

GENERAL NOTES

- ALL ELEVATIONS SHOWN ARE BASED ON CITY OF WICHITA DATUM. (USGS-1187.4= CITY DATUM)
 - INTERURBAN TRAFFIC GENERATED OUTSIDE THE PROJECT AREA IS NOT TO BE CARRIED THROUGH CONSTRUCTION. LOCAL RESIDENTIAL TRAFFIC GENERATED WITHIN THE PROJECT AREA IS TO BE CARRIED THROUGH CONSTRUCTION AS FURTHER PROMULGATED BY PROJECT SPECIAL PROVISIONS.
 - UTILITY SERVICE LINES, POLES, VALVE BOXES, METERS, ECT. ARE TO BE ADJUSTED AS NECESSARY BY OTHERS PRIOR TO CONSTRUCTION UNLESS THE PLANS SPECIFICALLY CALL FOR THEIR ADJUSTMENT BY THE CONTRACTOR OR UNLESS THE PLANS SPECIFICALLY IDENTIFY A UTILITY TO BE ADJUSTED BY ITS OWNER DURING CONSTRUCTION. EXISTING UTILITIES AND THEIR LOCATION, AS SHOWN ON THE PLANS, REPRESENT THE BEST INFORMATION OBTAINABLE FOR DESIGN. THE PLAN LOCATIONS ARE NOT GUARANTEED AND ADDITIONAL UTILITIES MAY ALSO BE ENCOUNTERED. THE CONTRACTOR WILL BE REQUIRED TO WORK AROUND EXISTING UTILITIES WITHIN THE RIGHT-OF-WAY WHICH DO NOT CONFLICT WITH PROPOSED CONSTRUCTION.
 - RUBBLE FROM THE REMOVAL OF MISCELLANEOUS STRUCTURES AND EXCESS EXCAVATION WHICH IS TO BE WASTED SHALL BE DISPOSED OF ON SITES TO BE PROVIDED BY THE CONTRACTOR. THESE SITES SHALL BE APPROVED BY THE ENGINEER AS TO SUITABILITY, APPEARANCE, AND SITE LOCATION. LOCATIONS, 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 FLOODPLAIN WOULD REQUIRE A KANSAS STATE BOARD OF AGRICULTURE PERMIT. ANY MATERIALS DUMPED IN WATERS OF THE UNITED STATE OR WETLANDS IS SUBJECT TO U.S. CORPS OF ENGINEERS PERMITTING REGULATIONS. ANY MATERIAL BURIED OR STOCKPILED BEYOND APPROVED CONSTRUCTION LIMITS WOULD REQUIRE ADDITIONAL ARCHAEOLOGICAL INVESTIGATIONS UNLESS BURIED IN A PREVIOUSLY APPROVED BORROW LOCATION.
- CONTRACTOR WILL BE REQUIRED TO PROVIDE A MINIMUM ADVANCE NOTICE OF FORTY-EIGHT(48)HOURS TO UTILITY COMPANIES PRIOR TO STARTING ANY EXCAVATION AS FOLLOWS:

KANSAS ONE CALL 1-800-344-7233 OR
687-2470(LOCAL WICHITA)

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

Cox Cable 262-4270 or 263-2061
Southwestern Bell Telephone 1-571-2611
Kansas Gas Service 832-3168
KC&E-Electric 268-4555
Peoples Natural Gas 942-8811
City of Wichita(Water & Sewer) 268-4555

THE CONTRACTOR SHALL NOTIFY PIPELINE COMPANIES AT LEAST 24 HOURS IN ADVANCE OF ANY WORK BEING PERFORMED ACROSS AND/OR ADJACENT TO PIPELINES.

6. TREES AND SHRUBS IN PUBLIC RIGHT-OF-WAY WHICH ARE IN DIRECT CONFLICT WITH PROPOSED NEW CONSTRUCTION SHALL BE REMOVED BY THE CONTRACTOR WITH THE ENGINEERS APPROVAL. TREES AND SHRUBS WHICH ARE NOT IN DIRECT CONFLICT WITH PROPOSED NEW CONSTRUCTION SHALL BE SAVED AND PROTECTED FROM DAMAGE.

7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRESERVING PROPERTY IRONS. THE CONTRACTOR WILL BE REQUIRED TO REESTABLISH ANY PROPERTY IRONS WHICH ARE DAMAGED OR DESTROYED BY HIS CONSTRUCTION OPERATIONS. SUCH IRONS SHALL BE REESTABLISHED BY A LICENSED LAND SURVEYOR IN ACCORDANCE WITH STATE LAWS.

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

9. THE WATER DEPARTMENT SHALL FIELD LOCATE WATER VALVES ONE TIME DURING CONSTRUCTION WHEN REQUESTED BY THE CONTRACTOR. IT SHALL BE THE CONTRACTORS' RESPONSIBILITY TO PRESERVE SUCH FIELD LOCATIONS DURING THE CONSTRUCTION PROCESS. WATER VALVES, WATER VALVE BOXES, OR FIRE HYDRANTS DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED BY THE CONTRACTOR AT HIS OWN EXPENSE.

10. THE CONTRACTOR MUST EXAMINE THE CONSTRUCTION SITE PRIOR TO BIDDING AND BE SATISFIED AS TO THE WORK SHOWN FOR COMPLETION. AFTER BIDS HAVE BEEN RECEIVED, THE CONTRACTOR SHALL NOT ASSERT THAT THERE WAS A MISUNDERSTANDING OF THE QUANTITIES OF WORK OR OF THE NATURE FOR THE WORK TO BE COMPLETED.

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

12. UPON COMPLETION OF PAVING THE CONTRACTOR SHALL BACKFILL WITH COMPACTED TOPSOIL, FERTILIZE, SEED, AND MULCH ALL AREAS WHICH ARE DISTURBED AS A RESULT OF THIS PROJECT. FLYASH TRIMMINGS WILL NOT BE PERMITTED TO BE USED AS BACKFILL. ALL COST TO BE SUBSIDIARY TO "SITE RESTORATION".

13. THE CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL IN ACCORDANCE WITH THE CURRENT ADDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) TO ENSURE A SAFE WORK ZONE FOR THE TRAVELING PUBLIC.

14. PAVEMENT REMOVAL AND/OR REPLACEMENT WILL BE MEASURED AND PAID FOR ON THE SQUARE FOOT BASIS REGARDLESS OF PAVEMENT TYPE AND/OR PAVEMENT THICKNESS. MINIMUM LIMITS OF SUCH PAVEMENT REMOVAL AND REPLACEMENT SHALL BE ONE FOOT BEYOND THE LIMITS OF EXCAVATION MADE FOR THE SEWER OR THE STRUCTURE, EXCEPT WHEN SUCH LIMITS OF REMOVAL ARE WITHIN THREE(3) FEET OF AN EXISTING JOINT. REMOVAL AND REPLACEMENT OF EXISTING PAVEMENT SHALL CONFORM TO THE APPLICABLE SECTIONS OF THE CITY OF WICHITA STANDARD SPECIFICATIONS.

15. ALL DRIVEWAY ENTRANCE AND CROSS ROAD PIPE WITHIN THE PROJECT LIMITS SHALL BE REMOVED BY THE CONTRACTOR UNLESS OTHERWISE NOTED ON THE PLANS. REMOVAL OF SUCH PIPES SHALL CONFORM TO THE APPLICABLE SECTION OF THE STANDARD SPECIFICATIONS.

16. ALL FENCE LOCATED WITHIN THE RIGHT-OF-WAY WILL BE REMOVED AND SALVAGED BY THE CONTRACTOR. ALL MATERIALS SHALL BE SALVAGED FOR THE PROPERTY OWNER. FENCE OUTSIDE THE RIGHT-OF-WAY WHICH IS REMOVED FOR CONSTRUCTION SHALL BE REPAIRED IN A CONDITION EQUAL TO OR BETTER THAN THE ORIGINAL, AT NO ADDITIONAL COST TO THE OWNER, UNLESS OTHERWISE SPECIFIED ON THE PLANS. MATERIALS NOT SALVAGED BY THE PROPERTY OWNER SHALL BE DISPOSED OF BY THE CONTRACTOR.

17. CONTRACTOR SHALL GIVE PROPERTY OWNERS ABUTTING THIS PROJECT, WHOSE YARDS WILL BE LOWER THAN THE NEW FINISHED GRADE ELEVATION AT THE RIGHT-OF-WAY LINE, AN OPPORTUNITY TO UTILIZE EXCESS EXCAVATED MATERIAL FROM THE PROJECT TO REGRADE THEIR YARDS TO DRAIN TO THE NEW PAVEMENT. CONTRACTOR WILL BE REQUIRED TO DUMP AND SPREAD THE EXCESS MATERIAL AS REQUIRED BY THE SPECIFICATIONS WHEN REQUESTED BY THE PROPERTY OWNER. THE CONTRACTOR SHALL ASCERTAIN THAT A DIRT ORDER HAS BEEN PROPERLY EXECUTED BY THE PROPERTY OWNER BEFORE ANY SUCH EXCESS MATERIAL IS DELIVERED TO SUCH PROPERTIES.

18. THE CONTRACTOR SHALL ADJUST SANITARY SEWER MANHOLES AND STORM SEWER MANHOLES FOR ELEVATION AND SLOPE AS REQUIRED TO FIT PROPOSED FINISH GRADES.

19. THE CITY OF WICHITA'S DEPARTMENT OF OPERATIONS AND MAINTENANCE WILL REMOVE AND REPLACE EXISTING STREET SIGNING AT THE BEGINNING AND END OF CONSTRUCTION. THE CONTRACTOR SHALL COORDINATE HIS ACTIVITIES WITH THE DEPARTMENT OF OPERATIONS AND MAINTENANCE FOR TEMPORARY TRAFFIC SIGNALIZATION AND REMOVAL OF INSTALLATION OF STREET SIGNING.

20. ALL CONSTRUCTION AND MATERIALS, UNLESS OTHERWISE NOTED, TO COMPLY WITH CITY OF WICHITA SPECIFICATIONS AND STANDARDS.

21. THE COST OF CONCRETE DRIVEWAY REMOVAL SHALL INCLUDE A SAW CUT OF A MINIMUM DEPTH OF ONE FOURTH OF THE PAVEMENT THICKNESS. THE SAW CUT SHALL BE AT THE PROPERTY LINE OR THE NEAREST JOINT. THE EXACT LOCATION SHALL BE DETERMINED BY THE FIELD ENGINEER.

SITE GRADING NOTES

- PAVEMENT GRADES SHOWN ARE TO THE TOP OF PAVEMENT.
- EXISTING ELEVATIONS WERE PROVIDED BY OTHERS. CONTRACTOR SHALL VERIFY EXISTING GRADES AND NOTIFY ENGINEER OF ANY DISCREPANCIES. ELEVATIONS ARE BASED ON CITY DATUM.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND PROTECTING BENCHMARKS THROUGHOUT CONSTRUCTION.
- CONTRACTOR SHALL STRIP SITE OF TOPSOIL(6" MIN.) AND STOCKPILE THIS MATERIAL TO BE USED IN GRASSED AREAS.
- CURB AT EAST SIDE OF PARKING LOT AND ALL LANDSCAPE ISLANDS ARE CITY OF WICHITA STANDARD COMBINED CURB & GUTTER.
- COMPACTION OF FILL MATERIAL AND SUBGRADE STABILIZATION SHALL COMPLY WITH GEOTECHNICAL ENGINEERING REPORT.
- FLYASH TREATED SUBGRADE: FLYASH COMPUTED AT 67.5 LBS per S.Y. WATER FOR FLYASH STABILIZATION IS SUBSIDIARY TO "MANIPULATION FOR FLYASH MODIFIED SUBGRADE".

IF THE SUBGRADE WARRANTS ALTERNATIVE TYPES OF STABILIZATION SUCH AS LIME TREATMENT, THE TOTAL COST FOR EACH OF THE STABILIZATION ITEMS SHALL NOT EXCEED THE TOTAL PRICE BID FOR THE FLYASH STABILIZATION. THE LIME OR ALTERNATE SHALL BE APPLIED AT A RATE PRESCRIBED BY THE ENGINEER. NO ADJUSTMENT WILL BE MADE IN THE UNIT PRICE BID FOR FLYASH OR ALTERNATE DUE TO OVERRUNS OR UNDERRUNS.

IF UNSUITABLE MATERIAL IS ENCOUNTERED, IT SHALL BE EXCAVATED AS DIRECTED BY THE ENGINEER AND REPLACED WITH SELECT MATERIAL. THE SELECT MATERIAL SHALL HAVE COMPACTION REQUIREMENT OF 95% STANDARD DENSITY. THIS WORK SHALL BE SUBSIDIARY TO "MANIPULATION FOR FLYASH MODIFIED SUBGRADE".

8. ALL SOIL USED FOR OVEREXCAVATION AND FOR BACKFILLING OF EXCAVATIONS SHALL BE TESTED FOR 95% STANDARD DENSITY COMPACTION AS REQUIRED BY AN INDEPENDENT SOILS ENGINEER'S RECOMMENDATIONS.

9. ALL PROPOSED SLOPES AND GRADES SHALL BE IN ACCORDANCE WITH ADA SEC. 4.1.3.(8)(A)(i).

PARKING LOT IMPROVEMENTS

LOCATED EAST OF OHIO STREET BETWEEN 35TH St. NO. & 37TH St. NO. WICHITA, KANSAS

PROJECT NO.: 473 83738 (785039), PARKS AND RECREATION DEPARTMENT CITY OF WICHITA, KANSAS

NEIL CABLE, P.E., CITY ENGINEER APRIL 2003

INDEX OF SHEETS

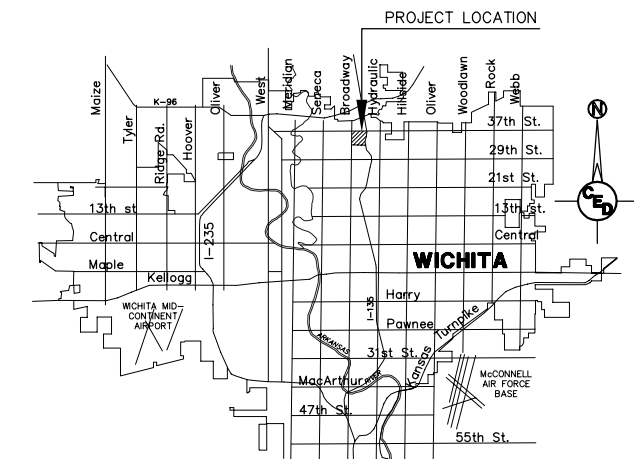
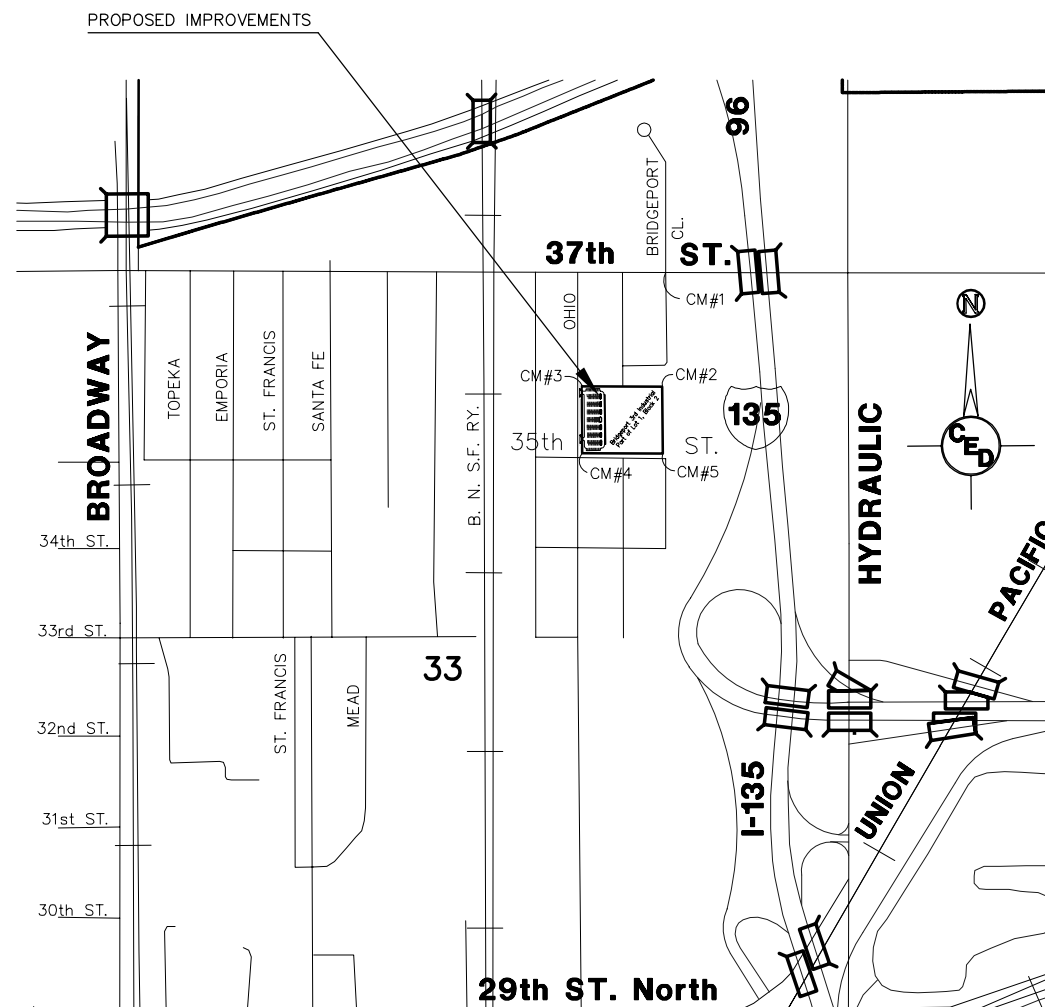
- Title Sheet
- Site Survey
- Site Plan and Details
- Site Grading Plan
- Area Inlet Details
- Standard Drive Entrances
- Pavement Marking Plan and Details
- Irrigation Sleeve Layout Plan
- Soil Erosion BMPS Commercial Development Site
- Soil Erosion BMP Details
- Soil Erosion BMP Details

SURVEY CONTROL MONUMENTS

CM #1	N 4950.00 E 5000.46	1/2" Iron Pipe in Thimble (found) at NE Cor. W 1/2, NE 1/4, Sec. 33, T-26-S, R-1-E
CM #2	N 4195.94 E 5007.51	#4" Rebar W/ "Baughman" Cap (set) NE Cor. Lot 1, Block 2 Bridgeport 3rd Industrial
CM #3	N 4198.55 E 4380.89	#4" Rebar W/ "Baughman" Cap (set) NW Cor. Lot 1, Block 2 Bridgeport 3rd Industrial
CM #4	N 3678.57 E 4385.42	#4" Rebar W/ "Baughman" Cap (set) SW Cor. Lot 1, Block 2 Bridgeport 3rd Industrial
CM #5	N 3675.96 E 5012.38	1 1/4" Iron Pipe (found) SE Cor. Lot 1, Block 2 Bridgeport 3rd Industrial

CONSTRUCTION CONTROL POINTS

CP #1	N 4179.44 E 4521.84	NE Corner of Proposed Parking Lot
CP #2	N 4178.50 E 4413.84	NW Corner of Proposed Parking Lot
CP #3	N 3698.51 E 4418.02	SW Corner of Proposed Parking Lot
CP #4	N 3699.45 E 4526.02	SE Corner of Proposed Parking Lot



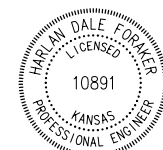
LOCATION MAP

PROJECT LOCATED IN THE
N.E. COR., W 1/2, N.E. 1/4, SEC. 33, T-26-S, R.1E.
Lot 1, Block 2, BRIDGEPORT 3RD INDUSTRIAL
SEDGWICK COUNTY, KANSAS

EARTHWORK SUMMARY

EXCAVATION	398 C.Y.
BORROW EXCAVATION (CONTRACTOR FURNISHED)	3,396 C.Y.
COMPACTED FILL (95% STD. DENSITY)	4,452 C.Y.

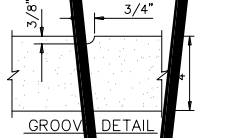
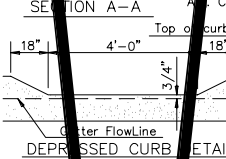
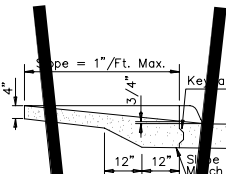
ON SITE BENCHMARK #1: BM#1
Top of Rim - Sanitary Sewer Manhole
along Ohio Street. N 3991.30 4387.90
Elev.=132.87 (Per Survey)
ON SITE BENCHMARK #2: BM#2
Top of Rim - Sanitary Sewer Manhole
along Ohio Street. N 3668.53 E 4390.53
Elev.=131.88 (Per Survey)



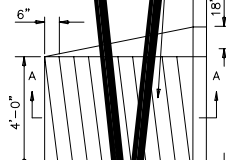
C.O.W. PROJ. NO.: 473 83738 (785039)
CERTIFIED ENGINEERING DESIGN, P.A.
810 WEST DOUGLAS, SUITE C
WICHITA, KANSAS 67203
PH: (316) 262-8808
FAX: (316) 262-1009

SHEET 1
TOTAL 11

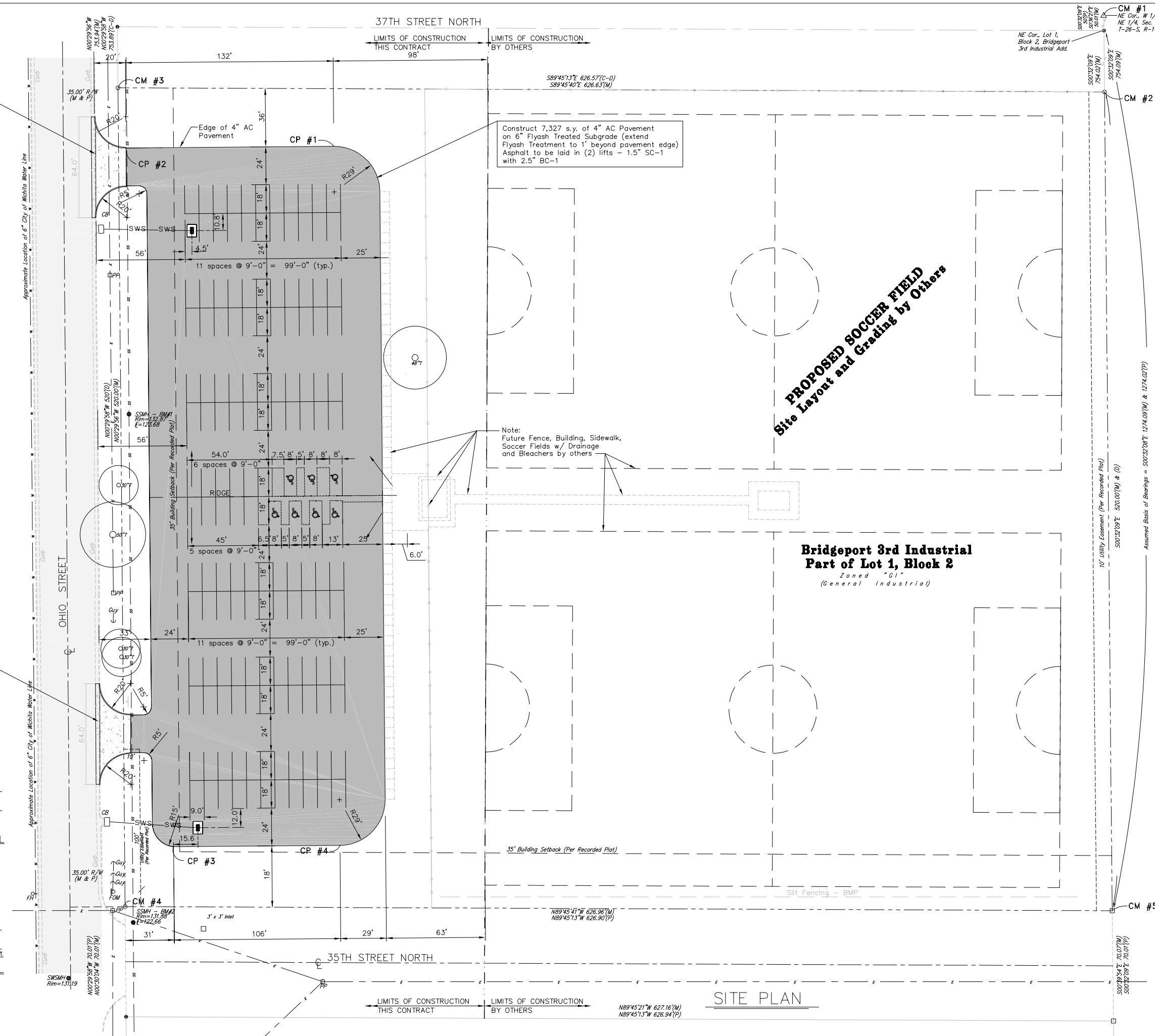
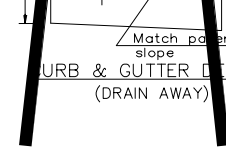
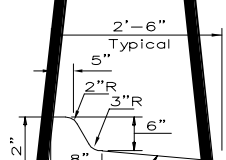
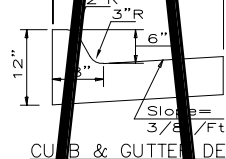
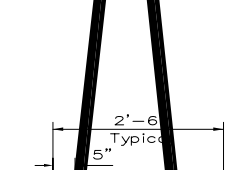
Remove 64 l.f. of Existing Curb & Gutter - Construct 819 s.f. Entrance Drive per section A-3 on sheet 6



Note: Curb ramp shall have the detectable warning which extends the full width and depth of the curb ramp.



Remove 64 l.f. of Existing Curb & Gutter - Construct 819 s.f. Entrance Drive per section A-5 on sheet 6



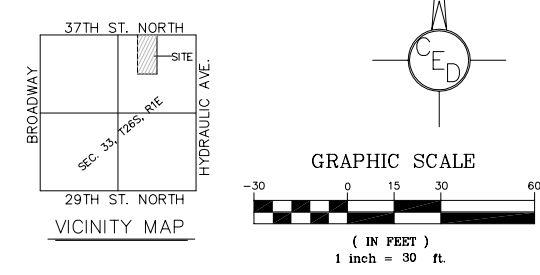
PROPOSED SOCCER FIELD
Site Layout and Grading by Others

Bridgeport 3rd Industrial
Part of Lot 1, Block 2
Zoned "G1"
(General Industrial)

UTILITIES SHOWN REPRESENT THE BEST INFORMATION AVAILABLE FOR DESIGN. ADDITIONAL UTILITIES MAY BE PRESENT ON THIS PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION, DEPTH AND SIZE OF ALL UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE LIABLE FOR ANY DAMAGE CAUSED BY THE FAILURE TO DO SO.

SURVEY DISCLAIMER:
TOPOGRAPHIC SURVEY AND CONTOUR MAP USED IN PREPARING PLANS WAS PROVIDED BY BAUGHMAN COMPANY P.A., 315 ELLIS, WICHITA, KS (316)262-7271. ENGINEER DOES NOT GUARANTEE SURVEY ELEVATIONS FOR ACCURACY. CONTRACTOR SHALL VERIFY ELEVATIONS AND NOTIFY ENGINEER OF ANY DISCREPANCIES.

ON SITE BENCHMARK #1: BM#1
Top of Rim - Sanitary Sewer Manhole along Ohio Street. N 3991.30 4387.90
Elev.=132.87 (Per Survey)
ON SITE BENCHMARK #2: BM#2
Top of Rim - Sanitary Sewer Manhole along Ohio Street. N 3668.53 E 4390.53
Elev.=131.88 (Per Survey)



SURVEY CONTROL MONUMENTS	
CM #1	N 4950.00 E 5000.46 1/2" Iron Pipe in Thimble (found) at NE Cor. NE 1/4, NE 1/4, Sec. 33, T-26-S, R-1-E
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CM #5	N 3675.96 E 5012.38 1 1/4" Iron Pipe (found) SE Cor. Lot 1, Block 2 Bridgeport 3rd Industrial

CONSTRUCTION CONTROL POINTS	
CP #1	N 4161.40 E 4518.00 NE Corner of Proposed Parking Lot
CP #2	N 4160.25 E 4386.04 NW Corner of Proposed Parking Lot
CP #3	N 3716.60 E 4416.10 SW Corner of Proposed Parking Lot
CP #4	N 3717.42 E 4521.86 SE Corner of Proposed Parking Lot

LEGEND

- = #4 REBAR W/ "BAUGHMAN" CAP (FOUND)
- = #4 REBAR W/ "BAUGHMAN" CAP (SET)
- = 1 1/4" IRON PIPE (FOUND)
- △ = 1/2" IRON PIPE IN THIMBLE (FOUND)
- (M) = MEASURED
- (P) = PLATTED
- CB = Catch Basin
- FH = Fire Hydrant
- ← Guy = Guy Anchor
- △ FOM = Fiber Optic Marker
- PP = Power Pole
- SSMH = Sanitary Sewer Manhole
- SWSMH = Stormwater Sewer Manhole
- = 18"x24" Area Inlet for Soccer Field (by others)
- = Existing Spot Elevation
- = Proposed Spot Elevation for Soccer Field (by others)
- = Existing Tree
- = Gas Line
- = Electric Line
- = Sanitary Sewer Line
- = Stormwater Sewer Line
- = Telephone Line
- = Water Line
- - - - -133- - - - - Existing Contour
- - - - -133- - - - - Proposed Contour for Soccer Field (by others)
- - - - -133- - - - - Proposed Contour (Parking Lot)
- - - - -12" or 36" Pipe - - - - - Proposed 4" Perforated Drain Tube for Soccer Field (by others)

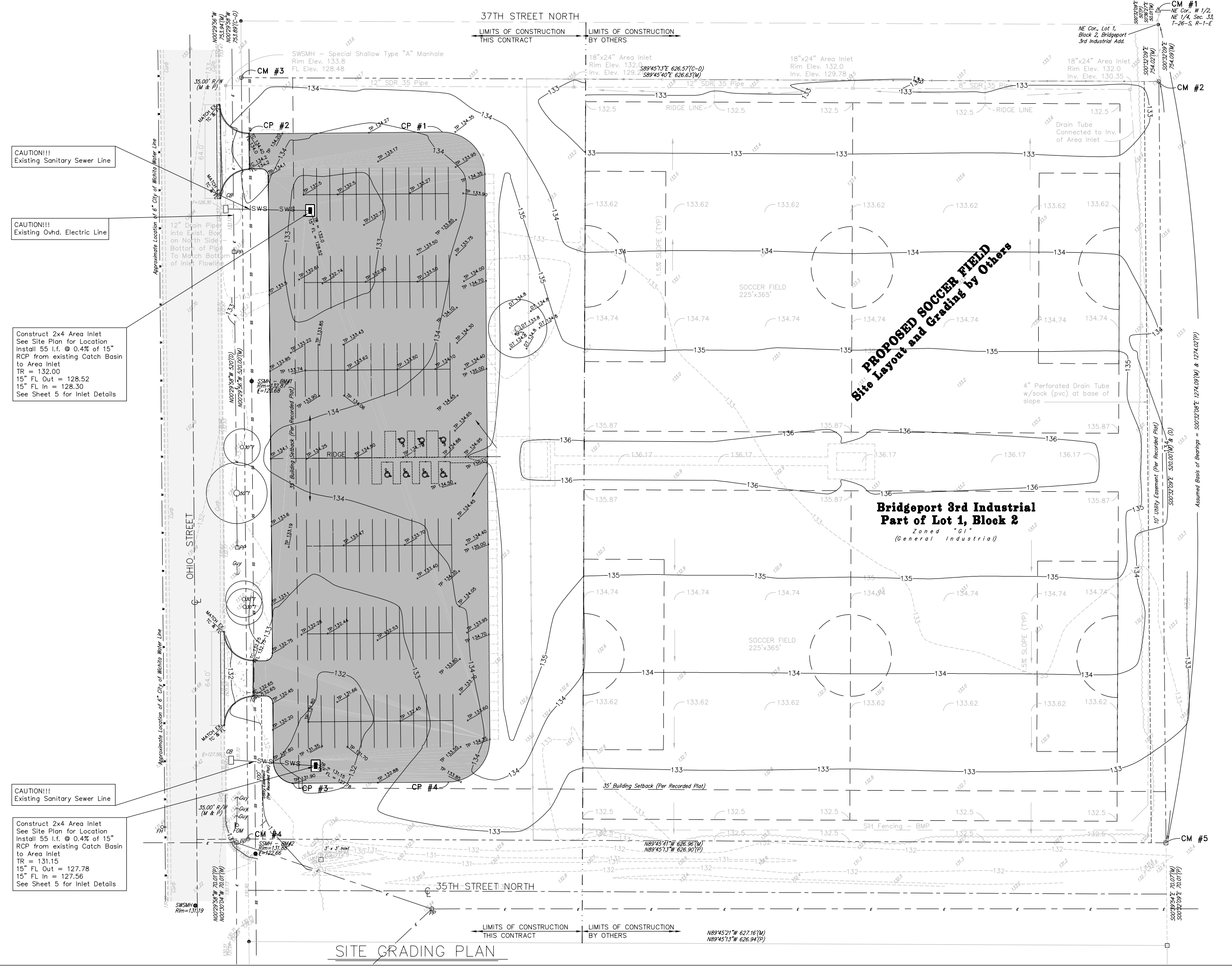
Revised by City of Wichita 8/14/03

SITE PLAN FOR
37TH & OHIO PARKING LOT
WICHITA, SEDGWICK CO., KANSAS
PROJ. NO.: 20031014

CERTIFIED ENGINEERING DESIGN, P.A.

810 WEST DOUGLAS, SUITE C
WICHITA, KANSAS 67203
PH.(316)262-8808 FAX.(316)262-1669

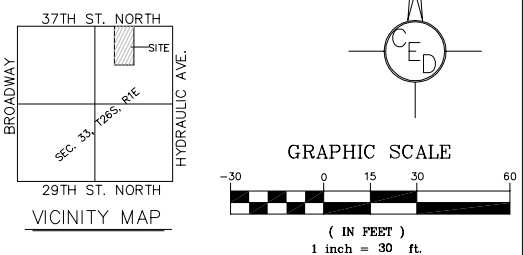
DESIGNED: HDF SCALE: 1"=30' SHEET 3
DRAWN: DPJ DATE: 4/03
CHECKED: HDF CED FILE: 37TH&OHIO_BASE TOTAL 11



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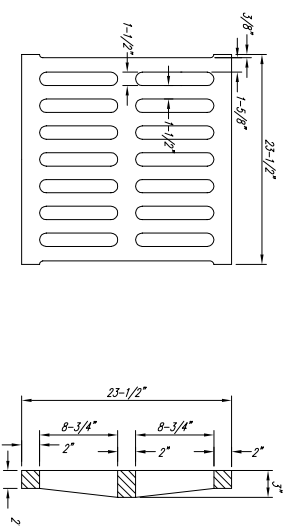
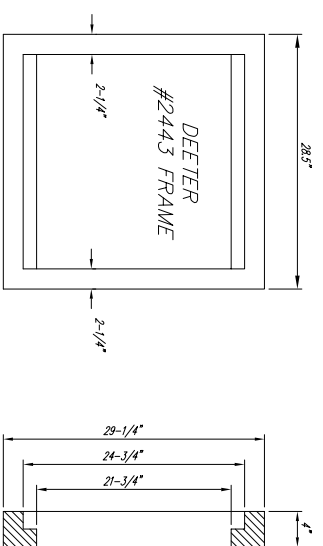
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 - = Electric Line
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 - = Stormwater Sewer Line
 - = Telephone Line
 - = Water Line
 - - - - - = Existing Contour
 - - - - - = Proposed Contour for Soccer Field (by others)
 - - - - - = Proposed Contour (Parking Lot)
 - - - - - = 12" SDR 35 Pipe

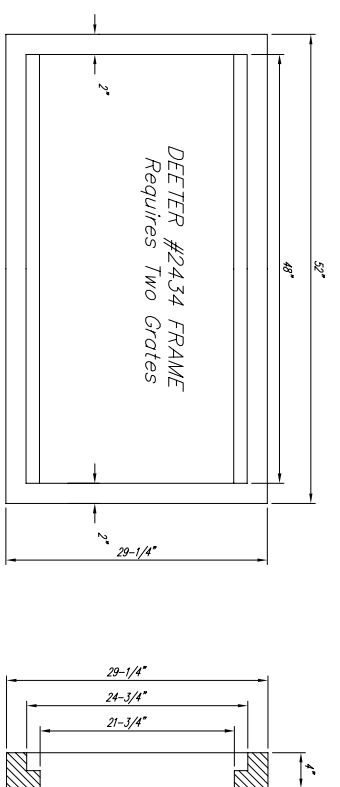
- DRAINAGE LEGEND**
- = TOP OF CURB ELEVATION
 - = FLOWLINE OF CURB ELEVATION
 - = TOP OF RIM ELEVATION (INLET)
 - = TOP OF RIM ELEVATION (INLET)
 - = TOP OF SIDEWALK ELEVATION
 - = TOP OF PAVEMENT ELEVATION
 - = DIRT GRADE ELEVATION
 - = FLOW GRADE Revised by City of Wichita 8/14/03

SITE GRADING PLAN FOR
37TH & OHIO PARKING LOT
 WICHITA, SEDGWICK CO., KANSAS
 PROJ. NO.: 20031014
CERTIFIED ENGINEERING DESIGN, P.A.
 810 WEST DOUGLAS, SUITE C
 WICHITA, KANSAS 67203
 PH.(316)262-8808 FAX.(316)262-1669

DESIGNED: HDF SCALE: 1"=30' SHEET: 4
 DRAWN: DPJ DATE: 4/03
 CHECKED: HDF CED FILE: 37TH&OHIO_BASE TOTAL: 11

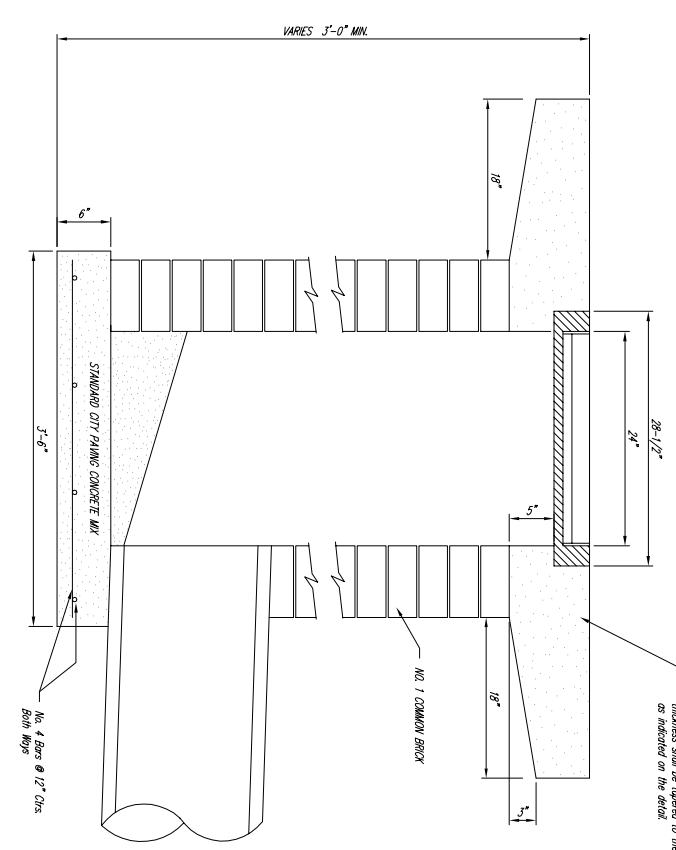
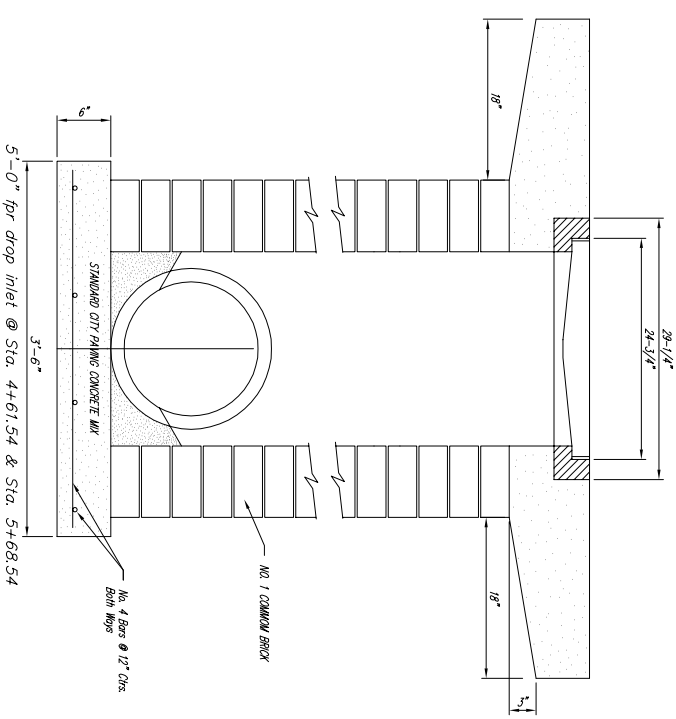


DEETER #2433 GRATE
24" x 24" Frame and Grate Detail

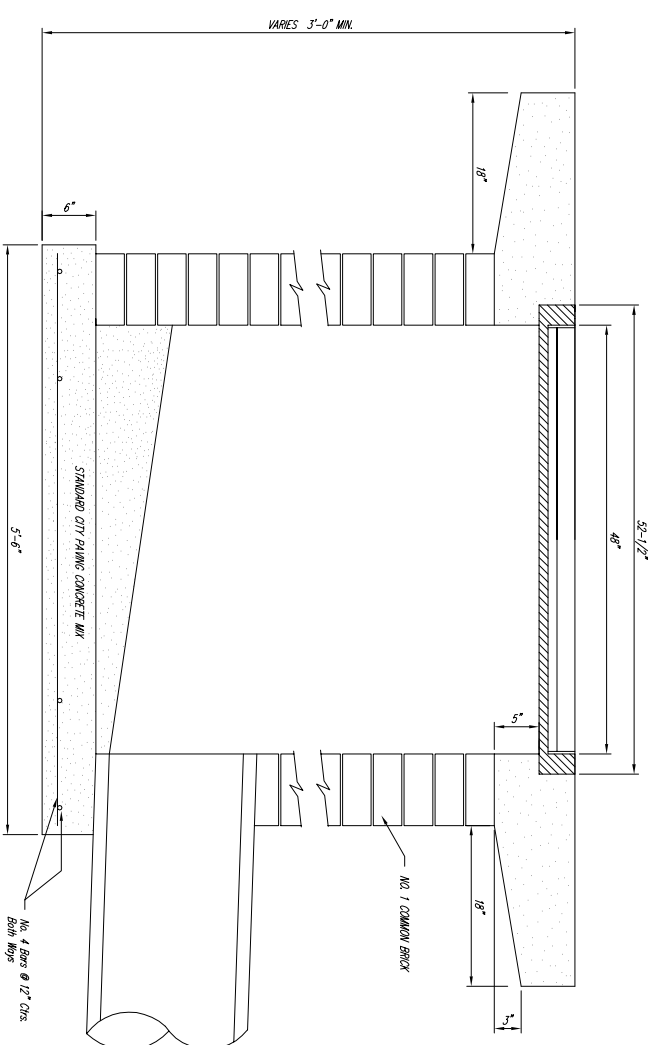


Double 24" x 24" Frame Detail

NOTE: Grates shall be imprinted on the top surface with CITY OF WICHITA using letters of least 1" in height. Other marking methods may be approved by the engineer.



Note: Concrete curb shall be constructed around the inlet when inlet is located in an improved area. Where the inlet is exposed to pavement, the pavement thickness shall be tapered to the inlet in 18 inches or less on the sides.

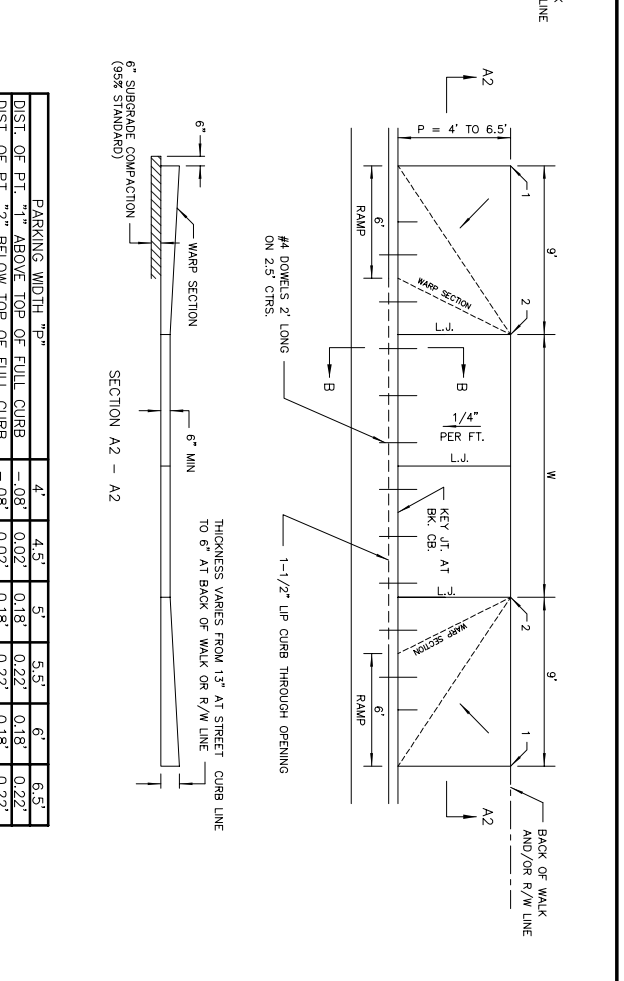
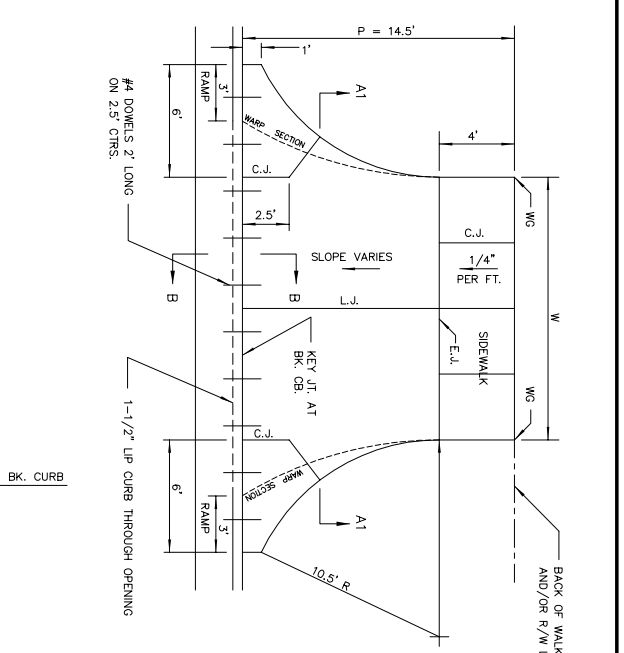
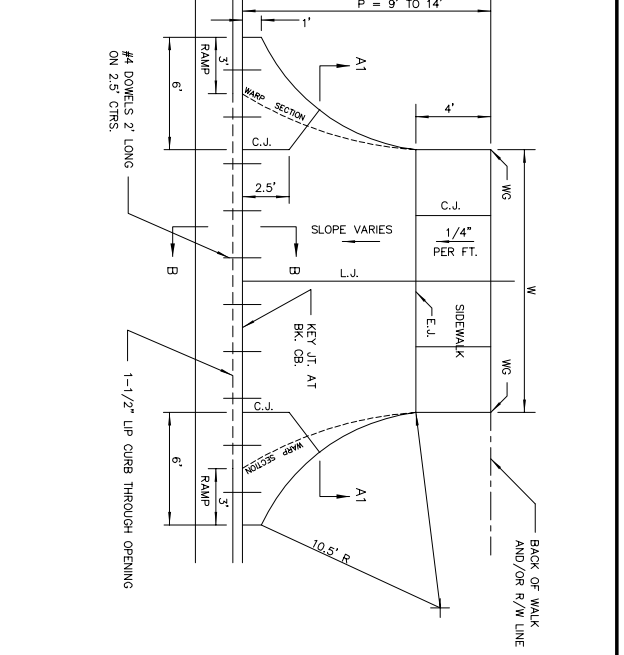
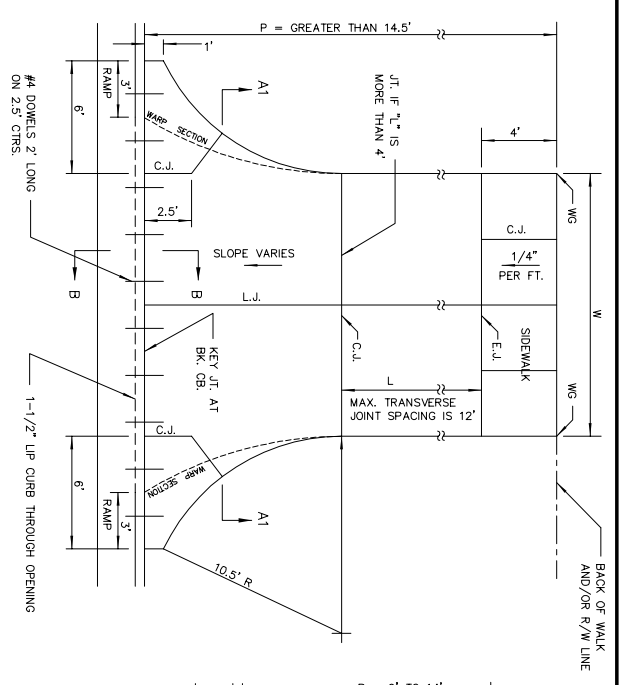


37TH & OHIO PARKING LOT
AREA INLET DETAILS

CEID PROJ. NO.: 20031014
WICHITA, KANSAS

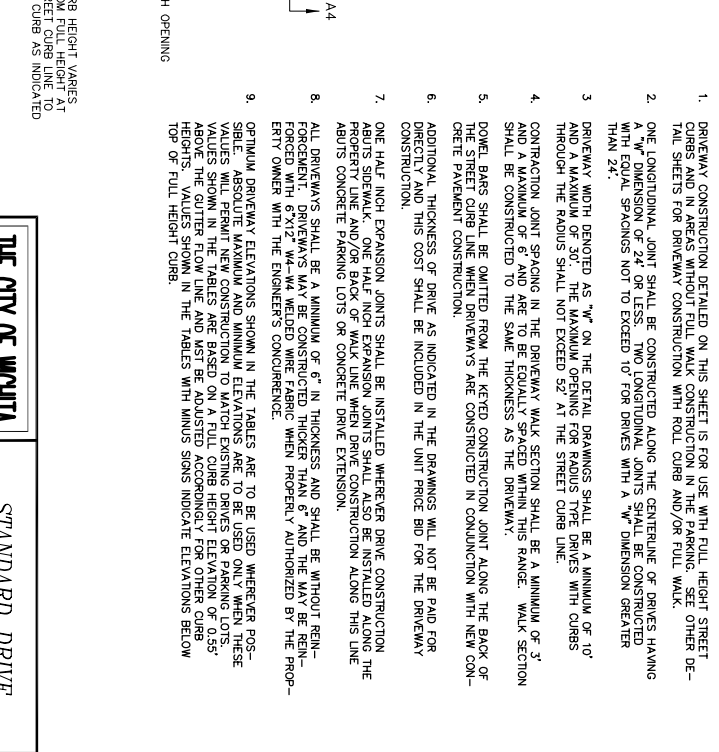
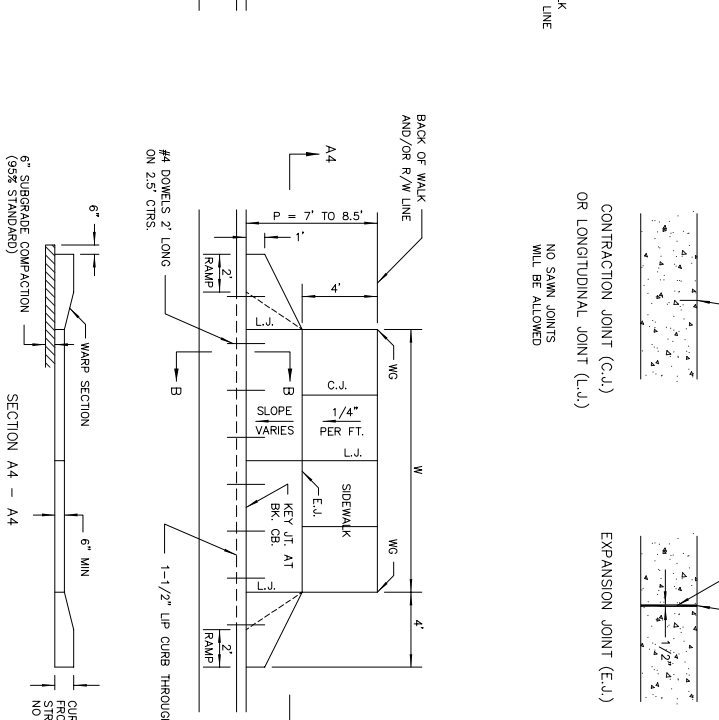
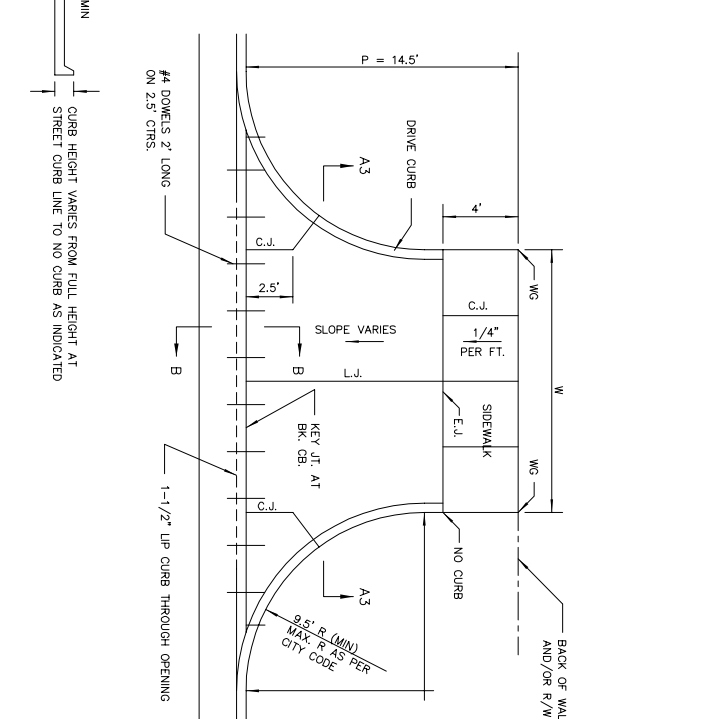
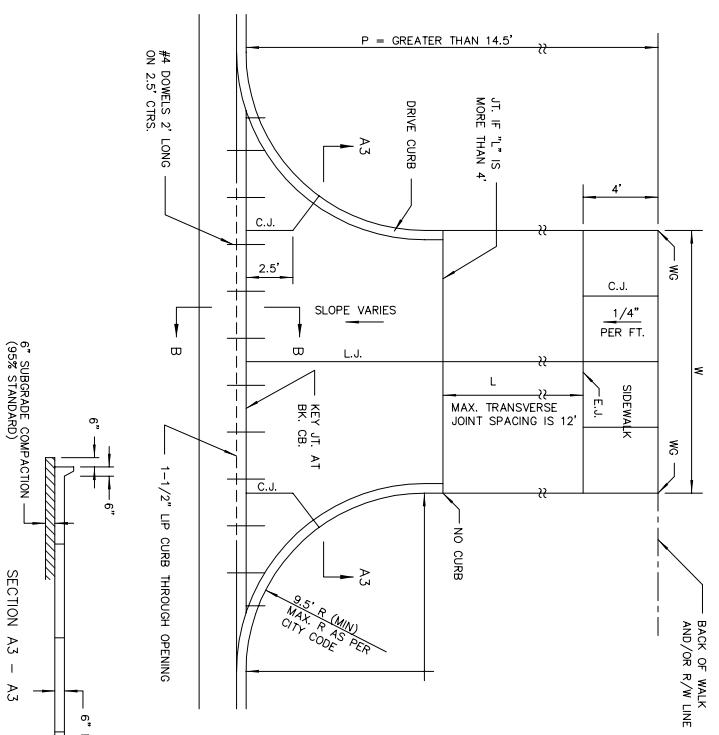
CERTIFIED ENGINEERING DESIGN, P.A.
810 WEST DOUGLAS, SUITE C
WICHITA, KANSAS 67203
PH.(316)262-8808 FAX.(316)262-1669

DESIGNED: HOF SCALE: NTS SHEET 5
DRAWN: DRJ DATE: 2/02
CHECKED: HOF CED FILE: areinlet.dwg TOTAL 11



PARKING WIDTH "P"	9'	10'	11'	12'	13'	14.5'	20'	25'	30'	35'	40'	45'	50'
ABSOLUTE MAX. DIST. OF PT. "WG" ABOVE OR BELOW TOP OF FULL CURB	0.27'	0.27'	0.32'	0.37'	0.52'	0.60'	1.85'	2.35'	2.85'	3.35'	3.85'	4.35'	4.85'
OPTIMUM MAX. DIST. OF PT. "WG" ABOVE OR BELOW TOP OF FULL CURB	0.27'	0.27'	0.32'	0.37'	0.52'	0.62'	1.22'	1.48'	1.74'	2.00'	2.26'	2.52'	2.78'
OPTIMUM MIN. DIST. OF PT. "WG" ABOVE OR BELOW TOP OF FULL CURB	0.19'	0.21'	0.23'	0.25'	0.30'	0.42'	0.52'	0.62'	0.72'	0.82'	0.92'	1.02'	1.12'
ABSOLUTE MIN. DIST. OF PT. "WG" ABOVE OR BELOW TOP OF FULL CURB	-0.19'	-0.16'	-0.13'	-0.10'	-0.06'	0.00'	0.15'	0.25'	0.35'	0.45'	0.55'	0.65'	0.75'

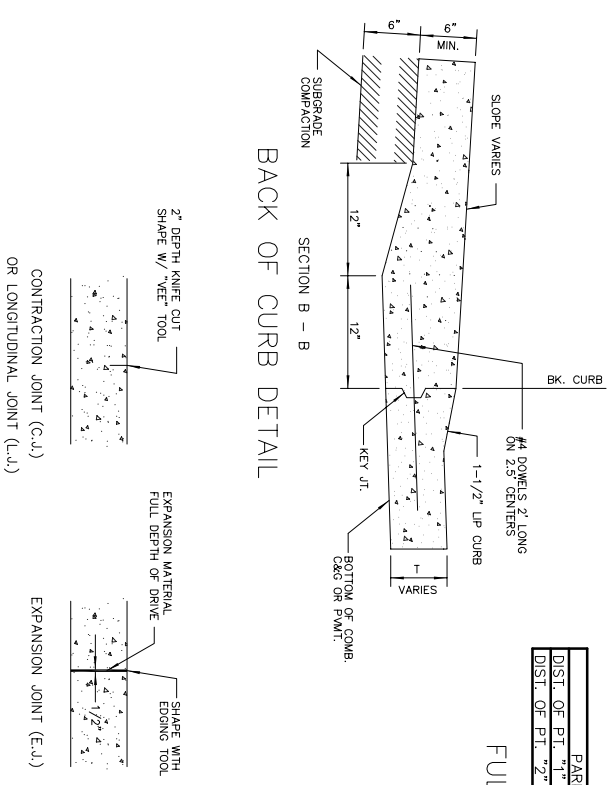
RADIUS RAMP DRIVES (P = 9.0' & GREATER)



PARKING WIDTH "P"	14.5'	20'	25'	30'	35'	40'	45'	50'
ABSOLUTE MAX. DIST. OF PT. "WG" ABOVE OR BELOW TOP OF FULL CURB	0.72'	1.27'	1.77'	2.27'	2.77'	3.27'	3.77'	4.27'
OPTIMUM MAX. DIST. OF PT. "WG" ABOVE OR BELOW TOP OF FULL CURB	0.70'	1.04'	1.30'	1.56'	1.82'	2.08'	2.34'	2.60'
OPTIMUM MIN. DIST. OF PT. "WG" ABOVE OR BELOW TOP OF FULL CURB	0.30'	0.42'	0.52'	0.62'	0.72'	0.82'	0.92'	1.02'
ABSOLUTE MIN. DIST. OF PT. "WG" ABOVE OR BELOW TOP OF FULL CURB	0.00'	0.00'	0.15'	0.25'	0.35'	0.45'	0.55'	0.65'

FULL RADIUS DRIVES (P = 14.5' & GREATER)

BACK OF CURB DETAIL



GENERAL NOTES

- DRIVEWAY CONSTRUCTION DETAILED ON THIS SHEET IS FOR USE WITH FULL HEIGHT STREET CURBS AND IN AREAS WITHOUT FULL WALK CONSTRUCTION IN THE PARKING. SEE OTHER DETAIL SHEETS FOR DRIVEWAY CONSTRUCTION WITH ROLL CURB AND/OR FULL WALK.
- ONE LONGITUDINAL JOINT SHALL BE CONSTRUCTED ALONG THE CENTERLINE OF DRIVES HAVING A "W" DIMENSION OF 24' OR LESS. TWO LONGITUDINAL JOINTS SHALL BE CONSTRUCTED WITH EQUAL SPACINGS NOT TO EXCEED 10' FOR DRIVES WITH A "W" DIMENSION GREATER THAN 24'.
- DRIVEWAY WIDTH DENOTED AS "W" ON THE DETAIL DRAWINGS SHALL BE A MINIMUM OF 10' AND A MAXIMUM OF 30'. THE MAXIMUM OPENING FOR RADIUS TYPE DRIVES WITH CURBS THROUGH THE RADIUS SHALL NOT EXCEED 52' AT THE STREET CURB LINE.
- CONTRACTION JOINT SPACING IN THE DRIVEWAY SECTION SHALL BE A MINIMUM OF 3' AND A MAXIMUM OF 6' AND ARE TO BE EQUALLY SPACED WITHIN THIS RANGE. WALK SECTION SHALL BE CONSTRUCTED TO THE SAME THICKNESS AS THE DRIVEWAY.
- DOVEL BARS SHALL BE OMITTED FROM THE KEDED CONSTRUCTION JOINT ALONG THE BACK OF THE STREET CURB LINE WHEN DRIVEWAYS ARE CONSTRUCTED IN CONJUNCTION WITH NEW CONCRETE PAVEMENT CONSTRUCTION.
- ADDITIONAL THICKNESS OF DRIVE AS INDICATED IN THE DRAWINGS WILL NOT BE PAID FOR DIRECTLY AND THIS COST SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE DRIVEWAY CONSTRUCTION.
- ONE HALF INCH EXPANSION JOINTS SHALL BE INSTALLED WHEREVER DRIVE CONSTRUCTION ABUTS SIDEWALK. ONE HALF INCH EXPANSION JOINTS SHALL ALSO BE INSTALLED ALONG THE PROPERTY LINE AND/OR BACK OF WALK LINE WHEN DRIVE CONSTRUCTION ALONG THIS LINE ABUTS CONCRETE PARKING LOTS OR CONCRETE DRIVE EXTENSION.
- ALL DRIVEWAYS SHALL BE A MINIMUM OF 6" IN THICKNESS AND SHALL BE WITHOUT REINFORCMENT. DRIVEWAYS MAY BE CONSTRUCTED THICKER THAN 6" AND THEY MAY BE REINFORCED WITH 6"x12" W-W WELDED WIRE FABRIC WHEN PROPERLY AUTHORIZED BY THE PROJECT OWNER WITH THE ENGINEER'S CONFORMANCE.
- OPTIMUM DRIVEWAY ELEVATIONS SHOWN IN THE TABLES ARE TO BE USED WHEREVER POSSIBLE. ABSOLUTE MAXIMUM AND MINIMUM ELEVATIONS ARE TO BE USED ONLY WHEN THESE VALUES PREVENT NEW CONSTRUCTION FROM EXISTING DRIVEWAY OR PARKING LOTS. VALUES SHOWN IN THESE TABLES ARE TO BE ADJUSTED ACCORDINGLY FOR OTHER CURB HEIGHTS. THE CUTTER FLOW LINE AND MUST BE ADJUSTED ACCORDINGLY FOR OTHER CURB HEIGHTS. VALUES SHOWN IN THE TABLES WITH MINUS SIGNS INDICATE ELEVATIONS BELOW TOP OF FULL HEIGHT CURB.

PARKING WIDTH "P"	7'	7.5'	8'	8.5'
ABSOLUTE MAX. DIST. OF PT. "WG" ABOVE OR BELOW TOP OF FULL CURB	-0.8'	0.02'	0.18'	0.22'
OPTIMUM MAX. DIST. OF PT. "WG" ABOVE OR BELOW TOP OF FULL CURB	-0.8'	0.02'	0.18'	0.22'
OPTIMUM MIN. DIST. OF PT. "WG" ABOVE OR BELOW TOP OF FULL CURB	-1.5'	-1.6'	-1.7'	-1.7'
ABSOLUTE MIN. DIST. OF PT. "WG" ABOVE OR BELOW TOP OF FULL CURB	-2.5'	-2.0'	-2.0'	-2.0'

FULL RAMP DRIVE (P = 7.0' TO 8.5')

THE CITY OF MCHITA

STANDARD DRIVE ENTRANCES FULL HEIGHT CURB

IND. CULM. P.L. - CITY ENGINEER

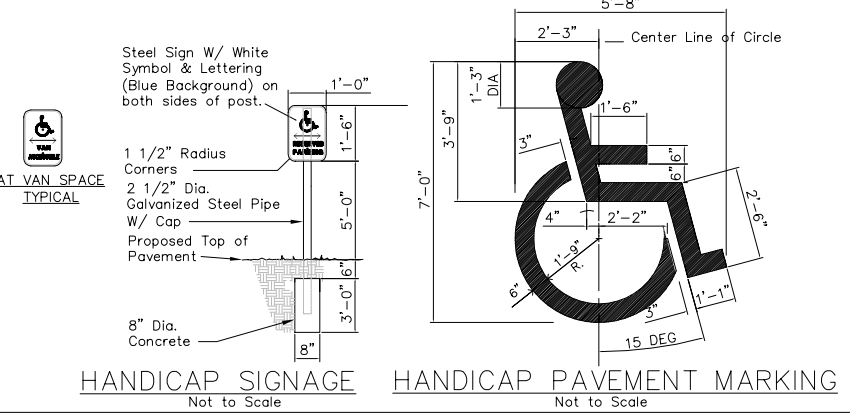
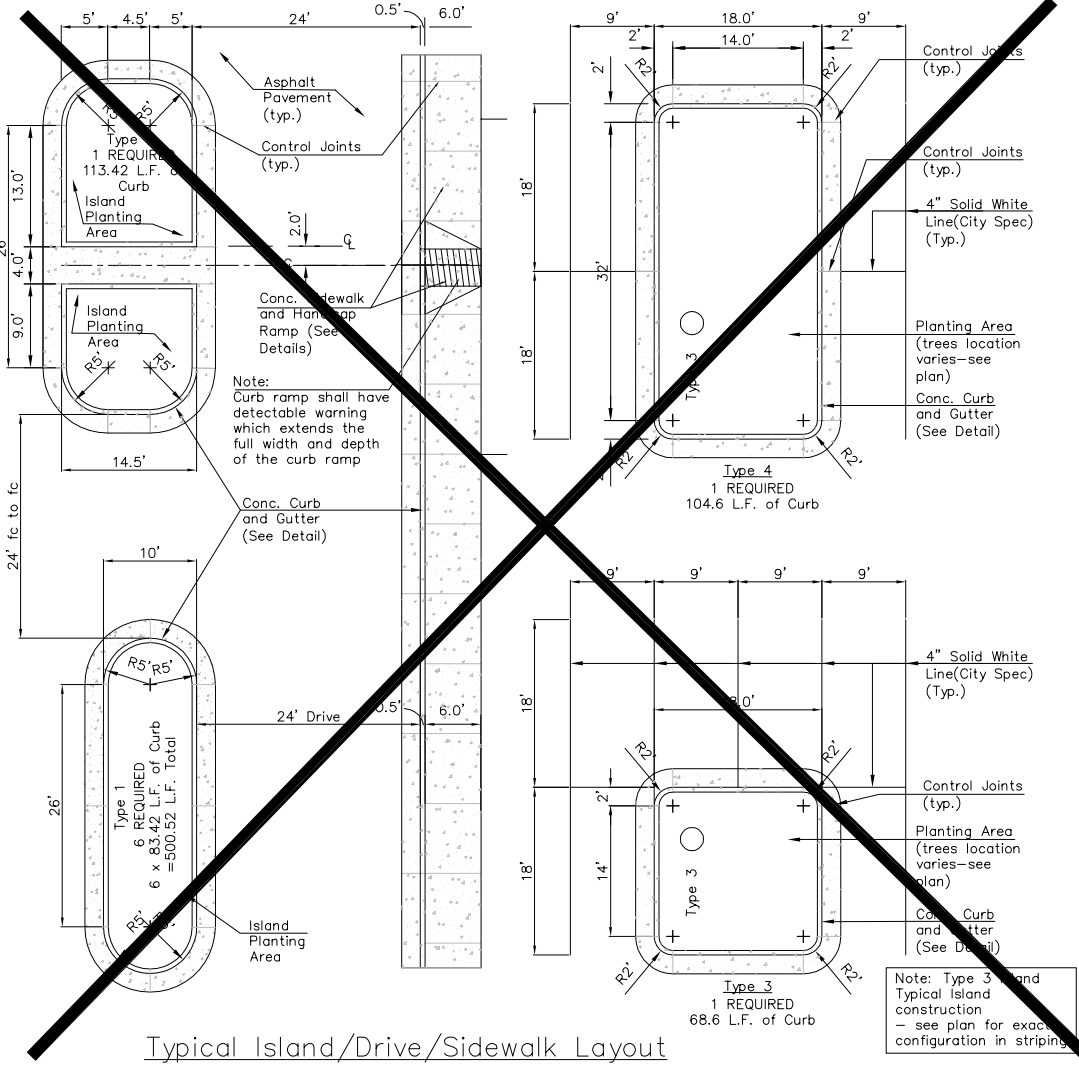
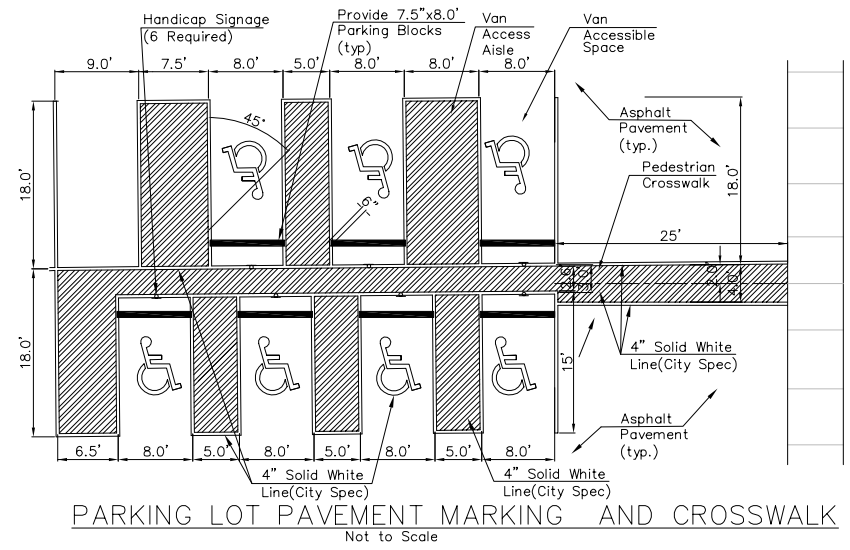
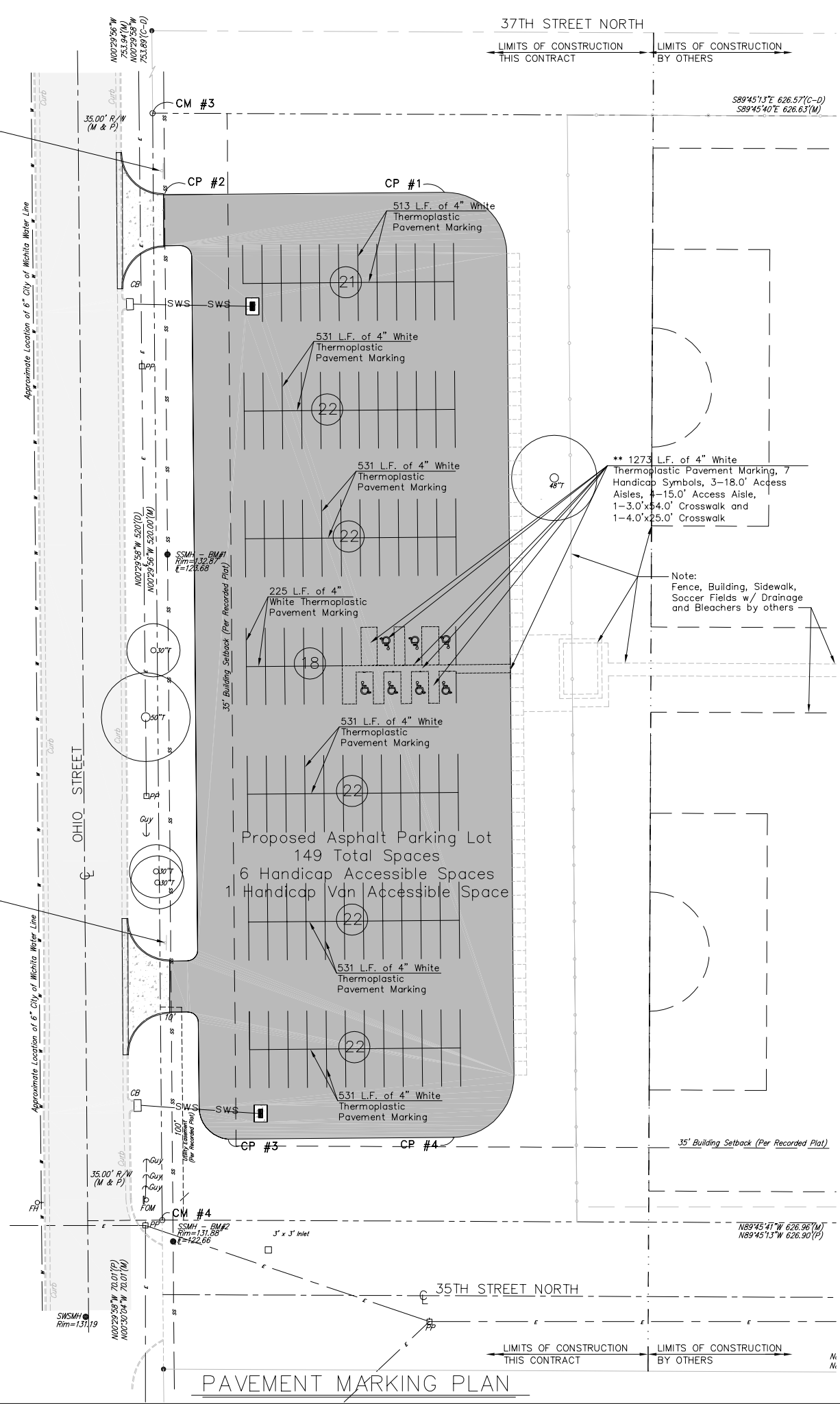
PROJECT NUMBER: 473-83738(785039)

DATE: MAR 00

SHEET 6 OF 11

Install 1 "STOP" Sign(R1-1) 30"x30" in accordance with the latest edition of the Manual on Uniform Traffic Control Devices.

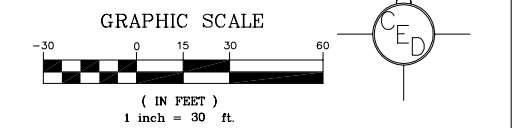
Install 1 "STOP" Sign(R1-1) 30"x30" in accordance with the latest edition of the Manual on Uniform Traffic Control Devices.



UTILITIES SHOWN REPRESENT THE BEST INFORMATION AVAILABLE FOR DESIGN. ADDITIONAL UTILITIES MAY BE PRESENT ON THIS PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION, DEPTH AND SIZE OF ALL UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE LIABLE FOR ANY DAMAGE CAUSED BY THE FAILURE TO DO SO.

SURVEY DISCLAIMER:
TOPOGRAPHIC SURVEY AND CONTOUR MAP USED IN PREPARING PLANS WAS PROVIDED BY BAUGHMAN COMPANY P.A., 315 ELLIS, WICHITA, KS (316)262-7271. ENGINEER DOES NOT GUARANTEE SURVEY ELEVATIONS FOR ACCURACY. CONTRACTOR SHALL VERIFY ELEVATIONS AND NOTIFY ENGINEER OF ANY DISCREPANCIES.

ON SITE BENCHMARK #1: BM#1
Top of Rim - Sanitary Sewer Manhole along Ohio Street. N 3991.30 4387.90 Elev.=132.87 (Per Survey)
ON SITE BENCHMARK #2: BM#2
Top of Rim - Sanitary Sewer Manhole along Ohio Street. N 3668.53 E 4390.53 Elev.=131.88 (Per Survey)



SURVEY CONTROL MONUMENTS

CM #1	N 4950.00 E 5000.46	1/2" Iron Pipe in Thimble (found) at NE Cor. W 1/2, NE 1/4, Sec. 33, T-26-S, R-1-E
CM #2	N 4195.94 E 5007.51	#4" Rebar W/ "Baughman" Cap (set) NE Cor. Lot 1, Block 2 Bridgeport 3rd Industrial
CM #3	N 4198.55 E 4380.89	#4" Rebar W/ "Baughman" Cap (set) NW Cor. Lot 1, Block 2 Bridgeport 3rd Industrial
CM #4	N 3678.57 E 4385.42	#4" Rebar W/ "Baughman" Cap (set) SW Cor. Lot 1, Block 2 Bridgeport 3rd Industrial
CM #5	N 3675.96 E 5012.38	1 1/4" Iron Pipe (found) SE Cor. Lot 1, Block 2 Bridgeport 3rd Industrial

CONSTRUCTION CONTROL POINTS

CP #1	N 4161.40 E 4518.00	NE Corner of Proposed Parking Lot
CP #2	N 4160.25 E 4386.04	NW Corner of Proposed Parking Lot
CP #3	N 3716.60 E 4416.10	SW Corner of Proposed Parking Lot
CP #4	N 3717.42 E 4521.86	SE Corner of Proposed Parking Lot

RECAPITULATION OF BASE BID QUANTITIES (For Information Only)

ITEM*	QUANTITY	UNITS
4" White parking striping	3,410	LIN. FT.
White Handicap Marker (7 each) **	140	LIN. FT.
White 5.0' x 18' Access Aisle (3 each) **	411	LIN. FT.
White 5.0' x 15' Access Aisle (3 each) **	360	LIN. FT.
White 8.0' x 18' Access Aisle (1 each) **	213	LIN. FT.
White 3.0' x 47' Crosswalk Aisle (1 each) **	255	LIN. FT.
White 4.0' x 32.5' Crosswalk Aisle (1 each) **	256	LIN. FT.
White (solid) striping - Total	5,045	LIN. FT.
Handicap Parking Signs (6)w/ (6) Posts	6	EACH
H.C. Van Accessible Parking Sign (1)w/ (1) Post	1	EACH
Stop Sign(R1-1)30"x30"	2	EACH
7.5"x8.0" Concrete Parking Blocks	7	EACH

*All Pavement Markings Shall Be Thermoplastic(90 mil) in Accordance with 1990 KDOT Standard Specifications.

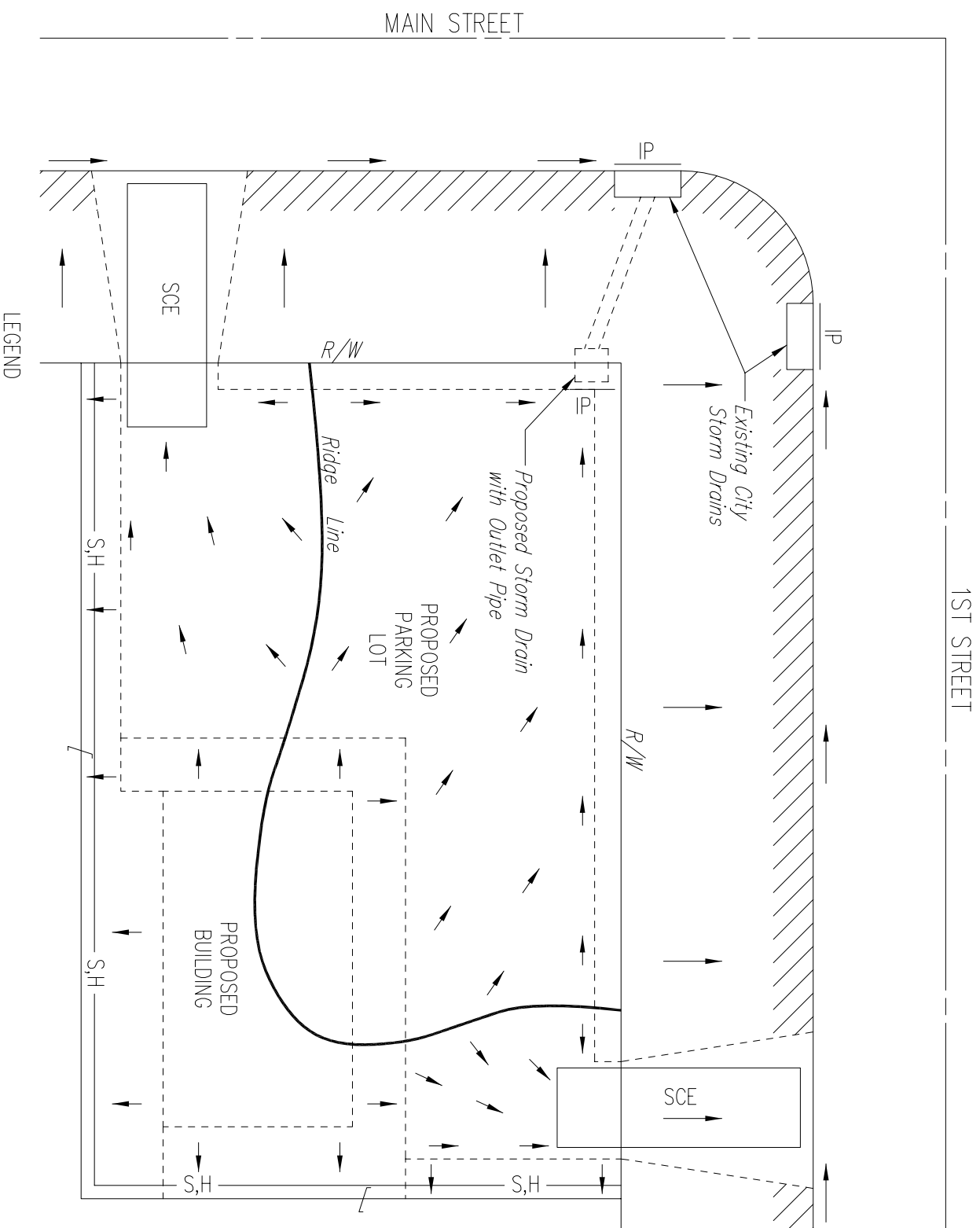
- LEGEND**
- = #4 REBAR W/ "BAUGHMAN" CAP (FOUND)
 - = #4 REBAR W/ "BAUGHMAN" CAP (SET)
 - = 1 1/4" IRON PIPE (FOUND)
 - △ = 1/2" IRON PIPE IN THIMBLE (FOUND)
 - (M) = MEASURED
 - (P) = PLATTED
 - CB = Catch Basin
 - FH = Fire Hydrant
 - G = Guy Anchor
 - △-FOM = Fiber Optic Marker
 - PP = Power Pole
 - SSMH = Sanitary Sewer Manhole
 - SWSMH = Stormwater Sewer Manhole
 - = 18"x24" Area Inlet for Soccer Field (by others)
 - = Existing Spot Elevation
 - = Proposed Spot Elevation for Soccer Field (by others)
 - = Existing Tree
 - = Gas Line
 - = Electric Line
 - = Sanitary Sewer Line
 - = Stormwater Sewer Line
 - = Telephone Line
 - = Water Line
 - - - - - = Existing Contour
 - - - - - = Proposed Contour for Soccer Field (by others)
 - - - - - = Proposed Contour (Parking Lot)
 - - - - - = Proposed 4" Perforated Drain Tube for Soccer Field (by others)

Revised by City of Wichita 8/14/03

PAVEMENT MARKING PLAN FOR 37TH & OHIO PARKING LOT WICHITA, SEDGWICK CO., KANSAS
PROJ. NO.: 20031014

CERTIFIED ENGINEERING DESIGN, P.A.
810 WEST DOUGLAS, SUITE C
WICHITA, KANSAS 67203
PH.(316)262-8808 FAX.(316)262-1669

DESIGNED: HDF SCALE: 1"=30' SHEET 7
DRAWN: DPJ DATE: 4/03
CHECKED: HDF CED FILE: 37TH&OHIO_BASE TOTAL 11



1ST STREET

MAIN STREET

LEGEND

- Flow Direction
- IP Inlet Protection – to be provided at all inlets subject to silt laden runoff.
- S,H – Silt Fence or Hay Bale Barrier – to be installed along property lines where runoff from construction site can run onto other properties.
- SCE Stabilized Construction Entrance – to be used at all locations where vehicles or equipment enter or exit property.
- Back of Curb Protection – to be installed whenever curb is backfilled to less than 3 inches from top and disturbed earth exists adjacent thereto. (See City Standard Details.)

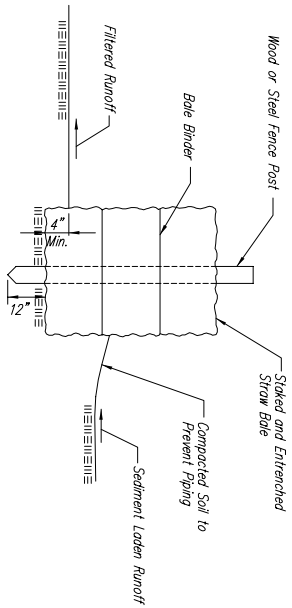
General Notes

1. This standard detail sheet is a part of your building permit. The BMP's shown on this sheet are considered minimum standards. Whenever sediment enters the streets, storm sewers, ditches, or ponds, contractor will install additional BMP's, as needed, to correct the problem.
2. Follow these general principals on all commercial building sides.
3. The soil erosion BMP's shown hereon must be in place at all times during construction until such time as the site is re-established with paving or grass.
4. Failure to install, protect, and maintain BMP's are violations of Section 16.32 of the City Code and will subject the contractor to the penalties provided therein. Included with your permit is an orange "notice" sign that must be posted on-site in a conspicuous place at all times during construction. This sign is provided to assist you in the maintenance of BMP'S.
5. Back of Curb Protection: Can include hay bale, silt fence, or Curlex barrier, as shown on City BMP standard details. This BMP must remain in place until the area between the curb and right-of-way line has been permanently stabilized.
6. The General Contractor is responsible for the installation and maintenance of all BMP's.
7. Should the site abut a lake, BMP's will be installed to prevent sediment from entering the lake.
8. Any mud inadvertently tracked onto any street will be cleaned up by the general contractor at the end of each day's work.



**SOIL EROSION BMP'S
 COMMERCIAL
 DEVELOPMENT SITES**

CHRISTOPHER M. CARRIER, P.E.
 STORM WATER ENGINEER



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.

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.

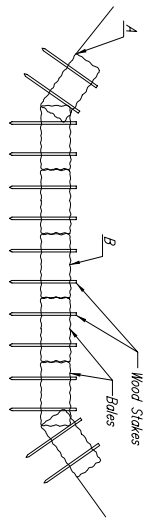
Proper installation method:
 Excavate a trench the length of the planned slope barrier that is 4" deep and a bale's width wide. Make sure that the trench is excavated along a single contour. When practicable, slope barriers should be placed along contours to avoid a concentration of flow. Place the soil 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?

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.
 Option: The downstream scour apron should be constructed of a double-netted straw apron. The apron of least width.
 Option: 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.
 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:

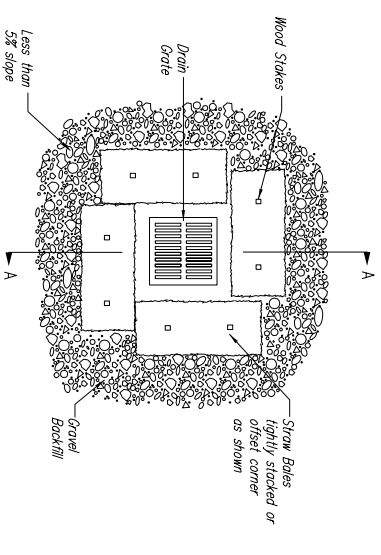
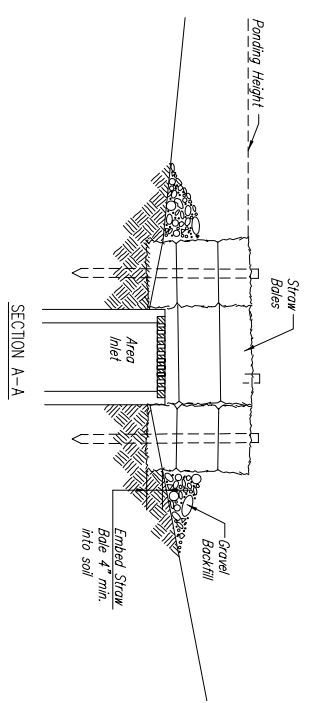
Ditch Grade (%)	Check Spacing (feet)
0.5	200
1.0	100
2.0	65
3.0	50
4.0	40
5.0	30
6.0	20

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.
 Option: 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 remainder of the blanket perpendicular to the flowline of the ditch.
 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. Two stakes should be driven through each bale along the centerline of the ditch, 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?



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.

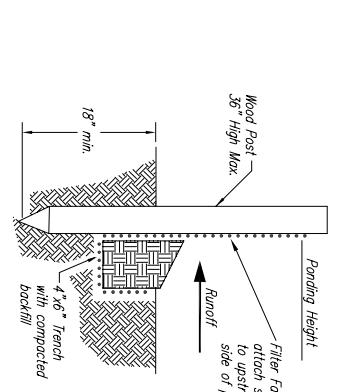
Placement:
 Bale area inlet barriers should be placed directly around the perimeter of a drain inlet. When a bale area inlet barrier is located near an inlet that has steep approach slopes, the storage capacity behind the barrier is drastically reduced. Timely removal of sediment must occur for a barrier 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 facing 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?



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 exposure of silt fence upslope of the trench to clear an area for driving in the posts. 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:

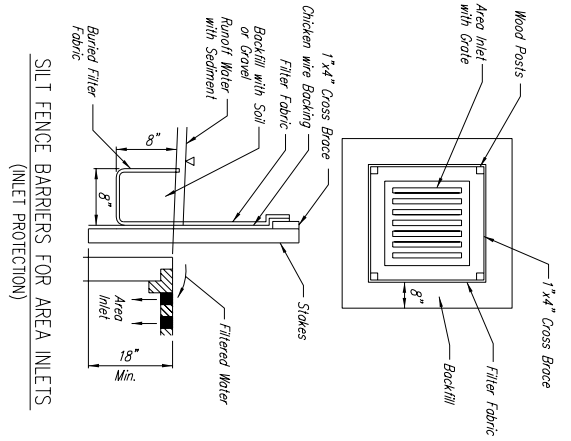
- Are there any points along the slope barrier where water is concentrating?
- Does water flow under the slope barrier?
- Does the silt fences sag excessively?
- Has the silt fence torn or become detached from the posts?
- Does sediment need to be removed from behind the slope barrier?



CITY OF WICHITA

**SOIL EROSION
 BMP DETAILS**

CHRISTOPHER M. CARRIER, P.E.	
STORM WATER ENGINEER	
PROJECT NUMBER: 473-83738	CSA NO. 785039
DAT: MAY 2001	SHEET 10 OF 11



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.

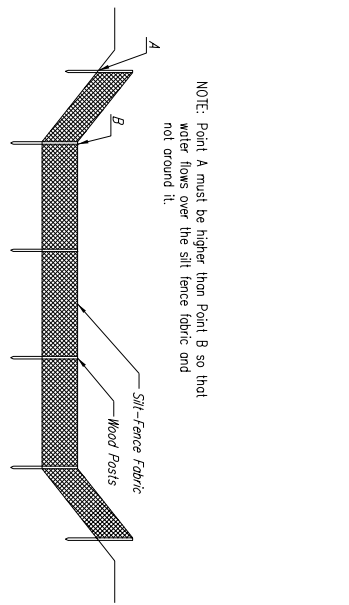
Placement:
 Place a silt fence top inlet barrier in a location where it is unlikely to be overlapped. Water should flow through silt fence, not over it. Silt fence barriers for area inlets often fail when repeatedly overlapped. When used as a barrier for area inlets, silt fence fabric and posts must 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.

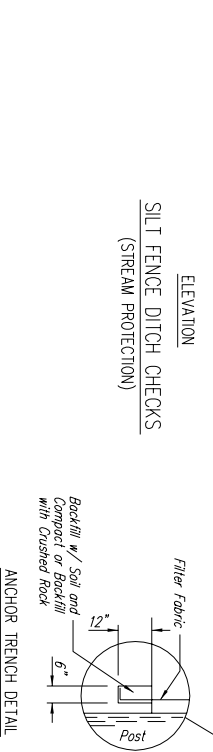
Note: When a silt fence barrier for area inlet is placed in a shallow median ditch, make sure that the top of the barrier is not higher than the paved road. In this configuration, water may spread onto the roadway causing a hazardous condition.

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 overlapped. Silt fence barrier for area inlets often fail when repeatedly overlapped. 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 forming 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 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.

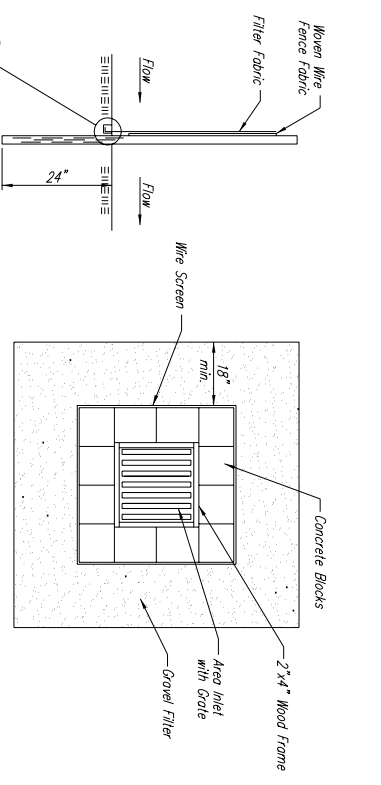
Placement:
 Place silt fence in ditches where it is unlikely that it will be overlapped. Water should flow through a silt fence ditch check, not over it. Silt fence ditch checks often fail when repeatedly overlapped. The silt fence should extend far enough so that the ground level of the ends of the fence is higher than the top of the low point of the ditch. This prevents water from flowing around the check. 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 Grade (%)	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 overlapped. Silt fence installations quickly deteriorate when they are overlapped. 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 resisted 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 of 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.



CONCRETE BLOCK FILTER FOR AREA DRAIN
(INLET PROTECTION)

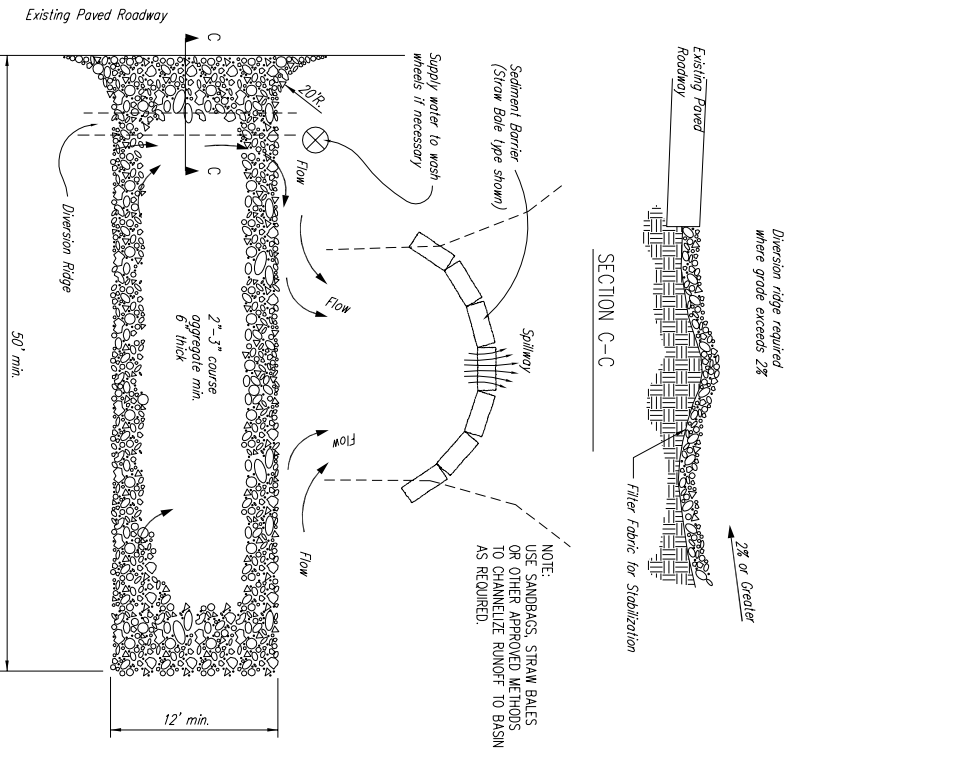
Gravel barriers provide little filtering of large inflow waters. However, when installed correctly and maintained, they can effectively treat low runoff flows. Placement of gravel filters around area drains must be completed in a manner that will not cause local flooding. Gravel filters can be used if the immediate and adjacent area to the area drain consists of soil or pavement. Only gravel filters are to be installed on top of the pavement.

Instructions for installing:
 STEP 1: Place concrete blocks around the grate. The blocks can be stacked one or two high and should be supported by a 2"x4" board.
 STEP 2: Wrap 1/2" mesh wire screen around the concrete blocks.
 STEP 3: Place 1" to 1-1/2" diameter rock around the blocks and wire screen. Be sure the rock extends down from the top of the concrete block.
 STEP 4: To prevent damage to vehicles, signs warning drivers about the structures may be necessary.

An alternative method is use of gravel bags that are supported to prevent collapsing.

Use of rock having diameters smaller than 1" may result in clogging of pores and reduce the amount of water flowing into an inlet.

Maintenance:
 All gravel filters installed around area drains should be inspected and repaired after each runoff event. Sediment should be removed when material is within 3" of the top of any rock. Periodically, the gravel should be raked to increase infiltration and filtering of runoff waters. Accumulated sediment is to be removed immediately from roads and streets after every runoff event.



STABILIZED CONSTRUCTION ENTRANCE

- 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 DRESSINGS, REPAIR AND/OR CLEANOUT OF ANY MESHES 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 BARRIERS 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.

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 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?

**SOIL EROSION
 BMP DETAILS**

WICHITA

CHRISTOPHER M. CARRIER, P.E.
 STORM WATER ENGINEER

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