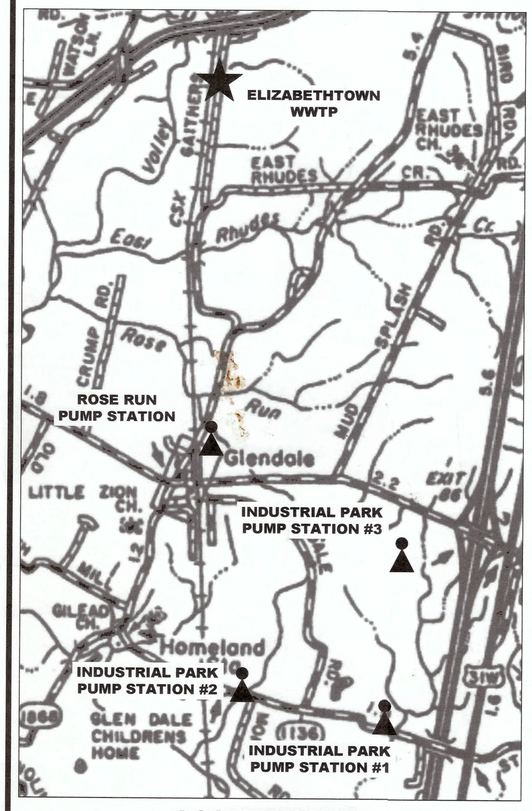
NOLIN RIVER WATERSHED SEWER INFRASTRUCTURE

FOR THE

HARDIN COUNTY WATER DISTRICT NO. 2

HARDIN COUNTY, KENTUCKY

AUGUST 2017



LOCATION MAP
NTS

325 WEST MAIN STREET, SUITE 710
LOUISVILLE, KY 40202
502-583-7020
502-583-7026 FAX
WWW.STRAND.COM

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47	STA. 224+50 TO STA. 237+50		•	•	
48	STA. 237+50 TO STA. 250+50		•		
49	STA. 250+50 TO STA. 263+50		•		
50	STA. 263+50 TO STA. 276+50		•		
51	STA. 276+50 TO STA. 289+50		•		
52	STA. 289+50 TO STA. 302+50		•		
53	STA. 302+50 TO STA. 315+50		•		
54	STA. 315+50 TO STA. 328+50		•		
55	STA. 328+50 TO STA. 341+50		•		
56	STA. 341+50 TO STA. 354+50		•		
57	STA. 354+50 TO STA. 367+50		•		
58	STA. 367+50 TO STA. 380+50		•		
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69	LINE B STA. 10+00 TO STA. 11+80.52			•	
70	LINE C STA. 10+00 TO STA. 12+31.43			•	
71	LINE D STA. 10+00 TO STA. 29+90.00			•	
71A	LINE F STA. 10+00 TO STA. 15+10.00			•	
72	LINE H STA. 10+00 TO STA. 23+00			•	
73	LINE H STA. 23+00 TO STA. 34+31.20			•	
74	LINE I STA. 10+00 TO STA. 14+27.41			•	
75	LINE J STA. 10+00 TO STA. 16+49			•	
76	LINE K STA. 10+00 TO STA. 24+28			•	
77	LINE L STA. 10+00 TO STA. 13+84.84			•	
78	LINE M STA. 10+00 TO STA. 21+50			•	
79	LINE M STA. 21+50 TO STA. 33+00			•	
80	LINE M STA. 33+00 TO STA. 42+19.16			•	
81	LINE N STA. 10+00 TO STA. 19+59			•	
82	LINE O STA. 10+00 TO STA. 16+75			•	
83	LINE P STA. 10+00 TO STA. 18+15			•	
84	LINE Q STA. 10+00 TO STA. 11+96			•	
85	LINE R STA. 10+00 TO STA. 23+50				•
86	LINE R STA. 23+50 TO STA. 37+00				•
87	LINE R STA. 37+00 TO STA. 50+50				•
88	LINE R STA. 50+50+ TO STA. 64+00				•
89	LINE R STA. 64+00 TO STA. 77+50				•
90	LINE R STA. 77+50 TO STA. 91+00				•
91	LINE R STA. 91+00 TO STA. 104+50				•
92	LINE R STA. 104+50 TO STA. 114+71.09				•
93	LINE R1 STA. 10+00 TO STA. 24+16.15				•
94	LINE T STA. 10+00 TO STA. 23+50				•
95	LINE T STA. 23+50 TO STA. 28+60.61				•
96	LINE T1 STA. 10+00 TO STA. 16+14.73				•
97	LINE U STA. 10+00 TO STA. 23+50			•	
98	LINE U STA. 23+50 TO STA. 37+00			•	
99	LINE U STA. 37+00 TO STA. 50+50			•	
100	LINE U STA. 50+50 TO STA. 53+00			•	
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CONTRACTS 1-2017, 2-2017, 3-2017, AND 4-2017

ISSUED FOR BID

STATE OF KENTUCKY
MARK A. SNEVE
18511

GLENDALE C-4 AS-BUILTS

STRAND ASSOCIATES®

SHEET 01

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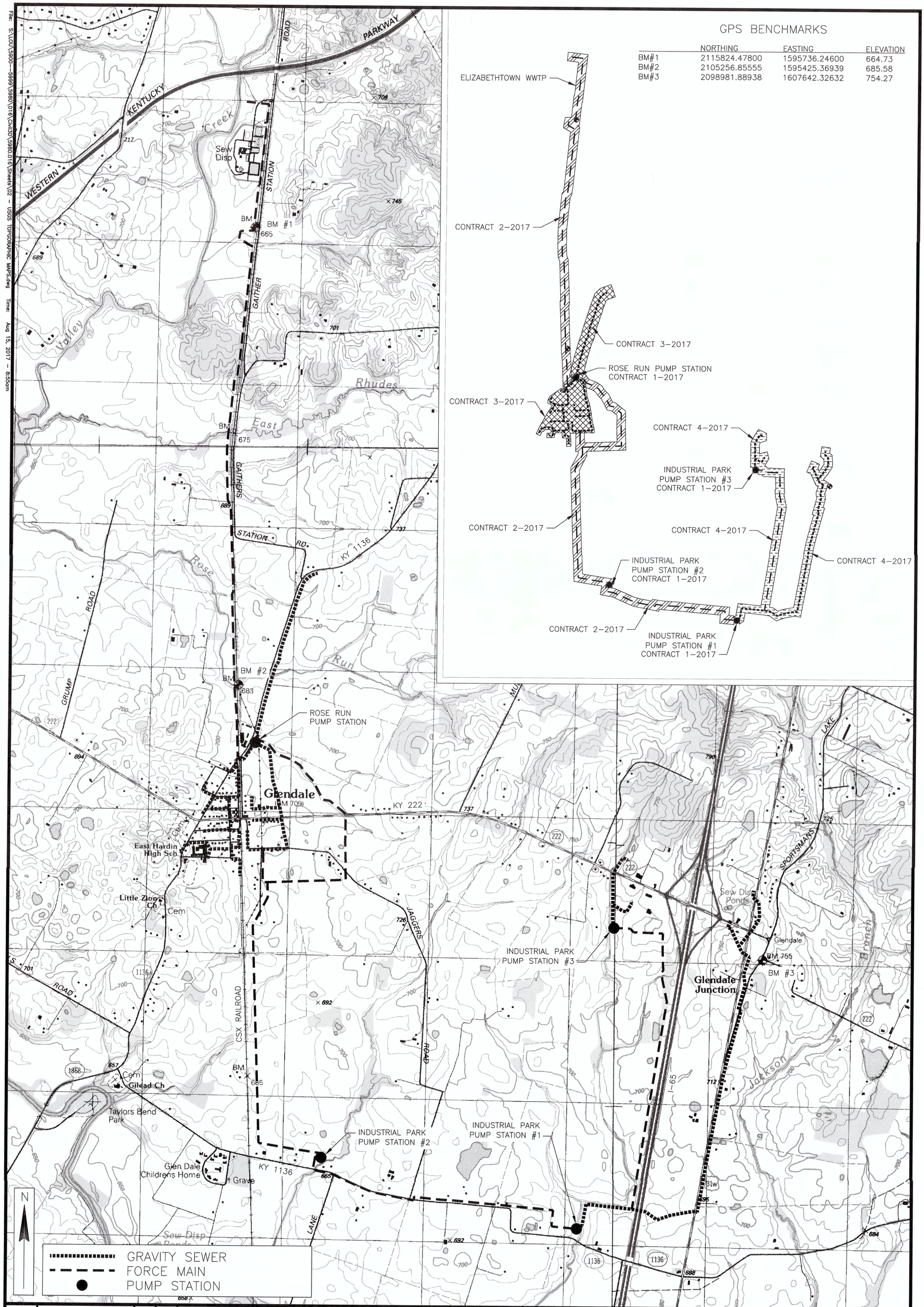

USGS TOPGORAPHIC MAP
GRAVITY SEWER AND FORCE MAIN ROUTES
CONTRACTS 1-2017, 2-2017, 3-2017, AND 4-2017

NOLIN RIVER WATERSHED SEWER INFRASTRUCTURE
HARDIN COUNTY WATER DISTRICT NO. 2
HARDIN COUNTY, KENTUCKY

NO.	REVISIONS	DATE:

STRAND ASSOCIATES®

SHEET 02

PROJECT MGR. MAS

JOB NO. 5980.020

STATE OF KENTUCKY MARK A. STRAND 19511 LICENSED PROFESSIONAL ENGINEER

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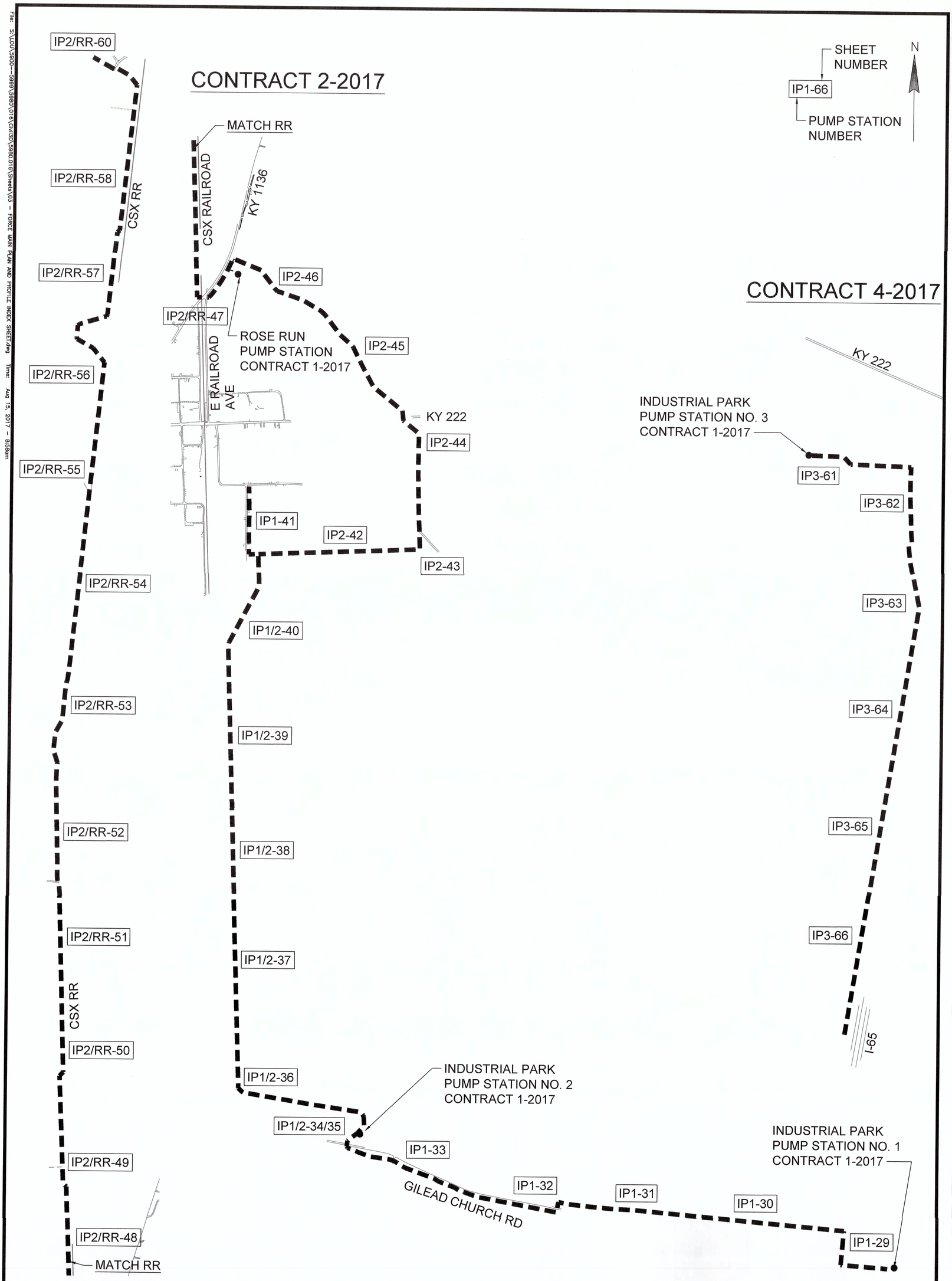

FORCE MAIN PORTION OF SEWER INFRASTRUCTURE
NO SCALE

SHEET 03	STRAND ASSOCIATES®	PROJECT MGR. MAS	JOB NO. 5980.020

FORCE MAIN PLAN AND PROFILE INDEX SHEET
CONTRACTS 1-2017, 2-2017, AND 4-2017

NOLIN RIVER WATERSHED SEWER INFRASTRUCTURE
HARDIN COUNTY WATER DISTRICT NO. 2
HARDIN COUNTY, KENTUCKY

NO.	REVISIONS	DATE:

STATE OF KENTUCKY · MARK A SNEVE 19511 · LICENSED PROFESSIONAL ENGINEER

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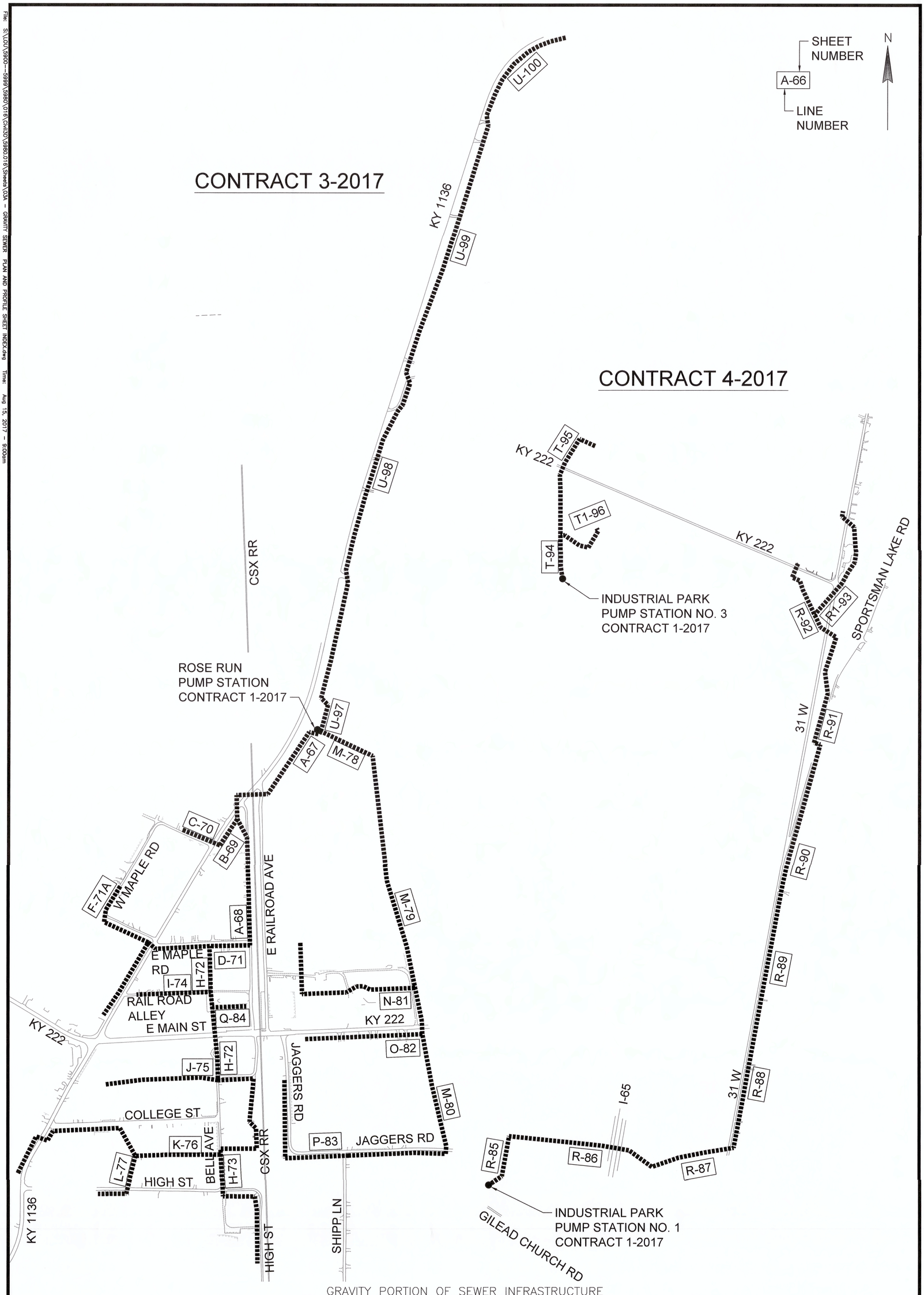

GRAVITY PORTION OF SEWER INFRASTRUCTURE
NO SCALE

GRAVITY SEWER PLAN AND PROFILE INDEX SHEET
CONTRACTS 1-2017, 3-2017, AND 4-2017

NOLIN RIVER WATERSHED SEWER INFRASTRUCTURE
HARDIN COUNTY WATER DISTRICT NO. 2
HARDIN COUNTY, KENTUCKY

NO.	REVISIONS	DATE:

STRAND ASSOCIATES®

SHEET 03A

JOB NO. 5980.020

PROJECT MGR. MAS

STATE OF KENTUCKY
MARK A SNEVE
18511
LICENSED PROFESSIONAL ENGINEER

DESIGN CRITERIA:

ROSE RUN PUMP STATION DESIGN DATA

AVG. DAILY SEWAGE FLOW: PEOPLE @ 100 G.P.C.D.	=	207,360 G.P.D.
AVG. FLOW: G.P.D./1,440	=	144 G.P.M.
PUMPING RATE PER PUMP: F.P.S. X S.F. X 448.8 G.P.M./C.F.S. (BASED ON FORCE MAIN SCOUR VELOCITY)	=	360 G.P.M.
STORAGE CAPACITY: MIN. X G.P.M.	=	10,800 GALLONS
STATIC HEAD	=	35.4 FEET
FORCE MAIN SIZE: 8"; MATERIAL: PVC (C=120)		
DYNAMIC HEADLOSS	=	36 FEET
TOTAL DYNAMIC HEAD (T.D.H.)	=	72 FEET
WETWELL DIAMETER: 8'; LEAVE SPACE FOR FUTURE SECOND WETWELL		

ROSE RUN PUMP STATION EQUIPMENT DATA

- TWO (2) 20 HP (MIN.) PUMPS
- CAPACITY (OPERATING POINT): 423 G.P.M. @ 85 T.D.H.
- PUMP TYPE & MANUFACTURER: FLYGT NP 3153 MT IMPELLER NO. 263
- DISCHARGE SIZE: 6"
- PUMP CONTROL: AUTOMATIC
- SOLIDS PASSING SIZE: N/A FOR N-SERIES PUMPS
- FORCE MAIN PRESSURE RATING & TYPE: PRESSURE CLASS 300, PVC
- CYCLE TIME: 12 MIN.
- ODOR CONTROL: BIOXIDE
- Volt: 460 AMP: 26

INDUSTRIAL PARK PUMP STATION NO. 1 DESIGN DATA

AVG. DAILY SEWAGE FLOW: PEOPLE @ 100 G.P.C.D.	=	132,000 G.P.D.
AVG. FLOW: G.P.D./1,440	=	92 G.P.M.
PUMPING RATE PER PUMP: F.P.S. X S.F. X 448.8 G.P.M./C.F.S. (BASED ON FORCE MAIN SCOUR VELOCITY)	=	230 G.P.M.
STORAGE CAPACITY: MIN. X G.P.M.	=	13,800 GALLONS
STATIC HEAD	=	46.5 FEET
FORCE MAIN SIZE: 6"; MATERIAL: PVC (C=120)		
DYNAMIC HEADLOSS	=	89 FEET
TOTAL DYNAMIC HEAD (T.D.H.)	=	136 FEET
WETWELL DIAMETER: 10' EACH; DUAL WETWELLS NEEDED		

INDUSTRIAL PARK PUMP STATION NO. 1 EQUIPMENT DATA

- TWO (2) 23 HP (MIN.) PUMPS
- CAPACITY (OPERATING POINT): 232 G.P.M. @ 138 T.D.H.
- PUMP TYPE & MANUFACTURER: FLYGT NP 3153 SH IMPELLER NO. 167
- DISCHARGE SIZE: 4"
- PUMP CONTROL: AUTOMATIC
- SOLIDS PASSING SIZE: N/A FOR N-SERIES PUMPS
- FORCE MAIN PRESSURE RATING & TYPE: PRESSURE CLASS 300, PVC
- CYCLE TIME: 12 MIN.
- ODOR CONTROL: BIOXIDE
- Volt: 460 AMP: 26

INDUSTRIAL PARK PUMP STATION NO. 2 DESIGN DATA

*NOTE- THIS PUMP STATION WILL HAVE NO EQUIPMENT INSTALLED INITIALLY

AVG. DAILY SEWAGE FLOW: PEOPLE @ 100 G.P.C.D.	=	N/A G.P.D.
AVG. FLOW: G.P.D./1,440	=	N/A G.P.M.
PUMPING RATE PER PUMP: F.P.S. X S.F. X 448.8 G.P.M./C.F.S. (BASED ON FORCE MAIN SCOUR VELOCITY)	=	N/A G.P.M.
STORAGE CAPACITY: MIN. X G.P.M.	=	N/A GALLONS
STATIC HEAD	=	N/A FEET
FORCE MAIN SIZE: 16"; MATERIAL: PVC (C=120)		
DYNAMIC HEADLOSS	=	N/A FEET
TOTAL DYNAMIC HEAD (T.D.H.)	=	N/A FEET
WETWELL DIAMETER: 10' EACH; DUAL WETWELLS NEEDED		

INDUSTRIAL PARK PUMP STATION NO. 3 DESIGN DATA

AVG. DAILY SEWAGE FLOW: PEOPLE @ 100 G.P.C.D.	=	46,080 G.P.D.
AVG. FLOW: G.P.D./1,440	=	32 G.P.M.
PUMPING RATE PER PUMP: F.P.S. X S.F. X 448.8 G.P.M./C.F.S. (BASED ON FORCE MAIN SCOUR VELOCITY)	=	80 G.P.M.
STORAGE CAPACITY: MIN. X G.P.M.	=	4,800 GALLONS
STATIC HEAD	=	37.2 FEET
FORCE MAIN SIZE: 4"; MATERIAL: PVC (C=120)		
DYNAMIC HEADLOSS	=	6 FEET
TOTAL DYNAMIC HEAD (T.D.H.)	=	43 FEET
WETWELL DIAMETER: 6'		

INDUSTRIAL PARK PUMP STATION NO. 3 EQUIPMENT DATA

- TWO (2) 4 HP (MIN.) PUMPS
- CAPACITY (OPERATING POINT): 145 G.P.M. @ 54 T.D.H.
- PUMP TYPE & MANUFACTURER: FLYGT NP 3085 SH IMPELLER NO. 126
- DISCHARGE SIZE: 4"
- PUMP CONTROL: AUTOMATIC
- SOLIDS PASSING SIZE: N/A FOR N-SERIES PUMPS
- FORCE MAIN PRESSURE RATING & TYPE: PRESSURE CLASS 300, PVC
- CYCLE TIME: 12 MIN.
- Volt: 460 AMP: 5

GENERAL NOTES:

1. THE CONTRACTOR SHALL CONTACT AND OBTAIN THE PERMISSION OF THE OWNER 48 HOURS (MIN.) PRIOR TO ANY CONSTRUCTION ACTIVITY INTERRUPTING OPERATION OF THE EXISTING PUMP STATIONS. ALL MATERIALS, EQUIPMENT AND PERSONNEL REQUIRED SHALL BE ON SITE PRIOR TO ANY CONSTRUCTION ACTIVITY THAT DISRUPTS OPERATION OF THE EXISTING PUMP STATIONS.
2. ALL PROPOSED MAINS LOCATED WITHIN THE LIMITS OF THE EXISTING HIGHWAY R.O.W. SHALL BE INSTALLED WITH 36" (MIN.) OF COVER ABOVE THE PROPOSED MAIN. THE DIMENSION OF COVER WILL BE MEASURED FROM THE TOP EXTERIOR SURFACE OF THE PROPOSED MAIN AT THE POINT OF MAXIMUM DIAMETER OF THE PROPOSED MAIN (JOINT, BELL, FITTING, ETC.) TO THE GROUND SURFACE. COVER AT HIGHWAY DITCH LINES SHALL ACCORDINGLY BE 36" BELOW INVERT TO DITCH.
3. THE CONTRACTOR SHALL NOTE THAT THE LENGTH OF BORES AND CASINGS REFERRED TO ON THE CONTRACT DRAWINGS IS A MINIMUM. CONTRACTOR SHALL ADJUST LENGTH AS REQUIRED BY FIELD REQUIREMENTS DURING CONSTRUCTION OF THIS PROJECT.
4. THE CONTRACTOR SHALL NOTE THAT MANY WATERWAY CROSSINGS (CREEKS, STREAMS, DRAINS, ETC.) REQUIRE PROTECTION BY PLACEMENT OF EITHER A CRUSHED ROCK OR CONCRETE CAP ABOVE THE PROPOSED MAIN. MOST OF THESE CROSSINGS HAVE BEEN IDENTIFIED, HOWEVER ADDITIONAL CAPS MAY BE REQUIRED AS ACTUAL FIELD CONSTRUCTION DICTATES. FURTHER THE LENGTH AND MATERIAL (STONE OR CONCRETE) MAY BE CHANGED AS REQUIRED BY ACTUAL FIELD CONDITIONS DURING CONSTRUCTION OF THIS CONTRACT. ALL CHANGES SHALL BE PAID FOR AT THE UNIT PRICE BID FOR SAID WATERWAY CROSSINGS UNDER THIS CONTRACT AND SHALL BE APPROVED BY THE OWNER PRIOR TO INSTALLATION.
5. THE CONTRACTOR SHALL NOTE THAT THE APPROXIMATE LOCATION OF MANY OF THE EXISTING HIGHWAY CULVERTS AND APPURTENANCES HAVE BEEN DEPICTED ON THE CONTRACT DRAWINGS, HOWEVER ADDITIONAL SUCH ITEMS MAY EXIST. FURTHERMORE IN SOME CIRCUMSTANCES THE EXISTING CULVERTS HAVE BEEN REFERRED TO AS BROKEN OR DAMAGED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND DOCUMENT THE CONDITION OF ALL EXISTING APPURTENANCES (HIGHWAY AND UTILITY) TO PREVENT CLAIMS THAT SAID ITEMS WERE DAMAGED DIRECTLY OR INDIRECTLY BY THE CONTRACTOR DURING CONSTRUCTION OF THIS CONTRACT.
6. ALL EXCAVATION UNDER THIS CONTRACT IS UNCLASSIFIED. NO EXTRA COMPENSATION WILL BE ALLOWED FOR ROCK EXCAVATION. ADDITIONALLY, NO EXTRA COMPENSATION WILL BE ALLOWED FOR EXTRA TRENCH DEPTH THAT MAY BE REQUIRED TO AVOID EXISTING UTILITIES, ETC. OR REQUIRED BY GRADE TRANSITIONS SUCH AS CREEK CROSSINGS, ETC. THE CONTRACTOR SHALL INCLUDE ALL SUCH COSTS IN THE PRICE BID.
7. THE CONTRACTOR SHALL NOTE THAT SOME PROPERTIES ALONG THE PROPOSED ROUTE MAY HAVE EXISTING ON-SITE SEWAGE DISPOSAL SYSTEMS (SEPTIC TANKS, LEACH FIELDS, ETC.) THE CONTRACTOR SHALL ASSESS FIELD CONDITIONS AHEAD OF ITS EXCAVATION AS REQUIRED TO AVOID DISTURBING ALL SUCH SYSTEMS. HOWEVER IF DISTURBANCE IS UNAVOIDABLE OR ACCIDENTAL, THE CONTRACTOR SHALL HAVE ON CALL A LICENSED PLUMBER TO REPAIR ANY AND ALL DAMAGE CAUSED DIRECTLY OR INDIRECTLY BY THE CONTRACTOR. FURTHERMORE, THE CONTRACTOR SHALL CONTACT THE OWNER AND/OR THE ENGINEER PRIOR TO BACK FILLING THE PURPOSED MAIN OR SEWER TO ALLOW ASSESSMENT OF FIELD CONDITIONS WHICH MAY REQUIRE FURTHER PROTECTION OF THE PROPOSED MAIN. ANY REPAIRS MADE TO EXISTING SEPTIC SYSTEMS SHALL BE PERMANENT, IN ACCORDANCE WITH ALL GOVERNING CODES, AND SHALL BE COMPLETED THE SAME DAY.
8. THE PROPERTY LINES ARE BASED ON PVA MAPS ONLY NOT A BOUNDARY SURVEY. THE ACCURACY OF THE PROPERTY LINES ARE APPROXIMATE ONLY.
9. THE CONTRACTOR SHALL NOTIFY THE OWNER IMMEDIATELY IF SINK HOLE IS ENCOUNTERED DURING EXCAVATION.

WETLANDS CONSTRUCTION NOTES:

IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTROL EROSION TO/FROM SITES LABELED AS WETLANDS DURING CONSTRUCTION. REFER TO THE U.S. ARMY CORPS OF ENGINEERS PERMIT NUMBER LRL-2015-00774-mck IN THE SPECIFICATIONS FOR SPECIAL WETLANDS CONSTRUCTION PERMIT REQUIREMENTS.

MAINS CONSTRUCTED WITHIN AREAS IDENTIFIED AS WETLANDS SHALL USE HORIZONTAL DIRECTIONAL DRILLING (HDD) TO MINIMIZE THE AREA OF DISTURBANCE CAUSED BY CONSTRUCTION.

ALL EXCESS ROCK PLACED WITHIN WETLANDS FOR CONSTRUCTION PURPOSES REGARDLESS OF SIZE AND PLACEMENT MUST BE REMOVED FROM THE SITE AFTER UTILITY CONSTRUCTION IS COMPLETE.

SOIL EXCAVATED FOR ANY INSERTION OR RECEIVING PITS IN WETLANDS MUST BE EXCAVATED IN EVEN LAYERS. THE SOIL LAYERS MUST REMAIN NEAR THE ORIGINAL PIT AT ALL TIMES AND MUST BE PLACED BACK INTO THEIR ORIGINAL PIT AT THEIR EXCAVATED ELEVATION AFTER CONSTRUCTION NEAR THE PIT AREA IS COMPLETE. ONLY MATERIAL REMOVED FROM INSERTION OR RECEIVING PITS CAN BE PLACED BACK IN THE PIT DURING THE BACKFILL PROCESS.

ELECTRICAL ABBREVIATIONS:

A	AMPERE
ATS	AUTOMATIC TRANSFER SWITCH
C	CONDUIT
EF	EXHAUST FAN
FVNR	FULL VOLTAGE NON-REVERSING
G	GROUND
HP	HORSEPOWER
KVA	KILOVOLT AMPERES
KW	KILOWATT
LP	LIGHTING PANEL
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MCM	THOUSAND CIRCULAR MILS
MLO	MAIN LUGS ONLY
NEC	NATIONAL ELECTRIC CODE
P	PUMP
ø	PHASE
PVC	POLYVINYL CHLORIDE
RVSS	REDUCED VOLTAGE SOLID STATE
SCC	SUPERVISORY CONTROL CENTER
SS	STAINLESS STEEL
V	VOLTS
XFMR	TRANSFORMER

DRAFTING SYMBOLS

DETAIL NOTATION (A / 01) — DETAIL LETTER; SHEET THAT DETAIL IS SHOWN ON

SECTION NOTATION (1 / 01) — SECTION NUMBER; SHEET THAT SECTION IS SHOWN ON

SECTION SCALE (1 / 01) — SECTION NUMBER; SHEET THAT SECTION IS SHOWN ON

ELEVATION NOTATION (A / 01) — ELEVATION LETTER; SHEET THAT ELEVATION IS SHOWN ON

EQUIPMENT IDENTIFICATION (Type / Group) — TYPE OF EQUIPMENT; EQUIPMENT GROUP

NAME / 9999 — ROOM IDENTIFICATION

101A — DOOR IDENTIFICATION

999 — WINDOW IDENTIFICATION

1 — KEY/SPECIFIC NOTE CALL-OUT

X — PARTITION TYPE REFERENCE

A — CENTER LINE OF BEAM-COLUMN FRAME SYSTEM

M11 — POINTS OF VIEW BEING CONSIDERED MATCH LINE

3 — REVISION

+EL 1000.00 FINISH ELEVATION

EL 1000.00 SPOT ELEVATION

HIDDEN OBJECT

FUTURE OBJECT

ARCHITECTURAL SYMBOLS

EARTH

SAND, PLASTER, STUCCO

CONCRETE

BRICK

CONCRETE BLOCK

BATT INSULATION

RIGID INSULATION

BEDDING STONE

SPLIT FACE BLOCK

ROOF

CANADIAN HEMLOCK

NELLIE STEVENS HOLLY

LEGEND:

TOPOGRAPHICAL SYMBOLS

PROPERTY LINE AND/OR RIGHT OF WAY

CONSTRUCTION EASEMENT ON SEWER AND WATER PLANS

PERMANENT EASEMENT ON SEWER AND WATER PLANS

TERMPORYARY EASEMENT ON SEWER AND WATER PLANS

SECTION LINE

CENTER LINE

SOIL BORING

EXISTING GUY WIRE

EXISTING UTILITY POLE

BURIED TELEPHONE CABLE PEDESTAL

SIGN

LIGHT POLE

EXISING TREE

EXISTING MAILBOX

EXISTING WATER METER

EXISTING FIRE HYDRANT

EXISTING FENCE POST

EXISTING EDGE OF PAVEMENT

EXISTING GRAVEL ROAD

EXISTING TRAIL

RAILROAD

BRIDGE

FENCE

GUARD RAIL

CURB AND GUTTER

EXISTING OVERHEAD ELECTRIC

MAJOR CONTOUR LINES

MINOR CONTOUR LINES

PROPOSED ROAD

PROPOSED FENCE

FLOODWAY

100 YR FLOOD

UNDERGROUND UTILITY SYMBOLS

EXISTING WATER MAIN

24" SEWER — NEW SANITARY SEWER AND MANHOLE

18" CMP — EXISTING STORM SEWER

16" FM — FORCE MAIN WITH AIR RELEASE VALVE VACUUM MANHOLE

PROPOSED ELECTRIC

CREEK

EXISTING GAS MAIN

EXISTING ELECTRIC

EXISTING PHONE

CULVERT IN PROFILE

ORIGINAL GROUND IN PROFILE

CAUTION — NOTATION FOR COMBUSTIBLE FLUIDS

PIPING SYMBOLS

FLANGE JOINT

MECHANICAL JOINT

ELECTRICAL SYMBOLS

LIGHTING

A / 2 / b — FIXTURE SYMBOL (TYPICAL)
A-INDICATES FIXTURE TYPE
2-INDICATES CIRCUIT NUMBER
b-INDICATES SWITCHING
SOLID CIRCLE INDICATES ALWAYS ON

INCANDESCENT, HID, WALL

1X4 FLUORESCENT, SURFACE OR PENDANT

SWITCHES

$ — SINGLE POLE

$3 — THREE WAY

EQUIPMENT AND WIRING

TRANSFORMER

T — LINE VOLTAGE THERMOSTAT

P-01-01 — 480V LOAD, REFER TO MCC SCHEDULE FOR EQUIPMENT NUMBER

F — DISCONNECT, F=FUSED, B=CIRCUIT BREAKER, BLANK=NON-FUSED

STROBE; WALL MOUNT

H — HORN; WALL MOUNT

POWER SYMBOLS

E — UNDERGROUND ELECTRIC

OHE — OVERHEAD ELECTRIC

2(X) — CIRCUIT NUMBER (TYPICAL)
OTHERWISE SHOWN PANEL DESIGNATION (TYP.)
DUPLEX, 125 VOLT, WP
INDICATES WEATHERPROOF

DUPLEX, 125 VOLT, ABOVE FURNITURE

FIXED EQUIPMENT CONNECTION

AUTOMATIC TRANSFER SWITCH (ONE-LINE DIAGRAM)

CIRCUIT BREAKER (ONE-LINE DIAGRAM)

M — METER (ONE-LINE DIAGRAM)

INSTRUMENTATION EQUIPMENT

LIT* — LEVEL INDICATING TRANSMITTER, *: S=SUBMERSIBLE, U=ULTRASONIC, R=RING TYPE, RA=RADAR

LS* — LEVEL SWITCH, *: C=CONDUCTANCE, F=BALL FLOAT, V=VIBRATING FORK, B=BUILDING FLOODING

ACTUATORS

M — MOTOR (ELECTRIC)

EQUIPMENT SYMBOLS

UNIT HEATER

STATE OF KENTUCKY — MARK A. SNEVE — 18511 — LICENSED PROFESSIONAL ENGINEER — 8/15/17

NO.	REVISIONS	DATE:

DESIGN CRITERIA, GENERAL NOTES, LEGEND, AND ABBREVIATIONS CONTRACTS 1-2017, 2-2017, 3-2017, AND 4-2017

NOLIN RIVER WATERSHED SEWER INFRASTRUCTURE
HARDIN COUNTY WATER DISTRICT NO. 2
HARDIN COUNTY, KENTUCKY

JOB NO. 5980.020

PROJECT MGR. MAS

STRAND ASSOCIATES®

SHEET 04

LINE T
SEE SHEET - 94

NEW INTERCHANGE
RIGHT OF WAY

MH T-01
SEE SHEET - 94

20' TEMPORARY CONSTRUCTION EASEMENT

PROPOSED PROPERTY LINE

45° BEND
@ STA. 13+57
N: 2099692.03
E: 1604566.75

45° BEND
@ STA. 14+72
N: 2099607.93
E: 1604645.08

BEGIN CONTRACT 4-2017
AT STATION 10+50
4" FM N: 2099702.92
E: 1604259.89

20' PERMANENT EASEMENT

20' TEMPORARY CONSTRUCTION EASEMENT

INDUSTRIAL PARK NO.3 PUMP STATION

HARDIN COUNTY

NEW INTERCHANGE

4" PVC FORCE MAIN

SEE AIR RELEASE
VACUUM VALVE MANHOLE
DETAIL G/101

SEE SOIL FILTER BED
DETAIL F/101

20' TEMPORARY CONSTRUCTION EASEMENT

20' PERMANENT EASEMENT

90° BEND
@ STA. 21+54
N: 2099583.43
E: 1605326.91

MATCH LINE 23+50 SEE SHEET 62

N

0 25' 50' 100'

AIR RELEASE VACUUM
VALVE MH #9
STA. 18+86
SEE DETAIL G/101

MAINTAIN MINIMUM COVER

MAINTAIN MINIMUM COVER

EXISTING GROUND

INVERT EL. 744.48
@ STA. 17+27

INVERT EL. 745.83
@ STA. 18+86

MAINTAIN NEGATIVE SLOPE

MAINTAIN POSITIVE SLOPE

PS WET WELLS
AND VAULTS
SEE DETAIL SHEET 25

4" PVC FORCE MAIN

BEGIN CONTRACT 4-2017
AT STATION 10+50
INVERT EL. 720.12

CROWN EL. 718.50
@ STA. 10+00

DUCTILE IRON
PIPE REQUIRED
FOR THIS
CONTRACT

WORK BY CONTRACT 1-2017

WORK BY CONTRACT 4-2017

750 740 730 720 710

9+00 10+00 11+00 12+00 13+00 14+00 15+00 16+00 17+00 18+00 19+00 20+00 21+00 22+00 23+00 23+50

STATE OF KENTUCKY
MARK A SNEVE
18511
LICENSED PROFESSIONAL ENGINEER
8/15/17

DATE:

REVISIONS

NO.

INDUSTRIAL PARK PUMP STATION NO. 3
FORCE MAIN STA. 10+00 TO STA. 23+50
CONTRACT 4-2017

NOLIN RIVER WATERSHED SEWER INFRASTRUCTURE
HARDIN COUNTY WATER DISTRICT NO. 2
HARDIN COUNTY, KENTUCKY

JOB NO.
5980.020

PROJECT MGR.
MAS

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SHEET
61

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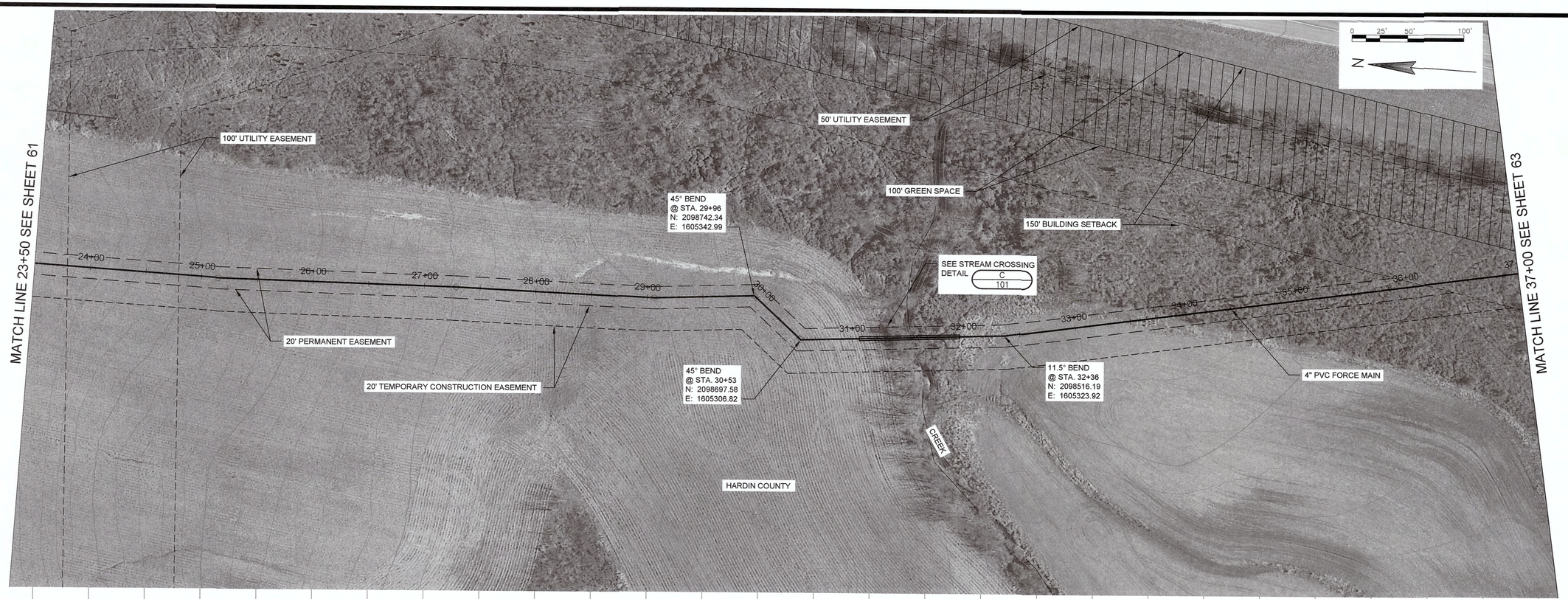

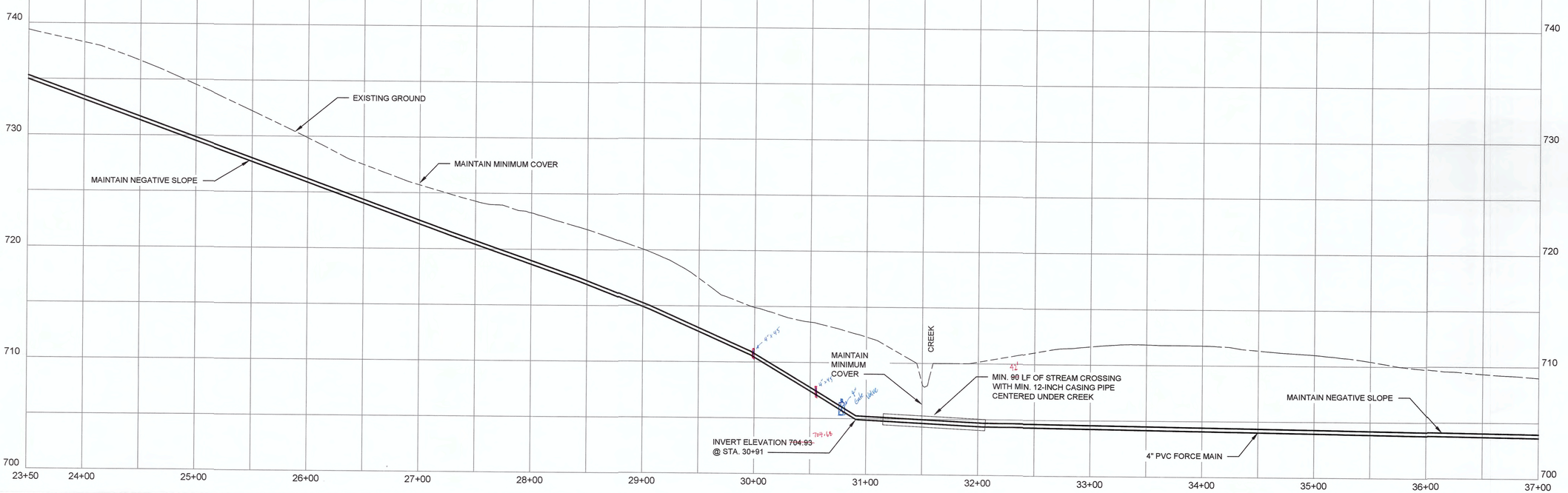

STATE OF KENTUCKY
MARK A. SNEVE
18511
LICENSED PROFESSIONAL ENGINEER
8/15/17

NO.	REVISIONS	DATE:

INDUSTRIAL PARK PUMP STATION NO. 3
FORCE MAIN STA. 23+50 TO STA. 37+00
CONTRACT 4-2017

NOLIN RIVER WATERSHED SEWER INFRASTRUCTURE
HARDIN COUNTY WATER DISTRICT NO. 2
HARDIN COUNTY, KENTUCKY

JOB NO.
5980.020

PROJECT MGR.
MAS

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SHEET
62

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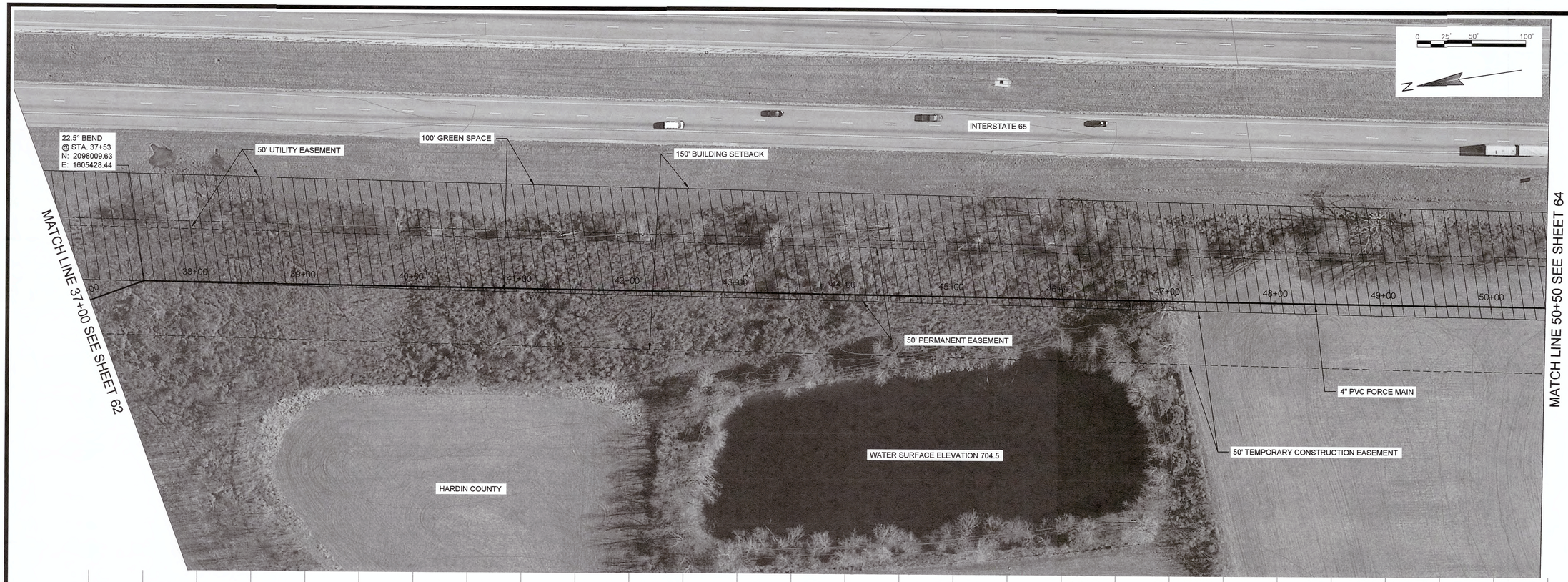

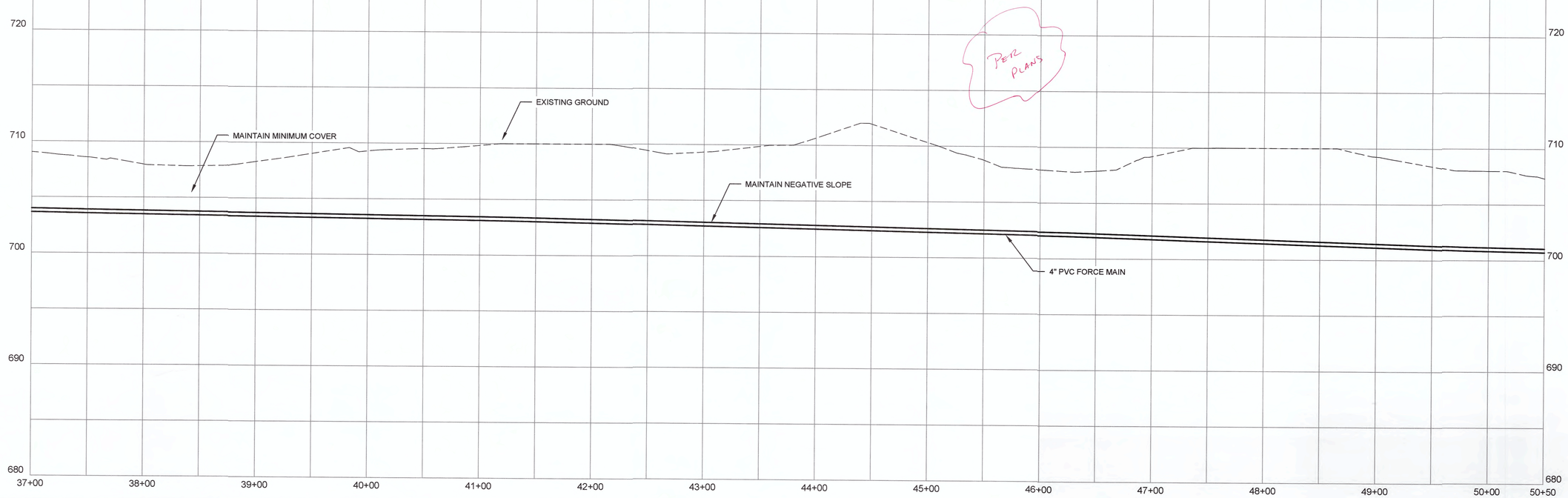

STATE OF KENTUCKY
MARK A. SNEVE
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8/15/17

NO.	REVISIONS	DATE:

INDUSTRIAL PARK PUMP STATION NO. 3
FORCE MAIN STA. 37+00 TO STA. 50+50
CONTRACT 4-2017

NOLIN RIVER WATERSHED SEWER INFRASTRUCTURE
HARDIN COUNTY WATER DISTRICT NO. 2
HARDIN COUNTY, KENTUCKY

JOB NO. 5980.020
PROJECT MGR. MAS

STRAND ASSOCIATES®

SHEET 63

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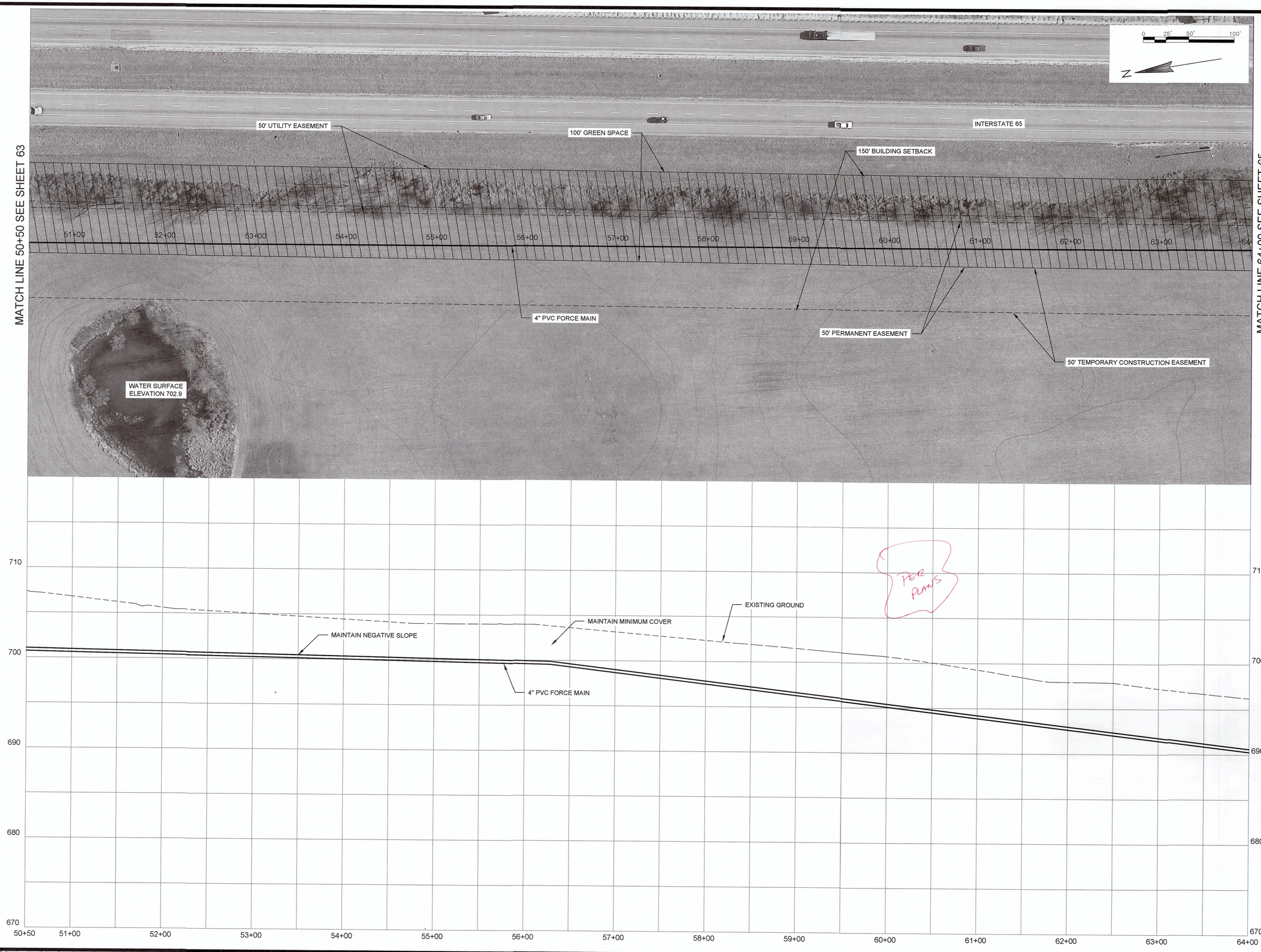

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8/15/17

NO.	REVISIONS	DATE:

INDUSTRIAL PARK PUMP STATION NO. 3
FORCE MAIN STA. 50+50 TO STA. 64+00
CONTRACT 4-2017

NOLIN RIVER WATERSHED SEWER INFRASTRUCTURE
HARDIN COUNTY WATER DISTRICT NO. 2
HARDIN COUNTY, KENTUCKY

JOB NO. 5980.020
PROJECT MGR. MAS

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SHEET 64

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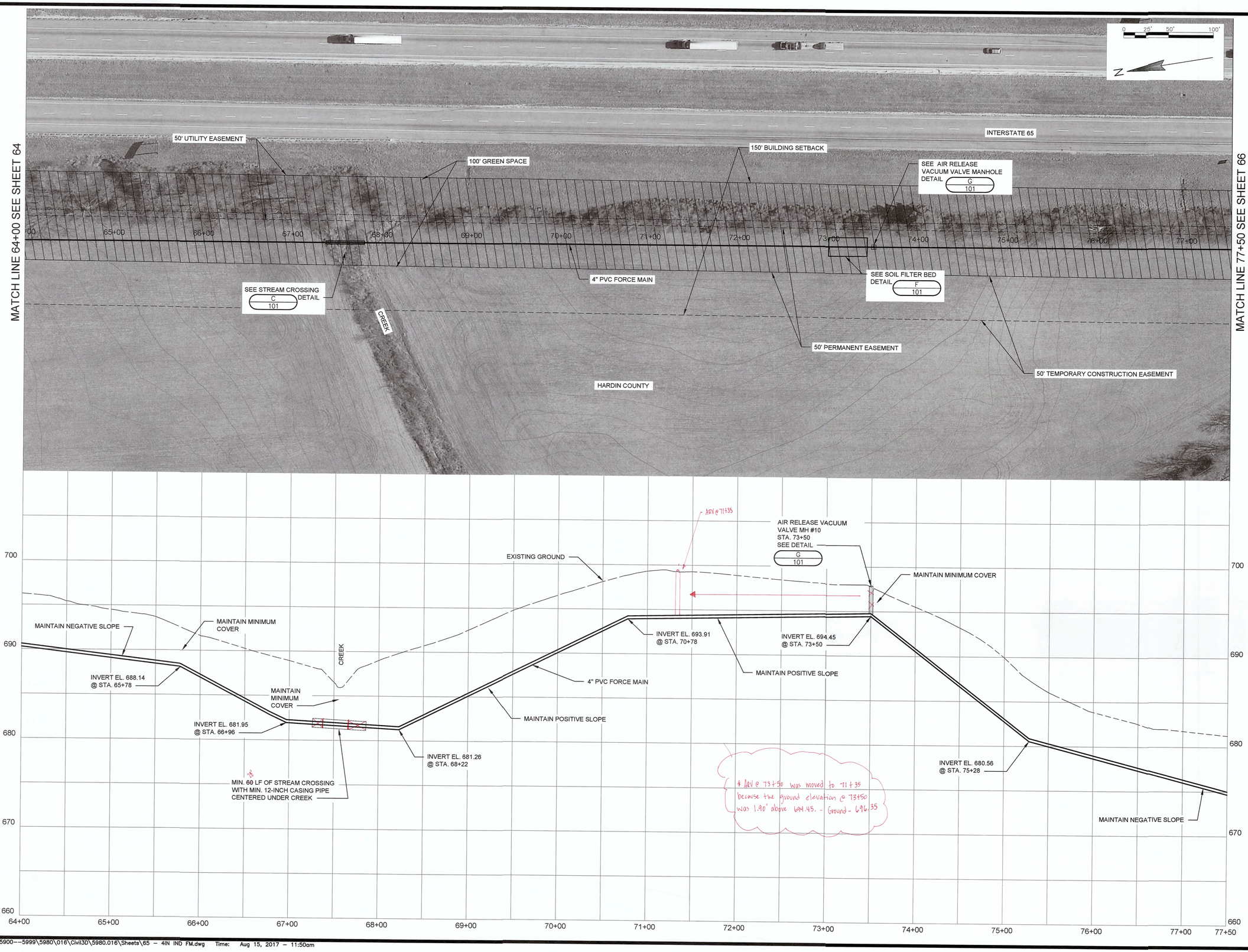

STATE OF KENTUCKY
MARK A. SNEVE
18511
PROFESSIONAL ENGINEER
8/15/17

NO.	REVISIONS	DATE:

INDUSTRIAL PARK PUMP STATION NO. 3
FORCE MAIN STA. 64+00 TO STA. 77+50
CONTRACT 4-2017

NOLIN RIVER WATERSHED SEWER INFRASTRUCTURE
HARDIN COUNTY WATER DISTRICT NO. 2
HARDIN COUNTY, KENTUCKY

JOB NO. 5980.020
PROJECT MGR. MAS

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SHEET 65

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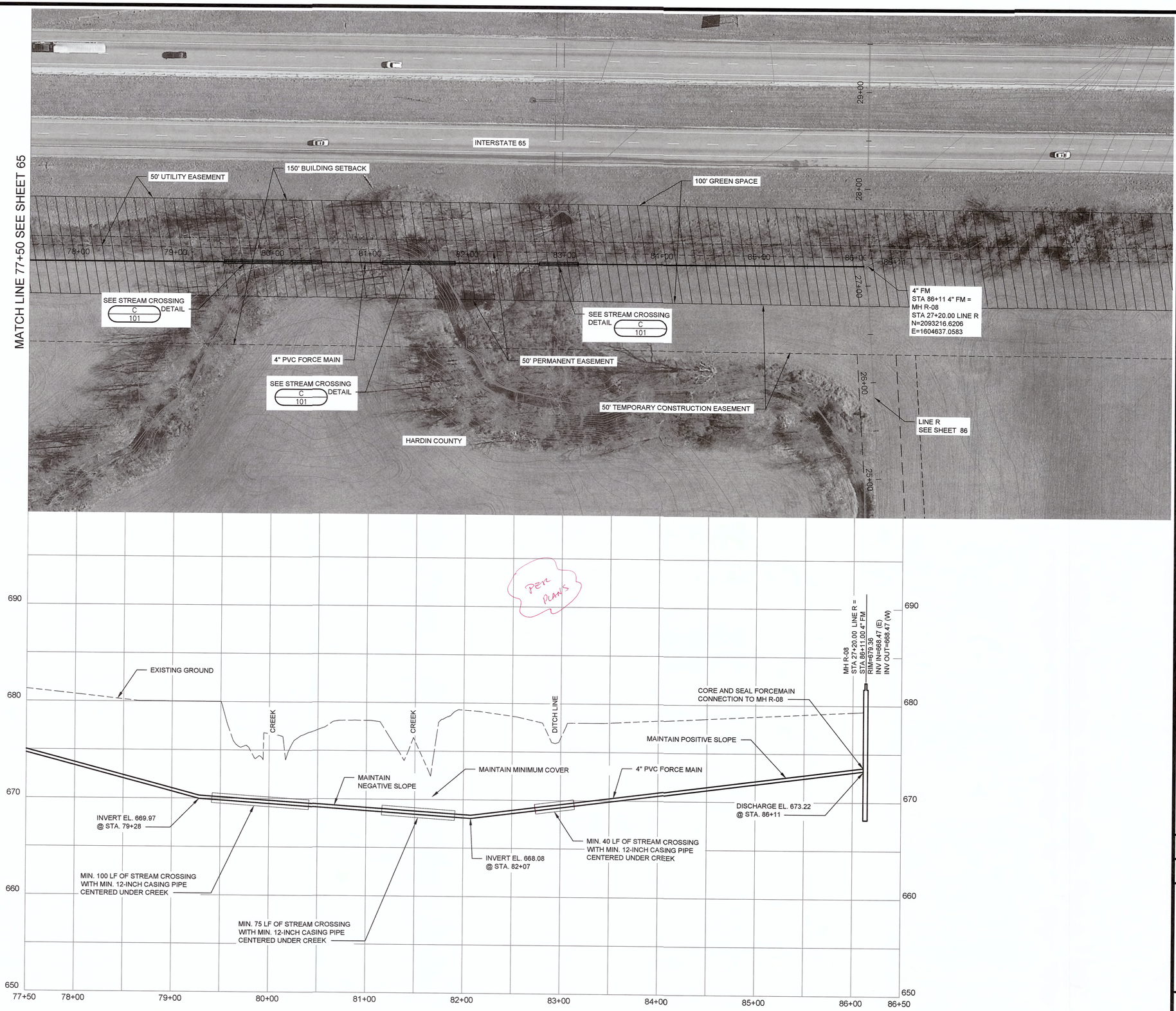

STATE OF KENTUCKY
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8/15/17

NO.	REVISIONS	DATE:

INDUSTRIAL PARK PUMP STATION NO. 3
FORCE MAIN STA. 77+50 TO STA. 86+11
CONTRACT 4-2017

NOLIN RIVER WATERSHED SEWER INFRASTRUCTURE
HARDIN COUNTY WATER DISTRICT NO. 2
HARDIN COUNTY, KENTUCKY

JOB NO.
5980.020

PROJECT MGR.
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SHEET
66

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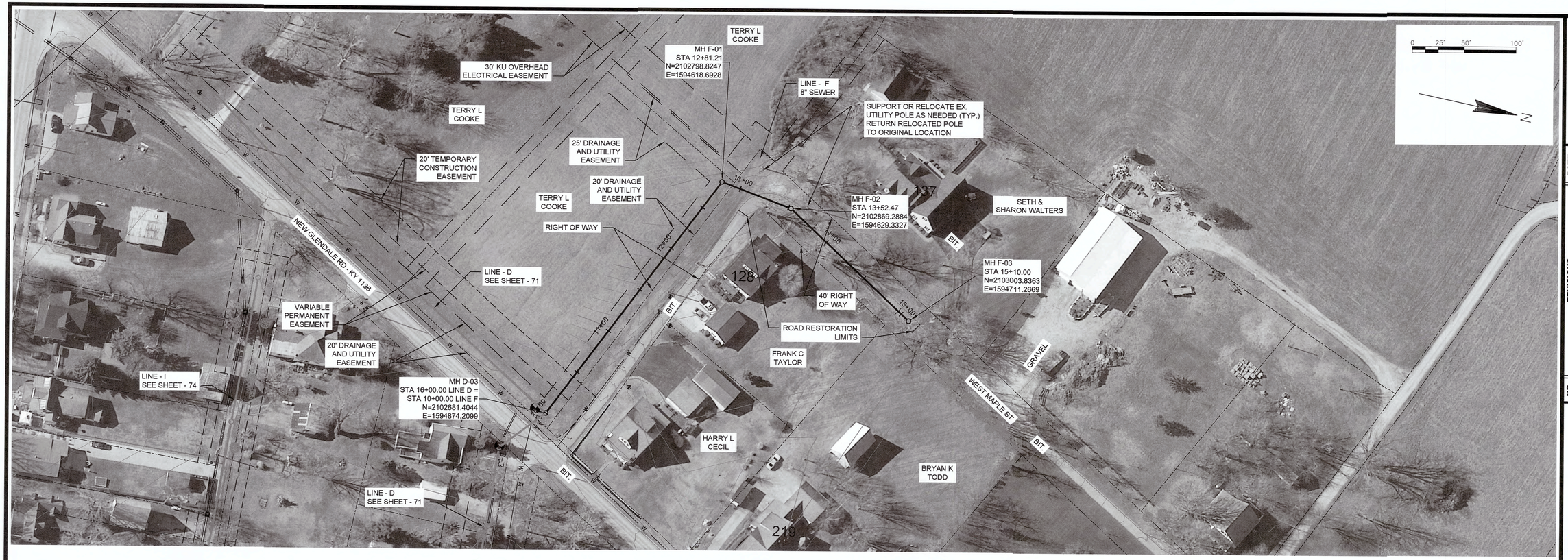

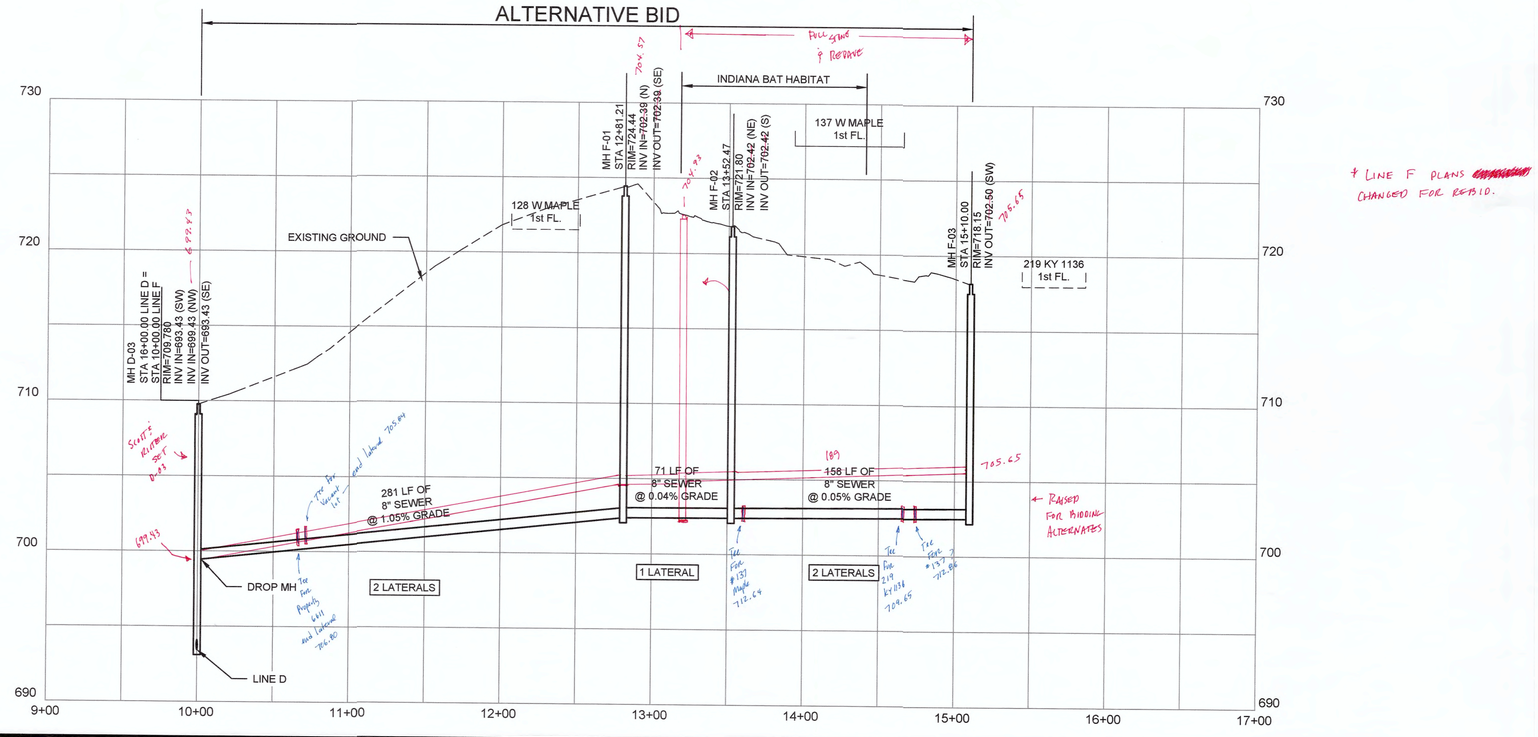

* LINE F PLANS CHANGED FOR REBID.

NO.	REVISIONS	DATE:

GRAVITY SEWER PLAN AND PROFILE
LINE F STA. 10+00 TO STA. 15+10.00
CONTRACT 3-2017

NOLIN RIVER WATERSHED SEWER INFRASTRUCTURE
HARDIN COUNTY WATER DISTRICT NO. 2
HARDIN COUNTY, KENTUCKY

JOB NO. 5980.020
PROJECT MGR. MAS

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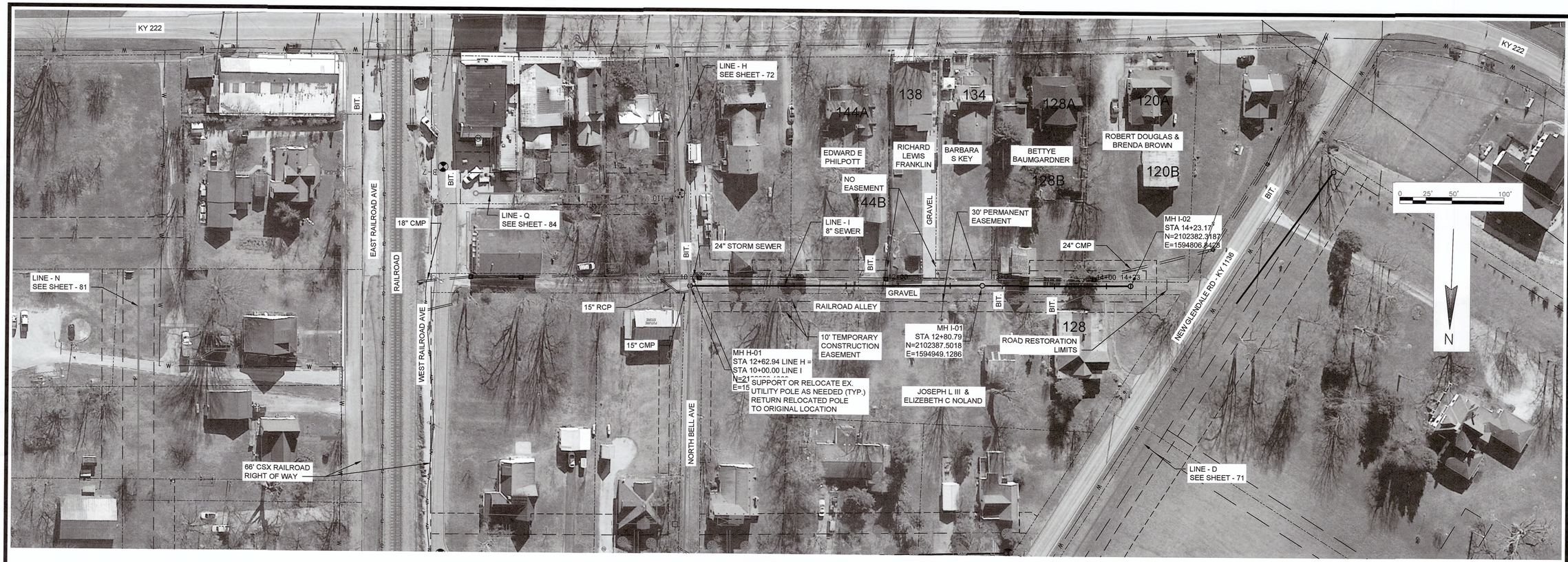
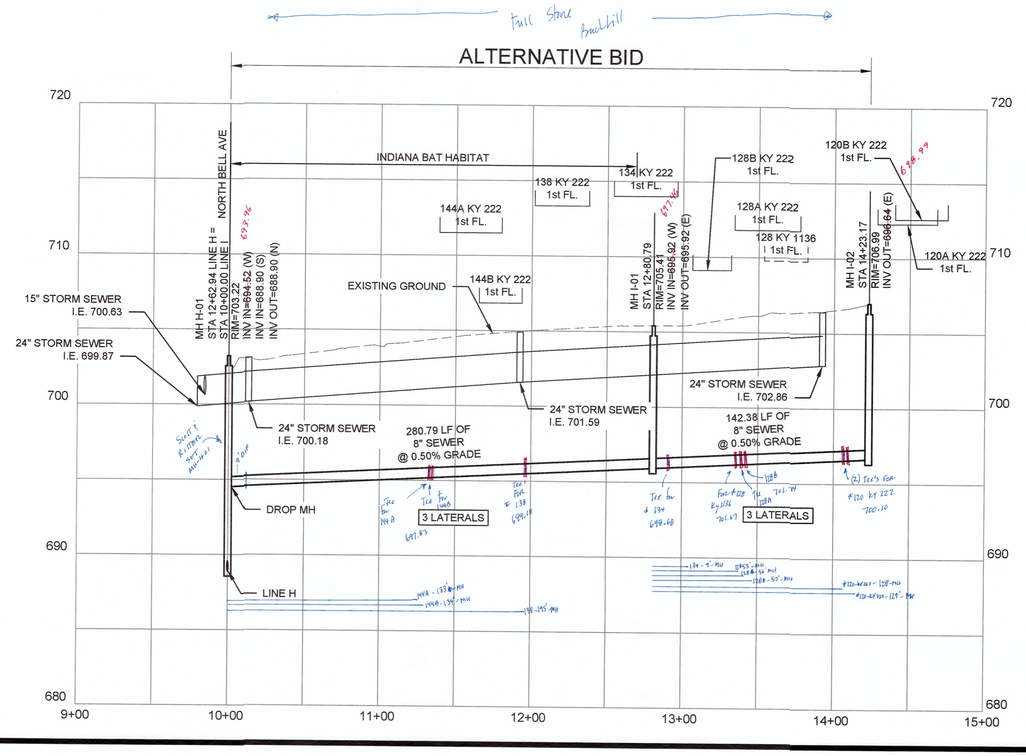
SHEET 71A





THESE ARE ORIGINAL PLANS W/ CHANGES

* Elevation changes because of change in plans when rebidding Alternate Work

STATE OF KENTUCKY
MARK A. SNEVE
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8/15/17

NO.	REVISIONS	DATE:

GRAVITY SEWER PLAN AND PROFILE
LINE I STA. 10+00 TO STA. 14+27.41
CONTRACT 3-2017

NOLIN RIVER WATERSHED SEWER INFRASTRUCTURE
HARDIN COUNTY WATER DISTRICT NO. 2
HARDIN COUNTY, KENTUCKY

JOB NO. 5980.020

PROJECT MGR. MAS

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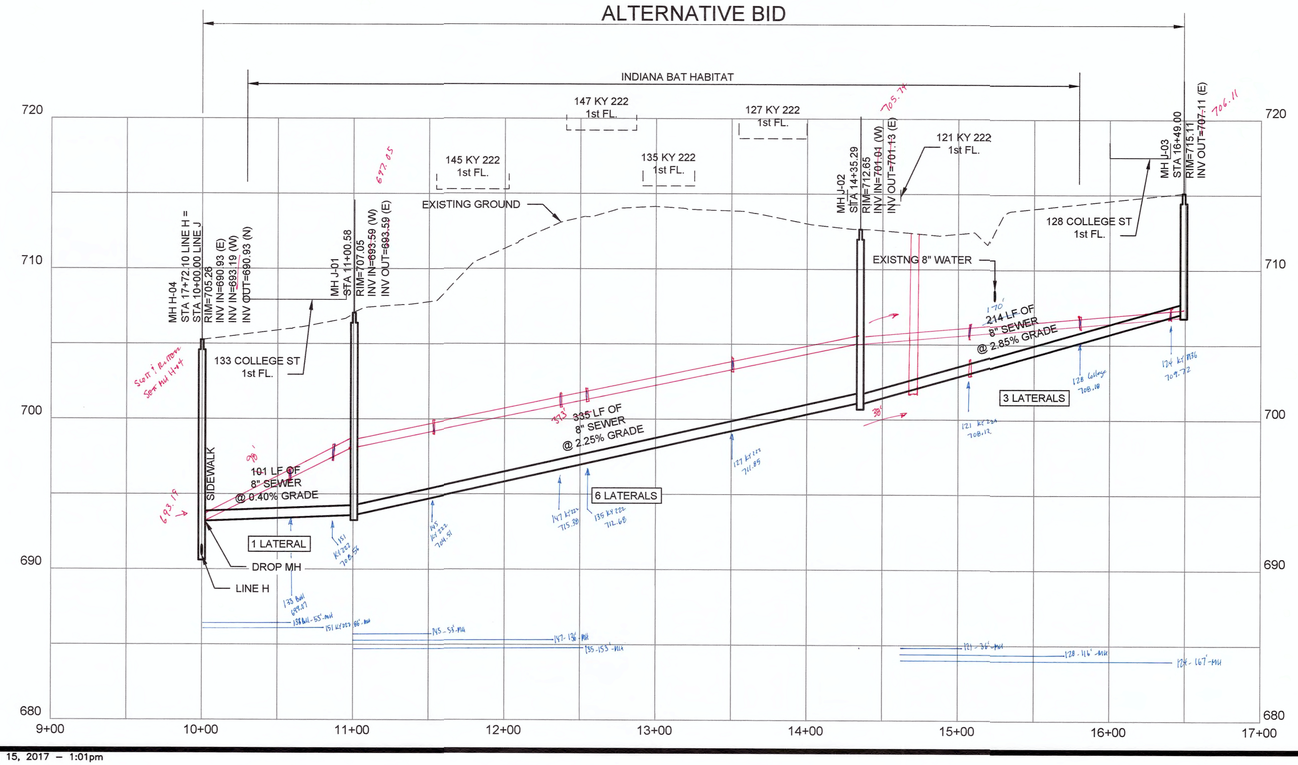
SHEET 74



124 KY 1136
1st FL.

* THESE ARE ORIGINAL PLANS W/ CHANGES
* PLANS WERE CHANGED WHEN REBIDDING ALTERNATE WORK

STATE OF KENTUCKY
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8/15/17

NO.	REVISIONS	DATE:

GRAVITY SEWER PLAN AND PROFILE
LINE J STA. 10+00 TO STA. 16+49.00
CONTRACT 3-2017
NOLIN RIVER WATERSHED SEWER INFRASTRUCTURE
HARDIN COUNTY WATER DISTRICT NO. 2
HARDIN COUNTY, KENTUCKY

JOB NO. 5980.020
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SHEET 75

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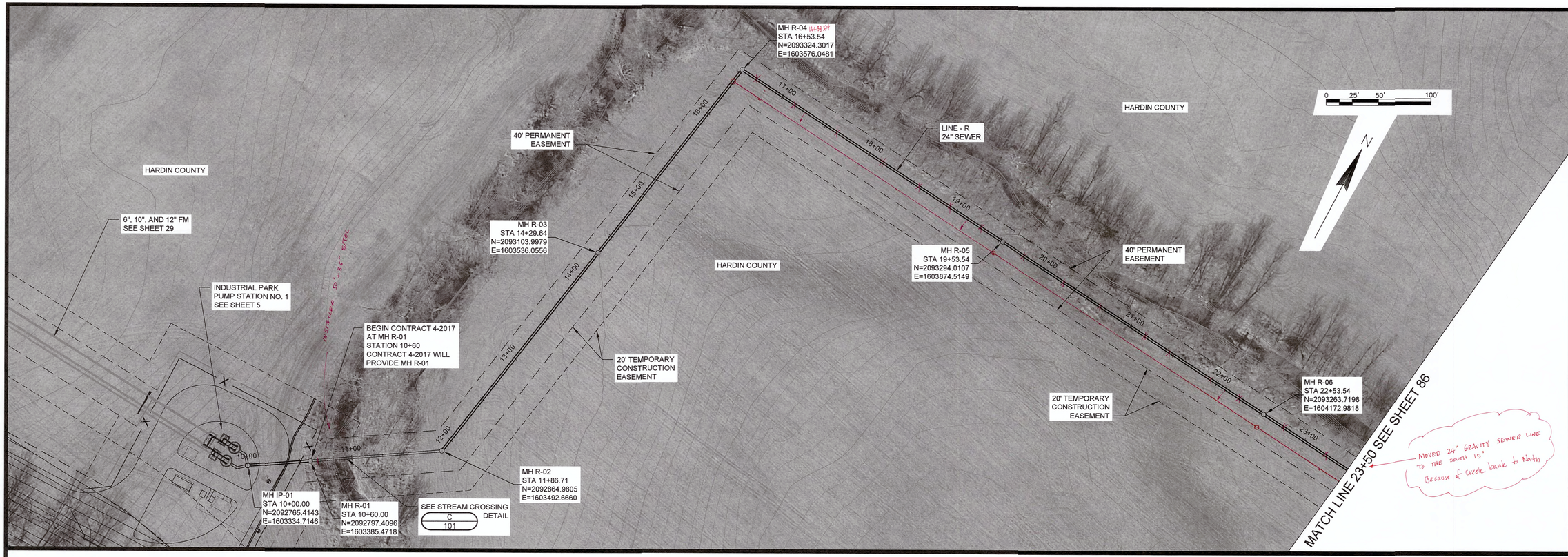

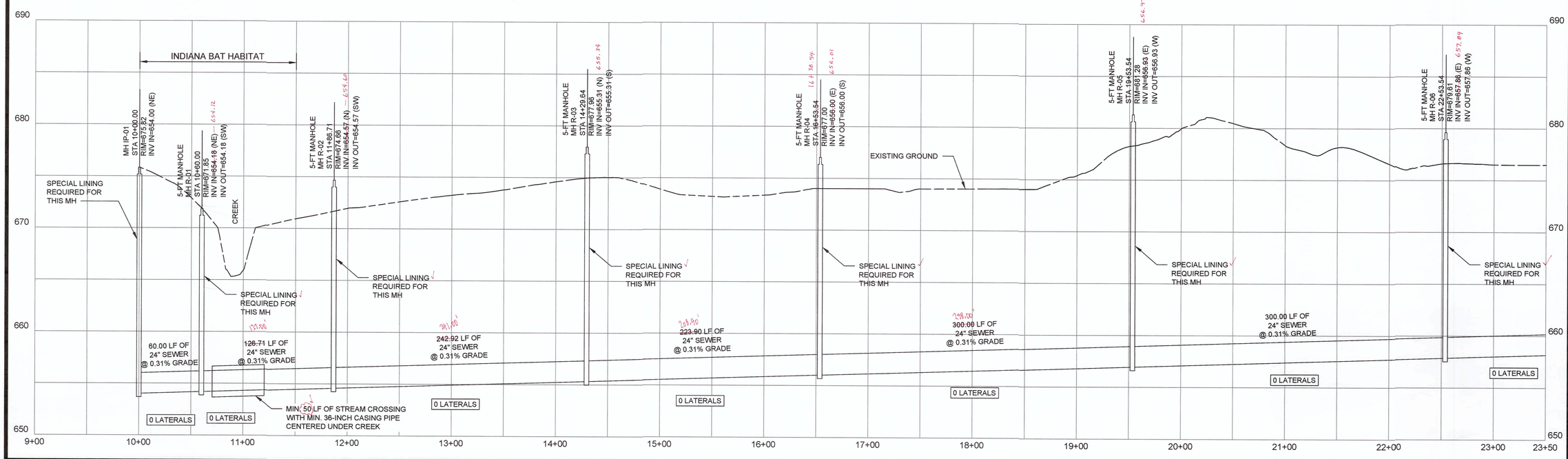

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8/15/17

NO.	REVISIONS	DATE:

GRAVITY SEWER PLAN AND PROFILE
LINE R STA. 10+00 TO STA. 23+50
CONTRACT 4-2017

NOLIN RIVER WATERSHED SEWER INFRASTRUCTURE
HARDIN COUNTY WATER DISTRICT NO. 2
HARDIN COUNTY, KENTUCKY

JOB NO. 5980.020
PROJECT MGR. MAS

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SHEET 85

File: S:\LOU\5900--5999\5980\016\Civil3D\5980.016\Sheets\85 - LINE R.dwg Time: Aug 15, 2017 - 12:54am