

North-West Engineering Co., Inc.

-Consulting Engineers-
100 West 4th Avenue, 2nd Floor
Gary, IN 46402

Phone: (219)882-6856

Fax: (219)882-6867

INDIANA DEPARTMENT OF TRANSPORTATION

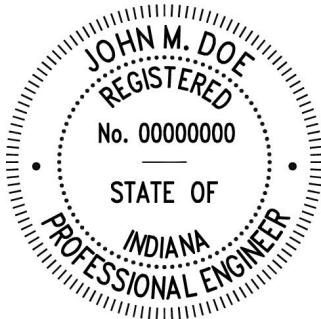
PROJECT TITLE SHEET

Re: Storm Drain Design Review

DES No.: 0600750

Road: East Ridge Road Improvement Project from Broadway to Mississippi Rd.

Designers: North-west Engineering Company Inc.



John M Doe

East Ridge Road Improvements PROJECT BACKGROUND

PROJECT: STP N 763

ROAD: East Ridge Road Improvements
Broadway (IN 53) to Mississippi Street

CITY: Gary

DESCRIPTION OF IMPROVEMENT:

The City of Gary proposes to reconstruct East Ridge Road from Broadway to Mississippi Street. The project is located in Section 20, 21, 28, & 29, Township 36 North, Range 8 West, and Calumet Township, all in the Lake County, IN. The location of the Project is shown in Attachment No. 2.

	<u>Existing</u>	<u>Proposed</u>
TYPE OF FACILITY:	Urban Arterial	Urban Arterial
DESIGN SPEED:	-	35 MPH
OPERATING SPEED:	30 MPH	30 MPH
RIGHT OF WAY WIDTH:		
PERMANENT:	66' (Broadway to Georgia Street)	66' (Broadway to Georgia Street)
	60' (Georgia Street to Mississippi Street)	60' (Georgia Street to Mississippi Street)
TEMPORARY:	-	-
PAVEMENT WIDTH:	39' - 9"	44'
NUMBER OF LANES:	Four (4) 9.94' Wide Lanes	Four (4) 11' Lanes
SHOULDERS:	6" Curb	2' Curb & Gutter
HORIZONTAL ALIGNMENT:	Tangent	Tangent
VERTICAL ALIGNMENT:	Unlimited	Unlimited
SIDEWALK:	5' to 8'	5'
SURFACE:	Asphalt	Asphalt

East Ridge Road Improvements

PROJECT BACKGROUND

*ALTERNATE 2 (PREFERRED ALTERNATE): Alternate 2 proposed to reconstruct Ridge Road as previously discussed.

- 1) This alternate will not require any acquisition of additional right of way.
- 2) This alternate would have no adverse affect upon abutting real property.
- 3) This alternate will not change the layout or function of Ridge Road.
- 4) This Roadway will not change the horizontal alignment and will be along the centerline of the right of way.

The estimated cost for alternate two (2) is \$10,000,000.00

The new roadway for alternate 2 would meet current AASHTO guidelines. The new facility would also meet the vehicular and pedestrian traffic. Therefore, alternate 2 is the preferred alternative.

DRAINAGE: This project also includes storm sewers including a storm water pumping station for storm water drainage along the Ridge Road. The Storm Water Pump Station to be located at 33rd Avenue and Connecticut Street, from where the storm water will be pumped by force main to the Little Calumet River at approximately 32nd Avenue through the south levee of the river. A permit will be required from the USCOE to penetrate the levee.

The Storm sewer along Connecticut Street is through a residential area.

FLOOD PLAIN ENCROACHMENT: The proposed project will not impact adversely the Federal Emergency Management Agency flood plain. The proposed project is not in a flood plain.

ECOSYSTEM EFFECT: The proposed project will not have any significant impacts on the area's ecosystem.

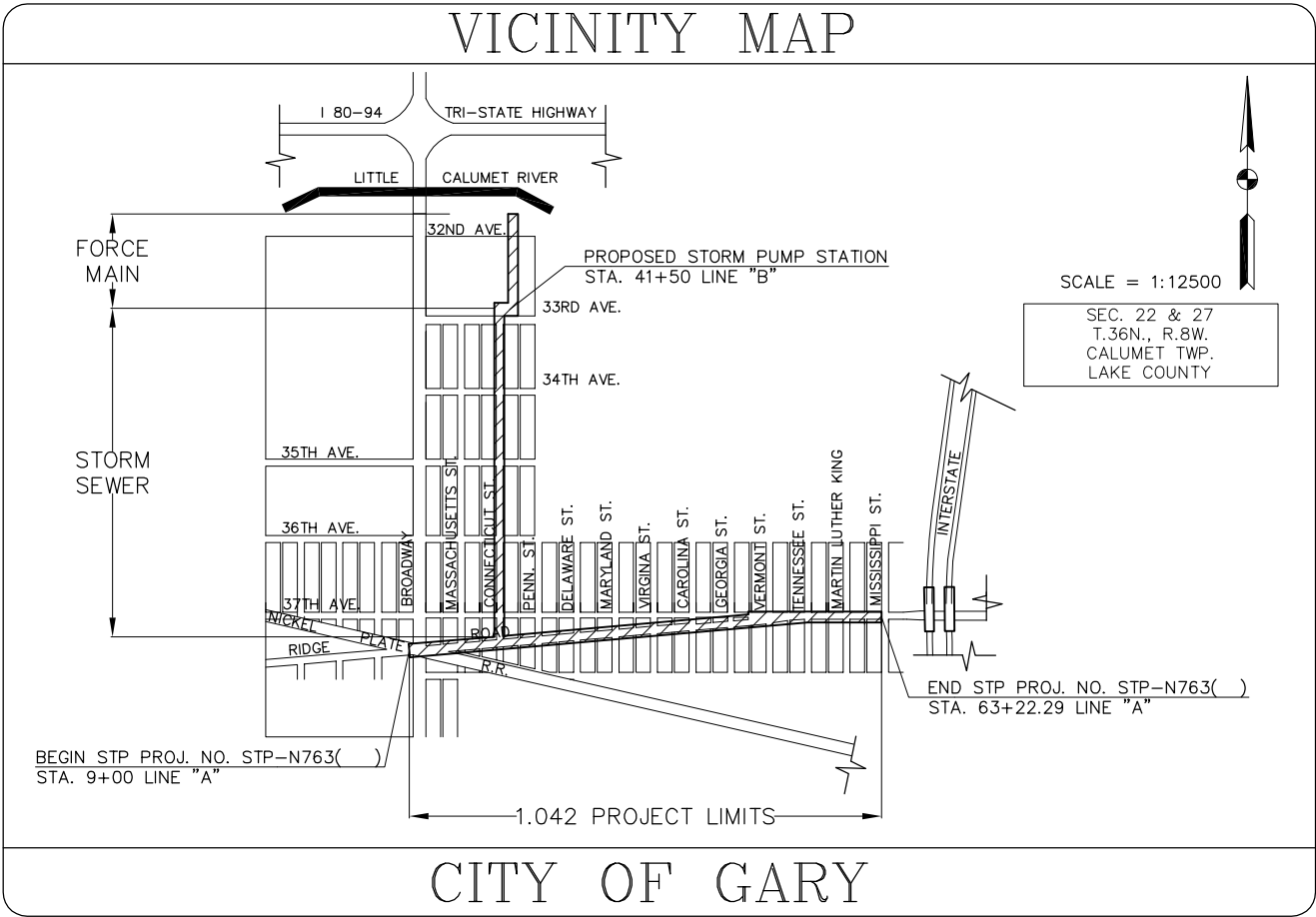
SOCIAL, ECONOMIC, AND ENVIRONMENTAL:

During construction, measures will be taken to prevent erosion. All bare and disturbed areas will be re vegetated at the close of construction with a suitable mixture of grasses and legumes. All necessary safeguards will be implemented to minimize erosion and to prevent pollution. Mitigation measures will include:

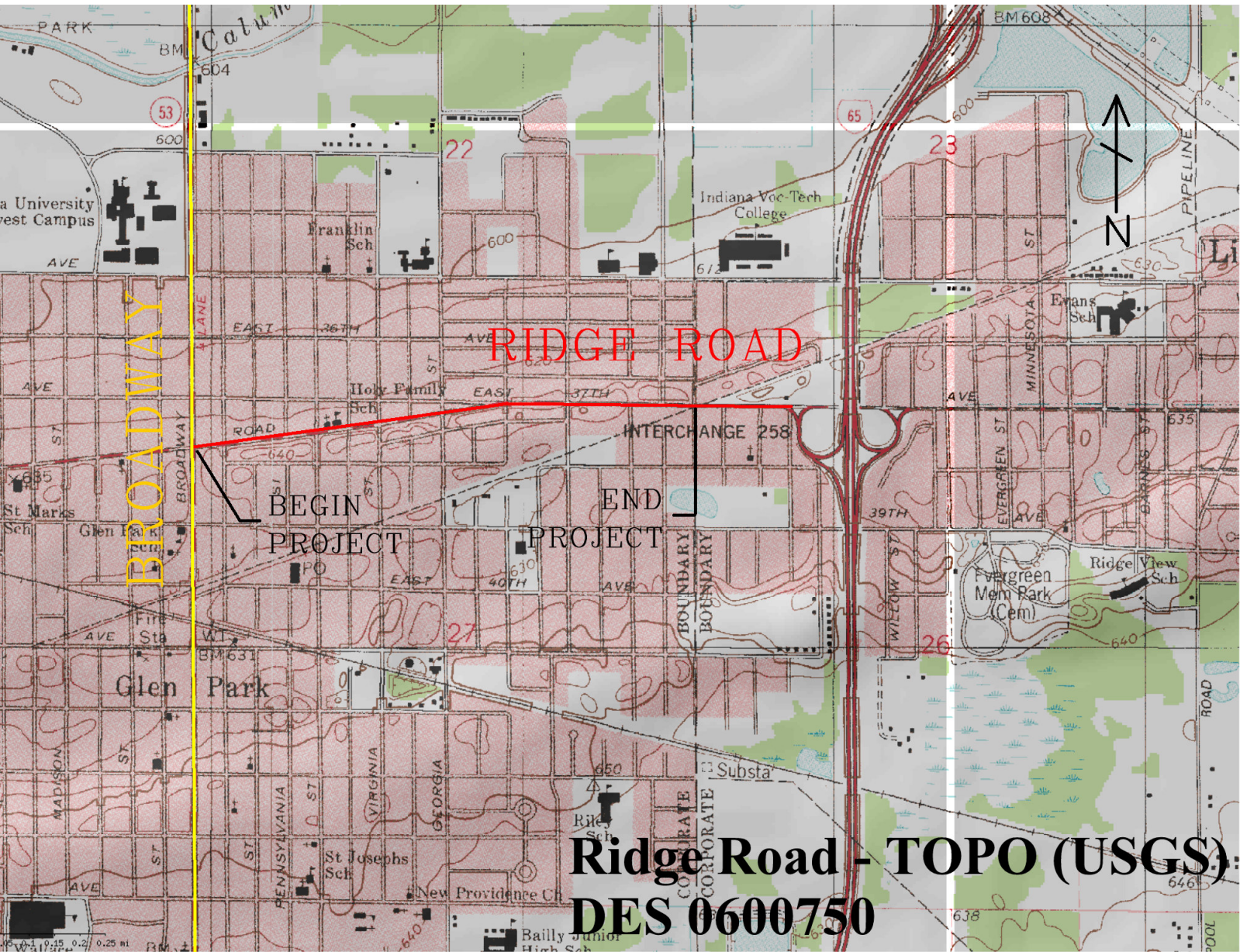
1. Temporary erosion and siltation control features will be utilized during the construction period, such as placement of straw bales in open drainage ways, covering exposed areas with burlap, jute matting or straw, and grading areas to retain runoff in basins.
2. All clearing of vegetation will be held to an absolute minimum.
3. All disturbed soil areas will be re vegetated immediately upon project completion.

PROJECT	DESIGNATION
STP - N763()	0600750

EAST RIDGE ROAD IMPROVEMENT PROJECT
FROM BROADWAY TO MISSISSIPPI STREET
GARY, IN 46409







SITE PHOTOS

DES 0600750



















Summary of Hydraulic Design & Assumptions

The properties on the south side of Ridge Road, from Station 13+30 to Station 56+15, are at a higher elevation than the street. This causes all flow from the grassy 125-ft strip of land south of the street right-of-way to flow northward onto Ridge Road. We have also used in our calculations all of the Ridge Road R/W, ranging from 60-ft. to 66-ft. to be impervious. The property north of the north R/W of Ridge Road has a lower elevation, and all the flow continues to the north, therefore, we have not considered this area in our drainage calculations.

- The design storm selected for the computation has a 10-year return frequency.
- The time of concentration for the inlet and sewer design computations is five (5) minutes.
- The rainfall intensity was based on a ten (10) year frequency and time of concentration of five (5) minutes is 6.8-inches per hour based upon the rainfall intensity frequency curve for Chicago, Illinois, as shown in Figure 29-8M in the INDOT Part IV- Hydrology Section.
- On the South Side of Ridge Road, from Station 13+30 to Station 56+15, the composite run-off co-efficient value as computed with the run-off co-efficient of 0.284 for the 125-ft. turf on the south side of Ridge Road and 0.90 for the impervious area within the R/W. By using these two coefficients the composite for the entire drainage area came to a **Composite C-Value of 0.41 for the run-off calculations.** (See Attachment # 2).
- Please note on the South Side from Station 9+32 to Station 13+30, and from Station 56+15 to Station 64+00, we have only considered the impervious area within the R/W, as the parcels adjoining the these stations do not drain toward Ridge Road.
- Therefore, the run-off co-efficient C value of **0.41** was used for the inlet computations on the South side of the street, from Station 13+30 to Station 56+15. The run-off co-efficient value of **0.90** was used on the north side of the street, as well as, the south side of the street from Station 9+32 to Station 13+30, and from Station 56+15 to Station 64+00. (See Attachment # 2)
- The inlets are located in the areas where the slope changes from negative to positive along the street (Sag Locations). Also if there is a long continuous slope, inlets are located at intermediate locations along the slope in order to intercept the run-off and not exceed the allotted 7'-0" spread. (See Attachment # 3- Roadway Plans). Please note the lowest point in a sag curve is not always at the center of the curve, this varies as the in gradient and out gradient change. Please refer to the Vertical Curve Data provided.
- Please note there are a few locations where we have exceeded the 7'-0" maximum allowable spread (5.5ft. half lane width + 1.5ft. gutter width = 7.0ft.). This is due to the distance between the structures at intersection or driveway locations. For your information, we have avoided placing structures in drives or at the flow line of intersections, as this is not desirable. In these locations we have placed the inlets and/or catch basin as close together as possible, while still leaving room for ADA accessibility at the corners (handicap ramps). Most of these said locations are minor and exceed the maximum allowable spread by only a few inches. However, there are three locations on the South Side Ridge Road, which exceed the maximum allowable spread by 9 inches, they are located at: Str. No. 411 (Sta. 13+82), Str. No. 431B (Sta. 30+30), and Str. No.

Summary of Hydraulic Design & Assumptions

439B (Sta. 37+05), all of which are at intersections.

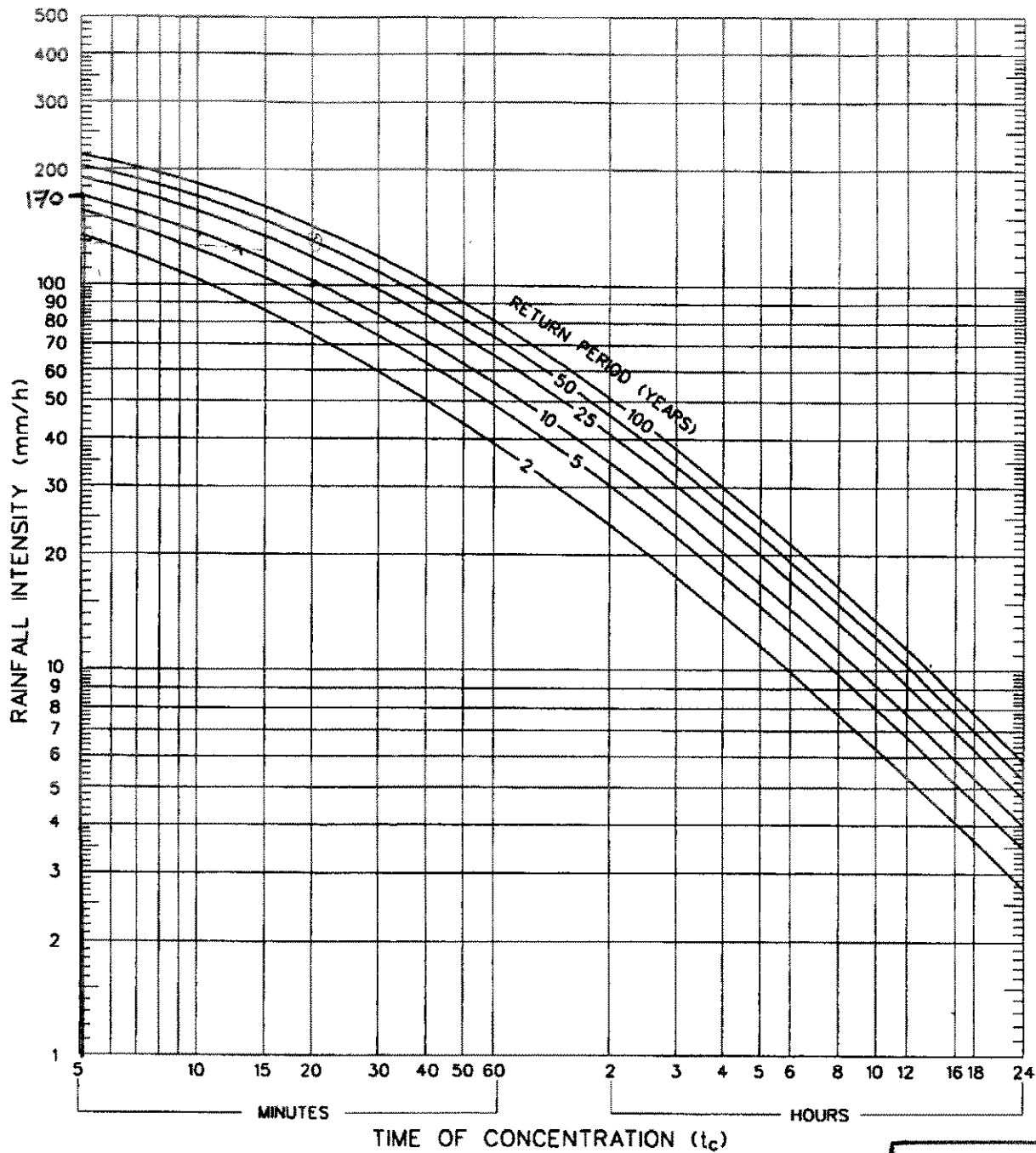
- We are providing you with the Ridge Road Vertical Curve Data for your convenience (See Attachment # 4).
- The storm sewer sizes were designed based upon the drainage area between the adjoining Crest Points and using the composite C value of the drainage area. The flow expected to be carried by the proposed sewers is shown in the Storm Drain Computation Table. (See Attachment # 5)
- The storm sewers and inlet sizing were checked for a hydraulic gradient for a 50-year storm to check that at least the inside lane and half the outside lane would be open at any time in both east and west directions, without any ponding. (See Attachment # 6 & 7)
- Inlet computation sheet showing the flow generated for a 10-year storm at each of the inlet and catch basins and the capacity of the inlet and catch basins to intercept the flow. (See Attachment #8)
- The Flow from the sewer will be pumped via a Pump Station to Little Calumet River The Pump station will be rated for a 50 cfs and will house 4 Storm water pumps each Capable of pumping a flow of 12.5cfs or 5,625 GPM.

Summary Design and Assumptions

29-8(20)

HYDROLOGY

August 1999



RAINFALL INTENSITY - DURATION - FREQUENCY CURVE
(Chicago, Illinois)

Figure 29-8M

10 YR FREQUENCY
 $i = 170 \frac{\text{mm}}{\text{hr}}$
 $\therefore i = 6.8 \frac{\text{inches}}{\text{hr}}$

Attachment 2

RUNOFF COEFFICIENT CALCULATION**1. TYPICAL LOT CALCULATION**

AREA OF TYPICAL LOT (100 X 125 FT)

12,500 S.F

AREA OF TYPICAL HOME 1,500 S.F.

THE TOTAL UNPAVED AREA IS 11,000 S.F.

RUNOFF COEFFICIENT "C" FOR UNPAVED AREAS = 0.2

RUNOFF COEFFICIENT "C" FOR PAVED AREAS = 0.9

COMPOSITE RUNOFF "C" VALUE

$$(11,000 \times 0.2 + 1500 \times 0.9)/12500$$

C 0.284

2. TYPICAL PAVEMENT & LOT CALCULATION

AREA OF TYPICAL PAVEMENT 100 X 66 FT

RUNOFF COEFFICIENT "C" FOR TYPICAL LOT = 0.284

RUNOFF COEFFICIENT "C" FOR PAVED AREAS = 0.9

COMPOSITE RUNOFF "C" VALUE

C 0.50

Runoff Coefficient calculation for composite "C" value for the flow for the drain structure located along the south curb line of Ridge Road.

C Value for the 125' strip of land south of Ridge Road ROW = 0.284

C Value for the 1/2 ROW for Ridge Road = 0.90

$$\text{Composite C} = \frac{33' \times 0.90 + 125' \times 0.284}{(125 + 33)}$$

$$= 0.41$$

North-West Engineering, Co. Inc.
100 W. 4th Ave., 2nd Floor
Gary, IN 46402

STORM DRAIN COMPUTATION SHEET (10YR)

Calc By: TMW Date: 8/5/2008
Checked By: ASM Date: 8/6/2008

STATION		Manhole Str. No.	LENGTH (ft)	DRAINAGE AREA A (acres)		Runoff Coeff C	A X C		Length Str to Str	Flow Time (min)		Rainfall Intensity I (inch/hr)	Total Runoff CIA=Q (cfs)	Diameter Pipe (inch)	Do FT DIA	AREA OF PIPE	PER OF PIPE	Capacity Pipe (cfs)	Velocity (fps)		Invert Elev		Manhole Invert Drop	Slope of Drain (ft/ft)	
FROM	TO			Increment	Total		Increment	Total		To Upper End	In Section								Flowing Full	Design Flow	Upper End	Lower End			
RIDGE ROAD FROM MISSISSIPPI STREET TO CONNECTICUT STREET																									
MH STA																									
64+00	63+00	218	100	0.138	0.14	0.5	0.07	0.07		5.000		6.69													
63+00	59+00	217	400	0.551	0.69	0.5	0.28	0.34	140.00	0.623	5.623	6.57	2.26	18	1.50	1.767	4.712	6.650	3.7	1.53	628.99	628.43	0.50	0.0040	
59+00	56+15	216	285	0.393	0.94	0.5	0.20	0.47	260.00	1.349	6.971	6.22	2.93	24	2.00	3.142	6.283	10.137	3.2	1.14	627.93	627.41	0.50	0.0020	
56+15	53+00	215	315	1.338	2.28	0.5	0.67	1.14	300.00	1.199	8.170	5.82	6.64	30	2.50	4.909	7.854	20.564	4.2	1.71	626.91	626.16	0.00	0.0025	
53+00	52+00	214	100	0.425	2.71	0.5	0.21	1.35	300.00	1.547	9.717	5.59	7.56	30	2.50	4.909	7.854	15.929	3.2	1.92	626.16	625.71	0.50	0.0015	
52+00	49+65	213	235	0.998	3.70	0.5	0.50	1.85	300.00	1.186	10.903	5.43	10.06	36	3.00	7.069	9.425	29.927	4.2	1.75	625.21	624.61	0.00	0.0020	
49+65	47+00	212	265	1.125	4.83	0.5	0.56	2.41	300.00	1.186	12.089	5.31	12.82	36	3.00	7.069	9.425	29.927	4.2	2.23	624.61	624.01	1.06	0.0020	
47+00	44+00	211	300	1.274	6.10	0.5	0.64	3.05	300.00	0.835	12.924	5.11	15.59	36	3.00	7.069	9.425	48.522	6.8	2.77	622.95	621.15	0.00	0.0053	
44+00	39+40	210	460	1.954	8.06	0.5	0.98	4.03	342.37	0.489	13.413	4.88	19.66	36	3.00	7.069	9.425	72.590	10.2	3.60	621.15	617.62	0.00	0.0118	
39+40	36+00	209	340	1.491	9.55	0.5	0.75	4.77	300.00	0.925	14.338	4.72	22.53	36	3.00	7.069	9.425	44.125	6.2	4.19	616.62	615.12	1.66	0.0043	
36+00	32+80	208	320	1.403	10.95	0.5	0.70	5.48	345.00	1.073	15.411	4.44	24.31	42	3.50	9.621	10.996	47.268	4.9	3.40	613.46	612.77	0.00	0.0022	
32+80	29+00	207	380	1.666	12.62	0.5	0.83	6.31	315.00	1.488	16.900	4.33	27.32	42	3.50	9.621	10.996	41.122	4.3	3.82	612.77	612.14	0.50	0.0017	
29+00	26+10	206	290	1.272	13.89	0.5	0.64	6.94	380.00	1.026	17.925	4.21	29.24	42	3.50	9.621	10.996	53.385	5.5	4.08	611.64	610.69	0.00	0.0028	
26+10	22+00	205	410	1.798	15.69	0.5	0.90	7.84	340.00	1.170	19.095	4.13	32.39	42	3.50	9.621	10.996	52.325	5.4	4.48	610.69	609.67	0.00	0.0027	
22+00	18+00	204	400	1.754	17.44	0.5	0.88	8.72	380.00	0.837	19.932	3.98	34.71	42	3.50	9.621	10.996	63.895	6.6	4.78	609.67	608.34	0.00	0.0040	
18+00	15+00	203	300	1.315	18.76	0.5	0.66	9.38	332.29	0.823	20.755	3.94	36.95	42	3.50	9.621	10.996	63.875	6.6	4.98	608.34	607.01	0.00	0.0040	
RIDGE ROAD FROM BROADWAY TO CONNECTICUT STREET																									
MH STA																									
9+40	10+00	200	60	0.263	0.26	0.5	0.13	0.13	250.00	5.000		6.69	0.88	36	3.00	7.069	9.425	21.162	3.0	0.15	612.09	611.84	0.00	0.0010	
10+00	13+00	201	300	1.315	1.58	0.5	0.66	0.79	200.00	1.118	6.118	6.49	5.12	36	3.00	7.069	9.425	21.162	3.0	0.87	611.84	611.64	0.00	0.0010	
13+00	15+00	202	200	0.877	2.46	0.5	0.44	1.23	267.73	1.497	7.615	6.10	7.49	36	3.00	7.069	9.425	21.162	3.0	1.29	611.64	611.37	0.00	0.0010	
		203								1.490	8.990										607.01		4.36		
CONNECTICUT STREET FROM RIDGE ROAD TO PUMP STATION																									
MH STA																									
10+00	13+40	203		0.000	0.00	0.5	0.00	0.00	323.38				44.44	48	4.00	12.566	12.566	123.757	9.8	0.00	607.01	604.63	0.00	0.0074	
13+40	17+00	219		0.000	0.00	0.5	0.00	0.00	360.00				44.44	48	4.00	12.566	12.566	136.007	10.8	0.00	604.63	601.43	0.00	0.0089	
17+00	20+80	220		0.000	0.00	0.5	0.00	0.00	380.00				44.44	48	4.00	12.566	12.566	136.052	10.8	0.00	601.43	598.05	0.00	0.0089	
20+80	24+40	221		0.000	0.00	0.5	0.00	0.00	360.00				44.44	48	4.00	12.566	12.566	82.939	6.6	0.00	591.69	590.50	6.36	0.0033	
24+40	27+60	222		0.000	0.00	0.5	0.00	0.00	320.00				44.44	48	4.00	12.566	12.566	82.634	6.5	0.00	590.50	589.45	0.00	0.0033	
27+60	31+20	223		0.000	0.00	0.5	0.00	0.00	360.00				44.44	48	4.00	12.566	12.566	102.005	8.1	0.00	588.00	586.20	1.45	0.0050	
31+20	34+80	224		0.000	0.00	0.5	0.00	0.00	360.00				44.44	48	4.00	12.566	12.566	102.005	8.1	0.00	586.20	584.40	0.00	0.0050	
34+80	38+40	225		0.000	0.00	0.5	0.00	0.00	360.00				44.44	48	4.00	12.566	12.566	102.005	8.1	0.00	584.40	582.60	0.00	0.0050	
38+40	40+40	226		0.000	0.00	0.5	0.00	0.00	200.00				44.44	48	4.00	12.566	12.566	102.005	8.1	0.00	582.60	581.60	0.00	0.0050	
40+40	41+75	227		0.000	0.00	0.5	0.00	0.00	144.75				44.44	48	4.00	12.566	12.566	101.741	8.1	0.00	579.75	579.03	1.85	0.0050	

NOTES:

1) The Calculations are based on 10 Yr Storm Frequency (Q10)

North-West Engineering, Co. Inc.
100 W. 4th Ave., 2nd Floor
Gary, IN 46402

STORM DRAIN COMPUTATION SHEET (50YR)

Calc By: TMW Date: 8/5/2008
Checked By: ASM Date: 8/6/2008

STATION		Manhole Str. No.	LENGTH (ft)	DRAINAGE AREA A (acres)		Runoff Coeff C	A X C		Length Str to Str	Flow Time (min)		Rainfall Intensity I (inch/hr)	Total Runoff CIA=Q (cfs)	Diameter Pipe (inch)	Do FT DIA	AREA OF PIPE	PER OF PIPE	Capacity Pipe (cfs)	Velocity (fps)		Invert Elev		Manhole Invert Drop	Slope of Drain (ft/ft)	
FROM	TO			Increment	Total		Increment	Total		To Upper End	In Section								Flowing Full	Design Flow	Upper End	Lower End			
RIDGE ROAD FROM MISSISSIPPI STREET TO CONNECTICUT STREET																									
MH STA																									
64+00	63+00	218	100	0.138	0.14	0.5	0.07	0.07		5.000		7.99													
63+00	59+00	217	400	0.551	0.69	0.5	0.28	0.34	140.00	0.623	5.623	7.87	2.71	18	1.50	1.767	4.712	6.650	3.7	1.53	628.99	628.43	0.50	0.0040	
59+00	56+15	216	285	0.393	0.94	0.5	0.20	0.47	260.00	1.349	6.971	7.56	3.57	24	2.00	3.142	6.283	10.137	3.2	1.14	627.93	627.41	0.50	0.0020	
56+15	53+00	215	315	1.338	2.28	0.5	0.67	1.14	300.00	1.199	8.170	7.36	8.40	30	2.50	4.909	7.854	20.564	4.2	1.71	626.91	626.16	0.00	0.0025	
53+00	52+00	214	100	0.425	2.71	0.5	0.21	1.35	300.00	1.547	9.717	6.96	9.42	30	2.50	4.909	7.854	15.929	3.2	1.92	626.16	625.71	0.50	0.0015	
52+00	49+65	213	235	0.998	3.70	0.5	0.50	1.85	300.00	1.186	10.903	6.69	12.39	36	3.00	7.069	9.425	29.927	4.2	1.75	625.21	624.61	0.00	0.0020	
49+65	47+00	212	265	1.125	4.83	0.5	0.56	2.41	300.00	1.186	12.089	6.53	15.77	36	3.00	7.069	9.425	29.927	4.2	2.23	624.61	624.01	1.06	0.0020	
47+00	44+00	211	300	1.274	6.10	0.5	0.64	3.05	300.00	0.835	12.924	6.42	19.59	36	3.00	7.069	9.425	48.522	6.8	2.77	622.95	621.15	0.00	0.0053	
44+00	39+40	210	460	1.954	8.06	0.5	0.98	4.03	342.37	0.489	13.413	6.32	25.46	36	3.00	7.069	9.425	72.590	10.2	3.60	621.15	617.62	0.00	0.0118	
39+40	36+00	209	340	1.491	9.55	0.5	0.75	4.77	300.00	0.925	14.338	6.20	29.60	36	3.00	7.069	9.425	44.125	6.2	4.19	616.62	615.12	1.66	0.0043	
36+00	32+80	208	320	1.403	10.95	0.5	0.70	5.48	345.00	1.073	15.411	5.98	32.74	42	3.50	9.621	10.996	47.268	4.9	3.40	613.46	612.77	0.00	0.0022	
32+80	29+00	207	380	1.666	12.62	0.5	0.83	6.31	315.00	1.488	16.900	5.83	36.78	42	3.50	9.621	10.996	41.122	4.3	3.82	612.77	612.14	0.50	0.0017	
29+00	26+10	206	290	1.272	13.89	0.5	0.64	6.94	380.00	1.026	17.925	5.65	39.24	42	3.50	9.621	10.996	53.385	5.5	4.08	611.64	610.69	0.00	0.0028	
26+10	22+00	205	410	1.798	15.69	0.5	0.90	7.84	340.00	1.170	19.095	5.50	43.14	42	3.50	9.621	10.996	52.325	5.4	4.48	610.69	609.67	0.00	0.0027	
22+00	18+00	204	400	1.754	17.44	0.5	0.88	8.72	380.00	0.837	19.932	5.27	45.96	42	3.50	9.621	10.996	63.895	6.6	4.78	609.67	608.34	0.00	0.0040	
18+00	15+00	203	300	1.315	18.76	0.5	0.66	9.38	332.29	0.823	20.755	5.11	47.92	42	3.50	9.621	10.996	63.875	6.6	4.98	608.34	607.01	0.00	0.0040	
RIDGE ROAD FROM BROADWAY TO CONNECTICUT STREET																									
MH STA																									
9+40	10+00	200	60	0.263	0.26	0.5	0.13	0.13	250.00	5.000		7.99	1.05	36	3.00	7.069	9.425	21.162	3.0	0.15	612.09	611.84	0.00	0.0010	
10+00	13+00	201	300	1.315	1.58	0.5	0.66	0.79	200.00	1.118	6.118	7.75	6.12	36	3.00	7.069	9.425	21.162	3.0	0.87	611.84	611.64	0.00	0.0010	
13+00	15+00	202	200	0.877	2.46	0.5	0.44	1.23	267.73	1.497	7.615	7.44	9.13	36	3.00	7.069	9.425	21.162	3.0	1.29	611.64	611.37	0.00	0.0010	
		203								1.490	8.990										607.01		4.36		
CONNECTICUT STREET FROM RIDGE ROAD TO PUMP STATION																									
MH STA																									
10+00	13+40	203		0.000	0.00	0.5	0.00	0.00	323.38				57.06	48	4.00	12.566	12.566	123.757	9.8	0.00	607.01	604.63	0.00	0.0074	
13+40	17+00	219		0.000	0.00	0.5	0.00	0.00	360.00				57.06	48	4.00	12.566	12.566	136.007	10.8	0.00	604.63	601.43	0.00	0.0089	
17+00	20+80	220		0.000	0.00	0.5	0.00	0.00	380.00				57.06	48	4.00	12.566	12.566	136.052	10.8	0.00	601.43	598.05	0.00	0.0089	
20+80	24+40	221		0.000	0.00	0.5	0.00	0.00	360.00				57.06	48	4.00	12.566	12.566	82.939	6.6	0.00	591.69	590.50	6.36	0.0033	
24+40	27+60	222		0.000	0.00	0.5	0.00	0.00	320.00				57.06	48	4.00	12.566	12.566	82.634	6.5	0.00	590.50	589.45	0.00	0.0033	
27+60	31+20	223		0.000	0.00	0.5	0.00	0.00	360.00				57.06	48	4.00	12.566	12.566	102.005	8.1	0.00	588.00	586.20	1.45	0.0050	
31+20	34+80	224		0.000	0.00	0.5	0.00	0.00	360.00				57.06	48	4.00	12.566	12.566	102.005	8.1	0.00	586.20	584.40	0.00	0.0050	
34+80	38+40	225		0.000	0.00	0.5	0.00	0.00	360.00				57.06	48	4.00	12.566	12.566	102.005	8.1	0.00	584.40	582.60	0.00	0.0050	
38+40	40+40	226		0.000	0.00	0.5	0.00	0.00	200.00				57.06	48	4.00	12.566	12.566	102.005	8.1	0.00	582.60	581.60	0.00	0.0050	
40+40	41+75	227		0.000	0.00	0.5	0.00	0.00	144.75				57.06	48	4.00	12.566	12.566	101.741	8.1	0.00	579.75	579.03	1.85	0.0050	

NOTES:
1) The Calculations are based on 50 Yr Storm Frequency (Q50)

North-West Engineering, Co. Inc.
100 W. 4th Ave., 2nd Floor
Gary, IN 46402

HYDRAULIC GRADE LINE COMPUTATION FORM (50YR)

Calc By: TMW Date: 8/5/2008
Checked By: ASM Date: 8/6/2008

Route: East Ridge Road Imp Project from Broadway to Mississippi Street, Des no: 0600750, STP N-763()

Section: Multi Lane Road, Arterial

County: Lake Co.

LINE	Station	TW	Do	Do	AREA	PER	Qo	Lo	Vo	Vo^2/2g	S	Ho	Sfo	(Sfo)^0.5	Hf	Ko	CD	Cd	CQ	CP	CB	K	K(Vo^2/2g)	EGLo	EGLi	HGL	RIM
		Elev	inch	FT	OF	OF	cfs	ft	fps		Slope													2+7	10+18+19	20-7	Elev
	(1)	(2)	(3)	DIA	PIPE	PIPE	(4)	(5)	(6)	(7)		(8)	(9)		(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
CONNECTICUT STREET CALCULATIONS FROM 33RD AVENUE TO RIDGE ROAD																											
B	40+40.00	586.60	48	4.00	12.566	12.566	57.06	200.00	4.54	0.3201	0.0050	0.00000	0.00348	0.05902	0.70	0.16	1.0	1.00	1.00	1.00	1.00	0.16	0.05	586.92	587.67	587.35	594.10
	38+40.00	588.40	48	4.00	12.566	12.566	57.06	360.00	4.54	0.3201	0.0050	0.00000	0.00348	0.05902	1.25	0.16	1.0	1.00	1.00	1.00	1.00	0.16	0.05	588.72	590.03	589.71	595.51
	34+80.00	590.20	48	4.00	12.566	12.566	57.06	360.00	4.54	0.3201	0.0050	0.00000	0.00348	0.05902	1.25	0.16	1.0	1.00	1.00	1.00	1.00	0.16	0.05	590.52	591.83	591.51	597.41
	31+20.00	592.00	48	4.00	12.566	12.566	57.06	360.00	4.54	0.3201	0.0050	0.00000	0.00348	0.05902	1.25	0.16	1.0	1.00	1.00	1.00	1.00	0.16	0.05	592.32	593.63	593.31	599.52
	27+60.00	594.50	48	4.00	12.566	12.566	57.06	320.00	4.54	0.3201	0.0050	0.00000	0.00348	0.05902	1.11	0.16	1.0	1.00	1.00	1.00	1.00	0.16	0.05	594.82	595.99	595.67	600.94
	24+40.00	595.69	48	4.00	12.566	12.566	57.06	360.00	4.54	0.3201	0.0033	0.00000	0.00348	0.05902	1.25	0.16	1.0	1.00	1.00	1.00	1.00	0.16	0.05	596.01	597.32	597.00	603.00
	20+80.00	605.43	48	4.00	12.566	12.566	57.06	380.00	4.54	0.3201	0.0033	0.00000	0.00348	0.05902	1.32	0.16	1.0	1.00	1.00	0.80	1.00	0.13	0.04	605.75	607.12	606.80	610.83
	17+00.00	608.63	48	4.00	12.566	12.566	57.06	360.00	4.54	0.3201	0.0089	0.00000	0.00348	0.05902	1.25	0.16	1.0	1.00	1.00	1.00	1.00	0.16	0.05	608.95	610.26	609.94	614.83
	13+40.00	611.01	48	4.00	12.566	12.566	57.06	340.00	4.54	0.3201	0.0089	0.00000	0.00348	0.05902	1.18	0.16	1.0	1.00	1.00	1.00	1.00	0.16	0.05	611.33	612.57	612.25	619.47
	10+00.00	614.37	48	4.00	12.566	12.566	57.06		4.54	0.3201	0.0074	0.48990	0.00348	0.05902	0.00	1.36	1.5	1.00	1.00	1.00	1.00	2.04	0.65	614.69	615.34	615.02	625.83
RIDGE ROAD CALCULATIONS FROM MISSISSIPPI STREET TO CONNECTICUT STREET																											
A	16+67.73	611.84	42	3.50	9.6212	10.996	57.06	332.29	5.93	0.5461	0.0040	0.22598	0.00711	0.08431	2.36	0.19	1.0	1.00	1.00	1.00	1.00	0.19	0.10	612.39	614.85	614.30	626.02
	20+00.00	613.17	42	3.50	9.6212	10.996	47.92	380.00	4.98	0.3852	0.0035	-0.16085	0.00501	0.07081	1.91	0.19	1.0	1.00	1.25	1.00	1.00	0.23	0.09	613.56	615.55	615.17	625.86
	23+80.00	614.19	42	3.50	9.6212	10.996	45.96	340.00	4.78	0.3543	0.0030	-0.03096	0.00461	0.06791	1.57	0.19	1.0	1.00	1.09	1.00	1.00	0.20	0.07	614.54	616.18	615.83	625.72
	27+20.00	615.64	42	3.50	9.6212	10.996	43.14	380.00	4.48	0.3122	0.0025	-0.04211	0.00406	0.06374	1.54	0.19	1.0	1.00	1.12	1.00	1.00	0.21	0.07	615.95	617.56	617.25	626.05
	31+00.00	616.27	42	3.50	9.6212	10.996	39.24	315.00	4.08	0.2582	0.0020	-0.05392	0.00336	0.05798	1.06	0.19	1.0	1.00	1.16	1.00	1.00	0.22	0.06	616.53	617.64	617.38	626.04
	34+15.00	618.62	42	3.50	9.6212	10.996	36.78	345.00	3.82	0.2269	0.0020	-0.03133	0.00295	0.05435	1.02	0.19	1.0	1.00	1.13	1.00	1.00	0.21	0.05	618.85	619.91	619.69	625.96
	37+60.00	621.12	42	3.50	9.6212	10.996	32.74	300.00	3.40	0.1799	0.0050	-0.04707	0.00234	0.04838	0.70	0.19	1.0	1.00	1.19	1.00	1.00	0.22	0.04	621.30	622.04	621.86	626.19
	40+60.00	622.62	36	3.00	7.0686	9.4248	29.60	342.37	4.19	0.2723	0.0103	0.09242	0.00436	0.06601	1.49	0.16	1.6	1.00	1.17	1.00	1.00	0.29	0.08	622.89	624.46	624.19	626.36
	44+00.00	626.15	36	3.00	7.0686	9.4248	25.46	300.00	3.60	0.2015	0.0060	-0.07081	0.00322	0.05678	0.97	0.45	1.0	1.00	1.13	1.00	1.00	0.51	0.10	626.35	627.42	627.22	629.82
	47+00.00	627.61	36	3.00	7.0686	9.4248	19.59	300.00	2.77	0.1193	0.0020	-0.08217	0.00191	0.04369	0.57	0.16	1.0	1.00	1.33	1.00	1.00	0.21	0.03	627.73	628.33	628.21	633.75
	50+00.00	628.71	36	3.00	7.0686	9.4248	15.77	300.00	2.23	0.0773	0.0020	-0.04203	0.00124	0.03516	0.37	0.16	1.0	1.00	1.29	1.00	1.00	0.20	0.02	628.79	629.17	629.10	637.71
	53+00.00	629.16	36	3.00	7.0686	9.4248	12.39	300.00	1.75	0.0477	0.0015	-0.02956	0.00076	0.02763	0.23	0.16	1.0	1.00	1.31	1.00	1.00	0.21	0.01	629.21	629.45	629.40	639.92
	56+00.00	629.91	30	2.50	4.9088	7.854	9.42	300.00	1.92	0.0571	0.0025	0.00944	0.00117	0.03417	0.35	0.19	1.7	1.00	1.34	1.00	1.00	0.44	0.03	629.97	630.34	630.29	638.63
	59+00.00	630.93	30	2.50	4.9088	7.854	8.40	260.00	1.71	0.0454	0.0020	-0.01173	0.00093	0.03046	0.24	0.19	1.0	1.00	1.19	1.00	1.00	0.23	0.01	630.98	631.23	631.18	637.34
	61+60.00	630.99	24	2.00	3.1416	6.2832	3.57	140.00	1.14	0.0200	0.0040	-0.02541	0.00055	0.02348	0.08	0.20	2.0	1.00	1.66	1.00	1.00	0.65	0.01	631.01	631.10	631.08	636.33
	63+00.00	630.49	18	1.50	1.7672	4.7124	2.71		1.53	0.0365		0.01651	0.00148	0.03846	0.00	0.27	2.4	1.00	1.34	1.00	1.00	0.85	0.03	630.53	630.56	630.52	636.53
RIDGE ROAD CALCULATIONS FROM BROADWAY TO CONNECTICUT STREET																											
A	16+67.73	614.64	36	3.00	7.0686	9.4248	9.13	267.73	1.29	0.0259	0.0010	-0.29418	0.00041	0.02037	0.11	0.16	2.4	1.00	1.88	0.90	1.00	0.63	0.02	614.67	614.79	614.77	626.02
	14+00.00	614.84	36	3.00	7.0686	9.4248	6.12	200.00	0.87	0.0116	0.0010	-0.01430	0.00019	0.01364	0.04	0.16	1.0	1.00	1.44	1.00	1.00	0.23	0.00	614.85	614.89	614.88	626.06
	12+00.00	615.09	36	3.00	7.0686	9.4248	1.05	250.00	0.15	0.0003	0.0010	-0.01128	0.00001	0.00234	0.00	0.16	1.0	1.00	1.87	1.00	1.00	0.30	0.00	615.09	615.09	615.09	625.67
	9+50.00	615.09	36	3.00	7.0686	9.4248	1.05		0.15	0.0003		0.00000	0.00001	0.00234	0.00	0.16	1.0	1.00	1.00	1.00	1.00	0.16	0.00	615.09	615.09	615.09	626.05

- NOTES:
- 1) The Calculations are based on 50 Yr Storm Frequency (Q50)
 - 2) No benching therefore: CB = 1.00

North-West Engineering, Co. Inc.
100 W. 4th Ave., 2nd Floor
Gary, IN 46402

INLET COMPUTATION SHEET

CALCULATIONS FROM BROADWAY STREET TO MISSISSIPPI ST

Calc By: TMW Date: 8/5/2008
Checked By: ASM Date: 8/6/2008

LOCATION			GUTTER DISCHARGE DESIGN FREQUENCY 10					GUTTER DISCHARGE ALLOWABLE SPREAD								INLET DISCHARGE			REMARKS
INLET NO	STATION	LENGTH	DRAIN AREA "A" (acres)	RUNOFF COEFF "C"	TIME OF CONCENTRATION "Tc" (min)	Rain Intensity "I" (in/hr)	Q=CIA (cfs)	GRADE "So" (ft/ft)	CROSS SLOPE Sx (ft/ft)	PREV. RUNBY (cfs)	TOTAL GUTTER FLOW (cfs)	DEPTH "d" T/W (ft)	GUTTER WIDTH "W" (ft)	SPREAD "T" (ft)	W/T	INLET TYPE	INTERCEPT "Qi" (cfs)	RUNBY "Qr" (cfs)	
(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
NORTHSIDE 2 Lanes	Line "A"																		
STR. NO. 401	9+32.00	68.00	0.05	0.90	5.0	6.8	0.315	0.0071	0.02	0.00	0.315	0.092	1.875	4.62	0.406	B-15 IN(MOD.)	2.2525	0.00	SLOPE
STR. NO. 402	9+40.00															K-15 CB(MOD.)	2.2525	-4.19	
STR. NO. 405	11+81.00	200.00	0.15	0.90	5.0	6.8	0.927	0.0100	0.02	0.00	0.927	0.130	1.875	6.48	0.289	B-15 IN(MOD.)	2.2525	-1.33	SAG
STR. NO. 406	11+89.00	100.00	0.08	0.90	5.0	6.8	0.464	0.0045	0.02	0.00	0.464	0.116	1.875	5.81	0.323	K-15 CB(MOD.)	2.2525	-1.79	
STR. NO. 409	13+82.00	82.00	0.06	0.90	5.0	6.8	0.380	0.0030	0.02	0.00	0.380	0.116	1.875	5.82	0.322	B-15 IN(MOD.)	2.2525	-1.87	SAG
STR. NO. 410	13+90.00	118.00	0.09	0.90	5.0	6.8	0.547	0.0044	0.02	0.00	0.547	0.124	1.875	6.20	0.302	K-15 CB(MOD.)	2.2525	-1.71	
STR. NO. 413A	16+00.00	100.00	0.08	0.90	5.0	6.8	0.464	0.0030	0.02	0.00	0.464	0.125	1.875	6.26	0.299	K-15 CB(MOD.)	2.2525	-1.79	SLOPE
STR. NO. 413	16+57.71	65.00	0.05	0.90	5.0	6.8	0.301	0.0030	0.02	0.00	0.301	0.107	1.875	5.33	0.352	B-15 IN(MOD.)	2.2525	-1.95	SAG
STR. NO. 414	16+85.67	135.00	0.10	0.90	5.0	6.8	0.626	0.0039	0.02	0.00	0.626	0.133	1.875	6.67	0.281	K-15 CB(MOD.)	2.2525	-1.63	
STR. NO. 417A	19+40.00	140.00	0.11	0.90	5.0	6.8	0.649	0.0035	0.02	0.00	0.649	0.138	1.875	6.90	0.272	K-15 CB(MOD.)	2.2525	-1.60	SLOPE
STR. NO. 417	19+88.07	58.00	0.04	0.90	5.0	6.8	0.269	0.0035	0.02	0.00	0.269	0.099	1.875	4.96	0.378	B-15 IN(MOD.)	2.2525	-1.98	SAG
STR. NO. 418	20+17.94	57.00	0.04	0.90	5.0	6.8	0.264	0.0040	0.02	0.00	0.264	0.096	1.875	4.81	0.390	K-15 CB(MOD.)	2.2525	-1.99	
STR. NO. 418A	20+55.00	145.00	0.11	0.90	5.0	6.8	0.672	0.0040	0.02	0.00	0.672	0.136	1.875	6.82	0.275	K-15 CB(MOD.)	2.2525	-1.58	SLOPE
STR. NO. 421	23+87.00	187.00	0.14	0.90	5.0	6.8	0.867	0.0050	0.02	0.00	0.867	0.144	1.875	7.20	0.261	B-15 IN(MOD.)	2.2525	-1.39	SAG
STR. NO. 422	24+00.00	173.00	0.13	0.90	5.0	6.8	0.802	0.0050	0.02	0.00	0.802	0.140	1.875	6.99	0.268	K-15 CB(MOD.)	2.2525	-1.45	
STR. NO. 425	26+30.00	70.00	0.05	0.90	5.0	6.8	0.325	0.0030	0.02	0.00	0.325	0.110	2.875	5.48	0.524	K-15 CB(MOD.)	2.2525	-1.93	SLOPE
STR. NO. 426	27+15.00	135.00	0.10	0.90	5.0	6.8	0.626	0.0030	0.02	0.00	0.626	0.140	1.875	7.01	0.268	K-15 CB(MOD.)	2.2525	-1.63	SAG
STR. NO. 426A	27+65.00	135.00	0.10	0.90	5.0	6.8	0.626	0.0030	0.02	0.00	0.626	0.140	2.875	7.01	0.410	B-15 IN(MOD.)	2.2525	-1.63	SLOPE
STR. NO. 429	30+50.00	150.00	0.11	0.90	5.0	6.8	0.695	0.0030	0.02	0.00	0.695	0.146	1.875	7.29	0.257	B-15 IN(MOD.)	2.2525	-1.56	SLOPE
STR. NO. 430	30+97.00	97.00	0.07	0.90	5.0	6.8	0.450	0.0034	0.02	0.00	0.450	0.121	1.875	6.05	0.310	K-15 CB(MOD.)	2.2525	-1.80	SAG
STR. NO. 430A	31+47.00	133.00	0.10	0.90	5.0	6.8	0.617	0.0034	0.02	0.00	0.617	0.136	2.875	6.81	0.422	B-15 IN(MOD.)	2.2525	-1.64	SLOPE
STR. NO. 433	34+15.00	165.00	0.13	0.90	5.0	6.8	0.765	0.0055	0.02	0.00	0.765	0.135	1.875	6.74	0.278	B-15 IN(MOD.)	2.2525	-1.49	SAG
STR. NO. 434	34+45.00	155.00	0.12	0.90	5.0	6.8	0.719	0.0040	0.02	0.00	0.719	0.140	1.875	6.99	0.268	K-15 CB(MOD.)	2.2525	-1.53	SLOPE
STR. NO. 437	37+25.00	125.00	0.09	0.90	5.0	6.8	0.580	0.0032	0.02	0.00	0.580	0.135	1.875	6.73	0.279	B-15 IN(MOD.)	2.2525	-1.67	SAG
STR. NO. 438	37+50.00	85.00	0.06	0.90	5.0	6.8	0.394	0.0030	0.02	0.00	0.394	0.118	1.875	5.89	0.318	K-15 CB(MOD.)	2.2525	-1.86	
STR. NO. 438A	38+10.00	130.00	0.10	0.90	5.0	6.8	0.603	0.0030	0.02	0.00	0.603	0.138	1.875	6.91	0.271	K-15 CB(MOD.)	2.2525	-1.65	SLOPE
STR. NO. 441	40+30.00	103.00	0.08	0.90	5.0	6.8	0.478	0.0050	0.02	0.00	0.478	0.115	1.875	5.76	0.326	B-15 IN(MOD.)	2.2525	-1.77	SAG
STR. NO. 442	40+34.00	349.00	0.19	0.90	5.0	6.8	1.152	0.0109	0.02	0.00	1.152	0.138	1.875	6.92	0.271	K-15 CB(MOD.)	2.2525	-1.10	
STR. NO. 445	43+92.00	308.00	0.21	0.90	5.0	6.8	1.298	0.0132	0.02	0.00	1.298	0.140	1.875	6.98	0.269	B-15 IN(MOD.)	2.2525	0.00	SLOPE
STR. NO. 446	44+00.00															K-15 CB(MOD.)	2.2525	-3.21	
STR. NO. 449	47+00.00	50.00	0.03	0.90	5.0	6.8	0.211	0.0132	0.02	0.00	0.211	0.071	1.875	3.54	0.530	K-15 CB(MOD.)	2.2525	-2.04	SLOPE
STR. NO. 450	47+50.00	292.00	0.20	0.90	5.0	6.8	1.231	0.0132	0.02	0.00	1.231	0.137	1.875	6.84	0.274	B-15 IN(MOD.)	2.2525	-1.02	
STR. NO. 455	50+42.00	158.00	0.11	0.90	5.0	6.8	0.666	0.0132	0.02	0.00	0.666	0.109	1.875	5.44	0.345	K-15 CB(MOD.)	2.2525	0.00	SLOPE
STR. NO. 456	50+50.00															B-15 IN(MOD.)	2.2525	-3.84	
STR. NO. 457	53+00.00	100.00	0.07	0.90	5.0	6.8	0.421	0.0043	0.02	0.00	0.421	0.113	1.875	5.65	0.332	K-15 CB(MOD.)	2.2525	0.00	SLOPE
STR. NO. 458	53+75.00	75.00	0.05	0.90	5.0	6.8	0.316	0.0043	0.02	0.00	0.316	0.101	1.875	5.07	0.369	B-15 IN(MOD.)	2.2525	-4.08	
STR. NO. 462	55+50.00	175.00	0.12	0.90	5.0	6.8	0.738	0.0043	0.02	0.00	0.738	0.139	1.875	6.97	0.269	B-15 IN(MOD.)	2.2525	-1.51	SLOPE
STR. NO. 463	56+00.00	50.00	0.03	0.90	5.0	6.8	0.211	0.0043	0.02	0.00	0.211	0.087	1.875	4.36	0.430	K-15 CB(MOD.)	2.2525	-2.04	
STR. NO. 463A	56+30.00	30.00	0.02	0.90	5.0	6.8	0.126	0.0043	0.02	0.00	0.126	0.072	1.875	3.60	0.520	B-15 IN(MOD.)	2.2525	-2.13	SLOPE

North-West Engineering, Co. Inc.
100 W. 4th Ave., 2nd Floor
Gary, IN 46402

INLET COMPUTATION SHEET

CALCULATIONS FROM BROADWAY STREET TO MISSISSIPPI ST

Calc By: TMW Date: 8/5/2008
Checked By: ASM Date: 8/6/2008

LOCATION			GUTTER DISCHARGE DESIGN FREQUENCY 10					GUTTER DISCHARGE ALLOWABLE SPREAD								INLET DISCHARGE			REMARKS
INLET NO	STATION	LENGTH	DRAIN AREA "A" (acres)	RUNOFF COEFF "C"	TIME OF CONCENTRATION "Tc" (min)	Rain Intensity "I" (in/hr)	Q=CIA (cfs)	GRADE "So" (ft/ft)	CROSS SLOPE Sx (ft/ft)	PREV. RUNBY (cfs)	TOTAL GUTTER FLOW (cfs)	DEPTH "d" T/W (ft)	GUTTER WIDTH "W" (ft)	SPREAD "T" (ft)	W/T	INLET TYPE	INTERCEPT "Qi" (cfs)	RUNBY "Qr" (cfs)	
(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
STR. NO. 465	58+07.00	177.00	0.12	0.90	5.0	6.8	0.746	0.0043	0.02	0.00	0.746	0.140	1.875	7.00	0.268	B-15 IN(MOD.)	2.2525	-1.51	SLOPE
STR. NO. 466	59+00.00	93.00	0.06	0.90	5.0	6.8	0.392	0.0043	0.02	0.00	0.392	0.110	1.875	5.50	0.341	K-15 CB(MOD.)	2.2525	-1.86	
STR. NO. 466A	59+45.00	45.00	0.03	0.90	5.0	6.8	0.190	0.0043	0.02	0.00	0.190	0.084	1.875	4.19	0.447	B-15 IN(MOD.)	2.2525	-2.06	SLOPE
STR. NO. 469A	60+70.00	125.00	0.09	0.90	5.0	6.8	0.527	0.0043	0.02	0.00	0.527	0.123	1.875	6.14	0.305	B-15 IN(MOD.)	2.2525	-1.73	SLOPE
STR. NO. 469	61+35.00	65.00	0.04	0.90	5.0	6.8	0.274	0.0043	0.02	0.00	0.274	0.096	1.875	4.81	0.390	B-15 IN(MOD.)	2.2525	-1.98	SLOPE
STR. NO. 470	61+68.00	115.00	0.08	0.90	5.0	6.8	0.485	0.0022	0.02	0.00	0.485	0.135	1.875	6.75	0.278	K-15 CB(MOD.)	2.2525	-1.77	SAG
STR. NO. 473	62+50.00	50.00	0.03	0.90	5.0	6.8	0.211	0.0022	0.02	0.00	0.211	0.099	1.875	4.94	0.379	B-15 IN(MOD.)	2.2525	-2.04	SLOPE
STR. NO. 474	63+00.00	100.00	0.07	0.90	5.0	6.8	0.421	0.0022	0.02	0.00	0.421	0.128	1.875	6.41	0.293	K-15 CB(MOD.)	2.2525	-1.83	SLOPE
SOUTHSIDE	Line "A"																		
2 lanes																			
STR. NO. 403	9+32.00	68.00	0.05	0.90	5.0	6.8	0.315	0.0071	0.02	0.00	0.315	0.092	1.875	4.62	0.406	B-15 IN(MOD.)	2.2525	0.00	SLOPE
STR. NO. 404	9+40.00																	-4.19	
STR. NO. 407	11+81.00	200.00	0.15	0.90	5.0	6.8	0.927	0.0100	0.02	0.00	0.927	0.130	1.875	6.48	0.289	B-15 IN(MOD.)	2.2525	-1.33	SAG
STR. NO. 408	11+89.00	100.00	0.08	0.90	5.0	6.8	0.464	0.0045	0.02	0.00	0.464	0.116	1.875	5.81	0.323	K-15 CB(MOD.)	2.2525	-1.79	
STR. NO. 411	13+82.00	82.00	0.30	0.41	5.0	6.8	0.829	0.0030	0.02	0.00	0.829	0.156	1.875	7.79	0.241	B-15 IN(MOD.)	2.2525	-1.42	SAG
STR. NO. 412	13+90.00	68.00	0.25	0.41	5.0	6.8	0.688	0.0044	0.02	0.00	0.688	0.135	1.875	6.76	0.277	K-15 CB(MOD.)	2.2525	-1.56	
STR. NO. 412A	14+50.00	50.00	0.18	0.41	5.0	6.8	0.506	0.0044	0.02	0.00	0.506	0.120	1.875	6.02	0.311	B-15 IN(MOD.)	2.2525	-1.75	SLOPE
STR. NO. 415A	15+60.00	60.00	0.22	0.41	5.0	6.8	0.607	0.0030	0.02	0.00	0.607	0.139	1.875	6.93	0.271	B-15 IN(MOD.)	2.2525	-1.65	SLOPE
STR. NO. 415	16+20.00	60.00	0.22	0.41	5.0	6.8	0.607	0.0030	0.02	0.00	0.607	0.139	1.875	6.93	0.271	B-15 IN(MOD.)	2.2525	-1.65	SLOPE
STR. NO. 416	16+39.37	65.00	0.24	0.41	5.0	6.8	0.657	0.0039	0.02	0.00	0.657	0.136	1.875	6.80	0.276	K-15 CB(MOD.)	2.2525	-1.60	SAG
STR. NO. 416A	16+85.00	55.00	0.20	0.41	5.0	6.8	0.556	0.0039	0.02	0.00	0.556	0.128	1.875	6.38	0.294	B-15 IN(MOD.)	2.2525	-1.70	SLOPE
STR. NO. 416B	17+40.00	60.00	0.22	0.41	5.0	6.8	0.607	0.0039	0.02	0.00	0.607	0.132	1.875	6.60	0.284	B-15 IN(MOD.)	2.2525	-1.65	SLOPE
STR. NO. 419A	18+55.00	55.00	0.20	0.41	5.0	6.8	0.556	0.0035	0.02	0.00	0.556	0.130	1.875	6.51	0.288	B-15 IN(MOD.)	2.2525	-1.70	SLOPE
STR. NO. 419B	19+25.00	70.00	0.25	0.41	5.0	6.8	0.708	0.0035	0.02	0.00	0.708	0.143	1.875	7.13	0.263	B-15 IN(MOD.)	2.2525	-1.54	SLOPE
STR. NO. 419	19+97.00	72.00	0.26	0.41	5.0	6.8	0.728	0.0035	0.02	0.00	0.728	0.144	1.875	7.21	0.260	B-15 IN(MOD.)	2.2525	-1.52	SAG
STR. NO. 420	20+05.00	68.00	0.25	0.41	5.0	6.8	0.688	0.0040	0.02	0.00	0.688	0.138	1.875	6.88	0.273	K-15 CB(MOD.)	2.2525	-1.56	
STR. NO. 420A	20+65.00	62.00	0.22	0.41	5.0	6.8	0.627	0.0040	0.02	0.00	0.627	0.133	1.875	6.65	0.282	B-15 IN(MOD.)	2.2525	-1.63	SLOPE
STR. NO. 420B	21+27.00	73.00	0.26	0.41	5.0	6.8	0.738	0.0040	0.02	0.00	0.738	0.141	1.875	7.06	0.265	B-15 IN(MOD.)	2.2525	-1.51	SLOPE
STR. NO. 423A	22+79.00	79.00	0.29	0.41	5.0	6.8	0.799	0.0050	0.02	0.00	0.799	0.140	1.875	6.98	0.269	B-15 IN(MOD.)	2.2525	-1.45	SLOPE
STR. NO. 423B	23+58.00	79.00	0.29	0.41	5.0	6.8	0.799	0.0050	0.02	0.00	0.799	0.140	1.875	6.98	0.269	B-15 IN(MOD.)	2.2525	-1.45	SLOPE
STR. NO. 423	24+00.00	50.00	0.18	0.41	5.0	6.8	0.506	0.0050	0.02	0.00	0.506	0.118	1.875	5.88	0.319	B-15 IN(MOD.)	2.2525	-1.75	SAG
STR. NO. 424	24+08.00	73.00	0.26	0.41	5.0	6.8	0.738	0.0050	0.02	0.00	0.738	0.136	1.875	6.78	0.277	K-15 CB(MOD.)	2.2525	-1.51	
STR. NO. 424A	24+81.00	79.00	0.29	0.41	5.0	6.8	0.799	0.0050	0.02	0.00	0.799	0.140	1.875	6.98	0.269	B-15 IN(MOD.)	2.2525	-1.45	SLOPE
STR. NO. 427A	26+20.00	60.00	0.22	0.41	5.0	6.8	0.607	0.0030	0.02	0.00	0.607	0.139	1.875	6.93	0.271	B-15 IN(MOD.)	2.2525	-1.65	SLOPE
STR. NO. 427B	26+60.00	40.00	0.15	0.41	5.0	6.8	0.405	0.0030	0.02	0.00	0.405	0.119	1.875	5.95	0.315	B-15 IN(MOD.)	2.2525	-1.85	SLOPE
STR. NO. 427	27+00.00	60.00	0.22	0.41	5.0	6.8	0.607	0.0030	0.02	0.00	0.607	0.139	1.875	6.93	0.271	K-15 CB(MOD.)	2.2525	-1.65	SAG
STR. NO. 428	27+20.00	60.00	0.22	0.41	5.0	6.8	0.607	0.0030	0.02	0.00	0.607	0.139	1.875	6.93	0.271	B-15 IN(MOD.)	2.2525	-1.65	SLOPE
STR. NO. 428A	27+80.00	60.00	0.22	0.41	5.0	6.8	0.607	0.0030	0.02	0.00	0.607	0.139	1.875	6.93	0.271	B-15 IN(MOD.)	2.2525	-1.65	SLOPE
STR. NO. 428B	28+40.00	60.00	0.22	0.41	5.0	6.8	0.607	0.0030	0.02	0.00	0.607	0.139	1.875	6.93	0.271	B-15 IN(MOD.)	2.2525	-1.65	SLOPE
STR. NO. 431A	29+50.00	50.00	0.18	0.41	5.0	6.8	0.506	0.0030	0.02	0.00	0.506	0.129	1.875	6.47	0.290	B-15 IN(MOD.)	2.2525	-1.75	SLOPE

North-West Engineering, Co. Inc.
100 W. 4th Ave., 2nd Floor
Gary, IN 46402

INLET COMPUTATION SHEET

CALCULATIONS FROM BROADWAY STREET TO MISSISSIPPI ST

Calc By: TMW Date: 8/5/2008
Checked By: ASM Date: 8/6/2008

LOCATION			GUTTER DISCHARGE DESIGN FREQUENCY 10					GUTTER DISCHARGE ALLOWABLE SPREAD								INLET DISCHARGE			REMARKS	
INLET NO	STATION	LENGTH	DRAIN AREA "A" (acres)	RUNOFF COEFF "C"	TIME OF CONCEN- TRATION "Tc" (min)	Rain Intensity "I" (in/hr)	Q=CIA (cfs)	GRADE "So" (ft/ft)	CROSS Sx (ft/ft)	PREV. RUNBY (cfs)	TOTAL GUTTER FLOW (cfs)	DEPTH "d" T/W (ft)	GUTTER WIDTH "W" (ft)	SPREAD "T" (ft)	W/T	INLET TYPE	INTERCEPT "Qi" (cfs)	RUNBY "Qr" (cfs)		
(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)		(16)	(17)	(18)	(19)
STR. NO. 431B	30+30.00	80.00	0.29	0.41	5.0	6.8	0.809	0.0030	0.02	0.00	0.809	0.154	1.875	7.71	0.243	B-15 IN(MOD.)	2.2525	-1.44	SLOPE	
STR. NO. 431	30+90.00	60.00	0.22	0.41	5.0	6.8	0.607	0.0030	0.02	0.00	0.607	0.139	1.875	6.93	0.271	B-15 IN(MOD.)	2.2525	-1.65	SAG	
STR. NO. 432	31+00.00	50.00	0.18	0.41	5.0	6.8	0.506	0.0034	0.02	0.00	0.506	0.126	1.875	6.32	0.297	K-15 CB(MOD.)	2.2525	-1.75		
STR. NO. 432A	31+50.00	55.00	0.20	0.41	5.0	6.8	0.556	0.0034	0.02	0.00	0.556	0.131	1.875	6.55	0.286	B-15 IN(MOD.)	2.2525	-1.70	SLOPE	
STR. NO. 432B	32+05.00	75.00	0.27	0.41	5.0	6.8	0.758	0.0034	0.02	0.00	0.758	0.147	1.875	7.36	0.255	B-15 IN(MOD.)	2.2525	-1.49	SLOPE	
STR. NO. 435A	33+45.00	65.00	0.24	0.41	5.0	6.8	0.657	0.0055	0.02	0.00	0.657	0.127	1.875	6.37	0.294	B-15 IN(MOD.)	2.2525	-1.60	SLOPE	
STR. NO. 435	34+15.00	78.00	0.28	0.41	5.0	6.8	0.789	0.0055	0.02	0.00	0.789	0.136	1.875	6.82	0.275	B-15 IN(MOD.)	2.2525	-1.46	SAG	
STR. NO. 436	34+23.00	50.14	0.18	0.41	5.0	6.8	0.507	0.0040	0.02	0.00	0.507	0.123	1.875	6.14	0.305	K-15 CB(MOD.)	2.2525	-1.75		
STR. NO. 436A	34+73.14	56.86	0.21	0.41	5.0	6.8	0.575	0.0040	0.02	0.00	0.575	0.129	1.875	6.43	0.291	B-15 IN(MOD.)	2.2525	-1.68	SLOPE	
STR. NO. 436B	35+30.00	70.00	0.25	0.41	5.0	6.8	0.708	0.0040	0.02	0.00	0.708	0.139	1.875	6.95	0.270	B-15 IN(MOD.)	2.2525	-1.54	SLOPE	
STR. NO. 439A	36+22.00	22.00	0.08	0.41	5.0	6.8	0.222	0.0032	0.02	0.00	0.222	0.094	1.875	4.70	0.399	B-15 IN(MOD.)	2.2525	-2.03	SLOPE	
STR. NO. 439B	37+05.00	83.00	0.30	0.41	5.0	6.8	0.839	0.0032	0.02	0.00	0.839	0.155	1.875	7.73	0.243	B-15 IN(MOD.)	2.2525	-1.41	SLOPE	
STR. NO. 439	37+42.00	45.00	0.16	0.41	5.0	6.8	0.455	0.0032	0.02	0.00	0.455	0.123	1.875	6.15	0.305	B-15 IN(MOD.)	2.2525	-1.80	SAG	
STR. NO. 440	37+50.00	60.00	0.22	0.41	5.0	6.8	0.607	0.0030	0.02	0.00	0.607	0.139	1.875	6.93	0.271	K-15 CB(MOD.)	2.2525	-1.65		
STR. NO. 440A	38+10.00	65.00	0.24	0.41	5.0	6.8	0.657	0.0030	0.02	0.00	0.657	0.143	1.875	7.14	0.263	B-15 IN(MOD.)	2.2525	-1.60	SLOPE	
STR. NO. 440B	38+75.00	65.00	0.24	0.41	5.0	6.8	0.657	0.0030	0.02	0.00	0.657	0.143	1.875	7.14	0.263	B-15 IN(MOD.)	2.2525	-1.60	SLOPE	
STR. NO. 443	40+15.00	75.00	0.27	0.41	5.0	6.8	0.758	0.0050	0.02	0.00	0.758	0.137	1.875	6.84	0.274	B-15 IN(MOD.)	2.2525	-1.49	SLOPE	
STR. NO. 444	40+38.00	85.00	0.31	0.41	5.0	6.8	0.860	0.0109	0.02	0.00	0.860	0.124	1.875	6.20	0.302	K-15 CB(MOD.)	2.2525	-1.39	SAG	
STR. NO. 444A	41+00.00	100.00	0.36	0.41	5.0	6.8	1.011	0.0109	0.02	0.00	1.011	0.132	1.875	6.59	0.285	B-15 IN(MOD.)	2.2525	-1.24	SLOPE	
STR. NO. 444B	42+00.00	95.00	0.34	0.41	5.0	6.8	0.961	0.0109	0.02	0.00	0.961	0.129	1.875	6.46	0.290	B-15 IN(MOD.)	2.2525	-1.29	SLOPE	
STR. NO. 444C	42+95.00	103.00	0.37	0.41	5.0	6.8	1.042	0.0109	0.02	0.00	1.042	0.133	1.875	6.66	0.281	B-15 IN(MOD.)	2.2525	-1.21	SLOPE	
STR. NO. 447	43+98.00	87.00	0.32	0.41	5.0	6.8	0.880	0.0132	0.02	0.00	0.880	0.121	1.875	6.03	0.311	K-15 CB(MOD.)	2.2525	-1.37	SLOPE	
STR. NO. 448	44+85.00	85.00	0.31	0.41	5.0	6.8	0.860	0.0132	0.02	0.00	0.860	0.120	1.875	5.98	0.313	B-15 IN(MOD.)	2.2525	-1.39	SLOPE	
STR. NO. 448A	45+75.00	125.00	0.45	0.41	5.0	6.8	1.264	0.0132	0.02	0.00	1.264	0.138	1.875	6.91	0.271	B-15 IN(MOD.)	2.2525	-0.99	SLOPE	
STR. NO. 451	47+00.00	129.00	0.47	0.41	5.0	6.8	1.305	0.0132	0.02	0.00	1.305	0.140	1.875	6.99	0.268	K-15 CB(MOD.)	2.2525	-0.95	SLOPE	
STR. NO. 452	48+29.00	128.00	0.46	0.41	5.0	6.8	1.294	0.0132	0.02	0.00	1.294	0.139	1.875	6.97	0.269	B-15 IN(MOD.)	2.2525	-0.96	SLOPE	
STR. NO. 453	49+65.00	114.00	0.41	0.41	5.0	6.8	1.153	0.0132	0.02	0.00	1.153	0.134	1.875	6.68	0.281	K-15 CB(MOD.)	2.2525	-1.10		
STR. NO. 454	50+71.00	129.00	0.47	0.41	5.0	6.8	1.305	0.0132	0.02	0.00	1.305	0.140	1.875	6.99	0.268	B-15 IN(MOD.)	2.2525	-0.95	SLOPE	
STR. NO. 459	52+50.00	50.00	0.18	0.41	5.0	6.8	0.506	0.0043	0.02	0.00	0.506	0.121	1.875	6.05	0.310	B-15 IN(MOD.)	2.2525	-1.75	SLOPE	
STR. NO. 460	53+00.00	50.00	0.18	0.41	5.0	6.8	0.506	0.0043	0.02	0.00	0.506	0.121	1.875	6.05	0.310	K-15 CB(MOD.)	2.2525	-1.75		
STR. NO. 461A	53+62.00	62.00	0.22	0.41	5.0	6.8	0.627	0.0043	0.02	0.00	0.627	0.131	1.875	6.56	0.286	B-15 IN(MOD.)	2.2525	-1.63	SLOPE	
STR. NO. 461B	54+10.00	48.00	0.17	0.41	5.0	6.8	0.485	0.0043	0.02	0.00	0.485	0.119	1.875	5.96	0.315	B-15 IN(MOD.)	2.2525	-1.77	SLOPE	
STR. NO. 461C	54+80.00	70.00	0.25	0.41	5.0	6.8	0.708	0.0043	0.02	0.00	0.708	0.137	1.875	6.86	0.273	B-15 IN(MOD.)	2.2525	-1.54	SLOPE	
STR. NO. 461	55+45.00	65.00	0.24	0.41	5.0	6.8	0.657	0.0043	0.02	0.00	0.657	0.133	1.875	6.67	0.281	B-15 IN(MOD.)	2.2525	-1.60	SLOPE	
STR. NO. 464	56+15.00	70.00	0.25	0.41	5.0	6.8	0.708	0.0043	0.02	0.00	0.708	0.137	1.875	6.86	0.273	K-15 CB(MOD.)	2.2525	-1.54		
STR. NO. 467	57+90.00	175.00	0.12	0.90	5.0	6.8	0.738	0.0043	0.02	0.00	0.738	0.139	1.875	6.97	0.269	B-15 IN(MOD.)	2.2525	-1.51	SLOPE	
STR. NO. 468	59+00.00	110.00	0.08	0.90	5.0	6.8	0.464	0.0043	0.02	0.00	0.464	0.117	1.875	5.86	0.320	K-15 CB(MOD.)	2.2525	-1.79		
STR. NO. 471A	60+70.00	170.00	0.12	0.90	5.0	6.8	0.717	0.0043	0.02	0.00	0.717	0.138	1.875	6.89	0.272	B-15 IN(MOD.)	2.2525	-1.54	SLOPE	
STR. NO. 471	61+69.00	107.00	0.07	0.90	5.0	6.8	0.451	0.0043	0.02	0.00	0.451	0.116	1.875	5.80	0.323	B-15 IN(MOD.)	2.2525	-1.80	SAG	
STR. NO. 472	61+77.00	123.00	0.08	0.90	5.0	6.8	0.518	0.0022	0.02	0.00	0.518	0.138	1.875	6.92	0.271	K-15 CB(MOD.)	2.2525	-1.73		

North-West Engineering, Co. Inc.
100 W. 4th Ave., 2nd Floor
Gary, IN 46402

INLET COMPUTATION SHEET
CALCULATIONS FROM BROADWAY STREET TO MISSISSIPPI ST

Calc By: TMW Date: 8/5/2008
Checked By: ASM Date: 8/6/2008

LOCATION			GUTTER DISCHARGE DESIGN FREQUENCY 10					GUTTER DISCHARGE ALLOWABLE SPREAD								INLET DISCHARGE			REMARKS
INLET NO	STATION	LENGTH	DRAIN AREA "A" (acres)	RUNOFF COEFF "C"	TIME OF CONCEN- TRATION "Tc" (min)	Rain Intensity "I" (in/hr)	Q=CIA (cfs)	GRADE "So" (ft/ft)	CROSS SLOPE "Sx" (ft/ft)	PREV. RUNBY (cfs)	TOTAL GUTTER FLOW (cfs)	DEPTH "d" T/W (ft)	GUTTER WIDTH "W" (ft)	SPREAD "T" (ft)	W/T	INLET TYPE	INTERCEPT "Qi" (cfs)	RUNBY "Qr" (cfs)	
(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
STR. NO. 475	63+00.00	100.00	0.07	0.90	5.0	6.8	0.421	0.0022	0.02	0.00	0.421	0.128	1.875	6.41	0.293	K-15 CB(MOD.)	2.2525	-1.83	SLOPE

NOTE:

- 1) The properties on the south side of Ridge Road, from Station 13+30 to Station 56+15, are at a higher elevation than the street. This causes all flow from the grassy 125-ft strip of land south of the street right-of-way to flow northward onto Ridge Road. We have also used in our calculations all of the Ridge Road R/W, ranging from 60-ft. to 66-ft. to be impervious. The property north of the north R/W of Ridge Road has a lower elevation, and all the flow continues to the north, therefore, we have not considered this area in our drainage calculations.
- 2) Inlet Efficiency assumed to be 85%.
- 3) The time of concentration for the inlet and sewer design computations is five (5) minutes.
- 4) The rainfall intensity was based on a ten (10) year frequency and time of concentration of five (5) minutes is 6.8-inches per hour based upon the rainfall intensity frequency curve for Chicago, Illinois, as shown in Figure 29-8M in the INDOT Part IV- Hydrology Section.
- 5) On the South Side of Ridge Road, from Station 13+30 to Station 56+15, the composite run-off co-efficient value as computed with the run-off co-efficient of 0.284 for the 125-ft. turf on the south side of Ridge Road and 0.90 for the impervious area within the R/W. By using these two coefficients the composite for the entire drainage area came to a Composite C-Value of 0.41 for the run-off calculations.
- 6) Please note on the South Side from Station 9+32 to Station 13+30, and from Station 56+15 to Station 64+00, we have only considered the impervious area within the R/W, as the parcels adjoining the these stations do not drain toward Ridge Road.
- 7) Therefore, the run-off co-efficient C value of 0.41 was used for the inlet computations on the South side of the street, from Station 13+30 to Station 56+15. The run-off co-efficient value of 0.90 was used on the north side of the street, as well as, the south side of the street from Station 9+32 to Station 13+30, and from Station 56+15 to Station 64+00.
- 8) The inlets are located in the areas where the slope changes from negative to positive along the street (Sag Locations). Also if there is a long continuous slope, inlets are located at intermediate locations along the slope in order to intercept the run-off and not exceed the allotted 7'-0" spread.
- 9) Please note there are a few locations where we have exceeded the 7'-0" maximum allowable spread (5.5ft. half lane width + 1.5ft. gutter width = 7.0ft.). This is due to the distance between the structures at intersection or driveway locations. For your information, we have avoided placing structures in drives or at the flow line of intersections, as this is not desirable. In these locations we have placed the inlets and/or catch basin as close together as possible, while still leaving room for ADA accessibility at the corners (handicap ramps). Most of these said locations are minor and exceed the maximum allowable spread by only a few inches. However, there are two locations on the South Side Ridge Road, which exceed the maximum allowable spread by 9 inches, they are located at: Str. No. 431B (Sta. 30+30) and Str. No. 439B (Sta. 37+05), both of which are at intersections.

PROJECT	DESIGNATION
STP - N763()	0600750
CONTRACT	BRIDGE FILE

INDIANA DEPARTMENT OF TRANSPORTATION

APPROVED BY: CITY OF GARY
BOARD OF PUBLIC WORKS AND SAFETY

PRESIDENT _____ DATE _____
MEMBER _____ DATE _____
MEMBER _____ DATE _____

PLAN AND PROFILE OF PROPOSED STP PROJECT NO. STP-N763() (1)P.E. STATE HIGHWAY () CONST. () UTIL.

DESCRIPTION

RIDGE ROAD ROADWAY PROJECT

THE RIDGE ROAD IMPROVEMENT PROJECT IS A ROADWAY RESORATION PROJECT WHICH COVERS THE AREA FROM THE INTERSECTION OF RIDGE ROAD AND BROADWAY AND EASTERLY A DISTANCE OF 1.042 MILES MEASURED ALONG THE CENTERLINE OF RIDGE ROAD ALL IN THE CITY OF GARY, LAKE COUNTY, INDIANA, RANGE 8W., TOWNSHIP 36N.

GROSS LENGTH:- 1.042 miles
NET LENGTH:- 1.042 miles

SCALES:
PLAN TRANS. = 1:200 PROFILE HORZ. = 1:200
LONG = 1:200 VERT. = 1:50

TRAFFIC DATA	
A.A.D.T. (2007)	30,879 V.P.D.
A.A.D.T. (2030)	34,184 V.P.D.
D.H.V. (2030)	3,418 V.P.H.
DIRECTIONAL DISTRIBUTION	50:50 %
TRUCKS	20 % D.H.V.
TRUCKS	20 % A.A.D.T.
DESIGN DATA	
DESIGN SPEED	35 MPH
PROJECT DESIGN CRITERIA	RECONSTRUCTION (NON-FREEWAY)
FUNCTIONAL CLASSIFICATION	PRINCIPAL ARTERIAL
RURAL/URBAN	URBAN (BUILT-UP)
TERRAIN	LEVEL
ACCESS CONTROL	NONE

LOCATION MAP



PROJECT LOCATION SHOWN BY

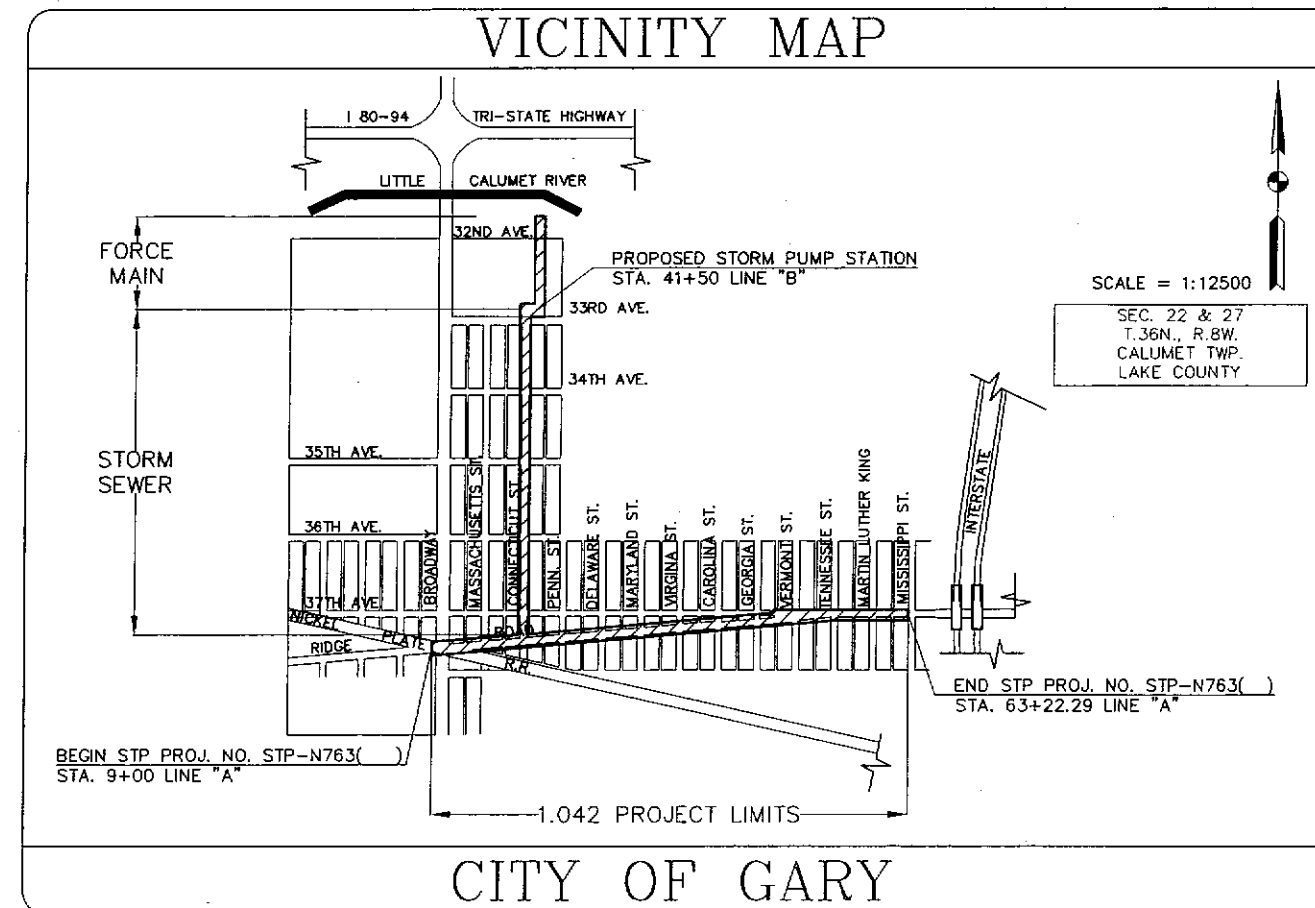
ROADWAY LENGTH : 1.042 MILES
TOTAL LENGTH : 1.042 MILES

[INDIANA DEPARTMENT OF TRANSPORTATION
STANDARD SPECIFICATIONS DATED 1999
TO BE USED WITH THESE PLANS]

PLANS PREPARED BY:
NORTH-WEST ENG. CO., INC.
100 WEST 4TH AVENUE, 2ND FLR.
GARY, IN 46402
TEL (219) 882-6856 FAX: (219) 882-6867

CERTIFIED BY: _____
ARAVIND S. MUZUMDAR
INDIANA REG. NO.15445

APPROVED FOR LETTING: _____
CHIEF, DIVISION OF DESIGN



CITY OF GARY

REVISIONS	
DATE	SHEET NO.

PLANS PREPARED BY: _____ (219) 882-6856
PHONE NUMBER
CERTIFIED BY: _____ DATE
APPROVED FOR LETTING: _____
CHIEF, DIVISION OF DESIGN DATE

BRIDGE FILE
DESIGNATION
0600750
SHEETS
01 of 34
PROJECT
STP - N763()

GENERAL NOTES

[illegible]

- 1) THE CONSTRUCTION LIMITS ARE THE R/W LINES ALONG THE NORTH AND SOUTH SIDES OF RIDGE ROAD.
- 2) THE CONTRACTOR SHALL REMOVE ALL CONCRETE SIDEWALK, CURB & GUTTER, DRIVEWAYS, & FOUNDATIONS, ETC... WITHIN THE CONSTRUCTION LIMITS, IN ORDER TO CONSTRUCT THE PROPOSED. THE REMOVAL OF SUCH MATERIAL SHALL BE PAID UNDER RESPECTIVE PAY ITEMS.
- 3) THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ALL SIGNS, PARKING TIES, PLANTERS, ETC. FROM WITHIN THE R/W, IF IT IS IN CONFLICT WITH THE NEW CONSTRUCTION. IF IT IS NOT CLEARLY MARKED ON THE DRAWINGS FOR REMOVAL, THEN THE FIELD ENGINEER SHALL BE NOTIFIED PRIOR TO REMOVAL OF SUCH ITEMS. THE COST FOR THE SAID WORK SHALL BE INCLUDED IN THE COST FOR CLEARING OF R/W, NO ADDITIONAL COMPENSATION WILL BE GIVEN FOR SUCH WORK. THE BUSINESS SIGNS AND OTHER SALVAGEABLE ITEMS OWNED BY THE PROPERTY OWNERS WILL BE RETURNED BACK TO THE RIGHTFUL OWNER, THE COST OF THIS SHALL INCLUDED IN THE COST FOR CLEARING OF R/W.
- 4) THE CONTRACTOR WILL RECEIVE NO ADDITIONAL COMPENSATION FOR CORING THROUGH CONCRETE STRUCTURES IN ORDER TO CONNECT CATCH BASINS AND INLETS TO THE MANHOLES. THIS COST SHALL BE INCLUDED IN RESPECTIVE PAY ITEMS.
- 5) CONTRACTOR IS RESPONSIBLE TO REMOVE FROM THE CONSTRUCTION AREA THE EXCESS EXCAVATION MATERIAL INCLUDING MATERIAL REMOVED FROM EXISTING STREETS, ALL THE BROKEN CURBS AND SIDEWALKS, AND DISPOSE OF SAME AT HIS OWN COST. THE OWNER RESERVES THE RIGHT TO INSTRUCT THE CONTRACTOR TO DEPOSIT ANY OR ALL OF THE EXCAVATED MATERIAL IN THE PROJECT AREA AT THE DIRECTION OF THE PROJECT ENGINEER. COST OF THE MATERIAL TO BE REMOVED SHALL BE INCLUDED IN THE BID PRICE OF RESPECTIVE PAY ITEMS SUCH AS CONCRETE SIDEWALK REMOVAL, CONCRETE CURB & GUTTER REMOVAL, FOUNDATION REMOVAL, CONCRETE DRIVEWAY REMOVAL, COMMON EXCAVATION, ETC...
- 6) CARE SHALL BE TAKEN TO SAVE ANY TREES, SHRUBS, AND BUSINESS SIGNS IN THE AREAS DESIGNATED FOR SODDING AND THE SURROUNDING ADJACENT PARKING LOTS UNLESS IT IS NOTED FOR REMOVAL.

1) THE CONTRACTOR SHALL ESTABLISH THE RIGHT OF WAY LINES. THIS SHALL BE PERFORMED BY A REGISTERED LAND SURVEYOR, IN THE STATE OF INDIANA, PRIOR TO ANY AND ALL CONSTRUCTION. THE COST OF THIS SURVEY SHALL BE CONSIDERED INCIDENTAL TO AND A PART OF THE CONTRACTOR BID FOR CONSTRUCTION ENGINEERING, AND THE CONTRACTOR SHALL RECEIVE NO EXTRA COMPENSATION FOR THE SAID SURVEY. THE CONTRACTOR SHALL PROVIDE THE FIELD ENGINEER WITH THE LOCATION OF CONTROL POINTS WITH RESPECT TO THE RIGHT OF WAY LINES.

2) THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL NECESSARY FIELD SURVEYS NEEDED DURING CONSTRUCTION. THE COST OF SAID FIELD SURVEYS SHALL BE CONSIDERED INCIDENTAL TO AND A PART OF THE CONTRACTOR BID FOR CONSTRUCTION ENGINEERING, AND THE CONTRACTOR SHALL RECEIVE NO EXTRA COMPENSATION FOR SAID FIELD SURVEYS. THE CONTRACTOR SHALL PROVIDE THE FIELD ENGINEER WITH THE LOCATION OF CONTROL POINTS RELATIVE TO THE CONSTRUCTION SURVEY LINE AND GRADE, WITH RESPECT TO LINE "A" AS PER THE PLAN AND PROFILES.

3) THE CONTRACTOR SHALL SAW CUT EXISTING CURB, SIDEWALK, AND ADJOINING ROADWAY TO ACCOMMODATE THE NEW CONSTRUCTION. THE NEW CONSTRUCTION SHALL MATCH EXISTING GRADES AND ELEVATIONS AT ALL SIDE STREETS AND/OR ALLEYS. THIS COST FOR SAW CUTTING SHALL BE INCLUDED IN THE CONTRACT BID PRICE FOR RESPECTIVE ITEMS. THE COST FOR REMOVAL OF SUCH ITEMS SHALL BE PAID UNDER RESPECTIVE PAY ITEMS.

4) OFFSET DISTANCES FOR THE STORM WATER STRUCTURES, LIGHT POLES, AND TRAFFIC POLES ARE TO THE CENTERLINE OF THE STRUCTURE FROM LINE "A" AS PER THE PLAN & PROFILES.

1) THE FOLLOWING LIST OF UTILITIES, RAILROAD, AND PIPELINE COMPANIES (BUT NOT LIMITED TO) SERVING THE PROJECT AREA IS PROVIDED FOR THE CONTRACTOR'S INFORMATION ONLY. UTILITIES OTHER THAN THOSE OF THE COMPANIES LISTED MAY EXIST. THE CONTRACTOR SHALL COORDINATE WITH THE APPROPRIATE UTILITY COMPANY THE FIELD VERIFICATION OF ALL UTILITIES WITHIN THE CONSTRUCTION AREA. THE CONTRACTOR SHALL COORDINATE THE RAISING OR LOWERING OF ANY VALVE BOXES WITH RESPECTIVE UTILITY COMPANIES.

GAS & ELECTRIC:
NORTHERN IN. PUBLIC SERVICE CO.
1460 EAST 15TH ST.
GARY, IN 46402
(800) 382-5544

WATER:
NORTHWEST INDIANA WATER CO.
650 MADISON ST.
GARY, IN 46401
(219) 886-3770

TELEPHONE:
SBC/AMERITECH
302 S. EAST STREET CROWN POINT, IN 46307
(219) 662-4400

CABLE:
COMCAST
925 KENTUCKEY STREET
GARY, IN 46402
(219) 882-9700

RECOMMENDED FOR APPROVAL _____		DESIGN ENGINEER _____	DATE _____
DESIGNED: <u>TW</u>		DRAWN: <u>TW</u>	
CHECKED: <u>ASM</u>		CHECKED: <u>ASM</u>	

INDIANA
DEPARTMENT OF TRANSPORTATION

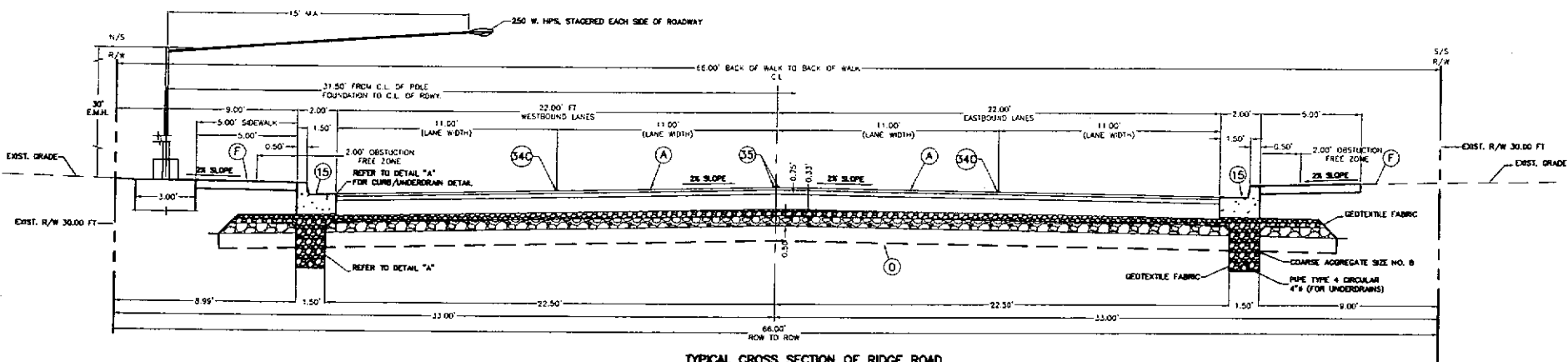
GENERAL NOTES AND INDEX

HORIZONTAL SCALE	BRIDGE FILE	
N/A	N/A	
VERTICAL SCALE	DESIGNATION	
N/A	0600750	
SURVEY BOOK		SHEETS
		02 of 34
CONTRACT NO.		PROJECT
		STP - N763X

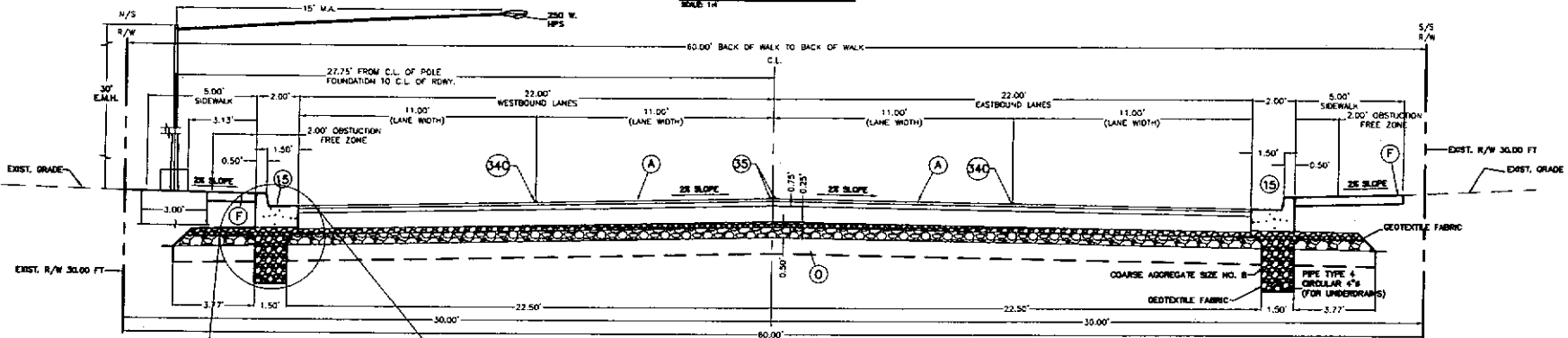
FEDERAL ROAD REGION NUMBER	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	STP-N763()	2007	03	34

NOTES

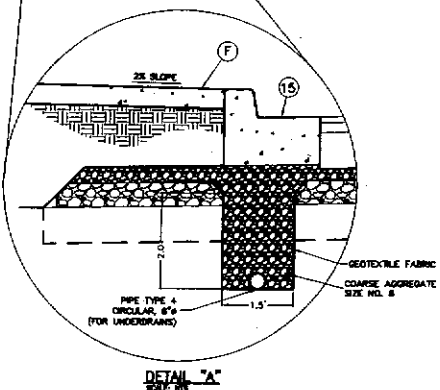
1) MINIMUM GRADE FOR UNDERDRAINS SHALL BE 0.20%.



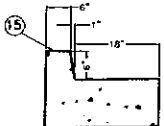
TYPICAL CROSS SECTION OF RIDGE ROAD
STA 10+00 TO 43+57.63
SCALE: 1/4"



TYPICAL CROSS SECTION OF RIDGE ROAD
STA 43+57.63 TO 63+33.43
SCALE: 1/4"



DETAIL "A"

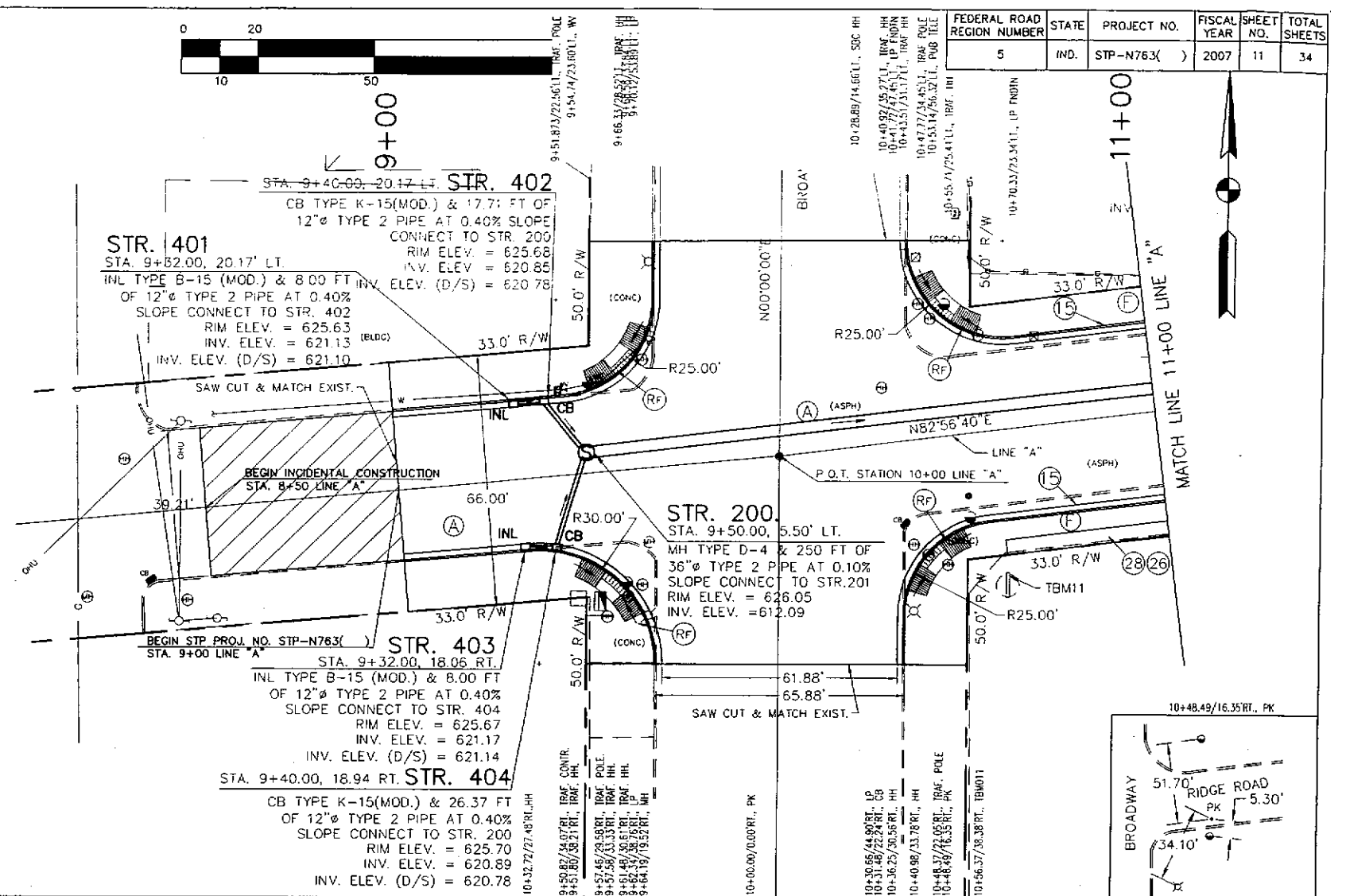
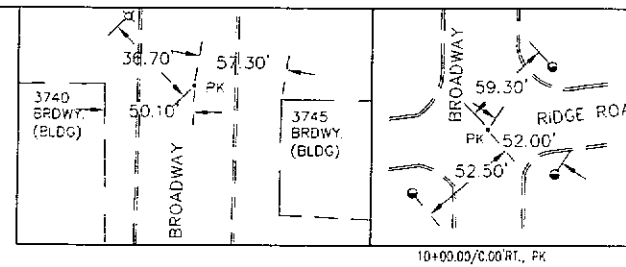


CURB & GUTTER, CONCRETE, MODIFIED
SCALE: 1/4"

LEGEND

- (A) ASPHALT PAVEMENT TO BE DESIGNED
- (C) DRIVE, CONCRETE, 8" THICK ON 6" COMPACTED AGGREGATE NO. 53
- (F) SIDEWALK, CONCRETE, 5" ON 4" OF COMPACTED AGGREGATE TYPE, 0, 53
- (15) CURB & GUTTER, CONCRETE, MODIFIED
- (26) SODDING
- (28) 4" OF TOPSOIL (AS REQ'D)
- (O) SUBBASE & SUBGRADE TREATMENT TO BE DESIGNED
- (34) LINE, THERMOPLASTIC, SOLID, WHITE, 4"
- (340) LINE, THERMOPLASTIC, BROKEN, WHITE, 4"
- (35) LINE, THERMOPLASTIC, SOLID, YELLOW, 4"
- (350) LINE, THERMOPLASTIC, BROKEN, YELLOW, 4"

				RECOMMENDED FOR APPROVAL	INDIANA DEPARTMENT OF TRANSPORTATION		HORIZONTAL SCALE 1:4	BRIDGE FILE N/A
				DESIGN ENGINEER	DATE		VERTICAL SCALE 1:4	DESIGNATION 0600750
				DESIGNED: TMW	DRAWN: SRW	PLAN - PROFILE LINE "A" 10+00 TO 63+33.43	SURVEY BOOK	SHEET 03 of 34
				CHECKED: ASM	CHECKED: TMW		CONTRACT	PROJECT STP-N763()

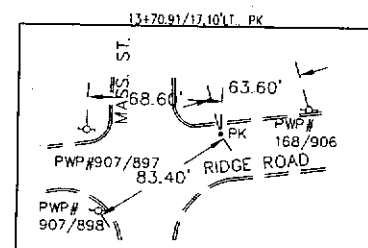


Station	Elevation	Notes	Station	Elevation	Notes
630		BEGIN INCIDENTAL CONSTRUCTION STA. 8+50.00	630		TBM11: CUT CROSS ON N/S OF BUSINESS SIGN (FAMILY DOLLAR) ON THE SEC OF BROADWAY & RDIDGE ROAD ELEV. = 627.15
625		+0.71% SLOPE	625		-0.45% SLOPE
620		BEGIN PROJECT MATCH EXISTING STA. 9+00.00	620		EXIST. E
615			615		
610			610		250.00 LFT OF 36" Ø SEWER @ 0.10% SLOPE - STR. NO. 200 INV. ELEV. = 612.09
605	626.10		605	626.05	
8+00			9+00		
			10+00		
			11+00		

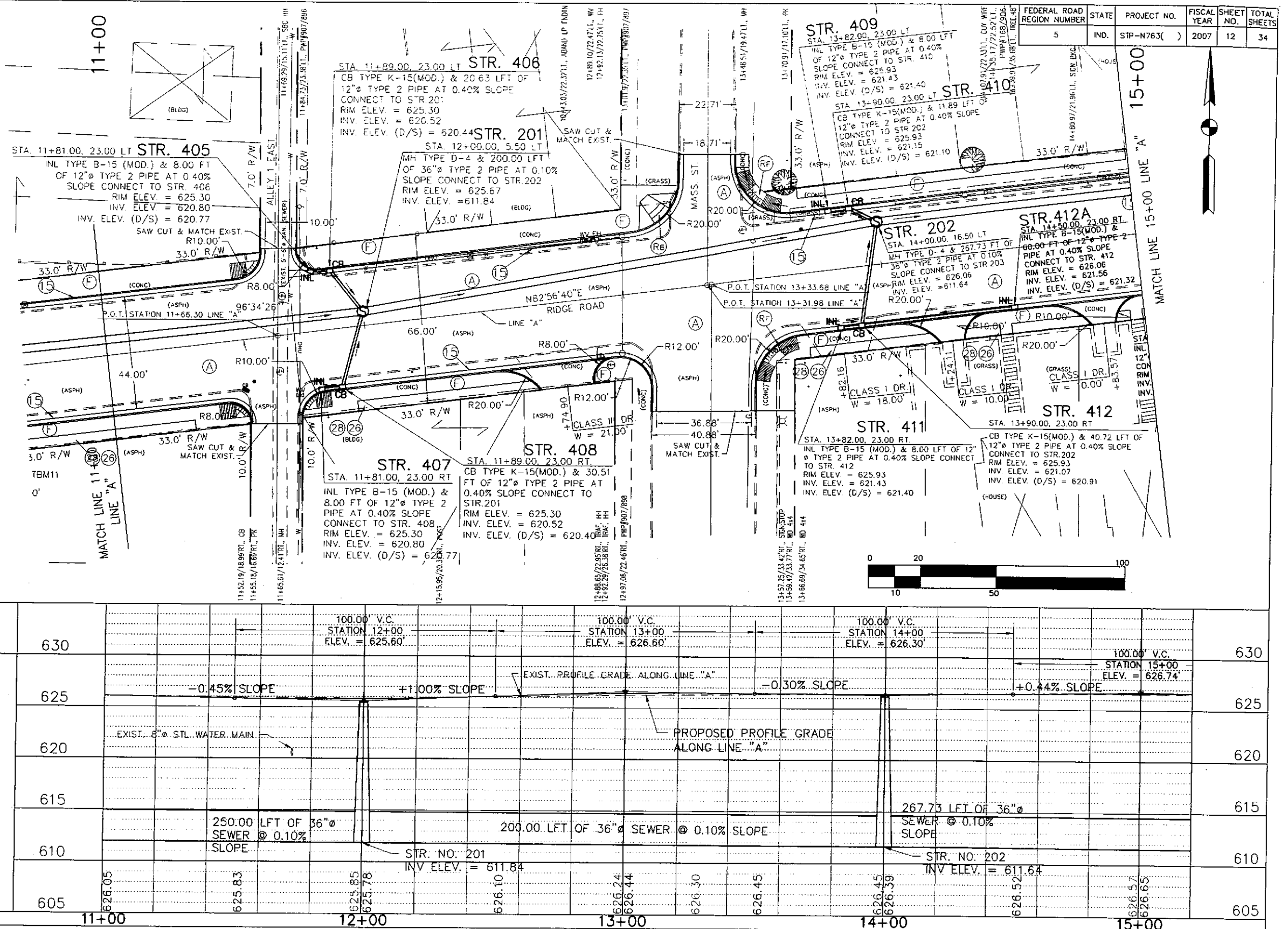
RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE _____		INDIANA DEPARTMENT OF TRANSPORTATION		HORIZONTAL SCALE 1:20 BRIDGE FILE N/A	
DESIGNED: <u>TMW</u> CHECKED: <u>ASM</u>		PLAN - PROFILE LINE "A" 9+00 TO 11+00		VERTICAL SCALE 1:5 DESIGNATION 0600750	
DRAWN: <u>TMW</u> CHECKED: <u>ASM</u>				SURVEY BOOK SHEET 11 of 34 CONTRACT R-30938 PROJECT STP-N763()	

PLAN	NO.	DATE	BY	DATE	BY
SURVEYED BY					
PLOTTED BY					
NOTE BOOK					
ALIGNMENTS CHECKED					
RT. OF WAY CHECKED					

PROFILE	NO.	DATE	BY	DATE	BY
SURVEYED BY					
PLOTTED BY					
GRADES CHECKED					
B. M.'S NOTED					
STRUCTURE NOTATIONS CHECKED					



TBM11: CUT CROSS ON N/S OF BUSINESS SIGN (FAMILY DOLLAR) ON THE SEC OF BROADWAY & RIDGE ROAD
ELEV. = 627.15



RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: TMW	DRAWN: TMW	
CHECKED: ASM	CHECKED: ASM	

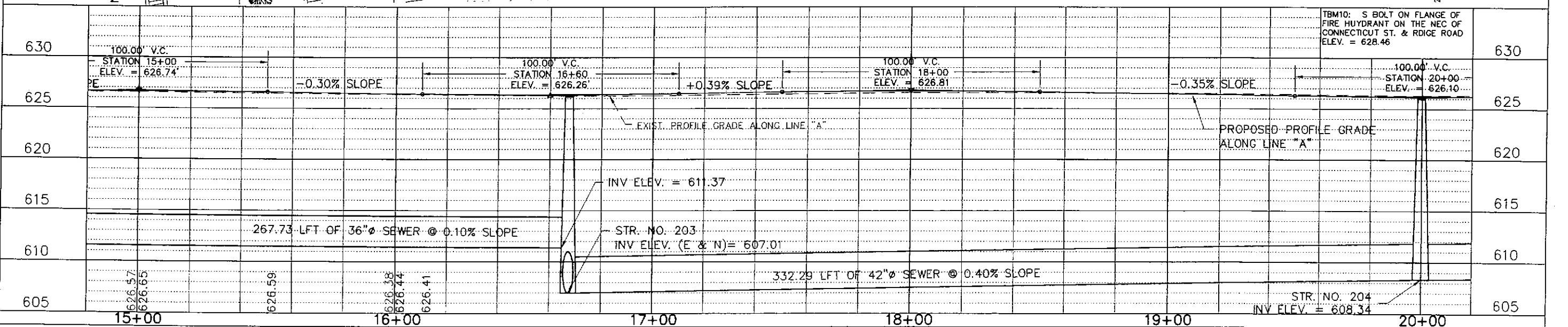
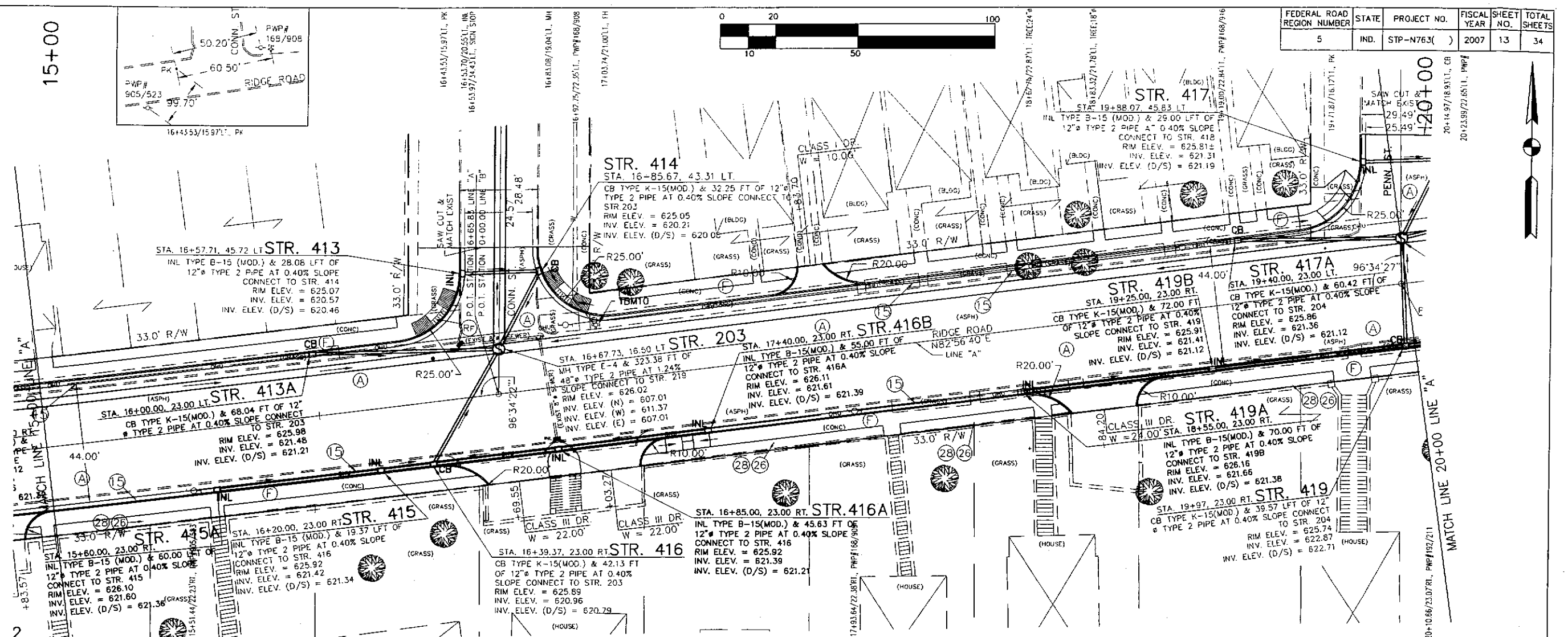
INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN - PROFILE
LINE "A" 11+00 TO 15+00

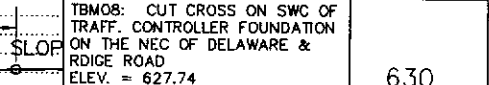
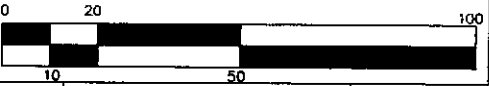
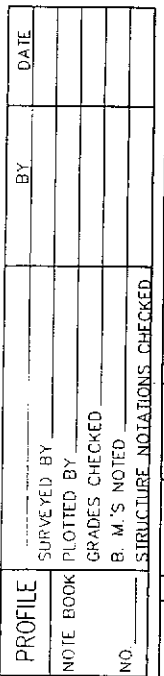
HORIZONTAL SCALE	BRIDGE FILE
1:20	N/A
VERTICAL SCALE	DESIGNATION
1:5	0600750
SURVEY BOOK	SHEET
	12 of 34
CONTRACT	PROJECT
R-30938	STP-N763()

PLAN	DATE	BY	DATE
SURVEYED BY			
NOTE BOOK			
GRADES CHECKED			
B. M.'S NOTED			
STRUCTURE NOTATIONS CHECKED			
NO.			

PROFILE	DATE	BY	DATE
SURVEYED BY			
NOTE BOOK			
GRADES CHECKED			
B. M.'S NOTED			
STRUCTURE NOTATIONS CHECKED			
NO.			

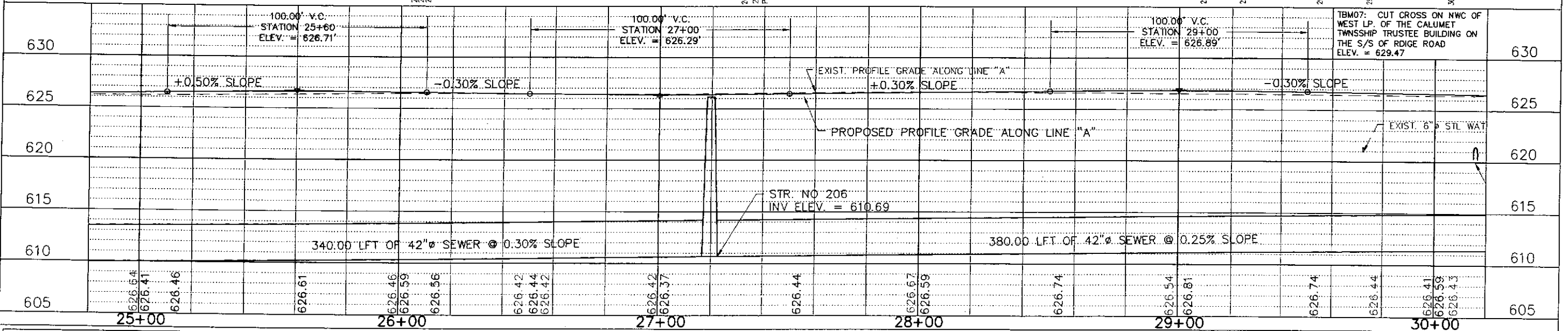


RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE	INDIANA DEPARTMENT OF TRANSPORTATION	HORIZONTAL SCALE	BRIDGE FILE
DESIGNED: <u>TMW</u>	DRAWN: <u>TMW</u>		PLAN - PROFILE	1:20	N/A
CHECKED: <u>ASM</u>	CHECKED: <u>ASM</u>		LINE "A" 15+00 TO 20+00	VERTICAL SCALE	DESIGNATION
				1:5	0600750
				SURVEY BOOK	SHEET
					13 of 34
				CONTRACT	PROJECT
				R-30938	STP-N763()

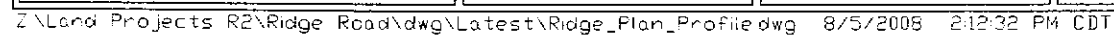


				RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE _____		INDIANA DEPARTMENT OF TRANSPORTATION		HORIZONTAL SCALE 1:20 N/A		BRIDGE FILE N/A	
								VERTICAL SCALE 1:5 0600750		DESIGNATION 0600750	
				DESIGNED: TMW _____ DRAWN: TMW _____		PLAN - PROFILE LINE "A" 20+00 TO 25+00		SURVEY BOOK _____		SHEET 14 of 34	
				CHECKED: ASM _____ CHECKED: ASM _____				CONTRACT R-30938		PROJECT STP-N763	

PROFILE	SURVEYED BY	BY	DATE
NOTE BOOK	PLOTTED BY		
	GRADES CHECKED		
	B. M.'S NOTED		
NO.	STRUCTURE NOTATIONS CHECKED		

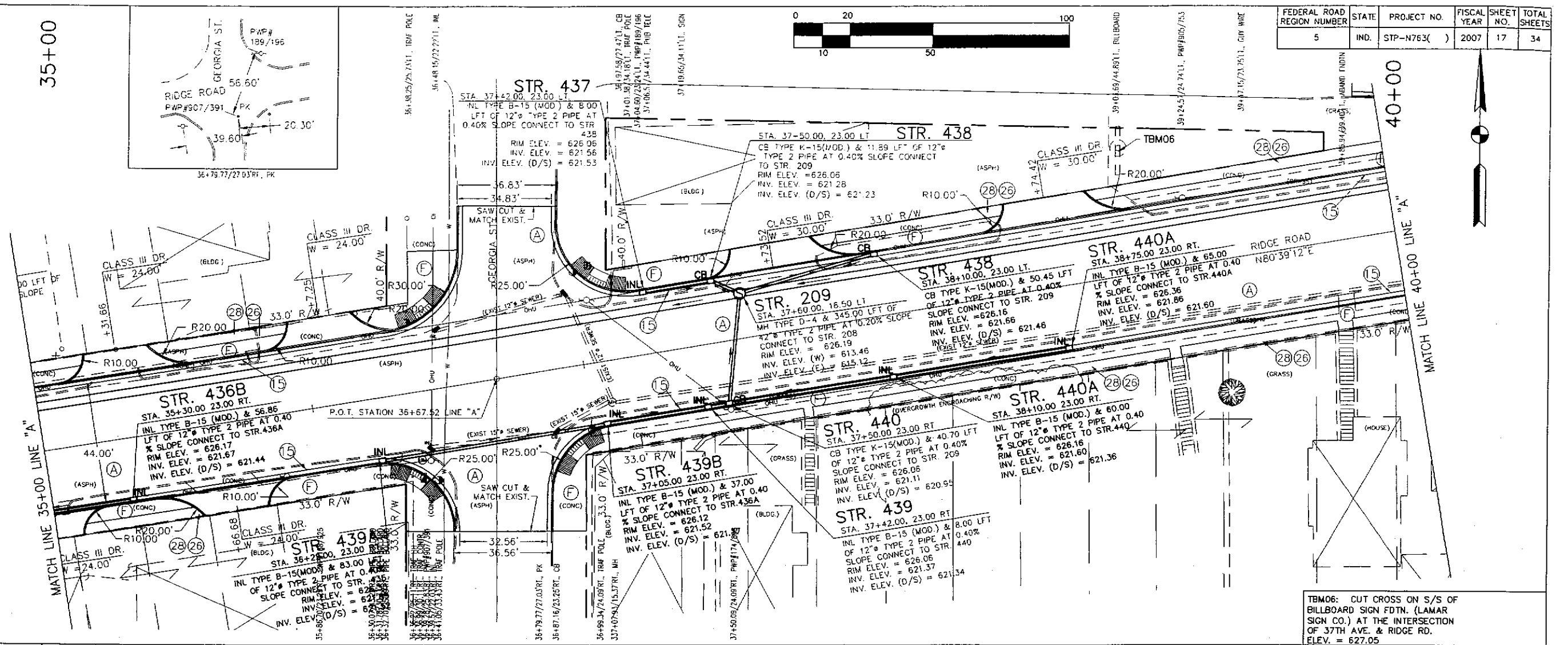


				RECOMMENDED FOR APPROVAL _____ _____ DESIGN ENGINEER _____ DATE _____		INDIANA DEPARTMENT OF TRANSPORTATION		HORIZONTAL SCALE 1:20 BRIDGE FILE N/A	
				DESIGNED: <u>TMW</u> _____ DRAWN: <u>TMW</u> _____ CHECKED: <u>ASM</u> _____ CHECKED: <u>ASM</u> _____		PLAN - PROFILE LINE "A" 25+00 TO 30+00		VERTICAL SCALE 1:5 DESIGNATION 0600750	
								SURVEY BOOK _____ SHEET _____ 15 of 34 CONTRACT _____ PROJECT R-30938 STP-N763()	

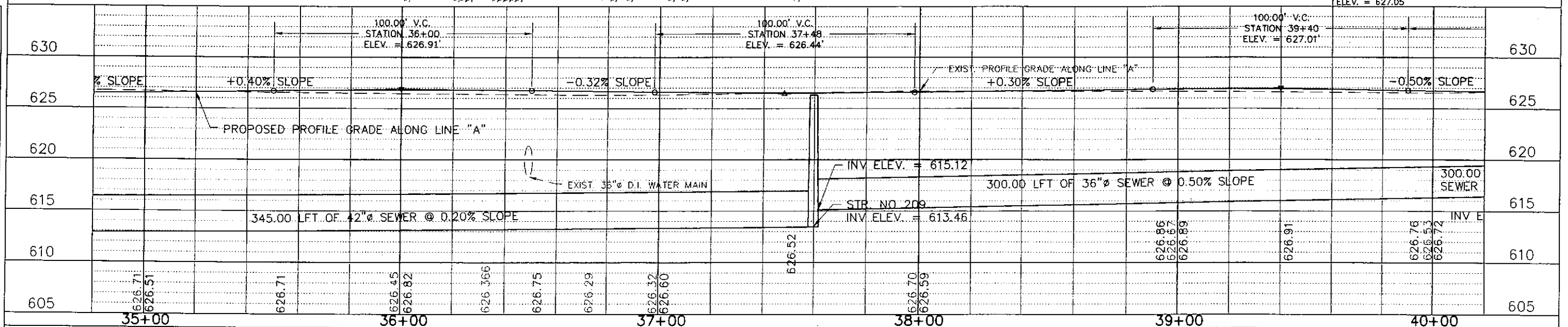


PLAN	SURVEYED BY	DATE
	NOTE BOOK	BY
	ALIGNMENTS CHECKED	
	RT. OF WAY CHECKED	

PROFILE	SURVEYED BY	DATE
	NOTE BOOK	BY
	GRADES CHECKED	
	B. M.'S NOTED	
	STRUCTURE NOTATIONS CHECKED	



TBM06: CUT CROSS ON S/S OF BILLBOARD SIGN FDTN. (LAMAR SIGN CO.) AT THE INTERSECTION OF 37TH AVE. & RIDGE RD. ELEV. = 627.05



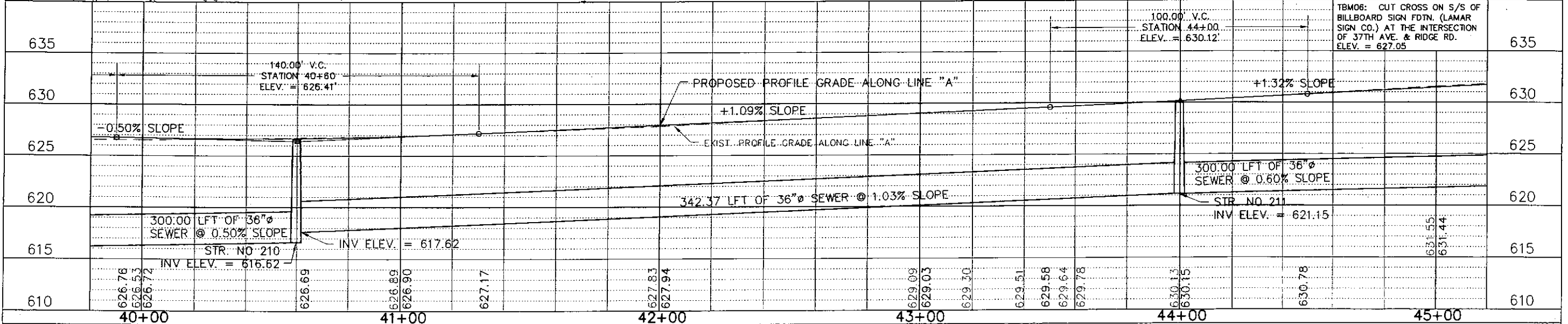
RECOMMENDED FOR APPROVAL	
DESIGNED: TMW	DRAWN: TMW
CHECKED: ASM	CHECKED: ASM

INDIANA
DEPARTMENT OF TRANSPORTATION

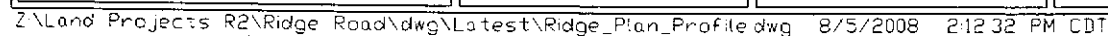
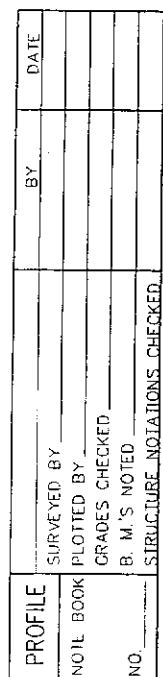
PLAN - PROFILE
LINE "A" 35+00 TO 40+00

HORIZONTAL SCALE	BRIDGE FILE
1:20	N/A
VERTICAL SCALE	DESIGNATION
1:5	0600750
SURVEY BOOK	SHEET
CONTRACT	17 of 34
R-30938	PROJECT
	STP-N763()

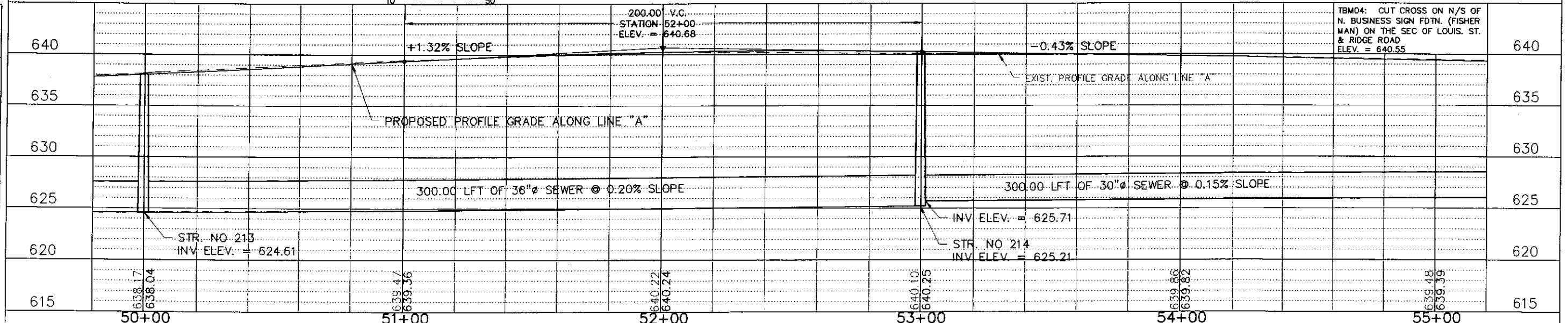
PROFILE	SURVEYED BY _____	BY _____	DATE _____
NOTE BOOK	PLOTTED BY _____		
	GRADE'S CHECKED _____		
NO. _____	B. M.'S NOTED _____		
	STRUCTURE NOTATIONS CHECKED _____		



				RECOMMENDED FOR APPROVAL	INDIANA DEPARTMENT OF TRANSPORTATION	HORIZONTAL SCALE 1:20	BRIDGE FILE N/A
				DESIGN ENGINEER	DATE	VERTICAL SCALE 1:5	DESIGNATION 0600750
				DESIGNED: TMW	DRAWN: TMW	SURVEY BOOK	
				CHECKED: ASM	CHECKED: ASM	SHEET 18 of 34	
					PLAN - PROFILE LINE "A" 40+00 TO 45+00	CONTRACT R-30938	
						PROJECT STP-N763()	



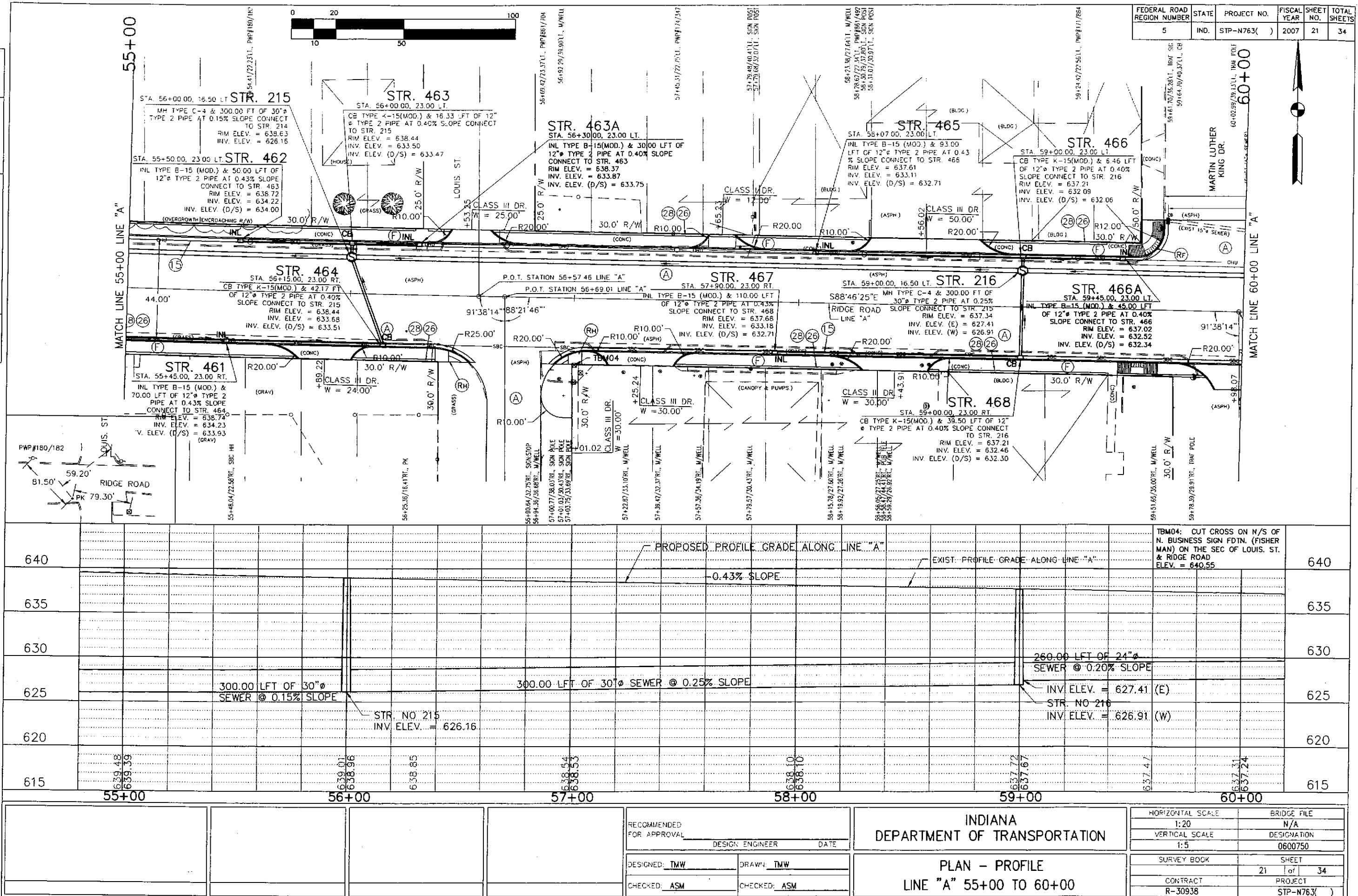
PROFILE	SURVEYED BY _____	BY _____	DATE _____
NOTE BOOK	PLOTTED BY _____		
	GRADES CHECKED _____		
NO.	B. M.'S NOTED _____		
	STRUCTURE NOTATIONS CHECKED _____		



				RECOMMENDED FOR APPROVAL	INDIANA DEPARTMENT OF TRANSPORTATION		HORIZONTAL SCALE 1:20	BRIDGE FILE N/A
				DESIGN ENGINEER	DATE		VERTICAL SCALE 1:5	DESIGNATION 0600750
				DESIGNED: TMW	DRAWN: TMW	PLAN - PROFILE LINE "A" 50+00 TO 55+00	SURVEY BOOK	SHEET 20 of 34
				CHECKED: ASM	CHECKED: ASM		CONTRACT R-30938	PROJECT STP-N763

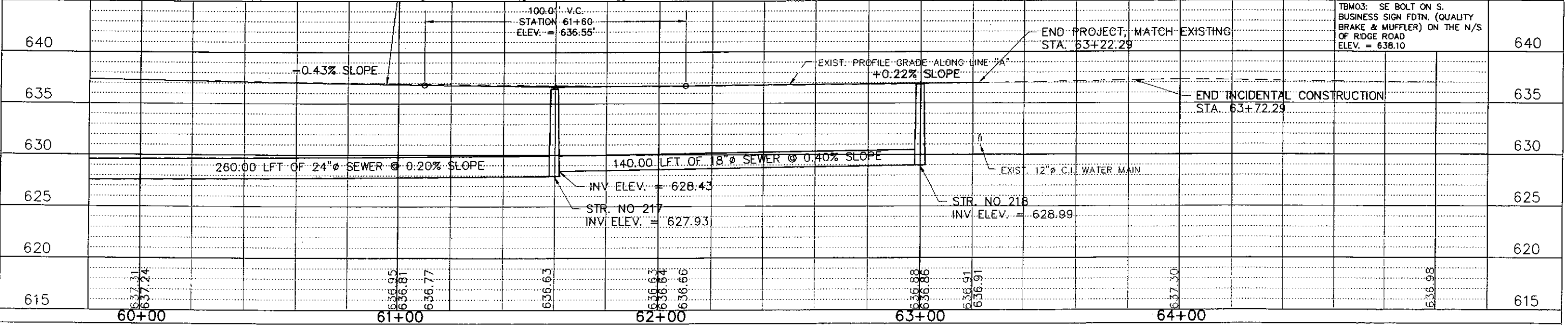
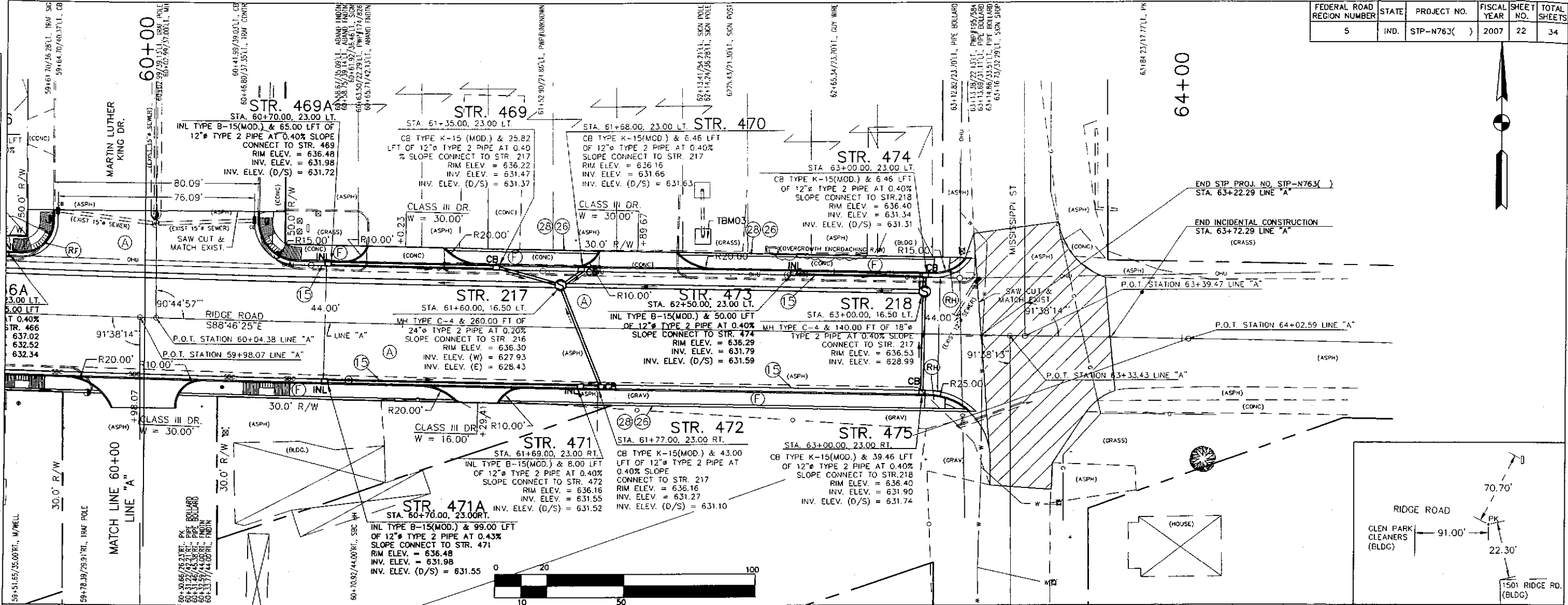
PLAN	BY	DATE
SURVEYED BY		
NOTE BOOK		
ALIGNMENTS CHECKED		
RT. OF WAY CHECKED		
NO.		

PROFILE	BY	DATE
SURVEYED BY		
NOTE BOOK		
GRADES CHECKED		
B. M.'S NOTED		
STRUCTURE NOTATIONS CHECKED		
NO.		



PLAN	NO.	BY	DATE	SURVEYED BY	PLOTTED BY	ALIGNMENTS CHECKED	RT. OF WAY CHECKED
NOTE BOOK							

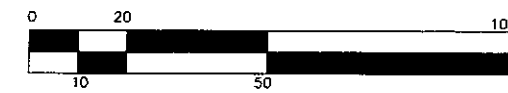
PROFILE	NO.	BY	DATE	SURVEYED BY	PLOTTED BY	GRADES CHECKED	B. M.'S NOTED	STRUCTURE NOTATIONS CHECKED
NOTE BOOK								



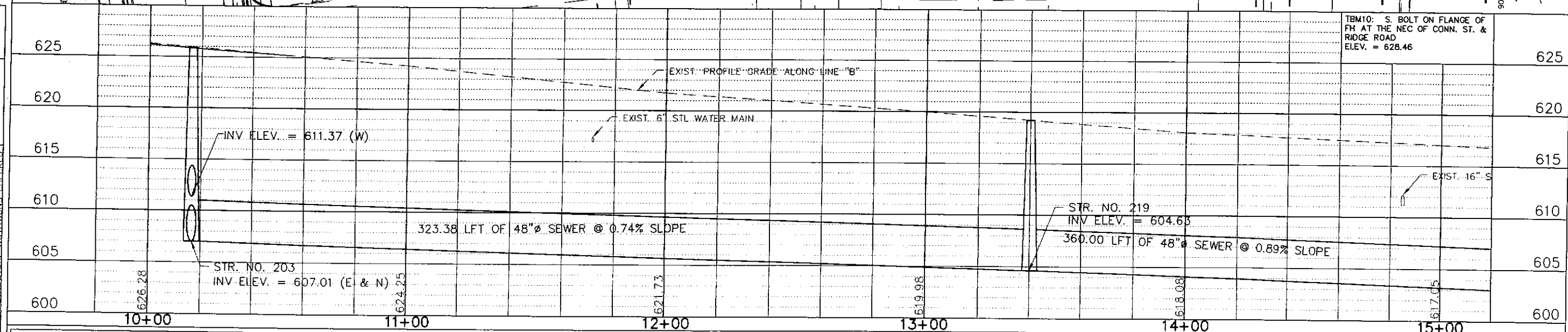
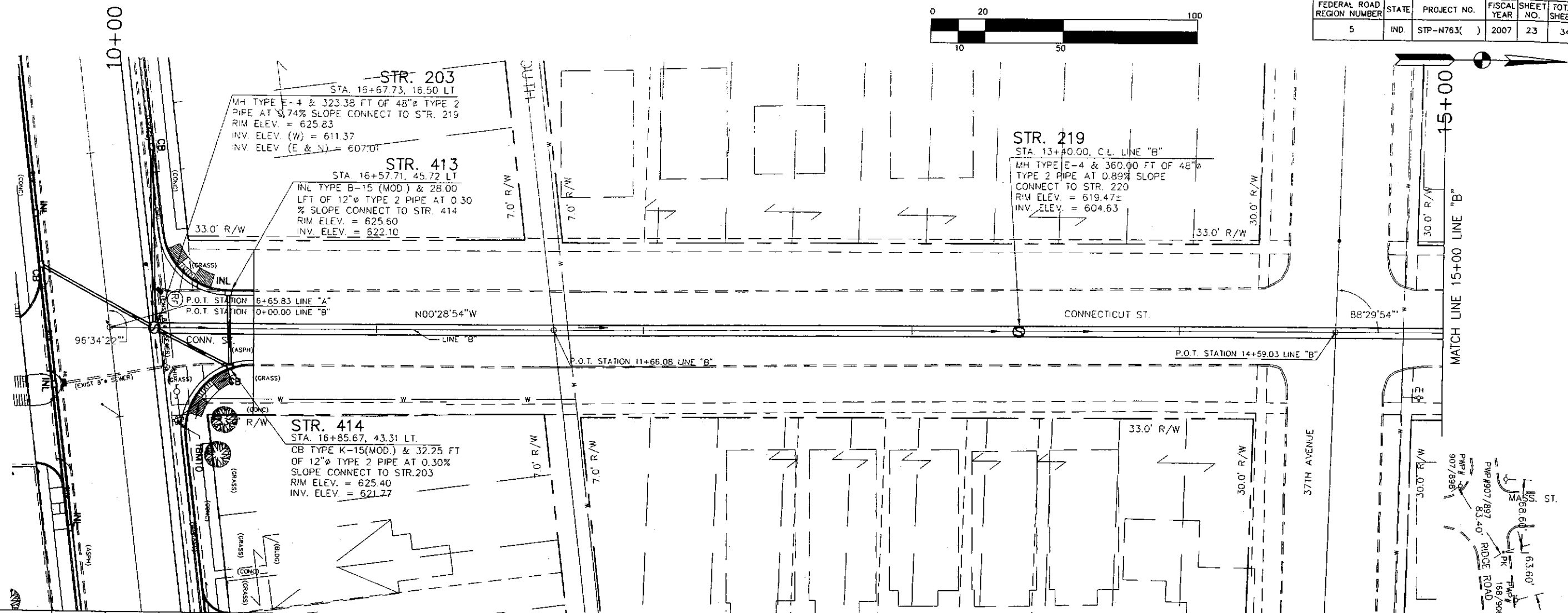
RECOMMENDED FOR APPROVAL		DESIGN ENGINEER		DATE	
DESIGNED: TMW		DRAWN: TMW			
CHECKED: ASM		CHECKED: ASM			
INDIANA DEPARTMENT OF TRANSPORTATION					
PLAN - PROFILE					
LINE "A" 60+00 TO 64+00					
HORIZONTAL SCALE		VERTICAL SCALE		BRIDGE FILE	
1:20		1:5		N/A	
SURVEY BOOK		SHEET		DESIGNATION	
R-30938		22 of 34		0600750	
CONTRACT		PROJECT			
R-30938		STP-N763()			

PLAN	SURVEYED BY	DATE
	NOTE BOOK	
	ALIGNMENTS CHECKED	
	RT. OF WAY CHECKED	

PROFILE	SURVEYED BY	DATE
	NOTE BOOK	
	GRADES CHECKED	
	B. M.'S NOTED	



FEDERAL ROAD REGION NUMBER	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	STP-N763()	2007	23	34



TBM10: S. BOLT ON FLANGE OF FH AT THE NEC OF CONN. ST. & RIDGE ROAD
ELEV. = 628.46

RECOMMENDED FOR APPROVAL
DESIGN ENGINEER DATE

DESIGNED: TMW DRAWN: TMW
CHECKED: ASM CHECKED: ASM

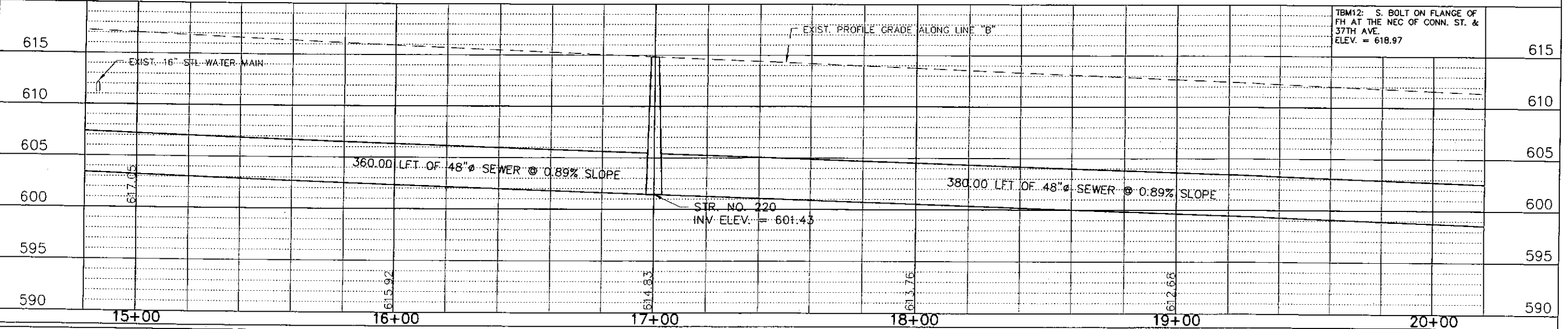
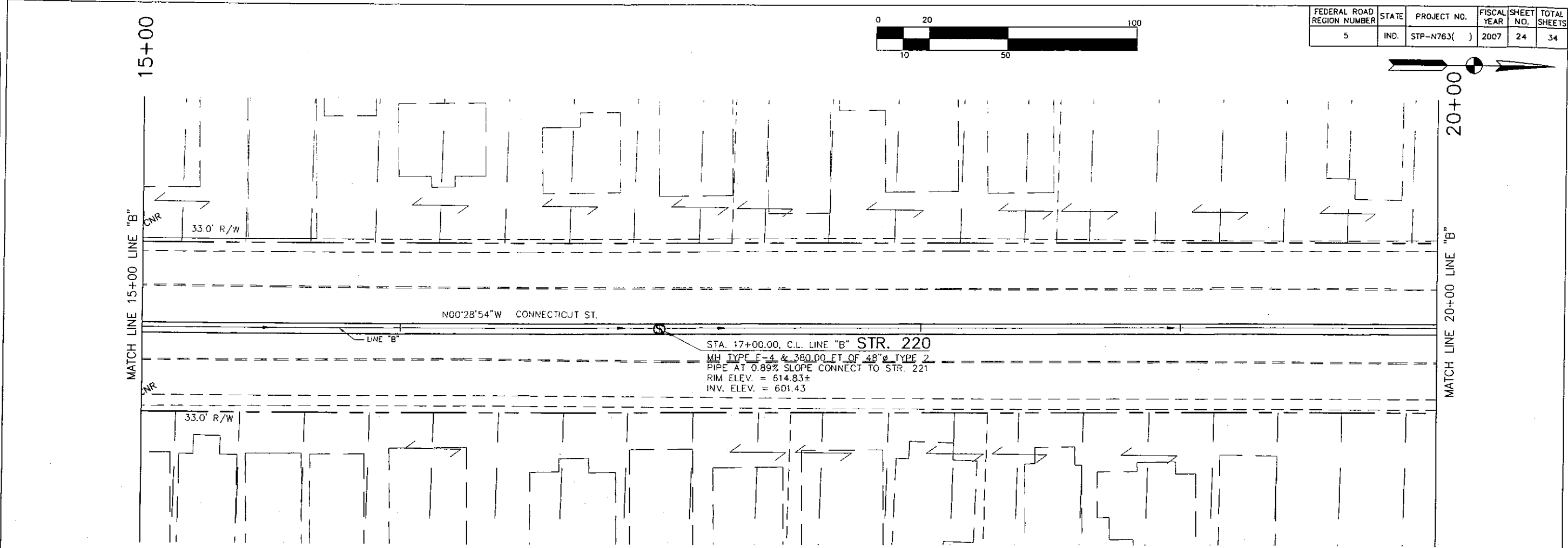
INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN - PROFILE
LINE "B" 10+00 TO 15+00

HORIZONTAL SCALE 1:20	BRIDGE FILE N/A
VERTICAL SCALE 1:5	DESIGNATION 0600750
SURVEY BOOK	SHEET 23 of 34
CONTRACT R-30938	PROJECT STP-N763()

PLAN	NO.	RT. OF WAY CHECKED	ALIGNMENTS CHECKED	PLOTTED BY	BY	DATE

PROFILE	NO.	B. M.'S NOTED	GRADES CHECKED	PLOTTED BY	BY	DATE

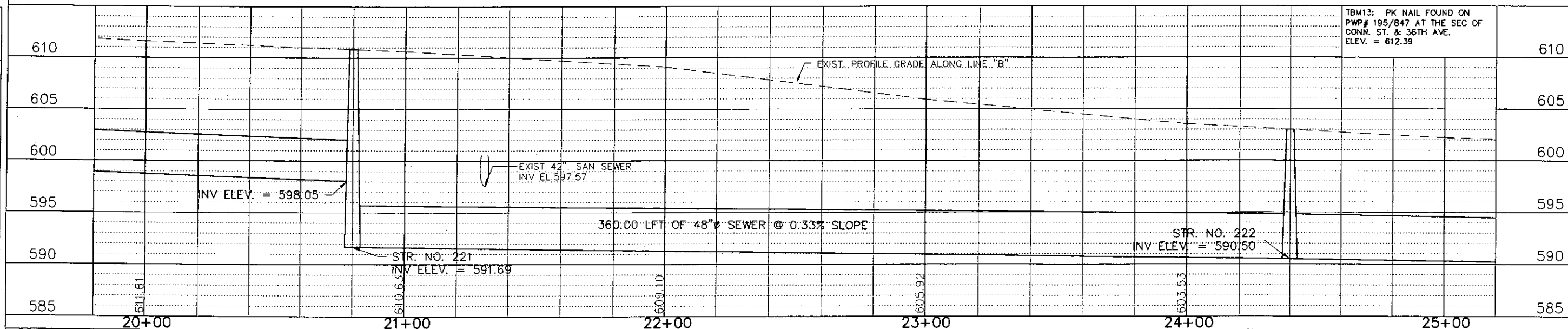
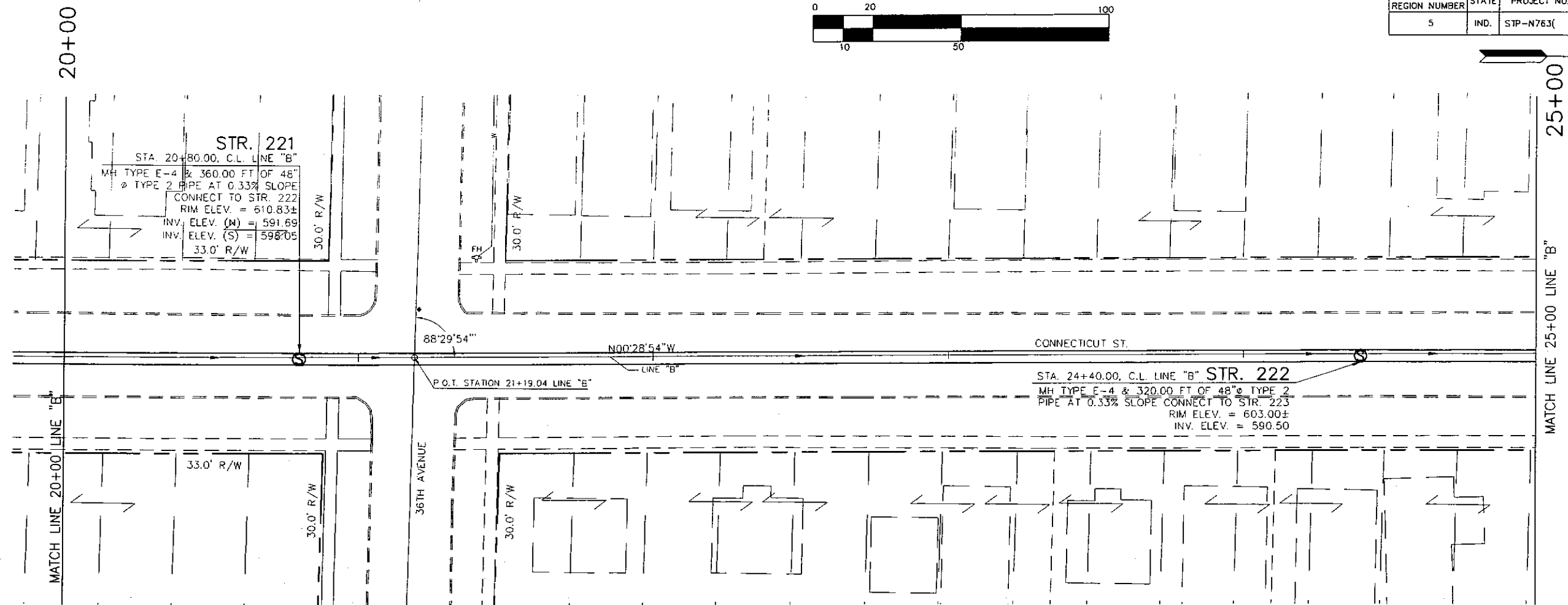
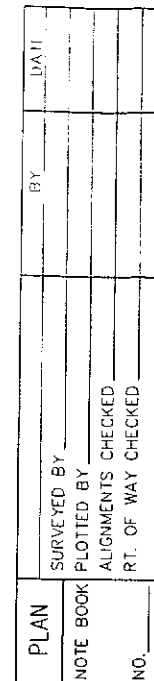


RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE	INDIANA DEPARTMENT OF TRANSPORTATION	HORIZONTAL SCALE 1:20	BRIDGE FILE N/A

DESIGNED: TMW	DRAWN: TMW
CHECKED: ASM	CHECKED: ASM

PLAN - PROFILE	
LINE "B" 15+00 TO 20+00	

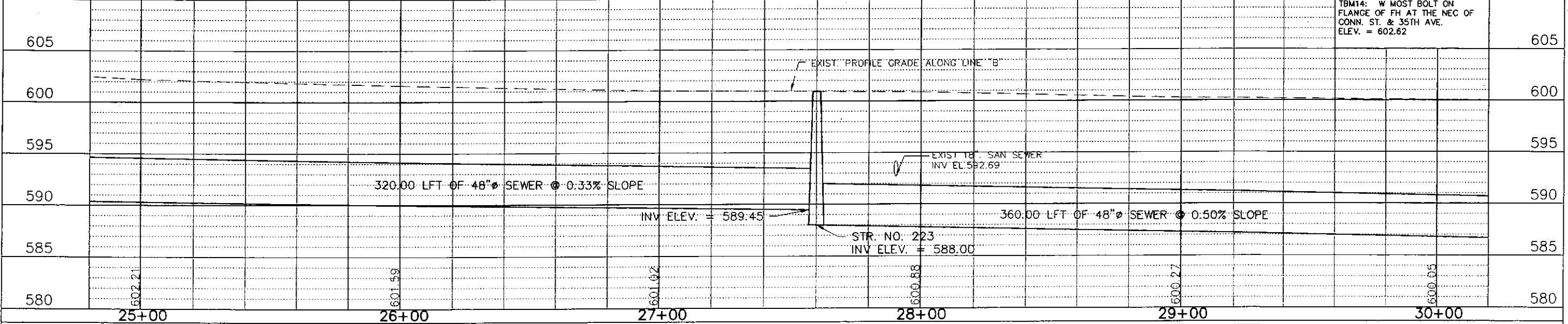
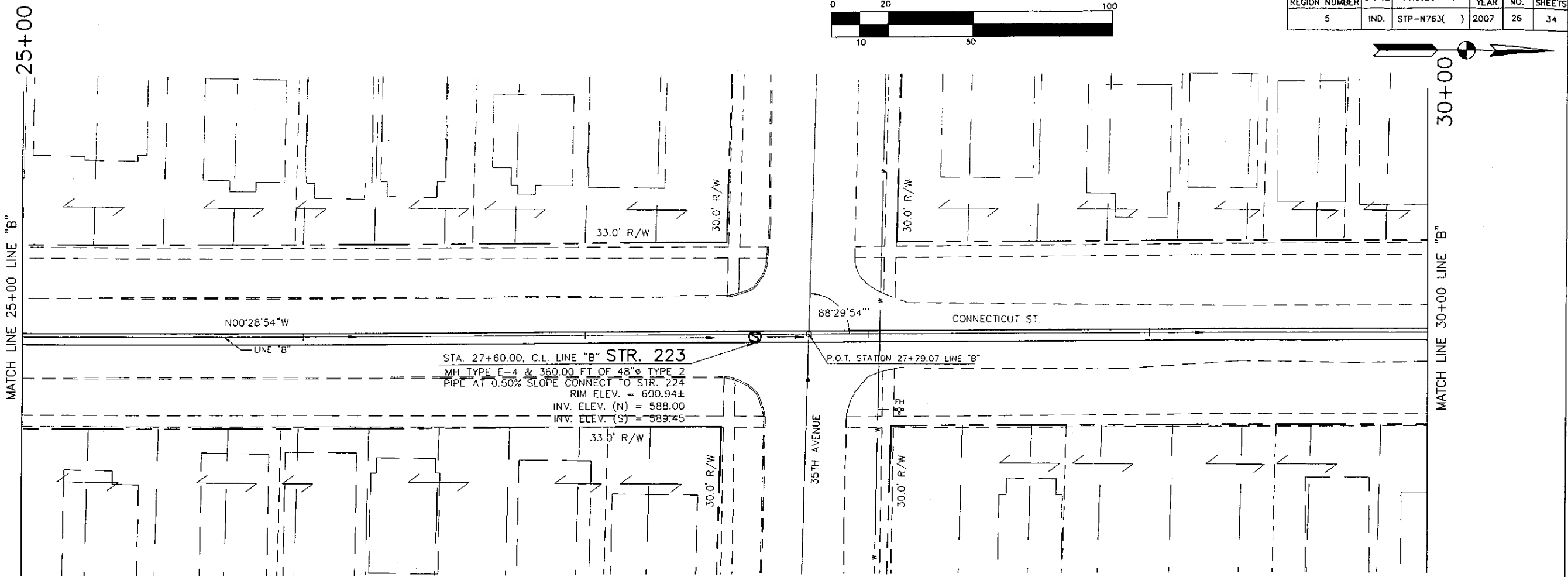
SURVEY BOOK	SHEET
CONTRACT	24 of 34
R-30938	PROJECT
	STP-N763()



				RECOMMENDED FOR APPROVAL	INDIANA DEPARTMENT OF TRANSPORTATION		HORIZONTAL SCALE 1:20	BRIDGE FILE		
				DESIGN ENGINEER	DATE	VERTICAL SCALE 1:5	DESIGNATION 0600750			
				DESIGNED: TMW	DRAWN: TMW	PLAN - PROFILE LINE "B" 20+00 TO 25+00	SURVEY BOOK		SHEET	
				CHECKED: ASM	CHECKED: ASM				25	of
							CONTRACT R-30938		PROJECT STP-N763()	

PLAN	SURVEYED BY	BY	DATE
	NOTE BOOK		
	ALIGNMENTS CHECKED		
	RT. OF WAY CHECKED		
	NO.		

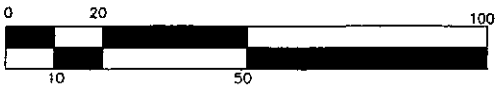
PROFILE	SURVEYED BY	BY	DATE
	NOTE BOOK		
	GRADES CHECKED		
	B. M.'S NOTED		
	STRUCTURE NOTATIONS CHECKED		
	NO.		



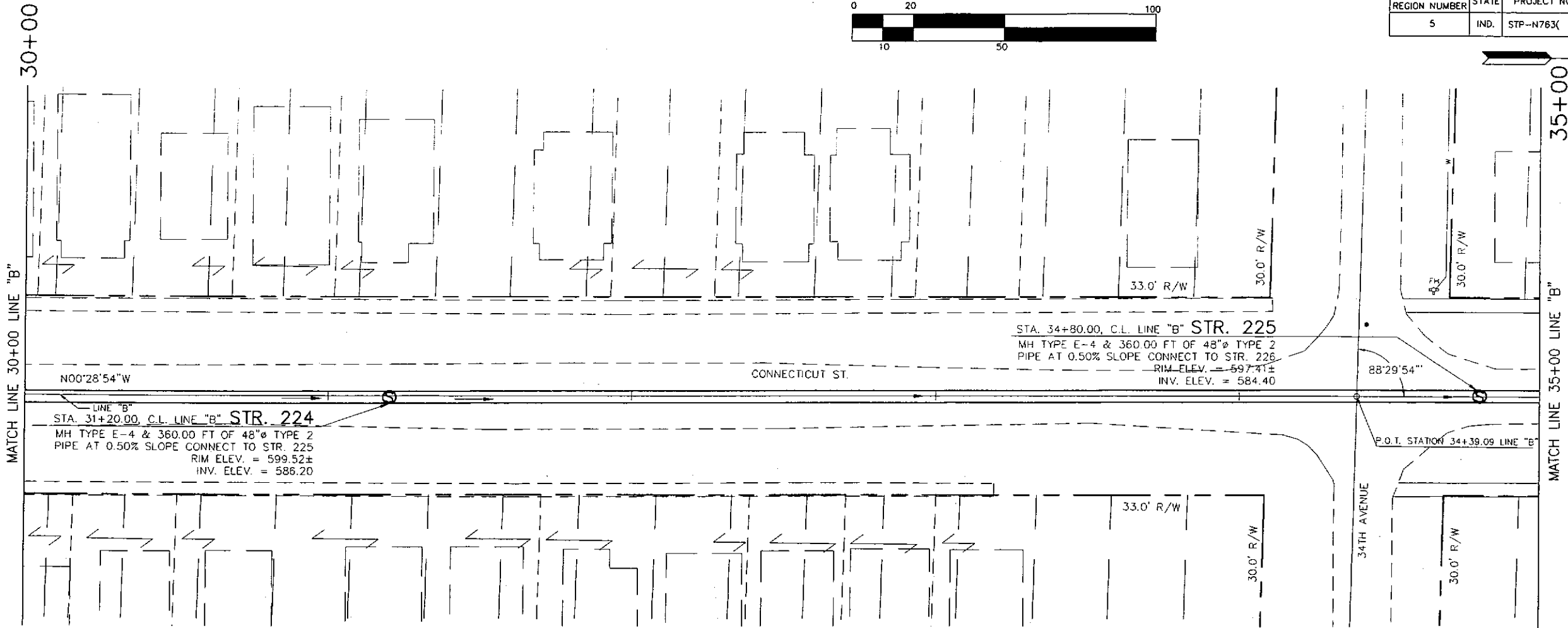
RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
	DESIGNED: TMW	DRAWN: TMW
	CHECKED: ASM	CHECKED: ASM
	INDIANA DEPARTMENT OF TRANSPORTATION	
PLAN - PROFILE		
LINE "B" 25+00 TO 30+00		

HORIZONTAL SCALE	BRIDGE FILE
1:20	N/A
VERTICAL SCALE	DESIGNATION
1:5	0600750
SURVEY BOOK	SHEET
	26 of 34
CONTRACT	PROJECT
R-30938	STP-N763()

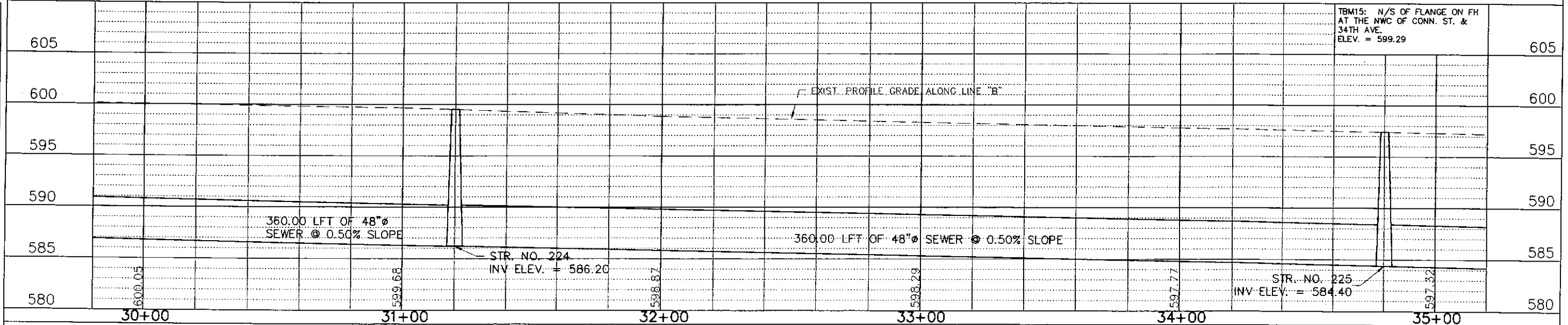
FEDERAL ROAD REGION NUMBER	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	STP-N763()	2007	27	34



PLAN	SURVEYED BY	BY	DATE
	NOTE BOOK		
	ALIGNMENTS CHECKED		
	RT. OF WAY CHECKED		



PROFILE	SURVEYED BY	BY	DATE
	NOTE BOOK		
	GRADES CHECKED		
	B. M.'S NOTED		



RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
	DESIGNED: TMW	DRAWN: TMW
	CHECKED: ASM	CHECKED: ASM
	INDIANA DEPARTMENT OF TRANSPORTATION	

PLAN - PROFILE LINE "B" 30+00 TO 35+00	
---	--

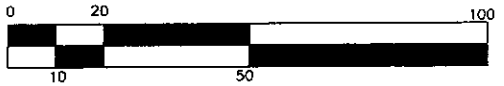
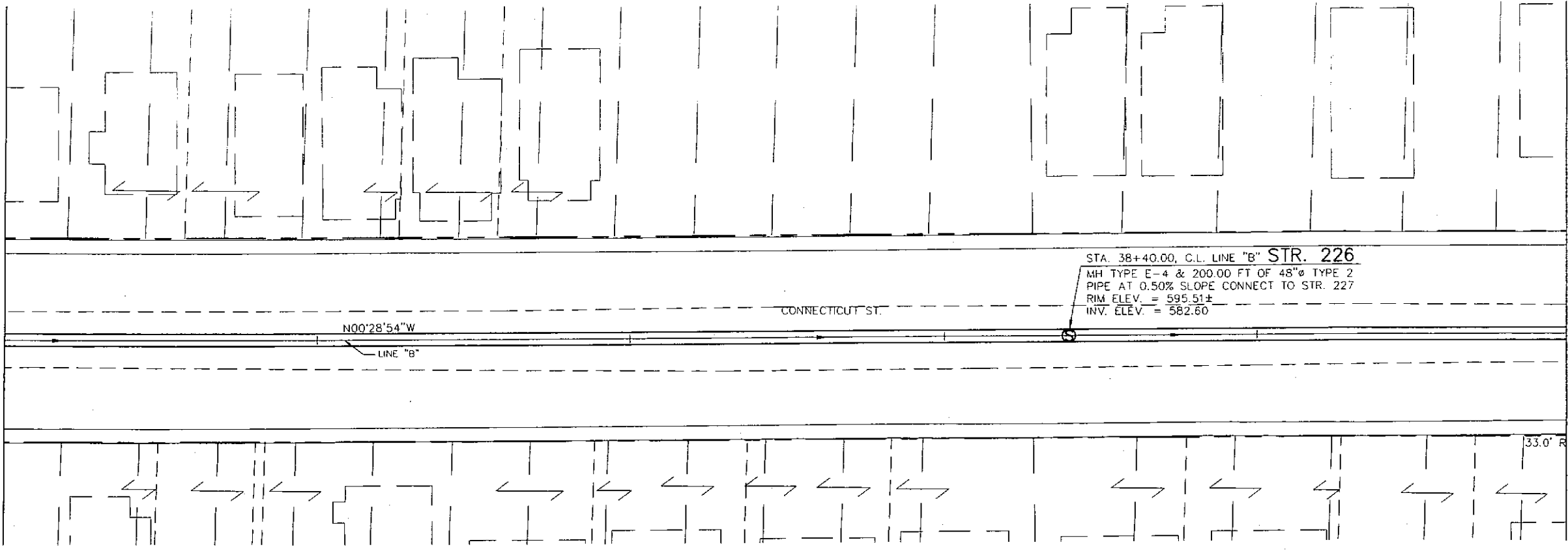
HORIZONTAL SCALE 1:20	BRIDGE FILE N/A
VERTICAL SCALE 1:5	DESIGNATION 0600750
SURVEY BOOK	SHEET
CONTRACT R-30938	27 of 34
PROJECT STP-N763()	

PLAN	SURVEYED BY	BY	DATE
	NOTE BOOK		
	ALIGNMENTS CHECKED		
	RT. OF WAY CHECKED		
NO.			

PROFILE	SURVEYED BY	BY	DATE
	NOTE BOOK		
	GRADES CHECKED		
	B. M.'S NOTED		
STRUCTURE NOTATIONS CHECKED			
NO.			

35+00

MATCH LINE 35+00 LINE "B"



FEDERAL ROAD REGION NUMBER	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	STP-N763()	2007	28	34



40+00

MATCH LINE 40+00 LINE "B"

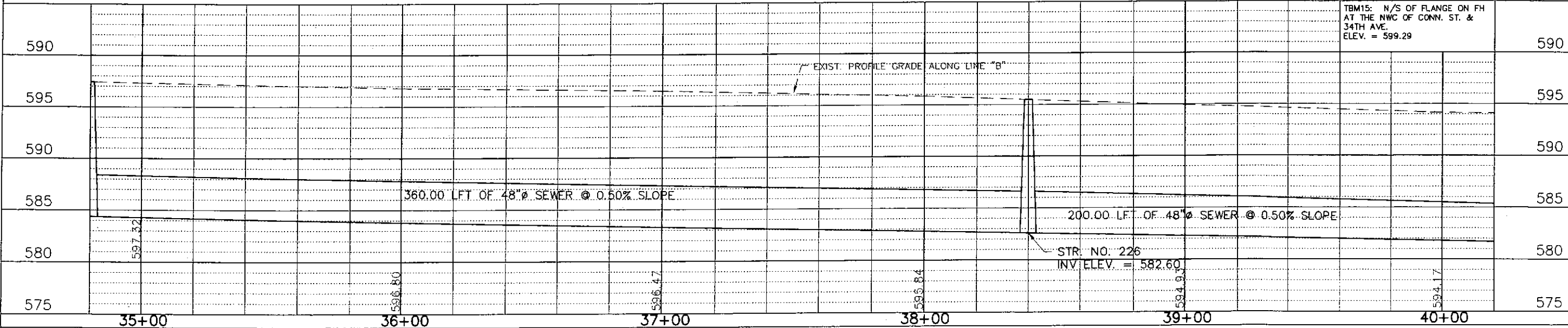
STA. 38+40.00, C.L. LINE "B" STR. 226
MH TYPE E-4 & 200.00 FT OF 48"Ø TYPE 2
PIPE AT 0.50% SLOPE CONNECT TO STR. 227
RIM ELEV. = 595.51±
INV. ELEV. = 582.60

CONNECTICUT ST.

N00°28'54"W

LINE "B"

33.0' R



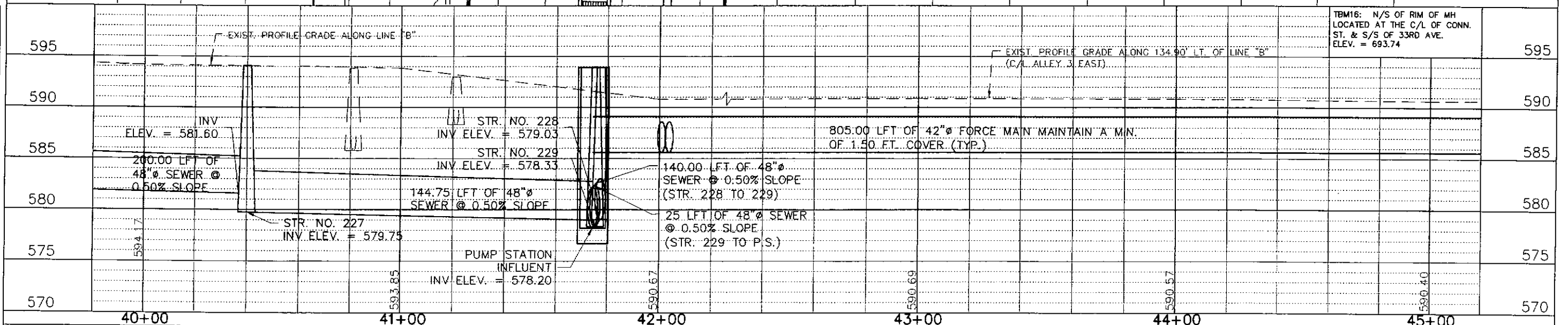
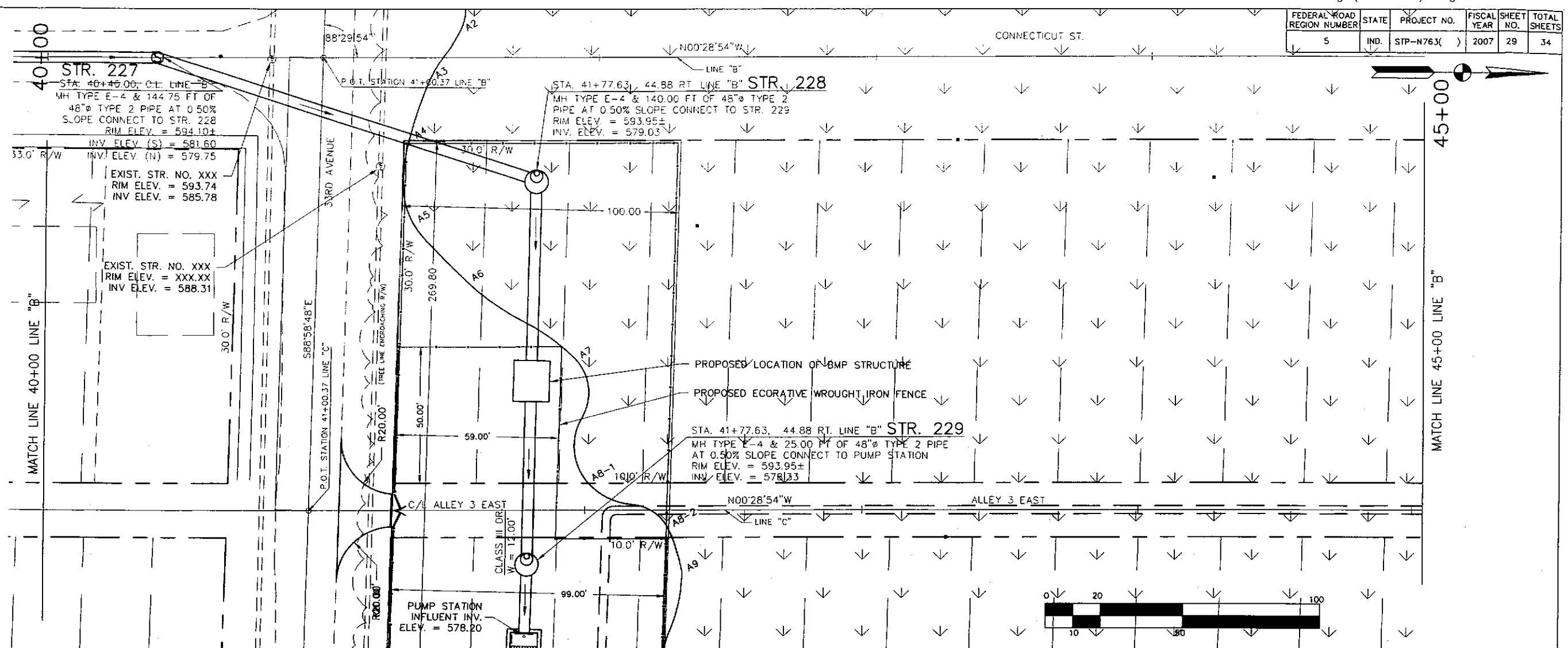
TBM15: N/S OF FLANGE ON FH
AT THE NWC OF CONN. ST. &
34TH AVE.
ELEV. = 599.29

STR. NO. 226
INV. ELEV. = 582.60

				RECOMMENDED FOR APPROVAL		DESIGN ENGINEER		DATE	INDIANA DEPARTMENT OF TRANSPORTATION		HORIZONTAL SCALE 1:20		BRIDGE FILE N/A	
				DESIGNED: TMW		DRAWN: TMW		VERTICAL SCALE 1:5			DESIGNATION 0600750			
				CHECKED: ASM		CHECKED: ASM		SURVEY BOOK			SHEET			
								CONTRACT R-30938			28 of 34 PROJECT STP-N763()			

PLAN	NO.	NOTE BOOK	SURVEYED BY	DATE
ALIGNMENT'S CHECKED				
RT. OF WAY CHECKED				

PROFILE	NO.	NOTE BOOK	SURVEYED BY	DATE
GRADES CHECKED				
B.M.'S NOTED				
STRUCTURE NOTATIONS CHECKED				



RECOMMENDED FOR APPROVAL	
DESIGNED: TMW	DRAWN: TMW
CHECKED: ASM	CHECKED: ASM

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN - PROFILE
LINE "B" 40+00 TO 45+00

HORIZONTAL SCALE	BRIDGE FILE
1:20	N/A
VERTICAL SCALE	DESIGNATION
1:5	0600750
SURVEY BOOK	SHEET
CONTRACT	29 of 34
R-30938	PROJECT
	STP-N763()