SANITARY SEWER EXTENSION TO SERVE

BAY COUNTRY 2ND ADDITION

Project Number

1146 PPS(607861)

CITY OF WICHITA, KANSAS

Michael E. Lindebak, P.E. City Engineer

JULY, 2001

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 627-2470

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

Cox Communications	262-0661
K.G.E.	383-8600
Kansas Gas Service	383-8600
Peoples Gas Company	1-800-303-0752
Southwestern Bell Telephone Company	1-800-344-7233
City of Wichita Water Dept.	268-4908
City of Wichita Traffic Engineering	269-4446

2. Underground utility service lines and overhead utility pole lines are to be adjusted as necessary by others prior to construction unless the plans specifically call for their adjustment by the Contractor or unless the plans specifically identify a utility to be adjusted by its owner during construction. Existing utilities and their location, as shown on the plans, 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.

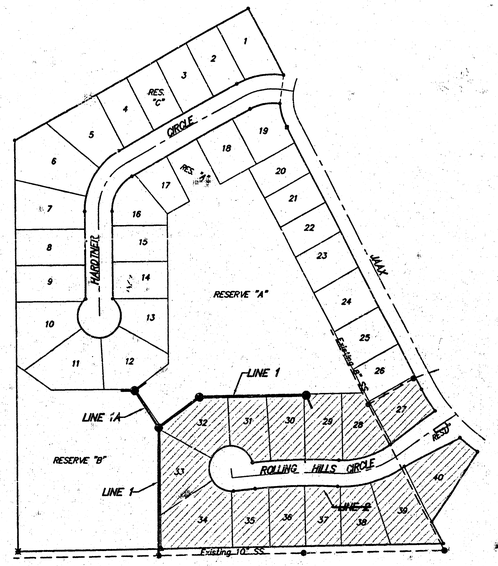
3. Trees and shrubs in public right-of-way which are in direct conflict with proposed new construction shall be removed by the Contractor with the Engineer's approval. Trees and shrubs which are not in direct conflict with proposed new construction shall be saved and protected from damage.

4. The Contractor shall give all property owners and/or tenants of developed property abutting the construction of this project a minimum of ten (10) days advance notice prior to start of construction.

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

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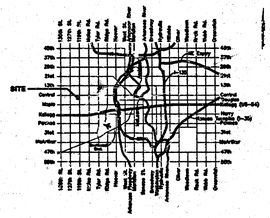
7. Stabilized construction entrance to be installed at engineers request if conditions warrant. See Detail, Sheet 2



PROJECT AREA

Scale: 1" = 150'

Benefit District:



VICINITY MAP

BENCHMARKS:

"□" Cut - Top of Curb, 14.5'± South of the S.W. Corner of Lot 37, Block 4, Bay Country.

Elev. = 142.48 (City Datum)

INDEX:

Title Sheet	1
Line 1 & Line 1A	2
Standard Manhole Detail	3
Shallow Manhole Detail	4
Ring & Cover Detail	5
BMP Detail & Plan Sheet	6
Copy of Plat	7

APPROVED AS NOTED
BY CITY ENGINEER OF WICHITA

Sanitary Sewers VRH 9/27/01

NOTE TO CONTRACTORS

Inspection and testing for this project is to be provided by a Licensed Consulting Engineering Firm under contract with the Owner/Developer. Said inspection to be in accordance with the City of Wichita standard construction engineering practices and certified by a Licensed Professional Engineer. No work shall be performed in dedicated easements or public right-of-way by the Contractor without such inspection nor shall any work be commenced without written authorization by the City Engineer. All Construction and Materials shall comply with the City of Wichita Specifications and Standards (on file and available in the City Engineer's Office).

Booked P-200 11/20/01 RDL

Miles Longst.

BRIAN LEE PRESTON LICENSED 13744 09/20/01 KANSAS PROFESSIONAL ENGINEER

As Built 11/01 KW

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

18 14 04 03

BENCHMARKS:
"□" Cut – Top of Curb, 14.5'±
South of the S.W. Corner of Lot 37,
Block 4, Bay Country.

Elev. = 142.48 (City Datum)

Sta. 1+01.5, End Line 1A
Construct Standard
Manhole.
1–8" Stub (NE)
1–10" Stub (W) 0.58
Top Elev. = ~~140.40~~

Proposed
2–15" SWS
Crossing

Proposed Concrete Weir

Sta. 1+10.7 to Sta. 1+40.7
Install 30 L.F. Concrete
Encasement.

Regrade Ditch as Shown
to Maintain 3:1 Slope Away
from Manhole and to Keep
Ditch Width Constant.

Sta. 2+82.2, Line 1 =
Sta. 0+00, Begin Line 1A
Construct Standard
Manhole.
Top Elev. = ~~138.40~~ 8.58

Sta. 4+00.9, Line 1
Construct Standard
Shallow Manhole.
Top Elev. = ~~139.40~~ 9.57

Static WS Elev. = 135.0
Bottom Elev. = 129.0

Sta. 6+45.4, End Line 1
Construct Standard
Shallow Manhole.
1–4" Stub (SE) ~~9.56~~
Top Elev. = ~~139.40~~

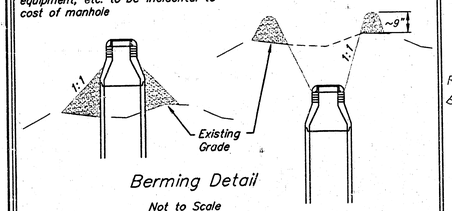
Sta. 0+00, Begin Line 1
Core Existing Manhole and
Extend 10" Pipe North.
Contractor to Verify Depth
and Location of Existing
Manhole Prior to Construction.

SCALE:
1" = 40' HORIZONTAL
1" = 5' VERTICAL
• = IRON

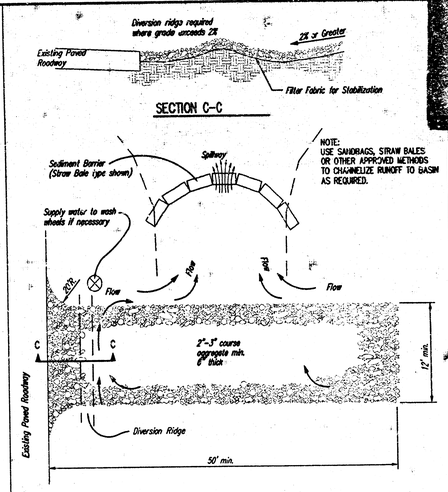
RESERVE "B"
RESERVE "A"
RESERVE "F"
BREEZY POINTE 2ND ADDITION
BAY COUNTRY 2ND ADDITION
LINE 1A
LINE 1
Existing Pond
Edge of Ex. Pond
Proposed 18" SWS Crossing
Edge Proj. 10" SS
South Line Bay Country 2nd Add.
20' Drng. & Util. Esm't
20' Util. Esm't
12
32
33
34
31
30
29
123°44'17"
90°42'51"
145°46'11"
125°47'13"
145°18'52"
91°03'03"
88°58'57"

Stabilized construction entrance
to be installed at engineers
request if conditions warrant.
See Detail, This Sheet.

Contractor to grade at 1:1 slope
around manholes. Cost of dirt, labor,
equipment, etc. to be incidental to
cost of manhole



Berming Detail
Not to Scale

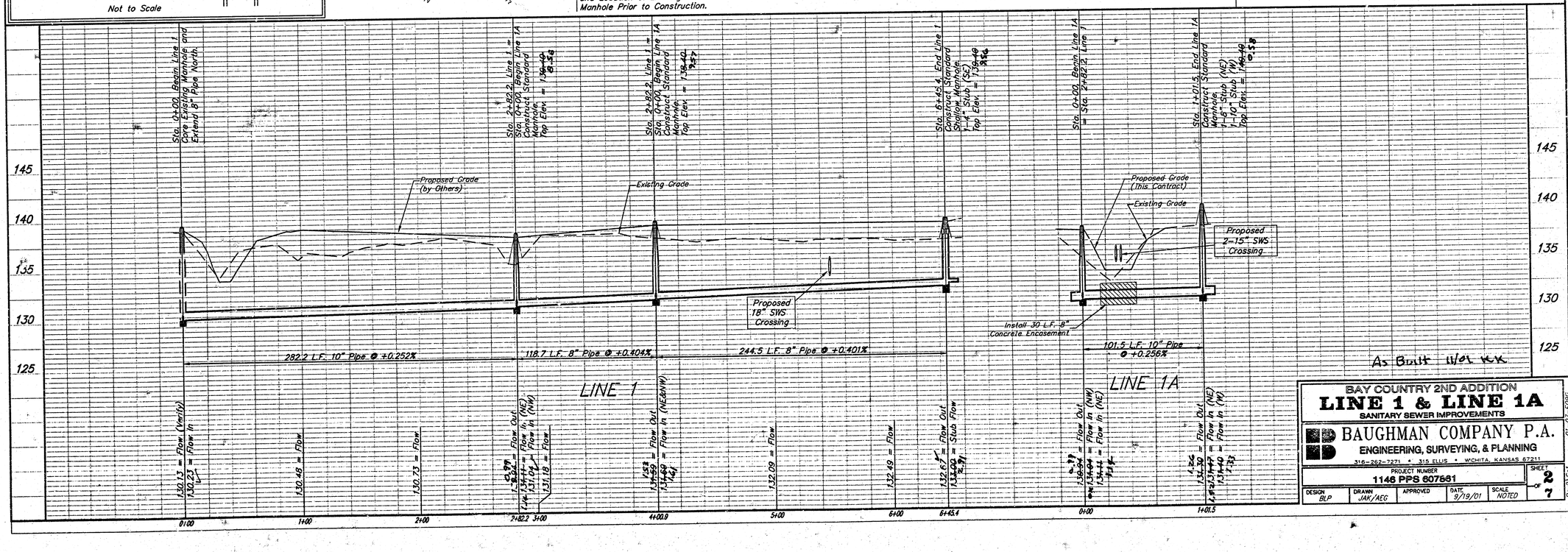


SECTION C–C

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.



As Built w/o rev.

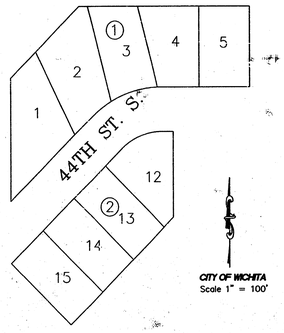
BAY COUNTRY 2ND ADDITION
LINE 1 & LINE 1A
SANITARY SEWER IMPROVEMENTS

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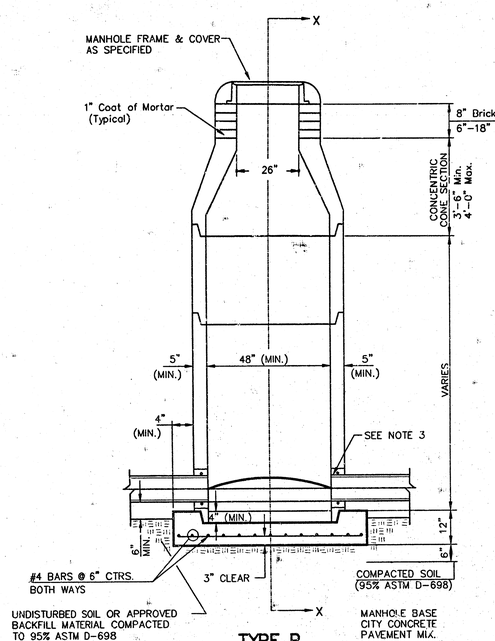
PROJECT NUMBER					SHEET
1146 PPS 607561					2 OF 7
DESIGN BLP	DRAWN JAK/AEG	APPROVED	DATE 9/19/01	SCALE NOTED	

Rev. 01-01-Final

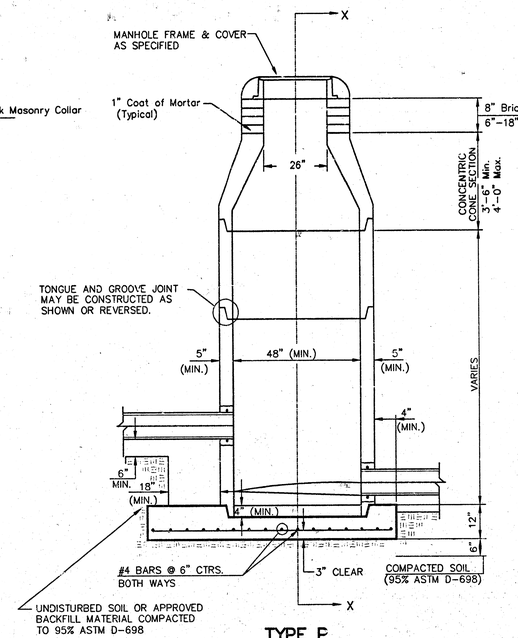
LEGACY 2ND ADDITION



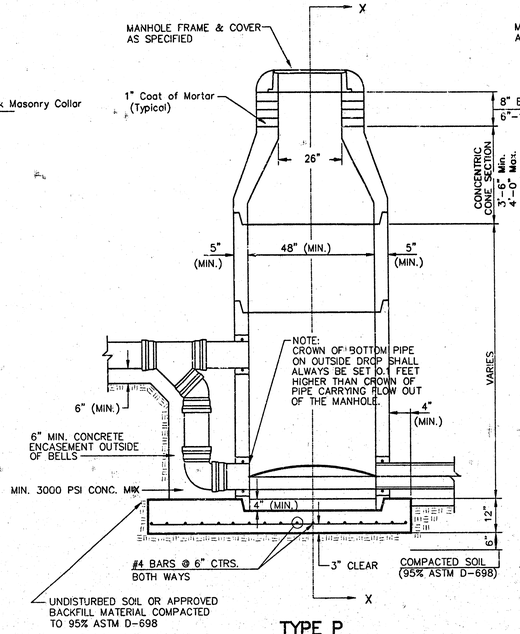
SEWER APPURTENANCES DETAILS



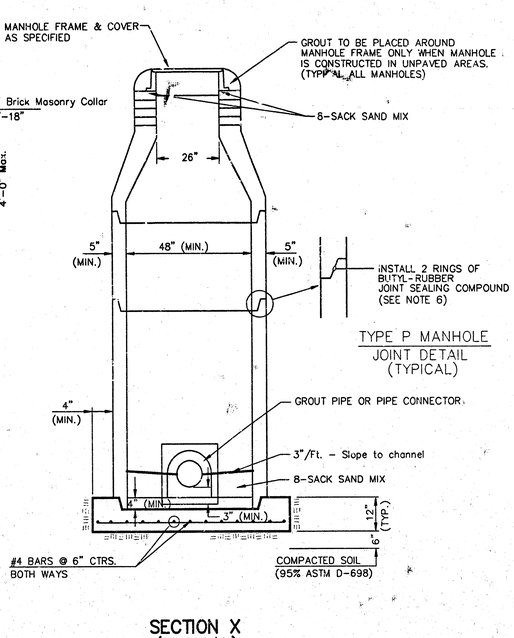
TYPE P
STANDARD MANHOLE



TYPE P
INSIDE DROP MANHOLE



TYPE P
OUTSIDE DROP MANHOLE

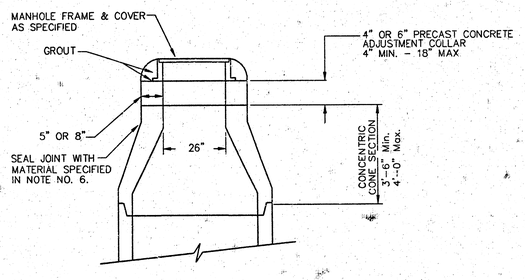


SECTION X
(TYPICAL)

GENERAL NOTES

PRECAST MANHOLE NOTES

1. ALL PRECAST CONCRETE MANHOLE SECTIONS SHALL CONFORM TO THE LATEST REVISIONS OF A.S.T.M. C478 AS MODIFIED BY THE SPECIFICATIONS.
2. NON-SHRINK GROUT SHALL BE NON-METALLIC TYPE.
3. APPROVED FLEXIBLE WATERSTOP GASKETS SHALL BE INSTALLED TO JOIN THE SEWER TO THE MANHOLE WALL WHEN A.B.S. COMPOSITE PIPE OR P.V.C. PIPE IS USED. FOR OTHER TYPES OF PIPE THE SEWER SHALL BE GROUTED IN PLACE WITH NON-SHRINK GROUT. THE SEWER PIPE SHALL BE SUPPORTED WITH CONCRETE ENCASEMENT A MINIMUM OF 3 FEET FROM THE MANHOLE WALL AND TO THE FIRST JOINT FOR V.C.P. SUCH THAT THE JOINT REMAINS FLEXIBLE.
4. ALL INSIDE SURFACES OF THE CONCRETE MANHOLE WHICH WOULD BE EXPOSED TO SEWER GAS SHALL BE COATED WITH 2 COATS TNEMEC SERIES 66 HI-BUILD EPOXOLINE, DRY THICKNESS OF 8 MILS (MIN.)
5. EXTERIOR MANHOLE WALLS SHALL BE COATED WITH 1 COAT MOBILARMA 633 BITUMINOUS COATING.
6. JOINT SEALING COMPOUND SHALL BE KENT SEAL NO. 2 OR APPROVED EQUAL.
7. PRECAST MANHOLES SHALL BE SET AT LEAST 4 INCHES INTO THE MANHOLE BASE.
8. TOP OF MANHOLE FLOOR SLAB SHALL BE AT LEAST 3 INCHES BELOW THE FLOW LINE OF THE OUTLET PIPE TO INSURE SUFFICIENT MINIMUM THICKNESS OF SHAPED INVERT.
9. LIFTING HOLES SHALL BE FILLED WITH NON-SHRINK GROUT AND THE INTERIOR SURFACE COATED AS SPECIFIED.
10. MORTAR USED IN MASONRY CONSTRUCTION SHALL CONTAIN 8 SACKS OF CEMENT PER CUBIC YARD. CONCRETE USED IN MANHOLE BASES SHALL CONFORM TO THE REQUIREMENTS OF CONCRETE FOR CONCRETE PAVEMENT CONSTRUCTION AS SPECIFIED IN THE CITY STANDARD PAVING SPECIFICATIONS USING CITY CONCRETE PAVEMENT MIX WITHOUT AIR ENTRAINING ADMIXTURE. MORTAR SHALL BE PLACED AROUND THE MANHOLE RING AS SHOWN ON THE DRAWINGS WHEN MANHOLES ARE CONSTRUCTED IN UNPAVED AREAS. MANHOLES CONSTRUCTED WHERE PIPE SIZES ARE SMALLER THAN 24" SHALL HAVE AN INSIDE DIAMETER OF 4'. MANHOLES CONSTRUCTED WHERE PIPE SIZES ARE 24" OR LARGER SHALL HAVE AN INSIDE DIAMETER OF 5'. COMPLETED MANHOLE SHALL BE WITHOUT LEAKS AND WATER TIGHT.
11. REINFORCING STEEL SHALL BE INSTALLED IN THE MANHOLE BASES AND SHALL CONSIST OF NO. 4 BARS PLACED ON 6" CENTERS IN BOTH DIRECTIONS. THE MANHOLE BASE REINFORCEMENT SHALL BE PLACED AT LEAST 3" ABOVE THE BOTTOM OF THE MANHOLE BASE. ALL COSTS FOR FURNISHING AND INSTALLING REINFORCING STEEL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE.
12. OPENINGS SHALL BE CUT INTO THE MANHOLE WALL WHEN OUTSIDE DROPS ARE CONSTRUCTED ON EXISTING MANHOLES. SUCH OPENINGS CUT INTO EXISTING MANHOLES SHALL BE AS SMALL AS PRACTICAL TO FACILITATE INSTALLING AND GROUTING THE NEW PIPE IN PLACE. WATERSTOP GASKETS SHALL BE USED WITH P.V.C. AND A.B.S. COMPOSITE PIPE. THE NEW PIPE SHALL BE GROUTED INTO THE OPENING USING AN APPROVED NON-SHRINK GROUT FOR THE FULL MANHOLE WALL THICKNESS. THE EXTERIOR OF THE COMPLETED CONNECTION SHALL BE SEALED WITH AN APPROVED BITUMINOUS COATING SUCH THAT THE CONNECTION WILL BE WATER TIGHT. FLOOR OF MANHOLE SHALL BE MODIFIED TO FORM NEW FLOW CHANNEL FOR THE NEW CONNECTION AS INDICATED BY THE DRAWING. THIS WORK, INCLUDING MODIFICATION OF MANHOLE FLOOR, SHALL BE PAID FOR AT THE UNIT PRICE BID FOR OUTSIDE DROP STACK CONSTRUCTED ON EXISTING MANHOLE.
13. THE FLOORS OF ALL MANHOLES SHALL BE SHAPED WITH FLOW CHANNELS SUCH THAT THE MANHOLES WILL BE SELF CLEANING AND FREE OF AREAS WHERE SOLIDS COULD BE DEPOSITED AS SEWAGE FLOWS THROUGH THE MANHOLE FROM ALL INLET PIPES TO THE OUTLET PIPE. FLOW CHANNELS SHALL BE FORMED TO MATCH THE BOTTOM HALVES OF THE INFLOWING PIPES AND THE OUTFLOWING PIPE AS SHOWN BY THE DRAWINGS EXCEPT FOR INSIDE DROP MANHOLES. FLOW CHANNELS FOR INSIDE DROP MANHOLES SHALL BE CONSTRUCTED AS INDICATED BY THE DRAWING. MANHOLE FLOORS SHALL HAVE SLOPES OF 3 INCHES PER FOOT IN THE AREAS OUTSIDE OF THE FLOW CHANNELS SLOPED TOWARD THE FLOW CHANNELS. PIPES LAID THROUGH MANHOLES SHALL HAVE THE TOP HALF REMOVED TO NEAT LINES OF THE FULL INSIDE DIAMETER OF THE MANHOLE. MANHOLE FLOORS SHALL THEN BE SHAPED AROUND THE BOTTOM HALF OF THE PIPE WHICH FORMS THE FLOW CHANNEL.
14. PIPES INSTALLED WITHIN THE EXCAVATION MADE FOR THE MANHOLE SHALL BE CRADLED WITH CONCRETE TO THE LIMITS OF THE MANHOLE EXCAVATION. WHEN CLAY PIPE IS USED, THE CRADLE SHALL EXTEND TO THE FIRST JOINT OUTSIDE THE MANHOLE. THE CRADLE SHALL BE TERMINATED AT THE CLAY PIPE JOINT IN A MANNER WHICH WILL MAINTAIN THE FLEXIBILITY OF THE JOINT. COST OF CRADLE WITHIN MANHOLE EXCAVATION OR TO CLAY PIPE JOINTS ADJACENT TO MANHOLE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE.
15. MANHOLE COVER CASTINGS AND MANHOLE FRAME CASTINGS SHALL CONFORM TO THE REQUIREMENTS AS INDICATED IN THE STANDARD SPECIFICATIONS AND AS SHOWN IN THE STANDARD DETAIL DRAWING.
16. THE VERTICAL DROP IN INSIDE DROP MANHOLES SHALL NOT EXCEED 2' FOR INFLOWING PIPES SIZED 12" OR SMALLER AND 2' FOR INFLOWING PIPES LARGER THAN 12". THE CROWNS OF INFLOWING PIPES SHALL NEVER BE SET LOWER THAN THE CROWN OF THE OUTFLOWING PIPE.
17. STANDARD MANHOLES AND STANDARD INSIDE DROP MANHOLES SHALL BE BID AS STANDARD MANHOLES FOR THE TYPE AND DIAMETER INDICATED. OUTSIDE DROP MANHOLES SHALL BE BID AS STANDARD OUTSIDE DROP MANHOLES FOR THE TYPE AND DIAMETER INDICATED. ALL MANHOLE DIAMETERS WILL BE 4' UNLESS INDICATED OTHERWISE.
18. A BRICK MASONRY COLLAR SHALL BE INSTALLED BETWEEN THE CAST IRON FRAME AND THE CONCENTRIC CONE. THE COLLAR WILL HAVE 8" WALLS AND A VERTICAL HEIGHT OF 6" MINIMUM AND 18" MAXIMUM. A 1" COAT OF MORTAR WILL BE PLASTERED ON THE OUTSIDE OF THE COLLAR. THE USE OF PRE-CAST CONCRETE SPACERS FOR MANHOLE TOP ADJUSTMENT IS ALSO ALLOWED.



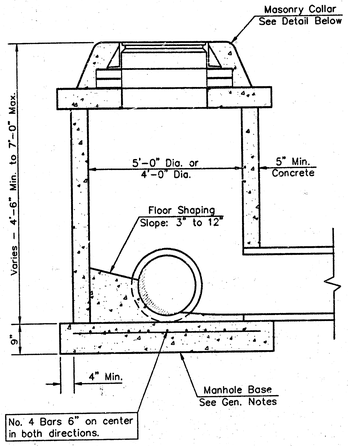
ALTERNATE CONSTRUCTION
IN UNPAVED AREAS

STD. MANHOLE DETAILS
SEWER APPURTENANCES

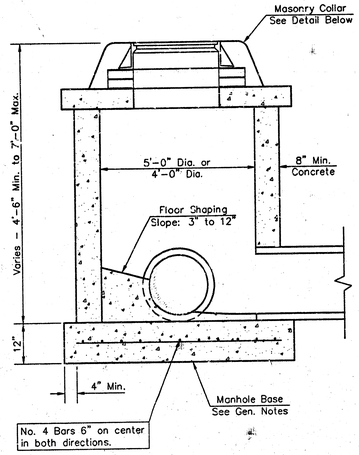
BAUGHMAN COMPANY P.A.
ENGINEERING, SURVEYING, & PLANNING
316-262-2221 • 315 ELLIS • WICHITA, KANSAS 67211

PROJECT NUMBER	SHEET
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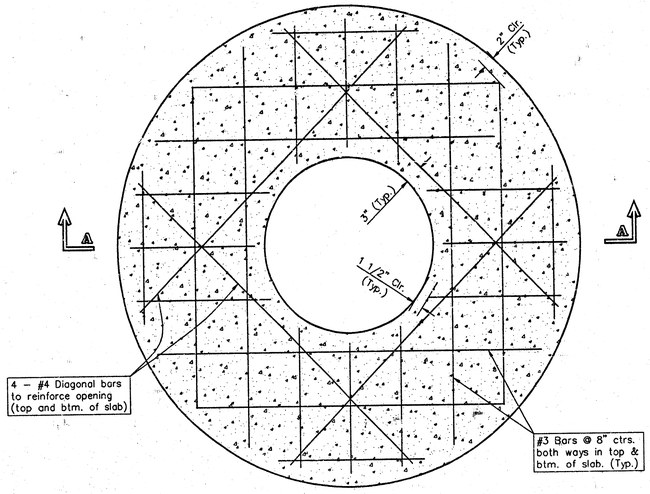
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STAFF	STAFF			NONE



SHALLOW TYPE "P" MANHOLE



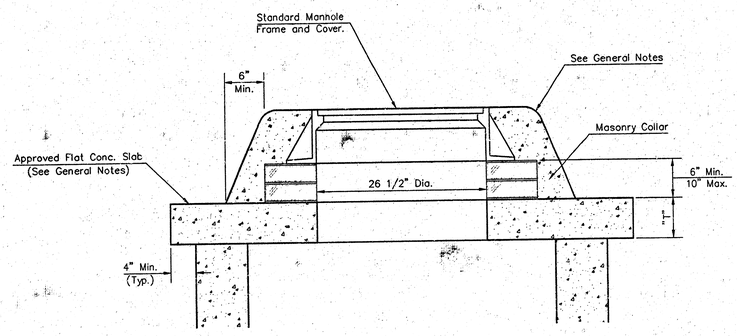
SHALLOW TYPE "C" MANHOLE



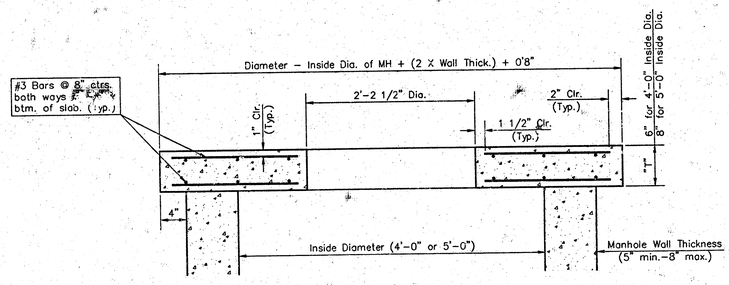
PLAN

GENERAL NOTES

1. Mortar used in masonry construction shall contain 8 sacks of cement per cubic yard. Concrete used in manhole bases shall conform to the requirements of concrete for concrete pavement construction as specified in the city standard paving specifications using city concrete cement mix without air entraining admixture. Mortar shall be placed around the manhole ring as shown on the drawings when manholes are constructed in unpaved areas. Manholes constructed where pipe sizes are smaller than 24" shall have an inside diameter of 4'. Manholes constructed where pipe sizes are 24" or larger shall have an inside diameter of 5'. Completed manhole shall be without leaks and water tight.
2. Reinforcing steel shall be installed in the manhole bases and shall consist of no. 4 bars placed on 6" centers in both directions. The manhole base reinforcement shall be placed 6" above the bottom of the manhole base. All costs for furnishing and installing reinforcing steel shall be included in the unit price bid for the manhole.
3. The floors of all manholes shall be shaped with flow channels such that the manholes will be self cleaning and free of areas where solids could be deposited as sewage flows through the manhole from all inlet pipes to the outlet pipe. Flow channels shall be formed to match the bottom halves of the inflowing pipes and the outflowing pipe as shown by the drawings. Manhole floors shall have slopes of 3 inches per foot in the areas outside of the flow channels sloped toward the flow channels. Pipes laid through manholes shall have the top half removed to neat lines for the full inside diameter of the manhole. Manhole floors shall then be shaped around the bottom half of the pipe which forms the flow channel.
4. Pipes installed within the excavation made for the manhole shall be cradled with concrete to the limits of the manhole excavation. When clay pipe is used, the cradle shall extend to the first joint outside the manhole. The cradle shall be terminated at the clay pipe joint in a manner which will maintain the flexibility of the joint. Cost of cradle within manhole excavation or to clay pipe joints adjacent to manhole shall be included in the unit price bid for the manhole.
5. Manhole cover castings and manhole frame castings shall conform to the requirements as indicated in the standard specifications and as shown in the standard detail drawings.
6. The crowns of inflowing pipes shall never be set lower than the crown of the outflowing pipe.
7. Standard shallow manholes type "P" and "C" shall be paid for at the unit price bid per each for the type and diameter indicated. All standard shallow manhole diameters will be 4' unless indicated otherwise.
8. All brick used in manhole construction shall meet Grade SW of ASTM C652 or C62-87.



MASONRY COLLAR DETAIL



SECTION A–A

FLAT CONCRETE SLAB DETAILS

CITY OF WICHITA, KANSAS

STD. SHALLOW MANHOLES

TYPE 'P' AND TYPE 'C'

BAUGHMAN COMPANY P.A.

ENGINEERING, SURVEYING, & PLANNING

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

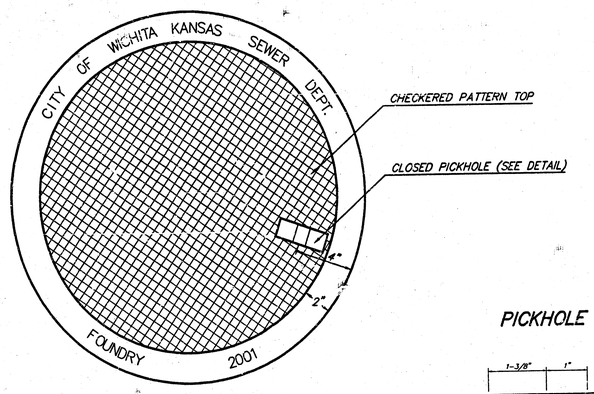
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1148 PPS(607861)				4 OF 7
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DETAIL SHEET NO. 1 OF 2

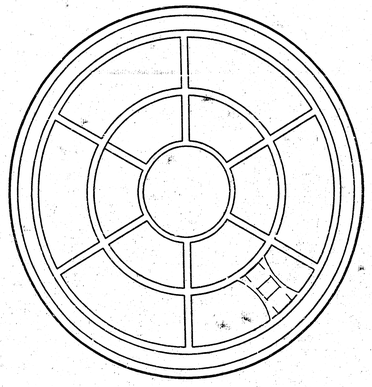
MANHOLE FRAME AND COVER DETAIL

ADOPTED AS STANDARD DESIGN BY
CITY OF WICHITA, KANSAS

MANHOLE COVER
Weight = 180 Lbs.

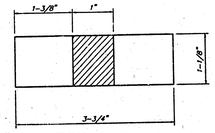


TOP VIEW

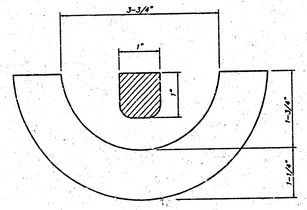


BOTTOM VIEW

PICKHOLE DETAIL

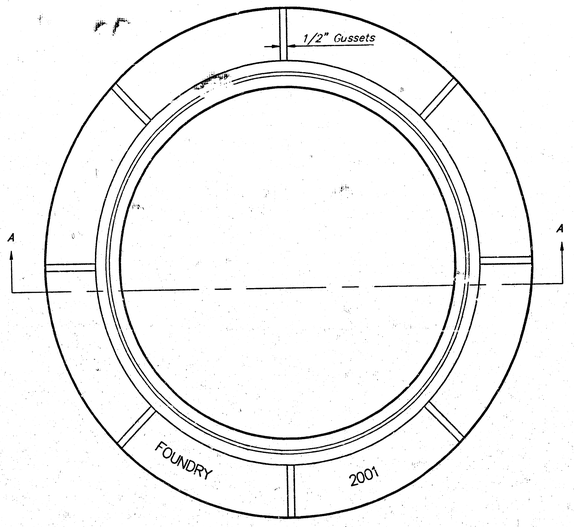


TOP VIEW

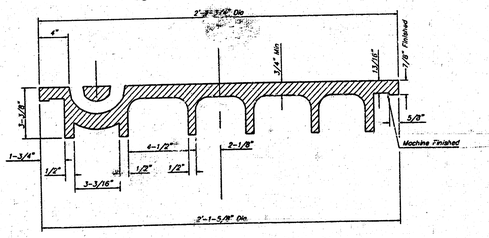


SECTION VIEW

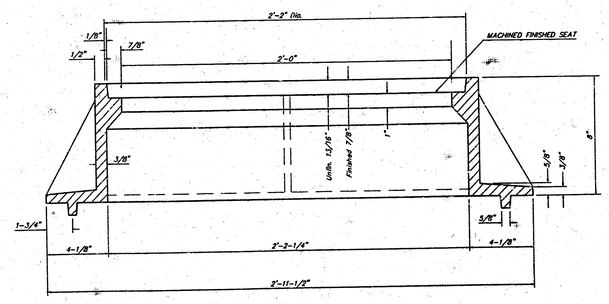
MANHOLE FRAME
Weight = 145 Lbs.



TOP VIEW



SECTION VIEW



SECTION A–A

GENERAL NOTES

MANHOLE CASTINGS SHALL BE MANUFACTURED USING GOOD QUALITY GRAY IRON CONFORMING TO CLASS 30 OF A.S.T.M. DESIGNATION A-48. DIMENSIONS AND WEIGHTS SHOWN ON THE DETAILED DRAWINGS SHALL BE CONSIDERED AS MINIMUM REQUIREMENTS AND ANY DEVIATIONS FROM THE DIMENSIONS SHOWN MUST BE SPECIFICALLY APPROVED. THE FINISHED CASTINGS SHALL BE OF UNIFORM QUALITY, FREE FROM BLOWHOLES, POROSITY, HARD SPOTS, SHRINKAGE DISTORTIONS OR OTHER DEFECTS.

MANHOLE CASTINGS SHALL BE COATED WITH AN ASPHALT PAINT RESULTING IN A SMOOTH, TOUGH AND TENACIOUS COATING WHICH IS NOT BRITTLE OR TACKY.

MANHOLE CASTINGS SHALL BE MANUFACTURED SUCH THAT A COVER MANUFACTURED BY ANY ONE FOUNDRY WILL FIT INTERCHANGEABLY INTO A FRAME MANUFACTURED BY ANOTHER FOUNDRY AND STILL MEET ALLOWABLE CLEARANCES AND NON-ROCKING REQUIREMENTS. THIS WILL REQUIRE MANUFACTURING OF THE MATCHING FACES ON THE COVER AND THE FRAME TO CLOSE TOLERANCES.

THE OUTSIDE CIRCUMFERENCE OF THE VERTICAL FACE OF THE COVER AND THE INSIDE CIRCUMFERENCE OF THE VERTICAL FACE IN THE FRAME RECESS SHALL BE MANUFACTURED TO TOLERANCES SUCH THAT THE CLEARANCE BETWEEN THE COVER AND FRAME WILL NOT EXCEED 1/8" AT ANY POINT AROUND THE CIRCUMFERENCE OF THE COVER. THE SEATING SURFACES BETWEEN THE COVER AND FRAME SHALL BE MACHINED SUCH AS THESE SURFACES SHALL MAKE FULL CONTACT FOR THEIR FULL CIRCUMFERENCE TO PRECLUDE THE COVER FROM ROCKING IN THE FRAME.

THE MANHOLE FRAME AND COVER SHALL BE MARKED WITH LETTERING INDICATING THE NAME OF THE MANUFACTURER AND THE YEAR WHEN THE COVER OR FRAME WAS CAST. THE COVER SHALL BE FURTHER IDENTIFIED WITH REGARDS TO OWNERSHIP USING LETTERS AT LEAST 1 INCH IN HEIGHT. THIS IDENTIFICATION SHALL BE "CITY OF WICHITA SEWER DEPARTMENT". THE WORD DEPARTMENT MAY BE ABBREVIATED. THE TEXTURE OF THE TOP SURFACE OF THE COVER SHALL BE MANUFACTURED IN A CHECKERED PATTERN DESIGN AS INDICATED ON THE DRAWINGS. SMOOTH BLOCKOUTS SHALL BE UTILIZED TO HIGHLIGHT THE LETTERING ON THE COVER SURFACE. THE TOTAL AREA OF SMOOTH SURFACE BLOCKOUT SHALL NOT EXCEED THE AREA AS INDICATED ON THE DRAWING. POSITIONING OF SMOOTH BLOCKOUTS AND LETTERING MAY VARY FROM THAT SHOWN ON THE DETAILED DRAWING.

MANHOLE FRAME AND COVER DETAIL
ADOPTED AS STANDARD DESIGN BY
CITY OF WICHITA, KANSAS

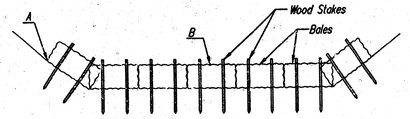
BAUGHMAN COMPANY P.A.
ENGINEERING, SURVEYING, & PLANNING
316-262-7271 • 315 ELLIS • WICHITA, KANSAS 67211

PROJECT NUMBER 1146 PPS(607861)
SHEET 5 OF 7

DESIGN	DRAWN	APPROVED	DATE	SCALE
STAFF	STAFF			NONE

L:\Details\Manhole

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".

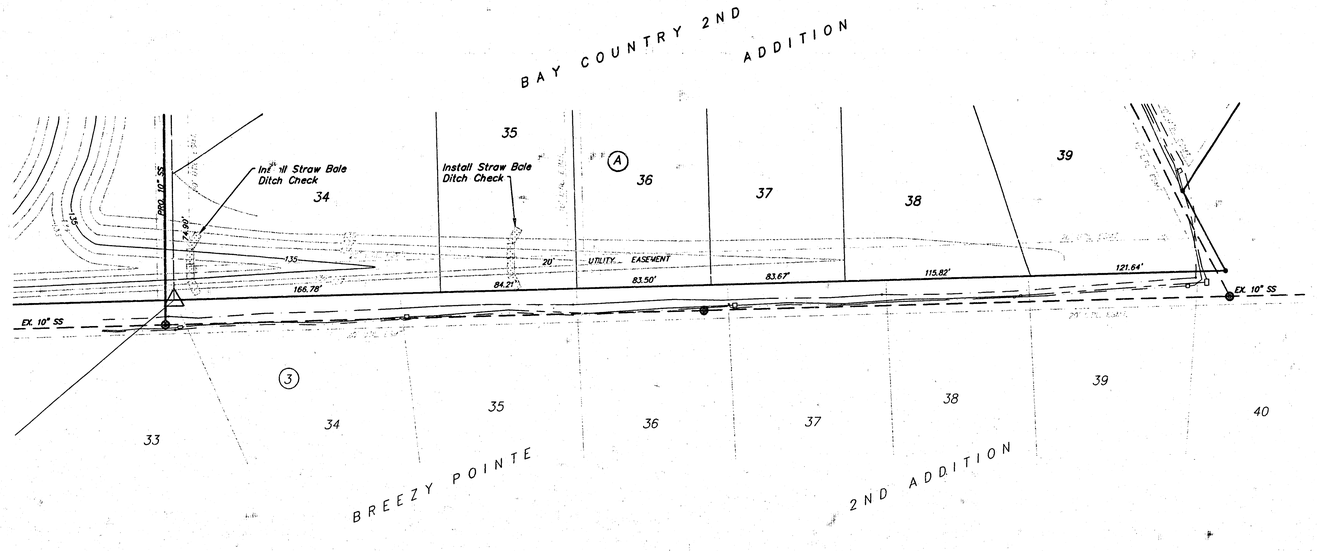
List of common placement/installation mistakes to avoid:

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.

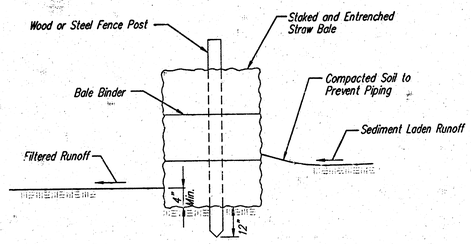
Inspection and Maintenance:

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?



SCALE:
1" = 40' HORIZONTAL
1" = 5' VERTICAL
• = IRON



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?

CITY OF WICHITA

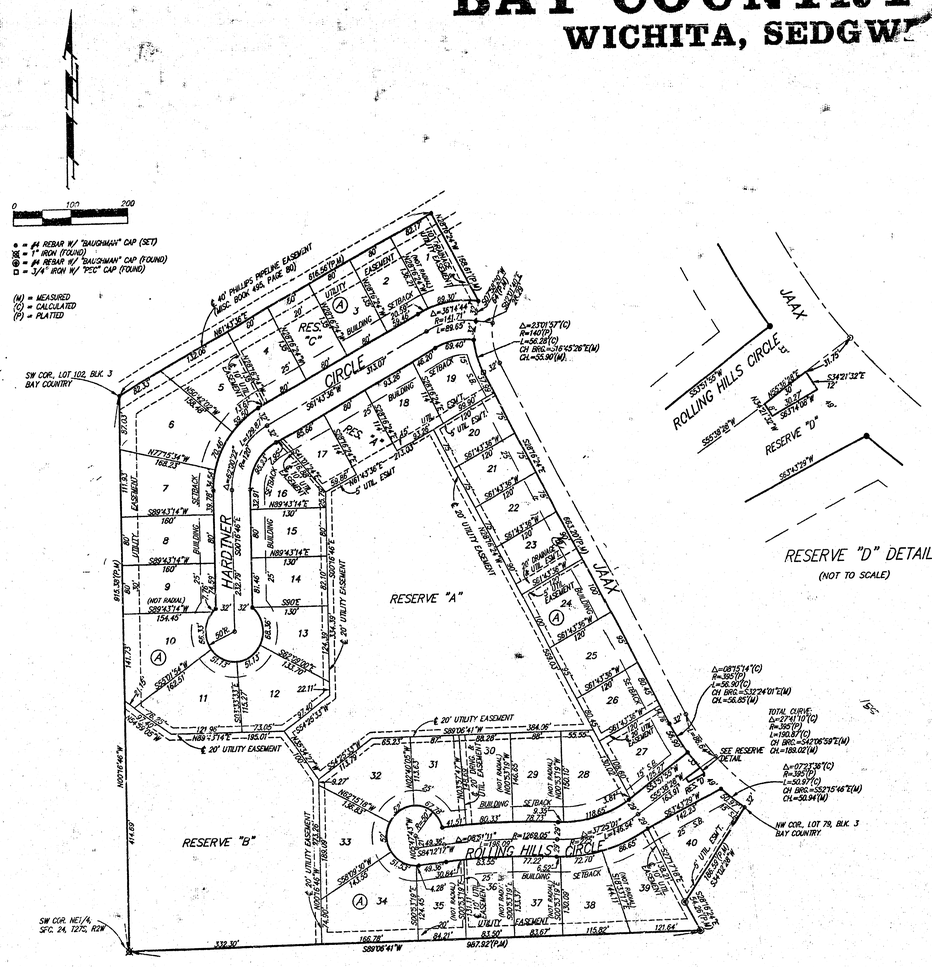
SOIL EROSION BMP DETAILS & PLAN SHEET

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

PROJECT NUMBER	OCA NO.
	XXXXXX
DATE	SHEET 6 OF 7
MAY 2001	

PC104-2

BAY COUNTRY 2ND ADDITION
WICHITA, SEDGWICK COUNTY, KANSAS



RESERVE "D" DETAIL
(NOT TO SCALE)

MINIMUM BUILDING PAD ELEVATION FOR LOWEST OPENING TO THE STRUCTURES			
LOTS	BLOCK	ELEVATION	
		CITY DATUM	MSL
1-6	A	148.6	1339.0
7-38	A	140.6	1328.0

BENCHMARK:
"X" CUT - TOP OF CURB, 14.5'± SOUTH OF THE SW COR. OF LOT 37, BLOCK 4, BAY COUNTRY.
ELEV. = 142.45 CITY DATUM
1329.88 M.S.L.

Know all men by these presents that we, the undersigned, have caused the land in the surveyors certificate to be platted into Lots, a Block, Streets, and Reserves, to be known as "BAY COUNTRY 2ND ADDITION", Wichita, Sedgwick County, Kansas. The utility easements are hereby granted as indicated for the construction and maintenance of all public utilities. The drainage and utility easements are hereby granted as indicated for drainage purposes and for the construction and maintenance of all public utilities. The streets are hereby dedicated to and for the use of the public. Reserve "A" is hereby reserved for open space, drainage purposes, gazebos, ponds, sidewalks, landscaping and utilities as confined to easements. Reserve "B" is hereby reserved for drainage, landscaping, irrigation systems, pedestrian improvements, and utilities as confined to easements. Reserve "C" is hereby reserved for drainage purposes and utilities as confined to easements. Reserve "D" is hereby reserved for street purposes, landscaping, entry monuments, and utilities. Reserves "A", "B", "C", and "D" shall be owned and maintained by the homeowners association for the addition. The Minimum Building Pad Elevations for the lowest opening to the structures shall be as indicated on the face of the plat.

I.T.J. Investments, Inc.

Irma N Jacoby, President
Irma N. Jacoby

Bob Cook Homes, L.L.C.

D.K. Cook, member
D.K. COOK (Title)

William Arthur Starnes — Linda Lee Starnes
William Arthur Starnes — Linda Lee Starnes

State of Kansas) SS
Sedgwick County)
The foregoing instrument acknowledged before me, this 27TH day of OCTOBER, 1998, by Irma N. Jacoby, President of I.T.J. Investments, Inc., on behalf of the corporation.

JUDITH M. TERHUNE, Notary Public
Notary Public - State of Kansas
My Appt. Expires 11-7-2001
JUDITH M. TERHUNE
My App't. Exp. 11-7-2001

State of Kansas) SS
Sedgwick County)
The foregoing instrument acknowledged before me, this 27TH day of OCTOBER, 1998, by D.K. COOK, MEMBER (Title) of Bob Cook Homes, L.L.C., on behalf of the company.

JUDITH M. TERHUNE, Notary Public
Notary Public - State of Kansas
My Appt. Expires 11-7-2001
JUDITH M. TERHUNE
My App't. Exp. 11-7-2001

State of Kansas) SS
Sedgwick County)
The foregoing instrument acknowledged before me, this 29TH day of OCTOBER, 1998, by William Arthur Starnes and Linda Lee Starnes, husband and wife.

JUDITH M. TERHUNE, Notary Public
Notary Public - State of Kansas
My Appt. Expires 11-7-2001
JUDITH M. TERHUNE
My App't. Exp. 11-7-2001

We, the undersigned, holders of a mortgage on the above described property, do hereby consent to this plat of "BAY COUNTRY 2ND ADDITION", Wichita, Sedgwick County, Kansas.

Emprise Bank

GARY K. BROWN, EXEC. V.P. (Title)

State of Kansas) SS
Sedgwick County)
The foregoing instrument acknowledged before me, this 30TH day of OCTOBER, 1998, by GARY K. BROWN, EXEC. VICE-PRESIDENT (Title) of Emprise Bank, on behalf of the bank.

JUDITH M. TERHUNE, Notary Public
Notary Public - State of Kansas
My Appt. Expires 11-7-2001
JUDITH M. TERHUNE
My App't. Exp. 11-7-2001

State of Kansas) SS
Sedgwick County)
We, Baughman Company, P.A., Surveyors in aforesaid County and State do hereby certify that we have surveyed and platted "BAY COUNTRY 2ND ADDITION", Wichita, Sedgwick County, Kansas, and that the accompanying plat is a true and correct exhibit of the property surveyed, described as follows: A replat of Lots 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, and 78, Block 3, TOGETHER with all of Reserve "C" and together with that part of Reserve "D" lying between said Lots 56 and 57, in said Block 3, and together with Hardtner Circle, all in Bay Country, an Addition to Wichita, Sedgwick County, Kansas.

All being situated in the NE1/4 of Sec. 24, Twp. 27-S, R-2-W of the 6th P.M., Sedgwick County, Kansas.

Existing public easements and dedications being vacated by virtue of K.S.A. 12-512(b).

Baughman Company, P.A.

Michael C. Conrey, Surveyor
LEONARD C. CONREY, No. 1287, REGISTERED, KANSAS, LAND SURVEYOR

This plat of "BAY COUNTRY 2ND ADDITION", Wichita, Sedgwick County, Kansas has been submitted to and approved by the Wichita-Sedgwick County Metropolitan Area Planning Commission, Wichita, Kansas.
Dated this 12 day of MARCH, 1998.
Wichita-Sedgwick County Metropolitan Area Planning Commission

Richard E. Lopez, Chairman
Marvin S. Krout, Secretary

This plat approved and all dedications shown hereon accepted by the City Council of the City of Wichita, Kansas, this 14th day of JULY, 1998.

Bob Knight, Mayor
Pat Burnett, City Clerk

Entered on transfer record this 4th day of August, 1998.

James Alford, County Clerk

State of Kansas) SS
Sedgwick County)
This is to certify that this plat has been filed for record in the office of the Register of Deeds, this 5th day of August, 1998 at 9:52 o'clock A M; and is duly recorded.

Bill Meek, Register of Deeds
Linda Kizzia, Deputy

#1818161

We, the undersigned, holders of a mortgage on the above described property, do hereby consent to this plat of "BAY COUNTRY 2ND ADDITION", Wichita, Sedgwick County, Kansas.

Southwest National Bank

ROBERT E. HOOPES, PRES. (Title)

State of Kansas) SS
Sedgwick County)
The foregoing instrument acknowledged before me, this 6TH day of NOVEMBER, 1998, by ROBERT E. HOOPES, PRESIDENT (Title) of Southwest National Bank, on behalf of the bank.

JUDITH M. TERHUNE, Notary Public
Notary Public - State of Kansas
My Appt. Expires 11-7-2001
JUDITH M. TERHUNE
My App't. Exp. 11-7-2001

BAUGHMAN COMPANY P.A.
ENGINEERING, SURVEYING, & PLANNING
310-262-7271 • 315 ELIS • WICHITA, KANSAS 67211

PC104-2

7/7