

GENERAL NOTE

THE GEOLOGICAL INFORMATION SHOWN ON THESE PLANS IS FROM STUDIES MADE IN THE FIELD AND REPRESENTS THE BEST INFORMATION AVAILABLE TO THE KANSAS DEPARTMENT OF TRANSPORTATION.

AT BORROW AREA LOCATIONS ADJACENT TO THE RIGHT OF WAY, UTILITY POLES MAY BE SET AT THE PERMANENT LOCATIONS PRIOR TO CONSTRUCTION AS APPROVED BY THE ENGINEER PROVIDED A MINIMUM VERTICAL CLEARANCE, IN ACCORDANCE WITH THE NATIONAL ELECTRICAL SAFETY CODE, IS OBTAINED. THE CONTRACTOR WILL BE REQUIRED TO WORK AROUND THESE POLES TO COMPLETE THE WORK.

ALL BORROW TO BE OBTAINED FROM AREAS PROVIDED BY THE CONTRACTOR SHALL BE APPROVED BY THE ENGINEER, BOTH AS TO SUITABILITY OF MATERIAL AND SITE LOCATION. LOCATIONS WHICH, IN THE OPINION OF THE ENGINEER, CONTAIN UNSUITABLE MATERIAL OR WILL LEAVE AN UNSIGHTLY APPEARANCE ON THE PROJECT WILL NOT BE APPROVED.

CHANNELS SHALL BE CUT AT BOX CULVERTS (UNLESS OTHERWISE NOTED) TO FLOW LINE ELEVATIONS AND TO A WIDTH OF ONE FOOT OUTSIDE OF EACH OUTSIDE WALL AND WITH SLOPES 2 TO 1 PRIOR TO CONSTRUCTION OF THE CULVERT.

EMBANKMENT QUANTITIES FOR INITIAL CONSOLIDATION AND SETTLEMENT SHOWN IN THE EARTHWORK QUANTITIES ARE SUBSIDIARY TO OTHER EARTHWORK ITEMS. MATERIAL FOR THE EMBANKMENT IS INCLUDED IN THE EXCAVATION QUANTITIES.

EXCAVATION REQUIRED FOR PLACING SELECT SOIL IS INCLUDED IN THE COMMON EXCAVATION QUANTITIES.

EXCAVATION SHOWN TO BE WASTED SHALL BE WASTED ON SITES PROVIDED BY THE CONTRACTOR. THESE SITES SHALL BE APPROVED BY THE ENGINEER AS TO SUITABILITY, APPEARANCE, AND SITE LOCATION. LOCATIONS THAT, IN THE OPINION OF THE ENGINEER, WILL LEAVE AN UNSIGHTLY APPEARANCE WILL NOT BE APPROVED.

ALL TREES, HEDGE ROWS, SHELTER BELTS, AND WOODY SHRUBS NOT SHOWN TO BE REMOVED AND LOCATED BETWEEN THE CONSTRUCTION LIMITS AND THE RIGHT-OF-WAY LINE OR EASEMENT LINE SHALL BE SPARED UNLESS DIRECTED BY THE ENGINEER TO BE REMOVED. ALL TREES WITHIN THE APPROPRIATE CLEAR ZONE SHALL BE REMOVED.

SOIL FOR EMBANKMENT CONSTRUCTION: ALL SOIL USED IN THE TOP 18 INCHES OF THE EMBANKMENT (SUBGRADE) SHOULD CONFORM TO THE FOLLOWING REQUIREMENTS: 10 ≤ PI ≤ 30 AND 20 ≤ LL ≤ 50. SOILS WHICH CONTAIN SUBSTANTIAL ORGANIC MATERIAL, SUCH AS THOSE CLASSIFIED AS OL OR OH ACCORDING TO THE UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D2487) SHOULD NOT BE USED TO CONSTRUCT THE EMBANKMENT OR SUBGRADE. THE ORGANIC MATERIAL MAY BE USED AS SELECT SOIL TO CAP THE SIDESLOPES OF THE EMBANKMENT.

Office Location
P.O.T. @ K-31 Sta. 15+00.00
N 565,645.567 E 20,411,021.541
1. Not Set.

Office Location
P.C. @ K-31 Sta. 30+95.13
N 565,667.838 E 20,412,616.520
1. Not Set.

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	31-2 KA-5741-01	2024	5	43

DATE	BY
JUNE 2022	C. BILLODEAUX
JUNE 2022	W. NYBERG

- Does District want to salvage existing guardrail, existing RCP's, etc.?
- State or contractor furnished borrow?
- Any need for special erosion protection? Silt pond? Easement?
- Any special signing needed for traffic control?
- State or contractor responsible for maintaining temporary traffic control?
- State or contractor responsible for permanent signing and striping?
- Any temporary fencing needed?
- Does district have knowledge of past overtopping history?
- Discuss the effects on social and economic concerns, impact to 4(f) and 6(f) lands, and effect on identified minority or low income population.
- Discuss the need for section corner monument boxes.
- Are there any railroads on or near the project?
- Cleaning of any existing structures with the project?

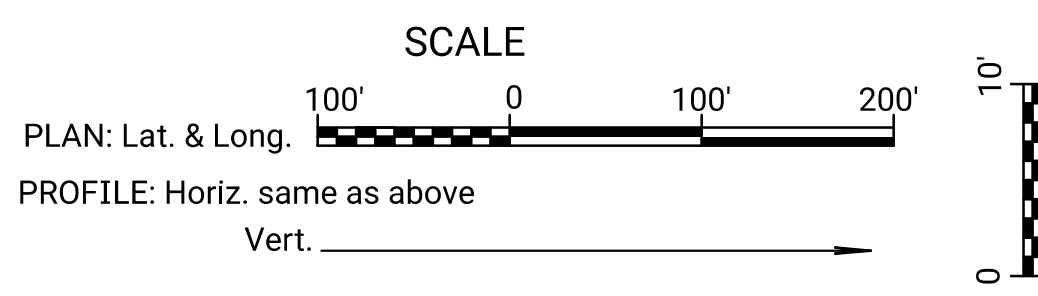
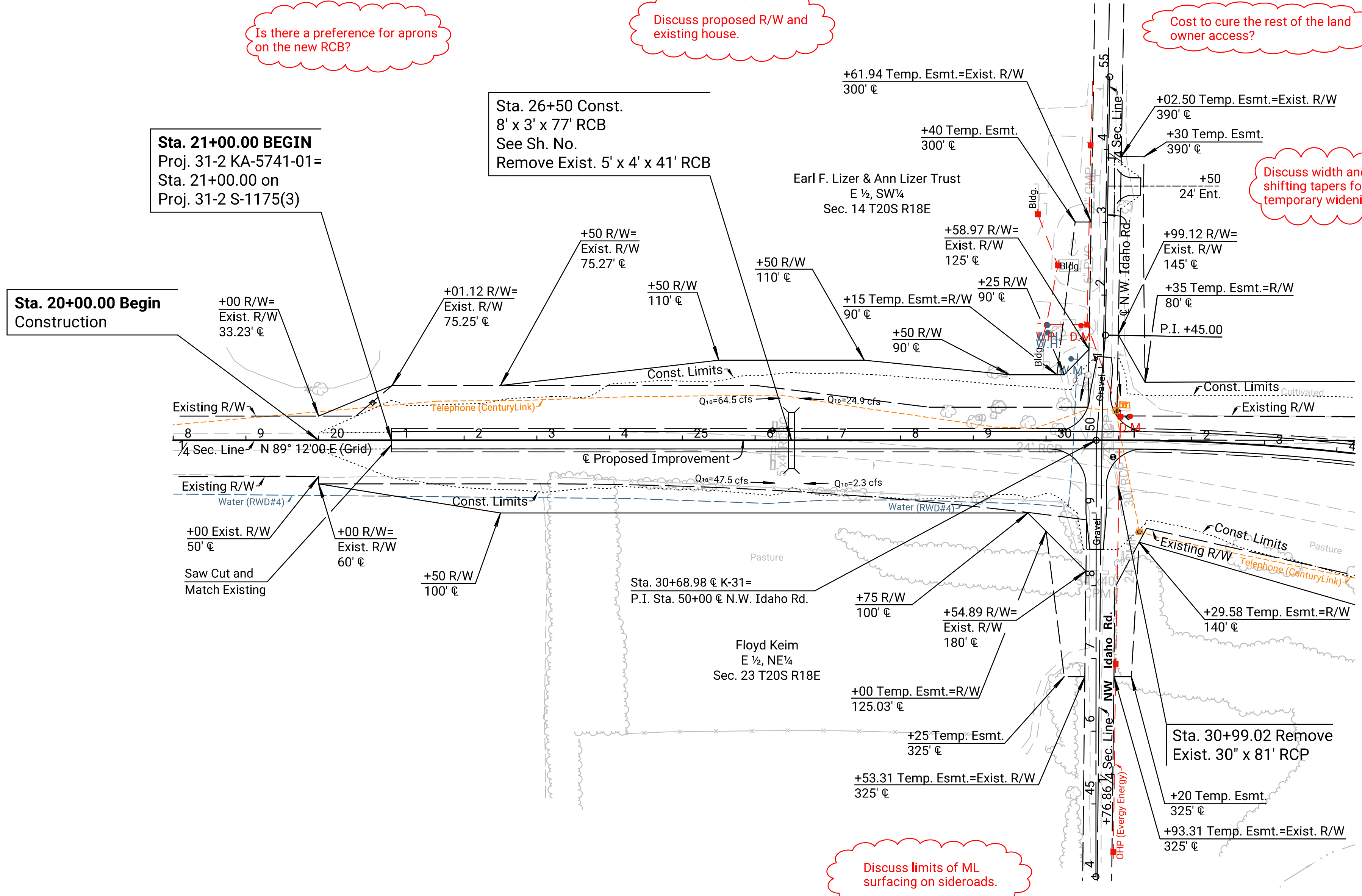
Is there a preference for aprons on the new RCB?

Discuss proposed R/W and existing house.

Cost to cure the rest of the land owner access?

Discuss width and shifting tapers for temporary widening

Discuss limits of ML surfacing on sideroads.



- Utility Owners**
- Communications:**
Century Link
320 Neosho St.
Burlington, KS. 66839
(620)202-7151
Contact: N/A
- Power:**
Evergy Energy
P.O. Box 219330
Kansas City, MO. 64121
(816)471-5272
Contact: N/A
- Water:**
Anderson Rural Water District #4
501 N. Olive St.
Garnett, KS. 66032
(620)852-3475
Contact: Kendall Ikeman
Cell: (785)448-4357

PROJECT SURVEY CONTROL

Horizontal Project Datum:
Kansas Regional Coordinate System (NAD83(2011) 20 Pittsburg)

HCP-1 Set 1/2 Bar w/PEC Cap
N:563,026.926, E:20,417,894.546.
Latitude: 38°17'44.95945" N
Longitude: 95°22'09.85325" W
Height: 874.82

HCP-2 Set 1/2 Bar w/PEC Cap
N:562,963.114, E:20,409,982.971.
Latitude: 38°17'44.07504" N
Longitude: 95°23'49.08401" W
Height: 878.86

HCP-3 Set 1/2 Bar w/PEC Cap
N:568,241.109, E:20,409,936.317.
Latitude: 38°18'36.24548" N
Longitude: 95°23'49.89462" W
Height: 867.93

Vertical Datum:
North American Vertical Datum of 1988 (NAVD88)

Datum Benchmark:
Static OPUS derived Elevations.
BM 10 Elev.=979.38
BM 19 Elev.=994.95

NW Cor. Sec. 23, T20S, R18E
N 565,630.841 E 20,409,967.674

- Found 1/2 rebar with cap, 0.4' deep. 44.74' NW
- MAG nail in the southwest face of a brace post. 37.46' NNW
- MAG nail in the northeast face of a corner post. 60.84' NE
- MAG nail in the southeast face of a cable marker post. 48.60' SW

Ctr. Sec. 14, T20S, R18E
N 568,301.711 E 20,412,606.080

- Set 1/2 rebar with PEC ID cap, 0.6' deep. 40.20' ESE
- MAG nail in north face of a guy pole. 18.24' WSW
- MAG nail in the north face of a power pole. 69.57' NE
- Southwest corner of a concrete block pump house. 37.93' ENE
- MAG nail in the south face of a fence post.

N 1/4 Cor. Sec. 23, T20S, R18E
N 565,667.983 E 20,412,598.247

- 10'x 12' limestone with divot on top, 0.8 ft. deep. 69.69' W
- Chiseled "+" in the top of the east end of a RCP. 40.55' NE
- MAG nail and washer in the west face of a power pole. 100.21' SW
- 60d nail in the east face of a corner post. 8.50' W
- Centerline of N.W. Idaho Rd.

NW Cor. Sec. 24, T20S, R18E
N 565,699.377 E 20,415,238.867

- 18"x18" limestone, 0.3 ft deep. 62.55' NE
- MAG nail in south face of a hedge fence corner/gate post. 55.42' NW
- MAG nail in south face of a hedge fence corner/gate post. 99.85' ESE
- 60d nail in the west face of a 18" cedar tree. 18.00' W
- Centerline of N.W. Jackson Rd.

B.M. #12 Chiseled square on Northwest corner of North headwall of RCB under K-31 Hwy. 445' West of the ☉ of N.W. Idaho Road.
13.27' Lt. of ☉ Sta. 26+24.04 Elev.= 965.55

B.M. #13 Chiseled square on North end of reinforced concrete pipe under K-31 Hwy. at the Northeast corner of K-31 Hwy. and N.W. Idaho Road.
23.06' Rt. of ☉ Sta. 30+92.18 Elev.= 966.13

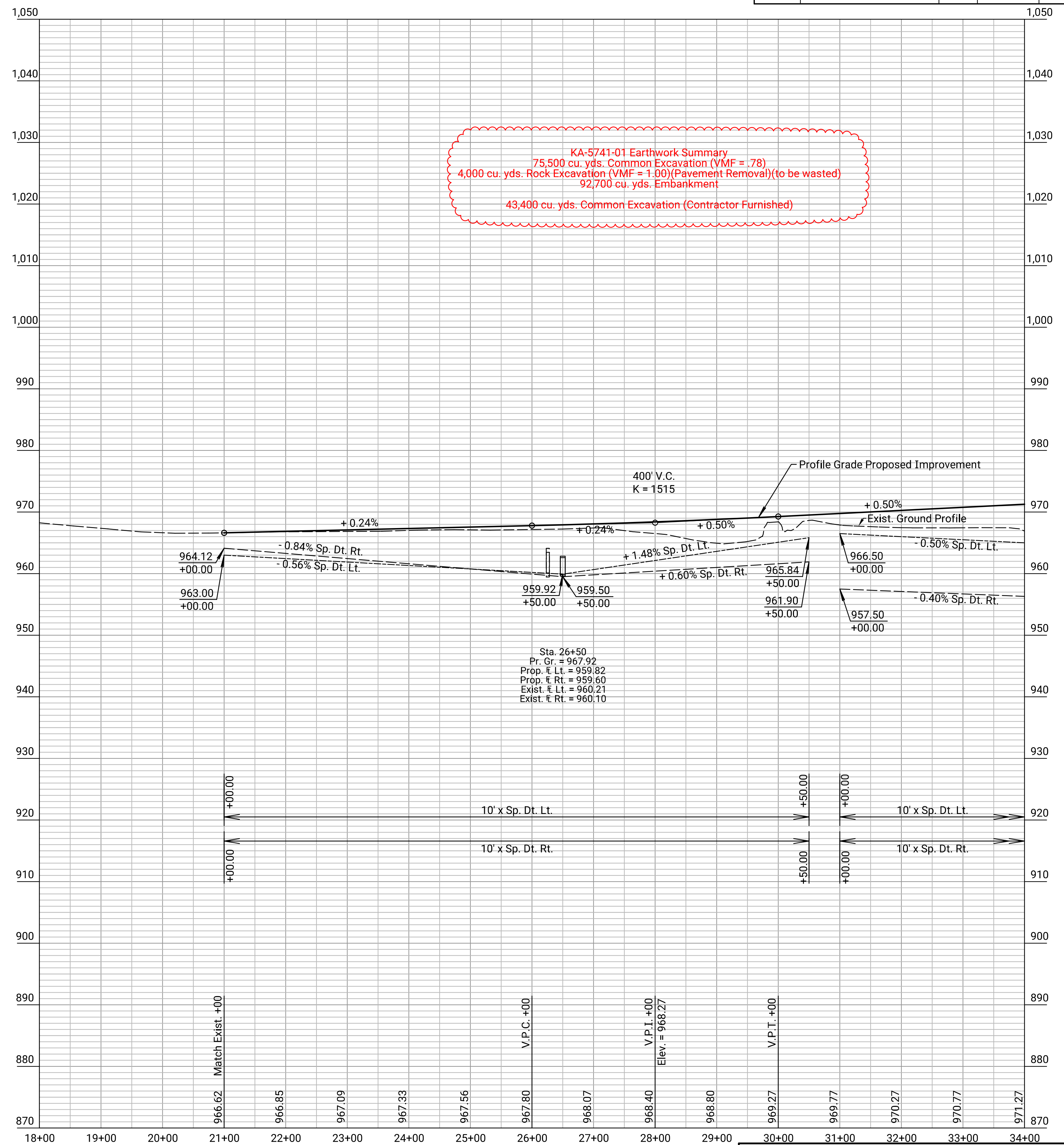
KANSAS DEPARTMENT OF TRANSPORTATION

PLAN

STA. 18+00 TO STA. 34+00

Plotted by: chance.billodeaux 12-AUG-2022 10:10
File: ka574101rpl-01.dgn

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	31-2 KA-5741-01	2024	6	43



KA-5741-01 Earthwork Summary
 75,500 cu. yds. Common Excavation (VMF = .78)
 4,000 cu. yds. Rock Excavation (VMF = 1.00)(Pavement Removal)(to be wasted)
 92,700 cu. yds. Embankment
 43,400 cu. yds. Common Excavation (Contractor Furnished)

Sta. 26+50
 Pr. Gr. = 967.92
 Prop. E. Lt. = 959.82
 Prop. E. Rt. = 959.60
 Exist. E. Lt. = 960.21
 Exist. E. Rt. = 960.10

KANSAS DEPARTMENT OF TRANSPORTATION
PROFILE
 STA. 18+00 TO STA. 34+00

Office Location
P.I. @ K-31 Sta. 34+80.18 Bk. = 34+75.88 Ahd.
Δ = 14°49'23" (Rt.)
N 565,673.214 E 20,413,001.527
1. Not Set.

Office Location
P.T. @ K-31 Sta. 38+60.92
N 565,579.912 E 20,413,375.096
1. Not Set.

Office Location
P.C. @ K-31 Sta. 47+58.59
N 565,362.396 E 20,414,246.006
1. Not Set.

Office Location
P.I. @ K-31 Sta. 53+31.08 Bk. = 53+08.65 Ahd.
Δ = 27°43'24" (Lt.)
N 565,223.673 E 20,414,801.437
1. Not Set.

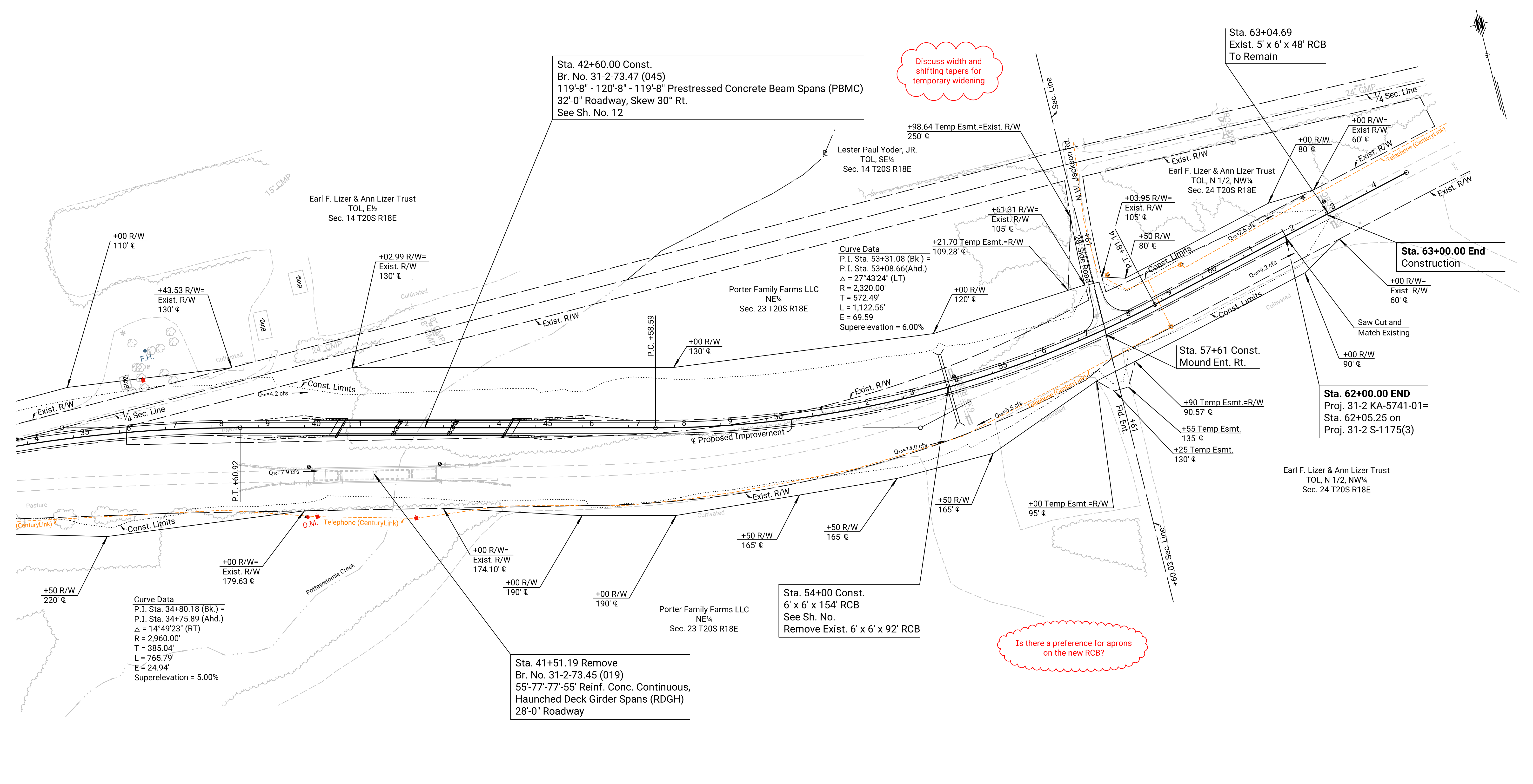
Office Location
P.T. @ K-31 Sta. 58+81.14
N 565,359.262 E 20,415,357.642
1. Not Set.

Office Location
P.O.T. @ K-31 Sta. 64+95.30
N 565,504.719 E 20,415,954.325
1. Not Set.

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	31-2 KA-5741-01	2024	7	43

DATE	BY
JUNE 2022	C. BILLODEAUX
JUNE 2022	W. NYBERG

REFERENCES NOTED	REFERENCES CHECKED



Discuss width and shifting tapers for temporary widening

Is there a preference for aprons on the new RCB?

Plotted by: chance.billodeaux 12-AUG-2022 10:10
File: ka574101rpl-02.dgn

Utility Owners

Telephone	CenturyLink
Power	Eergy Energy

- Ctr. Sec. 24, T20S, R18E
N 563,001.480 E 20,417,904.739
- Set 1/2" rebar with PEC ID cap.
 - MAG nail in the south end of a corrugated metal pipe.
 - MAG nail in the north end of a corrugated metal pipe.
 - MAG nail in the top of a gate post.
 - MAG nail in the east end of a corrugated metal pipe.

- N 1/4" Cor. Sec. 24, T20S, R18E
N 565,659.811 E 20,417,894.329
- 1/2" rebar with cap, 1.3' deep.
 - Spike in the east face of a fence post.
 - Top center of a telephone pedestal.
 - Center of road south.
 - Center of Highway 31.

- SE Cor. Sec. 13, T20S, R18E
N 565,615.936 E 20,420,578.228
- 1/2" rebar, no cap, 0.2' deep.
 - MAG nail in the northwest face of a power pole.
 - MAG nail in the northeast face of a power pole.
 - MAG nail in the northwest face of a power pole.
 - MAG nail in the southeast face of a guy pole.

B.M. #14 Chiseled square on North hub guard of bridge over Pottawatomie Creek at West end of bridge.
84.60' Rt. of @ Sta. 40+09.60 Elev. = 973.95

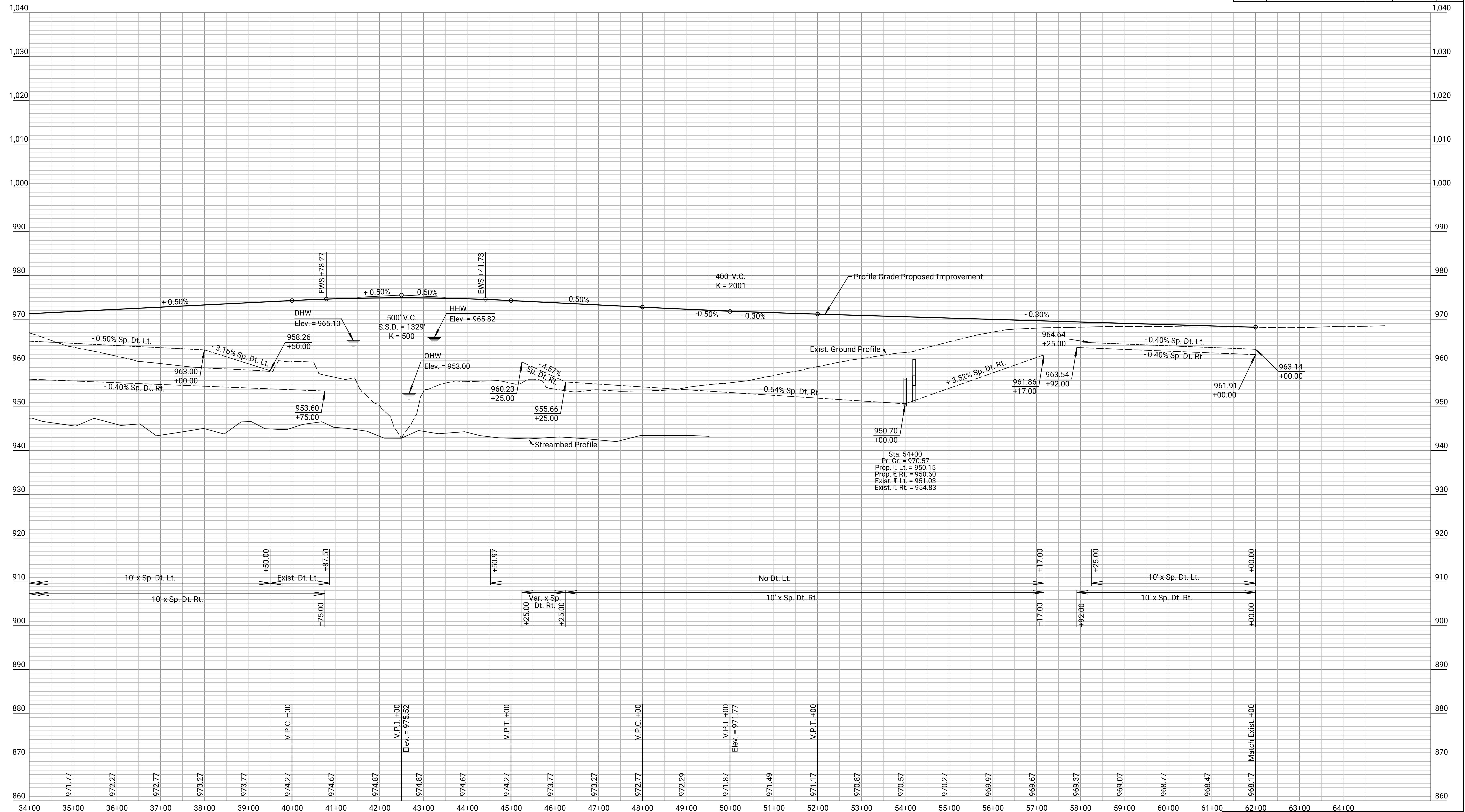
B.M. #15 Chiseled square on North hub guard of bridge over Pottawatomie Creek at East end of bridge.
78.24' Rt. of @ Sta. 42+92.54 Elev. = 973.45

B.M. #16 Chiseled square on North end of North headwall of RCBC under K-31 Hwy. 1,129' East of the East end of the bridge over Pottawatomie Creek.
18.75' Lt. of @ Sta. 54+17.56 Elev. = 958.51

B.M. #17 Chiseled square on North end of North headwall of RCBC under K-31 Hwy. 360' East of N.W. Jackson Road.
27.38' Lt. of @ Sta. 63+08.12 Elev. = 964.88

KANSAS DEPARTMENT OF TRANSPORTATION
PLAN
STA. 34+00 TO STA. 64+00

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	31-2 KA-5741-01	2024	8	43



Plotted by : chance bilodeaux 12-AUG-2022 10:10
File : ka574101rpr-02.dgn

KANSAS DEPARTMENT OF TRANSPORTATION
PROFILE
STA. 34+00 TO STA. 64+00

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	31-2 KA-5741-01	2024	13	43

Office Location
P.I. @ K-31 Sta. 34+80.18 Bk. = 34+75.88 Ahd.
 $\Delta = 14^{\circ}49'23''$ (Rt.)
N 565,673.214 E 20,413,001.527
1. Not Set.

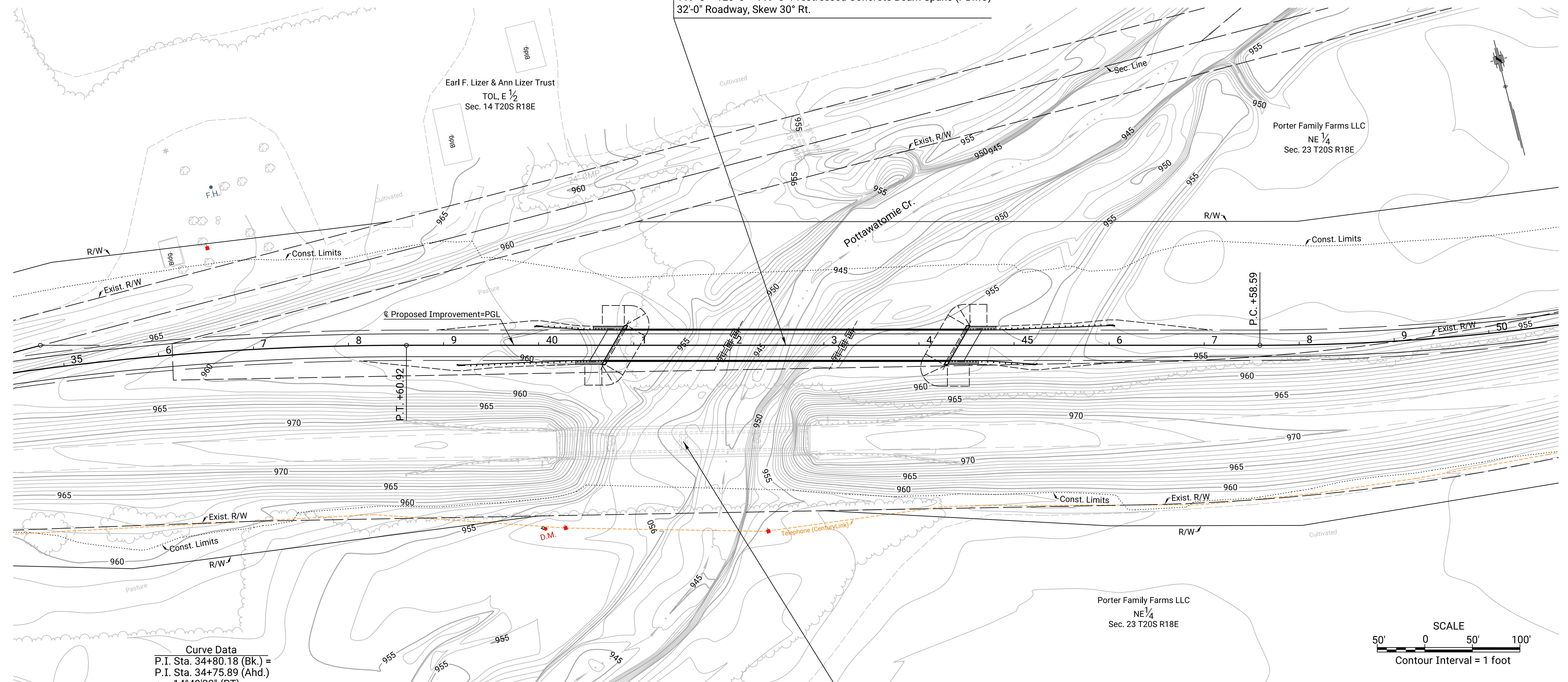
Office Location
PT @ K-31 Sta. 38+60.92
N 565,579.912 E 20,413,375.096
1. Not Set.

Office Location
PC @ K-31 Sta. 47+58.59
N 565,362.396 E 20,414,246.006
1. Not Set.

Office Location
P.I. @ K-31 Sta. 53+31.08 Bk. = 53+08.65 Ahd.
 $\Delta = 27^{\circ}43'24''$ (Lt.)
N 565,223.673 E 20,414,801.437
1. Not Set.

Curve Data
P.I. Sta. 53+31.08 (Bk.) =
P.I. Sta. 53+08.66 (Ahd.)
 $\Delta = 27^{\circ}43'24''$ (LT)
R = 2,320.00'
T = 572.49'
L = 1,122.56'
E = 69.59'
Superelevation = 6.00%

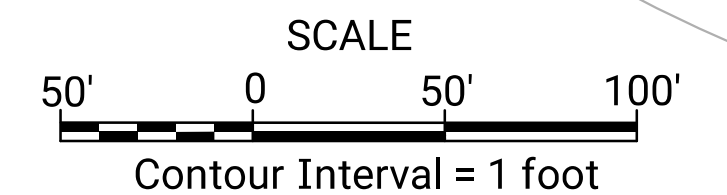
STA. 42+60.00 Construct
Br. No. 31-2-73.47 (045)
119'-8" - 120'-8" - 119'-8" Prestressed Concrete Beam Spans (PBMC)
32'-0" Roadway, Skew 30° Rt.



Curve Data
P.I. Sta. 34+80.18 (Bk.) =
P.I. Sta. 34+75.89 (Ahd.)
 $\Delta = 14^{\circ}49'23''$ (RT)
R = 2,960.00'
T = 385.04'
L = 765.79'
E = 24.94'
Superelevation = 5.00%

Historic High Water:
1960 Plans show HHW Elev. 965.36 (NGVD29) = 965.82 (NAVD88) (1951)

STA. 41+52.19 Remove
Br. No. 31-2-73.45 (019)
55'-77'-77'-55' Reinf. Conc. Continuous,
Haunched Deck Girder Spans (RDGH)
28'-0" Roadway



N 1/4 Cor. Sec. 23, T20S, R18E
N 565,667.983 E 20,412,598.247

1. Set 3/8" rebar with PEC ID cap, 0.2' below top of stone on the south side of stone.
2. Chiseled "+" in the top of the east end of a RCP. 69.69' W
3. MAG nail and washer in the west face of a power pole. 40.55' NE
4. 60d nail in the east face of a corner post. 100.21' SW
5. Centerline of NW Idaho Rd. 8.50' W

NW Cor. Sec. 24, T20S, R18E
N 565,699.377 E 20,415,238.867

1. Set 3/8" rebar with PEC ID cap, 0.2' below top of stone on the south side of stone.
2. MAG nail in south face of a hedge fence corner/gate post. 62.55' NE
3. MAG nail in south face of a hedge fence corner/gate post. 55.42' NW
4. 60d nail in the west face of a 18" cedar tree. 99.85' ESE
5. Centerline of Jackson Rd. 18.00' W

Utility Owners
Telephone CenturyLink
Power Energy Energy

The elevations shown are referenced to the NAVD88 Vertical Datum

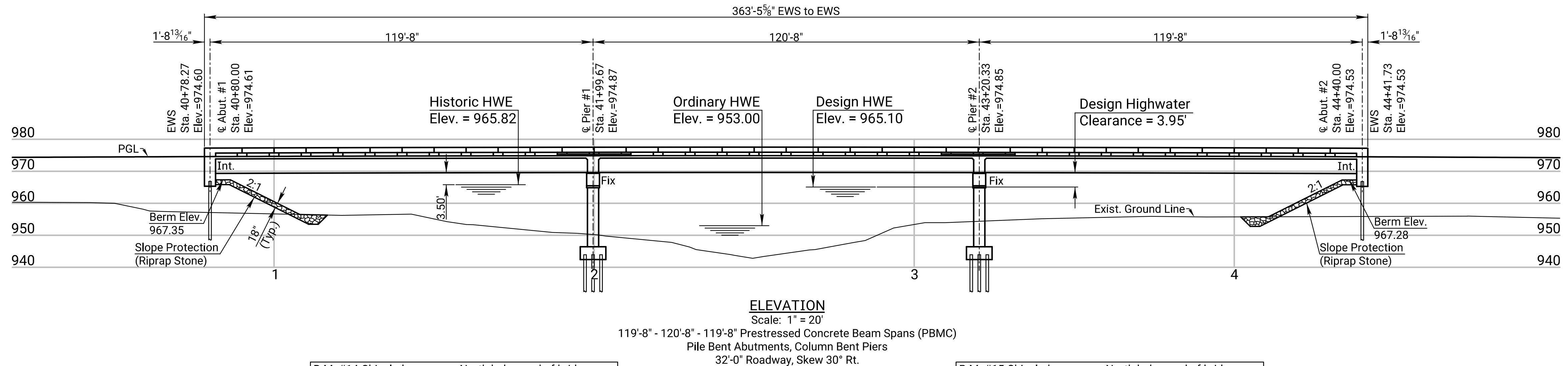
3					
2					
1					
NO.	DATE	REVISIONS	BY	APP'D	
KANSAS DEPARTMENT OF TRANSPORTATION					
Br. No. 31-2-73.47 (045) © STA. 42+60.00					
CONTOUR MAP					
K-31 Over Pottawatomie Creek					
PROJECT NO. 31-2 KA-5741-01			ANDERSON COUNTY		
SHEET NO.	OF	SCALE	APP'D	QUANTITIES	CADD
DESIGNED		DETAILED		QUAN. CK.	CADD CK.
DESIGN CK.		DETAIL CK.			

Plotted By: chance.billodeaux
File: ka574101bb045-005.dgn
Plot Date: 12-AUG-2022 10:12

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	31-2 KA-5741-01	2024	14	43

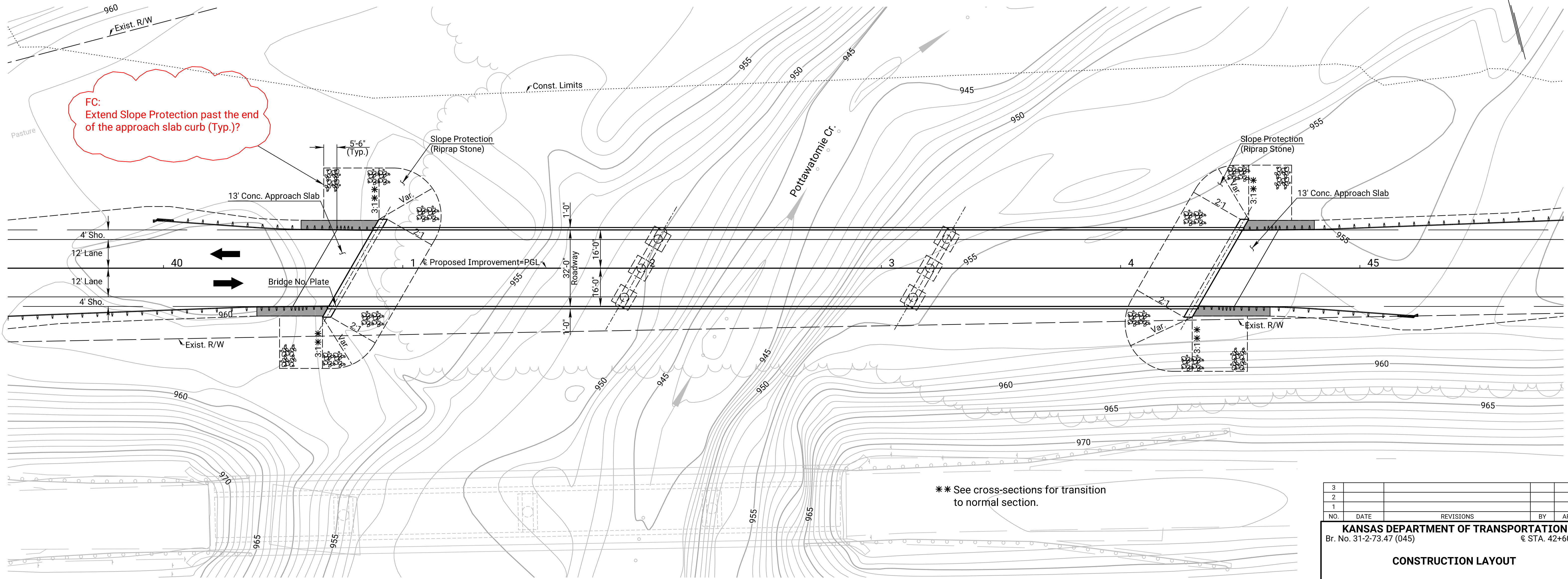
DRAINAGE DATA
Br. No. 31-002-73.47 (045)

Drainage Area.....	88.86 Sq. Mi.
Design Freq.....	50 Yr.
Des. Discharge.....	17,270 cfs
Design HWE.....	965.10 ft.
Change in Design BW.....	-0.20 ft.
Design BWE.....	966.00 ft.
Overtopping Elev. (20+20.07).....	966.57 ft.
Overtopping Disch.....	24,470 cfs
Overtopping Freq.....	180 Yr.
Discharge @ Q ₁₀₀	21,740 cfs
Change in Backwater @ Q ₁₀₀	-0.30 ft.
BW Elev @ Q ₁₀₀	967.50 ft.
Historic HWE.....	965.82 ft.
Ordinary HWE.....	953.00 ft.
Total Waterway Prov.....	4,990 Sq. Ft.
Des Waterway Prov.....	4,040 Sq. Ft.
Estimated OHW Discharge.....	2,300 cfs



B.M. #14 Chiseled square on North hub guard of bridge over Pottawatomie Creek at West end of bridge.
84.60' Rt. of @ Sta. 40+09.60 Elev. = 973.95

B.M. #15 Chiseled square on North hub guard of bridge over Pottawatomie Creek at East end of bridge.
78.24' Rt. of @ Sta. 42+92.54 Elev. = 973.45



ELEVATION
Scale: 1" = 20'

The elevations shown are referenced to the NAVD88 Vertical Datum

3					
2					
1					
NO.	DATE	REVISIONS	BY	APP'D	
KANSAS DEPARTMENT OF TRANSPORTATION					
Br. No. 31-2-73.47 (045) © STA. 42+60.00					
CONSTRUCTION LAYOUT					
K-31 Over Pottawatomie Creek					
PROJECT NO. 31-2 KA-5741-01 ANDERSON COUNTY					
SHEET NO.	OF	SCALE	APP'D	QUANTITIES	CADD
DESIGNED		DETAILED		QUAN. CK.	CADD CK.
DESIGN CK.		DETAIL CK.			

Plotted By: mike.thompson
 File: ka574101bbr045-007.dgn
 Plot Date: 12-AUG-2022 14:26

Utility Owners
 Telephone CenturyLink
 Power Energy Energy