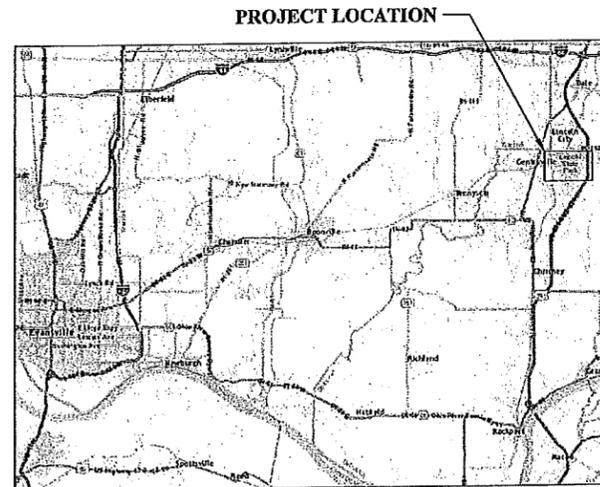


STATE OF INDIANA DEPARTMENT OF NATURAL RESOURCES

LINCOLN STATE PARK WATERMAIN REPLACEMENT

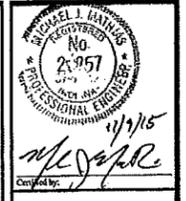
PROJECT NO. E030118
LINCOLN CITY, INDIANA
SPENCER COUNTY



SHEET NO.	DESCRIPTION
T-1	TITLE SHEET
S-1	OVERALL SITE PLAN/GENERAL NOTES
S-2	SITE PLAN - CAMPGROUND AREA (1 OF 2)
S-3	SITE PLAN - CAMPGROUND AREA (2 OF 2)
D-1	DETAILS

ABBREVIATION LIST	
CI	CAST IRON PIPE
DI	DUCTILE IRON PIPE
HDPE	HIGH DENSITY POLYETHYLENE PIPE
LF	LINEAL FEET
MH	MANHOLE
PL	FLEXIBLE POLYETHYLENE PIPE
PVC	POLYVINYL CHLORIDE PIPE

LEGEND	
---	EXISTING WATER LINE
---	NEW WATER LINE
---	EXISTING SANITARY SEWER
---	EXISTING SANITARY FORCE MAIN
⊕	EXISTING WATER VALVE
⊕	NEW WATER VALVE
⊙	EXISTING DRINKING FOUNTAIN
⊙	NEW DRINKING FOUNTAIN
⊗	EXISTING SANITARY MANHOLE
⊗	EXISTING POWER POLE



LINCOLN STATE PARK
WATERMAIN REPLACEMENT
INDIANA DEPARTMENT OF NATURAL RESOURCES
15476 N. COUNTY ROAD 300 E.
LINCOLN CITY, INDIANA 47552



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Regulation Number:	
Designer:	MJM
Drawing Date:	11/06/2015
Checker:	WSP
Drawing Scale:	AS NOTED
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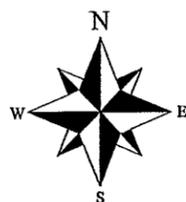
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TO STATE ROAD 162/PARK ENTRANCE



NOTE THAT THE OVERALL SITE PLAN ONLY SHOWS NEW WATER LINES AND ASSOCIATED APPURTENANCES. SEE THE INDIVIDUAL SITE PLAN SHEETS FOR ADDITIONAL DETAILS AND LAYOUT OF EXISTING KNOWN WATER AND SEWER PIPING.

GRAPHIC SCALE
 200 0 100 200 400 600
 (IN FEET)
 1 inch = 200 feet



SUMMARY OF WORK/GENERAL NOTES

WORK CONSISTS OF FURNISHING AND INSTALLING UNDERGROUND WATER LINES AND APPURTENANCES THE HORIZONTAL DIRECTIONAL DRILLING (HDD) METHOD OF INSTALLATION, OPEN CUT INSTALLATION IS ACCEPTABLE IN UNPAVED AREAS AND WHEN MAKING PIPE CONNECTIONS. WORK SHALL INCLUDE ALL SERVICES, EQUIPMENT, MATERIALS, AND LABOR FOR THE COMPLETE AND PROPER INSTALLATION, TESTING, SITE RESTORATION TO PRE-CONSTRUCTION CONDITIONS AND ENVIRONMENTAL PROTECTION.

WORK INCLUDES THE INSTALLATION OF APPROXIMATELY 5,750 LF OF 6-INCH THROUGH 3/4-INCH WATER LINES THROUGHOUT THE PARK PROPERTY. THE INSTALLATION/REPLACEMENT OF SIX (6) DRINKING FOUNTAINS AND THE INSTALLATION OF TWO (2) FROST-FREE YARD HYDRANTS.

ALL WATER LINES TO BE ABANDONED IN PLACE ARE TO BE DEMOLISHED, INCLUDING ALL APPURTENANCES, TO BELOW GRADE AND CAPPED A MINIMUM OF 2 FEET BELOW GRADE.

ALL EXISTING DRINKING FOUNTAINS NOTED TO BE REPLACED ARE TO BE DEMOLISHED TO BELOW GRADE WITH THE EXISTING PIPING CAPPED A MINIMUM OF 2 FEET BELOW GRADE. THE FINAL LOCATIONS OF NEW REPLACEMENT DRINKING FOUNTAINS ARE TO BE COORDINATED WITH THE PROPERTY MANAGER.

HIGH DENSITY POLYETHYLENE (HDPE) PIPE SHALL MEET THE REQUIREMENTS OF AWWA C901 AND ASTM D2239. INSTALLATION OF PIPING SYSTEMS USING THE HDD METHOD SHALL MEET THE REQUIREMENTS OF ASTM F1962. HDPE PIPE SHALL HAVE A NOMINAL IRON PIPE SIZE AND DIMENSION RATIO OF 11.

THE CONTRACTOR SHALL STRING A10 GAUGE (WITH OPEN CUT INSTALLATION) OR A 6 GAUGE (WITH HDD INSTALLATION) SOLID COPPER WIRE WITH INSULATION SUITABLE FOR DIRECT BURIAL IN TO BE INSTALLED WITH THE WATER LINE. ADDITIONAL WIRES MAY BE PULLED TO MAKE SURE THERE IS AT LEAST ONE SOUNDING WIRE FOR EACH SECTION OF PIPE INSTALLED TO PERMIT THE PIPE TO BE LOCATED BY THE OWNER'S PIPE LOCATOR. ATTACH THE LOCATOR WIRE TO THE WATER LINE APPROXIMATELY EVERY 15-FEET WITH PLASTIC TIE CABLES. SPLICES SHALL BE ACCOMPLISHED UTILIZING A WATERTIGHT SPLICE KIT, 3M DBR-6 OR SIMILAR RESIN TYPE SPLICE KIT. THE CONTRACTOR SHALL TEST THE CONTINUITY OF THE LOCATOR WIRE UTILIZING THE SAME TECHNOLOGY USED BY THE OWNER OR A METHOD OF THE OWNER'S CHOOSING. IF CONTINUITY TESTS FAIL, THE CONTRACTOR MAY REPAIR THE FAILURE IF IT CAN BE LOCATED, OR A NEW TRACER CABLE MAY BE RETRENCHED OVER THE PIPE.

ALL NEW PIPING AND CONNECTIONS TO EXISTING PIPING SHALL BE PRESSURE TESTED IN ACCORDANCE WITH AWWA C600-10. ALL NEW PIPING SHALL BE DISINFECTED IN ACCORDANCE WITH AWWA C651-05.

GATE VALVES SHALL BE NON-RISING, MECHANICAL JOINT, RESILIENT WEDGE WITH CAST IRON BODY, REMOVABLE CAST IRON BONNET AND OPERATING NUT. PROVIDE STAINLESS STEEL BONNET BOLTS, STUDS AND NUTS. FOR DIRECT BURIAL VALVES EXTEND SHAFTS TO GRADE AND EQUIP WITH ADJUSTABLE TYPE, CAST IRON, VALVE BOXES. PROVIDE ONE TEE WRENCHES FOR EACH SIZE AND TYPE OF OPERATING NUT. SHALL BE DESIGNED FOR A WORKING PRESSURE OF 200 PSI AND PROVIDE A CLEAR UNOBSTRUCTED WATERWAY WHEN FULLY OPEN. VALVES SHALL MEET THE REQUIREMENTS OF AWWA C509 AND OPEN BY TURNING COUNTERCLOCKWISE.

CURB VALVES SHALL BE MUELLER MARK II ORISEAL OR EQUAL. CURB VALVES ARE TO BE PROVIDED WITH CAST IRON CURB BOXES COMPLETE WITH COVER. BOXES SHALL BE EXTENSION TYPE AND SCREW OR SLIDE TYPE ADJUSTMENT. CURB VALVES ARE TO BE PROVIDED WITH STATIONARY ROD. PROVIDE ONE VALVE WRENCH OR CURB BOX KEY FOR EACH TYPE OF VALVE SUPPLIED.

YARD HYDRANTS SHALL BE WOODFORD S4H OR EQUAL ADA COMPLIANT AUTOMATIC DRAINING, SANITARY, FROST-FREE HYDRANTS. YARD HYDRANTS SHALL BE COMPLETELY SEALED TO PREVENT SURFACE AND GROUND WATER FROM ENTERING THE RESERVOIR OR SERVICE LINE AND SHALL BE SUITABLE FOR USE WITH POTABLE WATER.

BESIDES THE SHOWN EXISTING WATER AND SEWER LINES THE EXISTING SITE UTILITIES ARE UNKNOWN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND PROTECT ALL UTILITIES WITHIN THE PROJECT AREA. THE CONTRACTOR SHALL ALSO VERIFY THE LOCATION AND SIZE OF ALL SHOWN UTILITIES.

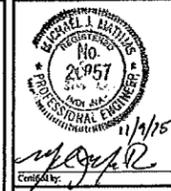
PROVIDE A VERTICAL SEPARATION OF AT LEAST 18 INCHES WHENEVER A WATER MAIN CROSSES A SANITARY SEWER OR LATERAL. THE WATER MAIN MUST BE ABOVE THE SEWER. WHEN LOCAL CONDITIONS PREVENT THIS SEPARATION, ADEQUATE STRUCTURAL SUPPORT FOR THE SEWERS MUST BE PROVIDED TO PREVENT EXCESS DEFLECTION OF JOINTS AND SETTLING ON AND BREAKING THE WATER MAIN, OR THE WATER PIPE SHALL BE CENTERED AT THE POINT OF CROSSING SO THAT THE JOINTS WILL BE EQUIDISTANT AND AS FAR AS POSSIBLE FROM THE SEWER.

ALL PAVEMENT IS ASPHALT WITH THE EXCEPTION OF INDIVIDUAL CAMPGROUND SITES WHICH ARE GRAVEL.

WHERE THE HDD METHOD OF INSTALLATION IS USED, THE CONTRACTOR SHALL MAINTAIN DAILY LOG OF DRILLING OPERATIONS AND A GUIDANCE SYSTEM LOG WITH A COPY GIVEN TO THE ENGINEER AT THE COMPLETION OF THE PROJECT.

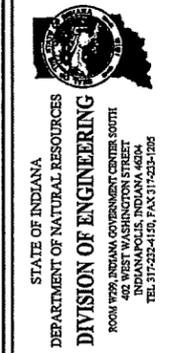
THE NORTH CAMPGROUND COMFORT STATION AND FAMILY CABINS SHALL HAVE UNINTERRUPTED WATER SERVICE AFTER MARCH 1, 2016. ALL OTHER STRUCTURES/CAMPSITES DO NOT HAVE THIS LIMITATION.

AS-BUILT DRAWINGS SHALL BE CERTIFIED AS ACCURATE BY THE CONTRACTOR. MODIFICATION TO THE WATER LINE LAYOUT BETWEEN CONNECTION POINTS CAN BE MADE WITH PRE-APPROVAL FROM ENGINEER.

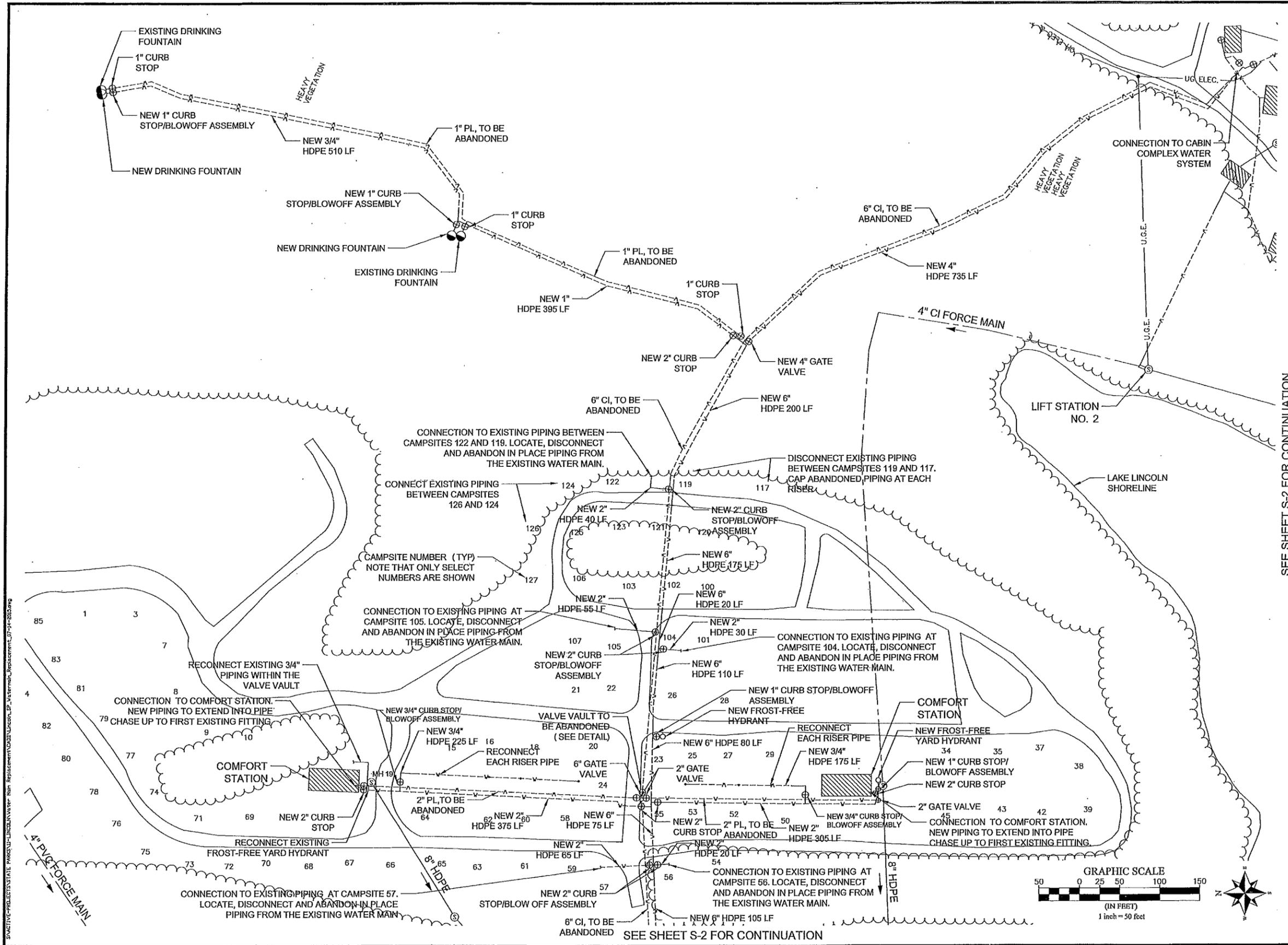


Company: *[Signature]*

LINCOLN STATE PARK
 WATERMAIN REPLACEMENT
 INDIANA DEPARTMENT OF NATURAL RESOURCES
 15476 N. COUNTY ROAD 300 EAST
 LINCOLN CITY, IN 47552



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Designer:	MJM
Drawn:	WSP
Design Date:	11/06/15
Design Scale:	1" = 200'
Client Approval:	
File Number:	11-130
Drawing Number:	S-1
Sheet:	2 of 5



Professional Engineer
 No. 20157
 State of Indiana
 11/15
 M. J. M. J.

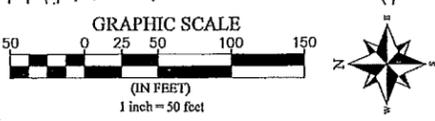
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STATE OF INDIANA
 DEPARTMENT OF NATURAL RESOURCES
 DIVISION OF ENGINEERING
 ROOM 9299, INDIANA GOVERNMENT CENTER SOUTH
 402 WEST WASHINGTON STREET
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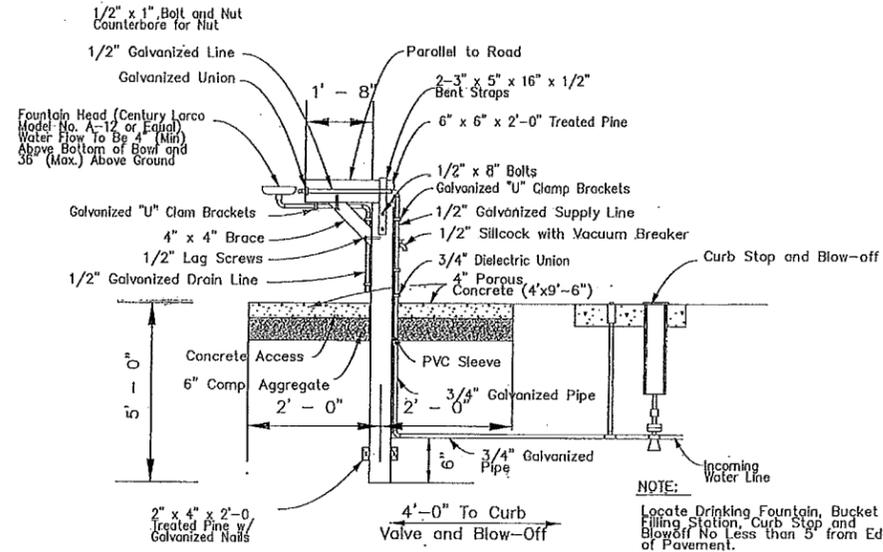
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Sheet Count:	4 of 5

SEE SHEET S-2 FOR CONTINUATION

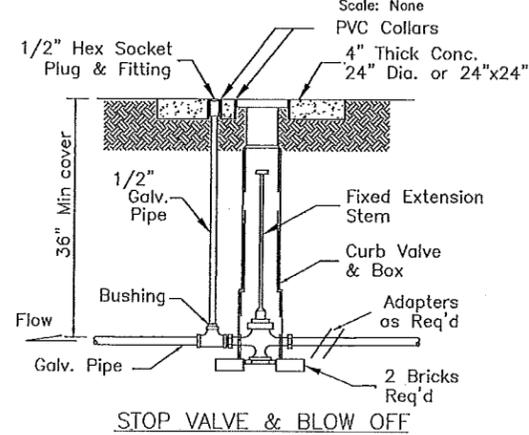
SEE SHEET S-2 FOR CONTINUATION



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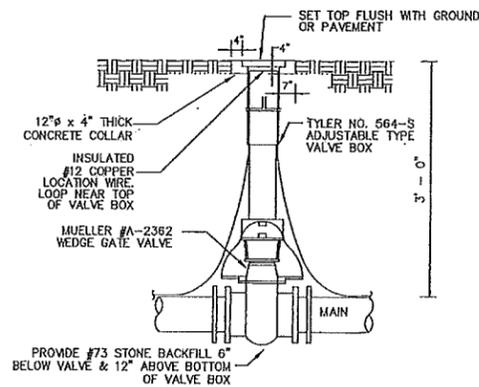


TYPICAL FOUNTAIN AND BUCKET FILLING STATION



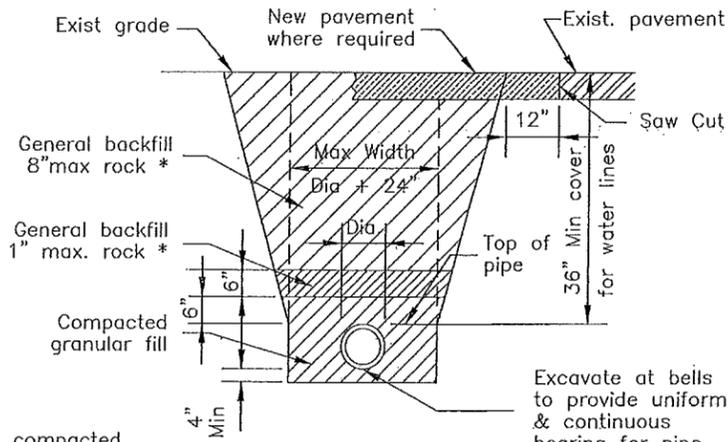
STOP VALVE & BLOW OFF

NOTE
Use Loctite Threadlocker 262 on all fittings for vertical galv. pipe except hex socket plug.



TYPICAL GATE VALVE & VALVE BOX

Scale: None



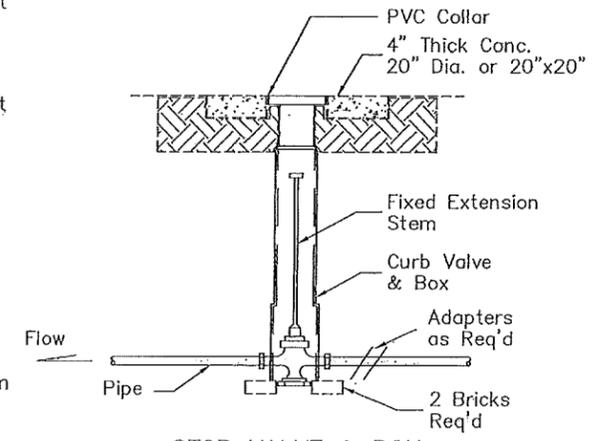
TYPICAL PIPE TRENCH

Scale: None

Excavate at bells to provide uniform & continuous bearing for pipe.

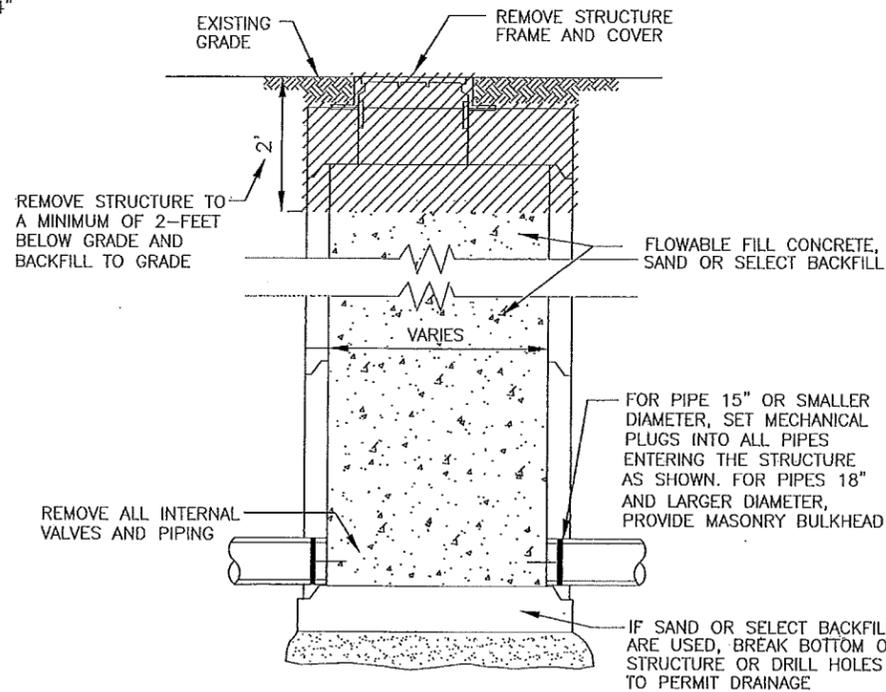
* Use compacted granular fill where in or within 5" of pavement.

NOTE:
Locate Drinking Fountain, Bucket Filling Station, Curb Stop and Blowoff No Less than 5" from Edge of Pavement.



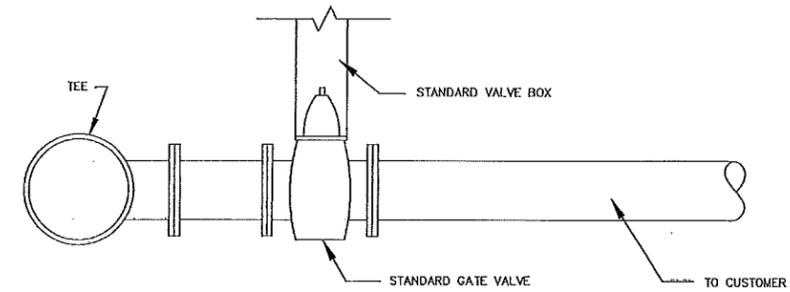
STOP VALVE & BOX

Scale: None

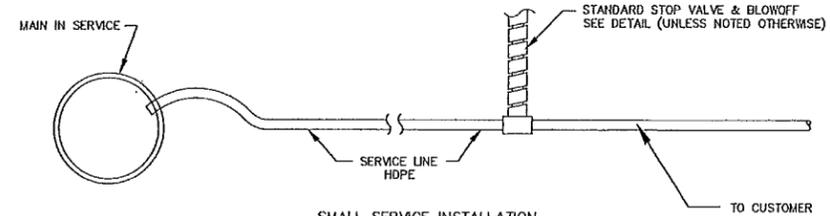


MANHOLE/VAULT ABANDONMENT

Scale: None

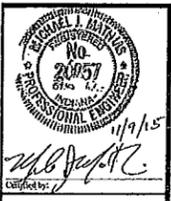


LARGE SERVICE INSTALLATION W/ MAIN 4" AND LARGER

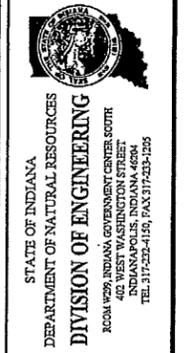


SMALL SERVICE INSTALLATION 3/4" THRU 2" (MIN. 48" COVER)

WATER SERVICE INSTALLATION NOT TO SCALE



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