

89439

LEGEND

- PROPOSED WATER MAIN
FUTURE WATER MAIN
PROPOSED WATER VALVE
PROPOSED AIR VALVE
PROPOSED FIRE HYDRANT

NOTE: WATERLINE VALVES TO BE OPERATED BY CONTRACTOR ONLY IF WATER DEPARTMENT REPRESENTATIVE IS ON SITE.

1" = 600'

CONDUIT/SERVICE BOX ASSEMBLY

The Contractor shall install a continuous conduit the entire length of the proposed waterline. The conduit shall be CARLON OPTIC-CARD 1-1/4" diameter, SDR 11, PE Pipe or approved equal. The pipe shall be ribbed/smooth, orange in color, and shall contain a pre-installed poly pull rope. Where necessary, the pipe shall be jointed with metallic threaded sleeve couplings as manufactured by Carlon, or approved equal. Stainless Steel bands shall be installed every 20 feet along the 66" Waterline to secure the conduit to the top of the waterline. The Contractor shall connect the proposed conduit to the conduit as provided with the 66" Raw Water Transmission Line Phase 1.

The service box assembly shall be QUAZITE COMPOSOLITE Part No. PG3048BA18 service box (30"W x 48"L x 18"D) with a QUAZITE COMPOSOLITE Part No. PG3048HA00 heavy duty locking cover, or approved equal. The locking cover for the service box shall be imprinted with "CITY OF WICHITA".

The conduit entering and exiting the service box assembly shall extend to an elevation approximately 12" below grade. The pre-installed poly rope shall extend a minimum of 3' inside the service box. The service box shall be placed on a 6" crushed rock base (compacted to 95% of ASTM D698) extending a minimum of 12" around the box perimeter. A 12" wide x 12" thick concrete border (COW concrete pavement mix) shall be placed flush around the top of the service box assembly.

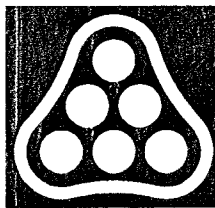
Service Boxes shall be installed along the route of the waterline as listed in the Service Box Location table. The locations of the service boxes shown in the Service Box Location table are approximate. Maximum spacing for service boxes shall be 2,000 feet. The service boxes shall be placed along the outside limits of the waterline excavation except where such placement would fall within a paved or unpaved vehicular travelway. Service boxes shall be situated at least 5' outside of all vehicle travelways, and in locations as approved by the Field Engineer.

SERVICE BOX LOCATION TABLE	
APPROX. WATERLINE STATION	OFFSET
290+32.47	18" Rt.
303+00.00	18" Rt.
317+90.00	10" Rt.

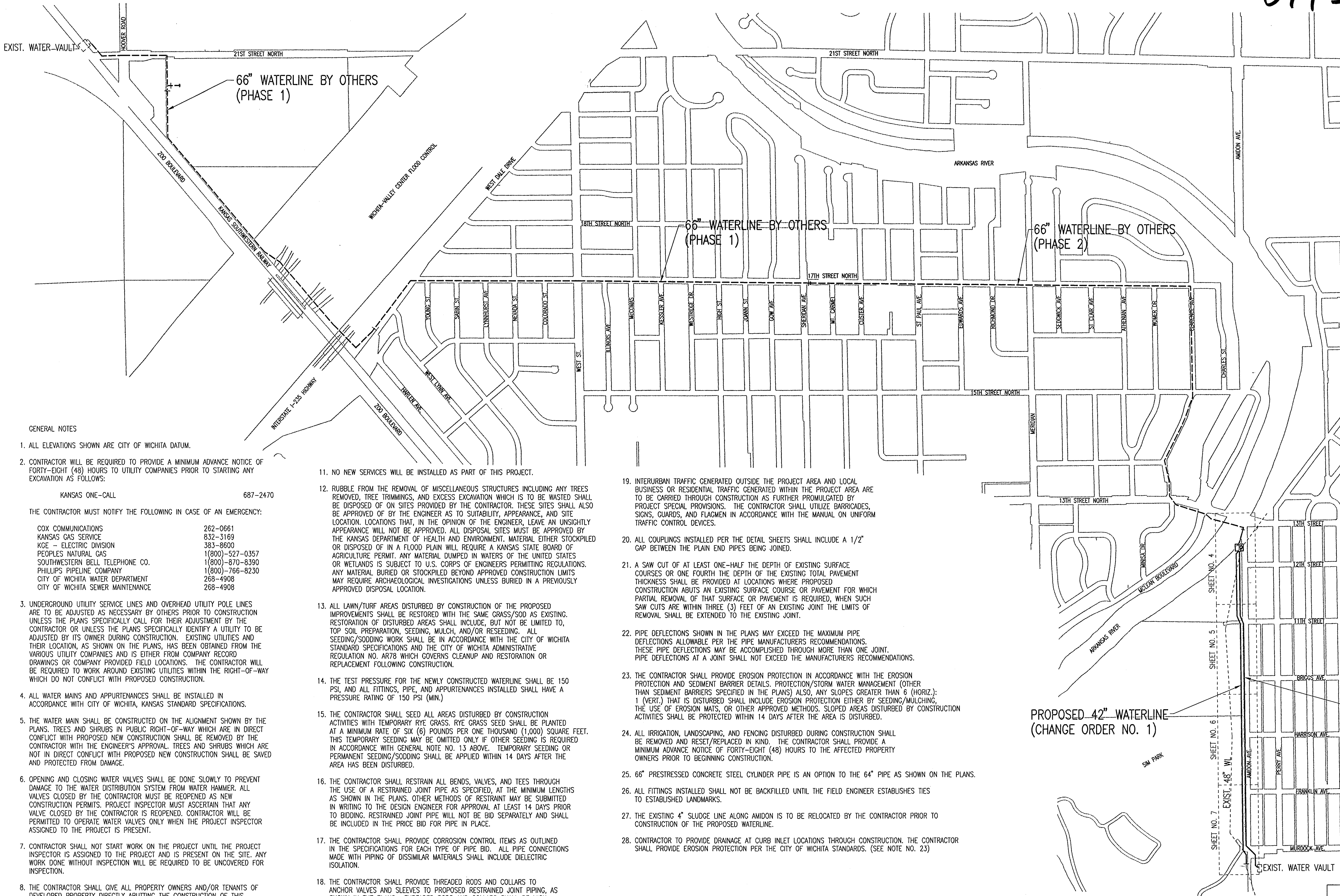
(Approx. 3,867 L.F. conduit required.)

PROPOSED 64" WATERLINE
(CHANGE ORDER NO. 1)

PROPOSED 42" WATERLINE
(CHANGE ORDER NO. 1)



No.	Revision	By	Date
CITY OF WICHITA, KANSAS MICHAEL E. LINDEBAK, P.E. - CITY ENGINEER 64"/42" RAW WATER TRANSMISSION LINE (CHANGE ORDER NO. 1) WATERLINE KEY MAP CITY OF WICHITA PROJECT NO. 448-89439 Professional Engineering Consultants, P.A. 303 S. TOPEKA • WICHITA, KANSAS 67202 316-262-2691 • FAX 316-262-3003			
Designed by	MDK	Job No.	34-00040-042
Drawn by	JLM	Date	October 2001
		Sht.	1 of 7



GENERAL NOTES

1. ALL ELEVATIONS SHOWN ARE CITY OF WICHITA DATUM.

2. CONTRACTOR WILL BE REQUIRED TO PROVIDE A MINIMUM ADVANCE NOTICE OF FORTY-EIGHT (48) HOURS TO UTILITY COMPANIES PRIOR TO STARTING ANY EXCAVATION AS FOLLOWS:

KANSAS ONE-CALL 687-2470

THE CONTRACTOR MUST NOTIFY THE FOLLOWING IN CASE OF AN EMERGENCY:

COX COMMUNICATIONS 262-0661
KANSAS GAS SERVICE 832-3169
KGE - ELECTRIC DIVISION 383-8600
PEOPLES NATURAL GAS 1(800)-527-0357
SOUTHWESTERN BELL TELEPHONE CO. 1(800)-870-8390
PHILLIPS PIPELINE COMPANY 1(800)-766-8230
CITY OF WICHITA WATER DEPARTMENT 268-4908
CITY OF WICHITA SEWER MAINTENANCE 268-4908

3. UNDERGROUND UTILITY SERVICE LINES AND OVERHEAD UTILITY POLE LINES ARE TO BE ADJUSTED AS NECESSARY BY OTHERS PRIOR TO CONSTRUCTION UNLESS THE PLANS SPECIFICALLY CALL FOR THEIR ADJUSTMENT BY THE CONTRACTOR OR UNLESS THE PLANS SPECIFICALLY IDENTIFY A UTILITY TO BE ADJUSTED BY ITS OWNER DURING CONSTRUCTION. EXISTING UTILITIES AND THEIR LOCATION, AS SHOWN ON THE PLANS, HAS BEEN OBTAINED FROM THE VARIOUS UTILITY COMPANIES AND IS EITHER FROM COMPANY RECORD DRAWINGS OR COMPANY PROVIDED FIELD LOCATIONS. THE CONTRACTOR WILL BE REQUIRED TO WORK AROUND EXISTING UTILITIES WITHIN THE RIGHT-OF-WAY WHICH DO NOT CONFLICT WITH PROPOSED CONSTRUCTION.

4. ALL WATER MAINS AND APPURTENANCES SHALL BE INSTALLED IN ACCORDANCE WITH CITY OF WICHITA, KANSAS STANDARD SPECIFICATIONS.

5. THE WATER MAIN SHALL BE CONSTRUCTED ON THE ALIGNMENT SHOWN BY THE PLANS. TREES AND SHRUBS IN PUBLIC RIGHT-OF-WAY WHICH ARE IN DIRECT CONFLICT WITH PROPOSED NEW CONSTRUCTION SHALL BE REMOVED BY THE CONTRACTOR WITH THE ENGINEER'S APPROVAL. TREES AND SHRUBS WHICH ARE NOT IN DIRECT CONFLICT WITH PROPOSED NEW CONSTRUCTION SHALL BE SAVED AND PROTECTED FROM DAMAGE.

6. OPENING AND CLOSING WATER VALVES SHALL BE DONE SLOWLY TO PREVENT DAMAGE TO THE WATER DISTRIBUTION SYSTEM FROM WATER HAMMER. ALL VALVES CLOSED BY THE CONTRACTOR MUST BE REOPENED AS NEW CONSTRUCTION PERMITS. PROJECT INSPECTOR MUST ASCERTAIN THAT ANY VALVE CLOSED BY THE CONTRACTOR IS REOPENED. CONTRACTOR WILL BE PERMITTED TO OPERATE WATER VALVES ONLY WHEN THE PROJECT INSPECTOR ASSIGNED TO THE PROJECT IS PRESENT.

7. CONTRACTOR SHALL NOT START WORK ON THE PROJECT UNTIL THE PROJECT INSPECTOR IS ASSIGNED TO THE PROJECT AND IS PRESENT ON THE SITE. ANY WORK DONE WITHOUT INSPECTION WILL BE REQUIRED TO BE UNCOVERED FOR INSPECTION.

8. THE CONTRACTOR SHALL GIVE ALL PROPERTY OWNERS AND/OR TENANTS OF DEVELOPED PROPERTY DIRECTLY ADJUTING THE CONSTRUCTION OF THIS PROJECT A MINIMUM OF TEN (10) DAYS ADVANCE NOTICE PRIOR TO START OF CONSTRUCTION.

9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRESERVING PROPERTY IRONS. THE CONTRACTOR SHALL BE REQUIRED TO RE-ESTABLISH ANY PROPERTY IRONS WHICH ARE DAMAGED OR DESTROYED BY HIS CONSTRUCTION OPERATIONS. SUCH IRONS SHALL BE RE-ESTABLISHED BY A LICENSED LAND SURVEYOR IN ACCORDANCE WITH STATE LAWS.

10. THE CONTRACTOR SHALL RESTORE ALL DITCHES, SWALES, ROAD SHOULDERS, ENTRANCES, AND BANK LINES TO THEIR ORIGINAL SLOPES AND GRADES EXCEPT AS SHOWN OTHERWISE.

11. NO NEW SERVICES WILL BE INSTALLED AS PART OF THIS PROJECT.

12. RUBBLE FROM THE REMOVAL OF MISCELLANEOUS STRUCTURES INCLUDING ANY TREES REMOVED, TREE TRIMMINGS, AND EXCESS EXCAVATION WHICH IS TO BE WASTED SHALL BE DISPOSED OF ON SITES PROVIDED BY THE CONTRACTOR. THESE SITES SHALL ALSO BE APPROVED OF BY THE ENGINEER AS TO SUITABILITY, APPEARANCE, AND SITE LOCATION. LOCATIONS THAT, IN THE OPINION OF THE ENGINEER, LEAVE AN UNSIGHTLY APPEARANCE WILL NOT BE APPROVED. ALL DISPOSAL SITES MUST BE APPROVED BY THE KANSAS DEPARTMENT OF HEALTH AND ENVIRONMENT. MATERIAL EITHER STOCKPILED OR DISPOSED OF IN A FLOOD PLAIN WILL REQUIRE A KANSAS STATE BOARD OF AGRICULTURE PERMIT. ANY MATERIAL DUMPED IN WATERS OF THE UNITED STATES OR WETLANDS IS SUBJECT TO U.S. CORPS OF ENGINEERS PERMITTING REGULATIONS. ANY MATERIAL BURIED OR STOCKPILED BEYOND APPROVED CONSTRUCTION LIMITS MAY REQUIRE ARCHAEOLOGICAL INVESTIGATIONS UNLESS BURIED IN A PREVIOUSLY APPROVED DISPOSAL LOCATION.

13. ALL LAWN/TURF AREAS DISTURBED BY CONSTRUCTION OF THE PROPOSED IMPROVEMENTS SHALL BE RESTORED WITH THE SAME GRASS/SEED AS EXISTING. RESTORATION OF DISTURBED AREAS SHALL INCLUDE, BUT NOT BE LIMITED TO, TOP SOIL PREPARATION, SEEDING, MULCH, AND/OR RESEEDING. ALL SEEDING/SODDING WORK SHALL BE IN ACCORDANCE WITH THE CITY OF WICHITA STANDARD SPECIFICATIONS AND THE CITY OF WICHITA ADMINISTRATIVE REGULATION NO. AR78 WHICH GOVERNS CLEANUP AND RESTORATION OR REPLACEMENT FOLLOWING CONSTRUCTION.

14. THE TEST PRESSURE FOR THE NEWLY CONSTRUCTED WATERLINE SHALL BE 150 PSI AND ALL FITTINGS, PIPE, AND APPURTENANCES INSTALLED SHALL HAVE A PRESSURE RATING OF 150 PSI (MIN.).

15. THE CONTRACTOR SHALL SEED ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES WITH TEMPORARY RYE GRASS. RYE GRASS SEED SHALL BE PLANTED AT A MINIMUM RATE OF SIX (6) POUNDS PER ONE THOUSAND (1,000) SQUARE FEET. THIS TEMPORARY SEEDING MAY BE OMITTED ONLY IF OTHER SEEDING IS REQUIRED IN ACCORDANCE WITH GENERAL NOTE NO. 13 ABOVE. TEMPORARY SEEDING OR PERMANENT SEEDING/SODDING SHALL BE APPLIED WITHIN 14 DAYS AFTER THE AREA HAS BEEN DISTURBED.

16. THE CONTRACTOR SHALL RESTRAIN ALL BENDS, VALVES, AND TEES THROUGH THE USE OF A RESTRAINED JOINT PIPE AS SPECIFIED, AT THE MINIMUM LENGTHS AS SHOWN IN THE PLANS. OTHER METHODS OF RESTRAINT MAY BE SUBMITTED IN WRITING TO THE DESIGN ENGINEER FOR APPROVAL AT LEAST 14 DAYS PRIOR TO BIDDING. RESTRAINED JOINT PIPE WILL NOT BE BID SEPARATELY AND SHALL BE INCLUDED IN THE PRICE BID FOR PIPE IN PLACE.

17. THE CONTRACTOR SHALL PROVIDE CORROSION CONTROL ITEMS AS OUTLINED IN THE SPECIFICATIONS FOR EACH TYPE OF PIPE BID. ALL PIPE CONNECTIONS MADE WITH PIPING OF DISSIMILAR MATERIALS SHALL INCLUDE DIELECTRIC ISOLATION.

18. THE CONTRACTOR SHALL PROVIDE THREADED RODS AND COLLARS TO ANCHOR VALVES AND SLEEVES TO PROPOSED RESTRAINED JOINT PIPING, AS SHOWN IN THE PLANS. THREADED RODS AND COLLARS SHALL BE HIGH STRENGTH, HEAT TREATED CORTEN STEEL AND SHALL CONFORM TO ASTM A242, TYPE 2, AS MANUFACTURED BY STAR NATIONAL PRODUCTS OR APPROVED EQUAL. THE NUMBER OF TIEBOLT RESTRAINERS AND FASTENING METHOD SHALL BE IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS. THE BOLTS SHALL BE DESIGNED FOR A TOTAL DESIGN PRESSURE OF 200 PSI.

19. INTERURBAN TRAFFIC GENERATED OUTSIDE THE PROJECT AREA AND LOCAL BUSINESS OR RESIDENTIAL TRAFFIC GENERATED WITHIN THE PROJECT AREA ARE TO BE CARRIED THROUGH CONSTRUCTION AS FURTHER PROMULGATED BY PROJECT SPECIAL PROVISIONS. THE CONTRACTOR SHALL UTILIZE BARRICADES, SIGNS, GUARDS, AND FLAGMEN IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

20. ALL COUPLINGS INSTALLED PER THE DETAIL SHEETS SHALL INCLUDE A 1/2" GAP BETWEEN THE PLAIN END PIPES BEING JOINED.

21. A SAW CUT OF AT LEAST ONE-HALF THE DEPTH OF EXISTING SURFACE COURSES OR ONE FOURTH THE DEPTH OF THE EXISTING TOTAL PAVEMENT THICKNESS SHALL BE PROVIDED AT LOCATIONS WHERE PROPOSED CONSTRUCTION ABUTS AN EXISTING SURFACE COURSE OR PAVEMENT FOR WHICH PARTIAL REMOVAL OF THAT SURFACE OR PAVEMENT IS REQUIRED, WHEN SUCH SAW CUTS ARE WITHIN THREE (3) FEET OF AN EXISTING JOINT THE LIMITS OF REMOVAL SHALL BE EXTENDED TO THE EXISTING JOINT.

22. PIPE DEFLECTIONS SHOWN IN THE PLANS MAY EXCEED THE MAXIMUM PIPE DEFLECTIONS ALLOWABLE PER THE PIPE MANUFACTURERS RECOMMENDATIONS. THESE PIPE DEFLECTIONS MAY BE ACCOMPLISHED THROUGH MORE THAN ONE JOINT. PIPE DEFLECTIONS AT A JOINT SHALL NOT EXCEED THE MANUFACTURERS RECOMMENDATIONS.

23. THE CONTRACTOR SHALL PROVIDE EROSION PROTECTION IN ACCORDANCE WITH THE EROSION PROTECTION AND SEDIMENT BARRIER DETAILS. PROTECTION/STORM WATER MANAGEMENT (OTHER THAN SEDIMENT BARRIERS SPECIFIED IN THE PLANS) ALSO, ANY SLOPES GREATER THAN 6 (HORIZ.): 1 (VERT.) THAT IS DISTURBED SHALL INCLUDE EROSION PROTECTION EITHER BY SEEDING/MULCHING, THE USE OF EROSION MATS, OR OTHER APPROVED METHODS. SLOPED AREAS DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE PROTECTED WITHIN 14 DAYS AFTER THE AREA IS DISTURBED.

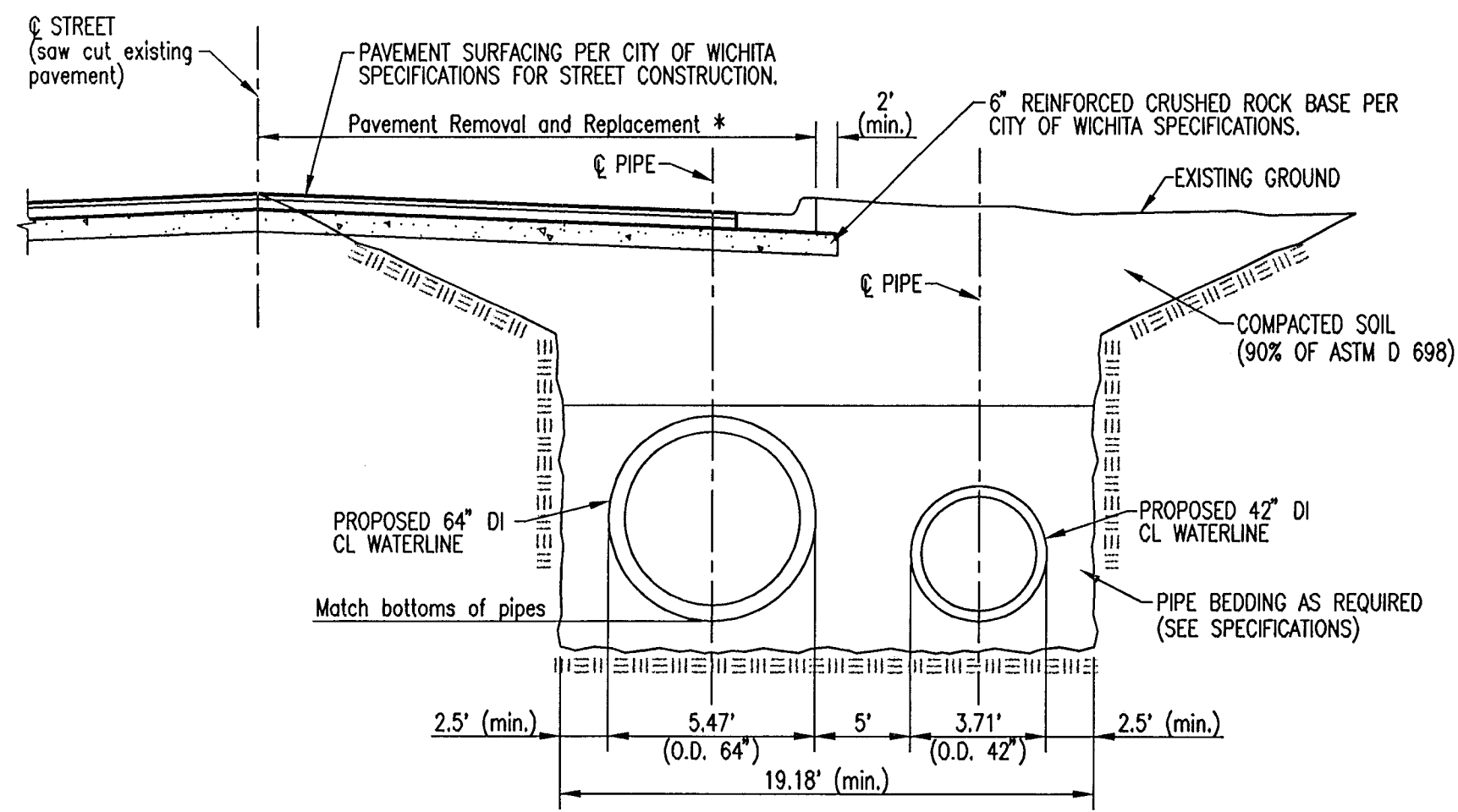
24. ALL IRRIGATION, LANDSCAPING, AND FENCING DISTURBED DURING CONSTRUCTION SHALL BE REMOVED AND RESET/REPLACED IN KIND. THE CONTRACTOR SHALL PROVIDE A MINIMUM ADVANCE NOTICE OF FORTY-EIGHT (48) HOURS TO THE AFFECTED PROPERTY OWNERS PRIOR TO BEGINNING CONSTRUCTION.

25. 66" PRESTRESSED CONCRETE STEEL CYLINDER PIPE IS AN OPTION TO THE 64" PIPE AS SHOWN ON THE PLANS.

26. ALL FITTINGS INSTALLED SHALL NOT BE BACKFILLED UNTIL THE FIELD ENGINEER ESTABLISHES TIES TO ESTABLISHED LANDMARKS.

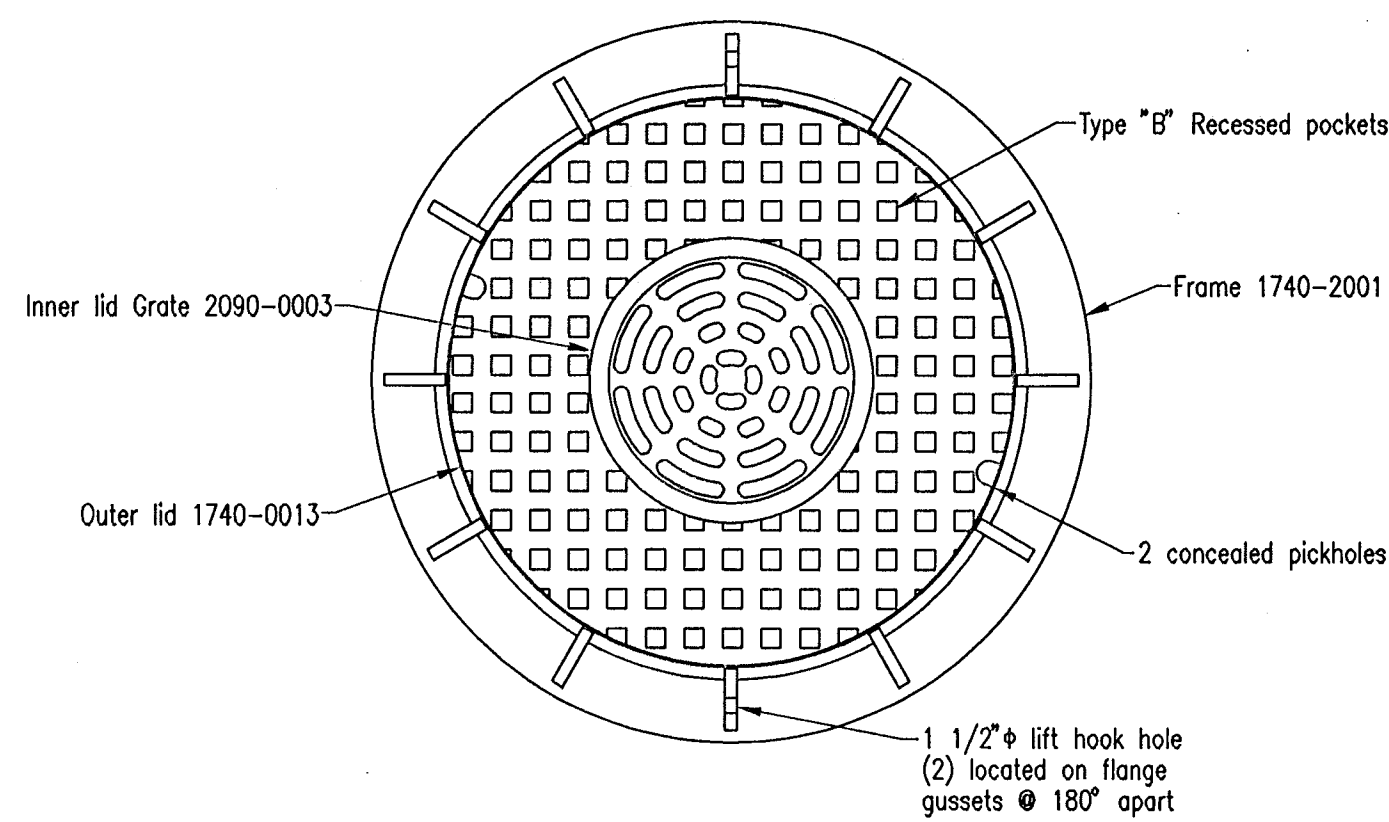
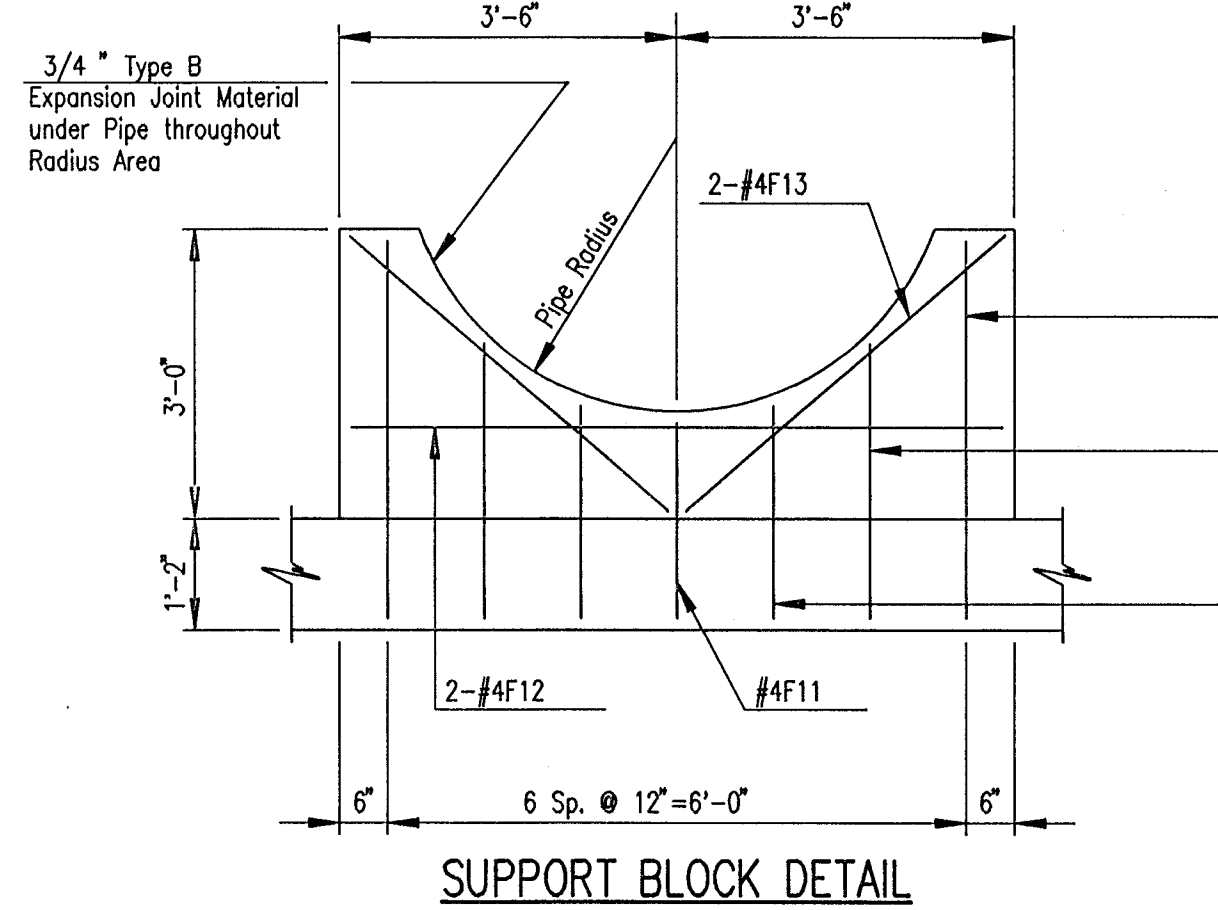
27. THE EXISTING 4" SLUDGE LINE ALONG AMIDON IS TO BE RELOCATED BY THE CONTRACTOR PRIOR TO CONSTRUCTION OF THE PROPOSED WATERLINE.

28. CONTRACTOR TO PROVIDE DRAINAGE AT CURB INLET LOCATIONS THROUGH CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE EROSION PROTECTION PER THE CITY OF WICHITA STANDARDS. (SEE NOTE NO. 23)

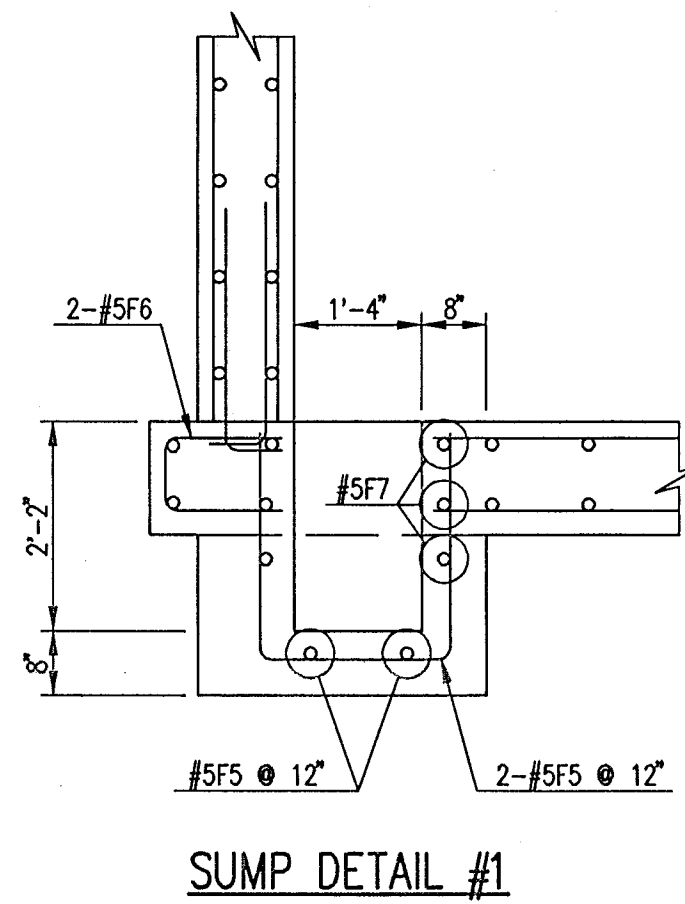


TYPICAL SECTION- 64"/42" WATERLINES

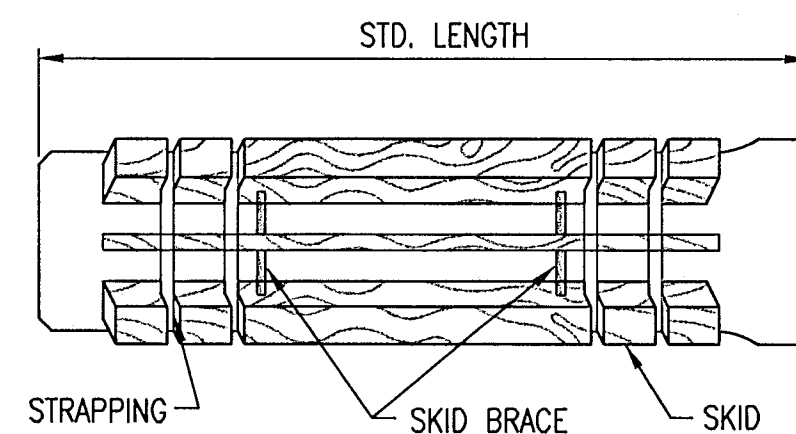
*PAVEMENT AND CURB AND GUTTER REPLACEMENT IS TO BE PERFORMED BY OTHERS. CONTRACTOR SHALL FILL TO BASE OF SURFACING MATERIAL W/ AB-3 AS NOTED. CONTRACTOR WILL BE REQUIRED TO PROVIDE DRAINAGE AWAY FROM SUBGRADE MATERIAL PRIOR TO REPLACEMENT OF PAVEMENT AND CURB AND GUTTER.



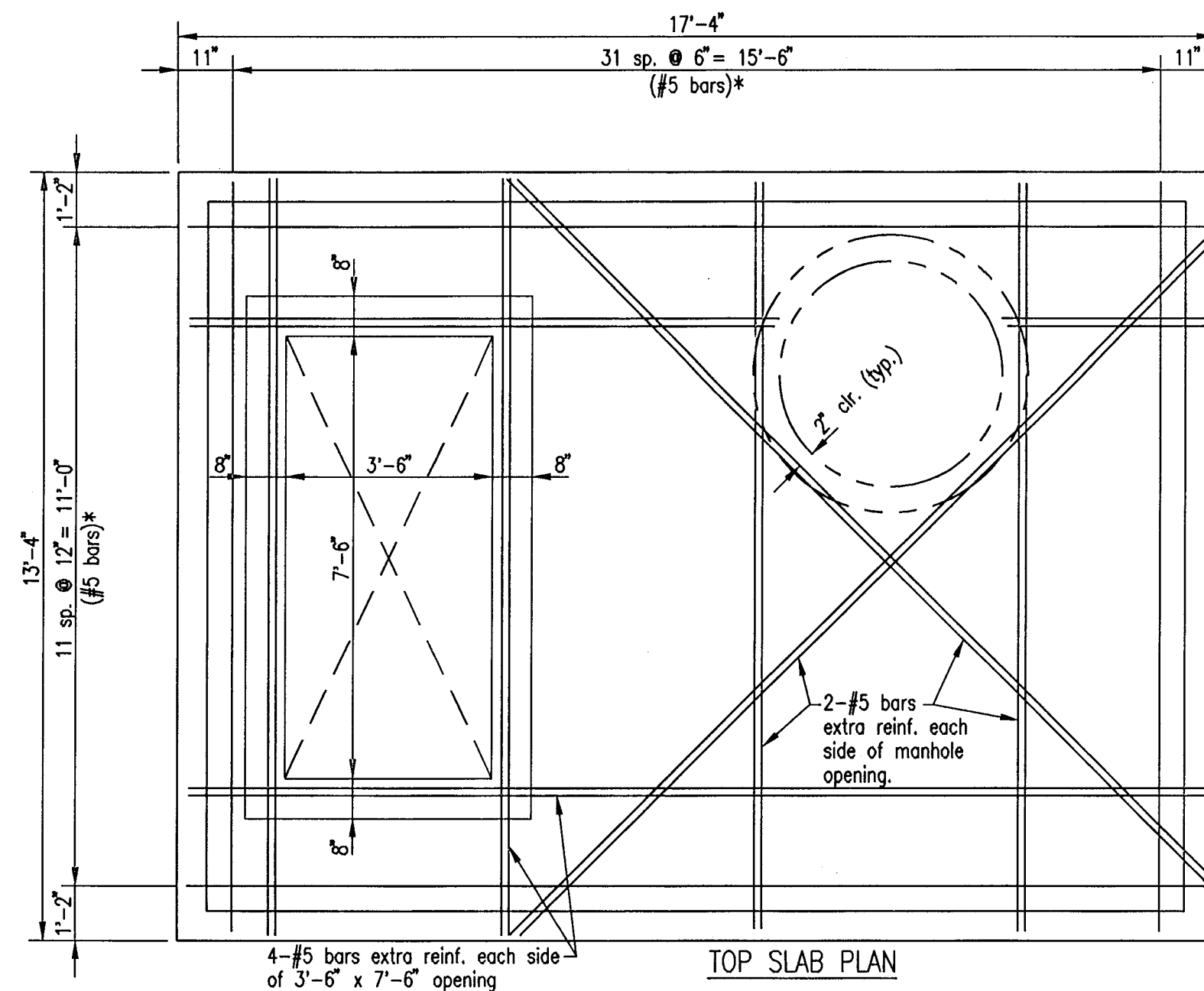
VAULT FRAME AND LID DETAIL
NO SCALE



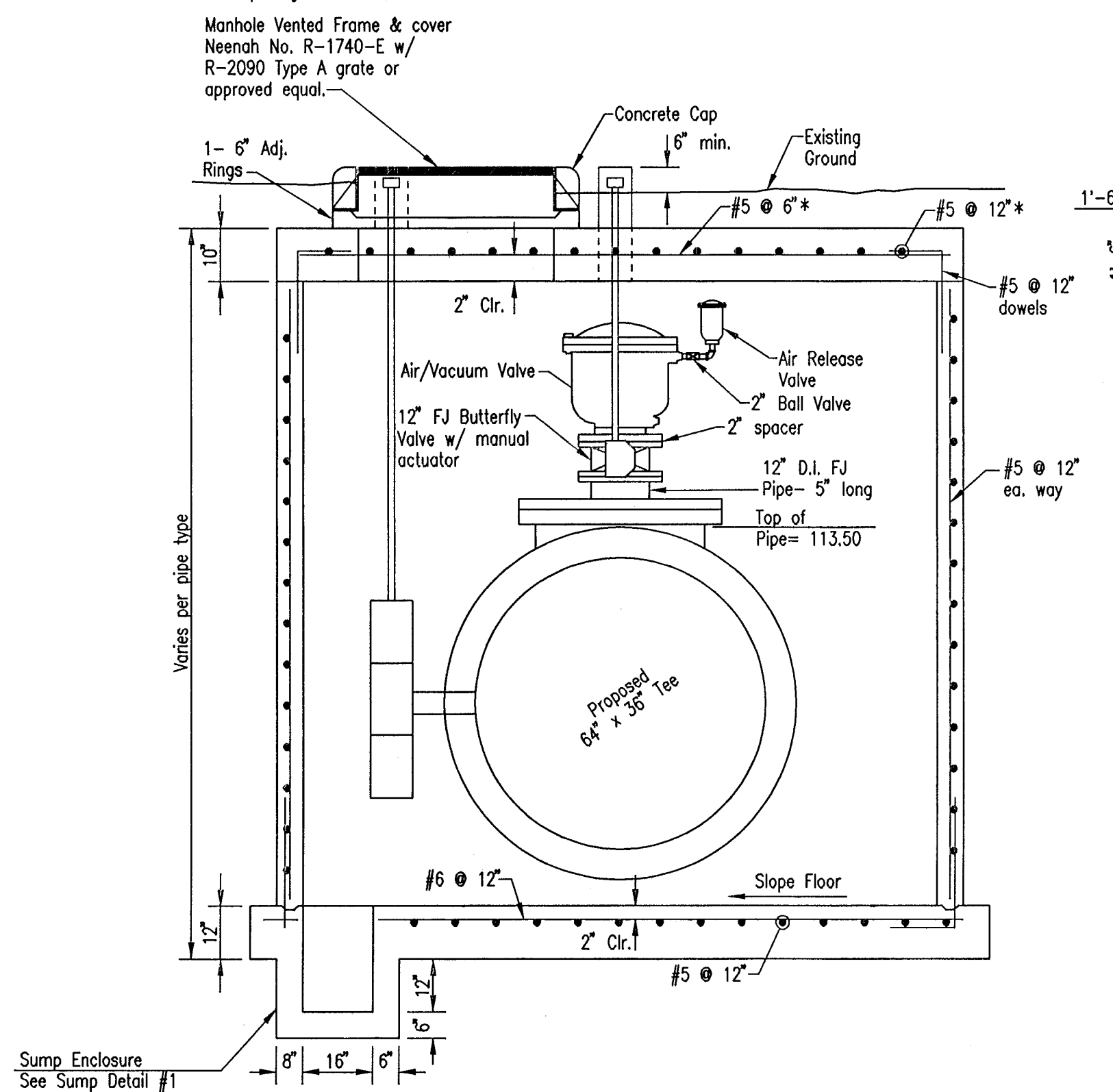
REINFORCING STEEL			
Mark	Size	Number	Length
F5	#5	4	6'-0"
F6	#5	4	3'-1"
F7	#5	3	8'-0"



STEEL ENCASMENT DETAIL



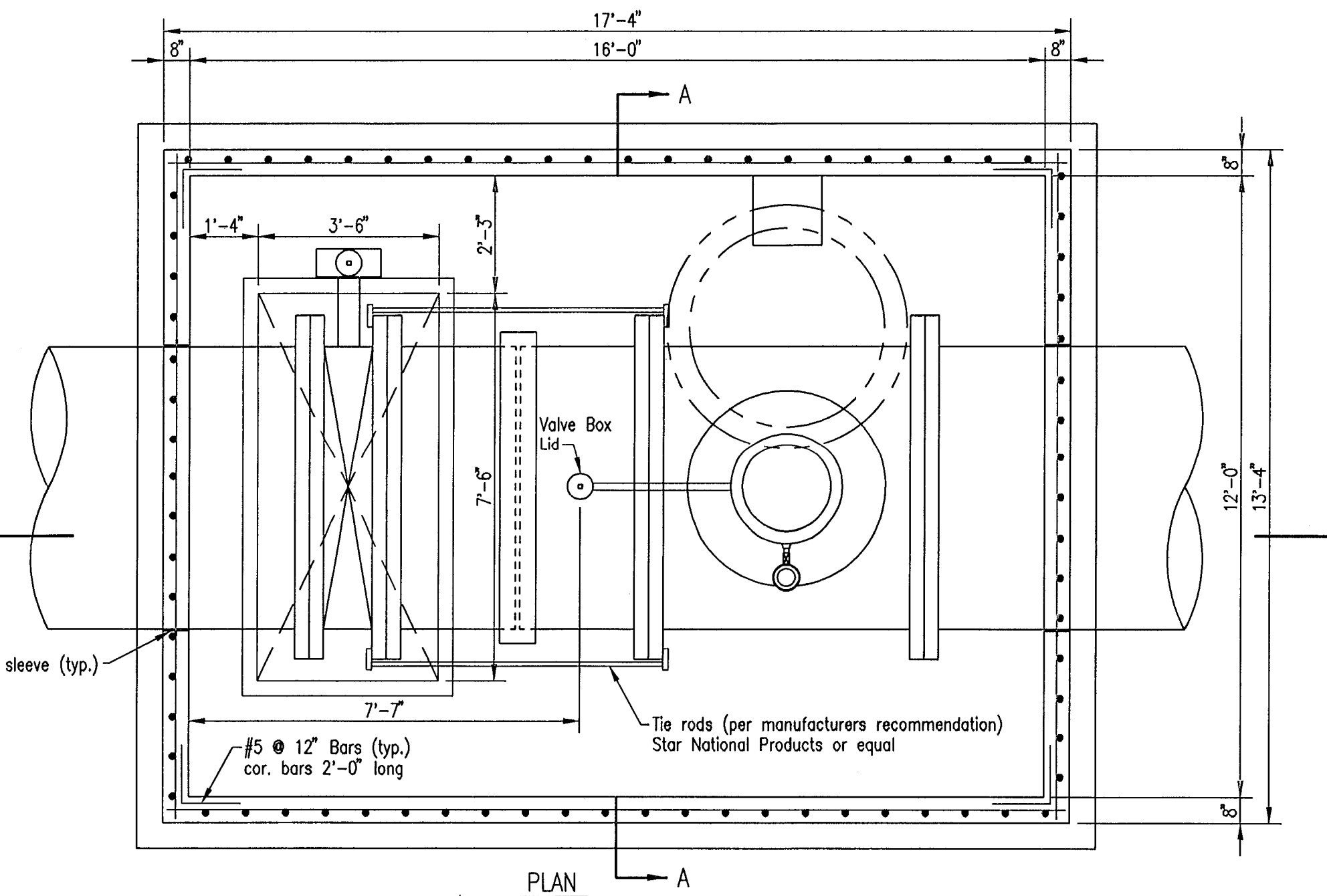
TOP SLAB PLAN



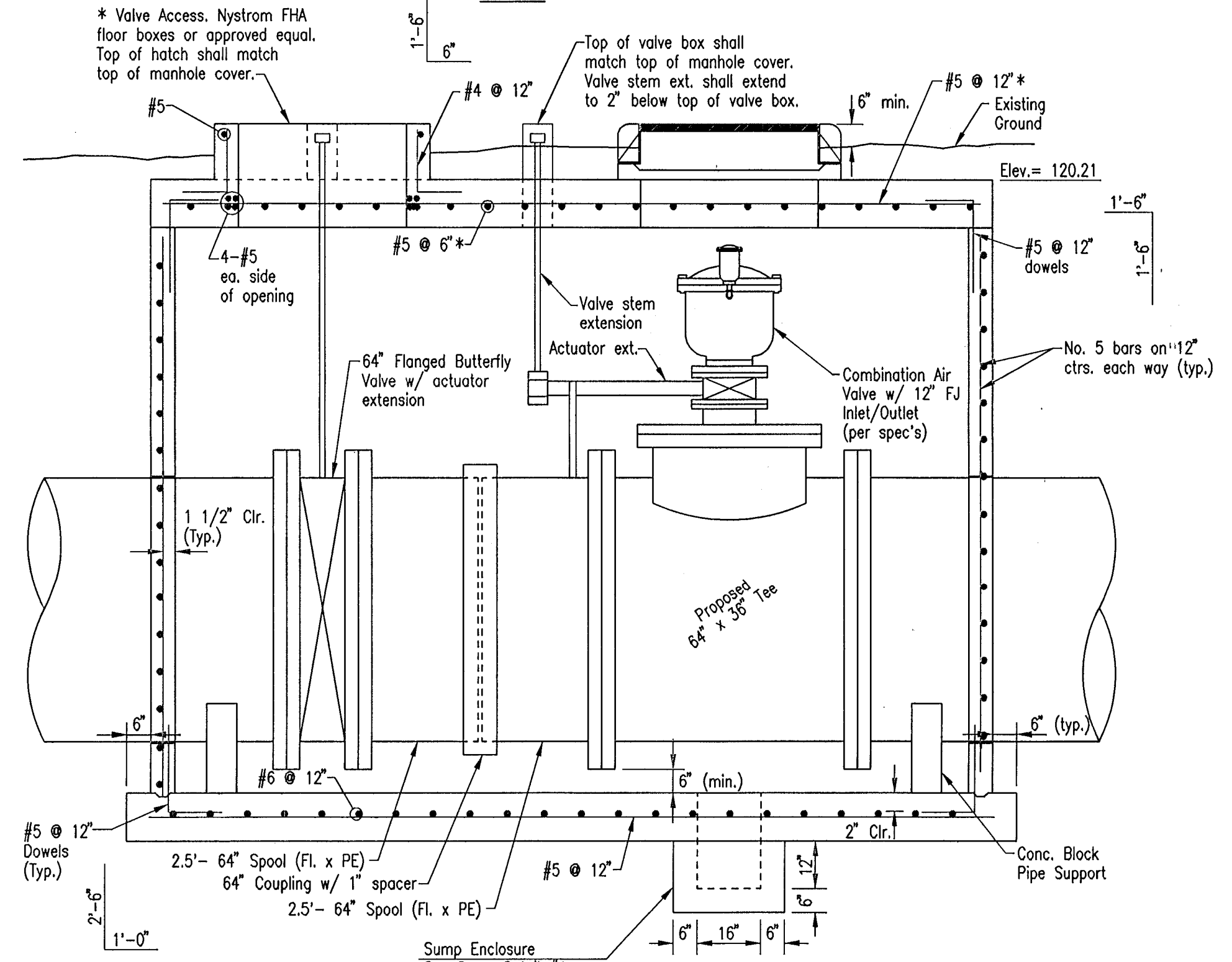
SECTION A-A

* FIELD CUT SLAB REINF. AT OPENINGS

Link Seal w/ wall sleeve (typ.)



PLAN



SECTION B-B

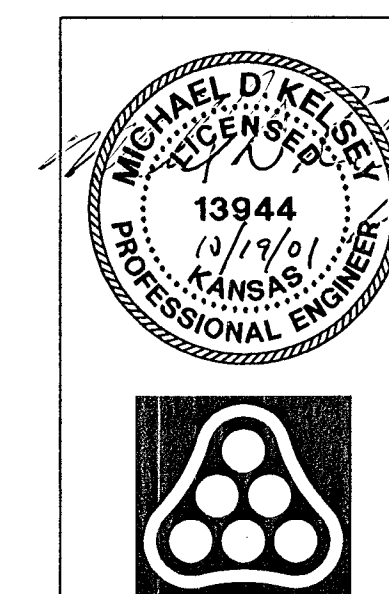
12" COMBINATION AIR VALVE & PIPE ACCESS VAULT

(WL NO. 1, Sta. 281+07.99, See Sheet No. 4)
NO SCALE

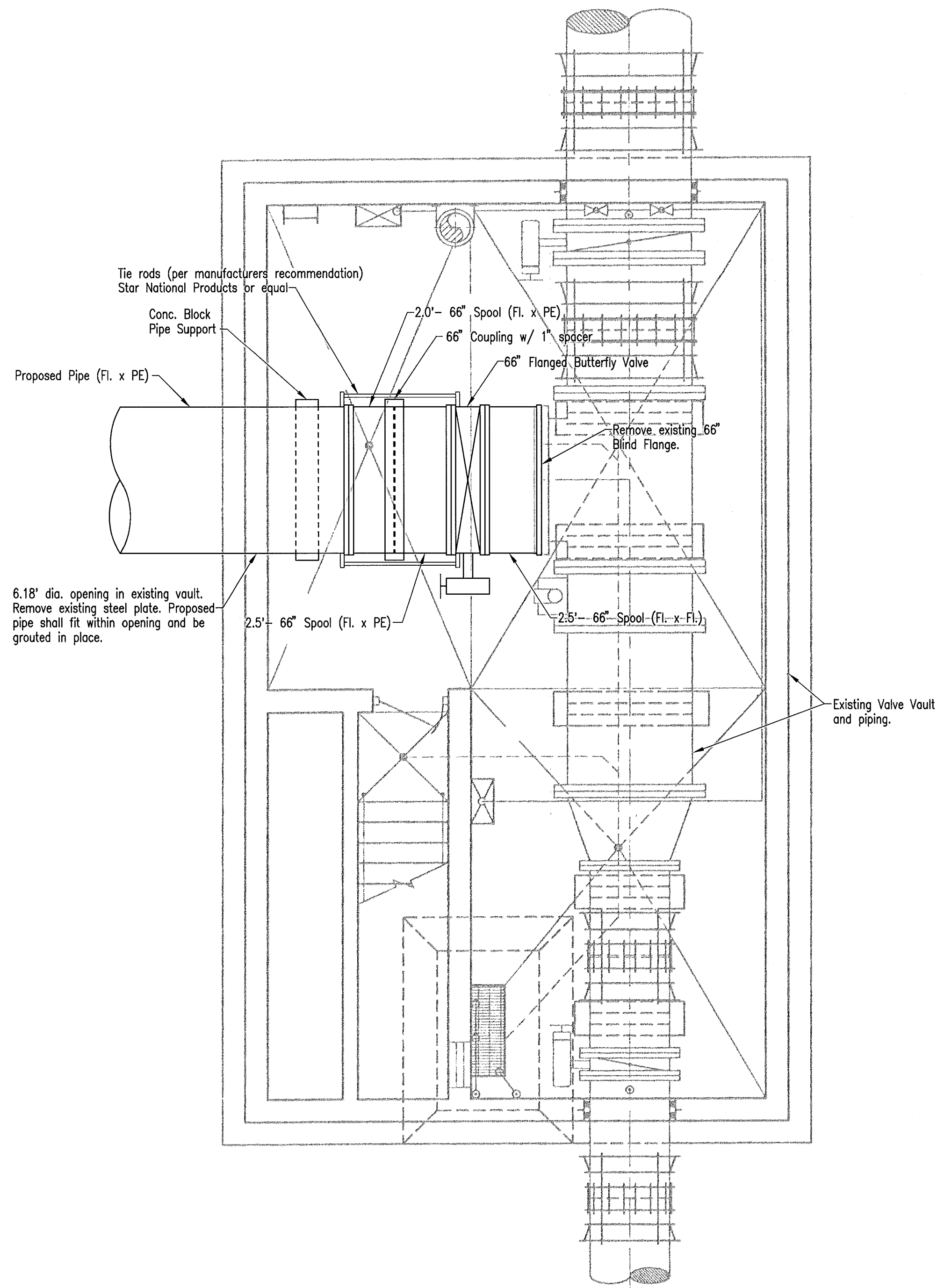
NOTE: PROVIDE A CONFINED ENTRY SPACE WARNING SIGN, CHAMPION AMERICAN MODEL 73415HH OR APPROVED EQUAL, FOR VAULT AT LOCATION AS APPROVED BY THE ENGINEER. WARNING SIGN TO BE MOUNTED ON 3\"/>

THE CONTRACTOR SHALL UTILIZE RESTRAINED JOINT PIPE AND TIE RODS TO RESTRAIN ALL PIPING AT THE VALVE LOCATIONS.

*ACCESS DOOR SHALL HAVE A MIN. 300 PSF LOADING RATING, RECESSED LOCKING MECHANISM, AND ANODIZED DARK GREEN. DOOR SHALL AUTOMATICALLY LOCK OPEN AT 90 DEGREE POSITION.



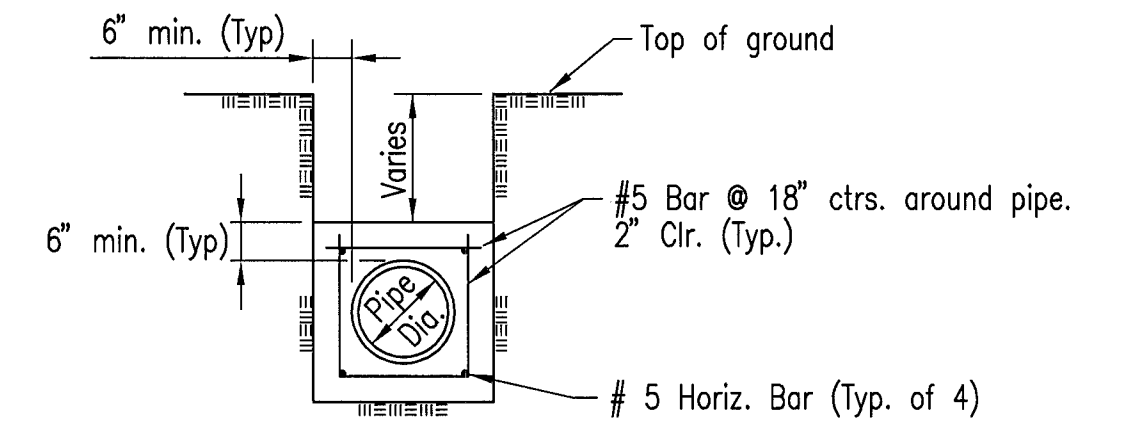
No.	Revision	By	Date
CITY OF WICHITA, KANSAS MICHAEL E. LINDEBAK, P.E. - CITY ENGINEER 64"/42" RAW WATER TRANSMISSION LINE (CHANGE ORDER NO. 1) WATERLINE DETAILS CITY OF WICHITA PROJECT NO. 448-89439 Professional Engineering Consultants, P.A. 303 S. TOPEKA • WICHITA, KANSAS 67202 316-262-2691 • FAX 316-262-3003			
Designed by	MDK	Job No.	34-00040-042
Drawn by	JLM	Date	October 2001
		Sht.	2 of 7



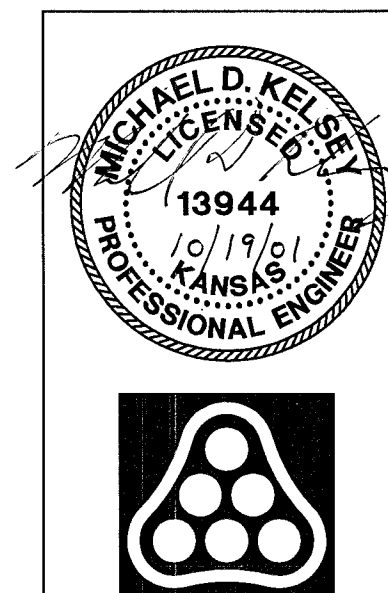
EXISTING WATER VAULT CONNECTION DETAIL

(WL NO. 1, Sta. 319+48.31, See Sheet No. 7)
NO SCALE

THE CONTRACTOR SHALL UTILIZE RESTRAINED JOINT
PIPE AND TIE RODS TO RESTRAIN ALL PIPING AT THE
VALVE LOCATIONS.



CONCRETE ENCASEMENT DETAIL

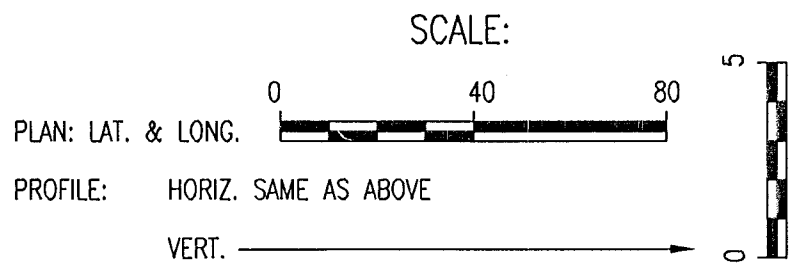
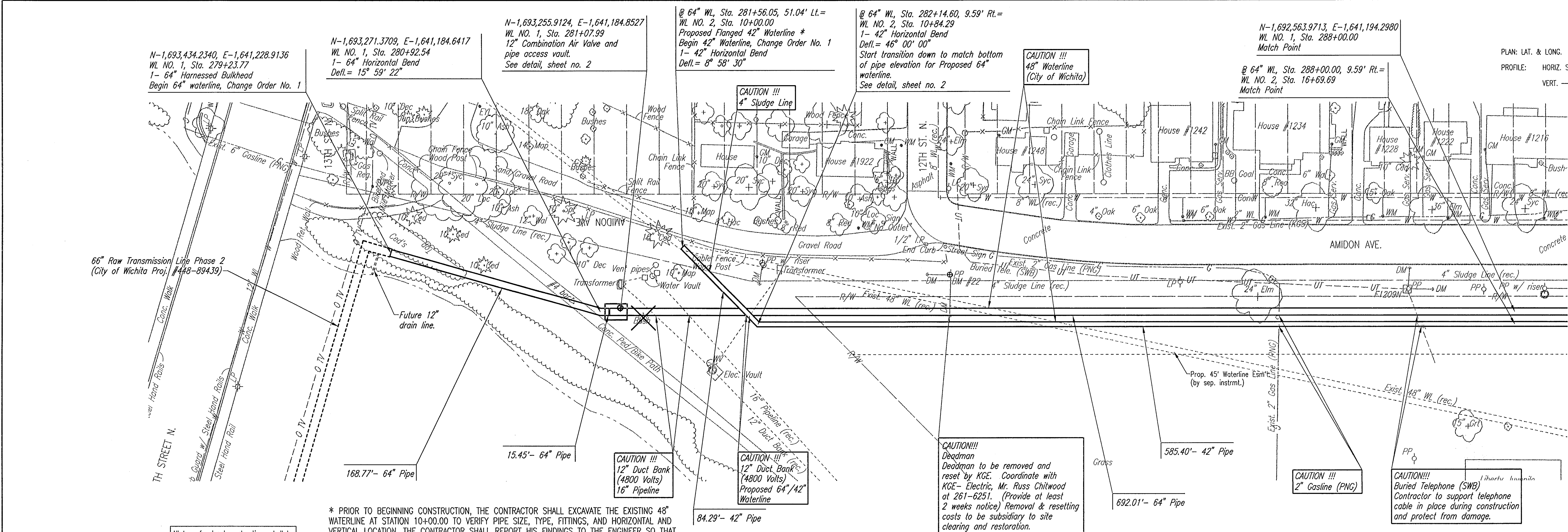


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WATERLINE DETAILS CITY OF WICHITA PROJECT NO. 448-89439 Professional Engineering Consultants, P.A. 303 S. TOPEKA • WICHITA, KANSAS 67202 316-262-2691 • FAX 316-262-3003			
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		Sht.	3 of 7

PLAN	CHECKED	DATE

PROFILE	CHECKED	DATE

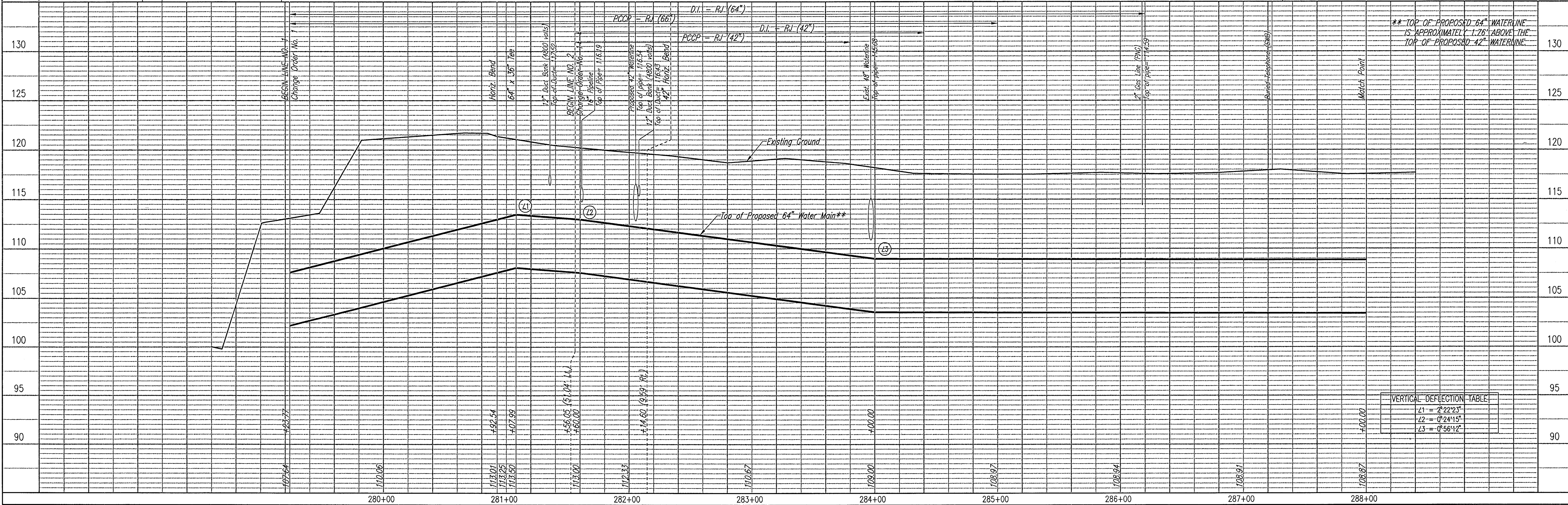
DSMR: MDK OPER: JLM SCALE: 1"=40.00
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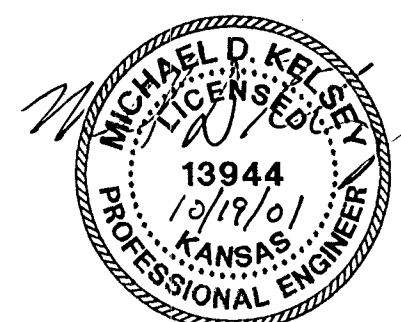
* PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE THE EXISTING 48" WATERLINE AT STATION 10+00.00 TO VERIFY PIPE SIZE, TYPE, FITTINGS, AND HORIZONTAL AND VERTICAL LOCATION. THE CONTRACTOR SHALL REPORT HIS FINDINGS TO THE ENGINEER SO THAT ANY NECESSARY PLAN MODIFICATIONS MAY BE MADE. ANY ADDITIONAL LABOR OR MATERIALS NECESSARY TO COMPLETE THE CONNECTION SHALL BE CONSIDERED SUBSIDIARY TO THE PROJECT.

WATERLINE NO. 1 AND 2

Remove and Replace Bike Path in kind this sheet = 20 L.F.



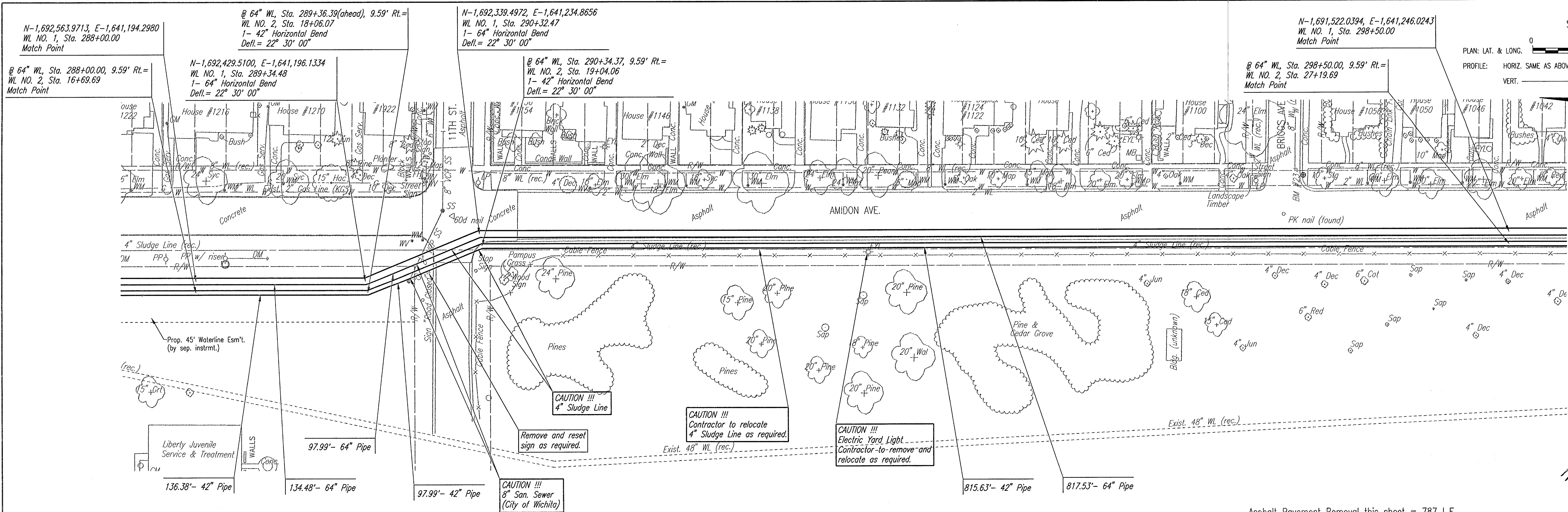
VERTICAL DEFLECTION TABLE		
L1 =	2°22'33"	
L2 =	0°24'15"	
L3 =	0°56'42"	



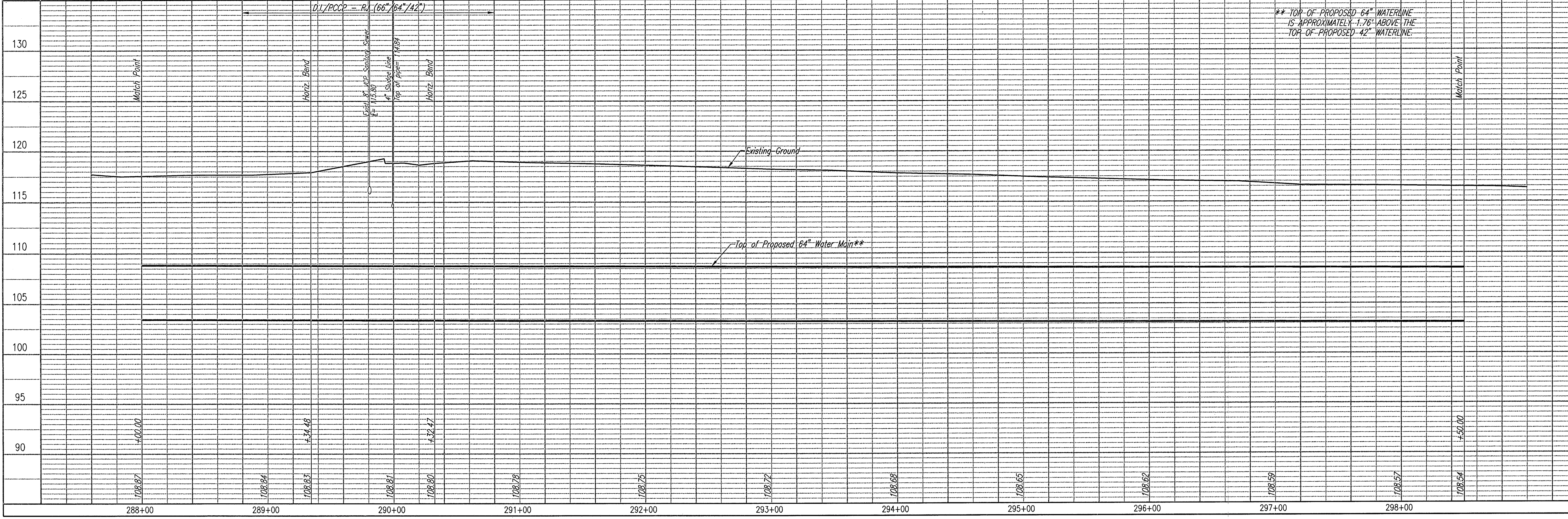
PLAN	CHECKED	DATE

PROFILE	CHECKED	DATE

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WATERLINE NO. 1 AND 2



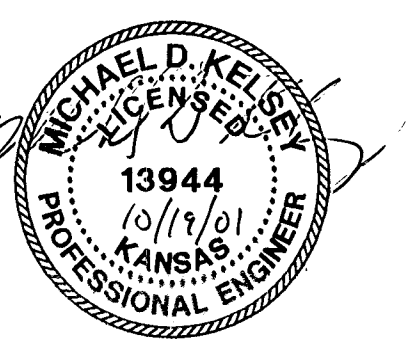
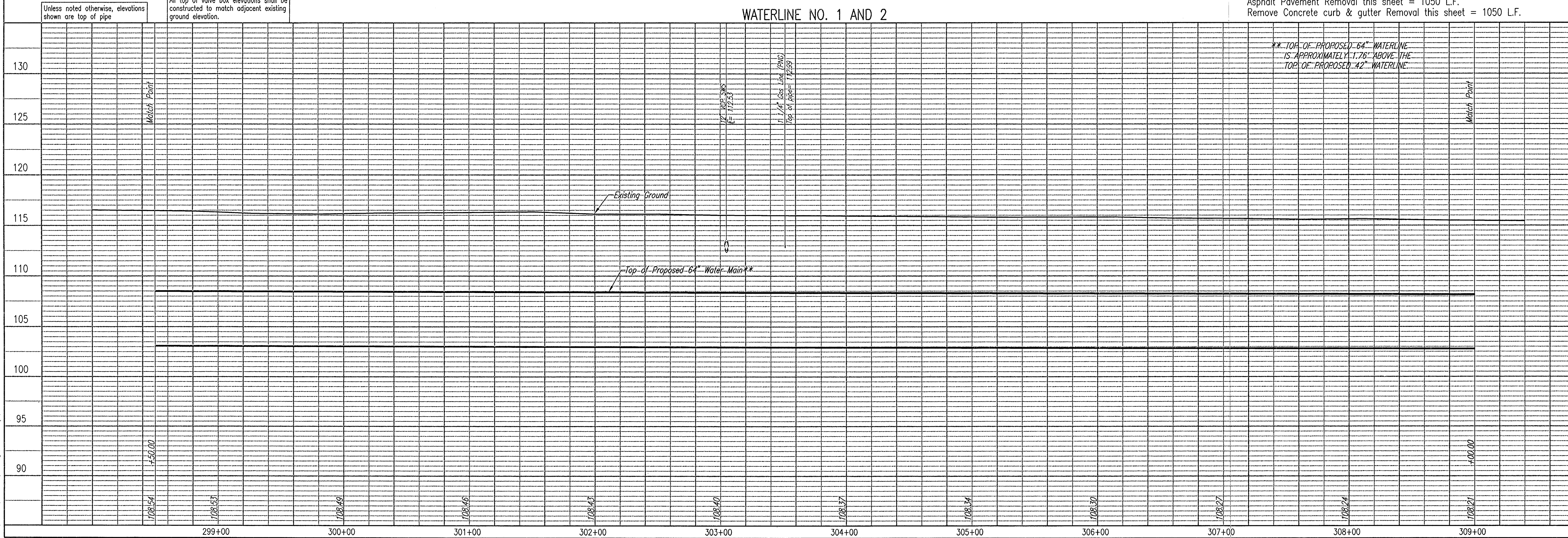
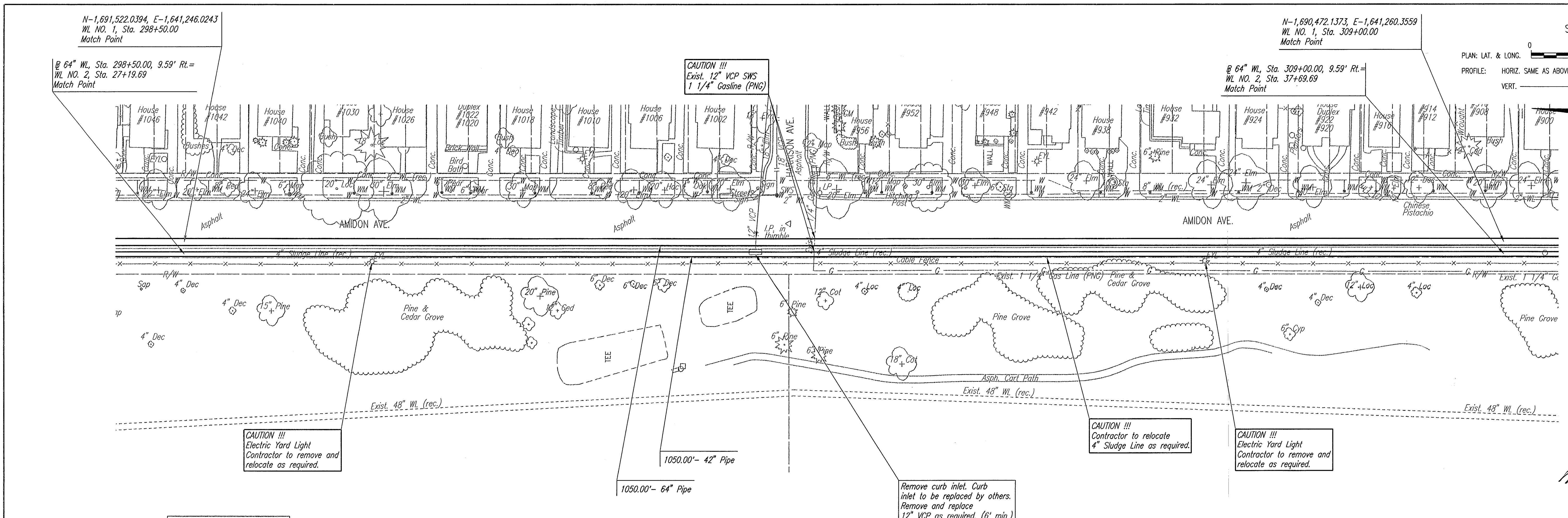
Asphalt Pavement Removal this sheet = 787 L.F.
Concrete Pavement Removal this sheet = 70 L.F.
Concrete curb & gutter Removal this sheet = 818 L.F.



PLAN	CHECKED	CHECKED	BY	DATE

PROFILE	CHECKED	CHECKED	BY	DATE

DSNR: MDK OPER: JLM SCALE: 1"=40.00
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PLAN	CHECKED	DATE

PROFILE	CHECKED	DATE

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