

Gene, I was wondering if we could get some drawings of the control panel and tank. We have two other biocide systems and want to do what we can to make sure the systems are more standardized. Is this the time to do it? Is this a separate phone call with Matt?

ODOR/CORROSION CONTROL SYSTEM SPECIFICATION:

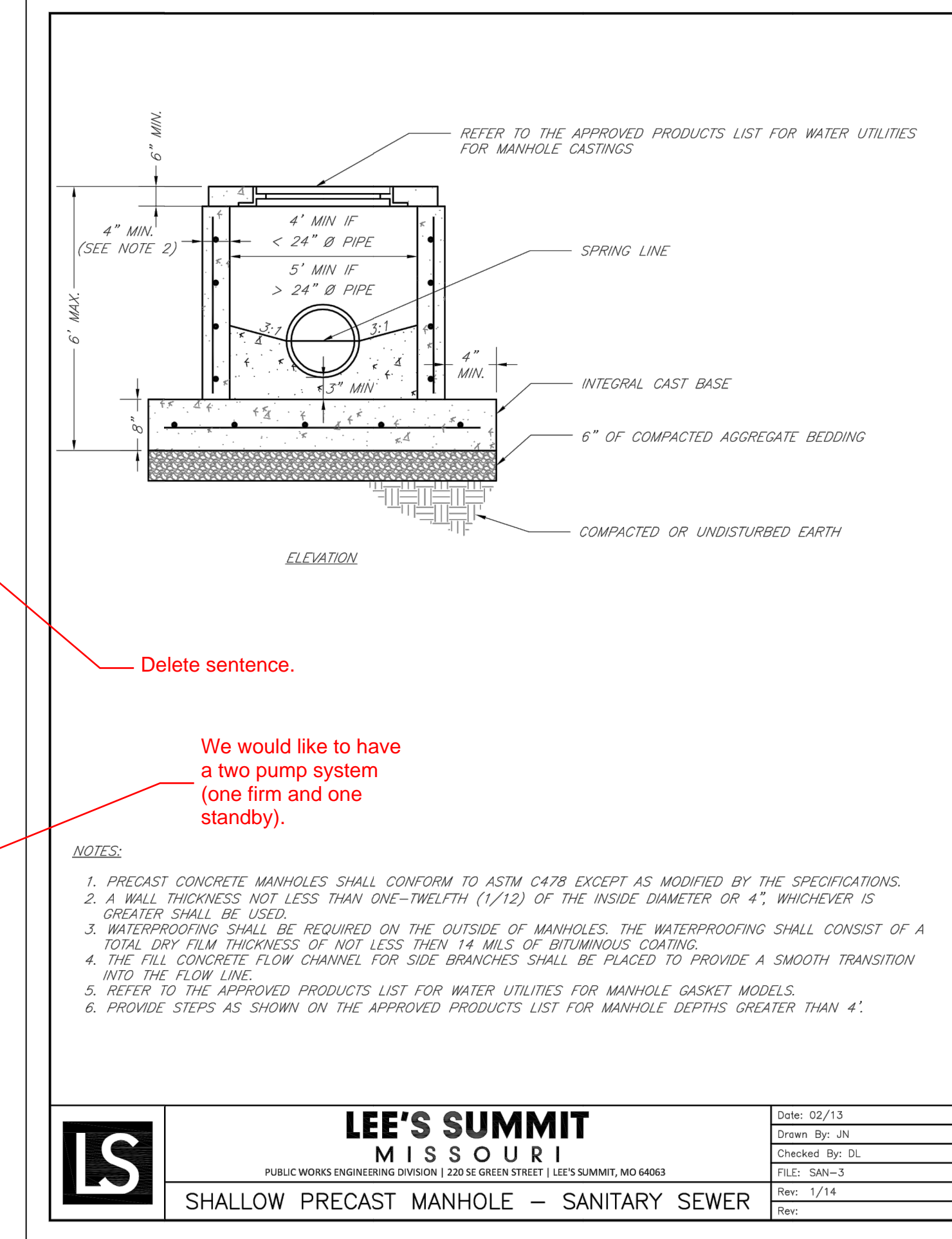
- THE ODOR/CORROSION CONTROL SYSTEM SHALL BE CAPABLE OF BOTH SULFIDE PREVENTION AND REMOVAL. THE SYSTEM SHALL BE LIQUID CHEMICAL FEED TYPE. THE CHEMICAL EMPLOYED SHALL BE NITRATE SALTS I.E. BIOXIDE.
- THE SYSTEM SIZING WAS BASED ON THE MORE CONSERVATIVE SULFIDE PREVENTION THEORY. A DISSOLVED SULFIDES CONCENTRATION OF 2 MG/L WAS ASSUMED IN THE SYSTEM FOR STANDARD DOMESTIC WASTEWATER. THE AVERAGE DAILY FLOW AT BUILD-OUT IN THE SYSTEM IS CALCULATED TO BE 0.016 MGD. A STOICHIOMETRIC BIOXIDE DOSE OF 0.57 GALLONS PER DAY WAS CALCULATED WHICH EQUATES TO 1.50 ML/MIN. THE DOSAGE PUMP SELECTED MUST HAVE CAPACITY TO PUMP 10 TIMES THE CALCULATED STOICHIOMETRIC AMOUNT.
- THE SYSTEM SHALL CONSIST OF A BULK STORAGE TANK, CHEMICAL FEED PUMP, ELECTRICAL CONTROL PANEL WITH INTEGRAL SYSTEM CONTROLS AND ALL OTHER NECESSARY PIPE, FITTINGS AND APPURTENANCES NECESSARY TO PROVIDE A WORKING CHEMICAL FEED SYSTEM. POWER TO THE SITE 120/1/60 SHALL BE SUPPLIED BY OTHERS.
- ALL EQUIPMENT MUST BE FURNISHED BY A SINGLE SUPPLIER WHO SHALL BE RESPONSIBLE FOR THE COORDINATION AND PERFORMANCE OF THE SYSTEM.
- DELIVERY OF PRODUCTS SHALL BE COORDINATED WITH THE CONTRACTOR. FABRICATED ASSEMBLIES SHALL BE SHOP ASSEMBLED AND PROPERLY MATCH MARKED FOR EASE OF FIELD ERECTION. THE EQUIPMENT SUPPLIER SHALL PROVIDE COMPLETE ASSEMBLY INSTRUCTIONS TO THE CONTRACTOR.
- THE EQUIPMENT SUPPLIER SHALL BE RESPONSIBLE FOR PROVIDING THE FIRST FULL LOAD OF BIOXIDE FOR THE SYSTEM WHICH WILL AIDE IN START-UP AND TRAINING OF THE SYSTEM. THE EQUIPMENT SUPPLIER SHALL BE RESPONSIBLE FOR SUCCESSFUL START-UP OF THE SYSTEM AND COORDINATE WITH CITY STAFF A 1-HOUR TRAINING SESSION ON THE SYSTEM. **SUCCESSFUL STARTUP AND TRAINING SHALL CONSTITUTE ACCEPTANCE OF THE SYSTEM BY THE CITY.**

- CHEMICAL STORAGE TANK
 - MATERIAL: ROTATIONALLY MOLDED CROSS-LINKED HIGH-DENSITY POLYETHYLENE (HDXLPE).
 - CAPACITY: 300 US GALLONS SINGLE WALL.
 - FITTINGS SHALL BE LOCATED ON TANK TOP OR DOME.
 - PLASTIC FITTINGS SHALL BE "BULK HEAD" OR "TWO-FLANGE" STYLE.
 - FLANGE BOLTED FITTINGS SHALL CONFORM TO ANSI/ASME B-16.5 FOR 150 PSI PRESSURE CLASS.
 - 2" PVC FILL LINE
 - 3" MUSHROOM VENT
 - 2" SUCTION BULKHEAD FITTING
- CHEMICAL FEED SYSTEM
 - THE OPERATION OF THE CHEMICAL FEED SYSTEM SHALL BE CONTROLLED FROM THE CONTROL PANEL. ALL EQUIPMENT CONTROL SWITCHES, PILOT LIGHTS, CONTROLLERS, ETC. AND THE CHEMICAL FEED PUMP SHALL BE HOUSED IN THIS PANEL.
 - THE CONTROL PANEL SHALL BE CONSTRUCTED OF 316 SST AND BE RATED NEMA 4X.
 - THE CONTROL PANEL SHALL CONTAIN THE FOLLOWING: TIMER CONTROL SYSTEM, (1) WATSON MARLOW QDOS 20 PUMP (0.1 - 300 ml/min), DUPLEX PUMP RECEPTACLE, COOLING FAN, CONDENSATION HEATER, (3) CONTROL RELAYS.
 - THE SYSTEM SHALL PROVIDE THE FOLLOWING OUTPUTS: RUN STATUS, ALARM, ANALOG OUT 4-20 mA, GROUND, SUPPLY 5V+.
 - PIPING AND APPURTENANCES
 - ALL SUCTION AND DISCHARGE PIPING SHALL BE 1/2" SCHEDULE 80 PVC. ALL VALVES FITTINGS AND CONNECTORS SHALL BE SCHEDULE 80 PVC.
 - ALL FILL LINE PIPING SHALL BE 2" SCHEDULE 80 PVC. ALL FILL LINE VALVES FITTINGS AND CONNECTORS SHALL BE SCHEDULE 80 PVC.
 - FILL LINE SHALL HAVE A 2" SST MALE CAMLOCK WITH A 2" PLASTIC FEMALE CAMLOCK CAP.
 - A WYE STRAINER SHALL BE INSTALLED ON THE SUCTION LINE.
 - FIELD TESTS: IF REQUIRED, THE SUPPLIER SHALL MAKE ANY CHANGES TO THE SYSTEM, AT THEIR OWN EXPENSE, THAT MAY BE NECESSARY TO ASSURE SATISFACTORY AND EFFICIENT OPERATION OF THIS SYSTEM.

WARRANTY: THE SUPPLIER SHALL GUARANTEE THAT THE SYSTEM WILL PERFORM AS DESCRIBED AND INTENDED IN THESE SPECIFICATIONS. THE SUPPLIER SHALL WARRANT THE SYSTEM, COMPLETE, TO BE FREE FROM DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF TWELVE (12) MONTHS FROM ACCEPTANCE OR EIGHTEEN (18) MONTHS FROM SHIPMENT, WHICHEVER OCCURS FIRST. THE SUPPLIER SHALL REPAIR OR PROVIDE REPLACEMENT FOR ANY DEFECTIVE COMPONENTS UNDER THIS WARRANTY. IN ADDITION THE CHEMICAL STORAGE TANK SHALL BE WARRANTED FOR A PERIOD OF FIVE (5) YEARS FROM WARRANTY START DATE.

ODOR/CORROSION CONTROL SYSTEM SITE/UTILITY NOTES:

- ALL CONSTRUCTION SHALL CONFORM TO THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL AS ADOPTED BY ORDINANCE 5813.
- THE ODOR/CORROSION CONTROL SYSTEM SHALL BE LOCATED ON A REINFORCED CONCRETE FOUNDATION. THE CONCRETE FOUNDATION SHALL EXTEND A MINIMUM OF 18 INCHES PAST THE LIMITS OF THE CHEMICAL STORAGE TANK. COORDINATE FOUNDATION DIMENSIONS WITH THE EQUIPMENT SUPPLIER. THE CONCRETE FOUNDATION SHALL BE A MINIMUM OF 8" THICK, UTILIZING 4,000 PSI CONCRETE AND GRADE 60 REBAR. REBAR SHALL BE PLACED ON 12" CENTERS EACH DIRECTION. REBAR TO BE PLACED 3" ABOVE FINISH GRADE. SYSTEM TO BE PLACED AS SHOWN ON THE PLANS.
- THE EQUIPMENT FOUNDATION SHALL BE LEVEL WITH A MINIMUM 4 INCHES OF CLEAN GRAVEL PLACED ON A 12" DEEP PREPARED SUB-GRADE. GRADE ADJACENT AREA TO DRAIN AROUND EQUIPMENT FOUNDATION.
- ELECTRICAL: ONE 120 VAC, 60 HZ, 15 AMP SINGLE PHASE ELECTRICAL SERVICE SHALL BE PROVIDED.



Delete sentence.

We would like to have a two pump system (one firm and one standby).

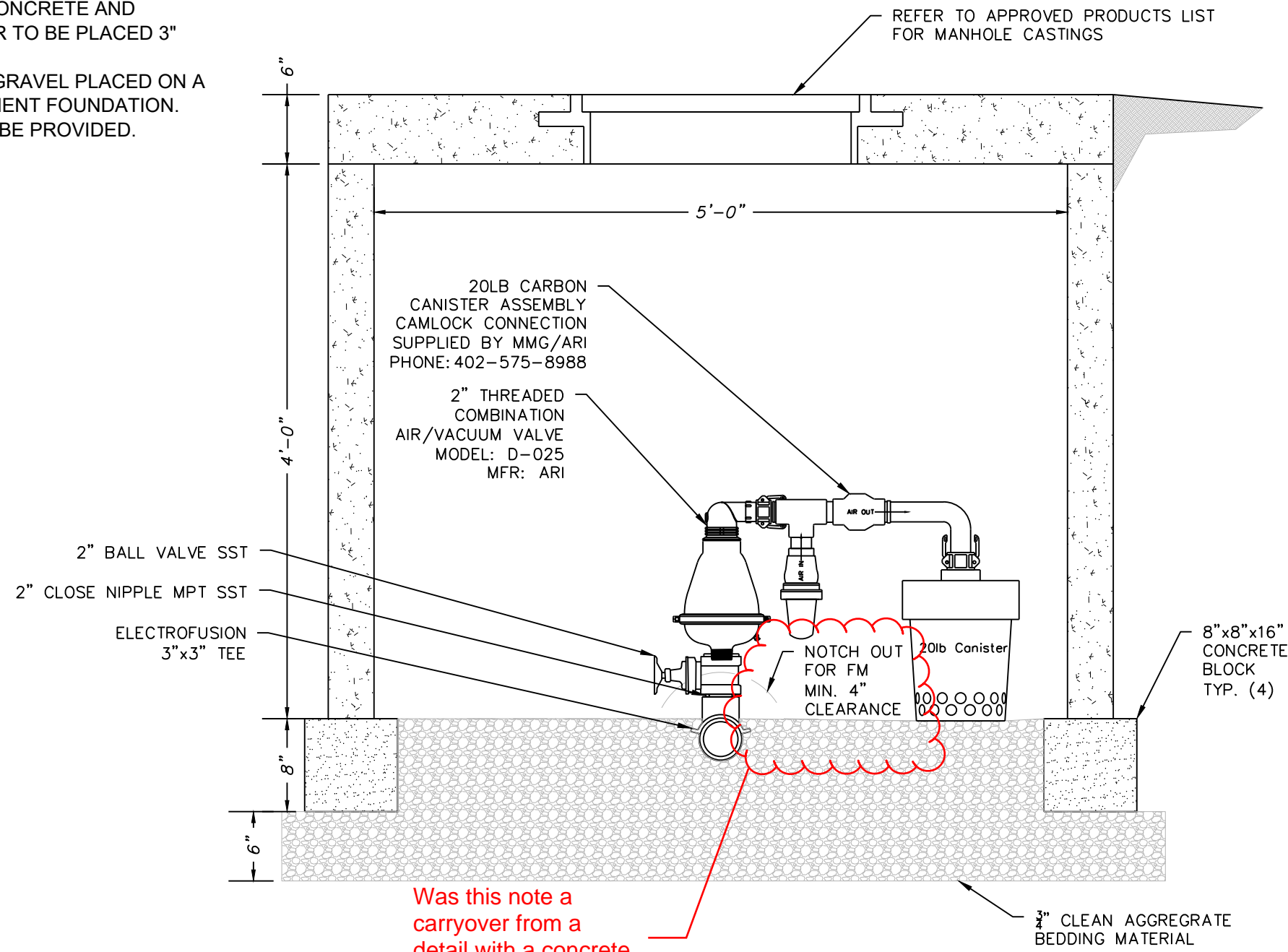
- NOTES:
- PRECAST CONCRETE MANHOLES SHALL CONFORM TO ASTM C478 EXCEPT AS MODIFIED BY THE SPECIFICATIONS.
 - A WALL THICKNESS NOT LESS THAN ONE-TWELFTH (1/12) OF THE INSIDE DIAMETER OR 4", WHICHEVER IS GREATER SHALL BE USED.
 - WATERPROOFING SHALL BE REQUIRED ON THE OUTSIDE OF MANHOLES. THE WATERPROOFING SHALL CONSIST OF A TOTAL DRY FILM THICKNESS OF NOT LESS THAN 14 MILS OF BITUMINOUS COATING.
 - THE FILL CONCRETE FLOW CHANNEL FOR SIDE BRANCHES SHALL BE PLACED TO PROVIDE A SMOOTH TRANSITION INTO THE FLOW LINE.
 - REFER TO THE APPROVED PRODUCTS LIST FOR WATER UTILITIES FOR MANHOLE GASKET MODELS.
 - PROVIDE STEPS AS SHOWN ON THE APPROVED PRODUCTS LIST FOR MANHOLE DEPTHS GREATER THAN 4'.



LEE'S SUMMIT
MISSOURI
PUBLIC WORKS ENGINEERING DIVISION 1200 S. GREEN STREET | LEE'S SUMMIT, MO 64088

Date: 02/13
Drawn By: JN
Checked By: DL
FILE: SAN-3
Rev: 1/14
Rev:

Delete 18 months from shipment, whichever occurs first. Since this will be through the developer's contractor, we can't control shipment and installation.



Was this note a carryover from a detail with a concrete base slab?

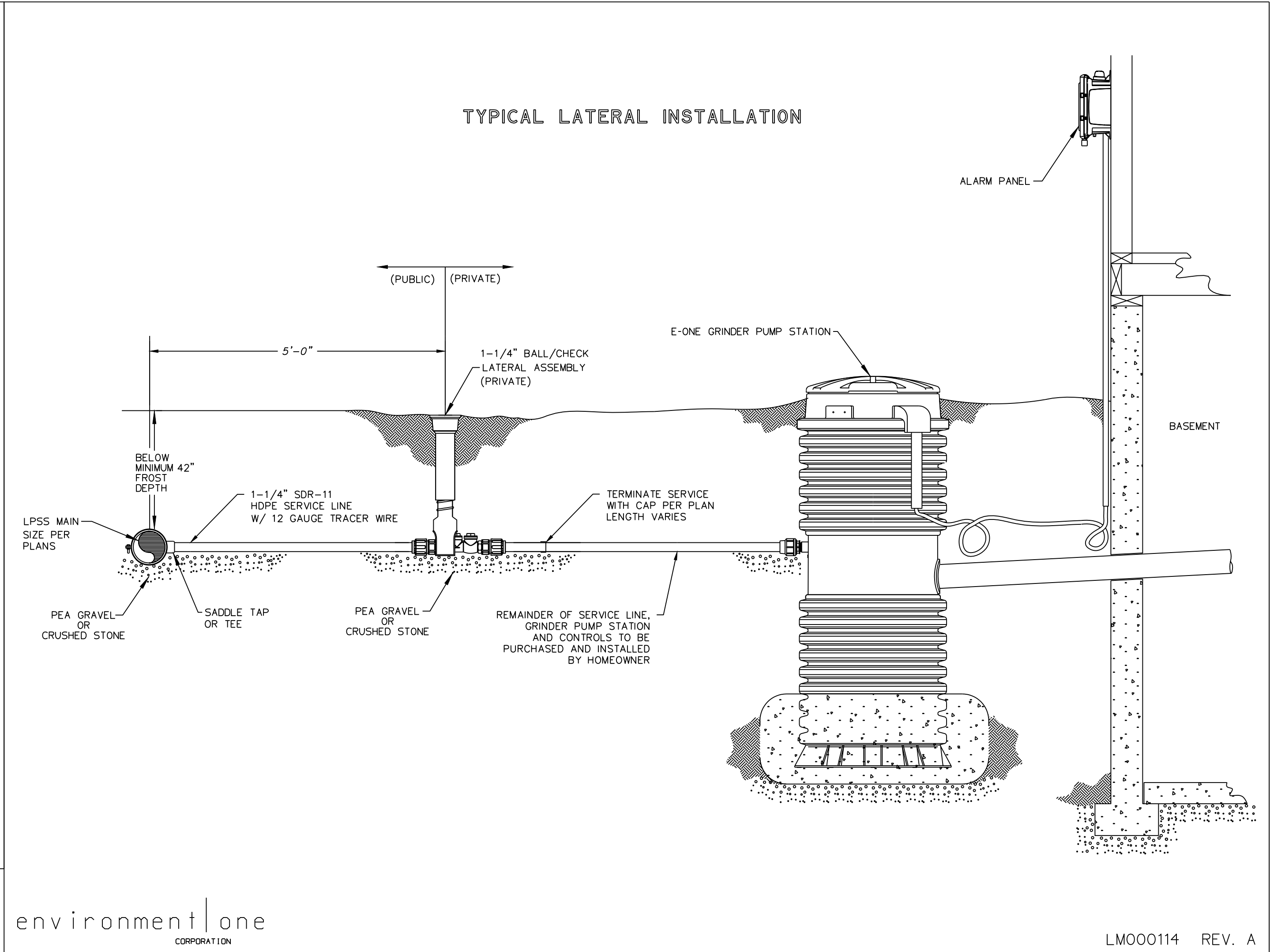
- NOTES:
- THE PRECAST CONCRETE MANHOLE SECTION AND TOP SHALL CONFORM TO ASTM C478.
 - THE WALL THICKNESS SHALL BE A MINIMUM OF 5" FOR A 5' DIA. MANHOLE.
 - WATERPROOFING SHALL BE REQUIRED ON THE EXTERIOR 14 MILS OF BITUMINOUS COATING.
 - EPOXY COATING SHALL BE REQUIRED ON THE INTERIOR SEE CITY SPECIFICATION.
 - REFER TO APPROVED PRODUCTS FOR MANHOLE GASKET REQUIREMENTS.
 - NO STEPS REQUIRED FOR STRUCTURES 4' AND UNDER.

AIR RELEASE FOR SEWAGE

NOT TO SCALE

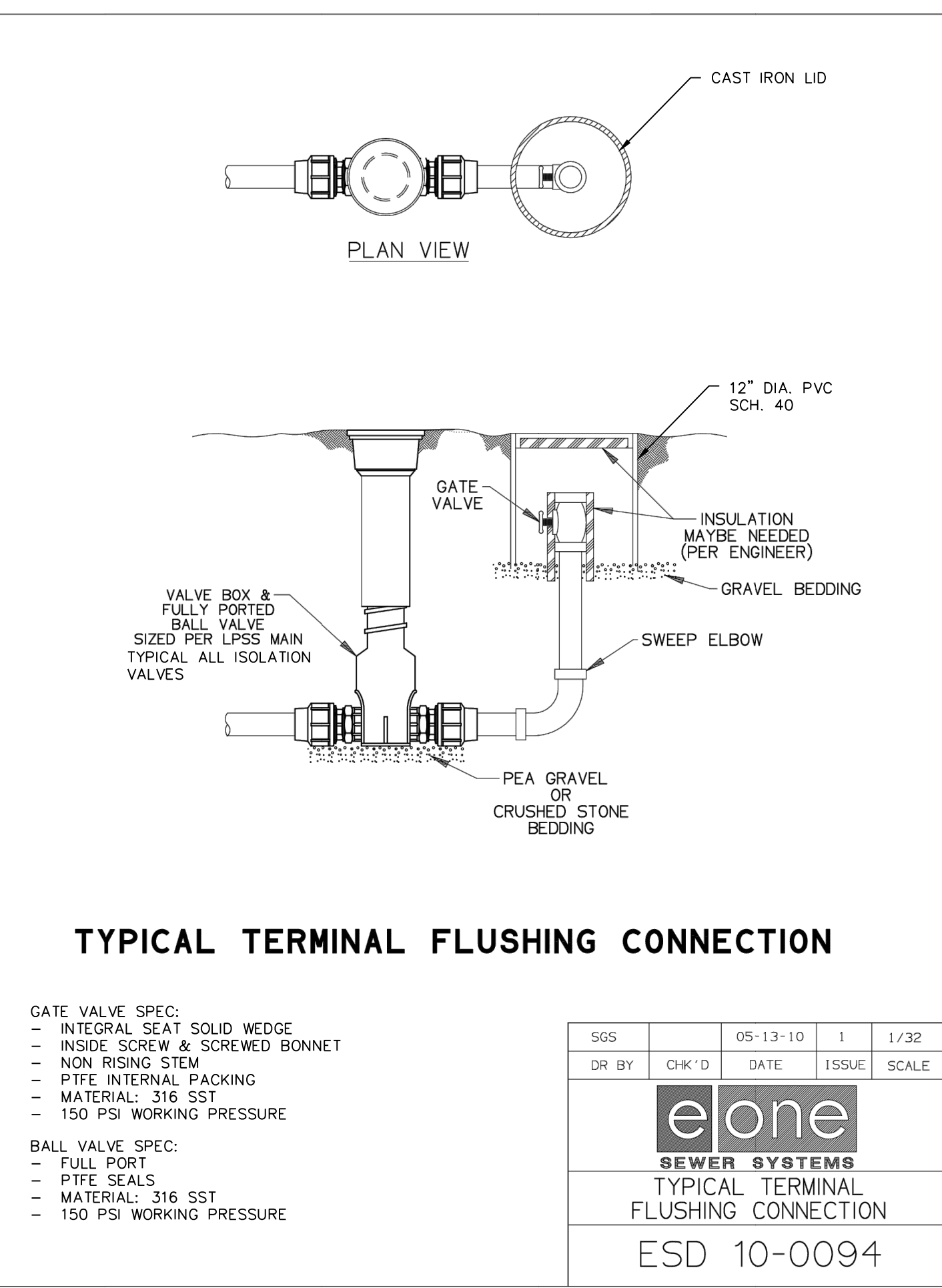
GENERAL NOTE:

- ALL CONSTRUCTION SHALL CONFORM TO THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL AS ADOPTED BY ORDINANCE 5813.
- TRACER WIRE SHALL BE INSTALLED ON ALL FORCEMAIN AND SERVICE LATERALS.



environment
CORPORATION

LM000114 REV. A

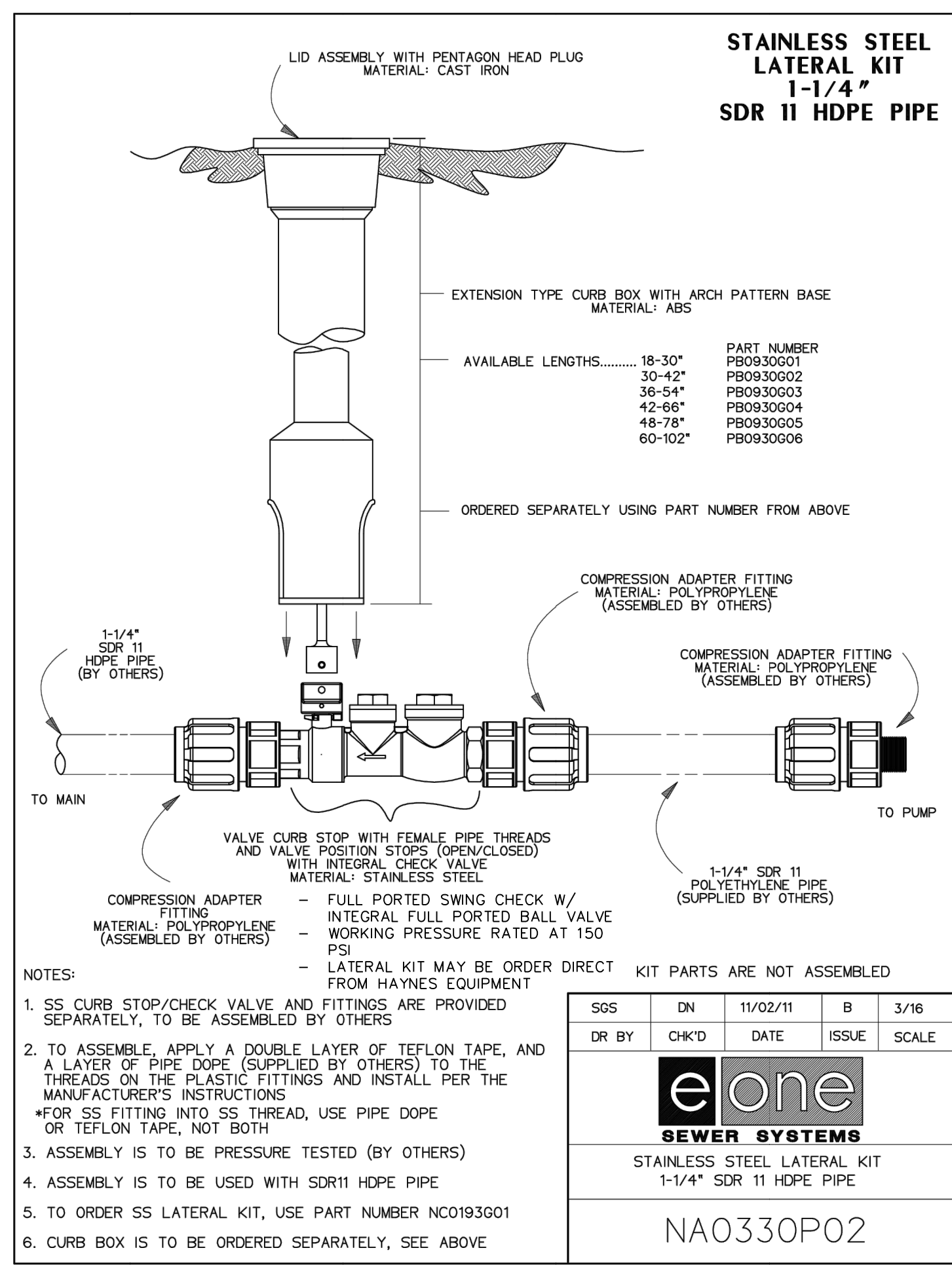


TYPICAL TERMINAL FLUSHING CONNECTION

- GATE VALVE SPEC:
- INTEGRAL SEAT SOLID WEDGE
 - INSIDE SCREW & SCREWED BONNET
 - NON RISING STEM
 - PTFE INTERNAL PACKING
 - MATERIAL: 316 SST
 - 150 PSI WORKING PRESSURE

- BALL VALVE SPEC:
- FULL PORT
 - PTFE SEALS
 - MATERIAL: 316 SST
 - 150 PSI WORKING PRESSURE

SOS	CHK'D	05-13-10	1	1/32
DR BY	CHK'D	DATE	ISSUE	SCALE
eone				
SEWER SYSTEMS				
TYPICAL TERMINAL FLUSHING CONNECTION				
ESD 10-0094				



NOTES:

- SS CURB STOP/CHECK VALVE AND FITTINGS ARE PROVIDED SEPARATELY, TO BE ASSEMBLED BY OTHERS
- TO ASSEMBLE, APPLY A DOUBLE LAYER OF TEFLON TAPE, AND A LAYER OF PIPE DOPE (SUPPLIED BY OTHERS) TO THE THREADS ON THE PLASTIC FITTINGS AND INSTALL PER THE MANUFACTURER'S INSTRUCTIONS
*FOR SS FITTING INTO SS THREAD, USE PIPE DOPE OR TEFLON TAPE, NOT BOTH
- ASSEMBLY IS TO BE PRESSURE TESTED (BY OTHERS)
- ASSEMBLY IS TO BE USED WITH SDR11 HDPE PIPE
- TO ORDER SS LATERAL KIT, USE PART NUMBER NC0193001
- CURB BOX IS TO BE ORDERED SEPARATELY, SEE ABOVE

SOS	DN	11/02/11	B	3/16
DR BY	CHK'D	DATE	ISSUE	SCALE
eone				
SEWER SYSTEMS				
STAINLESS STEEL LATERAL KIT				
1-1/4" SDR 11 HDPE PIPE				
NA0330P02				

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Surveying LS-218
Oklahoma
Engineering 6254
Nebraska
Engineering CA2821

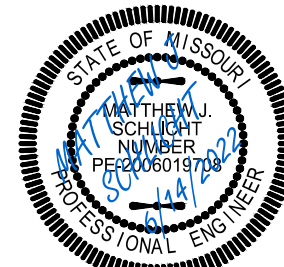
Part of the Southeast
Section 27, Township 48 North, Range 31 West
Lee's Summit, Jackson County, Missouri

Project:
WOODLAND OAKS
LSMO
Issue Date:
February 25, 2021

Sanitary Details

Construction Plans for:
WOODLAND OAKS

Lots 1 thru 42
Lee's Summit, Jackson County, Missouri



Matthew J. Schlacht
MO PE 0006019708
KS PE 19071
OK PE 25226
NE PE E-14335

REVISIONS

- REV. 5/5/2021
- REV. 5/26/2021
- REV. 6/22/2021
- REV. 6/29/2021