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 PLOTTED: Thursday, June 02, 2016 @ 10:28AM

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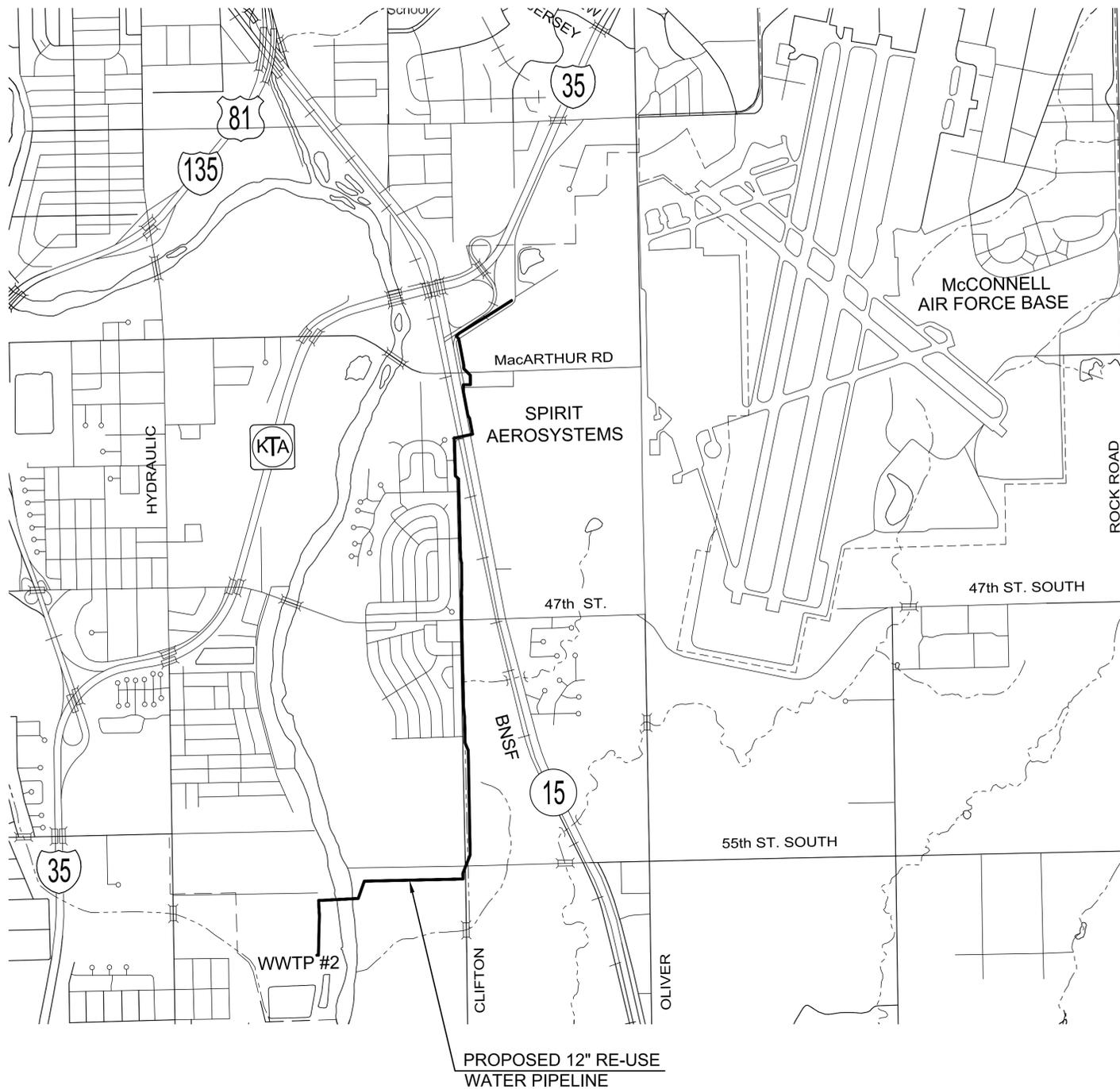
CITY OF WICHITA, KS

12" RE-USE WATER PIPELINE

PROJECT NO. 468-85095

THE CITY OF WICHITA, KANSAS
GARY JANZEN, P.E. - CITY ENGINEER

OCA NO. 620784



R 1 E
RIVERSIDE

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

VICINITY MAP
No Scale



CITY OF WICHITA, KS

12" RE-USE WATER PIPELINE

TO SERVE SPIRIT AEROSYSTEMS

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TITLE SHEET

PROJECT NO.	468-85095
DATE	APRIL 2016
SCALE	1" = 1500'
DESIGNED	DFL
DRAWN	JWC
CHECKED	MAB



NO.	REVISION	DATE
0	ISSUED FOR CONST.	06/01/16

SHEET NO.

GENERAL NOTES

- THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE SAFETY REGULATIONS. ALL CONSTRUCTION SHALL BE COMPLETED FOLLOWING CURRENT CITY STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.
- THE CONTRACTOR WILL BE REQUIRED TO PROVIDE NOTICE TO UTILITY COMPANIES A MINIMUM OF SEVENTY-TWO (72) HOURS PRIOR TO ANY EXCAVATION, AS FOLLOWS:

KANSAS ONE-CALL 687-2470
BNSF RAILWAY 1-800-533-2391

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

AT&T	1-800-246-8464
BLACK HILLS ENERGY (GAS)	1-800-694-9899
CITY OF WICHITA WATER	1-316-268-4555
CITY OF WICHITA SEWER	1-316-268-4073
CITY OF WICHITA STORMWATER	1-316-268-4090
CITY OF WICHITA TRAFFIC	1-316-268-4034
COX COMMUNICATIONS	1-888-249-3530
KANSAS GAS SERVICE	1-888-482-4950
WESTAR ENERGY	1-800-544-4857

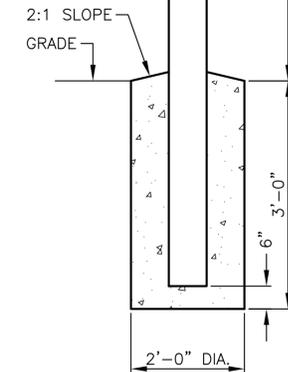
- UTILITY SERVICE LINES, POLES, ETC. ARE TO BE ADJUSTED AS NECESSARY BY OTHERS PRIOR TO CONSTRUCTION UNLESS THE PLANS SPECIFICALLY CALL FOR THEIR ADJUSTMENT BY ITS OWNER DURING CONSTRUCTION. EXISTING UTILITIES AND THEIR LOCATION, AS SHOWN ON THE PLAN, REPRESENT THE BEST INFORMATION OBTAINABLE FOR DESIGN. THE CONTRACTOR WILL BE REQUIRED TO WORK AROUND EXISTING UTILITIES WITHIN THE RIGHT-OF-WAY WHICH DO NOT CONFLICT WITH PROPOSED CONSTRUCTION.
- RUBBLE FROM THE REMOVAL OF MISCELLANEOUS STRUCTURES AND EXCESS EXCAVATION WHICH IS TO BE WASTED SHALL BE DISPOSED OF ON SITES TO BE PROVIDED BY THE CONTRACTOR. THESE SITES SHALL BE APPROVED BY THE ENGINEER AS TO SUITABILITY, APPEARANCE AND SITE LOCATION. LOCATIONS, IN THE OPINION OF THE ENGINEER, THAT WILL 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 WOULD 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 WOULD REQUIRE ADDITIONAL ARCHAEOLOGICAL INVESTIGATIONS UNLESS BURIED IN A PREVIOUSLY APPROVED BORROW LOCATION.
- 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.
- THE CONTRACTOR SHALL GIVE ALL PROPERTY OWNERS AND/OR TENANTS OF DEVELOPED PROPERTY ADEQUATE NOTICE OF THE CONSTRUCTION OF THIS PROJECT A MINIMUM OF TEN (10) DAYS NOTICE PRIOR TO START OF CONSTRUCTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRESERVING PROPERTY IRONS. THE CONTRACTOR WILL 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.
- THE WATER DISTRIBUTION DIVISION SHALL FIELD LOCATE WATER VALVES ONE TIME DURING CONSTRUCTION WHEN REQUESTED BY THE CONTRACTOR. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PRESERVE SUCH FIELD LOCATIONS DURING THE CONSTRUCTION PROCESS. WATER VALVES, VALVE BOXES OR FIRE HYDRANTS DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED BY CONTRACTOR AT HIS OWN EXPENSE. VALVE BOXES AND WATER METERS WITHIN THE PROJECT LIMITS SHALL BE ADJUSTED TO MATCH FIELD GRADES.
- IF TRAFFIC WILL BE IMPACTED BY CONSTRUCTION, A TRAFFIC CONTROL PLAN MUST BE SUBMITTED AND APPROVED BY THE CITY TRAFFIC ENGINEER, BRIAN COON AT traffic@wichita.gov BEFORE CONSTRUCTION CAN BEGIN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL MEASURES TO FACILITATE CONSTRUCTION. ALL CONSTRUCTION ZONE MARKINGS AND SIGNAGE SHALL CONFORM TO THE LATEST VERSION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AS PUBLISHED BY THE US DEPT. OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION. ALL COSTS ASSOCIATED WITH CONSTRUCTION MARKINGS AND SIGNAGE SHALL BE THE CONTRACTORS RESPONSIBILITY.
- ALL AREAS DISTURBED DURING CONSTRUCTION THAT WILL NOT BE UNDER PROPOSED PAVEMENT SHALL BE SEEDED AND MULCHED. COST SHALL BE CONSIDERED SUBSIDIARY TO PROJECT SEEDING.
- CONTRACTOR SHALL LIMIT THE EXTENT OF TRENCH OPEN OVERNIGHT AND WEEKENDS TO LESS THAN 50 FEET.
- EXISTING UTILITIES AND THEIR LOCATION, AS SHOWN ON THE PLANS REPRESENT THE BEST INFORMATION OBTAINABLE FOR DESIGN. LOCATION INFORMATION HAS BEEN OBTAINED FROM THE VARIOUS COMPANIES AND IS EITHER FROM COMPANY UTILITY DRAWINGS OR COMPANY PROVIDED FIELD LOCATIONS. THE PLAN LOCATIONS SHOWN ARE NOT GUARANTEED. ADDITIONAL EXISTING UTILITIES MAY ALSO BE ENCOUNTERED.
- OPENING AND CLOSING OF WATER VALVES SHALL BE DONE SLOWLY TO PREVENT DAMAGE TO THE WATER DISTRIBUTIONS SYSTEM FROM WATER HAMMER. ALL VALVES CLOSED BY THE CONTRACTOR MUST BE REOPENED AS NEW CONSTRUCTION PERMITS. THE PROJECT INSPECTOR MUST ASCERTAIN THAT ANY VALVE CLOSED BY THE CONTRACTOR IS REOPENED. THE CONTRACTOR WILL BE PERMITTED TO OPERATE WATER VALVES ONLY WHEN THE PROJECT INSPECTOR ASSIGNED TO THE PROJECT IS PRESENT.
- THE CONTRACTOR SHALL LAY A TRACER WIRE AND SET TEST STATIONS ALONG ALL WATER PIPE INSTALLED IN ACCORDANCE WITH CITY SPECIFICATIONS AND TRACER WIRE DETAIL ON DETAIL SHEET WL-101, COST IS SUBSIDIARY TO PIPE INSTALLATION.
- THE CONTRACTOR SHALL PROVIDE MATERIALS FOR TEMPORARY BLOWOFF OF WATERLINES. CONNECTIONS TO THE EXISTING WATERLINE(S) SHALL BE MADE WITH CLEAN, SWABBED PIPE AND FLUSHED UPON COMPLETION OF TIE-INS.
- DEFLECTIONS AT PIPE JOINT OR COUPLINGS SHALL NOT EXCEED THE PIPE MANUFACTURER'S RECOMMENDED MAXIMUM. WHERE DEFLECTIONS ARE GREATER THAN THE MAXIMUM ALLOWED, THE CONTRACTOR SHALL UTILIZE CIMJ LONG SLEEVE OR MULTIPLE JOINTS.
- ANY EXISTING JOINT EXPOSED DURING EXCAVATION SHALL BE REPLACED IF WITHIN FOUR FEET OF PROPOSED JOINT.
- THE CONTRACTOR SHALL PROTECT FROM DAMAGE AND SUPPORT EXISTING UTILITIES THROUGH CONSTRUCTION AS APPROVED BY THE UTILITY OWNER AND THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
- ALL TRAFFIC CONTROL DEVICES IN THE WORK ZONE (INCLUDING MARKINGS AND SIGNS) AND THEIR INSTALLATION AND MAINTENANCE SHALL COMPLY WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL TRAFFIC CONTROL DEVICES IN THE TRAVELED WAY OR CLEAR ZONE SHALL BE CRASHWORTHY (NCHRP REPORT 350 OR MASH COMPLIANT). [http://safety.fhwa.dot.gov/roadwaydept/policy/guide/road hardware/wzt](http://safety.fhwa.dot.gov/roadwaydept/policy/guide/roadhardware/wzt)
- ALL CONSTRUCTION EQUIPMENT, INCLUDING VEHICLES, MATERIALS, AND DEBRIS, SHALL BE STORED OUTSIDE OF THE CLEAR ZONE. WHERE THIS CANNOT BE ACHIEVED THE CONTRACTOR SHALL PLACE APPROPRIATE SIGNS, OBJECT IDENTIFIERS, AND/OR BARRICADES IN COMPLIANCE WITH MUTCD.
- EXCEPT WHEN REQUIRED FOR SAFETY, TRAFFIC CONTROL SHALL NOT BLOCK ANY LANES OR SIDEWALKS WHEN WORK IS NOT BEING PERFORMED.

PROJECT NOTES

- CONTRACTOR SHALL COORDINATE DIRECTIONAL DRILL AT 47TH STREET WITH THE FOLLOWING:
 - DEREK ACKERMAN WITH KANSAS GAS SERVICE, EMAIL: DEREK.ACKERMAN@ONEGAS.COM
 - ANDREW BUCHANAN, SOUTHERN STAR, PHONE 316.529.6603, EMAIL: ANDREW.D.BUCHANAN@SSCGP.COM
 - GREG LOLLEY, CITY OF WICHITA, PHONE 316.268.4334, EMAIL: G.LOLLEY@WICHITA.GOV
- BNSF RAIL CROSSING AT K-15
 - CITY OF WICHITA PAID RAILROAD LIABILITY INSURANCE VIA CHECK SUBMITTED TO BNSF ON 4-26-16. CONTRACTOR IS NOT RESPONSIBLE FOR RAILROAD LIABILITY INSURANCE
 - A FULLY EXECUTED COPY OF THE PIPELINE LICENSE AGREEMENT BETWEEN THE CITY OF WICHITA AND BNSF RAILWAY COMPANY MUST BE AVAILABLE UPON REQUEST AT THE JOB SITE. THIS AGREEMENT ALLOWS AUTHORIZATION FOR CONSTRUCTING THE NEW PIPELINE CROSSING UNDER THE BNSF RAILWAY.
 - CONTACT THE BNSF ROADMASTER AT TELEPHONE 316.284.3479 (OFFICE) OR 806.672.8819 (CELL) TEN (10) DAYS IN ADVANCE OF THE START OF CONSTRUCTION.
- CONTRACTOR IS RESPONSIBLE TO OBTAIN HIGHWAY PERMIT(S) FROM SEDGWICK COUNTY PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. THE INITIAL CONTACT WITH THE COUNTY IS MR. LYNN PACKER, 316.660.1766 (O), 316.371.5099 (CELL), LPACKER@SEDGWICK.GOV.
- CLIFTON SOUTH OF 55TH STREET SOUTH WILL BE CLOSED TO THROUGH TRAFFIC FROM APPROXIMATELY MID-AUGUST THROUGH APPROXIMATELY THE FIRST WEEK OF NOVEMBER FOR THE REPLACEMENT OF A DRAINAGE CULVERT.
- FOR THE DURATION OF THE WORK NEAR OR WITHIN THE ARKANSAS RIVER LEVEES THE CONTRACTOR SHALL BE AWARE THAT FLOOD FIGHTING AND LEVEE OPERATIONS WILL TAKE PRECEDENT OVER CONSTRUCTION ACTIVITY. SHOULD FLOOD FIGHTING BECOME NECESSARY THE CONTRACTOR MAY BE REQUIRED TO CEASE CONSTRUCTION ACTIVITY, PROVIDE TEMPORARY VEHICULAR ACCESS WAYS ALONG THE LEVEE, AND / OR REMOVE MATERIALS AND EQUIPMENT.
- THE CONTRACTOR INSTALLING THE WATERLINE SHALL TAKE CARE THAT EXISTING UNDERGROUND ELECTRICAL LINES ARE NOT DAMAGED WHEN BACKFILLING IS PERFORMED. NO ROCKS OR SHARP OBJECTS THAT CAN DAMAGE THE UNDERGROUND ELECTRICAL LINES SHOULD BE PLACED IN THE BACKFILL. IF THE CONTRACTOR FEELS THE NEED TO HAVE WESTAR ENERGY ON SITE WHEN WORKING AROUND THESE LOCATIONS, CONTACT JASON PATTY, 316.261.6212.
- IN THE EVENT UNEXPECTED CIRCUMSTANCES ARE ENCOUNTERED DURING CONSTRUCTION, SUCH AS THE DISCOVERY OF ABANDONED OIL, GAS, OR EXPLORATORY HOLES OR LEAD LINES, CONTACT JEFF KLOCK WITH THE KANSAS CORPORATE COMMISSION AT 316.630.4000.
- PRIOR TO PRESSURE TESTING, CONTRACTOR SHALL FLUSH THE 12" RE-USE WATER PIPELINE TO REMOVE ANY DIRT AND CONSTRUCTION DEBRIS. PIPELINE MAY BE FLUSHED WITH TREATED EFFLUENT WATER FROM THE CITY'S WASTEWATER PLANT NO. 2. EFFLUENT WATER USED FOR FLUSHING PIPELINE MUST BE DISCHARGED INTO A CITY OF WICHITA SANITARY SEWER MANHOLE.
- SEEDING AND SODDING OPERATIONS SHALL BE IN ACCORDANCE WITH THE CITY OF WICHITA STANDARD SPECIFICATION SECTION 902 & 903, RESPECTIVELY.
- ALL AREAS DISTURBED BY CONSTRUCTION THAT ARE ADJACENT TO DESIGNATED PROPERTIES WITHIN THE PLANS SHALL BE RESTORED WITH SOD TO MATCH EXISTING TURF TYPE. RESTORATION OF DISTURBED AREAS SHALL INCLUDE, BUT NOT BE LIMITED TO, TOP SOIL PREPARATION, SODDING, & REPLACEMENT OF IRRIGATION SYSTEM AS NECESSARY. ALL SODDING WORK SHALL BE IN ACCORDANCE WITH CITY STANDARD SPECIFICATIONS AND THE CITY ADMINISTRATIVE REGULATION NO. AR6.5, WHICH GOVERNS CLEANUP AND RESTORATION OR REPLACEMENT FOLLOWING CONSTRUCTION. THE "RECAPITULATION OF QUANTITIES" SHOWS THE ESTIMATED SQUARE YARDS OF SODDING, WITH A BID ITEM FOR THE SAME. WHEN THE WEATHER/SEASON PREVENTS THE INSTALLATION OF SOD, THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING EROSION CONTROL BLANKET (CUREX I, OR APPROVED EQUAL) AT THE BACK OF CURB (8' WIDE MINIMUM). ALL COSTS FOR THIS WORK SHALL BE SUBSIDIARY TO SODDING BID ITEM.
- THE CONTRACTOR SHALL RESEED ALL AREAS DISTURBED BY CONSTRUCTION AND NOTED AS SEEDING WITH A MIXTURE OF RYEGRASS (APPLIED AT A RATE OF 50 LBS. PER ACRE) AND BUFFALO GRASS (APPLIED AT A RATE OF 200 LBS. PER ACRE). PURE NITROGEN FERTILIZER SHALL ALSO BE APPLIED AT A RATE OF 1.5 LBS. PER THOUSAND SQUARE FEET. THE SEED SHALL BE WATERED WITH A DEEP SOAKING EVERY TWO (2) WEEKS DURING DRY PERIODS UNTIL A MATURE STAND OF GRASS IS OBTAINED. THE "RECAPITULATION OF QUANTITIES" SHOWS THE ESTIMATED SQUARE YARDS OF DISTURBED AREA TO BE SEEDED, WITH A BID ITEM FOR THE SAME. THE PERMANENT SEEDING MAY BE OMITTED ONLY IF SODDING IS REQUIRED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING EROSION CONTROL BLANKET (CUREX I, OR APPROVED EQUAL) AT THE BACK OF CURB, TO AND INCLUDING THE LIMITS OF ALL SEEDED AREAS. ALL COSTS FOR THIS WORK SHALL BE SUBSIDIARY TO THE SEEDING BID ITEM.
- DISTURBED AREAS DESIGNATED SEEDING (LEVEE) SHALL BE SEEDED WITH "PRAIRIE 3 PLUS" GRASS MIXTURE. SEED SHALL BE DRILLED AT A RATE OF 10 PLS LBS./ACRE. BROADCAST SEEDING WITH AN APPROVED BROADCASTING GRASS SEEDER MAY BE REQUIRED IN AREAS WHERE IT IS IMPOSSIBLE TO OPERATE A DRILL. IF A BROADCAST SEEDING IS REQUIRED, SEED AT A RATE OF 1.5 PLS LBS./3,000 SQ. FT. FERTILIZER IS NOT NECESSARY AND MULCHING SHALL BE AS PER CITY OF WICHITA STANDARD SPECIFICATION SECTION 902. PLANT SEED BETWEEN SEPTEMBER 1ST AND OCTOBER 15TH. DEVIATION FROM THE PLANTING PERIOD WILL ONLY BE PERMITTED WITH APPROVAL FROM THE OWNER'S REPRESENTATIVE. ALL COSTS ASSOCIATED WITH THIS WORK SHALL BE SUBSIDIARY TO THE SEEDING LEVEE BID ITEM.
- SEED SUPPLIER SHALL FURNISH A CERTIFIED STATEMENT FOR THE SEED STATING THE PURITY PERCENTAGE, GERMINATION PERCENT, AND THE SPROUTABLE SEED PERCENT. "PRAIRIE 3 PLUS" GRASS MIXTURE IS AVAILABLE AT THE FOLLOWING LOCATION:
STOCK SEED FARMS
28008 MILL ROAD
MURDOCK, NE 68407
TEL: 1-800-759-1620
WWW.STOCKSEED.COM
- CONTRACTOR SHALL PROVIDE TEMPORARY COVER CROP WITHIN 20 DAYS OF NO ACTIVITY WHEN SEEDING DATES ARE OUTSIDE THE PREFERRED OR ACCEPTABLE PLANTING DATES. THE TEMPORARY COVER CROP SHALL BE ESTABLISHED WITH "REGREEN" STERILE WHEAT (OR APPROVED EQUAL) AT 30 LBS PER ACRE.
- SEE THE EROSION CONTROL PLANS FOR SCHEDULE OF SEEDING AND SODDING AREAS.
- 12" RE-USE PIPELINE SHALL BE CONSTRUCTED OUT OF PIPE MATERIAL IN ACCORDANCE WITH CITY OF WICHITA, KANSAS STANDARD SPECIFICATIONS FOR WATER PIPE. HOWEVER, PVC PIPE SHALL BE COLORED PURPLE INDICATING IT IS RE-USE, OR NON-POTABLE WATER.

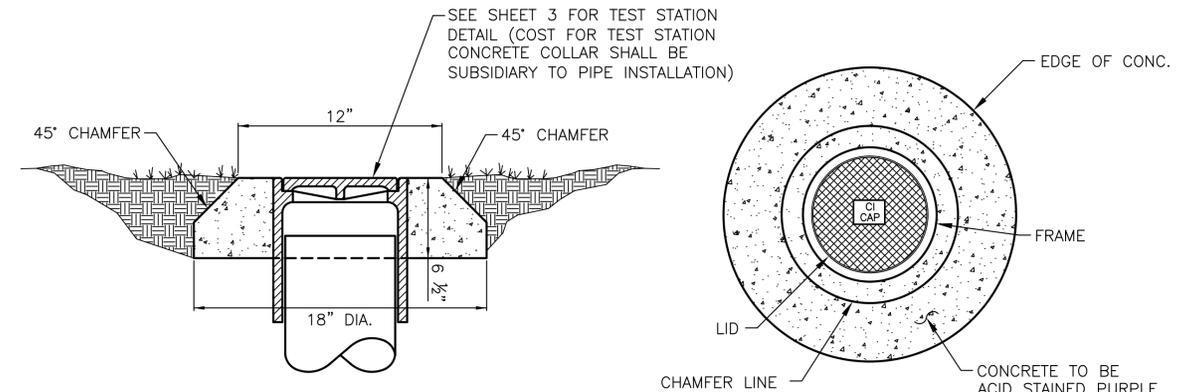
2" REFLECTORIZED TAPE (PURPLE),
2" SPACING. MIN. 2 ROTATIONS

3" NOMINAL DIA. STD. WT. GALV.
STEEL PAINTED WHITE PIPE FILLED
W/CONCRETE PROVIDE DOMED
CONCRETE FINISH TO SHED WATER



PIPELINE MARKER DETAIL

NOT TO SCALE



TEST STATION CONCRETE COLLAR

NOT TO SCALE



CITY OF WICHITA, KS
12" RE-USE WATER PIPELINE
 TO SERVE SPIRIT AEROSYSTEMS

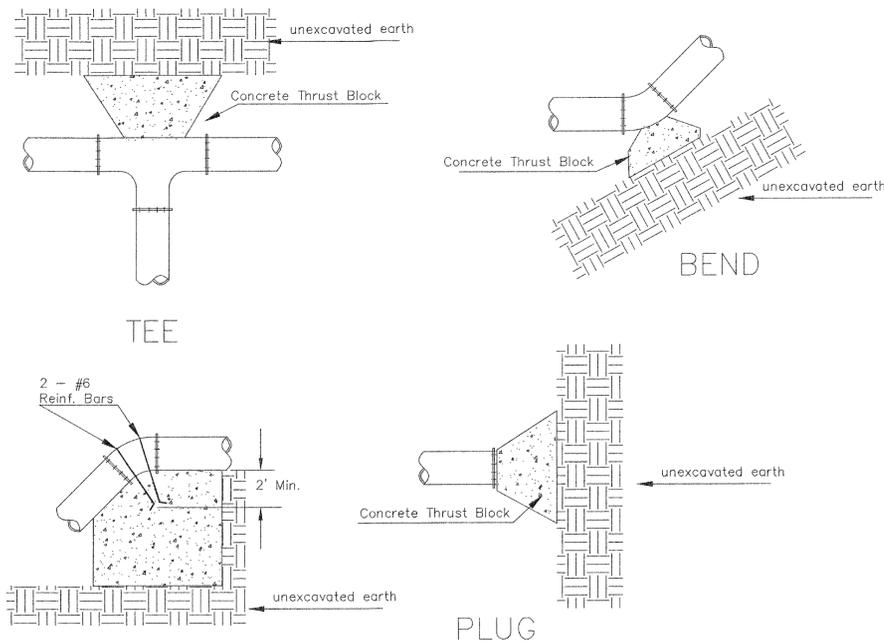
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PROJECT NOTES & DETAILS

PROJECT NO.	468-85095	
DATE	APRIL 2016	
SCALE	NTS	
DESIGNED	DRAWN	CHECKED
DFL	JWC	MAB
0	ISSUED FOR CONST.	06/01/16
NO.	REVISION	DATE

SHEET NO.

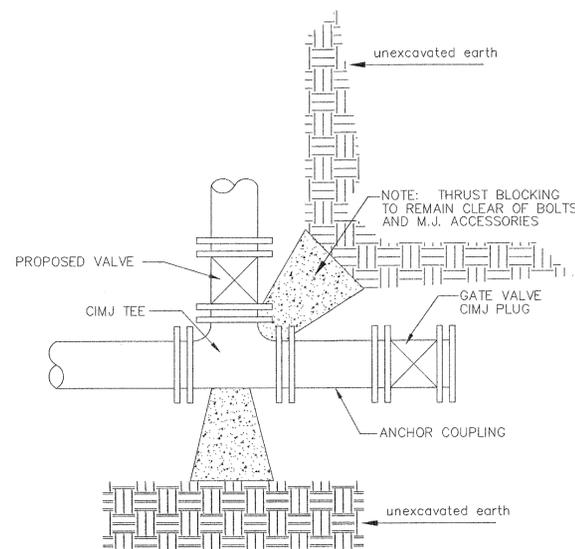
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 PLOTTED: Thursday, June 02, 2016 @ 10:29AM



VERTICAL BEND

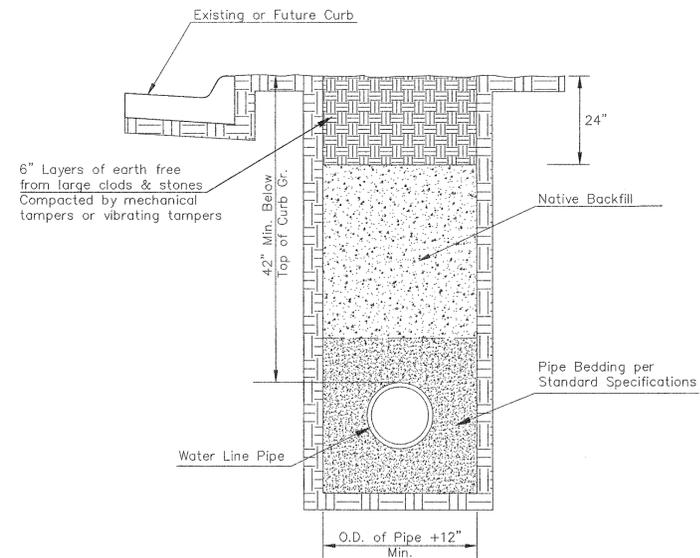
PIPE SIZE	THRUST AT FITTINGS IN TONS--AT 150#/IN ² P					
	PLUG	90°	45°	22 1/2°	11 1/4°	TEE
6"	2.8	3.95	2.15	1.09	.55	2.8
8"	4.9	6.95	3.75	1.90	.96	4.9
12"	11.4	16.1	8.75	4.45	2.25	11.4
16"	20.15	28.5	15.4	7.85	3.95	20.15
20"	31.15	44.0	23.85	12.15	6.10	31.15
24"	44.55	63.0	34.1	17.4	8.75	44.55

TYPICAL THRUST BLOCKS



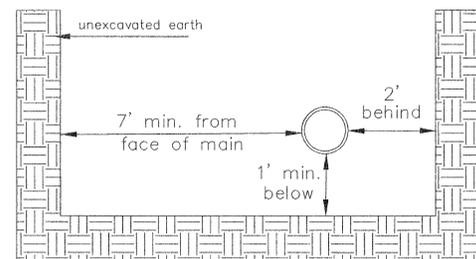
KEY BLOCK DETAIL

* PLANS GOVERN
UNLESS OTHERWISE NOTED ON PLANS



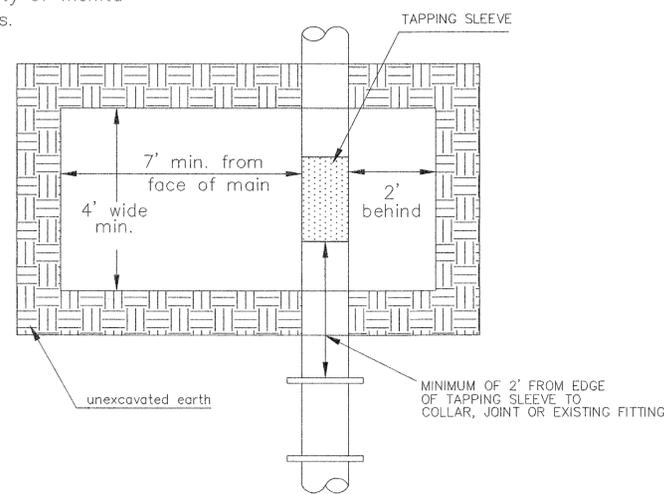
TRENCH COMPACTION IN ROAD RIGHT-OF-WAY

SIDE VIEW

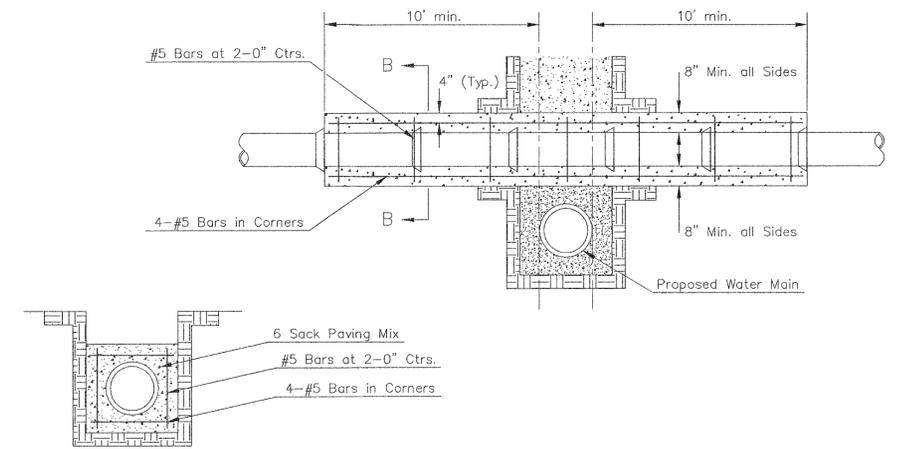


Note: When shoring is required it is to be per The City of Wichita Standard Specifications.

TOP VIEW



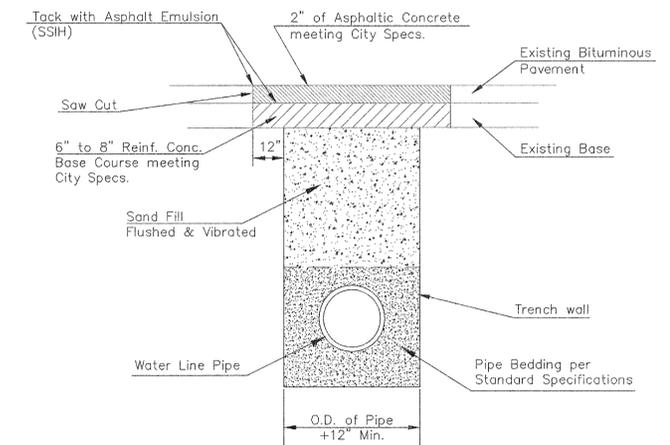
EXCAVATION FOR WET TAP



SECTION B-B

Note: Encasement to begin and end at a Bell on Sanitary Sewer Pipe.

REINFORCED CONCRETE ENCASUREMENT OF SANITARY SEWER



PAVEMENT REPLACEMENT & TRENCH COMPACTION UNDER EXISTING AND PROPOSED CITY ROADS

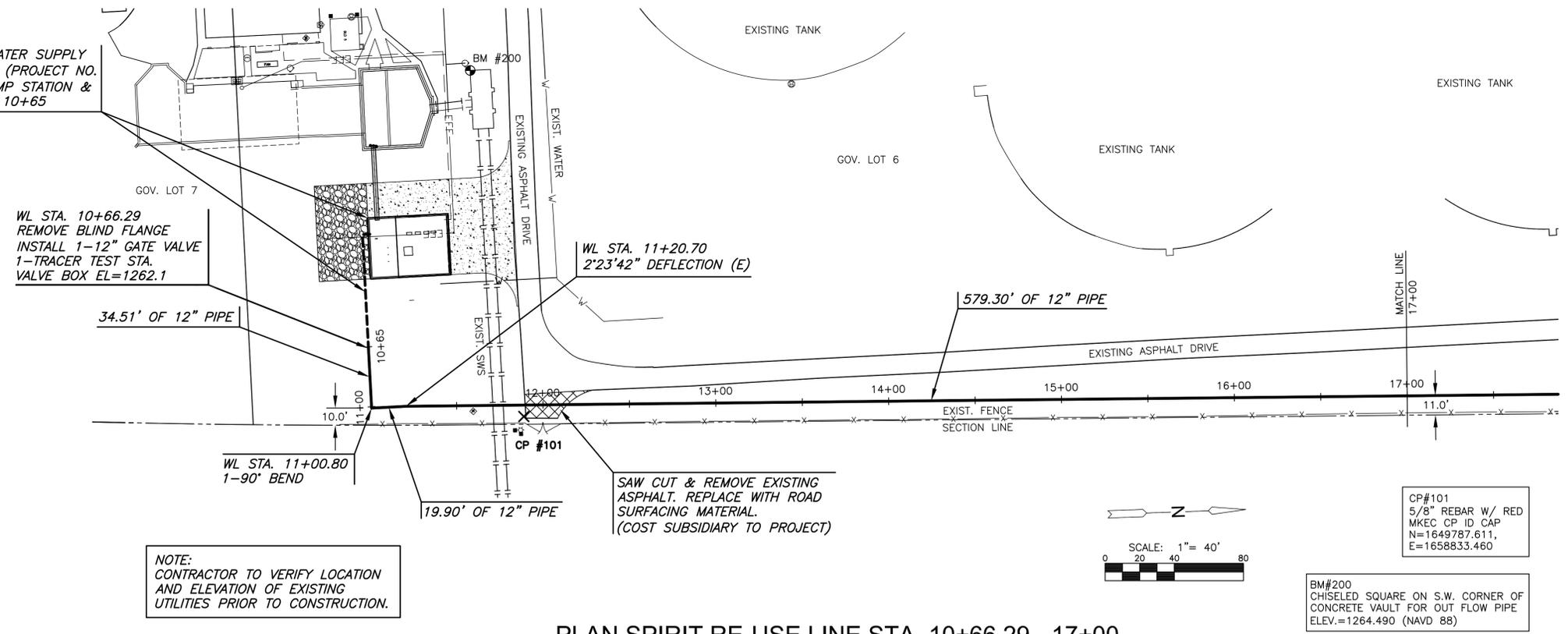
REVISED: JULY 2015



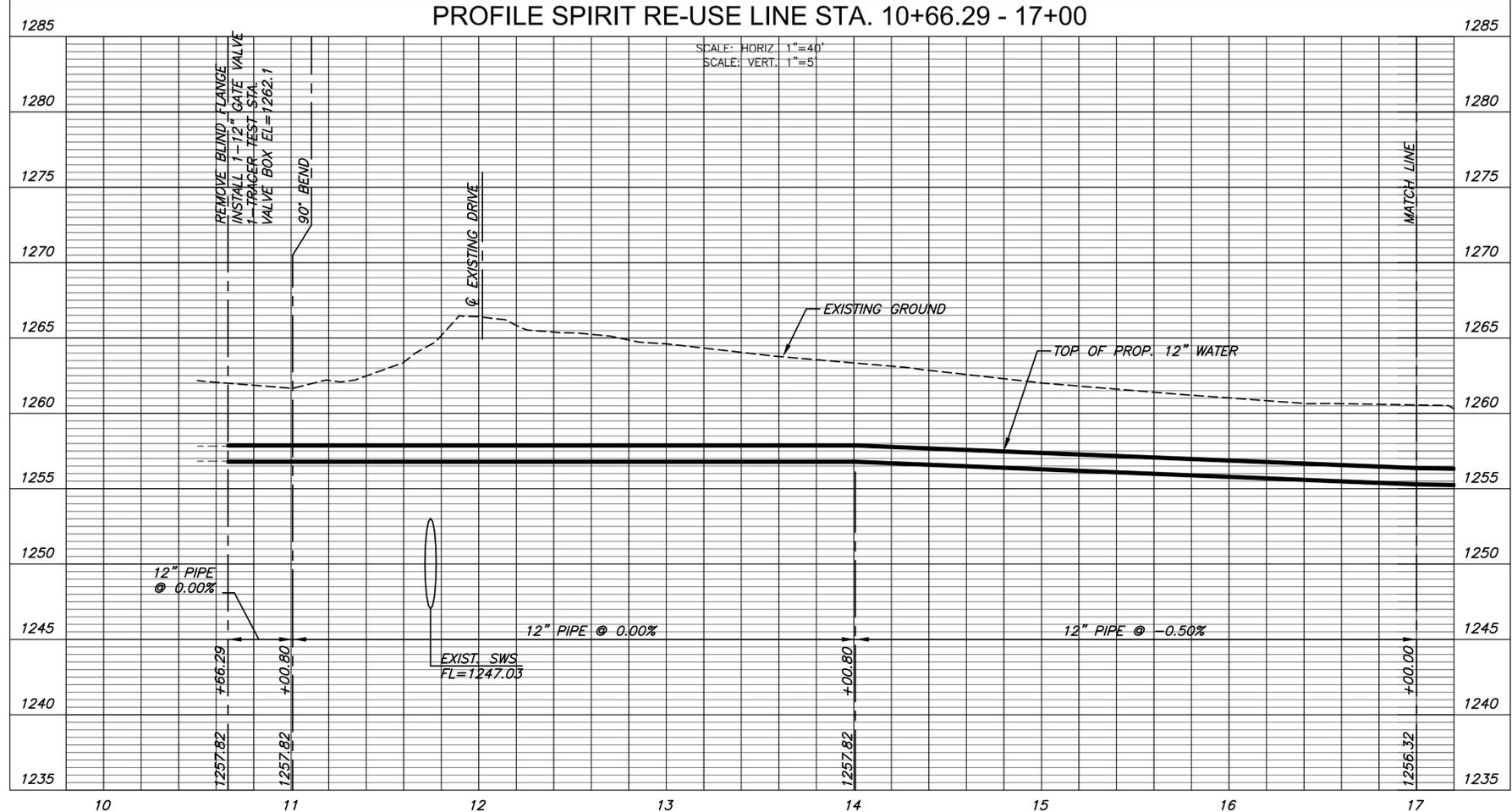
 CITY OF WICHITA PUBLIC WORKS & UTILITIES ENGINEERING DIVISION			MISCELLANEOUS WATER DETAILS		
			CITY ENGINEER GARY JANZEN, P.E.		
PROJECT NUMBER	OCA NUMBER	DATE	SHEET		
468-85095	620784		04 OF 36		
CITY ENGINEER'S OFFICE CITY HALL - SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202-1620 (316) 268-4501					

J:\PROJECTS\2016\16010623_COW_REUSE_WATER_SUPPLY_SYSTEM\160623_CAD\SYSTEM\160623_CP-01.DWG
 PLOTTED: Thursday, June 02, 2016 @ 10:46AM

REFER TO RE-USE WATER SUPPLY PUMP STATION PLANS (PROJECT NO. 468-85112) FOR PUMP STATION & PIPELINE UP TO STA. 10+65



PLAN SPIRIT RE-USE LINE STA. 10+66.29 - 17+00
 PROFILE SPIRIT RE-USE LINE STA. 10+66.29 - 17+00



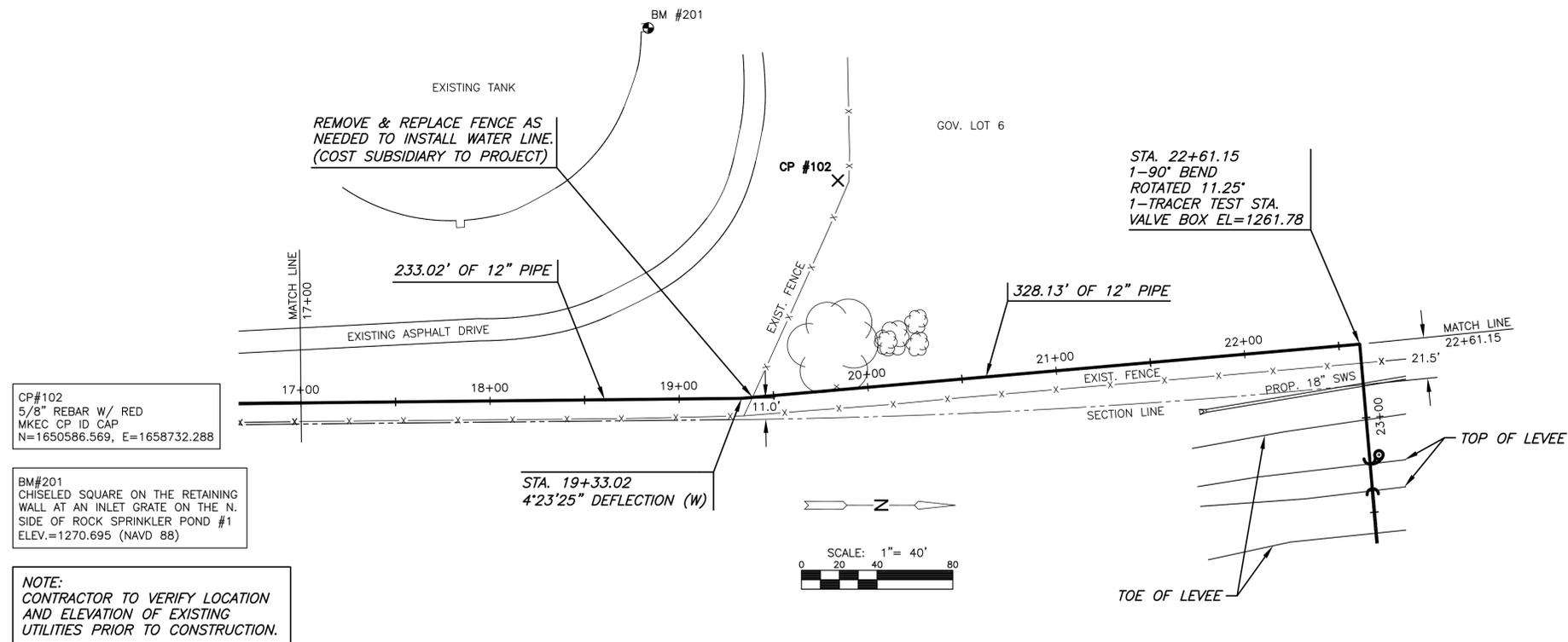
GREGORY J. ALBINO
 LICENSED PROFESSIONAL ENGINEER
 KANSAS
 11159
 6/1/16



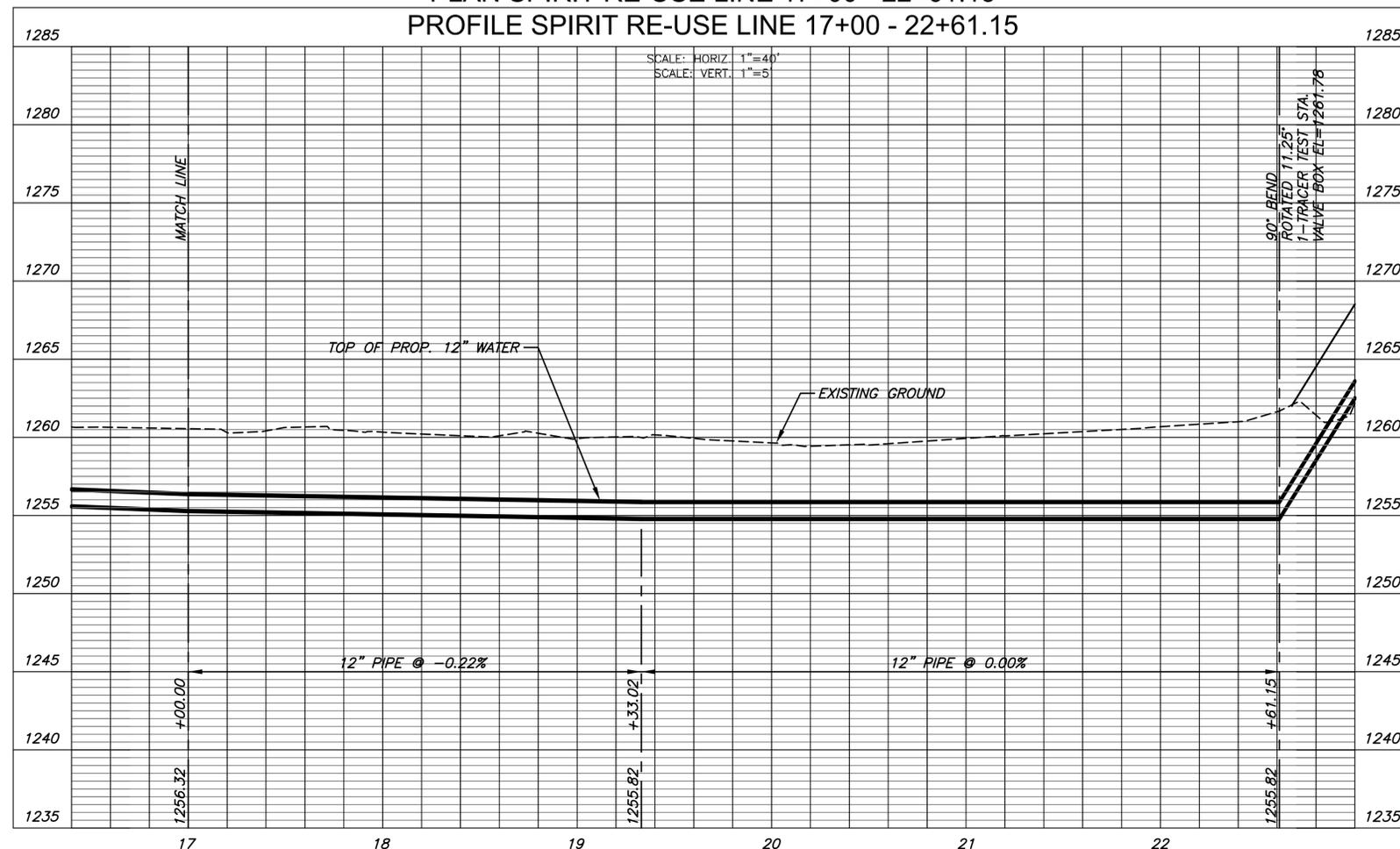
CITY OF WICHITA, KS
12" RE-USE WATER PIPELINE
 TO SERVE SPIRIT AEROSYSTEMS

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SPIRIT RE-USE LINE	
10+66.29-17+00	
PROJECT NO.	468-85095
DATE	APRIL 2016
SCALE	1" = 40'
DESIGNED	DFL
DRAWN	JWC
CHECKED	MAB
ISSUED FOR CONST. NO.	06/01/16
REVISION	DATE
SHEET NO. 05 OF 36	



PLAN SPIRIT RE-USE LINE 17+00 - 22+61.15
PROFILE SPIRIT RE-USE LINE 17+00 - 22+61.15



GREGORY J. ALISON
LICENSED PROFESSIONAL ENGINEER
KANSAS
11159
6/1/16

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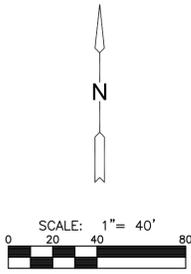
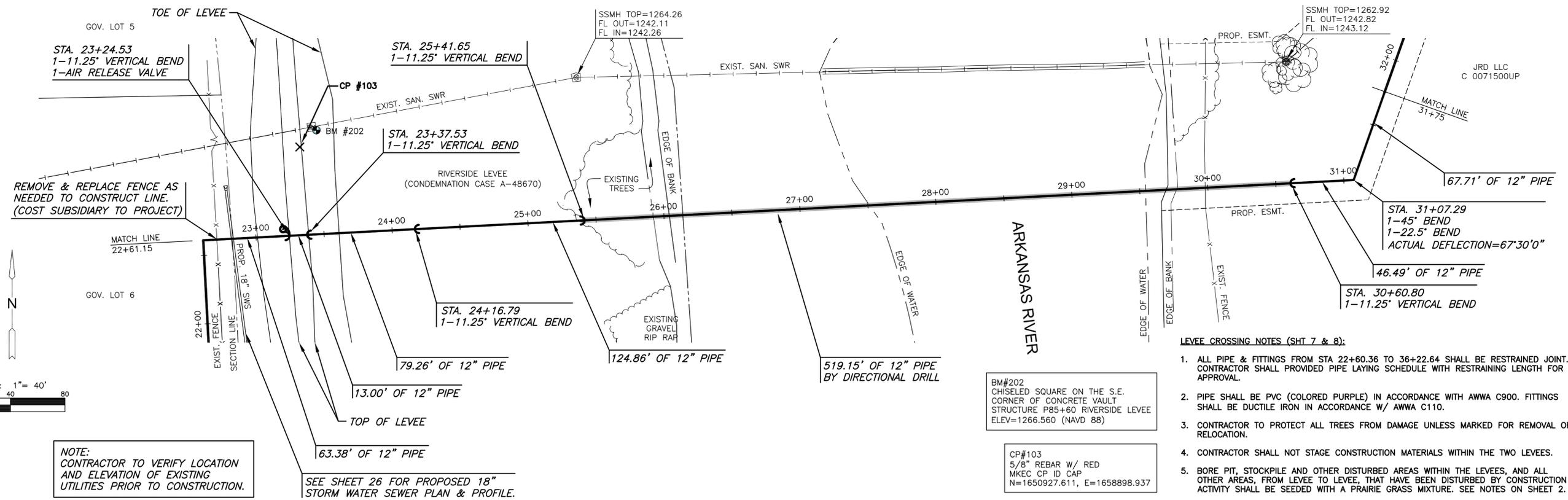
SPIRIT RE-USE LINE
17+00-22+61.15

PROJECT NO.	468-85095	
DATE	APRIL 2016	
SCALE	1" = 40'	
DESIGNED	DRAWN	CHECKED
DFL	JWC	MAB

ISSUED FOR CONST.	06/01/16	
NO.	REVISION	DATE

SHEET NO.

PLOTTED: Thursday, June 02, 2016 @ 10:55AM



NOTE:
CONTRACTOR TO VERIFY LOCATION
AND ELEVATION OF EXISTING
UTILITIES PRIOR TO CONSTRUCTION.

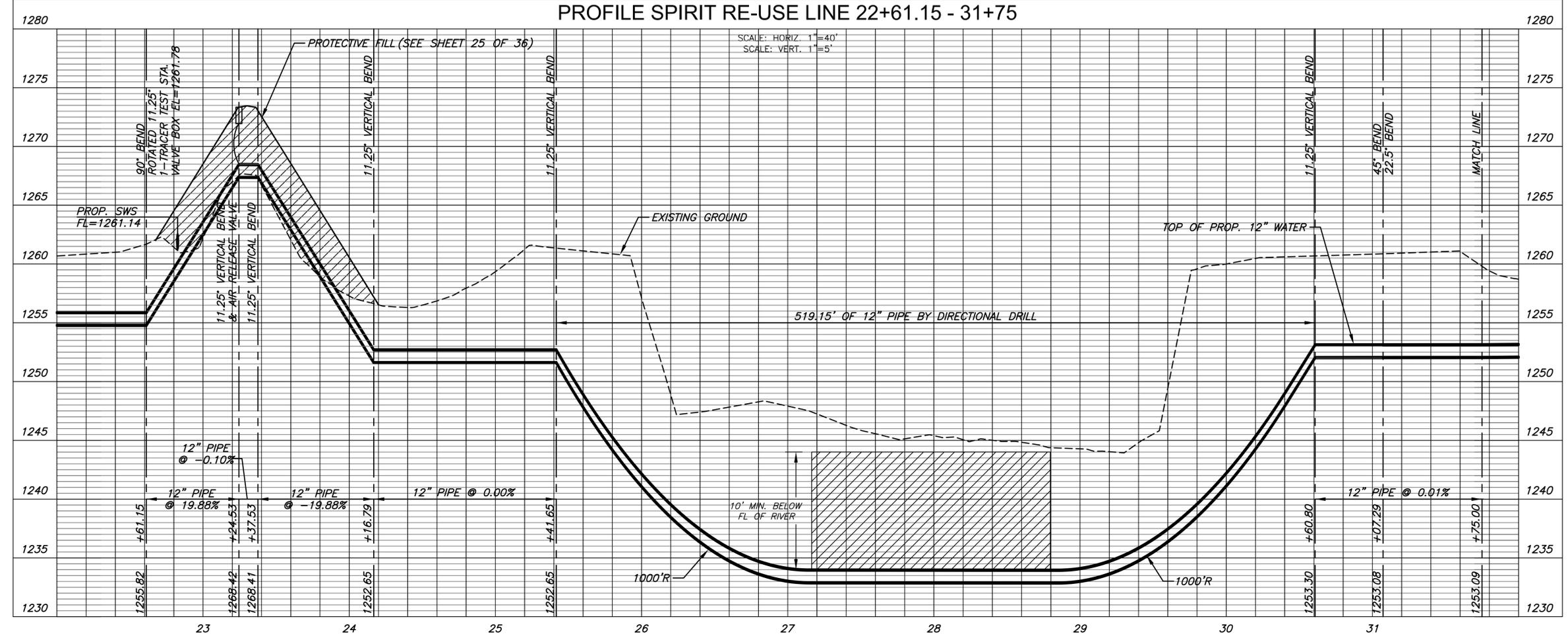
SEE SHEET 26 FOR PROPOSED 18"
STORM WATER SEWER PLAN & PROFILE.

BM#202
CHISELED SQUARE ON THE S.E.
CORNER OF CONCRETE VAULT
STRUCTURE P85+60 RIVERSIDE LEVEE
ELEV=1266.560 (NAVD 88)

CP#103
5/8" REBAR W/ RED
MKEC CP ID CAP
N=1650927.611, E=1658898.937

- LEVEE CROSSING NOTES (SHT 7 & 8):**
- ALL PIPE & FITTINGS FROM STA 22+60.36 TO 36+22.64 SHALL BE RESTRAINED JOINT. CONTRACTOR SHALL PROVIDED PIPE LAYING SCHEDULE WITH RESTRAINING LENGTH FOR APPROVAL.
 - PIPE SHALL BE PVC (COLORED PURPLE) IN ACCORDANCE WITH AWWA C900. FITTINGS SHALL BE DUCTILE IRON IN ACCORDANCE W/ AWWA C110.
 - CONTRACTOR TO PROTECT ALL TREES FROM DAMAGE UNLESS MARKED FOR REMOVAL OR RELOCATION.
 - CONTRACTOR SHALL NOT STAGE CONSTRUCTION MATERIALS WITHIN THE TWO LEVEES.
 - BORE PIT, STOCKPILE AND OTHER DISTURBED AREAS WITHIN THE LEVEES, AND ALL OTHER AREAS, FROM LEVEE TO LEVEE, THAT HAVE BEEN DISTURBED BY CONSTRUCTION ACTIVITY SHALL BE SEEDDED WITH A PRAIRIE GRASS MIXTURE. SEE NOTES ON SHEET 2.
 - SEE SHEET 25 FOR PROPOSED GRADING ON LEVEES.

PLAN SPIRIT RE-USE LINE 22+61.15 - 31+75
PROFILE SPIRIT RE-USE LINE 22+61.15 - 31+75



CITY OF WICHITA, KS

12" RE-USE WATER PIPELINE

TO SERVE SPIRIT AEROSYSTEMS

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**SPIRIT
RE-USE LINE
22+61.15-31+75**

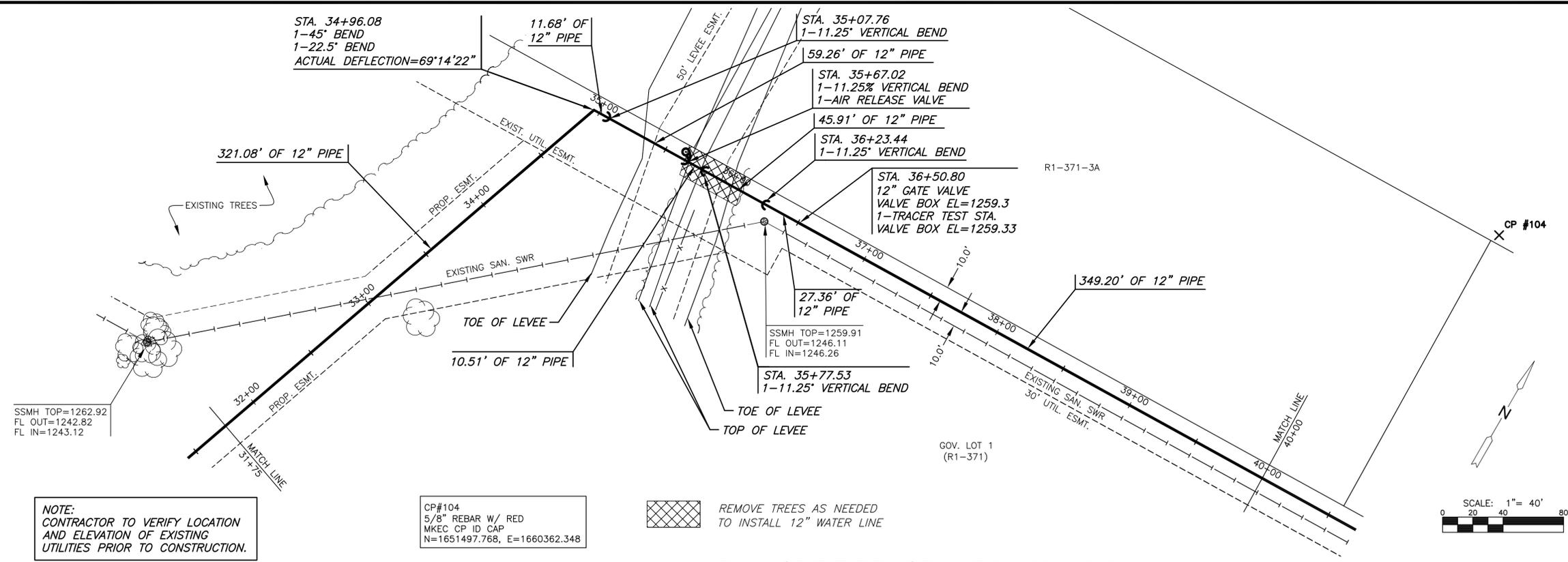
PROJECT NO.	468-85095	
DATE	APRIL 2016	
SCALE	1" = 40'	
DESIGNED	DRAWN	CHECKED
DFL	JWC	MAB



ISSUED FOR CONST.	06/01/16	
NO.	REVISION	DATE

PLOTTED: Thursday, June 02, 2016 @ 10:58AM

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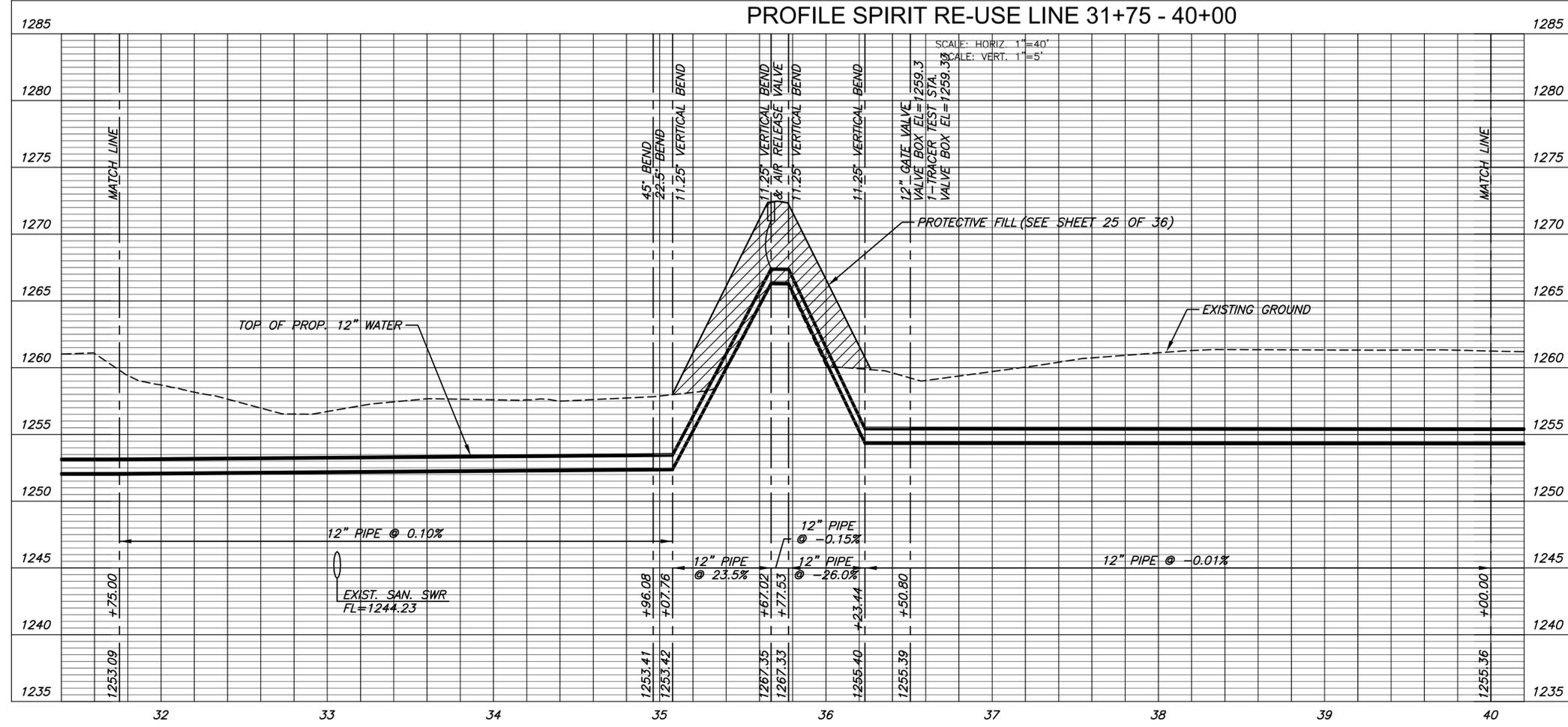


NOTE:
CONTRACTOR TO VERIFY LOCATION
AND ELEVATION OF EXISTING
UTILITIES PRIOR TO CONSTRUCTION.

CP#104
5/8" REBAR W/ RED
MKEC CP ID CAP
N=1651497.768, E=1660362.348

REMOVE TREES AS NEEDED
TO INSTALL 12" WATER LINE

PLAN SPIRIT RE-USE LINE 31+75 - 40+00
PROFILE SPIRIT RE-USE LINE 31+75 - 40+00



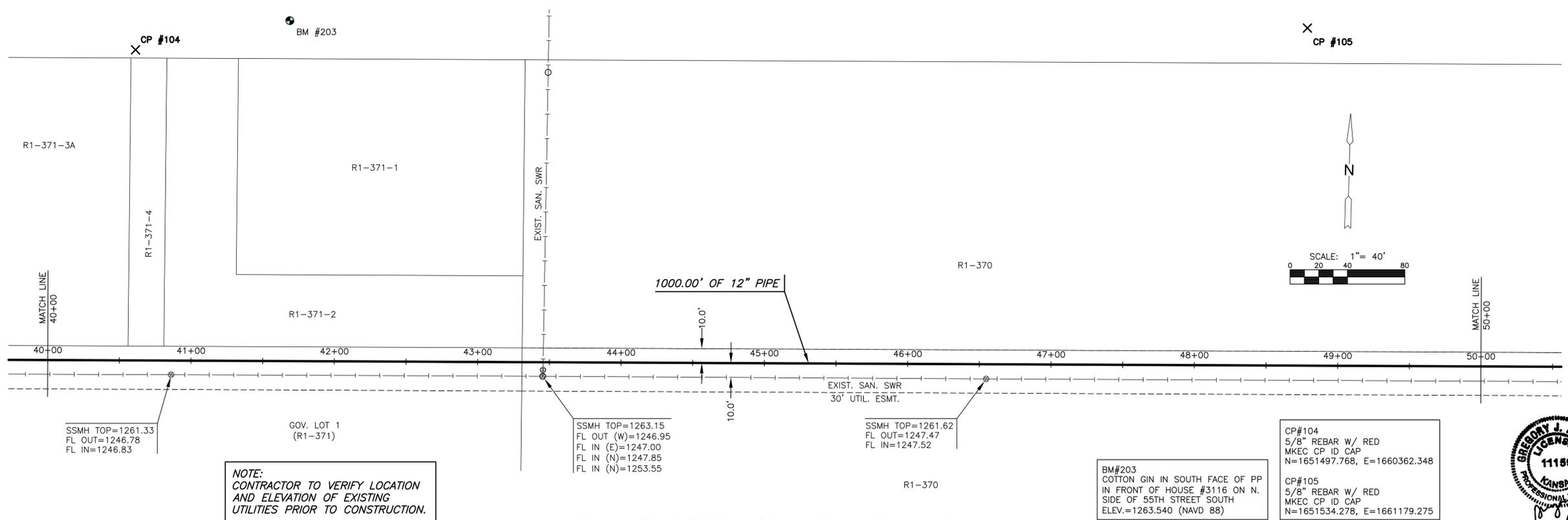
GREGORY J. ALLISON
LICENSED PROFESSIONAL ENGINEER
KANSAS
11159
6/1/16

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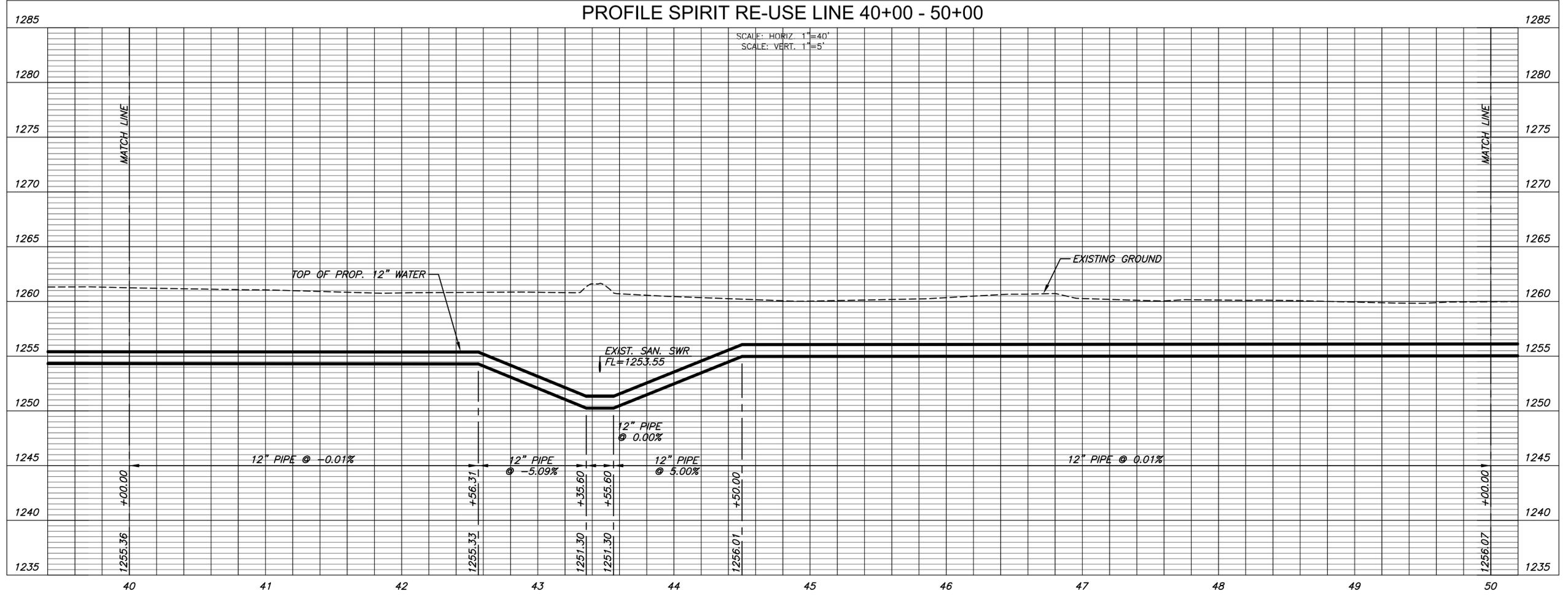
SPIRIT RE-USE LINE 31+75-40+00	
PROJECT NO.	468-85095
DATE	APRIL 2016
SCALE	1" = 40'
DESIGNED	DRAWN
DFL	JWC
CHECKED	MAB
ISSUED FOR CONST.	06/01/16
NO.	REVISION
DATE	
SHEET NO.	
08 OF 36	

PLOTTED: Thursday, June 02, 2016 @ 11:02AM

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PLAN SPIRIT RE-USE LINE 40+00 - 50+00
 PROFILE SPIRIT RE-USE LINE 40+00 - 50+00



CITY OF WICHITA, KS
12" RE-USE WATER PIPELINE
 TO SERVE SPIRIT AEROSYSTEMS



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PROJECT NO.		468-85095
DATE		APRIL 2016
SCALE		1" = 40'
DESIGNED	DRAWN	CHECKED
DFL	JWC	MAB
NO.	REVISION	DATE
0	ISSUED FOR CONST.	06/01/16
SHEET NO.		
09 OF 36		

PLOTTED: Thursday, June 02, 2016 @ 11:55AM

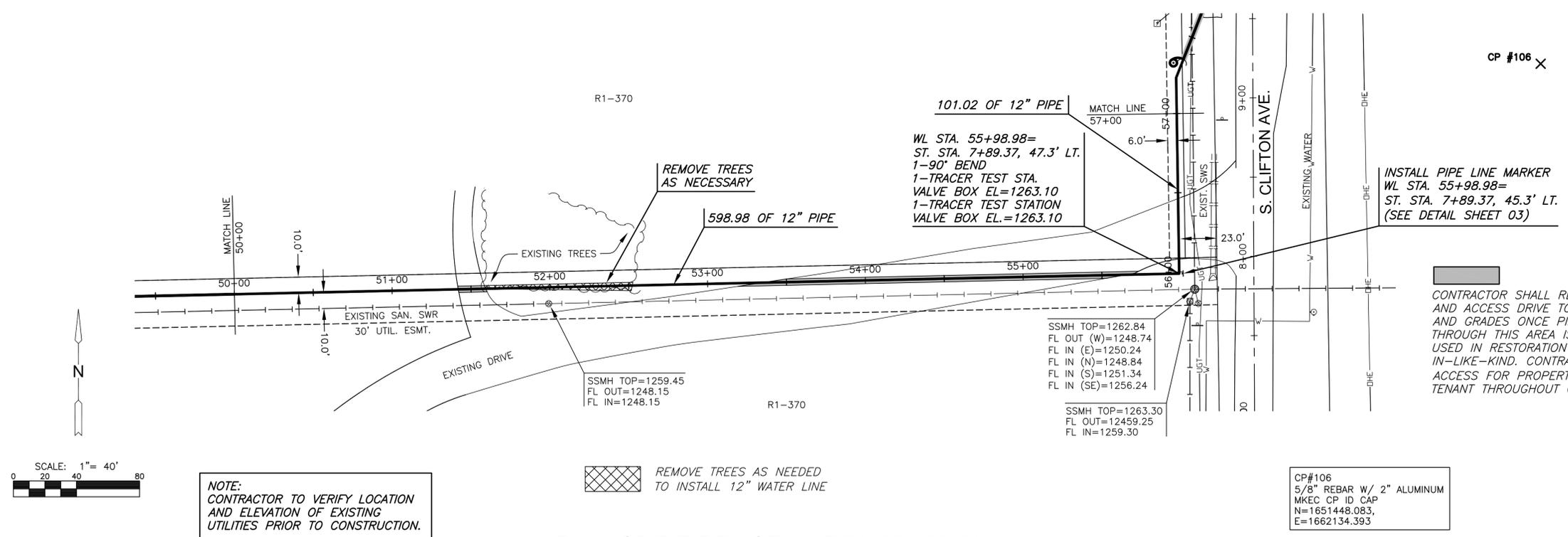
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CITY OF WICHITA, KS

12" RE-USE WATER PIPELINE

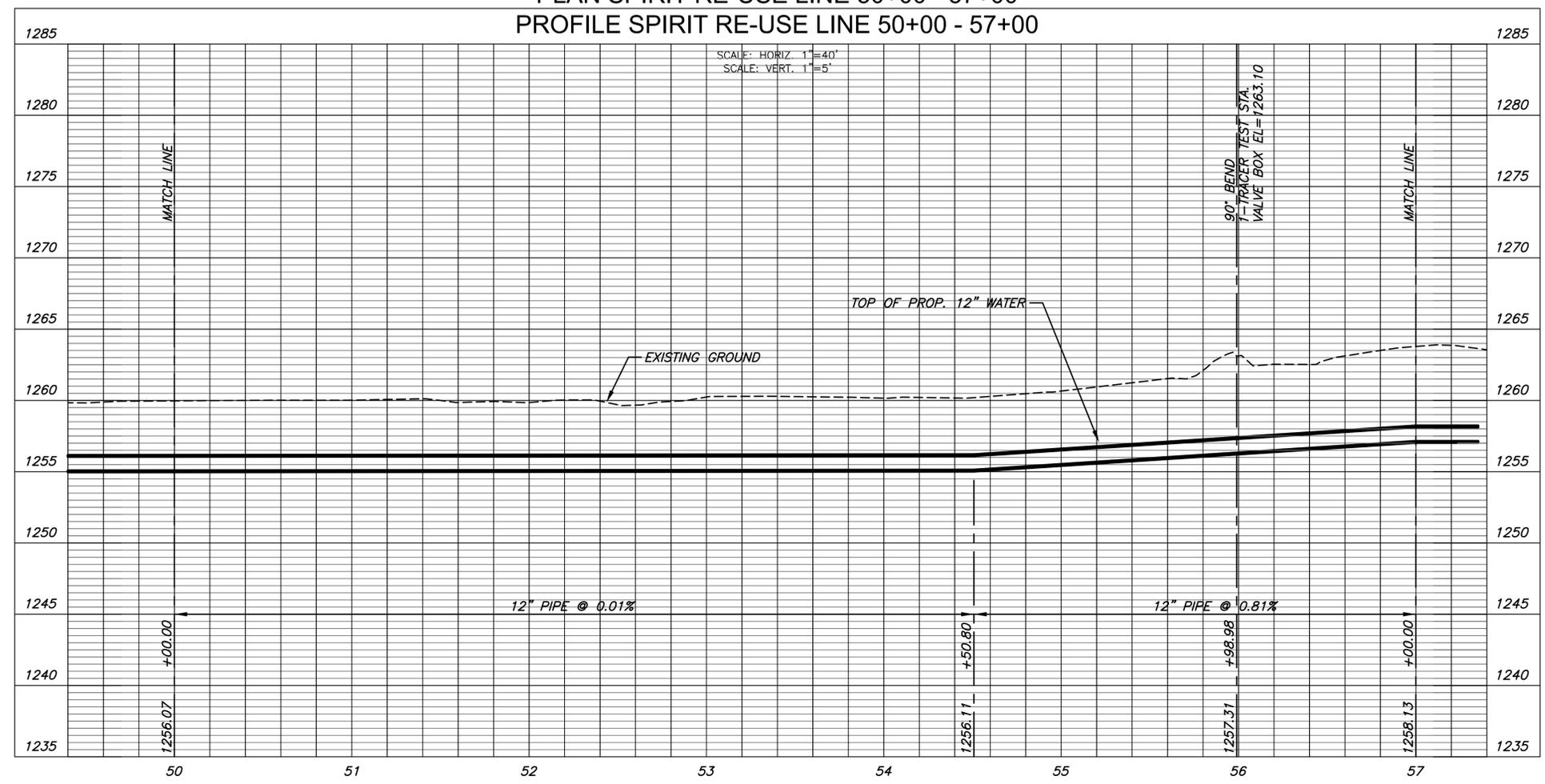
TO SERVE SPIRIT AEROSYSTEMS



CONTRACTOR SHALL RESTORE FIELD ENTRANCE AND ACCESS DRIVE TO PRE-PROJECT LINES AND GRADES ONCE PIPELINE INSTALLATION THROUGH THIS AREA IS COMPLETE. MATERIAL USED IN RESTORATION SHALL MATCH EXISTING IN-LIKE-KIND. CONTRACTOR SHALL MAINTAIN ACCESS FOR PROPERTY OWNER AND/OR TENANT THROUGHOUT CONSTRUCTION

CP#106
5/8" REBAR W/ 2" ALUMINUM
MKEC CP ID CAP
N=1651448.083,
E=1662134.393

PLAN SPIRIT RE-USE LINE 50+00 - 57+00
PROFILE SPIRIT RE-USE LINE 50+00 - 57+00



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SPIRIT RE-USE LINE 50+00-57+00

PROJECT NO.	468-85095
DATE	APRIL 2016
SCALE	1" = 40'
DESIGNED	DFL
DRAWN	JWC
CHECKED	MAB

ISSUED FOR CONST.	06/01/16
NO.	REVISION
NO.	DATE

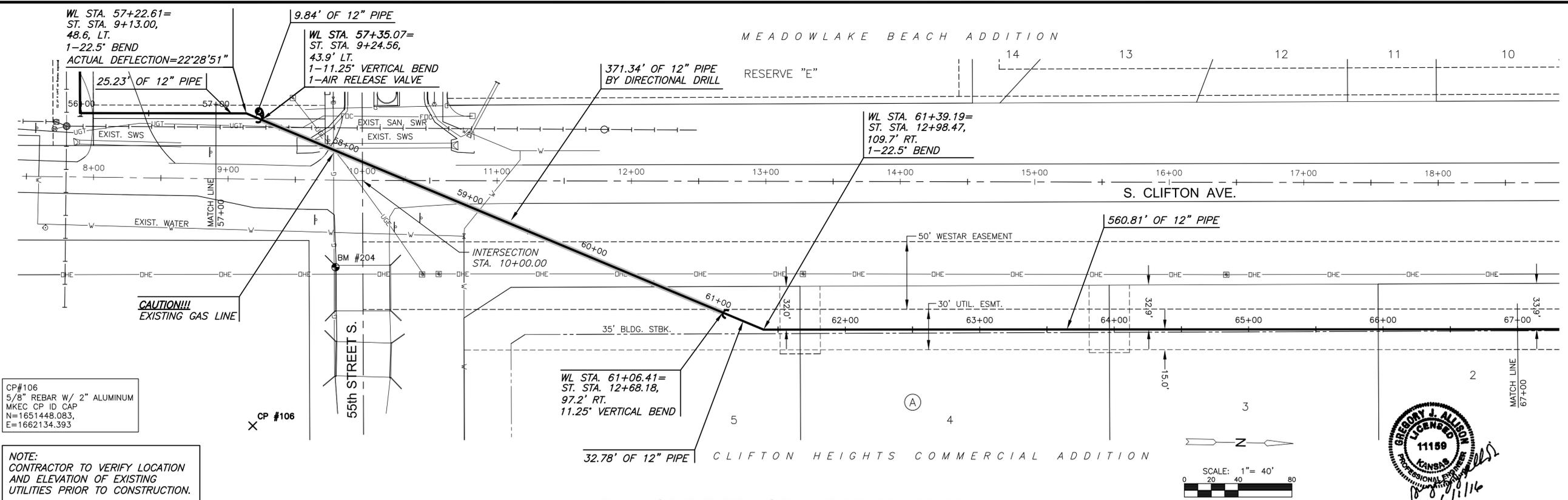
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SPIRIT RE-USE LINE 57+00-67+00

PROJECT NO.	468-85095	
DATE	APRIL 2016	
SCALE	1" = 40'	
DESIGNED	DRAWN	CHECKED
DFL	JWC	MAB

NO.	REVISION	DATE
0	ISSUED FOR CONST.	06/01/16

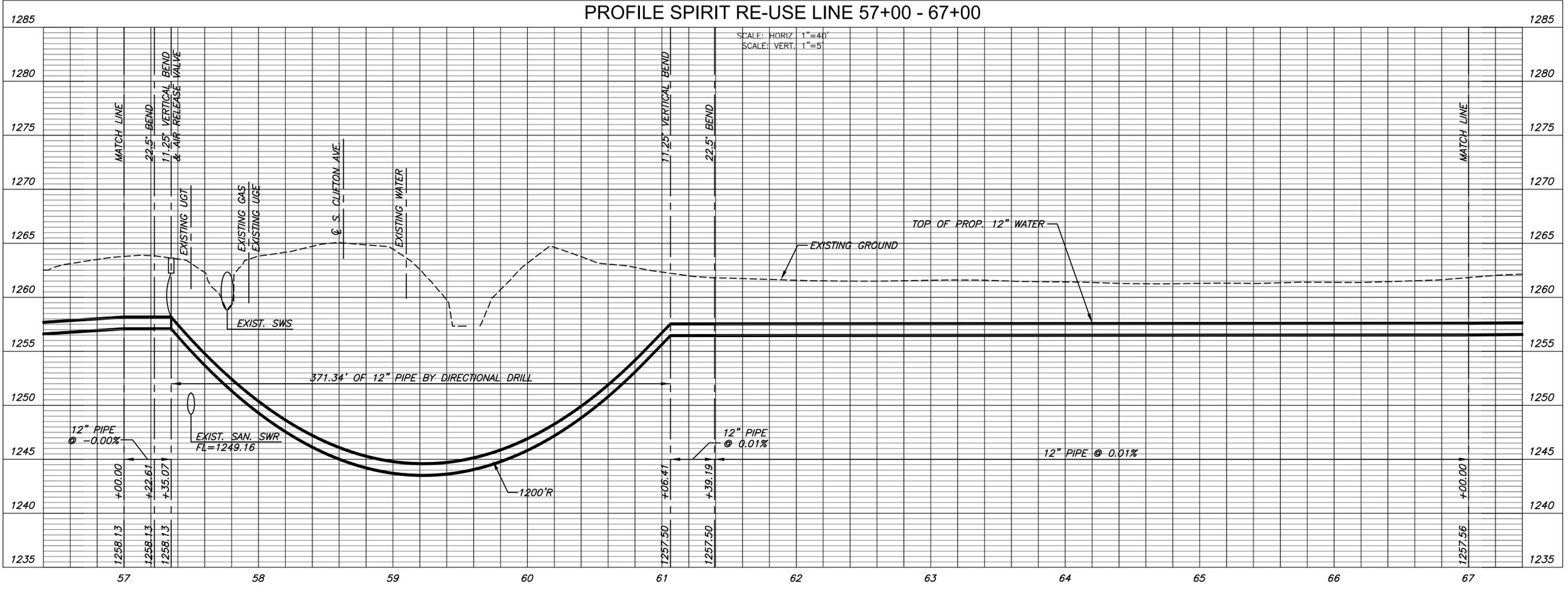
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CP#106
5/8" REBAR W/ 2" ALUMINUM
MKEC CP ID CAP
N=1651448.083,
E=1662134.393

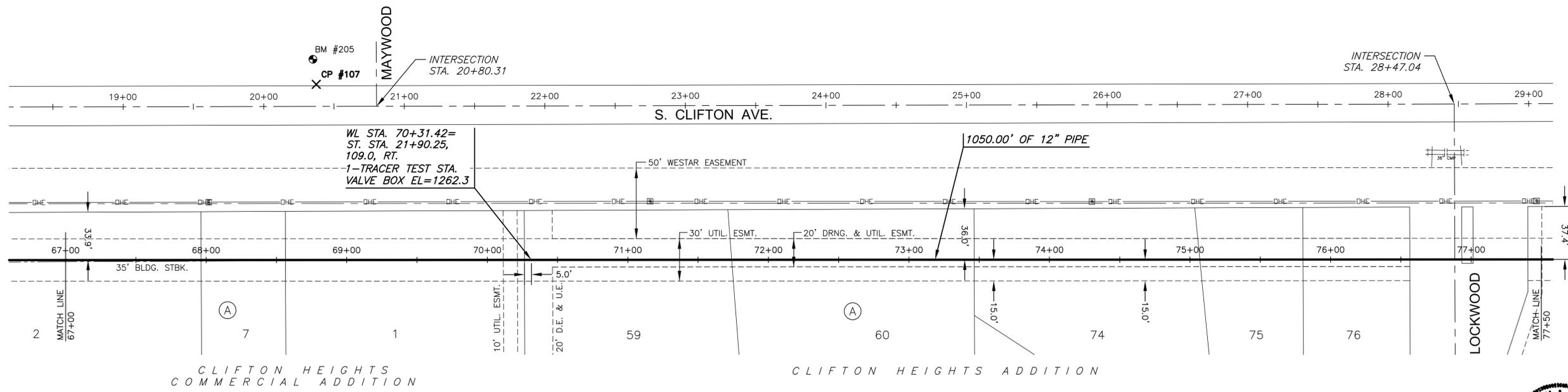
NOTE:
CONTRACTOR TO VERIFY LOCATION
AND ELEVATION OF EXISTING
UTILITIES PRIOR TO CONSTRUCTION.

PLAN SPIRIT RE-USE LINE 57+00 - 67+00
PROFILE SPIRIT RE-USE LINE 57+00 - 67+00

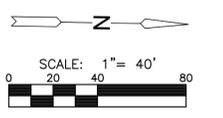


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NOTE:
CONTRACTOR TO VERIFY LOCATION
AND ELEVATION OF EXISTING
UTILITIES PRIOR TO CONSTRUCTION.

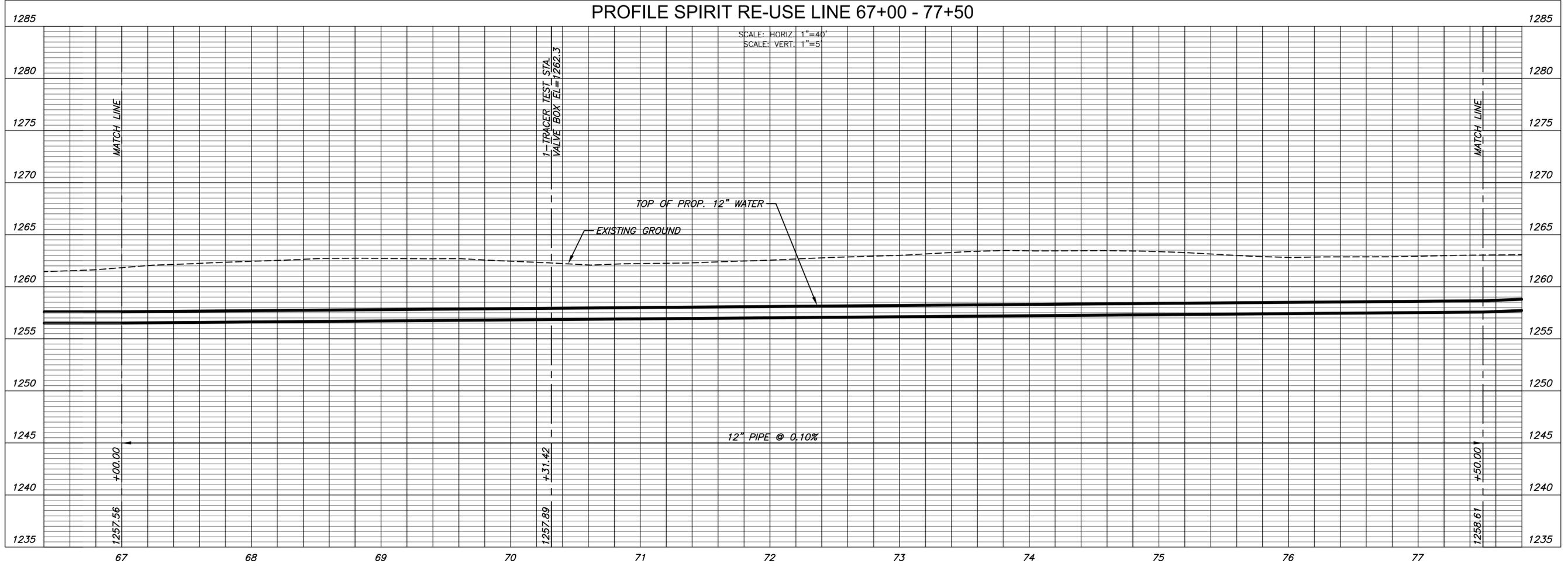


CP#107
5/8" REBAR W/ RED
MKEC CP ID CAP
N=1652563.531, E=1661919.084

BM#205
CHISELED SQUARE ON THE N.W.
CORNER OF CONCRETE AT THE S.
SIDE OF 36" RCP AT THE N.E.
CORNER OF MEADOWLAKE BEACH
ADDN. ELEV.=1264.020 (NAVD88)



PLAN SPIRIT RE-USE LINE 67+00 - 77+50
PROFILE SPIRIT RE-USE LINE 67+00 - 77+50



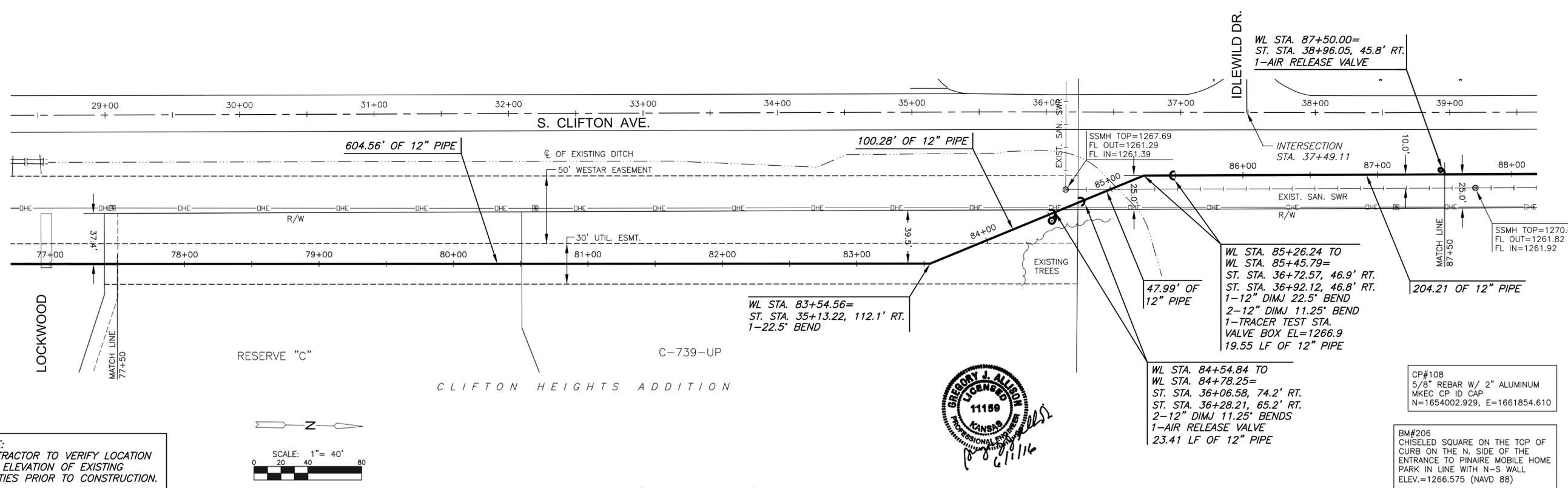
CITY OF WICHITA, KS
12" RE-USE WATER PIPELINE
TO SERVE SPIRIT AEROSYSTEMS

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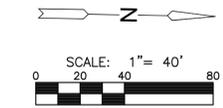
SPIRIT RE-USE LINE 67+00-77+50	
PROJECT NO.	468-85095
DATE	APRIL 2016
SCALE	1" = 40'
DESIGNED	DRAWN
DFL	JWC
CHECKED	MAB
NO.	REVISION
0	ISSUED FOR CONST.
	06/01/16
	DATE
SHEET NO.	
12 OF 36	

PLOTTED: Thursday, June 02, 2016 @ 11:15AM

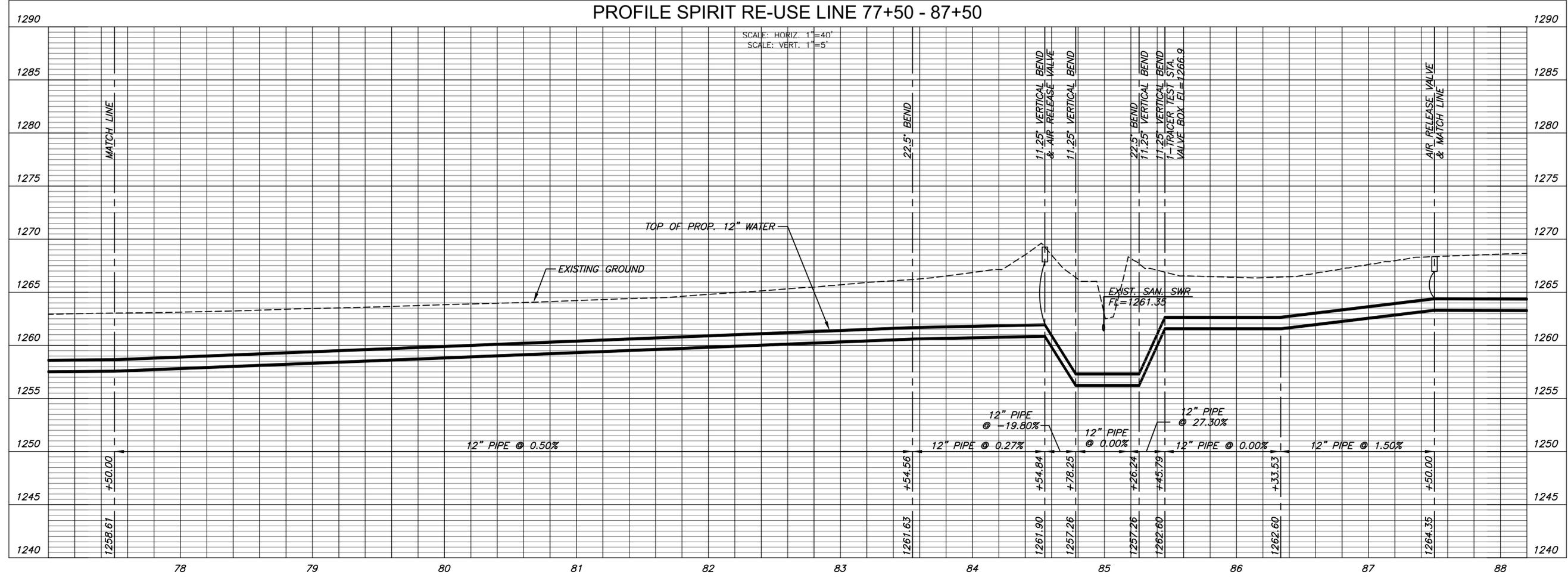
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NOTE:
CONTRACTOR TO VERIFY LOCATION
AND ELEVATION OF EXISTING
UTILITIES PRIOR TO CONSTRUCTION.



PLAN SPIRIT RE-USE LINE 77+50 - 87+50
PROFILE SPIRIT RE-USE LINE 77+50 - 87+50



CITY OF WICHITA, KS

12" RE-USE WATER PIPELINE

TO SERVE SPIRIT AEROSYSTEMS

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SPIRIT RE-USE LINE 77+50-87+50	
PROJECT NO.	468-85095
DATE	APRIL 2016
SCALE	1" = 40'
DESIGNED	DRAWN
DFL	JWC
CHECKED	MAB
NO.	REVISION
0	ISSUED FOR CONST.
06/01/16	DATE
SHEET NO.	
13 OF 36	

PLOTTED: Thursday, June 02, 2016 @ 11:20AM

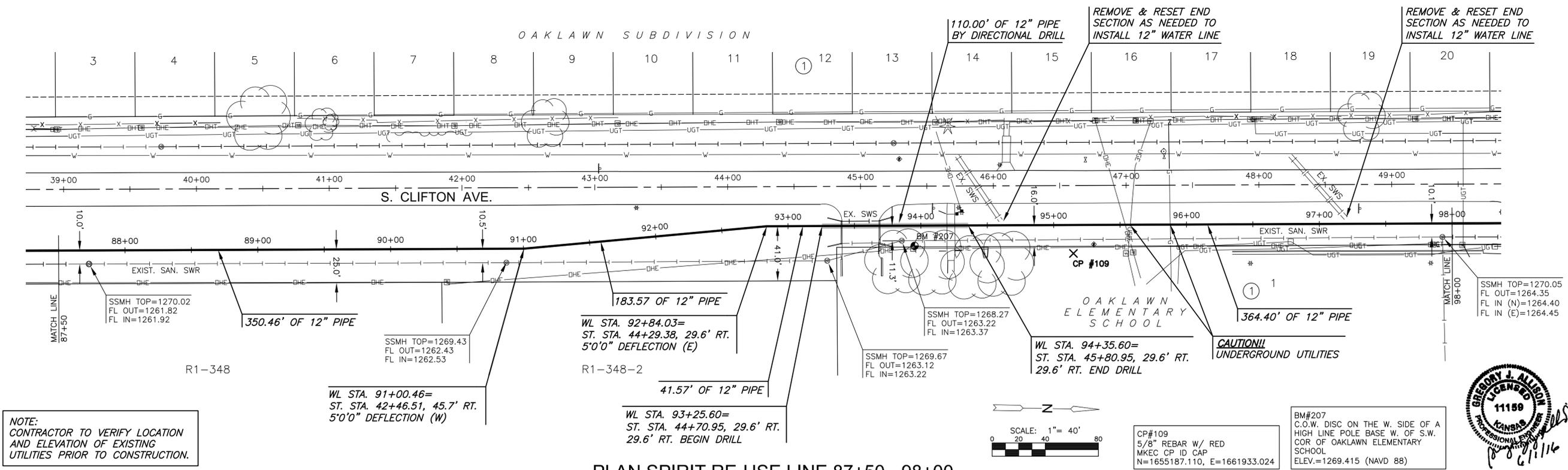
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CITY OF WICHITA, KS
12" RE-USE WATER PIPELINE
 TO SERVE SPIRIT AEROSYSTEMS

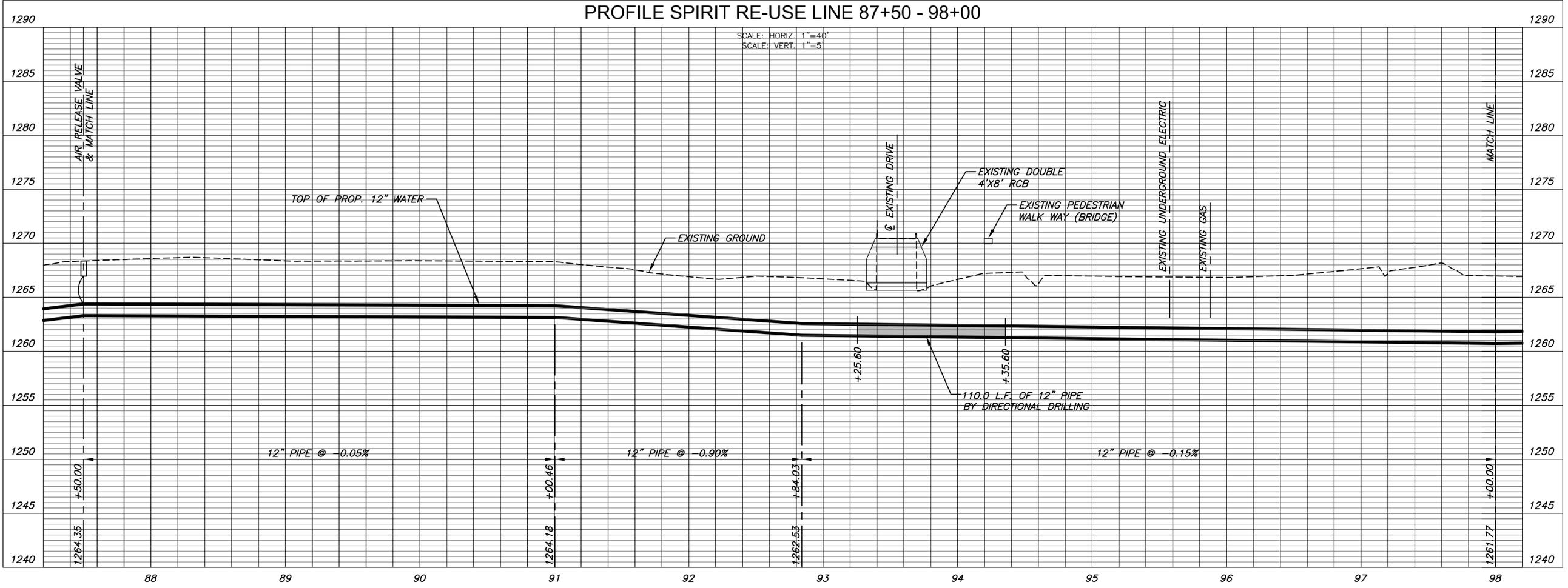
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SPIRIT RE-USE LINE 87+50-98+00	
PROJECT NO.	468-85095
DATE	APRIL 2016
SCALE	1" = 40'
DESIGNED	DFL
DRAWN	JWC
CHECKED	MAB
ISSUED FOR CONST. NO.	06/01/16
REVISION	DATE
SHEET NO. 14 OF 36	



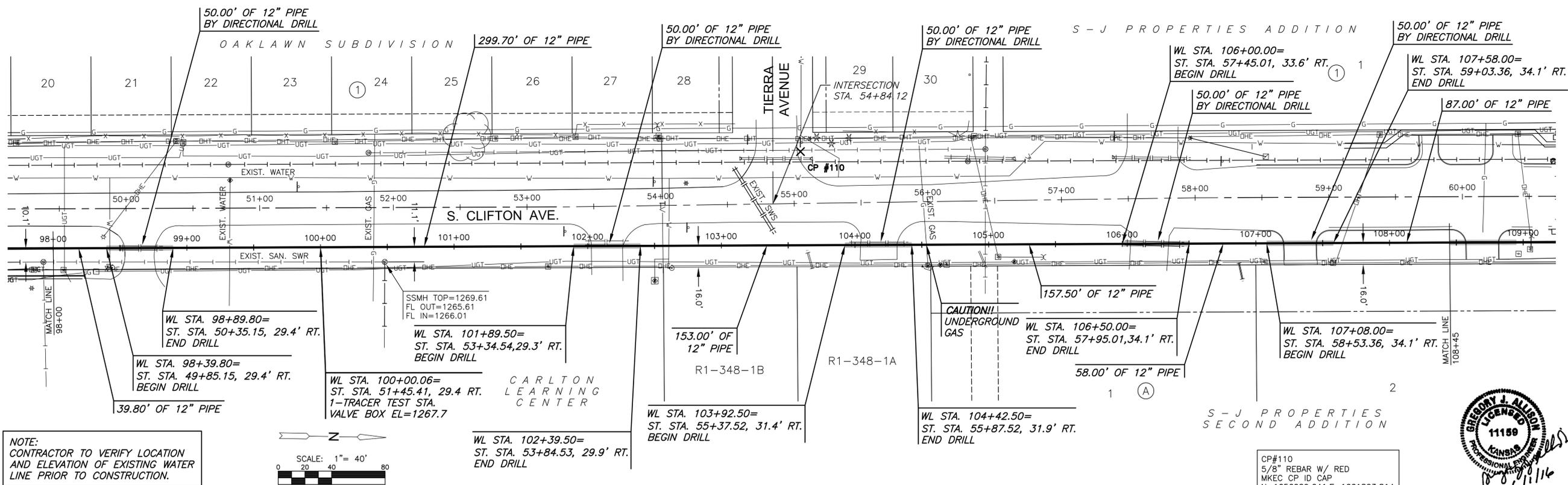
NOTE:
CONTRACTOR TO VERIFY LOCATION AND ELEVATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION.

PLAN SPIRIT RE-USE LINE 87+50 - 98+00
PROFILE SPIRIT RE-USE LINE 87+50 - 98+00

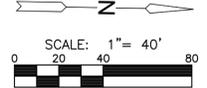


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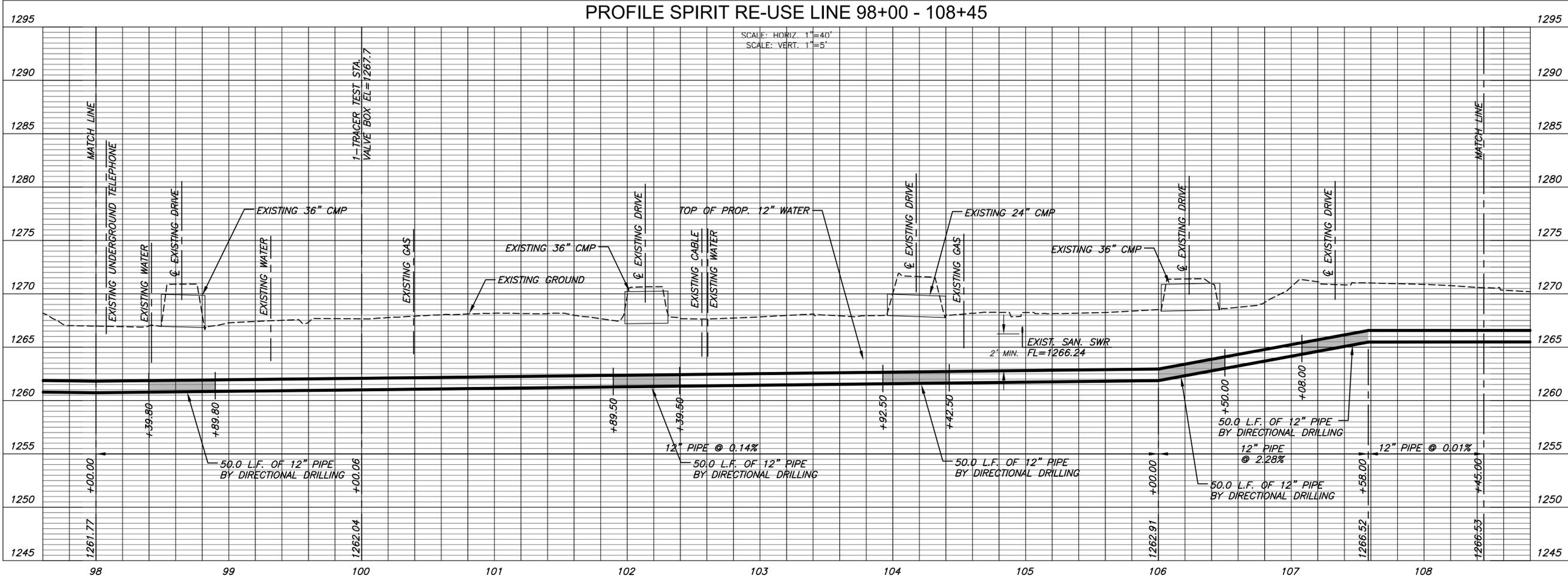
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NOTE:
CONTRACTOR TO VERIFY LOCATION AND ELEVATION OF EXISTING WATER LINE PRIOR TO CONSTRUCTION.



PLAN SPIRIT RE-USE LINE 98+00 - 108+45
PROFILE SPIRIT RE-USE LINE 98+00 - 108+45



CITY OF WICHITA, KS

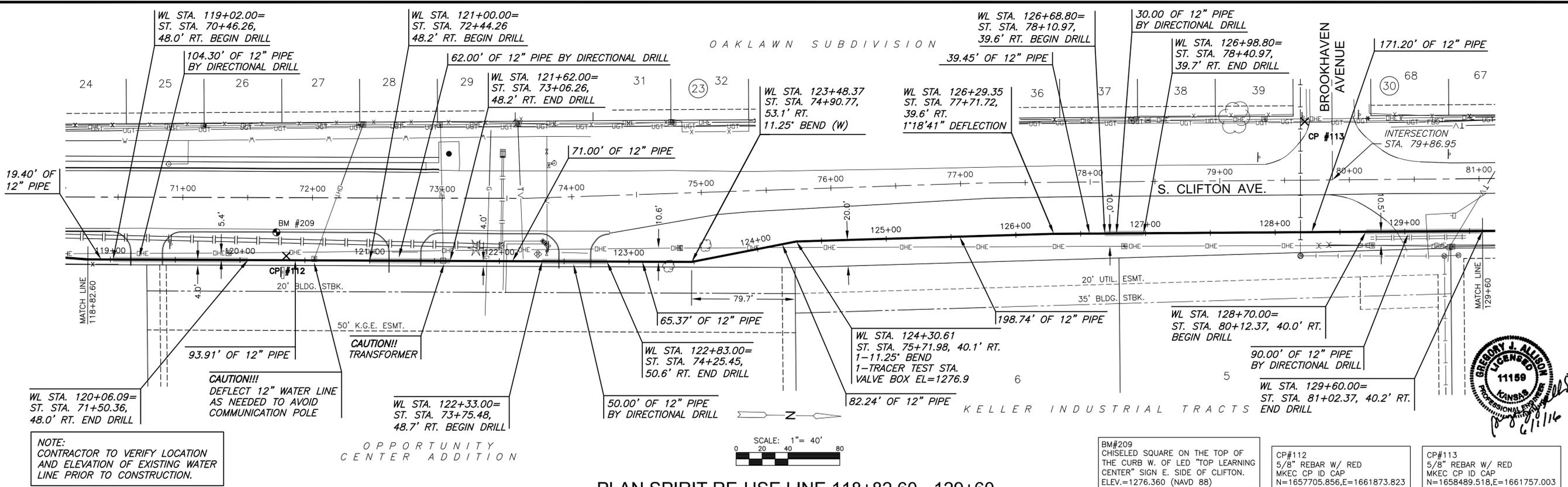
12" RE-USE WATER PIPELINE

TO SERVE SPIRIT AEROSYSTEMS

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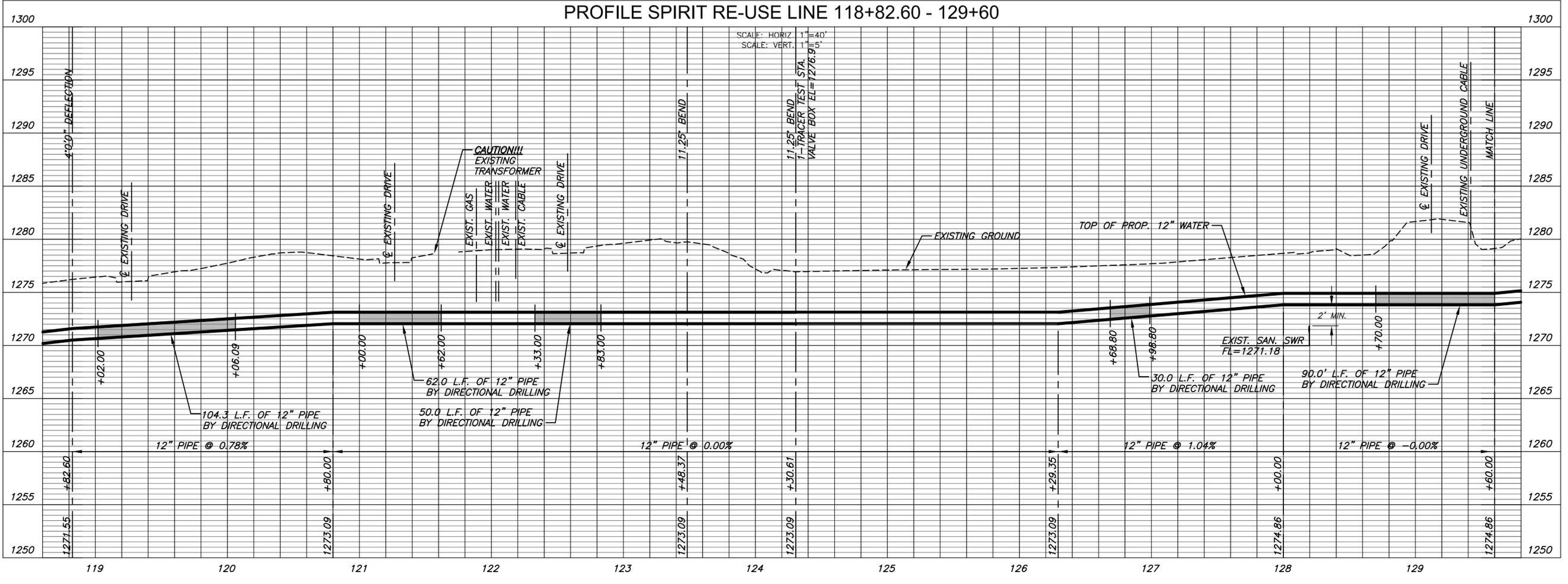
SPIRIT RE-USE LINE 98+00-108+45	
PROJECT NO.	468-85095
DATE	APRIL 2016
SCALE	1" = 40'
DESIGNED	DRAWN
DFL	JWC
CHECKED	MAB
ISSUED FOR CONST. NO.	06/01/16
REVISION	DATE
SHEET NO.	15 OF 36

PLOTTED: Thursday, June 02, 2016 @ 11:31AM



OPPORTUNITY
CENTER ADDITION

PLAN SPIRIT RE-USE LINE 118+82.60 - 129+60
PROFILE SPIRIT RE-USE LINE 118+82.60 - 129+60



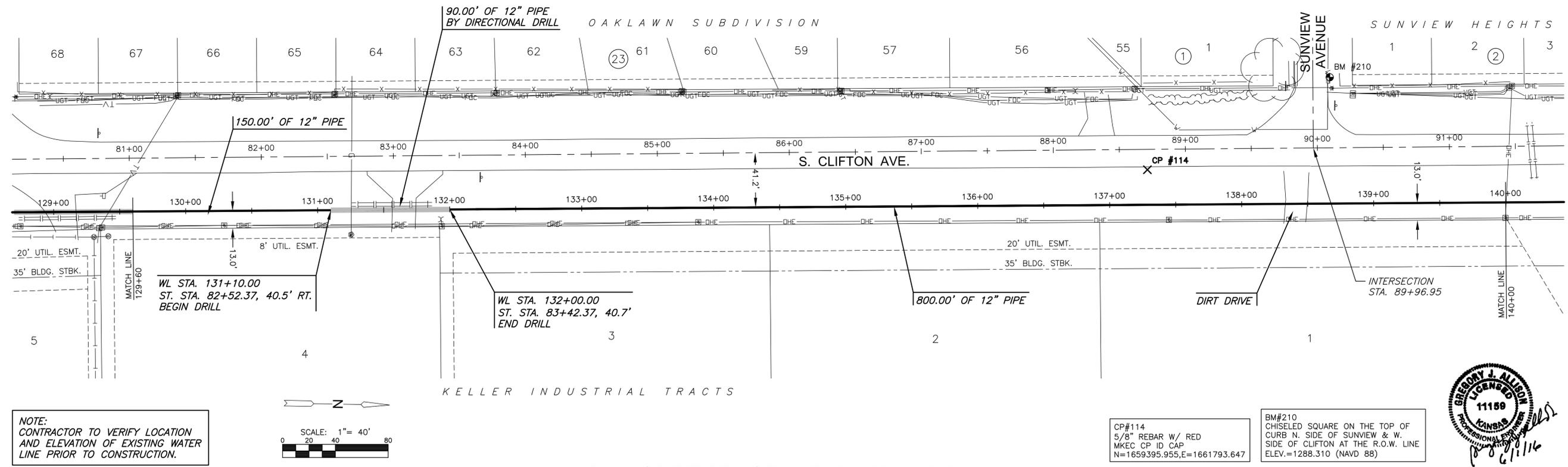
CITY OF WICHITA, KS
12" RE-USE WATER PIPELINE
TO SERVE SPIRIT AEROSYSTEMS

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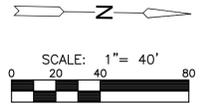
SPIRIT RE-USE LINE 118+82.60-129+60	
PROJECT NO.	468-85095
DATE	APRIL 2016
SCALE	1" = 40'
DESIGNED	DRAWN
DFL	JWC
CHECKED	MAB
ISSUED FOR CONST. NO.	06/01/16
REVISION	DATE
SHEET NO.	17 OF 36

PLOTTED: Thursday, June 02, 2016 @ 11:35AM

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NOTE:
CONTRACTOR TO VERIFY LOCATION
AND ELEVATION OF EXISTING WATER
LINE PRIOR TO CONSTRUCTION.

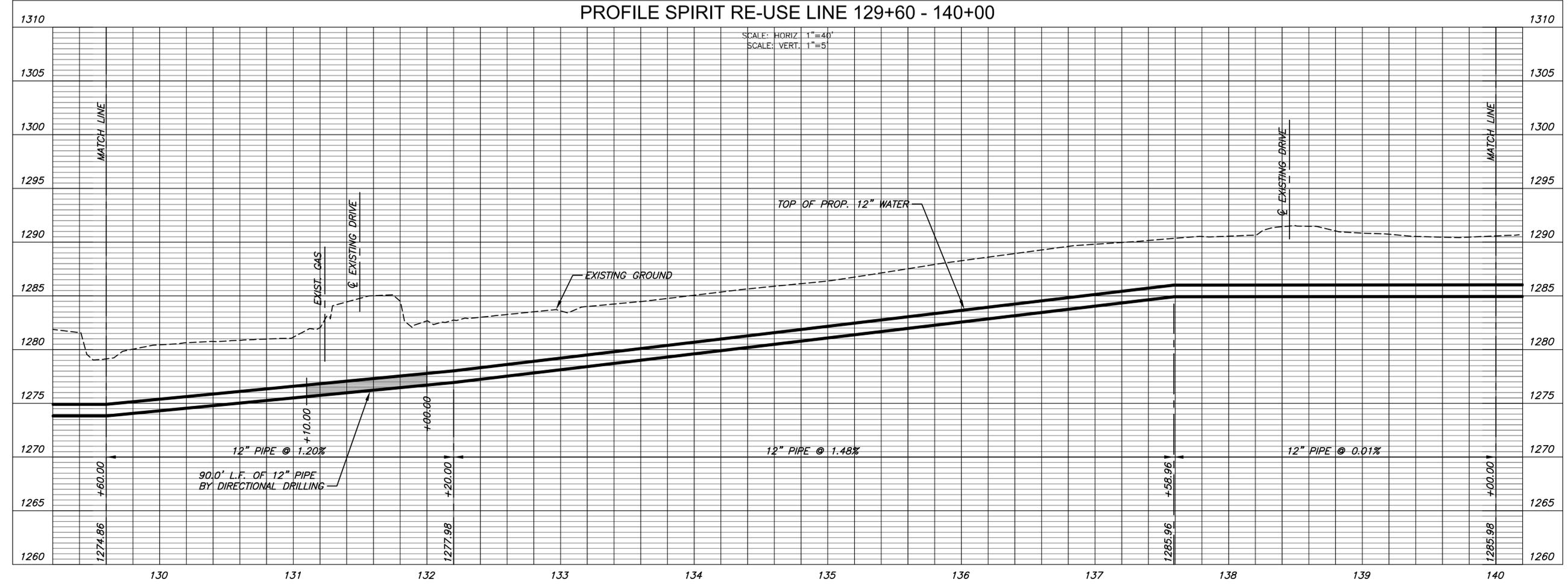


CP#114
5/8" REBAR W/ RED
MKEC CP ID CAP
N=1659395.955,E=1661793.647

BM#210
CHISELED SQUARE ON THE TOP OF
CURB N. SIDE OF SUNVIEW & W.
SIDE OF CLIFTON AT THE R.O.W. LINE
ELEV.=1288.310 (NAVD 88)



PLAN SPIRIT RE-USE LINE 129+60 - 140+00
PROFILE SPIRIT RE-USE LINE 129+60 - 140+00



CITY OF WICHITA, KS

12" RE-USE WATER PIPELINE

TO SERVE SPIRIT AEROSYSTEMS

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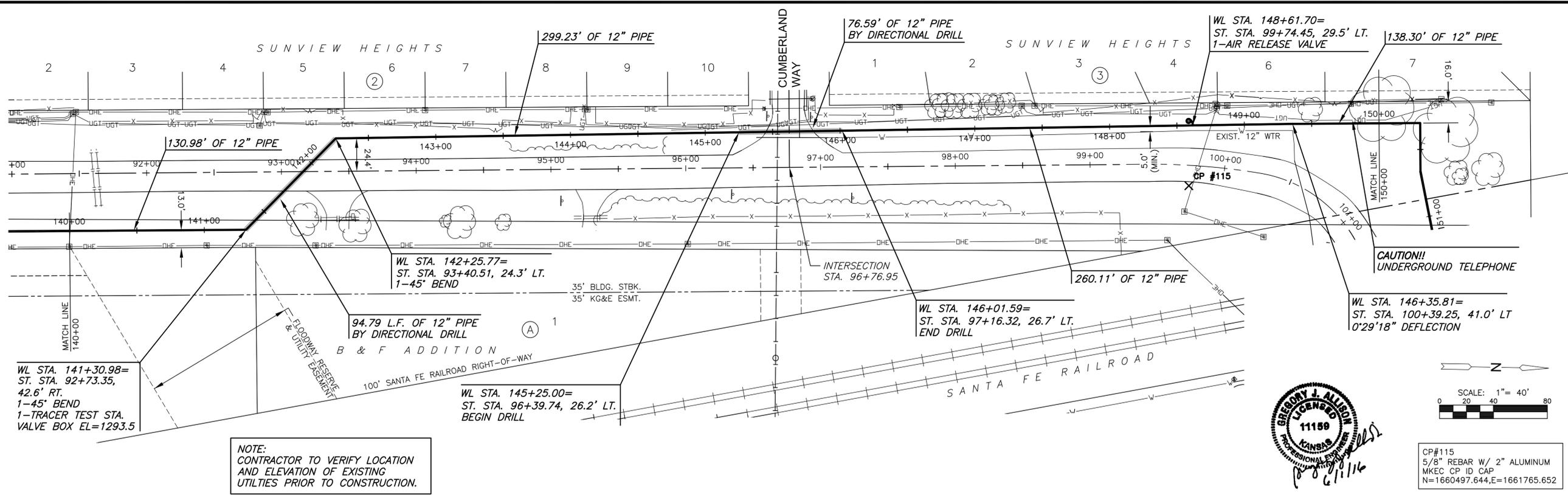
SPIRIT
RE-USE LINE
129+60-140+00

PROJECT NO.	468-85095	
DATE	APRIL 2016	
SCALE	1" = 40'	
DESIGNED	DRAWN	CHECKED
DFL	JWC	MAB

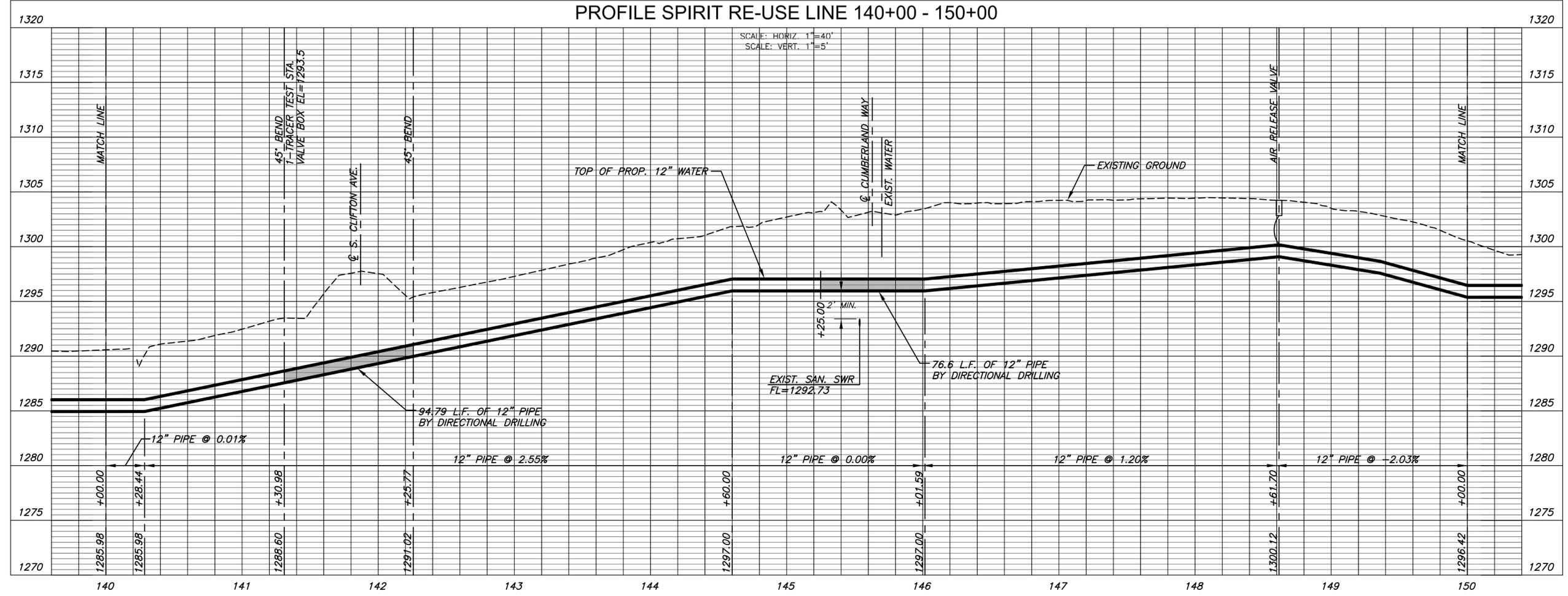
ISSUED FOR CONST.	06/01/16	
NO.	REVISION	DATE

SHEET NO.
18 OF 36

PLOTTED: Thursday, June 02, 2016 @ 11:35AM



PLAN SPIRIT RE-USE LINE 140+00 - 150+00
 PROFILE SPIRIT RE-USE LINE 140+00 - 150+00



CITY OF WICHITA, KS
12" RE-USE WATER PIPELINE
 TO SERVE SPIRIT AEROSYSTEMS

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SPIRIT RE-USE LINE 140+00-150+00	
PROJECT NO.	468-85095
DATE	APRIL 2016
SCALE	1" = 40'
DESIGNED	DRAWN
DFL	JWC
CHECKED	MAB
NO.	REVISION
0	ISSUED FOR CONST. 06/01/16
	DATE
SHEET NO.	
19 OF 36	

PLOTTED: Thursday, June 02, 2016 @ 11:46AM

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NOTE:
CONTRACTOR TO VERIFY LOCATION
AND ELEVATION OF EXISTING
UTILITIES PRIOR TO CONSTRUCTION.

REMOVE TREES AS NEEDED
TO INSTALL 12" WATER LINE

CAUTION!!!
EXISTING UNDERGROUND TELEPHONE
CONTRACTOR TO TAKE CARE WHEN INSTALLING WATER LINE.
TEMPORARY MOVE OR SUPPORT EXISTING UNDERGROUND
TELEPHONE WHILE INSTALLING WATER LINE. RELAY UNDERGROUND
TELEPHONE FOLLOWING PLACEMENT OF 12" WATER LINE.

WL STA. 158+40.48=
ST. STA. 13+79.69, 63.4' RT.
1-22.5' BEND

WL STA. 158+82.10=
ST. STA. 14+21.31, 63.5' RT.
BEGIN BORE

WL STA. 159+47.10=
ST. STA. 14+86.31, 63.5' RT.
END BORE

65.00' OF 24" CASING
PIPE BY BORE & JACK

WL STA. 163+53.44=
ST. STA. 18+92.65, 63.5' RT.
1-11.25' BEND

WL STA. 165+02.77=
ST. STA. 20+39.73, 89.4' RT.
1-90° BEND

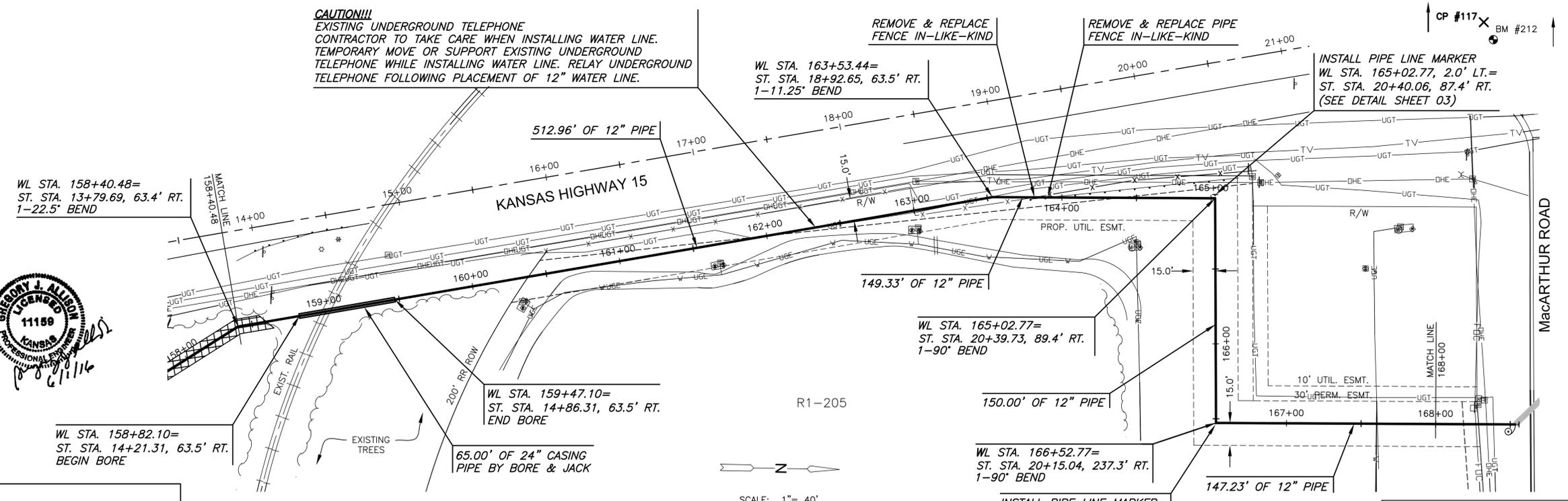
WL STA. 166+52.77=
ST. STA. 20+15.04, 237.3' RT.
1-90° BEND

INSTALL PIPE LINE MARKER
WL STA. 166+52.77, 0.0' LT.
(SEE DETAIL SHEET 03)

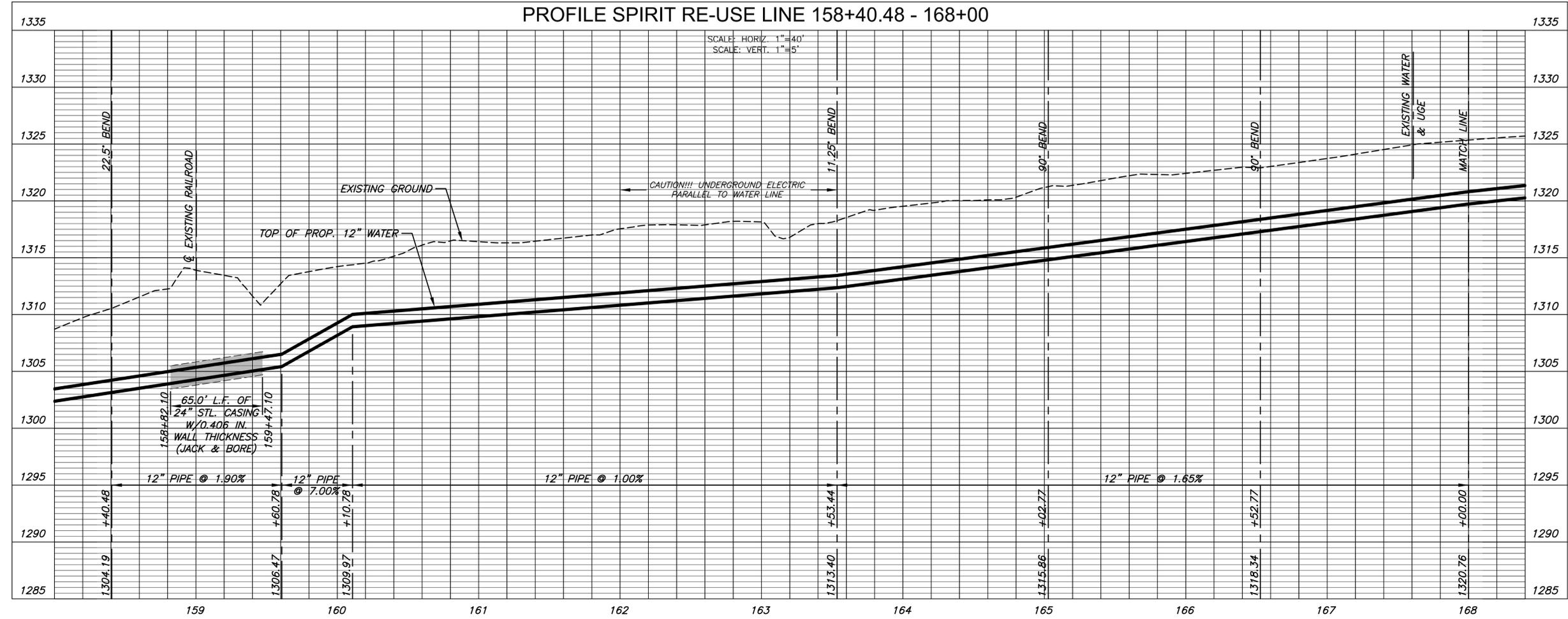
INSTALL PIPE LINE MARKER
WL STA. 165+02.77, 2.0' LT.=
ST. STA. 20+40.06, 87.4' RT.
(SEE DETAIL SHEET 03)

CP#117
5/8" REBAR W/ 2" ALUMINUM
MKEC CP ID CAP
N=1661968.875,E=1661646.017

BM#212
CHISELED SQUARE AT THE S.E. END OF THE
RETAINING WALL AROUND THE SIGNAL POLE
S.W. CORNER OF MACARTHUR & K-15
ELEV.=1319.670 (NAVD 88)



PLAN SPIRIT RE-USE LINE 158+40.48 - 168+00
PROFILE SPIRIT RE-USE LINE 158+40.48 - 168+00



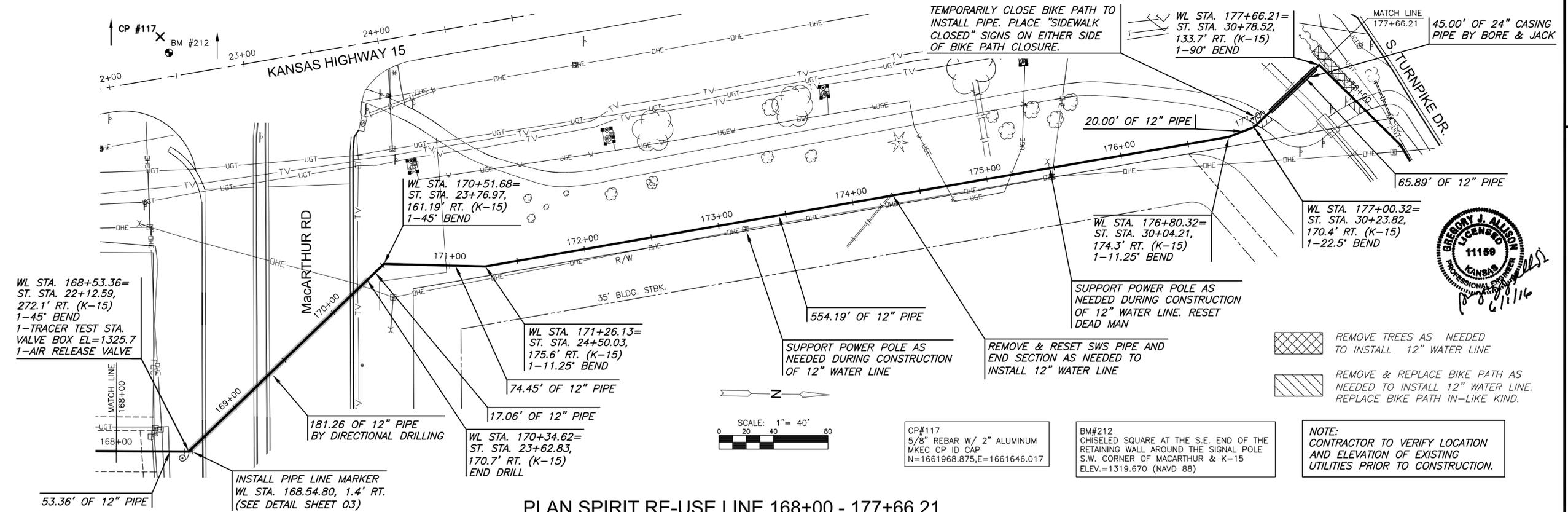
CITY OF WICHITA, KS
12" RE-USE WATER PIPELINE
TO SERVE SPIRIT AEROSYSTEMS

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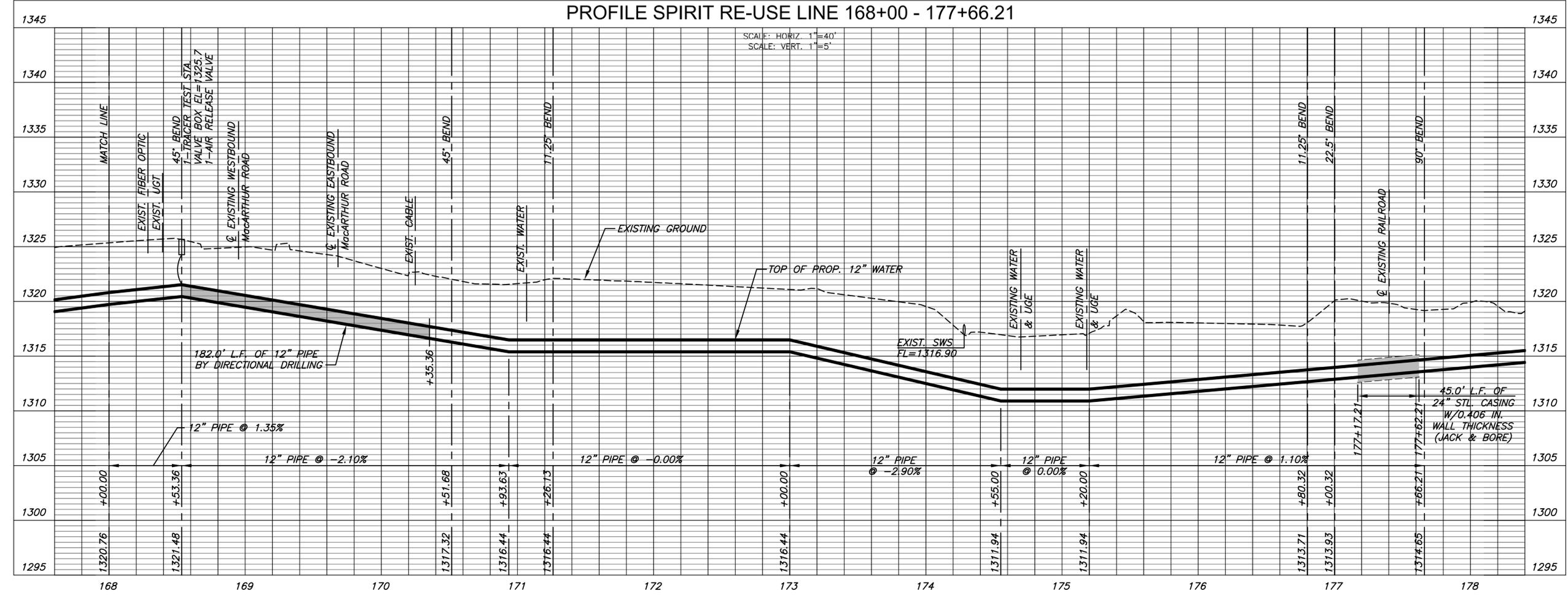
SPIRIT RE-USE LINE 158+40.48-168+00		
PROJECT NO.	468-85095	
DATE	APRIL 2016	
SCALE	1" = 40'	
DESIGNED	DRAWN	CHECKED
DFL	JWC	MAB
NO.	ISSUED FOR CONST.	06/01/16
	REVISION	DATE
SHEET NO.		
21 OF 36		

PLOTTED: Thursday, June 02, 2016 @ 11:51 AM

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PLAN SPIRIT RE-USE LINE 168+00 - 177+66.21
 PROFILE SPIRIT RE-USE LINE 168+00 - 177+66.21



- REMOVE TREES AS NEEDED TO INSTALL 12" WATER LINE
- REMOVE & REPLACE BIKE PATH AS NEEDED TO INSTALL 12" WATER LINE. REPLACE BIKE PATH IN-LIKE KIND.

NOTE:
 CONTRACTOR TO VERIFY LOCATION AND ELEVATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION.



CP#117
 5/8" REBAR W/ 2" ALUMINUM
 MKEC CP ID CAP
 N=1661968.875, E=1661646.017

BM#212
 CHISELED SQUARE AT THE S.E. END OF THE
 RETAINING WALL AROUND THE SIGNAL POLE
 S.W. CORNER OF MACARTHUR & K-15
 ELEV.=1319.670 (NAVD 88)



CITY OF WICHITA, KS
12" RE-USE WATER PIPELINE
 TO SERVE SPIRIT AEROSYSTEMS

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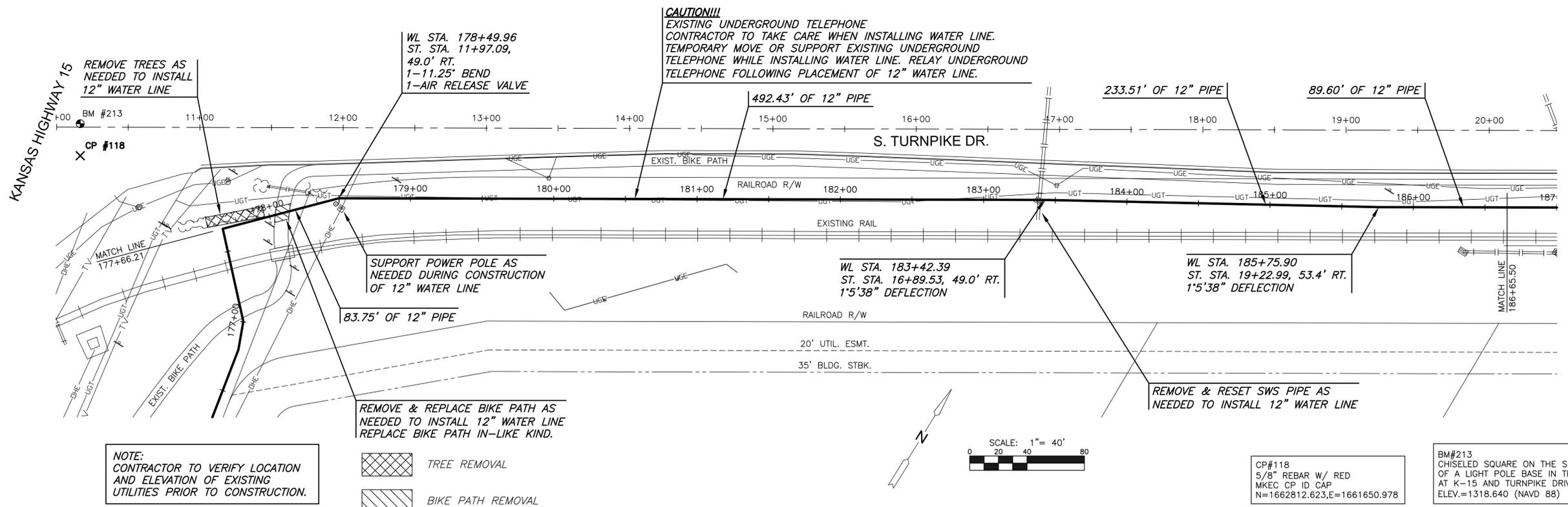
SPIRIT RE-USE LINE	
168+00-177+66.21	
PROJECT NO.	468-85095
DATE	APRIL 2016
SCALE	1" = 40'
DESIGNED	DRAWN
DFL	JWC
CHECKED	MAB

ISSUED FOR CONST.	06/01/16
NO.	REVISION
	DATE

SHEET NO.
 22 OF 36

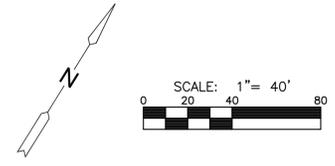
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NOTE:
CONTRACTOR TO VERIFY LOCATION
AND ELEVATION OF EXISTING
UTILITIES PRIOR TO CONSTRUCTION.

TREE REMOVAL
 BIKE PATH REMOVAL

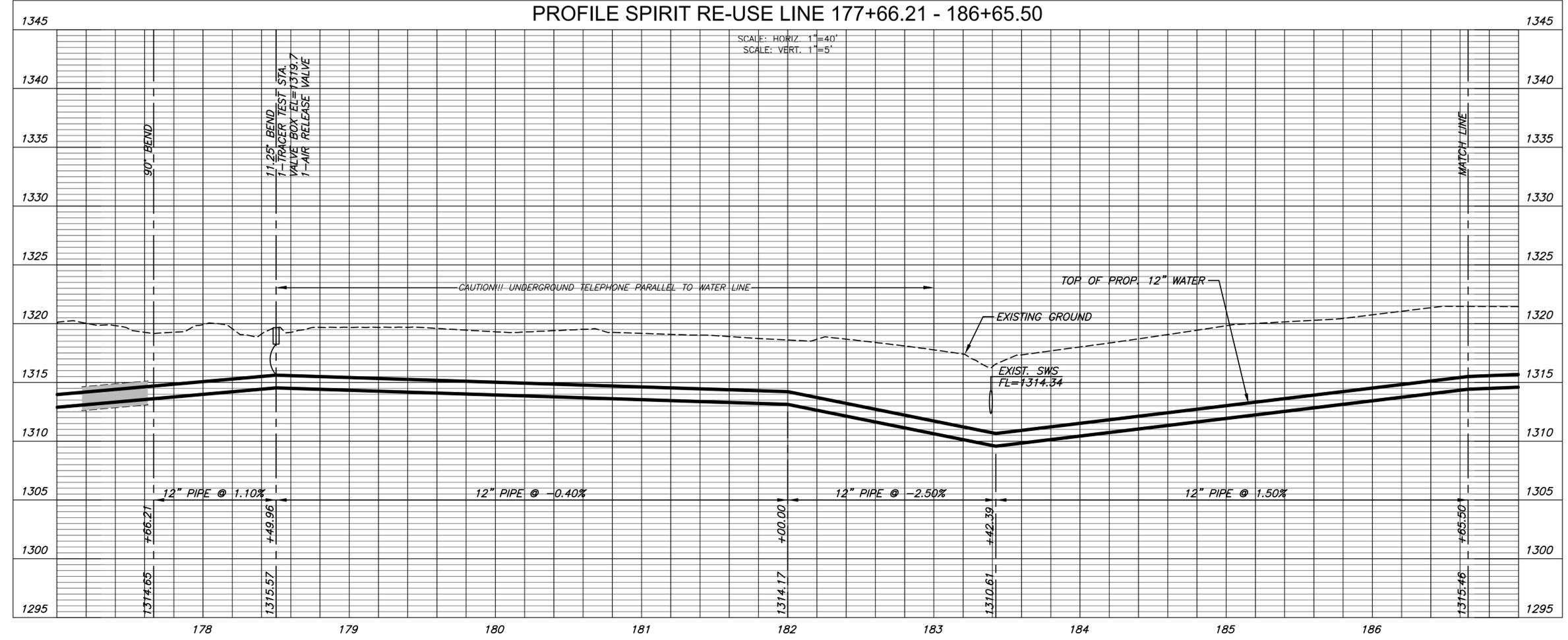


CP#118
5/8" REBAR W/ RED
MKEC CP ID CAP
N=1662812.623, E=1661650.978

BM#213
CHISELED SQUARE ON THE S.E. CORNER
OF A LIGHT POLE BASE IN THE ISLAND
AT K-15 AND TURNPIKE DRIVE.
ELEV.=1318.640 (NAVD 88)



PLAN SPIRIT RE-USE LINE 177+66.21 - 186+65.50
PROFILE SPIRIT RE-USE LINE 177+66.21 - 186+65.50



CITY OF WICHITA, KS
12" RE-USE WATER PIPELINE
TO SERVE SPIRIT AEROSYSTEMS

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SPIRIT RE-USE LINE 177+66.21-186+65.50	
PROJECT NO.	468-85095
DATE	APRIL 2016
SCALE	1" = 40'
DESIGNED	DRAWN
DFL	JWC
CHECKED	MAB

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NO.	REVISION	DATE

SHEET NO.
23 OF 36

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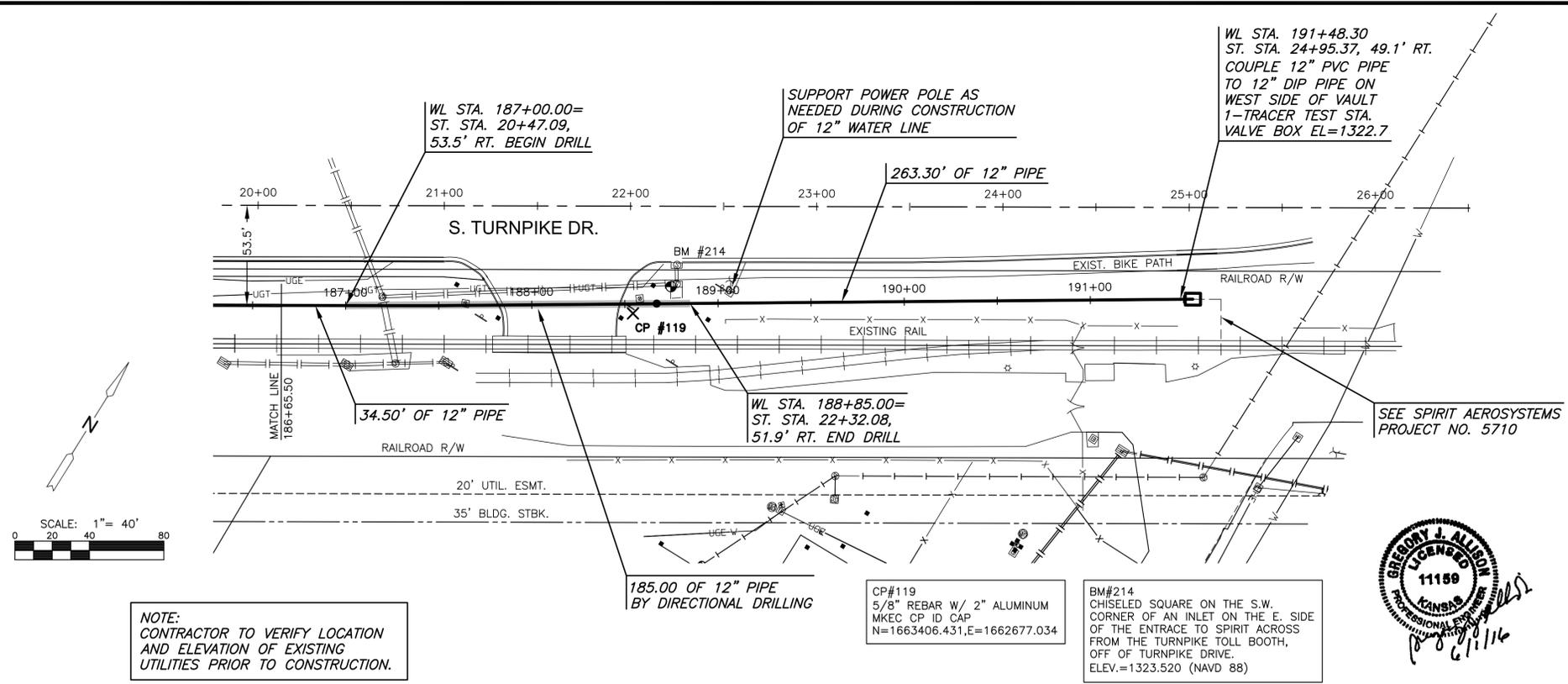
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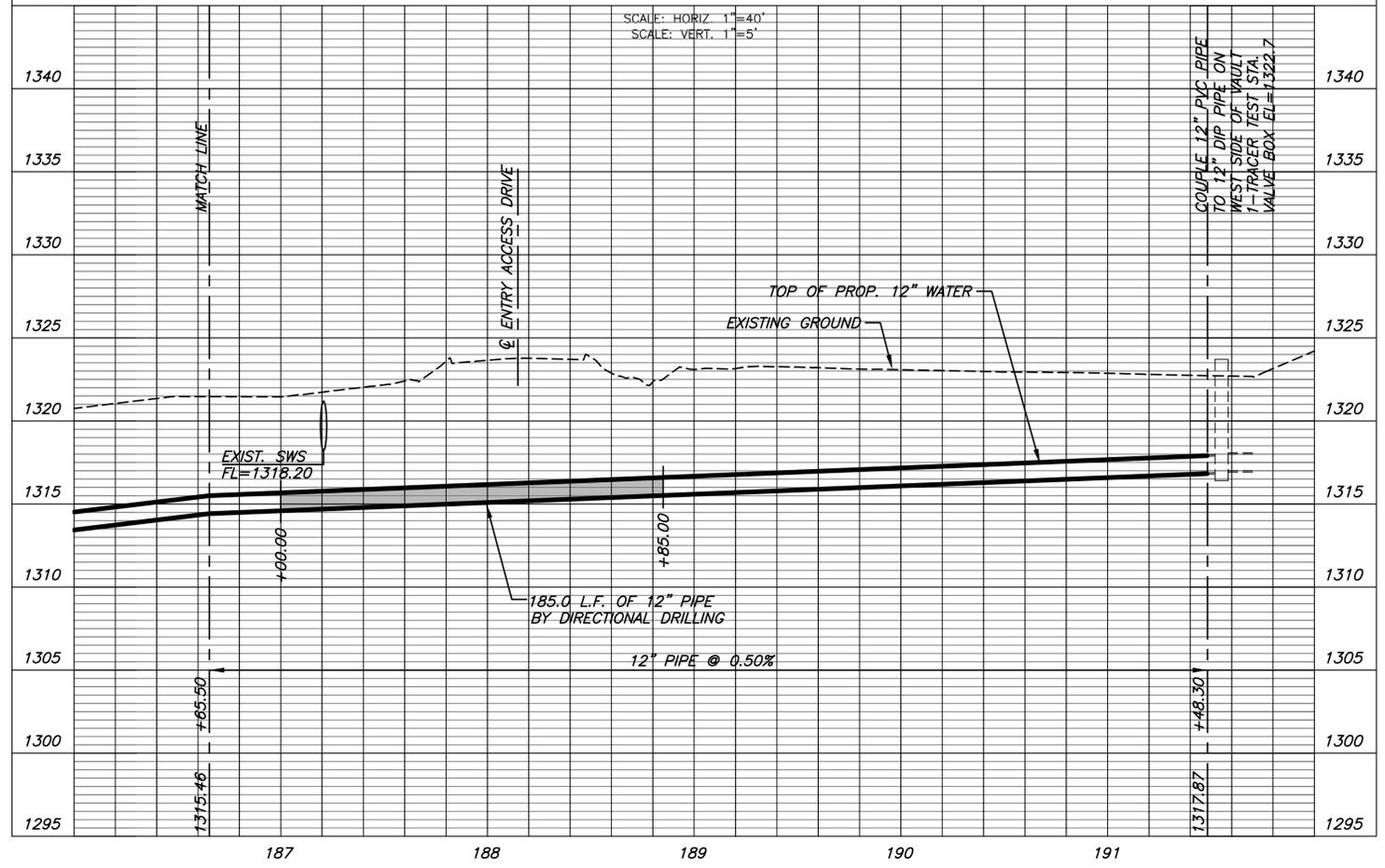
CITY OF WICHITA, KS
12" RE-USE WATER PIPELINE
 TO SERVE SPIRIT AEROSYSTEMS

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SPIRIT RE-USE LINE 186+65.50-191+48.30	
PROJECT NO.	468-85095
DATE	APRIL 2016
SCALE	1" = 40'
DESIGNED	DRAWN
DFL	JWC
CHECKED	MAB
NO.	REVISION
0	ISSUED FOR CONST.
	06/01/16
	DATE
SHEET NO.	
24 OF 36	

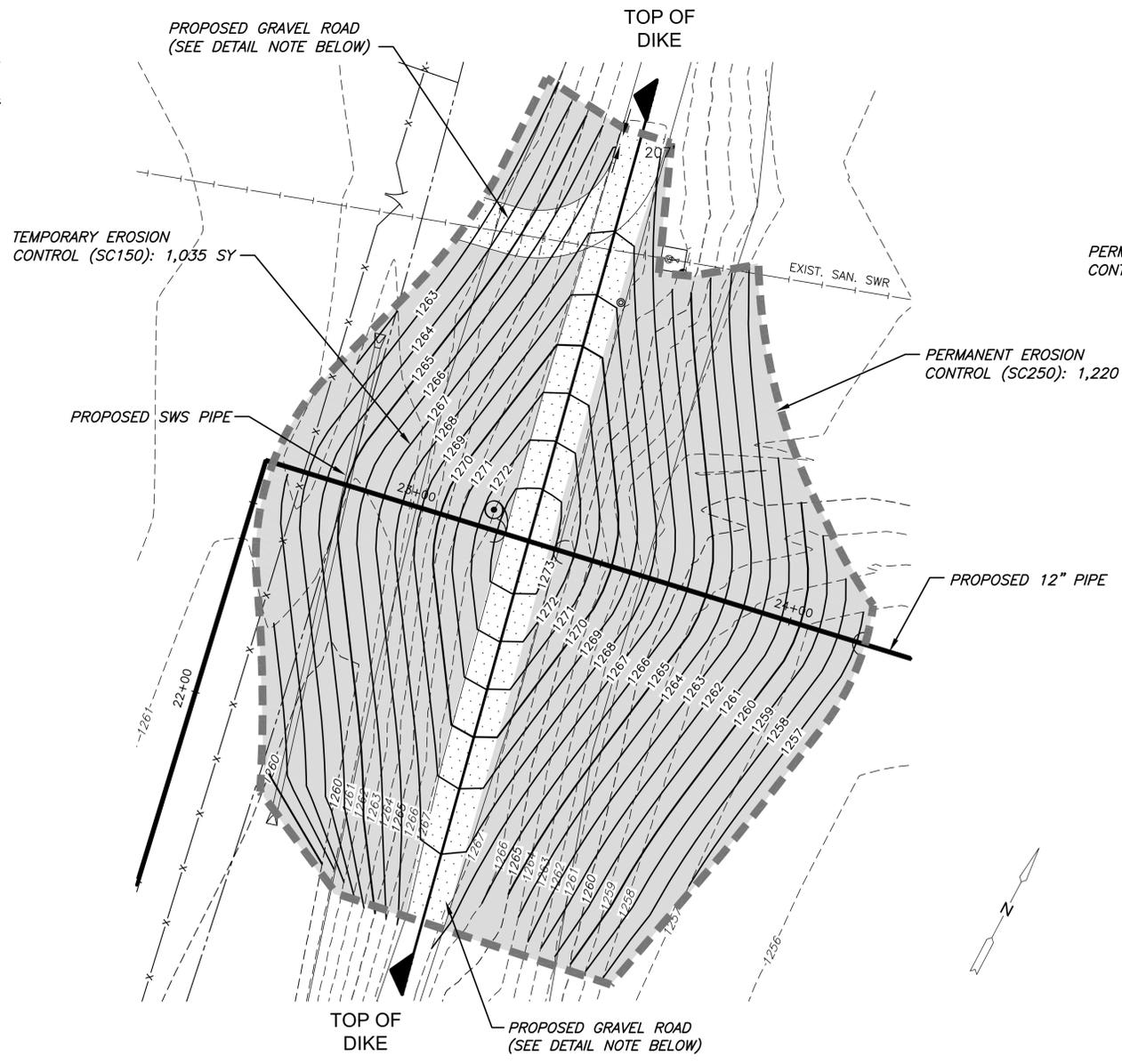


PLAN SPIRIT RE-USE LINE 186+65.50 - 191+48.30
 PROFILE SPIRIT RE-USE LINE 186+65.50 - 191+48.30

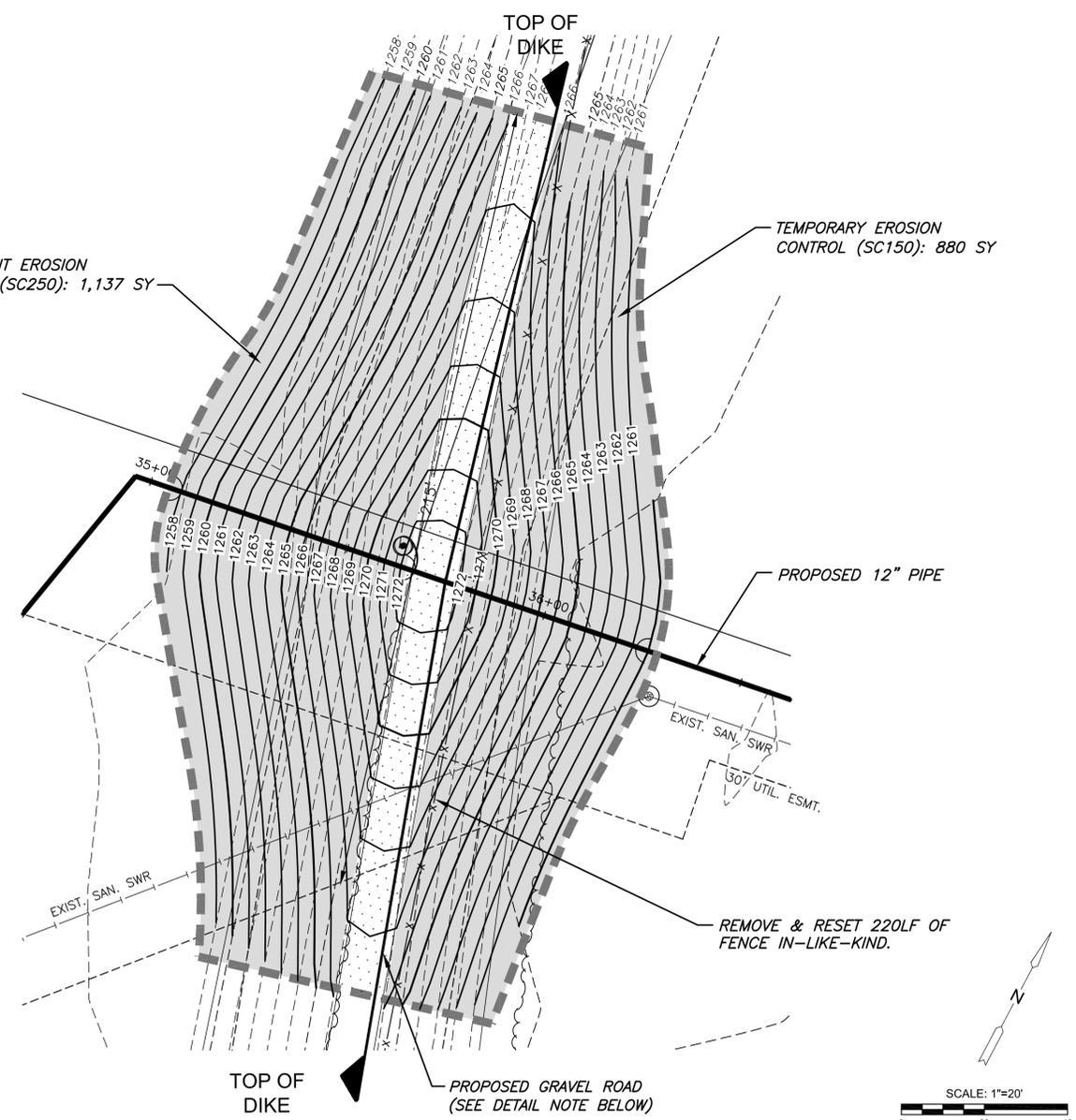


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 PLOTTED: Thursday, June 02, 2016 @ 12:00PM

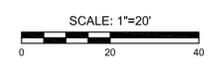
CITY OF WICHITA, KS
12" RE-USE WATER PIPELINE
 TO SERVE SPIRIT AEROSYSTEMS



DIKE GRADING: WEST CROSSING



DIKE GRADING: EAST CROSSING



EROSION CONTROL & SEEDING NOTES

1. EROSION CONTROL IS TO MEET ALL FEDERAL, STATE, COUNTY & LOCAL CODE STANDARDS.
2. CONTRACTOR SHALL PROVIDE AND PRESERVE EROSION PROTECTION THROUGHOUT PROJECT CONSTRUCTION. THE PLAN PROVIDED HERE IS FOR FINAL PROTECTION. VARIOUS PHASES OF THIS PLAN SHALL BE IMPLEMENTED OR MODIFIED TO CONTROL EROSION. MODIFICATIONS OF THE PLAN SHALL BE APPROVED BY THE OWNER'S REPRESENTATIVE.
3. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING AND IMPLEMENTING ALL EROSION CONTROL. COST IS SUBSIDIARY TO CHECK DAMS AND STABILIZED CONSTRUCTION ENTRANCE.
4. ALL SEEDED AREAS SHALL IMMEDIATELY RECEIVE EROSION CONTROL MATTING PER PLAN VIEW CALLOUTS.

SITE RESTORATION NOTE

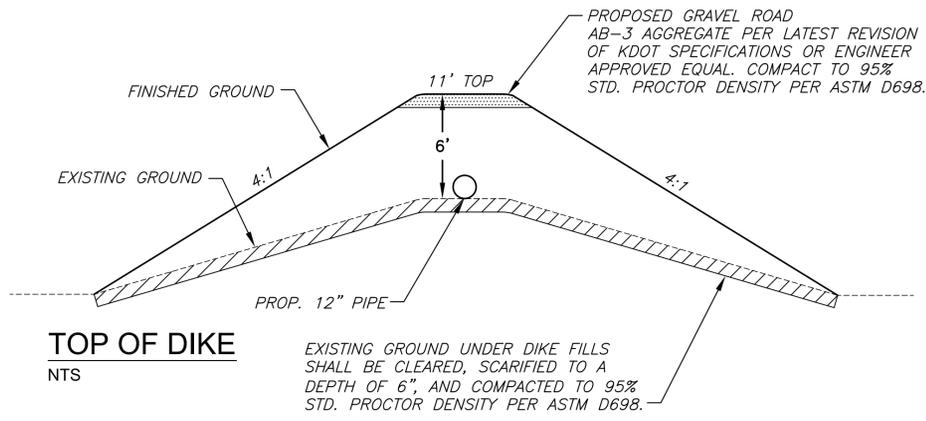
AREAS WITHIN THE GRADING LIMITS DELINEATED ON EACH LEVEE, BORE PIT, STOCKPILE AND OTHER DISTURBED AREAS WITHIN THE LEVEES, AND ALL OTHER AREAS, FROM LEVEE TO LEVEE, THAT HAVE BEEN DISTURBED BY CONSTRUCTION ACTIVITY SHALL BE SEEDED WITH A PRAIRIE GRASS MIXTURE. SEE NOTES ON SHEET 2.

GENERAL GRADING NOTES:

1. ALL GRADES SHALL BE CONTOURED SMOOTHLY WITH GENTLE ROUNDING/SHAPING OF ALL AFFECTED LAND SURFACES. ABRUPT TRANSITIONS AT THE TOP OF SLOPES WHERE PROPOSED GRADES MEET EXISTING ARE NOT ACCEPTABLE.
2. UNLESS SHOWN OR STATED OTHERWISE ON THESE DRAWINGS, MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH CITY OF WICHITA STANDARD SPECIFICATIONS.
3. ALL COMPACTION OF EARTHWORK SHALL BE 95% STANDARD DENSITY.
4. BORROW SHALL BE CONTRACTOR FURNISHED.
5. 25% HAS BEEN ADDED TO EXCAVATION QUANTITIES TO ALLOW FOR COMPACTION AND HANDLING
6. LOOSE THICKNESS OF EACH LAYER OF FILL TO BE PLACED SHALL NOT EXCEED EIGHT INCHES (8").

EARTHWORK TABULATIONS:

EXCAVATION (BORROW -CONTRACTOR FURNISH)	5,400 CY
COMPACTED FILL(95% DENSITY) - WEST	2,365 CY
COMPACTED FILL(95% DENSITY) - EAST	1,955 CY



TOP OF DIKE
NTS

EXISTING GROUND UNDER DIKE FILLS SHALL BE CLEARED, SCARIFIED TO A DEPTH OF 6", AND COMPACTED TO 95% STD. PROCTOR DENSITY PER ASTM D698.

LEGEND

- 1359 --- EXISTING CONTOURS
- 1360 — PROPOSED CONTOURS
- LIMITS OF GRADING
- PERMANENT EROSION CONTROL NORTH AMERICAN GREEN: SC250 (INSIDE OF DIKE)
- TEMPORARY EROSION CONTROL NORTH AMERICAN GREEN SC150 (OUTSIDE OF DIKE)
- GRAVEL DRIVE

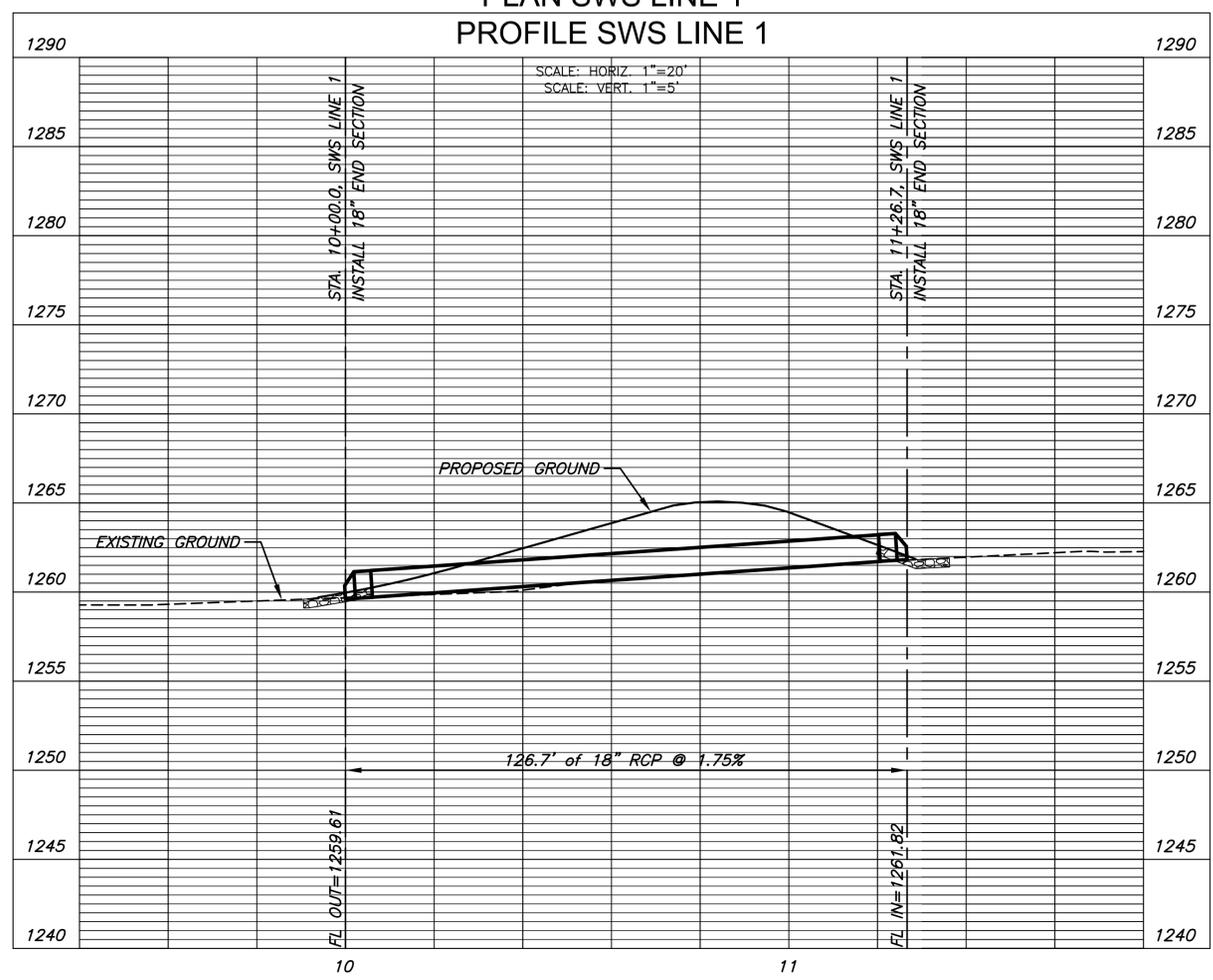
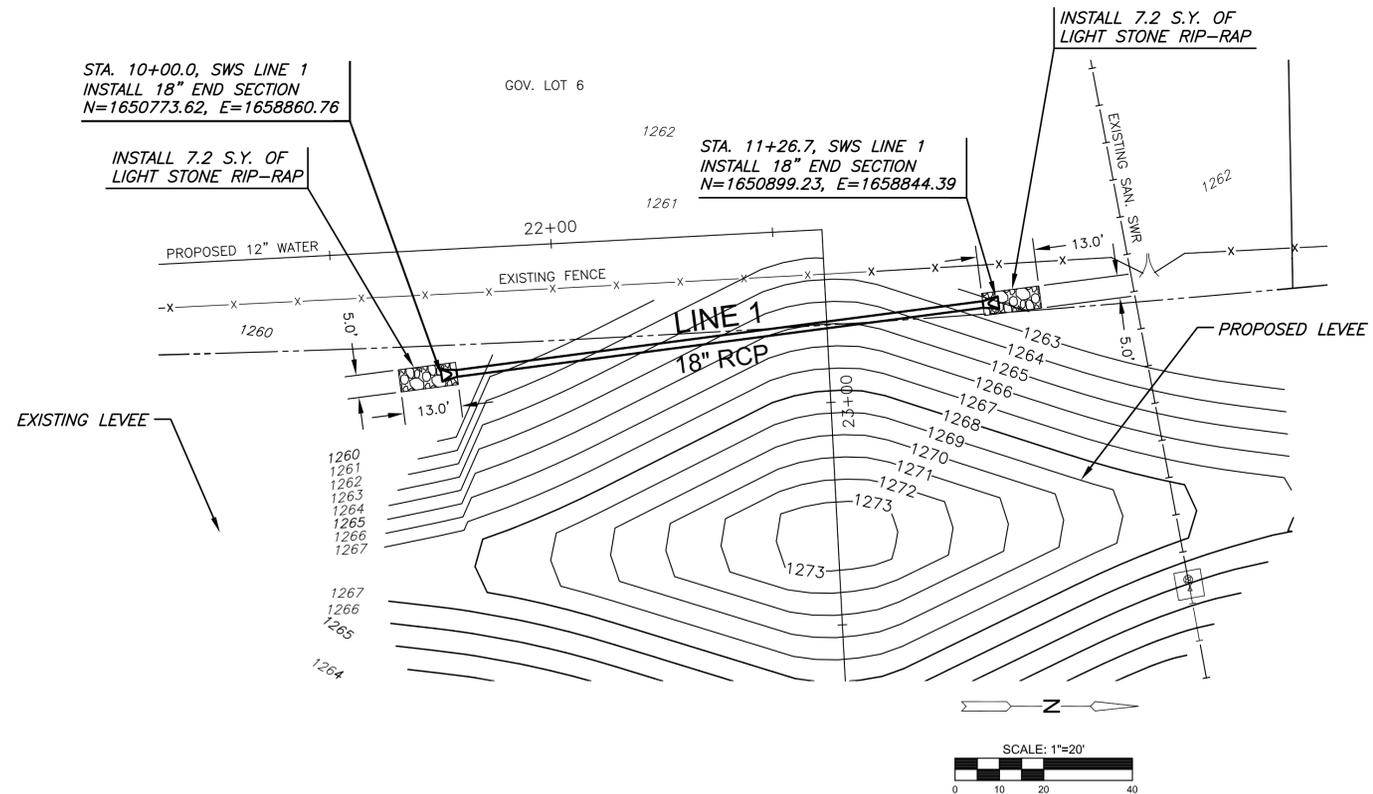
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GRADING PLAN

PROJECT NO.	468-85095	
DATE	APRIL 2016	
SCALE	1" = 20'	
DESIGNED	DRAWN	CHECKED
DFL	JWC	MAB
0	ISSUED FOR CONST.	06/01/16
NO.	REVISION	DATE

PLOTTED: Thursday, June 02, 2016 @ 12:35PM

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CITY OF WICHITA, KS

12" RE-USE WATER PIPELINE

TO SERVE SPIRIT AEROSYSTEMS

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SWS LINE 1

PROJECT NO.	468-85095	
DATE	APRIL 2016	
SCALE	1" = 20'	
DESIGNED	DRAWN	CHECKED
DFL	JWC	MAB



ISSUED FOR CONST.	06/01/16	
NO.	REVISION	DATE

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 PLOTTED: Thursday, June 02, 2016 @ 01:35PM

WATER POINTS			
Point #	Northing	Easting	Desc.
1000	1649699.13	1658791.05	TIE IN
1001	1649699.75	1658825.55	90° BEND
1002	1649719.65	1658825.20	DEFLECTION
1003	1650531.73	1658845.12	DEFLECTION
1004	1650859.42	1658828.03	90° BEND
1005	1650862.72	1658891.32	11.25° VERTICAL BEND & AIR RELEASE
1006	1650863.39	1658904.30	11.25° VERTICAL BEND
1007	1650867.52	1658983.45	11.25° VERTICAL BEND
1008	1650874.02	1659108.14	11.25° VERTICAL BEND
1009	1650901.06	1659626.59	11.25° VERTICAL BEND
1010	1650903.48	1659673.02	45° BEND & 22.5° BEND
1011	1651269.94	1659802.89	45° BEND & 22.5° BEND
1012	1651270.19	1659814.57	11.25° VERTICAL BEND
1013	1651271.48	1659873.82	11.25° VERTICAL BEND & AIR RELEASE
1014	1651271.70	1659884.32	11.25° VERTICAL BEND
1015	1651272.69	1659930.23	11.25° VERTICAL BEND
1016	1651273.30	1659957.58	GATE VALVE

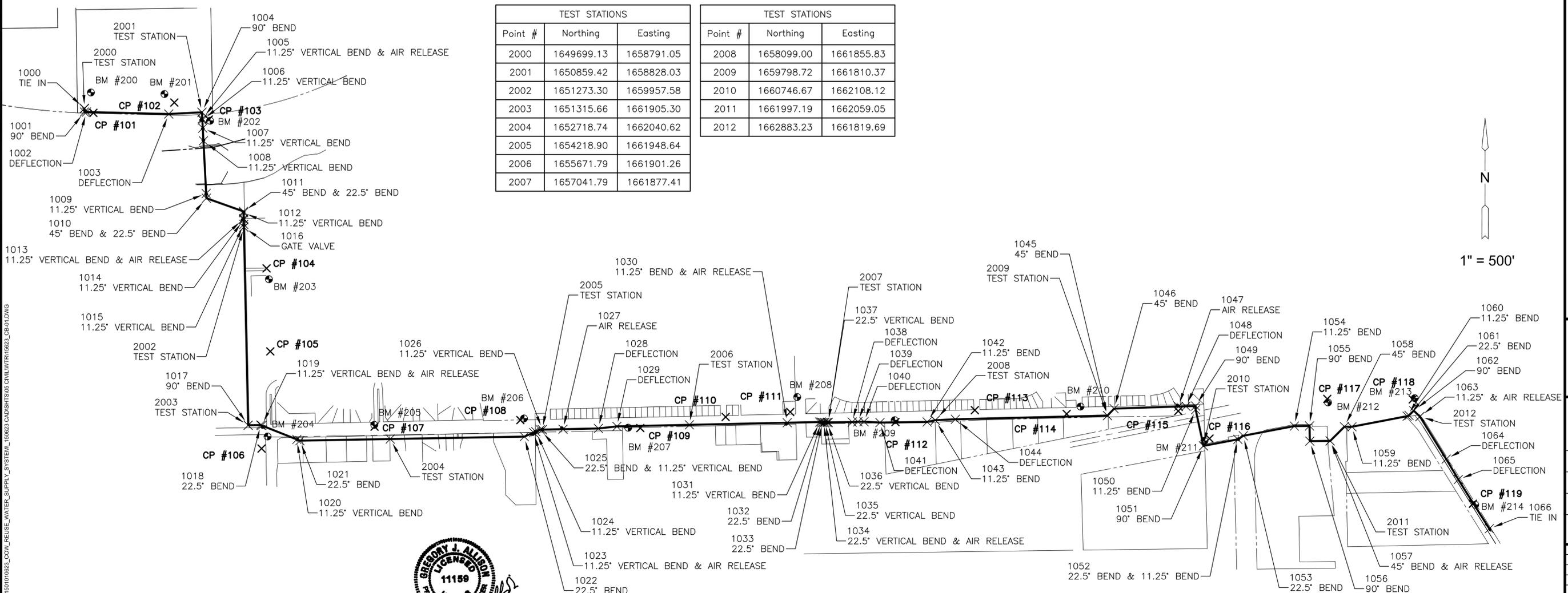
WATER POINTS			
Point #	Northing	Easting	Desc.
1017	1651315.66	1661905.30	90° BEND
1018	1651439.28	1661903.36	22.5° BEND
1019	1651450.86	1661907.94	11.25° VERTICAL BEND & AIR RELEASE
1020	1651796.17	1662044.53	11.25° VERTICAL BEND
1021	1651826.65	1662056.59	22.5° BEND
1022	1654041.67	1662016.94	22.5° BEND
1023	1654133.77	1661977.29	11.25° VERTICAL BEND & AIR RELEASE
1024	1654155.27	1661968.03	11.25° VERTICAL BEND
1025	1654199.35	1661949.06	22.5° BEND & 11.25° VERTICAL BEND
1026	1654218.90	1661948.64	11.25° VERTICAL BEND
1027	1654423.77	1661944.21	AIR RELEASE
1028	1654773.44	1661936.66	DEFLECTION
1029	1654955.93	1661916.72	DEFLECTION
1030	1656637.43	1661880.40	11.25° BEND & AIR RELEASE
1031	1656958.15	1661874.02	11.25° VERTICAL BEND
1032	1656973.02	1661873.82	22.5° BEND
1033	1656983.94	1661878.18	22.5° BEND

WATER POINTS			
Point #	Northing	Easting	Desc.
1034	1656999.17	1661877.97	22.5° VERTICAL BEND & AIR RELEASE
1035	1657010.15	1661877.83	22.5° VERTICAL BEND
1036	1657030.16	1661877.56	22.5° VERTICAL BEND
1037	1657041.79	1661877.41	22.5° VERTICAL BEND
1038	1657278.18	1661874.27	DEFLECTION
1039	1657335.40	1661871.01	DEFLECTION
1040	1657395.39	1661870.21	DEFLECTION
1041	1657552.83	1661879.12	DEFLECTION
1042	1658018.56	1661872.94	11.25° BEND
1043	1658099.00	1661855.83	11.25° BEND
1044	1658297.52	1661846.50	DEFLECTION
1045	1659798.72	1661810.37	45° BEND
1046	1659864.11	1661741.76	45° BEND
1047	1660499.71	1661721.06	AIR RELEASE
1048	1660573.78	1661718.65	DEFLECTION
1049	1660668.44	1661716.37	90° BEND
1050	1660669.30	1661752.14	11.25° BEND

WATER POINTS			
Point #	Northing	Easting	Desc.
1051	1660746.67	1662108.12	90° BEND
1052	1661085.94	1662044.04	22.5° BEND & 11.25° BEND
1053	1661140.03	1662008.66	22.5° BEND
1054	1661644.08	1661913.46	11.25° BEND
1055	1661793.40	1661911.59	90° BEND
1056	1661796.61	1662061.56	90° BEND
1057	1661997.19	1662059.05	45° BEND & AIR RELEASE
1058	1662138.11	1661919.52	45° BEND
1059	1662212.56	1661920.06	11.25° BEND
1060	1662756.88	1661815.96	11.25° BEND
1061	1662775.41	1661808.44	22.5° BEND
1062	1662822.35	1661762.19	90° BEND
1063	1662883.23	1661819.69	11.25° & AIR RELEASE
1064	1663143.22	1662237.91	DEFLECTION
1065	1663262.70	1662438.53	DEFLECTION
1066	1663568.61	1662922.32	TIE IN

TEST STATIONS		
Point #	Northing	Easting
2000	1649699.13	1658791.05
2001	1650859.42	1658828.03
2002	1651273.30	1659957.58
2003	1651315.66	1661905.30
2004	1652718.74	1662040.62
2005	1654218.90	1661948.64
2006	1655671.79	1661901.26
2007	1657041.79	1661877.41

TEST STATIONS		
Point #	Northing	Easting
2008	1658099.00	1661855.83
2009	1659798.72	1661810.37
2010	1660746.67	1662108.12
2011	1661997.19	1662059.05
2012	1662883.23	1661819.69



EVERY ATTEMPT HAS BEEN MADE TO INSURE ALL COORDINATE VALUES SHOWN ARE AN ACCURATE AND TRUE REPRESENTATION OF THE CURRENT PLANS. ALL VALUES ARE TO BE CONFIRMED WITH THE FINAL SIGNED PLAN SET BEFORE USE.



CITY OF WICHITA, KS
12" RE-USE WATER PIPELINE
 TO SERVE SPIRIT AEROSYSTEMS

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BUBBLE MAP

PROJECT NO.	468-85095	
DATE	APRIL 2016	
SCALE	1" = 500'	
DESIGNED	DRAWN	CHECKED
DFL	JWC	MAB
NO.	ISSUED FOR CONST.	06/01/16
NO.	REVISION	DATE

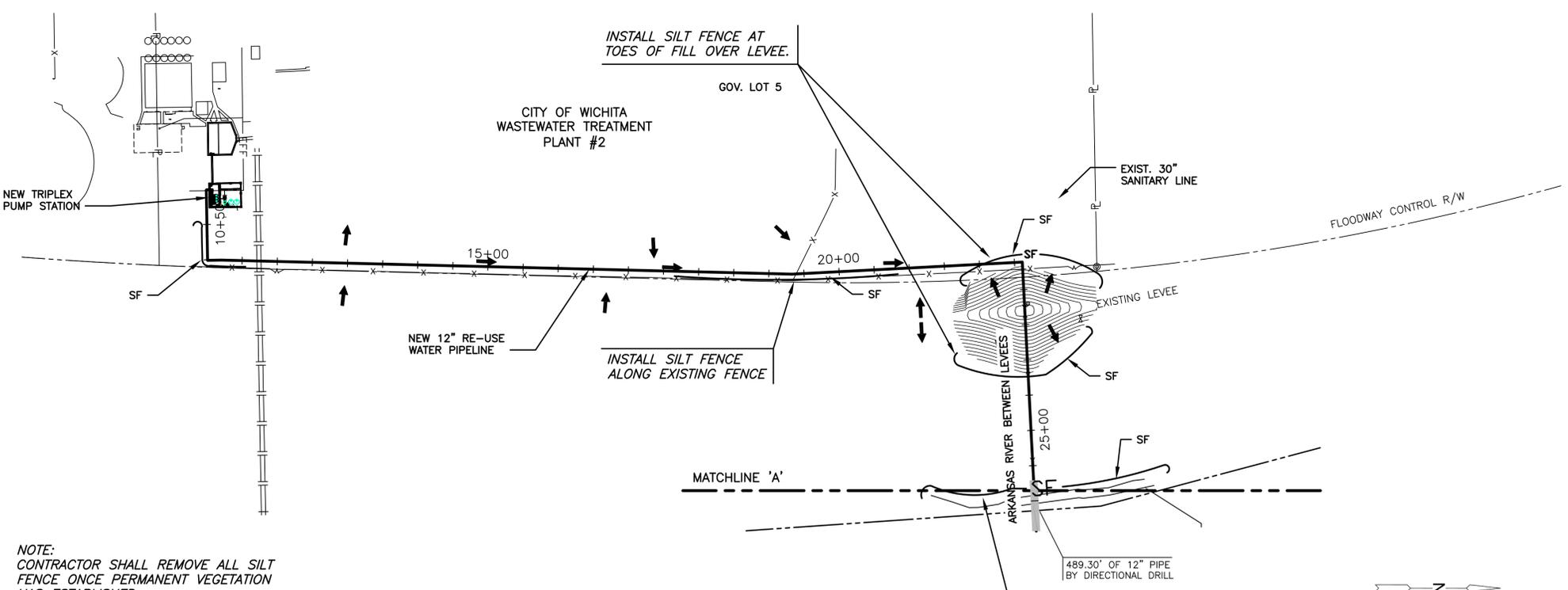
J:\PROJECTS\2016\1501010623_COW_REUSE_WATER_SUPPLY_SYSTEM\SYSTEM_150623_CAD\SYSTEMS\CIVIL\WTRC\5.0\EROSION CONTROL PLAN.DWG
 PLOTED: Thursday, June 02, 2016 @ 12:09PM

EROSION CONTROL/SEEDING NOTES

1. EROSION CONTROL IS TO MEET ALL FEDERAL, STATE, COUNTY AND LOCAL CODE STANDARDS.
2. IN THE EVENT THAT A PORTION OF THE SITE WILL REMAIN DISTURBED FOR MORE THAN 30 DAYS, SEE NOTES ON SHEET 14.
3. ALL AREAS SHALL BE FINE GRADED AND SURFACE SHALL BE FREE FROM STICKS, SMALL STONES, AND OTHER EXTRANEIOUS MATERIALS.
4. CONTRACTOR SHALL PROVIDE EROSION PROTECTION THROUGHOUT PROJECT CONSTRUCTION. THE PLAN PROVIDED HERE IS FOR FINAL PROTECTION, VARIOUS PHASES OF THIS PLAN SHALL BE IMPLEMENTED OR MODIFIED TO CONTROL EROSION. MODIFICATIONS OF THE PLAN SHALL BE APPROVED BY THE OWNER'S REPRESENTATIVE.
5. SEEDING/SODDING AREAS SHALL BE PREPARED FOR PLANTING WITH COMMON AGRICULTURAL TECHNIQUES.
6. ALL SEED SHALL BE DISTRIBUTED WITH AN ACCEPTABLE DRILL INTENDED FOR SUCH OPERATIONS, OR OTHER EQUIPMENT APPROVED BY THE OWNER'S REPRESENTATIVE.
7. ALL SEEDER AREAS SHALL BE IMMEDIATELY MULCHED WITH PRAIRIE HAY AT 2 TONS/ACRE. ANCHOR MULCH BY CRIMPING INTO TOPSOIL WITH SUITABLE MECHANICAL EQUIPMENT.
8. ALL SOD SHALL BE COMPOSED OF TALL FESCUE GRASS.
9. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING AND IMPLEMENTING ALL EROSION CONTROL.
10. IN ORDER TO PREVENT SILT OR SEDIMENT FROM ENTERING ADJACENT PROPERTIES, APPROPRIATE BMP'S SHALL BE IMPLEMENTED WITHIN THE PROJECT.
11. ANY MUD TRACKED ONTO ADJACENT PAVED AREAS OR STREETS SHALL BE REMOVED AT THE END OF EACH WORK DAY.
12. PER THE REQUIREMENTS OF THE NOI/SWPPP, BMP INSPECTION REPORTS SHALL BE COMPLETED BY THE CONTRACTOR WEEKLY AND WITHIN 24 HOURS AFTER A 1/2" RAIN. REPORTS SHALL BE KEPT WITH THE SWPPP ON SITE.
13. CONTRACTOR SHALL PROVIDE A SIGN WITH THE FOLLOWING INFORMATION:
 A. CONTACT NAME AND INFORMATION
 B. A COPY OF THE NOI
 C. LOCATION OF SWPPP

CONSTRUCTION SEQUENCING

1. INSTALL SILT FENCE AND OTHER BMP'S AROUND PERIMETER.
2. INSTALL PIPELINE.
3. WATER DISTURBED AREAS FREQUENTLY TO MINIMIZE DUST.
4. INSTALL BMP'S AT THE LOCATIONS OF ALL GRATE INLETS, CURB INLETS, AND AT THE ENDS OF ALL EXPOSED STORM SEWER PIPES.
5. CARRY OUT FINAL GRADING.
6. REMOVE BMP'S ONLY AFTER ALL EXPOSED SURFACES ARE STABILIZED. EXPOSED SURFACES ARE STABILIZED WHEN 75% VEGETATIVE COVER HAS BEEN ESTABLISHED.

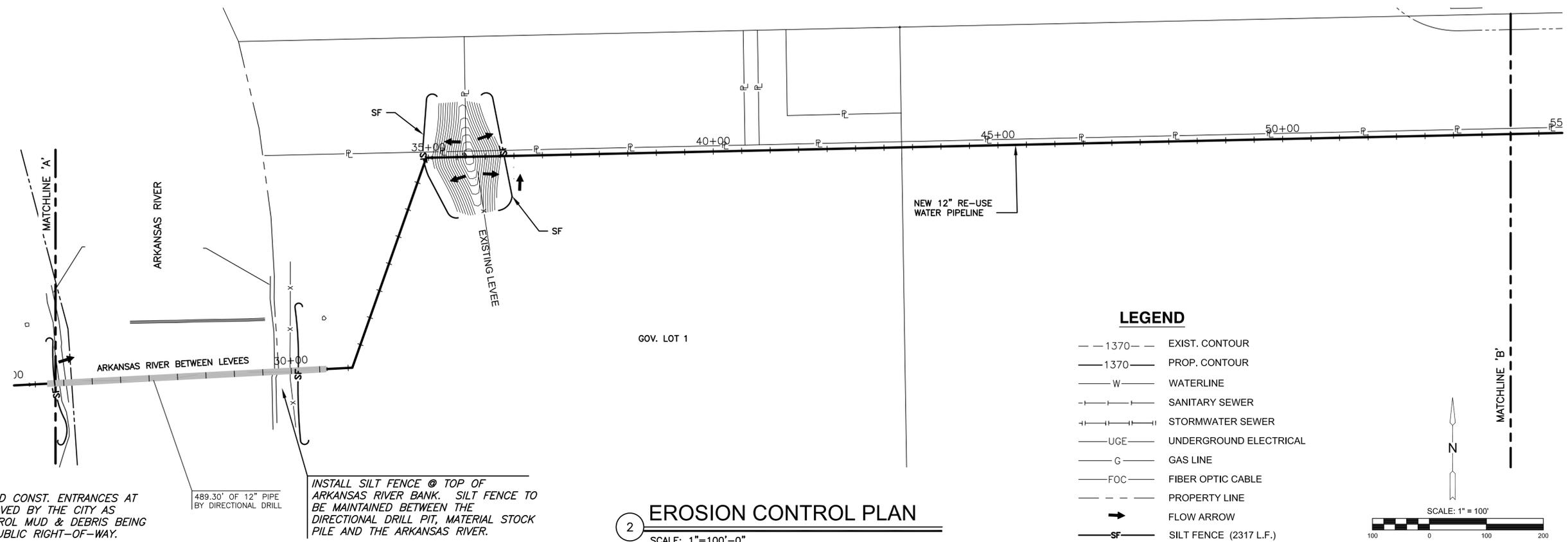
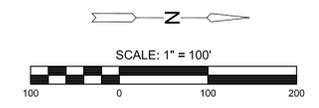


NOTE:
 CONTRACTOR SHALL REMOVE ALL SILT FENCE ONCE PERMANENT VEGETATION HAS ESTABLISHED

SITE RETORATION SCHEDULE	
STATION-TO-STATION LOCATION	SEEDING/SODDING TYPE
10+66 TO 22+61	SEEDING (0.55 ACRE)
22+61 TO 36+50	SEEDING LEVEE (0.40 ACRE)
36+50 TO 54+00	SEEDING (0.80 ACRE)

1 EROSION CONTROL PLAN
 SCALE: 1"=100'-0"

INSTALL SILT FENCE @ TOP OF ARKANSAS RIVER BANK. SILT FENCE TO BE MAINTAINED BETWEEN THE DIRECTIONAL DRILL PIT, MATERIAL STOCK PILE AND THE ARKANSAS RIVER.



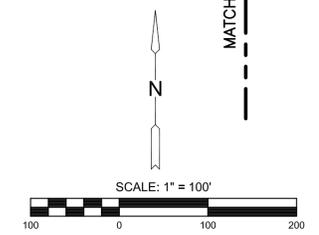
NOTE:
 INSTALL STABILIZED CONST. ENTRANCES AT LOCATIONS APPROVED BY THE CITY AS NEEDED TO CONTROL MUD & DEBRIS BEING TRACKED ONTO PUBLIC RIGHT-OF-WAY.

NOTE:
 INSTALL SILT FENCE @ TOP OF ARKANSAS RIVER BANK. SILT FENCE TO BE MAINTAINED BETWEEN THE DIRECTIONAL DRILL PIT, MATERIAL STOCK PILE AND THE ARKANSAS RIVER.

2 EROSION CONTROL PLAN
 SCALE: 1"=100'-0"

LEGEND

- 1370 --- EXIST. CONTOUR
- 1370 — PROP. CONTOUR
- W — WATERLINE
- |-|-|-| SANITARY SEWER
- |-|-|-| STORMWATER SEWER
- UGE — UNDERGROUND ELECTRICAL
- G — GAS LINE
- FOC — FIBER OPTIC CABLE
- - - - - PROPERTY LINE
- ➔ FLOW ARROW
- SF — SILT FENCE (2317 L.F.)
- BC — BACK OF CURB PROTECTION



CITY OF WICHITA, KS
12" RE-USE WATER PIPELINE
 TO SERVE SPIRIT AEROSYSTEMS

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EROSION CONTROL PLAN

PROJECT NO.	468-85095	
DATE	APRIL 2016	
SCALE	1"=100'	
DESIGNED	DRAWN	CHECKED
KLA	BKS	MAB
0	ISSUED FOR CONST.	06/01/16
NO.	REVISION	DATE

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EROSION CONTROL PLAN

PROJECT NO. 468-85095

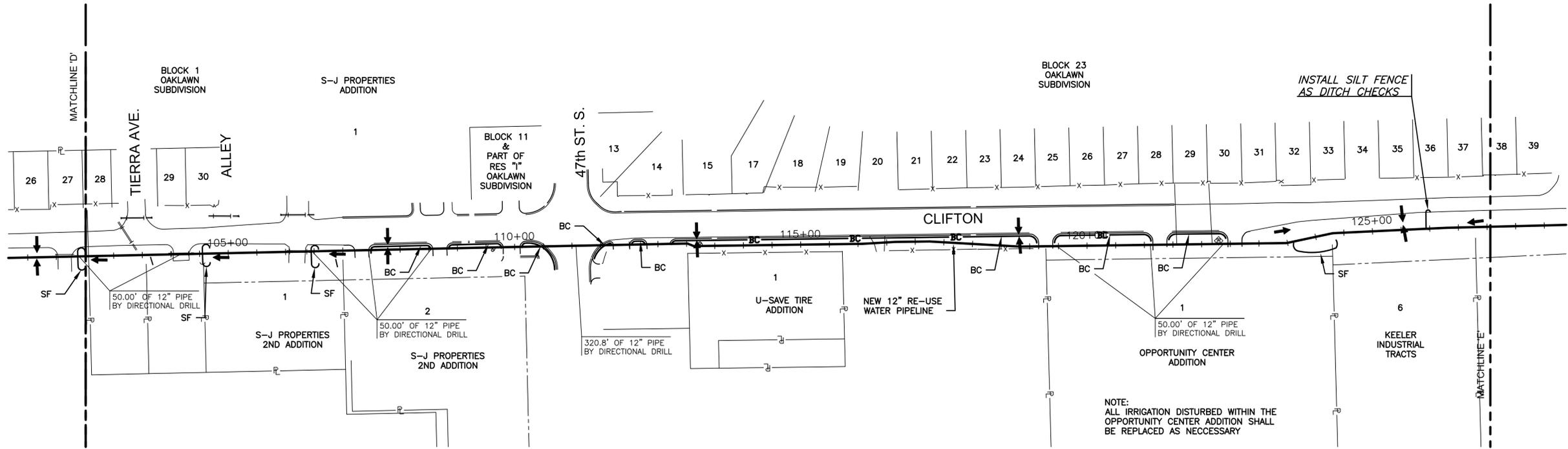
DATE APRIL 2016

SCALE 1"=100'

DESIGNED DRAWN CHECKED
KLA BKS MAB

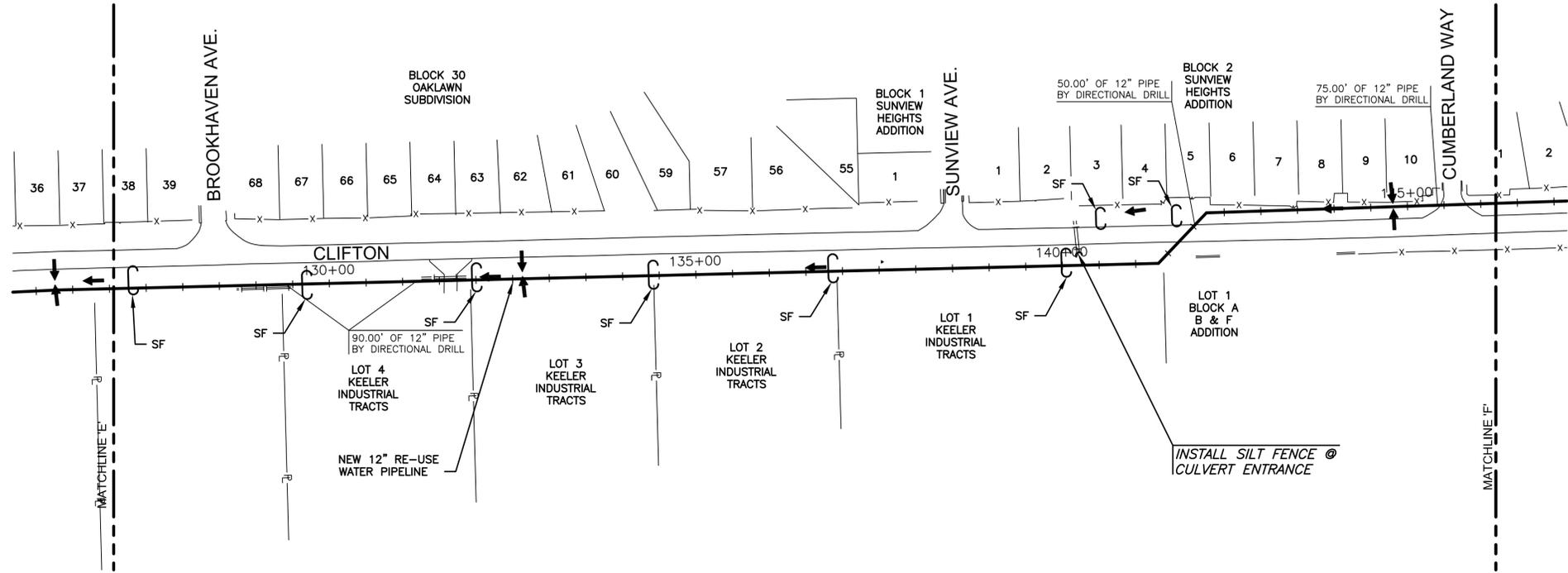
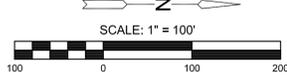
0	ISSUED FOR CONST.	06/01/16
NO.	REVISION	DATE

SHEET NO.



SITE RETORATION SCHEDULE	
STATION-TO-STATION LOCATION	SEEDING/SODDING TYPE
102+50 TO 119+00	SEEDING (0.50 ACRE)
119+00 TO 124+31	SODDING (2360 SQ. YD.)
124+31 TO 146+00	SEEDING (0.85 ACRE)

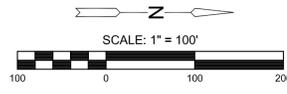
5 EROSION CONTROL PLAN
SCALE: 1"=100'-0"



NOTE: CONTRACTOR SHALL REMOVE ALL SILT FENCE ONCE PERMANENT VEGETATION HAS ESTABLISHED

NOTE: INSTALL STABILIZED CONST. ENTRANCES AT LOCATIONS APPROVED BY THE CITY AS NEEDED TO CONTROL MUD & DEBRIS BEING TRACKED ONTO PUBLIC RIGHT-OF-WAY.

6 EROSION CONTROL PLAN
SCALE: 1"=100'-0"



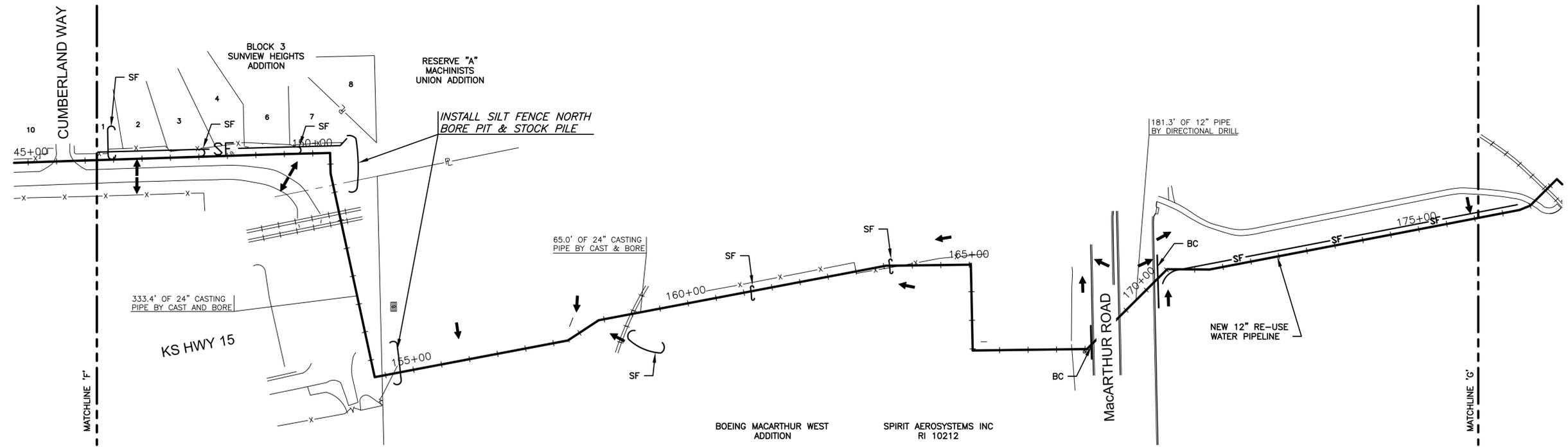
LEGEND

--- 1370 ---	EXIST. CONTOUR
— 1370 —	PROP. CONTOUR
— W —	WATERLINE
- - - - -	SANITARY SEWER
- - - - -	STORMWATER SEWER
— UGE —	UNDERGROUND ELECTRICAL
— G —	GAS LINE
— FOC —	FIBER OPTIC CABLE
- - - - -	PROPERTY LINE
→	FLOW ARROW
— SF —	SILT FENCE (873 L.F.)
— BC —	BACK OF CURB PROTECTION (1313 L.F.)

J:\PROJECTS\2016\1501010623_COW_REUSE_WATER_SUPPLY_SYSTEM\SYSTEM_150623_CAD\SYSTEM_150623_CIVIL\MTRC\6.2 EROSION CONTROL PLAN.DWG
 PLOTTED: Thursday, June 02, 2016 @ 12:15PM

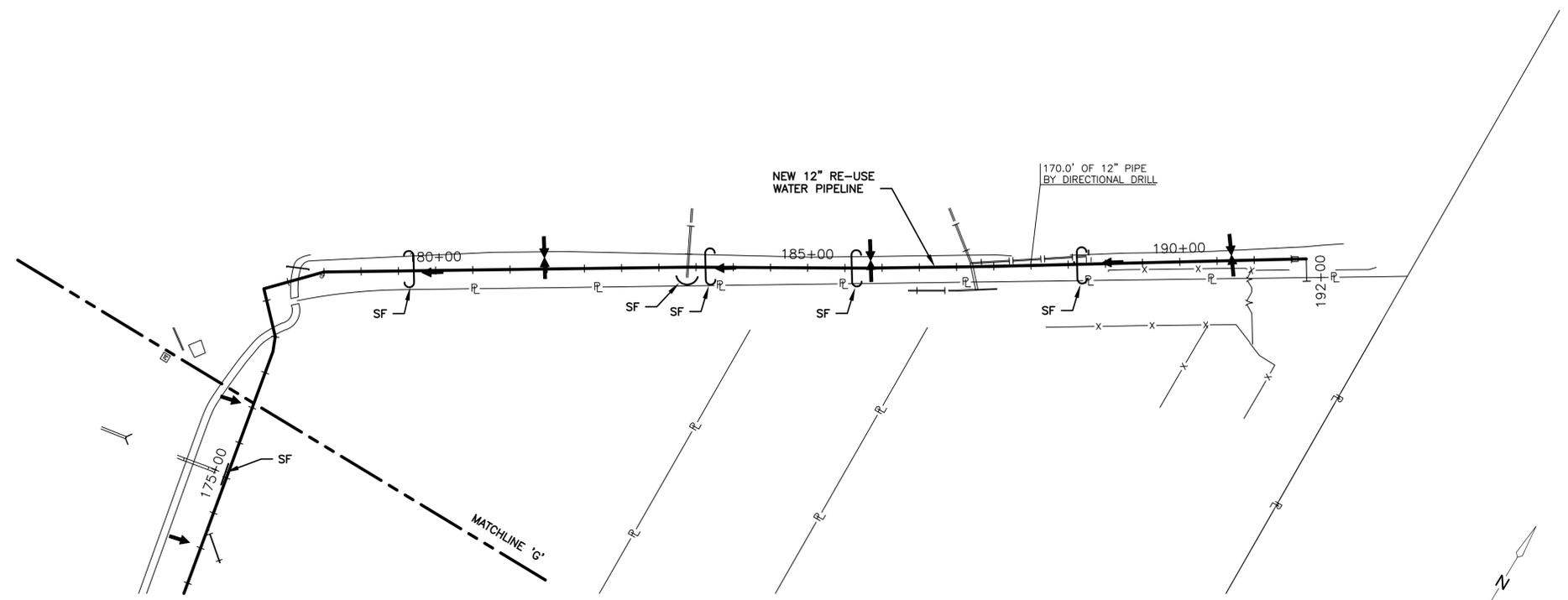
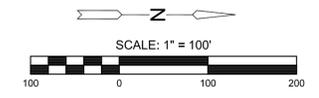
J:\PROJECTS\2016\1501010623_COW_REUSE_WATER_SUPPLY_SYSTEM\SYSTEM_150623_CAD\SYSTEMS\CIVIL\WTRC\3.3 EROSION CONTROL PLAN.DWG
 PLOTTED: Thursday, June 02, 2016 @ 12:19PM

CITY OF WICHITA, KS
12" RE-USE WATER PIPELINE
 TO SERVE SPIRIT AEROSYSTEMS



SITE RETORATION SCHEDULE	
STATION-TO-STATION LOCATION	SEEDING/SODDING TYPE
146+00 TO END OF PROJECT	SEEDING (1.75 ACRE)

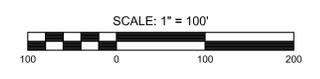
7
EROSION CONTROL PLAN
 SCALE: 1"=100'-0"



NOTE:
 CONTRACTOR SHALL REMOVE ALL SILT FENCE ONCE PERMANENT VEGETATION HAS ESTABLISHED

NOTE:
 INSTALL STABILIZED CONST. ENTRANCES AT LOCATIONS APPROVED BY THE CITY AS NEEDED TO CONTROL MUD & DEBRIS BEING TRACKED ONTO PUBLIC RIGHT-OF-WAY.

8
EROSION CONTROL PLAN
 SCALE: 1"=100'-0"



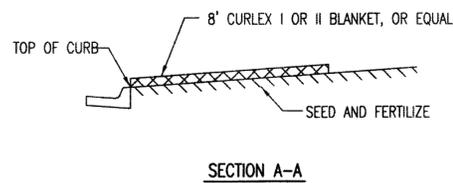
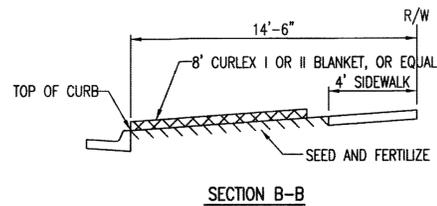
LEGEND

---	1370	EXIST. CONTOUR
---	1370	PROP. CONTOUR
---	W	WATERLINE
- - - - -		SANITARY SEWER
- - - - -		STORMWATER SEWER
---	UGE	UNDERGROUND ELECTRICAL
---	G	GAS LINE
---	FOC	FIBER OPTIC CABLE
---		PROPERTY LINE
→		FLOW ARROW
-SF-		SILT FENCE (1988 L.F.)
-BC-		BACK OF CURB PROTECTION (150 L.F.)

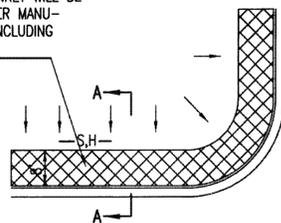
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EROSION CONTROL PLAN

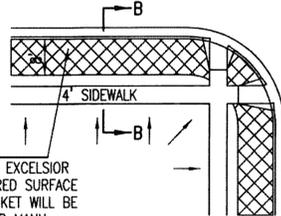
PROJECT NO.	468-85095	
DATE	APRIL 2016	
SCALE	1"=100'	
DESIGNED	DRAWN	CHECKED
KLA	BKS	MAB
0	ISSUED FOR CONST.	06/01/16
NO.	REVISION	DATE



INSTALL 8' WIDE CURLEX I OR II EXCELSIOR BLANKET, OR EQUAL, ON PREPARED SURFACE BACK OF CURB. EDGE OF BLANKET WILL BE AT BACK OF CURB. INSTALL PER MANUFACTURER'S RECOMMENDATION, INCLUDING STAPLES. (SEE DETAIL)



SOUTH STREET

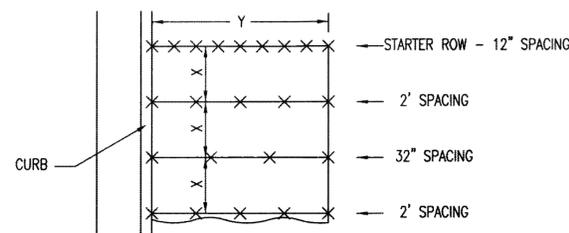


INSTALL 8' WIDE CURLEX I OR II EXCELSIOR BLANKET, OR EQUAL, ON PREPARED SURFACE BACK OF CURB. EDGE OF BLANKET WILL BE AT BACK OF CURB. INSTALL PER MANUFACTURER'S RECOMMENDATION, INCLUDING STAPLES. (SEE DETAIL)

GENERAL NOTES

- EXCELSIOR MAT TO BE INSTALLED WHEN SOD IS NOT SPECIFIED ON PROJECT.
- EXCELSIOR BLANKET TO BE INSTALLED OVER SEED AND FERTILIZER, AS SPECIFIED IN THE PROJECT SPECIFICATIONS.
- AFTER INSTALLATION OF EXCELSIOR BLANKET, AT LOCATIONS WHERE CONCENTRATED FLOW CARRIES SEDIMENT OVER THE CURB AND INTO THE GUTTER, SUPPLEMENTAL EROSION CONTROL DEVICES WILL BE INSTALLED BY THE CONTRACTOR AS NEEDED, TO FIX THE PROBLEM.

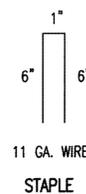
BACK OF CURB PROTECTION DETAIL



STAPLE PATTERN

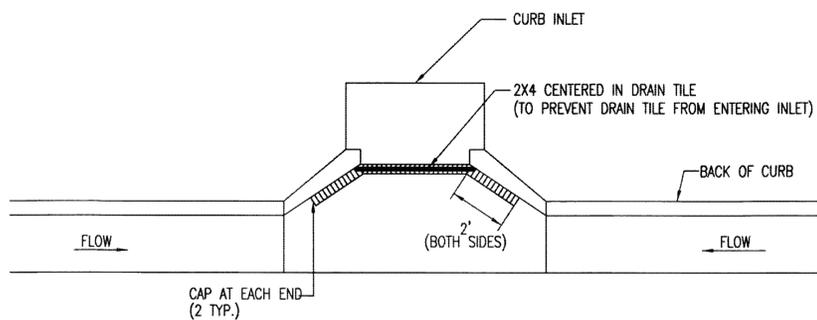
NOTES: USE 6" SEAM OVERLAP
(X & Y = RECOMMENDED BY MANUFACTURE)

DETAILS FOR APPROVED EROSION CONTROL MAT



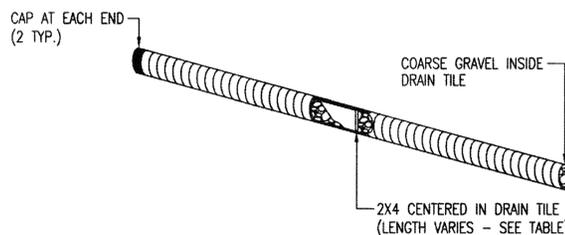
11 GA. WIRE

STAPLE

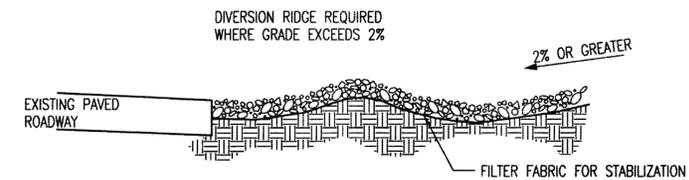


NOTE: PLACE 4" PERFORATED PVC PIPE, FILLED WITH 1/2"-1" DIA. GRAVEL, IN FRONT OF CURB INLET AS SHOWN.

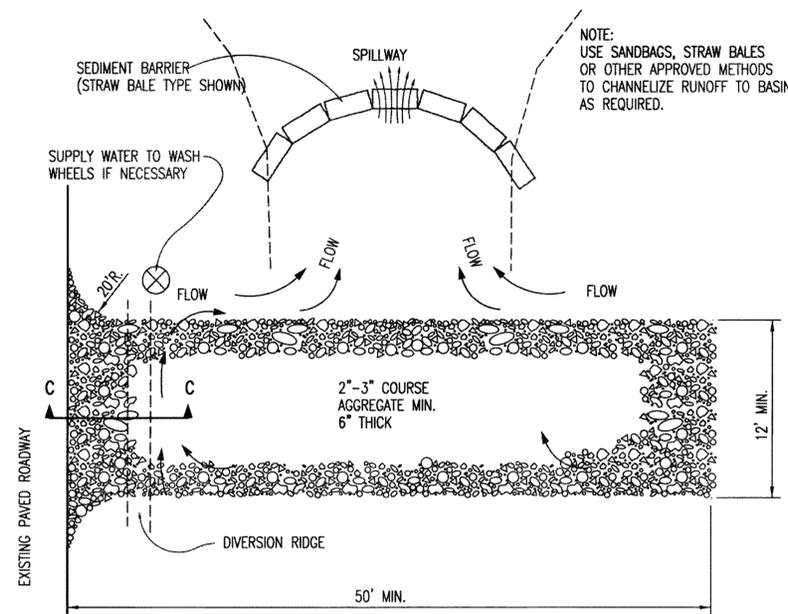
2X4 LENGTH	INLET TYPE	INLET OPENING
5'-6"	1-A	5'-0"
10'-6"	1-A	10'-0"
15'-6"	1-A	15'-0"



CURB INLET PROTECTION
4" PERFORATED PIPE W/ GRAVEL



SECTION C-C



STABILIZED CONSTRUCTION ENTRANCE

GENERAL NOTES

- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
- WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
- WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN, AS SHOWN ABOVE.
- DRIVE ENTRANCES ONTO RESIDENTIAL LOTS WILL NOT BE REQUIRED TO HAVE THE SEDIMENT BARRIER SHOWN, BUT WHEEL WASHING MAY BE REQUIRED IF STABILIZED ENTRANCE IS NOT SUFFICIENT TO KEEP MUD FROM BEING TRACKED ONTO ADJACENT STREET. ENTRANCE SHALL EXTEND FROM BACK OF CURB TO DWELLING.

REVISION DATE: MAY 2013



CITY OF WICHITA
PUBLIC WORKS & UTILITIES
ENGINEERING DIVISION

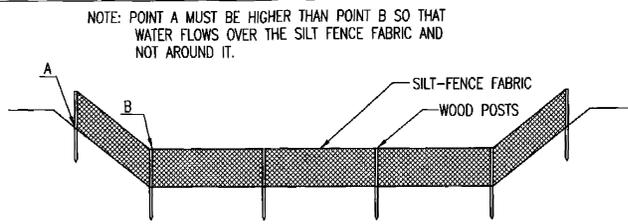
**BACK OF CURB PROTECTION,
CURB INLET PROTECTION AND
CONSTRUCTION ENTRANCE**

CITY ENGINEER
GARY JANZEN, P.E.

PROJECT NUMBER: 468-85095
OCA NUMBER: 620784
DATE:

CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
435 NORTH MAIN STREET
WICHITA, KANSAS 67202-1620
(316) 268-4501

SHEET
32 OF 36



ELEVATION
SILT FENCE DITCH CHECKS
(STREAM PROTECTION)

MATERIAL SPECIFICATION:

SILT FENCE FABRIC SHOULD CONFORM TO THE AASHTO M288 96 SILT FENCE SPECIFICATION. THE POSTS USED TO SUPPORT THE SILT FENCE FABRIC SHOULD BE A HARDWOOD MATERIAL WITH THE FOLLOWING MINIMUM DIMENSIONS: 2" SQUARE (NOMINAL) BY 4' LONG. SILT FENCE FABRIC SHOULD BE ATTACHED TO THE WOODEN POSTS WITH STAPLES, WIRE, ZIP TIES, OR NAILS.

PLACEMENT:

PLACE SILT FENCE IN DITCHES WHERE IT IS UNLIKELY THAT IT WILL BE OVERTOPPED. WATER SHOULD FLOW THROUGH A SILT FENCE DITCH CHECK, NOT OVER IT. SILT FENCE DITCH CHECKS OFTEN FAIL WHEN OVERTOPPED. SILT FENCE DITCH CHECKS SHOULD BE PLACED PERPENDICULAR TO THE FLOWLINE OF THE DITCH. THE SILT FENCE SHOULD EXTEND FAR ENOUGH SO THAT THE GROUND LEVEL AT THE ENDS OF THE FENCE IS HIGHER THAN THE TOP OF THE LOW POINT OF THE FENCE. THIS PREVENTS WATER FROM FLOWING AROUND THE CHECK. SILT FENCE DITCH CHECKS SHOULD NOT BE PLACED IN DITCHES WHERE HIGH FLOWS ARE EXPECTED. ROCK CHECKS SHOULD BE USED INSTEAD. SILT FENCE SHOULD BE PLACED IN DITCHES WITH SLOPES OF 6% OR LESS. FOR SLOPES STEEPER THAN 6%, ROCK CHECKS SHOULD BE USED.

THE FOLLOWING TABLE PROVIDES CHECK SPACING FOR A GIVEN DITCH GRADE:

DITCH CHECK DITCH GRADE (%)	SPACING CHECK SPACING (FEET)
0.5	200
1.0	200
2.0	100
3.0	65
4.0	50
5.0	40
6.0	30

PROPER INSTALLATION METHOD:

EXCAVATE A TRENCH PERPENDICULAR TO THE DITCH FLOWLINE THAT IS AT LEAST 12" DEEP BY 6" WIDE. EXTEND THE TRENCH IN A STRAIGHT LINE ALONG THE ENTIRE LENGTH OF THE PROPOSED DITCH CHECK. PLACE THE SOIL ON THE UPSLOPE SIDE OF THE TRENCH FOR LATER USE. ROLL OUT A CONTINUOUS LENGTH OF SILT FENCE FABRIC ON THE DOWNSLOPE SIDE OF THE TRENCH. PLACE THE EDGE OF THE FABRIC IN THE TRENCH STARTING AT THE TOP UPSLOPE EDGE OF THE TRENCH. LINE TWO SIDES OF THE TRENCH WITH THE FABRIC AS SHOWN ON DETAIL. BACKFILL OVER THE FABRIC IN THE TRENCH WITH THE EXCAVATED SOIL AND COMPACT. AFTER FILLING THE TRENCH, APPROXIMATELY 24" TO 36" OF SILT FENCE FABRIC SHOULD REMAIN EXPOSED. LAY THE EXPOSED SILT FENCE ON THE UPSLOPE SIDE OF THE TRENCH TO CLEAR AN AREA FOR DRIVING IN THE POSTS. JUST DOWNSLOPE OF THE TRENCH, DRIVE POSTS INTO THE GROUND TO A DEPTH OF AT LEAST 24". PLACE POSTS NO MORE THAN 4' APART. ATTACH THE SILT FENCE TO THE ANCHORED POST WITH STAPLES, WIRE, ZIP TIES, OR NAILS.

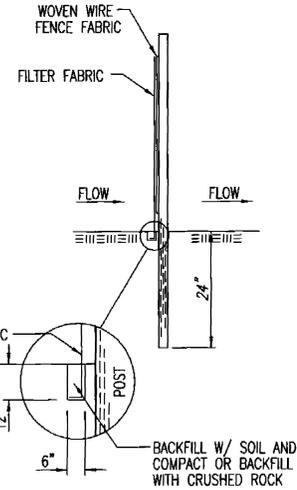
LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

WATER SHOULD FLOW THROUGH A SILT FENCE DITCH CHECK—NOT OVER IT. PLACE SILT FENCE IN DITCHES WHERE IT IS UNLIKELY THAT IT WILL BE OVERTOPPED. SILT FENCE INSTALLATIONS QUICKLY DETERIORATE WHEN WATER OVERTOPS THEM. DO NOT PLACE SILT FENCE POSTS ON THE UPSLOPE SIDE OF THE SILT FENCE FABRIC. IN THIS CONFIGURATION, THE FORCE OF THE WATER IS NOT RESTRICTED BY THE POSTS, BUT ONLY BY THE STAPLES (WIRE, ZIP TIES, NAILS, ETC.). THE SILT FENCE WILL RIP AND FAIL. DO NOT PLACE A SILT FENCE DITCH CHECK DIRECTLY IN FRONT OF A CULVERT OUTLET. IT WILL NOT STAND UP TO THE CONCENTRATED FLOW. DO NOT PLACE SILT FENCE DITCH CHECKS IN DITCHES THAT WILL LIKELY EXPERIENCE HIGH FLOWS. THEY WILL NOT STAND UP TO CONCENTRATED FLOW. FOLLOW PRESCRIBED DITCH CHECK SPACING GUIDELINES. IF SPACING GUIDELINES ARE EXCEEDED, EROSION WILL OCCUR BETWEEN THE DITCH CHECKS. DO NOT ALLOW WATER TO FLOW AROUND THE DITCH CHECK. MAKE SURE THAT THE DITCH CHECK IS LONG ENOUGH SO THAT THE GROUND LEVEL AT THE ENDS OF THE FENCE IS HIGHER THAN THE LOW POINT ON THE TOP OF THE FENCE. DO NOT PLACE SILT FENCE DITCH CHECKS IN CHANNELS WITH SHALLOW SOILS UNDERLAIN BY ROCK. IF THE CHECK IS NOT ANCHORED SUFFICIENTLY, IT WILL WASH OUT.

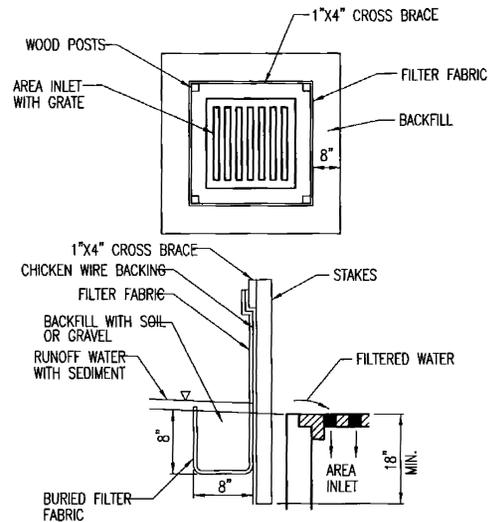
INSPECTION AND MAINTENANCE:

SILT FENCE DITCH CHECKS SHOULD BE INSPECTED EVERY 7 DAYS AND WITHIN 24 HOURS OF A RAINFALL OF 1/2" OR MORE. THE FOLLOWING IS A LIST OF QUESTIONS THAT SHOULD BE ADDRESSED DURING EACH INSPECTION:

- DOES WATER FLOW AROUND THE DITCH CHECK?
- DOES WATER FLOW UNDER THE DITCH CHECK?
- DOES THE SILT FENCE SAG EXCESSIVELY?
- HAS THE SILT FENCE TORN OR BECOME DETACHED FROM THE POSTS?
- DOES SEDIMENT NEED TO BE REMOVED FROM BEHIND THE DITCH CHECK?



ANCHOR TRENCH DETAIL



SILT FENCE BARRIERS FOR AREA INLETS
(INLET PROTECTION)

MATERIAL SPECIFICATION:

SILT FENCE FABRIC SHOULD CONFORM TO THE AASHTO M288 96 SILT FENCE SPECIFICATION. THE WIRE OR POLYMERIC MESH BACKING USED TO HELP SUPPORT THE SILT FENCE FABRIC SHOULD CONFORM TO THE AASHTO M288 96 SILT FENCE SPECIFICATION. THE POSTS USED TO SUPPORT THE SILT FENCE FABRIC SHOULD BE A HARDWOOD MATERIAL WITH THE FOLLOWING MINIMUM DIMENSIONS: 2" SQUARE (NOMINAL) BY 4' LONG. THE MATERIAL USED TO FRAME THE TOPS OF THE POSTS SHOULD BE 1" BY 4" BOARDS. SILT FENCE FABRIC AND SUPPORT BACKING SHOULD BE ATTACHED TO THE WOODEN POSTS AND FRAME WITH STAPLES, WIRE, ZIP TIES, OR NAILS.

PLACEMENT:

PLACE A SILT FENCE DROP INLET BARRIER IN A LOCATION WHERE IT IS UNLIKELY TO BE OVERTOPPED. WATER SHOULD FLOW THROUGH SILT FENCE, NOT OVER IT. SILT FENCE BARRIERS FOR AREA INLETS OFTEN FAIL WHEN REPEATEDLY OVERTOPPED. WHEN USED AS A BARRIER FOR AREA INLETS, SILT FENCE FABRIC AND POSTS MUST BE SUPPORTED AT THE TOP BY A WOODEN FRAME. WHEN A SILT FENCE BARRIER FOR AREA INLETS IS LOCATED NEAR AN INLET THAT HAS STEEP APPROACH SLOPES, THE STORAGE CAPACITY BEHIND THE BARRIER IS DRASTICALLY REDUCED. TIMELY REMOVAL OF SEDIMENT MUST OCCUR FOR A BARRIER TO OPERATE PROPERLY IN THIS LOCATION.

PROPER INSTALLATION METHOD:

EXCAVATE A TRENCH AROUND THE PERIMETER OF THE AREA INLET THAT IS AT LEAST 8" DEEP BY 8" WIDE. DRIVE POSTS TO A DEPTH OF AT LEAST 18" AROUND THE PERIMETER OF THE AREA INLET. THE DISTANCE BETWEEN POSTS SHOULD BE 4' OR LESS. IF THE DISTANCE BETWEEN TWO ADJACENT CORNER POSTS IS MORE THAN 4', ADD ANOTHER POST(S) BETWEEN THEM. CONNECT THE TOPS OF ALL THE POSTS WITH A WOODEN FRAME MADE OF 1" BY 4" BOARDS. USE NAILS OR SCREWS FOR FASTENING. ATTACH THE WIRE OR POLYMERIC-MESH BACKING TO THE OUTSIDE OF THE POST/FRAME STRUCTURE WITH STAPLES, WIRE, ZIP TIES, OR NAILS. ROLL OUT A CONTINUOUS LENGTH OF SILT FENCE FABRIC LONG ENOUGH TO WRAP AROUND THE PERIMETER OF THE AREA INLET. ADD MORE LENGTH FOR OVERLAPPING THE FABRIC JOINT. PLACE THE EDGE OF THE FABRIC IN THE TRENCH, STARTING AT THE OUTSIDE EDGE OF THE TRENCH. LINE ALL THREE SIDES OF THE TRENCH WITH THE FABRIC. BACKFILL OVER THE FABRIC IN THE TRENCH WITH THE EXCAVATED SOIL AND COMPACT. AFTER FILLING THE TRENCH, APPROXIMATELY 24" TO 36" OF SILT FENCE FABRIC SHOULD REMAIN EXPOSED. ATTACH THE SILT FENCE TO THE OUTSIDE OF THE POST/FRAME STRUCTURE WITH STAPLES, WIRE, ZIP TIES, OR NAILS. THE JOINT SHOULD BE OVERLAPPED TO THE NEXT POST.

NOTE: WHEN A SILT FENCE BARRIER FOR AREA INLET IS PLACED IN A SHALLOW MEDIAN DITCH, MAKE SURE THAT THE TOP OF THE BARRIER IS NOT HIGHER THAN THE PAVED ROAD. IN THIS CONFIGURATION, WATER MAY SPREAD ONTO THE ROADWAY CAUSING A HAZARDOUS CONDITION.

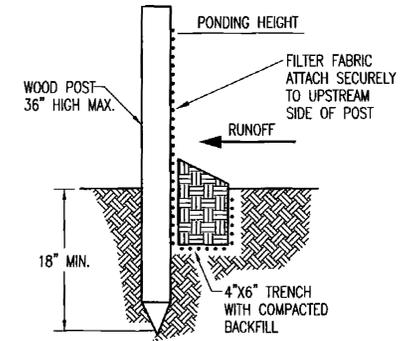
LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

WATER SHOULD FLOW THROUGH A SILT FENCE BARRIER FOR AREA INLET—NOT OVER IT. PLACE A SILT FENCE BARRIER FOR AREA INLET IN A LOCATION WHERE IT IS UNLIKELY TO BE OVERTOPPED. SILT FENCE BARRIER FOR AREA INLETS OFTEN FAIL WHEN REPEATEDLY OVERTOPPED. DO NOT PLACE POSTS ON THE OUTSIDE OF THE SILT FENCE BARRIER FOR AREA INLET. IN THIS CONFIGURATION, THE FORCE OF THE WATER IS NOT RESTRICTED BY THE POSTS, BUT ONLY BY THE STAPLES (WIRE, ZIP TIES, NAILS, ETC.). THE SILT FENCE WILL RIP AND FAIL. DO NOT INSTALL SILT FENCE BARRIER FOR AREA INLETS WITHOUT FRAMING THE TOP OF THE POSTS. THE CORNER POSTS AROUND AREA INLETS ARE STRESSED IN TWO DIRECTIONS WHEREAS A NORMAL SILT FENCE IS ONLY STRESSED IN ONE DIRECTION. THIS ADDED STRESS REQUIRES MORE SUPPORT.

INSPECTION AND MAINTENANCE:

SILT FENCE BARRIER FOR AREA INLETS SHOULD BE INSPECTED EVERY 7 DAYS AND WITHIN 24 HOURS OF A RAINFALL OF 1/2" OR MORE. THE FOLLOWING IS A LIST OF QUESTIONS THAT SHOULD BE ADDRESSED DURING EACH INSPECTION:

- DOES WATER FLOW UNDER THE SILT FENCE?
- DOES THE SILT FENCE SAG EXCESSIVELY?
- HAS THE SILT FENCE TORN OR BECOME DETACHED FROM THE POSTS?
- DOES SEDIMENT NEED TO BE REMOVED FROM BEHIND THE AREA INLET BARRIER?



SILT FENCE BARRIERS

MATERIAL SPECIFICATION:

SILT FENCE FABRIC SHOULD CONFORM TO THE AASHTO M288 96 SILT FENCE SPECIFICATION. THE POSTS USED TO SUPPORT THE SILT FENCE FABRIC SHOULD BE A HARDWOOD MATERIAL WITH THE FOLLOWING MINIMUM DIMENSIONS: 2" SQUARE (NOMINAL) BY 4' LONG. SILT FENCE FABRIC SHOULD BE ATTACHED TO THE WOODEN POSTS WITH STAPLES, WIRE, ZIP TIES, OR NAILS.

PLACEMENT:

A SLOPE BARRIER SHOULD BE USED AT THE TOE OF A SLOPE WHEN A DITCH DOES NOT EXIST. THE SLOPE BARRIER SHOULD BE PLACED ON NEARLY LEVEL GROUND 5' TO 10' AWAY FROM THE TOE OF A SLOPE. THE BARRIER IS PLACED AWAY FROM THE TOE OF THE SLOPE TO PROVIDE ADEQUATE STORAGE FOR SETTLING OUT SEDIMENT. WHEN PRACTICABLE, SILT FENCE SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW. SILT FENCE SLOPE BARRIERS CAN ALSO BE PLACED ALONG RIGHT-OF-WAY FENCE LINES TO KEEP SEDIMENT FROM CROSSING ONTO ADJACENT PROPERTY. WHEN PLACED IN THIS MANNER, THE SLOPE BARRIER WILL NOT LIKELY FOLLOW CONTOURS.

PROPER INSTALLATION METHOD:

EXCAVATE A TRENCH THE LENGTH OF THE PLANNED SLOPE BARRIER THAT IS 6" DEEP BY 4" WIDE. MAKE SURE THAT THE TRENCH IS EXCAVATED ALONG A SINGLE CONTOUR. WHEN PRACTICABLE, SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW. PLACE THE SOIL ON THE UPSLOPE SIDE OF THE TRENCH FOR LATER USE. ROLL OUT A CONTINUOUS LENGTH OF SILT FENCE FABRIC ON THE DOWNSLOPE SIDE OF THE TRENCH. PLACE THE EDGE OF THE FABRIC IN THE TRENCH STARTING AT THE TOP UPSLOPE EDGE. LINE ALL THREE SIDES OF THE TRENCH WITH THE FABRIC. BACKFILL OVER THE FABRIC IN THE TRENCH WITH THE EXCAVATED SOIL AND COMPACT. AFTER FILLING THE TRENCH, APPROXIMATELY 24" TO 36" OF SILT-FENCE FABRIC SHOULD REMAIN EXPOSED. LAY THE EXPOSED SILT FENCE UPSLOPE OF THE TRENCH TO CLEAR AN AREA FOR DRIVING IN THE POSTS. JUST DOWNSLOPE OF THE TRENCH, DRIVE POSTS INTO THE GROUND TO A DEPTH OF AT LEAST 18". PLACE POSTS NO MORE THAN 4' APART. ATTACH THE SILT FENCE TO THE ANCHORED POST WITH STAPLES, WIRE, ZIP TIES, OR NAILS.

LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

WHEN PRACTICABLE, DO NOT PLACE SILT FENCE SLOPE BARRIERS ACROSS CONTOURS. SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW. WHEN THE FLOW CONCENTRATES, IT OVERTOPS THE BARRIER AND THE SILT FENCE SLOPE BARRIER QUICKLY DETERIORATES. DO NOT PLACE SILT-FENCE POSTS ON THE UPSLOPE SIDE OF THE SILT FENCE FABRIC. IN THIS CONFIGURATION, THE FORCE OF THE WATER IS NOT RESTRICTED BY THE POSTS, BUT ONLY BY THE STAPLES (WIRE, ZIP TIES, NAILS, ETC.). THE SILT FENCE WILL RIP AND FAIL. DO NOT PLACE SILT FENCE SLOPE BARRIERS IN AREAS WITH SHALLOW SOILS UNDERLAIN BY ROCK. IF THE BARRIER IS NOT SUFFICIENTLY ANCHORED, IT WILL WASH OUT. SILT FENCE SLOPE BARRIERS MUST BE DUG INTO THE GROUND—SILT FENCE AT GROUND LEVEL DOES NOT WORK BECAUSE WATER WILL FLOW UNDERNEATH.

INSPECTION AND MAINTENANCE:

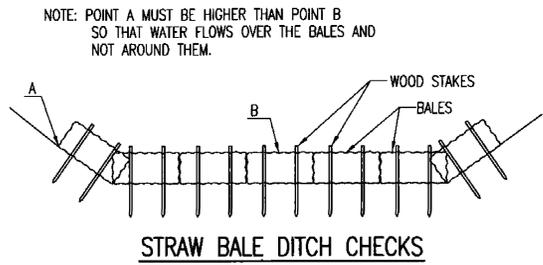
SILT FENCE SLOPE BARRIERS SHOULD BE INSPECTED EVERY 7 DAYS AND WITHIN 24 HOURS OF A RAINFALL OF 1/2" OR MORE. THE FOLLOWING IS A LIST OF QUESTIONS THAT SHOULD BE ADDRESSED DURING EACH INSPECTION:

- ARE THERE ANY POINTS ALONG THE SLOPE BARRIER WHERE WATER IS CONCENTRATING?
- DOES WATER FLOW UNDER THE SLOPE BARRIER?
- DO THE SILT FENCES SAG EXCESSIVELY?
- HAS THE SILT FENCE TORN OR BECOME DETACHED FROM THE POSTS?
- DOES SEDIMENT NEED TO BE REMOVED FROM BEHIND THE SLOPE BARRIER?

REVISION DATE: MAY 2013



SILT FENCE DITCH CHECK AND BARRIER DETAILS		
CITY ENGINEER		
GARY JANZEN, P.E.		
PROJECT NUMBER	OCA NUMBER	DATE
468-85095	620784	
CITY ENGINEER'S OFFICE		SHEET
CITY HALL - SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202-1620 (316) 268-4501		33 OF 36



STRAW BALE DITCH CHECKS

MATERIAL SPECIFICATION:

BALE DITCH CHECKS MAY BE CONSTRUCTED OF WHEAT STRAW, OAT STRAW, PRAIRIE HAY, OR BROMEGRASS HAY THAT IS FREE OF WEEDS DECLARED NOXIOUS BY THE KANSAS STATE BOARD OF AGRICULTURE. THE STAKES USED TO ANCHOR THE BALES SHOULD BE A HARDWOOD MATERIAL WITH THE FOLLOWING MINIMUM DIMENSIONS: 2" SQUARE (NOMINAL) BY 4' LONG. OPTIONAL: THE DOWNSTREAM SCOUR APRON SHOULD BE CONSTRUCTED OF A DOUBLE-NETTED STRAW EROSION-CONTROL BLANKET AT LEAST 6' WIDE. OPTIONAL: THE METAL LANDSCAPE STAPLES USED TO ANCHOR THE EROSION-CONTROL BLANKET SHOULD BE AT LEAST 8" LONG.

PLACEMENT:

BALE DITCH CHECKS SHOULD BE PLACED PERPENDICULAR TO THE FLOWLINE OF THE DITCH. THE DITCH CHECK SHOULD EXTEND FAR ENOUGH SO THAT THE GROUND LEVEL AT THE ENDS OF THE CHECK IS HIGHER THAN THE TOP OF THE LOWEST CENTER BALE. THIS PREVENTS WATER FROM FLOWING AROUND THE CHECK. STRAW BALE DITCH CHECKS SHOULD NOT BE PLACED IN DITCHES WHERE HIGH FLOWS ARE EXPECTED. ROCK CHECKS SHOULD BE USED INSTEAD. BALES SHOULD BE PLACED IN DITCHES WITH SLOPES OF 6% OR LESS. FOR SLOPES STEEPER THAN 6%, ROCK CHECKS SHOULD BE USED. THE FOLLOWING TABLE PROVIDES CHECK SPACING FOR A GIVEN DITCH GRADE:

DITCH CHECK SPACING (%)	CHECK SPACING (FEET)
0.5	200
1.0	200
2.0	100
3.0	65
4.0	50
5.0	40
6.0	30

PROPER INSTALLATION METHOD:

EXCAVATE A TRENCH PERPENDICULAR TO THE DITCH FLOWLINE THAT IS 4" DEEP AND A BALE'S WIDTH WIDE. EXTEND THE TRENCH IN A STRAIGHT LINE ALONG THE ENTIRE LENGTH OF THE PROPOSED DITCH CHECK. PLACE THE SOIL ON THE UPSTREAM SIDE OF THE TRENCH-IT WILL BE USED LATER. OPTIONAL: ON THE DOWNSTREAM SIDE OF THE TRENCH, ROLL OUT A LENGTH OF EROSION-CONTROL BLANKET (SCOUR APRON) EQUAL TO THE LENGTH OF THE TRENCH. PLACE THE UPSTREAM EDGE OF THE EROSION-CONTROL BLANKET ALONG THE BOTTOM UPSTREAM EDGE OF THE TRENCH. THE EROSION CONTROL BLANKET SHOULD BE ANCHORED IN THE TRENCH WITH ONE ROW OF 8" LANDSCAPE STAPLES PLACED ON 18" CENTERS. THE REMAINDER OF THE EROSION-CONTROL BLANKET (THE PORTION THAT IS NOT LYING IN THE TRENCH) WILL SERVE AS THE DOWNSTREAM SCOUR APRON. THIS SECTION OF THE BLANKET SHOULD BE ANCHORED TO THE GROUND WITH 8" LANDSCAPE STAPLES PLACED AROUND THE PERIMETER OF THE BLANKET ON 18" CENTERS. THE REMAINDER OF THE BLANKET SHOULD BE ANCHORED USING TWO EVENLY SPACED ROWS OF 8" LANDSCAPE STAPLES ON 18" CENTERS PLACED PERPENDICULAR TO THE FLOWLINE OF THE DITCH. PLACE THE BALES IN THE TRENCH, MAKING SURE THAT THEY ARE BUTTED TIGHTLY. TWO STAKES SHOULD BE DRIVEN THROUGH EACH BALE ALONG THE CENTERLINE OF THE DITCH CHECK, APPROXIMATELY 6" TO 8" IN FROM THE BALE ENDS. STAKES SHOULD BE DRIVEN AT LEAST 12" INTO THE GROUND. ONCE ALL THE BALES HAVE BEEN INSTALLED AND ANCHORED, PLACE THE EXCAVATED SOIL AGAINST THE UPSTREAM SIDE OF THE CHECK AND COMPACT IT. THE COMPACTED SOIL SHOULD BE NO MORE THAN 3" TO 4" DEEP AND EXTEND UPSTREAM NO MORE THAN 24".

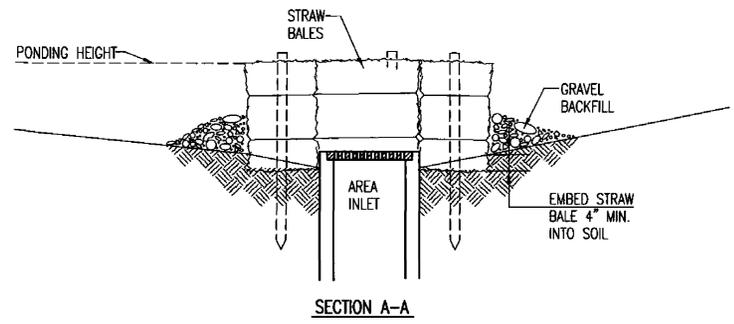
LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

DO NOT PLACE A BALE DITCH CHECK DIRECTLY IN FRONT OF A CULVERT OUTLET. IT WILL NOT STAND UP TO THE CONCENTRATED FLOW. DO NOT PLACE BALE DITCH CHECKS IN DITCHES THAT WILL LIKELY EXPERIENCE HIGH FLOWS. THEY WILL NOT STAND UP TO CONCENTRATED FLOW. FOLLOW PRESCRIBED DITCH-CHECK SPACING GUIDELINES. IF SPACING GUIDELINES ARE EXCEEDED, EROSION WILL OCCUR BETWEEN THE DITCH CHECKS. DO NOT ALLOW WATER TO FLOW AROUND THE DITCH CHECK. MAKE SURE THAT THE DITCH CHECK IS LONG ENOUGH SO THAT THE GROUND LEVEL AT THE ENDS OF THE CHECK IS HIGHER THAN THE TOP OF THE LOWEST CENTER BALE. DO NOT PLACE BALE DITCH CHECKS IN CHANNELS WITH SHALLOW SOILS UNDERLAIN BY ROCK. IF THE CHECK IS NOT ANCHORED SUFFICIENTLY, IT WILL WASH OUT. BALE DITCH CHECKS MUST BE DUG INTO THE GROUND. BALES AT GROUND LEVEL DO NOT WORK BECAUSE THEY ALLOW WATER TO FLOW UNDER THE CHECK.

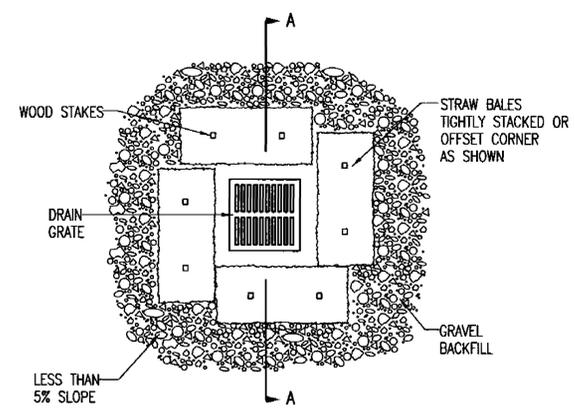
INSPECTION AND MAINTENANCE:

BALE DITCH CHECKS SHOULD BE INSPECTED EVERY 7 DAYS AND WITHIN 24 HOURS OF A RAINFALL OF 1/2" OR MORE. THE FOLLOWING IS A LIST OF QUESTIONS THAT SHOULD BE ADDRESSED DURING EACH INSPECTION:

DOES WATER FLOW AROUND THE DITCH CHECK?
 DOES WATER FLOW UNDER THE DITCH CHECK?
 DOES WATER FLOW THROUGH SPACES BETWEEN ABUTTING BALES?
 ARE ANY BALES AND/OR SCOUR APRONS (OPTIONAL) DISLODGED?
 ARE BALES DECOMPOSING DUE TO AGE AND/OR WATER DAMAGE?
 DOES SEDIMENT NEED TO BE REMOVED FROM BEHIND THE DITCH CHECK?



SECTION A-A



STRAW BALE BARRIERS FOR AREA INLETS (INLET PROTECTION)

MATERIAL SPECIFICATION:

BALE AREA INLET BARRIERS SHOULD BE CONSTRUCTED OF WHEAT STRAW, OAT STRAW, PRAIRIE HAY, OR BROMEGRASS HAY THAT IS FREE OF WEEDS DECLARED NOXIOUS BY THE KANSAS STATE BOARD OF AGRICULTURE. THE STAKES USED TO ANCHOR THE BALES SHOULD BE A HARDWOOD MATERIAL WITH THE FOLLOWING MINIMUM DIMENSIONS: 2" SQUARE (NOMINAL) BY 4' LONG. TWINE SHOULD BE USED TO BIND BALES. THE USE OF WIRE BINDING IS PROHIBITED BECAUSE IT DOES NOT BIODEGRADE READILY.

PLACEMENT:

BALE AREA INLET BARRIERS SHOULD BE PLACED DIRECTLY AROUND THE PERIMETER OF A DROP INLET. WHEN A BALE AREA INLET BARRIER IS LOCATED NEAR AN INLET THAT HAS STEEP APPROACH SLOPES, THE STORAGE CAPACITY BEHIND THE BARRIER IS DRASTICALLY REDUCED. TIMELY REMOVAL OF SEDIMENT MUST OCCUR FOR A BARRIER TO OPERATE PROPERLY IN THIS LOCATION.

PROPER INSTALLATION METHOD:

EXCAVATE A TRENCH AROUND THE PERIMETER OF THE AREA INLET THAT IS AT LEAST 4" DEEP BY A BALE'S WIDTH WIDE. PLACE THE BALES IN THE TRENCH, MAKING SURE THAT THEY ARE BUTTED TIGHTLY. SOME BALES MAY NEED TO BE SHORTENED TO FIT INTO THE TRENCH AROUND THE AREA INLET. TWO STAKES SHOULD BE DRIVEN THROUGH EACH BALE, APPROXIMATELY 6" TO 8" IN FROM THE BALE ENDS. STAKES SHOULD BE DRIVEN AT LEAST 12" INTO THE GROUND. ONCE ALL THE BALES HAVE BEEN INSTALLED AND ANCHORED, PLACE THE EXCAVATED SOIL AGAINST THE RECEIVING SIDE OF THE BARRIER AND COMPACT IT. THE COMPACTED SOIL SHOULD BE NO MORE THAN 3" TO 4" DEEP. NOTE: WHEN A BALE AREA INLET BARRIER IS PLACED IN A SHALLOW MEDIAN DITCH, MAKE SURE THAT THE TOP OF THE BARRIER IS NOT HIGHER THAN THE PAVED ROAD. IN THIS CONFIGURATION, WATER MAY SPREAD ONTO THE ROADWAY CAUSING A HAZARDOUS CONDITION.

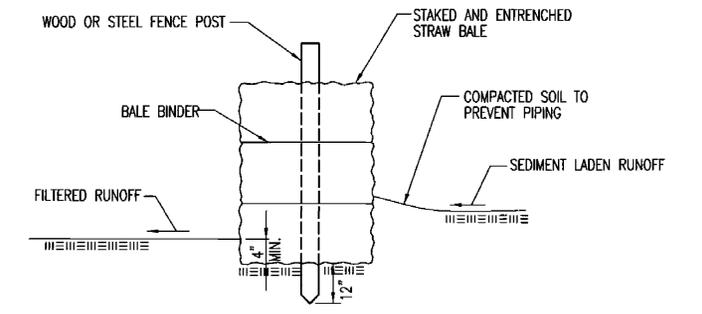
LIST OF COMMON PLACEMENT INSTALLATION MISTAKES TO AVOID:

BALES SHOULD BE PLACED DIRECTLY AGAINST THE PERIMETER OF THE AREA INLET. THIS ALLOWS OVERTOPPING WATER TO FLOW DIRECTLY INTO THE INLET INSTEAD OF ONTO NEARBY SOIL CAUSING SCOUR. BALE AREA INLET BARRIERS MUST BE DUG INTO THE GROUND. BALES AT GROUND LEVEL DO NOT WORK BECAUSE THEY ALLOW WATER TO FLOW UNDER THE BARRIER.

INSPECTION AND MAINTENANCE:

BALE AREA INLET BARRIERS SHOULD BE INSPECTED EVERY 7 DAYS AND WITHIN 24 HOURS OF A RAINFALL OF 1/2" OR MORE. THE FOLLOWING IS A LIST OF QUESTIONS THAT SHOULD BE ADDRESSED DURING EACH INSPECTION:

DOES WATER FLOW UNDER THE AREA INLET BARRIER?
 DOES WATER FLOW THROUGH SPACES BETWEEN ABUTTING BALES?
 ARE ANY BALES DISLODGED?
 ARE BALES DECOMPOSING DUE TO AGE AND/OR WATER DAMAGE?
 DOES SEDIMENT NEED TO BE REMOVED FROM BEHIND THE AREA INLET BARRIER?



STRAW BALE BARRIERS

MATERIAL SPECIFICATION:

BALE SLOPE BARRIERS MAY BE CONSTRUCTED OF WHEAT STRAW, OAT STRAW, PRAIRIE HAY, OR BROMEGRASS HAY THAT IS FREE OF WEEDS DECLARED NOXIOUS BY THE KANSAS STATE BOARD OF AGRICULTURE. THE STAKES USED TO ANCHOR THE BALES SHOULD BE A HARDWOOD MATERIAL WITH THE FOLLOWING MINIMUM DIMENSIONS: 2" SQUARE (NOMINAL) BY 4' LONG. TWINE SHOULD BE USED TO BIND BALES. THE USE OF WIRE BINDING IS PROHIBITED BECAUSE IT DOES NOT BIODEGRADE READILY.

PLACEMENT:

A SLOPE BARRIER SHOULD BE USED AT THE TOE OF A SLOPE WHEN A DITCH DOES NOT EXIST. THE SLOPE BARRIER SHOULD BE PLACED ON NEARLY LEVEL GROUND 5' TO 10' AWAY FROM THE TOE OF A SLOPE. THE BARRIER IS PLACED AWAY FROM THE TOE OF THE SLOPE TO PROVIDE ADEQUATE STORAGE FOR SETTLING OUT SEDIMENT. WHEN PRACTICABLE, BALE SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW. BALE SLOPE BARRIERS CAN ALSO BE PLACED ALONG RIGHT-OF-WAY FENCE LINES TO KEEP SEDIMENT FROM CROSSING ONTO ADJACENT PROPERTY. WHEN PLACED IN THIS MANNER, THE SLOPE BARRIER WILL NOT LIKELY FOLLOW CONTOURS.

PROPER INSTALLATION METHOD:

EXCAVATE A TRENCH THE LENGTH OF THE PLANNED SLOPE BARRIER THAT IS 4" DEEP AND A BALE'S WIDTH WIDE. MAKE SURE THAT THE TRENCH IS EXCAVATED ALONG A SINGLE CONTOUR. WHEN PRACTICABLE, SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW. PLACE THE SOIL ON THE UPSLOPE SIDE OF THE TRENCH FOR LATER USE. PLACE THE BALES IN THE TRENCH, MAKING SURE THAT THEY ARE BUTTED TIGHTLY. TWO STAKES SHOULD BE DRIVEN THROUGH EACH BALE ALONG THE CENTERLINE OF THE DITCH CHECK, APPROXIMATELY 6" TO 8" IN FROM THE BALE ENDS. STAKES SHOULD BE DRIVEN AT LEAST 12" INTO THE GROUND. ONCE ALL THE BALES HAVE BEEN INSTALLED AND ANCHORED, PLACE THE EXCAVATED SOIL AGAINST THE UPSLOPE SIDE OF THE CHECK AND COMPACT IT. THE COMPACTED SOIL SHOULD BE NO MORE THAN 3" TO 4" DEEP.

LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

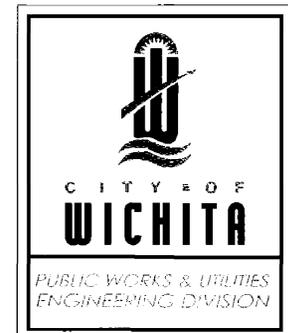
WHEN PRACTICAL, DO NOT PLACE BALE SLOPE BARRIERS ACROSS CONTOURS. SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW. CONCENTRATED FLOW OVER A SLOPE BARRIER CREATES A SCOUR HOLE ON THE DOWNSLOPE SIDE OF THE BARRIER. THE SCOUR HOLE EVENTUALLY UNDERMINES THE BALES AND THE BARRIER FAILS. DO NOT PLACE BALE SLOPE BARRIERS IN AREAS WITH SHALLOW SOILS UNDERLAIN BY ROCK. IF THE BARRIER IS NOT ANCHORED SUFFICIENTLY, IT WILL WASH OUT. BALE SLOPE BARRIERS MUST BE DUG INTO THE GROUND. BALES AT GROUND LEVEL DO NOT WORK BECAUSE THEY ALLOW WATER TO FLOW UNDER THE BARRIER.

INSPECTION AND MAINTENANCE:

BALE SLOPE BARRIERS SHOULD BE INSPECTED EVERY 7 DAYS AND WITHIN 24 HOURS OF A RAINFALL OF 1/2" OR MORE. THE FOLLOWING IS A LIST OF QUESTIONS THAT SHOULD BE ADDRESSED DURING EACH INSPECTION:

ARE THERE ANY POINTS ALONG THE SLOPE BARRIER WHERE WATER IS CONCENTRATING?
 DOES WATER FLOW UNDER THE SLOPE BARRIER?
 DOES WATER FLOW THROUGH SPACES BETWEEN ABUTTING BALES?
 ARE ANY BALES DISLODGED?
 ARE BALES DECOMPOSING DUE TO AGE AND/OR WATER DAMAGE?
 DOES SEDIMENT NEED TO BE REMOVED FROM BEHIND THE SLOPE BARRIER?

REVISION DATE: MAY 2013



STRAW BALE DITCH CHECK AND BARRIER DETAILS

CITY ENGINEER
GARY JANZEN, P.E.

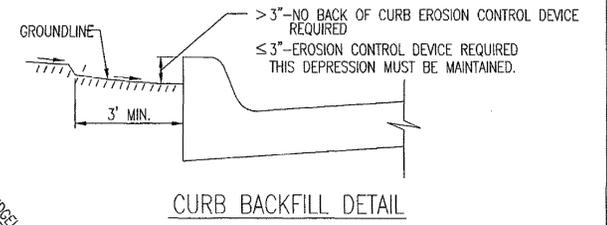
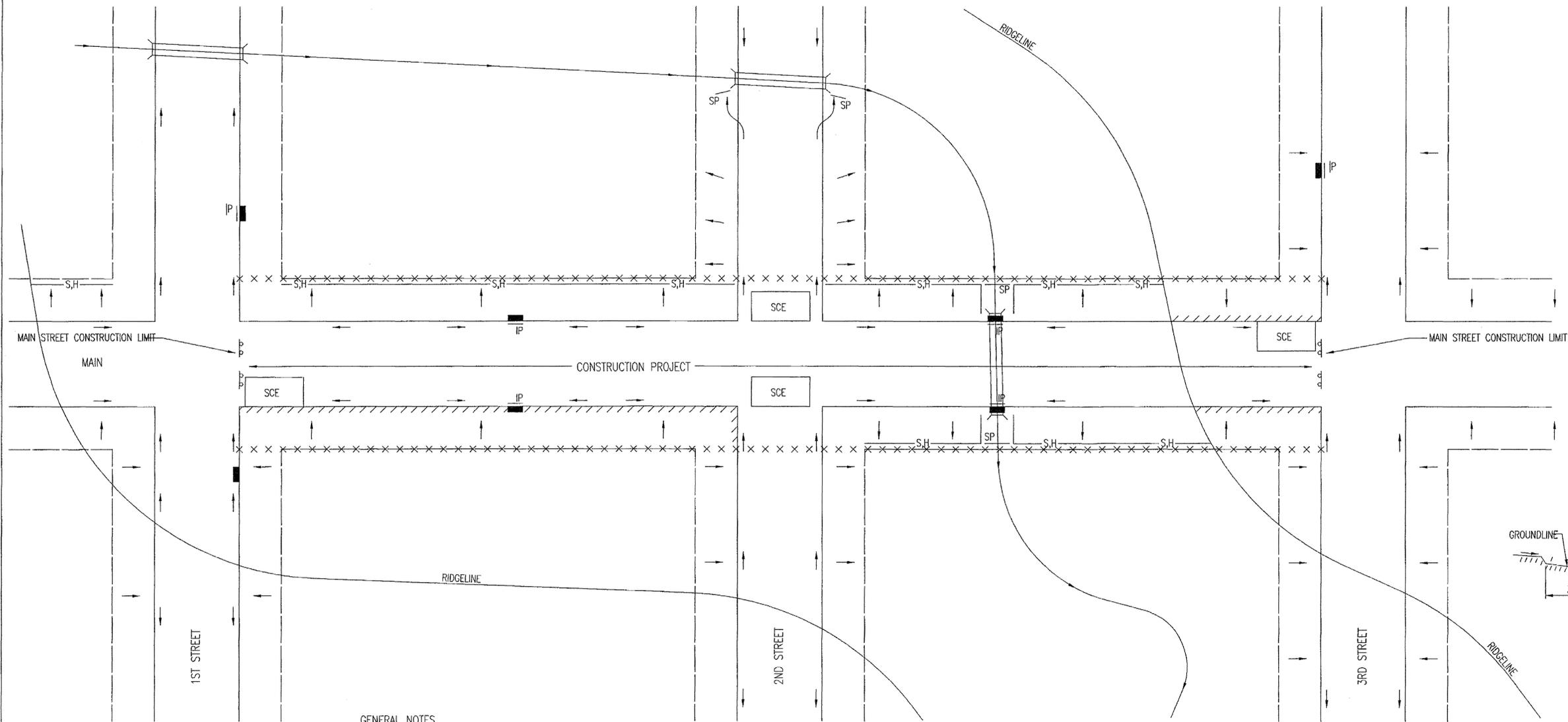
PROJECT NUMBER 468-85095	OCA NUMBER 620784	DATE
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CITY ENGINEER'S OFFICE
 CITY HALL - SEVENTH FLOOR
 455 NORTH MAIN STREET
 WICHITA, KANSAS 67202-1620
 (316) 268-4501

SHEET
34 OF 36

GENERAL NOTES

1. THIS SHEET IS INTENDED TO PROVIDE GUIDELINES AS TO WHAT TYPES OF EROSION CONTROL DEVICES WILL BE INSTALLED DURING THE CONSTRUCTION PROCESS. CONTRACTORS ARE EXPECTED TO BID PROJECTS ACCORDINGLY.
2. EROSION CONTROL DEVICES MUST BE MAINTAINED BY THE CONTRACTOR THROUGHOUT THE CONSTRUCTION PROCESS AND UNTIL THE DISTURBED EARTH IS RESTABILIZED.
3. IF THE PROJECT WILL DISTURB 1 ACRE OR MORE, A FEDERAL/STATE NPDES STORMWATER PERMIT IS REQUIRED. A DETAILED STORMWATER POLLUTION PREVENTION PLAN, IS REQUIRED. THE EROSION CONTROL DEVICES SHOWN ON THIS SHEET ARE CONSIDERED TO BE THE MINIMUM TO BE SHOWN IN THE POLLUTION PREVENTION PLAN.
4. FOR PROJECTS DISTURBING LESS THAN 1 ACRE, CONTRACTORS ARE ENCOURAGED TO PREPARE STORMWATER POLLUTION PREVENTION PLANS PRIOR TO CONSTRUCTION. EROSION CONTROL DEVICES MUST BE USED ON ALL PROJECTS.
5. FAILURE TO USE AND MAINTAIN EROSION CONTROL DEVICES IS A VIOLATION OF SECTION 16.32 OF THE CITY CODE AND WILL SUBJECT THE CONTRACTOR TO THE PENALTIES PROVIDED FOR THEREIN.
6. THE APPLICATION OF EROSION CONTROL DEVICES SHOWN ON THIS SHEET IS FOR SITUATIONS NORMALLY ENCOUNTERED. FROM TIME TO TIME, SITUATIONS WILL ARISE THAT MAY REQUIRE A DIFFERENT DEVICE OTHER THAN THOSE SHOWN. EROSION CONTROL DEVICES, OTHER THAN THOSE SHOWN, MAY BE UTILIZED AS LONG AS THEY ARE EFFECTIVE AND MAINTAINED.

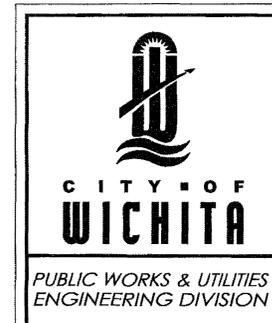


THIS IS A TEMPORARY MEASURE ONLY, WHEN APPROVED BY THE PROJECT ENGINEER. THE DIRT GRADE BEHIND THE CURB SHALL BE BROUGHT TO THE TOP OF CURB, WITH TEMPORARY EROSION CONTROL MAT OR PERMANENT VEGETATION PLACED, PRIOR TO THE COMPLETION OF ALL PROJECTS.

- LEGEND**
- R-O-W LIMITS
 - DRAINAGE FLOW PATH
 - × × × × R/W LIMIT WITHIN CONSTRUCTION LIMIT
 - STORM WATER INLETS
 - IP INLET PROTECTION
 - S,H— SILT FENCE OR HAY BALE BARRIER
 - SP STREAM PROTECTION
 - SCE STABILIZED CONSTRUCTION ENTRANCE
 - //// BACK OF CURB PROTECTION

GENERAL NOTES

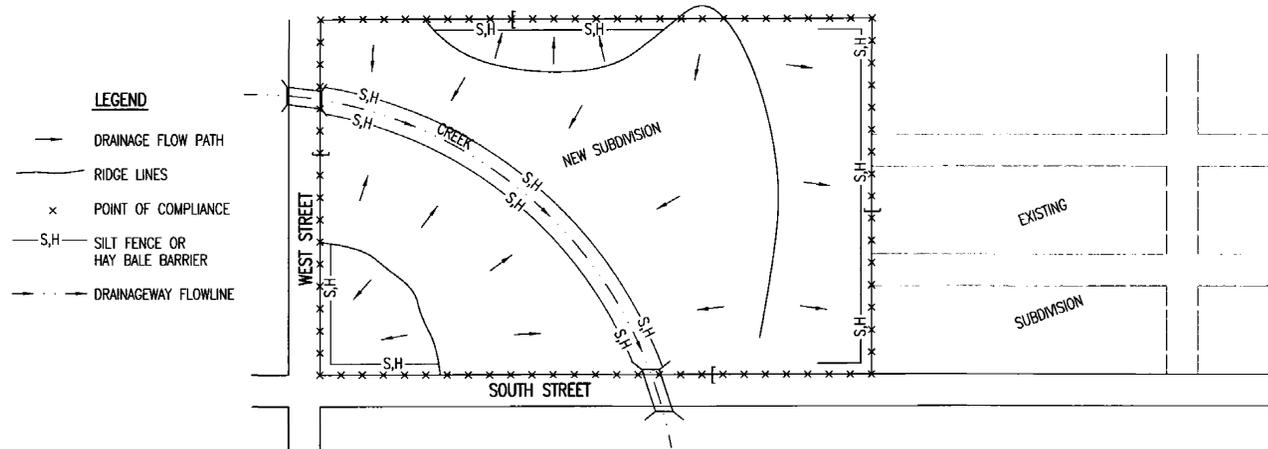
1. THE INTENT OF ALL EROSION CONTROL DEVICES IS TO KEEP ALL SEDIMENT CONFINED TO THE CONSTRUCTION SITE, AND OUT OF ALL UNDERGROUND PIPES, DITCHES, LAKES, AND OTHER DRAINAGE FACILITIES, AND OFF OF STREETS.
2. THE POINT OF COMPLIANCE IS GENERALLY THE RIGHT-OF-WAY LINES WITHIN THE LIMITS OF CONSTRUCTION.
3. EROSION CONTROL DEVICES WILL BE REQUIRED AT ALL POINTS ALONG THE PROJECT WHERE DISTURBED EARTH CAN DRAIN ONTO PRIVATE PROPERTY.
4. INLET PROTECTION DEVICES WILL BE REQUIRED WHEREVER WATER CAN DRAIN OFF THE PROJECT SITE INTO AN INLET, INCLUDING ANY SIDE STREET INLETS.
5. EROSION CONTROL DEVICES SHALL BE INSTALLED AT CREEK CROSSINGS SO AS TO PREVENT SEDIMENT FROM ENTERING THEREIN.
6. STABILIZED CONSTRUCTION ENTRANCES SHALL BE PROVIDED, AS NEEDED, TO PREVENT MUD FROM TRACKING ONTO STREETS NOT UNDER CONSTRUCTION AND ON STREETS WITHIN THE PROJECT LIMITS IF TRAFFIC IS BEING MAINTAINED THROUGH THE PROJECT.
7. ANY MUD TRACKED ONTO STREETS MUST BE REMOVED AT THE END OF EACH WORK DAY.
8. THE CONTRACTOR WILL BE REQUIRED TO PLACE EROSION CONTROL DEVICES BACK OF CURB, WHENEVER WATER CAN DRAIN OVER CURB, TO KEEP ERODED SOIL OUT OF THE GUTTERLINES, IN ACCORDANCE WITH THE FOLLOWING:
 - A. THE DEVICE REQUIRED WILL BE APPROVED EROSION CONTROL MAT LISTED ON THE CITY'S APPROVED MATERIAL LIST. SAID BLANKET SHALL BE PLACED OVER THE APPROPRIATE SEED AND FERTILIZER, AS SPECIFIED IN THE PROJECT SPECIFICATIONS. (SEE SOIL EROSION BMPs - BACK OF CURB SEDIMENT BARRIER DETAILS)
 - B. THIS DEVICE SHALL BE INSTALLED IMMEDIATELY WHENEVER THE CURB IS BACKFILLED TO WITHIN 3" OF THE TOP OF CURB. (SEE CURB BACKFILL DETAIL) OTHER BMP'S MAY BE REQUIRED AT LOCATIONS WHERE CONCENTRATED FLOW CARRIES SEDIMENT OVER THE CURB.
 - C. ADDITIONALLY, OTHER EROSION CONTROL DEVICES (HAY BALES, SILT FENCE, ETC.) WILL BE INSTALLED AT LOCATIONS OF CONCENTRATED FLOW RESULTING IN SEDIMENT OVERRUNNING THE MAT.
 - D. SHOULD THE PROJECT PLANS SPECIFY THAT THE RIGHT-OF-WAY IS TO BE SODDED, THE EXCELSIOR MAT WILL NOT BE REQUIRED SO LONG AS THE SOD IS PLACED WITHIN 48 HOURS AFTER CURB BACKFILL REACHES A HEIGHT OF 3" OR LESS FROM TOP OF CURB. (SEE CURB BACKFILL DETAIL)



STREET IMPROVEMENT PROJECTS		
CITY ENGINEER GARY JANZEN, P.E.		
PROJECT NUMBER 468-85095	OCA NUMBER 620784	DATE
CITY ENGINEER'S OFFICE CITY HALL - SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202-1620 (316) 268-4501		SHEET 35 OF 36

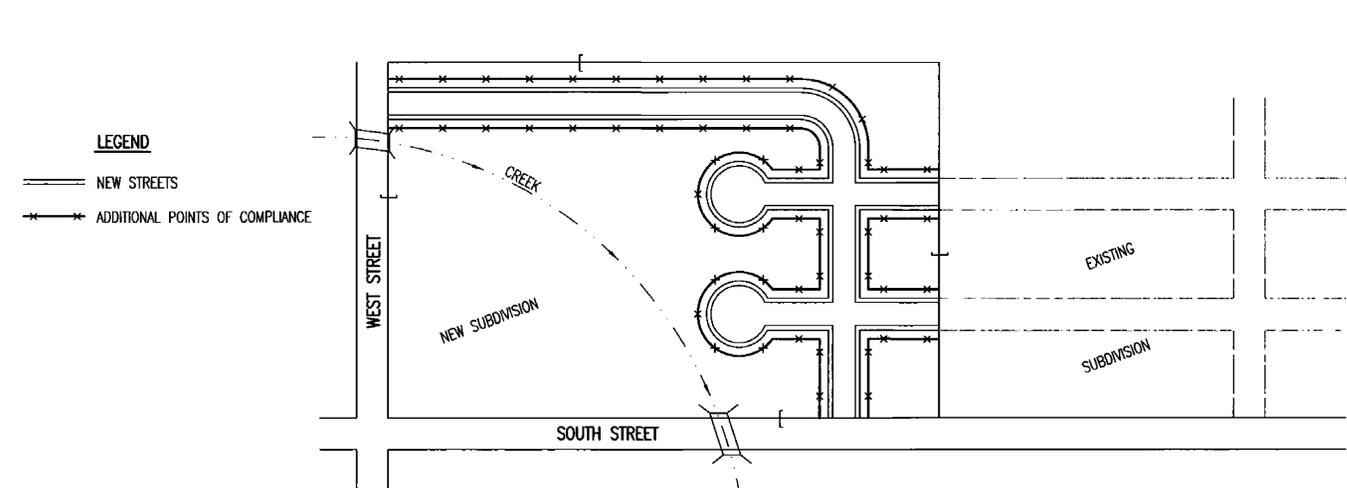
REVISION: JUNE 2015

PHASE 1 – INITIAL EARTHWORK AND UTILITIES (EXCEPT STORM SEWER)



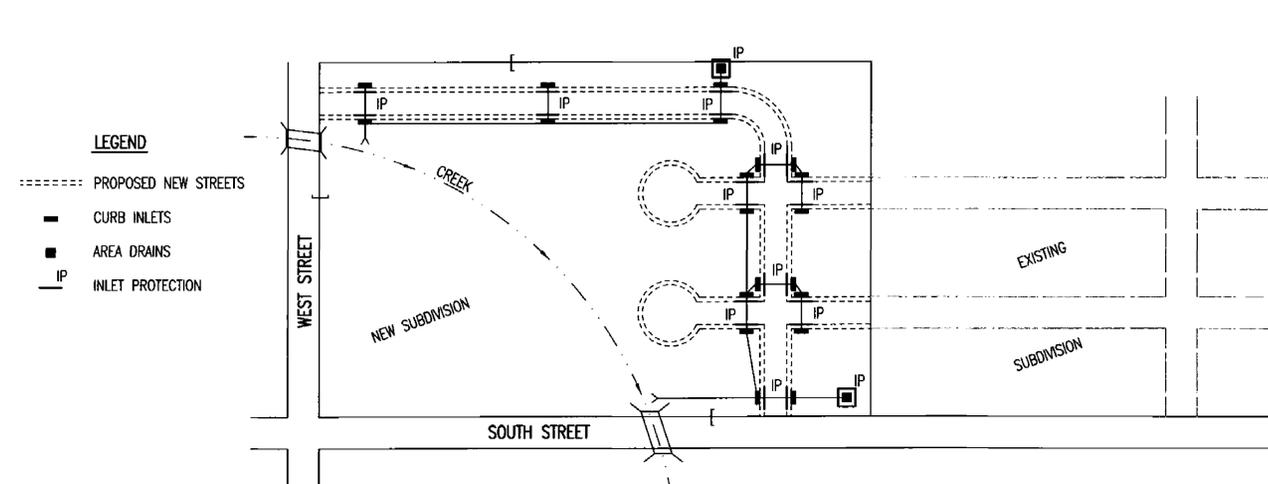
- LEGEND**
- DRAINAGE FLOW PATH
 - RIDGE LINES
 - x POINT OF COMPLIANCE
 - S,H SILT FENCE OR HAY BALE BARRIER
 - - - DRAINAGEWAY FLOWLINE
1. DURING THIS PHASE OF SUBDIVISION CONSTRUCTION, THE POINTS OF COMPLIANCE ARE THE PERIMETER BOUNDARIES AND ANY DRAINAGE WAYS OR STORM SEWERS DRAINING THROUGH OR FROM THE SITE. SHOULD LAKES BE CONSTRUCTED WITHIN THE SUBDIVISION THAT WILL DISCHARGE DURING STORMS, THEY ARE ALSO A POINT OF COMPLIANCE.
 2. HAY BALES OR SILT FENCE MUST BE CONSTRUCTED ALONG THE PROPERTY LINE WHERE ON SITE WATER CAN DRAIN OFF THE PROPERTY. THESE EROSION CONTROL DEVICES WILL ALSO BE INSTALLED ALONG ANY DRAINAGE DITCH OR LAKE THAT CAN DISCHARGE.
 3. SHOULD SILT OR SEDIMENT ENTER THE DITCHES OR STREETS ON THE ADJACENT BOUNDARY STREETS, APPROPRIATE EROSION CONTROL DEVICES WILL BE PLACED WITHIN THE SUBDIVISION TO PREVENT THIS.
 4. ANY MUD TRACKED ONTO ADJACENT STREETS WILL BE REMOVED WITHIN 48 HOURS OR BY FRIDAY AT 6:00 PM, WHICHEVER IS EARLIER.
 5. CONTRACTORS WORKING WITHIN THE SITE WILL NOT BE REQUIRED TO USE INDIVIDUAL EROSION CONTROL DEVICES AS LONG AS THOSE SPECIFIED ABOVE ARE IN PLACE AND EFFECTIVE. CONTRACTORS WORKING ON THE BOUNDARY LINE STREETS OR ON ADJACENT PROPERTIES TO EXTEND UTILITIES ARE EXPECTED TO USE EROSION CONTROL DEVICES AT THEIR WORK LOCATIONS, AS NEEDED.
 6. UTILIZE STABILIZED CONSTRUCTION ENTRANCE AT ENTRANCE AND EXIT ONTO ANY EXISTING PUBLIC STREETS.
 7. IF THE INITIAL EARTH WORK AND UTILITIES ARE DONE AS PART OF A PUBLIC IMPROVEMENT PROJECT, THESE EROSION CONTROL DEVICES WILL BE INSTALLED BY THE CONTRACTOR AS SPECIFIED IN THE INDIVIDUAL PROJECT CONTRACTS. THE CONTRACTOR WILL MAINTAIN THE DEVICES UNTIL COMPLETION OF THE CONTRACT, AT WHICH TIME THE DEVELOPER WILL ASSUME MAINTENANCE RESPONSIBILITIES. IF THESE CONTRACTS ARE NOT PUBLIC IMPROVEMENT PROJECTS, THE DEVELOPER WILL BE RESPONSIBLE FOR INSTALLING AND MAINTAINING THESE DEVICES.
 8. WITHIN 14 DAYS OF COMPLETION OF EARTHWORK ACTIVITIES IN ANY GIVEN AREA, THAT AREA SHALL BE TEMPORARILY OR PERMANENTLY SEEDED AND MULCHED.

PHASE 3 – STREET CONSTRUCTION



- LEGEND**
- NEW STREETS
 - x ADDITIONAL POINTS OF COMPLIANCE
1. DURING THIS PHASE OF SUBDIVISION CONSTRUCTION, NEW STREETS ARE INSTALLED. ALL EROSION CONTROL DEVICES INSTALLED DURING PHASE 1 AND 2 MUST STILL BE MAINTAINED. THE POINT OF COMPLIANCE NOW SHIFTS TO THE BACK OF CURB ALONG EACH STREET.
 2. CURB OPENING INLET PROTECTION:
 - A. SUMP AREAS – INLET PROTECTION SHALL BE PROVIDED WHEN STREET SUBGRADE WORK IS COMPLETED.
 - B. NON-SUMP LOCATIONS – PROVIDE INLET PROTECTION AS SOON AS BASE COURSE ASPHALT IS INSTALLED, BEFORE THE SURFACE COURSE LIFT.
 3. EROSION CONTROL DEVICES WILL BE REQUIRED BACK OF CURB WHEREVER WATER CAN FLOW OVER THE CURB AND THE CURB HAS BEEN BACKFILLED TO WITHIN 3" OR LESS OF THE TOP OF CURB (SEE CURB BACKFILL DETAIL). FOR CURBS NOT YET ENTIRELY BACKFILLED (3" OR MORE BELOW TOP OF CURB), ADDITIONAL DEVICES WILL BE REQUIRED AT POINTS WHERE WATER BREAKS OVER CURB WHICH COULD RESULT IN THE PLACEMENT OF SEDIMENT IN THE GUTTER.
 4. SEE DETAIL SHEET FOR BACK OF CURB PROTECTION.
 5. THE BACK OF CURB PROTECTION SPECIFIED ON THIS PLAN MAY HAVE TO BE SUPPLEMENTED WITH HAY BALE OR SILT FENCE EROSION CONTROL DEVICES AT LOCATIONS WHERE CONCENTRATED FLOW RESULTS IN SEDIMENT BEING CARRIED OVER THE EXCELSIOR MATS.
 6. THE STREET CONTRACTOR WILL BE RESPONSIBLE FOR INSTALLING BACK OF CURB EROSION CONTROL DEVICES.
 7. THE INDIVIDUAL LOT OWNERS WILL BE RESPONSIBLE FOR MAINTAINING THE BACK OF CURB EROSION CONTROL DEVICES IN FRONT OF THEIR LOTS UNTIL SUCH TIME AS ADJACENT DISTURBED EARTH IS STABILIZED WITH GRASS OR SOD.

PHASE 2 – INSTALLATION OF STORM SEWER

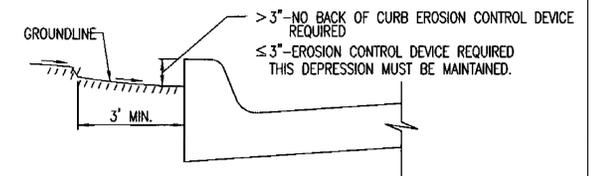


- LEGEND**
- - - PROPOSED NEW STREETS
 - CURB INLETS
 - AREA DRAINS
 - IP INLET PROTECTION
1. DURING THIS PHASE OF SUBDIVISION DEVELOPMENT, ALL EROSION CONTROL DEVICES REQUIRED IN PHASE 1 SHALL REMAIN IN PLACE AND BE MAINTAINED.
 2. AS NEW STORM SEWERS, WITH INLETS, ARE INSTALLED, THE STORM SEWERS MUST NOW BE PROTECTED SO ALL NEW INLETS BECOME POINTS OF COMPLIANCE.
 3. AREA DRAINS – AS SOON AS WATER CAN FLOW INTO THESE DRAINS, HAY BALE OR SILT FENCE PROTECTION WILL BE INSTALLED AROUND THEM.
 4. CURB OPENING INLETS – AS SOON AS WATER CAN FLOW INTO THESE DRAINS, INLET PROTECTION DEVICES MUST BE INSTALLED. IF WATER CANNOT FLOW INTO CURB INLETS UNTIL STREET CONSTRUCTION IS COMPLETE, THEN STREET CONTRACTOR WILL INSTALL INLET PROTECTION. SEE PHASE 3 – STREET CONSTRUCTION.
 5. THE STORM SEWER CONTRACTOR WILL BE RESPONSIBLE FOR INSTALLING THESE DEVICES.
 6. THE SUBDIVISION DEVELOPER WILL MAINTAIN THESE EROSION CONTROL DEVICES ONCE INSTALLED.
 7. ALL DISTURBED GROUND WILL BE FINAL GRADED AND TEMPORARILY OR PERMANENTLY SEEDED WITHIN 14 DAYS IF COMPLETION OF WORK IN ANY GIVEN PART OF THE SUBDIVISION.
 8. ONCE ALL DISTURBED GROUND DRAINING TO AN INLET HAS BEEN RESTABILIZED WITH GRASS OR SOD, THE SUBDIVISION DEVELOPER WILL BE RESPONSIBLE FOR PERMANENTLY REMOVING THE INLET PROTECTION.

GENERAL NOTES

1. THE INTENT OF ALL EROSION CONTROL DEVICES IS TO PREVENT ERODED SOIL FROM ENTERING DITCHES, STORM SEWERS, LAKES, STREETS OR ANY OTHER OTHER DRAINAGE FEATURE.
2. THIS SHEET IS INTENDED TO PROVIDE GUIDELINES AS TO WHAT TYPE OF EROSION CONTROL DEVICES WILL BE INSTALLED DURING THE CONSTRUCTION PROCESS. CONTRACTORS ARE EXPECTED TO BID PROJECTS ACCORDINGLY.
3. EROSION CONTROL DEVICES SHALL BE MAINTAINED DURING THE CONSTRUCTION PROCESS TO REMAIN EFFECTIVE. MAINTENANCE SHALL BE AS INDICATED ON SOIL EROSION BMP'S DETAIL SHEETS.
4. PERSONS DESTROYING EROSION CONTROL DEVICES SHALL BE RESPONSIBLE FOR IMMEDIATELY REPAIRING THEM OR INSTALLING SUITABLE REPLACEMENT DEVICES.
5. THE DEVELOPMENT OF ANY SUBDIVISION THAT DISTURBS 1 ACRE OR MORE WILL REQUIRE A FEDERAL/STATE NPDES STORMWATER PERMIT. THE PREPARATION OF A STORMWATER POLLUTION PREVENTION PLAN IS REQUIRED. EROSION CONTROL DEVICES ARE REQUIRED. THE DETAILS SHOWN ON THIS SHEET ARE THE MINIMUM STANDARDS TO BE SHOWN ON POLLUTION PREVENTION PLANS.
6. FOR SUBDIVISIONS SMALLER THAN 1 ACRE, SOIL EROSION DEVICES ARE REQUIRED. ALSO, DEVELOPERS AND CONTRACTORS ARE ENCOURAGED TO DEVELOP POLLUTION PREVENTION PLANS FOR EACH PROJECT PRIOR TO CONSTRUCTION.
7. FAILURE TO USE AND MAINTAIN SOIL EROSION DEVICES IS A VIOLATION OF SECTION 16.32 OF THE CITY CODE AND WILL SUBJECT THE SUBDIVISION DEVELOPER AND CONTRACTORS TO THE PENALTIES PROVIDED THEREIN.
8. THE APPLICATION OF EROSION CONTROL DEVICES SHOWN ON THIS SHEET IS FOR SITUATIONS NORMALLY ENCOUNTERED. FROM TIME TO TIME, SITUATIONS WILL ARISE THAT MAY REQUIRE DEVICES OTHER THAN THAT SHOWN. EROSION CONTROL DEVICES, OTHER THAN THOSE SHOWN, MAY BE UTILIZED SO LONG AS THEY ARE EFFECTIVE AND MAINTAINED.
9. A STABILIZED EARTH SURFACE IS DEFINED AS ONE THAT IS HARD SURFACED WITH CONCRETE, ASPHALT, OR THE LIKE, OR ONE ON WHICH 70% OF THE GRASS HAS GERMINATED ON THE ENTIRE SURFACE.

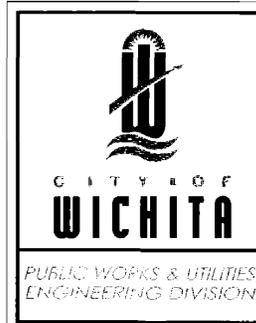
SEE DETAIL SHEET FOR BACK OF CURB PROTECTION DETAIL



CURB BACKFILL DETAIL (STREET CONSTRUCTION ONLY)

THIS IS A TEMPORARY MEASURE ONLY, WHEN APPROVED BY THE PROJECT ENGINEER. THE DIRT GRADE BEHIND THE CURB SHALL BE BROUGHT TO THE TOP OF CURB, WITH TEMPORARY EROSION CONTROL MAT OR PERMANENT VEGETATION PLACED, PRIOR TO THE COMPLETION OF ALL PROJECTS.

REVISION DATE: MAY 2013



SUBDIVISION DEVELOPMENT PROCESS

CITY ENGINEER
GARY JANZEN, P.E.

PROJECT NUMBER 468-85095	OCA NUMBER 620784	DATE
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SHEET
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