PCC PAVEMENT - REPLACE
NHSX-151-3(170)--3H-57
LETTING DATE 10/18/2022

LINN Co.

INDEX OF SHEETS	
No.	DESCRIPTION
A Sheets	**Title Sheets**
* A.1	Title Sheet
A.2	Location Map Sheet
B Sheets	**Typical Cross Sections and Details**
B.1 - 5	Typical Cross Sections and Details
D Sheets	**Mainline Plan and Profile Sheets**
* D.1	Plan & Profile Legend & Symbol Information Sheet
* D.2 - 5	US Highway 151
G Sheets	**Survey Sheets**
G.1 - 2	Reference Ties and Bench Marks
* G.3 - 4	Horizontal Control Tab. & Super for all Alignments
J Sheets	**Traffic Control and Staging Sheets**
* J.1	Traffic Control & Staging Note Tabulations
* J.2	Traffic Control & Staging Legend & Symbol Info. Sheet
* J.3 - 4	On-Site Detour Route
* J.5 - 18	Staging and Traffic Control Sheets
V Sheets	**Bridge and Culvert Situation Plans**
* V.1	Roadway Culvert Situation Plan
* V.2 - 3	Bridge Situation Plan
W Sheets	**Mainline Cross Sections**
W.1	Cross Sections Legend & Symbol Information Sheet
W.2 - 33	US Highway 151 Cross Sections
	* Color Plan Sheets

IOWA DOT

Highway Division

PLANS OF PROPOSED IMPROVEMENT ON THE

PRIMARY ROAD SYSTEM

LINN COUNTY

PCC PAVEMENT - REPLACE

CRABAPPLE CREEK 2.9 MILES NORTH OF THE NORTH JUNCTION OF IA13 (NB)

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

Value Engineering Saves. Refer to Article 1105.14 of the Specifications.

IOWA ONE CALL
1-800-292-8989
www.iowaonecall.com
811 Know what's below. Call before you dig.

REVISIONS

TOTAL 70
PROJECT IDENTIFICATION NUMBER
16-57-151-020
PROJECT NUMBER
NHSX-151-3(170)--3H-57
R.O.W. PROJECT NUMBER
NHSN-151-3(163)--2R-57

MILEAGE SUMMARY

Div.	Location	Lin. Ft.	Miles
	U.S. Highway 151 NORTHBOUND Sta. 6248+92.23 to Sta. 6294+22.90	4530.67	0.86
	Deduct Bridge at Sta. 6267+72.00	100.00	0.02
	Total Length of Roadway Total Length Bridge	4430.67 100.00	0.84 0.02
	Total Length of Project	4530.67	0.86

For Project Location Map
Refer to Sheet No. A.2

EARTHWORK SUMMARY

Cut	11,052.2	CY
Fill +30%	9,798.0	CY
Waste	1,254.2	CY

US 151 101-4

DESIGN DATA RURAL

2021 AADT	16,800	V.P.D.
2041 AADT	23,100	V.P.D.
20 DHV		V.P.H.
TRUCKS	13	%
Total Design ESALs		

INDEX OF SEALS

SHEET NO.	NAME	TYPE
A.1	SCOTT E. PORT	Primary Signature Block
Q.1	MATTHEW D. CUSHMAN	Geotechnical Design
V.1	TIMOTHY J. SHEETS	Hydraulic Design

LICENSED PROFESSIONAL ENGINEER
SCOTT E. PORT
20264
IOWA

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

D5 PLAN – Date: 11/06/18

Signature Date

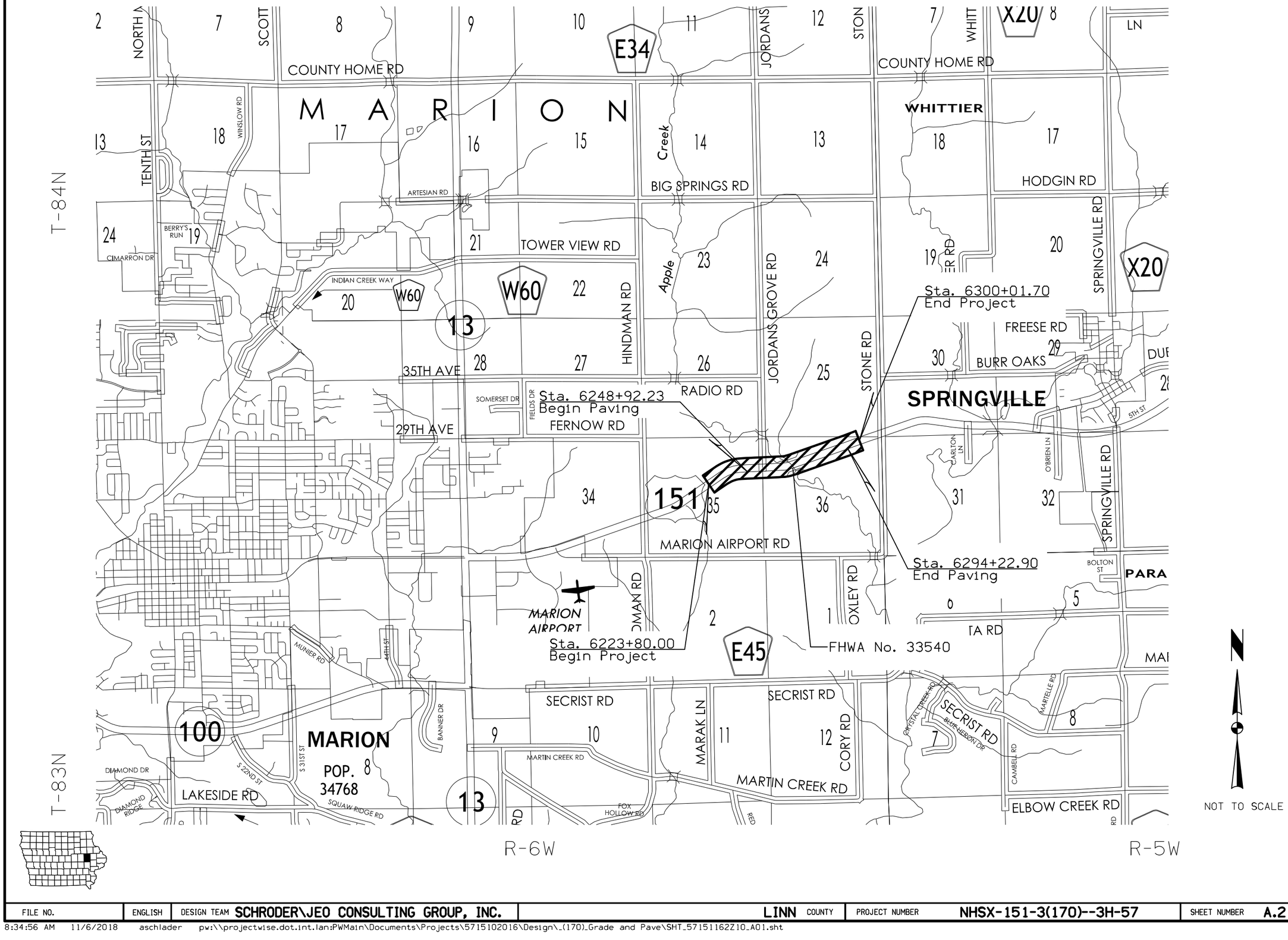
Printed or Typed Name

My license renewal date is December 31, 20 ___

Pages or sheets covered by this seal: _____

FILE NO.	ENGLISH	DESIGN TEAM SCHRODER\JEO CONSULTING GROUP, INC.	LINN COUNTY	PROJECT NUMBER NHSX-151-3(170)--3H-57	SHEET NUMBER A.1

8:34:43 AM 11/6/2018 aschlader pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5715102016\Design_(170)_Grade and Pave\SHT_57151162Z10_A01.sht



FILE NO.	ENGLISH	DESIGN TEAM SCHRODER\JEO CONSULTING GROUP, INC.	LINN COUNTY	PROJECT NUMBER NHSX-151-3(170)--3H-57	SHEET NUMBER A.2

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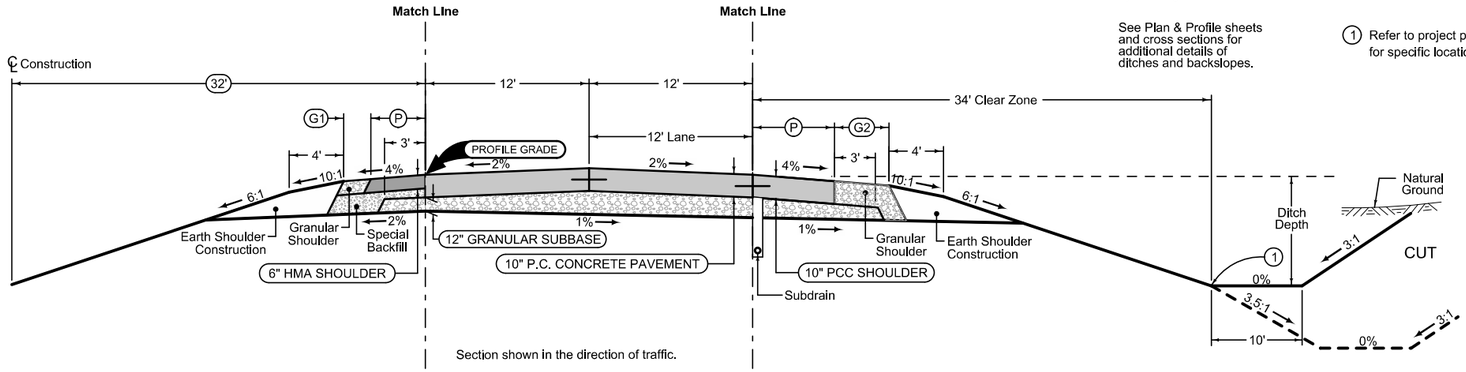
Combination Left Shoulder

Shoulder Jointing:
Longitudinal joint: B

				4_C_ 10-15-13
Direction of Travel	BEGIN STATION	END STATION	(G1) Feet	(P) Feet
NB	6248+92.23	6250+89.42	2	4
NB	6253+59.42	6263+62.04	2	4
NB	6268+71.16	6294+22.90	2	4



Normal section shown may be modified appropriately in areas of superelevated curves or other locations specifically designated by the Engineer.

See Plan & Profile sheets and cross sections for additional details of ditches and backslopes.

(1) Refer to project plan and cross sections for specific location of foreslope change.

Section shown in the direction of traffic.

Mainline Jointing:
Transverse joints: CD at 20' spacing
Longitudinal joint: L-2

			4DP_ 10-19-10
Direction of Travel	BEGIN STATION	END STATION	
NB	6248+92.23	6266+44.25	
NB	6269+00.67	6294+22.90	

Combination Right Shoulder

Shoulder Jointing:
Longitudinal joint: L-2 or KT-2
Transverse joints: C at 20' spacing

				4_C_ 10-15-13
Direction of Travel	BEGIN STATION	END STATION	(P) Feet	(G2) Feet
NB	6248+92.23	6265+37.79	6	4
NB	6268+67.96	6294+22.90	6	4

*PAVEMENT AND SUBBASE THICKNESS AND TYPE TO BE DETERMINED BY IOWA DOT.

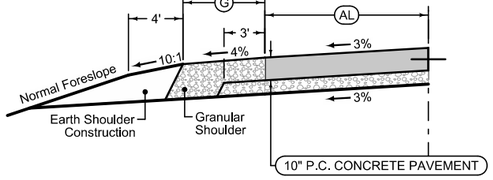
Auxiliary Lane
Granular Shoulder

4_AL_Shldr_G_ 10-19-10
(G) Feet
2-6
6
6

Auxiliary Lane

Longitudinal joint: L or KT
Transverse joint: Match Mainline

			4_AuxLane_PCC_ 10-18-16
Direction of Travel	BEGIN STATION	END STATION	(AL) Feet
NB	6250+89.42	6251+29.42	4
NB	6251+29.42	6252+09.42	4-12
NB	6252+09.42	6253+59.42	12



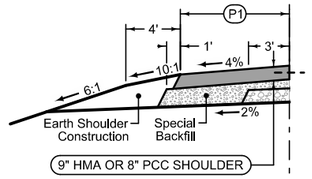
Note: Refer to Detail 7154A on Sheet B.3 for Paved Shoulder Detail at Turn Lanes.
*PAVEMENT AND SUBBASE THICKNESS AND TYPE TO BE DETERMINED BY IOWA DOT.

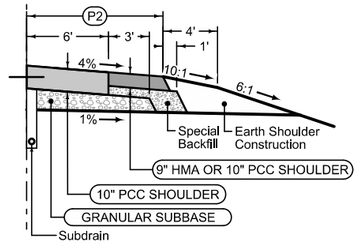
Paved Shoulder at Guardrail

PCC Shoulder Jointing:
Longitudinal joint: BT-1 or BT-5
Transverse joints: C at mainline spacing
HMA Shoulder Jointing
Longitudinal joint: B

			4_P_Guard_ 10-17-17
Direction of Travel	BEGIN STATION	END STATION	(P1) Feet
NB	6263+62.04	6266+73.76	*Var.

* Refer to Detail 7156-1 for paved shoulder width at guardrail.





Paved Shoulder at Guardrail

PCC Shoulder Jointing:
Longitudinal joint: BT-1 or BT-5
Transverse joints: C at mainline spacing
HMA Shoulder Jointing
Longitudinal joint: B

			4_P_Guard_ 10-17-17
Direction of Travel	BEGIN STATION	END STATION	(P2) Feet
NB	6265+37.79	6266+73.76	*Var.

* Refer to Detail 7156-2 for paved shoulder width at guardrail.

Refer to Tab. 100-24 for Pavement Quantities

Refer to Tab. 112-9 for Shoulder Quantities

NORTHBOUND US HIGHWAY 151

FILE NO.	ENGLISH	DESIGN TEAM SCHRODER\JEO CONSULTING GROUP, INC.	LINN COUNTY	PROJECT NUMBER NHSX-151-3(170)--3H-57	SHEET NUMBER B.1

8:35:11 AM 11/6/2018 aschlader pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5715102016\Design_(170)_Grade and Pave\SHT_5715116ZZ10_B01.sht

Paved Shoulder at Guardrail

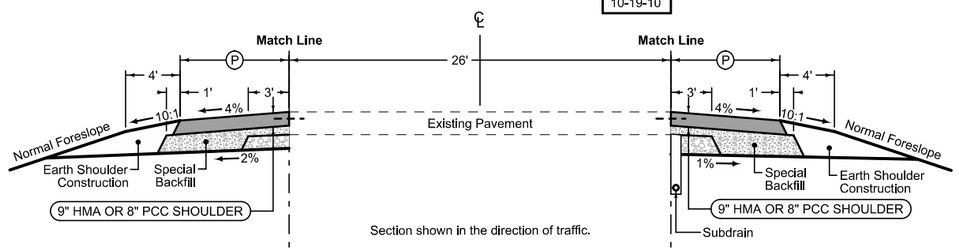
PCC Shoulder Jointing:
Longitudinal joint: BT-1 or BT-5
Transverse joints: C at mainline spacing
HMA Shoulder Jointing
Longitudinal joint: B

4_P_Guard_
10-17-17

Direction of Travel	BEGIN STATION	END STATION	(P) Feet
SB	6268+05.30	6271+03.00	*Var.

* Refer to Detail 7156-1 for paved shoulder width at guardrail.

2E_
10-19-10



Section shown in the direction of traffic.

Paved Shoulder at Guardrail

PCC Shoulder Jointing:
Longitudinal joint: BT-1 or BT-5
Transverse joints: C at mainline spacing
HMA Shoulder Jointing
Longitudinal joint: B

4_P_Guard_
10-17-17

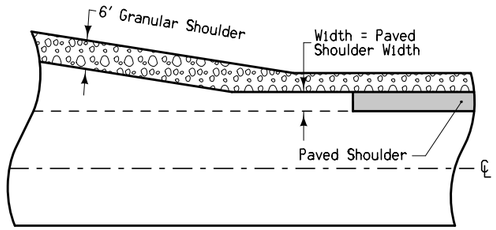
Direction of Travel	BEGIN STATION	END STATION	(P) Feet
SB	6268+26.38	6269+94.10	*Var.

* Refer to Detail 7156-1 for paved shoulder width at guardrail.

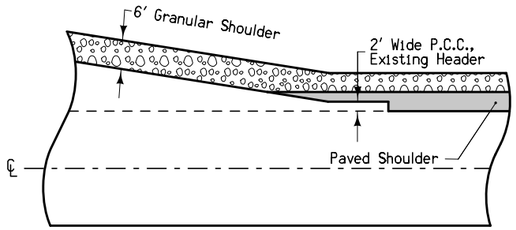
Refer to Tab. 100-24 for Pavement Quantities
Refer to Tab. 112-9 for Shoulder Quantities

SOUTHBOUND US HIGHWAY 151

7154A
10-20-09



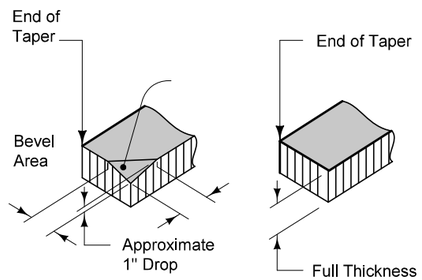
With Newly Constructed Turn Lanes



At UAC Turn Lanes

PAVED SHOULDER DETAIL AT TURN LANES

7101
10-19-10

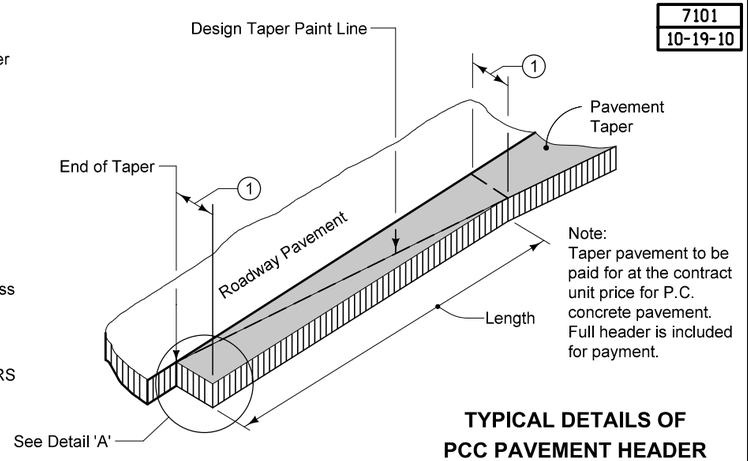


DETAIL 'A'

FOR
GRANULAR SHOULDERS

DETAIL 'A'

FOR
PAVED SHOULDERS

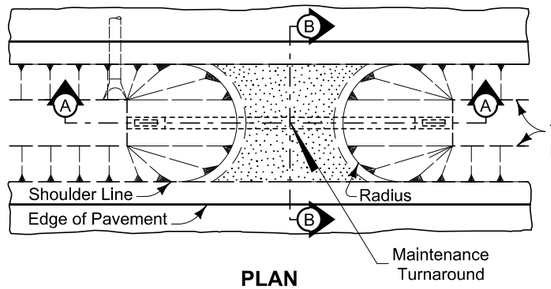


Note:
Taper pavement to be paid for at the contract unit price for P.C. concrete pavement. Full header is included for payment.

(1) Normal width is 2'-0". Construct 4'-0" width when butting into 4' wide HMA shoulders (See Typical 7154A).

TYPICAL DETAILS OF PCC PAVEMENT HEADER

8101
04-21-15



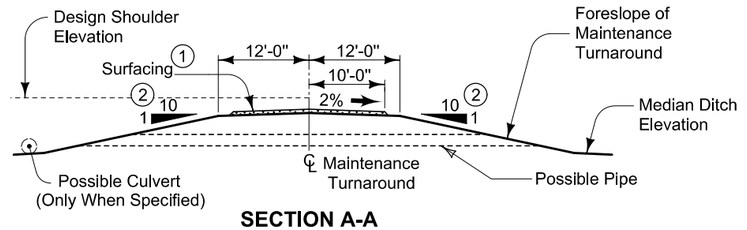
PLAN

(1) Surfacing quantities based on a 6 inch layer of Macadam Stone base and a 4 inch layer of Class 'A' Road Stone. Apply surfacing as directed by the Engineer.

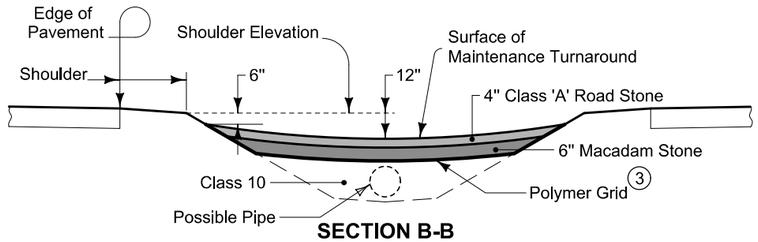
(2) Construct 8:1 foreslope when drainage pipe is incorporated into the maintenance turnaround.

(3) Install Polymer Grid between Class 10 and stone material.

(4) See Standard Road Plan DR-212.



SECTION A-A

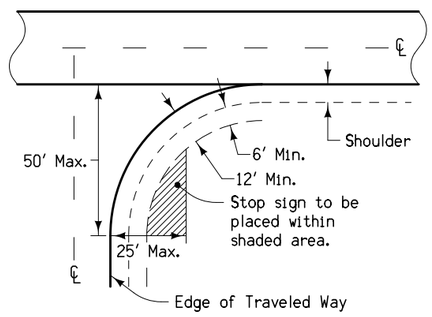


SECTION B-B

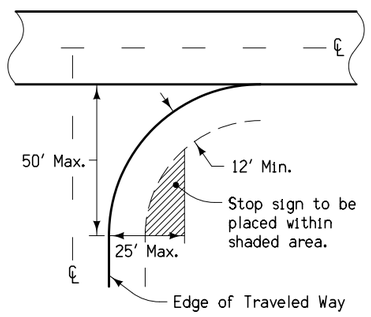
MAINTENANCE TURNAROUND

Location		Class 'A' Road Stone	Macadam Stone	Polymer Grid	Class 10	Pipe Length	Beveled Pipe & Guard (4)	Radius	Remarks
Road Identification	Station	TONS	TONS	SY	CY	LF	EACH	FT	
U.S. Highway 151	6295+50.00					N/A	N/A	26.0	Stage 5

9503
07-15-97



CASE 'A' WITH SHOULDER



CASE 'B' WITHOUT SHOULDER

NOTES:

Stop signs should be confined to the shaded areas, but as close to the approach roadway as possible to provide the motorist with the best visual impact.

If possible, stop signs should be placed at the point where vehicles are to stop or as near as practical.

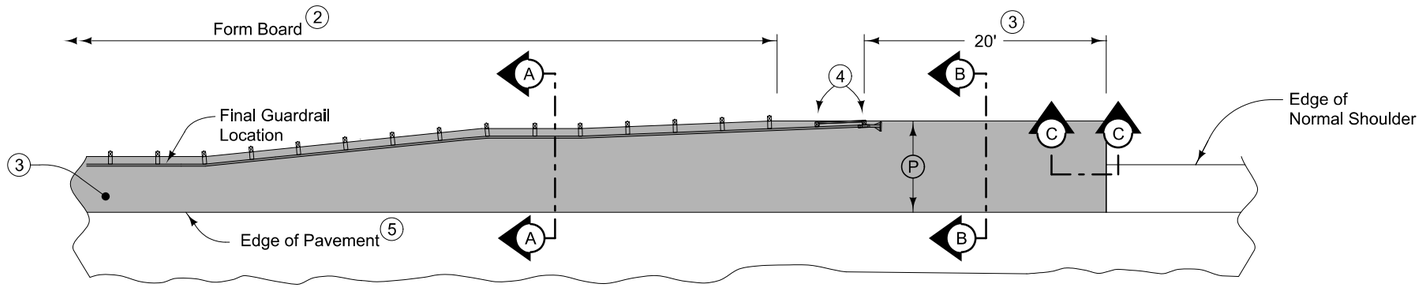
In rural areas, the lateral clearance should not be closer than 6' from the edge of a usable shoulder, or if none, 12' from edge of the traveled way.

In urban areas, stop signs should be placed a minimum of 6' from the near edge of the intersected street or a minimum of 4' in advance of the near edge of a marked crosswalk. Lateral clearance may be reduced to a minimum of 2' from the face of a curb.

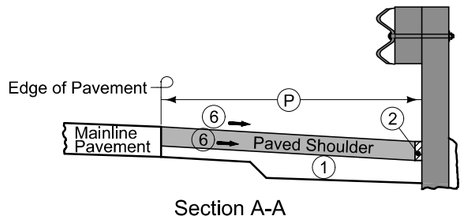
Where the approach roadway consists of two lanes of traffic, a second stop sign should be placed where it is visible to traffic in the inner lane.

At channelized intersections, the additional stop sign may be placed on a channelized island or median.

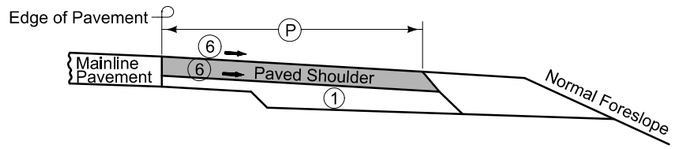
STOP SIGN PLACEMENT



PLAN VIEW

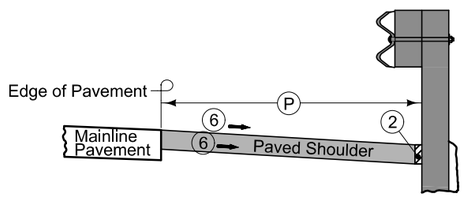


Section A-A

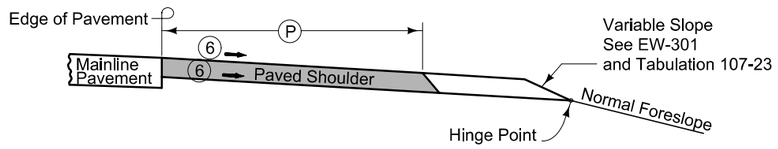


Section B-B

NEW CONSTRUCTION



Section A-A



Section B-B

EXISTING SHOULDER

DESIGNER INFO | 7156-1 MODIFIED

9" HMA Paved Shoulder at guardrail. 8" PCC may be substituted with the following jointing layout:

Match mainline pavement joint spacing. When mainline pavement is 8" or greater in thickness, place additional transverse 'C' joints in shoulder at mid-panel of the mainline pavement. Place longitudinal 'C' joint at P/2 from edge of mainline pavement when P is greater than 10' wide. Terminate longitudinal joint at transverse joint less than 10' in length.

Compaction of HMA is required to face of guardrail post. Hand compaction will be allowed under guardrail. Removal and reinstallation of guardrail will be allowed with no additional payment.

Refer to Tabulation 112-9 for shoulder quantities.

(1) For subgrade treatment, refer to other details in the plan.

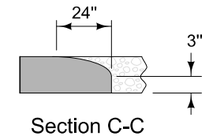
(2) PCC option only: When guardrail posts are installed prior to construction of PCC paved shoulder, fasten form board to the face of guardrail posts for the length shown. Refer to note 4 for final 2 posts.

(3) Continue paved shoulder to existing paved shoulder or 20 feet beyond the center of the first post.

(4) Shoulder may be notched for final 2 posts or post sleeves may be installed through pavement. Do not drive posts through pavement.

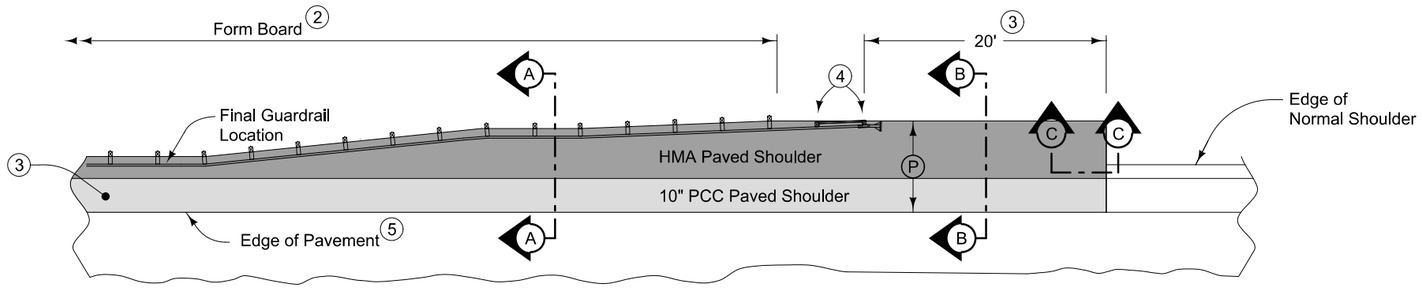
(5) 'KT-1 joint for PCC shoulder.
'B' joint for HMA shoulder.

(6) Nominal shoulder slope shall be 4.0%. Refer to Tabulation 101-18 on Sheet G.3 for shoulder slope transition in superelevation section.

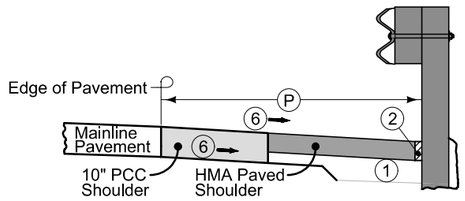


Section C-C
Roll down at granular shoulder or earth.

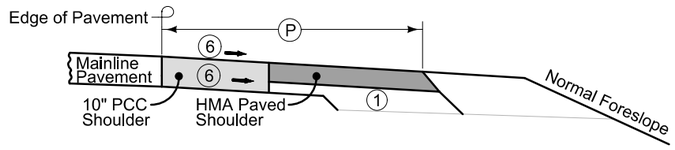
PAVED SHOULDER AT GUARDRAIL



PLAN VIEW



Section A-A



Section B-B

NEW CONSTRUCTION

DESIGNER INFO

7156-2
MODIFIED

9" HMA Paved Shoulder at guardrail. 10" PCC may be substituted with the following jointing layout:

Match mainline pavement joint spacing. When mainline pavement is 8" or greater in thickness, place additional transverse 'C' joints in shoulder at mid-panel of the mainline pavement. Place longitudinal 'C' joint at P/2 from edge of mainline pavement when P is greater than 10' wide. Terminate longitudinal joint at transverse joint less than 10' in length.

Compaction of HMA is required to face of guardrail post. Hand compaction will be allowed under guardrail. Removal and reinstallation of guardrail will be allowed with no additional payment.

Refer to Tabulation 112-9 for shoulder quantities.

(1) For subgrade treatment, refer to other details in the plan.

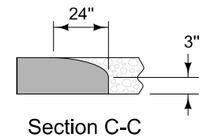
(2) PCC option only: When guardrail posts are installed prior to construction of PCC paved shoulder, fasten form board to the face of guardrail posts for the length shown. Refer to note 4 for final 2 posts.

(3) Continue paved shoulder to existing paved shoulder or 20 feet beyond the center of the first post.

(4) Shoulder may be notched for final 2 posts or post sleeves may be installed through pavement. Do not drive posts through pavement.

(5) 'KT-1 joint for PCC shoulder.
'B' joint for HMA shoulder.

(6) Nominal shoulder slope shall be 4.0%. Refer to Tabulation 101-18 on Sheet G.3 for shoulder slope transition in superelevation section.



Section C-C
Roll down at granular shoulder or earth.

PAVED SHOULDER AT GUARDRAIL
FOR OUTSIDE SHOULDER OF
MAINLINE PAVING ONLY

SURVEY SYMBOLS

- Interstate Highway Symbol
- U.S. Highway Symbol
- Iowa Highway Symbol
- County Road Highway Symbol
- Evergreen Tree
- Deciduous Tree
- Fruit Tree
- Shrub (Bushes)
- Timber
- Hedge
- Stump
- Swamp
- Rock Outcrop
- Broken Concrete
- Revetment (Rip Rap)
- Cemetery
- Grave
- Cave
- Sink Hole
- Board Fence
- Chain Link or Security Fence
- Wire Fence
- Terrace
- Earth Dam or Dike (Existing)
- Earth Dam or Dike (Proposed)
- Tile Outlet
- Edge of Water
- Existing Drainage
- Proposed Drainage
- Right of Way Rail or Lot Corner
- Concrete Monument
- Well
- Windmill
- Beehive Intake
- Existing Intake
- Proposed Intake
- Existing Utility Access (Manhole)
- Proposed Utility Access (Manhole)
- Fire Hydrant
- WH Water Hydrant (Rural)
- Cistern
- L.P. Gas Tank (No Footing)
- Underground Storage Tank
- Latrine
- Luminaire
- Traffic Signal
- Traffic Signal with Luminaire
- TP Telephone Pedestal
- TVP Television Pedestal
- Telephone Pole
- Telephone Pole (Second Company)
- Telephone Pole (Third Company)
- Telephone Pole (Fourth Company)
- Telephone Pole (Fifth Company)
- Power Pole
- Power Pole (Second Company)
- Power Pole (Third Company)
- Power Pole (Fourth Company)
- Power Pole (Fifth Company)
- Electrical Highline Tower (Metal or Concrete)
- Telephone Riser Pole
- Power Riser Pole
- Telegraph Pole
- Satellite TV Dish
- WHU Water Hook Up
- RT Radio Tower
- TA Tower Anchor
- Guardrail (Beam or Cable)
- GP Guard Post (one or two)
- Guard Post (over two)
- FP Filler Pipe
- GV Gas Valve
- WV Water Valve
- SL Speed Limit Sign
- MB Mailbox
- SIGN Sign
- TCB Traffic Signal Control Box
- RRB Rail Road Signal Control Box
- TSB Telephone Switch Box
- EB Electric Box

UTILITY LEGEND

T1 / FO

SPRINGVILLE COOP
Contact Name : Todd McWherter
Contact Phone: 319-854-6107
Contact Email: spvltech@netins.net

E1

ALLIANT ENERGY - ELECTRIC
Contact Name : Debi Reynolds
Contact Phone: 319-286-1302
Contact Email: DeborahReynolds@alliantenergy.com

PLAN VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

LINEWORK	Design Color No.	
Green	(2)	Existing Topographic Features and Labels
Blue	(1)	Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
Magenta	(5)	Existing Utilities
SHADING	**Design Color No.**	
Yellow	(4)	Highlight for Critical Notes or Features
Red	(3)	Delineates Restricted Areas
Lavender	(9)	Temporary Pavement Shading
Gray, Light	(48)	Proposed Pavement Shading
Gray, Med	(80)	Proposed Granular Shading
Gray, Dark	(112)	Proposed Grade and Pave Shading "In conjunction with a paving project"
Brown, Light	(236)	Grading Shading
Tan	(8)	Proposed Sidewalk Shading
Blue, Light	(230)	Proposed Sidewalk Landing Shading
Pink	(11)	Proposed Sidewalk Ramp Shading

PROFILE VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

LINEWORK	Design Color No.	
Green	(2)	Existing Ground Line Profile
Blue	(1)	Proposed Profile and Annotation
Magenta	(5)	Existing Utilities
Blue, Light	(230)	Proposed Ditch Grades, Left
Black	(0)	Proposed Ditch Grades, Median
Rust	(14)	Proposed Ditch Grades, Right

- Reference Point / Station — Survey Line
- Section Corner
- Ground Line Intercept
- Saw Cut
- Guardrail
- Trench Drain
- HighTension Cable Guardrail
- Sheet Pile
- Pavement Removal
- Clearing & Grubbing Area

RIGHT-OF-WAY LEGEND

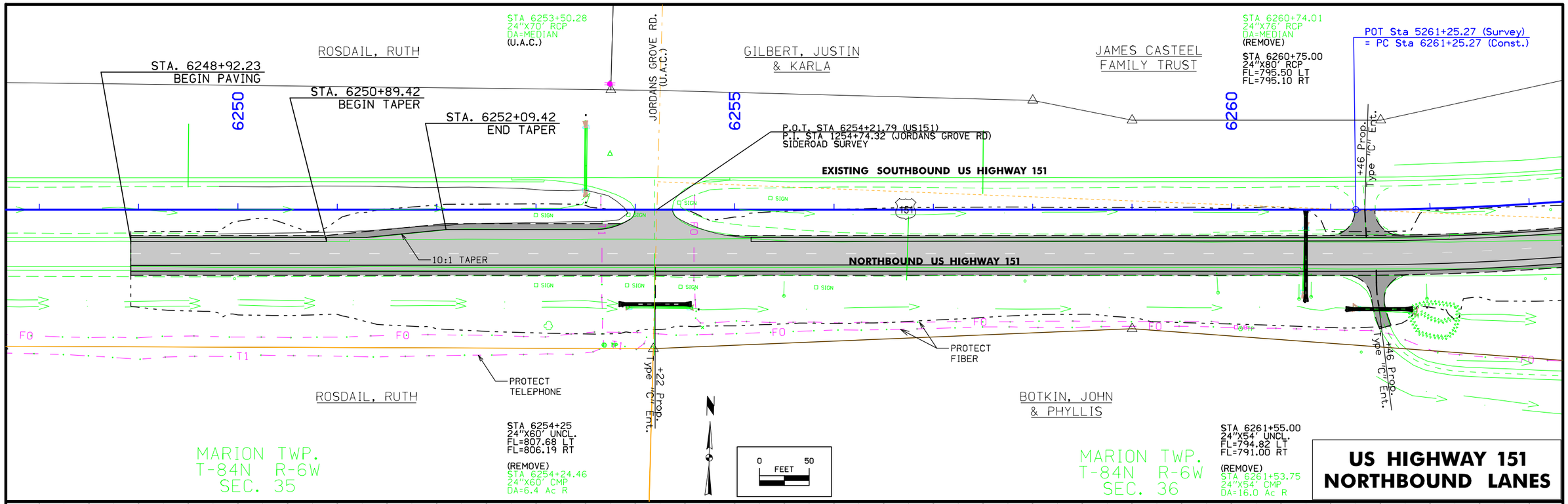
- Proposed Right-of-Way
- Existing Right of Way
- Existing and Proposed Right-of-Way
- Easement and Existing Right-of-Way
- Easement (Temporary)
- Easement
- C/A Access Control
- Property Line

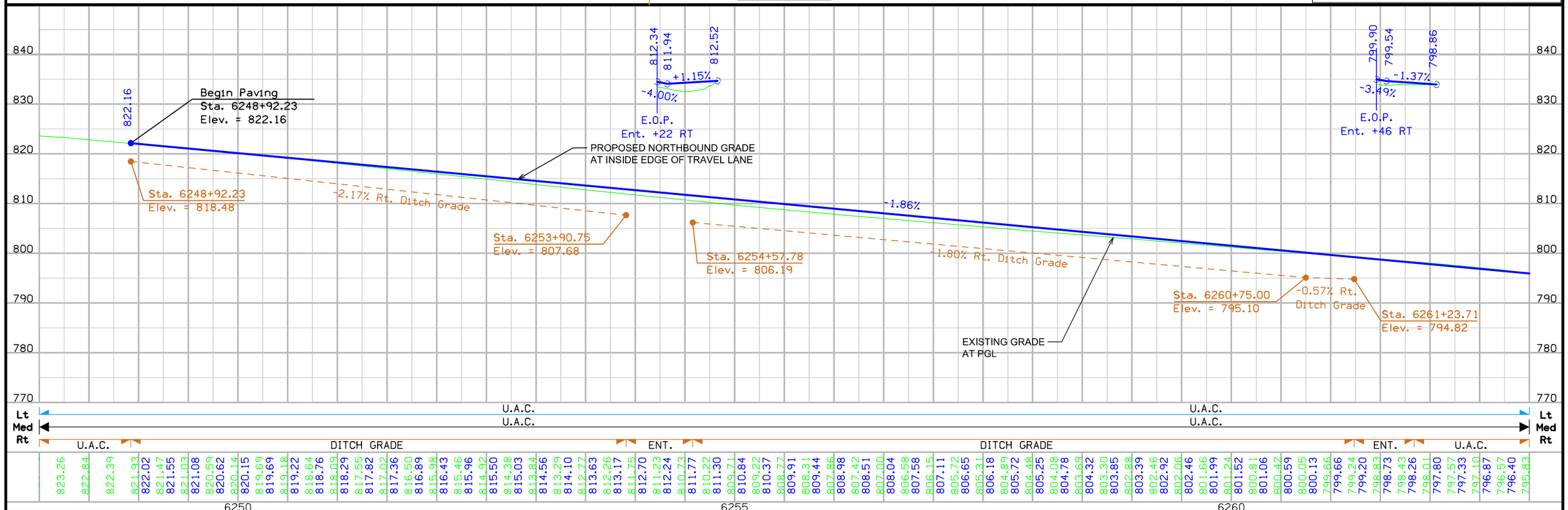
PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES D, E, F, & K)

FILE NO.	ENGLISH	DESIGN TEAM	LINN COUNTY	PROJECT NUMBER	SHEET NUMBER
		SCHRODER\JEO CONSULTING GROUP, INC.		NHSX-151-3(170)--3H-57	D.1

8:35:26 AM 11/6/2018 aschlader pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5715102016\Design_(170)_Grade and Pave\SHT_57151162Z10_LGD.sht





FILE NO.	ENGLISH	DESIGN TEAM	COUNTY	PROJECT NUMBER	SHEET NUMBER
		SCHRODER\JEO CONSULTING GROUP, INC.	LINN	NHSX-151-3(170)--3H-57	D.2

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STA 6264+50.39
24"X98' RCP
DA=MEDIAN
(U.A.C.)

JAMES CASTEEL
FAMILY TRUST

STA 6267+37.91
100'X40' CONTINOUS
SLAB BRIDGE
(U.A.C.)

STA 6270+47.73
24"X77' RCP
DA=MEDIAN
(U.A.C.)

JAEGER, DAWN
& RONALD JR.

STA 6277+72.26
24"X70' RCP
DA=MEDIAN
(U.A.C.)

0 50
FEET

6265

* Curve Data (Const.)
Δ = 16° 54' 26.55" (LT)
T = 396.53
L = 787.30
R = 2,668.00
E = 29.31
e = 5.8%
L = 261'
x = 90'

STA. 6266+46.94
STOP PAVING

POT Sta 5269+15.42 (Survey)
= PT Sta 6269+12.57 (Const.)

6270

6275

PROTECT
TELEPHONE

+96 Prop.
Type "B" Ent.

EXISTING SOUTHBOUND US HIGHWAY 151

151

NORTHBOUND US HIGHWAY 151

PI Sta 5265+20.35 (Survey)
= PI Sta 6265+18.92 (Const.)

PROTECT
FIBER

STA. 6268+99.36
RESUME PAVING

WILD RYE FARMS LLC

REFER TO
BRF-151-3(162)--38-57
BRIDGE REPLACEMENT - CCS
(BY OTHERS)
(U.A.C.)
STA 6265+34.26
48"X57' CMP
DA=59.7 Ac R

BOTKIN, JOHN
& PHYLLIS

STA 6267+72.00
INSTALL 100'X41' CCS BRIDGE
WITH 30°SKEW

(REMOVE)
STA 6267+73.65
60'X30' CONTINOUS
SLAB BRIDGE

MARION TWP.
T-84N R-6W
SEC. 36

STA 6276+90.00
24"X70' UNCL.
FL=792.50 LT
FL=794.00 RT

(REMOVE)
STA 6276+95.83
24"X70' CMP
DA=2.9 Ac R

+93 Prop.
Type "B" Ent.

US HIGHWAY 151
NORTHBOUND LANES

795.89
795.40
795.07
-0.95%
-4.22%
E.O.P.
Ent. +93 RT

PROPOSED NORTHBOUND GRADE
AT INSIDE EDGE OF TRAVEL LANE

-1.86%
-0.50%
+2.53%

VPI +00.000
Elv 792.21
Len 250.00 ft
K = 183
ex = 0.43'
Design Speed = 70 mph

+0.50% Rt. Ditch Grade
Sta. 6270+50.00
Elev. = 785.78

Sta. 6273+50.00
Elev. = 787.28

VPI +75.000
Elv 787.84
Len 550.00 ft
K = 182
ex = 2.08'
Design Speed = 70 mph

+1.74% Rt. Ditch Grade
Sta. 6276+50.00
Elev. = 792.50

Sta. 6277+20.00
Elev. = 794.00

EXISTING GRADE
AT PGL

820 810 800 790 780 770 760 750

Lt	U.A.C.	U.A.C.	BRIDGE	U.A.C.	DITCH GRADE	ENT.	D.G.
Med	U.A.C.	U.A.C.					
Rt	U.A.C.						

795.94 794.90 795.47 794.02 795.00 793.14 794.54 792.32 794.09 791.70 793.68 791.20 793.29 790.45 792.95 789.84 792.64 789.15 792.36 788.77 792.11 788.69 791.90 788.33 791.73 788.08 791.59 787.83 791.46 787.51 791.34 787.25 791.21 780.99 791.09 776.08 790.96 775.91 790.84 788.22 790.71 788.11 790.59 788.12 790.46 788.23 790.34 788.32 790.21 788.45 790.09 788.54 789.96 788.63 789.84 788.71 789.71 788.79 789.59 788.87 789.46 788.95 789.34 789.03 789.21 789.10 789.11 789.18 789.03 789.26 788.99 789.35 788.99 789.45 789.02 789.56 789.08 789.69 789.18 789.85 789.32 790.05 789.48 790.27 789.69 790.52 789.92 790.81 790.19 791.15 790.50 791.53 790.84 791.96 791.21 792.43 791.62 792.95 792.06 793.50 792.54 794.08 793.05 794.69 793.60 795.35 794.18 795.98 794.80 796.58 795.43 797.20 796.06 797.79 796.69 798.42 797.33 799.03 797.96 799.61

6265 6270 6275

FILE NO.	ENGLISH	DESIGN TEAM SCHRODER\JEO CONSULTING GROUP, INC.	LINN COUNTY	PROJECT NUMBER NHSX-151-3(170)--3H-57	SHEET NUMBER D.3

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STA 6284+96.34
24"X70' RCP
DA=MEDIAN
(U.A.C.)

JAEGER, DAWN
& RONALD JR.

RITA & THOMAS
FINN TRUST

6280

6285

6290

EXISTING SOUTHBOUND US HIGHWAY 151

151

NORTHBOUND US HIGHWAY 151

FO

FO

FO

FO

FO

PROTECT
FIBER

WILD RYE FARMS LLC

MARION TWP.
T-84N R-6W
SEC. 36

0 FEET 50

WILD RYE FARMS LLC

US HIGHWAY 151
NORTHBOUND LANES

VPI +00.000
Elv 803.65
Len 300.00 ft
K = 291
SSD = 795'
ex = -0.39'
Design Speed = 70 mph

+2.53%

+1.58% Rt. Ditch Grade

Sta. 6280+50.00
Elev. = 799.20

EXISTING GRADE
AT PGL

+1.50%

+1.49% Rt. Ditch Grade

PROPOSED NORTHBOUND GRADE
AT INSIDE EDGE OF TRAVEL LANE

VPI +25.000
Elv 816.02
Len 500.00 ft
K = 366
SSD = 737'
ex = -0.85'
Design Speed = 70 mph

+0.13%

+0.50% Rt. Ditch Grade

Sta. 6288+50.00
Elev. = 811.14

830 820 810 800 790 780 770 760

Lt	U.A.C.	U.A.C.
Med	U.A.C.	U.A.C.
Rt	DITCH GRADE	DITCH GRADE

798.59 800.18 799.22 800.72 799.86 801.25 800.48 801.75 801.08 802.22 801.66 802.69 802.21 803.12 802.75 803.56 803.26 803.95 803.76 804.33 804.23 804.73 804.68 805.14 805.11 805.55 805.51 805.95 805.90 806.34 806.27 806.72 806.65 807.10 807.02 807.50 807.40 807.90 807.77 808.30 808.15 808.71 808.52 809.11 808.90 809.52 809.27 809.91 809.65 810.31 810.02 810.72 810.40 811.11 810.77 811.49 811.15 811.87 811.52 812.23 811.90 812.59 812.27 812.95 812.64 813.29 812.99 813.61 813.32 813.91 813.63 814.19 813.93 814.44 814.21 814.67 814.48 814.89 814.72 815.09 814.95 815.29 815.17 815.49 815.36 815.68 815.54 815.85 815.70 816.00 815.85 816.11 815.97 816.21 816.08 816.31 816.18 816.39 816.25 816.46 816.31 816.53 816.35 816.58 816.39 816.63 816.42 816.68 816.45 816.72 816.49 816.76 816.52 816.81 816.56 816.86 816.59 816.91 816.62 816.95

6280 6285 6290

FILE NO.	ENGLISH	DESIGN TEAM	SCHRODER\JEO CONSULTING GROUP, INC.	LINN COUNTY	PROJECT NUMBER	NHSX-151-3(170)--3H-57	SHEET NUMBER	D.4

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RITA & THOMAS
FINN TRUST

STA 6296+22.15
24"X64' RCP
DA=MEDIAN
(U.A.C.)

STA 6297+00.00
60"X192' RCP
Skew 20° Lt. Ahd.
DA=MEDIAN
(U.A.C.)

STA. 6294+22.90
STOP PAVING

6295

6300

6305

EXISTING SOUTHBOUND US HIGHWAY 151

NORTHBOUND US HIGHWAY 151

151

SIGN

SIGN

FO

STA. 6295+82.53
END CONSTRUCTION

PROTECT
FIBER

WILD RYE FARMS LLC

KELLY PROPERTIES
HIGHWAY 151 FARM, LLC

MARION TWP.
T-84N R-6W
SEC. 36

0 FEET 50

**US HIGHWAY 151
NORTHBOUND LANES**

840
830
820
810
800
790
780
770

816.82

End Paving
Sta. 6294+22.90
Elev. = 816.82

+0.13%

EXISTING GRADE
AT PGL

Sta. 6294+22.90
Elev. = 814.00

PROPOSED NORTHBOUND GRADE
AT INSIDE EDGE OF TRAVEL LANE

Lt
Med
Rt

U.A.C.
U.A.C.
U.A.C.

DITCH GRADE

816.66 816.97 816.69 816.97 816.72 816.95 816.76 816.91 816.79 816.82 816.78 816.79 816.86 816.95 817.07 817.31 816.20 816.83 817.45 818.08 818.70 819.33 819.95 820.57 821.20 821.82 822.45 823.07 823.70 824.32 824.94 825.57 826.19 826.82 827.44 828.06 828.69 829.31 829.94 830.56 831.19 831.81 832.43 833.27 834.11 834.95 835.78 836.62 837.46 838.30 839.14 839.98 840.82 841.66 842.50 843.34 844.18 845.02 845.86 846.70 847.54 848.38 849.22 850.06 850.90

6295 6300 6305

FILE NO.	ENGLISH	DESIGN TEAM SCHRODER\JEO CONSULTING GROUP, INC.	LINN COUNTY	PROJECT NUMBER NHSX-151-3(170)--3H-57	SHEET NUMBER D.5

8:36:01 AM 11/6/2018 aschlader pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5715102016\Design_(170)_Grade and Pave\SHT_57151162Z10_D05.dgn

Survey Information

Linn County
BRFN-151-3(162)—39-57
US 151 over Crabapple Creek
PIN 16-57-151-020
Sap-625.1

General Information

Measurement units for this survey are US survey feet. This survey is for proposed Bridge reconstruction and reconstruction of US 151 over Crabapple Creek. Project datum and control information is provided by Design Survey Office. This project is a Partial DTM with Photo control.

Vertical Control

Vertical datum for this survey is NAVD88. As instructed by Norm Miller, PLS, Survey Manager for Iowa DOT Design Office, we held the provided elevation of point 1 814.406. Additional elevations and benchmarks were established with a double run closed level loop relative with point 1. The loop error met 3rd Order accuracy and the level run was adjusted by least squares method using the software program LevProc.

This survey observed 2 Control Monuments with GPS derived NAVD88 heights to compare to local ground control:

Control Point 3 has a GPS Elev. of 857.056
Leveled Elev. = 857.098

Control Point 5240 has a GPS Elev. of 827.425
Leveled Elev. = 827.406

This survey observed 3 As-Built plan bench marks to compare to local ground control:

BM 501 BM A pdf STA 5267+35 20 FT RT Elev. 788.95
Survey Elev. = 799.589

BM 502 BM A pdf STA 5267+30 35 FT Elev. 793.62
Survey Elev. = 793.258

BM 503 BM A pdf STA 5267+33 70 FT Elev. 791.71
Survey Elev. = 791.356

Horizontal Control

The project coordinate system is IaRCS Zone 10 as provided by the Design Survey Office. The RTN position of reference station Marion was held and multiple 3-minute observations were done on the three-provided control point 1, 3 and PI5240 the maximum standard deviation of our observations was 0.020. With a maximum difference in coordinates of 0.033' in easting on point 3. Additional secondary control points were established by averaging multiple 3-minute observations.

Alignment Information

The horizontal alignment for this survey is a retrace of the Construction centerline of Plans No. F-151-3(79)—20-57. Survey stationing was equated to the plan PI at STA 5240+05.97 and run back and ahead without equation throughout the survey.

Survey stationing relates to as built plan stationing as follows:

TS Sta. 5234+12.93 Const. CL Project No. F-151-3(79)—20-57
Survey TS Sta. 5234+12.92

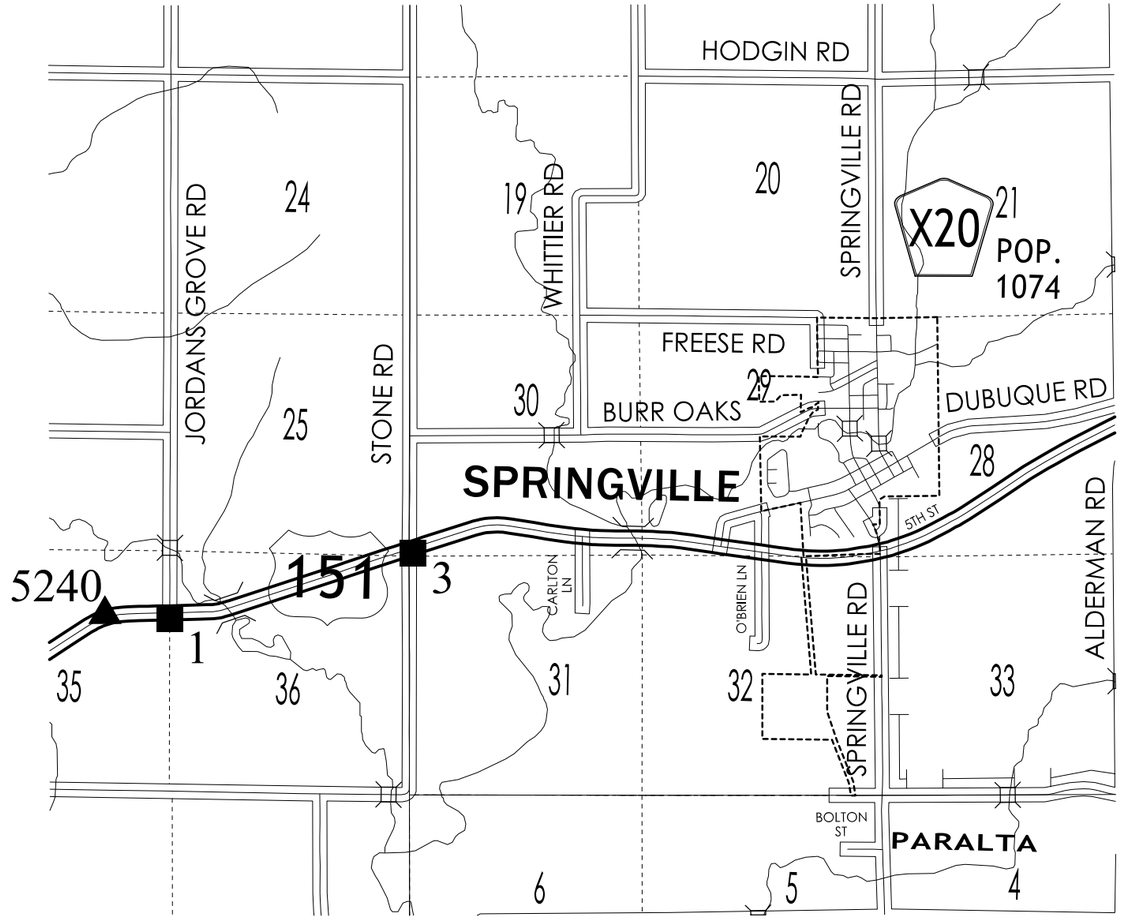
PI Sta. 5240+05.97 Const. CL Project No. F-151-3(79)—20-57
Survey PI Sta. 5240+05.97

ST Sta. 5245+73.89 Const. CL Project No. F-151-3(79)—20-57
Survey ST Sta. 5245+73.89

PI Sta. 5265+21.76 Const. CL Project No. F-151-3(79)—20-57
Survey PI Sta. 5265+21.80

CONTROL POINT VICINITY MAP

This map is a guide to the vicinity of the primary project control points
Primary control is for use with RTK base stations and for RTN validation.
Future surveys will use primary project control to establish temporary control as needed for construction or other surveying applications.



HORIZ. DATUM: NAD83(2011) EPOCH 2013.00
VERT. DATUM: NAVD88
Ia. Regional Coordinate System Zone 10

Coordinate listing from next sheet will be used with IaRTN for monument recovery. No other reference ties are given.

ALIGNMENT COORDINATES

Name	Location	Point on Tangent			Begin Spiral			Begin Curve			Simple Curve PI or Master PI of SCS			End Curve			End Spiral		
		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates	
			Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)
Point ML1511	US HWY 151	6213+65.89	8075985.96	20541270.04															
SPIRAL ML151_3	US HWY 151				6234+12.92	8077110.50	20542980.53										6236+62.92	8077242.44	20543192.80
CURVE ML151_4	US HWY 151							6236+62.92	8077242.44	20543192.80	6239+97.97	8077404.61	20543485.99	6243+23.89	8077438.54	20543819.31			
SPIRAL ML151_5	US HWY 151				6243+23.89	8077438.54	20543819.31										6245+73.89	8077451.17	20544068.90
CURVE ML151_8	US HWY 151							6261+25.27	8077490.12	20545619.81	6265+21.80	8077500.08	20546016.22	6269+12.57	8077624.88	20546392.60			
POINT ML15110	US HWY 151	6309+31.60	8078889.89	20550207.36															

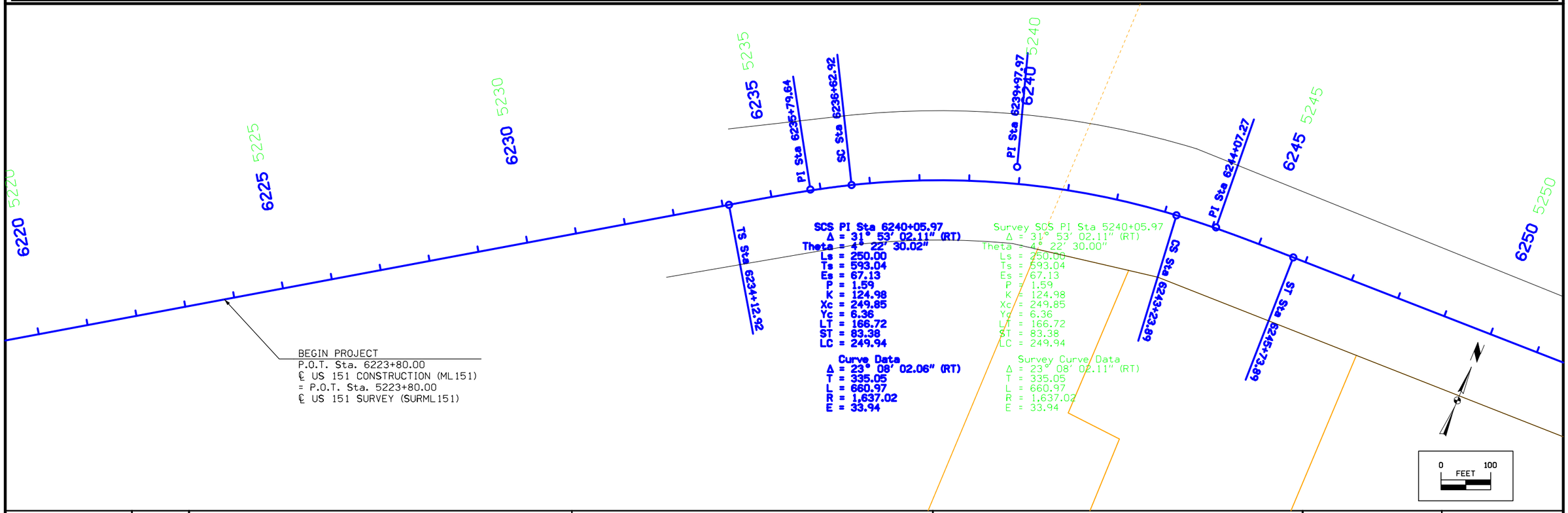
SPIRAL OR CIRCULAR CURVE DATA

Name	Location	ΔSCS	Horizontal Alignment Data												Remarks
			Spiral Data								Curve Data				
			θS	Ls	Ts	Es	Xc	Yc	L.T.	S.T.	ΔC	T	L	R	E	
ML151_3	US HWY 151	31o 53' 02.11"	4o 22' 30.02"	250'	593.04'	67.13'	249.85'	6.36'	166.72'	83.38'						
ML151_4	US HWY 151										23o 08' 02.06"	335.05	660.97	1637.02	33.94	
ML151_5	US HWY 151	31o 53' 02.11"	4o 22' 30.02"	250'	593.04'	67.13'	249.85'	6.36'	166.72'	83.38'						
ML151_8	US HWY 151										16o 54' 26.55"	396.53	787.30	2668.00	29.31	

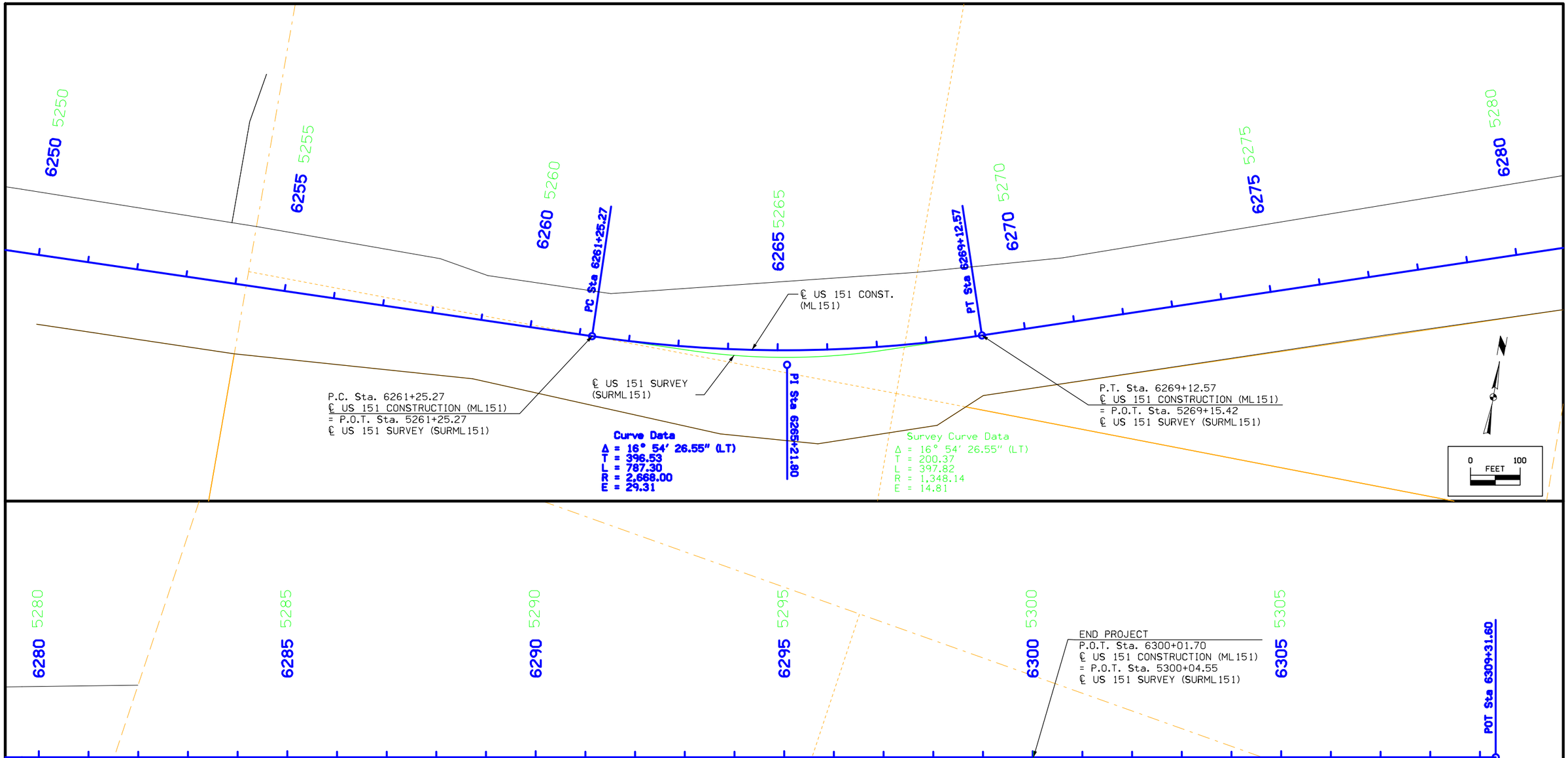
SUPERELEVATION DATA

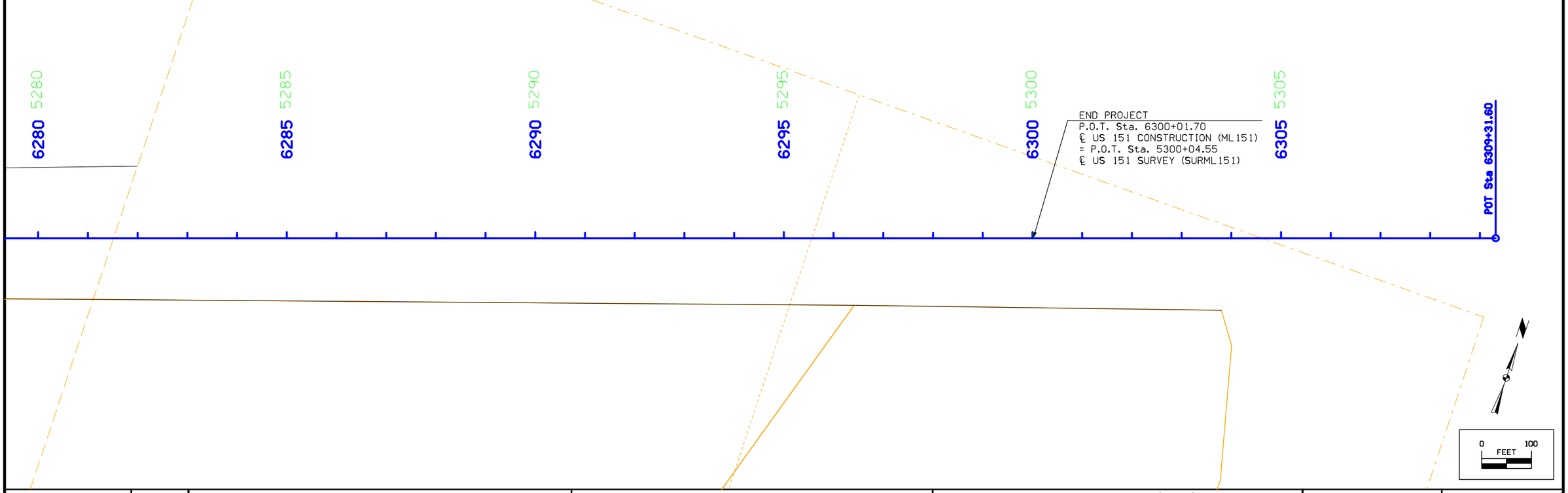
See PV-300 Series

Road Identification	Circular Curve or Spiral Curve Name	Radius	Superelevation Data			Standard Road Plan	Section A-A	Section B-B	Section C-C	Section D-D	Section E-E	Section F-F	Case A	Case B	Case C	Case S	Case T	Case U	Remarks
			e	L	x														
		FT	%	FT	FT														
US 151		2668	5.8	261	90	PV-302	6258+52.57	6259+42.57	6260+32.57	6262+03.57			6261+25.27			6261+22.57	6261+22.57		
							6271+85.27	6270+95.27	6270+05.27	6268+34.27			6269+12.57			6269+15.27	6269+15.27		



FILE NO.	ENGLISH	DESIGN TEAM SCHRODER\JEO CONSULTING GROUP, INC.	LINN COUNTY	PROJECT NUMBER NHSX-151-3(170)--3H-57	SHEET NUMBER G.3





FILE NO.	ENGLISH	DESIGN TEAM SCHRODER\JEO CONSULTING GROUP, INC.	LINN COUNTY	PROJECT NUMBER NHSX-151-3(170)--3H-57	SHEET NUMBER G.4

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108-23A
08-01-08

TRAFFIC CONTROL PLAN

One lane of traffic in each direction shall be maintained on US Highway 151 at all times during construction.

Median crossovers shall be included for staged construction of US Highway 151. Refer to plans and TC-61 for additional information.

Traffic control on this project shall be in accordance with the Standard Road Plans shown in Tabulation 105-4 and the specific layouts shown in the plans. For additional complementary information, refer to Part 6 of the Manual on Uniform Traffic Control Devices (MUTCD) and the current Standard Specifications and Supplemental Specifications.

The Contractor shall coordinate traffic control with Iowa DOT projects listed in Tabulation 111-01 and other projects in the area.

The Contractor shall notify the Resident Construction Engineer two (2) weeks prior to temporary road closures and changes in traffic patterns during construction.

The Contractor shall be responsible for furnishing, installing, maintaining, and removing the signage for the temporary detours.

The Contractor shall remove or cover existing signs and posts within the project limits, as required for construction. The Contractor shall provide the Iowa DOT two (2) weeks advance notice prior to removal or covering of existing signs.

The Engineer may require modifications to the pavement marking details shown. Conflicting permanent edge lines, centerlines, or lane lines shall be removed. Where applicable, permanent edge lines, centerlines, and lane lines shall be placed before the roadway is returned to normal traffic. The current Standard Specifications and Supplemental Specifications shall apply.

The Contractor shall maintain clean pavement in and out of the work area at all times.

The work area along US Highway 151 shall have an advisory 55 mph speed limit throughout the duration of the project. Refer to J-sheets for traffic control signing.

All signs placed longer than three days must be post mounted.

The Contractor will be responsible for securing a safe storage area for equipment and materials to be used on the project.

Access to individual properties shall be maintained at all times throughout construction.

111-01
04-17-12

COORDINATED OPERATIONS

Other work in progress during the same period of time will include the construction of the projects listed. Coordinate operations with those of other contractors working within the same area.

Project	Type of Work
BRF-151-3(162)--38-57	Bridge Replacement-CCS

108-26A
08-01-08

STAGING NOTES

It is recognized that as the various activities related to construction progresses, certain situations may arise which will preclude adhering to the original construction sequence of which, in the opinion of the Contractor, should result in more efficient staging operations. Should the Contractor desire to deviate from the original plan, they shall submit a written alternate plan to the Engineer for approval.

See staging plans for individual staging sections and plan views.

In general the construction staging shall be as follows:

US HIGHWAY 151

Stage 1 - Traffic
1. Install temporary traffic control in conformance with TC-418, shifting southbound traffic to existing inside lane.
2. Maintain two lanes of traffic in existing lanes for northbound traffic.
3. Access to properties and side roads to be maintained.

Stage 1 - Construction
1. Remove existing guardrail on outside lane of southbound traffic at Crabapple Creek bridge.
2. Install guardrail and temporary crash cushion on outside lane of southbound bridge at Crabapple Creek.
3. Install erosion control.

Stage 2 - Traffic
1. Install temporary traffic control in conformance with TC-418, shifting northbound and southbound traffic to existing outside lanes.
2. Access to properties and side roads to be maintained.

Stage 2 - Construction
1. Install guardrail and temporary crash cushion at southbound bridge on the inside lane at Crabapple Creek.
2. Install temporary median cross overs and associated work.
3. Install erosion control.

Stage 3 - Traffic
1. Shift northbound traffic to existing inside lane of southbound traffic according to TC-61 utilizing temporary median crossovers.
2. Utilize TC-433 for pavement marking removal and installation operations.
3. Maintain southbound traffic in existing outside lane.
4. Access to properties and side roads to be maintained. Temporary lane separator system shall be used at all public roads and residential driveways within the two way-two lane operation to limit access to right in/right out only.
5. U-turns are to be allowed at the intersections of US 151/Hindman Road and US 151/Stone Road.

Stage 3 - Construction
1. Grade and construct proposed culverts, northbound pavement, pavement markings, erosion control, and associated work. Bridge installed by others.

Stage 4 - Traffic
1. Install traffic control in conformance with TC-418, shifting southbound and northbound traffic to existing outside lanes.
2. Utilize TC-433 for pavement marking operations.
3. Access to properties and side roads to be maintained.

Stage 4 - Construction
1. Remove temporary crash cushion at bridge.
2. Remove temporary median cross overs.
3. Install median maintenance turnaround at Sta. 6295+50.

Stage 5 - Traffic
1. Install temporary traffic control in conformance with TC-418, shifting southbound traffic to existing inside lane.
2. Maintain two lanes of traffic in existing lanes for northbound traffic.
3. Access to properties and side roads to be maintained.

Stage 5 - Construction
1. Remove temporary crash cushion on outside lane of southbound bridge at Crabapple Creek.

Stage 6 - Traffic
1. Open all lanes of traffic for northbound and southbound traffic.

Stage 6 - Construction
1. Remove all temporary traffic control devices.

108-25
10-21-14

511 TRAVEL RESTRICTIONS

Route	Direction	County	Location Description	Feature Crossed	Object Type	Maint. Bridge No., Structure ID, or FHWA No.	Type of Restriction	Existing Measurement	Construction Measurement	Construction Measurement as Signed	Projected As Built Measurement	Remarks
US 151	NB/SB	Linn	2.9 miles North of N Jct IA 13	Crabapple Creek	Traffic Control Device		Horizontal	N/A	12'-0"	11'-0"	N/A	Note 1

Notes:
Note 1: Lanes restricted to 12-ft wide due to temporary traffic control and northbound and southbound traffic sharing the existing southbound bridge over Crabapple Creek.

CROSS SECTION VIEW COLOR LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS

SHADING	Design Color No.	
Green, Light	(225)	Existing Pavement Shading
Gray, Light	(48)	Previously Constructed Pavement Shading
Gray, Med	(80)	Previously Constructed Granular Surface Shading
Blue, Light	(230)	Proposed Pavement Shading
Lavender	(9)	Temporary Pavement Shading
Brown, Med	(237)	Future Proposed Pavement Shading

CROSS SECTION VIEW PATTERN AND SYMBOL LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS

	Pavement Removal		Proposed Granular Shoulder
	Proposed Granular Subbase		Temporary Shoulder
	Proposed Special Backfill		Existing Shoulder Strengthening
	Temporary Barrier Rail		Permanent Barrier Rail
			Channelizing Device

PLAN VIEW COLOR LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS

LINEWORK	Design Color No.	
Green	(2)	Existing Topographic Features and Labels
Magenta	(5)	Pavement Marking Call Outs
Blue	(1)	Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
Yellow	(4)	Pavement Markings, Yellow
Off White	(254)	Pavement Markings, White
Violet	(15)	Temporary barrier rail, Unpinned
Flush Orange	(228)	Temporary barrier rail, Pinned
SHADING	**Design Color No.**	
Green, Light	(225)	Existing Pavement Shading
Gray, Light	(48)	Previously Constructed Pavement Shading
Gray, Med	(80)	Proposed Granular Surface Shading
Gray, Med	(80)	Previously Constructed Granular Surface Shading
Blue, Light	(230)	Proposed Pavement Shading
Lavender	(9)	Temporary Pavement Shading
Brown, Light	(236)	Proposed Grading Limits Shading
Pink, Dark	(13)	Proposed MSE or CIP Wall Shading
Red	(3)	Proposed Bridge Shading and Sign Trusses
Black w/Gray, Light Fill	(0,48)	Previously Constructed Structure

PLAN VIEW PATTERN AND SYMBOL LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS

●	Channelizing Device		Crash Cushion (Temp or Perm)
✕	Drum		Traffic Signal
◘	Temporary Lane Separator		Flagger
◆	Tubular Marker		Temporary Floodlighting
♦	Channelizer Marker		Traffic Sign
△	Concrete Barrier Marker		Type III Barricade
ς	Delineator		Type A Warning Light
——	Temporary Barrier Rail		Direction of Traffic
	Pavement Removal		Safety Closure
	Sand Barrel Layout	1	Lane Identification

NOTE: Device spacing according to Standard Road Plans unless specifically dimensioned.

TRAFFIC CONTROL AND STAGING LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES J)

DETOUR NOTES

As a part of the U.S. Highway 151 bridge replacement over Crabapple Creek, the eastbound lanes of U.S. Highway 151 will be closed during construction and a detour as shown on J.2 and J.3 will be used. The detour is for all adjacent access points within the limits of the project. All traffic entering and exiting the limits will be reduced to right hand turns only. The detour will route the traffic to the nearest U-turn location.

Refer to Traffic Control Plan for additional information.

The bid item for Traffic Control will be considered full compensation for installing, covering and uncovering signs required for the detour. It is the Contractor's responsibility to set up, cover, uncover, and maintain all signs along the detour routes.

DETOUR SIGN TABULATION

No.	SIGN DESCRIPTION AND TYPE	QUANTITY	SIZE
	TAB TO BE FILLED DURING FINAL DESIGN		

HINDMAN ROAD

U.S. HIGHWAY 151 (SBL)

U.S. HIGHWAY 151 (NBL)

HINDMAN ROAD

TEMPORARY CROSSOVER

MAINTAIN ACCESS DURING CONSTRUCTION

JORDANS GROVE ROAD

MAINTAIN ACCESS DURING CONSTRUCTION

N

LEGEND

- Detour Route - U.S. Hwy. 151 (South)
- Detour Route - U.S. Hwy. 151 (North)
- Road Closure

0 250 FEET

U.S. HIGHWAY 151 DETOUR ROUTE

FILE NO.	ENGLISH	DESIGN TEAM SCHRODER\JEO CONSULTING GROUP, INC.	LINN COUNTY	PROJECT NUMBER NHSX-151-3(170)--3H-57	SHEET NUMBER J.3

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DETOUR NOTES

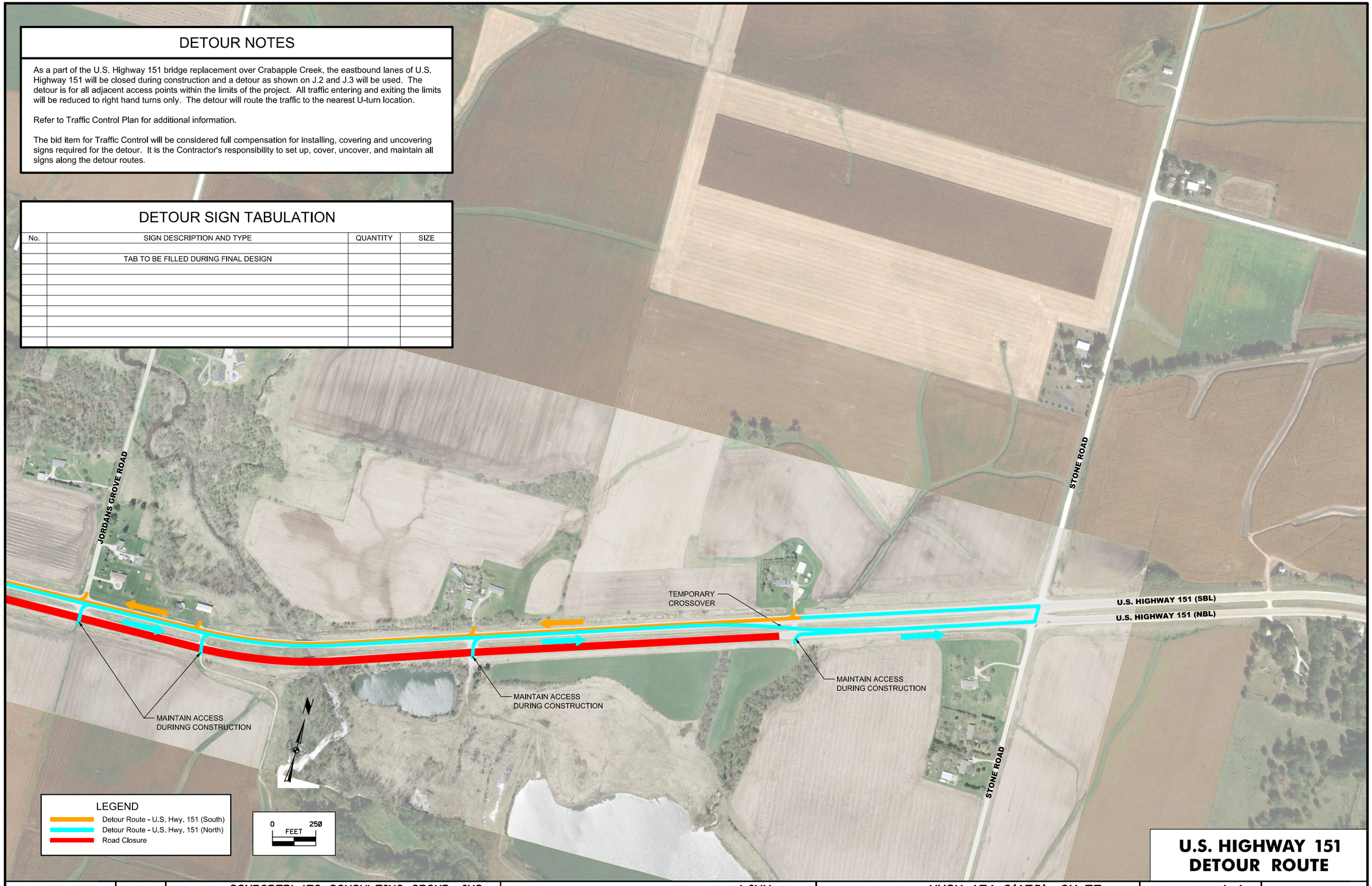
As a part of the U.S. Highway 151 bridge replacement over Crabapple Creek, the eastbound lanes of U.S. Highway 151 will be closed during construction and a detour as shown on J.2 and J.3 will be used. The detour is for all adjacent access points within the limits of the project. All traffic entering and exiting the limits will be reduced to right hand turns only. The detour will route the traffic to the nearest U-turn location.

Refer to Traffic Control Plan for additional information.

The bid item for Traffic Control will be considered full compensation for installing, covering and uncovering signs required for the detour. It is the Contractor's responsibility to set up, cover, uncover, and maintain all signs along the detour routes.

DETOUR SIGN TABULATION

No.	SIGN DESCRIPTION AND TYPE	QUANTITY	SIZE
	TAB TO BE FILLED DURING FINAL DESIGN		



U.S. HIGHWAY 151 DETOUR ROUTE

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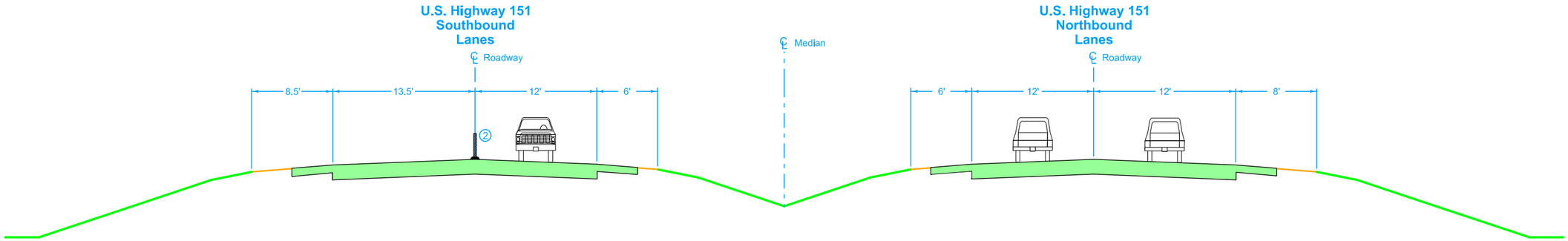
U.S. 151
Stage 1



STAGE 1
Sta. 6265+00.00 to Sta. 6286+00.00
Guardrail and Temporary Crash Cushion Installation on Outside Lane of Southbound Bridge
Traffic on Existing Inside Lane for Southbound Traffic

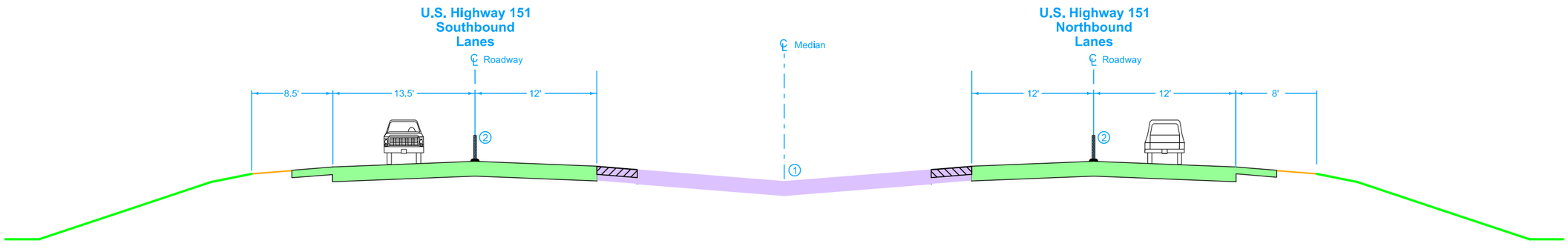
Notes:

① Install Outside Guardrail for Southbound Traffic. Install Outside Temp. Guardrail and Crash Cushion for Trailing Side of Southbound Bridge.

② 42" Channelizers

③ Refer to Standard Road Plan TC-418

U.S. 151
Stage 2



STAGE 2
Sta. 6223+76.97 to Sta. 6300+00.00
Installation of Temporary Median Crossover and Guardrail Installation on Southbound Bridge
Traffic on Existing Outside Lanes

Notes:

① Temporary Cross Over and Temporary Guardrail Construction

② 42" Channelizers

③ Refer to Standard Road Plan TC-418

FILE NO.	ENGLISH	DESIGN TEAM SCHRODER\JEO CONSULTING GROUP, INC.	LINN COUNTY	PROJECT NUMBER NHSX-151-3(170)--3H-57	SHEET NUMBER J.5

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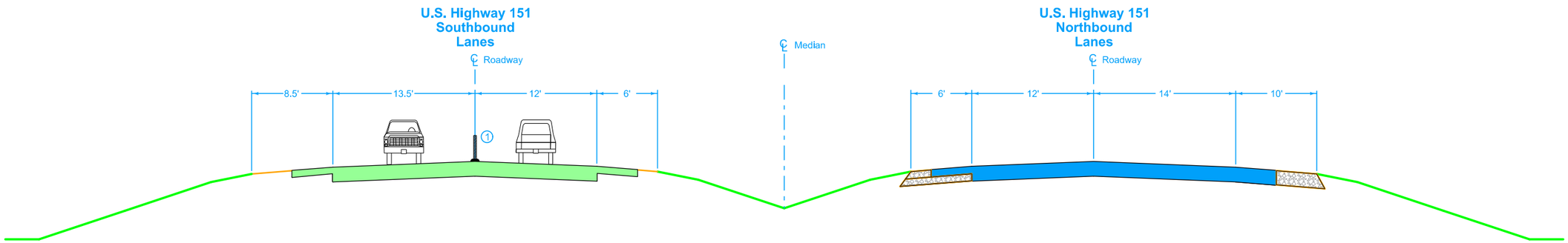
U.S. 151
Stage 3

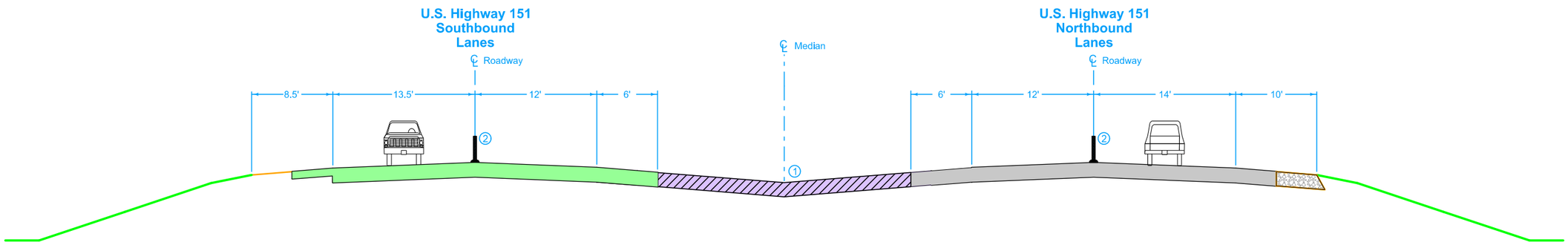


STAGE 3
Sta. 6248+92.23 to Sta. 6294+22.90
Proposed Northbound Paving Construction and Bridge Replacement
Two-Way Traffic on Southbound Lanes

Notes:

1. Temporary Lane Separator System and 42" Channelizers. See Stage 3 Plan Sheets for Details.
2. Refer to Standard Road Plan TC-61

U.S. 151
Stage 4



STAGE 4
Sta. 6223+76.96 to Sta. 6300+00.00
Removal of Temporary Median Crossover and Temporary Guardrail at Bridge
Traffic on Outside Lanes

Notes:

1. Remove Temporary Cross Over and Install Inside Guardrail for Southbound Bridge
2. 42" Channelizers
3. Refer to Standard Road Plan TC-418

FILE NO.	ENGLISH	DESIGN TEAM SCHRODER\JEO CONSULTING GROUP, INC.	LINN COUNTY	PROJECT NUMBER NHSX-151-3(170)--3H-57	SHEET NUMBER J.6

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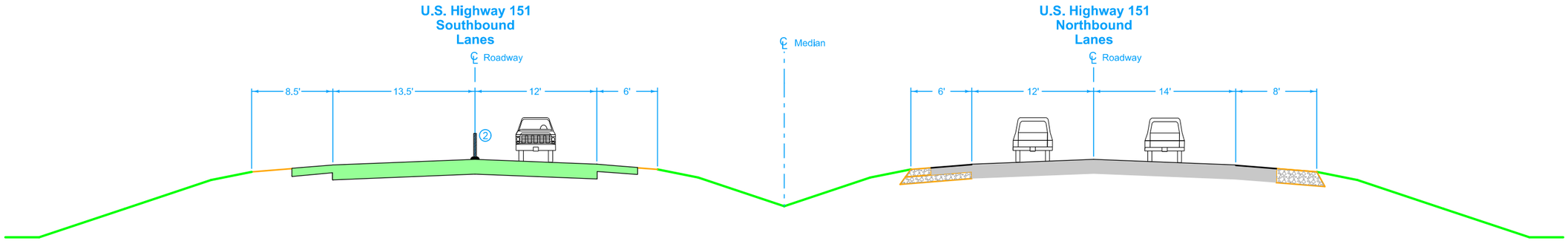


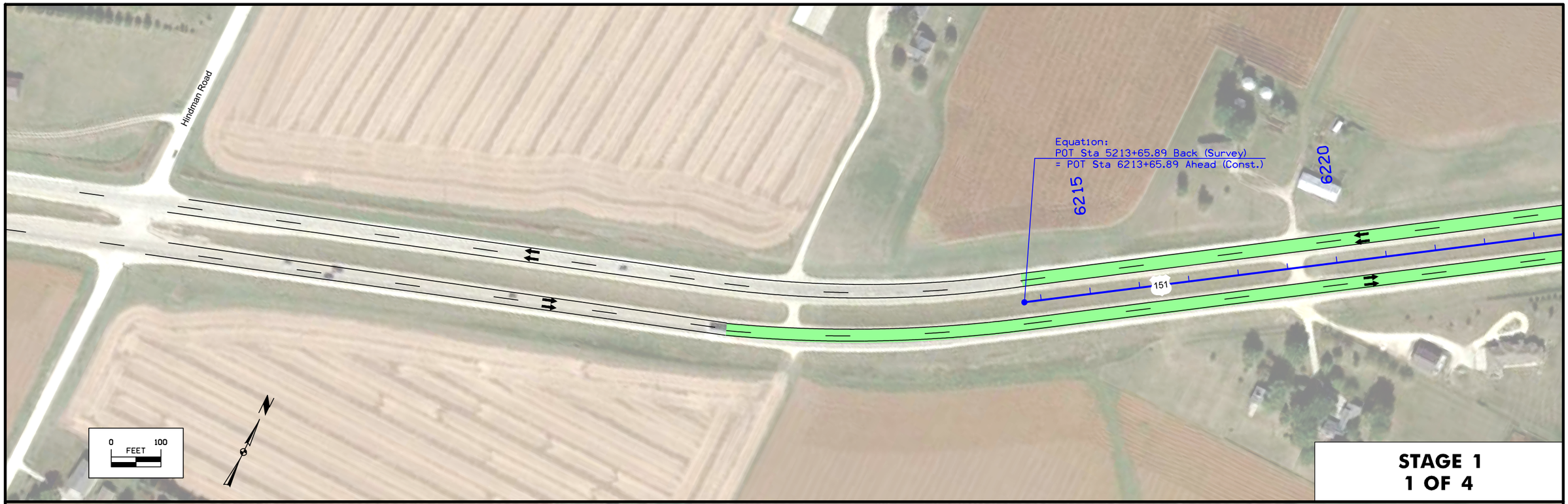
STAGE 5
Sta. 6265+00.00 to Sta. 6286+00.00
Guardrail and Temporary Crash Cushion Removal on Outside Lane of Southbound Bridge
Traffic on Existing Inside Lane for Southbound Traffic

Notes:

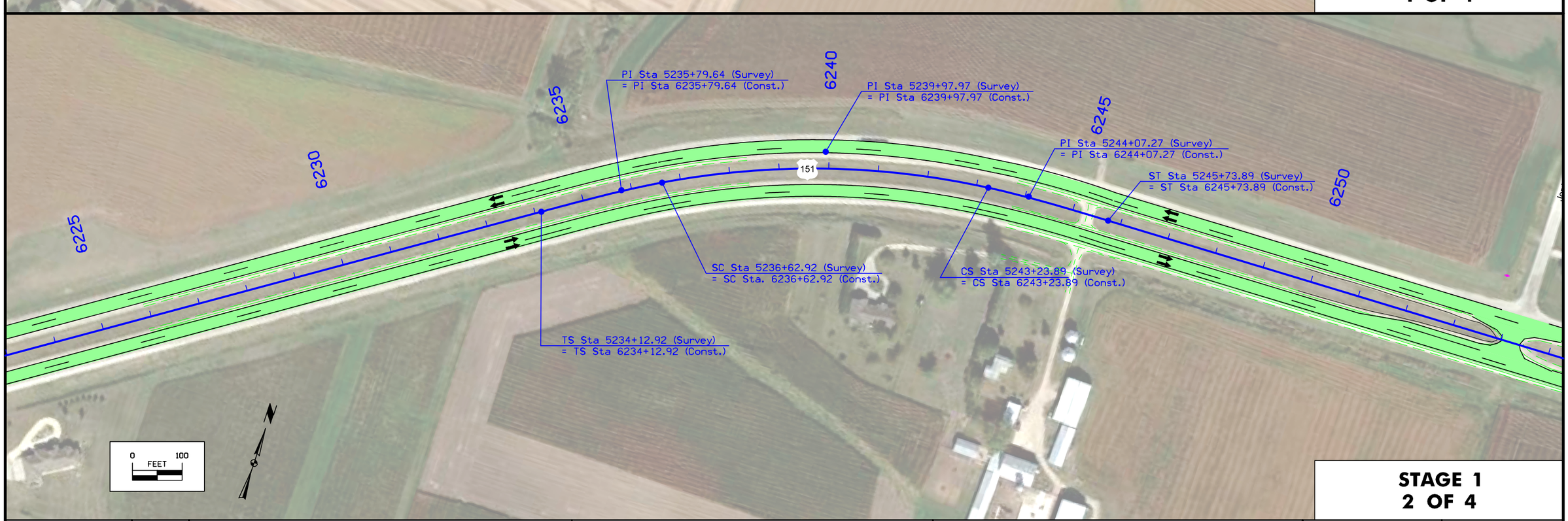
① Remove Outside Temp. Guardrail and Crash Cushion for Trailing Side of Southbound Bridge.

② 42" Channelizers

③ Refer to Standard Road Plan TC-418



STAGE 1
1 OF 4



STAGE 1
2 OF 4

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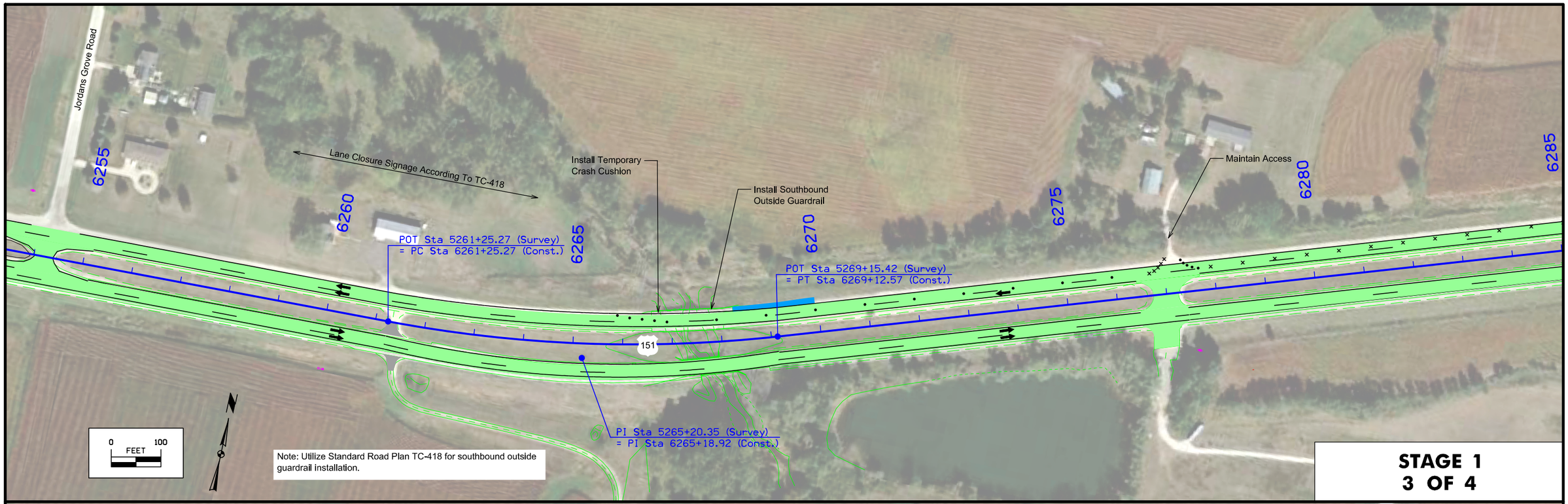
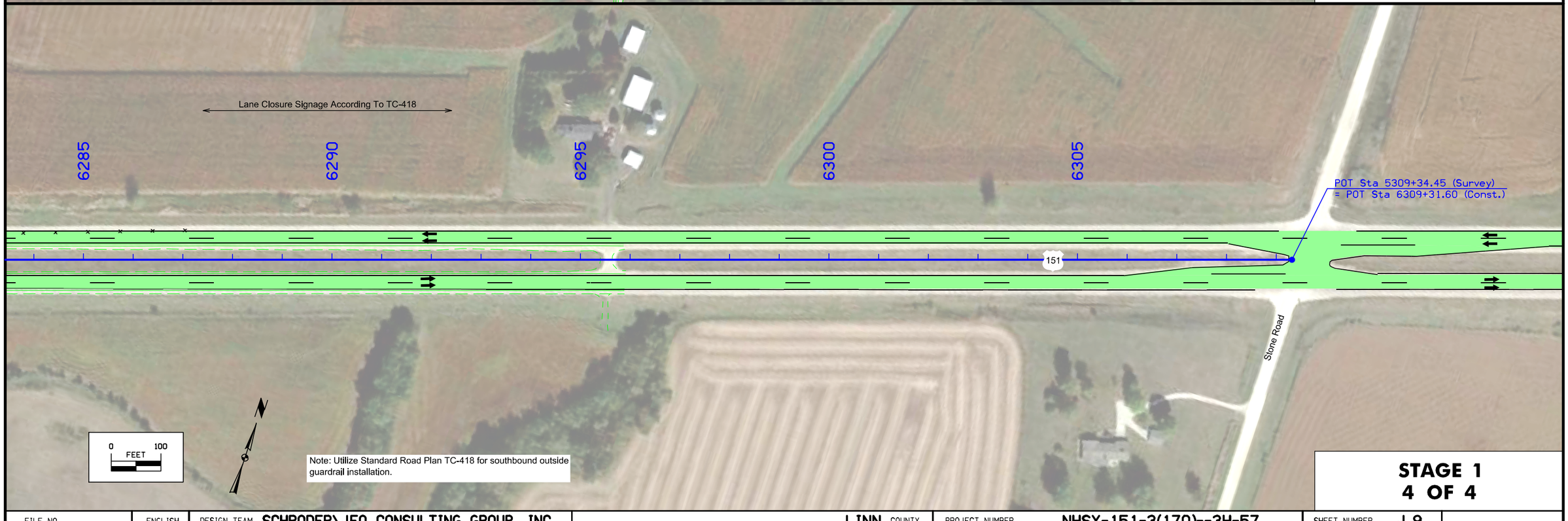


STAGE 1
3 OF 4



STAGE 1
4 OF 4

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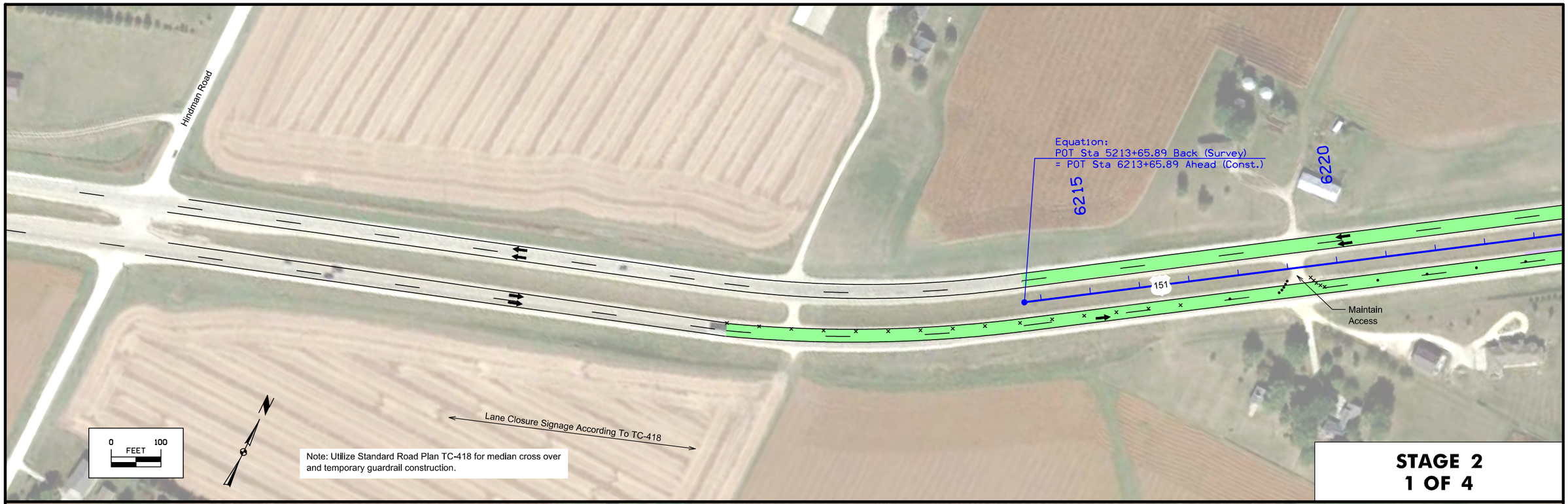

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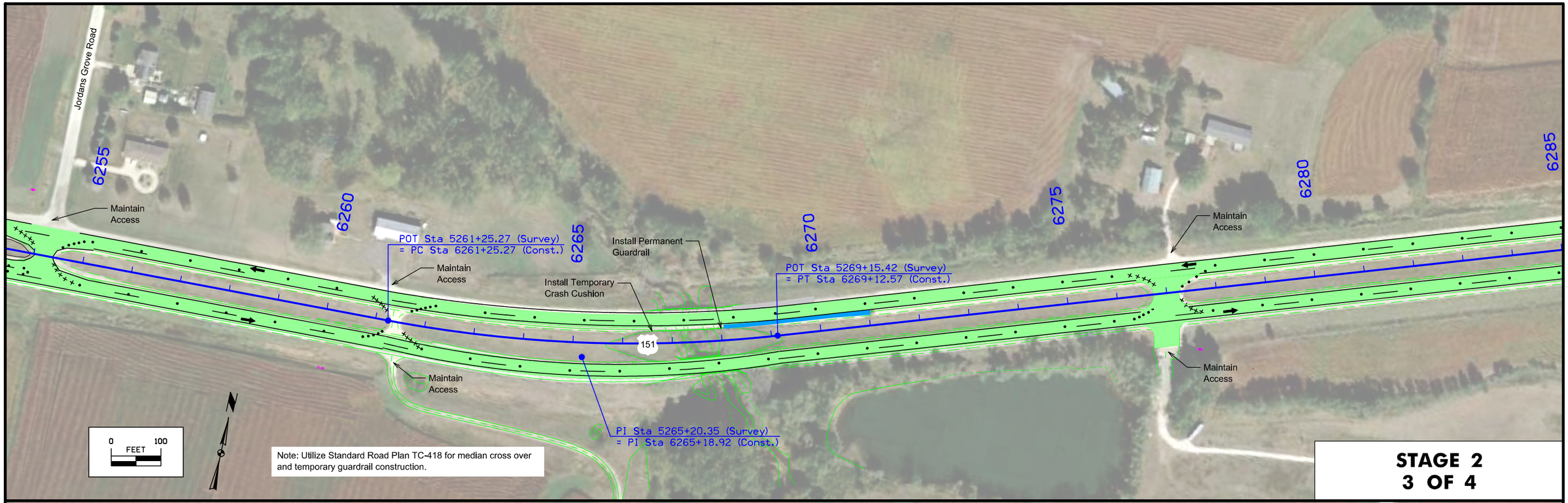

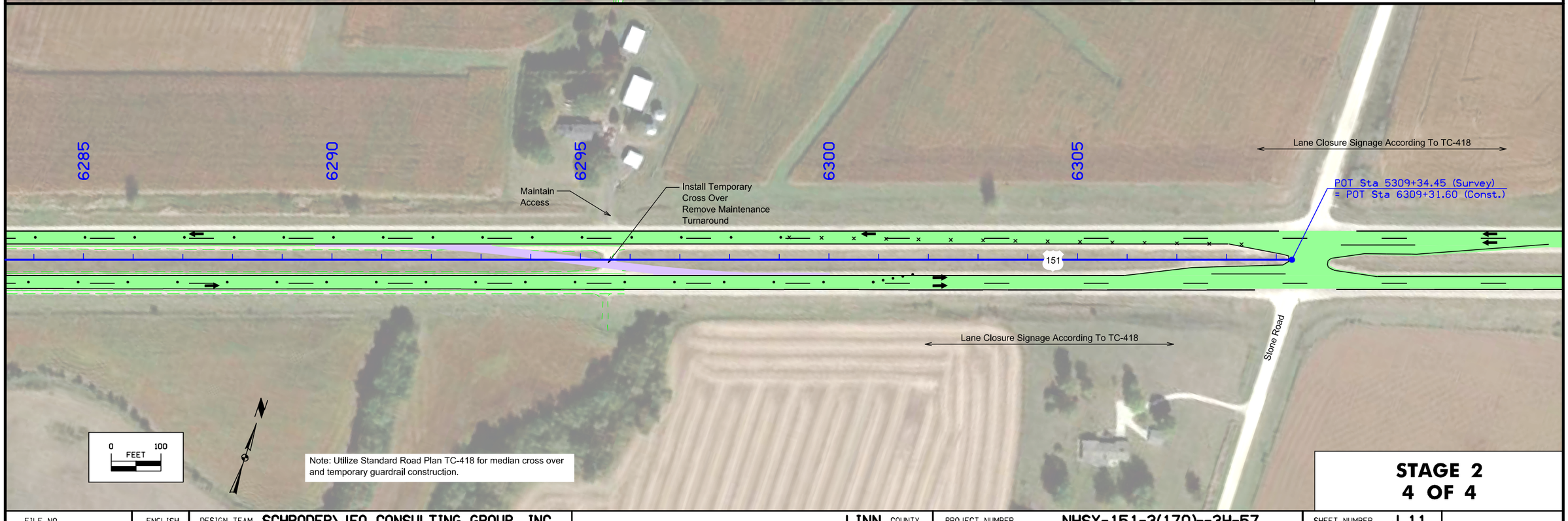

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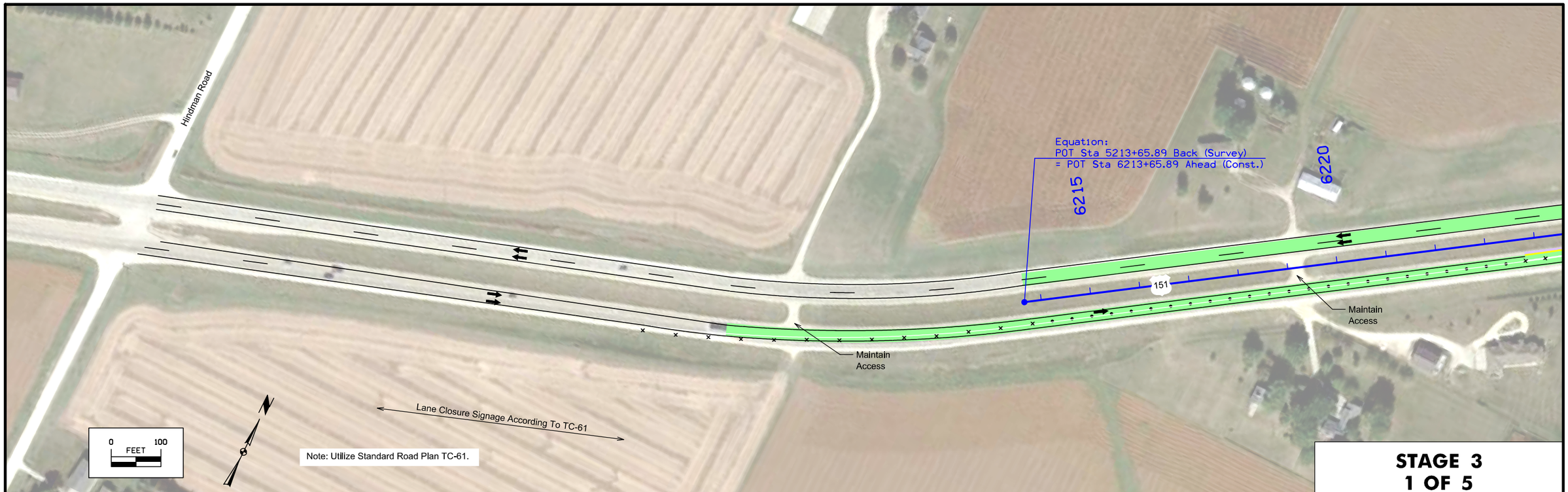
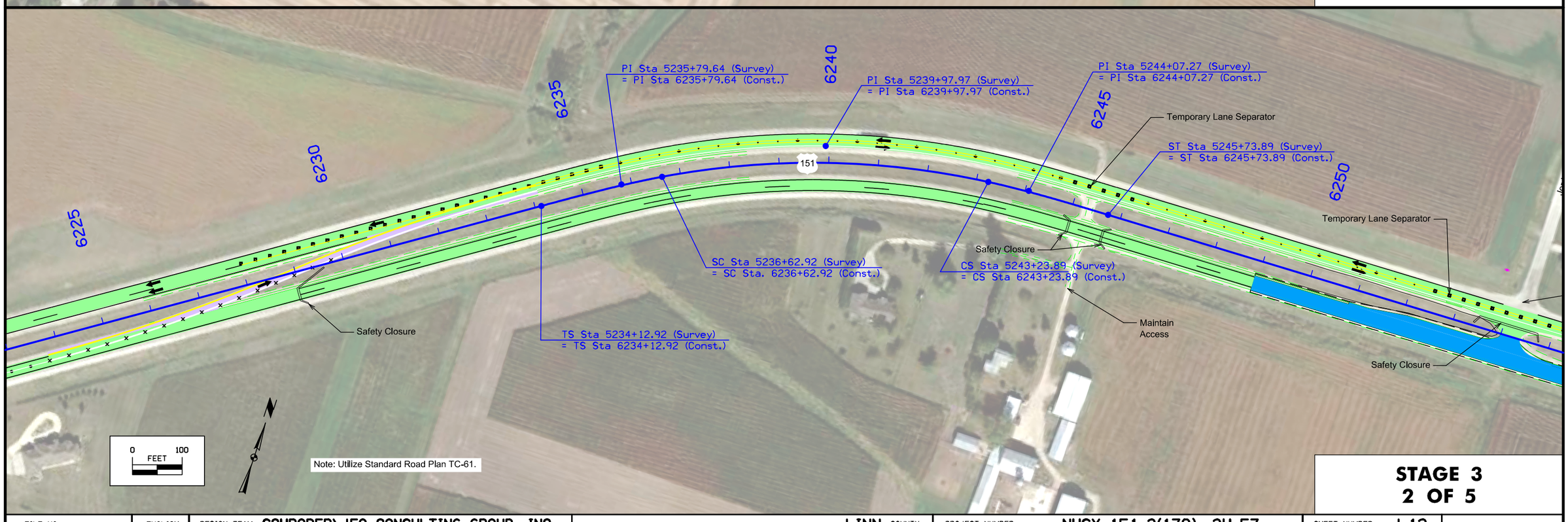


STAGE 3
1 OF 5



STAGE 3
2 OF 5

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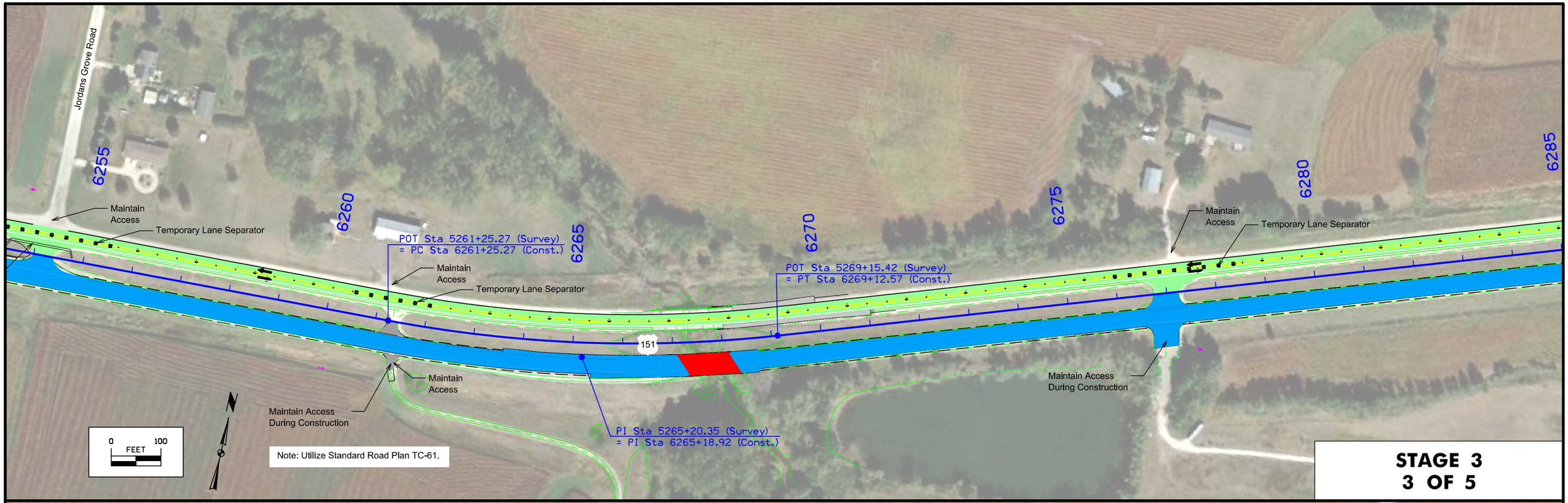

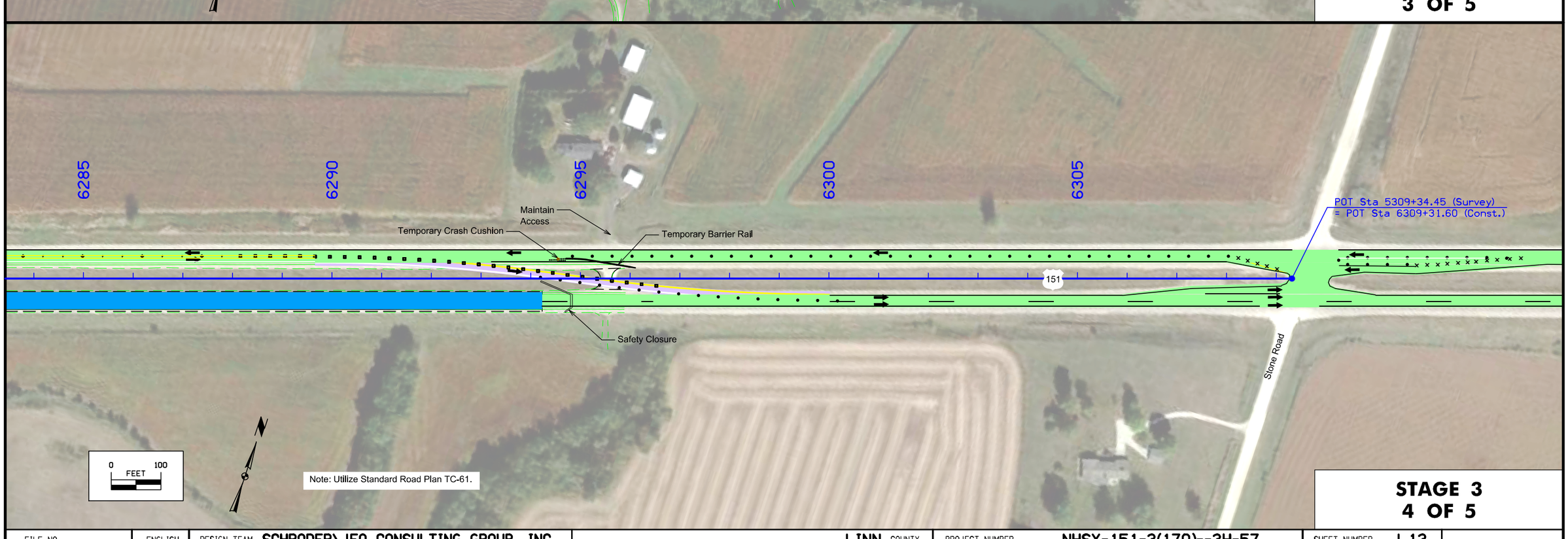

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STAGE 3
5 OF 5

FILE NO.	ENGLISH	DESIGN TEAM SCHRODER\JEO CONSULTING GROUP, INC.	LINN COUNTY	PROJECT NUMBER NHSX-151-3(170)--3H-57	SHEET NUMBER J.14

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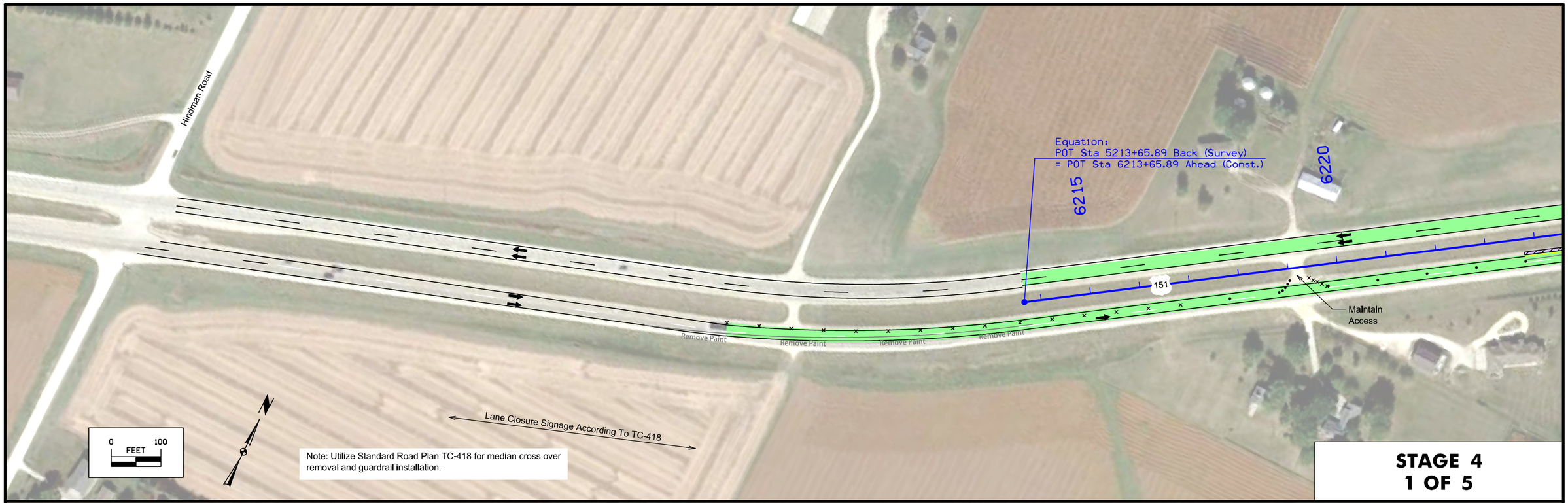

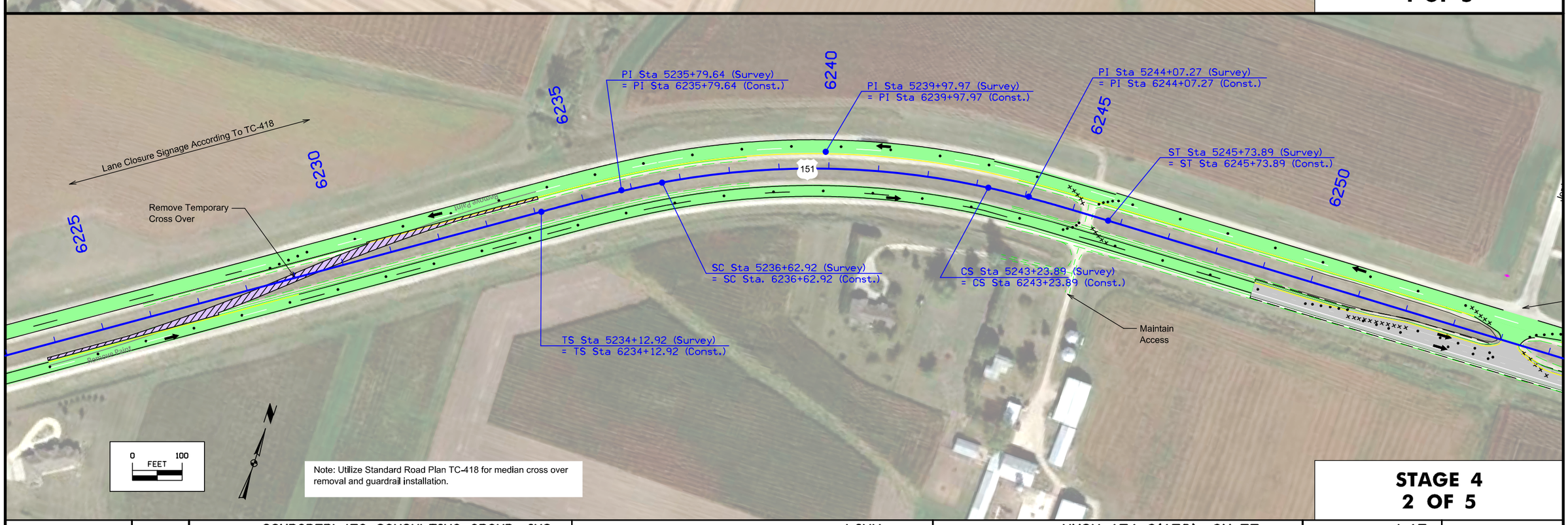

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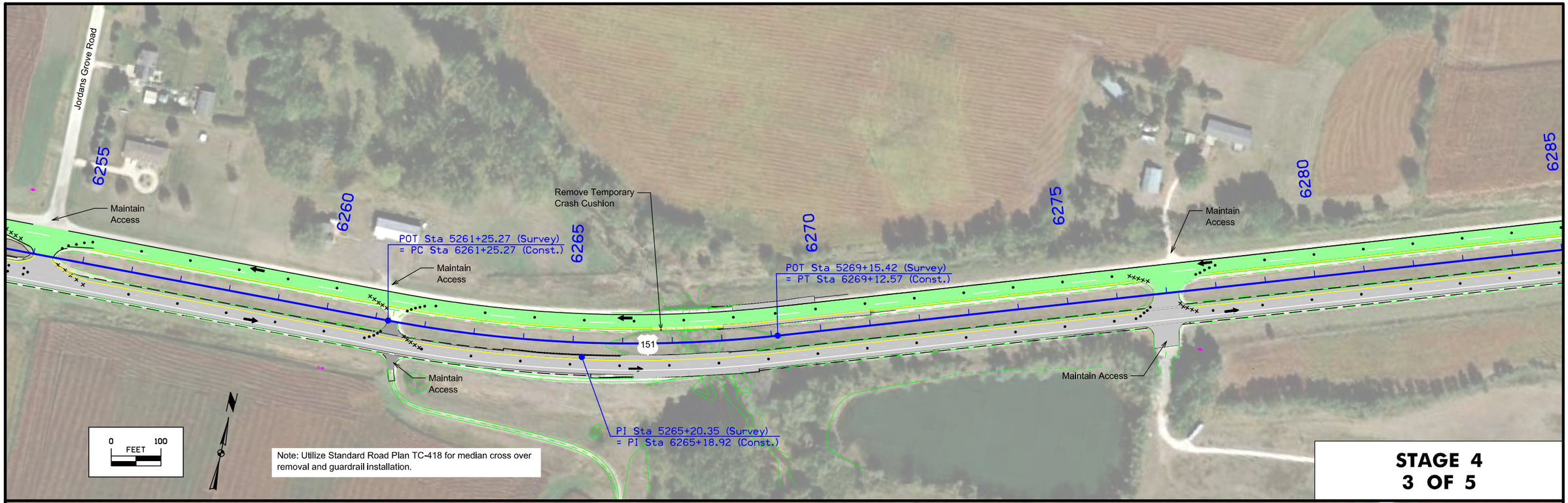

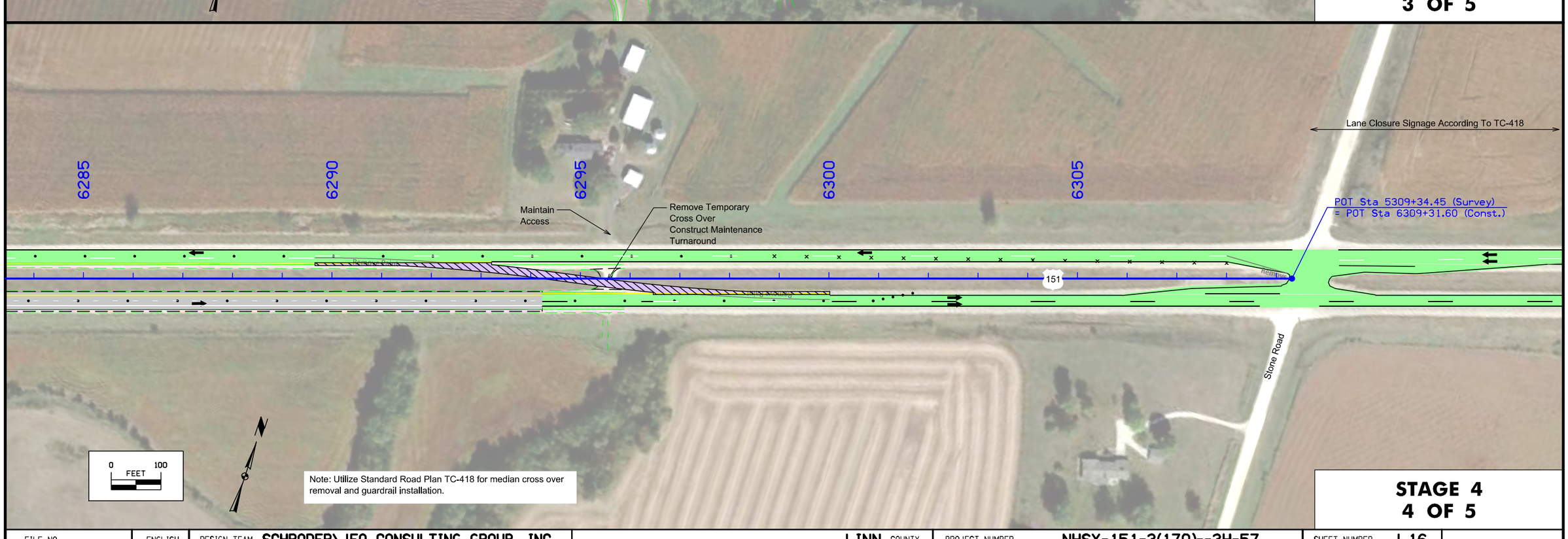

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STAGE 4
5 OF 5

FILE NO.	ENGLISH	DESIGN TEAM SCHRODER\JEO CONSULTING GROUP, INC.	LINN COUNTY	PROJECT NUMBER NHSX-151-3(170)--3H-57	SHEET NUMBER J.14

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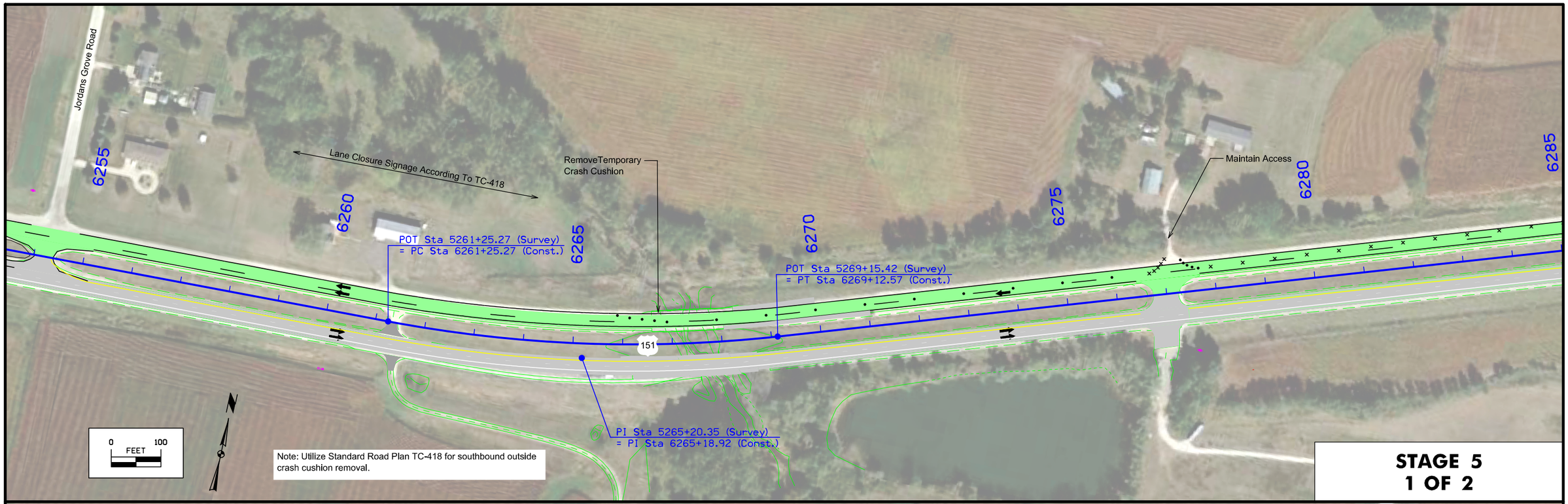

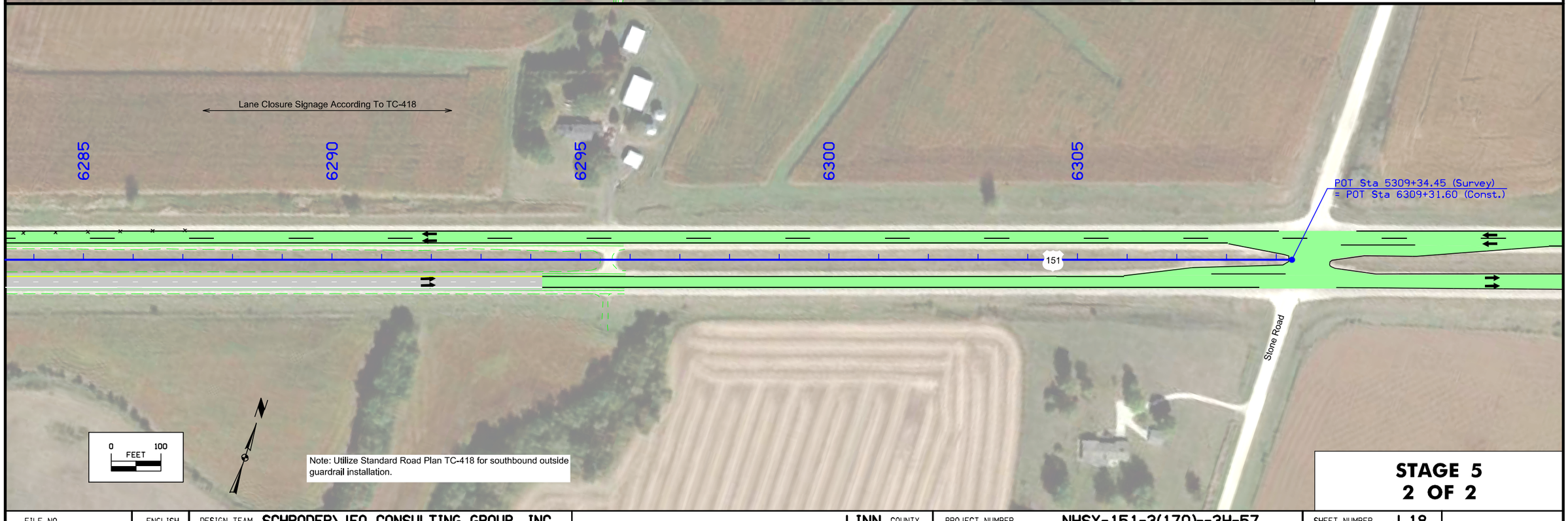

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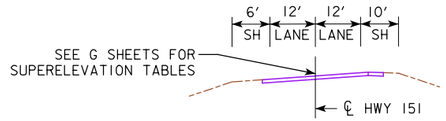

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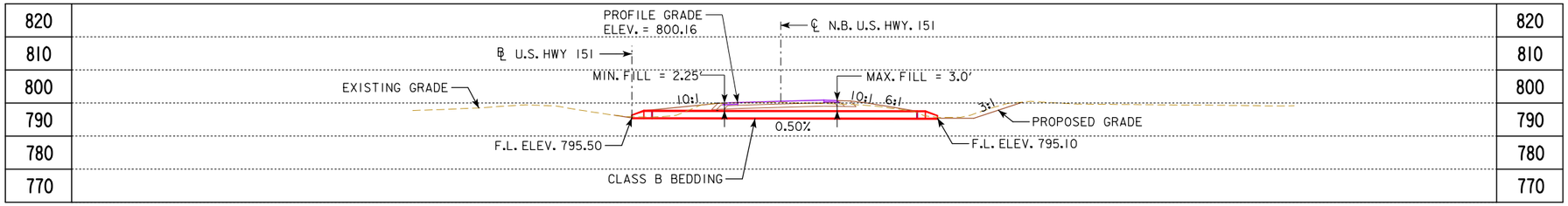
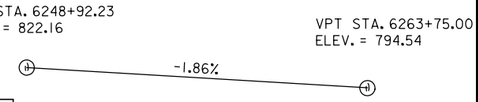
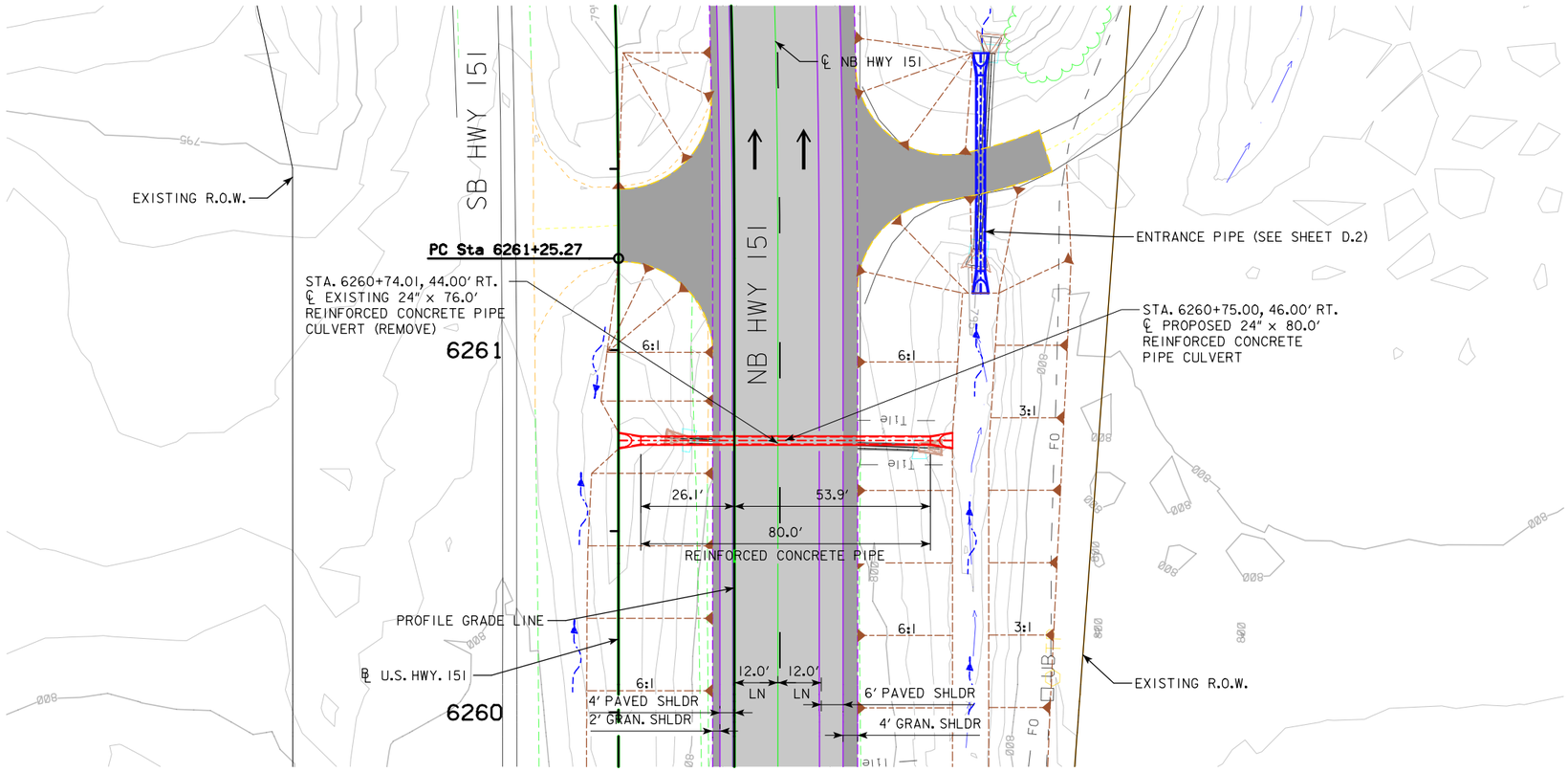


LONGITUDINAL SECTION ALONG ℄ CULVERT



PROPOSED PROFILE



0 ENGLISH 40
SCALE IN FEET

N

PLAT PLAN

EXISTING STRUCTURE

24" x 76' RCP (REMOVE)

UTILITIES LEGEND:

REFER TO SHEET D.1

HYDRAULIC DATA

DRAINAGE AREA = 1.5 ACRES
Q_{50} = 7.16 CFS

LOCATION

N.B. U.S HWY. 151
T-84N R-6W
SECTION 36
MARION TOWNSHIP
LINN COUNTY
LATTITUDE 42.045833°
LONGITUDE -91.496389°

TRAFFIC ESTIMATE

2021 AADT	16,800	V.P.D.
2043 AADT	23,100	V.P.D.
2043 DHV	-	V.P.H.
TRUCKS	13	%
TOTAL DESIGN ESALs	-	

DESIGN FOR 0° SKEW

24" x 80.0' REINFORCED CONCRETE PIPE CULVERT

PLAT PLAN

STA. 6260+75.00, 46.00' RT. OCTOBER 2018

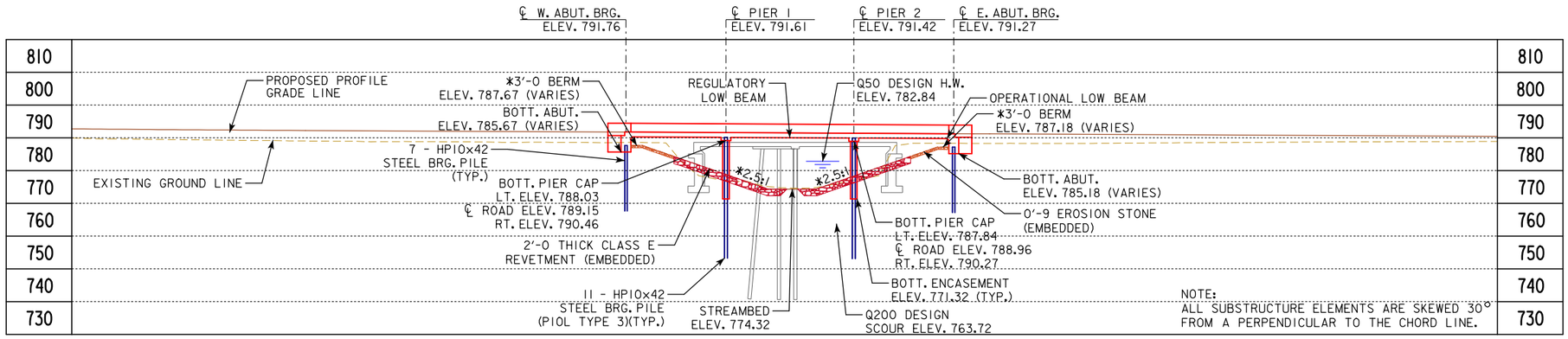
LINN COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. ____ OF ____ FILE NO. _____ DESIGN NO. _____

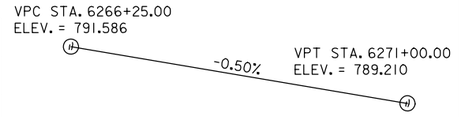
DESIGN TEAM	SCHRODER / JEO CONSULTING GROUP, INC.	LINN COUNTY	PROJECT NUMBER NHSX-151-3(170)--3H-57	SHEET NUMBER V.1

BENCHMARK NO. 502: DOT BUTTON SE HANDRAIL WB BRIDGE, ELEV. 793.258. N: 8,077,612.105, E: 20,546,265.980

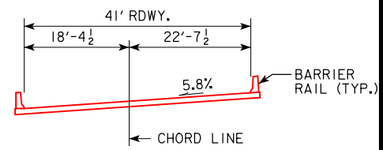


* NORMAL TO ABUTMENT

LONGITUDINAL SECTION ALONG ℄ APPROACH ROADWAY



PROPOSED PROFILE GRADE

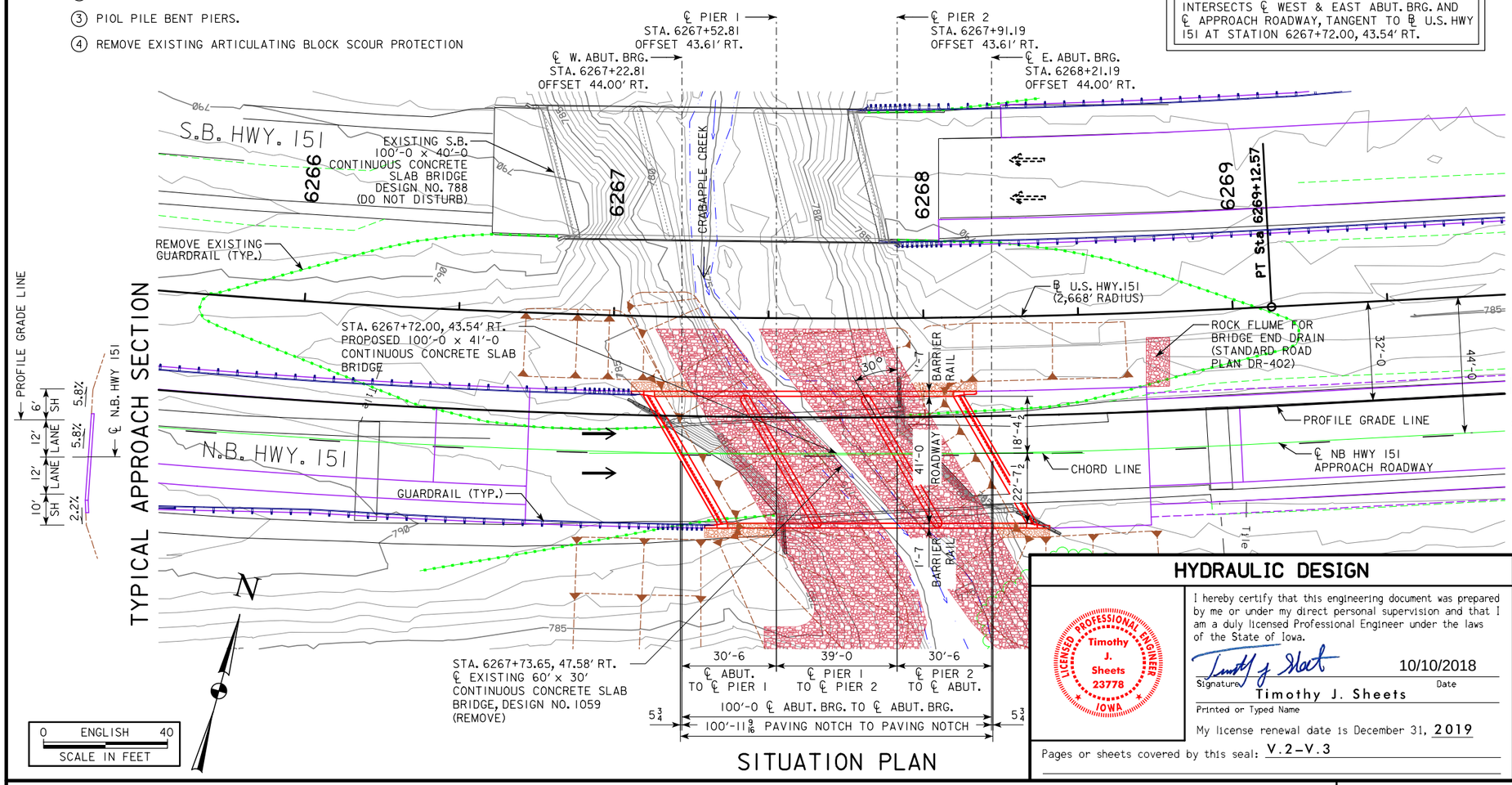


TYPICAL BRIDGE SECTION

NOTES:

1. PROPOSED BRIDGE IS A MODIFIED J40-06 STANDARD.
2. BARRIER RAIL TO BE TL-4. DESIGNED DURING FINAL DESIGN.
3. PIOL PILE BENT PIERS.
4. REMOVE EXISTING ARTICULATING BLOCK SCOUR PROTECTION

NOTE:
PROPOSED BRIDGE BUILT ON CHORD LINE THAT INTERSECTS ℄ WEST & EAST ABUT. BRG. AND ℄ APPROACH ROADWAY, TANGENT TO ℄ U.S. HWY 151 AT STATION 6267+72.00, 43.54' RT.



TYPICAL APPROACH SECTION

SITUATION PLAN

CURVE DATA

PI STA. 6265+21.80
Δ = 16°54'26.55"
D = 02°08'51.06"
T = 396.5308
L = 787.2984
E = 29.3062
R = 2,668.0000
PC STA. 6261+25.27
PT STA. 6269+12.57

HYDRAULIC DATA

DRAINAGE AREA = 13.5 SQ. MI.
STREAM SLOPE = 12.01 FT./MI.
AVG. LOW WATER STAGE = 775.10

Q_{50} = 2,840 CFS
STAGE = 782.84
REGULATORY LOW BEAM = 788.95
FREEBOARD = 6.11 FT.
AVG. BRIDGE VELOCITY = 8.94 FPS

Q_{100} = 3,380 CFS
STAGE = 783.20
OPERATIONAL LOW BEAM = 788.73
BACKWATER = 2.33 FT.
AVG. BRIDGE VELOCITY = 9.95 FPS

Q_{200} = 3,810 CFS
STAGE = 783.44
CALCULATED DESIGN SCOUR = 763.72

Q_{500} = 4,450 CFS
STAGE = 783.76
AVG. BRIDGE VELOCITY = 11.81 FPS
CALCULATED CHECK SCOUR = 762.02

ROADWAY OVERTOP 789.21
STA. 6271+00.00

EXTREME HW STAGE = UNKNOWN
DATE = UNKNOWN

LOCATION

N.B. U.S. HWY. 151
OVER CRABAPPLE CREEK
T-84N R-6W
SECTION 36
MARION TOWNSHIP
LINN COUNTY
FHWA NO. 33541
BRIDGE MAINT. NO. 5740.8R151
LATITUDE 42.045683°
LONGITUDE -91.496389°

UTILITIES LEGEND

— FO — FIBER OPTIC: SPRINGVILLE COOP

TRAFFIC ESTIMATE

2021 AADT	16,800	V.P.D.
2043 AADT	23,100	V.P.D.
2043 DHV	-	V.P.H.
TRUCKS	13	%
TOTAL DESIGN ESALs	-	

HYDRAULIC DESIGN

LICENSED PROFESSIONAL ENGINEER
Timothy J. Sheets
23778
IOWA

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Signature — Date: 10/10/2018

Timothy J. Sheets
Printed or Typed Name

My license renewal date is December 31, 2019

Pages or sheets covered by this seal: V.2–V.3

DESIGN FOR 30° SKEW (R.A.)

100'-0 x 41'-0 CONTINUOUS CONCRETE SLAB BRIDGE

30'-6 END SPANS — 39'-0 INTERIOR SPAN

SITUATION PLAN

STA. 6267+72.00, 43.54' RT. — OCTOBER 2018

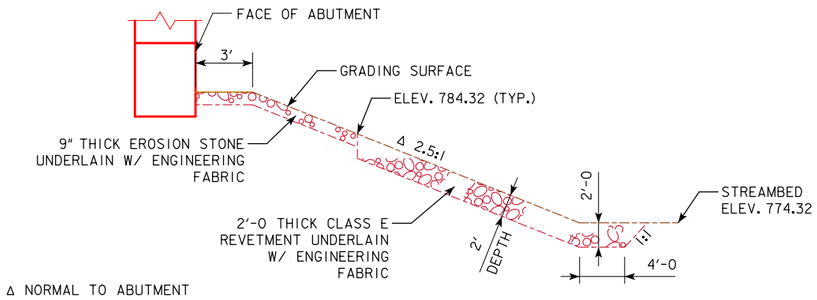
LINN COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. ____ OF ____ FILE NO. 31632 DESIGN NO. 322

DESIGN TEAM	SCHRODER / JEO CONSULTING GROUP, INC.	LINN COUNTY	PROJECT NUMBER BRF-151-3(162)--38-57	SHEET NUMBER V.2

BENCH MARK NO. 502: DOT BUTTON SE HANDRAIL WB BRIDGE, ELEV. 793.258. N: 8,077,612.105, E: 20,546,265.980



Δ NORMAL TO ABUTMENT

SECTION THRU EMBEDDED REVETMENT BERM

BERM SLOPE LOCATION TABLE

POINTS	WEST ABUTMENT			EAST ABUTMENT		
	STATION	OFFSET	ELEV.	STATION	OFFSET	ELEV.
A1	6267+46.80	20.68' RT.	774.32	6267+63.75	20.59' RT.	774.32
A2	6267+81.58	70.80' RT.	774.32	6268+01.25	70.91' RT.	774.32
B1	6267+16.56	21.16' RT.	786.61	6268+05.18	20.62' RT.	786.11
B2	6267+40.63	70.93' RT.	789.03	6268+27.62	71.18' RT.	788.58
W1	6267+06.18	21.40' RT.	790.59	6268+15.56	20.78' RT.	790.01
W2	6267+30.44	71.08' RT.	793.00	6268+37.82	71.42' RT.	792.49

BERM SLOPE ELEVATIONS REFLECT THE GRADING SURFACE.
OFFSETS ARE GIVEN FROM THE U.S. HWY. 151 BASELINE.
ALL POINTS ARE 3'-0 FROM THE EDGE OF THE BRIDGE DECK.

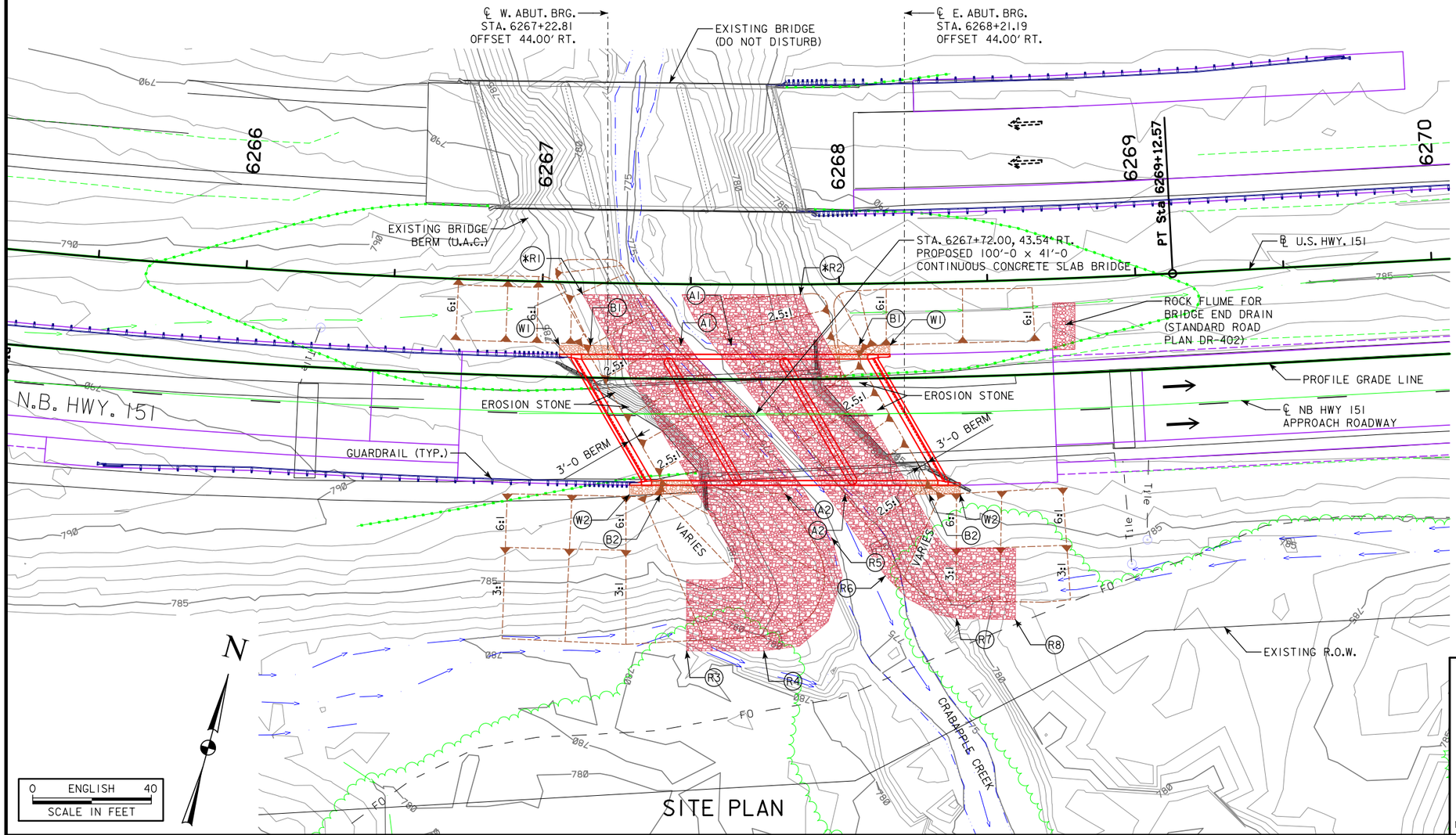
ESTIMATED BERM ARMORING QUANTITIES

LOCATION	REVETMENT CL. E (TON)	EROSION STONE (TON)	ENGINEERING FABRIC (SY)	CLASS 10 EX. (CY)
BERM LINING - WEST	500	35	580	335
BERM LINING - EAST	450	30	530	295
TOTALS	950	65	1110	630

EXCAVATION QUANTITY CALCULATED FROM GRADING SURFACE AND INCLUDES ONLY THE EXCAVATION REQUIRED TO EMBED THE REVETMENT.

REVETMENT BASED ON DENSITY OF 1.6 TON/CY

EROSION STONE BASED ON A DENSITY OF 120 LB/CF.



REVETMENT LAYOUT:

- (*R1) STA. 6267+14, 4' RT.
- (*R2) STA. 6267+87, 4' RT.
- (R3) STA. 6267+50, 124' RT.
- (R4) STA. 6267+75, 124' RT.
- (R5) STA. 6267+91, 86' RT.
- (R6) STA. 6268+14, 99' RT.
- (R7) STA. 6268+37, 114' RT.
- (R8) STA. 6268+56, 114' RT.

* LIMITS SHALL EXTEND TO EXISTING REVETMENT LOCATED UNDER SB BRIDGE. CONTRACTOR TO FIELD VERIFY.

DESIGN FOR 30° SKEW (R.A.)

100'-0 x 41'-0 CONTINUOUS CONCRETE SLAB BRIDGE

30'-6 END SPANS — 39'-0 INTERIOR SPAN

SITUATION PLAN - SITE

STA. 6267+72.00, 43.54' RT. — OCTOBER 2018

LINN COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. ____ OF ____ FILE NO. 31632 DESIGN NO. 322

DESIGN TEAM SCHRODER / JEO CONSULTING GROUP, INC. | LINN COUNTY | PROJECT NUMBER BRF-151-3(162)--38-57 | SHEET NUMBER V.3

LINE STYLE LEGEND OF CROSS SECTION SHEETS (ROAD)

- Existing Ground Line
- Proposed Template
- Proposed Topsoil Placement
- Additional Topsoil Removal
- Subgrade Treatment
- Granular Shoulder
- Pavement
- Existing Pipe\RCB
- Proposed Pipe\RCB
- Proposed Dike
- All Elements Associated with Proposed Entrances

LINE STYLE LEGEND OF CROSS SECTION SHEETS (SOILS)

- Topsoil (Class 10)
- Slope Dressing Only
- Class 10 Materials
- Select Loams And Clay-Loams
- Select Sand
- Unsuitable Type A Disposal
- Unsuitable Type B Disposal
- Unsuitable Type C Disposal
- Shale
- Waste
- Broken and Weathered Rock
- Solid Rock
- Boulders

Note: All layer lines and descriptions identify layers above the line.

Note: Vertical or near vertical lines connecting soil layers at edges of cross sections are only for the purpose of calculating template quantities and do not depict soil stratification.

SYMBOL LEGEND OF CROSS SECTION SHEETS

Existing ROW — Existing Right-of-Way Limit

Proposed ROW — Proposed Right-of-Way Limit

Temporary ROW — Temporary Right-of-Way Limit

CROSS SECTION LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES W, X, Y, & Z)

FILE NO.	ENGLISH	DESIGN TEAM SCHRODER\JEO CONSULTING GROUP, INC.	LINN COUNTY	PROJECT NUMBER NHSX-151-3(170)--3H-57	SHEET NUMBER W.1

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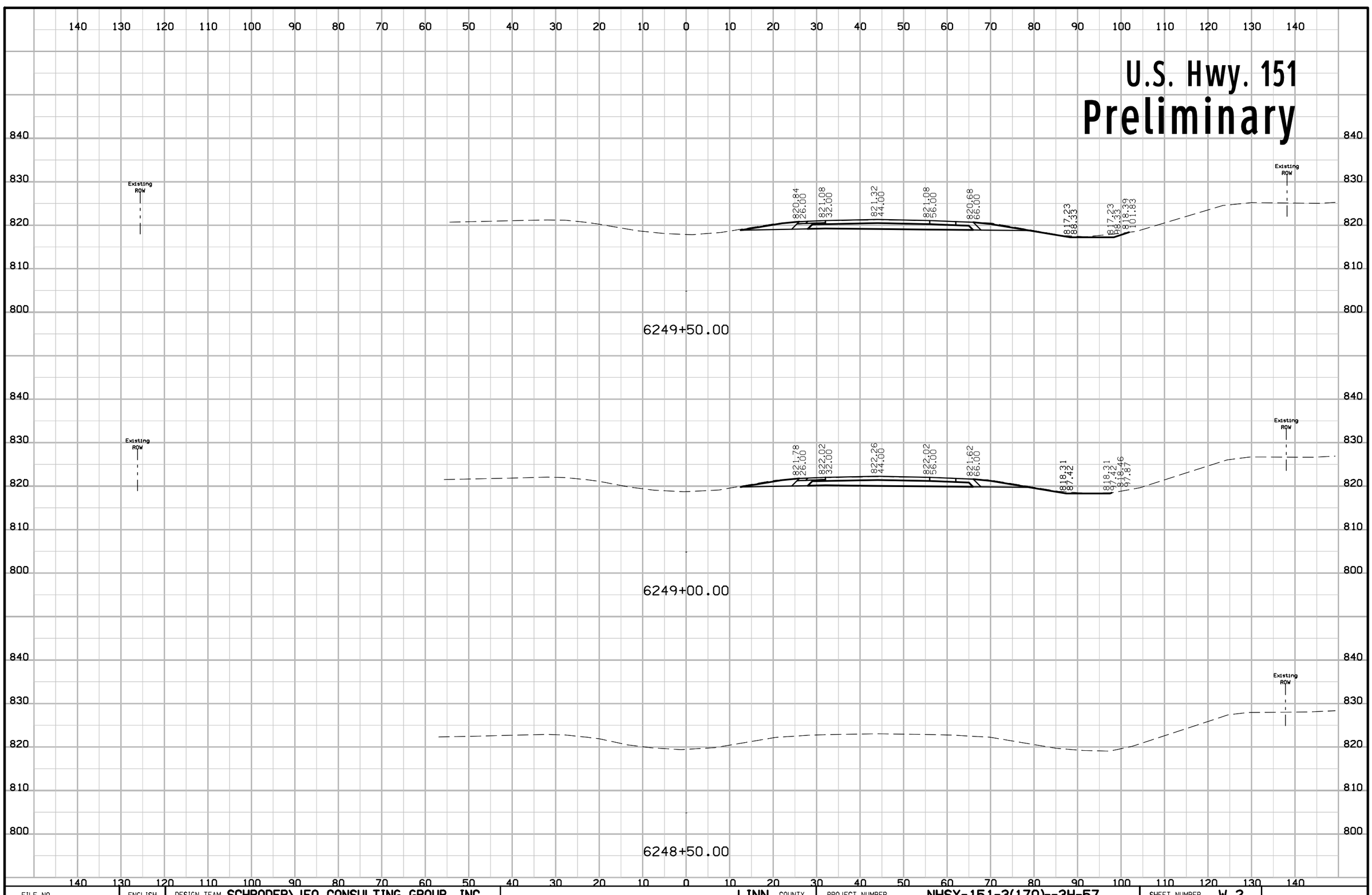
U.S. Hwy. 151
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM SCHRODER\JEO CONSULTING GROUP, INC.	LINN COUNTY	PROJECT NUMBER NHSX-151-3(170)--3H-57	SHEET NUMBER W.2

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U.S. Hwy. 151
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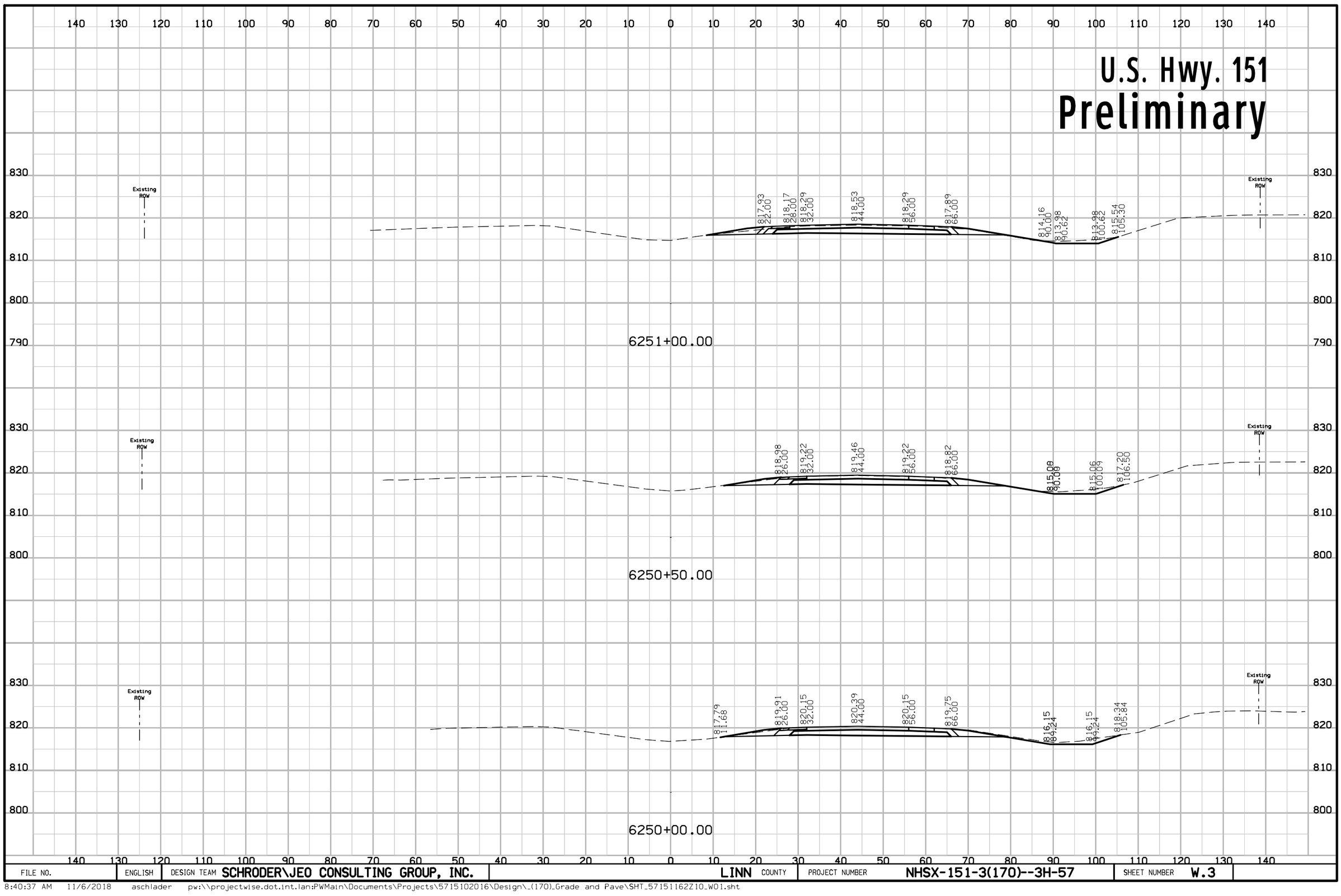

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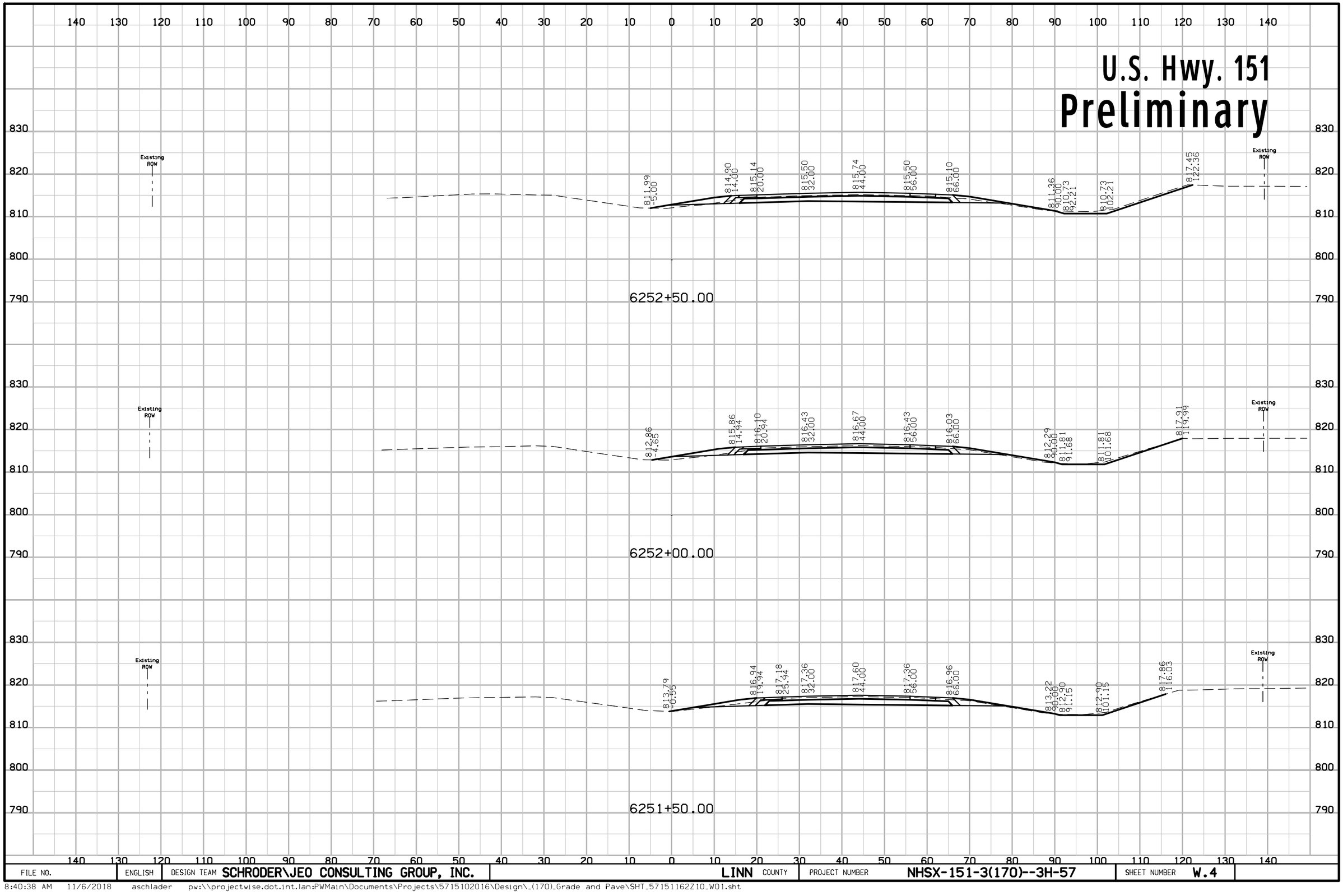
U.S. Hwy. 151

Preliminary



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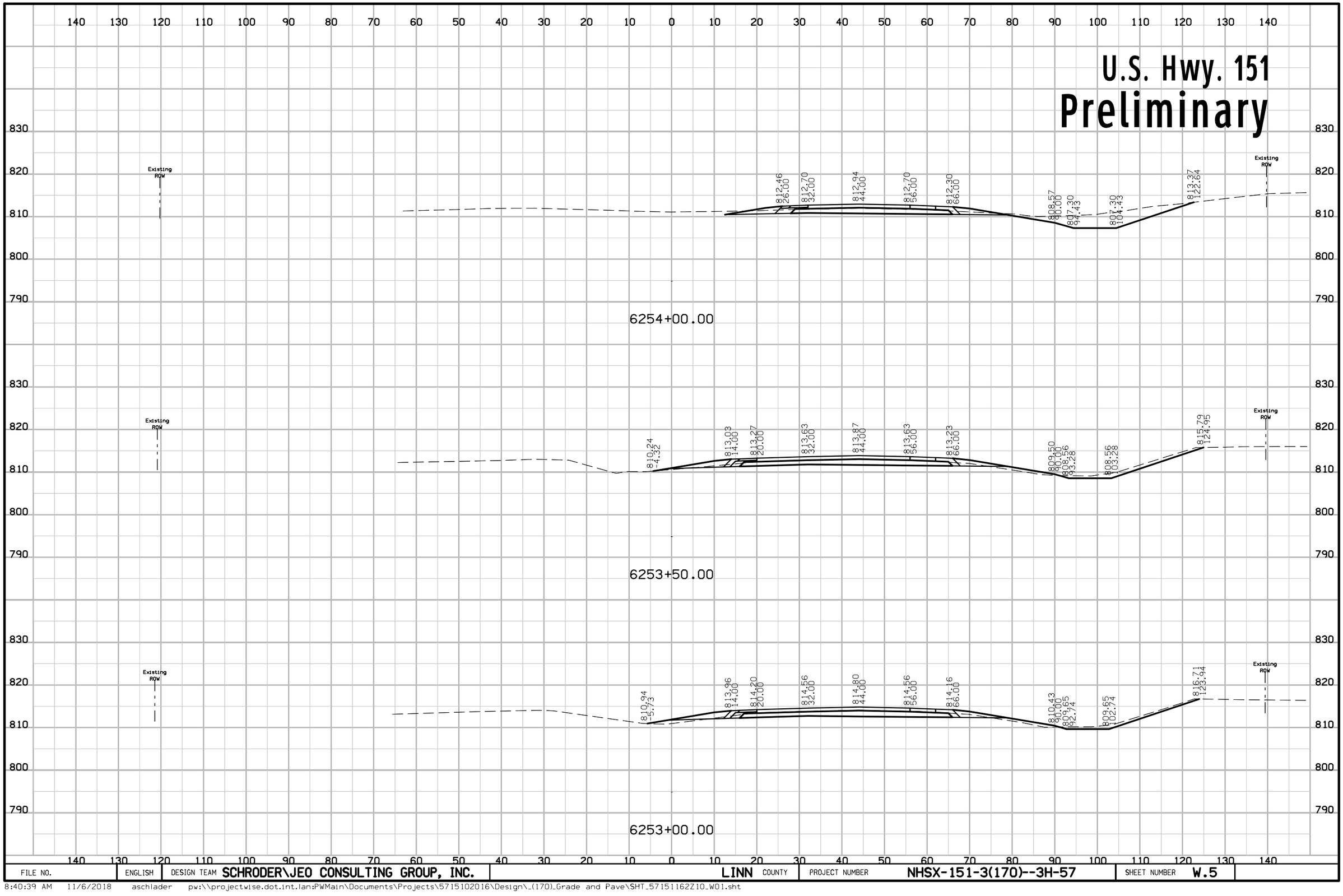
U.S. Hwy. 151

Preliminary



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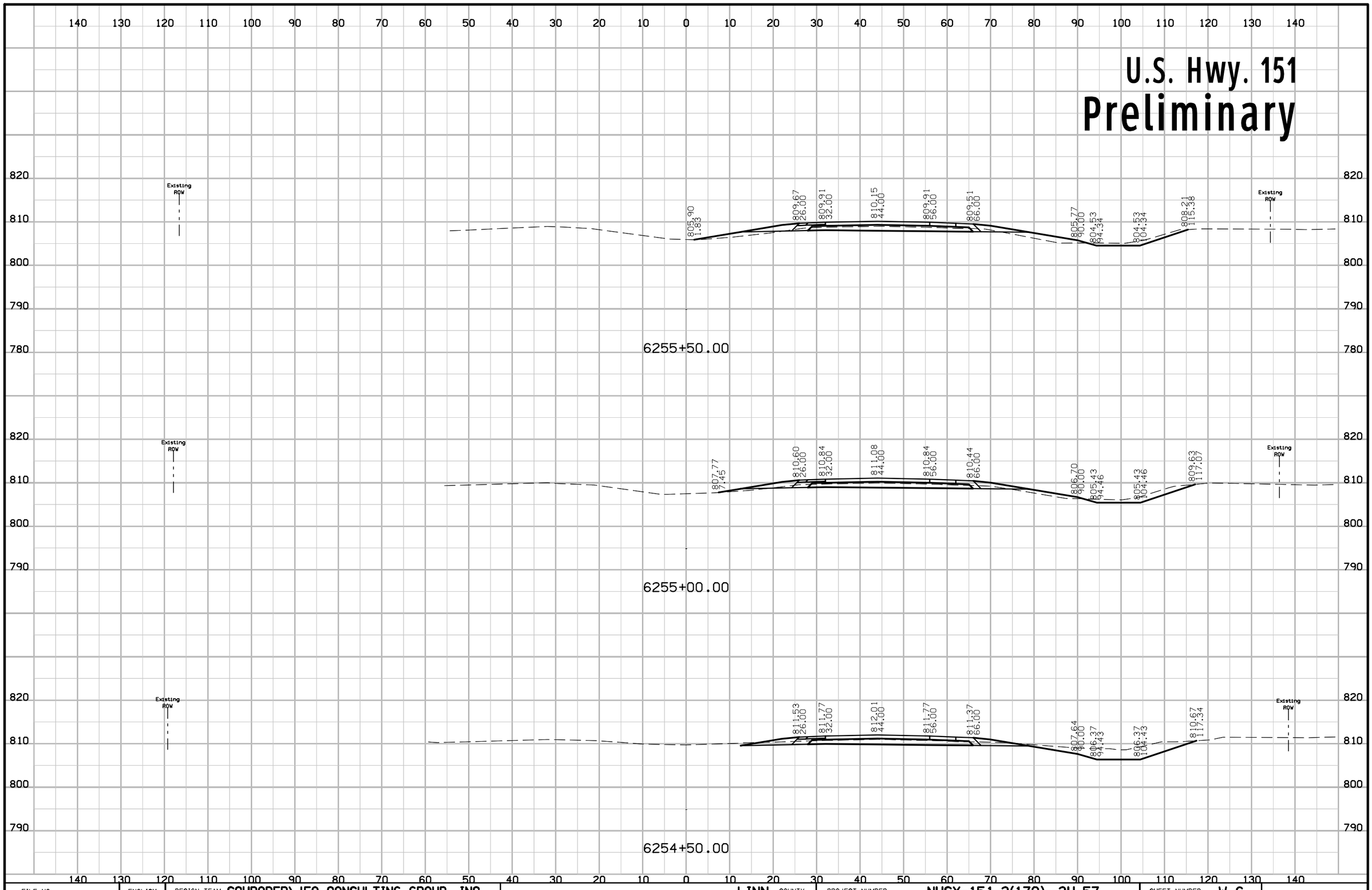
U.S. Hwy. 151
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM SCHRODER\JEO CONSULTING GROUP, INC.	LINN COUNTY	PROJECT NUMBER NHSX-151-3(170)--3H-57	SHEET NUMBER W.6

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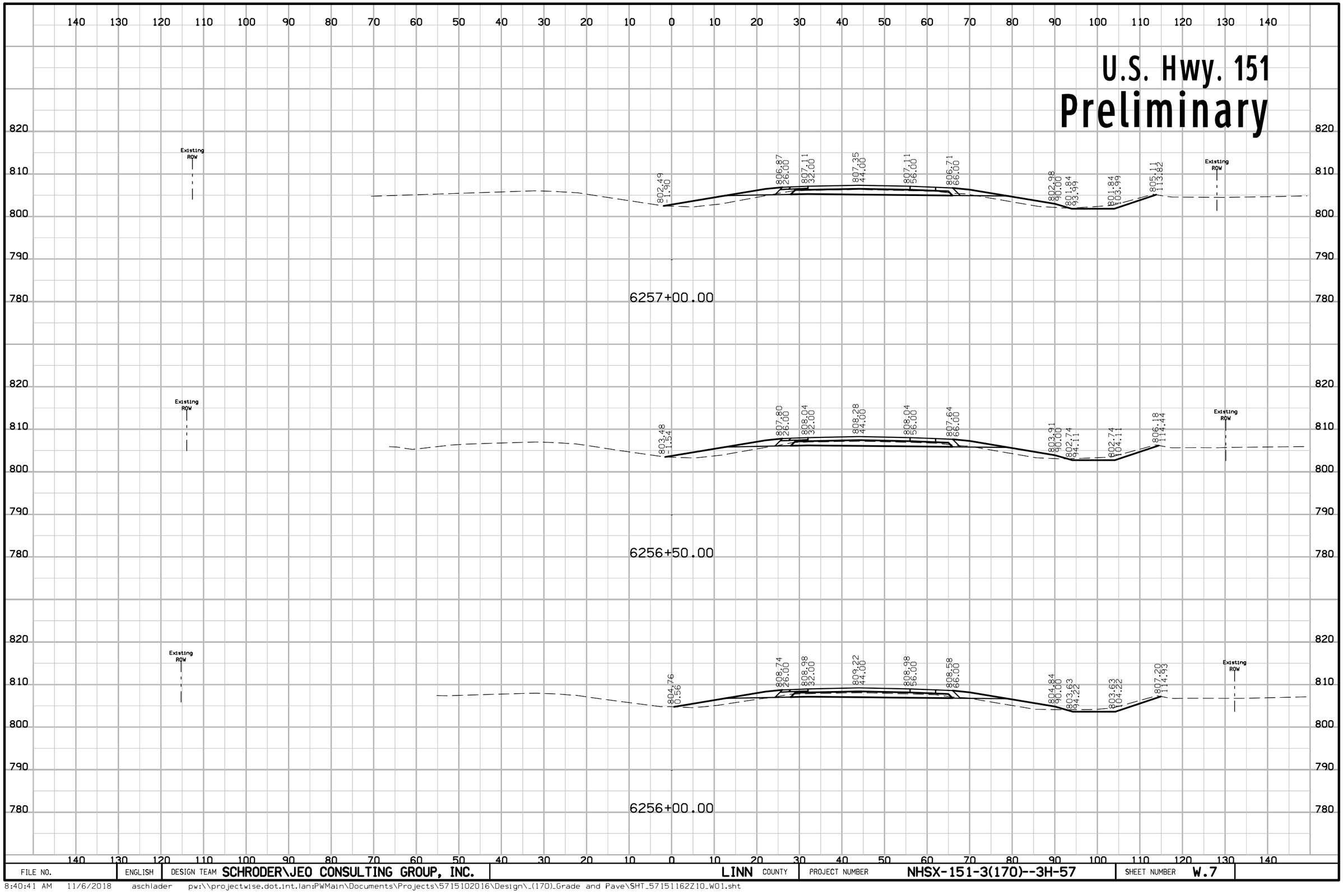
U.S. Hwy. 151
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM SCHRODER\JEO CONSULTING GROUP, INC.	LINN COUNTY	PROJECT NUMBER NHSX-151-3(170)--3H-57	SHEET NUMBER W.7

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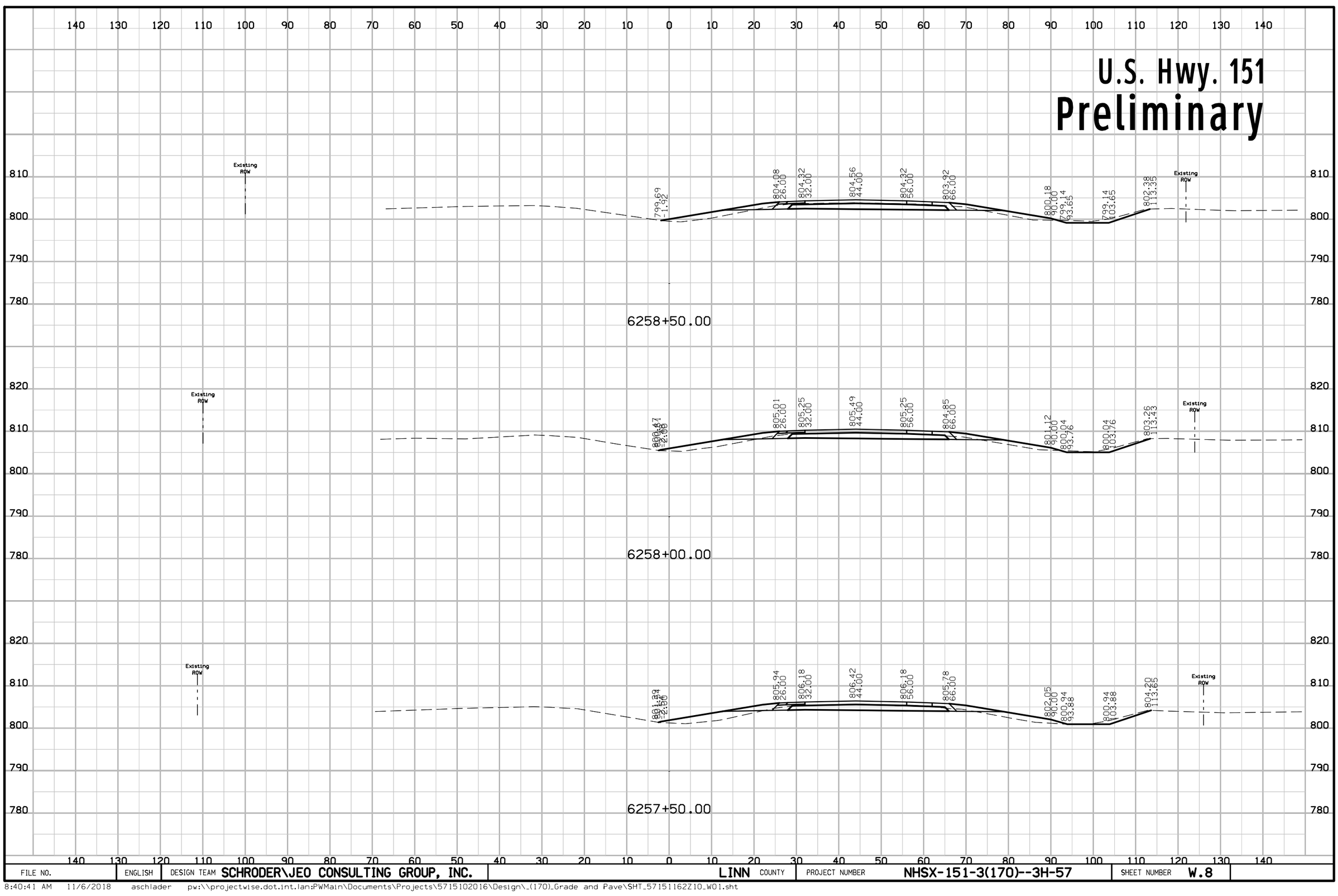
U.S. Hwy. 151
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM SCHRODER\JEO CONSULTING GROUP, INC.	LINN COUNTY	PROJECT NUMBER NHSX-151-3(170)--3H-57	SHEET NUMBER W.8

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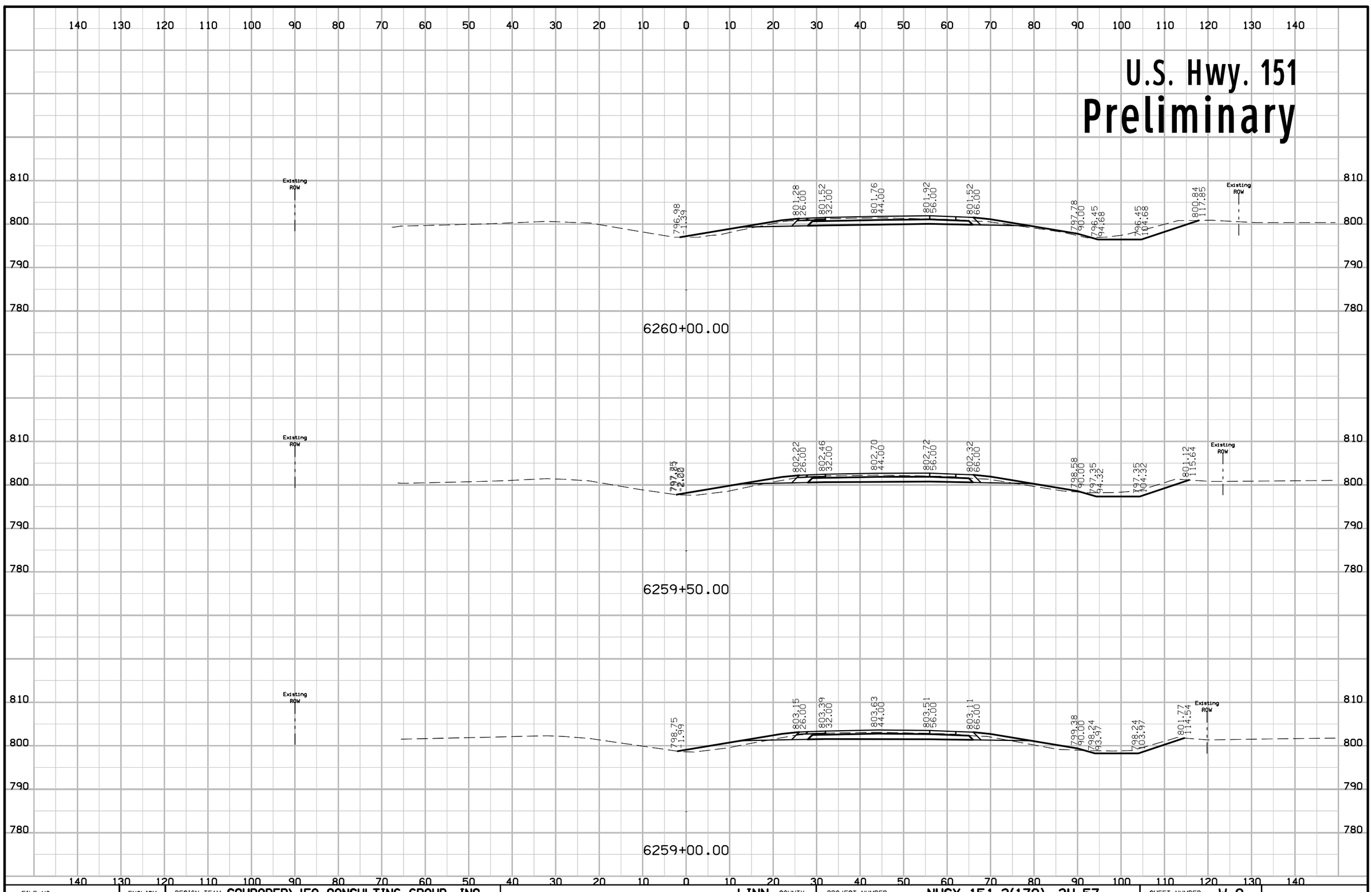
Preliminary



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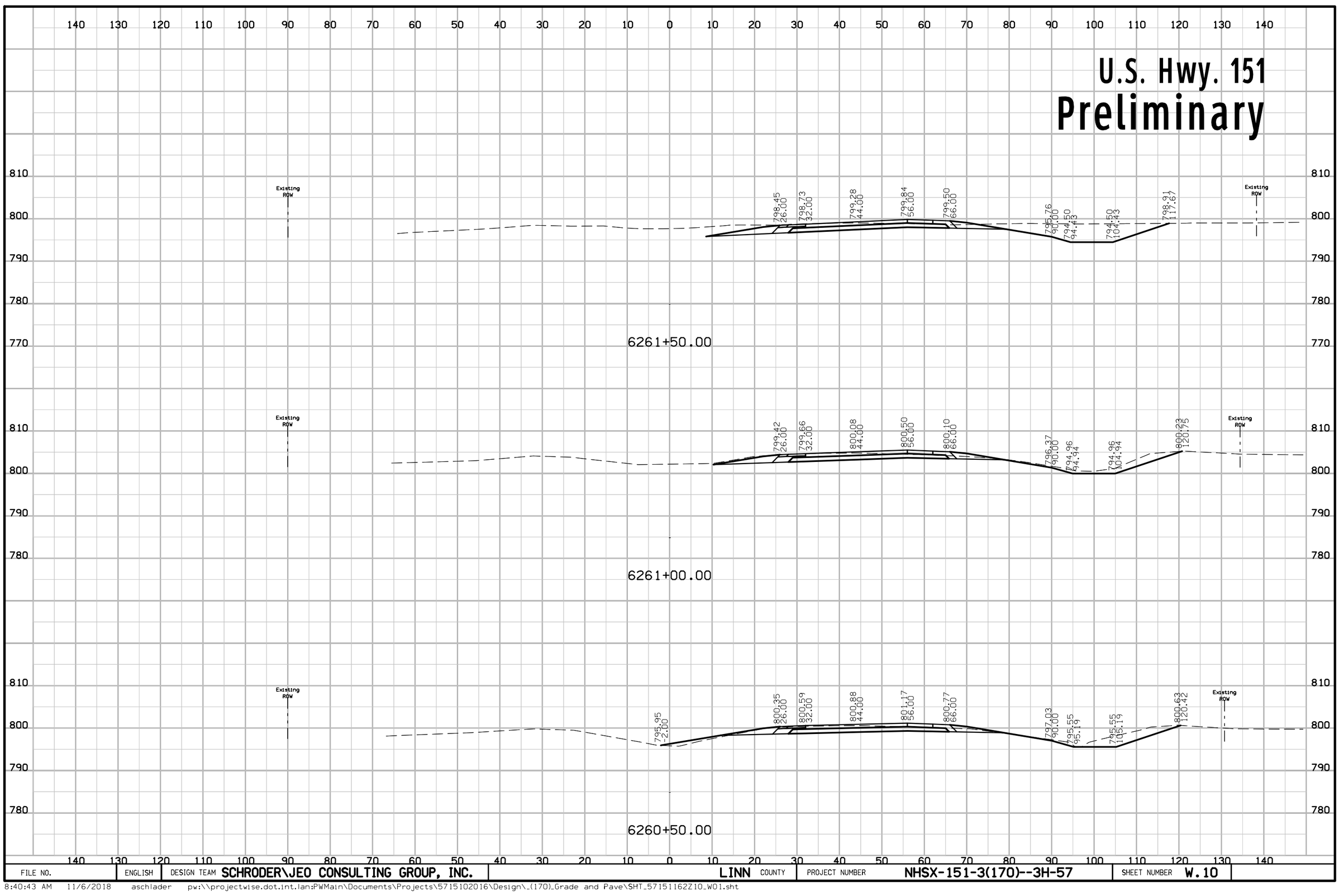

FILE NO.	ENGLISH	DESIGN TEAM SCHRODER\JEO CONSULTING GROUP, INC.	LINN COUNTY	PROJECT NUMBER NHSX-151-3(170)--3H-57	SHEET NUMBER W.10

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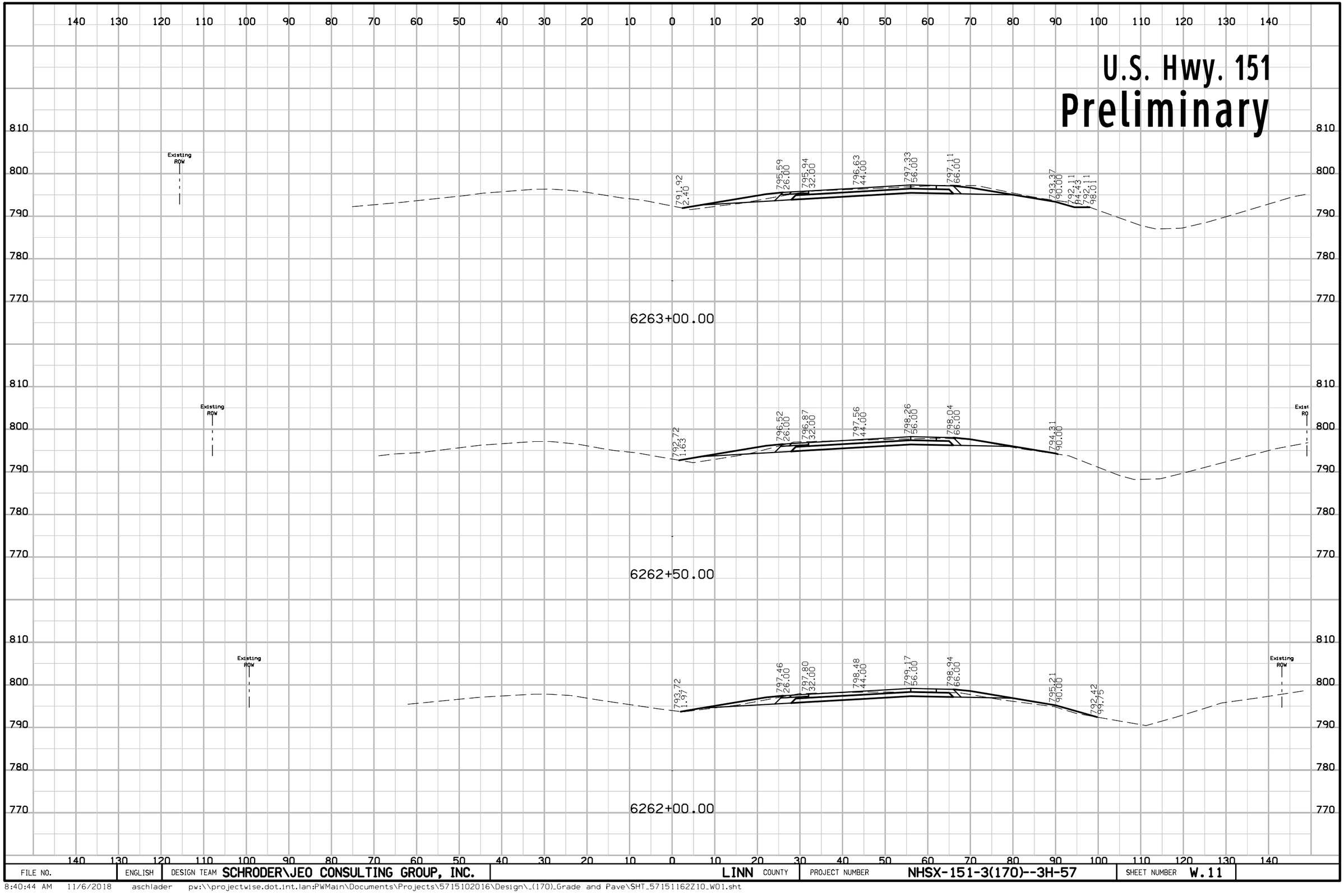
U.S. Hwy. 151

Preliminary



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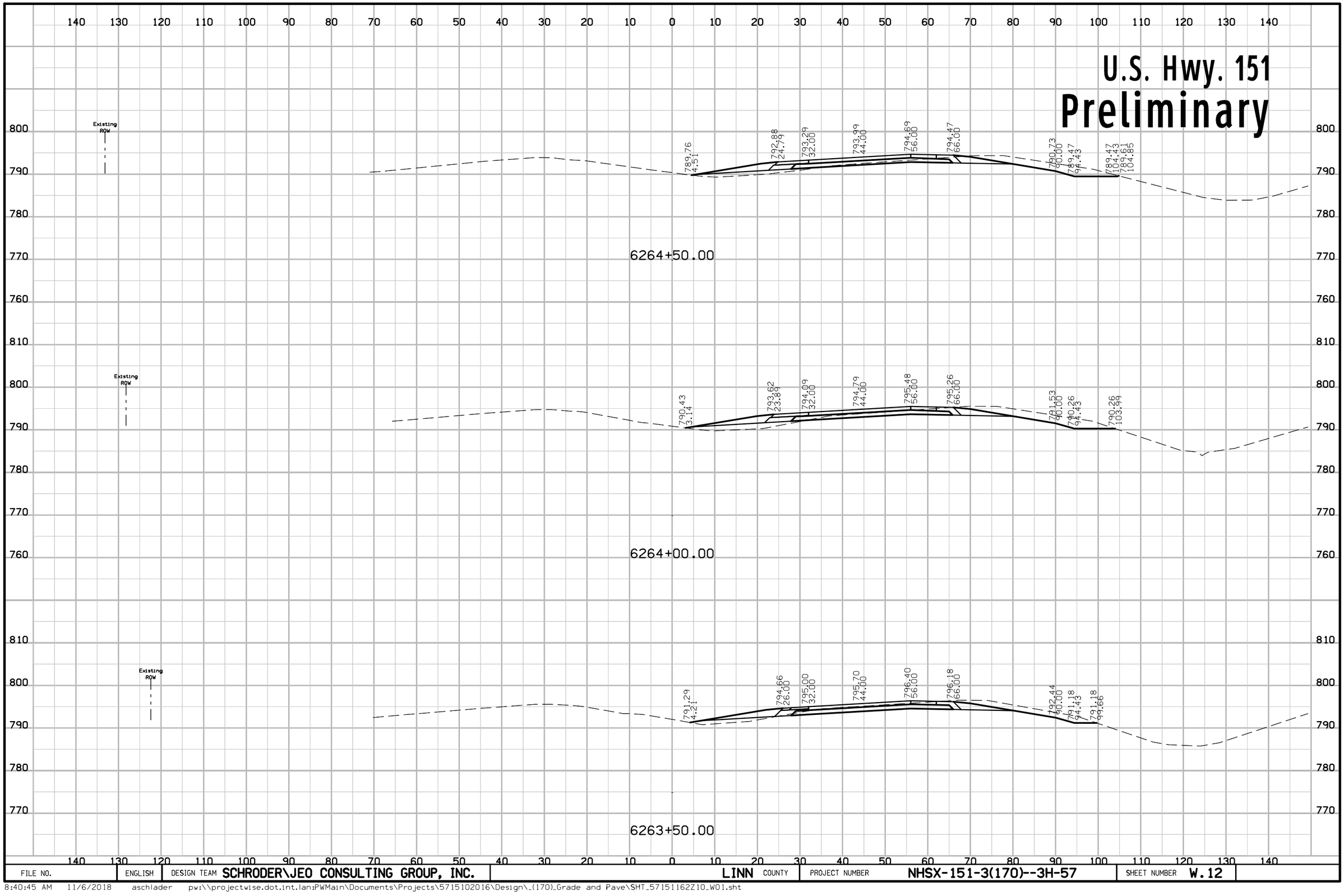
U.S. Hwy. 151
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM SCHRODER\JEO CONSULTING GROUP, INC.	LINN COUNTY	PROJECT NUMBER NHSX-151-3(170)--3H-57	SHEET NUMBER W.12

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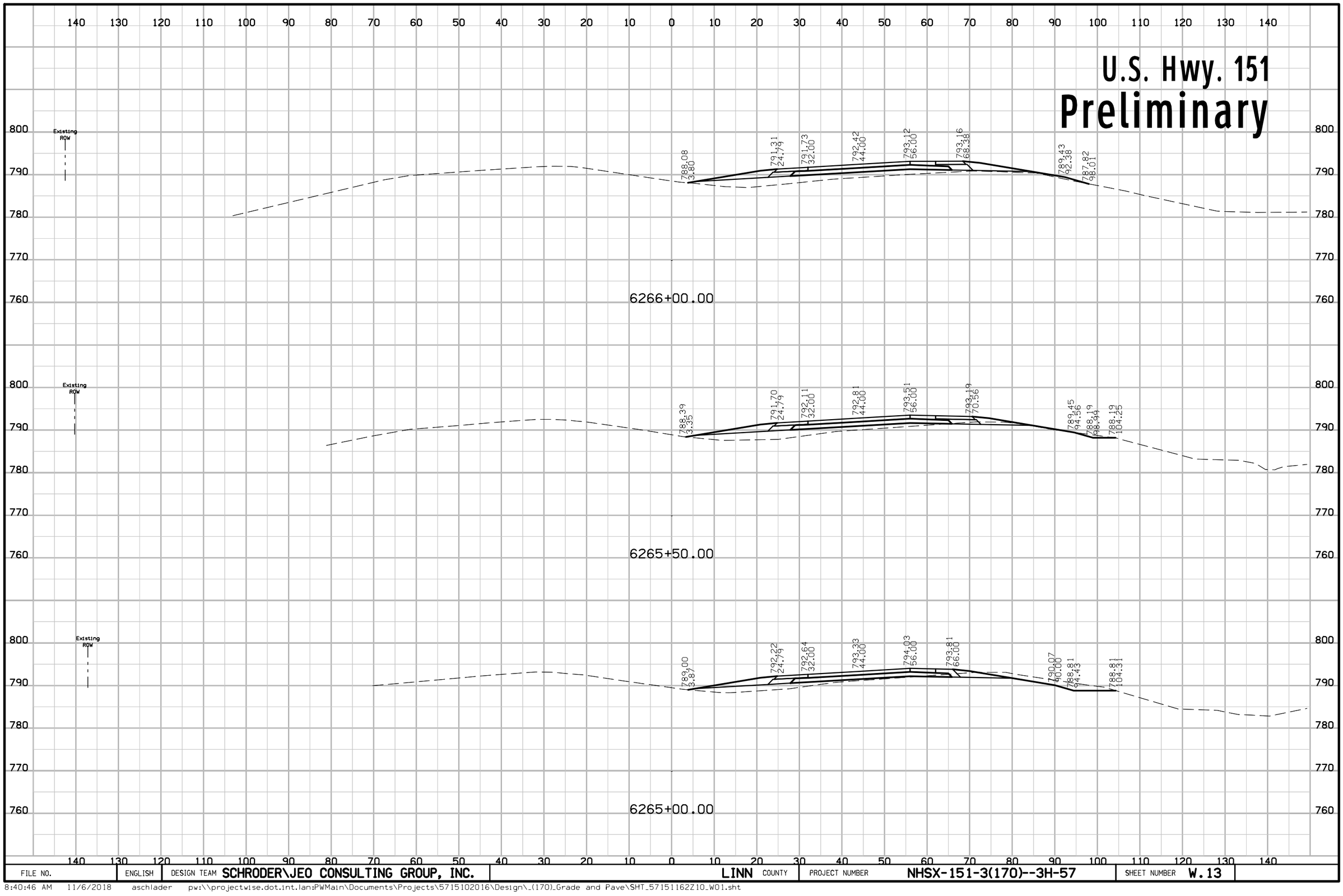
U.S. Hwy. 151
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM SCHRODER\JEO CONSULTING GROUP, INC.	LINN COUNTY	PROJECT NUMBER NHSX-151-3(170)--3H-57	SHEET NUMBER W.13

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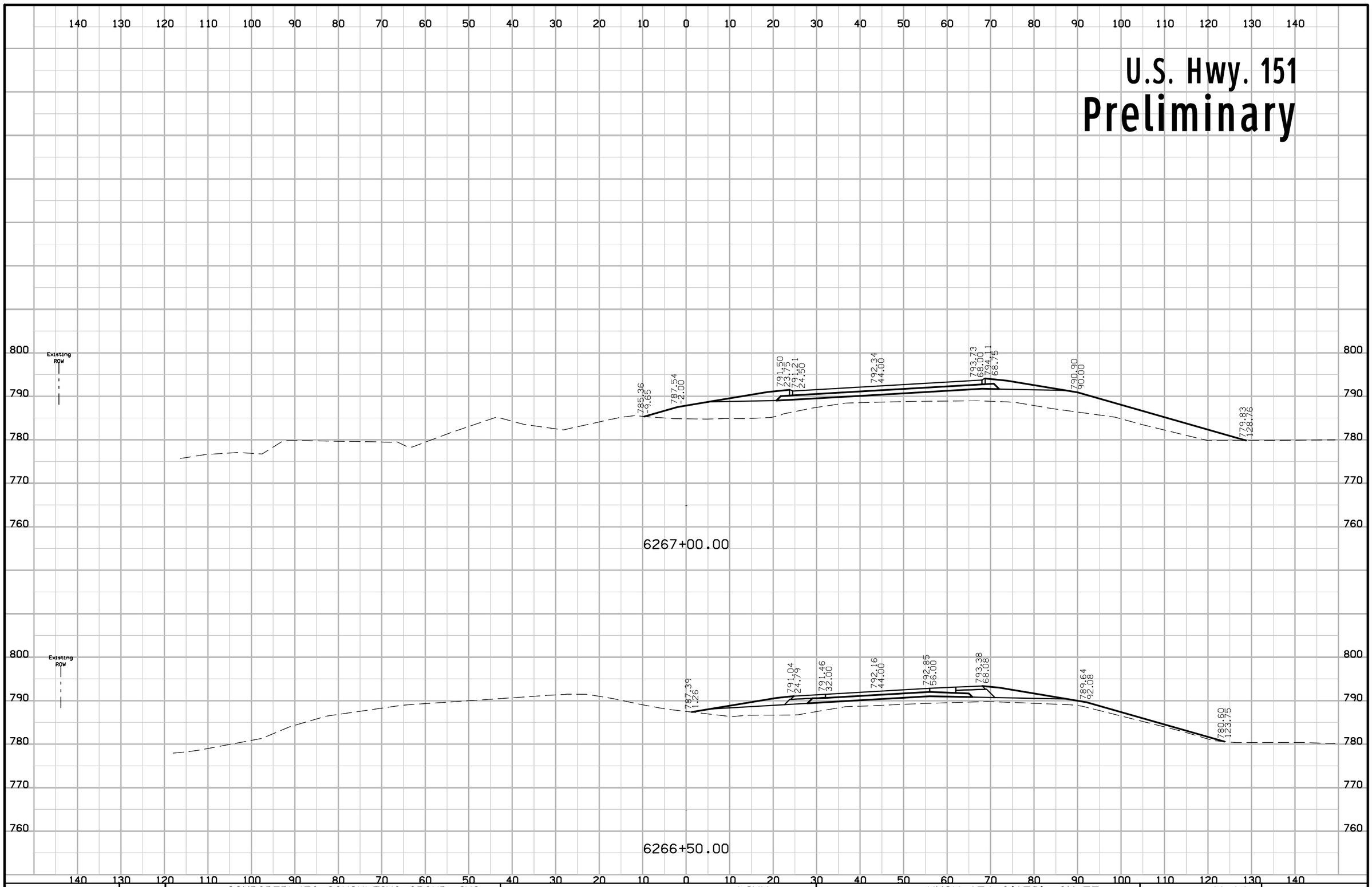
U.S. Hwy. 151
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM SCHRODER\JEO CONSULTING GROUP, INC.	LINN COUNTY	PROJECT NUMBER NHSX-151-3(170)--3H-57	SHEET NUMBER W.14

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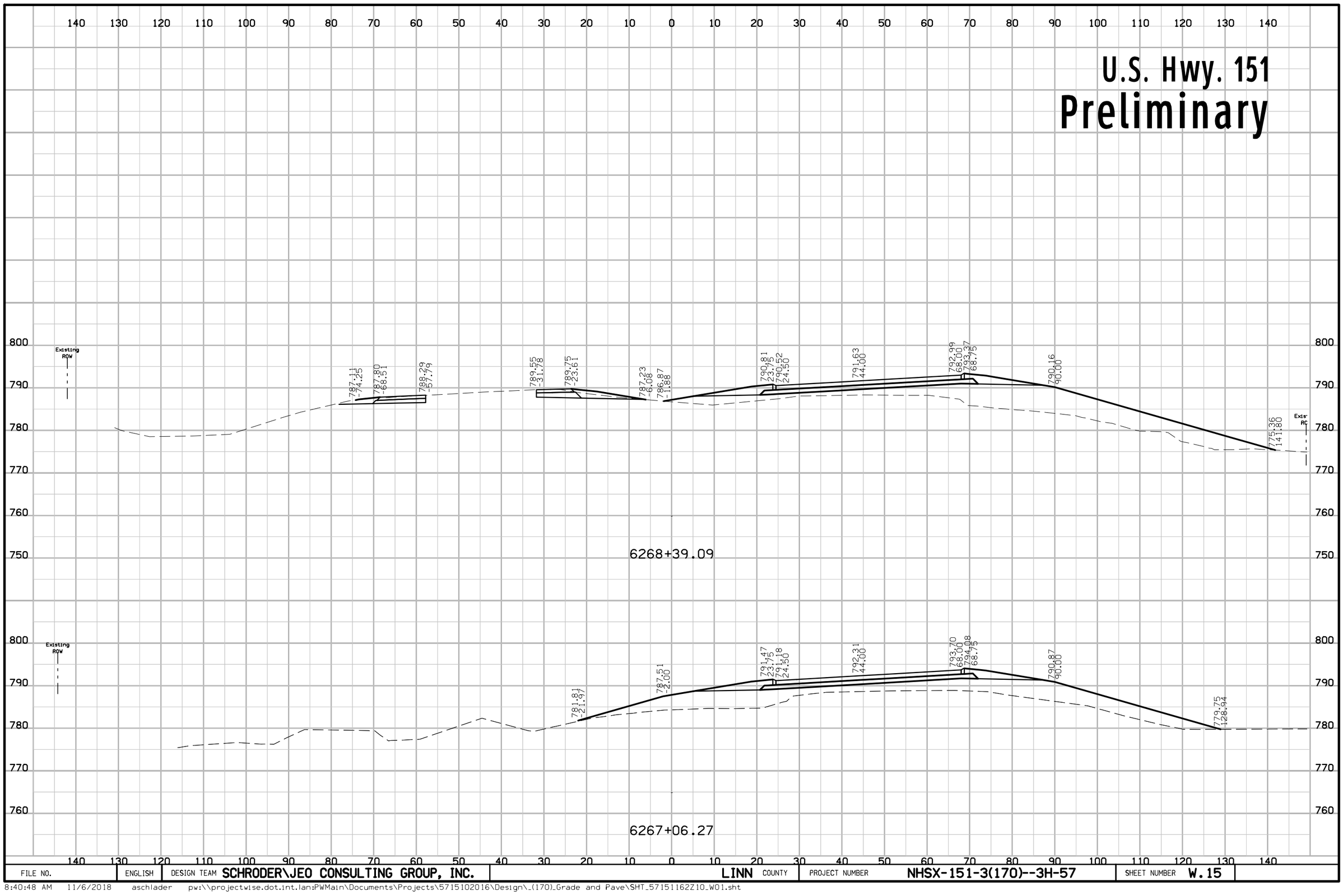
U.S. Hwy. 151
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM SCHRODER\JEO CONSULTING GROUP, INC.	LINN COUNTY	PROJECT NUMBER NHSX-151-3(170)--3H-57	SHEET NUMBER W.15

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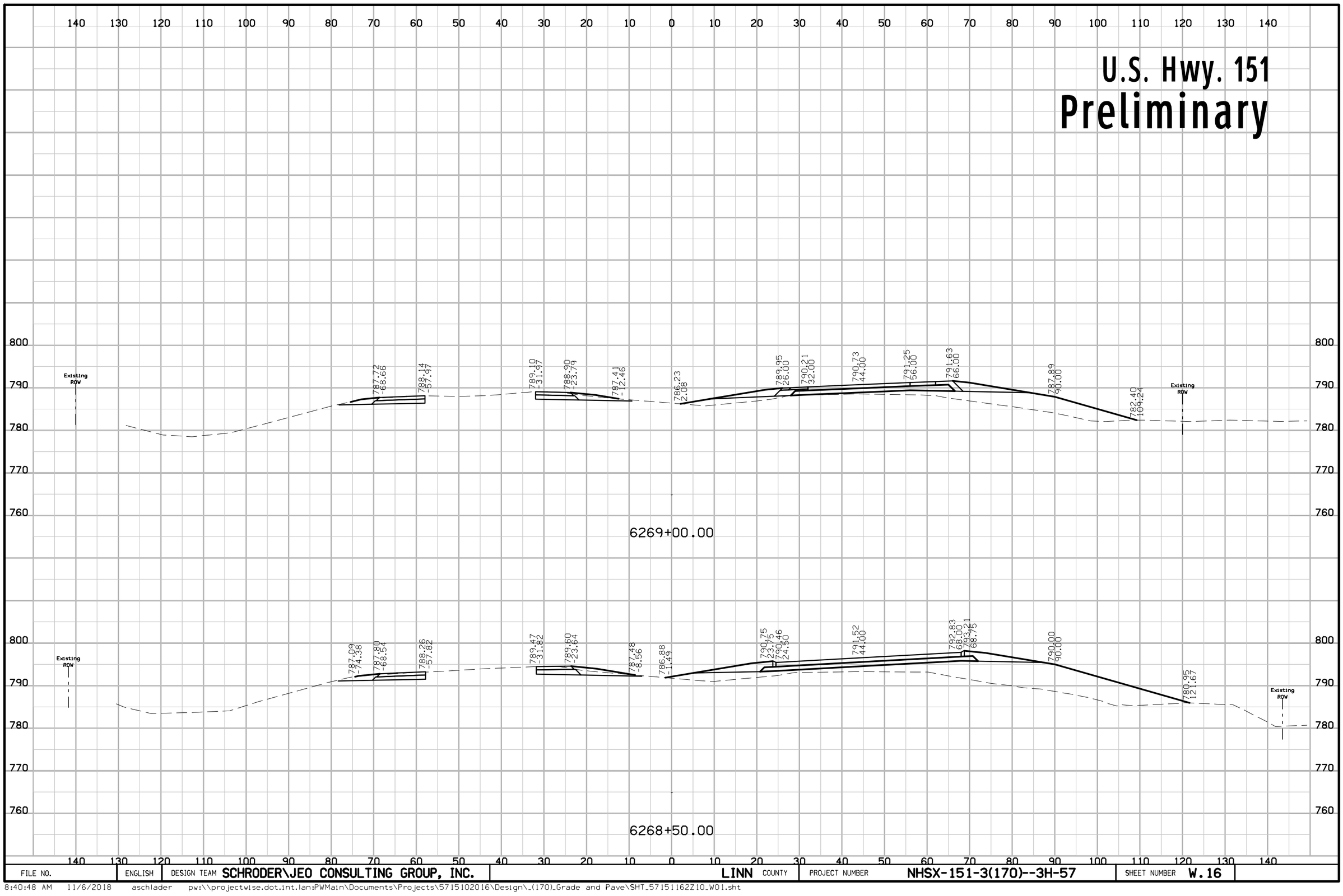
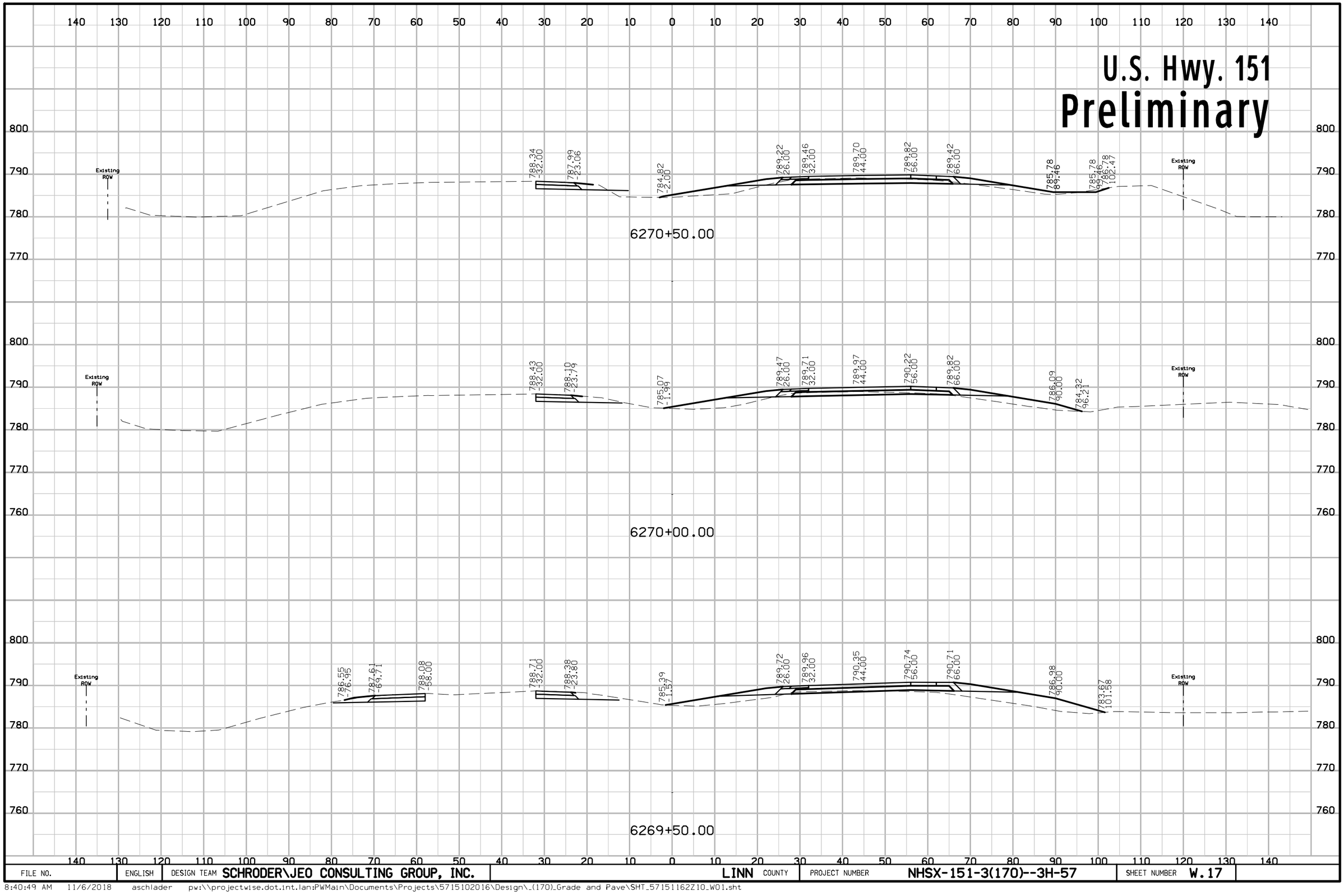
U.S. Hwy. 151
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM SCHRODER\JEO CONSULTING GROUP, INC.	LINN COUNTY	PROJECT NUMBER NHSX-151-3(170)--3H-57	SHEET NUMBER W.16

8:40:48 AM 11/6/2018 aschlader pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5715102016\Design_(170)_Grade and Pave\SHT_57151162Z10_W01.sht

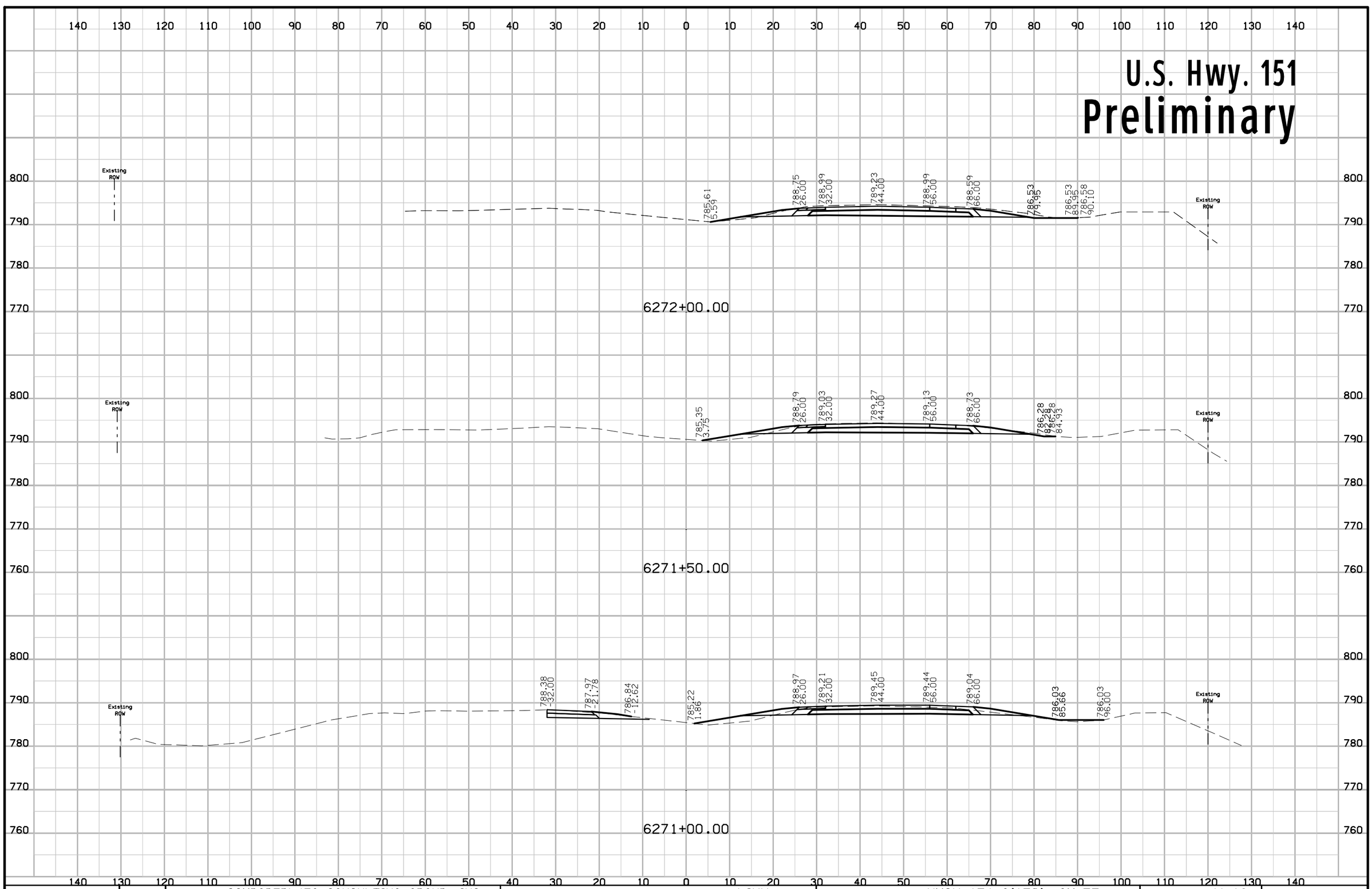
U.S. Hwy. 151
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM SCHRODER\JEO CONSULTING GROUP, INC.	LINN COUNTY	PROJECT NUMBER NHSX-151-3(170)--3H-57	SHEET NUMBER W.17

8:40:49 AM 11/6/2018 aschlader pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5715102016\Design_(170)_Grade and Pave\SHT_57151162Z10_W01.sht

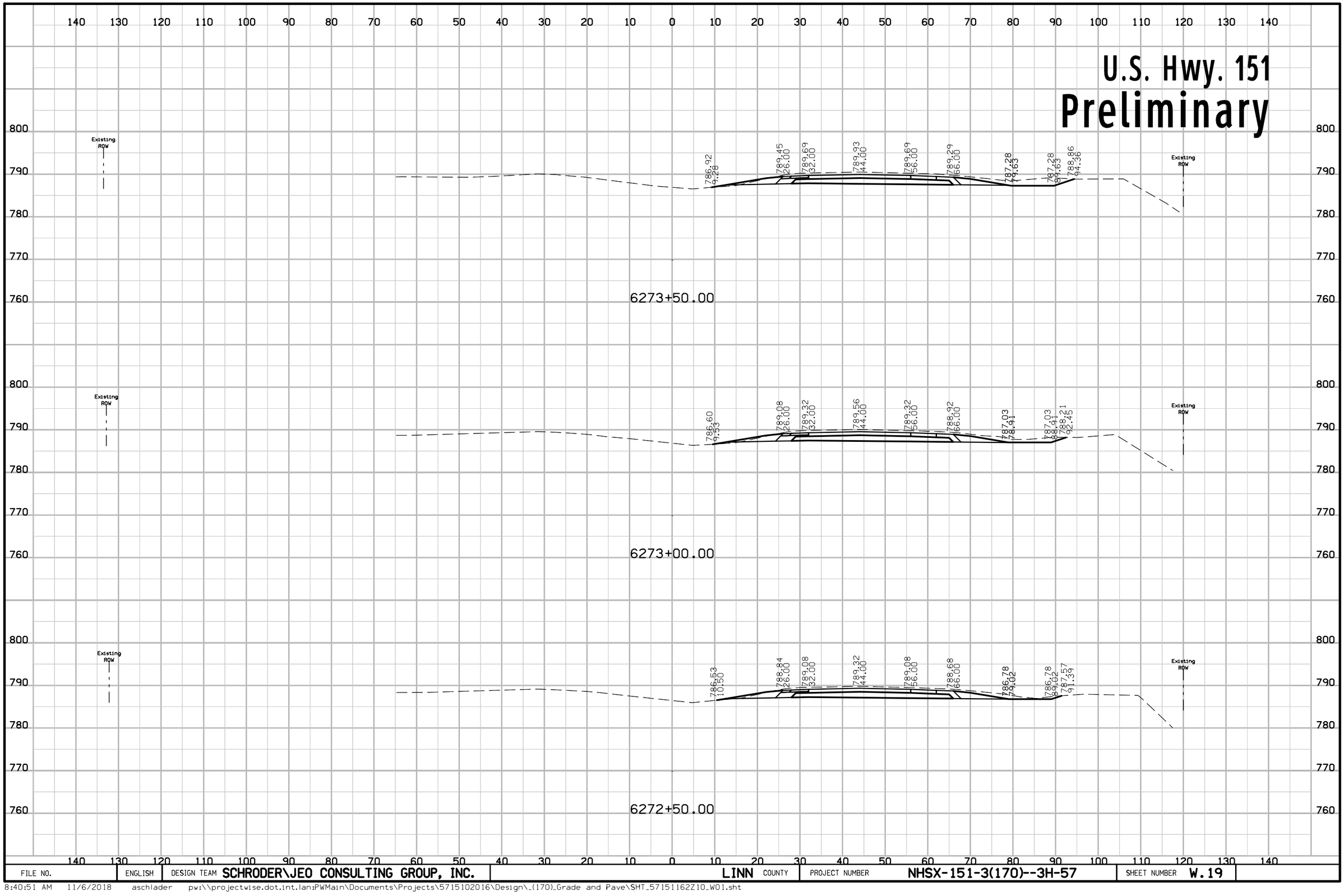
U.S. Hwy. 151
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM SCHRODER\JEO CONSULTING GROUP, INC.	LINN COUNTY	PROJECT NUMBER NHSX-151-3(170)--3H-57	SHEET NUMBER W.18

8:40:50 AM 11/6/2018 aschlader pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5715102016\Design_(170)_Grade and Pave\SHT_57151162Z10_W01.sht

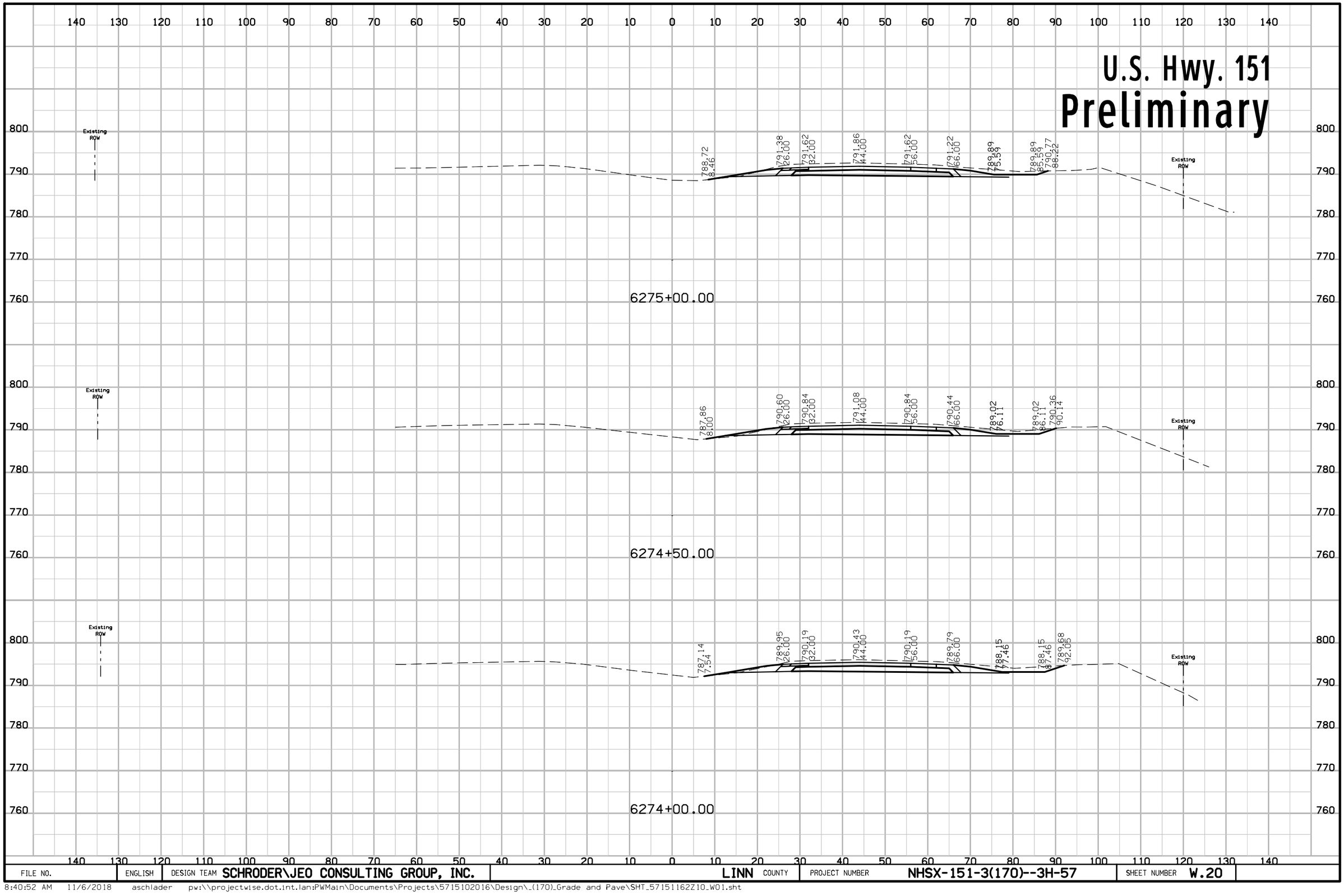
U.S. Hwy. 151
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM SCHRODER\JEO CONSULTING GROUP, INC.	LINN COUNTY	PROJECT NUMBER NHSX-151-3(170)--3H-57	SHEET NUMBER W.19

8:40:51 AM 11/6/2018 aschlader pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5715102016\Design_(170)_Grade and Pave\SHT_57151162Z10_W01.sht

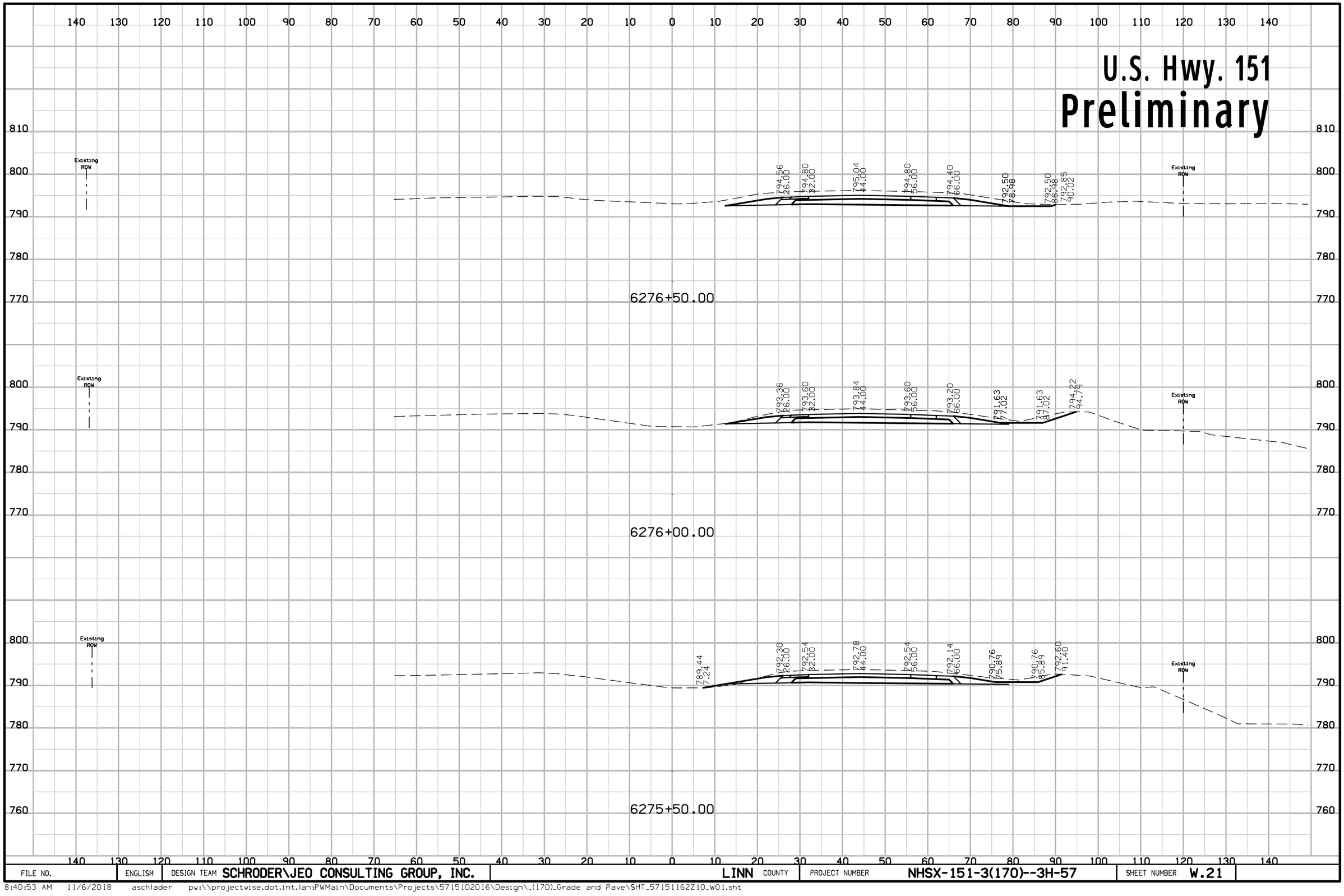
U.S. Hwy. 151
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM SCHRODER\JEO CONSULTING GROUP, INC.	LINN COUNTY	PROJECT NUMBER NHSX-151-3(170)--3H-57	SHEET NUMBER W.20

8:40:52 AM 11/6/2018 aschlader pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5715102016\Design_(170)_Grade and Pave\SHT_57151162Z10_W01.sht

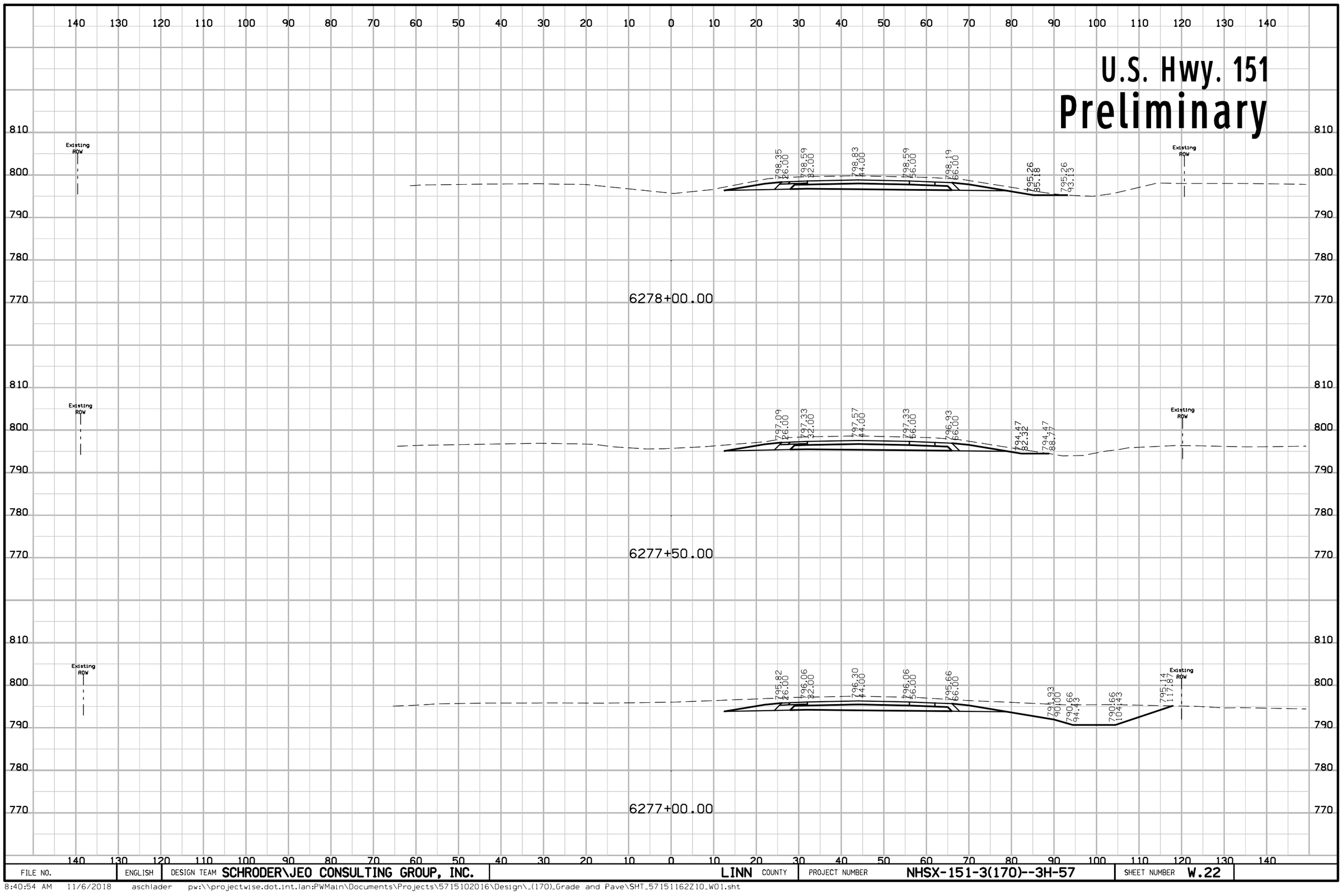
U.S. Hwy. 151
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM SCHRODER\JEO CONSULTING GROUP, INC.	LINN COUNTY	PROJECT NUMBER NHSX-151-3(170)--3H-57	SHEET NUMBER W.21

8:40:53 AM 11/6/2018 aschlader pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5715102016\Design_(170)_Grade and Pave\SHT_57151162Z10_W01.sht

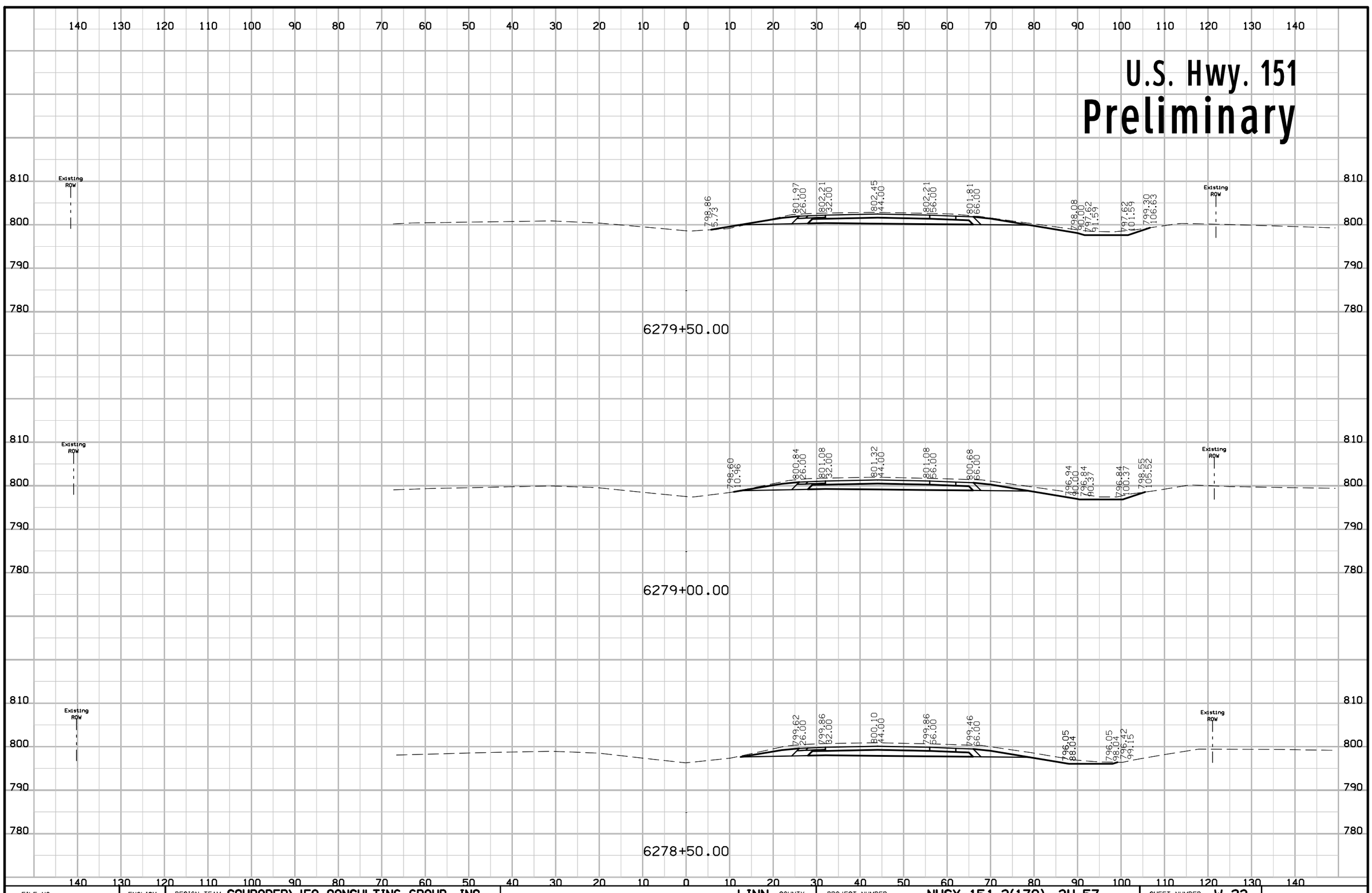
U.S. Hwy. 151
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM SCHRODER\JEO CONSULTING GROUP, INC.	LINN COUNTY	PROJECT NUMBER NHSX-151-3(170)--3H-57	SHEET NUMBER W.22

8:40:54 AM 11/6/2018 aschlader pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5715102016\Design_(170)_Grade and Pave\SHT_57151162Z10_W01.sht

U.S. Hwy. 151
Preliminary

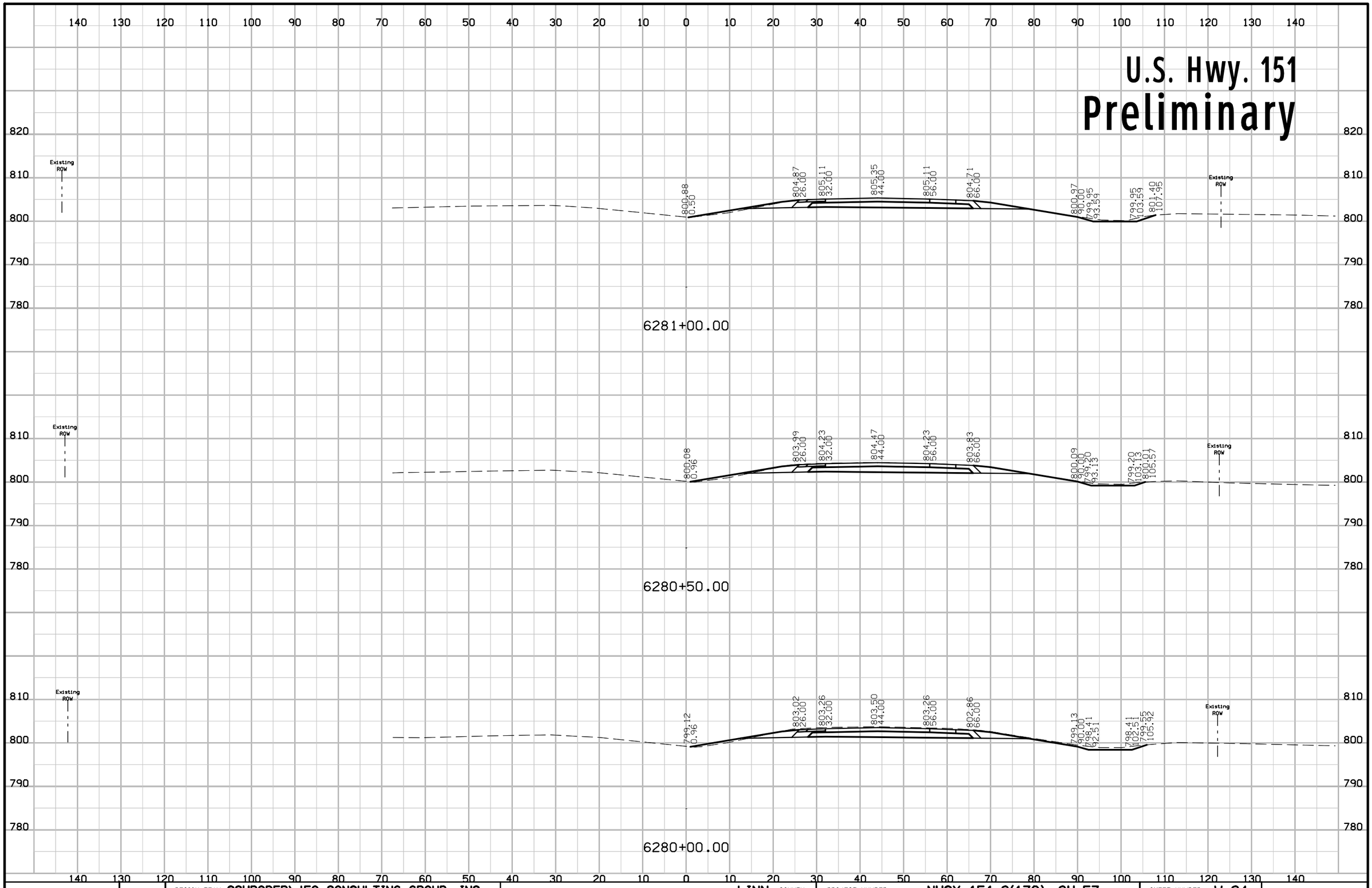


FILE NO.	ENGLISH	DESIGN TEAM SCHRODER\JEO CONSULTING GROUP, INC.	LINN COUNTY	PROJECT NUMBER NHSX-151-3(170)--3H-57	SHEET NUMBER W.23

8:40:55 AM 11/6/2018 aschlader pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5715102016\Design_(170)_Grade and Pave\SHT_57151162Z10_W01.sht

U.S. Hwy. 151

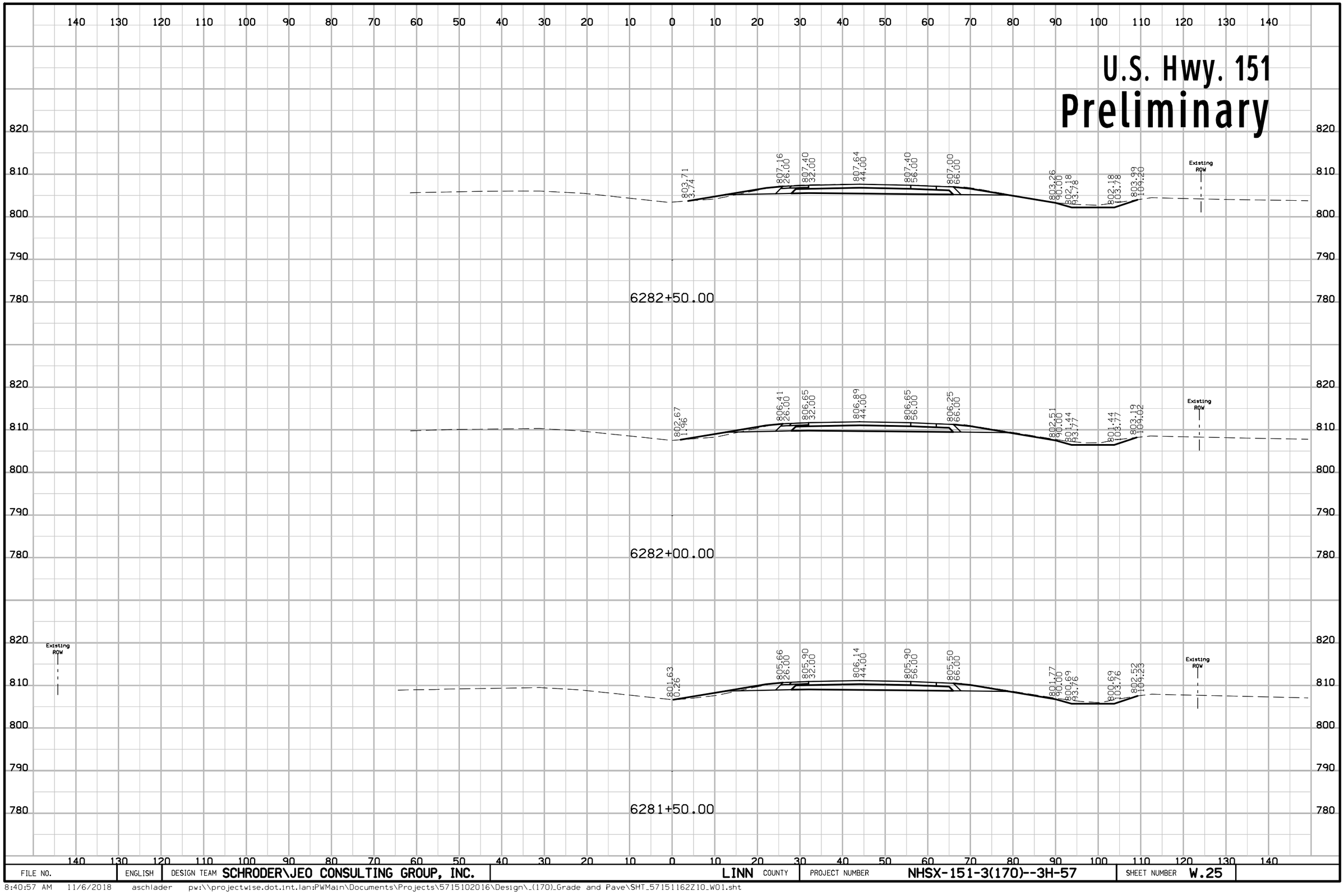
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM SCHRODER\JEO CONSULTING GROUP, INC.	LINN COUNTY	PROJECT NUMBER NHSX-151-3(170)--3H-57	SHEET NUMBER W.24

8:40:56 AM 11/6/2018 aschlader pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5715102016\Design_(170)_Grade and Pave\SHT_57151162Z10_W01.sht

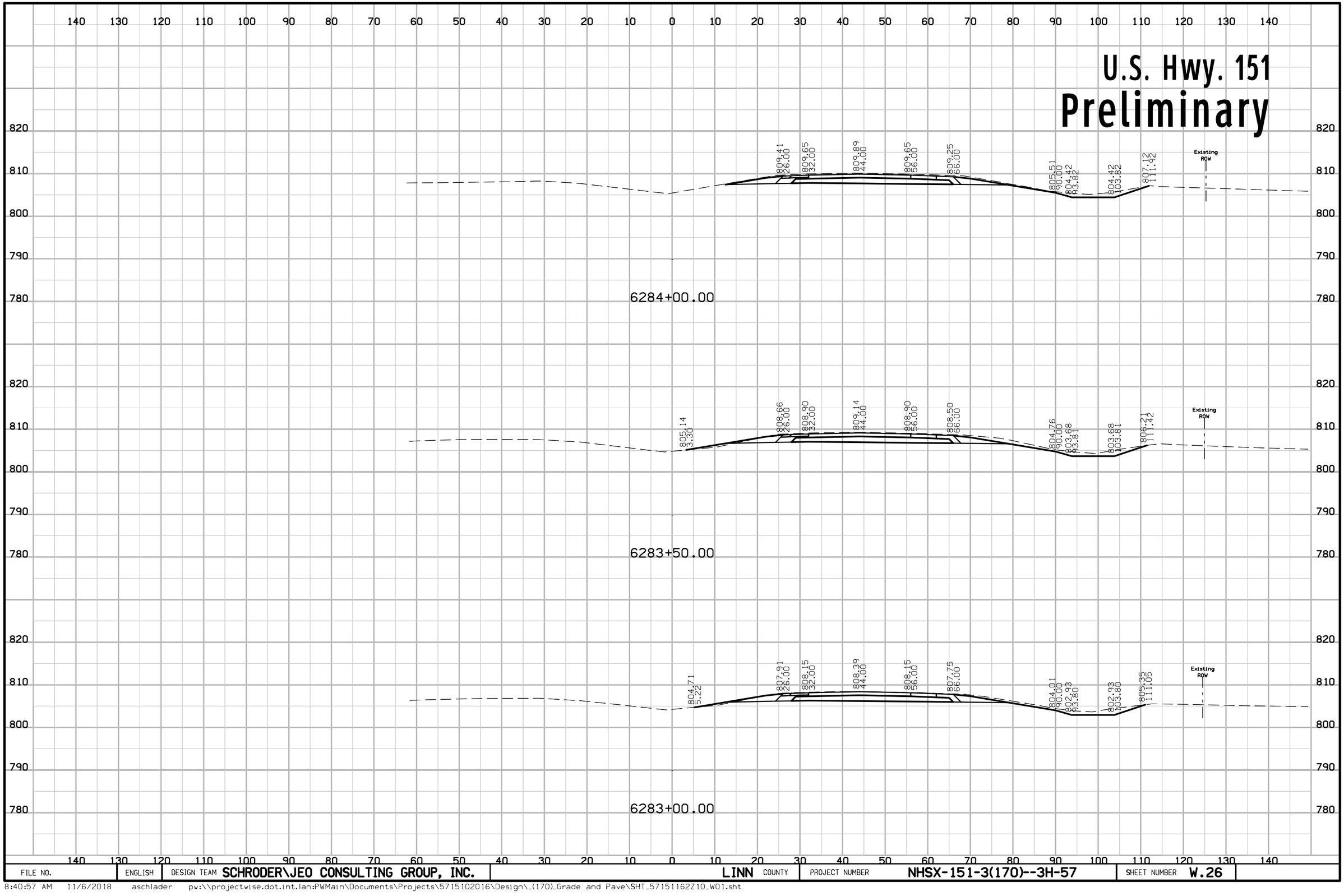
U.S. Hwy. 151
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM SCHRODER\JEO CONSULTING GROUP, INC.	LINN COUNTY	PROJECT NUMBER NHSX-151-3(170)--3H-57	SHEET NUMBER W.25

8:40:57 AM 11/6/2018 aschlader pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5715102016\Design_(170)_Grade and Pave\SHT_57151162Z10_W01.sht

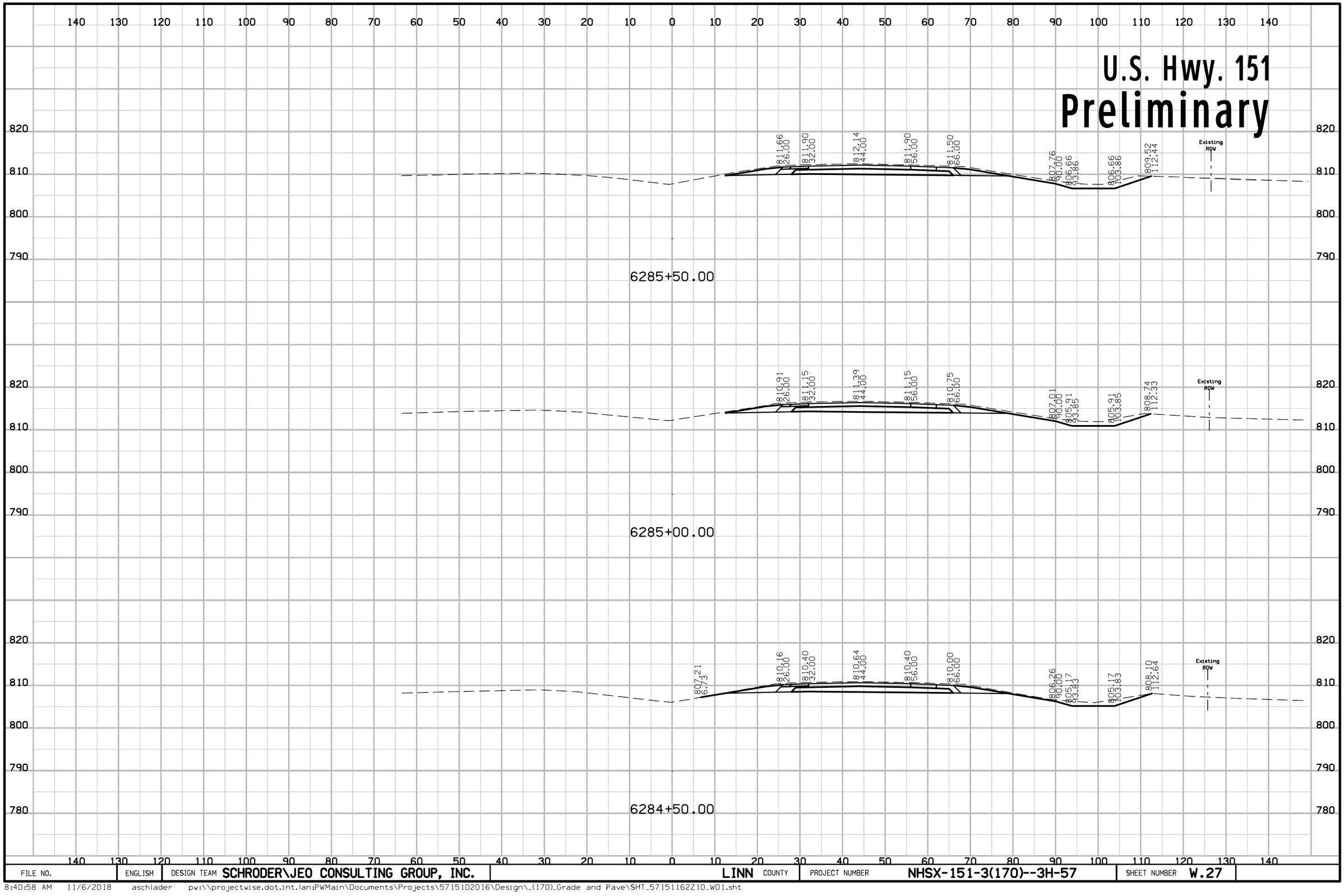
U.S. Hwy. 151
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM SCHRODER\JEO CONSULTING GROUP, INC.	LINN COUNTY	PROJECT NUMBER NHSX-151-3(170)--3H-57	SHEET NUMBER W.26

8:40:57 AM 11/6/2018 aschlader pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5715102016\Design_(170)_Grade and Pave\SHT_57151162Z10_W01.sht

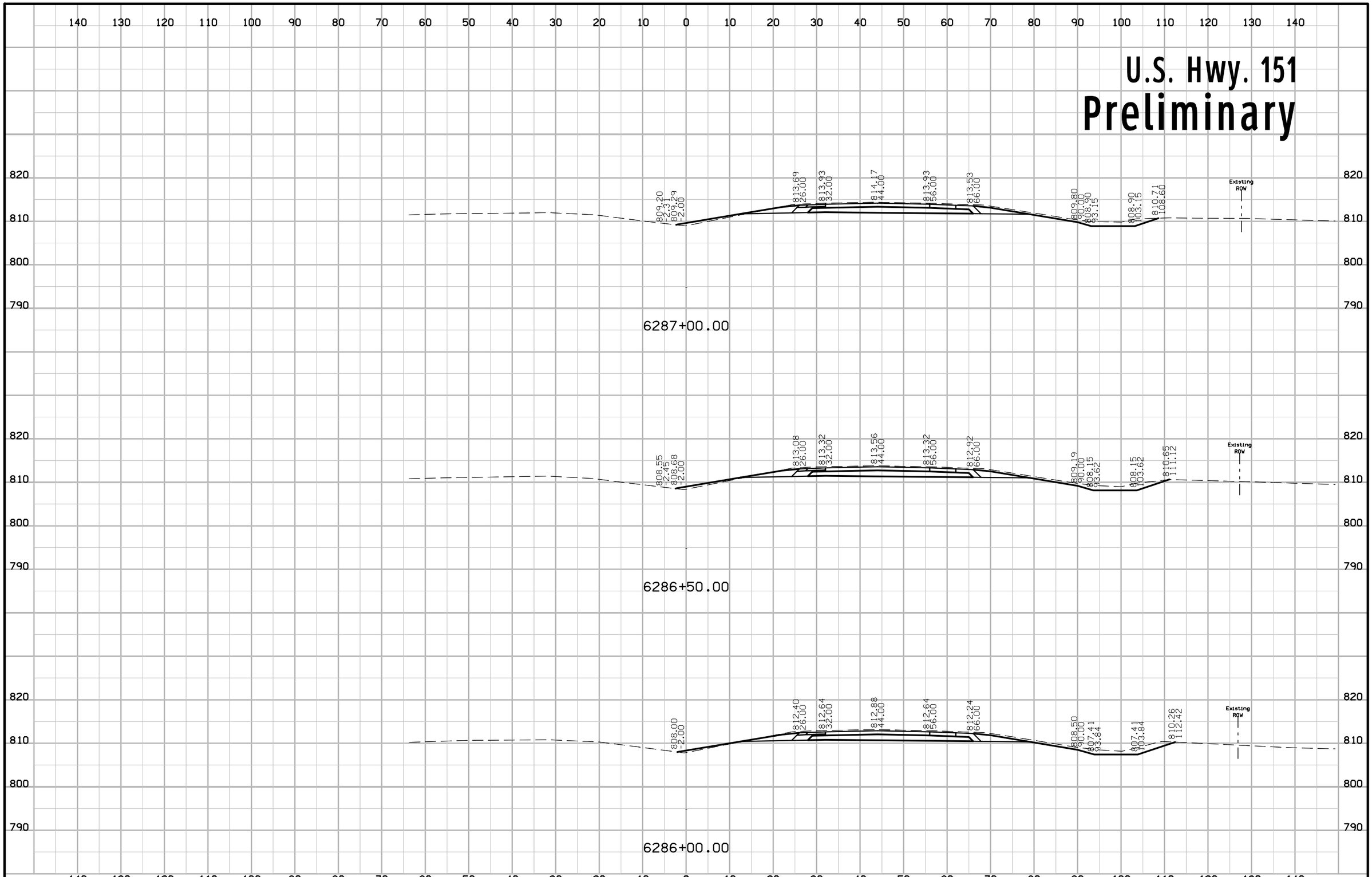
U.S. Hwy. 151
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM SCHRODER\JEO CONSULTING GROUP, INC.	LINN COUNTY	PROJECT NUMBER NHSX-151-3(170)--3H-57	SHEET NUMBER W.27

8:40:58 AM 11/6/2018 aschlader pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5715102016\Design_(170)_Grade and Pave\SHT_57151162Z10_W01.sht

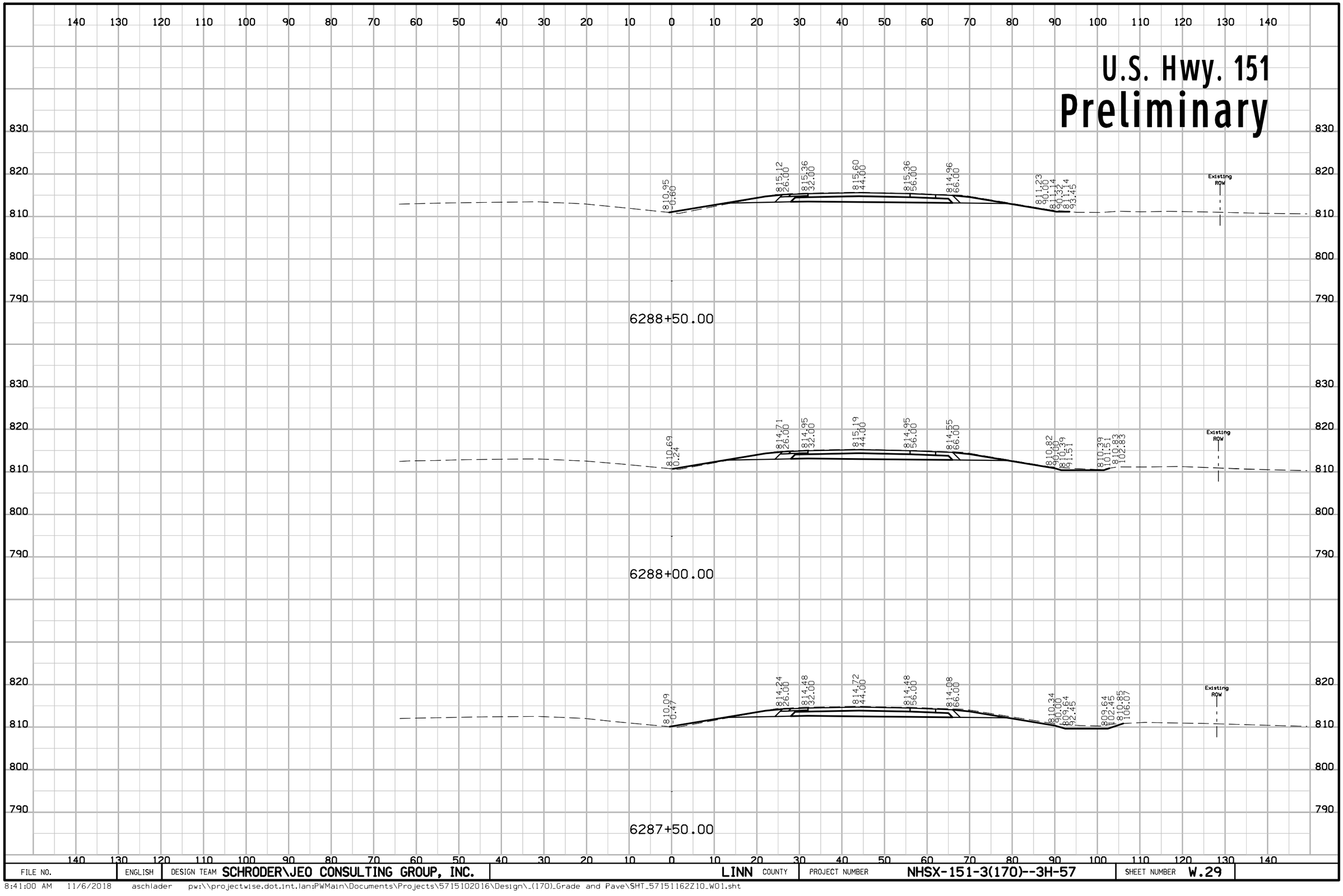
U.S. Hwy. 151
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM SCHRODER\JEO CONSULTING GROUP, INC.	LINN COUNTY	PROJECT NUMBER NHSX-151-3(170)--3H-57	SHEET NUMBER W.28

8:40:59 AM 11/6/2018 aschlader pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5715102016\Design_(170)_Grade and Pave\SHT_57151162Z10_W01.sht

U.S. Hwy. 151
Preliminary

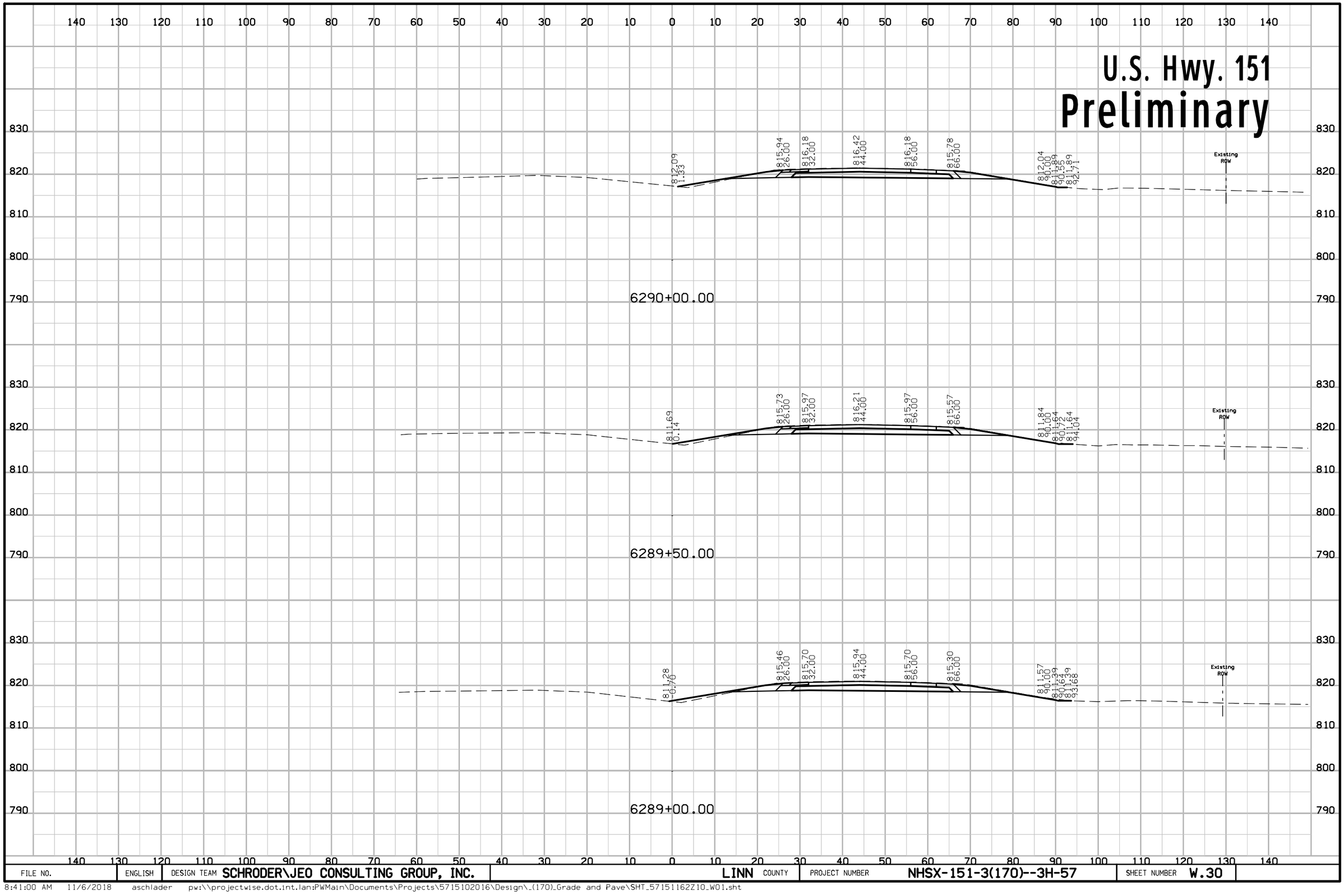


FILE NO.	ENGLISH	DESIGN TEAM SCHRODER\JEO CONSULTING GROUP, INC.	LINN COUNTY	PROJECT NUMBER NHSX-151-3(170)--3H-57	SHEET NUMBER W.29

8:41:00 AM 11/6/2018 aschlader pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5715102016\Design_(170)_Grade and Pave\SHT_57151162Z10_W01.sht

U.S. Hwy. 151

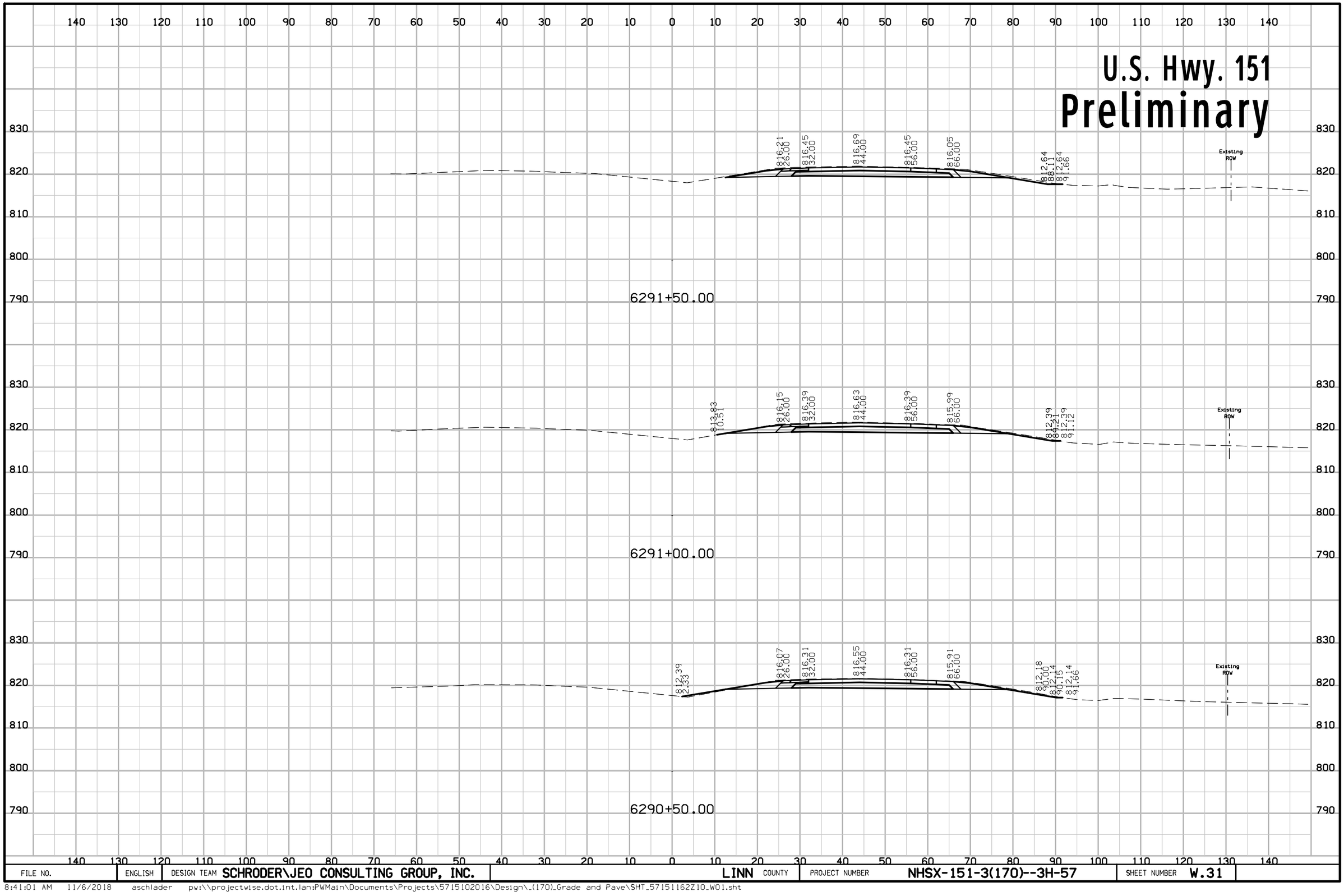
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM SCHRODER\JEO CONSULTING GROUP, INC.	LINN COUNTY	PROJECT NUMBER NHSX-151-3(170)--3H-57	SHEET NUMBER W.30

8:41:00 AM 11/6/2018 aschlader pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5715102016\Design_(170)_Grade and Pave\SHT_57151162Z10_W01.sht

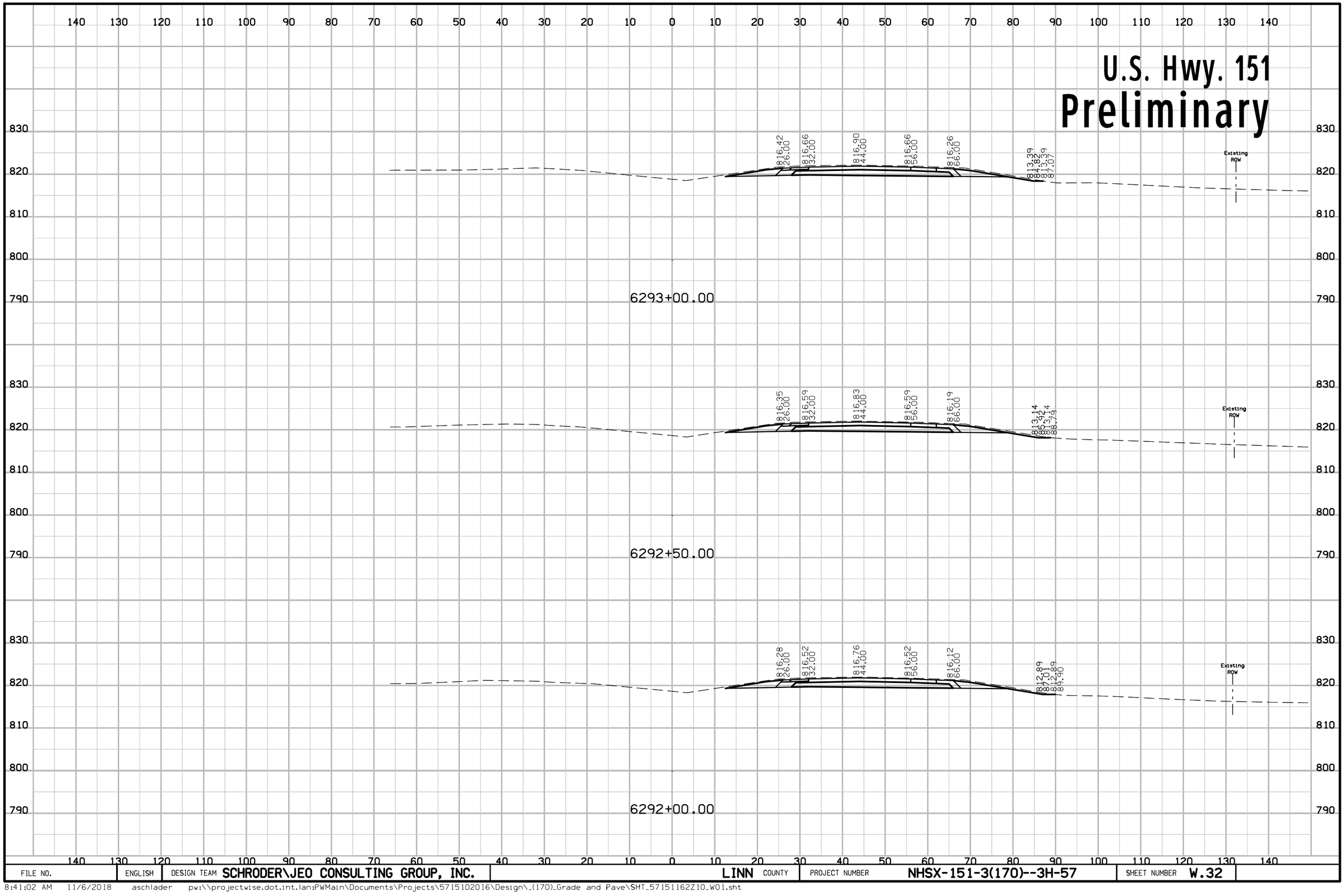
U.S. Hwy. 151
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM SCHRODER\JEO CONSULTING GROUP, INC.	LINN COUNTY	PROJECT NUMBER NHSX-151-3(170)--3H-57	SHEET NUMBER W.31

8:41:01 AM 11/6/2018 aschlader pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5715102016\Design_(170)_Grade and Pave\SHT_57151162Z10_W01.sht

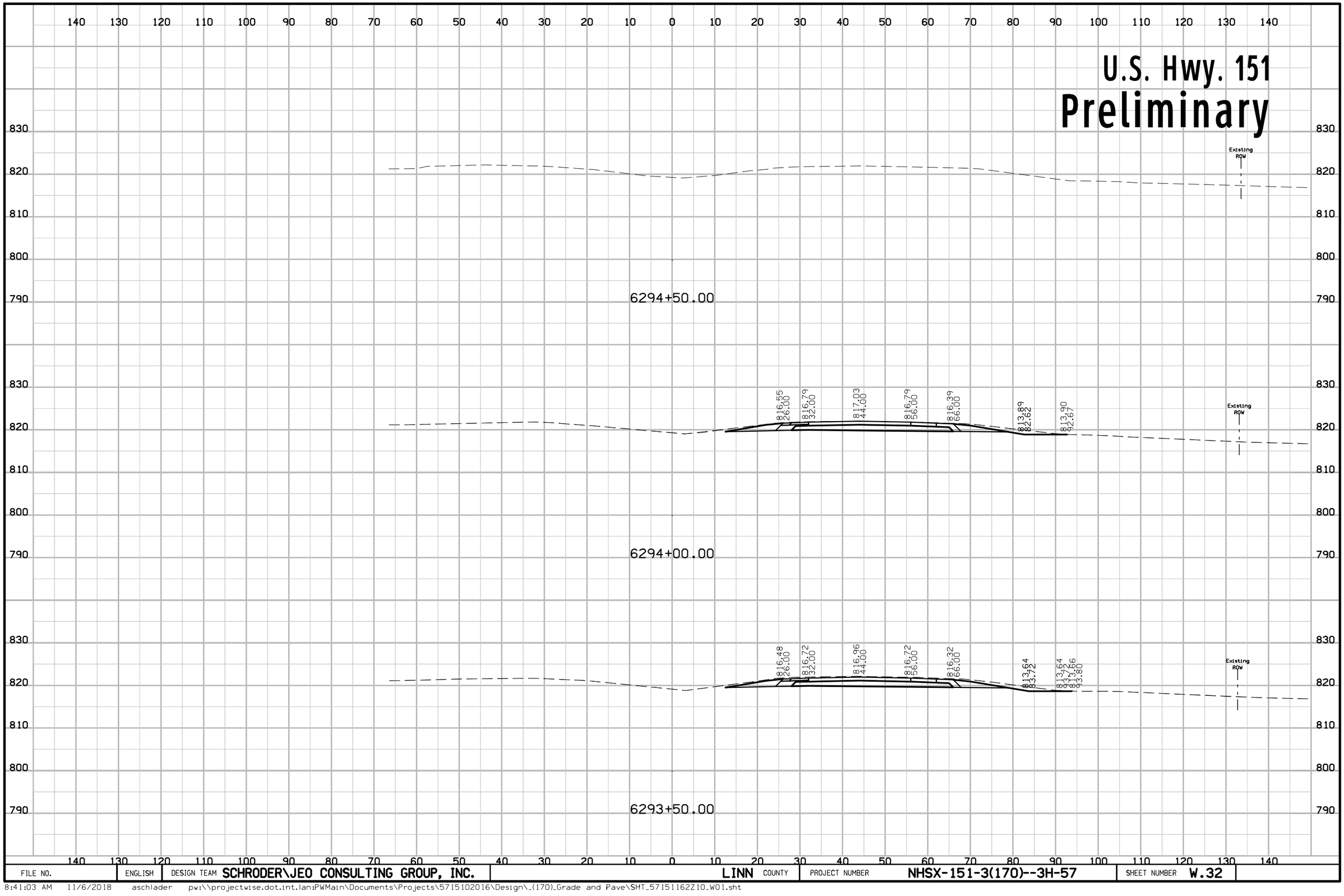
U.S. Hwy. 151
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM SCHRODER\JEO CONSULTING GROUP, INC.	LINN COUNTY	PROJECT NUMBER NHSX-151-3(170)--3H-57	SHEET NUMBER W.32

8:41:02 AM 11/6/2018 aschlader pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5715102016\Design_(170)_Grade and Pave\SHT_57151162Z10_W01.sht

U.S. Hwy. 151
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM SCHRODER\JEO CONSULTING GROUP, INC.	LINN COUNTY	PROJECT NUMBER NHSX-151-3(170)--3H-57	SHEET NUMBER W.32

8:41:03 AM 11/6/2018 aschlader pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5715102016\Design_(170)_Grade and Pave\SHT_57151162Z10_W01.sht