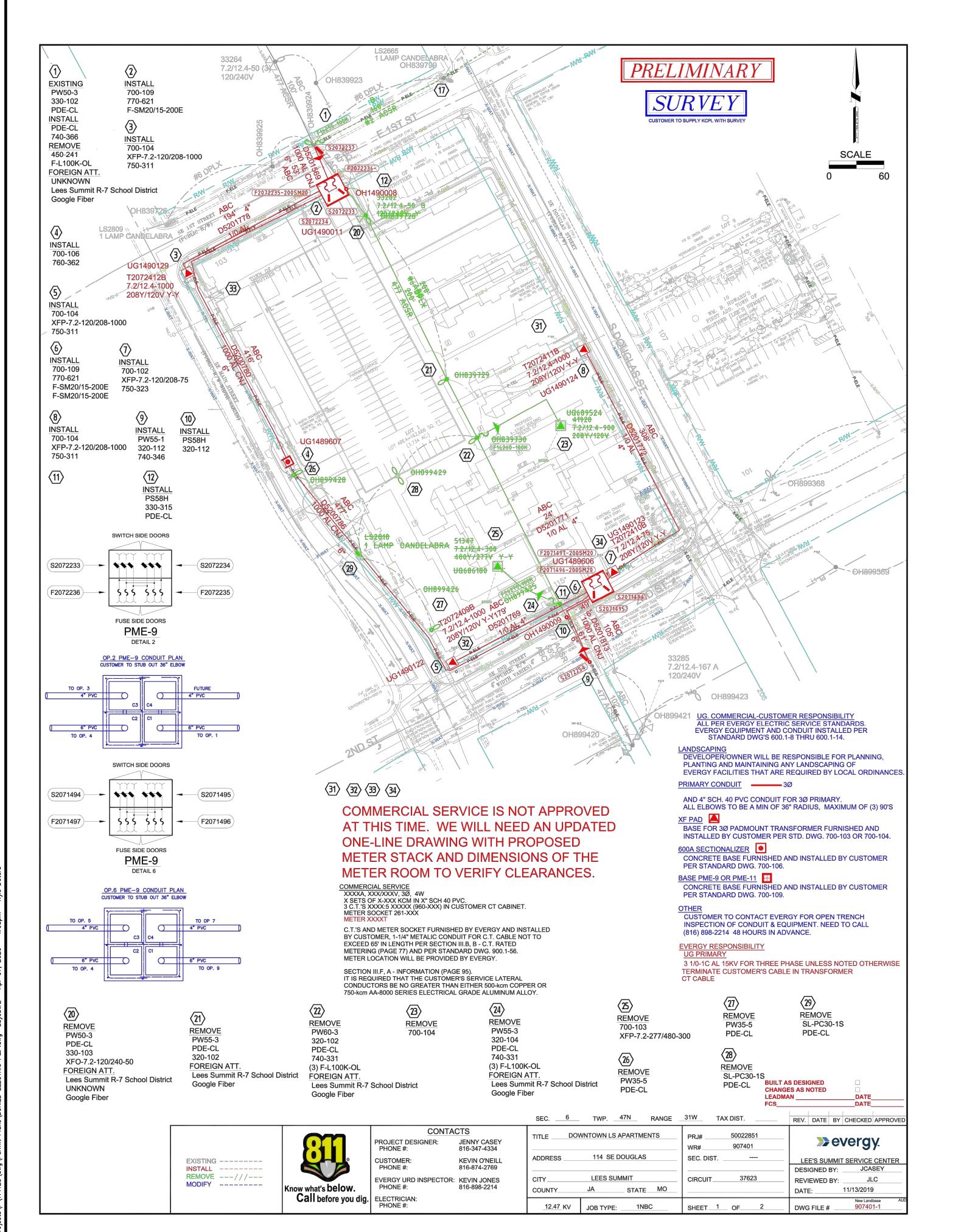


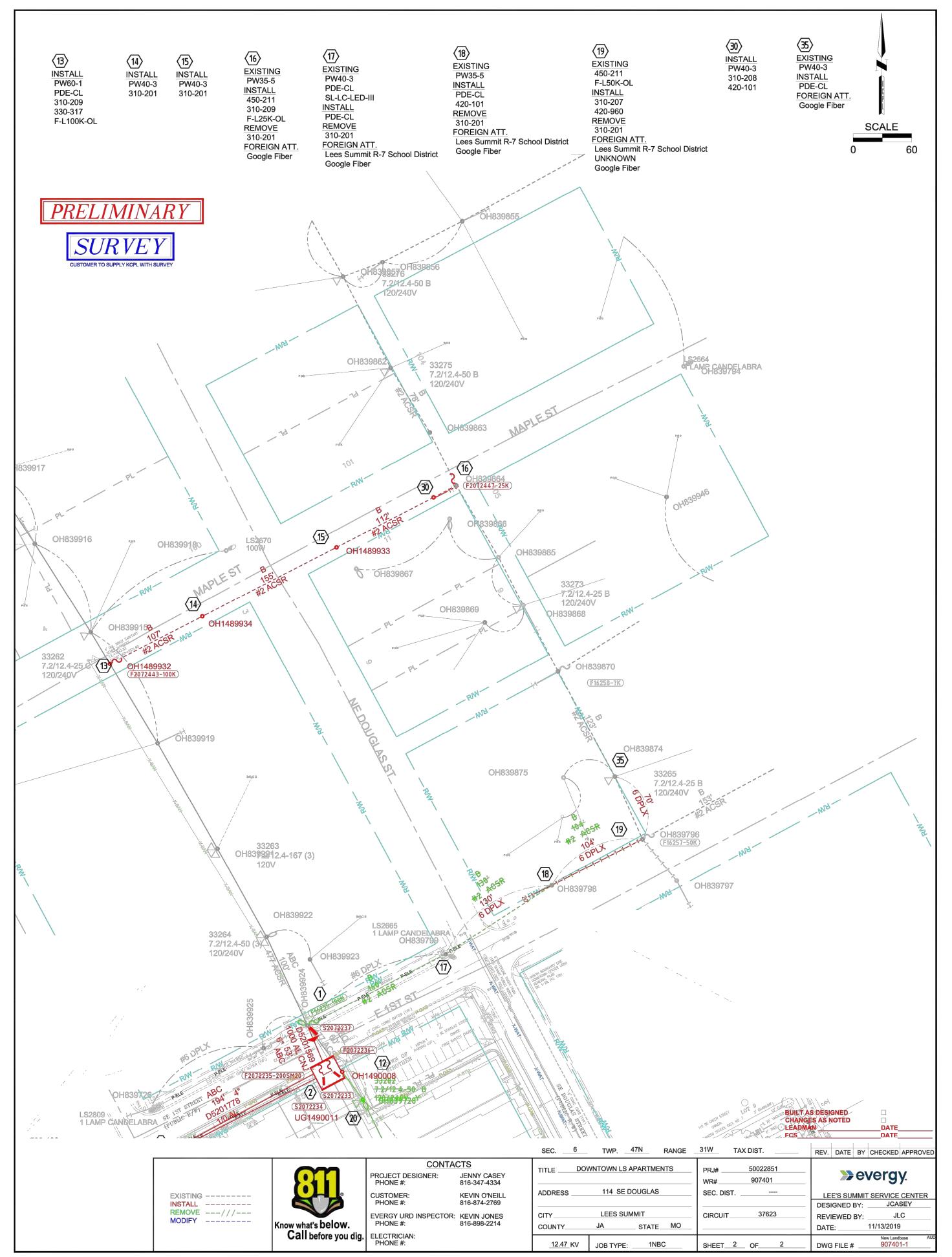
4/7/20

CONSTRUCTION

OURI







CONSTRUCTION
AS NOTED ON PLANS REV
DEVELOPMENT SERVICE
LEE'S SUMMS MISSOU
POUCLAS
POUCLAS
PUBBEN, JR.
Nomber
PE-2011010998
4/7/20

1270 N. Winchester
1270 N. Winchester
Olathe, Kansas 66061
(913) 393-1155
Fax (913) 393-1166
www phelosengineering com

PLANNING ENGINEERING IMPLEMENTATION

TMENTS

EVERGY ELECTRIC PLAN

DOWNTOWN LEE'S SUMMIT APARTME

114 S.E. DOUGLAS STREET

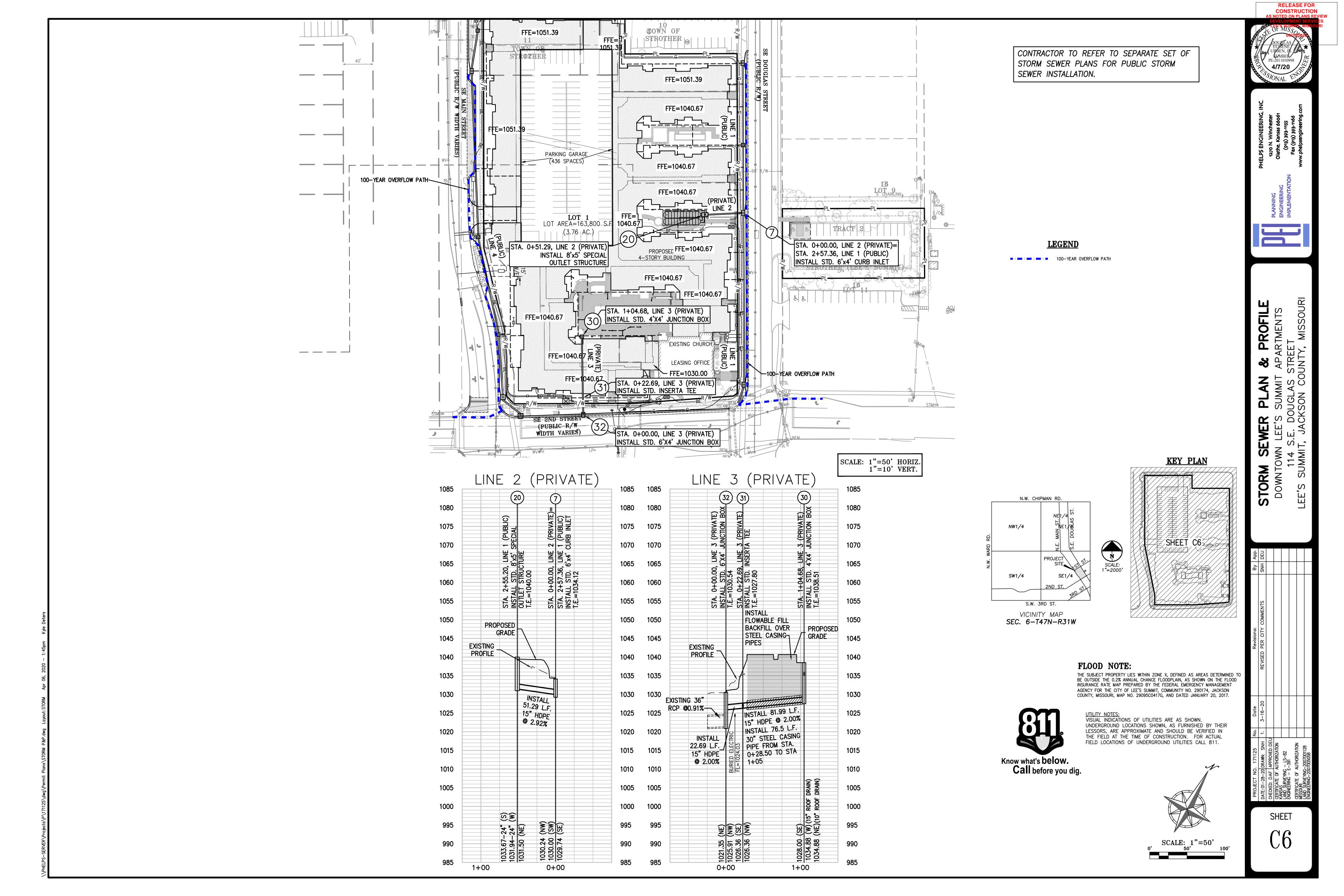
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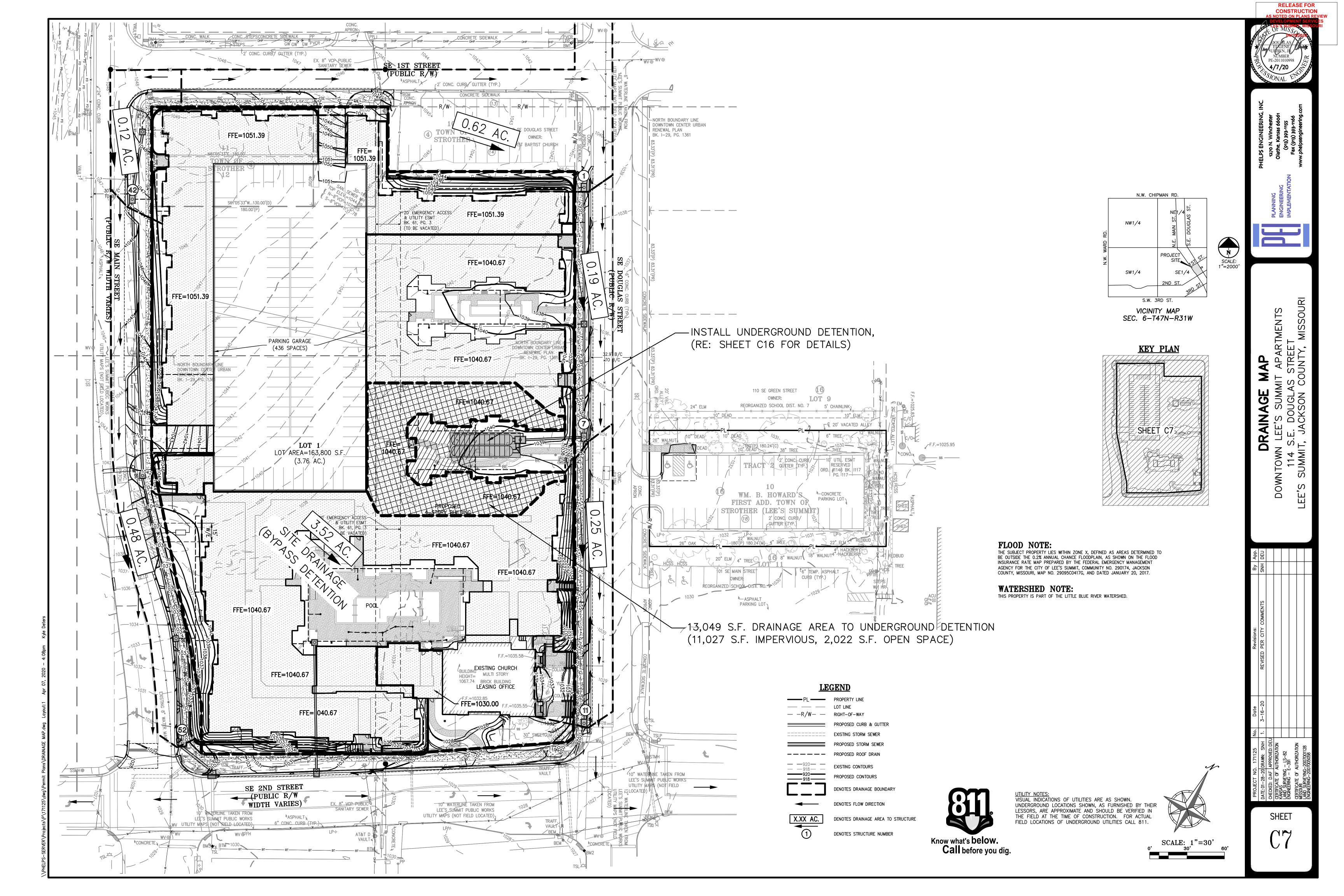
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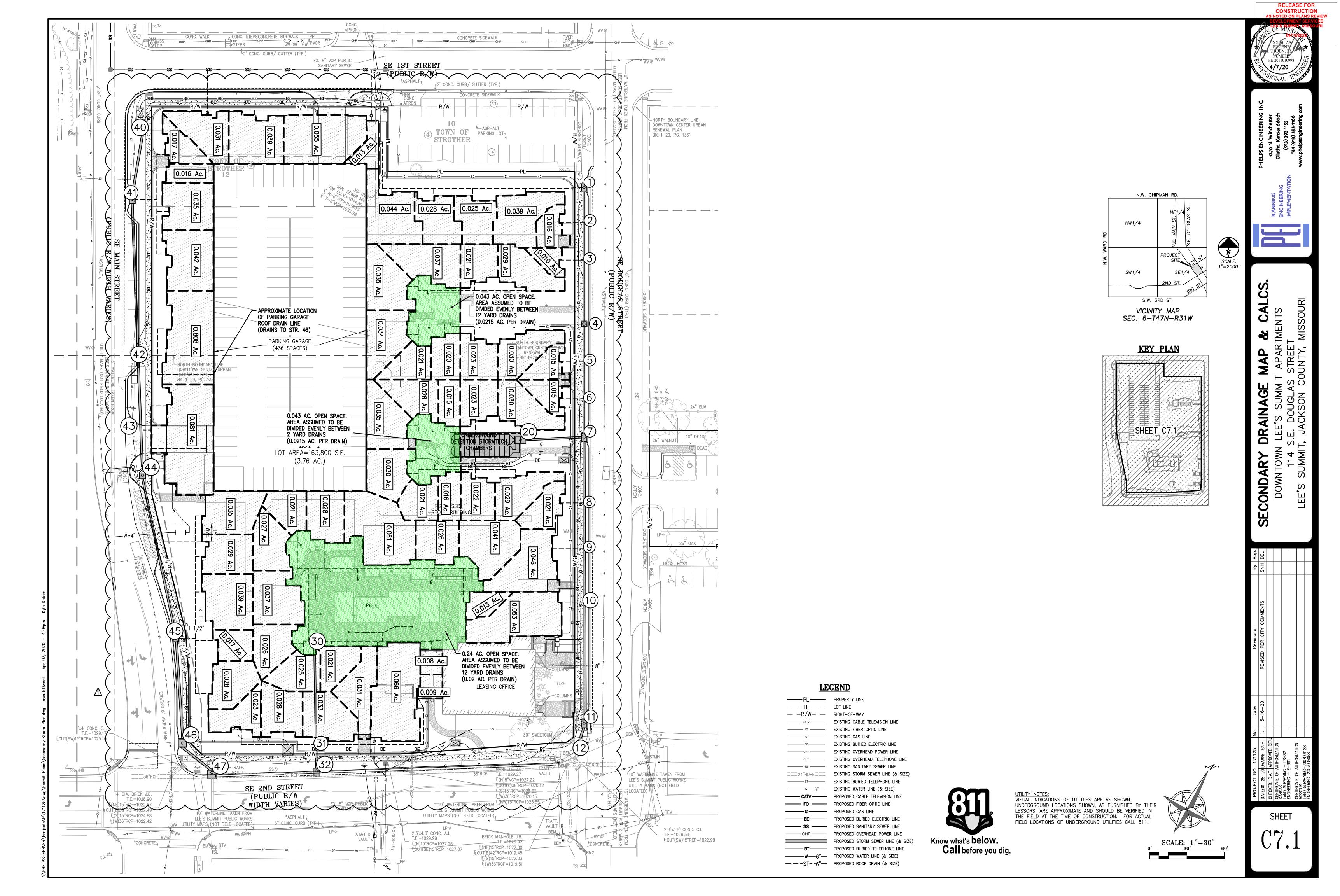
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CHECKED: DAF APPRC
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CERTIFICATE OF AUTHOR
KANSAS
LAND SURVEYING – LSENGINEERING – LSENGINEERING – E-391
CERTIFICATE OF AUTHOR
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C5.2







	CHILLIA		1.0, 1.0, 1.10	I. RUNOF	,		"				····		,		III. PIPE	DESIGN			·				REMARKS
	S	INCRE		LATIVE	•					STRU	CT URE						P	IPE					
N L U I M N B E E R	T R U C RUNC T COEFFIC U "C' R E	CIENT	AREA "A" (ACRES) AREA "A" (ACRES)	CxA	SYSTEM TIME OF CONCENTRATION "T _C " AT STRUCTURE (MIN)	KAINFALL	ANT ECEDENT PRECIPIT ATION FACT OR "K ₁₀ / K ₁₀₀ "	RUNOFF "Q ₁₀ / Q ₁₀₀ " (CFS)	Upstream Structure Number	Downstream Structure Number	Upstream Structure Rim Elevation	Height of Structure (FT)	Diameter "D" (IN)	Length "L" (FT)	Upstream Invert Elevation	Downstream Invert Elevation	Slope "S" (FT/FT)	Travel Time in Pipe "TT" (min)	Velocity Full V _p (FPS)	Runoff Q ₁₀ (CFS)	Runoff Q ₁₀₀ (CFS)	Full Flow Q _p (CFS)	10-YEAR CHECK
	1 0.9	0	0.619 0.560 0.768	0.695	5.00	7.35 10.32	1.00	5.1 9.0	1	2	1039.39	4.09	15	28.09	1035.30	1034.58	0.0256	0.06	8.5	5.1	9.0	10.3	ОК
	2 0.9	0	0.016 0.014 0.784	0.709	5.06	7.34	1.00	5.2	2	3	-	-	15	30.29	1034.58	1033.82	0.0251	0.06	8.4	5.2	9.1	10.2	OK
	3 0.9	0	0.010 0.009 0.794	0.718	5.12	7.32	1.25	9.1 5.3	3	4	-	-	15	51.39	1033.82	1032.53	0.0251	0.10	8.4	5.3	9.2	10.2	OK
	4 0.9	0	0.000 0.000 1.066	0.963	5.22	7.29	1.25	9.2 7.0	4	5	-	•	15	29.79	1032.53	1031.78	0.0252	0.06	8.4	7.0	12.3	10.2	OK
	5 0.9	0	0.015 0.014 1.081	0.977	5.28	7.27	1.25	7.1	5	6	-	-	15	30.29	1031.78	1031.02	0.0251	0.06	8.4	7.1	12.5	10.2	OK
	6 0.9	0	0.015 0.014 1.096	0.991	5.34	7.25	1.25	12.5 7.2	6	7	_	-	15	30.83	1031.02	1030.24	0.0253	0.06	8.4	7.2	12.6	10.3	OK
1	7 0.9	0	0.190 0.171 1.577	1.425	5.40	7.23	1.25	12.6 10.3	7	8	1034.12	4.38	18	52.85	1029.74	1028.47	0.0240	0.09	9.3	10.3	18.1	16.3	OK
	8 0.9	0	0.021 0.019 1.598	1.444	5.49	7.20	1.25	18.1	8	9	-	-	18	36.35	1028.47	1027.59	0.0242	0.07	9.3	10.4	18.3	16.3	OK
	9 0.9	9	0.046 0.041 1.644	1.485	5.56	7.18	1.25	18.3	9	10	-	-	18	43.31	1027.59	1026.54	0.0242	0.08	9.3	10.7	18.7	16.4	OK
	10 0.9	9	0.053 0.048 1.697	1.533	5.63	10.10 7.16	1.25	18.7 11.0	10	11	-	-	18	97.93	1026.54	1024.17	0.0242	0.18	9.3	11.0	19.3	16.3	OK
	11 0.9	0	0.251 0.226 1.948	1.759	5.81	7.11	1.25	19.3 12.5	11	12	1028.54	4.87	18	27.68	1023.67	1023.25	0.0152	0.06	7.4	12.5	22.0	12.9	OK
	12 0.9	9	0.000 0.000 1.948	1.759	5.87	7.09	1.25	22.0 12.5	12	20						-							
	20 0.9	0	0.000 0.000 0.291	0.263	5.00	9.97 7.35	1.25	21.9 1.9	20	7	1040.00	8.50	15	53.26	1031.50	1030.00	0.0282	0.10	8.9	1.9	3.4	10.8	OK
2	7 0.9	0	0.000 0.000 0.291	0.263	5.10	10.32 7.32	1.25	3.4 1.9	7	30	_	-			_	-							
	30 0.9	0	0.020 0.018 0.559	0.504	5.00	10.28 7.35	1.25	3.4 3.7	30	31	1038.51	10.51	15	81.99	1028.00	1026.36	0.0200	0.18	7.5	3.7	6.5	9.1	OK
3	31 0.9	0	0.000 0.000 0.707	0.638	5.18	7.30	1.25	6.5 4.7	31	32	_	_	15	22.69	1026.25	1025.80	0.0200	0.05	7.5	4.7	8.2	9.1	OK
	32 0.9	0	0.000 0.000 0.707	0.638	5.23	10.25 7.28	1.25	8.2 4.6	32	40	-	-			_	-							
	40 0.9	0	0.017 0.015 0.142	0.128	5.00	7.35	1.25	8.2 0.9	40	41	1048.14	4.44	18	54.73	1043.70	1040.88	0.0515	0.07	13.6	0.9	1.7	23.8	OK
	41 0.9	0	0.213 0.192 0.355	0.320	5.07	7.33	1.25	1.7 2.3	41	42	-	-	18	130.90	1040.38	1036.33	0.0309	0.21	10.5	2.3	4.1	18.5	OK
	42 0.9	0	0.808 0.727 1.163	1.047	5.27	10.29 7.27	1.25	4.1 7.6	42	43	1047.10	10.77	18	54.65	1036.33	1034.64	0.0309	0.09	10.5	7.6	13.4	18.5	OK
	43 0.9	0	0.081 0.073 1.244	1.120	5.36	7.24	1.25	13.4 8.1	43	44	-	_	18	36.66	1034.64	1033.51	0.0308	0.06	10.5	8.1	14.2	18.4	OK
4	44 0.9	0	0.000 0.000 1.244	1.120	5.42	7.23	1.25	8.1	44	45	-	-	18	133.77	1033.01	1029.51	0.0262	0.23	9.7	8.1	14.2	17.0	ОК
	45 0.9	0	0.148	1.253	5.65	7.16	1.25	9.0	45	46	-	-	18	84.08	1029.01	1025.68	0.0396	0.12	11.9	9.0	15.8	20.9	OK
	46 0.9	0	0.480 0.432 1.872	1.685	5.77	7.12	1.25	15.8 12.0	46	47	1041.75	16.57	18	34.43	1025.18	1023.62	0.0453	0.05	12.7	12.0	21.1	22.4	ОК
	47					10.01	1.25	21.1															
	60 0.9	0	0.013 0.012 0.013	0.012	5.00	7.35	1.00	0.1	60	61	-	-	8	45.08	-	-	0.0100	0.21	3.5	0.1	0.2	1.2	OK
	61 0.9	0	0.044 0.040 0.057	0.052	5.21	7.29	1.25	0.2	61	62	-	-	8	33.75	-	-	0.0100	0.16	3.5	0.4	0.7	1.2	OK
	62 0.9	0	0.028 0.025 0.085	0.077	5.38	7.24 10.17	1.25 1.00	0.7 0.6	62	63	-	-	8	31.42	-	-	0.0100	0.15	3.5	0.6	1.0	1.2	OK
5	63 0.9	0	0.025 0.023 0.110	0.100	5.52	7.19 10.11	1.25 1.00 1.25	1.0 0.7 1.3	63	20	-	_	10	42.46	_	-	0.0100	0.17	4.1	0.7	1.3	2.2	OK
	64 0.9	0	0.039 0.035 0.149	0.135	5.70	7.14 10.04	1.25 1.00 1.25	1.3 1.0 1.7	64	20	-	-	10	48.90	_	-	0.0200	0.14	5.7	1.0	1.7	3.1	ОК
	1 0.9	0	0.000 0.000 0.149	0.135	5.84	7.10 9.98	1.00	1.7											4410000144	1001			
	70 0.9	0	0.048 0.043 0.048	0.043	5.00	7.35 10.32	1.00	0.3	70	71	-	-	8	21.38	-		0.0125	0.09	3.9	0.3	0.6	1.4	ОК
	71 0.9	0	0.048 0.043 0.096	0.086	5.09	7.32 10.28	1.00	0.6 0.6	71	72	-	-	8	18.23	_	-	0.0125	0.08	3.9	0.6	1.1	1.4	OK
	72 0.9	0	0.023 0.021 0.119	0.107	5.17	7.30 10.25	1.00	0.8	72	73	_		10	20.44	_	-	0.0125	0.08	4.5	0.8	1.4	2.4	OK
6	73 0.9	0	0.000 0.000 0.242	0.218	5.24	7.28	1.00	1.6	73	74			12	20.44	_	_	0.0100	0.07	4.6	1.6	2.8	3.6	OK

12 48.83

0.0697 0.07 12.1 1.8 3.1 9.4

OK

DESIGN CRITERIA: K10 = 1.0; K100 = 1.25; n = 0.013 (RCP); STORM FREQUENCY = 10 YEAR; A.I.= AREA INLET; J.B.= JUNCTION BOX; C.I. = CURB INLET; C.C. = CURB CUT; G.I. = GRATE INLET; HEIGHT OF STRUCTURE=RIM ELEV MINUS FLOWLINE OUT.

1.00 1.8

10.19 1.25 3.1

5.32 7.26

 4
 0.90
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 0.272
 0.245
 5.39
 7.24
 1.00
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 10.16
 1.25
 3.1

74 0.90 0.030 0.027 0.272 0.245

RELEASE FOR
CONSTRUCTION
AS NOTED ON PLANS REVI
DEVELOPMENT SERVICE
LEE SUMMS MISSOUR
OF MISSOUR
DOUGLAS
DOUGLAS
EVIGENF
UBBEN, IR
NUMBER
PE-2011010998
4/7/20

PHELPS ENGINEERING, INC.
1270 N. Winchester
Olathe, Kansas 66061
(913) 393-1155
Fax (913) 393-1166

PLANNING
ENGINEERING
IMPLEMENTATION

CALCS.

SECONDARY DRAINAGE MAP & C
DOWNTOWN LEE'S SUMMIT APARTMENT

Date Revisions: By 5-16-20 REVISED PER CITY COMMENTS SNH

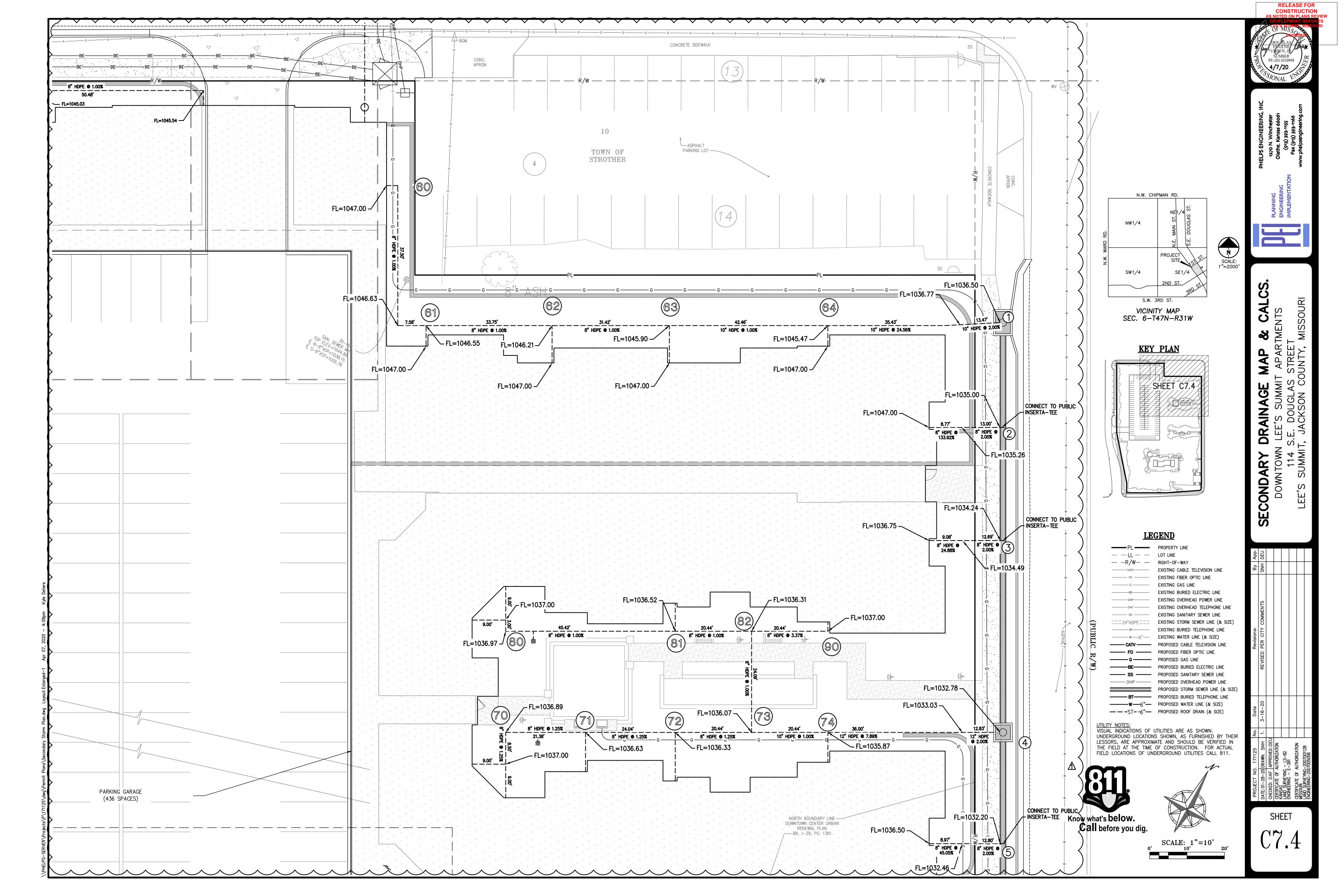
DATE: 01–28–20 DRAWN: SNH 1. 3–16–2C
CHECKED: DAF APPROVED: DEU
CERTIFICATE OF AUTHORIZATION
KANSAS
LAND SURVEYING – LS–82
ENGINEERING – E–391
CFRIFICATE OF AUTHORIZATION

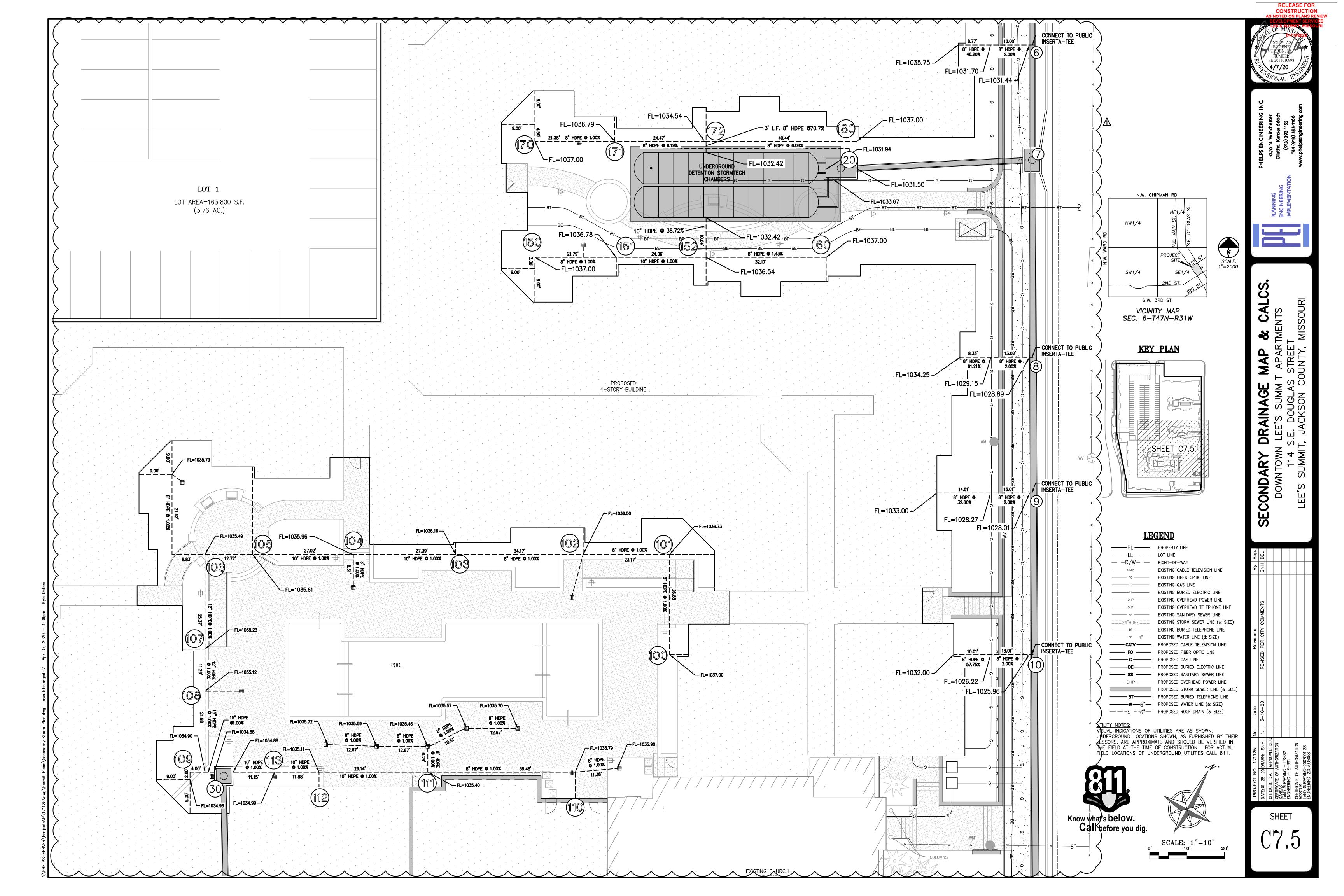
SHEET

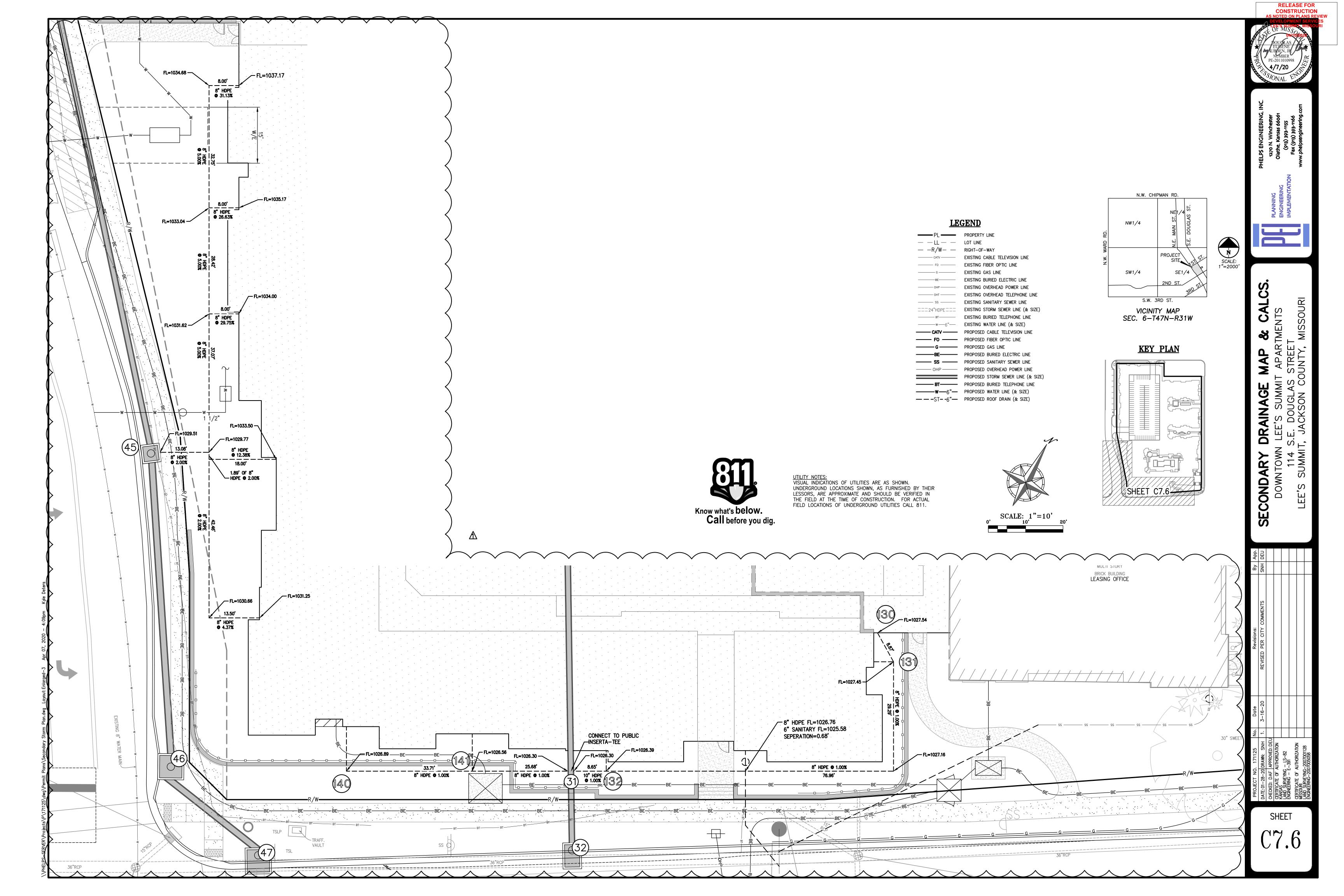
C7.5

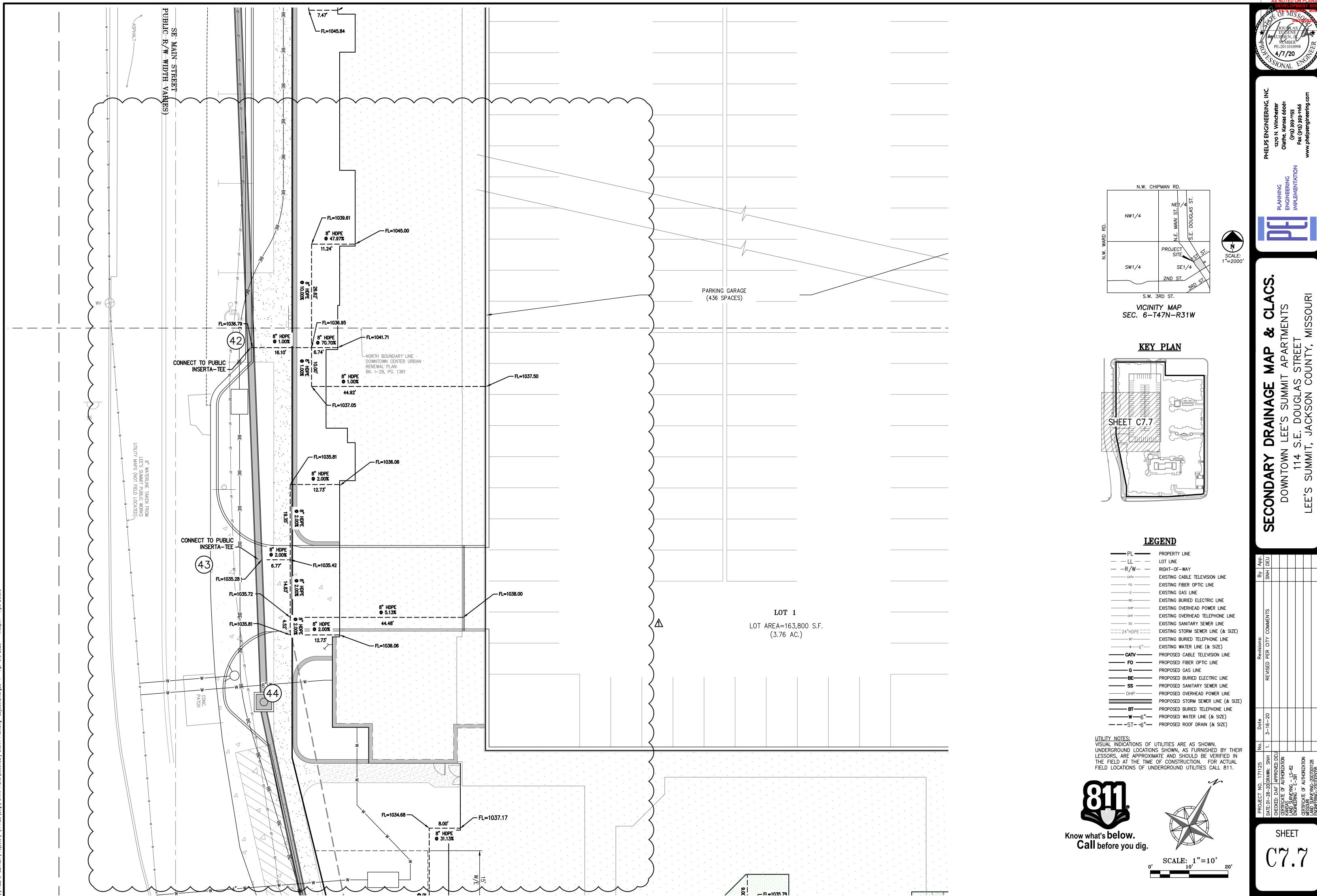
RELEASE FOR
CONSTRUCTION
AS NOTED ON PLANS REVIEW

	80	0.90	0.073 0.066	0.073	0.066	5.00	7.35 10.32	1.00 1.25	0.5	80	81			8	45.42	-	-	0.0100	0.22	3.5	0.5	0.9	1.2
	81	0.90	0.021 0.019	0.094	0.085	5.22	7.29	1.00	0.9 0.6	81	82	-	-	8	20.44	_	-	0.0100	0.10	3.5	0.6	1.1	1.2
7	82	0.90	0.000 0.000	0.123	0.111	5.31	10.23 7.26	1.25 1.00	0.8	82	73	-	-	10	24.09		-	0.0100	0.10	4.1	0.8	1.4	2.2
							10.19	1.25	1.4						2 11.03			0.0100	0.10				
	73	0.90	0.000 0.000	0.123	0.111	5.41	7.23 10.15	1.00 1.25	0.8 1.4	73	90	_	_										
	90	0.90	0.029 0.026	0.029	0.026	5.00	7.35	1.00	0.2	90	82	-	-	8	20.44		-	0.0337	0.05	6.4	0.2	0.3	2.2
8	82	0.90	0.000 0.000	0.029	0.026	5.05	10.32 7.34	1.25 1.00	0.3	82	100	-	_										
							10.30	1.25	0.3														
	100	0.90	0.013 0.012	0.013	0.012	5.00	7.35 10.32	1.00 1.25	0.1	100	101	-	-	8	26.88	-	-	0.0100	0.13	3.5	0.1	0.2	1.2
	101	0.90	0.041 0.037	0.054	0.049	5.13	7.31	1.00	0.4	101	102	-	-	8	23.17		-	0.0100	0.11	3.5	0.4	0.6	1.2
	102	0.90	0.041 0.037	0.095	0.086	5.24	7.28	1.25 1.00	0.6 0.6	102	103	_	-	8	34.17	_	_	0.0100	0.16	3.5	0.6	1.1	1.2
	400	2.22	2 2 2 2 2 2 2	0.455	0.4.44	5.40	10.22	1.25	1.1	400	101			10				0.0400			4.0		
	103	0.90	0.061 0.055	0.156	0.141	5.40	7.23 10.16	1.00 1.25	1.0 1.8	103	104	-	-	10	27.39		-	0.0100	0.11	4.1	1.0	1.8	2.2
	104	0.90	0.015 0.014	0.171	0.155	5.51	7.20	1.00	1.1	104	105	_	_	10	27.02	-	_	0.0100	0.11	4.1	1.1	2.0	2.2
	105	0.90	0.028 0.025	0.199	0.180	5.62	7.17	1.25 1.00	2.0 1.3	105	106	_	-	12	12.72	_	_	0.0100	0.05	4.6	1.3	2.3	3.6
9	105	0.00	0.050 0.057	0.050	0.007		10.07	1.25	2.3	405	107			40	0-0-			0.0400	0.00				
	106	0.90	0.063 0.057	0.262	0.237	5.67	7.15 10.05	1.00 1.25	1.7 3.0	106	107	-	-	12	25.37	-	-	0.0100	0.09	4.6	1.7	3.0	3.6
	107	0.90	0.037 0.033	0.299	0.270	5.76	7.12	1.00	1.9	107	108	-	•	12	11.29	ands.	-	0.0100	0.04	4.6	1.9	3.4	3.6
	108	0.90	0.015 0.014	0.314	0.284	5.80	7.11	1.25 1.00	3.4 2.0	108	109	-	-	15	21.68	_	-	0.0100	0.07	5.3	2.0	3.5	6.5
	100	0.90	0.066 0.059	0.380	0.343	5.87	10.00 7.09	1.25 1.00	3.5 2.4	100	30	-	-	15	3.00	_		0.0100	0.01	ς 2	2.4	4.3	6.5
	109	0.50	0.000 0.059	U.38U	U.343	5.0/	9.97	1.00	4.3	109	JU J	_	-	13	3.00	-	-	0.0100	0.01	5.3	2.4	4.5	0.5
	30	0.90	0.000 0.000	0.380	0.343	5.88	7.09 9.97	1.00 1.25	2.4 4.3	30	110	<u> </u>											
	110	0.90	0.047 0.042	0.047	0.042	5.00	7.35	1.25	0.3	110	111	<u>-</u>	-	8	39.48	-	-	0.0100	0.19	3.5	0.3	0.5	1.2
	111	0.90	0.076 0.068	0.123	0.110	5.19	10.32 7.30	1.25 1.00	0.5 0.8	111	112	_	-	10	29.14	-		0.0100	0.12	4.1	0.8	1.4	2.2
	111	0.90	0.076 0.068	0.123	0.110	2.13	10.24	1.25	1.4		112		-	10	29.14	-		0.0100	0.12	4.1	0.8	1.4	2.2
10	112	0.90	0.021 0.019	0.144	0.129	5.31	7.26 10.20	1.00 1.25	0.9 1.6	112	113			10	11.88			0.0100	0.05	4.1	0.9	1.6	2.2
	113	0.90	0.015 0.014	0.159	0.143	5.36	7.24	1.00	1.0	113	30	-	<u> </u>	10	11.15		-	0.0100	0.05	4.1	1.0	1.8	2.2
	30	0.90	0.000 0.000	0.159	0.143	5.40	10.18 7.23	1.25 1.00	1.8	30	120	-	<u> </u>										
	30	0.90	0.000 0.000	0.139	0.143	5.40	10.16	1.25	1.8	30	120	-	-										
	120	0.90	0.055 0.050	0.055	0.050	5.00	7.35 10.32	1.00 1.25	0.4	120	121		_	8	50.48	-	-	0.1000	0.08	11.1	0.4	0.6	3.8
	121	0.90	0.039 0.035	0.094	0.085	5.08	7.33	1.00	0.6	121	122			8	42.63		_	0.1000	0.06	11.1	0.6	1.1	3.8
	122	0.90	0.031 0.028	0.125	0.113	5.14	7.31	1.25	1.1 0.8	122	123	-	-	10	40.77	, man	_	0.0100	0.17	4.1	0.8	1.4	2.2
11							10.26	1.25	1.4			_	-										
	123	0.90	0.000 0.000	0.125	0.113	5.31	7.26 10.20	1.00 1.25	0.8 1.4	123	40		-	10	17.60	-	-	0.0100	0.07	4.1	0.8	1.4	2.2
	40	0.90	0.000 0.000	0.125	0.113	5.38	7.24	1.00	0.8														
	130	0.90	0.033 0.030	0.033	0.030	5.00	7.35	1.25 1.00	0.2	130	131		-	8	8.87	_	-	0.1000	0.01	11.1	0.2	0.4	3.8
							10.32	1.25	0.4			_	_	_									
10	131	0.90	0.033 0.030	0.066	0.060	5.01	7.35 10.32	1.00 1.25	0.4	131	132	-	-	8	106.25		-	0.0100	0.51	3.5	0.4	0.8	1.2
12	132	0.90	0.031 0.028	0.097	0.088	5.52	7.20	1.00	0.6	132	31			8	8.65	-	_	0.0100	0.04	3.5	0.6	1.1	1.2
	31	0.90	0.000 0.000	0.097	0.088	5.56	7.18	1.25 1.00	1.1 0.6	31			-										
	140	0.00	0.022 0.021	0.022	0.021	F 00	10.09	1.25	1.1	140	1 // 1	*	-	0	22 71			0.0100	0.16) F	0.2	0.2	4 ^
	140	0.90	0.023 0.021	0.023	0.021	5.00	7.35 10.32	1.00 1.25	0.2	140	141	-		8	33.71		-	0.0100	0.16	3.5	0.2	0.3	1.2
13	141	0.90	0.028 0.025	0.051	0.046	5.16	7.30	1.00	0.3	141	31			8	25.61	-	-	0.0100	0.12	3.5	0.3	0.6	1.2
	31	0.90	0.000 0.000	0.051	0.046	5.28	7.27	1.25 1.00	0.6	31	150	-	-										
	150	0.00	0.073 0.066	0.073	0.066	E 00	10.21 7.35	1.25 1.00	0.6 0.5	150	151	••		8	21.79			0.0100	0.10	3.5	0.5	0.0	1.2
14	150	0.90	0.073 0.066	0.073	0.000	5.00	10.32	1.00	0.5	150	TOT	_	-	O	71./3	<u></u>	-	0.0100	0.10	3.3	0.5	0.9	1.2
	151	0.90	0.016 0.014	0.089	0.106	5.10	7.32 10.28	1.00 1.25	0.8 1.4	151	152		_	10	24.06	*	-	0.0100	0.10	4.1	0.8	1.4	2.2
	152	0.90	0.022 0.020	0.140	0.126	5.20	7.29	1.00	0.9	152	20	-	_	10	10.64	-	-	0.3872	0.01	25.3	0.9	1.6	13.6
	20	0.90	0.000 0.000	0.140	0.126	5.21	10.24 7.29	1.25 1.00	1.6 0.9	20		-	-										
		5.50					10.24	1.25	1.6			4-	-										
	160	0.90	0.029 0.026	0.029	0.026	5.00	7.35 10.32	1.00 1.25	0.2	160	152		_	8	32.17	<u></u>	-	0.0143	0.13	4.2	0.2	0.3	1.4
15	152	0.90	0.000 0.000	0.029	0.026	5.13	7.31	1.00	0.2	152	20						•						
	170	0.90	0.083 0.075	0.083	0.075	5.00	10.27 7.35	1.25 1.00	0.3 0.6	170	171	-	-	8	21.38	_	-	0.1000	0.03	11.1	0.6	1.0	3.8
			0.003	3.003	5.575	3.00	10.32	1.25	1.0	1,0		-	_	·	21.30			3.1000	5.05	* * • *	0.0	1.0	
	171	0.90	0.015 0.014	0.098	0.089	5.03	7.34 10.31	1.00 1.25	0.7 1.1	171	172		_	8	24.47			0.0919	0.04	10.6	0.7	1.1	3.7
16	172	0.90	0.023 0.021	0.151	0.137	5.07	7.33	1.00	1.0	172	20			8	3.00	-	-	0.7070	0.00	29.5	1.0	1.8	10.2
1	20	0.90	0.000 0.000	0.151	0.137	5.07	10.29 7.33	1.25 1.00	1.8			-	-										
		0.50	0.000	J. 1J1		***************************************	10.29	1.25	1.8			_	-							1,			
				1				1 00	0.2	180	177			8	40.44	_	_	0.0608	0.08	8.6	0.2	0.3	3.0
17	180	0.90	0.030 0.027	0.030	0.027	5.00	7.35 10.32	1.00 1.25	0.3	100	172		-	0	40.44			0.0000	0.00	0.0	0.2		

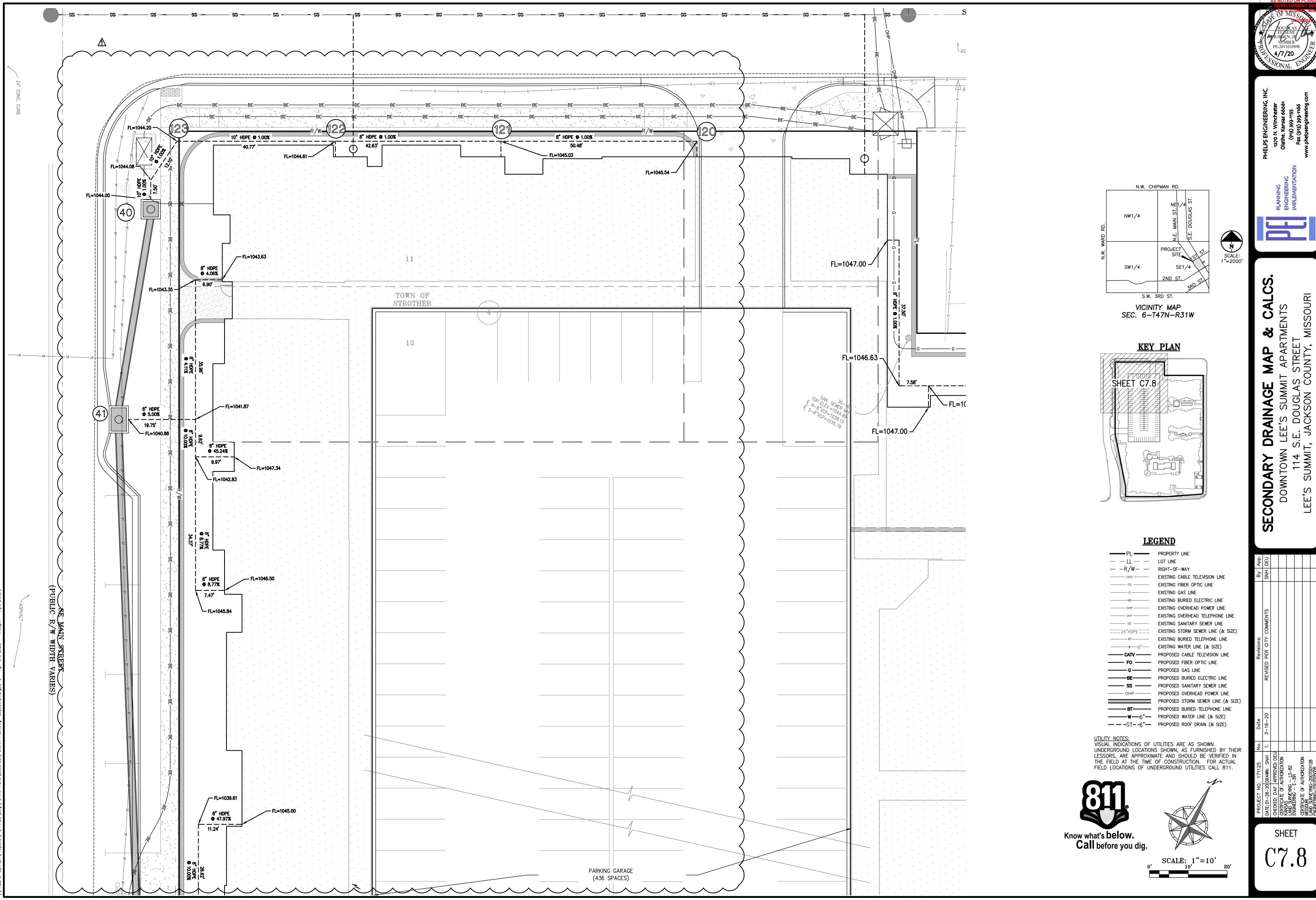






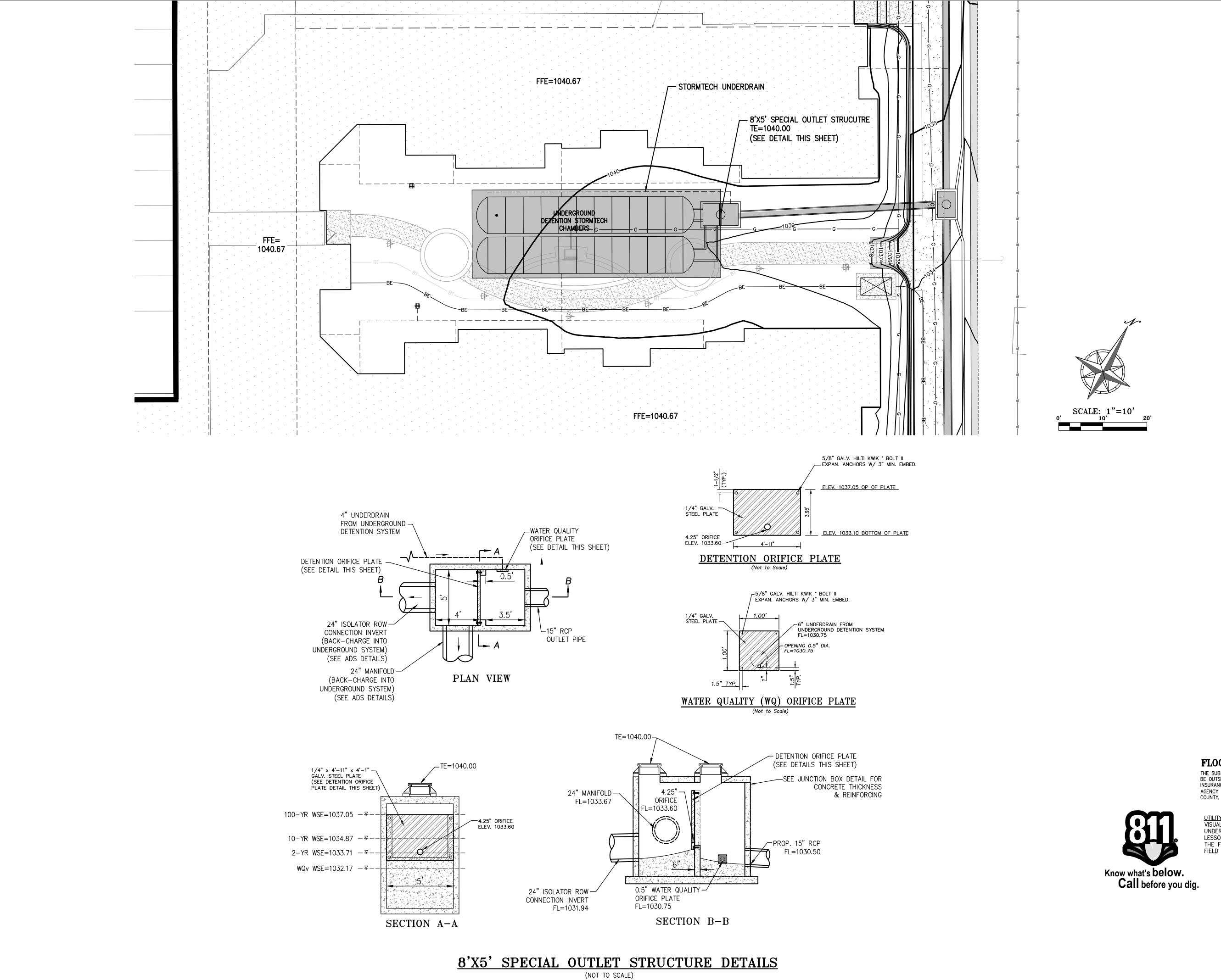


CONSTRUCTION AS NOTED ON PLANS REV



CONSTRUCTION NOTED ON PLANS REV

RELEASE FOR



RELEASE FOR CONSTRUCTION NOTED ON PLANS REV

STORN DOWNTO

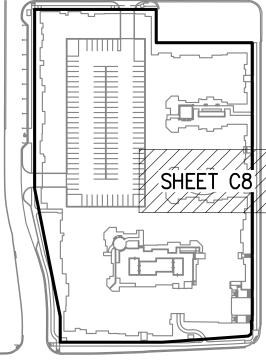
SCALE: 1"=2000'

KEY PLAN

S.W. 3RD ST.

VICINITY MAP SEC. 6-T47N-R31W

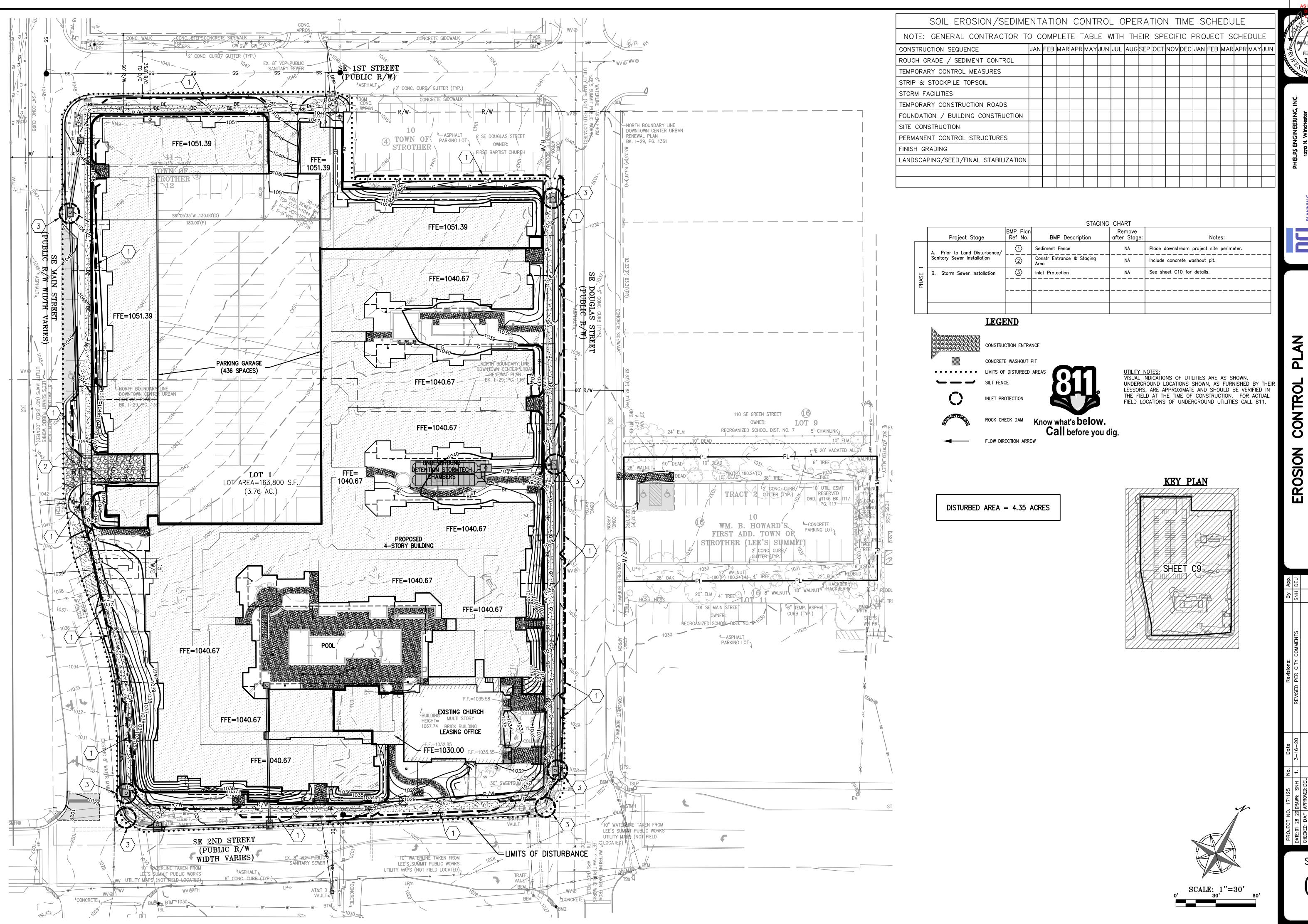
N.W. CHIPMAN RD.



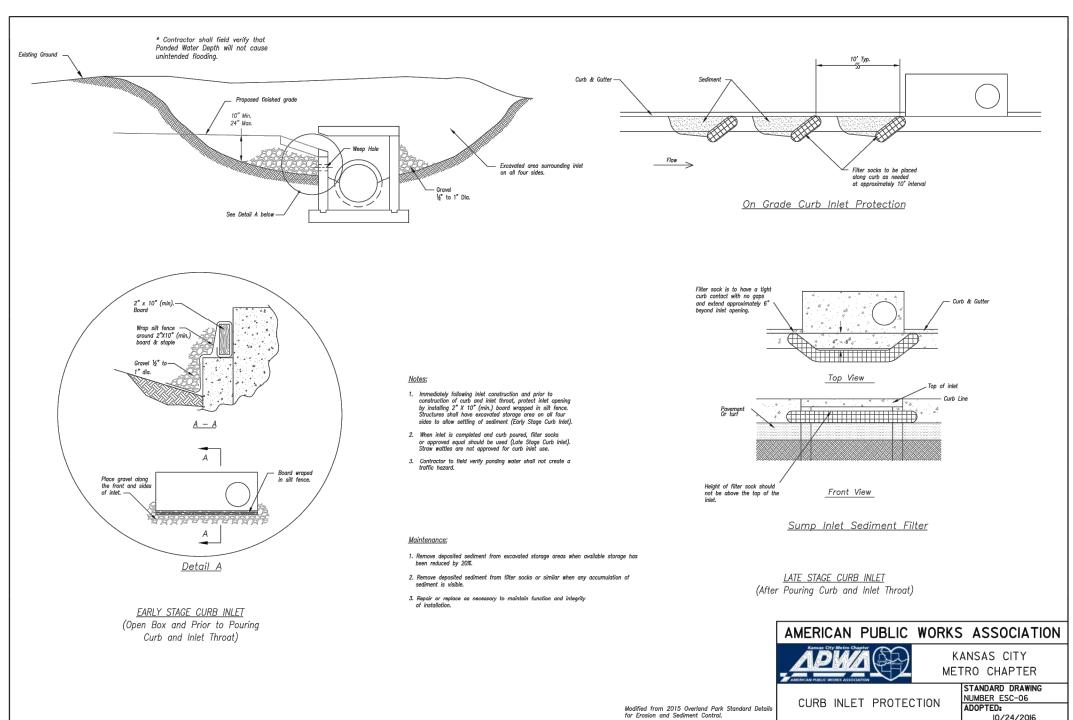
FLOOD NOTE:

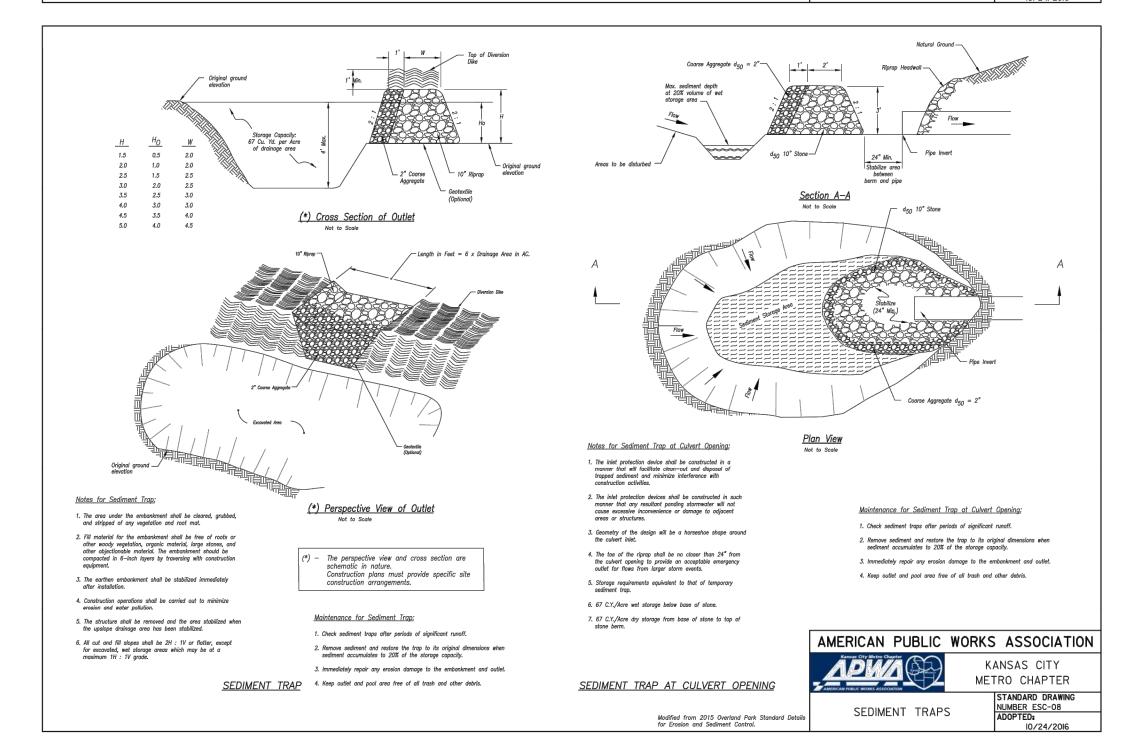
THE SUBJECT PROPERTY LIES WITHIN ZONE X, DEFINED AS AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN, AS SHOWN ON THE FLOOD INSURANCE RATE MAP PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY FOR THE CITY OF LEE'S SUMMIT, COMMUNITY NO. 290174, JACKSON COUNTY, MISSOURI, MAP NO. 29095C0417G, AND DATED JANUARY 20, 2017.

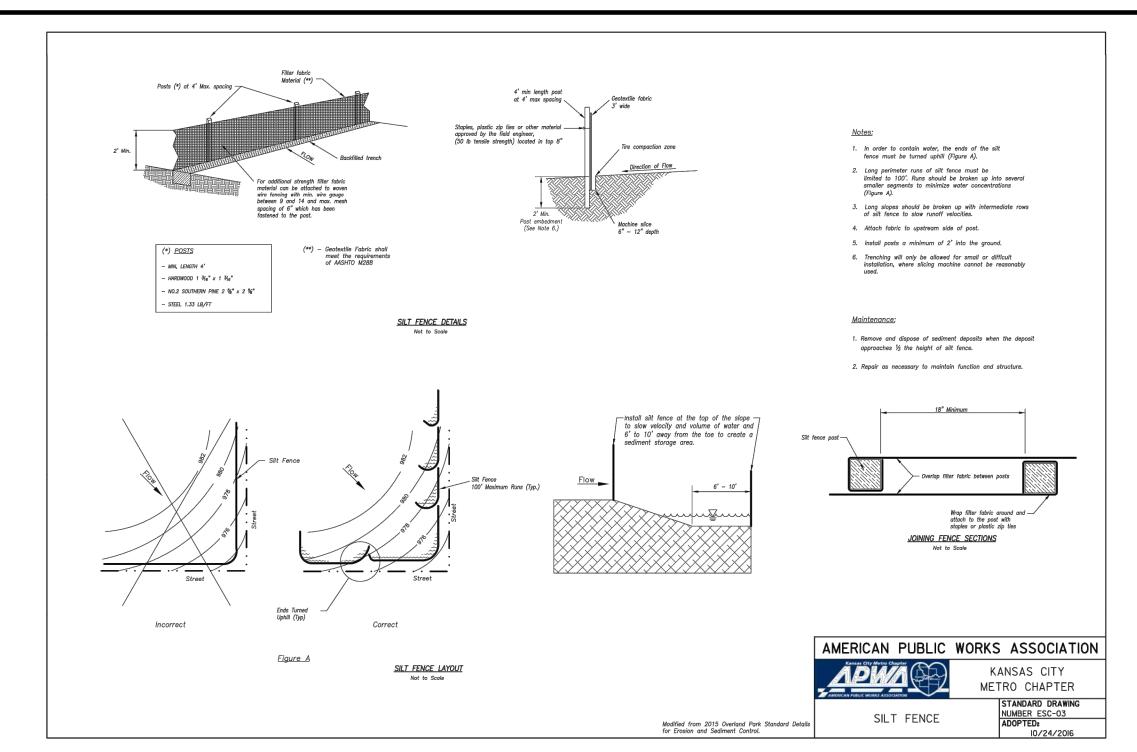
UTILITY NOTES:
VISUAL INDICATIONS OF UTILITIES ARE AS SHOWN.
UNDERGROUND LOCATIONS SHOWN, AS FURNISHED BY THEIR
LESSORS, ARE APPROXIMATE AND SHOULD BE VERIFIED IN
THE FIELD AT THE TIME OF CONSTRUCTION. FOR ACTUAL
FIELD LOCATIONS OF UNDERGROUND UTILITIES CALL 811.

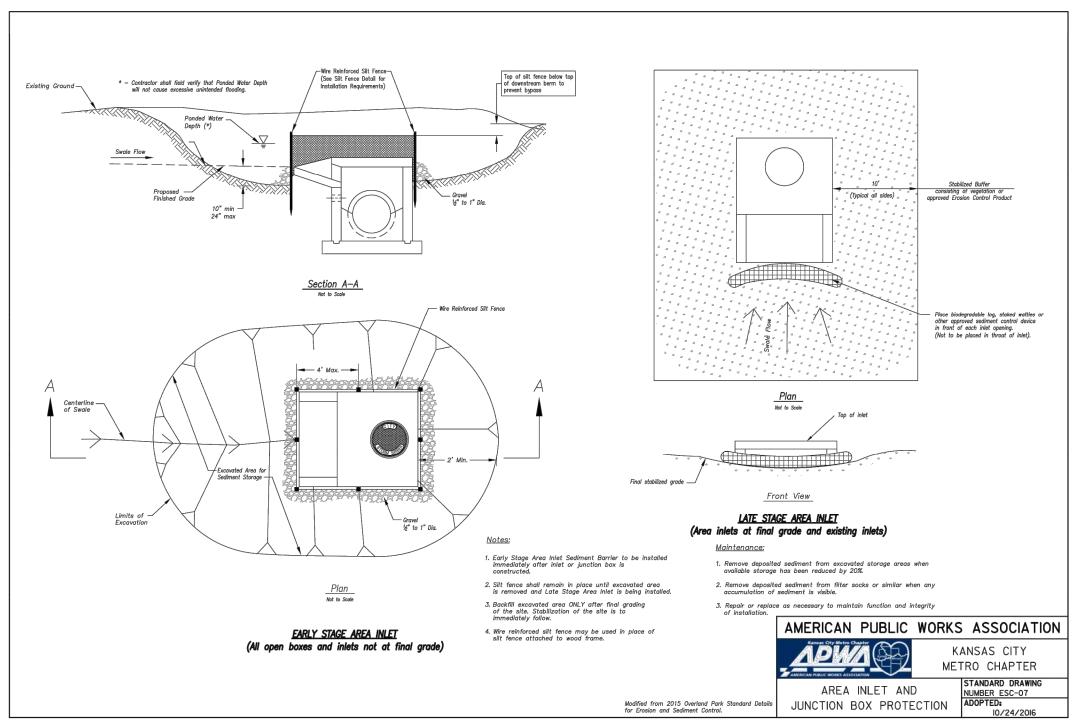


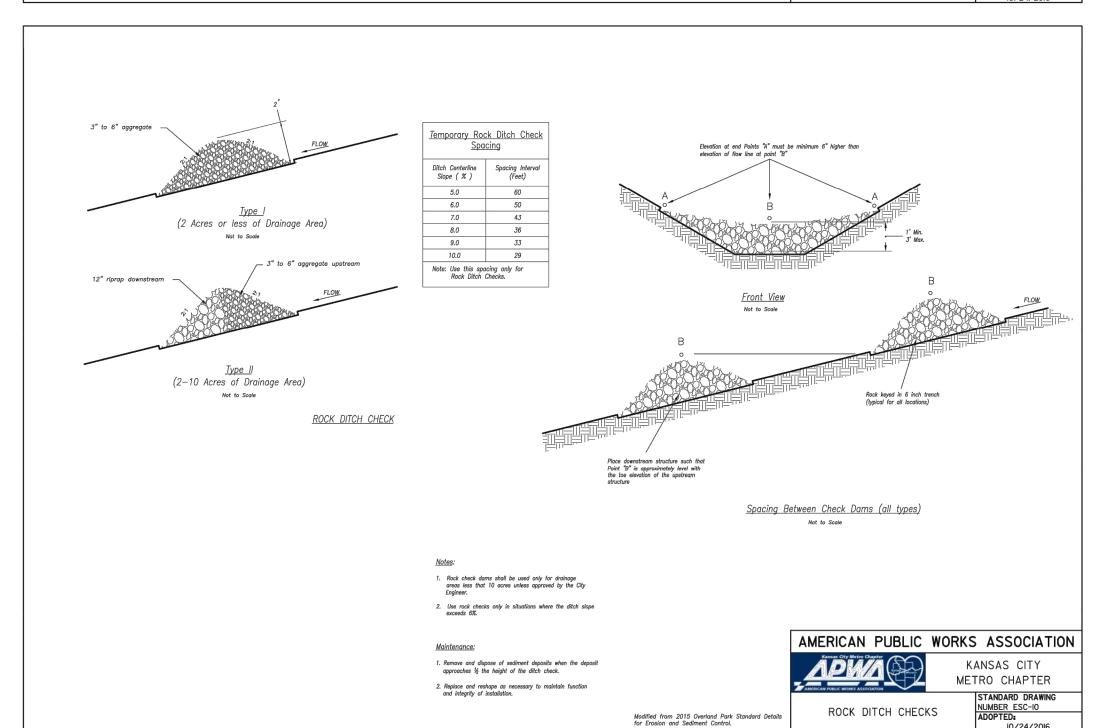
CONSTRUCTION









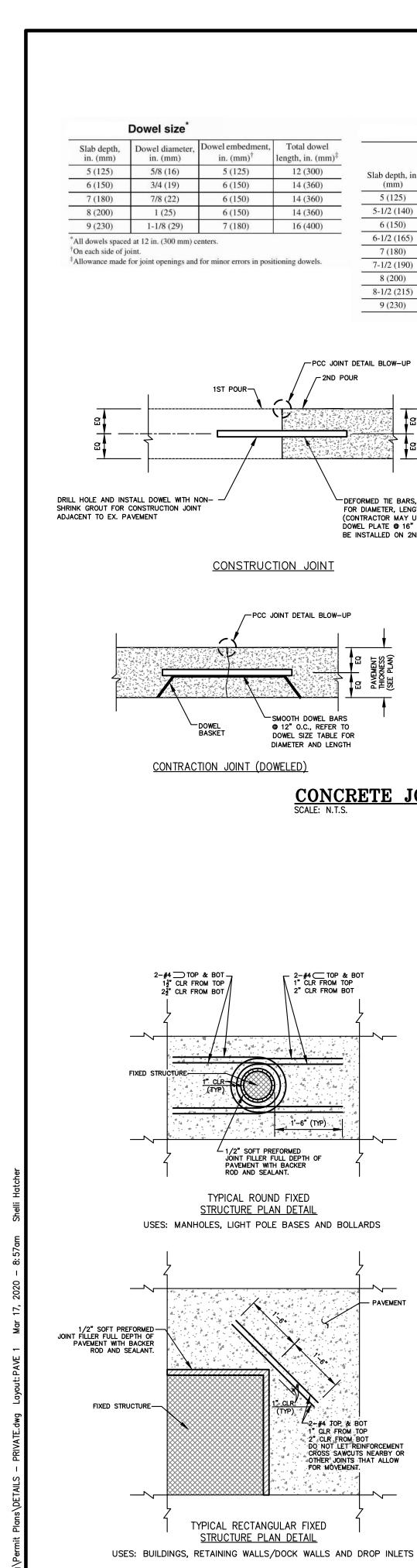


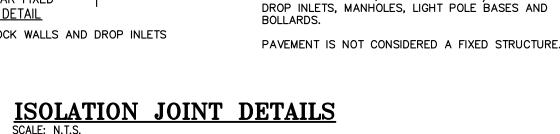
CONSTRUCTION NOTED ON PLANS REV

RELEASE FOR

SION

ERO OWNT





CONTRACTION JOINT (UNDOWELED) CONCRETE JOINT DETAILS SCALE: N.T.S.

Tie bar dimensions

(mm)

1/2 x 24 (13 x 610)

1/2 x 24 (13 x 610)

30 (760)

30 (760)

36 (910)

SAWCUT DEPTH SHALL BE PAVEMENT

THICKNESS /

Slab depth, in. Tiebar size, in

5-1/2 (140) 1/2 x 24 (13 x 610)

7 (180) 1/2 x 24 (13 x 610)

7-1/2 (190) 1/2 x 24 (13 x 610)

8-1/2 (215) 1/2 x 24 (13 x 610)

DEFORMED TIE BARS, REFER TO TIE BAR TABLE

FOR DIAMETER, LENGTH & SPACING (CONTRACTOR MAY USE 3/8" X 4-1/2" X 4-1/2" DOWEL PLATE @ 16" O.C. AS ALTERNATE. PLATE TO

9 (230) 1/2 x 30 (13 x 760)

Tiebar spacing

Distance to nearest free edge or to nearest joint where

10 ft, in. (mm) | 12 ft, in. (mm) | 14 ft., in. (mm) | 24 ft, in. (mm)

30 (760)

36 (910)

25 (630)

16 (410)

24 (610)

WAIT AS LONG AS FEASIBLE TO SEAL JOINTS TO ALLOW CONCRETE SHRINKAGE TO OCCUR. IF REQUIRED, RE—SAW JOINT IMMEDIATELY PRIOR TO INSTALLING SEALANT TO ACHIEVE A 1/4 " JOINT WIDTH. ENSURE JOINT IS CLEAN, DRY AND SIDES PREPARED PER MANUFACTURER RECOMMENDATIONS

─HOT POUR PAVEMENT SEALANT

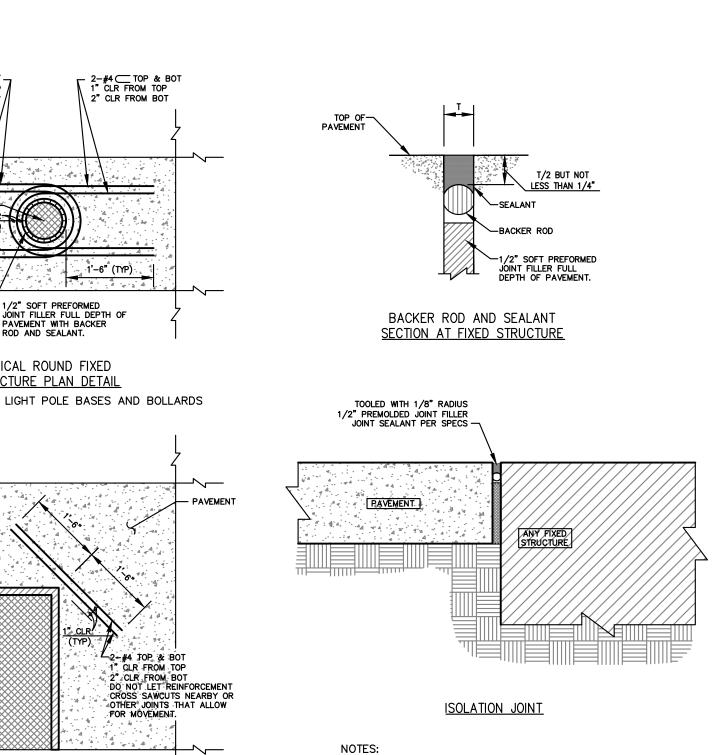
PCC JOINT DETAIL BLOW-UP (TYP.)

movement can occur

30 (760)

30 (760)

36 (910)



ISOLATION JOINT TO BE USED FOR FIXED STRUCTURES

SUCH AS BUILDINGS, RETAINING WALLS/DOCK WALLS,

CONCRETE SIDEWALK JOINT DETAILS

NOTE: TYPE A JOINTS SHALL NOT EXCEED 20 TIMES THE PAVEMENT THICKNESS (T).

1" DEEP SAWED JOINT (TYP.)

1/4" THICKNESS PREMOLDED EXPANSION JOINT FILLER SPACED @ 35' O.C. MAX. EXTEND JOINT FILLER FULL DEPTH OF SIDEWALK

USE KANSAS CITY MATERIALS METRO BOARD (KCMMB) MIX DESIGN SPECIFICATIONS FOR

PRIVATE CONCRETE SIDEWALKS (NON REINFORCED)

SECTION A-A

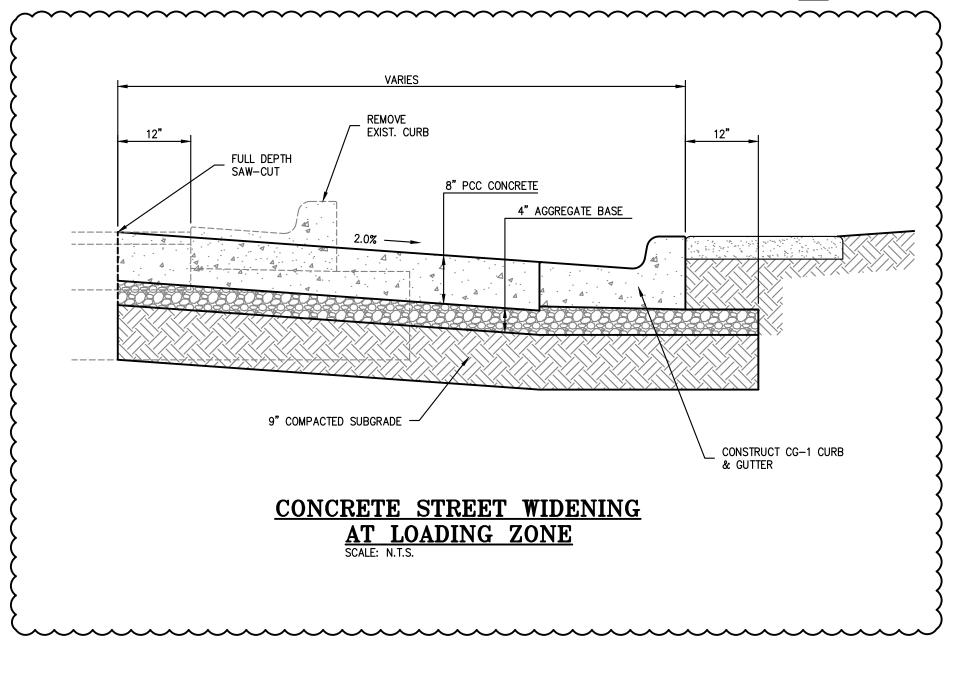
4,000 P.S.I. AIR ENTRAINED CONCRETE FOR ALL PRIVATE SIDEWALKS.

SAWED JOINT. DO NOT TOOL.

PLAN VIEW

SCALE: N.T.S.

TYPE A JOINT



NOTE: PROVIDE 1/2" EXPANSION JOINT BETWEEN SIDEWALK AND ALL FIXED OBJECTS

SLOPE 2.0% MAX. —

SECTION B-B

PC CONCRETE

(TYP.)

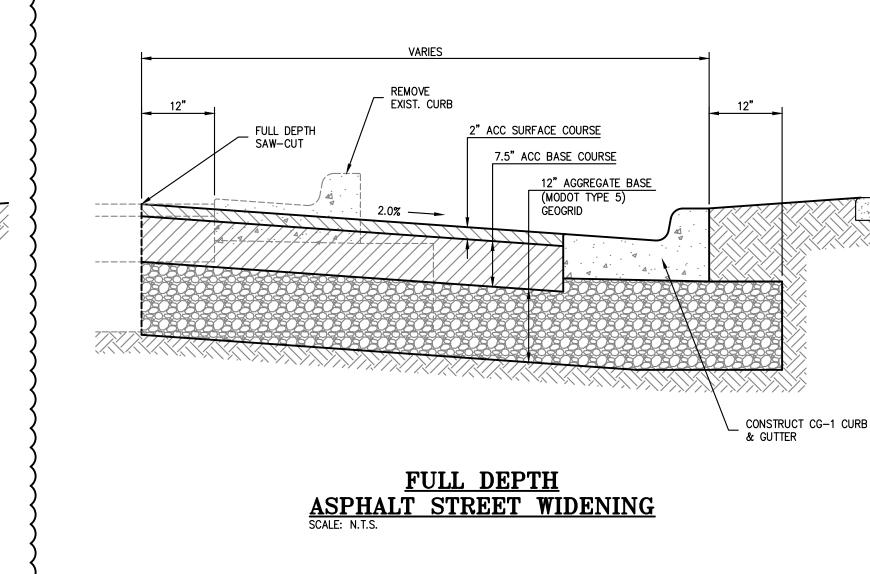
COMPACTED SUBGRADE

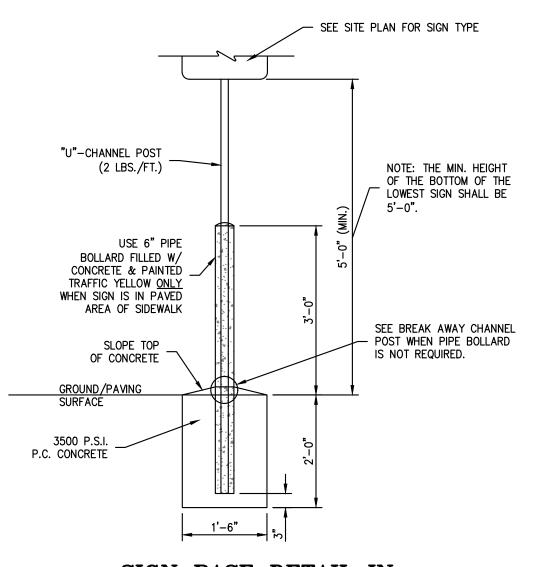
JOINT SEALANT (2" MIN.) -

1/2" NON-EXTRUDING

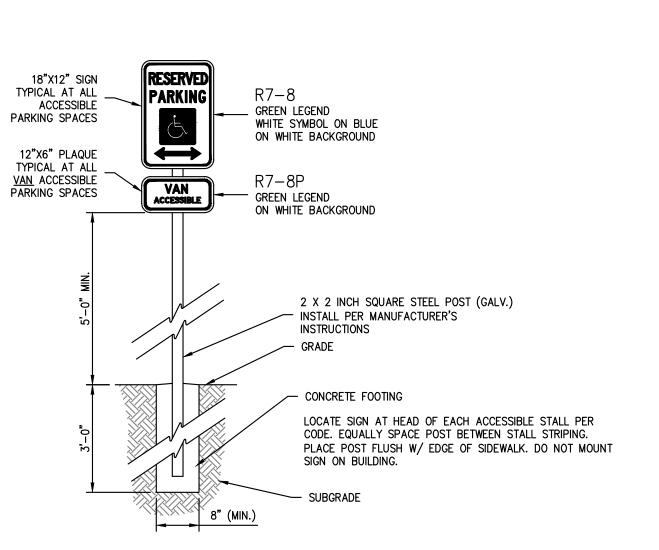
FILLER

TYPE B JOINT

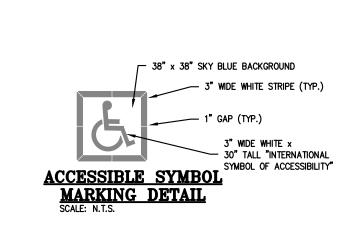








ACCESSIBLE SIGN DETAIL IN GRASS AREA SCALE: N.T.S.



GENERAL NOTES:

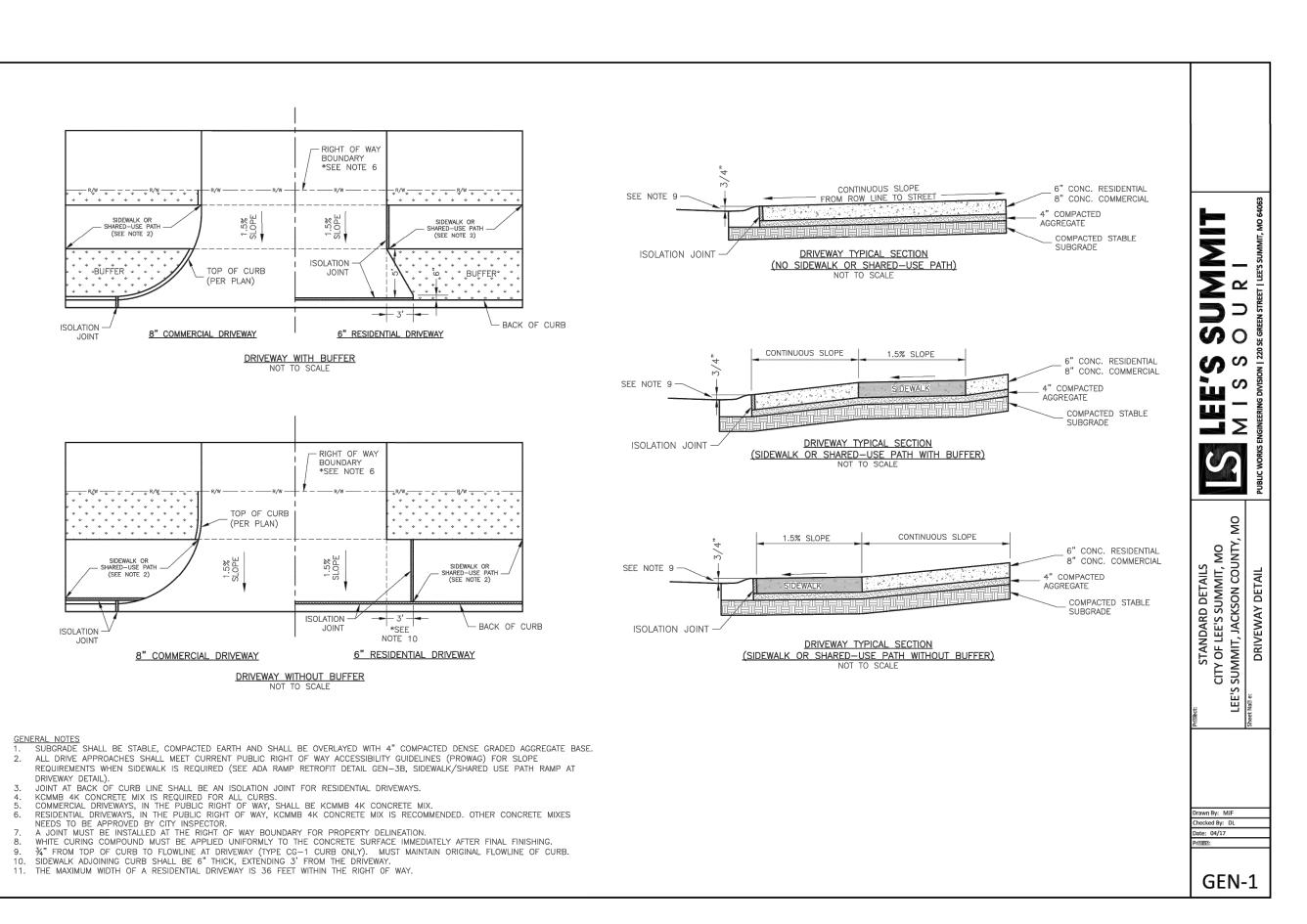
- ALL PAVEMENT MARKINGS SHALL BE APPLIED BY A QUALIFIED CONTRACTOR HAVING A MINIMUM 3 YEARS EXPERIENCE IN TRAFFIC GRADE PAVEMENT MARKING APPLICATIONS.
- 2. PAINT SHALL BE A NON-BLEEDING, QUICK-DRYING, ALKYD PETROLEUM BASE PAINT SUITABLE FOR TRAFFIC-BEARING SURFACE AND SHALL MEET FS TTP-85E & MIXED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS BEFORE
- 3. SWEEP AND CLEAN SURFACE TO ELIMINATE LOOSE MATERIAL & DUST.
- 4. APPLY TWO (2) COATS OF PAINT AT MANUFACTURER RECOMMENDED RATE WITHOUT THE ADDITION OF THINNER, WITH A MAXIMUM OF 100 SQUARE FEET PER GALLON. APPLY WITH MECHANICAL EQUIPMENT TO PRODUCE UNIFORM STRAIGHT EDGES. AT SIDEWALK, CURBS, AND CROSSWALKS USE A STRAIGHTEDGE TO ENSURE A UNIFORM, CLEAN, & STRAIGHT STRIPE.
- THE FOLLOWING ITEMS SHALL BE PAINTED WITH THE COLORS NOTED BELOW:
 A. HANDICAP SYMBOLS: SEE DETAIL THIS SHEET.
 B. PARKING STALL STRIPING: WHITE.
- ACCESSIBLE PARKING SPACE DESIGN LAYOUT SHALL BE IN ACCORDANCE WITH CURRENT ADA REQUIREMENTS.
- 7. SEE SITE PLANS FOR COMPLETE PARKING LAYOUT.

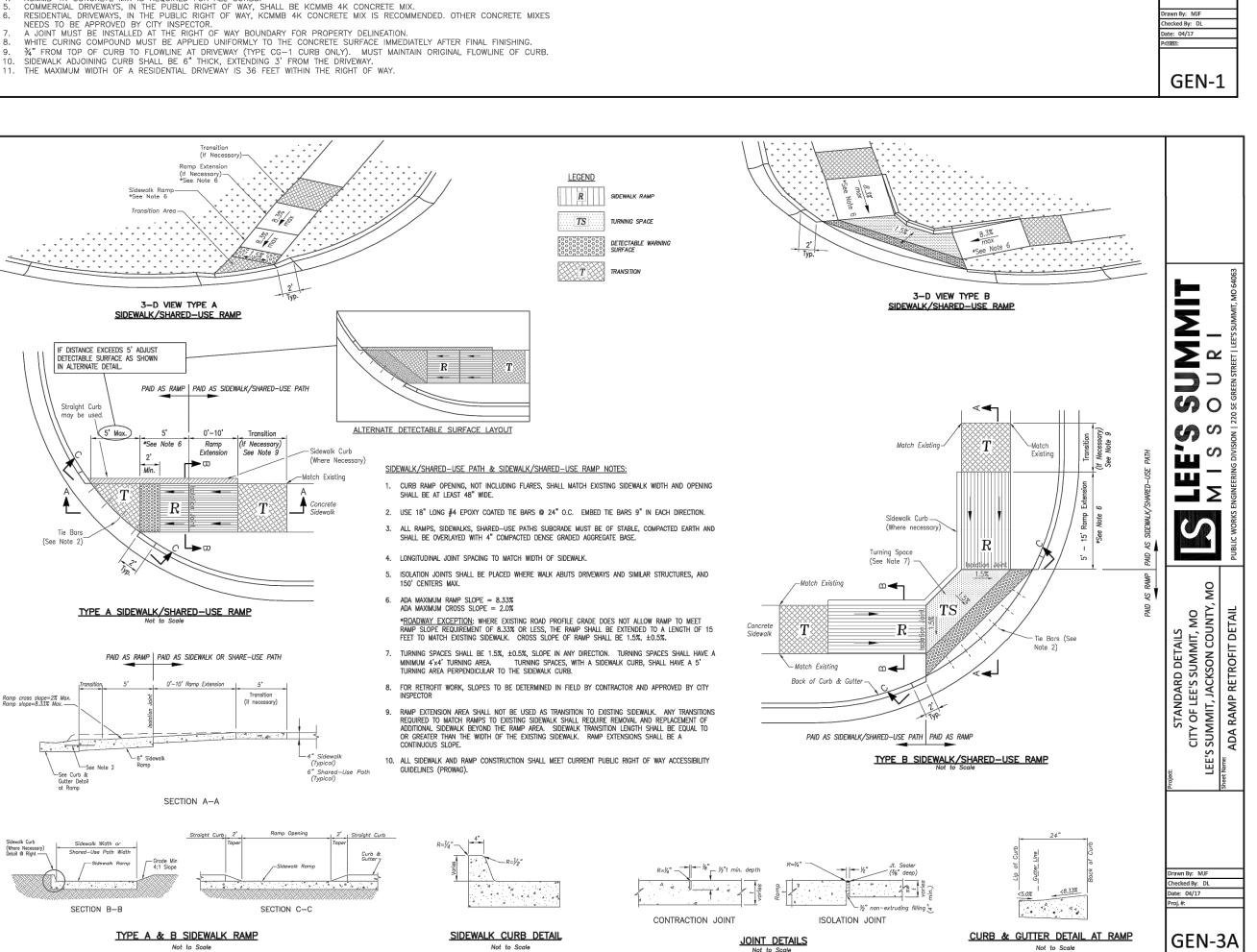
ACCESSIBLE PARKING SPACE DETAIL

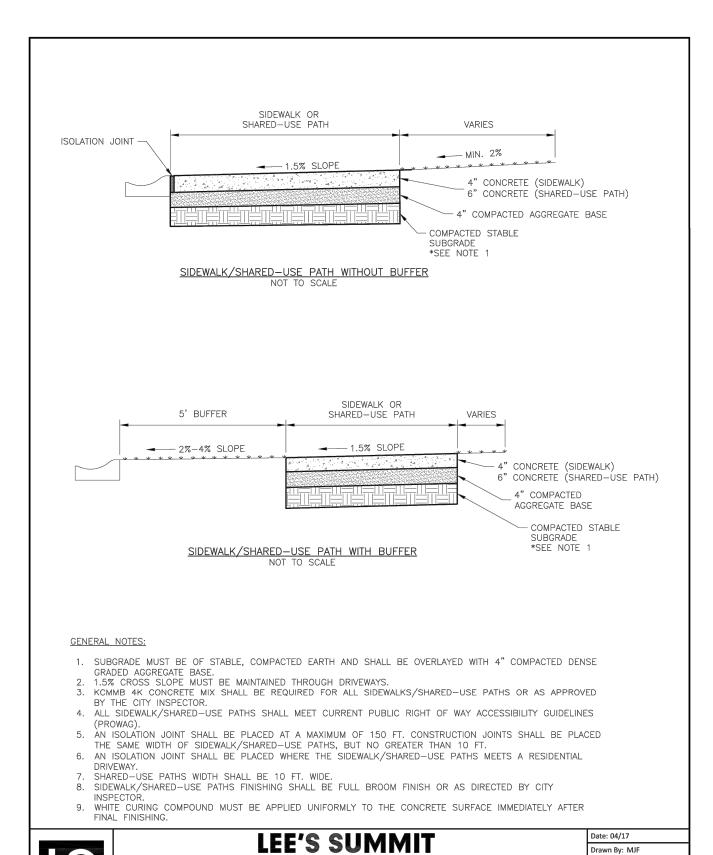
SHEET

SOURI

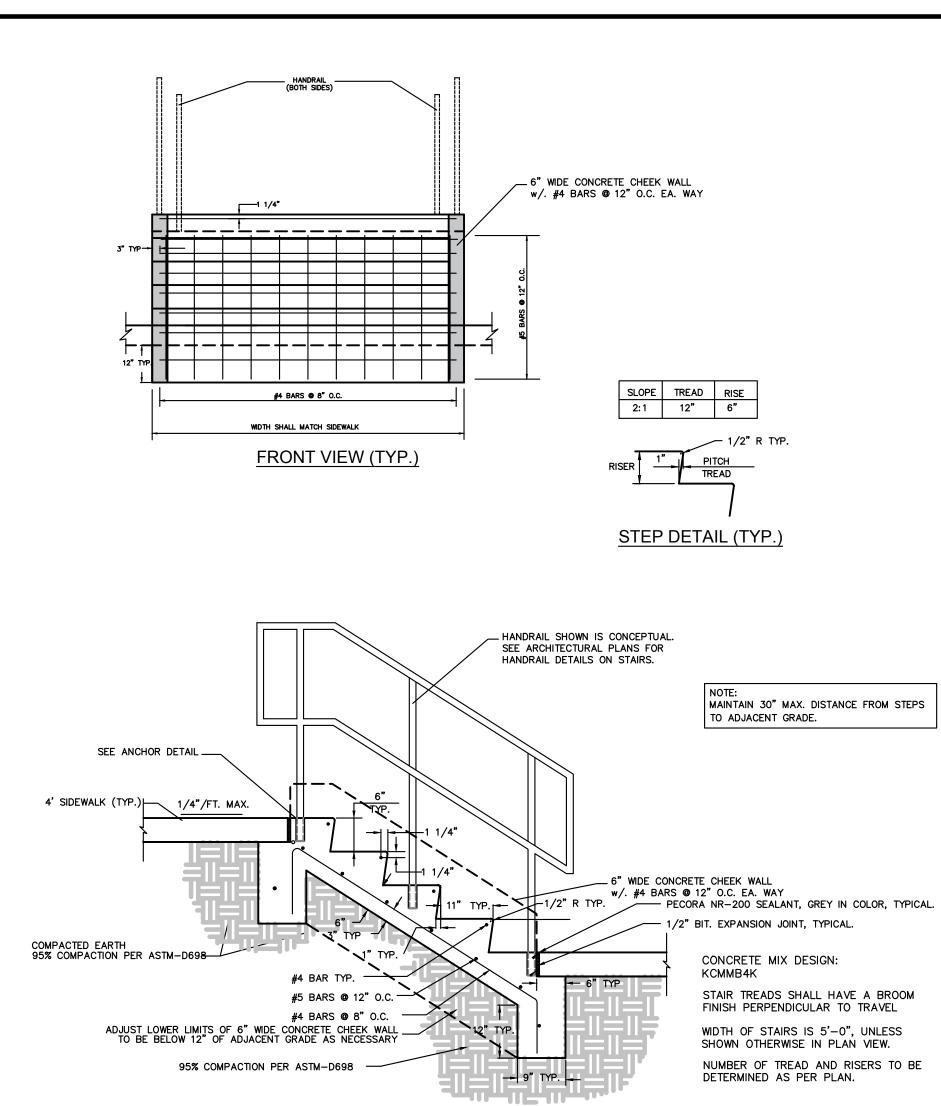
RELEASE FOR CONSTRUCTION





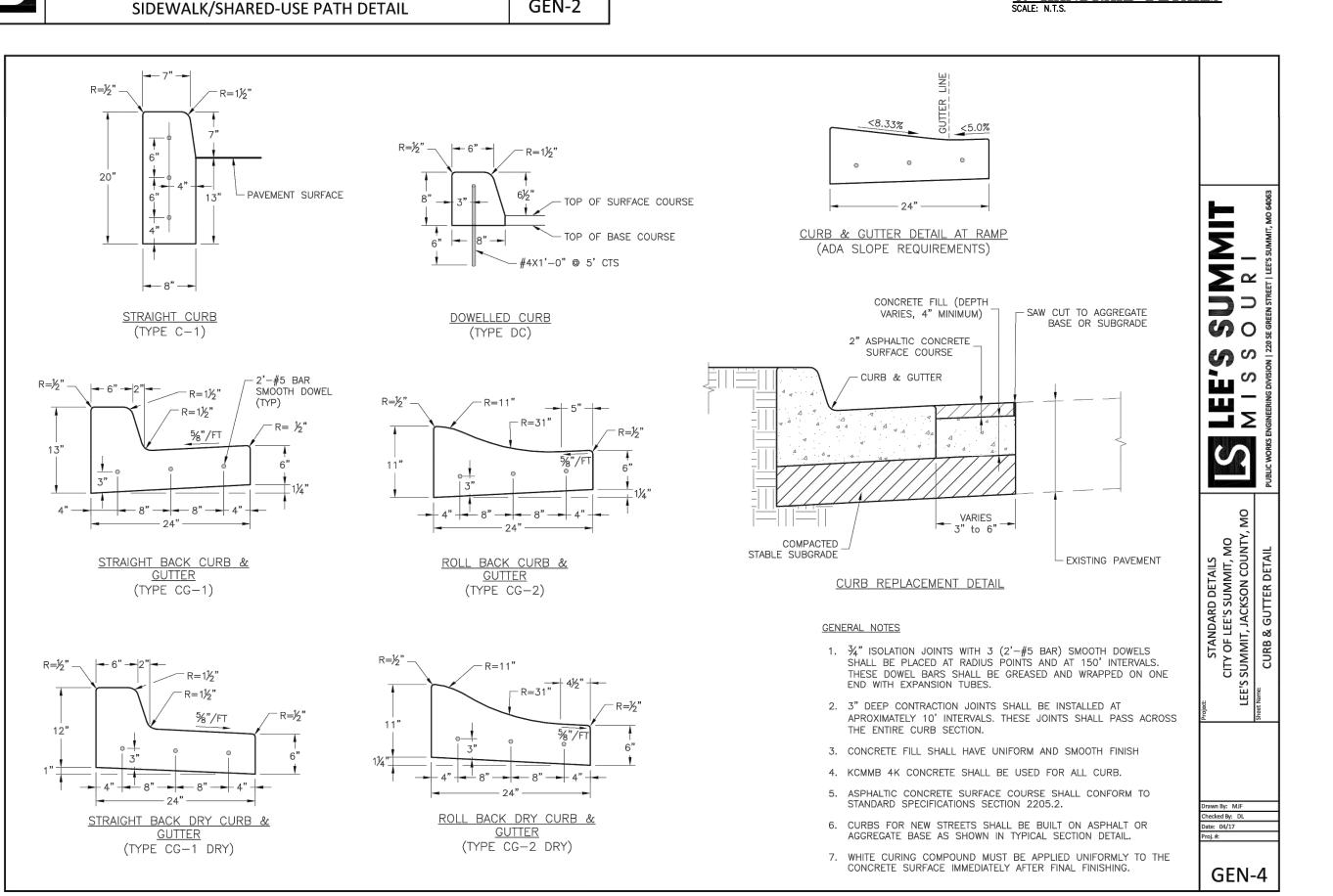


MISSOURI





STAIR SECTION DETAIL (TYP.)



Checked By: DL

GEN-2

RELEASE FOR CONSTRUCTION

SOURI

24" Solid White — Crosswalk Line (Typ.) 4" BROKEN LINE ___ 24" Solid White Stop Line (Typ.) COMBINATION 4" SOLID AND 4" BROKEN LINES 4" SOLID DOUBLE LINES TYPICAL LINE DETAILS Multi-Use Trail Multi-Use Trail NOTES:

1. All edge line, center line, and lane line pavement markings shall be 4" wide unless otherwise noted.

2. Edge lines shall be continuous solid white or yellow lines. Right side edge lines shall be solid white.

Median or left side edge lines on divided roadways are to be solid yellow. Edge lines and center lines shall be continuous across driveways. 6" Solid White Crosswalk Line (Typ.) — Installed between curb ramps 4" Double Yellow Center Line — 24" Solid White Stop Line — TYPICAL MIDBLOCK OR SCHOOL CROSS WALK TYPICAL INTERSECTION MARKINGS NOTES:
1. Transverse crosswalk lines shall be installed such that the distance between lines is at least 6 or 10 feet.
2. Stop lines are required at signalized intersections, on multi-lane stop controlled approaches, or in front of crosswalks at controlled intersections. 4" Solid Double Yellow — 4" Double Yellow Center Line 2'-8" 6'-4" 4" (Typ.) 1'-8" 4" Broken White Lane Line — TYPICAL MEDIAN NOSE TYPICAL MARKINGS FOR FOUR-LANE CENTER LINE DETAIL UNDIVIDED ROADWAY PAVEMENT MARKING GENERAL NOTES:

1. All pavement markings shall be in accordance with the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD).

2. All words and symbols shall conform to the latest edition of Standard Alphabets for Highway Signs and Pavement Markings printed by the U.S. Department of Transportation, Federal Highway Administration.

3. Pavement markings, either temporary or permanent are required at all times if the roadway is open to traffic.

4. All pavement markings that conflict with the desired markings shall be completely removed. Removals shall not leave the road surface scarred with an image that misleads traffic. Any excess damage or scarring of pavement shall be repaired at the Contractor's expense.

5. The proposed permanent markings shall be laid out by the Contractor in advance of the marking installation. Markings shall not be applied until the layout has been approved by the City Traffic Engineer.

6. Center lines shall be marked on all undivided arterial streets, and any other undivided street with more than two lanes and/or a speed limit of 30 mph or more.

7. Edge lines shall be marked on all non-curbed streets. 1'-0" ARROW AND SYMBOL DETAILS Drawn By: AS
Checked By: JW
Date: 09/09/2009
Project# NOTES:

1. All arrow and symbol markings shall be white, and shall be centered in their respective traffic lanes.

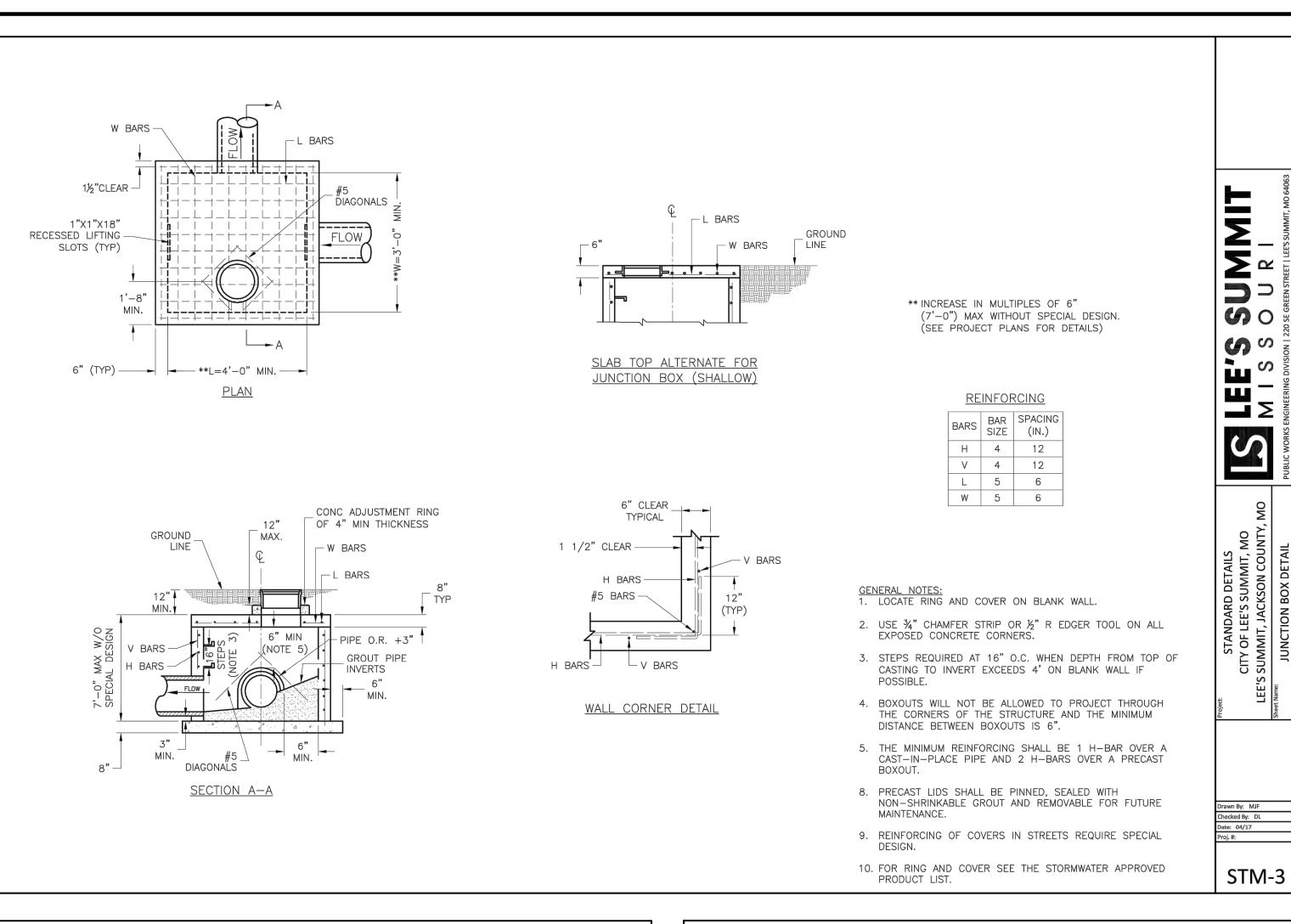
2. Right-turn and combination right-turn/straight arrows are reverse of arrows shown. 1 OF 2

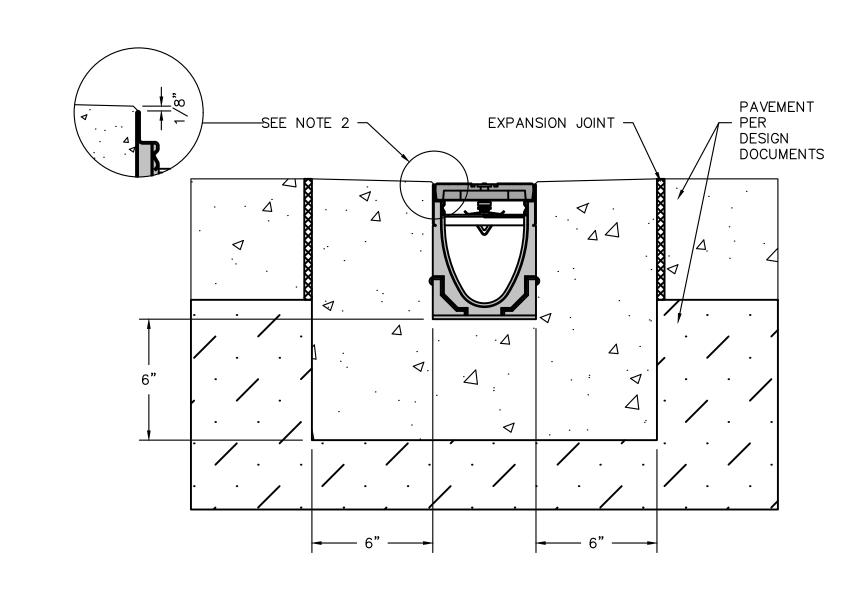
EMENT DETAILS
LEE'S SUMMIT APARTMENTS
LE. DOUGLAS STREET
JACKSON COUNTY, MISSOURI

RELEASE FOR CONSTRUCTION NOTED ON PLANS REV

Date Revisions: By App.
3–16–20 REVISED PER CITY COMMENTS SNH DEU

C13

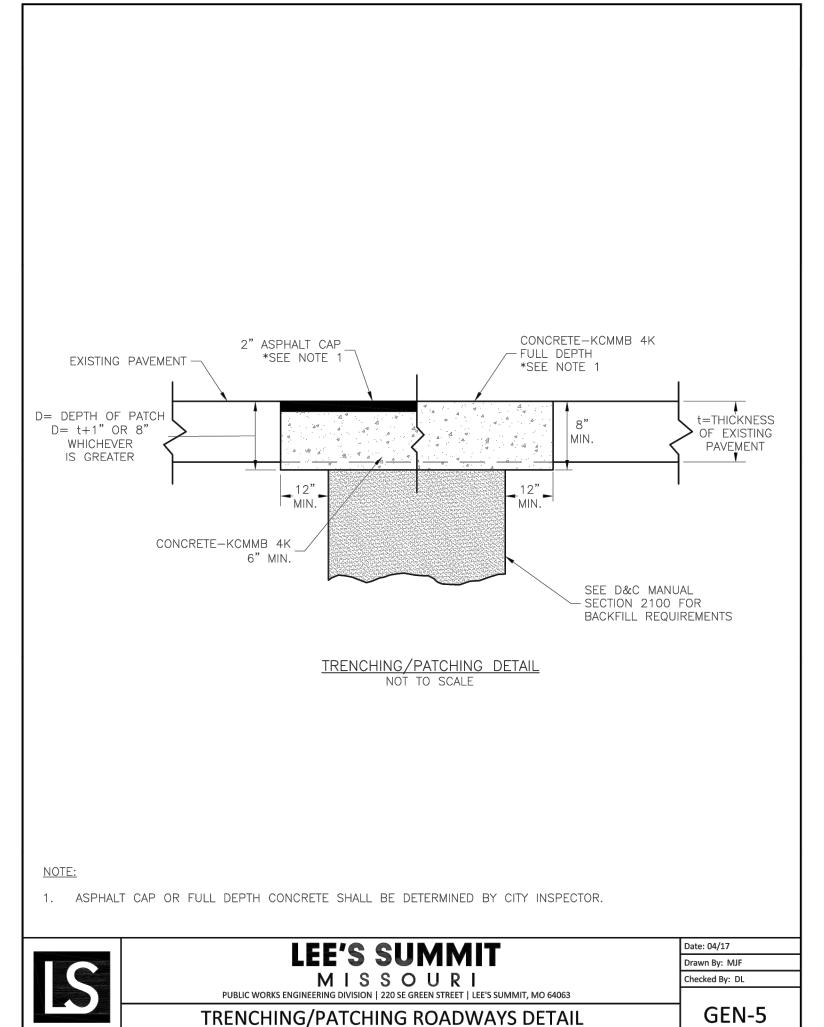


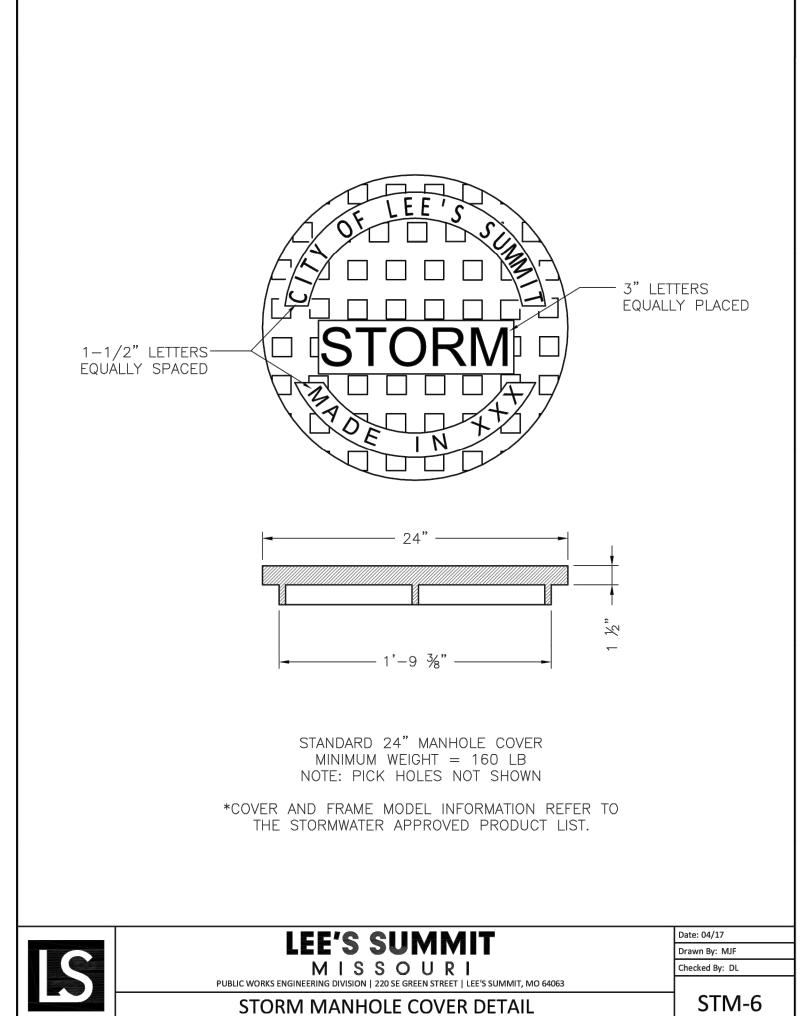


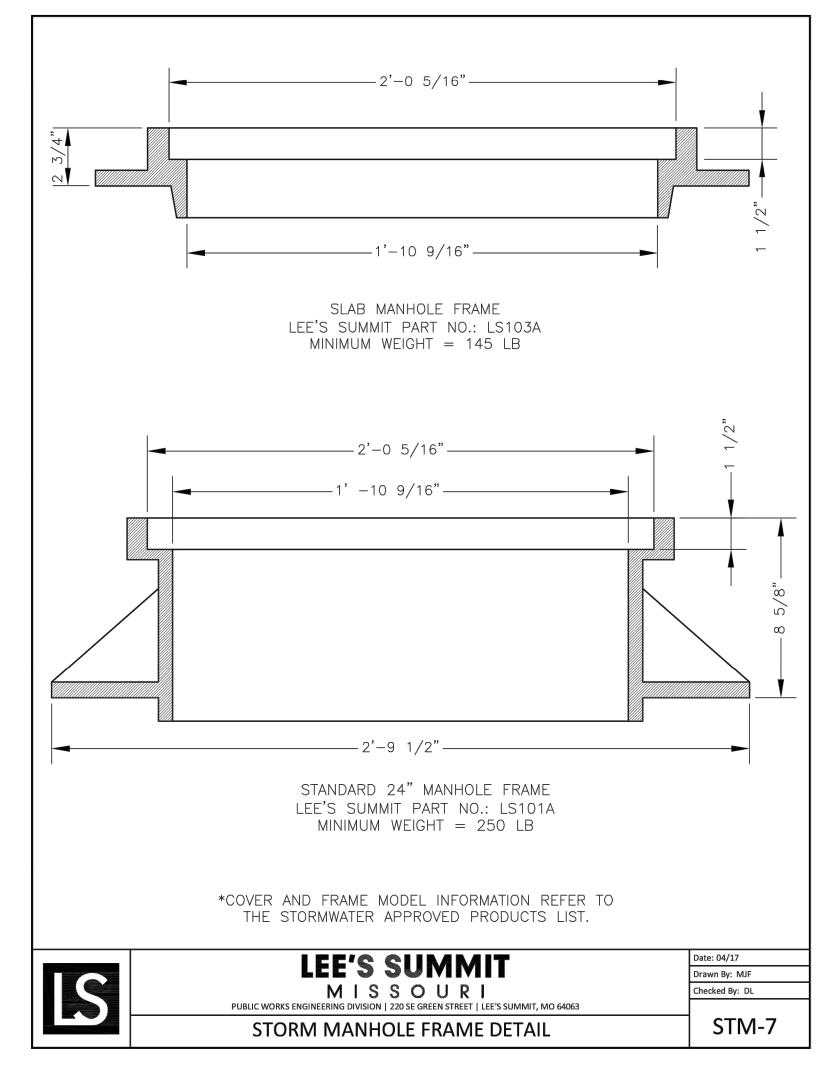
NOTES:

- 1. A minimum concrete strength of 4000 PSI shall be used. The concrete should be vibrated to eliminate air pockets.
- 2. The finished level of the concrete surround must be approx. 1/8" above the top of the channel edge.
- 3. Refer to ACO'S latest installation instructions for complete details.

TRENCH DRAIN INSTALLATION DETAIL







CONSTRUCTION

Engineered Surface Drainage Products

PVC surface drainage inlets shall be of the curb inlet structure type as indicated on the contract drawings and referenced within the contract specifications. The ductile iron frame, grate and hood for each of these structures are to be considered an integral part of the surface drainage inlet and shall be furnished by the same manufacturer. The curb inlet structure shall be as manufactured by Nyloplast a division of Advanced Drainage Systems, Inc. or prior approved equal.

MATERIALS

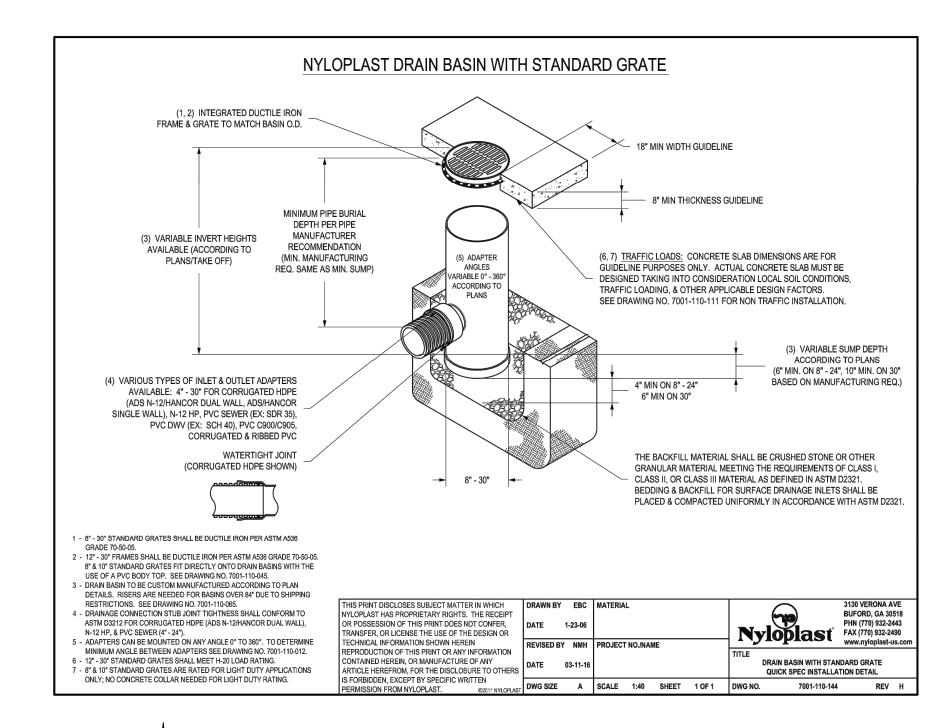
The curb inlet structure required for this contract shall be manufactured from PVC pipe stock, utilizing a thermo-molding process to reform the pipe stock to the specified configuration. The drainage pipe connection stubs shall be manufactured form PVC pipe stock and formed to provide a watertight connection with the specified pipe system. This joint tightness shall conform to <u>ASTM D3212 for joints for drain and sewer plastic pipe using flexible elastomeric seals.</u> The flexible elastomeric seals shall conform to <u>ASTM F477</u>. The pipe bell spigot shall be joined to the main body of the structure. The raw material used to manufacture the pipe stock that is used to manufacture the main body and pipe stubs of the surface drainage inlets shall conform to ASTM D1784 cell class 12454.

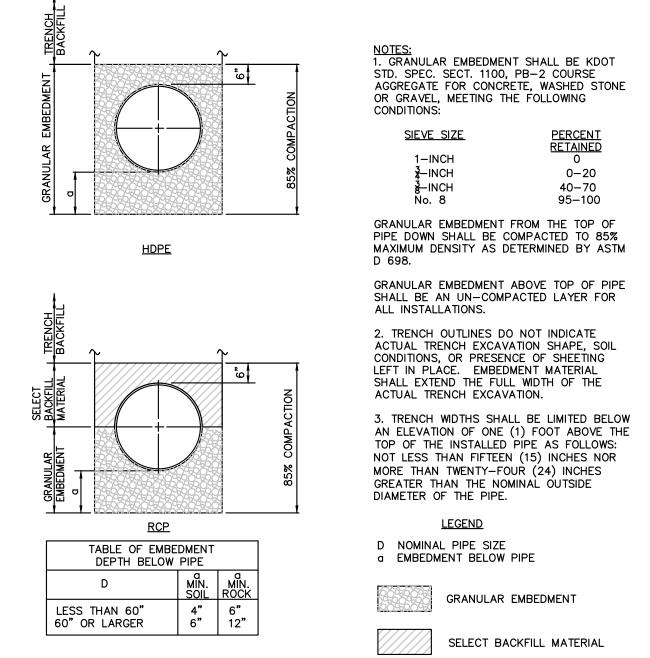
The grate, frame and hood for all curb inlet structures shall be ductile iron and shall be made specifically for each so as to provide a round bottom flange that closely matches the diameter of the PVC structure body. The grate, frame and hood shall be capable of supporting H-20 wheel loading for traffic areas. The hood section will have a solid back and be adjustable by use of three (3) locking hex head bolts. The metal used in the manufacture of the castings shall conform to ASTM A536 grade 70-50-05 for ductile iron.

INSTALLATION

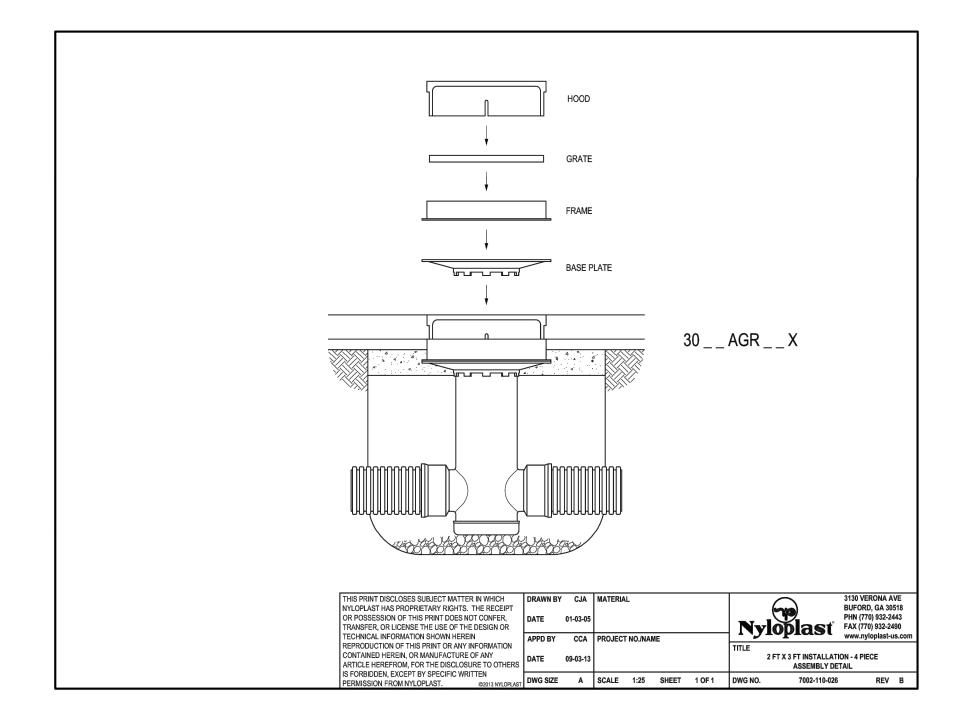
The specified PVC surface drainage inlet shall be installed using conventional flexible pipe backfill materials and procedures. The backfill material shall be crushed stone or other granular material meeting the requirements of class 1, class 2, or class 3 material as defined in ASTM D2321. Bedding and backfill for the curb inlet structure shall be placed and compacted uniformly in accordance with ASTM D2321. The curb inlet structure body will be cut at the time of the final grade. No brick, stone or concrete block will be required to set the grate to the final grade height. For H-20 load rated installations, a concrete ring will be poured under the frame, grate, and hood. The concrete slab must be designed taking into consideration local soil conditions, traffic loading, and other applicable design factors. For other installation considerations such as migration of fines, ground water, and soft foundations refer to ASTM D2321 guidelines.

THIS PRINT DISCLOSES SUBJECT MATTER IN WHICH	DRAWN BY	CJA	MATERIA	L					3130 VERONA AV	
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EMBEDMENTS FOR STORM SEWER PIPE

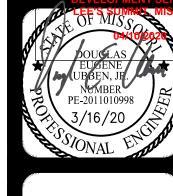


ALL ADS-N12 PIPE INSTALLATIONS SHALL CONFORM TO MANUFACTURER'S INSTALLATIONS REQUIREMENTS, WHICH MAY BE FOUND AT http://www.ads-pipe.com/en/documentlisting.aspdocumenttypeID=682

RELEASE FOR **CONSTRUCTION**



	No.	Date	Revisions:	Ву	By App.
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CONSTRUCTION

COMPACTION / DENSITY REQUIREMENT

PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.

BEGIN COMPACTIONS AFTER 24" (600 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 12" (300 mm) MAX LIFES TO A IMI, 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR

PROCESSED AGGREGATE MATERIALS.

NO COMPACTION REQUIRED.

PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.2.

THERMOPLASTIC LINER DETAIL

INSERTA TEE TO BE INSTALLED, CENTERED OVER CORRUGATION

SIDE VIEW

MAX DIAMETER OF INSERTA TEE CHAMBER (X)

6" (150 mm) 4" (100 mm)

GASKETED & SOLVENT WELD, N-12, HP STORM, C-900 OR DUCTILE IRON

ACCEPTABLE FILL MATERIALS: STORMTECH MC-4500 CHAMBER SYSTEMS

THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
STORMITECH COMPACTION REQUIREMENTS ARE MET FOR 'A LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" (230 mm) (MAX) LISTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
WHERE INFLITATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOI

ONICE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.

CLASSIFICATIONS

AASHTO M43¹ 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10

PAVEMENT LAYER (DESIGNED BY SITE DESIGN ENGINEER)

INSERTA TEE DETAIL

PLACE ADS GEOSYNTHETICS 315 WOVE GEOTEXTILE (CENTERED ON INSERTA-TEE INLET) OVER BEDDING STONE FOR SCOUR PROTECTION AT SIDE INLET CONNECTIONS.

NOTE:
PART NUMBERS WILL VARY BASED ON INLET PIPE MATERIALS.

DESCRIPTION

CLEAN, CRUSHED, ANGULAR STONE

CLEAN, CRUSHED, ANGULAR STONE

CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418-16a, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 60x101 MC-4500 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION

TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3".
TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 500 LBS/IN/IN.

AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE
TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE
PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT
PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER

ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS.
CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.

INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE
TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 24" (600 mm)
ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT
SUBBASE MAY BE A PART OF THE 'C' LAYER.

GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR
PROCESSED AGGREGATE.

MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS

MATERIAL LOCATION

EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER

12" (300 mm) MIN --

FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.

5 OF

THERMOPLASTIC LINER ALL AROUND CLEAN, CRUSHED, ANGULAR STONE IN A & B LAYERS. SEE ADS TECHNICAL NOTE 6.50 FOR NON-WOVEN WEIGHT RECOMMENDATIONS.

PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.

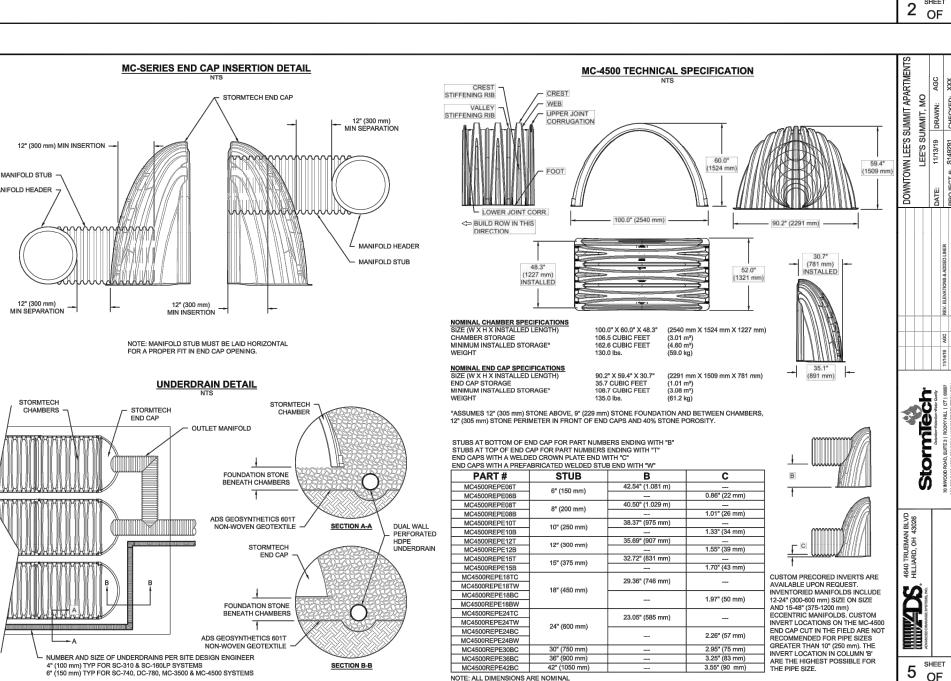
. TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.

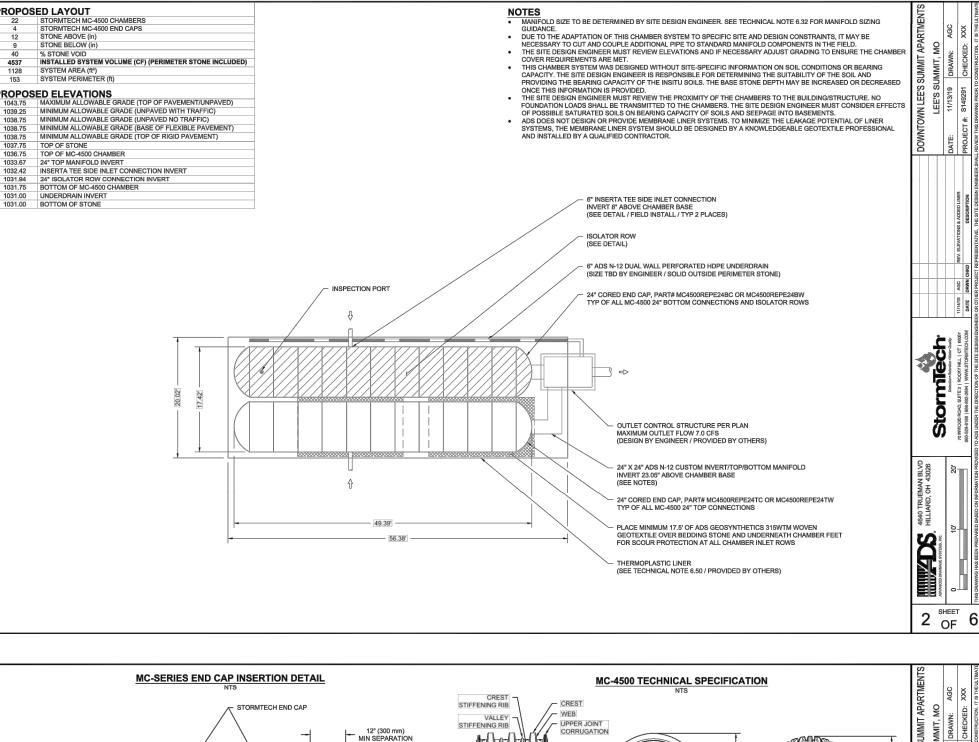
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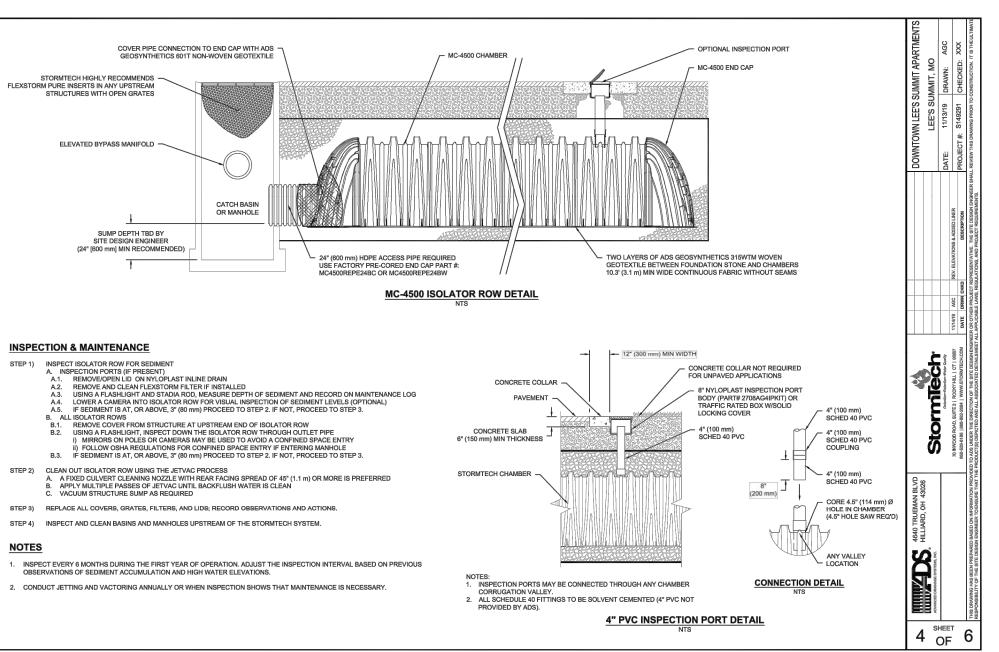
6 OF

SHEET

STORMTECH MC-4500 CHAMBERS STORMTECH MC-4500 END CAPS STONE ABOVE (in) STONE BELOW (in) % STONE VOID
INSTALLED SYSTEM VOLUME (CF) (PERIMETER STONE INCLUDED) SYSTEM PERIMETER (ft)







ADVANCED DRAINAGE SYSTEMS, INC.

DOWNTOWN LEE'S SUMMIT APARTMENTS

LEE'S SUMMIT, MO

PROJECT INFORMATION

ENGINEERED DIRK HUDSON
816-802-4201
MANAGER: DIRK.HUDSON@ADS-PIPE.COM
JOHN WHITWOOD
ADS SALES REP: 816-805-5570
JOHN WHITWOOD@ADS-PIPE COM
JOHN WHITWOOD@ADS-PIPE COM

MC-4500 STORMTECH CHAMBER SPECIFICATIONS

CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.

CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418-16a, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 60x101.

CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.

THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENS THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERAT FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.

CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (41 MIN) ASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.

REQUIREMENTS FOR HANDLING AND INSTALLATION:

TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.

TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS

HAN 3".

TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 500 LBS/IN/IN. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73" F / 23" C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER. THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:

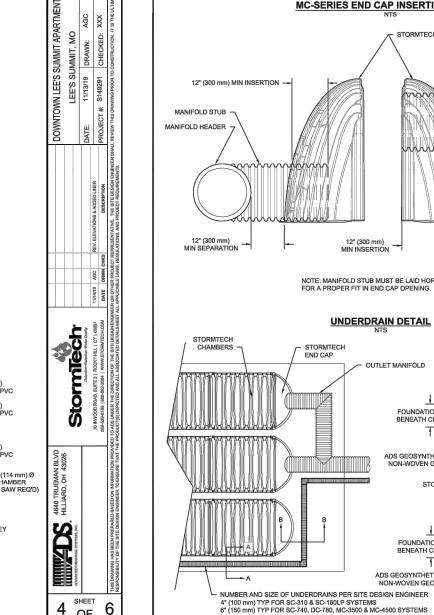
• THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.

• THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR IUPE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.

• THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F278 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.

9. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

JOHN.WHITWOOD@ADS-PIPE.COM
PROJECT NO: \$149291



SiteASSIST
Stormflech
FOR STORMTECH
INSTRUCTIONS,
DOWNLOAD THE
INSTALLATION APP

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF MC-4500 CHAMBER SYSTEM

2. STORMTECH MC-4500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE"

EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE MEETING THE AASHTO M43 DESIGNATION OF #3 OR #4. STONE SHALL BE BROUGHT UP EVENLY AROUND CHAMBERS SO AS NOT TO DISTORT THE CHAMBER SHAPE. STONE DEPTHS SHOULD NEVER DIFFER BY MORE THAN 12" (300 mm) BETWEEN ADJACENT CHAMBER ROWS.

THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIAL BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.

ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

STORMTECH MC-4500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE"

3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

THE USE OF EQUIPMENT OVER MC-4500 CHAMBERS IS LIMITED:

NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.

NO RUBBER TIRED LOADER, DUMP RICK, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".

WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY USING THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMEN

STORMTECH MC-4500 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A
PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.

CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:

• STONESHOOTER LOCATED OF THE CHAMBER BED.

• BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.

• BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.

INLET AND OUTLET MANIFOLDS MUST BE INSERTED A MINIMUM OF 12" (300 mm) INTO CHAMBER END CAPS.

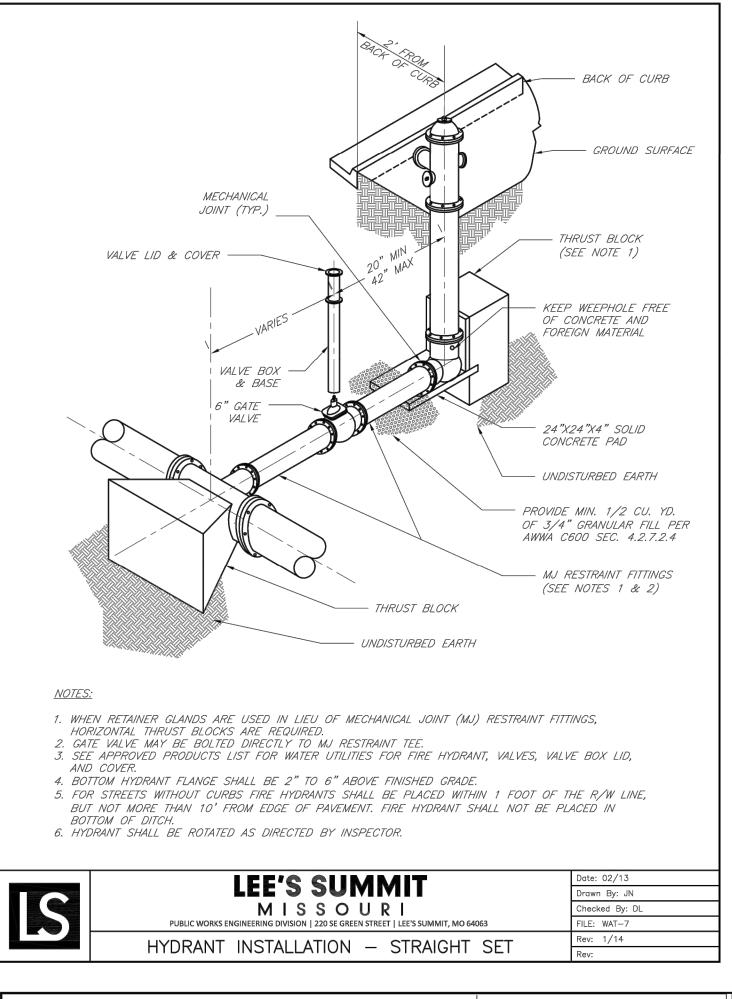
THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.

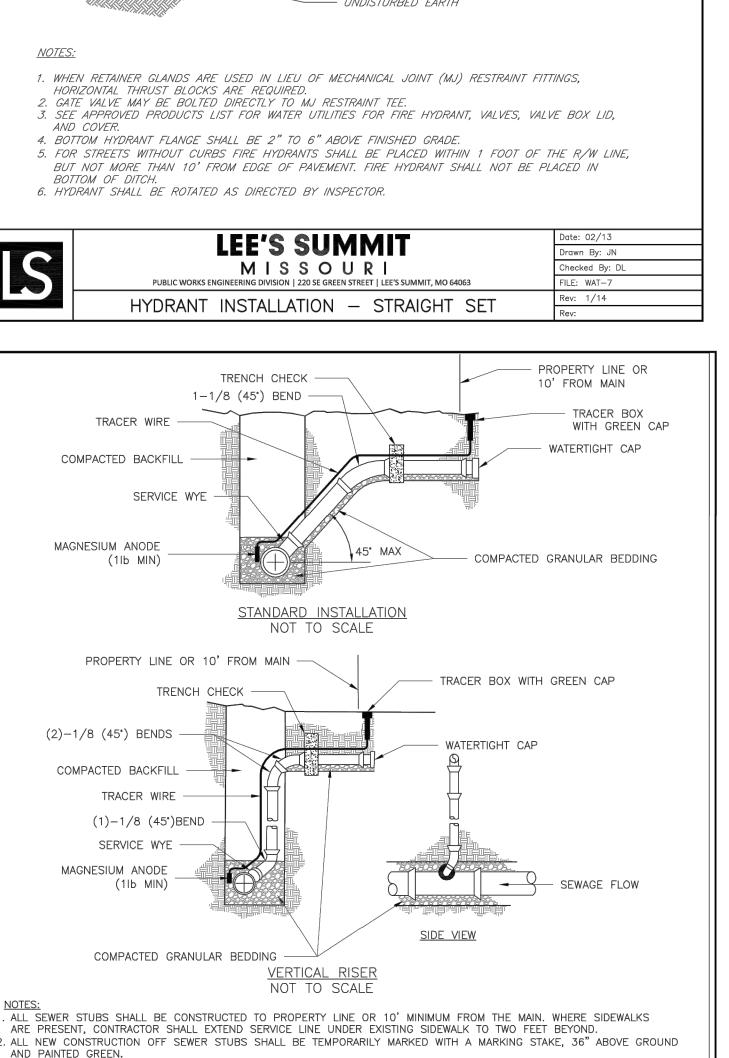
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE. MAINTAIN MINIMUM 9" (230 mm) SPACING BETWEEN THE CHAMBER ROWS.

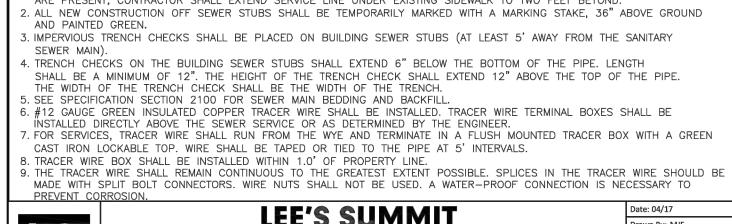
NOTES FOR CONSTRUCTION EQUIPMENT

RELEASE FOR CONSTRUCTION

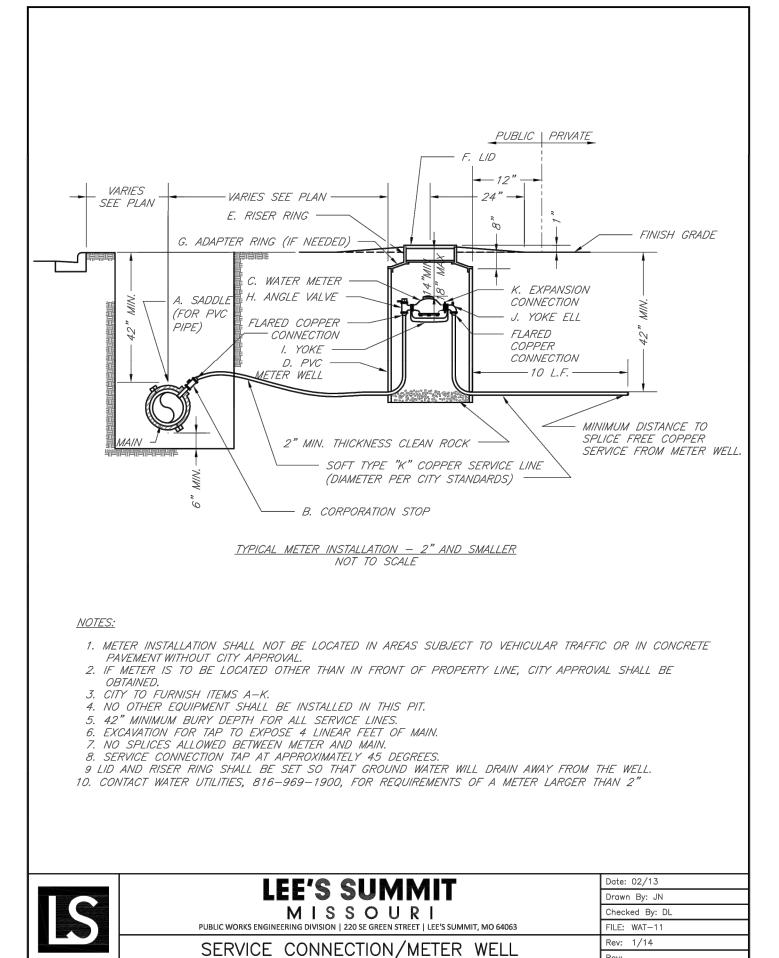
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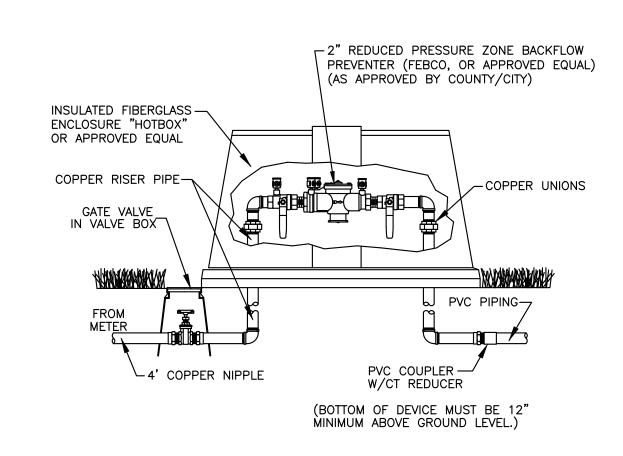




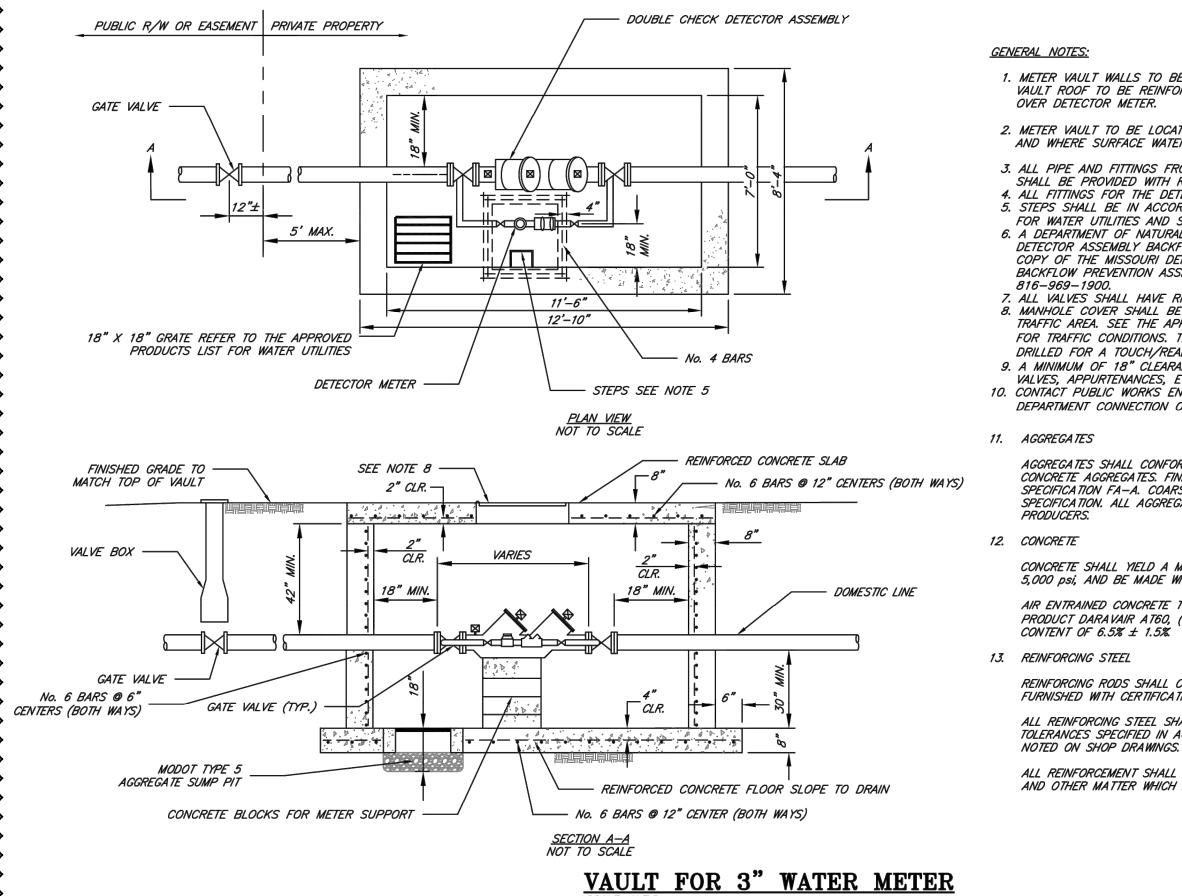


MADE WITH S PREVENT CO	SPLIT BOLT CONNECTORS. WIRE NUTS SHALL NOT BE USED. A WATER—PROOF CONNECTION IS NE RROSION.	CESSARY TO
	LEE'S SUMMIT	Date: 04/17
	LEE 3 30 MINIT	Drawn By: MJF
	M I S S O U R I	Checked By: DL
	PUBLIC WORKS ENGINEERING DIVISION 220 SE GREEN STREET LEE'S SUMMIT, MO 64063	
	BUILDING SEWER STUB AND RISER	SAN-1





IRRIGATION BACKFLOW PREVENTOR



1. METER VAULT WALLS TO BE POURED OR PRECAST CONCRETE. METER VAULT ROOF TO BE REINFORCED CONCRETE WITH OPENING CENTERED OVER DETECTOR METER.

2. METER VAULT TO BE LOCATED, WHEN POSSIBLE, OUTSIDE TRAFFIC AREA AND WHERE SURFACE WATER WILL NOT DRAIN INTO IT.

3. ALL PIPE AND FITTINGS FROM THE CITY WATER MAIN THROUGH THE VAULT SHALL BE PROVIDED WITH RESTRAINED JOINT FITTINGS.

4. ALL FITTINGS FOR THE DETECTOR METER TO BE BRASS. 5. STEPS SHALL BE IN ACCORDANCE WITH THE APPROVED PRODUCTS LIST FOR WATER UTILITIES AND SHALL BE ON 16" CENTERS.

6. A DEPARTMENT OF NATURAL RESOURCES APPROVED DOUBLE CHECK DETECTOR ASSEMBLY BACKFLOW PREVENTER MUST BE USED. FOR A COPY OF THE MISSOURI DEPARTMENT OF NATURAL RESOURCES APPROVED BACKFLOW PREVENTION ASSEMBLIES, CONTACT WATER UTILITIES AT

7. ALL VALVES SHALL HAVE RISING STEMS. 8. MANHOLE COVER SHALL BE A BILCO K—1 MODEL UNLESS IN A VEHICLE TRAFFIC AREA. SEE THE APPROVED PRODUCTS LIST FOR WATER UTILITIES FOR TRAFFIC CONDITIONS. THE COVER SHALL HAVE A 1-3/4" Ø HOLE DRILLED FOR A TOUCH/READ DEVICE.

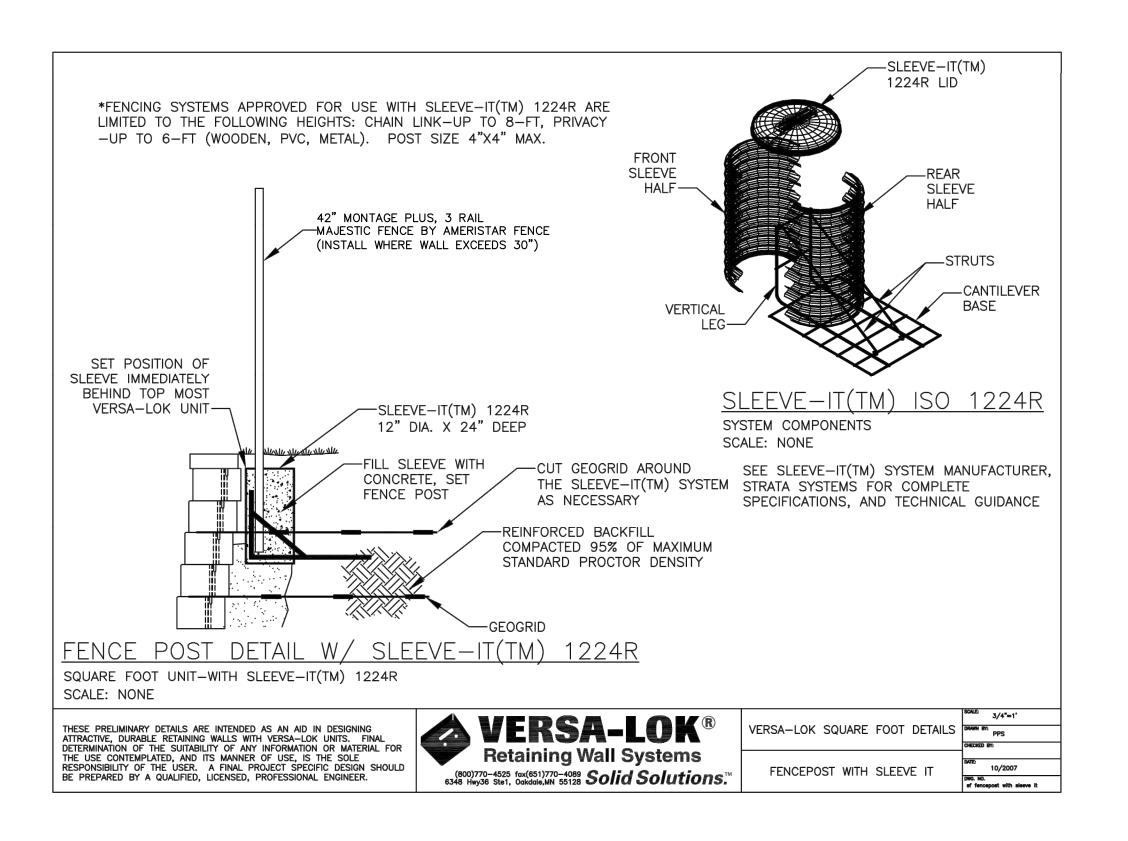
9. A MINIMUM OF 18" CLEARANCE SHALL BE PROVIDED AROUND ALL PIPING, VALVES, APPURTENANCES, ETC. 10. CONTACT PUBLIC WORKS ENGINEERING FOR VAULTS THAT INCLUDE A FIRE DEPARTMENT CONNECTION OR A 3" OR LARGER METER.

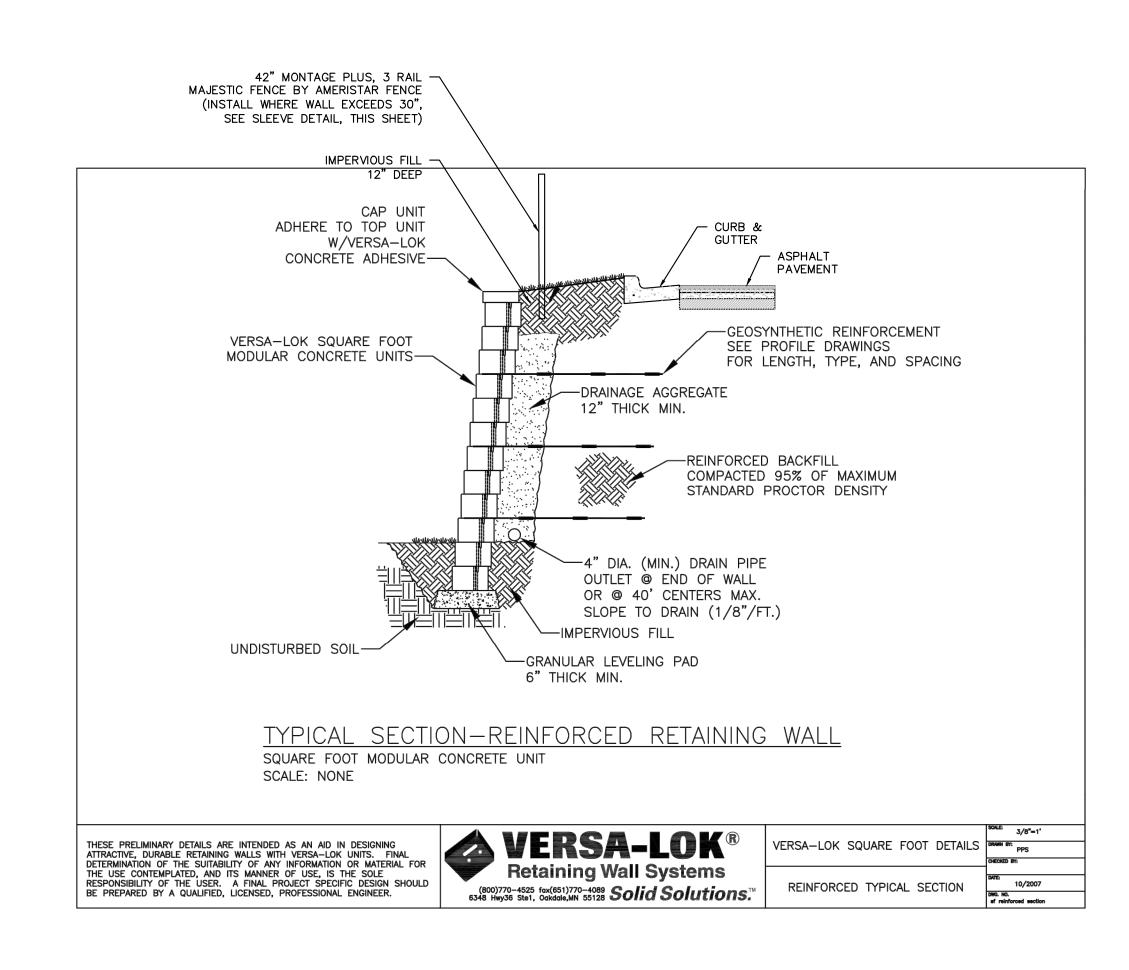
AGGREGATES SHALL CONFORM TO THE ASTM C-33 SPECIFICATIONS FOR CONCRETE AGGREGATES. FINE AGGREGATE SHALL CONFORM TO MODOT SPECIFICATION FA-A. COARSE AGGREGATE WILL CONFORM TO THE CA-5 SPECIFICATION. ALL AGGREGATE TO BE SOURCED FROM MODOT PER-APPROVED

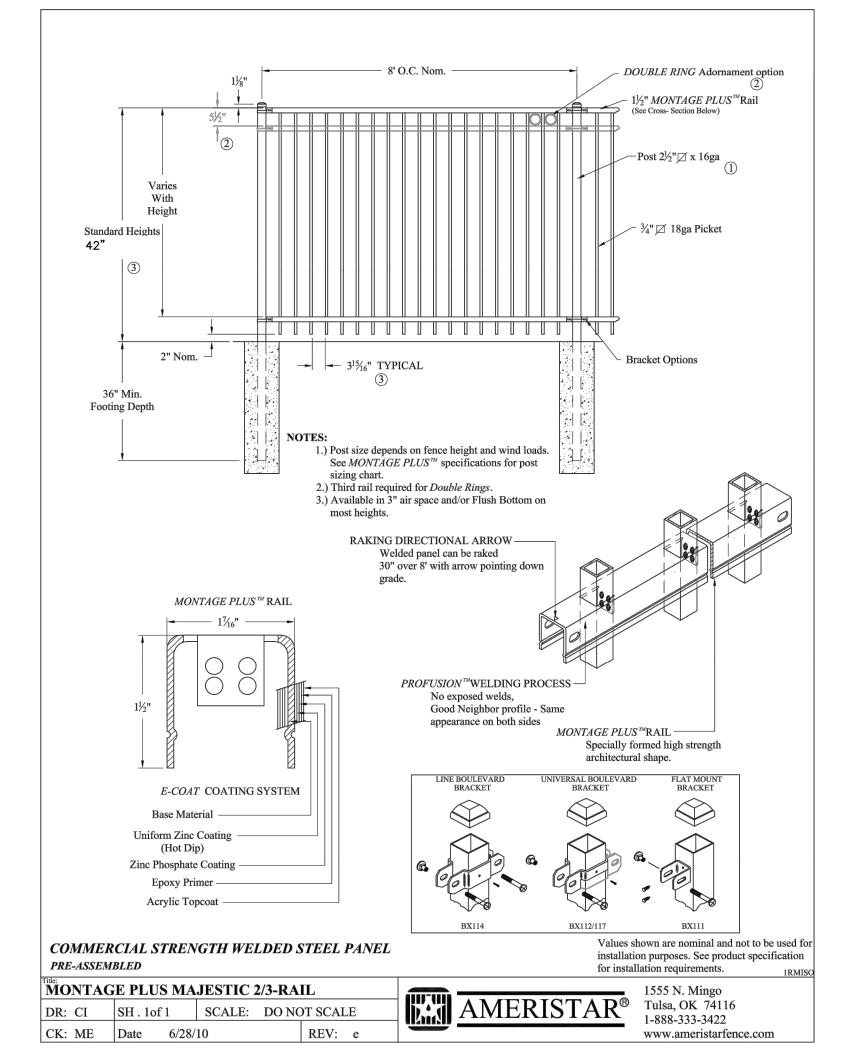
CONCRETE SHALL YIELD A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF MIN. 5,000 psi, AND BE MADE WITH AN APPROVED MCIB MIX DESIGN. AIR ENTRAINED CONCRETE TO BE USED IN THE CONCRETE MIX, W.R. GRACE PRODUCT DARAVAIR AT60, (PRE-QUALIFIED BY MODOT) TO YIELD AN AIR

REINFORCING RODS SHALL CONFORM TO ASTM A-615, GRADE 60 AS FURNISHED WITH CERTIFICATIONS FROM MODOT PRE-QUALIFIED MILLS. ALL REINFORCING STEEL SHALL BE CUT AND FORMED TO THE DIMENSIONAL TOLERANCES SPECIFIED IN ACI 318 OR ACI STANDARD 315 EXCEPT WHERE NOTED ON SHOP DRAWINGS.

ALL REINFORCEMENT SHALL BE CLEAN AND FREE OF LOOSE RUST, SCALE, OIL AND OTHER MATTER WHICH MAY DESTROY OR REDUCE THE BOND.







HANDRAIL DETAIL AT TOP
OF RETAINING WALL
SCALE: N.T.S.

CONSTRUCTION NOTED ON PLANS REV

RELEASE FOR

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