

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:
 AT&T 1-800-246-8464
 Black Hills Energy 1-800-694-8989
 City of Wichita Water & Sewer 1-316-219-8921
 City of Wichita Stormwater 1-316-268-4090
 City of Wichita Traffic 1-316-268-4034
 Cox Communications 1-888-249-3530
 Kansas Gas Service 1-888-482-4950
 Evergy 1-800-544-4857
- 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 City 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.
- The Engineering Division shall field locate water valves one time during construction when requested by the Contractor. It shall be the Contractor's responsibility to preserve such field locations during the construction process. Water valves, valve boxes or fire hydrants damaged during construction shall be repaired by Contractor at his own expense. Valve boxes and water meters within the project limits shall be adjusted to match final grades by the contractor.
- Project Inspector shall be On-Site when Construction begins.
- If traffic will be impacted by construction, a traffic control plan must be submitted and approved by the City Traffic Engineer, Mike Armour 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.

Stormwater Certification:

New Development or Redevelopment (Circle One)

Stormwater Permit # N/A

NOI Permit # S-AR94-1995; KSR123463

These construction plans were prepared in accordance with the current Stormwater management Regulations as set forth in the City of Wichita's Stormwater Management Ordinance 16.32 and the policies/guidelines presented in the Wichita/Sedgwick County Stormwater Manual.

Site Area (Acres) = 9.09

Disturbed Area (Acres) = 9.09

Water Quality Treatment: COW Off-Site BMP Program

Downstream Channel Protection: N/A

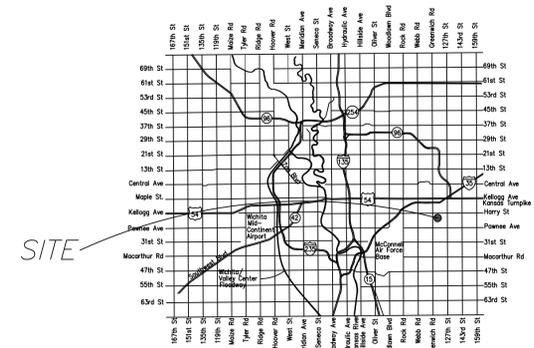
Detention: 2 Proposed Detention Ponds & 1 Existing Detention Pond

The BMP used for this development is Existing Detention Pond

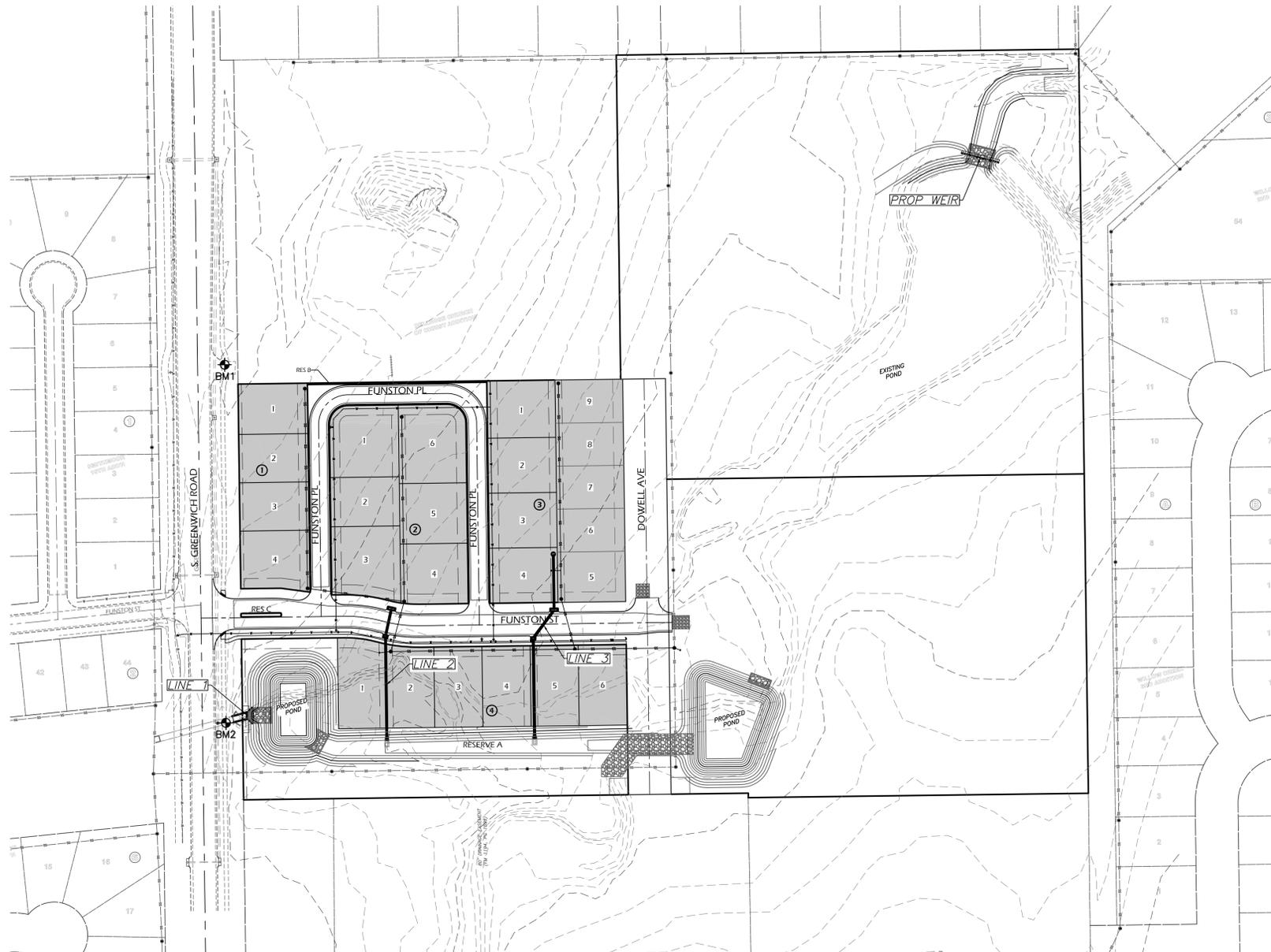
STORM WATER DRAIN #544 TO SERVE GREENWICH LEGACY ADDITION

CITY OF WICHITA, KANSAS

Paul Gunzelman, P.E. City Engineer
 Project Number: 458-2025-085607
 Org Code: 47315725
 Munis Number: E5107



Vicinity Map
(For Reference Only)



INDEX OF SHEETS:

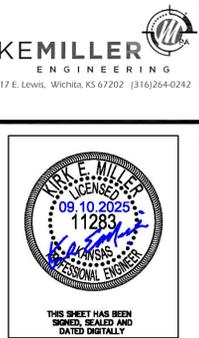
- 1.0 Cover Sheet
- 2.0 Control Map
- 2.1-2.3 SWS Detail Sheets
- 3.0 Plan & Profile - Lines 1&2
- 3.1 Plan & Profile - Line 3
- 4.0-4.1 Pond Plans
- 5.0 Weir Plan
- 6.0-6.1 Plan & Profile - Ditch Grading
- 7.0 Mass Grading Plan
- 8.0 Erosion Control Plan
- 8.1-8.5 Erosion Control Details
- 9.0 Plat

Benefit Area

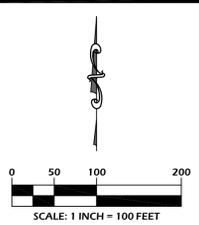
Developer:
 Tom Vu
 N&T Investments, LLC
 316.804.9267
vu1investments@gmail.com

BENCHMARKS:

- BM1: Chiseled "+" in concrete drive entrance to church directly north of site. Approx. 29' north & 20' west of the NW corner of Greenwich Legacy Addition. Elevation = 1345.32 (NAVD 88)
- BM2: Chiseled "+" in concrete sidewalk, 12' due east of storm sewer manhole. Approx. 115' north & 25' west of the SW corner of Greenwich Legacy Addition. Elevation = 1341.81 (NAVD 88).



STORM WATER DRAIN
GREENWICH LEGACY ADDITION
 WICHITA, KANSAS



REVISIONS	

KEM PROJ. 21177	DATE 05.2025
DESIGNED ZJS	DRAWN ZJS
Title Sheet	
SHEET 1.0	

SEPTEMBER 2025

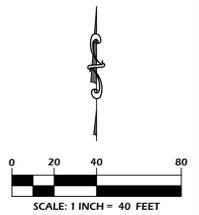
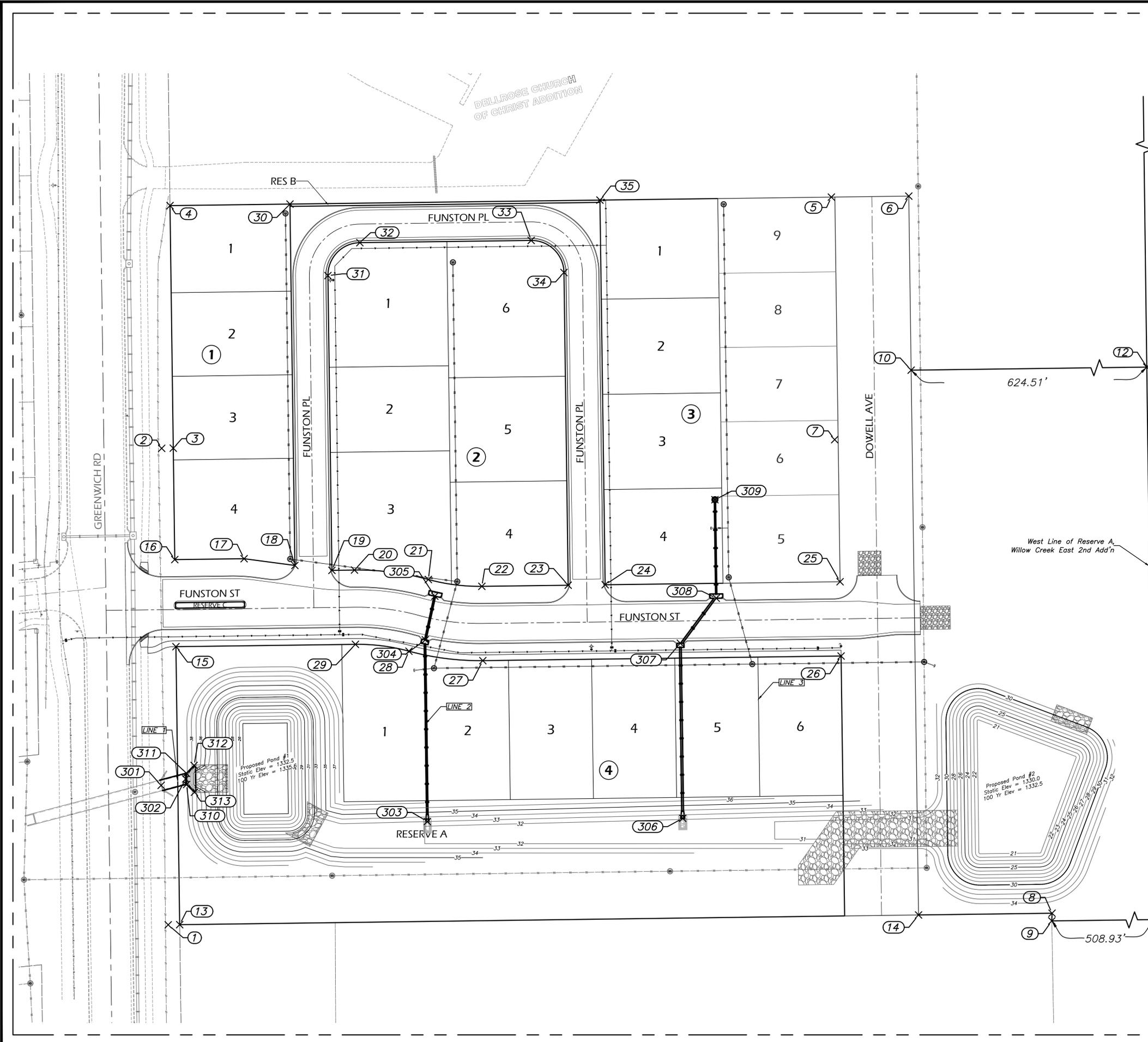


THIS SHEET HAS BEEN SIGNED, SEALED AND DATED DIGITALLY

STORM WATER DRAIN
GREENWICH LEGACY ADDITION
WICHITA, KANSAS

Point Table			
Point #	Raw Description	Northing	Easting
1	1/2 REBAR - NO CAP	1676547.36	1686417.53
2	1/2 REBAR - KEMPA CAP	1676957.79	1686411.86
3	3/4 IRON PIPE	1676957.92	1686421.89
4	1/2 REBAR (KEMPA CAP)	1677166.86	1686419.08
5	1/2 REBAR (KEMPA CAP)	1677174.21	1686991.53
6	1/2 REBAR (KEMPA CAP)	1677175.07	1687058.53
7	3/4 IRON PIPE	1676965.26	1686994.39
8	1/2 IRON PIPE	1676557.36	1687182.53
9	1/4 REBAR (BAUGHMAN CAP)	1676550.71	1687182.34
10	1/2 REBAR (KEMPA CAP)	1677025.12	1687060.58
11	1/4 REBAR (BAUGHMAN CAP)	1676557.23	1687691.23
12	1/4 REBAR (NO CAP)	1677033.16	1687685.04
13	PLAT-CORNER	1676547.49	1686427.44
14	PLAT-CORNER	1676555.84	1687066.98
15	BLOCK-CORNER	1676786.95	1686424.21
16	BLOCK-CORNER	1676861.95	1686423.19
17	BLOCK-CORNER	1676862.72	1686483.20
18	BLOCK-CORNER	1676856.92	1686527.16
19	BLOCK-CORNER	1676852.69	1686559.22
20	BLOCK-CORNER	1676852.94	1686578.75
21	BLOCK-CORNER	1676844.81	1686642.70
22	BLOCK-CORNER	1676838.92	1686689.00
23	BLOCK-CORNER	1676839.87	1686763.74
24	BLOCK-CORNER	1676840.29	1686795.73
25	BLOCK-CORNER	1676842.89	1686999.06
26	BLOCK-CORNER	1676778.90	1686999.93
27	BLOCK-CORNER	1676774.92	1686689.82
28	BLOCK-CORNER	1676783.06	1686625.88
29	BLOCK-CORNER	1676788.95	1686579.58
30	BLOCK-CORNER	1677168.19	1686522.91
31	BLOCK-CORNER	1677106.58	1686555.76
32	BLOCK-CORNER	1677134.96	1686583.39
33	BLOCK-CORNER	1677136.87	1686731.70
34	BLOCK-CORNER	1677109.25	1686760.06
35	BLOCK-CORNER	1677171.63	1686791.21

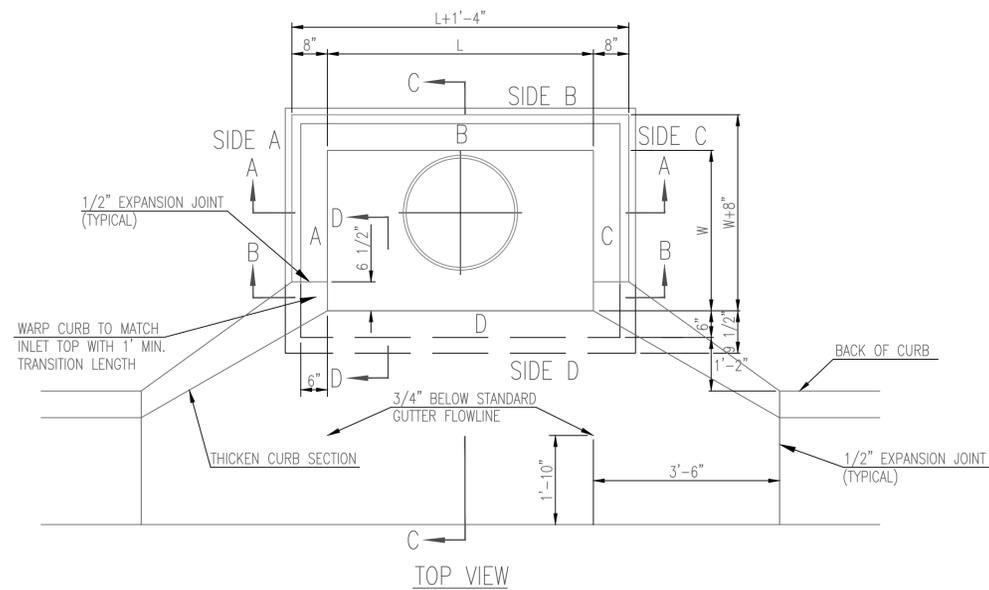
SWS Point Table			
Point #	Raw Description	Northing	Easting
301	0+00.00 SWS1	1676667.46	1686411.39
302	0+21.94 SWS1	1676673.02	1686432.62
303	0+00.00 SWS2	1676636.29	1686641.84
304	1+55.13 SWS2	1676792.87	1686640.05
305	1+96.58 SWS2	1676830.44	1686648.26
306	0+00.00 SWS3	1676639.13	1686862.84
307	1+49.33 SWS3	1676789.95	1686860.78
308	2+01.37 SWS3	1676828.69	1686891.90
309	2+84.70 SWS3	1676913.51	1686890.74
310	HUBGUARD	1676668.19	1686433.43
311	HUBGUARD	1676677.86	1686433.31
312	WINGWALL	1676684.66	1686439.94
313	WINGWALL	1676661.56	1686440.23



REVISIONS	

KEM PROJ. 21177	DATE 08.2025
DESIGNED ZJS	DRAWN ZJS

Control Map
SHEET **2.0**



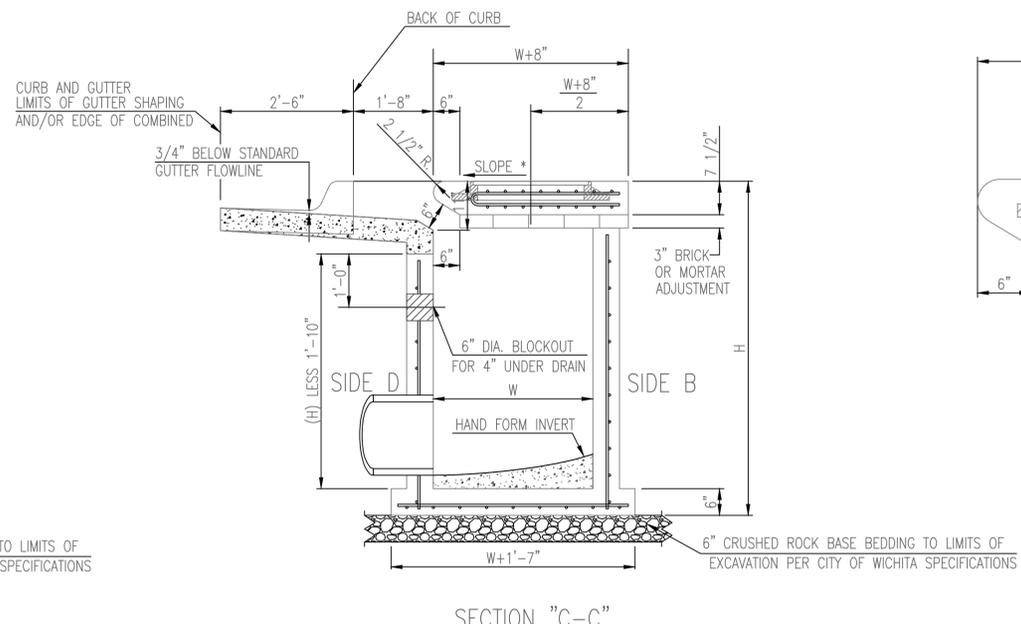
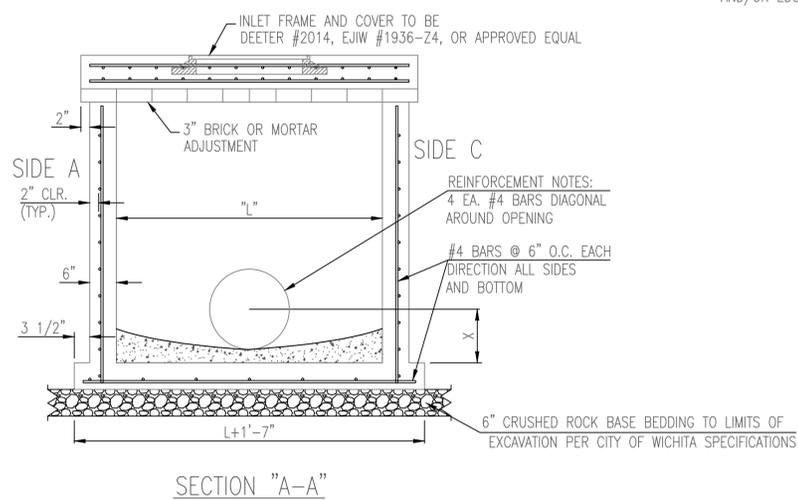
BAR SCHEDULE		
INLET OPENING	B1 BARS	SPACING
5'-0"	#4	4"
10'-0"	#6	3.5"

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

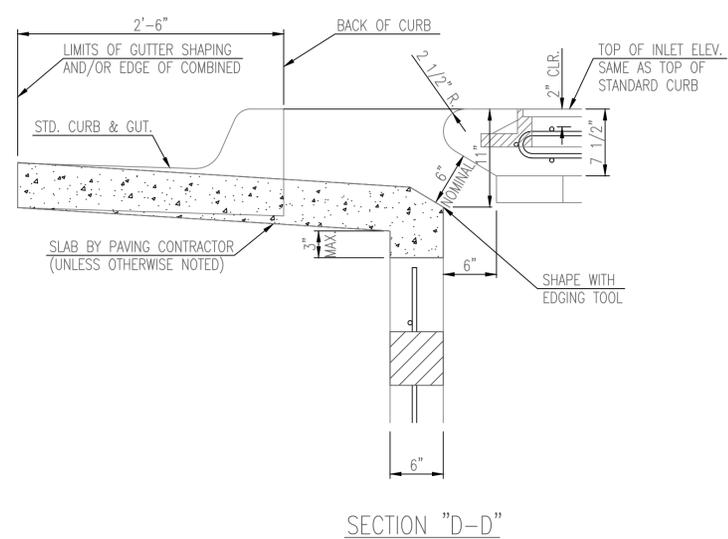
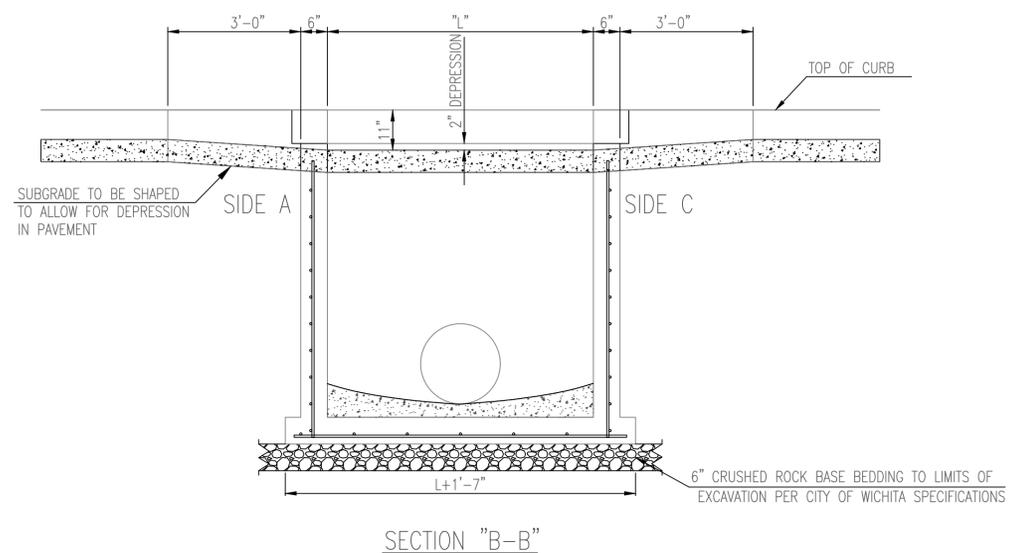
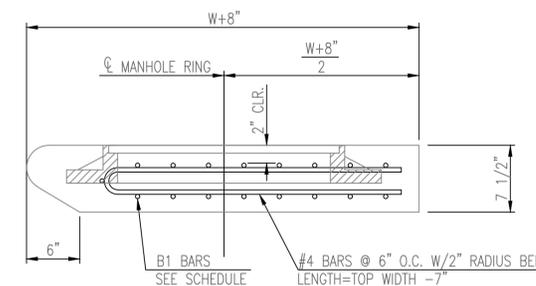
** FOR PIPES PERPENDICULAR TO INLET WALL

GENERAL NOTES

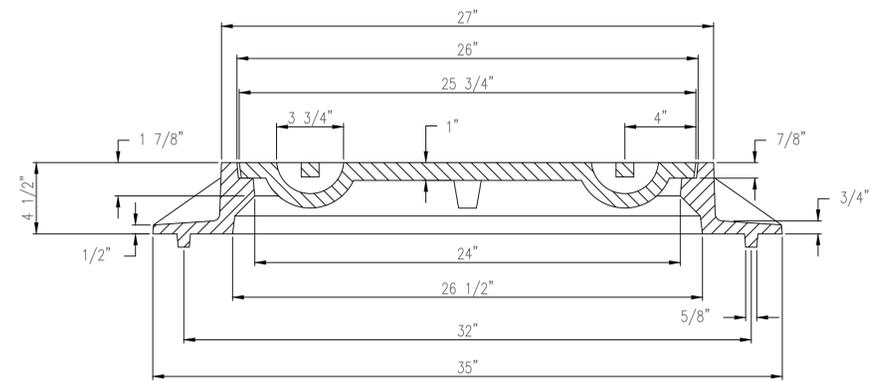
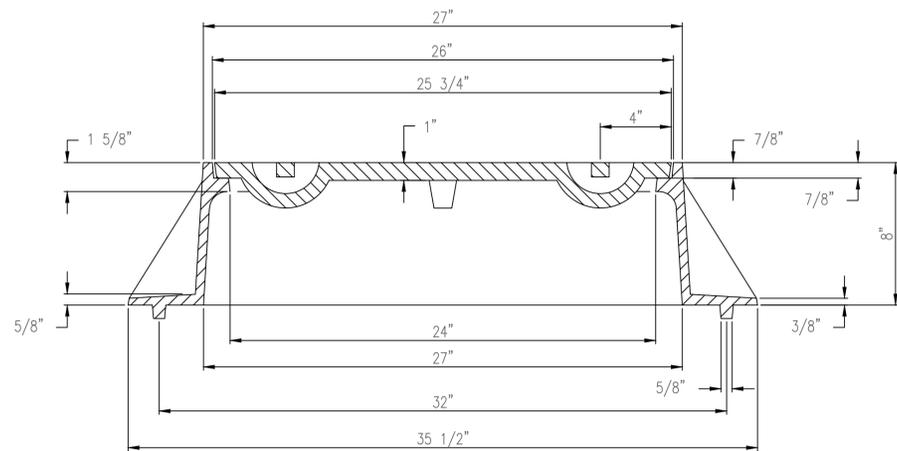
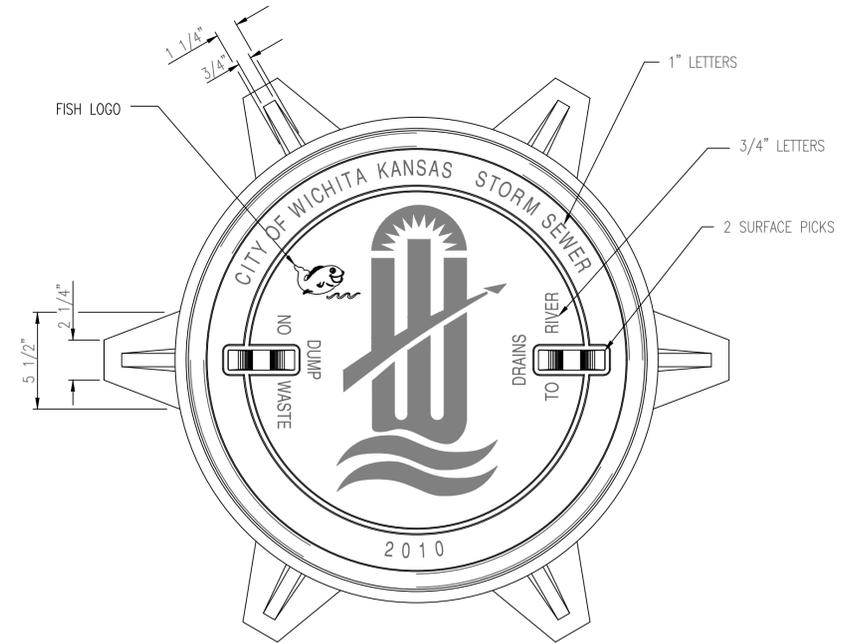
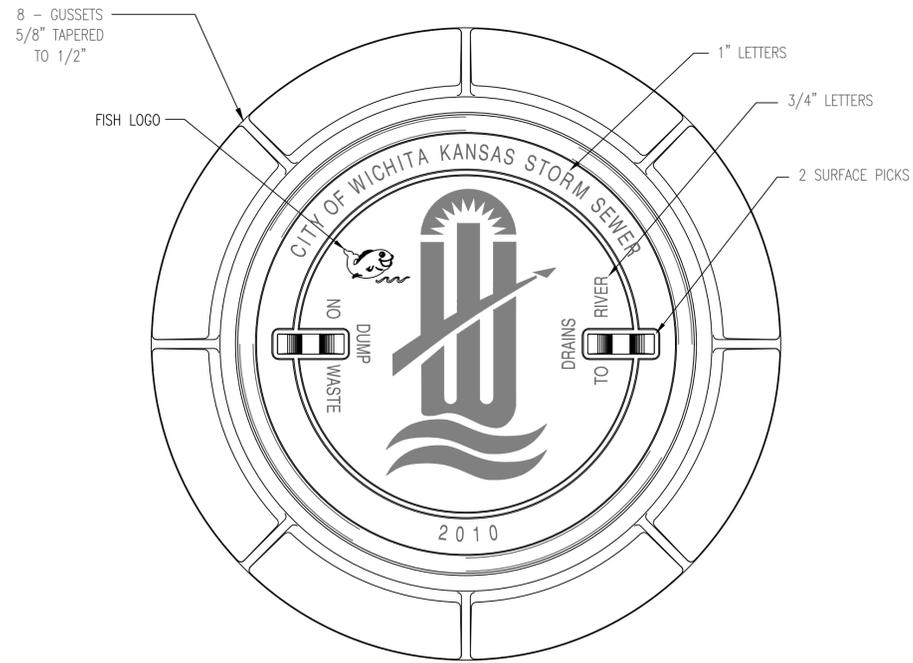
1. CONCRETE TOPS TO BE INSTALLED ON THIN MORTAR CUSHION TO INSURE FULL SUPPORT ALONG BRICK. CONCRETE TOPS MAY BE CAST IN PLACE OR PRECAST. CONCRETE USED FOR INLET CONSTRUCTION SHALL CONFORM TO CITY OF WICHITA SPECIFICATIONS FOR CONCRETE PAVEMENT MIX.
2. CONTRACTOR SHALL HAVE THE OPTION OF CONSTRUCTING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



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



REVISED: MAY 2017		UPDATED SETBACK DIMENSION ON TOP VIEW	
			
STANDARD TYPE 1A CURB INLET 5'-0" OR 10'-0" OPENING			
CITY ENGINEER GARY JANZEN, P.E.			
PROJECT NUMBER	OCA NUMBER	DATE	
CITY ENGINEER'S OFFICE CITY HALL - SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202-1620 (316) 268-4501			SHEET 2.1



MANHOLE FRAME
DEETER #1261 OR EJIW #1936-Z1

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

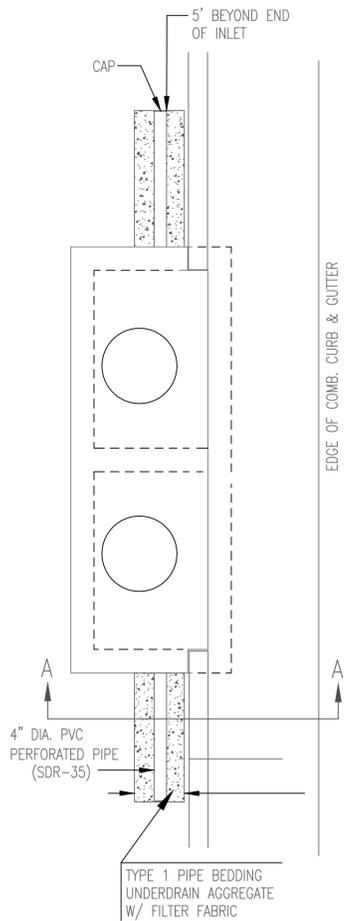
INLET FRAME
DEETER #2014 OR EJIW #1936-Z4

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

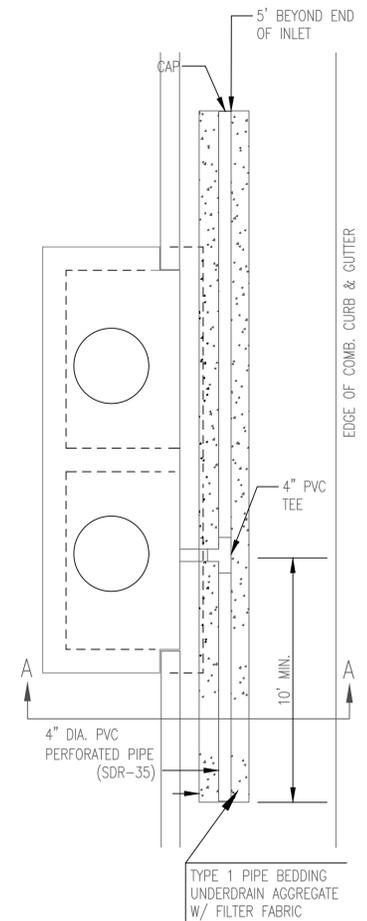


MANHOLE/INLET FRAME AND COVER (STORM SEWER)		
CITY ENGINEER GARY JANZEN, P.E.		
PROJECT NUMBER	OCA NUMBER	DATE 11/2010
CITY ENGINEER'S OFFICE CITY HALL - SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202-1620 (316) 268-4501		SHEET 2.2

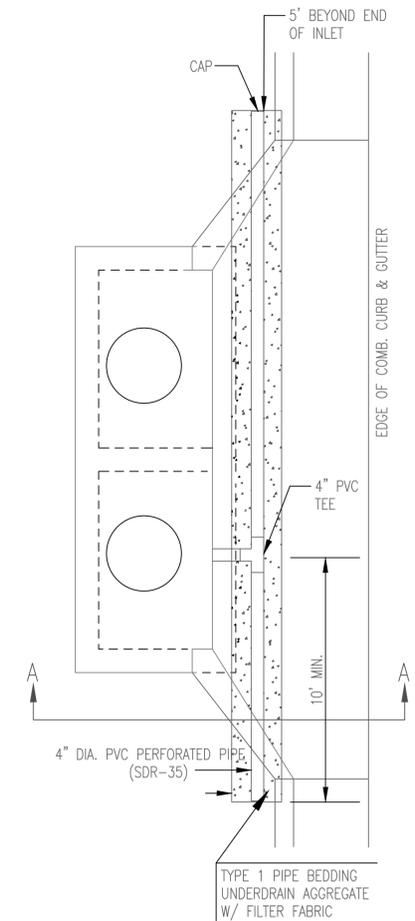
PAVEMENT UNDERDRAIN SHALL BE INSTALLED ON ALL CURB INLETS.



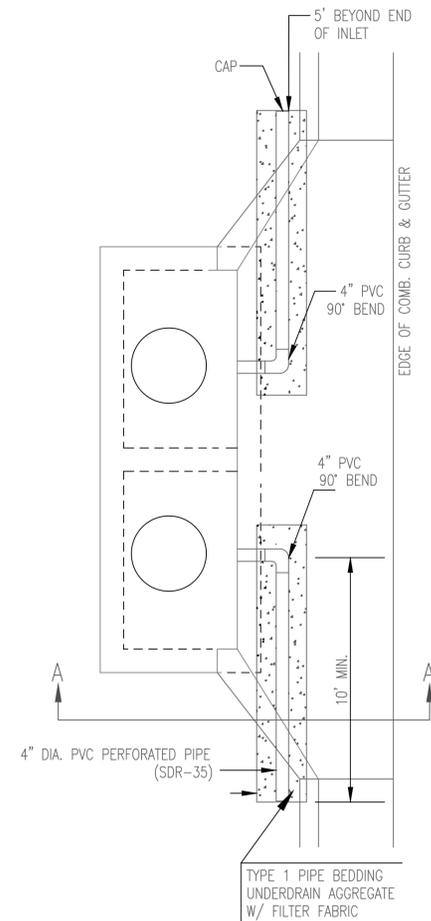
TYPE 1
OPTION 1



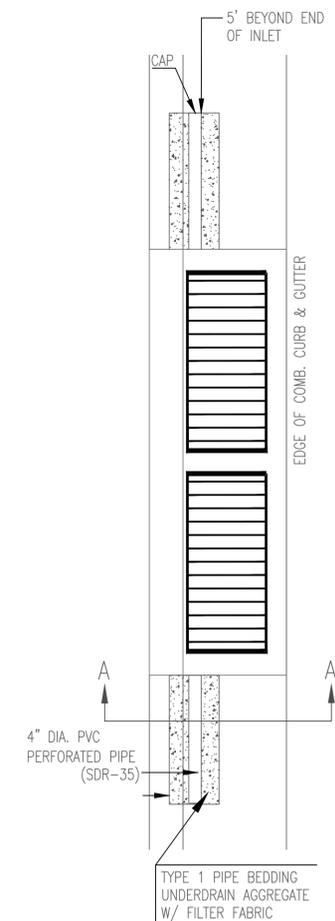
TYPE 1
OPTION 2



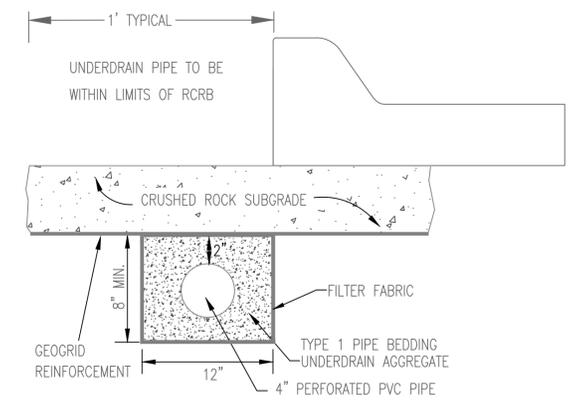
TYPE 1-A INLET
OPTION 1



TYPE 1-A INLET
OPTION 2



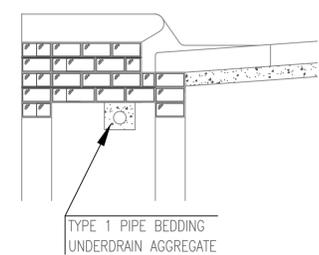
TYPE 2



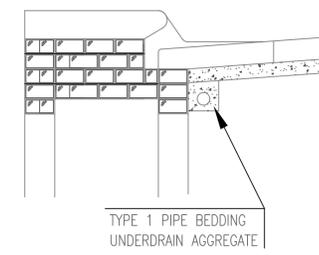
SECTION A-A (TYPICAL)

GENERAL NOTES

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



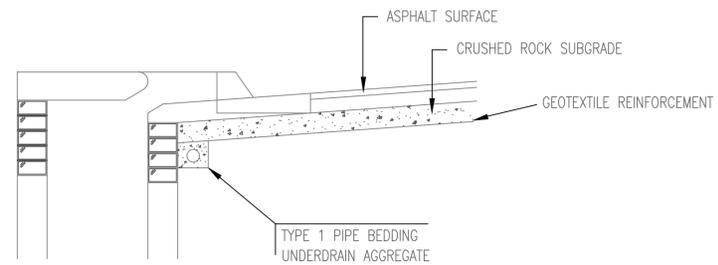
TYPE 1 PIPE BEDDING
UNDERDRAIN AGGREGATE



TYPE 1 PIPE BEDDING
UNDERDRAIN AGGREGATE

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

SECTION A-A

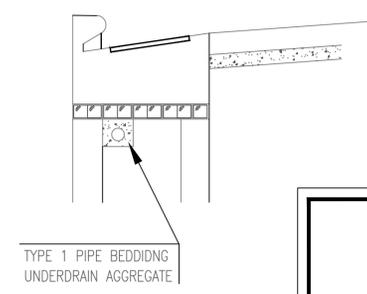


TYPE 1 PIPE BEDDING
UNDERDRAIN AGGREGATE

SECTION A-A

PAVEMENT UNDERDRAIN DETAIL

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

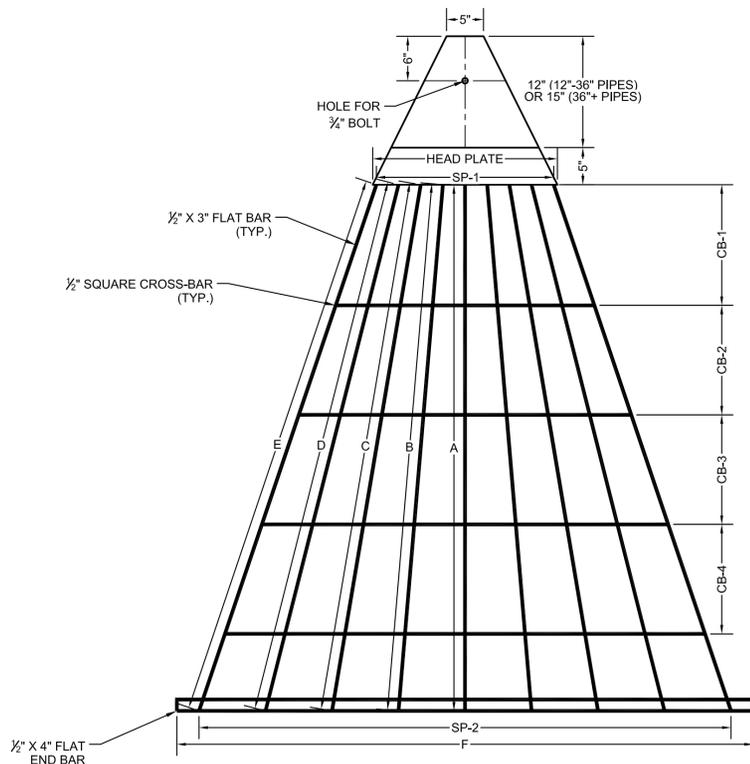


TYPE 1 PIPE BEDDING
UNDERDRAIN AGGREGATE

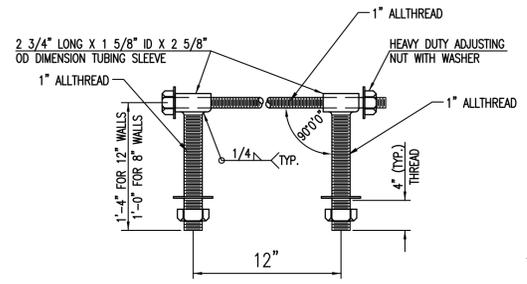
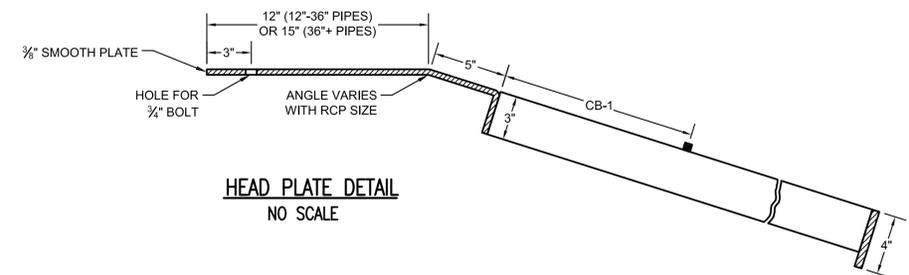
SECTION A-A

CITY OF
WICHITA
PUBLIC WORKS & UTILITIES
ENGINEERING DIVISION

CURB INLET PAVEMENT UNDERDRAIN DETAIL		
CITY ENGINEER GARY JANZEN, P.E.		
PROJECT NUMBER	OCA NUMBER	DATE
		10/2012
CITY ENGINEER'S OFFICE CITY HALL - SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202-1620 (316) 268-4501		SHEET 2.4

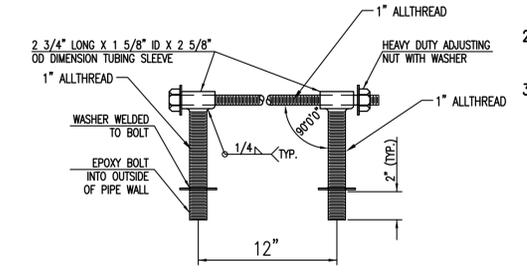


GRATE DIMENSIONS													
PIPE SIZE	HEAD PLATE	A	B	C	D	E	F	CB-1	CB-2	CB-3	CB-4	SP-1	SP-2
12"	13"	19 1/4"	19 3/8"	-	-	-	27"	10 3/8"	-	-	-	3@4"	3@6"
15"	13"	23 1/2"	25 1/4"	-	-	-	34"	10 3/4"	-	-	-	3@4"	3@8"
18"	13"	25"	26 1/8"	-	-	-	40"	12 7/8"	-	-	-	3@4"	3@9"
24"	17"	41 1/2"	42 1/2"	43 1/2"	-	-	53"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



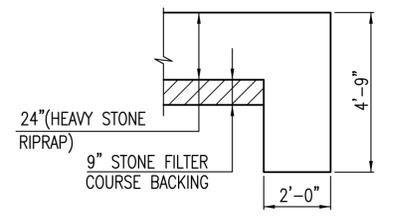
HEAVY DUTY (H.D.) COUPLER (>=36")
NO SCALE

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



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

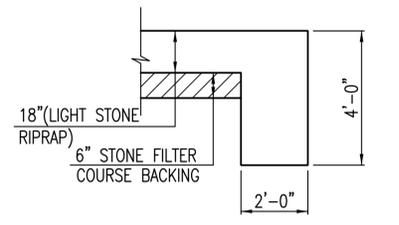
- NOTES
1. BOLTS TO BE A-36 1 1/2" DIAMETER.
 2. BOLTS, NUTS, WASHERS AND SLEEVES TO BE ZINC PLATED.
 3. WASHERS TO BE 3 1/2" O.D. X 7 GAUGE.
 4. SHIP WITH NUTS AND WASHERS PLACED ON BOLTS.



TYPICAL SECTION THRU TOEWALL
NO SCALE

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

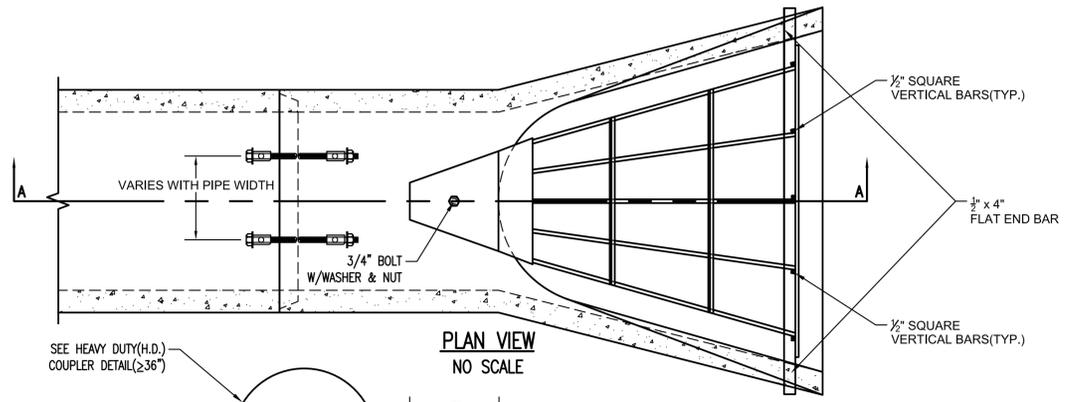
HEAVY STONE RIPRAP DETAILS



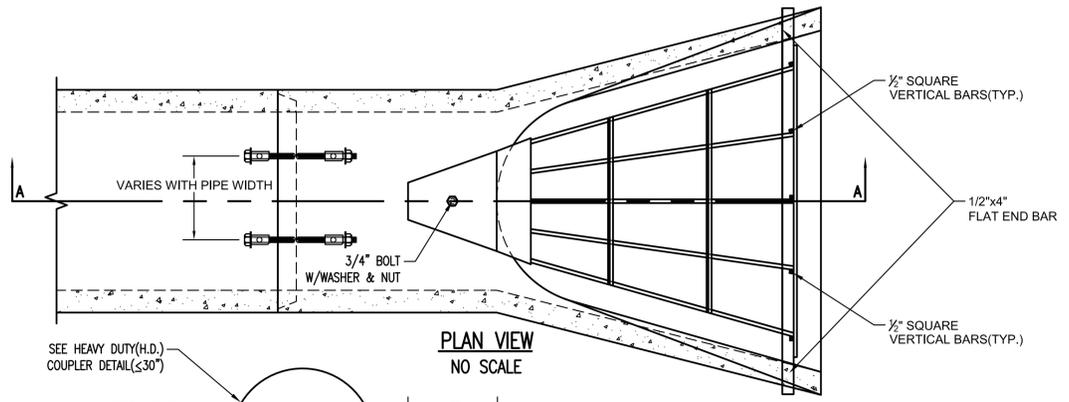
TYPICAL SECTION THRU TOEWALL
NO SCALE

- NOTES
1. ALL RIPRAP FOR THIS PROJECT SHALL BE NATURAL STONE. NEITHER BROKEN CONCRETE, FABRIC ENVELOPE, NOR PREMIXED DRY PACKAGED CONCRETE BAG ALTERNATES WILL BE ALLOWED, UNLESS INDICATED OTHERWISE.
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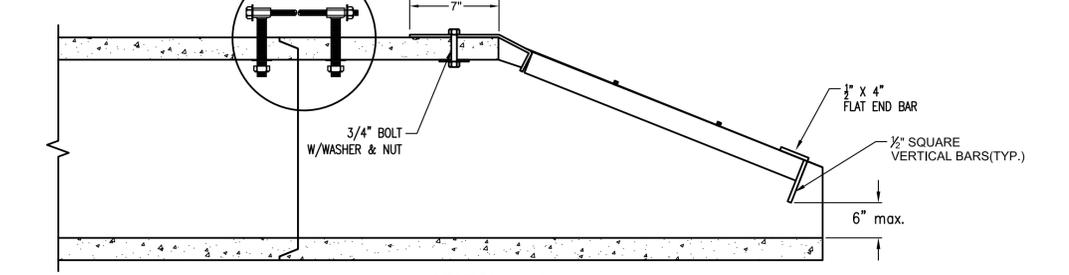
LIGHT STONE RIPRAP DETAILS



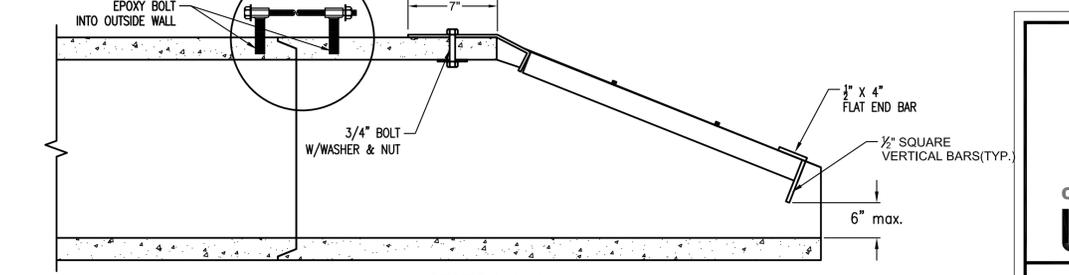
PLAN VIEW
NO SCALE



PLAN VIEW
NO SCALE



SECTION A-A



SECTION A-A



END SECTION, PIPE RESTRAINT COUPLER & END GRATE

CITY ENGINEER
GARY JANZEN, P.E.

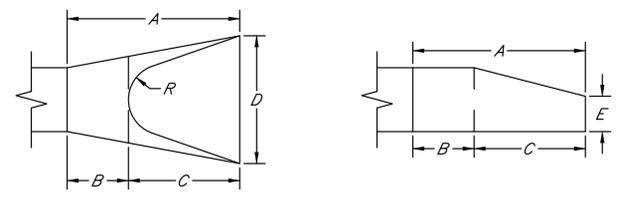
PROJECT NUMBER	OCA NUMBER	DATE
		01/2015

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

DESIGN	DRAWN
	SHEET

Re-Enforced Concrete Pipe Information									
Pipe Size	Wall	Weight	Elliptical	End Section Information					
	Thickness	per ft	Equivalent	"A"	"B"	"C"	"D"	"E"	"R"
12"	2.0"	100 lbs	---	6.07'	4.07'	2.00'	2.00'	0.33'	0.75'
15"	2.5"	128 lbs	---	6.08'	3.83'	2.25'	2.50'	0.50'	0.92'
18"	2.5"	168 lbs	23"x14"	6.08'	3.83'	2.25'	3.00'	0.75'	1.00'
24"	3.0"	268 lbs	30"x19"	6.12'	2.50'	3.62'	4.00'	0.79'	1.16'
30"	3.5"	385 lbs	38"x24"	6.12'	1.64'	4.50'	5.00'	1.00'	1.25'
36"	4.0"	524 lbs	45"x29"	8.14'	2.89'	5.25'	6.00'	1.25'	1.66'
42"	4.5"	684 lbs	53"x34"	8.16'	2.92'	5.25'	6.50'	1.75'	1.83'
48"	5.0"	868 lbs	60"x38"	8.16'	2.16'	6.00'	7.00'	2.00'	1.83'
54"	5.5"	1070 lbs	68"x43"	8.18'	2.77'	5.42'	7.50'	2.25'	2.00'
60"	6.0"	1290 lbs	---	8.25'	3.25'	5.00'	8.00'	2.92'	2.00'
66"	6.5"	1540 lbs	---	---	---	---	---	---	---
72"	7.0"	1800 lbs	---	8.25'	1.75'	6.50'	9.00'	3.00'	2.00'
84"	---	---	---	9.25'	1.75'	7.54'	10.00'	3.00'	2.00'

all measurements approximate



GRADATION REQUIREMENTS:

1. **Heavy Stone Riprap:** Heavy stone riprap shall be constructed twenty-four inches (24") in thickness and shall be placed on a stone filter course backing having a thickness of nine inches (9"). Stone used in riprap shall meet the required quality requirements and the following size requirements.

<u>Weight of Individual Pieces</u>	<u>Minimum Percent Larger Than</u>
1,000 lbs	0%
500 lbs	50%
75 lbs	90%

Filter course backing for heavy stone riprap shall be produced from the stone meeting the quality requirements of stone for riprap and shall have the following size requirements

<u>Sieve Size</u>	<u>Percent Retained</u>
6"	0%
5"	5-25%
2"	40-60%
3/8"	75-95%

2. **Light Stone Riprap:** Light stone riprap shall be constructed eighteen inches (18") in thickness and shall be placed on a stone filter course backing having a thickness of six inches (6"). Stone used in riprap shall meet the required quality requirements and the following size requirements.

<u>Weight of Individual Pieces</u>	<u>Minimum Percent Larger Than</u>
500 lbs	0%
250 lbs	50%
125 lbs	70%
10 lbs	90%

Filter course backing for heavy stone riprap shall be produced from the stone meeting the quality requirements of stone for riprap and shall have the following size requirements

<u>Sieve Size</u>	<u>Percent Retained</u>
4"	0%
2"	10-40%
1"	25-60%
3/8"	55-85%
#4	70-95%

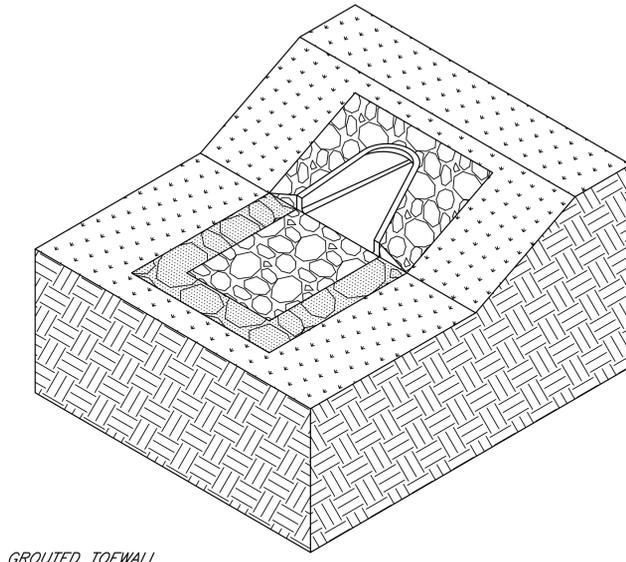
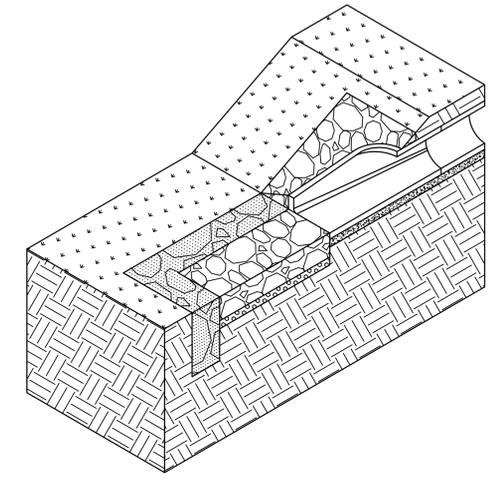
INSTALLATION OF STONE RIPRAP:

Stone riprap shall be placed on a prepared bedding layer so as to produce a reasonably well-graded mass with a minimum percentage of void. Stone riprap shall be placed to its full course thickness in one operation without displacing the bedding. Placing stone riprap by dumping into chutes or any other method likely to cause segregation will not be permitted. Placement of stone on the slope and in toe trenches shall be accomplished by controlled dumping directly in place.

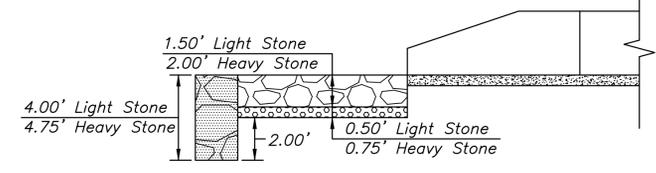
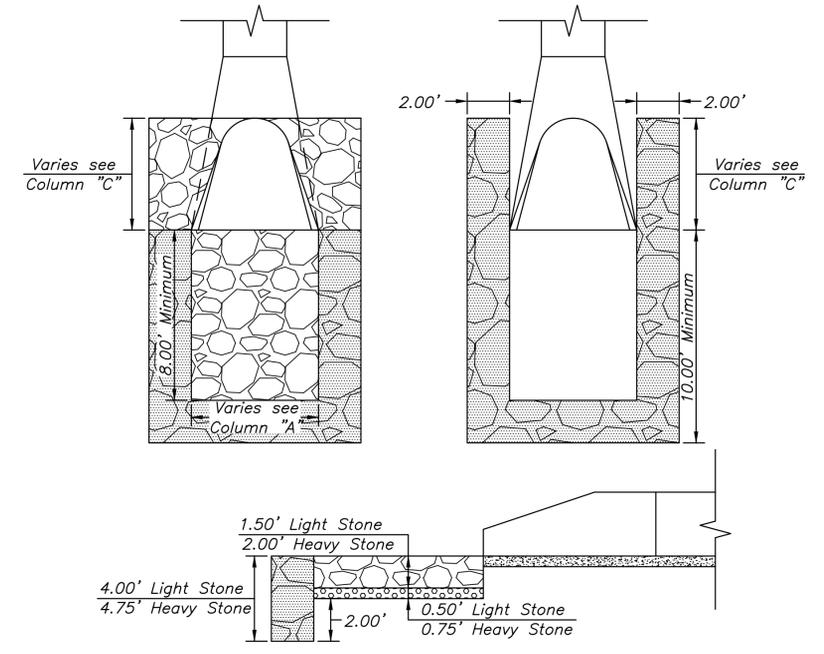
Bulldozing of stone from the upper banks will not be permitted, use of a drag line or similar equipment operated from the top of the bank to pull stone into position on the upper slope will be permitted. Stone riprap may be placed below water, providing it is placed by skip or another approved method which will prevent segregation. Larger stones should be distributed and the entire mass of stones in their final position should be stable and free of pockets of small stones and clusters of larger of larger ones; rearrangement of individual pieces by hand may be required to obtain the results described above. A tolerance of plus three inches (3") from the lines and grades shown on the continuous over an area greater than 100 square feet. Hand placing of riprap stones shall be necessary to produce reasonably true surfaces and close fit of stones. The larger spaces between the stones shall be fitted with spalls of suitable size, rammed thoroughly in place. The spaces between stones shall be fitted with smaller rock, carefully hand placed in such a manner to obtain a tight surface.

Toewalls shall be installed along all unprotected edges of edges of stone riprap construction. Such toewalls shall be constructed using the same size stone specified for the riprap with the toewall thickness being the same thickness as specified for the riprap without the filter course backing. The toewalls shall extend a minimum distance of 2' below the bottom of the filter course backing material and they shall be constructed perpendicular to the top surface of the riprap construction. Toewall construction shall be grouted in place for the full depth from the bottom of the toewall to the top surface of the riprap for the full thickness of the toewall to the top surface of riprap for the full thickness of the toewall.

When specified, all riprap placed within the limits of a dimension of 10' from pipe ends, pipe end sections and headwall structures, as measured from the outside edges of such pipe ends or structures, shall be grouted in place. Other area shall be grouted when indicated by the plans. When grouted stone riprap is required, the spaces between the riprap stones shall be filled with water to form a plastic mix. The grout mixture shall be poured and broomed into the voids around the rock until all such voids are completely filled. Grouted stone riprap will be cured in the same manner as specified in the standard specifications for concrete pavement.



- GROUTED TOEWALL
- STONE RIPRAP
- FILTER COURSE BACKING



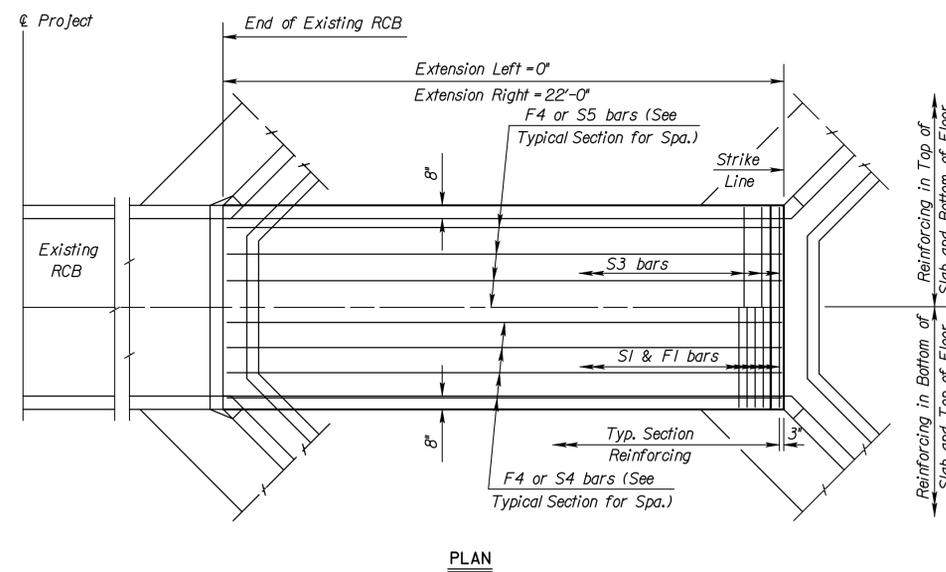
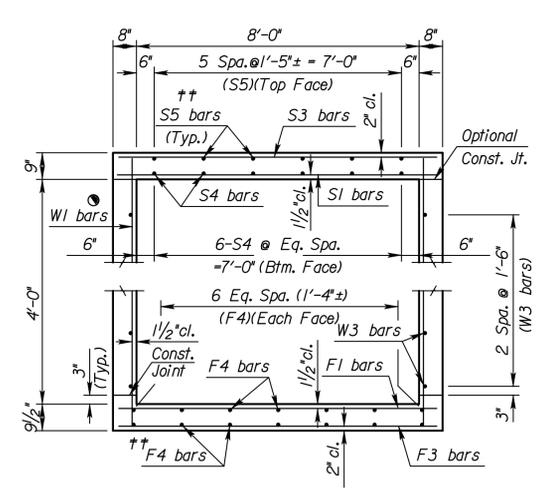
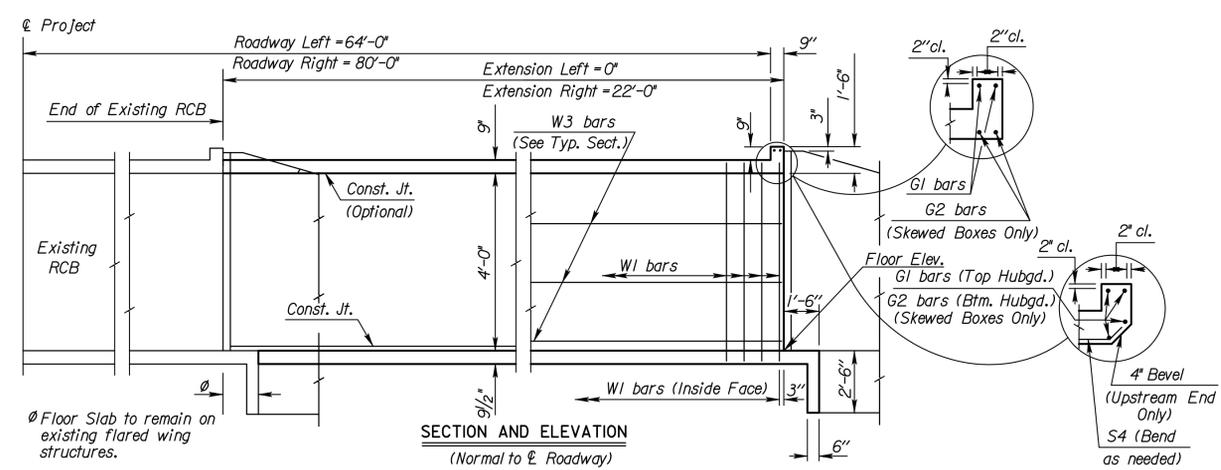
STORM WATER DRAIN
GREENWICH LEGACY ADDITION
WICHITA, KANSAS

REVISIONS	

KEM PROJ. 21177	DATE 06.2025
DESIGNED ZJS	DRAWN ZJS

Rip-Rap Details

**STORM WATER DRAIN
GREENWICH LEGACY ADDITION
WICHITA, KANSAS**



STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	0			

See RCB Auxiliary Details for Optional Splice.

Note:
S3 bars omitted unless grade box or slab thickness is greater than or equal to 12".

Note:
F3 bars omitted unless floor thickness is greater than or equal to 12".

†† Omit S5 bars when S3 bars are omitted and omit the bottom layer of F4 bars when F3 bars are omitted.

See Standard No. RD 080 for additional details.

GENERAL NOTES

DESIGN SPECIFICATION: AASHTO LRFD Spec., 2007 Ed., 2009 Int.
DESIGN LOADING: HL93
UNIT STRESSES: Grade 4.0 Concrete f'c = 4,000 p.s.i.
Reinforcing Steel fy = 60,000 p.s.i.

FILL HEIGHT: Unless otherwise noted, the Design Fill Height is measured from the riding surface at the culvert and includes the surfacing.

CONCRETE: Use concrete conforming to Grade 4.0 Concrete. Bevel all exposed edges with a 3/4" triangular molding. Where Grade 4.0(AE) is specified, place this concrete in the top slab above the Construction Joint.

REINFORCING: Use reinforcing steel conforming to ASTM A615, Grade 60. All dimensions relative to reinforcing steel are to the centerline of the bar unless otherwise noted.

EXCAVATION: Excavation for culverts less than bridge length shall not be paid for directly but shall be subsidiary to Grade 4.0 Concrete. Excavation for RCB bridges shall be paid for as Class III Excavation.

SEAL COURSE: The Engineer may require a seal course. The seal course shall be unreinforced Concrete (Commercial Grade) with a minimum depth of 3 inches or as determined by the Engineer. Concrete for the seal course shall be paid for at the unit price set for Concrete for Seal Course.

FOUNDATION STABILIZATION: The Foundation Stabilization quantity has been calculated to the limits shown on the "RCB Auxiliary Details" sheet. The depth may be increased by the Engineer. The Contractor may under-run Foundation Stabilization under the barrel if founded on firm material and with the Engineer's approval. Use Foundation Stabilization on all wingwalls unless founded on rock or granular material.

QUANTITIES: The quantities shown in the Culvert Summary include apron and/or soil saver quantities when they are required by the plans. Payment for additional quantities that result from including a seal course and/or a floating apron, as a change in the original plans, shall be made at the unit price bid for the various items involved.

GRANULAR BACKFILL (WINGWALLS): See the "Auxiliary Details" sheet.

STRIKE LINE: Construct the wingwalls and that portion of the RCB outside the Strike Line level. Construct the wingwall footings with the culvert floor. See the wingwall detail sheets.

BRIDGE BACKWALL PROTECTION SYSTEM: For structures with this bid item in the Summary of Quantities. See the "Auxiliary Details" sheet.

For design purposes ONLY. Do NOT use for Construction		CULVERT SUMMARY						includes any welded wire fabric			LRFR RATING FACTORS			
Floor Elev.	Crown Gr. Elev.	Design Fill Ht.	Skew	Wings	Scour Apron	Soil Saver	Concrete			Reinf. Steel (Gr. 60)		HL-93 Loading		
							Barrel (Cu.Yds.)	Wings (Cu.Yds.)	Total (Cu.Yds.)	Barrel (Lbs.)	Wings (Lbs.)	Total (Lbs.)	Inventory	Operating
Ext.Lt. 1335.15	1341.69	3	0	Flared	Yes	No	0.00	4.77	4.77	0	582	582	1.34	1.74
Ext.Rt. 1334.00				Flared			15.85	6.93	22.78	1724	705	2429		

BAR SCHEDULE																																									
Δ F1					Δ F3					Δ F4					Δ S1					Δ S3					Δ S4					Δ S5											
Size	Spa.	No.	Length		Size	Spa.	No.	Length		Size	Spa.	No.	Length		Size	Spa.	No.	Length		Size	Spa.	No.	Length		Size	Spa.	No.	Length		Size	Spa.	No.	Length		Size	Spa.	No.	Length			
Ext.Lt.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Ext.Rt.	6	6	44	9'-0"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9'-0"	4	7	20'-2"	6	6	47	9'-0"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Minimum Splice Lengths	
#4	1'-5"
#5	1'-9"

SUMMARY OF QUANTITIES		
NO.	DESCRIPTION	QUANTITY
1	Concrete (Grade 4.0)	21.6 C.Y.
2	Concrete (Grade 4.0(AE))	5.9 C.Y.
3	Bridge Backwall Protection System	27 S.Y.
4	Reinforcing Steel (Gr. 60)	1290 Lbs.
5	Reinforcing Steel (Gr. 60)(Epoxy Coated)	1720 Lbs.
6	Class III Excavation	C.Y.
7	Foundation Stabilization	11 C.Y.
8	Concrete for Seal Course (Set)	1 C.Y.
9	Granular Backfill (Wingwalls)	24 C.Y.

KANSAS DEPARTMENT OF TRANSPORTATION			
NO.	DATE	REVISIONS	BY
BR I.8.4 P SINGLE 8 ft x 4 ft RCB(15*ROT.RT.) 22.0 ft EXT. RT.			
DESIGNED		CHECKED	
DETAILS		QUANTITIES	
DESIGN CK.		DETAIL CK.	

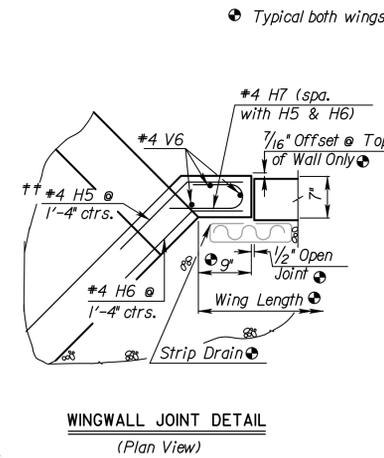
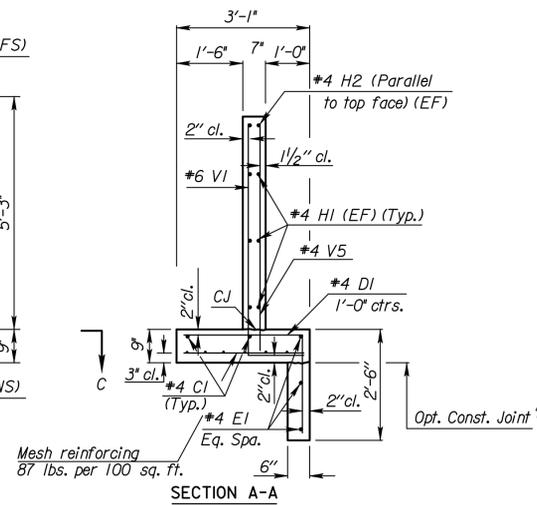
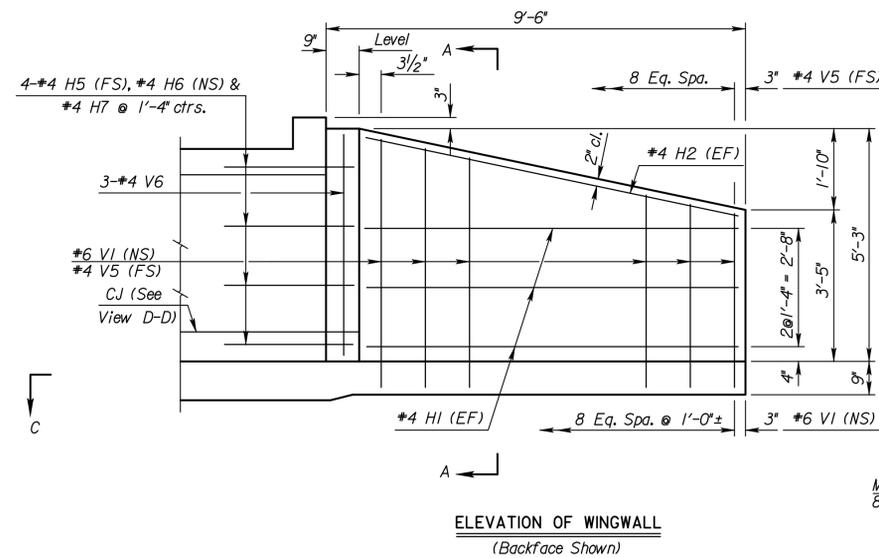
REVISIONS	

KEM PROJ. 21177	DATE 06.2025
DESIGNED ZJS	DRAWN ZJS
8' x 4' RCB Details	
SHEET 2.7	

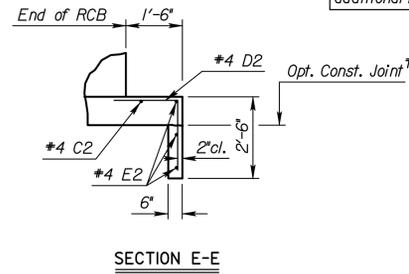
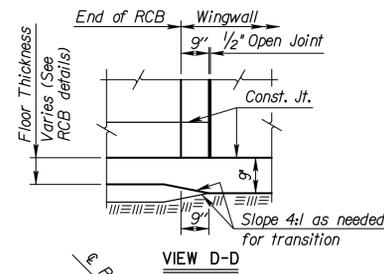
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	0			

GENERAL NOTES

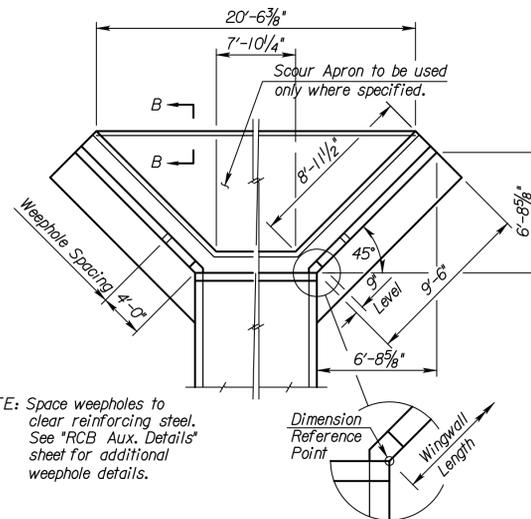
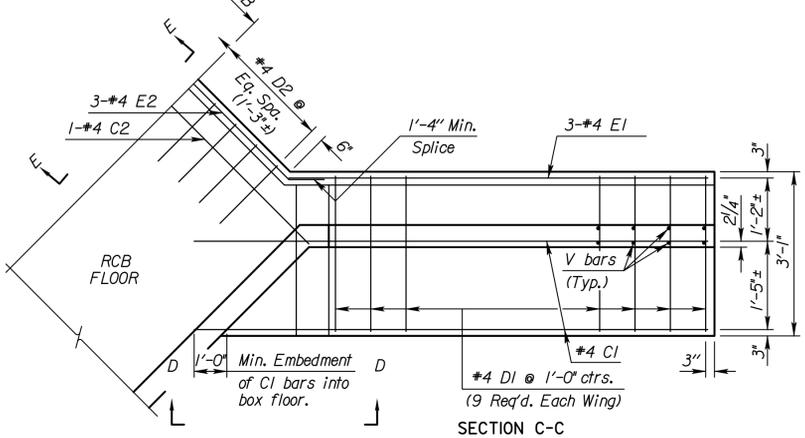
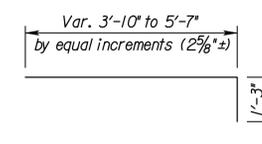
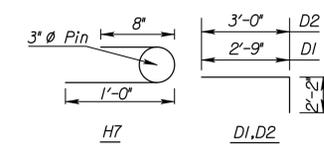
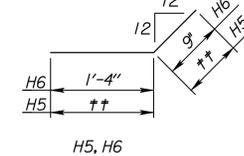
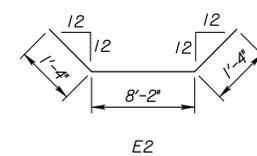
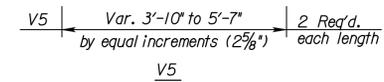
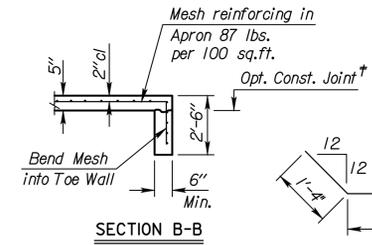
DESIGN SPECIFICATION: AASHTO LRFD Spec., 2007 Ed., 2009 Int.
 DESIGN LOADING: HL93
 UNIT STRESSES: Grade 4.0 Concrete; $f_c = 4,000$ p.s.i.
 Reinforcing Steel; $f_y = 60,000$ p.s.i.
 CONCRETE: Grade 4.0 Concrete shall be used throughout. Bevel all exposed edges with a $\frac{3}{4}$ " triangular mounding.
 REINFORCING: All reinforcing shall conform to ASTM A615, Grade 60. Welded Wire Reinforcement shall conform to ASTM A185. All dimensions relative to reinforcing steel shall be to centerline of bar unless otherwise noted. Welded Wire Reinforcement shall be classified as pounds of reinforcing and included in the total quantity for the bid item Reinforcing Steel (Gr. 60).
 QUANTITIES: Wingwall Quantities include all quantities outside the neat lines of the box, excluding the hubguard.
 APRON: A 5" concrete slab shall be constructed between the downstream wings in locations subject to scour only when specified on the plans or by the Engineer.
 BACKFILL MATERIAL: Use Granular Backfill material meeting the requirements of SB-1, SB-2, SCA-1, SCA-2.
 Backfill all wings to limits shown on the "RCB Auxiliary Sheet".
 FILTER FABRIC: Separate in-situ material from granular backfill with approved filter fabric complying with Section 1710.
 Filter Fabric is subsidiary to "Granular Backfill".
 FOUNDATION STABILIZATION: Use Foundation Stabilization on all wingwalls unless founded on rock or granular material.



† NOTE: Const. Jt. may be used at Contractor's option when approved by the Engineer. DI bars or mesh may be spliced thus: Minimum overlap shall be 1'-3". No increase in quantities or cost shall be allowed when Contractor elects this option.



NOTE:
 EF = Each Face
 NS = Near Side
 FS = Far Side
 CJ = Const. Joint



NOTE: Space weepholes to clear reinforcing steel. See "RCB Aux. Details" sheet for additional weephole details.

Quantities listed below are included in the Summary of Quantities shown on the RCB details.

WINGWALL QUANTITIES (One End Only)	
	Foundation Stabilization (Concrete Gr. 4.0)
Wingwalls	1.80 (C.Y.) 4.77 (C.Y.)
Apron	1.48 (C.Y.) 2.16 (C.Y.)
Soil Saver	0.00 (C.Y.) 0.00 (C.Y.)
Reinforcing Steel (Gr. 60)	531 Lbs.
Welded Wire Fabric (Wings)	51 Lbs.
Welded Wire Fabric (Apron)	123 Lbs.
Granular Backfill (Wingwalls)	12.00 C.Y.
Filter Fabric (subsidiary)	18.00 S.Y.

BENDING DIAGRAM
 (All dimensions are out to out of bars.)
 †† Bend in Field

NOTE: Reinforcing Bar List is for both wings at one end of box only.

0° Skew	No.	#4C1	#4D1	#4E1	#4C2	#4D2	#4E2	#6V1	#4H1	#4H2	#4H5	#4H6	#4H7	#4V5	#4V6
	Length	11'-7"	4'-11"	8'-9"	9'-0"	5'-2"	10'-10"	*	8'-4"	8'-6"	1'-10"	2'-1"	1'-9"	*	5'-0"

* See Bending Diagram

NO.	DATE	REVISIONS	BY	APP'D
3				
2				
1				

KANSAS DEPARTMENT OF TRANSPORTATION
 Sta. 11+23
FLARED WINGWALLS
 4 †† Rise (0° SKEW)

BR 10.00.04 Sedgwick Co.
 FHWA APPROVAL 10-20-10 APP'D Terry L. Fleck
 DESIGNED DETAIL CK. QUANTITIES CADD CK.
 DESIGN CK. DETAIL CK. CADD CK.

CADconform Certify This File

REVISIONS	

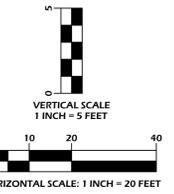
8' x 4' RCB
 Details



**STORM WATER DRAIN
GREENWICH LEGACY ADDITION
WICHITA, KANSAS**

STORM WATER DRAIN

WICHITA, KANSAS

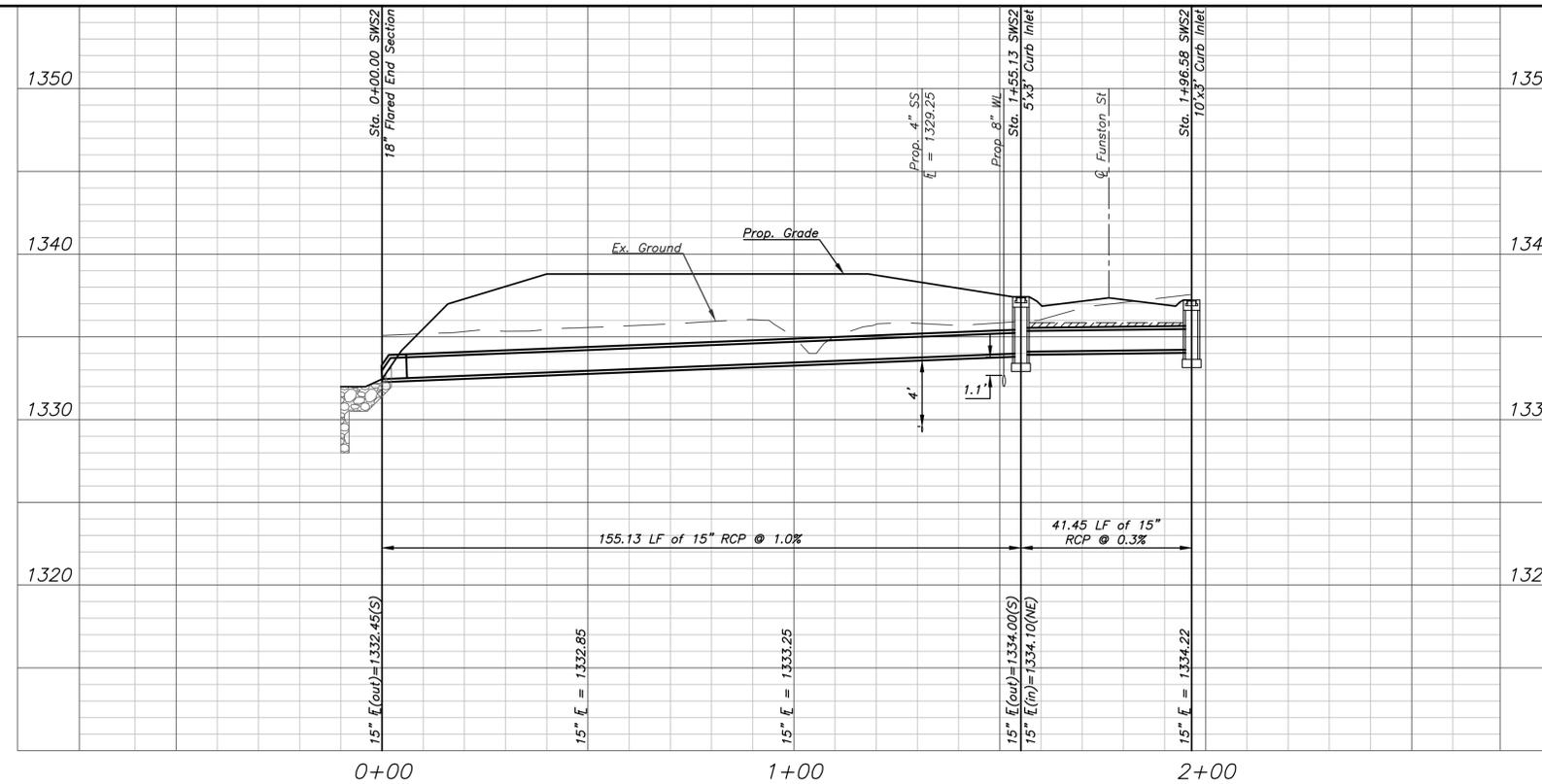
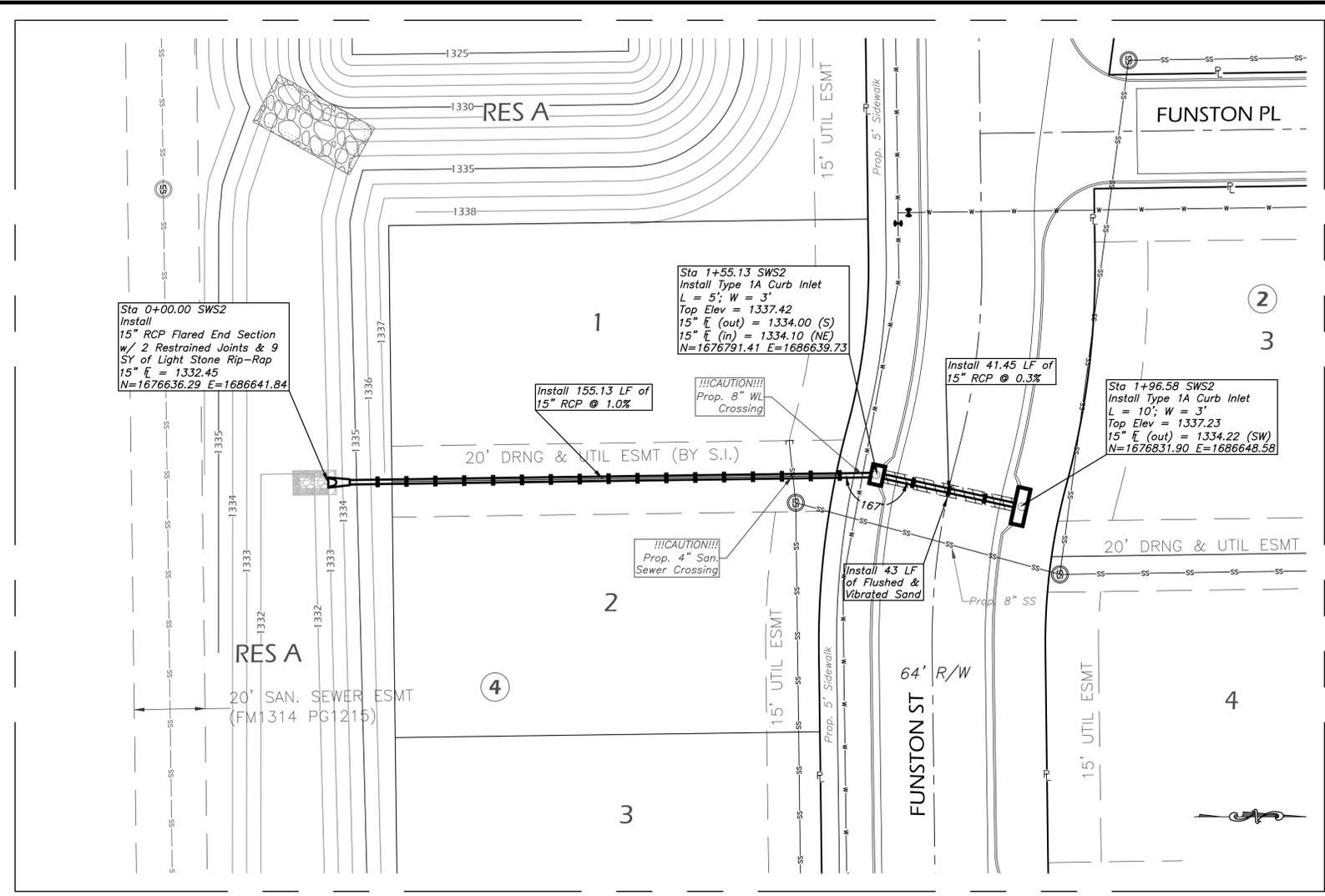
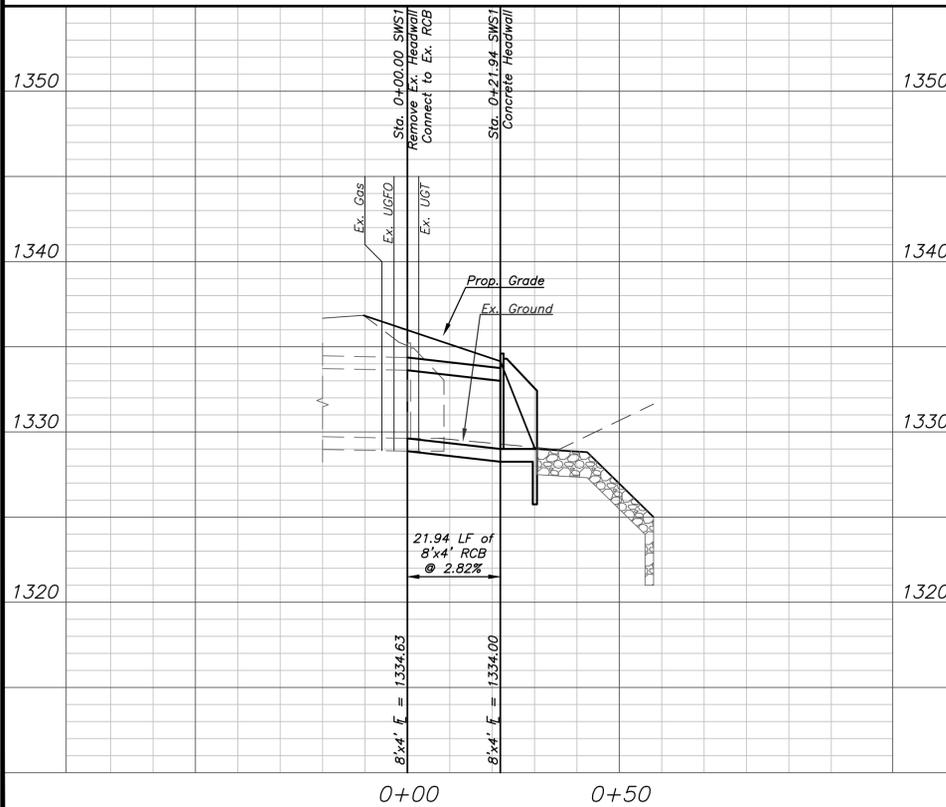
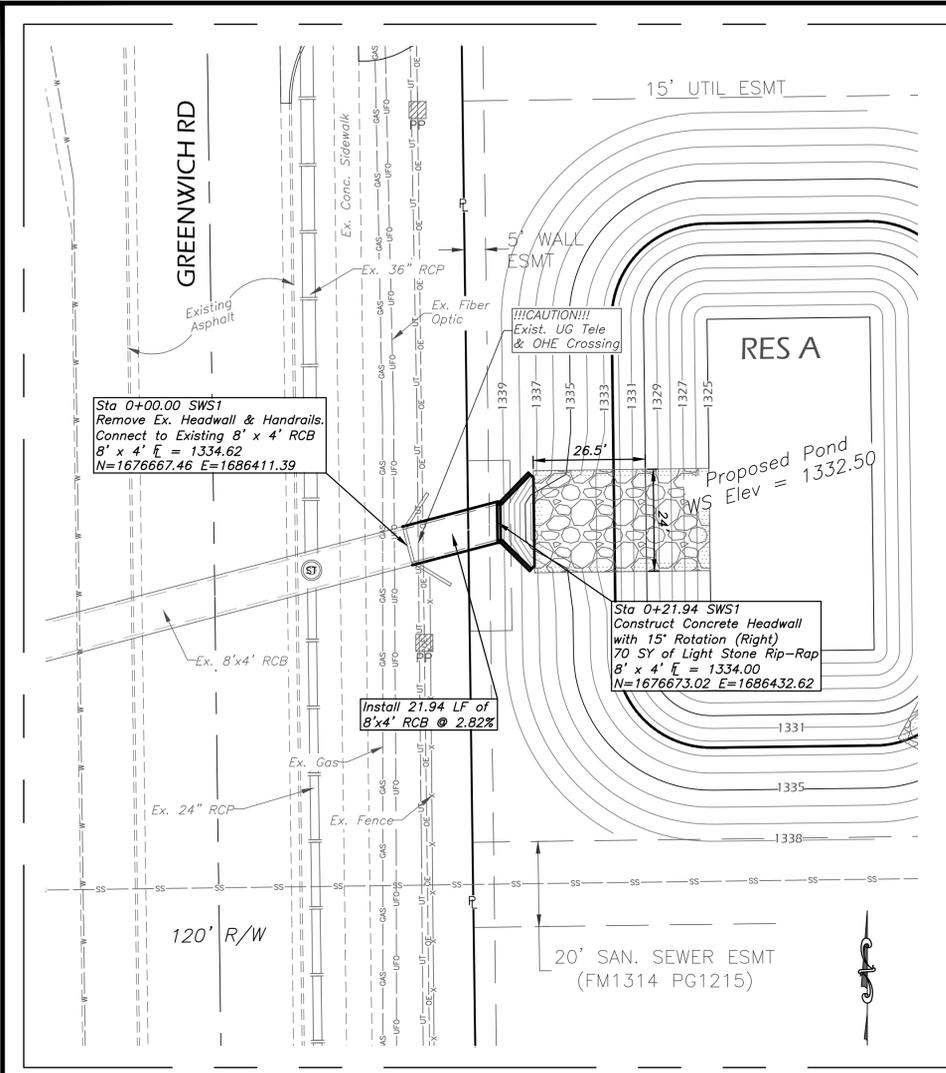


REVISIONS	

KEM PROJ. 21177	DATE 08.2025
DESIGNED ZJS	DRAWN ZJS

**Plan & Profile
Lines 1 & 2**

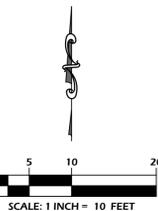
SHEET **3.0**





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STORM WATER DRAIN
GREENWICH LEGACY ADDITION
WICHITA, KANSAS



REVISIONS

KEM PROJ. 21177	DATE 08.2025
DESIGNED ZJS	DRAWN ZJS

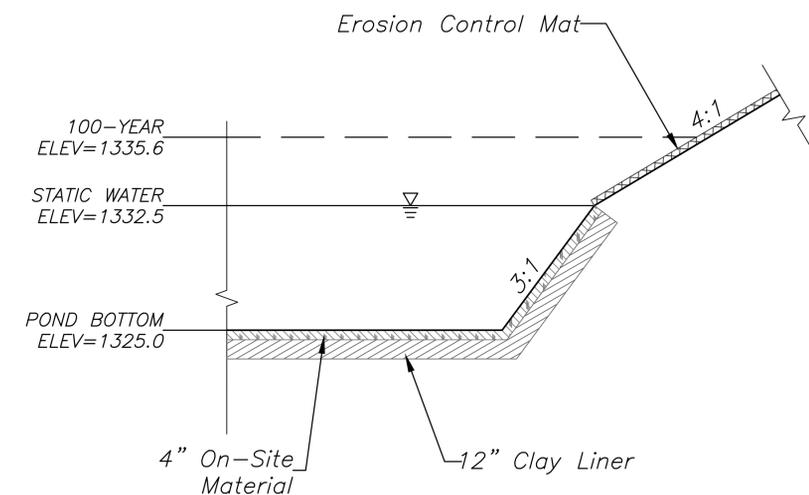
Pond #1 Plan

SHEET **4.0**

POND GRADING NOTES:

1. Overexcavate 12" of soil for all areas within pond that are below the proposed water surface elevation.
2. Construct 12" Clay Liner in 2 - 6" Lifts, using high plasticity clay (P.I. > 30 or best available on site.) Refer to Geotechnical Report for on-site materials.
3. All areas within the pond limits, including side slopes above the water surface are to be compacted to 95% standard density with ±2% optimum moisture content.
4. All costs associated with construction of the Clay Liner are subsidiary to Earthwork bid items.

Point Table			
Point #	Raw Description	Northing	Easting
314	Radius	1676642.58	1686483.09
315	Radius	1676720.69	1686482.09
316	Radius	1676721.18	1686520.53
317	Radius	1676643.07	1686521.53
318	Rip-Rap	1676661.13	1686441.42
319	Rip-Rap	1676661.49	1686469.35
320	Rip-Rap	1676685.48	1686469.04
321	Rip-Rap	1676685.13	1686441.11
322	Rip-Rap	1676626.53	1686518.90
323	Rip-Rap	1676614.81	1686540.21
324	Rip-Rap	1676643.47	1686555.98
325	Rip-Rap	1676653.41	1686537.90



TYPICAL POND SECTION

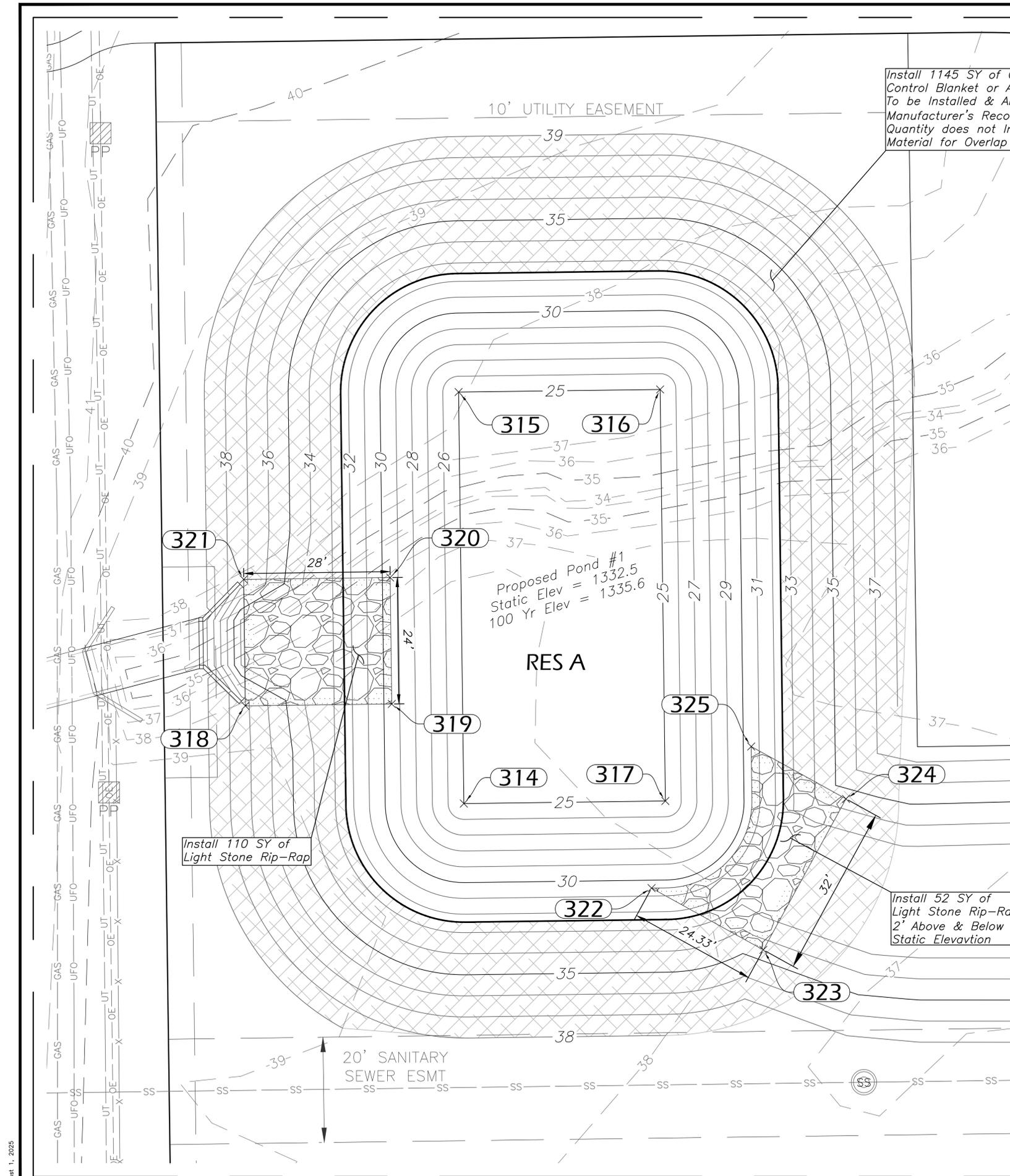
NOT TO SCALE

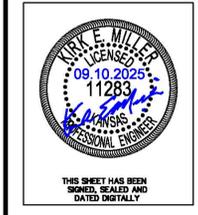
Install 1145 SY of Curlex II Erosion Control Blanket or Approved Equivalent. To be Installed & Anchored per Manufacturer's Recommendation. Quantity does not Include Excess Material for Overlap & Anchoring

Proposed Pond #1
Static Elev = 1332.5
100 Yr Elev = 1335.6

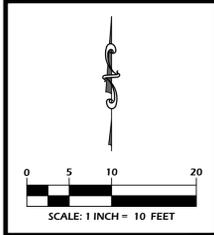
Install 110 SY of Light Stone Rip-Rap

Install 52 SY of Light Stone Rip-Rap 2' Above & Below Static Elevation





STORM WATER DRAIN
GREENWICH LEGACY ADDITION
 WICHITA, KANSAS



REVISIONS

NO.	DATE	DESCRIPTION

KEM PROJ. 21177	DATE 08.2025
DESIGNED ZJS	DRAWN ZJS

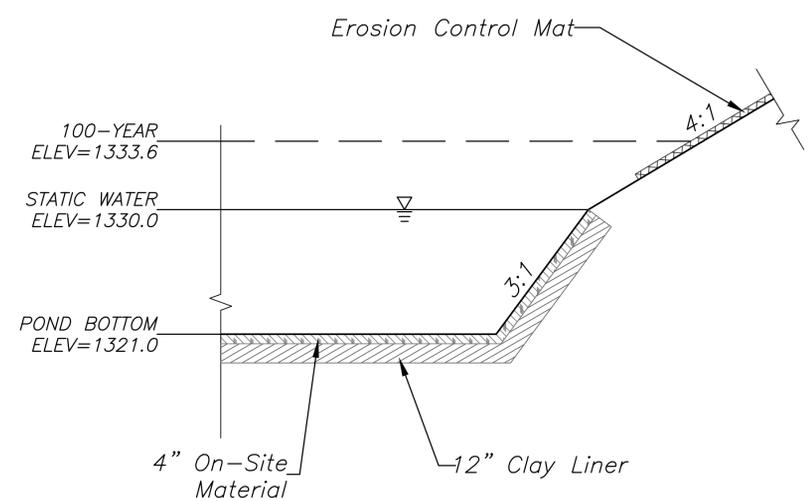
Pond #2 Plan

POND GRADING NOTES:

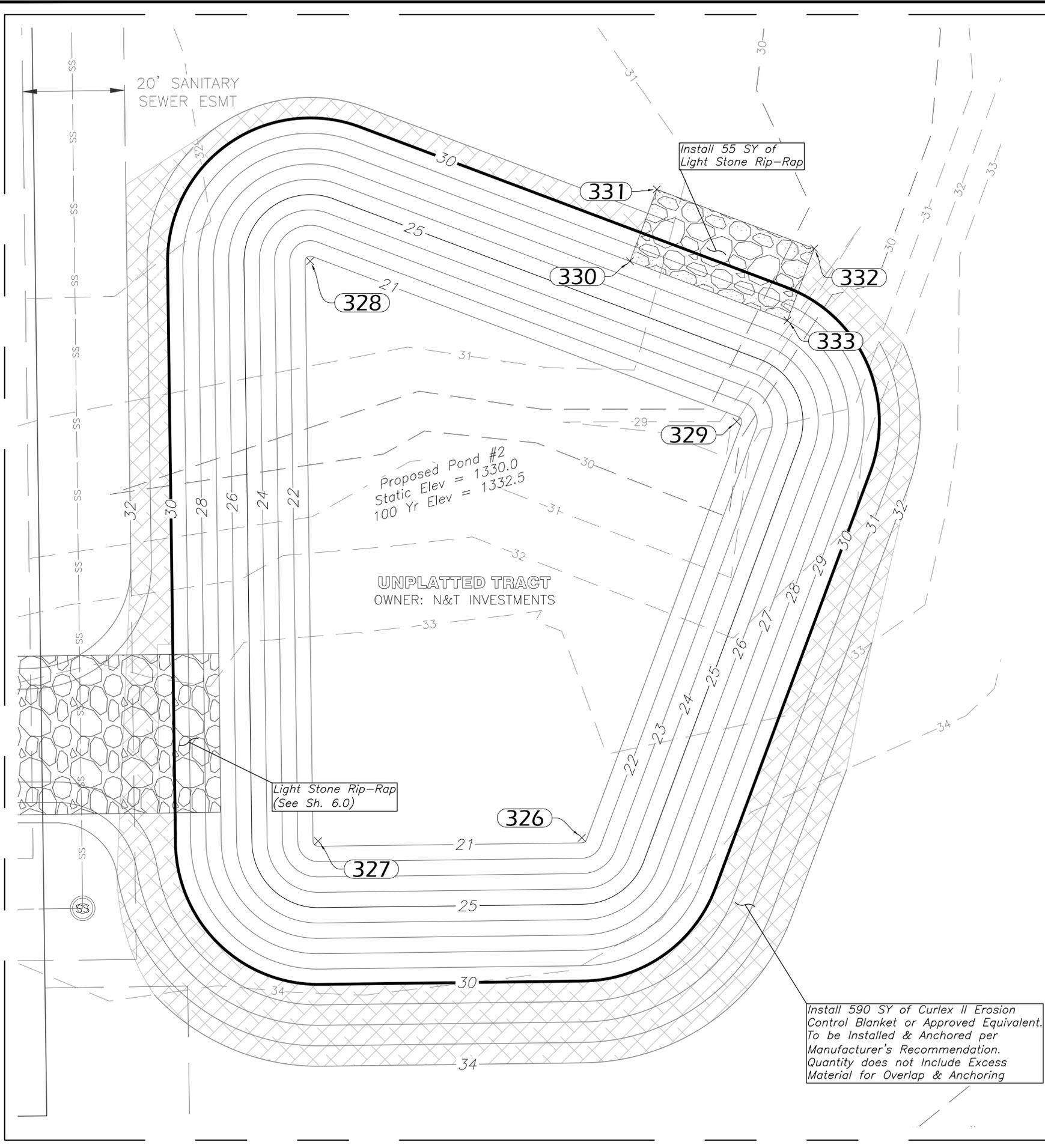
- Overexcavate 12" of soil for all areas within pond that are below the proposed water surface elevation.
- Construct 12" Clay Liner in 2 - 6" Lifts, using high plasticity clay (P.I. > 30 or best available on site.) Refer to Geotechnical Report for on-site materials.
- All areas within the pond limits, including side slopes above the water surface are to be compacted to 95% standard density with ±2% optimum moisture content.
- All costs associated with construction of the Clay Liner are subsidiary to Earthwork bid items.

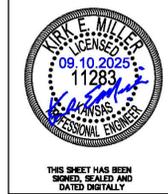
Point Table

Point #	Raw Description	Northing	Easting
326	Radius	1676610.20	1687172.01
327	Radius	1676609.54	1687120.24
328	Radius	1676722.90	1687118.69
329	Radius	1676691.55	1687202.41
330	Rip-Rap	1676722.89	1687181.45
331	Rip-Rap	1676736.94	1687186.71
332	Rip-Rap	1676725.36	1687217.62
333	Rip-Rap	1676711.32	1687212.36



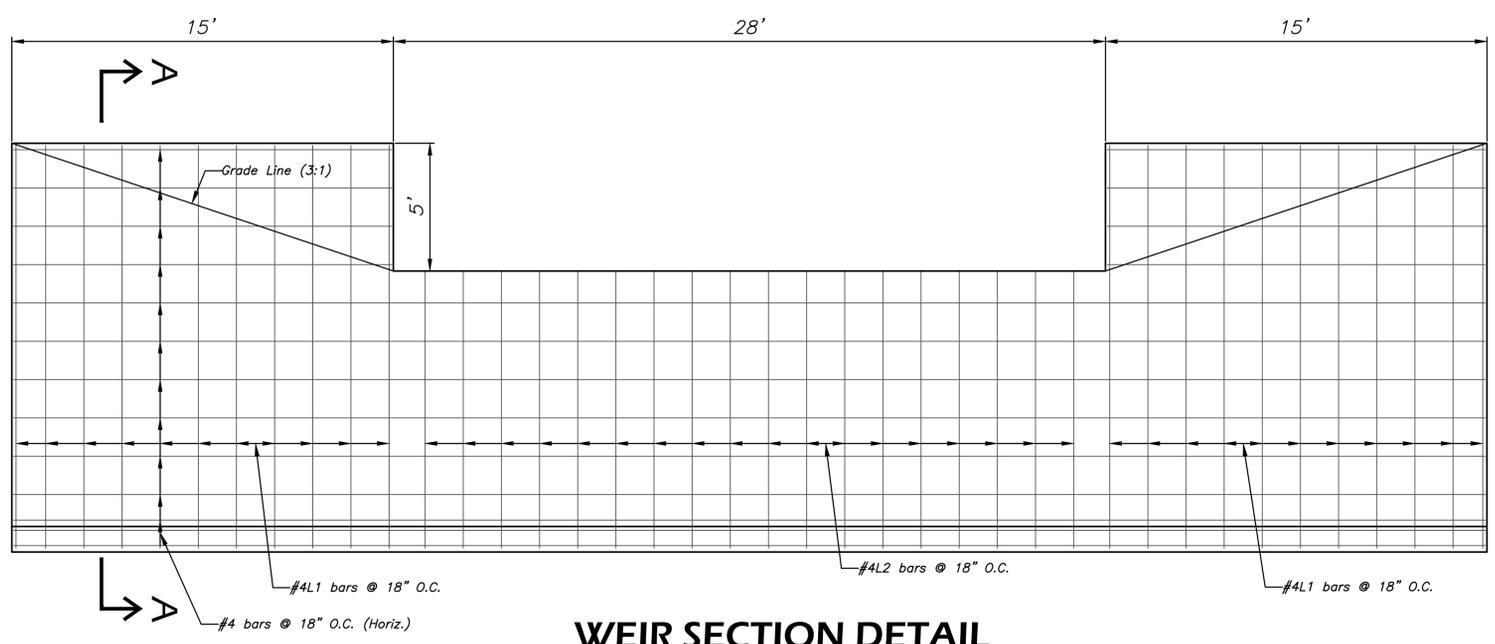
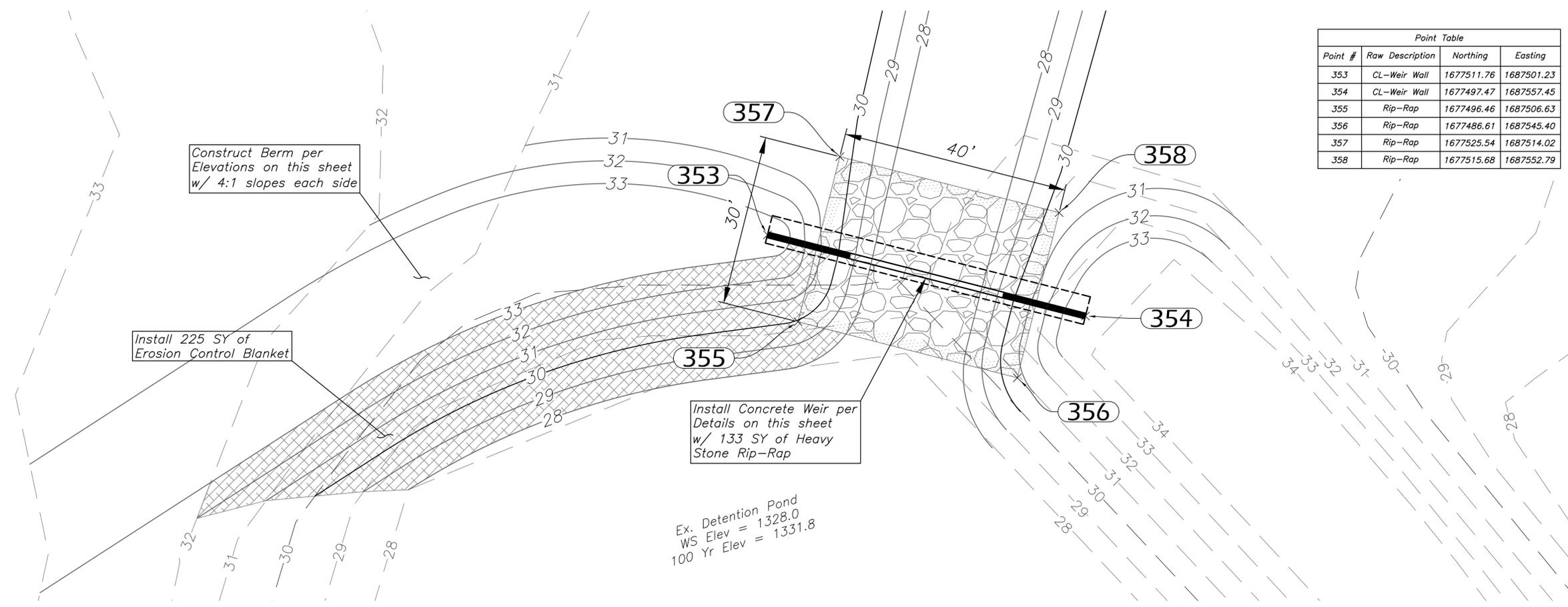
TYPICAL POND SECTION
NOT TO SCALE





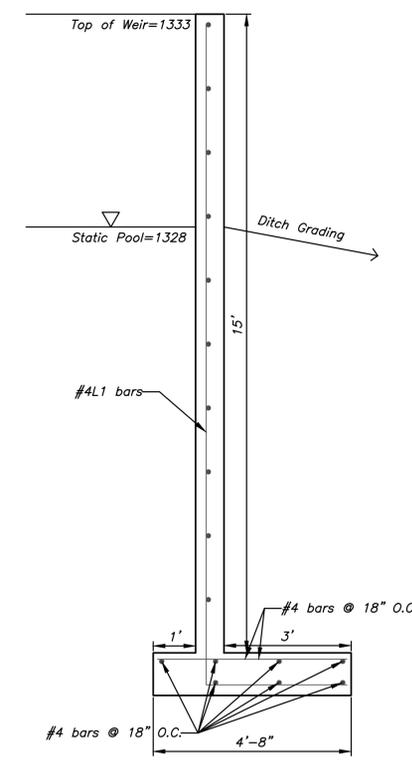
STORM WATER DRAIN
GREENWICH LEGACY ADDITION
 WICHITA, KANSAS

Point Table			
Point #	Raw Description	Northing	Easting
353	CL-Weir Wall	1677511.76	1687501.23
354	CL-Weir Wall	1677497.47	1687557.45
355	Rip-Rap	1677496.46	1687506.63
356	Rip-Rap	1677486.61	1687545.40
357	Rip-Rap	1677525.54	1687514.02
358	Rip-Rap	1677515.68	1687552.79

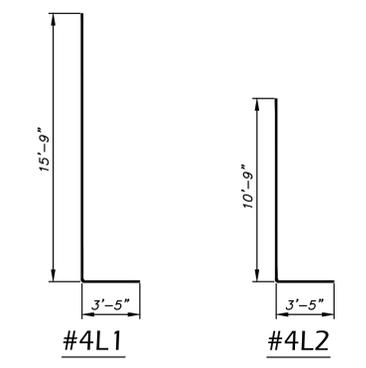


WEIR SECTION DETAIL

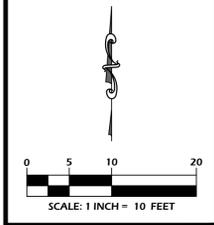
Concrete is to be air-entrained with $F'c=4,000$ psi @ 28 days.
 Reinforcing: $F_y=60,000$ psi



WEIR WALL SECTION A - A



BENDING DIAGRAMS



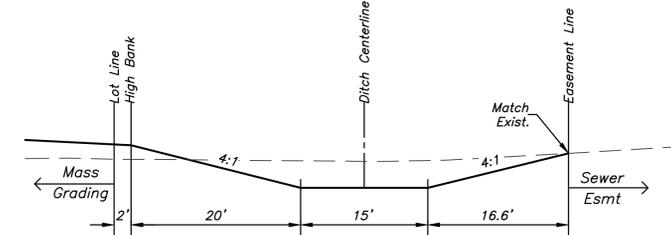
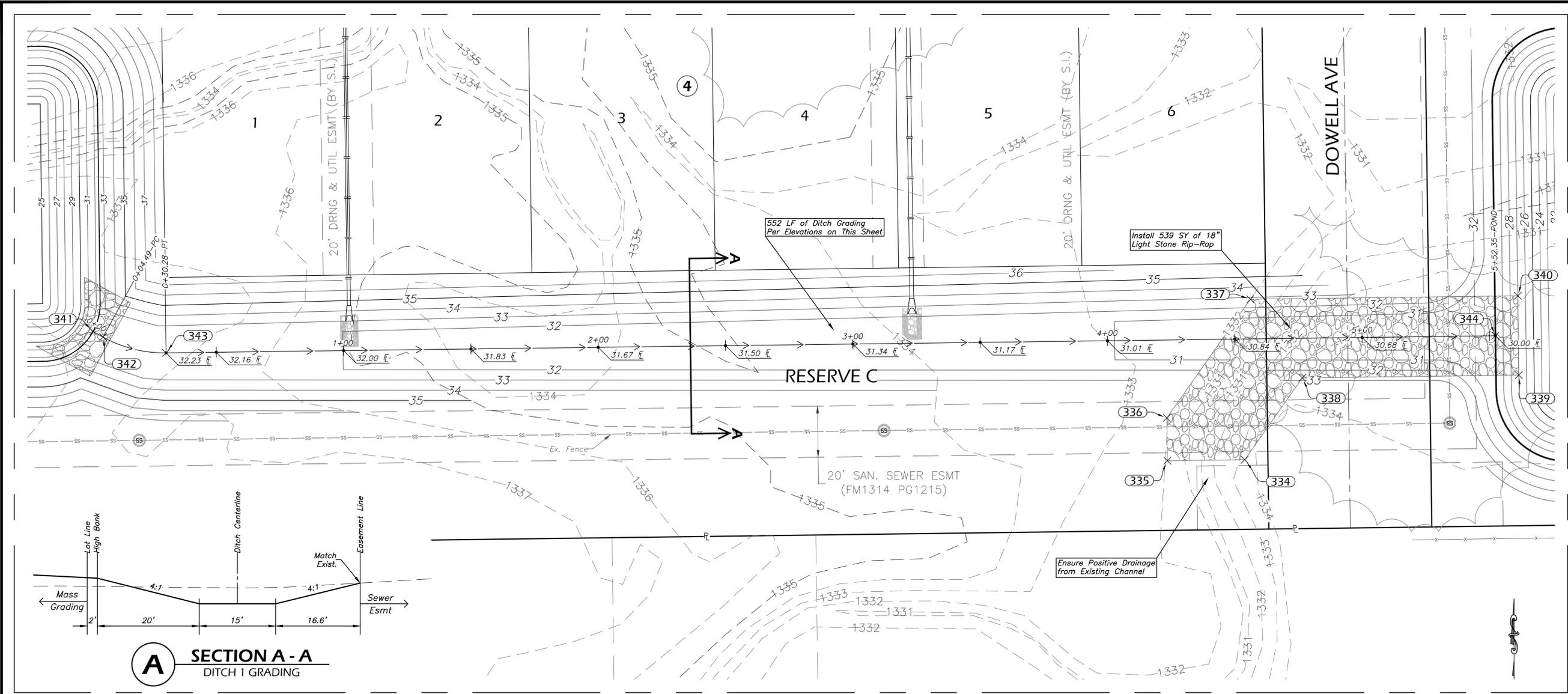
REVISIONS	

KEM PROJ. 21177	DATE 08.2025
DESIGNED ZJS	DRAWN ZJS
Weir Plan	
SHEET 5.0	



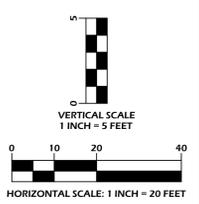
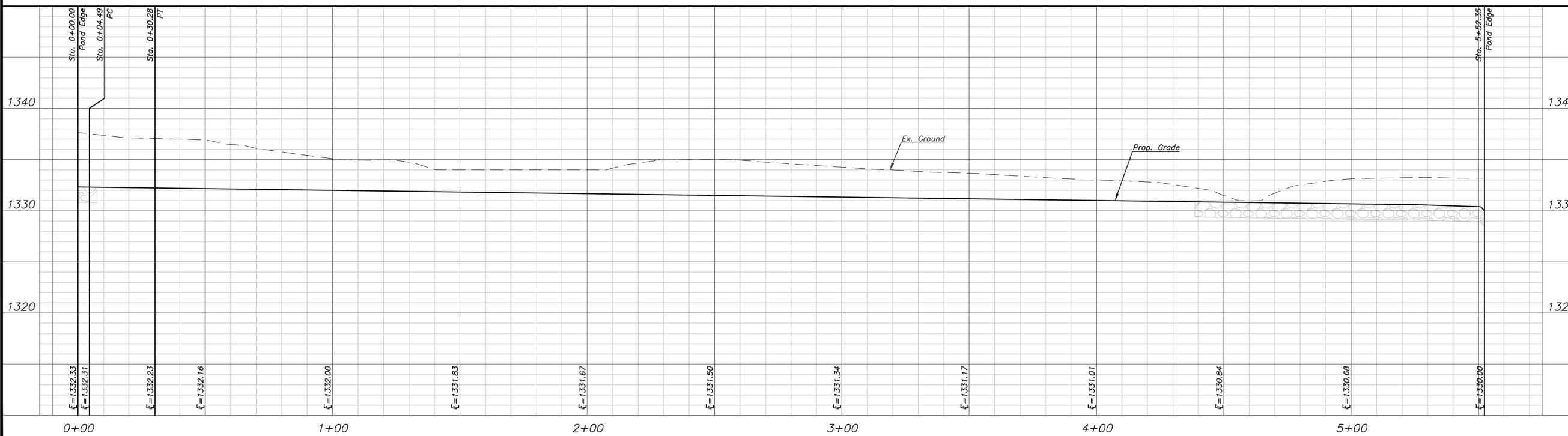
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STORM WATER DRAIN
GREENWICH LEGACY ADDITION
 WICHITA, KANSAS



A SECTION A-A
 DITCH 1 GRADING

DITCH 1 GRADING



REVISIONS

NO.	DATE	DESCRIPTION

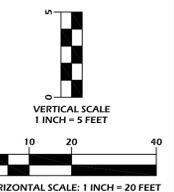
KEM PROJ. 21177	DATE 08.2025
DESIGNED ZJS	DRAWN ZJS

**Ditch 1 Grading
 Plan & Profile**

SHEET **6.0**



STORM WATER DRAIN
GREENWICH LEGACY ADDITION
WICHITA, KANSAS



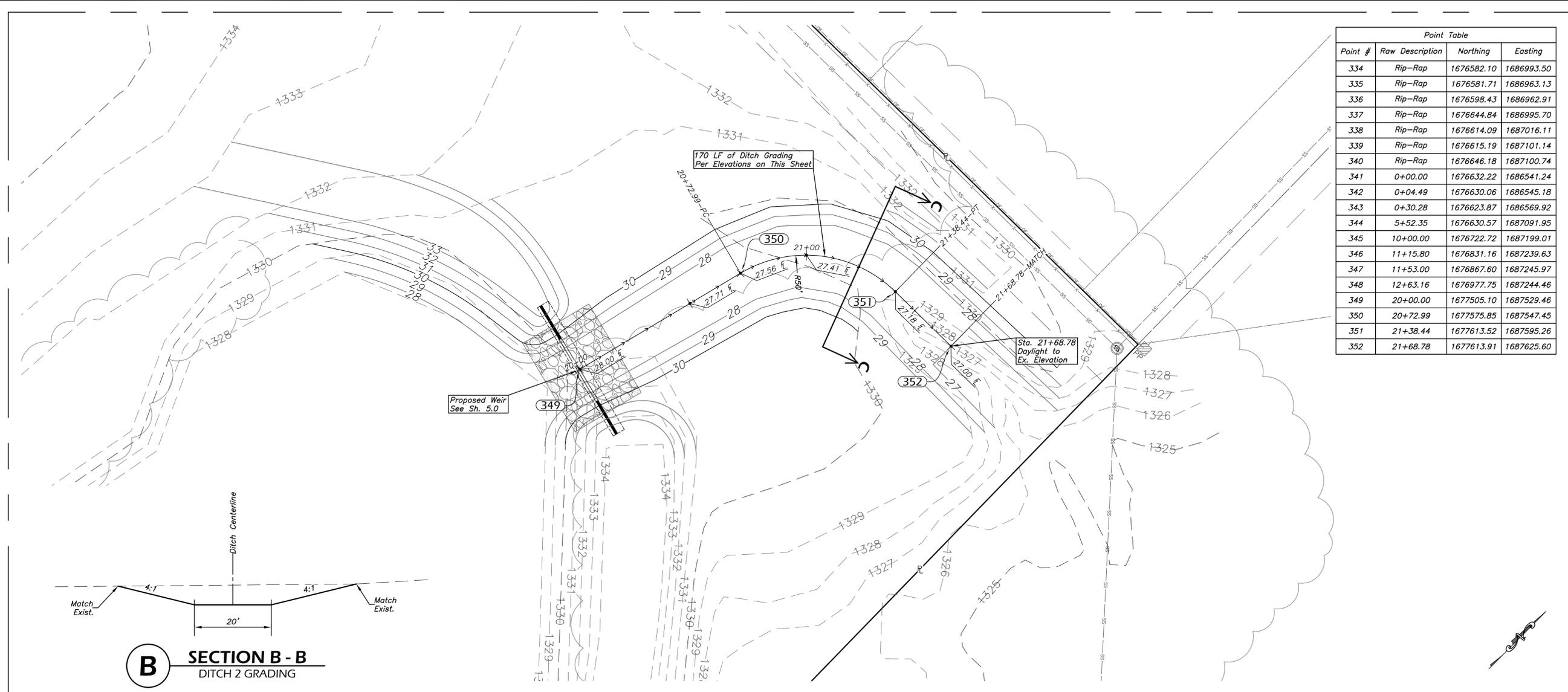
REVISIONS

NO.	DESCRIPTION	DATE

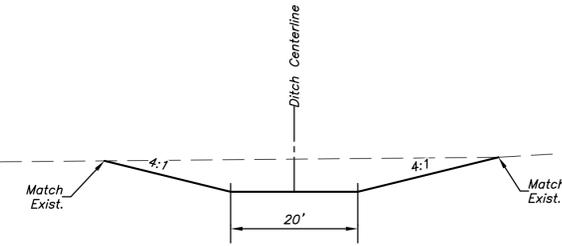
KEM PROJ. 21177 DATE 08.2025
DESIGNED ZJS DRAWN ZJS

Ditch 2 Grading Plan & Profile
SHEET **6.1**

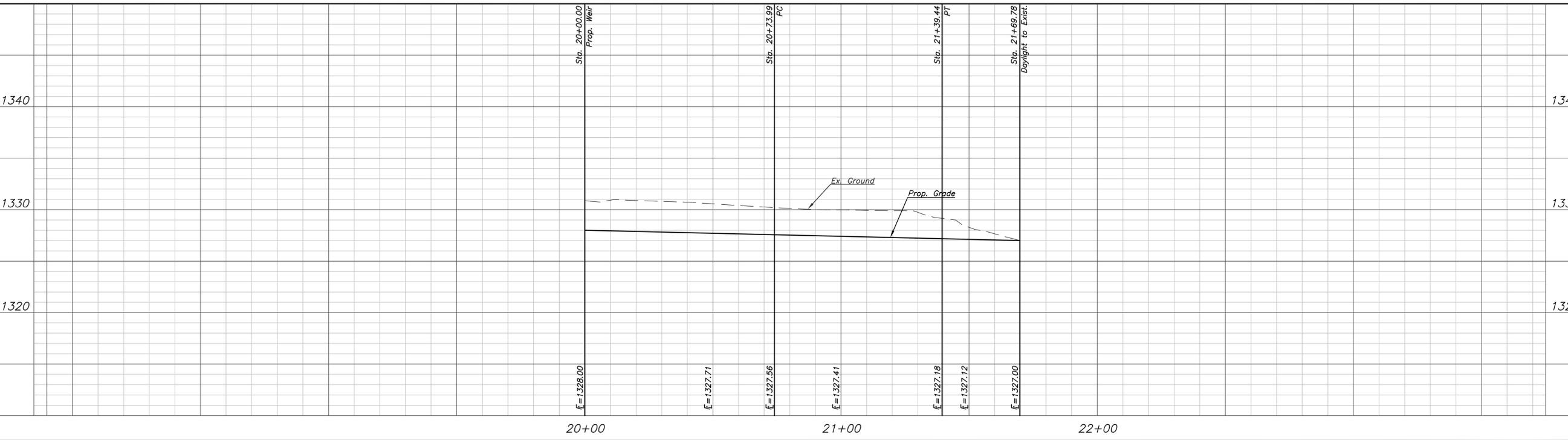
Point #	Raw Description	Northing	Easting
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335	Rip-Rap	1676581.71	1686963.13
336	Rip-Rap	1676598.43	1686962.91
337	Rip-Rap	1676644.84	1686995.70
338	Rip-Rap	1676614.09	1687016.11
339	Rip-Rap	1676615.19	1687101.14
340	Rip-Rap	1676646.18	1687100.74
341	0+00.00	1676632.22	1686541.24
342	0+04.49	1676630.06	1686545.18
343	0+30.28	1676623.87	1686569.92
344	5+52.35	1676630.57	1687091.95
345	10+00.00	1676722.72	1687199.01
346	11+15.80	1676831.16	1687239.63
347	11+53.00	1676867.60	1687245.97
348	12+63.16	1676977.75	1687244.46
349	20+00.00	1677505.10	1687529.46
350	20+72.99	1677575.85	1687547.45
351	21+38.44	1677613.52	1687595.26
352	21+68.78	1677613.91	1687625.60



B SECTION B - B
DITCH 2 GRADING



DITCH 2 GRADING

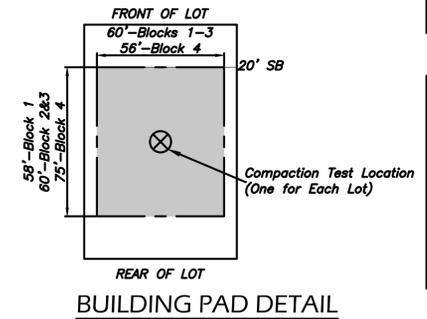




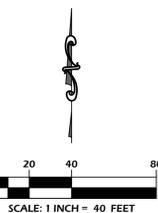
THIS SHEET HAS BEEN
SIGNED, SEALED AND
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EARTHWORK TOTALS:
(For Information Only)
(Unadjusted for Shrink & Swell)

Excavation: 13,760 C.Y.
Compaction: 13,800 C.Y.



STORM WATER DRAIN
GREENWICH LEGACY ADDITION
WICHITA, KANSAS

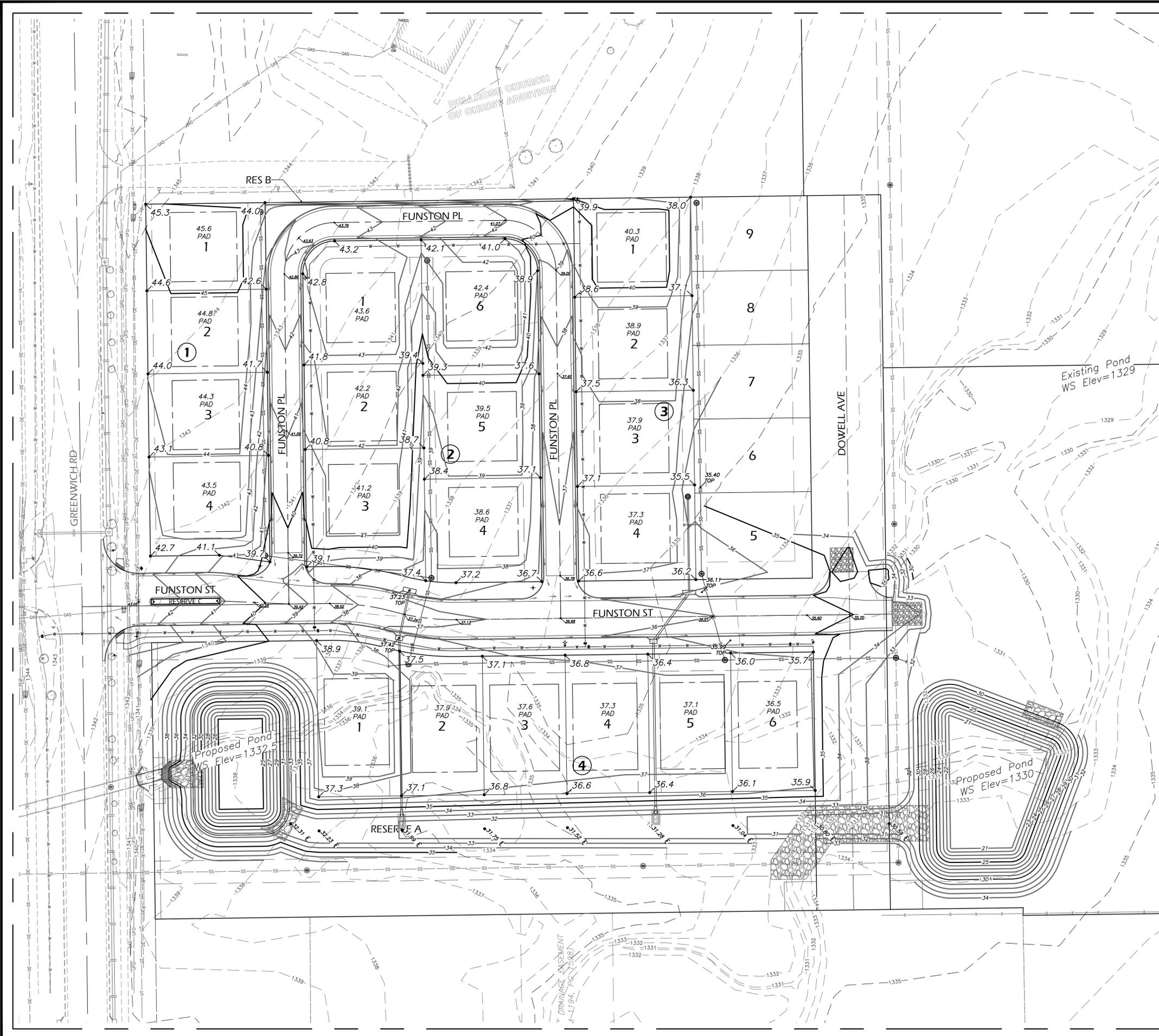


REVISIONS	

KEM PROJ. 21177	DATE 05.2025
DESIGNED ZJS	DRAWN ZJS

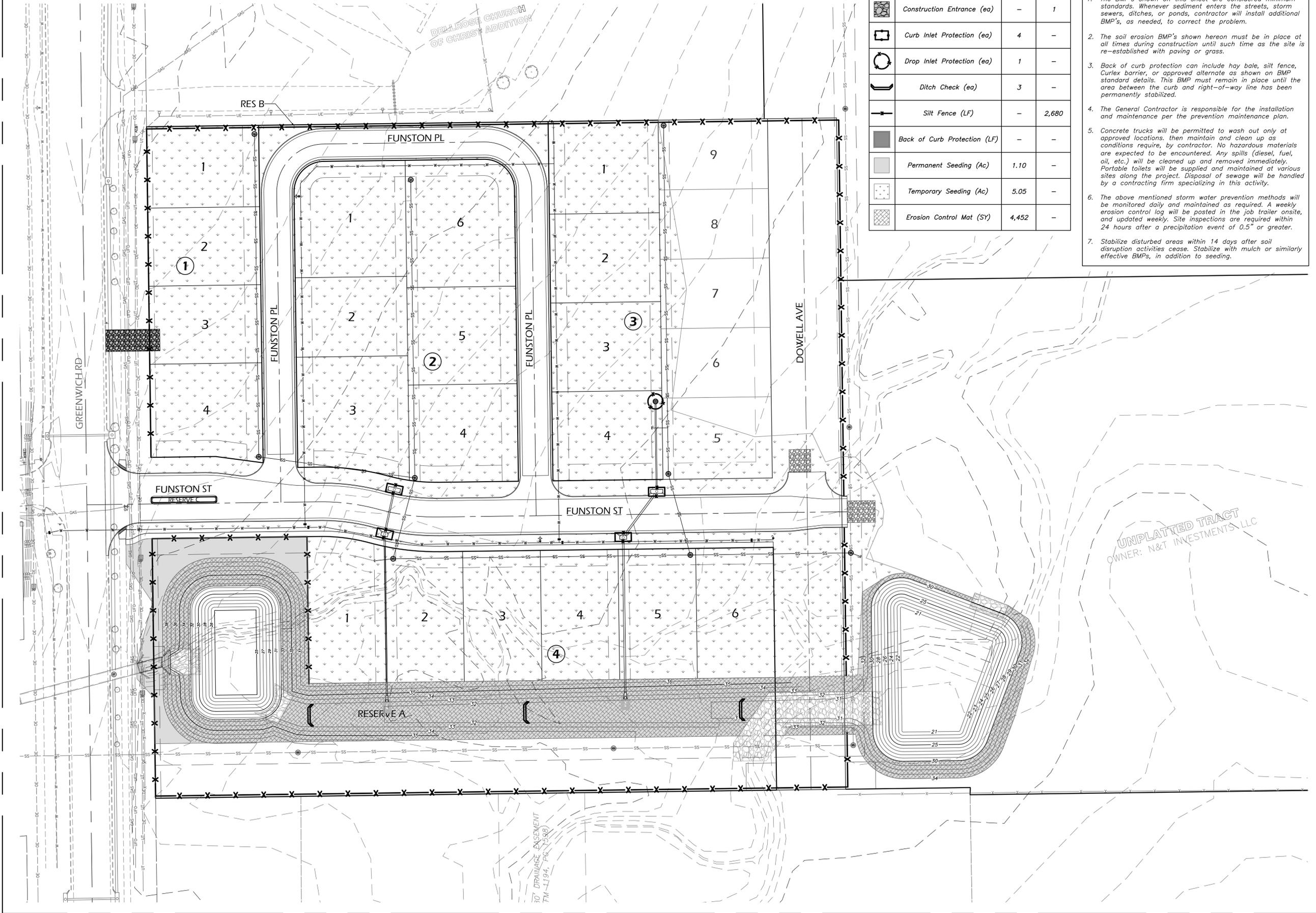
Mass Grading Plan

SHEET **7.0**



NOTES:

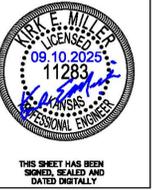
- Top 4" of soil shall be stripped on all lots, all locations within the right-of-way, and under any proposed fill prior to mass grading.
- Remove Existing Trees as Necessary for Construction. All Associated Costs are Subsidiary to Lump Sum Bid Item "Site Clearing".
- Compaction of 95% shall be obtained in all areas. Compaction requirements shall be placed within $\pm 2\%$ of optimum moisture content when placed.
- Street elevations shown on this sheet are to top of pavement.
- Contractor to construct building pads on all lots using the best available on-site LVC material.
- This project is intended to achieve earthwork balance. In the event additional material is needed to build the site to proposed grades, Contractor shall coordinate with the Engineer. No borrow fill from off-site will be required.



EROSION CONTROL SCHEDULE:		INSTALL	MAINTAIN
	Construction Entrance (ea)	-	1
	Curb Inlet Protection (ea)	4	-
	Drop Inlet Protection (ea)	1	-
	Ditch Check (ea)	3	-
	Silt Fence (LF)	-	2,680
	Back of Curb Protection (LF)	-	-
	Permanent Seeding (Ac)	1.10	-
	Temporary Seeding (Ac)	5.05	-
	Erosion Control Mat (SY)	4,452	-

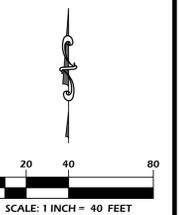
GENERAL NOTES:

- The BMP's shown on this sheet are considered minimum standards. Whenever sediment enters the streets, storm sewers, ditches, or ponds, contractor will install additional BMP's, as needed, to correct the problem.
- The soil erosion BMP's shown hereon must be in place at all times during construction until such time as the site is re-established with paving or grass.
- Back of curb protection can include hay bale, silt fence, Curlex barrier, or approved alternate as shown on BMP standard details. This BMP must remain in place until the area between the curb and right-of-way line has been permanently stabilized.
- The General Contractor is responsible for the installation and maintenance per the prevention maintenance plan.
- Concrete trucks will be permitted to wash out only at approved locations, then maintain and clean up as conditions require, by contractor. No hazardous materials are expected to be encountered. Any spills (diesel, fuel, oil, etc.) will be cleaned up and removed immediately. Portable toilets will be supplied and maintained at various sites along the project. Disposal of sewage will be handled by a contracting firm specializing in this activity.
- The above mentioned storm water prevention methods will be monitored daily and maintained as required. A weekly erosion control log will be posted in the job trailer onsite, and updated weekly. Site inspections are required within 24 hours after a precipitation event of 0.5" or greater.
- Stabilize disturbed areas within 14 days after soil disruption activities cease. Stabilize with mulch or similarly effective BMP's, in addition to seeding.



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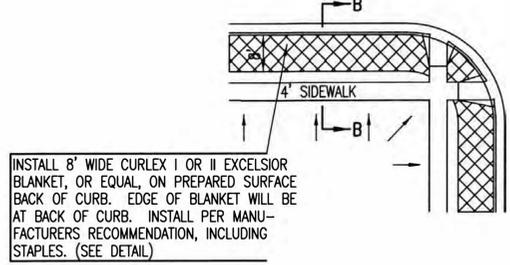
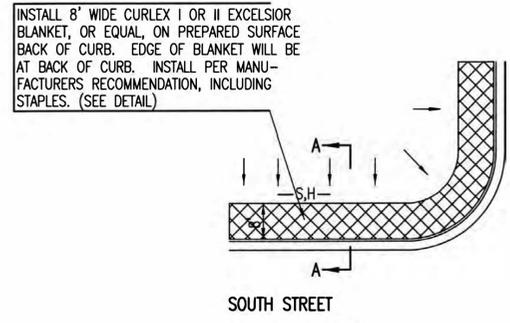
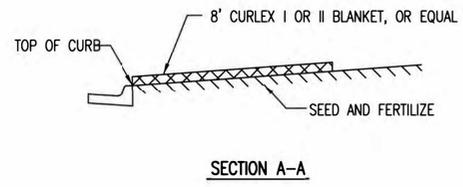
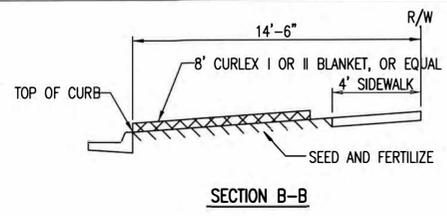
STORM WATER DRAIN
GREENWICH LEGACY ADDITION
WICHITA, KANSAS



REVISIONS

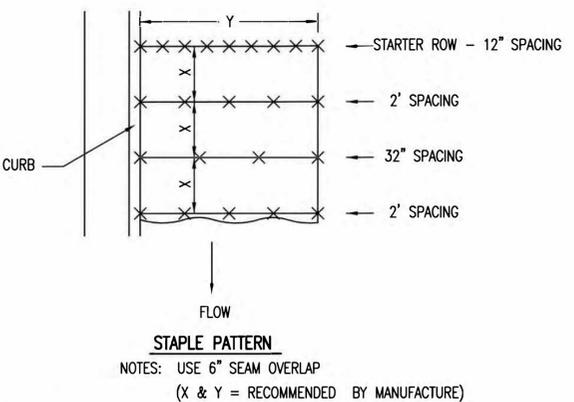
KEM PROJ. 21177	DATE 08.2025
DESIGNED ZJS	DRAWN ZJS

Erosion Control Plan

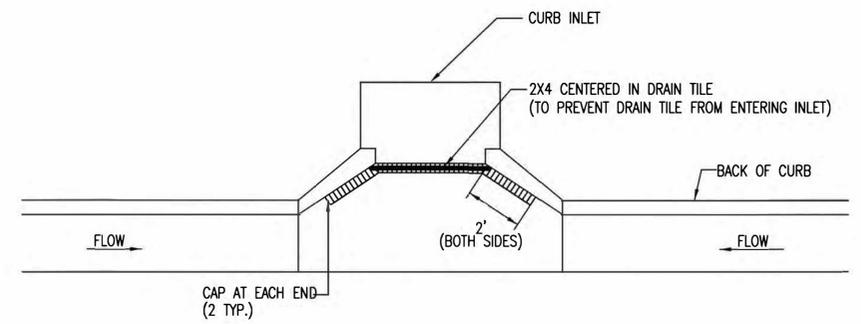


- GENERAL NOTES**
- EXCELSIOR MAT TO BE INSTALLED WHEN SOD IS NOT SPECIFIED ON PROJECT.
 - EXCELSIOR BLANKET TO BE INSTALLED OVER SEED AND FERTILIZER, AS SPECIFIED IN THE PROJECT SPECIFICATIONS.
 - AFTER INSTALLATION OF EXCELSIOR BLANKET, AT LOCATIONS WHERE CONCENTRATED FLOW CARRIES SEDIMENT OVER THE 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

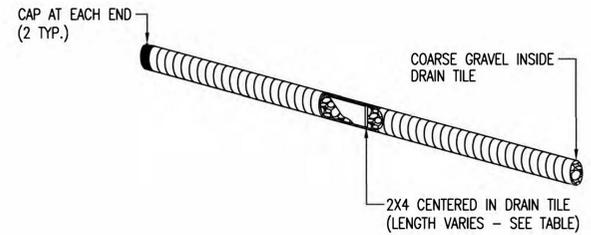


DETAILS FOR APPROVED EROSION CONTROL MAT

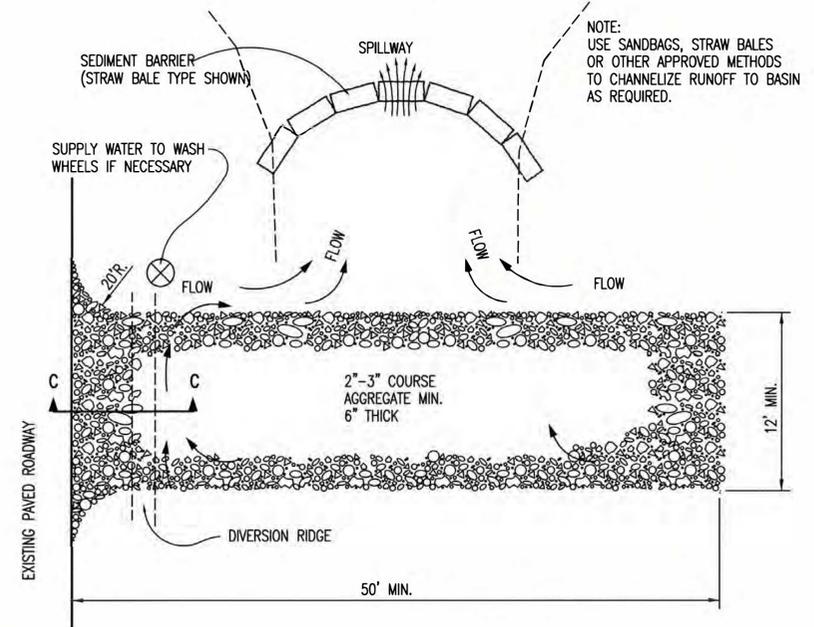
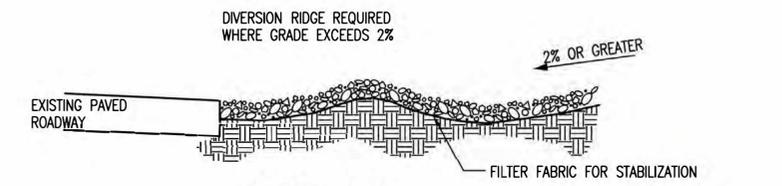


NOTE: PLACE 4" PERFORATED PVC PIPE, FILLED WITH 1/2"-1" DIA. GRAVEL, IN FRONT OF CURB INLET AS SHOWN.

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.

REVISION DATE: MAY 2013



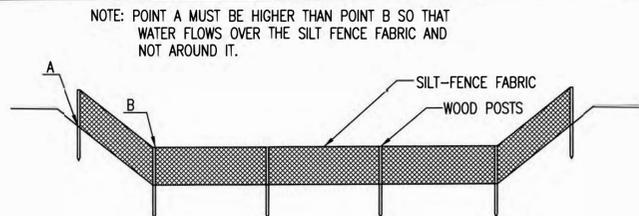
BACK OF CURB PROTECTION, CURB INLET PROTECTION AND CONSTRUCTION ENTRANCE

CITY ENGINEER
GARY JANZEN, P.E.

PROJECT NUMBER OCA NUMBER DATE

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

SHEET
8.1



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 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 OF THE TRENCH. LINE TWO SIDES OF THE TRENCH WITH THE FABRIC AS SHOWN ON DETAIL. BACKFILL OVER THE FABRIC IN THE TRENCH WITH THE EXCAVATED SOIL AND COMPACT. AFTER FILLING THE TRENCH, APPROXIMATELY 24" TO 36" OF SILT FENCE FABRIC SHOULD REMAIN EXPOSED. LAY THE EXPOSED SILT FENCE ON THE UPSLOPE SIDE OF THE TRENCH TO CLEAR AN AREA FOR DRIVING IN THE POSTS. JUST DOWNSLOPE OF THE TRENCH, DRIVE POSTS INTO THE GROUND TO A DEPTH OF AT LEAST 24". PLACE POSTS NO MORE THAN 4' APART. ATTACH THE SILT FENCE TO THE ANCHORED POST WITH STAPLES, WIRE, ZIP TIES, OR NAILS.

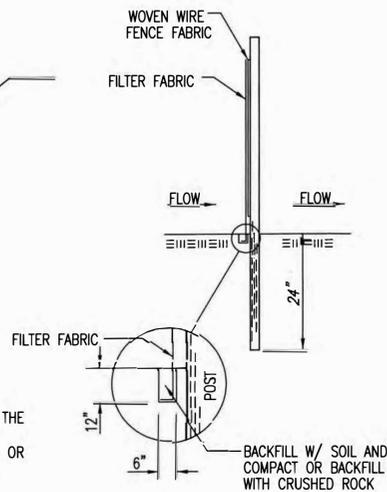
LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

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

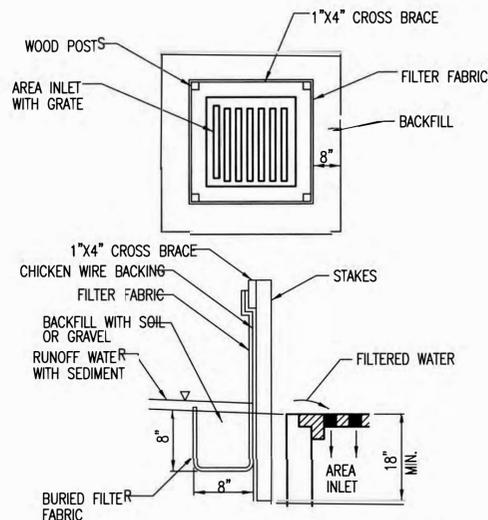
INSPECTION AND MAINTENANCE:

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

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



ANCHOR TRENCH DETAIL



SILT FENCE BARRIERS FOR AREA INLETS
(INLET PROTECTION)

MATERIAL SPECIFICATION:

SILT FENCE FABRIC SHOULD CONFORM TO THE AASHTO M288 96 SILT FENCE SPECIFICATION. THE WIRE OR 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.

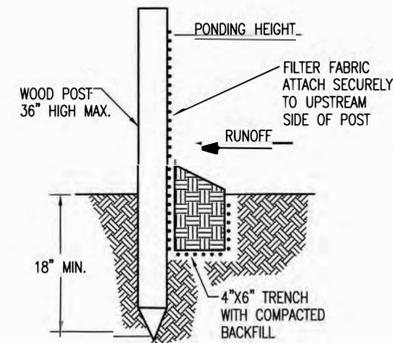
LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

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:

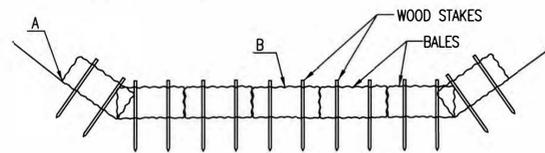
- ARE THERE ANY POINTS ALONG THE SLOPE BARRIER WHERE WATER IS CONCENTRATING?
- DOES WATER FLOW UNDER THE SLOPE BARRIER?
- DO THE SILT FENCES SAG EXCESSIVELY?
- HAS THE SILT FENCE TORN OR BECOME DETACHED FROM THE POSTS?
- DOES SEDIMENT NEED TO BE REMOVED FROM BEHIND THE SLOPE BARRIER?

REVISION DATE: MAY 2013

<p>CITY OF WICHITA PUBLIC WORKS & UTILITIES ENGINEERING DIVISION</p>	<p>SILT FENCE DITCH CHECK AND BARRIER DETAILS</p>	
	<p>CITY ENGINEER GARY JANZEN, P.E.</p>	
	PROJECT NUMBER	OCA NUMBER
<p>CITY ENGINEER'S OFFICE CITY HALL - SEVENTH FLOOR 435 NORTH MAIN STREET WICHITA, KANSAS 67202-1620 (316) 268-4301</p>		<p>SHEET 8.2</p>



NOTE: POINT A MUST BE HIGHER THAN POINT B SO THAT WATER FLOWS OVER THE BALES AND NOT AROUND THEM.



STRAW BALE DITCH CHECKS

MATERIAL SPECIFICATION:

BALE DITCH CHECKS MAY BE CONSTRUCTED OF WHEAT STRAW, OAT STRAW, PRAIRIE HAY, OR BROMEGRASS HAY THAT IS FREE OF WEEDS DECLARED NOXIOUS BY THE KANSAS STATE BOARD OF AGRICULTURE. THE STAKES USED TO ANCHOR THE BALES SHOULD BE A HARDWOOD MATERIAL WITH THE FOLLOWING MINIMUM DIMENSIONS: 2" SQUARE (NOMINAL) BY 4' LONG. OPTIONAL: THE DOWNSTREAM SCOUR APRON SHOULD BE CONSTRUCTED OF A DOUBLE-NETTED STRAW EROSION-CONTROL BLANKET AT LEAST 6' WIDE. OPTIONAL: THE METAL LANDSCAPE STAPLES USED TO ANCHOR THE EROSION-CONTROL BLANKET SHOULD BE AT LEAST 8" LONG.

PLACEMENT:

BALE DITCH CHECKS SHOULD BE PLACED PERPENDICULAR TO THE FLOWLINE OF THE DITCH. THE DITCH CHECK SHOULD EXTEND FAR ENOUGH SO THAT THE GROUND LEVEL AT THE ENDS OF THE CHECK IS HIGHER THAN THE TOP OF THE LOWEST CENTER BALE. THIS PREVENTS WATER FROM FLOWING AROUND THE CHECK. 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".

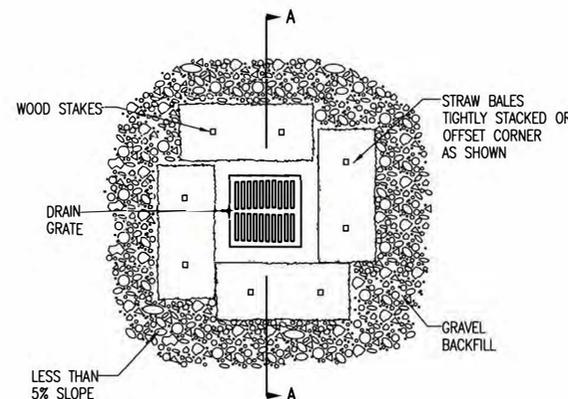
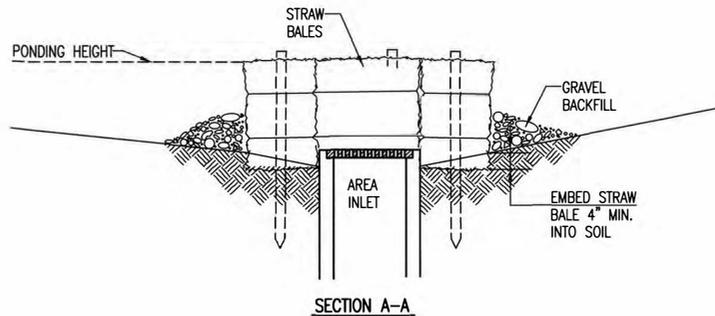
LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

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?



STRAW BALE BARRIERS FOR AREA INLETS (INLET PROTECTION)

MATERIAL SPECIFICATION:

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

PLACEMENT:

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

PROPER INSTALLATION METHOD:

EXCAVATE A TRENCH AROUND THE PERIMETER OF THE AREA INLET THAT IS AT LEAST 4" DEEP BY A BALE'S WIDTH WIDE. PLACE THE BALES IN THE TRENCH, MAKING SURE THAT THEY ARE BUTTED TIGHTLY. SOME BALES MAY NEED TO BE SHORTENED TO FIT INTO THE TRENCH AROUND THE AREA INLET. TWO STAKES SHOULD BE DRIVEN THROUGH EACH BALE, APPROXIMATELY 6" TO 8" IN FROM THE BALE ENDS. STAKES SHOULD BE DRIVEN AT LEAST 12" INTO THE GROUND. ONCE ALL THE BALES HAVE BEEN INSTALLED AND ANCHORED, PLACE THE EXCAVATED SOIL AGAINST THE RECEIVING SIDE OF THE BARRIER AND COMPACT IT. THE COMPACTED SOIL SHOULD BE NO MORE THAN 3" TO 4" DEEP. NOTE: WHEN A BALE AREA INLET BARRIER IS PLACED IN A SHALLOW MEDIAN DITCH, MAKE SURE THAT THE TOP OF THE BARRIER IS NOT HIGHER THAN THE PAVED ROAD. IN THIS CONFIGURATION, WATER MAY SPREAD ONTO THE ROADWAY CAUSING A HAZARDOUS CONDITION.

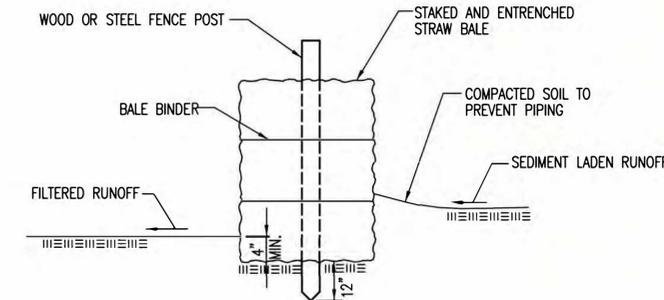
LIST OF COMMON PLACEMENT INSTALLATION MISTAKES TO AVOID:

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

INSPECTION AND MAINTENANCE:

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

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



STRAW BALE BARRIERS

MATERIAL SPECIFICATION:

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

PLACEMENT:

A SLOPE BARRIER SHOULD BE USED AT THE TOE OF A SLOPE WHEN A DITCH DOES NOT EXIST. THE SLOPE BARRIER SHOULD BE PLACED ON NEARLY LEVEL GROUND 5' TO 10' AWAY FROM THE TOE OF A SLOPE. THE BARRIER IS PLACED AWAY FROM THE TOE OF THE SLOPE TO PROVIDE ADEQUATE STORAGE FOR SETTLING OUT SEDIMENT.

WHEN PRACTICABLE, BALE SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW. BALE SLOPE BARRIERS CAN ALSO BE PLACED ALONG RIGHT-OF-WAY FENCE LINES TO KEEP SEDIMENT FROM CROSSING ONTO ADJACENT PROPERTY. WHEN PLACED IN THIS MANNER, THE SLOPE BARRIER WILL NOT LIKELY FOLLOW CONTOURS.

PROPER INSTALLATION METHOD:

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

LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

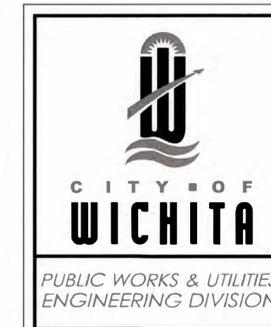
WHEN PRACTICAL, DO NOT PLACE BALE SLOPE BARRIERS ACROSS CONTOURS. SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW. CONCENTRATED FLOW OVER A SLOPE BARRIER CREATES A SCOUR HOLE ON THE DOWNSLOPE SIDE OF THE BARRIER. THE SCOUR HOLE EVENTUALLY UNDERMINES THE BALES AND THE BARRIER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

INSPECTION AND MAINTENANCE:

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

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

REVISION DATE: MAY 2013



STRAW BALE DITCH CHECK AND BARRIER DETAILS

CITY ENGINEER

GARY JANZEN, P.E.

PROJECT NUMBER OCA NUMBER DATE

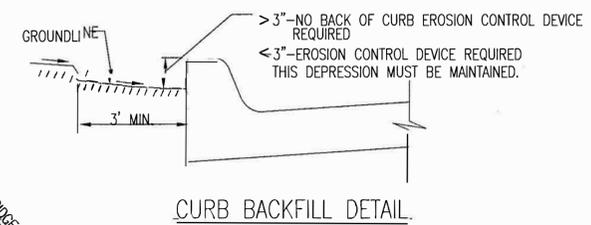
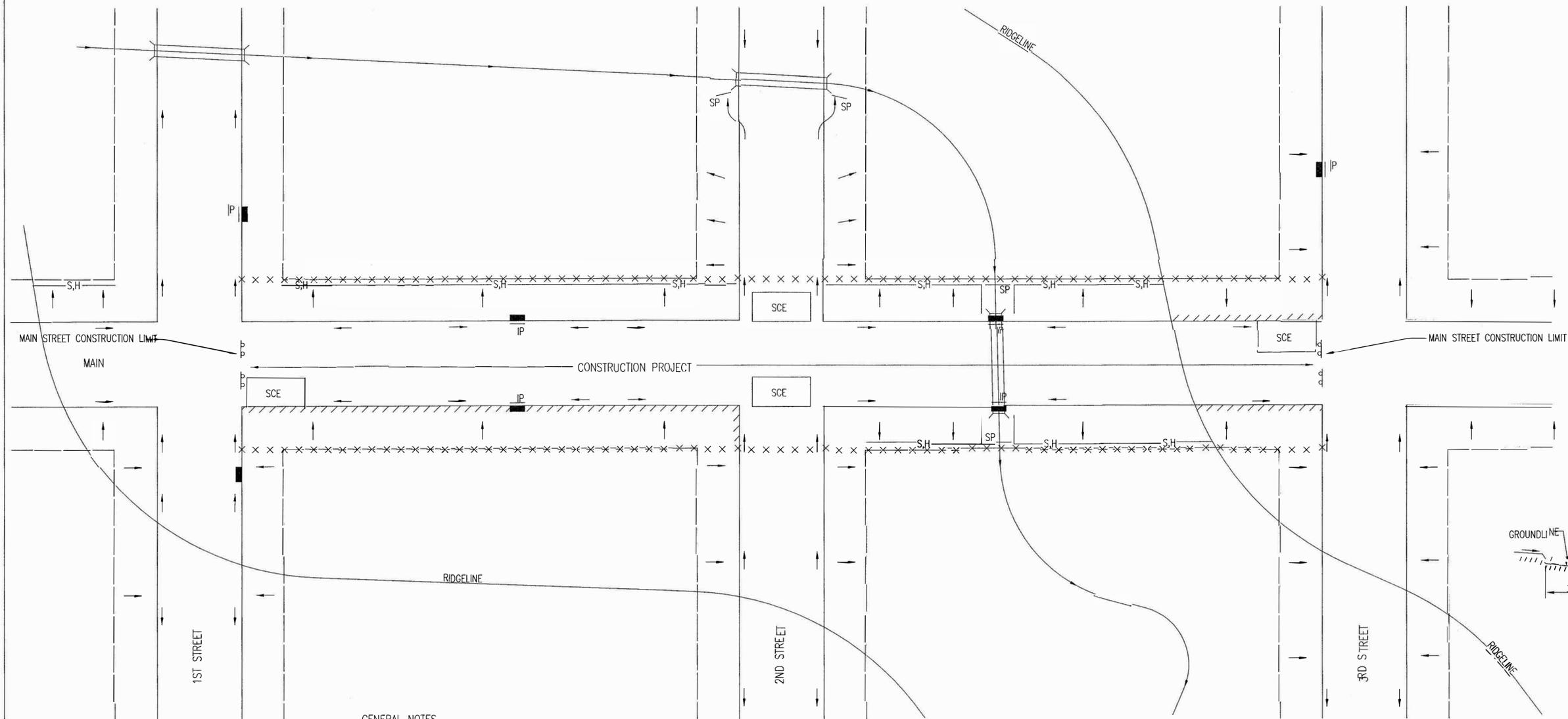
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455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1620
(316) 268-4501

SHEET

8.3

GENERAL NOTES

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



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

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

GENERAL NOTES

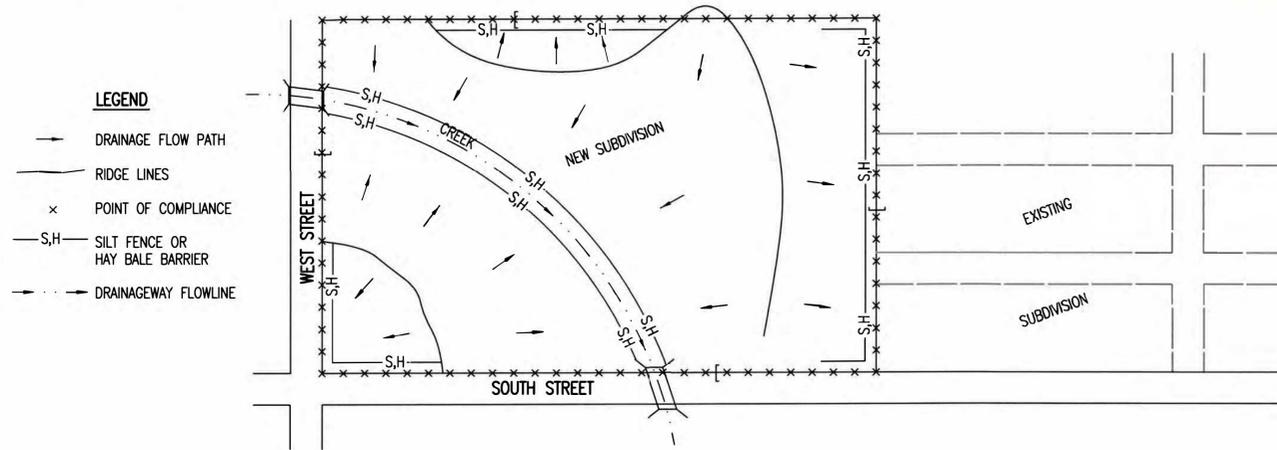
- THE INTENT OF ALL EROSION CONTROL DEVICES IS TO KEEP ALL SEDIMENT CONFINED TO THE CONSTRUCTION SITE, AND OUT OF ALL UNDERGROUND PIPES, DITCHES, LAKES, AND OTHER DRAINAGE FACILITIES, AND OFF OF STREETS.
- THE POINT OF COMPLIANCE IS GENERALLY THE RIGHT-OF-WAY LINES WITHIN THE LIMITS OF CONSTRUCTION.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



STREET IMPROVEMENT PROJECTS		
CITY ENGINEER GARY JANZEN, P.E.		
PROJECT NUMBER	OCA NUMBER	DATE
CITY ENGINEER'S OFFICE CITY HALL - SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202-1620 (316) 268-4501		SHEET 8.4

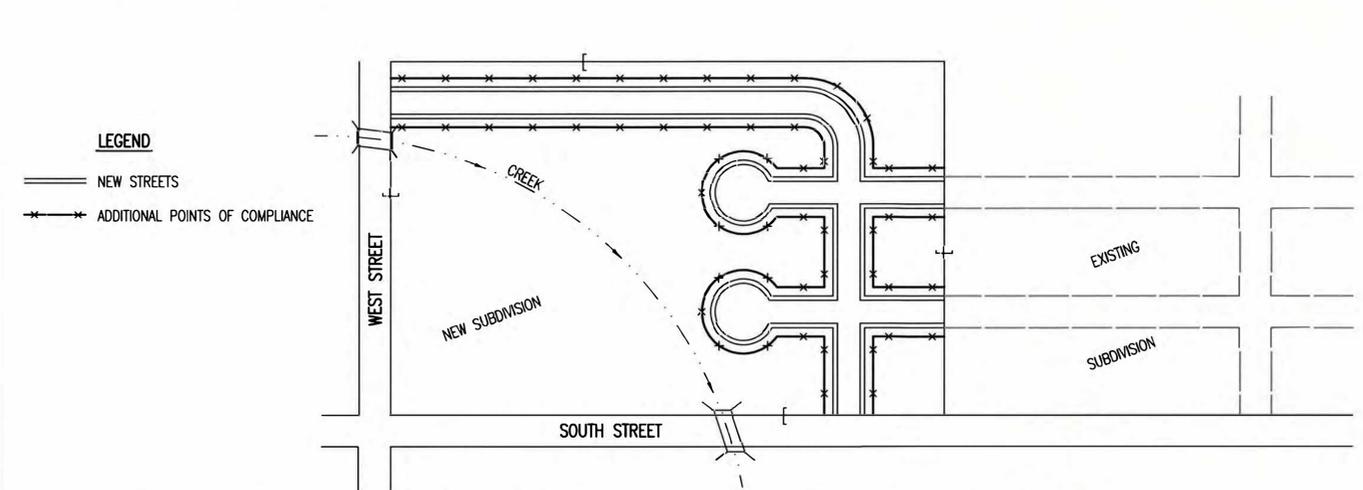
REVISION: JUNE 2015

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



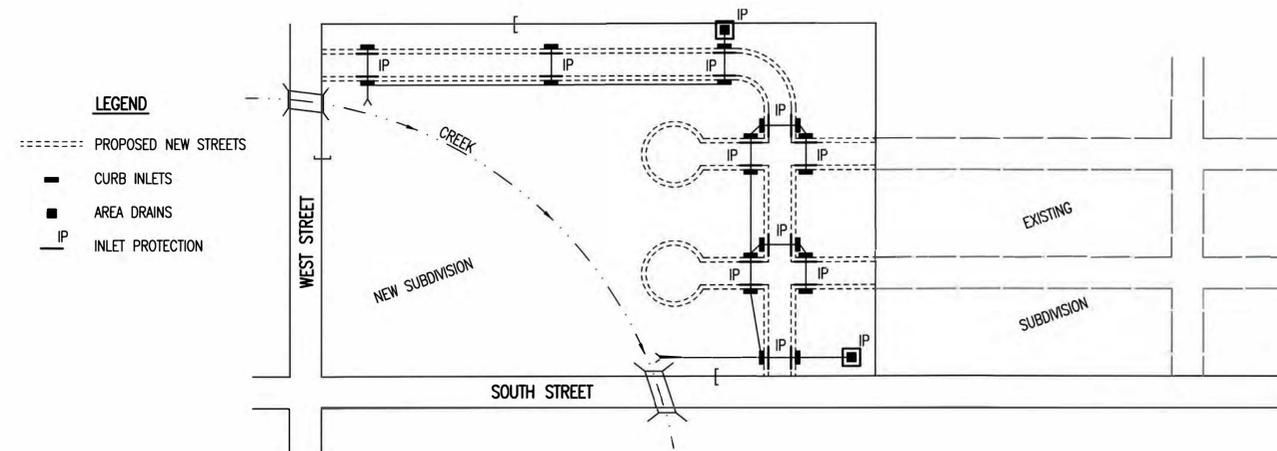
- DURING THIS PHASE OF SUBDIVISION CONSTRUCTION, THE POINTS OF COMPLIANCE ARE THE PERIMETER BOUNDARIES AND ANY DRAINAGE WAYS OR STORM SEWERS DRAINING THROUGH OR FROM THE SITE. SHOULD LAKES BE CONSTRUCTED WITHIN THE SUBDIVISION THAT WILL DISCHARGE DURING STORMS, THEY ARE ALSO A POINT OF COMPLIANCE.
- 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

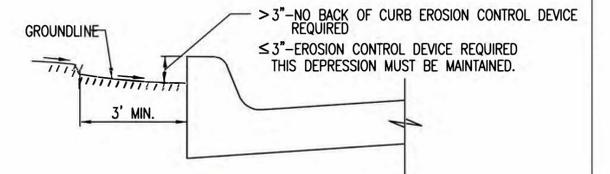


- DURING THIS PHASE OF SUBDIVISION DEVELOPMENT, ALL EROSION CONTROL DEVICES REQUIRED IN PHASE 1 SHALL REMAIN IN PLACE AND BE MAINTAINED.
- AS NEW STORM SEWERS, WITH INLETS, ARE INSTALLED, THE STORM SEWERS MUST NOW BE PROTECTED SO ALL NEW INLETS BECOME POINTS OF COMPLIANCE.
- AREA DRAINS – AS SOON AS 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 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.

REVISION DATE: MAY 2013



CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

SUBDIVISION DEVELOPMENT PROCESS
CITY ENGINEER
GARY JANZEN, P.E.

PROJECT NUMBER	OCA NUMBER	DATE
CITY ENGINEER'S OFFICE CITY HALL - SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202-1620 (316) 268-4501		SHEET 8.5

Greenwich Legacy Addition Wichita, Sedgwick County, Kansas

Part of the NW 1/4, Section 34, Township 27 South, Range 2 East

Benchmarks:
 BM#1— Cross approximately 14.82 feet East and 114.90 feet South to the Southwest Property Corner.
 Elevation 1341.81' (NAVD-88)
 BM#2— Cross approximately 19.47 feet East and 648.57 feet South to the Southwest Property Corner.
 Elevation 1345.32' (NAVD-88)

NOTES:
 NOTE #1— Southeast Corner of Dellrose Church of Christ Addition (Prior to Lot Split Film/Page: 30156991)
 NOTE #2— Southwest Corner of Dellrose Church of Christ Addition (Prior to Lot Split Film/Page: 30156991)
 NOTE #3— Southeast Corner of Parcel 1, Dellrose Church of Christ Addition (Established on Film/Page: 30156991)
 NOTE #4— Southwest Corner of Parcel 1, Dellrose Church of Christ Addition (Established on Film/Page: 30156991)

State of Kansas)
 County of Sedgwick) SS

I, Keith A. Sevrens, a licensed land surveyor of the State of Kansas, do hereby certify that the following described tract of land was surveyed on this 21st day of February, 2024 and the accompanying final plat prepared and that all the monuments shown herein actually exist and their positions are correctly shown to the best of my knowledge and belief:

LEGAL DESCRIPTION

A tract in the West 1/2 of the Northwest Quarter of Section 34, Township 27 South, Range 2 East of the 6th P.M., Sedgwick County, Kansas, described as:

Beginning at the Southeast Corner of Lot 1, Dellrose Church of Christ Addition, Sedgwick County, Kansas; thence S 89°15'53" W, on the South line of said Dellrose Church of Christ Addition, a distance of 572.54 feet to a point on the West line of the Dellrose Church of Christ Addition; thence N 00°46'56" W, on the West line of said Dellrose Church of Christ Addition, a distance of 208.96 feet; thence N 89°15'53" E, on a line parallel to the South line of said Dellrose Church of Christ Addition, a distance of 572.50 feet to a point on the East line of Dellrose Church of Christ Addition; thence S 00°46'56" E, on the East line of said Dellrose Church of Christ Addition, a distance 208.96 feet, to the Point of Beginning, AND
 Commencing at a point 691.8 feet South of the Northwest corner of the Northwest Quarter; thence South along the West line of said Northwest Quarter, 1102 feet to the Point of Beginning; thence N89°15'04"E parallel with the North line of said Northwest Quarter, 699.59 feet; thence N00°46'56"W a distance of 619.28 feet; thence S89°15'53"W a distance of 67.00 feet to a point on the East line of Dellrose Church of Christ Addition; thence South along the East line of Dellrose Church of Christ Addition a distance of 208.96 feet; thence West along the South line of Dellrose Church of Christ Addition a distance of 632.58 feet to the section line; thence South along the Northwest Quarter a distance of 410.48 feet to the Point of Beginning EXCEPT for the West 50 feet Right-of-Way for Road.

All easements and rights-of-way within said tract are hereby vacated by virtue of KSA 12-512b as amended.

Keith A. Sevrens, PS #1355

Legend

- (M) - Measured
- (P) - Platted
- (D) - Described
- (C) - Calculated
- (CM) - Calculated Measured
- C.A.C. - Complete Access Control
- ⊕ - 1/2" Rebar (set) KEMPA
- ⊕ - Found 5/8" Rebar - Ruggles & Bohm
- - Found 1/2" Iron Pipe in Thimble
- ⊕ - Found 1/2" Rebar - Orgin Unknown
- △ - Found 3/4" Iron Pipe
- △ - Found 3/4" Rebar in Thimble - Garver
- - Found 1/2" Rebar - KEMPA
- - Found 1/2" Rebar - Baughman
- ⊗ - Found 1/2" Iron Pipe
- ⊙ - Calculated Point

State of Kansas)
 County of Sedgwick) SS

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, Streets and Reserves to be known as Greenwich Legacy Addition, Wichita, Sedgwick County, Kansas. Any street dedications shown are dedicated to and for the use of the public. The utility easement is hereby granted to the public as indicated for the construction and maintenance of all public utilities. The drainage and utility easements are hereby granted to the public as indicated for drainage purposes and for the construction and maintenance of all public utilities. The street, drainage, and utility easements are hereby granted to the public as indicated for street and drainage purposes and for the construction and maintenance of all public utilities. No sign, light poles, private drainage systems, berms, walls, masonry trash enclosures or other structures shall be located within public utility easements unless permitted by the City of Wichita Department of Engineering and that they do not inhibit the conveyance of surface drainage. No private drainage systems shall be located within public drainage easements unless a Residential Drainage Relief Permit is obtained from the City of Wichita Public Works & Utilities Department. Reserve "A" is hereby platted for open space, entry monuments, pond, signage, drainage, drainage structures, playground, and utilities confined to easements. Reserve "B" is hereby platted for open space, landscaping, screening, and fencing. Reserve "C" is hereby platted for entry monuments, screening, landscaping, and fencing. Reserves "A", "B", and "C" shall be owned and maintained by the Home Owner's Association. Compliance with any platted restrictions and applicable restrictive covenants affecting said Reserves shall be binding on any owners, successors, heirs or assigns. The 5-foot wall easement as shown along Greenwich Road and on Lots 1, 2, 3, and 4, Block 1, is hereby platted for the construction and maintenance of a private wall. Utilities may cross the wall easements. The temporary cul-de-sac easement is for street purposes and the vacation of the temporary cul-de-sac easement will be effective upon the extension of the street. No obstructions shall be constructed or placed within the street stubs providing future access to adjacent properties. The access controls are hereby granted to the appropriate governing body as shown hereon. And further that the land contained herein is held and shall be conveyed subject to any applicable restrictions, reservations and covenants now on file or hereafter filed in the Office of the Register of Deeds of Sedgwick County, Kansas.

State of Kansas)
 County of Sedgwick) SS

This plat approved and all dedications shown hereon accepted by the City Council of the City of Wichita, Kansas, this _____ day of _____, 2024.

At the Direction of the City Council.

Lily Wu, Mayor

Shinita Rice, Deputy City Clerk

Entered on transfer record this _____ day of _____, 2024.

Kelly B. Arnold, County Clerk

State of Kansas)
 County of Sedgwick) SS

This is to certify that this plat has been filed for record in the Office of the Register of Deeds this _____ day of _____, 2024, at _____ o'clock _____M; and is duly recorded.

Tonya Buckingham, Register of Deeds

Kenly Zehring, Chief Deputy

By: Thomas Vu, Owner,
 N&T Investments LLC Date _____

State of Kansas)
 County of Sedgwick) SS

This instrument was acknowledged before me on this _____ day of _____, 2024, by Thomas Vu, Owner, N&T Investments LLC.

Notary Public _____

My Commission Expires: _____

State of Kansas)
 City of Wichita) SS

This plat of the Greenwich Legacy 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 _____, 2023.
 Wichita-Sedgwick County Metropolitan Area Planning Commission.

Bryan K. Frye, Chair

Scott A. Wadle, Secretary

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

**FOR
 REFERENCE
 ONLY**

