STORM WATER DRAIN # 221

to serve

NORTHRIDGE PLAZA ADDITION

CITY OF WICHITA, KANSAS

Neil Cable, P.E. City Engineer

Project Number

468-83739

OCA Number

751357

GENERAL NOTES:

1. Contractor will be required to provide notice to utility companies a minimum of twenty-four (24) hours prior to any excavation, as follows:

Kansas One-Call	687-2470

The Contractor must notify the following in case of an emergency:

Cox Communications	262-4270
Konsas Gas Service	1-888-482-4950
Westar Energy	383-8650
Aquila Energy	1-800-303-0357
SBC	268-2245
City of Wichita Water Dept.	268-4583
City of Wichita Sewer Maint.	268-4024
City of Wichita Storm Sewer Maint.	268-4090
City of Wichita Traffic Maint.	268-4034
Conoco Pipeline Co.	1-800-231-2551
Southern Star Pipeline Co.	529-6600
Phillips Pipeline Co.	1-800-766-8230

2. Overhead and underground utility service lines, utility poles, valve boxes, meters, etc. 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 Contractor will be required to work around existing utilities within the right-of-way which do not conflict with proposed construction.

3. Trees and shrubs in public right-of-way which are in direct conflict with proposed new construction shall be removed by the Contractor with the Engineer's approval. Trees and shrubs which are not in direct conflict with proposed new construction shall be saved and protected from damage.

4. The Contractor shall be responsible for preserving property irons. The Contractor will be required to re-establish any property irons which are damaged or destroyed by his construction operations. Such irons shall be reestablished by a licensed land surveyor in accordance with state laws.

5. All areas disturbed during construction shall be seeded as necessary.

6. Rubble from the removal of miscellaneous structures and excess excavation which is to be wasted shall be disposed of on sites to be provided by the Contractor. These sites shall be approved by the Engineer as to suitability, appearance and site location. Locations, in the opinion of the Engineer, that will leave an unsightly appearance will not be approved. All disposal sites must be approved by the Kansas Department of Health and Environment. Material either stockpiled or disposed of in a flood plain would require a Kansas State Board of Agriculture permit. Any material dumped in waters of the United States or wetlands is subject to U.S. Corps. of Engineers permitting regulations. Any material buried or stockpiled beyond approved construction limits would require additional archaeological investigations unless buried in a previously approved borrow location.

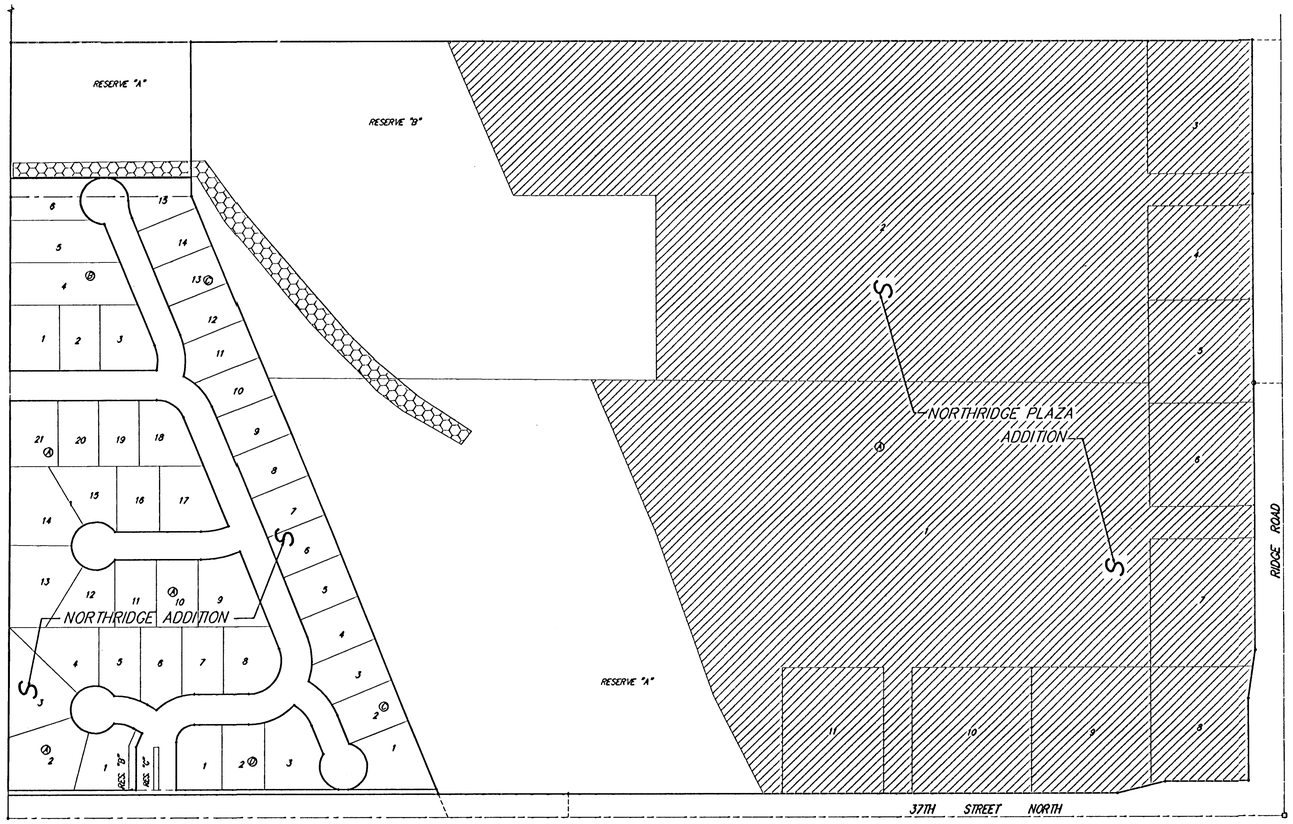
7. All existing and proposed erosion control measures including silt fencing, erosion control mat, straw bales, inlet barriers, and const. entrance shall be maintained throughout construction by the contractor and until project is accepted by the City of Wichita. The on-site engineer shall complete weekly reports on the status of erosion control measures. The contractor shall be required to comply with maintenance and/or replacement of erosion control measures as determined by the on-site engineer until project is accepted by City of Wichita. Maintenance and/or replacement of erosion control measures to be paid by L.S. bid item "Erosion Control BMP's."

8. All BMP plantings shown on Section A, Sheet 3 shall be maintained throughout construction by the contractor and until project is accepted by the City of Wichita. The on-site engineer shall complete weekly reports on the status of these plantings. The contractor shall be required to comply with maintenance and/or replacement of plantings as determined by the on-site engineer until project is accepted by City of Wichita. Maintenance and/or replacement BMPs to be paid by L.S. bid item "Wetlands Mitigation."

9. This project shall be coordinated with Steve Martens and the lake excavation/mass grading project being performed privately.

10. Scope of work under this contract shall consist of the following. Location and limits of the work are indicated on the plan sheet and the sections and details sheets.
    - Channel Excavation
    - Silt Fence
    - Ditch Checks
    - Topsoil Placement & Seeding on pond side slopes
    - Wetlands Mitigation
    - Site Clearing & Restoration

11. Contractor shall remove the top 12" of the existing channel bottom and stockpile it for use as the 12" bedding material for the sides and bottom of the newly aligned channel.

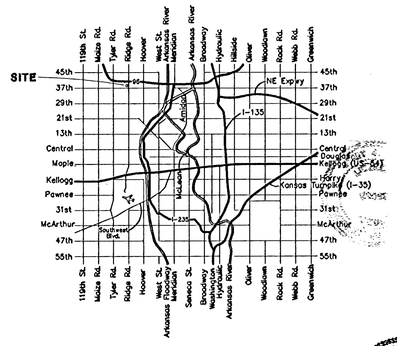


• = IRON

BENCHMARK:
"□" ON HUBGUARD OF R.C.B.C.,
73' W. OF SE COR., SE1/4, SEC. 28,
TWP. 26-S, R-1-W
ELEV. = 1331.52 M.S.L. (144.12 CITY DATUM)

Sheet Index

Cover Sheet	1
Storm Water Plan	2
Sections & Details	3
Staking Plan	4
Soil Erosion BMP Details	5 - 7
Soil Erosion BMPs Subdivision Development Process	8
Copy of Plat	9



Vicinity Map

Benefit District: ▨

Area of Channel Improvements: ▨

LARRY J. OYER
LICENSED
12017
1-21-04
KANSAS
PROFESSIONAL ENGINEER

As Built 10/18/04 KK

BAUGHMAN COMPANY P.A.
ENGINEERING, SURVEYING, & PLANNING
316-262-7271 • 315 ELLIS • WICHITA, KANSAS 67211

NW COR., S1/2, S1/2, N1/2, SE1/4, SEC. 28, TWP. 28-S, R-1-W

NE COR., S1/2, S1/2, N1/2, SE1/4, SEC. 28, TWP. 28-S, R-1-W

SW COR., SE1/4, SEC. 28, TWP. 28-S, R-1-W

SE COR., SE1/4, SEC. 28, TWP. 28-S, R-1-W

Limits of Section A & Detail 1, see Sheet 3

See Channel Staking Plan, Sheet 4

Excavate the top 12" of the channel bottom of the existing meandering channel between the limits shown and stockpile this material in a location approved by the Engineer.

Stockpiled channel material shall be placed as the 12" thick bedding material of the newly aligned channel (see Section A, sheet 3).

Limits of existing channel re-alignment

Relocate bedding material from old stream bed and place it as the surface material on the new channel alignment.

Re-align existing channel (to new location), see Sect. A & Det. 1, Sheet 3

Install 1,300 L.F. Silt Fence, See Typical Detail Sheet 5

Install 200 L.F. straw bale ditch check, see detail on sheet 5

Remove trees only in direct conflict with construction

Re-align existing channel as shown on section A, Sheet 3

Limits of existing channel re-alignment

Limits of Section A & Detail 1, see Sheet 3

Contractor shall place topsoil on pond side slopes from 3' beyond the top of slope to the static WS elevation, see Section C, Sheet 3. Sideslope topsoil placement is estimated to be 25' wide throughout the entire length of the two pond perimeters. Contractor shall provide additional topsoil as required. No additional payment shall be made for shrink/swell of the available material. Topsoil is to be taken from existing stockpile(s), left by Fremar Corporation, on this property. Contractor shall also seed this same 25' width for the entire length of the two pond perimeters, see Section G, Sheet 3.

GRADING OF NORTHRIDGE PLAZA ADDITION BY OTHERS

EXCAVATION OF POND BY OTHERS

FILL TO ELEVATION 1334.0 MSL

FILL TO ELEVATION 1333.0 MSL

NORTHRIDGE PLAZA ADDITION

NORTHRIDGE ADDITION

HAVENHURST

LAKECREST CT.

LAKECREST

RIDGE ROAD

37TH STREET NORTH

RESERVE "A"

RESERVE "B"

Proposed 15" SS Main

Existing 18" SS Main

100-yr Floodplain Boundary

Floodway Boundary

N. LINE, S1/2, SE1/4, SEC. 28, TWP. 28-S, R-1-W

50' R/W

60' R/W

0 100 200

SCALE: 1" = 100'

BENCHMARK:
"D" ON HUBGUARD OF R.C.B.C., 73' W. OF SE COR., SE1/4, SEC. 28, TWP. 28-S, R-1-W
ELEV. = 1331.52 M.S.L. (144.12 CITY DATUM)

LEGEND

- SILT FENCE
- WATER LINE
- SOUTHWESTERN BELL
- GAS LINE
- CABLE T.V.
- FENCE
- ELECTRIC LINE
- SANITARY SEWER
- PROPOSED GRADE (BY OTHERS)
- EXISTING GRADE
- CHANNEL MODIFICATION

QUANTITIES

ITEM	AMOUNT	UNIT
New Channel Excavation	3,300	c.y.
Silt Fence	1,300	l.f.
Ditch Checks	200	l.f.
Wetlands Mitigation	1	L.S.
Site Clearing & Restoration	1	L.S.
Old Channel Topsoil Excavation & Placement on New Channel	1	L.S.
Signs	2	ea.
Topsoil Placement on Pond Embankments	5,000	c.y.
Seeding on Pond Embankments	3.5	ac.

NOTES:

1. Scope of work under this contract indicated by bold lines and notes on this sheet and as defined on the sections and detail sheets.
2. Place material from topsoil stockpile (by separate contract) on pond embankment slopes as indicated on this plan sheet and the sections and details sheet.
3. Pond embankment slopes to be seeded as stated in note 6 per the location and limits indicated on the drawings.
4. Compaction to 95% Standard Proctor shall be obtained in all fill areas.
5. It shall be the Contractor's responsibility to protect all existing utilities during the work. Any damage done to these systems by Contractor or subcontractor shall be repaired at no additional cost to the project.
6. Except for special plantings otherwise noted, all other disturbed areas are to be seeded as follows: (Permanent Seeding)
   SEED -- Rye grass (PLS)--3#/1000 Sq. Ft. and Kansas Premium Fescue Blend; 3#/1000 Sq. Ft.
7. Construction traffic shall not operate in areas where access is not allowed according to the applicable project permits.

GARY L. DYCK LICENSED 13517 1-21-04 KANSAS PROFESSIONAL ENGINEER

NORTHRIDGE PLAZA ADDITION

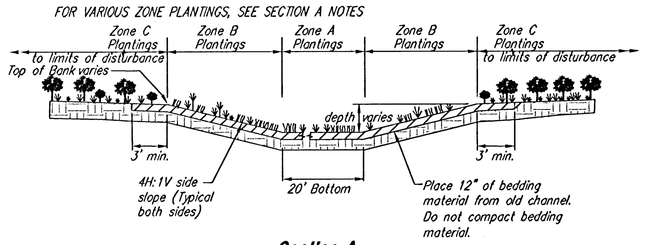
STORM WATER DRAIN PLAN

WICHITA, KANSAS

BAUGHMAN COMPANY P.A.
ENGINEERING, SURVEYING, & PLANNING
316-262-7271 • 315 ELLIS • WICHITA, KANSAS 67211

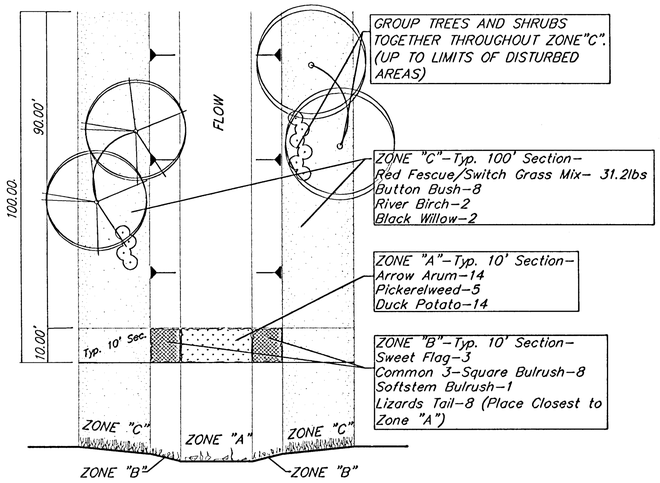
PROJECT NUMBER	SHEET
466 - 83739	2 OF 9

DESIGN	DRAWN	APPROVED	DATE	SCALE
JMD	JMD	NBW	01/21/04	Noted



Section A
No Scale
See Sheet 2

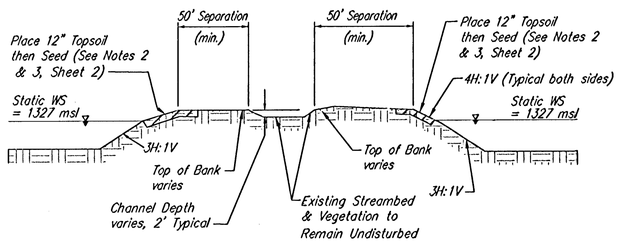
SECTION A NOTES:
1. Install BMP plantings or approved equals in the re-aligned channel.
2. Zone A plantings shall consist of Duck Potato, Pickerelweed, and Arrow Alum.
3. Zone B plantings shall consist of Common 3-Square, Softstem Bulrush, Lizards Tail, and Sweet Flag.
4. Zone C plantings shall consist of Switchgrass over Red Fescue, Button Bush, River Birch, and Black Willow.
5. For planting frequency, see Detail 1 this sheet.
6. For total plant quantities, see Plant Schedule this sheet.



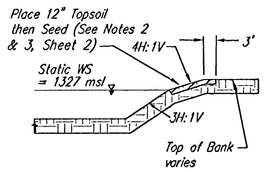
Detail 1
No Scale
See Sheet 2

PLANT SCHEDULE

QTY	BOTANICAL NAME	COMMON NAME	SIZE
	Zone A- Bottom Plantings		
1700	Peltandra virginica	Arrow Arum	QT./ 4 IN.
640	Pontederia cordata	Pickerelweed	QT./ 4 IN.
2000	Safittoria latifolia	Duck Potato	QT./ 4 IN.
	Zone B- Side Slopes		
408	Acorus americana	Sweet Flag	QT./ 4 IN.
1122	Scirpus americanus	Common 3-Square Bulrush	QT./ 4 IN.
204	Scirpus validus	Softstem Bulrush	QT./ 4 IN.
1122	Saururus cernuus	Lizards Tail	QT./ 4 IN.
	Zone C- Top of Bank to Limits of Disturbance		
374.4	Festuca rubra/ Panicum virgatum	Red Fescue/ Switch Grass Mix	lbs
100	Cephalanthus occidentalis L.	Button Bush	2-Gal.
20	Betula nigra	River Birch	2 1/2" Col.
20	Salix nigra	Black Willow	10 Col.



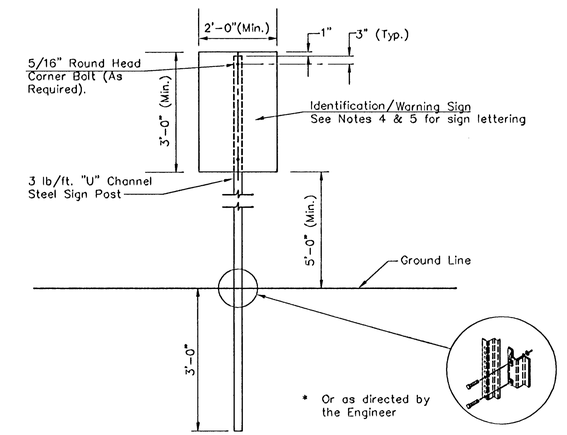
Section B
No Scale
See Sheet 2



Section C
No Scale
See Sheet 2

DETAIL 2 NOTES;

1. REFERENCES BELOW TO "STANDARD SPECIFICATIONS" DENOTE "STANDARD SPECIFICATION FOR STATE ROAD AND BRIDGE CONSTRUCTION EDITION 1990" BY THE KANSAS DEPARTMENT OF TRANSPORTATION.
2. POSTS FOR TRAFFIC CONTROL SIGNS: POSTS SHALL CONFORM TO THE REQUIREMENTS OF SUBSECTION 1620 OF THE STANDARD SPECIFICATIONS EXCEPT THAT ALL POSTS SHALL WEIGH 3 LBS./FOOT MINIMUM.
3. SIGN BLANKS FOR TRAFFIC CONTROL SIGNS: SIGN BLANKS SHALL BE FABRICATED FROM 0.080" ALUMINUM ALLOY 6063-T6 CONFORMING TO THE REQUIREMENTS OF SUBSECTION 1626 OF THE STANDARD SPECIFICATIONS.
4. PROCESS INK: ALL PROCESS INK SHALL CONFORM TO THE REQUIREMENTS OF SUBSECTION 2202 OF THE STANDARD SPECIFICATIONS.
5. THE SIGNS SHALL READ: "GROUNDWATER PIT EXCAVATION: UNAUTHORIZED DUMPING OR DISCHARGES INTO THIS PIT ARE PROHIBITED TO PREVENT CONTAMINATION OF EQUUS BEDS AQUIFER. VIOLATORS SHALL BE PROSECUTED TO THE FULL EXTENT OF THE LAW."



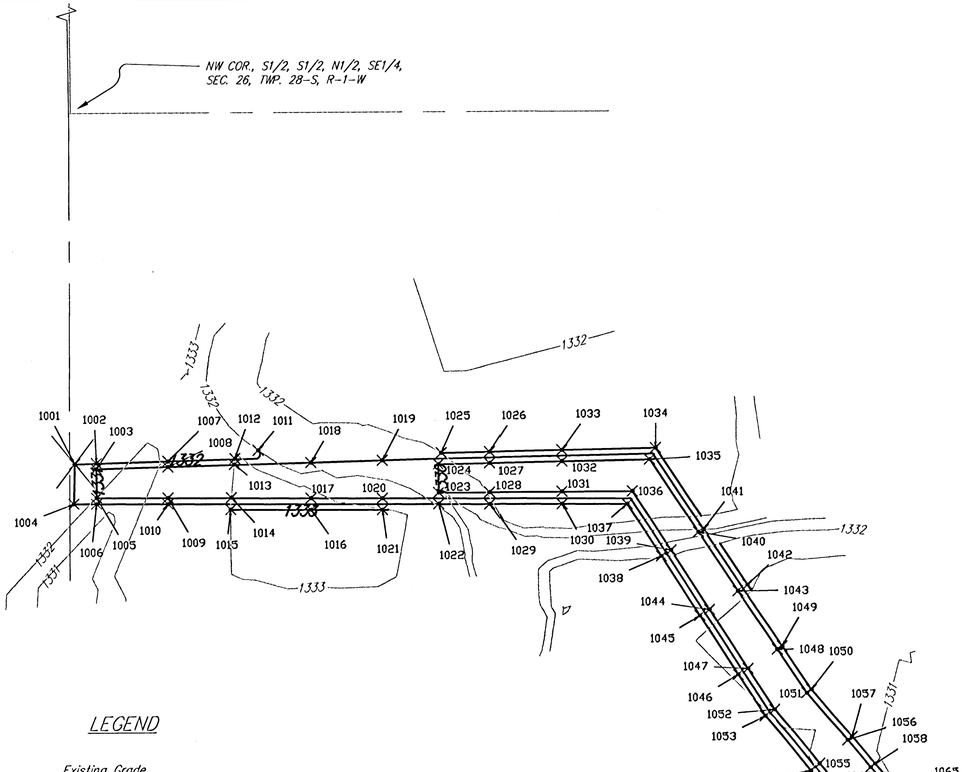
Detail 2 - Equus Beds Identification Sign
No Scale
See Sheet 2
See Detail 2 Notes

NORTHRIDGE PLAZA ADDITION
SECTIONS & DETAILS
WICHITA, KANSAS

BAUGHMAN COMPANY P.A.
ENGINEERING, SURVEYING, & PLANNING
316-262-7271 * 315 ELLIS * WICHITA, KANSAS 67211

PROJECT NUMBER	SHEET
488-83739	3 OF 9

DESIGN	DRAWN	APPROVED	DATE	SCALE
JJD	JJD	NBW	01/21/04	Noted



LEGEND

Existing Grade

Channel Modification

Staking Points

Channel Modification Staking Plan

Scale: 1" = 50'

See Sheet 2

Point	NORTHING	EASTING	ELEVATION
1001	11398.7611	7339.2903	1332.0
1002	11399.1335	7354.6010	1332.0
1003	11395.1514	7354.3992	1331.0
1004	11370.5837	7338.6366	1332.0
1005	11374.8133	7354.6010	1331.0
1006	11370.4463	7354.6010	1332.0
1007	11400.3700	7404.6000	1332.0
1008	11396.4132	7404.6000	1331.0
1009	11374.5093	7404.6000	1331.0
1010	11370.1990	7404.6000	1332.0
1011	11407.7881	7467.7080	1332.0
1012	11402.0200	7451.4128	1332.0
1013	11397.8407	7450.9956	1331.0
1014	11374.5647	7448.8503	1331.0
1015	11365.9926	7448.3734	1333.0
1016	11365.5938	7504.5982	1333.0
1017	11373.9012	7504.5982	1331.0
1018	11398.9742	7504.5982	1331.0
1019	11400.2918	7554.5973	1331.0
1020	11373.5973	7554.5973	1331.0
1021	11365.3898	7554.5973	1333.0
1022	11369.2895	7593.9893	1332.0
1023	11377.3572	7593.9893	1330.0
1024	11397.3562	7593.7909	1330.0
1025	11405.3270	7595.8182	1332.0
1026	11405.9437	7629.5959	1332.0
1027	11397.9709	7629.5959	1330.0
1028	11377.4696	7629.5959	1330.0
1029	11368.9791	7629.5959	1332.0
1030	11368.7720	7679.5950	1332.0
1031	11377.5731	7679.5950	1330.0
1032	11398.9028	7679.5950	1330.0
1033	11406.7720	7679.5950	1332.0
1034	11408.0695	7745.1179	1332.0
1035	11399.9918	7740.8519	1330.0
1036	11377.6161	7728.8055	1330.0
1037	11368.5608	7725.0746	1332.0
1038	11331.1052	7748.8239	1332.0
1039	11335.3892	7755.5802	1330.0
1040	11348.0981	7774.9321	1330.0
1041	11349.9579	7778.4961	1331.0
1042	11310.7018	7809.0623	1332.0
1043	11306.3103	7802.3754	1330.0
1044	11293.1622	7782.3550	1330.0
1045	11288.8783	7775.5987	1332.0
1046	11246.6512	7802.3732	1332.0
1047	11250.9352	7809.1295	1330.0
1048	11264.5224	7829.8186	1330.0
1049	11266.7181	7833.1620	1331.0
1050	11235.7500	7853.4998	1331.0
1051	11233.3659	7850.2800	1330.0
1052	11221.5919	7827.7414	1330.0
1053	11216.9173	7821.2263	1332.0
1054	11177.6140	7852.8576	1332.0
1055	11182.6294	7859.0895	1330.0
1056	11199.0383	7878.8237	1330.0
1057	11201.5957	7881.8993	1331.0
1058	11182.3750	7897.8808	1331.0
1059	11179.8176	7894.8052	1330.0
1060	11163.1534	7874.7639	1330.0

Point	NORTHING	EASTING	ELEVATION
1061	11158.1377	7868.5315	1332.0
1062	11121.6934	7902.9962	1331.0
1063	11124.2012	7906.1123	1330.0
1064	11141.3769	7926.7688	1330.0
1065	11144.8140	7928.8987	1331.0
1066	11107.8464	7960.3975	1331.0
1067	11104.7229	7957.4371	1330.0
1068	11085.0757	7937.2430	1330.0
1069	11082.8526	7933.8942	1331.0
1070	11065.4955	7947.6134	1331.0
1071	11071.4747	7953.6804	1329.0
1072	11084.1383	7969.1605	1329.0
1073	11091.1799	7976.5315	1331.0
1074	11073.9364	7998.8626	1332.0
1075	11059.6450	8012.6480	1332.0
1076	11050.1431	8003.0841	1329.0
1077	11035.6693	7988.5798	1329.0
1078	11029.8840	7982.7096	1331.0
1079	10994.2725	8017.8052	1331.0
1080	10999.8639	8023.4793	1329.0
1081	11014.7529	8038.3998	1329.0
1082	11024.2238	8047.9331	1332.0
1083	10979.3840	8092.6035	1332.0
1084	10988.8036	8083.2173	1332.0
1085	10979.3639	8073.7143	1329.0
1086	10963.9287	8058.2405	1329.0
1087	10958.6612	8052.9018	1331.0
1088	10923.1397	8087.9234	1331.0
1089	10928.3433	8093.2034	1329.0
1090	10944.0630	8108.9562	1329.0
1091	10950.6497	8115.5948	1331.0
1092	10915.5941	8150.8732	1331.0
1093	10909.2544	8145.4351	1329.0
1094	10893.9081	8129.9735	1329.0
1095	10887.5903	8123.9827	1331.0
1096	10874.9025	8124.1699	1332.0
1097	10904.6043	8090.9465	1332.0
1098	10870.4115	8142.0993	1331.0
1099	10877.6691	8148.9813	1329.0
1100	10894.2675	8160.5071	1329.0
1101	10901.5787	8165.8416	1331.0
1102	10902.7312	8172.5457	1331.0
1103	10904.0778	8188.2082	1329.0
1104	10897.3854	8183.7743	1330.0
1105	10889.4985	8181.9597	1330.0
1106	10885.1608	8185.5340	1329.0
1107	10863.6672	8169.6923	1329.0
1108	10855.4296	8164.0230	1331.0
1109	10848.0504	8161.6224	1332.0
1110	10823.0044	8206.4224	1332.0
1111	10826.0619	8211.2355	1331.0
1112	10830.4418	8213.6473	1330.0
1113	10834.8433	8216.0710	1329.0
1114	10811.3523	8259.8920	1329.0
1115	10806.4603	8257.1982	1330.0
1116	10802.1542	8254.4292	1331.0
1117	10765.2836	8241.9033	1332.0
1118	10781.0797	8283.1265	1331.0
1119	10788.4091	8294.0331	1330.0
1120	10799.0170	8285.7183	1329.0

JERRY J. DYCK
LICENSED
12417
1-21-04
KANSAS
PROFESSIONAL ENGINEER

NORTHRIDGE PLAZA ADDITION

STAKING PLAN

WICHITA, KANSAS

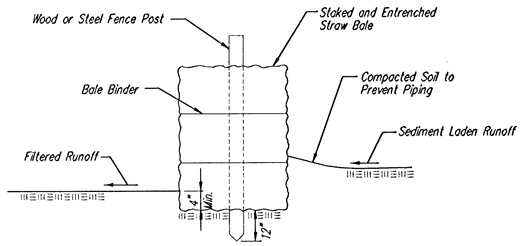
BAUGHMAN COMPANY P.A.

ENGINEERING, SURVEYING, & PLANNING

316-262-7271 • 315 ELLIS • WICHITA, KANSAS 67211

PROJECT NUMBER	SHEET
468-83739	4 OF 9

DESIGN	DRAWN	APPROVED	DATE	SCALE
JJD	JJD	NBW	01/21/04	Noted



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:

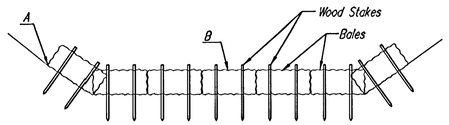
When practicable, do not place bale slope barriers across contours. Slope barriers should be placed along contours to avoid a concentration of flow. Concentrated flow over a slope barrier creates a scour hole on the downslope side of the barrier. The scour hole eventually undermines the bales and the 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.
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.
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".

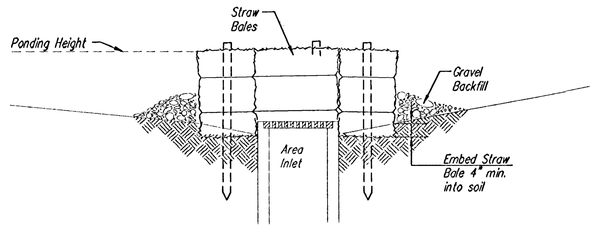
List of common placement/installation mistakes to avoid:

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.

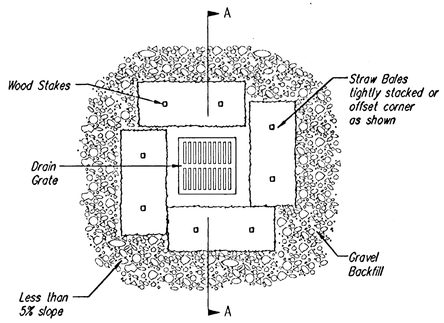
Inspection and Maintenance:

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.

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.

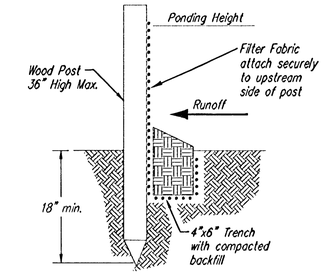
List of common placement installation mistakes to avoid:

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 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

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, ilails, 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?

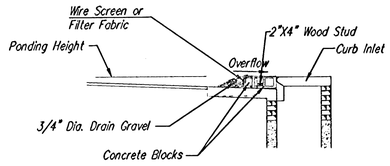
CITY OF WICHITA

SOIL EROSION BMP DETAILS (1)

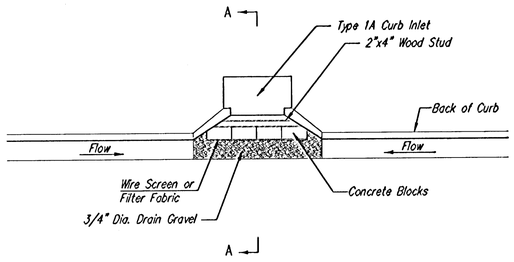
CHRISTOPHER M. CARRIER, P.E.
STORM WATER ENGINEER

PROJECT NUMBER

DATE
JAN 2004



SECTION A-A



CURB INLET GRAVEL FILTERS
(INLET PROTECTION-RESIDENTIAL STREETS ONLY)

NOTE: Other types of curb inlet protection may be approved by the city so long as equal protection is provided.

A gravel inlet filter shall be installed at sump locations on residential streets. This type of protection is not to be used on arterial or collector streets at any time that it would pose an undue traffic hazard.

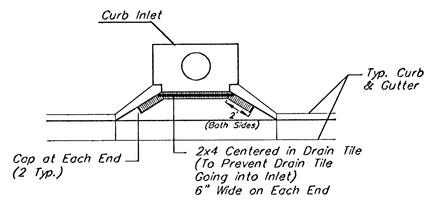
Instructions for Installing:

STEP 1: Place concrete blocks around the inlet as shown on drawing. Insert 2x4 board as shown.
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 installation is the use of gravel bags supported by a 2"x4" board to prevent collapsing.

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

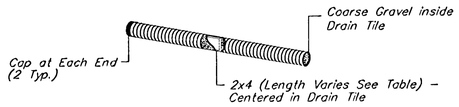
Maintenance:

All curb inlet gravel filters shall be inspected and repaired after each runoff event. Sediment deposits are to be removed once material is within 8 cm (3 inches) of the top of any block. Periodically, the gravel shall be raked to increase infiltration and filtering of runoff waters. Accumulated sediment is to be removed immediately from roads and streets.

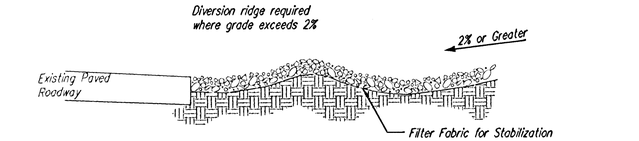


Note:
Place 4" perforated PVC pipe filled w/ 1/2"-1" Dia. gravel. Place pipe in front of Curb Inlet as Shown.

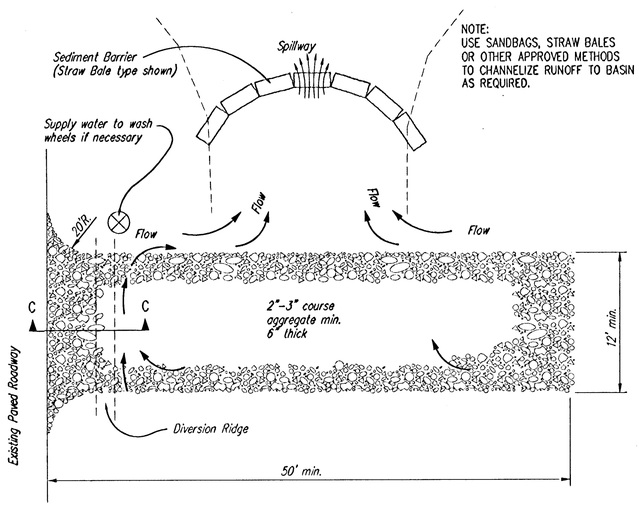
2x4 LENGTH	INLET TYPE	INLET OPENING
5'-6"	1-A	5'-0"
10'-6"	1-A	10'-0"
15'-6"	1-A	15'-0"



CURB INLET PROTECTION
4" Perforated Pipe w/ Gravel



SECTION C-C



STABILIZED CONSTRUCTION ENTRANCE

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.

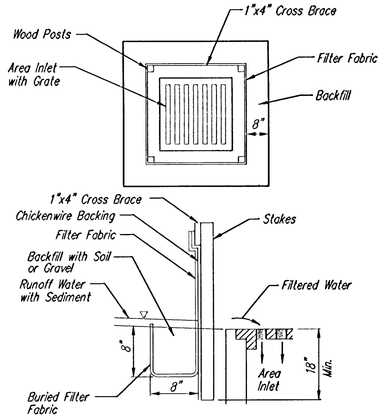
CITY OF WICHITA

SOIL EROSION
BMP DETAILS

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

PROJECT NUMBER

DATE
JAN 2004



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 barrierfor 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.

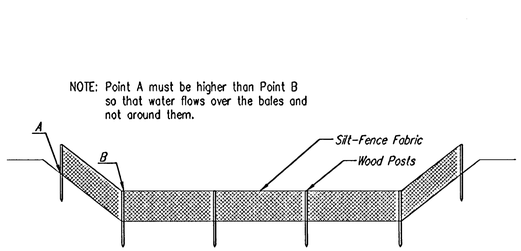
List of common placement/installation mistakes to avoid:

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:

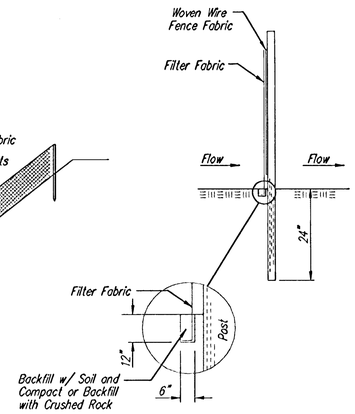
Silt fence barrier for area inlets should be inspected every 7 days and within 24 hours of a rainfall of 1/2" or more. The following is a list of questions that should be addressed during each inspection:

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?



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.
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:

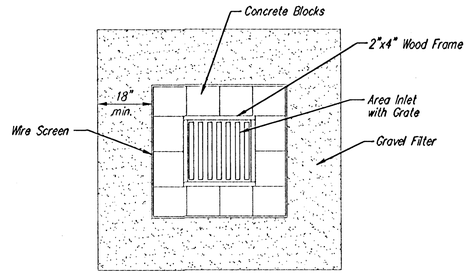
Ditch grade (%)	Check Spacing (feet)
0.5	200
1.0	200
2.0	100
3.0	65
4.0	50
5.0	40
6.0	30

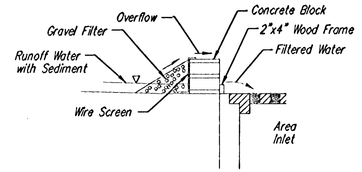
Proper installation method:

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.





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 block. 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.

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?

CITY OF WICHITA

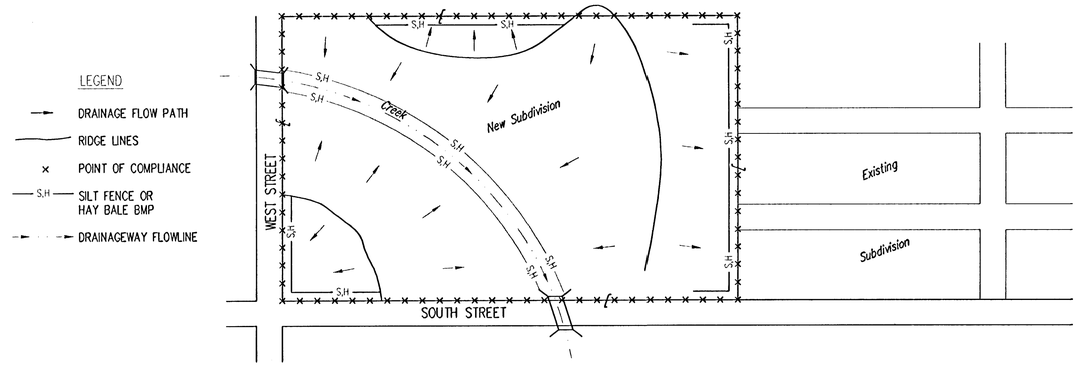
SOIL EROSION BMP DETAILS

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

PROJECT NUMBER

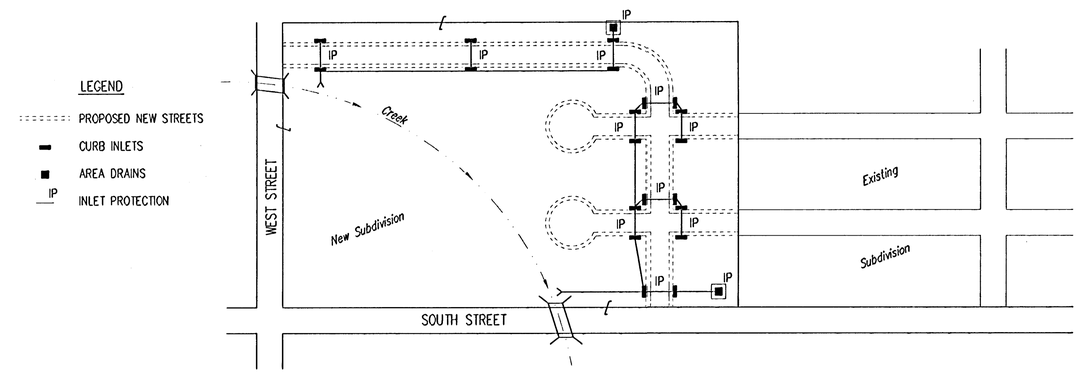
DATE
JAN 2004

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



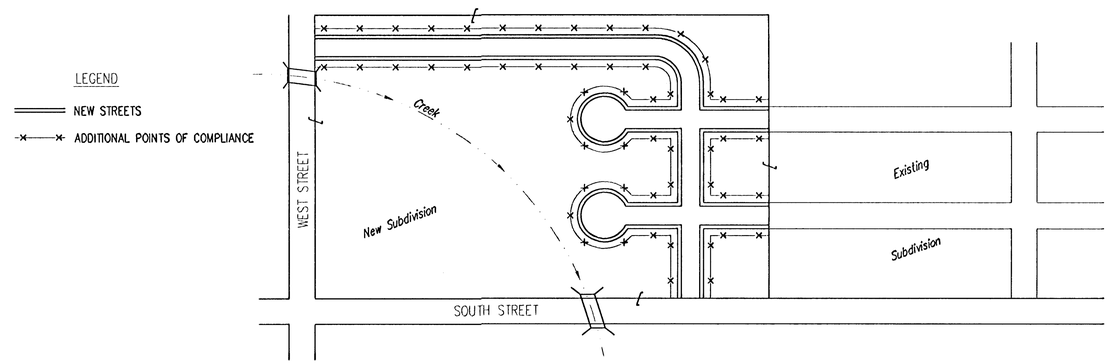
1. DURING THIS PHASE OF SUBDIVISION CONSTRUCTION, THE POINTS OF COMPLIANCE ARE THE PERIMETER BOUNDARIES AND ANY DRAINAGE WAYS OR STORM SEWERS DRAINING THROUGH OR FROM THE SITE. SHOULD LAKES BE CONSTRUCTED WITHIN THE SUBDIVISION THAT WILL DISCHARGE DURING STORMS, THEY ARE ALSO A POINT OF COMPLIANCE.
2. HAYBALES OR SILT FENCE MUST BE CONSTRUCTED ALONG THE PROPERTY LINE WHERE ON SITE WATER CAN DRAIN OFF THE PROPERTY. THESE BMP'S WILL ALSO BE INSTALLED ALONG ANY DRAINAGE DITCH OR LAKE THAT CAN DISCHARGE.
3. SHOULD SILT OR SEDIMENT ENTER THE DITCHES OR GUTTERLINES ON THE ADJACENT BOUNDRY STREETS, APPROPRIATE BMP'S WILL BE PLACED WITHIN THE SUBDIVISION TO PREVENT THIS.
4. ANY MUD TRACKED ONTO ADJACENT STREETS WILL BE REMOVED AT THE END OF EACH WORK DAY.
5. CONTRACTORS WORKING WITHIN THE SITE WILL NOT BE REQUIRED TO USE INDIVIDUAL BMP'S AS LONG AS THOSE SPECIFIED ABOVE ARE IN PLACE AND EFFECTIVE. CONTRACTORS WORKING ON THE BOUNDRY LINE STREETS OR ON ADJACENT PROPERTIES TO EXTEND UTILITIES ARE EXPECTED TO USE BMP'S AT THEIR WORK LOCATIONS, AS NEEDED.
6. UTILIZE STABILIZED CONSTRUCTION ENTRANCE AT ENTRANCE AND EXIT ONTO ANY EXISTING PUBLIC STREETS.
7. THE SUBDIVISION DEVELOPER (OWNER) SHALL INSTALL AND MAINTAIN THE ON-SITE BMP'S.

PHASE 2 – INSTALLATION OF STORM SEWER

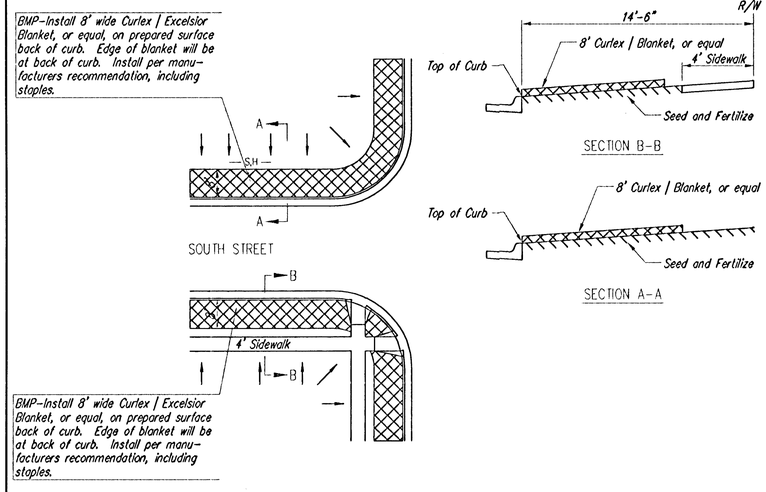


1. DURING THIS PHASE OF SUBDIVISION DEVELOPMENT, ALL BMP'S REQUIRED IN PHASE 1 SHALL REMAIN IN PLACE AND BE MAINTAINED.
2. AS NEW STORM SEWERS, WITH INLETS, ARE INSTALLED, THE STORM SEWERS MUST NOW BE PROTECTED SO ALL NEW INLETS BECOME POINTS OF COMPLIANCE.
3. AREA DRAINS – AS SOON AS WATER CAN FLOW INTO THESE DRAINS, HAYBALE OR SILT FENCE PROTECTION WILL BE INSTALLED AROUND THEM.
4. CURB OPENING INLETS – AS SOON AS WATER CAN FLOW INTO THESE DRAINS, INLET PROTECTION BMP'S MUST BE INSTALLED. SEE PHASE 3 – STREET CONSTRUCTION.
5. THE STORM SEWER CONTRACTOR WILL BE RESPONSIBLE FOR INSTALLING THESE BMP'S. IF WATER CANNOT FLOW INTO CURB INLETS UNTIL STREET CONSTRUCTION IS COMPLETE, THEN STREET CONTRACTOR WILL INSTALL INLET PROTECTION.
6. THE SUBDIVISION DEVELOPER WILL MAINTAIN THESE BMP'S ONCE INSTALLED.
7. 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.

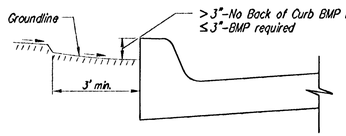
PHASE 3 – STREET CONSTRUCTION



1. DURING THIS PHASE OF SUBDIVISION CONSTRUCTION, NEW STREETS ARE INSTALLED. ALL BMP'S 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. BMP'S 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), BMP'S WILL BE REQUIRED AT POINTS WHERE WATER BREAKS OVER CURB WHICH COULD RESULT IN THE PLACEMENT OF SEDIMENT IN THE GUTTER.
4. SEE DETAIL THIS SHEET ON BACK OF CURB PROTECTION.
5. THE BACK OF CURB PROTECTION SPECIFIED ON THIS PLAN MAY HAVE TO BE SUPPLIMENTED WITH HAYBALE OR SILT FENCE BMP'S 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 BMP'S.
7. THE INDIVIDUAL LOT OWNERS WILL BE RESPONSIBLE FOR MAINTAINING THE BACK OF CURB BMP'S IN FRONT OF THEIR LOTS UNTIL SUCH TIME AS ADJACENT DISTURBED EARTH IS STABILIZED WITH GRASS OR SOD.



BACK OF CURB PROTECTION DETAIL



CURB BACKFILL DETAIL

GENERAL NOTES:

1. THE INTENT OF ALL BEST MANAGEMENT PRACTICES (B.M.P.'S) IS TO PREVENT ERODED SOIL FROM ENTERING DITCHES, STORM SEWERS, OR ANY OTHER DRAINAGE FEATURE.
2. THIS SHEET IS INTENDED TO PROVIDE GUIDELINES AS TO WHAT TYPE OF BMP'S WILL BE INSTALLED DURING THE CONSTRUCTION PROCESS. CONTRACTORS ARE EXPECTED TO BID PROJECTS ACCORDINGLY.
3. BMP'S SHALL BE MAINTAINED DURING THE CONSTRUCTION PROCESS TO REMAIN EFFECTIVE. MAINTENANCE SHALL BE AS INDICATED ON THE BMP DETAIL SHEETS.
4. PERSONS DESTROYING BMP'S SHALL BE RESPONSIBLE FOR IMMEDIATELY REPAIRING THEM OR INSTALLING SUITABLE REPLACEMENT BMP'S.
5. THE DEVELOPMENT OF ANY SUBDIVISION THAT DISTURBS 5 ACRES OR MORE WILL REQUIRE A FEDERAL/STATE NPDES STORMWATER PERMIT. THE PREPARATION OF A STORMWATER POLLUTION PREVENTION PLAN IS REQUIRED. EROSION CONTROL BMP'S ARE REQUIRED. THE DETAILS SHOWN ON THIS SHEET ARE THE MINIMUM STANDARDS TO BE SHOWN ON POLLUTION PREVENTION PLAN.
6. FOR SUBDIVISIONS SMALLER THAN 5 ACRES, SOIL EROSION BMP'S 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 BMP'S 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 BMP'S SHOWN ON THIS SHEET IS FOR SITUATIONS NORMALLY ENCOUNTERED. FROM TIME TO TIME, SITUATIONS WILL ARISE THAT MAY REQUIRE A DIFFERENT BMP OTHER THAN THAT SHOWN. BMP'S, 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.

CITY OF WICHITA

SOIL EROSION BMPS SUBDIVISION DEVELOPMENT PROCESS

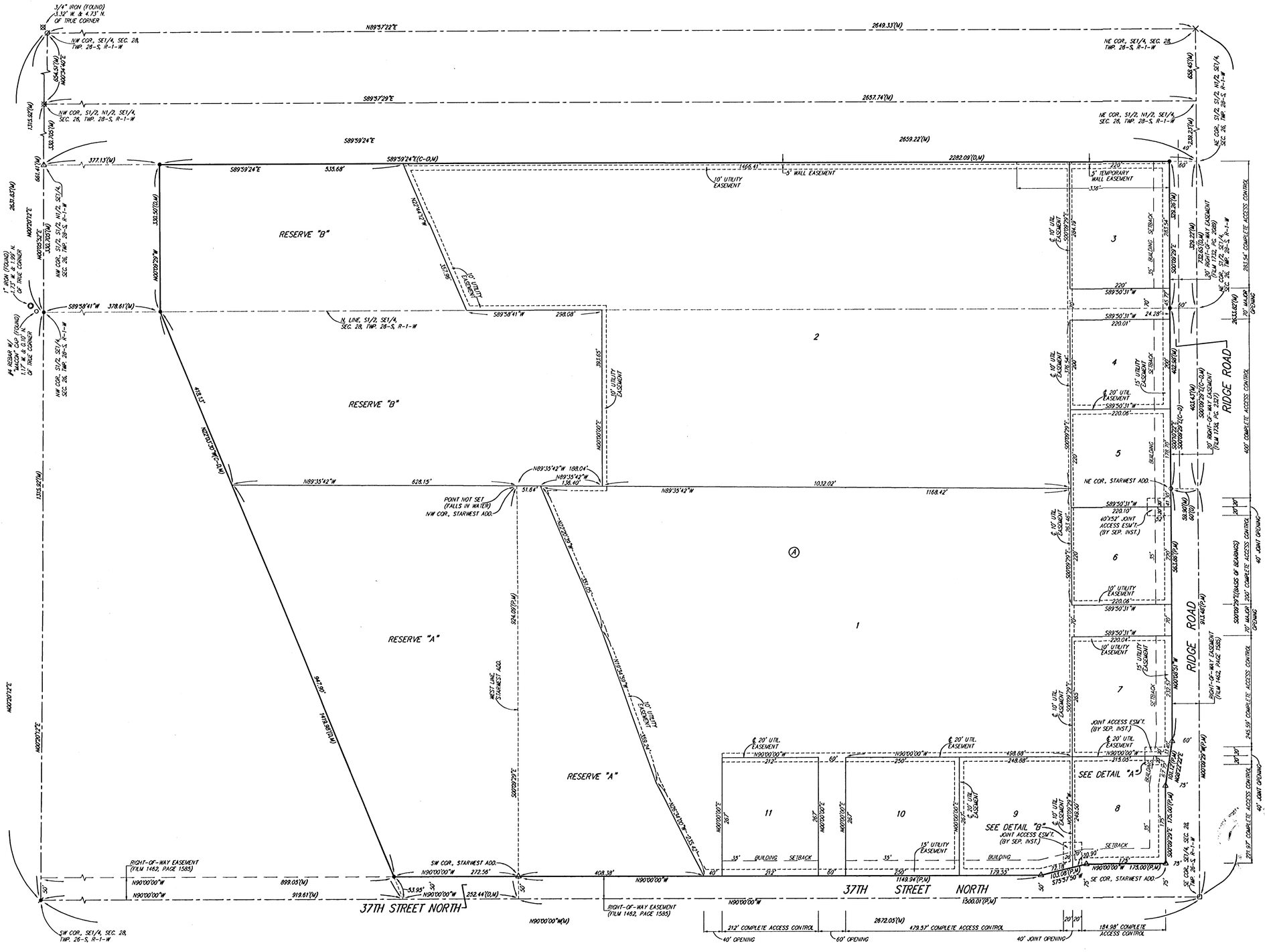
CHRISTOPHER M. CARRIER, P.E.
STORM WATER ENGINEER

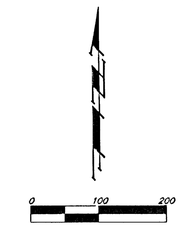
PROJECT NUMBER

DATE JAN 2004

NORTHRIDGE PLAZA ADDITION

WICHITA, SEDGWICK COUNTY, KANSAS





ADDITIONAL BUILDING SETBACKS PER COMMUNITY UNIT PLAN DP-250.

(M) = MEASURED
(P) = PLATTED
(O) = DESCRIBED
(C) = CALCULATED
(C-O) = CALCULATED PER DESCRIBED INFO.

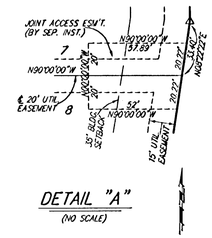
● = #4 REBAR W/ "BAUGHMAN" CAP (SET)
△ = #4 REBAR W/ "BAUGHMAN" CAP (FOUND)
○ = #4 REBAR W/ "MACON" CAP (FOUND)
□ = RAILROAD SPIKE (FOUND)
X = CHISELED CROSS (FOUND)
⊙ = 1" IRON (FOUND)
⊠ = 3/4" IRON (FOUND)
Ø = #5 REBAR (FOUND)
✱ = #4 REBAR (FOUND)

MINIMUM BUILDING PAD ELEVATIONS FOR LOWEST OPENING TO THE STRUCTURES			
LOT(S)	BLOCK	ELEVATION	
		CITY DATUM	NGVD
1, 3-11	A	145.6	1333.0
2	A	146.1	1333.5

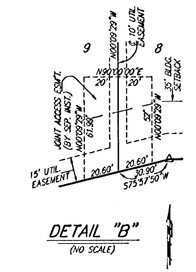
BENCHMARK:
"□" ON HUBGUARD OF R.C.B.C.
73' W. OF SE COR., SE1/4, SEC. 28, TWP. 28-S, R-1-W
ELEV. = 1331.52 M.S.L. (144.12 CITY DATUM)

NOTE:
NO BUILDING PERMITS ARE TO BE ISSUED FOR ANY LOTS THAT ARE LOCATED IN THE SPECIAL FLOOD HAZARD AREA WITHIN "NORTHRIDGE PLAZA ADDITION" UNLESS THE LOWEST FLOOR CAN BE CONSTRUCTED AT OR ABOVE THE ELEVATION SHOWN ABOVE, OR UNLESS A LETTER OF MAP REVISION HAS BEEN ISSUED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY, THAT REMOVES THE SUBJECT PROPERTY FROM THE SPECIAL FLOOD HAZARD AREA, WHICH WOULD THEN ALLOW BUILDINGS TO BE CONSTRUCTED WITH THE LOWEST OPENING AS SPECIFIED ABOVE.

NOTE:
A DRAINAGE PLAN HAS BEEN DEVELOPED FOR THIS SUBDIVISION AND IS ON FILE WITH THE CITY OF WICHITA, KANSAS. DRAINAGE INTENT SHALL REMAIN AS DEPICTED OR AS MODIFIED WITH THE APPROVAL OF THE CITY ENGINEER OF THE CITY OF WICHITA, KANSAS. NO OBSTRUCTIONS WHICH IMPEDE THE FLOW OF THIS DRAINAGE PLAN SHALL BE ALLOWED.



DETAIL "A"
(NO SCALE)



DETAIL "B"
(NO SCALE)

BAUGHMAN COMPANY P.A.
ENGINEERING, SURVEYING, & PLANNING
316-262-7271 • 315 ELLIS • WICHITA, KANSAS 67211
F:\PLAT\NORTH RIDGE PLAZA\DWG\NRIDGEPLAT.DWG-MOD

JP-05-03-01