

# CITY OF BLOOMINGTON



## CASCADES TRAIL PHASE 1

### CLUBHOUSE DRIVE TO STONE MILL ROAD INCLUDING CONNECTIONS TO: CASCADES SOFTBALL FIELDS, OLD SR 37/WALNUT STREET AND BRIDGE OVER GRIFFY CREEK



CITY OF BLOOMINGTON

HON. MARK KRUZAN, MAYOR

#### BOARD OF PARK COMMISSIONERS

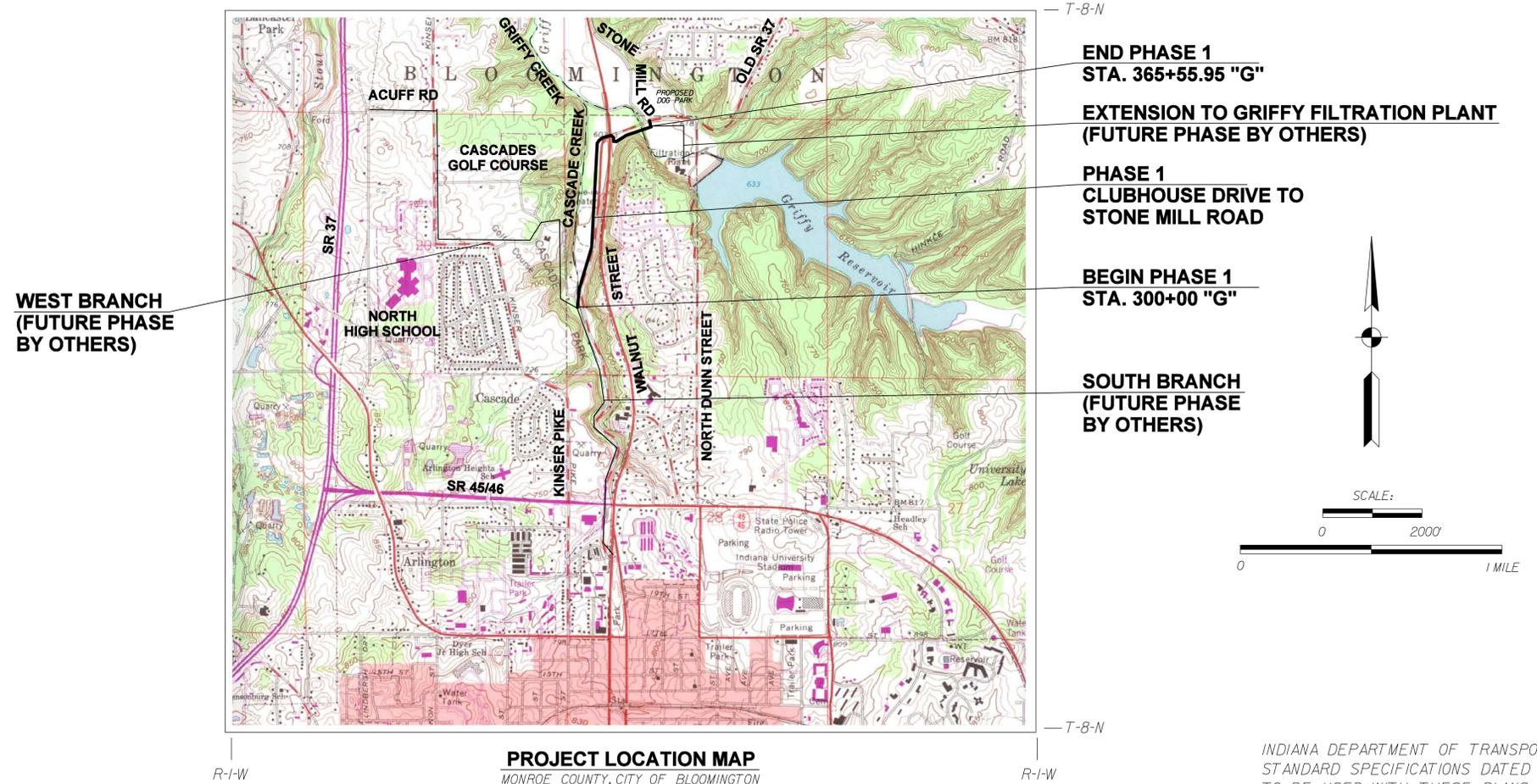
JOHN CARTER, PRESIDENT

JANE ST. JOHN, VICE-PRESIDENT

LES COYNE, MEMBER

JOE HOFFMAN, MEMBER

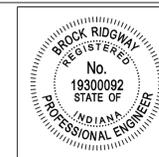
PAVED RECREATIONAL TRAILS AND SIDEPATHS IN SECTIONS 16, 20 AND 21,  
T-8-N, R-I-W IN THE CITY LIMITS OF BLOOMINGTON, MONROE COUNTY, BLOOMINGTON TOWNSHIP



PREPARED BY:



1321 Laurel Oak Drive  
Avon, Indiana 46123  
(317)370-9672



PLANS PREPARED BY:

CERTIFIED BY:

**EAGLE RIDGE**  
CIVIL ENGINEERING SERVICES, LLC

(317) 370-9672  
PHONE NUMBER

9-1-2011  
DATE

SHEETS  
1 of 55

CASCADES TRAIL - PHASE I

**UTILITIES**

**CABLE TELEVISION**  
 COMCAST CABLE COMMUNICATIONS  
 ATTN: SCOTT TEMPLETON  
 2450 SOUTH HENDERSON ST.  
 BLOOMINGTON, IN 47401  
 (812) 355-7822

**GAS**  
 VECTREN ENERGY  
 ATTN: DOUG ANDERSON  
 205 SOUTH MADISON  
 BLOOMINGTON, IN 47404  
 (812) 330-4009

FOR SERVICE RELOCATIONS  
 (48 HOUR NOTICE NEEDED)  
 ATTN: GREG THACKER  
 (812) 330-4001

**ELECTRIC**  
 DUKE ENERGY-DISTRIBUTION  
 ATTN: KERRY DUCKER  
 1100 WEST SECOND ST.  
 P.O. BOX 2448  
 BLOOMINGTON, IN 47403  
 (812) 337-3035

FOR TRANSMISSION FACILITIES  
 ALT: MIKE GOODART (812) 375-2055

OPERATIONS FIELD SUPERVISOR  
 JARID ABRAM  
 (FOR BRIDGE COORDINATION)  
 (812) 327-1483 / (812) 337-3008

**SEWER AND WATER**  
 CITY OF BLOOMINGTON UTILITIES  
 ATTN: MIKE BENGTSON  
 600 EAST MILLER DRIVE  
 BLOOMINGTON, IN 47401  
 (812) 349-3653

**TELEPHONE**  
 AT & T  
 ATTN: BRENT McCABE  
 4517 INDIANA BELL COURT  
 BLOOMINGTON, IN 47408  
 (812) 334-4521

**LEVEL 3 COMMUNICATIONS**  
 ATTN: MARK CONDER  
 1902 S. EAST STREET  
 INDIANAPOLIS, IN 46225  
 (317) 908-9019

**SMITHVILLE TELEPHONE COMPANY**  
 ATTN: JACK HILLENBERG  
 1600 W. TEMPERANCE STREET  
 ELLETTSVILLE, IN 47429-0728  
 (812) 876-9103

**ZAYO BANDWIDTH**  
 ATTN: CRAIG BROWN  
 701 W. HENRY STREET  
 INDIANAPOLIS, IN 46225  
 (317) 524-5711

**GENERAL NOTES**

INCIDENTAL WORK: ALL WORK SHOWN OR SPECIFIED IN THE CONTRACT DOCUMENTS AND OTHER WORK WHICH MAY BE INCIDENTAL TO THE DEVOTED WORK SHALL BE CONSIDERED TO BE INCLUDED IN THE LUMP SUM CONTRACT AMOUNT, UNLESS SPECIFICALLY DESCRIBED AS AN ALTERNATE OR SUPPLEMENTAL UNIT WORK.

USE OF INDOT STANDARD SPECIFICATIONS: MATERIALS AND WORKMANSHIP OF THE FOLLOWING WORK SHALL BE AS REQUIRED BY THE INDOT 2008 STANDARD SPECIFICATIONS. THE STANDARD SPECIFICATIONS WILL ALSO APPLY WHERE OTHER STANDARDS ARE NOT SPECIFIED.  
 BITUMINOUS PAVING - SEC. \*402

COORDINATION OF DRAWINGS, TECHNICAL SPECIFICATIONS, CONSTRUCTION SPECIFICATIONS AND STANDARD SPECIFICATIONS: THE CONTRACT DOCUMENTS ARE INTENDED TO BE COMPLEMENTARY AND TO DESCRIBE AND PROVIDE FOR COMPLETE WORK. A REQUIREMENT APPEARING IN ONE IS BINDING AS THOUGH OCCURRING IN ALL. IN CASE OF DISCREPANCY, THE FOLLOWING ORDER OF PRECEDENCE WILL APPLY:  
 1. PERMITS ISSUED BY LOCAL, STATE AND FEDERAL REGULATORY AGENCIES.  
 2. CONTRACT DOCUMENTS.  
 3. TECHNICAL SPECIFICATIONS.  
 4. PROJECT DRAWINGS.  
 5. CONSTRUCTION SPECIFICATIONS FOR CITY OF BLOOMINGTON UTILITIES; WASTEWATER, WATER AND STORM PROJECTS (CURRENT VERSION).  
 6. STANDARD SPECIFICATIONS AS PUBLISHED BY THE INDIANA DEPARTMENT OF TRANSPORTATION, 2010, INCLUDING CURRENT SUPPLEMENTS.

PRESENCE OF UTILITIES: EXISTING UTILITIES SHOWN ON PLANS ARE APPROXIMATED IN ACCORDANCE WITH AVAILABLE RECORDS AND PHYSICAL EVIDENCE. OTHER UTILITIES MAY ALSO BE PRESENT. EXACT LOCATIONS AND ELEVATIONS ARE TO BE DETERMINED BY CONTRACTOR.

USE OF RIGHT OF WAY: CONTRACTOR IS ONLY ALLOWED TO USE THE AREAS SHOWN ON THE PLANS AS RIGHT OF WAY. PERMANENT EASEMENT OR RESERVED BY RIGHT OF ENTRY DURING CONSTRUCTION. NO MATERIALS OR EQUIPMENT SHALL BE STORED IN A LOCATION OR MANNER WHICH PRESENTS A HAZARD TO THE PUBLIC OR THE ENVIRONMENT. THE SAFEGUARD OF MATERIALS REMAINING IN THESE AREAS IS THE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING RIGHTS FOR ANY ADDITIONAL AREAS NEEDED. CONTRACTOR SHALL STAKE RIGHT OF WAY PRIOR TO COMMENCING WORK IN PROJECT AREA.

CURB RAMPS: ALL CURB RAMPS WILL INCLUDE A DETECTABLE WARNING SURFACE OF TRUNCATED DOMES. DETECTABLE WARNING SURFACE SHALL BE CAST IRON PLATES AS MANUFACTURED BY EAST JORDAN IRON WORKS, OR AN EQUAL PREAPPROVED BY CITY OF BLOOMINGTON ENGINEERING DEPARTMENT.

PERMITS: CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY LOCAL PERMITS TO COMPLETE THE WORK AS SHOWN, INCLUDING, BUT NOT LIMITED TO, THE RESTRICTION OR CLOSURE OF STREETS WHERE NEEDED. CONTRACTOR WILL BE REQUIRED TO OBTAIN ANY STATE OR FEDERAL PERMITS NOT PREVIOUSLY OBTAINED BY THE CITY OR THE ENGINEER, OR TO IMPLEMENT AND COMPLY WITH THE TERMS OF ANY PERMITS ALREADY OBTAINED FOR THE PROJECT.

TREE TRIMMING: UNLESS OTHERWISE NOTED, CONTRACTOR IS TO TRIM TREES TO A HEIGHT OF 8' ABOVE FINISHED PATH GRADE. CONTRACTOR TO USE AN APPROVED TREE SEALANT.

STAKING: CONTRACTOR SHALL BE RESPONSIBLE FOR ALL STAKING.

SIGNS AND PAVEMENT MARKINGS: ALL SIGNS AND MARKINGS SHALL BE AS REQUIRED IN THE INDIANA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITION.

GRADES: ALL SPOT GRADES AND CONTOURS PROVIDED ARE TO SURFACE OF GROUND (PAVEMENT SURFACE, TOP OF CASTING, FINISHED GRADE, ETC.) UNLESS OTHERWISE NOTED.

**INDEX FOR PHASE 1**

SHEET NO.	DRAWINGS INDEX
1	TITLE SHEET / INDEX
2	GENERAL NOTES / LEGEND / UTILITY DATA
3	KEY PLAN / BENCH MARK / CONTROL DATA
4	TYPICAL PAVEMENT CROSS SECTIONS AND DETAILS
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11 - 19	PLAN AND PROFILES
20 - 23	PEDESTRIAN BRIDGE PLANS, LAYOUTS, DETAILS
24	INTERSECTION DETAIL
25	SIGNAL PLAN
26	LIMESTONE PEDESTAL DETAILS
27 - 55	CROSS SECTIONS

**REVISIONS**

SHEET NO.	DATE	REVISED

**MAINTENANCE OF TRAFFIC AND EROSION CONTROL ITEMS**

- INDOT STANDARD DRUM WITH STEADY BURN LIGHTS
- ➔ FLASHING ARROW SIGN
- ⊠ DETOUR ROUTE MARKER ASSEMBLY (LETTER DENOTES TYPE)
- ⊥ BARRICADE (TYPE III)
- ◇ CONSTRUCTION SIGNS (SHAPE PER MUTCD)
- ➔ TRAFFIC FLOW DIRECTION
- ⊙ ROAD CLOSURE SIGN ASSEMBLY
- ||||| BUZZ STRIPS, 6 EACH SET, 8" WIDE, SOLID WHITE THERMOPLASTIC LINES
- RR ➔ TEMPORARY CHECK DAM, REVETMENT RIPRAP
- SB ➔ TEMPORARY CHECK DAM, STRAW BALES
- ⊙ INLET PROTECTION, CURB
- ⊙ DITCH INLET PROTECTION
- SF TEMPORARY SILT FENCING

**GENERAL LEGEND (EXISTING SCREENED, PROPOSED IN BOLD>)**

- |                  |                                |                           |
|------------------|--------------------------------|---------------------------|
| ▲ YARD LIGHT     | ----- STORM / SANITARY SEWER   | ⊗ FD AXEL                 |
| ⊗ LIGHT POLE     | EL ----- UNDERGROUND ELECTRIC  | ○ FD BRASS DISK           |
| ⊗ SIGNAL POLE    | --- TELEPHONE LINE             | ● FD COT GIN SPOLE        |
| ⊗ UTILITY POLE   | --- OVERHEAD UTILITY           | x FD CHISELED X           |
| ⊗ GUY WIRE       | --- WATER LINE                 | ⊗ SET CHISELED X          |
| ⊗ CATCH BASIN    | --- GAS LINE                   | ⊗ SET DRILL HOLE          |
| ⊗ CURB INLET     | --- PROPERTY/RIGHT-OF-WAY LINE | ⊗ FD HARISON MON.         |
| ⊗ ELECTRIC MH    | --- WIRE FENCE                 | ⊗ SET HARISON MON.        |
| ⊗ MANHOLE        | --- SPLIT RAIL FENCE           | ⊗ SET HUB/TACK            |
| ⊗ PHONE MH       | --- CHAIN LINK FENCE           | ○ FD REBAR                |
| ⊗ SANITARY MH    | --- SIGN                       | ● SET REBAR               |
| ⊗ SIGNAL MH      | --- R.D.W. MON.                | ● FD MAG NAIL             |
| ⊗ STORM MH       | --- MONITORING WELL            | ● SET MAG NAIL            |
| ⊗ WATER MH       | --- BOLLARD                    | ● FD NAIL                 |
| ⊗ ELEC. METER    | --- BORE HOLE                  | ● SET NAIL                |
| ⊗ CLEANOUT       | --- DOWNSPOUT                  | ○ FD PIPE                 |
| ⊗ GAS METER      | --- GATE POST                  | ⊗ FD RR SPIKE             |
| ⊗ GAS VALVE      | --- POLE                       | ⊗ SET RR SPIKE            |
| ⊗ WATER VALVE    | --- PARKING METER              | △ FD STONE                |
| ⊗ SPR. HOOKUP    | --- SPIGOT                     | (R) RECORDED B&D          |
| ⊗ SPRINKLER      | --- T-POST                     | (M) MEASURED B&D          |
| ⊗ SANITARY SEWER | --- WOOD POST                  | (C) CALCULATED B&D        |
|                  | --- PARKING SPACES             | (PROP) PROPORTIONAL DIST. |
|                  | --- TRANSFORMER                | A.G. ABOVE GROUND         |
|                  | --- ELEC. VAULT                | B.G. BELOW GROUND         |
|                  | --- PHONE VAULT                | ⊙ CONIF. TREE             |
|                  | --- STEAM VAULT                | ⊙ DECID. TREE             |
|                  | --- VALVE VAULT                | ⊙ SHRUB                   |
|                  | --- AC UNIT                    | ⊙ PHONE RISER-BOX         |
|                  | --- PHONE BOOTH                | ⊙ TV RISER-BOX            |
|                  | --- BIRD FEEDER                | ⊙ ELEC. RISER-BOX         |
|                  | --- MAILBOX                    | ⊙ GAS RISER-BOX           |
|                  | --- PROP. TANK                 | ⊙ WOOD POST               |
|                  | --- PARKING BLOCK              | ○ PROPOSED R/W            |

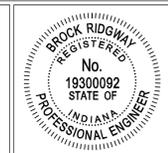
**MISCELLANEOUS ITEMS**

- (C3) 9" CONCRETE PAVEMENT FOR DRIVES ON 6" COMPACTED AGGREGATE BASE No. 53 (CLASS III)
- (CA) COMPACTED AGGREGATE PAVEMENT FOR DRIVEWAY 3'\*8" CRUSHED STONE ON 4"\*53 COMPACTED AGGREGATE
- (D2) 165 lb/ys<sup>2</sup> HMA TYPE A SURFACE 95mm ON, 275 lb/ys<sup>2</sup> HMA TYPE A INTERMEDIATE 19.0mm ON, 4" COMPACTED AGGREGATE BASE No. 53s (CLASS II)
- (F) CONCRETE SIDEWALK
- (K3) VARIABLE DEPTH WEDGE AND LEVEL PAVEMENT 1/2" SURFACE, TYPE A OVER VARIABLE DEPTH INTERMEDIATE, A
- (K4) FULL DEPTH HMA RECREATIONAL PATH PAVEMENT (SEE TYPICALS)
- (CL) CONSTRUCTION LIMITS
- (T2) TREE, RED OAK (QUERCUS RUBRA), 2"
- (T3) TREE, LILAC (SYRINGA RETICULATE 'MORY SILK'), 2"
- (T5) TREE, GREEN VASE JAPANESE ZELCOVA (ZELCOVA SERRATA), 2"
- (W4) 4" WHITE, SOLID, PAINT, LINE
- (9) 1/2" IN. PREFORMED JOINT FILLER
- (13) CONCRETE CURB, 8" EXPOSED HEIGHT
- (25) MULCHED SEEDING, TYPE "U"
- (G) CONCRETE CURB RAMP (LETTER DESIGNATES TYPE)
- (M) MAILBOXES (PROPOSED)

**SIGN AND PAVEMENT MARKING ITEMS**

- (36) THERMOPLASTIC TRANSVERSE MESSAGE MARKING, ARROW
- (37) THERMOPLASTIC PAVEMENT MESSAGE MARKING, WORD "ONLY"
- (38) 24" STOP LINE, THERMOPLASTIC, WHITE, TRANSVERSE MARKING
- (50) NO CHANGE REQUIRED TO EXISTING SIGN AND SUPPORTS
- (56) REMOVE EXISTING SHEET SIGN AND SUPPORTS
- (62) NEW SHEET SIGN AND SUPPORTS REQUIRED
- (65) EXISTING SIGN TO BE REMOVED THEN RESET BY CONTRACTOR

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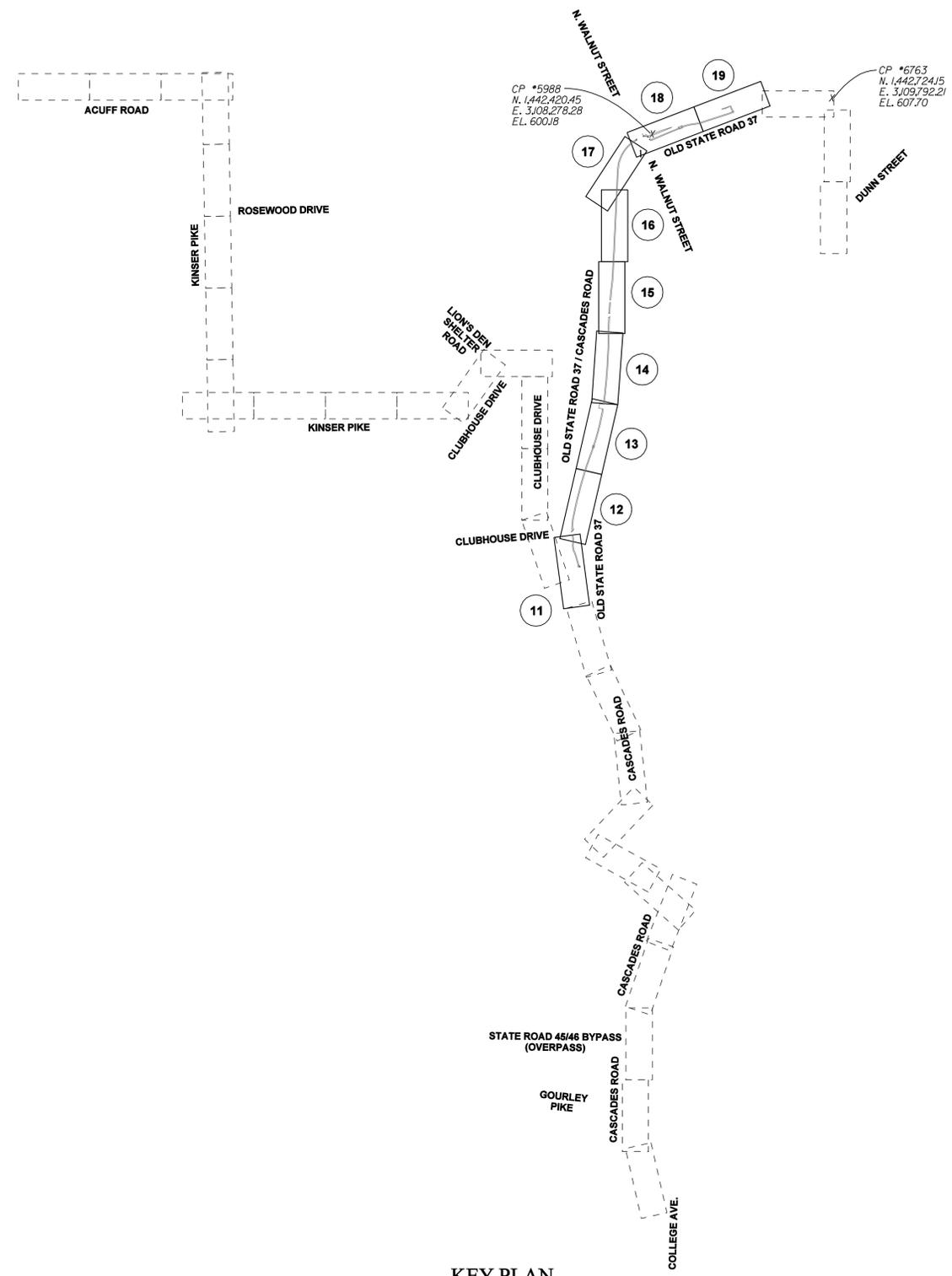
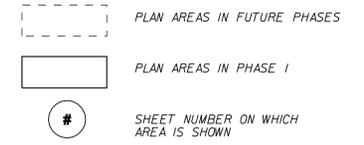


RECOMMENDED FOR APPROVAL: *Bridway* 9-1-2011 DATE  
 DESIGNER: BR DRAWN: SI  
 CHECKED: MT CHECKED: BR

**CITY OF BLOOMINGTON**  
**CASCADES TRAIL**

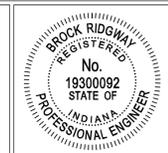
**GENERAL NOTES / LEGEND / UTILITY DATA**

HORIZONTAL SCALE	BRIDGE FILE
NONE	N/A
VERTICAL SCALE	DESIGNATION
	N/A
SURVEY BOOK	SHEETS
N/A	2 of 55
CONTRACT	PROJECT
N/A	CASCADES TRAIL



**KEY PLAN**

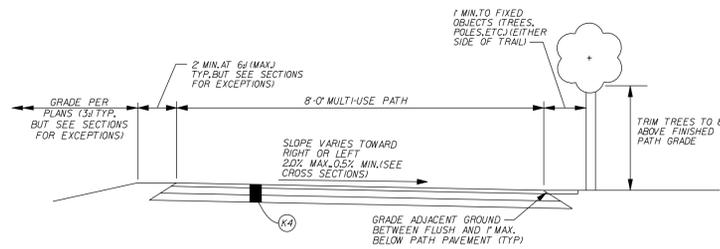
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RECOMMENDED FOR APPROVAL	<i>B. Ridgway</i>	DATE	9-1-2011
DESIGNED:	BR	DRAWN:	SI
CHECKED:	MT	CHECKED:	BR

**CITY OF BLOOMINGTON**  
**CASCADES TRAIL**  
  
**KEY PLAN /**  
**BENCH MARK / CONTROL DATA**

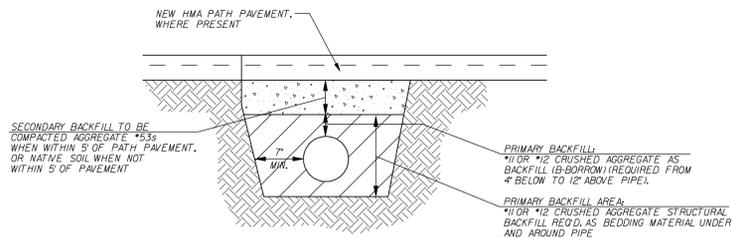
HORIZONTAL SCALE	BRIDGE FILE
1" = 600'-0"	N/A
VERTICAL SCALE	DESIGNATION
N/A	N/A
SURVEY BOOK	SHEETS
N/A	3 of 55
CONTRACT	PROJECT
N/A	CASCADES TRAIL



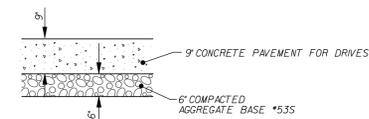
**K4 TYPICAL PATH PAVEMENT**  
NTS

(SEE CROSS SECTIONS FOR VARIATIONS FROM THIS TYPICAL CONDITION)

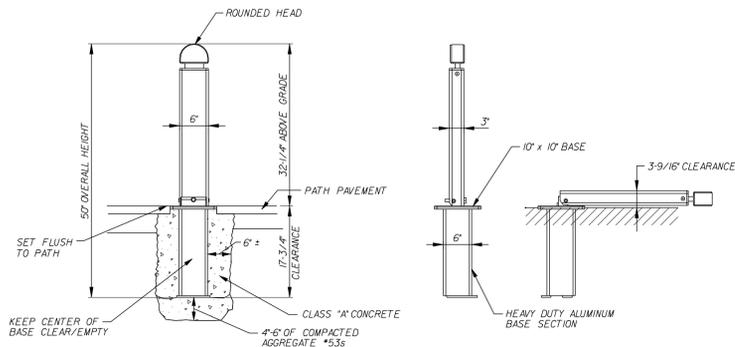
**K4 TYPICAL PATH PAVEMENT**  
1" (100%/SID) HMA SURFACE TYPE A, 9.5mm ON 3" (1330%/SID) HMA INTERMEDIATE TYPE A19.0mm ON 8" COMPACTED AGGREGATE BASE #53s



**PIPE BACKFILL AND PAVEMENT PATCHING OVER PIPES**  
NTS



**C3 TYPICAL CLASS III DRIVE PAVEMENT**  
NTS



**COLLAPSIBLE BOLLARD**  
NOT TO SCALE

**BOLLARD NOTES:**

MATERIALS: SUBMIT FOR APPROVAL STEEL PLATE ASTM A36, STEEL TUBE ASTM A53, FASTENERS STAINLESS STEEL SERIES 300.

FINISHES: PRIME, RUST INHIBITOR PER MANUFACTURER, POWDER COAT, FACTORY APPLIED TIGER DRYLAC POWDER (COLOR SELECTED BY TOWN).

CLEARANCE: MUST COLLAPSE TO LESS THAN 4" ABOVE FINISHED PAVEMENT SURFACE.

HEAD: ROUNDED.

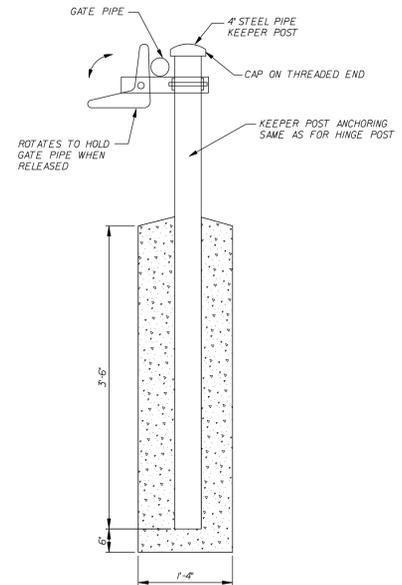
SECURITY/REMOVAL: PADLOCKED OPERATED UNIT (PADLOCK BY TOWN) REQUIRED.

BREAKAWAY POST: REQUIRED.

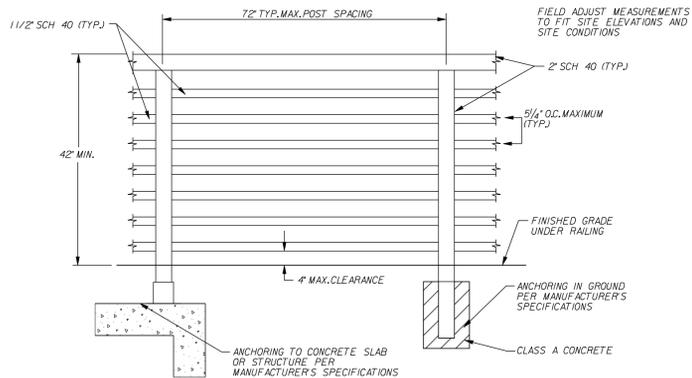
WARRANTY: MINIMUM 1 YEAR PARTS, LABOR FULL WARRANTY REQUIRED.

MANUFACTURERS: SUBMIT FOR APPROVAL MAXIFORCE COLLAPSIBLE BOLLARD MODEL MC-SP-SS3U BY BLUE EMBER TECHNOLOGIES, 7560 MAIN STREET, SKYESVILLE, MD 21784, www.blueember.com OR APPROVED EQUAL.

INSTALLATION: PER MANUFACTURER.



**KEEPER POST DETAIL**  
NOT TO SCALE



**TUBULAR STEEL PEDESTRIAN/BICYCLE SAFETY RAILING**  
NOT TO SCALE

SEE PLANS FOR LENGTH AND LAYOUT OF EACH INSTALLATION

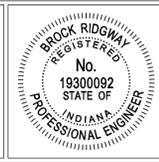
**RAILING MATERIAL NOTES:**

- HANDRAIL MATERIALS AND WORK SPECIFICATIONS SHALL BE IN ACCORDANCE WITH INDOT STANDARD SPECIFICATIONS, EXCEPT THAT HANDRAILS SHALL BE UNGALVANIZED STEEL WITH PRIMER AND POWDER COATING AS NOTED BELOW.
- ALL TUBE MATERIAL SHALL BE SCHEDULE 40, ASTM A500, GR. B.
- THREADED ANCHOR RODS SHALL BE ASTM A572, GR. 50.
- ALL HANDRAIL MATERIALS SHALL RECEIVE THE FOLLOWING PRIMER AND COATING:
  - TIGER DRYLAC ZINC RICH PRIMER, 69/90350 DRYZINC.
  - TIGER DRYLAC SUPER DURABLE SERIES 38, DRYLAC 49/80550, RAL 9017 SMOOTH GLOSSY (BLACK).

**GENERAL RAILING NOTES:**

- RAILING SYSTEM SHALL BE DESIGNED TO WITHSTAND THE FOLLOWING LOADS: UNIFORM 50 #/FT APPLIED AT THE TOP IN ANY DIRECTION, CONCENTRATED LOAD OF 250 # APPLIED AT THE TOP IN ANY DIRECTION (NOT LOADED SIMULTANEOUSLY).
- HANDRAIL SHALL MEET AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES AND ADA BUILDING CODE REQUIREMENTS.
- CONTRACTOR SHALL SUBMIT SHOP DRAWINGS STAMPED BY A LICENSED ENGINEER FOR APPROVAL PRIOR TO ORDERING PARTS AND FABRICATION OF THE STEEL TUBE HANDRAIL. THE DRAWINGS WILL SHOW ELEVATIONS, DETAILS, SECTIONS, INDICATE MATERIALS, METHODS, FINISHES, TYPES OF JOINTS AND FASTENERS, ANCHORAGES AND ASSEMBLIES, AND ACCESSORY ITEMS, PROVIDE SETTING DIAGRAMS AND TEMPLATES FOR ANCHORAGES, SLEEVES, AND BOLTS TO BE INSTALLED BY CONTRACTOR. ERECTION DRAWINGS WILL DEPICT PANEL LENGTHS, SPICE LOCATIONS, RAIL POST SPACING, AND ANCHOR/ANCHOR BOLT SETTINGS.
- WHEN PAID SEPARATELY, HANDRAIL WILL BE PAID FOR AT UNIT PRICE PER LINEAR FOOT. THE COST SHALL INCLUDE ALL RAILING, POSTS, FITTINGS, CONCRETE, GROUT, SLEEVES, TEES, FLANGES, FIELD DRILLED HOLES, ANCHORAGES, HARDWARE, AND ALL NECESSARY INCIDENTALS.

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RECOMMENDED FOR APPROVAL: *B. Ridway* 9-1-2011 DATE  
DESIGN ENGINEER

DESIGNED: BR DRAWN: SI  
CHECKED: MT CHECKED: BR

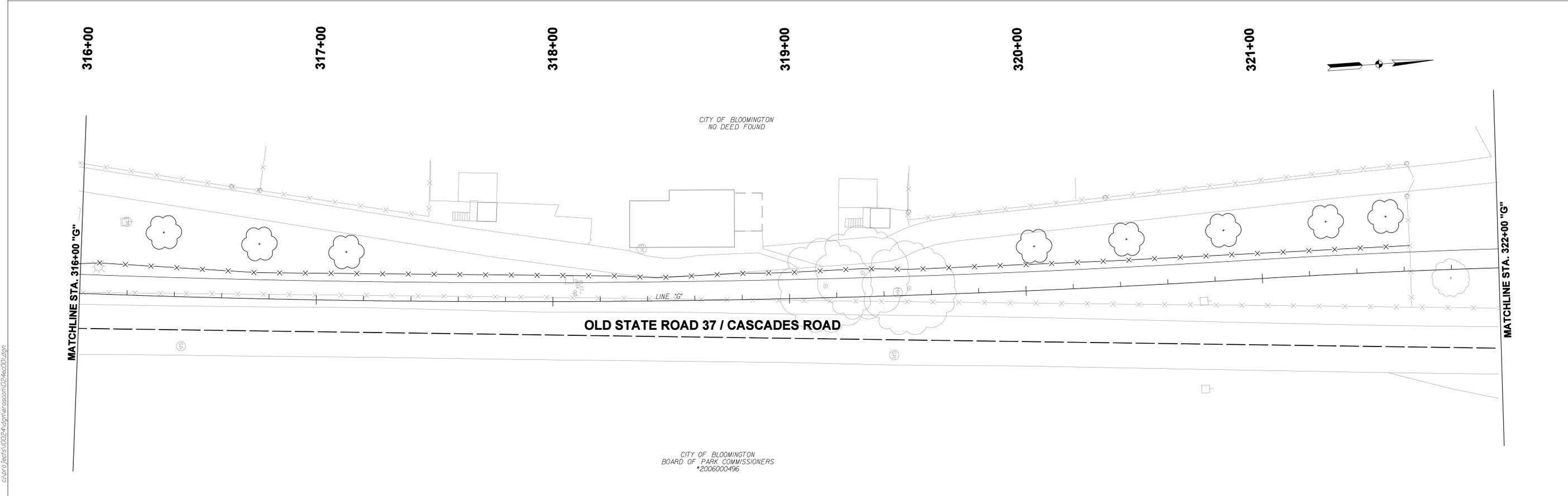
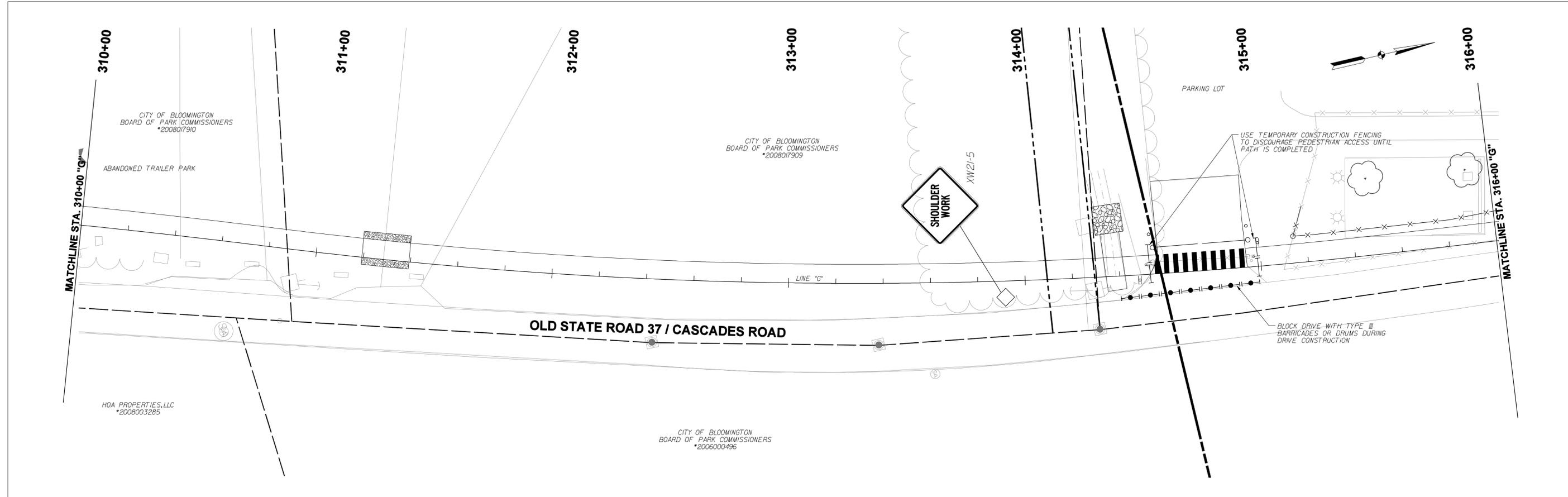
CITY OF BLOOMINGTON  
CASCADES TRAIL

TYPICAL DETAILS

HORIZONTAL SCALE	BRIDGE FILE
NONE	N/A
VERTICAL SCALE	DESIGNATION
	N/A
SURVEY BOOK	SHEETS
N/A	4 of 55
CONTRACT	PROJECT
N/A	CASCADES TRAIL



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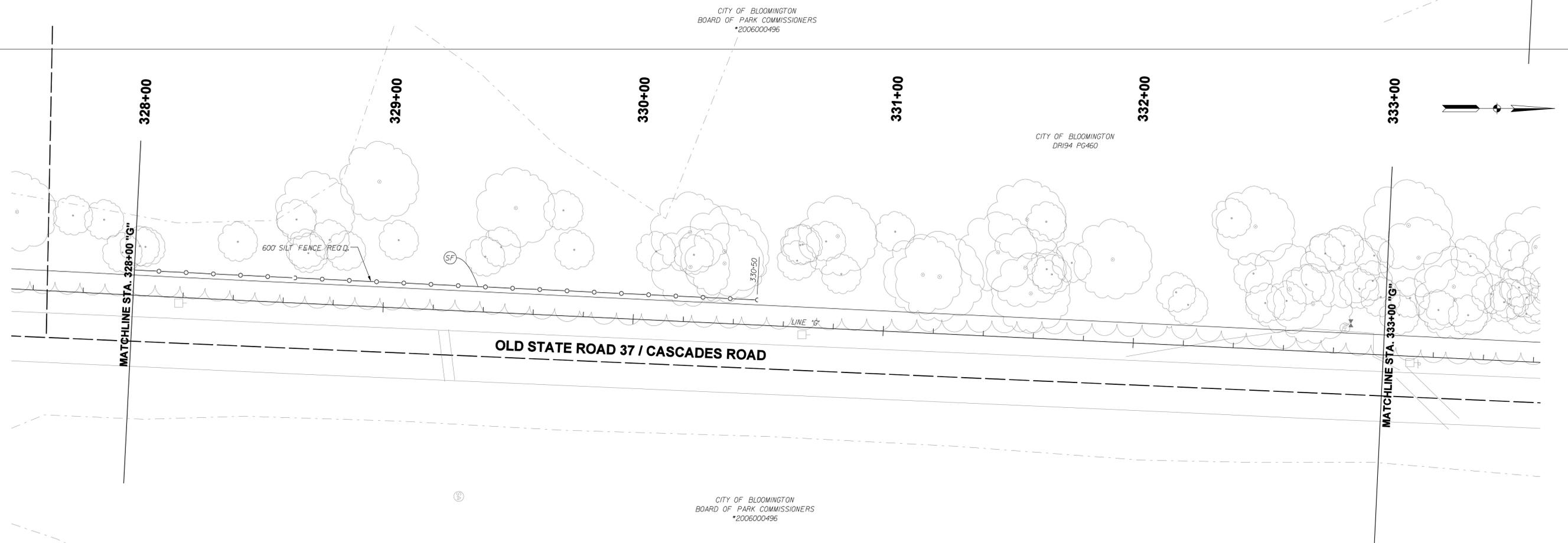
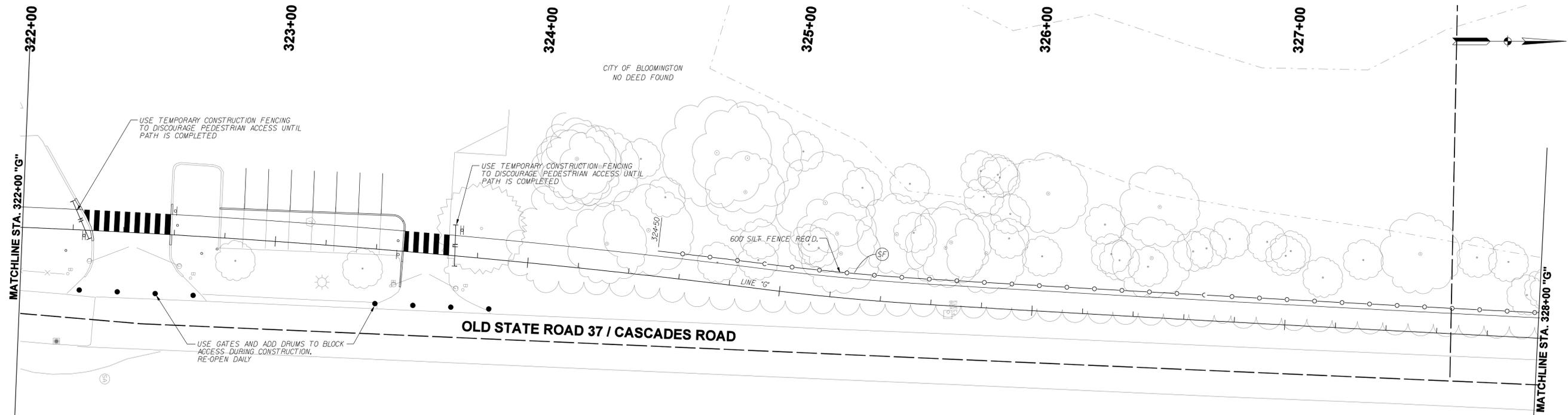


	RECOMMENDED FOR APPROVAL: <i>B. Ridgway</i> 9-1-2011 DATE
	DESIGNED: BR DRAWN: SI
	CHECKED: MT CHECKED: BR
	DESIGN ENGINEER

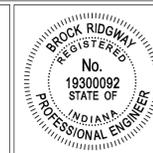
**CITY OF BLOOMINGTON  
CASCADES TRAIL**

**MAINTENANCE OF TRAFFIC  
AND EROSION CONTROL PLANS**

HORIZONTAL SCALE 1" = 20'-0"	BRIDGE FILE N/A
VERTICAL SCALE N/A	DESIGNATION N/A
SURVEY BOOK N/A	SHEETS 6 of 55
CONTRACT N/A	PROJECT CASCADES TRAIL



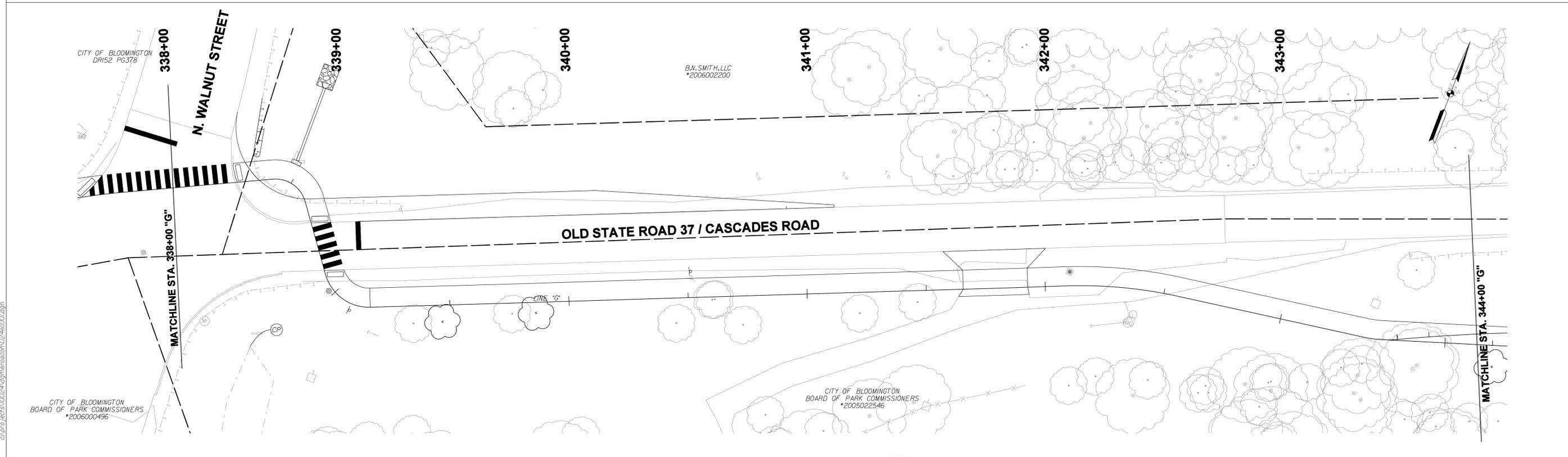
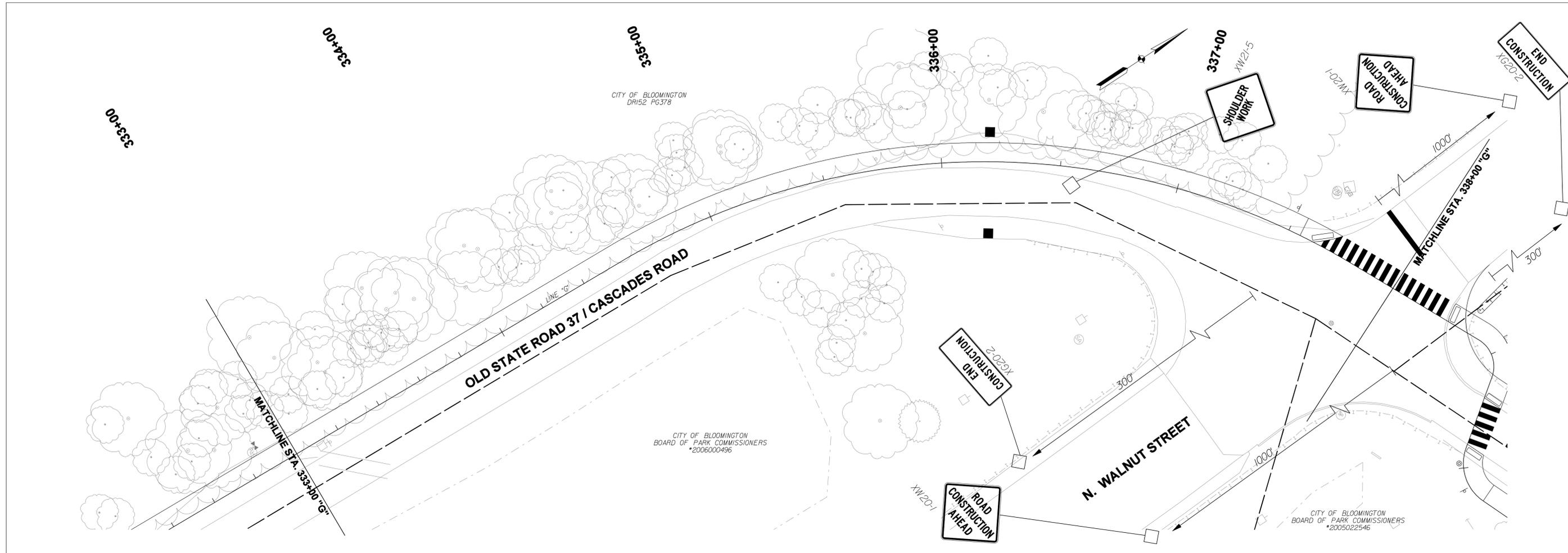
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RECOMMENDED FOR APPROVAL	<i>B. Ridgway</i>	9-1-2011
DESIGNED:	BR	DRAWN: SI
CHECKED:	MT	CHECKED: BR

**CITY OF BLOOMINGTON**  
**CASCADES TRAIL**  
  
**MAINTENANCE OF TRAFFIC**  
**AND EROSION CONTROL PLANS**

HORIZONTAL SCALE	BRIDGE FILE
1" = 20'-0"	N/A
VERTICAL SCALE	DESIGNATION
	N/A
SURVEY BOOK	SHEETS
N/A	7 of 55
CONTRACT	PROJECT
N/A	CASCADES TRAIL

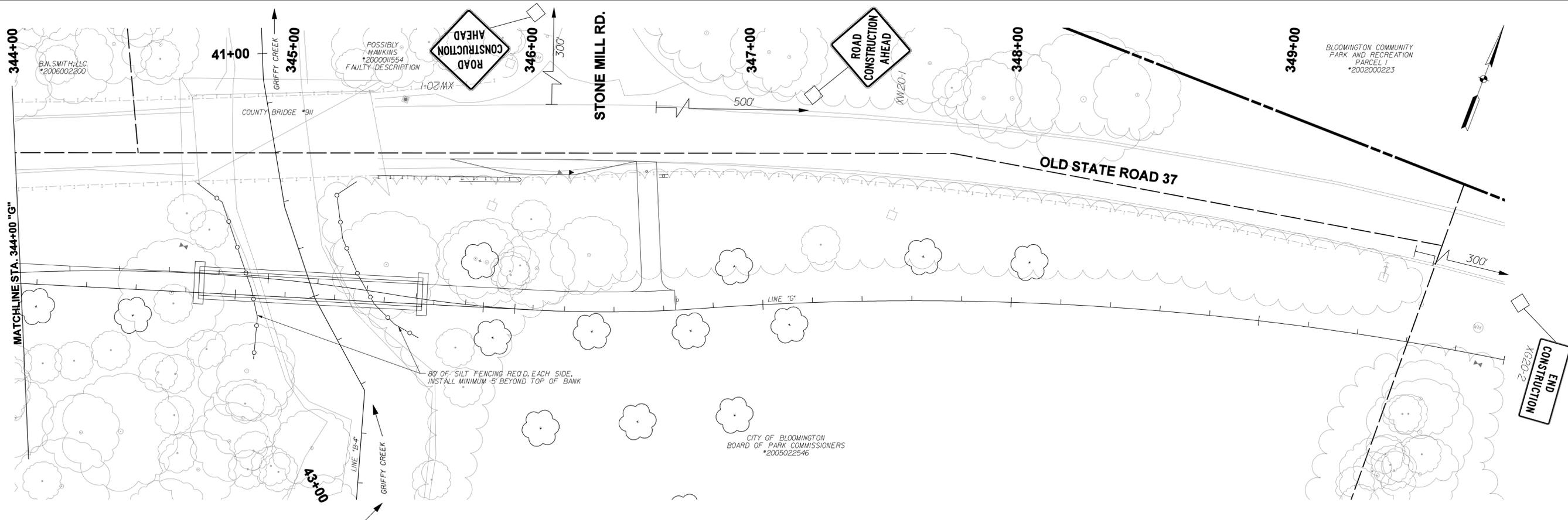


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	RECOMMENDED FOR APPROVAL	<i>B. Ridman</i>	9-1-2011	
	DESIGNED:	BR	DRAWN:	SI
	CHECKED:	MT	CHECKED:	BR
	DATE			

**CITY OF BLOOMINGTON**  
**CASCADES TRAIL**  
**MAINTENANCE OF TRAFFIC**  
**AND EROSION CONTROL PLANS**

HORIZONTAL SCALE	BRIDGE FILE
1" = 20'-0"	N/A
VERTICAL SCALE	DESIGNATION
	N/A
SURVEY BOOK	SHEETS
N/A	8 of 55
CONTRACT	PROJECT
N/A	CASCADES TRAIL



**MAINTENANCE OF TRAFFIC REQUIREMENTS:**

1. ROAD CLOSURES: FULL CLOSURE OF WALNUT STREET OR CASCADES ROAD WILL NOT BE PERMITTED. FULL CLOSURE OF OLD SR 37 IS ONLY ALLOWED DURING BRIDGE ERECTION (SEE DETOUR MAPPING SHEET FOR REQUIREMENTS).
2. LANE RESTRICTIONS WILL BE ALLOWED FOR DRIVE REPLACEMENT, AND PATH CONSTRUCTION, BUT ONLY DURING DAYLIGHT WORK HOURS. NO OVERNIGHT RESTRICTIONS ARE PERMITTED.
3. FLAGGER OPERATIONS AND TEMPORARY SIGNAGE IN ACCORDANCE WITH INDIANA MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES ARE REQUIRED FOR ALL LANE RESTRICTIONS.
4. ALL SIGNS TO BE MOUNTED ON STANDARDS.
5. ALL SIGNS IN ACCORDANCE WITH INDOT STANDARDS AND INDIANA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
6. ALL SIGNS, BARRICADES AND DRUMS TO BE MOUNTED WITH A TYPE C (STEADY BURN) WARNING LIGHT AND MAINTAINED DUSK TO DAWN.

**EROSION CONTROL REQUIREMENTS:**

1. INSTALL EROSION CONTROL MEASURES PRIOR TO ACTIVITIES UPSTREAM/UPSLOPE OF THAT PROTECTION.
2. INSPECT ADJACENT STREETS DAILY. CLEAN PUBLIC STREETS AS NEEDED OF ANY CONSTRUCTION DEBRIS OR SPILLAGE.
3. SEE TECHNICAL SPECIFICATION Q1550 "PROTECTION OF ENVIRONMENT" FOR ADDITIONAL REQUIREMENTS.

**MAINTENANCE OF TRAFFIC AND EROSION CONTROL LEGEND**

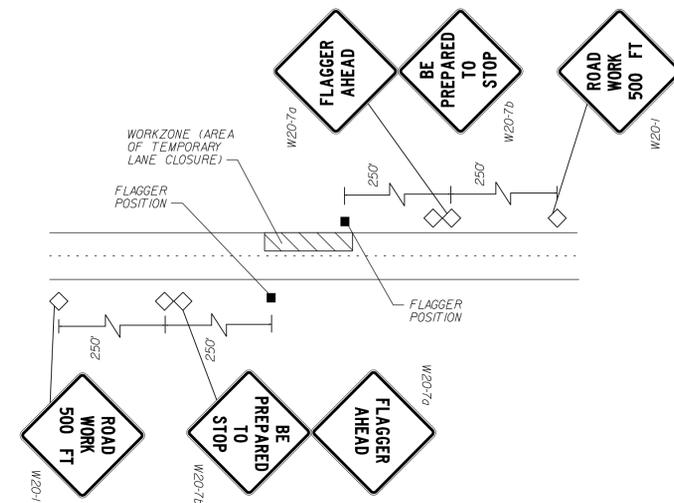
- INDOT STANDARD DRUM WITH STEADY BURN LIGHTS
- FLASHING ARROW SIGN
- ⬠ DETOUR ROUTE MARKER ASSEMBLY (LETTER DENOTES TYPE)
- ||| BARRICADE (TYPE III)
- ◇ CONSTRUCTION SIGNS (SHAPE PER MUTCD)
- TRAFFIC FLOW DIRECTION
- ⬠ ROAD CLOSURE SIGN ASSEMBLY
- |||| BUZZ STRIPS, 6 EACH SET, 8" WIDE, SOLID WHITE THERMOPLASTIC LINES
- RR → TEMPORARY CHECK DAM, REVETMENT RIPRAP
- SB → TEMPORARY CHECK DAM, STRAW BALES
- CI INLET PROTECTION, CURB
- DI DITCH INLET PROTECTION
- SF TEMPORARY SILT FENCING

**SUGGESTED CONSTRUCTION SIGN AND BARRICADE LIST**

QUANTITIES SHALL BE SET BY CONTRACTOR, AND REVIEWED BY CITY AS NEEDED TO SUPPORT THE WORKZONES ESTABLISHED BY CONTRACTOR

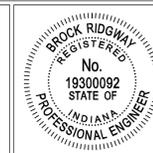
Code	Description
III-B	BARRICADES
W2I-5	SHOULDER WORK *
R9-9	SIDEWALK CLOSED
W20-1	ROAD WORK 500 FT.
W20-7a	FLAGGER AHEAD
W20-7b	BE PREPARED TO STOP

\* TO BE USED WHEN LANE RESTRICTIONS ARE NOT IN PLACE, BUT WORK IS UNDERWAY



**TYPICAL LANE RESTRICTIONS ON PUBLIC ROADS USING FLAGGER**

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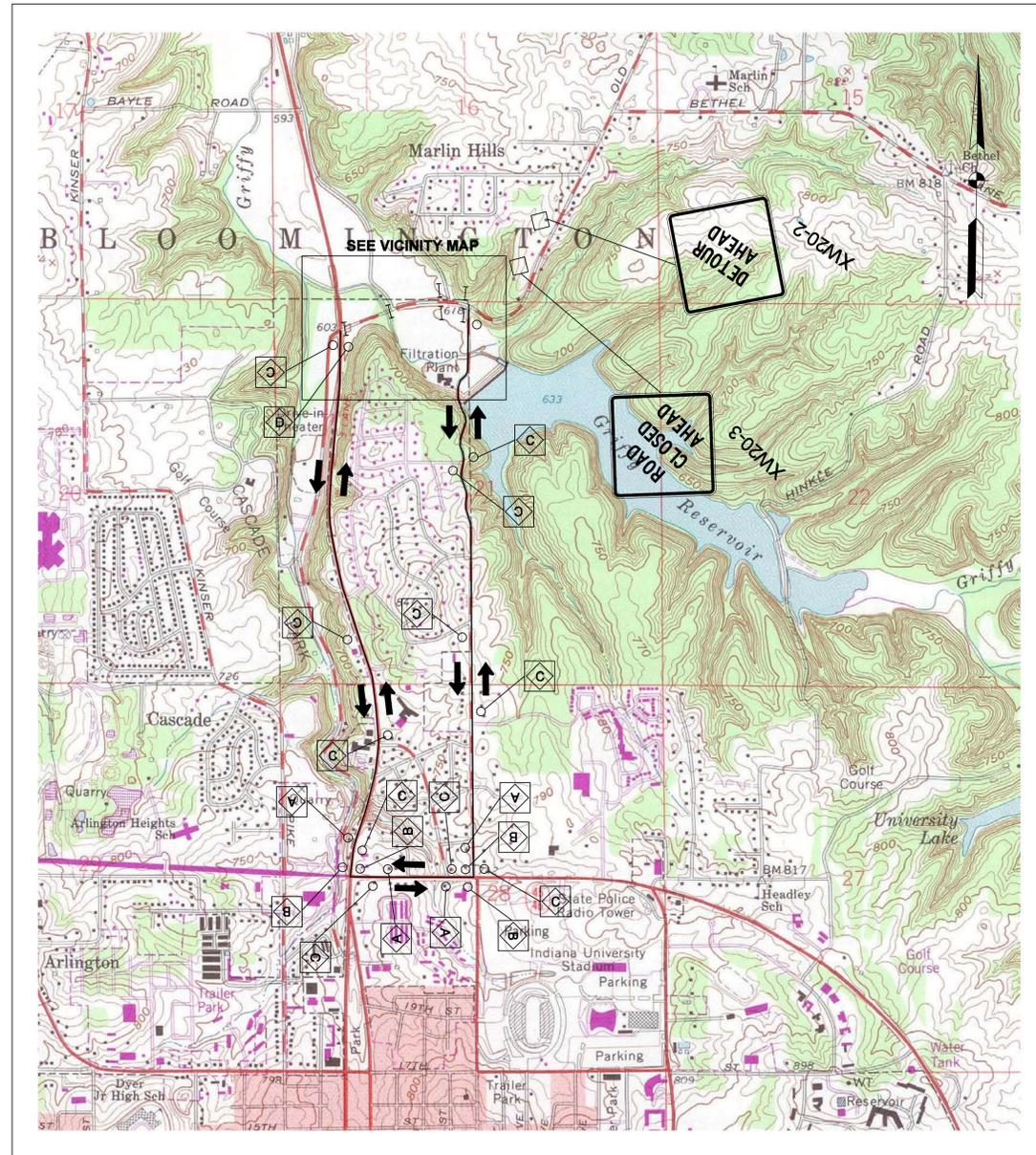
RECOMMENDED FOR APPROVAL: *B. Rideman* 9-1-2011 DATE  
DESIGN ENGINEER

DESIGNED: BR DRAWN: SI  
CHECKED: MT CHECKED: BR

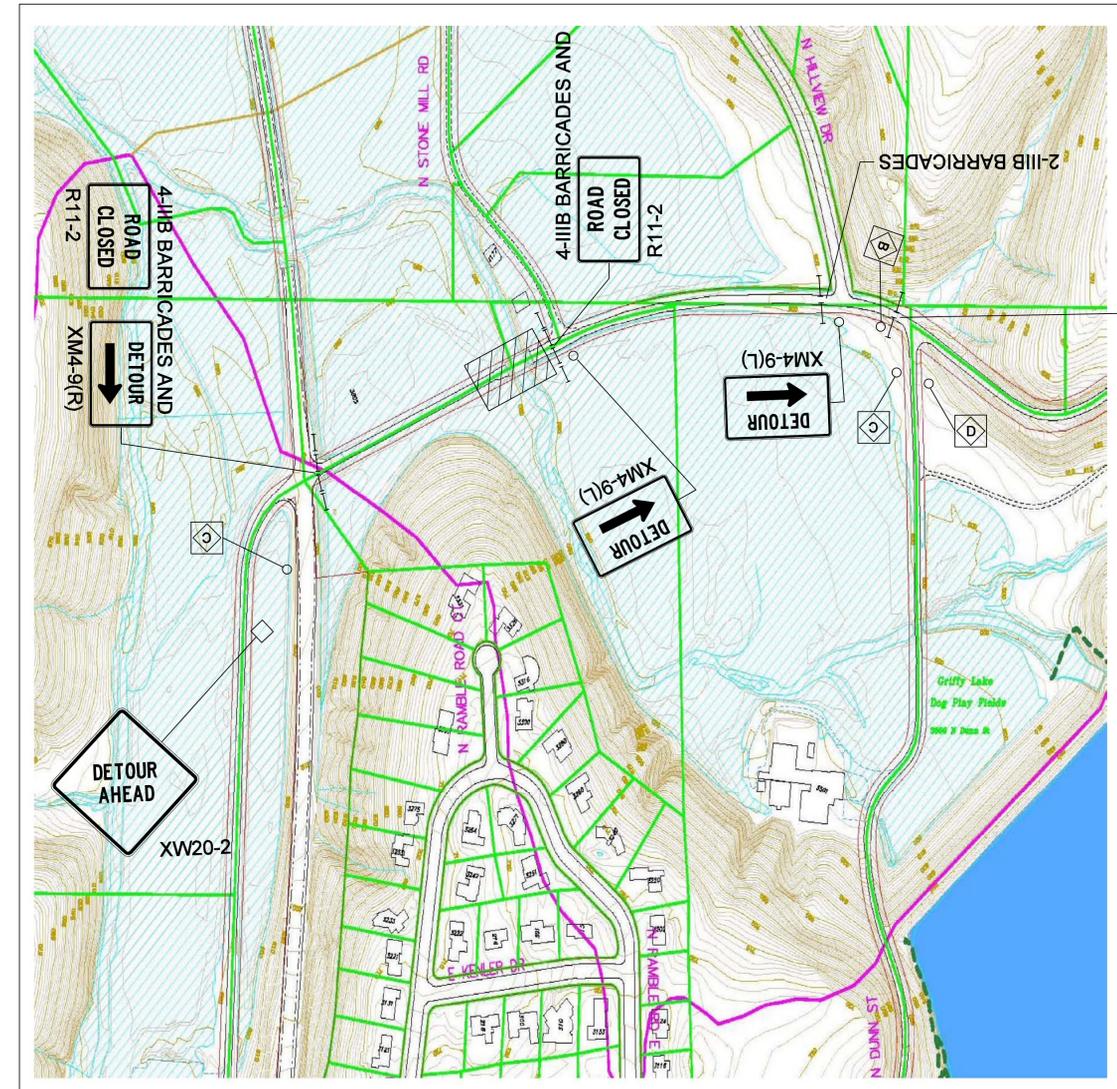
**CITY OF BLOOMINGTON  
CASCADES TRAIL**

**MAINTENANCE OF TRAFFIC  
AND EROSION CONTROL PLANS**

HORIZONTAL SCALE 1" = 20'-0"	BRIDGE FILE N/A
VERTICAL SCALE N/A	DESIGNATION N/A
SURVEY BOOK N/A	SHEETS 9 of 55
CONTRACT N/A	PROJECT CASCADES TRAIL



**DETOUR ROUTE AND SIGNAGE MAP**  
NO SCALE



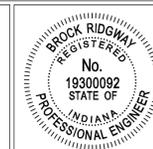
**VICINITY MAP**  
NO SCALE

**DETOUR ROUTE MARKER CODES:**

- ADVANCE TURN
- DIRECTIONAL
- CONFIRMING
- END

**MAINTENANCE OF TRAFFIC LEGEND**

- INDOT STANDARD DRUM WITH STEADY BURN LIGHTS
- FLASHING ARROW SIGN
- DETOUR ROUTE MARKER ASSEMBLY (LETTER DENOTES TYPE) (PER INDOT STANDARDS)
- BARRICADE (TYPE III)
- CONSTRUCTION SIGNS (SHAPE PER MUTCD)
- TRAFFIC FLOW DIRECTION
- ROAD CLOSURE SIGN ASSEMBLY



RECOMMENDED FOR APPROVAL	<i>B. Ridgway</i>	DESIGN ENGINEER	9-1-2011	DATE
DESIGNED:	BR	DRAWN:	SI	
CHECKED:	MT	CHECKED:	BR	

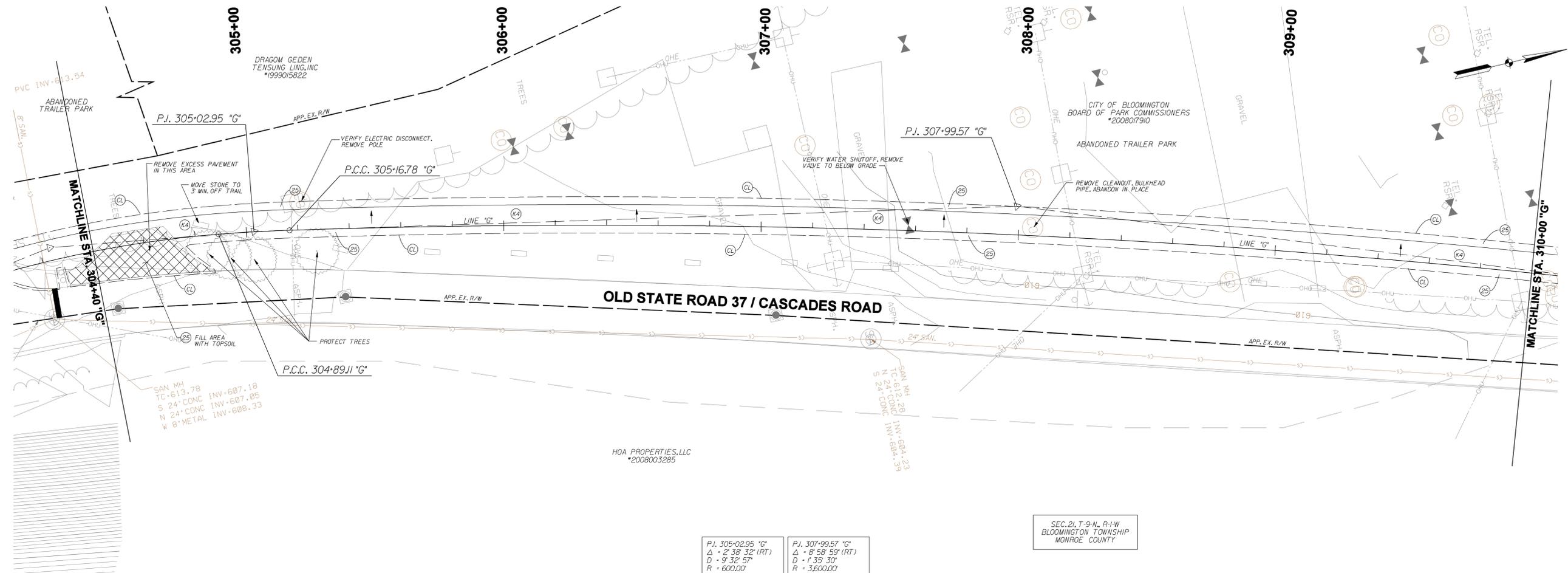
**CITY OF BLOOMINGTON  
CASCADES TRAIL**

**MAINTENANCE OF TRAFFIC  
AND EROSION CONTROL PLANS**

HORIZONTAL SCALE	BRIDGE FILE
NONE	N/A
VERTICAL SCALE	DESIGNATION
	N/A
SURVEY BOOK	SHEETS
N/A	10 of 55
CONTRACT	PROJECT
N/A	CASCADES TRAIL

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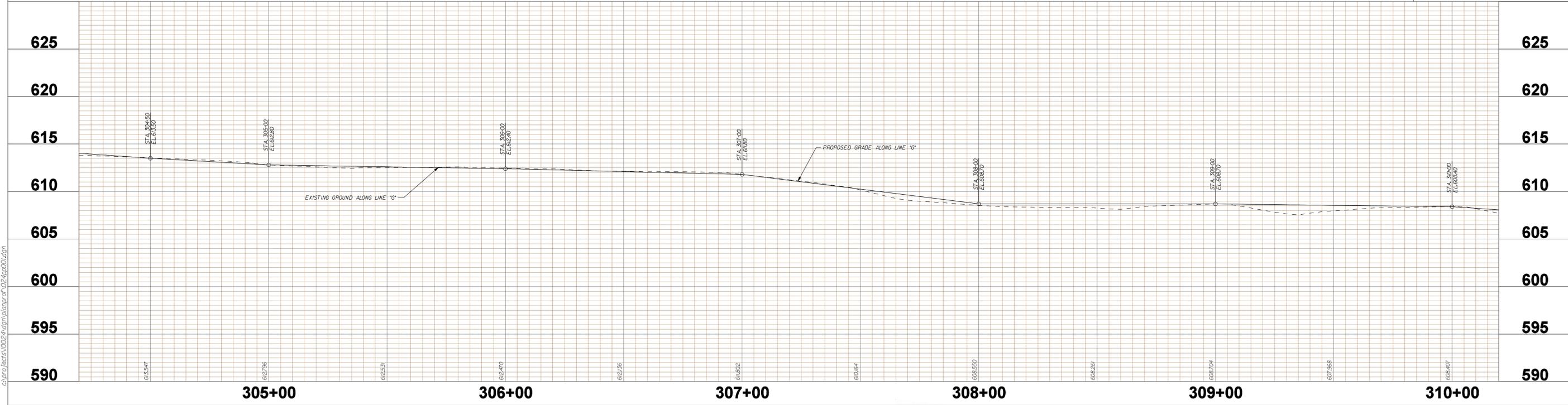


EXISTING UTILITIES SHOWN ON PLANS ARE APPROXIMATED IN ACCORDANCE WITH AVAILABLE RECORDS AND PHYSICAL EVIDENCE. OTHER UTILITIES MAY BE PRESENT. ACTUAL LOCATIONS AND ELEVATIONS ARE TO BE DETERMINED BY CONTRACTOR.

P.I. 305+02.95 "G" $\Delta = 2' 38' 32"$ (RT) $D = 9' 32' 57"$ $R = 600.00'$ $T = 13.84'$ $L = 27.67'$ $E = 0.16'$	P.I. 307+99.57 "G" $\Delta = 8' 58' 59"$ (RT) $D = 1' 35' 30"$ $R = 3600.00'$ $T = 282.79'$ $L = 564.42'$ $E = 11.09'$
--	--

SEC. 21, T-9-N, R-1W  
 BLOOMINGTON TOWNSHIP  
 MONROE COUNTY

SEE SHEET 2 FOR LEGEND



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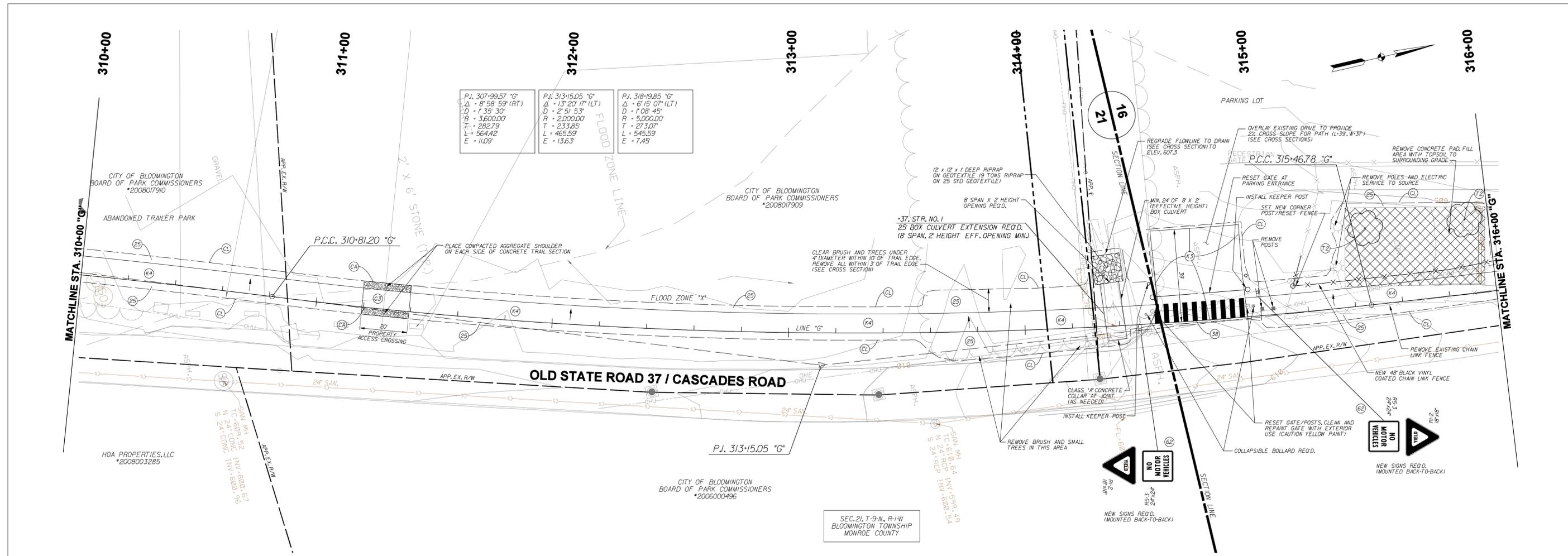
RECOMMENDED FOR APPROVAL: *B. Ridsma* DESIGN ENGINEER 9-1-2011 DATE

DESIGNED: BR DRAWN: SI  
 CHECKED: MT CHECKED: BR

CITY OF BLOOMINGTON  
 CASCADES TRAIL

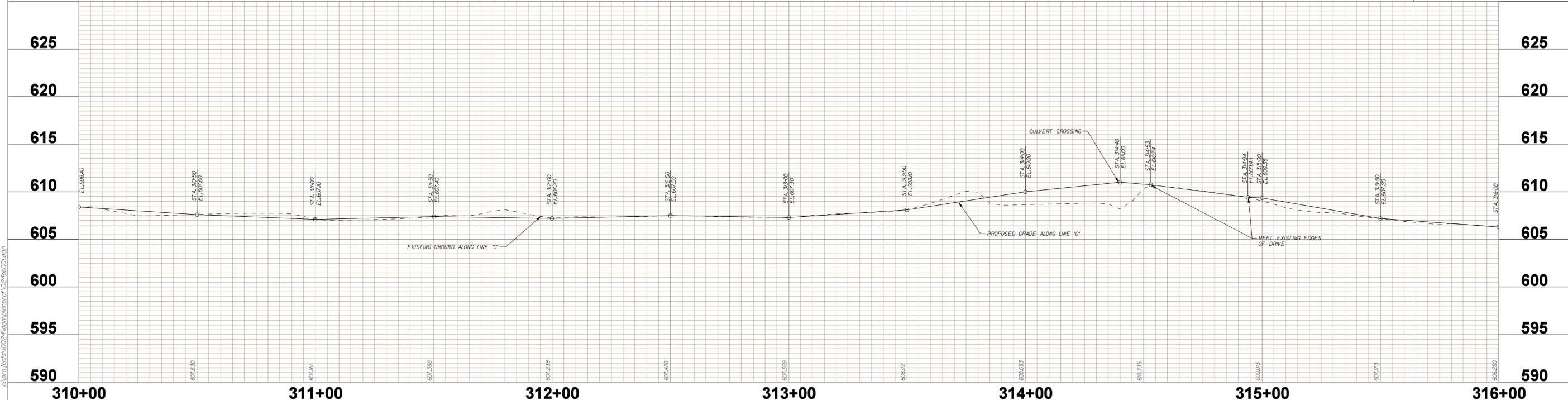
PLAN AND PROFILE  
 LINE "G"

HORIZONTAL SCALE 1" = 20'-0"	BRIDGE FILE N/A
VERTICAL SCALE 1" = 5'-0"	DESIGNATION
SURVEY BOOK	SHEETS 12 of 55
CONTRACT	PROJECT CASCADES TRAIL



EXISTING UTILITIES SHOWN ON PLANS ARE APPROXIMATED IN ACCORDANCE WITH AVAILABLE RECORDS AND PHYSICAL EVIDENCE. OTHER UTILITIES MAY BE PRESENT. ACTUAL LOCATIONS AND ELEVATIONS ARE TO BE DETERMINED BY CONTRACTOR.

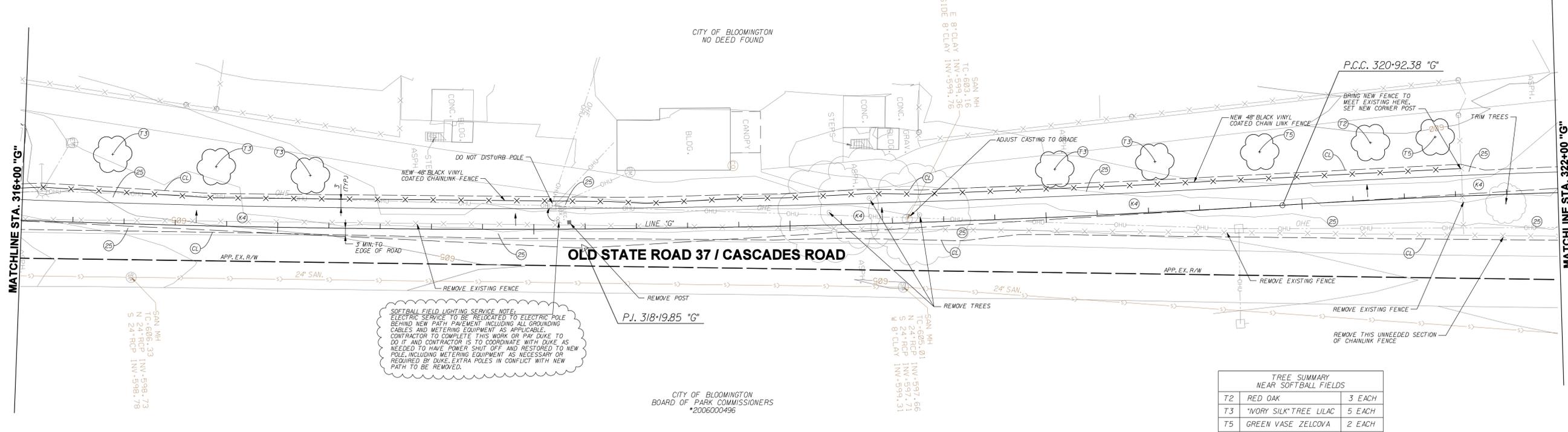
SEE SHEET 2 FOR LEGEND



<p style="text-align: center;">  </p> <p>RECOMMENDED FOR APPROVAL: <i>B. Ridgway</i> 9-1-2011 DATE          DESIGNER: BR DRAWN: SI          CHECKED: MT CHECKED: BR</p>	<p><b>CITY OF BLOOMINGTON CASCADDES TRAIL</b></p> <p><b>PLAN AND PROFILE LINE "G"</b></p>	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td>HORIZONTAL SCALE 1" = 20'-0"</td> <td>BRIDGE FILE N/A</td> </tr> <tr> <td>VERTICAL SCALE 1" = 5'-0"</td> <td>DESIGNATION</td> </tr> <tr> <td>SURVEY BOOK</td> <td>SHEETS 13 of 55</td> </tr> <tr> <td>CONTRACT</td> <td>PROJECT CASCADDES TRAIL</td> </tr> </table>	HORIZONTAL SCALE 1" = 20'-0"	BRIDGE FILE N/A	VERTICAL SCALE 1" = 5'-0"	DESIGNATION	SURVEY BOOK	SHEETS 13 of 55	CONTRACT	PROJECT CASCADDES TRAIL
HORIZONTAL SCALE 1" = 20'-0"	BRIDGE FILE N/A									
VERTICAL SCALE 1" = 5'-0"	DESIGNATION									
SURVEY BOOK	SHEETS 13 of 55									
CONTRACT	PROJECT CASCADDES TRAIL									

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316+00 317+00 318+00 319+00 320+00 321+00



**SOFTBALL FIELD LIGHTING SERVICE NOTE:**  
 ELECTRIC SERVICE TO BE RELOCATED TO ELECTRIC POLE BEHIND NEW PATH PAVEMENT INCLUDING ALL GROUNDING CABLES AND METERING EQUIPMENT AS APPLICABLE. CONTRACTOR TO COMPLETE THIS WORK OR PAY DUKE TO DO IT AND CONTRACTOR IS TO COORDINATE WITH DUKE AS NEEDED TO HAVE POWER SHUT OFF AND RESTORED TO NEW POLE, INCLUDING METERING EQUIPMENT AS NECESSARY OR REQUIRED BY DUKE, EXTRA POLES IN CONFLICT WITH NEW PATH TO BE REMOVED.

CITY OF BLOOMINGTON  
 BOARD OF PARK COMMISSIONERS  
 \*2006000496

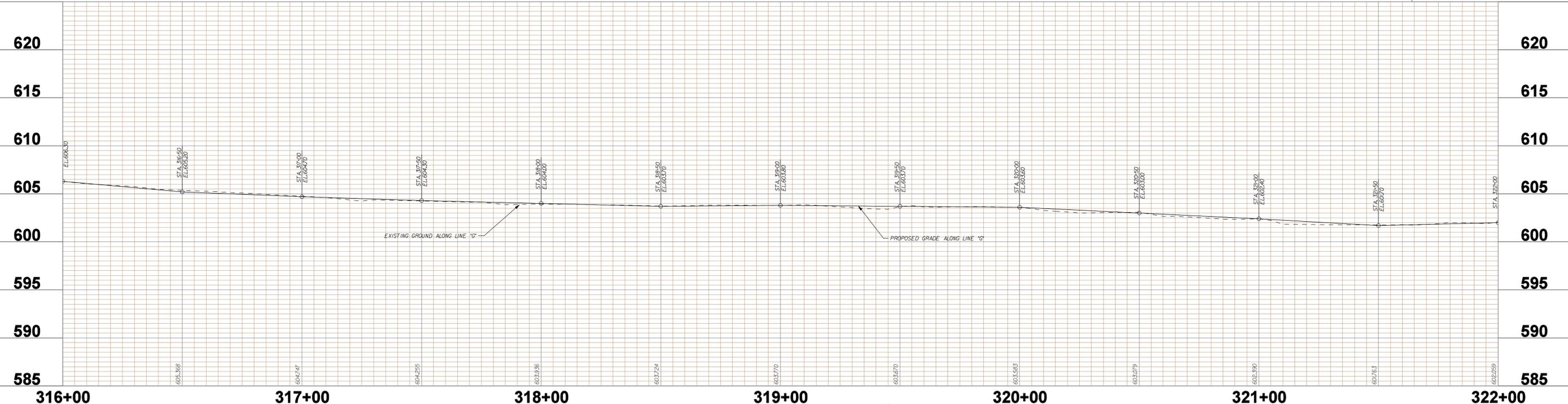
P.I. 313+15.05 'G' $\Delta = 13' 20" (LT)$ $D = 2' 51" 53"$ $R = 2,000.00'$ $T = 233.85'$ $L = 465.59'$ $E = 13.63'$	P.I. 318+19.85 'G' $\Delta = 6' 15" 07" (LT)$ $D = 1' 08" 45"$ $R = 5,000.00'$ $T = 273.07'$ $L = 545.59'$ $E = 7.45'$	P.I. 322+93.18 'G' $\Delta = 6' 34" 01" (RT)$ $D = 1' 38" 13"$ $R = 3,500.00'$ $T = 200.80'$ $L = 401.6'$ $E = 5.76'$
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TREE SUMMARY NEAR SOFTBALL FIELDS		
T2	RED OAK	3 EACH
T3	"IVORY SILK" TREE LILAC	5 EACH
T5	GREEN VASE ZELCOVIA	2 EACH
		10 TOTAL

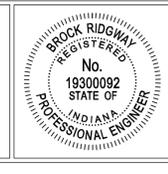
SEC. 21, T-9-N, R-1-W  
 BLOOMINGTON TOWNSHIP  
 MONROE COUNTY

EXISTING UTILITIES SHOWN ON PLANS ARE APPROXIMATED IN ACCORDANCE WITH AVAILABLE RECORDS AND PHYSICAL EVIDENCE. OTHER UTILITIES MAY BE PRESENT. ACTUAL LOCATIONS AND ELEVATIONS ARE TO BE DETERMINED BY CONTRACTOR.

SEE SHEET 2 FOR LEGEND



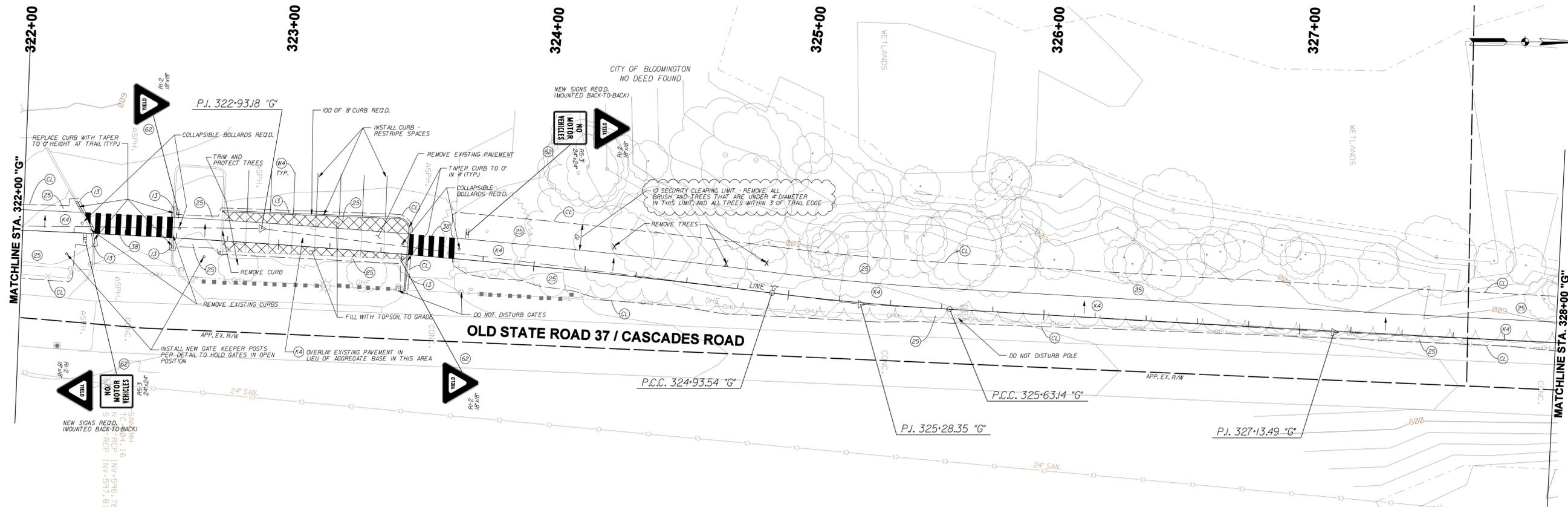
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RECOMMENDED FOR APPROVAL: *B. Dwyer* 9-1-2011  
 DESIGN ENGINEER  
 DESIGNED: BR DRAWN: SI  
 CHECKED: MT CHECKED: BR

CITY OF BLOOMINGTON  
 CASCADES TRAIL  
 PLAN AND PROFILE  
 LINE "G"

HORIZONTAL SCALE 1" = 20'-0"	BRIDGE FILE N/A
VERTICAL SCALE 1" = 5'-0"	DESIGNATION
SURVEY BOOK	SHEETS 14 of 55
CONTRACT	PROJECT CASCADES TRAIL



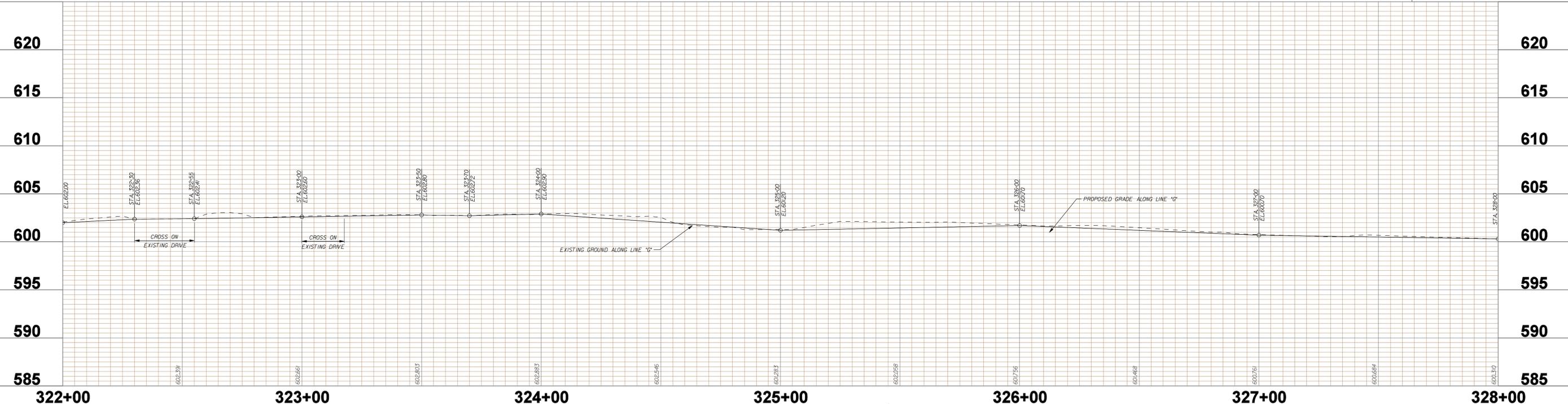
P.I. 322-93.18 "G" $\Delta = 6' 34" 01$ (RT) $D = 1' 39" 13"$ $R = 3,500.00'$ $T = 200.80'$ $L = 401.6'$ $E = 5.76'$	P.I. 325-28.35 "G" $\Delta = 3' 59" 18$ (LT) $D = 5' 43" 46"$ $R = 10,000.00'$ $T = 34.82'$ $L = 69.61'$ $E = 0.61'$	P.I. 327-13.49 "G" $\Delta = 0' 41" 36$ (LT) $D = 0' 13" 50"$ $R = 24,844.08'$ $T = 150.35'$ $L = 300.69'$ $E = 0.45'$
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CITY OF BLOOMINGTON  
BOARD OF PARK COMMISSIONERS  
#2006000496

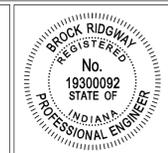
SEC. 21, T-9-N, R-1-W  
BLOOMINGTON TOWNSHIP  
MONROE COUNTY

EXISTING UTILITIES SHOWN ON PLANS ARE APPROXIMATED IN ACCORDANCE WITH AVAILABLE RECORDS AND PHYSICAL EVIDENCE. OTHER UTILITIES MAY BE PRESENT. ACTUAL LOCATIONS AND ELEVATIONS ARE TO BE DETERMINED BY CONTRACTOR.

SEE SHEET 2 FOR LEGEND



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RECOMMENDED FOR APPROVAL: *B. Dewar* DESIGN ENGINEER 9-1-2011 DATE

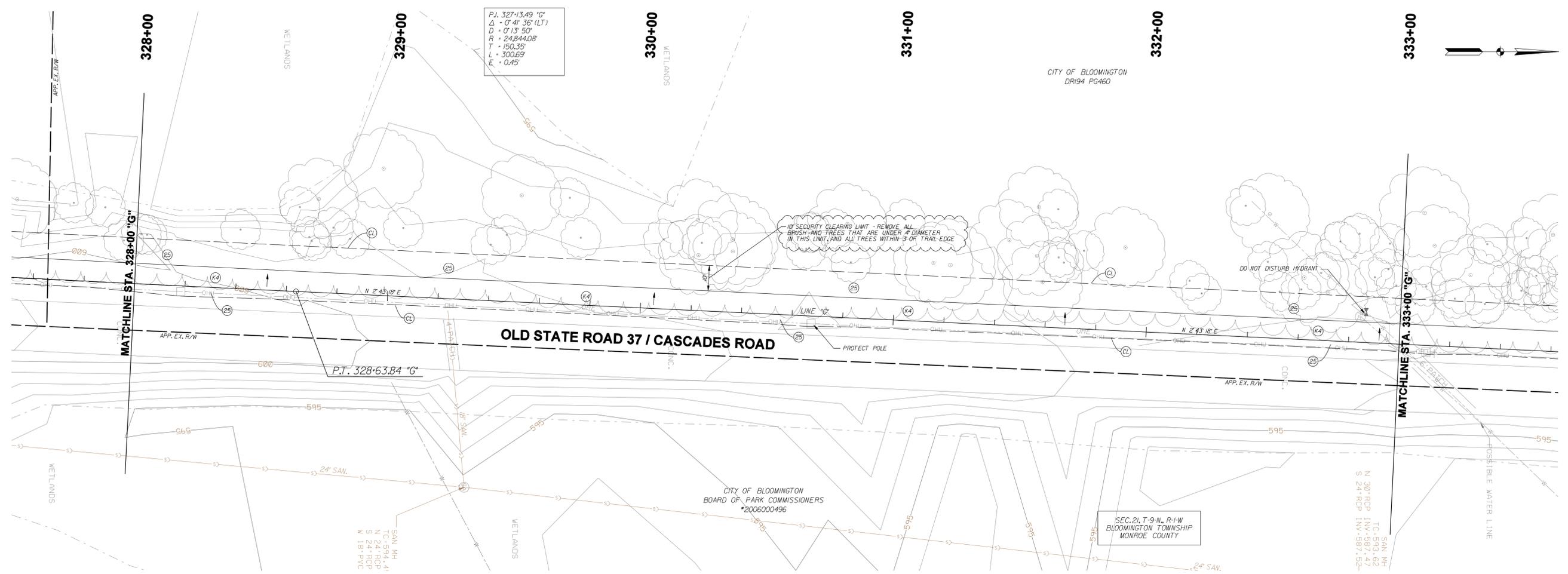
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CITY OF BLOOMINGTON  
CASCADES TRAIL

PLAN AND PROFILE  
LINE "G"

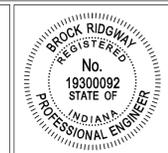
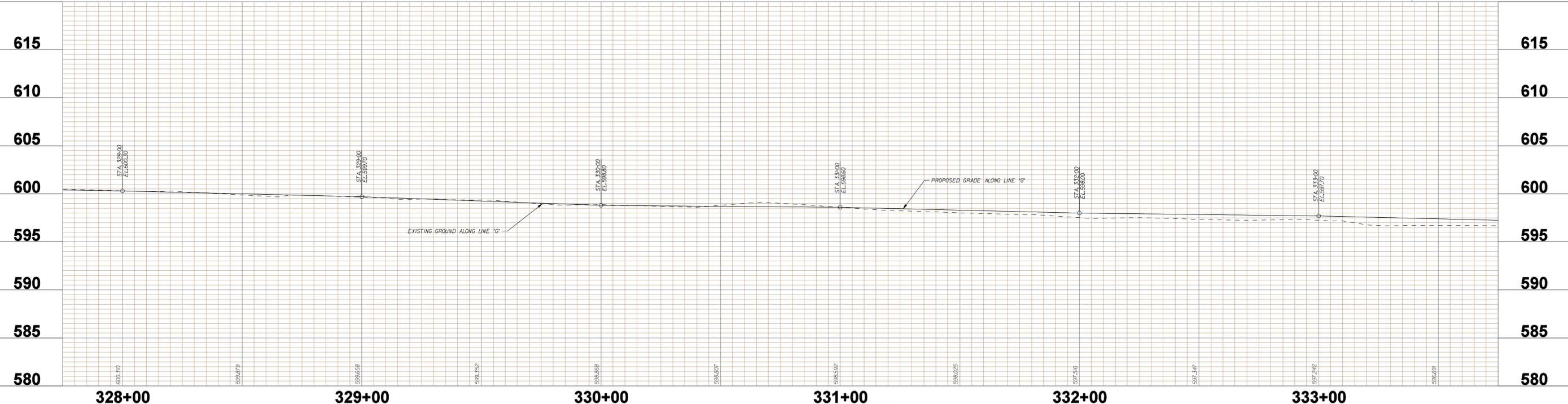
HORIZONTAL SCALE 1" = 20'-0"	BRIDGE FILE N/A
VERTICAL SCALE 1" = 5'-0"	DESIGNATION
SURVEY BOOK	SHEETS 15 of 55
CONTRACT	PROJECT CASCADES TRAIL

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EXISTING UTILITIES SHOWN ON PLANS ARE APPROXIMATED IN ACCORDANCE WITH AVAILABLE RECORDS AND PHYSICAL EVIDENCE. OTHER UTILITIES MAY BE PRESENT. ACTUAL LOCATIONS AND ELEVATIONS ARE TO BE DETERMINED BY CONTRACTOR.

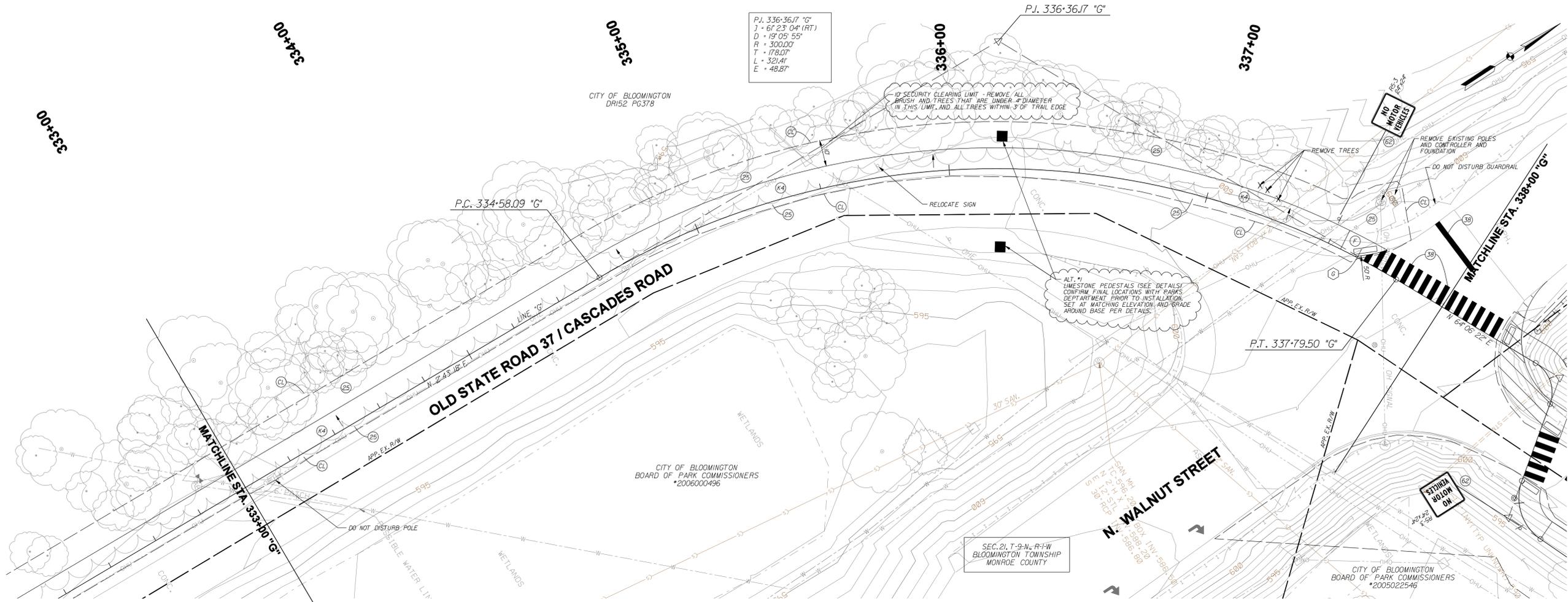
SEE SHEET 2 FOR LEGEND



RECOMMENDED FOR APPROVAL: *B. Ridgway* DESIGN ENGINEER 9-1-2011 DATE  
 DESIGNED: BR DRAWN: SI  
 CHECKED: MT CHECKED: BR

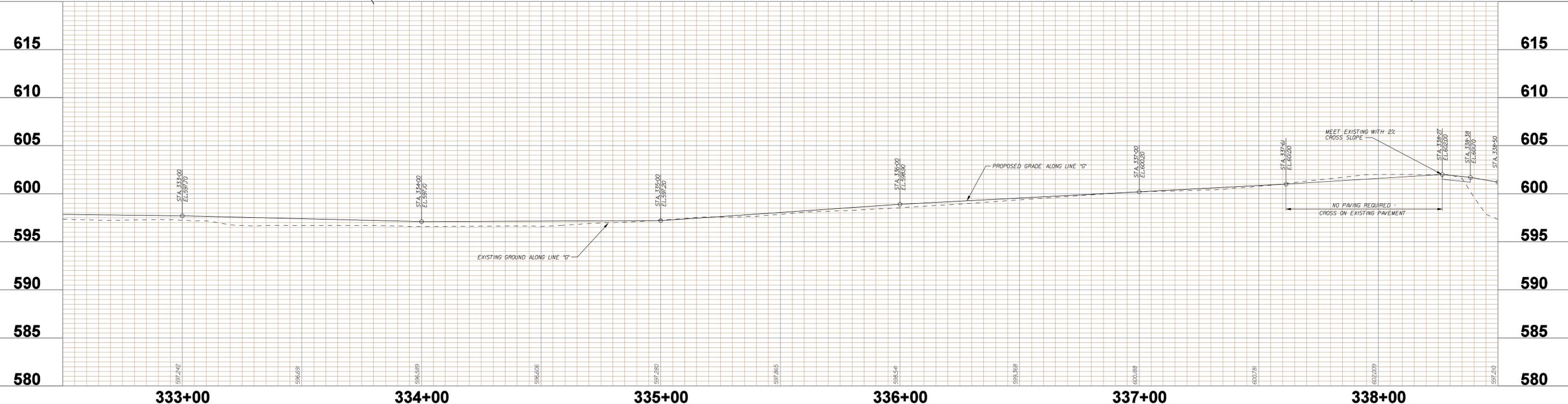
CITY OF BLOOMINGTON  
 CASCADES TRAIL  
 PLAN AND PROFILE  
 LINE "G"

HORIZONTAL SCALE 1" = 20'-0"	BRIDGE FILE N/A
VERTICAL SCALE 1" = 5'-0"	DESIGNATION
SURVEY BOOK	SHEETS 16 of 55
CONTRACT	PROJECT CASCADES TRAIL



EXISTING UTILITIES SHOWN ON PLANS ARE APPROXIMATED IN ACCORDANCE WITH AVAILABLE RECORDS AND PHYSICAL EVIDENCE. OTHER UTILITIES MAY BE PRESENT. ACTUAL LOCATIONS AND ELEVATIONS ARE TO BE DETERMINED BY CONTRACTOR.

SEE SHEET 2 FOR LEGEND



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RECOMMENDED FOR APPROVAL: *B. Ridgway* DESIGN ENGINEER 9-1-2011 DATE

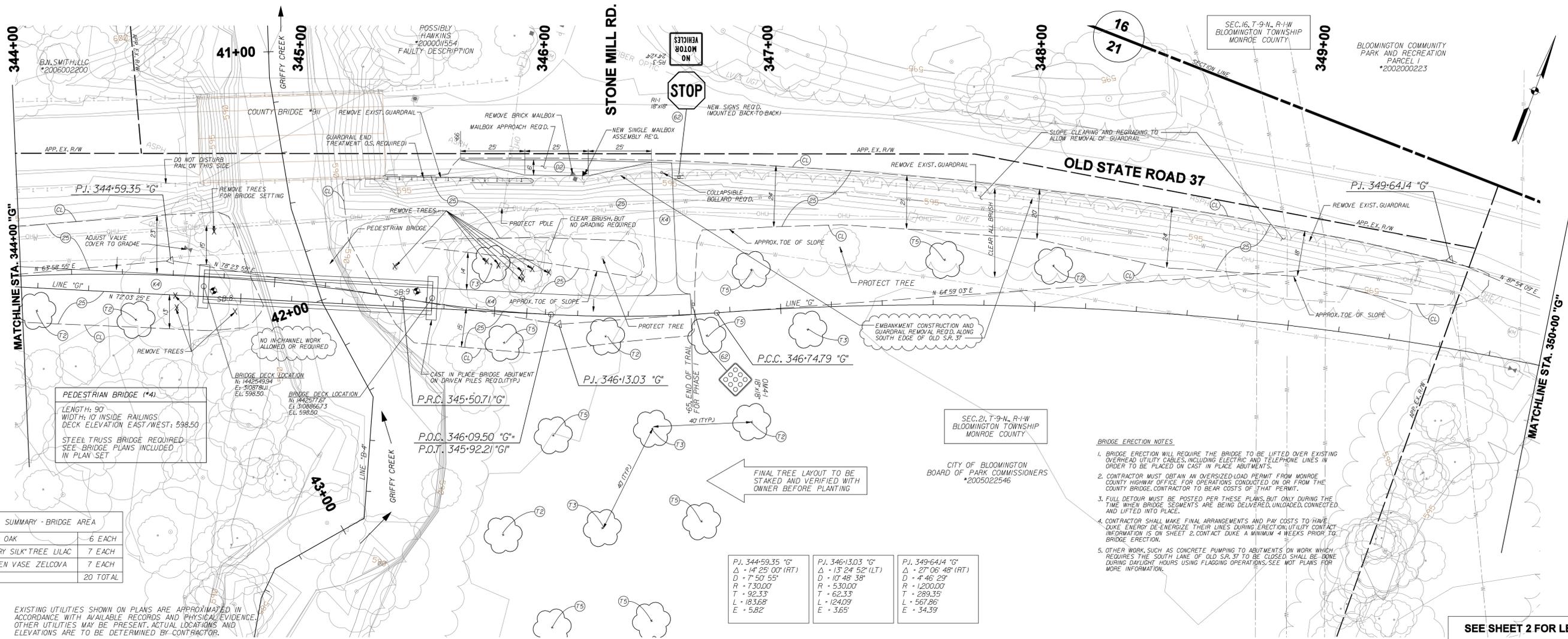
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CITY OF BLOOMINGTON  
 CASCADES TRAIL

PLAN AND PROFILE  
 LINE "G"

HORIZONTAL SCALE 1" = 20'-0"	BRIDGE FILE N/A
VERTICAL SCALE 1" = 5'-0"	DESIGNATION
SURVEY BOOK	SHEETS 17 of 55
CONTRACT	PROJECT CASCADES TRAIL





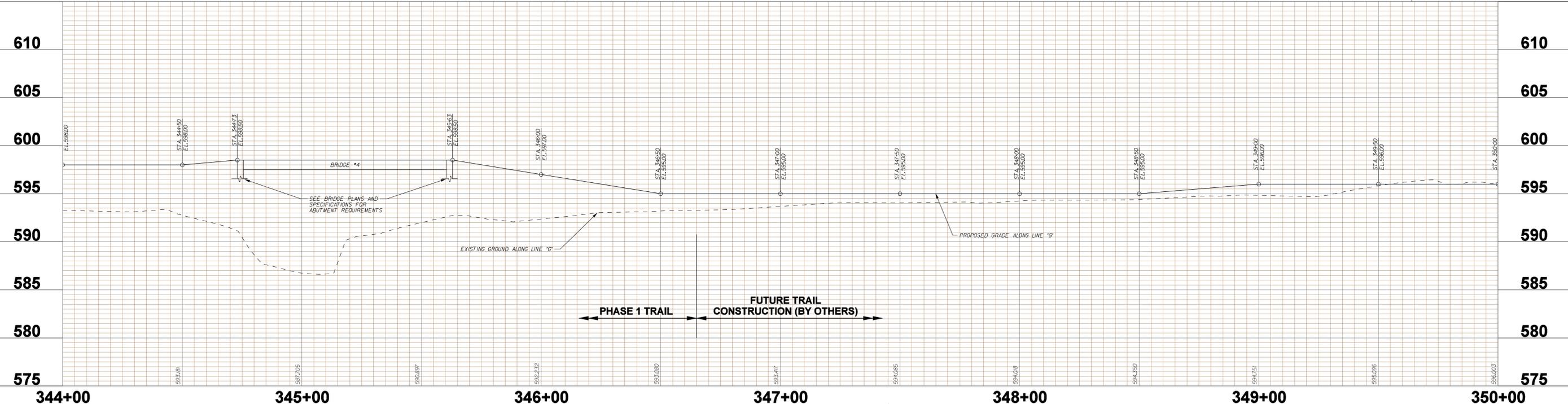
TREE SUMMARY - BRIDGE AREA

T2	RED OAK	6 EACH
T3	IVORY SILK TREE LILAC	7 EACH
T5	GREEN VASE ZELCOVA	7 EACH
		20 TOTAL

EXISTING UTILITIES SHOWN ON PLANS ARE APPROXIMATED IN ACCORDANCE WITH AVAILABLE RECORDS AND PHYSICAL EVIDENCE. OTHER UTILITIES MAY BE PRESENT. ACTUAL LOCATIONS AND ELEVATIONS ARE TO BE DETERMINED BY CONTRACTOR.

- BRIDGE ERECTION NOTES**
- BRIDGE ERECTION WILL REQUIRE THE BRIDGE TO BE LIFTED OVER EXISTING OVERHEAD UTILITY CABLES, INCLUDING ELECTRIC AND TELEPHONE LINES IN ORDER TO BE PLACED ON CAST IN PLACE ABUTMENTS.
  - CONTRACTOR MUST OBTAIN AN OVERSIZED LOAD PERMIT FROM MONROE COUNTY HIGHWAY OFFICE FOR OPERATIONS CONDUCTED ON OR FROM THE COUNTY BRIDGE. CONTRACTOR TO BEAR COSTS OF THAT PERMIT.
  - FULL DETOUR MUST BE POSTED PER THESE PLANS, BUT ONLY DURING THE TIME WHEN BRIDGE SEGMENTS ARE BEING DELIVERED, UNLOADED, CONNECTED, AND LIFTED INTO PLACE.
  - CONTRACTOR SHALL MAKE FINAL ARRANGEMENTS AND PAY COSTS TO HAVE DUKE ENERGY DE-ENERGIZE THEIR LINES DURING ERECTION. UTILITY CONTACT INFORMATION IS ON SHEET 2. CONTACT DUKE A MINIMUM 4 WEEKS PRIOR TO BRIDGE ERECTION.
  - OTHER WORK, SUCH AS CONCRETE PUMPING TO ABUTMENTS ON WORK WHICH REQUIRES THE SOUTH LANE OF OLD SR. 37 TO BE CLOSED, SHALL BE DONE DURING DAYLIGHT HOURS USING FLAGGING OPERATIONS. SEE NOT PLANS FOR MORE INFORMATION.

P.J. 344-59.35 "G" Δ = 14' 25" 00" (RT) D = 7' 50" 55" R = 730.00' T = 92.33' L = 183.68' E = 5.82'	P.J. 346+13.03 "G" Δ = 13' 24" 52" (LT) D = 10' 48" 38" R = 530.00' T = 62.33' L = 124.09' E = 3.65'	P.J. 349-64.14 "G" Δ = 27' 06" 48" (RT) D = 4' 46" 29" R = 1200.00' T = 289.35' L = 567.86' E = 34.39'
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SEE SHEET 2 FOR LEGEND

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RECOMMENDED FOR APPROVAL: *B. Ridgway* DESIGN ENGINEER 9-1-2011 DATE  
 DESIGNED: BR DRAWN: SI  
 CHECKED: MT CHECKED: BR

CITY OF BLOOMINGTON  
 CASCADES TRAIL  
 PLAN AND PROFILE  
 LINE "G"

HORIZONTAL SCALE 1" = 20'-0"	BRIDGE FILE N/A
VERTICAL SCALE 1" = 5'-0"	DESIGNATION
SURVEY BOOK	SHEETS 18 of 55
CONTRACT	PROJECT CASCADES TRAIL

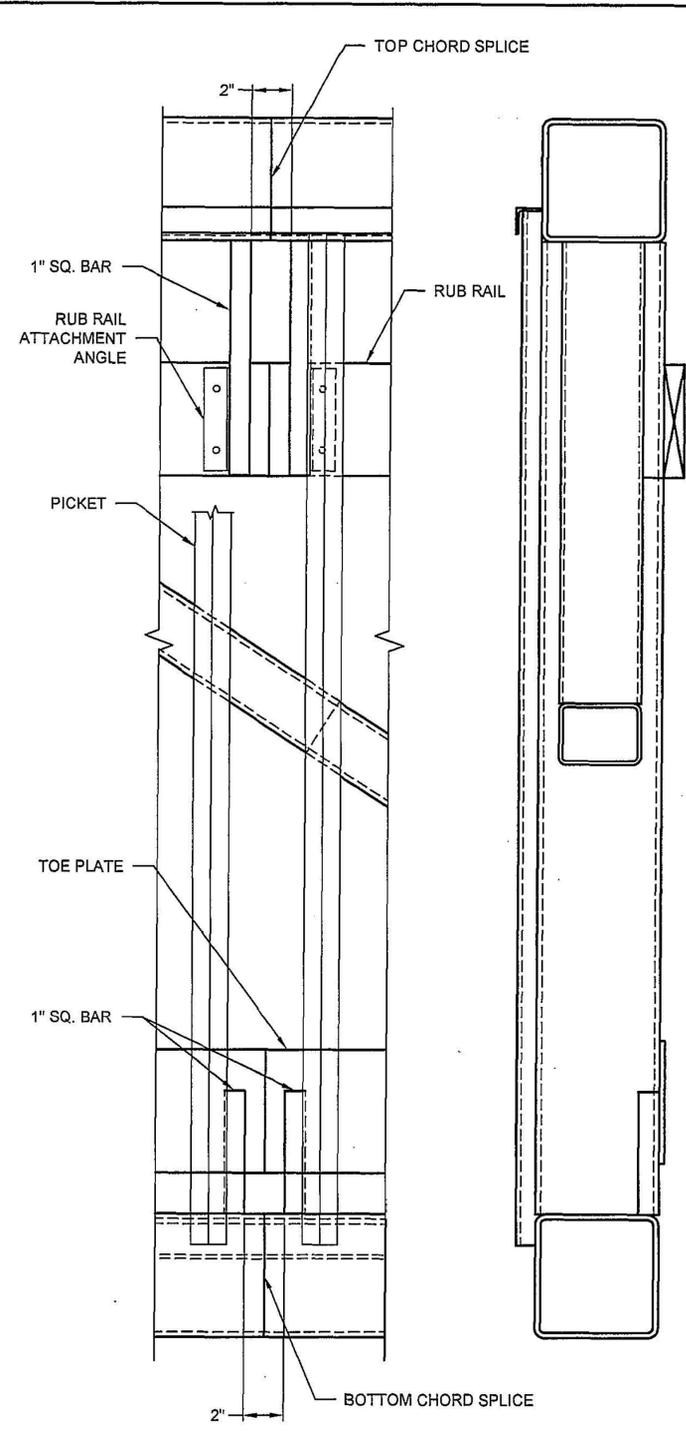




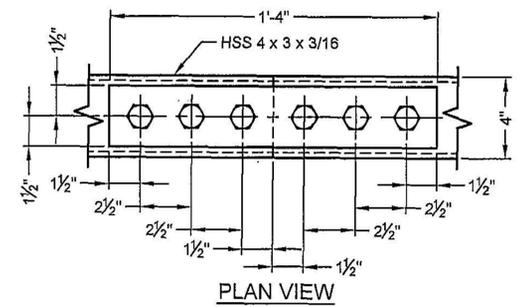


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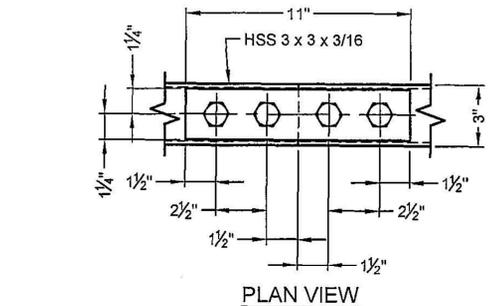


**10**  
1 PICKET / RUB RAIL & TOE PLATE SPLICE DETAIL



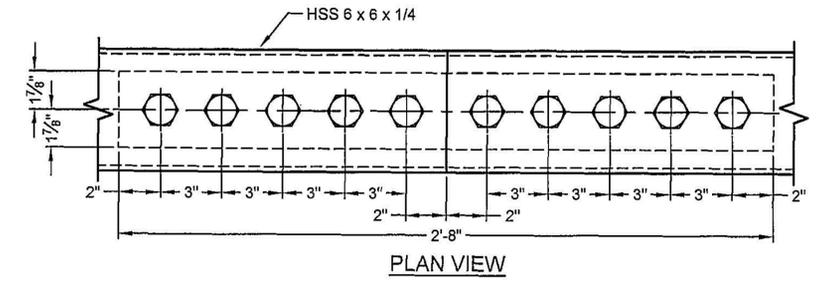
**11**  
1 DIAGONAL SPLICE DETAIL

**MATERIAL PER SPLICE**  
(6) 3/4" DIA x 5" LG  
A325 BOLTS, NUTS & WASHERS  
(TYPE 3)  
(2) 3" x 3/8" x 1'-4"  
ASTM A588 PLATES  
(2) 2 9/16" X 3/8" X 8"  
ASTM A588 PLATE



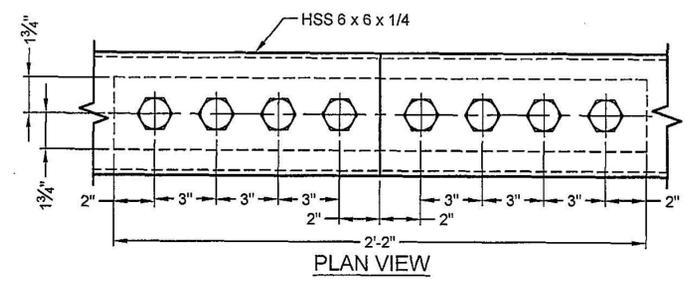
**13**  
1 BRACE DIAGONAL SPLICE DETAIL

**MATERIAL PER SPLICE**  
(4) 3/4" DIA x 5" LG  
A325 BOLTS, NUTS & WASHERS  
(TYPE 3)  
(2) 2 1/2" x 3/8" x 11"  
ASTM A588 PLATES  
(2) 2 9/16" X 3/8" X 5 1/2"  
ASTM A588 PLATE



**12**  
1 BOTTOM CHORD SPLICE DETAIL

**MATERIAL PER SPLICE**  
(20) 1" DIA x 2 1/4" LG  
A325 BOLTS, NUTS & WASHERS  
(TYPE 3)  
(2) 3 3/4" x 3/4" x 2'-8"  
ASTM A588 PLATES



**14**  
1 TOP CHORD SPLICE DETAIL

**MATERIAL PER SPLICE**  
(16) 1" DIA x 2 1/4" LG  
A325 BOLTS, NUTS & WASHERS  
(TYPE 3)  
(2) 3 1/2" x 3/4" x 2'-2"  
ASTM A588 PLATES

CONTECH  
DRAWING

**STEVE E. CHELL**  
REGISTERED  
No. 10403575  
STATE OF INDIANA  
PROFESSIONAL ENGINEER

The design and information shown on this drawing is provided as a service to the project owner, engineer and contractor. It is the responsibility of the user of this drawing, for any part thereof, may be used, modified or otherwise, without the express written consent of CONTECH. CONTECH expressly disclaims any liability or responsibility for structure. If discrepancies between the supplied information upon which the drawing is based and actual field conditions are noted, the user must be notified immediately for reevaluation of the design. CONTECH is not responsible for any errors or omissions that may appear hereon or for any information supplied by others.

MARK	DATE	REVISION DESCRIPTION	BY

90'-0" x 10'-2"  
CASCADE TRAIL  
PEDESTRIAN BRIDGE  
BLOOMINGTON, IN

**CONTECH**  
CONSTRUCTION PRODUCTS INC.  
www.contech-cp.com  
8301 State Highway 29 North, Alexandria, MN 56308  
800-328-2007 320-852-7500 320-852-7007 FAX

**CONTINENTAL**  
BRIDGE

DATE: 2/1/2010

DESIGNED: DAN	DRAWN: BAJ
CHECKED: DAN	APPROVED: SEC
PROJECT No.: 145049	SEQUENCE No.: 006

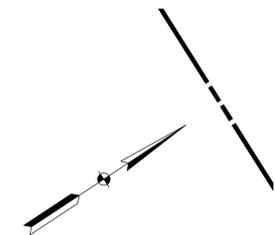
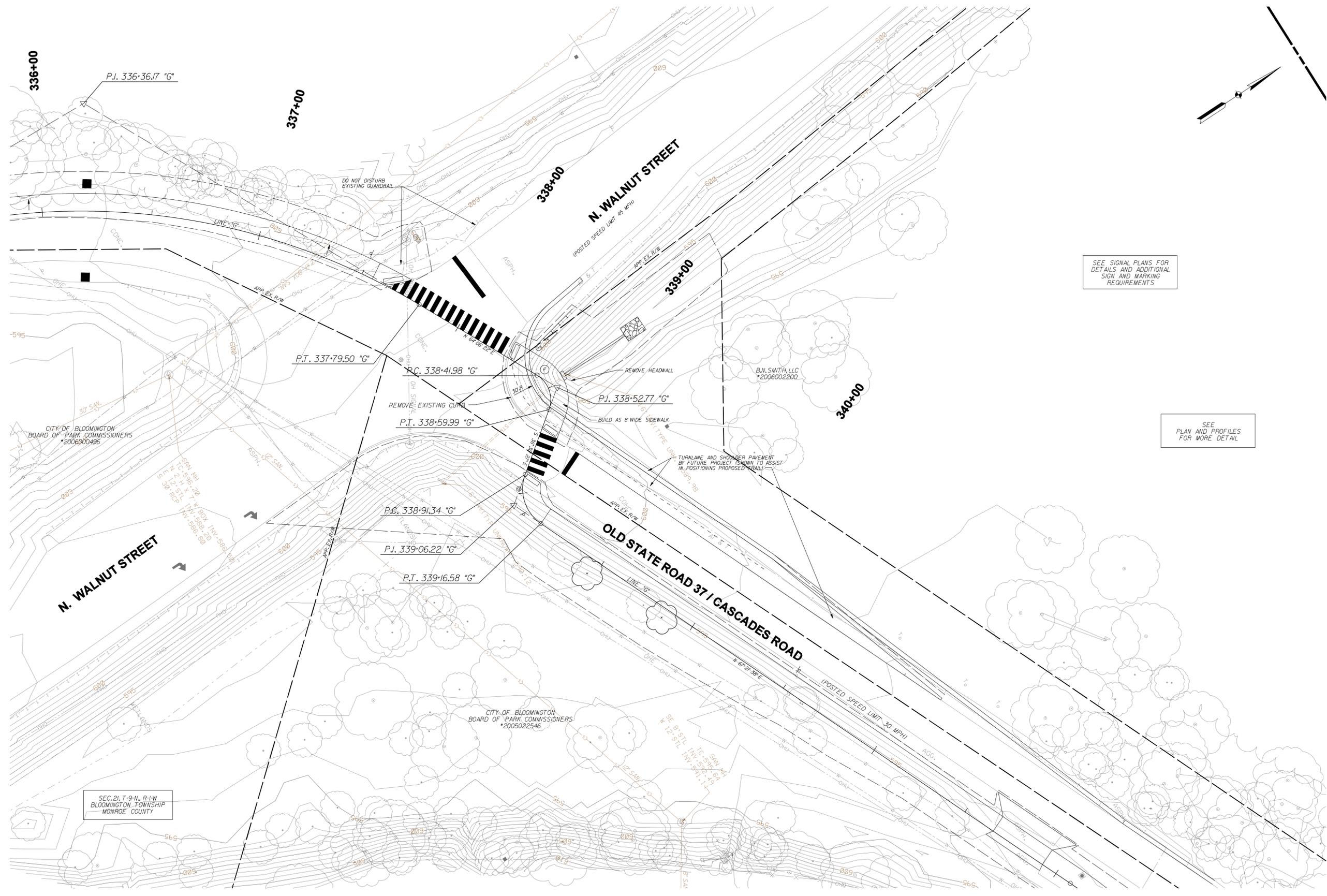
SHEET: 4 OF 4

RECOMMENDED FOR APPROVAL BY CONTECH	DESIGN ENGINEER	DATE
DESIGNED: BR	DRAWN: SI	
CHECKED: MT	CHECKED: BR	

CITY OF BLOOMINGTON  
CASCADES TRAIL

PEDESTRIAN BRIDGE PLANS,  
LAYOUTS AND DETAILS

HORIZONTAL SCALE	BRIDGE FILE
NONE	N/A
VERTICAL SCALE	DESIGNATION
	N/A
SURVEY BOOK	SHEETS
N/A	23 of 55
CONTRACT	PROJECT
N/A	CASCADES TRAIL

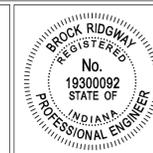


SEE SIGNAL PLANS FOR  
DETAILS AND ADDITIONAL  
SIGN AND MARKING  
REQUIREMENTS

SEE  
PLAN AND PROFILES  
FOR MORE DETAIL

SEC. 21, T-9-N, R-1-W  
BLOOMINGTON TOWNSHIP  
MONROE COUNTY

08/25 8/31/2011 12:42:45 AM  
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RECOMMENDED FOR APPROVAL: *B. Ridman* 9-1-2011 DATE  
 DESIGN ENGINEER  
 DESIGNED: BR DRAWN: SI  
 CHECKED: MT CHECKED: BR

CITY OF BLOOMINGTON  
 CASCADES TRAIL  
 INTERSECTION DETAIL  
 LINE "G"

HORIZONTAL SCALE 1" = 20'-0"	BRIDGE FILE N/A
VERTICAL SCALE 1" = 5'-0"	DESIGNATION N/A
SURVEY BOOK N/A	SHEETS 24 of 55
CONTRACT N/A	PROJECT CASCADES TRAIL

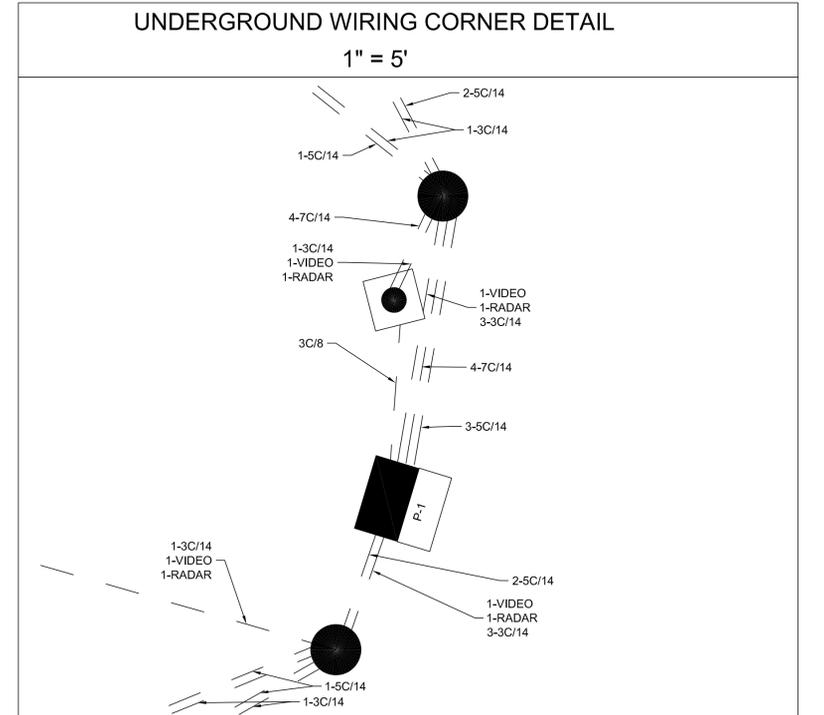
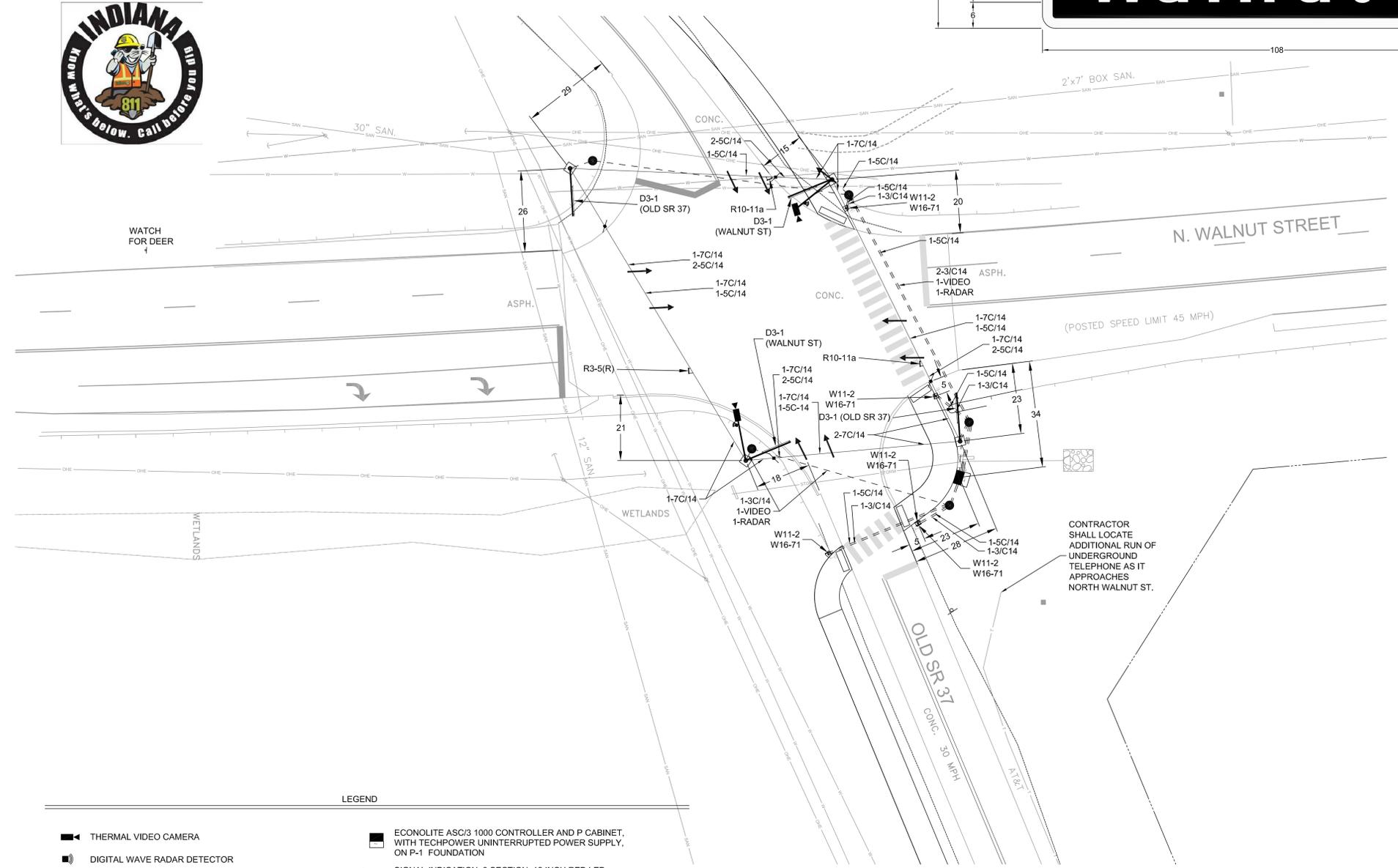
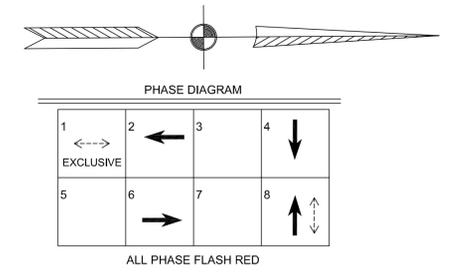
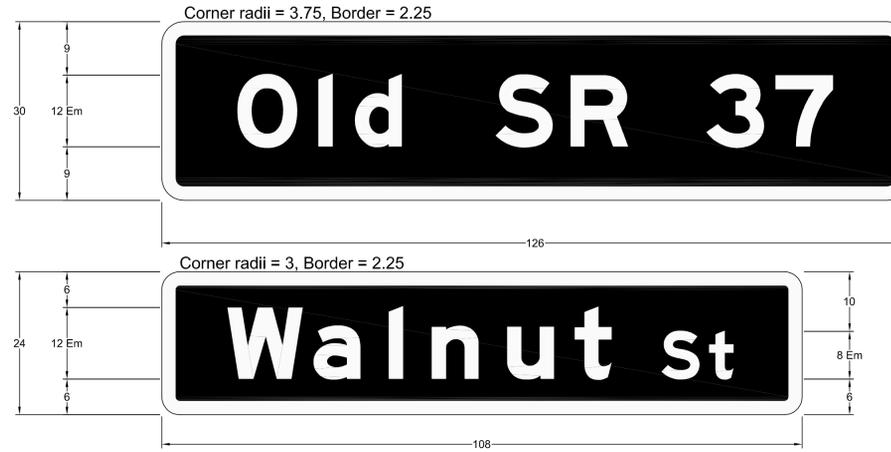
NOTES

1. ALL WORK TO CONFORM TO INDOT STANDARDS AND SPECIFICATIONS, STANDARD DRAWINGS, AND THE INDIANA MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
2. CONTRACTOR SHALL VERIFY ALL UTILITIES BEFORE STARTING CONSTRUCTION.
3. CONTRACTOR SHALL CONTACT BLOOMINGTON TRAFFIC DEPARTMENT ONE WEEK BEFORE STARTING SIGNAL CONSTRUCTION.
4. SALVAGED STEEL STRAIN POLES, MICROWAVE DETECTORS AND INDICATIONS TO BE DELIVERED TO CITY OF BLOOMINGTON TRAFFIC DEPARTMENT STORE YARD.
5. OVERHEAD SIGNS SHALL BE MOUNTED PERPENDICULAR TO ONCOMING TRAFFIC FLOW.
6. SIGN ARMS TO BE MOUNTED AT SAME ELEVATION AS SIGNAL INDICATIONS, APPROXIMATELY 20 TO 25 FEET ABOVE POLE FOUNDATIONS.
7. VIDEO AND RADAR ARMS TO BE MOUNTED AT TOP OF POLES.



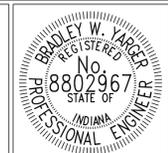
SIGNS

- |         |   |
|---------|---|
| D3-1    | STREET NAME                                       |
| R3-5(R) | RIGHT TURN ONLY (30 X 36)                         |
| R10-11a | NO TURN ON RED (24 X 30)                          |
| W11-2   | PEDESTRIAN (36 X 36)                              |
| W16-7p  | DIAGONAL DOWNWARD POINTING ARROW PLAQUE (24 X 12) |



LEGEND

- |                                    |   |
|------------------------------------|---|
| THERMAL VIDEO CAMERA               | ECONOLITE ASC/3 1000 CONTROLLER AND P CABINET, WITH TECHPOWER UNINTERRUPTED POWER SUPPLY, ON P-1 FOUNDATION |
| DIGITAL WAVE RADAR DETECTOR        | SIGNAL INDICATION, 3 SECTION, 12 INCH RED LED, 12 INCH YELLOW LED, 12 INCH GREEN LED                        |
| HAND HOLE                          | ACCESSIBLE PEDESTRIAN SIGNAL, INDICATION, BUTTON AND SIGN   |
| 50 mm GALVANIZED STEEL CONDUIT     | VIDEO, RADAR, AND SIGN ARMS, 15 FOOT  |
| DISCONNECT HANGER                  | PEDESTAL POLE AND FOUNDATION, 10 FOOT   |
| SPAN MOUNTED SHEET SIGN            | STEEL STRAIN POLE AND FOUNDATION, 36 FOOT   |
| ARM MOUNTED STREET NAME SHEET SIGN |   |



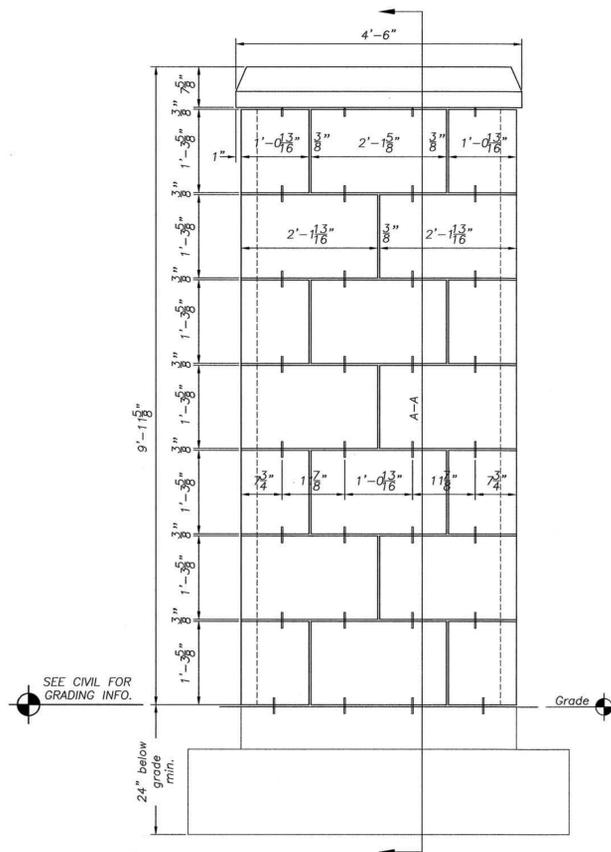
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 DESIGN ENGINEER DATE

DESIGNED: BWY DRAWN: BWY  
 CHECKED: BWY CHECKED: BWY

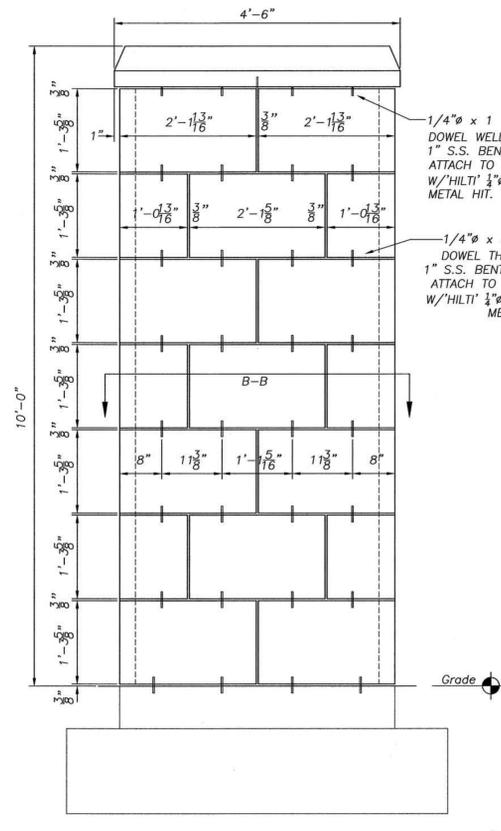
CITY OF BLOOMINGTON  
 CASCADES TRAIL

SIGNAL PLAN  
 WALNUT STREET AT OLD SR 37

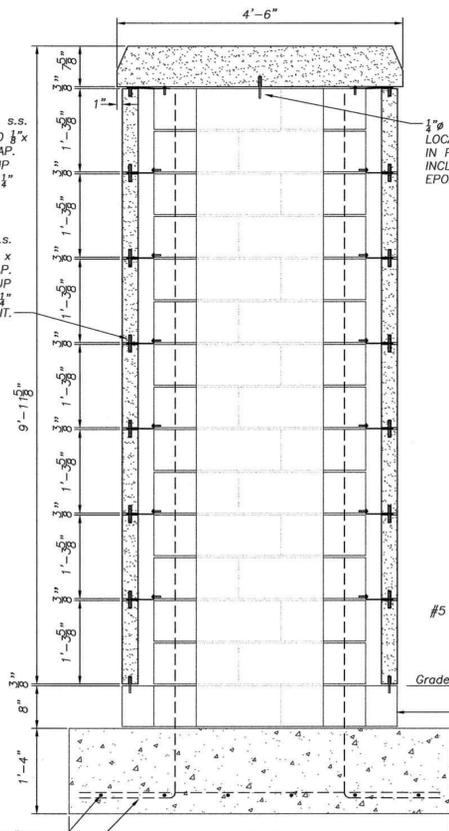
HORIZONTAL SCALE	BRIDGE FILE
1" = 20'-0"	N/A
VERTICAL SCALE	DESIGNATION
N/A	
SURVEY BOOK	SHEETS
CONTRACT	25 of 55
	PROJECT



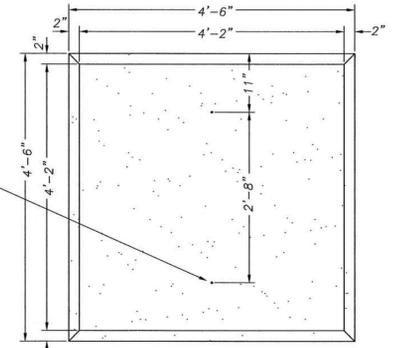
1 ELEVATION VIEW  
Scale: 3/4" = 1'-0"



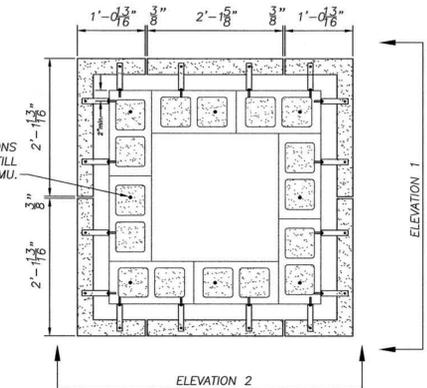
2 ELEVATION VIEW  
Scale: 3/4" = 1'-0"



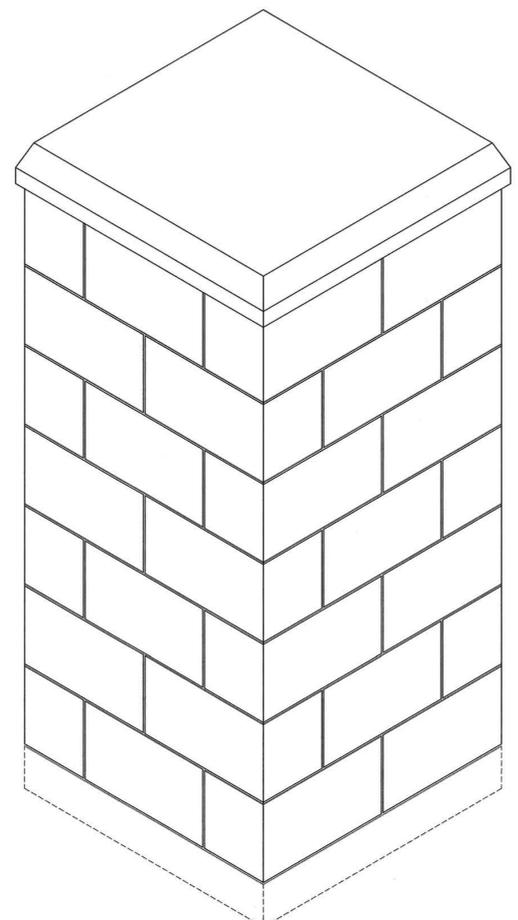
SECTION VIEW A-A  
Scale: 3/4" = 1'-0"



3 PLAN VIEW  
Scale: 3/4" = 1'-0"



PLAN SECTION VIEW B-B  
Scale: 3/4" = 1'-0"



4 ISOMETRIC DETAIL  
Scale: 3/4" = 1'-0"

SEE CIVIL FOR GRADING INFO.

1/4" x 1 1/2" L.S.S. DOWEL WELDED TO 1/8" x 1" S.S. BENT STRAP. ATTACH TO BACKUP W/ 'HILTI' 1/4" x 1 1/2" METAL HIT.

1/4" x 3" L.S.S. DOWEL THRU 1/8" x 1" S.S. BENT STRAP. ATTACH TO BACKUP W/ 'HILTI' 1/4" x 1 1/2" METAL HIT.

1/4" x 6" L. DOWELS LOCATED AS SHOWN IN PLAN VIEW. INCLUDE HY-150 EPOXY IN SINKAGES.

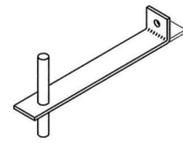
#5 L BARS @ LOCATIONS SHOWN. GROUT FILL ALL CMU.

6" CMU FOR BRICKLEDGE. (GROUT SOLID.)

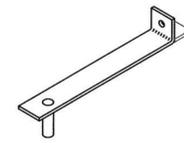
#5's @ 12" O.C. EACH WAY.

#5 L BARS @ LOCATIONS SHOWN IN PLAN VIEW.

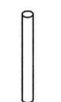
STRAP ANCHOR TYPES  
NTS



(1). 1/4" x 3" L. S.S. DOWEL THRU 1/8" x 1" S.S. BENT STRAP.



(2). 1/4" x 1 1/2" L. S.S. DOWEL WELDED TO 1/8" x 1" S.S. BENT STRAP.



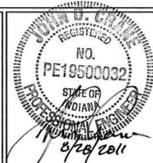
(3). 3/8" x 2" x 3" & 6" L. S.S. DOWELS.

NOTE: LIMESTONE PEDESTALS ARE INCLUDED IN ALTERNATE 2 FOR BIDDING, AND IT SHALL BE THE CITY AND IDNR'S DECISION ON WHETHER OR NOT TO ACCEPT THE BID AND INCLUDE THIS WORK IN THIS PROJECT.

GENERAL NOTES:

- 1) ALL FORMWORK TO BE CONSTRUCTED PER ACI 301.4.
- 2) CONCRETE SHALL BE PLACED PER ACI 301.8.
- 3) CURING AND PROTECTION OF ALL CONCRETE SHALL BE PER ACI 301.12.
- 4) FOUNDATION CONCRETE SHALL BE 4000 PSI, PROPORTIONED PER ACI 301.3
- 5) PLACE CONCRETE ON UNDISTURBED SUBGRADE; 2500 PSF MIN. BRG.
- 6) MASONRY TO BE INSTALLED PER ACI 530
- 7) LIMESTONE TO BE INSTALLED PER INDIANA LIMESTONE HANDBOOK 22nd EDITION
- 8) PROVIDE WEEPS IN HEAD JOINTS OF PANELS DIRECTLY ABOVE GRADE.
- 9) ALL ANCHOR STRAP MATERIAL TO BE A304 STAINLESS STEEL.
- 10) ALL VENEER PANELS THAT INCLUDE S.S. STRAPS FOR ANCHORAGE SHALL HAVE (4) ATTACHMENT LOCATIONS MINIMUM. LOCATE @ 1/4" PTS. U.N.O.
- 11) 'HILTI' HIT THRU 1/8" STRAP IS ACCEPTABLE IN LIEU OF 1/8" PIN WELDED TO STRAP.

BFWCRANE INC. 700965

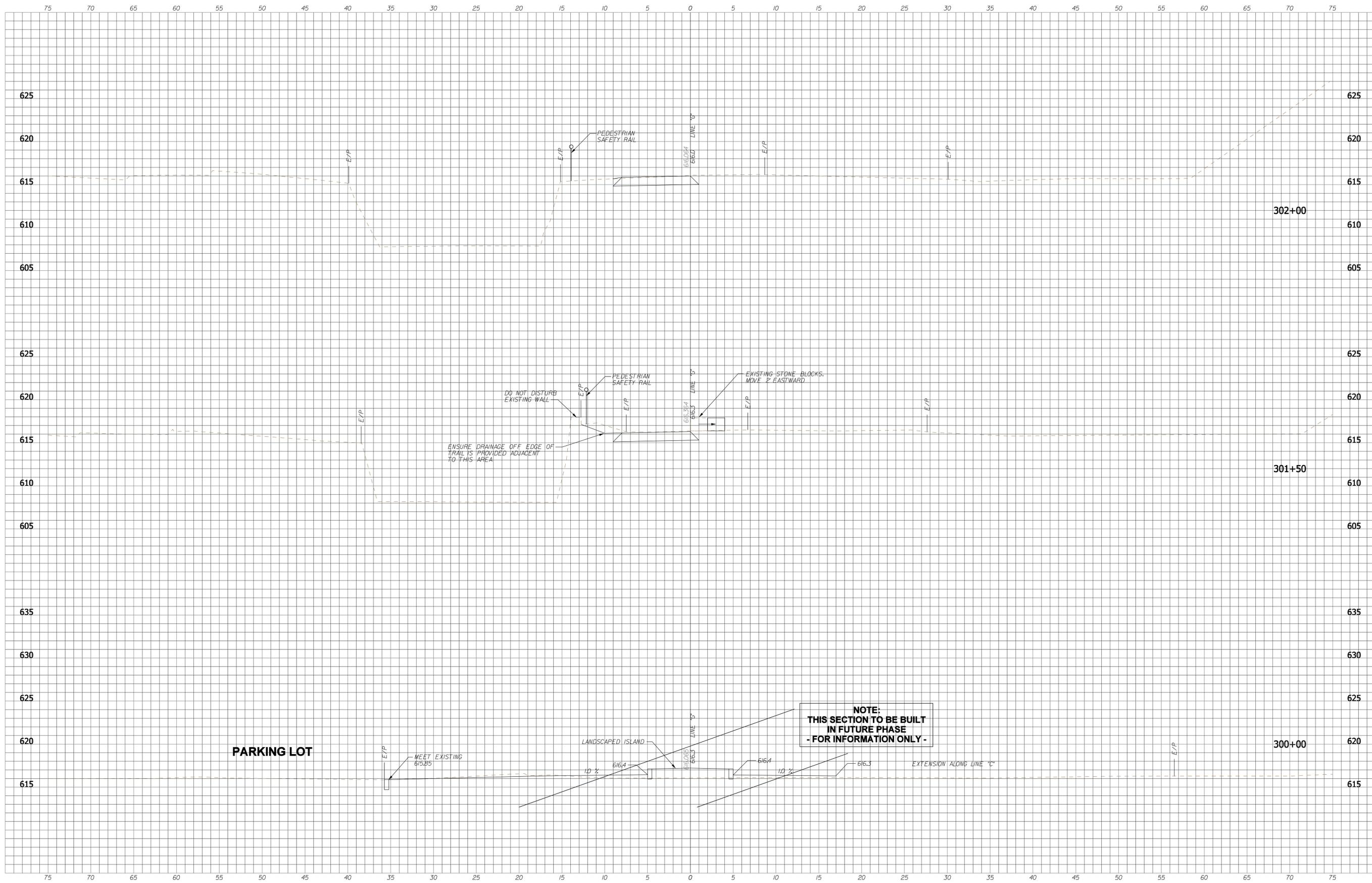


RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: KLK	DRAWN: KLK	
CHECKED: JDC	CHECKED: JDC	

CITY OF BLOOMINGTON  
CASCADES TRAIL

LIMESTONE PEDESTAL DETAILS  
ALTERNATE 1

HORIZONTAL SCALE	BRIDGE FILE
VERTICAL SCALE	DESIGNATION
SURVEY BOOK	SHEETS
N/A	26 of 55
CONTRACT	PROJECT
N/A	CASCADES TRAIL - PHASE 1



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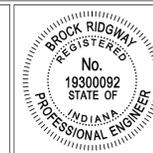
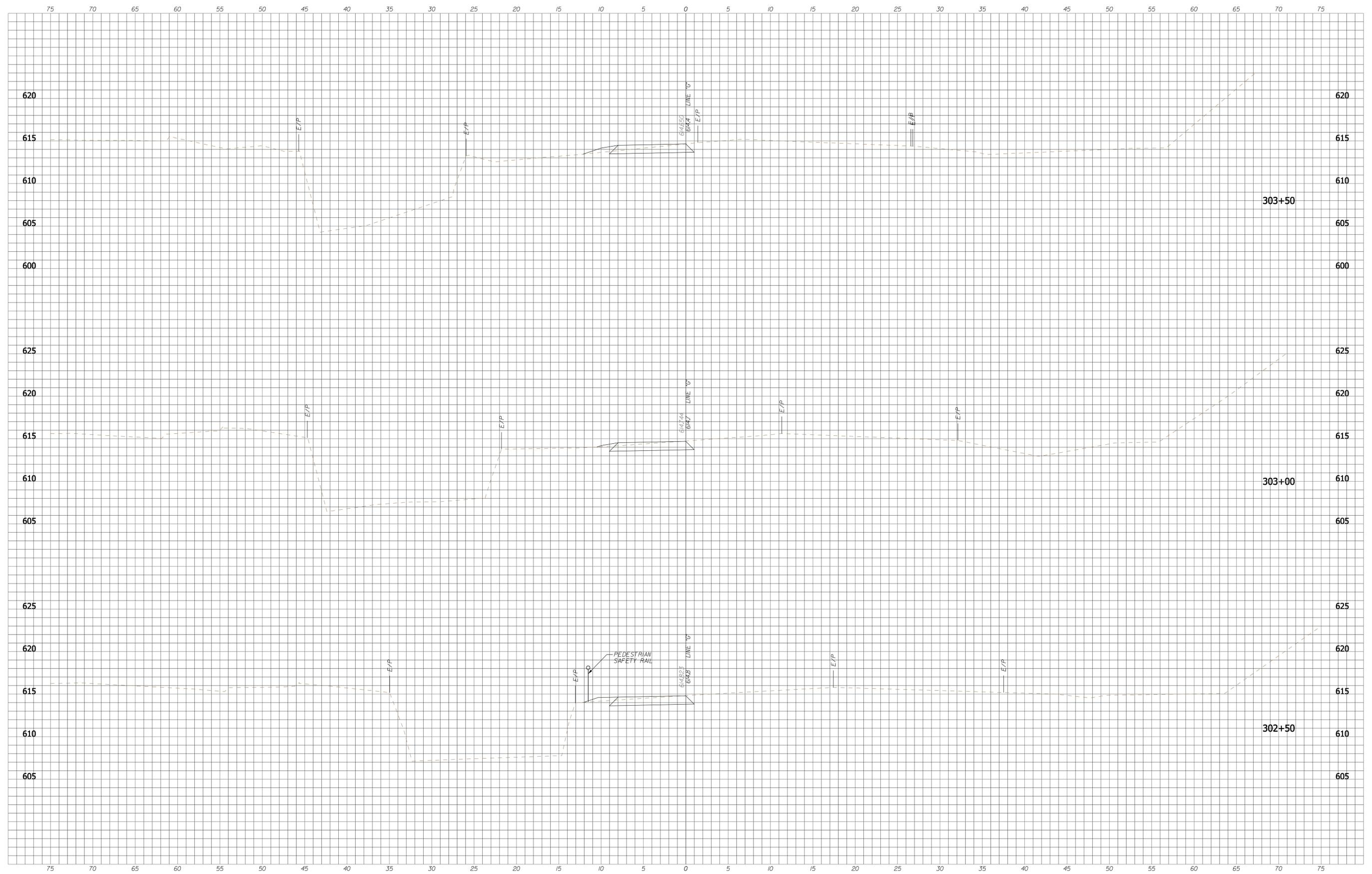


RECOMMENDED FOR APPROVAL: *B. Ridgway* DESIGN ENGINEER 9-1-2011 DATE  
 DESIGNED: BR DRAWN: SI  
 CHECKED: MT CHECKED: BR

**INDIANA DEPARTMENT OF TRANSPORTATION**  
  
**CROSS SECTIONS - LINE "G"**

HORIZONTAL SCALE 1" = 5'-0"	BRIDGE FILE N/A
VERTICAL SCALE 1" = 5'-0"	DESIGNATION N/A
SURVEY BOOK	SHEETS 27 of 55
CONTRACT	PROJECT CASCADES TRAIL

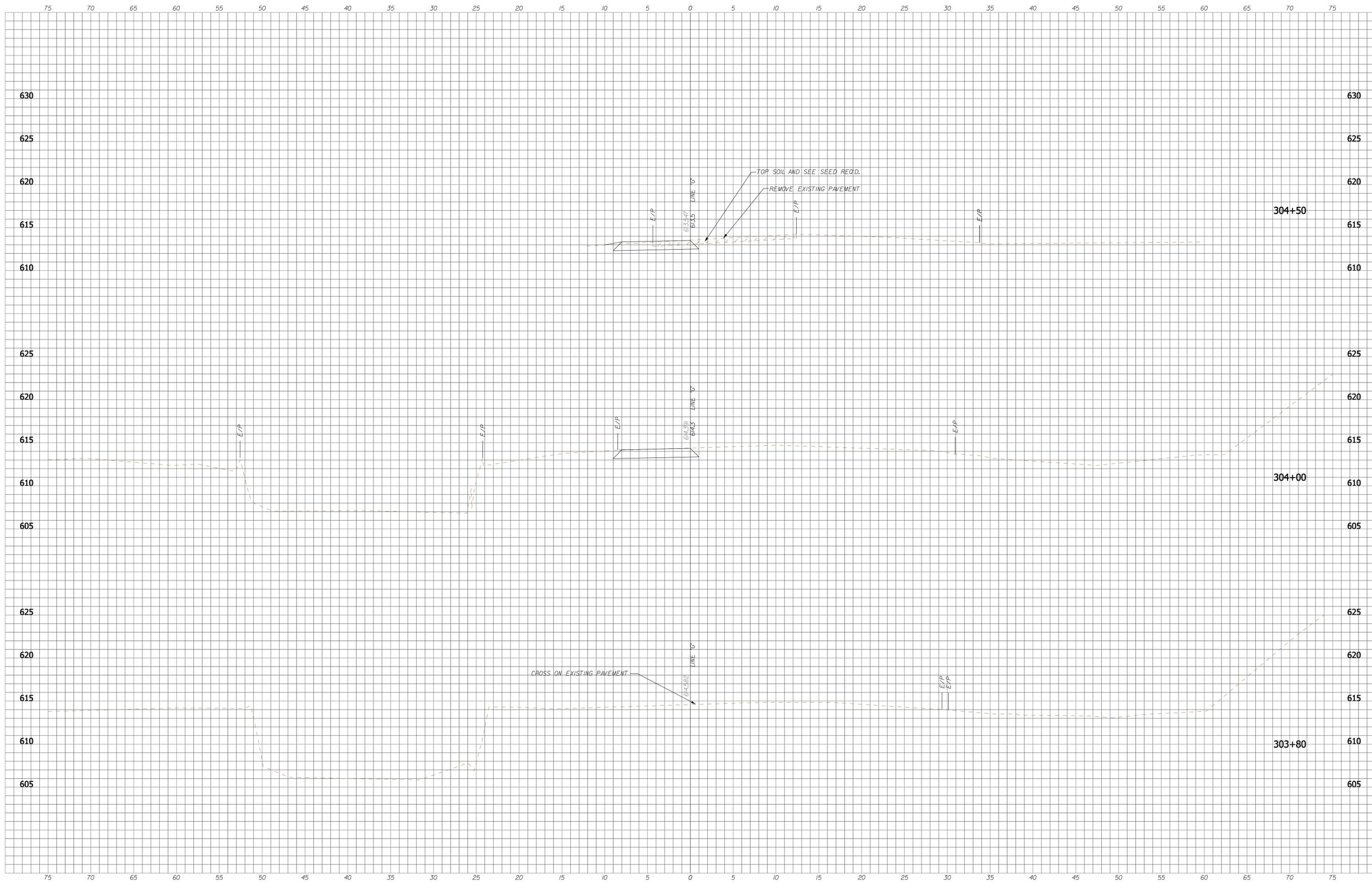
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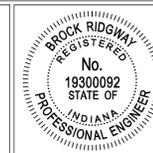
RECOMMENDED FOR APPROVAL: *B. Ridgway* DESIGN ENGINEER 9-1-2011 DATE  
 DESIGNED: BR DRAWN: SI  
 CHECKED: MT CHECKED: BR

**INDIANA DEPARTMENT OF TRANSPORTATION**  
  
**CROSS SECTIONS - LINE "G"**

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VERTICAL SCALE 1" = 5'-0"	DESIGNATION N/A
SURVEY BOOK	SHEETS 28 of 55
CONTRACT	PROJECT CASCADES TRAIL



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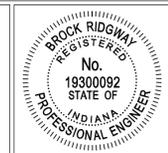
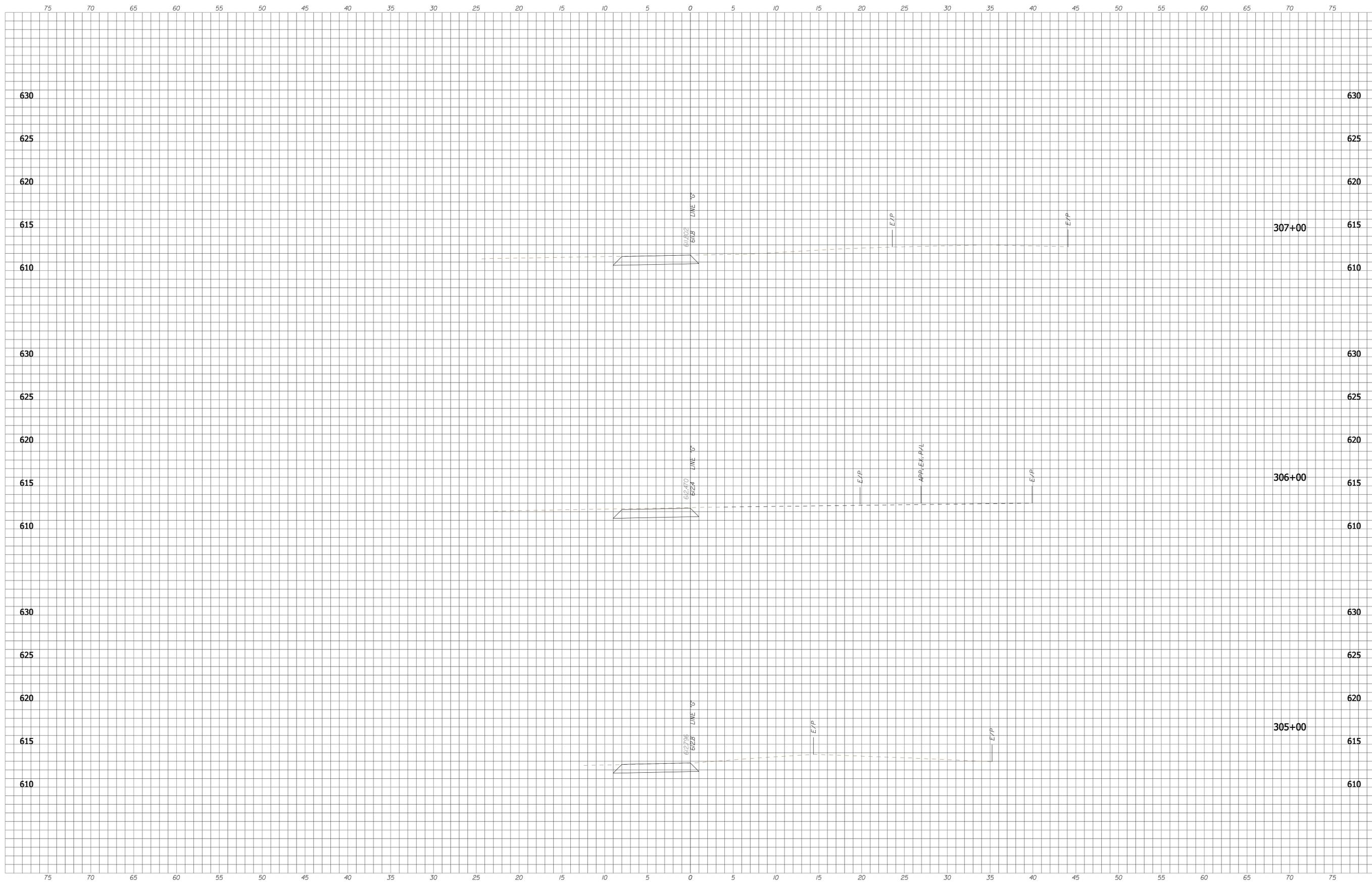
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 DESIGNED: BR DRAWN: SI  
 CHECKED: MT CHECKED: BR

**INDIANA DEPARTMENT OF TRANSPORTATION**

**CROSS SECTIONS - LINE "G"**

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VERTICAL SCALE 1" = 5'-0"	DESIGNATION N/A
SURVEY BOOK	SHEETS 29 of 55
CONTRACT	PROJECT CASCADES TRAIL

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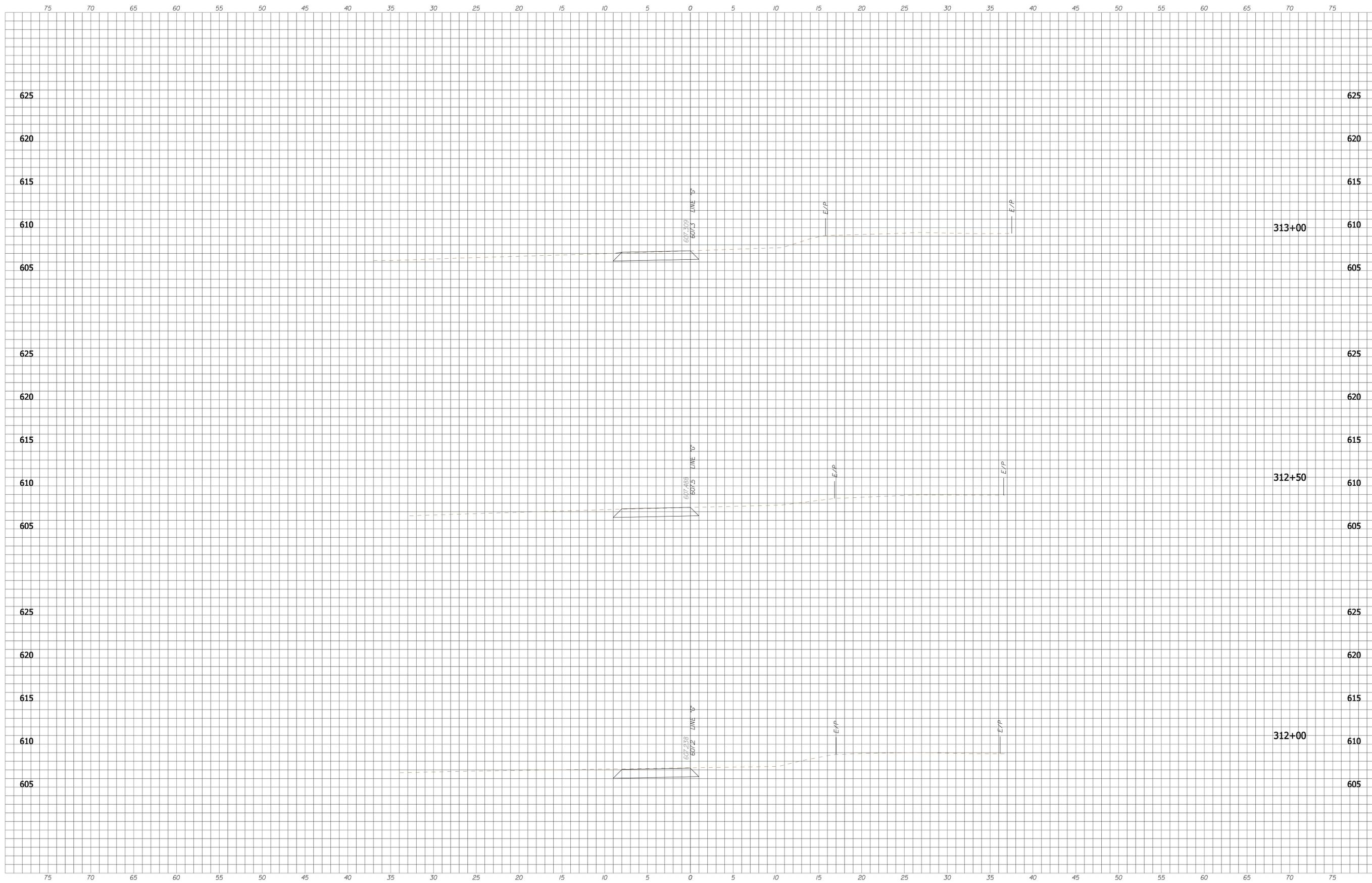
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 CHECKED: MT CHECKED: BR

INDIANA DEPARTMENT OF TRANSPORTATION  
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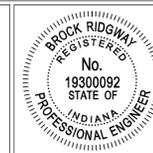
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VERTICAL SCALE 1" = 5'-0"	DESIGNATION N/A
SURVEY BOOK	SHEETS 30 of 55
CONTRACT	PROJECT CASCADES TRAIL







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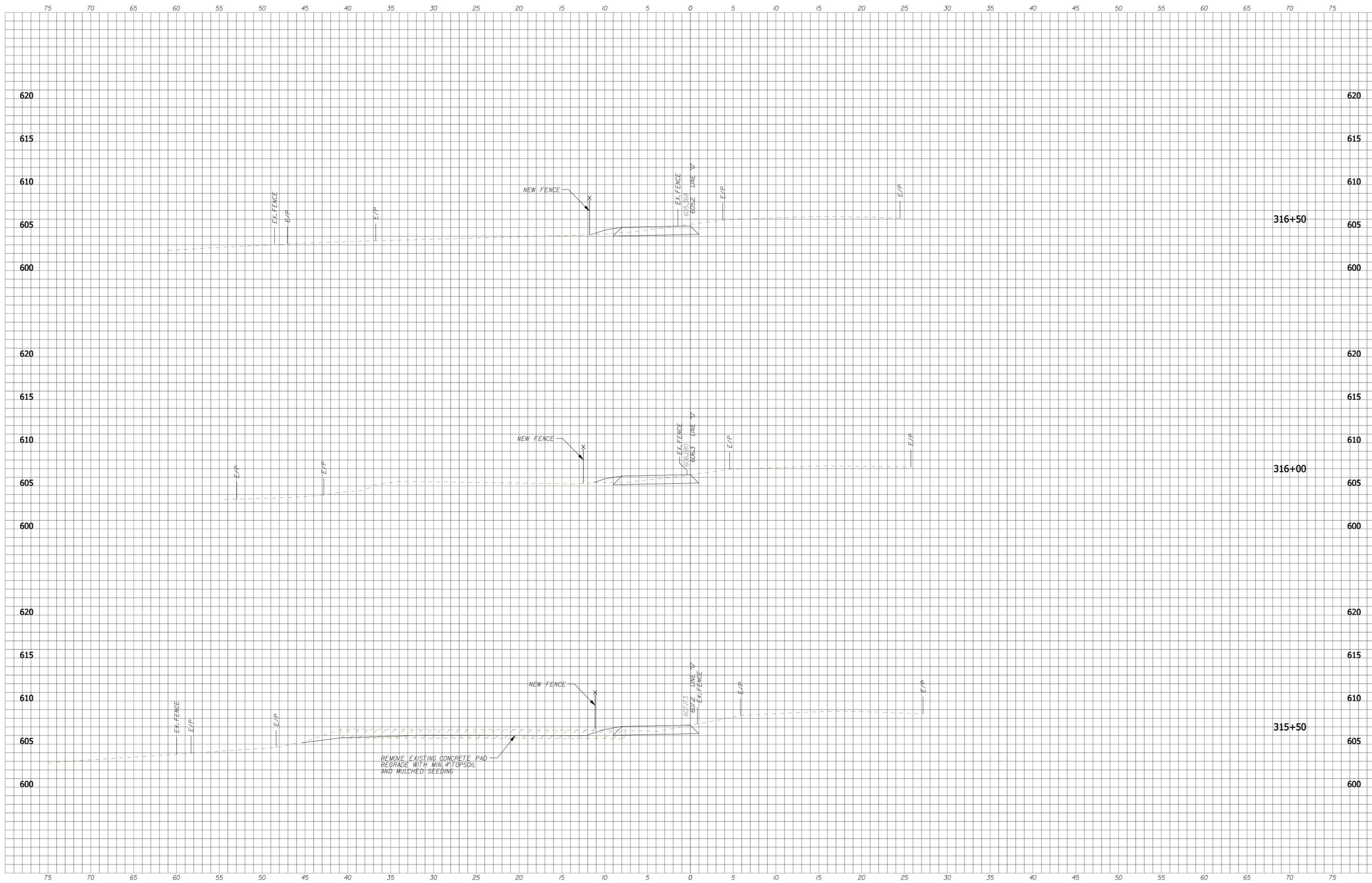
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 DESIGNED: BR DRAWN: SI  
 CHECKED: MT CHECKED: BR

**INDIANA DEPARTMENT OF TRANSPORTATION**  
**CROSS SECTIONS - LINE "G"**

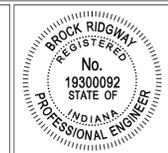
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VERTICAL SCALE 1" = 5'-0"	DESIGNATION N/A
SURVEY BOOK	SHEETS 33 of 55
CONTRACT	PROJECT CASCADES TRAIL







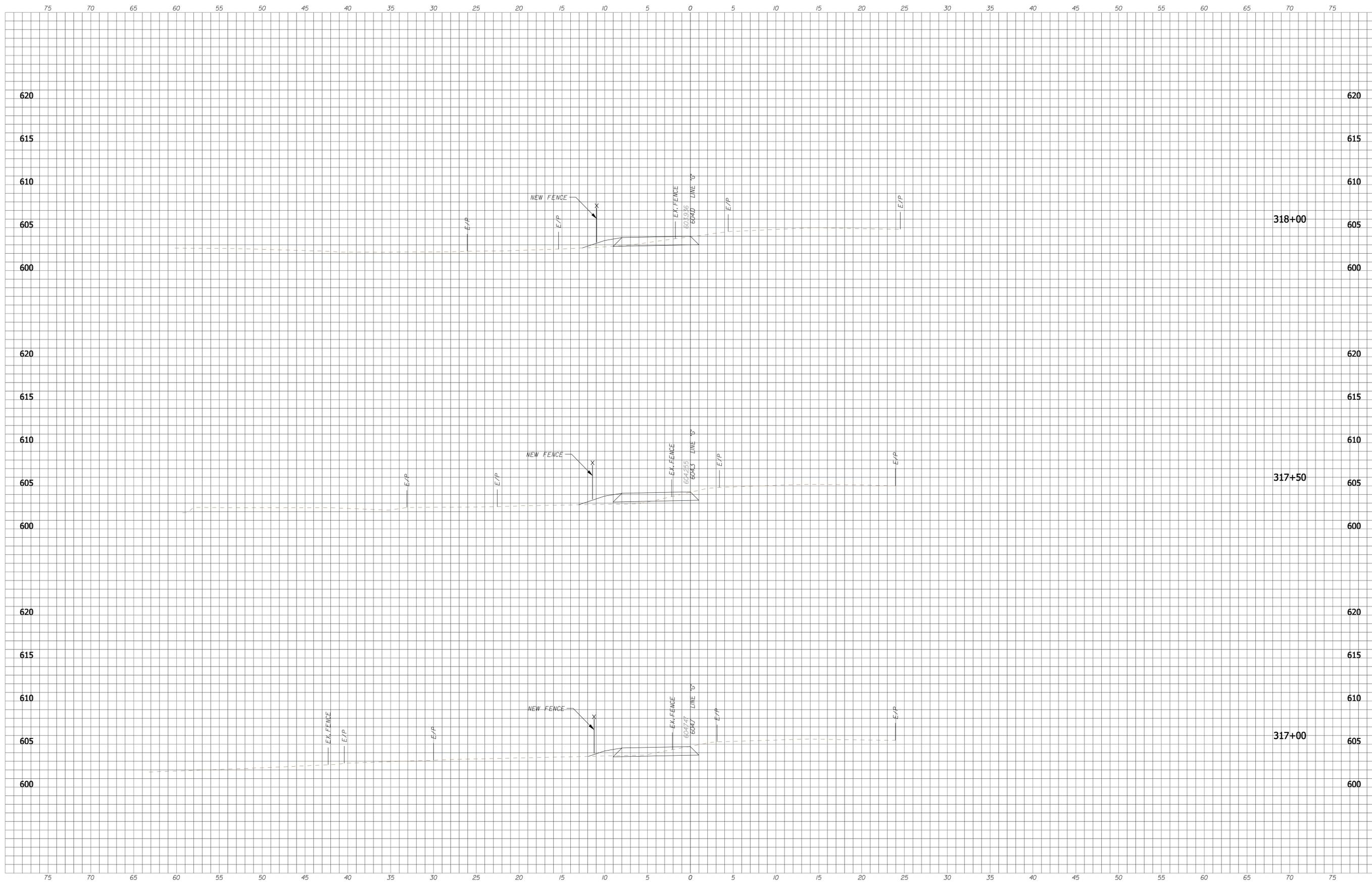
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RECOMMENDED FOR APPROVAL: *B. Ridgway* DESIGN ENGINEER 9-1-2011 DATE  
 DESIGNED: BR DRAWN: SI  
 CHECKED: MT CHECKED: BR

**INDIANA DEPARTMENT OF TRANSPORTATION**  
  
**CROSS SECTIONS - LINE "G"**

HORIZONTAL SCALE 1" = 5'-0"	BRIDGE FILE N/A
VERTICAL SCALE 1" = 5'-0"	DESIGNATION N/A
SURVEY BOOK	SHEETS 36 of 55
CONTRACT	PROJECT CASCADES TRAIL



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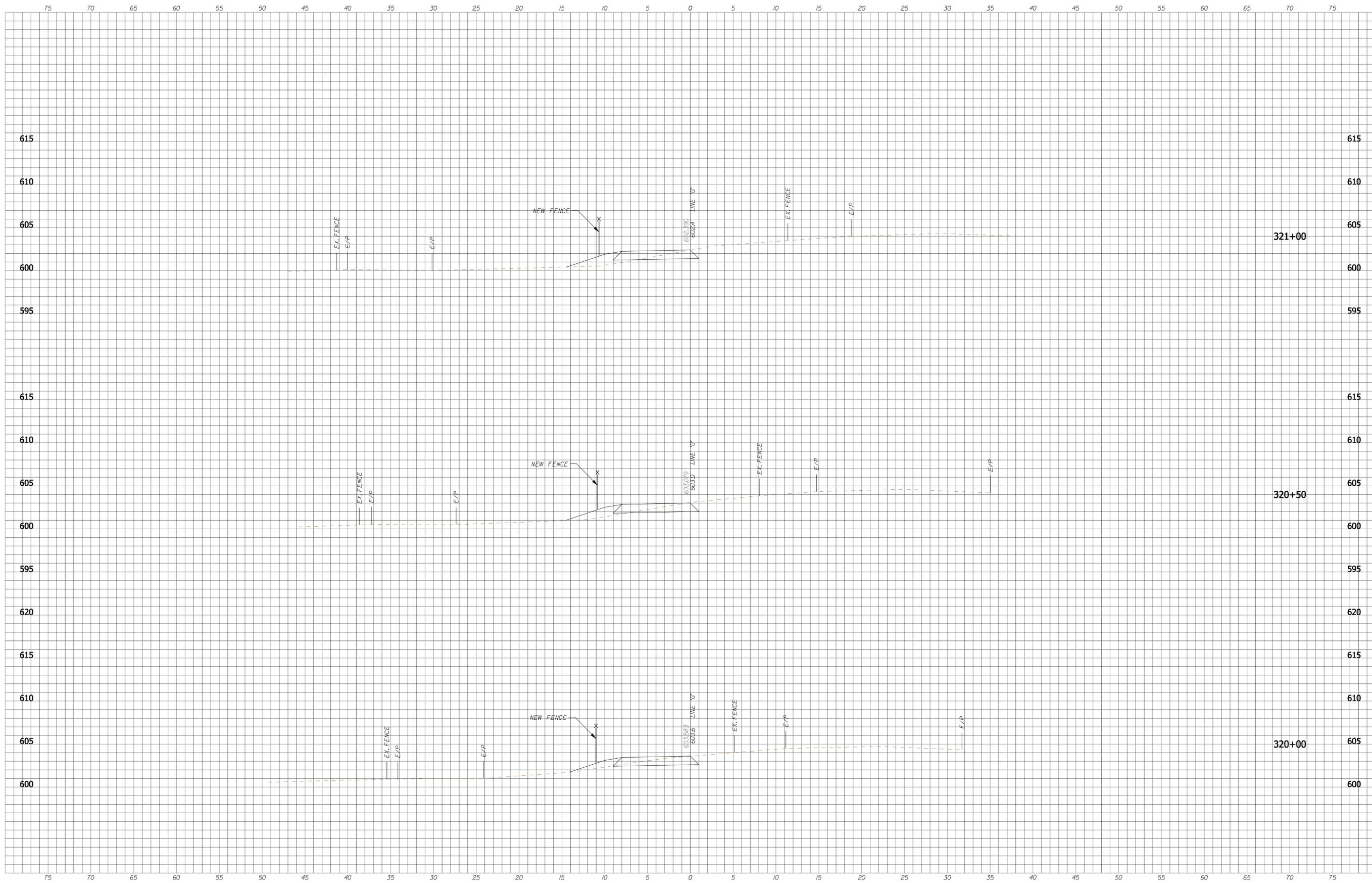


RECOMMENDED FOR APPROVAL: *B. Ridgway* DESIGN ENGINEER DATE: 9-1-2011  
 DESIGNED: BR DRAWN: SI  
 CHECKED: MT CHECKED: BR

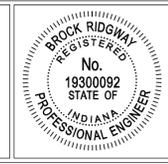
**INDIANA DEPARTMENT OF TRANSPORTATION**  
  
**CROSS SECTIONS - LINE "G"**

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VERTICAL SCALE 1" = 5'-0"	DESIGNATION N/A
SURVEY BOOK	SHEETS 37 of 55
CONTRACT	PROJECT CASCADES TRAIL





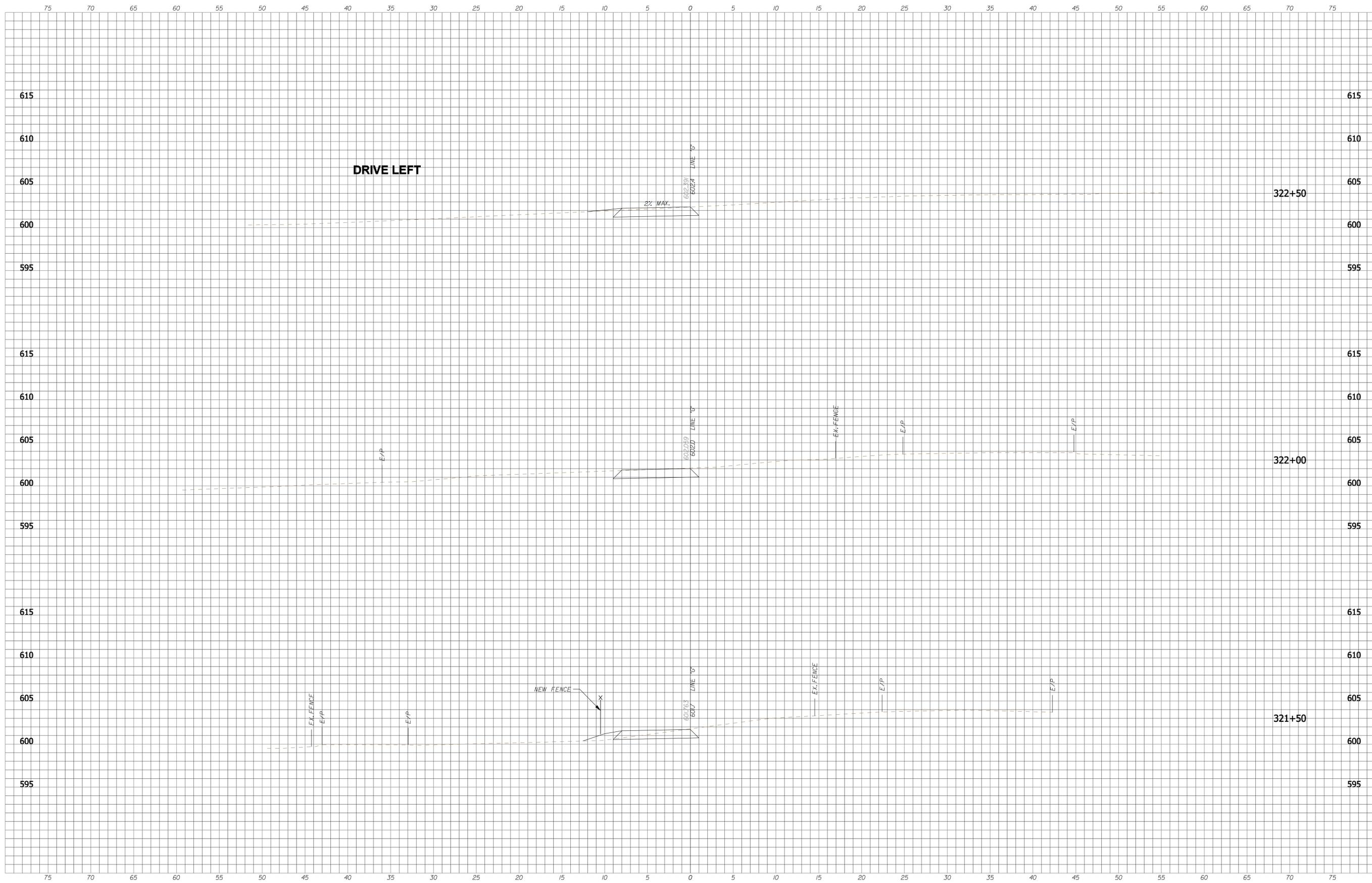
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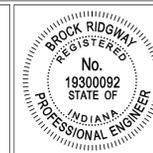
RECOMMENDED FOR APPROVAL: *B. Ridgway* DESIGN ENGINEER 9-1-2011 DATE  
 DESIGNED: BR DRAWN: SI  
 CHECKED: MT CHECKED: BR

**INDIANA DEPARTMENT OF TRANSPORTATION**  
  
**CROSS SECTIONS - LINE "G"**

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VERTICAL SCALE 1" = 5'-0"	DESIGNATION N/A
SURVEY BOOK	SHEETS 39 of 55
CONTRACT	PROJECT CASCADES TRAIL



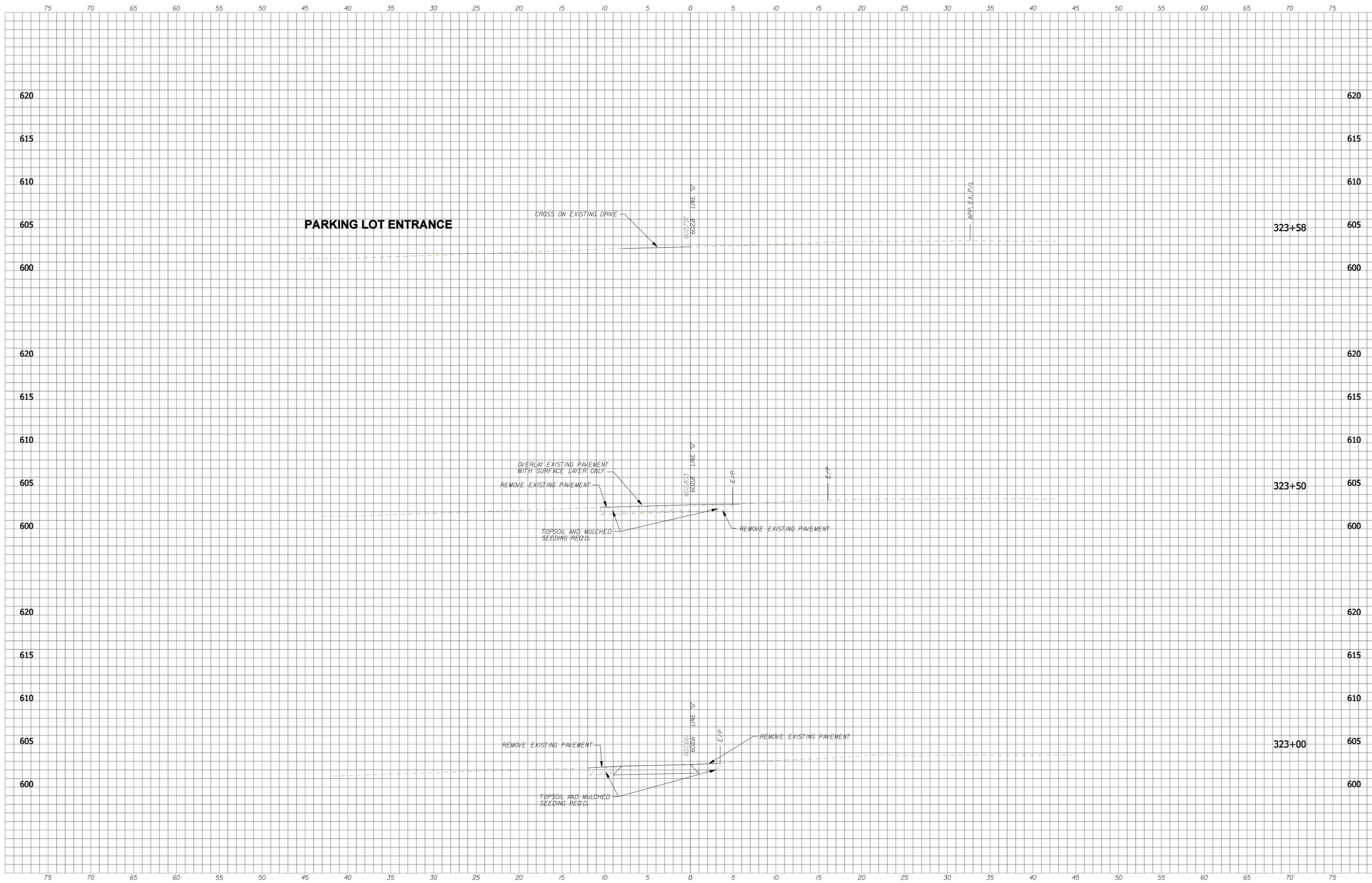
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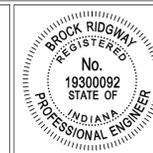
RECOMMENDED FOR APPROVAL: *B. Ridgway* DESIGN ENGINEER 9-1-2011 DATE  
 DESIGNED: BR DRAWN: SI  
 CHECKED: MT CHECKED: BR

**INDIANA DEPARTMENT OF TRANSPORTATION**  
**CROSS SECTIONS - LINE "G"**

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VERTICAL SCALE 1" = 5'-0"	DESIGNATION N/A
SURVEY BOOK	SHEETS 40 of 55
CONTRACT	PROJECT CASCADES TRAIL



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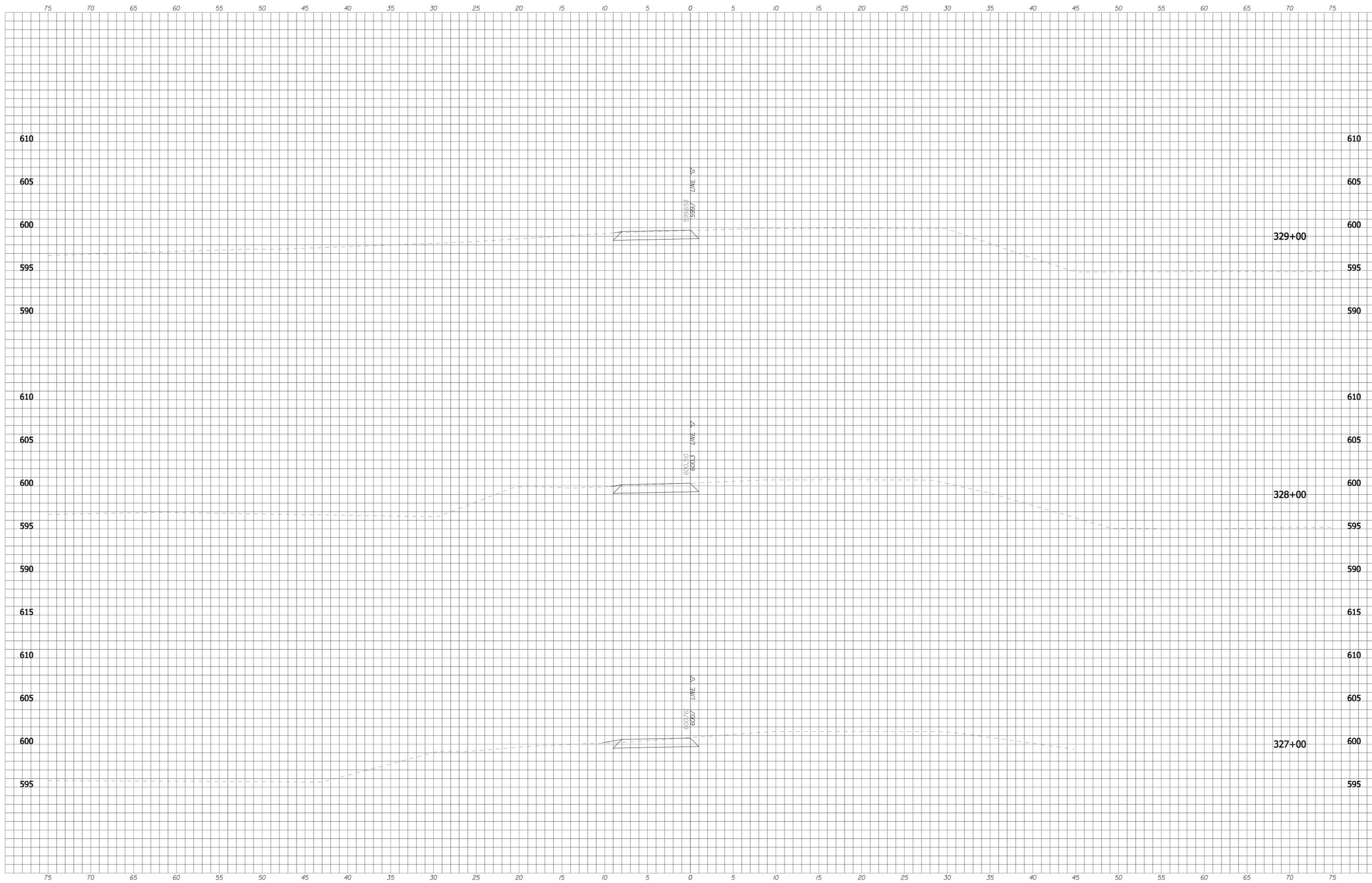


RECOMMENDED FOR APPROVAL: *B. Ridgway* DESIGN ENGINEER 9-1-2011 DATE  
 DESIGNED: BR DRAWN: SI  
 CHECKED: MT CHECKED: BR

**INDIANA DEPARTMENT OF TRANSPORTATION**  
**CROSS SECTIONS - LINE "G"**

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VERTICAL SCALE 1" = 5'-0"	DESIGNATION N/A
SURVEY BOOK	SHEETS 41 of 55
CONTRACT	PROJECT CASCADES TRAIL





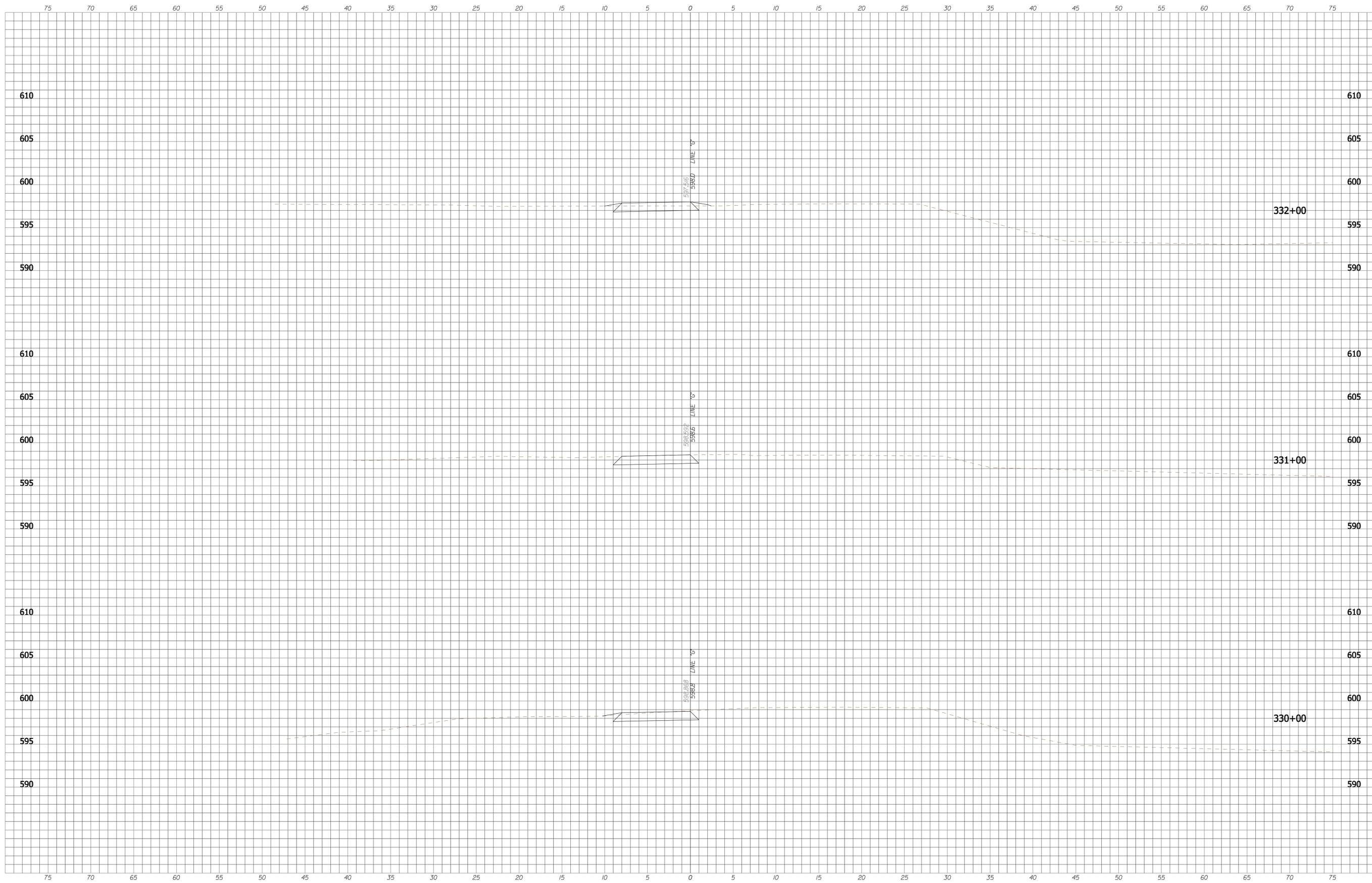
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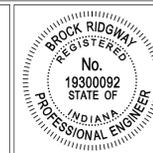
RECOMMENDED FOR APPROVAL: *B. Ridgway* DESIGN ENGINEER DATE: 9-1-2011  
 DESIGNED: BR DRAWN: SI  
 CHECKED: MT CHECKED: BR

**INDIANA DEPARTMENT OF TRANSPORTATION**  
**CROSS SECTIONS - LINE "G"**

HORIZONTAL SCALE 1" = 5'-0"	BRIDGE FILE N/A
VERTICAL SCALE 1" = 5'-0"	DESIGNATION N/A
SURVEY BOOK	SHEETS 43 of 55
CONTRACT	PROJECT CASCADES TRAIL



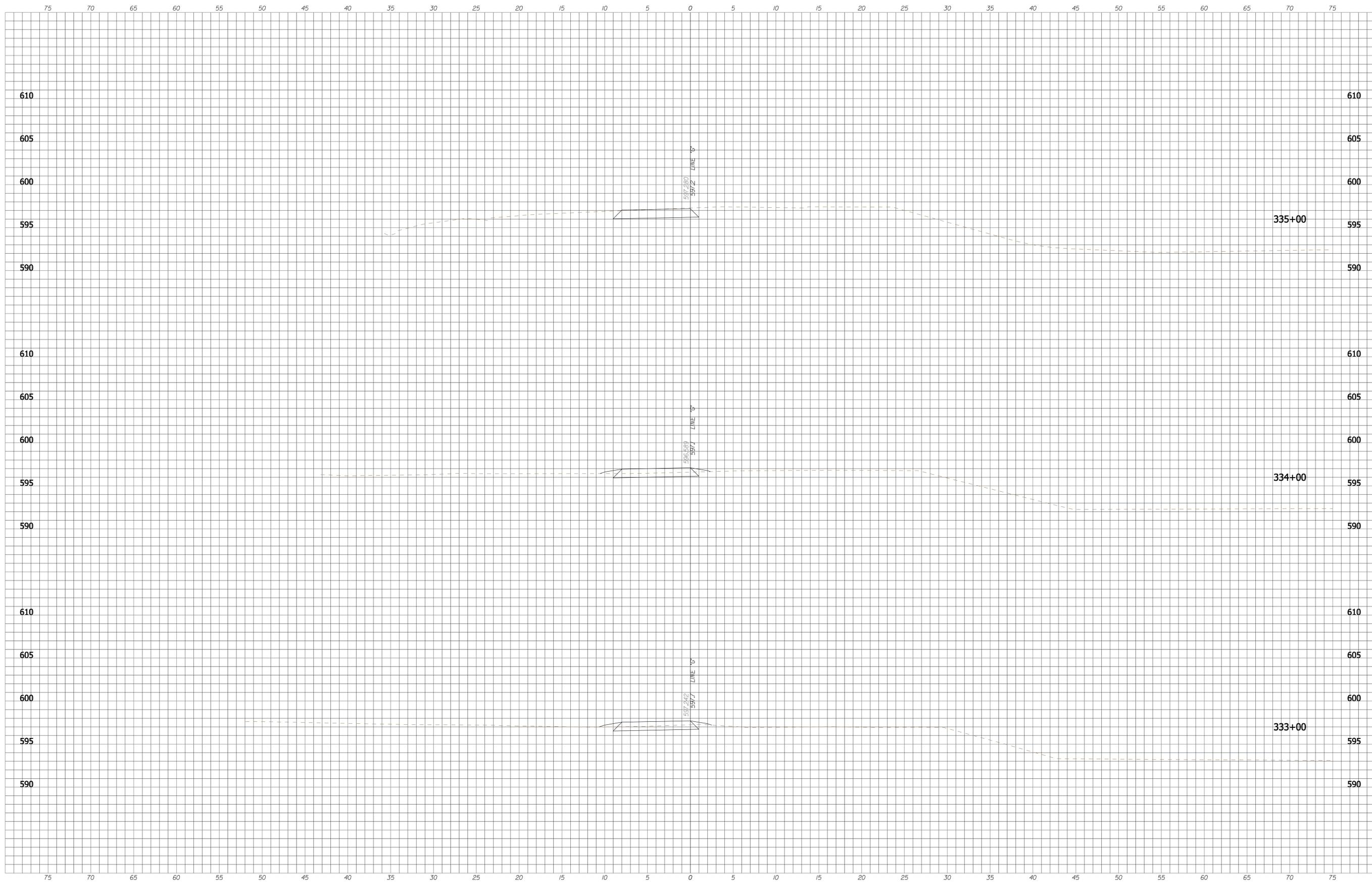
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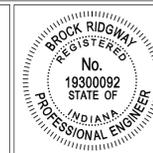
RECOMMENDED FOR APPROVAL: *B. Ridgway* DESIGN ENGINEER 9-1-2011 DATE  
 DESIGNED: BR DRAWN: SI  
 CHECKED: MT CHECKED: BR

**INDIANA DEPARTMENT OF TRANSPORTATION**  
  
**CROSS SECTIONS - LINE "G"**

HORIZONTAL SCALE 1" = 5'-0"	BRIDGE FILE N/A
VERTICAL SCALE 1" = 5'-0"	DESIGNATION N/A
SURVEY BOOK	SHEETS 44 of 55
CONTRACT	PROJECT CASCADES TRAIL



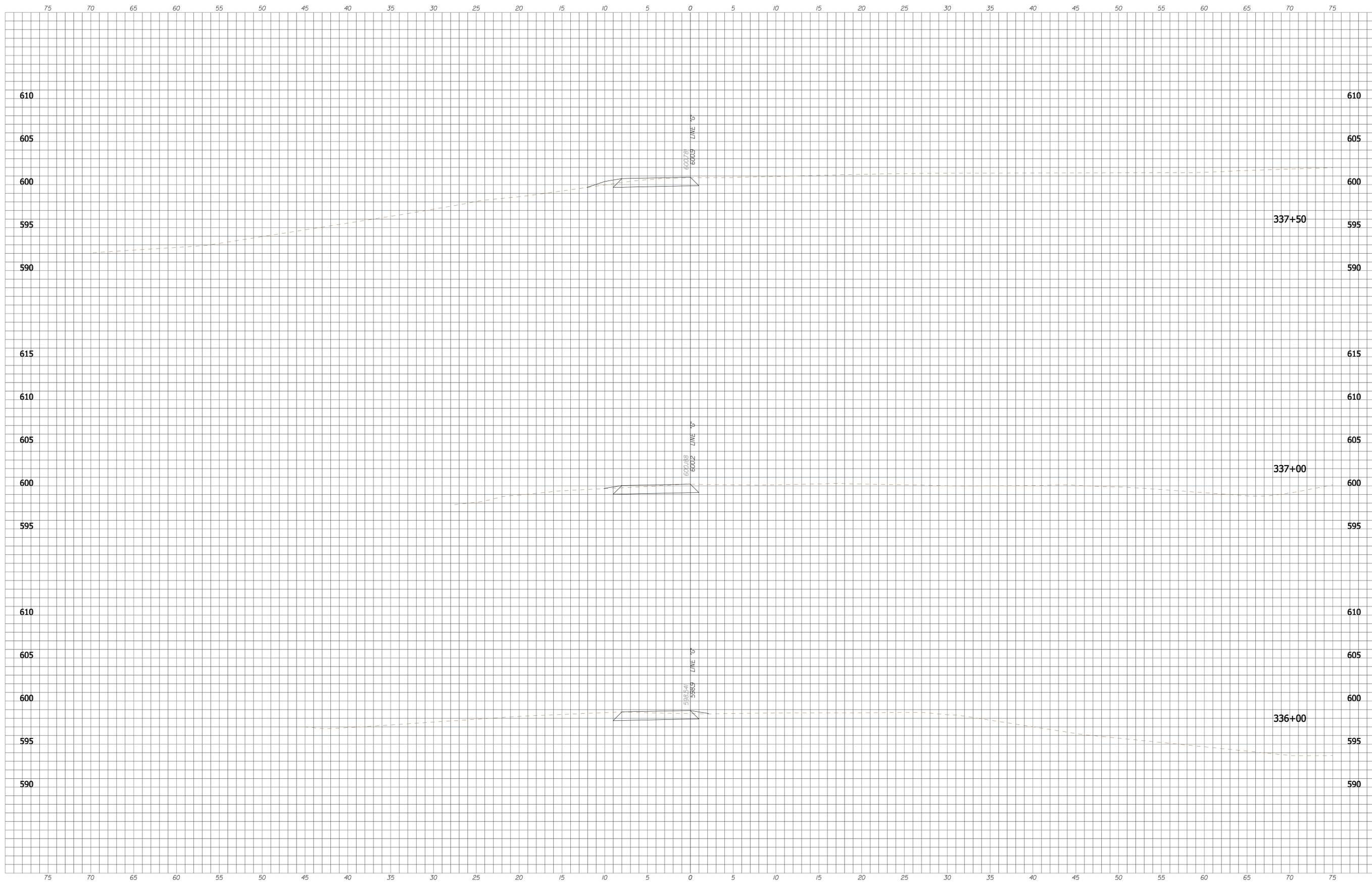
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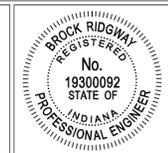
RECOMMENDED FOR APPROVAL: *B. Ridgway* DESIGN ENGINEER DATE: 9-1-2011  
 DESIGNED: BR DRAWN: SI  
 CHECKED: MT CHECKED: BR

**INDIANA DEPARTMENT OF TRANSPORTATION**  
**CROSS SECTIONS - LINE "G"**

HORIZONTAL SCALE 1" = 5'-0"	BRIDGE FILE N/A
VERTICAL SCALE 1" = 5'-0"	DESIGNATION N/A
SURVEY BOOK	SHEETS 45 of 55
CONTRACT	PROJECT CASCADES TRAIL



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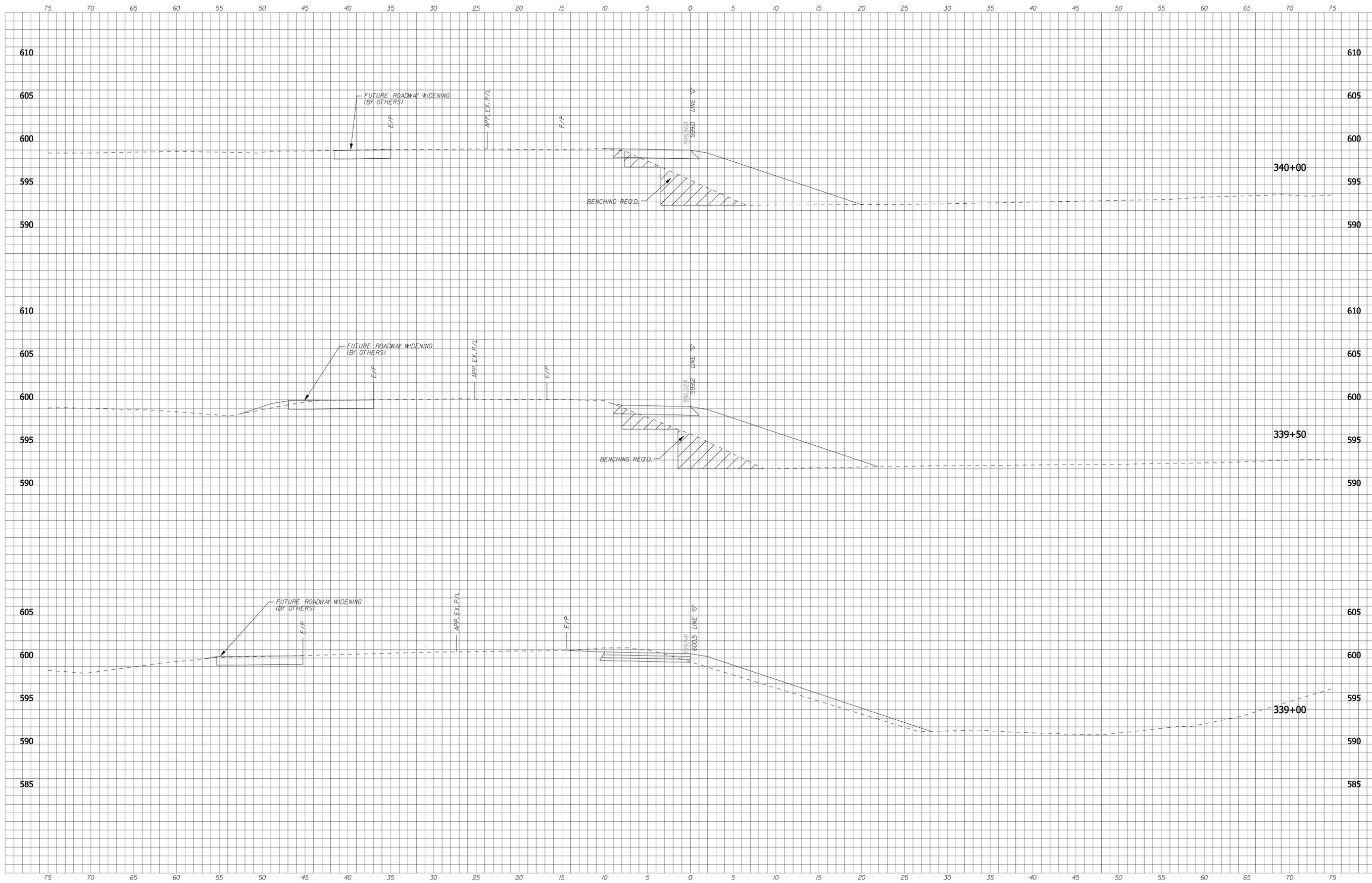


RECOMMENDED FOR APPROVAL: *B. Ridgway* DESIGN ENGINEER DATE: 9-1-2011  
 DESIGNED: BR DRAWN: SI  
 CHECKED: MT CHECKED: BR

**INDIANA DEPARTMENT OF TRANSPORTATION**  
  
**CROSS SECTIONS - LINE "G"**

HORIZONTAL SCALE 1" = 5'-0"	BRIDGE FILE N/A
VERTICAL SCALE 1" = 5'-0"	DESIGNATION N/A
SURVEY BOOK	SHEETS 46 of 55
CONTRACT	PROJECT CASCADES TRAIL





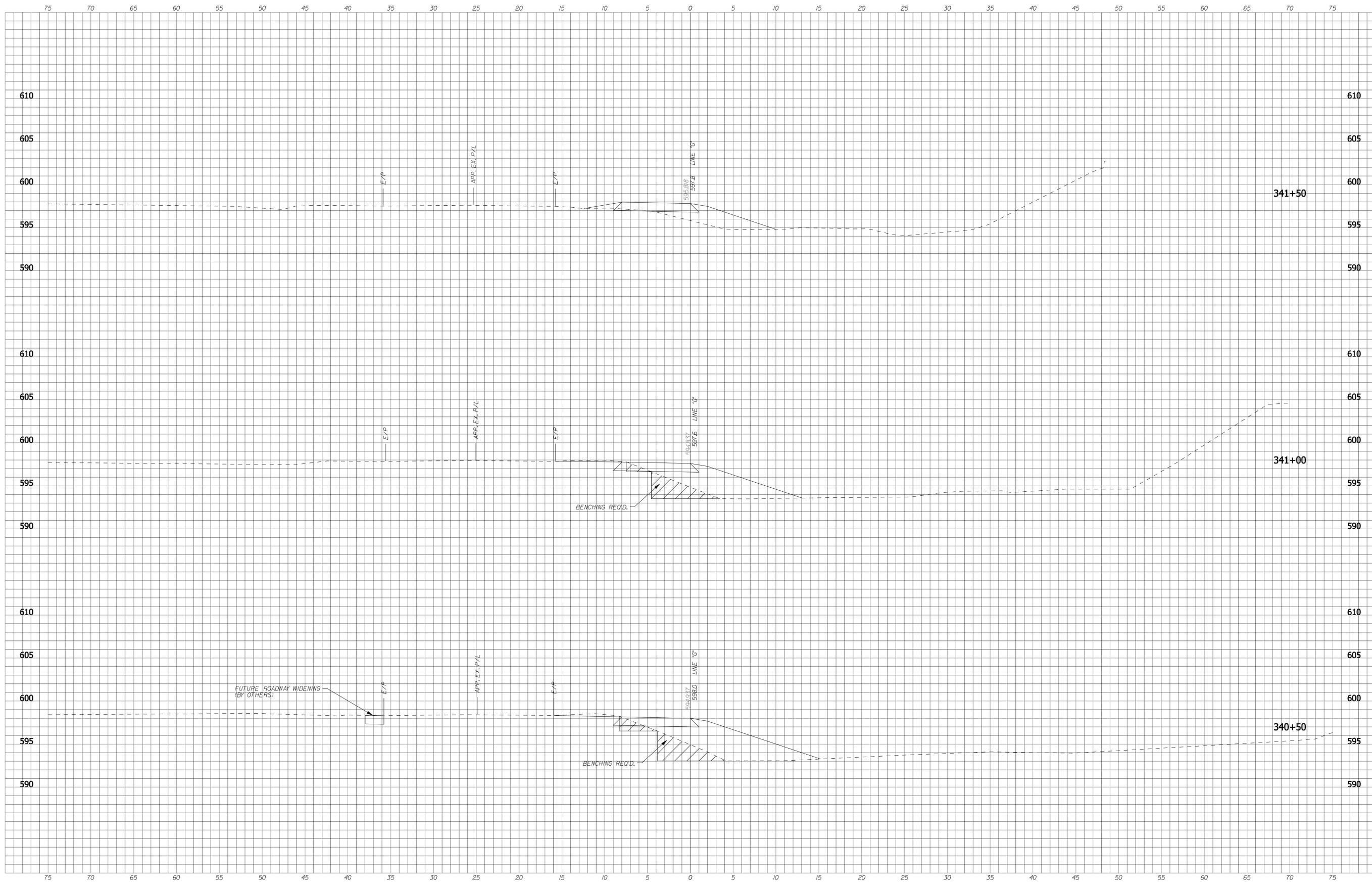
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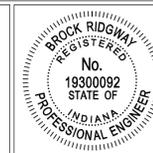
RECOMMENDED FOR APPROVAL: *B. Ridgway* DESIGN ENGINEER DATE: 9-1-2011  
 DESIGNED: BR DRAWN: SI  
 CHECKED: MT CHECKED: BR

**INDIANA DEPARTMENT OF TRANSPORTATION**  
  
**CROSS SECTIONS - LINE "G"**

HORIZONTAL SCALE 1" = 5'-0"	BRIDGE FILE N/A
VERTICAL SCALE 1" = 5'-0"	DESIGNATION N/A
SURVEY BOOK	SHEETS 48 of 55
CONTRACT	PROJECT CASCADES TRAIL



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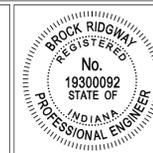
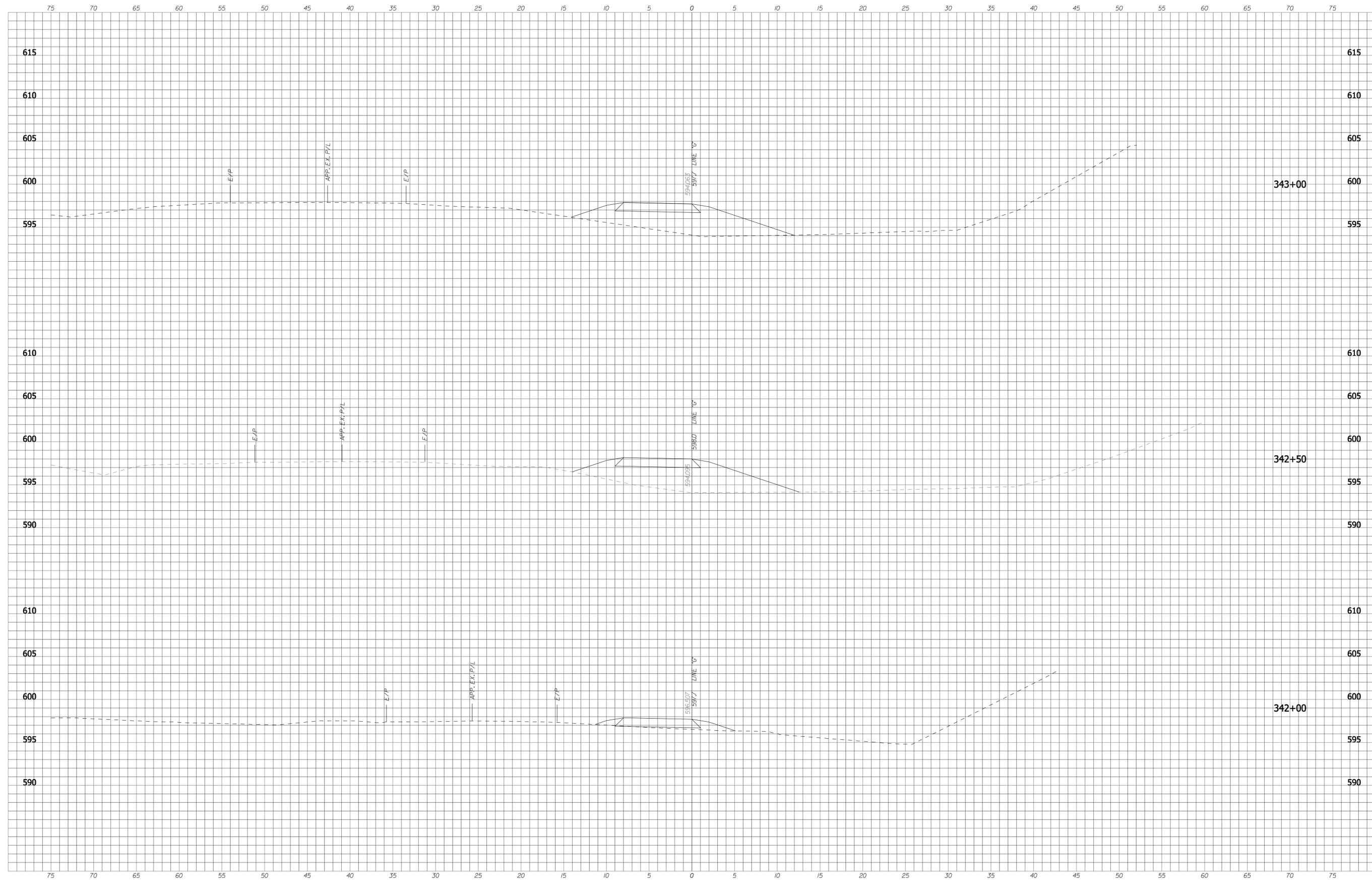


RECOMMENDED FOR APPROVAL: *B. Ridgway* DESIGN ENGINEER DATE: 9-1-2011  
 DESIGNED: BR DRAWN: SI  
 CHECKED: MT CHECKED: BR

**INDIANA DEPARTMENT OF TRANSPORTATION**  
  
**CROSS SECTIONS - LINE "G"**

HORIZONTAL SCALE 1" = 5'-0"	BRIDGE FILE N/A
VERTICAL SCALE 1" = 5'-0"	DESIGNATION N/A
SURVEY BOOK	SHEETS 49 of 55
CONTRACT	PROJECT CASCADES TRAIL

XS SHEET 1524  
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RECOMMENDED FOR APPROVAL: *B. Ridgway* DESIGN ENGINEER DATE: 9-1-2011  
 DESIGNED: BR DRAWN: SI  
 CHECKED: MT CHECKED: BR

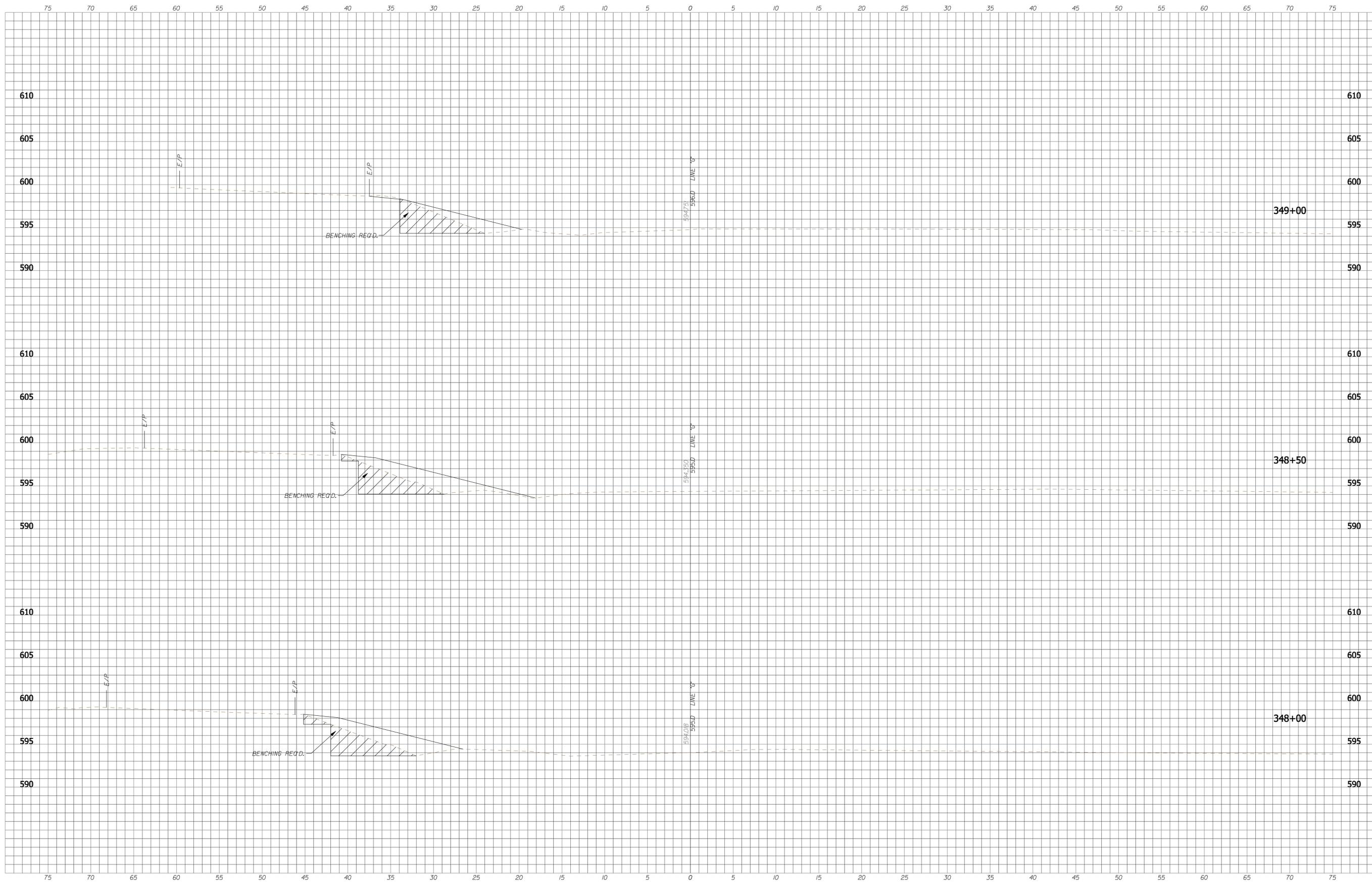
**INDIANA DEPARTMENT OF TRANSPORTATION**  
**CROSS SECTIONS - LINE "G"**

HORIZONTAL SCALE 1" = 5'-0"	BRIDGE FILE N/A
VERTICAL SCALE 1" = 5'-0"	DESIGNATION N/A
SURVEY BOOK	SHEETS 50 of 55
CONTRACT	PROJECT CASCADES TRAIL

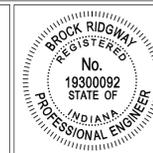








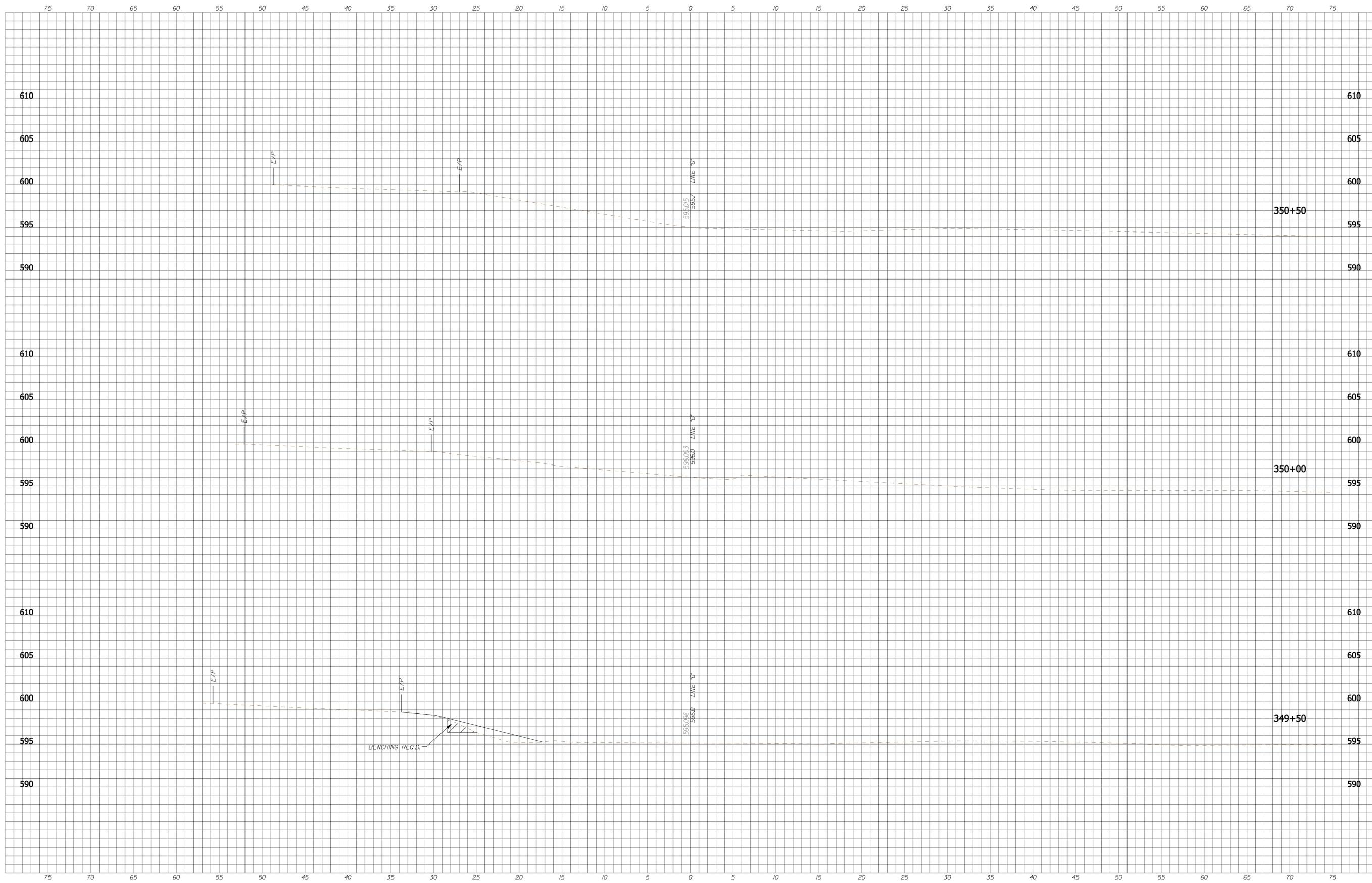
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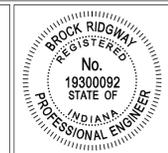
RECOMMENDED FOR APPROVAL: *B. Ridgway* DESIGN ENGINEER 9-1-2011 DATE  
 DESIGNED: BR DRAWN: SI  
 CHECKED: MT CHECKED: BR

**INDIANA DEPARTMENT OF TRANSPORTATION**  
**CROSS SECTIONS - LINE "G"**

HORIZONTAL SCALE 1" = 5'-0"	BRIDGE FILE N/A
VERTICAL SCALE 1" = 5'-0"	DESIGNATION N/A
SURVEY BOOK	SHEETS 54 of 55
CONTRACT	PROJECT CASCADES TRAIL



XS SHEET JS09  
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RECOMMENDED FOR APPROVAL: *B. Ridgway* DESIGN ENGINEER DATE: 9-1-2011  
 DESIGNED: BR DRAWN: SI  
 CHECKED: MT CHECKED: BR

**INDIANA DEPARTMENT OF TRANSPORTATION**  
  
**CROSS SECTIONS - LINE "G"**

HORIZONTAL SCALE 1" = 5'-0"	BRIDGE FILE N/A
VERTICAL SCALE 1" = 5'-0"	DESIGNATION N/A
SURVEY BOOK	SHEETS 55 of 55
CONTRACT	PROJECT CASCADES TRAIL