

GENERAL NOTES:

1. NGVD29 Datum.
2. Contractor will be required to provide a minimum advance notice of twenty-four (24) hours to utility companies prior to starting any excavation as follows:

 Kansas One-Call 1-800-344-7233

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

Cox Communications	262-4270 or 263-2061
Westar Energy	261-6824
Kansas Gas Service	832-3121
Aquila Networks	941-1608
AT&T	268-2102
City of Wichita Water Department	268-4908
City of Wichita Sewer Maintenance	268-4071
3. Existing utility lines 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.
4. Rubble from the removal of miscellaneous structures and excess excavation which is to be wasted shall be disposed of on sites to be provided by the Contractor. These sites shall be approved by the Engineer as to suitability, appearance and site location. Locations that, in the opinion of the Engineer, will leave an unsightly appearance will not be approved.

 All disposal sites must be approved by the Kansas Department of Health and Environment. Material either stockpiled or disposed of in a 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.
5. The Contractor shall be responsible for maintaining continuous flow of sewage through construction. Contractor's proposed method for maintaining sewage flow shall be approved by the Engineer. Cost of maintaining flow of sewage through construction will not be paid for directly and this cost shall be considered as subsidiary to the other pay items of the work.
6. 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.
7. 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 the proposed new construction shall be saved and protected from damage.
8. Contractor shall vacuum test all manholes according to the City of Wichita standard specifications.
9. The tops of all Manholes to be set 0.4 feet above existing ground unless otherwise noted.
10. All areas disturbed by sewer construction, i.e. R/W, easements, and adjacent properties shall be restored with the same grass/sod as per AR 78.
11. Contractor shall maintain all existing BMP(s) on project site during construction. Contractor shall repair or replace any existing BMP(s) that are damaged (Cost subsidiary to site restoration). If BMP(s) were damaged prior to contractor beginning work on project, notify construction inspector or engineer.
12. A golf course contractor has constructed the cut and fills of the golf course and the lots. The finish ground will be constructed by the time of sanitary sewer construction for this project.

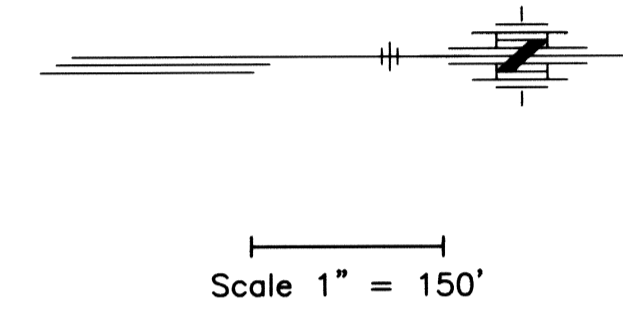
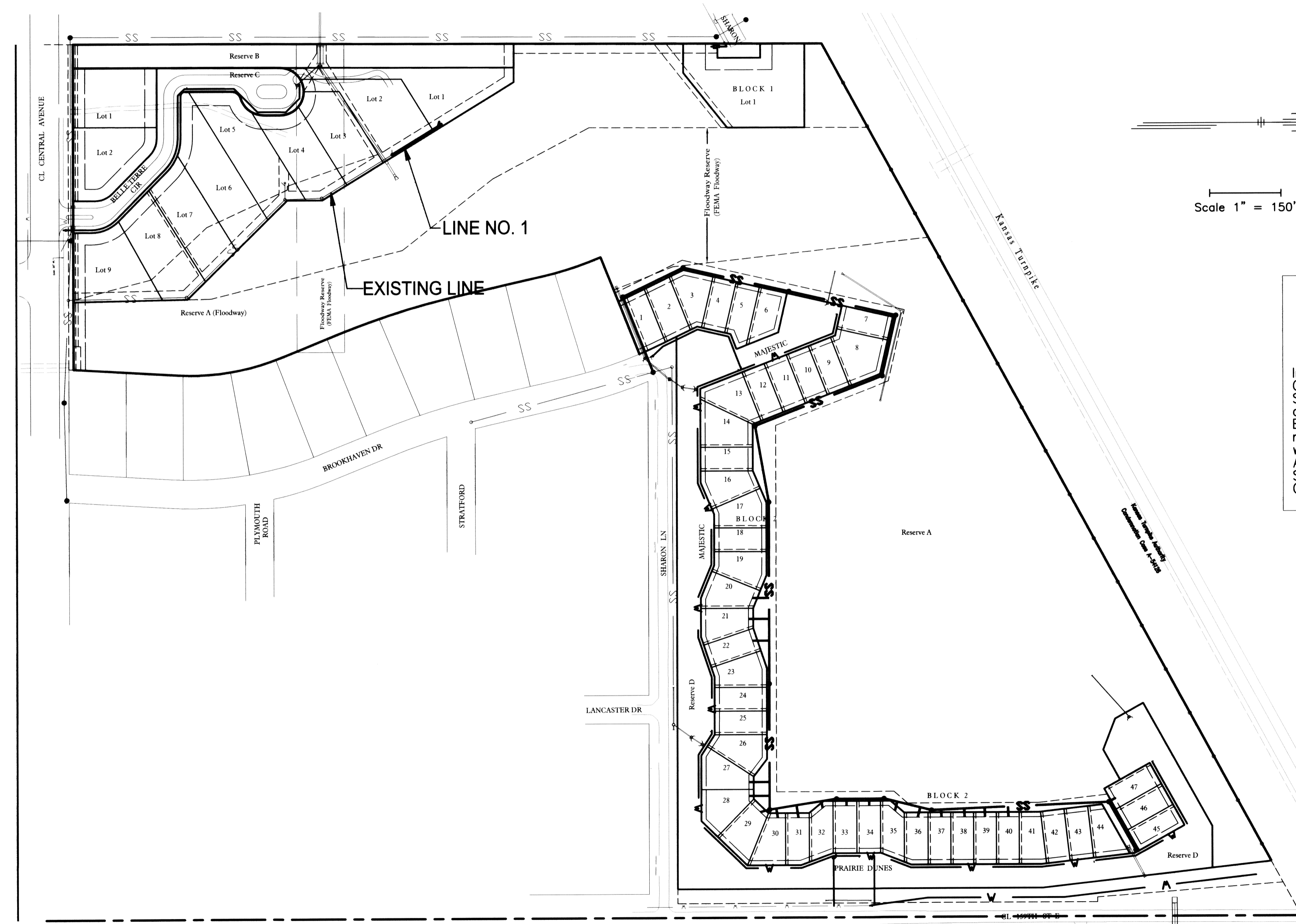
CONSTRUCTION PLANS
 SANITARY SEWER EXTENSIONS
TERRADYNE WEST 2ND ADDITION
 TO
THE CITY OF WICHITA, KANSAS

JAMES L. ARMOUR, P.E. - CITY ENGINEER
 1874-PPS
 OCA NO. 607861

T. Mason - City of Wichita, Inspector
 Release Date: 03/26/2014
 :APRosas 03/27/2014

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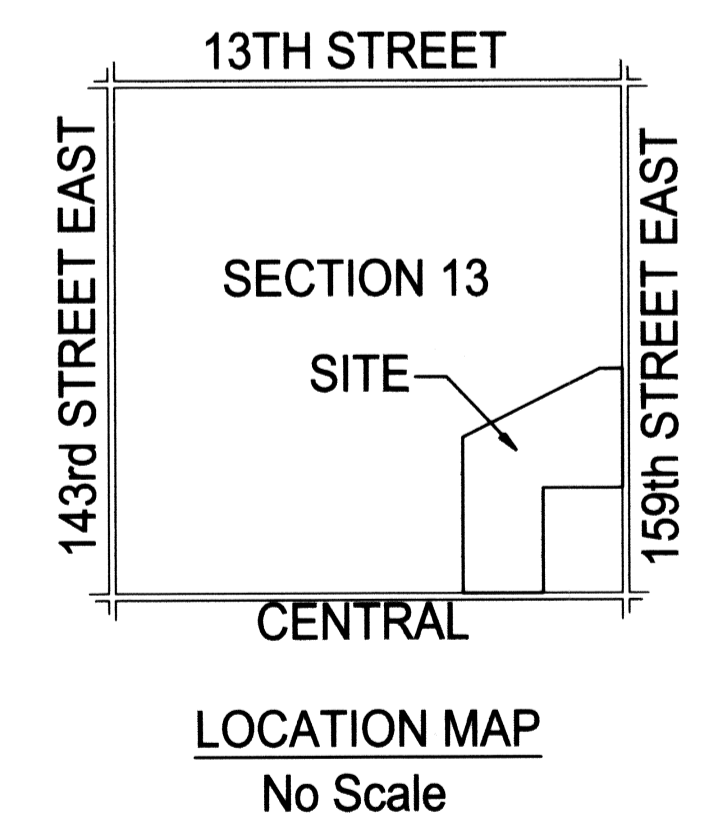


AS BUILT PLANS
 Contractor: Wildcat Construction Co.
 Inspector: Bod Koerner, Poe & Associates, Inc.
 .pdf by: MLT 3-18-2014

APPROVED AS NOTED BY CITY ENGINEER OF WICHITA

SANITARY SEWER Julianne Kallman

Inspection and testing for this project are to be provided by a Licensed Consulting Engineering Firm under contract with the Owner/Developer. Said inspection is 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 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).



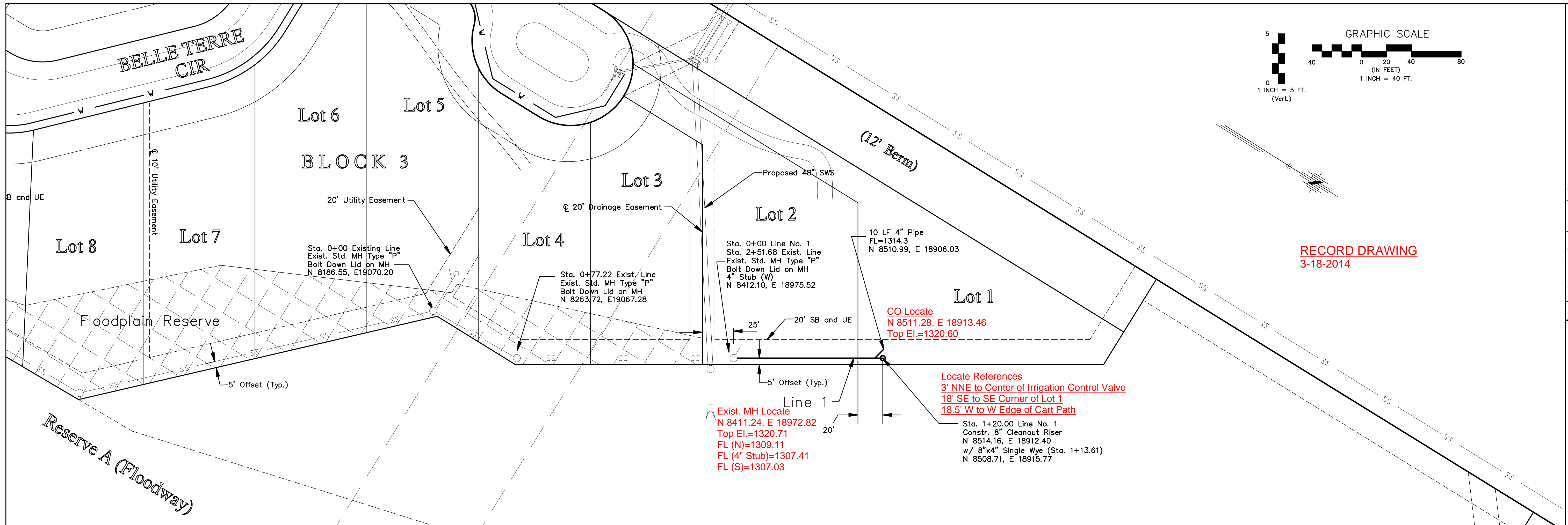
BENCH MARKS

1. Square cut on top of curb at N.W. corner concrete parking lot at S.W. corner Terradyne 2nd Addition. Elevation 1332.42
2. Square cut in center of south end of concrete walk at information building N. side Terradyne at N.E. corner Terradyne 2nd Addition. Elevation 1341.06

MAY 2008
 PLANS PREPARED BY

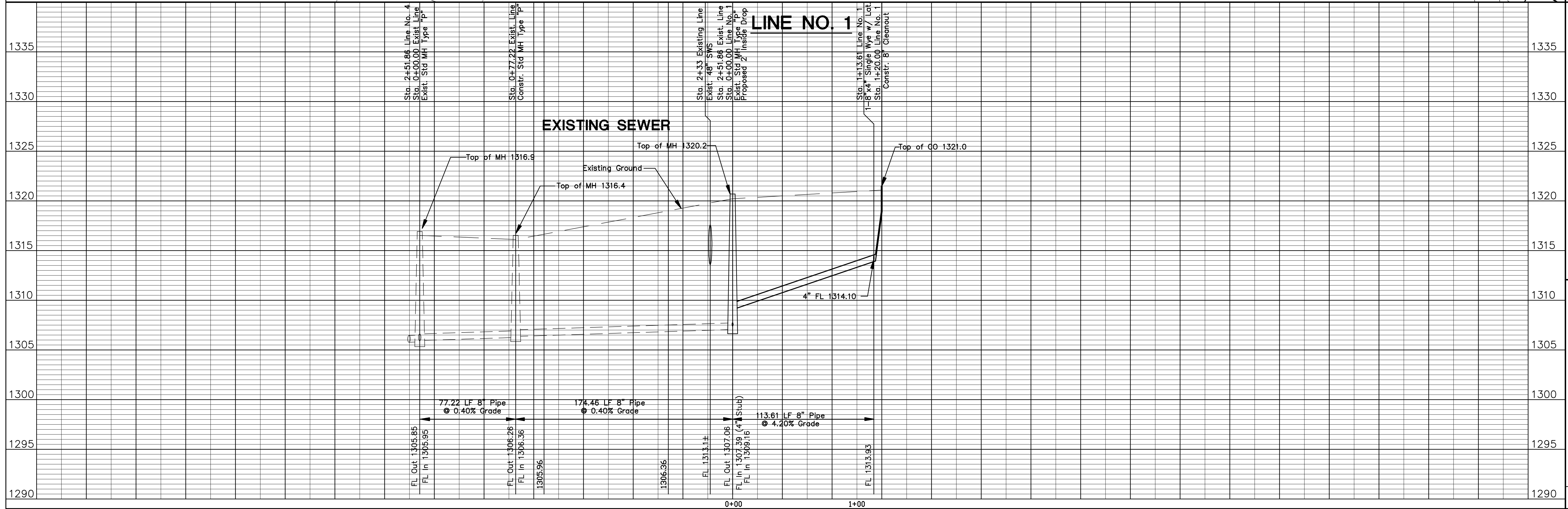
POE & ASSOCIATES, INC.
 CONSULTING ENGINEERS
 5940 E. Central, Suite 200 ■ Wichita, KS 67208-4242
 Phone 316/685-4114 ■ FAX 316/685-4444



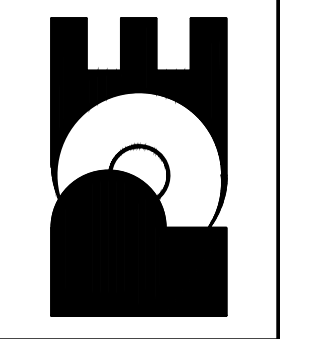


RECORD DRAWING
3-18-2014

TERRADYNE WEST 2ND ADDITION
SANITARY SEWER EXTENSION PROJECT
SANITARY SEWER LINE NO. 1
CITY OF WICHITA, KANSAS
JAMES L. ARMOUR, P.E. - CITY ENGINEER
1874-PPS O.C.A.# 607861



POE & ASSOCIATES, INC.
CONSULTING ENGINEERS
5940 E. Central, Suite 200 ■ Wichita, KS 67208-4242
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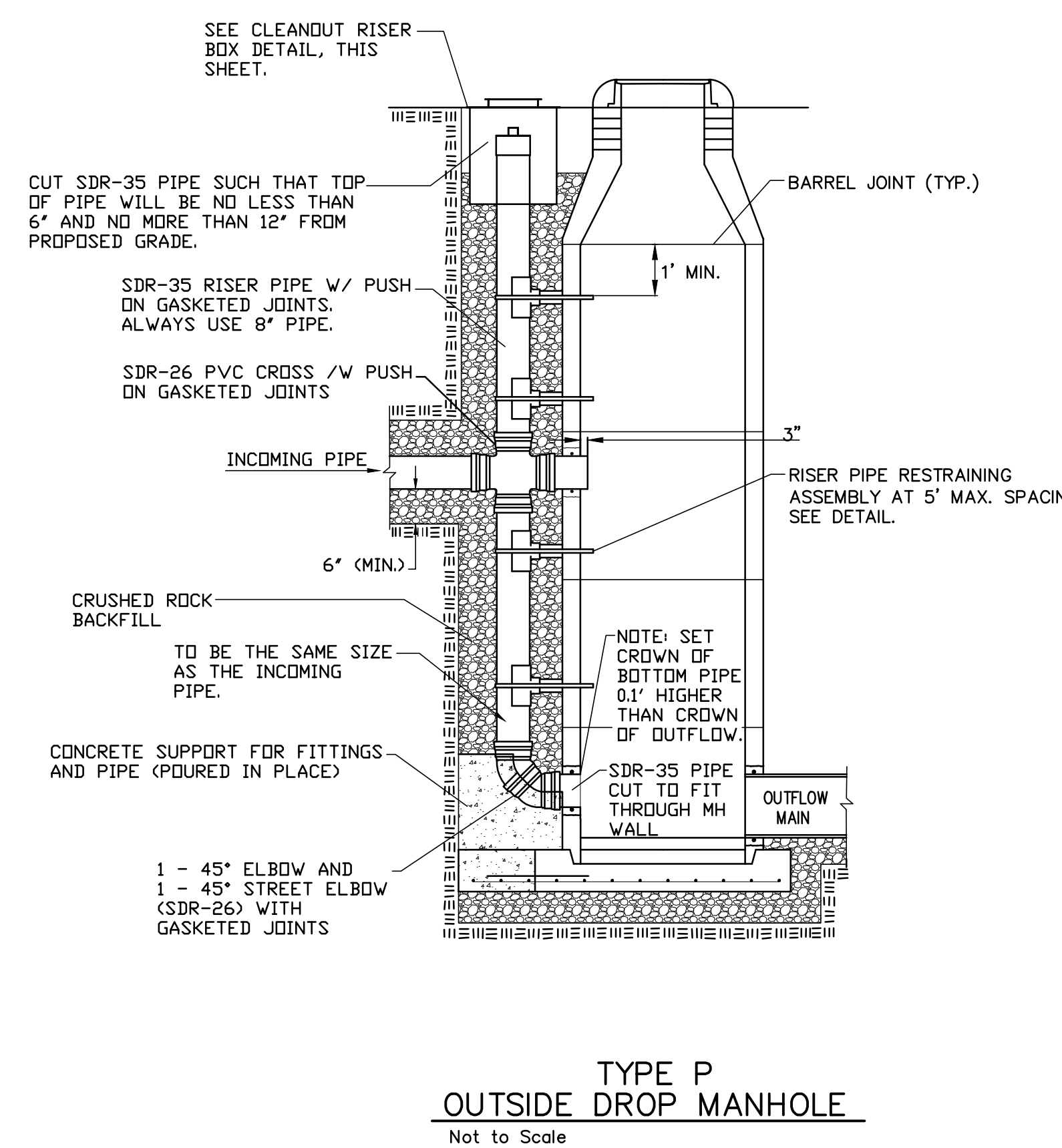
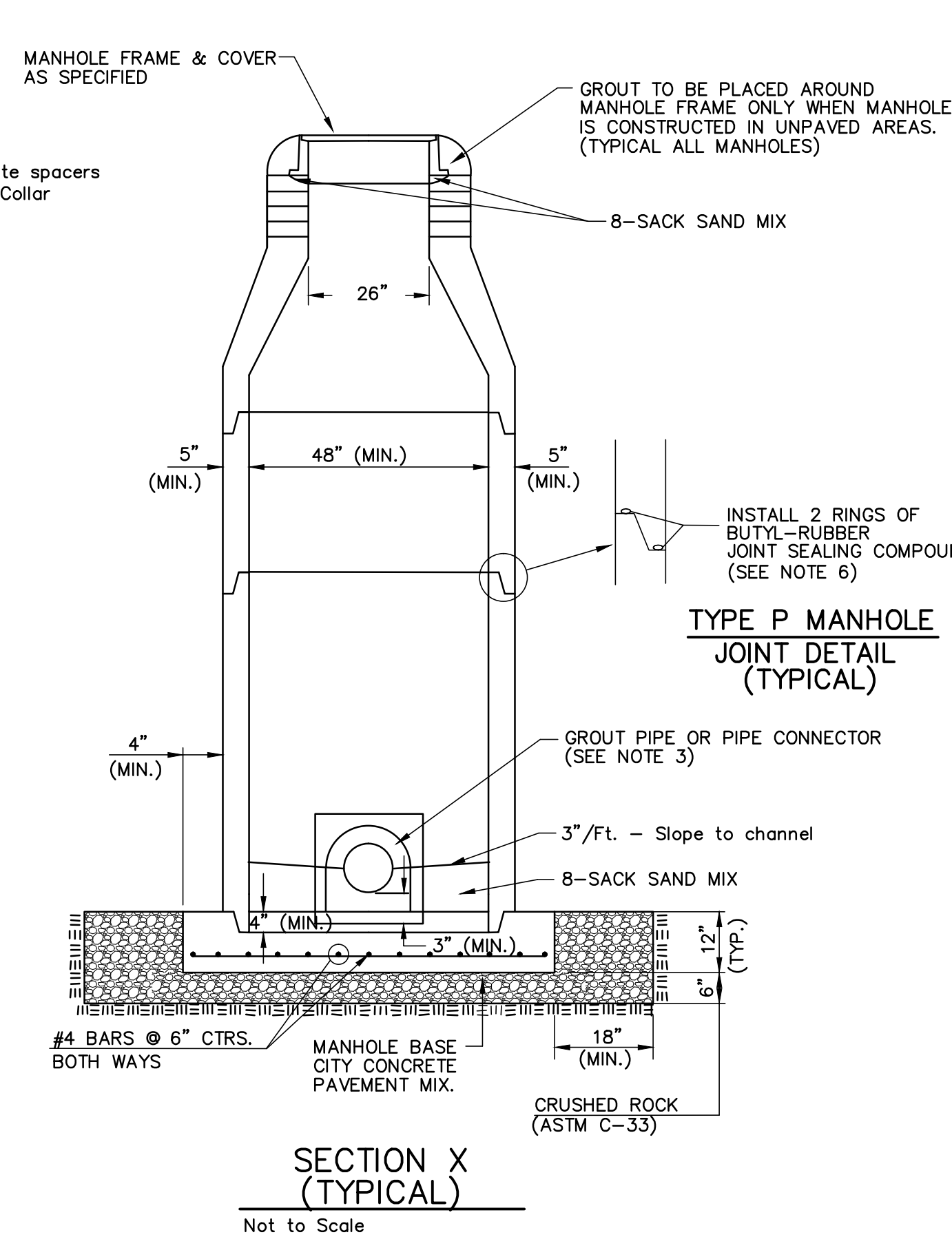
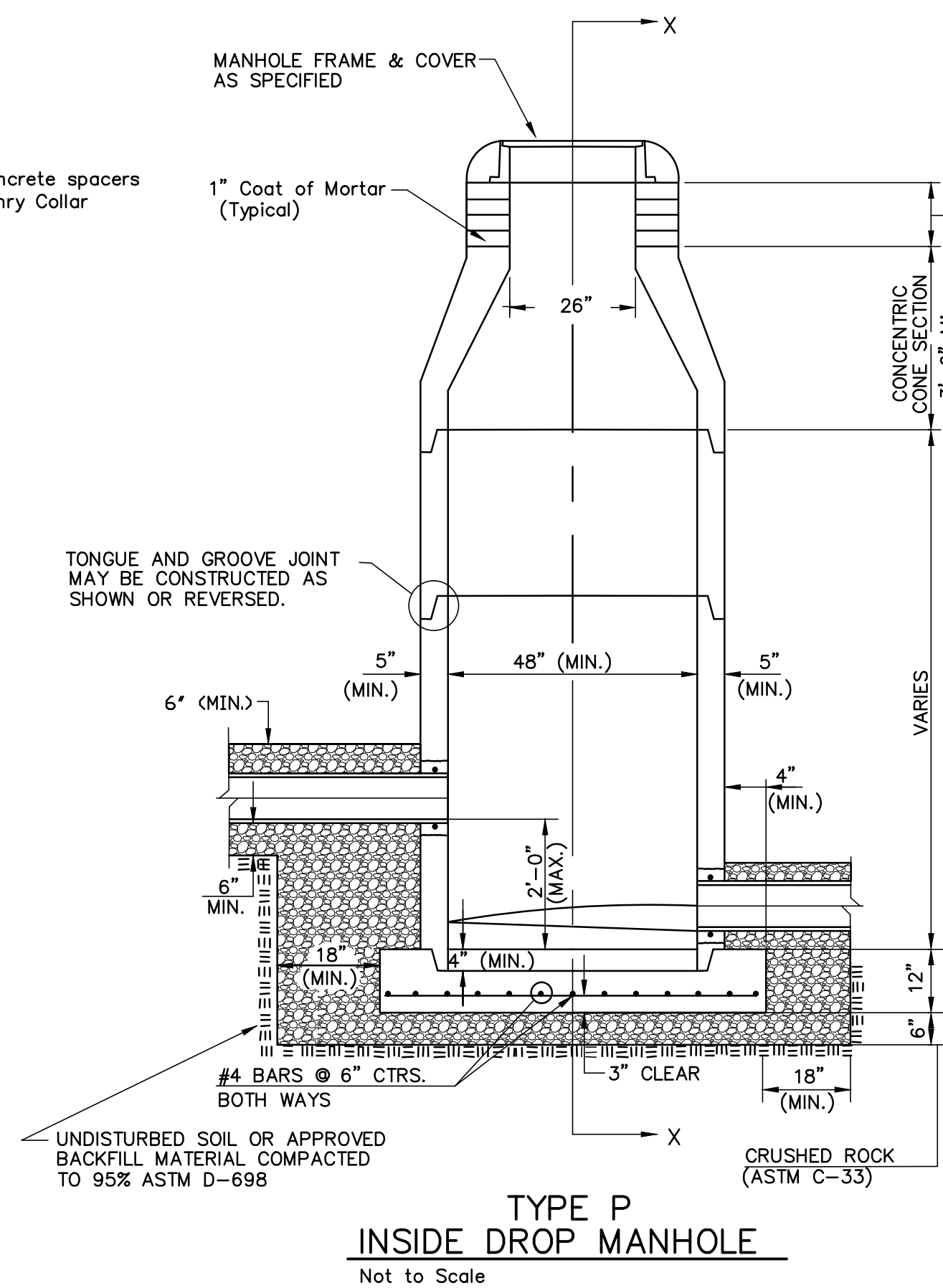
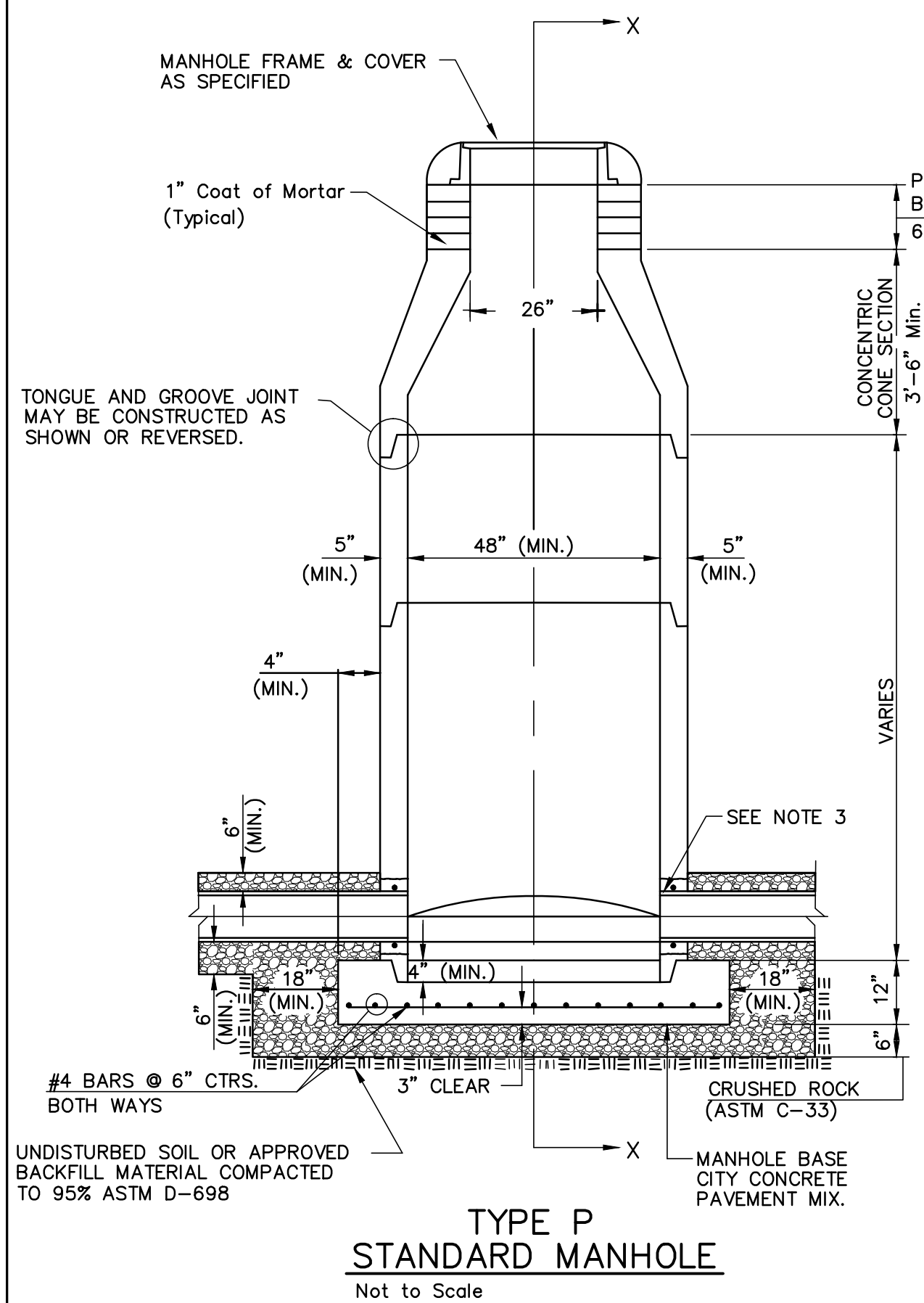
FINAL

Designed By: J. DICKMAN
Drawn By: M. TUCKER
Poe Job No.: 1809
Date: MAY 2008

Sheet
2 of 12

SEWER APPURTENANCES DETAILS

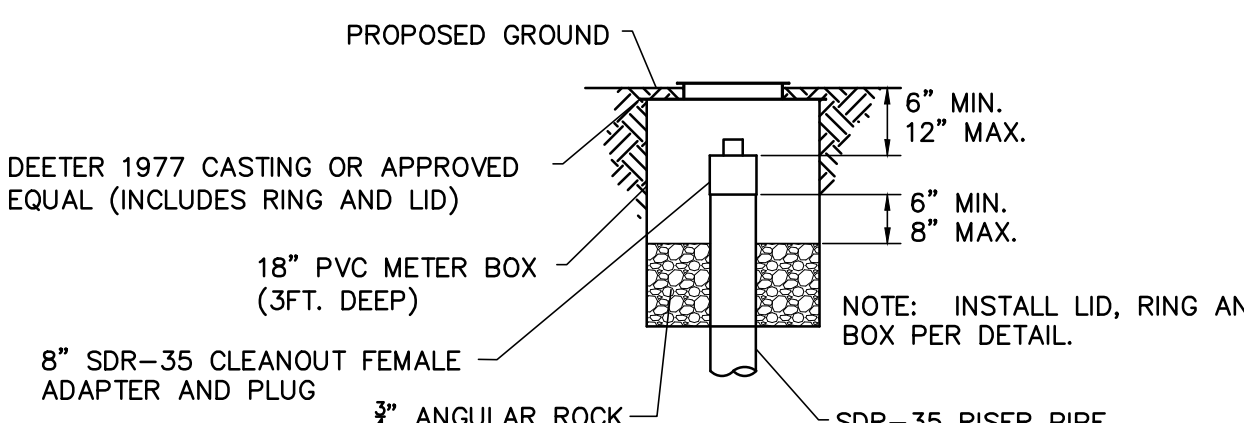
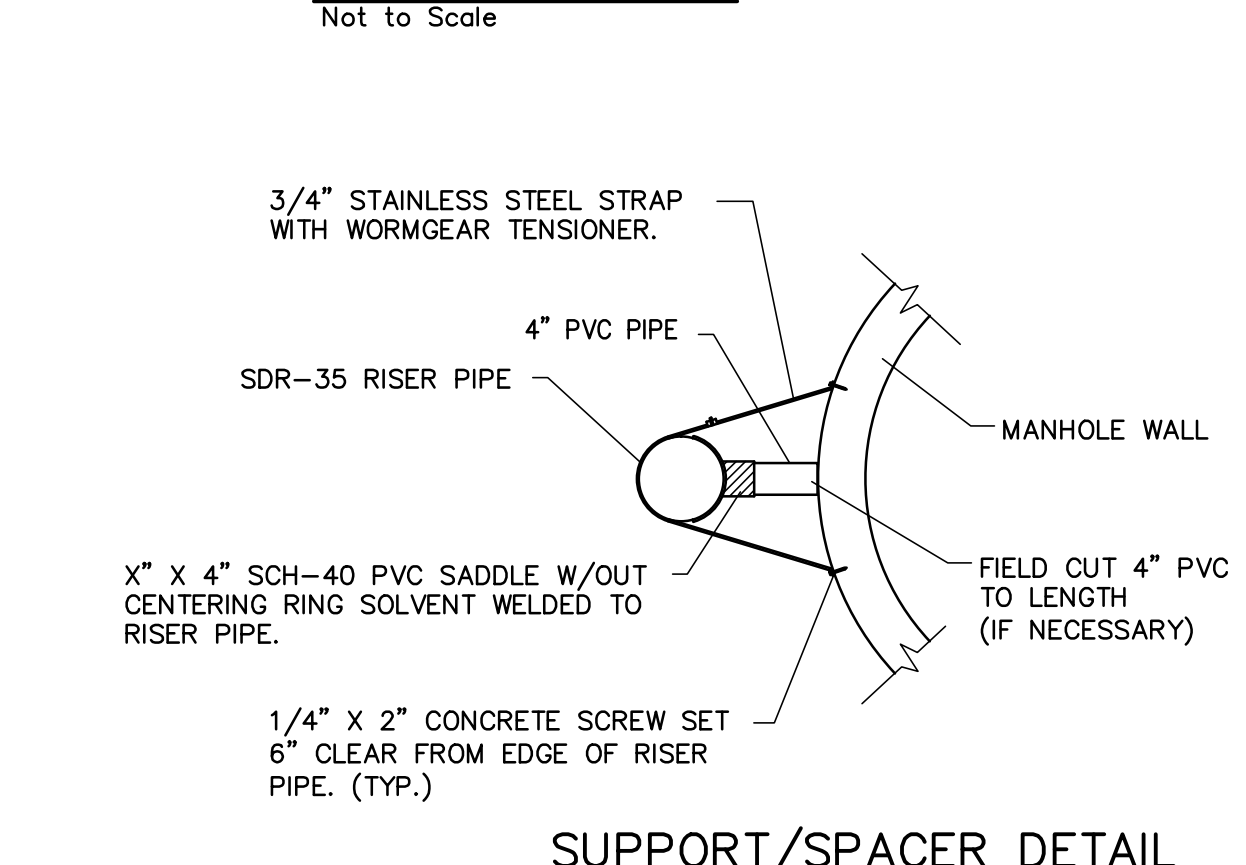
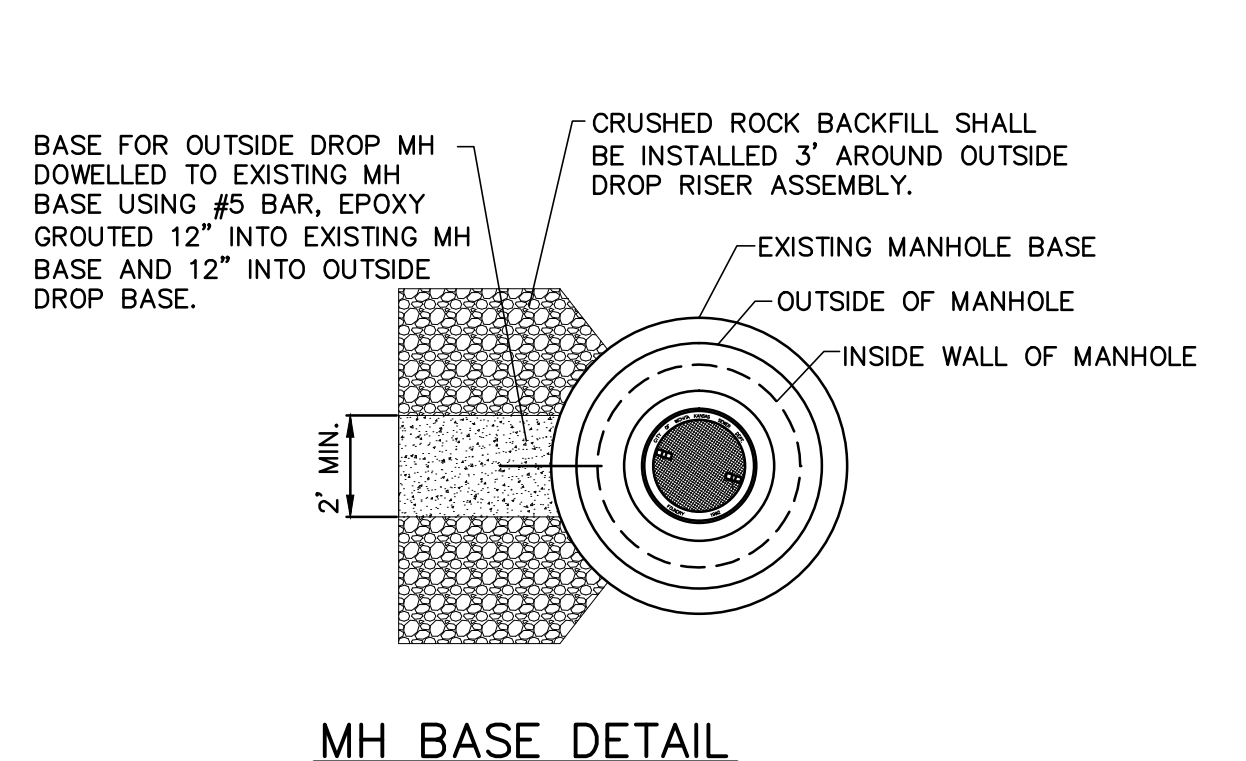
ADOPTED AS STANDARD DESIGN BY CITY OF WICHITA, KS AUGUST 2007



- PRECAST MANHOLE GENERAL NOTES**
- ALL PRECAST CONCRETE MANHOLE SECTIONS SHALL CONFORM TO THE LATEST REVISIONS OF A.S.T.M. C478 AS MODIFIED BY THE SPECIFICATIONS.
 - NON-SHRINK GROUT SHALL BE NON-METALLIC TYPE.
 - APPROVED FLEXIBLE WATERSTOP GASKETS SHALL BE INSTALLED TO JOIN THE SEWER TO THE MANHOLE WALL WHEN P.V.C. PIPE IS USED. FOR OTHER TYPES OF PIPE THE SEWER SHALL BE GROUDED IN PLACE WITH NON-SHRINK GROUT. THE SEWER PIPE SHALL BE SUPPORTED WITH CRUSHED ROCK A MINIMUM OF 3 FEET FROM THE MANHOLE WALL AND TO THE FIRST JOINT FOR V.C.P. SUCH THAT THE JOINT REMAINS FLEXIBLE.
 - ALL INSIDE SURFACES OF THE CONCRETE MANHOLE WHICH WOULD BE EXPOSED TO SEWER GAS SHALL BE COATED PER SECTION 804.4 OF STANDARD SPECIFICATIONS.
 - EXTERIOR MANHOLE WALLS SHALL BE COATED PER SECTION 804.4 OF STANDARD SPECIFICATIONS.
 - JOINT SEALING COMPOUND SHALL BE PER 804.4 OF STANDARD SPECIFICATIONS.
 - PRECAST MANHOLES SHALL BE SET AT LEAST 4 INCHES INTO THE MANHOLE BASE.
 - 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.
 - LIFTING HOLES SHALL BE FILLED WITH NON-SHRINK GROUT AND THE INTERIOR SURFACE COATED AS SPECIFIED.
 - 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 CASTING SPECIFICATIONS 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. COMPLETED MANHOLE SHALL BE WITHOUT LEAKS AND WATER TIGHT.
 - 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.
 - WALL THICKNESS SHALL BE 1" GREATER THAN MANHOLE DIAMETER IN FEET.

- OPENINGS SHALL BE CORE DRILLED INTO THE MANHOLE WALL WHEN OUTSIDE DROPS ARE CONSTRUCTED ON EXISTING MANHOLES. SUCH OPENINGS DRILLED INTO EXISTING MANHOLES SHALL BE AS SMALL AS PRACTICAL TO FACILITATE INSTALLING AND GROUDED THE NEW PIPE IN PLACE. WATERSTOP GASKETS SHALL BE USED WITH P.V.C. PIPE. THE NEW PIPE SHALL BE GROUDED INTO THE OPENING USING AN APPROVED NONSHRINK 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.
- 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 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.
- 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.
- THE VERTICAL DROP IN INSIDE DROP MANHOLES SHALL NOT EXCEED 2' REGARDLESS OF PIPE SIZE. THE CROWNS OF INFLOWING PIPES SHALL NEVER BE SET LOWER THAN THE CROWN OF THE OUTFLOWING PIPE.
- 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.
- 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.
- THE FULL DIAMETER OF THE MANHOLE SHALL EXTEND THE ENTIRE DEPTH OF THE MANHOLE TO THE CONE SECTION. NO REDUCTION IN MANHOLE DIAMETER WILL BE ALLOWED.
- REFER TO PLANS FOR SIZE OF OUTSIDE DROP RISER, SADDLES AND CROSS.

- LEGEND**
- = CRUSHED ROCK *
 - = UNDISTURBED SOIL
- * CRUSHED ROCK USED FOR ENCASEMENT AND BEDDING SHALL CONFORM TO ASTM C-33, GRADATION NO. 67, AND SHALL MEET ALL REQUIREMENTS FOR PORTLAND CEMENT CONCRETE PAVEMENT COARSE AGGREGATE, SECTION 406.2, CITY OF WICHITA STANDARD SPECIFICATIONS. ALL CRUSHED ROCK FOR BEDDING AND ENCASEMENT SHALL EXTEND TO THE LIMITS OF THE MANHOLE EXCAVATION.**
- FRAMES AND CHIMNEYS OF ALL MANHOLES CONSTRUCTED IN A FLOODWAY OR UNDER A PAVED SURFACE SHALL BE SEALED WITH AN EXTERNAL CHIMNEY SEAL AS MANUFACTURED BY CRETEX SPECIALTY PRODUCTS, OR PRE-APPROVED EQUAL. THE CHIMNEY SEAL SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND CONSIST OF A FLEXIBLE EXTERNAL RUBBER SLEEVE, INTERLOCKING EXTENSIONS AND STAINLESS STEEL COMPRESSION BANDS, DESIGNED TO REMAIN FLEXIBLE THROUGHOUT 25 YEAR LIFE, ALLOWING REPEATED VERTICAL MOVEMENT OF THE FRAME OF NOT LESS THAN 2 INCHES AND/OR REPEATED HORIZONTAL MOVEMENT OF NOT LESS THAN 1/2 INCH, WITH A SLEEVE PORTION THAT IS CORRUGATED WITH A MINIMUM UNEXPANDED VERTICAL HEIGHT OF EITHER 6 INCHES OR 9 INCHES AND CAPABLE OF BEING MECHANICALLY LOCKED TO THE MANHOLE FRAME, WITH A MINIMUM THICKNESS OF 3/16 INCHES MADE FROM A HIGH QUALITY RUBBER COMPOUND CONFORMING TO THE APPLICABLE REQUIREMENTS OF ASTM C-923, WITH A MINIMUM OF 1500 PSI TENSILE STRENGTH, A MAXIMUM 18% COMPRESSION SET AND A HARDNESS (DUROMETER) OF 48+5, WITH BANDS INTEGRALLY FORMED FROM 16 GAUGE STAINLESS STEEL CONFORMING TO ASTM A-240, TYPE 304, WITH NO WELDED ATTACHMENTS AND WITH A MINIMUM ADJUSTMENT RANGE OF 2 DIAMETER INCHES, USING SCREWS, BOLTS AND NUTS OF STAINLESS STEEL CONFORMING TO ASTM F-593 AND 594, TYPE 304.
 - ALL MANHOLE SECTION JOINTS THAT WILL BE IN GROUNDWATER SHALL BE WRAPPED WITH AN EXTERNAL JOINT SEAL, CRETEXWRAP EXTERNAL JOINT SEAL, OR PRE-APPROVED EQUAL. EXTERNAL JOINT SEAL SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS, AND SHALL MEET OR EXCEED THE REQUIREMENTS OF ASTM C-877 TYPE II, AND HAVE PASSED THE ASTM C-1244 TEST. EXTERNAL JOINT SEAL SHALL CONSIST OF A COLLAR 9" TO 10" WIDE WITH AN OUTER LAYER OF POLYETHYLENE WITH A MINIMUM TENSILE STRENGTH OF 4,000 PSI AND A MINIMUM TEAR RESISTANCE OF 1500 PSI, AND AN UNDER LAYER OF RUBBERIZED MASTIC REINFORCED WITH WOVEN POLYPROPYLENE FABRIC, WITH TWO 5/8" STEEL STRAPS LOCATED WITHIN THE COLLAR 3/4" FROM EACH EDGE AND CONFINED IN TUBES THAT ISOLATE THEM FROM THE MASTIC AND ALLOW THEM TO SLIP FREELY WHEN MECHANICALLY TIGHTENED AND LOCKED AROUND THE MANHOLE JOINT, AND FURNISHED WITH A MINIMUM OF 6" OVERLAP AND A CLOSING FLAP TO COVER ANY REMAINING EXPOSED STRAP.



RECORD DRAWING
3-18-2014

STANDARD TYPE 'P' MANHOLES

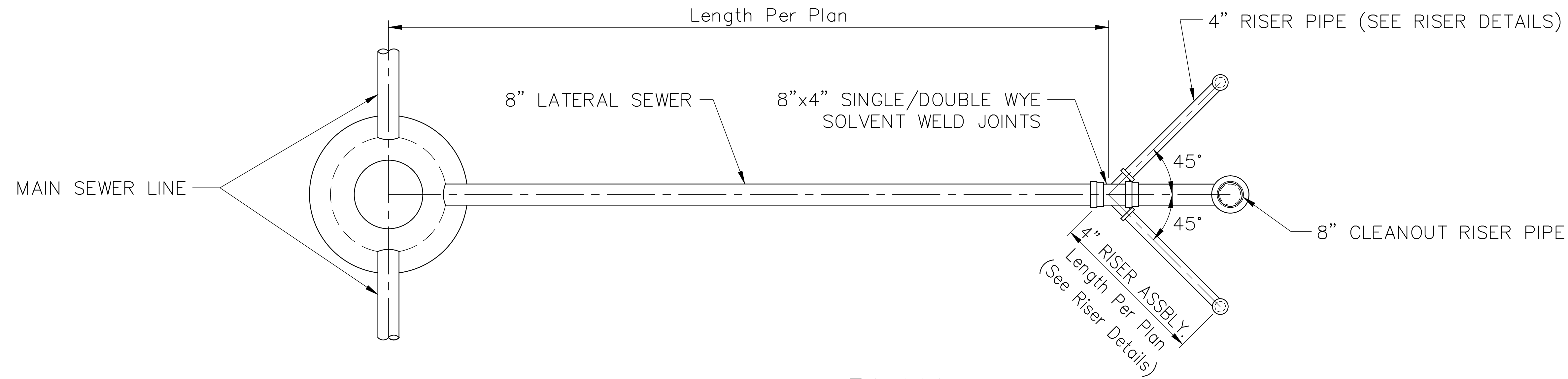
CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE

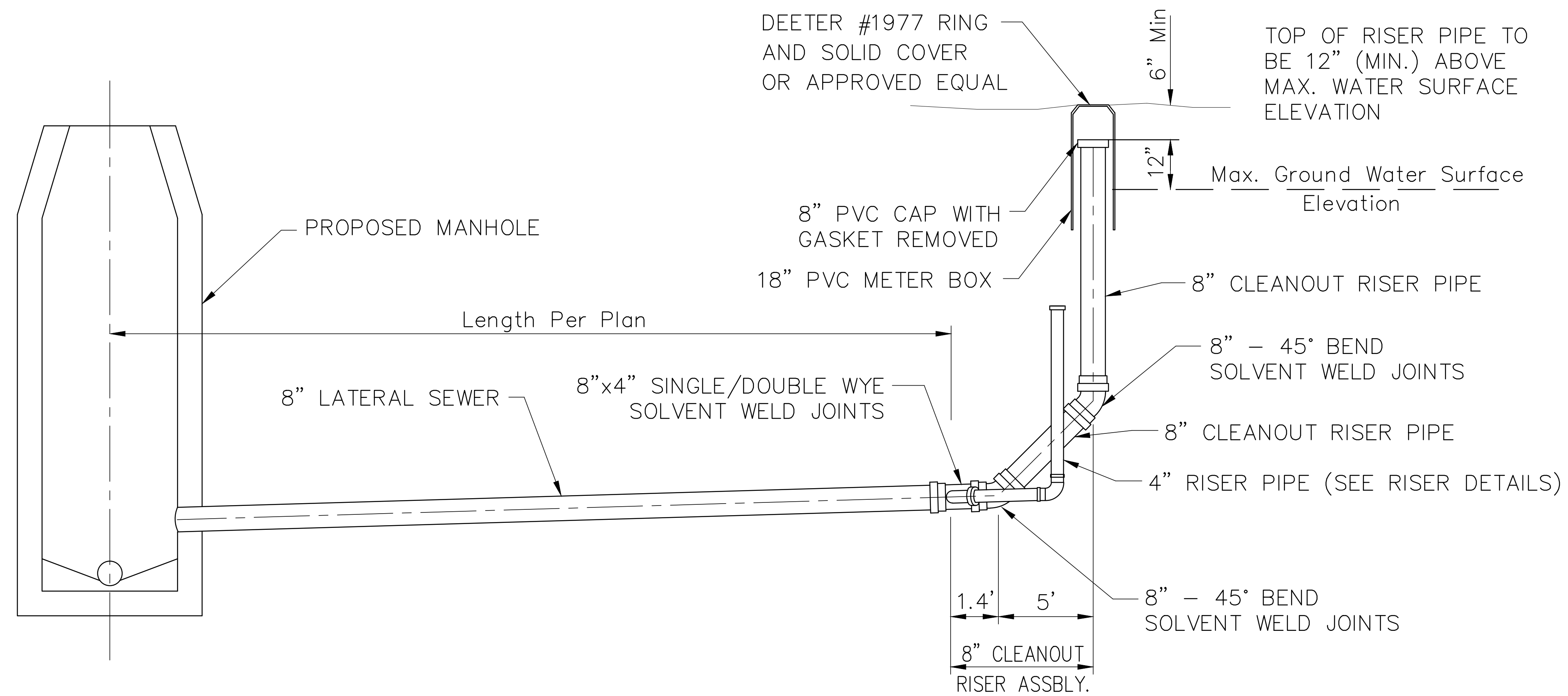
CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1620
(316) 268-4501
(316) 268-4114 FAX

TERRAYNE WEST 2ND ADDITION SANITARY SEWER EXTENSION PROJECT TYPE 'P' MANHOLE	CITY OF WICHITA, KANSAS JAMES L. ARMOUR, P.E. - CITY ENGINEER 1874-PPS O.C.A.# 607861	POE & ASSOCIATES, INC. CONSULTING ENGINEERS 5940 E. Central, Suite 200 ■ Wichita, KS 67208-4242 Phone 316/665-4114 ■ FAX 316/665-4444	FINAL Designed By: J. DICKMAN Drawn By: M. TUCKER Poe Job No.: 1809 Date: MAY 2008	Revision By: _____ Date: _____ No. _____
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Sheet
3 of 12



PLAN



PROFILE

"Cleanout" shall be paid for at the contract unit price per each, which price shall be full compensation for all pipe, fittings, marking tape, ring & solid cover, meter box, and any other incidentals required to complete the work.

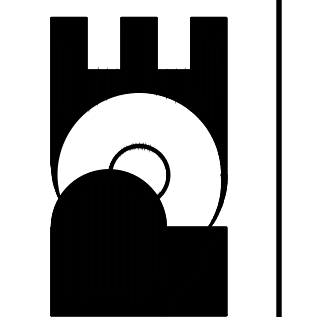
8" CLEANOUT RISER ASSEMBLY DETAIL

RECORD DRAWING
3-18-2014

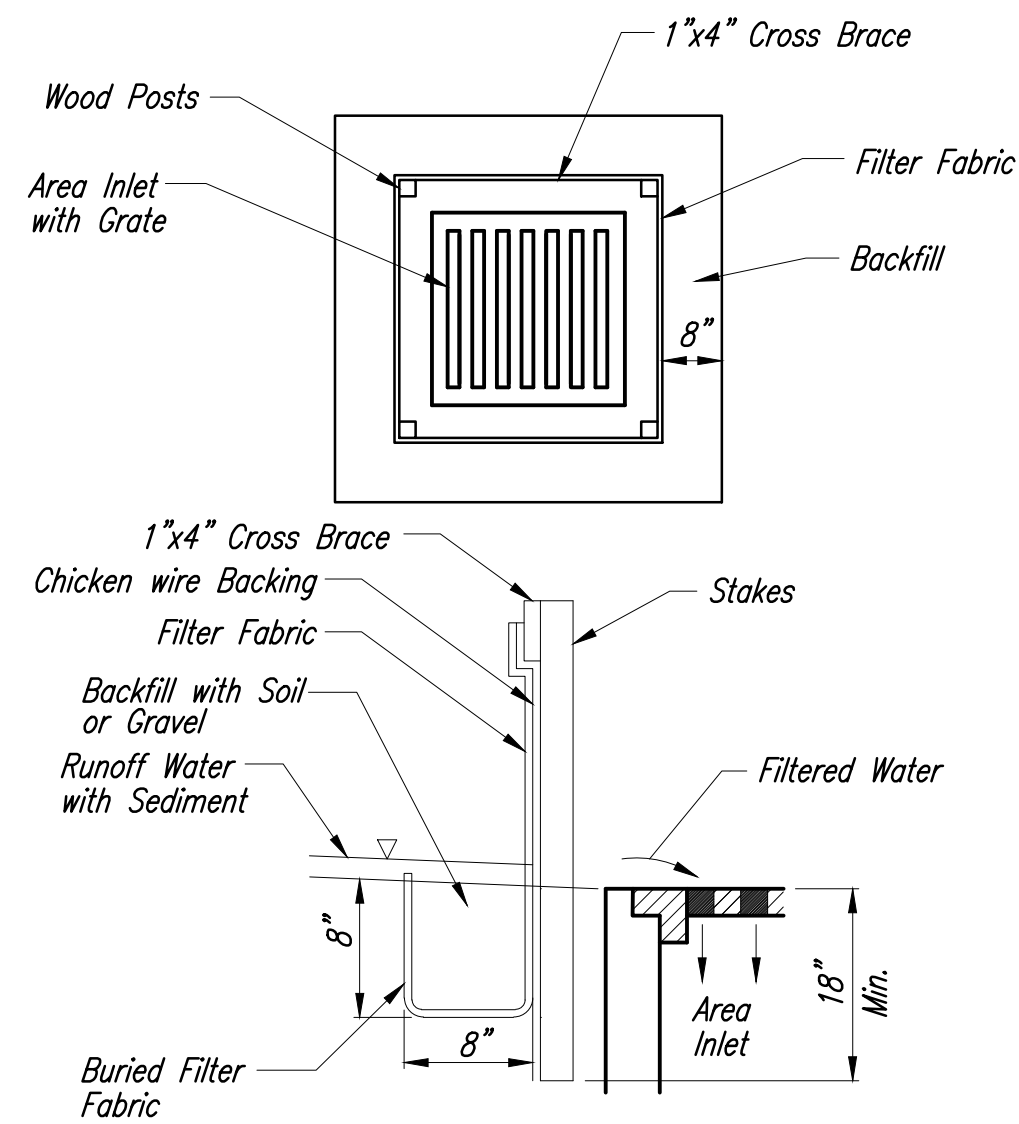
No.	Date	By	Approved	Revision
1				
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TERRADYNE WEST 2ND ADDITION
SANITARY SEWER EXTENSION PROJECT
CLEANOUT DETAILS
CITY OF WICHITA, KANSAS
JAMES L. ARMOUR, P.E. - CITY ENGINEER
1874-PPS O.C.A.# 807861

POE & ASSOCIATES, INC.
CONSULTING ENGINEERS
5940 E. Central, Suite 200 ■ Wichita, KS 67208-4242
Phone: 316/685-4114 ■ FAX: 316/685-4444



FINAL
Designed By: J. DICKMAN
Drawn By: M. TUCKER
Poe Job No.: 1809
Date: MAY 2008



SILT FENCE BARRIERS FOR AREA INLETS
(INLET PROTECTION)

Material Specification:

Silt fence fabric should conform to the AASHTO M288 96 silt fence specification. The wire or polymeric mesh backing used to help support the silt fence fabric should conform to the AASHTO M288 96 silt fence specification. The posts used to support the silt fence fabric should be a hardwood material with the following minimum dimensions: 2" square (nominal) by 4' long. The material used to frame the tops of the posts should be 1" by 4" boards. Silt fence fabric and support backing should be attached to the wooden posts and frame with staples, wire, zip ties, or nails.

Placement:

Place a silt fence drop inlet barrier in a location where it is unlikely to be overtopped. Water should flow through silt fence, not over it. Silt fence barriers for area inlets often fail when repeatedly overtopped. When used as a barrier for area inlets, silt fence fabric and posts must be supported at the top by a wooden frame. When a silt fence barrier for area inlets is located near an inlet that has steep approach slopes, the storage capacity behind the barrier is drastically reduced. Timely removal of sediment must occur for a barrier to operate properly in this location.

Proper installation method:

Excavate a trench around the perimeter of the area inlet that is at least 8" deep by 8" wide. Drive posts to a depth of at least 18" around the perimeter of the area inlet. The distance between posts should be 4' or less. If the distance between two adjacent corner posts is more than 4', add another post(s) between them. Connect the tops of all the posts with a wooden frame made of 1" by 4" boards. Use nails or screws for fastening. Attach the wire or polymeric-mesh backing to the outside of the post/frame structure with staples, wire, zip ties, or nails. Roll out a continuous length of silt fence fabric long enough to wrap around the perimeter of the area inlet. Add more length for overlapping the fabric joint. Place the edge of the fabric in the trench, starting at the outside edge of the trench. Line all three sides of the trench with the fabric. Backfill over the fabric in the trench with the excavated soil and compact. After filling the trench, approximately 24" to 36" of silt fence fabric should remain exposed. Attach the silt fence to the outside of the post/frame structure with staples, wire, zip ties, or nails. The joint should be overlapped to the next post.

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

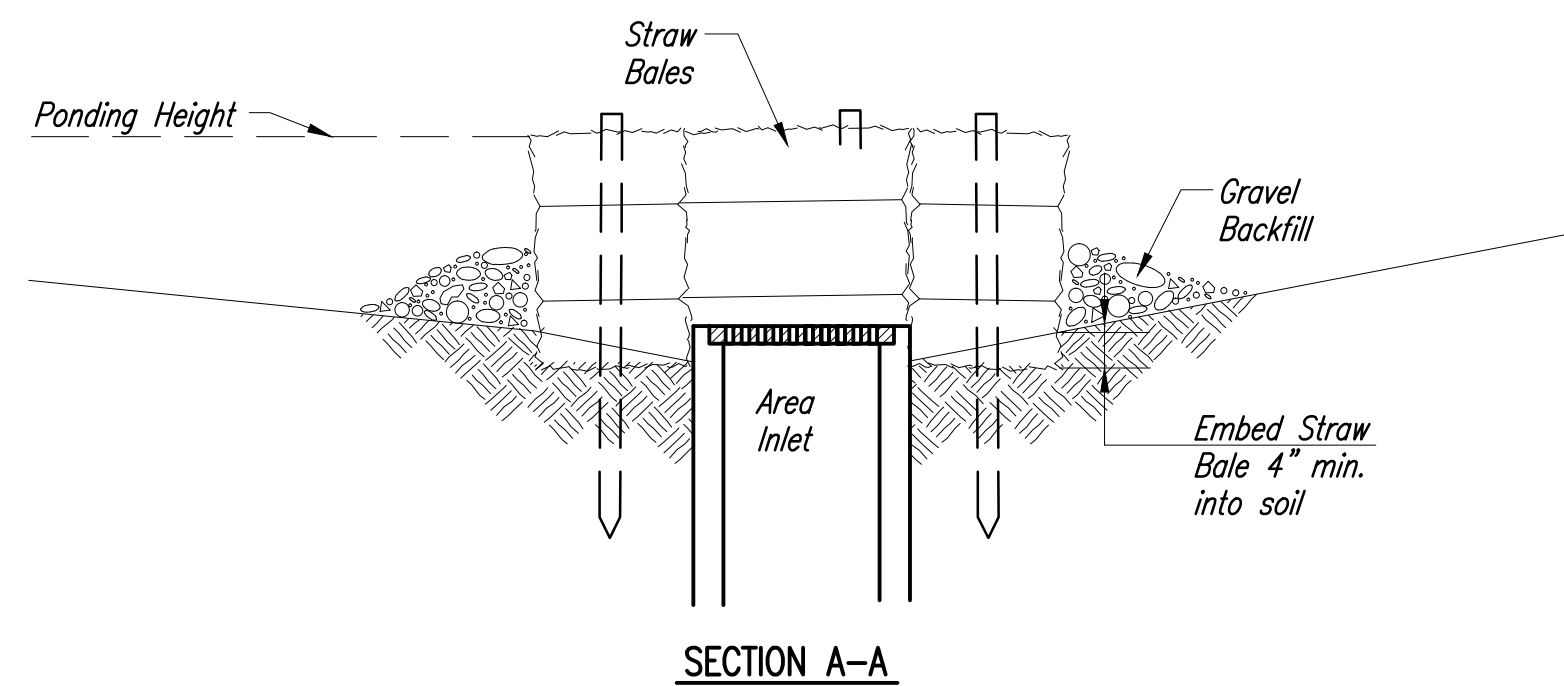
List of common placement/installation mistakes to avoid:

Water should flow through a silt fence barrier for area inlet—not over it. Place a silt fence barrier for area inlet in a location where it is unlikely to be overtopped. Silt fence barrier for area inlets often fail when repeatedly overtopped. Do not place posts on the outside of the silt fence barrier for area inlet. In this configuration, the force of the water is not resisted by the posts, but only by the staples (wire, zip ties, nails, etc.). The silt fence will rip and fail. Do not install silt fence barrier for area inlets without framing the top of the posts. The corner posts around area inlets are stressed in two directions whereas a normal silt fence is only stressed in one direction. This added stress requires more support.

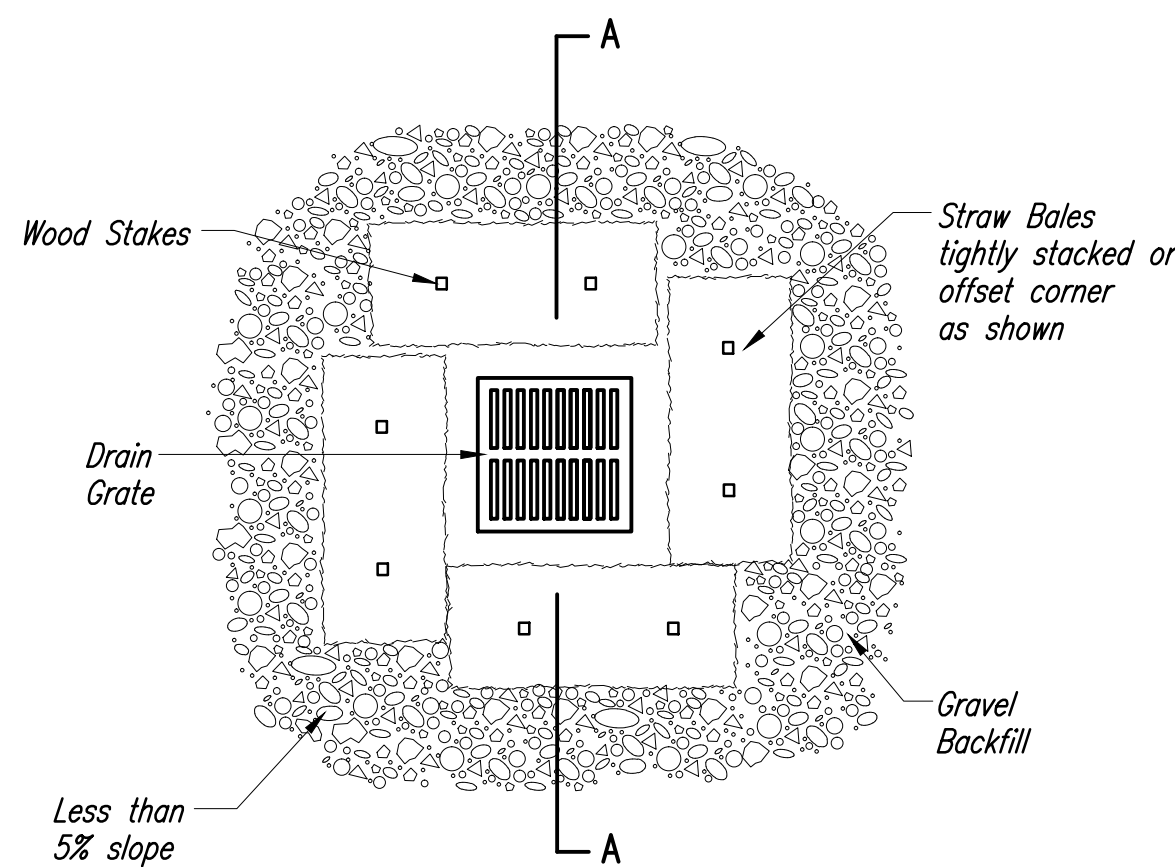
Inspection and Maintenance:

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

- Does water flow under the silt fence?
- Does the silt fence sag excessively?
- Has the silt fence torn or become detached from the posts?
- Does sediment need to be removed from behind the area inlet barrier?



SECTION A-A



STRAW BALE BARRIERS FOR AREA INLETS
(INLET PROTECTION)

Material Specification:

Bale area inlet barriers should be constructed of wheat straw, oat straw, prairie hay, or bromegrass hay that is free of weeds declared noxious by the Kansas State Board of Agriculture. The stakes used to anchor the bales should be a hardwood material with the following minimum dimensions: 2" square (nominal) by 4' long. Twine should be used to bind bales. The use of wire binding is prohibited because it does not biodegrade readily.

Placement:

Bale area inlet barriers should be placed directly around the perimeter of a drop inlet. When a bale area inlet barrier is located near an inlet that has steep approach slopes, the storage capacity behind the barrier is drastically reduced. Timely removal of sediment must occur for a barrier to operate properly in this location.

Proper Installation Method:

Excavate a trench around the perimeter of the area inlet that is at least 4" deep by a bale's width wide. Place the bales in the trench, making sure that they are butted tightly. Some bales may need to be shortened to fit into the trench around the area inlet. Two stakes should be driven through each bale, approximately 6" to 8" in from the bale ends. Stakes should be driven at least 12" into the ground. Once all the bales have been installed and anchored, place the excavated soil against the receiving side of the barrier and compact it. The compacted soil should be no more than 3" to 4" deep. **Note:** When a bale area inlet barrier is placed in a shallow median ditch, make sure that the top of the barrier is not higher than the paved road. In this configuration, water may spread onto the roadway causing a hazardous condition.

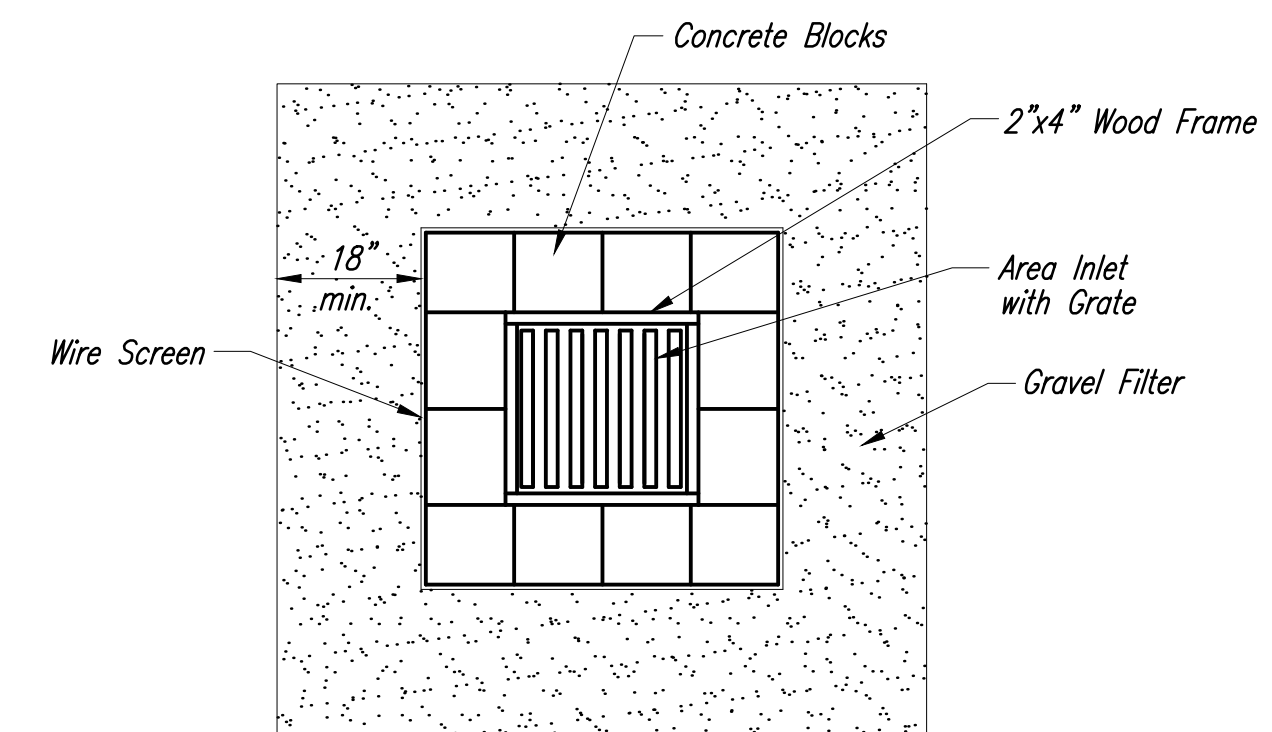
List of common placement installation mistakes to avoid:

Bales should be placed directly against the perimeter of the area inlet. This allows overtopping water to flow directly into the inlet instead of onto nearby soil causing scour. Bale area inlet barriers must be dug into the ground. Bales at ground level do not work because they allow water to flow under the barrier.

Inspection and Maintenance:

Bale area inlet barriers should be inspected every 7 days and within 24 hours of a rainfall 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?



CONCRETE BLOCK FILTER FOR AREA INLETS
(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.

RECORD DRAWING
3-18-2014

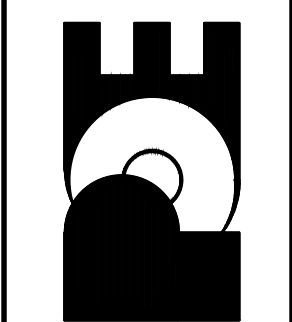


SOIL EROSION BMPs	
AREA INLET BARRIERS	
SCOTT LINDEBAK, P.E. STORM WATER ENGINEER	
PROJECT NUMBER	OCA NO.
DATE	MAR 2007

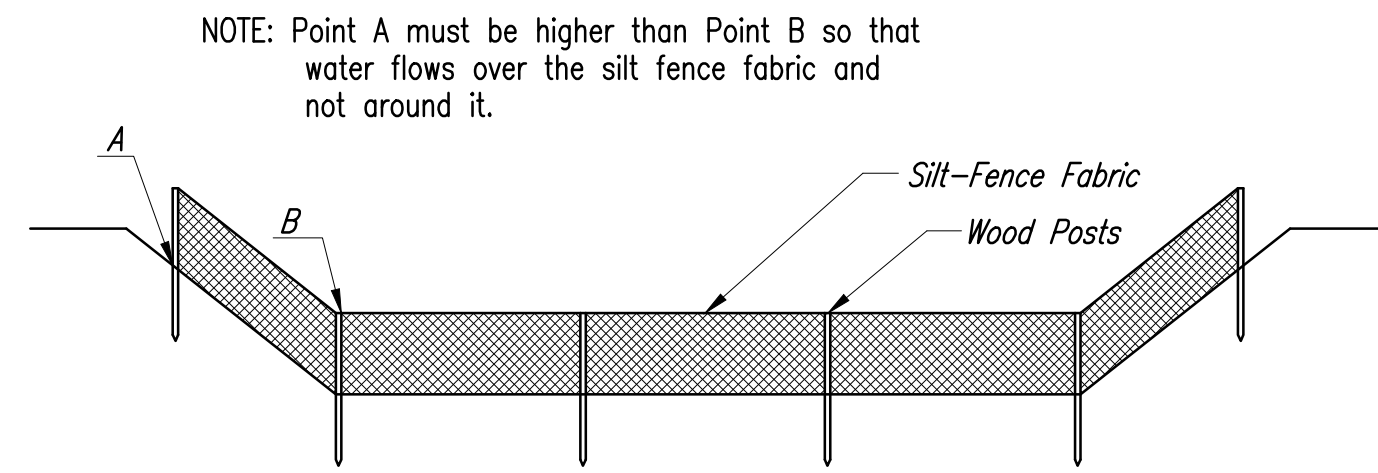
No.	Date	By	Approved	Revision

TERRADNE WEST 2ND ADDITION
SANITARY SEWER EXTENSION PROJECT
EROSION CONTROL BMP'S
CITY OF WICHITA, KANSAS
JAMES L. ARMOUR, P.E. - CITY ENGINEER
1874-PPS O.C.A.# 607861

POE & ASSOCIATES, INC.
CONSULTING ENGINEERS
5940 E. Central, Suite 200 ■ Wichita, KS 67208-4242
Phone 316/665-4114 ■ FAX 316/665-4444



FINAL
Designed By: J. DICKMAN
Drawn By: M. TUCKER
Poe Job No.: 1809
Date: MAY 2008
Sheet
6 of 12



ELEVATION
SILT FENCE DITCH CHECKS
(STREAM PROTECTION)

Material Specification:

Silt fence fabric should conform to the AASHTO M288 96 silt fence specification. The posts used to support the silt fence fabric should be a hardwood material with the following minimum dimensions: 2" square (nominal) by 4' long. Silt fence fabric should be attached to the wooden posts with staples, wire, zip ties, or nails.

Placement:

Place silt fence in ditches where it is unlikely that it will be overtopped. Water should flow through a silt fence ditch check, not over it. Silt fence ditch checks often fail when overtopped. Silt fence ditch checks should be placed perpendicular to the flowline of the ditch. The silt fence should extend far enough so that the ground level at the ends of the fence is higher than the top of the low point of the fence. This prevents water from flowing around the check. Silt fence ditch checks should not be placed in ditches where high flows are expected. Rock checks should be used instead. Silt fence should be placed in ditches with slopes of 6% or less. For slopes steeper than 6%, rock checks should be used.

The following table provides check spacing for a given ditch grade:

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

Proper installation method:

Excavate a trench perpendicular to the ditch flowline that is at least 12" deep by 6" wide. Extend the trench in a straight line along the entire length of the proposed ditch check. Place the soil on the upstream side of the trench for later use. Roll out a continuous length of silt fence fabric on the downstream side of the trench. Place the edge of the fabric in the trench starting at the top upstream edge of the trench. Line two sides of the trench with the fabric as shown on detail. Backfill over the fabric in the trench with the excavated soil and compact. After filling the trench, approximately 24" to 36" of silt fence fabric should remain exposed. Lay the exposed silt fence on the upstream side of the trench to clear an area for driving in the posts. Just downstream of the trench, drive posts into the ground to a depth of at least 24". Place posts no more than 4' apart. Attach the silt fence to the anchored post with staples, wire, zip ties, or nails.

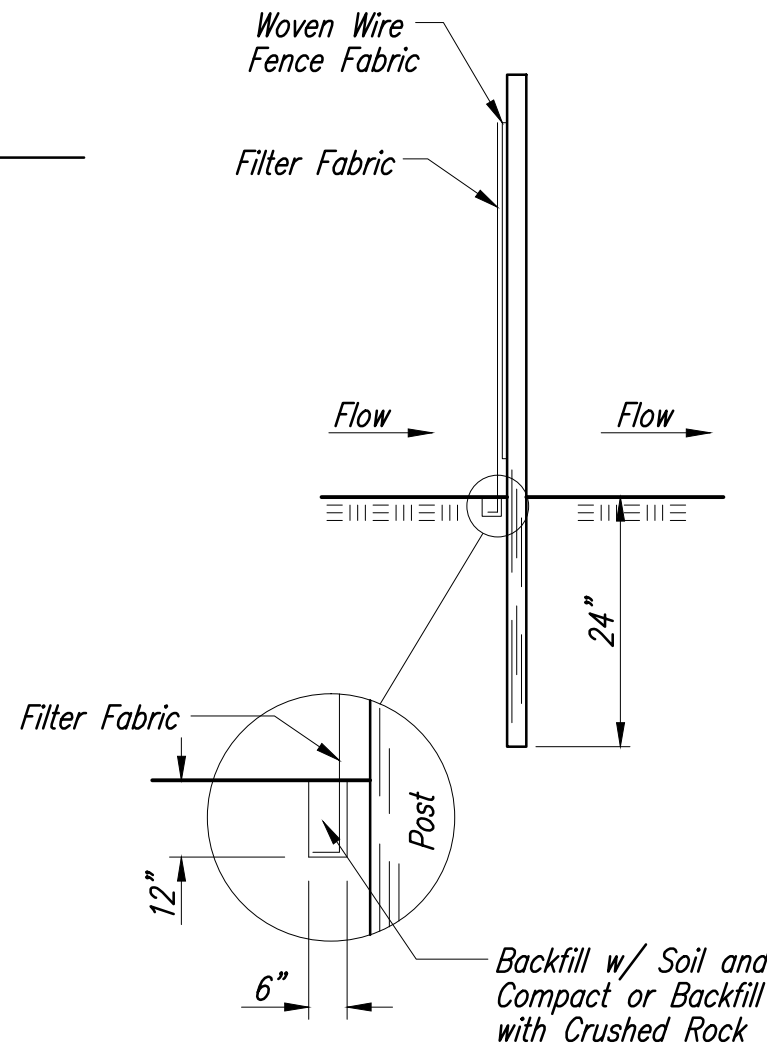
List of common placement/installation mistakes to avoid:

Water should flow through a silt fence ditch check—not over it. Place silt fence in ditches where it is unlikely that it will be overtopped. Silt fence installations quickly deteriorate when water overtops them. Do not place silt fence posts on the upstream side of the silt fence fabric. In this configuration, the force of the water is not restricted by the posts, but only by the staples (wire, zip ties, nails, etc.). The silt fence will rip and fail. Do not place a silt fence ditch check directly in front of a culvert outlet. It will not stand up to the concentrated flow. Do not place silt fence ditch checks in ditches that will likely experience high flows. They will not stand up to concentrated flow. Follow prescribed ditch check spacing guidelines. If spacing guidelines are exceeded, erosion will occur between the ditch checks. Do not allow water to flow around the ditch check. Make sure that the ditch check is long enough so that the ground level at the ends of the fence is higher than the low point on the top of the fence. Do not place silt fence ditch checks in channels with shallow soils underlain by rock. If the check is not anchored sufficiently, it will wash out.

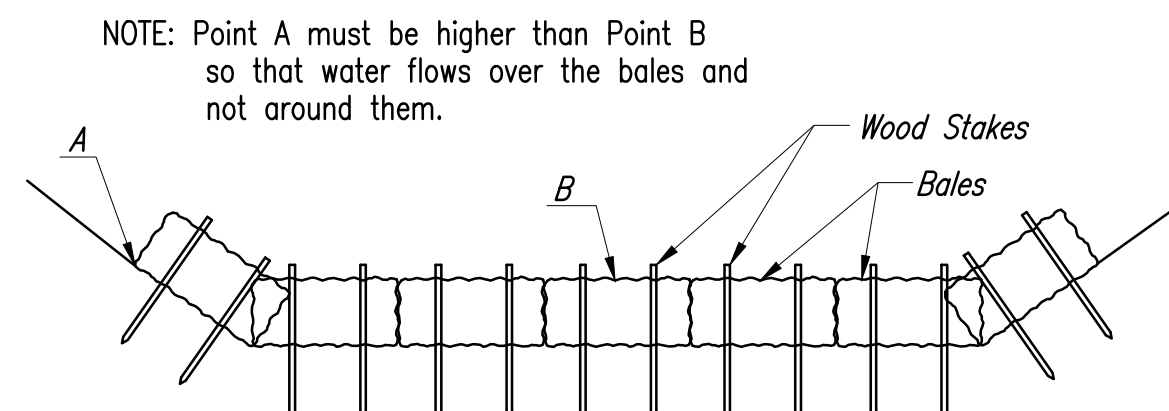
Inspection and Maintenance:

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

- Does water flow around the ditch check?
- Does water flow under the ditch check?
- Does the silt fence sag excessively?
- Has the silt fence torn or become detached from the posts?
- Does sediment need to be removed from behind the ditch check?



ANCHOR TRENCH DETAIL



STRAW BALE DITCH CHECKS

Material Specification:

Bale ditch checks may be constructed of wheat straw, oat straw, prairie hay, or bromegrass hay that is free of weeds declared noxious by the Kansas State Board of Agriculture. The stakes used to anchor the bales should be a hardwood material with the following minimum dimensions: 2" square (nominal) by 4' long. Optional: The downstream scour apron should be constructed of a double-netted straw erosion-control blanket at least 6' wide. Optional: The metal landscape staples used to anchor the erosion-control blanket should be at least 8" long.

Placement:

Bale ditch checks should be placed perpendicular to the flowline of the ditch. The ditch check should extend far enough so that the ground level at the ends of the check is higher than the top of the lowest center bale. This prevents water from flowing around the check. Straw bale ditch checks should not be placed in ditches where high flows are expected. Rock checks should be used instead. Bales should be placed in ditches with slopes of 6% or less. For slopes steeper than 6%, rock checks should be used. The following table provides check spacing for a given ditch grade:

Ditch Check 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".

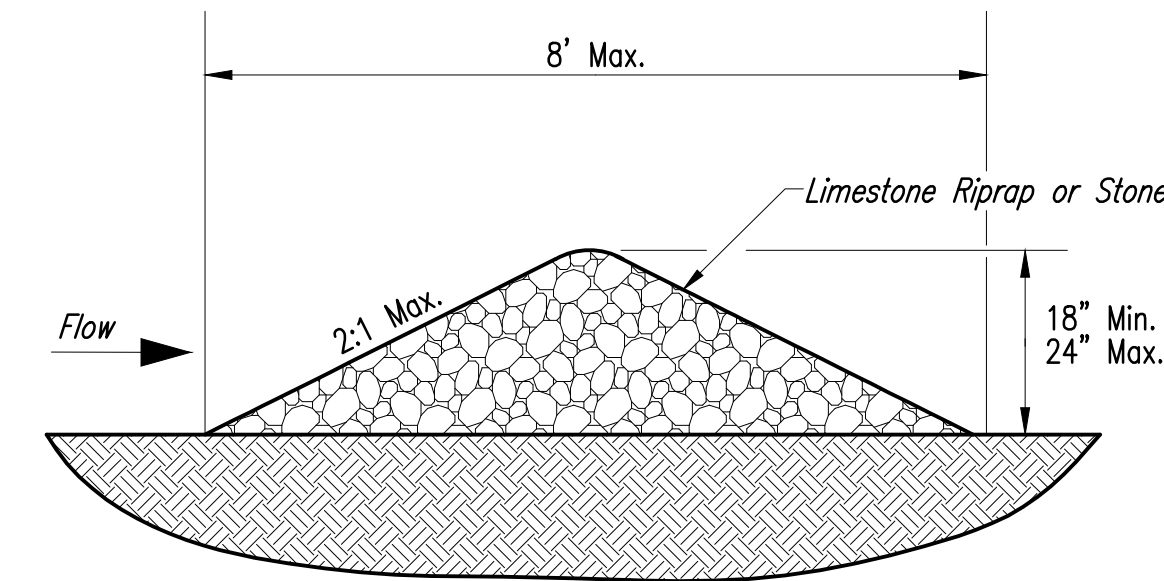
List of common placement/installation mistakes to avoid:

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.

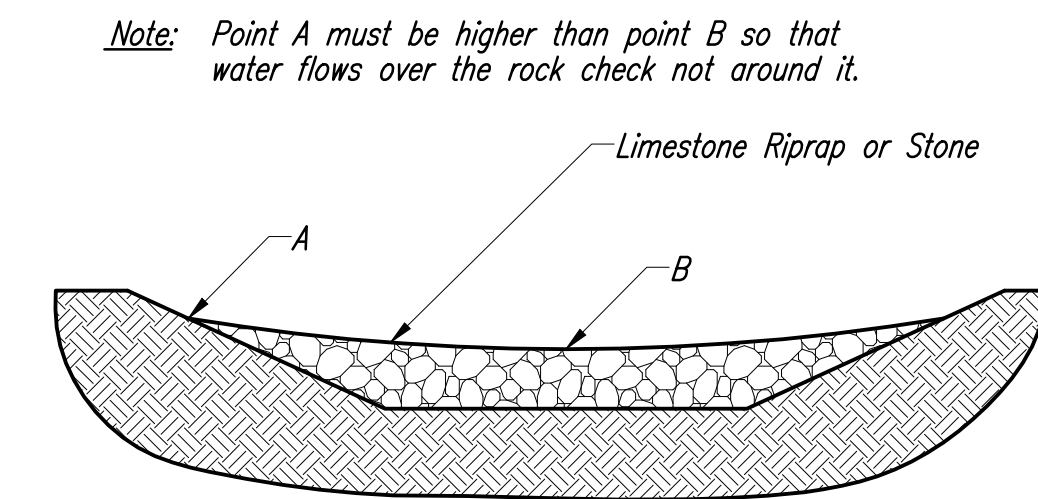
Inspection and Maintenance:

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?



DETAIL OF ROCK DITCH CHECK INSTALLATION



INSTALLATION OF ROCK DITCH CHECKS

ROCK DITCH CHECKS

Purpose & Design

Rock ditch checks operate by intercepting and ponding sediment-laden run-off. Ponding the water dissipates the energy of any incoming flow and allows a large portion of the suspended sediment to settle out. Water exits the ditch check by flowing over its crest. Rock ditch checks are ideal for ditches that will eventually have a riprap lining. Upon completion of the project, the rock ditch checks can be spread out to form the riprap channel lining.

Material Specification:

Stone used for rock ditch checks shall be free from soapstone, shale, shale-like, or other easily disintegrated material. Stone used may be irregular in shape and shall be approximately 6" to 9" in width, 12" in length and a minimum weight per stone of 50 lbs. Precast concrete blocks and concrete from old structures may not be used. The stone shall be placed ungrouted.

Placement:

Rock ditch checks shall be placed perpendicular to the flowline of the ditch.

Rock ditches must be designed so that water can flow over them, not around them. The ditch checks should extend far enough so that the ground level at the ends of the check is higher than the low point on the crest of the check.

Proper installation method:

Using Limestone or Rock as listed above, construct a rock ditch check perpendicular to the ditch flowline. The ditch check should be 18" to 24" high and have side slopes no steeper than 2:1. The rock ditch check must be constructed so that water can flow over the top and not around the ends (i.e., the ground level at the ends of the check must be higher than the low point on the crest of the check).

List of common placement/installation mistakes to avoid:

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 low point on the crest of the check.

Inspection and Maintenance:

Rock ditch checks should be inspected every 7 days and within 24 hours of a rainfall of 0.5 inches or more. The following is a list of questions that should be addressed during each inspection.

Does the water flow around the ditch check?
This is usually caused by insufficient ditch check length. If this occurs extend the check a sufficient length so that the ground level at the ends of the check is higher than the low point on the crest of the check.

Have high-velocity flows displaced any stones from the check?
Sometimes high-velocity flows can carry away portions of a rock ditch check after a large rainstorm, inspect the rock ditch check for any displaced stones. If a large portion of a rock ditch check has washed away, fill in the void with new stone immediately.

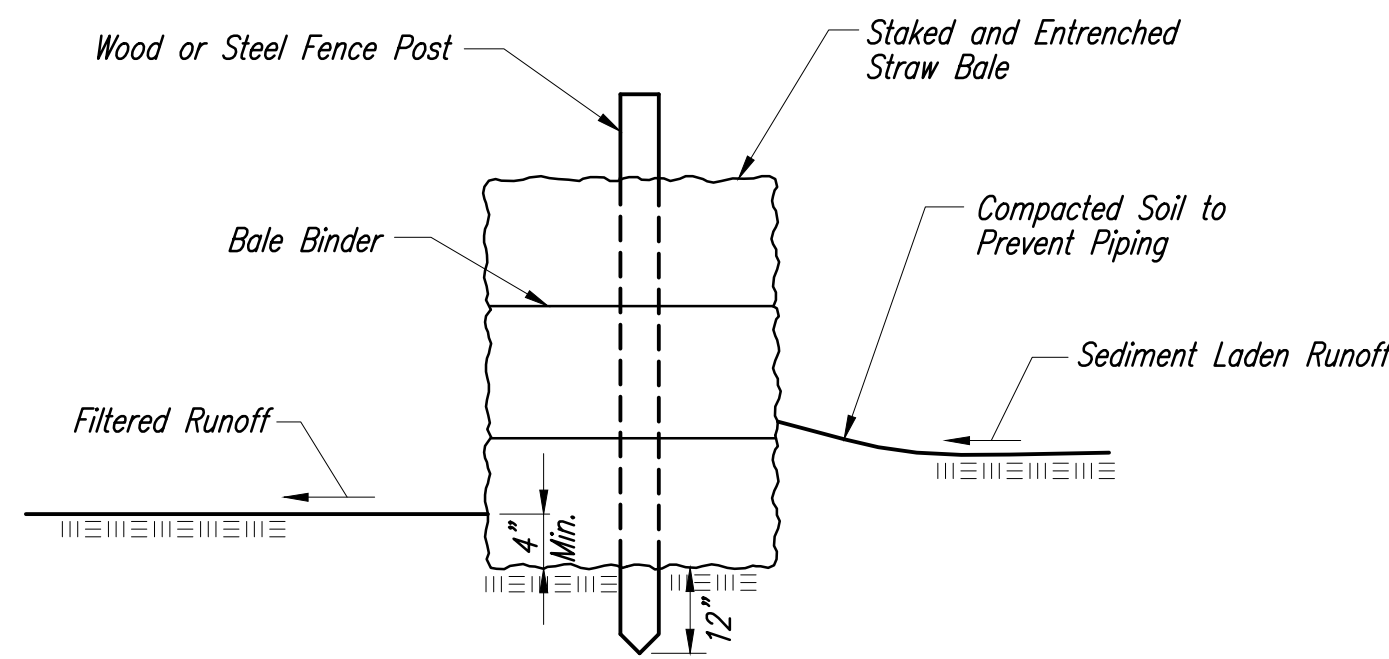
Does sediment need to be removed from behind the ditch check?
Sediment accumulated behind the ditch check should be removed when it reaches one-half of the original exposed height of the rock ditch check. Allowing too much sediment to accumulate behind a ditch check drastically reduces its effectiveness. One high-intensity rainfall can dislodge That is why it is extremely important to inspect ditch checks within 24 hours of a large rainfall.

RECORD DRAWING
3-18-2014



SOIL EROSION BMPs	
DITCH CHECK DETAILS	
SCOTT LINDEBAK, P.E. STORM WATER ENGINEER	
PROJECT NUMBER	OCA NO.
DATE	
MAR 2007	

No.	Date	By	Approved	Revision
<p>TERRADNE WEST 2ND ADDITION SANITARY SEWER EXTENSION PROJECT EROSION CONTROL BMPs CITY OF WICHITA, KANSAS JAMES L. ARMOUR, P.E. – CITY ENGINEER 1874-PPS O.C.A.# 607661</p>				
<p>POE & ASSOCIATES, INC. CONSULTING ENGINEERS 5940 E. Central, Suite 200 ■ Wichita, KS 67208-4242 Phone 316/665-4114 ■ FAX 316/665-4444</p>				
FINAL				
<p>Designed By: J. DICKMAN Drawn By: M. TUCKER Poe Job No.: 1809 Date: MAY 2008</p>				
<p>Sheet 7 of 12</p>				



STRAW BALE BARRIERS

Material Specification:

Bale slope barriers may be constructed of wheat straw, oat straw, prairie hay, or bromegrass hay that is free of weeds declared noxious by the Kansas State Board of Agriculture. The stakes used to anchor the bales should be a hardwood material with the following minimum dimensions: 2" square (nominal) by 4' long. Twine should be used to bind bales. The use of wire binding is prohibited because it does not biodegrade readily.

Placement:

A slope barrier should be used at the toe of a slope when a ditch does not exist. The slope barrier should be placed on nearly level ground 5' to 10' away from the toe of a slope. The barrier is placed away from the toe of the slope to provide adequate storage for settling out sediment.

When practicable, bale slope barriers should be placed along contours to avoid a concentration of flow.

Bale slope barriers can also be placed along right-of-way fence lines to keep sediment from crossing onto adjacent property. When placed in this manner, the slope barrier will not likely follow contours.

Proper installation method:

Excavate a trench the length of the planned slope barrier that is 4" deep and a bale's width wide. Make sure that the trench is excavated along a single contour. When practicable, slope barriers should be placed along contours to avoid a concentration of flow. Place the soil on the upslope side of the trench for later use.

Place the bales in the trench, making sure that they are butted tightly. Two stakes should be driven through each bale along the centerline of the ditch check, approximately 6" to 8" in from the bale ends. Stakes should be driven at least 12" into the ground.

Once all the bales have been installed and anchored, place the excavated soil against the upslope side of the check and compact it. The compacted soil should be no more than 3" to 4" deep.

List of common placement/installation mistakes to avoid:

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

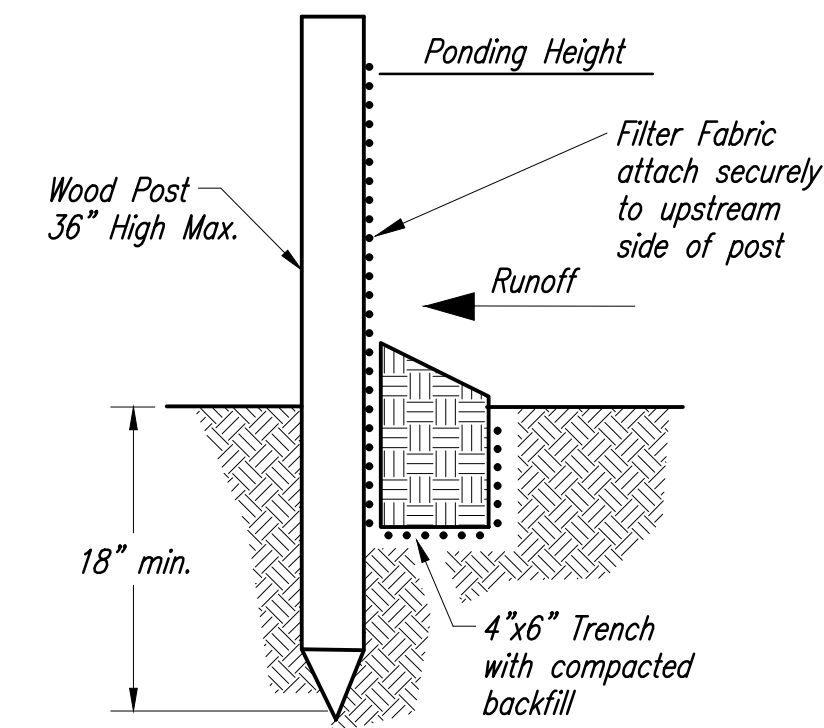
Do not place bale slope barriers in areas with shallow soils underlain by rock. If the barrier is not anchored sufficiently, it will wash out.

Bale slope barriers must be dug into the ground. Bales at ground level do not work because they allow water to flow under the barrier.

Inspection and Maintenance:

Bale slope barriers should be inspected every 7 days and within 24 hours of a rainfall of 1/2" or more. The following is a list of questions that should be addressed during each inspection:

- Are there any points along the slope barrier where water is concentrating?
- Does water flow under the slope barrier?
- Does water flow through spaces between abutting bales?
- Are any bales dislodged?
- Are bales decomposing due to age and/or water damage?
- Does sediment need to be removed from behind the slope barrier?



SILT FENCE BARRIERS

Material Specification:

Silt fence fabric should conform to the AASHTO M288 96 silt fence specification. The posts used to support the silt fence fabric should be a hardwood material with the following minimum dimensions: 2" square (nominal) by 4' long. Silt fence fabric should be attached to the wooden posts with staples, wire, zip ties, or nails.

Placement:

A slope barrier should be used at the toe of a slope when a ditch does not exist. The slope barrier should be placed on nearly level ground 5' to 10' away from the toe of a slope. The barrier is placed away from the toe of the slope to provide adequate storage for settling out sediment.

When practicable, silt fence slope barriers should be placed along contours to avoid a concentration of flow.

Silt fence slope barriers can also be placed along right-of-way fence lines to keep sediment from crossing onto adjacent property. When placed in this manner, the slope barrier will not likely follow contours.

Proper installation method:

Excavate a trench the length of the planned slope barrier that is 6" deep by 4" wide. Make sure that the trench is excavated along a single contour. When practicable, slope barriers should be placed along contours to avoid a concentration of flow. Place the soil on the upslope side of the trench for later use.

Roll out a continuous length of silt fence fabric on the downslope side of the trench. Place the edge of the fabric in the trench starting at the top upslope edge. Line all three sides of the trench with the fabric. Backfill over the fabric in the trench with the excavated soil and compact. After filling the trench, approximately 24" to 36" of silt-fence fabric should remain exposed.

Lay the exposed silt fence upslope of the trench to clear an area for driving in the posts. Just downslope of the trench, drive posts into the ground to a depth of at least 18".

Place posts no more than 4' apart. Attach the silt fence to the anchored post with staples, wire, zip ties, or nails.

List of common placement/installation mistakes to avoid:

When practicable, do not place silt fence slope barriers across contours. Slope barriers should be placed along contours to avoid a concentration of flow. When the flow concentrates, it overtops the barrier and the silt fence slope barrier quickly deteriorates. Do not place silt-fence posts on the upslope side of the silt fence fabric. In this configuration, the force of the water is not restricted by the posts, but only by the staples (wire, zip ties, nails, etc.). The silt fence will rip and fail.

Do not place silt fence slope barriers in areas with shallow soils underlain by rock. If the barrier is not sufficiently anchored, it will wash out.

Silt fence slope barriers must be dug into the ground-silt fence at ground level does not work because water will flow underneath.

Inspection and Maintenance:

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

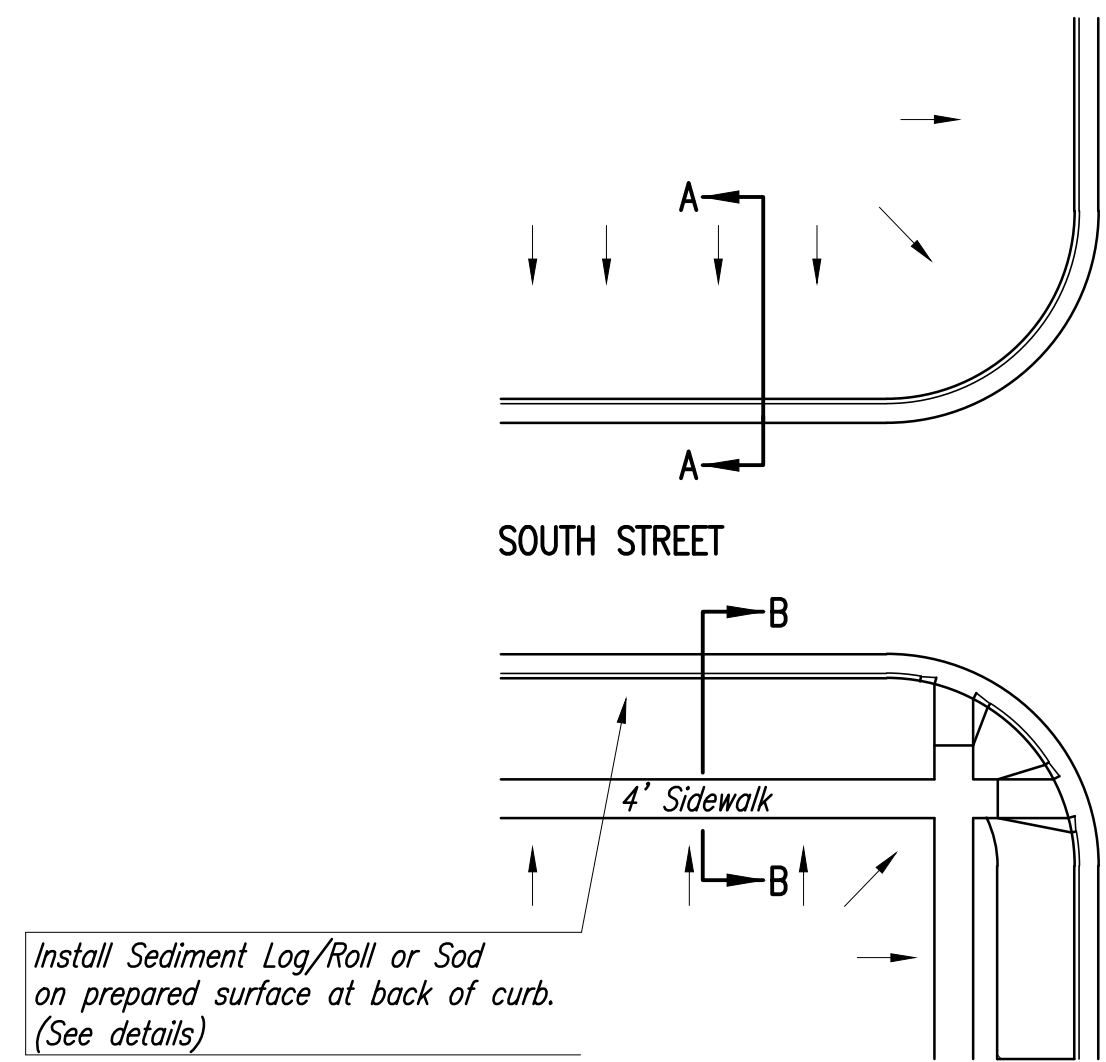
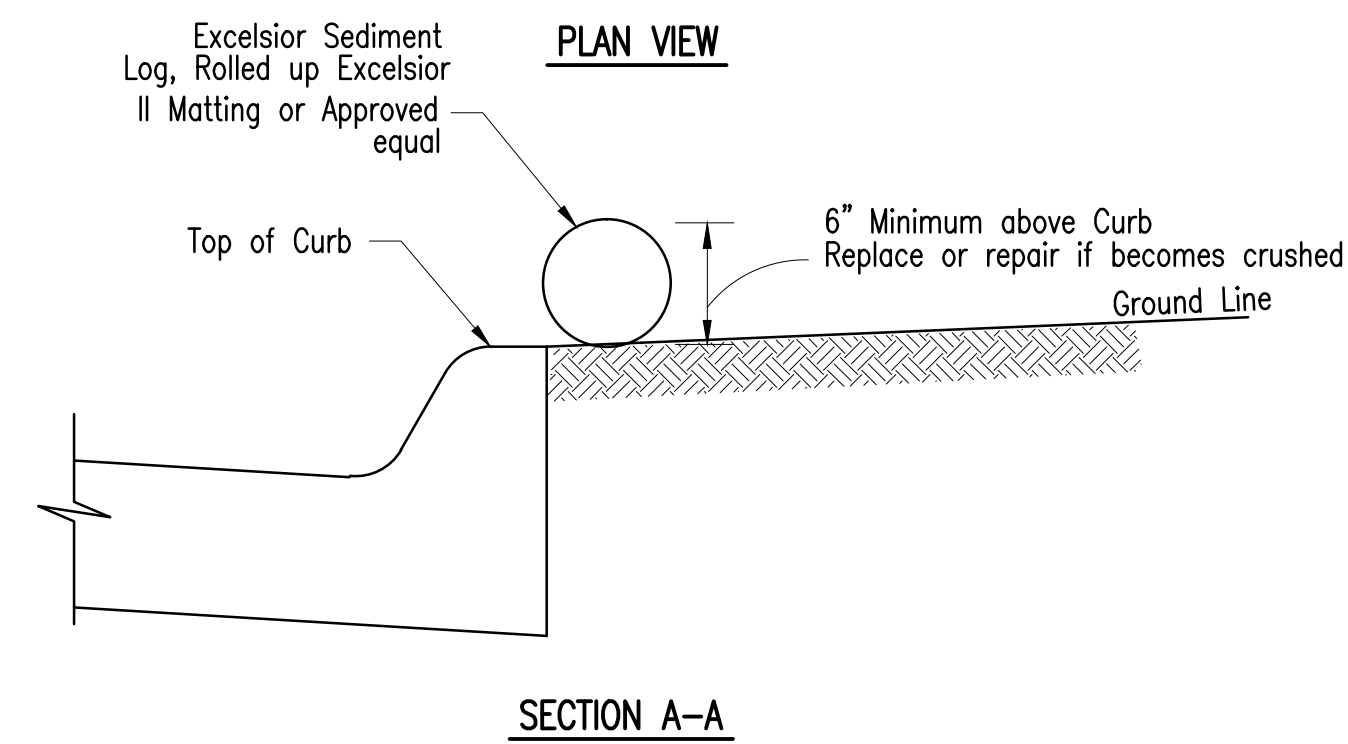
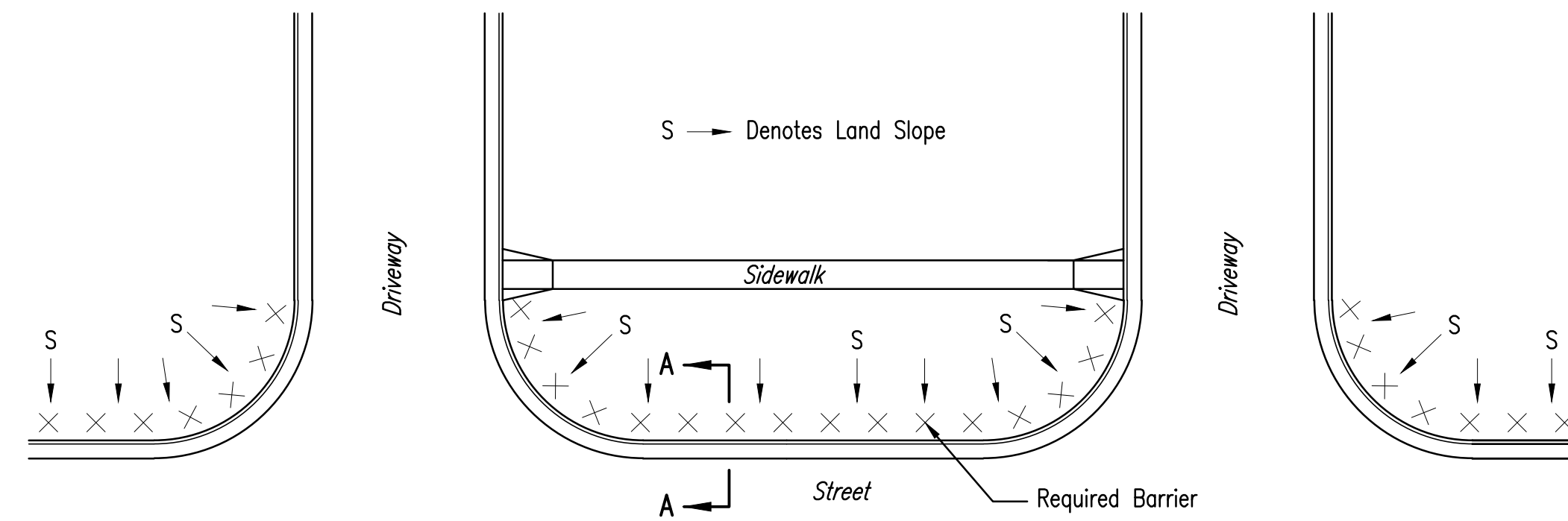
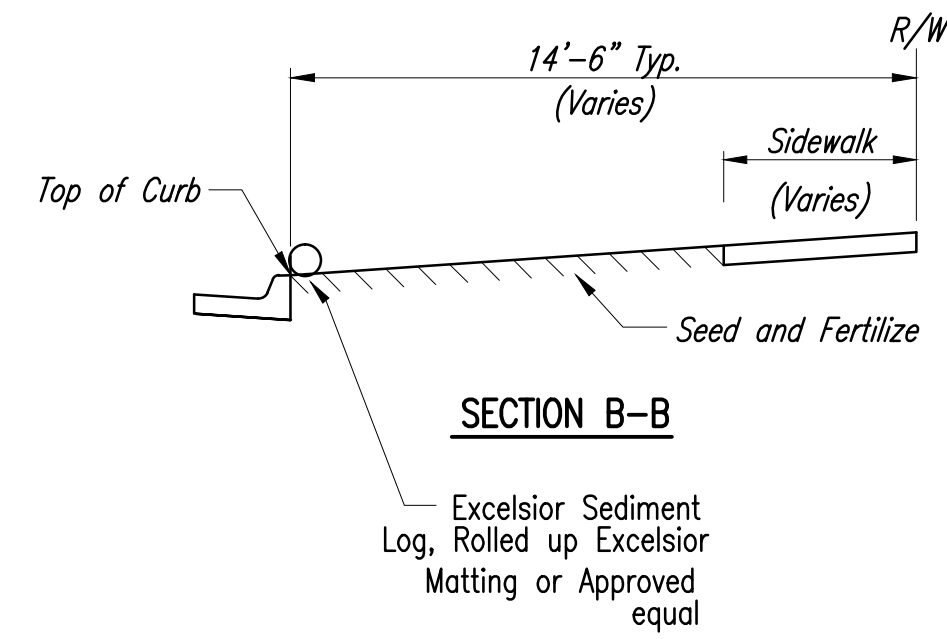
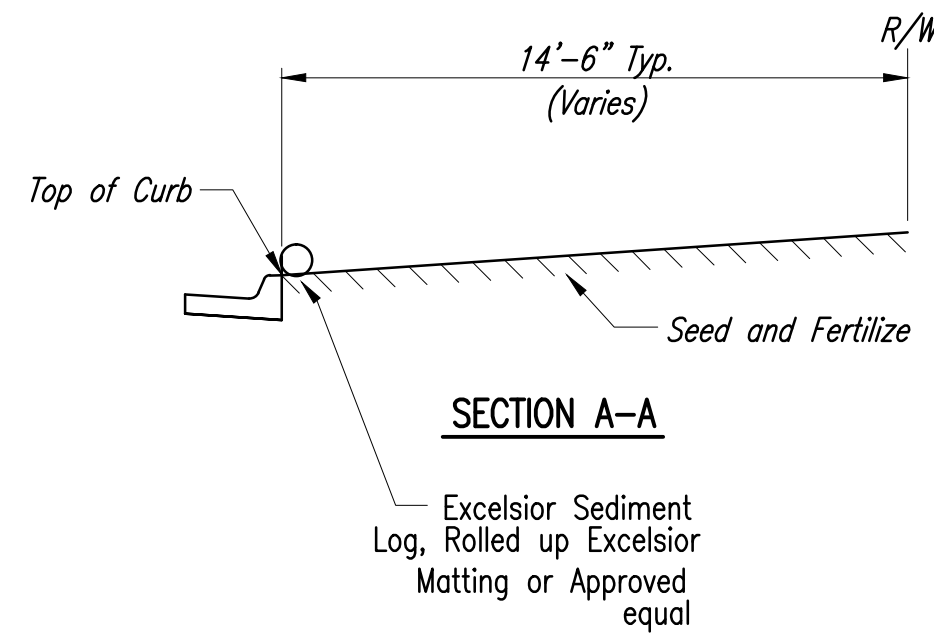
- Are there any points along the slope barrier where water is concentrating?
- Does water flow under the slope barrier?
- Do the silt fences sag excessively?
- Has the silt fence torn or become detached from the posts?
- Does sediment need to be removed from behind the slope barrier?

RECORD DRAWING
3-18-2014



SOIL EROSION BMPs	
BARRIER DETAILS	
SCOTT LINDEBAK, P.E. STORM WATER ENGINEER	
PROJECT NUMBER	OCA NO.
DATE	
MAR 2007	

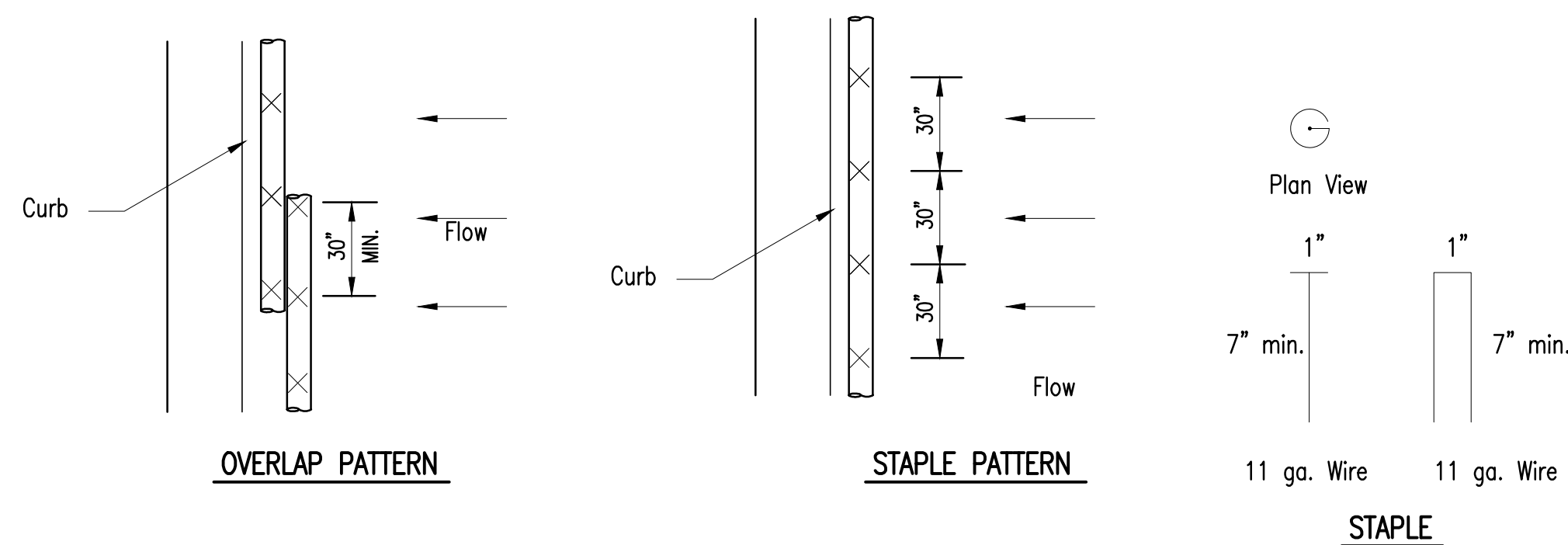
No.	Date	By	Approved	Revision
1				
<p>TERRADYNE WEST 2ND ADDITION SANITARY SEWER EXTENSION PROJECT EROSION CONTROL BMP'S CITY OF WICHITA, KANSAS JAMES L. ARMOUR, P.E. - CITY ENGINEER 1874-PPS O.C.A.# 807861</p>				
<p>POE & ASSOCIATES, INC. CONSULTING ENGINEERS 5940 E. Central, Suite 200 ■ Wichita, KS 67208-4242 Phone 316/685-4114 ■ FAX 316/685-4444</p>				
FINAL				
Designed By: J. DICKMAN Drawn By: M. TUCKER Pce Job No.: 1809 Date: MAY 2008				
Sheet				
8 of 12				



- NOTES:
- EXCELSIOR LOG/ROLL TO BE INSTALLED WHEN SOD IS NOT SPECIFIED ON PROJECT.
 - AFTER INSTALLATION OF LOG/ROLL, AT LOCATIONS WHERE CONCENTRATED FLOW CARRIES SEDIMENT OVER THE CURB AND INTO THE GUTTER, SUPPLEMENTAL EROSION CONTROL DEVICES WILL BE INSTALLED BY THE CONTRACTOR AS NEEDED, TO FIX THE PROBLEM.

- NOTES:
- Barriers must be placed back of curb along street and up the driveway sufficiently to catch all sediment from the yard.
 - Anchor to ground every 30" with a 7" min. long staple.
 - Remove accumulated sediment when within 2 inches of top of device.
 - Replace/repair all broken/damaged sediment logs/rolls to maintain effectiveness of device.
 - Sediment logs/rolls can be driven over for access to the site. They need to be picked up and put back down after they have been compacted by any traffic to maintain effectiveness of BMP. Replace as needed per original design.

BACK OF CURB PROTECTION DETAIL



DETAILS FOR SEDIMENT LOG/ROLL

SEDIMENT LOG BARRIERS

NOTES:
FOLDED Excelsior matting will not be accepted.

RECORD DRAWING
3-18-2014

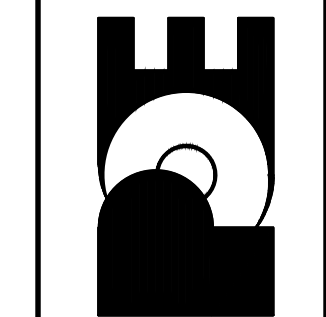


SOIL EROSION BMPs	
BACK OF CURB SEDIMENT BARRIER DETAILS	
SCOTT LINDEBAK, P.E. STORM WATER ENGINEER	
PROJECT NUMBER	OCA NO.
DATE MAR 2007	Sheet 9 of 12

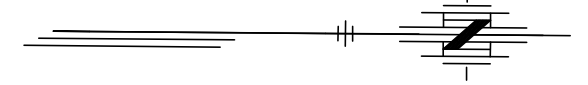
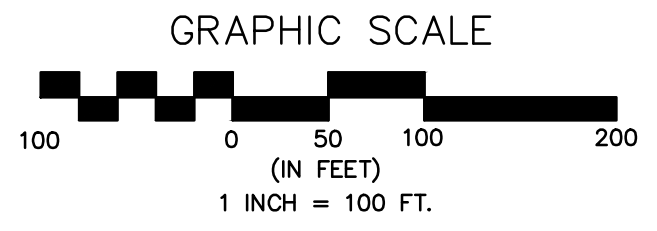
No.	Date	By	Approved	Revision

TERRADYNE WEST 2ND ADDITION
SANITARY SEWER EXTENSION PROJECT
EROSION CONTROL BMP'S
CITY OF WICHITA, KANSAS
JAMES L. ARMOUR, P.E. - CITY ENGINEER
1874-PPS O.C.A.# 807861

POE & ASSOCIATES, INC.
CONSULTING ENGINEERS
5940 E. Central, Suite 200 ■ Wichita, KS 67208-4242
Phone 316/685-4114 ■ FAX 316/685-4444



FINAL
Designed By: J. DICKMAN
Drawn By: M. TUCKER
Poe Job No.: 1809
Date: MAY 2008



LEGEND

- EXISTING SANITARY SEWER ——— SS ———
- PROPOSED SANITARY SEWER ———

BENCH MARKS

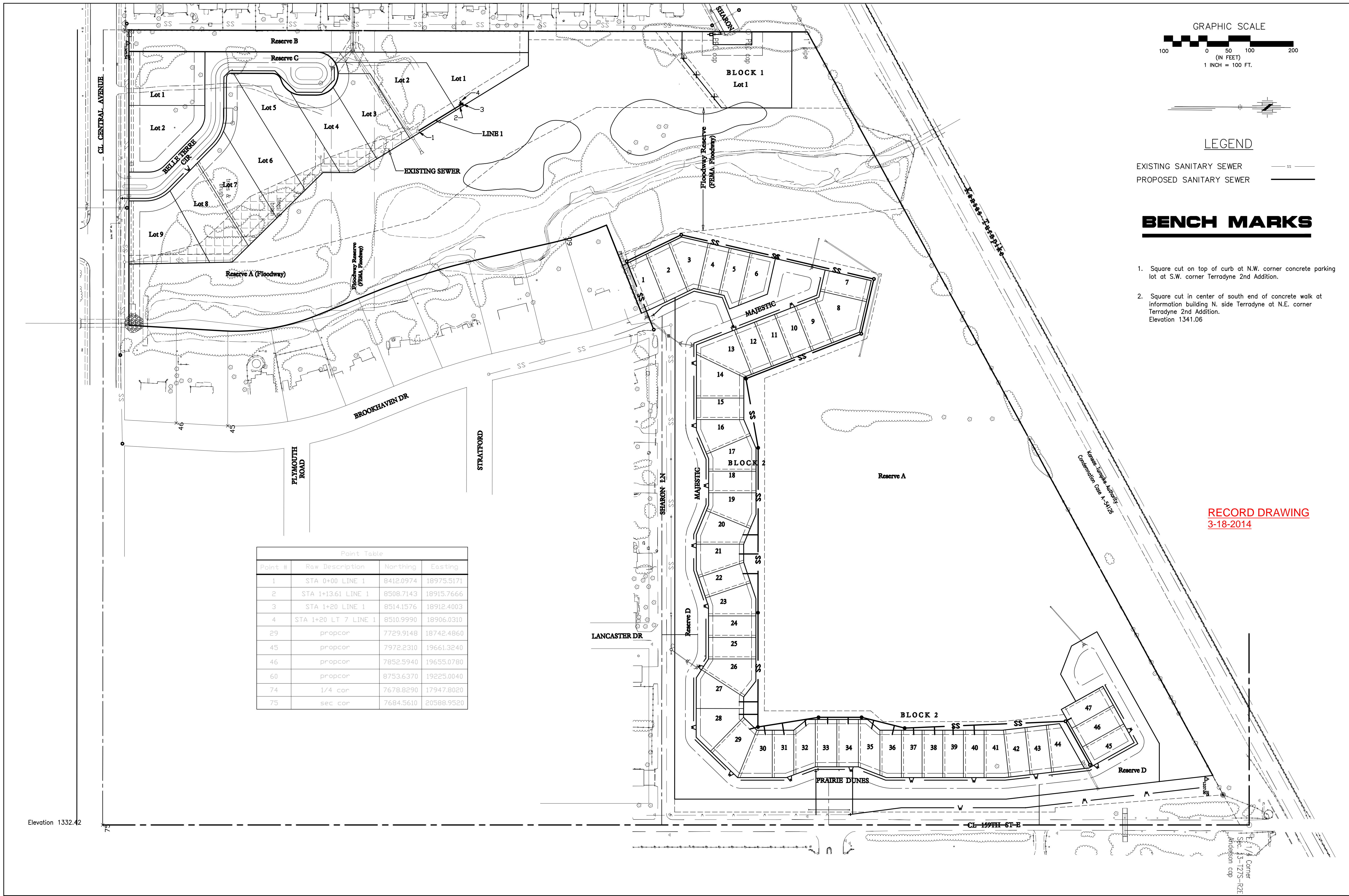
1. Square cut on top of curb at N.W. corner concrete parking lot at S.W. corner Terradyne 2nd Addition.
2. Square cut in center of south end of concrete walk at information building N. side Terradyne at N.E. corner Terradyne 2nd Addition. Elevation 1341.06

RECORD DRAWING
3-18-2014

Point Table			
Point #	Raw Description	Northing	Easting
1	STA 0+00 LINE 1	8412.0974	18975.5171
2	STA 1+13.61 LINE 1	8508.7143	18915.7666
3	STA 1+20 LINE 1	8514.1576	18912.4003
4	STA 1+20 LT 7 LINE 1	8510.9990	18906.0310
29	propcor	7729.9148	18742.4860
45	propcor	7972.2310	19661.3240
46	propcor	7852.5940	19655.0780
60	propcor	8753.6370	19225.0040
74	1/4 cor	7678.8290	17947.8020
75	sec cor	7684.5610	20588.9520

Elevation 1332.42

No.	Date	By	Approved	Revision
1				
<p>TERRADYNE WEST 2ND ADDITION SANITARY SEWER EXTENSION PROJECT COORDINATE POINTS LIST CITY OF WICHITA, KANSAS JAMES L. ARMOUR, P.E. - CITY ENGINEER 1874-PPS O.C.A.# 607861</p>				
<p>POE & ASSOCIATES, INC. CONSULTING ENGINEERS 5940 E. Central, Suite 200 ■ Wichita, KS 67208-4242 Phone 316/685-4114 ■ FAX 316/685-4444</p>				
<p>FINAL</p>				
Designed By: J. DICKMAN Drawn By: M. TUCKER Pce Job No.: 1809 Date: MAY 2008				
Sheet of 12				



City of Wichita
 159th St
 Anderson cap

TERRADYNE WEST

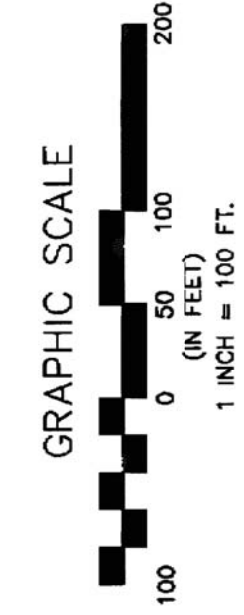
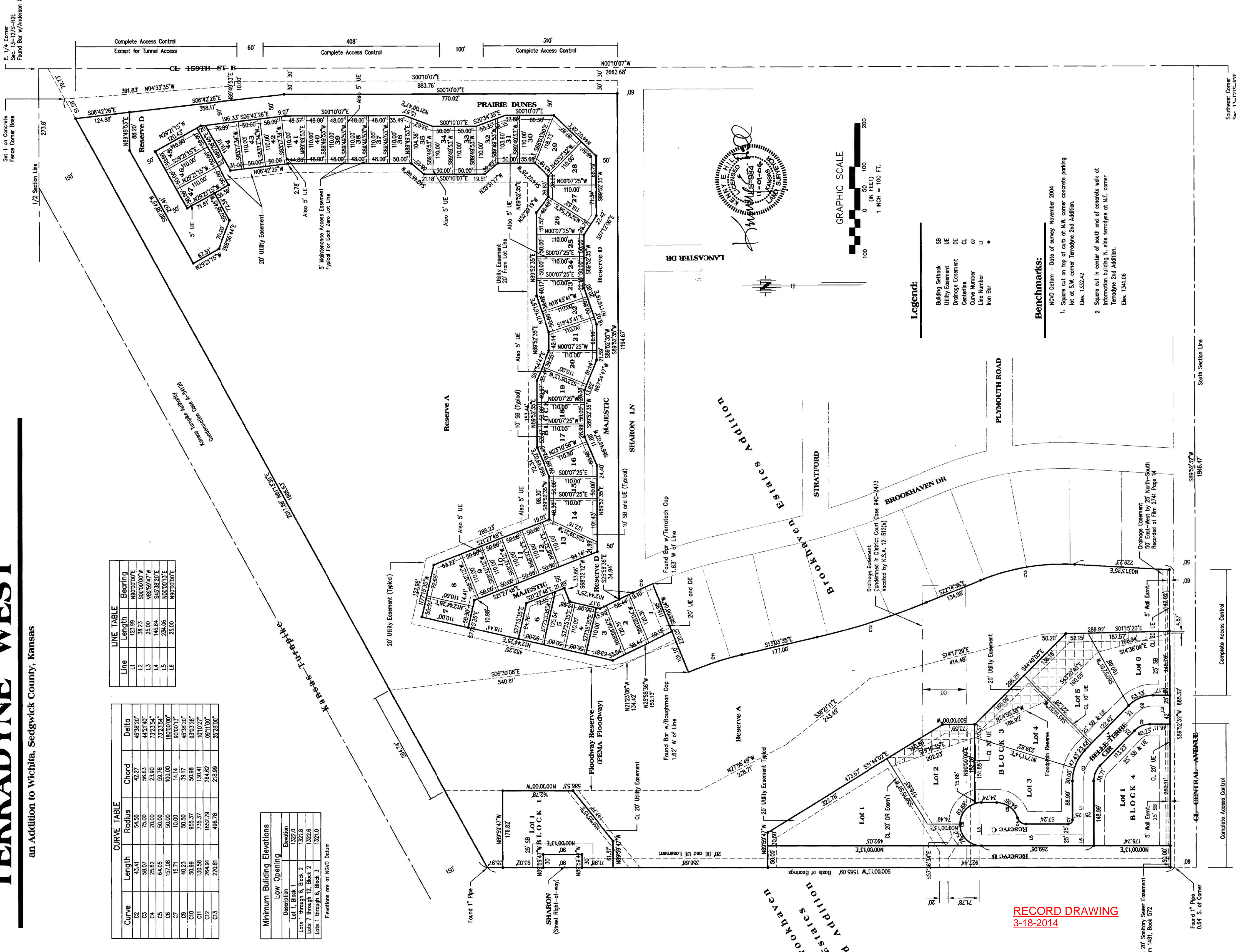
an Addition to Wichita, Sedgwick County, Kansas

Line	Length	Bearing
L1	123.99	N89°00'00"E
L2	38.23	S00°00'00"W
L3	25.00	N89°59'47"W
L4	146.84	S45°38'20"E
L5	234.06	N00°01'31"E
L6	25.00	N89°00'00"E

Curve	Length	Radius	Chord	Delta
C2	43.41	34.50	42.27	45°39'20"
C3	56.07	25.00	56.63	45°39'20"
C4	25.62	20.00	23.90	37°33'54"
C5	64.05	50.00	59.76	73°33'54"
C6	157.08	50.00	100.00	180°00'00"
C7	15.71	10.00	14.14	90°00'13"
C8	40.23	50.50	39.17	45°38'20"
C10	50.89	855.37	50.98	0°30'32"
C11	130.59	735.37	130.41	0°10'27"
C12	284.91	1652.79	284.82	0°11'00"
C13	220.81	496.78	218.99	25°28'00"

Minimum Building Elevations	
Low Opening	
Description	Elevation
Lot 1, Block 1	1322.0
Lots 1 through 5, Block 2	1321.8
Lots 1 through 12, Block 2	1322.6
Lots 1 through 6, Block 3	1321.0

Elevations are at NGVD Datum



Legend:

- SB Building Sublot
- UE Utility Easement
- DE Drainage Easement
- CL Centerline
- cr Curve Number
- li Line Number
- Iron Bar

Benchmarks:

1. NVD Datum - Date of survey: November 2004
2. Square cut on top of curb at N.W. corner concrete parking lot at S.W. corner Terradyne 2nd Addition. Elev. 1332.42
3. Square cut in center of south end of concrete walk at information building N. side terradyne at N.E. corner Terradyne 2nd Addition. Elev. 1341.08

RECORD DRAWING
3-18-2014

POE & ASSOCIATES, INC.
CONSULTING ENGINEERS
5948 E. Central, Suite 200 W. Wichita, KS 67208-4242
Phone 316.685-4111 Fax 316.685-4444



Southeast Corner
Sec. 13-127S-R2E
Temporary Mark. Set

South Section Line

Complete Access Control

Complete Access Control

Found 1" Pipe
0.64' S. of Corner

CL 20' Sanitary Sewer Easement
Fim 1461, Book 572

Drainage Easement
50' Easement by 25' North-South
Recorded at Fim 2741 Page 14

Drainage Easement
Condemned in District Court Case 94C-3473
Voted by K.S.A. 12-512(b)

Found Bar w/Terratech Cap
1.63' W of Line

10' SR and UE (Typical)

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