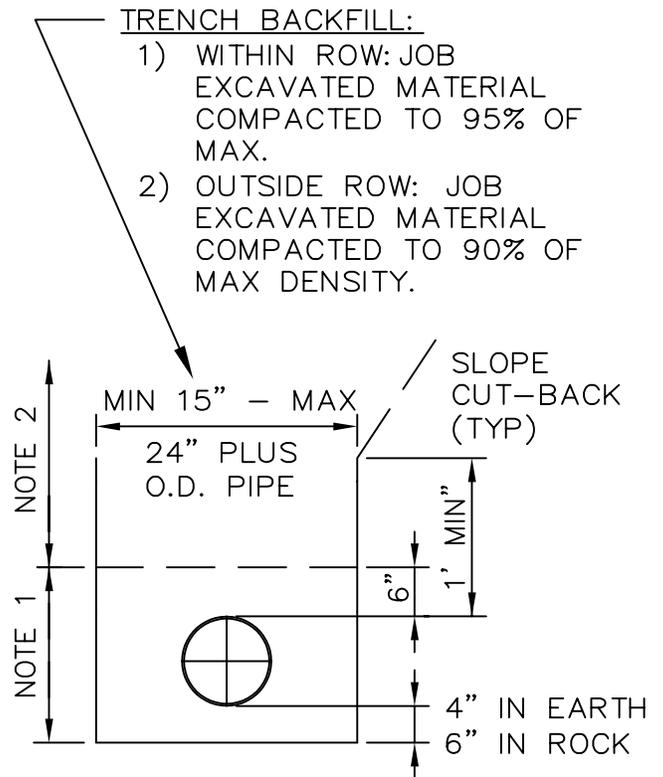


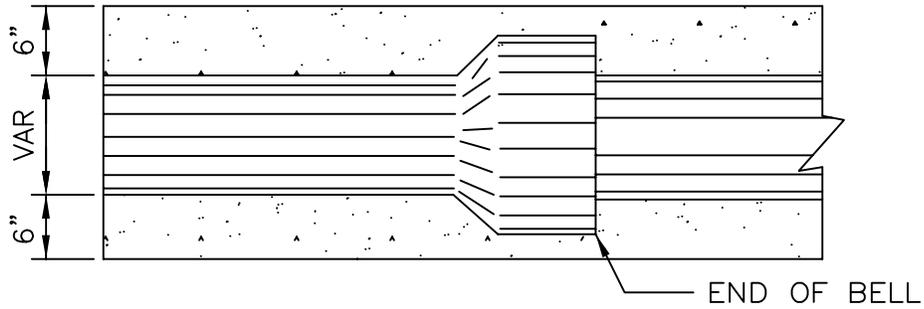
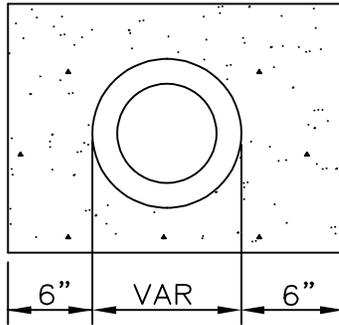
**SANITARY SEWER UNDER PAVEMENT**



**SANITARY SEWER NOT UNDER PAVEMENT  
 AND  
 D.I.P. SEWER MAIN UNDER PAVEMENT**

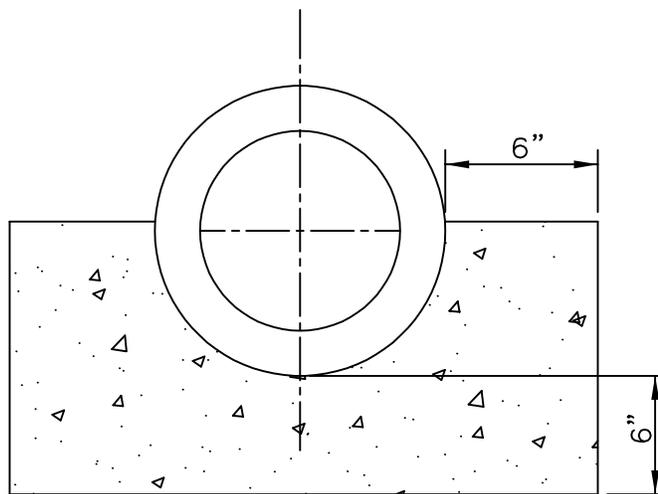
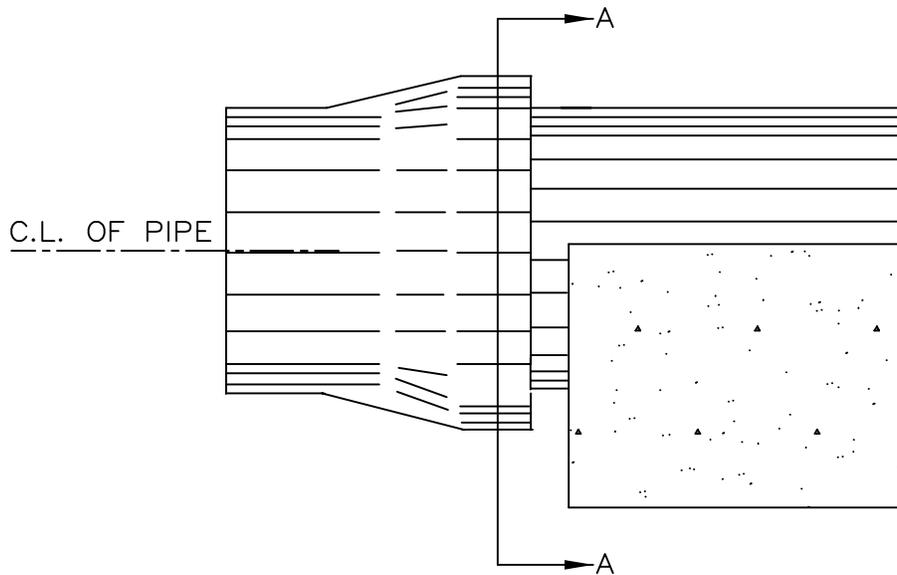
**NOTES:**

1. GRANULAR EMBEDMENT PER SECTION 3012 AND 3016
2. TRENCH BACKFILL PER SECTION 3021 OR FLOWABLE FILL PER SPECIFICATION 2000.



NOTES:

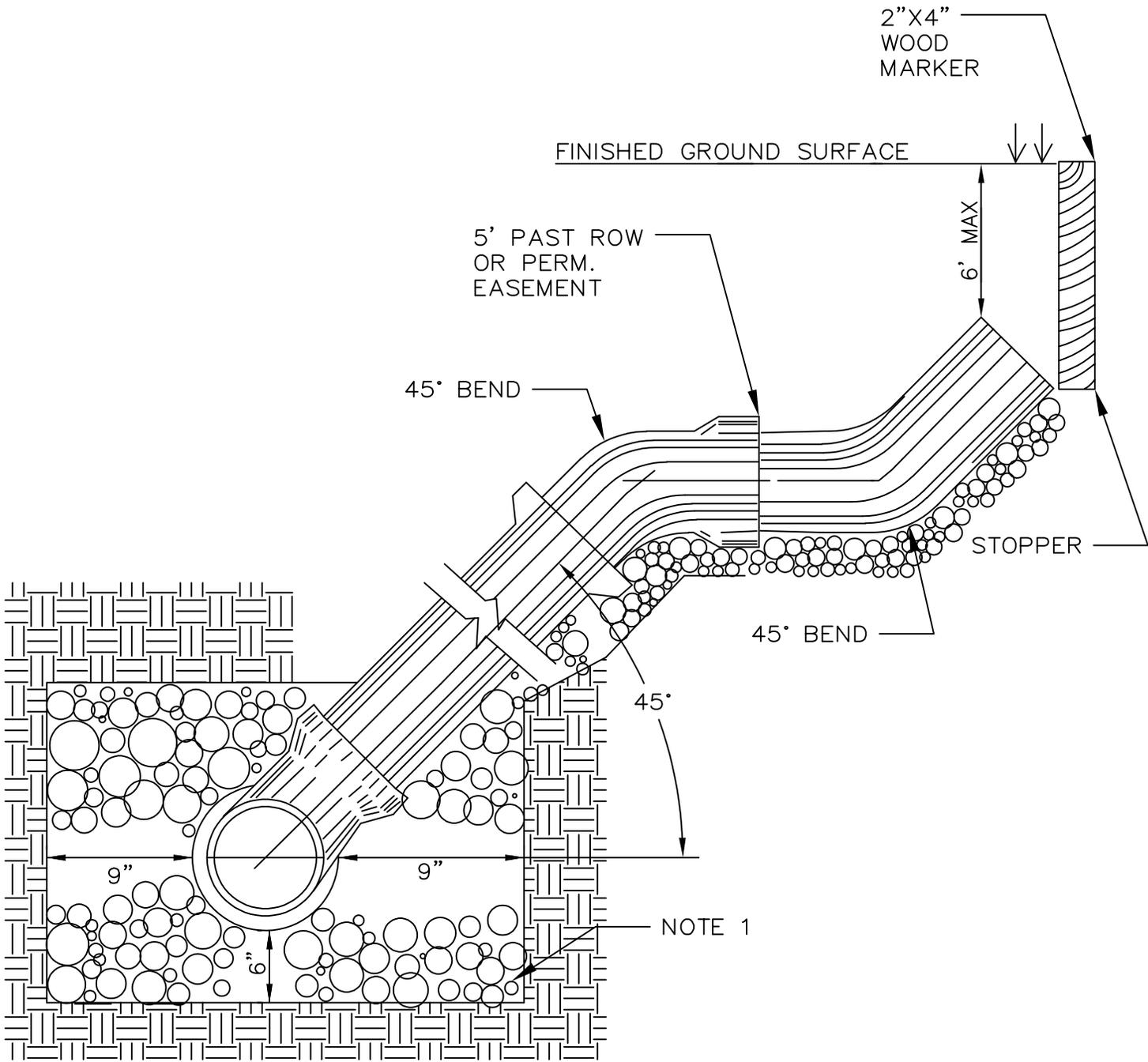
1. FOR USE ONLY WHERE INDICATED ON PLANS
2. THE CONCRETE ENCASEMENT SHALL BE KCMMB 4K (REFER TO SPECIFICATION 2000) WITH A MINIMUM THICKNESS ON ALL SIDES OF 6".
3. VOLUME OF CONCRETE PER LINEAL FOOT:
  - 3.1. 8" DIA PIPE = 0.11 C.Y. OF CONCRETE
  - 3.2. 10" DIA PIPE = 0.12 C.Y. OF CONCRETE
  - 3.3. 12" DIA PIPE = 0.14 C.Y. OF CONCRETE
  - 3.4. 15" DIA PIPE = 0.15 C.Y. OF CONCRETE



**SECTION A-A**

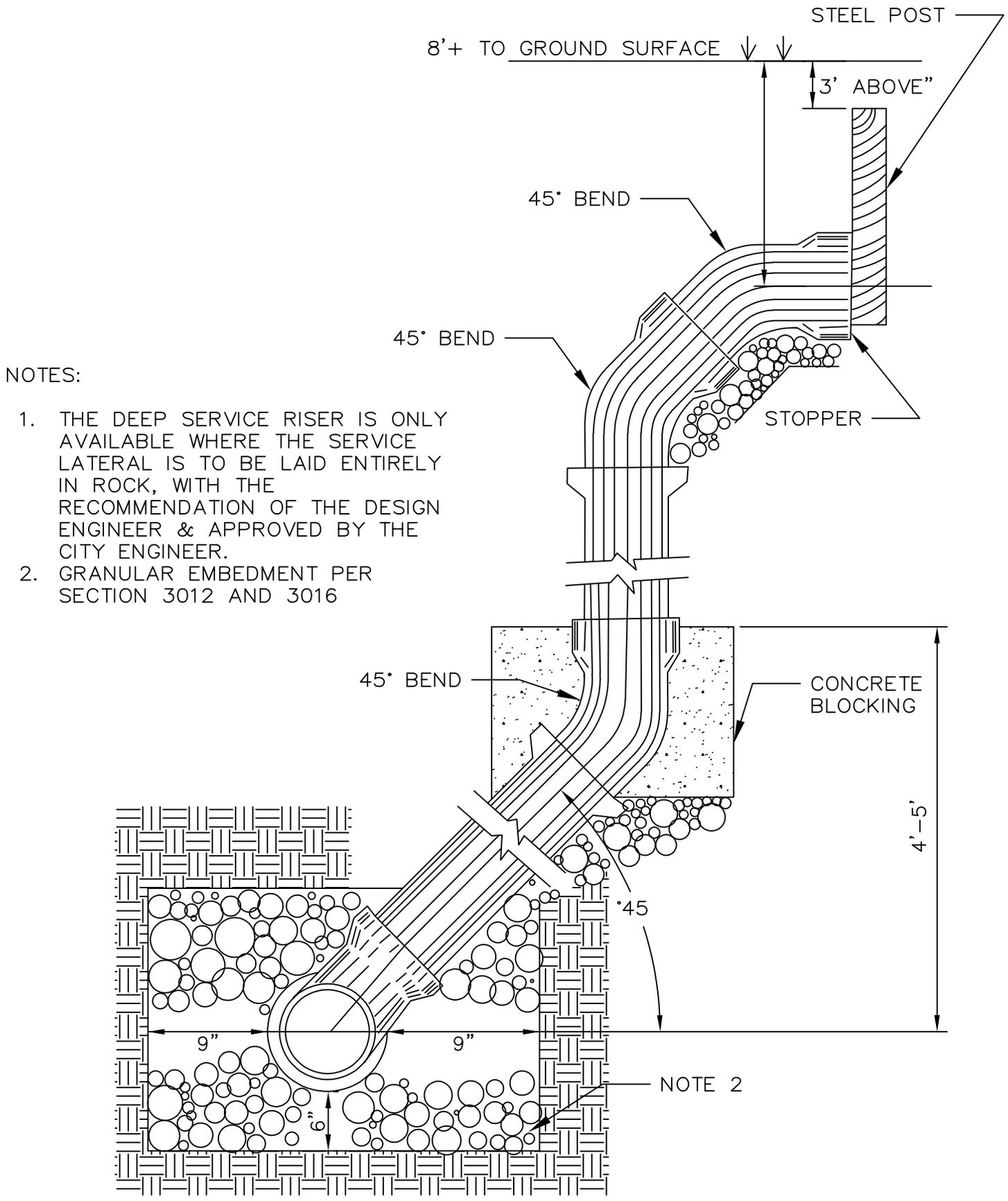
NOTES:

1. FOR USE ONLY WHERE INDICATED ON PLANS
2. THE CONCRETE CRADLE SHALL BE KCM MB 4K (REFER TO SPECIFICATION 2000). THE MINIMUM THICKNESS, ON THE SIDES AND BOTTOM SHALL BE 6", THE TOP OF THE CONCRETE SHALL BE AT LEAST TO THE CENTER OF THE PIPE.



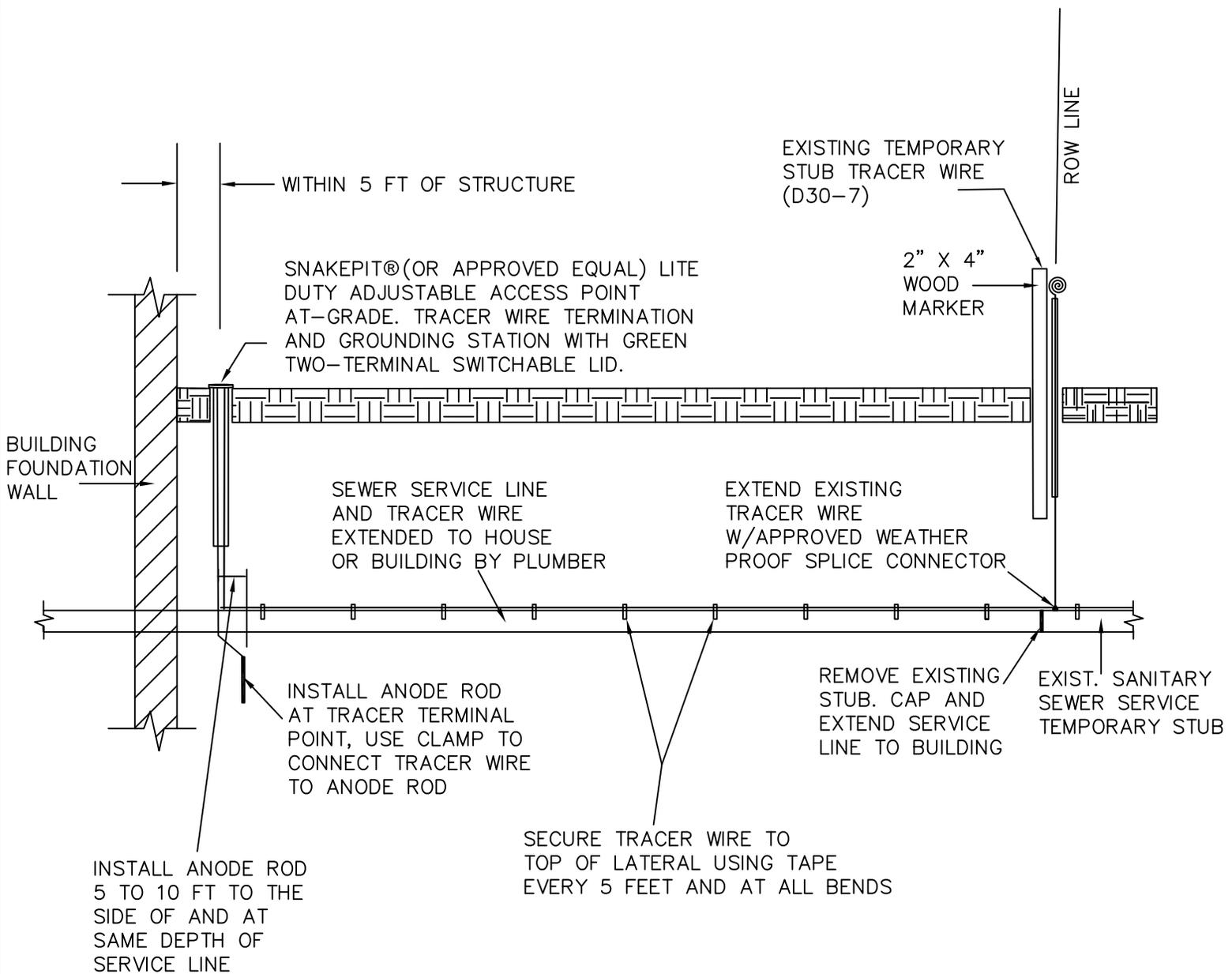
NOTES:

1. GRANULAR EMBEDMENT PER SECTION 3012 AND 3016



NOTES:

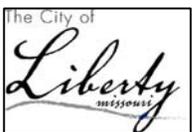
1. THE DEEP SERVICE RISER IS ONLY AVAILABLE WHERE THE SERVICE LATERAL IS TO BE LAID ENTIRELY IN ROCK, WITH THE RECOMMENDATION OF THE DESIGN ENGINEER & APPROVED BY THE CITY ENGINEER.
2. GRANULAR EMBEDMENT PER SECTION 3012 AND 3016



NOTES:

- \* ALL CONNECTORS SHALL BE MOISTURE-DISPLACEMENT TYPE CONNECTORS.
- \* IT SHALL BE THE CONTRACTOR'S AND DEVELOPER'S RESPONSIBILITY TO PROVIDE A CONTINUOUS AND FUNCTIONING TRACER WIRE SYSTEM.
- \* AT GRADE ACCESS POINT SHALL BE SNAKEPIT® LITE DUTY ADJUSTABLE TERMINATION AND GROUNDING STATION (OR APPROVED EQUAL) WITH GREEN COLOR CODED LID BEARING THE WORDS "SEWER". SNAKEPIT® CONCRETE/DRIVEWAY ACCESS POINT TO BE USED IN DRIVEWAYS.
- \* LID SHALL BE TWO-TERMINAL SWITCHABLE LID PROVIDING DIRECT CONNECTION POINT FOR UTILITY LOCATE TRANSMITTER PLUS GROUND SWITCH WITH NO NEED TO REMOVE LID TO ACCESS WIRES.

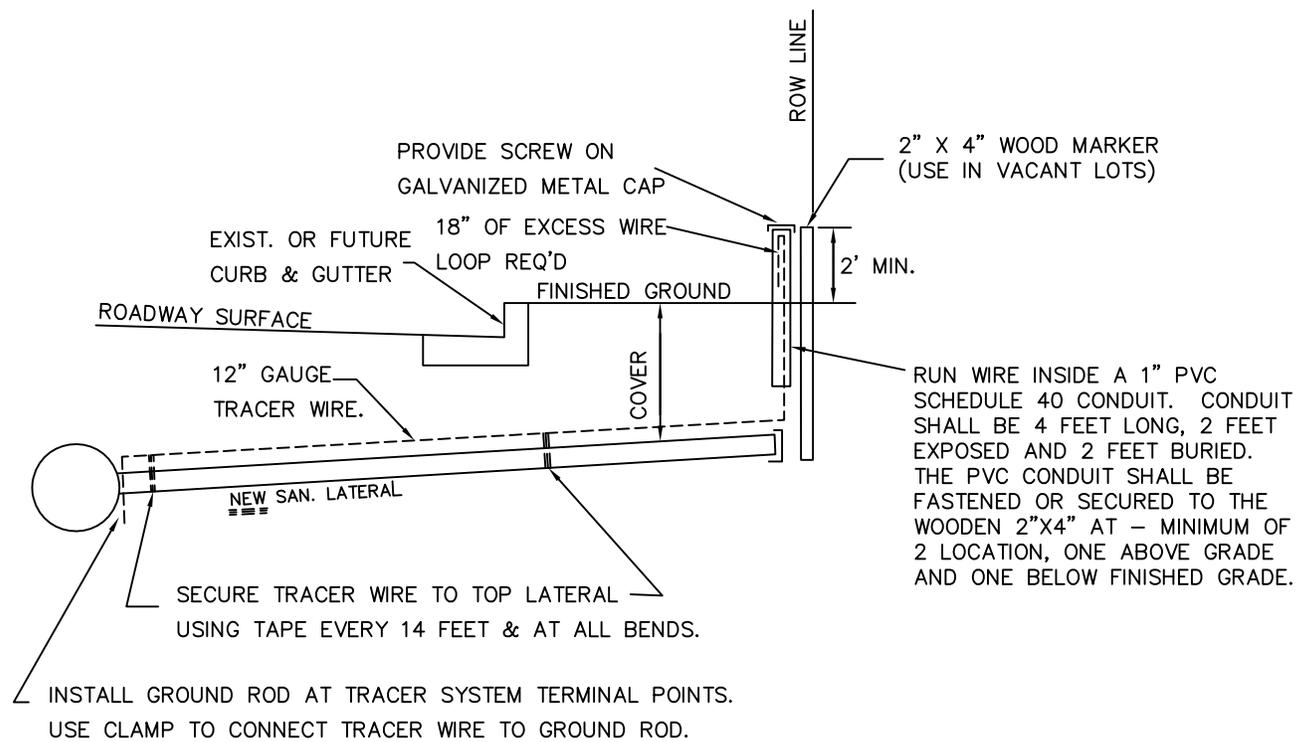
REV 2019



CITY OF LIBERTY, MO  
DEPARTMENT OF  
PUBLIC WORKS

SANITARY SERVICE  
TRACER WIRE  
DETAIL

D30-6

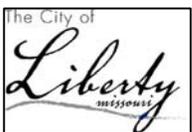


TRACER WIRE PIPE DETECTION SYSTEM PER SECTION 9100.

NOTES:

1. WHEN NEW PRIVATE SERVICE LINE TIES INTO STUB, INSTALL A PERMANENT TWO-WAY CLEANOUT WITH TRACER WIRE TERMINAL IN CLEANOUT FRAME PER DETAIL D30-6.

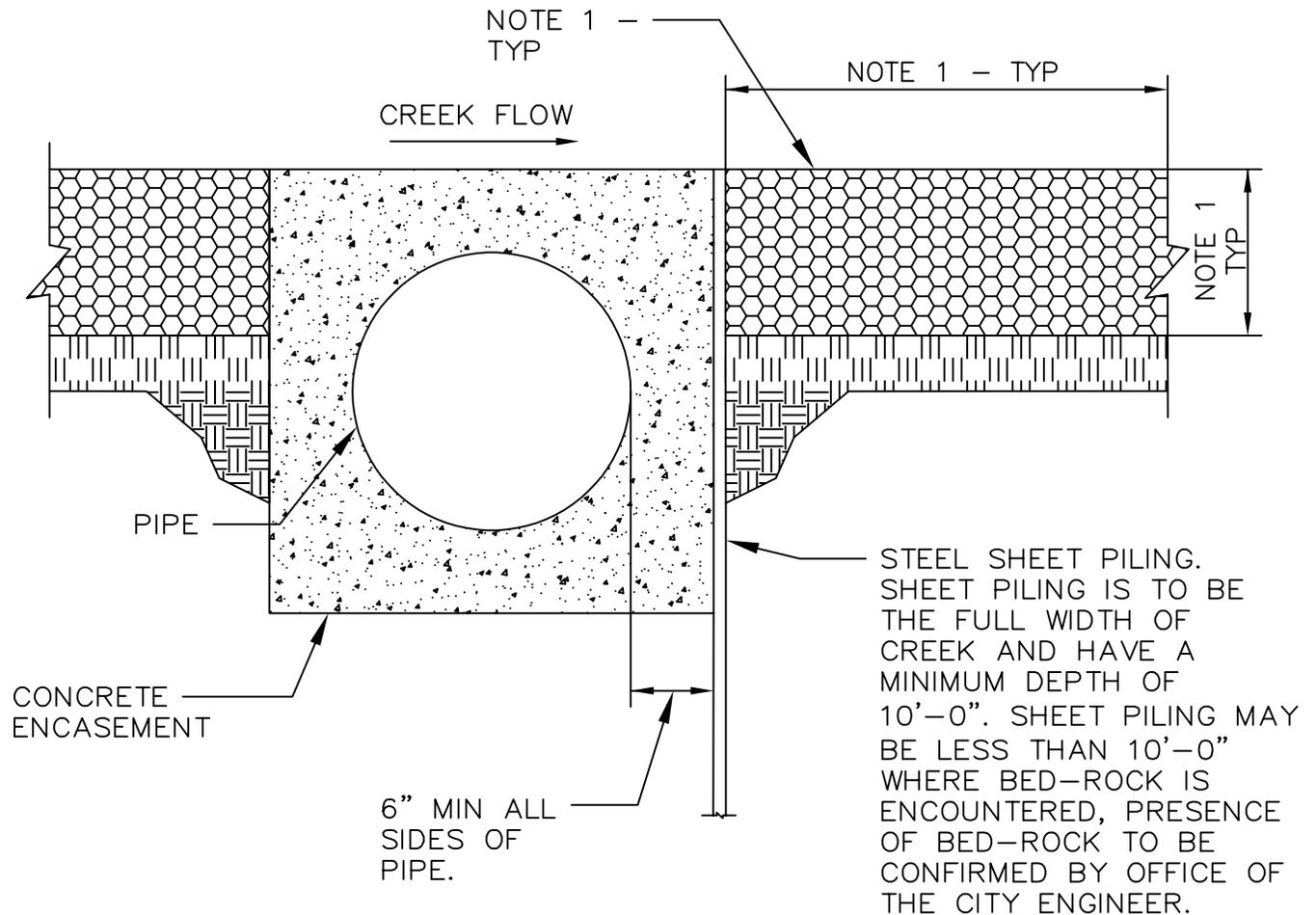
REV 2017



CITY OF LIBERTY, MO  
DEPARTMENT OF  
PUBLIC WORKS

TEMPORARY STUB  
TRACER WIRE  
DETAIL

D30-7



NOTES:

1. A RIP RAP APRON SHALL BE INSTALLED ON BOTH THE UPSTREAM AND DOWNSTREAM ENDS OF THE ENCASED PIPE. THE DEVELOPERS ENGINEER SHALL UTILIZE CURRENT HEC-14 DESIGN METHODS TO DETERMINE THE REQUIRED RIP RAP SIZE (D50), LENGTH OF APRONS AND DEPTH. THE DEVELOPERS ENGINEER SHALL SUBMIT THEIR DESIGN TO THE OFFICE OF THE CITY ENGINEER FOR REVIEW AND APPROVAL.