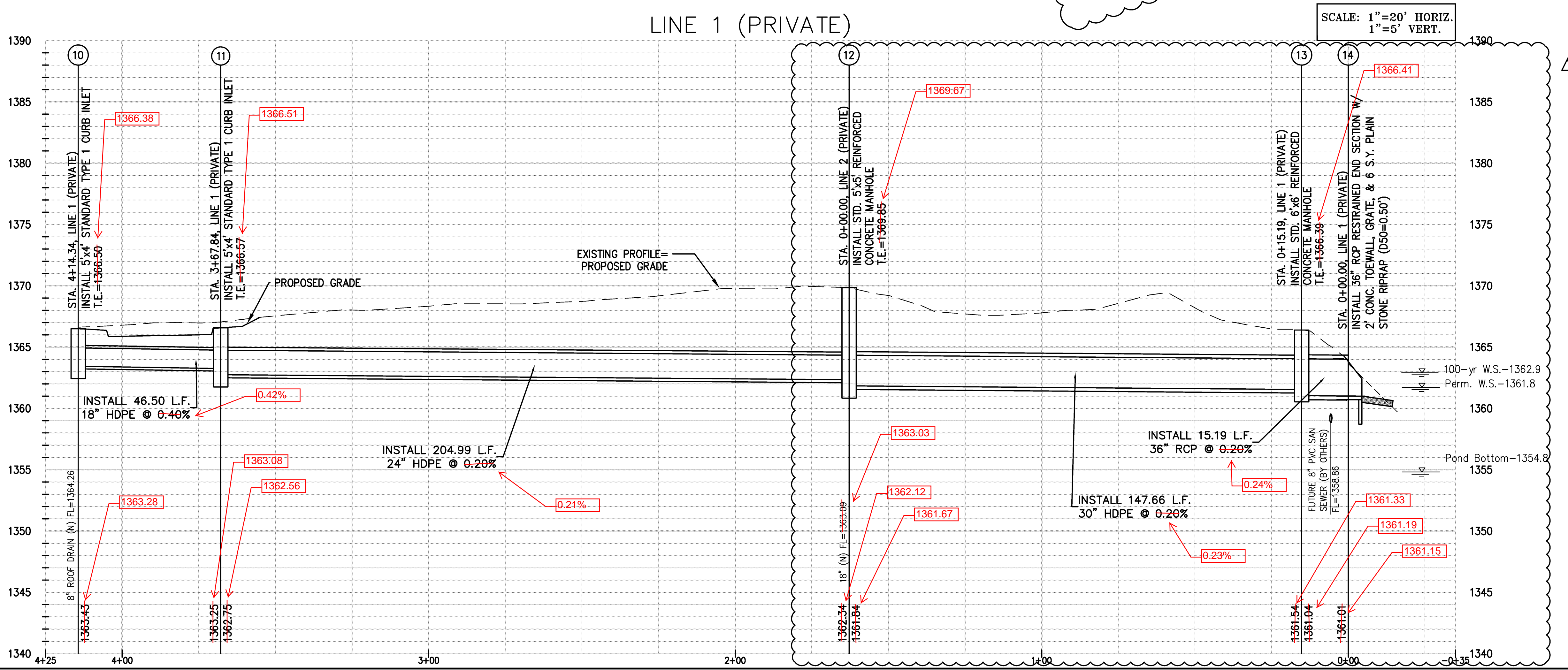
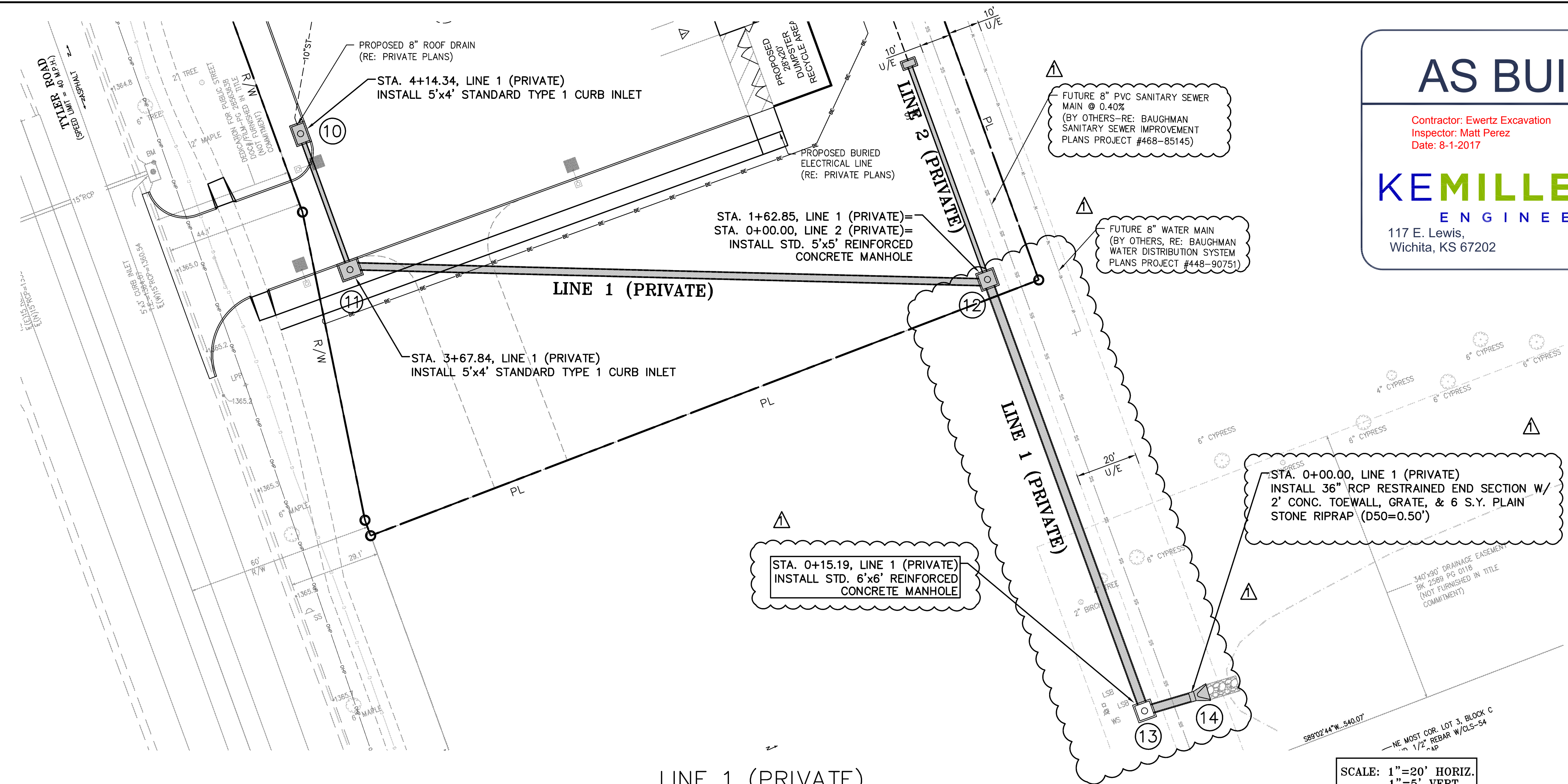
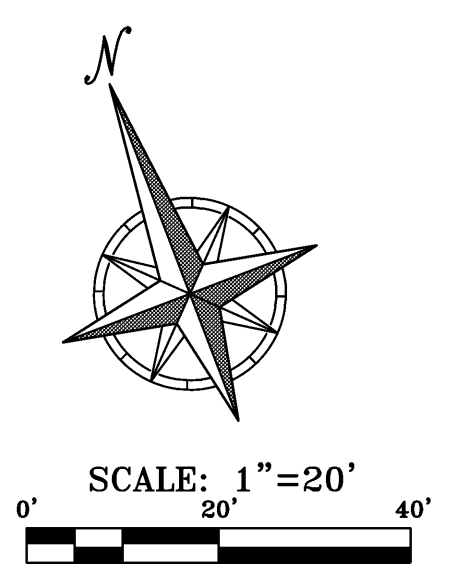


AS BUILTS

Contractor: Ewertz Excavation
Inspector: Matt Perez
Date: 8-1-2017

KEMILLER ENGINEERING PA

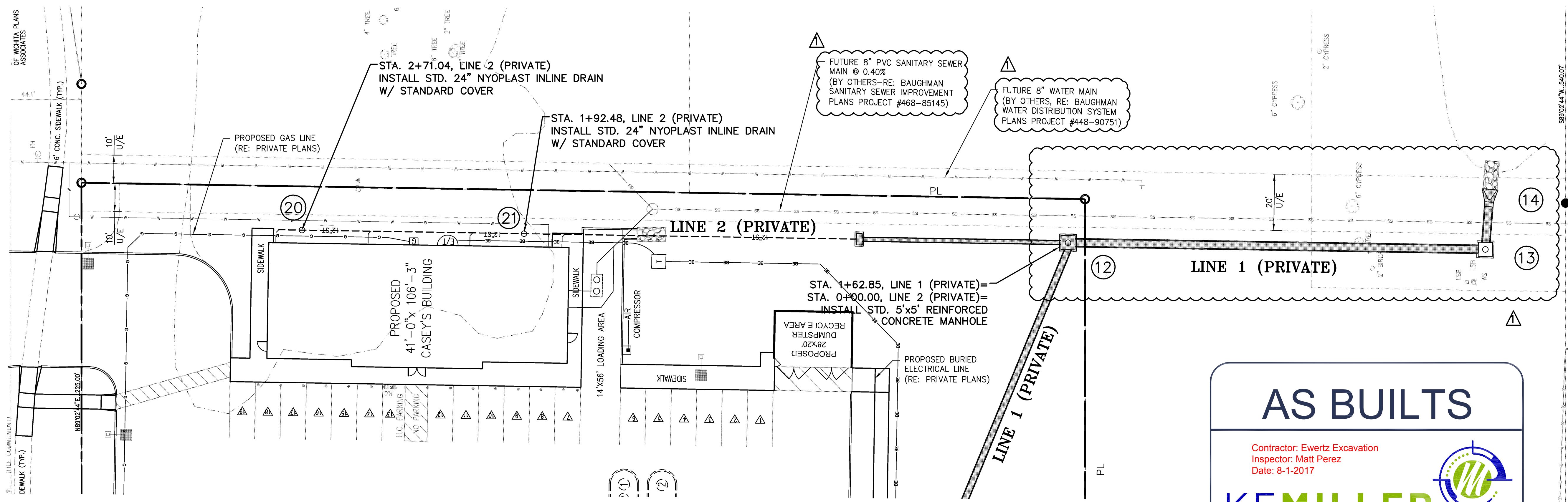
117 E. Lewis,
Wichita, KS 67202 (316)264-0242



UTILITY NOTES:
VISUAL INDICATIONS OF UTILITIES ARE AS SHOWN. UNDERGROUND LOCATIONS SHOWN, AS FURNISHED BY THEIR LESSORS, ARE APPROXIMATE AND SHOULD BE VERIFIED IN THE FIELD AT THE TIME OF CONSTRUCTION. FOR ACTUAL FIELD LOCATIONS OF UNDERGROUND UTILITIES.


| | | | |
|---|--|--|--|
| PEI PLANNING ENGINEERING IMPLEMENTATION | | PHILLIPS ENGINEERING, INC. 1000 N. Winchester Overland Park, Kansas 66204 (913) 339-1155 Fax (913) 339-1156 www.phillipsengineering.com | |
| Project: Wichita, Kansas '03' Style Store | | Publication Date: 08.25.16 With Revisions On: 1. 12.12.16 | |
| Location: Tyler Rd. & 29th St. W. Wichita, Kansas | | STORM SEWER IMPROVEMENTS Sheet Information: STORM SEWER PLAN & PROFILE | |
| CASEY'S CONSTRUCTION DIVISION One Convenience Blvd., Ankeny, IA 52021 Phone: 515-965-6100 | | D3 | |

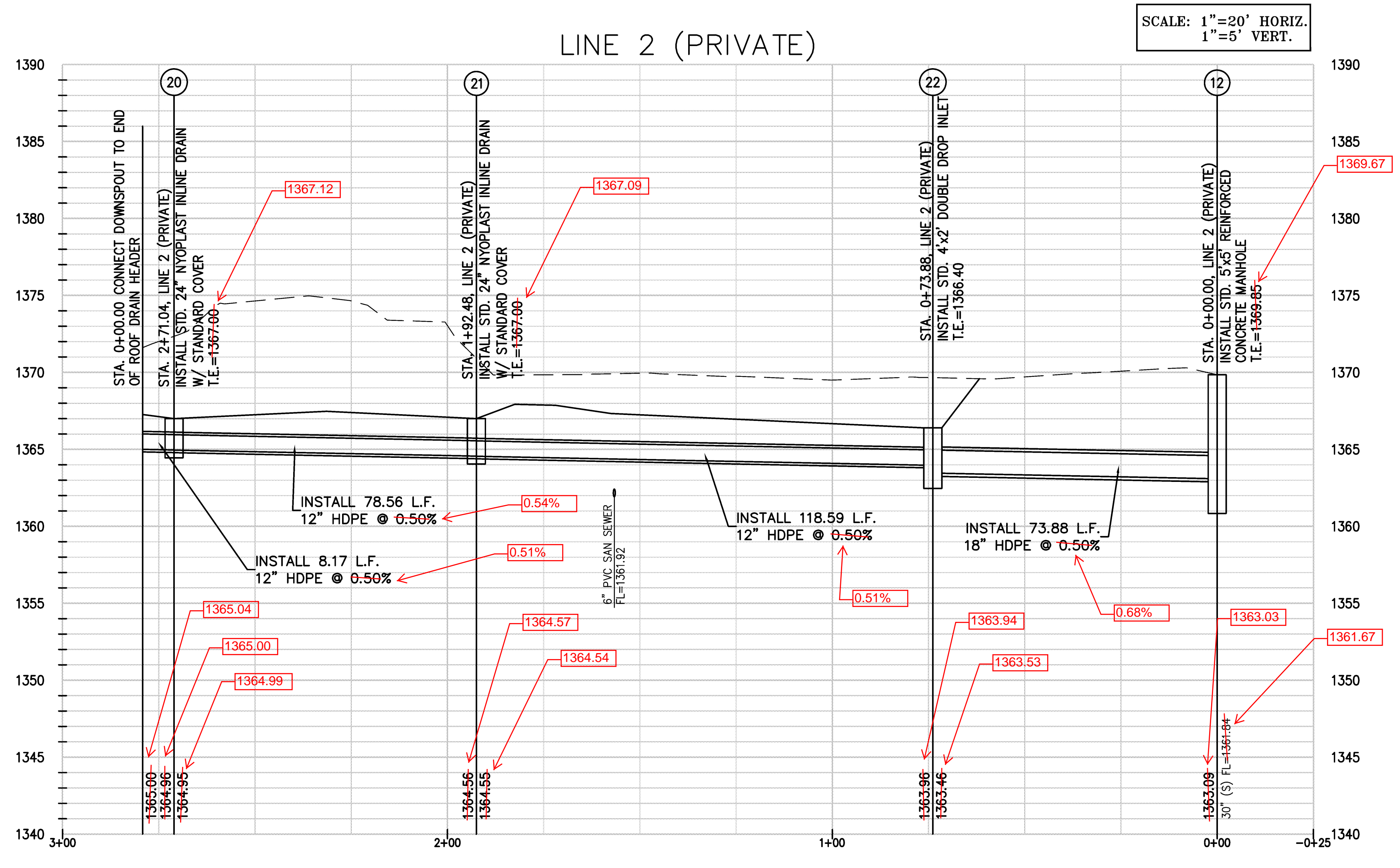
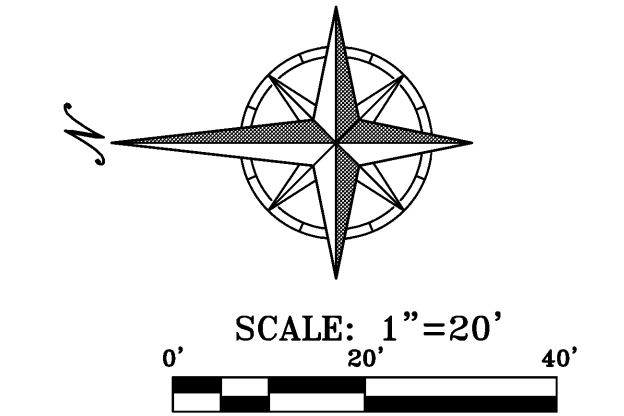
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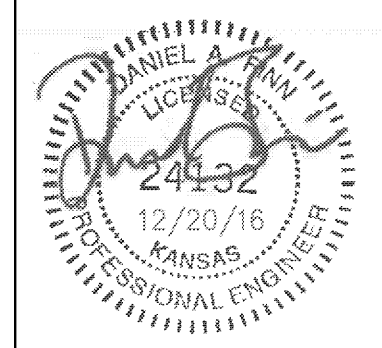
AS BUILTS

Contractor: Ewertz Excavation
 Inspector: Matt Perez
 Date: 8-1-2017


KEMILLER ENGINEERING PA
 117 E. Lewis,
 Wichita, KS 67202 (316)264-0242

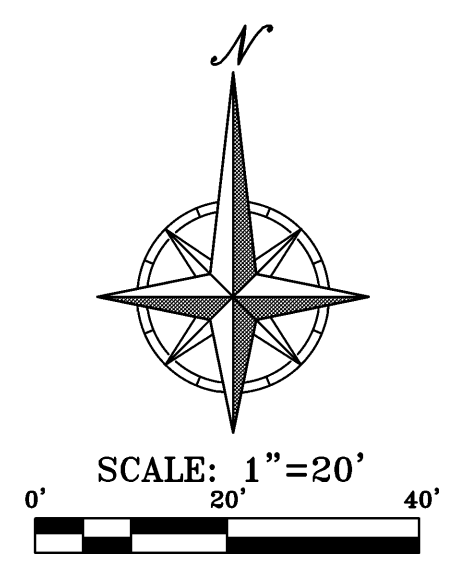
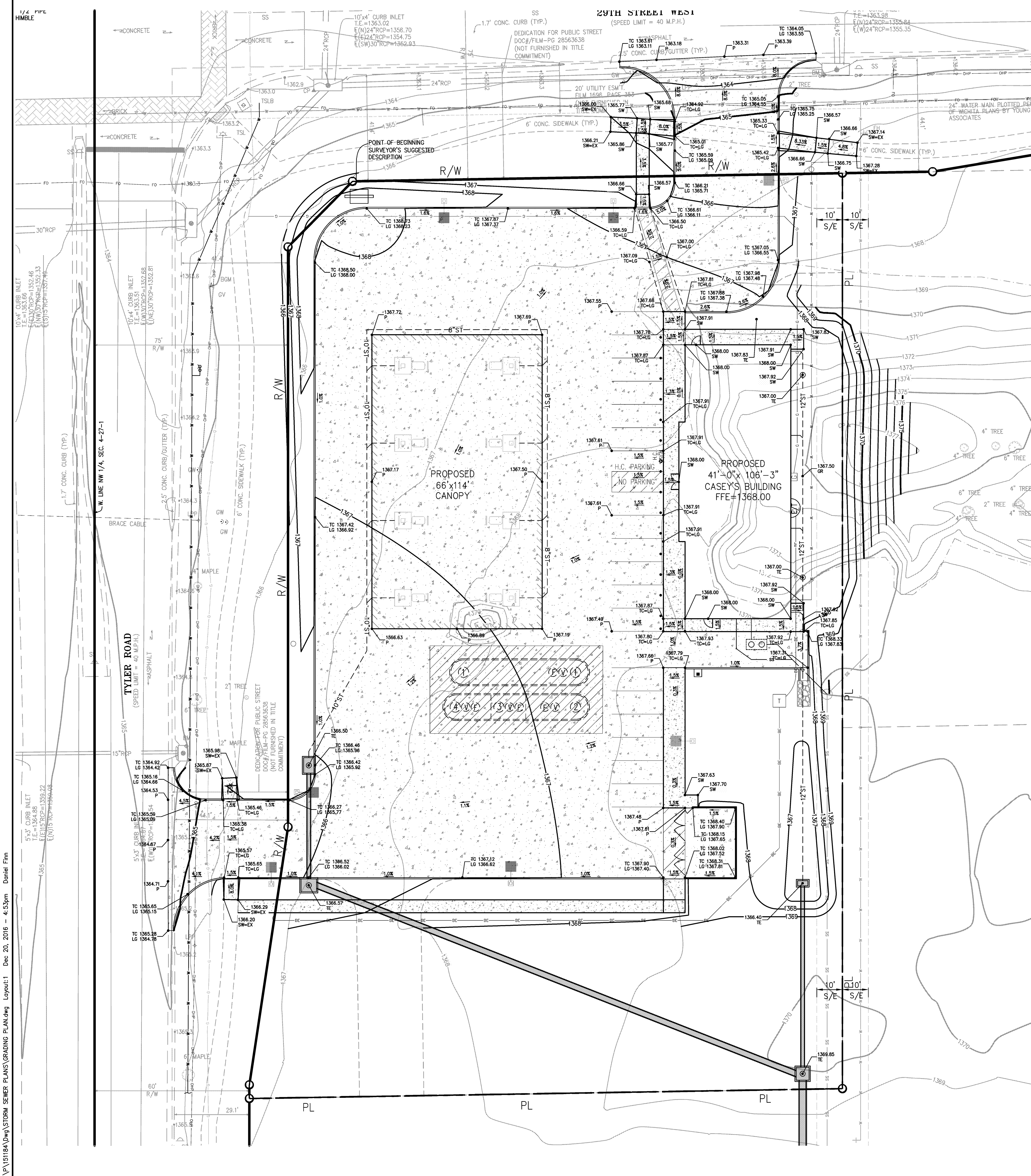


UTILITY NOTES:
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| | | |
|---|---|---|
| PEI PLANNING ENGINEERING IMPLEMENTATION | Consultant Information: Daniel A. Finn, P.E. License Number: 24132 Licensed As: Professional Engineer |  |
| Project: Wichita, Kansas '03' Style Store | PHILLIPS ENGINEERING, INC. 1000 N. Winchester Olathe, Kansas 66061 (913) 241-1155 Fax (913) 241-1156 www.phillipsengineering.com | Publication Date: 08.25.16 With Revisions On: 1. 12.12.16 |
| Location: Tyler Rd. & 29th St. W. Wichita, Kansas | CASEY'S CONSTRUCTION DIVISION One Convenience Blvd., Ankeny, IA 52021 Phone: 515-965-6100 | STORM SEWER IMPROVEMENTS Sheet Information: STORM SEWER PLAN & PROFILE D4 |

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PEI# 151184



- SITE GRADING NOTES:**
1. **CONTOURS AND ELEVATIONS:** Existing and proposed contours are shown on plans at one foot (1') contour intervals, unless otherwise noted. Proposed contours and elevations shown represent approximate finish grade. Contractor shall add down subgrades to allow for pavement and sub-base thicknesses.
 2. If the contractor does not accept existing topography as shown on the plans, without exception, he shall have made at his expense, a topographic survey by a registered land surveyor and submit it to the owner for review.
 3. **CLEARING AND GRUBBING:** Prior to beginning preparation of subgrade, all areas under pavements or buildings shall be stripped of all topsoil, vegetation, large rock fragments (greater than 6 inches in any dimension) and any other deleterious material. The actual stripping depth should be based on visual examination during construction and the results of proof-rolling operations. The root systems of all trees (not designated to remain) shall be removed in their entirety. Stripping materials shall not be incorporated into structural fill.
 4. **TOPSAIL STRIPPING:** Prior to the start of site grading, the contractor shall strip all topsail from areas to be graded and stockpiled at a location on or adjacent to the site as directed by the owner. At completion of grading operations and related construction, the contractor will be responsible for redistribution of topsail over all areas disturbed by the construction activities. Topsail shall be placed to a minimum depth of six inches (6") and in accordance with specifications for landscaping. At that time, and prior to the installation of landscaping or irrigation, all topsail graded areas shall be visually inspected and accepted by the owner and I.T.L.
 5. Contractor shall adjust and/or cut existing pavement as necessary to assure a smooth fit and continuous grade. Contractor shall assure positive drainage away from buildings for all natural and paved areas.
 6. **SUBGRADE PREPARATION:** Prior to placement of new fill material, the existing subgrade shall be proofrolled and approved under the direction of the Geotechnical Engineer or his representative.
 7. **PROOFROLLING:** Subsequent to completion of stripping and over-excavation, all building and pavement areas shall be proofrolled using a tandem axle dump truck loaded to approximately 20,000 pounds per axle. Also, any finished subgrade areas to receive paving shall be proof-rolled within 48 hours of paving. Unsuitable soils that are detected and that cannot be recompacted should be over-excavated and replaced with controlled structural fill.
 8. **EARTHWORK:**
 - A) **GEOTECHNICAL:** All earthwork shall conform to the recommendations of the Geotechnical report. Said report and its recommendations are herein incorporated into the project requirements by reference. Prior to beginning construction, the contractor shall obtain a copy of and become familiar with the geotechnical report. Unless specifically noted on the plans, the recommendations in the geotechnical report are hereby incorporated into the project requirements and specifications.
 - B) **SURFACE WATER:** Surface water shall be intercepted and diverted during the placement of fill.
 - C) **FILLS:** All fills shall be considered controlled or structural fill and shall be free of vegetation, organic matter, topsoil and debris. In areas where the thickness of the engineered fill is greater than five feet, building and pavement construction should not commence until so authorized by the on-site geotechnical engineer to allow for consolidation.
 - D) **BUILDING SUBGRADE:** As specified in the Geotechnical Engineering Report, the upper 24 inches of building subgrade shall consist of Low Volume Change (LVC) material defined as approved, compacted granular fill or low to moderate plasticity cohesive soil materials stabilize with Class C Flyash. Granular fill shall consist of compacted granular materials with a maximum particle size of two (2) inches or less, such as limestone screenings. Refer to geotechnical report for complete requirements.
 - E) **EXISTING SLOPES:** Where fill material is to be placed on existing slopes greater than 5:1 (horizontal to vertical), existing slope shall be benched providing a minimum vertical face of twelve inches (12"). The benches should be cut wide enough to accommodate the compaction equipment. Fill material shall be placed and compacted in horizontal lifts not exceeding nine inches (9") (loose lift measurement), unless otherwise approved by the Geotechnical Engineer.
 - F) **COMPACTION REQUIREMENTS:** The upper 9 inches of pavement subgrade areas shall be compacted to a minimum density of ninety five percent (95%) of the material's maximum dry density as determined by ASTM D698 (standard proctor compaction). The moisture content at the time of placement and compaction shall be within a range of 0% below to 4% above optimum moisture content as defined by the standard proctor compaction procedure. The moisture contents shall be maintained within this range until completion of the work. Where compaction of earth fill by a large roller is impractical or undesirable, the earth fill shall be hand compacted with small vibrating rollers or mechanical tampers.
 9. All cut or fill slopes shall be 3:1 or flatter. All asphalt parking areas shall be a minimum of 1% slope but not more than 5% slope unless otherwise noted. All pavements within ADA parking areas shall not exceed 2% total slope. All grades around building shall be held down 6" from finish floor and slope away another 6" in 10 feet. Contractor shall notify engineer prior to final subgrade construction of any areas not within this slope requirement.
 10. **TESTING AND INSPECTION:** Owner's Independent Testing Laboratory (ITL) shall make tests of earthwork during construction and observe the placement of fills and other work performed on this project to verify that work has been completed in accordance with Geotechnical Engineering Report, Project Specifications and within industry standards. The ITL will be selected by the owner and the cost of testing will be the owner's responsibility.
 11. **CLASSIFICATION:** All excavation shall be considered unclassified. No separate or additional payments shall be made for rock excavation.
 12. **SEEDING AND SOODING:** All areas disturbed by earthwork operations shall be fertilized, seeded and mulched, unless shown otherwise by the landscaping plan or erosion control plan.
 13. **UTILITIES:** The contractor is specifically cautioned that the location and/or elevation of existing utilities as shown on these plans is based on records of the various utility companies and where possible, measurements taken in the field. The information is not to be relied on as being exact or complete. The contractor must call the appropriate utility companies at least 48 hours before any excavation to request exact field location of utilities. It shall be the responsibility of the contractor to relocate all existing utilities which conflict with the proposed improvements shown on the plans.
 14. **LAND DISTURBANCE:** The contractor shall adhere to all terms & conditions as outlined in the EPA or applicable state N.P.D.E.S. permit for storm water discharge associated with construction activities. Refer to project S.W.P.P.P. requirements.

LEGEND

---XXX--- EXISTING CONTOURS
 ---XXX--- PROPOSED CONTOURS

PROPOSED SPOT ELEVATION

LG LIP OF GUTTER
 TC TOP OF CURB
 SW SIDEWALK
 ME MATCH EXISTING
 HP HIGH POINT
 LP LOW POINT
 P TOP OF PAVEMENT
 TE TOP OF STRUCTURE
 GR GROUND ELEVATION

UTILITY NOTES:
 VISUAL INDICATIONS OF UTILITIES ARE AS SHOWN. UNDERGROUND LOCATIONS SHOWN, AS FURNISHED BY THEIR LESSORS, ARE APPROXIMATE AND SHOULD BE VERIFIED IN THE FIELD AT THE TIME OF CONSTRUCTION. FOR ACTUAL FIELD LOCATIONS OF UNDERGROUND UTILITIES.

- BENCHMARK:**
1. SET "C" CUT ON CENTER OF HEADWALL SOUTH OF THE SOUTHWEST CORNER OF PROJECT.
ELEVATION = 1285.89
 2. PROJECT BENCH MARK AS SHOWN ON PLAT, FOUND "F" CUT ON TOP OF EAST CURB OF MERIDIAN OPPOSITE THE N.W. CORNER OF LOT 1, SCHRIFT 5TH ADDITION.
ELEVATION = 1284.07 NAVD88

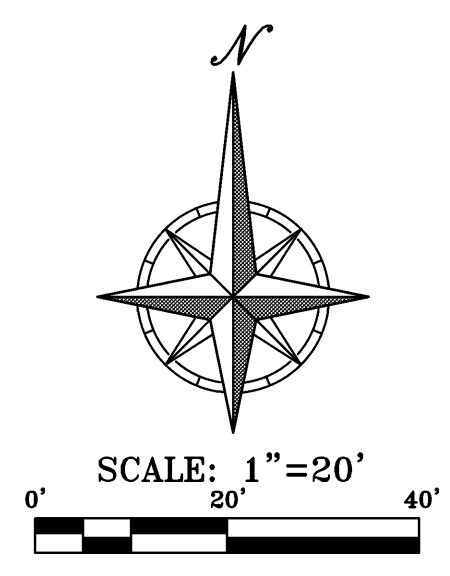
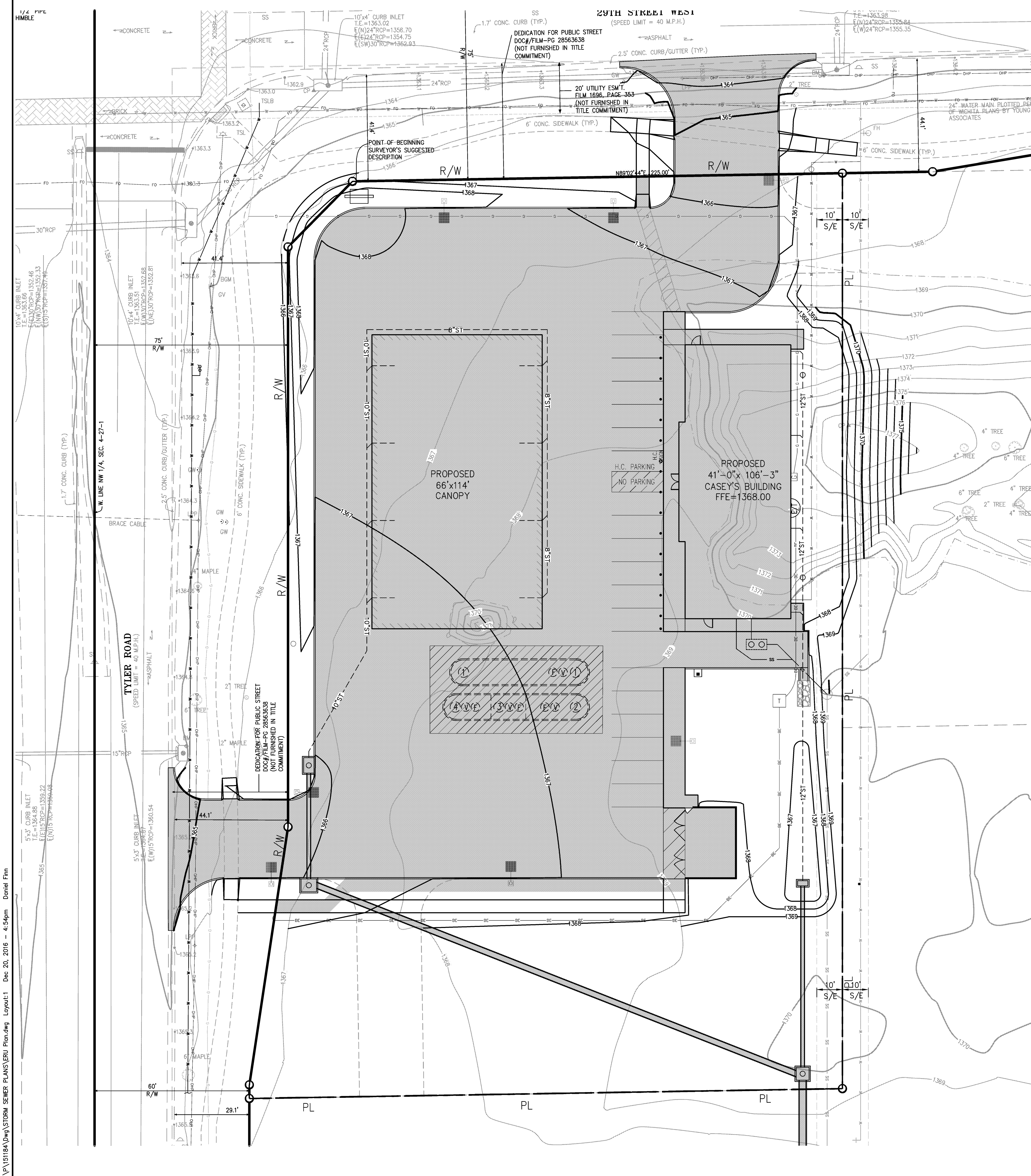
FLOOD NOTE:

A PORTION OF THIS PROPERTY LIES WITHIN ZONE AE, DEFINED AS SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD.

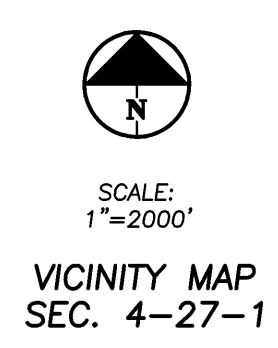
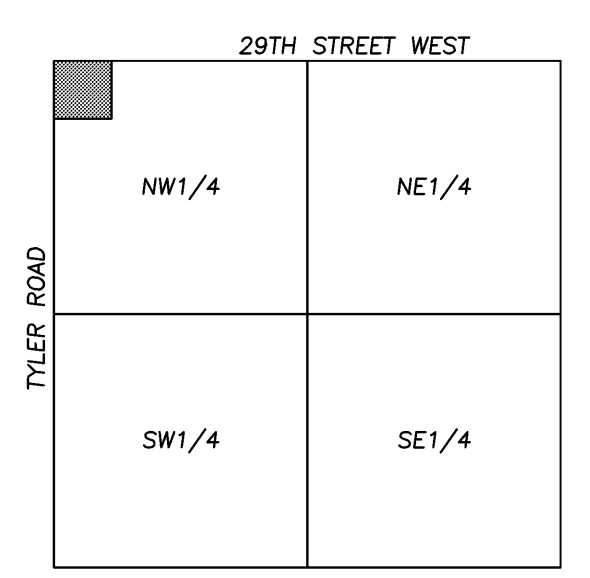
A PORTION OF THIS PROPERTY LIES WITHIN ZONE X (SHADED), DEFINED AS AREAS OF 0.2% ANNUAL CHANCE FLOOD; AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 1% ANNUAL CHANCE FLOOD, AS SHOWN ON THE FLOOD INSURANCE RATE MAP PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY FOR THE CITY OF WICHITA, COMMUNITY NO. 200321, SEDGWICK COUNTY, KANSAS, MAP NO. 20173C0365E, AND DATED FEBRUARY 2, 2007.

| | | |
|--|---|--|
| <p>Consultant Information:</p> <p>PLANNING ENGINEERING IMPLEMENTATION</p> | <p>Location: Daniel A. Firm, P.E. License Number: 24132 Licensed As: Professional Engineer</p> <p>PHILLIPS ENGINEERING, INC. 1000 N. Winchester Olathe, Kansas 66061 (913) 301-1915 Fax (913) 301-1916 www.phillipsengineering.com</p> | |
| <p>Project: Wichita, Kansas '03' Style Store</p> <p>Location: Tyler Rd. & 29th St. W., Wichita, Kansas</p> <p>CASEY'S CONSTRUCTION DIVISION One Convent Avenue Blvd., Ankeny, IA 50021 Phone: 515-965-6100</p> | <p>Publication Date: 08.25.16 With Revisions On: 1.12.12.16</p> <p>STORM SEWER IMPROVEMENTS</p> <p>Sheet Information: GRADING PLAN</p> <p>D5</p> | |





- LEGEND:**
- PROPOSED CURB
 - - - EXISTING PROPERTY LINE
 - - - PROPOSED PROPERTY LINE
 - PROPOSED IMPERVIOUS AREA
 - - - EXISTING CONTOURS
 - - - PROPOSED CONTOURS



LEGAL DESCRIPTION:
TRACT IN THE NORTHWEST QUARTER OF SECTION 4, TOWNSHIP 27 SOUTH, RANGE 1 WEST OF THE 6TH P.M., SEDGWICK COUNTY, KANSAS; EXCEPT A TRACT OF LAND DESCRIBED AS: BEGINNING 1343 FEET SOUTH OF THE NORTHWEST CORNER OF SAID QUARTER; THENCE SOUTH ALONG THE WEST LINE OF SAID NORTHWEST QUARTER, 223 FEET; THENCE EAST PARALLEL WITH THE NORTH LINE OF SAID NORTHWEST QUARTER, 425.36 FEET; THENCE NORTH 223 FEET; THENCE WEST 425.36 FEET TO BEGINNING; AND EXCEPT A TRACT OF LAND DESCRIBED AS: BEGINNING AT THE NORTHEAST CORNER OF SAID QUARTER SECTION 4; THENCE SOUTH ALONG THE EAST LINE OF SAID NORTHWEST QUARTER 600 FEET; THENCE WEST 150 FEET TO A POINT 600 FEET SOUTH OF THE NORTH LINE OF SAID NORTHWEST QUARTER; THENCE NORTH PARALLEL WITH THE SAID EAST LINE 450 FEET; THENCE WEST 435 FEET TO A POINT 150 FEET SOUTH OF THE NORTH LINE OF SAID NORTHWEST QUARTER; THENCE NORTH 150 FEET TO A POINT ON THE NORTH LINE OF SAID NORTHWEST QUARTER; THENCE EAST ALONG SAID NORTH LINE 585 FEET TO BEGINNING; AND EXCEPT THAT PART PLATTED AS NORTHRIDGE LAKES AN ADDITION TO WICHITA, SEDGWICK COUNTY, KANSAS AND EXCEPT THAT PART PLATTED AS FOSSIL RIM ESTATES, AN ADDITION TO WICHITA, SEDGWICK COUNTY, KANSAS.

SURVEYOR'S SUGGESTED DESCRIPTION:
ALL THAT PART OF GOVERNMENT LOT 4 IN THE NORTHWEST QUARTER OF SECTION 4, TOWNSHIP 27 SOUTH, RANGE 1 WEST, IN THE CITY OF WICHITA, SEDGWICK COUNTY, KANSAS, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHWEST CORNER OF THE NORTHWEST QUARTER OF SAID SECTION 4; THENCE N 89°02'44" E, ALONG THE NORTH LINE OF THE NORTHWEST QUARTER OF SAID SECTION 4, A DISTANCE OF 98.76 FEET; THENCE S 0°57'16" E, A DISTANCE OF 75.00 FEET TO A POINT ON THE SOUTHERLY RIGHT-OF-WAY LINE OF 29TH STREET WEST, AS NOW ESTABLISHED, SAID POINT ALSO BEING THE POINT OF BEGINNING; THENCE N 89°02'44" E, ALONG THE SOUTHERLY RIGHT-OF-WAY LINE OF SAID 29TH STREET WEST, A DISTANCE OF 190.03 FEET; THENCE S 0°00'00" E, A DISTANCE OF 355.05 FEET; THENCE S 89°02'44" W, A DISTANCE OF 230.03 FEET TO A POINT ON THE EASTERLY RIGHT-OF-WAY LINE OF TYLER ROAD, AS NOW ESTABLISHED; THENCE ALONG THE EASTERLY RIGHT-OF-WAY LINE OF SAID TYLER ROAD, FOR THE FOLLOWING FOUR (4) COURSES; THENCE N 0°00'00" E, A DISTANCE OF 5.30 FEET; THENCE N 8°31'51" E, A DISTANCE OF 101.12 FEET; THENCE N 0°00'00" E, A DISTANCE OF 225.00 FEET; THENCE N 44°31'22" E, A DISTANCE OF 35.65 FEET TO THE POINT OF BEGINNING, CONTAINING 1.7643 ACRES, MORE OR LESS.

NET AREA = ±1.7643 ACRES / ±76,863 SQ.FT.

SITE SUMMARY

| | |
|---------------------------|------------|
| Area of Lot | 1.76 Acres |
| Amount of Impervious Area | 49,204 SF |
| Amount of Pervious Area | 27,649 SF |

- BENCHMARK:**
- SET "I" CUT ON CENTER OF HEADWALL SOUTH OF THE SOUTHWEST CORNER OF PROJECT.
ELEVATION = 1285.89
 - PROJECT BENCH MARK AS SHOWN ON PLAN, FOUND "I" CUT ON TOP OF EAST CURB OF MERIDIAN OPPOSITE THE N.W. CORNER OF LOT 1, SCHRIFT 5TH ADDITION.
ELEVATION = 1284.07 NAVD88

FLOOD NOTE:
A PORTION OF THIS PROPERTY LIES WITHIN ZONE AE, DEFINED AS SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD.
A PORTION OF THIS PROPERTY LIES WITHIN ZONE X(SHADED), DEFINED AS AREAS OF 0.2% ANNUAL CHANCE FLOOD; AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVES FROM 1% ANNUAL CHANCE FLOOD, AS SHOWN ON THE FLOOD INSURANCE RATE MAP PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY FOR THE CITY OF WICHITA, COMMUNITY NO. 200321, SEDGWICK COUNTY, KANSAS, MAP NO. 20173C0365E, AND DATED FEBRUARY 2, 2007.

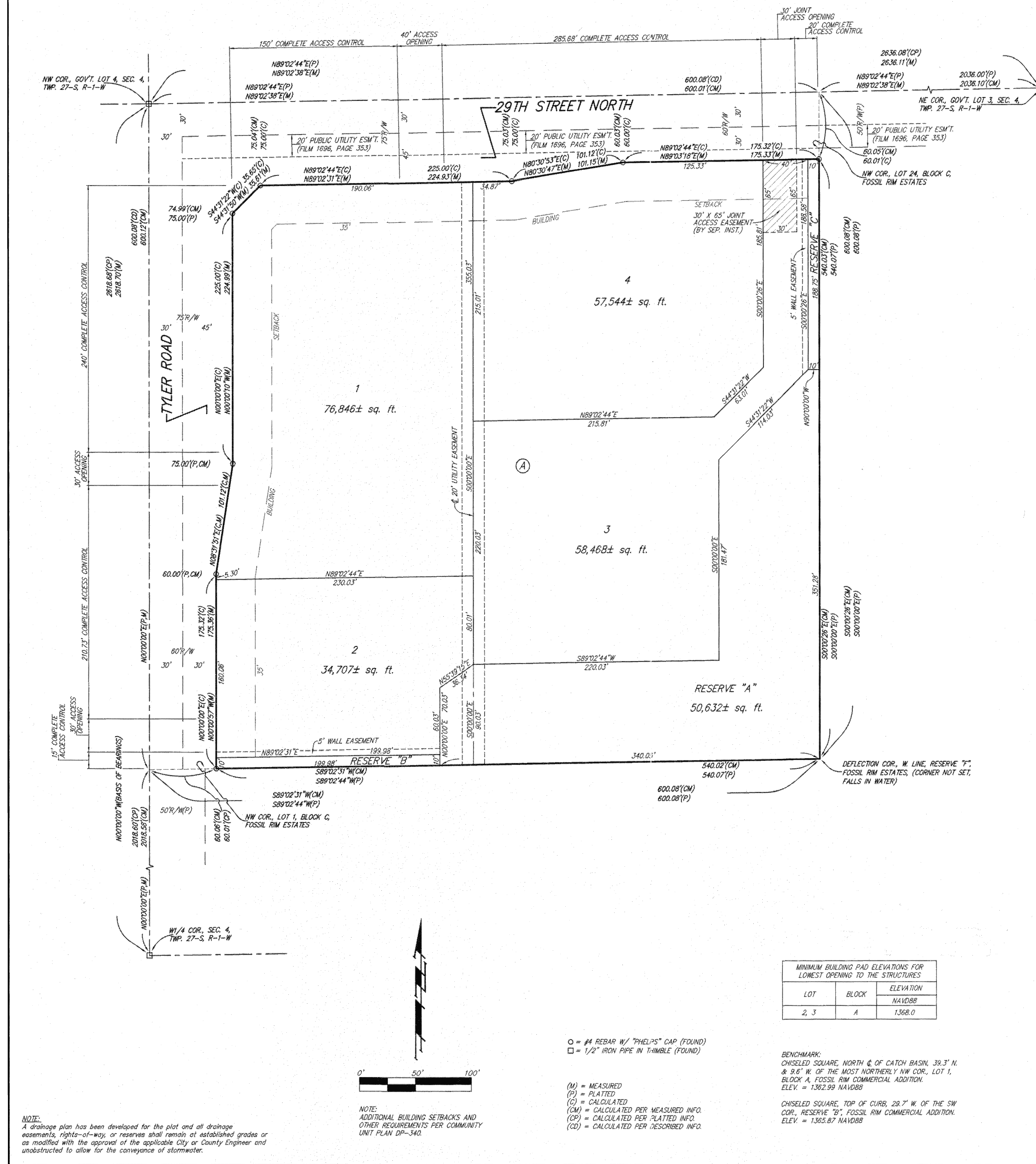


UTILITY NOTES:
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| <p>Consultant Information:</p> <p>PLANNING ENGINEERING IMPLEMENTATION</p> | <p>Licensee: Daniel A. Finn, P.E. License Number: 24132 Licensed As: Professional Engineer</p> <p>PHILLIPS ENGINEERING, INC. 1000 N. Winchester Olathe, Kansas 66061 (913) 381-1919 Fax (913) 381-1916 www.phillipseng.com</p> | |
| <p>Project: Wichita, Kansas '03' Style Store</p> | <p>Publication Date: 08.25.16 With Revisions On: 1. 12.12.16</p> | <p>STORM SEWER IMPROVEMENTS</p> |
| <p>Location: Tyler Rd. & 29th St. W. Wichita, Kansas</p> | | <p>Sheet Information: ERU PLAN</p> |
| <p>CASEY'S CONSTRUCTION DIVISION One Convergence Blvd., Ankeny, IA 50021 Phone: 515-965-6100</p> | <p>PEI# 151184</p> | <p>D6</p> |

FOSSIL RIM COMMERCIAL ADDITION WICHITA, SEDGWICK COUNTY, KANSAS



| LOT | BLOCK | ELEVATION |
|------|-------|-----------|
| 2, 3 | A | 1,368.0 |

BENCHMARK:
CHISELED SQUARE, NORTH & OF CATCH BASIN, 39.3' N. & 8.6' W. OF THE MOST NORTHERLY NW COR. LOT 1, BLOCK A, FOSSIL RIM COMMERCIAL ADDITION.
ELEV. = 1,362.99 NAVD88

CHISELED SQUARE, TOP OF CURB, 28.7' W. OF THE SW COR. RESERVE "B", FOSSIL RIM COMMERCIAL ADDITION.
ELEV. = 1,305.67 NAVD88

- = #4 REBAR W/ "PHELPS" CAP (FOUND)
- = 1/2" IRON PIPE IN TRENCH (FOUND)
- (M) = MEASURED
- (P) = PLATTED
- (C) = CALCULATED
- (CM) = CALCULATED PER MEASURED INFO
- (CP) = CALCULATED PER PLATTED INFO
- (CD) = CALCULATED PER DESCRIBED INFO

NOTE:
ADDITIONAL BUILDING SETBACKS AND OTHER REQUIREMENTS PER COMMUNITY UNIT PLAN DP-342

NOTE:
A drainage plan has been developed for the plot and all drainage easements, rights-of-way, or reserves shall remain at established grades or as modified with the approval of the applicable City or County Engineer and unobstructed to allow for the conveyance of stormwater.

State of Kansas) SS We, Baughman Company, P.A., Surveyors in Sedgwick County and state do hereby certify that we have surveyed and plotted "FOSSIL RIM COMMERCIAL ADDITION", Wichita, Sedgwick County, Kansas and that the accompanying plat is a true and correct exhibit of the property surveyed, described as the north 600.00 feet of the west 600.00 feet of Government Lot 4 in the Northwest Quarter of Section 4, Township 27 South, Range 1 West of the Sixth Principal Meridian, Sedgwick County, Kansas.

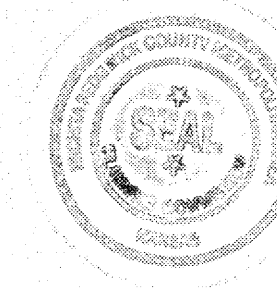
Existing public easements, access controls, building setback lines, and dedications, if any, being vacated by virtue of K.S.A. 12-512b, as amended.

All being situated in Government Lot 4 in the Northwest Quarter of Section 4, Township 27 South, Range 1 West of the Sixth Principal Meridian, Sedgwick County, Kansas.

Baughman Company, P.A.

Michael G. Conroy
Michael G. Conroy, Surveyor

This plat of "FOSSIL RIM COMMERCIAL ADDITION", Wichita, Sedgwick County, Kansas has been submitted to and approved by the Wichita-Sedgwick County Metropolitan Area Planning Commission, Wichita, Kansas.
Dated this 21st day of August, 2016.
Wichita-Sedgwick County Metropolitan Area Planning Commission



Carol Chapman-Naugent
Carol Chapman-Naugent, Chair

Dale Miller
Dale Miller, Secretary

This plat approved and all dedications shown hereon accepted by the City Council of the City of Wichita, Kansas, this 14th day of August, 2016.

Jeff Loggwell
Jeff Loggwell, Mayor

Karen Sublett
Karen Sublett, City Clerk

Know all men by these presents that we, the undersigned, have caused the land in the surveys certificate to be platted into Lots, a Block, Reserves and Streets, to be known as "FOSSIL RIM COMMERCIAL ADDITION", Wichita, Sedgwick County, Kansas. The utility easement is hereby granted as indicated for the construction and maintenance of all public utilities. No signs, light poles, private drainage systems, masonry trash enclosures or other structures shall be located within public utility easements. The wall easements are hereby granted as indicated for the construction and maintenance of private screening walls and utility main lines and service lines shall be allowed to cross these easements. The streets are hereby dedicated to and for the use of the public. Reserve "A" is reserved for landscaping, lakes, open space, berms, sidewalks, drainage purposes and utilities as confined to easements. Reserves "B" and "C" are reserved for landscaping, open space, berms, drainage purposes and utilities. Reserves "A", "B", and "C" shall be owned and maintained by the Lot Owners association for the addition. Access controls shall be as depicted on the face of the plat and are hereby granted to the City of Wichita, Kansas. The Minimum Building Pad Elevations for the lowest opening to the structures shall be as indicated on the face of the plat.

Hawkins Marital Trust, Las Vegas, NV, under Trust Agreement dated July 14, 2008, as Amended

Craig A. Kreiser
Craig A. Kreiser, Co-Trustee

Reviewed in accordance with K.S.A. 58-2005 on this 14th day of August, 2016.

Tricia L. Robello
Tricia L. Robello, L.S. #1246
Deputy County Surveyor
Sedgwick County, Kansas

Entered on transfer record this 1st day of September, 2016.

Kelly B. Arnold
Kelly B. Arnold, County Clerk

State of Kansas) SS The foregoing instrument acknowledged before me, this 11th day of August, 2016, by Craig A. Kreiser, Co-Trustee of the Hawkins Marital Trust, Las Vegas, NV, under Trust Agreement dated July 14, 2008, as Amended, on behalf of the trust.

Kelly A. Thomas
Kelly A. Thomas, Notary Public
My App. Exp. 4-16-20

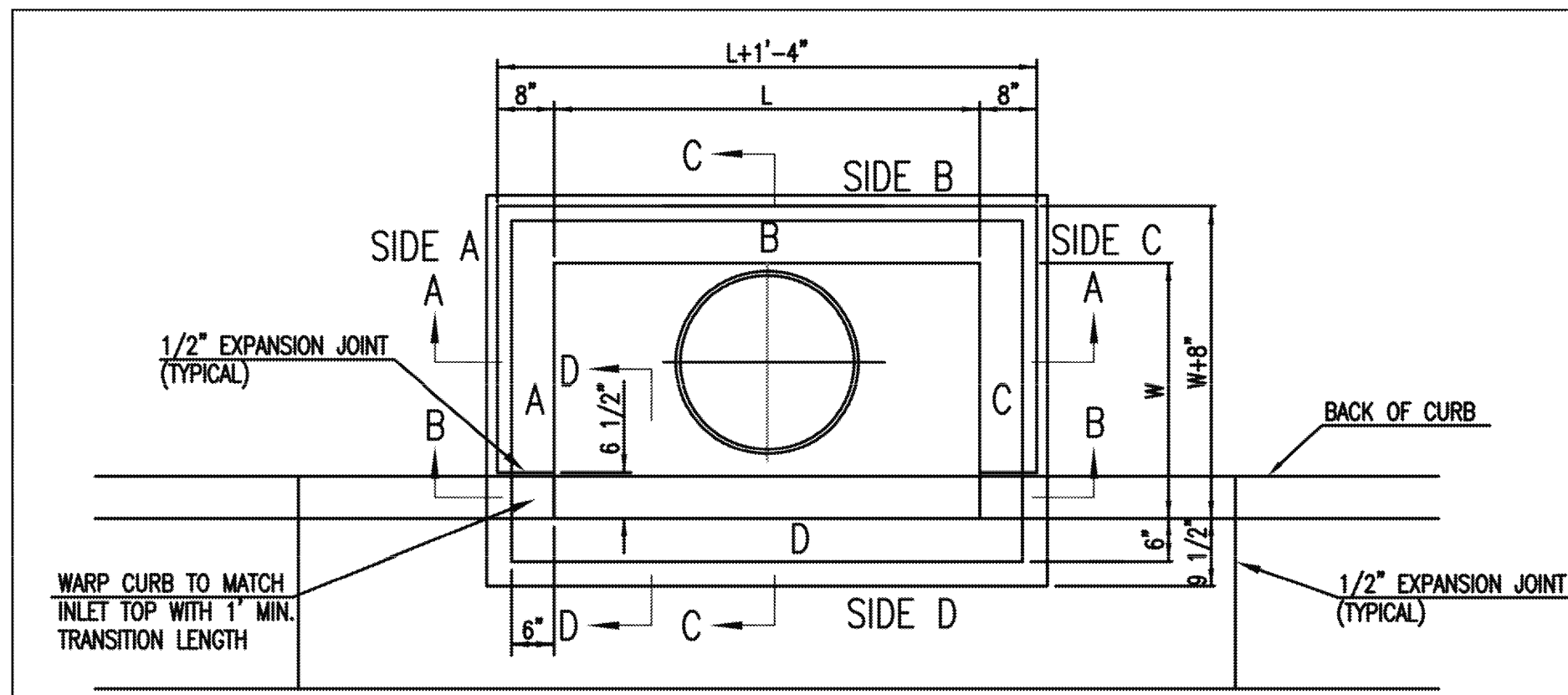
State of Kansas) SS This is to certify that this plat has been filed for record in the office of the Register of Deeds, this 14th day of August, 2016 at 10:38:16 AM, and is duly recorded.

Tonya Buckingham
Tonya Buckingham, Register of Deeds

Judy J. Paget
Judy J. Paget, Deputy



| | | |
|--|---|--|
| PEI PLANNING ENGINEERING IMPLEMENTATION 1420 N. WINCHESTER, WICHITA, KANSAS 67240 (316) 261-1916 FAX (316) 261-1916 WWW.PEIENGINEERING.COM | | |
| Project: Wichita, Kansas '03' Style Store Location: Tyler Rd. & 29th St. W., Wichita, Kansas CASEY'S CONSTRUCTION DIVISION One Conventness Blvd., Ankeny, IA 52021 Phone: 515-965-6100 | Publication Date: 08.25.16 With Revisions On: 1. 12.12.16 STORM SEWER IMPROVEMENTS RECORDED PLAT D7 | |



TOP VIEW

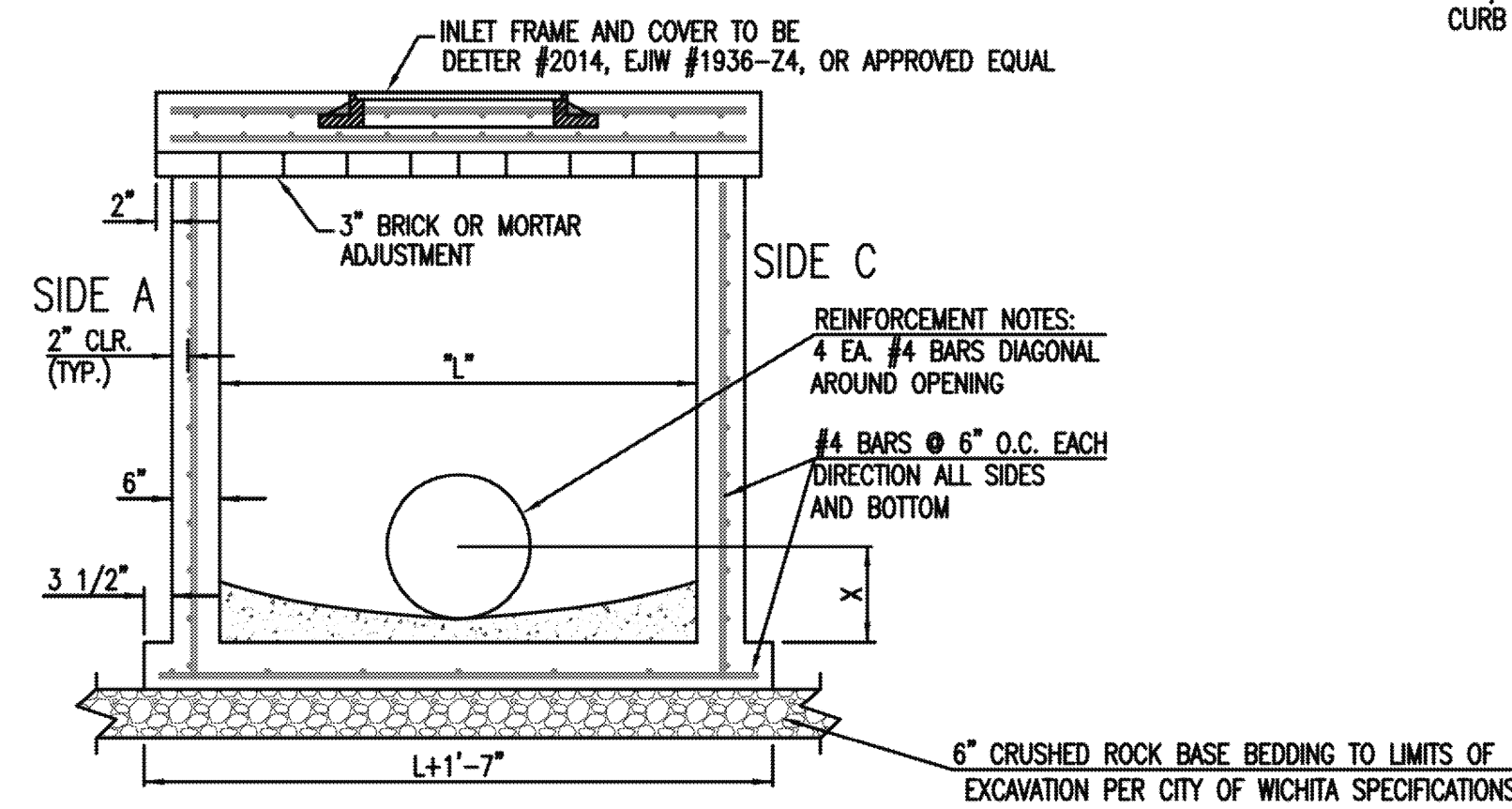
| BAR SCHEDULE | | |
|---------------|---------|---------|
| INLET OPENING | B1 BARS | SPACING |
| 5'-0" | #4 | 4" |
| 10'-0" | #6 | 3.5" |

| W | PRE-CAST TOP SIZE | | | PIPE DIA.** |
|-------|-------------------|---------|--------|---------------|
| | WIDTH | LENGTH | TOP | |
| 3'-0" | W+8" | L+1'-4" | 7 1/2" | 21" & SMALLER |
| 4'-0" | W+8" | L+1'-4" | 7 1/2" | 24" & 30" |
| 5'-0" | W+8" | L+1'-4" | 7 1/2" | 36" & 42" |
| 6'-0" | W+8" | L+1'-4" | 7 1/2" | 48" & 54" |
| 7'-0" | W+8" | L+1'-4" | 7 1/2" | 60" & 66" |

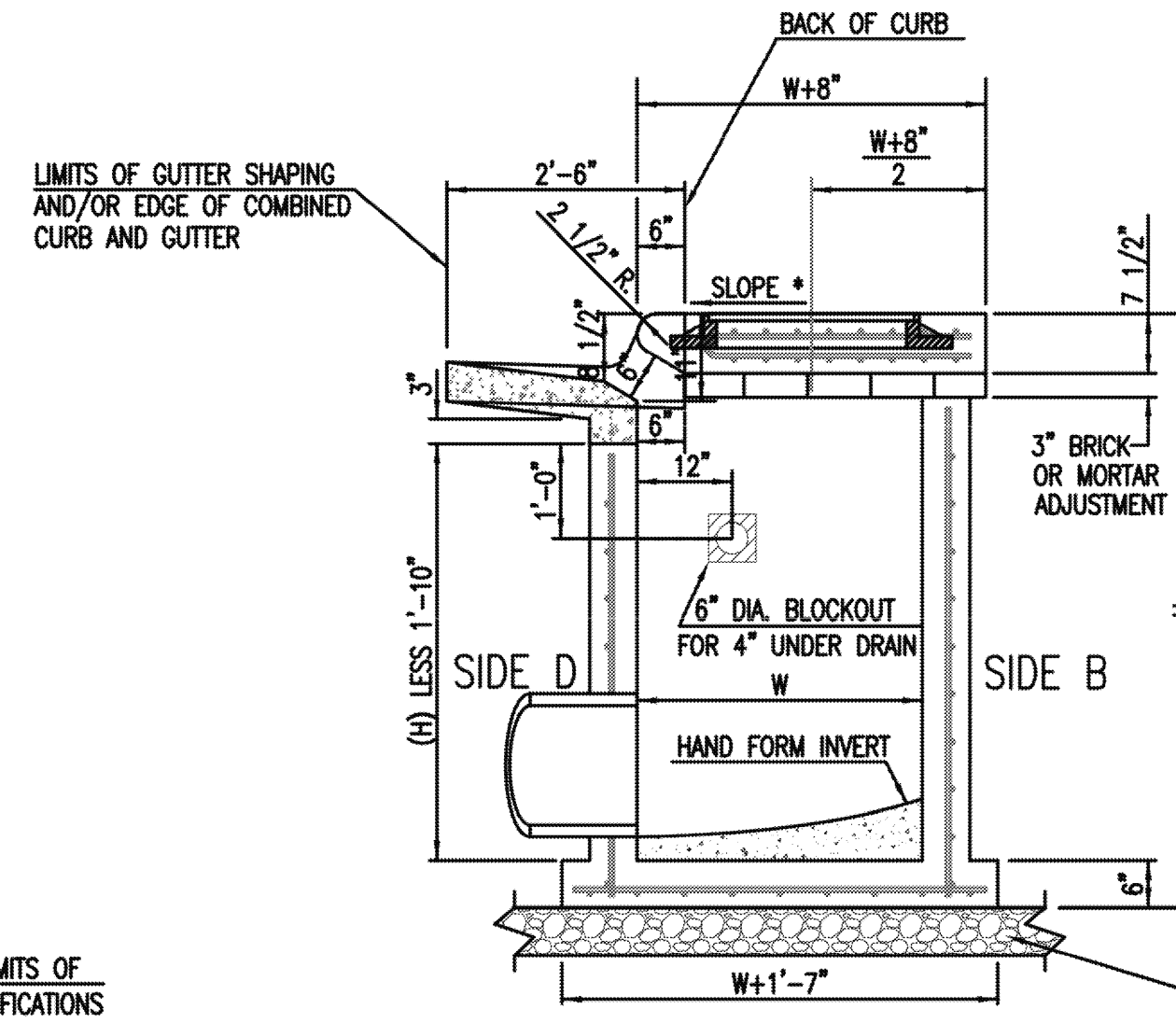
** FOR PIPES PERPENDICULAR TO INLET WALL

GENERAL NOTES

1. CONCRETE TOPS TO BE INSTALLED ON THIN MORTAR CUSHION TO INSURE FULL SUPPORT ALONG BRICK. CONCRETE TOPS MAY BE CAST IN PLACE OR PRECAST. CONCRETE USED FOR INLET CONSTRUCTION SHALL CONFORM TO CITY OF WICHITA SPECIFICATIONS FOR CONCRETE PAVEMENT MIX.
2. CONTRACTOR SHALL HAVE THE OPTION OF CONSTRUCTING 8" BRICK MASONRY WALLS BETWEEN THE CONCRETE INLET BASE AND TOP OF THIS INLET WHEN W=5'-0" AND H=7'-0" OR LESS.
3. INLET INVERT SHALL BE SHAPED WITH 8 SACK SAND MIX CONCRETE TO CREATE FLOW CHANNELS AND TO INCREASE HYDRAULIC EFFICIENCY SUCH THAT THE INLET WILL BE SELF-CLEANING BETWEEN ALL INLET AND/OR OUTLET PIPES.
4. THE ENDS OF ALL PIPES INSTALLED IN INLETS SHALL BE CUT OFF FLUSH WITH THE INSIDE FACE OF THE INLET WALL.
5. INLET FRAME AND COVER TO BE DEETER #2014, EIJW #1936 Z4, OR APPROVED EQUAL, SEE SW-303.
6. CONTRACTOR SHALL REMOVE LIFTING HOOKS AFTER INSTALLATION. RECESSES IN INLET WALL SHALL BE GROUTED FLUSH TO THE INLET WALL WITH HYDRAULIC CEMENT AFTER THE INLET IS IN PLACE. LIFTING HOLES THRU THE INLET WALL WILL NOT BE ACCEPTED.

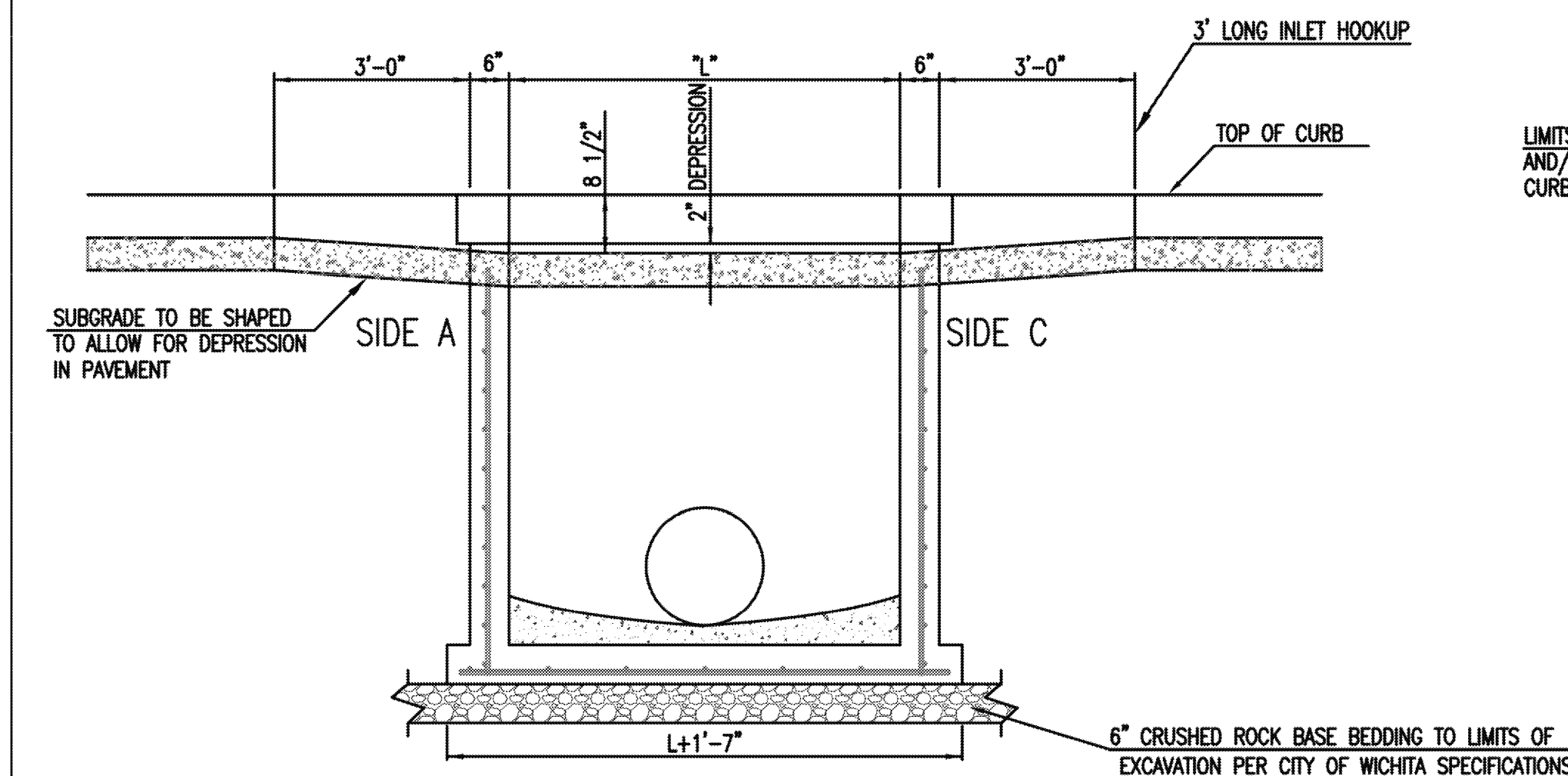
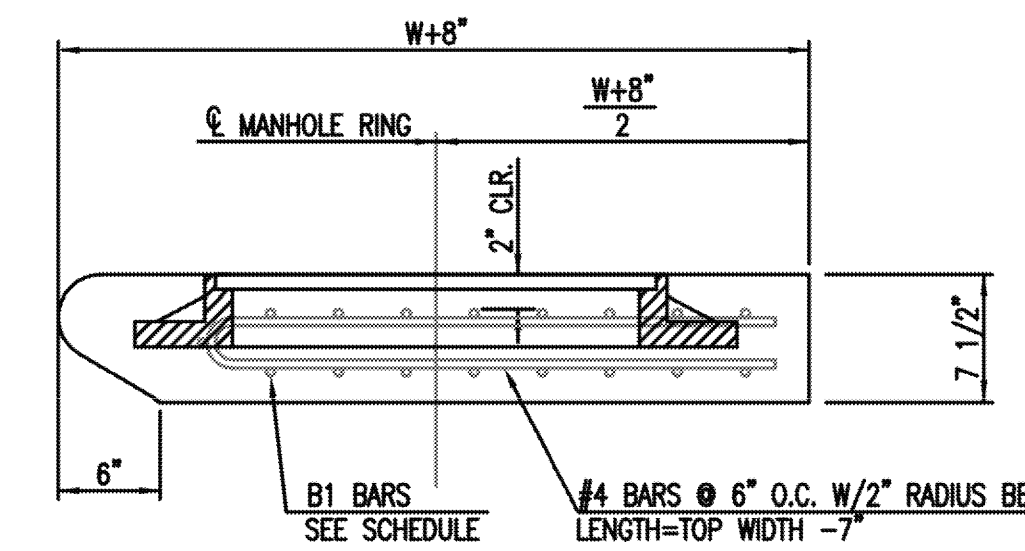


SECTION "A-A"

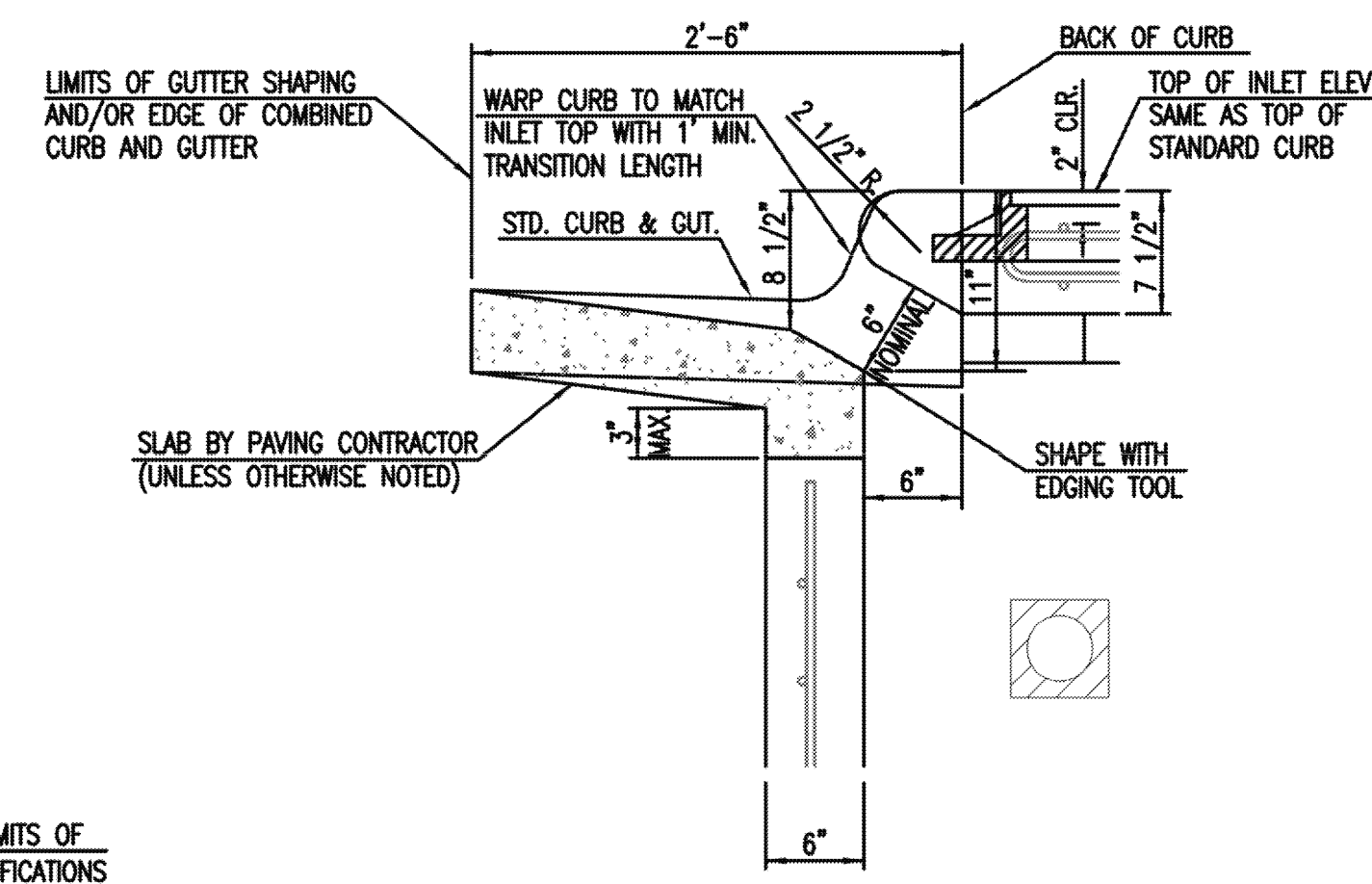


SECTION "C-C"

NOTES:
* SLOPE OF INLET TOP TO MATCH SIDEWALK OR PARKING SLOPES WITHIN LIMITS INDICATED.



SECTION "B-B"



SECTION "D-D"

REVISED: MARCH 2015

STANDARD TYPE 1 CURB INLET
5'-0" OR 10'-0" OPENING

CITY ENGINEER
GARY JANZEN, P.E.

| | | |
|----------------|------------|------|
| PROJECT NUMBER | OGA NUMBER | DATE |
| | | |

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

SHEET

CITY OF WICHITA
PUBLIC WORKS & UTILITIES
ENGINEERING DIVISION

Consultant Information:

PEI PLANNING ENGINEERING IMPLEMENTATION

PHILIPS ENGINEERING, INC.
1025 N. Winchester
Olathe, Kansas 66061
(913) 241-1100
Fax: (913) 241-1105
www.philipsengineering.com

Licensee: Daniel A. Finn, P.E.
License Number: 24132
Licensed As: Professional Engineer

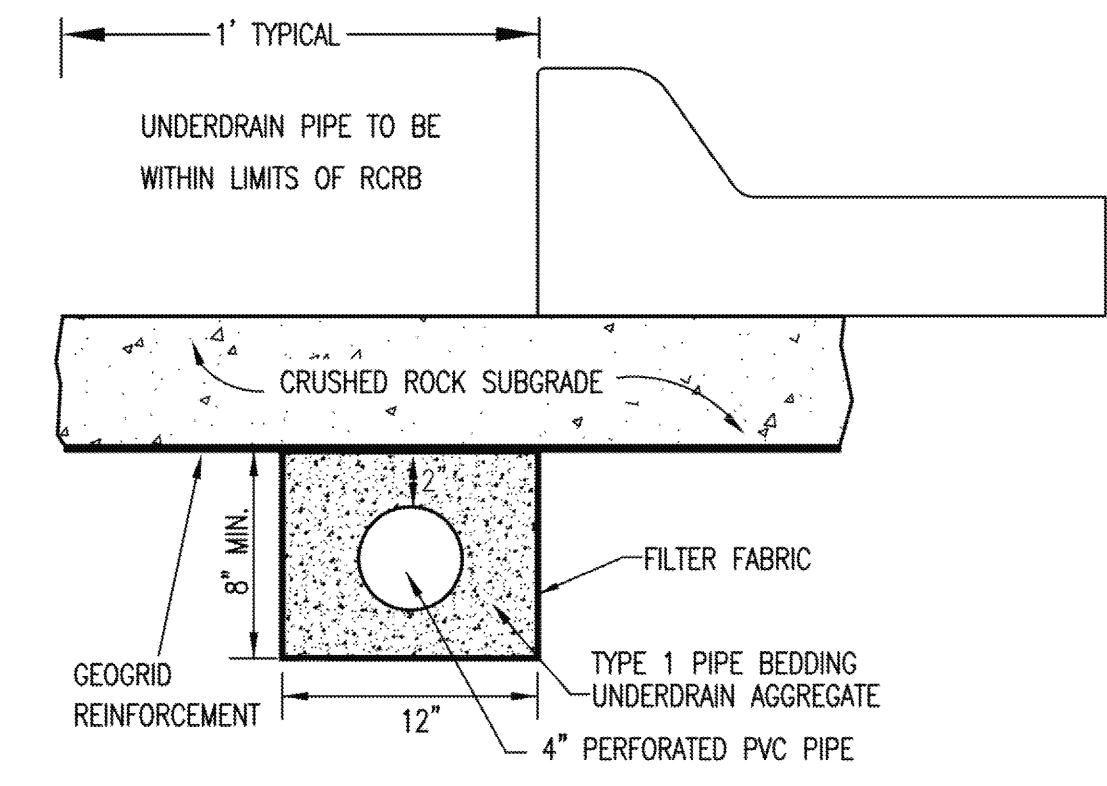
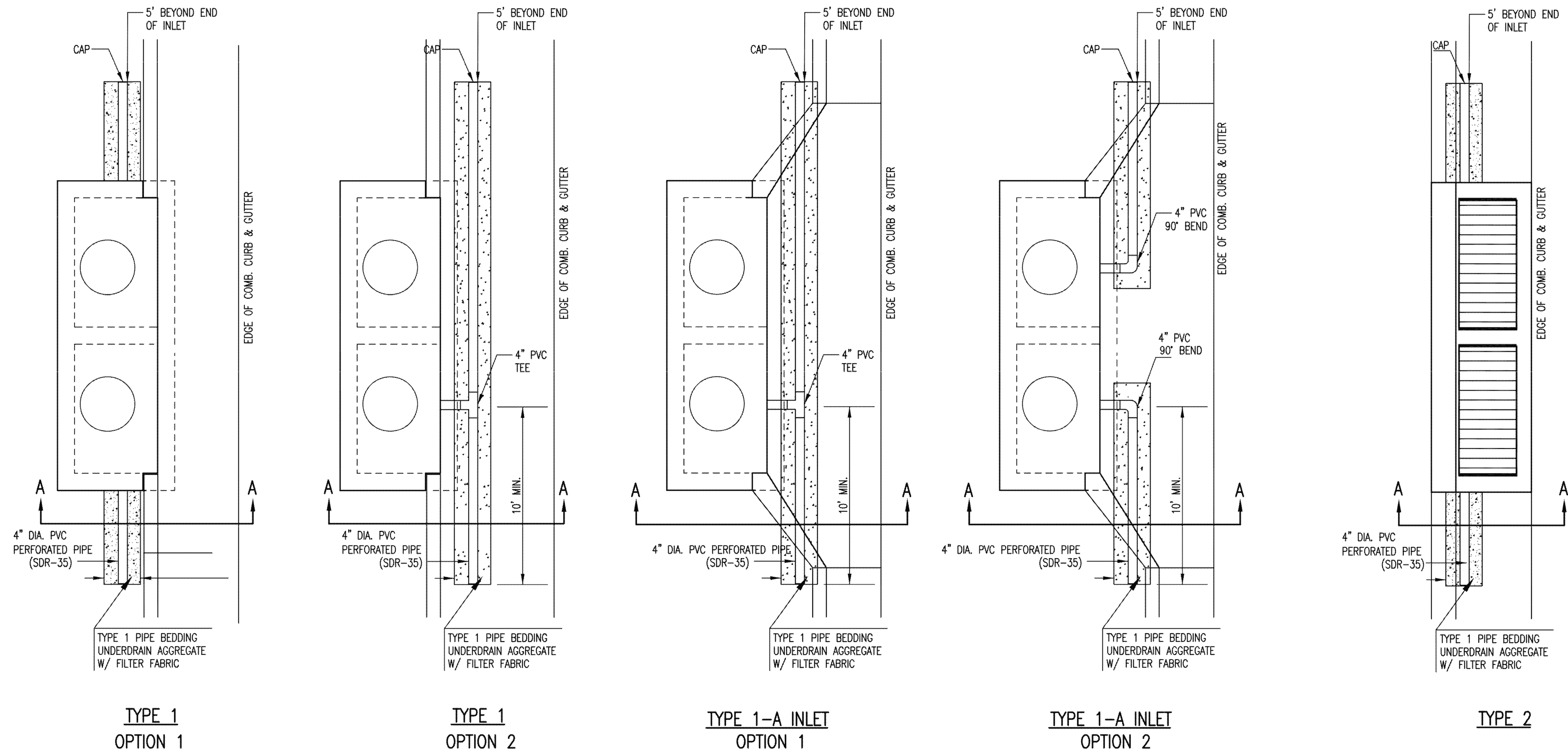
Project: Wichita, Kansas '03' Style Store
Location: Tyler Rd. & 29th St. W., Wichita, Kansas

Publication Date: 08.25.16
With Revisions On: 1. 12.12.16

CASEY'S CONSTRUCTION DIVISION
One Convenience Blvd., Ankeny, IA 50021
Phone: 515-965-6100

STORM SEWER IMPROVEMENTS
STORM SEWER DETAILS
D8

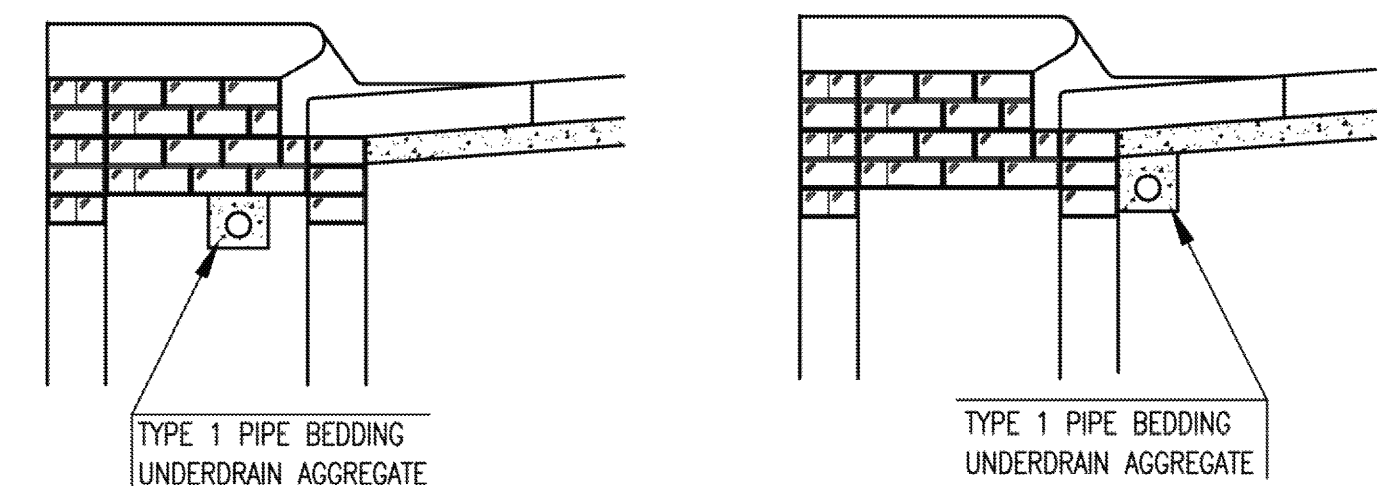
PAVEMENT UNDERDRAIN SHALL BE INSTALLED ON ALL CURB INLETS.



SECTION A-A (TYPICAL)

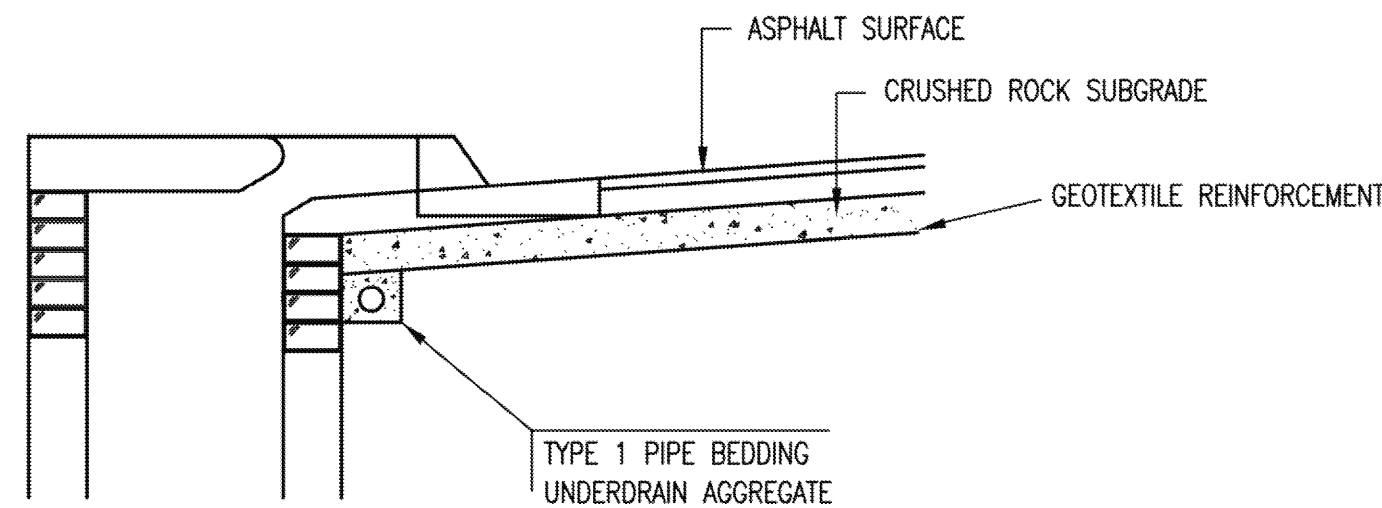
GENERAL NOTES

- PAVEMENT CONTRACTOR WILL BE REQUIRED TO INSTALL SDR 35, 4" PERFORATED DRAIN PIPE AND TEE AS INDICATED IN THE DETAILS.
- WHEN SWS CONSTRUCTED BY SEPARATE PROJECT, SWS CONTRACTOR SHALL INSTALL SDR 35, 4" DRAIN PIPE STUB ONLY THROUGH WALLS OF CURB INLETS AND CAP TO ALLOW FUTURE CONNECTION OF TEE AND ADDITIONAL DRAIN PIPE BY OTHERS.
- UNDERDRAIN PIPE SHALL BE PAID AS A MEASURED QUANTITY BY THE LINEAL FOOT.



(MIN. 16 PERFORATIONS PER LIN. FT. @ 1/4" DIA.)
PERFORATIONS TO BE ON BOTTOM HALF

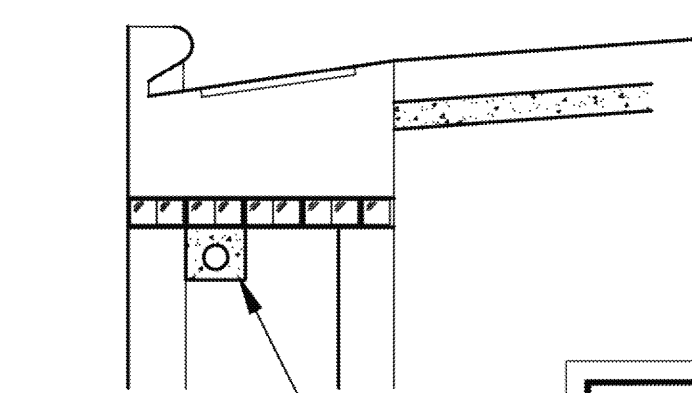
SECTION A-A




SECTION A-A

PAVEMENT UNDERDRAIN DETAIL

BID ITEM TO BE PROVIDED PER 4" PERFORATED UNDERDRAIN PIPE.



SECTION A-A

| | | |
|--|---|-------------------|
|  <p>CITY OF WICHITA PUBLIC WORKS & UTILITIES ENGINEERING DIVISION</p> | <p>CURB INLET PAVEMENT UNDERDRAIN DETAIL</p> | |
| | <p>CITY ENGINEER GARY JANZEN, P.E.</p> | |
| | <p>PROJECT NUMBER</p> | <p>OCA NUMBER</p> |
| <p>CITY ENGINEER'S OFFICE CITY HALL - SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202-1620 (316) 268-4501</p> | | <p>SHEET</p> |

Consultant Information:

PEI PLANNING ENGINEERING IMPLEMENTATION

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Fax: (913) 399-1156
www.philipsengineering.com

Licensee:
Daniel A. Finn, P.E.
License Number:
24132
Licensed As:
Professional Engineer

12/20/16
24132
KANSAS
PROFESSIONAL ENGINEER

Project:
Wichita, Kansas
'03' Style Store

Location:
Tyler Rd. & 29th St. W.
Wichita, Kansas

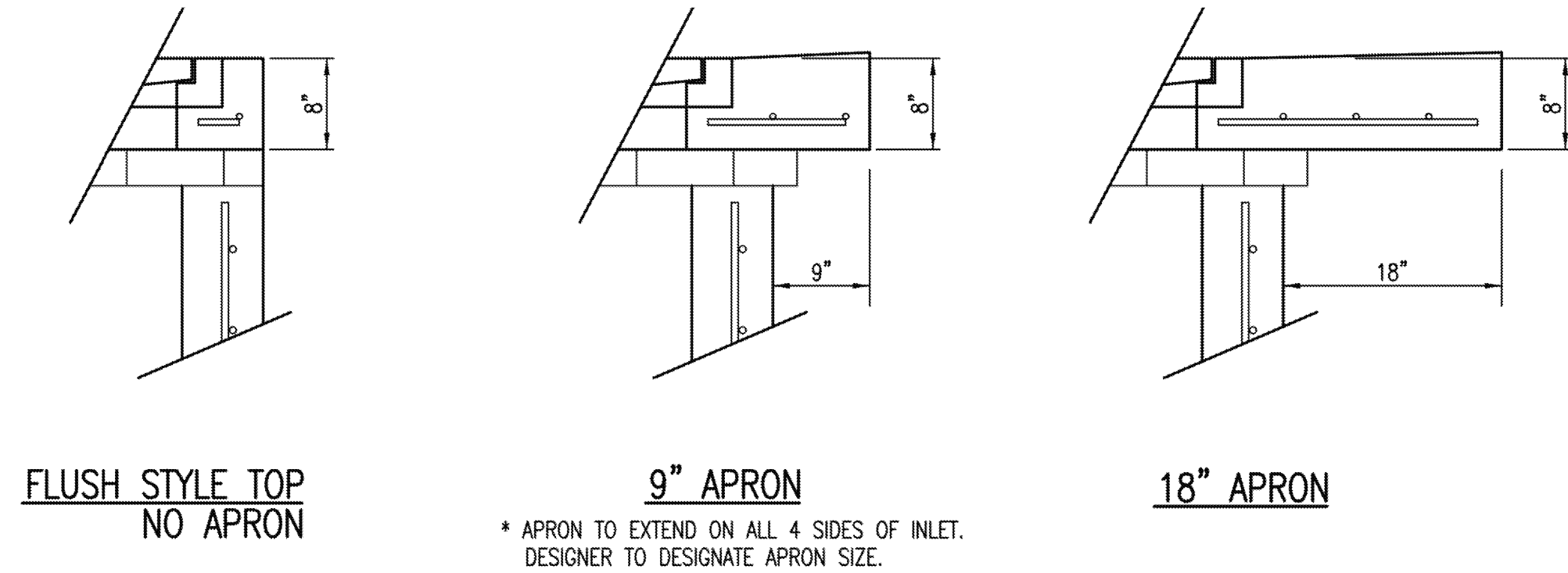
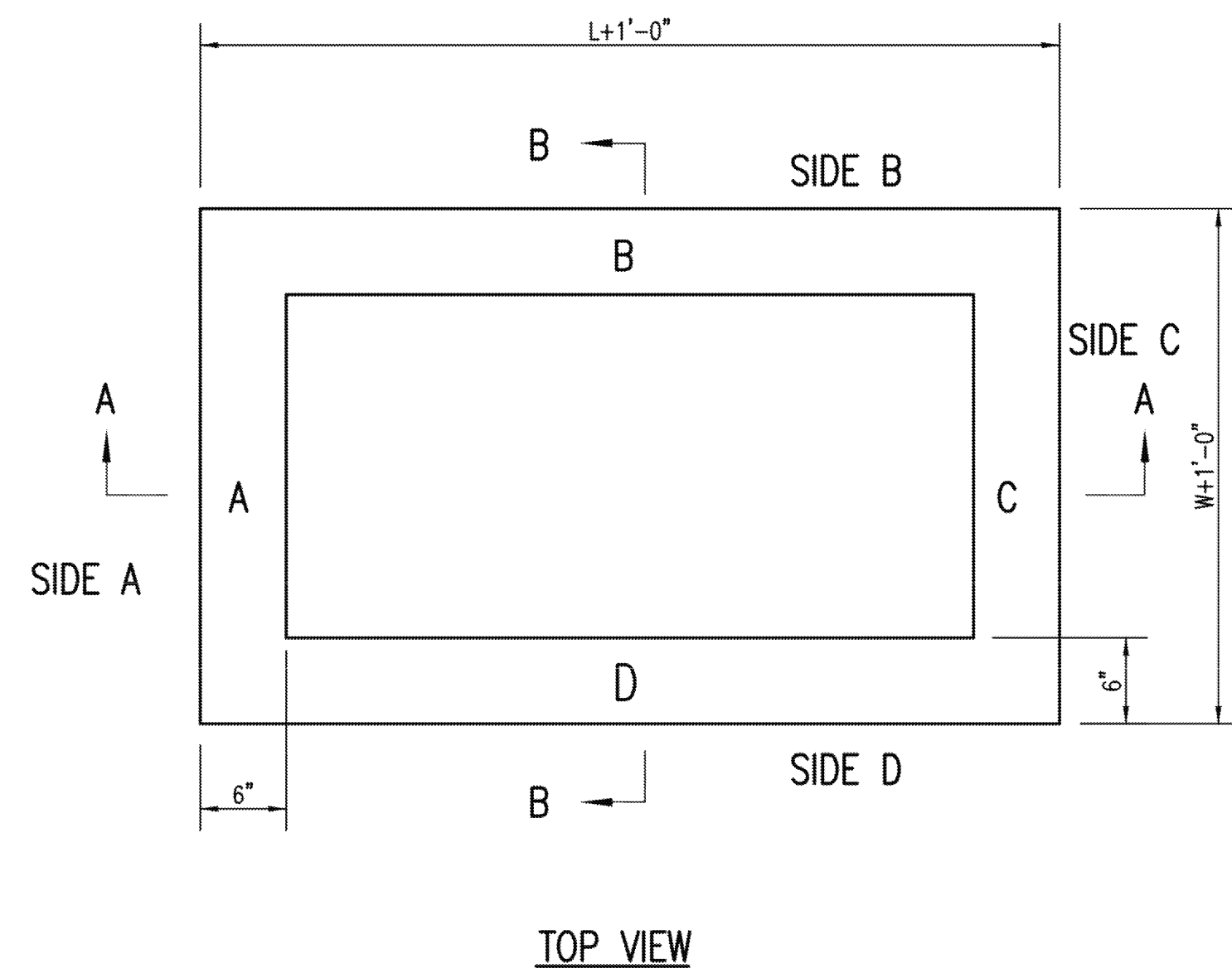
Publication Date:
08.25.16
With Revisions On:
1. 12.12.16

CASEY'S CONSTRUCTION DIVISION
One Convenience Blvd., Ankeny, IA 50021
Phone: 515-965-6100

STORM SEWER IMPROVEMENTS

STORM SEWER DETAILS

D9

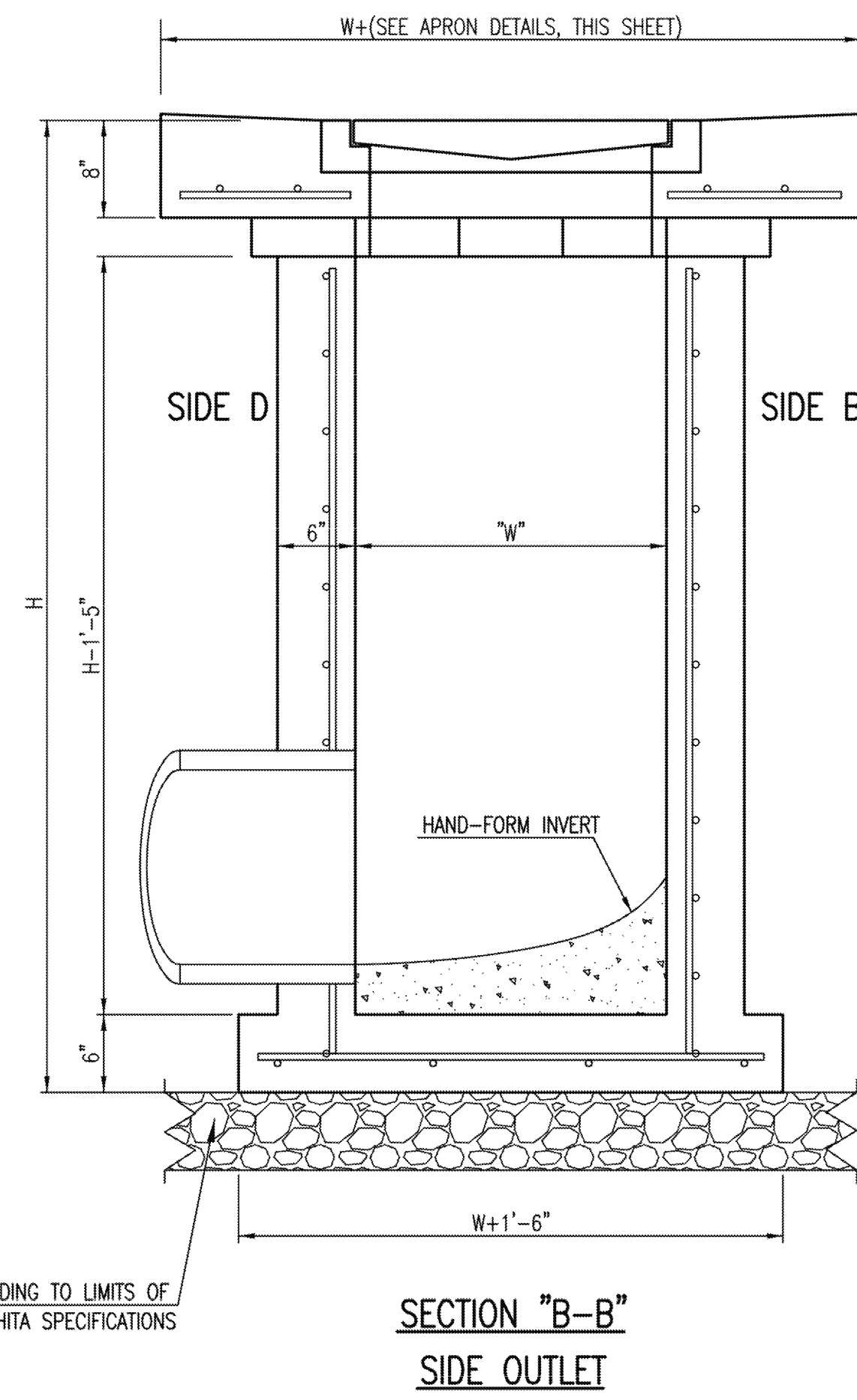
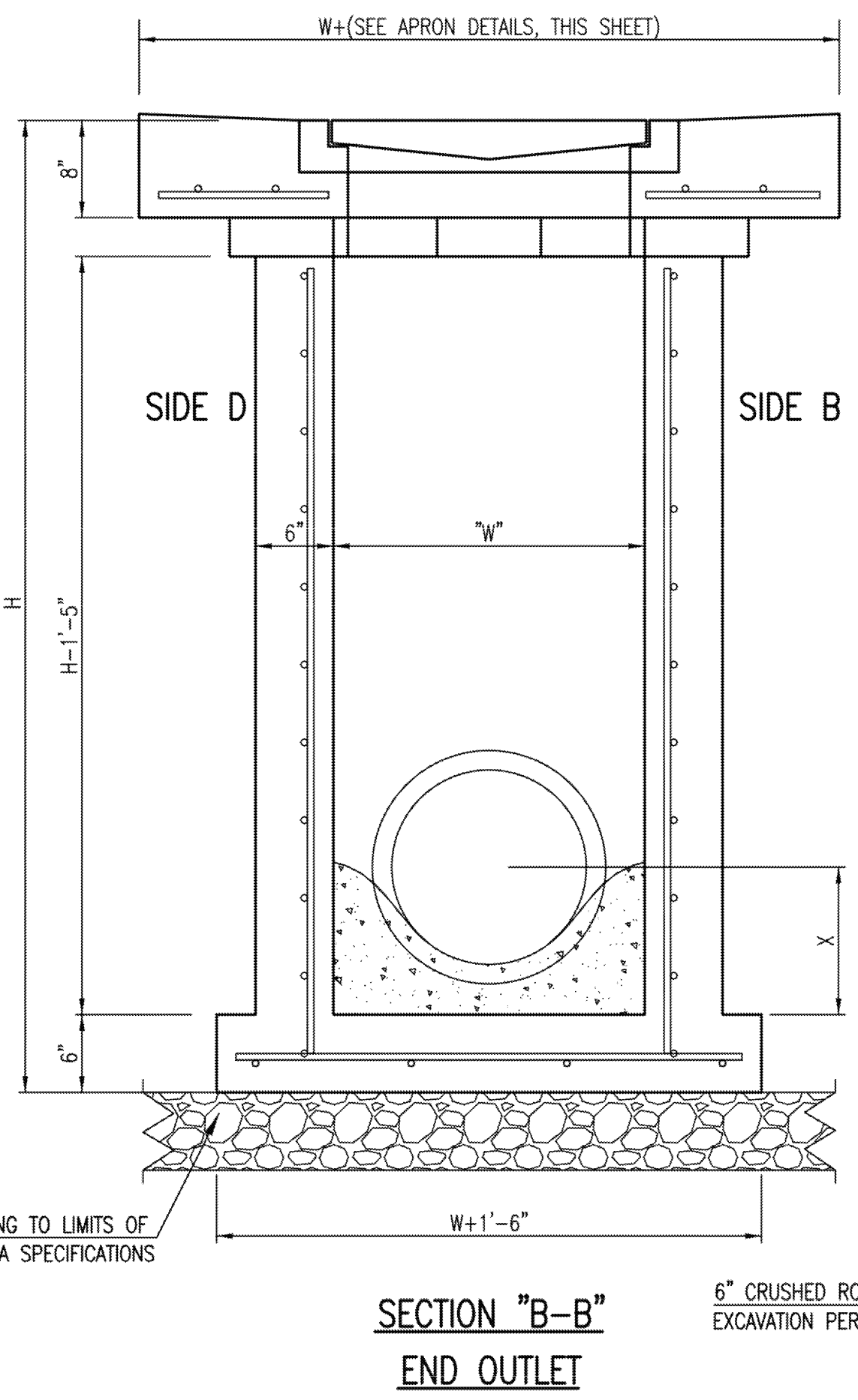
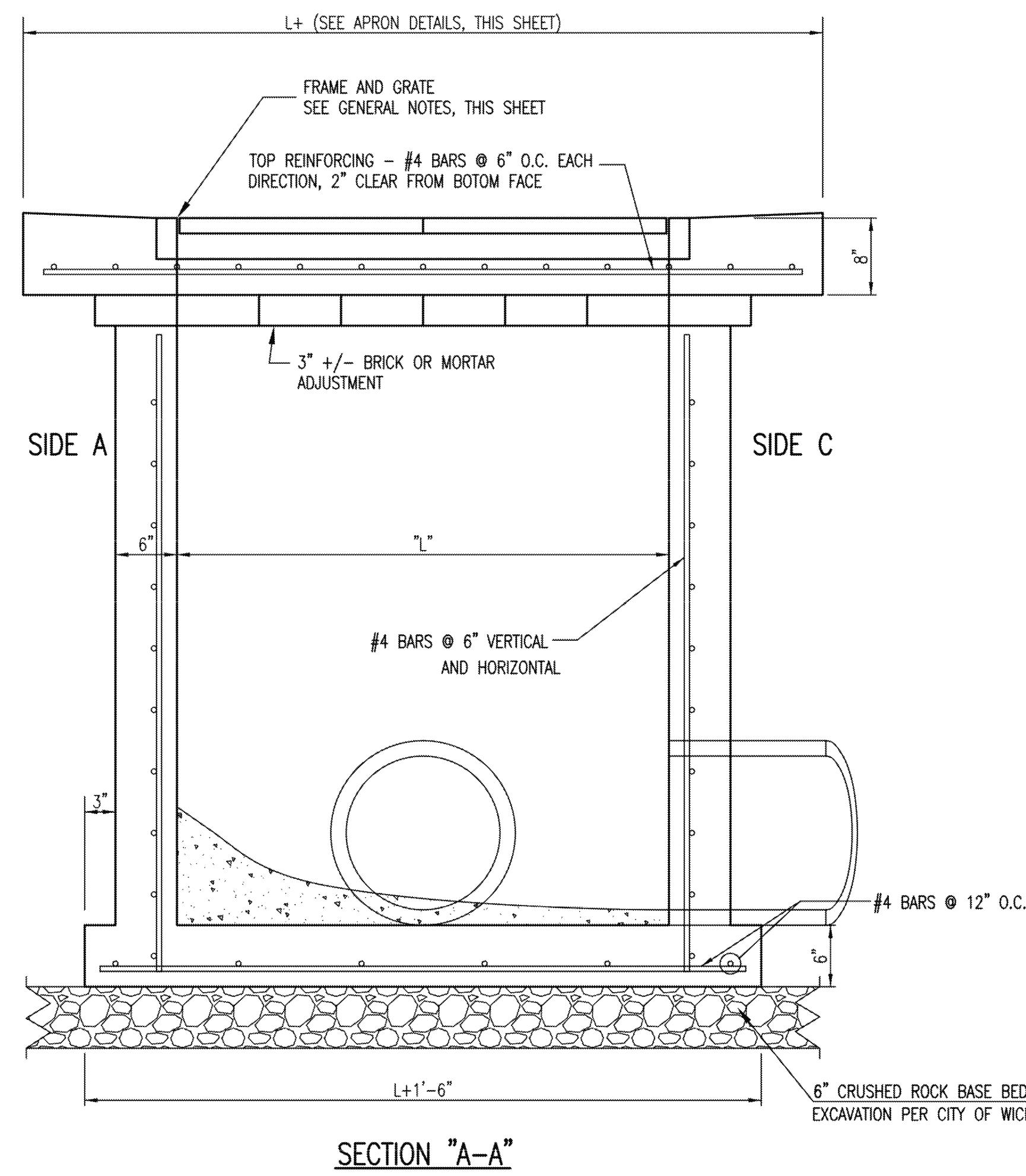


W=2' and L=2' for SINGLE DROP INLET
 W=2' and L=4' for DOUBLE DROP INLET

The structure(s) on this detail sheet are designed for HS-20 loading at these specific dimensions only. If larger dimensions are required, the ENGINEER shall provide a project specific structure design for approval by the City Engineer's office.

GENERAL NOTES

1. GRATE FRAME TO BE INSTALLED ON THIN MORTAR CUSHION TO INSURE FULL SUPPORT ALONG BRICK. CONCRETE USED FOR INLET CONSTRUCTION SHALL CONFORM TO CITY OF WICHITA SPECIFICATIONS FOR CONCRETE PAVEMENT MIX.
2. INLET INVERT SHALL BE SHAPED WITH 8 SACK SAND MIX CONCRETE TO CREATE FLOW CHANNELS AND TO INCREASE HYDRAULIC EFFICIENCY SUCH THAT THE INLET WILL BE SELF CLEANING BETWEEN ALL INLET AND/OR OUTLET PIPES.
3. THE ENDS OF ALL PIPES INSTALLED IN INLETS SHALL BE CUT OFF FLUSH WITH THE INSIDE FACE OF THE INLET WALL.
4. INLET FRAME AND GRATE TO BE DEETER #2433, EJIW #5391-21 OR APPROVED EQUAL FOR 2'x2' SINGLE DROP INLET AND DEETER #2434, EJIW #5391 Z3 OR APPROVED EQUAL FOR 2'x4' DOUBLE DROP INLET.
5. CONTRACTOR SHALL REMOVE LIFTING HOOKS AFTER INSTALLATION. RECESSES IN INLET WALL SHALL BE GROUTED FLUSH TO THE INLET WALL WITH HYDRAULIC CEMENT AFTER THE INLET IS IN PLACE. LIFTING HOLES THRU THE INLET WALL WILL NOT BE ACCEPTED.



REVISED: MARCH 2015

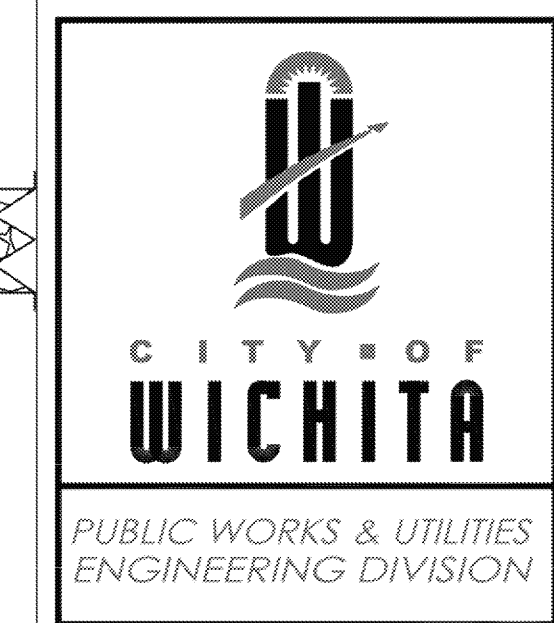
SINGLE/DOUBLE DROP INLET

CITY ENGINEER
GARY JANZEN, P.E.

| | | |
|----------------|------------|------|
| PROJECT NUMBER | OCA NUMBER | DATE |
| | | |

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

SHEET



Consultant Information:

PEI PLANNING ENGINEERING IMPLEMENTATION

Licensee: Daniel A. Finn, P.E.
 License Number: 24132
 Licensed As: Professional Engineer

PHILIPS ENGINEERING, INC.
 1325 N. Winchester
 Olathe, Kansas 66061
 (913) 399-1919
 Fax: (913) 399-1916
 www.philipsengineering.com

Project: Wichita, Kansas '03' Style Store
 Location: Tyler Rd. & 29th St. W., Wichita, Kansas

Publication Date: 08.25.16
 With Revisions On: 1. 12.12.16

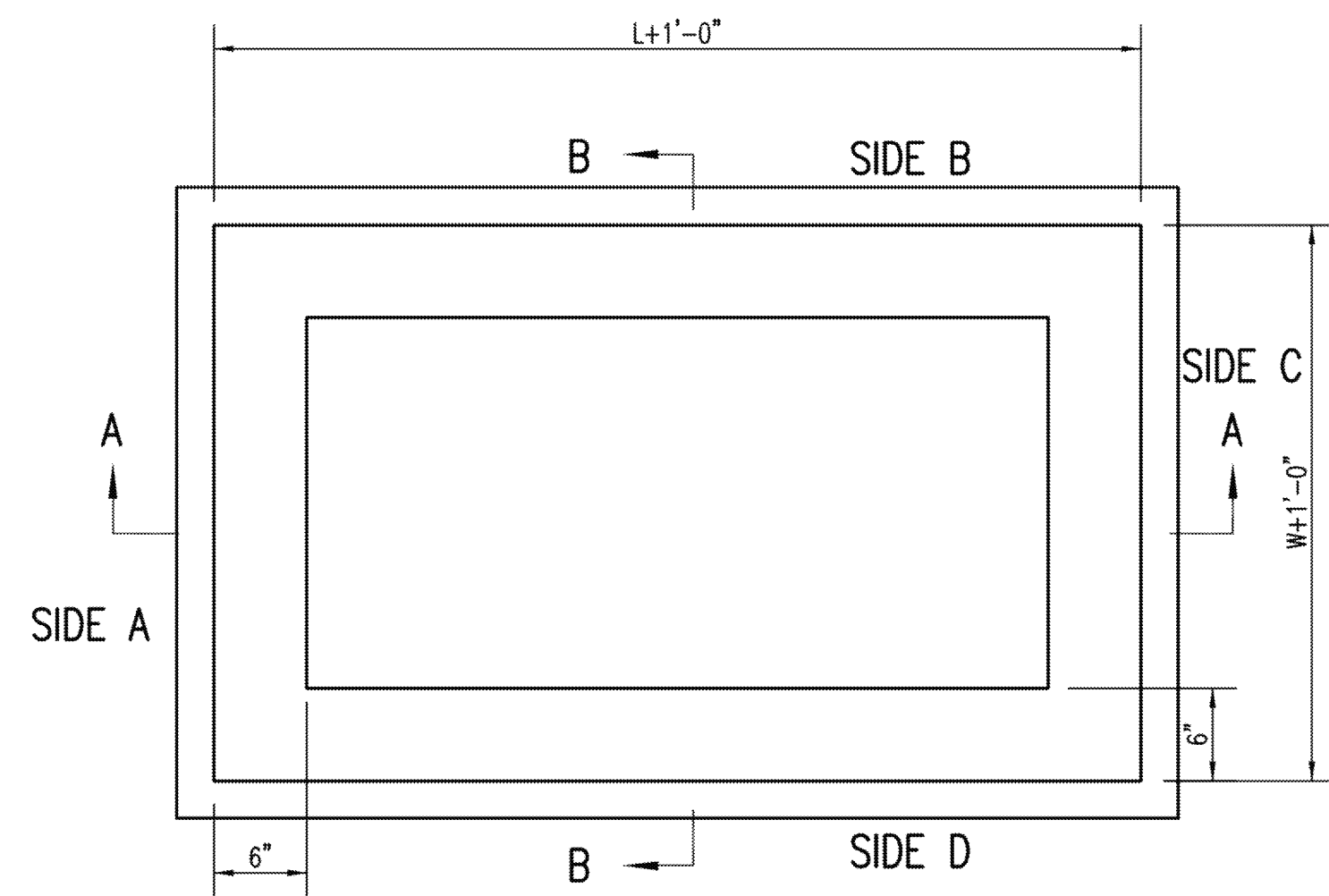
CASEY'S CONSTRUCTION DIVISION
 One Convenience Blvd., Ankeny, IA 50021
 Phone: 515-965-6100

STORM SEWER IMPROVEMENTS

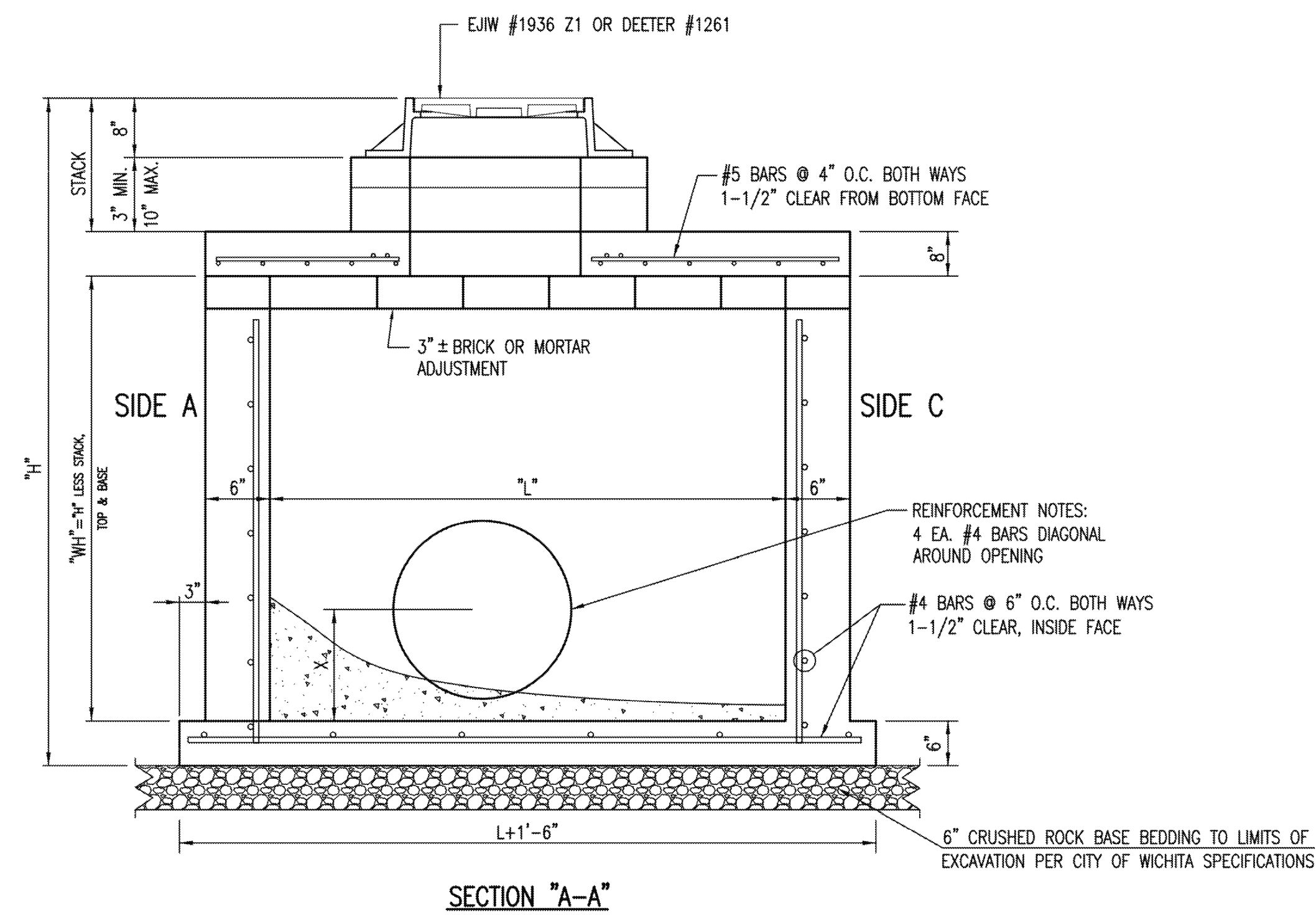
STORM SEWER DETAILS

D10

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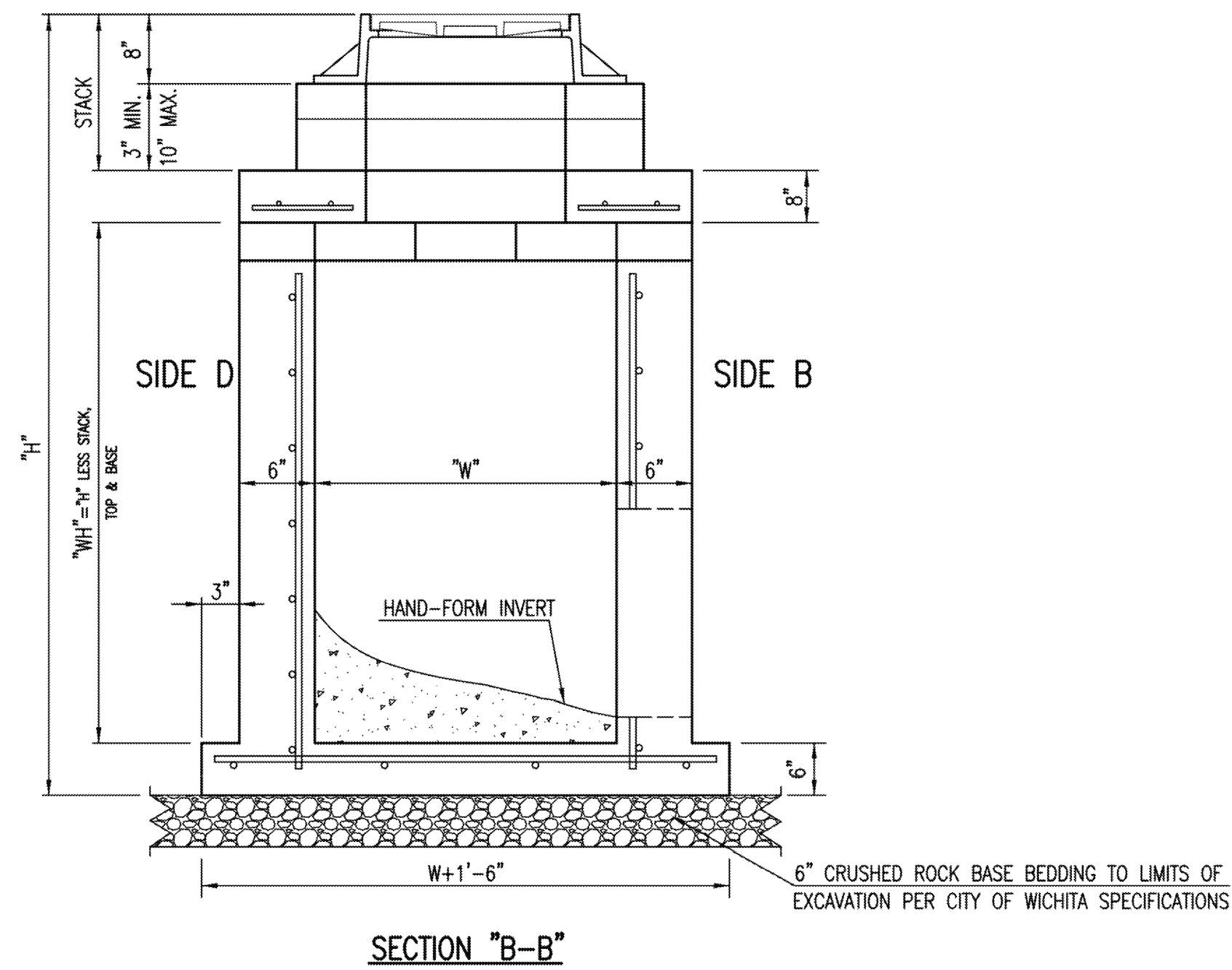
TOP VIEW



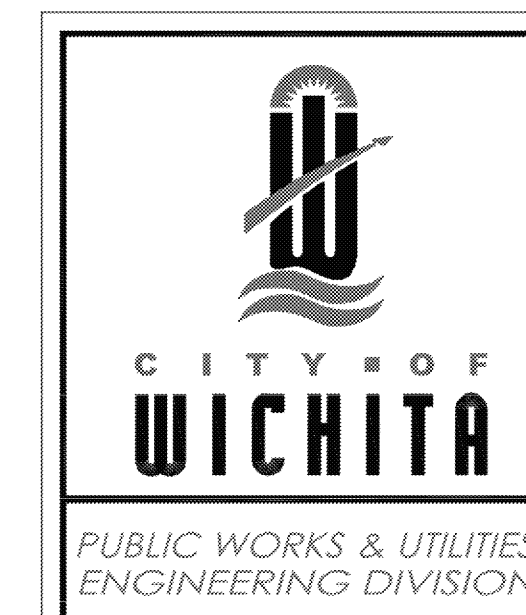
SECTION "A-A"

GENERAL NOTES

1. GRATE FRAME TO BE INSTALLED ON THIN MORTAR CUSHION TO INSURE FULL SUPPORT ALONG BRICK. CONCRETE USED FOR INLET CONSTRUCTION SHALL CONFORM TO CITY OF WICHITA SPECIFICATIONS FOR CONCRETE PAVEMENT MIX.
2. INLET INVERT SHALL BE SHAPED WITH 8 SACK SAND MIX CONCRETE TO CREATE FLOW CHANNELS AND TO INCREASE HYDRAULIC EFFICIENCY SUCH THAT THE INLET WILL BE SELF CLEANING BETWEEN ALL INLET AND/OR OUTLET PIPES.
3. THE ENDS OF ALL PIPES INSTALLED IN INLETS SHALL BE CUT OFF FLUSH WITH THE INSIDE FACE OF THE INLET WALL.
4. INLET FRAME AND GRATE TO BE DEETER #1261, EJIW #1936-Z1 OR APPROVED EQUAL, SEE SW-303.
5. CONTRACTOR SHALL REMOVE LIFTING HOOKS AFTER INSTALLATION. RECESSES IN MANHOLE WALL SHALL BE GROUTED FLUSH TO THE MANHOLE WALL WITH HYDRAULIC CEMENT AFTER THE MANHOLE IS IN PLACE. LIFTING HOLES THRU THE MANHOLE WALL WILL NOT BE ACCEPTED.



SECTION "B-B"



REINFORCED CONCRETE
MANHOLE
(STORM SEWER)

CITY ENGINEER
GARY JANZEN, P.E.

PROJECT NUMBER OCA NUMBER DATE

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

REVISED: MARCH 2015

SHEET

Consultant Information:

PEI PLANNING ENGINEERING IMPLEMENTATION

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Licensee: Daniel A. Finn, P.E.
License Number: 24132
Licensed As: Professional Engineer

12/20/16
24132
KANSAS
PROFESSIONAL ENGINEER

Project: Wichita, Kansas
'03' Style Store

Location: Tyler Rd. & 29th St. W.
Wichita, Kansas

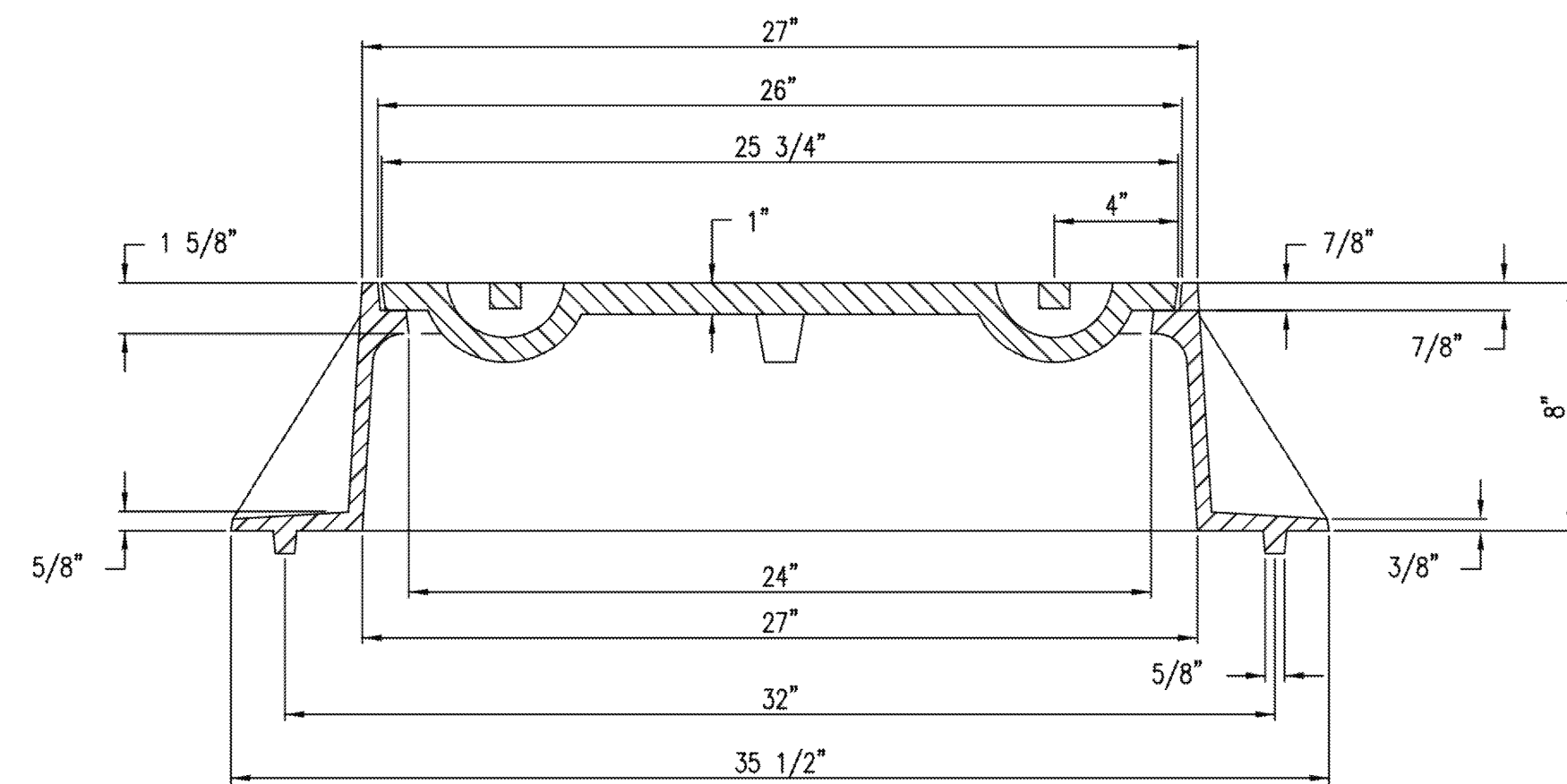
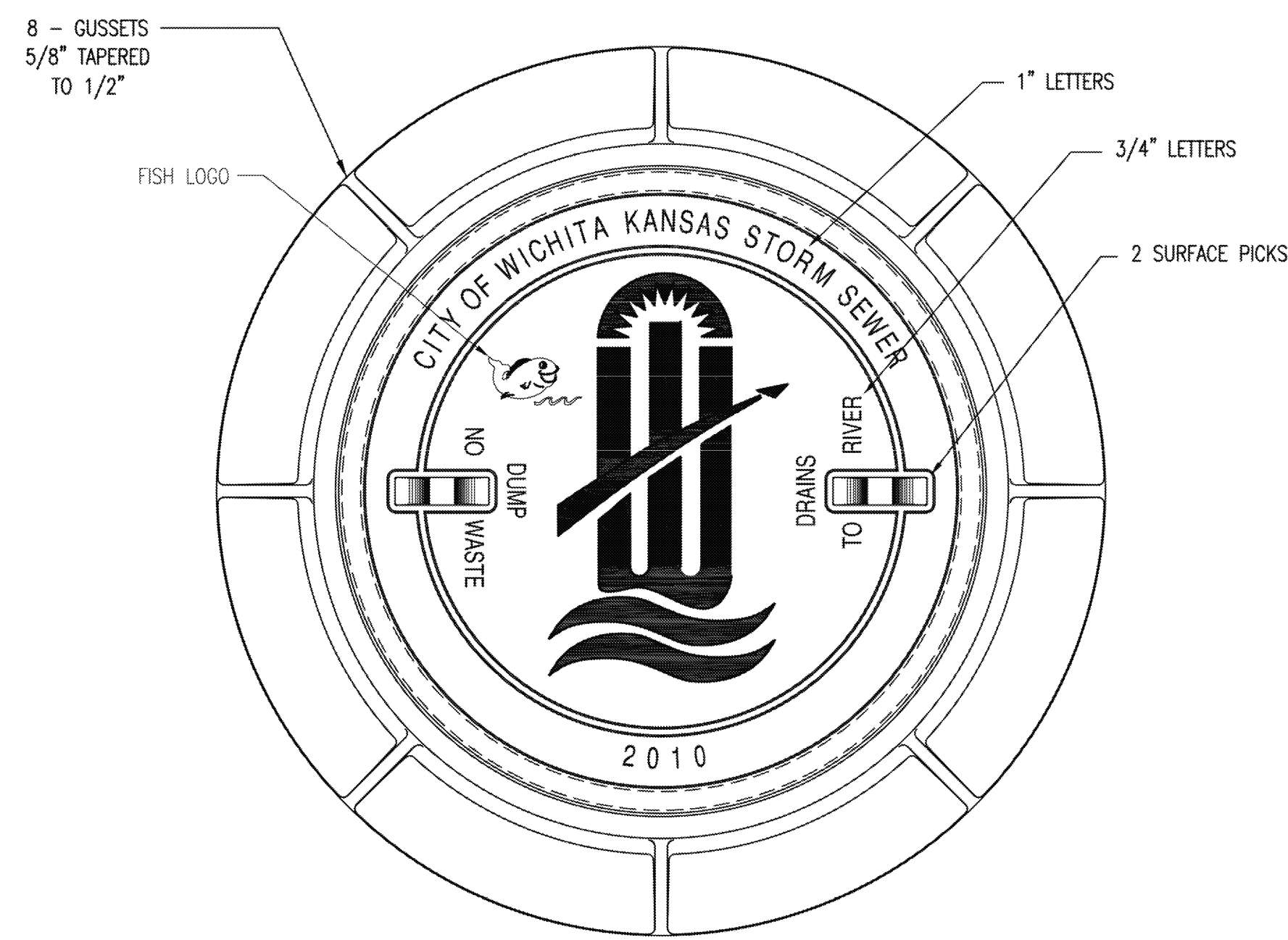
Publication Date: 08.25.16
With Revisions On: 1. 12.12.16

CASEY'S CONSTRUCTION DIVISION
One Convenience Blvd, Ankeny, IA 50021
Phone: 515-965-6100

STORM SEWER IMPROVEMENTS

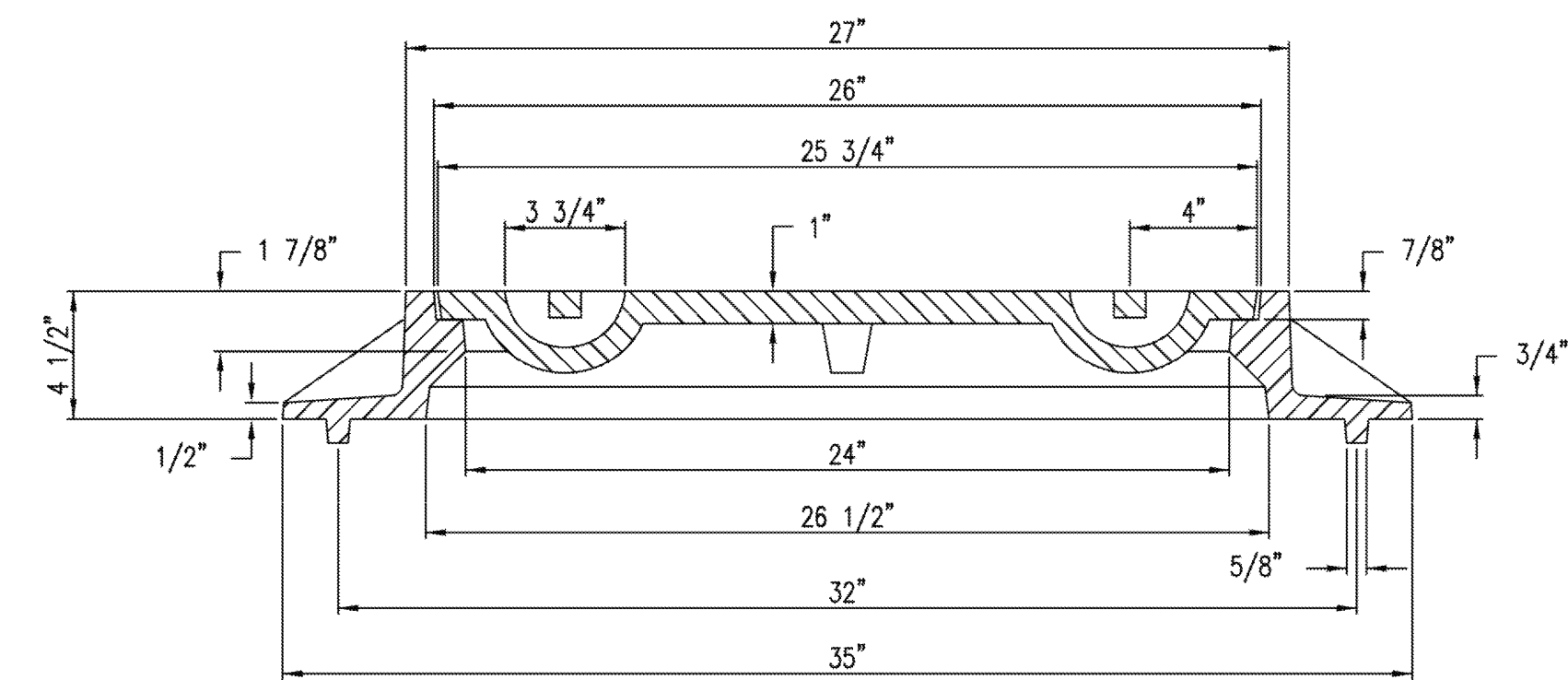
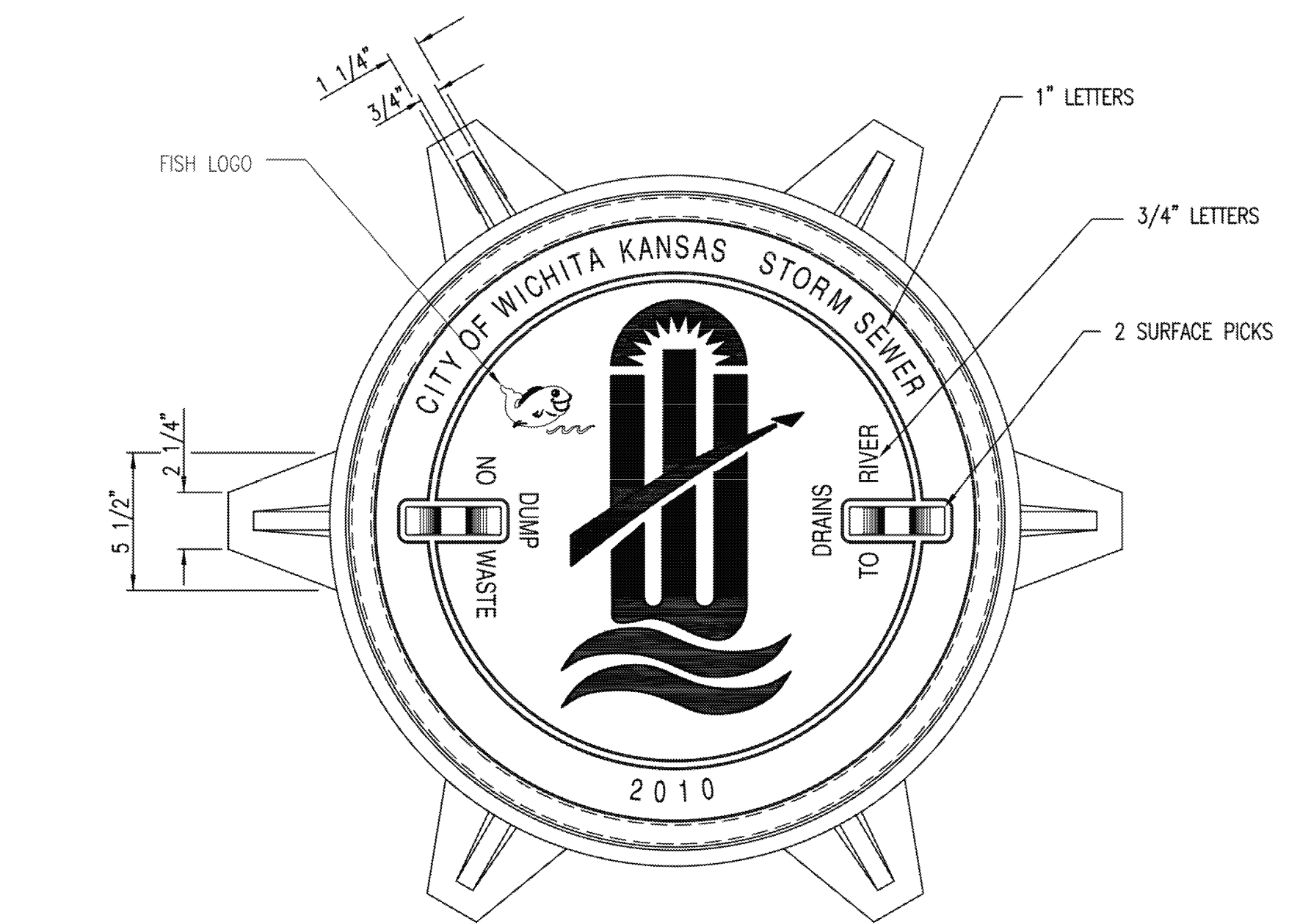
STORM SEWER DETAILS

D11



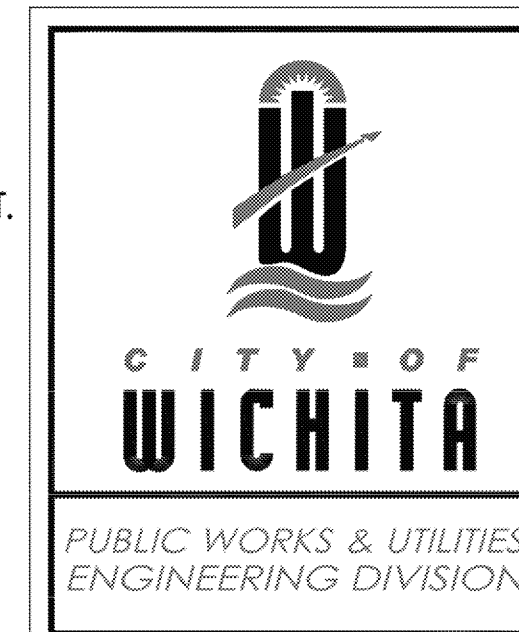
MANHOLE FRAME
DEETER #1261 OR EJIW #1936-Z1

- NOTE:
1. FURNISHED WITH MACHINED HORIZONTAL BEARING SURFACE.
 2. COVER TO BE DEETER #1261 OR EJIW #1936A.



INLET FRAME
DEETER #2014 OR EJIW #1936-Z4

- NOTE:
1. FURNISHED WITH MACHINED HORIZONTAL BEARING SURFACES.
 2. NOT TO BE USED UNDER PAVEMENT.
 3. COVER TO BE DEETER #1261 OR EJIW #1936A.



MANHOLE/INLET FRAME AND COVER (STORM SEWER)

CITY ENGINEER
GARY JANZEN, P.E.

| | | |
|--|------------|---------|
| PROJECT NUMBER | OCA NUMBER | DATE |
| | | 11/2010 |
| CITY ENGINEER'S OFFICE CITY HALL - SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202-1620 (316) 268-4501 | | SHEET |

Consultant Information:

PEI PLANNING ENGINEERING IMPLEMENTATION

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Olathe, Kansas 66061
913.261.1155
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Licenses:
Daniel A. Finn, P.E.
License Number: 24132
Licensed As: Professional Engineer

12/20/16
24132
KANSAS
PROFESSIONAL ENGINEER

Project: Wichita, Kansas
'03' Style Store

Location: Tyler Rd. & 29th St. W.
Wichita, Kansas

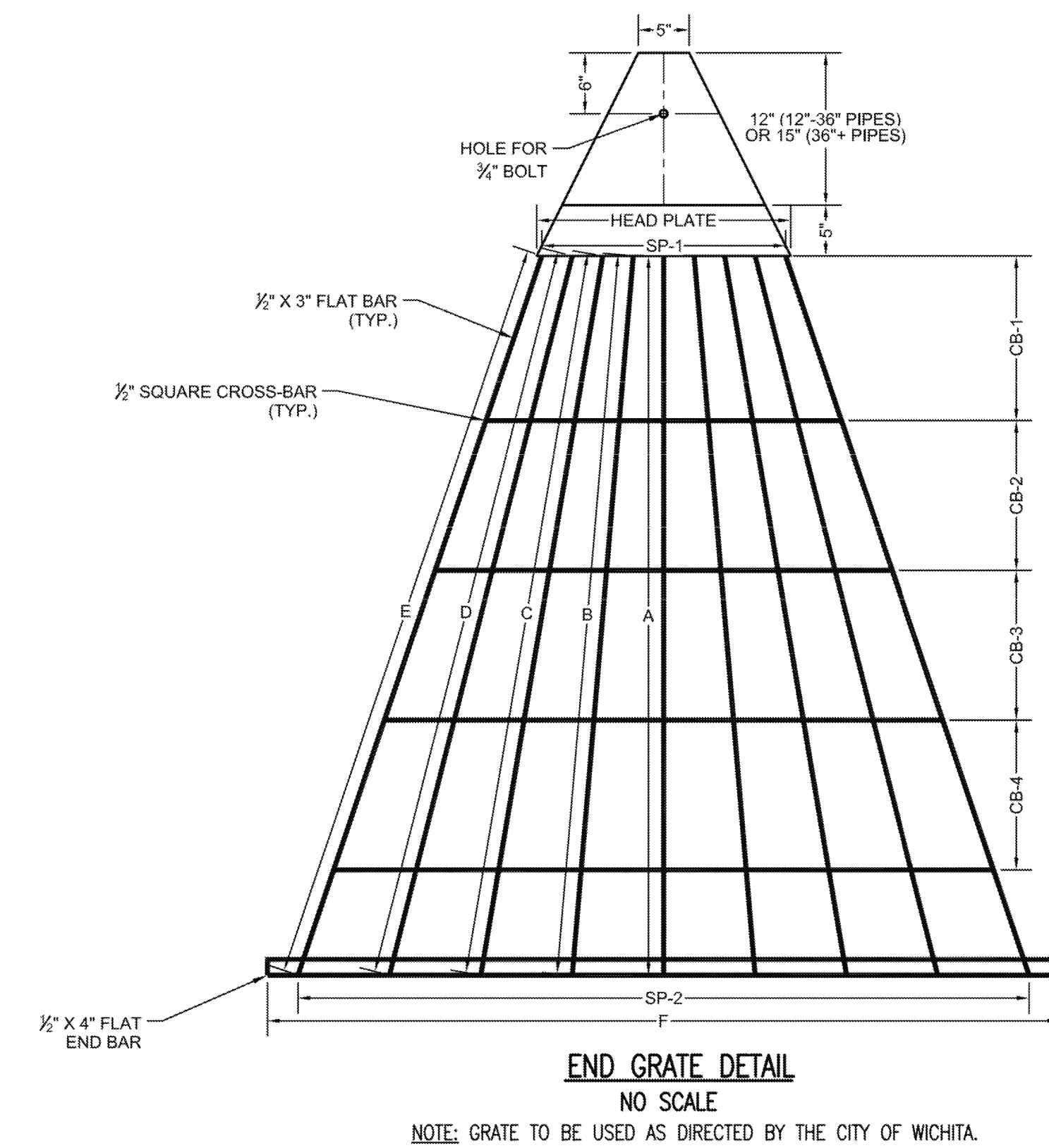
CASEY'S CONSTRUCTION DIVISION
One Convenience Blvd, Ankeny, IA 50021
Phone: 515-965-6100

Publication Date: 08.25.16
With Revisions On: 1. 12.12.16

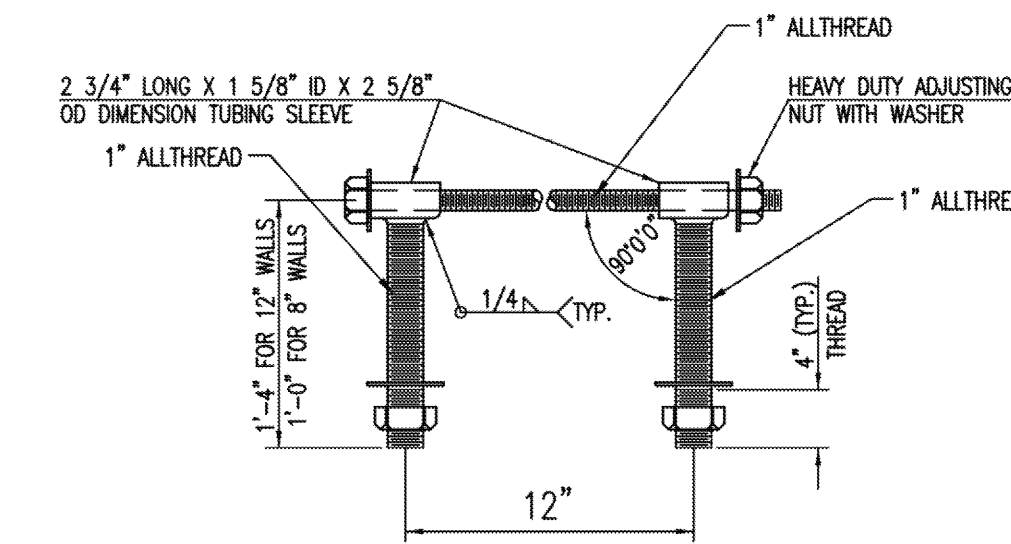
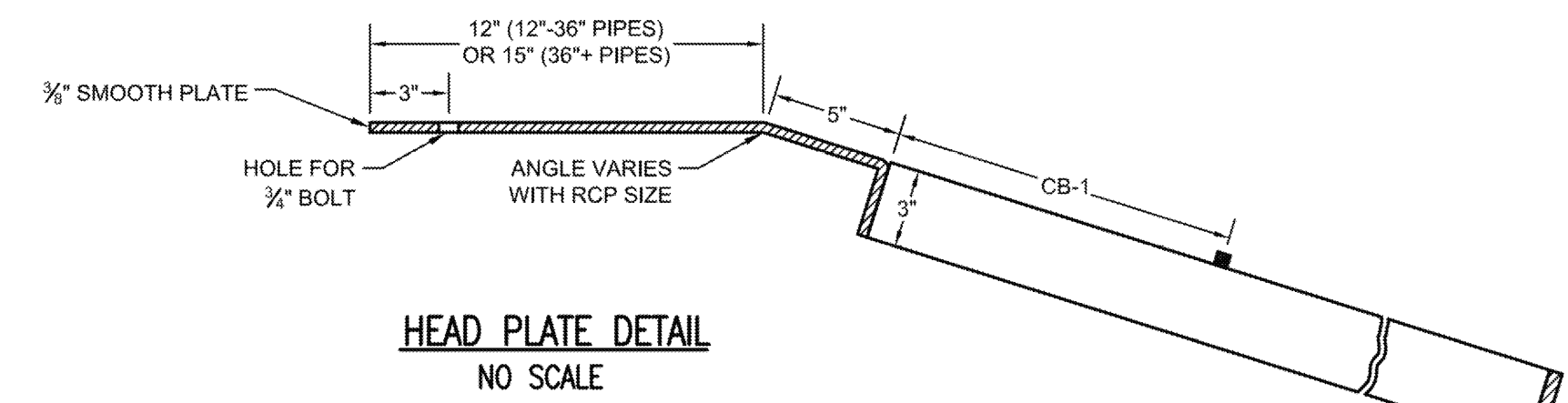
STORM SEWER IMPROVEMENTS

STORM SEWER DETAILS

D12

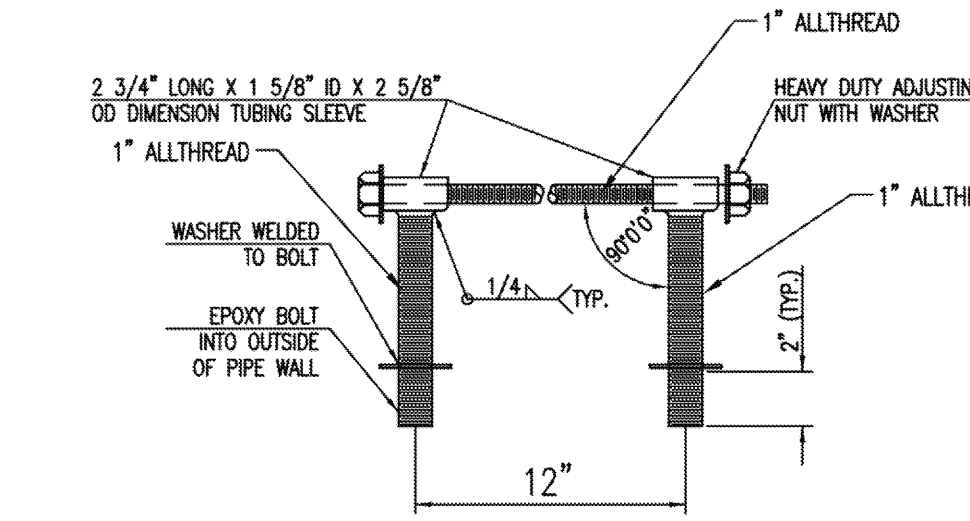


| GRATE DIMENSIONS | | | | | | | | | | | | | |
|------------------|------------|---------|---------|---------|---------|---------|------|---------|---------|---------|---------|-----------------|-------|
| PIPE SIZE | HEAD PLATE | A | B | C | D | E | F | CB-1 | CB-2 | CB-3 | CB-4 | SP-1 | SP-2 |
| 12" | 13" | 19 1/4" | 19 3/8" | - | - | - | 27" | 10 3/8" | - | - | - | 3@4" | 3@6" |
| 15" | 13" | 23 1/2" | 25 1/4" | - | - | - | 34" | 10 3/4" | - | - | - | 3@4" | 3@6" |
| 18" | 13" | 25" | 26 1/8" | - | - | - | 40" | 12 7/8" | - | - | - | 3@4" | 3@9" |
| 24" | 17" | 41 1/2" | 42 1/2" | 43 1/2" | - | - | 53" | 12" | 15" | - | - | 4@4" | 4@9" |
| 30" | 19" | 51 1/2" | 52 1/2" | 53 1/2" | - | - | 65" | 16 1/4" | 11 3/4" | 12" | - | 2@3" + 3@4" | 5@9" |
| 36" | 21" | 60 1/2" | 61 1/2" | 62 1/2" | - | - | 78" | 18 5/8" | 14 1/4" | 16" | - | 2@2" + 4@4" | 6@9" |
| 42" | 22" | 65 1/2" | 66 1/2" | 67 3/8" | 68 3/4" | - | 86" | 13 3/8" | 12 5/8" | 13" | 11 3/4" | 7@3" | 7@9" |
| 48" | 25" | 70 7/8" | 71" | 71 3/4" | 73" | 74 1/2" | 90" | 16 1/4" | 14 3/4" | 14 3/4" | 14 3/4" | 8@3" | 8@9" |
| 54" | 26" | 71 3/4" | 73" | 74 1/2" | 74 3/4" | 76 3/4" | 96" | 6 7/8" | 20 7/8" | 17 7/8" | 15 5/8" | 4@2 3/4" + 5@3" | 9@9" |
| 60" | 28" | 61 1/8" | 61 3/4" | 62 3/4" | 64 1/2" | 66 5/8" | 102" | 12" | 12" | 11 1/2" | 13" | 2@2" + 8@3" | 10@9" |



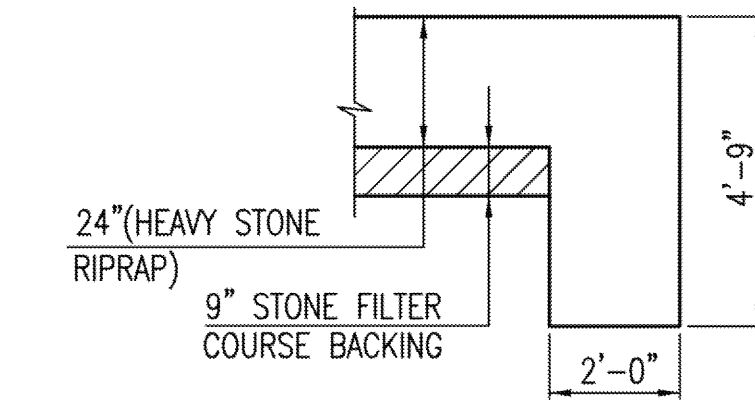
HEAVY DUTY (H.D.) COUPLER (>=36")
NO SCALE

- NOTES
1. BOLTS TO BE A-36 1 1/2" DIAMETER.
 2. BOLTS, NUTS, WASHERS AND SLEEVES TO BE ZINC PLATED.
 3. WASHERS TO BE 3 1/2" O.D. X 7 GAUGE.
 4. SHIP WITH NUTS AND WASHERS PLACED ON BOLTS.



HEAVY DUTY (H.D.) COUPLER (<30")
NO SCALE

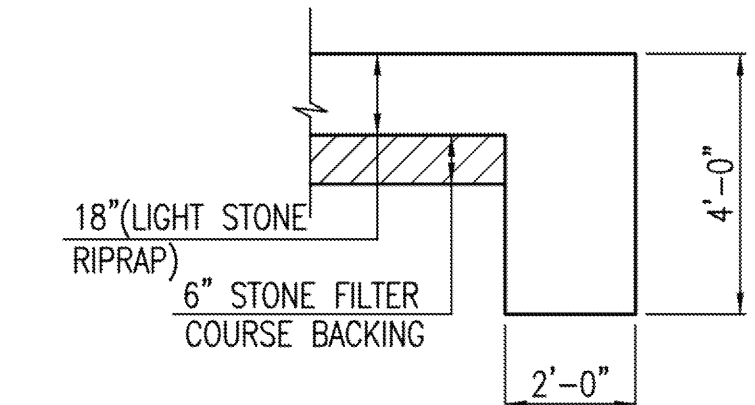
- NOTES
1. BOLTS TO BE A-36 1 1/2" DIAMETER.
 2. BOLTS, NUTS, WASHERS AND SLEEVES TO BE ZINC PLATED.
 3. WASHERS TO BE 3 1/2" O.D. X 7 GAUGE.
 4. SHIP WITH NUTS AND WASHERS PLACED ON BOLTS.



TYPICAL SECTION THRU TOEWALL
NO SCALE

- NOTES
1. ALL RIPRAP FOR THIS PROJECT SHALL BE NATURAL STONE. NEITHER BROKEN CONCRETE, FABRIC ENVELOPE, NOR PREMIXED DRY PACKAGED CONCRETE BAG ALTERNATES WILL BE ALLOWED, UNLESS INDICATED OTHERWISE.
 2. TOEWALLS SHALL BE INSTALLED ALONG ALL UNPROTECTED EDGES OF STONE RIPRAP.
 3. GROUTING OF THE SURFACE OF THE RIPRAP SHALL NOT BE PERFORMED, UNLESS INDICATED OTHERWISE. GROUTING OF THE TOEWALLS SHALL BE PERFORMED PER CITY SPECIFICATIONS.

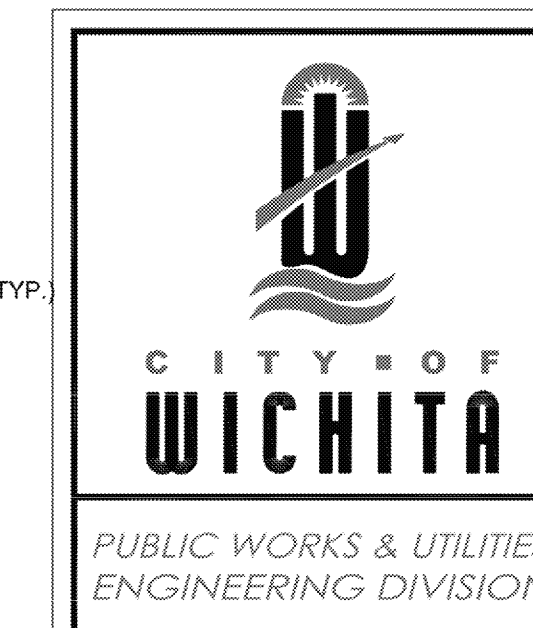
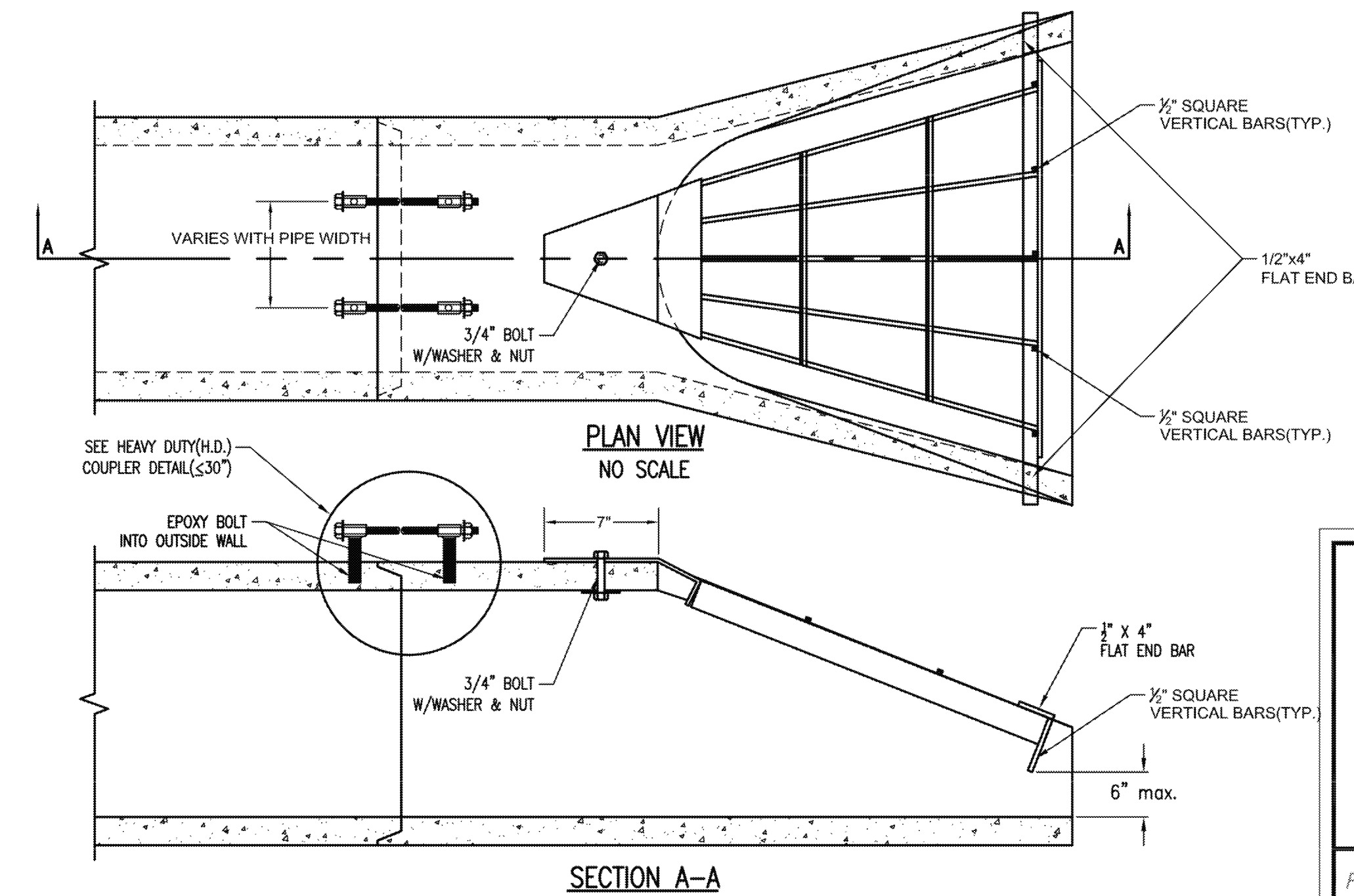
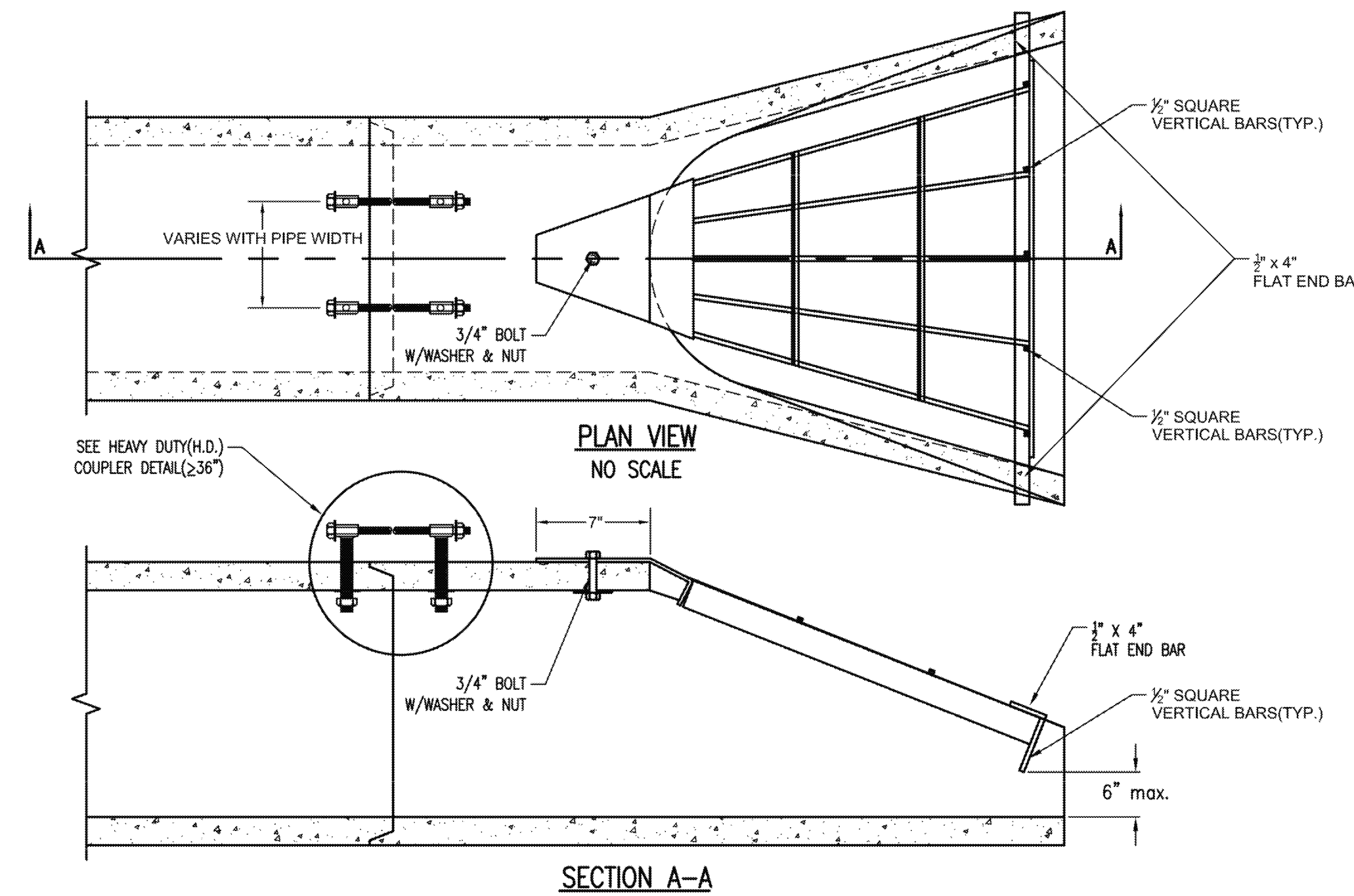
HEAVY STONE RIPRAP DETAILS



TYPICAL SECTION THRU TOEWALL
NO SCALE

- NOTES
1. ALL RIPRAP FOR THIS PROJECT SHALL BE NATURAL STONE. NEITHER BROKEN CONCRETE, FABRIC ENVELOPE, NOR PREMIXED DRY PACKAGED CONCRETE BAG ALTERNATES WILL BE ALLOWED, UNLESS INDICATED OTHERWISE.
 2. TOEWALLS SHALL BE INSTALLED ALONG ALL UNPROTECTED EDGES OF STONE RIPRAP.
 3. GROUTING OF THE SURFACE OF THE RIPRAP SHALL NOT BE PERFORMED, UNLESS INDICATED OTHERWISE. GROUTING OF THE TOEWALLS SHALL BE PERFORMED PER CITY SPECIFICATIONS.

LIGHT STONE RIPRAP DETAILS



END SECTION, PIPE RESTRAINT COUPLER & END GRATE

CITY ENGINEER
GARY JANZEN, P.E.

| | | |
|----------------|------------|---------|
| PROJECT NUMBER | OCA NUMBER | DATE |
| | | 01/2015 |
| DESIGN | DRAWN | |
| | | SHEET |

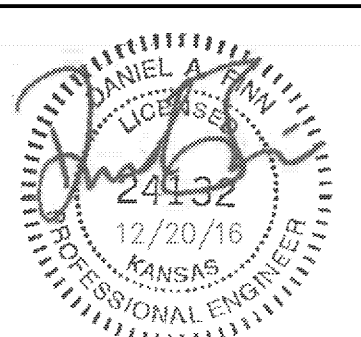
CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1620
(316) 268-4501

Consultant Information:

PEI PLANNING ENGINEERING IMPLEMENTATION

Licensee: Daniel A. Finn, P.E.
License Number: 24132
Licensed As: Professional Engineer

PHILIPS ENGINEERING, INC.
1020 N. Winchester
Olathe, Kansas 66061
913.241.1111
Fax: 913.241.1116
www.philipsengineering.com



Project: Wichita, Kansas '03' Style Store
Location: Tyler Rd. & 29th St. W., Wichita, Kansas

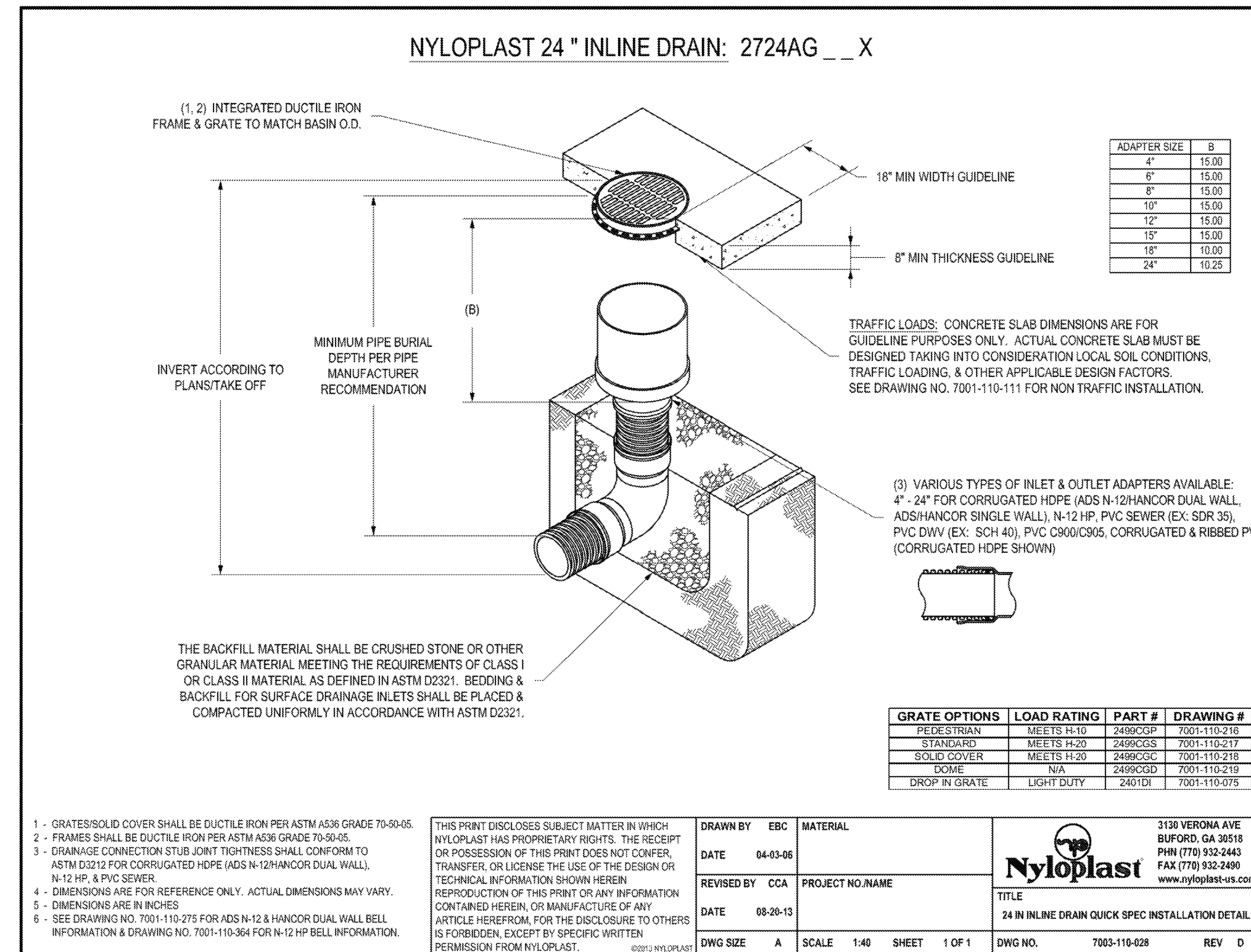
Publication Date: 08.25.16
With Revisions On: 1. 12.12.16

CASEY'S CONSTRUCTION DIVISION
One Convenience Blvd., Ankeny, IA 50021
Phone: 515-965-6100

STORM SEWER IMPROVEMENTS

STORM SEWER DETAILS

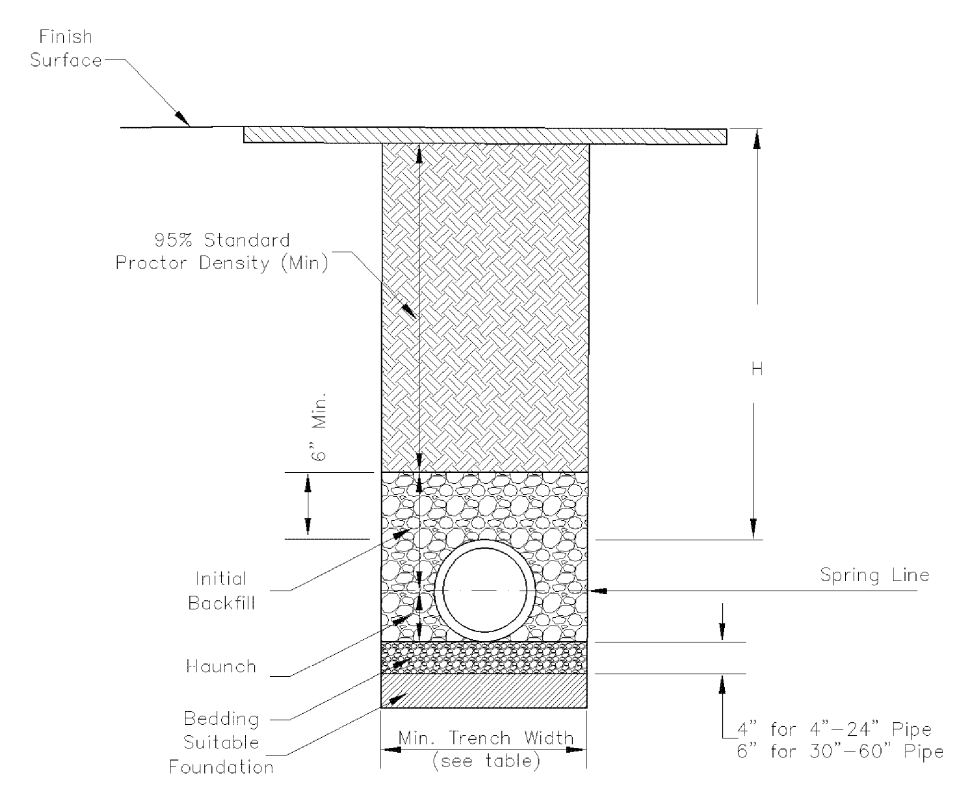
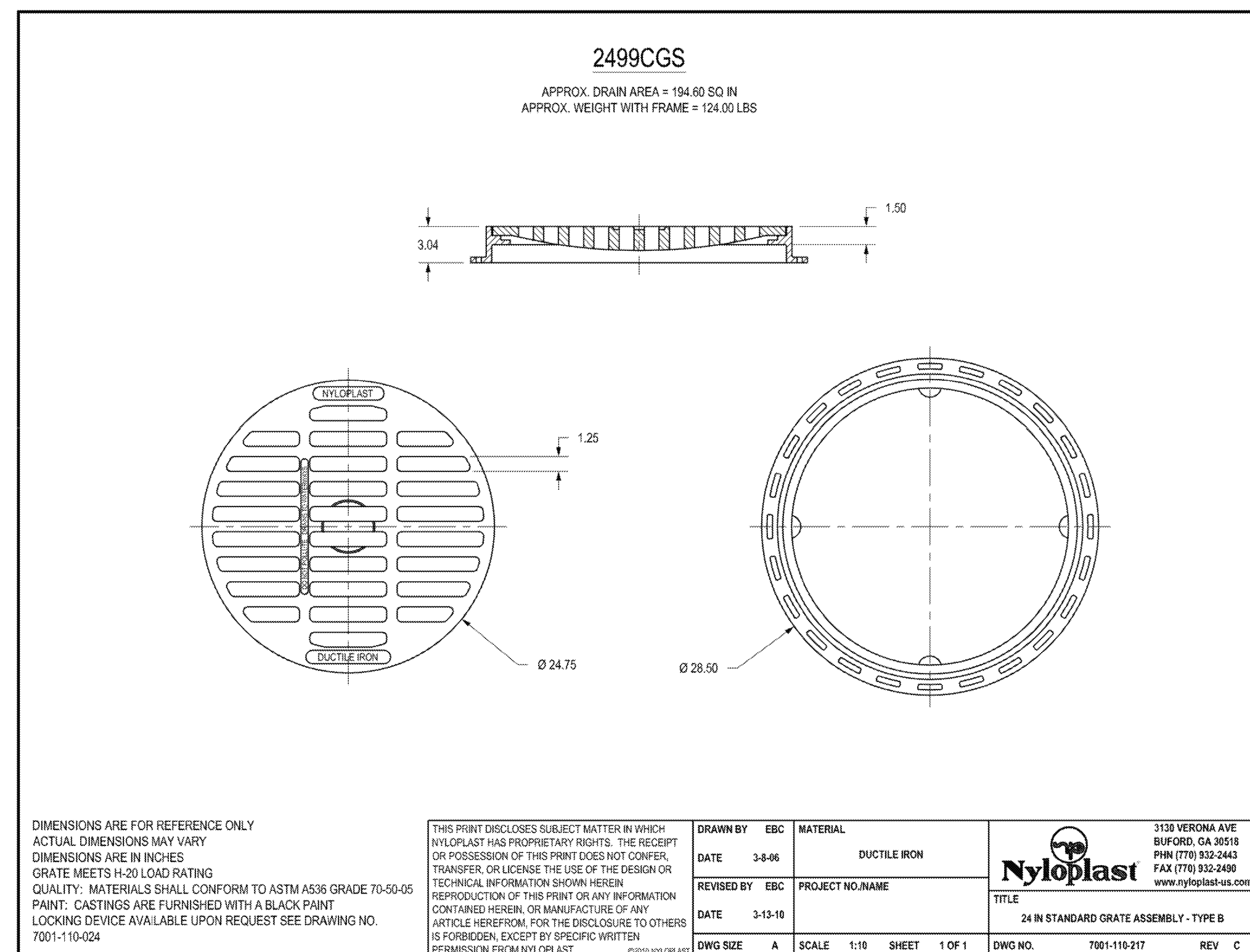
D13



| PIPE DIAMETER | MIN. TRENCH WIDTH * |
|---------------|---------------------|
| 4" | 24" |
| 6" | 24" |
| 8" | 24" |
| 10" | 24" |
| 12" | 24" |
| 15" | 24" |
| 18" | 24" |
| 24" | 24" |
| 30" | 24" |
| 36" | 24" |
| 42" | 24" |
| 48" | 24" |
| 54" | 24" |
| 60" | 24" |

*Trench centered on pipe

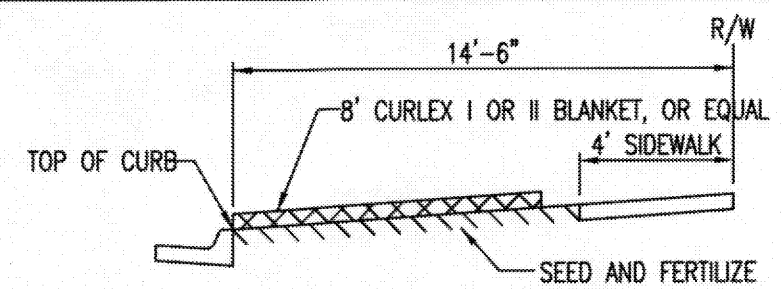
- NOTES:**
1. All pipe systems shall be installed in accordance with ASTM D2321, "Standard practice for underground installation of thermoplastic pipe for sewers and other gravity flow applications", latest edition.
 2. Measures should be taken to prevent migration of native fines into backfill material when required.
 3. **FOUNDATION:** Where the trench bottom is unstable, the contractor shall excavate to a depth required by the engineer and replace with suitable material as specified by the engineer. As an alternative and at the discretion of the design engineer, the trench bottom may be stabilized using Geotextile material.
 4. **BEDDING:** Suitable material shall be ASTM Class IA or ASTM Class IB, KDOT PB-2 or KDOT PB-3 or similar crushed aggregate product as approved. The contractor shall provide documentation for material application to engineer, unless otherwise noted by the engineer. Minimum bedding thickness shall be 4" for 4"-24" diameter pipe; 6" for 30"-60" diameter pipe.
 5. **INITIAL BACKFILL:** Suitable material shall be ASTM Class IA or ASTM Class IB, KDOT PB-2 or KDOT PB-3 or similar crushed aggregate product as approved in the pipe zone extending not less than 6" above crown of pipe. The contractor shall provide documentation for material application to engineer. Material shall be installed in accordance with ASTM D2321, latest edition, install and compact in 6" maximum lifts.
 6. **MINIMUM COVER:** Minimum cover, H, in non-traffic applications (grass or landscaped areas) is 18" from top of pipe to ground surface. Additional cover may be required to prevent flotation. For traffic applications, minimum cover, H, is 18" up to 24" diameter pipe and 24" of cover for up to 60" diameter pipe, measured from top of pipe to bottom of flexible pavement or to top of rigid pavement.



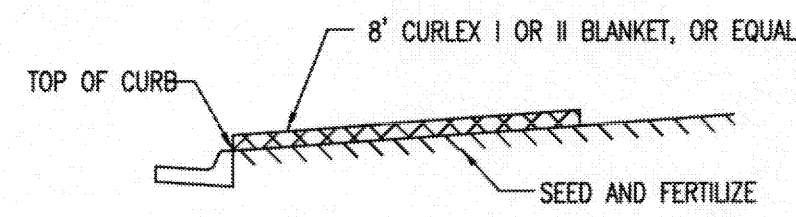
HDPE INSTALLATION DETAIL

2:\V\151184\DWG\STORM SEWER PLANS\DETAILS-STORM.dwg Layout:7 Dec 20, 2016 4:55pm Daniel Finn

| | | |
|---|---|--|
| <p>Consultant Information:</p> <p>PEI PLANNING ENGINEERING IMPLEMENTATION</p> | <p>Licensee: Daniel A. Finn, P.E. License Number: 24132 Licensed As: Professional Engineer</p> <p>PHILIPS ENGINEERING, INC. 1375 N. Winchester Olathe, Kansas 66061 (913) 399-1915 Fax: (913) 399-1916 www.philipsengineering.com</p> | |
| <p>Project: Wichita, Kansas '03' Style Store</p> <p>Location: Tyler Rd. & 29th St. W. Wichita, Kansas</p> <p>CASEY'S CONSTRUCTION DIVISION One Convenience Blvd, Ankeny, IA 50021 Phone: 515-965-6100</p> | <p>Publication Date: 08.25.16 With Revisions On: 1. 12.12.16</p> | <p>STORM SEWER IMPROVEMENTS</p> <p>STANDARD DETAILS</p> <p>D14</p> |

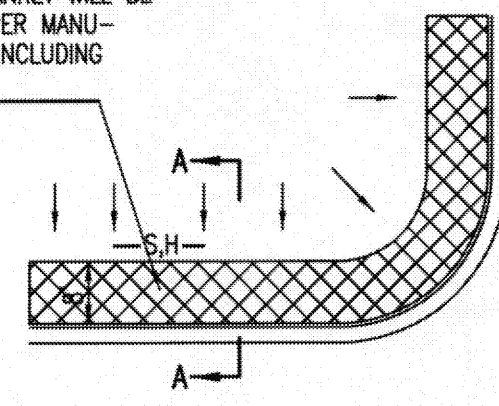


SECTION B-B

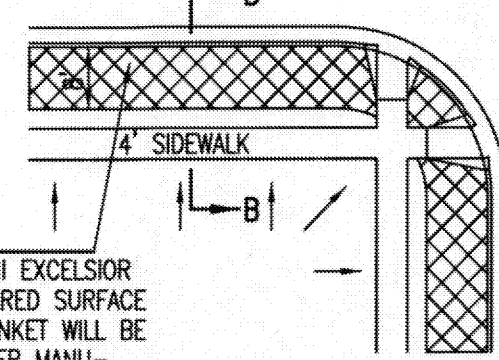


SECTION A-A

INSTALL 8' WIDE CURLEX I OR II EXCELSIOR BLANKET, OR EQUAL, ON PREPARED SURFACE BACK OF CURB. EDGE OF BLANKET WILL BE AT BACK OF CURB. INSTALL PER MANUFACTURER'S RECOMMENDATION, INCLUDING STAPLES. (SEE DETAIL)



SOUTH STREET

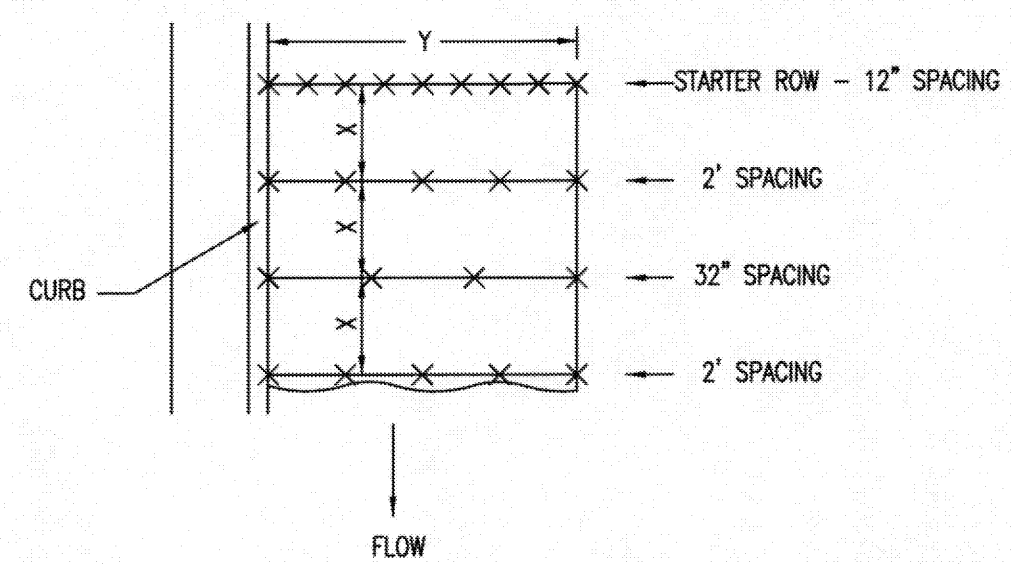


INSTALL 8' WIDE CURLEX I OR II EXCELSIOR BLANKET, OR EQUAL, ON PREPARED SURFACE BACK OF CURB. EDGE OF BLANKET WILL BE AT BACK OF CURB. INSTALL PER MANUFACTURER'S RECOMMENDATION, INCLUDING STAPLES. (SEE DETAIL)

GENERAL NOTES

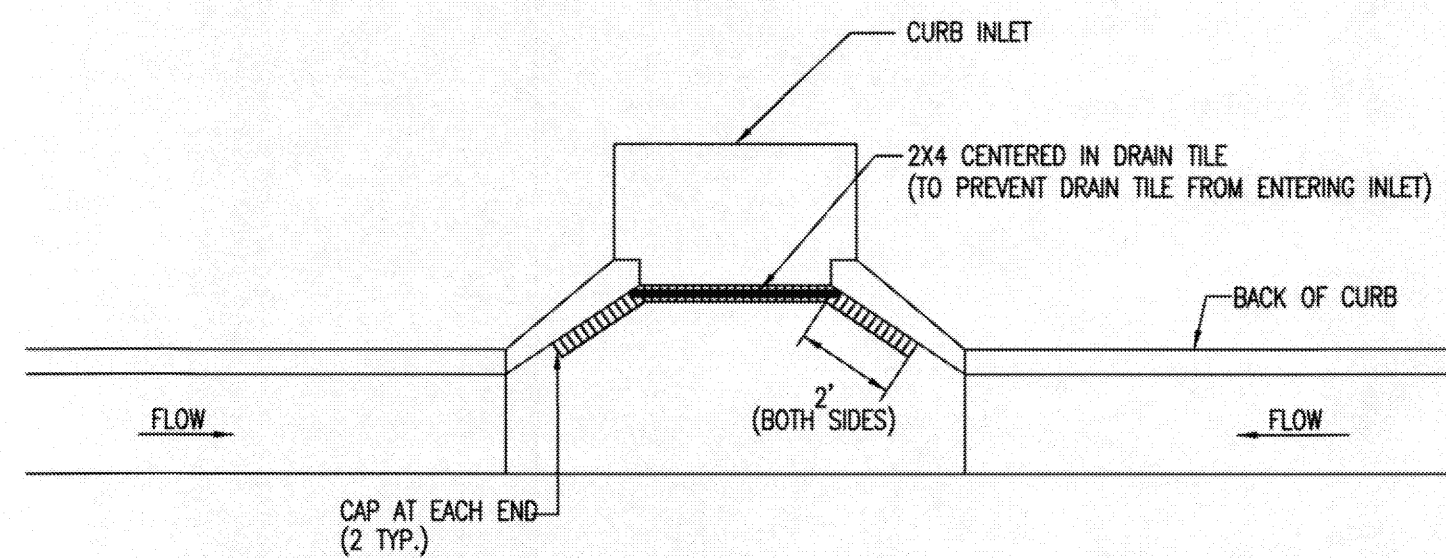
- EXCELSIOR MAT TO BE INSTALLED WHEN SOD IS NOT SPECIFIED ON PROJECT.
- EXCELSIOR BLANKET TO BE INSTALLED OVER SEED AND FERTILIZER, AS SPECIFIED IN THE PROJECT SPECIFICATIONS.
- AFTER INSTALLATION OF EXCELSIOR BLANKET, AT LOCATIONS WHERE CONCENTRATED FLOW CARRIES SEDIMENT OVER THE CURB AND INTO THE GUTTER,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

BACK OF CURB PROTECTION DETAIL



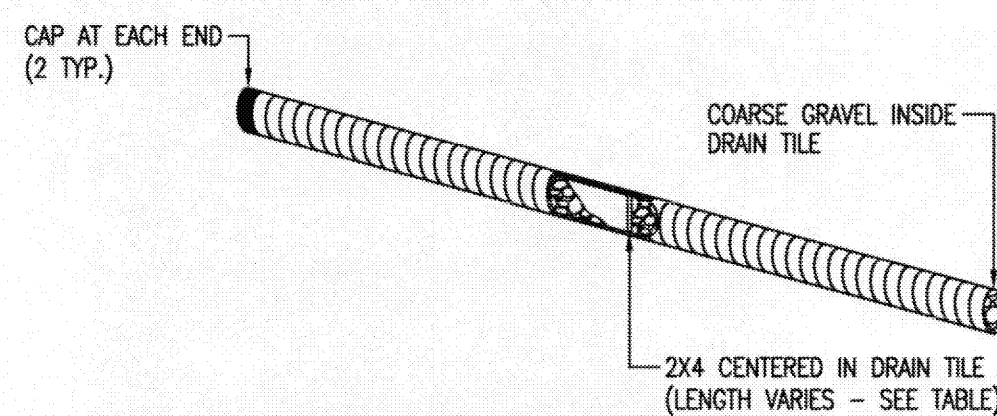
STAPLE PATTERN
NOTES: USE 6" SEAM OVERLAP
(X & Y = RECOMMENDED BY MANUFACTURE)

DETAILS FOR APPROVED EROSION CONTROL MAT

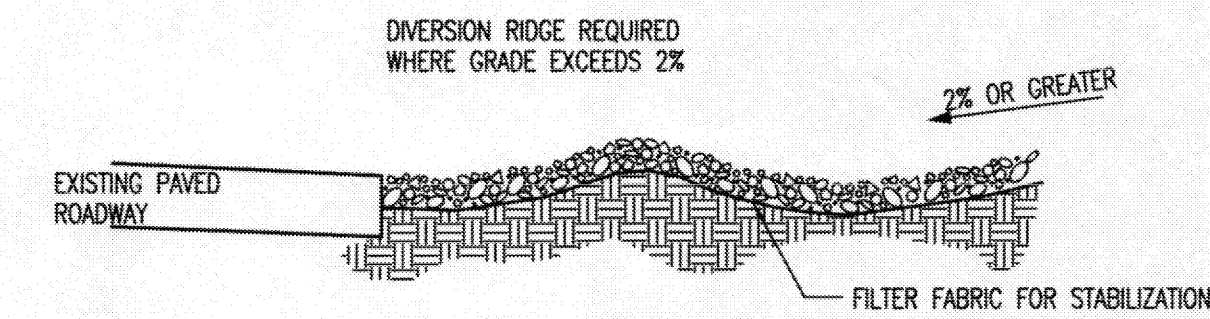


NOTE: PLACE 4" PERFORATED PVC PIPE, FILLED WITH 1/2"-1" DIA. GRAVEL, IN FRONT OF CURB INLET AS SHOWN.

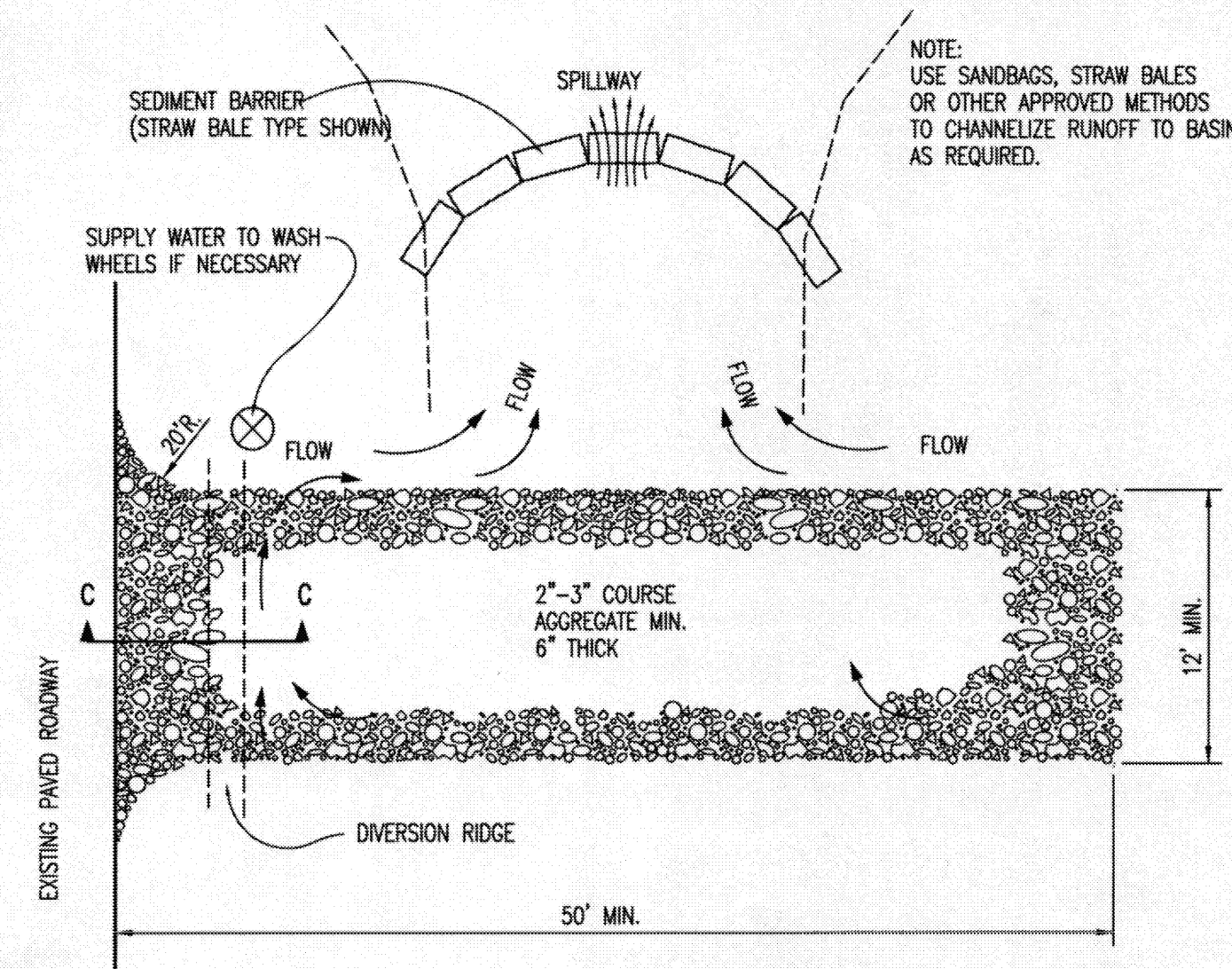
| 2x4 LENGTH | INLET TYPE | INLET OPENING |
|------------|------------|---------------|
| 5'-6" | 1-A | 5'-0" |
| 10'-6" | 1-A | 10'-0" |
| 15'-6" | 1-A | 15'-0" |



CURB INLET PROTECTION
4" PERFORATED PIPE W/ GRAVEL



SECTION C-C

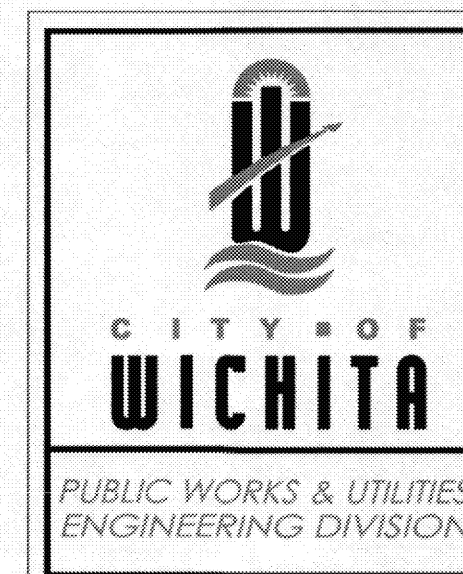


STABILIZED CONSTRUCTION ENTRANCE

GENERAL NOTES

- 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.
- WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
- 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.
- DRIVE ENTRANCES ONTO RESIDENTIAL LOTS WILL NOT BE REQUIRED TO HAVE THE SEDIMENT BARRIER SHOWN, BUT WHEEL WASHING MAY BE REQUIRED IF STABILIZED ENTRANCE IS NOT SUFFICIENT TO KEEP MUD FROM BEING TRACKED ONTO ADJACENT STREET. ENTRANCE SHALL EXTEND FROM BACK OF CURB TO DWELLING.

REVISION DATE: MAY 2013



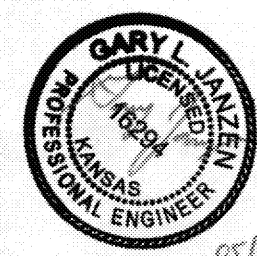
BACK OF CURB PROTECTION,
CURB INLET PROTECTION AND
CONSTRUCTION ENTRANCE

CITY ENGINEER
GARY JANZEN, P.E.

| PROJECT NUMBER | DCA NUMBER | DATE |
|----------------|------------|------|
| | | |

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

| SHEET |
|-------|
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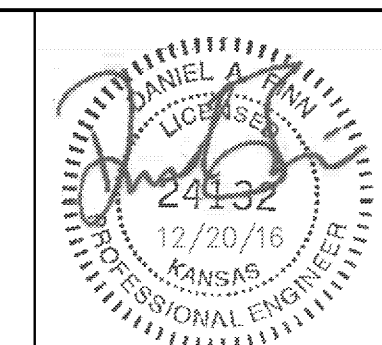
ADDED SHEET PER CITY COMMENTS

Consultant Information:

PEI PLANNING
ENGINEERING
IMPLEMENTATION

Licensee:
Daniel A. Finn, P.E.
License Number:
24132
Licensed As:
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Project:
Wichita, Kansas
'03' Style Store

Location:
Tyler Rd. & 29th St. W.
Wichita, Kansas

CASEY'S CONSTRUCTION DIVISION
One Convenience Blvd, Ankeny, IA 50021
Phone: 515-965-6100

Publication Date:
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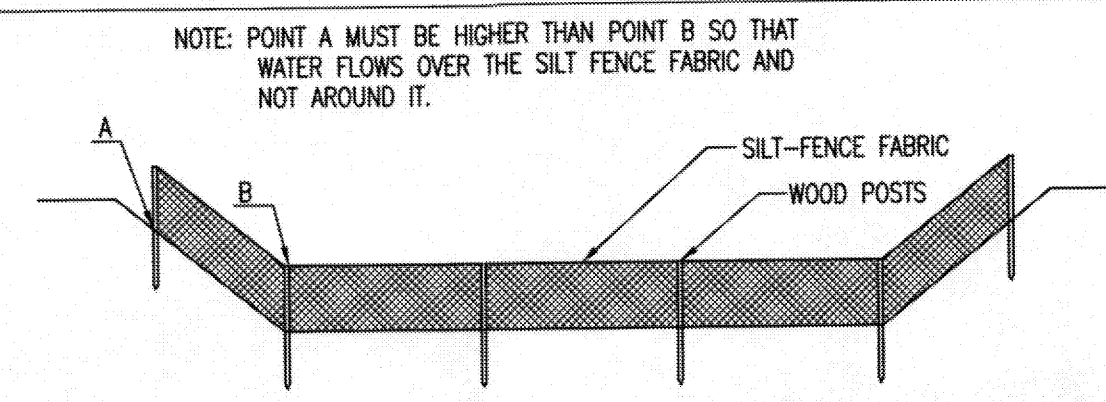


STORM SEWER
IMPROVEMENTS

STANDARD
DETAILS

D15

PEI# 151184



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 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 DOWNSLOPE SIDE OF THE TRENCH. PLACE THE EDGE OF THE FABRIC IN THE TRENCH STARTING AT THE TOP UPSLOPE 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 UPSLOPE SIDE 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 24". PLACE POSTS NO MORE THAN 4' APART. ATTACH THE SILT FENCE TO THE ANCHORED POST WITH STAPLES, WIRE, ZIP TIES, OR NAILS.

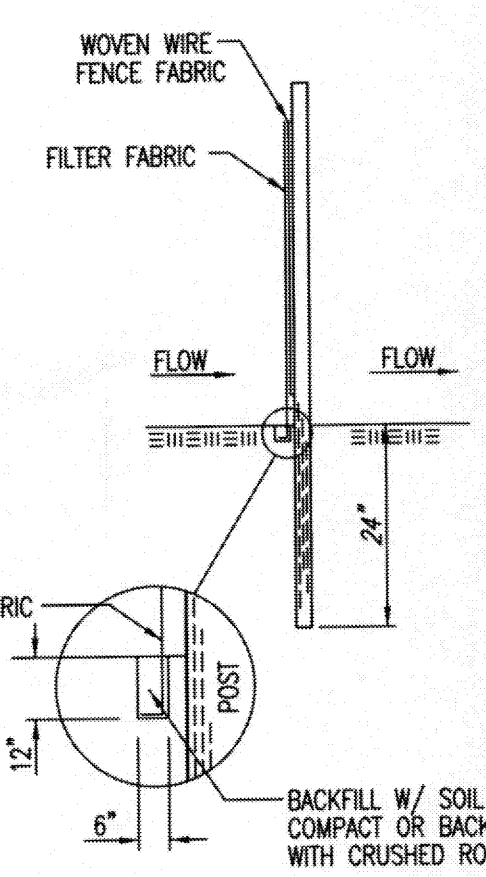
LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

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 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 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.

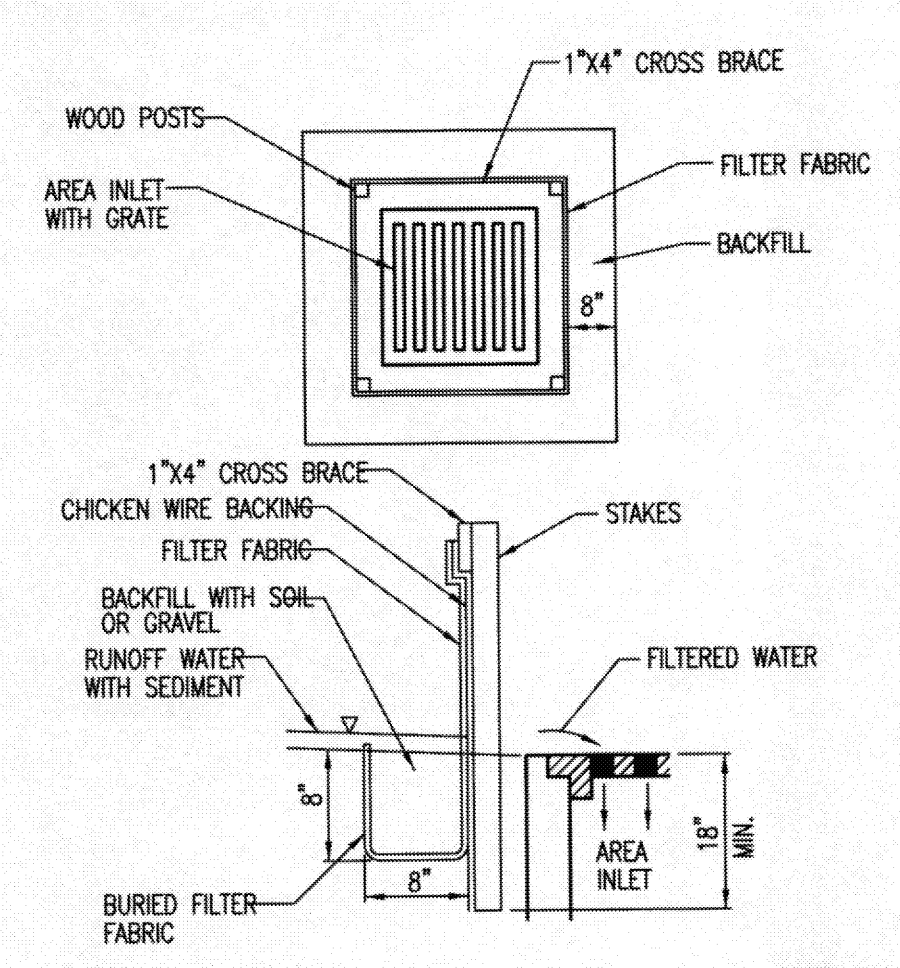
INSPECTION AND MAINTENANCE:

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



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 POLYMER 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 TRENCH 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 POLYMER-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.

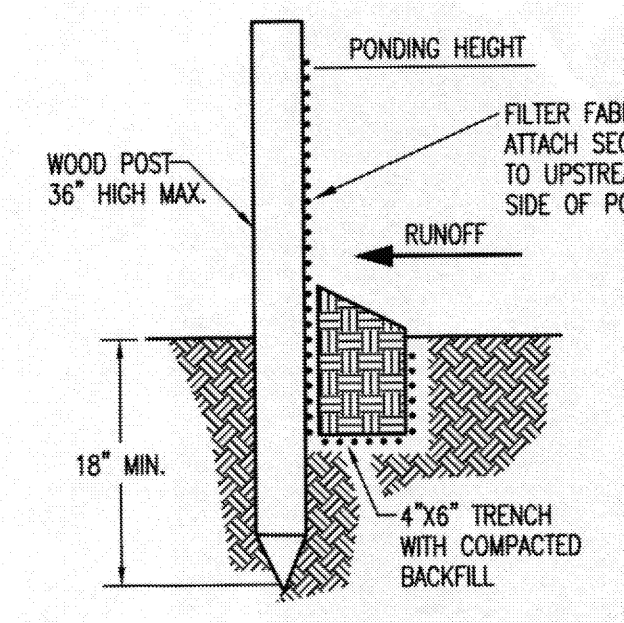
LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

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 RESTRICTED BY THE POSTS, BUT ONLY BY THE STAPLES (WIRE, ZIP TIES, NAILS, ETC.). THE SILT FENCE WILL RIP AND FAIL. DO NOT INSTALL SILT FENCE BARRIER FOR AREA INLETS WITHOUT FRAMING THE TOP OF THE POSTS. THE CORNER POSTS AROUND AREA INLETS ARE STRESSED IN TWO DIRECTIONS WHEREAS A NORMAL SILT FENCE IS ONLY STRESSED IN ONE DIRECTION. THIS ADDED STRESS REQUIRES MORE SUPPORT.

INSPECTION AND MAINTENANCE:

SILT FENCE BARRIER FOR AREA INLETS SHOULD BE INSPECTED EVERY 7 DAYS AND WITHIN 24 HOURS OF A RAINFALL OF 1/2" OR MORE. THE FOLLOWING IS A LIST OF QUESTIONS THAT SHOULD BE ADDRESSED DURING EACH INSPECTION:

- DOES WATER FLOW UNDER THE SILT FENCE?
- DOES THE SILT FENCE SAG EXCESSIVELY?
- HAS THE SILT FENCE TORN OR BECOME DETACHED FROM THE POSTS?
- DOES SEDIMENT NEED TO BE REMOVED FROM BEHIND THE AREA INLET BARRIER?



SILT FENCE BARRIERS

MATERIAL SPECIFICATION:

SILT FENCE FABRIC SHOULD CONFORM TO THE AASHTO M288 96 SILT FENCE SPECIFICATION. THE POSTS USED TO SUPPORT THE SILT FENCE FABRIC SHOULD BE A HARDWOOD MATERIAL WITH THE FOLLOWING MINIMUM DIMENSIONS: 2" SQUARE (NOMINAL) BY 4' LONG. SILT FENCE FABRIC SHOULD BE ATTACHED TO THE WOODEN POSTS WITH STAPLES, WIRE, ZIP TIES, OR NAILS.

PLACEMENT:

A SLOPE BARRIER SHOULD BE USED AT THE TOE OF A SLOPE WHEN A DITCH DOES NOT EXIST. THE SLOPE BARRIER SHOULD BE PLACED ON NEARLY LEVEL GROUND 5' TO 10' AWAY FROM THE TOE OF A SLOPE. THE BARRIER IS PLACED AWAY FROM THE TOE OF THE SLOPE TO PROVIDE ADEQUATE STORAGE FOR SETTLING OUT SEDIMENT. WHEN PRACTICABLE, SILT FENCE SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW. SILT FENCE SLOPE BARRIERS CAN ALSO BE PLACED ALONG RIGHT-OF-WAY FENCE LINES TO KEEP SEDIMENT FROM CROSSING ONTO ADJACENT PROPERTY. WHEN PLACED IN THIS MANNER, THE SLOPE BARRIER WILL NOT LIKELY FOLLOW CONTOURS.

PROPER INSTALLATION METHOD:

EXCAVATE A TRENCH THE LENGTH OF THE PLANNED SLOPE BARRIER THAT IS 6" DEEP BY 4" WIDE. MAKE SURE THAT THE TRENCH IS EXCAVATED ALONG A SINGLE CONTOUR. WHEN PRACTICABLE, SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW. PLACE THE SOIL ON THE UPSLOPE SIDE OF THE TRENCH FOR LATER USE. ROLL OUT A CONTINUOUS LENGTH OF SILT FENCE FABRIC ON THE DOWNSLOPE SIDE OF THE TRENCH. PLACE THE EDGE OF THE FABRIC IN THE TRENCH STARTING AT THE TOP UPSLOPE EDGE. LINE ALL THREE SIDES OF THE TRENCH WITH THE FABRIC. BACKFILL OVER THE FABRIC IN THE TRENCH WITH THE EXCAVATED SOIL AND COMPACT. AFTER FILLING THE TRENCH, APPROXIMATELY 24" TO 36" OF SILT-FENCE FABRIC SHOULD REMAIN EXPOSED. LAY THE EXPOSED SILT FENCE UPSLOPE OF THE TRENCH TO CLEAR AN AREA FOR DRIVING IN THE POSTS. JUST DOWNSLOPE OF THE TRENCH, DRIVE POSTS INTO THE GROUND TO A DEPTH OF AT LEAST 18". PLACE POSTS NO MORE THAN 4' APART. ATTACH THE SILT FENCE TO THE ANCHORED POST WITH STAPLES, WIRE, ZIP TIES, OR NAILS.

LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

WHEN PRACTICABLE, DO NOT PLACE SILT FENCE SLOPE BARRIERS ACROSS CONTOURS. SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW. WHEN THE FLOW CONCENTRATES, IT OVERTOPS THE BARRIER AND THE SILT FENCE SLOPE BARRIER QUICKLY DETERIORATES. DO NOT PLACE SILT-FENCE POSTS ON THE UPSLOPE SIDE OF THE SILT FENCE FABRIC. IN THIS CONFIGURATION, THE FORCE OF THE WATER IS NOT RESTRICTED BY THE POSTS, BUT ONLY BY THE STAPLES (WIRE, ZIP TIES, NAILS, ETC.). THE SILT FENCE WILL RIP AND FAIL. DO NOT PLACE SILT FENCE SLOPE BARRIERS IN AREAS WITH SHALLOW SOILS UNDERLAIN BY ROCK. IF THE BARRIER IS NOT SUFFICIENTLY ANCHORED, IT WILL WASH OUT. SILT FENCE SLOPE BARRIERS MUST BE DUG INTO THE GROUND—SILT FENCE AT GROUND LEVEL DOES NOT WORK BECAUSE WATER WILL FLOW UNDERNEATH.

INSPECTION AND MAINTENANCE:

SILT FENCE SLOPE BARRIERS SHOULD BE INSPECTED EVERY 7 DAYS AND WITHIN 24 HOURS OF A RAINFALL OF 1/2" OR MORE. THE FOLLOWING IS A LIST OF QUESTIONS THAT SHOULD BE ADDRESSED DURING EACH INSPECTION:

- ARE THERE ANY POINTS ALONG THE SLOPE BARRIER WHERE WATER IS CONCENTRATING?
- DOES WATER FLOW UNDER THE SLOPE BARRIER?
- 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 SLOPE BARRIER?

REVISION DATE: MAY 2013

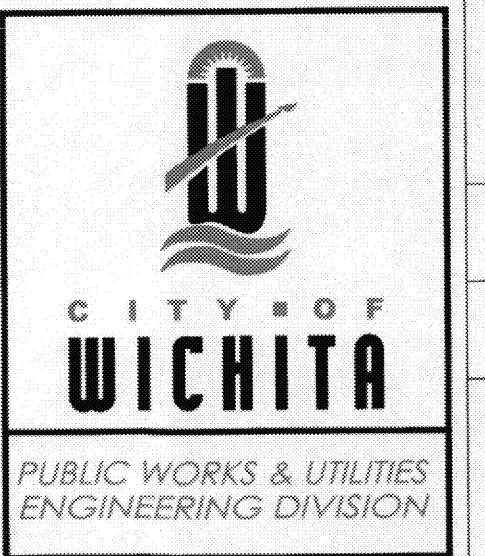
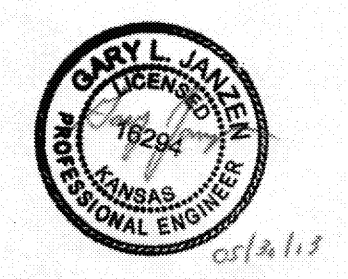
SILT FENCE DITCH CHECK AND BARRIER DETAILS

CITY ENGINEER
GARY JANZEN, P.E.

| | | |
|----------------|------------|------|
| PROJECT NUMBER | OCA NUMBER | DATE |
| | | |

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

SHEET

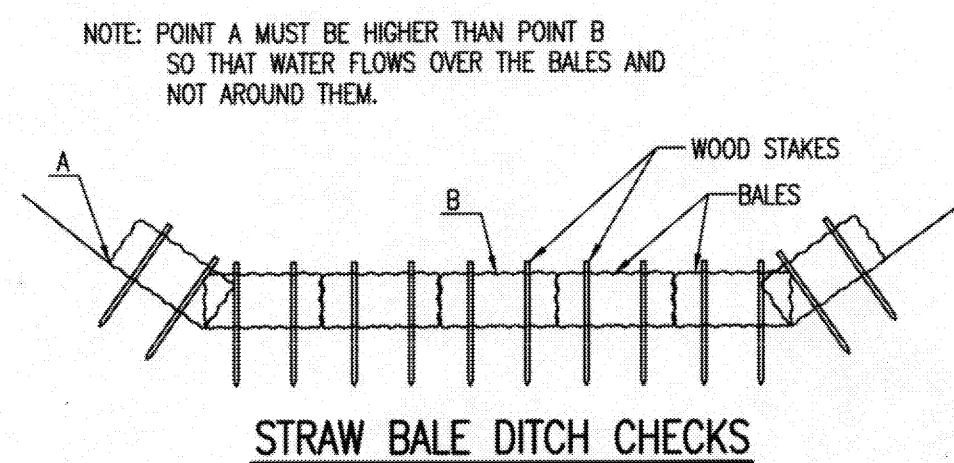


SW-502

2:\P\151184\DWG\STORM_SEWER_PLANS\DETAILS-STORM.dwg Layout:SW-502 Dec 20, 2016 4:56pm Daniel Finn

ADDED SHEET PER CITY COMMENTS

| | | |
|---|---|--|
| <p>Consultant Information:</p> <p>PEI PLANNING ENGINEERING IMPLEMENTATION</p> <p>1020 N. Winchester Olathe, Kansas 66061 (913) 393-1155 www.peiconsulting.com</p> | <p>Licensee Daniel A. Finn, P.E. License Number 24132 Licensed As Professional Engineer</p> <p>PHILIPS ENGINEERING, INC. 1020 N. Winchester Olathe, Kansas 66061 (913) 393-1155 www.peiconsulting.com</p> | <p>Publication Date: 08.25.16 With Revisions On: 1. 12.12.16</p> <p>STORM SEWER IMPROVEMENTS</p> <p>STANDARD DETAILS</p> <p style="font-size: 24pt; font-weight: bold;">D16</p> |
| <p>Project: Wichita, Kansas '03' Style Store</p> <p>Location: Tyler Rd. & 29th St. W. Wichita, Kansas</p> <p>CASEY'S CONSTRUCTION DIVISION One Convenience Blvd, Ankeny, IA 50021 Phone: 515-965-6100</p> | | <p>PEI# 151184</p> |



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 (%) | 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 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 UPSLOPE 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 UPSLOPE EDGE OF THE EROSION-CONTROL BLANKET ALONG THE BOTTOM UPSLOPE 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 UPSLOPE SIDE OF THE CHECK AND COMPACT IT. THE COMPACTED SOIL SHOULD BE NO MORE THAN 3" TO 4" DEEP AND EXTEND UPSLOPE NO MORE THAN 24".

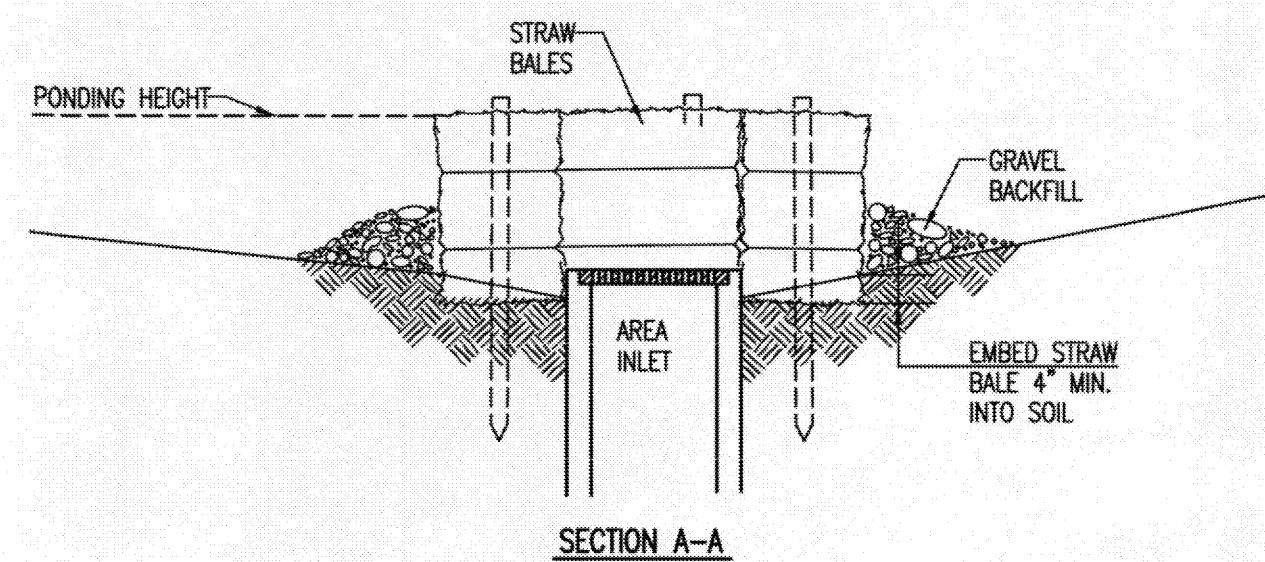
LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

DO NOT PLACE A BALE DITCH CHECK DIRECTLY IN FRONT OF A CULVERT OUTLET. IT WILL NOT STAND UP TO THE CONCENTRATED FLOW. DO NOT PLACE BALE DITCH CHECKS IN DITCHES THAT WILL LIKELY EXPERIENCE HIGH FLOWS. THEY WILL NOT STAND UP TO CONCENTRATED FLOW. FOLLOW PRESCRIBED DITCH-CHECK SPACING GUIDELINES. IF SPACING GUIDELINES ARE EXCEEDED, EROSION WILL OCCUR BETWEEN THE DITCH CHECKS. DO NOT ALLOW WATER TO FLOW AROUND THE DITCH CHECK. MAKE SURE THAT THE DITCH CHECK IS LONG ENOUGH SO THAT THE GROUND LEVEL AT THE ENDS OF THE CHECK IS HIGHER THAN THE TOP OF THE LOWEST CENTER BALE. DO NOT PLACE BALE DITCH CHECKS IN CHANNELS WITH SHALLOW SOILS UNDERLAIN BY ROCK. IF THE CHECK IS NOT ANCHORED SUFFICIENTLY, IT WILL WASH OUT. BALE DITCH CHECKS MUST BE DUG INTO THE GROUND. BALES AT GROUND LEVEL DO NOT WORK BECAUSE THEY ALLOW WATER TO FLOW UNDER THE CHECK.

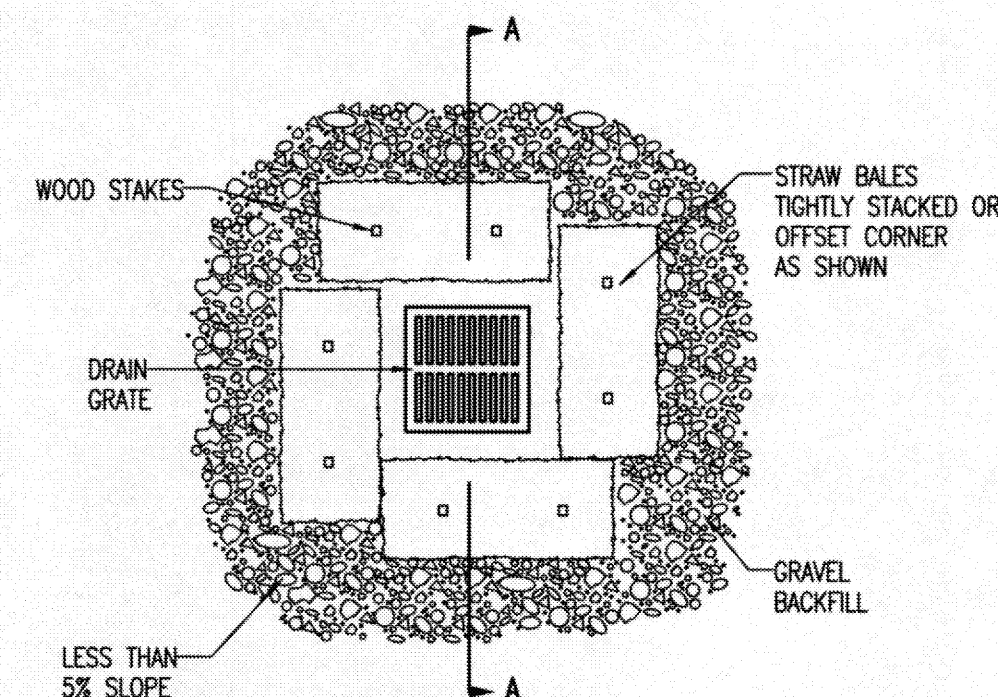
INSPECTION AND MAINTENANCE:

BALE DITCH CHECKS SHOULD BE INSPECTED EVERY 7 DAYS AND WITHIN 24 HOURS OF A RAINFALL OF 1/2" OR MORE. THE FOLLOWING IS A LIST OF QUESTIONS THAT SHOULD BE ADDRESSED DURING EACH INSPECTION:

- DOES WATER FLOW AROUND THE DITCH CHECK?
- DOES WATER FLOW UNDER THE DITCH CHECK?
- DOES WATER FLOW THROUGH SPACES BETWEEN ABUTTING BALES?
- ARE ANY BALES AND/OR SCOUR APRONS (OPTIONAL) DISLODGED?
- ARE BALES DECOMPOSING DUE TO AGE AND/OR WATER DAMAGE?
- DOES SEDIMENT NEED TO BE REMOVED FROM BEHIND THE DITCH CHECK?



SECTION A-A



STRAW BALE BARRIERS FOR AREA INLETS (INLET PROTECTION)

MATERIAL SPECIFICATION:

BALE AREA INLET BARRIERS SHOULD BE CONSTRUCTED OF WHEAT STRAW, OAT STRAW, PRAIRIE HAY, OR BROMEGRASS HAY THAT IS FREE OF WEEDS DECLARED NOXIOUS BY THE KANSAS STATE BOARD OF AGRICULTURE. THE STAKES USED TO ANCHOR THE BALES SHOULD BE A HARDWOOD MATERIAL WITH THE FOLLOWING MINIMUM DIMENSIONS: 2" SQUARE (NOMINAL) BY 4' LONG. TWINE SHOULD BE USED TO BIND BALES. THE USE OF WIRE BINDING IS PROHIBITED BECAUSE IT DOES NOT BIODEGRADE READILY.

PLACEMENT:

BALE AREA INLET BARRIERS SHOULD BE PLACED DIRECTLY AROUND THE PERIMETER OF A DROP INLET. WHEN A BALE AREA INLET BARRIER IS LOCATED NEAR AN INLET THAT HAS STEEP APPROACH SLOPES, THE STORAGE CAPACITY BEHIND THE BARRIER IS DRASTICALLY REDUCED. TIMELY REMOVAL OF SEDIMENT MUST OCCUR FOR A BARRIER TO OPERATE PROPERLY IN THIS LOCATION.

PROPER INSTALLATION METHOD:

EXCAVATE A TRENCH AROUND THE PERIMETER OF THE AREA INLET THAT IS AT LEAST 4" DEEP BY A BALE'S WIDTH WIDE. PLACE THE BALES IN THE TRENCH, MAKING SURE THAT THEY ARE BUTTED TIGHTLY. SOME BALES MAY NEED TO BE SHORTENED TO FIT INTO THE TRENCH AROUND THE AREA INLET. TWO STAKES SHOULD BE DRIVEN THROUGH EACH BALE, APPROXIMATELY 6" TO 8" IN FROM THE BALE ENDS. STAKES SHOULD BE DRIVEN AT LEAST 12" INTO THE GROUND. ONCE ALL THE BALES HAVE BEEN INSTALLED AND ANCHORED, PLACE THE EXCAVATED SOIL AGAINST THE RECEIVING SIDE OF THE BARRIER AND COMPACT IT. THE COMPACTED SOIL SHOULD BE NO MORE THAN 3" TO 4" DEEP.

NOTE: WHEN A BALE AREA INLET BARRIER IS PLACED IN A SHALLOW MEDIAN DITCH, MAKE SURE THAT THE TOP OF THE BARRIER IS NOT HIGHER THAN THE PAVED ROAD. IN THIS CONFIGURATION, WATER MAY SPREAD ONTO THE ROADWAY CAUSING A HAZARDOUS CONDITION.

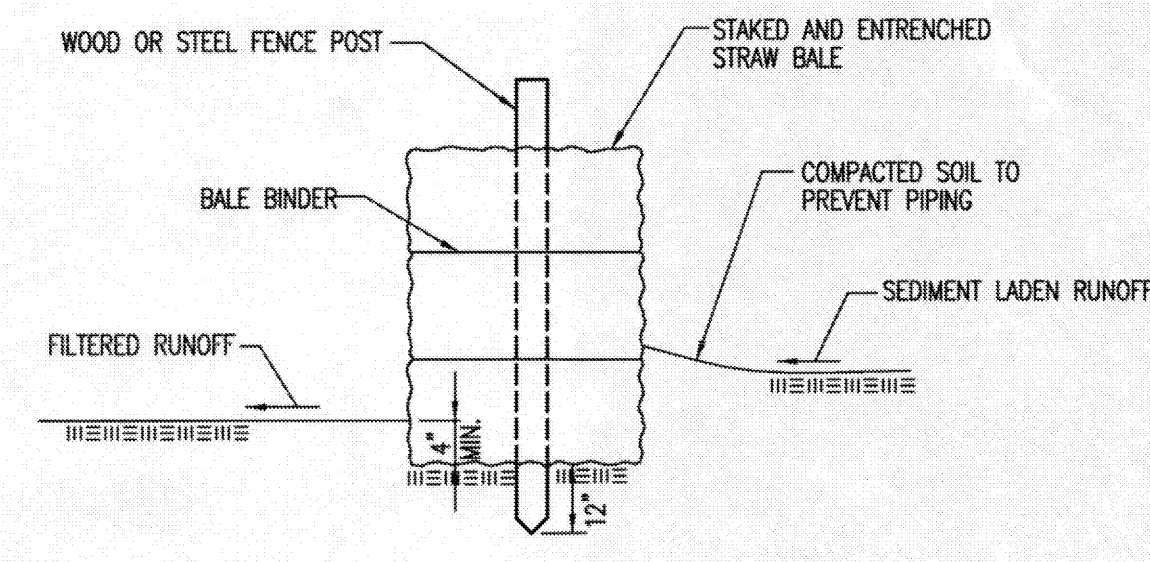
LIST OF COMMON PLACEMENT INSTALLATION MISTAKES TO AVOID:

BALES SHOULD BE PLACED DIRECTLY AGAINST THE PERIMETER OF THE AREA INLET. THIS ALLOWS OVERTOPPING WATER TO FLOW DIRECTLY INTO THE INLET INSTEAD OF ONTO NEARBY SOIL CAUSING SCOUR. BALE AREA INLET BARRIERS MUST BE DUG INTO THE GROUND. BALES AT GROUND LEVEL DO NOT WORK BECAUSE THEY ALLOW WATER TO FLOW UNDER THE BARRIER.

INSPECTION AND MAINTENANCE:

BALE AREA INLET BARRIERS SHOULD BE INSPECTED EVERY 7 DAYS AND WITHIN 24 HOURS OF A RAINFALL 1/2" OR MORE. THE FOLLOWING IS A LIST OF QUESTIONS THAT SHOULD BE ADDRESSED DURING EACH INSPECTION:

- DOES WATER FLOW UNDER THE AREA INLET BARRIER?
- DOES WATER FLOW THROUGH SPACES BETWEEN ABUTTING BALES?
- ARE ANY BALES DISLODGED?
- ARE BALES DECOMPOSING DUE TO AGE AND/OR WATER DAMAGE?
- DOES SEDIMENT NEED TO BE REMOVED FROM BEHIND THE AREA INLET BARRIER?



STRAW BALE BARRIERS

MATERIAL SPECIFICATION:

BALE SLOPE BARRIERS MAY BE CONSTRUCTED OF WHEAT STRAW, OAT STRAW, PRAIRIE HAY, OR BROMEGRASS HAY THAT IS FREE OF WEEDS DECLARED NOXIOUS BY THE KANSAS STATE BOARD OF AGRICULTURE. THE STAKES USED TO ANCHOR THE BALES SHOULD BE A HARDWOOD MATERIAL WITH THE FOLLOWING MINIMUM DIMENSIONS: 2" SQUARE (NOMINAL) BY 4' LONG. TWINE SHOULD BE USED TO BIND BALES. THE USE OF WIRE BINDING IS PROHIBITED BECAUSE IT DOES NOT BIODEGRADE READILY.

PLACEMENT:

A SLOPE BARRIER SHOULD BE USED AT THE TOE OF A SLOPE WHEN A DITCH DOES NOT EXIST. THE SLOPE BARRIER SHOULD BE PLACED ON NEARLY LEVEL GROUND 5' TO 10' AWAY FROM THE TOE OF A SLOPE. THE BARRIER IS PLACED AWAY FROM THE TOE OF THE SLOPE TO PROVIDE ADEQUATE STORAGE FOR SETTLING OUT SEDIMENT. WHEN PRACTICABLE, BALE SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW. BALE SLOPE BARRIERS CAN ALSO BE PLACED ALONG RIGHT-OF-WAY FENCE LINES TO KEEP SEDIMENT FROM CROSSING ONTO ADJACENT PROPERTY. WHEN PLACED IN THIS MANNER, THE SLOPE BARRIER WILL NOT LIKELY FOLLOW CONTOURS.

PROPER INSTALLATION METHOD:

EXCAVATE A TRENCH THE LENGTH OF THE PLANNED SLOPE BARRIER THAT IS 4" DEEP AND A BALE'S WIDTH WIDE. MAKE SURE THAT THE TRENCH IS EXCAVATED ALONG A SINGLE CONTOUR. WHEN PRACTICABLE, SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW. PLACE THE SOIL ON THE UPSLOPE SIDE OF THE TRENCH FOR LATER USE. PLACE THE BALES IN THE TRENCH, MAKING SURE THAT THEY ARE BUTTED TIGHTLY. TWO STAKES SHOULD BE DRIVEN THROUGH EACH BALE ALONG THE CENTERLINE OF THE DITCH CHECK, APPROXIMATELY 6" TO 8" IN FROM THE BALE ENDS. STAKES SHOULD BE DRIVEN AT LEAST 12" INTO THE GROUND. ONCE ALL THE BALES HAVE BEEN INSTALLED AND ANCHORED, PLACE THE EXCAVATED SOIL AGAINST THE UPSLOPE SIDE OF THE CHECK AND COMPACT IT. THE COMPACTED SOIL SHOULD BE NO MORE THAN 3" TO 4" DEEP.

LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

WHEN PRACTICAL, DO NOT PLACE BALE SLOPE BARRIERS ACROSS CONTOURS. SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW. CONCENTRATED FLOW OVER A SLOPE BARRIER CREATES A SCOUR HOLE ON THE DOWNSLOPE SIDE OF THE BARRIER. THE SCOUR HOLE EVENTUALLY UNDERMINES THE BALES AND THE BARRIER FAILS. DO NOT PLACE BALE SLOPE BARRIERS IN AREAS WITH SHALLOW SOILS UNDERLAIN BY ROCK. IF THE BARRIER IS NOT ANCHORED SUFFICIENTLY, IT WILL WASH OUT. BALE SLOPE BARRIERS MUST BE DUG INTO THE GROUND. BALES AT GROUND LEVEL DO NOT WORK BECAUSE THEY ALLOW WATER TO FLOW UNDER THE BARRIER.

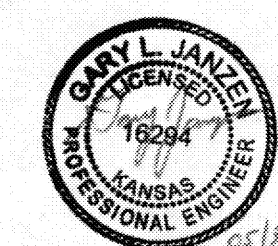
INSPECTION AND MAINTENANCE:

BALE SLOPE BARRIERS SHOULD BE INSPECTED EVERY 7 DAYS AND WITHIN 24 HOURS OF A RAINFALL OF 1/2" OR MORE. THE FOLLOWING IS A LIST OF QUESTIONS THAT SHOULD BE ADDRESSED DURING EACH INSPECTION:

- ARE THERE ANY POINTS ALONG THE SLOPE BARRIER WHERE WATER IS CONCENTRATING?
- DOES WATER FLOW UNDER THE SLOPE BARRIER?
- DOES WATER FLOW THROUGH SPACES BETWEEN ABUTTING BALES?
- ARE ANY BALES DISLODGED?
- ARE BALES DECOMPOSING DUE TO AGE AND/OR WATER DAMAGE?
- DOES SEDIMENT NEED TO BE REMOVED FROM BEHIND THE SLOPE BARRIER?

REVISION DATE: MAY 2013

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| <p>CITY OF WICHITA PUBLIC WORKS & UTILITIES ENGINEERING DIVISION</p> | <p>STRAW BALE DITCH CHECK AND BARRIER DETAILS</p> | |
| | <p>CITY ENGINEER GARY JANZEN, P.E.</p> | |
| PROJECT NUMBER | OCA NUMBER | DATE |
| CITY ENGINEER'S OFFICE | | SHEET |
| <p>CITY HALL - SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202-1620 (316) 268-4501</p> | | |

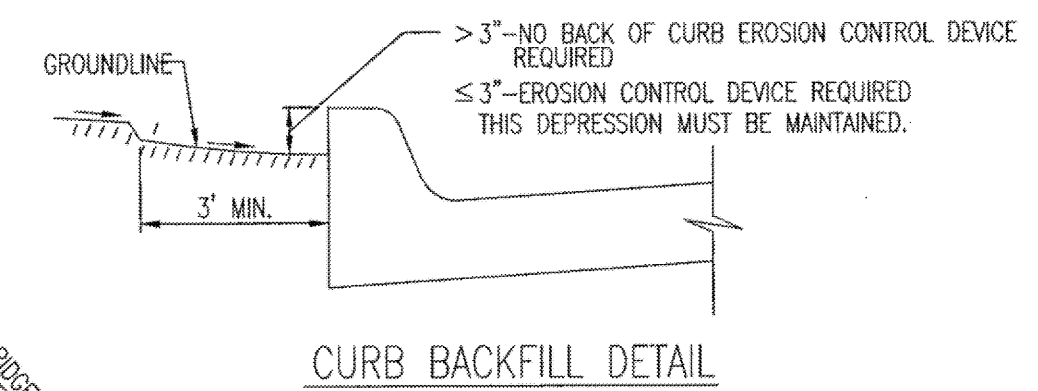
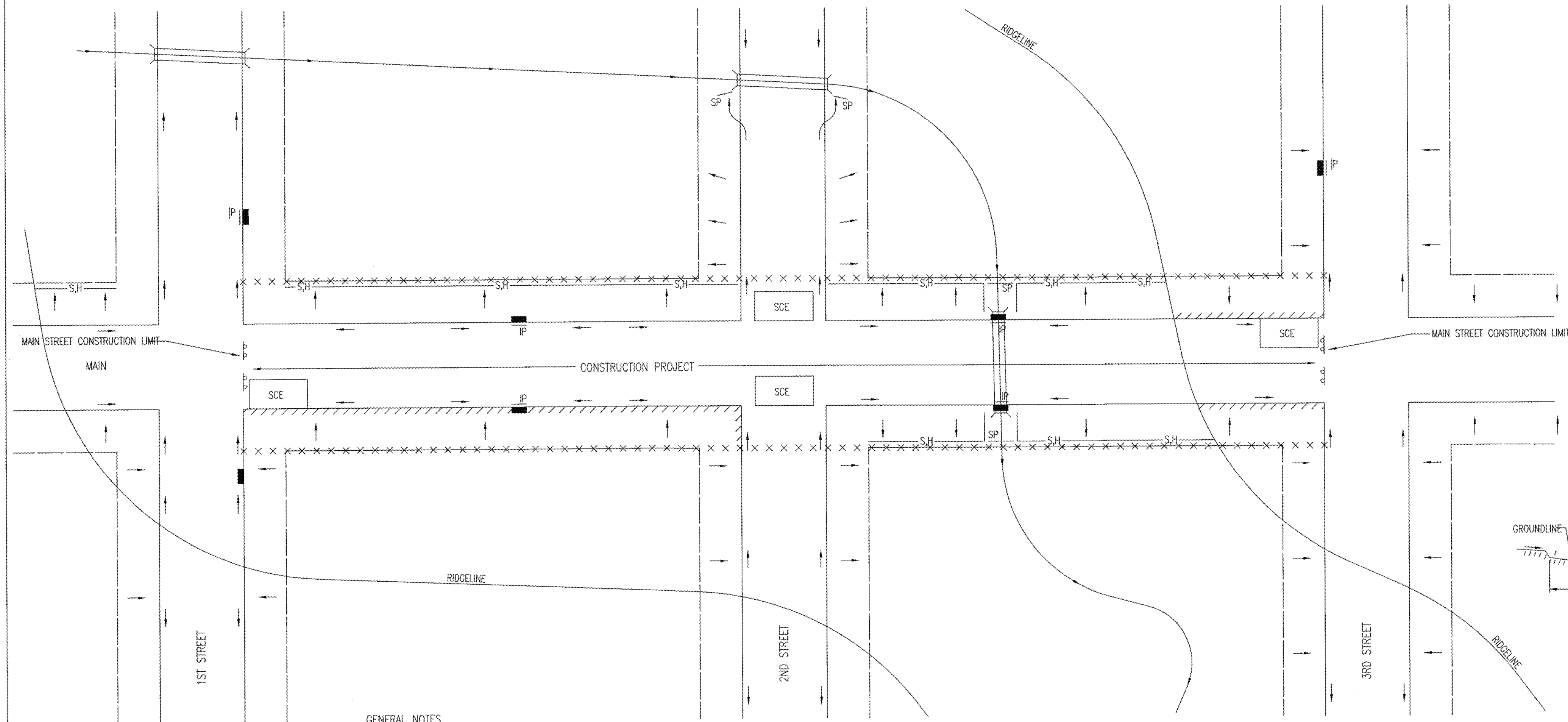


ADDED SHEET PER CITY COMMENTS.

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|---|---|--|
| <p>PEI PLANNING ENGINEERING IMPLEMENTATION</p> | <p>Consultant Information: Licenses: Daniel A. Finn, P.E. 24132 Licenses As: Professional Engineer</p> <p>PHILIPS ENGINEERING, INC. 1070 N. Winchester Gladys, Kansas 66041 (781) 399-1165 Fax: (781) 399-1166 www.philipsengineering.com</p> | |
| <p>Project: Wichita, Kansas '03' Style Store</p> <p>Location: Tyler Rd. & 29th St. W. Wichita, Kansas</p> <p>CASEY'S CONSTRUCTION DIVISION One Convenience Blvd, Ankeny, IA 50021 Phone: 515-965-6100</p> | <p>Publication Date: 08.25.16 With Revisions On: 1. 12.12.16</p> | <p>STORM SEWER IMPROVEMENTS</p> <p>STANDARD DETAILS</p> <p>D17</p> |

GENERAL NOTES

- THIS SHEET IS INTENDED TO PROVIDE GUIDELINES AS TO WHAT TYPES OF EROSION CONTROL DEVICES WILL BE INSTALLED DURING THE CONSTRUCTION PROCESS. CONTRACTORS ARE EXPECTED TO BID PROJECTS ACCORDINGLY.
- EROSION CONTROL DEVICES MUST BE MAINTAINED BY THE CONTRACTOR THROUGHOUT THE CONSTRUCTION PROCESS AND UNTIL THE DISTURBED EARTH IS RESTABILIZED.
- IF THE PROJECT WILL DISTURB 1 ACRE OR MORE, A FEDERAL/STATE NPDES STORMWATER PERMIT IS REQUIRED. A DETAILED STORMWATER POLLUTION PREVENTION PLAN, IS REQUIRED. THE EROSION CONTROL DEVICES SHOWN ON THIS SHEET ARE CONSIDERED TO BE THE MINIMUM TO BE SHOWN IN THE POLLUTION PREVENTION PLAN.
- FOR PROJECTS DISTURBING LESS THAN 1 ACRE, CONTRACTORS ARE ENCOURAGED TO PREPARE STORMWATER POLLUTION PREVENTION PLANS PRIOR TO CONSTRUCTION. EROSION CONTROL DEVICES MUST BE USED ON ALL PROJECTS.
- FAILURE TO USE AND MAINTAIN EROSION CONTROL DEVICES IS A VIOLATION OF SECTION 16.32 OF THE CITY CODE AND WILL SUBJECT THE CONTRACTOR TO THE PENALTIES PROVIDED FOR THEREIN.
- THE APPLICATION OF EROSION CONTROL DEVICES SHOWN ON THIS SHEET IS FOR SITUATIONS NORMALLY ENCOUNTERED. FROM TIME TO TIME, SITUATIONS WILL ARISE THAT MAY REQUIRE A DIFFERENT DEVICE OTHER THAN THOSE SHOWN. EROSION CONTROL DEVICES, OTHER THAN THOSE SHOWN, MAY BE UTILIZED AS LONG AS THEY ARE EFFECTIVE AND MAINTAINED.



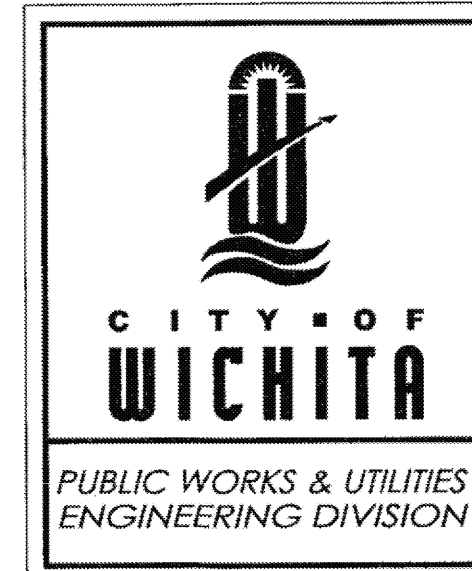
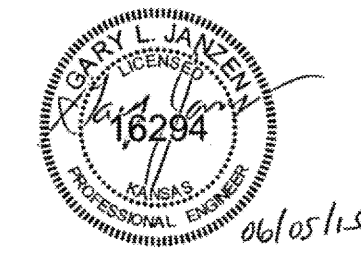
THIS IS A TEMPORARY MEASURE ONLY, WHEN APPROVED BY THE PROJECT ENGINEER. THE DIRT GRADE BEHIND THE CURB SHALL BE BROUGHT TO THE TOP OF CURB, WITH TEMPORARY EROSION CONTROL MAT OR PERMANENT VEGETATION PLACED, PRIOR TO THE COMPLETION OF ALL PROJECTS.

LEGEND

- R-O-W LIMITS
- DRAINAGE FLOW PATH
- x x x x x R/W LIMIT WITHIN CONSTRUCTION LIMIT
- STORM WATER INLETS
- IP INLET PROTECTION
- S.H SILT FENCE OR HAY BALE BARRIER
- SP STREAM PROTECTION
- SCE STABILIZED CONSTRUCTION ENTRANCE
- /// BACK OF CURB PROTECTION

GENERAL NOTES

- THE INTENT OF ALL EROSION CONTROL DEVICES IS TO KEEP ALL SEDIMENT CONFINED TO THE CONSTRUCTION SITE, AND OUT OF ALL UNDERGROUND PIPES, DITCHES, LAKES, AND OTHER DRAINAGE FACILITIES, AND OFF OF STREETS.
- THE POINT OF COMPLIANCE IS GENERALLY THE RIGHT-OF-WAY LINES WITHIN THE LIMITS OF CONSTRUCTION.
- EROSION CONTROL DEVICES WILL BE REQUIRED AT ALL POINTS ALONG THE PROJECT WHERE DISTURBED EARTH CAN DRAIN ONTO PRIVATE PROPERTY.
- INLET PROTECTION DEVICES WILL BE REQUIRED WHEREVER WATER CAN DRAIN OFF THE PROJECT SITE INTO AN INLET, INCLUDING ANY SIDE STREET INLETS.
- EROSION CONTROL DEVICES SHALL BE INSTALLED AT CREEK CROSSINGS SO AS TO PREVENT SEDIMENT FROM ENTERING THEREIN.
- STABILIZED CONSTRUCTION ENTRANCES SHALL BE PROVIDED, AS NEEDED, TO PREVENT MUD FROM TRACKING ONTO STREETS NOT UNDER CONSTRUCTION AND ON STREETS WITHIN THE PROJECT LIMITS IF TRAFFIC IS BEING MAINTAINED THROUGH THE PROJECT.
- ANY MUD TRACKED ONTO STREETS MUST BE REMOVED AT THE END OF EACH WORK DAY.
- THE CONTRACTOR WILL BE REQUIRED TO PLACE EROSION CONTROL DEVICES BACK OF CURB, WHENEVER WATER CAN DRAIN OVER CURB, TO KEEP ERODED SOIL OUT OF THE GUTTERLINES, IN ACCORDANCE WITH THE FOLLOWING:
 - THE DEVICE REQUIRED WILL BE APPROVED EROSION CONTROL MAT LISTED ON THE CITY'S APPROVED MATERIAL LIST. SAID BLANKET SHALL BE PLACED OVER THE APPROPRIATE SEED AND FERTILIZER, AS SPECIFIED IN THE PROJECT SPECIFICATIONS. (SEE SOIL EROSION BMPs - BACK OF CURB SEDIMENT BARRIER DETAILS)
 - THIS DEVICE SHALL BE INSTALLED IMMEDIATELY WHENEVER THE CURB IS BACKFILLED TO WITHIN 3" OF THE TOP OF CURB. (SEE CURB BACKFILL DETAIL) OTHER BMP'S MAY BE REQUIRED AT LOCATIONS WHERE CONCENTRATED FLOW CARRIES SEDIMENT OVER THE CURB.
 - ADDITIONALLY, OTHER EROSION CONTROL DEVICES (HAY BALES, SILT FENCE, ETC.) WILL BE INSTALLED AT LOCATIONS OF CONCENTRATED FLOW RESULTING IN SEDIMENT OVERRUNNING THE MAT.
 - SHOULD THE PROJECT PLANS SPECIFY THAT THE RIGHT-OF-WAY IS TO BE SODDED, THE EXCELSIOR MAT WILL NOT BE REQUIRED SO LONG AS THE SOD IS PLACED WITHIN 48 HOURS AFTER CURB BACKFILL REACHES A HEIGHT OF 3" OR LESS FROM TOP OF CURB. (SEE CURB BACKFILL DETAIL)



STREET IMPROVEMENT PROJECTS

CITY ENGINEER
GARY JANZEN, P.E.

| | | |
|--|------------|-------|
| PROJECT NUMBER | OCA NUMBER | DATE |
| | | |
| CITY ENGINEER'S OFFICE | | SHEET |
| CITY HALL - SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202-1620 (316) 268-4501 | | |

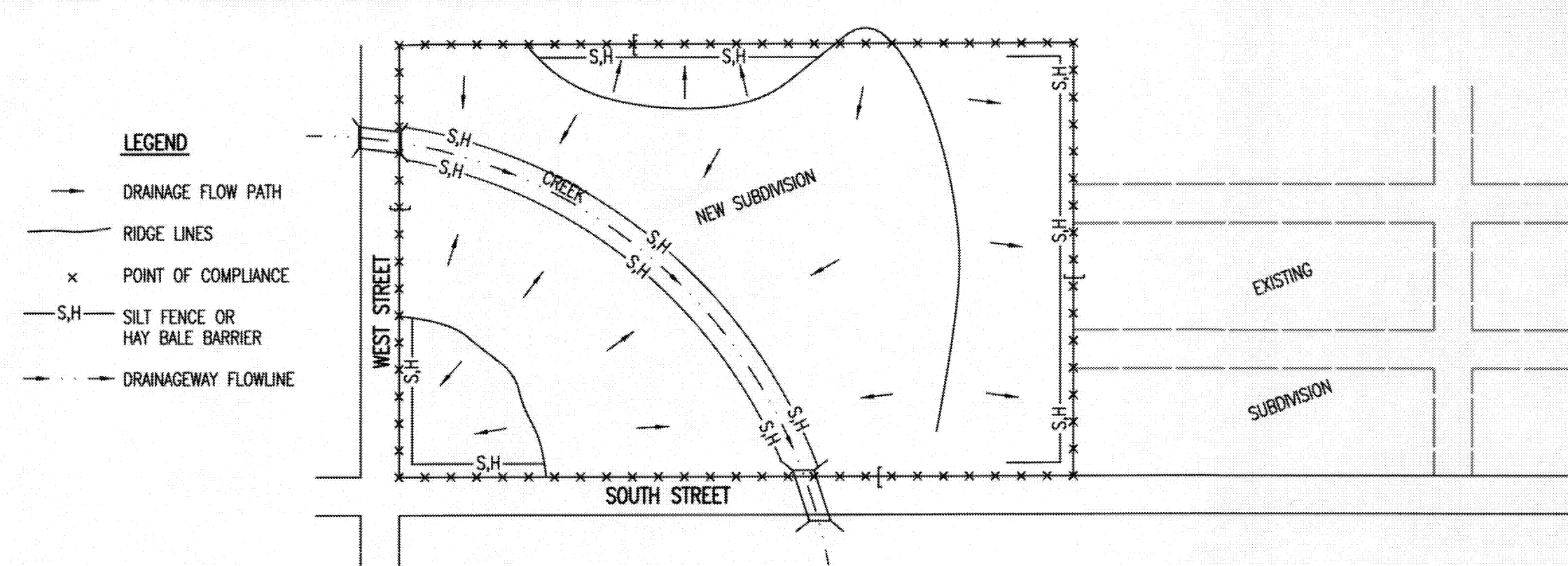
REVISION: JUNE 2015

SW-504

ADDED SHEET PER CITY COMMENTS

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| <p>Consultant Information:</p> <p>PEI PLANNING ENGINEERING IMPLEMENTATION</p> <p>PHILIPS ENGINEERING, INC. 1325 N. Winchester Olathe, Kansas 66061 (913) 241-1111 Fax: (913) 241-1116 www.philipsengineering.com</p> | <p>Licensee: Daniel A. Finn, P.E. License Number: 24132 Licensed As: Professional Engineer</p> <p>12/20/16 24132 KANSAS PROFESSIONAL ENGINEER</p> |
| <p>Project: Wichita, Kansas '03' Style Store</p> <p>Location: Tyler Rd. & 29th St. W. Wichita, Kansas</p> <p>CASEY'S CONSTRUCTION DIVISION One Convenience Blvd., Ankeny, IA 50021 Phone: 515-965-6100</p> | <p>Publication Date: 08.25.16 With Revisions On: 1. 12.12.16</p> <p>STORM SEWER IMPROVEMENTS</p> <p>STANDARD DETAILS</p> <p>D18</p> |

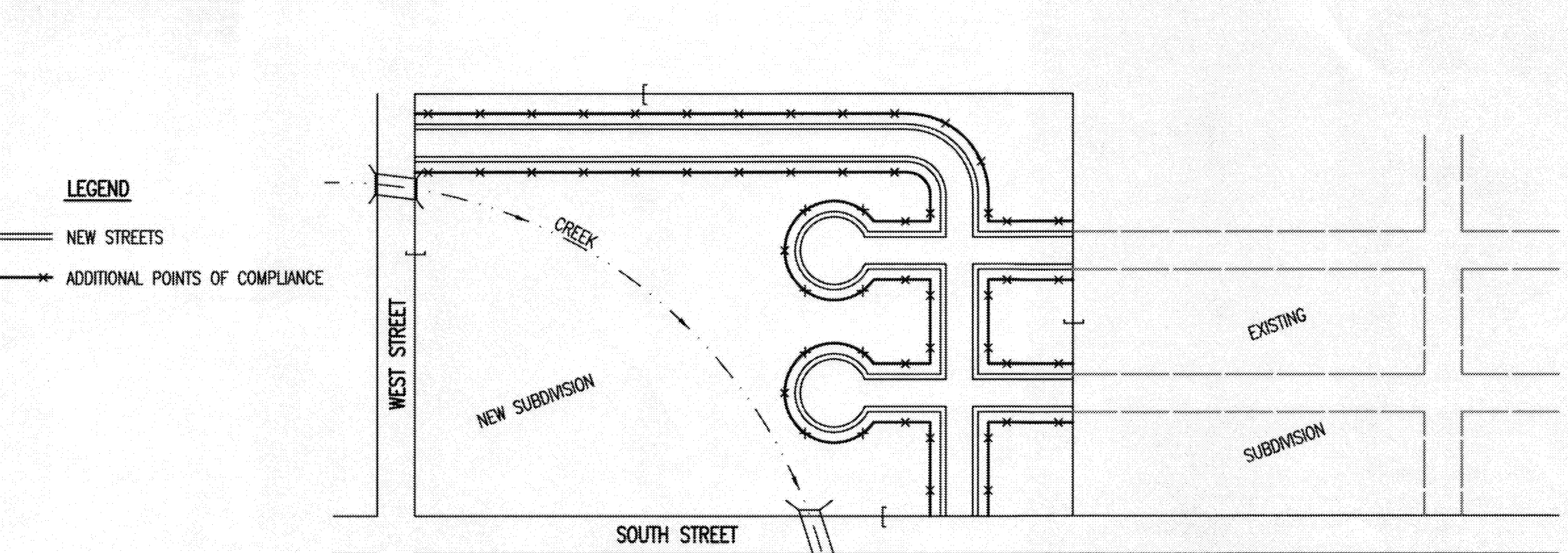
PHASE 1 - INITIAL EARTHWORK AND UTILITIES (EXCEPT STORM SEWER)



- LEGEND**
- DRAINAGE FLOW PATH
 - RIDGE LINES
 - x POINT OF COMPLIANCE
 - S.H. SILT FENCE OR HAY BALE BARRIER
 - DRAINAGEWAY FLOWLINE

1. DURING THIS PHASE OF SUBDIVISION CONSTRUCTION, THE POINTS OF COMPLIANCE ARE THE PERIMETER BOUNDARIES AND ANY DRAINAGE WAYS OR STORM SEWERS DRAINING THROUGH OR FROM THE SITE. SHOULD LAKES BE CONSTRUCTED WITHIN THE SUBDIVISION THAT WILL DISCHARGE DURING STORMS, THEY ARE ALSO A POINT OF COMPLIANCE.
2. HAY BALES OR SILT FENCE MUST BE CONSTRUCTED ALONG THE PROPERTY LINE WHERE ON SITE WATER CAN DRAIN OFF THE PROPERTY. THESE EROSION CONTROL DEVICES WILL ALSO BE INSTALLED ALONG ANY DRAINAGE DITCH OR LAKE THAT CAN DISCHARGE.
3. SHOULD SILT OR SEDIMENT ENTER THE DITCHES OR STREETS ON THE ADJACENT BOUNDARY STREETS, APPROPRIATE EROSION CONTROL DEVICES WILL BE PLACED WITHIN THE SUBDIVISION TO PREVENT THIS.
4. ANY MUD TRACKED ONTO ADJACENT STREETS WILL BE REMOVED WITHIN 48 HOURS OR BY FRIDAY AT 6:00 PM, WHICHEVER IS EARLIER.
5. CONTRACTORS WORKING WITHIN THE SITE WILL NOT BE REQUIRED TO USE INDIVIDUAL EROSION CONTROL DEVICES AS LONG AS THOSE SPECIFIED ABOVE ARE IN PLACE AND EFFECTIVE. CONTRACTORS WORKING ON THE BOUNDARY LINE STREETS OR ON ADJACENT PROPERTIES TO EXTEND UTILITIES ARE EXPECTED TO USE EROSION CONTROL DEVICES AT THEIR WORK LOCATIONS, AS NEEDED.
6. UTILIZE STABILIZED CONSTRUCTION ENTRANCE AT ENTRANCE AND EXIT ONTO ANY EXISTING PUBLIC STREETS.
7. IF THE INITIAL EARTH WORK AND UTILITIES ARE DONE AS PART OF A PUBLIC IMPROVEMENT PROJECT, THESE EROSION CONTROL DEVICES WILL BE INSTALLED BY THE CONTRACTOR AS SPECIFIED IN THE INDIVIDUAL PROJECT CONTRACTS. THE CONTRACTOR WILL MAINTAIN THE DEVICES UNTIL COMPLETION OF THE CONTRACT, AT WHICH TIME THE DEVELOPER WILL ASSUME MAINTENANCE RESPONSIBILITIES. IF THESE CONTRACTS ARE NOT PUBLIC IMPROVEMENT PROJECTS, THE DEVELOPER WILL BE RESPONSIBLE FOR INSTALLING AND MAINTAINING THESE DEVICES.
8. WITHIN 14 DAYS OF COMPLETION OF EARTHWORK ACTIVITIES IN ANY GIVEN AREA, THAT AREA SHALL BE TEMPORARILY OR PERMANENTLY SEEDED AND MULCHED.

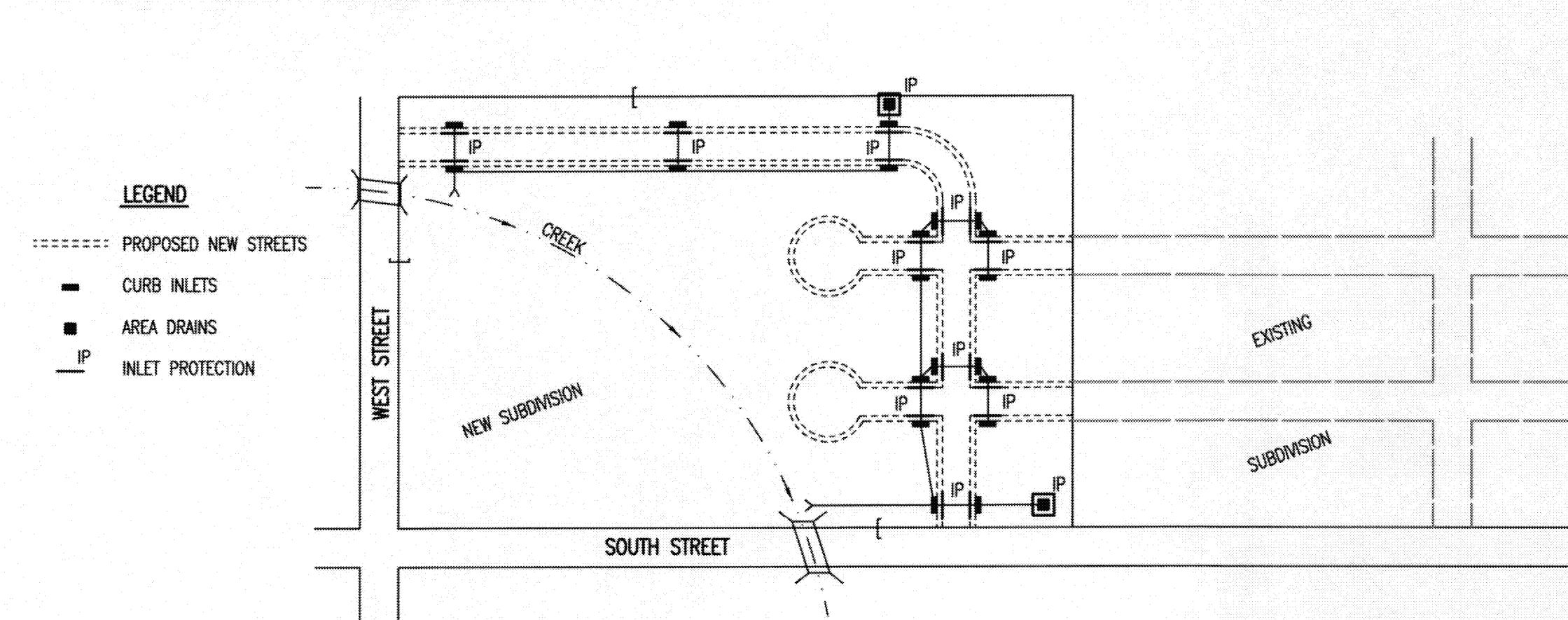
PHASE 3 - STREET CONSTRUCTION



- LEGEND**
- NEW STREETS
 - ADDITIONAL POINTS OF COMPLIANCE

1. DURING THIS PHASE OF SUBDIVISION CONSTRUCTION, NEW STREETS ARE INSTALLED. ALL EROSION CONTROL DEVICES INSTALLED DURING PHASE 1 AND 2 MUST STILL BE MAINTAINED. THE POINT OF COMPLIANCE NOW SHIFTS TO THE BACK OF CURB ALONG EACH STREET.
2. CURB OPENING INLET PROTECTION:
 - A. SUMP AREAS - INLET PROTECTION SHALL BE PROVIDED WHEN STREET SUBGRADE WORK IS COMPLETED.
 - B. NON-SUMP LOCATIONS - PROVIDE INLET PROTECTION AS SOON AS BASE COURSE ASPHALT IS INSTALLED, BEFORE THE SURFACE COURSE LIFT.
3. EROSION CONTROL DEVICES WILL BE REQUIRED BACK OF CURB WHEREVER WATER CAN FLOW OVER THE CURB AND THE CURB HAS BEEN BACKFILLED TO WITHIN 3" OR LESS OF THE TOP OF CURB (SEE CURB BACKFILL DETAIL). FOR CURBS NOT YET ENTIRELY BACKFILLED (3" OR MORE BELOW TOP OF CURB), ADDITIONAL DEVICES WILL BE REQUIRED AT POINTS WHERE WATER BREAKS OVER CURB WHICH COULD RESULT IN THE PLACEMENT OF SEDIMENT IN THE GUTTER.
4. SEE DETAIL SHEET FOR BACK OF CURB PROTECTION.
5. THE BACK OF CURB PROTECTION SPECIFIED ON THIS PLAN MAY HAVE TO BE SUPPLEMENTED WITH HAY BALE OR SILT FENCE EROSION CONTROL DEVICES AT LOCATIONS WHERE CONCENTRATED FLOW RESULTS IN SEDIMENT BEING CARRIED OVER THE EXCELSIOR MATS.
6. THE STREET CONTRACTOR WILL BE RESPONSIBLE FOR INSTALLING BACK OF CURB EROSION CONTROL DEVICES.
7. THE INDIVIDUAL LOT OWNERS WILL BE RESPONSIBLE FOR MAINTAINING THE BACK OF CURB EROSION CONTROL DEVICES IN FRONT OF THEIR LOTS UNTIL SUCH TIME AS ADJACENT DISTURBED EARTH IS STABILIZED WITH GRASS OR SOD.

PHASE 2 - INSTALLATION OF STORM SEWER

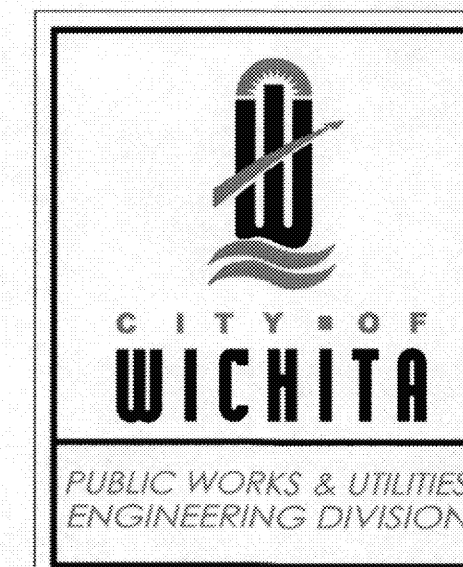
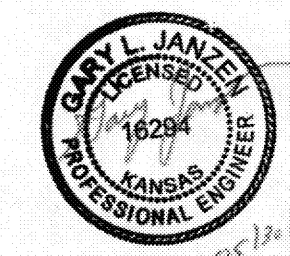
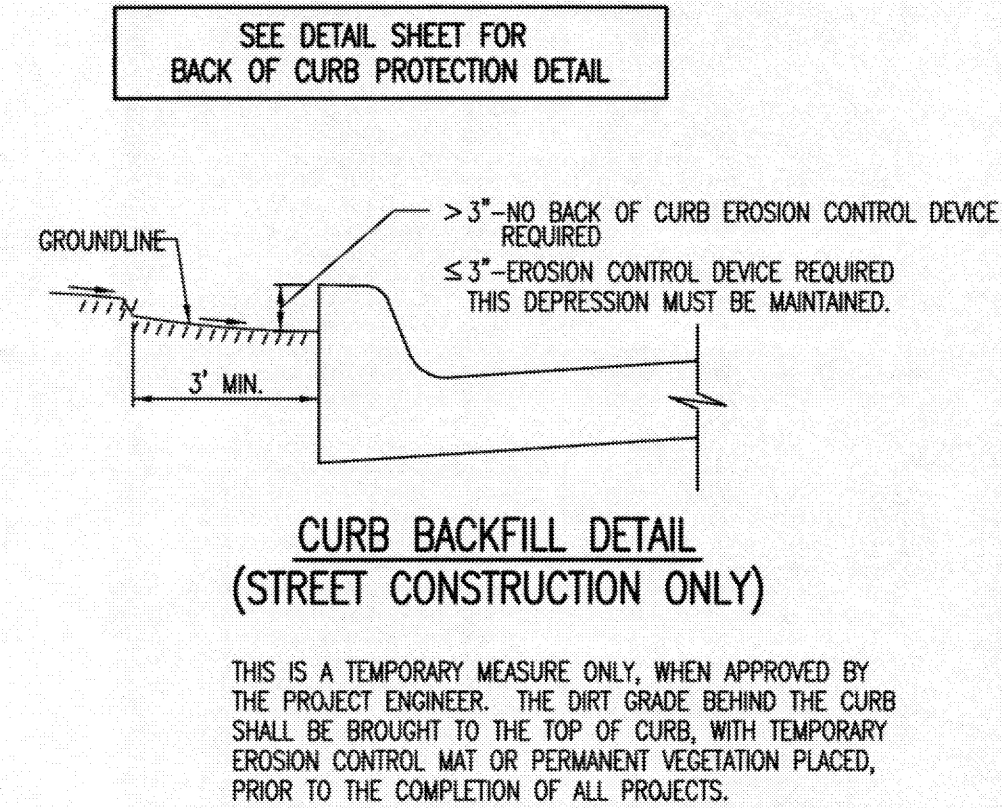


- LEGEND**
- PROPOSED NEW STREETS
 - CURB INLETS
 - AREA DRAINS
 - IP INLET PROTECTION

1. DURING THIS PHASE OF SUBDIVISION DEVELOPMENT, ALL EROSION CONTROL DEVICES REQUIRED IN PHASE 1 SHALL REMAIN IN PLACE AND BE MAINTAINED.
2. AS NEW STORM SEWERS, WITH INLETS, ARE INSTALLED, THE STORM SEWERS MUST NOW BE PROTECTED SO ALL NEW INLETS BECOME POINTS OF COMPLIANCE.
3. AREA DRAINS - AS SOON AS WATER CAN FLOW INTO THESE DRAINS, HAY BALE OR SILT FENCE PROTECTION WILL BE INSTALLED AROUND THEM.
4. CURB OPENING INLETS - AS SOON AS WATER CAN FLOW INTO THESE DRAINS, INLET PROTECTION DEVICES MUST BE INSTALLED. IF WATER CANNOT FLOW INTO CURB INLETS UNTIL STREET CONSTRUCTION IS COMPLETE, THEN STREET CONTRACTOR WILL INSTALL INLET PROTECTION. SEE PHASE 3 - STREET CONSTRUCTION.
5. THE STORM SEWER CONTRACTOR WILL BE RESPONSIBLE FOR INSTALLING THESE DEVICES.
6. THE SUBDIVISION DEVELOPER WILL MAINTAIN THESE EROSION CONTROL DEVICES ONCE INSTALLED.
7. ALL DISTURBED GROUND WILL BE FINAL GRADED AND TEMPORARILY OR PERMANENTLY SEEDED WITHIN 14 DAYS IF COMPLETION OF WORK IN ANY GIVEN PART OF THE SUBDIVISION.
8. ONCE ALL DISTURBED GROUND DRAINING TO AN INLET HAS BEEN RESTABILIZED WITH GRASS OR SOD, THE SUBDIVISION DEVELOPER WILL BE RESPONSIBLE FOR PERMANENTLY REMOVING THE INLET PROTECTION.

GENERAL NOTES

1. THE INTENT OF ALL EROSION CONTROL DEVICES IS TO PREVENT ERODED SOIL FROM ENTERING DITCHES, STORM SEWERS, LAKES, STREETS OR ANY OTHER DRAINAGE FEATURE.
2. THIS SHEET IS INTENDED TO PROVIDE GUIDELINES AS TO WHAT TYPE OF EROSION CONTROL DEVICES WILL BE INSTALLED DURING THE CONSTRUCTION PROCESS. CONTRACTORS ARE EXPECTED TO BID PROJECTS ACCORDINGLY.
3. EROSION CONTROL DEVICES SHALL BE MAINTAINED DURING THE CONSTRUCTION PROCESS TO REMAIN EFFECTIVE. MAINTENANCE SHALL BE AS INDICATED ON SOIL EROSION BMP'S DETAIL SHEETS.
4. PERSONS DESTROYING EROSION CONTROL DEVICES SHALL BE RESPONSIBLE FOR IMMEDIATELY REPAIRING THEM OR INSTALLING SUITABLE REPLACEMENT DEVICES.
5. THE DEVELOPMENT OF ANY SUBDIVISION THAT DISTURBS 1 ACRE OR MORE WILL REQUIRE A FEDERAL/STATE NPDES STORMWATER PERMIT. THE PREPARATION OF A STORMWATER POLLUTION PREVENTION PLAN IS REQUIRED. EROSION CONTROL DEVICES ARE REQUIRED. THE DETAILS SHOWN ON THIS SHEET ARE THE MINIMUM STANDARDS TO BE SHOWN ON POLLUTION PREVENTION PLANS.
6. FOR SUBDIVISIONS SMALLER THAN 1 ACRE, SOIL EROSION DEVICES ARE REQUIRED. ALSO, DEVELOPERS AND CONTRACTORS ARE ENCOURAGED TO DEVELOP POLLUTION PREVENTION PLANS FOR EACH PROJECT PRIOR TO CONSTRUCTION.
7. FAILURE TO USE AND MAINTAIN SOIL EROSION DEVICES IS A VIOLATION OF SECTION 16.32 OF THE CITY CODE AND WILL SUBJECT THE SUBDIVISION DEVELOPER AND CONTRACTORS TO THE PENALTIES PROVIDED THEREIN.
8. THE APPLICATION OF EROSION CONTROL DEVICES SHOWN ON THIS SHEET IS FOR SITUATIONS NORMALLY ENCOUNTERED. FROM TIME TO TIME, SITUATIONS WILL ARISE THAT MAY REQUIRE DEVICES OTHER THAN THAT SHOWN. EROSION CONTROL DEVICES, OTHER THAN THOSE SHOWN, MAY BE UTILIZED SO LONG AS THEY ARE EFFECTIVE AND MAINTAINED.
9. A STABILIZED EARTH SURFACE IS DEFINED AS ONE THAT IS HARD SURFACED WITH CONCRETE, ASPHALT, OR THE LIKE, OR ONE ON WHICH 70% OF THE GRASS HAS GERMINATED ON THE ENTIRE SURFACE.



SUBDIVISION DEVELOPMENT PROCESS

CITY ENGINEER
GARY JANZEN, P.E.

| | | |
|----------------|------------|------|
| PROJECT NUMBER | OCA NUMBER | DATE |
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SHEET

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