

LATERAL 7, MAIN 18 FOUR MILE CREEK SEWER

to serve

Casa Bella 3rd - Phase 2

CITY OF WICHITA, KANSAS

Gary Janzen, P.E. City Engineer

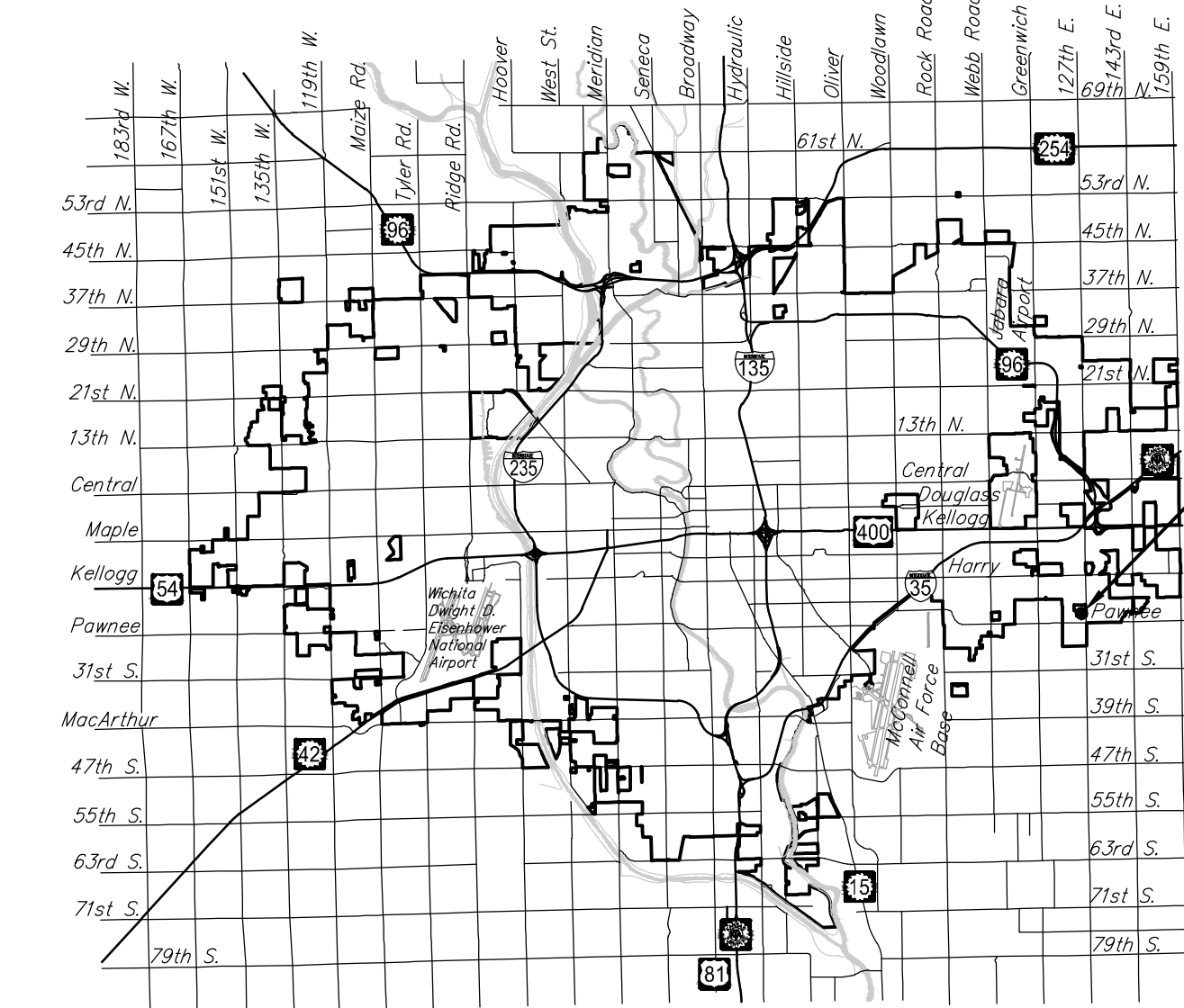
Project Number 468-84719

O.C.A. NO. 744389

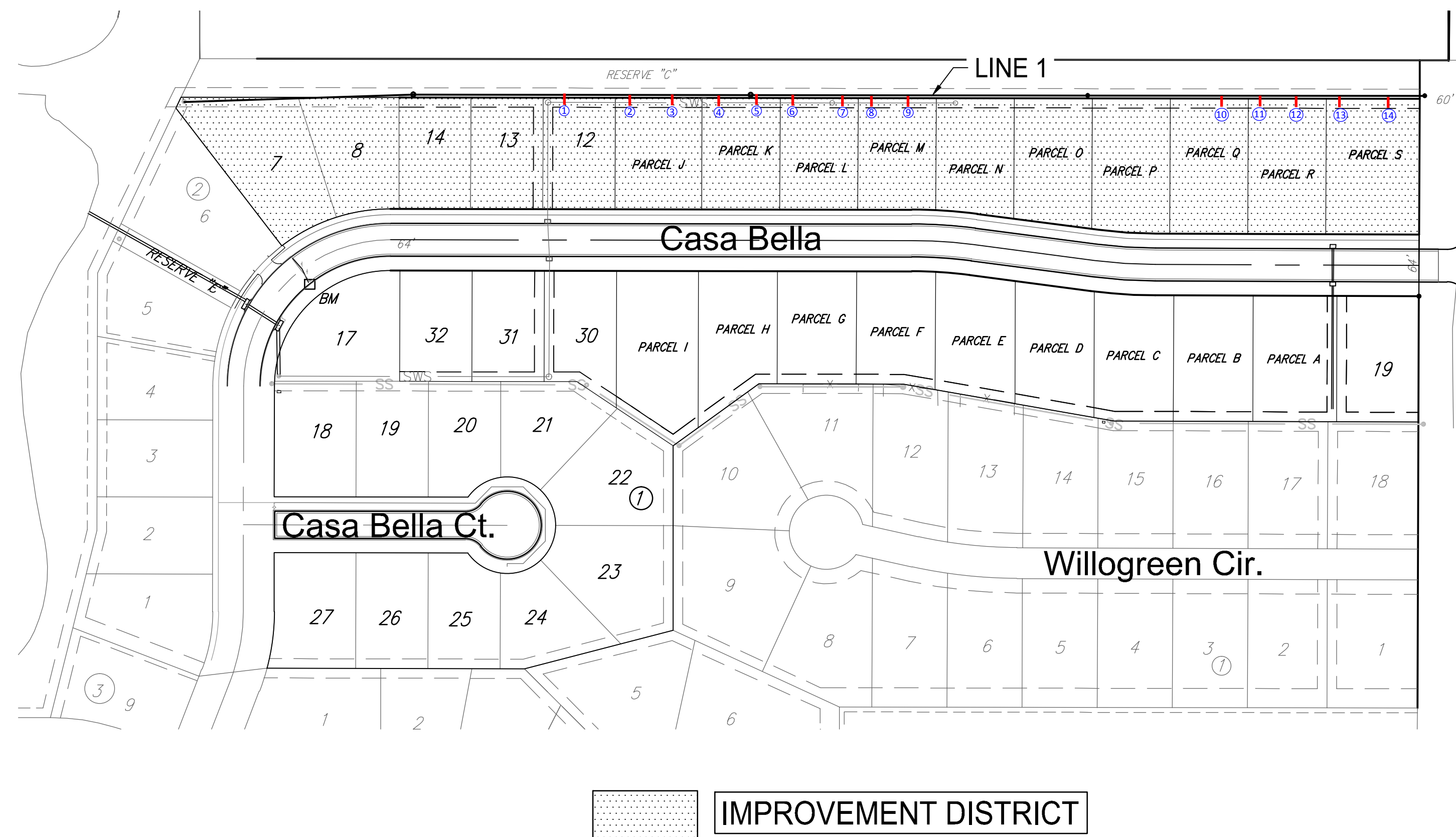
GENERAL NOTES:

- The Contractor shall comply with all applicable safety regulations. All construction shall be completed following current City Standard Specifications and Special Provisions.
- Contractor will be required to provide notice to utility companies a minimum of seventy-two (72) hours prior to any excavation, as follows:
Kansas One-Call 687-2470
The Contractor must notify the following in case of an emergency:
Cox Communications 260-7204
Kansas Gas Service 1-888-482-4950
Black Hills Energy 941-1628
Westar 383-8600
AT&T 1-800-286-8313
City of Wichita Water Department 262-6000
City of Wichita Sewer Maintenance 262-6000
- Utility service lines, poles, etc. are to be adjusted as necessary by others prior to construction unless the plans specifically call for their adjustment by the Contractor or unless the plans specifically identify a utility to be adjusted by its owner during construction. Existing utilities and their location, as shown on the plans, represent the best information obtainable for design. The Contractor will be required to work around existing utilities within the right-of-way which do not conflict with proposed construction.
- Rubble from the removal of miscellaneous structures and excess excavation which is to be wasted shall be disposed of on sites to be provided by the Contractor. These sites shall be approved by the Engineer as to suitability, appearance and site location. Locations, in the opinion of the Engineer, that will leave an unsightly appearance will not be approved. All disposal sites must be approved by the Kansas Department of Health and Environment. Material either stockpiled or disposed of in a flood plain will require a Kansas State Board of Agriculture permit. Any material dumped in waters of the United States or wetlands is subject to U.S. Corps. of Engineers permitting regulations. Any material buried or stockpiled beyond approved construction limits will require additional archaeological investigations unless buried in a previously approved borrow location.
- Trees and shrubs in public right-of-way which are in direct conflict with proposed new construction shall be removed by the Contractor with the Engineer's approval. Trees and shrubs which are not in direct conflict with proposed new construction shall be saved and protected from damage.
- The Contractor shall give all property owners and/or tenants of developed property abutting the construction of this project a minimum of ten (10) days notice prior to start of construction.
- The Contractor shall be responsible for preserving property irons. The Contractor will be required to re-establish any property irons which are damaged or destroyed by his construction operations. Such irons shall be re-established by a licensed land surveyor in accordance with state laws.
- If traffic will be impacted by construction, a traffic control plan must be submitted and approved by the City Traffic Engineer, Brian Coon at traffic@wichita.gov before construction can begin. The Contractor shall be responsible for all traffic control measures to facilitate construction. All construction zone markings and signage shall conform to the latest version of the Manual on Uniform Traffic Control Devices (MUTCD) as published by the US Dept. of Transportation, Federal Highway Administration. All costs associated with construction markings and signage shall be the Contractors responsibility.
- All elevations shown are NAVD 88.
- All areas disturbed during construction that will not be under proposed pavement shall be restored to match existing conditions.
- The Contractor shall protect from damage and support existing utilities through constructions as approved by the utility owner and the Engineer at the contractors expense.
- Contractor shall limit the extent of trench openings overnight and weekends to less than 50 feet.
- Any sidewalk, drive approach, curb, or street pavement removed to construct project must have a pavement cut permit and be replaced by the City contractor. Permits can be obtained by calling 316-268-4501 or 316-268-4480.

Nowak Construction - Contractor
J. Wagner - City of Wichita, Field Project Engineer
K. Yale - City of Wichita, Inspector
As-built
Risers
Release Date: 07/06/2015
pdf: APRosas 01/29/2016



Vicinity Map



Benchmarks

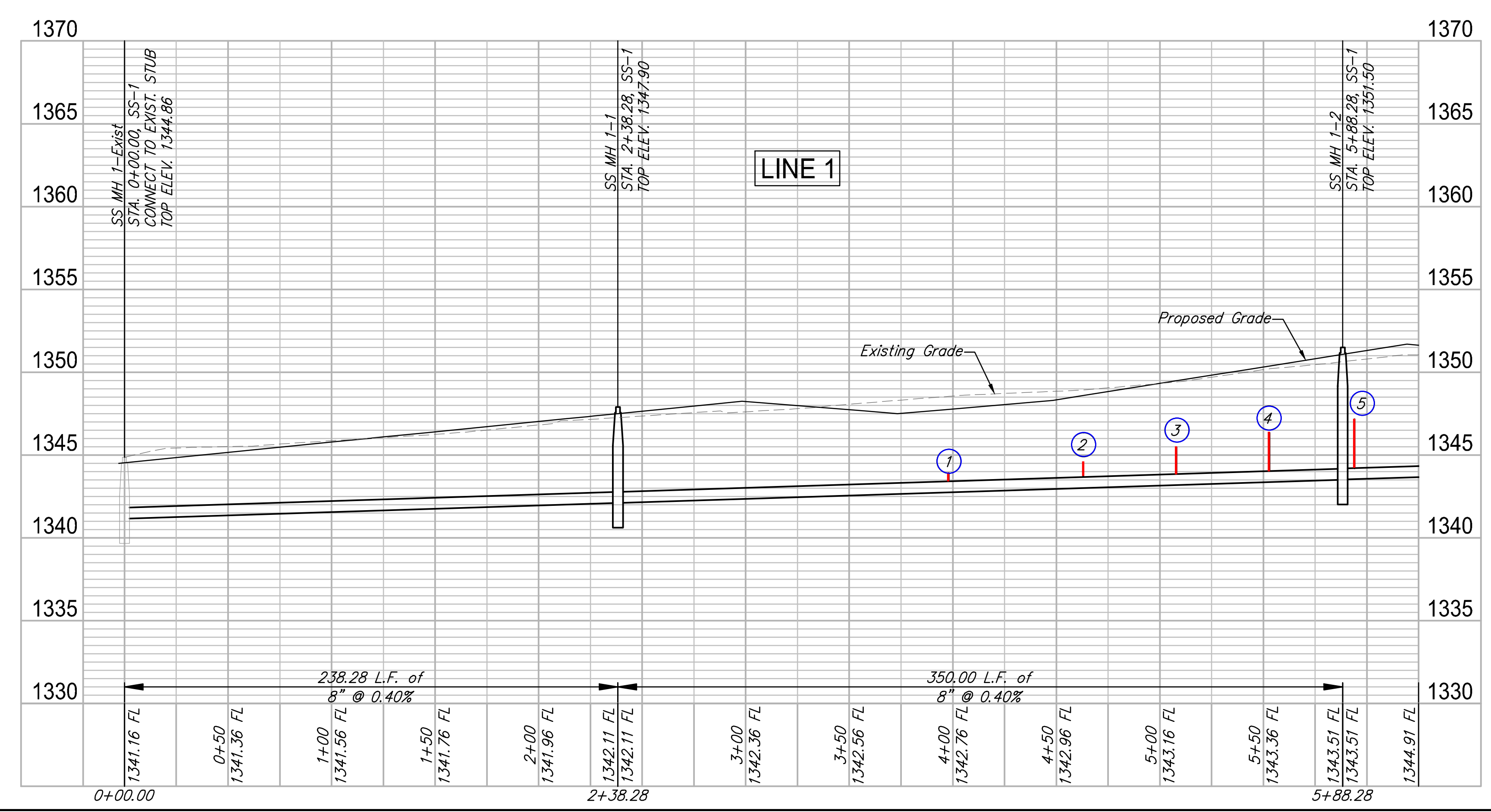
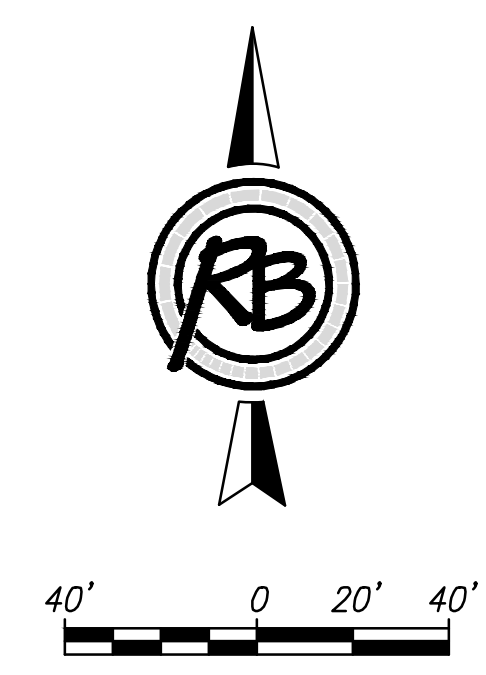
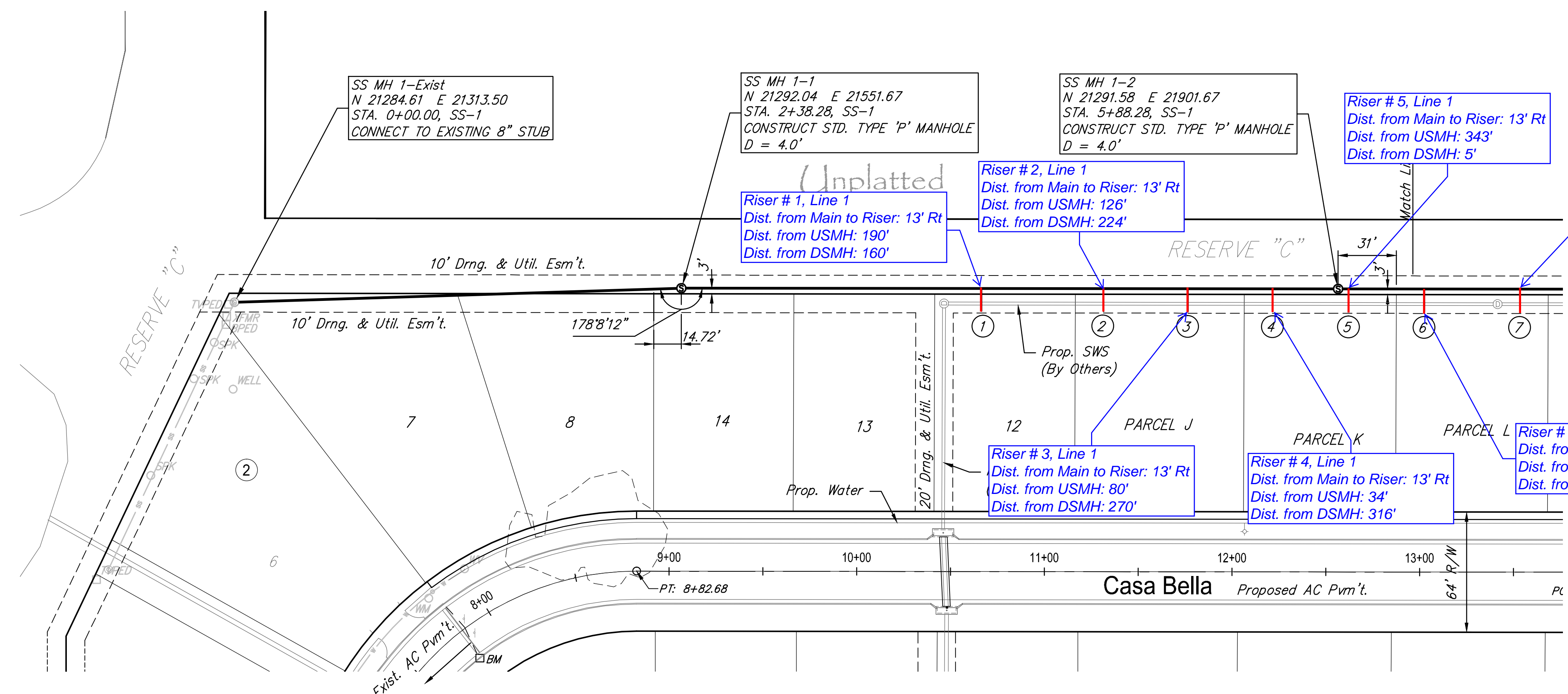
BENCH MARKS:
 SRB BRASS DISC 55.45' E. & 5.13' S. OF THE N.W. COR., SW1/4, SEC. 35,
 ELEVATION = 1348.35 (NGVD29)
 = 1348.83 (NAVD88)
 CHISELED SQUARE ON TOP OF CURB ON THE SOUTHEAST SIDE OF CASA BELLA STREET, AT THE MIDPOINT OF LOT 17, BLOCK 1, CASA BELLA SECOND ADD.
 ELEVATION = 1348.93 (NAVD88)

Sheet Index

- TITLE SHEET
- 3. PLAN & PROFILES
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- MH FRAME & COVER DETAILS
- VERTICAL RISER DETAILS
- EASEMENT GRADING PLAN
- EROSION CONTROL PLAN
- 9.-13. EROSION CONTROL DETAILS
- SANITARY SEWER COORDINATES
- ADDITION COORDINATES
- 16.-19. PLATS

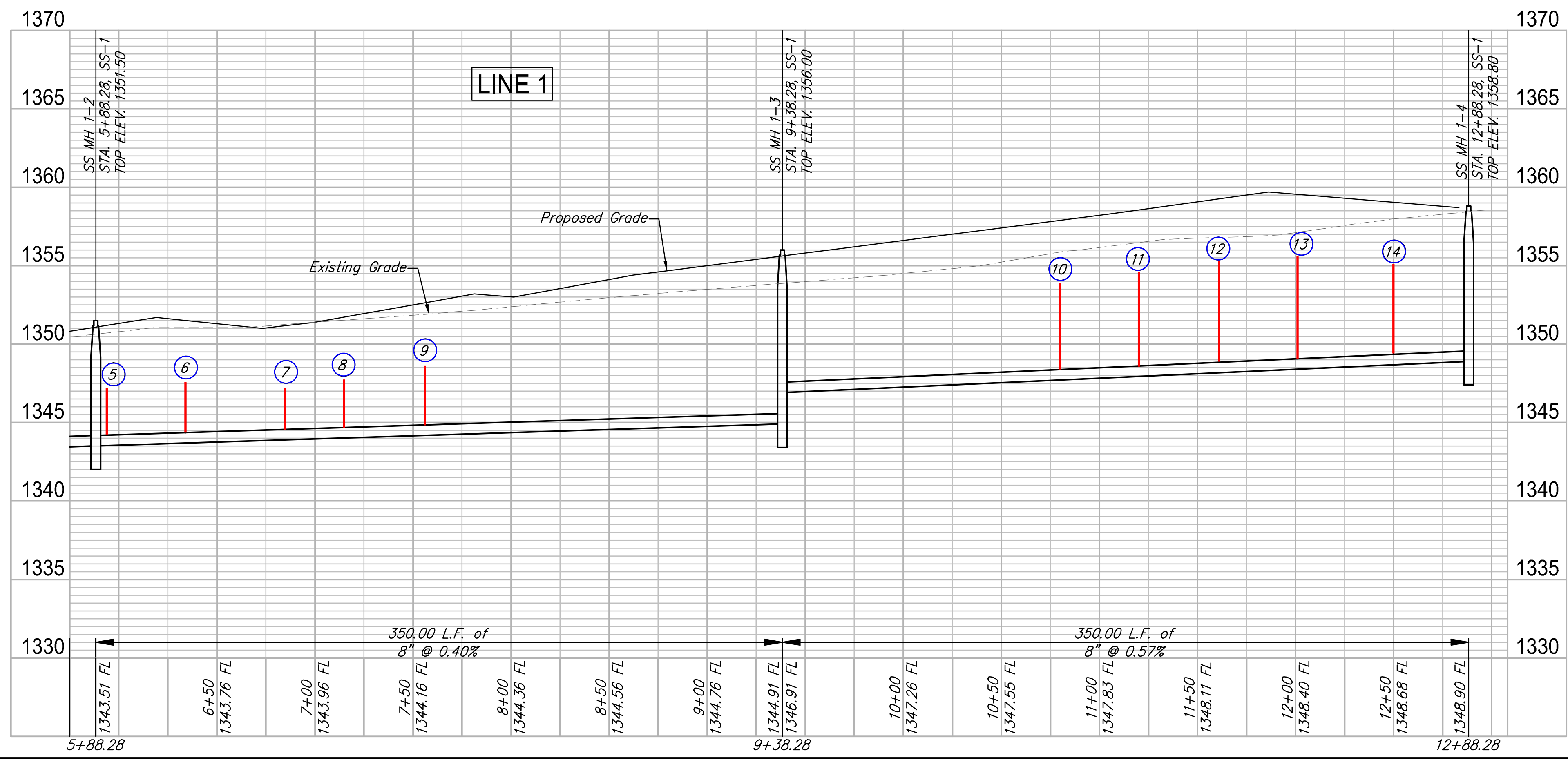
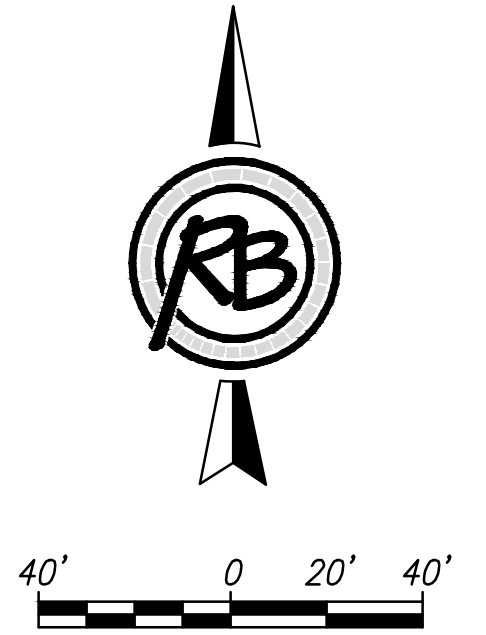
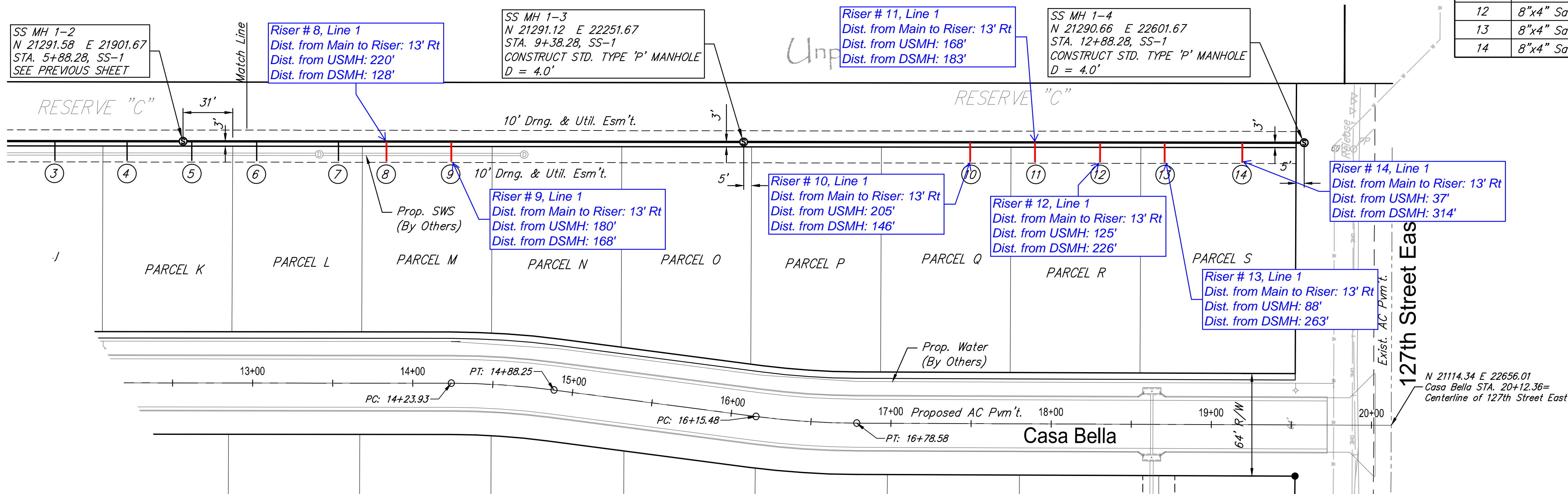


| SEWER SERVICE TABLE | | | | | | | |
|---------------------|--------------|---------|-----------|----------|-------------------|------------------------|----------|
| NUMBER | TYPE | SERVING | | | STATION/DIRECTION | FOR INFORMATION ONLY | |
| | | LOT NO. | BLOCK NO. | LINE NO. | | APPROX. LENGTH 4" PIPE | |
| 1 | 8"x4" Saddle | 12 | 2 | 1 | 3+98 Right | 0.3 | 13' 11.6 |
| 2 | 8"x4" Saddle | J | 2 | 1 | 4+63 Right | 1.0 | 13' 11.6 |
| 3 | 8"x4" Saddle | J | 2 | 1 | 5+08 Right | 1.6 | 13' 11.6 |
| 4 | 8"x4" Saddle | K | 2 | 1 | 5+53 Right | 2.3 | 13' 11.6 |
| 5 | 8"x4" Saddle | K | 2 | 1 | 5+94 Right | 3.0 | 13' 11.6 |

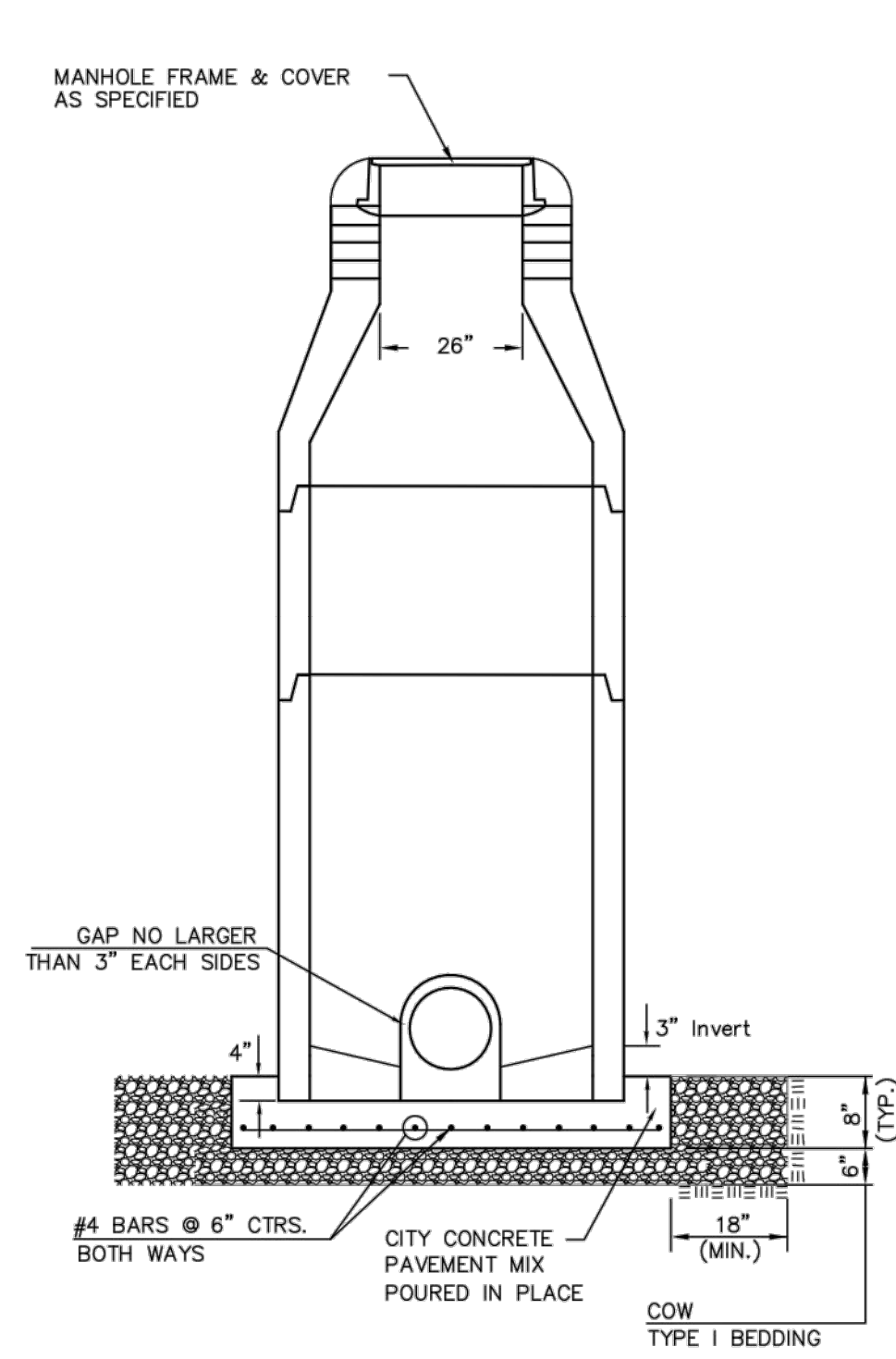


RUGGLES BOHM
 PROJECT NUMBER: 468-84719
 DRAWING FILE: 468 E Engineering Base
 DESIGN: E/JG
 DRAWN: DPS
 REVIEW: DATE
 Casa Bella 3rd - Phase 2
 SS LINE 1 (1 of 2)
 Wichita, Kansas
 RB JOB: 4281E
 SHEET: 2 OF 19

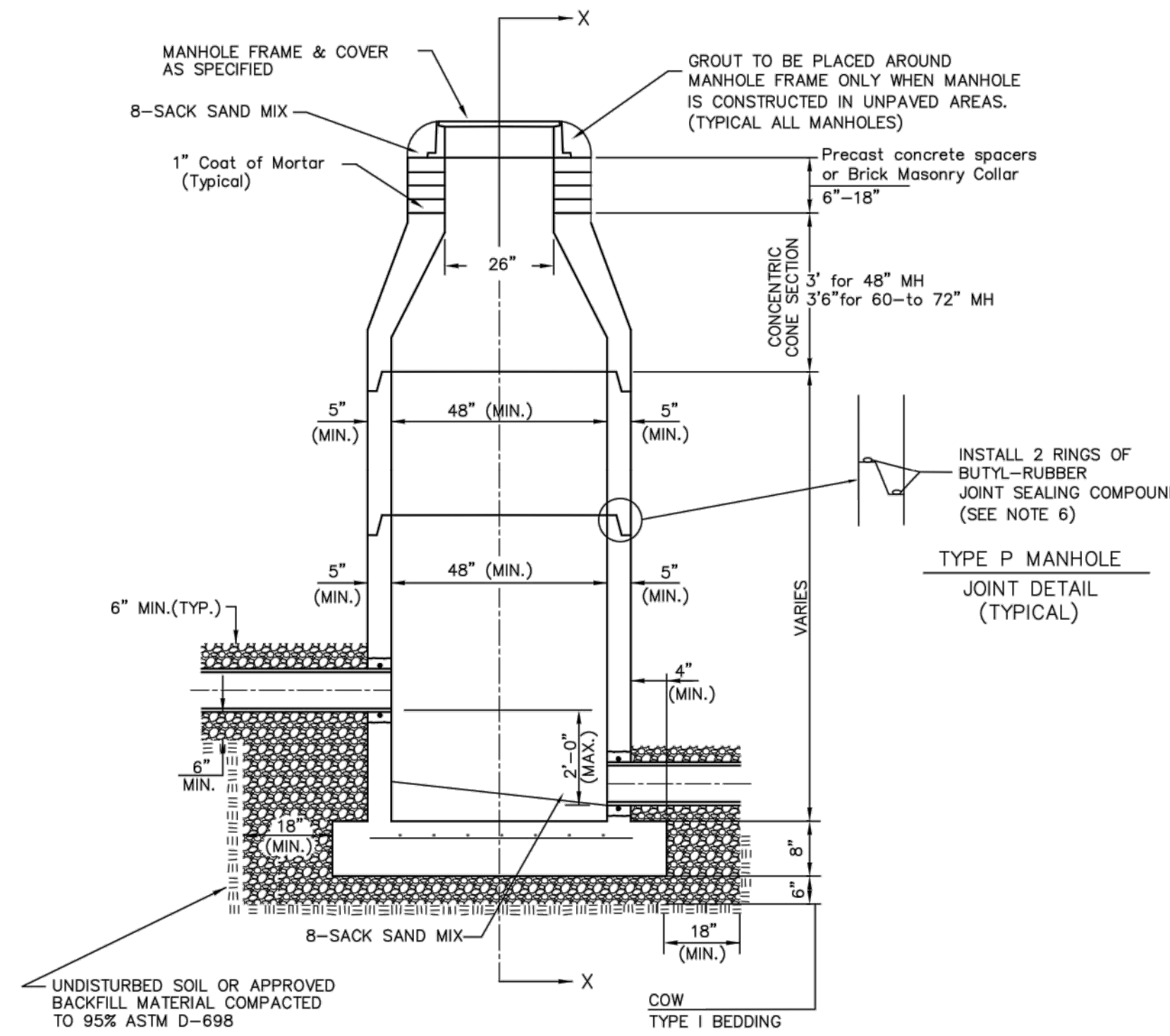
| SEWER SERVICE TABLE | | | | | | | |
|---------------------|--------------|---------|-----------|----------|-------------------|------------------------|----------|
| NUMBER | TYPE | SERVING | | | STATION/DIRECTION | FOR INFORMATION ONLY | |
| | | LOT NO. | BLOCK NO. | LINE NO. | | APPROX. LENGTH 4" PIPE | |
| | | | | | VERTICAL | HORIZONTAL | |
| 6 | 8"x4" Saddle | L | 2 | 1 | 6+34 Right | 3.2 | 13' 11.6 |
| 7 | 8"x4" Saddle | L | 2 | 1 | 6+85 Right | 2.6 | 13' 11.6 |
| 8 | 8"x4" Saddle | M | 2 | 1 | 7+15 Right | 3.0 | 13' 11.6 |
| 9 | 8"x4" Saddle | M | 2 | 1 | 7+56 Right | 3.8 | 13' 11.6 |
| 10 | 8"x4" Saddle | Q | 2 | 1 | 10+80 Right | 5.5 | 13' 11.6 |
| 11 | 8"x4" Saddle | R | 2 | 1 | 11+20 Right | 5.9 | 13' 11.6 |
| 12 | 8"x4" Saddle | R | 2 | 1 | 11+61 Right | 6.4 | 13' 11.6 |
| 13 | 8"x4" Saddle | S | 2 | 1 | 12+01 Right | 6.5 | 13' 11.6 |
| 14 | 8"x4" Saddle | S | 2 | 1 | 12+50 Right | 5.7 | 13' 11.6 |



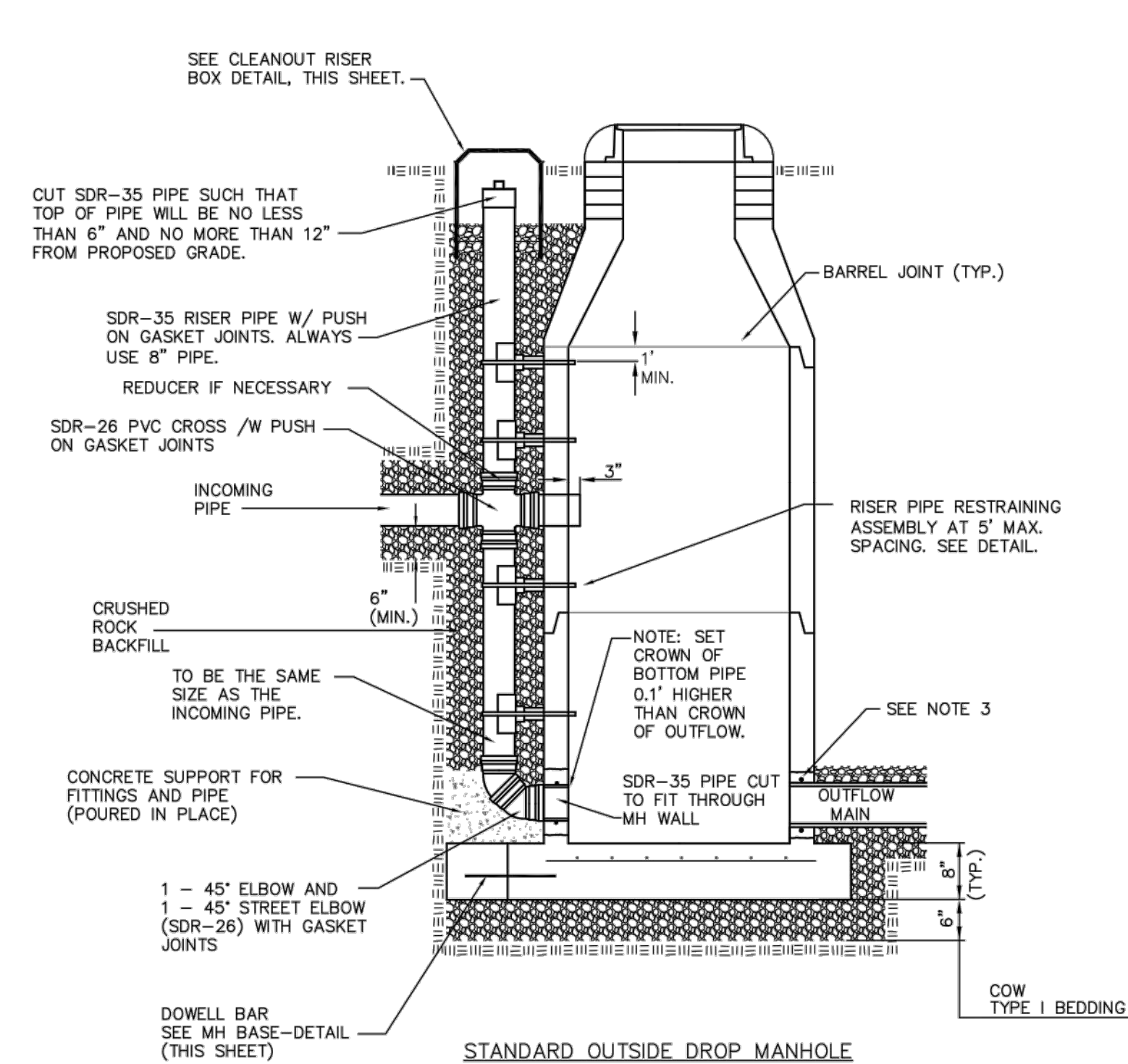
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Casa Bella 3rd - Phase 2
SS LINE 1 (2 of 2)
 Wichita, Kansas
 RB JOB: 4281E
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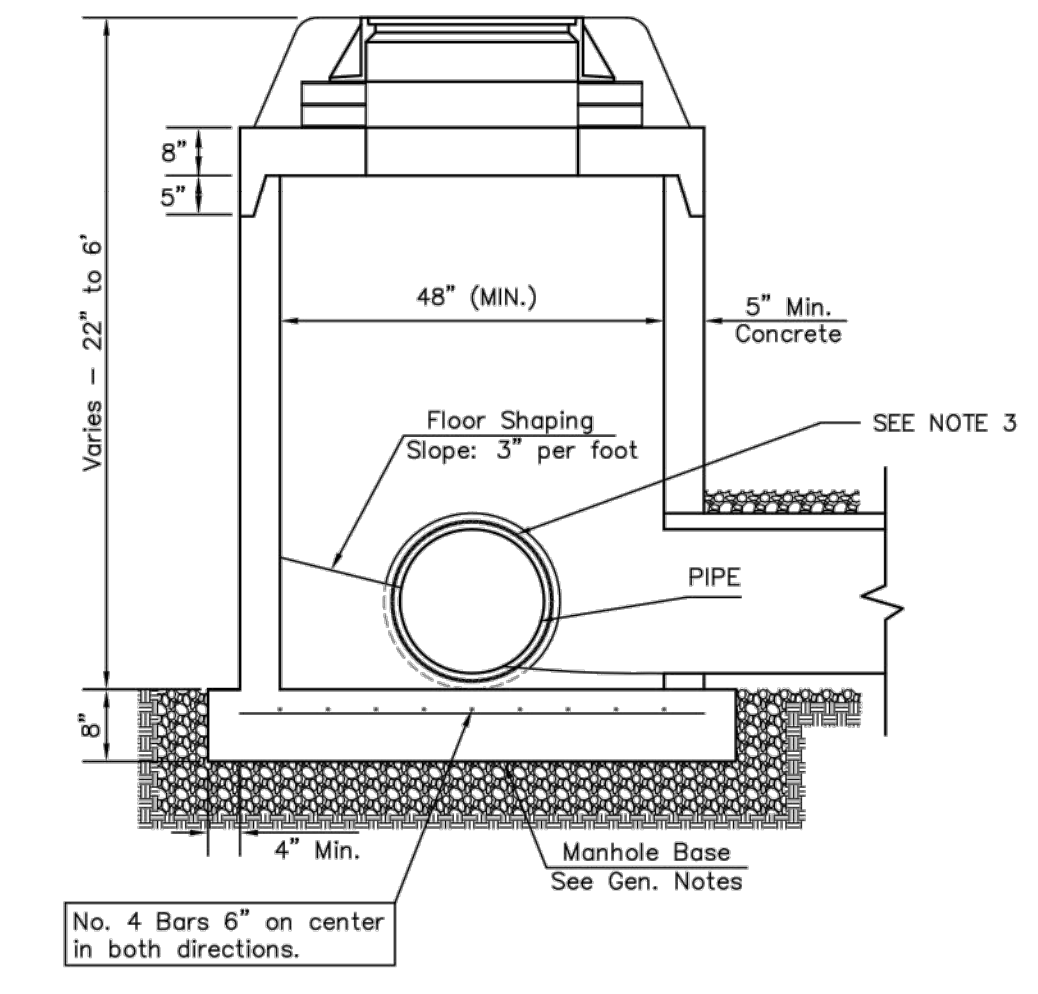
DOG HOUSE MANHOLE
(OVER EXISTING PIPE)
Not to Scale



STANDARD MANHOLE
Not to Scale



STANDARD OUTSIDE DROP MANHOLE
Not to Scale

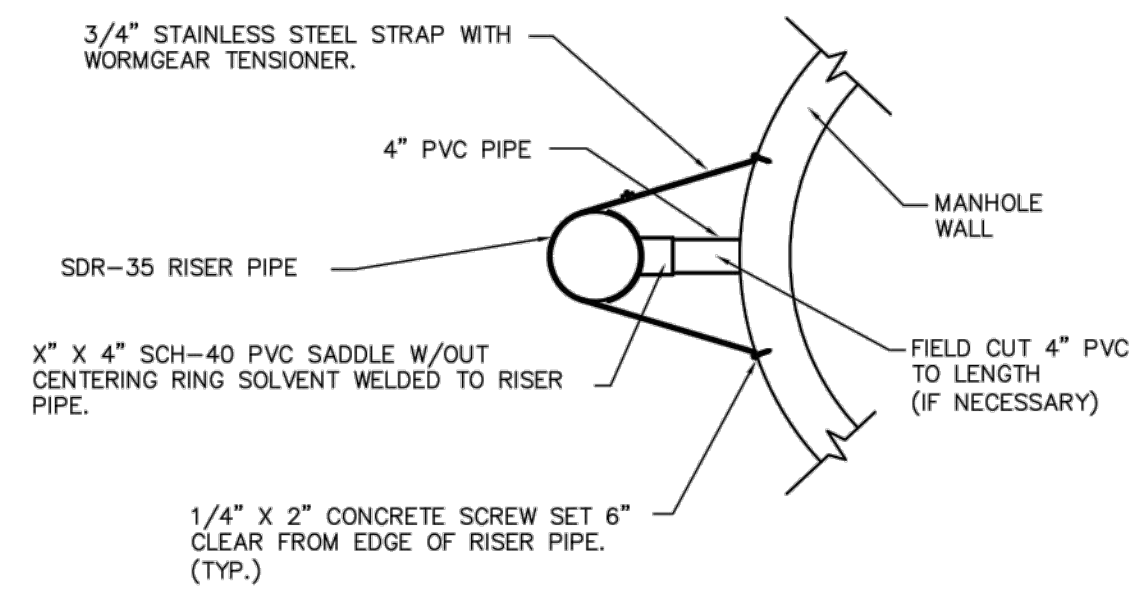


SHALLOW MANHOLE
Not to Scale

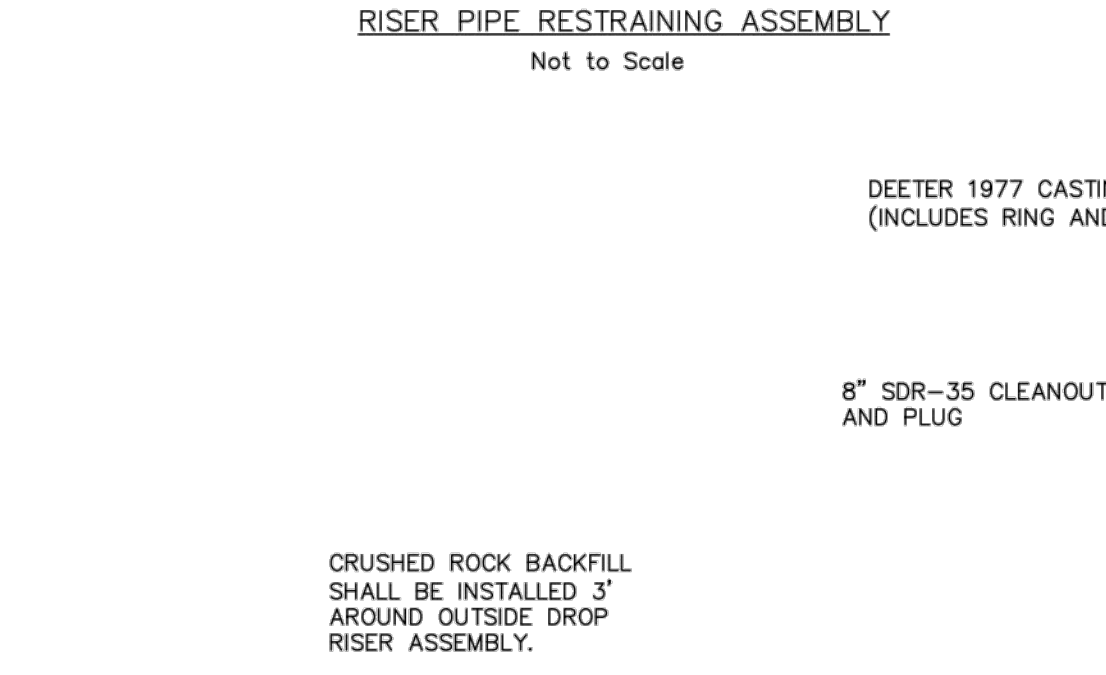
= COW TYPE I BEDDING
 = UNDISTURBED SOIL

PRECAST MANHOLE GENERAL NOTES

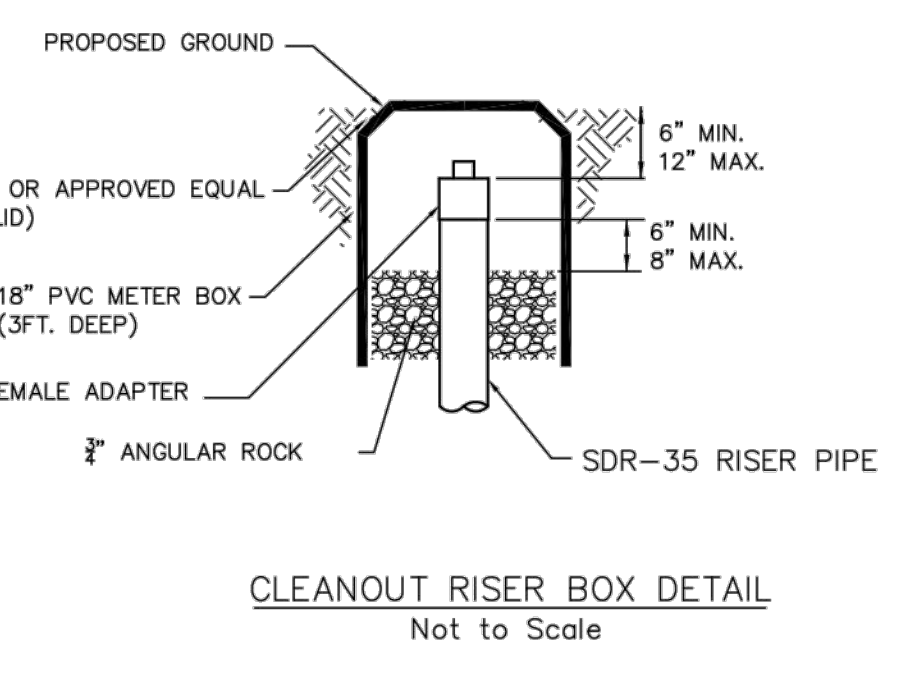
- ALL PRECAST CONCRETE MANHOLE SECTIONS SHALL CONFORM TO THE LATEST REVISIONS OF A.S.T.M. C478 AS MODIFIED BY THE SPECIFICATIONS.
- NON-SHRINK GROUT SHALL BE NON-METALLIC TYPE.
- APPROVED FLEXIBLE WATERSTOP SHALL BE INSTALLED TO JOIN THE SEWER PIPE TO THE MANHOLE WALL. THE SEWER PIPE SHALL BE SUPPORTED WITH CRUSHED ROCK A MINIMUM OF 3 FEET FROM THE MANHOLE WALL AND TO THE FIRST JOINT FOR V.C.P. SUCH THAT THE JOINT REMAINS FLEXIBLE.
- ALL INSIDE SURFACES OF THE CONCRETE MANHOLE WHICH WOULD BE EXPOSED TO SEWER GAS SHALL BE COATED PER SECTION 804.4 OF STANDARD SPECIFICATIONS.
- EXTERIOR MANHOLE WALLS SHALL BE COATED PER SECTION 804.4 OF STANDARD SPECIFICATIONS.
- JOINT SEALING COMPOUND SHALL BE PER 804.4 OF STANDARD SPECIFICATIONS.
- ALL MANHOLE SECTION JOINTS THAT WILL BE IN GROUNDWATER OR GREATER THAN 12' DEEP SHALL BE WRAPPED WITH AN EXTERNAL JOINT SEAL PER SECTION 804.4 OF STANDARD SPECIFICATIONS, AS INDICATED BY THE PLANS.
- PRECAST MANHOLES SHALL BE SET AT LEAST 4 INCHES INTO THE MANHOLE BASE FOR DOG HOUSE MANHOLES.
- TOP OF MANHOLE FLOOR SLAB SHALL BE AT LEAST 3 INCHES BELOW THE FLOW LINE OF THE OUTLET PIPE TO INSURE SUFFICIENT MINIMUM THICKNESS OF SHAPED INVERT.
- LIFTING HOLES SHALL BE FILLED WITH NON-SHRINK GROUT AND THE INTERIOR SURFACE COATED AS SPECIFIED.
- MORTAR USED IN MASONRY CONSTRUCTION SHALL CONTAIN 8 SACKS OF CEMENT PER CUBIC YARD. CONCRETE USED IN MANHOLE BASES SHALL CONFORM TO THE REQUIREMENTS OF CONCRETE FOR CONCRETE PAVEMENT CONSTRUCTION AS SPECIFIED IN THE CITY STANDARD PAVING SPECIFICATIONS USING CITY CONCRETE PAVEMENT MIX WITHOUT AIR ENTRAINING ADMIXTURE. MORTAR SHALL BE PLACED AROUND THE MANHOLE RING AS SHOWN ON THE DRAWINGS WHEN MANHOLES ARE CONSTRUCTED IN UNPAVED AREAS. COMPLETED MANHOLE SHALL BE WITHOUT LEAKS AND WATER TIGHT.
- REINFORCING STEEL SHALL BE INSTALLED IN THE MANHOLE BASES AND SHALL CONSIST OF NO.4 BARS PLACED ON 6" CENTERS IN BOTH DIRECTIONS. THE MANHOLE BASE REINFORCEMENT SHALL BE PLACED AT LEAST 3" ABOVE THE BOTTOM OF THE MANHOLE BASE. ALL COSTS FOR FURNISHING AND INSTALLING REINFORCING STEEL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE.
- WALL THICKNESS SHALL BE 1" GREATER THAN MANHOLE DIAMETER IN FEET.
- OPENINGS SHALL BE CORE DRILLED INTO THE MANHOLE WALL WHEN OUTSIDE DROPS ARE CONSTRUCTED ON EXISTING MANHOLES. SUCH OPENINGS DRILLED INTO EXISTING MANHOLES SHALL BE AS SMALL AS PRACTICAL TO FACILITATE INSTALLING AND GROUTING THE NEW PIPE IN PLACE. WATERSTOP GASKETS SHALL BE USED WITH P.V.C. PIPE. THE NEW PIPE SHALL BE GROUTED INTO THE OPENING USING AN APPROVED NONSHRINK GROUT FOR THE FULL MANHOLE WALL THICKNESS. THE EXTERIOR OF THE COMPLETED CONNECTION SHALL BE SEALED WITH AN APPROVED BITUMINOUS COATING SUCH THAT THE CONNECTION WILL BE WATER TIGHT. FLOOR OF MANHOLE SHALL BE MODIFIED TO FORM NEW FLOW CHANNEL FOR THE NEW CONNECTION AS INDICATED BY THE DRAWING. THIS WORK, INCLUDING MODIFICATION OF MANHOLE FLOOR, SHALL BE PAID FOR AT THE UNIT PRICE BID FOR OUTSIDE DROP STACK CONSTRUCTED ON EXISTING MANHOLE.
- THE FLOORS OF ALL MANHOLES SHALL BE SHAPED WITH FLOW CHANNELS SUCH THAT THE MANHOLES WILL BE SELF CLEANING AND FREE OF AREAS WHERE SOLIDS COULD BE DEPOSITED AS SEWAGE FLOWS THROUGH THE MANHOLE FROM ALL INLET PIPES TO THE OUTLET PIPE. FLOW CHANNELS SHALL BE FORMED TO MATCH THE BOTTOM HALVES OF THE INFLOWING PIPES AND THE OUTFLOWING PIPE AS SHOWN BY THE DRAWINGS. MANHOLE FLOORS SHALL HAVE SLOPES OF 3 INCHES PER FOOT IN THE AREAS OUTSIDE OF THE FLOW CHANNELS SLOPED TOWARD THE FLOW CHANNELS. PIPES LAID THROUGH MANHOLES SHALL HAVE THE TOP HALF REMOVED TO NEAT LINES FOR THE FULL INSIDE DIAMETER OF THE MANHOLE. MANHOLE FLOORS SHALL THEN BE SHAPED AROUND THE BOTTOM HALF OF THE PIPE WHICH FORMS THE FLOW CHANNEL.
- MANHOLE COVER CASTINGS AND MANHOLE FRAME CASTINGS SHALL CONFORM TO THE REQUIREMENTS AS INDICATED IN THE STANDARD SPECIFICATIONS AND AS SHOWN IN THE STANDARD DETAIL DRAWING.
- THE VERTICAL DROP IN STANDARD MANHOLES SHALL NOT EXCEED 2' REGARDLESS OF PIPE SIZE. THE CROWNS OF INFLOWING PIPES SHALL NEVER BE SET LOWER THAN THE CROWN OF THE OUTFLOWING PIPE.
- STANDARD MANHOLES SHALL BE BID AS STANDARD MANHOLES FOR THE TYPE AND DIAMETER INDICATED. OUTSIDE DROP MANHOLES SHALL BE BID AS STANDARD OUTSIDE DROP MANHOLES FOR THE TYPE AND DIAMETER INDICATED. ALL MANHOLE DIAMETERS WILL BE 4' UNLESS INDICATED OTHERWISE.
- PRECAST CONCRETE SPACERS OR BRICK MASONRY COLLAR SHALL BE INSTALLED BETWEEN THE CAST IRON FRAME AND THE CONCENTRIC CONE. THE COLLAR WILL HAVE 8" WALLS AND A VERTICAL HEIGHT OF 6" MINIMUM AND 18" MAXIMUM. A 1" COAT OF MORTAR WILL BE PLASTERED ON THE OUTSIDE OF THE COLLAR. THE USE OF PRE-CAST CONCRETE SPACERS FOR MANHOLE TOP ADJUSTMENT IS ALSO ALLOWED.
- THE FULL DIAMETER OF THE MANHOLE SHALL EXTEND THE ENTIRE DEPTH OF THE MANHOLE TO THE CONE SECTION. NO REDUCTION IN MANHOLE DIAMETER WILL BE ALLOWED.
- REFER TO PLANS FOR SIZE OF OUTSIDE DROP RISER, SADDLES AND CROSS.



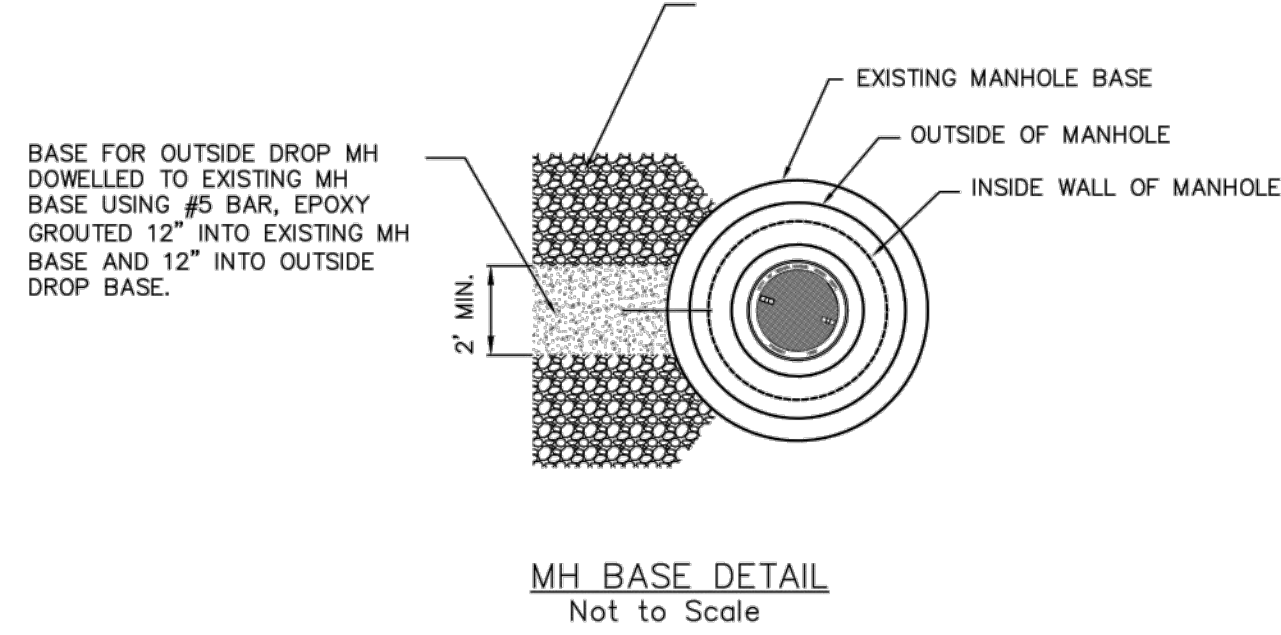
| SANITARY SEWER MANHOLE DIAMETERS | | |
|----------------------------------|----------|-----------|
| DIAMETER | DEPTH | PIPE SIZE |
| 4' | 0'-15' | 8"-18" |
| 5' | >15'-30' | 21"-30" |
| 6' | >30' | 36"-60" |



RISER PIPE RESTRAINING ASSEMBLY
Not to Scale



CLEANOUT RISERS BOX DETAIL
Not to Scale



MH BASE DETAIL
Not to Scale

REVISED JANUARY 2015

CITY OF WICHITA

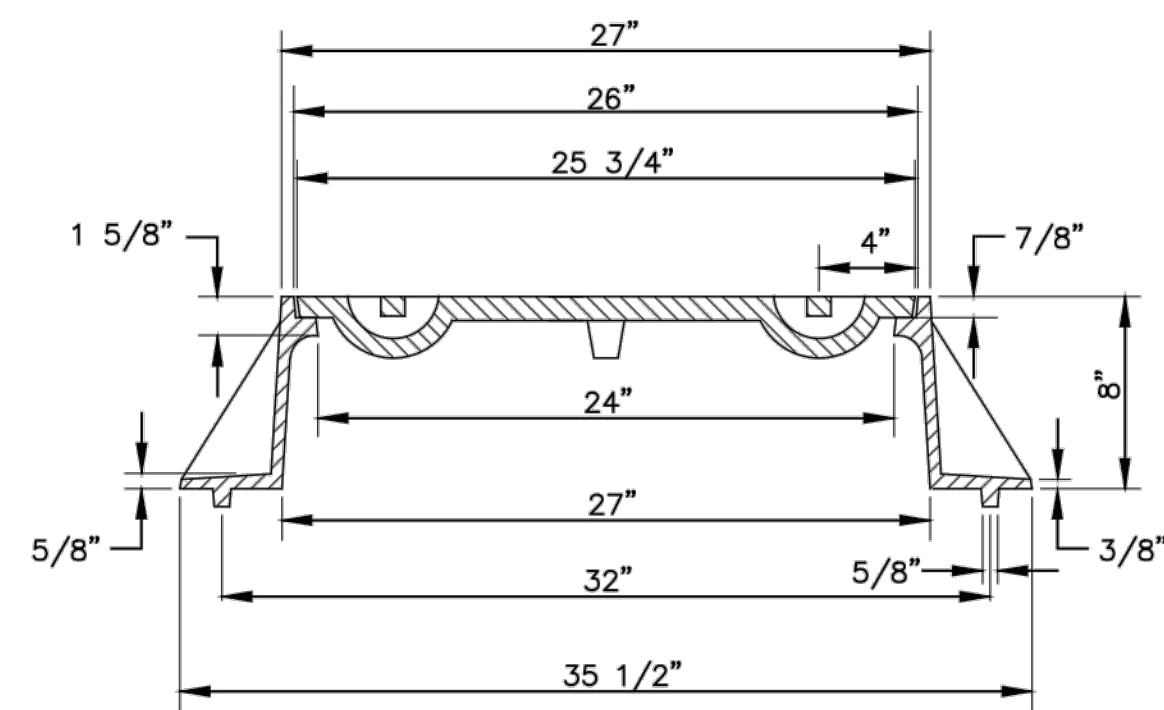
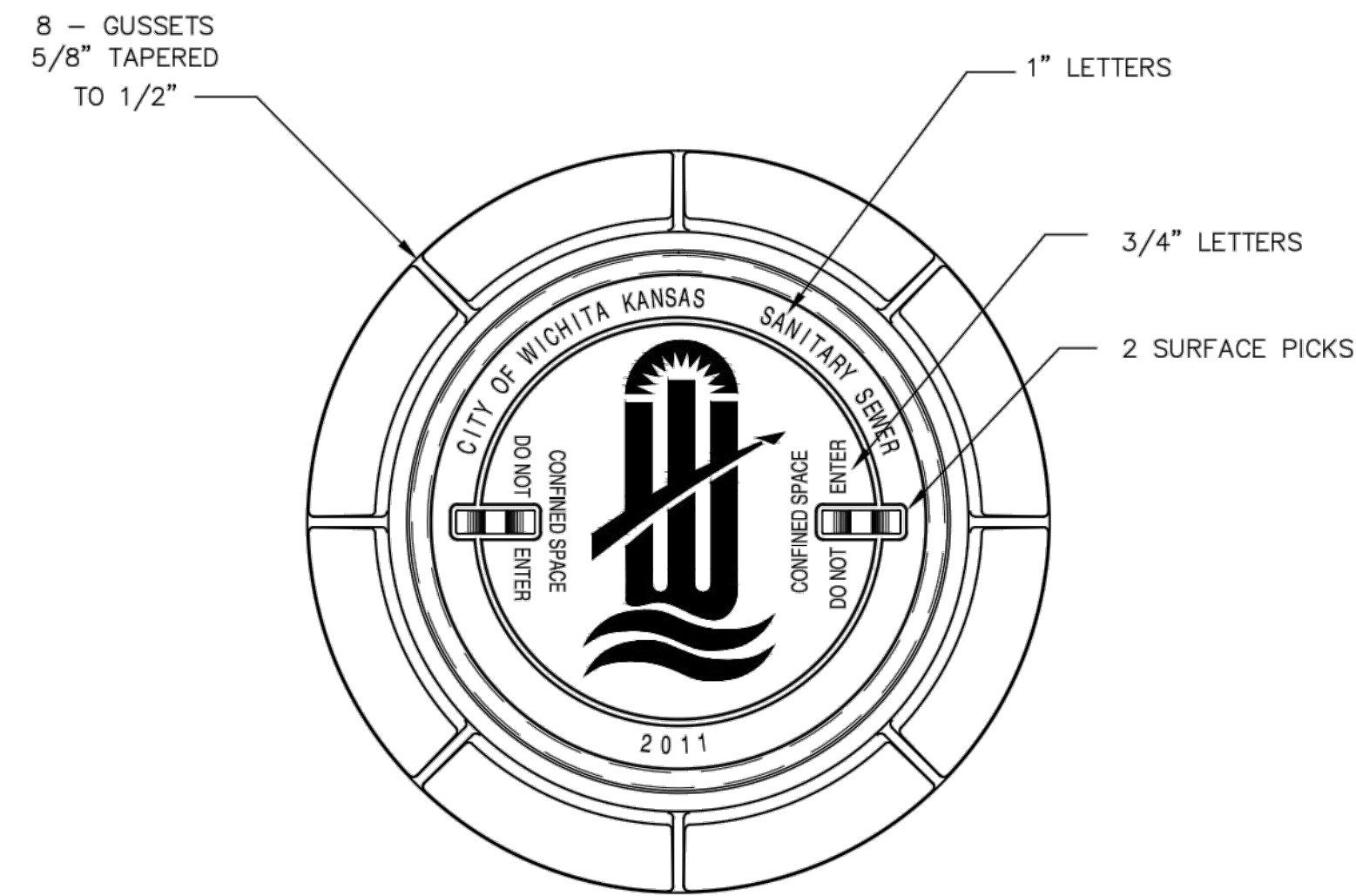
PUBLIC WORKS & UTILITIES
ENGINEERING DIVISION

**PRECAST
SANITARY SEWER
MANHOLE**

CITY ENGINEER
GARY JANZEN, P.E.

| | | |
|--|-----------------------------|-------------------|
| PROJECT NUMBER 468-84719 | OCA NUMBER 744389 | DATE |
| CITY ENGINEER'S OFFICE CITY HALL - SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202-1620 (316) 268-4501 | | SHEET 4 |

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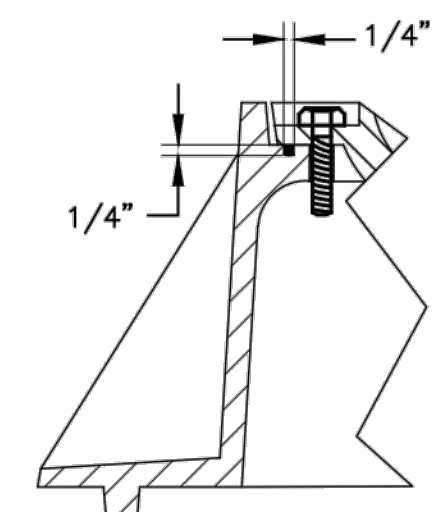
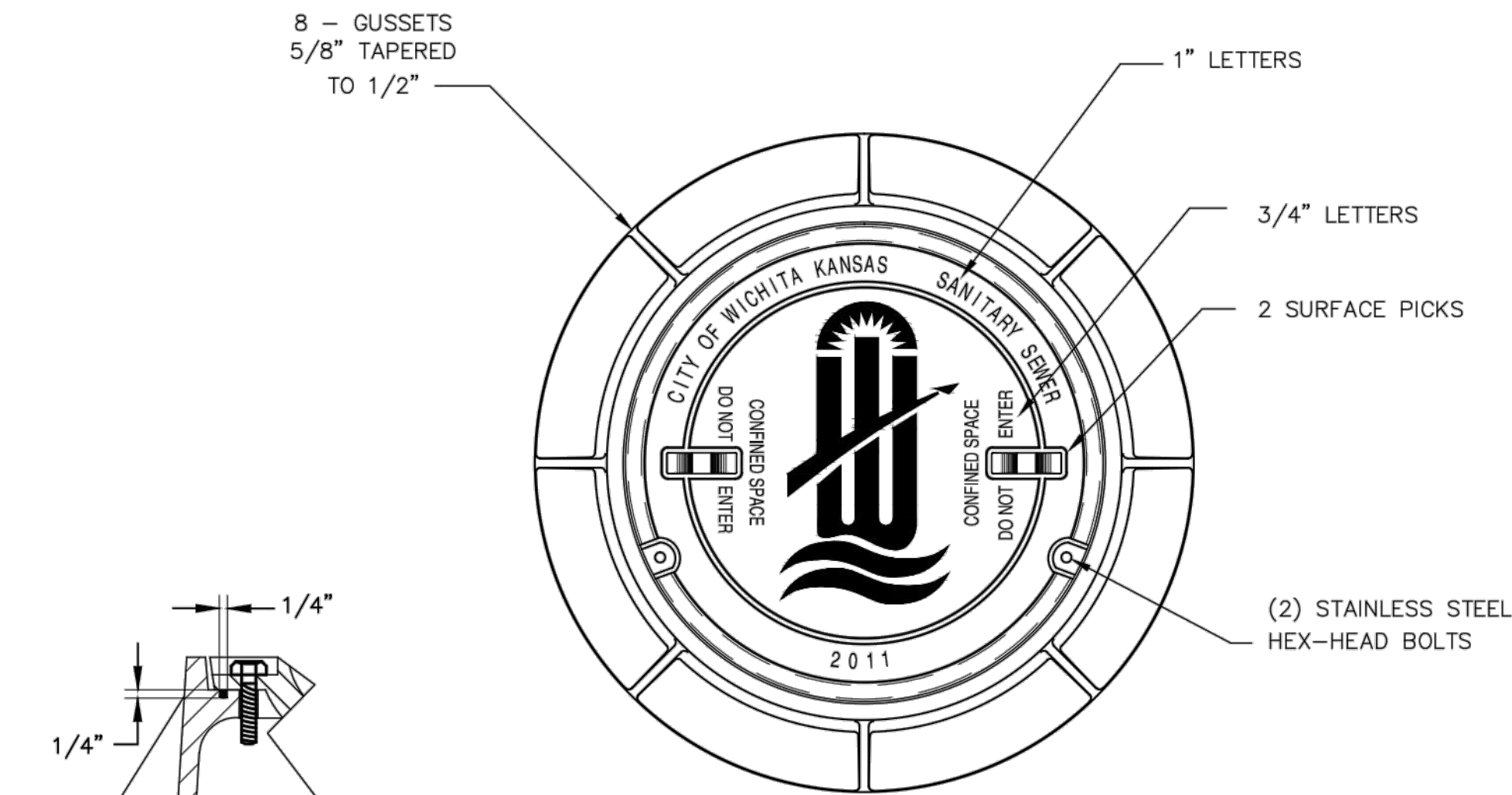


STANDARD MANHOLE FRAME & COVER

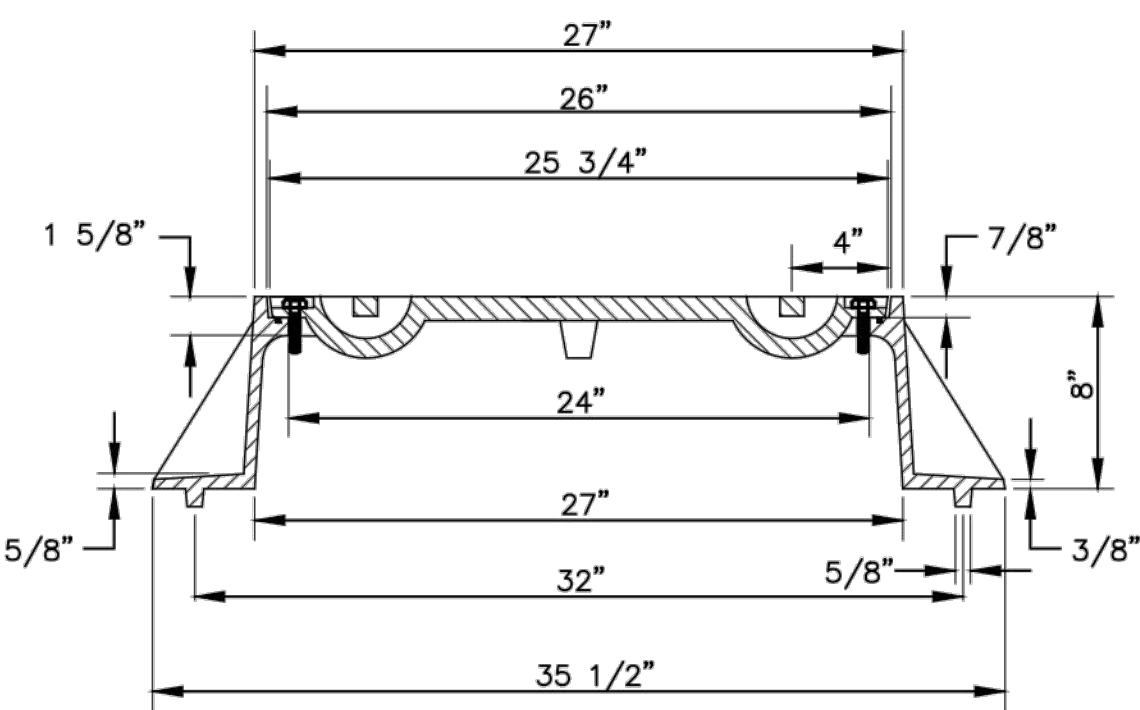
DEETER #1261 OR EJIW #1936-Z1

NOTE:

1. FURNISHED WITH MACHINED HORIZONTAL BEARING SURFACE.



DETAIL OF T-GASKET

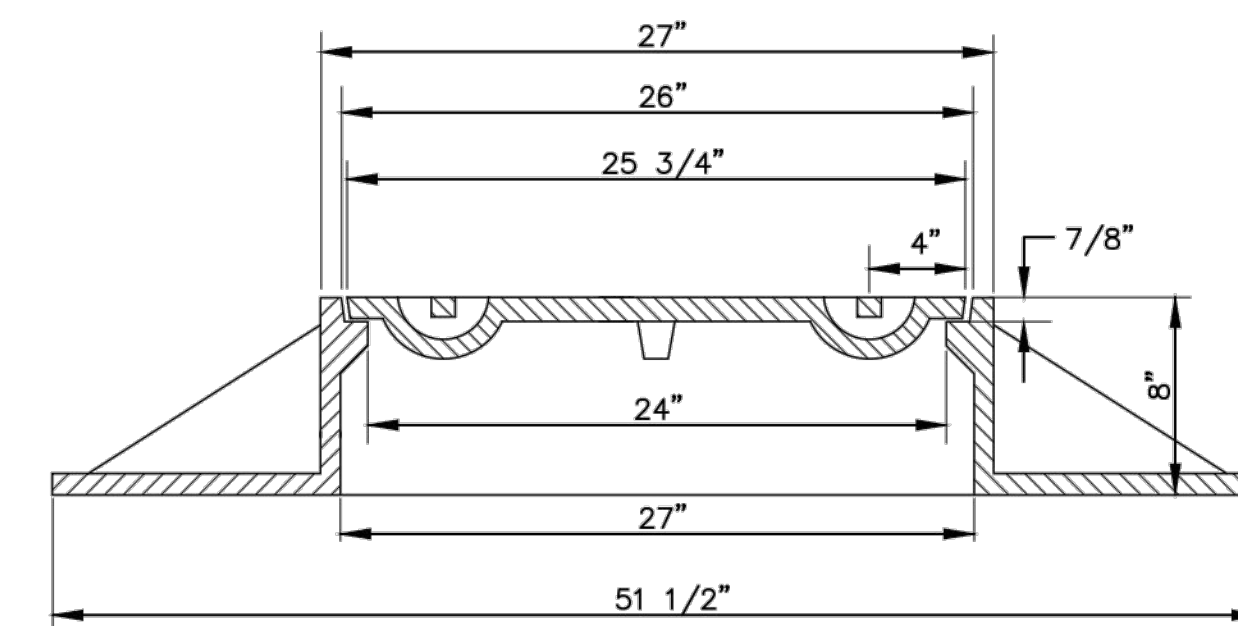
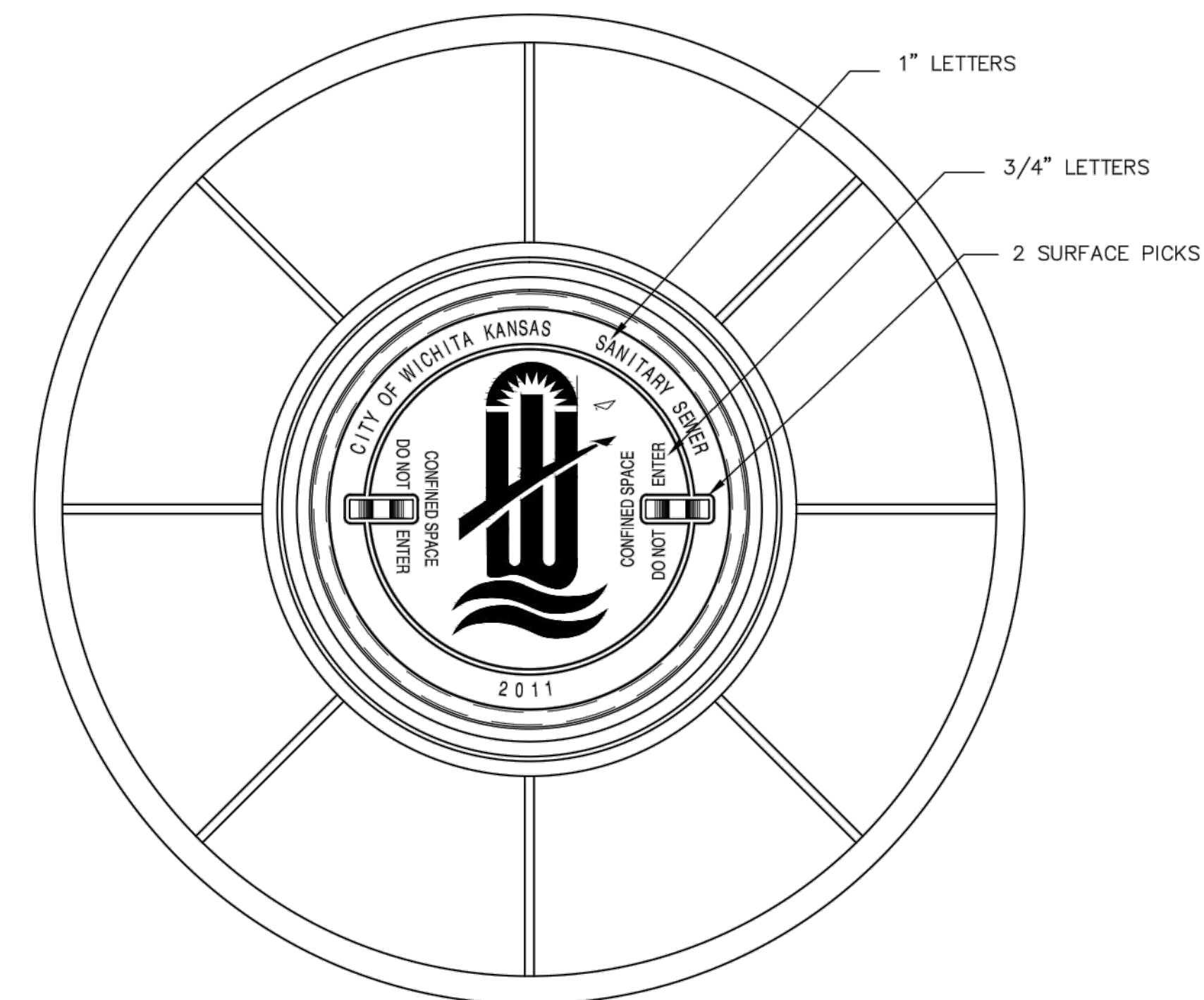


BOLT DOWN MANHOLE FRAME & COVER

DEETER #1261 OR EJIW #1936-Z1

NOTE:

1. FURNISHED WITH MACHINED HORIZONTAL BEARING SURFACE.
2. FURNISHED WITH A T-GASKET IN THE FRAME.



WIDE FLANGED FRAME & COVER

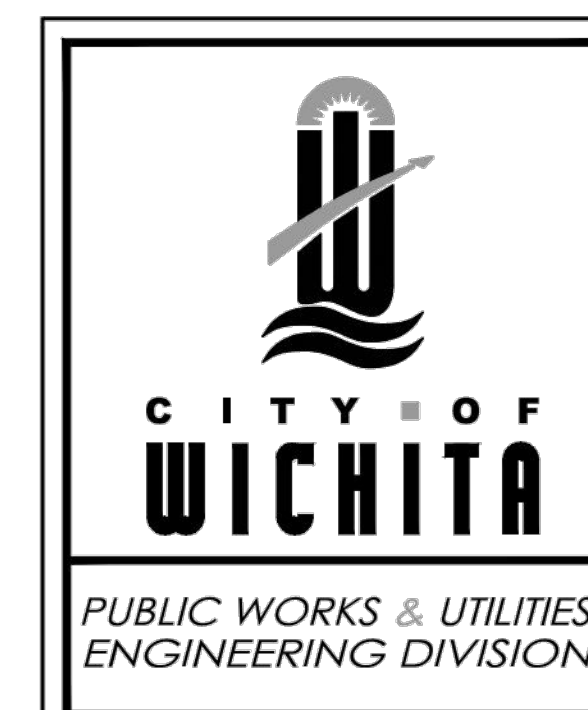
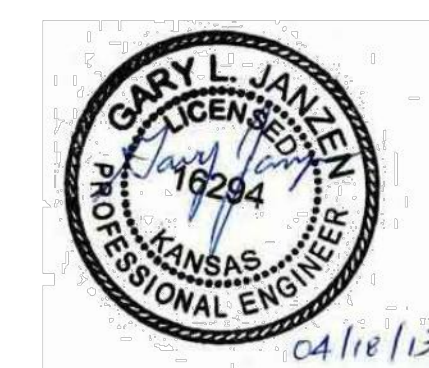
DEETER #1261A

NOTE:

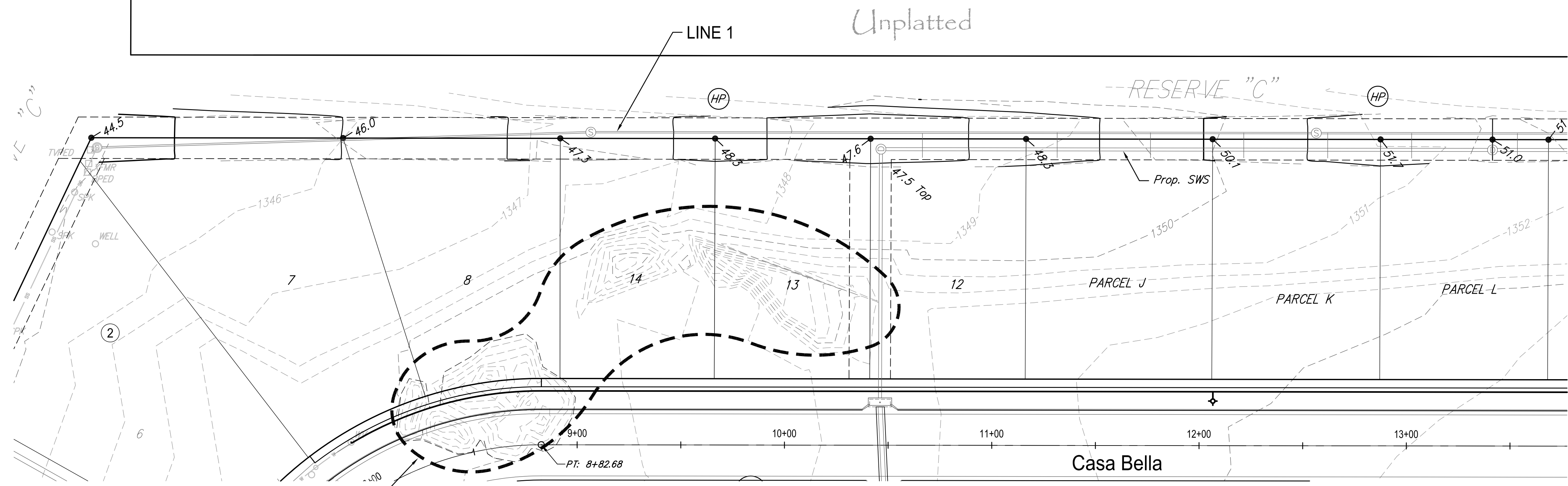
1. FURNISHED WITH MACHINED HORIZONTAL BEARING SURFACE.

GENERAL NOTES

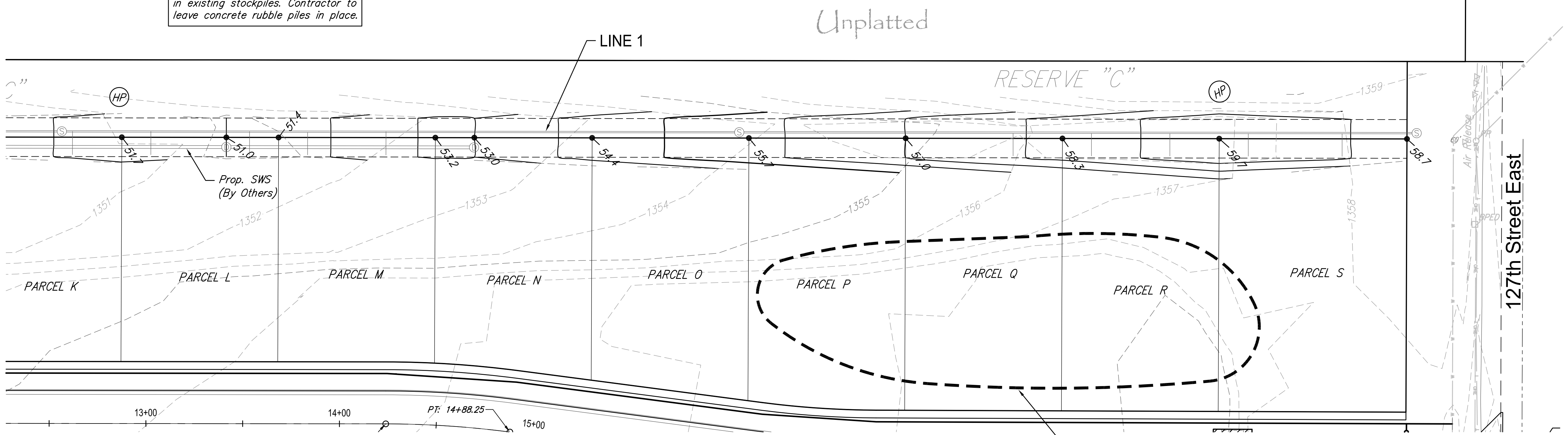
1. MANHOLE CASTINGS SHALL BE MANUFACTURED USING GOOD QUALITY GRAY IRON CONFORMING TO CLASS 30 OF A.S.T.M. DESIGNATION A-48. DIMENSIONS SHOWN ON THE DETAILED DRAWINGS SHALL BE CONSIDERED AS MINIMUM REQUIREMENTS AND ANY DEVIATIONS FROM THE DIMENSIONS SHOWN MUST BE SPECIFICALLY APPROVED. THE FINISHED CASTINGS SHALL BE OF UNIFORM QUALITY, FREE FROM BLOWHOLES, POROSITY, HARD SPOTS, SHRINKAGE DISTORTIONS OR OTHER DEFECTS.
2. MANHOLE CASTINGS SHALL BE MANUFACTURED SUCH THAT A COVER MANUFACTURED BY ANY ONE FOUNDRY WILL FIT INTERCHANGEABLY INTO A FRAME MANUFACTURED BY ANOTHER FOUNDRY AND STILL MEET ALLOWABLE CLEARANCES AND NON-ROCKING REQUIREMENTS. THIS WILL REQUIRE MANUFACTURING OF THE MATCHING FACES ON THE COVER AND THE FRAME TO CLOSE TOLERANCES.
3. THE OUTSIDE CIRCUMFERENCE OF THE VERTICAL FACE OF THE COVER AND THE INSIDE CIRCUMFERENCE OF THE VERTICAL FACE IN THE FRAME RECESS SHALL BE MANUFACTURED TO TOLERANCES SUCH THAT THE CLEARANCE BETWEEN THE COVER AND FRAME WILL NOT EXCEED 1/8" AT ANY POINT AROUND THE CIRCUMFERENCE OF THE COVER. THE SEATING SURFACES BETWEEN THE COVER AND FRAME SHALL BE MACHINED SUCH THAT THESE SEATING SURFACES SHALL MAKE FULL CONTACT FOR THEIR FULL CIRCUMFERENCE TO PRECLUDE THE COVER FROM ROCKING IN THE FRAME.
4. THE MANHOLE FRAME AND COVER SHALL BE MARKED WITH LETTERING INDICATING THE NAME OF THE MANUFACTURER AND THE YEAR WHEN THE COVER OR FRAME WAS CAST. THE COVER SHALL BE FURTHER IDENTIFIED WITH REGARDS TO OWNERSHIP USING LETTERS AT LEAST 1 INCH IN HEIGHT. THIS IDENTIFICATION SHALL BE "CITY OF WICHITA SANITARY SEWER". THE TOP SURFACE OF THE COVER SHALL BE MANUFACTURED IN WITH CITY OF WICHITA DESIGN AS INDICATED ON THE DRAWINGS. SMOOTH BLOCKOUTS SHALL BE UTILIZED TO HIGHLIGHT THE LETTERING ON THE COVER SURFACE. THE TOTAL AREA OF SMOOTH SURFACE BLOCKOUT SHALL NOT EXCEED THE AREA AS INDICATED ON THE DRAWING. POSITIONING OF SMOOTH BLOCKOUTS AND LETTERING MAY VARY FROM THAT SHOWN ON THE DETAILED DRAWING.



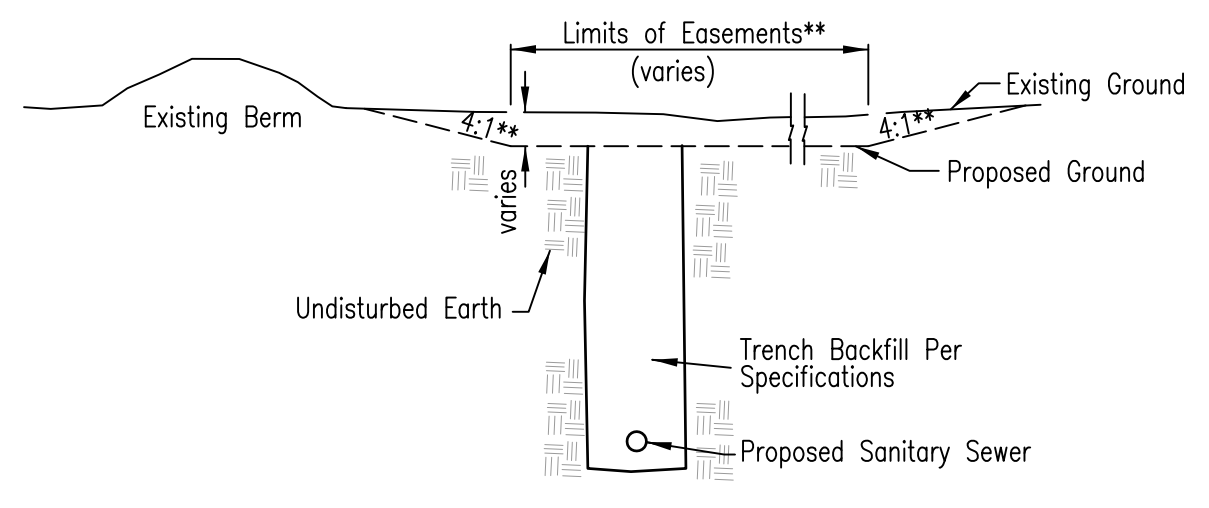
| | | |
|--|----------------------|-----------------|
| MANHOLE FRAME AND COVER (SANITARY SEWER) | | |
| CITY ENGINEER GARY JANZEN, P.E. | | |
| PROJECT NUMBER 468-84719 | OCA NUMBER 744389 | DATE 12/2011 |
| CITY ENGINEER'S OFFICE CITY HALL - SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202-1620 (316) 268-4501 | | SHEET 5 |
| | | 19 |



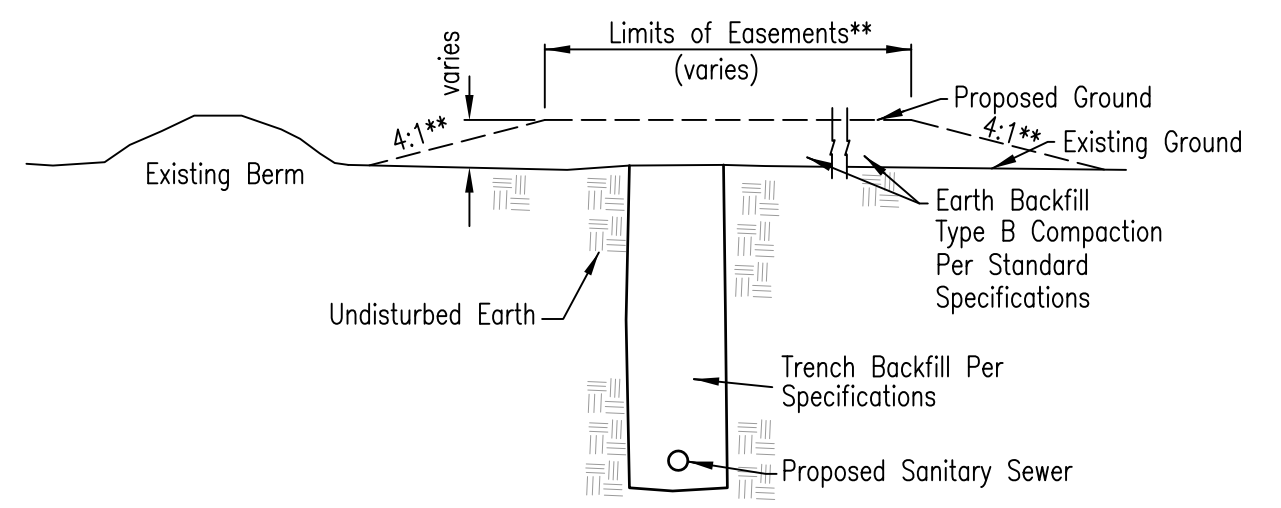
Fill for easement grading available in existing stockpiles. Contractor to leave concrete rubble piles in place.



Fill for easement grading may be scraped from this area.



TYPICAL SECTION
"CUT" SITUATIONS

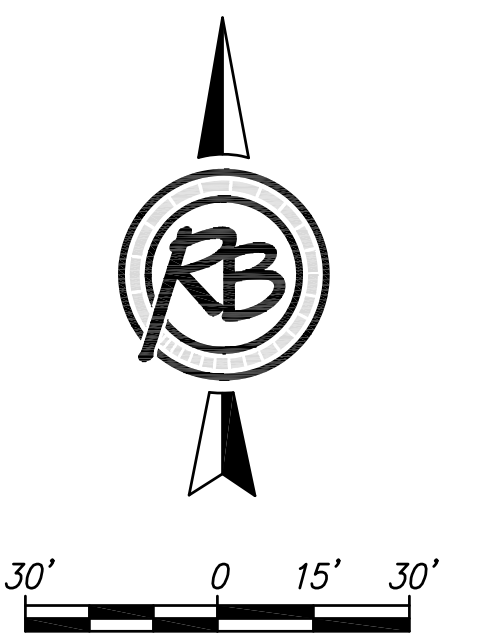


TYPICAL SECTION
"FILL" SITUATIONS

EASEMENT GRADING DETAILS
(Looking East)

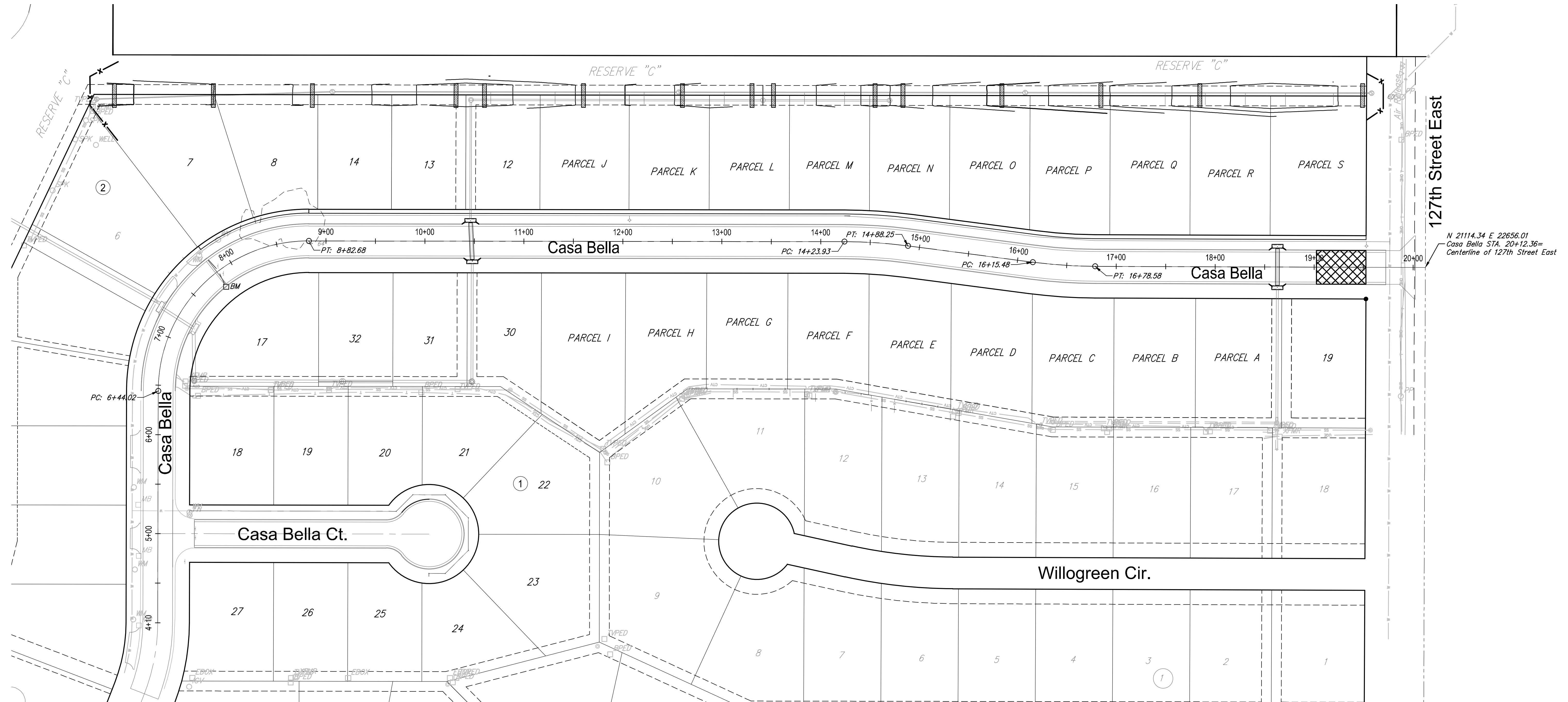
**Graded widths and slopes may vary as approved by the Engineer to minimize conflict with existing trees.

| Earthwork Quantities | | |
|----------------------|--------------|--------------|
| Cut | Fill | Net |
| 116 Cu. Yds. | 906 Cu. Yds. | 790 Cu. Yds. |

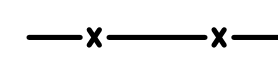
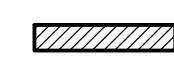
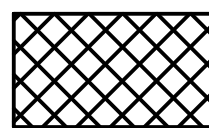


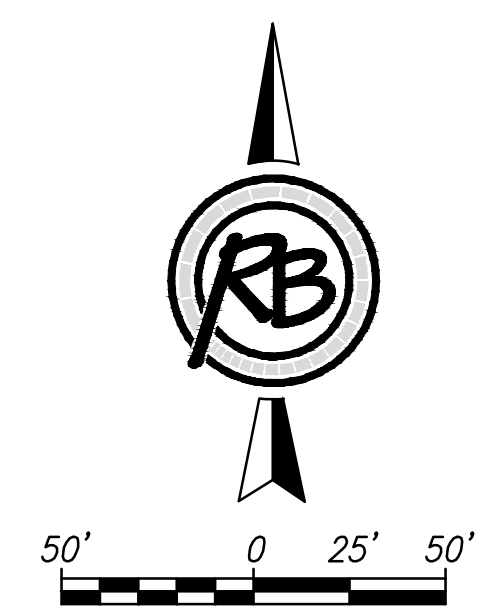
Casa Bella 3rd - Phase 2
SS-Easement Grading Plan



| | | | |
|---|---|-------------------|--------------------------------------|
| | RUGGLES & BOHM | | DATE #### |
| | ENGINEERING SURVEYING LANDSCAPE ARCHITECTURE GOVERNMENT 924 NORTH MAIN WICHITA, KANSAS 67203 P (316) 264-8008 F (316) 264-4623 WWW.RBKANSAS.COM | | DESIGN EJG |
| PROJECT NUMBER 468-84719 | RB JOB NO. 4291E | DWG. SCALE ... | DRAWN DRS |
| DRAWING FILE 4291E Engineering Base [SS-Easement Grading Plan] | | | REVIEW . |
| | | | SHEET 7 OF 19 |

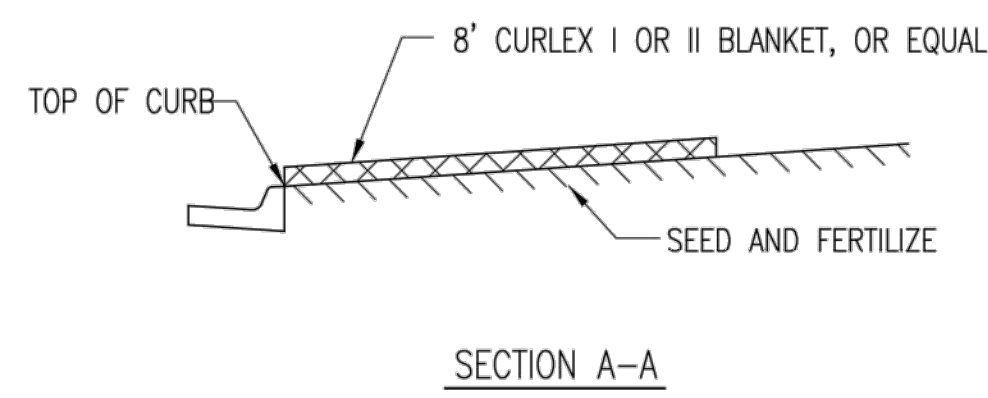
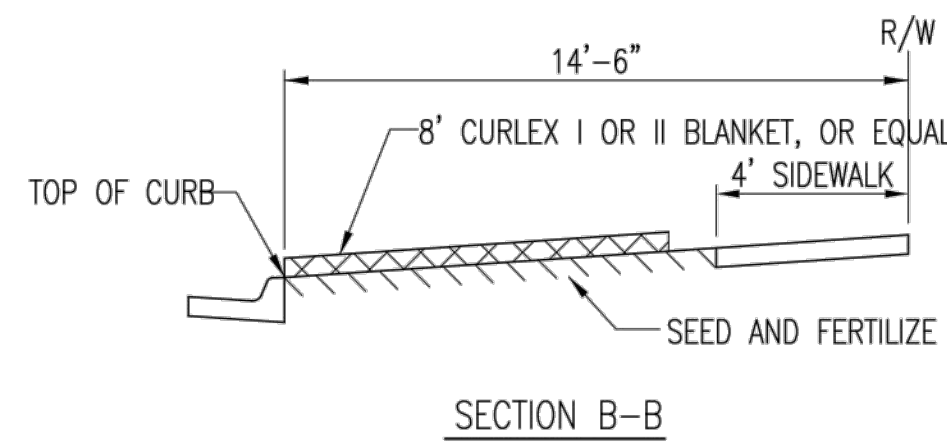


PROJECT QUANTITIES

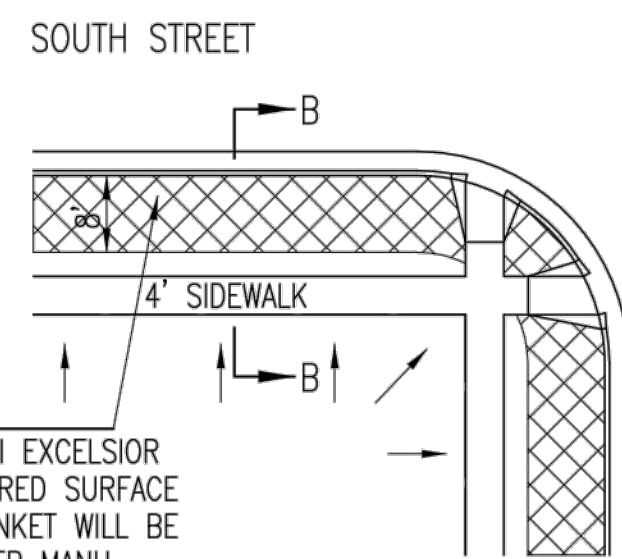
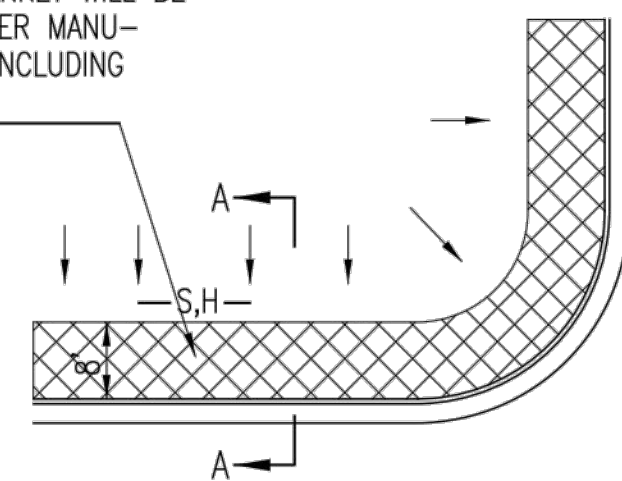
-  INSTALL Silt Fence (172 L.F.)
-  INSTALL Linear Sediment Barrier (360 L.F.)
-  INSTALL Construction Entrance



| | | | |
|---|--|--|--|
| Casa Bella 3rd - Phase 2 Erosion Control Plan | | | |
|  |  RUGGLES & BOHM <small>ENGINEERING SURVEYING LANDSCAPE ARCHITECTURE GOVERNMENT</small> <small>924 NORTH MAIN WICHITA, KANSAS 67203 P (316) 264-8008 F (316) 264-4621 WWW.RUGGLESANDBOHM.COM</small> | <small>DATE</small> #### <small>DESIGN</small> EJG <small>DRAWN</small> DRS <small>REVIEW</small> . <small>SHEET</small> 8 <small>OF</small> 19 | |
| <small>PROJECT NUMBER</small> 468-84719 <small>DRAWING FILE</small> | <small>WB JOB NO.</small> 4291E <small>DWG. SCALE</small> 1" = 50' | <small>4291E Engineering Base [Erosion Control Plan]</small> | |



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 MANUFACTURERS RECOMMENDATION, INCLUDING STAPLES. (SEE DETAIL)

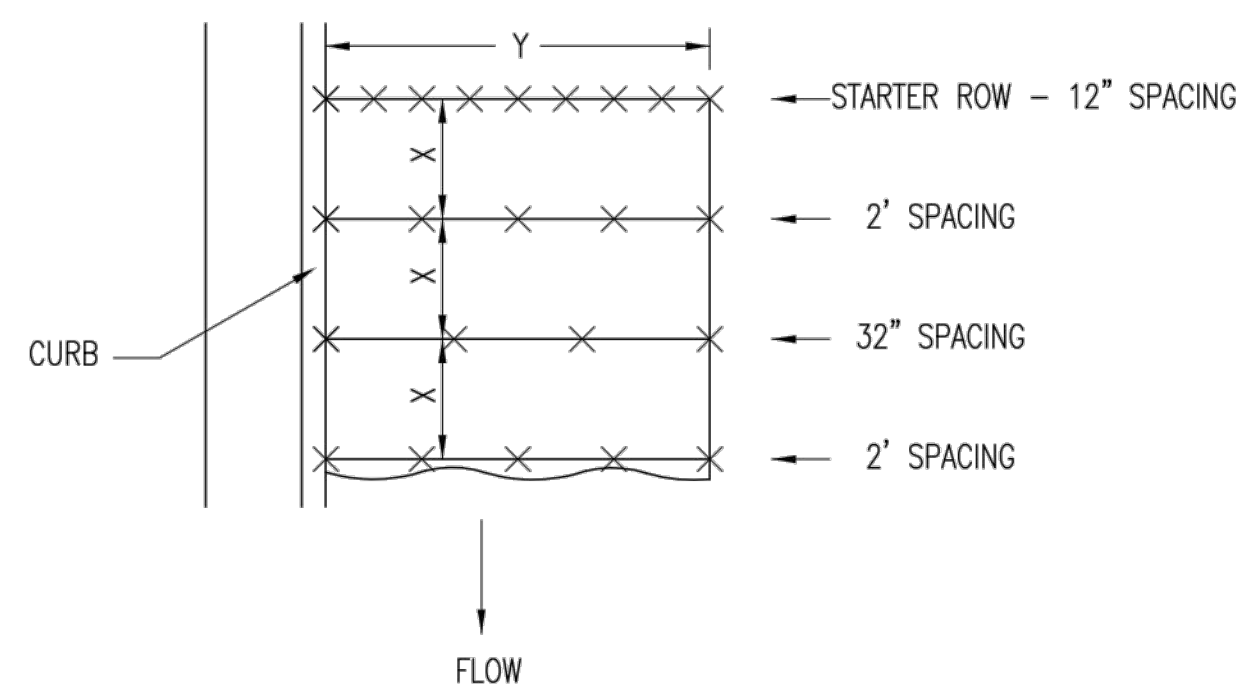


INSTALL 8' WIDE CURLEX I OR II EXCELSIOR BLANKET, OR EQUAL, ON PREPARED SURFACE BACK OF CURB. EDGE OF BLANKET WILL BE AT BACK OF CURB. INSTALL PER MANUFACTURERS RECOMMENDATION, INCLUDING STAPLES. (SEE DETAIL)

GENERAL NOTES

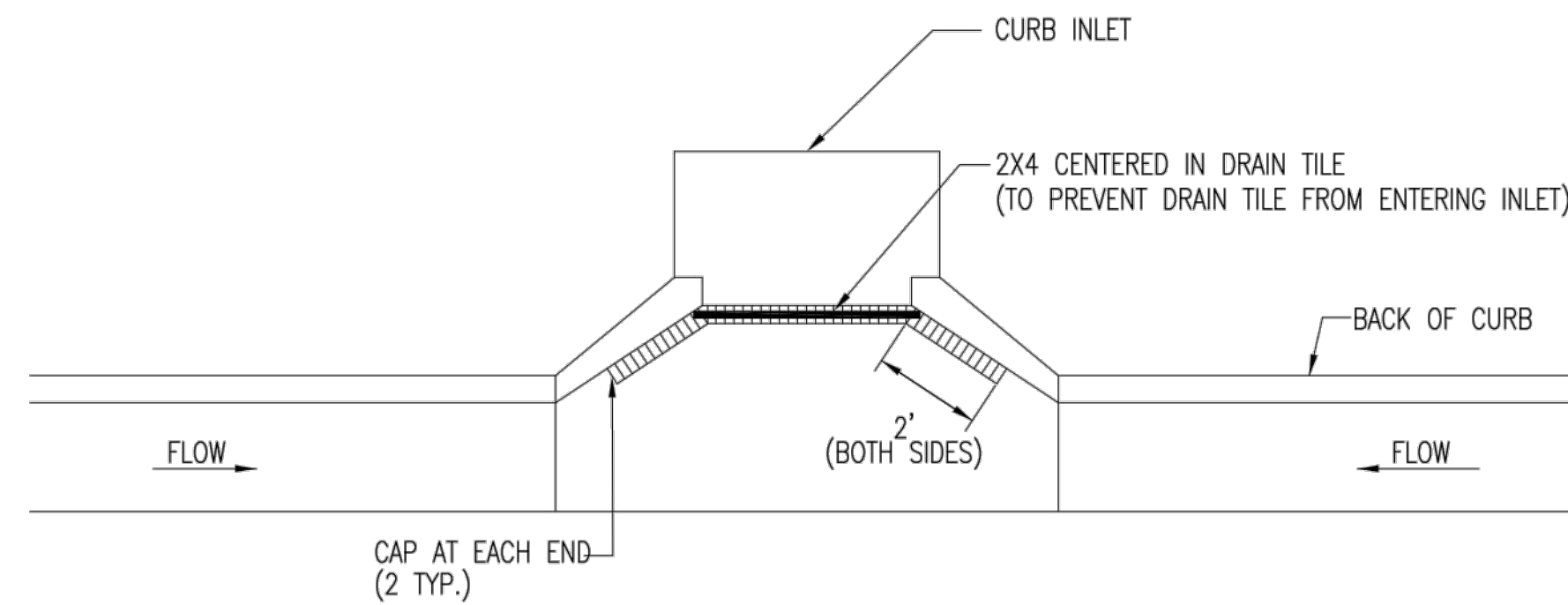
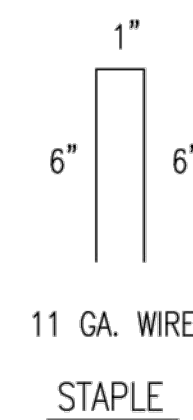
- EXCELSIOR MAT TO BE INSTALLED WHEN SOD IS NOT SPECIFIED ON PROJECT.
- EXCELSIOR BLANKET TO BE INSTALLED OVER SEED AND FERTILIZER, AS SPECIFIED IN THE PROJECT SPECIFICATIONS.
- AFTER INSTALLATION OF EXCELSIOR BLANKET, AT LOCATIONS WHERE CONCENTRATED FLOW CARRIES SEDIMENT OVER THE CURB AND INTO THE GUTTER,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

BACK OF CURB PROTECTION DETAIL



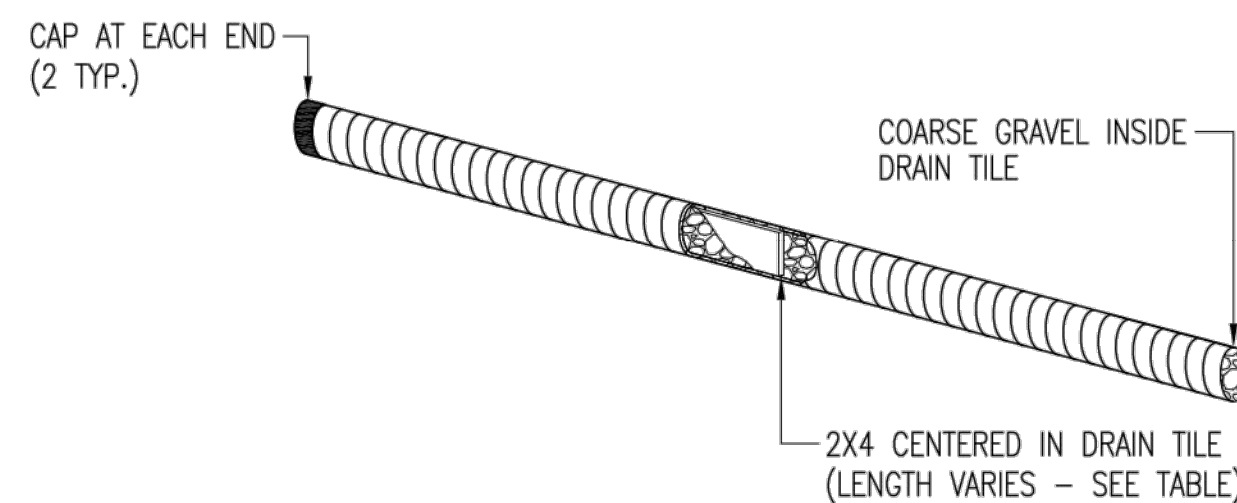
NOTES: USE 6" SEAM OVERLAP
(X & Y = RECOMMENDED BY MANUFACTURE)

DETAILS FOR APPROVED EROSION CONTROL MAT

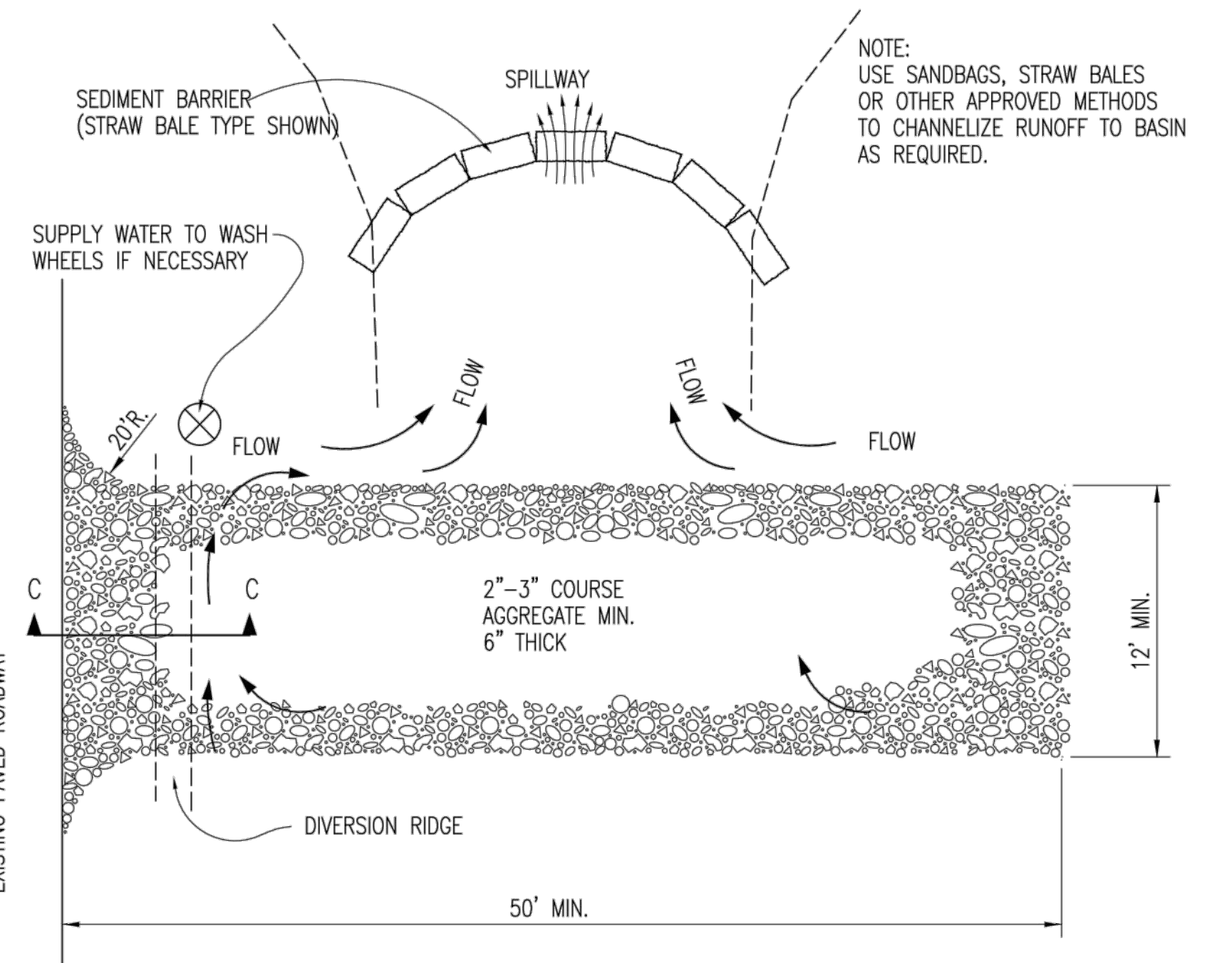
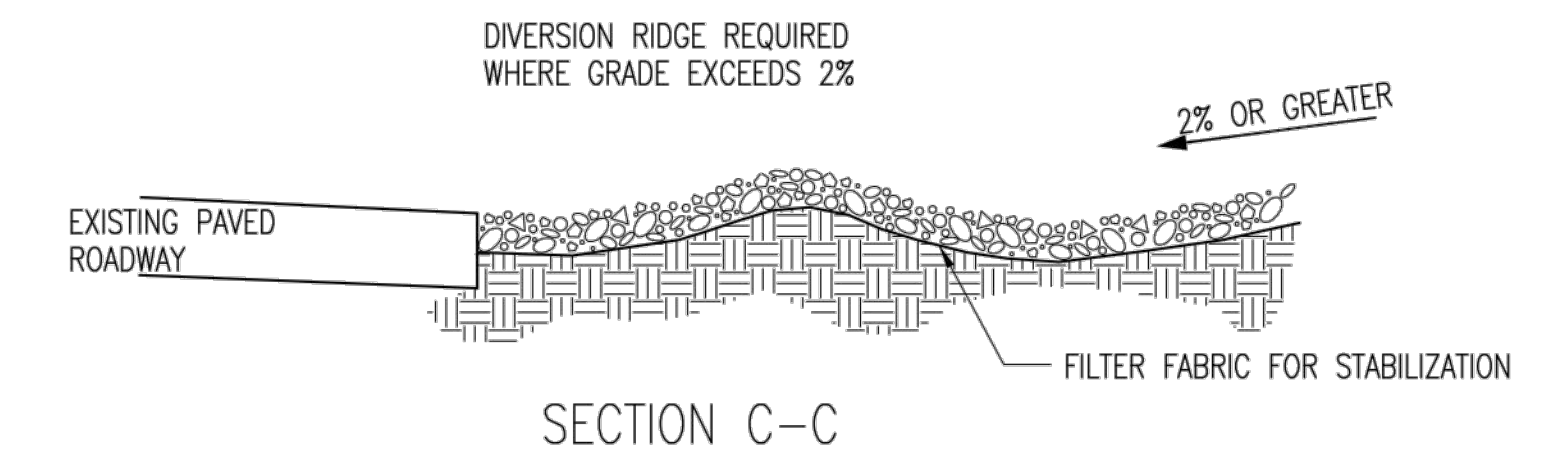


NOTE: PLACE 4" PERFORATED PVC PIPE, FILLED WITH 1/2"-1" DIA. GRAVEL, IN FRONT OF CURB INLET AS SHOWN.

| 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



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.

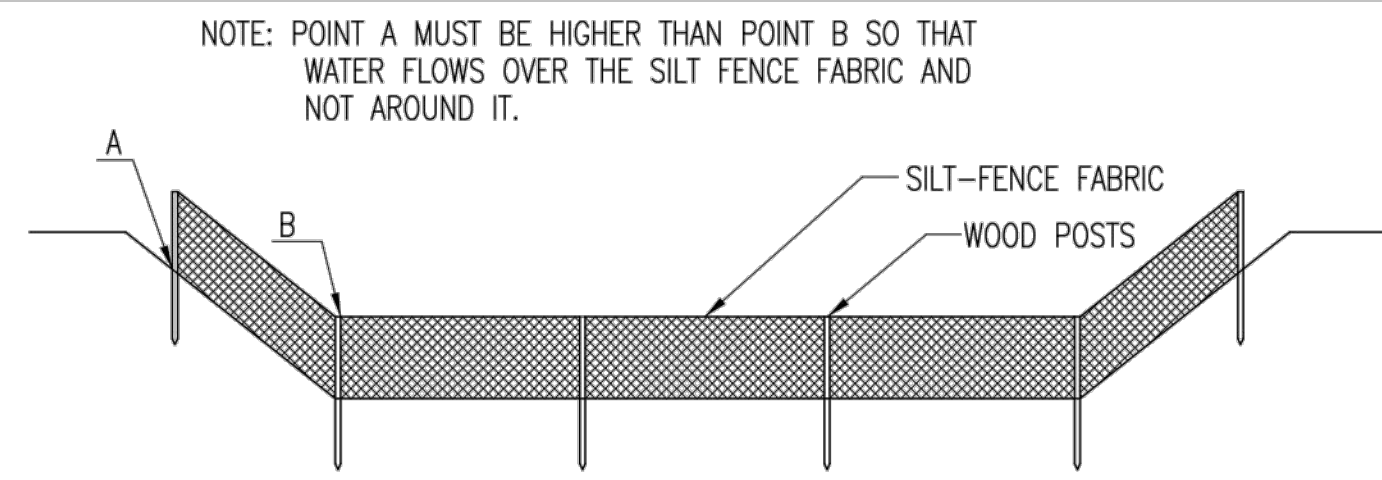


CITY OF WICHITA
PUBLIC WORKS & UTILITIES
ENGINEERING DIVISION

**BACK OF CURB PROTECTION,
CURB INLET PROTECTION AND
CONSTRUCTION ENTRANCE**

| | | |
|--|----------------------|-------------------------|
| CITY ENGINEER GARY JANZEN, P.E. | | |
| PROJECT NUMBER 468-84719 | OCA NUMBER 744389 | DATE |
| CITY ENGINEER'S OFFICE CITY HALL - SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202-1620 (316) 268-4501 | | SHEET 9 19 |

REVISION DATE: MAY 2013



ELEVATION
SILT FENCE DITCH CHECKS
(STREAM PROTECTION)

MATERIAL SPECIFICATION:

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

PLACEMENT:

PLACE SILT FENCE IN DITCHES WHERE IT IS UNLIKELY THAT IT WILL BE OVERTOPPED. WATER SHOULD FLOW THROUGH A SILT FENCE DITCH CHECK, NOT OVER IT. SILT FENCE DITCH CHECKS OFTEN FAIL WHEN OVERTOPPED. SILT FENCE DITCH CHECKS SHOULD BE PLACED PERPENDICULAR TO THE FLOWLINE OF THE DITCH. THE SILT FENCE SHOULD EXTEND FAR ENOUGH SO THAT THE GROUND LEVEL AT THE ENDS OF THE FENCE IS HIGHER THAN THE TOP OF THE LOW POINT OF THE FENCE. THIS PREVENTS WATER FROM FLOWING AROUND THE CHECK. SILT FENCE DITCH CHECKS SHOULD NOT BE PLACED IN DITCHES WHERE HIGH FLOWS ARE EXPECTED. ROCK CHECKS SHOULD BE USED INSTEAD. SILT FENCE SHOULD BE PLACED IN DITCHES WITH SLOPES OF 6% OR LESS. FOR SLOPES STEEPER THAN 6%, ROCK CHECKS SHOULD BE USED.

THE FOLLOWING TABLE PROVIDES CHECK SPACING FOR A GIVEN DITCH GRADE:

| DITCH CHECK DITCH GRADE (%) | SPACING CHECK SPACING (FEET) |
|-----------------------------------|---------------------------------------|
| 0.5 | 200 |
| 1.0 | 200 |
| 2.0 | 100 |
| 3.0 | 65 |
| 4.0 | 50 |
| 5.0 | 40 |
| 6.0 | 30 |

PROPER INSTALLATION METHOD:

EXCAVATE A TRENCH PERPENDICULAR TO THE DITCH FLOWLINE THAT IS AT LEAST 12" DEEP BY 6" WIDE. EXTEND THE TRENCH IN A STRAIGHT LINE ALONG THE ENTIRE LENGTH OF THE PROPOSED DITCH CHECK. PLACE THE SOIL ON THE UPSTREAM SIDE OF THE TRENCH FOR LATER USE. ROLL OUT A CONTINUOUS LENGTH OF SILT FENCE FABRIC ON THE DOWNSTREAM SIDE OF THE TRENCH. PLACE THE EDGE OF THE FABRIC IN THE TRENCH STARTING AT THE TOP UPSTREAM EDGE OF THE TRENCH. LINE TWO SIDES OF THE TRENCH WITH THE FABRIC AS SHOWN ON DETAIL. BACKFILL OVER THE FABRIC IN THE TRENCH WITH THE EXCAVATED SOIL AND COMPACT. AFTER FILLING THE TRENCH, APPROXIMATELY 24" TO 36" OF SILT FENCE FABRIC SHOULD REMAIN EXPOSED. LAY THE EXPOSED SILT FENCE ON THE UPSTREAM SIDE OF THE TRENCH TO CLEAR AN AREA FOR DRIVING IN THE POSTS. JUST DOWNSTREAM OF THE TRENCH, DRIVE POSTS INTO THE GROUND TO A DEPTH OF AT LEAST 24". PLACE POSTS NO MORE THAN 4' APART. ATTACH THE SILT FENCE TO THE ANCHORED POST WITH STAPLES, WIRE, ZIP TIES, OR NAILS.

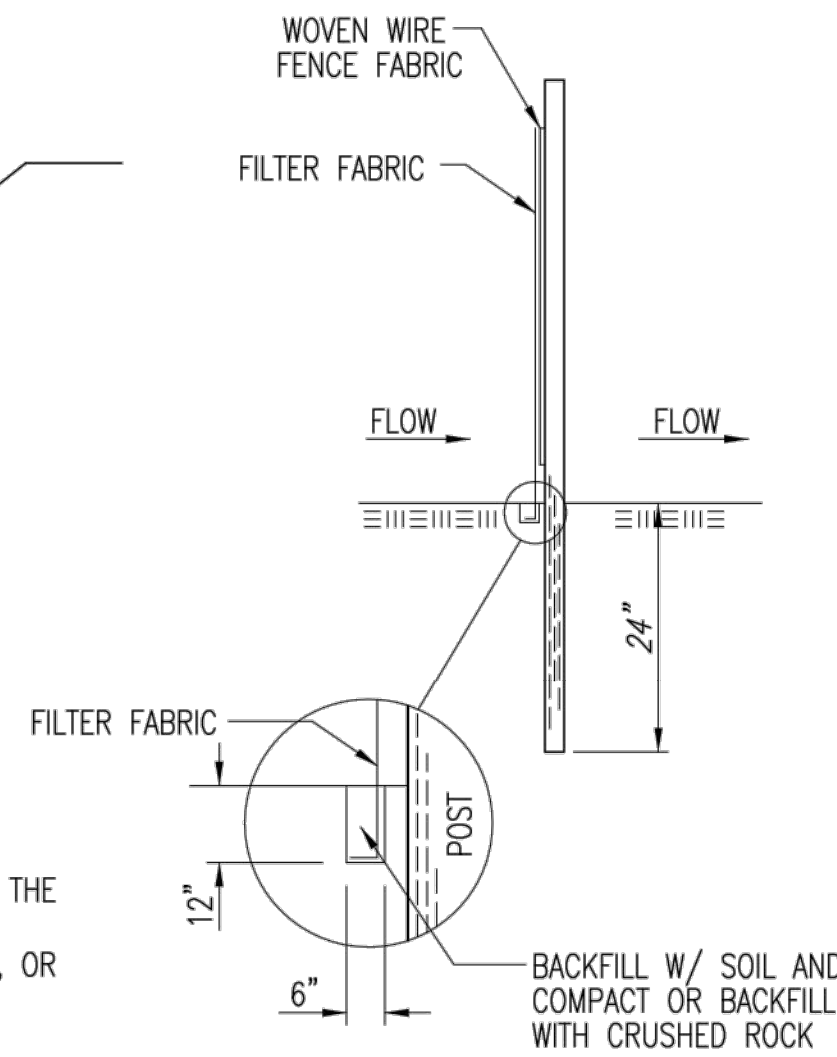
LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

WATER SHOULD FLOW THROUGH A SILT FENCE DITCH CHECK—NOT OVER IT. PLACE SILT FENCE IN DITCHES WHERE IT IS UNLIKELY THAT IT WILL BE OVERTOPPED. SILT FENCE INSTALLATIONS QUICKLY DETERIORATE WHEN WATER OVERTOPS THEM. DO NOT PLACE SILT FENCE POSTS ON THE UPSTREAM SIDE OF THE SILT FENCE FABRIC. IN THIS CONFIGURATION, THE FORCE OF THE WATER IS NOT RESTRICTED BY THE POSTS, BUT ONLY BY THE STAPLES (WIRE, ZIP TIES, NAILS, ETC.). THE SILT FENCE WILL RIP AND FAIL. DO NOT PLACE A SILT FENCE DITCH CHECK DIRECTLY IN FRONT OF A CULVERT OUTLET. IT WILL NOT STAND UP TO THE CONCENTRATED FLOW. DO NOT PLACE SILT FENCE DITCH CHECKS IN DITCHES THAT WILL LIKELY EXPERIENCE HIGH FLOWS. THEY WILL NOT STAND UP TO CONCENTRATED FLOW. FOLLOW PRESCRIBED DITCH CHECK SPACING GUIDELINES. IF SPACING GUIDELINES ARE EXCEEDED, EROSION WILL OCCUR BETWEEN THE DITCH CHECKS. DO NOT ALLOW WATER TO FLOW AROUND THE DITCH CHECK. MAKE SURE THAT THE DITCH CHECK IS LONG ENOUGH SO THAT THE GROUND LEVEL AT THE ENDS OF THE FENCE IS HIGHER THAN THE LOW POINT ON THE TOP OF THE FENCE. DO NOT PLACE SILT FENCE DITCH CHECKS IN CHANNELS WITH SHALLOW SOILS UNDERLAIN BY ROCK. IF THE CHECK IS NOT ANCHORED SUFFICIENTLY, IT WILL WASH OUT.

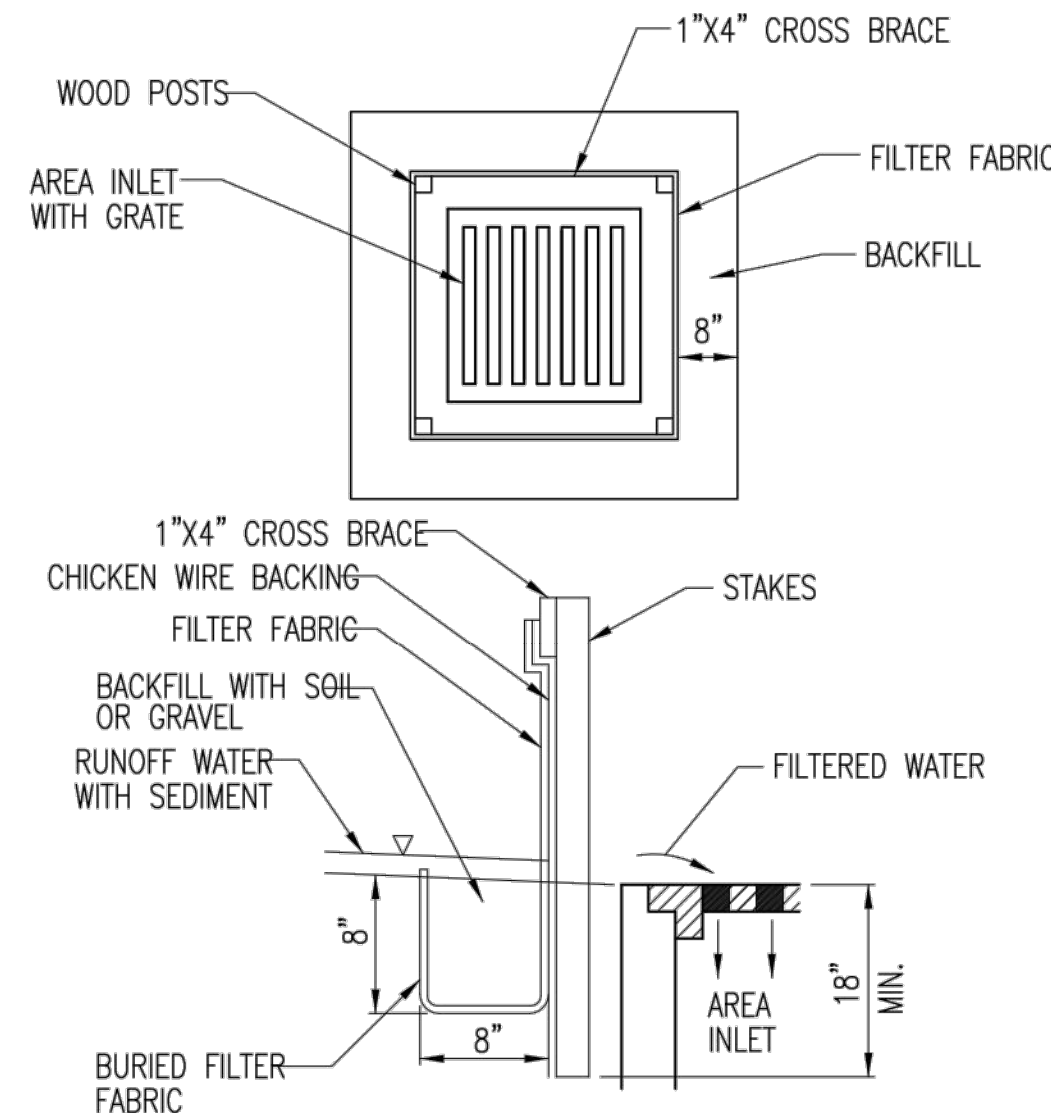
INSPECTION AND MAINTENANCE:

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

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



ANCHOR TRENCH DETAIL



SILT FENCE BARRIERS FOR AREA INLETS
(INLET PROTECTION)

MATERIAL SPECIFICATION:

SILT FENCE FABRIC SHOULD CONFORM TO THE AASHTO M288 96 SILT FENCE SPECIFICATION. THE WIRE OR POLYMERIC MESH BACKING USED TO HELP SUPPORT THE SILT FENCE FABRIC SHOULD CONFORM TO THE AASHTO M288 96 SILT FENCE SPECIFICATION. THE POSTS USED TO SUPPORT THE SILT FENCE FABRIC SHOULD BE A HARDWOOD MATERIAL WITH THE FOLLOWING MINIMUM DIMENSIONS: 2" SQUARE (NOMINAL) BY 4' LONG. THE MATERIAL USED TO FRAME THE TOPS OF THE POSTS SHOULD BE 1" BY 4" BOARDS. SILT FENCE FABRIC AND SUPPORT BACKING SHOULD BE ATTACHED TO THE WOODEN POSTS AND FRAME WITH STAPLES, WIRE, ZIP TIES, OR NAILS.

PLACEMENT:

PLACE A SILT FENCE DROP INLET BARRIER IN A LOCATION WHERE IT IS UNLIKELY TO BE OVERTOPPED. WATER SHOULD FLOW THROUGH SILT FENCE, NOT OVER IT. SILT FENCE BARRIERS FOR AREA INLETS OFTEN FAIL WHEN REPEATEDLY OVERTOPPED. WHEN USED AS A BARRIER FOR AREA INLETS, SILT FENCE FABRIC AND POSTS MUST BE SUPPORTED AT THE TOP BY A WOODEN FRAME. WHEN A SILT FENCE BARRIER FOR AREA INLETS IS LOCATED NEAR AN INLET THAT HAS STEEP APPROACH SLOPES, THE STORAGE CAPACITY BEHIND THE BARRIER IS DRASTICALLY REDUCED. TIMELY REMOVAL OF SEDIMENT MUST OCCUR FOR A BARRIER TO OPERATE PROPERLY IN THIS LOCATION.

PROPER INSTALLATION METHOD:

EXCAVATE A TRENCH AROUND THE PERIMETER OF THE AREA INLET THAT IS AT LEAST 8" DEEP BY 8" WIDE. DRIVE POSTS TO A DEPTH OF AT LEAST 18" AROUND THE PERIMETER OF THE AREA INLET. THE DISTANCE BETWEEN POSTS SHOULD BE 4' OR LESS. IF THE DISTANCE BETWEEN TWO ADJACENT CORNER POSTS IS MORE THAN 4', ADD ANOTHER POST(S) BETWEEN THEM. CONNECT THE TOPS OF ALL THE POSTS WITH A WOODEN FRAME MADE OF 1" BY 4" BOARDS. USE NAILS OR SCREWS FOR FASTENING. ATTACH THE WIRE OR POLYMERIC-MESH BACKING TO THE OUTSIDE OF THE POST/FRAME STRUCTURE WITH STAPLES, WIRE, ZIP TIES, OR NAILS. ROLL OUT A CONTINUOUS LENGTH OF SILT FENCE FABRIC LONG ENOUGH TO WRAP AROUND THE PERIMETER OF THE AREA INLET. ADD MORE LENGTH FOR OVERLAPPING THE FABRIC JOINT. PLACE THE EDGE OF THE FABRIC IN THE TRENCH, STARTING AT THE OUTSIDE EDGE OF THE TRENCH. LINE ALL THREE SIDES OF THE TRENCH WITH THE FABRIC. BACKFILL OVER THE FABRIC IN THE TRENCH WITH THE EXCAVATED SOIL AND COMPACT. AFTER FILLING THE TRENCH, APPROXIMATELY 24" TO 36" OF SILT FENCE FABRIC SHOULD REMAIN EXPOSED. ATTACH THE SILT FENCE TO THE OUTSIDE OF THE POST/FRAME STRUCTURE WITH STAPLES, WIRE, ZIP TIES, OR NAILS. THE JOINT SHOULD BE OVERLAPPED TO THE NEXT POST.

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

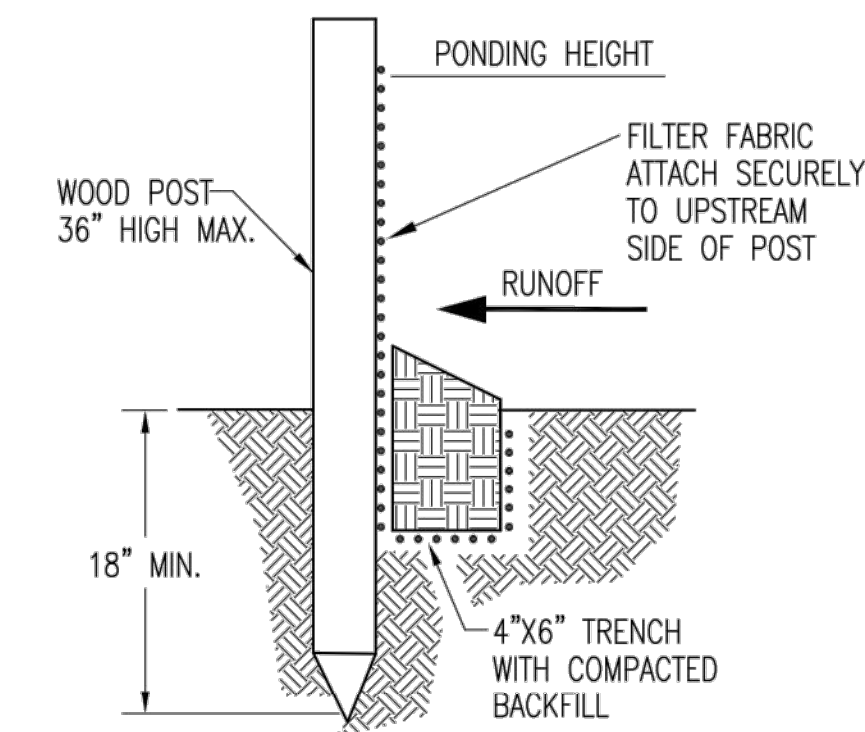
LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

WATER SHOULD FLOW THROUGH A SILT FENCE BARRIER FOR AREA INLET—NOT OVER IT. PLACE A SILT FENCE BARRIER FOR AREA INLET IN A LOCATION WHERE IT IS UNLIKELY TO BE OVERTOPPED. SILT FENCE BARRIER FOR AREA INLETS OFTEN FAIL WHEN REPEATEDLY OVERTOPPED. DO NOT PLACE POSTS ON THE OUTSIDE OF THE SILT FENCE BARRIER FOR AREA INLET. IN THIS CONFIGURATION, THE FORCE OF THE WATER IS NOT 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.

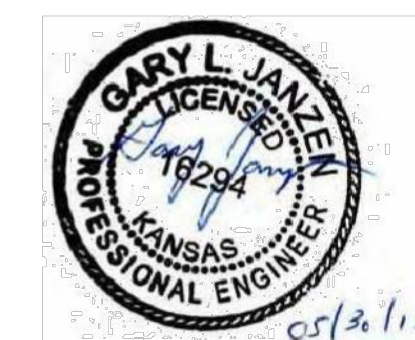
LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

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.

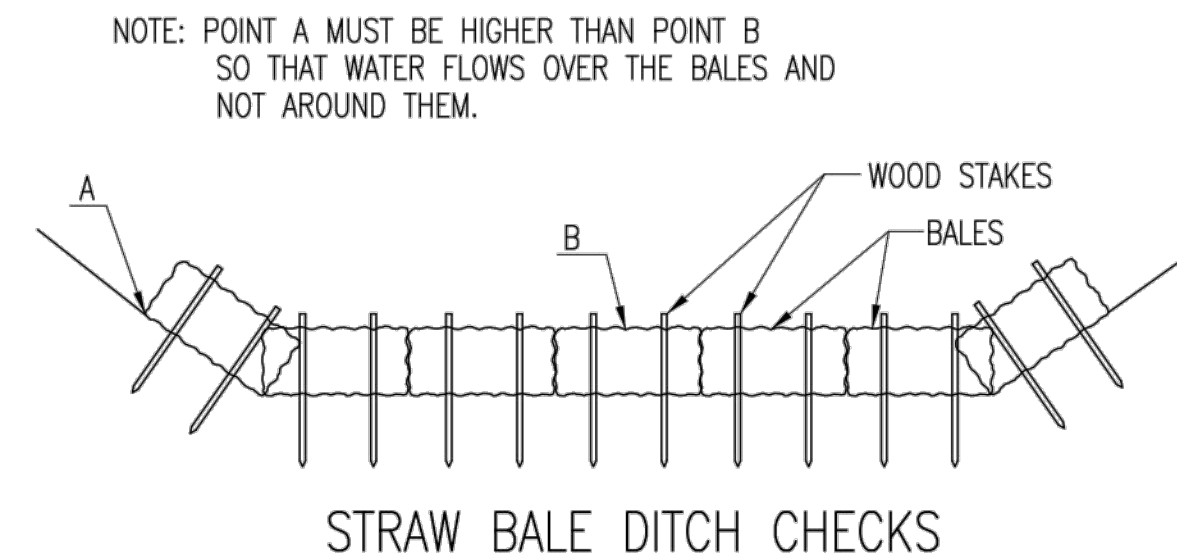
INSPECTION AND MAINTENANCE:

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?
- DO THE SILT FENCES SAG EXCESSIVELY?
- HAS THE SILT FENCE TORN OR BECOME DETACHED FROM THE POSTS?
- DOES SEDIMENT NEED TO BE REMOVED FROM BEHIND THE SLOPE BARRIER?



| | | | | | |
|--|------------|---------|--|--|--|
| <p>CITY OF WICHITA</p> <p>PUBLIC WORKS & UTILITIES ENGINEERING DIVISION</p> | | | <p><i>SILT FENCE DITCH CHECK AND BARRIER DETAILS</i></p> | | |
| | | | <p>CITY ENGINEER</p> <p>GARY JANZEN, P.E.</p> | | |
| PROJECT NUMBER | OCA NUMBER | DATE | | | |
| 468-84719 | 744389 | 11/2010 | | | |
| CITY ENGINEER'S OFFICE | | SHEET | | | |
| CITY HALL - SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202-1620 (316) 268-4501 | | 10 | | | |
| | | 19 | | | |



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 GRADE (%) | CHECK SPACING (FEET) |
|-----------------|----------------------|
| 0.5 | 200 |
| 1.0 | 200 |
| 2.0 | 100 |
| 3.0 | 65 |
| 4.0 | 50 |
| 5.0 | 40 |
| 6.0 | 30 |

PROPER INSTALLATION METHOD:

EXCAVATE A TRENCH PERPENDICULAR TO THE DITCH FLOWLINE THAT IS 4" DEEP AND A BALE'S WIDTH WIDE. EXTEND THE TRENCH IN A STRAIGHT LINE ALONG THE ENTIRE LENGTH OF THE PROPOSED DITCH CHECK. PLACE THE SOIL ON THE UPSTREAM SIDE OF THE TRENCH—IT WILL BE USED LATER. OPTIONAL: ON THE DOWNSTREAM SIDE OF THE TRENCH, ROLL OUT A LENGTH OF EROSION-CONTROL BLANKET (SCOUR APRON) EQUAL TO THE LENGTH OF THE TRENCH. PLACE THE UPSTREAM EDGE OF THE EROSION-CONTROL BLANKET ALONG THE BOTTOM UPSTREAM EDGE OF THE TRENCH. THE EROSION CONTROL BLANKET SHOULD BE ANCHORED IN THE TRENCH WITH ONE ROW OF 8" LANDSCAPE STAPLES PLACED ON 18" CENTERS. THE REMAINDER OF THE EROSION-CONTROL BLANKET (THE PORTION THAT IS NOT LYING IN THE TRENCH) WILL SERVE AS THE DOWNSTREAM SCOUR APRON. THIS SECTION OF THE BLANKET SHOULD BE ANCHORED TO THE GROUND WITH 8" LANDSCAPE STAPLES PLACED AROUND THE PERIMETER OF THE BLANKET ON 18" CENTERS. THE REMAINDER OF THE BLANKET SHOULD BE ANCHORED USING TWO EVENLY SPACED ROWS OF 8" LANDSCAPE STAPLES ON 18" CENTERS PLACED PERPENDICULAR TO THE FLOWLINE OF THE DITCH. PLACE THE BALES IN THE TRENCH, MAKING SURE THAT THEY ARE BUTTED TIGHTLY. TWO STAKES SHOULD BE DRIVEN THROUGH EACH BALE ALONG THE CENTERLINE OF THE DITCH CHECK, APPROXIMATELY 6" TO 8" IN FROM THE BALE ENDS. STAKES SHOULD BE DRIVEN AT LEAST 12" INTO THE GROUND. ONCE ALL THE BALES HAVE BEEN INSTALLED AND ANCHORED, PLACE THE EXCAVATED SOIL AGAINST THE UPSTREAM SIDE OF THE CHECK AND COMPACT IT. THE COMPACTED SOIL SHOULD BE NO MORE THAN 3" TO 4" DEEP AND EXTEND UPSTREAM NO MORE THAN 24".

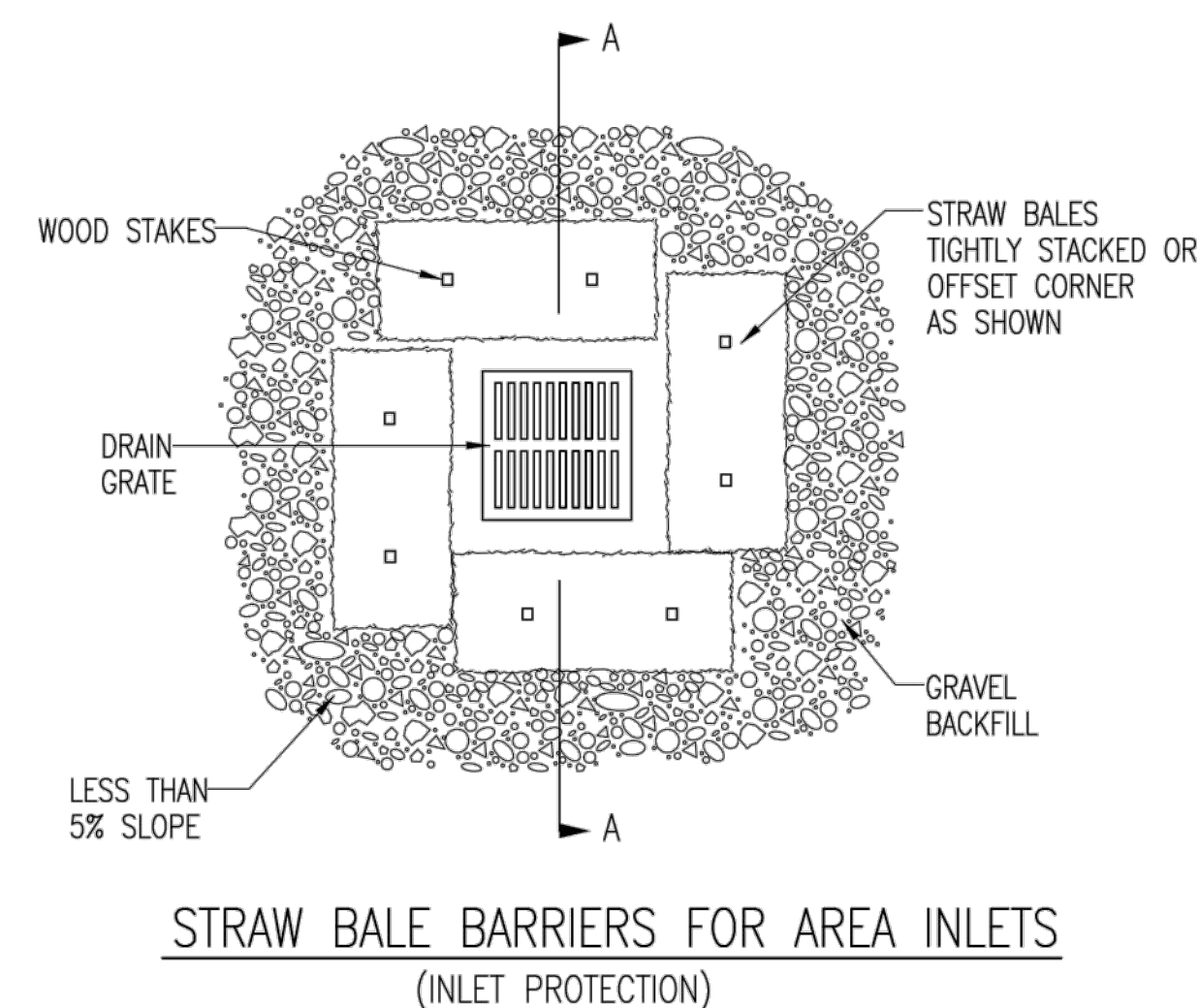
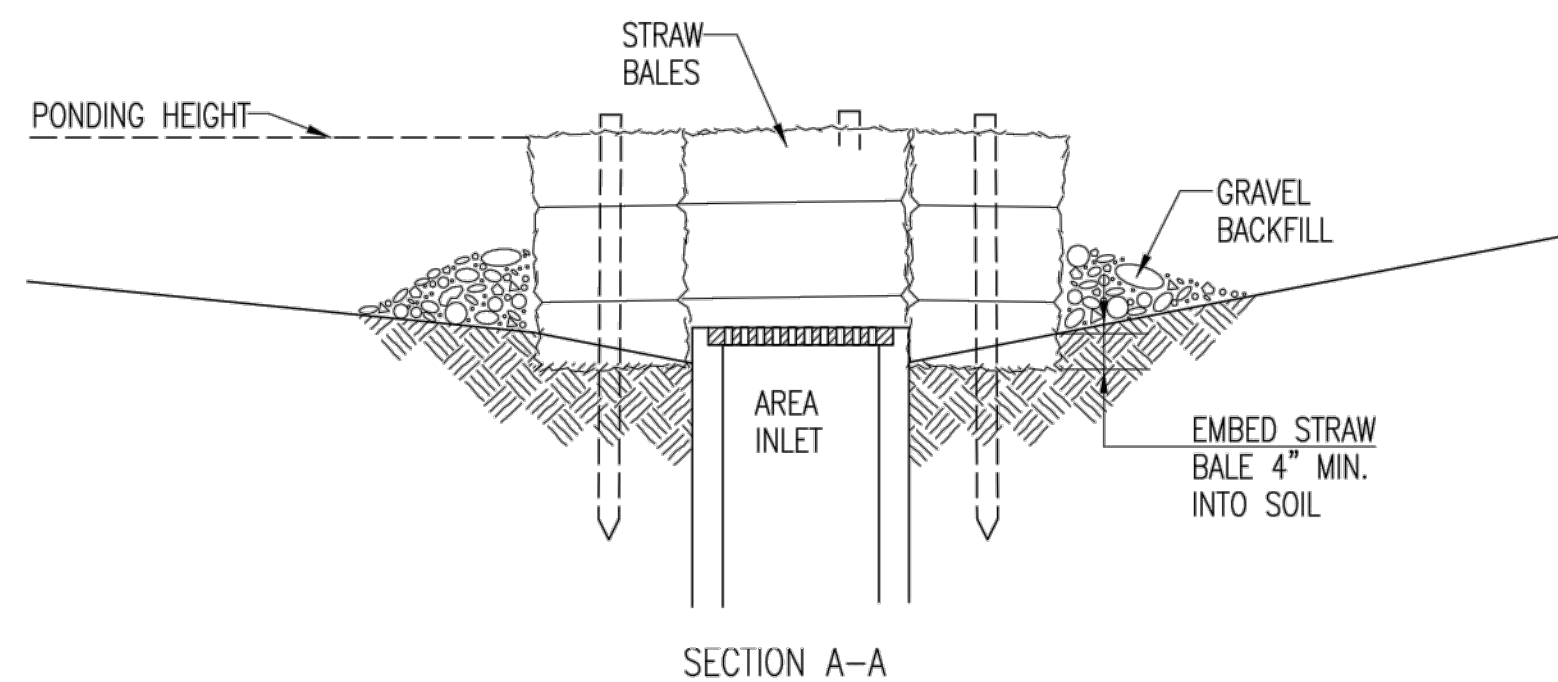
LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

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

INSPECTION AND MAINTENANCE:

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

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



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.

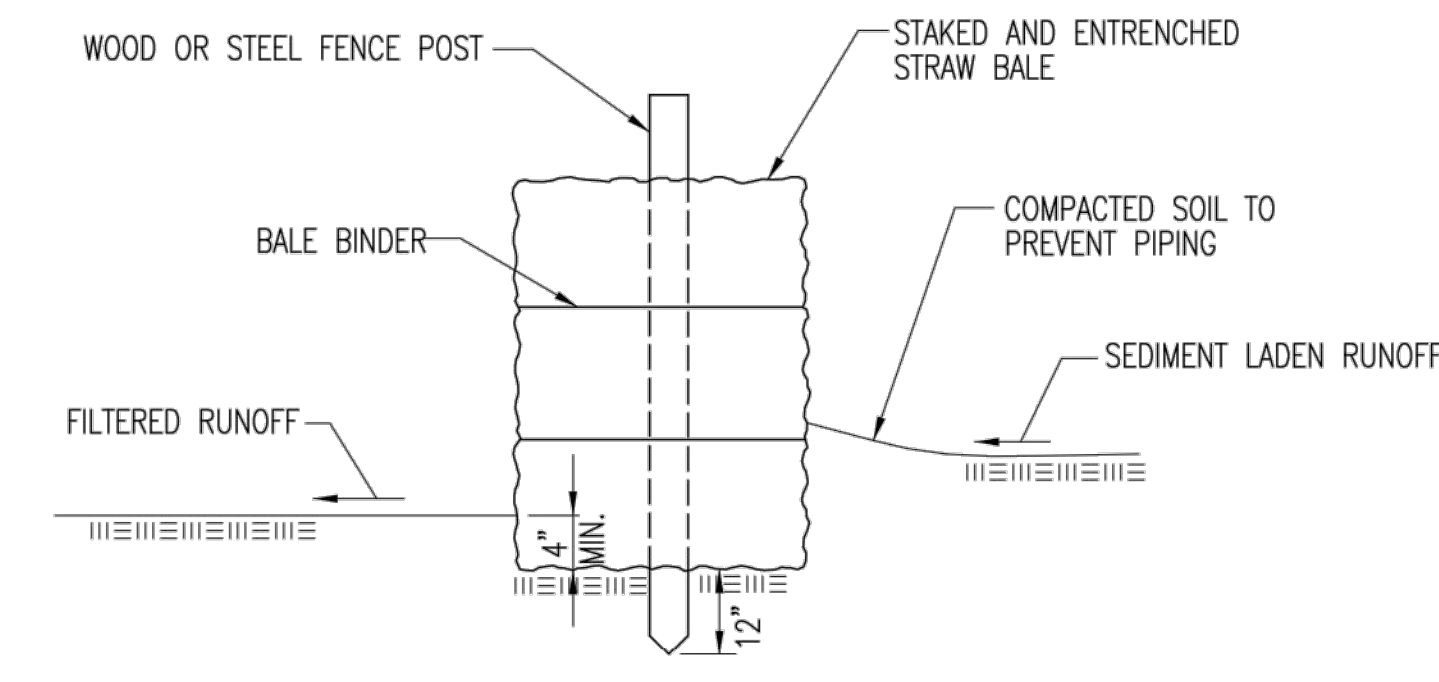
LIST OF COMMON PLACEMENT INSTALLATION MISTAKES TO AVOID:

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.

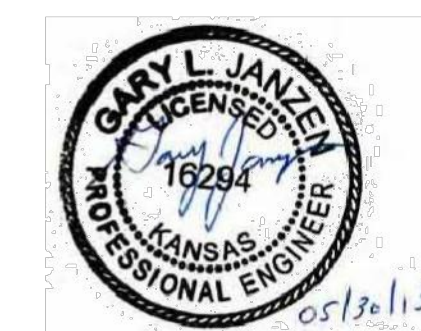
LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:


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:

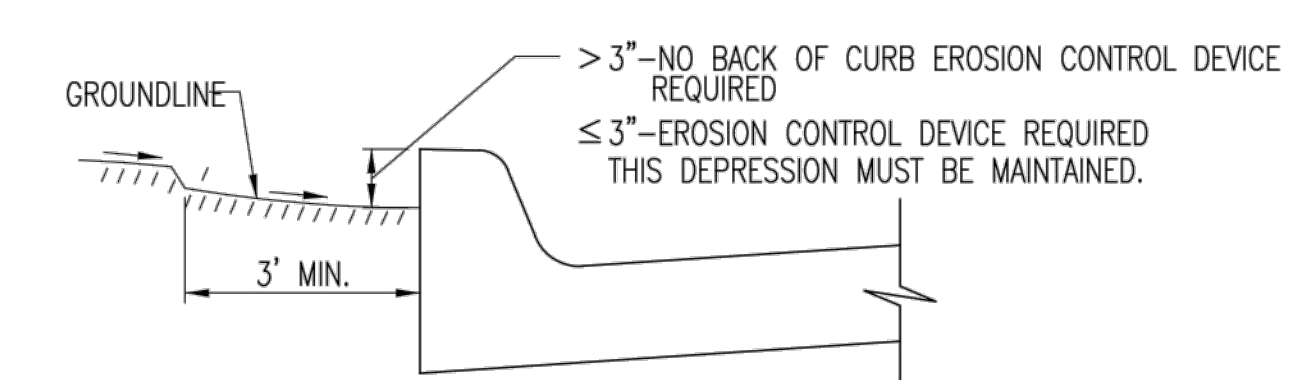
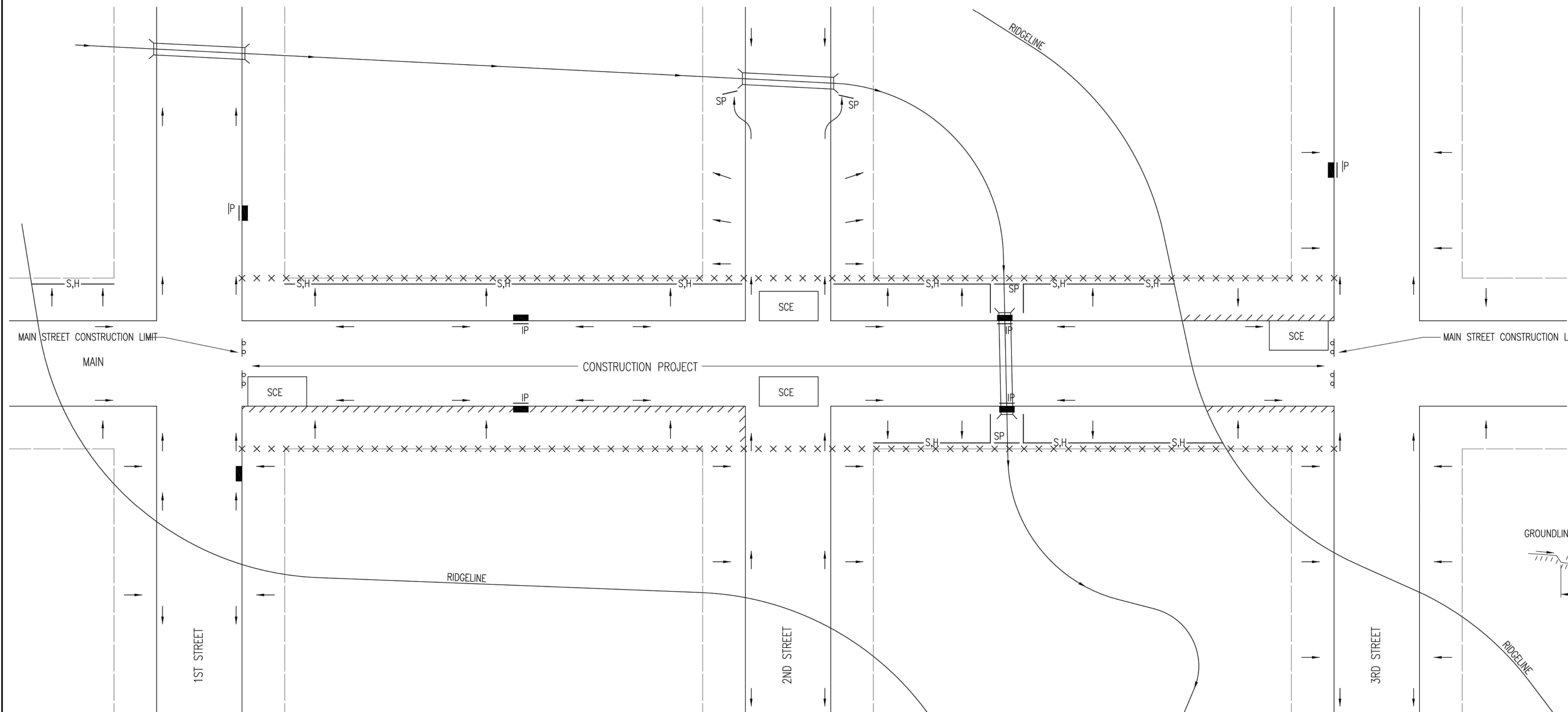
- ARE THERE ANY POINTS ALONG THE SLOPE BARRIER WHERE WATER IS CONCENTRATING?
- DOES WATER FLOW UNDER THE SLOPE BARRIER?
- DOES WATER FLOW THROUGH SPACES BETWEEN ABUTTING BALES?
- ARE ANY BALES DISLODGED?
- ARE BALES DECOMPOSING DUE TO AGE AND/OR WATER DAMAGE?
- DOES SEDIMENT NEED TO BE REMOVED FROM BEHIND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



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|---|--|------------|---|---------|--|
|  CITY OF WICHITA PUBLIC WORKS & UTILITIES ENGINEERING DIVISION | | | STRAW BALE DITCH CHECK AND BARRIER DETAILS | | |
| CITY ENGINEER GARY JANZEN, P.E. | | | | | |
| PROJECT NUMBER | | OCA NUMBER | | DATE | |
| 468-84719 | | 744389 | | 11/2010 | |
| CITY ENGINEER'S OFFICE | | | | SHEET | |
| CITY HALL - SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202-1620 (316) 268-4501 | | | | 11 | |
| | | | | 19 | |

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.



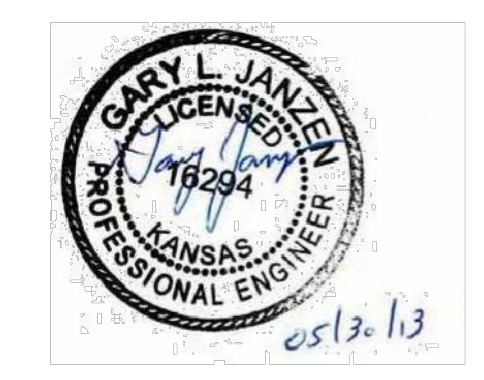
CURB BACKFILL DETAIL


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

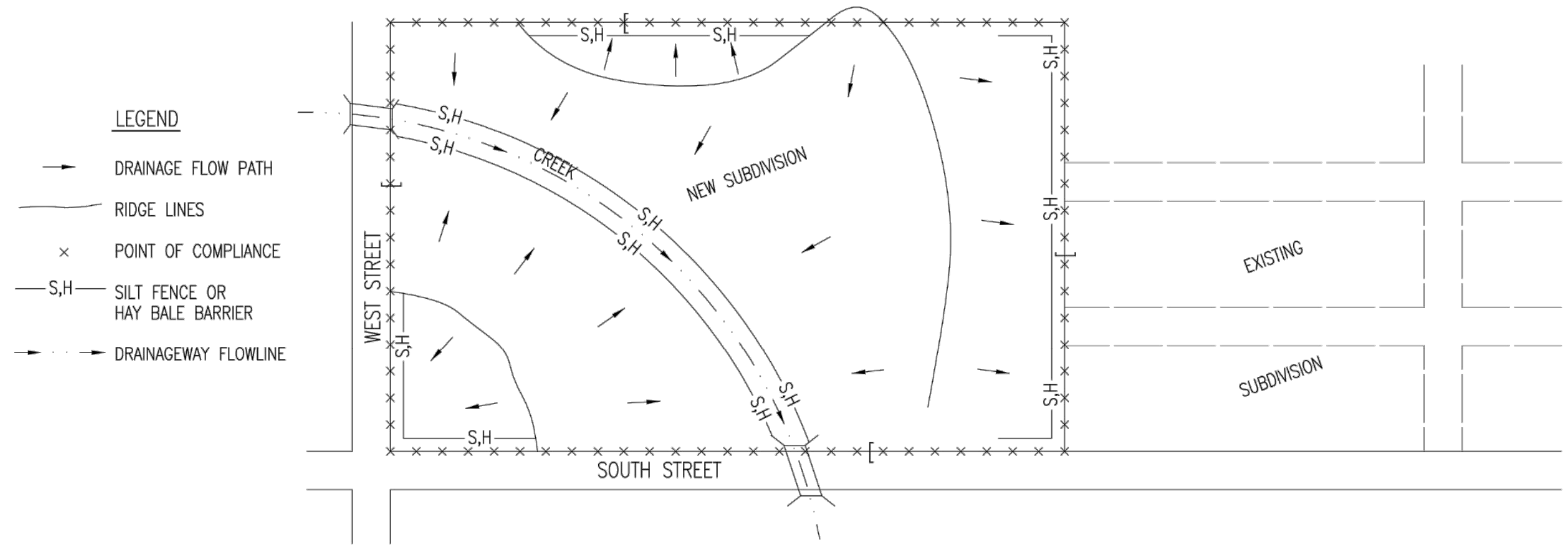
GENERAL NOTES

- 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)



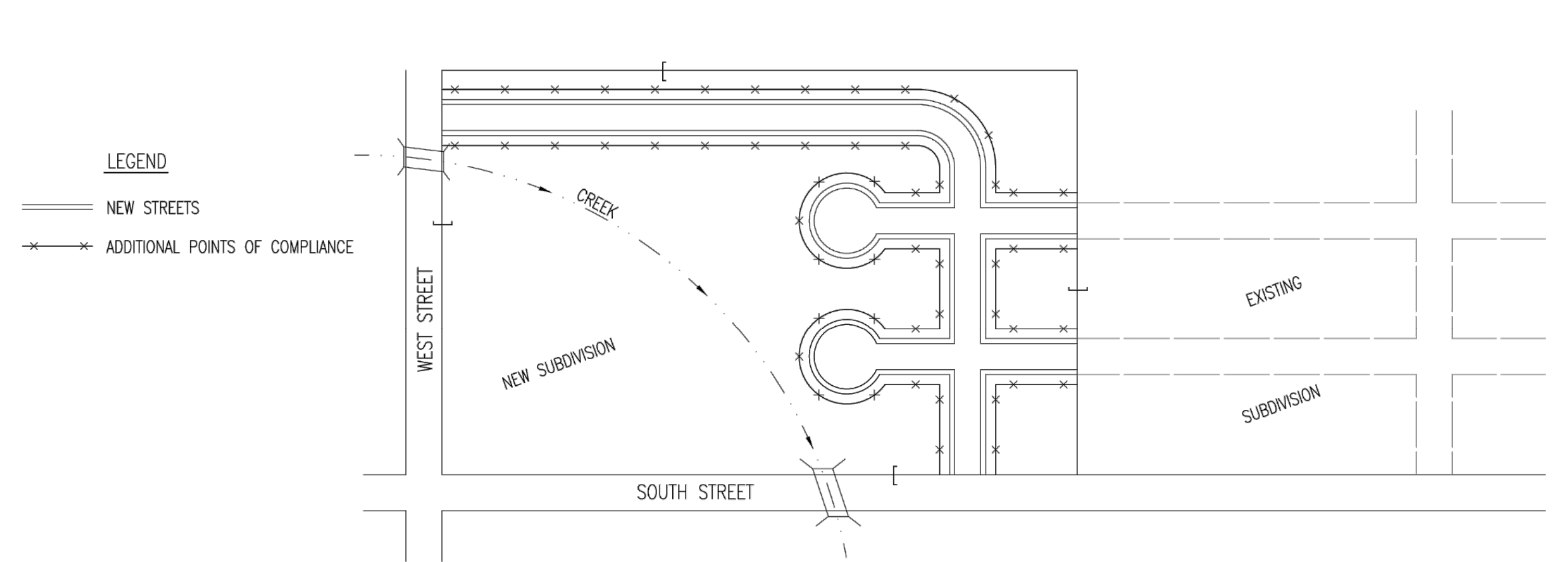
| | | | | | |
|---|------------|---------|---|----|--|
|  <p>CITY OF WICHITA PUBLIC WORKS & UTILITIES ENGINEERING DIVISION</p> | | | <p>STREET IMPROVEMENT PROJECTS</p> <p>CITY ENGINEER GARY JANZEN, P.E.</p> | | |
| PROJECT NUMBER | OCA NUMBER | DATE | | | |
| 468-84719 | 744389 | 08/2012 | | | |
| CITY ENGINEER'S OFFICE | | SHEET | | | |
| CITY HALL - SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202-1620 (316) 268-4501 | | 12 | | 19 | |

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



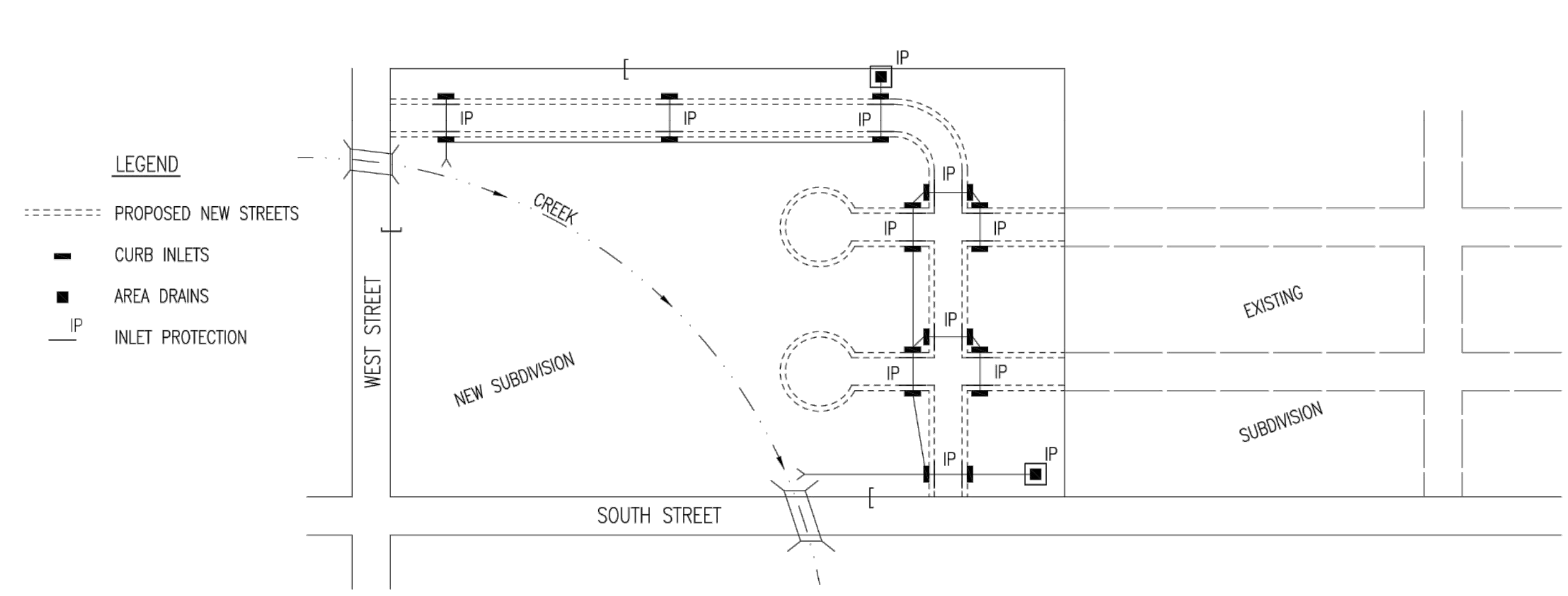
- DURING THIS PHASE OF SUBDIVISION CONSTRUCTION, THE POINTS OF COMPLIANCE ARE THE PERIMETER BOUNDARIES AND ANY DRAINAGE WAYS OR STORM SEWERS DRAINING THROUGH OR FROM THE SITE. SHOULD LAKES BE CONSTRUCTED WITHIN THE SUBDIVISION THAT WILL DISCHARGE DURING STORMS, THEY ARE ALSO A POINT OF COMPLIANCE.
- 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.
- 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.
- ANY MUD TRACKED ONTO ADJACENT STREETS WILL BE REMOVED WITHIN 48 HOURS OR BY FRIDAY AT 6:00 PM, WHICHEVER IS EARLIER.
- 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.
- UTILIZE STABILIZED CONSTRUCTION ENTRANCE AT ENTRANCE AND EXIT ONTO ANY EXISTING PUBLIC STREETS.
- 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.
- 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



- 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.
- CURB OPENING INLET PROTECTION:
 - SUMP AREAS – INLET PROTECTION SHALL BE PROVIDED WHEN STREET SUBGRADE WORK IS COMPLETED.
 - NON-SUMP LOCATIONS – PROVIDE INLET PROTECTION AS SOON AS BASE COURSE ASPHALT IS INSTALLED, BEFORE THE SURFACE COURSE LIFT.
- 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.
- SEE DETAIL SHEET FOR BACK OF CURB PROTECTION.
- 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.
- THE STREET CONTRACTOR WILL BE RESPONSIBLE FOR INSTALLING BACK OF CURB EROSION CONTROL DEVICES.
- 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

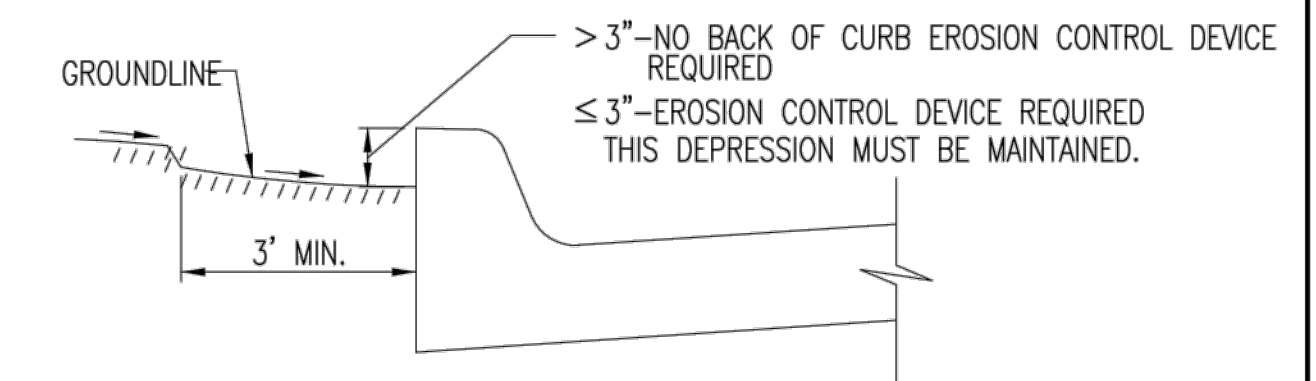


- DURING THIS PHASE OF SUBDIVISION DEVELOPMENT, ALL EROSION CONTROL DEVICES REQUIRED IN PHASE 1 SHALL REMAIN IN PLACE AND BE MAINTAINED.
- AS NEW STORM SEWERS, WITH INLETS, ARE INSTALLED, THE STORM SEWERS MUST NOW BE PROTECTED SO ALL NEW INLETS BECOME POINTS OF COMPLIANCE.
- AREA DRAINS – AS SOON AS WATER CAN FLOW INTO THESE DRAINS, HAY BALE OR SILT FENCE PROTECTION WILL BE INSTALLED AROUND THEM.
- 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.
- THE STORM SEWER CONTRACTOR WILL BE RESPONSIBLE FOR INSTALLING THESE DEVICES.
- THE SUBDIVISION DEVELOPER WILL MAINTAIN THESE EROSION CONTROL DEVICES ONCE INSTALLED.
- 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.
- 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

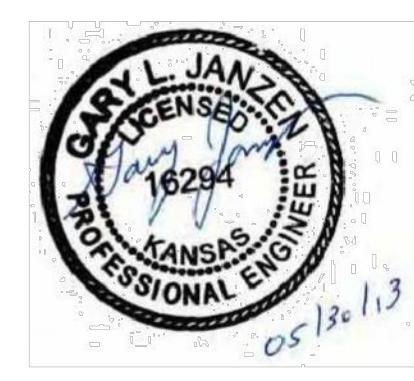
- THE INTENT OF ALL EROSION CONTROL DEVICES IS TO PREVENT ERODED SOIL FROM ENTERING DITCHES, STORM SEWERS, LAKES, STREETS OR ANY OTHER DRAINAGE FEATURE.
- THIS SHEET IS INTENDED TO PROVIDE GUIDELINES AS TO WHAT TYPE OF EROSION CONTROL DEVICES WILL BE INSTALLED DURING THE CONSTRUCTION PROCESS. CONTRACTORS ARE EXPECTED TO BID PROJECTS ACCORDINGLY.
- 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.
- PERSONS DESTROYING EROSION CONTROL DEVICES SHALL BE RESPONSIBLE FOR IMMEDIATELY REPAIRING THEM OR INSTALLING SUITABLE REPLACEMENT DEVICES.
- 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.
- 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.
- 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.
- 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.
- 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.


SEE DETAIL SHEET FOR BACK OF CURB PROTECTION DETAIL

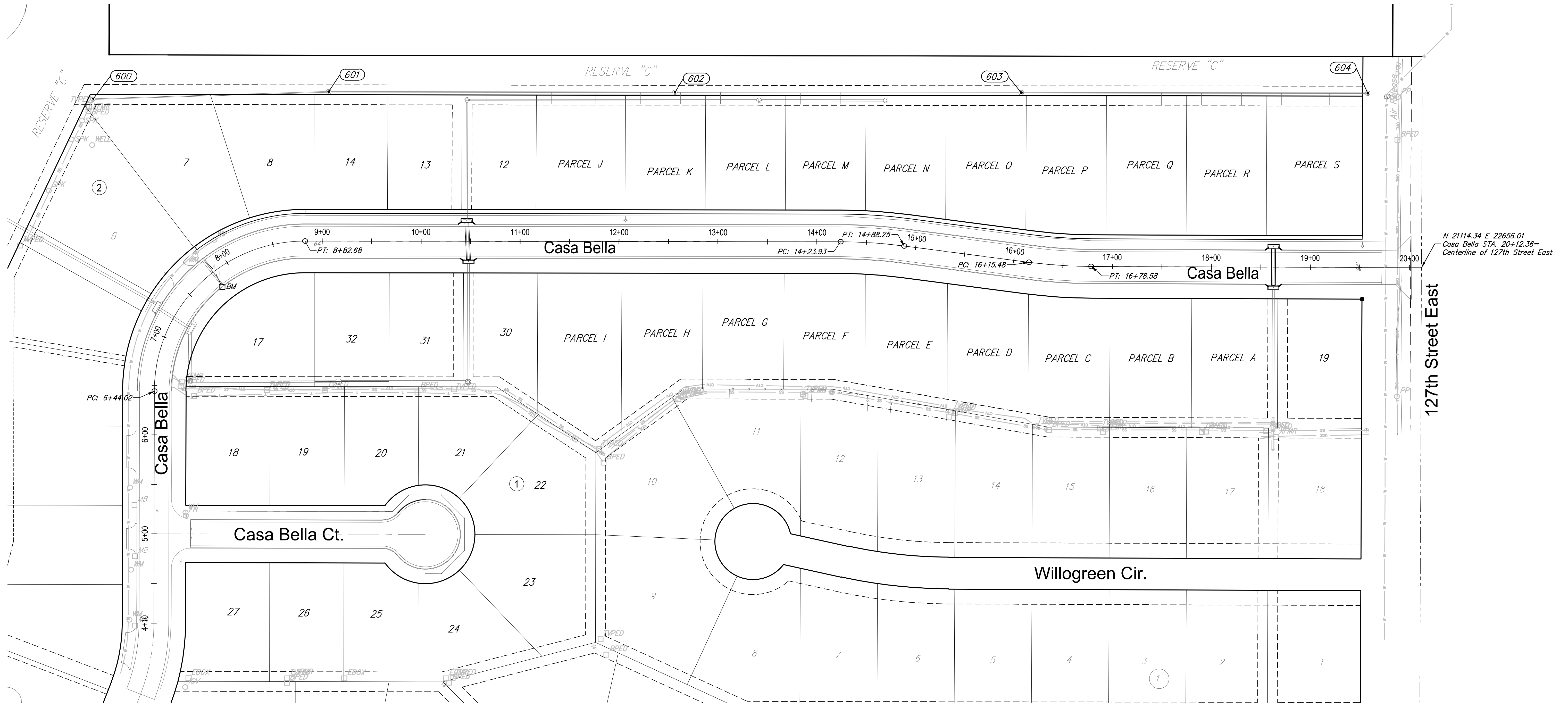


CURB BACKFILL DETAIL (STREET CONSTRUCTION ONLY)

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.



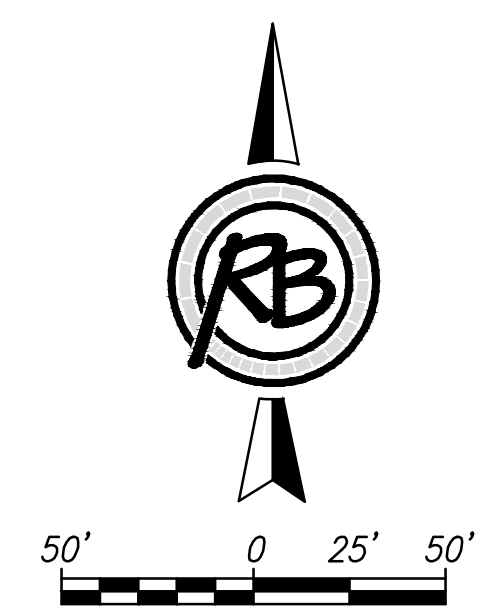
| | | | | | |
|--|------------|---------|---|--|--|
|  CITY OF WICHITA PUBLIC WORKS & UTILITIES ENGINEERING DIVISION | | | SUBDIVISION DEVELOPMENT PROCESS CITY ENGINEER GARY JANZEN, P.E. | | |
| PROJECT NUMBER | OCA NUMBER | DATE | | | |
| 468-84719 | 744389 | 08/2012 | | | |
| CITY ENGINEER'S OFFICE | | SHEET | | | |
| CITY HALL - SEVENTH FLOOR | | 13 | | | |
| 455 NORTH MAIN STREET | | | | | |
| WICHITA, KANSAS 67202-1620 | | | | | |
| (316) 268-4501 | | | | | |
| | | | 19 | | |



N 21114.34 E 22656.01
 Casa Bella STA. 20+12.36=
 Centerline of 127th Street East

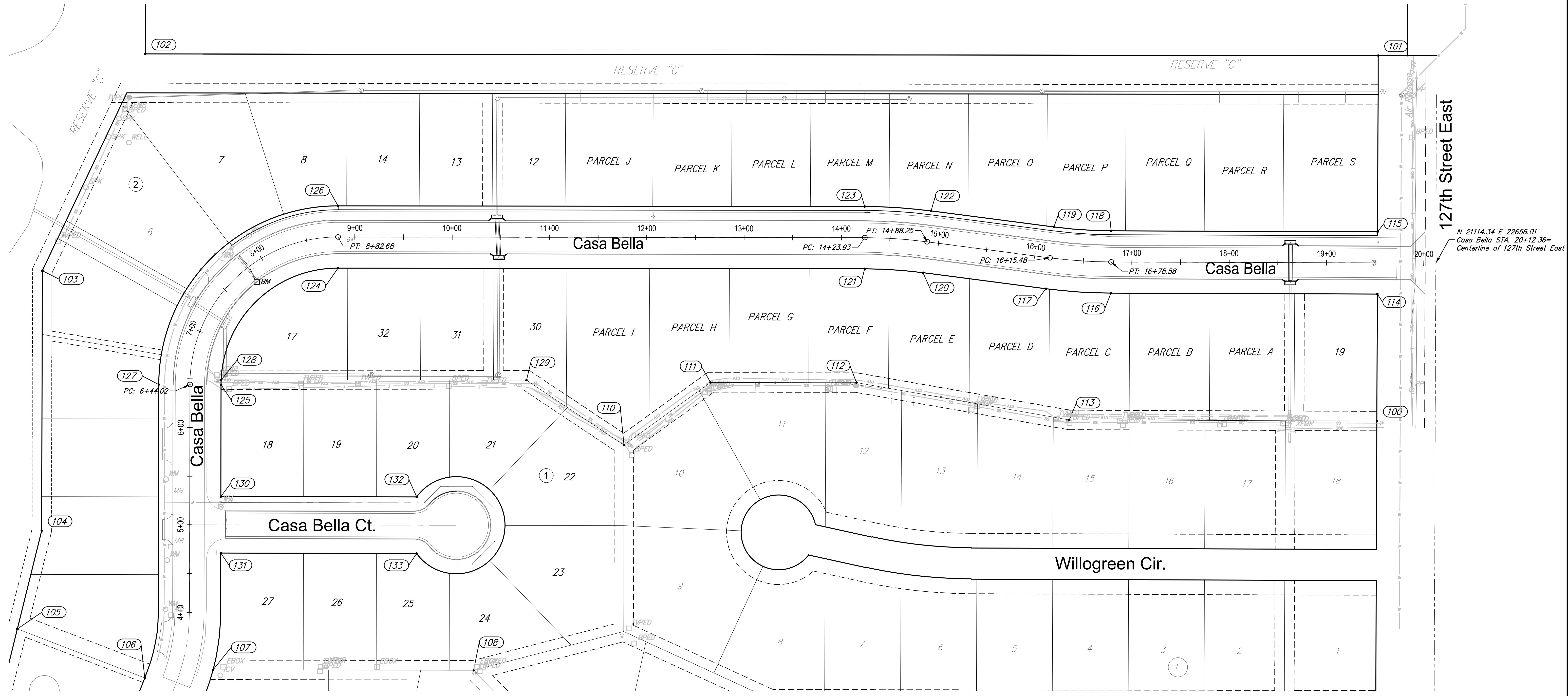
Point Table

| Point # | Northing | Easting | Description |
|---------|----------|----------|-------------|
| 600 | 21284.61 | 21313.50 | MH 1-Exist |
| 601 | 21292.04 | 21551.67 | MH 1-1 |
| 602 | 21291.58 | 21901.67 | MH 1-2 |
| 603 | 21291.12 | 22251.67 | MH 1-3 |
| 604 | 21290.66 | 22601.67 | MH 1-4 |



**Casa Bella 3rd - Phase 2
 Sanitary Sewer Coordinates**

| | | | |
|---|--|------------------------|---------------|
| | RUGGLES & BOHM | | DATE #### |
| | <small>ENGINEERING SURVEYING LANDSCAPE ARCHITECTURE GOVERNMENT</small> <small>924 NORTH MAIN WICHITA, KANSAS 67203 P (316) 264-8008 F (316) 264-4621</small> <small>WWW.RUGGLESANDBOHM.COM</small> | | DESIGN EJG |
| PROJECT NUMBER 468-84719 | RB JOB NO. 4291E | DWG. SCALE 1" = 50' | DRAWN DRS |
| DRAWING FILE 4291E.Engineering Base [Sanitary Sewer Coordinates] | | | REVIEW . |
| | | | SHEET 14 |
| | | | OF 19 |

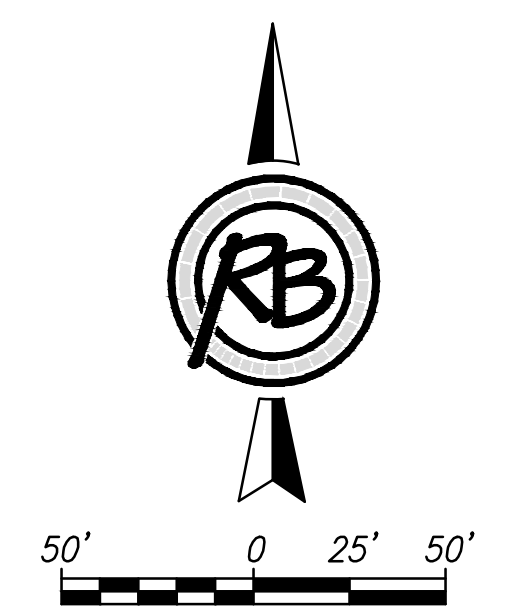


N 21114.34 E 22656.01
 Casa Bella STA. 20+12.36=
 Centerline of 127th Street East

| Point # | Northing | Easting | Description |
|---------|----------|----------|-----------------|
| 100 | 20952.08 | 22595.40 | Addition Corner |
| 101 | 21327.66 | 22596.81 | Addition Corner |
| 102 | 21329.33 | 21329.74 | Addition Corner |
| 103 | 21106.66 | 21223.80 | Addition Corner |
| 104 | 20839.38 | 21223.26 | Addition Corner |
| 105 | 20738.42 | 21198.18 | Block Corner |
| 106 | 20688.17 | 21329.13 | Block Corner |
| 107 | 20696.46 | 21399.41 | Block Corner |
| 108 | 20695.92 | 21667.23 | Block Corner |
| 110 | 20927.39 | 21821.63 | Block Corner |
| 111 | 20991.76 | 21910.54 | Block Corner |
| 112 | 20991.56 | 22060.54 | Block Corner |

| Point # | Northing | Easting | Description |
|---------|----------|----------|--------------|
| 113 | 20953.26 | 22279.30 | Block Corner |
| 114 | 21082.57 | 22595.89 | Block Corner |
| 115 | 21146.57 | 22596.13 | Block Corner |
| 116 | 21083.60 | 22322.11 | PC |
| 117 | 21088.08 | 22255.17 | PT |
| 118 | 21147.60 | 22322.35 | PC |
| 119 | 21151.54 | 22263.46 | PT |
| 120 | 21104.57 | 22129.00 | PC |
| 121 | 21108.51 | 22068.98 | PT |
| 122 | 21168.03 | 22137.30 | PC |
| 123 | 21172.51 | 22069.06 | PT |
| 124 | 21109.22 | 21527.72 | PC |

| Point # | Northing | Easting | Description |
|---------|----------|----------|--------------|
| 125 | 20989.47 | 21407.57 | PT |
| 126 | 21173.22 | 21527.81 | PC |
| 127 | 20989.59 | 21343.57 | PT |
| 128 | 20994.47 | 21407.68 | Block Corner |
| 129 | 20994.05 | 21721.39 | Block Corner |
| 130 | 20874.44 | 21407.33 | Block Corner |
| 131 | 20816.44 | 21407.22 | Block Corner |
| 132 | 20874.04 | 21608.60 | Block Corner |
| 133 | 20816.04 | 21608.49 | Block Corner |



Casa Bella 3rd - Phase 2 Addition Coordinates

| | | | |
|---|---|-------------------|-------------------------|
| | | | DATE ##### |
| | ENGINEERING SURVEYING LANDSCAPE ARCHITECTURE GOVERNMENT 924 NORTH MAIN WICHITA, KANSAS 67203 P (316) 264-8008 F (316) 264-4621 WWW.RUGGLESANDBOHM.COM | | DESIGN EJG |
| PROJECT NUMBER 468-84719 | HB JOB NO. 4291E | DWG. SCALE ... | REVIEW DRS |
| DRAWING FILE 4291E Engineering Base [Addition Coordinates] | | | SHEET 15 OF 19 |

CASA BELLA

Wichita, Sedgwick County, Kansas

State of Kansas)
Sedgwick County) SS

We, Ruggles & Bohm, P.A., Land Surveyors in aforesaid county and state, do hereby certify that, under the supervision of the undersigned, we have surveyed and platted "CASA BELLA", Wichita, Sedgwick County, Kansas, and that the accompanying plat is a true and correct exhibit of the property surveyed, described as follows:

LEGAL DESCRIPTION:

That part of the SE1/4, Sec. 34, T27S, R2E of the 6th P.M., Sedgwick County, Kansas, described as beginning at the S.W. corner of said SE1/4; thence S89°53'29"E along the south line of said SE1/4, 1991.81 feet; thence N00°12'54"E parallel with the east line of said SE1/4, 660.00 feet; thence N65°18'22"W, 190.32 feet; thence S75°31'11"W, 159.20 feet; thence N89°53'05"W, 267.83 feet; thence S83°16'32"W, 70.76 feet; thence N69°00'34"W, 140.26 feet; thence N13°57'01"E, 104.04 feet; thence N00°06'55"E, 267.28 feet; thence N25°26'38"E, 202.32 feet; thence S89°55'28"E, parallel with the north line of the SE1/4 of said SE1/4, 1345.94 feet to the east line of said SE1/4; thence N00°12'54"E along said east line, 40.00 feet to the north line of the SE1/4 of said SE1/4; thence N89°55'28"W along said north line, 1327.07 feet to the N.W. corner of the SE1/4, of said SE1/4; thence N00°09'54"E along the east line of the NW1/4 of said SE1/4, 821.87 feet; thence N89°56'27"W, 65.39 feet; thence S00°03'33"W, 125.95 feet; thence N89°56'27"W, 50.00 feet; thence S28°55'02"W, 434.83 feet; thence S00°04'32"W, 315.00 feet; thence S08°44'40"W, 154.02 feet; thence N89°53'05"W, 660.88 feet; thence N00°54'28"E, 53.15 feet; thence S65°45'51"W, 173.28 feet; thence N89°55'28"W, 162.12 feet to the west line of said SE1/4, thence S00°06'55"W along said west line, 1161.09 feet to the place of beginning.

All public easements and dedications are hereby vacated by virtue of K.S.A. 12-512(b).

Ruggles & Bohm, P.A.

Land Surveyor
Thomas C. Ruggles

Know all men by these presents that we, the undersigned, have caused the land described in the surveyor's certificate to be platted into Lots, Blocks, Reserves and Streets, to be known as "CASA BELLA", Wichita, Sedgwick County, Kansas. Utility easements are hereby granted for the construction and maintenance of all public utilities. Drainage easements are hereby granted to the public as indicated for drainage purposes. Reserve "A" is hereby reserved for entry features, signage, irrigation, walls and entry monuments, walks, lighting, landscaping, berms, and utilities confined to easements. Reserve "B" is hereby reserved for entry features, signage, irrigation, walls, gazebos, playground, structures, picnic areas/tables with canopies, irrigation, walks, lighting, landscaping, berms, lakes, drainage, drainage structures and utilities confined to easements. Reserves "C" and "I" are hereby reserved for irrigation, walls, signage, gazebos, playground, structures, picnic areas/tables with canopies, irrigation, walks, lighting, landscaping, berms, lakes, drainage, drainage structures and utilities confined to easements. Reserves "D", "E", "F", "G" and "H" are hereby reserved for irrigation, walls, signage, walks, lighting, landscaping, berms, and utilities confined to easements. The Reserves shall be owned by the Home Owners Association for the addition. The streets are hereby dedicated to and for the use of the public. Access Controls as indicated are hereby granted to the appropriate governing body. A drainage plan has been developed for this plat; all drainage easements and reserves shall remain at established grades, or as modified with the approval of the City Engineer, and unobstructed to allow for the conveyance of storm water.

Tara Development Inc.

President
Eugene Vitarelli

State of Kansas)
Sedgwick County) SS

The foregoing instrument acknowledged before me, this _____ day of _____, 2005, by Eugene Vitarelli, President of Tara Development Inc., on behalf of the corporation.

Notary Public
Mildred E. Franz

My appointment expires _____

We the undersigned, holders of a mortgage on a portion of the above described property, do hereby consent to this plat of "CASA BELLA" Wichita, Sedgwick County, Kansas.

Commerce Bank, N.A.

Assistant Vice President
Collin Stieben

State of Kansas)
Sedgwick County) SS

The foregoing instrument acknowledged before me this _____ day of _____, 2005, by Collin Stieben, Assistant Vice President of Commerce Bank, N.A., on behalf of the Bank.

Notary Public

My appointment expires _____

This plat of "CASA BELLA", Wichita, Sedgwick County, Kansas, has been submitted to and approved by the Wichita-Sedgwick County Metropolitan Area Planning Commission, Wichita, Kansas.

Dated this _____ day of _____, 2005.

Wichita-Sedgwick County Metropolitan Area Planning Commission

Chairman

Harold L. Warner, Jr.

Secretary

John L. Schlegel

This plat approved and all dedications shown hereon accepted by the City Council of the City of Wichita, Kansas, this _____ day of _____, 2005.

At the Direction of the City Council

Mayor

Carlos Mayans

City Clerk

Karen Sublett

Reviewed in accordance with K.S.A. 58-2005 on this _____ day of _____, 2005.

Deputy County Surveyor

Sedgwick County Kansas
Tricia L. Robello, LS #1246

Entered on transfer record this _____ day of _____, 2005.

County Clerk

Don Brace

State of Kansas)
Sedgwick County) SS

This is to certify that this plat has been filed for record in the office of the Register of Deeds, this _____ day of _____, 2005, at _____ o'clock _____ M., and is duly recorded.

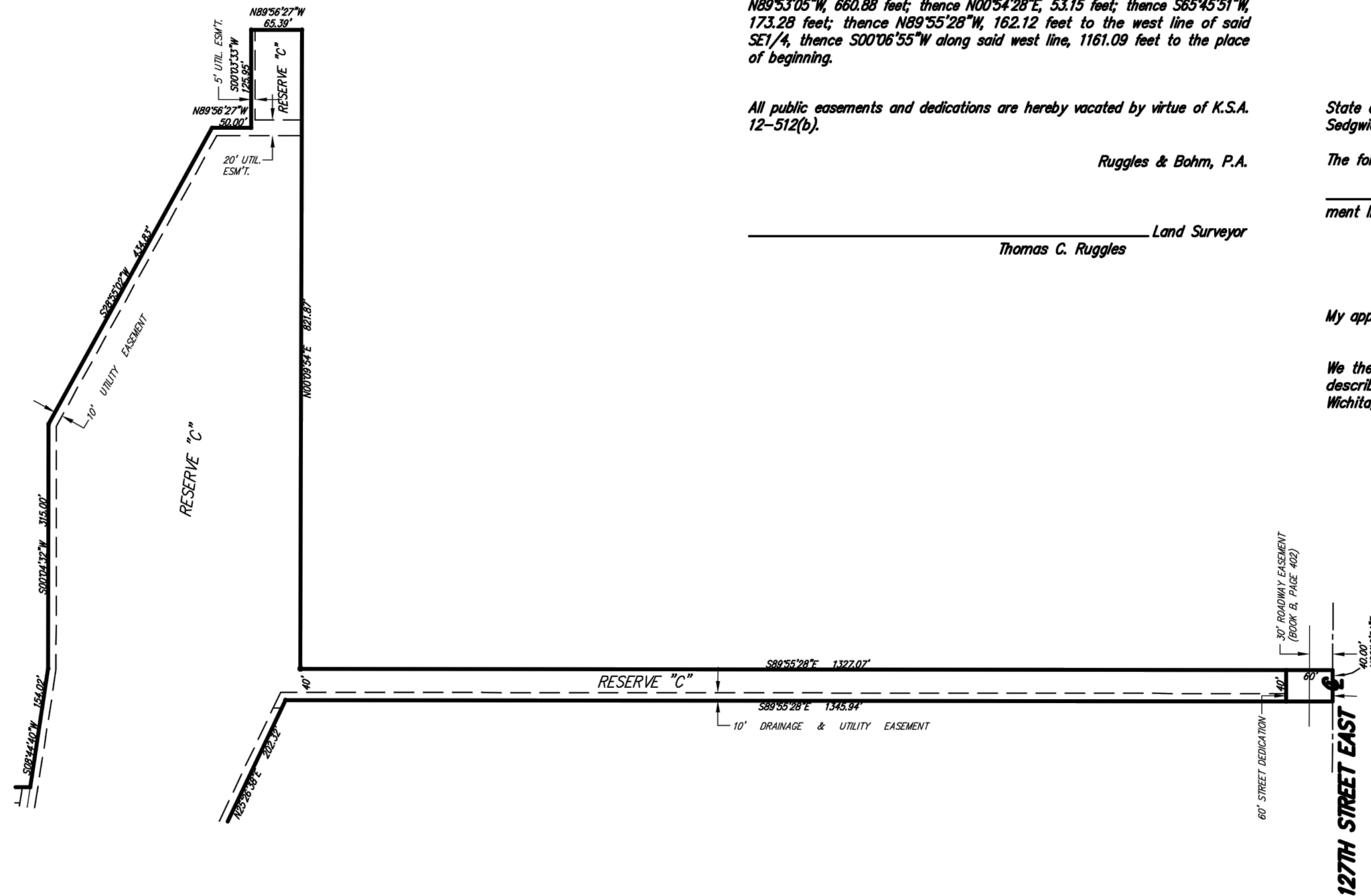
Register of Deeds

Bill Meek

Deputy

Tonya Buckingham

"FOR REFERENCE ONLY"

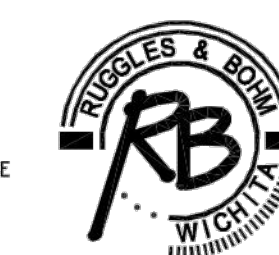


1" = 100'

BENCH MARK: SRB BRASS DISC 55.45' E. & 5.13' S. OF THE N.W. COR., SW1/4, SEC. 35, T27S, R2E. ELEV=1348.35 (NGVD) = 160.95 (CITY DATUM)

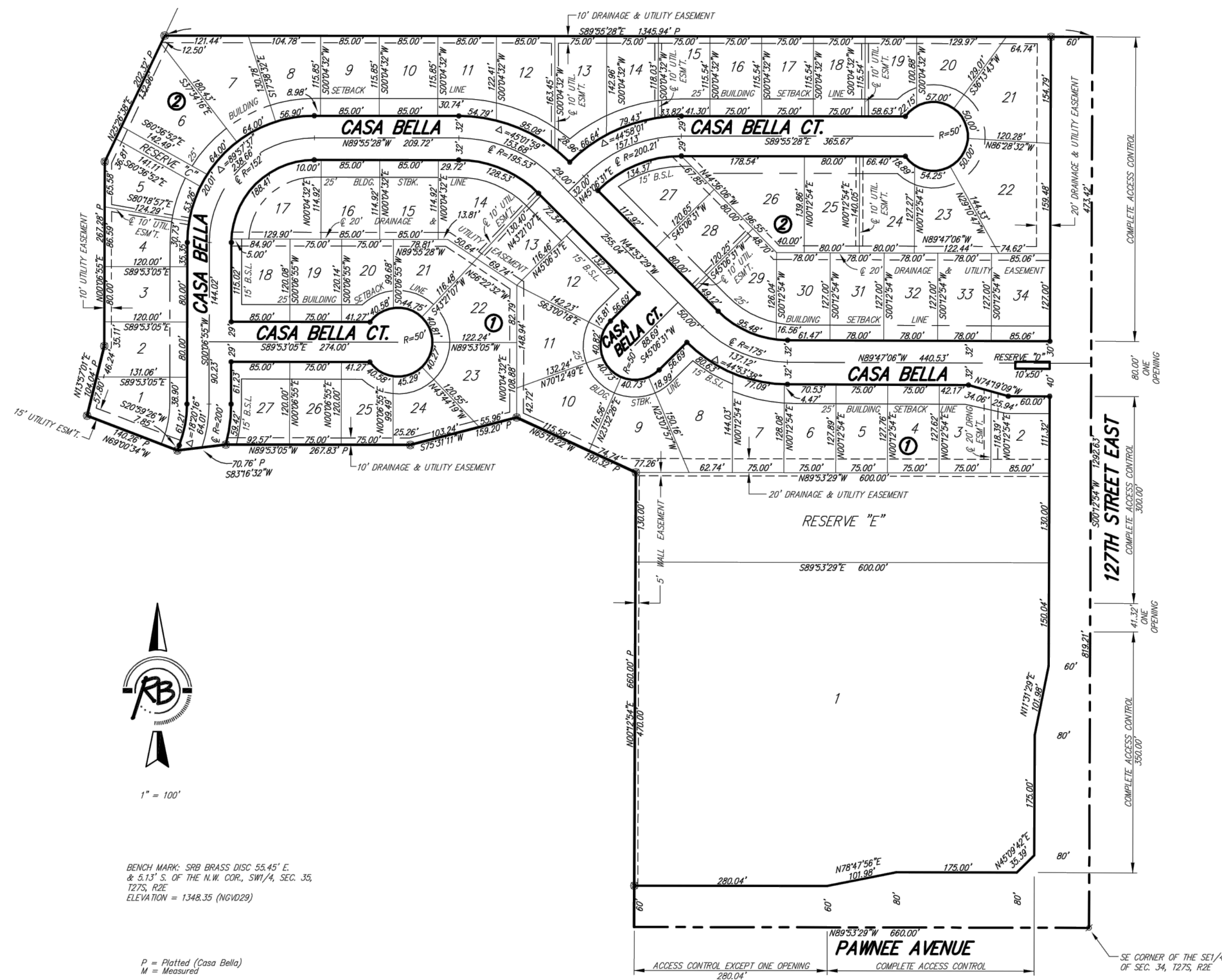
SURVEY MARKER LEGEND

- ☒ = PK NAIL IN CONCRETE
- = 1/2" IRON PIPE
- ⊙ = 3/4" IRON PIPE
- ⊘ = 5/8" REBAR W/GARBER CAP (FOUND)
- ✖ = 1" BAR (FOUND)
- = 5/8" REBAR W/R&B CAP (SET)



CASA BELLA SECOND ADDITION

Wichita, Sedgwick County, Kansas



BENCH MARK: SRB BRASS DISC 55.45' E. & 5.13' S. OF THE N.W. COR., SW1/4, SEC. 35, T27S, R2E. ELEVATION = 1348.35 (NGVD29)

P = Platted (Casa Bella)
M = Measured

- SURVEY MARKER LEGEND**
- PK NAIL IN CONCRETE (FOUND - ORIGIN UNKNOWN)
 - 1/2" IRON PIPE (FOUND - ORIGIN UNKNOWN)
 - 3/4" IRON PIPE (FOUND - ORIGIN UNKNOWN)
 - ⊕ 5/8" REBAR W/GARBUR CAP (FOUND)
 - ⊕ 1" BAR (FOUND - ORIGIN UNKNOWN)
 - ⊕ 5/8" REBAR W/SRB CAP (FOUND)
 - ⊕ 5/8" REBAR W/RAB CAP (FOUND)
 - ⊕ 5/8" REBAR W/RAB CAP (SET)

| BLOCK | LOT NO. | ELEVATION (NGVD29) |
|-------|---------------------------|--------------------|
| 2 | 1, 2, 3, 4, 5, 6, 7 | 1345.4 |
| 3 | 10, 11, 12 | 1345.4 |
| 3 | 1, 2, 3, 4, 5, 6, 7, 8, 9 | 1339.4 |
| 6 | 1, 2, 3, 4, 5 | 1336.8 |

State of Kansas) SS
Sedgwick County)

We, Ruggles & Bohm, P.A., Land Surveyors in aforesaid county and state, do hereby certify that, under the supervision of the undersigned, we have surveyed and platted "CASA BELLA SECOND ADDITION", Wichita, Sedgwick County, Kansas, and that the accompanying plat is a true and correct exhibit of the property surveyed, described as follows:

LEGAL DESCRIPTION:
The SE1/4 of Section 34, T27S, R2E of the 6th P.M., Sedgwick County, Kansas, EXCEPT the NE1/4 of said SE1/4, AND EXCEPT that portion platted as Casa Bella, Wichita, Sedgwick County, Kansas.

All public easements and dedications are hereby vacated by virtue of K.S.A. 12-512(b).

Ruggles & Bohm, P.A.

Thomas C. Ruggles
Land Surveyor

Know all men by these presents that we, the undersigned, have caused the land described in the surveyor's certificate to be platted into Lots, Blocks, Reserves and Streets, to be known as "CASA BELLA SECOND ADDITION", Wichita, Sedgwick County, Kansas. Utility easements are hereby granted for the construction and maintenance of all public utilities. Drainage easements are hereby granted to the public as indicated for drainage purposes. Reserves "A" and "B" are hereby reserved for irrigation, lighting, landscaping, gazebos, playground, structures, picnic areas/tables with canopies, and utilities confined to easements. Reserve "C" is hereby reserved for irrigation, walls, signage, gazebos, playground structures, picnic areas/tables with canopies, walks, lighting, landscaping, berms, lakes, drainage, drainage structures, and utilities confined to easements. Reserve "D" is hereby reserved for irrigation and entry features. Reserve "E" is hereby reserved for irrigation, walls, signage, lighting, landscaping, lakes, drainage, drainage structures, and utilities confined to easements. The Reserves shall be owned and maintained by the Home Owners Association for the addition. The streets are hereby dedicated to and for the use of the public. Access Controls as indicated are hereby granted to the appropriate governing body. A drainage plan has been developed for this plat; all drainage easements and reserves shall remain at established grades, or as modified with the approval of the City Engineer, and unobstructed to allow for the conveyance of storm water.

Tara Development Inc.

Eugene Vitarelli
President

State of Kansas) SS
Sedgwick County)

The foregoing instrument acknowledged before me, this _____ day of _____, 2008, by Eugene Vitarelli, President of Tara Development Inc., on behalf of the corporation.

Mildred E. Franz
Notary Public

My appointment expires _____

We the undersigned, holders of a mortgage on a portion of the above described property, do hereby consent to this plat of "CASA BELLA SECOND ADDITION" Wichita, Sedgwick County, Kansas.

Commerce Bank, N.A.

Collin Stieben
Assistant Vice President

State of Kansas) SS
Sedgwick County)

The foregoing instrument acknowledged before me this _____ day of _____, 2008, by Collin Stieben, Assistant Vice President of Commerce Bank, N.A., on behalf of the Bank.

Notary Public

My appointment expires _____

This plat of "CASA BELLA SECOND ADDITION", Wichita, Sedgwick County, Kansas, has been submitted to and approved by the Wichita-Sedgwick County Metropolitan Area Planning Commission, Wichita, Kansas.

Dated this _____ day of _____, 2008.
Wichita-Sedgwick County Metropolitan Area Planning Commission

Chairman

Secretary

This plat approved and all dedications shown hereon accepted by the City Council of the City of Wichita, Kansas, this _____ day of _____, 2008.

At the Direction of the City Council

Mayor

City Clerk

Reviewed in accordance with K.S.A. 58-2005 on this _____ day of _____, 2008.

Deputy County Surveyor
Sedgwick County Kansas

Entered on transfer record this _____ day of _____, 2008.

County Clerk

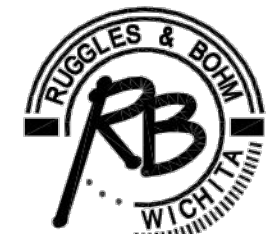
State of Kansas) SS
Sedgwick County)

This is to certify that this plat has been filed for record in the office of the Register of Deeds, this _____ day of _____, 2008, at _____ o'clock _____ M., and is duly recorded.

Register of Deeds

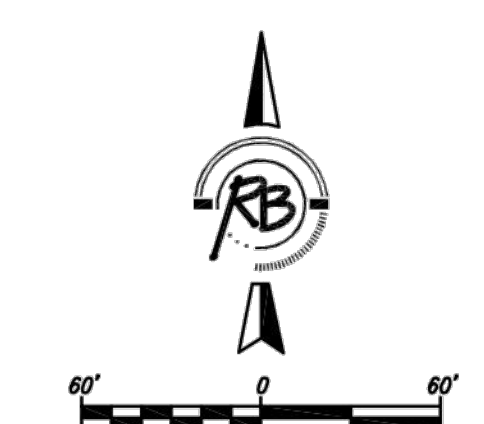
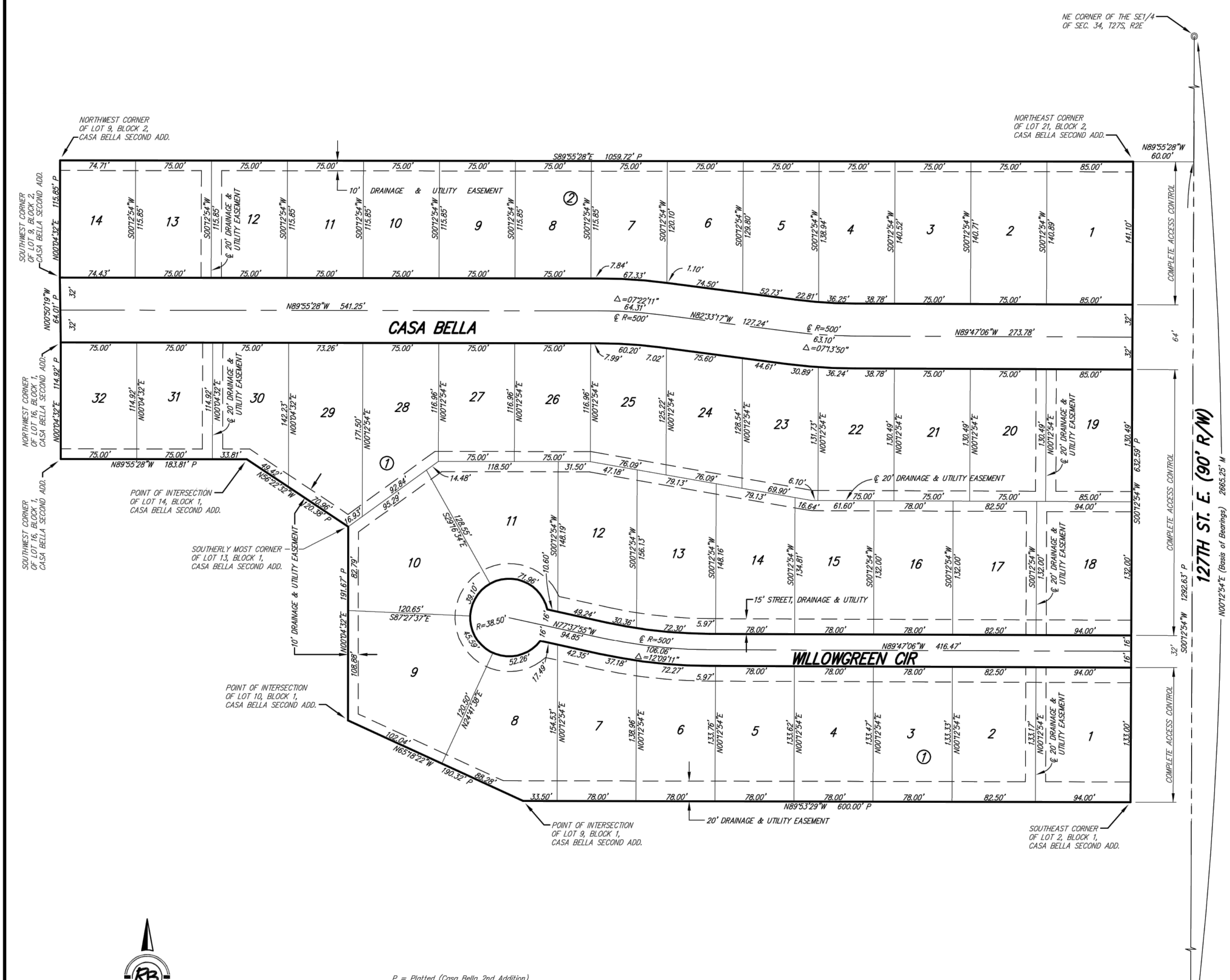
Deputy

"FOR REFERENCE ONLY"



CASA BELLA THIRD ADDITION

Wichita, Sedgwick County, Kansas



BENCH MARK: SRB BRASS DISC 55.45' E. & 5.13' S. OF THE N.W. COR., SW1/4, SEC. 35, T27S, R2E
 ELEVATION = 1348.35 (NGVD29)
 = 1348.83 (NAVD88)

- P = Platted (Casa Bella 2nd Addition)
 M = Measured
- SURVEY MARKER LEGEND**
- ⊙ 3/4" IRON PIPE (FOUND - ORIGIN UNKNOWN)
 - ⊗ 5/8" REBAR W/GARBER CAP (FOUND)
 - ⊕ 5/8" REBAR W/RUGGLES & BOHM CAP (FOUND)
 - 5/8" REBAR W/RUGGLES & BOHM CAP (SET)

| BLOCK | LOT NO. | ELEVATION (NGVD29) | ELEVATION (NAVD88) |
|-------|------------------------|--------------------|--------------------|
| 1 | 1, 2, 3, 4, 5, 6, 7, 8 | 1357.0 | 1357.5 |

State of Kansas)
 SS Sedgwick County)

We, Ruggles & Bohm, P.A., Land Surveyors in aforesaid county and state, do hereby certify that, under the supervision of the undersigned, we have surveyed and platted "CASA BELLA THIRD ADDITION", Wichita, Sedgwick County, Kansas, and that the accompanying plat is a true and correct exhibit of the property surveyed, described as follows:

A replat of part of Casa Bella Second Addition, Wichita, Sedgwick County, Kansas, described as beginning at the northeast corner of Lot 21, Block 2, in said addition; thence S00°12'54"W along the east line of said Lot 21 and extended, 632.59 feet to the southeast corner of Lot 2, Block 1, in said addition; thence N89°53'29"W along the south line of said Lot 2 and extended, 600.00 feet to a point of intersection on the south line of Lot 9, Block 1, in said addition; thence N65°18'22"W along the southwest line of said Lot 9 and extended, 190.32 feet to a point of intersection on the west line of Lot 10, Block 1, in said addition; thence N00°04'32"E along the west line of Lot 10 and extended, 191.67 feet to the southerly most corner of Lot 13, Block 1, in said addition; thence N56°22'32"W along the southwest line of said Lot 13, 120.38 feet to a point of intersection on the south line of Lot 14, Block 1, in said addition; thence N89°55'28"W along the south line of said Lot 14 and extended, 183.81 feet to the southwest corner of Lot 16, Block 1, in said addition; thence N00°04'32"E along the west line of said Lot 16, 114.92 feet to the northwest corner of said Lot 16; thence N00°50'19"W, 64.01 feet to the southwest corner of Lot 9, Block 2, in said addition; thence N00°04'32"E along the west line of said Lot 9, 115.85 feet to the northwest corner of said Lot 9; thence S89°55'28"E along the north line of said Lot 9 and extended, 1059.72 feet to the place of beginning.

All public easements and dedications are hereby vacated by virtue of K.S.A. 12-512(b).

Ruggles & Bohm, P.A.
 Land Surveyor
 James D. Hestermann

Know all men by these presents that we, the undersigned, have caused the land described in the surveyor's certificate to be platted into Lots, Blocks and Streets, to be known as "CASA BELLA THIRD ADDITION", Wichita, Sedgwick County, Kansas. The utility easements are hereby granted for the construction and maintenance of all public utilities. The drainage easements are hereby granted to the public as indicated for drainage purposes. The street, drainage & utility easements are hereby granted to the public as indicated for street improvements, public utilities and drainage purposes. Access Controls as indicated are hereby granted to the appropriate governing body. The streets are hereby dedicated to and for the use of the public. A drainage plan has been developed for this plat and all drainage easements shall remain at established grades, or as modified with the approval of the City Engineer, and unobstructed to allow for the conveyance of storm water.

Tara Development Inc.
 President
 Eugene Vitarelli

State of Kansas)
 SS Sedgwick County)

The foregoing instrument acknowledged before me, this ____ day of _____, 2010, by Eugene Vitarelli, President, on behalf of Tara Development Inc.

Notary Public

My appointment expires _____.

We the undersigned, holders of a mortgage on a portion of the above described property, do hereby consent to this plat of "CASA BELLA THIRD ADDITION", Wichita, Sedgwick County, Kansas.

Commerce Bank, N.A.
 Senior Vice President
 Collin Stieben

State of Kansas)
 SS Sedgwick County)

The foregoing instrument acknowledged before me this ____ day of _____, 2010, by Collin Stieben, Senior Vice President of Commerce Bank, N.A., on behalf of the Bank.

Notary Public

My appointment expires _____.

This plat of "CASA BELLA THIRD ADDITION", Wichita, Sedgwick County, Kansas, has been submitted to and approved by the Wichita-Sedgwick County Metropolitan Area Planning Commission, Wichita, Kansas.

Dated this ____ day of _____, 2010.

Wichita-Sedgwick County Metropolitan Area Planning Commission

Chair
 Debra Miller Stevens

Secretary
 John L. Schlegel

This plat approved and all dedications shown hereon accepted by the City Council of the City of Wichita, Kansas, this ____ day of _____, 2010.

At the Direction of the City Council

Mayor
 Carl Brewer

City Clerk
 Karen Sublett

Reviewed in accordance with K.S.A. 58-2005 on this ____ day of _____, 2010.

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

Entered on transfer record this ____ day of _____, 2010.

County Clerk
 Kelly B. Arnold

State of Kansas)
 SS Sedgwick County)

This is to certify that this plat has been filed for record in the office of the Register of Deeds, this ____ day of _____, 2010, at ____ o'clock __ M, and is duly recorded.

Register of Deeds
 Bill Meek

Deputy
 Tonya Buckingham

Notary Public

My appointment expires _____.

We the undersigned, holders of a mortgage on a portion of the above described property, do hereby consent to this plat of "CASA BELLA THIRD ADDITION", Wichita, Sedgwick County, Kansas.

Commerce Bank, N.A.
 Senior Vice President
 Collin Stieben

"FOR REFERENCE ONLY"



Ruggles & Bohm, P.A.
 Engineering, Surveying, Land Planning

924 North Main (316) 264-8008
 Wichita, Kansas 67203 (316) 264-4621 fax
 www.rbkansas.com E-mail: info@rbkansas.com

DWG FILE: SURVEY BASE
 PROJECT NO. 365SP
 AUGUST 26, 2010

Exhibit 'A' - Parcel Descriptions

PARCEL A
Lot 20, and the east 12.00 feet of Lot 21, Block 1, Casa Bella Third Addition, Wichita, Sedgwick County, Kansas.

PARCEL B
Lot 21, EXCEPT the east 12.00 feet, TOGETHER WITH the east 19.50 feet of Lot 22, Block 1, Casa Bella Third Addition, Wichita, Sedgwick County, Kansas.

PARCEL C
Lot 22, EXCEPT the east 19.50 feet, TOGETHER WITH the east 27.00 feet of Lot 23, Block 1, Casa Bella Third Addition, Wichita, Sedgwick County, Kansas.

PARCEL D
Lot 23, EXCEPT the east 27.00 feet, TOGETHER WITH the east 34.00 feet of Lot 24, Block 1, Casa Bella Third Addition, Wichita, Sedgwick County, Kansas.

PARCEL E
Lot 24, EXCEPT the east 34.00 feet, TOGETHER WITH the east 42.00 feet of Lot 25, Block 1, Casa Bella Third Addition, Wichita, Sedgwick County, Kansas.

PARCEL F
Lot 25, EXCEPT the east 42.00 feet, TOGETHER WITH the east 49.00 feet of Lot 26, Block 1, Casa Bella Third Addition, Wichita, Sedgwick County, Kansas.

PARCEL G
Lot 26, EXCEPT the east 49.00 feet, TOGETHER WITH the east 56.00 feet of Lot 27, Block 1, Casa Bella Third Addition, Wichita, Sedgwick County, Kansas.

PARCEL H
Lot 27, EXCEPT the east 56.00 feet, TOGETHER WITH the east 63.00 feet of Lot 28, Block 1, Casa Bella Third Addition, Wichita, Sedgwick County, Kansas.

PARCEL I
Lot 28, EXCEPT the east 63.00 feet, TOGETHER WITH all of Lot 29, Block 1, Casa Bella Third Addition, Wichita, Sedgwick County, Kansas.

PARCEL J
Lot 10, EXCEPT the east 60.00 feet, TOGETHER WITH all of Lot 11, Block 2, Casa Bella Third Addition, Wichita, Sedgwick County, Kansas.

PARCEL K
Lot 9, EXCEPT the east 54.00 feet, TOGETHER WITH the east 60.00 feet of Lot 10, Block 2, Casa Bella Third Addition, Wichita, Sedgwick County, Kansas.

PARCEL L
Lot 8, EXCEPT the east 48.00 feet, TOGETHER WITH the east 54.00 feet of Lot 9, Block 2, Casa Bella Third Addition, Wichita, Sedgwick County, Kansas.

PARCEL M
Lot 7, EXCEPT the east 42.00 feet, TOGETHER WITH the east 48.00 feet of Lot 8, Block 2, Casa Bella Third Addition, Wichita, Sedgwick County, Kansas.

PARCEL N
Lot 6, EXCEPT the east 36.00 feet, TOGETHER WITH the east 42.00 feet of Lot 7, Block 2, Casa Bella Third Addition, Wichita, Sedgwick County, Kansas.

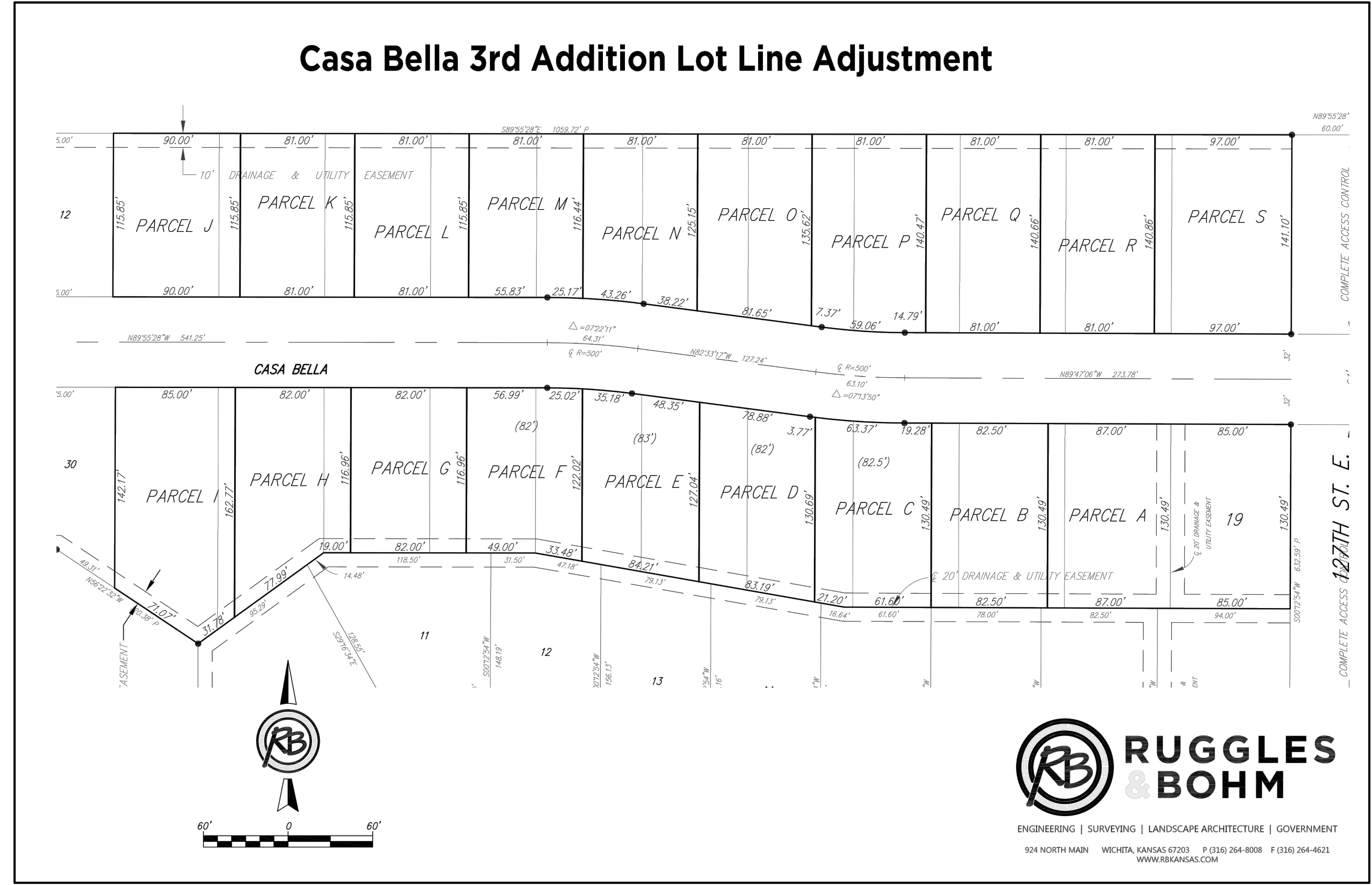
PARCEL O
Lot 5, EXCEPT the east 30.00 feet, TOGETHER WITH the east 36.00 feet of Lot 6, Block 2, Casa Bella Third Addition, Wichita, Sedgwick County, Kansas.

PARCEL P
Lot 4, EXCEPT the east 24.00 feet, TOGETHER WITH the east 30.00 feet of Lot 5, Block 2, Casa Bella Third Addition, Wichita, Sedgwick County, Kansas.

PARCEL Q
Lot 3, EXCEPT the east 18.00 feet, TOGETHER WITH the east 24.00 feet of Lot 4, Block 2, Casa Bella Third Addition, Wichita, Sedgwick County, Kansas.

PARCEL R
Lot 2, EXCEPT the east 12.00 feet, TOGETHER WITH the east 18.00 feet of Lot 3, Block 2, Casa Bella Third Addition, Wichita, Sedgwick County, Kansas.

PARCEL S
Lot 1 and the east 12.00 feet of Lot 2, Block 2, Casa Bella Third Addition, Wichita, Sedgwick County, Kansas.



"FOR REFERENCE ONLY"

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|--|---|---------------------------|--------------------|
| Casa Bella 3rd - Phase 2 Lot Line Adjustment | | | |
| SEAL | | RUGGLES & BOHM | DATE #### |
| | ENGINEERING SURVEYING LANDSCAPE ARCHITECTURE GOVERNMENT | | DESIGN EJG |
| | 924 NORTH MAIN WICHITA, KANSAS 67203 P (316) 264-8008 F (316) 264-4621 WWW.RBKANSAS.COM | | DRAWN DRS |
| | PROJECT NUMBER 468-84719 | RB JOB NO. 4291E | DWG. SCALE None |
| DRAWING FILE 4291E Sanitary Sewer Details [Lot Line Adjustment] | | | OF 19 |