CONSTRUCTION PLANS

FOR

HESS PUMP STATION

SITE VALVE REPLACEMENT (PHASES 3-5/D-J)

PHASE E-J ONLY MARKUPS

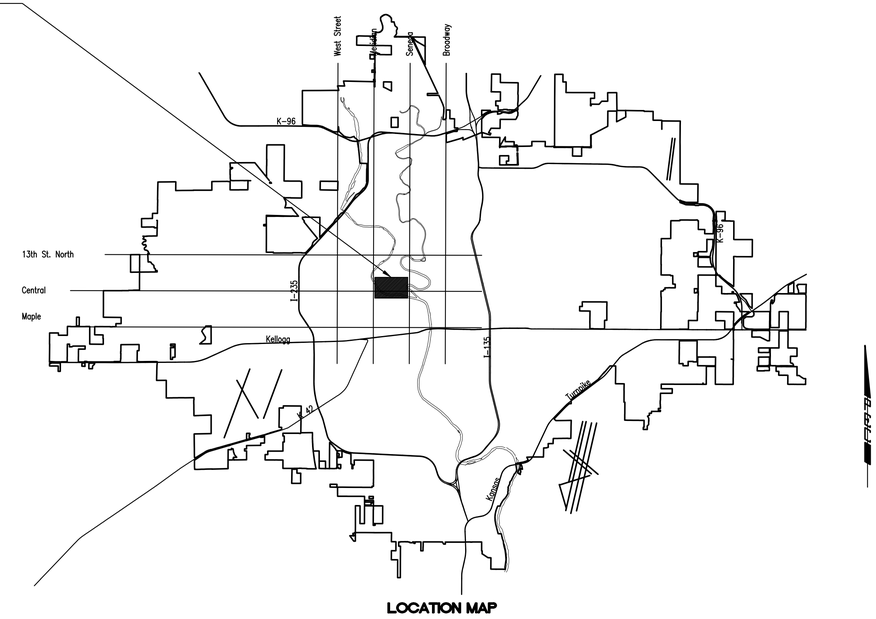
PHASE D ALREADY UNDER CONTRACT

WATERLINE: CITY OF WICHITA ENGINEERING PROJECT NO. 448-2021-_____
ORG CODE _____, MUNIS NO. _____

CITY OF WICHITA, KANSAS

PAUL GUNZELMAN, P.E. - CITY ENGINEER

PROJECT SITE



LOCATION MAP

NOVEMBER 2024

INDEX OF SHEETS

PEC
PROFESSIONAL ENGINEERING CONSULTANTS
303 SOUTH TOPEKA
WICHITA, KS 67202
316-262-2691 www.pec1.com

CITY OF WICHITA

TREVOR KAUFMAN
CERTIFICATE NUMBER
26008
11/13/2024
KANSAS
PROFESSIONAL ENGINEER

CONSTRUCTION PLANS
FOR
HESS PUMP STATION
SITE VALVE REPLACEMENT
(PHASES 3-5/D-J)
PAUL GUNZELMAN, P.E. - CITY ENGINEER
CITY OF WICHITA PROJECT NO. 448-2021-_____

Issue:		

JOB NO.	35-200335-004-0042
DATE	SEPTEMBER 2024
PM	TBK
DESIGNED BY	KJW
DRAWN BY	KTD
CHECKED BY	RWG

TITLE SHEET

C-001

SAVED 11/13/2024 1:19:10 PM BY KURTIS.DEKAT
PLOTTED 11/13/2024 1:19:49 PM BY KURTIS.DEKAT
U:\WICHITA-CIVIL\2020\200335\004\PEC\DRAWINGS\PHASE 3, 4, AND 5\200335-004-C-001.DWG

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIALS TO COMPLY WITH CITY OF WICHITA STANDARD CONSTRUCTION SPECIFICATIONS AND DETAILS, UNLESS OTHERWISE INCLUDED IN THE CONTRACT DOCUMENTS.

2. EACH BIDDER SHALL VISIT THE SITE OF THE PROJECT BEFORE SUBMITTING THE PROPOSAL FOR THIS WORK SO THAT THEY WILL BE FULLY INFORMED OF THE EXISTING FIELD CONDITIONS AND THE OBSTACLES WHICH MIGHT BE ENCOUNTERED. UPON AWARD OF THE CONTRACT THE CONTRACTOR WILL NOT BE GRANTED ANY ADDITIONAL COMPENSATION WITH REGARDS TO TIME AND MONEY FOR CONDITIONS THAT MAY HAVE BEEN EVALUATED DURING ANY INSPECTION OF THE SITE.

3. AT LEAST 72 HOURS PRIOR TO BEGINNING ANY EXCAVATION (EXCLUDING WEEKENDS AND HOLIDAYS), THE CONTRACTOR SHALL CONTACT THE KANSAS ONE-CALL SYSTEM, A UTILITY LOCATION SERVICE, AT (316)-687-2470 OR 811 TO REQUEST THE LOCAL UTILITY COMPANIES TO LOCATE ANY EXISTING LINES WITHIN THE PROJECT AREA.

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

EMERGENCY DISPATCH:	911
CITY OF WICHITA WATER & SEWER:	316-219-8921
CITY OF WICHITA STORMWATER:	316-268-4090
CITY OF WICHITA TRAFFIC	316-268-4034

5. THE CONTRACTOR SHALL GIVE ALL PROPERTY OWNERS AND/OR TENANTS OF DEVELOPED PROPERTY DIRECTLY ABUTTING THE CONSTRUCTION OF THIS PROJECT A MINIMUM OF SEVEN (7) DAYS ADVANCE NOTICE PRIOR TO THE START OF CONSTRUCTION.

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

7. ALL ELEVATIONS SHOWN ARE NAVD88 DATUM. PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL RE-ESTABLISH HORIZONTAL AND VERTICAL CONTROL POINTS AND VERIFY THEIR ACCURACY.

8. EXISTING UTILITIES AND THEIR LOCATION, AS SHOWN ON THE DRAWINGS, REPRESENT THE BEST INFORMATION OBTAINABLE FOR DESIGN. LOCATION INFORMATION HAS BEEN OBTAINED FROM THE VARIOUS UTILITY COMPANIES AND IS EITHER FROM COMPANY RECORD DRAWINGS OR COMPANY PROVIDED FIELD LOCATIONS. IT SHOULD BE NOTED THAT OTHER BURIED LINES AND CABLES MAY EXIST WHICH ARE NOT SHOWN ON THESE DRAWINGS. THE CONTRACTOR SHALL HAVE ALL BURIED LINES LOCATED AND FLAGGED IN THE FIELD PRIOR TO COMMENCING WORK. THE CONTRACTOR SHALL CONTACT THE ENGINEER AND REVIEW ANY BURIED LINES LOCATED IF CONFLICTS EXIST. THE CONTRACTOR WILL BE REQUIRED TO WORK AROUND EXISTING UTILITIES WITHIN THE RIGHT-OF-WAY WHICH DO NOT CONFLICT WITH PROPOSED CONSTRUCTION. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION DURING TRENCHING OPERATIONS TO AVOID DAMAGING THESE LINES. ANY LINES DAMAGED SHALL BE REPLACED OR REPAIRED IMMEDIATELY AS DIRECTED BY THE ENGINEER AT THE CONTRACTOR'S EXPENSE.

9. THE CONTRACTOR SHALL EXPOSE AND VERIFY THE VERTICAL AND HORIZONTAL LOCATION OF EXISTING UTILITIES THAT ARE IN POTENTIAL CONFLICT WITH THE PROPOSED IMPROVEMENTS. THE UTILITY LOCATES SHALL BE PERFORMED PRIOR TO THE START OF CONSTRUCTION AND ANY DISCREPANCIES SHALL BE REPORTED IMMEDIATELY TO THE ENGINEER.

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

11. EASEMENTS AND RIGHTS-OF-WAY PROVIDED BY THE OWNER FOR THE PROJECT ARE SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ACQUISITION OF ANY ADDITIONAL TEMPORARY EASEMENTS OR RIGHTS-OF-WAY DESIRED TO USE IN COMPLETING THE WORK.

12. THE CONTRACTOR SHALL CONTAIN THEIR OPERATIONS TO PERMIT LOCAL AND EMERGENCY TRAFFIC THROUGH AND ACROSS CONSTRUCTION AT ALL TIMES. THE CONTRACTOR SHALL UTILIZE WARNING SIGNS, FLASHING LIGHTS, BARRICADES, AND FLAGMEN IN COMPLIANCE WITH THE LATEST VERSION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

13. RUBBLE FROM THE REMOVAL OF MISCELLANEOUS STRUCTURES INCLUDING ANY TREES REMOVED, TREE TRIMMINGS, AND EXCESS EXCAVATION WHICH IS TO BE WASTED SHALL BE DISPOSED OF ON SITES PROVIDED BY THE CONTRACTOR. THESE SITES SHALL ALSO BE APPROVED BY THE ENGINEER AS TO SUITABILITY, APPEARANCE, AND SITE LOCATION. LOCATIONS THAT, IN THE OPINION OF THE ENGINEER, 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 WILL REQUIRE A KANSAS STATE BOARD OF AGRICULTURE PERMIT. ANY MATERIAL DUMPED IN WATERS OF THE UNITED STATES, FLOODWAYS, OR WETLANDS IS SUBJECT TO U.S. CORPS OF ENGINEERS PERMITTING REGULATIONS. ANY MATERIAL BURIED OR STOCKPILED BEYOND APPROVED CONSTRUCTION LIMITS MAY REQUIRE ARCHAEOLOGICAL INVESTIGATIONS UNLESS BURIED IN A PREVIOUSLY APPROVED DISPOSAL LOCATION.

14. THE CONTRACTOR SHALL AVOID REMOVAL OR TRIMMING OF ANY TREES OR SHRUBS WHERE POSSIBLE. WHERE THE CONTRACTOR BELIEVES THE REMOVAL OR TRIMMING IS UNAVOIDABLE, THIS WORK SHALL BE COORDINATED WITH THE ENGINEER. TREE TRIMMING/REMOVAL SHALL BE COMPLETED IN ACCORDANCE WITH U.S FISH AND WILDLIFE SERVICE, AND KANSAS DEPARTMENT OF WILDLIFE, PARKS, AND TOURISM RESTRICTIONS. FULL TREE REMOVAL SHALL BE NOTED ON THE PLANS AND SHALL BE BID AS "TREE REMOVED, LARGE", "TREE REMOVED, SMALL", OR "TREE ROW REMOVED".

15. THE CONTRACTOR SHALL RESTORE ALL DITCHES, SWALES, ROAD SHOULDERS, AND BANKS TO THEIR ORIGINAL SLOPES AND GRADES EXCEPT AS SHOWN OTHERWISE. WHERE EXISTING ENTRANCE PIPE, DRAINAGE PIPE, SIGNS, FENCES, LANDSCAPING, ETC., CONFLICT WITH THE PROPOSED WORK HEREIN, THEY SHALL BE REMOVED AND REPLACED OR RESET, UNLESS OTHERWISE NOTED ON THE DRAWINGS.

16. THE CONTRACTOR SHALL INSTALL AND/OR MAINTAIN EROSION CONTROL METHODS AS SPECIFIED ON THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING EROSION CONTROL THROUGH THE COMPLETION OF THIS PROJECT. INSTALLATION OF THESE EROSION CONTROL DEVICES DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF ABATING SOIL EROSION. THE FOLLOWING QUANTITIES ARE ESTIMATED, AND SHOULD BE CONSIDERED THE MINIMUM EFFORT REQUIRED.

SILT FENCE BARRIER 133 L.F.

17. THE CONTRACTOR SHALL TAKE CARE TO PREVENT SILT AND DEBRIS FROM ENTERING ANY STORM DRAINAGE SYSTEM DURING CONSTRUCTION. PIPES OR STRUCTURES WHICH CONTAIN MATERIALS FROM THE CONTRACTORS ACTIVITIES SHALL BE THOROUGHLY CLEANED BY THE CONTRACTOR, AT THEIR OWN EXPENSE, PRIOR TO THE FINAL INSPECTION.

18. RECONSTRUCTION OF EROSION CONTROL MEASURES WHICH ARE DESTROYED BY WIND, FLOOD, FIRE, OR BY THE ACTIONS OF THE CONTRACTOR OR OTHERS SHALL BE PERFORMED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER AT NO ADDITIONAL COST. WHERE ADJUSTMENTS IN QUANTITIES ARE REQUIRED BY FIELD CONDITIONS, THERE SHALL BE NO ADJUSTMENT IN UNIT PRICE.

19. ALL LAWN/TURF AREAS DISTURBED BY CONSTRUCTION OF THE PROPOSED IMPROVEMENTS SHALL BE RESTORED WITH THE SAME GRASS/SOD AS EXISTING. RESTORATION OF DISTURBED AREAS SHALL INCLUDE, BUT NOT BE LIMITED TO, TOP SOIL PREPARATION, SEEDING, MULCHING, AND/OR RE-SEEDING. ALL SEEDING/SODDING WORK SHALL BE IN ACCORDANCE WITH THE CITY OF WICHITA STANDARD SPECIFICATIONS. ALL COSTS FOR THIS WORK SHALL BE SUBSIDIARY TO "SITE RESTORATION".

20. THE CONTRACTOR SHALL SEED ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES WITH TEMPORARY RYE GRASS. RYE GRASS SEED SHALL BE PLANTED AT A MINIMUM RATE OF SIX (6) POUNDS PER ONE THOUSAND (1,000) SQUARE FEET. THIS TEMPORARY SEEDING MAY BE OMITTED ONLY IF PERMANENT SEEDING/SODDING IS APPLIED. TEMPORARY SEEDING OR PERMANENT SEEDING/SODDING SHALL BE APPLIED WITHIN 14 DAYS AFTER THE AREA HAS BEEN DISTURBED.

21. OWNER SHALL BE RESPONSIBLE FOR CONSTRUCTION STAKING. STAKING AND BENCH MARKS DESTROYED DURING CONSTRUCTION OPERATIONS SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

22. CONTRACTOR SHALL MAINTAIN UNINTERRUPTED UTILITY SERVICE TO ADJACENT FACILITIES DURING CONSTRUCTION, UNLESS OTHERWISE APPROVED BY OWNER.

23. WRITTEN REQUEST TO THE OWNER WILL BE REQUIRED 72 HOURS PRIOR TO A SCHEDULED UTILITY OUTAGE. THE FIRE DEPARTMENT MUST BE NOTIFIED OF ANY FIRE HYDRANTS OR WATER MAINS TAKEN OUT OF SERVICE.

24. PROPERTIES WITHIN THE PROJECT LIMITS MAY HAVE UNDERGROUND SPRINKLER SYSTEMS IN PUBLIC RIGHT-OF-WAY WHICH CONFLICT WITH NEW CONSTRUCTION. CONTRACTOR WILL BE REQUIRED TO REMOVE SUCH IMPROVEMENTS SHOULD THEY NOT BE REMOVED BY THEIR OWNER AT THE TIME OF CONSTRUCTION OF THE PROJECT. THE CONTRACTOR SHALL REMOVE, REPLACE OR RESET ANY SPRINKLER HEADS, PIPES, AND/OR VALVES WHICH CONFLICT WITH CONSTRUCTION. ANY SPRINKLER HEADS, PIPES, AND/OR VALVES DAMAGED BY CONSTRUCTION OPERATIONS SHALL BE REPLACED IN KIND AT NO ADDITIONAL COST TO THE OWNER. PORTIONS OF UNDERGROUND SPRINKLER SYSTEMS NOT IN CONFLICT WITH NEW CONSTRUCTION SHALL BE PROTECTED FROM DAMAGE AND SHALL REMAIN IN PLACE.

25. THE CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL LOCATION, TYPE, SIZE AND CLASS OF EXISTING WATERLINES PRIOR TO MAKING CONNECTIONS. EXISTING WATERLINE LOCATIONS AS SHOWN ON THE DRAWINGS ARE APPROXIMATE. CONTRACTOR SHALL MAKE ADJUSTMENTS AS REQUIRED. PROVISION AND INSTALLATION OF PIPE ADAPTORS, SHORT SECTION OF PIPE, AND COUPLERS SHALL BE AT NO ADDITIONAL COST TO THE PROJECT.

26. THE CONTRACTOR MUST SCHEDULE THE CONNECTIONS TO THE EXISTING WATER DISTRIBUTION SYSTEM WITH THE CITY SUCH THAT THERE IS MINIMUM DISRUPTION TO THE SYSTEM.

27. THE CONTRACTOR SHALL LIMIT THE EXTENT OF TRENCH TO REMAIN OPEN OVERNIGHT AND WEEKENDS TO LESS THAN 50 FEET.

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

29. MAINTAIN A MINIMUM OF 10-FOOT HORIZONTAL SEPARATION BETWEEN ALL WATER LINES (MAINS, SERVICES, AND FIRE HYDRANTS) AND ALL SANITARY SEWER LINES (MAINS, SERVICES, AND MANHOLES). ALL SEPARATIONS DISTANCES ARE TO BE MEASURED FROM EDGE-TO-EDGE, AT THE CLOSEST POINT.

30. MAINTAIN A MINIMUM OF 2-FOOT VERTICAL SEPARATION BETWEEN ALL WATER LINES (MAIN AND SERVICES) AND ALL GRAVITY SANITARY SEWER LINES (MAINS, SERVICES, AND MANHOLES) AT CROSSINGS. ALL SEPARATION DISTANCES ARE TO BE MEASURED FROM EDGE-TO-EDGE, AT THE CLOSEST POINT.

31. MAINTAIN A MINIMUM OF 2-FOOT VERTICAL SEPARATION BETWEEN ALL WATER LINES (MAINS AND SERVICES) AND ALL PRESSURIZED SANITARY SEWER LINES (FORCE MAINS AND SERVICES) AT CROSSINGS. WATERLINES MUST ALWAYS BE PLACED ABOVE PRESSURIZED SANITARY SEWER LINES WHERE THEY CROSS. ALL SEPARATION DISTANCES ARE TO BE MEASURED FROM EDGE-TO-EDGE, AT THE CLOSEST POINT.

32. CONTRACTOR TO VERIFY SCHEDULE AND METHOD OF PLUGGING AND DRAINING ALL PIPE AND RESERVOIRS WITH THE CITY AND COORDINATE WITH WILDCAT CONSTRUCTION.

33. ALL VALVES, MANUAL OPERATORS, AND ELECTRIC OPERATORS SHALL BE PROVIDED BY THE CITY. CONTRACTOR SHALL PROVIDE DRIVE SHAFTS AND OTHER NECESSARY ACCESSORIES FOR INSTALLATION.

34. THE CONTRACTOR SHALL RESTRAIN ALL BENDS, VALVES, AND TEES THROUGH THE USE OF A RESTRAINED JOINT PIPE AS SPECIFIED, AT THE MINIMUM LENGTHS AS SHOWN IN THE PLANS. OTHER METHODS OF RESTRAINT MAY BE SUBMITTED FOR APPROVAL AT LEAST 14 DAYS PRIOR TO BIDDING. RESTRAINED JOINT DUCTILE IRON PIPE SHALL BE U.S. PIPE TR FLEX, AMERICAN FLEX RING, OR APPROVED EQUAL, IN ACCORDANCE WITH CITY OF WICHITA STANDARD SPECIFICATIONS. RESTRAINED JOINT PVC PIPE SHALL BE NORTH AMERICAN CERTA-LOK PIPE, OR APPROVED EQUAL, IN ACCORDANCE WITH CITY OF WICHITA STANDARD SPECIFICATIONS. WELDED STEEL PIPE, PER PROJECT SPECIFICATIONS, MAY BE USED AS RJ PIPE. THE USE OF MECHANICAL JOINT RESTRAINTS (MEGALUG OR APPROVED EQUAL) ON MJ DUCTILE IRON FITTINGS WHERE RJ FITTINGS ARE NOTED IS ACCEPTABLE WHEN THE MECHANICAL JOINT RESTRAIN IS ATTACHED TO PROPOSED DUCTILE IRON PIPE.

35. CONTRACTOR SHALL PROVIDE DISPOSAL OF ALL REMOVED VALVES AND OTHER MATERIALS

36. THE CONTRACTOR SHALL SIZE ALL EQUIPMENT USED FOR BYPASS PUMPING TO ADEQUATELY HANDLE THE 25,000 GPM FLOWRATE AS REQUIRED. THE PROPOSED BYPASS PUMPING SYSTEM SHALL BE APPROVED BY ENGINEER AND THE CITY OF WICHITA. THE APPROVAL OF THE BYPASSING SYSTEM IN ADVANCE BY THE ENGINEER OR THE CITY SHALL IN NO WAY RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY AND/OR PUBLIC LIABILITY. ALL EQUIPMENT USED IN THE BYPASS PUMPING PROCESS SHALL BE NSF 61 CERTIFIED AND AWWA CERTIFIED AS REQUIRED. THE METHOD USED TO DISCHARGE THE BYPASS LINE INTO THE 9.7 MG RESERVOIR SHALL BE APPROVED BY THE ENGINEER AND THE CITY. CONSTRUCTION OF THE BYPASS LINE SHALL BE DONE TO MAINTAIN TWO-WAY TRAFFIC ALONG MUSEUM BOULEVARD AND SHALL BE APPROVED BY THE ENGINEER AND THE CITY.

37. ALL HARDWARE (BOLTS, NUTS, ETC.) USED ON FLANGED CONNECTIONS SHALL BE STAINLESS STEEL. ALL HARDWARE USED ON MJ FITTINGS SHALL BE CORTEN STEEL.

38. FLANGE GASKET MATERIAL SHALL BE FULL FACE RED RUBBER.

39. PRESSURE TESTING OF INSTALLED PIPE/VALVES WILL NOT BE REQUIRED. VISUAL INSPECTION OF INSTALLED PIPES FOR LEAKS SHALL BE COMPLETED FOLLOWING INSTALLATION.

40. THE PROPOSED PHASING INCORPORATES THE WORK IN THIS PROJECT AND THE WORK IN THE HESS FLOW THROUGH SITE VALVE IMPROVEMENTS. THE CONTRACTOR SHALL COORDINATE THEIR WORK WITH (WILDCAT CONSTRUCTION, TAYLOR ROBILLARD, 316-945-9408). ALL TEMPORARY PLUGS, FLAG GATE LOCKS, AND RESERVOIR DRAINING/FILLING (EXCEPT FOR THE 9.7 MG RESERVOIR) WILL BE COMPLETED BY WILDCAT CONSTRUCTION. PROPOSED VALVES INSTALLED BY WILDCAT CONSTRUCTION SHALL BE OPERATED BY WILDCAT CONSTRUCTION.

41. THE CONTRACTOR SHALL ISOLATE AND DRAIN THE 9.7 MG RESERVOIR AND SUPPLY LINES AS REQUIRED FOR THE WORK PER PHASE D & E. THE WORK ASSOCIATED WITH DRAINING/FILLING RESERVOIRS FOR ALL REMAINING PHASES WILL BE COMPLETED BY WILDCAT CONSTRUCTION. ALL WATER DRAINED SHALL BE DE-CHLORINATED AND DISCHARGED INTO THE STORM WATER SYSTEM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A TEMPORARY DISCHARGE PERMIT THROUGH THE LOCAL KDHE OFFICE. THE CITY AND ENGINEER WILL PROVIDE ASSISTANCE IN OBTAINING THE PERMIT. THE RESERVOIR SHALL BE DISINFECTED AND RETURNED INTO SERVICE IN ACCORDANCE WITH AWWA REQUIREMENTS. THE RESERVOIR SHALL REMAIN ISOLATED FROM THE SYSTEM UNTIL IT IS VERIFIED THAT THE WATER QUALITY IN THE RESERVOIR MEETS ALL REQUIREMENTS. ALL EQUIPMENT THAT WILL BE IN DIRECT CONTACT WITH THE RESERVOIR SHALL BE NSF 61 CERTIFIED.

42. ANY DEWATERING OF THE VALVE VAULTS SHALL BE PERFORMED BY THE CITY.

43. ANY WORK ASSOCIATED WITH DEWATERING OF THE PIPES SHALL BE CONSIDERED SUBSIDIARY TO THE VALVE VAULTS IMPROVEMENTS.

44. STEEL PIPE SHALL CONFORM TO AWWA C200 AND HAVE A MINIMUM THICKNESS OF 0.5". STEEL PIPE SHALL HAVE A CEMENT LINER CONFORMING TO AWWA C205 AND SHALL HAVE A POLYURETHANE COATING CONFORMING TO AWWA C222 AT A MINIMUM 30 MILS DRY FILM THICKNESS.

Anticipated Project Schedule:

It is anticipated that Phases E-G will occur from November 2025 through April 2026. Phases H-J are anticipated to occur from October 2026 through March 2027. The Contractor shall coordinate their work and schedule with Wildcat Construction and all contract work is expected to be performed during these time frames.

UTILITY CONTACTS

JEFF CROSBY
WICHITA SANITARY SEWER
8TH FLOOR - CITY HALL
455 N. MAIN
WICHITA, KS 67202
316-268-4329

GREG LOLLEY
WICHITA WATER
8TH FLOOR - CITY HALL
455 N. MAIN
WICHITA, KS 67202
316-268-4334

JOE HICKLE
WICHITA STORM SEWER
7TH FLOOR - CITY HALL
455 N. MAIN
WICHITA, KS 67202
316-268-4307

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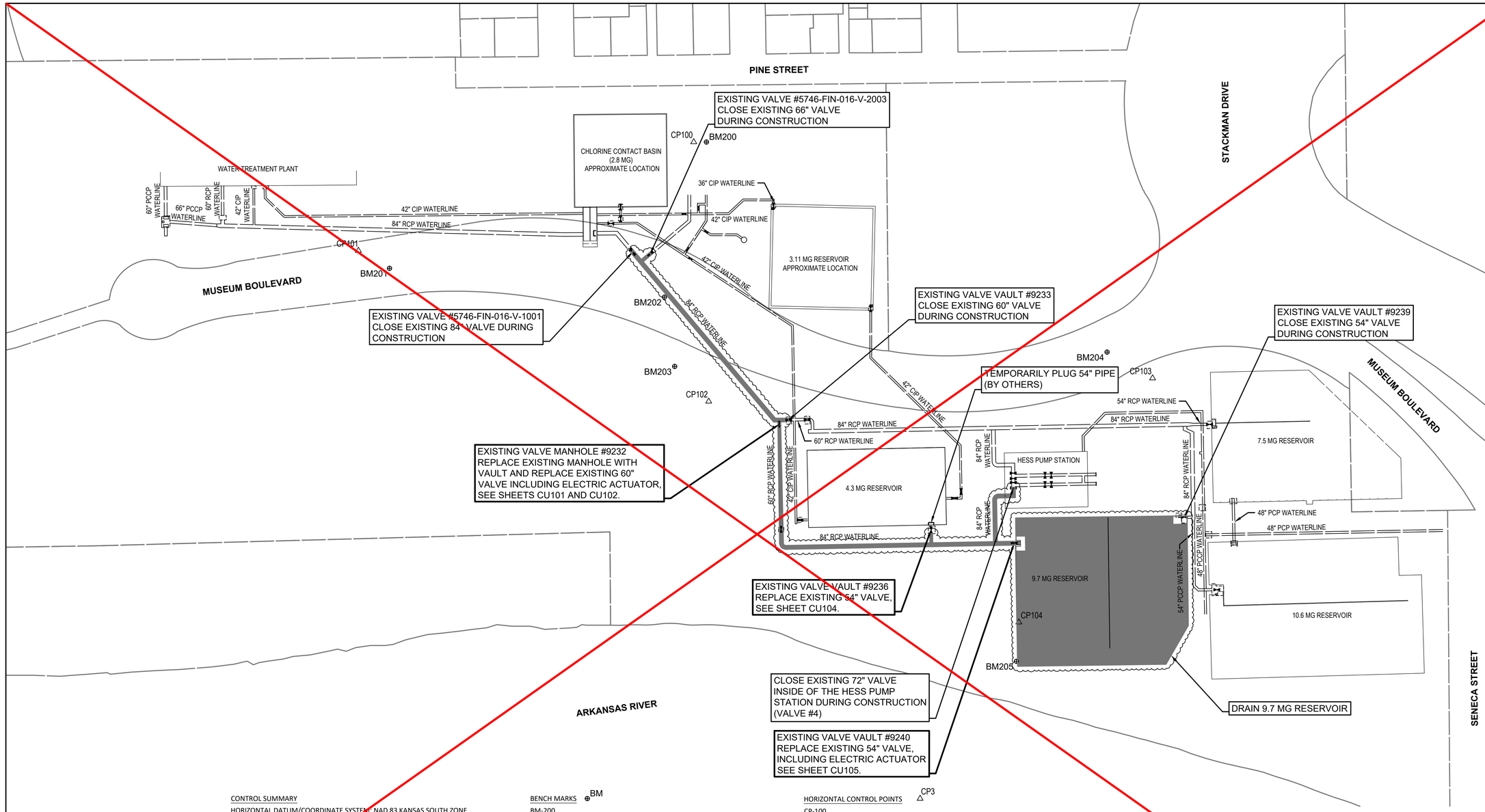
GENERAL NOTES

C-002



CONTROL SUMMARY
HORIZONTAL DATUM/COORDINATE SYSTEM: NAD 83 KANSAS SOUTH ZONE
PROJECT COORDINATE SYSTEM: (GRID) ON DESCRIBED COORDINATE SYSTEM
VERTICAL DATUM: NAVD 88
SCALE POINT: NORTHING: 1,688,939.2105
EASTING: 1,642,678.9853
COMBINED ADJUSTMENT FACTOR (CAF): GROUND TO GRID=0.99988571
GRID TO GROUND=1/0.99988571
DISTANCE UNITS: US SURVEY FEET

BENCH MARKS ⊕BM

BM-200
ELEV: 1,298.87 (NAVD 88)
SQUARE CUT "+" IN TOP CURB.

BM-201
ELEV: 1,302.36 (NAVD 88)
SQUARE CUT SET TOP OF CURB.

BM-203
ELEV: 1,299.87 (NAVD 88)
SQUARE CUT SET SOUTH END CATCH BASIN

BM-204
ELEV: 1,301.44 (NAVD 88)
SQUARE CUT SET END OF ISLAND.

BM-205
ELEV: 1,307.34 (NAVD 88)
SQUARE CUT FOUND NORTHWEST CORNER OF WATER VAULT.

HORIZONTAL CONTROL POINTS △CP3

CP-100
N: 1,688,939.2100 E: 1,642,678.9800
#4 IRON BAR SET WITH "MS GPS CP" CAP.

CP-101
N: 1,688,729.3700 E: 1,642,031.6200
#4 IRON BAR SET WITH "MS GPS CP" CAP.

CP-102
N: 1,688,729.3700 E: 1,642,707.8700
#4 IRON BAR SET WITH "MS GPS CP" CAP.

CP-103
N: 1,688,483.1800 E: 1,643,306.5700
#4 IRON BAR SET WITH "MS GPS CP"

CP-104
N: 1,688,011.9700 E: 1,643,306.5700
"PK" NAIL FOUND

NO WORK ON THIS SHEET IS INCLUDED

SCALE:
0 100' 200'

LEGEND
EXISTING WATER MAIN
EXISTING WATER VALVE
DENOTES CAP OR PLUG
OUT OF SERVICE DURING CONSTRUCTION

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

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DATE	SEPTEMBER 2024
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DRAWN BY	KTD
CHECKED BY	RWG

KEY MAP & BUBBLE MAP (PHASE D)

C-003

SAVED 10/4/2024 3:38:47 PM BY KURTIS.DEKAT
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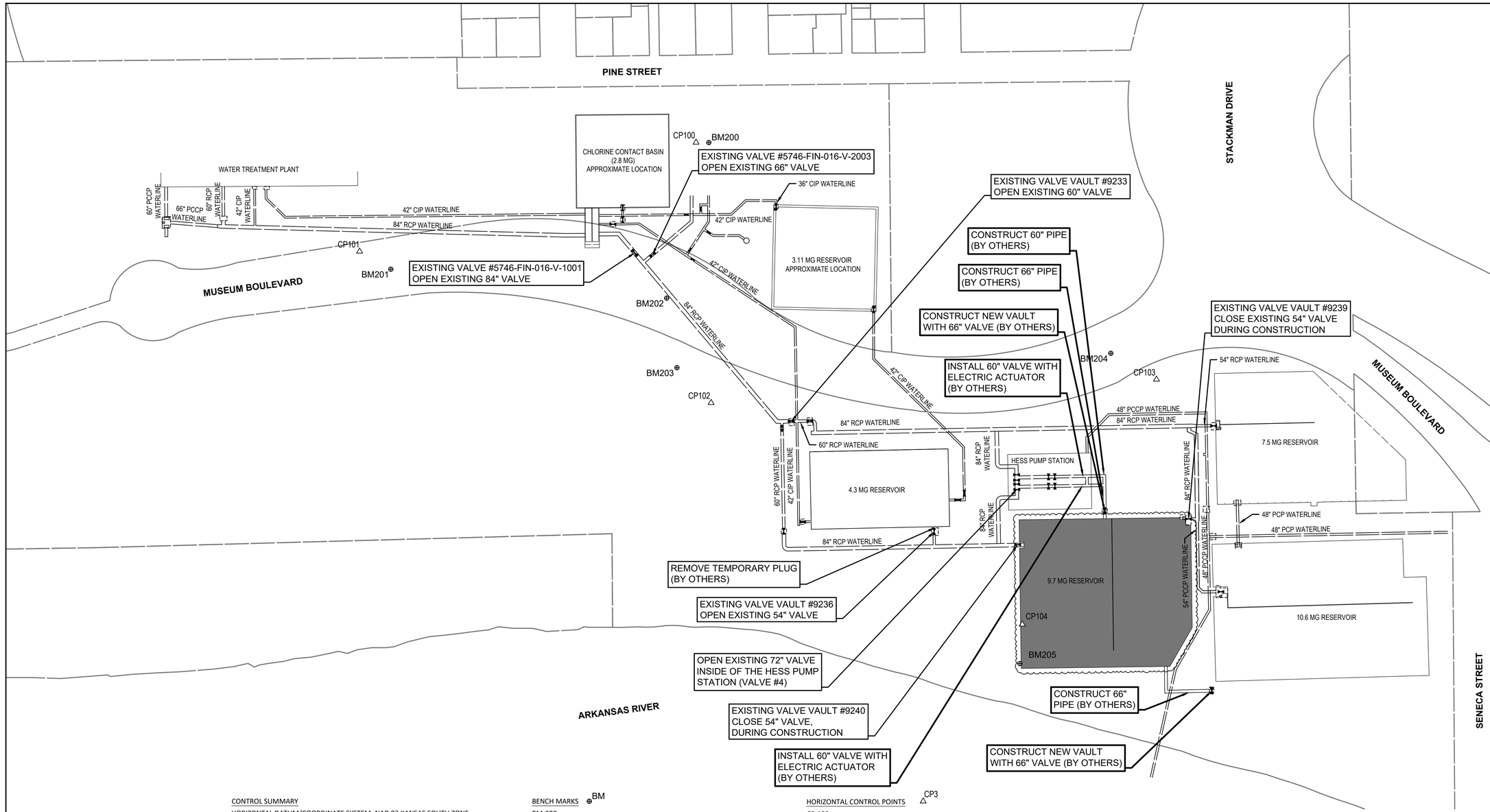

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ALL WORK ON THIS SHEET IS INCLUDED

SCALE:
0 100' 200'

LEGEND

- EXISTING WATER MAIN
- EXISTING WATER VALVE
- PROPOSED WATER MAIN
- DENOTES CAP OR PLUG
- PROPOSED WATER VALVE
- OUT OF SERVICE DURING CONSTRUCTION

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HESS PUMP STATION SITE VALVE REPLACEMENT (PHASES 3-5/D-J)

PAUL GUNZELMAN, P.E. - CITY ENGINEER
CITY OF WICHITA PROJECT NO. 448-2021-

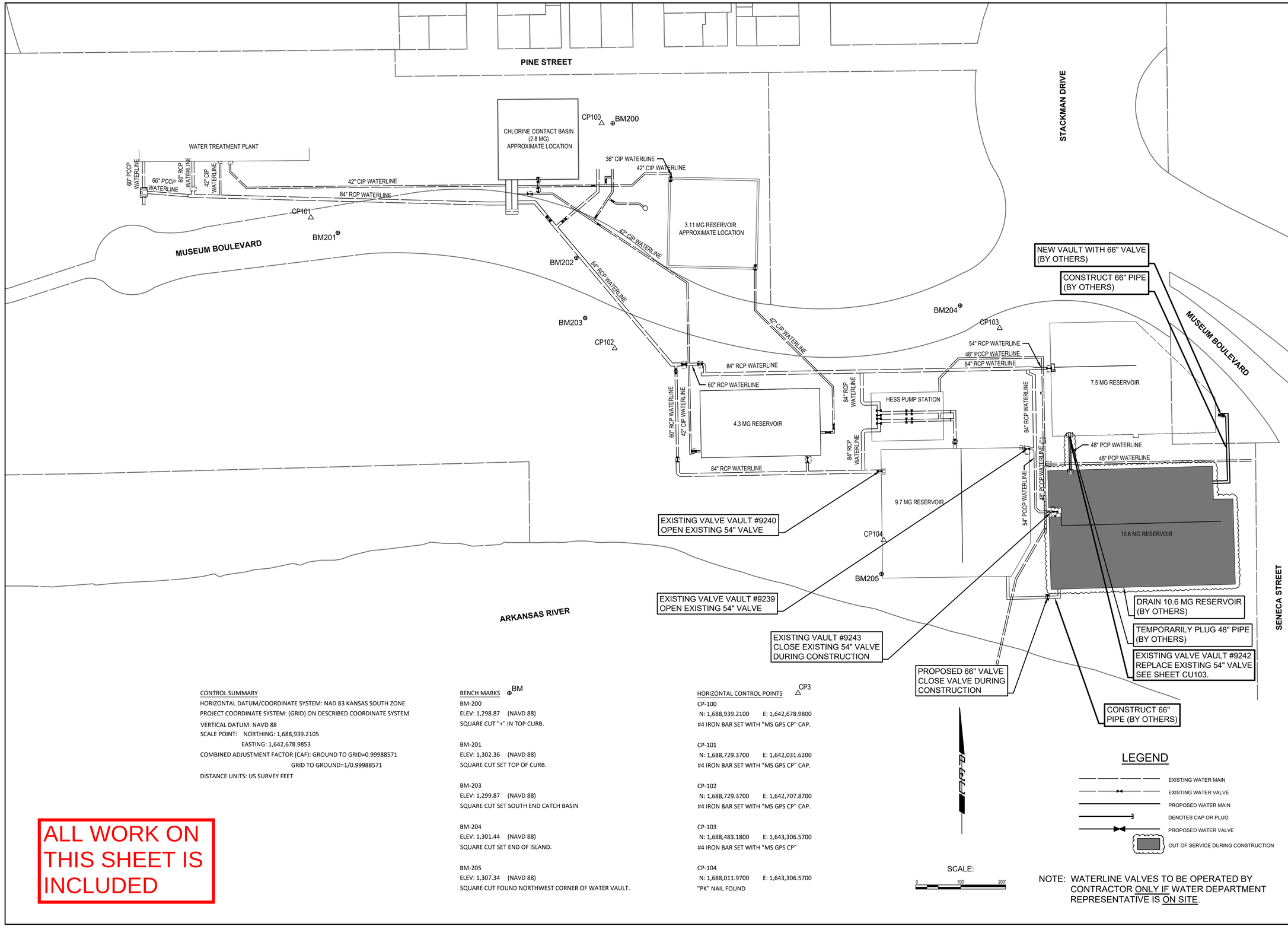
Issue:		

JOB NO.	35-200335-004-0042
DATE	SEPTEMBER 2024
PM	TBK
DESIGNED BY	KJW
DRAWN BY	KTD
CHECKED BY	RWG

KEY MAP & BUBBLE MAP (PHASE E)

C-004

SAVED 10/4/2024 3:49:40 PM BY KURTIS.DEKAT
PLOTTED 11/13/2024 1:20:02 PM BY KURTIS.DEKAT
U:\WICHITA-CIVIL\2020\200335\004\PEC\DRAWINGS\PHASE 3, 4, AND 5\200335-004-C-004.DWG



CONTROL SUMMARY

HORIZONTAL DATUM/COORDINATE SYSTEM: NAD 83 KANSAS SOUTH ZONE
PROJECT COORDINATE SYSTEM: (GRID) ON DESCRIBED COORDINATE SYSTEM
VERTICAL DATUM: NAVD 88
SCALE POINT: NORTHING: 1,688,939.2105
EASTING: 1,642,678.9853
COMBINED ADJUSTMENT FACTOR (CAF): GROUND TO GRID=0.99988571
GRID TO GROUND=1/0.99988571
DISTANCE UNITS: US SURVEY FEET

BENCH MARKS ⊕BM

BM-200
ELEV: 1,298.87 (NAVD 88)
SQUARE CUT "+" IN TOP CURB.

BM-201
ELEV: 1,302.36 (NAVD 88)
SQUARE CUT SET TOP OF CURB.

BM-203
ELEV: 1,299.87 (NAVD 88)
SQUARE CUT SET SOUTH END CATCH BASIN

BM-204
ELEV: 1,301.44 (NAVD 88)
SQUARE CUT SET END OF ISLAND.

BM-205
ELEV: 1,307.34 (NAVD 88)
SQUARE CUT FOUND NORTHWEST CORNER OF WATER VAULT.

HORIZONTAL CONTROL POINTS △CP3

CP-100
N: 1,688,939.2100 E: 1,642,678.9800
#4 IRON BAR SET WITH "MS GPS CP" CAP.

CP-101
N: 1,688,729.3700 E: 1,642,031.6200
#4 IRON BAR SET WITH "MS GPS CP" CAP.

CP-102
N: 1,688,729.3700 E: 1,642,707.8700
#4 IRON BAR SET WITH "MS GPS CP" CAP.

CP-103
N: 1,688,483.1800 E: 1,643,306.5700
#4 IRON BAR SET WITH "MS GPS CP"

CP-104
N: 1,688,011.9700 E: 1,643,306.5700
"PK" NAIL FOUND

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

ALL WORK ON THIS SHEET IS INCLUDED

SAVED 10/4/2024 4:02:39 PM BY KURTIS.DEKAT
PLOTTED 11/13/2024 1:20:06 PM BY KURTIS.DEKAT
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316-262-2691 www.pec1.com

CITY OF WICHITA

TREVOR KAUFMAN
26008
11/13/2024
KANSAS
PROFESSIONAL ENGINEER

CONSTRUCTION PLANS
FOR
HESS PUMP STATION SITE VALVE REPLACEMENT (PHASES 3-5/D-J)

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CITY OF WICHITA PROJECT NO. 448-2021-

Issue:		

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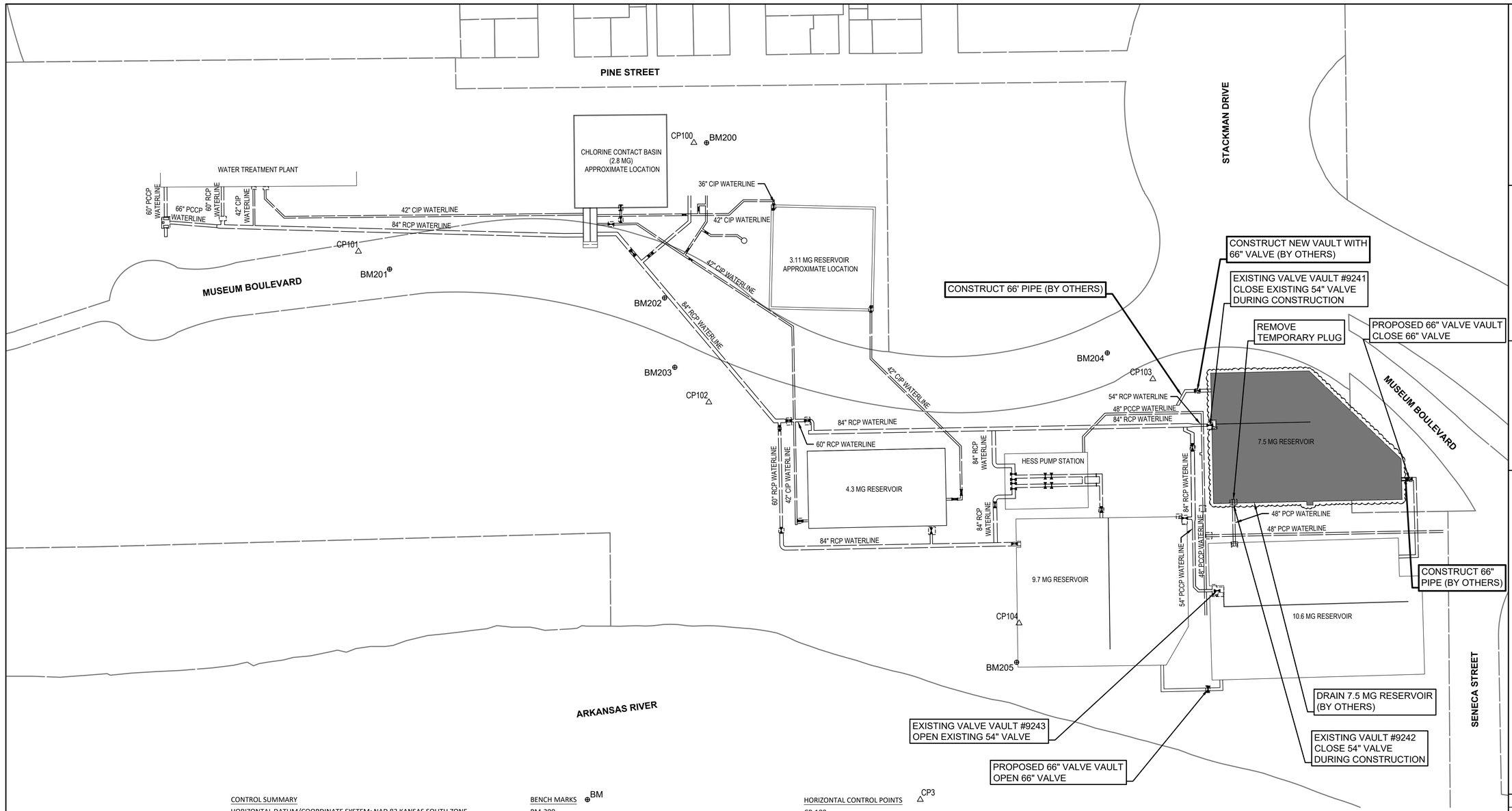
KEY MAP & BUBBLE MAP (PHASE F)

C-005



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SQUARE CUT SET END OF ISLAND.

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ELEV: 1,307.34 (NAVD 88)
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#4 IRON BAR SET WITH "MS GPS CP"

CP-104
N: 1,688,011.9700 E: 1,643,306.5700
"PK" NAIL FOUND

ALL WORK ON THIS SHEET IS INCLUDED

SCALE:
0 100' 200'

LEGEND

- EXISTING WATER MAIN
- EXISTING WATER VALVE
- PROPOSED WATER MAIN
- DENOTES CAP OR PLUG
- PROPOSED WATER VALVE
- OUT OF SERVICE DURING CONSTRUCTION

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

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CITY OF WICHITA

TREVOR KAUFMAN LICENSED 26008 11/13/2024 KANSAS PROFESSIONAL ENGINEER

CONSTRUCTION PLANS
FOR
HESS PUMP STATION
SITE VALVE REPLACEMENT
(PHASES 3-5/D-J)

PAUL GUNZELMAN, P.E. - CITY ENGINEER
CITY OF WICHITA PROJECT NO. 448-2021-

Issue:		

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DATE	SEPTEMBER 2024
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CHECKED BY	RWG

KEY MAP & BUBBLE MAP (PHASE G)

C-006

SAVED 10/4/2024 4:19:54 PM BY KURTIS.DEKAT
PLOTTED 11/13/2024 1:20:11 PM BY KURTIS DEKAT
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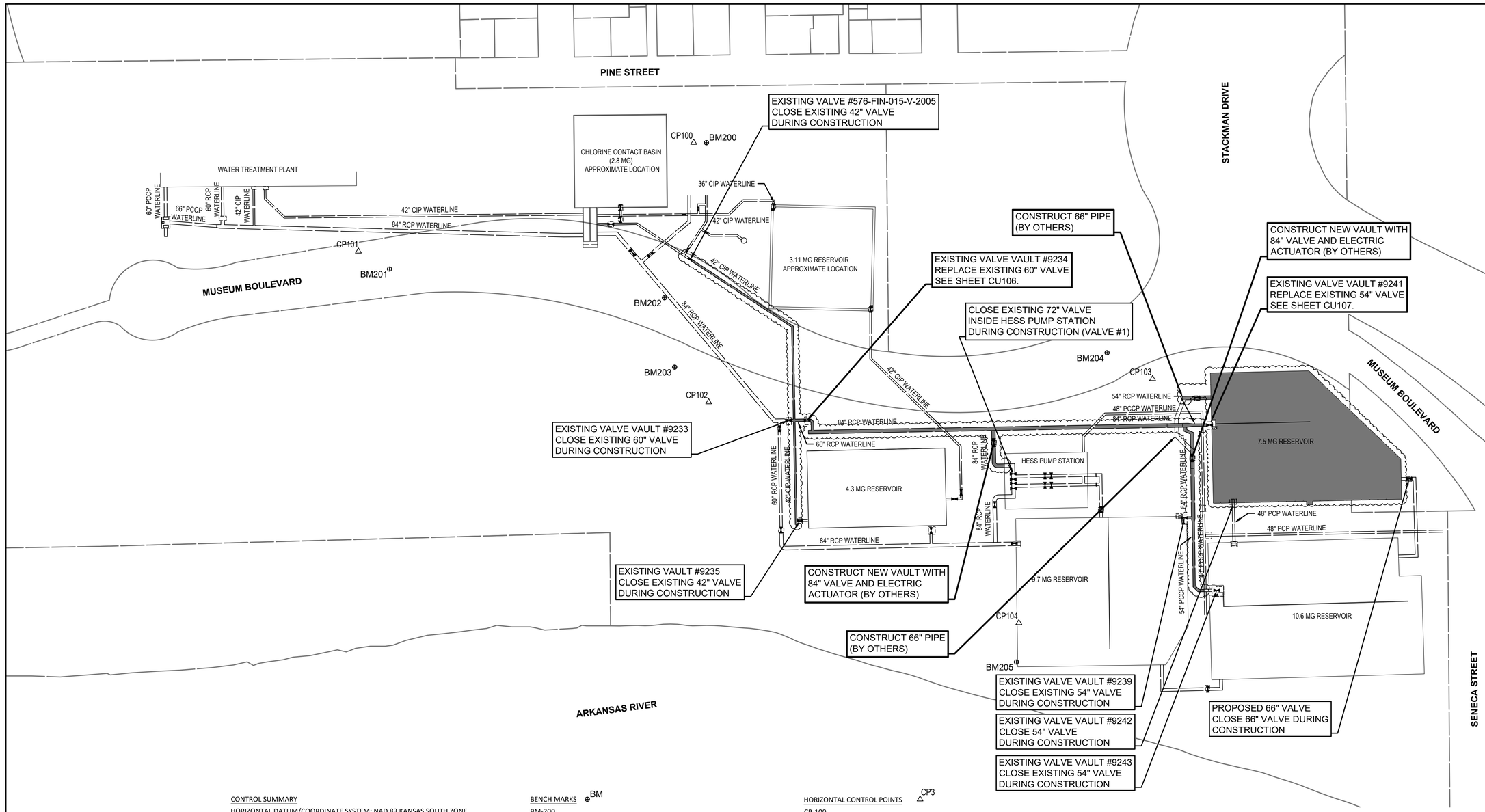

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SQUARE CUT SET END OF ISLAND.

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ELEV: 1,307.34 (NAVD 88)
SQUARE CUT FOUND NORTHWEST CORNER OF WATER VAULT.

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N: 1,688,483.1800 E: 1,643,306.5700
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CP-104
N: 1,688,011.9700 E: 1,643,306.5700
"PK" NAIL FOUND

ALL WORK ON THIS SHEET IS INCLUDED

SCALE:
0 100' 200'

LEGEND

- EXISTING WATER MAIN
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- PROPOSED WATER MAIN
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CHECKED BY	RWG

KEY MAP & BUBBLE MAP (PHASE H)

C-007

SAVED 10/4/2024 4:34:54 PM BY KURTIS.DEKAT
PLOTTED 11/13/2024 1:20:16 PM BY KURTIS.DEKAT
U:\WICHITA-CIVIL\2020\200335\004\PEC\DRAWINGS\PHASE 3, 4, AND 5\200335-004-C-007.DWG

PINE STREET

STACKMAN DRIVE

MUSEUM BOULEVARD

ARKANSAS RIVER

SENECA STREET

WATER TREATMENT PLANT

60" PCCP WATERLINE

66" PCCP WATERLINE

60" RCP WATERLINE

42" CIP WATERLINE

42" CIP WATERLINE

84" RCP WATERLINE

CHLORINE CONTACT BASIN (2.8 MG) APPROXIMATE LOCATION

3.11 MG RESERVOIR APPROXIMATE LOCATION

4.3 MG RESERVOIR

9.7 MG RESERVOIR

7.5 MG RESERVOIR

10.6 MG RESERVOIR

HESS PUMP STATION

CP100 BM200

CP101 BM201

BM202

BM203 CP102

BM204 CP103

CP104 BM205

54" RCP WATERLINE

48" PCCP WATERLINE

48" PCP WATERLINE

54" PCCP WATERLINE

EXISTING VALVE #5746-FIN-016-V-2003
CLOSE EXISTING 66" VALVE
DURING CONSTRUCTION

EXISTING VALVE #5746-FIN-015-V-2005
CLOSE EXISTING 42" VALVE
DURING CONSTRUCTION

EXISTING VALVE #5746-FIN-016-V-1001
CLOSE EXISTING 84" VALVE
DURING CONSTRUCTION

EXISTING VAULT #9233
REPLACE 60" VALVE AND
MANUAL ACTUATOR,
SEE SHEET CU108.

EXISTING VAULT #9234
CLOSE 60" VALVE
DURING CONSTRUCTION

CLOSE 60" VALVE WITH
ELECTRIC ACTUATOR

VALVE VAULT #9232
CLOSE 60" VALVE
DURING CONSTRUCTION

ACTIVE TEMPORARY BY-PASS

EXISTING VAULT #9235
CLOSE EXISTING 42" VALVE
DURING CONSTRUCTION

CLOSE EXISTING 72" VALVE
INSIDE OF THE HESS PUMP
STATION (VALVE #4)

CLOSE 60" VALVE WITH
ELECTRIC ACTUATOR

LOCK OPEN
EXISTING FLAP GATE
(BY OTHERS)

PROPOSED 84" VALVE
CLOSE 84" VALVE

LOCK OPEN
EXISTING FLAP GATE
(BY OTHERS)

EXISTING VALVE VAULT #9239
OPEN EXISTING 54" VALVE

EXISTING VALVE VAULT #9242
OPEN 48" VALVE

EXISTING VALVE VAULT #9243
OPEN EXISTING 48" VALVE

PROPOSED 66" VALVE
OPEN EXISTING 66" VALVE

CONTROL SUMMARY

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ALL WORK ON THIS SHEET IS INCLUDED

LEGEND

- EXISTING WATER MAIN
- EXISTING WATER VALVE
- PROPOSED TEMPORARY LINE
- DENOTES CAP OR PLUG
- OUT OF SERVICE DURING CONSTRUCTION

SCALE: 0 100' 200'

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

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(PHASES 3-5/D-J)

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KEY MAP & BUBBLE MAP
(PHASE I)

C-008

SAVED 10/4/2024 4:53:08 PM BY KURTIS.DEKAT
PLOTTED 11/13/2024 1:20:21 PM BY KURTIS DEKAT
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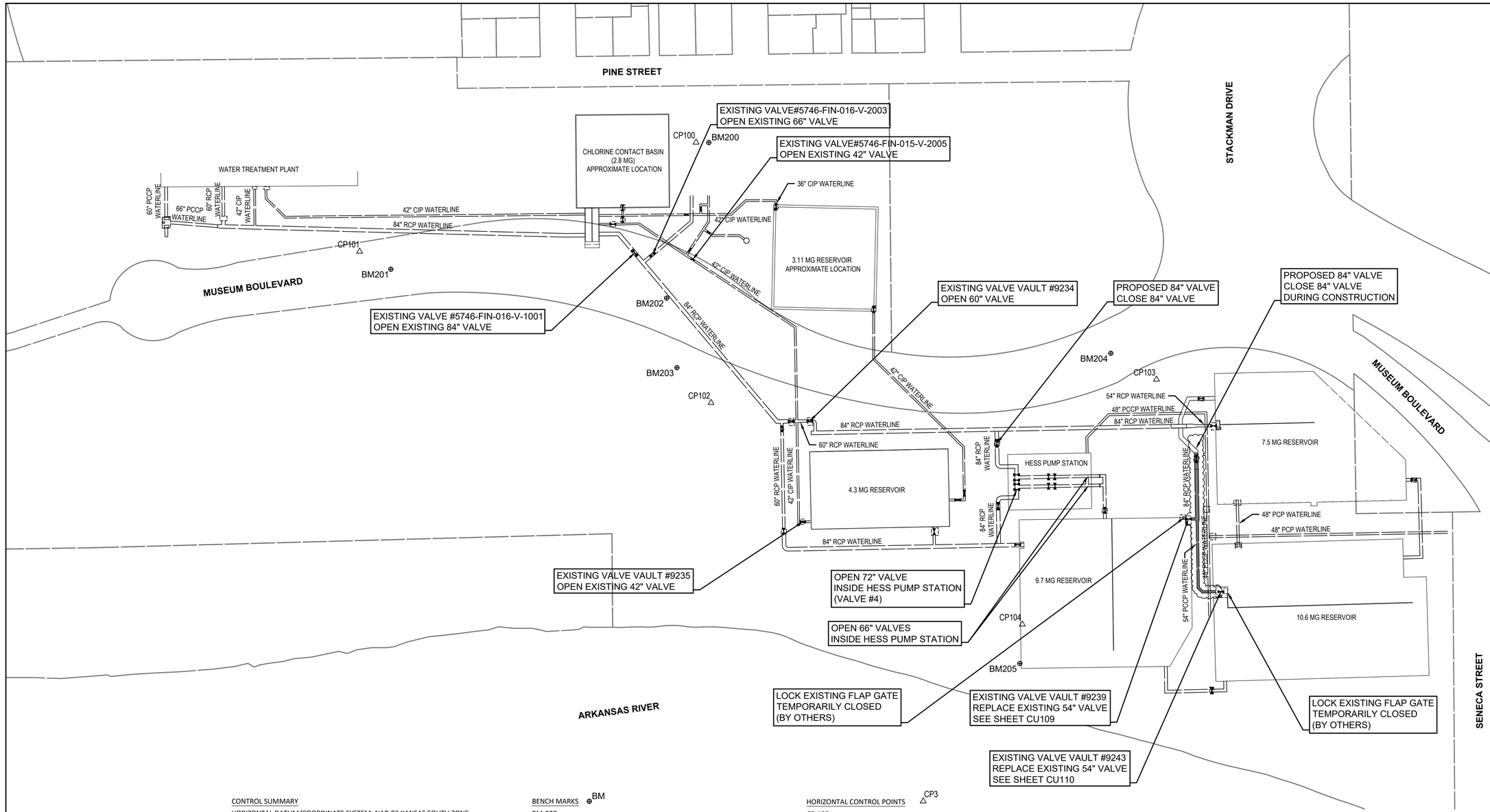

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CHECKED BY	RWG

KEY MAP & BUBBLE MAP (PHASE J)

C-009

SAVED 10/7/2024 11:09:31 AM BY KURTIS.DEKAT
PLOTTED 11/13/2024 1:20:26 PM BY KURTIS.DEKAT
U:\WICHITA-CIVIL\2020\200335\004\PEC\DRAWINGS\PHASE 3, 4, AND 5\200335-004-C-009.DWG

LEGEND

(5000) = SEE SHEET NO. C-004 FOR WATERLINE COORDINATES (TYP.)

= PROPOSED SILT FENCE

* REMOVE EXISTING 42" PIPE, FITTINGS, & VALVES AS REQUIRED.

PLAN: LAT. & LONG. 0 2.5' 5' 10'

PROFILE: HORIZ. SAME AS ABOVE

VERT:

N: 1,688,396.0354, E: 1,642,844.1237
EXISTING 84" X 60" WATERLINE TEE
CONNECT TO EXISTING RCP TEE JOINT WITH BUTT STRAP WELDED TO STEEL PIPE AND TO INSIDE/OUTSIDE OF EXISITING STEEL RCP END. STEEL PIPE WILL HAVE TO BE CUSTOM DIMENSIONED TO EXISTING PIPE JOINTING. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONNECTIONS, JOINT LOCATION, AND PIPE LENGTHS IN FIELD.

84" RCP WL (approx.)

Fence Line

OHE

LP

Water Valve Vault #9233
Int. Dim: 9'x13'
Depth 20.0'

PT NO. 12, CL VAULT
TOP VAULT EL.= 1300.69

84" RCP WL (per plan)

60" RCP WL (per plan)

Water Valve Vault #9234
Int. Dim: 9'x13'
Depth 21.0'

1300

REMOVE EXIST. 60" VALVE

INSTALL 10.00 L.F. 60" RJ PIPE

REMOVE EXISTING
WATER VALVE VAULT #9232

PT NO. 9, 60" TOP PIPE,
EL.= 1286.77

Water Valve Vault #9232
Int. Dim: 5' dia.
Depth 16.4'

N: 1,688,385.5481, E: 1,642,844.8085
INSTALL 60" BUTTERFLY VALVE W/ VAULT
SEE DETAIL, SHEET NO. CU102

BHE

PT NO. 10, 4" GAS,
TOP PIPE EL.= 1297.83

PT NO. 7, TOP PIPE @ JOINT
EL.= 1286.51

PT NO. 11, 4" GAS,
TOP PIPE EL.= 1297.97

INSTALL 12.00 L.F. 60" RJ PIPE

CAUTION !!!
4" GAS LINE
(BLACK HILLS)
CONTRACTOR SHALL SUPPORT GAS LINE USING NON-METAL STRAPS WITH OUT SAGGING DURING CONSTRUCTION.
AT LEAST 72 HOURS PRIOR TO START OF CONSTRUCTION, COORDINATE WITH BLACK HILLS ENERGY, MR. JOSH STUART AT 316-218-8004.

AT&T/D (PER PEC RECORD)

N: 1,688,370.8071, E: 1,642,844.5822
EXISTING 60" WATERLINE*
CONNECT TO EXISTING 60" RCP PIPE AT JOINT WITH BUTT STRAP WELDED TO STEEL PIPE AND TO INSIDE/OUTSIDE OF EXISTING STEEL RCP END. STEEL PIPE WILL HAVE TO BE CUSTOM DIMENSIONED TO EXISTING PIPE JOINT. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONNECTIONS. JOINT LOCATION AND PIPE LENGTHS TO BE VERIFIED IN FIELD BY CONTRACTOR

PT NO. 8, 60" TOP PIPE,
EL.= 1286.67

UG Elec. Duct
(2) 5" Conduits
(per record)

NO WORK ON THIS SHEET IS INCLUDED

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CITY OF WICHITA

TREVOR KAUFMAN
CERTIFICATE NUMBER
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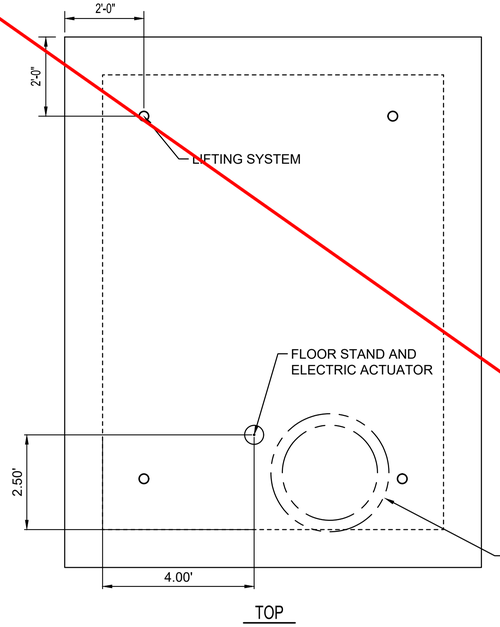
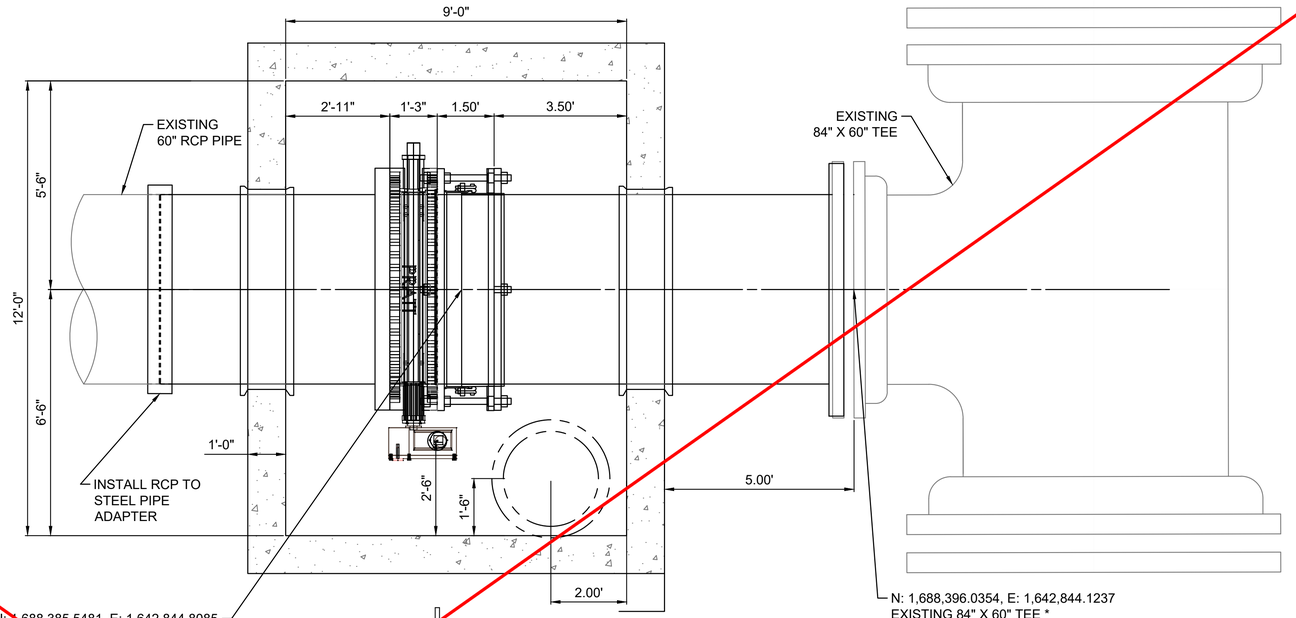
PROPOSED 60" VALVE VAULT (PHASE D)

CU101

SAVED 10/7/2024 11:00:52 AM BY KURTIS.DEKAT
PLOTTED 11/13/2024 1:20:35 PM BY KURTIS.DEKAT
U:\WICHITA-CIVIL\2020\200335\004\PEC\DRAWINGS\PHASE 3, 4, AND 5\200335-004-CU101.DWG



TOP



PLAN

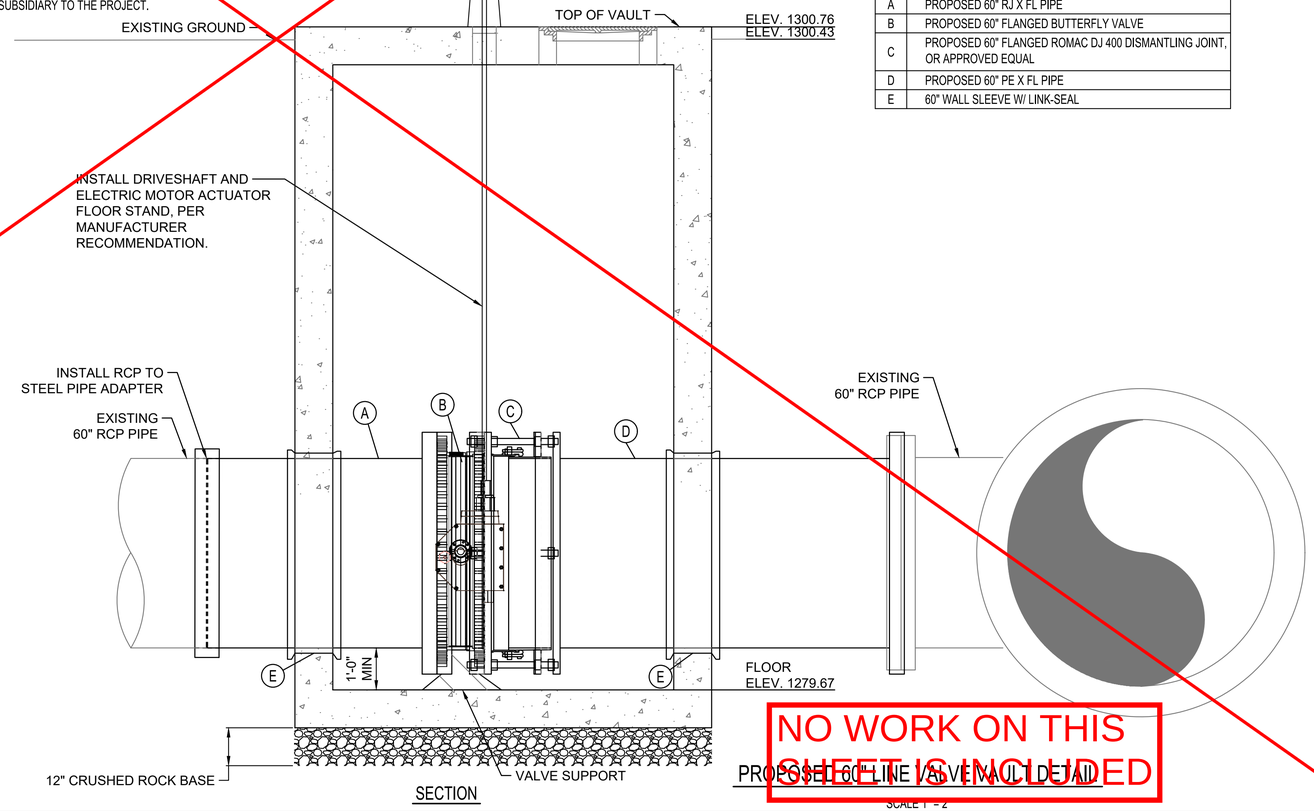
* PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE THE EXISTING 60" PIPE TO VERIFY PIPE SIZE, TYPE, FITTINGS, AND HORIZONTAL AND VERTICAL LOCATION. THE CONTRACTOR SHALL REPORT HIS FINDINGS TO THE ENGINEER SO THAT ANY NECESSARY PLAN MODIFICATIONS CAN BE MADE. ANY ADDITIONAL LABOR OR MATERIALS NECESSARY TO COMPLETE THE CONNECTION SHALL BE CONSIDERED SUBSIDIARY TO THE PROJECT.

KEY LEGEND

A	PROPOSED 60" RJ X FL PIPE
B	PROPOSED 60" FLANGED BUTTERFLY VALVE
C	PROPOSED 60" FLANGED ROMAC DJ 400 DISMANTLING JOINT, OR APPROVED EQUAL
D	PROPOSED 60" PE X FL PIPE
E	60" WALL SLEEVE W/ LINK-SEAL

VALVE VAULT NOTES:

1. THE STRUCTURE JOINTS SHALL BE SEALED IN ACCORDANCE WITH CITY OF WICHITA STANDARD SPECIFICATIONS FOR PRECAST MANHOLES. NO COATINGS ARE REQUIRED.
2. THE CONTRACTOR SHALL UTILIZE RESTRAINED JOINT PIPE, TIE RODS, OR OTHER APPROVAL METHODS TO RESTRAIN ALL VALVES, FITTINGS, AND PIPING AT THE VALVE AND CONNECTION LOCATIONS.
3. SEE SHEETS NO. S-102 FOR STRUCTURAL DETAILS.



SECTION

PROPOSED 60" LINE VALVE VAULT DETAIL

SCALE 1" = 2'

NO WORK ON THIS SHEET IS INCLUDED

PEC
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CITY OF WICHITA

TREVOR KAUFMAN
LICENSED
26008
11/13/2024
KANSAS
PROFESSIONAL ENGINEER

CONSTRUCTION PLANS
FOR
HESS PUMP STATION
SITE VALVE REPLACEMENT
(PHASES 3-5/D-J)
PAUL GUNZELMAN, P.E. - CITY ENGINEER
CITY OF WICHITA PROJECT NO. 448-2021-

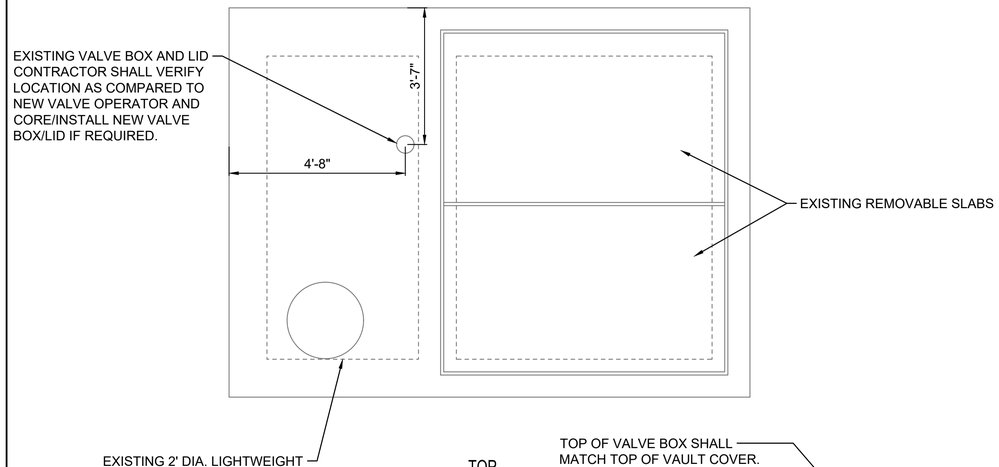
Issue:		

JOB NO.	35-200335-004-0042
DATE	SEPTEMBER 2024
PM	TBK
DESIGNED BY	KJW
DRAWN BY	KTD
CHECKED BY	RWG

PROPOSED 60" VALVE VAULT DETAILS (PHASE D)

CU102

SAVED 11/13/2024 12:59:18 PM BY KURTIS.DEKAT
PLOTTED 11/13/2024 1:20:39 PM BY KURTIS.DEKAT
U:\WICHITA-CIVIL\2020\200335\004\PEC\DRAWINGS\PHASE 3, 4, AND 5\200335-004-CU102.DWG



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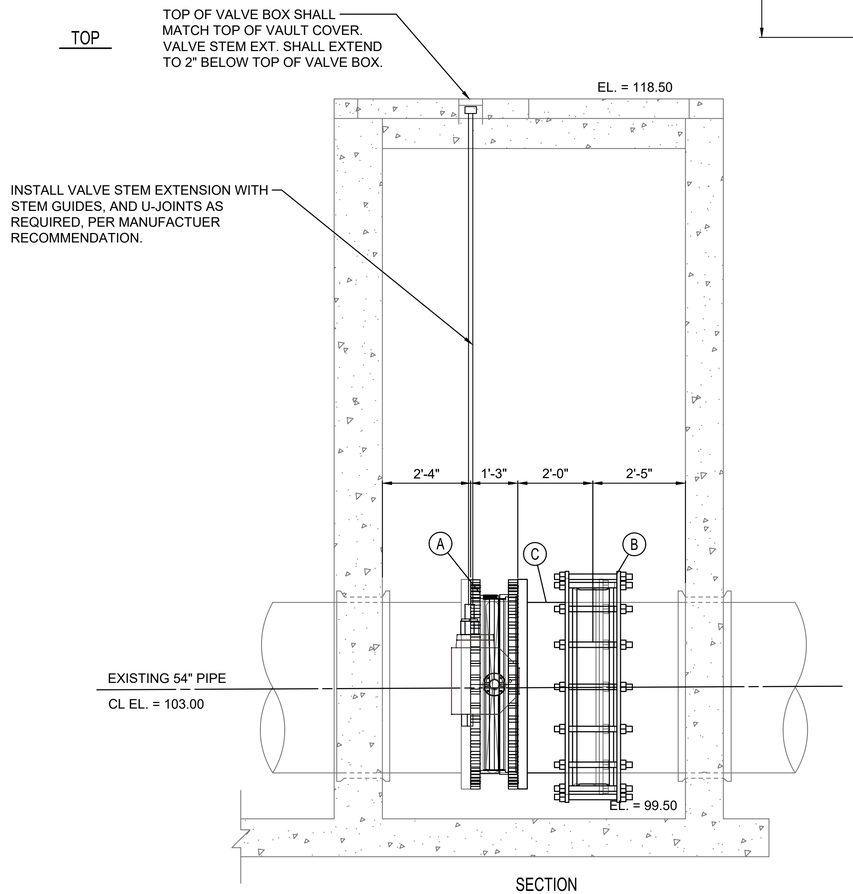
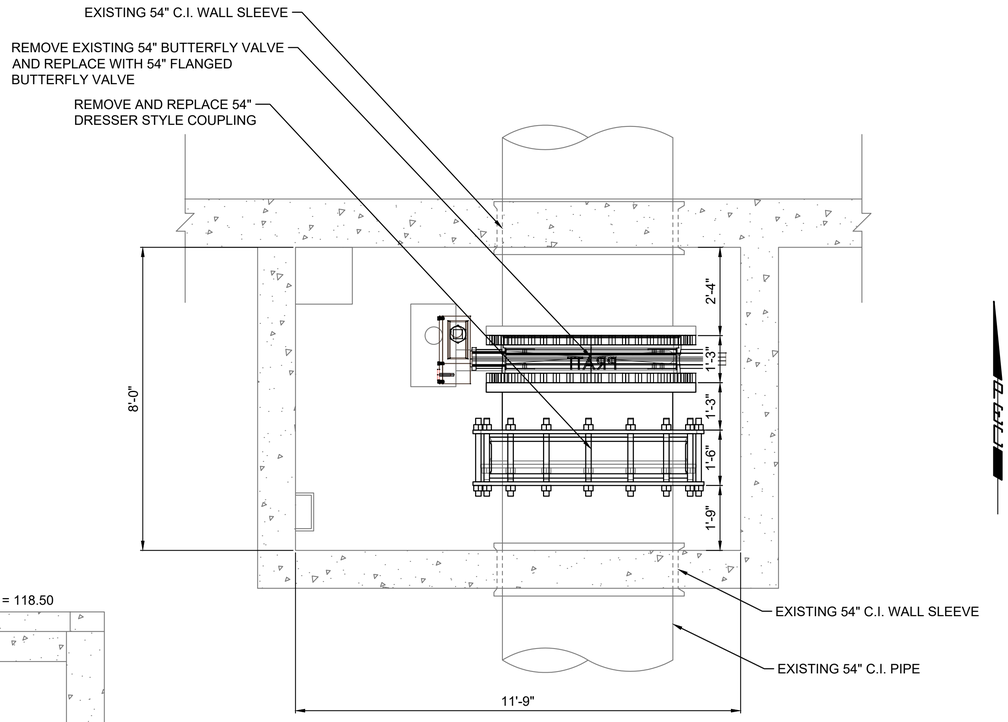


SECTION

54" LINE VALVE VAULT DETAIL

SCALE 1" = 2'



PLAN

KEY LEGEND

A	PROPOSED 54" FLANGED BUTTERFLY VALVE
B	PROPOSED 54" DRESSER STYLE COUPLING
C	EXISTING 54" FL X FL PIPE

ALL WORK ON THIS SHEET IS INCLUDED

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(PHASES 3-5/D-J)
PAUL GUNZELMAN, P.E. - CITY ENGINEER
CITY OF WICHITA PROJECT NO. 448-2021-

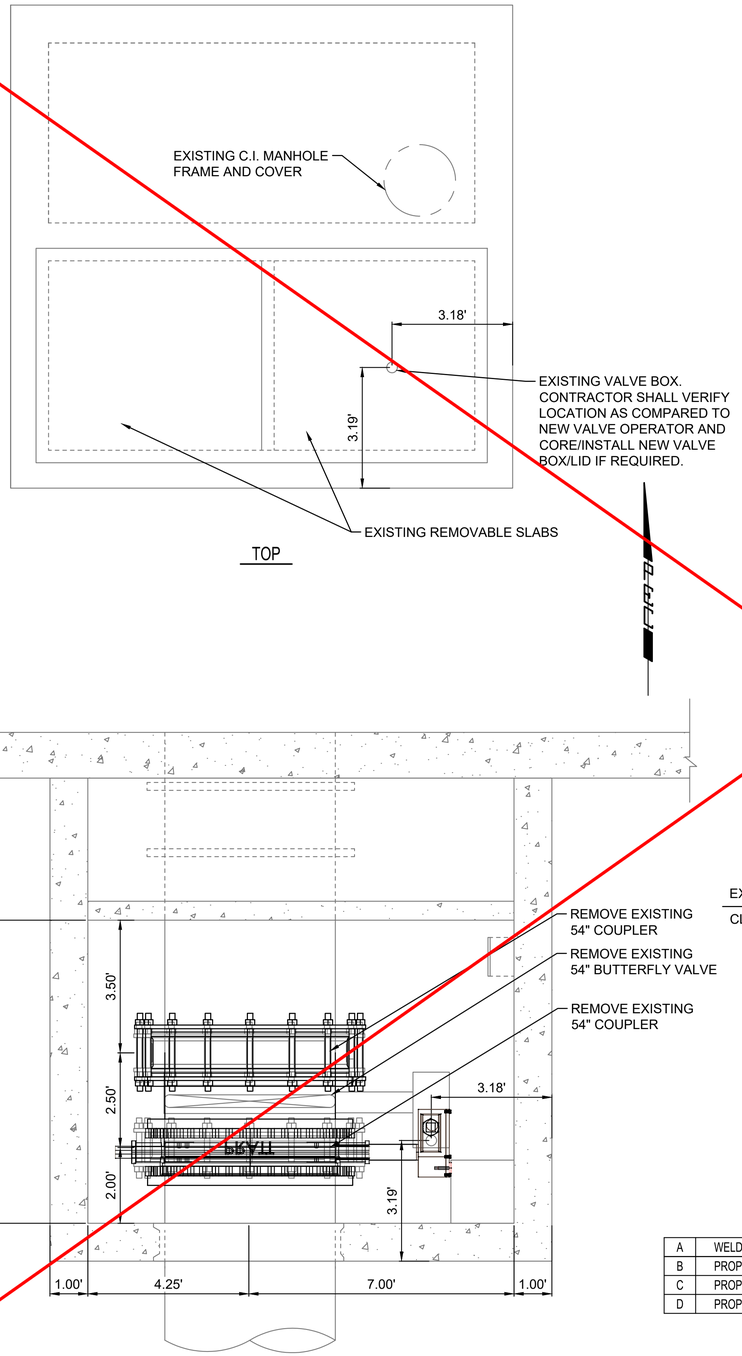
Issue:		

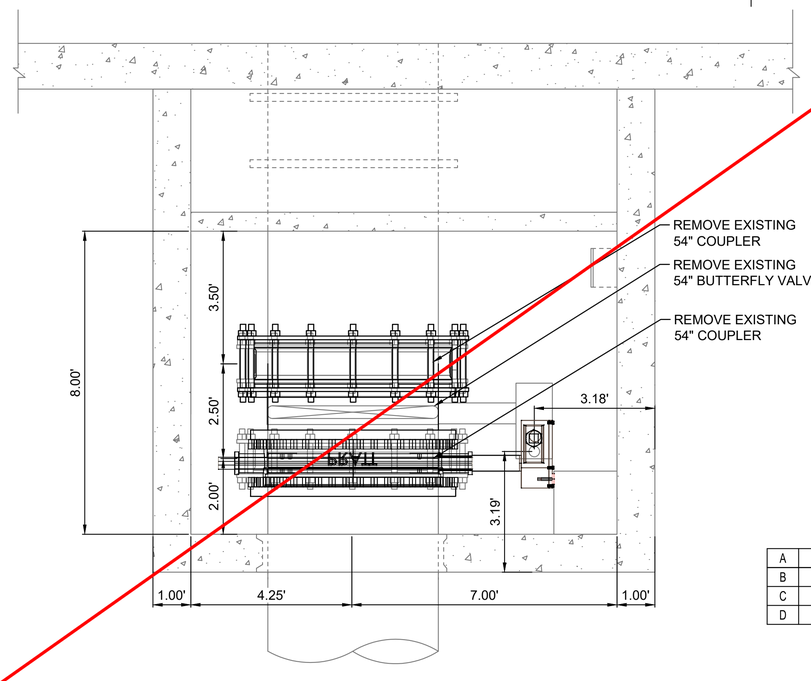
JOB NO.	35-200335-004-0042
DATE	SEPTEMBER 2024
PM	TBK
DESIGNED BY	KJW
DRAWN BY	KTD
CHECKED BY	RWG

EXISTING VALVE VAULT 9242
(PHASE F)

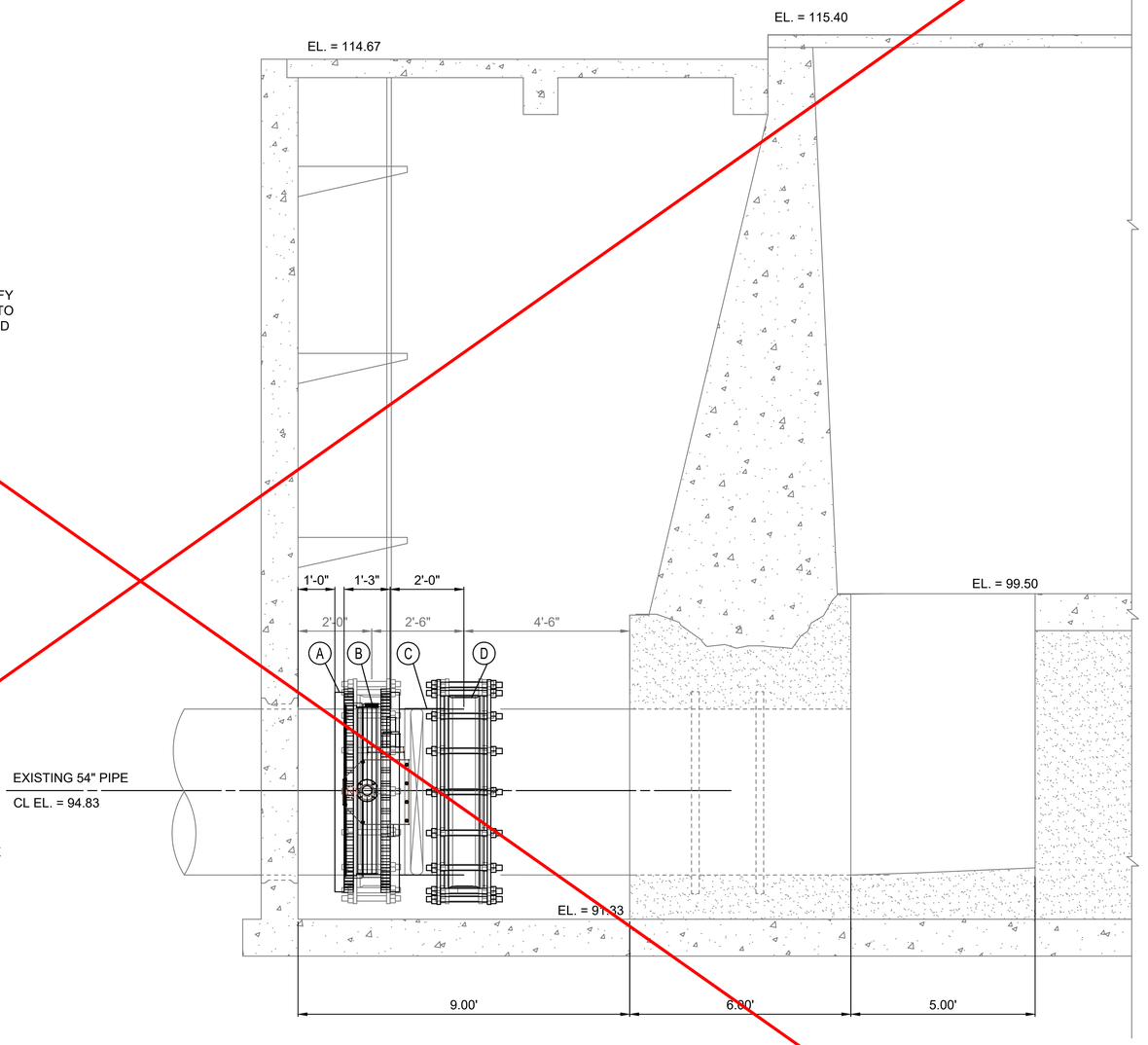
CU103

SAVED 10/7/2024 10:33:44 AM BY KURTIS.DEKAT
PLOTTED 11/13/2024 1:20:43 PM BY KURTIS.DEKAT
U:\WICHITA-CIVIL\2020\200335\004\PEC\DRAWINGS\PHASE 3, 4, AND 5\200335-004-CU103.DWG





PLAN



54" LINE VALVE VAULT DETAIL

SCALE 1" = 2'

KEY LEGEND

A	WELD 54" PIPE FLANGE ONTO EXISTING 54" STEEL PIPE
B	PROPOSED 54" FLANGED BUTTERFLY VALVE
C	PROPOSED 54" FL X PE PIPE
D	PROPOSED 54" DRESSER STYLE COUPLER

NO WORK ON THIS SHEET IS INCLUDED

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SITE VALVE REPLACEMENT
(PHASES 3-5/D-J)

PAUL GUNZELMAN, P.E. - CITY ENGINEER
CITY OF WICHITA PROJECT NO. 448-2021-____

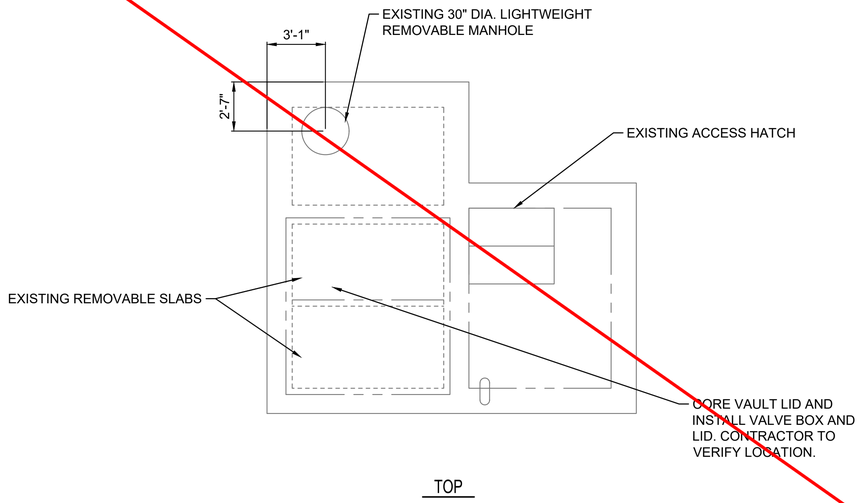
Issue:		

JOB NO.	35-200335-004-0042
DATE	SEPTEMBER 2024
PM	TBK
DESIGNED BY	KJW
DRAWN BY	KTD
CHECKED BY	RWG

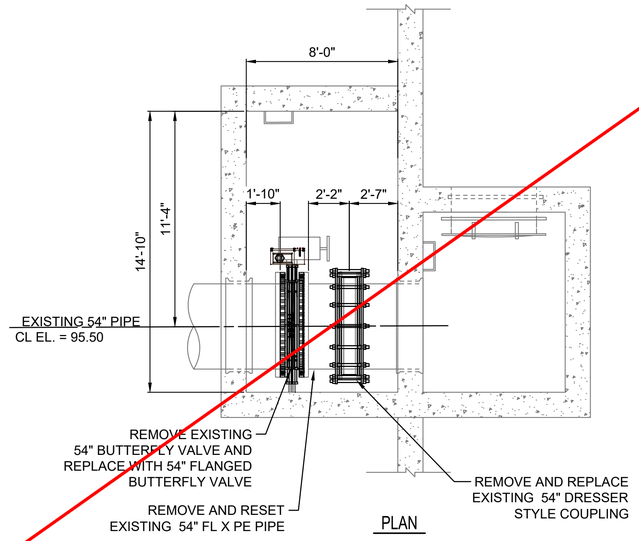
EXISTING VALVE VAULT 9236
(PHASE D)

CU104

SAVED 10/7/2024 10:03:28 AM BY KURTIS.DEKAT
PLOTTED 11/13/2024 1:20:46 PM BY KURTIS.DEKAT
U:\WICHITA-CIVIL\2020\200335\004\PEC\DRAWINGS\PHASE 3, 4, AND 5\200335-004-CU104.DWG



TOP

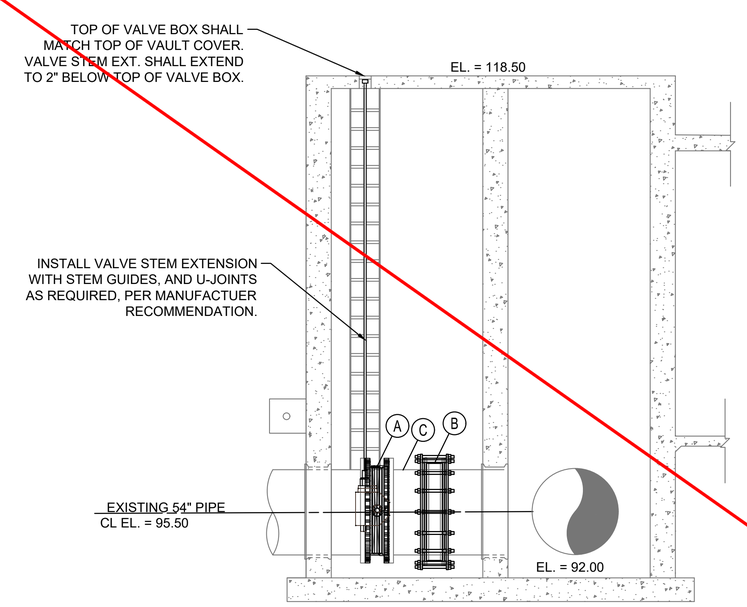


PLAN

KEY LEGEND

A	PROPOSED 54" FLANGED BUTTERFLY VALVE
B	PROPOSED 54" DRESSER STYLE COUPLER
C	EXISTING 54" FL X PE PIPE

NO WORK ON THIS SHEET IS INCLUDED



SECTION

54" LINE VALVE VAULT DETAIL

SCALE 1" = 4'

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(PHASES 3-5/D-J)

PAUL GUNZELMAN, P.E. - CITY ENGINEER
CITY OF WICHITA PROJECT NO. 448-2021-

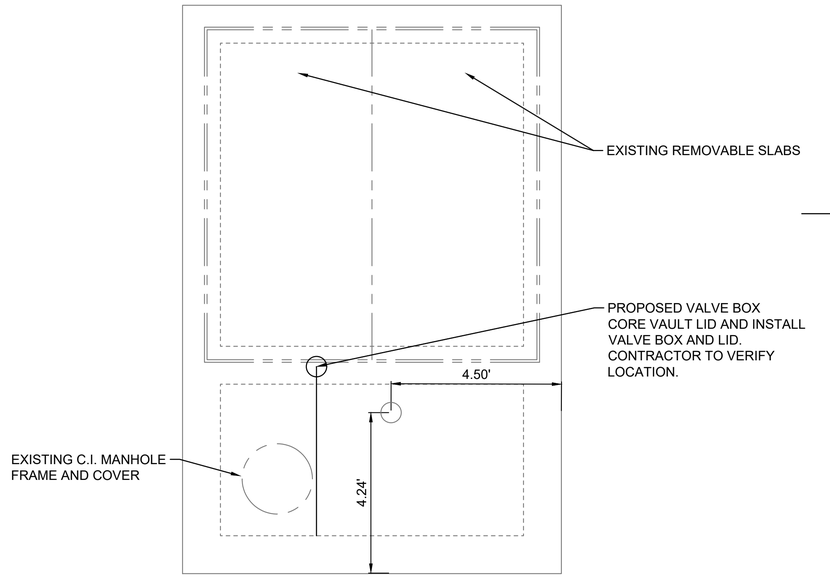
Issue:		

JOB NO.	35-200335-004-0042
DATE	SEPTEMBER 2024
PM	TBK
DESIGNED BY	KJW
DRAWN BY	KTD
CHECKED BY	RWG

EXISTING VALVE VAULT 9240
(PHASE D)

CU105

SAVED 10/7/2024 10:06:43 AM BY KURTIS.DEKAT
PLOTTED 11/13/2024 1:20:51 PM BY KURTIS.DEKAT
U:\WICHITA-CIVIL\2020\200335\004\PEC\DRAWINGS\PHASE 3, 4, AND 5\200335-004-CU105.DWG



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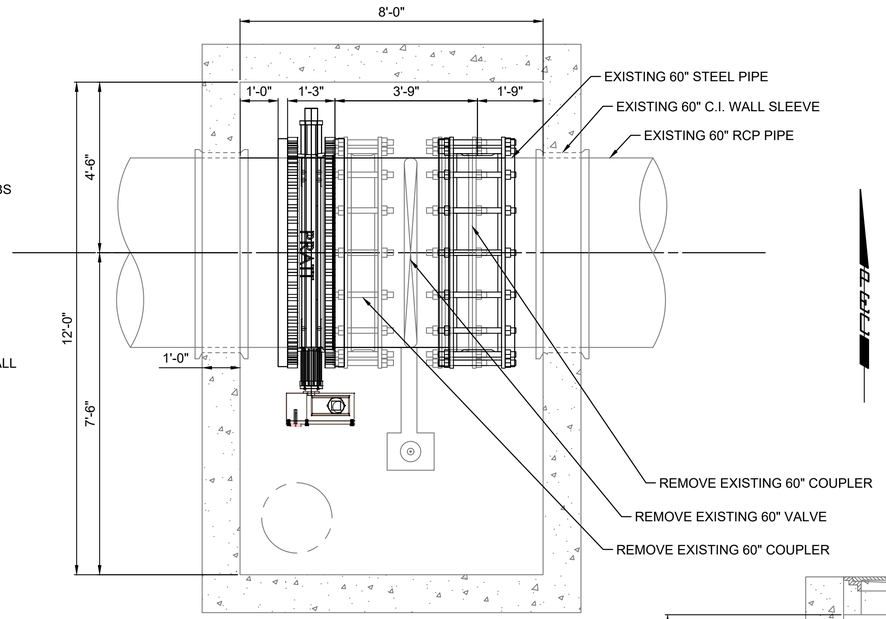
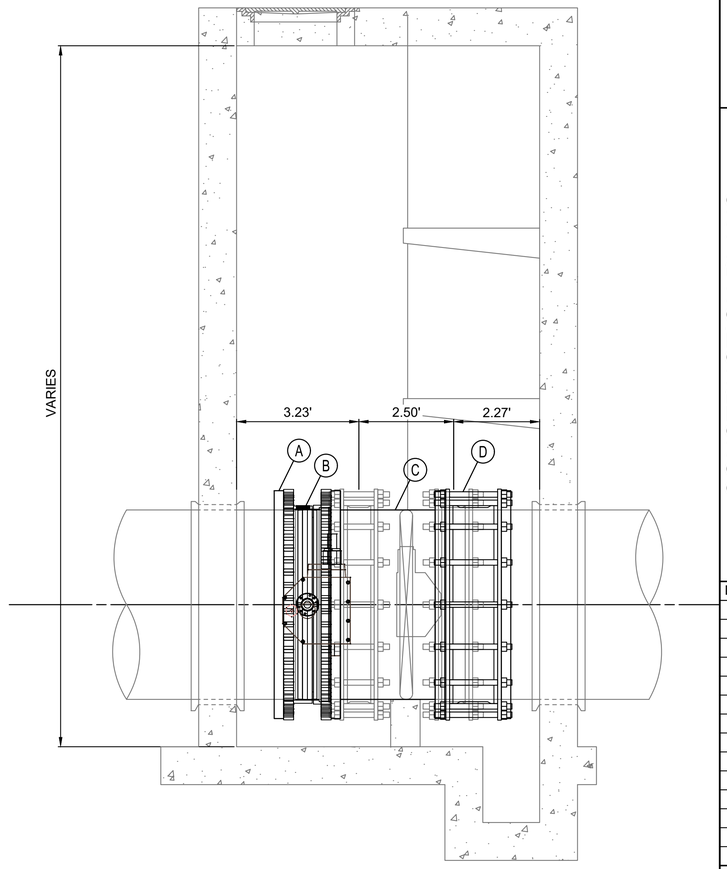


PLAN

KEY LEGEND

A	WELD 60" PIPE FLANGE ONTO EXISTING 60" STEEL PIPE
B	PROPOSED 60" FLANGED BUTTERFLY VALVE
C	PROPOSED 60" FL X PE PIPE
D	PROPOSED 60" DRESSER STYLE COUPLER

ALL WORK ON THIS SHEET IS INCLUDED



SECTION

60" LINE VALVE VAULT DETAIL

SCALE 1" = 2'

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(PHASES 3-5/D-J)
PAUL GUNZELMAN, P.E. - CITY ENGINEER
CITY OF WICHITA PROJECT NO. 448-2021-

Issue:		

JOB NO.	35-200335-004-0042
DATE	SEPTEMBER 2024
PM	TBK
DESIGNED BY	KJW
DRAWN BY	KTD
CHECKED BY	RWG

EXISTING VALVE VAULT 9234
(PHASE H)

CU106

SAVED 10/7/2024 10:13:17 AM BY KURTIS.DEKAT
PLOTTED 11/13/2024 1:20:54 PM BY KURTIS DEKAT
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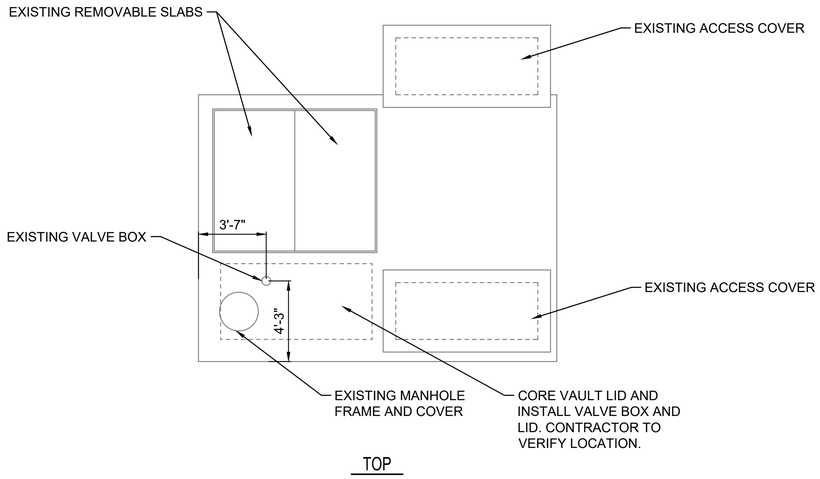

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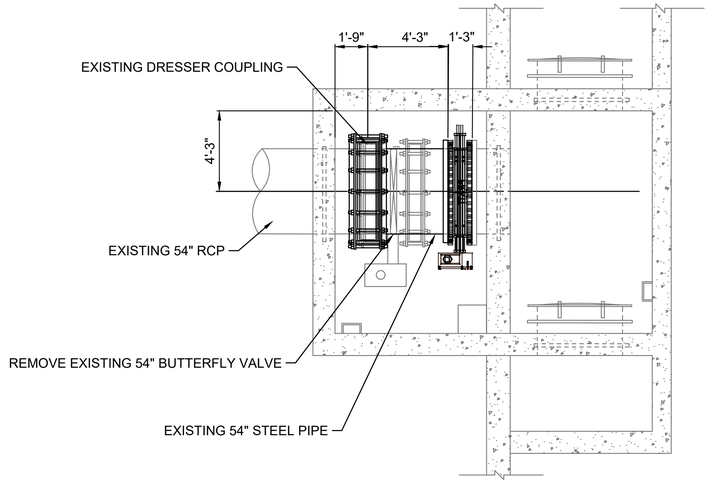
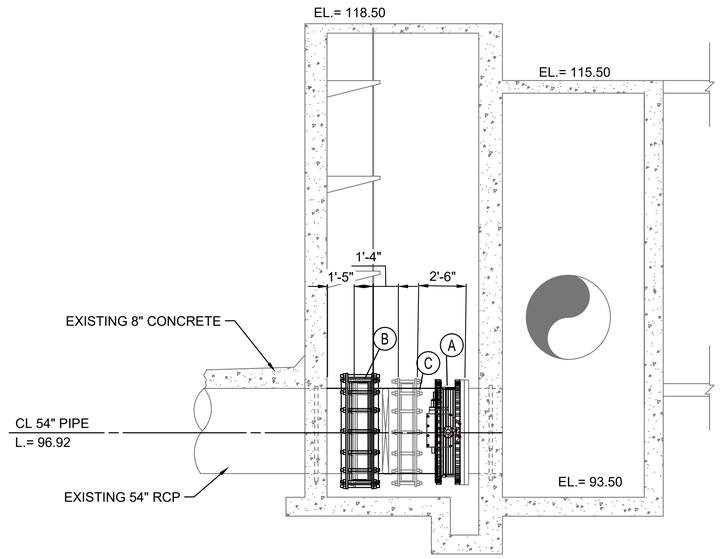


PLAN

KEY LEGEND

A	PROPOSED 54" FLANGED BUTTERFLY VALVE
B	PROPOSED 54" DRESSER STYLE COUPLER
C	PROPOSED 54" PE X FL PIPE



SECTION

54" LINE VALVE VAULT DETAIL

SCALE 1" = 4'

ALL WORK ON THIS SHEET IS INCLUDED

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CERTIFICATE NUMBER
26008
11/13/2024
KANSAS
PROFESSIONAL ENGINEER

CONSTRUCTION PLANS
FOR
HESS PUMP STATION
SITE VALVE REPLACEMENT
(PHASES 3-5/D-J)
PAUL GUNZELMAN, P.E. - CITY ENGINEER
CITY OF WICHITA PROJECT NO. 448-2021-

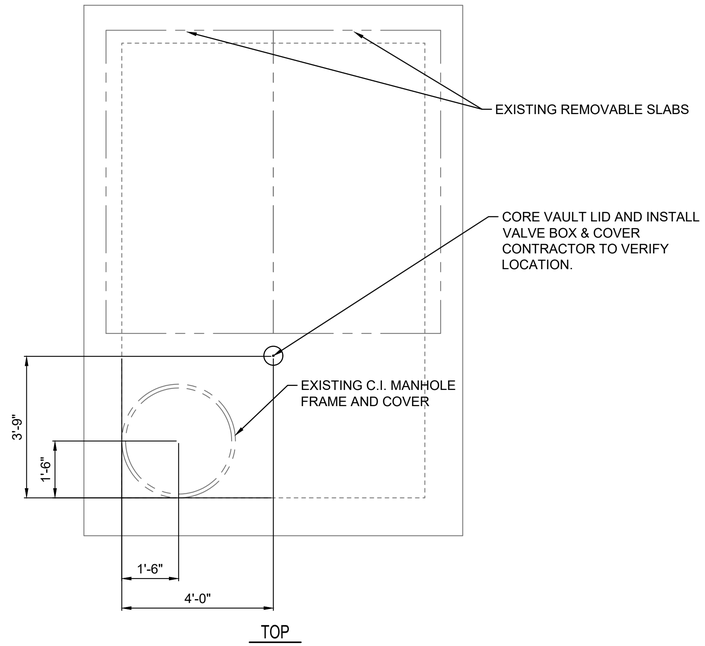
Issue:		

JOB NO.	35-200335-004-0042
DATE	SEPTEMBER 2024
PM	TBK
DESIGNED BY	KJW
DRAWN BY	KTD
CHECKED BY	RWG

EXISTING VALVE VAULT 9241 (PHASE H)

CU107

SAVED 10/7/2024 10:26:58 AM BY KURTIS.DEKAT
PLOTTED 11/13/2024 1:20:58 PM BY KURTIS.DEKAT
U:\WICHITA-CIVIL\2020\200335\004\PEC\DRAWINGS\PHASE 3, 4, AND 5\200335-004-CU107.DWG



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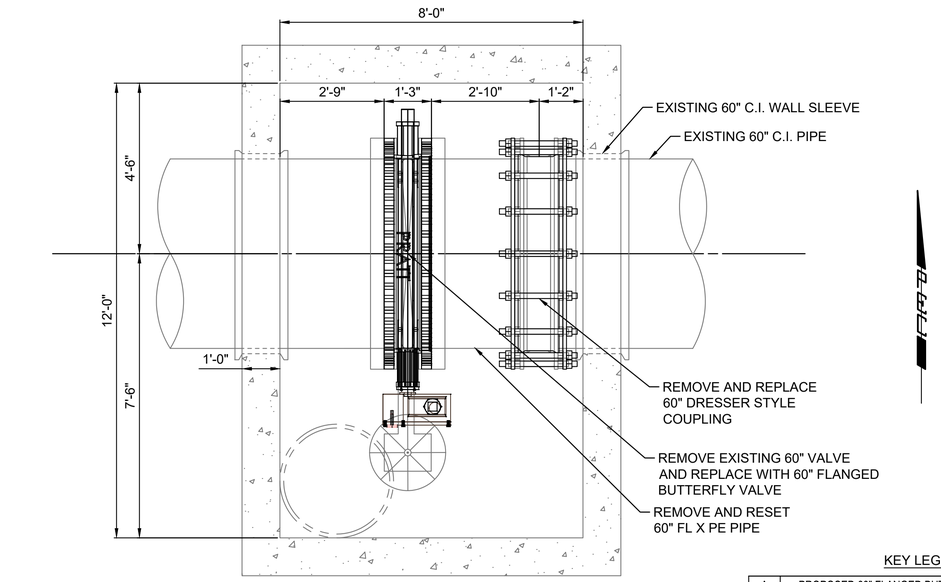
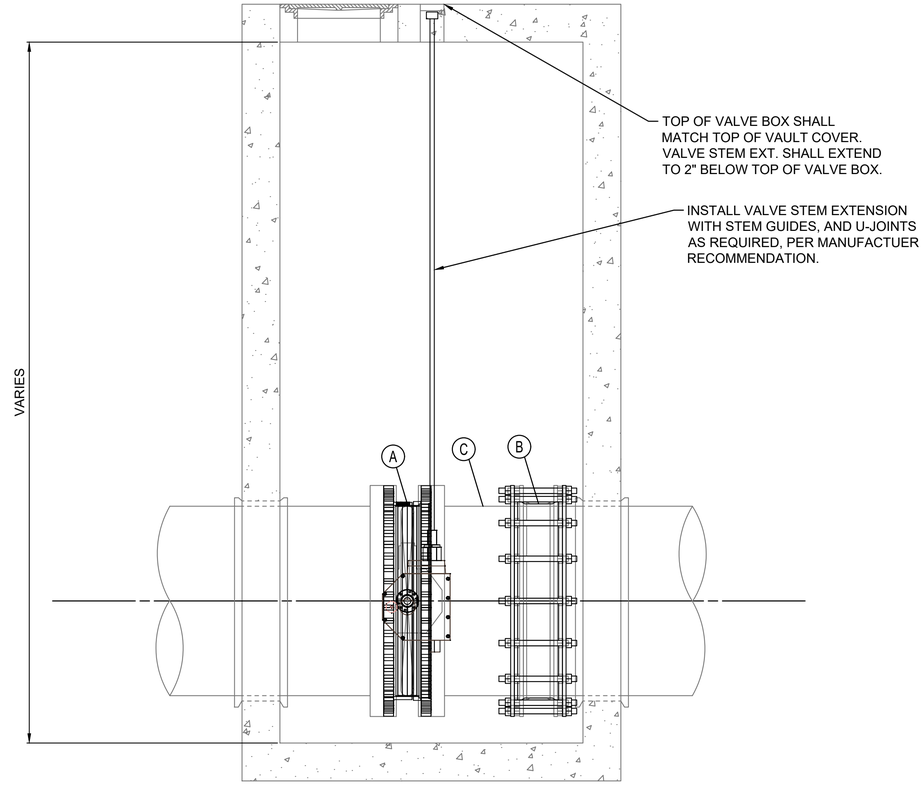


PLAN

KEY LEGEND

A	PROPOSED 60" FLANGED BUTTERFLY VALVE
B	PROPOSED 60" DRESSER STYLE COUPLING
C	EXISTING 60" FL X PE PIPE



SECTION

60" LINE VALVE VAULT DETAIL

SCALE 1" = 2'

ALL WORK ON THIS SHEET IS INCLUDED

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SITE VALVE REPLACEMENT
(PHASES 3-5/D-J)

PAUL GUNZELMAN, P.E. - CITY ENGINEER
CITY OF WICHITA PROJECT NO. 448-2021-

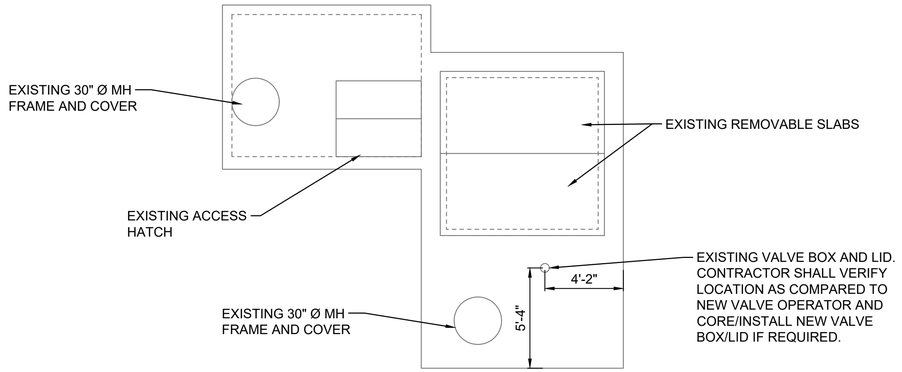
Issue:		

JOB NO.	35-200335-004-0042
DATE	SEPTEMBER 2024
PM	TBK
DESIGNED BY	KJW
DRAWN BY	KTD
CHECKED BY	RWG

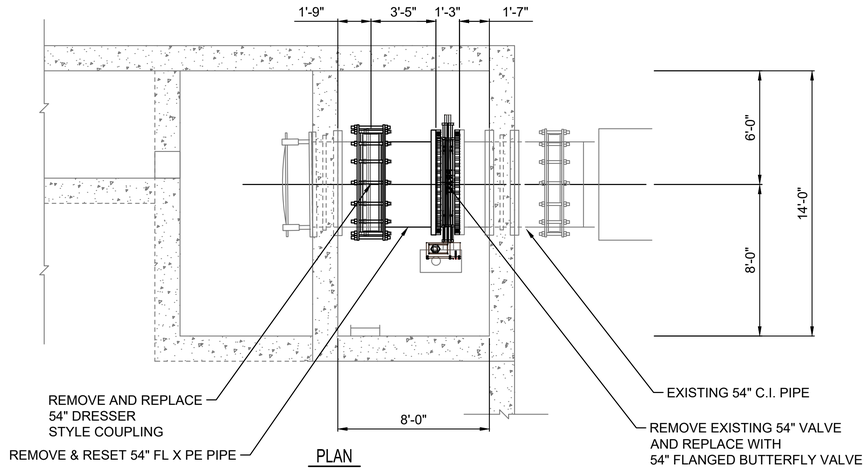
EXISTING VALVE VAULT 9233 (PHASE I)

CU108

SAVED 10/7/2024 10:38:33 AM BY KURTIS.DEKAT
PLOTTED 11/13/2024 1:21:02 PM BY KURTIS.DEKAT
U:\WICHITA-CIVIL\2020\200335\004\PEC\DRAWINGS\PHASE 3, 4, AND 5\200335-004-CU108.DWG



TOP

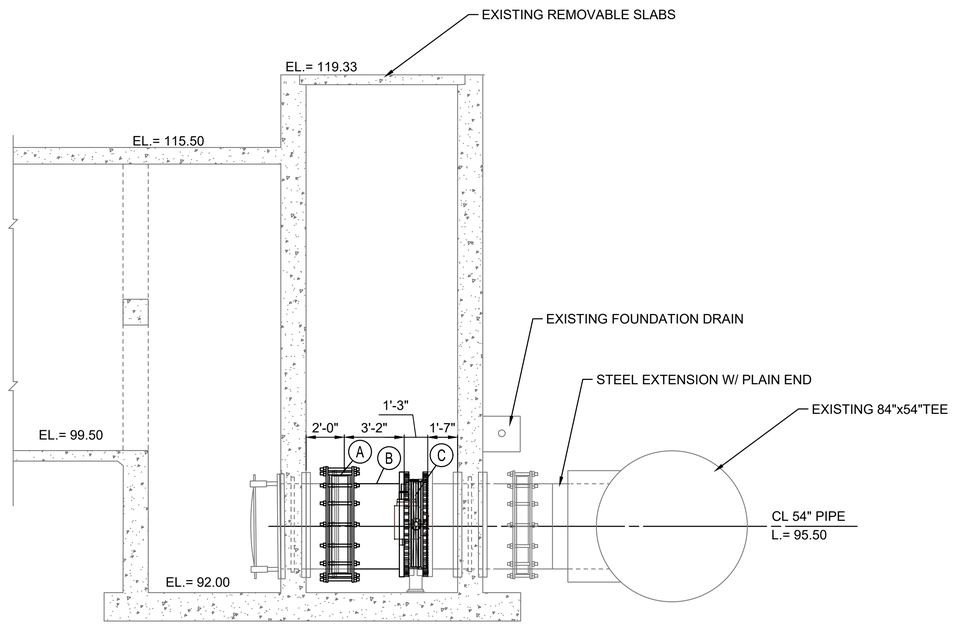


PLAN

KEY LEGEND

A	PROPOSED 54" DRESSER STYLE COUPLING
B	EXISTING 54" FL X PE PIPE
C	PROPOSED 54" FLANGED BUTTERFLY VALVE

ALL WORK ON THIS SHEET IS INCLUDED



SECTION

54" LINE VALVE VAULT DETAIL

SCALE 1" = 4'

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PAUL GUNZELMAN, P.E. - CITY ENGINEER
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Issue:		

JOB NO.	35-200335-004-0042
DATE	SEPTEMBER 2024
PM	TBK
DESIGNED BY	KJW
DRAWN BY	KTD
CHECKED BY	RWG

EXISTING VALVE VAULT 9239
(PHASE J)

CU109

SAVED 10/7/2024 10:38:25 AM BY KURTIS.DEKAT
PLOTTED 11/13/2024 1:21:06 PM BY KURTIS DEKAT
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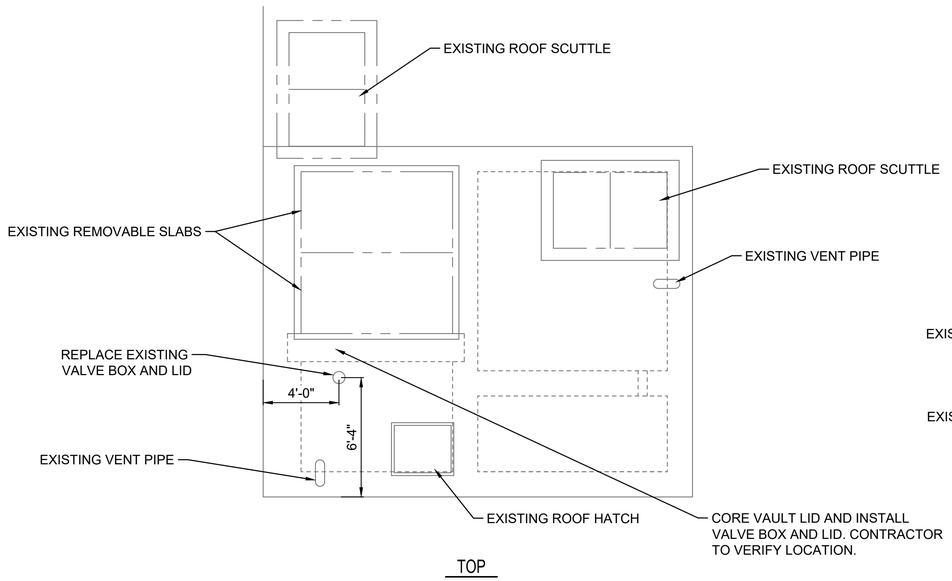

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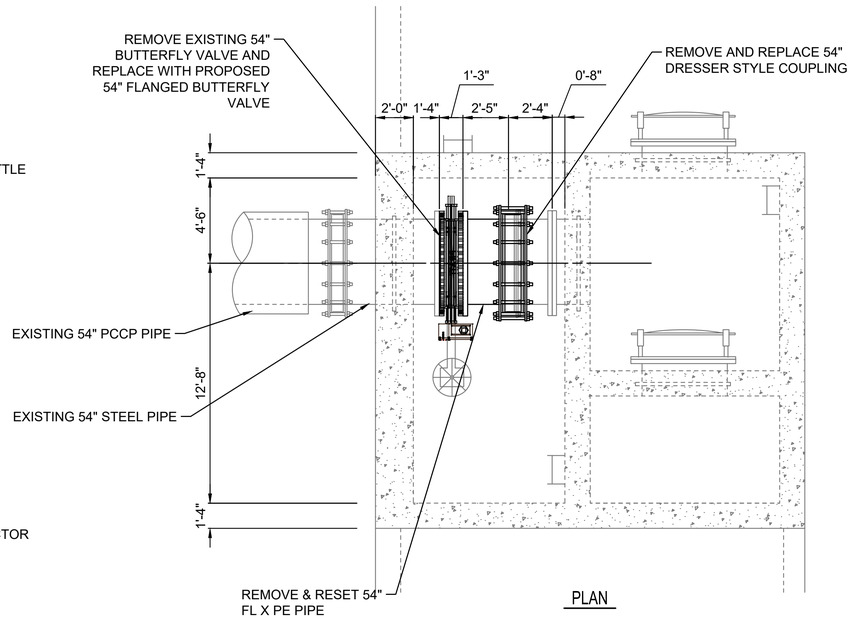
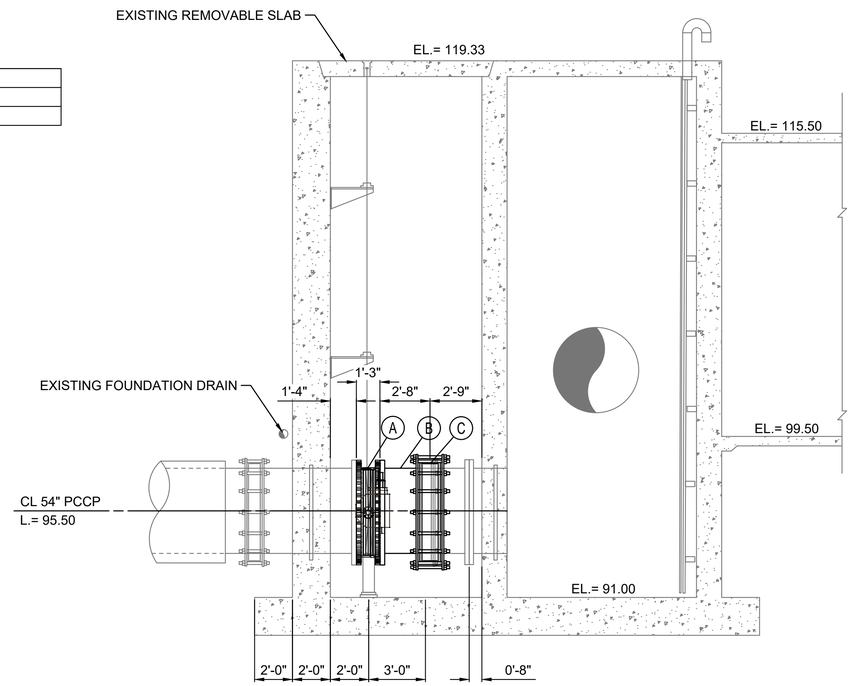


PLAN

KEY LEGEND	
A	PROPOSED 54" DRESSER STYLE COUPLING
B	EXISTING 54" FL X PE PIPE
C	PROPOSED 54" FLANGED BUTTERFLY VALVE



SECTION

54" LINE VALVE VAULT DETAIL

SCALE 1" = 4'

ALL WORK ON THIS SHEET IS INCLUDED

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PAUL GUNZELMAN, P.E. - CITY ENGINEER
CITY OF WICHITA PROJECT NO. 448-2021-

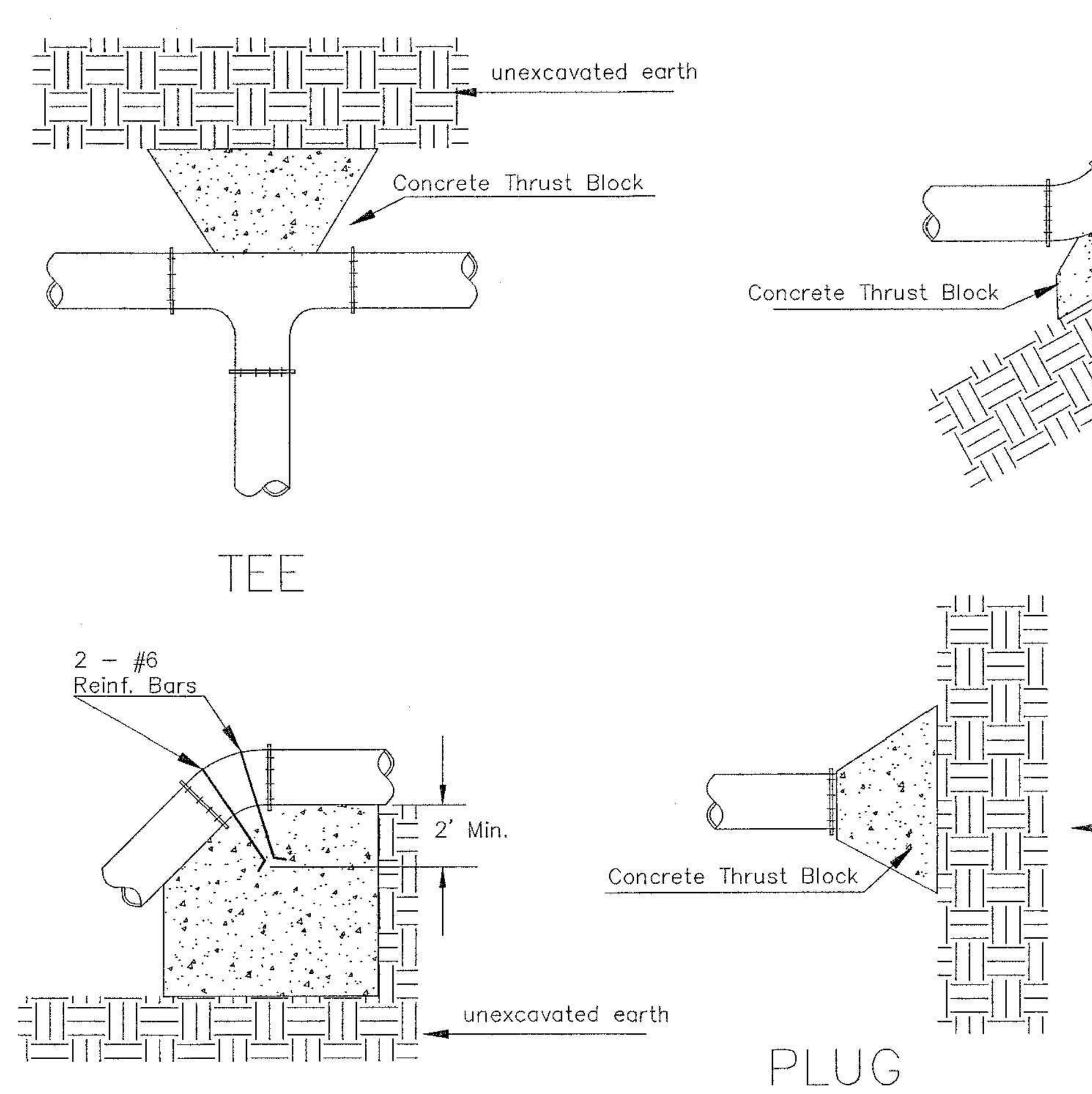
Issue:		

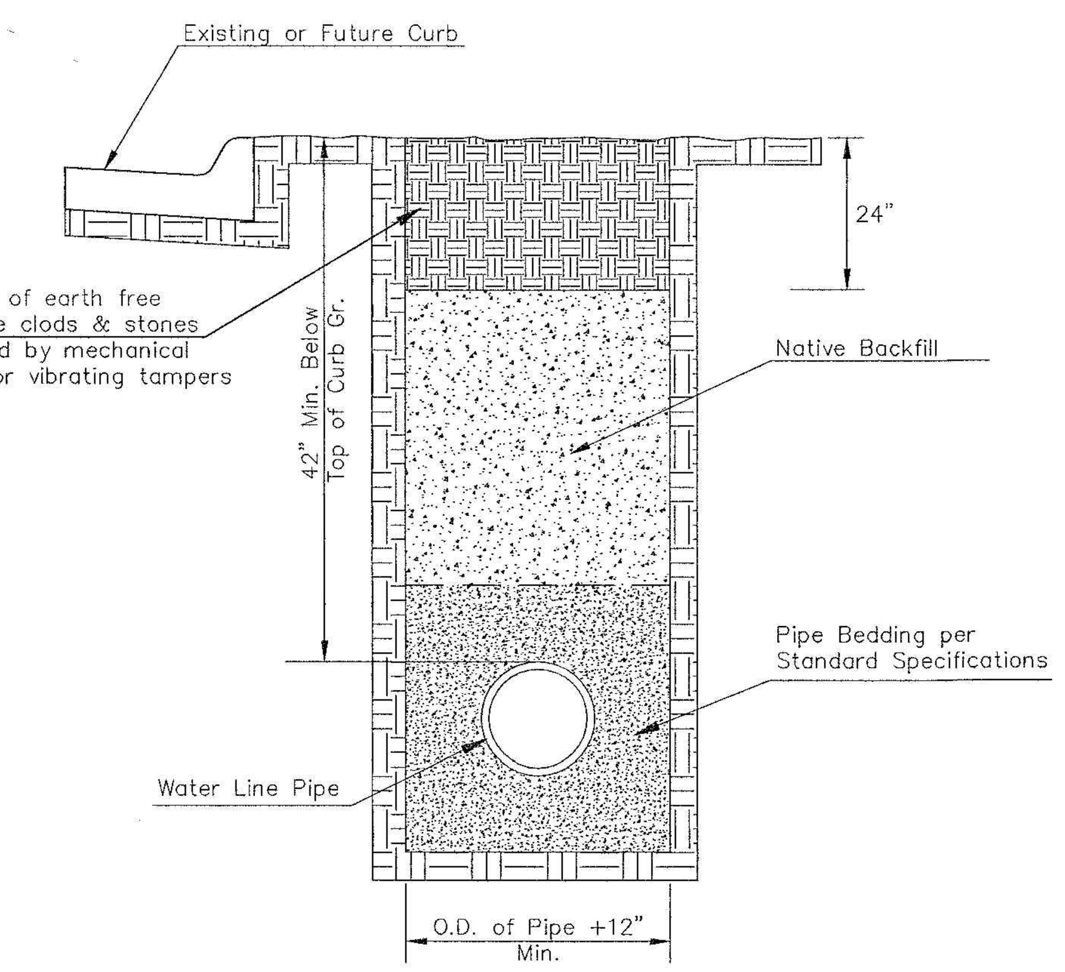
JOB NO.	35-200335-004-0042
DATE	SEPTEMBER 2024
PM	TBK
DESIGNED BY	KJW
DRAWN BY	KTD
CHECKED BY	RWG

EXISTING VALVE VAULT 9243
(PHASE J)

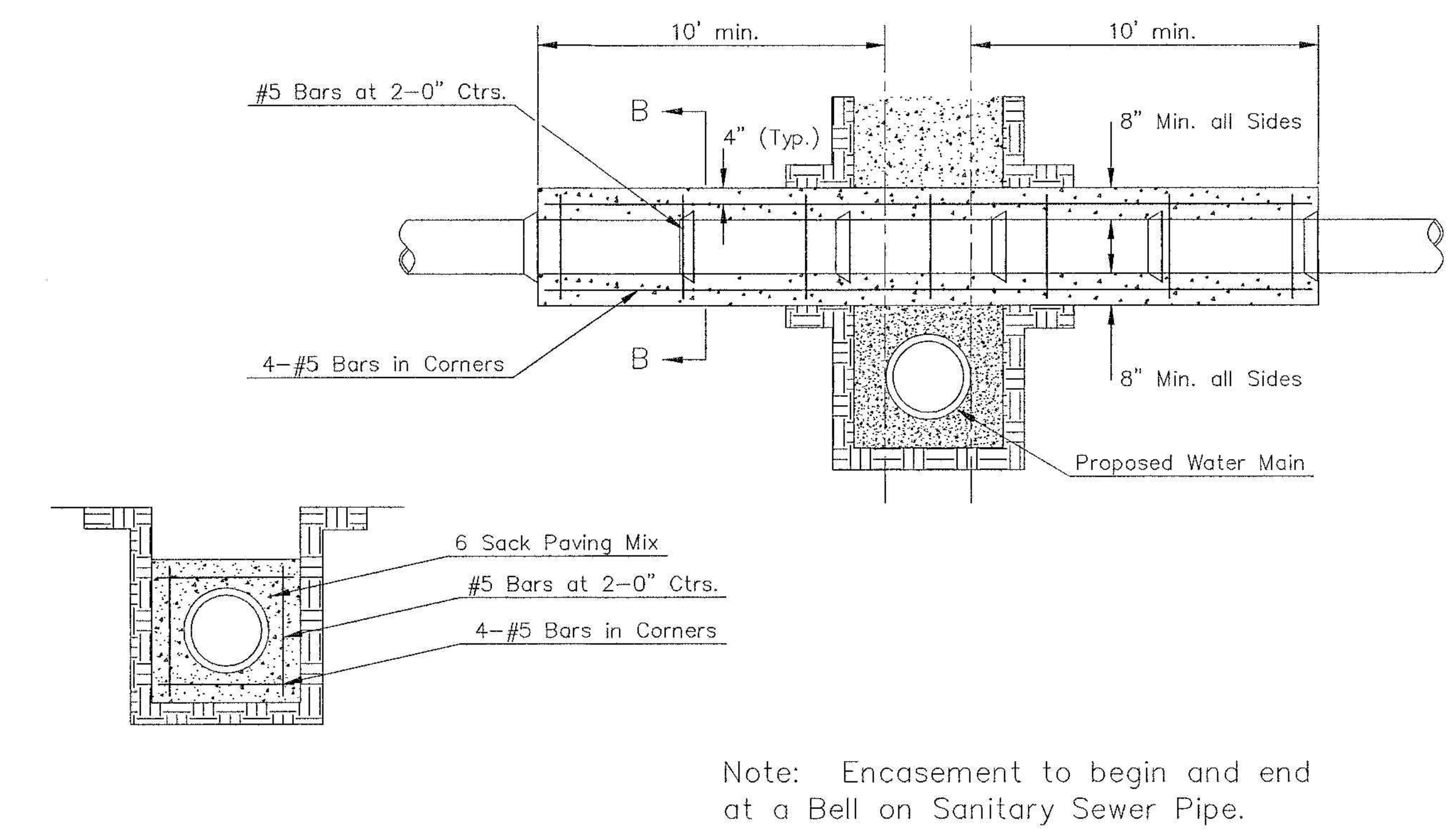
CU110

SAVED 10/7/2024 11:00:21 AM BY KURTIS.DEKAT
PLOTTED 11/13/2024 1:21:10 PM BY KURTIS.DEKAT
U:\WICHITA-CIVIL\2020\200335\004\PEC\DRAWINGS\PHASE 3, 4, AND 5\200335-004-CU110.DWG





TRENCH COMPACTION IN ROAD RIGHT-OF-WAY

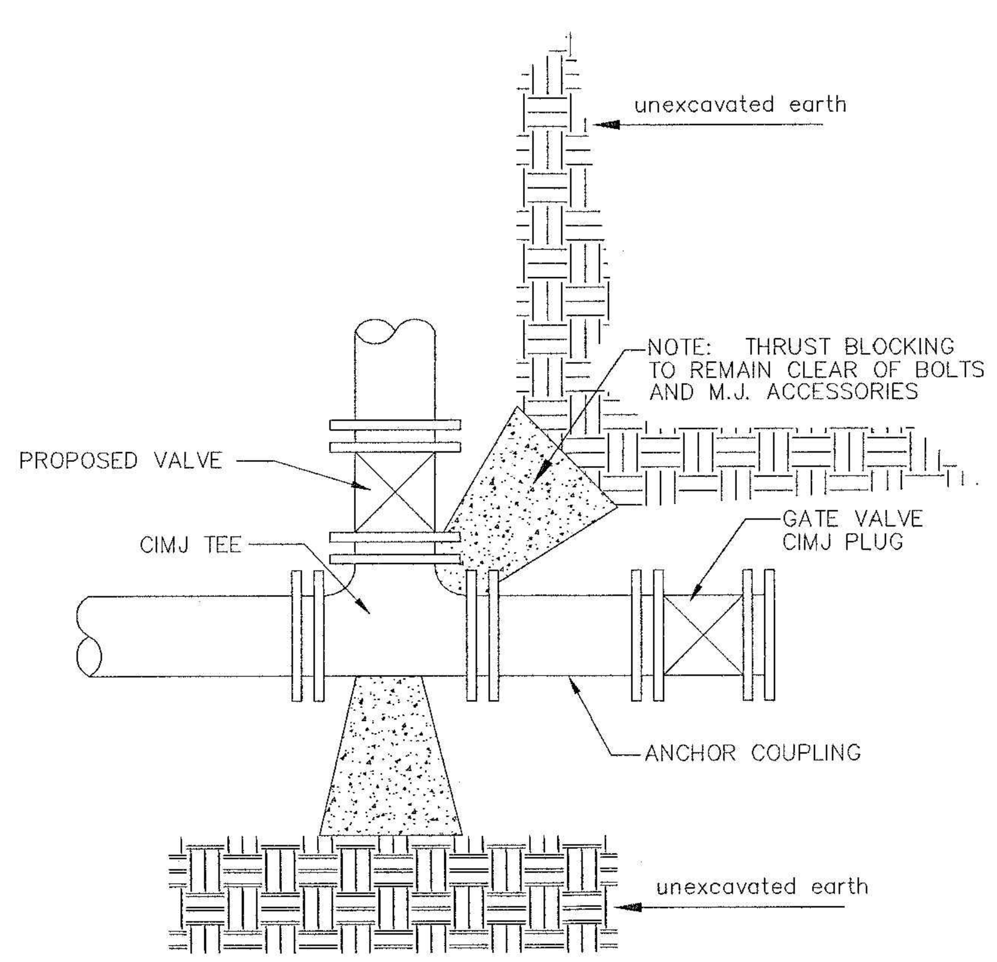


Note: Encasement to begin and end at a Bell on Sanitary Sewer Pipe.

REINFORCED CONCRETE ENCASEMENT OF SANITARY SEWER

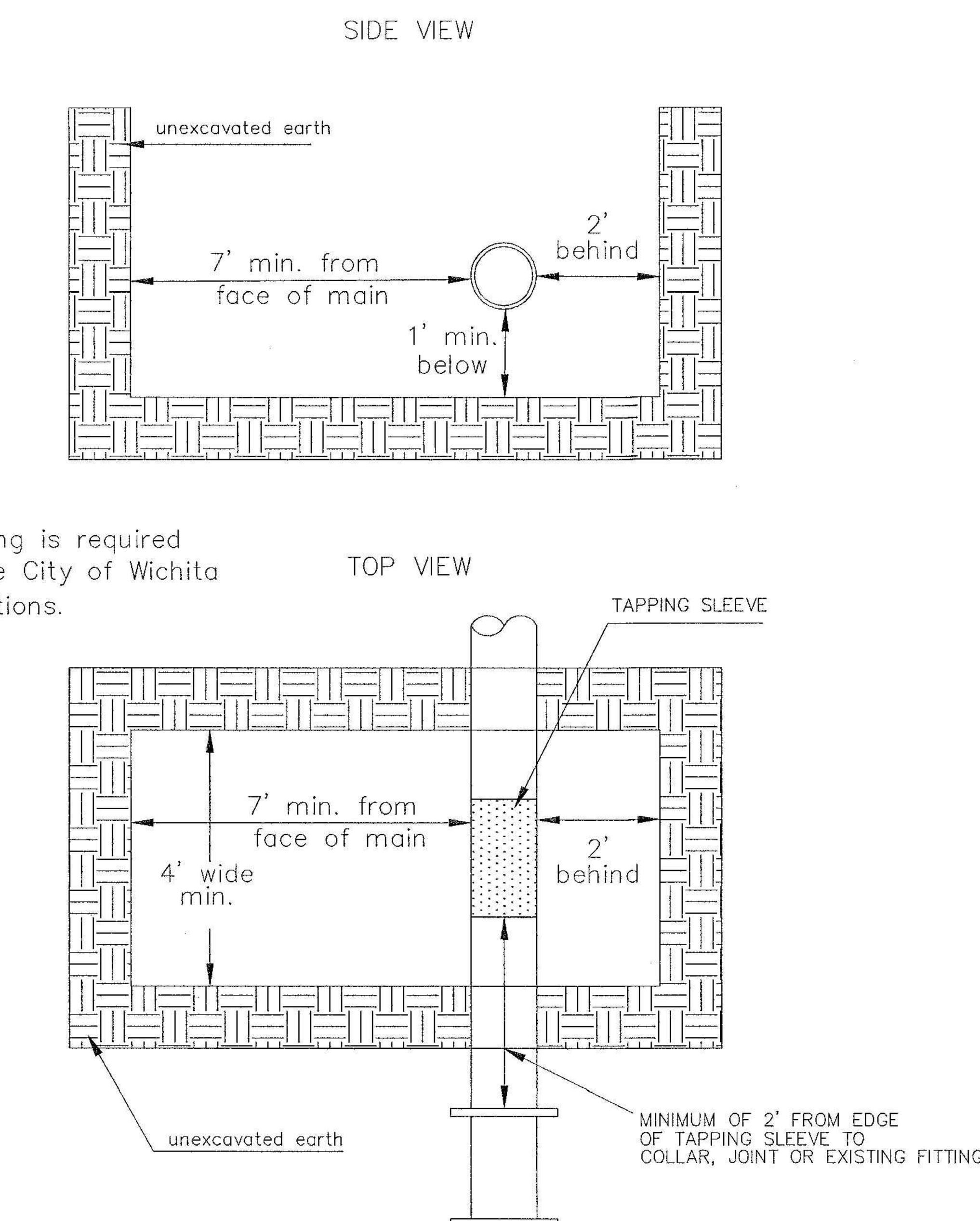
PIPE SIZE	THRUST AT FITTINGS IN TONS–AT 150#/IN^{2}P					
	PLUG	90°	45°	22 1/2°	11 1/4°	TEE
6"	2.8	3.95	2.15	1.09	.55	2.8
8"	4.9	6.95	3.75	1.90	.96	4.9
12"	11.4	16.1	8.75	4.45	2.25	11.4
16"	20.15	28.5	15.4	7.85	3.95	20.15
20"	31.15	44.0	23.85	12.15	6.10	31.15
24"	44.55	63.0	34.1	17.4	8.75	44.55

TYPICAL THRUST BLOCKS

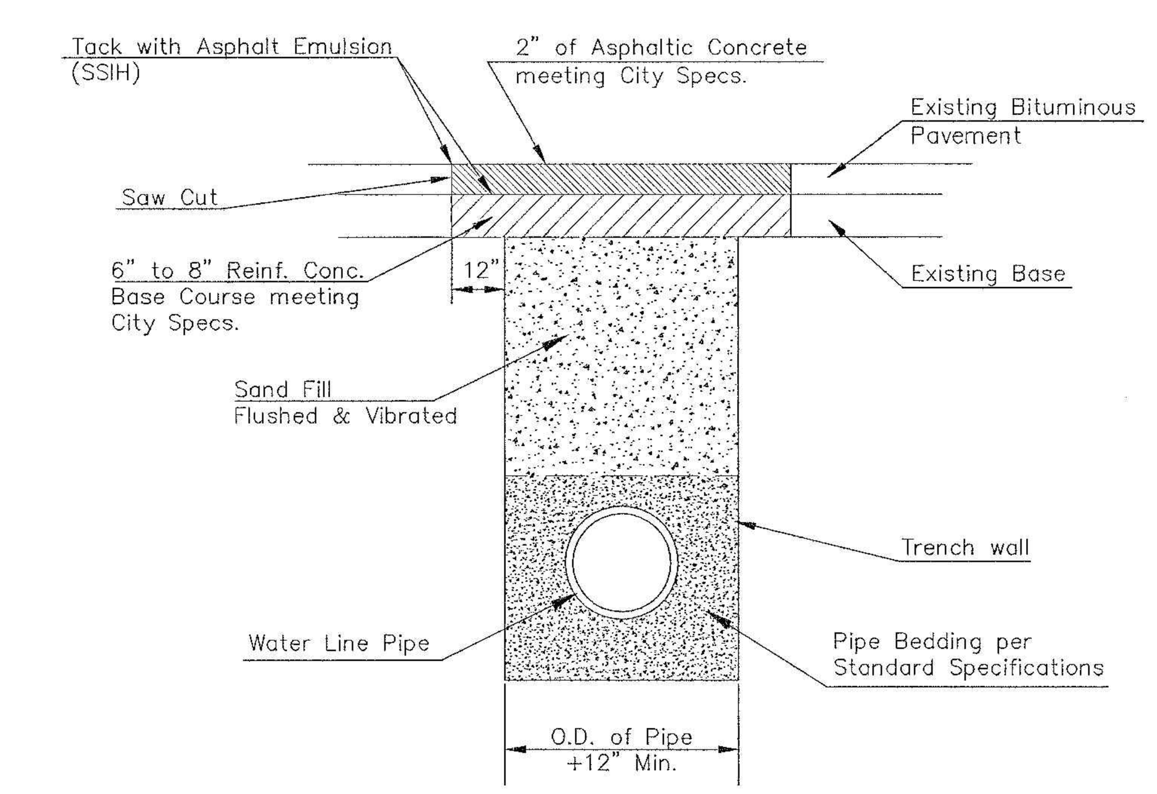


KEY BLOCK DETAIL

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



EXCAVATION FOR WET TAP



PAVEMENT REPLACEMENT & TRENCH COMPACTION UNDER EXISTING AND PROPOSED CITY ROADS

∗ PLANS GOVERN
UNLESS OTHERWISE NOTED ON PLANS

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

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

SHEET

GARY L. JANZEN LICENSED 16294 KANSAS PROFESSIONAL ENGINEER 07/21/15

WL-104

PEC
PROFESSIONAL ENGINEERING CONSULTANTS
303 SOUTH TOPEKA
WICHITA, KS 67202
316-262-2691 www.pec1.com

CITY OF WICHITA

CONSTRUCTION PLANS
FOR
HESS PUMP STATION
SITE VALVE REPLACEMENT
(PHASES 3-5/D-J)
PAUL GUNZELMAN, P.E. - CITY ENGINEER
CITY OF WICHITA PROJECT NO. 448-2021-

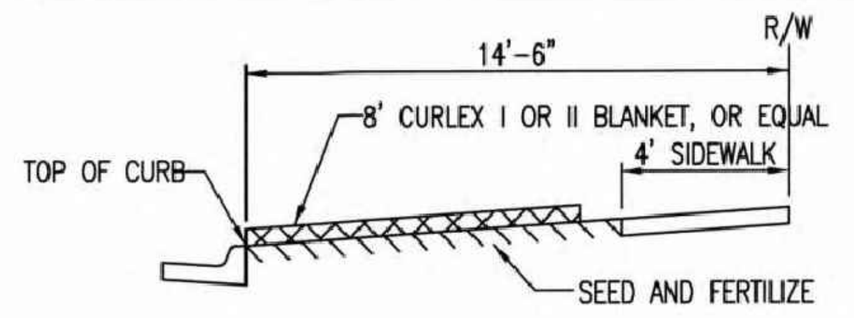
Issue:

JOB NO.	35-200335-004-0042
DATE	SEPTEMBER 2024
PM	TBK
DESIGNED BY	KJW
DRAWN BY	KTD
CHECKED BY	RWG

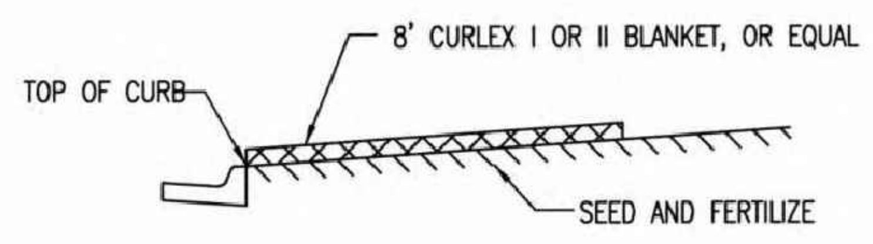
MISCELLANEOUS WATER DETAILS

CU501

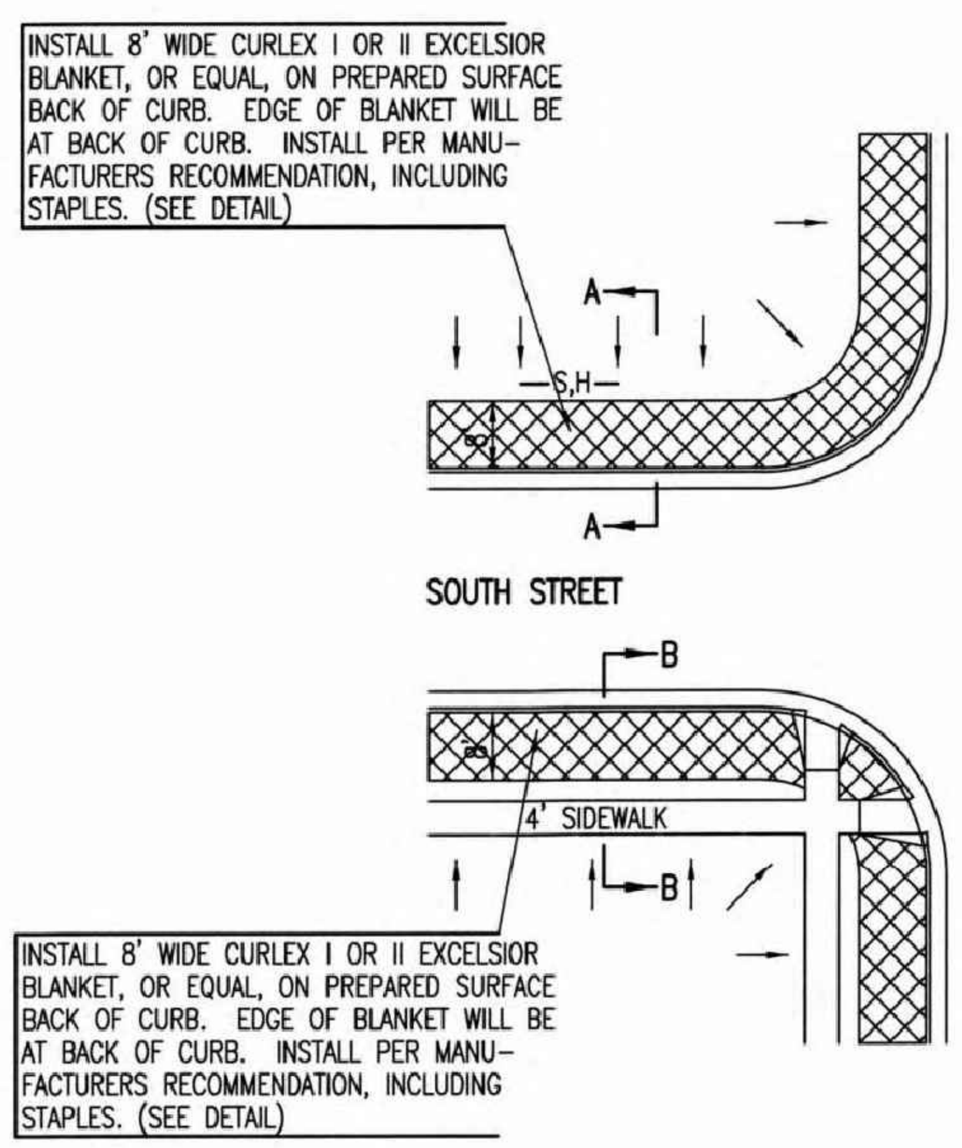
SAVED 9/5/2024 1:57:46 PM BY KURTIS.DEKAT
PLOTTED 11/13/2024 1:21:14 PM BY KURTIS DEKAT
U:\WICHITA-CIVIL\2020\200335\004\PEC\DRAWINGS\PHASE 3, 4, AND 5\200335-004-CU501.DWG



SECTION B-B



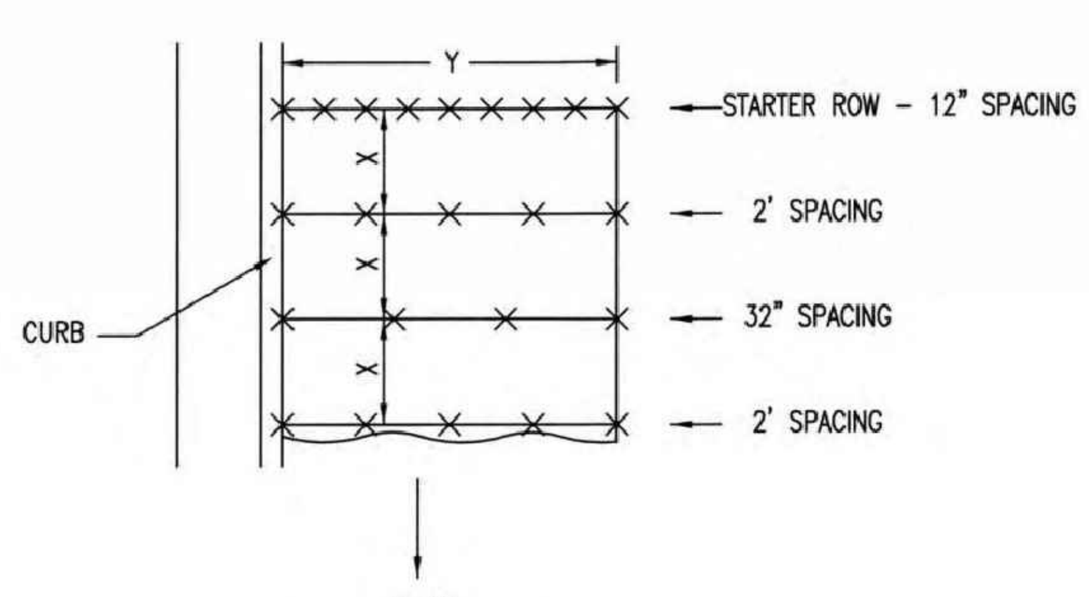
SECTION A-A



GENERAL NOTES

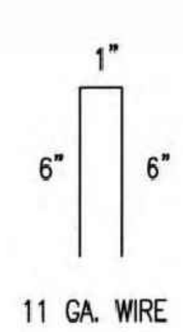
1. EXCELSIOR MAT TO BE INSTALLED WHEN SOD IS NOT SPECIFIED ON PROJECT.
2. EXCELSIOR BLANKET TO BE INSTALLED OVER SEED AND FERTILIZER, AS SPECIFIED IN THE PROJECT SPECIFICATIONS.
3. AFTER INSTALLATION OF EXCELSIOR BLANKET, AT LOCATIONS WHERE CONCENTRATED FLOW CARRIES SEDIMENT OVER THE CURB AND INTO THE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

BACK OF CURB PROTECTION DETAIL



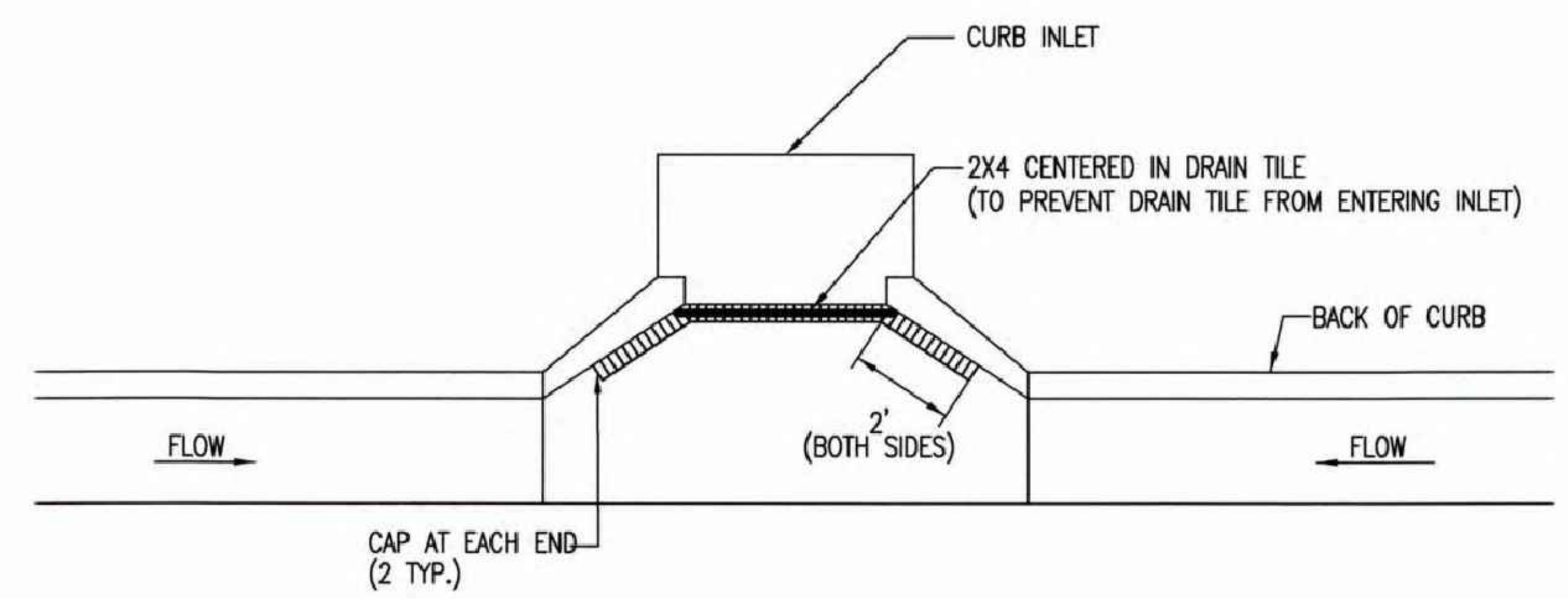
STAPLE PATTERN

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



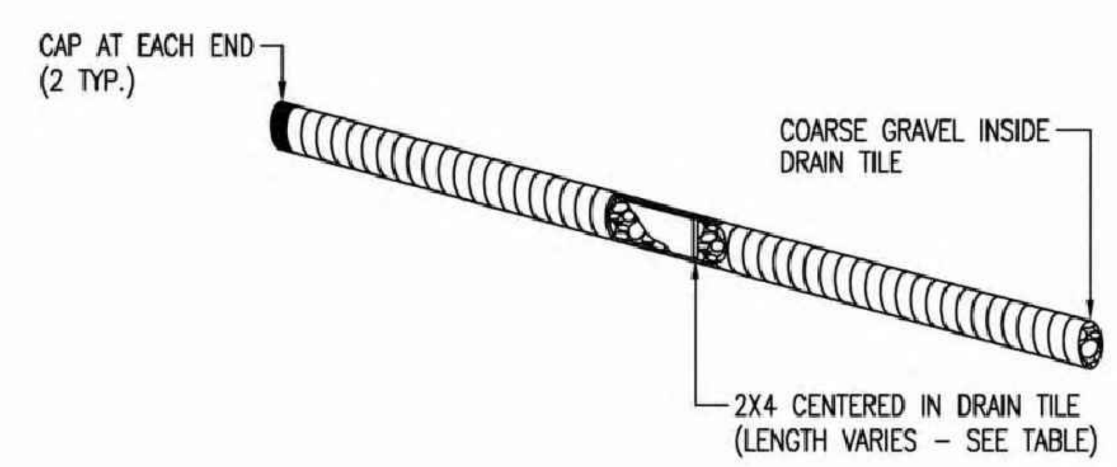
STAPLE

DETAILS FOR APPROVED EROSION CONTROL MAT

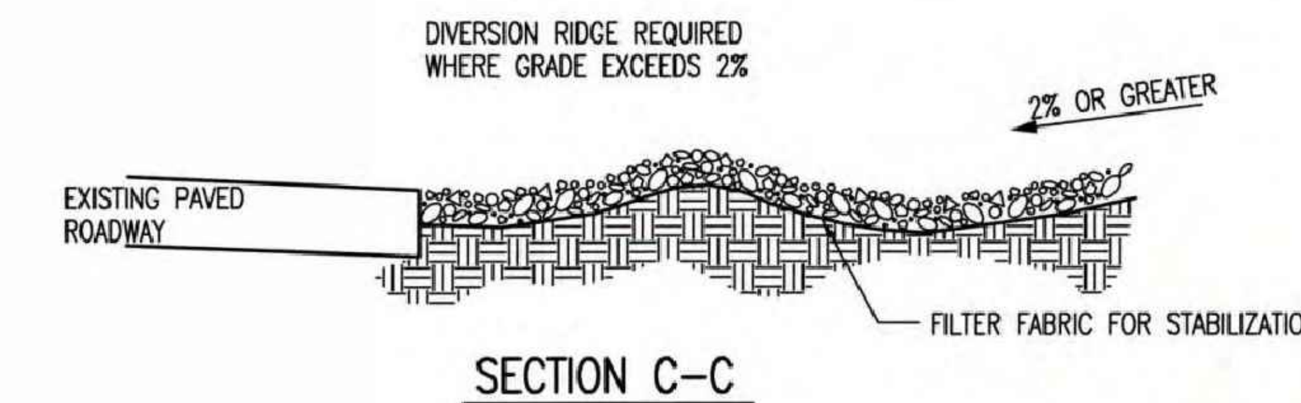


NOTE:
PLACE 4" PERFORATED PVC PIPE, FILLED WITH 1/2"-1" DIA. GRAVEL, IN FRONT OF CURB INLET AS SHOWN.

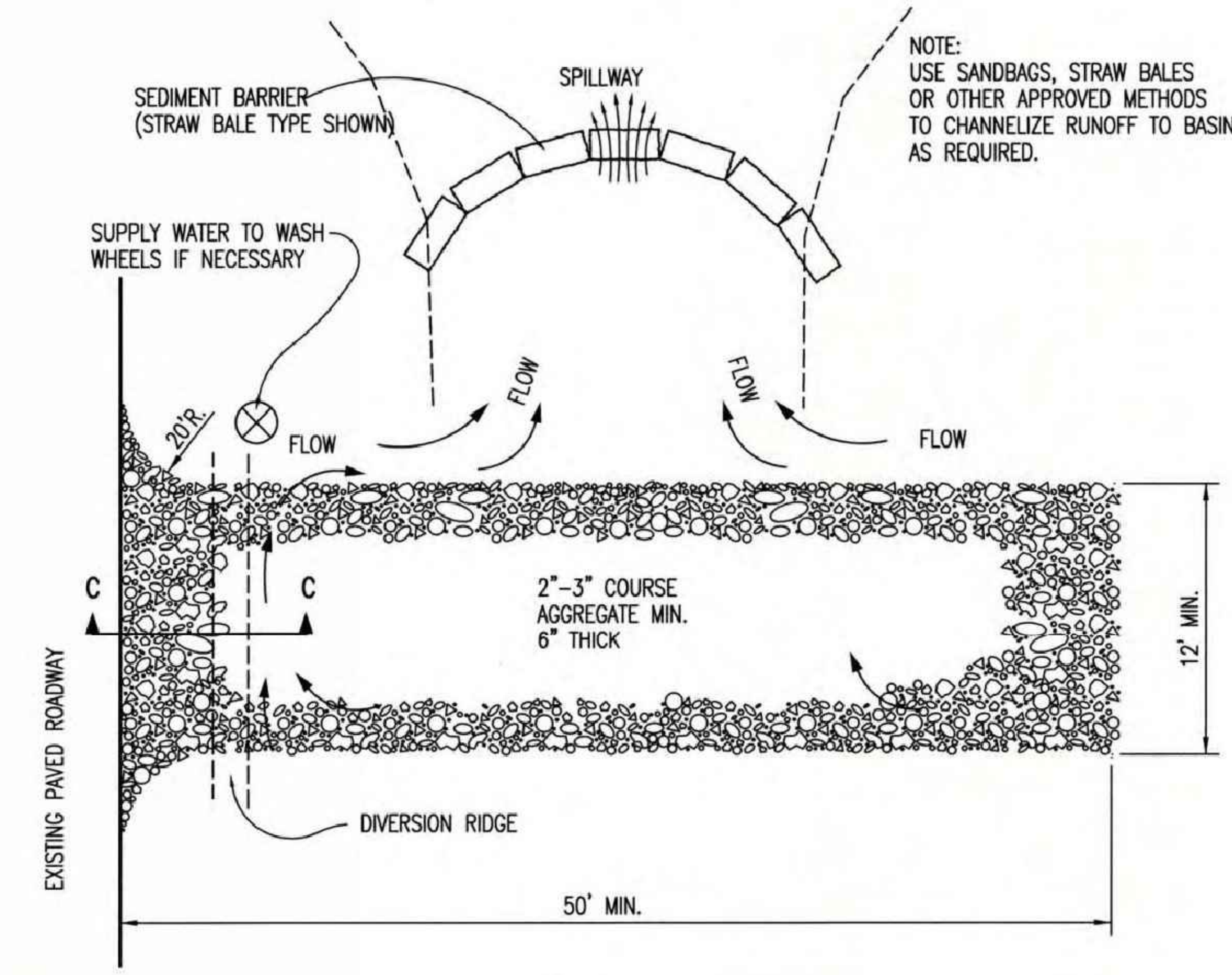
2X4 LENGTH	INLET TYPE	INLET OPENING
5'-6"	1-A	5'-0"
10'-6"	1-A	10'-0"
15'-6"	1-A	15'-0"



CURB INLET PROTECTION
4" PERFORATED PIPE W/ GRAVEL



SECTION C-C



STABILIZED CONSTRUCTION ENTRANCE

GENERAL NOTES

1. 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.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
3. 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.
4. 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

GARY L. JANZEN LICENSED PROFESSIONAL ENGINEER KANSAS 05/26/13

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	OCA NUMBER	DATE

CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1620
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CITY OF WICHITA

CONSTRUCTION PLANS
FOR
HESS PUMP STATION
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(PHASES 3-5/D-J)
PAUL GUNZELMAN, P.E. - CITY ENGINEER
CITY OF WICHITA PROJECT NO. 448-2021-

Issue:

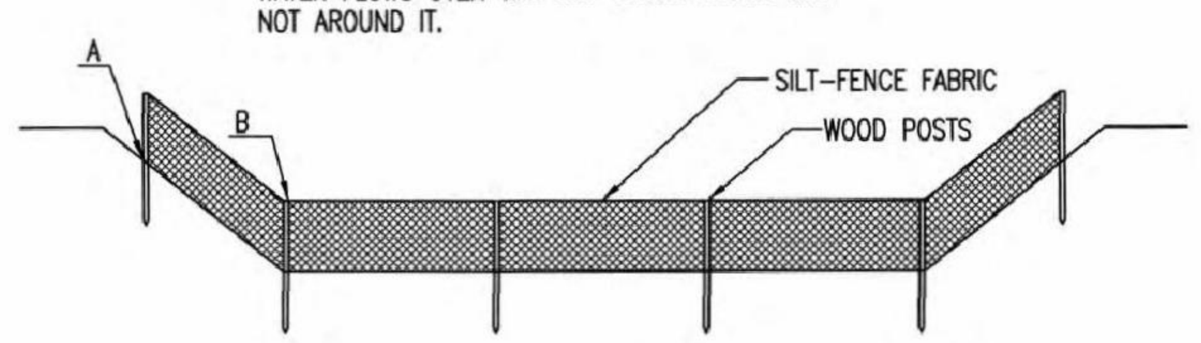
JOB NO.	35-200335-004-0042
DATE	SEPTEMBER 2024
PM	TBK
DESIGNED BY	KJW
DRAWN BY	KTD
CHECKED BY	RWG

EROSION CONTROL DETAILS

CU502

SAVED 9/5/2024 2:07:12 PM BY KURTIS.DEKAT
PLOTTED 11/13/2024 1:21:17 PM BY KURTIS DEKAT
U:\WICHITA-CIVIL\2020\200335\004\PEC\DRAWINGS\PHASE 3, 4, AND 5\200335-004-CU502.DWG

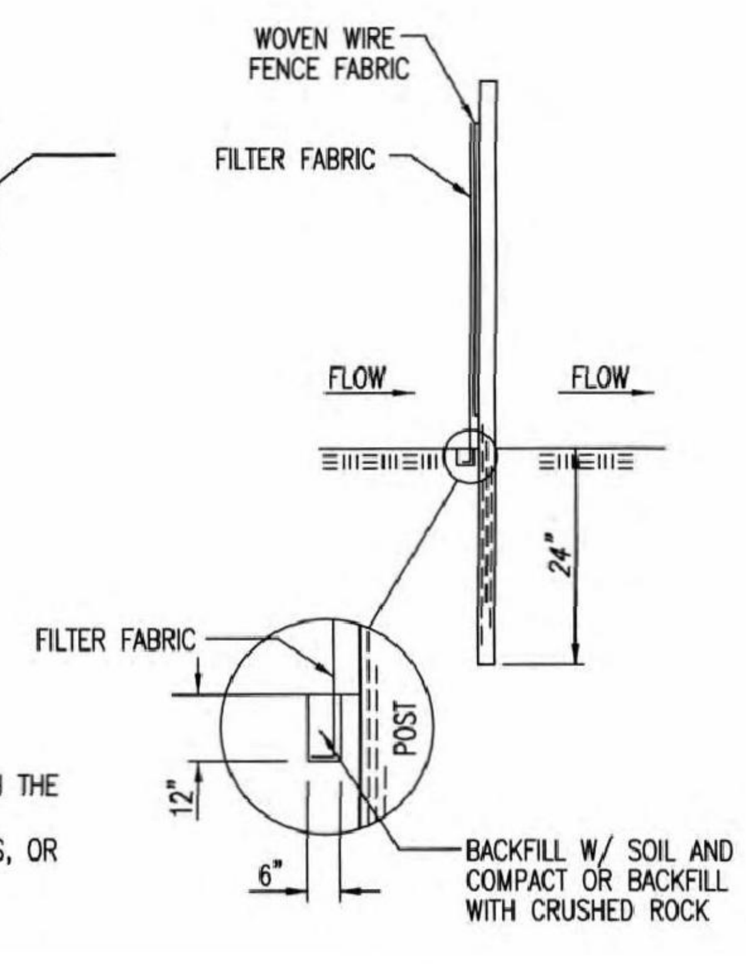
NOTE: POINT A MUST BE HIGHER THAN POINT B SO THAT WATER FLOWS OVER THE SILT FENCE FABRIC AND NOT AROUND IT.



ELEVATION

SILT FENCE DITCH CHECKS

(STREAM PROTECTION)



ANCHOR TRENCH DETAIL

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 UPSTREAM SIDE OF THE TRENCH FOR LATER USE.
ROLL OUT A CONTINUOUS LENGTH OF SILT FENCE FABRIC ON THE DOWNSTREAM SIDE OF THE TRENCH.
PLACE THE EDGE OF THE FABRIC IN THE TRENCH STARTING AT THE TOP UPSTREAM 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 UPSTREAM SIDE OF THE TRENCH TO CLEAR AN AREA FOR DRIVING IN THE POSTS. JUST DOWNSTREAM 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.

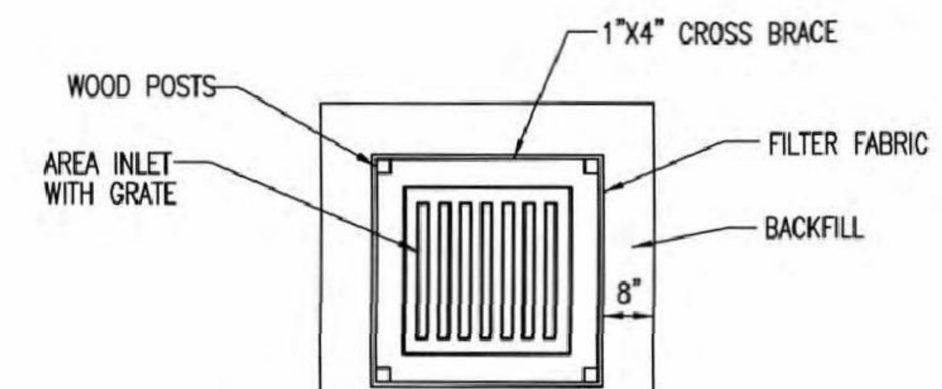
LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

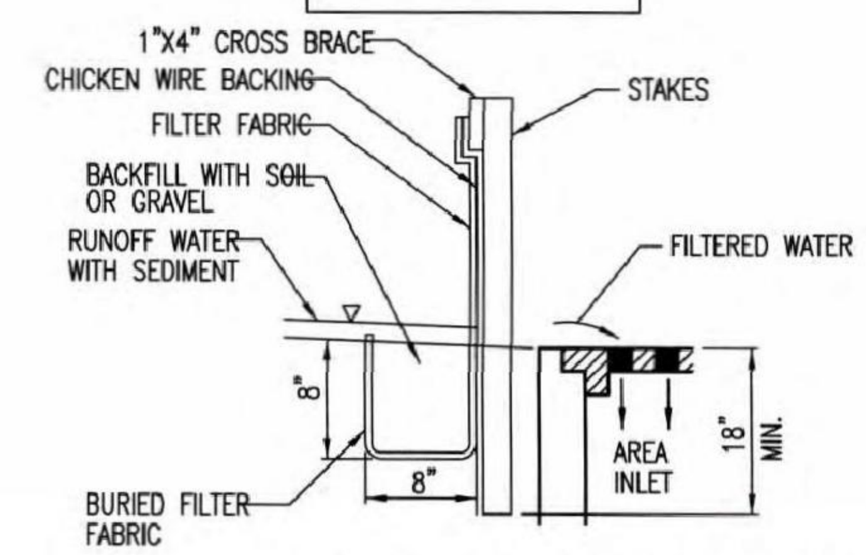
WATER SHOULD FLOW THROUGH A SILT FENCE DITCH CHECK–NOT OVER IT. PLACE SILT FENCE IN DITCHES WHERE IT IS UNLIKELY THAT IT WILL BE OVERTOPPED. SILT FENCE INSTALLATIONS QUICKLY DETERIORATE WHEN WATER OVERTOPS THEM.
DO NOT PLACE SILT FENCE POSTS ON THE UPSTREAM SIDE OF THE SILT FENCE FABRIC. IN THIS CONFIGURATION, 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?





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.

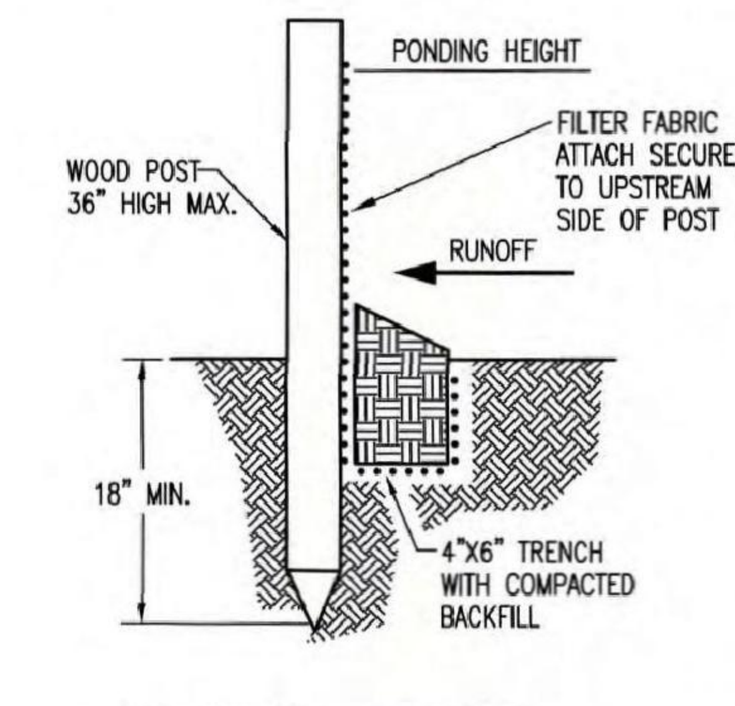
LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

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 RESISTED 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

GARY L. JANZEN LICENSED 8204 KANSAS PROFESSIONAL ENGINEER 05/24/13

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

SILT FENCE DITCH CHECK AND BARRIER DETAILS

CITY ENGINEER
GARY JANZEN, P.E.

PROJECT NUMBER	OCA NUMBER	DATE

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CITY OF WICHITA

CONSTRUCTION PLANS
FOR
HESS PUMP STATION
SITE VALVE REPLACEMENT
(PHASES 3-5/D-J)
PAUL GUNZELMAN, P.E. - CITY ENGINEER
CITY OF WICHITA PROJECT NO. 448-2021-

Issue:

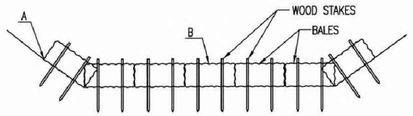
JOB NO.	35-200335-004-0042
DATE	SEPTEMBER 2024
PM	TBK
DESIGNED BY	KJW
DRAWN BY	KTD
CHECKED BY	RWG

EROSION CONTROL DETAILS

CU503

SAVED 9/5/2024 2:14:33 PM BY KURTIS.DEKAT
PLOTTED 11/13/2024 1:21:20 PM BY KURTIS DEKAT
U:\WICHITA-CIVIL\2020\200335\004\PEC\DRAWINGS\PHASE 3, 4, AND 5\200335-004-CU503.DWG

NOTE: POINT A MUST BE HIGHER THAN POINT B
SO THAT WATER FLOWS OVER THE BALES AND
NOT AROUND THEM.



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

DITCH GRADE (%)	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".

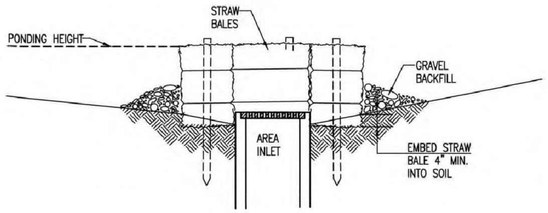
LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

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.

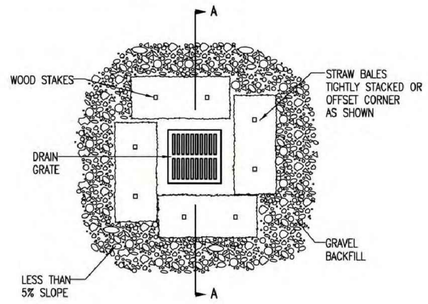
INSPECTION AND MAINTENANCE:

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.

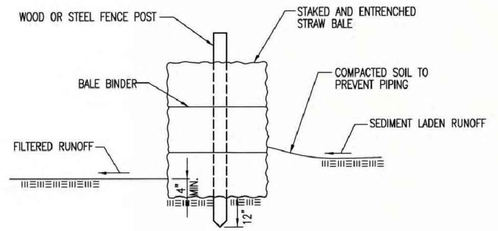
LIST OF COMMON PLACEMENT INSTALLATION MISTAKES TO AVOID:

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

GARY L. JANZEN LICENSED 16294 PROFESSIONAL KANSAS ENGINEER
05/2/13

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

STRAW BALE DITCH CHECK AND BARRIER DETAILS

CITY ENGINEER
GARY JANZEN, P.E.

PROJECT NUMBER	OCA NUMBER	DATE

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CONSTRUCTION PLANS
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(PHASES 3-5/D-J)
PAUL GUNZELMAN, P.E. - CITY ENGINEER
CITY OF WICHITA PROJECT NO. 448-2021-

Issue:		

JOB NO.	35-200335-004-0042
DATE	SEPTEMBER 2024
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EROSION CONTROL DETAILS

CU504

SAVED 9/5/2024 2:19:11 PM BY KURTIS.DEKAT
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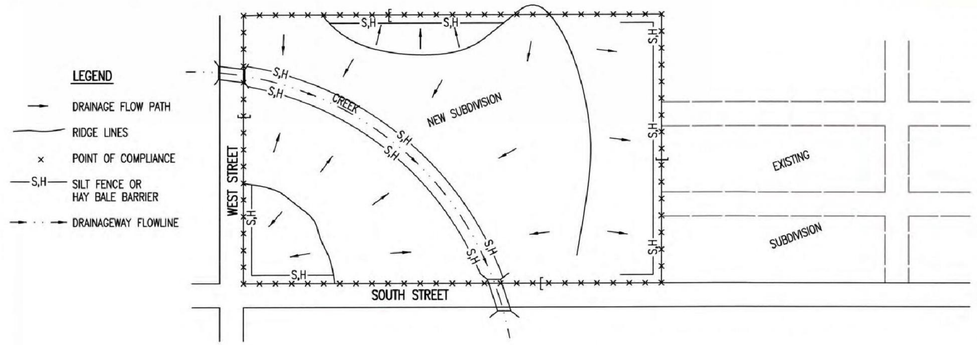
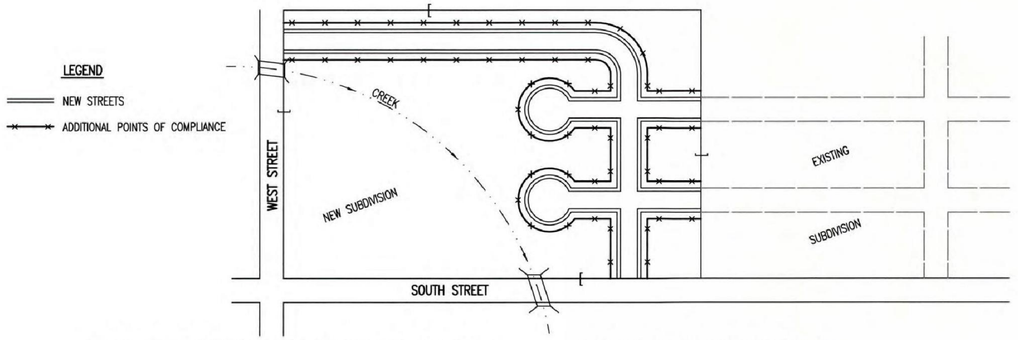
PHASE 1 – INITIAL EARTHWORK AND UTILITIES (EXCEPT STORM SEWER)



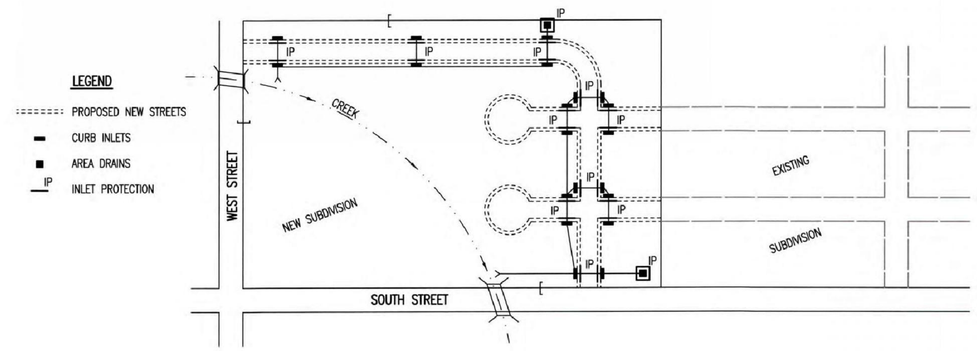
1. DURING THIS PHASE OF SUBDIVISION CONSTRUCTION, THE POINTS OF COMPLIANCE ARE THE PERIMETER BOUNDARIES AND ANY DRAINAGE WAYS OR STORM SEWERS DRAINING THROUGH OR FROM THE SITE. SHOULD LAKES BE CONSTRUCTED WITHIN THE SUBDIVISION THAT WILL DISCHARGE DURING STORMS, THEY ARE ALSO A POINT OF COMPLIANCE.
2. 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



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

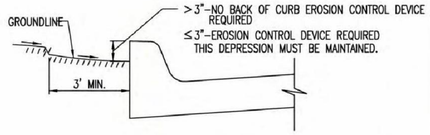


1. DURING THIS PHASE OF SUBDIVISION DEVELOPMENT, ALL EROSION CONTROL DEVICES REQUIRED IN PHASE 1 SHALL REMAIN IN PLACE AND BE MAINTAINED.
2. AS NEW STORM SEWERS, WITH INLETS, ARE INSTALLED, THE STORM SEWERS MUST NOW BE PROTECTED SO ALL NEW INLETS BECOME POINTS OF COMPLIANCE.
3. AREA DRAINS – AS SOON 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

GARY L. JANZEN LICENSED 16294 KANSAS PROFESSIONAL ENGINEER
05/13/13

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

SUBDIVISION DEVELOPMENT PROCESS

CITY ENGINEER
GARY JANZEN, P.E.

PROJECT NUMBER	OCA NUMBER	DATE

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

SHEET

SW–505

PEC
PROFESSIONAL ENGINEERING CONSULTANTS
303 SOUTH TOPEKA
WICHITA, KS 67202
316-262-2691 www.pec1.com

CITY OF WICHITA

CONSTRUCTION PLANS
FOR
HESS PUMP STATION
SITE VALVE REPLACEMENT
(PHASES 3-5/D-J)

PAUL GUNZELMAN, P.E. - CITY ENGINEER
CITY OF WICHITA PROJECT NO. 448-2021-____

Issue:		

JOB NO.	35-200335-004-0042
DATE	SEPTEMBER 2024
PM	TBK
DESIGNED BY	KJW
DRAWN BY	KTD
CHECKED BY	RWG

EROSION CONTROL DETAILS

CU505

SAVED 9/5/2024 2:26:18 PM BY KURTIS.DEKAT
PLOTTED 11/13/2024 1:21:27 PM BY KURTIS DEKAT
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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.

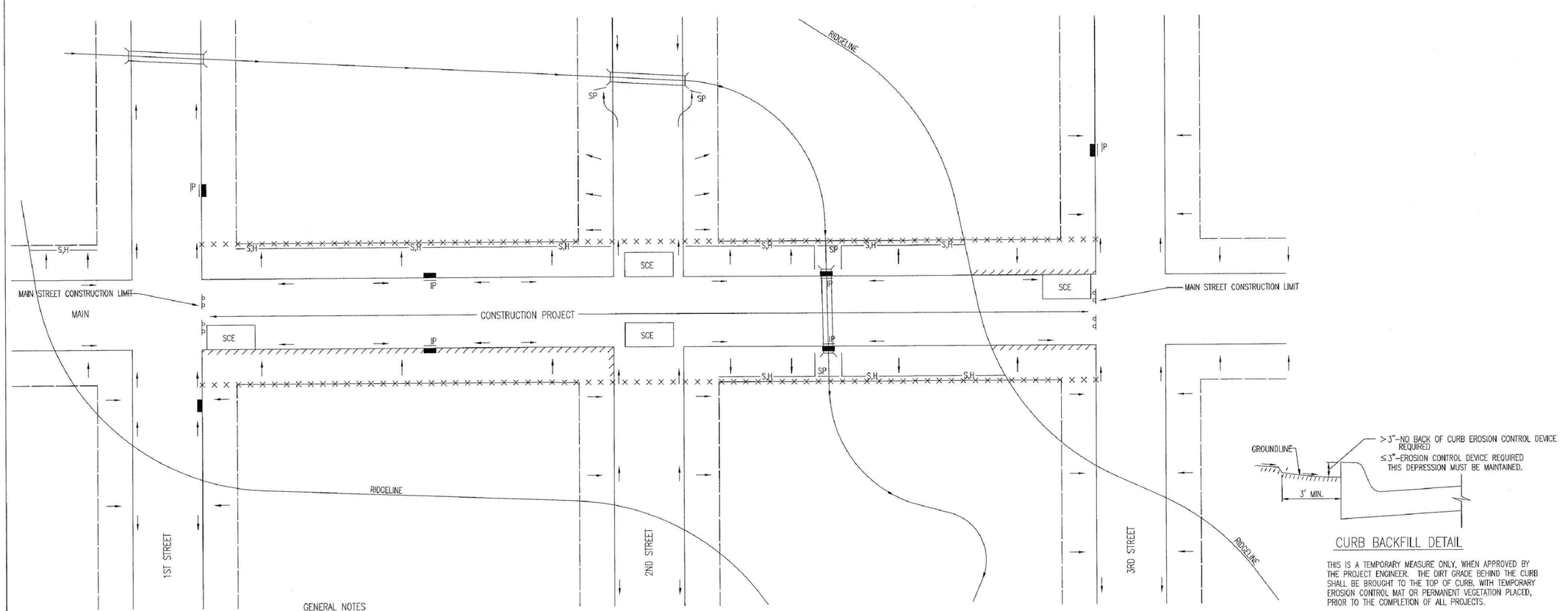
2. EROSION CONTROL DEVICES MUST BE MAINTAINED BY THE CONTRACTOR THROUGHOUT THE CONSTRUCTION PROCESS AND UNTIL THE DISTURBED EARTH IS RESTABILIZED.

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.



CURB BACKFILL DETAIL

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 CONTACTOR 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)

GARY L. JANZEN — LICENSED — 16294 — KANSAS — PROFESSIONAL ENGINEER — 06/05/15

REVISION: JUNE 2015

CITY OF WICHITA
PUBLIC WORKS & UTILITIES
ENGINEERING DIVISION

STREET IMPROVEMENT PROJECTS

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GENERAL STRUCTURAL NOTES

A. DESIGN CRITERIA

1. BUILDING CODE: INTERNATIONAL BUILDING CODE (IBC), 2018 EDITION, INCLUDING LOCAL SUPPLEMENTS.

2. GRAVITY LOADS:

LOCATION	LIVE LOAD	DEAD LOAD*
VAULT COVER	HS20-44 (VEHICLE LOAD)	5 PSF

*DEAD LOAD WHICH IS SUPERIMPOSED ONTO ACTUAL STRUCTURAL WEIGHTS DOES NOT INCLUDE SOIL SURCHARGE.

3. SOIL LOADS

SOIL WEIGHT:	120 PCF
EXTERNAL SOIL PRESSURE	90 PCF (SATURATED)

B. DELEGATED ENGINEERING OF STRUCTURAL COMPONENTS & SYSTEMS

1. ALL STRUCTURAL COMPONENTS & SYSTEMS DESIGNED AND SEALED BY A SPECIALTY STRUCTURAL ENGINEER (SSE) SHALL MEET THE GUIDELINES PUBLISHED BY THE COUNCIL OF AMERICAN STRUCTURAL ENGINEERS (CASE) FOR DELEGATED SPECIALTY STRUCTURAL ENGINEERING.

2. WHEN COMPONENTS & SYSTEMS SPECIFIED ARE DELEGATED, THE SHOP DRAWINGS SHALL HAVE THE FOLLOWING:

   A. PROVIDE A FULL DESIGN ANALYSIS INCLUDING CALCULATIONS WITH A SEALED COVER SHEET IDENTIFYING THE PROJECT NAME AND ADDRESS.

   B. THE ENGINEER THAT SEALED THE CALCULATIONS SHALL ALSO SEAL THE FABRICATION, PLACING, AND ERECTION PLANS. EACH PLAN SHALL IDENTIFY THE PROJECT NAME/ADDRESS.

   C. THE ENGINEER THAT SEALED THE PLANS SHALL STATE THAT HE HAS COMPLETED A DETAILED REVIEW OF THE CONTRACT DOCUMENTS AND HAS INCORPORATED THE PERFORMANCE CRITERIA INTO THE SUBMITTAL.

3. THE CONTRACTOR SHALL REVIEW THE SUBMITTAL FOR QUANTITIES AND DIMENSIONS AND VERIFY THAT THE ABOVE INFORMATION HAS BEEN INCLUDED IN THE SUBMITTAL.

PRECAST CONCRETE

1. AT THE CONTRACTORS OPTION A PRECAST STRUCTURE MAY BE USED IN PLACE OF THE CAST IN PLACE STRUCTURE. ALL EARTHWORK AND QUALITY ASSURANCE MEASURES SHALL BE AS NOTED IN THE STRUCTURAL GENERAL NOTES AND DETAILS.

2. REF. DELEGATED ENGINEERED STRUCTURAL COMPONENTS & SYSTEM FOR SUBMITTAL REQUIREMENTS.

3. REF. DESIGN CRITERIA FOR BUILDING CODE, SERVICE CRITERIA AND LOADS TO BE USED IN DESIGN.

4. ADDITIONAL DETAILED CRITERIA

   A. PRECAST COMPONENTS & CONNECTIONS SHALL BE DESIGNED IN ACCORDANCE WITH THE PCI DESIGN HANDBOOK, ASTM C913 (RECTANGULAR), OR ASTM C478 (ROUND). NON-STANDARD MEMBER CROSS-SECTIONS SHALL BE APPROVED BY THE ENGINEER IN ADVANCE OF SHOP DRAWINGS.

   B. ALL OPENINGS GREATER THAN 6" ON A SIDE SHALL BE NEATLY FORMED TO DIMENSIONS. OPENINGS 6" OR SMALLER MAY BE CORE DRILLED IN THE FIELD.

   C. CONCRETE SHALL MEET THE REQUIREMENTS OF THE MIX DESIGN SECTION UNDER CONCRETE. SELF-CONSOLIDATION CONCRETE MAY BE USED WITH APPROVAL PRIOR TO USE.

   D. DO NOT REMOVE CONCRETE FROM FORMS UNTIL THE CONCRETE HAS ATTAINED SUFFICIENT STRENGTH NOT TO BE DAMAGED BY FORM REMOVAL OPERATION. ALL EXPOSED FORM TIES MUST BE REMOVED SO THAT NONE ARE VISIBLE.

   E. GROUT UNDER PIECES WITH NON-SHRINK NON-METALLIC GROUT THAT HAS THE SAME STRENGTH AS THE PRECAST.

C. SOIL PREPARATION AND FOUNDATIONS

1. SOIL SUPPORTED FOUNDATIONS:

   A. DESIGN BEARING PRESSURE (NET) IS 1500 PSF FOR FOUNDATIONS BEARING ON UNDISTURBED SOIL OR APPROVED ENGINEERED FILL MATERIAL.

   B. ALL FOUNDATIONS ARE DESIGNED WITH EARTH FORMED SIDES; THE TOP 7¼" OF THE FOUNDATION SHALL BE FORMED TO THE DESIGN DIMENSION WHEN VISIBLE AFTER CONSTRUCTION IS COMPLETE. THE CONSTRUCTED FOUNDATION DIMENSION SHALL BE NO LESS THAN THE DESIGN DIMENSION, AND NO MORE THAN 6" GREATER THAN THE DESIGN DIMENSION.

2. DO NOT BACKFILL FOUNDATION WALLS UNTIL THE RESTRAINING COVER SLAB OR ADEQUATE BRACING ARE IN PLACE AND CONCRETE STRENGTH HAS REACHED 75% OF DESIGN STRENGTH. ALL BACKFILL SHALL BE PLACED AND COMPACTED IN ACCORDANCE WITH THE SPECIFICATION.

D. CONCRETE

1. ALL STRUCTURAL CONCRETE HAS BEEN DESIGNED IN ACCORDANCE WITH THE ACI 318 AND THE BUILDING CODE, AND IN CONFORMANCE WITH THE CURRENT "ACI MANUAL OF CONCRETE PRACTICE."

2. THE CONCRETE REQUIREMENTS ARE:

   A. CEMENT SHALL BE TYPE I OR II CONFORMING TO ASTM C150. FLY ASH CONFORMING TO ASTM C618 TYPE C OR F MAY BE USED TO REPLACE A MAXIMUM OF 20% OF THE CEMENT BY WEIGHT.

   B. FINE AGGREGATE FOR NORMAL WEIGHT CONCRETE SHALL MEET ASTM C33.

   C. COARSE AGGREGATES FOR NORMAL WEIGHT CONCRETE SHALL CONFORM TO ASTM C33, GRADE 67 OR LARGER. COARSE AGGREGATES SHALL BE NO LESS THAN 50% OF THE TOTAL AGGREGATE BY WEIGHT, UNLESS APPROVED BY THE ENGINEER PRIOR TO MIX DESIGN SUBMITTAL.

   D. MIX REQUIREMENTS ARE:

LOCATION	MIN. F'C (PSI)	MIN. CEM.(PCY)	MAX. W/C RATIO	AIR CONTENT	SLUMP§ INCHES
CAST-IN-PLACE	4500	560	0.42	5%±1%	3-5
PRECAST	5000	---	---	---	---

§ PRIOR TO THE ADDITION OF HIGH RANGE WATER REDUCERS, IF APPROVED BY ENGINEER, AFTER ADDITION THE SLUMP MAY NOT EXCEED 8".

F'C SPECIFIED IS BASED ON THE 28 DAY COMPRESSIVE STRENGTH IN ACCORDANCE WITH ACI 318 ACCEPTANCE CRITERIA

3. ADMIXTURES, HARDENERS, & CURING COMPOUNDS

   A. ALL CONCRETE ADMIXTURES SHALL, WHEN MIXED INTO CONCRETE, BE NON-CHLORIDE AND NON-CHLORIDE FORMING.

   B. ALL ADMIXTURES MUST CONFORM TO ASTM C-494 AND C-260.

   C. CONCRETE CURING COMPOUND AND SEALERS SHALL MEET ASTM C-309 TYPE 1 OR 1D.

   D. THE CONTRACTOR SHALL VERIFY THAT ALL ADMIXTURES, HARDENERS, CURING COMPOUNDS, AND FLOOR COVERING ADHESIVES ARE COMPATIBLE WITH EACH OTHER.

4. MISCELLANEOUS CONCRETE DETAILS:

   A. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 3/4" INSIDE FORMS OR TOOLED TO 3/4" RADIUS UNLESS NOTED OTHERWISE.

   B. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN OF ALL FORMING AND SHORING. SHORING FOR ELEVATED SLABS SHALL BE SET SO THAT ANY LOAD DUE TO THE CONCRETE OPERATIONS DOES NOT CAUSE THE FORMS TO SETTLE (SLACK, TAKE-UP, ETC.).

   C. NO ALUMINUM SHALL BE EMBEDDED IN CONCRETE. CONDUITS AND PIPING EMBEDDED IN CONCRETE WALLS, SLABS, OR BEAMS SHALL BE SPACED A MINIMUM OF FOUR DIAMETERS AND THE OUTSIDE DIAMETER SHALL BE LESS THAN 30% OF THE MEMBER THICKNESS AND PLACED BETWEEN LAYERS OF REINFORCING.

   D. NO CONDUIT MAY BE EMBEDDED IN TOPPING SLABS ON PRECAST CONCRETE UNLESS SPECIFICALLY DETAILED OR NOTED OTHERWISE ON STRUCTURAL PLANS.

   E. WATERSTOP AT PRECAST JOINTS, OPENINGS, AND PENETRATIONS SHALL BE "SWELLSTOP" (¾"X1") BY GREENSTREAK OR APPROVED EQUAL. WATERSTOP AT CAST IN PLACE JOINTS SHALL BE PVC WATERSTOP MODEL NO. 702 BY GREENSTREAK OR APPROVED EQUAL.

   F. PROVIDE EXTERIOR WATERPROOFING AT ALL CONCRETE SURFACES BELOW GRADE. USE 2 COATS OF SEAL MASTIC BY W.R. MEADOWS OR APPROVED EQUAL. APPLY PER MANUFACTURER'S RECOMMENDATIONS.

   G. SAW CUTTING OF EXISTING STRUCTURAL CONCRETE.

      1. THE CONTRACTOR SHALL HAVE ALL STRUCTURAL CONCRETE INTENDED TO BE CORED OR CUT INVESTIGATED WITH GROUND PENETRATING RADAR (GPR) PRIOR TO CUTTING/CORING. LOCATION OF REINFORCING SHALL BE REPORTED TO THE ENGINEER OF RECORD (EOR). THE EOR MAY DIRECT THE CONTRACTOR TO ADJUST THE OPENING LOCATION TO REDUCE THE QUANTITY OF EXISTING REINFORCING THAT WILL BE CUT.

      2. ALL NEW CIRCULAR OPENINGS SHALL BE CORE DRILLED. ALL NEW RECTANGULAR OPENINGS SHALL BE CORE DRILLED IN EACH CORNER TO PREVENT OVERCUTTING BEYOND THE INTENDED CORNERS. THE CONTRACTOR SHALL APPLY APPROPRIATE PRESSURE TO THE EQUIPMENT TO PREVENT SPALLING OVER ½" ON THE BACK SIDE OF THE OPENING.

E. CONCRETE REINFORCING (CAST-IN-PLACE & PRECAST)

1. MATERIALS:

	ASTM	GRADE
PLATE & ANGLE	A36	---
REINFORCING BARS:	A615	60
WELDED WIRE FABRIC-WWF (PRECAST ONLY):	A185	60 (MIN.)
HEADED STUDS:	A108	---
DEFORMED BAR ANCHORS:	A706	60

2. DETAILS:

   A. WELDING OF REINFORCING BARS IS PROHIBITED.

3. EMBEDMENTS

   A. ALL EMBEDDED PLATES AND ANCHOR RODS SHALL BY HOT DIP GALVANIZED. COATINGS IN THE WELD AREA SHALL BE REPAIRED.

4. PLACEMENT

   A. ALL REINFORCING (BARS, ANCHOR RODS, EMBEDMENTS, WWF, ETC.) SHALL BE SUPPORTED ON CHAIRS/BOLSTERS TO THE DESIGN DIMENSIONS. SPACING SHALL BE SUFFICIENTLY CLOSE TO PREVENT DISPLACEMENT OR PERMANENT DEFORMATION DUE TO CONCRETE PLACEMENT, FOOT TRAFFIC, OR VIBRATION. "PUDDLING IN" OR "PULLING UP" REINFORCING IS NOT AN ACCEPTABLE METHOD FOR PLACING REINFORCING. CHAIRS/BOLSTERS SHALL HAVE PLASTIC COATED FEET OR BE MADE OF STAINLESS STEEL.

   B. MAINTAIN ACI CLEAR COVER ON REINFORCING AS LISTED BELOW UNLESS NOTED OTHERWISE.

CAST AGAINST EARTH (BOTTOM OR SIDES):	3"
FORMED – EXPOSED TO SOIL, WEATHER OR LIQUIDS:	2"
PRECAST:	½"

   C. PROVIDE CORNER BARS OF THE SAME SIZE AND SPACING AS ADJACENT REINFORCING. REFERENCE DETAILS. CONTINUOUS WALL FOOTING REINFORCING NEED ONLY TO OVERLAP.

   D. OPENINGS IN WALLS OR STRUCTURAL SLABS SHALL BE REINFORCED PER DETAIL.

   E. ALL REINFORCING BARS ARE TO BE MADE CONTINUOUS OR LAPPED PER ACI.

   F. WWF SHALL BE MADE CONTINUOUS BY LAPPING ONE FULL SQUARE PLUS 2". (PRECAST ONLY)

F. POST INSTALLED ANCHORING SYSTEMS

1. ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS (MPII) AND THE EVALUATION REPORT (ER/ESR) SPECIFIED INCLUDING HOLE PREPARATION, TEMPERATURE AND MOISTURE CONDITIONS.

2. ADHESIVE ANCHORS:

   A. THE CONTRACTOR SHALL ARRANGE AN ANCHOR MANUFACTURER'S REPRESENTATIVE TO PROVIDE ONSITE INSTALLATION TRAINING FOR ALL ANCHOR PRODUCTS SPECIFIED. THE CONTRACTOR MUST MAINTAIN TRAINING RECORDS OF ALL CONTRACTOR PERSONNEL INSTALLING ANCHORS AND SUBMIT TO THE ENGINEER OF RECORD PRIOR TO INSTALLING ANCHORS UPON REQUEST.

   B. ADHESIVE ANCHORS SHALL BE USED IN CONJUNCTION WITH THE APPROPRIATE ADHESIVE SYSTEM. STANDARD REINFORCING STEEL ANCHORED IN CONCRETE SHALL BE IN ACCORDANCE WITH ASTM A615 GRADE 60 UNLESS NOTED OTHERWISE.

   C. APPROVED ADHESIVE ANCHORS FOR PREVIOUSLY CAST CONCRETE:

MANUFACTURER/PRODUCT	REPORT NUMBER
HILTI HIT-HY200 SSS* WITH HIT-Z ROD	ICC-ES ESR-3187
HILTI HIT-HY200 SSS* WITH HOLLOW BIT & HAS-E ROD	ICC-ES ESR-3187
HILTI HIT-HY200 SSS* WITH HOLLOW BIT & STEEL REINFORCING	ICC-ES ESR-3187

*SAFE SET SYSTEM

G. CONTRACT/CONSTRUCTION DOCUMENTS

1. THE CONTRACT DOCUMENTS SHALL INCLUDE ALL PLANS, SPECIFICATIONS, ADDENDAS, AND SUPPLEMENTAL INSTRUCTIONS.

2. THE CONTRACTOR SHALL REVIEW THE DOCUMENTS PRIOR TO FABRICATION AND/OR INSTALLATION OF ANY MATERIALS FOR CONFLICTS. IF CONFLICTS OCCUR THE CONTRACTOR SHALL USE THE MOST STRINGENT REQUIREMENT. ALTERNATELY, THE CONTRACTOR MAY REQUEST A CLARIFICATION THROUGH A REQUEST FOR INFORMATION (RFI).

3. THE DOCUMENTS MAY NOT BE REPRODUCED IN WHOLE OR IN PART FOR USE ON PROJECTS OTHER THAN IDENTIFIED IN THE TITLE BLOCK. SHOULD THE CONTRACTOR USE THE DOCUMENTS AS A PORTION OF A SHOP DRAWING SUBMITTAL, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY CONSEQUENCES RESULTING FROM ERRORS IN THE REPRODUCED DOCUMENTS.

4. DETAILS LABELED TYPICAL ARE INTENDED TO REPRESENT A CONDITION THAT OCCURS AT SEVERAL LOCATIONS IN THE PLANS WHETHER OR NOT THE DETAIL IS REFERENCED.

5. DO NOT SCALE THE PLANS AND DETAILS FOR THE PURPOSE OF ESTABLISHING DIMENSIONS.

H. CONTRACTOR'S RESPONSIBILITY

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING ALL SUB-CONTRACTOR SUBMITTALS AND NOTING ALL CONFLICTS WITH THE CONSTRUCTION DOCUMENTS PRIOR TO SUBMITTING TO THE STRUCTURAL ENGINEER FOR REVIEW.

I. CONSTRUCTION MEANS AND METHODS ISSUES

1. THE CONTRACTOR SHALL PROVIDE ANY TEMPORARY BRACING AND/OR SHORES TO SAFELY CONSTRUCT THE STRUCTURE AND PREVENT DAMAGE DURING CONSTRUCTION.

2. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS OF EXISTING CONSTRUCTION THAT MAY AFFECT THE PROJECT AND REPORT DISCREPANCIES TO THE ENGINEER. EXISTING BUILDING ELEMENTS THAT ARE TO BE ABANDONED THAT INTERFERE WITH NEW CONSTRUCTION SHALL BE REMOVED.

3. WHEN A PIECE OF EQUIPMENT IS PROVIDED THAT IS DIFFERENT THAN THE EQUIPMENT THAT THE STRUCTURE WAS DESIGNED FOR EITHER BY SIZE, WEIGHT OR CONFIGURATION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THE REMEDY OF THE SITUATION.

J. STRUCTURAL TESTS, INSPECTIONS, AND QUALITY ASSURANCE

1. ALL STRUCTURAL TESTS AND INSPECTIONS SHALL BE PERFORMED PER CHAPTER 17 OF THE BUILDING CODE WITH LOCAL SUPPLEMENTS, UNLESS MORE STRINGENT REQUIREMENTS ARE SPECIFIED.

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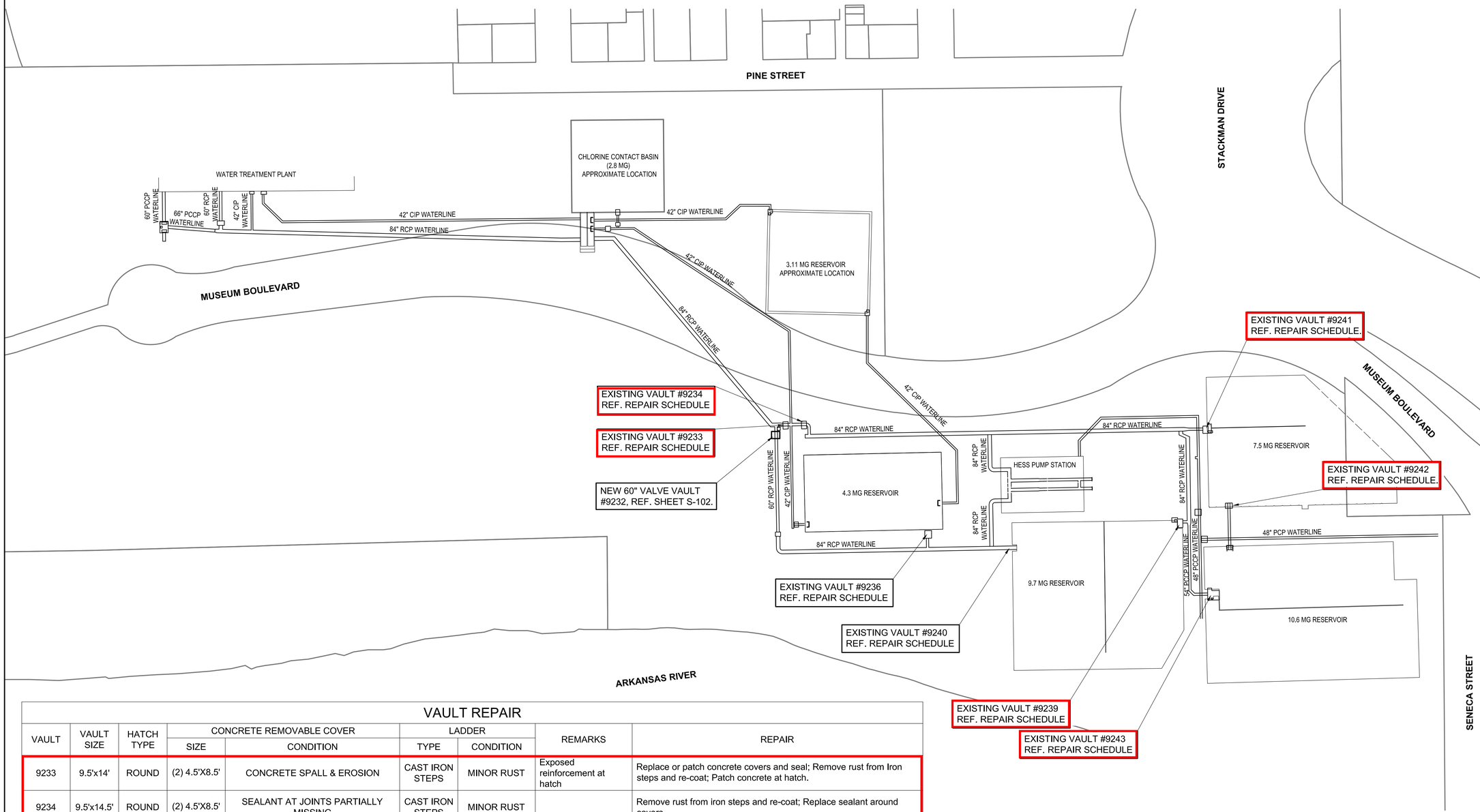
STRUCTURAL GENERAL NOTES

S-001



VAULT REPAIR

VAULT	VAULT SIZE	HATCH TYPE	CONCRETE REMOVABLE COVER		LADDER		REMARKS	REPAIR
			SIZE	CONDITION	TYPE	CONDITION		
9233	9.5'x14'	ROUND	(2) 4.5'X8.5'	CONCRETE SPALL & EROSION	CAST IRON STEPS	MINOR RUST	Exposed reinforcement at hatch	Replace or patch concrete covers and seal; Remove rust from Iron steps and re-coat; Patch concrete at hatch.
9234	9.5'x14.5'	ROUND	(2) 4.5'X8.5'	SEALANT AT JOINTS PARTIALLY MISSING	CAST IRON STEPS	MINOR RUST		Remove rust from iron steps and re-coat; Replace sealant around covers.
9236	12'x13'	ROUND	(2) 5'x5'	LIFTING LUGS NOT VISIBLE	CAST IRON STEPS	MINOR RUST		Remove rust from iron steps and re-coat; Install new lift lugs.
9239	10.5'x16'	ROUND	(2) 5'x9'	NO VISIBLE SEALANT AT JOINTS	ALUMINUM LADDER	GOOD	Concrete spall at corner	Install sealant around concrete covers; Patch concrete at corner.
9240	10.5'x16.5'	ROUND	(2) 5'x9'	NO VISIBLE SEALANT AT JOINTS	ALUMINUM LADDER	GOOD		Install sealant around concrete covers.
9241	10.5'x14'	ROUND	(2) 4'x9'	SEALANT AT JOINTS MOSTLY MISSING	CAST IRON STEPS	MINOR RUST		Remove rust from iron steps and re-coat; Replace sealant around concrete covers.
9242	10'x13.25'	ROUND	(2) 4'x7'	SEALANT AT JOINTS PARTIALLY MISSING	CAST IRON STEPS	MINOR RUST		Remove rust from iron steps and re-coat; Replace sealant around concrete covers.
9243	18'x22'	SQUARE	(2) 5.5'x8.25'	SEALANT AT JOINTS MOSTLY MISSING	ALUMINUM LADDER	GOOD	Spring hatches	Replace sealant around concrete covers.

NOTE:
VAULT REPAIR WORK SHALL BE SUBSIDIARY TO THE VALVE VAULT IMPROVEMENT BID ITEM FOR EACH RESPECTIVE VAULT.

NOTED WORK ONLY ON THIS SHEET IS INCLUDED

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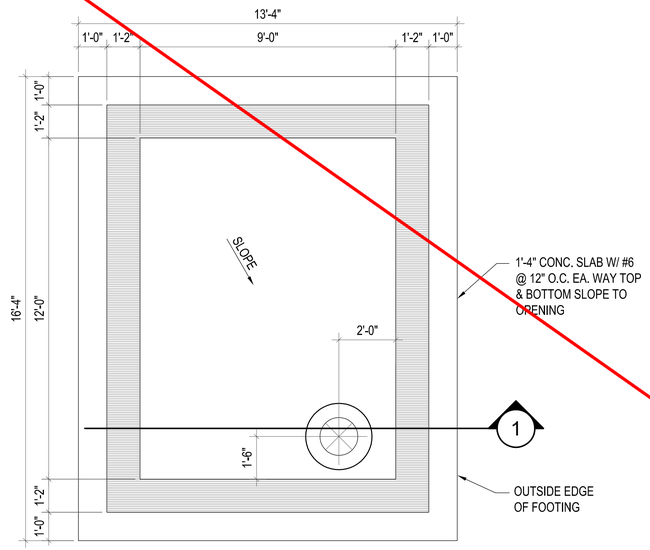
STRUCTURAL SITE PLAN

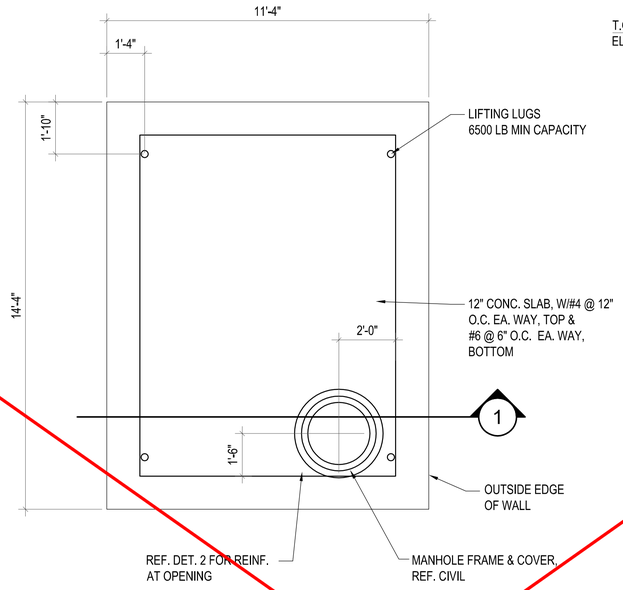
S-101

SAVED 10/7/2024 10:56:21 AM BY KURTIS.DEKAT
PLOTTED 11/13/2024 1:18:35 PM BY DAVID CARPENTER
\\PEC1.COM\PECNET\WICHITA-CIVIL\2020\200335\0004\STRUCT\DRAWINGS\CD'S\PACKAGE 2\200335-004_S101.DWG



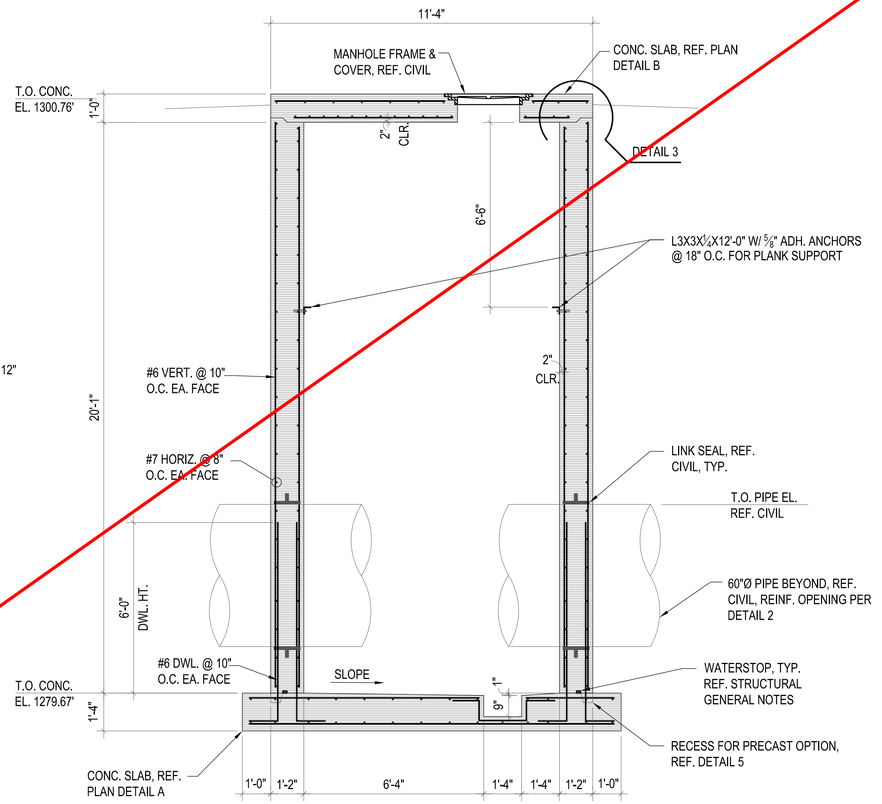
A VAULT FOUNDATION PLAN

3/8"=1'-0"



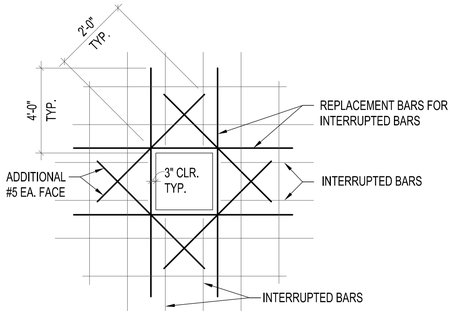
B VAULT COVER PLAN

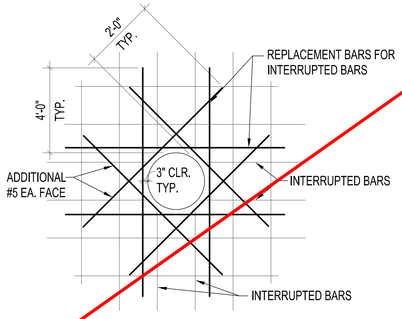
3/8"=1'-0"



1 VAULT SECTION

3/8"=1'-0"



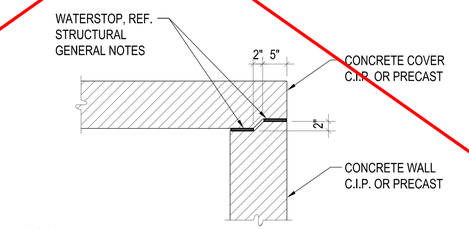


NOTE:

1. USE THIS DETAIL FOR ALL OPENINGS IN CONCRETE WALLS AND SLABS GREATER THAN 6", PROVIDE 2-#5 ON DIAGONAL AT EACH CORNER AS SHOWN. EXTEND BARS 2'-0" PAST OPENING. REPLACE ALL VERTICAL AND HORIZONTAL BARS INTERRUPTED BY THE OPENING WITH AN EQUAL NUMBER AND SIZE BARS EVENLY DIVIDED ON EACH SIDE OF THE OPENING UNLESS NOTED OTHERWISE.
2. REFER TO PLANS FOR OPENING LOCATIONS.

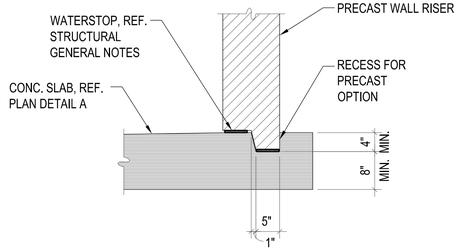
2 WALL/SLAB OPENING REINFORCING

NO SCALE



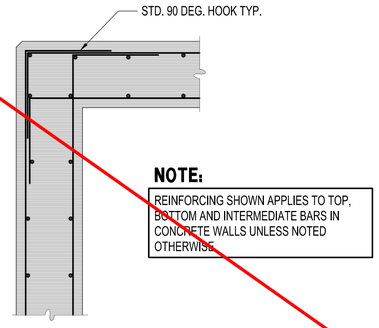
3 COVER JOINT

3/4"=1'-0"



5 PRECAST OPTION AT CONC. SLAB

3/4"=1'-0"



NOTE:

REINFORCING SHOWN APPLIES TO TOP, BOTTOM AND INTERMEDIATE BARS IN CONCRETE WALLS UNLESS NOTED OTHERWISE

4 CORNER AND INTERSECTION REINF.

NO SCALE

NO WORK ON THIS SHEET IS INCLUDED

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WICHITA, KS 67202
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CITY OF WICHITA

DAVID K. CARPENTER LICENSED 23070 11/13/2024 KANSAS PROFESSIONAL ENGINEER

CONSTRUCTION PLANS
FOR
HESS PUMP STATION
SITE VALVE REPLACEMENT
(PHASES 3-5/D-J)

PAUL GUNZELMAN, P.E. - CITY ENGINEER
CITY OF WICHITA PROJECT NO. 448-21-

Issue:		

JOB NO.	35-200335-004-0042
DATE	OCTOBER 2024
PM	TBK
DESIGNED BY	DKC
DRAWN BY	DKC
CHECKED BY	KW

STRUCTURAL PLANS

S-102

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DIVISION 26 – ELECTRICAL

A. General Instructions:

1. Codes, Permits and Inspections:
   a. Wiring shall be in accordance with latest edition National Electrical Code (NEC), NFPA, and/or applicable local, state, and Utility Company rules, laws, codes, and ordinances.
   b. Secure all permits and inspections required for the installation of the electrical work.
   c. All work shall comply with the latest edition of the Americans With Disabilities Act (ADA).
   d. Pay all fees associated with new utility services.

2. Verifications:
   a. Verify mounting heights and locations of electrical equipment before installation or rough–in.
   b. Verify exact location of electrical service entrance including point of service and system characteristics.

3. Wiring Methods:
   a. The Electrical Contractor shall cooperate with other Contractors and install equipment in proper sequence so as not to interfere with the progress of other Contractors.
   b. All materials shall be new and carry the Underwriter's Label or be "listed" by that group, and be fully equal to makes specified.
   c. Use only insulated copper conductors in conduit. Use flexible conduit for connections to motors and similar equipment.
   d. All wiring shall be concealed and all outlets shall be flush mounted in finished spaces except as noted otherwise.
   e. All systems wiring in return air plenums shall be in conduit or be plenum rated.

4. Tests:
   a. This Contractor shall be responsible for performing all tests necessary to prevent concealment of defective or improper work.
   b. Upon completion of work, test the installation thoroughly and render it free from shorts, grounds or improper connections.

5. Guarantee:
   a. This Contractor shall guarantee that all defective items of workmanship, material, labor or mechanical operation developing within one (1) year from the date of final acceptance of completed installation shall be replaced to the complete satisfaction of the Owner.

6. Workmanship:
   a. Electrical equipment shall be installed in a neat and workmanlike manner. Unsightly installations shall be removed or reworked at no additional expense to the Owner.

7. Identification of Disconnecting Means:
   a. Provide a permanent nameplate for each disconnect switch indicating its purpose. The marking shall be of sufficient durability to withstand the environment it is installed in as required by N.E.C. Section 110.22 and 230.72(A).

B. Electrical Equipment:

1. Conduits:
   a. All conduit installed in earth, concrete, below concrete on earth, or exposed to weather shall be rigid steel or intermediate metal conduit. Electrical metallic tubing for all dry interior runs. Fittings shall be fully approved in accordance with N.E.C
   b. Flexible or P.V.C. conduit may be used where not exposed to damage and approved by N.E.C. and local codes.
   c. Provide a ground wire sized per N.E.C. Art. 250.122 in all conduits, both metallic and nonmetallic.
   d. Conduit shall be installed and sized according to code requirements and protected from damage during construction.
   e. Conduit may be re–routed where such action does not adversely affect the intended design or circuiting.
   f. Final connections to all kitchen and mechanical equipment shall be with U. L. approved liquidtite conduit. Liquidtite and fittings shall be U.L. listed for grounding.

2. Conductors:
   a. Conductors shall be copper, generally with 600 volt rated insulation. Branch circuit wiring min. size #12 Type "THWN–2" or "XHHW–2" as required. Service entrance, feeder conductors Type "THWN/THHN" or "XHHW". Low voltage wire shall be Type "THWN–2"' or "XHHW–2" minimum #14 gauge unless noted otherwise. All other types shall be as required by N.E.C.
   b. All conductors shall be color coded with type and size marking. Connections to service equipment, feeder panels shall be made with solderless lugs. All splices, taps, connections to service entrance conductors shall be made by bronze solderless lugs. All other splices, connections shall be pressure type connectors.
   c. Insulate joints, splices with Scotch #33 plastic tape or plastic moulded jackets.

3. Safety Switches:
   a. Furnish safety switches of size and type indicated on drawings.
   b. Heavy duty switches shall be fusible unless indicated otherwise. Provide Class "J" fuse clips.
   c. All exterior switches shall be raintight.

4. Fuses:
   a. Furnish and install Class J time delay fuses for each active fuseholder, sized as scheduled or required.
   b. Provide fuses made by Bussmann or equal.

5. Grounding:
   a. Provide system ground as required by N.E.C. and utility company if not already existing.
   b. Bond mechanical equipment frames.
   c. Bond all service entrance equipment and conduit system.
   d. An equipment grounding conductor sized per N.E.C. Art. 250.122 shall be provided in all conduits. The ground wire is required for both metallic and nonmetallic conduit installations.

6. Branch Circuit Panels
   a. Branch circuit lighting panels equal to Square D, G.E., Siemens, or Cutler Hammer, with thermal magnetic breakers and ground buses. Load center construction is not permitted. Electrical Contractor shall obtain available short circuit current from local Utility co. Panelboards shall be U.L. listed for available fault current. Breakers and panels shall be fully rated or U.L. series rated with specified fuses (22,000 AIC minimum).
   b. Breakers shall have individual plastic cases sized as scheduled. Two pole breakers shall be common trip (single pole units with tie bars are not acceptable).
   c. Panel shall be mounted as noted on the drawings. Provide with a hinged door and a neatly typed circuit directory card.
   d. Re–assign circuits to properly balance the loads on the phases if final connections and tests show it to be advisable.

7. Equipment Supplied By Other Contractors And/Or The Owner
   a. The Electrical Contractor shall furnish, install and connect all wiring, conduit, boxes, toggle switches, thermal switches, disconnect switches, remote pushbutton stations, etc., for all equipment requiring electrical power that is either furnished or specified by other contractors and/or the Owner, shown on drawings or listed below. The E.C. shall receive, install and connect all magnetic starters and controllers, capacitors, power factor correction devices, transformers, alarms, bells, horns, relays, remote switches for equipment supplied by others (i.e. starters or capacitors or power factor correction devices for Mechanical Equip., etc.). In general, all major equipment will be specified to be factory prewired with only service and interconnecting required at the site by the Electrical Contractor; however,the E.C. shall check all Divisions of the specification to verify whether the equipment is specified to be factory prewired. If not, then it shall be the responsibility of the Electrical Contractor to provide the complete wiring of the equipment in accordance with wiring diagrams provided by other Contractors and/or Owner to the Electrical Contractor. All interconnecting of equipment shall be by the Electrical Contractor.
   b. All line and low voltage wiring and connections required to control the equipment are a part of this section. All wiring shall be in conduit.
   c. It shall be assumed the Contractor is familiar with the equipment to be furnished by the other Contractors and/or the Owner in connection with this work and that provisions for such connections and work have been included in the Contractor's price. In no case will extra remuneration be allowed for such work.
   d. Connections to all equipment have been designed from units as specified on the drawings or in the specifications. In the event equipment or control differs on approved mechanical shop drawings it shall be the responsibility of the supplying contractor to coordinate the electrical connections to the units and reimburse electrical contractor for any changes in the electrical system design. These changes shall not involve additional cost to the Owner.

8. Contactors And Relays
   a. Shall be as manufactured by Cutler–Hammer, Allen Bradley, G.E. or Square D. They shall be as sized on the drawings
   b. All contactors and relays shall be Tungsten rated.

DISTRIBUTION PANEL: L5

480Y/277 VOLTS, 3 PHASE, 4 WIRE
225 AMP MLO, SURFACE MTD.
65000 AIC LABELED
W/GRD. BUS

CIRC NO.	LOAD V. A.	LOAD TYPE	LOAD DESCRIPTION	P.	AMP SIZE	PHASE	AMP SIZE	P.	LOAD DESCRIPTION	LOAD TYPE	LOAD V. A.	CIRC NO.
1	3991	MOTR	D–13380,D–13376,D–13375	3	15	A	20	3	M–2	MOTR	2494	2
—	———	—	----------		———	B	———		----------	—	———	—
—	———	—	----------		———	C	———		----------	—	———	—
3	2494	MOTR	M–3	3	20	A	20	3	D–9221,D–9222,D–9220	MOTR	3991	4
—	———	—	----------		———	B	———		----------	—	———	—
—	———	—	----------		———	C	———		----------	—	———	—
5	1330	MOTR	D–9213	3	20	A	20	3	M–1	MOTR	2494	6
—	———	—	----------		———	B	———		----------	—	———	—
—	———	—	----------		———	C	———		----------	—	———	—
7	2827	MOTR	GATE–1	3	20	A	20	3	D–9218,D–9216,D–9217	MOTR	3991	8
—	———	—	----------		———	B	———		----------	—	———	—
—	———	—	----------		———	C	———		----------	—	———	—
9	2494	MOTR	D–9235	3	20	A	20	3	D–8	MOTR	2494	10
—	———	—	----------		———	B	———		----------	—	———	—
—	———	—	----------		———	C	———		----------	—	———	—
① 11	2494	MOTR	D–9232	3	20	A	20	3	D–6	MOTR	2494	12
—	———	—	----------		———	B	———		----------	—	———	—
—	———	—	----------		———	C	———		----------	—	———	—
① 13	2494	MOTR	D–9240	3	20	A	20	3	D–5	MOTR	2494	14
—	———	—	----------		———	B	———		----------	—	———	—
—	———	—	----------		———	C	———		----------	—	———	—
15	2494	MOTR	D–7	3	20	A	20	3	SPARE			16
—	———	—	----------		———	B	———		----------	—	———	—
—	———	—	----------		———	C	———		----------	—	———	—
17	2494	MOTR	D–3	3	20	A	20	3	SPARE			18
—	———	—	----------		———	B	———		----------	—	———	—
—	———	—	----------		———	C	———		----------	—	———	—
19			SPARE	3	20	A	20	3	SPARE			20
—	———	—	----------		———	B	———		----------	—	———	—
—	———	—	----------		———	C	———		----------	—	———	—
21			SPARE	3	20	A	20	3	SPARE			22
—	———	—	----------		———	B	———		----------	—	———	—
—	———	—	----------		———	C	———		----------	—	———	—
23			SPARE	3	20	A	20	3	SPARE			24
—	———	—	----------		———	B	———		----------	—	———	—
—	———	—	----------		———	C	———		----------	—	———	—
25			SPARE	3	20	A	20	3	SPARE			26
—	———	—	----------		———	B	———		----------	—	———	—
—	———	—	----------		———	C	———		----------	—	———	—
27			SPACE	3		A		3	SPACE			28
—	———	—	----------		———	B	———		----------	—	———	—
—	———	—	----------		———	C	———		----------	—	———	—

① CIRCUIT TO BE INSTALLED UNDER THIS CONTRACT.

SYMBOL LIST

SYMBOL	DESCRIPTION	MOUNTING
	DISCONNECT SWITCH	
VA	VALVE ACTUATOR	
M	MOTOR	
WP	WEATHERPROOF	
JB	JUNCTION BOX	
JB	JUNCTION BOX	
'A'	BRANCH CIRCUIT PANEL & PANEL DESIG.	72" TO TOP
	ELECTRICAL DISTRIBUTION EQUIPMENT	
	FEEDER DESIGNATION	

GENERAL NOTES

1. ALL ELECTRICAL WORK SHALL COMPLY WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE (NEC) & THE AMERICANS WITH DISABILITIES ACT (ADA).
2. REFER TO STRUCTURAL DRAWINGS FOR RELATED INFORMATION.
3. REFER TO THE SPECIFICATIONS FOR DATA NOT ON THE DRAWINGS.
4. ALL MOUNTING HEIGHTS TO CENTERLINE OF ITEM UNLESS OTHERWISE NOTED. VERIFY ALL OUTLET LOCATIONS ON THE JOB PRIOR TO ROUGH–IN.
5. CONDUIT RUN W/CONDUCTORS AS INDICATED & GROUND WIRE SIZED PER N.E.C. 250.122. CONDUIT SIZE AS REQUIRED.
6. WHEN INCREASED CONDUCTOR SIZES ARE SHOWN ON THE PLANS, THE LARGER CONDUCTOR SIZE SHALL BE USED THROUGHOUT THE LENGTH OF THE CIRCUIT, INCLUDING NEUTRAL AND GROUND.
7. BRANCH CIRCUITS ARE INDICATED AS ONE CIRCUIT HOME RUNS WITH INDIVIDUAL NEUTRALS. A MAXIMUM OF THREE CIRCUITS (MAXIMUM OF THREE PHASE CONDUCTORS) MAY BE GROUPED IN A SINGLE CONDUIT. WHERE MULTIPLE CIRCUITS ARE LOCATED IN THE SAME RACEWAY, JUNCTION BOX OR ENCLOSURE, NEUTRALS SHALL BE MARKED OR LABELED TO INDICATE WHICH CIRCUIT THEY ARE ASSOCIATED WITH. SEE SPECIFICATION SECTION "LOW VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES" FOR ADDITIONAL INFORMATION.

ELECTRICAL SHEET INDEX

①②③ EQUIPMENT CONNECTION SCHEDULE

PROCESS EQUIPMENT CONNECTIONS

UNIT DESIG.	UNIT VOLTAGE	LOAD H.P.	LOAD FLA	LOAD KVA	PANEL DEVICE CIRCUIT NUMBER	PANEL DEVICE BKR. AMPS	PANEL DEVICE SW. AMPS	PANEL DEVICE FUSE AMPS	PANEL DEVICE POLE	PANEL DEVICE NEMA START. SIZE	DEVICE AT UNIT BKR. AMPS	DEVICE AT UNIT SW. AMPS	DEVICE AT UNIT FUSE AMPS	DEVICE AT UNIT POLE	DEVICE AT UNIT NEMA START. SIZE	DEVICE AT UNIT OTHER	SETS	FEEDER DESCRIPTION OR SEE THE FEEDER SCHEDULE	REMARKS OR SEE THE INDICATED NOTES BELOW	
D	VALVE ACTUATOR																			
9232	480/3	1.5	3.0	2.494	L5:11	20			3				30	5	3			1	3 #6 AWG THWN; #12 AWG GRD; 1" C.		④
9240	480/3	1.5	3.0	2.494	L5:13	20			3				30	5	3			1	3 #6 AWG THWN; #12 AWG GRD; 1" C.		④

1. ALL CONNECTIONS AND ELECTRICAL EQUIPMENT LISTED IN SCHEDULE SHALL BE PROVIDED AND INSTALLED BY THE ELECTRICAL CONTRACTOR. FIELD VERIFY CONNECTION REQUIREMENTS AND EQUIPMENT PROVIDED BY OTHERS PRIOR TO ROUGH–IN.
2. REFER TO MECHANICAL DRAWINGS AND SPECIFICATIONS FOR THE REQUIREMENTS ASSOCIATED WITH WIRING AND CONNECTIONS OF INTERLOCKING, THERMOSTAT LOCATIONS, EXHAUST FAN CONTROL SWITCHES, AND OTHER CONTROLS OF MECHANICAL EQUIPMENT.
3. SIZE FUSES FOR MOTOR FUSTATS BASED ON 125% OF MANUFACTURER'S NAMEPLATE FULL LOAD AMPERAGE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
4. FEEDER SIZED FOR VOLTAGE DROP.

NO WORK ON THIS SHEET IS INCLUDED

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CITY OF WICHITA

SEAN PATRICK GERETY LICENSED 28753 10/18/2024 KANSAS PROFESSIONAL ENGINEER

CONSTRUCTION PLANS
FOR
HESS PUMP STATION
SITE VALVE REPLACEMENT
(PHASES 3-5/D-J)
PAUL GUNZELMAN, P.E. - CITY ENGINEER
CITY OF WICHITA PROJECT NO. 448-2021-_____

Issue:		

JOB NO.	200335-004
DATE	OCTOBER 2024
PM	TBK
DESIGNED BY	SPG
DRAWN BY	SRM
CHECKED BY	RWW

ELECTRICAL LEAD SHEET

E-001

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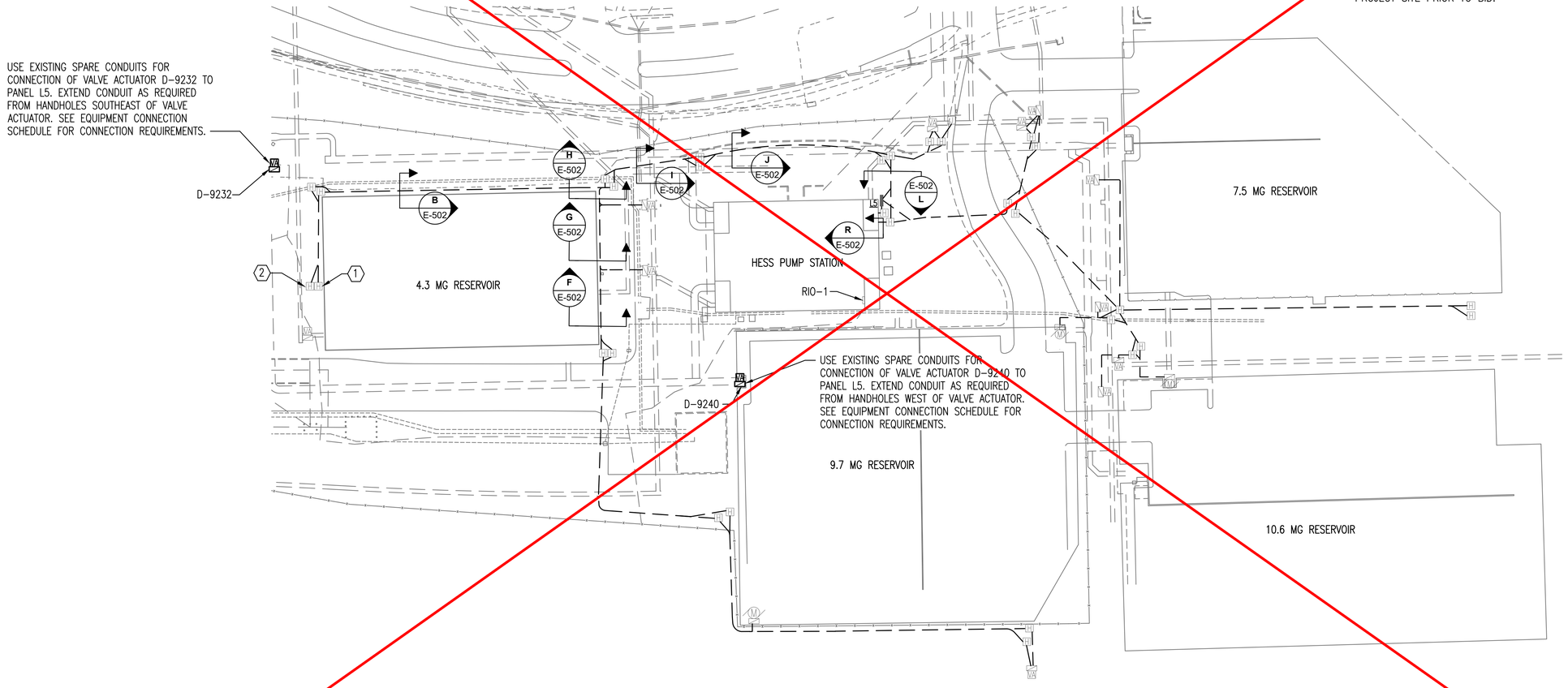
U:\WICHITA-CIVIL\2020\200335\004\ELEC\DRAWINGS\PHASE 3,4 AND 5\E-001 GENERAL NOTES AND SYMBOLS.DWG

KEY NOTES:

1. EXISTING POWER HANDHOLE.
2. EXISTING CONTROLS HANDHOLE.

ELECTRICAL SITE PLAN NOTES:

1. UNLESS OTHERWISE NOTED, ALL CONDUIT ROUTED ON SITE SHALL BE 1" MINIMUM.
2. ALL RISERS SHALL BE PVC COATED RIGID GALVANIZED STEEL (RGS) ALL ELLS BELOW GRADE SHALL BE PVC COATED RIGID GALVANIZED STEEL (RGS). PROVIDE WITH PVC TO STEEL ADAPTER(S) AS NECESSARY. (THIS REQUIREMENT SHALL NOT APPLY TO FIXTURE POLE BASES)
3. ALL ELECTRICAL WORK AND FEES ASSOCIATED WITH UTILITIES SHALL BE VERIFIED AND COORDINATED WITH LOCAL SERVICE PROVIDER PRIOR TO BID.
4. CONTRACTOR SHALL REFERENCE ALL RELATED CONTRACT DOCUMENTS, SITE SURVEY, AND OTHER RESOURCES FOR POSSIBLE CONFLICTS WITH OTHER UNDERGROUND UTILITIES. AT UTILITY CROSSINGS, CONTRACTOR SHALL VERIFY UTILITY DEPTHS AND COORDINATE CONDUIT ROUTING AS NECESSARY.
5. CONTRACTOR SHALL VERIFY AND COORDINATE EXISTING CONDITIONS OF PROJECT SITE PRIOR TO BID.



A ELECTRICAL SITE PLAN - HESS PUMP STATION

SCALE: 1"=60'-0"

0' 30' 60 90' 150'

N

NO WORK ON THIS SHEET IS INCLUDED

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CITY OF WICHITA

SEAN PATRICK GERTH LICENSED 28753 10/18/2024 PROFESSIONAL ENGINEER KANSAS

CONSTRUCTION PLANS
FOR
HESS PUMP STATION
SITE VALVE REPLACEMENT
(PHASES 3-5/D-J)
PAUL GUNZELMAN, P.E. - CITY ENGINEER
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Issue:		

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DRAWN BY	SRM
CHECKED BY	RWW

ELECTRICAL SITE PLAN

E-101

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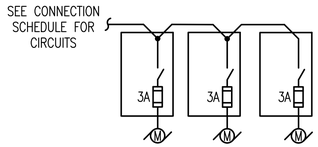
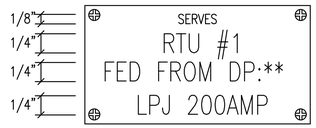


NOTE: MAXIMUM THREE (3) ACTUATORS PER CIRCUIT (SEE CONNECTION SCHEDULE).

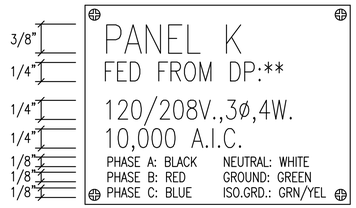
1 TYPICAL VALVE ACTUATOR POWER WIRING

NO SCALE

SWITCHBOARD/DISTRIBUTION PANEL/MOTOR CONTROL CENTER BREAKER/SWITCH



DISCONNECT SWITCH



BRANCH CIRCUIT/DISTRIBUTION PANEL

2 TYPICAL NAMEPLATES

NO SCALE

NO WORK ON THIS SHEET IS INCLUDED

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CITY OF WICHITA

SEAN PATRICK GERETY
LICENSED
28753
10/18/2024
PROFESSIONAL ENGINEER
KANSAS

CONSTRUCTION PLANS
FOR
HESS PUMP STATION
SITE VALVE REPLACEMENT
(PHASES 3-5/D-J)
PAUL GUNZELMAN, P.E. - CITY ENGINEER
CITY OF WICHITA PROJECT NO. 448-2021-_____

Issue:		

JOB NO.	200335-004
DATE	OCTOBER 2024
PM	TBK
DESIGNED BY	SPG
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CHECKED BY	RWW

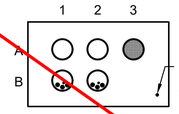
ELECTRICAL DETAILS

E-501

SAVED 10/18/2024 11:27:10 AM BY JAXON.HARING
PLOTTED 10/18/2024 1:30:34 PM BY JAXON.HARING
U:\WICHITA-CIVIL\2020\200335\004\ELEC\DRAWINGS\PHASE 3,4 AND 5\E-501 ELECTRICAL DETAILS.DWG

LEGEND:

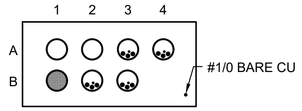
- POWER CONDUIT
- CONTROLS CONDUIT
- SPARE CONDUIT



CABLE SCHEDULE	
A1	SPARE 2" C
A2	1" C FOR CONTROLS (SPARE)
A3	1" C FOR CONTROLS ①
B1	SPARE 1" C FOR FUTURE L5:11
B2	SPARE 1" C FOR L5:9 ①
B3	NOT USED

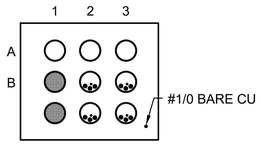
① EXISTING CONDUIT TO BE USED FOR CIRCUIT INSTALLED UNDER THIS CONTRACT.

B DUCT BANK SECTION
NO SCALE



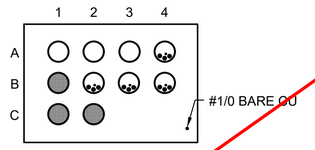
CABLE SCHEDULE	
A1	1" C FOR CONTROLS (SPARE)
A2	SPARE 2" C
A3	1" C FOR L5:1
A4	SPARE 1" C FOR FUTURE L5:15
B1	1" C FOR CONTROLS
B2	SPARE 1" C FOR FUTURE L5:13
B3	1" C FOR L5:3
B4	NOT USED

F DUCT BANK SECTION
NO SCALE



CABLE SCHEDULE	
A1	1" C FOR CONTROLS (SPARE)
A2	SPARE 2" C
A3	SPARE 2" C
B1	1" C FOR CONTROLS
B2	SPARE 1" C FOR FUTURE L5:15
B3	SPARE 1" C FOR FUTURE L5:13
C1	1" C FOR D-13376 CONTROLS
C2	1" C FOR L5:3
C3	1" C FOR L5:1

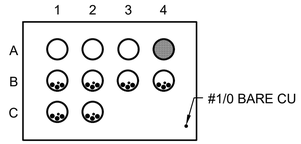
G DUCT BANK SECTION
NO SCALE



CABLE SCHEDULE	
A1	1" C FOR CONTROLS (SPARE)
A2	SPARE 2" C
A3	SPARE 2" C
A4	SPARE 1" C FOR FUTURE L5:15
B1	1" C FOR CONTROLS
B2	SPARE 1" C FOR FUTURE L5:13
B3	1" C FOR L5:3
B4	1" C FOR L5:1

CABLE SCHEDULE	
C1	1" C FOR D-13375 CONTROLS
C2	1" C FOR D-13376 CONTROLS
C3	NOT USED
C4	NOT USED

H DUCT BANK SECTION
NO SCALE

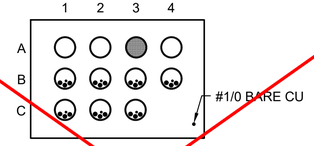


CABLE SCHEDULE	
A1	SPARE 2" C
A2	SPARE 2" C
A3	2" C FOR CONTROLS (SPARE) ①
A4	2" C FOR CONTROLS
B1	SPARE 1" C FOR FUTURE L5:11
B2	SPARE 1" C FOR FUTURE L5:13
B3	1" C FOR L5:3
B4	SPARE 1" C FOR FUTURE L5:15

CABLE SCHEDULE	
C1	1" C FOR L5:1
C2	SPARE 1" C FOR L5:9 ①
C3	NOT USED
C4	NOT USED

① EXISTING CONDUIT TO BE USED FOR CIRCUIT INSTALLED UNDER THIS CONTRACT.

I DUCT BANK SECTION
NO SCALE

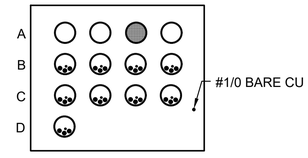


CABLE SCHEDULE	
A1	SPARE 3-1/2" C
A2	SPARE 3-1/2" C
A3	2" C FOR CONTROLS
A4	2" C FOR CONTROLS (SPARE) ①
B1	1" C FOR L5:3
B2	SPARE 1" C FOR FUTURE L5:13
B3	SPARE 1" C FOR FUTURE L5:17
B4	SPARE 1" C FOR L5:9 ①

CABLE SCHEDULE	
C1	1" C FOR L5:1
C2	SPARE 1" C FOR FUTURE L5:11
C3	SPARE 1" C FOR FUTURE L5:15
C4	NOT USED

① EXISTING CONDUIT TO BE USED FOR CIRCUIT INSTALLED UNDER THIS CONTRACT.

J DUCT BANK SECTION
NO SCALE

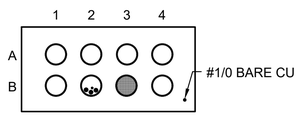


CABLE SCHEDULE	
A1	SPARE 3-1/2" C
A2	SPARE 3-1/2" C
A3	3" C FOR CONTROLS
A4	2" C FOR CONTROLS (SPARE) ①
B1	1" C FOR L5:3
B2	SPARE 1" C FOR FUTURE L5:13
B3	SPARE 1" C FOR FUTURE L5:17
B4	1" C FOR L5:5

CABLE SCHEDULE	
C1	1" C FOR L5:1
C2	SPARE 1" C FOR FUTURE L5:11
C3	SPARE 1" C FOR FUTURE L5:15
C4	SPARE 1" C FOR L5:9 ①
D1	1" C FOR L5:7
D2	NOT USED
D3	NOT USED
D4	NOT USED

① EXISTING CONDUIT TO BE USED FOR CIRCUIT INSTALLED UNDER THIS CONTRACT.

L DUCT BANK SECTION
NO SCALE



CABLE SCHEDULE	
A1	FEEDER 2 (FUTURE)
A2	FEEDER 3 (FUTURE)
A3	FEEDER 4 (FUTURE)
A4	4" C FOR CONTROLS (SPARE) ①
B1	SPARE 3-1/2" C
B2	2-1/2" C FOR FEEDER 1
B3	4" C FOR CONTROLS
B4	SPARE 3-1/2" C

① EXISTING CONDUIT TO BE USED FOR CIRCUIT INSTALLED UNDER THIS CONTRACT.

R DUCT BANK SECTION
NO SCALE

NO WORK ON THIS SHEET IS INCLUDED

PEC
PROFESSIONAL ENGINEERING CONSULTANTS
303 SOUTH TOPEKA
WICHITA, KS 67202
316-262-2691 www.pec1.com

CITY OF WICHITA

SEAN PATRICK GERETY LICENSED 28753 10/18/2024 PROFESSIONAL ENGINEER KANSAS

CONSTRUCTION PLANS
FOR
HESS PUMP STATION
SITE VALVE REPLACEMENT
(PHASES 3-5/D-J)
PAUL GUNZELMAN, P.E. - CITY ENGINEER
CITY OF WICHITA PROJECT NO. 448-2021-

Issue:		

JOB NO.	200335-004
DATE	OCTOBER 2024
PM	TBK
DESIGNED BY	SPG
DRAWN BY	SRM
CHECKED BY	RWW

ELECTRICAL DETAILS

E-502

SAVED 10/18/2024 1:29:02 PM BY JAXON.HARING
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U:\WICHITA-CIV\IL\2020\200335\004\ELEC\DRAWINGS\PHASE 3,4 AND 5\E-502 ELECTRICAL DETAILS.DWG

EXISTING CONTROL PANEL: RIO-1

LOCATION:
HESS PUMP STATION

CIRCUIT NO.	EQUIPMENT SERVED/ MARK	CONNECT: DEVICE	CONNECT: CTL. PNL.	CONNECT: STARTER	CONNECT: VFD	DESCRIPTION/FUNCTION	CONDUCTORS	DISCRETE	ANALOG	DIGITAL INPUT	DIGITAL OUTPUT	REMARKS
1	D-13375	X	–	–	–	D-13375 OPEN COMMAND	2 #14	X	–	–	X	EXISTING ACTUATOR
2		X	–	–	–	D-13375 CLOSE COMMAND	2 #14	X	–	–	X	EXISTING ACTUATOR
3		X	–	–	–	D-13375 OPEN STATUS	2 #14	X	–	X	–	EXISTING ACTUATOR
4		X	–	–	–	D-13375 CLOSE STATUS	2 #14	X	–	X	–	EXISTING ACTUATOR
5		X	–	–	–	D-13375 10% STATUS	2 #14	X	–	X	–	EXISTING ACTUATOR
6	D-13376	X	–	–	–	D-13376 OPEN COMMAND	2 #14	X	–	–	X	EXISTING ACTUATOR
7		X	–	–	–	D-13376 CLOSE COMMAND	2 #14	X	–	–	X	EXISTING ACTUATOR
8		X	–	–	–	D-13376 OPEN STATUS	2 #14	X	–	X	–	EXISTING ACTUATOR
9		X	–	–	–	D-13376 CLOSE STATUS	2 #14	X	–	X	–	EXISTING ACTUATOR
10		X	–	–	–	D-13376 10% STATUS	2 #14	X	–	X	–	EXISTING ACTUATOR
11	D-9213	X	–	–	–	D-9213 OPEN COMMAND	2 #14	X	–	–	X	EXISTING ACTUATOR
12		X	–	–	–	D-9213 CLOSE COMMAND	2 #14	X	–	–	X	EXISTING ACTUATOR
13		X	–	–	–	D-9213 OPEN STATUS	2 #14	X	–	X	–	EXISTING ACTUATOR
14		X	–	–	–	D-9213 CLOSE STATUS	2 #14	X	–	X	–	EXISTING ACTUATOR
15		X	–	–	–	D-9213 10% STATUS	2 #14	X	–	X	–	EXISTING ACTUATOR
16	D-9216	X	–	–	–	D-9216 OPEN COMMAND	2 #14	X	–	–	X	EXISTING ACTUATOR
17		X	–	–	–	D-9216 CLOSE COMMAND	2 #14	X	–	–	X	EXISTING ACTUATOR
18		X	–	–	–	D-9216 OPEN STATUS	2 #14	X	–	X	–	EXISTING ACTUATOR
19		X	–	–	–	D-9216 CLOSE STATUS	2 #14	X	–	X	–	EXISTING ACTUATOR
20		X	–	–	–	D-9216 10% STATUS	2 #14	X	–	X	–	EXISTING ACTUATOR
21	D-9217	X	–	–	–	D-9217 OPEN COMMAND	2 #14	X	–	–	X	EXISTING ACTUATOR
22		X	–	–	–	D-9217 CLOSE COMMAND	2 #14	X	–	–	X	EXISTING ACTUATOR
23		X	–	–	–	D-9217 OPEN STATUS	2 #14	X	–	X	–	EXISTING ACTUATOR
24		X	–	–	–	D-9217 CLOSE STATUS	2 #14	X	–	X	–	EXISTING ACTUATOR
25		X	–	–	–	D-9217 10% STATUS	2 #14	X	–	X	–	EXISTING ACTUATOR
26	D-9218	X	–	–	–	D-9218 OPEN COMMAND	2 #14	X	–	–	X	EXISTING ACTUATOR
27		X	–	–	–	D-9218 CLOSE COMMAND	2 #14	X	–	–	X	EXISTING ACTUATOR
28		X	–	–	–	D-9218 OPEN STATUS	2 #14	X	–	X	–	EXISTING ACTUATOR
29		X	–	–	–	D-9218 CLOSE STATUS	2 #14	X	–	X	–	EXISTING ACTUATOR
30		X	–	–	–	D-9218 10% STATUS	2 #14	X	–	X	–	EXISTING ACTUATOR
31	D-9220	X	–	–	–	D-9220 OPEN COMMAND	2 #14	X	–	–	X	EXISTING ACTUATOR
32		X	–	–	–	D-9220 CLOSE COMMAND	2 #14	X	–	–	X	EXISTING ACTUATOR
33		X	–	–	–	D-9220 OPEN STATUS	2 #14	X	–	X	–	EXISTING ACTUATOR
34		X	–	–	–	D-9220 CLOSE STATUS	2 #14	X	–	X	–	EXISTING ACTUATOR
35		X	–	–	–	D-9220 10% STATUS	2 #14	X	–	X	–	EXISTING ACTUATOR
36	D-9222	X	–	–	–	D-9222 OPEN COMMAND	2 #14	X	–	–	X	EXISTING ACTUATOR
37		X	–	–	–	D-9222 CLOSE COMMAND	2 #14	X	–	–	X	EXISTING ACTUATOR
38		X	–	–	–	D-9222 OPEN STATUS	2 #14	X	–	X	–	EXISTING ACTUATOR
39		X	–	–	–	D-9222 CLOSE STATUS	2 #14	X	–	X	–	EXISTING ACTUATOR
40		X	–	–	–	D-9222 10% STATUS	2 #14	X	–	X	–	EXISTING ACTUATOR
41	D-9221	X	–	–	–	D-9221 OPEN COMMAND	2 #14	X	–	–	X	EXISTING ACTUATOR
42		X	–	–	–	D-9221 CLOSE COMMAND	2 #14	X	–	–	X	EXISTING ACTUATOR
43		X	–	–	–	D-9221 OPEN STATUS	2 #14	X	–	X	–	EXISTING ACTUATOR
44		X	–	–	–	D-9221 CLOSE STATUS	2 #14	X	–	X	–	EXISTING ACTUATOR
45		X	–	–	–	D-9221 10% STATUS	2 #14	X	–	X	–	EXISTING ACTUATOR
46	D-13380	X	–	–	–	D-13380 OPEN COMMAND	2 #14	X	–	–	X	EXISTING ACTUATOR
47		X	–	–	–	D-13380 CLOSE COMMAND	2 #14	X	–	–	X	EXISTING ACTUATOR
48		X	–	–	–	D-13380 OPEN STATUS	2 #14	X	–	X	–	EXISTING ACTUATOR
49		X	–	–	–	D-13380 CLOSE STATUS	2 #14	X	–	X	–	EXISTING ACTUATOR
50		X	–	–	–	D-13380 10% STATUS	2 #14	X	–	X	–	EXISTING ACTUATOR
① 51	D-9232	X	–	–	–	D-11 OPEN COMMAND	2 #14	X	–	–	X	NEW ACTUATOR
① 52		X	–	–	–	D-11 CLOSE COMMAND	2 #14	X	–	–	X	NEW ACTUATOR
① 53		X	–	–	–	D-11 OPEN STATUS	2 #14	X	–	X	–	NEW ACTUATOR
① 54		X	–	–	–	D-11 CLOSE STATUS	2 #14	X	–	X	–	NEW ACTUATOR
① 55		X	–	–	–	D-11 10% STATUS	2 #14	X	–	X	–	NEW ACTUATOR
56	D-9235	X	–	–	–	D-12 OPEN COMMAND	2 #14	X	–	–	X	EXISTING ACTUATOR
57		X	–	–	–	D-12 CLOSE COMMAND	2 #14	X	–	–	X	EXISTING ACTUATOR
58		X	–	–	–	D-12 OPEN STATUS	2 #14	X	–	X	–	EXISTING ACTUATOR
59		X	–	–	–	D-12 CLOSE STATUS	2 #14	X	–	X	–	EXISTING ACTUATOR
60		X	–	–	–	D-12 10% STATUS	2 #14	X	–	X	–	EXISTING ACTUATOR
61	D-3	X	–	–	–	D-13 OPEN COMMAND	2 #14	X	–	–	X	FUTURE ACTUATOR
62		X	–	–	–	D-13 CLOSE COMMAND	2 #14	X	–	–	X	FUTURE ACTUATOR
63		X	–	–	–	D-13 OPEN STATUS	2 #14	X	–	X	–	FUTURE ACTUATOR
64		X	–	–	–	D-13 CLOSE STATUS	2 #14	X	–	X	–	FUTURE ACTUATOR
65		X	–	–	–	D-13 10% STATUS	2 #14	X	–	X	–	FUTURE ACTUATOR
① 51	D-9240	X	–	–	–	D-11 OPEN COMMAND	2 #14	X	–	–	X	NEW ACTUATOR
① 52		X	–	–	–	D-11 CLOSE COMMAND	2 #14	X	–	–	X	NEW ACTUATOR
① 53		X	–	–	–	D-11 OPEN STATUS	2 #14	X	–	X	–	NEW ACTUATOR
① 54		X	–	–	–	D-11 CLOSE STATUS	2 #14	X	–	X	–	NEW ACTUATOR
① 55		X	–	–	–	D-11 10% STATUS	2 #14	X	–	X	–	NEW ACTUATOR
56	D-5	X	–	–	–	D-12 OPEN COMMAND	2 #14	X	–	–	X	FUTURE ACTUATOR
57		X	–	–	–	D-12 CLOSE COMMAND	2 #14	X	–	–	X	FUTURE ACTUATOR
58		X	–	–	–	D-12 OPEN STATUS	2 #14	X	–	X	–	FUTURE ACTUATOR
59		X	–	–	–	D-12 CLOSE STATUS	2 #14	X	–	X	–	FUTURE ACTUATOR
60		X	–	–	–	D-12 10% STATUS	2 #14	X	–	X	–	FUTURE ACTUATOR
61	D-6	X	–	–	–	D-13 OPEN COMMAND	2 #14	X	–	–	X	FUTURE ACTUATOR
62		X	–	–	–	D-13 CLOSE COMMAND	2 #14	X	–	–	X	FUTURE ACTUATOR
63		X	–	–	–	D-13 OPEN STATUS	2 #14	X	–	X	–	FUTURE ACTUATOR
64		X	–	–	–	D-13 CLOSE STATUS	2 #14	X	–	X	–	FUTURE ACTUATOR
65		X	–	–	–	D-13 10% STATUS	2 #14	X	–	X	–	FUTURE ACTUATOR
51	D-7	X	–	–	–	D-11 OPEN COMMAND	2 #14	X	–	–	X	FUTURE ACTUATOR
52		X	–	–	–	D-11 CLOSE COMMAND	2 #14	X	–	–	X	FUTURE ACTUATOR
53		X	–	–	–	D-11 OPEN STATUS	2 #14	X	–	X	–	FUTURE ACTUATOR
54		X	–	–	–	D-11 CLOSE STATUS	2 #14	X	–	X	–	FUTURE ACTUATOR
55		X	–	–	–	D-11 10% STATUS	2 #14	X	–	X	–	FUTURE ACTUATOR
56	D-8	X	–	–	–	D-12 OPEN COMMAND	2 #14	X	–	–	X	FUTURE ACTUATOR
57		X	–	–	–	D-12 CLOSE COMMAND	2 #14	X	–	–	X	FUTURE ACTUATOR
58		X	–	–	–	D-12 OPEN STATUS	2 #14	X	–	X	–	FUTURE ACTUATOR
59		X	–	–	–	D-12 CLOSE STATUS	2 #14	X	–	X	–	FUTURE ACTUATOR
60		X	–	–	–	D-12 10% STATUS	2 #14	X	–	X	–	FUTURE ACTUATOR

① WORK TO BE DONE UNDER THIS CONTRACT.

NO WORK ON THIS SHEET IS INCLUDED

PEC
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303 SOUTH TOPEKA
WICHITA, KS 67202
316-262-2691 www.pec1.com

CITY OF WICHITA

SEAN PATRICK GERETY
LICENSED
28753
10/18/2024
PROFESSIONAL ENGINEER
STATE OF KANSAS

CONSTRUCTION PLANS
FOR
HESS PUMP STATION
SITE VALVE REPLACEMENT
(PHASES 3-5/D-J)

PAUL GUNZELMAN, P.E. - CITY ENGINEER
CITY OF WICHITA PROJECT NO. 448-2021-_____

Issue:		

JOB NO.	200335-004
DATE	OCTOBER 2024
PM	TBK
DESIGNED BY	SPG
DRAWN BY	SRM
CHECKED BY	RWW

ELECTRICAL CONTROLS

E-601

SAVED 10/18/2024 10:41:01 AM BY JAXON.HARING
PLOTTED 10/18/2024 1:30:44 PM BY JAXON.HARING
U:\WICHITA-CIVIL\2020\200335\004\ELEC\DRAWINGS\PHASE 3,4 AND 5\E-601 ELECTRICAL SCHEDULES AND CONTROLS.DWG