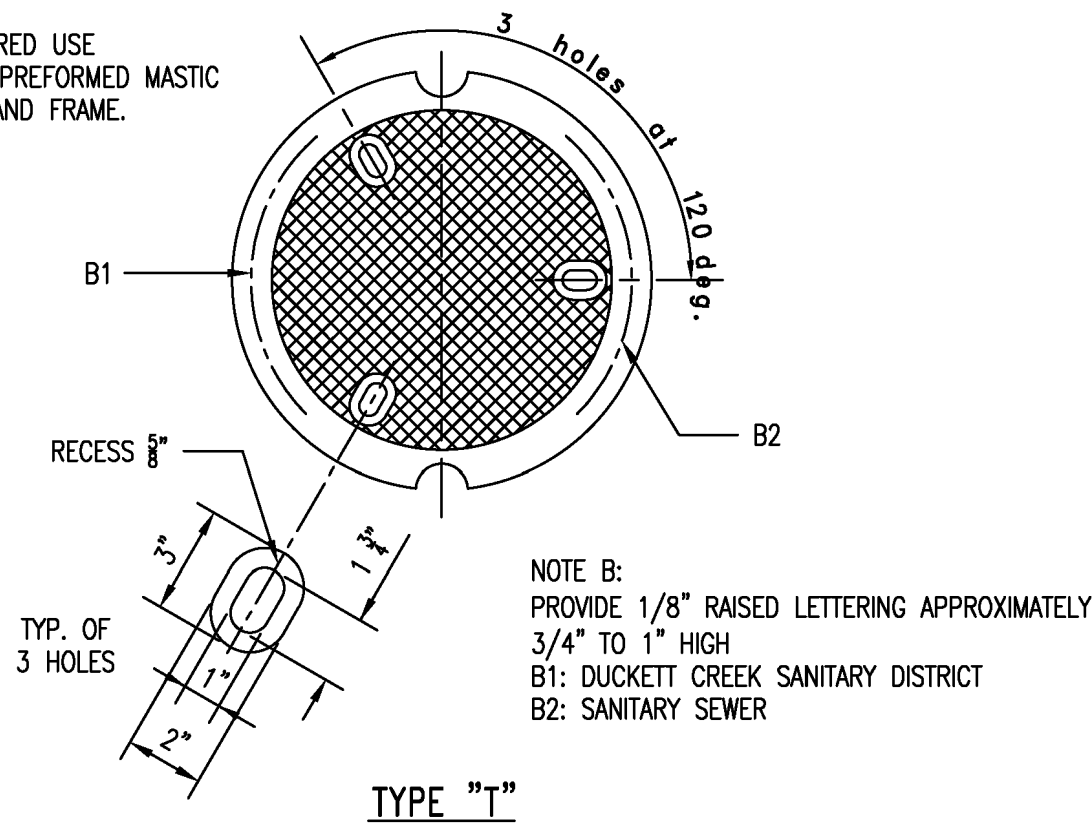
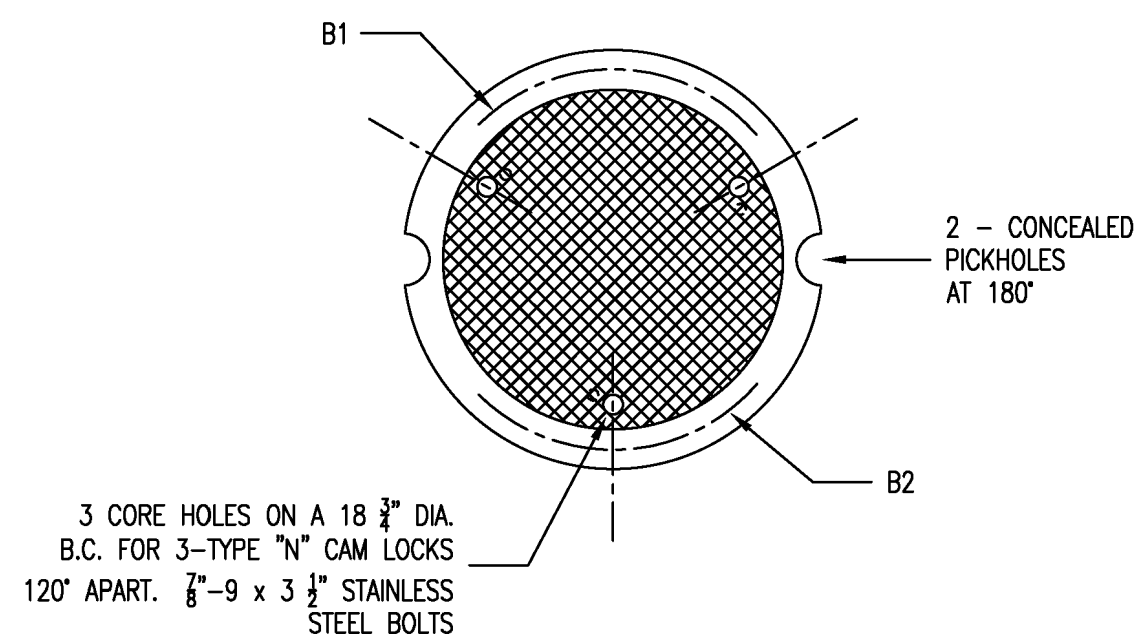


SECTION A-A

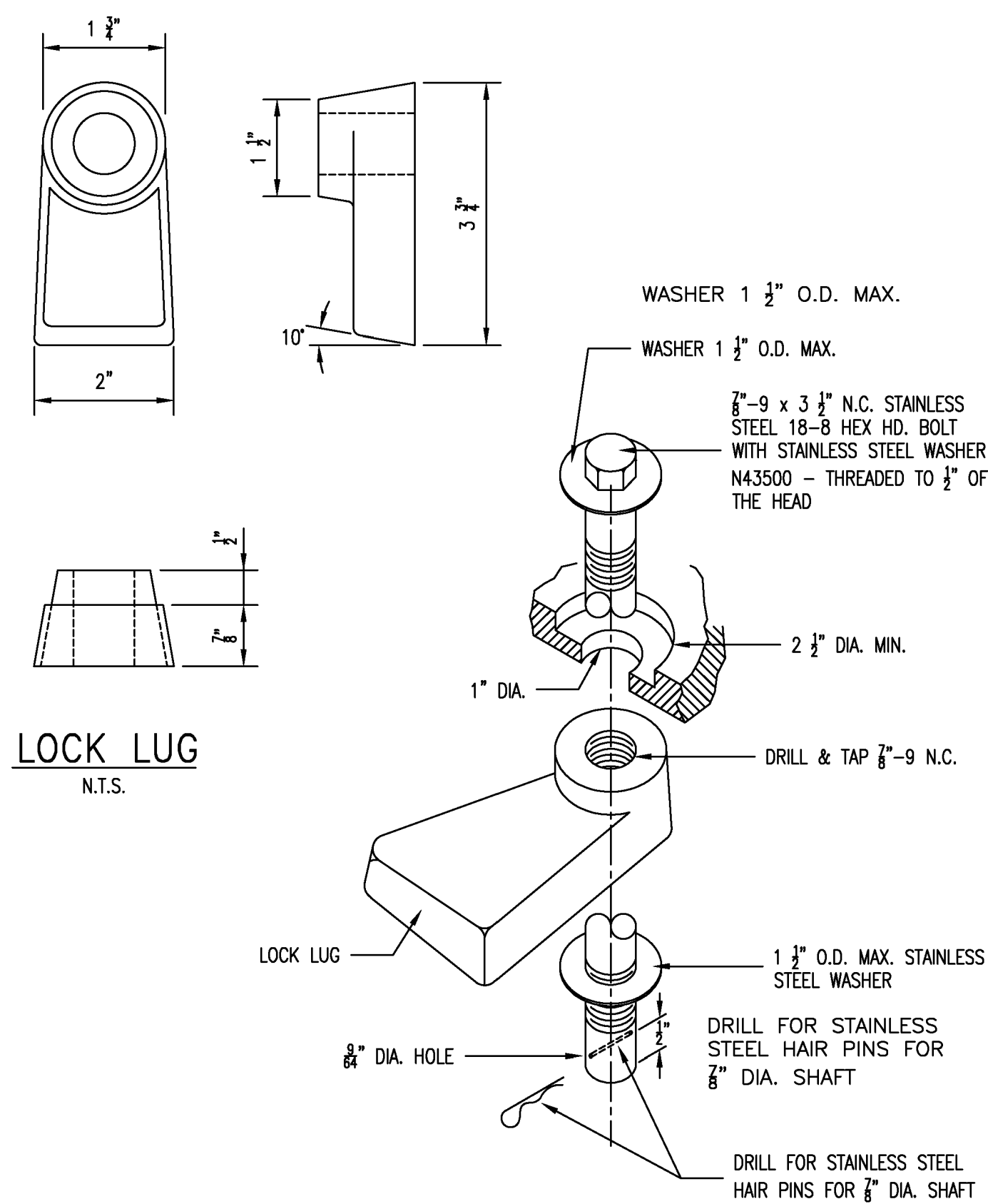
NOTE: IF WATER TIGHT COVER REQUIRED USE APPROVED BUTYL RUBBER PREFORMED MASTIC SEALANT BETWEEN COVER AND FRAME.



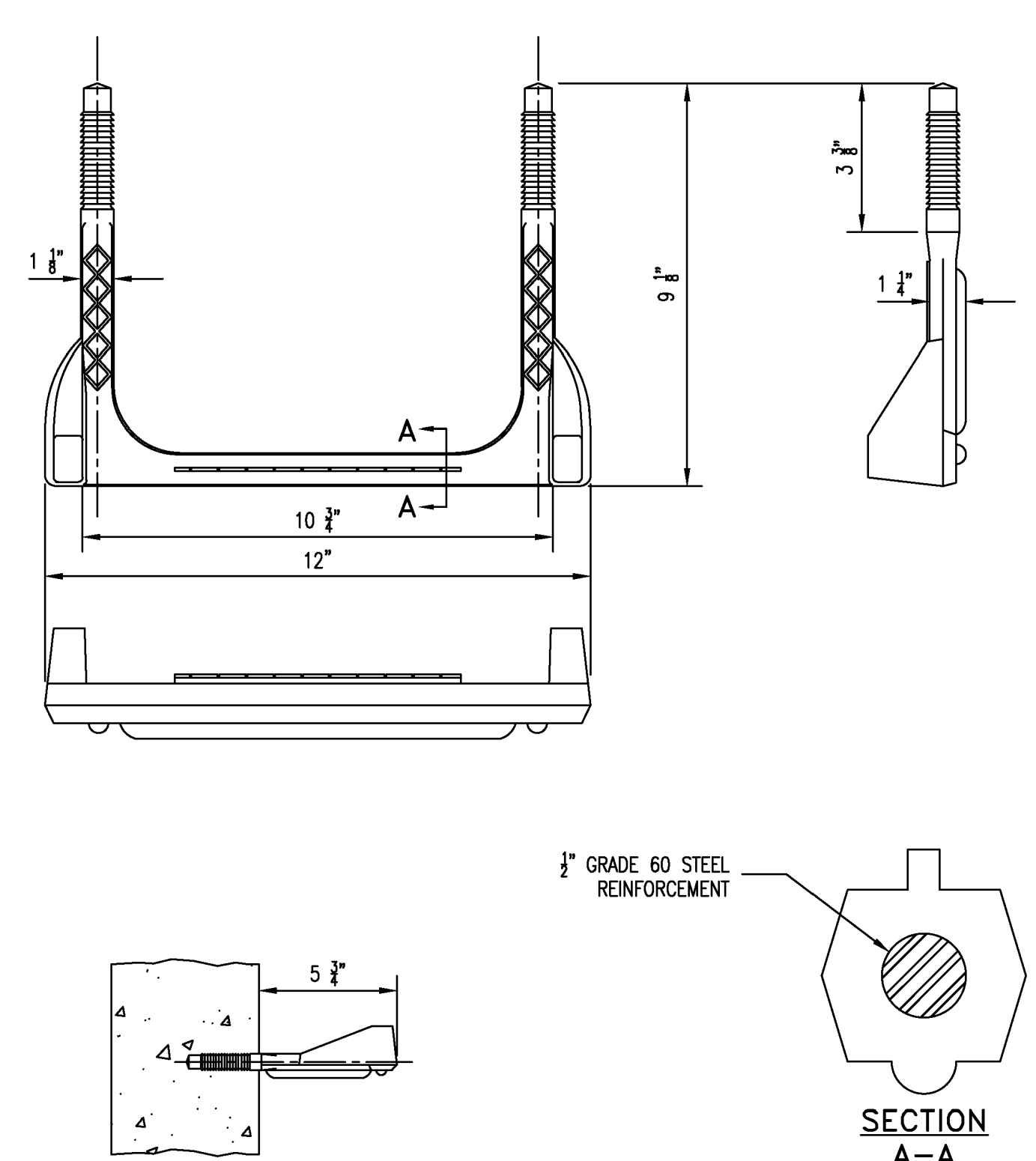
TYPE "T"



TYPE "N"



LOCK LUG
N.T.S.



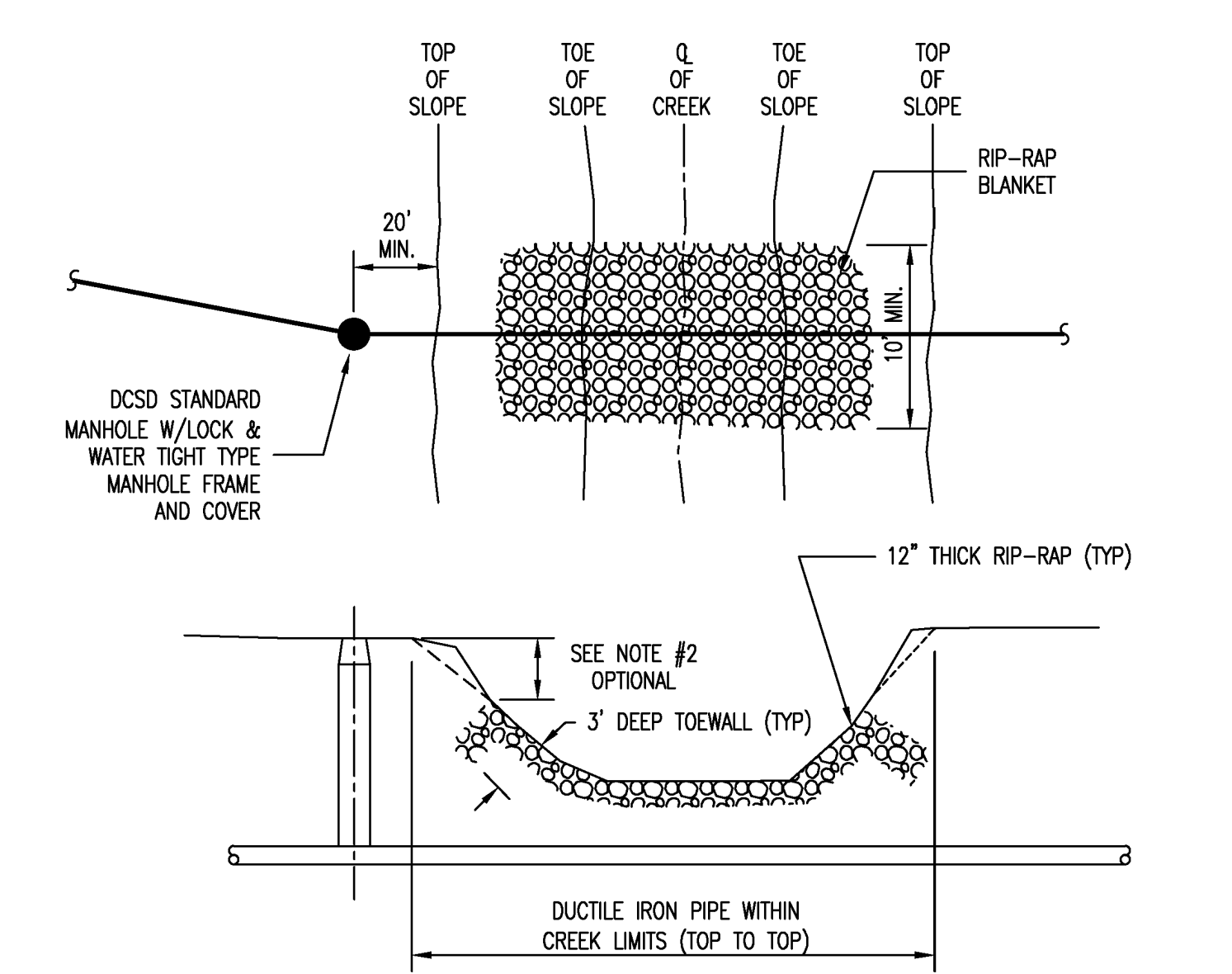
COPOLYMER POLYPROPYLENE PLASTIC

Duckett Creek Sanitary District
 MANHOLE FRAME AND COVER
 Down By: BSM, App By: KLA, Detail No: 12
 Ckd By: MDOB, Date: DEC. 2015

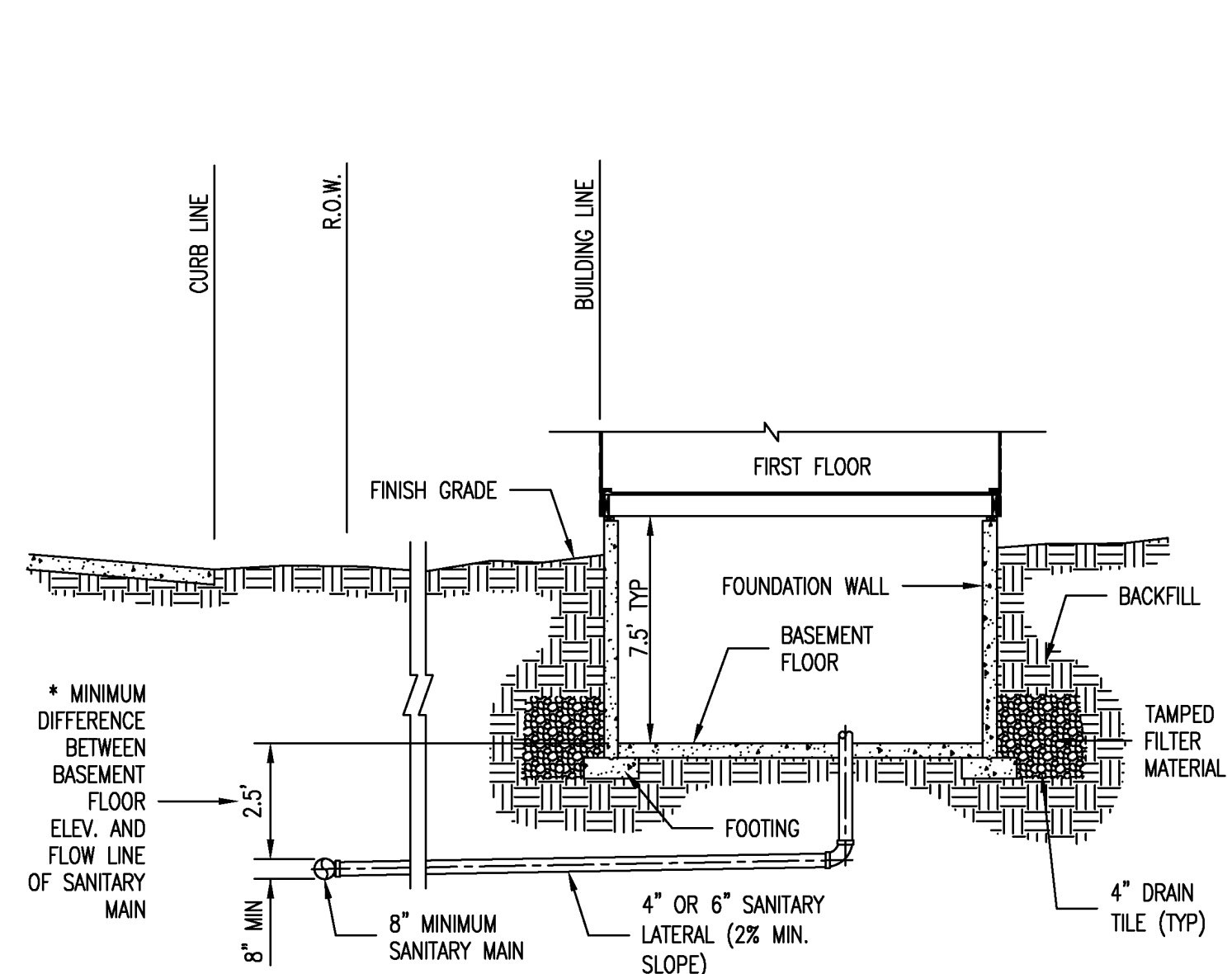
Duckett Creek Sanitary District
 CAST IRON MANHOLE COVERS (LOCK TYPE)
 Down By: BSM, App By: KLA, Detail No: 14
 Ckd By: MDOB, Date: DEC. 2015

Duckett Creek Sanitary District
 LOCKING DEVICE FOR TYPE "N" LOCK TYPEMAN HOLE COVER
 Down By: BSM, App By: KLA, Detail No: 16
 Ckd By: MDOB, Date: DEC. 2015

Duckett Creek Sanitary District
 MANHOLE STEP FOR PRECAST MANHOLE
 Down By: BSM, App By: KA, Detail No: 18
 Ckd By: MDOB, Date: DEC. 2015

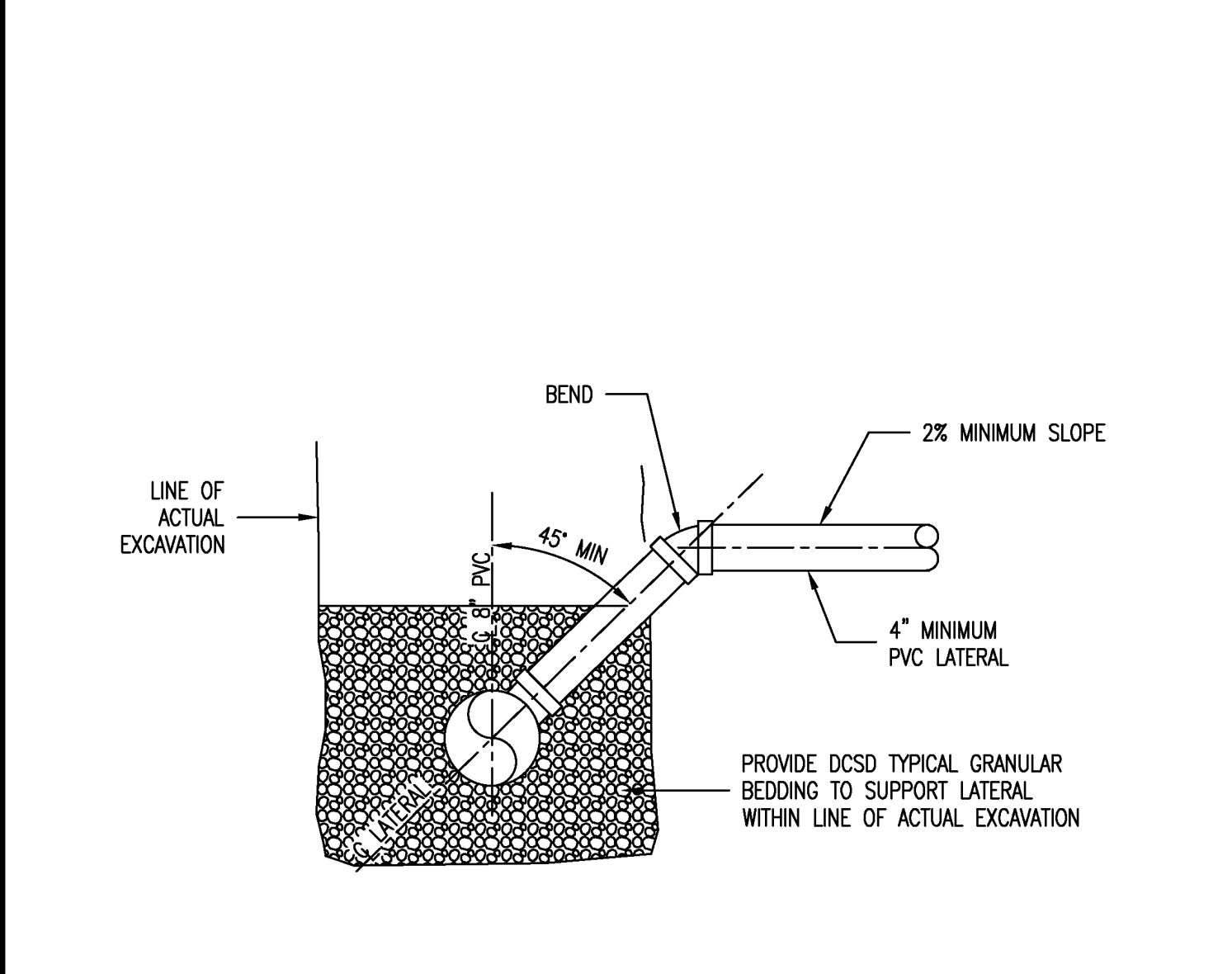


- NOTES:
- RIP-RAP IS REQUIRED AT ALL CREEK CROSSINGS WHERE THE EMBANKMENTS CROSSED ARE STEEPER THAN 1 VERTICAL TO 2 HORIZONTAL RATIO SLOPE; AND ALSO WHERE THERE IS 3 FEET OR LESS COVER OVER THE TOP OF THE SEWER MAIN.
 - PLACE RIP-RAP ON LOWER 3/4 OF SLOPE, GRADE UPPER 1/4 OF SLOPE AT 1 VERTICAL TO 2 HORIZONTAL SLOPE FOR SOD OR 1 VERTICAL TO 2.5 HORIZONTAL SLOPE FOR SEED AND STRAW.
 - RIP-RAP TO BE "MSD 5" GRADATION, MINIMUM 12" THICK.
 - INCORPORATE A 3 FEET DEEP TOE WALL ON EMBANKMENT'S UPPER EDGE OF RIP-RAP.
 - TOP SURFACE OF RIP-RAP SHOULD NOT BE HIGHER THAN ADJACENT GROUND SURFACE.
 - IF PIPE HAS LESS THAN 12" COVER, A PAVED CHANNEL MAY BE REQUIRED.
 - DUCTILE IRON PIPE IS REQUIRED WITHIN THE CREEK LIMITS.
 - EXPOSED AREAS SHALL NOT REMAIN UNPROTECTED FOR MORE THAN SEVEN (7) DAYS FOR PROTECTION OF THE STREAM.



* MINIMUM DIFFERENCE BETWEEN BASEMENT FLOOR ELEV. AND FLOW LINE OF SANITARY MAIN

NOTE: DIFFERENCE IN DEPTH INCREASES WITH PIPE SIZE



PROVIDE DCSD TYPICAL GRANULAR BEDDING TO SUPPORT LATERAL WITHIN LINE OF ACTUAL EXCAVATION

Duckett Creek Sanitary District
 TYPICAL CREEK CROSSING
 Down By: BSM, App By: KA, Detail No: 24
 Ckd By: MDOB, Date: OCT. 2016

Duckett Creek Sanitary District
 TYPICAL SANITARY SEWER LATERAL PROFILE
 Down By: BSM, App By: KLA, Detail No: 26
 Ckd By: MDOB, Date: DEC. 2015

Duckett Creek Sanitary District
 SANITARY SEWER LATERAL RISER DETAIL
 Down By: BSM, App By: KA, Detail No: 27
 Ckd By: MDOB, Date: DEC. 2015

Installation Techniques - Link-Seal® Modular Seals
 Online Installation Video Visit www.linkseal.com

- Center the pipe, cable or conduit in well opening or riser. Make sure the pipe is adequately supported on both ends. Link-Seal® modular seals are intended to support the weight of the pipe.
- Loosen rear pressure plate with nut just enough so links move freely. Connect both ends of Link-Seal® modular seal assembly at the 6 O'Clock position and work both sides up toward the 12 O'Clock position in the annular space.
- Check to be sure all bolt heads are facing the installer. Extra slack or sag is normal. Do not remove links if extra slack exists. Note: On smaller diameter pipe, links may need to be stretched.
- Slide belt assembly into annular space. For larger size belts, start inserting Link-Seal modular seal assembly at the 12 O'Clock position and work both sides up toward the 6 O'Clock position in the annular space.
- LS-200 thru LS-315 Using a hand socket allen head or off-set wrench ONLY start at 12 O'Clock. Do not tighten any bolt more than 4 turns at a time. Continue in a clockwise manner until links have been uniformly compressed. (Approx. 2 or 3 rotations)
- LS-325 thru LS-650 Using a hand socket or off-set wrench ONLY start at 12 O'Clock. Do not tighten any bolt more than 4 turns at a time. Continue in a clockwise manner until links have been uniformly compressed. (Approx. 2 or 3 rotations)
- Make 2 or 3 more passes at 4 turns per bolt MAXIMUM, tightening all bolts clockwise until all sealing elements "bulge" around all pressure plates. On type 316 stainless steel bolts, hand tighten ONLY without power tool.
- If the seal doesn't appear to be correct using the instructions provided, Call PSI at 800-423-2410.

Link-Seal® Model	Tool Size/Type Req.
LS-200, LS-275	4mm, Allen
LS-300, LS-315	6mm, Allen
LS-325, LS-340, LS-360	13mm, Hex
LS-400, LS-410, LS-425, LS-475	17mm, Hex
LS-500, LS-525, LS-575	19mm, Hex
LS-600	30mm, Hex
LS-650	19mm, Hex

Installation Notes: The Link-Seal® modular seal bolt heads are usually recessed below the wall opening or the edge of casing pipe and therefore a socket or offset wrench must be used. Hand Tools: Revise if provided chart above. (Tools not provided.) Tools can be purchased from hardware store, auto parts store, or home improvement store.

Always Wear Safety Equipment When Using Link-Seal® Modular Seals!

Link-Seal® Modular Seal - Do's

- Make sure pipe is centered.
- Install the belt with the pressure plates evenly spaced.
- Install the exact number of links indicated in sizing charts.
- Check to make sure pipe is supported properly during backfill operations. Note: Link-Seal modular seals are not intended to support the weight of the pipe.
- Make sure seal assembly and pipe surfaces are free from dirt.
- For tight fits, use non-polluting liquid detergent to assist installation.

Link-Seal® Modular Seal - Don'ts

- Don't install Link-Seal® modular seals where weld-beds or other irregular surfaces exist without consideration of the sealing requirements.
- Don't torque each bolt completely before moving on to the next.
- Don't use high speed power tools (450 rpm or more).
- Do not use power tools on Link-Seal modular seal 316 stainless steel bolts.
- Don't use grease in installing Link-Seal modular seals.
- Don't install the belt with the pressure plates aimed in irregular directions. (Staggered)

If the seal doesn't appear to be correct using the techniques provided, Call PSI at 713-747-6943 or 800-423-2410.

636-594-0540 (tel.)
 636-594-0512 (fax)
 mail@ochran.com
 6304 E. Independence Dr.
 Union, Missouri 63084

MOCHRAN
 Civil Engineering
 Land Surveying
 Architecture
 Site Development
 General Consulting
 Master Planning

Missouri State Certificate of Authority Numbers:
 Survey: 000380
 Engineering: 001555
 Architecture: 2002014240

Three working days prior to the start of any excavation call 1-800-423-2410 for utility location information.

All OSHA rules & regulations apply to all construction projects. All construction projects must be strictly followed (i.e. trenching, blasting, etc.)

STATE OF MISSOURI
 TIMOTHY SCHOWE
 Professional Engineer
 NUMBER FE-2010000268
 EXPIRES 9-22

THE STREETS OF CALEDONIA
 PHASE 4 RESIDENTIAL
 O'FALLON, MISSOURI

DATE: _____
 DATE: _____
 DATE: _____
 DATE: _____

DATE: JMM
 DATE: ERR

DATE: MAY 09, 2022
 SCALE: NO SCALE
 PROJ. NO: 17-6821
 DWG. NO: C14.10

OWNER/DEVELOPER:
 DD LAND DEVELOPMENT, LLC
 10407 BAUR BLVD, SUITE B
 ST. LOUIS, MO 63132