[SMBC Letterhead]

Name of Beneficiary
Paulding County
Address of Beneficiary
115 N. Williams St.
Paulding, OH 45879

Irrevocable Letter of Credit No. _____

Issuance Date**: 10/01/2017**

Amount: **$200,000.00**

Expiration Date: **10/01/2017**, extendible as set forth herein

Gentlemen:

We hereby issue in your favor this Irrevocable Stand-by Letter of Credit No. _____ (this "Letter of Credit") in the aggregate stated amount of **$200,000.00** for the account of **Trishe Wind Ohio, LLC**. (the "Company") in relation to the **Agreement for Use, Repair, and Improvements of Roads**, dated **September 7th, 2016** between the Company and you **to satisfy Section 6.3 requirement of establishing an Escrow Account** (the "Agreement").

This Letter of Credit is effective immediately and expires at our close of business on the expiration date shown above, *provided* that the expiration date shall be automatically extended for successive one year periods unless we inform you in writing by recognized document delivery or courier service or registered mail dispatched by us at least 60 days prior to the then-current expiration date that this Letter of Credit shall not be extended. Notwithstanding the foregoing, this Letter of Credit will automatically terminate upon its surrender to us for cancellation.

Funds under this Letter of Credit are available against your sight draft and demand made on us from time to time, such demand to be made by your submission of your statement, purportedly signed by your authorized officer as follows, with appropriate insertions: "_____ has failed to [describe default] its obligations under the **Agreement for Use, Repair, and Improvements of Roads**, dated **September 7th, 2016** between the Company and you **to satisfy Section 6.3 requirement of establishing an Escrow Account** (the "Agreement") and as a result the undersigned is claiming the sum of $_____ under Sumitomo Mitsui Banking Corporation letter of credit number ____." In the event this Letter of Credit is not extended for an additional period as provided above, you may draw hereunder, such drawing is to be made by means of a draft on us at sight which must be presented to us before the then-current expiration date of this Letter of Credit.

Any such presentation shall be made at our New York office at 277 Park Avenue, New York, New

York, Attention Trade Credit Services Department. If we receive your demand certificate on or prior to the expiration or termination of this Letter of Credit, then we will honor your demand in accordance with your payment instructions, *provided* that such documents are presented in strict compliance with the terms and conditions of this Letter of Credit.

To the extent not contrary to the express provisions hereof, this Letter of Credit shall be governed by the Uniform Customs and Practice for Documentary Credit (2007 Revision), International Chamber of Commerce Publication No. 600 (the "UCP"). As to matters not addressed by the UCP, this Letter of Credit shall be governed by and construed in accordance with the laws of the State of New York, without reference to the conflict of law provisions thereof that would direct the application of the laws of another jurisdiction.

Communications with respect to this Letter of Credit shall be in writing and shall be addressed to us at 277 Park Avenue, New York, NY 10172, Attention: Trade Credit Services Department, specifically referring to this Letter of Credit Number _____.

This Letter of Credit sets forth in full our undertaking. Except as stated herein, payment of demands made under this Letter of Credit is not subject to any condition or qualification. Our obligations hereunder are primary obligations that shall not be affected by the performance or nonperformance by any party to the Agreement of any obligations under the Agreement or under any agreement between such a party and any other person. Our obligations and liabilities hereunder shall not in any way be affected, modified, amended, reduced, impaired, amplified or limited by any amendment, renewal, extension, modification, compromise, release, discharge or reference of, under, to or in connection with the Agreement or any other document or agreement (except only the certificate referred to herein). Reference herein to the Agreement shall not be deemed to incorporate the same herein by reference.

Very truly yours,

SUMITOMO MITSUI BANKING CORPORATION

_____

Authorized Signatory

AMERICAN ENGINEERING TESTING, INC.

CONSULTANTS
· ENVIRONMENTAL
· GEOTECHNICAL
· MATERIALS
· FORENSICS

REPORT OF GEOTECHNICAL AND PAVEMENT TESTING, ANALYSIS AND REVIEW

Northwest Ohio Wind Project

Paulding County, Ohio

AET Report No. 28-01314

Date:

September 20, 2017

Prepared for:

Westwood

Westwood Professional Services, Inc.
7699 Anagram Drive
Eden Prairie, MN 55344-7399

www.amengtest.com

AMERICAN ENGINEERING TESTING, INC.

CONSULTANTS
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· GEOTECHNICAL
· MATERIALS
· FORENSICS

September 20, 2017

Westwood Professional Services, Inc.
7699 Anagram Drive
Eden Prairie, MN 55344-7399

Attn: Mr. Steve Battaglia, P.E.

RE: Geotechnical Exploration and Pavement Testing, Analysis, and Review
Northwest Ohio Wind Project
Paulding County, Ohio
AET Report No. 28-01314

Dear Mr. Battaglia:

This report presents the results of the geotechnical exploration, and pavement testing and analysis project that AET performed on the haul roads during the pre-construction phase for the Northwest Ohio Wind Project in Paulding County, Ohio.

Per your request, we are submitting this report to you electronically.

Please contact me if you have any questions about the report.

Sincerely,
American Engineering Testing, Inc.

Chunhua Han, Ph.D.
Principal Engineer
Phone: (651) 603-6631
Fax: (651) 659-1347
chan@amengtest.com

SIGNATURE PAGE

Prepared for:

Westwood Professional Services, Inc.
7699 Anagram Drive
Eden Prairie, MN 55344-7399
Attn: Steve Battaglia, P.E.

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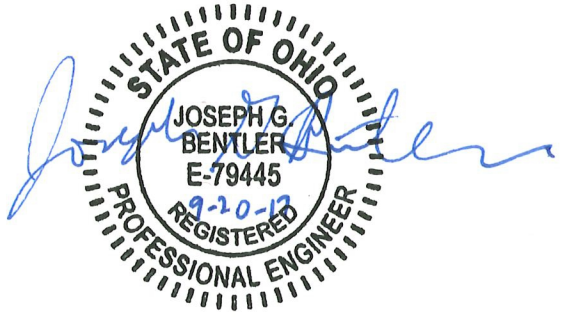

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1.0 INTRODUCTION

Starwood Energy Group (SEG) is preparing for haul route selection for the construction of the Northwest Ohio Wind Farm in Paulding County, Ohio. To assist in the evaluation, SEG has retained Westwood Professional Services (WPS) and American Engineering Testing (AET) to evaluate the proposed haul routes. AET was authorized to perform geotechnical exploration and nondestructive pavement testing at the site, and perform a geotechnical and pavement engineering analysis and review for the project. This report presents the results of the above services.

2.0 SCOPE OF SERVICES

AET's scope of services included Digital Video Log (DVL), Ground Penetrating Radar (GPR), Falling Weight Deflectometer (FWD) testing, and soil borings along approximately 35 centerline miles of county and township roads. The scope of services consisted of the following:

1. DVL testing, along the prospective haul routes in two directions of travel, was performed using a digital video camera. The total length of roadway logged by video is approximately 70 lane-miles. The log shows pavement surface condition as well as geographic benchmarks such as bridges and road signs.

2. GPR testing to measure pavement thickness, at about 1 foot intervals, and identify any areas of thin pavement was performed along prospective haul routes in two directions of travel. The total length of roadway tested was approximately 70 lane-miles.

3. FWD testing to determine the moduli of pavement, base and subgrade soil layers was performed in one direction of travel. Testing was performed using 0.1-mile spacing along approximately 35 centerline miles of roadway. An effective subgrade modulus was back calculated from the test data. From the back calculated effective subgrade modulus we identified an estimated effective subgrade CBR and structural number (SN) for the in place pavement structure.

As an enhancement to our work the GPR and FWD data collection systems are tied to GPS coordinates.

4. Following completion of GPR and FWD analysis work we performed 67 soil borings. Boring locations were identified based upon an analysis of the collected GPR and FWD test data. The locations of borings were spaced at approximately 0.5 miles.

   At boring locations, we cored the pavement surface and obtained a sample of the aggregate base by direct push. Soil borings were then advanced to a depth of approximately 3.8 feet below the surface of the pavement.

5. Preparation of a written report of our work, to include GPR testing results and layer thickness measurements, pavement layer and subgrade strength from deflection testing, pavement condition rating, thin pavement areas. The report should include a discussion of axle load capacity and identify areas of potential problems related to suitability of the roadways to withstand truck traffic from the transmission line construction.

These services are intended for geotechnical purposes. The scope is not intended to explore for the presence or extent of environmental contamination in the soil or ground water.

3.0 PROJECT INFORMATION

3.1 Background

The Northwest Ohio Wind Project ("Project") is in the north of Havilland in Paulding County, Ohio. The Project area and haul routes stretch in a generally east to west direction. Figure 1 shows the haul routes evaluated, as well as testing locations.

The primary transportation arteries through the project area in Paulding County include U.S. Highway (US) 127, Ohio State Routes (SRs) 114 and 637. According to OHDOT the 2016 annual

average daily traffic (AADT) ranged from 3,129 to 3,140 vehicles per day for US 127 and ranged from 665 to 1,196 for SRs 114 and 637 within the project area. The Class B and C commercial trucks ranged from 648 to 744 trucks per day for US 127 and ranged from 106 to 155 for SRs 114 and 637.

A projected annual growth rate of 2.25% was applied to the 2016 county roads AADTs. This projected factor was used to forecast the 2017 traffic volume used in determining the required overlay thickness and used for calculating the haul ESAL percent of the design ESAL.

The above stated information represents our understanding of the proposed construction. This information is an integral part of our engineering review. It is important that you contact us if there are changes from that described so that we can evaluate whether modifications to our recommendations are appropriate.

3.2 References

Reference to pavement evaluation is made regarding the American Association of State Highway and Transportation Officials' (AASHTO) 1993 *Guide for Design of Pavement Structures* and the Ohio Department of Transportation's (OHDOT's) – 2014 *Pavement Design Manual*.

4.0 PAVEMENT TESTING

4.1 Pavement Testing Program

The pavement testing program consisted of Digital Video Log (DVL), Ground Penetrating Radar (GPR) testing, Falling Weight Deflectometer (FWD) testing and soil borings. Table 4.1 identifies the pavement sections selected for the project. Jurisdictionally, the selected roads are state, county and township roads. Structurally, 18.2 miles are bituminous pavement, 14.6 miles are chip sealed (two to three times) roads and 2.6 miles are gravel surfaced.

Table 4.1 Pavement Test Sections.

Roadway	Termini		Length	Type*	2017 AADT**
	From	To	(mile)		
T-79	SR 114	T-48	1.03	CS	110
T-79	T-48	C-60	1.04	CS	110
T-79	C-60	C-72	1.03	CS	110
C-72	T-79	0.7 mi W	0.70	BP	299
C-87	SR 114	T-48	1.04	BP	229
C-87	T-48	C-60	1.03	BP	229
T-95	SR 114	T-48	1.03	CS	43
C-107	SR 114	T-48	1.03	BP	381
C-107	T-48	C-60	1.04	BP	381
T-117	T-48	C-60	1.03	CS	110
T-117	C-60	0.5 mi N	0.67	CS	110
C-123	SR 114	T-48	1.03	BP	181
C-123	T-48	C-60	1.03	BP	181
T-131	SR 114	T-48	1.03	CS	110
T-131	T-48	C-60	1.03	CS	110
T-131	C-60	C-72	1.03	GS	110
T-131	C-72	T-82	0.83	CS	110
T-72	T-131	T-137	1.02	CS	299
T-72	T-137	SR 637	1.03	BP	299
SR 637	C-72	0.5 mi S	0.47	BP	1,223
T-137	C-72	0.5 mi N	0.51	GS	110
T-48	T-79	C-87	1.03	CS	52
T-48	C-87	T-91	0.47	CS	52
C-60	US 127	C-107	1.04	BP	277
C-60	C-107	T-95	1.04	BP	277
C-60	T-95	C-87	1.03	BP	277
T-60	C-87	T-79	1.03	CS	43
T-60	T-79	T-75	0.50	CS	43
C-60	US 127	T-117	1.02	BP	376
C-60	T-117	C-123	1.04	BP	376
C-60	C-123	T-131	1.04	BP	376

Roadway	Termini		Length	Type*	2017 AADT**
	From	To	(mile)		
T-48	US 127	C-107	1.03	BP	22
T-48	C-107	T-95	1.04	CS	22
T-48	US 127	T-117	1.02	CS	110
T-48	T-117	C-123	1.04	BP	110
T-48	C-123	T-131	1.04	BP	110
T-48	T-131	T-137	1.03	GS	110
T-137	T-48	0.3 mi N	0.25	CS	110
			35.37		

* BP – Bituminous Pavement; CS – Chip Sealed; GS – Gravel Surfaced.
**2017 AADT – Projected from 2016 ODOT Average Annual Daily Traffic or Assumed.

4.1.1 Subsurface Exploration

The subsurface exploration program consisted of 67 Geoprobe soundings with 14 pavement corings on the county and township roads used for hauling, each to a depth of about 4 feet. The GPS coordinates of boring locations, logs of the soil samples and details of the methods used appear in Appendix A. The logs contain information concerning soil layering, soil classification, and geologic description. The borings are numbered B-1 through B-63 and B-65 through B-68.

The borings were cleared for underground utilities on October 10, 2014. The borings were drilled and sampled on October 15 and 16, 2014. The soil sample locations are shown on Figure 1. The coordinates and surface elevations at boring locations were measured in the field using a GPS unit in WGS 84 format. Upon completion, the boreholes were backfilled with soil cuttings, and the surface at each boring location was patched with cold mix.

4.1.2 Pavement Condition Survey

The pavement condition survey program conducted for the project consisted of pavement surface distress identification from high resolution digital video cameras mounted on a moving vehicle.

The video logs were collected on October 8, 2014, over 70 lane-miles of the initial haul routes and on August 30, 2017, over 40 lane-miles of the updated haul routes. Figure 1 shows the filming routes.

The distress identification procedure used to determine the surfacing rating is based on the standard sampling procedure. For a quantitative measure of pavement distresses this procedure evaluates a representative 500-foot long section of pavement, 12 feet wide, randomly selected from a 1 mile segment of pavement (1/10th mile per mile). If the pavement condition is to change significantly within the 1 mile segment, the segment is divided into subsections that each consist of one randomly selected survey sample.

For the pavement condition index (PCI) our assessment conforms to the general requirements of ASTM D6433 – 11 using a rating from 0 to 100. A new pavement would rate 100 and a road in need of total reconstruction would rate less than 25.

For bituminous pavements, the pavement condition survey includes identification and classification of various types of surface cracks, patching and potholes, and determination of surface deformation and defects such as rutting, polished aggregate, and raveling.

The ASTM D6433-11 method was modified to rate the gravel roads. For the evaluation of gravel road surfaces the pavement condition survey is focused on factors that include road crown, drainage, gravel cover, surface deformation and surface defects. Surface defects included in the survey are washboarding, potholes, ruts, dust and loose aggregate. The crown is the apparent slope of the surface from the centerline to the edge of the roadway. The drainage evaluation is an assessment of how adequately the ditches and culverts appear to handle water flow from the roadway surface. Gravel cover is the thickness of the gravel layer over the base or subgrade of the road. Surface deformation is rutting, washboarding and/or potholes. Surface defects are represented by the amount of loose aggregate and how dusty the road is in dry conditions.

4.1.3 Pavement Thickness Testing

The pavement thickness testing program consisted of a high speed (air coupled) GPR antenna collecting the pavement thickness data at about one scan per foot. The data was collected using a 2 GHz antenna, which allows material layer measurements at depths of 18 inches with a resolution less than about ½ inch. The test data and details of the methods used appear in Appendix B.

The GPR data were collected on October 8, 2014, over 70 lane-miles of the initial haul routes and on August 30, 2017, over 40 lane-miles of the updated haul routes. Figure 1 shows the GPR scanning routes.

Scans of the pavement were collected according to SIR-20 processor settings established by GSSI RoadScan system, approximately in the middle of the traveling lane and in two directions of travel. A calibration file, required for data post-processing, was collected prior to testing.

The GPR interface identification was accomplished using RADAN 6.0, a proprietary software package included with the GSSI RoadScan system. The software includes tools to aid in delineating pavement layer transitions, and automatically calculates their depths from the pavement surface using the calibration file(s) collected prior to testing. The identified layer was also compared to the boring data to validate the accuracy of the layer thicknesses.

The total depth of pavement is not always explicitly clear. Where gaps in clear identification of pavement and base layer thicknesses are encountered, they are reported as a percent of the picking rate of the layer interface. A picking rate of 100 percent indicates the layer interfaces were visible in 100 percent of the scanned points. Factors influencing definition of radar scans include ambient electromagnetic interference, the presence of moisture, the presence of voids and the similarity of material layer type between layers (e.g. gravel vs. gravelly sand).

4.1.4 Pavement Deflection Testing

The pavement deflection testing conducted for the project consisted of FWD testing on 35 miles of roadways at 0.1-mile spacing in the direction of hauling. To perform this test, a force is exerted on the pavement via a known weight dropped from a predetermined height. After the impact, sensors placed along the roadway record the deflection. After performing seating drops (used for equipment warm-up), data for four impulse loads (two at 6,000 lbs. and two at 9,000 lbs. nominal load) were collected at each test point for the chip sealed roads. For the gravel roads, load impulses were nominally 6,000 lbs. Details of the test methods used and the test data obtained appear in Appendix C.

The FWD testing was performed on October 8 and 9, 2014, using a Dynatest 9000 FWD. To enhance the analysis, our FWD data collection is stamped with GPS coordinates. Figure 1 shows the haul routes where FWD testing was performed.

The deflection data were analyzed using the American Association of State Highway and Transportation Officials' (AASHTO) method for determining the in-place (effective) subgrade and pavement strength, as well as allowable axle loads in spring for a roadway as in the *AASHTO Guide for Design of Pavement Structures,* 1993.

The effective subgrade resilient modulus (Mr) and structural number (SN) were estimated from the deflection relationship equation calculated from the FWD test results. The required structural number was calculated using the effective subgrade Mr for design and forecasted traffic loadings. The required overlay thickness was calculated from the difference between the effective and required structural number.

4.2 Laboratory Testing

The laboratory test program included visual classification of select soil samples in accordance with the Unified and AASHTO soil classification systems, as well as performing four moisture contents and four Atterberg limits. The Atterberg limit test results are used to determine the liquid limit (LL) and plastic limit (PL) of the clay soils, which aid in classification. The test results appear on the individual boring log adjacent to the sample upon which they were performed. Details of the test methods used and the boring logs appear in Appendix A.

5.0 RESULTS

5.1 Pavement Surface Condition

As shown in Table 5.1, the chip seal surfaced (CS) roads selected for hauling were in very poor to good condition, the gravel surfaced roads (GS) were in fair condition, and the bituminous pavement (BP) was in poor to good condition in 2017.

Predominant distresses on the CS roads were rutting, longitudinal and transverse cracking, edge cracking, and raveling. Photo 5.1 shows the pavement surface distresses of the CS sections in poor condition. The CS roads are of standard width, such that traffic in each direction travels on its own lane.

Photo 5.1 Chip Sealed Roads

Predominant distresses on the GS sections were loose aggregate, rutting, lack of grown and excessive dust. Inadequate roadside drainage was also observed on the GS sections. The GS sections are of standard width, such that traffic in each direction travels in its own lane (Photo 5.2).

Photo 5.2 Gravel Roads

Photo 5.3 Bituminous Pavement

The bituminous pavement (BP) roads appear in various conditions ranging from poor to good. On the BP roads, longitudinal and transverse cracking of various degrees of severity were the major distresses, while alligator cracking, rutting, edge cracking, shoulder drop-off and/or bleeding was also found on some sections. The overall surface ratings of all the sections are listed at the top of the FWD data sheets in Appendix C and summarized by road name in the following Table 5.1.

Table 5.1 Surface Ratings of Test Sections.

Roadway	Termini		Length (miles)	Type*	2017 PCI Rating	
	From	To				
T-79	SR 114	T-48	1.03	CS	100	Good
T-79	T-48	C-60	1.04	CS	81	Good
T-79	C-60	C-72	1.03	CS	70	Good
C-72	T-79	0.7 mi W	0.70	BP	82	Good
C-87	SR 114	T-48	1.04	BP	68	Fair
C-87	T-48	C-60	1.03	BP	75	Good
T-95	SR 114	0.5 mi N	0.52	CS	65	Good
T-95	0.5 mi N	T-48	0.51	CS	25	Very Poor
C-107	SR 114	T-48	1.03	BP	51	Poor
C-107	T-48	C-60	1.04	BP	74	Good
T-117	T-48	C-60	1.03	CS	77	Good
T-117	C-60	0.5 mi N	0.67	CS	78	Good
C-123	SR 114	T-48	1.03	BP	75	Good
C-123	T-48	C-60	1.03	BP	77	Good
T-131	SR 114	T-48	1.03	CS	77	Good

Roadway	Termini		Length (miles)	Type*	2017 PCI Rating	
	From	To				
T-131	T-48	C-60	1.03	CS	52	Poor
T-131	C-60	C-72	1.03	GS	60	Fair
T-131	C-72	T-82	0.83	CS	70	Good
T-72	T-131	T-137	1.02	CS	66	Fair
T-72	T-137	SR 637	1.03	BP	71	Good
SR 637	C-72	0.5 mi S	0.47	BP	50	Poor
T-137	C-72	0.5 mi N	0.51	GS	61	Fair
T-48	T-79	C-87	1.03	CS	59	Good
T-48	C-87	T-91	0.47	CS	69	Fair
C-60	US 127	C-107	1.04	BP	100	Good
C-60	C-107	T-95	1.04	BP	68	Good
C-60	T-95	C-87	1.03	BP	75	Good
T-60	C-87	T-79	1.03	CS	83	Good
T-60	T-79	T-75	0.50	CS	83	Good
C-60	US 127	T-117	1.02	BP	73	Good
C-60	T-117	C-123	1.04	BP	63	Fair
C-60	C-123	T-131	1.04	BP	77	Good
T-48	US 127	C-107	1.03	BP	85	Good
T-48	C-107	T-95	1.04	CS	85	Good
T-48	US 127	T-117	1.02	CS	75	Good
T-48	T-117	C-123	1.04	BP	44	Poor
T-48	C-123	T-131	1.04	BP	83	Good
T-48	T-131	T-137	1.03	GS	68	Fair
T-137	T-48	0.3 mi N	0.25	CS	69	Fair
			35.37			

* BP – Bituminous Pavement; CS – Chip Sealed; GS – Gravel Surfaced.
** Rating System: 70-100 Good; 55-69 Fair; 40-54, Poor; 25-39, Very Poor; 10-24, Failed.

The rutting measured on the BP and CS roads was mainly in the range between 0 and 0.5 inches (light severity) except for T-95 from SR 144 to T-48 where rutting reached 2 inches (safety hazard) and ranged from 0 to 2 inches for the northern half- mile section. In the southern half-mile section of T-95, rutting ranged from 0 to 1.25 inches.

5.2 Subsurface Soils/Geology

Sixty-two direct push borings were located within BP and CS roadway areas. Five direct push borings were performed through GS roadway sections. Subgrade soils encountered beneath aggregate base materials were predominantly identified as fat clay (A-7-6).

Our borings encountered bituminous ranging in thickness from 0.75 to 8.5 inches on county and town roads and 20 inches on state highways. Reclaimed or road mix base, sometimes sandwiched in the aggregate base, was observed in 16 of 62 borings and ranged in thickness from 1 to 13 inches. Aggregate base-like material was also observed in the rest of our borings except for Borings 27, 40, 42 and 66 (no aggregate base) and ranged in thickness from 8 to 19 inches. Our borings encountered aggregate surface ranging in thickness from 6 to 9.5 inches. The reclaimed bituminous base was observed in two of five borings on GS roadway sections.

Beneath aggregate base and surfacing materials the primary soils encountered within the upper subgrade zone, those with the greatest effect on the design CBR, are judged to consist of glacial meltwater-deposited (fine alluvial) fat clay soils meeting an A-7-6 AASHTO soil classification.

5.3 Groundwater

No groundwater was observed within the depth of borings. Please note that groundwater levels do not remain static and tend to fluctuate due to varying seasonal and annual rainfall amounts, runoff, infiltration, and other factors.

5.4 Pavement Thicknesses Determined from Ground Penetrating Radar

The GPR data show clear interfaces between bituminous and aggregate base with 100% of picking rate. The interface between aggregate base/gravel surface and subgrade soil was picked at a rate of less than 70% because the interface was deeper than the depth of investigation for our GPR survey. The data sheets and plots of the layer thicknesses averaged over 50 feet for each section are included in Appendix B.

Along bituminous roadway segments the average thickness of the bituminous surface measured ranged from 1.4 to 15.4 inches. Beneath the bituminous the average thickness of the aggregate base measured ranged from 4.1 to 13.3 inches. Along gravel-surfaced roadway sections the average depth of the gravel surface ranged from 6.1 to 8.5 inches.

Table 5.4 shows the statistical results of pavement and base layer thickness measurements by GPR along each roadway section. The coefficient of variation (CV) is a measure of the spread of the data; as the CV increases, it indicates more variability in the measured roadway thicknesses. The 15th percentile represents the value at which 85% of the section has a pavement layer thickness that is greater than identified. This is the typical value we recommend using for pavement design purposes. The total thickness (gravel surface or chip seal and gravel base) is shown in Figure 2 at the end of this report.

Table 5.4 GPR Thickness Results (inches)

Roadway	Termini		Type*	Surface			Base		
	From	To		Avg	CV	15th	Avg	CV	15th
T-79	SR 114	T-48	CS	2.7	25%	2.1	10.4	21%	7.9
T-79	T-48	C-60	CS	2.1	24%	1.7	11.5	14%	10.0
T-79	C-60	C-72	CS	2.2	29%	1.8	10.5	13%	8.9
C-72	T-79	0.7 mi W	BP	6.5	16%	5.5	13.3	11%	11.6
C-87	SR 114	T-48	BP	5.8	16%	5.0	> investigation depth		
C-87	T-48	C-60	BP	6.3	10%	5.7	> investigation depth		
T-95	SR 114	T-48	CS	2.6	58%	1.2	8.3	13%	7.2
C-107	SR 114	T-48	BP	8.6	19%	6.9	> investigation depth		
C-107	T-48	C-60	BP	7.8	14%	6.7	> investigation depth		
T-117	T-48	C-60	CS	1.8	19%	1.6	4.1	16%	3.4
T-117	C-60	0.5 mi N	CS	1.6	21%	1.5	7.6	24%	5.7
C-123	SR 114	T-48	BP	11.2	15%	9.5	> investigation depth		
C-123	T-48	C-60	BP	10.8	12%	9.5	> investigation depth		
T-131	SR 114	T-48	CS	2.4	16%	2.1	10.5	15%	8.7

Roadway	Termini		Type*	Surface			Base		
	From	To		Avg	CV	15th	Avg	CV	15th
T-131	T-48	C-60	CS	2.0	17%	1.7	7.2	26%	4.4
T-131	C-60	C-72	GS	7.6	13%	6.6	N/A		
T-131	C-72	T-82	CS	3.3	25%	2.6	7.3	14%	6.2
T-72	T-131	T-137	CS	2.0	21%	1.6	10.9	15%	9.2
T-72	T-137	SR 637	BP	7.6	18%	6.4	> investigation depth		
SR 637	C-72	0.5 mi S	BP	15.4	20%	13.8	> investigation depth		
T-137	C-72	0.5 mi N	GS	8.5	23%	8.6	N/A		
T-48	T-79	C-87	CS	4.1	30%	2.9	8.3	10%	7.4
T-48	C-87	T-91	CS	3.1	31%	2.1	9.7	10%	8.8
C-60	US 127	C-107	BP	6.8	13%	5.7	> investigation depth		
C-60	C-107	T-95	BP	5.2	25%	4.4	12.2	10%	10.9
C-60	T-95	C-87	BP	5.0	16%	4.4	12.5	9%	11.6
T-60	C-87	T-79	CS	3.6	40%	2.2	9.3	14%	8.0
T-60	T-79	T-75	CS	1.5	3%	1.4	10.1	26%	7.3
C-60	US 127	T-117	BP	3.3	13%	2.9	8.0	11%	7.0
C-60	T-117	C-123	BP	3.3	14%	3.0	7.9	15%	6.8
C-60	C-123	T-131	BP	2.7	14%	2.3	7.0	13%	6.1
T-48	US 127	C-107	BP	4.0	26%	3.3	10.3	12%	8.9
T-48	C-107	T-95	CS	2.4	23%	1.8	5.6	24%	4.3
T-48	US 127	T-117	CS	1.4	22%	0.9	9.9	10%	8.9
T-48	T-117	C-123	BP	8.6	15%	7.3	> investigation depth		
T-48	C-123	T-131	BP	4.0	12%	3.5	11.1	14%	9.4
T-48	T-131	T-137	GS	6.1	16%	5.2	> investigation depth		
T-137	T-48	0.3 mi N	CS	2.8	21%	2.4	10.5	12%	9.2

* BP – Bituminous Pavement; CS – Chip Sealed; GS – Gravel Surfaced.
Note: Avg – Average; CV – Coefficient of Variation; 15th – 15th Percentile.

5.5 Pavement Strength

Table 5.5 summarizes the results of our FWD analysis. The layer thicknesses used in our analysis are the average thickness calculated from GPR test data collected in the same testing direction as

the FWD test. For estimating the effective structural number (SN) in this table, we used the predicted 20-year ESAL forecast based on existing traffic data and a 2.25% annual growth rate. The calculated spring load capacity at each test location is also shown on Figure 3 at the end of this report.

Table 5.5 Summary of FWD Analysis Results

Road	From	To	Effective CBR			Effective SN			Spring Load Capacity (tons/axle)		
			Avg	CV	15th	Avg	CV	15th	Avg	CV	15th
T-79	SR 114	T-48	3.3	13%	2.9	2.1	44%	1.3	5.8	55%	3.0
T-79	T-48	C-60	3.1	11%	2.7	1.6	10%	1.5	4.3	16%	3.7
T-79	C-60	C-72	3.0	16%	2.6	1.5	15%	1.3	4.3	17%	3.7
C-72	T-79	0.7 mi W	2.8	14%	2.5	4.9	12%	4.3	10.2	16%	8.8
C-87	SR 114	T-48	3.3	7%	3.1	4.1	9%	3.7	11.2	12%	9.7
C-87	T-48	C-60	3.3	15%	2.8	3.7	9%	3.4	8.0	13%	7.0
T-95	SR 114	0.5 mi N	3.5	7%	3.2	1.8	21%	1.5	4.4	33%	3.0
T-95	0.5 mi N	T-48	4.5	7%	4.2	1.5	13%	1.3	3.3	25%	2.3
C-107	SR 114	T-48	2.9	11%	2.7	4.5	21%	3.6	8.7	31%	5.9
C-107	T-48	C-60	3.0	8%	2.8	4.0	19%	3.2	8.1	25%	6.3
T-117	T-48	C-60	3.7	16%	3.3	1.1	20%	0.9	3.4	25%	2.7
T-117	C-60	0.5 mi N	3.3	11%	2.9	1.8	18%	1.5	6.1	20%	5.0
C-123	SR 114	T-48	3.0	9%	2.8	4.0	21%	3.2	8.2	30%	5.9
C-123	T-48	C-60	2.7	10%	2.5	3.9	15%	3.3	7.7	19%	6.5
T-131	SR 114	T-48	3.1	10%	2.7	1.7	12%	1.5	5.1	11%	4.3
T-131	T-48	C-60	3.2	17%	2.7	2.1	14%	1.9	6.1	18%	5.0
T-131	C-60	C-72	4.0	22%	3.4	0.8	23%	0.6	3.5	20%	2.8
T-131	C-72	T-82	2.8	3%	2.7	1.9	13%	1.7	5.3	14%	4.7
T-72	T-131	T-137	2.7	9%	2.5	2.3	20%	1.9	6.5	29%	4.6
T-72	T-137	SR 637	3.1	6%	2.9	5.2	11%	4.7	11.5	12%	10.2
SR 637	C-72	0.5 mi S	4.0	13%	3.4	6.2	6%	5.8	11.2	9%	9.9
T-137	C-72	0.5 mi N	3.2	11%	2.8	1.2	17%	1.0	4.5	24%	3.4

Road	From	To	Effective CBR			Effective SN			Spring Load Capacity (tons/axle)		
			Avg	CV	15th	Avg	CV	15th	Avg	CV	15th
T-48	T-79	C-87	3.1	15%	2.7	2.2	20%	1.8	5.9	21%	4.6
T-48	C-87	T-91	3.5	4%	3.4	1.5	12%	1.3	3.6	19%	2.9
C-60	US 127	C-107	3.4	10%	3.0	5.1	14%	4.3	10.4	19%	8.1
C-60	C-107	T-95	3.5	20%	3.1	3.7	32%	2.7	8.5	44%	5.7
C-60	T-95	C-87	2.6	14%	2.4	3.9	15%	3.4	9.0	17%	7.7
T-60	C-87	T-79	3.5	17%	3.0	1.6	48%	1.1	3.5	61%	2.2
T-60	T-79	T-75	3.4	4%	3.2	1.9	9%	1.8	5.3	12%	4.9
C-60	US 127	T-117	3.1	8%	2.8	3.3	10%	2.9	7.3	14%	6.0
C-60	T-117	C-123	3.0	10%	2.7	3.2	11%	2.8	8.0	15%	6.9
C-60	C-123	T-131	3.2	8%	2.9	2.7	21%	2.1	7.9	27%	5.8
T-48	US 127	C-107	2.9	9%	2.6	2.4	24%	2.0	5.9	29%	4.8
T-48	C-107	T-95	3.5	20%	3.1	2.1	10%	1.9	4.3	20%	3.5
T-48	US 127	T-117	3.3	8%	3.0	3.3	10%	3.0	10.0	12%	9.0
T-48	T-117	C-123	2.7	20%	2.3	2.8	13%	2.3	6.7	15%	5.6
T-48	C-123	T-131	3.6	10%	3.2	4.0	12%	3.5	11.3	14%	9.8
T-48	T-131	T-137	2.9	15%	2.5	1.4	17%	1.2	3.7	25%	2.9
T-137	T-48	0.3 mi N	3.3	4%	3.2	1.8	1%	1.8	5.2	3%	5.0

Note: Avg – Average; CV – Coefficient of Variation; 15th – 15th Percentile.

Along bituminous-surfaced roadway sections the calculated average effective CBR ranged from 2.6 to 4.5, with the 15th percentile being from 2.3 to 4.2 in spring. From this data, we judge subgrade soils to be plastic (fat clay) with low strength. Our measurements indicate the subgrade soils appear relatively consistent in strength throughout the length of the roadway sections.

Along gravel-surfaced roadway sections the calculated average effective CBR ranged from 2.9 to 4, with the 15th percentile being from 2.5 to 3.4 in spring. From this data, we judge subgrade soils to be plastic (fat clay) with low strength. Our measurements indicate the subgrade soils appear relatively uniform in strength throughout the length of the gravel roads.

The average effective SN calculated for the BP and CS sections ranged from 1.1 to 6.2 inches, with the 15th percentile being from 0.9 to 5.8 inches, showing a large variety in pavement strength. Correspondingly, the BP and CS sections have an average spring load capacity ranging from 3.3 to 11.5 tons per axle with the 15th percentile ranging from 2.2 to 10.2 tons.

The average effective SN calculated for the GS sections ranges from 0.8 to 1.4 inches, with the 15th percentile being from 0.6 to 1.2 inches. Where the calculated effective gravel thickness (from the effective SN) for the GS sections is less than the actual gravel layer thickness measured by GPR, the gravel for the roadway surface has a decreased SN, likely due to contamination with fine soil particles, compared to aggregate base. The GS sections have an average spring load capacity ranging from 3.5 to 4.5 tons per axle with the 15th percentile ranging from 2.8 to 3.4 tons.

5.6 Hauling Impacts

To determine the effects of temporary construction loads and equipment, and generate recommended structural upgrades to meet prospective future use, we separately calculated the 10-year forecasted loading (ESALs) for current traffic and the 10-year forecasted loading of current traffic plus the prospective traffic loading (Figure 4) due to construction activity. We understand all construction hauling will be performed during the late spring, summer or fall seasons.

The detailed ESAL for each typical truck type and for the total ESAL on each haul road section (Figure 4) was calculated based on the haul truck counts on the delivery plans (Figures 5 to 7). For bituminous overlay, we calculated the required additional SN and standard layer coefficient of bituminous by the AASHTO method for the traffic conditions we projected. For additional gravel on GS roadways we calculated additional required SN and standard layer coefficient of aggregate by the AASHTO method for the traffic conditions we projected (based on future traffic vs. current pavement strength). The results are shown in the following Table 5.6.

Table 5.6 Required 10 Year Overlay Thickness (inches)

Roadway	Termini		Type*	Haul ESAL	20-year Design ESAL	Percent ESAL	Overlay (inches)	
	From	To					With Hauling	Without Hauling
T-79	SR 114	T-48	CS	0	27,276	0.0%	1.6	1.6
T-79	T-48	C-60	CS	541	27,276	2.0%	1.6	1.6
T-79	C-60	C-72	CS	567	27,276	2.1%	1.9	1.8
C-72	T-79	0.7 mi W	BP	567	63,645	0.9%	0.0	0.0
C-87	SR 114	T-48	BP	4,325	54,553	7.9%	0.0	0.0
C-87	T-48	C-60	BP	3,475	54,553	6.4%	0.0	0.0
T-95	SR 114	0.5 mi N	CS	1,267	27,276	4.6%	1.3	1.2
T-95	0.5 mi N	T-48	CS	1,267	27,276	4.6%	1.3	1.3
C-107	SR 114	T-48	BP	2,185	90,922	2.4%	0.0	0.0
C-107	T-48	C-60	BP	0	90,922	0.0%	0.0	0.0
T-117	T-48	C-60	CS	310	27,276	1.1%	2.6	2.6
T-117	C-60	0.5 mi N	CS	272	27,276	1.0%	1.4	1.4
C-123	SR 114	T-48	BP	1,149	45,461	2.5%	0.0	0.0
C-123	T-48	C-60	BP	104	45,461	0.2%	0.0	0.0
T-131	SR 114	T-48	CS	0	27,276	0.0%	1.6	1.6
T-131	T-48	C-60	CS	0	27,276	0.0%	0.0	0.0
T-131	C-60	C-72	GS	1,763	27,276	6.5%	4.1	3.5
T-131	C-72	T-82	CS	583	27,276	2.1%	1.1	1.1
C-72	T-131	T-137	CS	300	63,645	0.5%	1.9	1.9
C-72	T-137	SR 637	BP	0	63,645	0.0%	0.0	0.0
SR 637	C-72	0.5 mi S	BP	0	472,792	0.0%	0.0	0.0
T-137	C-72	0.5 mi N	GS	300	27,276	1.1%	2.4	2.4
T-48	T-79	C-87	CS	287	27,276	1.1%	0.9	0.9
T-48	C-87	T-91	CS	279	27,276	1.0%	1.6	1.6
C-60	US 127	C-107	BP	0	63,645	0.0%	0.0	0.0
C-60	C-107	T-95	BP	275	63,645	0.4%	0.0	0.0
C-60	T-95	C-87	BP	1,211	63,645	1.9%	0.0	0.0
C-60	C-87	T-79	CS	1,708	27,276	6.3%	2.1	2.0
C-60	T-79	T-75	CS	596	27,276	2.2%	0.6	0.6
C-60	US 127	T-117	BP	2,107	81,829	2.6%	0.0	0.0
C-60	T-117	C-123	BP	2,145	81,829	2.6%	0.0	0.0
C-60	C-123	T-131	BP	2,041	81,829	2.5%	1.0	1.0

Roadway	Termini		Type*	Haul ESAL	20-year Design ESAL	Percent ESAL	Overlay (inches)	
	From	To					With Hauling	Without Hauling
T-48	US 127	C-107	BP	1,335	27,276	4.9%	0.5	0.4
T-48	C-107	T-95	CS	1,740	27,276	6.4%	0.5	0.4
T-48	US 127	T-117	CS	1,800	27,276	6.6%	0.0	0.0
T-48	T-117	C-123	BP	586	27,276	2.1%	0.0	0.0
T-48	C-123	T-131	BP	623	27,276	2.3%	0.0	0.0
T-48	T-131	T-137	GS	0	27,276	0.0%	1.4	1.4
T-137	T-48	0.3 mi N	CS	0	27,276	0.0%	0.8	0.8

* BP – Bituminous Pavement; CS – Chip Sealed; GS – Gravel Surfaced.

In Table 5.6, the percent ESAL (road life consumed) was defined as a ratio in percent of the ESALs generated by the haul ESALs over the 20-year design ESALs (based on current traffic) of the designated road and additional GE was the 85th Percentile for each of the gravel roads.

As shown in Table 5.2, the ESALs generated from hauling are 0 to 7.9% of the 20-year design ESALs for the bituminous surfaced sections used for hauling and 0 to 6.5% for the gravel sections.

Additional bituminous of 0 to 2.6 inches is required for the bituminous roadways to support 9-ton axle loads. The impact of the loads provided by haul trucks hauling on the bituminous haul roads is negligible (additional 0 to 0.1 inches of bituminous overlay compared to normal traffic loading) even though an additional 0 to 2.6 inches of bituminous overlay are required for the existing traffic on bituminous sections.

For the gravel roadways, the additional gravel surfacing of 1.4 to 4.1 inches is required to support 9-ton axle loads. The impact of hauling loads on the gravel is negligible to slight (additional 0 to 0.6 inches of gravel overlay).

6.0 CONCLUSIONS

The conclusions made in this report are based on our interpretation of the test data and on our understanding of the project as described above.

6.1 Subgrade Soil Strength

The geotechnical exploration indicated fat clay is the primary subgrade type for the selected roads. The analysis of the subgrade using the FWD data confirmed that subgrade soils under all the tested roads have low strength (average effective CBR = 2.6 to 4.5) in spring.

We have estimated the subgrade modulus using AASHTO NDT Method. The estimated subgrade modulus and the effective CBR indicate that there is risk of subgrade support problems in the low CBR areas on the roads during truck hauling.

6.2 Pavement Structural Strength

The pavement testing and evaluation indicated the gravel sections have a moderate to high strength surface, with an average effective SN ranging from 0.8 to 1.4 over a low strength subgrade in spring (average effective CBR = 2.9 to 4).

The bituminous-surfaced sections have a low strength to high strength surface (average effective SN=1.1 to 6.2 over a low strength subgrade in spring (average effective CBR= 2.6 to 4.5). The low pavement strength is mainly caused by the thin surface layer (< 3 inches).

Our review of the site and evaluation of subgrade strength data were based on using the existing traffic projected forward over the next 20 years. <u>If the haul truck traffic differs from what was provided, the evaluation of pavement strength should be performed again with the new haul truck traffic counts.</u>

6.3 Consideration of Improvements

We believe that the current selection of haul routes, which was developed by WPS using the data from our preliminary pavement evaluation, is optimal under the conditions of minimizing hauling distance, distributing construction traffic, and minimizing usage of the weak pavements. Thirteen of 30 road sections to be used for hauling have good strength and should hold up well to hauling with only maintenance work required.

Thirteen (twelve bituminous and one gravel) of 30 haul road sections have remaining life adequate to support the construction traffic loading. However, these sections are weak or in poor condition and may see some surface damage due to a large number of heavy truck loads. We recommend closely monitoring the haul roads during construction and emergency repairs or maintenance if potholes or high severity ruts are developing in the failing areas. After construction, the haul roads should be restored to the pre-construction condition with necessary improvements.

The recommended emergency repairs on bituminous haul road sections include pothole patching, rut filling and skin patching. For the potholes developed from high severity alligator cracks, we recommend temporary pothole patching with cold mix. We also recommend filling ruts and skin patching on the alligator cracks to extend the life of the asphalt for a short time period (2 to 3 years). The recommended maintenance on gravel haul road sections include blading and adding 1 to 2 inches of surfacing aggregate if necessary.

Four (three bituminous and one gravel) of 30 haul sections are near the end of the pavement's structural life and have little or no structural capacity to support the construction traffic loading. We recommend structural improvements for these sections prior to construction. We recommend bituminous overlay on bituminous haul road sections and blading and adding 4 inches of surfacing aggregate on gravel haul road sections prior to construction.

Alternatively, if it is agreed upon between townships and hauler, the improvements on those four sections can be postponed after construction with an urgent repair program during construction because of relatively low truck volume. Three (two chip sealed and one gravel surfaced) of those four sections can be restored economically while the restoration of the bituminous section will cost more if the pavement condition deteriorates rapidly during construction.

Table 1 shows the areas that may need improvements for hauling. These areas either have poor subgrade support, or have insufficient structure and require structural improvements for pavements. Under conditions same as the testing conditions (dry seasons), the recommended improvement is mostly to overlay with bituminous on bituminous haul road sections or with aggregate on gravel haul road sections.

Typical pre-overlay pavement surface preparation (sweeping and tack coat) will be required prior to the placement of the overlay on the bituminous haul road sections.

At intersections, widening is important to accommodate the turning of long hauling trucks. Longer flatbed hauling trucks will run out of either paved or gravel surfaces at intersections with poor geometry, causing safety and pavement structure concerns. Additional aggregate shoulder should be added where possible to avoid incidental wheel spinning directly on soils.

6.4 Cost of Improvements

The unit prices from the engineer's estimate of the Ohio Public Work Commission 2015 resurfacing program was used to estimate the costs of improvements prior to construction in 2017 using a discount rate of 4%. The total cost for improving 14 miles of the paved roads and 2 miles of gravel road is estimated to be $1,503,424.00.

If an agreement upon a formula (i.e. multiplication of the percent ESAL values by the total cost of improvements) was established between the Paulding County and SEG, the total cost at the percent ESAL for the pre-construction improvement is slightly lower than $41,151.78.

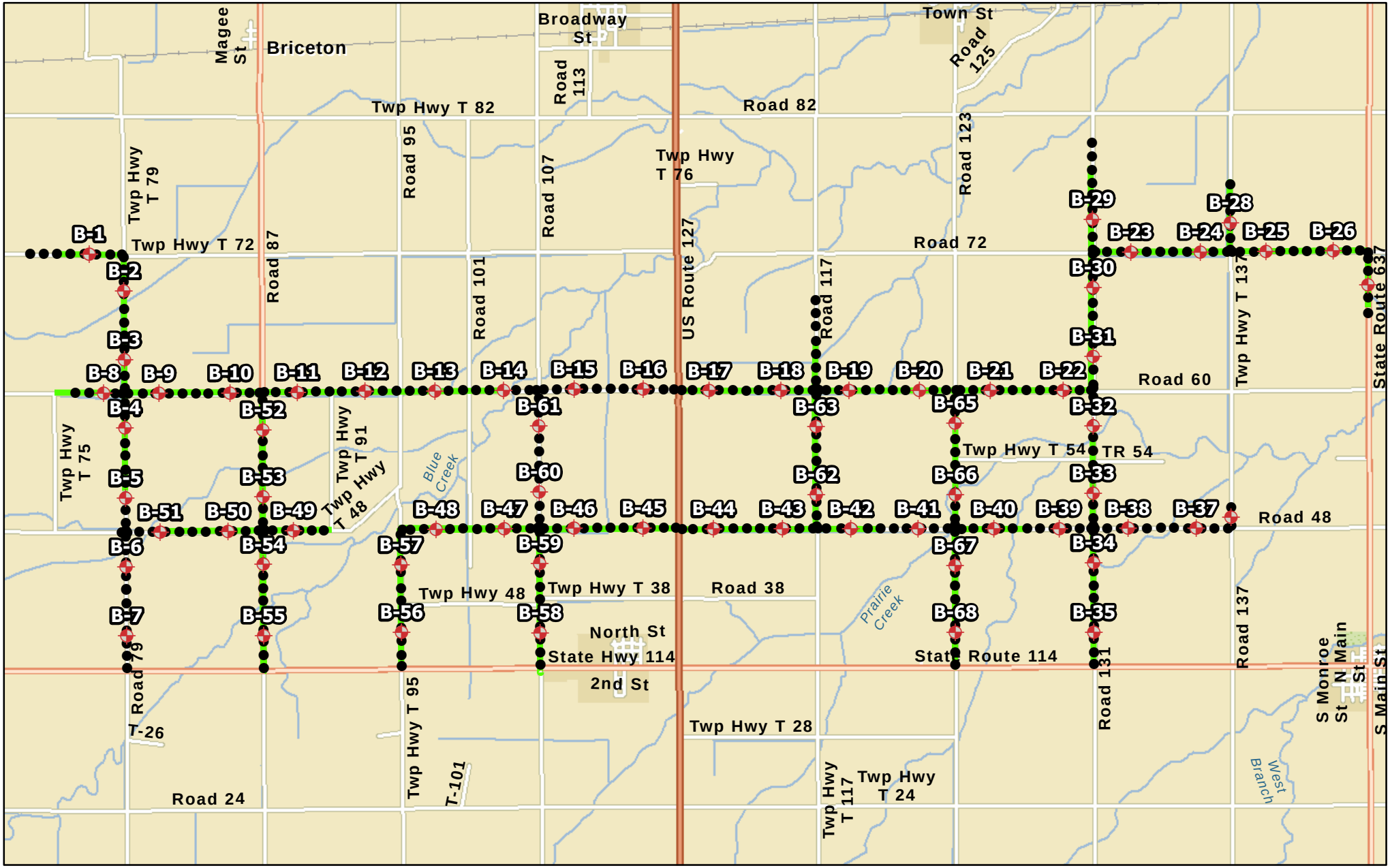
Table 2 shows the haul road sections that need improvements prior to construction, total costs, and costs at the percent ESAL for each haul road section.

7.0 LIMITATIONS

Within the limitations of scope, budget, and schedule, we have endeavored to provide our services according to generally accepted geotechnical engineering practices now and at this location. Other than this, no warranty, express or implied, is intended.

Important information regarding risk management and proper use of this report is given in Appendix D entitled “Geotechnical Report Limitations and Guidelines for Use.”

Figures



AMERICAN ENGINEERING TESTING, INC.
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Phone: (651) 659-9001
Fax: (651) 659-1379

Legend

- Soil Borings
- FWD Testing
- GPR Testing

1:80,000

1 0.5 0 1

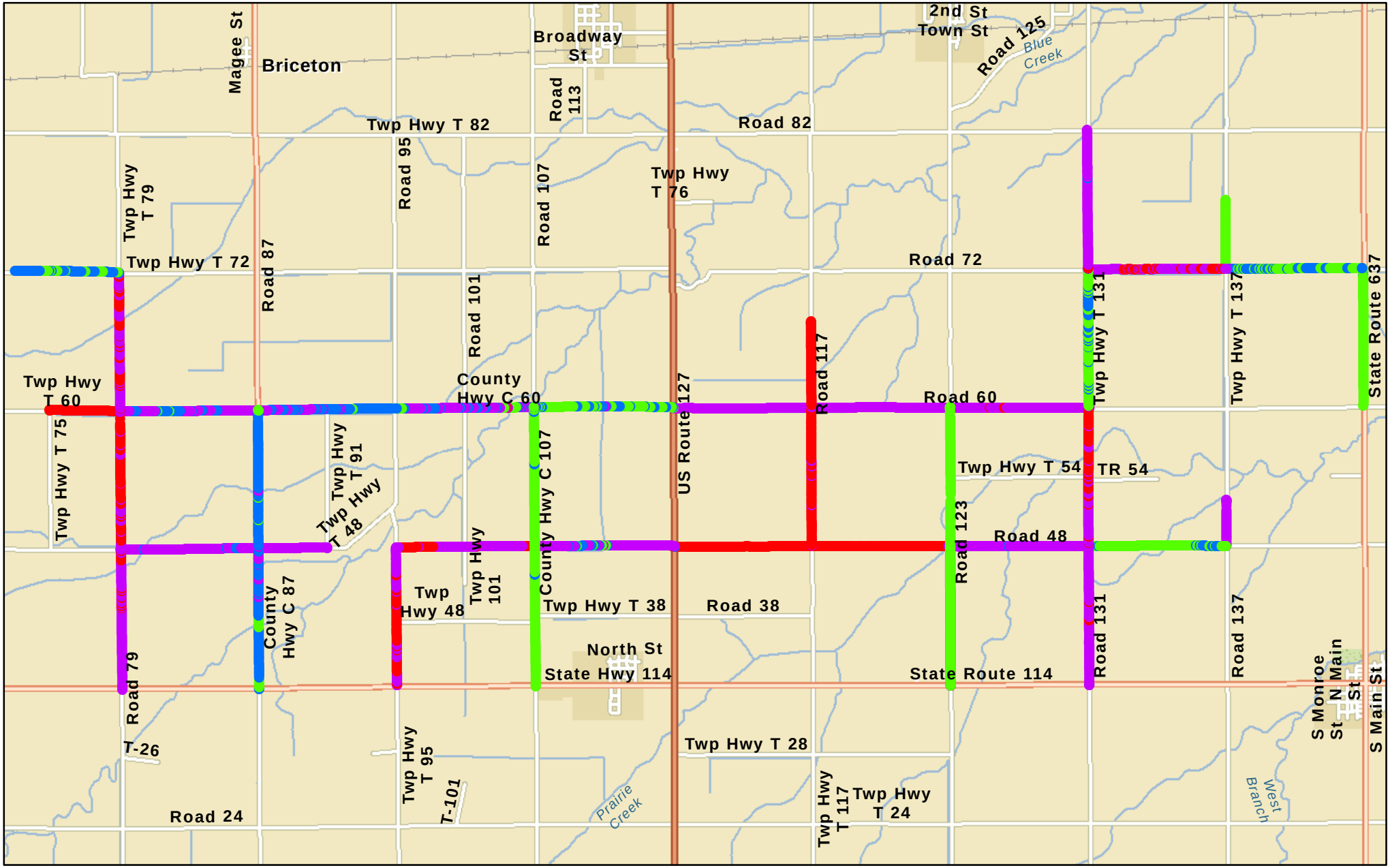
Miles

FIGURE 1

Testing Locations

Northwest Ohio Wind Project
Paulding County, Ohio

DRAWN BY: DRM	CHECKED BY: CH
Date: 9/16/2017	AET NO. 28-01314



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Legend

- < 2 inches
- 2 - 4 inches
- 5 - 6 inches
- > 6 inches

1:80,000

1 0.5 0 1

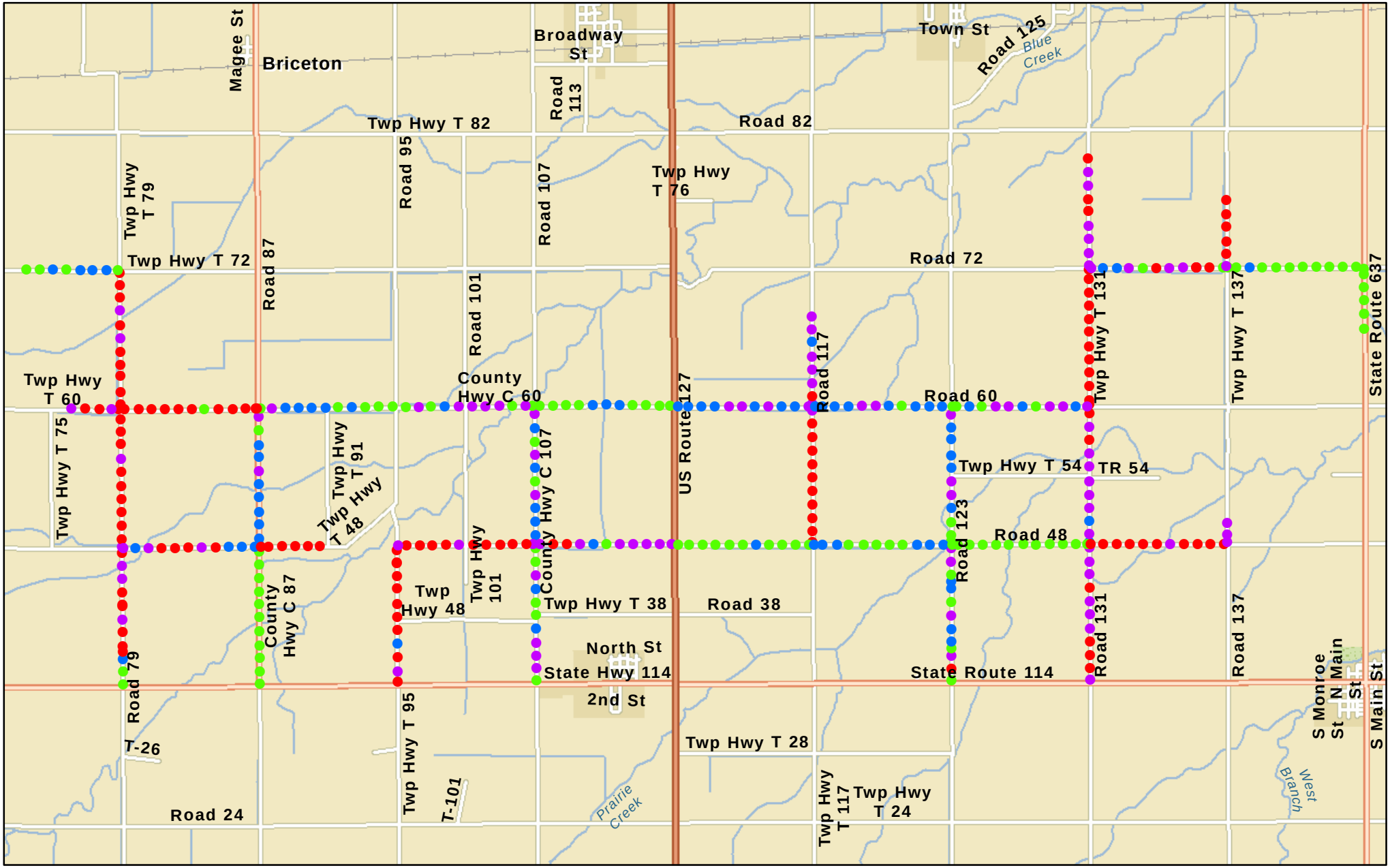
Miles

Figure 2

Pavement Thickness

Northwest Ohio Wind Project
Paulding County, Ohio

DRAWN BY: DRM	CHECKED BY: CH
Date: 9/15/2017	AET NO. 28-01314



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Legend

- 3 - 4 tons/axle
- 5 -6 tons/axle
- 7 - 8 tons/axle
- 9 - 10 tons/axle

1:80,000

1 0.5 0 1

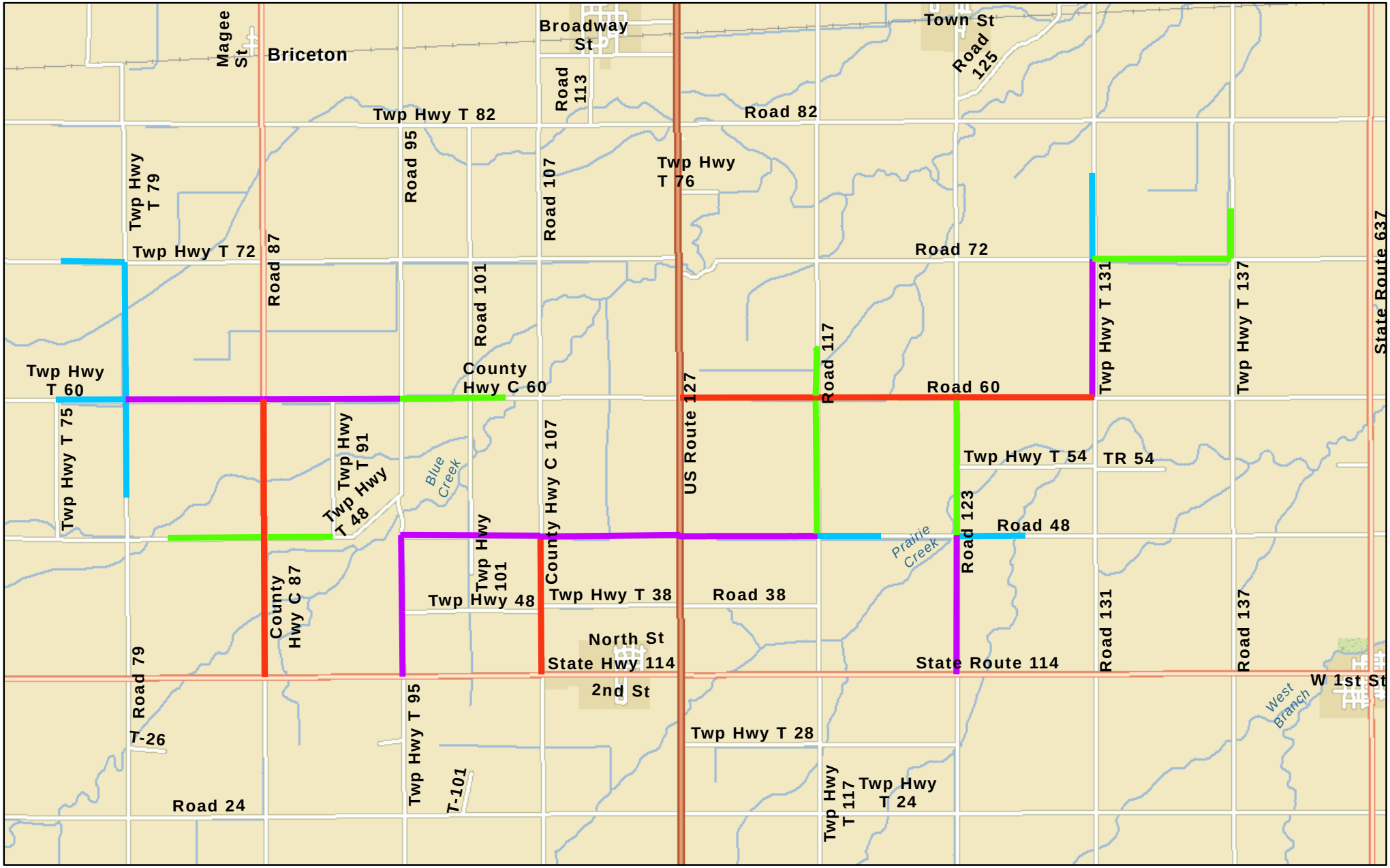
Miles

Figure 3

Spring Load Capacity

Northwest Ohio Wind Project
Paulding County, Ohio

DRAWN BY: DRM	CHECKED BY: CH
Date: 9/15/2017	AET NO. 28-01314



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Legend

- 100 - 500
- 500 - 1,000
- 1,000 - 2,000
- 2,000 - 4,500

1:80,000

1 0.5 0 1

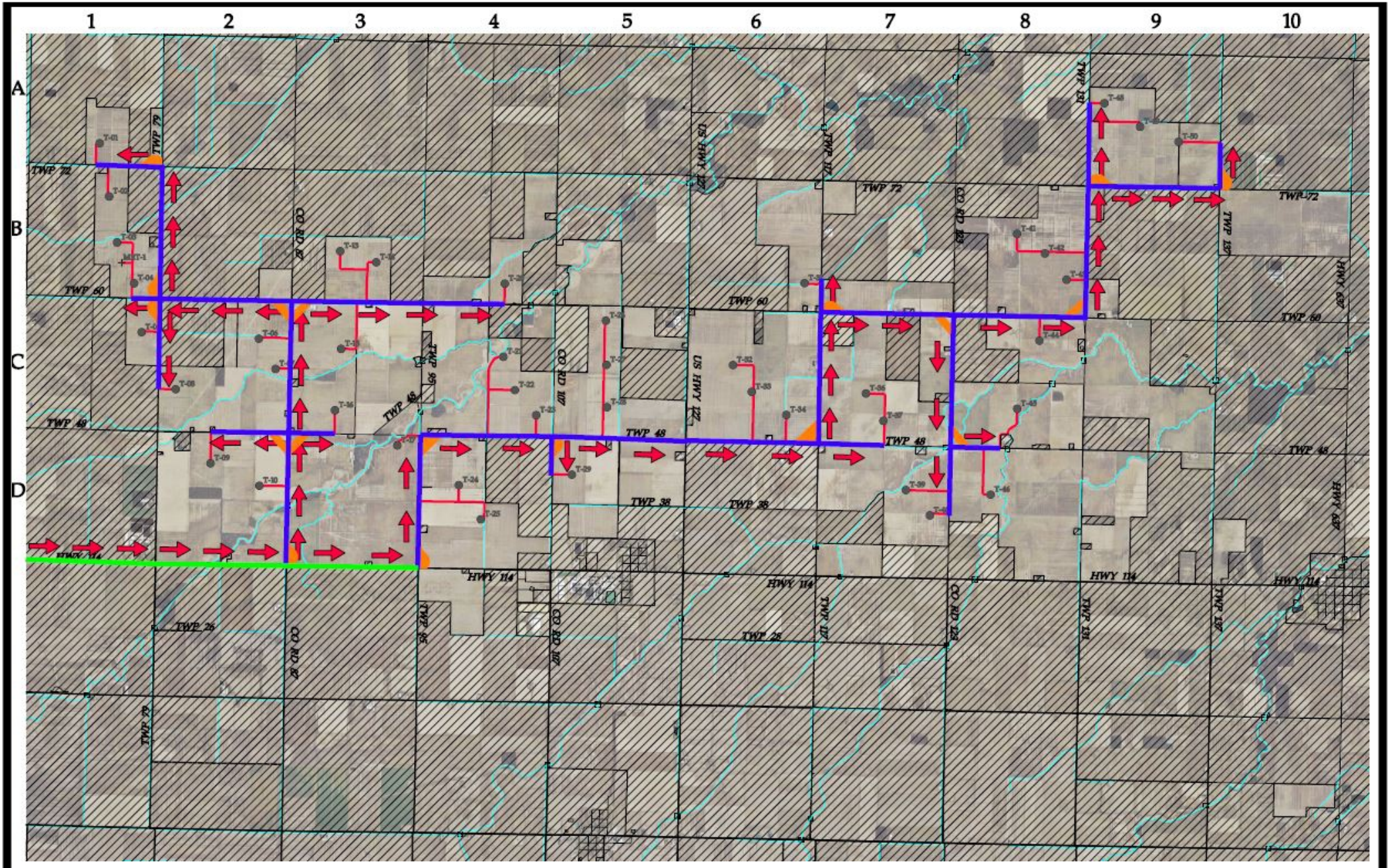
Miles

Figure 4

Haul ESAL

Northwest Ohio Wind Project
Paulding County, Ohio

DRAWN BY: DRM	CHECKED BY: CH
Date: 9/20/2017	AET NO. 28-01314



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Legend

- T-XX — PROPOSED TURBINE LOCATION / PROPOSED TURBINE NUMBER
- PROPOSED ACCESS ROADS
- POTENTIAL HAUL ROAD (COUNTY/TOWNSHIP ROAD)
- POTENTIAL HAUL ROAD (US/STATE HIGHWAY)
- EXISTING DRAINAGE WAY
- OUTSIDE PROJECT BOUNDARY
- DELIVERY DIRECTION

1:80,000

1 0.5 0 1

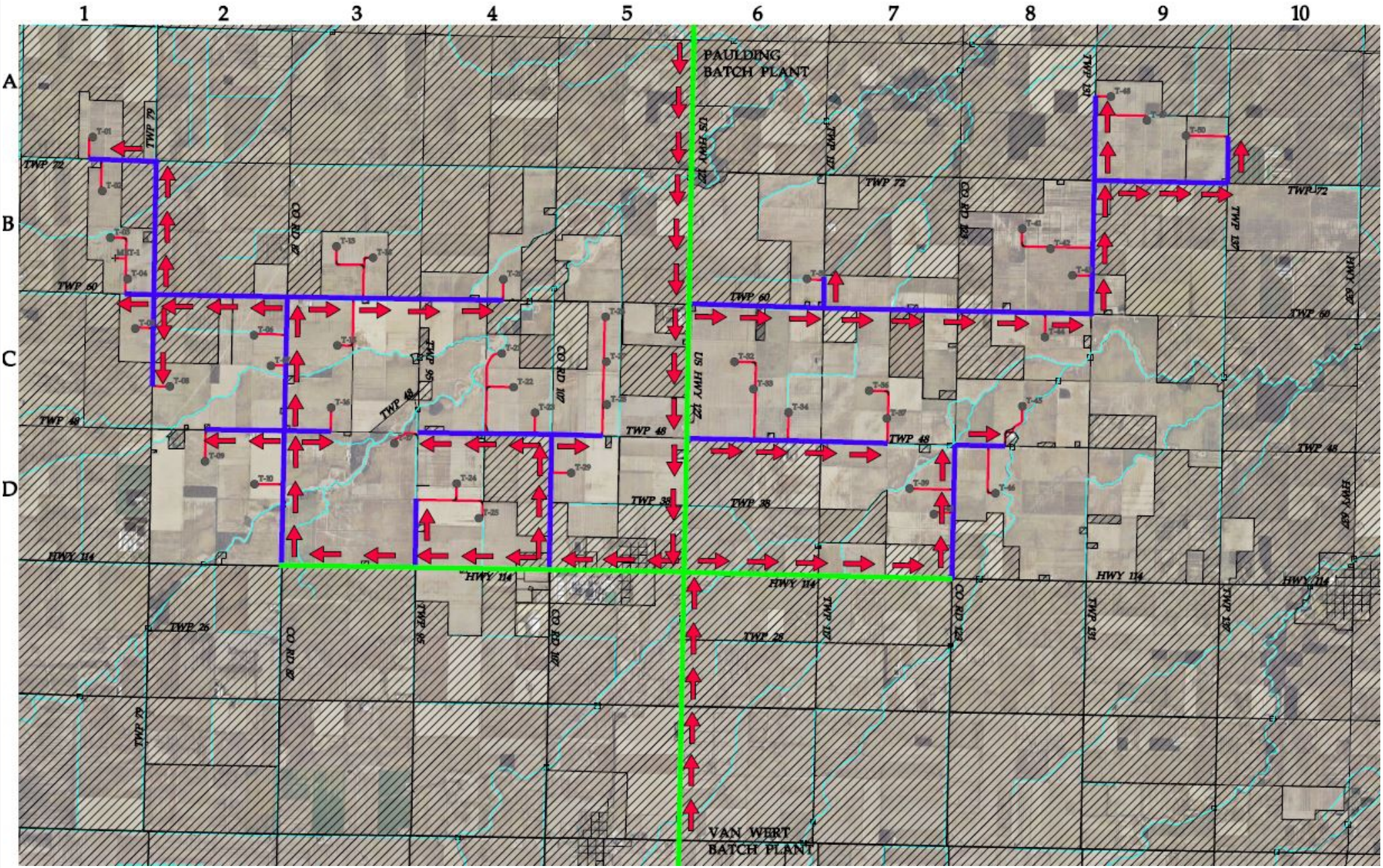
Miles

Figure 5

Turbine Delivery Plan

Northwest Ohio Wind Project
Paulding County, Ohio

DRAWN BY: DRM	CHECKED BY: CH
Date: 9/19/2017	AET NO. 28-01314



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Fax: (651) 659-1379

Legend

- T-XX — PROPOSED TURBINE LOCATION / PROPOSED TURBINE NUMBER
- PROPOSED ACCESS ROADS
- POTENTIAL HAUL ROAD (COUNTY/TOWNSHIP ROAD)
- POTENTIAL HAUL ROAD (US/STATE HIGHWAY)
- EXISTING DRAINAGE WAY
- OUTSIDE PROJECT BOUNDARY
- DELIVERY DIRECTION

1:80,000

1 0.5 0 1

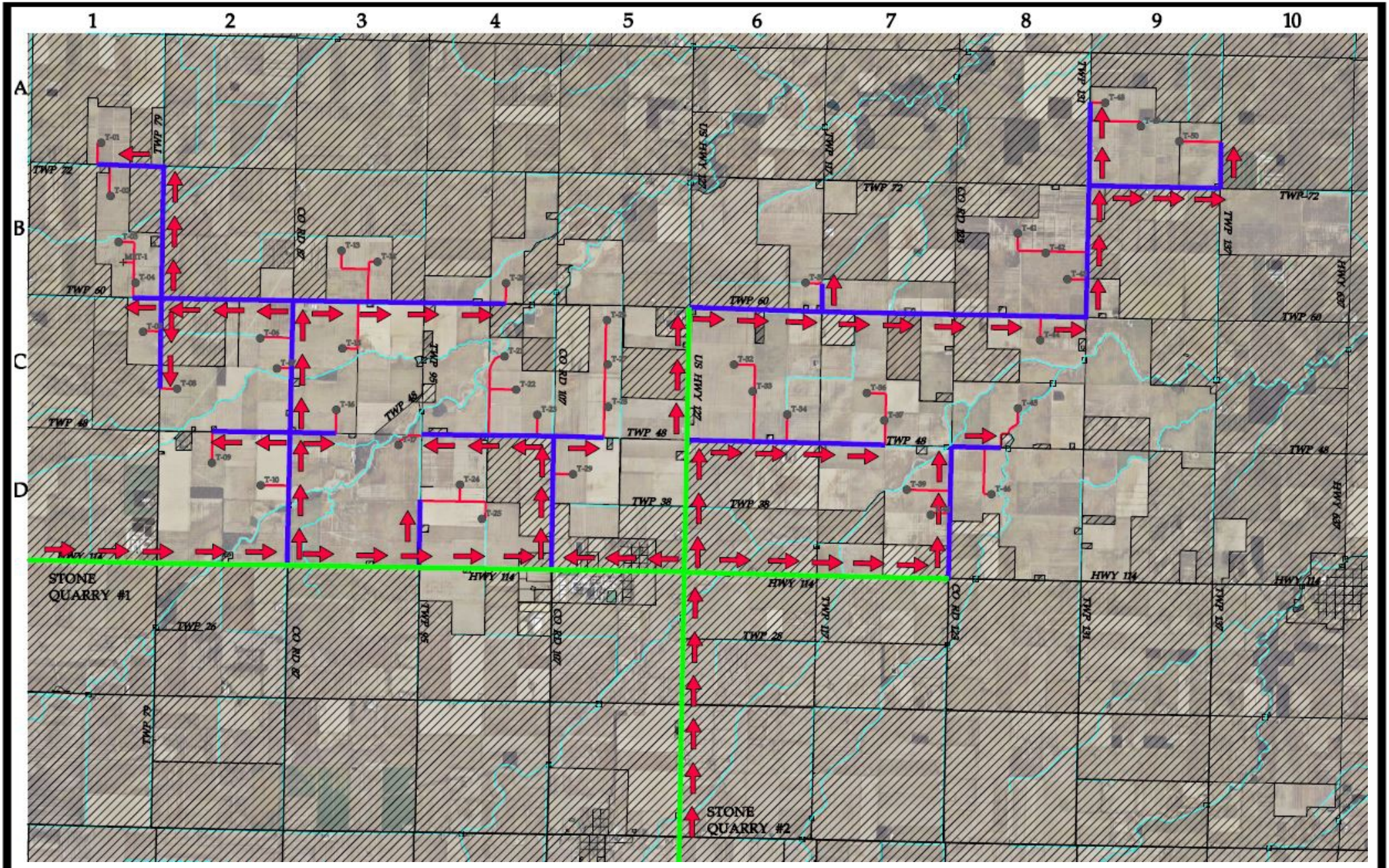
Miles

Figure 6

Concrete Delivery Plan

Northwest Ohio Wind Project
Paulding County, Ohio

DRAWN BY: DRM	CHECKED BY: CH
Date: 9/19/2017	AET NO. 28-01314



AMERICAN ENGINEERING TESTING, INC.
550 Cleveland Avenue North
St. Paul, Minnesota 55114
Phone: (651) 659-9001
Fax: (651) 659-1379

Legend

- T-XX — PROPOSED TURBINE LOCATION / PROPOSED TURBINE NUMBER
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- DELIVERY DIRECTION

1:80,000

1 0.5 0 1

Miles

Figure 7

Aggregate Delivery Plan

Northwest Ohio Wind Project
Paulding County, Ohio

DRAWN BY: DRM	CHECKED BY: CH
Date: 9/19/2017	AET NO. 28-01314

Table

American Engineering Testing, Inc.
550 Cleveland Avenue North
St. Paul, Minnesota 55114
Phone: (651) 659-9001
Fax: (651) 659-1379

CIIENT	**Westwood**	**Date**
OWNER	**Starwood Energy Group**	**9/19/17**
PROJECT	**Northwest Ohio Wind Project**	
REPORT NO.	**28-01314**	
COUNTY	**Paulding County**	
STATE	**Ohio**	

Table 1 – Recommendations of Improvements

Section	Authority	Pavement Type	Length (mi)	Surface Thickness	Base Thickness	Haul ESALs	PCI	Spring Load Capacity	CBR	Overlay (in)	Time*
T-79-C	Blue Creek Township	CS	1.0	1.9	11.5	541	81	3.7	2.7	1.50	D
T-79-B	Blue Creek Township	CS	1.0	2.2	9.7	567	70	3.7	2.6	2.00	D
C-72-1	Paulding County	BP	0.7	6.6	13.9	567	82	8.8	2.5	DN	
C-87-D	Paulding County	BP	1.0	6.0	13.0	4325	68	9.7	3.1	DN	
C-87-C	Paulding County	BP	1.0	6.1	14.0	3475	75	7.0	2.8	DN	
T-95-D	Blue Creek Township	CS	0.5	1.9	14.0	1267	65	3.0	3.2	1.50	D
T-95-D	Blue Creek Township	CS	0.5	1.9	14.0	1267	25	2.3	4.2	1.50	P or D
C-107-D	Paulding County	BP	1.0	9.6	16.0	1910	51	5.9	2.7	DN	
T-117-C	Latty Township	CS	1.0	1.7	8.0	336	77	2.7	3.3	2.50	P or D
T-117-B	Latty Township	CS	0.7	1.7	8.0	272	78	5.0	2.9	1.75	D
C-123-D	Paulding County	BP	1.0	10.1	13.0	1149	75	5.9	2.8	DN	
C-123-C	Paulding County	BP	1.0	10.4	12.0	104	77	6.5	2.5	DN	
T-131-B	Latty Township	GS	1.0	7.5		1763	60	2.5	2.5	4.00	P or D
T-131-A	Latty Township	CS	0.6	3.4	6.8	583	70	4.7	2.7	1.00	D
C-72-9	Latty Township	CS	1.0	2.1	11.7	300	66	4.6	2.5	2.00	D

Section	Authority	Pavement Type	Length (mi)	Surface Thickness	Base Thickness	Haul ESALs	PCI	Spring Load Capacity	CBR	Overlay (in)	Time*
T-137-A	Latty Township	GS	0.5	8.6		300	61	3.1	2.0	2.50	D
T-48-2	Blue Creek Township	CS	1.0	3.9	8.3	287	59	4.6	2.7	1.00	D
T-48-3	Blue Creek Township	CS	0.5	3.9	9.5	279	69	2.9	3.4	1.50	D
C-60-4	Paulding County	BP	1.0	5.2	15.0	275	68	5.7	3.1	DN	
C-60-3	Paulding County	BP	1.0	5.4	12.4	1211	75	7.7	2.4	DN	
C-60-2	Blue Creek Township	CS	1.0	4.5	9.3	1708	83	2.2	3.0	2.00	P or D
C-60-1	Blue Creek Township	CS	0.5	1.5	12.5	596	83	4.9	3.2	1.00	D
C-60-6	Paulding County	BP	1.0	3.4	16.0	2353	73	6.0	2.8	DN	
C-60-7	Paulding County	BP	1.0	3.4	12.0	2417	63	6.9	2.7	DN	
C-60-8	Paulding County	BP	1.0	2.7	12.0	2041	77	5.8	2.9	1.00	D
T-48-5	Blue Creek Township	BP	1.0	4.2	10.0	1361	85	4.8	2.6	1.00	D
T-48-4	Blue Creek Township	CS	0.5	2.6	17.0	1740	85	3.2	3.1	1.00	D
T-48-6	Latty Township	CS	1.0	1.4	14.0	1826	75	9.0	3.0	DN	
T-48-7	Latty Township	BP	1.0	8.5	6.0	586	44	5.6	2.3	UR	D
T-48-8	Latty Township	BP	1.0	4.0	11.9	623	83	9.8	3.2	DN	

Note: DN - Do Nothing; UR -Urgent Rpair

*: P - Prior to Construction; D - During or Post Construction

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CIIENT	**Westwood**	**Date**
OWNER	**Starwood Energy Group**	**9/19/17**
PROJECT	**Northwest Ohio Wind Project**	
REPORT NO.	**28-01314**	
COUNTY	**Paulding County**	
STATE	**Ohio**	

Table 2 Cost Estimates

Roadway	Termini		Length (miles)	Haul ESAL	20-year Design ESAL	Percent ESAL	Cost ($)	
	From	To					Total	At Percent ESAL
T-79	T-48	C-60	1.0	541	27,276	2.0%	$ 90,000.00	$ 1,785.06
T-79	C-60	C-72	1.0	567	27,276	2.1%	$ 119,000.00	$ 2,473.67
T-95	SR 114	T-48	1.0	1267	27,276	4.6%	$ 90,000.00	$ 4,180.53
T-117	T-48	C-60	1.0	310	27,276	1.1%	$ 147,000.00	$ 1,670.67
T-117	C-60	T-72	1.0	272	27,276	1.0%	$ 104,000.00	$ 1,037.09
T-131	C-60	T-72	1.0	1763	27,276	6.5%	$ 85,000.00	$ 5,493.93
T-131	T-72	T-82	1.0	583	27,276	2.1%	$ 62,000.00	$ 1,325.17
C-72	T-131	T-137	1.0	300	63,645	0.5%	$ 119,000.00	$ 560.92
T-137	C-72	T-72	1.0	300	27,276	1.1%	$ 55,000.00	$ 604.92
T-48	T-79	C-87	1.0	287	27,276	1.1%	$ 62,000.00	$ 652.36
T-48	C-87	T-91	1.0	279	27,276	1.0%	$ 90,000.00	$ 920.57
C-60	C-87	T-79	1.0	1708	27,276	6.3%	$ 119,000.00	$ 7,451.56
C-60	T-79	T-75	1.0	596	27,276	2.2%	$ 62,000.00	$ 1,354.72
C-60	C-123	T-131	1.0	2041	81,829	2.5%	$ 62,000.00	$ 1,546.41
T-48	US 127	C-107	1.0	1335	27,276	4.9%	$ 62,000.00	$ 3,034.49
T-48	C-107	T-95	1.0	1740	27,276	6.4%	$ 62,000.00	$ 3,955.06
Total			16.0	2015			$ 1,390,000.00	$ 38,047.13
				2017			$ 1,503,424.00	$ 41,151.78

Appendix A

Geotechnical Field Exploration and Testing
Boring Log Notes
AASHTO Soil Classification System
Unified Soil Classification System
Subsurface Boring Logs

Appendix A
Geotechnical Field Exploration and Testing
Report No. 28-01314

A.1 FIELD EXPLORATION

The subsurface conditions at the site were explored by drilling and sampling 67 Geoprobe soil borings. The locations of the borings appear on Figure 1, preceding the Subsurface Boring Logs in this appendix.

A.2 SAMPLING METHODS

A.2.1 Split-Spoon Samples (SS) - Calibrated to N_{60} Values

Standard penetration (split-spoon) samples were collected in general accordance with ASTM: D1586 with one primary modification. The ASTM test method consists of driving a 2-inch O.D. split-barrel sampler into the in-situ soil with a 140-pound hammer dropped from a height of 30 inches. The sampler is driven a total of 18 inches into the soil. After an initial set of 6 inches, the number of hammer blows to drive the sampler the final 12 inches is known as the standard penetration resistance or N-value. Our method uses a modified hammer weight, which is determined by measuring the system energy using a Pile Driving Analyzer (PDA) and an instrumented rod.

In the past, standard penetration N-value tests were performed using a rope and cathead for the lift and drop system. The energy transferred to the split-spoon sampler was typically limited to about 60% of its potential energy due to the friction inherent in this system. This converted energy then provides what is known as an N_{60} blow count.

The most recent drill rigs incorporate an automatic hammer lift and drop system, which has higher energy efficiency and subsequently results in lower N-values than the traditional N_{60} values. By using the PDA energy measurement equipment, we are able to determine actual energy generated by the drop hammer. With the various hammer systems available, we have found highly variable energies ranging from 55% to over 100%. Therefore, the intent of AET's hammer calibrations is to vary the hammer weight such that hammer energies lie within about 60% to 65% of the theoretical energy of a 140-pound weight falling 30 inches. The current ASTM procedure acknowledges the wide variation in N-values, stating that N-values of 100% or more have been observed. Although we have not yet determined the statistical measurement uncertainty of our calibrated method to date, we can state that the accuracy deviation of the N-values using this method is significantly better than the standard ASTM Method.

A.2.2 Disturbed Samples (DS)/Spin-up Samples (SU)

Sample types described as "DS" or "SU" on the boring logs are disturbed samples, which are taken from the flights of the auger. Because the auger disturbs the samples, possible soil layering and contact depths should be considered approximate.

A.2.3 Sampling Limitations

Unless actually observed in a sample, contacts between soil layers are estimated based on the spacing of samples and the action of drilling tools. Cobbles, boulders, and other large objects generally cannot be recovered from test borings, and they may be present in the ground even if they are not noted on the boring logs.

Determining the thickness of "topsoil" layers is usually limited, due to variations in topsoil definition, sample recovery, and other factors. Visual-manual description often relies on color for determination, and transitioning changes can account for significant variation in thickness judgment. Accordingly, the topsoil thickness presented on the logs should not be the sole basis for calculating topsoil stripping depths and volumes. If more accurate information is needed relating to thickness and topsoil quality definition, alternate methods of sample retrieval and testing should be employed.

A.3 CLASSIFICATION METHODS

Soil descriptions shown on the boring logs are based on the Unified Soil Classification (USC) system. The USC system is described in ASTM: D2487 and D2488. Where laboratory classification tests (sieve analysis or Atterberg Limits) have been performed, accurate classifications per ASTM: D2487 are possible. Otherwise, soil descriptions shown on the boring logs are visual-manual judgments. Charts are attached which provide information on the USC system, the descriptive terminology, and the symbols used on the boring logs.

Visual-manual judgment of the AASHTO Soil Group is also noted as a part of the soil description. A chart presenting details of the AASHTO Soil Classification System is also attached.

The boring logs include descriptions of apparent geology. The geologic depositional origin of each soil layer is interpreted primarily by observation of the soil samples, which can be limited. Observations of the surrounding topography, vegetation, and development can sometimes aid this judgment.

A.4 WATER LEVEL MEASUREMENTS

The ground water level measurements are shown at the bottom of the boring logs. The following information appears under "Water Level Measurements" on the logs:

- Date and Time of measurement
- Sampled Depth: lowest depth of soil sampling at the time of measurement
- Casing Depth: depth to bottom of casing or hollow-stem auger at time of measurement
- Cave-in Depth: depth at which measuring tape stops in the borehole
- Water Level: depth in the borehole where free water is encountered
- Drilling Fluid Level: same as Water Level, except that the liquid in the borehole is drilling fluid

The true location of the water table at the boring locations may be different than the water levels measured in the boreholes. This is possible because there are several factors that can affect the water level measurements in the borehole. Some of these factors include: permeability of each soil layer in profile, presence of perched water, amount of time between water level readings, presence of drilling fluid, weather conditions, and use of borehole casing.

A.5 LABORATORY TEST METHODS

A.5.1 Water Content Tests
Conducted per AET Procedure 01-LAB-010, which is performed in general accordance with ASTM: D2216 and AASHTO: T265.

A.5.2 Atterberg Limits Tests
Conducted per AET Procedure 01-LAB-030, which is performed in general accordance with ASTM: D4318 and AASHTO: T89, T90.

A.5.3 Sieve Analysis of Soils (thru #200 Sieve)
Conducted per AET Procedure 01-LAB-040, which is performed in general conformance with ASTM: D6913, Method A.

A.5.4 Particle Size Analysis of Soils (with hydrometer)
Conducted per AET Procedure 01-LAB-050, which is performed in general accordance with ASTM: D422 and AASHTO: T88.

A.5.5 Unconfined Compressive Strength of Cohesive Soil
Conducted per AET Procedure 01-LAB-080, which is performed in general accordance with ASTM: D2166 and AASHTO: T208.

A.5.6 Laboratory Soil Resistivity using the Wenner Four-Electrode Method
Conducted per AET Procedure 01-LAB-090, which is performed using Soil Box apparatus in the laboratory in general accordance with ASTM: G57

A.6 TEST STANDARD LIMITATIONS

Field and laboratory testing is done in general conformance with the described procedures. Compliance with any other standards referenced within the specified standard is neither inferred nor implied.

A.7 SAMPLE STORAGE

Unless notified to do otherwise, we routinely retain representative samples of the soils recovered from the borings for a period of 30 days.

BORING LOG NOTES

DRILLING AND SAMPLING SYMBOLS

Symbol	Definition
B,H,N:	Size of flush-joint casing
CA:	Crew Assistant (initials)
CAS:	Pipe casing, number indicates nominal diameter in inches
CC:	Crew Chief (initials)
COT:	Clean-out tube
DC:	Drive casing; number indicates diameter in inches
DM:	Drilling mud or bentonite slurry
DR:	Driller (initials)
DS:	Disturbed sample from auger flights
FA:	Flight auger; number indicates outside diameter in inches
HA:	Hand auger; number indicates outside diameter
HSA:	Hollow stem auger; number indicates inside diameter in inches
LG:	Field logger (initials)
MC:	Column used to describe moisture condition of samples and for the ground water level symbols
N (BPF):	Standard penetration resistance (N-value) in blows per foot (see notes)
NQ:	NQ wireline core barrel
PQ:	PQ wireline core barrel
RD:	Rotary drilling with fluid and roller or drag bit
REC:	In split-spoon (see notes) and thin-walled tube sampling, the recovered length (in inches) of sample. In rock coring, the length of core recovered (expressed as percent of the total core run). Zero indicates no sample recovered.
REV:	Revert drilling fluid
SS:	Standard split-spoon sampler (steel; 1⅜" is inside diameter; 2" outside diameter); unless indicated otherwise
SU	Spin-up sample from hollow stem auger
TW:	Thin-walled tube; number indicates inside diameter in inches
WASH:	Sample of material obtained by screening returning rotary drilling fluid or by which has collected inside the borehole after "falling" through drilling fluid
WH:	Sampler advanced by static weight of drill rod and 140-pound hammer
WR:	Sampler advanced by static weight of drill rod
94mm:	94 millimeter wireline core barrel
▼:	Water level directly measured in boring
▽:	Estimated water level based solely on sample appearance

TEST SYMBOLS

Symbol	Definition
CONS:	One-dimensional consolidation test
DEN:	Dry density, pcf
DST:	Direct shear test
E:	Pressuremeter Modulus, tsf
HYD:	Hydrometer analysis
LL:	Liquid Limit, %
LP:	Pressuremeter Limit Pressure, tsf
OC:	Organic Content, %
PERM:	Coefficient of permeability (K) test; F - Field; L - Laboratory
PL:	Plastic Limit, %
q_p:	Pocket Penetrometer strength, tsf (approximate)
q_c:	Static cone bearing pressure, tsf
q_u:	Unconfined compressive strength, psf
R:	Electrical Resistivity, ohm-cms
RQD:	Rock Quality Designation of Rock Core, in percent (aggregate length of core pieces 4" or more in length as a percent of total core run)
SA:	Sieve analysis
TRX:	Triaxial compression test
VSR:	Vane shear strength, remoulded (field), psf
VSU:	Vane shear strength, undisturbed (field), psf
WC:	Water content, as percent of dry weight
%-200:	Percent of material finer than #200 sieve

STANDARD PENETRATION TEST NOTES

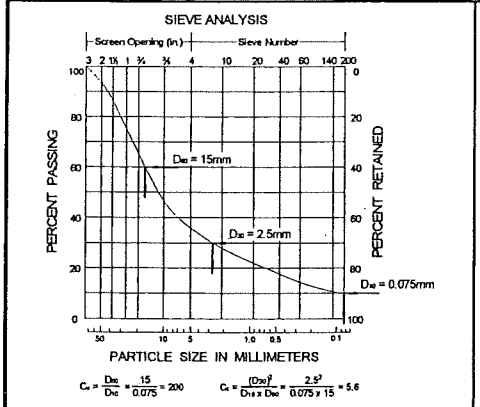
The standard penetration test consists of driving the sampler with a 140 pound hammer and counting the number of blows applied in each of three 6" increments of penetration. If the sampler is driven less than 18" (usually in highly resistant material), permitted in ASTM:D1586, the blows for each complete 6" increment and for each partial increment is on the boring log. For partial increments, the number of blows is shown to the nearest 0.1' below the slash.

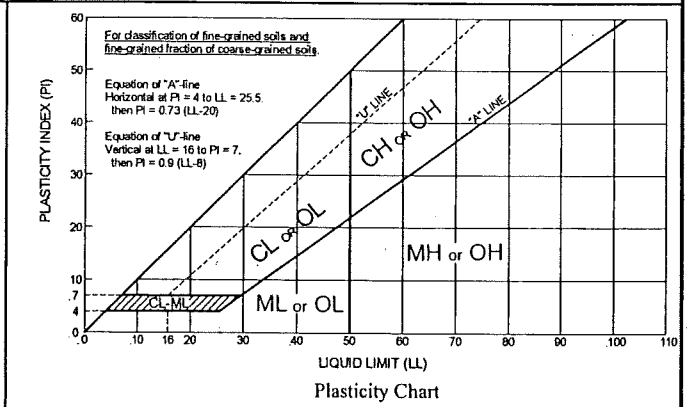
The length of sample recovered, as shown on the "REC" column, may be greater than the distance indicated in the N column. The disparity is because the N-value is recorded below the initial 6" set (unless partial penetration defined in ASTM:D1586 is encountered) whereas the length of sample recovered is for the entire sampler drive (which may even extend more than 18").

UNIFIED SOIL CLASSIFICATION SYSTEM
ASTM Designations: D 2487, D2488

AMERICAN ENGINEERING TESTING, INC.

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests[A]				Soil Classification: Group Symbol	Soil Classification: Group Name[B]
Coarse-Grained Soils More than 50% retained on No. 200 sieve	Gravels More than 50% coarse fraction retained on No. 4 sieve	Clean Gravels Less than 5% fines[C]	$Cu \geq 4$ and $1 \leq Cc \leq 3^E$	GW	Well graded gravel[F]
			$Cu < 4$ and/or $1 > Cc > 3^E$	GP	Poorly graded gravel[F]
		Gravels with Fines more than 12% fines[C]	Fines classify as ML or MH	GM	Silty gravel[F,G,H]
			Fines classify as CL or CH	GC	Clayey gravel[F,G,H]
	Sands 50% or more of coarse fraction passes No. 4 sieve	Clean Sands Less than 5% fines[D]	$Cu \geq 6$ and $1 \leq Cc \leq 3^E$	SW	Well-graded sand[I]
			$Cu < 6$ and/or $1 > Cc > 3^E$	SP	Poorly-graded sand[I]
		Sands with Fines more than 12% fines[D]	Fines classify as ML or MH	SM	Silty sand[G,H,I]
			Fines classify as CL or CH	SC	Clayey sand[G,H,I]
Fine-Grained Soils 50% or more passes the No. 200 sieve (see Plasticity Chart below)	Silts and Clays Liquid limit less than 50	inorganic	PI>7 and plots on or above "A" line[J]	CL	Lean clay[K,L,M]
			PI<4 or plots below "A" line[J]	ML	Silt[K,L,M]
		organic	Liquid limit–oven dried / Liquid limit – not dried < 0.75	OL	Organic clay[K,L,M,N] / Organic silt[K,L,M,O]
	Silts and Clays Liquid limit 50 or more	inorganic	PI plots on or above "A" line	CH	Fat clay[K,L,M]
			PI plots below "A" line	MH	Elastic silt[K,L,M]
		organic	Liquid limit–oven dried / Liquid limit – not dried < 0.75	OH	Organic clay[K,L,M,P] / Organic silt[K,L,M,Q]
Highly organic soil			Primarily organic matter, dark in color, and organic in odor	PT	Peat[R]





Plasticity Chart

Notes

[A]Based on the material passing the 3-in (75-mm) sieve.

[B]If field sample contained cobbles or boulders, or both, add "with cobbles or boulders, or both" to group name.

[C]Gravels with 5 to 12% fines require dual symbols:
GW-GM well-graded gravel with silt
GW-GC well-graded gravel with clay
GP-GM poorly graded gravel with silt
GP-GC poorly graded gravel with clay

[D]Sands with 5 to 12% fines require dual symbols:
SW-SM well-graded sand with silt
SW-SC well-graded sand with clay
SP-SM poorly graded sand with silt
SP-SC poorly graded sand with clay

[E]$Cu = D_{60}/D_{10}$, $Cc = \frac{(D_{30})^2}{D_{10} \times D_{60}}$

[F]If soil contains ≥15% sand, add "with sand" to group name.

[G]If fines classify as CL-ML, use dual symbol GC-GM, or SC-SM.

[H]If fines are organic, add "with organic fines" to group name.

[I]If soil contains ≥15% gravel, add "with gravel" to group name.

[J]If Atterberg limits plot is hatched area, soils is a CL-ML silty clay.

[K]If soil contains 15 to 29% plus No. 200 add "with sand" or "with gravel", whichever is predominant.

[L]If soil contains ≥30% plus No. 200, predominantly sand, add "sandy" to group name.

[M]If soil contains ≥30% plus No. 200, predominantly gravel, add "gravelly" to group name.

[N]PI≥4 and plots on or above "A" line.

[O]PI<4 or plots below "A" line.

[P]PI plots on or above "A" line.

[Q]PI plots below "A" line.

[R]Fiber Content description shown below.

ADDITIONAL TERMINOLOGY NOTES USED BY AET FOR SOIL IDENTIFICATION AND DESCRIPTION

Grain Size

Term	Particle Size
Boulders	Over 12"
Cobbles	3" to 12"
Gravel	#4 sieve to 3"
Sand	#200 to #4 sieve
Fines (silt & clay)	Pass #200 sieve

Gravel Percentages

Term	Percent
A Little Gravel	3% - 14%
With Gravel	15% - 29%
Gravelly	30% - 50%

Consistency of Plastic Soils

Term	N-Value, BPF
Very Soft	less than 2
Soft	2 - 4
Firm	5 - 8
Stiff	9 - 15
Very Stiff	16 - 30
Hard	Greater than 30

Relative Density of Non-Plastic Soils

Term	N-Value, BPF
Very Loose	0 - 4
Loose	5 - 10
Medium Dense	11 - 30
Dense	31 - 50
Very Dense	Greater than 50

Moisture/Frost Condition (MC Column)

D (Dry): Absense of moisture, dusty, dry to touch.

M (Moist): Damp, although free water not visible. Soil may still have a high water content (over "optimum").

W (Wet/ Waterbearing): Free water visible intended to describe non-plastic soils. Waterbearing usually relates to sands and sand with silt.

F (Frozen): Soil frozen

Layering Notes

Laminations: Layers less than ½" thick of differing material or color.

Lenses: Pockets or layers greater than ½" thick of differing material or color.

Peat Description

Term	Fiber Content (Visual Estimate)
Fibric Peat:	Greater than 67%
Hemic Peat:	33 – 67%
Sapric Peat:	Less than 33%

Organic Description (if no lab tests)

Soils are described as *organic*, if soil is not peat and is judged to have sufficient organic fines content to influence the Liquid Limit properties. *Slightly organic* used for borderline cases.

Root Inclusions

With roots: Judged to have sufficient quantity of roots to influence the soil properties.

Trace roots: Small roots present, but not judged to be in sufficient quantity to significantly affect soil properties.

AASHTO SOIL CLASSIFICATION SYSTEM

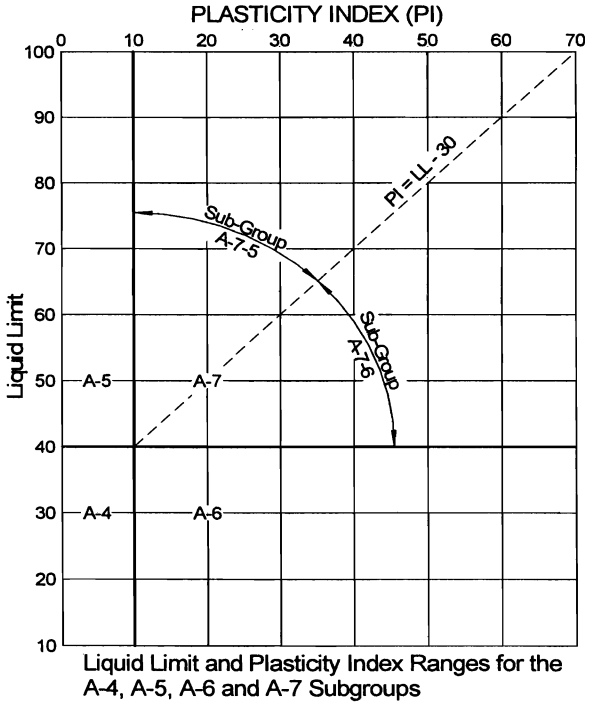
AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS

Classification of Soils and Soil-Aggregate Mixtures

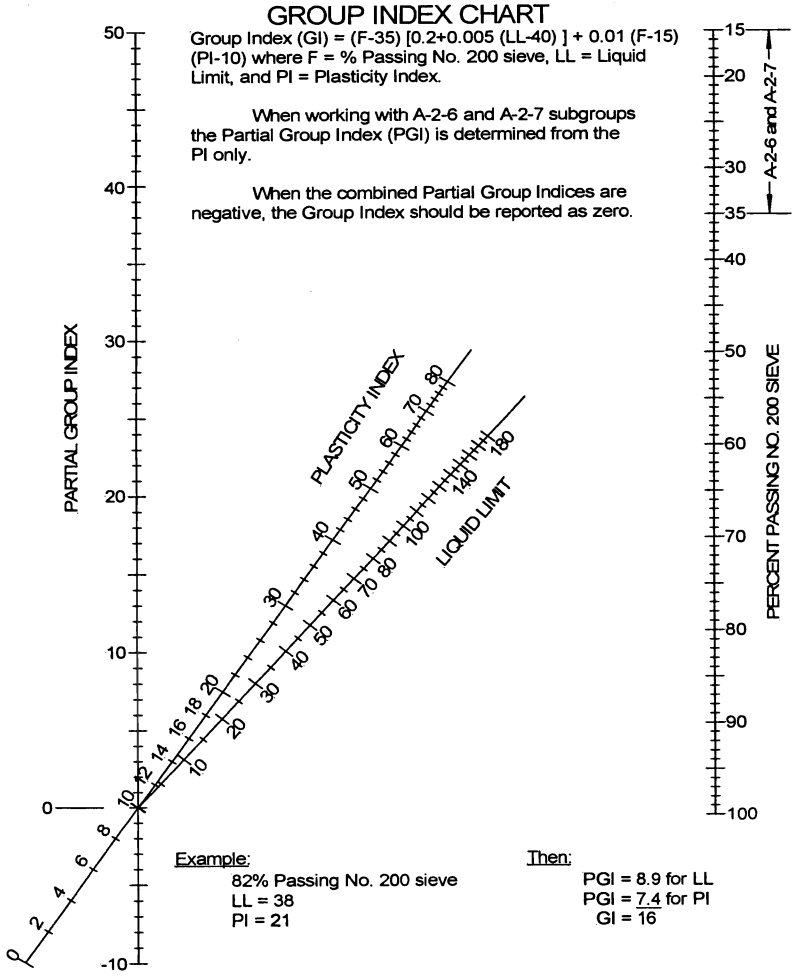
General Classification	Granular Materials (35% or less passing No. 200 sieve)							Silt-Clay Materials (More than 35% passing No. 200 sieve)			
Group Classification	A-1		A-3	A-2				A-4	A-5	A-6	A-7
	A-1-a	A-1-b		A-2-4	A-2-5	A-2-6	A-2-7				A-7-5 A-7-6
Sieve Analysis, Percent passing:											
No. 10 (2.00 mm)	50 max.	....	....	....	....	....	....	....	....	....	....
No. 40 (0.425 mm)	30 max.	50 max.	51 min.	....	....	....	....	....	....	....	....
No. 200 (0.075 mm)	15 max.	25 max.	10 max.	35 max.	35 max.	35 max.	35 max.	36 min.	36 min.	36 min.	36 min.
Characteristics of Fraction Passing No. 40 (0.425 mm)											
Liquid limit	....		....	40 max.	41 min.	40 max.	41 min.	40 max.	41 min.	40 max.	41 min.
Plasticity index	6 max.		N.P.	10 max.	10 max.	11 min.	11 min.	10 max.	10 max.	11 min.	11 min.
Usual Types of Significant Constituent Materials	Stone Fragments, Gravel and Sand		Fine Sand	Silty or Clayey Gravel and Sand				Silty Soils		Clayey Soils	
General Ratings as Subgrade	Excellent to Good							Fair to Poor			

The placing of A-3 before A-2 is necessary in the "left to right elimination process" and does not indicate superiority of A-3 over A-2.

Plasticity index of A-7-5 subgroup is equal to or less than LL minus 30. Plasticity index of A-7-6 subgroup is greater than LL minus 30.



Liquid Limit and Plasticity Index Ranges for the A-4, A-5, A-6 and A-7 Subgroups



Definitions of Gravel, Sand and Silt-Clay

The terms "gravel", "coarse sand", "fine sand" and "silt-clay", as determinable from the minimum test data required in this classification arrangement and as used in subsequent word descriptions are defined as follows:

GRAVEL - Material passing sieve with 3-in. square openings and retained on the No. 10 sieve.

COARSE SAND - Material passing the No. 10 sieve and retained on the No. 40 sieve.

FINE SAND - Material passing the No. 40 sieve and retained on the No. 200 sieve.

COMBINED SILT AND CLAY - Material passing the No. 200 sieve

BOULDERS (retained on 3-in. sieve) should be excluded from the portion of the sample to which the classificaiton is applied, but the percentage of such material, if any, in the sample should be recorded.

The term "silty" is applied to fine material having plasticity index of 10 or less and the term "clayey" is applied to fine material having plasticity index of 11 or greater.

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-1 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	8.5" Bituminous	FILL									
1	17.5" FILL, gravel with silt and sand, brown (A-1-b)										
2						31					
	FAT CLAY, greenish brown, slightly mottled (CH) (A-7-6)	FINE ALLUVIUM									
3											
	END OF BORING										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-3.8'	**Direct Push**							
BORING COMPLETED:	**10/15/14**							
DR: **AJ/SD** LG:	Rig: **R26**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-2 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	3.5" Bituminous	FILL									
	10" FILL, gravel with silt and sand, tan (A-1-b)										
1	FAT CLAY, greenish brown, slightly mottled (CH) (A-7-6)	FINE ALLUVIUM									
2						42					
3											
	END OF BORING										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-3.8'	**Direct Push**							
BORING COMPLETED:	**10/15/14**							
DR: **AJ/SD** LG:	Rig: **R26**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-3 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	3" Bituminous	FILL									
	12" FILL, gravel with silt and sand, tan (A-1-b)										
1											
	FAT CLAY, greenish brown, slightly mottled (CH) (A-7-6)	FINE ALLUVIUM									
2						43					
3											
	END OF BORING										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS							NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL	
0-3.8'	**Direct Push**								
BORING COMPLETED:	**10/15/14**								
DR: **AJ/SD** LG:	Rig: **R26**								

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-4 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	3" Bituminous	FILL									
	10" FILL, gravel with silt and sand, tan (A-1-b)										
1	FAT CLAY, greenish brown to brown, slightly mottled (CH) (A-7-6)	FINE ALLUVIUM									
2						44					
3											
	END OF BORING										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-3.8'	**Direct Push**							
BORING COMPLETED:	**10/15/14**							
DR: **AJ/SD** LG:	Rig: **R26**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-5 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	2" Bituminous										
	12" FILL, gravel with silt and sand, tan (A-1-b)	FILL									
1											
	FAT CLAY, grayish brown to brown, slightly mottled (CH) (A-7-6)	FINE ALLUVIUM									
2						38					
3											
	END OF BORING										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-3.8'	**Direct Push**							
BORING COMPLETED:	**10/15/14**							
DR: **AJ/SD** LG:	Rig: **R26**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-6 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	2.75" Bituminous										
	10" FILL, gravel with silt and sand, tan (A-1-b)	FILL									
1	FAT CLAY, greenish brown, slightly mottled, organics from 1.5'-1.75' (CH) (A-7-6)	FINE ALLUVIUM									
2						40					
3											
	END OF BORING										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-3.8'	**Direct Push**							
BORING COMPLETED:	**10/15/14**							
DR: **AJ/SD** LG:	Rig: **R26**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-7 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	2" Bituminous										
	10" FILL, gravel with silt and sand, tan (A-1-b)	FILL									
1	FAT CLAY, greenish brown to brown, slightly mottled (CH) (A-7-6)	FINE ALLUVIUM									
						35	25		59	24	
2											
3											
	END OF BORING										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS							NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL	
0-3.8'	**Direct Push**								
BORING COMPLETED:	**10/15/14**								
DR: **AJ/SD** LG:	Rig: **R26**								

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-8 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	1" Bituminous 10.5" FILL, gravel with silt and sand, light brown (A-1-b)	FILL									
1	FAT CLAY, greenish brown to light brown, slight mottling (CH) (A-7-6)	FINE ALLUVIUM									
2						40					
3											
	END OF BORING										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS							NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL	
0-3.8'	**Direct Push**								
BORING COMPLETED:	**10/15/14**								
DR: **AJ/SD** LG:	Rig: **R26**								

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-9 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	2" Bituminous 9" FILL, gravel with silt and sand, tan (A-1-b)	FILL									
1	FAT CLAY, greenish brown to brown, slightly mottled (CH) (A-7-6)	FINE ALLUVIUM									
2						37					
3											
	END OF BORING										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS							NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL	
0-3.8'	**Direct Push**								
BORING COMPLETED:	**10/15/14**								
DR: **AJ/SD** LG:	Rig: **R26**								

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-10 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	3" Bituminous	FILL									
	9.5" FILL, gravel with silt and sand, tan (A-1-b)										
1	FAT CLAY, greenish brown to brown, slightly mottled (CH) (A-7-6)	FINE ALLUVIUM									
2						34					
3											
	END OF BORING										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS							NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL	
0-3.8'	**Direct Push**								
BORING COMPLETED:	**10/15/14**								
DR: **AJ/SD** LG:	Rig: **R26**								

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-11 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	5" Bituminous	FILL									
1	16" FILL, sand with silt and gravel, tan (A-1-b)										
2	FAT CLAY, greenish brown, slight mottling (CH) (A-7-6)	FINE ALLUVIUM				41					
3											
	END OF BORING										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-3.8'	**Direct Push**							
BORING COMPLETED:	**10/15/14**							
DR: **AJ/SD** LG:	Rig: **R26**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-12 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	5.25" Bituminous	FILL									
	8" FILL, clayey gravel with sand, recycled bituminous material, dark brown (A-1-b)										
1	FILL, poorly graded sand with silt and gravel, tan (A-1-b)										
2						34					
3											
	END OF BORING										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS							NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL	
0-3.8'	**Direct Push**								
BORING COMPLETED:	**10/15/14**								
DR: **AJ/SD** LG:	Rig: **R26**								

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-13 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	6" Bituminous	FILL									
1	16" FILL, sand with silt and gravel, tan (A-1-b)										
2	FAT CLAY, greenish brown to brown, slightly mottled (CH) (A-7-6)	FINE ALLUVIUM				44					
3											
	END OF BORING										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS							NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL	
0-3.8'	**Direct Push**								
BORING COMPLETED:	**10/15/14**								
DR: **AJ/SD** LG:	Rig: **R26**								

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-14 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	6.5" Bituminous	FILL									
1	14" FILL, gravel with silt and sand, tan (A-1-b)										
2	FAT CLAY, greenish brown to brown, slightly mottled (CH) (A-7-6)	FINE ALLUVIUM				39					
3											
	END OF BORING										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-3.8'	**Direct Push**							
BORING COMPLETED:	**10/15/14**							
DR: **AJ/SD** LG:	Rig: **R26**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-15 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	11" Bituminous	FILL									
1	18" FILL, gravel with silt and sand, brown to tan (A-1-b)										
2						43					
3	FAT CLAY, greenish brown to brown, slightly mottled (CH) (A-7-6)	FINE ALLUVIUM									
	END OF BORING										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-3.8'	**Direct Push**							
BORING COMPLETED:	**10/15/14**							
DR: **AJ/SD** LG:	Rig: **R26**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-16 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	10" Bituminous	FILL									
1	16" FILL, gravel with silt and sand, tan (A-1-b)										
2						44					
	FAT CLAY, greenish brown, slightly mottled (CH) (A-7-6)	FINE ALLUVIUM									
3											
	END OF BORING										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-3.8'	**Direct Push**							
BORING COMPLETED:	**10/15/14**							
DR: **AJ/SD** LG:	Rig: **R26**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-17 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	6" Bituminous	FILL									
1	6" FILL, sand with silt and gravel, clayey sand with gravel, tan to brown (A-1-b)										
2						38					
	FAT CLAY, greenish brown, slightly mottled (CH) (A-7-6)	FINE ALLUVIUM									
3											
	END OF BORING										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-3.8'	**Direct Push**							
BORING COMPLETED:	**10/15/14**							
DR: **AJ/SD** LG:	Rig: **R26**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-18 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	5.5" Bituminous	FILL									
1	14" FILL, gravel with silt and sand, tan (A-1-b)										
2	FAT CLAY, greenish brown, slightly mottled (CH) (A-7-6)	FINE ALLUVIUM				41					
3											
	END OF BORING										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS							NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL	
0-3.8'	**Direct Push**								
BORING COMPLETED:	**10/15/14**								
DR: **AJ/SD** LG:	Rig: **R26**								

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-19 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	3.5" Bituminous	FILL									
	7.5" FILL, gravel with silt and sand, tan (A-1-b)										
1	Reclaimed bituminous materials, black										
	FILL, gravel with sand and silt, tan (A-1-b)	FINE ALLUVIUM									
	FAT CLAY, greenish brown, slightly mottled (CH) (A-7-6)										
2						36					
3											
	END OF BORING										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS							NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL	
0-3.8'	**Direct Push**								
BORING COMPLETED:	**10/16/14**								
DR: **AJ/SD** LG:	Rig: **R26**								

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-20 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	6" Bituminous	FILL									
1	14.5" FILL, gravel with silt and sand, tan (A-1-b)										
2	FAT CLAY, dark gray to brown, slightly mottled (CH) (A-7-6)	FINE ALLUVIUM				39					
3											
	END OF BORING										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS							NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL	
0-3.8'	**Direct Push**								
BORING COMPLETED:	**10/16/14**								
DR: **AJ/SD** LG:	Rig: **R26**								

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-21 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	5" Bituminous	FILL									
	9" FILL, gravel with silt and sand, tan (A-1-b)										
1											
	Reclaimed bituminous materials, black										
	FILL, gravel with silt and sand, tan (A-1-b)	FINE ALLUVIUM									
	LEAN CLAY, greenish brown, slightly mottled (CL) (A-7-6)					34					
2											
3											
	END OF BORING										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-3.8'	**Direct Push**							
BORING COMPLETED:	**10/16/14**							
DR: **AJ/SD** LG:	Rig: **R26**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-22 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	3.5" Bituminous	FILL									
	6" FILL, gravel with silt and sand, tan (A-1-b)										
1	Reclaimed bituminous materials, black										
	FILL, gravel with silt and sand, brown (A-1-b)										
	LEAN CLAY, greenish brown, slightly mottled (A-7-6) (CL)	FINE ALLUVIUM									
2						39					
3											
	END OF BORING										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-3.8'	**Direct Push**							
BORING COMPLETED:	**10/16/14**							
DR: **AJ/SD** LG:	Rig: **R26**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-23 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	2" Bituminous										
	8" FILL, gravel with sand and silt, tan (A-1-b)	FILL									
1	Reclaimed bituminous materials, black										
	FAT CLAY, greenish brown, slightly mottled (CH) (A-7-6)	FINE ALLUVIUM									
2						33					
3											
	END OF BORING										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-3.8'	**Direct Push**							
BORING COMPLETED:	**10/16/14**							
DR: **AJ/SD** LG:	Rig: **R26**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-24 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	2" Bituminous										
	7" FILL, sand with silt and gravel, tan (A-1-b)	FILL									
	Reclaimed bituminous materials, black										
1	FILL, sand with silt and gravel, tan (A-1-b)										
	FAT CLAY, greenish brown, slightly mottled (CH) (A-7-6)	FINE ALLUVIUM					29		61	27	
2						36					
3											
	END OF BORING										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-3.8'	**Direct Push**							
BORING COMPLETED:	**10/16/14**							
DR: **AJ/SD** LG:	Rig: **R26**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-25 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	8.5" Bituminous	FILL									
1	10.5" FILL, gravel, crushed limestone fragments, tan (A-1-b)										
2	FAT CLAY, greenish brown, slightly mottled (CH) (A-7-6)	FINE ALLUVIUM				40					
3											
	END OF BORING										

DEPTH: DRILLING METHOD	WATER LEVEL MEASUREMENTS						
	DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-3.8' Direct Push							
BORING COMPLETED: **10/16/14**							
DR: **AJ/SD** LG: Rig: **R26**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-26 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	7" Bituminous	FILL									
1	15.5" FILL, gravel with silt and sand, tan (A-1-b)										
2	FILL, clayey gravel with sand, light brown (A-1-b)					35					
	FAT CLAY, greenish brown, slightly mottled (CH) (A-7-6)	FINE ALLUVIUM									
3											
	END OF BORING										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS							NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL	
0-3.8'	**Direct Push**								
BORING COMPLETED:	**10/16/14**								
DR: **AJ/SD** LG:	Rig: **R26**								

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-27 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
1	20" Bituminous	FILL									
2	FAT CLAY, greenish brown, slightly mottled (CH) (A-7-6)	FINE ALLUVIUM				44					
3											
	END OF BORING										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-3.8'	**Direct Push**							
BORING COMPLETED:	**10/16/14**							
DR: **AJ/SD** LG:	Rig: **R26**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-28 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	9.5" FILL, sand with silt and gravel, brown to tan (A-1-b)	FILL									
1	FAT CLAY, greenish brown to brown, slightly mottled (CH) (A-7-6)	FINE ALLUVIUM									
2						33					
3											
	END OF BORING										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS							NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL	
0-3.8'	**Direct Push**								
BORING COMPLETED:	**10/16/14**								
DR: **AJ/SD** LG:	Rig: **R26**								

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-29 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	3.5" Bituminous	FILL									
	6" FILL, gravel with silt and sand, tan (A-1-b)										
1	FILL, sand with silt and a little gravel, recycled bituminous, dark brown (A-1-b)										
	FILL, gravel with silt and sand, tan (A-1-b)	FINE ALLUVIUM									
	FAT CLAY, greenish brown, slightly mottled (CH) (A-7-6)										
2						35					
3											
	END OF BORING										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-3.8'	**Direct Push**							
BORING COMPLETED:	**10/16/14**							
DR: **AJ/SD** LG:	Rig: **R26**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-30 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	7.5" FILL, gravel with silt and sand, dark brown (A-1-b)	FILL									
1	FAT CLAY, greenish brown to brown, slightly mottled (CH) (A-7-6)	FINE ALLUVIUM									
2						30					
3											
	END OF BORING										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS							NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL	
0-3.8'	**Direct Push**								
BORING COMPLETED:	**10/16/14**								
DR: **AJ/SD** LG:	Rig: **R26**								

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-31 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	7" FILL, gravel with silt and sand, dark brown (A-1-b)	FILL									
1	12" FILL, gravel with silt and sand, tan (A-1-b)										
	FAT CLAY, greenish brown, slightly mottled (CH) (A-7-6)	FINE ALLUVIUM				30					
2											
3											
	END OF BORING										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-3.8'	**Direct Push**							
BORING COMPLETED:	**10/16/14**							
DR: **AJ/SD** LG:	Rig: **R26**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-32 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	1.5" Bituminous	FILL									
	2" FILL, gravel with sand, dark brown (A-1-b)										
	1" FILL, reclaimed bituminous, black										
1	7.5" FILL, gravel with clay and sand, dark brown (A-1-b)										
	Reclaimed bituminous materials, black										
	FILL, sand with silt and gravel, brown (A-1-b)	FINE ALLUVIUM					20		44	19	
2	LEAN CLAY, greenish brown to brown, slightly mottled (CL) (A-7-6)					38					
3											
	END OF BORING										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-3.8'	**Direct Push**							
BORING COMPLETED:	**10/16/14**							
DR: **AJ/SD** LG:	Rig: **R26**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-33 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	2.5" Bituminous	FILL									
	7.5" FILL, sand with silt and gravel, brown (A-1-b)										
1	Reclaimed bituminous materials, black										
	FILL, clayey sand with gravel, greenish brown (A-2-6)	FINE ALLUVIUM									
	LEAN CLAY, greenish brown to brown, slightly mottled (CL) (A-7-6)										
2						41					
3											
	END OF BORING										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-3.8'	**Direct Push**							
BORING COMPLETED:	**10/16/14**							
DR: **AJ/SD** LG:	Rig: **R26**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-34 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	2" Bituminous 6" FILL, sand with silt and gravel, tan (A-1-b)	FILL									
1	Reclaimed bituminous materials, black LEAN CLAY, gray to brown, slightly mottled (CL) (A-7-6)	FINE ALLUVIUM									
2						37					
3											
	END OF BORING										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-3.8'	**Direct Push**							
BORING COMPLETED:	**10/16/14**							
DR: **AJ/SD** LG:	Rig: **R26**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-35 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	2.5" Bituminous										
	12" FILL, gravel with silt and sand, tan (A-1-b)	FILL									
1											
	LEAN CLAY, greenish brown to brown, slightly mottled (CL) (A-7-6)	FINE ALLUVIUM									
2						34					
3											
	END OF BORING										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-3.8'	**Direct Push**							
BORING COMPLETED:	**10/16/14**							
DR: **AJ/SD** LG:	Rig: **R26**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-36 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	1.5" Bituminous	FILL									
	2" FILL, sand with gravel, dark brown (A-1-b)										
	1" FILL, reclaimed bituminous, black										
	5" FILL, sand with silt and gravel, tan (A-1-b)										
1	FILL, clayey sand with gravel, dark brown (A-2-6)										
	LEAN CLAY, gray to brown, slight mottling (CL) (A-7-6)	FINE ALLUVIUM				34					
2											
3											
	END OF BORING										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-3.8'	**Direct Push**							
BORING COMPLETED:	**10/16/14**							
DR: **AJ/SD** LG:	Rig: **R26**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-37 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	6" FILL, gravel with silt and sand, tan (A-1-b)	FILL									
1	13" FILL, reclaimed bituminous materials, clayey sand, dark brown (A-2-6)										
2	LEAN CLAY, greenish brown to brown, slightly mottled (CL) (A-7-6)	FINE ALLUVIUM				33					
3											
	END OF BORING										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-3.8'	**Direct Push**							
BORING COMPLETED:	**10/16/14**							
DR: **AJ/SD** LG:	Rig: **R26**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-38 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	6" FILL, gravel with silt and sand, tan (A-1-b)	FILL									
1	13" Reclaimed bituminous materials, black										
	FILL, clayey gravel with sand, brown (A-2-6)										
2	LEAN CLAY, gray to brown, slightly mottled (CL) (A-7-6)	FINE ALLUVIUM				31					
3											
	END OF BORING										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-3.8'	**Direct Push**							
BORING COMPLETED:	**10/16/14**							
DR: **AJ/SD** LG:	Rig: **R26**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-39 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	5" Bituminous	FILL									
	9" FILL, sand with silt and gravel, brown (A-1-b)										
1											
	Reclaimed bituminous materials, black										
	LEAN CLAY, brown, slightly mottled (CL) (A-7-6)	FINE ALLUVIUM				45					
2											
3											
	END OF BORING										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-3.8'	**Direct Push**							
BORING COMPLETED:	**10/16/14**							
DR: **AJ/SD** LG:	Rig: **R26**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-40 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	4.5" Bituminous	FILL									
	10" FILL, reclaimed bituminous materials, black										
1											
	LEAN CLAY, gray to brown, slightly mottled (CL) (A-7-6)	FINE ALLUVIUM									
2						45					
3											
	END OF BORING										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-3.8'	**Direct Push**							
BORING COMPLETED:	**10/16/14**							
DR: **AJ/SD** LG:	Rig: **R26**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-41 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	6.5" Bituminous	FILL									
1	12" FILL, gravel with silt and sand, brown (A-1-b)										
2	LEAN CLAY, greenish brown, slightly mottled (CL) (A-7-6)	FINE ALLUVIUM				37					
3											
	END OF BORING										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-3.8'	**Direct Push**							
BORING COMPLETED:	**10/16/14**							
DR: **AJ/SD** LG:	Rig: **R26**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-42 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	7.5" Bituminous	FILL									
1	FAT CLAY, greenish brown, slightly mottled (CH) (A-7-6)	FINE ALLUVIUM									
2						41					
3											
	END OF BORING										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS							NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL	
0-3.8'	**Direct Push**								
BORING COMPLETED:	**10/16/14**								
DR: **AJ/SD** LG:	Rig: **R26**								

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-43 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	2" Bituminous										
	8" FILL, sand with gravel and silt, tan (A-1-b)	FILL									
1	Reclaimed bituminous material, black										
	FILL, gravel with sand and silt, light brown (A-1-b)										
	FAT CLAY, greenish brown, slightly mottled (CH) (A-7-6)	FINE ALLUVIUM				42					
2											
3											
	END OF BORING										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-3.8'	**Direct Push**							
BORING COMPLETED:	**10/16/14**							
DR: **AJ/SD** LG:	Rig: **R26**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-44 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	3/4" Bituminous	FILL									
	4.5" FILL, gravel with silt and sand, tan (A-1-b)										
	Reclaimed bituminous materials, black										
1	FILL, gravel with silt and sand, clayey sand, greenish brown (A-1-b)										
	FAT CLAY, greenish brown, slightly mottled (A-7-6)	FINE ALLUVIUM				40					
2											
3											
	END OF BORING										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-3.8'	**Direct Push**							
BORING COMPLETED:	**10/16/14**							
DR: **AJ/SD** LG:	Rig: **R26**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-45 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	4" Bituminous	FILL									
	9" FILL, gravel with silt and sand, brown to tan (A-1-b)										
1	FAT CLAY, greenish brown to brown, slightly mottled (CH) (A-7-6)	FINE ALLUVIUM									
2						41					
3											
	END OF BORING										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-3.8'	**Direct Push**							
BORING COMPLETED:	**10/15/14**							
DR: **AJ/SD** LG:	Rig: **R26**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-46 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	5" Bituminous	FILL									
1	12" FILL, gravel with silt and sand, tan (A-1-b)										
2	FAT CLAY, greenish brown, slightly mottled (CH) (A-7-6)	FINE ALLUVIUM				42	24		54	24	
3											
	END OF BORING										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS							NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL	
0-3.8'	**Direct Push**								
BORING COMPLETED:	**10/15/14**								
DR: **AJ/SD** LG:	Rig: **R26**								

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-47 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	3" Bituminous	FILL									
	5.25" FILL, silty sand, reclaimed bituminous material, dark brown (A-2-4)										
1	14" FILL, gravel with silt and sand, tan (A-1-b)										
2	FAT CLAY, greenish brown, slightly mottled (CH) (A-7-6)	FINE ALLUVIUM				43					
3											
	END OF BORING										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-3.8'	**Direct Push**							
BORING COMPLETED:	**10/15/14**							
DR: **AJ/SD** LG:	Rig: **R26**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-48 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
1	1.5" Bituminous 3.5" FILL, sand with silt, crushed bituminous, dark brown (A-2-4) 12" FILL, sand with silt and gravel, tan (A-1-b)	FILL									
2	FAT CLAY, greenish brown to brown, slightly mottled (CH) (A-7-6)	FINE ALLUVIUM				37					
3	**END OF BORING**										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS							NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL	
0-3.8'	**Direct Push**								
BORING COMPLETED:	**10/15/14**								
DR: **AJ/SD** LG:	Rig: **R26**								

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-49 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	2.5" Bituminous										
	11" FILL, gravel with silt and sand, tan (A-1-b)	FILL									
1	FAT CLAY, greenish brown to brown, slight mottling (CH) (A-7-6)	FINE ALLUVIUM									
2						38					
3											
	END OF BORING										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-3.8'	**Direct Push**							
BORING COMPLETED:	**10/15/14**							
DR: **AJ/SD** LG:	Rig: **R26**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-50 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	6" Bituminous	FILL									
	8" FILL, gravel (crushed rock), tan (A-1-b)										
1	FAT CLAY, greenish brown to brown, slightly mottled (CH) (A-7-6)	FINE ALLUVIUM									
2						43					
3											
	END OF BORING										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-3.8'	**Direct Push**							
BORING COMPLETED:	**10/15/14**							
DR: **AJ/SD** LG:	Rig: **R26**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-51 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	5" Bituminous	FILL									
1	11" FILL, gravel with silt and sand, tan (A-1-b)										
2	FAT CLAY, greenish brown to brown, slightly mottled (CH) (A-7-6)	FINE ALLUVIUM				33					
3											
	END OF BORING										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS							NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL	
0-3.8'	**Direct Push**								
BORING COMPLETED:	**10/15/14**								
DR: **AJ/SD** LG:	Rig: **R26**								

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-52 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	6.25" Bituminous	FILL									
1	13" FILL, gravel with silt and sand, tan (A-1-b)										
2	FAT CLAY, greenish brown to brown, slightly mottled (CH) (A-7-6)	FINE ALLUVIUM				36					
3											
	END OF BORING										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-3.8'	**Direct Push**							
BORING COMPLETED:	**10/15/14**							
DR: **AJ/SD** LG:	Rig: **R26**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-53 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	9" Bituminous	FILL									
1	15" FILL, gravel with silt and sand, tan (A-1-b)										
2	FAT CLAY, greenish brown, slightly mottled (CH) (A-7-6)	FINE ALLUVIUM				42					
3											
	END OF BORING										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS							NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL	
0-3.8'	**Direct Push**								
BORING COMPLETED:	**10/15/14**								
DR: **AJ/SD** LG:	Rig: **R26**								

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-54 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	8" Bituminous	FILL									
1	13" FILL, gravel with silt and sand, tan (A-1-b)										
2	FAT CLAY, greenish brown to brown, slightly mottled (CH) (A-7-6)	FINE ALLUVIUM				45					
3											
	END OF BORING										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-3.8'	**Direct Push**							
BORING COMPLETED:	**10/15/14**							
DR: **AJ/SD** LG:	Rig: **R26**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-55 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	7" Bituminous	FILL									
1	13" FILL, gravel with silt and sand, tan (A-1-b)										
2	FAT CLAY, greenish brown, slightly mottled (CH) (A-7-6)	FINE ALLUVIUM				42					
3											
	END OF BORING										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-3.8'	**Direct Push**							
BORING COMPLETED:	**10/15/14**							
DR: **AJ/SD** LG:	Rig: **R26**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-56 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	3" Bituminous	FILL									
	12" FILL, gravel with silt and sand, tan (A-1-b)										
1	FAT CLAY, greenish brown, slight mottling (CH) (A-7-6)	FINE ALLUVIUM									
2						38					
3											
	END OF BORING										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-3.8'	**Direct Push**							
BORING COMPLETED:	**10/15/14**							
DR: **AJ/SD** LG:	Rig: **R26**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-57 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	6" Bituminous	FILL									
1	15" FILL, sand with silt and gravel, dark brown to tan (A-1-b)										
2	FAT CLAY, greenish brown, slight mottling (CH) (A-7-6)	FINE ALLUVIUM				38					
3											
	END OF BORING										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS							NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL	
0-3.8'	**Direct Push**								
BORING COMPLETED:	**10/15/14**								
DR: **AJ/SD** LG:	Rig: **R26**								

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-58 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	9" Bituminous	FILL									
1	14.5" FILL, gravel with silt and sand, light brown (A-1-b)										
2	FAT CLAY, greenish brown to light brown, slight mottling (CH) (A-7-6)	FINE ALLUVIUM				43					
3											
	END OF BORING										

DEPTH: DRILLING METHOD	WATER LEVEL MEASUREMENTS						
	DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-3.8' Direct Push							
BORING COMPLETED: **10/15/14**							
DR: **AJ/SD** LG: Rig: **R26**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-59 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	10" Bituminous	2.25									
1	17" FILL, gravel with silt and sand, tan (A-1-b)										
2						45					
	FAT CLAY, greenish brown, slightly mottled (CH) (A-7-6)	FINE ALLUVIUM									
3											
	END OF BORING										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS							NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL	
0-3.8'	**Direct Push**								
BORING COMPLETED:	**10/15/14**								
DR: **AJ/SD** LG:	Rig: **R26**								

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-60 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	7.5" Bituminous	FILL									
1	14" FILL, gravel with silt and sand, tan (A-1-b)										
2	FAT CLAY, greenish brown, slightly mottled (CH) (A-7-6)	FINE ALLUVIUM				43					
3											
	END OF BORING										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS							NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL	
0-3.8'	**Direct Push**								
BORING COMPLETED:	**10/15/14**								
DR: **AJ/SD** LG:	Rig: **R26**								

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-61 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	10" Bituminous	FILL									
1	13" FILL, gravel with silt and sand, gray (A-1-b)										
2	FAT CLAY, brown, slightly mottled (CH) (A-7-6)	FINE ALLUVIUM				42					
3											
	END OF BORING										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-3.8'	**Direct Push**							
BORING COMPLETED:	**10/15/14**							
DR: **AJ/SD** LG:	Rig: **R26**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-62 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	2" Bituminous	FILL									
	5.5" FILL, gravel with silt and sand, brown (A-1-b)										
	Reclaimed bituminous materials, black										
1	FILL, clayey gravel with sand, brown (A-2-6)	FINE ALLUVIUM									
	FAT CLAY, greenish brown to brown, slightly mottled (CH) (A-7-6)										
2						31					
3											
	END OF BORING										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-3.8'	**Direct Push**							
BORING COMPLETED:	**10/16/14**							
DR: **AJ/SD** LG:	Rig: **R26**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-63 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
1	1.5" Bituminous 3" FILL, gravel with sand and silt, brown (A-1-b) 5" FILL, sand with silt and gravel, recycled bituminous, dark brown (A-1-b) 8.5" FILL, gravel with silt and sand, tan (A-1-b)	FILL									
2	FAT CLAY, greenish brown to brown, slightly mottled (CH) (A-7-6)	FINE ALLUVIUM				31					
3	**END OF BORING**										

DEPTH: DRILLING METHOD	WATER LEVEL MEASUREMENTS						
	DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-3.8' Direct Push							
BORING COMPLETED: **10/16/14**							
DR: **AJ/SD** LG: Rig: **R26**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-65 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	10" Bituminous	FILL									
1	16" FILL, gravel with silt and sand, brown (A-1-b)										
2						39					
	LEAN CLAY, gray to brown, slight mottling (CL) (A-7-6)	FINE ALLUVIUM									
3											
	END OF BORING										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-3.8'	**Direct Push**							
BORING COMPLETED:	**10/16/14**							
DR: **AJ/SD** LG:	Rig: **R26**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-66 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
1	14" Bituminous	FILL									
2	LEAN CLAY, gray to brown, slightly mottled (CL) (A-7-6)	FINE ALLUVIUM				39					
3	**END OF BORING**										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-3.8'	**Direct Push**							
BORING COMPLETED: **10/16/14**								
DR: **AJ/SD** LG:	Rig: **R26**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-67 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	10" Bituminous	FILL									
1	12" FILL, gravel with silt and sand, tan (A-1-b)										
2	LEAN CLAY, brown, slightly mottled (CL) (A-7-6)	FINE ALLUVIUM				37					
3											
	END OF BORING										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-3.8'	**Direct Push**							
BORING COMPLETED: **10/16/14**								
DR: **AJ/SD** LG:	Rig: **R26**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET No: **28-00917** Log of Boring No. **B-68 (p. 1 of 1)**

Project: **Northwest Ohio Wind Farm; Paulding County, OH**

DEPTH IN FEET	Surface Elevation _____ MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	9.5" Bituminous	FILL									
1	13.5" FILL, gravel with silt and sand, tan (A-1-b)										
2	LEAN CLAY, greenish brown, slightly mottled (CL) (A-7-6)	FINE ALLUVIUM				37					
3											
	END OF BORING										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-3.8'	**Direct Push**							
BORING COMPLETED:	**10/16/14**							
DR: **AJ/SD** LG:	Rig: **R26**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP 28-00917.GPJ AET+CPT+WELL.GDT 1/30/15

Appendix B

Ground Penetrating Radar Field Exploration and Testing
GPR Results Plot

Appendix B
Ground Penetrating Radar Field Exploration and Testing
AET Project No. 28-01314

B.1 FIELD EXPLORATION

The pavement structural conditions at the site were evaluated nondestructively using Ground Penetrating Radar (GPR). The description of the equipment precedes the GPR Data and Analysis Results in this appendix.

B.2 EQUIPMENT DESCRIPTION

B.2.1 GSSI GPR Test System

The GPR test system owned by AET is a GSSI Roadscan System that consists of a bumper-mounted, 2 GHz air-coupled antenna and a SIR-20 control and data acquisition processor, featuring dual channels. The GPR processor, including a SIR-20 data acquisition system, wheel-mounted DMI (Distance Measuring Instrument), and a tough book with the SIR-20 Field Program constitutes the newest, most sophisticated GSSI Test System, which fulfills or exceeds all requirements to meet ASTM-4748, ASTM D-6087 Standards. Figure B1 provides a view of this equipment.

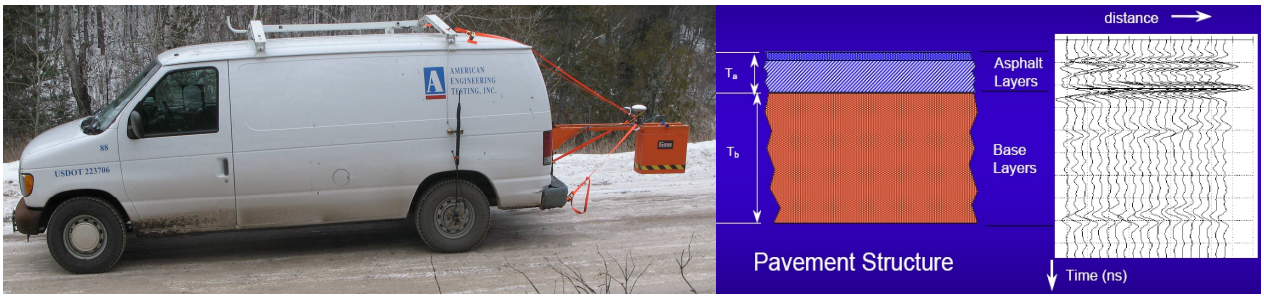


Figure B1 GSSI 2 GHz air-coupled GPR Test System

The GPR antenna emits a high frequency electromagnetic wave into the material under investigation. The reflected energy caused by changes in the electromagnetic properties within the material is detected by a receiver antenna and recorded for subsequent analysis. The 2 GHz air-coupled GPR is capable of collecting radar waveforms at more than 100 signals per second, allows for data to be collected at driving speeds along the longitudinal dimension of the pavements or bridge decks with the antennas fixed at the rear or in front of the vehicle.

The antenna used for Roadscan is the Horn antenna Model 4105 (2 GHz). The 2 GHz antenna is the current antenna of choice for road survey because it combines excellent resolution with reasonable depth penetration (18-24 inches in pavement materials). The data collection is performed at normal driving speeds (45-55 mph), requiring no lane closures nor causing traffic congestion. At this peed the 2 GHz antenna is capable of collecting data at 1-foot interval (1 scan/foot).

The data were collected at a rate of about 1 vertical scans per foot. Each vertical scan consisted of 512 samples and the record length in time of each scan was 12 nanoseconds. Filters used during acquisition were 300 MHz high pass and 5,000 MHz low pass.

In a GPR test, the antenna is moved continuously across the test surface and the control unit collects data at a specified distance increment. In this way, the data collection rate is independent of the scan rate. Alternatively, scanning can be performed at a constant rate of time, regardless of the scan distance. Single point scans can be performed as well. Data is reviewed on-screen and in the field to identify reflections and ensure proper data collection parameters.

Field testing is performed in accordance with the standard ASTM procedures as described in ASTM D 4695-96, “Standard Guide for General Pavement Deflection Measurements”.

C.2.2 System Calibrations

Horn antenna processing is used to get the velocity of the radar energy in the material by comparing the reflection strengths (amplitudes) from a pavement layer interface with a perfect reflector (a metal plate). The calibration scan is obtained with the horn antenna placed over a metal plate at the same elevation as a scan obtained over pavement.

The same setting for data collection is used for metal plate calibration. Fifteen seconds are need for jumping up and down on the vehicle's bumper to collect the full range of motion for the vehicle's shocks. The filename of raw calibration file is recorded.

Survey wheel is calibrated by laying out a long distance (> 50 feet) with tape measure.

C.2.3 Linear Distance and Spatial Reference System
Distance measuring instrument (DMI) is a trailer mounted two phase encoder system. When DMI is connected to the SIR-20 it provides for automatic display and recording distance information in both English and metric units with a 1 foot (0.3 meters) resolution and four percent accuracy when calibrated using provided procedure in the Field Program.

Spatial reference system is a Trimble ProXH Global Positioning System (GPS) that consists of fully integrated receiver, antenna and battery unit with Trimble's new H-Star™ technology to provide subfoot (30 cm) post processed accuracy. The External Patch antenna is added to the ProXH receiver for the position of the loading plate. The External Patch antenna can be conveniently elevated with the optional baseball cap to prevent any signal blockage.

B.2.4 Camera Monitoring System
A battery operated independent DC-1908E multi-functional digital camera with a SD card is used for easy positioning of the loading plate or of the pavement surface condition at the testing locations.

B.3 SAMPLING METHODS
At the project level, the testing interval is set at 12 scans per foot in the Outside Wheel Path (OWP) = 2.5 ft ± 0.25 ft (0.76 m ± 0.08 m) for nominal 12 ft (3.7 m) wide lanes at a survey speed of approximately 10 mph. Where a divided roadbed exists, surveys will be taken in both directions if the project will include improvements in both directions. If there is more than one lane in one direction the surveys will be taken in the outer driving lane (truck lane) versus the passing lane of the highway. GPR tests are performed at a constant lateral offset down the test section. When GPR tests are performed on bridge decks, multiple survey lines are followed transversely at 2-foot spacing between survey lines.

At the network level, GPR tests on one scan per foot are set to be able to collect data on pavements at driving speeds, without statistically compromising the quality of the data collected. If GPR tests are for the in situ characterization of material GPR data will be collected at two scan per foot at slower driving speeds.

B.4 QUALITY CONTROL (QC) AND QUALITY ASSURANCE (QA)
Beside the daily metal plate calibration the DMI is also calibrated monthly by driving the vehicle over a known distance to calculate the distance scale factor. The GPR will be monitored in real time in the data collection vehicle to minimize data errors. The GPR units will be identified with a unique number and that number will accompany all data reported from that unit as required in the QC/QA plan.

Scheduled preventive maintenance ensures proper equipment operation and helps identify potential problems that can be corrected to avoid poor quality or missing data that results if the equipment malfunctions while on site. The routine and major maintenance procedures established by the LTPP are adopted and any maintenance has been done at the end of the day after the testing is complete and become part of the routine performed at the end of each test/travel day and on days when no other work is scheduled.

To insure quality data, the GPR assessments only took place on dry pavement surfaces, and data was collected in each wheel path.

B.5 DATA ANALYSIS METHODS

B.5.1 Data Editing
Field acquisition is seldom so routine that no errors, omissions or data redundancy occur. Data editing encompasses issues such as data re-organization, data file merging, data header or background information updates, repositioning and inclusion of elevation information with the data.

B.5.2 Basic Processing
Basic data processing addresses some of the fundamental manipulations applied to data to make a more acceptable product for initial interpretation and data evaluation. In most instances this type of processing is already applied in real-time to generate the real-time display. The advantage of post survey processing is that the basic processing can be done more systematically and non-causal operators to remove or enhance certain features can be applied.

The Reflection Picking procedure is used to eliminate unwanted noise, detects significant reflections, and records the corresponding time and depth. It uses antenna calibration file data to calculate the radar signal velocity within the pavement.

B.5.3 Advance Processing
Advanced data processing addresses the types of processing which require a certain amount of operator bias to be applied and which will result in data which are significantly different from the raw information which were input to the processing.

B.5.4 Data Interpretation
The EZ Tracker Layer Interpretation procedure uses the output from the first step to map structural layers and calculate the corresponding velocities and depths.

B.6 TEST LIMITATIONS

B.6.1 Test Methods
The data derived through the testing program have been used to develop our opinions about the pavement conditions at your site. However, because no testing program can reveal totally what is in the subsurface, conditions between test locations and at other times, may differ from conditions described in this report. The testing we conducted identified pavement conditions only at those points where we measured pavement thicknesses and observed pavement surface conditions. Depending on the sampling methods and sampling frequency, every location may not be tested, and some anomalies which are present in the pavement may not be noted on the testing results. If conditions encountered during construction differ from those indicated by our testing, it may be necessary to alter our conclusions and recommendations, or to modify construction procedures, and the cost of construction may be affected.

B.6.2 Test Standards
Pavement testing is done in general conformance with the described procedures. Compliance with any other standards referenced within the specified standard is neither inferred nor implied.

B.7 SUPPORTING TEST METHODS

B.7.1 Falling Weight Deflectometer (FWD)
If the pavement layer moduli and subgrade soil strength are desired the deflection data are collected using a Dynatest 8000 FWD Test System that consists of a Dynatest 8002 trailer and a third generation control and data acquisition unit developed in 2003, called the Dynatest Compact15, featuring fifteen (15) deflection channels. The new generation FWD, including a Compact15 System and a standard PC with the FwdWin field Program constitutes the newest, most sophisticated Dynatest FWD Test System, which fulfills or exceeds all requirements to meet ASTM-4694, ASTM D-4695 Standards. The system provides continuous data at pre-set spacing.

B.7.2 Soil Boring/Coring Field Exploration
If both pavement thicknesses and subgrade soil types and conditions are desired the shallow coring/boring and sampling is used. The limited number of coring/boring is necessary to verify the GPR layer thickness data.

B.7.3 Pavement Surface Condition Survey
The type and severity of pavement distress influence the deflection response for a pavement. Therefore, GPR operators record any distress located from about 1 ft (0.3 m) in front of vehicle to about 30 ft (9 m) ahead. This information is recorded in the FWD file using the comment line in the field program immediately following the test.

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SUMMARY OF GROUND PENETRATING RADAR

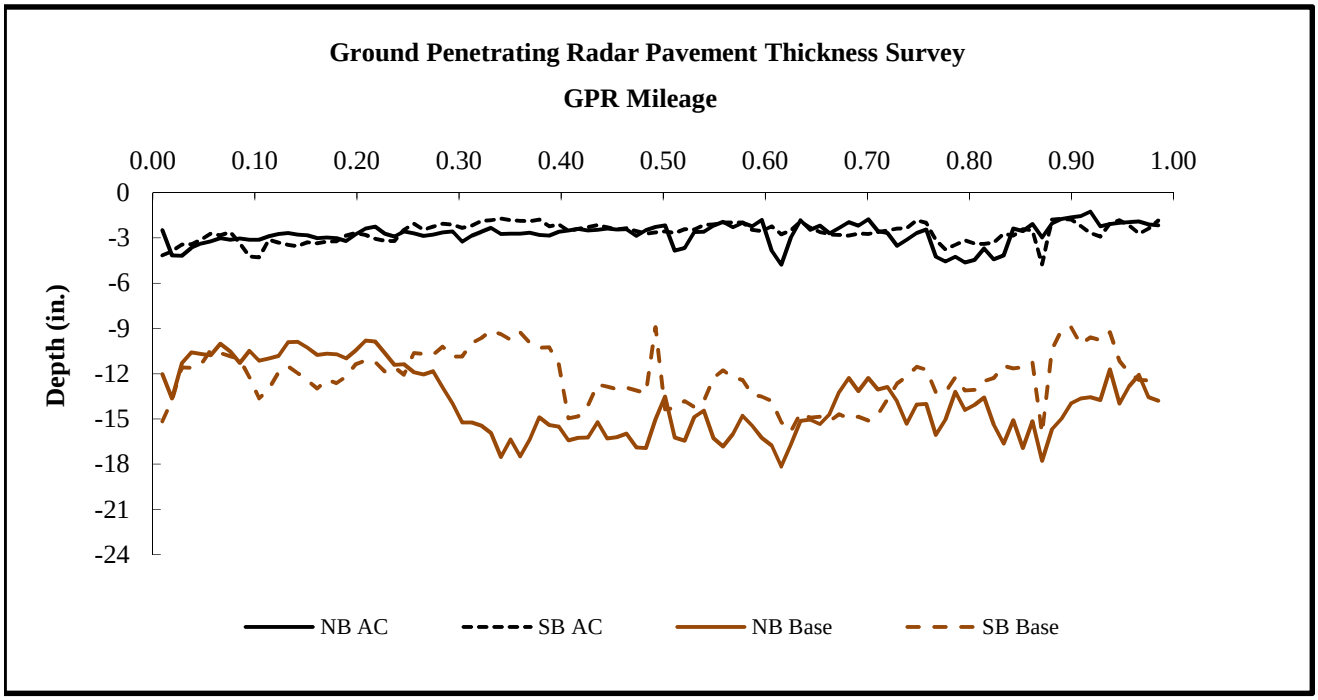
COUNTY	**PAULDING**		**Report Date**
PROJECT NO.	**28-001314**		**Test Date** 8/30/2017
SECTION	**1**		
ROAD	**T-79**		
TERMINI	**SR 114**	**to** **T-48**	

SUMMARY STATISTICS

Units: inches

Layer	NB				SB			
	Average	CV	15th	Min.	Average	CV	15th	Min.
AC	2.8	26%	2.1	1.2	2.6	24%	2.0	1.7
Base*	11.1	21%	7.8	6.9	9.6	17%	8.0	6.3

* Road Mix and Gravel Base



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SUMMARY OF GROUND PENETRATING RADAR

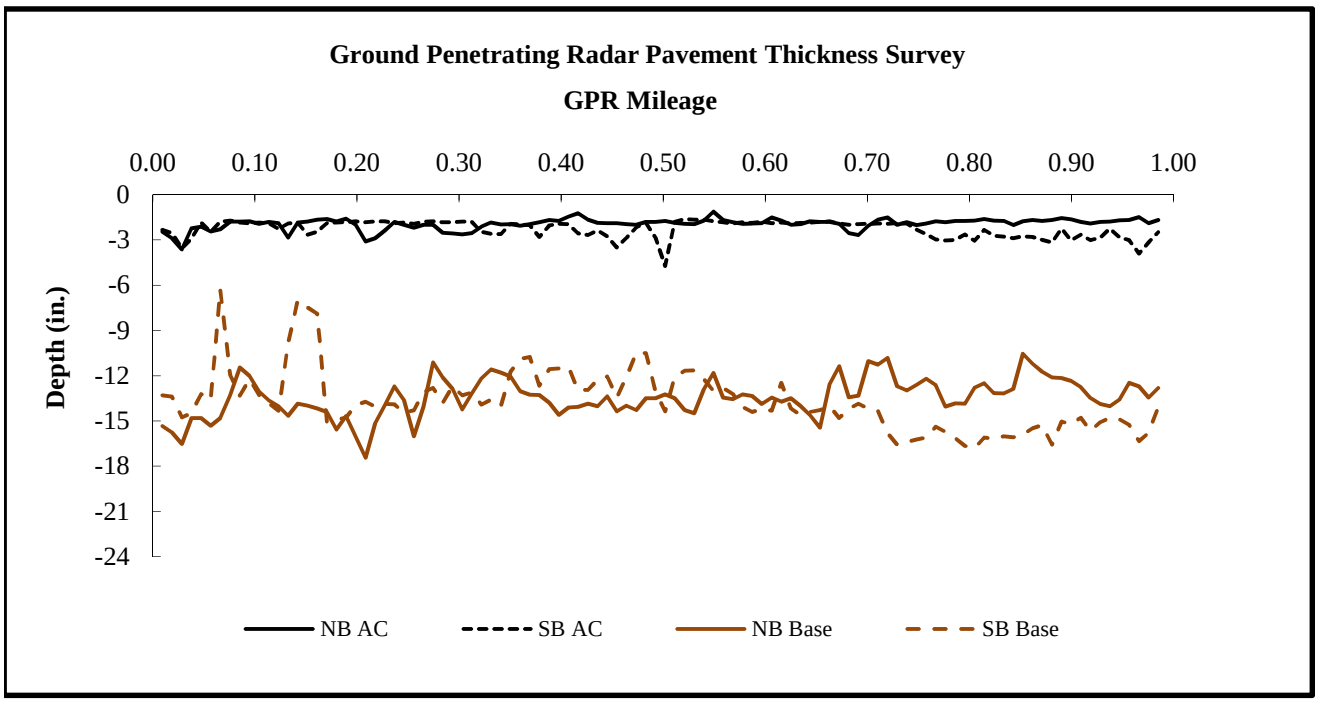
COUNTY	**PAULDING**	**Report Date**
PROJECT NO.	**28-001314**	**Test Date** 8/30/2017
SECTION	**2**	
ROAD	**T-79**	
TERMINI	**T-48 to T-60**	

SUMMARY STATISTICS

Units: inches

Layer	NB				SB			
	Average	CV	15th	Min.	Average	CV	15th	Min.
AC	1.9	19%	1.7	1.1	2.3	25%	1.8	1.6
Base*	11.5	10%	10.3	8.8	11.4	17%	9.8	4.5

* Road Mix and Gravel Base



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SUMMARY OF GROUND PENETRATING RADAR			
COUNTY	**PAULDING**		**Report Date**
PROJECT NO.	**28-01314**		**Test Date** 8/30/2017
SECTION	**3**		
ROAD	**T-79**		
TERMINI	**T-60**	**to** **T-72**	

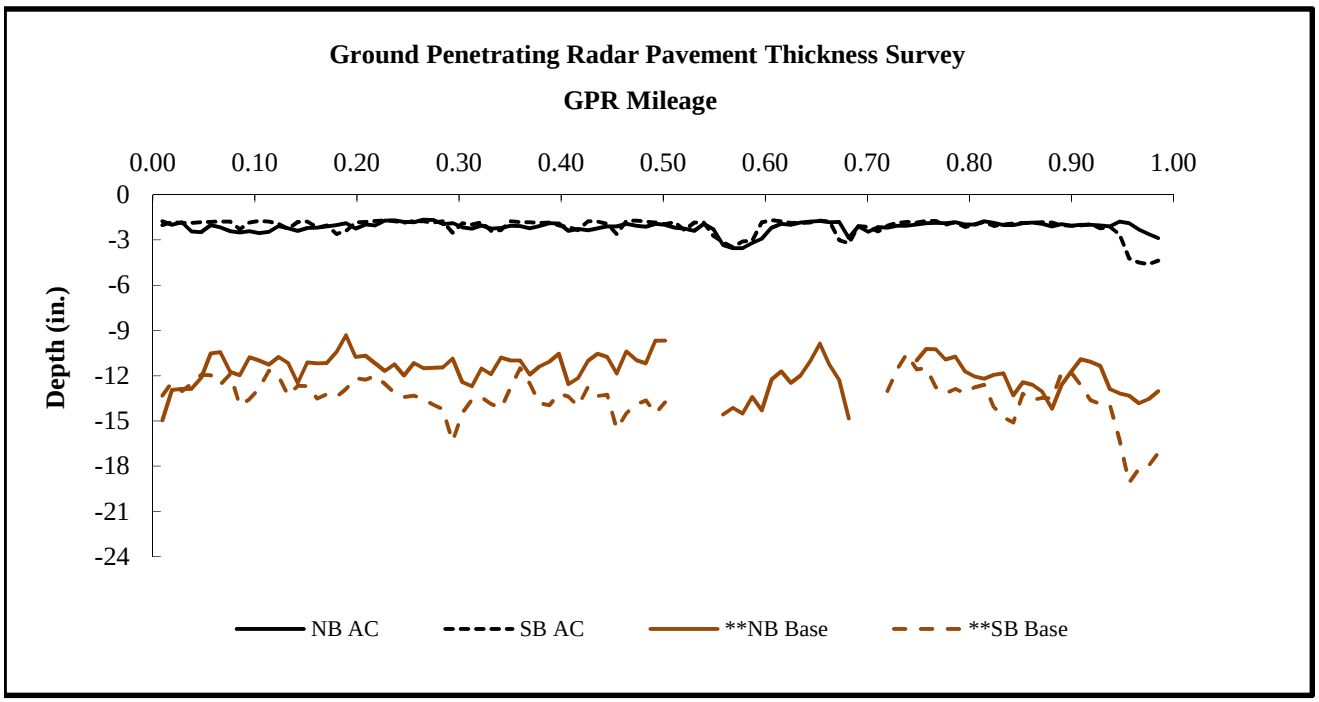
SUMMARY STATISTICS

Units: inches

Layer	NB				SB			
	Average	CV	15th	Min.	Average	CV	15th	Min.
AC	2.2	25%	1.9	1.7	2.2	33%	1.8	1.7
Base*	9.7	11%	8.6	7.4	11.4	10%	10.3	8.7

* Road Mix and Gravel Base

**GPR Data could not be interpreted



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SUMMARY OF GROUND PENETRATING RADAR

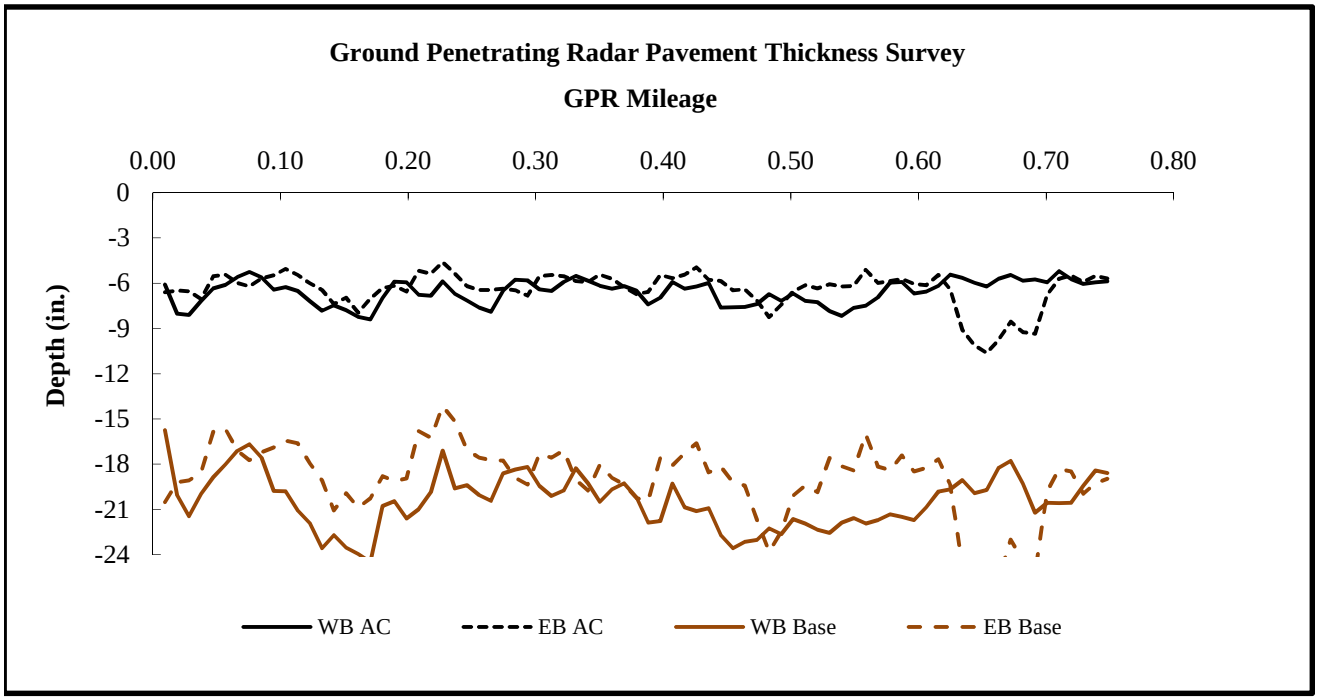
COUNTY	**PAULDING**		**Report Date**
PROJECT NO.	**28-01314**		**Test Date** 8/30/2017
SECTION	**4**		
ROAD	**T-72**		
TERMINI	**T-79**	**to** **0.7 mi W**	

SUMMARY STATISTICS

Units: inches

Layer	WB				EB			
	Average	CV	15th	Min.	Average	CV	15th	Min.
AC	6.6	12%	5.8	5.2	6.4	19%	5.5	4.6
Base*	13.9	10%	12.5	9.6	12.7	12%	11.4	9.6

* Road Mix and Gravel Base



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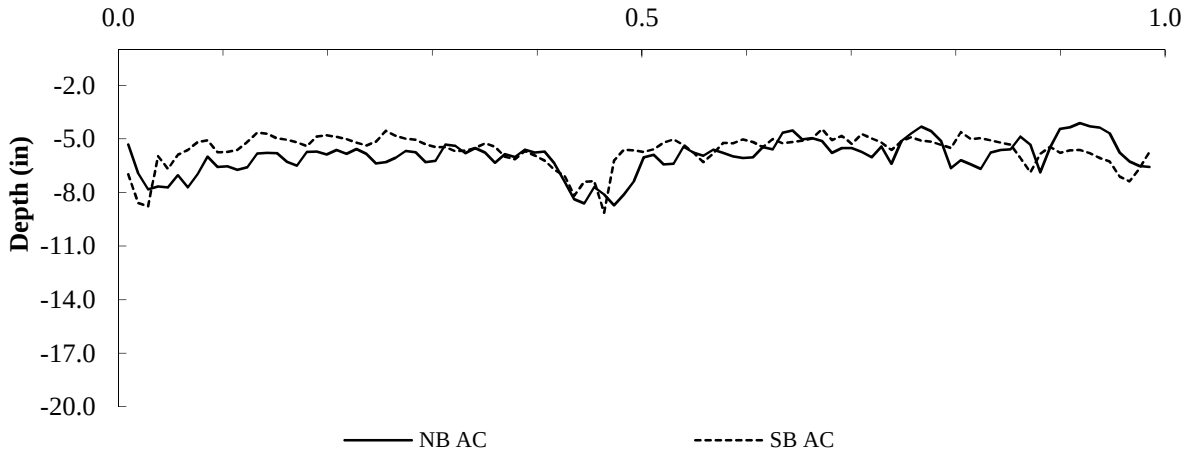
SUMMARY OF GROUND PENETRATING RADAR

COUNTY	**PAULDING**	**Report Date**
PROJECT NO.	**28-01314**	**Test Date** 8/30/2017
SECTION	**5**	
ROAD	**C-87**	
TERMINI	**SR 114 to T-48**	

SUMMARY STATISTICS

Units: inches

Layer	NB				SB			
	Average	CV	15th	Min.	Average	CV	15th	Min.
AC	6.0	16%	5.1	4.1	5.6	16%	5.0	4.5



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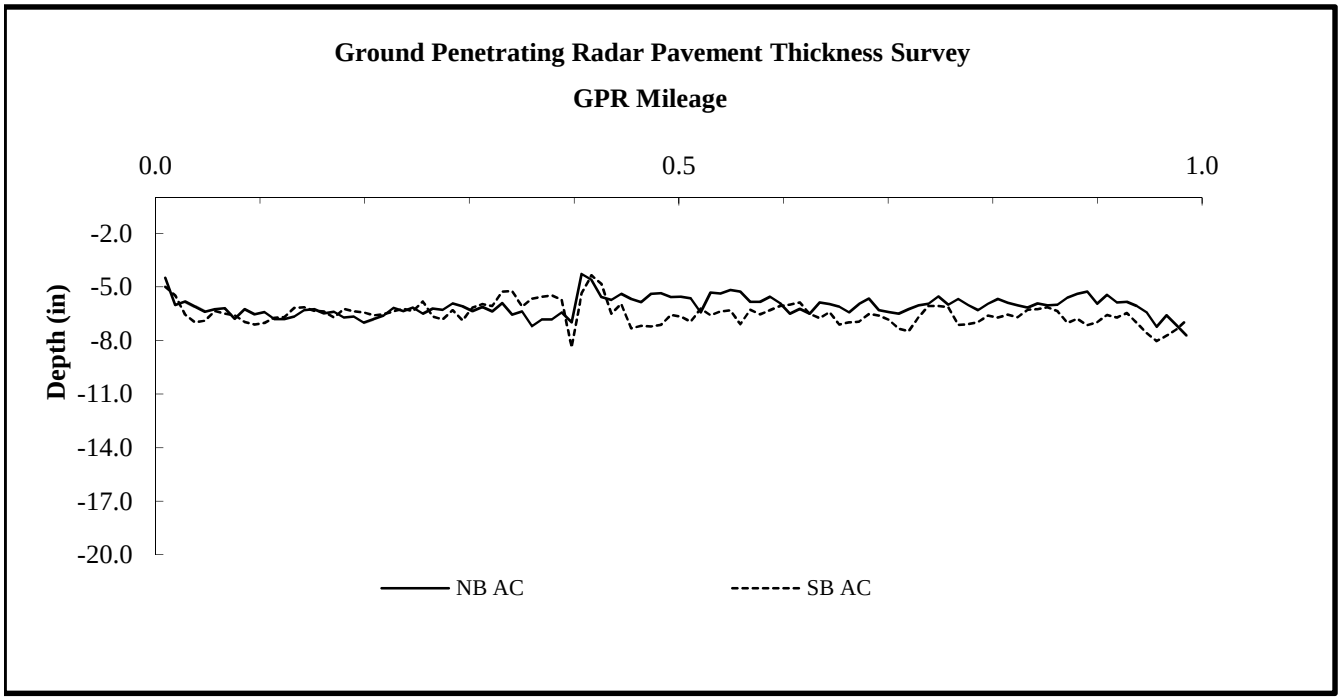
SUMMARY OF GROUND PENETRATING RADAR

COUNTY	**PAULDING**	**Report Date**
PROJECT NO.	**28-01314**	**Test Date** 8/30/2017
SECTION	**6**	
ROAD	**C-87**	
TERMINI	**T-48 to T-60**	

SUMMARY STATISTICS

Units: inches

Layer	NB				SB			
	Average	CV	15th	Min.	Average	CV	15th	Min.
AC	6.1	9%	5.6	4.3	6.5	10%	6.0	4.3



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SUMMARY OF GROUND PENETRATING RADAR

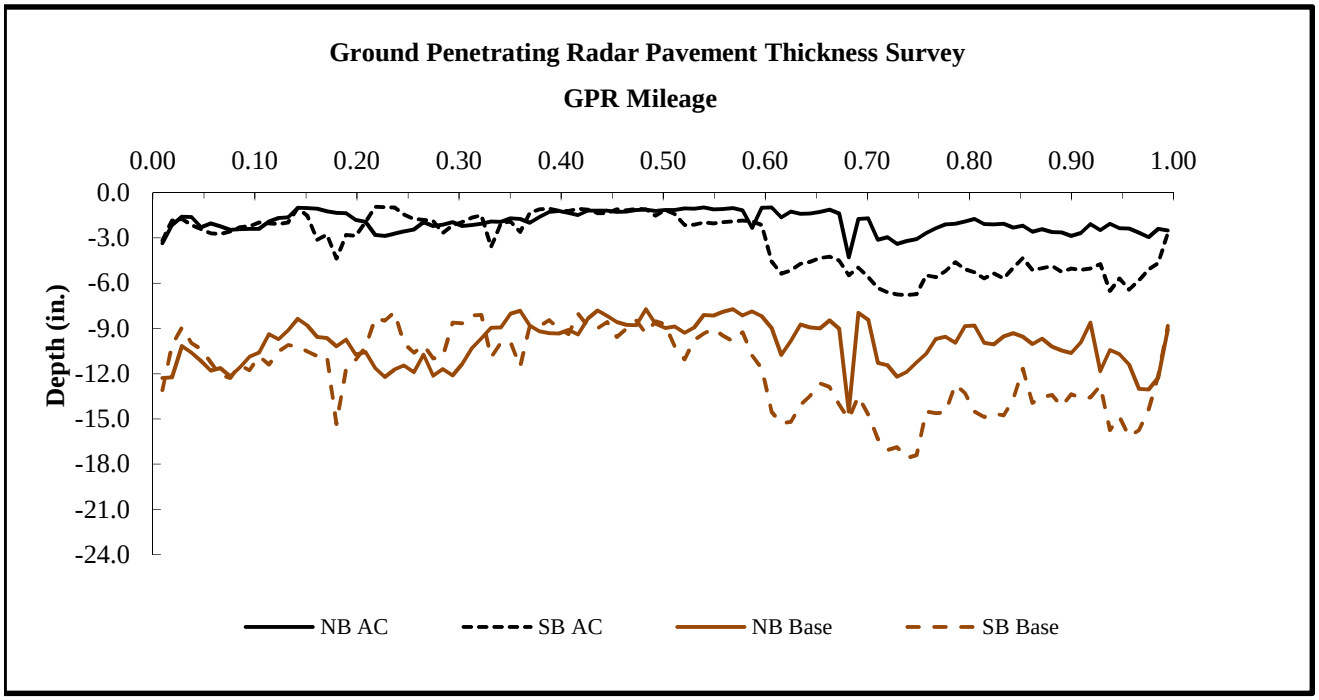
COUNTY	**PAULDING**	**Report Date**
PROJECT NO.	**28-01314**	**Test Date** 8/30/2017
SECTION	**7**	
ROAD	**T-95**	
TERMINI	**SR 114 to T-48**	

SUMMARY STATISTICS

Units: inches

Layer	NB				SB			
	Average	CV	15th	Min.	Average	CV	15th	Min.
AC	1.9	35%	1.2	1.0	3.2	56%	1.4	0.9
Base*	8.0	13%	7.0	5.5	8.5	12%	7.4	6.2

* Road Mix and Gravel Base



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SUMMARY OF GROUND PENETRATING RADAR

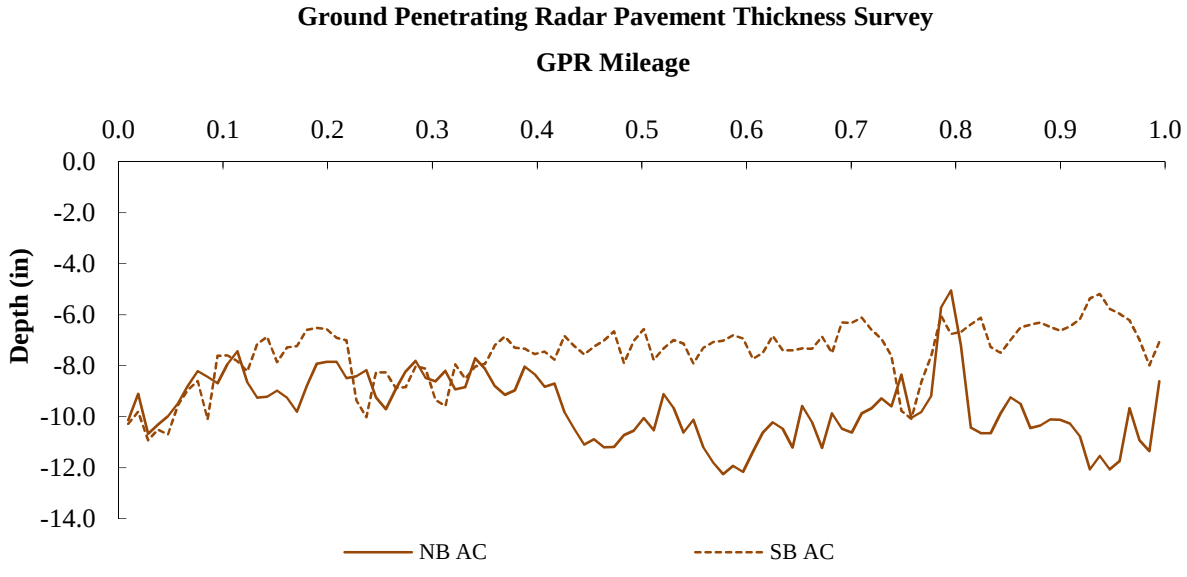
COUNTY	**PAULDING**	**Report Date**
PROJECT NO.	**28-01314**	**Test Date** 8/30/2017
SECTION	**8**	
ROAD	**C-107**	
TERMINI	**SR 114 to T-48**	

SUMMARY STATISTICS

Units: inches

Layer	NB				SB			
	Average	CV	15th	Min.	Average	CV	15th	Min.
AC	9.6	14%	8.3	5.0	7.5	16%	6.5	5.2

*Base thickness greater than scan depth



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SUMMARY OF GROUND PENETRATING RADAR

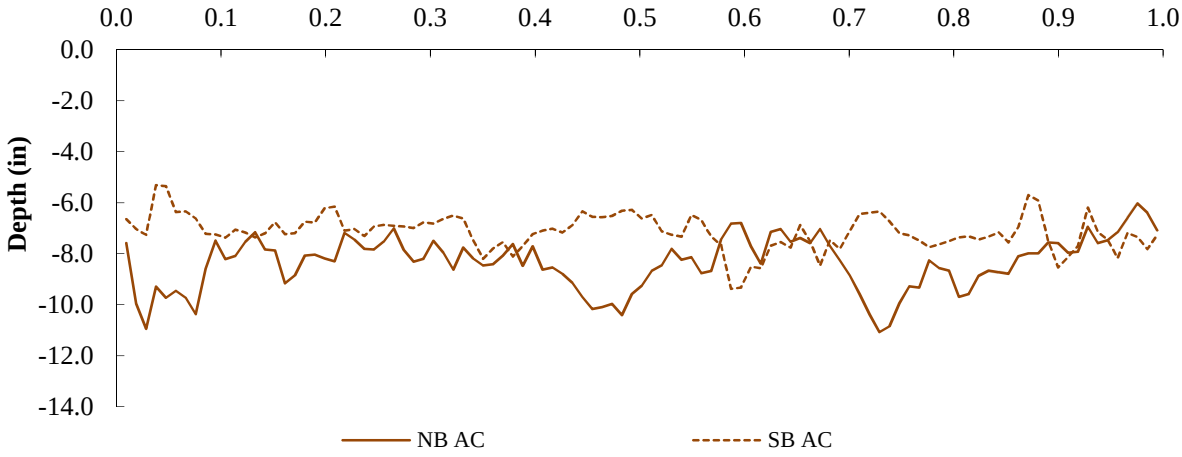
COUNTY	**PAULDING**	**Report Date**
PROJECT NO.	**28-01314**	**Test Date** 8/30/2017
SECTION	**9**	
ROAD	**C-107**	
TERMINI	**T-48 to C-60**	

SUMMARY STATISTICS

Units: inches

Layer	NB				SB			
	Average	CV	15th	Min.	Average	CV	15th	Min.
AC	8.4	13%	7.4	6.0	7.1	10%	6.5	5.3

*Base thickness greater than scan depth



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SUMMARY OF GROUND PENETRATING RADAR

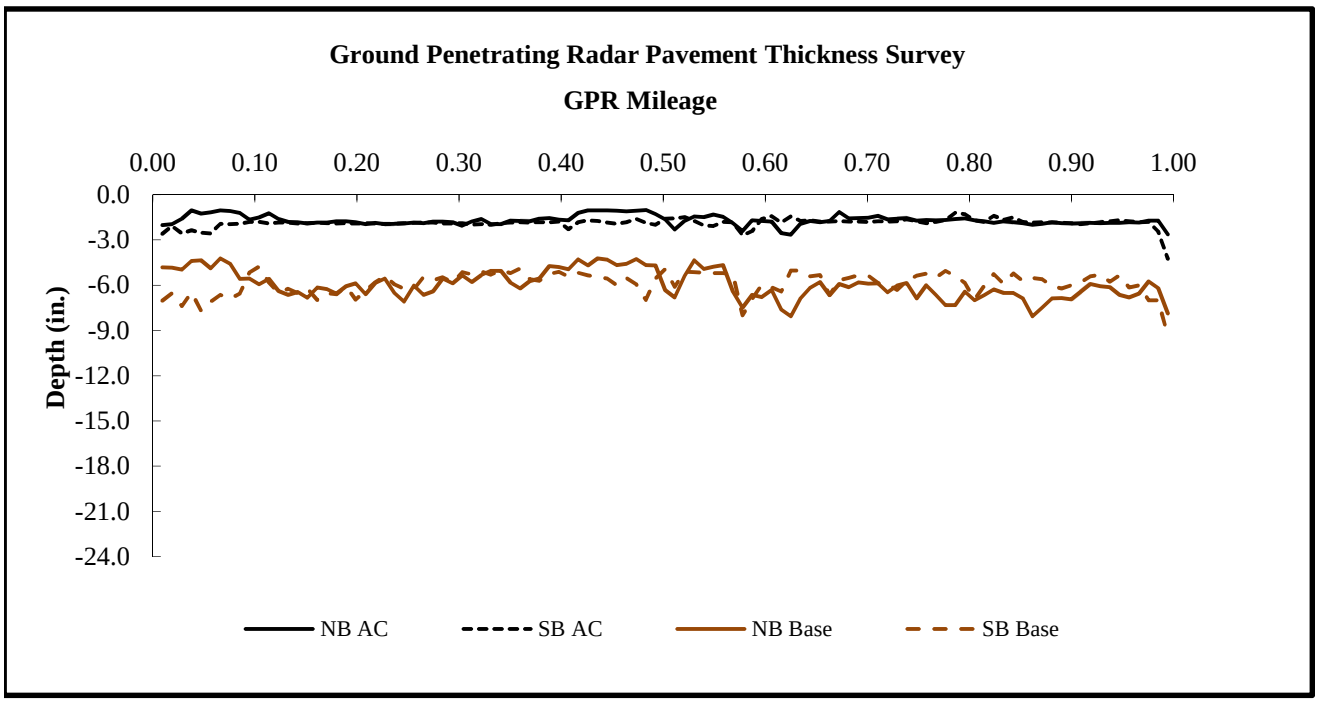
COUNTY	**PAULDING**		**Report Date**
PROJECT NO.	**28-01314**		**Test Date** 8/30/2017
SECTION	**10**		
ROAD	**T-117**		
TERMINI	**T-48**	**to** **C-60**	

SUMMARY STATISTICS

Units: inches

Layer	NB				SB			
	Average	CV	15th	Min.	Average	CV	15th	Min.
AC	1.7	20%	1.3	1.0	1.9	18%	1.7	1.2
Base*	4.3	17%	3.3	2.8	4.0	15%	3.4	3.0

* Road Mix and Gravel Base



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SUMMARY OF GROUND PENETRATING RADAR

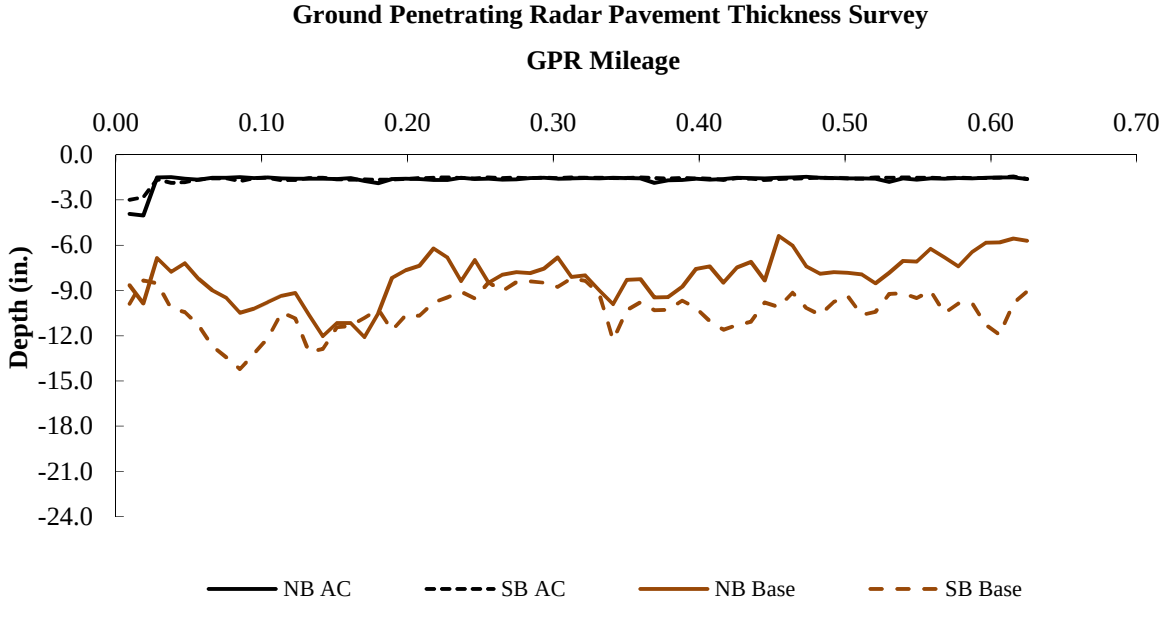
COUNTY	**PAULDING**		**Report Date**
PROJECT NO.	**28-01314**		**Test Date** 8/30/2017
SECTION	**11**		
ROAD	**T-117**		
TERMINI	**C-60**	**to** **0.5 mi N**	

SUMMARY STATISTICS

Units: inches

Layer	NB				SB			
	Average	CV	15th	Min.	Average	CV	15th	Min.
AC	1.7	25%	1.5	1.5	1.6	15%	1.5	1.5
Base*	6.5	23%	5.1	3.8	8.7	16%	7.4	5.5

* Road Mix and Gravel Base



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SUMMARY OF GROUND PENETRATING RADAR

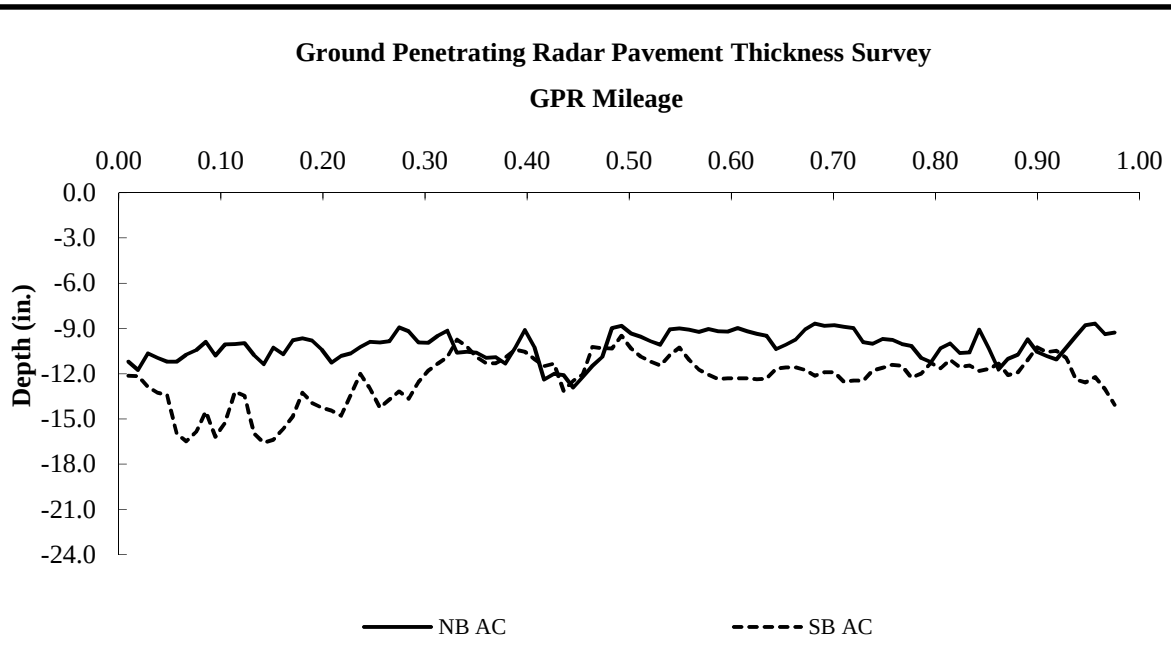
COUNTY	**PAULDING**		**Report Date**
PROJECT NO.	**28-01314**		**Test Date** 8/30/2017
SECTION	**12**		
ROAD	**C-123**		
TERMINI	**SR 114**	**to** **T-48**	

SUMMARY STATISTICS

Units: inches

Layer	NB				SB			
	Average	CV	15th	Min.	Average	CV	15th	Min.
AC	10.1	9%	9.1	8.7	12.3	13%	10.9	9.5
Base*	NA	NA	NA	NA	NA	NA	NA	NA

*Bottom of base was not identifiable



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SUMMARY OF GROUND PENETRATING RADAR

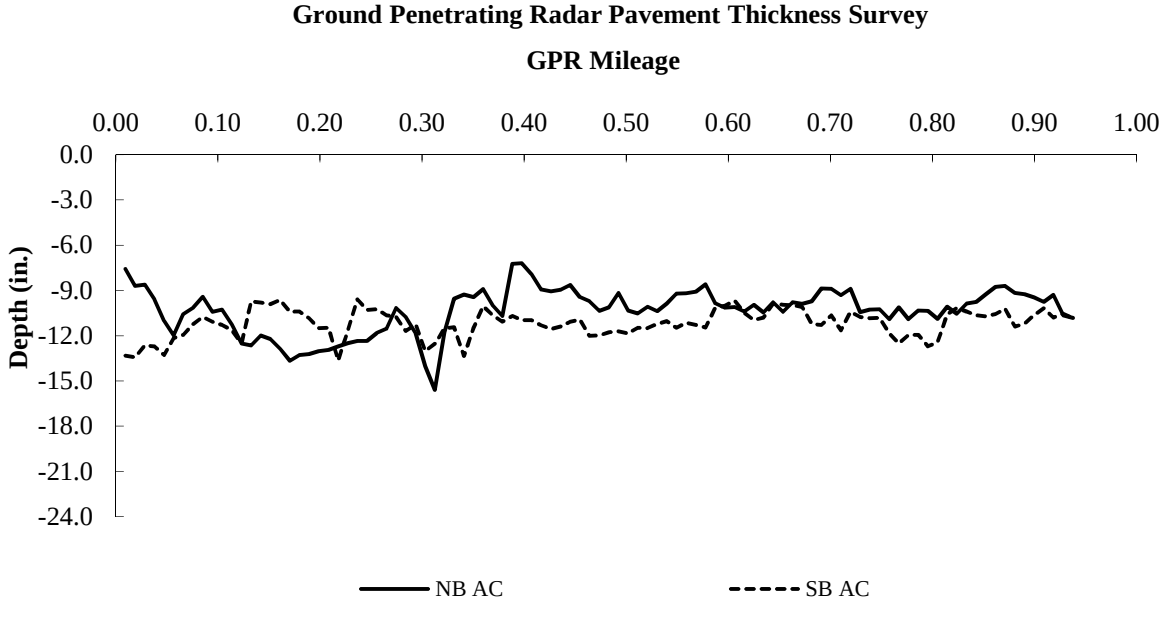
COUNTY	**PAULDING**	**Report Date**
PROJECT NO.	**28-01314**	**Test Date** 8/30/2017
SECTION	**13**	
ROAD	**C-123**	
TERMINI	**T-48 to T-60**	

SUMMARY STATISTICS

Units: inches

Layer	NB				SB			
	Average	CV	15th	Min.	Average	CV	15th	Min.
AC	10.3	15%	9.0	7.2	11.2	8%	10.2	9.6
Base*	NA	NA	NA	NA	NA	NA	NA	NA

*Bottom of base was not identifiable



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SUMMARY OF GROUND PENETRATING RADAR

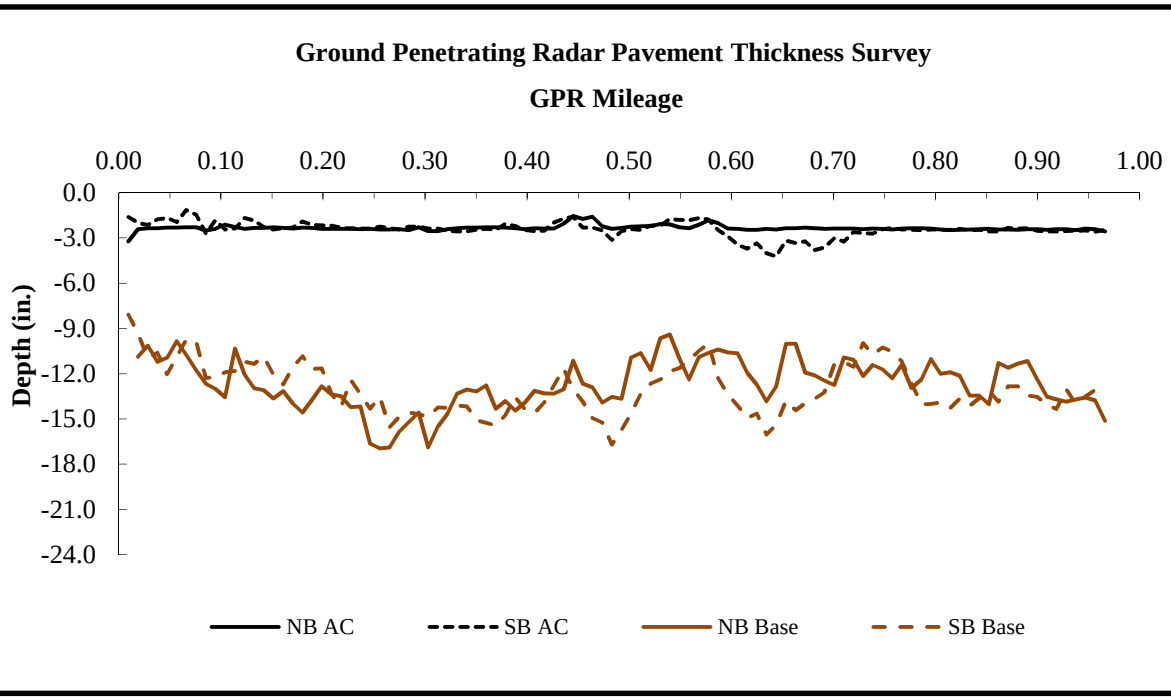
COUNTY	**PAULDING**		**Report Date**
PROJECT NO.	**28-01314**		**Test Date** 8/30/2017
SECTION	**14**		
ROAD	**T-131**		
TERMINI	**SR 114**	**to** **T-48**	

SUMMARY STATISTICS

Units: inches

Layer	NB				SB			
	Average	CV	15th	Min.	Average	CV	15th	Min.
AC	2.4	8%	2.3	1.6	2.4	21%	1.9	1.2
Base*	10.4	15%	8.6	7.3	10.6	14%	8.8	6.5

* Road Mix and Gravel Base



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SUMMARY OF GROUND PENETRATING RADAR

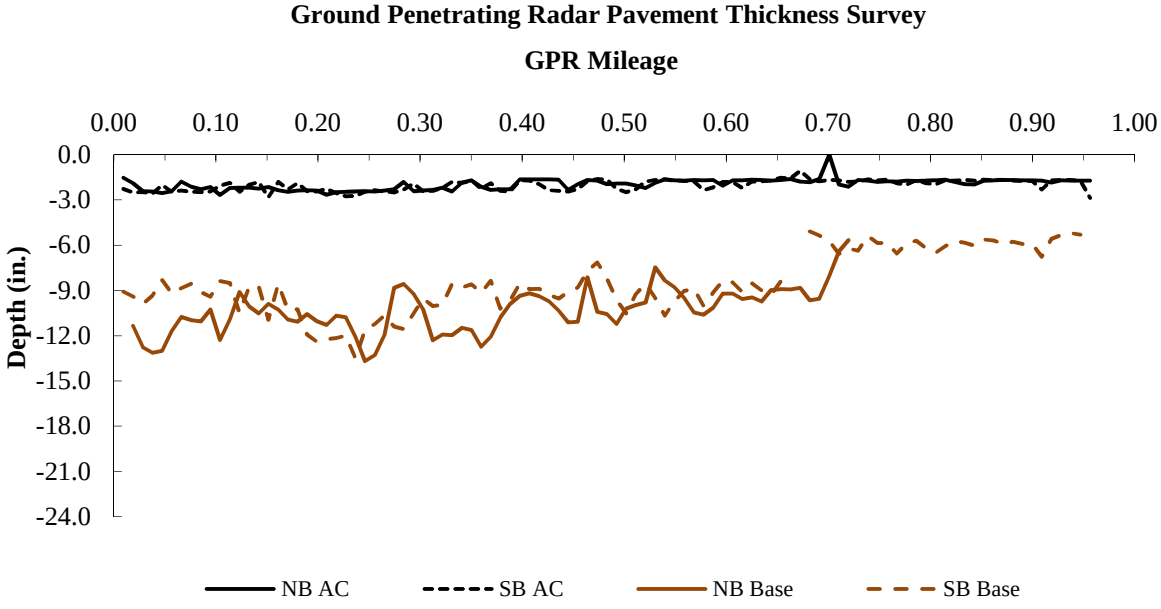
COUNTY	**PAULDING**	**Report Date**
PROJECT NO.	**28-01314**	**Test Date** 8/30/2017
SECTION	**15**	
ROAD	**T-131**	
TERMINI	**T-48 to T-60**	

SUMMARY STATISTICS

Units: inches

Layer	NB				SB			
	Average	CV	15th	Min.	Average	CV	15th	Min.
AC	2.0	16%	1.7	1.5	2.0	18%	1.7	1.1
Base*	8.2	18%	7.1	3.5	6.5	28%	4.2	3.4

* Road Mix and Gravel Base



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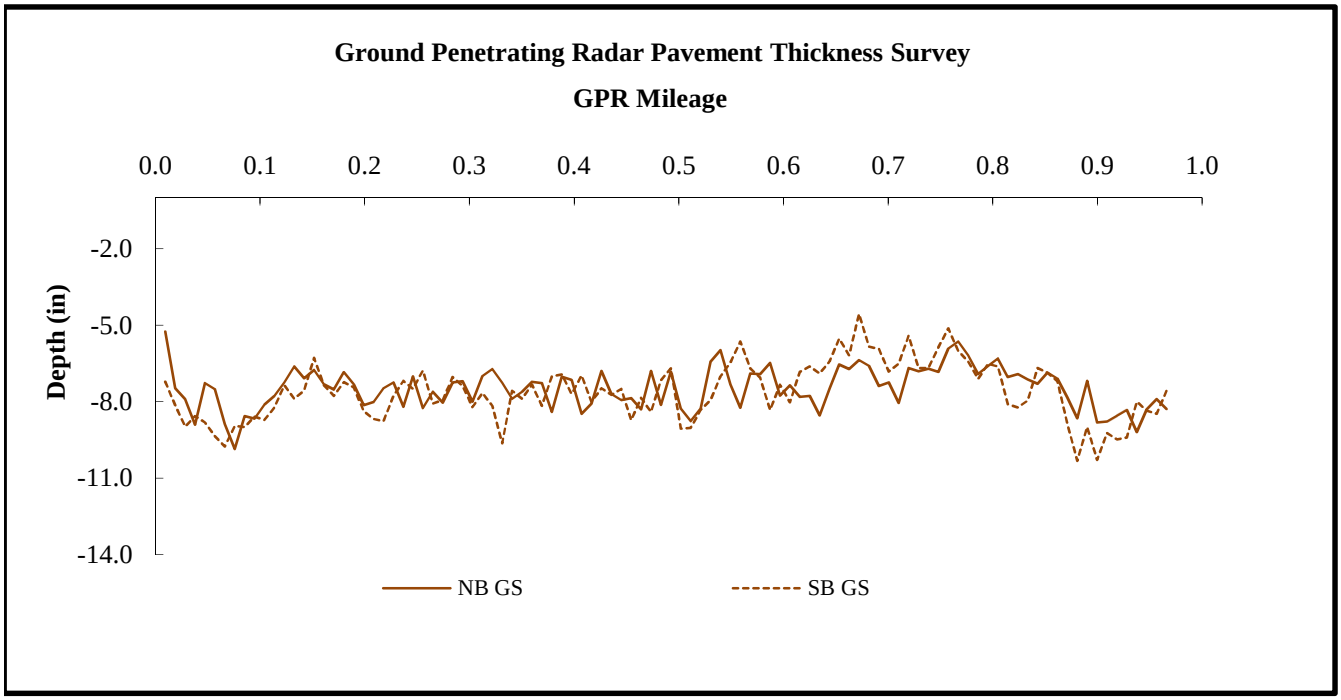
SUMMARY OF GROUND PENETRATING RADAR

COUNTY	**PAULDING**	**Report Date**
PROJECT NO.	**28-01314**	**Test Date** 8/30/2017
SECTION	**16**	
ROAD	**T-131**	
TERMINI	**T-60 to T-72**	

SUMMARY STATISTICS

Units: inches

Layer	NB				SB			
	Average	CV	15th	Min.	Average	CV	15th	Min.
GS	7.5	11%	6.7	5.3	7.6	15%	6.5	4.6



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SUMMARY OF GROUND PENETRATING RADAR

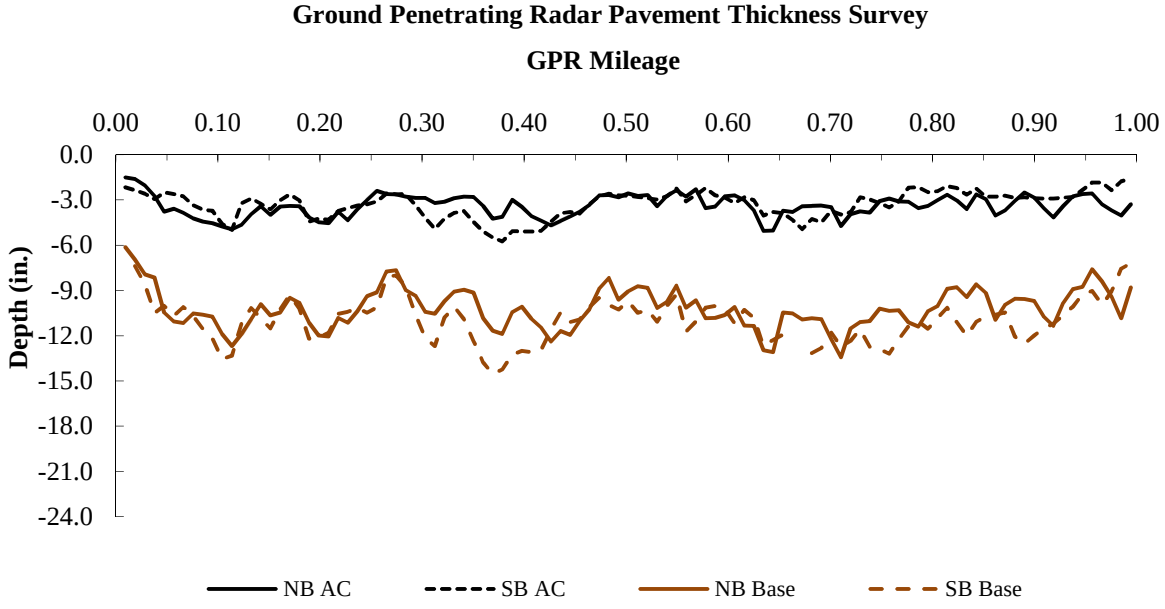
COUNTY	**PAULDING**	**Report Date**
PROJECT NO.	**28-01314**	**Test Date** 8/30/2017
SECTION	**17**	
ROAD	**T-131**	
TERMINI	**T-72 to T-82**	

SUMMARY STATISTICS

Units: inches

Layer	NB				SB			
	Average	CV	15th	Min.	Average	CV	15th	Min.
AC	3.4	21%	2.7	1.5	3.3	28%	2.5	1.6
Base*	6.8	12%	6.1	4.6	7.8	13%	6.9	5.0

* Road Mix and Gravel Base



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SUMMARY OF GROUND PENETRATING RADAR

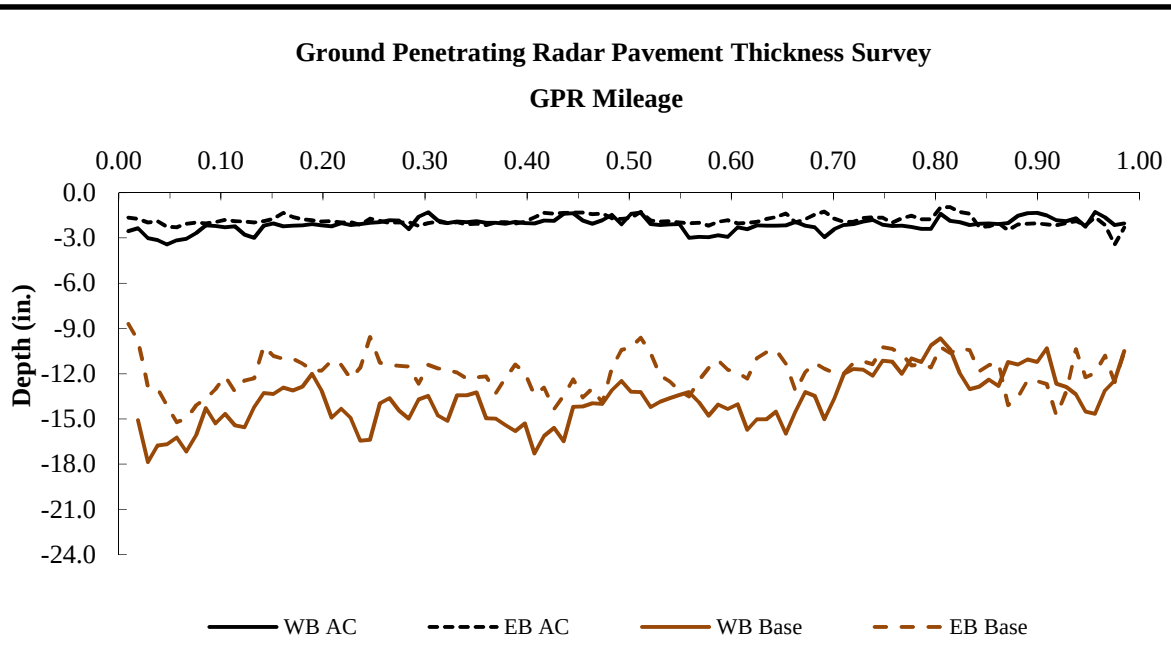
COUNTY	**PAULDING**		**Report Date**
PROJECT NO.	**28-01314**		**Test Date** 8/30/2017
SECTION	**18**		
ROAD	**T-72**		
TERMINI	**T-131**	**to** **T-137**	

SUMMARY STATISTICS

Units: inches

Layer	WB				EB			
	Average	CV	15th	Min.	Average	CV	15th	Min.
AC	2.1	21%	1.8	1.3	1.9	18%	1.5	1.0
Base*	11.7	14%	9.9	7.7	10.1	12%	9.0	7.0

* Road Mix and Gravel Base



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SUMMARY OF GROUND PENETRATING RADAR

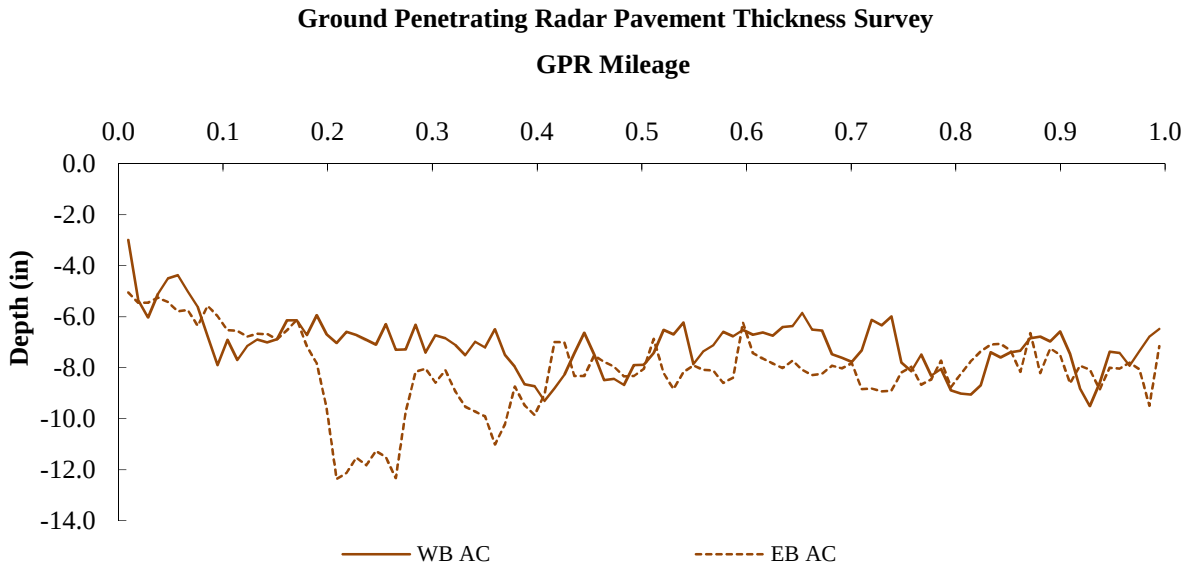
COUNTY	**PAULDING**	**Report Date**
PROJECT NO.	**28-01314**	**Test Date** 8/30/2017
SECTION	**19**	
ROAD	**T-72**	
TERMINI	**T-137 to SR 637**	

SUMMARY STATISTICS

Units: inches

Layer	WB				EB			
	Average	CV	15th	Min.	Average	CV	15th	Min.
AC	7.1	15%	6.3	3.0	8.1	19%	6.7	5.1

*Base thickness greater than scan depth



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SUMMARY OF GROUND PENETRATING RADAR

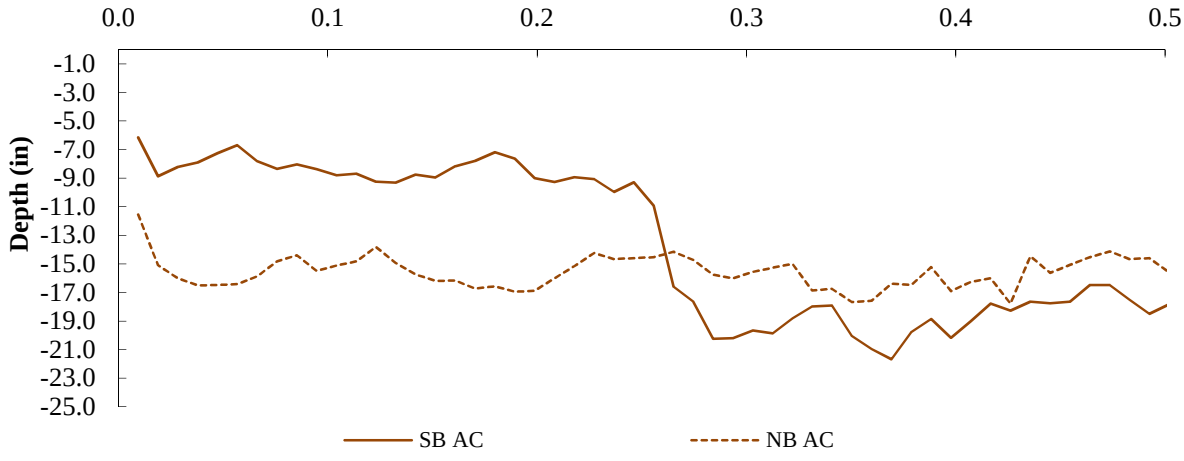
COUNTY	**PAULDING**		**Report Date**
PROJECT NO.	**28-01314**		**Test Date** 8/30/2017
SECTION	**20**		
ROAD	**SR 637**		
TERMINI	**T-72**	**to** **0.5 Mi South of T-72**	

SUMMARY STATISTICS

Units: inches

Layer	SB				NB			
	Average	CV	15th	Min.	Average	CV	15th	Min.
AC	15.0	28%	8.8	6.2	15.7	8%	14.6	11.6

*Base thickness greater than scan depth



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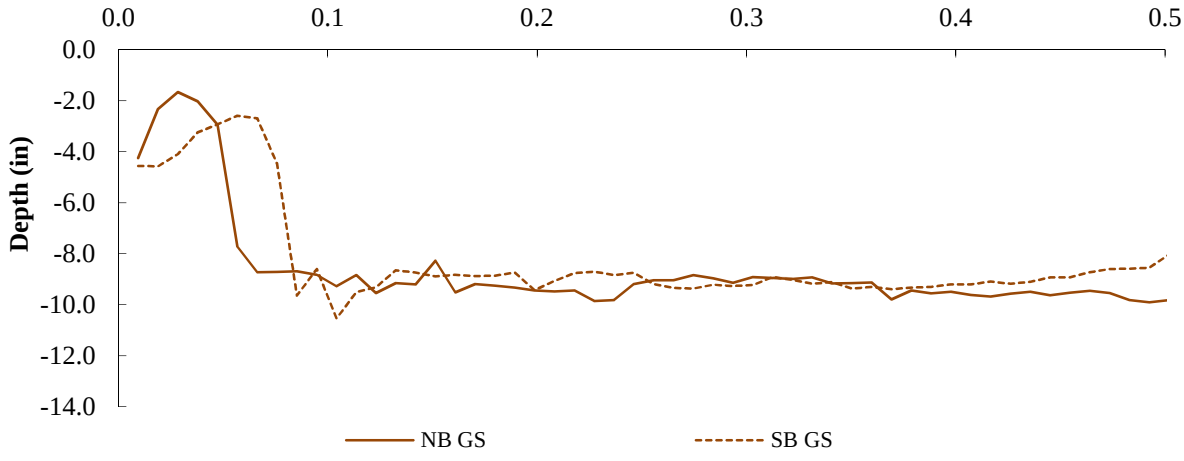
SUMMARY OF GROUND PENETRATING RADAR

COUNTY	**PAULDING**		**Report Date**
PROJECT NO.	**28-01314**		**Test Date** 8/30/2017
SECTION	**21**		
ROAD	**T-137**		
TERMINI	**T-72**	**to** **0.5 Mi North of T-72**	

SUMMARY STATISTICS

Units: inches

Layer	NB				SB			
	Average	CV	15th	Min.	Average	CV	15th	Min.
GS	8.6	23%	8.7	1.7	8.2	24%	7.3	2.6



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SUMMARY OF GROUND PENETRATING RADAR

COUNTY	**PAULDING**		**Report Date**
PROJECT NO.	**28-01314**		**Test Date** 8/30/2017
SECTION	**22**		
ROAD	**T-48**		
TERMINI	**C-79**	**to** **C-87**	

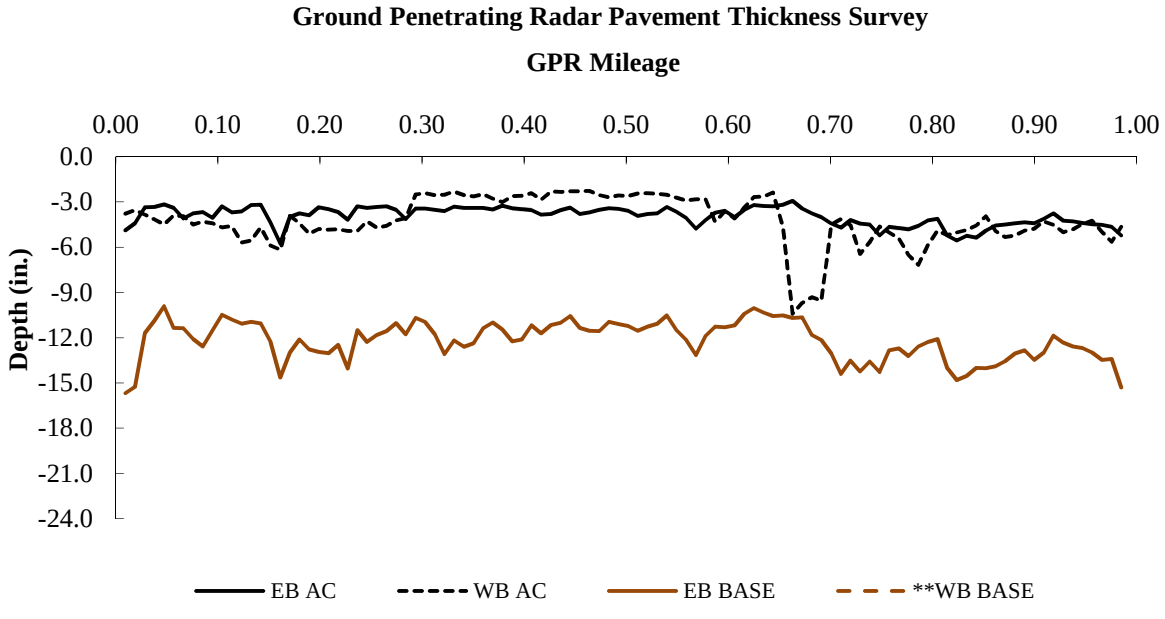
SUMMARY STATISTICS

Units: inches

Layer	EB				WB			
	Average	CV	15th	Min.	Average	CV	15th	Min.
AC	3.9	16%	3.3	2.9	4.2	38%	2.5	2.3
Base*	8.3	10%	7.4	6.7	NA	NA	NA	NA

*Gravel Base

** Where blank, GPR data could not be interpreted



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SUMMARY OF GROUND PENETRATING RADAR

COUNTY	**PAULDING**		**Report Date**
PROJECT NO.	**28-01314**		**Test Date** 8/30/2017
SECTION	**23**		
ROAD	**T-48**		
TERMINI	**C-87**	**to** **T-91**	

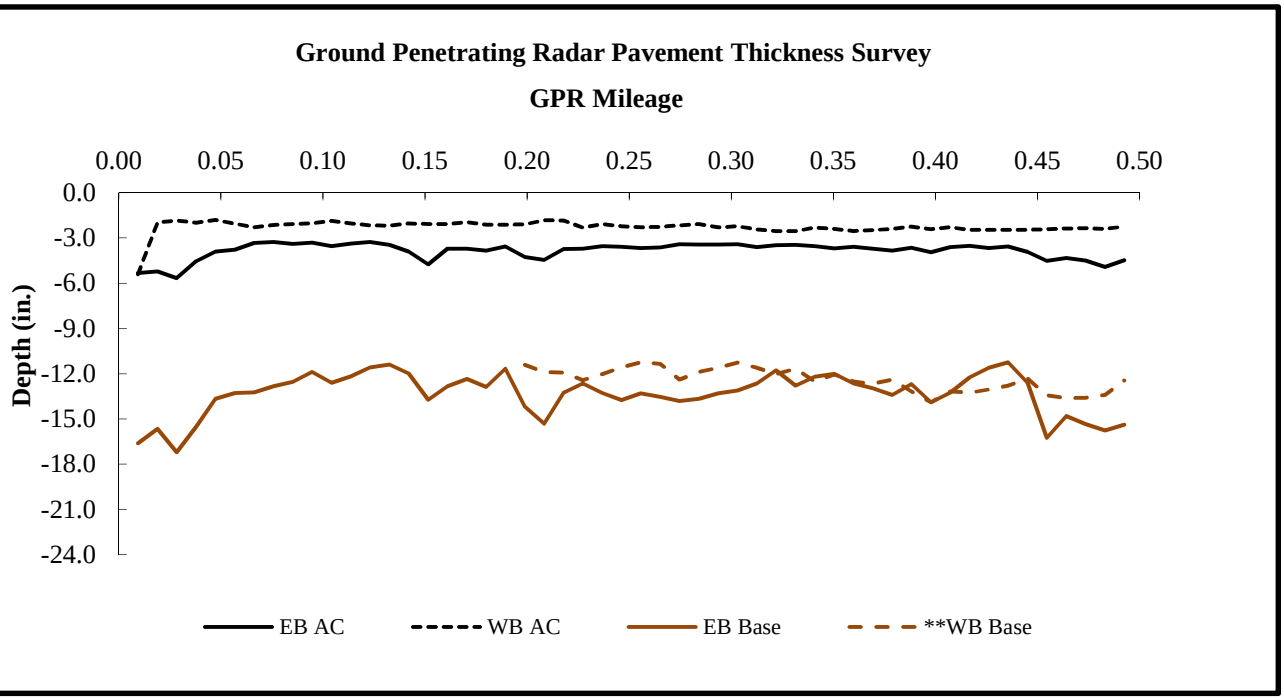
SUMMARY STATISTICS

Units: inches

Layer	EB				WB			
	Average	CV	15th	Min.	Average	CV	15th	Min.
AC	3.9	14%	3.4	3.3	2.3	21%	2.0	1.8
Base*	9.5	10%	8.5	7.7	10.1	7%	9.2	8.9

* Gravel Base

**Where blank, GPR data could not be interpreted



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SUMMARY OF GROUND PENETRATING RADAR

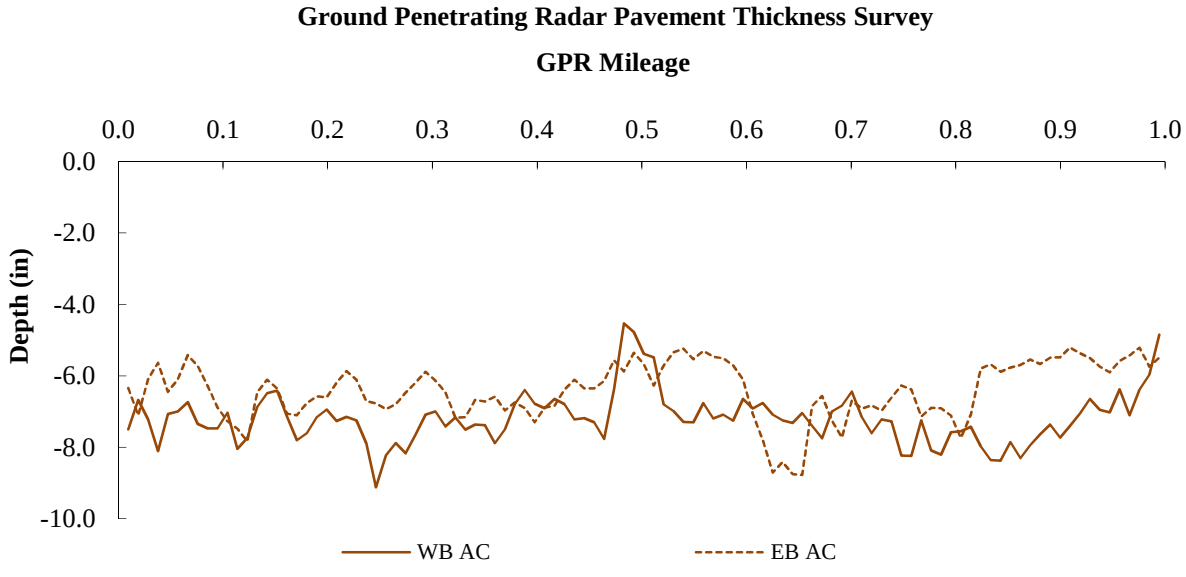
COUNTY	**PAULDING**	**Report Date**
PROJECT NO.	**28-01314**	**Test Date** 8/30/2017
SECTION	**24**	
ROAD	**T-60**	
TERMINI	**US 127 to C-107**	

SUMMARY STATISTICS

Units: inches

Layer	WB				EB			
	Average	CV	15th	Min.	Average	CV	15th	Min.
AC	7.2	10%	6.7	4.5	6.4	12%	5.5	5.2

*Base thickness greater than scan depth



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SUMMARY OF GROUND PENETRATING RADAR

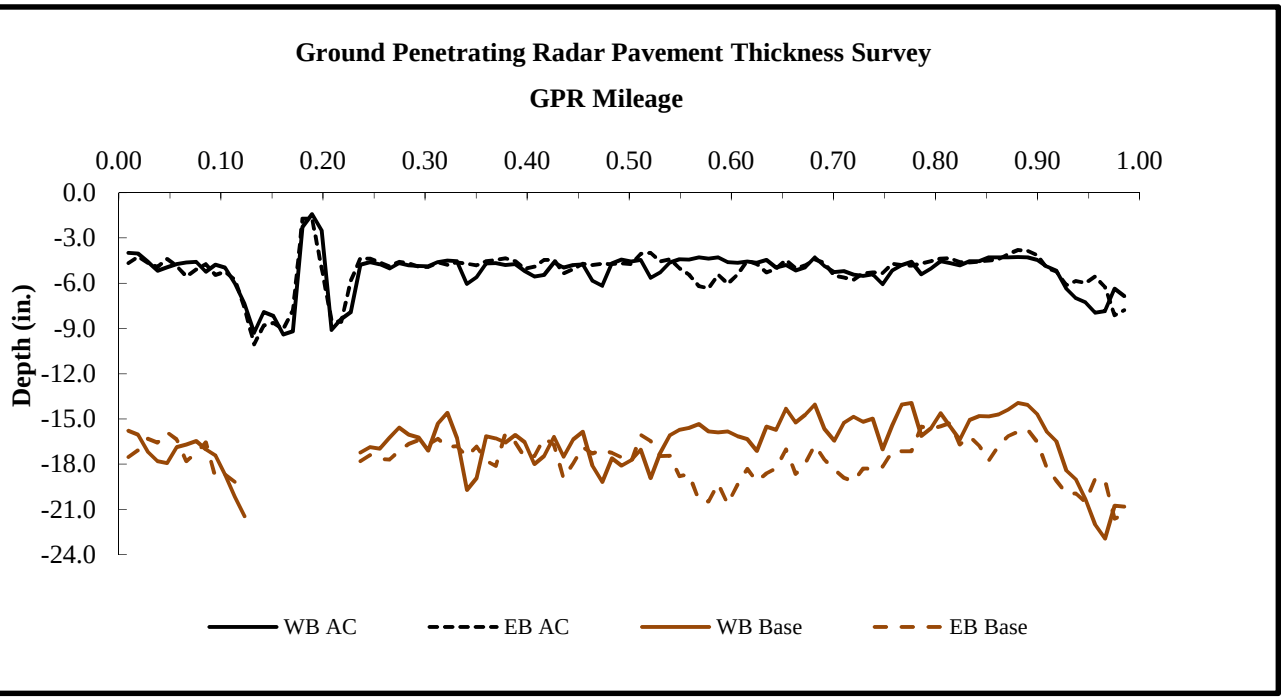
COUNTY	**PAULDING**		**Report Date**
PROJECT NO.	**28-01314**		**Test Date** 8/30/2017
SECTION	**25**		
ROAD	**C-60**		
TERMINI	**C-107**	**to** **T-95**	

SUMMARY STATISTICS

Units: inches

Layer	WB				EB			
	Average	CV	15th	Min.	Average	CV	15th	Min.
AC	5.2	26%	4.4	1.4	5.2	25%	4.4	1.7
Base*	11.6	11%	10.1	9.3	12.7	7%	11.8	10.8

* Road Mix and Gravel Base



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SUMMARY OF GROUND PENETRATING RADAR

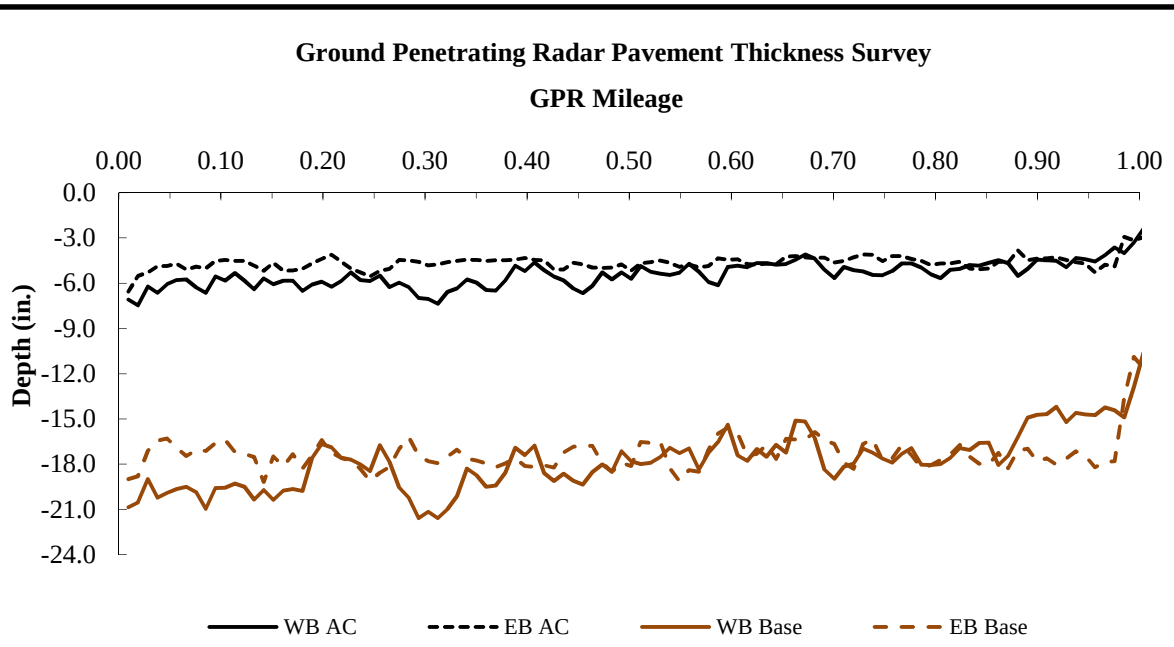
COUNTY	**PAULDING**		**Report Date**
PROJECT NO.	**28-01314**		**Test Date** 8/30/2017
SECTION	**26**		
ROAD	**C-60**		
TERMINI	**T-95**	**to** **C-87**	

SUMMARY STATISTICS

Units: inches

Layer	WB				EB			
	Average	CV	15th	Min.	Average	CV	15th	Min.
AC	5.4	16%	4.6	2.4	4.7	10%	4.3	2.9
Base*	12.4	10%	10.7	8.2	12.6	7%	12.0	7.7

* Road Mix and Gravel Base



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SUMMARY OF GROUND PENETRATING RADAR

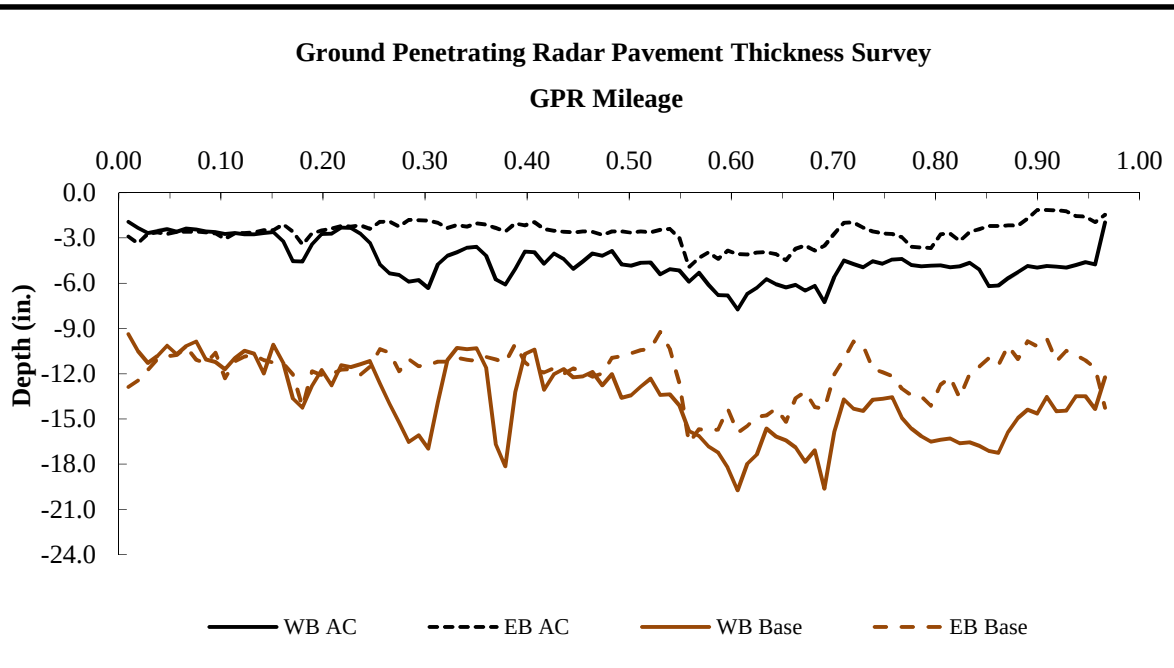
COUNTY	**PAULDING**		**Report Date**
PROJECT NO.	**28-01314**		**Test Date** 8/30/2017
SECTION	**27**		
ROAD	**C-60**		
TERMINI	**C-87**	**to** **T-79**	

SUMMARY STATISTICS

Units: inches

Layer	WB				EB			
	Average	CV	15th	Min.	Average	CV	15th	Min.
AC	4.5	29%	2.7	1.9	2.6	29%	2.0	1.1
Base*	9.3	16%	7.7	6.4	9.3	11%	8.2	6.8

* Road Mix and Gravel Base



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SUMMARY OF GROUND PENETRATING RADAR

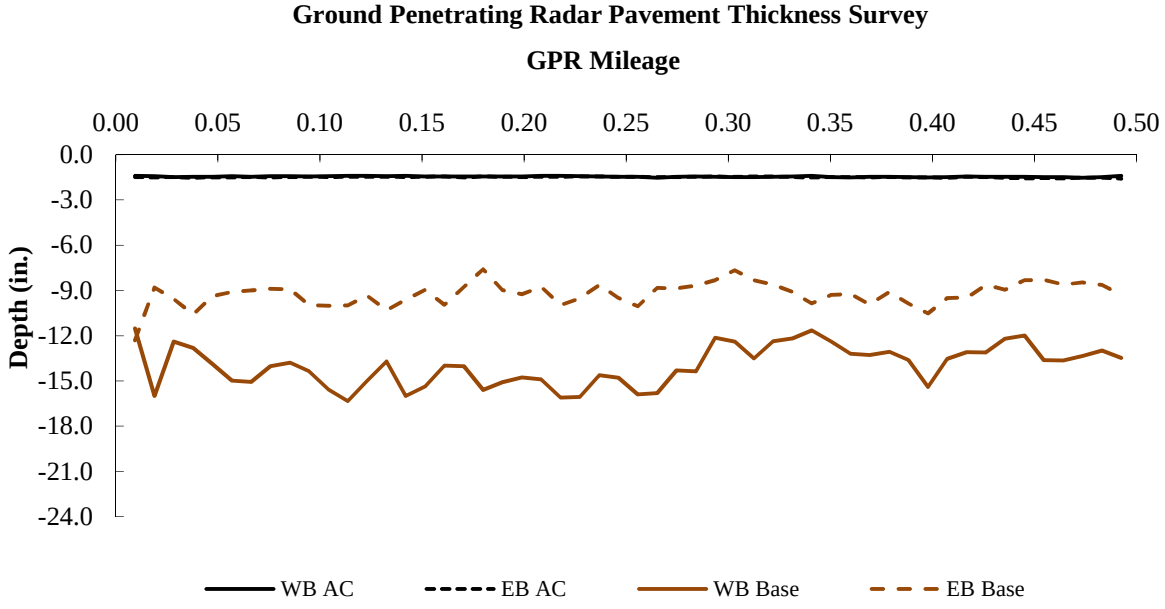
COUNTY	**PAULDING**		**Report Date**
PROJECT NO.	**28-01314**		**Test Date** 8/30/2017
SECTION	**28**		
ROAD	**C-60**		
TERMINI	**T-79**	**to** **T-75**	

SUMMARY STATISTICS

Units: inches

Layer	WB				EB			
	Average	CV	15th	Min.	Average	CV	15th	Min.
AC	1.5	2%	1.4	1.4	1.5	2%	1.5	1.4
Base*	12.5	11%	10.9	10.1	7.7	10%	7.1	6.1

* Road Mix and Gravel Base



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SUMMARY OF GROUND PENETRATING RADAR

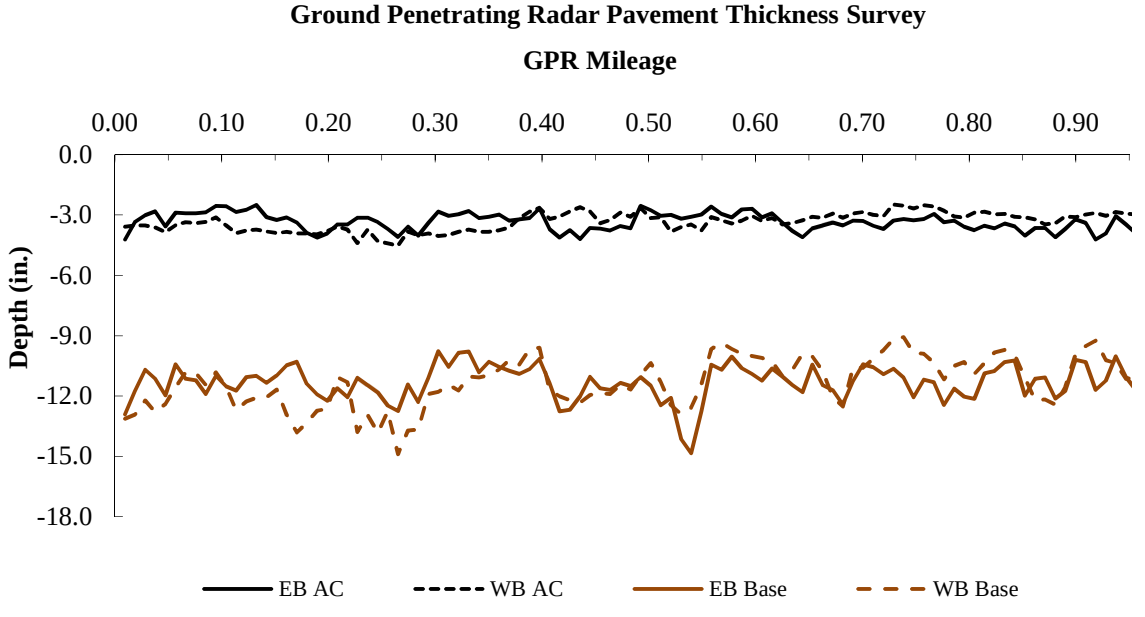
COUNTY	**PAULDING**		**Report Date**
PROJECT NO.	**28-01314**		**Test Date** 8/30/2017
SECTION	**29**		
ROAD	**C-60**		
TERMINI	**US 127**	**to** **T-117**	

SUMMARY STATISTICS

Units: inches

Layer	EB				WB			
	Average	CV	15th	Min.	Average	CV	15th	Min.
AC	3.4	13%	2.9	2.5	3.3	14%	2.9	2.5
Base*	8.0	10%	7.2	6.7	8.0	12%	6.9	6.1

* Road Mix and Gravel Base



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SUMMARY OF GROUND PENETRATING RADAR

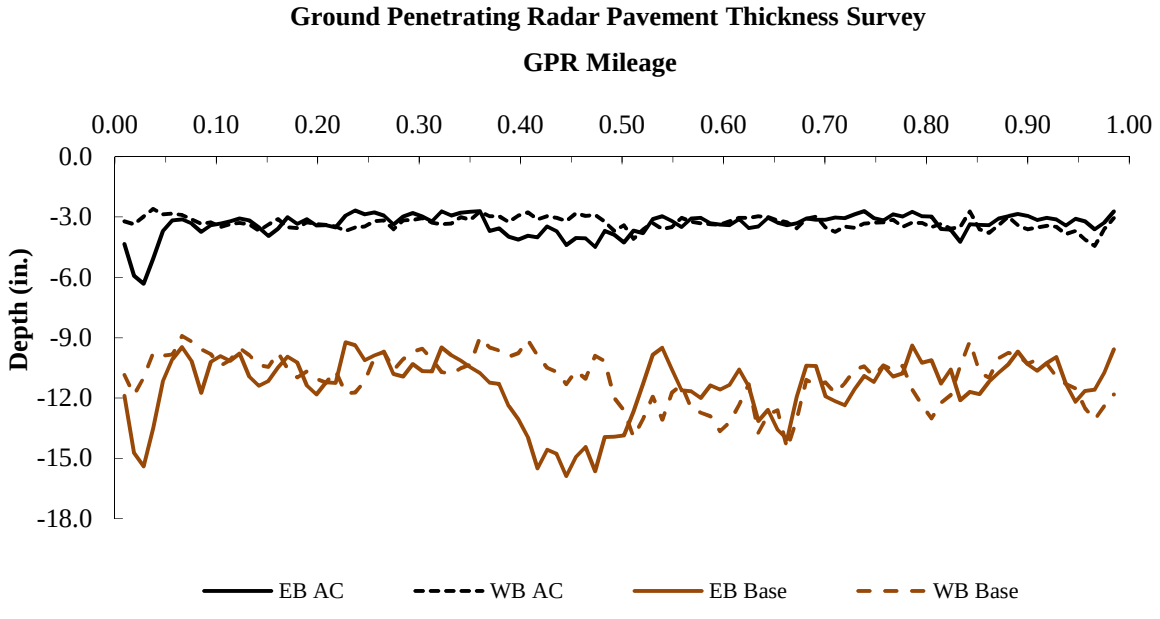
COUNTY	**PAULDING**		**Report Date**
PROJECT NO.	**28-01314**		**Test Date** 8/30/2017
SECTION	**30**		
ROAD	**C-60**		
TERMINI	**T-117**	**to** **C-123**	

SUMMARY STATISTICS

Units: inches

Layer	EB				WB			
	Average	CV	15th	Min.	Average	CV	15th	Min.
AC	3.4	18%	2.9	2.7	3.3	9%	3.0	2.6
Base*	8.1	15%	6.9	6.3	7.7	15%	6.6	6.0

* Road Mix and Gravel Base



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SUMMARY OF GROUND PENETRATING RADAR

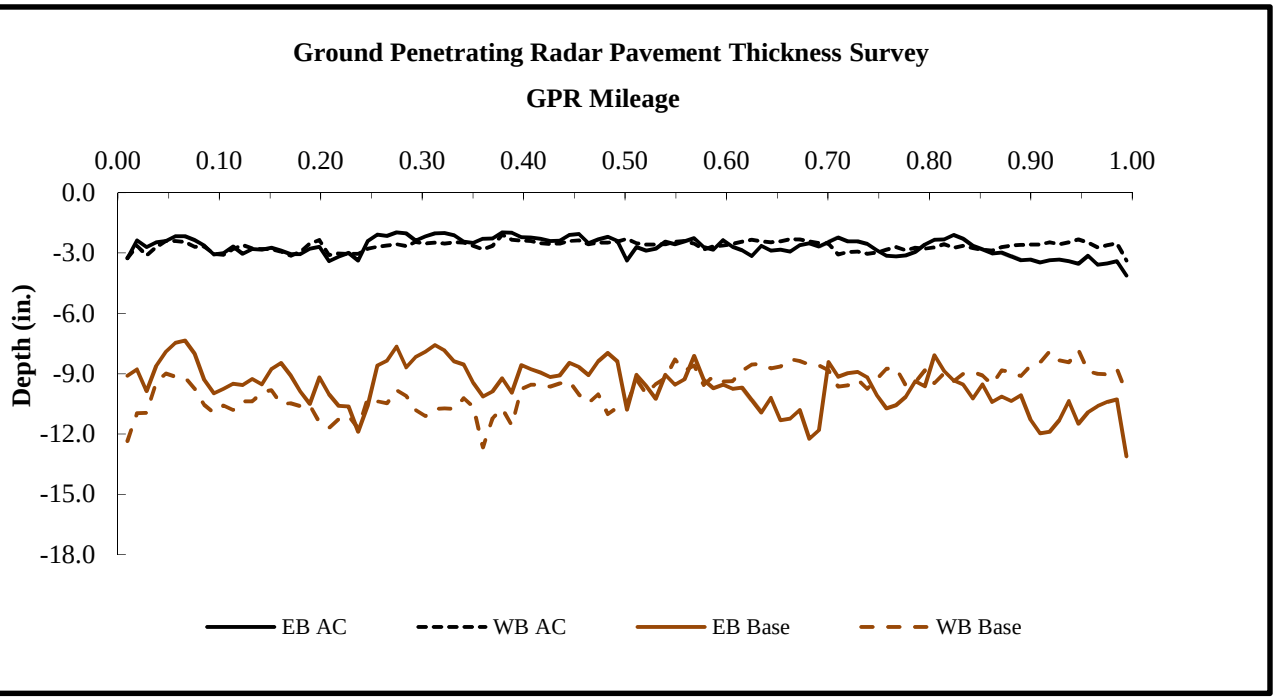
COUNTY	**PAULDING**	**Report Date**
PROJECT NO.	**28-01314**	**Test Date** 8/30/2017
SECTION	**31**	
ROAD	**C-60**	
TERMINI	**C-123** **to** **T-131**	

SUMMARY STATISTICS

Units: inches

Layer	EB				WB			
	Average	CV	15th	Min.	Average	CV	15th	Min.
AC	2.7	17%	2.2	2.0	2.6	9%	2.4	2.1
Base*	6.9	13%	6.0	5.2	7.1	13%	6.1	5.4

* Road Mix and Gravel Base



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SUMMARY OF GROUND PENETRATING RADAR

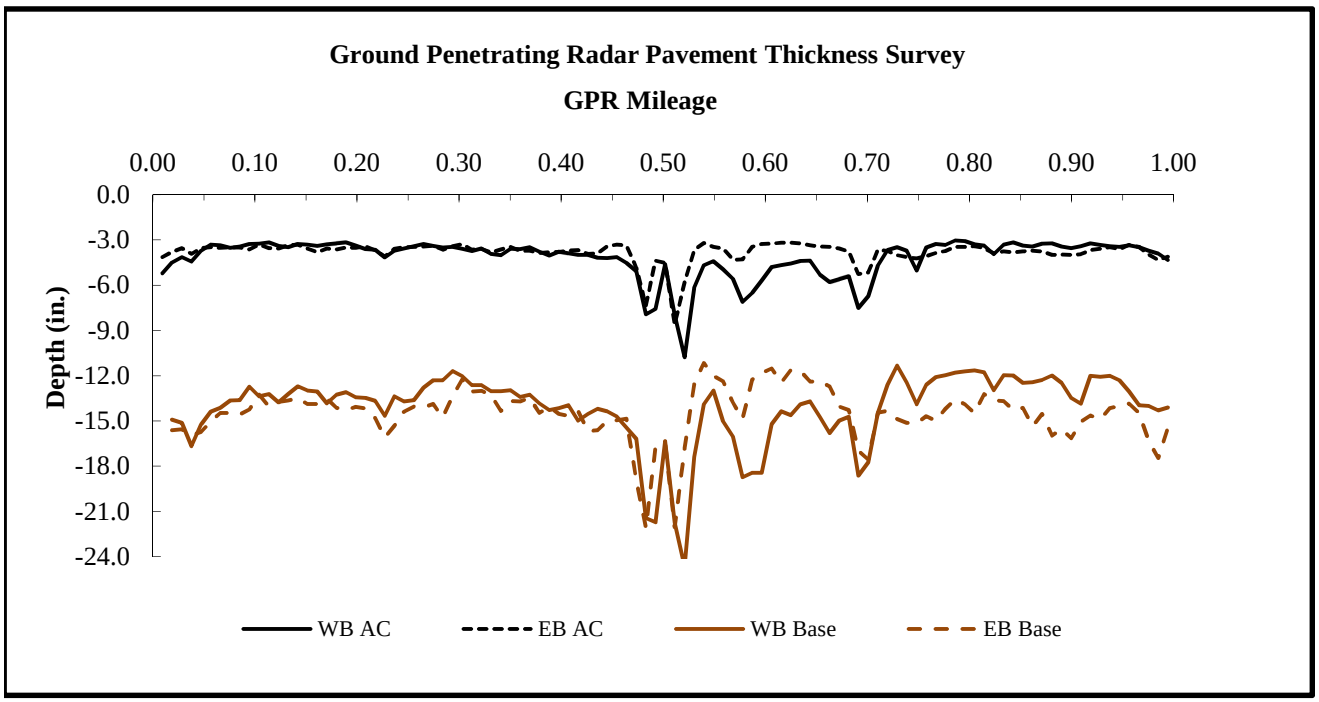
COUNTY	**PAULDING**		**Report Date**
PROJECT NO.	**28-01314**		**Test Date** 8/30/2017
SECTION	**32**		
ROAD	**T-48**		
TERMINI	**US 127**	**to** **C-107**	

SUMMARY STATISTICS

Units: inches

Layer	WB				EB			
	Average	CV	15th	Min.	Average	CV	15th	Min.
AC	4.2	31%	3.3	3.0	3.8	19%	3.4	3.2
Base*	10.0	12%	8.8	7.8	10.7	11%	9.4	8.0

* Road Mix and Gravel Base



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SUMMARY OF GROUND PENETRATING RADAR

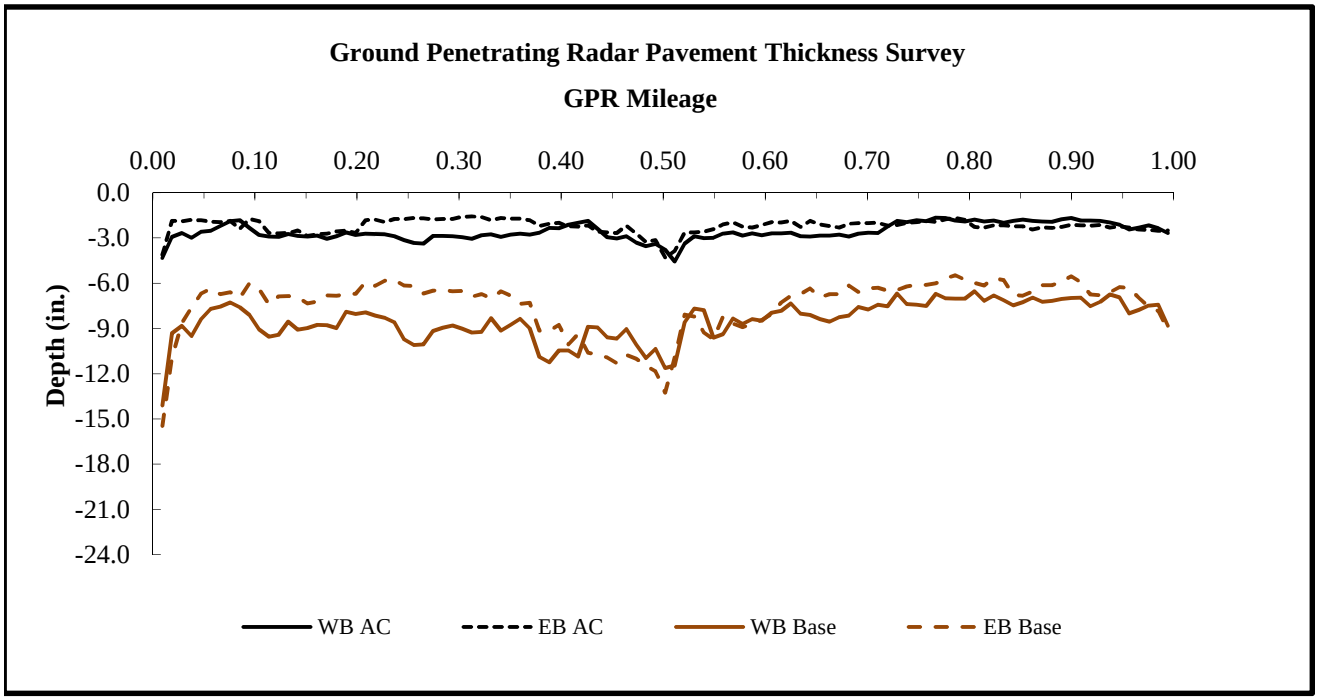
COUNTY	**PAULDING**		**Report Date**
PROJECT NO.	**28-01314**		**Test Date** 8/30/2017
SECTION	**33**		
ROAD	**T-48**		
TERMINI	**C-107**	**to** **T-95**	

SUMMARY STATISTICS

Units: inches

Layer	WB				EB			
	Average	CV	15th	Min.	Average	CV	15th	Min.
AC	2.6	21%	1.9	1.7	2.2	21%	1.8	1.6
Base*	5.9	16%	5.1	4.7	5.3	30%	4.0	3.4

* Road Mix and Gravel Base



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SUMMARY OF GROUND PENETRATING RADAR

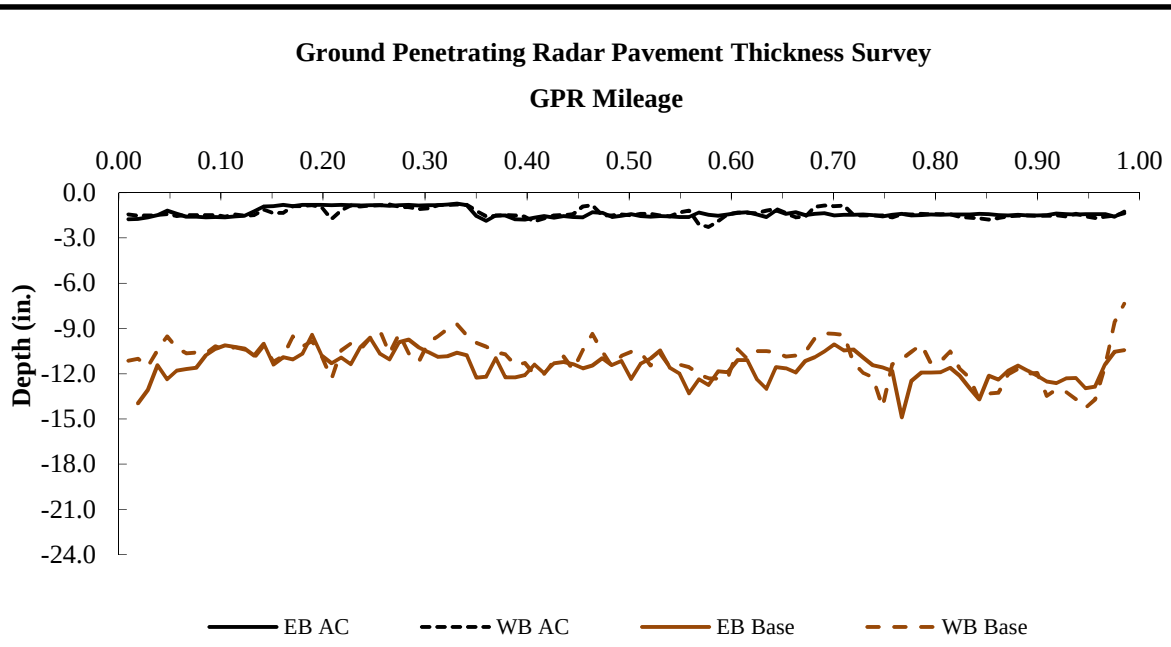
COUNTY	**PAULDING**		**Report Date**
PROJECT NO.	**28-01314**		**Test Date** 8/30/2017
SECTION	**34**		
ROAD	**T-48**		
TERMINI	**US 127**	**to** **T-117**	

SUMMARY STATISTICS

Units: inches

Layer	EB				WB			
	Average	CV	15th	Min.	Average	CV	15th	Min.
AC	1.4	22%	0.8	0.7	1.4	22%	0.9	0.8
Base*	10.1	9%	9.2	8.5	9.6	11%	8.7	6.0

* Road Mix and Gravel Base



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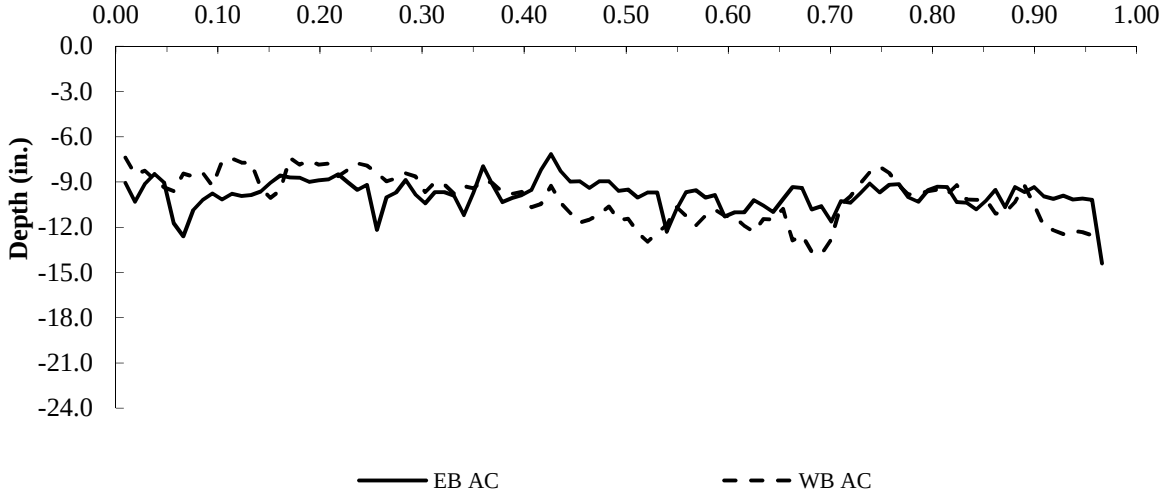
SUMMARY OF GROUND PENETRATING RADAR

COUNTY	**PAULDING**	**Report Date**
PROJECT NO.	**28-01314**	**Test Date** 8/30/2017
SECTION	**35**	
ROAD	**T-48**	
TERMINI	**T-117 to C-123**	

SUMMARY STATISTICS

Units: inches

Layer	EB				WB			
	Average	CV	15th	Min.	Average	CV	15th	Min.
AC	8.5	11%	7.6	6.0	8.7	18%	6.9	6.1



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SUMMARY OF GROUND PENETRATING RADAR

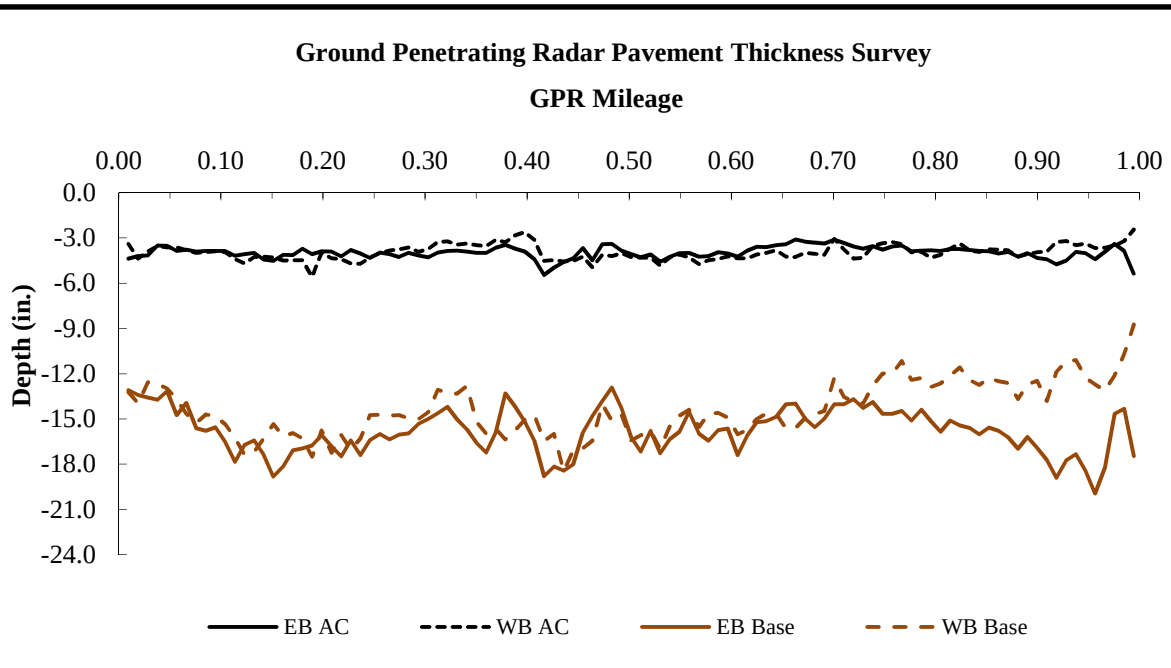
COUNTY	**PAULDING**		**Report Date**
PROJECT NO.	**28-01314**		**Test Date** 8/30/2017
SECTION	**36**		
ROAD	**T-48**		
TERMINI	**C-123**	**to** **T-131**	

SUMMARY STATISTICS

Units: inches

Layer	EB				WB			
	Average	CV	15th	Min.	Average	CV	15th	Min.
AC	4.0	10%	3.6	3.1	3.9	13%	3.4	2.4
Base*	11.9	11%	10.5	8.7	10.4	14%	8.6	6.3

* Road Mix and Gravel Base



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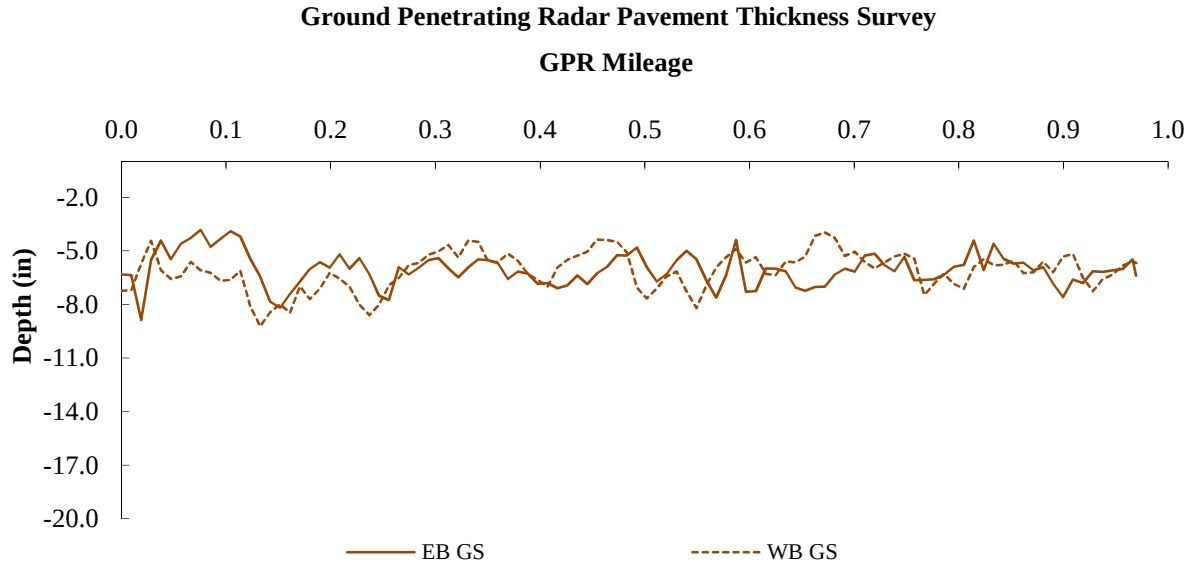
SUMMARY OF GROUND PENETRATING RADAR

COUNTY	**PAULDING**	**Report Date**
PROJECT NO.	**28-01314**	**Test Date** 8/30/2017
SECTION	**37**	
ROAD	**T-48**	
TERMINI	**T-131 to T-137**	

SUMMARY STATISTICS

Units: inches

Layer	EB				WB			
	Average	CV	15th	Min.	Average	CV	15th	Min.
GS	6.0	15%	5.3	3.8	6.1	18%	5.2	4.0



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SUMMARY OF GROUND PENETRATING RADAR

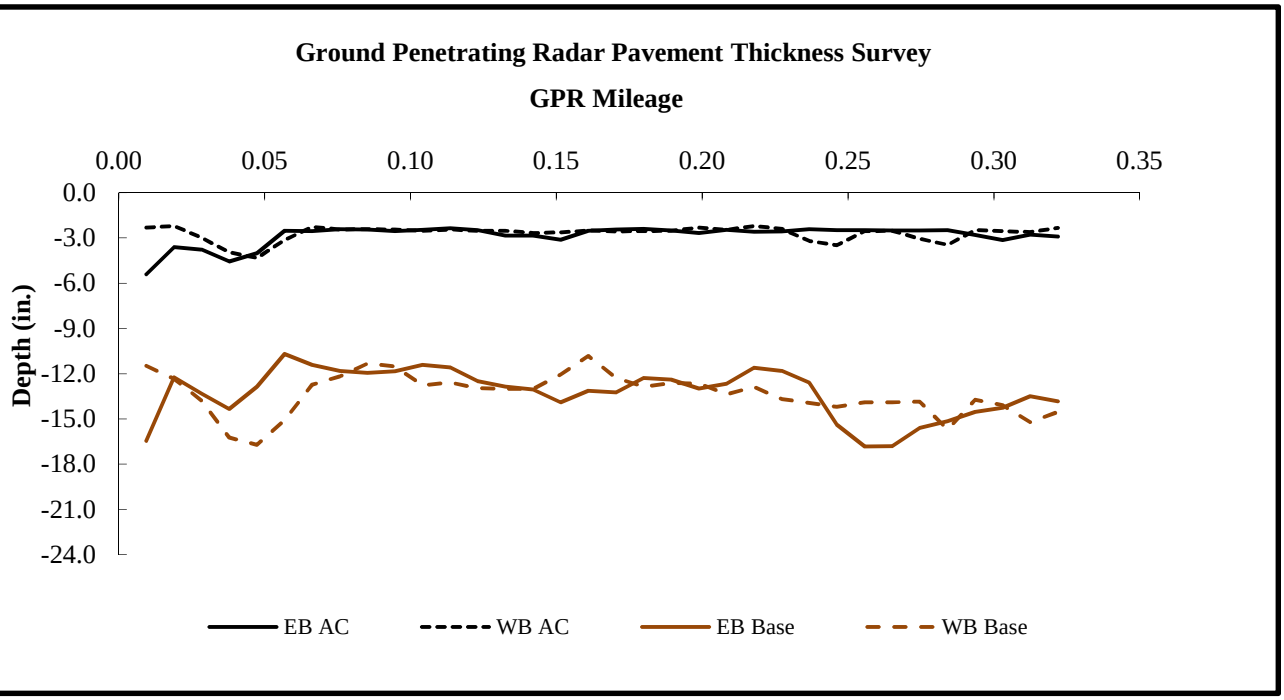
COUNTY	**PAULDING**		**Report Date**
PROJECT NO.	**28-01314**		**Test Date** 8/30/2017
SECTION	**38**		
ROAD	**T-137**		
TERMINI	**T-48**	**to**	**0.3 Mi North of T-48**

SUMMARY STATISTICS

Units: inches

Layer	NB				SB			
	Average	CV	15th	Min.	Average	CV	15th	Min.
AC	2.8	24%	2.5	2.4	2.7	18%	2.3	2.2
Base*	10.4	15%	9.0	8.2	10.7	10%	9.7	8.3

* Road Mix and Gravel Base



Appendix C

Falling Weight Deflectometer Field Exploration and Testing
FWD Data and Analysis Results Sheet

Appendix C
Falling Weight Deflectometer Field Exploration and Testing
Report No. 28-01314

C.1 PAVEMENT TESTING

The pavement structural conditions at the site were evaluated nondestructively using Falling Weight Deflectometer (FWD). The testing locations appear in Figure 1, preceding Appendix A in this report.

C.2 EQUIPMENT DESCRIPTION

C.2.1 Dynatest 8000 FWD Test System

The FWD owned by AET is a Dynatest 8000 FWD Test System that consists of a Dynatest 8002 trailer and a third generation control and data acquisition unit developed in 2003, called the Dynatest Compact15, featuring fifteen (15) deflection channels. The new generation FWD, including a Compact15 System and a standard PC with the FwdWin field Program constitutes the newest, most sophisticated Dynatest FWD Test System, which fulfills or exceeds all requirements to meet ASTM-4694, ASTM D-4695 Standards. Figure C1 provides a view of this equipment.

Figure C1 Dynatest 8002 FWD Test System

The FWD imposes a dynamic impulse load onto the pavement surface through a load plate. Total pulse is an approximately half sine shape with a total duration typically between 25 to 30 ms. The FWD is capable of applying a variety of loads to the pavement ranging from 1,500 lbf (7 kN) to 27,000 ibf (120 kN) by dropping a variable weight mass from different heights to a standard, 11.8-inch (300-mm) diameter rigid plate.

The drop weights and the buffers are constructed so that the falling weight buffer subassembly may be quickly and conveniently changed between falling masses of 440 lbm (200 kg) for highways and 770 lbm (350 kg) for airports. With the 440 lbm (200 kg) package for highways three drop heights are used with the target load of 6,000 lbf (27 kN) at drop height 1, 9,000 lbf (40 kN) at drop height 2, and 12,000 lbf at drop height 3 (53 kN). The drop sequence consists of two seating drops from drop height 3 and 2 repeat measurements at drop height 1 and 1 measurement at drop height 2 for flexible pavements and 2 repeat measurements at drop height 2 and 1 measurement at drop height 3 for rigid pavements. The data from the seating drops is not stored.

The FWD is equipped with a load cell to measure the applied forces and nine geophones or deflectors to measure deflections up to 100 mils (2.5 mm). The load cell is capable of accurately measuring the force that is applied perpendicular to the loading plate with a resolution of 0.15 psi (1 kPa) or better. The force is expressed in terms of pressure, as a function of loading plate size.

Nine deflectors at the offsets listed in the following table in the Long Term Performance Program (LTPP) configuration are capable of measuring electronically discrete deflections per test, together with nine (9) separate deflection measuring channels for recording of the data. One (1) of the deflectors measures the deflection of the pavement surface through the center of the loading plate, while seven (7) deflectors are capable of being positioned behind the loading plate along the housing bar, up to a distance of 5 ft (2.5 m) from the center of the loading plate and one (1) being positioned in front of the loading plate along the bar.

Deflector	D1	D2	D3	D4	D5	D6	D7	D8	D9
Offset (in.)	0	8	12	18	24	36	48	60	72

Field testing is performed in accordance with the standard ASTM procedures as described in ASTM D 4695-96, “Standard Guide for General Pavement Deflection Measurements” and the calibration of our equipment is verified each year at the Long Term Pavement Performance Calibration Center in Maplewood, MN.

C.2.2 Linear Distance and Spatial Reference System

Distance measuring instrument (DMI) is a trailer mounted two phase encoder system. When DMI is connected to the Compact15 it provides for automatic display and recording distance information in both English and metric units with a 1 foot (0.3 meters) resolution and four percent accuracy when calibrated using provided procedure in the Field Program.

Spatial reference system is a Trimble ProXH Global Positioning System (GPS) that consists of fully integrated receiver, antenna and battery unit with Trimble's new H-Star™ technology to provide subfoot (30 cm) post-processed accuracy. The External Patch antenna is added to the ProXH receiver for the position of the loading plate. The External Patch antenna can be conveniently elevated with the optional baseball cap to prevent any signal blockage.

C.2.3 Air and Pavement Temperature Measuring System

A temperature monitoring probe, for automatic recording of air temperature, is an electronic (integrated circuit) sensing element in a stainless steel probe. The probe mounts on the FWD unit in a special holder with air circulation and connects to the Compact15. A non-contact Infra-Red (IR) Temperature Transmitter, for automatic recording of pavement surface temperature only, features an integrated IR-detector and digital electronics in a weather proof enclosure. The IR transmitter mounts on the FWD unit in a special holder with air circulation and connects to the Compact15. Both probe and IR transmitter have a resolution of 0.9 ºF (0.5 ºC) and accuracy within ± 1.8ºF (1 ºC) in the 0 to 158 ºF (-18 to +70ºC) range when calibrated using provided procedure.

C.2.4 Camera Monitoring System

A battery operated independent DC-1908E multi-functional digital camera with a SD card is used for easy positioning of the loading plate or of the pavement surface condition at the testing locations.

C.3 SAMPLING METHODS

At the project level, the testing interval is set at 0.1 mi. (maximum) or 10 locations per uniform section in the Outside Wheel Path (OWP) = 2.5 ft ± 0.25 ft (0.76 m ± 0.08 m) for nominal 12 ft (3.7 m) wide lanes. Where a divided roadbed exists, surveys will be taken in both directions if the project will include improvements in both directions. If there is more than one lane in one direction the surveys will be taken in the outer driving lane (truck lane) versus the passing lane of the highway. FWD tests are performed at a constant lateral offset down the test section.

At the network level, FWD tests on 20% mileage or three tests per mile are set with two deflection basins collected at only one load level, without statistically compromising the quality of the data collected. If FWD tests are for the in situ characterization of material stress sensitivity FWD data will be collected at multiple load levels.

C.4 QUALITY CONTROL (QC) AND QUALITY ASSURANCE (QA)

Beside the annual reference calibration the relative calibration of the FWD deflection sensors is conducted monthly but not to exceed 6 weeks during the months in which the FWD unit is continually testing. The DMI is also calibrated monthly by driving the vehicle over a known distance to calculate the distance scale factor. The accuracy of the FWD air temperature and infra-red (IR) sensors are checked on a monthly basis or more frequently if the FWD operator observes "suspicious" temperature readings.

Some care in the placement of the load plate and sensors is taken by the survey crew, especially where the highway surface is rutted or cracked to ensure that the load plate lays on a flat surface and that the load plate and all geophones lie on the same side of any visible cracks. Liberal use of comments placed in the FWD data file at the time of data collection is required. Comments pertaining to proximity to reference markers, bridge abutments, patches, cracks, etc., are all important documentation for the individual evaluating the data.

Scheduled preventive maintenance ensures proper equipment operation and helps identify potential problems that can be corrected to avoid poor quality or missing data that results if the equipment malfunctions while on site. The routine and major maintenance procedures established by the LTPP are adopted and any maintenance has been done at the end of the day after the testing is complete and become part of the routine performed at the end of each test/travel day and on days when no other work is scheduled.

C.5 DATA ANALYSIS METHODS

C.5.1 Inputs

The two-way AADT and HCADT are required to calculate the ESALs. The state average truck percent and truck type distribution are used when HCADT is not provided. The as-built pavement information (layer type, thickness, and construction year) are required and if not provided, GPR and/or coring and boring is needed.

C.5.2 Adjustments

Temperature adjustment to the deflections measured on bituminous pavements is determined from the temperature predicted at the middle depth of the pavement using the LTPP BELLS3 model that uses the pavement surface temperature and previous day mean air temperature. The predicted middle depth temperature and the standard temperature of 80 degrees Fahrenheit are used to calculate the temperature adjustment factor for deflection data analysis. Seasonal adjustment developed by Mn/DOT is also used.

C.5.3 Methods

For bituminous pavements, the deflection data were analyzed using the he American Association of State Highway and Transportation Officials' (AASHTO) method for determining the in-place (effective) subgrade and pavement strength and the Asphalt Institute method for determining allowable axle loads for a roadway. The Asphalt Institute method also uses the allowable deflection method for estimating Seasonal Load Capacity and Required Overlay, as described in the Asphalt Institute publication "Manual Series No. 17 Asphalt Overlays and Pavement Rehabilitation".

For gravel roads, the deflection data were analyzed using the American Association of State Highway and Transportation Officials' (AASHTO) method for determining the in-place (effective) subgrade and pavement strength, as well as allowable axle loads for a roadway as in the AASHTO Guide for Design of Pavement Structures, 1993.

For concrete pavements, the deflection data were analyzed using the FAA methods for determining the modulus of subgrade reaction (k-value), effective elastic modulus of concrete slabs, load transfer efficiency (LTE) on approach and leave slabs of a joint, slab support conditions (void analysis) and impulse stiffness modulus ratio (durability analysis) as in the FAA AC 150/5370-11A, Use of Nondestructive Testing Devices in the Evaluation of Airport Pavement, 2004.

C.6 TEST LIMITATIONS

C.6.1 Test Methods

The data derived through the testing program have been used to develop our opinions about the pavement conditions at your site. However, because no testing program can reveal totally what is in the subsurface, conditions between test locations and at other times, may differ from conditions described in this report. The testing we conducted identified pavement conditions only at those points where we measured pavement surface temperature, deflections, and observed pavement surface conditions. Depending on the sampling methods and sampling frequency, every location may not be tested, and some anomalies which are present in the pavement may not be noted on the testing results. If conditions encountered during construction differ from those indicated by our testing, it may be necessary to alter our conclusions and recommendations, or to modify construction procedures, and the cost of construction may be affected.

C.6.2 Test Standards

Pavement testing is done in general conformance with the described procedures. Compliance with any other standards referenced within the specified standard is neither inferred nor implied.

C.7 SUPPORTING TEST METHODS

C.7.1 GSSI Ground Penetrating Radar (GPR)

If the as-built pavement layer thicknesses are not available the thickness data are collected using a bumper-mounted, air-coupled 2-GHz radar unit from GSSI (RoadScan system) that consists of a SIR-20 dual channel data acquisition system, wheel-mounted DMI, ProXH GPS, air-launched (horn) antenna, horn antenna vehicle mounting kit, RADAN software with the Road Structure Module, and system accessories. The system provides continuous data at 1-ft spacing while traveling at highway speed.

C.7.2 Soil Boring/Coring Field Exploration

If both pavement thicknesses and subgrade soil types and conditions are desired the shallow coring/boring and sampling is used. The limited number of coring/boring is necessary to verify the GPR layer thickness data.

C.7.3 Pavement Surface Condition Survey

The type and severity of pavement distress influence the deflection response for a pavement. Therefore, FWD operators record any distress located from about 1 ft (0.3 m) in front of deflector D8 to about 3 ft (0.9 m) behind the load plate. This information is recorded in the FWD file using the comment line in the field program immediately following the test.

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AET Project No. 28-01314
County: Paulding
Test Date: Oct 8, 2014
Section: 1
Roadway: T-79
From: SR 114
To: T-48

Prev. Day's Avg. Air Temp.: 50 °F
Total AC: 2.8 in.
Daily ESALs: 3.0
Pavement Condition Index: 100
Haul Truck ESALs: 0
Soil Type: P
Draught Adjustment Factor: 0.00
Seasonal Correction Factor: 1.75

Design Period: 10 Years
Projection Factor: 1.2
Growth Factor: 11.07
10-year Design ESALs: 12,127
Design Period: 20 Years
Projection Factor: 1.6
Growth Factor: 24.91
20-year Design ESALs: 27,274

Station	Drop	Time	Air °F	Bit °F	Load	D1	D2	D3	D4	D5	D6	D7	D8	D9	Effective Values CBR %	Effective Values SN inches	Overlay Thickness inches	Spring Capacity tons/axle	Comments
0.0	1	7:41	44.6	40.8	6048	10.1	8.9	7.7	5.6	5.0	3.2	2.1	1.5	1.1	3.5	4.5	0.0	14.4	
0.0	2	7:41	44.6	40.8	6004	9.9	8.8	7.6	5.5	4.9	3.2	2.1	1.4	1.0	3.5	4.6	0.0	14.5	
0.0	3	7:41	44.6	40.8	9033	15.9	14.0	12.2	8.9	7.8	4.9	3.3	2.2	1.7	3.4	4.4	0.0	13.8	
0.0	4	7:41	44.6	40.8	9011	15.9	13.9	12.1	8.9	7.8	5.0	3.3	2.2	1.7	3.3	4.4	0.0	13.8	
0.1	1	7:42	44.6	40.7	6004	16.5	13.7	11.3	7.7	6.2	3.5	2.2	1.5	1.1	3.1	3.1	0.0	9.7	
0.1	2	7:42	44.6	40.7	0:00	16.4	13.6	11.2	7.6	6.2	3.5	2.2	1.5	1.1	3.1	3.2	0.0	9.8	
0.1	3	7:42	44.6	40.7	0:00	25.5	21	17.6	12.3	9.9	5.5	3.4	2.3	1.8	3.0	3.2	0.0	9.5	
0.1	4	7:42	44.6	40.7	8924	25.6	21.3	17.7	12.3	9.9	5.5	3.4	2.3	1.9	3.0	3.2	0.0	9.5	
0.2	1	7:43	44.6	40.7	5960	22.7	18.4	14.5	9.4	7.3	3.8	2.4	1.7	1.3	2.9	2.6	0.0	7.5	
0.2	2	7:43	44.6	40.7	5938	22.4	18.2	14.4	9.4	7.3	3.8	2.4	1.7	1.3	2.9	2.6	0.0	7.5	
0.2	3	7:43	44.6	40.7	8858	35.1	28.4	22.9	15.1	11.6	5.9	3.6	2.6	2.1	2.7	2.6	0.0	7.3	
0.2	4	7:43	44.6	40.7	8825	35.3	28.6	23.1	15.3	11.8	6.0	3.7	2.6	2.1	2.7	2.6	0.0	7.2	
0.3																			TWP 79,B-,B-7,NB"
0.3	1	7:44	44.6	41.2	5621	49.0	37.9	27.5	14.5	8.1	3.2	2.4	1.7	1.7	3.2	1.4	1.5	3.5	
0.3	2	7:44	44.6	41.2	5632	48.6	37.9	27.6	14.6	8.2	3.3	2.3	1.7	1.7	3.2	1.4	1.5	3.5	
0.3	3	7:44	44.6	41.2	8355	73.2	57.5	43.4	24.3	13.7	4.7	3.4	2.7	2.6	3.2	1.4	1.5	3.4	
0.3	4	7:44	44.6	41.2	8311	73.8	58.0	44.0	24.7	13.8	4.8	3.6	2.9	2.7	3.1	1.4	1.6	3.4	
0.3	2	7:45	44.6	41.4	5720	41.4	30.6	22.3	12.6	7.9	3.6	2.4	1.8	1.5	2.9	1.6	1.2	4.2	
0.3	3	7:45	44.6	41.4	8475	66.0	48.7	36.2	20.9	12.9	5.3	3.5	2.8	2.4	2.9	1.6	1.4	3.9	
0.3	4	7:45	44.6	41.4	8432	67.3	49.6	37.0	21.2	13.0	5.3	3.6	2.8	2.4	2.9	1.6	1.4	3.8	
0.4	1	7:46	44.6	41.3	5730	44.4	33.8	23.9	12.3	6.8	3.0	2.2	1.7	1.4	3.5	1.5	1.2	3.8	
0.4	2	7:46	44.6	41.3	5752	44.2	34.0	24.1	12.5	6.8	3.0	2.2	1.7	1.5	3.5	1.5	1.2	3.9	
0.4	3	7:46	44.6	41.3	8519	65.8	51.0	37.6	20.5	11.2	4.4	3.3	2.5	2.2	3.6	1.5	1.2	3.8	
0.4	4	7:46	44.6	41.3	8497	66.6	51.8	38.3	20.9	11.4	4.5	3.3	2.5	2.2	3.5	1.5	1.3	3.8	
0.5	1	7:47	44.6	41.7	5873	25.7	19.9	14.9	9.1	6.6	3.4	2.2	1.6	1.2	3.2	2.2	0.0	6.5	
0.5	2	7:47	44.6	41.7	5862	25.4	19.8	14.9	9.1	6.6	3.4	2.2	1.6	1.3	3.1	2.2	0.0	6.6	
0.5	3	7:47	44.6	41.7	8793	39.9	31.4	24.1	15.2	10.8	5.3	3.4	2.5	2.0	3.0	2.2	0.0	6.4	
0.5	4	7:47	44.6	41.7	8760	40.1	31.6	24.5	15.4	10.9	5.3	3.5	2.5	2.0	3.0	2.2	0.0	6.3	
0.6	1	7:48	44.6	42.0	5446	62.5	47.3	32.1	15.0	7.5	3.0	2.4	1.9	1.7	3.4	1.2	1.9	2.7	
0.6	2	7:48	44.6	42.0	5457	61.9	47.3	32.4	15.2	7.5	3.0	2.4	1.9	1.7	3.3	1.2	1.9	2.7	
0.6	3	7:48	44.6	42.0	8016	94.8	72.4	51.2	25.4	12.2	4.0	3.5	2.9	2.5	3.7	1.2	1.9	2.5	
0.6	4	7:48	44.6	42.0	7983	99.8	73.6	52.1	25.8	12.3	4.1	3.5	2.9	2.6	3.5	1.2	2.0	2.4	
0.6	1	7:49	44.6	42.1	5545	57.0	42.0	28.4	13.1	6.3	2.5	2.3	1.7	1.4	4.1	1.2	1.6	2.9	
0.6	2	7:49	44.6	42.1	5555	56.3	41.8	28.8	13.4	6.3	2.6	2.3	1.8	1.4	4.0	1.2	1.6	2.9	
0.6	3	7:49	44.6	42.1	8202	84.3	63.6	45.2	22.3	10.5	3.4	3.3	2.7	2.1	4.4	1.2	1.5	2.8	
0.6	4	7:49	44.6	42.1	8158	85.0	64.3	45.8	22.7	10.6	3.6	3.4	2.7	2.1	4.2	1.2	1.6	2.8	
0.7	1	7:50	44.6	42.1	5610	52.4	39.6	27.3	13.0	6.7	2.9	2.4	1.9	1.4	3.6	1.3	1.5	3.2	
0.7	2	7:50	44.6	42.1	5599	51.5	39.1	27.2	13.0	6.6	2.9	2.4	1.9	1.4	3.6	1.3	1.5	3.2	
0.7	3	7:50	44.6	42.1	8268	78.2	59.2	42.6	21.4	10.8	4.0	3.5	2.7	2.3	3.8	1.3	1.5	3.1	
0.7	4	7:50	44.6	42.1	8235	79.0	59.7	43.0	21.6	10.8	4.1	3.6	2.8	2.2	3.7	1.3	1.6	3.1	
0.8																			TWP 79,B-,B-6,SB"
0.8	1	7:51	46.4	42.0	5785	24.7	19.5	15.9	10.2	7.7	4.0	2.5	1.8	1.4	2.7	2.5	0.0	6.8	
0.8	2	7:51	46.4	42.0	5807	24.6	19.6	16.0	10.3	7.8	4.0	2.5	1.9	1.5	2.7	2.5	0.0	6.9	
0.8	3	7:51	46.4	42.0	8705	37.8	30.6	25.3	16.7	12.6	6.3	3.9	3.0	2.4	2.5	2.5	0.0	6.8	
0.8	4	7:51	46.4	42.0	8694	38.0	30.8	25.5	16.9	12.8	6.4	4.0	3.0	2.4	2.5	2.5	0.0	6.8	
0.9	1	7:52	46.4	42.2	5840	28.1	22.1	16.4	9.6	6.5	3.2	2.2	1.6	1.3	3.3	2.0	0.1	6.0	
0.9	2	7:52	46.4	42.2	5829	27.5	21.8	16.4	9.6	6.6	3.2	2.1	1.6	1.3	3.3	2.1	0.0	6.1	
0.9	3	7:52	46.4	42.2	8749	41.7	33.4	25.6	15.5	10.5	4.9	3.3	2.6	2.1	3.3	2.1	0.0	6.0	
0.9	4	7:52	46.4	42.2	8716	41.8	33.5	25.7	15.6	10.5	4.9	3.3	2.6	2.1	3.3	2.1	0.0	6.0	
1.0	1	7:53	46.4	42.2	5741	34.6	27.0	19.6	11.0	6.9	2.9	1.8	1.4	1.2	3.7	1.7	0.7	4.8	
1.0	2	7:53	46.4	42.2	5741	34.2	27.0	19.8	11.2	7.0	2.9	2.0	1.5	1.2	3.7	1.7	0.6	4.8	
1.0	3	7:53	46.4	42.2	8552	51.1	40.6	30.5	17.9	11.2	4.2	2.7	2.1	1.8	3.8	1.7	0.6	4.8	
1.0	4	7:53	46.4	42.2	8530	51.9	41.4	31.3	18.1	11.5	4.2	2.7	2.2	1.8	3.7	1.7	0.7	4.7	
1.0																			TWP 79,IC,TWP 48,NB"

American Engineering Testing, Inc.
550 Cleveland Avenue North
St. Paul, Minnesota 55114
Phone: (651) 659-9001
Fax: (651) 659-1379

AET Project No. 28-01314
County: Paulding
Test Date: Oct 8, 2014
Section: 2
Roadway: T-79
From: T-48
To: C-60

Prev. Day's Avg. Air Temp.: 50 °F
Total AC: 1.9 in.
Daily ESALs: 3.0
Pavement Condition Index: 81
Haul Truck ESALs: 541
Soil Type: P
Draught Adjustment Factor: 0.00
Seasonal Correction Factor: 1.79

Design Period: 10 Years
Projection Factor: 1.2
Growth Factor: 11.07
10-year Design ESALs: 12,668
Design Period: 20 Years
Projection Factor: 1.6
Growth Factor: 24.91
20-year Design ESALs: 27,815

															Effective Values		Overlay	Spring	
															CBR	SN	Thickness	Capacity	
Station	**Drop**	**Time**	**Air °F**	**Bit °F**	**Load**	**D1**	**D2**	**D3**	**D4**	**D5**	**D6**	**D7**	**D8**	**D9**	**%**	**inches**	**inches**	**tons/axle**	**Comments**
1.0																			TWP 79,IC,TWP 48,NB"
1.0	1	7:55	46.4	43.0	0:00	30.6	22	15.3	8.6	5.8	3.1	2.2	1.6	1.2	3.5	1.9	0.3	5.7	
1.0	2	7:55	46.4	43.0	5840	29.8	21.4	15.2	8.6	5.9	3.1	2.2	1.6	1.2	3.5	2.0	0.2	5.9	
1.0	3	7:55	46.4	43.0	8749	47.8	34.8	25.3	14.5	9.5	4.5	3.3	2.5	1.9	3.5	1.9	0.4	5.5	
1.0	4	7:55	46.4	43.0	8727	47.8	34.9	25.5	14.7	9.6	4.7	3.3	2.5	1.9	3.4	1.9	0.4	5.5	
1.1	1	7:56	46.4	42.4	5741	43.1	31.5	20.0	9.4	5.3	2.9	2.0	1.5	1.2	3.7	1.5	1.1	4.1	
1.1	2	7:56	46.4	42.4	5730	42.5	31.4	20.1	9.4	5.4	2.9	2.0	1.5	1.2	3.6	1.5	1.1	4.1	
1.1	3	7:56	46.4	42.4	8508	64.9	48.8	32.9	16.2	8.7	4.2	3.0	2.3	1.9	3.7	1.5	1.2	4.0	
1.1	4	7:56	46.4	42.4	8475	65.5	49.5	33.7	16.5	8.8	4.3	3.0	2.3	1.9	3.6	1.5	1.2	4.0	
1.2	1	7:57	46.4	42.4	5730	41.0	30.1	20.3	10.5	6.5	3.3	2.3	1.7	1.3	3.2	1.6	1.1	4.4	
1.2	2	7:57	46.4	42.4	5720	40.3	29.9	20.2	10.5	6.5	3.3	2.4	1.7	1.3	3.2	1.6	1.1	4.4	
1.2	3	7:57	46.4	42.4	8530	60.9	45.7	32.2	17.5	10.5	5.0	3.7	2.7	2.0	3.1	1.6	1.1	4.4	
1.3																			TWP 79,B-,B-5,NB"
1.3	1	7:58	46.4	42.6	5665	46.9	33.4	22.7	11.7	7.3	3.6	2.6	1.7	1.5	2.9	1.5	1.5	3.8	
1.3	2	7:58	46.4	42.6	5676	46.2	33.2	22.6	11.8	7.3	3.7	2.5	1.8	1.5	2.9	1.6	1.5	3.9	
1.3	3	7:58	46.4	42.6	8399	71.5	52.4	37.0	19.7	11.9	5.5	3.8	2.8	2.4	2.8	1.5	1.6	3.8	
1.3	4	7:58	46.4	42.6	8377	72.3	53.2	37.5	20.2	12.0	5.5	3.9	2.8	2.4	2.8	1.5	1.6	3.7	
1.4	1	7:59	46.4	42.9	5588	52.8	37.8	24.6	11.5	6.3	3.0	2.4	1.6	1.5	3.4	1.4	1.6	3.3	
1.4	2	7:59	46.4	42.9	5577	52.0	37.6	24.7	11.6	6.4	3.1	2.4	1.7	1.5	3.3	1.4	1.6	3.4	
1.4	3	7:59	46.4	42.9	8246	80.2	58.3	40.2	19.7	10.3	4.3	3.6	2.6	2.3	3.6	1.3	1.6	3.2	
1.4	4	7:59	46.4	42.9	8235	81.0	59.2	40.9	20.1	10.5	4.5	3.6	2.7	2.3	3.3	1.3	1.7	3.2	
1.5	1	8:00	46.4	43.0	5741	39.7	29.6	20.1	10.3	6.5	3.5	2.4	1.8	1.4	3.0	1.7	1.0	4.5	
1.5	2	8:00	46.4	43.0	5741	39.0	29.3	20.0	10.3	6.6	3.5	2.4	1.7	1.4	3.0	1.7	1.0	4.6	
1.5	3	8:00	46.4	43.0	8585	60.0	45.5	32.6	17.5	10.7	5.2	3.7	2.7	2.2	3.0	1.7	1.1	4.5	
1.5	4	8:00	46.4	43.0	8541	59.9	45.8	32.9	17.6	10.8	5.3	3.7	2.7	2.2	2.9	1.7	1.1	4.5	
1.6	1	8:01	48.2	43.9	5643	44.5	33.0	22.3	11.8	7.7	3.8	2.6	1.8	1.5	2.7	1.6	1.4	4.1	
1.6	2	8:01	48.2	43.9	5621	43.4	32.6	22.2	11.8	7.7	3.8	2.6	1.8	1.5	2.7	1.7	1.4	4.2	
1.6	3	8:01	48.2	43.9	8366	66.7	50.7	36.0	19.9	12.4	5.8	3.9	2.8	2.5	2.7	1.6	1.4	4.0	
1.6	4	8:01	48.2	43.9	8311	66.5	50.7	36.2	19.8	12.4	5.8	3.9	2.7	2.3	2.6	1.6	1.5	4.0	
1.7	1	8:02	48.2	43.9	5785	34.2	25.4	17.6	9.4	6.2	3.3	2.2	1.6	1.4	3.2	1.8	0.6	5.2	
1.7	2	8:02	48.2	43.9	5785	33.7	25.1	17.4	9.4	6.3	3.3	2.3	1.6	1.4	3.2	1.9	0.6	5.3	
1.7	3	8:02	48.2	43.9	8618	51.5	39.0	28.2	15.7	9.9	5.0	3.5	2.5	2.2	3.2	1.8	0.6	5.2	
1.7	4	8:02	48.2	43.9	8629	52.0	39.5	28.6	15.9	10.1	5.1	3.5	2.5	2.2	3.1	1.8	0.7	5.1	
1.8																			TWP 79,B-,B-4,SB"
1.8	1	8:03	48.2	44.1	5654	48.7	34.0	22.7	11.4	6.9	3.6	2.4	1.9	1.5	2.9	1.5	1.6	3.7	
1.8	2	8:03	48.2	44.1	0:00	47.7	34	22.6	11.5	7.0	3.5	2.5	1.9	1.5	2.9	1.5	1.5	3.8	
1.8	3	8:03	48.2	44.1	8333	75.6	53.8	37.4	19.4	11.0	5.0	3.8	2.9	2.3	3.0	1.4	1.6	3.5	
1.8	4	8:03	48.2	44.1	8311	75.8	54.6	38.1	19.9	11.3	5.2	3.8	3.0	2.3	2.9	1.4	1.7	3.5	
1.9	1	8:04	48.2	43.4	5588	46.5	34.3	23.5	12.3	7.6	3.8	2.7	2.0	1.5	2.7	1.6	1.5	3.9	
1.9	2	8:04	48.2	43.4	5599	45.9	34.1	23.5	12.4	7.7	3.8	2.7	2.0	1.5	2.7	1.6	1.5	3.9	
1.9	3	8:04	48.2	43.4	8311	69.8	52.7	37.3	20.4	12.3	5.6	4.1	3.1	2.5	2.7	1.6	1.6	3.8	
1.9	4	8:04	48.2	43.4	8311	70.2	53.2	37.9	20.8	12.5	5.7	4.1	3.1	2.5	2.7	1.6	1.6	3.8	
2.0	1	8:05	48.2	44.0	5720	41.1	29.5	20.4	11.0	7.4	3.8	2.6	1.9	1.6	2.7	1.7	1.2	4.4	
2.0	2	8:05	48.2	44.0	5730	40.6	29.2	20.3	11.0	7.3	3.8	2.6	1.9	1.5	2.8	1.7	1.1	4.5	
2.0	3	8:05	48.2	44.0	8508	61.9	45.0	32.4	18.1	11.7	5.7	4.0	2.9	2.4	2.8	1.7	1.2	4.4	
2.0	4	8:05	48.2	44.0	8486	62.3	45.5	33.0	18.4	11.8	5.7	4.0	2.9	2.5	2.7	1.7	1.2	4.3	
2.1																			TWP 79,IC,TWP 60,NB"

American Engineering Testing, Inc.
550 Cleveland Avenue North
St. Paul, Minnesota 55114
Phone: (651) 659-9001
Fax: (651) 659-1379

AET Project No. 28-01314
County: Paulding
Test Date: Oct 8, 2014
Section: 3
Roadway: T-79
From: C-60
To: C-72

Prev. Day's Avg. Air Temp.: 50 °F
Total AC: 2.2 in.
Daily ESALs: 3.0
Pavement Condition Index: 70
Haul Truck ESALs: 567
Soil Type: P
Draught Adjustment Factor: 0.00
Seasonal Correction Factor: 1.75

Design Period: 10 Years
Projection Factor: 1.2
Growth Factor: 11.07
10-year Design ESALs: 12,694
Design Period: 20 Years
Projection Factor: 1.6
Growth Factor: 24.91
20-year Design ESALs: 27,841

															Effective Values		Overlay	Spring	
															CBR	SN	Thickness	Capacity	
Station	Drop	Time	Air °F	Bit °F	Load	D1	D2	D3	D4	D5	D6	D7	D8	D9	%	inches	inches	tons/axle	Comments
2.1	1	8:07	48.2	44.7	5457	60.2	43.5	29.1	13.7	6.5	2.2	2.2	1.6	1.5	4.5	1.0	1.9	2.8	
2.1	2	8:07	48.2	44.7	5468	59.2	43.2	29.1	13.7	6.5	2.2	2.1	1.4	1.5	4.5	1.0	1.9	2.8	
2.1	3	8:07	48.2	44.7	8093	87.8	64.8	45.5	22.9	11.1	3.3	3.2	2.5	2.5	4.5	1.0	1.9	2.8	
2.1	4	8:07	48.2	44.7	8049	88.7	65.5	46.1	23.1	11.0	3.3	3.3	2.5	2.4	4.4	1.0	1.9	2.8	
2.1	1	8:08	48.2	44.8	5621	47.6	35.6	24.3	12.6	7.1	3.2	2.5	1.9	1.6	3.2	1.3	1.8	3.7	
2.1	2	8:08	48.2	44.8	5610	47.1	35.6	24.4	12.6	7.2	3.3	2.5	1.9	1.6	3.2	1.3	1.8	3.8	
2.1	3	8:08	48.2	44.8	8322	70.7	53.8	38.4	20.9	11.9	4.9	3.8	2.9	2.5	3.1	1.3	1.8	3.7	
2.1	4	8:08	48.2	44.8	8311	71.7	54.6	39.2	21.4	12.0	5.0	3.8	2.9	2.6	3.0	1.3	1.9	3.7	
2.2	1	8:09	48.2	44.9	5687	39.2	30.6	22.6	12.8	8.4	3.8	2.5	1.8	1.5	2.7	1.6	1.4	4.6	
2.2	2	8:09	48.2	44.9	5698	38.8	30.6	22.8	12.9	8.4	3.9	2.6	1.9	1.5	2.7	1.7	1.4	4.7	
2.2	3	8:09	48.2	44.9	8508	59.2	46.8	35.6	20.9	13.6	5.9	4.0	2.9	2.4	2.6	1.6	1.4	4.6	
2.2	4	8:09	48.2	44.9	8464	59.4	47.2	36.0	21.2	13.7	6.0	4.0	2.9	2.4	2.6	1.6	1.5	4.6	
2.3																			TWP 79,B-,B-3,NB"
2.3	1	8:10	48.2	45.1	5665	43.4	31.7	22.2	11.7	7.1	3.3	2.2	1.9	1.3	3.2	1.4	1.6	4.1	
2.3	2	8:10	48.2	45.1	5676	42.8	31.6	22.4	11.9	7.2	3.3	2.5	1.8	1.3	3.2	1.4	1.6	4.2	
2.3	3	8:10	48.2	45.1	8454	64.7	48.7	35.5	19.7	11.8	5.0	3.7	2.8	2.1	3.1	1.4	1.6	4.1	
2.3	4	8:10	48.2	45.1	8432	65.0	49.0	36.0	20.0	11.9	5.1	3.7	2.8	2.1	3.0	1.4	1.6	4.1	
2.4	1	8:11	48.2	44.9	5665	49.4	35.2	23.9	11.9	7.0	3.2	2.3	1.8	1.4	3.2	1.3	1.9	3.6	
2.4	2	8:11	48.2	44.9	5687	48.3	34.8	23.8	11.9	7.1	3.3	2.3	1.8	1.4	3.2	1.3	1.8	3.7	
2.4	3	8:11	48.2	44.9	8399	73.2	54.1	38.4	20.0	11.5	4.9	3.6	2.8	2.3	3.2	1.3	1.9	3.6	
2.4	4	8:11	48.2	44.9	8366	72.8	54.1	38.6	20.0	11.6	5.0	3.6	2.8	2.3	3.1	1.3	1.9	3.6	
2.5	1	8:12	48.2	45.2	5643	47.0	35.3	25.8	13.7	8.1	3.3	2.5	1.8	1.6	3.1	1.4	1.8	3.8	
2.5	2	8:12	48.2	45.2	5610	46.3	35.1	25.6	13.7	8.2	3.4	2.5	1.9	1.6	3.0	1.4	1.8	3.8	
2.5	3	8:12	48.2	45.2	8366	70.8	54	40.3	22.5	13.4	5.3	3.9	2.9	2.6	2.9	1.4	1.9	3.8	
2.5	4	8:12	48.2	45.2	8355	71.4	54.7	41.0	23.0	13.6	5.3	4.0	2.9	2.6	2.9	1.4	1.9	3.7	
2.6	1	8:13	48.2	44.8	5818	32.4	24.9	18.2	10.4	6.9	3.3	2.3	1.4	1.3	3.3	1.7	0.8	5.5	
2.6	2	8:13	48.2	44.8	5829	32.2	24.9	18.3	10.4	7.0	3.4	2.2	1.6	1.3	3.2	1.8	0.8	5.5	
2.6	3	8:13	48.2	44.8	8661	50.0	38.5	28.9	17.0	11.2	5.1	3.3	2.5	2.0	3.1	1.7	0.9	5.3	
2.6	4	8:13	48.2	44.8	8639	50.1	38.8	29.2	17.1	11.3	5.1	3.4	2.6	2.0	3.1	1.7	0.9	5.3	
2.7	1	8:14	48.2	44.7	5730	38.0	28.4	20.3	11.1	7.0	3.4	2.5	1.9	1.6	3.1	1.6	1.3	4.7	
2.7	2	8:14	48.2	44.7	5730	37.9	28.4	20.5	11.2	7.1	3.4	2.5	1.9	1.6	3.1	1.6	1.3	4.7	
2.7	3	8:14	48.2	44.7	8497	57.8	43.6	32.1	18.2	11.4	5.1	3.7	2.8	2.5	3.0	1.6	1.4	4.6	
2.7	4	8:14	48.2	44.7	8443	58.3	44.2	32.7	18.5	11.5	5.2	3.8	2.9	2.5	3.0	1.6	1.4	4.5	
2.8	1	8:15	48.2	44.6	5796	34.1	27.2	20.5	12.2	8.3	4.2	2.7	1.9	1.6	2.5	1.9	0.9	5.4	
2.8	2	8:15	48.2	44.6	5807	34.0	27.2	20.5	12.2	8.4	4.3	2.8	1.9	1.6	2.5	1.9	0.9	5.4	
2.8	3	8:15	48.2	44.6	8639	49.8	39.6	30.5	18.8	12.9	6.4	4.1	2.9	2.5	2.5	2.0	0.8	5.5	
2.8	4	8:15	48.2	44.6	0:00	50.3	40	31.1	19.1	13.1	6.4	4.2	2.9	2.5	2.5	1.9	0.9	5.4	
2.8																			TWP 79,B-,B-2,SB"
2.9	1	8:16	50.0	44.7	5720	38.2	28.4	20.9	12.1	8.1	3.9	2.6	1.8	1.5	2.7	1.7	1.3	4.8	
2.9	2	8:16	50.0	44.7	5698	37.8	28.5	21.1	12.1	8.1	3.8	2.6	1.9	1.5	2.7	1.7	1.3	4.8	
2.9	3	8:16	50.0	44.7	8508	58.1	44.3	33.5	19.9	13.2	5.8	4.0	2.7	2.5	2.7	1.7	1.4	4.7	
2.9	4	8:16	50.0	44.7	8464	58.6	45.2	34.2	20.4	13.4	5.9	4.0	2.7	2.5	2.6	1.7	1.4	4.6	
3.0	1	8:17	50.0	45.3	5752	39.0	30.5	23.0	13.4	8.9	4.1	2.7	2.0	1.6	2.6	1.7	1.4	4.7	
3.0	2	8:17	50.0	45.3	5720	38.7	30.4	23.0	13.3	8.9	4.0	2.7	1.9	1.5	2.6	1.7	1.4	4.7	
3.0	3	8:17	50.0	45.3	8530	59.0	46.1	35.5	21.3	14.0	6.1	4.1	3.0	2.5	2.6	1.7	1.4	4.6	
3.0	4	8:17	50.0	45.3	8508	60.0	46.9	36.1	21.7	14.2	6.2	4.1	3.0	2.5	2.5	1.7	1.5	4.6	
3.1	1	8:18	50.0	45.7	5676	41.0	30.5	22.2	12.4	7.9	3.4	2.3	1.8	1.5	3.0	1.5	1.5	4.4	
3.1	2	8:18	50.0	45.7	5676	40.4	30.3	22.2	12.5	7.9	3.5	2.4	1.8	1.5	3.0	1.5	1.5	4.4	
3.1	3	8:18	50.0	45.7	8421	65.9	49.2	36.7	21.0	12.9	5.0	3.5	2.8	2.4	3.1	1.4	1.7	4.0	
3.1	4	8:18	50.0	45.7	8410	66.8	49.7	37.1	21.2	13.1	5.1	3.6	2.8	2.4	3.1	1.4	1.7	4.0	
3.1																			TWP 79,IC,TWP 72,WB"

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Phone: (651) 659-9001
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AET Project No. 28-01314
County: Paulding
Test Date: Oct 8, 2014
Section: 4
Roadway: C-72
From: T-79
To: 0.7 mi W

Prev. Day's Avg. Air Temp.: 50 °F
Total AC: 6.6 in.
Daily ESALs: 7.0
Pavement Condition Index: 82
Haul Truck ESALs: 567
Soil Type: P
Draught Adjustment Factor: 0.00
Seasonal Correction Factor: 1.55

Design Period: 10 Years
Projection Factor: 1.2
Growth Factor: 11.07
10-year Design ESALs: 28,863
Design Period: 20 Years
Projection Factor: 1.6
Growth Factor: 24.91
20-year Design ESALs: 64,205

														Effective Values		Overlay	Spring	
														CBR	SN	Thickness	Capacity	
Station	Drop	Time	Air °F	Bit °F	Load	D1	D2	D3	D4	D5	D6	D7	D8	D9	%	inches	inches	tons/axle	Comments
3.1																			TWP 79,IC,TWP 72,WB"
3.1	1	8:20	50.0	45.6	5927	8.8	8.0	7.3	5.7	5.5	3.9	2.8	1.8	1.3	2.8	6.0	0.0	12.4	
3.1	2	8:20	50.0	45.6	5916	8.8	7.9	7.3	5.6	5.4	3.9	2.7	1.8	1.2	2.8	6.0	0.0	12.4	
3.1	3	8:20	50.0	45.6	9000	13.6	12.3	11.4	9.0	8.5	6.1	4.3	2.9	1.9	2.7	6.0	0.0	12.3	
3.1	4	8:20	50.0	45.6	9022	13.6	12.3	11.4	9.0	8.6	6.2	4.3	2.9	1.9	2.7	6.0	0.0	12.3	
3.2	1	8:21	50.0	45.9	5905	14.6	12.3	10.4	7.4	6.5	4.1	2.7	1.8	1.3	2.7	4.2	0.0	8.4	
3.2	2	8:21	50.0	45.9	5905	14.4	12.2	10.3	7.4	6.5	4.1	2.7	1.8	1.3	2.7	4.2	0.0	8.5	
3.2	3	8:21	50.0	45.9	0:00	22.6	19	16.1	11.8	10.2	6.3	4.2	2.8	2.0	2.6	4.2	0.0	8.2	
3.2	4	8:21	50.0	45.9	8935	22.7	19.1	16.2	11.8	10.2	6.4	4.2	2.9	2.0	2.6	4.2	0.0	8.2	
3.3	1	8:22	50.0	45.9	5862	13.4	11.5	9.9	7.2	6.4	4.1	2.7	1.8	1.2	2.6	4.5	0.0	9.0	
3.3	2	8:22	50.0	45.9	5884	13.3	11.5	9.9	7.2	6.4	4.1	2.7	1.8	1.2	2.6	4.5	0.0	9.0	
3.3	3	8:22	50.0	45.9	8902	20.8	17.8	15.5	11.4	10.0	6.5	4.2	2.8	1.9	2.5	4.4	0.0	8.8	
3.3	4	8:22	50.0	45.9	8880	20.8	18.0	15.5	11.5	10.1	6.5	4.2	2.8	1.9	2.5	4.4	0.0	8.8	
3.4																			TWP 72,B-,B-1,WB"
3.4	1	8:23	50.0	45.3	5927	13.6	12.2	10.7	7.9	7.1	4.5	2.9	1.8	1.2	2.4	4.6	0.0	9.0	
3.4	2	8:23	50.0	45.3	5938	13.6	12.1	10.7	7.8	7.1	4.5	2.9	1.8	1.2	2.4	4.6	0.0	9.0	
3.4	3	8:23	50.0	45.3	8957	21.1	18.6	16.6	12.4	11.0	6.9	4.4	2.8	2.0	2.4	4.6	0.0	8.8	
3.4	4	8:23	50.0	45.3	8957	21.1	18.7	16.6	12.5	11.0	7.0	4.5	2.9	2.0	2.4	4.6	0.0	8.8	
3.5	1	8:24	51.8	46.1	5982	9.9	8.8	7.8	5.8	5.4	3.6	2.4	1.6	1.1	3.1	5.2	0.0	11.3	
3.5	2	8:24	51.8	46.1	5938	9.7	8.7	7.7	5.7	5.3	3.5	2.4	1.6	1.1	3.1	5.2	0.0	11.4	
3.5	3	8:24	51.8	46.1	0:00	15.2	13	11.9	9.1	8.2	5.5	3.6	2.5	1.7	3.0	5.2	0.0	11.2	
3.5	4	8:24	51.8	46.1	9044	15.2	13.5	11.9	9.1	8.2	5.5	3.7	2.5	1.8	3.0	5.2	0.0	11.2	
3.6	1	8:25	51.8	46.1	5916	13.2	11.0	9.3	6.6	5.9	3.8	2.5	1.7	1.2	2.8	4.3	0.0	9.1	
3.6	2	8:25	51.8	46.1	5927	13.1	10.9	9.3	6.7	5.9	3.8	2.5	1.7	1.2	2.8	4.4	0.0	9.1	
3.6	3	8:25	51.8	46.1	8989	20.5	17.0	14.5	10.6	9.2	5.9	3.9	2.6	1.9	2.8	4.3	0.0	8.9	
3.6	4	8:25	51.8	46.1	8968	20.5	17.0	14.5	10.6	9.2	5.9	3.9	2.6	1.9	2.8	4.3	0.0	8.9	
3.7	1	8:26	51.8	46.4	5916	11.9	10.6	9.3	6.8	6.2	4.0	2.6	1.7	1.2	2.7	4.8	0.0	9.9	
3.7	2	8:26	51.8	46.4	5938	11.9	10.6	9.2	6.9	6.2	4.1	2.7	1.8	1.2	2.7	4.8	0.0	9.9	
3.7	3	8:26	51.8	46.4	8978	18.6	16.4	14.4	10.8	9.6	6.2	4.1	2.7	2.0	2.6	4.8	0.0	9.7	
3.7	4	8:26	51.8	46.4	8968	18.6	16.4	14.4	10.9	9.6	6.2	4.1	2.8	2.0	2.6	4.8	0.0	9.7	
3.8	1	8:27	51.8	46.9	6004	8.0	7.0	6.2	4.5	4.3	3.0	2.1	1.3	1.0	3.7	5.6	0.0	13.0	
3.8	2	8:27	51.8	46.9	5971	7.9	6.9	6.1	4.4	4.3	2.9	2.0	1.3	1.0	3.7	5.6	0.0	13.1	
3.8	3	8:27	51.8	46.9	9077	12.5	10.8	9.5	7.2	6.7	4.6	3.1	2.1	1.5	3.7	5.5	0.0	12.7	
3.8	4	8:27	51.8	46.9	9044	12.4	10.7	9.5	7.3	6.7	4.5	3.1	2.1	1.5	3.7	5.5	0.0	12.7	
3.8																			TWP 72,IC,END,WB"

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AET Project No. 28-01314
County: Paulding
Test Date: Oct 8, 2014
Section: 5
Roadway: C-87
From: SR 114
To: T-48

Prev. Day's Avg. Air Temp.: 50 °F
Total AC: 6.0 in.
Daily ESALs: 6.0
Pavement Condition Index: 68
Haul Truck ESALs: 4,325
Soil Type: P
Draught Adjustment Factor: 0.00
Seasonal Correction Factor: 1.55

Design Period: 10 Years
Projection Factor: 1.2
Growth Factor: 11.07
10-year Design ESALs: 28,579
Design Period: 20 Years
Projection Factor: 1.6
Growth Factor: 24.91
20-year Design ESALs: 58,872

															Effective Values		Overlay	Spring	
															CBR	SN	Thickness	Capacity	
Station	**Drop**	**Time**	**Air °F**	**Bit °F**	**Load**	**D1**	**D2**	**D3**	**D4**	**D5**	**D6**	**D7**	**D8**	**D9**	**%**	**inches**	**inches**	**tons/axle**	**Comments**
0.0																			CR 87,IC,HWY 114,NB"
0.0	1	8:36	51.8	49.6	6037	9.2	7.7	6.6	4.8	4.4	3.0	2.0	1.5	0.9	3.7	5.0	0.0	14.2	
0.0	2	8:36	51.8	49.6	6048	9.1	7.7	6.6	4.8	4.4	3.0	2.0	1.4	0.9	3.7	5.0	0.0	14.3	
0.0	3	8:36	51.8	49.6	9077	14.4	12.1	10.5	7.8	7.0	4.6	3.1	2.1	1.6	3.6	4.9	0.0	13.8	
0.0	4	8:36	51.8	49.6	9044	14.4	12.1	10.4	7.7	6.9	4.6	3.2	2.2	1.6	3.6	4.8	0.0	13.8	
0.1	1	8:37	51.8	50.2	5938	12.0	10.3	8.6	6.1	5.3	3.3	2.2	1.5	1.2	3.3	4.2	0.0	11.6	
0.1	2	8:37	51.8	50.2	5927	11.8	10.2	8.6	6.0	5.2	3.3	2.2	1.5	1.2	3.3	4.3	0.0	11.7	
0.1	3	8:37	51.8	50.2	8989	18.5	15.8	13.4	9.7	8.3	5.1	3.4	2.3	1.8	3.2	4.2	0.0	11.4	
0.1	4	8:37	51.8	50.2	8978	18.5	15.8	13.4	9.8	8.3	5.1	3.4	2.4	1.9	3.2	4.2	0.0	11.4	
0.2	1	8:38	51.8	50.6	5971	16.0	13.4	10.8	7.2	5.9	3.4	2.2	1.4	1.1	3.2	3.5	0.0	9.2	
0.2	2	8:38	51.8	50.6	5949	15.7	13.1	10.6	7.0	5.8	3.4	2.1	1.4	1.1	3.2	3.6	0.0	9.4	
0.2	3	8:38	51.8	50.6	8957	24.6	20.5	16.9	11.5	9.4	5.3	3.3	2.2	1.8	3.1	3.5	0.0	9.1	
0.2	4	8:38	51.8	50.6	8913	24.5	20.4	16.8	11.6	9.4	5.3	3.3	2.2	1.8	3.1	3.6	0.0	9.1	
0.3																			CR 87,B-,B-55,NB"
0.3	1	8:40	51.8	51.2	5971	11.0	9.4	7.9	5.7	4.9	3.0	1.9	1.2	0.9	3.7	4.3	0.0	12.3	
0.3	2	8:40	51.8	51.2	5982	10.9	9.3	7.8	5.6	4.9	3.0	1.9	1.3	0.9	3.6	4.4	0.0	12.4	
0.3	3	8:40	51.8	51.2	9022	17.1	14.6	12.4	9.0	7.8	4.8	3.0	2.0	1.5	3.5	4.3	0.0	12.1	
0.3	4	8:40	51.8	51.2	9011	17.2	14.6	12.4	9.1	7.8	4.8	3.0	2.0	1.5	3.5	4.3	0.0	12.1	
0.4	1	8:41	51.8	51.3	5949	12.2	10.5	9.0	6.4	5.4	3.2	2.1	1.3	0.8	3.4	4.2	0.0	11.5	
0.4	2	8:41	51.8	51.3	5949	12.1	10.4	8.9	6.3	5.4	3.2	2.1	1.2	0.8	3.4	4.2	0.0	11.5	
0.4	3	8:41	51.8	51.3	9011	19.2	16.6	14.3	10.3	8.7	5.1	3.2	1.9	1.3	3.2	4.1	0.0	11.2	
0.4	4	8:41	51.8	51.3	8989	19.2	16.6	14.3	10.4	8.7	5.2	3.2	2.0	1.4	3.2	4.2	0.0	11.1	
0.5	1	8:42	51.8	49.2	5949	13.4	11.3	9.3	6.3	5.4	3.3	2.2	1.5	1.1	3.3	4.0	0.0	10.6	
0.5	2	8:42	51.8	49.2	5938	13.1	11.1	9.2	6.3	5.4	3.4	2.2	1.6	1.1	3.2	4.0	0.0	10.8	
0.5	3	8:42	51.8	49.2	8957	20.6	17.4	14.6	10.3	8.6	5.3	3.5	2.4	1.8	3.1	4.0	0.0	10.5	
0.5	4	8:42	51.8	49.2	8957	20.6	17.4	14.6	10.3	8.7	5.3	3.5	2.4	1.8	3.1	4.0	0.0	10.5	
0.6	1	8:43	51.8	51.0	5927	10.9	9.0	7.6	5.4	4.7	2.8	1.8	1.1	0.8	3.8	4.2	0.0	12.3	
0.6	2	8:43	51.8	51.0	5949	10.8	8.9	7.5	5.3	4.7	2.8	1.8	1.1	0.8	3.8	4.3	0.0	12.4	
0.6	3	8:43	51.8	51.0	8989	17.6	14.4	12.2	8.8	7.5	4.5	2.8	1.8	1.3	3.7	4.2	0.0	11.8	
0.6	4	8:43	51.8	51.0	8978	17.6	14.4	12.2	8.8	7.6	4.5	2.8	1.8	1.3	3.7	4.1	0.0	11.8	
0.7	1	8:44	51.8	51.0	5916	13.1	11.2	9.4	6.5	5.4	3.0	1.8	1.1	0.9	3.6	3.8	0.0	10.7	
0.7	2	8:44	51.8	51.0	5873	12.9	11.1	9.3	6.5	5.4	3.0	1.8	1.1	0.9	3.6	3.9	0.0	10.7	
0.7	3	8:44	51.8	51.0	8935	20.7	18	14.8	10.5	8.6	4.7	2.7	1.7	1.4	3.5	3.8	0.0	10.3	
0.7	4	8:44	51.8	51.0	8935	20.8	17.6	14.8	10.5	8.7	4.7	2.7	1.7	1.4	3.5	3.8	0.0	10.3	
0.8																			CR 87,B-,B-54,SB"
0.8	1	8:45	51.8	50.8	5895	15.1	12.7	10.5	7.3	6.1	3.5	2.2	1.4	1.0	3.0	3.7	0.0	9.6	
0.8	2	8:45	51.8	50.8	5895	15.0	12.6	10.4	7.2	6.1	3.5	2.2	1.4	1.0	3.0	3.7	0.0	9.7	
0.8	3	8:45	51.8	50.8	8869	24.0	20.1	16.9	11.9	9.9	5.6	3.4	2.2	1.6	2.9	3.7	0.0	9.3	
0.8	4	8:45	51.8	50.8	8858	24.0	20.2	17.0	12.0	9.9	5.6	3.4	2.2	1.7	2.9	3.7	0.0	9.3	
0.9	1	8:46	51.8	50.0	5916	13.0	11.2	9.5	6.7	5.7	3.5	2.2	1.4	1.0	3.1	4.1	0.0	10.9	
0.9	2	8:46	51.8	50.0	5927	12.9	11.2	9.4	6.6	5.7	3.5	2.2	1.4	1.0	3.1	4.1	0.0	10.9	
0.9	3	8:46	51.8	50.0	8946	20.7	17.7	15.0	10.7	9.1	5.4	3.3	2.1	1.6	3.1	4.0	0.0	10.5	
0.9	4	8:46	51.8	50.0	8968	20.8	17.8	15.1	10.9	9.1	5.4	3.3	2.2	1.6	3.0	4.0	0.0	10.5	
1.0	1	8:47	51.8	50.7	5927	11.6	9.8	8.2	5.9	5.2	3.3	2.1	1.4	1.0	3.3	4.3	0.0	11.9	
1.0	2	8:47	51.8	50.7	5949	11.6	9.8	8.2	5.8	5.2	3.3	2.1	1.4	1.0	3.3	4.4	0.0	12.0	
1.0	3	8:47	51.8	50.7	0:00	18.5	16	13.1	9.5	8.2	5.1	3.2	2.1	1.5	3.3	4.2	0.0	11.4	
1.0	4	8:47	51.8	50.7	8989	18.6	15.6	13.1	9.6	8.2	5.1	3.2	2.1	1.6	3.2	4.2	0.0	11.4	
1.0																			CR 87,IC,TWP 48,NB"

American Engineering Testing, Inc.
550 Cleveland Avenue North
St. Paul, Minnesota 55114
Phone: (651) 659-9001
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AET Project No. 28-01314
County: Paulding
Test Date: Oct 8, 2014
Section: 6
Roadway: C-87
From: T-48
To: C-60

Prev. Day's Avg. Air Temp.: 50 °F
Total AC: 6.1 in.
Daily ESALs: 6.0
Pavement Condition Index: 75
Haul Truck ESALs: 3,475
Soil Type: P
Draught Adjustment Factor: 0.00
Seasonal Correction Factor: 1.55

Design Period: 10 Years
Projection Factor: 1.2
Growth Factor: 11.07
10-year Design ESALs: 27,729
Design Period: 20 Years
Projection Factor: 1.6
Growth Factor: 24.91
20-year Design ESALs: 58,022

															Effective Values		Overlay	Spring	
															CBR	SN	Thickness	Capacity	
Station	**Drop**	**Time**	**Air °F**	**Bit °F**	**Load**	**D1**	**D2**	**D3**	**D4**	**D5**	**D6**	**D7**	**D8**	**D9**	**%**	**inches**	**inches**	**tons/axle**	**Comments**
1.0																			CR 87,IC,TWP 48,NB"
1.0	1	8:48	51.8	50.7	5960	14.0	11.5	9.5	6.4	5.4	3.2	2.1	1.3	1.0	3.4	3.9	0.0	8.7	
1.0	2	8:48	51.8	50.7	5916	13.7	11.3	9.3	6.3	5.3	3.2	2.0	1.4	1.0	3.4	3.9	0.0	8.8	
1.0	3	8:48	51.8	50.7	8957	22.1	18.2	15.2	10.5	8.6	5.0	3.1	2.1	1.7	3.3	3.8	0.0	8.4	
1.0	4	8:48	51.8	50.7	8946	22.0	18.1	15.1	10.4	8.7	5.0	3.1	2.1	1.7	3.3	3.8	0.0	8.4	
1.1	1	8:49	51.8	50.9	5905	14.3	12.2	10.3	7.3	6.3	3.8	2.3	1.5	1.1	2.9	4.1	0.0	8.6	
1.1	2	8:49	51.8	50.9	5895	14.1	12.1	10.2	7.2	6.3	3.7	2.3	1.5	1.1	2.9	4.1	0.0	8.7	
1.1	3	8:49	51.8	50.9	8924	22.9	19.5	16.5	11.8	10.1	5.9	3.6	2.3	1.8	2.8	4.0	0.0	8.2	
1.1	4	8:49	51.8	50.9	8924	23.0	19.5	16.6	11.9	10.2	5.9	3.6	2.3	1.8	2.8	4.0	0.0	8.2	
1.2	1	8:50	51.8	51.2	5905	13.2	11.2	9.4	6.6	5.6	3.3	2.1	1.4	1.0	3.3	4.1	0.0	9.1	
1.2	2	8:50	51.8	51.2	5916	13.1	11.1	9.4	6.6	5.6	3.3	2.1	1.3	1.0	3.3	4.1	0.0	9.2	
1.2	3	8:50	51.8	51.2	8935	21.4	18.1	15.3	10.9	9.2	5.3	3.2	2.1	1.6	3.1	4.0	0.0	8.6	
1.2	4	8:50	51.8	51.2	8946	21.4	18.1	15.4	10.9	9.2	5.3	3.2	2.2	1.6	3.1	4.0	0.0	8.6	
1.3																			CR 87,B-,B-53,NB"
1.3	1	8:51	51.8	50.9	5927	13.0	10.7	8.6	5.9	4.8	2.7	1.6	1.0	0.7	4.0	3.8	0.0	9.0	
1.3	2	8:51	51.8	50.9	5949	12.9	10.6	8.6	5.9	4.8	2.8	1.7	1.0	0.7	4.0	3.9	0.0	9.1	
1.3	3	8:51	51.8	50.9	8978	21.1	17.3	14.1	9.8	7.9	4.4	2.5	1.6	1.2	3.8	3.7	0.0	8.6	
1.3	4	8:51	51.8	50.9	9000	21.2	17.4	14.2	9.9	8.0	4.4	2.6	1.7	1.2	3.7	3.8	0.0	8.6	
1.4	1	8:52	51.8	51.3	5982	12.7	10.4	8.3	5.5	4.4	2.4	1.5	1.0	0.8	4.6	3.7	0.0	9.1	
1.4	2	8:52	51.8	51.3	5949	12.5	10.3	8.2	5.5	4.4	2.4	1.5	1.0	0.8	4.5	3.8	0.0	9.2	
1.4	3	8:52	51.8	51.3	8989	20.3	16.6	13.4	9.1	7.2	3.8	2.3	1.5	1.2	4.3	3.7	0.0	8.7	
1.4	4	8:52	51.8	51.3	9011	20.3	16.6	13.5	9.2	7.3	3.9	2.3	1.5	1.2	4.3	3.7	0.0	8.7	
1.5	1	8:53	51.8	51.2	5916	15.2	12.6	10.0	6.7	5.4	3.1	1.9	1.3	1.0	3.5	3.6	0.0	8.0	
1.5	2	8:53	51.8	51.2	5895	14.9	12	9.9	6.6	5.4	3.0	1.9	1.3	1.0	3.6	3.6	0.0	8.1	
1.5	3	8:53	51.8	51.2	8924	24.4	20.1	16.2	11.0	8.7	4.8	3.0	2.0	1.6	3.4	3.5	0.0	7.6	
1.5	4	8:53	51.8	51.2	8924	24.4	20.1	16.3	11.0	8.7	4.8	3.0	2.1	1.6	3.4	3.5	0.0	7.6	
1.6	1	8:54	51.8	51.1	5840	22.6	18.3	14.2	9.0	6.8	3.4	2.1	1.4	1.3	3.2	2.9	0.0	5.7	
1.6	2	8:54	51.8	51.1	5818	22.3	18.1	14.1	9.1	6.8	3.3	2.1	1.4	1.3	3.2	2.9	0.0	5.8	
1.6	3	8:54	51.8	51.1	8782	34.9	28.4	22.5	14.8	11.1	5.3	3.3	2.3	2.0	3.0	2.9	0.0	5.6	
1.6	4	8:54	51.8	51.1	8771	35.0	28.5	22.6	14.9	11.1	5.4	3.3	2.3	2.1	3.0	2.9	0.0	5.6	
1.7	1	8:55	51.8	51.0	5862	17.3	14.2	11.5	7.7	6.2	3.4	2.2	1.5	1.1	3.1	3.5	0.0	7.2	
1.7	2	8:55	51.8	51.0	5862	17.0	14.1	11.4	7.6	6.2	3.4	2.2	1.5	1.1	3.1	3.5	0.0	7.3	
1.7	3	8:55	51.8	51.0	8858	27.1	22.4	18.4	12.6	10.0	5.4	3.3	2.3	1.8	3.0	3.4	0.0	7.1	
1.7	4	8:55	51.8	51.0	8847	27.1	22.5	18.5	12.7	10.0	5.4	3.4	2.3	1.8	3.0	3.5	0.0	7.1	
1.8																			CR 87,B-,B-52,SB"
1.8	1	8:56	51.8	51.1	5895	15.9	13.5	11.1	7.5	6.4	3.7	2.3	1.5	1.1	2.9	3.8	0.0	7.9	
1.8	2	8:56	51.8	51.1	0:00	15.7	13	11.1	7.5	6.3	3.7	2.3	1.5	1.1	3.0	3.8	0.0	7.9	
1.8	3	8:56	51.8	51.1	8902	25.5	21.6	18.1	12.7	10.3	5.8	3.5	2.4	1.8	2.8	3.7	0.0	7.5	
1.8	4	8:56	51.8	51.1	8869	25.5	21.5	18.2	12.6	10.2	5.7	3.5	2.3	1.8	2.8	3.7	0.0	7.5	
1.9	1	8:57	51.8	50.9	5938	12.6	10.5	8.7	6.1	5.2	3.3	2.0	1.3	1.0	3.3	4.2	0.0	9.4	
1.9	2	8:57	51.8	50.9	5895	12.4	10.5	8.6	6.1	5.2	3.2	2.1	1.3	0.9	3.4	4.2	0.0	9.5	
1.9	3	8:57	51.8	50.9	8935	20.1	16.9	14.1	10.0	8.3	5.0	3.3	2.0	1.4	3.3	4.1	0.0	9.0	
1.9	4	8:57	51.8	50.9	8924	20.1	16.8	14.0	9.9	8.4	5.1	3.2	2.0	1.5	3.2	4.1	0.0	9.0	
2.0	1	8:58	51.8	50.9	5840	18.4	15.4	12.6	8.5	6.9	3.9	2.4	1.5	1.3	2.8	3.5	0.0	6.9	
2.0	2	8:58	51.8	50.9	5840	18.2	15.2	12.5	8.4	6.9	3.9	2.4	1.6	1.3	2.7	3.5	0.0	7.0	
2.0	3	8:58	51.8	50.9	8825	29.6	24.6	20.4	14.1	11.2	6.2	3.8	2.5	2.1	2.6	3.4	0.0	6.6	
2.0	4	8:58	51.8	50.9	8836	29.9	24.8	20.6	14.2	11.4	6.2	3.8	2.5	2.1	2.6	3.4	0.0	6.6	
2.1																			CR 87,IC,TWP 60,NB"

American Engineering Testing, Inc.
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St. Paul, Minnesota 55114
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AET Project No. 28-01314
County: Paulding
Test Date: Oct 8, 2014
Section: 7A
Roadway: T-95
From: SR 114
To: 0.5 mi N

Prev. Day's Avg. Air Temp.: 50 °F
Total AC: 1.9 in.
Daily ESALs: 3.0
Pavement Condition Index: 65
Haul Truck ESALs: 1,267
Soil Type: P
Draught Adjustment Factor: 0.00
Seasonal Correction Factor: 1.79

Design Period: 10 Years
Projection Factor: 1.2
Growth Factor: 11.07
10-year Design ESALs: 13,394
Design Period: 20 Years
Projection Factor: 1.6
Growth Factor: 24.91
20-year Design ESALs: 28,541

															Effective Values			
															CBR	SN	Overlay Thickness	Spring Capacity
Station	Drop	Time	Air °F	Bit °F	Load	D1	D2	D3	D4	D5	D6	D7	D8	D9	%	inches	inches	tons/axle	Comments
0.0	1	9:05	53.6	51.0	5665	45.3	32.9	23.2	11.5	7.1	3.3	2.5	2.0	1.7	3.1	1.8	0.9	4.0	
0.0	2	9:05	53.6	51.0	5676	44.8	32.9	23.4	12.0	7.1	3.3	2.7	2.0	1.8	3.1	1.8	0.9	4.0	
0.0	3	9:05	53.6	51.0	8355	69.2	51.4	37.5	20.0	11.5	4.8	3.8	3.0	2.6	3.2	1.7	0.9	3.8	
0.0	4	9:05	53.6	51.0	8311	70.3	52.5	38.4	20.7	11.7	4.9	3.8	3.0	2.7	3.1	1.7	1.0	3.8	
0.1	1	9:06	53.6	50.9	5709	34.0	26.5	19.6	11.1	7.2	3.2	2.3	1.8	1.5	3.3	2.1	0.1	5.2	
0.1	2	9:06	53.6	50.9	5698	33.8	26.6	19.8	11.3	7.3	3.3	2.3	1.8	1.5	3.2	2.1	0.1	5.2	
0.1	3	9:06	53.6	50.9	8519	53.3	41.8	31.6	18.5	11.8	4.8	3.6	3.0	2.4	3.2	2.0	0.3	5.0	
0.1	4	9:06	53.6	50.9	8486	53.9	42.5	32.2	18.9	12.1	4.9	3.6	3.0	2.4	3.1	2.0	0.3	4.9	
0.2	1	9:07	53.6	51.5	5698	41.6	30.5	20.4	10.3	5.9	2.8	2.2	1.8	1.4	3.7	1.8	0.6	4.3	
0.2	2	9:07	53.6	51.5	5665	41.1	30.4	20.5	10.4	5.9	2.8	2.3	1.8	1.5	3.7	1.8	0.6	4.3	
0.2	3	9:07	53.6	51.5	8464	63.7	47.5	33.0	17.4	9.5	4.0	3.4	2.8	2.3	3.9	1.7	0.6	4.1	
0.2	4	9:07	53.6	51.5	8421	64.8	48.5	33.8	17.8	9.6	4.1	3.4	2.9	2.3	3.8	1.7	0.7	4.0	
0.3																			TWP 95,B-,B-56,NB"
0.3	1	9:09	53.6	50.4	5895	23.8	18.7	14.1	8.4	6.0	3.1	2.1	1.6	1.3	3.4	2.6	0.0	7.4	
0.3	2	9:09	53.6	50.4	5895	23.5	18.6	14.1	8.3	6.0	3.1	2.1	1.6	1.3	3.4	2.6	0.0	7.4	
0.3	3	9:09	53.6	50.4	8869	37.6	29.6	22.8	13.9	9.7	4.8	3.2	2.5	2.1	3.4	2.5	0.0	7.1	
0.3	4	9:09	53.6	50.4	8858	37.9	30.0	23.2	14.1	9.9	4.9	3.3	2.5	2.1	3.3	2.5	0.0	7.0	
0.4	1	9:11	51.8	51.6	5446	59.3	42.8	27.8	12.8	6.1	2.9	2.4	1.9	1.5	3.5	1.5	1.4	2.9	
0.4	2	9:11	51.8	51.6	5435	58.7	42.3	27.8	12.8	6.2	2.8	2.5	1.9	1.5	3.5	1.5	1.4	3.0	
0.4	3	9:11	51.8	51.6	8071	87.2	63.6	43.7	21.9	10.5	4.1	3.7	3.1	2.4	3.6	1.5	1.3	3.0	
0.4	4	9:11	51.8	51.6	8060	88.1	64.4	44.3	22.1	10.5	4.2	3.7	3.1	2.4	3.6	1.5	1.4	2.9	
0.5	1	9:12	51.8	52.0	5490	54.9	39.5	26.1	12.3	6.1	2.8	2.4	1.9	1.7	3.6	1.5	1.2	3.2	
0.5	2	9:12	51.8	52.0	5490	54.0	39.1	26.1	12.4	6.2	2.9	2.4	1.8	1.7	3.5	1.5	1.2	3.2	
0.5	3	9:12	51.8	52.0	8125	82.9	60.3	41.9	21.0	10.1	3.8	3.7	3.1	2.7	3.9	1.5	1.2	3.1	
0.5	4	9:12	51.8	52.0	8115	83.8	61.4	42.8	21.7	10.3	4.0	3.8	3.1	2.7	3.8	1.5	1.2	3.1	

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AET Project No. 28-01314
County: Paulding
Test Date: Oct 8, 2014
Section: 7B
Roadway: T-95
From: 0.5 mi N
To: T-48

Prev. Day's Avg. Air Temp.: 50 °F
Total AC: 1.9 in.
Daily ESALs: 3.0
Pavement Condition Index: 25
Haul Truck ESALs: 1,267
Soil Type: P
Draught Adjustment Factor: 0.00
Seasonal Correction Factor: 1.79

Design Period: 10 Years
Projection Factor: 1.2
Growth Factor: 11.07
10-year Design ESALs: 13,394
Design Period: 20 Years
Projection Factor: 1.6
Growth Factor: 24.91
20-year Design ESALs: 28,541

															Effective Values			
															CBR	SN	Overlay Thickness	Spring Capacity
Station	Drop	Time	Air °F	Bit °F	Load	D1	D2	D3	D4	D5	D6	D7	D8	D9	%	inches	inches	tons/axle	Comments
0.6	1	9:13	53.6	52.1	5402	55.2	38.1	25.1	11.7	6.0	2.6	2.3	1.8	1.6	3.9	1.5	1.2	3.1	
0.6	2	9:13	53.6	52.1	5402	54.4	38.0	25.4	11.9	6.0	2.5	2.5	1.8	1.6	4.0	1.5	1.1	3.1	
0.6	3	9:13	53.6	52.1	7994	84.4	59.8	41.4	20.5	10.1	3.4	3.3	2.8	2.4	4.3	1.4	1.1	3.0	
0.6	4	9:13	53.6	52.1	7940	85.0	60.3	42.0	20.6	10.1	3.5	3.4	2.7	2.4	4.2	1.4	1.2	2.9	
0.7	1	9:14	53.6	52.4	5621	42.2	30.2	20.6	10.6	5.8	2.3	2.0	1.6	1.4	4.5	1.7	0.5	4.1	
0.7	2	9:14	53.6	52.4	5632	41.7	30.3	20.8	10.8	5.8	2.3	2.0	1.6	1.5	4.5	1.7	0.4	4.1	
0.7	3	9:14	53.6	52.4	0:00	64.7	47	33.3	18.0	9.7	3.3	2.9	2.5	2.2	4.6	1.6	0.5	3.9	
0.7	4	9:14	53.6	52.4	8355	65.4	48.0	34.1	18.4	9.8	3.4	3.0	2.5	2.2	4.5	1.6	0.5	3.9	
0.8																			TWP 95,B-,B-57,SB"
0.8	1	9:15	53.6	52.9	5577	46.6	34.0	23.5	12.2	6.5	2.4	2.1	1.7	1.5	4.3	1.6	0.7	3.7	
0.8	2	9:15	53.6	52.9	5588	46.3	34.1	23.8	12.4	6.6	2.5	2.1	1.7	1.5	4.1	1.6	0.7	3.7	
0.8	3	9:15	53.6	52.9	8311	71.9	53.6	38.4	20.9	11.1	3.5	3.0	2.6	2.4	4.4	1.6	0.7	3.6	
0.8	4	9:15	53.6	52.9	8279	73.1	54.7	39.5	21.4	11.4	3.6	3.1	2.8	2.4	4.2	1.6	0.8	3.5	
0.9	1	9:16	53.6	52.9	5227	70.3	49.0	32.5	13.8	5.4	2.1	2.0	1.6	1.5	4.6	1.3	1.4	2.3	
0.9	2	9:16	53.6	52.9	5216	69.0	48.9	32.7	13.9	5.5	2.1	2.1	1.6	1.6	4.6	1.3	1.4	2.4	
0.9	3	9:16	53.6	52.9	7732	98.7	74.5	52.1	23.9	9.8	2.8	2.9	2.5	2.3	5.1	1.3	1.2	2.4	
0.9	4	9:16	53.6	52.9	7666	91.1	75.3	52.9	24.3	9.8	2.8	3.0	2.6	2.2	4.9	1.3	1.1	2.6	
0.9	1	9:17	53.6	52.9	5238	73.5	52.0	32.6	13.6	5.4	2.1	2.3	1.7	1.6	4.6	1.2	1.4	2.2	
0.9	2	9:17	53.6	52.9	5271	72.7	51.9	32.8	13.6	5.4	2.1	2.3	1.7	1.6	4.5	1.2	1.4	2.3	
0.9	3	9:17	53.6	52.9	7765	106.6	79	52.5	24.1	9.6	2.7	3.3	2.7	2.5	5.2	1.2	1.2	2.3	
0.9	4	9:17	53.6	52.9	7732	106.4	80.0	53.7	24.7	9.7	2.8	3.3	2.6	2.5	5.0	1.2	1.3	2.3	
1.0	1	9:18	53.6	53.5	5687	38.3	28.2	20.5	11.1	6.4	2.4	2.0	1.6	1.3	4.4	1.8	0.3	4.5	
1.0	2	9:18	53.6	53.5	5676	37.7	28.0	20.4	11.1	6.5	2.4	1.9	1.5	1.3	4.3	1.8	0.2	4.6	
1.0	3	9:18	53.6	53.5	8486	59.4	44.4	33.0	18.5	10.7	3.5	2.9	2.5	2.1	4.4	1.7	0.3	4.4	
1.0	4	9:18	53.6	53.5	8486	60.1	45.1	33.6	18.8	10.9	3.7	3.0	2.6	2.1	4.2	1.7	0.4	4.3	
1.0																			TWP 95,IC,TWP 48,NB"

American Engineering Testing, Inc.
550 Cleveland Avenue North
St. Paul, Minnesota 55114
Phone: (651) 659-9001
Fax: (651) 659-1379

AET Project No. 28-01314
County: Paulding
Test Date: Oct 8, 2014
Section: 8
Roadway: C-107
From: SR 114
To: T-48

Prev. Day's Avg. Air Temp.: 50 °F
Total AC: 9.6 in.
Daily ESALs: 10.0
Pavement Condition Index: 51
Haul Truck ESALs: 2,185
Soil Type: P
Draught Adjustment Factor: 0.00
Seasonal Correction Factor: 1.45

Design Period: 10 Years
Projection Factor: 1.2
Growth Factor: 11.07
10-year Design ESALs: 42,608
Design Period: 20 Years
Projection Factor: 1.6
Growth Factor: 24.91
20-year Design ESALs: 93,097

															Effective Values		Overlay	Spring	
															CBR	SN	Thickness	Capacity	
Station	**Drop**	**Time**	**Air °F**	**Bit °F**	**Load**	**D1**	**D2**	**D3**	**D4**	**D5**	**D6**	**D7**	**D8**	**D9**	**%**	**inches**	**inches**	**tons/axle**	**Comments**
0.0																			CR 107,IC,HWY 114,NB"
0.0	1	9:24	55.4	54.4	5971	7.5	7.0	6.3	4.9	4.6	3.1	2.2	1.5	1.0	3.5	6.6	0.0	14.8	
0.0	2	9:24	55.4	54.4	5949	7.4	6.9	6.3	4.8	4.5	3.1	2.2	1.5	1.0	3.5	6.6	0.0	14.8	
0.0	3	9:24	55.4	54.4	9066	11.7	10.8	9.7	7.6	7.1	4.8	3.2	2.3	1.6	3.5	6.6	0.0	14.5	
0.0	4	9:24	55.4	54.4	9044	11.7	10.7	9.7	7.6	7.1	4.8	3.3	2.3	1.6	3.5	6.5	0.0	14.4	
0.1	1	9:25	55.4	54.2	5829	20.7	17.2	14.1	9.4	7.5	3.7	2.2	1.6	1.3	2.9	3.7	0.0	6.6	
0.1	2	9:25	55.4	54.2	5829	20.6	17.2	14.2	9.5	7.5	3.7	2.2	1.5	1.4	2.9	3.8	0.0	6.6	
0.1	3	9:25	55.4	54.2	8760	32.9	27.1	22.5	15.5	12.1	5.9	3.3	2.4	2.2	2.7	3.7	0.0	6.3	
0.1	4	9:25	55.4	54.2	8760	33.2	27.3	22.7	15.7	12.2	5.9	3.4	2.5	2.2	2.7	3.7	0.0	6.3	
0.2	1	9:26	55.4	54.7	5851	22.4	19.0	15.6	10.6	8.3	4.0	2.2	1.7	1.5	2.7	3.7	0.0	6.2	
0.2	2	9:26	55.4	54.7	5829	22.2	18.8	15.4	10.5	8.3	4.0	2.2	1.7	1.4	2.7	3.7	0.0	6.2	
0.2	3	9:26	55.4	54.7	8727	35.6	30.0	24.9	17.2	13.5	6.3	3.3	2.6	2.3	2.5	3.6	0.0	5.9	
0.2	4	9:26	55.4	54.7	8727	35.9	30.3	25.2	17.5	13.7	6.4	3.4	2.6	2.3	2.5	3.6	0.0	5.9	
0.3																			CR 107,B-,B-58,SB"
0.3	1	9:27	55.4	54.7	5796	23.6	19.8	15.6	10.1	7.7	3.6	2.1	1.5	1.3	2.9	3.5	0.0	5.8	
0.3	2	9:27	55.4	54.7	5796	23.3	19.6	15.6	10.1	7.7	3.7	2.1	1.5	1.3	2.9	3.5	0.0	5.9	
0.3	3	9:27	55.4	54.7	8705	37.6	31.6	25.3	16.6	12.5	5.8	3.1	2.4	2.1	2.8	3.4	0.0	5.6	
0.3	4	9:27	55.4	54.7	8694	38.0	31.9	25.6	16.8	12.7	5.8	3.2	2.4	2.1	2.7	3.4	0.0	5.5	
0.4	1	9:28	55.4	55.2	5884	18.3	15.5	13.1	8.9	7.3	3.9	2.3	1.6	1.3	2.8	4.1	0.0	7.4	
0.4	2	9:28	55.4	55.2	5873	18.1	15	12.9	8.8	7.3	3.9	2.3	1.6	1.3	2.8	4.1	0.0	7.5	
0.4	3	9:28	55.4	55.2	8858	28.9	24.4	20.7	14.5	11.6	6.0	3.5	2.5	2.1	2.7	4.0	0.0	7.1	
0.4	4	9:28	55.4	55.2	8858	29.1	24.5	20.9	14.6	11.7	6.1	3.5	2.5	2.1	2.7	4.0	0.0	7.1	
0.5	1	9:29	55.4	55.4	5960	11.4	10.3	9.0	6.8	6.3	3.5	2.3	1.6	1.2	3.1	5.3	0.0	10.9	
0.5	2	9:29	55.4	55.4	5960	11.4	10.3	9.1	6.8	6.3	3.5	2.3	1.6	1.2	3.1	5.3	0.0	10.9	
0.5	3	9:29	55.4	55.4	9033	18.2	16.1	14.2	10.8	9.8	5.3	3.5	2.4	1.8	3.1	5.1	0.0	10.5	
0.5	4	9:29	55.4	55.4	9033	18.3	16.3	14.4	11.0	10.0	5.4	3.5	2.4	1.9	3.1	5.1	0.0	10.5	
0.6	1	9:30	55.4	55.3	5927	12.2	10.6	9.2	6.8	6.0	3.0	2.1	1.5	1.1	3.6	4.8	0.0	10.2	
0.6	2	9:30	55.4	55.3	5916	12.1	10.6	9.2	6.8	6.0	3.0	2.1	1.5	1.1	3.6	4.8	0.0	10.2	
0.6	3	9:30	55.4	55.3	8968	19.4	16.8	14.6	10.9	9.5	4.6	3.2	2.3	1.8	3.6	4.7	0.0	9.8	
0.6	4	9:30	55.4	55.3	8957	19.5	16.9	14.6	10.9	9.6	4.7	3.3	2.4	1.9	3.5	4.7	0.0	9.8	
0.7	1	9:31	55.4	55.2	5895	14.4	12.4	10.5	7.4	6.3	3.5	2.2	1.5	1.2	3.0	4.6	0.0	9.0	
0.7	2	9:31	55.4	55.2	5927	14.3	12.3	10.5	7.4	6.3	3.6	2.2	1.5	1.2	3.1	4.6	0.0	9.1	
0.7	3	9:31	55.4	55.2	8957	22.7	19	16.6	11.9	9.9	5.6	3.4	2.4	1.9	3.0	4.5	0.0	8.8	
0.7	4	9:31	55.4	55.2	8968	22.8	19.6	16.7	12.0	10.0	5.6	3.4	2.4	1.9	2.9	4.5	0.0	8.7	
0.8																			CR 107,B-,B-59,NB"
0.8	1	9:33	55.4	55.3	5796	23.4	19.1	15.5	10.3	8.0	3.9	2.2	1.7	1.5	2.7	3.5	0.0	5.9	
0.8	2	9:33	55.4	55.3	5785	23.1	18.9	15.3	10.2	7.9	3.9	2.2	1.7	1.4	2.7	3.6	0.0	6.0	
0.8	3	9:33	55.4	55.3	8705	36.3	29.6	24.4	16.7	12.7	6.0	3.6	2.7	2.3	2.6	3.5	0.0	5.8	
0.8	4	9:33	55.4	55.3	8716	36.6	29.9	24.6	16.8	12.9	6.1	3.6	2.7	2.3	2.6	3.5	0.0	5.8	
0.9	1	9:34	55.4	55.0	5905	11.5	10.3	9.2	6.8	6.1	3.9	2.5	1.6	1.2	2.8	5.4	0.0	10.9	
0.9	2	9:34	55.4	55.0	5916	11.5	10.3	9.2	6.8	6.1	3.8	2.5	1.6	1.2	2.9	5.4	0.0	10.9	
0.9	3	9:34	55.4	55.0	8978	18.1	16.2	14.5	10.9	9.6	5.9	3.8	2.5	1.8	2.8	5.3	0.0	10.6	
0.9	4	9:34	55.4	55.0	8978	18.2	16.1	14.3	10.8	9.6	6.1	3.9	2.6	2.1	2.7	5.4	0.0	10.6	
1.0	1	9:35	55.4	56.0	5916	13.1	11.4	9.9	7.2	6.2	3.7	2.4	1.5	1.2	2.9	4.9	0.0	9.8	
1.0	2	9:35	55.4	56.0	5905	13.0	11.4	9.8	7.1	6.2	3.7	2.4	1.5	1.2	2.9	4.9	0.0	9.9	
1.0	3	9:35	55.4	56.0	8957	20.8	18.1	15.6	11.4	9.9	5.9	3.6	2.4	1.9	2.8	4.9	0.0	9.5	
1.0	4	9:35	55.4	56.0	8935	20.8	18.1	15.6	11.4	9.9	5.9	3.6	2.4	1.9	2.8	4.9	0.0	9.5	
1.0																			CR 107,IC,TWP 48,NB"

American Engineering Testing, Inc.
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St. Paul, Minnesota 55114
Phone: (651) 659-9001
Fax: (651) 659-1379

AET Project No. 28-01314
County: Paulding
Test Date: Oct 8, 2014
Section: 9
Roadway: C-107
From: T-48
To: C-60

Prev. Day's Avg. Air Temp.: 50 °F
Total AC: 8.4 in.
Daily ESALs: 10.0
Pavement Condition Index: 74
Haul Truck ESALs: 0
Soil Type: P
Draught Adjustment Factor: 0.00
Seasonal Correction Factor: 1.45

Design Period: 10 Years
Projection Factor: 1.2
Growth Factor: 11.07
10-year Design ESALs: 40,423
Design Period: 20 Years
Projection Factor: 1.6
Growth Factor: 24.91
20-year Design ESALs: 90,912

														Effective Values		Overlay	Spring	
														CBR	SN	Thickness	Capacity	
Station	**Drop**	**Time**	**Air °F**	**Bit °F**	**Load**	**D1**	**D2**	**D3**	**D4**	**D5**	**D6**	**D7**	**D8**	**D9**	**%**	**inches**	**inches**	**tons/axle**	**Comments**
1.0																			CR 107,IC,TWP 48,NB"
1.0	1	9:36	55.4	55.3	5895	10.7	9.5	8.4	6.3	5.8	3.7	2.5	1.7	1.2	2.9	5.3	0.0	11.5	
1.0	2	9:36	55.4	55.3	5895	10.6	9.5	8.4	6.4	5.7	3.7	2.4	1.5	1.2	2.9	5.3	0.0	11.6	
1.0	3	9:36	55.4	55.3	8968	16.7	14.8	13.1	10.0	8.9	5.8	3.8	2.5	1.9	2.8	5.2	0.0	11.3	
1.0	4	9:36	55.4	55.3	8935	16.7	14.8	13.1	10.0	9.0	5.8	3.8	2.6	1.9	2.8	5.2	0.0	11.3	
1.1	1	9:37	55.4	55.5	5840	16.0	13.6	11.5	8.0	6.6	3.7	2.2	1.7	1.3	2.9	4.0	0.0	8.3	
1.1	2	9:37	55.4	55.5	5840	15.9	13.6	11.5	8.0	6.7	3.7	2.3	1.6	1.4	2.9	4.0	0.0	8.3	
1.1	3	9:37	55.4	55.5	8869	25.5	21.6	18.3	13.0	10.6	5.8	3.5	2.5	2.2	2.8	3.9	0.0	8.0	
1.1	4	9:37	55.4	55.5	8869	25.6	21.7	18.5	13.0	10.7	5.8	3.6	2.6	2.2	2.8	3.9	0.0	7.9	
1.2	1	9:38	55.4	55.6	5829	17.7	15.8	13.7	9.4	7.6	3.9	2.3	1.6	1.3	2.8	3.8	0.0	7.6	
1.2	2	9:38	55.4	55.6	5829	17.5	15.6	13.5	9.3	7.5	3.9	2.3	1.6	1.3	2.8	3.8	0.0	7.7	
1.2	3	9:38	55.4	55.6	8803	28.0	24.8	21.6	15.2	12.2	6.2	3.5	2.5	2.0	2.6	3.8	0.0	7.4	
1.2	4	9:38	55.4	55.6	8814	28.2	24.9	21.7	15.4	12.3	6.2	3.6	2.6	2.1	2.6	3.8	0.0	7.3	
1.3																			CR 107,B-,B-60,NB"
1.3	1	9:39	55.4	55.3	5829	19.0	16.5	13.7	9.2	7.3	3.9	2.3	1.7	1.4	2.7	3.6	0.0	7.2	
1.3	2	9:39	55.4	55.3	5829	18.8	16.4	13.6	9.1	7.3	3.9	2.3	1.7	1.4	2.7	3.7	0.0	7.2	
1.3	3	9:39	55.4	55.3	8836	30.0	26	21.6	14.9	11.6	6.1	3.6	2.7	2.3	2.7	3.6	0.0	6.9	
1.3	4	9:39	55.4	55.3	8825	30.1	25.9	21.7	14.9	11.7	6.2	3.6	2.7	2.3	2.6	3.6	0.0	6.9	
1.4	1	9:40	55.4	56.4	5818	20.4	17.1	14.2	9.6	7.4	3.5	2.2	1.6	1.4	3.1	3.4	0.0	6.7	
1.4	2	9:40	55.4	56.4	5818	20.2	16.9	14.0	9.5	7.4	3.5	2.2	1.7	1.4	3.1	3.4	0.0	6.7	
1.4	3	9:40	55.4	56.4	8803	31.9	26.6	22.3	15.4	11.7	5.3	3.5	2.6	2.2	3.0	3.3	0.0	6.5	
1.4	4	9:40	55.4	56.4	8760	32.0	26.6	22.4	15.3	11.8	5.3	3.5	2.7	2.2	3.0	3.3	0.0	6.5	
1.5	1	9:41	57.2	56.5	5927	11.8	10.4	9.1	6.8	6.0	3.8	2.5	1.6	1.2	2.9	5.0	0.0	10.8	
1.5	2	9:41	57.2	56.5	5895	11.7	10.3	9.1	6.7	6.0	3.8	2.5	1.6	1.2	2.9	5.0	0.0	10.8	
1.5	3	9:41	57.2	56.5	8978	18.7	16.3	14.4	10.7	9.5	5.9	3.8	2.5	2.0	2.8	4.9	0.0	10.4	
1.5	4	9:41	57.2	56.5	8946	18.7	16.3	14.4	10.7	9.5	5.9	3.8	2.5	2.0	2.8	4.9	0.0	10.4	
1.6	1	9:42	57.2	56.4	5862	17.8	15.4	12.5	7.5	6.2	3.4	2.2	1.6	1.3	3.1	3.7	0.0	7.6	
1.6	2	9:42	57.2	56.4	5862	17.7	15.4	12.5	7.4	6.2	3.4	2.2	1.6	1.3	3.1	3.7	0.0	7.6	
1.6	3	9:42	57.2	56.4	8847	28.0	24.2	19.8	12.1	9.8	5.3	3.3	2.5	2.1	3.1	3.6	0.0	7.3	
1.6	4	9:42	57.2	56.4	8814	28.1	24	19.9	12.2	9.9	5.4	3.4	2.6	2.1	3.0	3.6	0.0	7.3	
1.7	1	9:43	57.2	56.6	5774	24.3	20.8	16.8	11.0	8.2	3.6	2.1	1.5	1.3	2.9	3.1	0.0	5.7	
1.7	2	9:43	57.2	56.6	5785	24.1	20.5	16.6	10.8	8.2	3.6	2.1	1.6	1.3	2.9	3.1	0.0	5.8	
1.7	3	9:43	57.2	56.6	8738	37.9	32.1	26.5	17.7	13.3	5.8	3.2	2.5	2.1	2.8	3.1	0.0	5.6	
1.7	4	9:43	57.2	56.6	8705	38.0	32.1	26.5	17.8	13.3	5.8	3.2	2.4	2.1	2.7	3.1	0.0	5.6	
1.8																			CR 107,B-,B-61,SB"
1.8	1	9:44	57.2	56.6	5916	10.6	9.5	8.3	6.2	5.5	3.5	2.2	1.4	1.1	3.1	5.1	0.0	11.6	
1.8	2	9:44	57.2	56.6	5927	10.6	9.4	8.3	6.2	5.5	3.4	2.2	1.4	1.1	3.2	5.1	0.0	11.6	
1.8	3	9:44	57.2	56.6	9033	16.9	14.9	13.1	9.9	8.7	5.3	3.3	2.2	1.7	3.1	5.0	0.0	11.2	
1.8	4	9:44	57.2	56.6	9000	16.9	14.9	13.1	9.9	8.7	5.3	3.3	2.2	1.7	3.1	5.0	0.0	11.2	
1.9	1	9:45	57.2	57.1	5884	17.6	14.4	11.6	7.8	6.2	3.2	1.9	1.4	1.1	3.4	3.6	0.0	7.6	
1.9	2	9:45	57.2	57.1	5840	17.3	14.1	11.5	7.7	6.2	3.1	1.9	1.3	1.0	3.4	3.6	0.0	7.7	
1.9	3	9:45	57.2	57.1	8836	27.8	22.4	18.4	12.6	9.8	4.9	2.8	2.1	1.7	3.3	3.5	0.0	7.3	
1.9	4	9:45	57.2	57.1	8836	27.9	22.5	18.6	12.6	9.8	4.8	3.0	2.1	1.8	3.3	3.5	0.0	7.3	
2.0	1	9:46	57.2	57.3	5785	21.7	17.6	14.2	9.2	7.1	3.2	1.6	1.1	1.0	3.3	3.2	0.0	6.3	
2.0	2	9:46	57.2	57.3	5741	21.3	17.3	14.0	8.9	7.0	3.2	1.6	1.1	1.0	3.3	3.2	0.0	6.3	
2.0	3	9:46	57.2	57.3	8683	34.1	27.7	22.6	15.1	11.4	5.0	2.4	1.7	1.6	3.2	3.2	0.0	6.1	
2.0	4	9:46	57.2	57.3	8672	34.2	27.9	22.8	15.2	11.5	5.1	2.5	1.8	1.7	3.1	3.2	0.0	6.0	
2.1																			CR 107,IC,TWP 60,NB"

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AET Project No. 28-01314
County: Paulding
Test Date: Oct 8, 2014
Section: 10
Roadway: T-117
From: T-48
To: C-60

Prev. Day's Avg. Air Temp.: 50 °F
Total AC: 1.7 in.
Daily ESALs: 3.0
Pavement Condition Index: 77
Haul Truck ESALs: 310
Soil Type: P
Draught Adjustment Factor: 0.00
Seasonal Correction Factor: 1.79

Design Period: 10 Years
Projection Factor: 1.2
Growth Factor: 11.07
10-year Design ESALs: 12,437
Design Period: 20 Years
Projection Factor: 1.6
Growth Factor: 24.91
20-year Design ESALs: 27,584

															Effective Values		Overlay Thickness	Spring Capacity	
Station	Drop	Time	Air °F	Bit °F	Load	D1	D2	D3	D4	D5	D6	D7	D8	D9	CBR %	SN inches	inches	tons/axle	Comments
0.0																			TWP 117,IC,TWP 48,NB"
0.0	1	9:54	60.8	56.3	5566	49.8	38.1	25.8	12.1	6.3	2.0	1.6	1.4	1.1	5.0	1.0	1.9	3.5	
0.0	2	9:54	60.8	56.3	5566	48.9	37.6	25.6	12.0	6.3	2.1	1.6	1.4	1.2	4.9	1.0	1.9	3.6	
0.0	3	9:54	60.8	56.3	8257	73.0	56.4	40.2	20.0	10.3	2.8	2.2	2.1	1.8	5.4	0.9	1.8	3.5	
0.0	4	9:54	60.8	56.3	8235	73.6	57.3	40.9	20.3	10.5	2.9	2.2	2.1	1.9	5.2	0.9	1.8	3.5	
0.1	1	9:55	60.8	56.4	5457	52.1	39.2	26.8	13.7	7.1	2.7	2.2	1.8	1.4	3.7	1.0	2.2	3.4	
0.1	2	9:55	60.8	56.4	5457	51.6	39.1	26.9	13.7	7.1	2.8	2.3	1.8	1.5	3.5	1.1	2.2	3.4	
0.1	3	9:55	60.8	56.4	8147	78.7	59.8	42.9	23.1	11.9	4.0	3.3	2.8	2.3	3.7	1.0	2.2	3.3	
0.1	4	9:55	60.8	56.4	8147	80.1	60.7	43.9	23.4	12.1	4.1	3.4	2.9	2.3	3.6	1.0	2.3	3.3	
0.2	1	9:56	60.8	57.0	5501	55.5	42.4	30.3	14.8	7.8	3.2	2.4	1.9	1.8	3.1	1.1	2.4	3.3	
0.2	2	9:56	60.8	57.0	5457	54.6	41.9	30.1	14.6	7.7	3.2	2.4	1.9	1.8	3.1	1.1	2.4	3.3	
0.2	3	9:56	60.8	57.0	8147	80.5	62.0	46.6	24.2	12.7	4.7	3.7	2.9	3.0	3.2	1.1	2.4	3.3	
0.2	4	9:56	60.8	57.0	8136	81.6	62.8	47.2	24.6	12.7	4.8	3.7	3.0	3.0	3.1	1.1	2.4	3.3	
0.3																			TWP 117,B-,B-62,NB"
0.3	1	9:57	60.8	57.4	5370	66.4	48.0	31.3	13.2	5.9	2.8	2.5	2.0	2.0	3.5	0.9	2.6	2.7	
0.3	2	9:57	60.8	57.4	5381	65.7	48	31.5	13.3	6.0	2.9	2.5	2.0	2.0	3.4	0.9	2.7	2.7	
0.3	3	9:57	60.8	57.4	7961	96.8	70.4	48.6	22.1	9.6	3.9	3.8	3.0	3.2	3.8	0.9	2.5	2.7	
0.3	4	9:57	60.8	57.4	7961	98.3	71.7	49.6	22.4	9.8	4.1	3.9	3.2	3.3	3.6	0.9	2.6	2.7	
0.4	1	9:58	59.0	57.2	5304	71.8	54.3	36.0	16.2	7.1	2.7	2.3	1.9	1.9	3.6	0.8	2.7	2.4	
0.4	2	9:58	59.0	57.2	5326	71.3	54.4	36.3	16.4	7.2	2.8	2.4	2.0	2.0	3.5	0.8	2.7	2.5	
0.4	3	9:58	59.0	57.2	7852	106.8	80.6	56.5	27.3	11.9	3.7	3.4	3.0	3.2	3.9	0.8	2.6	2.4	
0.4	4	9:58	59.0	57.2	7797	101.6	81.1	56.9	27.4	11.9	3.8	3.5	3.1	3.1	3.8	0.8	2.6	2.5	
0.5	1	9:59	59.0	58.5	5687	37.5	28.8	21.3	11.6	7.2	3.3	2.2	1.6	1.4	3.2	1.5	1.5	4.9	
0.5	2	9:59	59.0	58.5	5687	36.9	28.6	21.4	11.6	7.2	3.2	2.3	1.6	1.4	3.3	1.4	1.4	4.9	
0.5	3	9:59	59.0	58.5	8497	57.0	44.3	34.0	19.4	11.9	4.8	3.3	2.5	2.2	3.2	1.4	1.5	4.8	
0.5	4	9:59	59.0	58.5	8475	57.3	44.5	34.2	19.5	12.1	4.9	3.4	2.6	2.3	3.2	1.4	1.6	4.8	
0.6	1	10:00	59.0	57.5	5468	53.0	41.1	27.8	14.0	7.5	3.0	2.3	2.0	1.6	3.3	1.1	2.3	3.4	
0.6	2	10:00	59.0	57.5	5435	52.3	40.8	27.9	14.1	7.4	3.0	2.4	2.0	1.8	3.3	1.1	2.3	3.4	
0.6	3	10:00	59.0	57.5	8104	79.0	62	43.9	23.6	12.1	4.1	3.5	2.9	2.8	3.6	1.0	2.3	3.3	
0.6	4	10:00	59.0	57.5	8071	80.0	62.8	44.8	24.0	12.3	4.2	3.5	3.0	2.8	3.5	1.0	2.3	3.3	
0.7	1	10:01	59.0	57.9	5359	63.6	45.3	30.1	13.0	6.0	3.0	2.4	1.9	1.9	3.3	0.9	2.6	2.8	
0.7	2	10:01	59.0	57.9	5381	63.3	45.7	30.5	13.0	6.1	3.0	2.5	1.9	1.8	3.3	0.9	2.6	2.8	
0.7	3	10:01	59.0	57.9	7961	94.4	68.9	48.1	22.2	9.9	4.3	3.7	2.9	2.9	3.4	0.9	2.6	2.8	
0.7	4	10:01	59.0	57.9	7940	96.0	70.2	49.1	22.6	9.9	4.4	3.8	2.9	2.8	3.3	0.9	2.7	2.7	
0.8																			TWP 117,B-,B-63,SB"
0.8	1	10:03	59.0	57.8	5424	60.7	44.0	29.6	13.5	6.3	2.2	2.3	1.8	1.5	4.6	0.9	2.2	2.9	
0.8	2	10:03	59.0	57.8	5424	60.0	43.7	29.7	13.5	6.3	2.3	2.3	1.8	1.5	4.4	0.9	2.3	2.9	
0.8	3	10:03	59.0	57.8	8049	89.7	66.4	47.3	23.1	10.8	3.0	3.4	2.8	2.4	4.8	0.9	2.2	2.9	
0.8	4	10:03	59.0	57.8	8038	90.8	67.4	48.2	23.5	10.9	3.1	3.4	2.8	2.4	4.7	0.9	2.2	2.8	
0.9	1	10:04	59.0	57.7	5391	55.8	40.4	26.9	13.3	7.3	2.7	2.2	1.7	1.6	3.6	1.0	2.4	3.2	
0.9	2	10:04	59.0	57.7	5391	54.7	40.3	27.0	13.4	7.4	2.8	2.2	1.8	1.6	3.6	1.0	2.3	3.2	
0.9	3	10:04	59.0	57.7	8060	83.7	62.7	44.2	23.7	12.8	4.0	3.1	2.8	2.6	3.7	1.0	2.3	3.1	
0.9	4	10:04	59.0	57.7	8038	84.1	63.4	44.9	24.3	13.1	4.1	3.1	2.8	2.6	3.6	1.0	2.4	3.1	
1.0	1	10:05	59.0	58.5	5687	33.4	25.0	17.6	9.9	6.6	2.9	1.9	1.5	1.2	3.5	1.5	1.2	5.4	
1.0	2	10:05	59.0	58.5	5698	33.1	24.9	17.6	10.0	6.6	3.0	1.9	1.5	1.3	3.5	1.5	1.1	5.4	
1.0	3	10:05	59.0	58.5	8552	52.3	40.0	29.2	16.9	10.9	4.3	2.9	2.3	2.0	3.6	1.4	1.3	5.2	
1.0	4	10:05	59.0	58.5	8552	52.5	40.2	29.5	17.1	11.0	4.4	2.9	2.3	2.0	3.5	1.5	1.3	5.2	
1.0																			TWP 117,IC,TWP 60,NB"

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AET Project No. 28-01314
County: Paulding
Test Date: Oct 8, 2014
Section: 11
Roadway: T-117
From: C-60
To: 0.5 mi N

Prev. Day's Avg. Air Temp.: 50 °F
Total AC: 1.7 in.
Daily ESALs: 3.0
Pavement Condition Index: 78
Haul Truck ESALs: 272
Soil Type: P
Draught Adjustment Factor: 0.00
Seasonal Correction Factor: 1.79

Design Period: 10 Years
Projection Factor: 1.2
Growth Factor: 11.07
10-year Design ESALs: 12,399
Design Period: 20 Years
Projection Factor: 1.6
Growth Factor: 24.91
20-year Design ESALs: 27,546

															Effective Values		Overlay Thickness	Spring Capacity	
Station	**Drop**	**Time**	**Air °F**	**Bit °F**	**Load**	**D1**	**D2**	**D3**	**D4**	**D5**	**D6**	**D7**	**D8**	**D9**	**CBR %**	**SN inches**	**inches**	**tons/axle**	**Comments**
1.0																			TWP 117,IC,TWP 60,NB"
1.0	1	10:06	59.0	57.8	5763	29.9	23.5	17.5	10.5	7.1	3.0	1.9	1.4	1.2	3.5	1.7	0.8	6.0	
1.0	2	10:06	59.0	57.8	5752	29.6	23.4	17.6	10.5	7.1	3.0	1.9	1.4	1.2	3.6	1.7	0.8	6.1	
1.0	3	10:06	59.0	57.8	8629	46.7	36.9	28.3	17.4	11.7	4.6	2.8	2.1	1.9	3.4	1.6	0.9	5.8	
1.0	4	10:06	59.0	57.8	8607	47.1	37.4	28.8	17.7	11.9	4.7	2.8	2.2	1.9	3.4	1.6	0.9	5.8	
1.1	1	10:07	59.0	57.7	5632	37.5	28.9	20.2	10.6	6.4	2.9	2.1	1.6	1.4	3.5	1.4	1.5	4.8	
1.1	2	10:07	59.0	57.7	5643	37.2	29.1	20.5	10.7	6.5	3.0	2.1	1.6	1.4	3.5	1.4	1.5	4.8	
1.1	3	10:07	59.0	57.7	8443	56.8	44.2	32.3	18.1	10.7	4.3	3.1	2.5	2.2	3.6	1.3	1.5	4.7	
1.1	4	10:07	59.0	57.7	8443	57.8	45.2	33.2	18.6	10.9	4.3	3.2	2.5	2.3	3.6	1.3	1.6	4.7	
1.2	1	10:08	59.0	56.9	5752	26.7	21.1	15.8	9.7	6.9	3.5	2.3	1.7	1.5	3.0	2.0	0.3	6.7	
1.2	2	10:08	59.0	56.9	5774	26.6	21.1	15.9	9.6	7.0	3.4	2.3	1.7	1.5	3.1	2.0	0.3	6.8	
1.2	3	10:08	59.0	56.9	8705	40.0	31.6	24.3	15.2	11.0	5.2	3.6	2.7	2.4	3.1	2.0	0.2	6.8	
1.2	4	10:08	59.0	56.9	8661	40.2	31.9	24.5	15.6	11.0	5.3	3.6	2.7	2.4	3.0	2.0	0.3	6.7	
1.3																			TWP 117,B-,B-64,NB"
1.3	1	10:10	59.0	57.7	5720	34.5	27.6	20.4	11.7	7.8	3.7	2.5	1.9	1.6	2.8	1.7	1.2	5.4	
1.3	2	10:10	59.0	57.7	5730	34.2	27.6	20.5	11.8	7.8	3.7	2.6	1.9	1.5	2.8	1.7	1.2	5.4	
1.3	3	10:10	59.0	57.7	8552	51.4	42.1	32.3	19.5	12.8	5.6	3.9	2.9	2.4	2.8	1.7	1.2	5.4	
1.3	4	10:10	59.0	57.7	8552	51.7	42.6	32.8	19.8	12.9	5.7	3.9	2.9	2.4	2.8	1.7	1.2	5.3	
1.4	1	10:11	59.0	57.8	5709	36.1	28.2	20.5	11.3	7.3	3.5	2.5	1.8	1.6	3.0	1.6	1.4	5.1	
1.4	2	10:11	59.0	57.8	5709	35.8	28.1	20.6	11.4	7.3	3.5	2.5	1.8	1.5	3.0	1.6	1.3	5.1	
1.4	3	10:11	59.0	57.8	8530	54.6	43.0	32.3	18.8	12.0	5.3	3.7	2.8	2.5	2.9	1.6	1.4	5.1	
1.4	4	10:11	59.0	57.8	8519	55.4	43.8	33.0	19.2	12.2	5.4	3.8	2.8	2.5	2.9	1.6	1.4	5.0	
1.5	1	10:12	59.0	55.3	5873	19.6	15.4	11.8	7.5	5.6	3.0	1.9	1.4	1.1	3.6	2.4	0.0	8.8	
1.5	2	10:12	59.0	55.3	5873	19.3	15.3	11.7	7.4	5.6	3.0	1.9	1.4	1.1	3.6	2.4	0.0	9.0	
1.5	3	10:12	59.0	55.3	8880	30.0	24.0	18.8	12.2	9.0	4.6	2.9	2.2	1.8	3.6	2.4	0.0	8.8	
1.5	4	10:12	59.0	55.3	8847	30.1	24.1	18.9	12.3	9.1	4.6	3.0	2.2	1.8	3.5	2.4	0.0	8.7	
1.6	1	10:13	59.0	58.0	5752	27.0	21	15.7	9.2	6.5	3.1	1.9	1.4	1.2	3.4	1.9	0.4	6.6	
1.6	2	10:13	59.0	58.0	5752	26.7	20.9	15.6	9.3	6.5	3.1	1.9	1.4	1.2	3.4	1.9	0.4	6.7	
1.6	3	10:13	59.0	58.0	8639	42.5	33.2	25.4	15.4	10.6	4.7	2.9	2.2	1.9	3.3	1.8	0.6	6.3	
1.6	4	10:13	59.0	58.0	8629	42.8	33.5	25.6	15.6	10.7	4.8	3.0	2.3	1.9	3.3	1.8	0.6	6.3	
1.7	1	10:14	59.0	58.7	5774	30.0	22.8	16.3	9.3	6.2	2.7	1.7	1.3	1.2	4.0	1.6	0.8	6.0	
1.7	2	10:14	59.0	58.7	5785	29.7	22.7	16.3	9.3	6.2	2.7	1.7	1.3	1.2	4.0	1.6	0.8	6.0	
1.7	3	10:14	59.0	58.7	8650	47.7	36.6	26.9	15.8	10.1	3.9	2.6	2.1	1.8	4.1	1.5	1.0	5.6	
1.7	4	10:14	59.0	58.7	8629	48.4	37.2	27.4	16.1	10.3	4.0	2.7	2.0	1.8	4.0	1.5	1.0	5.6	

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AET Project No. 28-01314
County: Paulding
Test Date: Oct 8, 2014
Section: 12
Roadway: C-123
From: SR 114
To: T-48

Prev. Day's Avg. Air Temp.: 50 °F
Total AC: 10.1 in.
Daily ESALs: 5.0
Pavement Condition Index: 75
Haul Truck ESALs: 1,149
Soil Type: P
Draught Adjustment Factor: 0.00
Seasonal Correction Factor: 1.45

Design Period: 10 Years
Projection Factor: 1.2
Growth Factor: 11.07
10-year Design ESALs: 21,361
Design Period: 20 Years
Projection Factor: 1.6
Growth Factor: 24.91
20-year Design ESALs: 46,605

															Effective Values		Overlay	Spring	
															CBR	SN	Thickness	Capacity	
Station	Drop	Time	Air °F	Bit °F	Load	D1	D2	D3	D4	D5	D6	D7	D8	D9	%	inches	inches	tons/axle	Comments
0.0	1	10:23	62.6	56.7	5949	8.5	7.9	7.1	5.3	5.0	3.3	2.2	1.4	1.1	3.3	6.0	0.0	13.6	
0.0	2	10:23	62.6	56.7	5960	8.5	7.9	7.0	5.3	5.0	3.3	2.2	1.4	1.0	3.3	6.0	0.0	13.6	
0.0	3	10:23	62.6	56.7	9033	13.4	12.3	11.0	8.5	7.8	5.2	3.3	2.2	1.7	3.2	5.9	0.0	13.3	
0.0	4	10:23	62.6	56.7	8978	13.4	12.2	10.9	8.4	7.7	5.2	3.3	2.2	1.7	3.2	5.9	0.0	13.3	
0.1	1	10:24	62.6	60.8	5512	41.4	32.8	25.2	14.7	9.5	3.6	2.3	1.8	1.5	2.8	2.4	0.0	3.4	
0.1	2	10:24	62.6	60.8	5523	40.5	32.5	25.3	14.9	9.4	3.5	2.3	1.9	1.5	2.9	2.4	0.0	3.5	
0.1	3	10:24	62.6	60.8	8268	63.0	50.4	39.9	24.4	15.6	5.5	3.5	2.9	2.4	2.8	2.4	0.1	3.4	
0.1	4	10:24	62.6	60.8	8257	63.0	50.7	40.3	24.8	15.9	5.6	3.6	2.9	2.5	2.7	2.4	0.1	3.4	
0.2	1	10:25	62.6	61.1	5840	19.7	16.8	13.8	9.4	7.7	4.1	2.5	1.7	1.4	2.6	3.7	0.0	7.1	
0.2	2	10:25	62.6	61.1	5796	19.4	16.6	13.6	9.3	7.6	4.1	2.4	1.6	1.4	2.6	3.8	0.0	7.1	
0.2	3	10:25	62.6	61.1	8771	30.8	26	21.8	15.1	12.2	6.5	3.8	2.7	2.3	2.5	3.7	0.0	6.9	
0.2	4	10:25	62.6	61.1	8771	30.9	26.3	21.9	15.3	12.3	6.5	3.8	2.7	2.3	2.5	3.7	0.0	6.8	
0.3																			CR 123,B-,B-68,NB"
0.3	1	10:26	60.8	61.7	5895	13.9	12.1	10.5	7.5	6.3	3.7	2.4	1.6	1.3	2.9	4.5	0.0	9.5	
0.3	2	10:26	60.8	61.7	5895	13.8	12.1	10.5	7.5	6.3	3.7	2.4	1.6	1.2	2.9	4.5	0.0	9.5	
0.3	3	10:26	60.8	61.7	8902	21.8	18.9	16.4	11.9	9.9	5.8	3.6	2.5	2.0	2.8	4.5	0.0	9.2	
0.3	4	10:26	60.8	61.7	8902	21.9	19.0	16.5	12.0	9.9	5.8	3.7	2.5	2.0	2.8	4.4	0.0	9.2	
0.3	1	10:27	60.8	61.4	5884	14.3	11.8	10.1	7.1	5.9	3.4	2.1	1.4	1.1	3.2	4.3	0.0	9.2	
0.3	2	10:27	60.8	61.4	5895	14.3	11.7	10.0	7.0	5.8	3.4	2.1	1.4	1.1	3.2	4.3	0.0	9.2	
0.3	3	10:27	60.8	61.4	8913	22.8	18.5	15.9	11.3	9.3	5.3	3.3	2.3	1.9	3.1	4.2	0.0	8.8	
0.3	4	10:27	60.8	61.4	8858	22.9	18.6	15.9	11.4	9.3	5.3	3.3	2.3	1.9	3.0	4.2	0.0	8.8	
0.4	1	10:28	60.8	61.3	5818	15.0	12.8	10.9	7.7	6.4	3.7	2.2	1.5	1.2	2.9	4.3	0.0	8.8	
0.4	2	10:28	60.8	61.3	5829	14.9	12.8	10.9	7.7	6.4	3.7	2.2	1.5	1.2	2.9	4.3	0.0	8.9	
0.4	3	10:28	60.8	61.3	8836	23.7	20	17.1	12.2	10.1	5.7	3.4	2.4	1.9	2.9	4.2	0.0	8.5	
0.4	4	10:28	60.8	61.3	8836	23.9	20.3	17.3	12.4	10.2	5.8	3.4	2.4	2.0	2.8	4.2	0.0	8.5	
0.5	1	10:29	60.8	61.5	5709	24.1	19.5	15.6	9.8	7.4	3.7	2.1	1.5	1.3	2.8	3.2	0.0	5.8	
0.5	2	10:29	60.8	61.5	5720	23.8	19.3	15.5	9.9	7.5	3.7	2.1	1.5	1.3	2.8	3.2	0.0	5.9	
0.5	3	10:29	60.8	61.5	8607	37.4	30.3	24.7	16.3	12.2	5.9	3.3	2.5	2.1	2.7	3.2	0.0	5.7	
0.5	4	10:29	60.8	61.5	8585	37.4	30.3	24.8	16.2	12.3	6.0	3.4	2.5	2.2	2.6	3.2	0.0	5.7	
0.6	1	10:30	60.8	61.6	5840	13.4	11.5	10.0	6.9	5.8	3.2	1.8	1.1	1.0	3.4	4.3	0.0	9.6	
0.6	2	10:30	60.8	61.6	5862	13.3	11.6	9.9	7.0	5.8	3.2	1.8	1.2	1.0	3.4	4.4	0.0	9.6	
0.6	3	10:30	60.8	61.6	8869	21.1	18.3	15.7	11.3	9.2	4.9	2.7	1.8	1.5	3.3	4.3	0.0	9.3	
0.6	4	10:30	60.8	61.6	8869	21.2	18.3	15.8	11.3	9.3	5.0	2.8	1.9	1.5	3.3	4.3	0.0	9.3	
0.7	1	10:31	60.8	61.9	5873	15.3	13.6	10.9	7.3	5.8	3.0	1.7	1.2	1.0	3.6	3.9	0.0	8.6	
0.7	2	10:31	60.8	61.9	5851	15.1	13.4	10.8	7.3	5.7	3.0	1.7	1.2	0.9	3.6	4.0	0.0	8.6	
0.7	3	10:31	60.8	61.9	8847	23.9	21.0	17.0	11.7	9.1	4.7	2.6	1.8	1.5	3.5	3.9	0.0	8.3	
0.7	4	10:31	60.8	61.9	8847	24.1	21.1	17.1	11.7	9.2	4.7	2.7	1.9	1.5	3.4	3.9	0.0	8.3	
0.8																			CR 123,B-,B-67,SB"
0.8	1	10:32	60.8	62.1	5829	15.6	12.7	10.7	7.5	6.1	3.3	2.0	1.4	1.2	3.2	4.0	0.0	8.5	
0.8	2	10:32	60.8	62.1	5829	15.5	12.6	10.6	7.4	6.2	3.4	2.0	1.4	1.2	3.2	4.1	0.0	8.6	
0.8	3	10:32	60.8	62.1	8847	25.0	20.1	17.0	12.0	9.7	5.2	3.0	2.1	1.8	3.1	3.9	0.0	8.1	
0.8	4	10:32	60.8	62.1	8825	25.0	20.2	17.1	12.1	9.8	5.2	3.1	2.1	1.8	3.1	3.9	0.0	8.1	
0.8	1	10:33	62.6	61.9	5829	11.2	9.9	8.7	6.3	5.6	3.3	2.0	1.3	1.0	3.2	5.0	0.0	11.1	
0.8	2	10:33	62.6	61.9	5829	11.1	9.9	8.7	6.3	5.6	3.4	2.0	1.4	1.1	3.2	5.0	0.0	11.2	
0.8	3	10:33	62.6	61.9	8891	18.0	15.8	13.8	10.2	8.8	5.3	3.1	2.1	1.7	3.1	4.9	0.0	10.7	
0.8	4	10:33	62.6	61.9	8902	18.1	15.9	14.0	10.3	8.9	5.3	3.1	2.0	1.6	3.1	4.9	0.0	10.6	
0.9	1	10:34	62.6	61.9	5752	19.9	16.2	12.8	8.1	6.2	3.2	2.1	1.5	1.3	3.3	3.5	0.0	6.8	
0.9	2	10:34	62.6	61.9	5763	19.7	16.0	12.8	8.1	6.2	3.3	2.0	1.6	1.3	3.3	3.5	0.0	6.9	
0.9	3	10:34	62.6	61.9	8683	30.9	25.2	20.3	13.2	9.9	5.0	3.2	2.4	2.0	3.2	3.4	0.0	6.7	
0.9	4	10:34	62.6	61.9	8639	30.7	25.2	20.3	13.2	9.9	5.1	3.2	2.4	2.0	3.1	3.4	0.0	6.7	
1.0	1	10:35	62.6	61.5	5720	22.0	18.0	14.3	9.0	6.9	3.2	1.9	1.4	1.2	3.3	3.3	0.0	6.2	
1.0	2	10:35	62.6	61.5	5730	21.8	17.9	14.3	9.0	6.9	3.2	1.9	1.3	1.2	3.3	3.3	0.0	6.2	
1.0	3	10:35	62.6	61.5	8661	35.7	29.1	23.5	15.4	11.6	5.3	3.0	2.3	2.0	3.0	3.2	0.0	5.9	
1.0	4	10:35	62.6	61.5	8618	35.6	29.0	23.6	15.6	11.6	5.3	3.1	2.1	2.0	3.0	3.2	0.0	5.9	
1.0																			CR 123,IC,TWP 48,NB"

American Engineering Testing, Inc.
550 Cleveland Avenue North
St. Paul, Minnesota 55114
Phone: (651) 659-9001
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AET Project No. 28-01314
County: Paulding
Test Date: Oct 8, 2014
Section: 13
Roadway: C-123
From: T-48
To: C-60

Prev. Day's Avg. Air Temp.: 50 °F
Total AC: 10.4 in.
Daily ESALs: 5.0
Pavement Condition Index: 77
Haul Truck ESALs: 104
Soil Type: P
Draught Adjustment Factor: 0.00
Seasonal Correction Factor: 1.45

Design Period: 10 Years
Projection Factor: 1.2
Growth Factor: 11.07
10-year Design ESALs: 20,316
Design Period: 20 Years
Projection Factor: 1.6
Growth Factor: 24.91
20-year Design ESALs: 45,560

														Effective Values		Overlay	Spring	
														CBR	SN	Thickness	Capacity	
Station	**Drop**	**Time**	**Air °F**	**Bit °F**	**Load**	**D1**	**D2**	**D3**	**D4**	**D5**	**D6**	**D7**	**D8**	**D9**	**%**	**inches**	**inches**	**tons/axle**	**Comments**
1.0																			CR 123,IC,TWP 48,NB"
1.1	1	10:37	62.6	61.7	5905	13.4	11.9	10.3	7.4	6.5	4.2	2.8	1.9	1.4	2.6	4.8	0.0	9.9	
1.1	2	10:37	62.6	61.7	5873	13.2	11.8	10.2	7.3	6.5	4.2	2.8	1.9	1.4	2.6	4.8	0.0	10.0	
1.1	3	10:37	62.6	61.7	8957	20.6	18.1	15.8	11.6	10.1	6.4	4.3	2.9	2.1	2.6	4.8	0.0	9.8	
1.1	4	10:37	62.6	61.7	8946	20.6	18	15.9	11.6	10.2	6.5	4.3	2.9	2.2	2.5	4.8	0.0	9.8	
1.1	1	10:39	62.6	62.3	5905	11.8	10.6	9.3	6.8	6.0	3.7	2.4	1.5	1.1	2.9	5.0	0.0	10.8	
1.1	2	10:39	62.6	62.3	5916	11.8	10.6	9.3	6.8	6.0	3.7	2.4	1.5	1.1	2.9	5.0	0.0	10.9	
1.1	3	10:39	62.6	62.3	8935	18.6	16.6	14.6	10.8	9.5	5.8	3.6	2.3	1.7	2.8	4.9	0.0	10.5	
1.1	4	10:39	62.6	62.3	8902	18.6	16.6	14.6	10.8	9.5	5.8	3.6	2.3	1.7	2.8	4.9	0.0	10.5	
1.2	1	10:40	62.6	61.7	5785	14.1	12.1	10.4	7.5	6.7	4.0	2.4	1.5	1.1	2.6	4.5	0.0	9.3	
1.2	2	10:40	62.6	61.7	5785	14.1	12.0	10.4	7.5	6.7	4.1	2.4	1.5	1.1	2.6	4.5	0.0	9.3	
1.2	3	10:40	62.6	61.7	8814	22.4	19.1	16.5	12.2	10.6	6.3	3.8	2.3	1.8	2.6	4.4	0.0	9.0	
1.2	4	10:40	62.6	61.7	8782	22.5	19.2	16.6	12.2	10.6	6.3	3.8	2.4	1.8	2.5	4.4	0.0	9.0	
1.3																			CR 123,B-,B-66,NB"
1.3	1	10:41	62.6	61.7	5807	18.8	16.0	13.4	9.2	7.6	4.3	2.6	1.7	1.3	2.5	3.8	0.0	7.4	
1.3	2	10:41	62.6	61.7	5774	18.6	15.8	13.2	9.1	7.6	4.2	2.6	1.7	1.3	2.5	3.8	0.0	7.4	
1.3	3	10:41	62.6	61.7	8760	29.7	24.9	21.0	14.7	12.0	6.7	4.0	2.7	2.1	2.4	3.8	0.0	7.1	
1.3	4	10:41	62.6	61.7	8749	29.8	25	21.0	14.8	12.0	6.7	4.0	2.8	2.1	2.4	3.8	0.0	7.1	
1.4	1	10:42	62.6	62.4	5720	20.2	16.2	12.8	8.1	6.1	3.0	1.7	1.2	1.0	3.6	3.3	0.0	6.6	
1.4	2	10:42	62.6	62.4	5730	20.0	16.1	12.7	8.1	6.1	3.0	1.7	1.2	1.0	3.6	3.3	0.0	6.7	
1.4	3	10:42	62.6	62.4	8672	31.6	25.2	20.2	13.2	9.7	4.6	2.7	1.9	1.6	3.5	3.2	0.0	6.5	
1.4	4	10:42	62.6	62.4	8650	31.7	25.3	20.2	13.3	9.7	4.6	2.7	2.0	1.6	3.4	3.2	0.0	6.4	
1.5	1	10:43	62.6	62.4	5730	20.6	17.2	13.9	9.1	7.1	3.7	2.2	1.6	1.4	2.9	3.4	0.0	6.7	
1.5	2	10:43	62.6	62.4	5741	20.3	17.0	13.7	9.0	7.1	3.7	2.3	1.7	1.4	2.8	3.5	0.0	6.7	
1.5	3	10:43	62.6	62.4	8672	32.3	26.7	21.8	14.6	11.4	5.7	3.4	2.6	2.2	2.8	3.4	0.0	6.5	
1.5	4	10:43	62.6	62.4	8672	32.4	26.6	21.8	14.7	11.3	5.7	3.5	2.7	2.2	2.8	3.4	0.0	6.5	
1.6	1	10:44	62.6	61.9	5774	18.3	14.6	11.5	7.7	6.3	3.7	2.5	1.7	1.3	2.9	3.7	0.0	7.4	
1.6	2	10:44	62.6	61.9	5785	18.1	14.4	11.5	7.7	6.3	3.7	2.5	1.7	1.3	2.9	3.7	0.0	7.5	
1.6	3	10:44	62.6	61.9	8814	28.3	22.6	18.2	12.4	9.9	5.8	3.9	2.8	2.1	2.8	3.7	0.0	7.3	
1.6	4	10:44	62.6	61.9	8814	28.4	22.6	18.2	12.5	10.0	5.9	3.9	2.7	2.1	2.8	3.7	0.0	7.3	
1.7	1	10:45	64.4	62.4	5752	18.6	15.8	13.0	8.7	6.8	3.6	2.3	1.6	1.3	2.9	3.6	0.0	7.3	
1.7	2	10:45	64.4	62.4	5763	18.4	15.6	12.8	8.7	6.8	3.6	2.2	1.6	1.3	2.9	3.6	0.0	7.4	
1.7	3	10:45	64.4	62.4	8727	29.3	24.7	20.4	14.0	10.9	5.6	3.5	2.6	2.1	2.8	3.6	0.0	7.1	
1.7	4	10:45	64.4	62.4	8694	29.3	24.6	20.3	13.9	10.9	5.7	3.5	2.6	2.2	2.8	3.6	0.0	7.0	
1.8																			CR 123,B-,B-65,SB"
1.8	1	10:47	64.4	61.7	5807	17.5	15.0	12.5	8.7	7.2	4.1	2.6	1.8	1.4	2.6	3.9	0.0	7.8	
1.8	2	10:47	64.4	61.7	5829	17.4	14.9	12.4	8.7	7.2	4.1	2.6	1.8	1.4	2.6	4.0	0.0	7.9	
1.8	3	10:47	64.4	61.7	8760	27.4	23.2	19.4	13.9	11.3	6.4	4.0	2.8	2.2	2.5	3.9	0.0	7.6	
1.8	4	10:47	64.4	61.7	8771	27.6	23.4	19.6	14.0	11.4	6.4	4.0	2.8	2.2	2.5	3.9	0.0	7.5	
1.9	1	10:48	64.4	61.8	5807	19.5	16.4	13.7	9.3	7.5	4.0	2.5	1.8	1.5	2.6	3.7	0.0	7.1	
1.9	2	10:48	64.4	61.8	5807	19.3	16.2	13.6	9.2	7.4	4.0	2.5	1.8	1.5	2.6	3.7	0.0	7.2	
1.9	3	10:48	64.4	61.8	8760	30.6	25.6	21.5	15.1	11.8	6.3	3.9	2.9	2.4	2.6	3.6	0.0	6.9	
1.9	4	10:48	64.4	61.8	8738	30.6	25.6	21.5	15.0	11.8	6.3	3.9	2.9	2.4	2.6	3.6	0.0	6.9	
2.0	1	10:49	64.4	62.1	5741	24.2	20.0	16.0	10.4	7.9	4.0	2.5	1.7	1.5	2.6	3.2	0.0	5.8	
2.0	2	10:49	64.4	62.1	5698	23.6	19.6	15.7	10.2	7.9	4.0	2.5	1.6	1.4	2.6	3.2	0.0	5.9	
2.0	3	10:49	64.4	62.1	8661	37.4	30.9	25.0	16.7	12.7	6.3	3.9	2.8	2.4	2.5	3.2	0.0	5.7	
2.0	4	10:49	64.4	62.1	8629	37.3	30.7	24.9	16.6	12.6	6.3	3.9	2.8	2.4	2.5	3.2	0.0	5.7	
2.1																			CR 123,IC,TWP 60,NB"

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AET Project No. 28-01314
County: Paulding
Test Date: Oct 8, 2014
Section: 14
Roadway: T-131
From: SR 114
To: T-48

Prev. Day's Avg. Air Temp.: 50 °F
Total AC: 2.4 in.
Daily ESALs: 3.0
Pavement Condition Index: 77
Haul Truck ESALs: 0
Soil Type: P
Draught Adjustment Factor: 0.00
Seasonal Correction Factor: 1.75

Design Period: 10 Years
Projection Factor: 1.2
Growth Factor: 11.07
10-year Design ESALs: 12,127
Design Period: 20 Years
Projection Factor: 1.6
Growth Factor: 24.91
20-year Design ESALs: 27,274

															Effective Values		Overlay Thickness	Spring Capacity	
Station	**Drop**	**Time**	**Air °F**	**Bit °F**	**Load**	**D1**	**D2**	**D3**	**D4**	**D5**	**D6**	**D7**	**D8**	**D9**	**CBR %**	**SN inches**	**inches**	**tons/axle**	**Comments**
0.0																			TWP 131,IC,HWY 114,NB"
0.0	1	10:55	64.4	62.3	5752	34.2	26.2	18.2	10.0	6.5	3.3	2.3	1.7	1.5	3.2	1.7	1.0	5.3	
0.0	2	10:55	64.4	62.3	5741	33.9	26.2	18.3	10.1	6.5	3.3	2.3	1.8	1.5	3.2	1.7	1.0	5.4	
0.0	3	10:55	64.4	62.3	8596	51.3	39.9	28.7	16.4	10.4	4.9	3.5	2.7	2.4	3.2	1.7	1.0	5.3	
0.0	4	10:55	64.4	62.3	8585	51.8	40.5	29.3	16.6	10.6	5.0	3.6	2.7	2.4	3.1	1.7	1.0	5.3	
0.1	1	10:56	64.4	62.5	5599	43.7	33.8	22.8	11.4	6.7	3.3	2.4	1.8	1.7	3.1	1.4	1.7	4.1	
0.1	2	10:56	64.4	62.5	5588	43.3	33.6	22.8	11.4	6.7	3.3	2.5	1.8	1.7	3.1	1.4	1.7	4.2	
0.1	3	10:56	64.4	62.5	8366	64.5	50.2	35.4	18.8	10.9	5.0	3.8	2.9	2.7	3.1	1.4	1.6	4.2	
0.1	4	10:56	64.4	62.5	8344	64.7	50.6	35.9	19.0	10.9	5.1	3.8	2.9	2.7	3.0	1.4	1.7	4.2	
0.2	1	10:57	64.4	62.4	5632	42.5	31.9	21.1	10.7	6.8	3.5	2.4	1.8	1.6	3.0	1.4	1.6	4.3	
0.2	2	10:57	64.4	62.4	5643	42.1	31.9	21.2	10.8	6.9	3.5	2.4	1.9	1.6	3.0	1.5	1.6	4.3	
0.2	3	10:57	64.4	62.4	8421	62.6	48.0	33.3	17.6	10.9	5.3	3.8	2.9	2.5	2.9	1.5	1.6	4.4	
0.2	4	10:57	64.4	62.4	8399	63.0	48	33.8	18.0	11.1	5.3	3.8	2.9	2.5	2.9	1.5	1.6	4.3	
0.3																			TWP 131,B-,B-35,NB"
0.3	1	10:59	64.4	63.5	5588	40.1	30.5	20.9	10.9	6.7	3.3	2.4	1.9	1.6	3.1	1.5	1.5	4.5	
0.3	2	10:59	64.4	63.5	5588	39.7	30.5	21.1	10.9	6.8	3.4	2.5	1.9	1.5	3.0	1.5	1.5	4.5	
0.3	3	10:59	64.4	63.5	8322	60.1	46.2	33.0	17.8	10.8	4.9	3.7	3.0	2.4	3.1	1.5	1.5	4.5	
0.3	4	10:59	64.4	63.5	8300	60.6	46.8	33.7	18.2	10.9	5.0	3.8	3.0	2.3	3.0	1.5	1.5	4.4	
0.4	1	11:00	64.4	63.4	5687	33.8	25.8	17.6	9.5	6.1	3.1	2.2	1.7	1.5	3.4	1.6	1.0	5.3	
0.4	2	11:00	64.4	63.4	5698	33.5	25.7	17.7	9.5	6.0	3.1	2.2	1.7	1.4	3.4	1.6	0.9	5.4	
0.4	3	11:00	64.4	63.4	8530	50.3	38.9	27.6	15.4	9.6	4.7	3.4	2.7	2.3	3.3	1.6	0.9	5.3	
0.4	4	11:00	64.4	63.4	8497	50.6	39.3	28.1	15.6	9.7	4.8	3.5	2.7	2.3	3.3	1.7	1.0	5.3	
0.5	1	11:01	64.4	61.1	5720	33.9	25.7	17.7	9.5	6.1	3.2	2.3	1.7	1.6	3.2	1.7	1.0	5.3	
0.5	2	11:01	64.4	61.1	5687	33.3	25.5	17.6	9.5	6.1	3.2	2.3	1.7	1.6	3.2	1.7	0.9	5.4	
0.5	3	11:01	64.4	61.1	8574	49.7	38.2	27.4	15.3	9.7	4.9	3.6	2.8	2.5	3.2	1.7	0.9	5.4	
0.5	4	11:01	64.4	61.1	8552	49.8	38.7	27.9	15.6	9.8	5.0	3.7	2.8	2.4	3.1	1.7	0.9	5.4	
0.6	1	11:02	64.4	62.7	5698	30.6	23.5	17.6	10.8	7.9	4.0	2.5	1.7	1.5	2.6	2.0	0.6	5.9	
0.6	2	11:02	64.4	62.7	5698	30.4	23.5	17.6	10.8	8.0	4.1	2.4	1.7	1.5	2.6	2.0	0.5	6.0	
0.6	3	11:02	64.4	62.7	8508	46.3	36.3	27.8	17.6	12.7	6.3	3.8	2.8	2.4	2.5	2.0	0.6	5.9	
0.6	4	11:02	64.4	62.7	8508	46.6	36.6	28.1	17.8	12.9	6.3	3.9	2.9	2.4	2.5	2.0	0.6	5.9	
0.7	1	11:03	64.4	63.0	5698	36.9	27.7	19.1	10.2	6.3	3.1	2.2	1.6	1.3	3.4	1.5	1.2	4.9	
0.7	2	11:03	64.4	63.0	5654	36.3	27.5	19.0	10.2	6.3	3.1	2.2	1.6	1.2	3.3	1.6	1.2	4.9	
0.7	3	11:03	64.4	63.0	8519	54.6	41.4	29.7	16.6	10.2	4.7	3.3	2.5	2.1	3.3	1.6	1.2	4.9	
0.7	4	11:03	64.4	63.0	8508	54.9	41.8	30.1	16.8	10.3	4.8	3.4	2.5	2.1	3.2	1.6	1.2	4.9	
0.8																			TWP 131,B-,B-34,SB"
0.8	1	11:05	64.4	62.0	5709	31.0	23.9	17.1	9.4	6.8	3.9	2.8	2.1	1.6	2.7	2.0	0.6	5.9	
0.8	2	11:05	64.4	62.0	5665	30.4	23.7	16.9	9.2	7.0	3.8	2.8	2.0	1.7	2.7	2.0	0.6	5.9	
0.8	3	11:05	64.4	62.0	8574	45.4	35.6	26.5	15.5	10.9	6.0	4.5	3.3	2.8	2.6	2.0	0.5	6.0	
0.8	4	11:05	64.4	62.0	8530	45.4	35.5	26.5	15.5	10.9	6.1	4.5	3.3	2.8	2.6	2.0	0.5	6.0	
0.9	1	11:05	64.4	62.6	5698	33.5	25.2	18.0	9.9	6.2	2.8	1.8	1.2	1.1	3.7	1.6	0.9	5.3	
0.9	2	11:05	64.4	62.6	5698	33.0	24.9	17.9	9.9	6.2	2.8	1.8	1.3	1.1	3.7	1.6	0.9	5.4	
0.9	3	11:05	64.4	62.6	8585	50.1	38.5	28.5	16.4	10.2	4.3	2.7	2.0	1.8	3.7	1.6	0.9	5.3	
0.9	4	11:05	64.4	62.6	8574	50.2	38.5	28.6	16.4	10.2	4.3	2.7	2.0	1.8	3.7	1.6	0.9	5.3	
1.0	1	11:07	64.4	63.3	5643	34.2	26.7	19.3	10.7	6.8	3.1	2.2	1.7	1.6	3.3	1.6	1.0	5.2	
1.0	2	11:07	64.4	63.3	5665	34.0	26.6	19.3	10.8	6.8	3.1	2.2	1.6	1.5	3.4	1.6	1.0	5.3	
1.0	3	11:07	64.4	63.3	8530	52.1	40.7	30.4	17.7	11.1	4.7	3.3	2.7	2.5	3.4	1.6	1.0	5.2	
1.0	4	11:07	64.4	63.3	8497	52.3	40.9	30.7	18.0	11.2	4.8	3.3	2.7	2.5	3.3	1.6	1.1	5.1	
1.0																			TWP 131,IC,TWP 48,NB"

American Engineering Testing, Inc.
550 Cleveland Avenue North
St. Paul, Minnesota 55114
Phone: (651) 659-9001
Fax: (651) 659-1379

AET Project No. 28-01314
County: Paulding
Test Date: Oct 8, 2014
Section: 15
Roadway: T-131
From: T-48
To: C-60

Prev. Day's Avg. Air Temp.: 50 °F
Total AC: 2.0 in.
Daily ESALs: 3.0
Pavement Condition Index: 52
Haul Truck ESALs: 0
Soil Type: P
Draught Adjustment Factor: 0.00
Seasonal Correction Factor: 1.79

Design Period: 10 Years
Projection Factor: 1.2
Growth Factor: 11.07
10-year Design ESALs: 12,127
Design Period: 20 Years
Projection Factor: 1.6
Growth Factor: 24.91
20-year Design ESALs: 27,274

Station	Drop	Time	Air °F	Bit °F	Load	D1	D2	D3	D4	D5	D6	D7	D8	D9	Effective Values CBR %	Effective Values SN inches	Overlay Thickness inches	Spring Capacity tons/axle	Comments
1.0																			TWP 131,IC,TWP 48,NB"
1.0	1	11:08	62.6	59.2	5818	23.2	18.0	13.4	8.4	6.1	3.0	1.9	1.4	1.2	3.6	2.4	0.0	7.5	
1.0	2	11:08	62.6	59.2	5818	23.0	18.0	13.4	8.4	6.1	3.0	1.9	1.4	1.2	3.6	2.4	0.0	7.5	
1.0	3	11:08	62.6	59.2	8749	35.6	27.9	21.2	13.6	9.7	4.6	2.8	2.2	2.0	3.5	2.4	0.0	7.4	
1.0	4	11:08	62.6	59.2	8727	35.8	28.1	21.4	13.8	9.8	4.6	2.8	2.2	2.0	3.5	2.4	0.0	7.3	
1.1	1	11:09	62.6	63.4	5687	32.5	25.5	19.0	11.3	7.9	3.9	2.6	1.8	1.7	2.7	2.1	0.3	5.6	
1.1	2	11:09	62.6	63.4	5654	32.1	25.2	19.0	11.3	7.9	3.9	2.5	1.8	1.6	2.7	2.1	0.3	5.6	
1.1	3	11:09	62.6	63.4	8552	49.2	38.9	30.1	18.5	12.8	5.9	4.0	2.9	2.8	2.7	2.1	0.3	5.6	
1.1	4	11:09	62.6	63.4	8497	49.1	39.0	30.5	18.7	12.9	6.0	4.1	3.0	2.7	2.6	2.1	0.3	5.5	
1.2	1	11:10	62.6	62.9	5763	22.2	17.5	13.4	8.5	6.6	3.6	2.4	1.8	1.4	2.9	2.7	0.0	7.9	
1.2	3	11:10	62.6	62.9	8716	33.8	26.9	21.2	13.7	10.4	5.5	3.6	2.7	2.3	2.9	2.7	0.0	7.9	
1.2	4	11:10	62.6	62.9	8694	33.8	26.9	21.3	13.7	10.5	5.5	3.7	2.8	2.3	2.9	2.7	0.0	7.8	
1.3																			TWP 131,B-,B-33,NB"
1.3	1	11:11	62.6	62.8	5752	28.6	21.7	15.5	8.7	5.7	2.7	1.8	1.3	1.1	3.9	2.0	0.0	6.1	
1.3	2	11:11	62.6	62.8	5763	28.2	21.6	15.5	8.7	5.7	2.8	1.8	1.3	1.1	3.8	2.0	0.0	6.2	
1.3	3	11:11	62.6	62.8	8683	43.1	33.4	24.8	14.6	9.4	4.2	2.8	2.1	1.9	3.8	2.0	0.0	6.2	
1.3	4	11:11	62.6	62.8	8639	42.9	33.3	25.0	14.6	9.4	4.2	2.8	2.1	1.9	3.8	2.0	0.0	6.2	
1.4	1	11:12	62.6	62.8	5752	26.0	19.7	14.0	8.1	5.6	3.0	2.0	1.5	1.2	3.5	2.2	0.0	6.8	
1.4	2	11:12	62.6	62.8	5752	25.7	19.6	14.0	8.2	5.6	3.0	2.0	1.5	1.1	3.5	2.2	0.0	6.8	
1.4	3	11:12	62.6	62.8	8694	38.8	29.9	22.0	13.3	9.0	4.6	3.1	2.3	1.8	3.5	2.2	0.0	6.8	
1.4	4	11:12	62.6	62.8	8694	39.1	30.2	22.4	13.6	9.1	4.6	3.1	2.3	1.9	3.5	2.2	0.0	6.8	
1.5	1	11:13	62.6	62.7	5774	26.1	19.5	13.9	7.8	5.4	2.7	1.8	1.2	1.1	3.9	2.1	0.0	6.7	
1.5	2	11:13	62.6	62.7	5785	25.9	19.5	13.9	7.8	5.4	2.7	1.8	1.2	1.1	3.9	2.1	0.0	6.8	
1.5	3	11:13	62.6	62.7	8760	38.4	29.2	21.6	12.6	8.6	4.2	2.8	2.0	1.8	3.8	2.2	0.0	6.9	
1.5	4	11:13	62.6	62.7	8749	38.5	29.3	21.8	12.7	8.5	4.2	2.8	2.0	1.8	3.8	2.2	0.0	6.9	
1.6	1	11:14	62.6	61.8	5720	29.7	23.4	17.2	10.3	7.9	5.0	3.5	2.7	2.2	2.1	2.5	0.0	6.2	
1.6	2	11:14	62.6	61.8	5720	29.6	23.3	17.2	10.4	7.9	5.0	3.6	2.7	2.1	2.1	2.6	0.0	6.2	
1.6	3	11:14	62.6	61.8	8618	43.5	34.6	26.3	16.5	12.3	7.5	5.2	3.9	3.1	2.1	2.6	0.0	6.4	
1.6	4	11:14	62.6	61.8	8607	43.8	34.9	26.9	16.9	12.6	7.4	5.4	4.0	3.1	2.1	2.6	0.0	6.3	

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Phone: (651) 659-9001
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AET Project No. 28-00917
County: Paulding
Test Date: Oct 8, 2014
Section: 16
Roadway: T-131
From: C-60
To: C-72

Allowable Rut: 2 inches
Allowable Serviceability Loss: 2.5
Daily ESALs: 3.0
Haul ESALs: 1,763
Annual Growth: 2.2%
Surface Condition Rating: 59.7
Soil Type: P
Seasonal Correction Factor: 1.79

Design Period: 10 Years
Projection Factor: 1.2
Growth Factor: 11.07
10-year Design ESALs: 13,890
Design Period: 20 Years
Projection Factor: 1.6
Growth Factor: 24.91
20-year Design ESALs: 29,037

Station	Drop	Time	Air °F	Bit °F	Load	D9	D1	D2	D3	D4	D5	D6	D7	D8	Effective Values CBR	Effective Values SN inches	Overlay Thickness inches	TONN Capacity tons/axle	Comments
2.1																			TWP 131,IC,TWP 60,NB"
2.1	1	11:20	62.6	59.7	5085		89.5	57.4	32.0	10.3	4.4	2.8	2.3	1.7	5.0	0.5	4.2	2.2	
2.1	2	11:20	62.6	59.7	5140		89.5	58.3	32.2	10.4	4.6	2.8	2.3	1.7	4.9	0.5	4.2	2.2	
2.1	3	11:20	62.6	59.7	7458		123.2	88.9	50.9	16.4	6.3	3.8	3.3	2.6	5.1	0.5	4.1	2.3	
2.1	4	11:20	62.6	59.7	7469		129.0	89.2	51.5	16.9	6.5	4.0	3.3	2.6	5.0	0.5	4.2	2.2	
2.1	1	11:21	62.6	59.7	5413		57.8	39.7	24.9	10.7	6.3	3.7	2.6	1.7	3.7	0.9	2.9	3.6	
2.1	2	11:21	62.6	59.7	5435		58.2	40.7	25.4	11.0	6.4	3.7	2.6	2.0	3.7	0.9	2.9	3.6	
2.1	3	11:21	62.6	59.7	8082		90.4	64.9	41.3	18.2	9.9	5.5	4.0	3.1	3.5	0.8	3.0	3.4	
2.1	4	11:21	62.6	59.7	8060		91.8	65.6	43.0	19.1	10.2	5.6	4.0	3.2	3.4	0.8	3.0	3.3	
2.2	1	11:22	64.4	60.4	5370		63.8	39.8	24.6	10.3	6.4	3.9	2.8	2.1	3.6	0.8	3.3	3.2	
2.2	2	11:22	64.4	60.4	5381		63.4	40.1	25.1	10.4	6.6	3.9	2.9	2.1	3.6	0.8	3.2	3.2	
2.2	3	11:22	64.4	60.4	7940		98.4	66.2	42.6	17.5	10.0	5.9	4.4	3.3	3.5	0.8	3.4	3.1	
2.2	4	11:22	64.4	60.4	7885		100.0	68.4	44.1	18.1	10.0	5.9	4.4	3.3	3.4	0.8	3.5	3.0	
2.3																			TWP 131,B-,B-31,NB"
2.3	1	11:23	64.4	60.2	5566		54.0	38.8	24.4	9.9	5.7	3.2	2.3	1.7	4.2	0.9	2.8	3.9	
2.3	2	11:23	64.4	60.2	5555		53.7	39.2	24.9	10.7	5.8	3.1	2.4	1.8	4.2	0.9	2.7	3.9	
2.3	3	11:23	64.4	60.2	8202		84.6	62.6	40.0	16.5	8.8	4.6	3.5	2.6	4.0	0.8	3.0	3.7	
2.3	4	11:23	64.4	60.2	8202		85.2	63.6	41.2	16.3	8.8	4.5	3.5	2.6	4.0	0.8	3.0	3.7	
2.4	1	11:24	64.4	60.5	5446		61.0	41.3	26.6	11.9	7.0	3.9	2.8	2.2	3.4	0.9	2.8	3.4	
2.4	2	11:24	64.4	60.5	5457		60.7	41.9	27.0	11.8	6.8	3.9	2.8	2.2	3.5	0.9	2.9	3.4	
2.4	3	11:24	64.4	60.5	8071		94.6	66.6	41.6	18.6	10.4	5.8	4.3	3.3	3.4	0.8	3.0	3.3	
2.4	4	11:24	64.4	60.5	8071		94.9	67.8	42.8	19.1	10.4	5.9	4.3	3.3	3.4	0.8	3.1	3.2	
2.5	1	11:25	64.4	60.7	5468		58.9	41.7	26.9	12.0	6.8	3.8	5.0	2.0	3.5	0.9	2.7	3.5	
2.5	2	11:25	64.4	60.7	5490		58.3	41.9	27.3	12.1	6.9	3.8	3.3	2.1	3.5	0.9	2.6	3.6	
2.5	3	11:25	64.4	60.7	8082		88.9	64.3	42.3	19.1	10.6	5.6	4.2	3.1	3.3	0.9	3.7	3.5	
2.5	4	11:25	64.4	60.7	8082		90.7	67.2	43.7	20.1	10.9	5.7	3.8	3.1	3.2	0.9	3.7	3.4	
2.6	1	11:26	64.4	59.9	5304		72.7	44.8	25.4	9.2	5.1	3.3	2.5	1.8	4.5	0.6	4.4	2.8	
2.6	2	11:26	64.4	59.9	0:00		73	44.9	25.8	9.0	5.1	3.3	2.5	1.8	4.5	0.6	4.4	2.8	
2.6	3	11:26	64.4	59.9	7830		101.3	68.5	42.6	15.3	7.8	5.0	3.8	2.8	4.4	0.7	4.1	3.0	
2.6	4	11:26	64.4	59.9	7808		98.6	69.8	42.9	15.6	7.9	5.0	3.8	2.8	4.3	0.7	4.0	3.0	
2.7	1	11:27	64.4	60.5	5599		42.4	30.6	20.9	10.1	6.6	3.8	2.7	2.1	3.7	1.2	0.7	4.9	
2.7	2	11:27	64.4	60.5	5610		42.5	31.0	21.4	10.3	6.7	3.7	2.7	1.9	3.6	1.2	0.6	4.9	
2.7	3	11:27	64.4	60.5	8388		67.8	49.6	33.9	16.3	10.4	5.7	4.1	3.1	3.5	1.1	1.0	4.6	
2.7	4	11:27	64.4	60.5	8377		68.8	50.3	34.6	16.7	10.6	5.8	4.2	3.1	3.4	1.1	1.0	4.6	
2.8	1	11:29	64.4	59.6	5052		90.5	58.6	28.8	8.8	3.4	2.5	2.3	1.9	6.5	0.5	4.5	2.2	
2.8	2	11:29	64.4	59.6	5020		89.5	58.4	28.9	8.9	3.4	2.5	2.3	1.8	6.4	0.5	4.4	2.2	
2.8	3	11:29	64.4	59.6	7382		91.8	91.7	47.5	15.8	5.2	3.4	3.3	2.7	6.2	0.6	3.6	3.1	
2.8	4	11:29	64.4	59.6	7360		91.0	90.9	49.8	16.5	5.3	3.5	3.3	2.7	6.0	0.6	3.5	3.1	
2.8																			TWP 131,B-,B-30,SB"
2.9	1	11:30	64.4	59.6	5424		57.2	36.2	24.0	10.6	6.1	3.4	2.6	2.1	3.9	0.8	3.0	3.6	
2.9	2	11:30	64.4	59.6	5446		57.0	37.0	24.9	10.9	6.1	3.4	2.8	2.3	3.9	0.8	2.9	3.6	
2.9	3	11:30	64.4	59.6	8082		88.5	59.5	40.4	17.9	9.4	4.9	4.2	3.5	3.7	0.8	3.0	3.5	
2.9	4	11:30	64.4	59.6	8071		89.3	61.9	42.1	18.5	9.7	5.0	4.2	3.4	3.6	0.8	3.0	3.4	
3.0	1	11:31	64.4	59.5	5348		52.8	34.8	21.2	10.5	5.9	3.4	2.5	1.9	3.9	0.9	2.7	3.8	
3.0	2	11:31	64.4	59.5	5402		53.4	35.6	21.7	10.6	5.9	3.5	2.5	2.0	4.0	0.9	2.7	3.8	
3.0	3	11:31	64.4	59.5	7961		84.0	61.6	36.2	17.7	9.2	5.1	3.9	2.9	3.8	0.9	2.9	3.6	
3.0	4	11:31	64.4	59.5	8016		86.5	62.6	37.9	18.6	9.4	5.3	3.9	3.1	3.7	0.9	2.9	3.5	
3.1	1	11:32	64.4	59.9	5555		46.2	34.2	23.5	12.2	7.8	4.3	3.1	2.4	3.1	1.2	1.5	4.5	
3.1	2	11:32	64.4	59.9	5555		45.8	33.9	23.8	12.4	8.0	4.3	3.2	2.4	3.0	1.2	1.4	4.5	
3.1	3	11:32	64.4	59.9	8279		68.2	54.0	37.7	20.2	12.7	6.4	4.8	3.7	2.8	1.3	1.0	4.6	
3.1	4	11:32	64.4	59.9	8289		69.1	54.1	38.0	21.1	13.0	6.4	4.8	3.8	2.8	1.3	1.0	4.5	
3.1																			TWP 131,IC,TWP 72,NB"

American Engineering Testing, Inc.
550 Cleveland Avenue North
St. Paul, Minnesota 55114
Phone: (651) 659-9001
Fax: (651) 659-1379

AET Project No. 28-01314
County: Paulding
Test Date: Oct 8, 2014
Section: 17
Roadway: T-131
From: C-72
To: T-82

Prev. Day's Avg. Air Temp.: 50 °F
Total AC: 3.4 in.
Daily ESALs: 3.0
Pavement Condition Index: 70
Haul Truck ESALs: 583
Soil Type: P
Draught Adjustment Factor: 0.00
Seasonal Correction Factor: 1.75

Design Period: 10 Years
Projection Factor: 1.2
Growth Factor: 11.07
10-year Design ESALs: 12,710
Design Period: 20 Years
Projection Factor: 1.6
Growth Factor: 24.91
20-year Design ESALs: 27,857

															Effective Values		Overlay	Spring	
															CBR	SN	Thickness	Capacity	
Station	**Drop**	**Time**	**Air °F**	**Bit °F**	**Load**	**D1**	**D2**	**D3**	**D4**	**D5**	**D6**	**D7**	**D8**	**D9**	**%**	**inches**	**inches**	**tons/axle**	**Comments**
3.1																			TWP 131,IC,TWP 72,NB"
3.1	1	11:33	62.6	61.6	5720	29.6	22.9	16.7	10.0	7.2	3.8	2.6	2.0	1.6	2.8	1.9	0.8	5.1	
3.1	2	11:33	62.6	61.6	5698	29.2	22.8	16.7	10.0	7.2	3.8	2.6	2.0	1.6	2.8	1.9	0.8	5.1	
3.1	3	11:33	62.6	61.6	8563	46.3	36.1	26.9	16.4	11.5	5.9	4.1	3.1	2.6	2.7	1.8	1.0	4.9	
3.1	4	11:33	62.6	61.6	8541	46.5	36.5	27.3	16.6	11.6	5.9	4.1	3.2	2.6	2.7	1.8	1.0	4.9	
3.2	1	11:34	62.6	61.2	5698	23.9	18.5	13.8	8.7	6.8	3.8	2.8	2.2	1.8	2.8	2.2	0.0	6.2	
3.2	2	11:34	62.6	61.2	5698	23.8	18.5	13.9	8.7	6.8	3.8	2.7	2.0	1.6	2.7	2.3	0.0	6.2	
3.2	3	11:34	62.6	61.2	8650	35.2	27.8	21.4	13.9	10.6	5.9	4.2	3.3	2.7	2.7	2.3	0.0	6.3	
3.2	4	11:34	62.6	61.2	8639	35.4	28.1	21.7	14.1	10.8	6.0	4.2	3.3	2.7	2.7	2.3	0.0	6.3	
3.3	1	11:35	62.6	61.8	5654	28.2	22.1	16.1	9.7	7.0	3.9	2.7	2.1	1.9	2.7	2.0	0.7	5.3	
3.3	2	11:35	62.6	61.8	5665	28.0	22.0	16.0	9.7	7.0	3.9	2.7	2.1	1.8	2.7	2.0	0.6	5.3	
3.3	3	11:35	62.6	61.8	8585	41.9	32.8	24.7	15.5	11.1	6.0	4.3	3.3	3.0	2.6	2.0	0.6	5.4	
3.3	4	11:35	62.6	61.8	8541	42.0	33.0	25.0	15.6	11.2	6.1	4.3	3.3	3.0	2.6	2.0	0.6	5.4	
3.3																			TWP 131,B-,B-29,NB"
3.4	1	11:37	62.6	61.5	5610	28.0	22.0	16.5	10.3	7.4	3.7	2.4	1.9	1.6	2.8	1.9	0.7	5.3	
3.4	2	11:37	62.6	61.5	5643	27.9	22.0	16.5	10.3	7.5	3.7	2.4	1.9	1.6	2.8	1.9	0.7	5.3	
3.4	3	11:37	62.6	61.5	8530	42.4	33.5	25.8	16.5	11.8	5.6	3.7	2.9	2.7	2.8	1.9	0.7	5.3	
3.4	4	11:37	62.6	61.5	8530	42.8	34.0	26.5	16.9	11.9	5.6	3.8	3.0	2.7	2.8	1.9	0.7	5.2	
3.5	1	11:38	62.6	61.9	5610	37.5	27.4	19.5	10.9	6.9	3.6	2.5	1.9	1.7	2.9	1.5	1.7	4.0	
3.5	2	11:38	62.6	61.9	5621	37.5	27.6	19.7	11.0	7.0	3.6	2.5	1.8	1.6	2.9	1.5	1.6	4.0	
3.5	3	11:38	62.6	61.9	8421	56.2	41.7	30.9	17.8	11.4	5.5	4.0	3.0	2.8	2.8	1.5	1.7	4.0	
3.5	4	11:38	62.6	61.9	8410	56.9	42.6	31.8	18.1	11.5	5.6	4.0	3.0	2.7	2.8	1.5	1.7	4.0	
3.6	1	11:39	62.6	61.4	5632	31.6	24.2	17.9	10.4	7.0	3.6	2.5	2.0	1.8	2.9	1.7	1.1	4.7	
3.6	2	11:39	62.6	61.4	5643	31.4	24	17.9	10.4	7.0	3.6	2.5	2.0	1.8	2.9	1.7	1.1	4.8	
3.6	3	11:39	62.6	61.4	8519	46.7	36.1	27.6	16.6	11.2	5.5	4.0	3.1	2.8	2.8	1.8	1.1	4.8	
3.6	4	11:39	62.6	61.4	8486	47.1	36.6	28.0	16.8	11.3	5.6	3.9	3.1	2.8	2.8	1.8	1.1	4.8	
3.7	1	11:40	62.6	60.8	5709	24.3	18.3	13.8	8.5	6.4	3.6	2.6	2.0	1.6	2.9	2.1	0.1	6.0	
3.7	2	11:40	62.6	60.8	5698	24.2	18.2	13.8	8.5	6.4	3.6	2.6	2.0	1.6	2.9	2.1	0.1	6.1	
3.7	3	11:40	62.6	60.8	8639	35.7	27.5	21.2	13.5	10.1	5.5	3.9	3.1	2.6	2.9	2.2	0.0	6.2	
3.7	4	11:40	62.6	60.8	8629	35.8	27.6	21.4	13.7	10.1	5.6	3.9	3.1	2.6	2.8	2.2	0.0	6.2	

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St. Paul, Minnesota 55114
Phone: (651) 659-9001
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AET Project No. 28-01314
County: Paulding
Test Date: Oct 8, 2014
Section: 18
Roadway: C-72
From: T-131
To: T-137

Prev. Day's Avg. Air Temp.: 50 °F
Total AC: 2.1 in.
Daily ESALs: 7.0
Pavement Condition Index: 66
Haul Truck ESALs: 300
Soil Type: P
Draught Adjustment Factor: 0.00
Seasonal Correction Factor: 1.75

Design Period: 10 Years
Projection Factor: 1.2
Growth Factor: 11.07
10-year Design ESALs: 28,596
Design Period: 20 Years
Projection Factor: 1.6
Growth Factor: 24.91
20-year Design ESALs: 63,938

															Effective Values		Overlay	Spring	
															CBR	SN	Thickness	Capacity	
Station	Drop	Time	Air °F	Bit °F	Load	D1	D2	D3	D4	D5	D6	D7	D8	D9	%	inches	inches	tons/axle	Comments
0.0	1	11:46	62.6	62.7	5643	29.0	22.4	16.2	9.9	7.3	3.8	2.6	2.1	1.8	2.7	2.2	0.7	6.2	
0.0	2	11:46	62.6	62.7	5643	28.7	22.3	16.1	9.8	7.4	3.8	2.7	2.0	1.8	2.7	2.3	0.7	6.3	
0.0	4	11:46	62.6	62.7	8475	44.1	34.5	25.8	16.5	11.7	5.9	4.2	3.4	2.9	2.6	2.2	0.8	6.2	
0.1	1	11:47	62.6	62.5	5698	25.2	19.6	14.1	9.2	6.8	3.7	2.8	2.0	1.7	2.8	2.5	0.1	7.1	
0.1	2	11:47	62.6	62.5	5720	25.0	19.6	14.2	9.3	6.8	3.8	2.9	2.0	1.6	2.8	2.5	0.1	7.2	
0.1	3	11:47	62.6	62.5	8650	37.8	29.9	22.1	14.6	10.8	5.8	4.1	3.1	2.7	2.7	2.5	0.1	7.2	
0.1	4	11:47	62.6	62.5	8629	37.9	30.1	22.4	14.8	11.0	5.8	4.1	3.1	2.7	2.7	2.5	0.1	7.2	
0.2	1	11:48	62.6	63.2	5720	22.3	17.0	13.0	8.2	6.3	3.4	2.4	1.7	1.5	3.0	2.6	0.0	7.9	
0.2	2	11:48	62.6	63.2	5720	22.0	16.9	12.9	8.3	6.3	3.5	2.3	1.8	1.5	3.0	2.7	0.0	8.0	
0.2	3	11:48	62.6	63.2	8661	33.8	26.1	20.3	13.2	10.0	5.4	3.7	2.9	2.5	2.9	2.7	0.0	7.9	
0.2	4	11:48	62.6	63.2	8650	34.0	26.5	20.6	13.4	10.1	5.4	3.7	2.8	2.5	2.9	2.6	0.0	7.9	
0.3																			TWP 72,B-,B-23,EB"
0.3	1	11:49	62.6	63.7	5665	26.6	20.1	14.6	9.1	6.6	3.5	2.4	1.8	1.6	2.9	2.3	0.4	6.7	
0.3	2	11:49	62.6	63.7	5665	26.5	20.0	14.7	9.1	6.6	3.5	2.4	1.8	1.6	3.0	2.3	0.4	6.8	
0.3	3	11:49	62.6	63.7	8585	41.3	31.6	23.4	14.9	10.7	5.5	3.7	2.9	2.7	2.9	2.3	0.5	6.6	
0.3	4	11:49	62.6	63.7	8530	41.7	31.9	24.0	15.1	10.8	5.5	3.8	2.9	2.6	2.8	2.3	0.5	6.5	
0.4	1	11:50	64.4	62.6	5796	16.4	12.9	9.6	6.6	5.4	3.2	2.1	1.5	1.1	3.3	3.2	0.0	10.4	
0.4	2	11:50	64.4	62.6	5807	16.2	12.8	9.6	6.6	5.4	3.2	2.1	1.5	1.1	3.3	3.2	0.0	10.5	
0.4	3	11:50	64.4	62.6	8847	24.9	20.0	15.2	10.5	8.5	4.9	3.2	2.3	1.8	3.3	3.2	0.0	10.4	
0.4	4	11:50	64.4	62.6	8814	24.9	19.9	15.2	10.6	8.6	5.0	3.2	2.3	1.8	3.3	3.3	0.0	10.4	
0.5	1	11:51	64.4	61.3	5545	36.9	28.1	19.0	10.3	6.8	3.7	2.8	2.2	2.0	2.7	1.9	1.6	4.9	
0.5	2	11:51	64.4	61.3	5501	36.1	27.6	18.8	10.2	6.8	3.7	2.7	2.3	1.9	2.7	1.9	1.6	5.0	
0.5	3	11:51	64.4	61.3	8333	56.0	42.7	29.9	17.0	10.9	5.6	4.2	3.6	3.1	2.8	1.8	1.6	4.9	
0.5	4	11:51	64.4	61.3	8322	55.8	42.9	30.5	17.4	11.2	5.7	4.3	3.6	3.1	2.7	1.9	1.6	4.9	
0.6	1	11:53	64.4	62.3	5632	29.0	22.8	16.8	10.4	7.4	3.8	2.7	1.9	1.7	2.7	2.2	0.7	6.2	
0.6	2	11:53	64.4	62.3	5599	28.7	23	16.8	10.4	7.4	3.8	2.7	1.9	1.7	2.7	2.2	0.7	6.3	
0.6	3	11:53	64.4	62.3	8497	43.6	34.9	26.3	16.7	11.9	5.9	4.0	3.1	2.7	2.6	2.3	0.7	6.3	
0.6	4	11:53	64.4	62.3	8475	44.0	35.4	27.0	17.0	12.1	6.0	4.1	3.1	2.8	2.6	2.3	0.8	6.2	
0.7	1	11:54	64.4	63.7	5610	35.4	26.5	18.2	10.1	6.7	3.7	2.7	2.1	1.8	2.8	1.9	1.4	5.2	
0.7	2	11:54	64.4	63.7	5632	35.3	26.7	18.5	10.2	6.7	3.7	2.7	2.1	1.8	2.8	1.9	1.4	5.2	
0.7	3	11:54	64.4	63.7	8443	52.7	40.1	28.6	16.4	10.8	5.6	4.2	3.3	2.8	2.8	1.9	1.4	5.2	
0.7	4	11:54	64.4	63.7	8432	53.1	40.5	29.1	16.7	10.9	5.7	4.2	3.3	2.8	2.7	1.9	1.4	5.2	
0.8																			TWP 72,B-,B-24,WB"
0.8	1	11:55	64.4	64.2	5676	29.9	23.6	17.2	10.5	7.4	3.8	2.7	2.1	1.9	2.7	2.2	0.8	6.1	
0.8	2	11:55	64.4	64.2	5687	29.8	23.6	17.2	10.6	7.4	3.9	2.7	2.1	1.9	2.7	2.2	0.8	6.2	
0.8	3	11:55	64.4	64.2	8574	44.7	35.6	26.7	16.9	11.7	5.9	4.2	3.3	3.0	2.7	2.2	0.8	6.2	
0.8	4	11:55	64.4	64.2	8574	45.1	36.0	27.2	17.2	11.9	5.9	4.2	3.3	2.9	2.6	2.2	0.8	6.1	
0.8	1	12:27	64.4	65.1	5654	40.5	29.8	20.8	11.8	8.0	4.4	3.1	2.3	1.9	2.4	1.9	1.9	4.7	
0.8	2	12:27	64.4	65.1	5599	39.8	29	20.6	11.6	7.9	4.3	3.0	2.2	1.8	2.4	1.9	1.8	4.7	
0.8	3	12:27	64.4	65.1	8366	60.7	45.3	32.5	18.8	12.4	6.5	4.7	3.6	3.0	2.3	1.9	1.9	4.6	
0.8	4	12:27	64.4	65.1	8344	60.7	45.7	33.1	19.2	12.6	6.6	4.8	3.5	3.0	2.3	1.9	1.9	4.6	
0.8	1	12:28	64.4	65.2	5566	41.8	31.4	22.0	12.2	8.1	4.3	3.0	2.2	1.8	2.4	1.8	2.0	4.5	
0.8	2	12:28	64.4	65.2	5555	41.3	31.0	21.7	12.0	8.0	4.3	3.0	2.1	1.8	2.3	1.8	2.0	4.5	
0.8	3	12:28	64.4	65.2	8333	60.8	46.0	33.2	19.1	12.5	6.5	4.8	3.6	3.0	2.4	1.9	1.9	4.6	
0.8	4	12:28	64.4	65.2	8311	61.0	46.3	33.5	19.4	12.6	6.6	4.8	3.6	3.0	2.3	1.9	2.0	4.6	
0.9	1	12:29	64.4	63.9	5545	42.2	32.5	22.9	12.3	7.8	3.9	2.9	2.3	1.9	2.6	1.7	2.0	4.4	
0.9	2	12:29	64.4	63.9	5545	41.8	32.3	22.8	12.3	7.8	4.0	2.8	2.2	1.9	2.6	1.8	2.0	4.4	
0.9	3	12:29	64.4	63.9	8311	62.4	47.9	35.0	19.6	12.5	6.0	4.3	3.5	3.0	2.6	1.8	2.0	4.4	
0.9	4	12:29	64.4	63.9	8311	63.0	48.6	35.9	20.1	12.7	6.1	4.4	3.3	3.0	2.5	1.8	2.0	4.4	
1.0	1	12:30	64.4	64.9	5807	18.3	14.4	10.9	7.4	6.1	3.6	2.4	1.8	1.4	3.0	3.1	0.0	9.6	
1.0	2	12:30	64.4	64.9	5774	18.0	14.2	10.8	7.4	6.0	3.6	2.4	1.8	1.4	3.0	3.2	0.0	9.7	
1.0	3	12:30	64.4	64.9	8793	27.9	22.0	17.1	11.9	9.6	5.5	3.7	2.8	2.2	2.9	3.2	0.0	9.6	
1.0	4	12:30	64.4	64.9	8771	27.9	22.1	17.2	11.9	9.7	5.6	3.7	2.8	2.2	2.9	3.2	0.0	9.5	
1.0																			TWP 72,IC,TWP 137,EB"

American Engineering Testing, Inc.
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St. Paul, Minnesota 55114
Phone: (651) 659-9001
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AET Project No. 28-01314
County: Paulding
Test Date: Oct 8, 2014
Section: 19
Roadway: C-72
From: T-137
To: SR 637

Prev. Day's Avg. Air Temp.: 50 °F
Total AC: 7.1 in.
Daily ESALs: 7.0
Pavement Condition Index: 71
Haul Truck ESALs: 0
Soil Type: P
Draught Adjustment Factor: 0.00
Seasonal Correction Factor: 1.55

Design Period: 10 Years
Projection Factor: 1.2
Growth Factor: 11.07
10-year Design ESALs: 28,296
Design Period: 20 Years
Projection Factor: 1.6
Growth Factor: 24.91
20-year Design ESALs: 63,638

															Effective Values		Overlay	Spring	
															CBR	SN	Thickness	Capacity	
Station	Drop	Time	Air °F	Bit °F	Load	D1	D2	D3	D4	D5	D6	D7	D8	D9	%	inches	inches	tons/axle	Comments
1.0																			TWP 72,IC,TWP 137,EB"
1.0	1	12:31	64.4	64.9	5807	12.0	10.6	9.3	6.8	5.9	3.7	2.3	1.6	1.2	2.9	4.7	0.0	10.2	
1.0	2	12:31	64.4	64.9	5774	11.9	10.5	9.2	6.8	5.8	3.6	2.3	1.6	1.2	2.9	4.7	0.0	10.2	
1.0	3	12:31	64.4	64.9	8847	18.7	16.5	14.6	10.8	9.3	5.7	3.7	2.4	1.9	2.9	4.7	0.0	10.0	
1.0	4	12:31	64.4	64.9	8803	18.7	16.5	14.5	10.8	9.2	5.7	3.7	2.5	1.8	2.8	4.7	0.0	10.0	
1.1	1	12:32	64.4	66.8	5796	10.2	9.0	8.0	6.0	5.5	3.6	2.3	1.6	1.1	2.9	5.3	0.0	11.6	
1.1	2	12:32	64.4	66.8	5829	10.2	9.1	8.0	6.0	5.5	3.6	2.3	1.6	1.1	3.0	5.3	0.0	11.6	
1.1	3	12:32	64.4	66.8	8891	16.1	14.1	12.5	9.5	8.5	5.6	3.6	2.4	1.8	2.9	5.2	0.0	11.4	
1.1	4	12:32	64.4	66.8	8869	16.1	14.1	12.5	9.4	8.5	5.5	3.6	2.4	1.8	2.9	5.2	0.0	11.4	
1.2	1	12:33	64.4	67.0	5785	14.0	11.4	9.6	6.7	5.8	3.4	2.1	1.5	1.1	3.1	4.1	0.0	9.0	
1.2	2	12:33	64.4	67.0	5785	14.0	11.3	9.4	6.7	5.7	3.4	2.1	1.3	1.1	3.1	4.1	0.0	9.0	
1.2	3	12:33	64.4	67.0	8803	22.1	18.1	15.2	10.9	9.1	5.3	3.2	2.3	1.8	3.1	4.0	0.0	8.7	
1.2	4	12:33	64.4	67.0	8793	22.1	18.1	15.3	10.9	9.2	5.3	3.2	2.2	1.8	3.0	4.0	0.0	8.7	
1.3																			TWP 72,B-,B-26,EB"
1.3	1	12:34	64.4	67.1	5807	7.8	7.2	6.5	5.0	4.6	3.2	2.2	1.5	1.0	3.4	6.1	0.0	14.1	
1.3	2	12:34	64.4	67.1	5818	7.8	7.2	6.6	5.1	4.7	3.2	2.2	1.4	1.0	3.4	6.1	0.0	14.1	
1.3	3	12:34	64.4	67.1	8946	12.2	11.2	10.2	7.9	7.2	4.9	3.3	2.2	1.6	3.3	6.1	0.0	14.0	
1.3	4	12:34	64.4	67.1	8902	12.1	11.2	10.2	7.9	7.2	4.9	3.3	2.2	1.6	3.4	6.1	0.0	13.9	
1.4	1	12:35	64.4	65.9	5818	8.9	8.0	7.1	5.3	4.9	3.4	2.4	1.7	1.3	3.1	5.7	0.0	12.9	
1.4	2	12:35	64.4	65.9	5818	8.8	8	7.1	5.3	4.9	3.4	2.4	1.7	1.3	3.1	5.8	0.0	13.0	
1.4	3	12:35	64.4	65.9	8935	13.5	12.2	10.9	8.3	7.6	5.2	3.7	2.6	2.1	3.2	5.8	0.0	12.9	
1.4	4	12:35	64.4	65.9	8902	13.5	12.1	10.9	8.3	7.5	5.2	3.7	2.6	2.1	3.2	5.7	0.0	12.9	
1.5	1	12:36	64.4	65.6	5785	11.4	9.8	8.3	6.0	5.3	3.4	2.3	1.6	1.2	3.1	4.7	0.0	10.6	
1.5	2	12:36	64.4	65.6	5796	11.3	9.7	8.3	6.0	5.3	3.4	2.3	1.6	1.2	3.2	4.7	0.0	10.6	
1.5	3	12:36	64.4	65.6	8847	17.3	14.7	12.7	9.3	8.2	5.2	3.5	2.5	1.9	3.1	4.8	0.0	10.7	
1.5	4	12:36	64.4	65.6	8847	17.3	14.8	12.7	9.4	8.2	5.2	3.5	2.5	1.9	3.1	4.8	0.0	10.7	
1.6	1	12:37	64.4	66.5	5763	11.1	9.8	8.5	6.2	5.5	3.5	2.4	1.7	1.3	3.0	4.9	0.0	10.9	
1.6	2	12:37	64.4	66.5	5774	11.0	9.7	8.5	6.1	5.5	3.5	2.4	1.6	1.3	3.0	4.9	0.0	10.9	
1.6	3	12:37	64.4	66.5	8869	16.8	14.6	12.8	9.5	8.4	5.4	3.7	2.6	2.0	3.0	5.0	0.0	11.0	
1.6	4	12:37	64.4	66.5	8847	16.8	14.6	12.8	9.5	8.4	5.3	3.7	2.6	2.0	3.0	4.9	0.0	10.9	
1.7	1	12:38	66.2	67.4	5818	11.4	10.1	8.7	6.3	5.6	3.7	2.5	1.8	1.4	2.9	4.9	0.0	10.7	
1.7	2	12:38	66.2	67.4	5785	11.3	10.1	8.6	6.3	5.6	3.7	2.5	1.8	1.4	2.9	5.0	0.0	10.8	
1.7	3	12:38	66.2	67.4	8858	17.2	15	13.1	9.7	8.6	5.6	3.8	2.8	2.1	2.9	5.0	0.0	10.8	
1.7	4	12:38	66.2	67.4	8869	17.3	15.2	13.1	9.8	8.7	5.7	3.9	2.8	2.1	2.9	5.0	0.0	10.8	
1.8																			TWP 72,B-,B-26,WB"
1.8	1	12:39	66.2	65.9	5774	9.3	8.2	7.2	5.3	4.9	3.4	2.3	1.7	1.3	3.1	5.5	0.0	12.3	
1.8	2	12:39	66.2	65.9	5785	9.2	8.2	7.2	5.3	4.8	3.3	2.3	1.7	1.3	3.2	5.5	0.0	12.4	
1.8	3	12:39	66.2	65.9	8847	14.1	12.5	11.0	8.3	7.5	5.1	3.6	2.6	2.0	3.2	5.5	0.0	12.4	
1.8	4	12:39	66.2	65.9	8880	14.2	12.5	11.0	8.4	7.5	5.2	3.6	2.6	2.0	3.2	5.5	0.0	12.4	
1.9	1	12:41	66.2	64.3	5796	9.0	7.8	6.8	5.1	4.6	3.1	2.1	1.6	1.1	3.4	5.4	0.0	12.6	
1.9	2	12:41	66.2	64.3	5785	8.9	7.8	6.8	5.0	4.6	3.1	2.2	1.6	1.1	3.4	5.4	0.0	12.6	
1.9	3	12:41	66.2	64.3	8880	13.4	11.7	10.3	7.9	7.0	4.7	3.3	2.4	1.8	3.4	5.5	0.0	12.8	
1.9	4	12:41	66.2	64.3	8902	13.5	11.8	10.4	7.9	7.1	4.8	3.3	2.4	1.8	3.4	5.5	0.0	12.8	
2.0	1	12:42	66.2	64.8	5730	9.4	8.4	7.3	5.4	4.8	3.2	2.2	1.5	1.2	3.3	5.3	0.0	12.1	
2.0	2	12:42	66.2	64.8	5741	9.4	8.5	7.4	5.5	5.0	3.3	2.3	1.7	1.4	3.2	5.4	0.0	12.2	
2.0	3	12:42	66.2	64.8	8771	14.3	12.7	11.1	8.3	7.4	4.9	3.4	2.4	1.9	3.2	5.4	0.0	12.2	
2.0	4	12:42	66.2	64.8	8771	14.2	12.7	11.1	8.3	7.4	4.9	3.4	2.4	1.9	3.3	5.4	0.0	12.2	
2.1																			TWP 72,IC,637,SB"

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AET Project No. 28-01314
County: Paulding
Test Date: Oct 8, 2014
Section: 20
Roadway: SR 637
From: C-72
To: 0.5 mi S

Prev. Day's Avg. Air Temp.: 50 °F
Total AC: 15.0 in.
Daily ESALs: 52.0
Pavement Condition Index: 50
Haul Truck ESALs: 0
Soil Type: P
Draught Adjustment Factor: 0.00
Seasonal Correction Factor: 1.55

Design Period: 10 Years
Projection Factor: 1.2
Growth Factor: 11.07
10-year Design ESALs: 210,201
Design Period: 20 Years
Projection Factor: 1.6
Growth Factor: 24.91
20-year Design ESALs: 472,742

														Effective Values		Overlay	Spring	
														CBR	SN	Thickness	Capacity	
Station	**Drop**	**Time**	**Air °F**	**Bit °F**	**Load**	**D1**	**D2**	**D3**	**D4**	**D5**	**D6**	**D7**	**D8**	**D9**	**%**	**inches**	**inches**	**tons/axle**	**Comments**
2.1																			TWP 72,IC,637,SB"
2.1	1	12:43	64.4	65.6	5807	5.8	5	4.7	3.6	3.5	2.7	2.0	1.5	1.1	4.0	6.7	0.0	10.5	
2.1	2	12:43	64.4	65.6	5818	5.8	5.2	4.7	3.6	3.6	2.7	2.0	1.5	1.1	4.0	6.7	0.0	10.5	
2.1	3	12:43	64.4	65.6	8924	9.1	7.8	7.1	5.6	5.4	4.0	3.0	2.2	1.7	4.1	6.6	0.0	10.4	
2.1	4	12:43	64.4	65.6	8935	9.1	7.9	7.1	5.6	5.4	4.1	3.0	2.2	1.7	4.0	6.6	0.0	10.4	
2.1	1	12:44	64.4	65.2	5829	7.7	6.7	5.9	4.6	4.3	3.0	2.2	1.6	1.2	3.5	5.8	0.0	8.8	
2.1	2	12:44	64.4	65.2	5829	7.6	6.7	5.9	4.5	4.3	3.1	2.2	1.6	1.2	3.5	5.8	0.0	8.8	
2.1	3	12:44	64.4	65.2	8924	12.0	10.5	9.3	7.2	6.7	4.7	3.3	2.3	1.7	3.5	5.6	0.0	8.6	
2.1	4	12:44	64.4	65.2	8902	12.0	10.5	9.3	7.2	6.7	4.7	3.3	2.3	1.7	3.5	5.7	0.0	8.6	
2.2	1	12:45	64.4	65.2	5818	7.8	7.0	6.2	4.8	4.5	3.2	2.3	1.6	1.2	3.3	5.8	0.0	8.7	
2.2	2	12:45	64.4	65.2	5851	7.8	7.0	6.3	4.8	4.6	3.2	2.3	1.6	1.2	3.4	5.8	0.0	8.7	
2.2	3	12:45	64.4	65.2	8946	12.1	10.8	9.7	7.5	7.1	4.9	3.5	2.5	1.8	3.3	5.8	0.0	8.7	
2.3																			HWY 637,B-,B-27,SB"
2.3	1	12:46	64.4	64.9	5840	6.2	5.5	5.0	3.9	3.7	2.8	2.1	1.5	1.1	3.9	6.5	0.0	10.2	
2.3	2	12:46	64.4	64.9	5873	6.2	5.6	5.0	3.8	3.8	2.8	2.1	1.5	1.1	3.8	6.6	0.0	10.2	
2.3	3	12:46	64.4	64.9	8946	9.4	8.3	7.6	5.9	5.7	4.2	3.1	2.2	1.6	3.9	6.5	0.0	10.1	
2.3	4	12:46	64.4	64.9	8957	9.5	8.4	7.6	6.0	5.7	4.2	3.1	2.2	1.7	3.9	6.5	0.0	10.1	
2.4	1	12:47	64.4	65.3	5905	5.3	4.6	4.1	3.2	3.0	2.2	1.7	1.2	0.9	4.9	6.5	0.0	11.1	
2.4	2	12:47	64.4	65.3	5873	5.3	4.6	4.1	3.1	3.0	2.2	1.7	1.2	0.9	4.9	6.6	0.0	11.1	
2.4	3	12:47	64.4	65.3	9000	8.4	7.1	6.4	5.0	4.7	3.4	2.5	1.8	1.3	4.9	6.4	0.0	10.8	
2.4	4	12:47	64.4	65.3	8978	8.3	7.1	6.3	4.9	4.7	3.4	2.5	1.8	1.4	4.9	6.4	0.0	10.8	
2.5	1	12:48	64.4	64.7	5818	6.4	5.5	4.9	3.8	3.5	2.5	1.7	1.1	0.8	4.3	5.9	0.0	9.7	
2.5	2	12:48	64.4	64.7	5785	6.4	5.5	4.9	3.7	3.5	2.5	1.7	1.1	0.8	4.3	5.9	0.0	9.7	
2.5	3	12:48	64.4	64.7	8869	10.0	8.5	7.6	5.8	5.4	3.8	2.6	1.7	1.2	4.3	5.8	0.0	9.6	
2.5	4	12:48	64.4	64.7	8847	10.0	8.5	7.6	5.9	5.4	3.8	2.6	1.7	1.2	4.3	5.8	0.0	9.6	
2.5	1	12:48	64.4	64.7	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					

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AET Project No. 28-00917
County: Paulding
Test Date: Oct 8, 2014
Section: 21
Roadway: T-137
From: C-72
To: 0.5 mi N

Allowable Rut: 2 inches
Allowable Serviceability Loss: 2.5
Daily ESALs: 3.0
Haul ESALs: 300
Annual Growth: 2.2%
Surface Condition Rating: 61.4
Soil Type: P
Seasonal Correction Factor: 1.79

Design Period: 10 Years
Projection Factor: 1.2
Growth Factor: 11.07
10-year Design ESALs: 12,427
Design Period: 20 Years
Projection Factor: 1.6
Growth Factor: 24.91
20-year Design ESALs: 27,574

Station	Drop	Time	Air °F	Bit °F	Load	D9	D1	D2	D3	D4	D5	D6	D7	D8	Effective Values CBR	SN inches	Overlay Thickness inches	TONN Capacity tons/axle	Comments
0.0																			TWP 137,IC,TWP 72,NB"
0.0	1	0.538	64.4	66.4	5785		32	23.5	15.9	9.0	6.3	3.6	2.6	1.8	4.0	1.5	0.0	6.5	
0.0	2	0.538	64.4	66.4	5785		32	23.5	15.9	8.9	6.4	3.7	2.6	1.9	3.9	1.5	0.0	6.6	
0.0	3	0.538	64.4	66.4	8596		51	37.3	25.7	14.7	10.0	5.5	3.9	2.9	3.7	1.5	0.0	6.1	
0.0	4	0.538	64.4	66.4	8596		52	38.0	26.3	15.0	10.2	5.6	4.0	2.9	3.7	1.5	0.0	6.1	
0.1	1	0.539	64.4	58.9	5720		40	27.3	17.0	9.3	7.3	4.5	3.3	2.4	3.4	1.4	0.0	5.3	
0.1	2	0.539	64.4	58.9	5730		40	27.6	17.3	9.4	7.4	4.5	3.2	2.4	3.4	1.4	0.0	5.3	
0.1	3	0.539	64.4	58.9	8464		68	45.5	28.1	15.0	11.3	6.9	5.0	3.8	3.3	1.3	0.0	4.7	
0.1	4	0.539	64.4	58.9	8475		68	46.3	28.8	15.3	11.4	7.0	5.0	3.8	3.2	1.3	0.0	4.7	
0.2	1	12:57	64.4	59.6	5545		50	33.1	21.7	11.4	8.0	4.9	3.4	2.5	3.0	1.2	0.6	4.2	
0.2	2	12:57	64.4	59.6	5555		50	33.6	22.1	11.6	8.1	4.9	3.5	2.5	3.0	1.2	1.6	4.2	
0.2	3	12:57	64.4	59.6	8213		82	57.2	37.6	19.3	12.7	7.6	5.4	3.9	2.8	1.1	2.0	3.8	
0.2	4	12:57	64.4	59.6	8180		82	57.6	38.6	19.9	13.0	7.7	5.4	3.9	2.7	1.1	1.9	3.8	
0.2																			TWP 137,B-,B-28,NB"
0.3	1	12:58	64.4	60.8	5381		69	42.6	25.4	11.1	7.6	4.8	3.5	2.6	3.1	0.9	2.7	3.0	
0.3	2	12:58	64.4	60.8	5370		68	42.2	25.6	11.1	7.7	4.8	3.5	2.6	3.0	0.9	2.6	3.0	
0.3	3	12:58	64.4	60.8	7907		93	70.4	43.2	18.5	11.8	7.2	5.3	3.9	2.9	1.0	3.1	3.2	
0.3	4	12:58	64.4	60.8	7896		94	70.7	44.3	19.8	12.3	7.4	5.4	4.4	2.8	1.0	3.1	3.2	
0.4	1	12:59	64.4	61.3	5555		53	34.9	20.6	10.1	7.2	4.3	3.1	2.2	3.3	1.1	1.4	4.0	
0.4	2	12:59	64.4	61.3	5577		53	34.9	20.8	10.2	7.3	4.3	3.1	2.3	3.3	1.1	1.3	4.0	
0.4	3	12:59	64.4	61.3	8213		84	60.6	35.0	16.6	11.2	6.6	4.6	3.5	3.2	1.0	1.6	3.7	
0.4	4	12:59	64.4	61.3	8191		85	60.3	36.3	16.9	11.5	6.6	4.7	3.5	3.1	1.0	1.6	3.7	
0.5	1	13:01	64.4	60.6	5534		43	26.6	17.7	10.5	7.8	4.4	3.0	2.2	3.1	1.3	0.0	4.8	
0.5	2	13:01	64.4	60.6	5566		43	26.9	18.0	10.6	7.9	4.5	3.0	2.2	3.1	1.3	0.0	4.9	
0.5	3	13:01	64.4	60.6	8202		72	46.7	30.2	17.2	12.4	6.9	4.6	3.5	2.9	1.2	1.2	4.3	
0.5	4	13:01	64.4	60.6	8180		72	47.3	31.0	17.6	12.6	7.0	4.7	3.5	2.8	1.2	1.2	4.3	

American Engineering Testing, Inc.
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Phone: (651) 659-9001
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AET Project No. 28-01314
County: Paulding
Test Date: Oct 9, 2014
Section: 22
Roadway: T-48
From: T-79
To: C-87

Prev. Day's Avg. Air Temp.: 50 °F
Total AC: 3.9 in.
Daily ESALs: 3.0
Pavement Condition Index: 59
Haul Truck ESALs: 287
Soil Type: P
Draught Adjustment Factor: 0.00
Seasonal Correction Factor: 1.71

Design Period: 10 Years
Projection Factor: 1.2
Growth Factor: 11.07
10-year Design ESALs: 12,414
Design Period: 20 Years
Projection Factor: 1.6
Growth Factor: 24.91
20-year Design ESALs: 27,561

															Effective Values		Overlay	Spring	
															CBR	SN	Thickness	Capacity	
Station	Drop	Time	Air °F	Bit °F	Load	D1	D2	D3	D4	D5	D6	D7	D8	D9	%	inches	inches	tons/axle	Comments
0.0	1	6:34	48.2	46.1	5927	21.2	17.5	13.9	9.1	7.0	3.5	2.0	1.3	1.1	3.1	2.4	0.0	6.7	
0.0	2	6:34	48.2	46.1	5938	21.0	17.4	13.9	9.1	7.0	3.5	2.0	1.3	1.0	3.1	2.4	0.0	6.8	
0.0	3	6:34	48.2	46.1	8891	33.5	27.6	22.3	14.8	11.2	5.4	3.0	1.9	1.6	3.0	2.3	0.0	6.5	
0.0	4	6:34	48.2	46.1	8902	33.6	27.7	22.5	14.9	11.3	5.5	3.0	2.0	1.6	3.0	2.3	0.0	6.5	
0.1	1	6:35	48.2	45.8	5971	18.9	15	12.3	7.8	5.8	2.9	1.7	1.2	0.9	3.8	2.4	0.0	7.3	
0.1	2	6:35	48.2	45.8	5927	18.4	15.1	12.1	7.7	5.7	2.8	1.7	1.2	0.9	3.8	2.4	0.0	7.4	
0.1	3	6:35	48.2	45.8	8935	29.6	24.2	19.5	12.6	9.2	4.4	2.6	1.9	1.5	3.7	2.3	0.0	7.0	
0.1	4	6:35	48.2	45.8	8924	29.6	24.3	19.6	12.6	9.3	4.4	2.6	1.8	1.5	3.7	2.3	0.0	7.0	
0.2	1	6:36	48.2	46.1	5884	26.7	21.0	16.4	10.2	7.5	3.8	2.3	1.7	1.3	2.8	2.1	0.2	5.5	
0.2	2	6:36	48.2	46.1	5895	26.2	20.8	16.5	10.3	7.5	3.8	2.4	1.7	1.3	2.8	2.1	0.2	5.6	
0.2	3	6:36	48.2	46.1	8793	41.7	33.1	26.5	16.7	12.0	5.8	3.7	2.8	2.2	2.8	2.0	0.4	5.3	
0.2	4	6:36	48.2	46.1	8782	41.9	33.3	26.8	17.0	12.2	5.9	3.7	2.8	2.2	2.7	2.1	0.4	5.3	
0.3																			TWP 48,B-,B-15,EB"
0.3	1	6:38	48.2	46.0	5851	35.6	27.0	19.7	10.9	6.7	2.5	1.6	1.2	1.1	4.3	1.4	1.1	4.0	
0.3	2	6:38	48.2	46.0	5829	35.2	26.8	19.6	10.9	6.7	2.5	1.6	1.2	1.1	4.2	1.4	1.0	4.0	
0.3	4	6:38	48.2	46.0	8661	56.3	43.0	32.0	18.5	11.3	4.1	2.5	2.0	1.8	3.9	1.4	1.2	3.8	
0.4	1	6:39	48.2	45.8	5862	28.8	23.5	18.6	11.7	8.2	3.6	2.1	1.6	1.3	3.0	1.9	0.6	5.1	
0.4	2	6:39	48.2	45.8	5873	28.7	23.4	18.6	11.8	8.3	3.6	2.1	1.5	1.3	3.0	1.9	0.5	5.1	
0.4	3	6:39	48.2	45.8	8771	45.7	37.2	29.9	19.3	13.5	5.6	3.2	2.5	2.1	2.9	1.9	0.7	4.9	
0.4	4	6:39	48.2	45.8	8738	46.0	37.5	30.2	19.6	13.6	5.7	3.3	2.5	2.1	2.8	1.9	0.8	4.8	
0.5	1	6:40	48.2	45.6	5873	29.9	23.6	17.8	10.6	7.2	3.2	1.9	1.5	1.2	3.4	1.7	0.7	4.9	
0.5	2	6:40	48.2	45.6	5862	29.5	23.4	17.7	10.5	7.2	3.2	2.0	1.5	1.2	3.4	1.8	0.7	4.9	
0.5	3	6:40	48.2	45.6	8727	47.1	37.4	28.6	17.4	11.6	4.8	2.9	2.3	2.0	3.3	1.7	0.9	4.6	
0.5	4	6:40	48.2	45.6	8727	47.6	37.8	29.0	17.7	11.8	4.9	3.0	2.3	2.0	3.3	1.7	0.9	4.6	
0.6	1	6:41	48.2	44.8	5905	24.0	19.7	15.7	10.1	7.4	3.6	2.0	1.5	1.1	3.0	2.2	0.0	6.0	
0.6	2	6:41	48.2	44.8	5862	23.7	19.4	15.6	9.9	7.4	3.6	2.0	1.5	1.1	3.0	2.2	0.0	6.0	
0.6	3	6:41	48.2	44.8	8803	38.9	31.6	25.5	16.6	12.1	5.5	3.1	2.3	1.9	2.9	2.1	0.2	5.6	
0.6	4	6:41	48.2	44.8	8803	39.4	32.0	25.8	16.5	12.2	5.6	3.2	2.3	1.9	2.9	2.1	0.2	5.6	
0.7	1	6:42	48.2	45.2	5829	30.5	24.0	18.6	11.7	8.4	4.0	2.4	1.7	1.4	2.7	1.9	0.7	4.9	
0.7	2	6:42	48.2	45.2	5796	30.1	23.9	18.5	11.7	8.4	4.0	2.4	1.6	1.4	2.7	1.9	0.7	4.9	
0.7	3	6:42	48.2	45.2	8639	49.3	38.9	30.4	19.5	13.8	6.2	3.6	2.8	2.2	2.6	1.8	1.0	4.5	
0.7	4	6:42	48.2	45.2	8618	49.9	39.4	30.8	19.8	13.9	6.3	3.7	2.8	2.3	2.5	1.8	1.1	4.5	
0.8																			TWP 48,B-,B-50,WB"
0.8	1	6:44	48.2	46.2	5960	18.8	15.7	12.9	8.8	7.1	3.8	2.3	1.6	1.2	2.9	2.8	0.0	7.6	
0.8	2	6:44	48.2	46.2	5971	18.8	15.8	12.9	8.9	7.1	3.9	2.3	1.6	1.3	2.8	2.8	0.0	7.6	
0.8	3	6:44	48.2	46.2	8935	30.4	25.4	20.9	14.5	11.4	6.0	3.5	2.4	2.0	2.7	2.7	0.0	7.1	
0.8	4	6:44	48.2	46.2	8924	30.7	25.7	21.2	14.6	11.6	6.1	3.5	2.5	2.0	2.7	2.7	0.0	7.1	
0.9	1	6:45	48.2	46.6	5982	18.8	15.7	12.9	8.8	7.1	3.9	2.4	1.6	1.3	2.8	2.8	0.0	7.6	
0.9	2	6:45	48.2	46.6	5949	18.4	15	12.7	8.7	7.0	3.9	2.3	1.6	1.3	2.8	2.9	0.0	7.7	
0.9	3	6:45	48.2	46.6	8957	30.1	25.1	20.8	14.4	11.4	6.1	3.6	2.5	2.0	2.7	2.7	0.0	7.2	
0.9	4	6:45	48.2	46.6	8935	30.2	25.2	21.0	14.5	11.4	6.1	3.7	2.4	2.0	2.7	2.7	0.0	7.2	
1.0	1	6:46	48.2	46.5	5971	19.9	16.6	13.6	9.2	7.3	3.9	2.3	1.6	1.3	2.8	2.7	0.0	7.2	
1.0	2	6:46	48.2	46.5	5938	19.7	16.4	13.5	9.2	7.3	3.9	2.2	1.4	1.2	2.8	2.7	0.0	7.3	
1.0	3	6:46	48.2	46.5	8924	32.2	26.7	22.0	15.1	11.8	6.1	3.5	2.4	2.0	2.7	2.6	0.0	6.8	
1.0	4	6:46	48.2	46.5	8902	32.4	26.9	22.2	15.3	12.0	6.2	3.5	2.5	2.0	2.7	2.6	0.0	6.8	
1.0																			TWP 48,IC,TWP 87,EB"

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AET Project No. 28-01314
County: Paulding
Test Date: Oct 9, 2014
Section: 23
Roadway: T-48
From: C-87
To: T-91

Prev. Day's Avg. Air Temp.: 50 °F
Total AC: 3.9 in.
Daily ESALs: 3.0
Pavement Condition Index: 69
Haul Truck ESALs: 279
Soil Type: P
Draught Adjustment Factor: 0.00
Seasonal Correction Factor: 1.71

Design Period: 10 Years
Projection Factor: 1.2
Growth Factor: 11.07
10-year Design ESALs: 12,406
Design Period: 20 Years
Projection Factor: 1.6
Growth Factor: 24.91
20-year Design ESALs: 27,553

															Effective Values		Overlay	Spring	
															CBR	SN	Thickness	Capacity	
Station	**Drop**	**Time**	**Air °F**	**Bit °F**	**Load**	**D1**	**D2**	**D3**	**D4**	**D5**	**D6**	**D7**	**D8**	**D9**	%	inches	inches	tons/axle	**Comments**
1.0																			TWP 48,IC,TWP 87,EB"
1.0	1	6:47	48.2	46.6	5862	30.5	23	17.0	9.8	6.6	3.1	2.1	1.6	1.3	3.5	1.8	0.5	4.8	
1.0	2	6:47	48.2	46.6	5807	29.7	22.7	16.8	9.6	6.5	3.1	2.1	1.6	1.3	3.5	1.8	0.5	4.8	
1.0	3	6:47	48.2	46.6	8683	46.7	35.9	26.8	15.8	10.5	4.6	3.1	2.5	2.1	3.5	1.8	0.6	4.6	
1.0	4	6:47	48.2	46.6	8672	46.9	36.2	27.3	16.1	10.6	4.7	3.2	2.4	2.2	3.4	1.8	0.6	4.6	
1.1	1	6:48	48.2	44.9	5741	32.7	25.1	18.3	10.5	6.7	3.0	1.9	1.4	1.2	3.5	1.7	0.8	4.4	
1.1	2	6:48	48.2	44.9	5730	32.2	24.8	18.2	10.4	6.7	3.0	1.9	1.4	1.2	3.5	1.7	0.7	4.4	
1.1	3	6:48	48.2	44.9	8574	50.2	38.9	29.2	17.3	11.1	4.6	2.9	2.2	1.8	3.4	1.7	0.8	4.3	
1.1	4	6:48	48.2	44.9	8541	50.5	39.2	29.5	17.5	11.1	4.6	2.9	2.3	1.9	3.4	1.7	0.9	4.2	
1.2	1	6:49	48.2	44.8	5555	50.3	37.3	26.1	13.3	7.3	2.9	2.2	1.8	1.5	3.5	1.3	1.7	2.8	
1.2	2	6:49	48.2	44.8	5555	49.7	37.1	26.3	13.3	7.4	3.0	2.2	1.7	1.5	3.4	1.3	1.7	2.9	
1.2	3	6:49	48.2	44.8	8235	76.4	57.3	41.7	22.5	12.3	4.4	3.3	2.7	2.3	3.5	1.3	1.7	2.8	
1.3																			TWP 48,B-,B-49,EB"
1.3	1	6:51	48.2	44.8	5643	42.2	31.3	22.4	12.0	7.2	3.0	2.0	1.5	1.2	3.4	1.5	1.4	3.4	
1.3	2	6:51	48.2	44.8	5654	41.5	31.1	22.5	12.1	7.3	3.0	1.9	1.5	1.2	3.4	1.5	1.3	3.5	
1.3	3	6:51	48.2	44.8	8432	62.3	47.0	35.0	19.8	11.8	4.5	2.9	2.3	2.0	3.4	1.5	1.3	3.4	
1.3	4	6:51	48.2	44.8	8388	62.7	47.2	35.2	20.0	11.8	4.6	2.9	2.3	2.0	3.4	1.5	1.4	3.4	
1.4	1	6:52	48.2	44.8	5643	47.3	35.6	25.0	13.1	7.5	2.7	1.8	1.5	1.3	3.9	1.3	1.5	3.0	
1.4	2	6:52	48.2	44.8	5621	46.6	35.3	25.1	13.2	7.5	2.7	1.9	1.5	1.2	3.8	1.3	1.5	3.0	
1.4	3	6:52	48.2	44.8	8366	70.1	53.6	39.3	21.7	12.4	4.0	2.8	2.3	1.9	3.8	1.3	1.5	3.0	
1.4	4	6:52	48.2	44.8	8366	72.0	54.9	40.0	22.3	12.6	4.2	2.8	2.3	2.0	3.7	1.3	1.6	2.9	
1.5	1	6:53	48.2	44.7	5730	39.8	30.7	21.8	11.8	6.9	2.9	2.1	1.6	1.3	3.6	1.5	1.2	3.6	
1.5	2	6:53	48.2	44.7	5720	39.4	30.8	22.0	11.9	6.9	2.9	2.1	1.6	1.3	3.6	1.5	1.2	3.6	
1.5	3	6:53	48.2	44.7	8563	59.2	46.4	34.3	19.7	11.5	4.5	3.1	2.5	2.2	3.5	1.5	1.2	3.6	
1.5	4	6:53	48.2	44.7	8519	59.8	47.2	35.0	20.1	11.7	4.5	3.1	2.5	2.1	3.5	1.5	1.2	3.6	

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AET Project No. 28-01314
County: Paulding
Test Date: Oct 9, 2014
Section: 24
Roadway: C-60
From: US 127
To: C-107

Prev. Day's Avg. Air Temp.: 50 °F
Total AC: 7.2 in.
Daily ESALs: 7.0
Pavement Condition Index: 100
Haul Truck ESALs: 0
Soil Type: P
Draught Adjustment Factor: 0.00
Seasonal Correction Factor: 1.55

Design Period: 10 Years
Projection Factor: 1.2
Growth Factor: 11.07
10-year Design ESALs: 28,296
Design Period: 20 Years
Projection Factor: 1.6
Growth Factor: 24.91
20-year Design ESALs: 63,638

Station	Drop	Time	Air °F	Bit °F	Load	D1	D2	D3	D4	D5	D6	D7	D8	D9	Effective Values CBR %	Effective Values SN inches	Overlay Thickness inches	Spring Capacity tons/axle	Comments
0.0																			TWP 60,IC,HWY 127,WB"
0.0	1	7:01	50.0	46.1	6124	10.2	9.2	7.9	5.9	5.2	3.3	2.1	1.5	1.1	3.4	5.3	0.0	11.1	
0.0	2	7:01	50.0	46.1	6080	10.1	9.1	7.8	5.8	5.1	3.3	2.1	1.5	1.1	3.4	5.3	0.0	11.1	
0.0	3	7:01	50.0	46.1	9142	15.9	14.1	12.3	9.2	8.1	5.1	3.2	2.2	1.7	3.3	5.2	0.0	10.8	
0.0	4	7:01	50.0	46.1	9121	15.9	14.1	12.3	9.2	8.1	5.1	3.3	2.2	1.7	3.3	5.3	0.0	10.8	
0.1	1	7:02	50.0	46.3	6048	9.1	8.0	7.0	5.2	4.6	3.0	2.1	1.4	1.0	3.6	5.5	0.0	11.9	
0.1	2	7:02	50.0	46.3	6015	9.0	7.9	6.9	5.1	4.6	3.0	2.1	1.4	1.0	3.6	5.6	0.0	11.9	
0.1	3	7:02	50.0	46.3	9088	14.3	12.6	11.0	8.2	7.2	4.7	3.1	2.2	1.6	3.6	5.4	0.0	11.5	
0.1	4	7:02	50.0	46.3	9088	14.3	12.6	11.0	8.2	7.2	4.7	3.2	2.2	1.6	3.6	5.5	0.0	11.5	
0.2	1	7:03	50.0	45.9	6004	11.9	10.5	8.8	6.4	5.6	3.4	2.2	1.5	1.1	3.2	4.9	0.0	9.7	
0.2	2	7:03	50.0	45.9	6004	11.8	10.4	8.8	6.4	5.6	3.4	2.2	1.5	1.1	3.2	4.9	0.0	9.8	
0.2	3	7:03	50.0	45.9	9044	18.4	16.0	13.6	10.0	8.6	5.3	3.4	2.3	1.8	3.1	4.8	0.0	9.5	
0.2	4	7:03	50.0	45.9	9055	18.5	16.1	13.7	10.0	8.7	5.3	3.4	2.4	1.8	3.1	4.8	0.0	9.5	
0.3																			TWP 60,B-,B-16,WB"
0.3	1	7:05	50.0	46.0	6069	12.6	11.2	9.7	7.1	6.1	3.7	2.3	1.6	1.3	3.0	4.8	0.0	9.4	
0.3	2	7:05	50.0	46.0	6037	12.4	11.1	9.6	7.0	6.0	3.6	2.3	1.6	1.3	3.1	4.9	0.0	9.5	
0.3	3	7:05	50.0	46.0	9088	19.3	17.1	14.9	11.0	9.4	5.6	3.4	2.4	1.9	3.0	4.8	0.0	9.3	
0.3	4	7:05	50.0	46.0	9088	19.4	17.2	15.0	11.1	9.4	5.6	3.4	2.3	1.9	3.0	4.8	0.0	9.3	
0.4	1	7:06	50.0	45.9	6004	15.3	13.1	11.0	7.8	6.6	3.8	2.3	1.6	1.2	2.9	4.3	0.0	8.0	
0.4	2	7:06	50.0	45.9	5993	15.1	13.0	10.9	7.7	6.5	3.8	2.3	1.6	1.2	2.9	4.3	0.0	8.1	
0.4	3	7:06	50.0	45.9	9022	24.0	20.4	17.4	12.5	10.3	5.9	3.6	2.4	1.9	2.8	4.3	0.0	7.8	
0.4	4	7:06	50.0	45.9	8968	24.0	20.4	17.3	12.4	10.3	5.9	3.6	2.4	1.9	2.8	4.3	0.0	7.8	
0.5	1	7:07	50.0	46.9	5971	15.3	12.9	10.5	6.8	5.3	3.0	2.0	1.5	1.2	3.6	4.0	0.0	7.8	
0.5	2	7:07	50.0	46.9	5971	15.1	12.8	10.4	6.8	5.3	3.0	2.0	1.5	1.2	3.6	4.0	0.0	7.9	
0.5	3	7:07	50.0	46.9	8989	23.5	19.8	16.2	10.9	8.4	4.7	3.1	2.3	1.9	3.5	4.0	0.0	7.7	
0.5	4	7:07	50.0	46.9	8957	23.5	19.8	16.4	10.8	8.4	4.7	3.1	2.3	1.9	3.5	4.0	0.0	7.7	
0.6	1	7:08	50.0	46.9	6004	14.2	12.5	10.8	7.7	6.5	3.7	2.2	1.5	1.2	3.0	4.5	0.0	8.5	
0.6	2	7:08	50.0	46.9	6004	14.1	12.4	10.7	7.6	6.5	3.7	2.2	1.5	1.2	3.0	4.5	0.0	8.6	
0.6	3	7:08	50.0	46.9	9033	22.2	19.4	16.9	12.3	10.3	5.8	3.5	2.3	1.9	2.9	4.5	0.0	8.3	
0.6	4	7:08	50.0	46.9	9000	22.2	19.4	16.9	12.3	10.3	5.8	3.4	2.3	1.9	2.8	4.5	0.0	8.3	
0.7	1	7:09	50.0	46.6	6037	9.4	8.2	7.1	5.3	4.8	3.2	2.1	1.4	1.0	3.5	5.5	0.0	11.6	
0.7	2	7:09	50.0	46.6	6059	9.4	8	7.1	5.3	4.8	3.2	2.1	1.4	1.0	3.5	5.5	0.0	11.7	
0.7	3	7:09	50.0	46.6	9121	14.6	12.8	11.2	8.4	7.5	4.9	3.2	2.2	1.6	3.4	5.5	0.0	11.4	
0.7	4	7:09	50.0	46.6	9121	14.6	12.8	11.2	8.4	7.5	4.9	3.2	2.2	1.6	3.4	5.5	0.0	11.4	
0.8																			TWP 60,B-,B-15,EB"
0.8	1	7:10	50.0	46.7	6026	11.6	9.7	8.2	5.8	5.1	3.1	2.0	1.3	1.0	3.5	4.8	0.0	9.9	
0.8	2	7:10	50.0	46.7	6015	11.5	9.6	8.1	5.8	5.1	3.1	2.0	1.3	1.0	3.5	4.8	0.0	9.9	
0.8	3	7:10	50.0	46.7	9044	18.1	15.0	12.8	9.3	7.9	4.8	3.0	2.0	1.5	3.4	4.7	0.0	9.6	
0.8	4	7:10	50.0	46.7	9044	18.1	15.0	12.8	9.3	7.9	4.8	3.0	2.0	1.5	3.4	4.7	0.0	9.6	
0.9	1	7:11	51.8	46.7	6048	7.8	6.9	6.0	4.5	4.2	2.8	1.9	1.2	0.8	4.0	5.9	0.0	13.2	
0.9	2	7:11	51.8	46.7	6004	7.7	6.8	5.9	4.5	4.1	2.8	1.8	1.2	0.8	4.0	5.9	0.0	13.2	
0.9	3	7:11	51.8	46.7	9132	12.2	10.6	9.3	7.1	6.4	4.3	2.8	1.8	1.3	3.9	5.8	0.0	12.8	
0.9	4	7:11	51.8	46.7	9132	12.2	10.6	9.3	7.1	6.4	4.3	2.8	1.8	1.3	3.9	5.8	0.0	12.8	
1.0	1	7:12	51.8	46.7	6048	7.2	6.6	6.0	4.6	4.4	3.0	2.1	1.4	1.0	3.6	6.5	0.0	14.0	
1.0	2	7:12	51.8	46.7	6069	7.2	7	6.0	4.7	4.4	3.0	2.1	1.4	1.0	3.6	6.5	0.0	14.0	
1.0	3	7:12	51.8	46.7	9164	11.1	10.1	9.2	7.2	6.8	4.7	3.2	2.2	1.5	3.6	6.5	0.0	13.9	
1.0	4	7:12	51.8	46.7	9164	11.1	10.2	9.2	7.3	6.8	4.7	3.2	2.2	1.5	3.6	6.5	0.0	13.9	
1.0																			TWP 60,IC,TWP 107,WB"

American Engineering Testing, Inc.
550 Cleveland Avenue North
St. Paul, Minnesota 55114
Phone: (651) 659-9001
Fax: (651) 659-1379

AET Project No. 28-01314
County: Paulding
Test Date: Oct 9, 2014
Section: 25
Roadway: C-60
From: C-107
To: T-95

Prev. Day's Avg. Air Temp.: 50 °F
Total AC: 5.2 in.
Daily ESALs: 7.0
Pavement Condition Index: 68
Haul Truck ESALs: 275
Soil Type: P
Draught Adjustment Factor: 0.00
Seasonal Correction Factor: 1.71

Design Period: 10 Years
Projection Factor: 1.2
Growth Factor: 11.07
10-year Design ESALs: 28,571
Design Period: 20 Years
Projection Factor: 1.6
Growth Factor: 24.91
20-year Design ESALs: 63,913

Station	Drop	Time	Air °F	Bit °F	Load	D1	D2	D3	D4	D5	D6	D7	D8	D9	Effective Values CBR %	Effective Values SN inches	Overlay Thickness inches	Spring Capacity tons/axle	Comments
1.0																			TWP 60,IC,TWP 107,WB"
1.0	1	7:14	51.8	47.1	6037	13.3	11.5	9.6	6.7	5.5	2.9	1.7	1.1	0.9	3.8	3.9	0.0	9.6	
1.0	2	7:14	51.8	47.1	6015	13.2	11.4	9.5	6.7	5.5	2.9	1.7	1.1	0.9	3.8	3.9	0.0	9.7	
1.0	3	7:14	51.8	47.1	9055	21.5	18.2	15.3	10.9	8.8	4.5	2.6	1.7	1.4	3.7	3.8	0.0	9.1	
1.0	4	7:14	51.8	47.1	9066	21.8	18.4	15.5	11.0	8.8	4.6	2.6	1.8	1.4	3.6	3.7	0.0	9.0	
1.1	1	7:15	51.8	47.1	5916	20.6	17.0	13.6	8.9	6.7	3.3	1.9	1.3	1.0	3.3	3.1	0.0	6.7	
1.1	2	7:15	51.8	47.1	5916	20.4	17.0	13.5	8.8	6.7	3.3	1.9	1.3	1.0	3.3	3.1	0.0	6.7	
1.1	3	7:15	51.8	47.1	8869	32.3	26.7	21.6	14.4	10.8	5.3	2.9	2.0	1.5	3.1	3.1	0.0	6.5	
1.1	4	7:15	51.8	47.1	8858	32.7	27.0	21.9	14.6	11.0	5.3	2.9	2.0	1.5	3.0	3.1	0.0	6.4	
1.2	1	7:16	51.8	47.2	6015	4.9	4.3	3.7	2.9	2.8	2.1	1.6	1.2	1.0	5.3	6.7	0.0	18.7	
1.2	3	7:16	51.8	47.2	9197	7.8	6.5	5.7	4.5	4.2	3.2	2.4	1.9	1.4	5.4	6.6	0.0	18.4	
1.2	4	7:16	51.8	47.2	9197	7.7	6.5	5.7	4.4	4.2	3.2	2.4	1.9	1.5	5.3	6.6	0.0	18.4	
1.3																			TWP 60,B-,B-14,WB"
1.3	1	7:17	51.8	46.9	5949	21.8	17.2	13.8	9.1	6.6	2.9	1.6	1.1	1.1	3.8	2.9	0.0	6.3	
1.3	2	7:17	51.8	46.9	5927	21.6	17.0	13.7	9.1	6.6	2.9	1.6	1.1	1.1	3.8	2.9	0.0	6.3	
1.3	3	7:17	51.8	46.9	8869	33.1	26.2	21.3	14.4	10.4	4.6	2.5	1.8	1.5	3.5	2.9	0.0	6.2	
1.3	4	7:17	51.8	46.9	8858	33.5	26.6	21.8	14.6	10.5	4.6	2.5	1.8	1.5	3.5	2.9	0.0	6.2	
1.4	1	7:18	51.8	46.9	5927	20.8	16.8	13.1	8.3	6.1	3.1	1.9	1.3	1.0	3.5	3.0	0.0	6.6	
1.4	2	7:18	51.8	46.9	5927	20.7	16.7	13.1	8.4	6.1	3.1	1.9	1.3	1.0	3.5	3.0	0.0	6.6	
1.4	3	7:18	51.8	46.9	8957	32.0	26.0	20.8	13.6	9.9	4.9	2.9	2.0	1.6	3.4	3.0	0.0	6.5	
1.4	4	7:18	51.8	46.9	8902	32.2	26.1	20.9	13.7	10.0	4.9	2.9	2.0	1.6	3.3	3.0	0.0	6.4	
1.5	1	7:19	51.8	46.9	5971	20.2	16.4	12.9	8.4	6.3	3.2	1.9	1.3	1.1	3.5	3.1	0.0	6.8	
1.5	2	7:19	51.8	46.9	5905	19.8	16.1	12.8	8.3	6.2	3.1	1.9	1.3	1.1	3.5	3.1	0.0	6.9	
1.5	3	7:19	51.8	46.9	8913	30.8	25.2	20.3	13.5	10.0	4.9	2.9	2.1	1.7	3.3	3.1	0.0	6.7	
1.5	4	7:19	51.8	46.9	8891	31.0	25.3	20.5	13.6	10.1	4.9	2.9	2.1	1.7	3.3	3.1	0.0	6.7	
1.6	1	7:20	51.8	47.4	5905	24.3	19.6	15.0	9.2	6.5	2.7	1.5	1.2	1.1	4.0	2.7	0.0	5.6	
1.6	2	7:20	51.8	47.4	5884	24.1	19.5	15.0	9.2	6.4	2.7	1.5	1.1	1.0	4.0	2.7	0.0	5.7	
1.6	3	7:20	51.8	47.4	8858	36.7	29.7	23.3	14.7	10.2	4.2	2.3	1.8	1.6	3.8	2.7	0.0	5.6	
1.6	4	7:20	51.8	47.4	8847	37.1	30.1	23.6	15.0	10.4	4.3	2.3	1.7	1.6	3.8	2.7	0.0	5.6	
1.7	1	7:21	51.8	47.3	5895	20.0	17.0	14.1	9.7	8.0	4.7	3.1	2.1	1.6	2.3	3.6	0.0	7.1	
1.7	2	7:21	51.8	47.3	5895	19.8	16.9	14.0	9.6	8.0	4.7	3.1	2.2	1.6	2.3	3.6	0.0	7.2	
1.7	3	7:21	51.8	47.3	8902	31.2	26.6	22.4	15.7	12.8	7.4	4.8	3.3	2.6	2.2	3.6	0.0	7.0	
1.7	4	7:21	51.8	47.3	8902	31.4	26.7	22.5	15.8	12.9	7.5	4.8	3.3	2.7	2.2	3.6	0.0	6.9	
1.8																			TWP 60,B-,B-13,EB"
1.8	1	7:23	50.0	47.1	6004	12.7	10.9	9.1	6.4	5.4	3.2	1.9	1.2	0.9	3.5	4.1	0.0	10.0	
1.8	2	7:23	50.0	47.1	5971	12.6	10.8	9.0	6.4	5.4	3.2	1.9	1.2	0.9	3.5	4.1	0.0	10.1	
1.8	3	7:23	50.0	47.1	9055	20.5	17.4	14.7	10.5	8.7	5.0	2.9	1.8	1.4	3.3	4.0	0.0	9.6	
1.8	4	7:23	50.0	47.1	9033	20.5	17.4	14.7	10.5	8.7	5.0	2.9	1.8	1.4	3.3	4.0	0.0	9.5	
1.9	1	7:24	50.0	47.1	5916	25.9	20.5	15.6	9.6	6.8	3.2	2.1	1.5	1.3	3.4	2.7	0.0	5.4	
1.9	2	7:24	50.0	47.1	5916	25.6	20.3	15.6	9.6	6.8	3.2	2.0	1.5	1.2	3.4	2.7	0.0	5.5	
1.9	3	7:24	50.0	47.1	8836	39.9	31.6	24.8	15.7	11.1	4.9	3.2	2.3	2.0	3.3	2.7	0.0	5.3	
1.9	4	7:24	50.0	47.1	8847	40.3	32.1	25.2	16.0	11.3	5.0	3.2	2.3	2.0	3.2	2.7	0.0	5.3	
2.0	1	7:25	50.0	47.1	6004	10.0	9.1	8.0	6.0	5.4	3.4	2.2	1.5	1.1	3.2	5.1	0.0	12.3	
2.0	2	7:25	50.0	47.1	6026	9.9	9.1	8.0	6.0	5.4	3.4	2.2	1.5	1.1	3.2	5.1	0.0	12.3	
2.0	3	7:25	50.0	47.1	9088	15.9	14.3	12.7	9.7	8.5	5.3	3.4	2.3	1.8	3.1	5.0	0.0	11.8	
2.0	4	7:25	50.0	47.1	9121	16.0	14.4	12.8	9.7	8.5	5.3	3.4	2.3	1.8	3.1	5.0	0.0	11.8	
2.1																			TWP 60,IC,TWP 95,WB"

American Engineering Testing, Inc.
550 Cleveland Avenue North
St. Paul, Minnesota 55114
Phone: (651) 659-9001
Fax: (651) 659-1379

AET Project No. 28-01314
County: Paulding
Test Date: Oct 9, 2014
Section: 26
Roadway: C-60
From: T-95
To: C-87

Prev. Day's Avg. Air Temp.: 50 °F
Total AC: 5.4 in.
Daily ESALs: 7.0
Pavement Condition Index: 75
Haul Truck ESALs: 1,211
Soil Type: P
Draught Adjustment Factor: 0.00
Seasonal Correction Factor: 1.71

Design Period: 10 Years
Projection Factor: 1.2
Growth Factor: 11.07
10-year Design ESALs: 29,507
Design Period: 20 Years
Projection Factor: 1.6
Growth Factor: 24.91
20-year Design ESALs: 64,849

															Effective Values		Overlay	Spring	
															CBR	SN	Thickness	Capacity	
Station	Drop	Time	Air °F	Bit °F	Load	D1	D2	D3	D4	D5	D6	D7	D8	D9	%	inches	inches	tons/axle	Comments
2.1																			TWP 60,IC,TWP 95,WB"
2.1	1	7:26	50.0	49.0	6026	10.4	8.9	7.5	5.5	4.6	2.9	2.0	1.4	1.1	3.8	4.3	0.0	11.7	
2.1	2	7:26	50.0	49.0	6026	10.3	8.8	7.5	5.4	4.6	2.9	2.0	1.4	1.1	3.8	4.4	0.0	11.8	
2.1	3	7:26	50.0	49.0	9099	16.5	14.0	11.9	8.7	7.3	4.6	3.0	2.2	1.7	3.7	4.3	0.0	11.3	
2.1	4	7:26	50.0	49.0	9066	16.4	14.0	11.9	8.7	7.3	4.5	3.0	2.2	1.7	3.7	4.3	0.0	11.3	
2.2	1	7:27	51.8	46.4	5971	14.2	12.4	10.5	7.6	6.4	3.9	2.6	1.7	1.2	2.8	4.0	0.0	9.4	
2.2	2	7:27	51.8	46.4	5971	14.1	12.3	10.4	7.6	6.4	4.0	2.6	1.7	1.2	2.8	4.0	0.0	9.4	
2.2	3	7:27	51.8	46.4	9022	22.1	19.2	16.3	12.0	10.0	6.2	4.0	2.7	2.0	2.7	4.0	0.0	9.2	
2.2	4	7:27	51.8	46.4	8989	22.0	19.2	16.4	12.0	10.1	6.2	4.0	2.7	2.0	2.7	4.0	0.0	9.2	
2.3	1	7:28	51.8	46.5	5949	11.1	10.2	9.2	7.1	6.5	4.5	3.0	1.8	1.2	2.4	5.2	0.0	11.5	
2.3	2	7:28	51.8	46.5	5938	11.0	10.1	9.1	7.0	6.5	4.4	2.9	1.8	1.2	2.5	5.2	0.0	11.6	
2.3	3	7:28	51.8	46.5	8989	17.2	15.6	14.1	10.9	10.1	6.9	4.6	2.9	2.1	2.4	5.2	0.0	11.3	
2.3	4	7:28	51.8	46.5	8957	17.2	15.6	14.1	10.9	10.1	6.9	4.6	2.9	2.0	2.4	5.2	0.0	11.3	
2.3																			TWP 60,B-,B-12,WB"
2.4	1	7:29	51.8	46.6	5949	16.9	13.4	11.1	7.8	6.6	4.1	2.6	1.7	1.2	2.7	3.5	0.0	8.1	
2.4	2	7:29	51.8	46.6	5960	16.8	13.4	11.1	7.8	6.6	4.1	2.6	1.7	1.2	2.7	3.6	0.0	8.2	
2.4	3	7:29	51.8	46.6	8935	25.8	20.4	17.1	12.3	10.3	6.3	4.0	2.6	2.0	2.6	3.6	0.0	8.0	
2.4	4	7:29	51.8	46.6	8946	25.8	20.5	17.1	12.4	10.4	6.4	4.0	2.7	2.1	2.6	3.6	0.0	8.0	
2.5	1	7:30	51.8	46.6	5949	14.7	12.6	10.9	8.1	7.2	4.5	2.8	1.7	1.2	2.4	4.2	0.0	9.2	
2.5	2	7:30	51.8	46.6	5927	14.6	12.5	10.8	8.0	7.1	4.5	2.8	1.7	1.2	2.4	4.2	0.0	9.3	
2.5	3	7:30	51.8	46.6	8946	22.3	19.1	16.6	12.5	11.1	7.0	4.3	2.7	2.0	2.4	4.2	0.0	9.2	
2.5	4	7:30	51.8	46.6	8946	22.4	19.1	16.6	12.6	11.1	7.0	4.4	2.7	1.9	2.4	4.2	0.0	9.2	
2.6	1	7:31	51.8	46.9	5960	17.2	14.4	11.9	8.4	7.0	4.2	2.6	1.7	1.3	2.6	3.5	0.0	8.0	
2.6	2	7:31	51.8	46.9	5905	16.9	14	11.7	8.3	7.0	4.1	2.5	1.7	1.2	2.6	3.6	0.0	8.1	
2.6	3	7:31	51.8	46.9	8924	26.6	22.2	18.5	13.3	11.1	6.5	4.0	2.7	2.0	2.5	3.5	0.0	7.9	
2.6	4	7:31	51.8	46.9	8913	26.6	22.2	18.6	13.3	11.1	6.6	4.0	2.7	2.0	2.5	3.5	0.0	7.8	
2.7	1	7:32	51.8	47.0	5905	18.1	15.6	13.0	8.9	7.5	4.3	2.7	1.8	1.4	2.5	3.5	0.0	7.7	
2.7	2	7:32	51.8	47.0	5905	18.0	15.5	12.9	8.9	7.4	4.3	2.6	1.8	1.4	2.5	3.5	0.0	7.7	
2.7	3	7:32	51.8	47.0	8891	28.1	24.0	20.3	14.4	11.8	6.7	4.1	2.8	2.3	2.4	3.4	0.0	7.5	
2.7	4	7:32	51.8	47.0	8847	28.1	24.0	20.3	14.3	11.8	6.7	4.2	2.9	2.3	2.4	3.4	0.0	7.5	
2.8	1	7:33	51.8	46.7	5949	17.9	15.0	12.2	8.3	6.8	4.0	2.6	1.8	1.3	2.7	3.4	0.0	7.7	
2.8	2	7:33	51.8	46.7	5949	17.7	14.9	12.2	8.3	6.8	4.0	2.6	1.8	1.3	2.7	3.4	0.0	7.8	
2.8	3	7:33	51.8	46.7	8946	27.2	22.9	19.0	13.2	10.6	6.3	4.1	2.8	2.1	2.6	3.4	0.0	7.7	
2.8	4	7:33	51.8	46.7	8935	27.3	22.9	19.1	13.3	10.7	6.3	4.1	2.8	2.1	2.6	3.4	0.0	7.7	
2.8																			TWP 60,B-,B-11,EB"
2.9	1	7:35	51.8	47.0	5927	15.3	12.7	10.4	7.3	6.3	4.1	2.7	1.9	1.4	2.7	3.8	0.0	8.8	
2.9	2	7:35	51.8	47.0	5938	15.3	13	10.3	7.3	6.3	4.1	2.7	1.8	1.4	2.7	3.8	0.0	8.8	
2.9	3	7:35	51.8	47.0	8935	23.7	19.7	16.3	11.7	10.1	6.4	4.2	2.9	2.1	2.6	3.8	0.0	8.6	
2.9	4	7:35	51.8	47.0	8924	23.6	19.6	16.3	11.8	10.1	6.4	4.2	2.9	2.2	2.5	3.8	0.0	8.7	
3.0	1	7:36	51.8	46.7	5895	20.3	17.2	13.9	9.4	7.7	4.2	2.5	1.7	1.4	2.6	3.1	0.0	6.9	
3.0	2	7:36	51.8	46.7	5884	20.1	17.1	13.9	9.4	7.6	4.2	2.5	1.7	1.4	2.6	3.2	0.0	6.9	
3.0	3	7:36	51.8	46.7	8858	31.5	26.6	21.9	15.3	12.2	6.6	4.0	2.7	2.2	2.5	3.2	0.0	6.8	
3.0	4	7:36	51.8	46.7	8858	31.8	26.9	22.1	15.4	12.4	6.7	4.0	2.7	2.2	2.4	3.1	0.0	6.7	
3.1	1	7:37	51.8	47.8	5949	12.3	11.2	9.9	7.5	6.8	4.6	3.0	1.9	1.3	2.4	4.8	0.0	10.7	
3.1	2	7:37	51.8	47.8	5960	12.3	11.1	9.9	7.5	6.8	4.6	3.0	1.9	1.3	2.4	4.9	0.0	10.7	
3.1	3	7:37	51.8	47.8	8989	19.2	17.2	15.3	11.8	10.6	7.2	4.8	3.0	2.1	2.3	4.8	0.0	10.5	
3.1	4	7:37	51.8	47.8	8978	19.2	17.2	15.3	11.7	10.6	7.2	4.7	3.0	2.1	2.3	4.8	0.0	10.4	
3.1																			TWP 60,IC,TWP 87,WB"

American Engineering Testing, Inc.
550 Cleveland Avenue North
St. Paul, Minnesota 55114
Phone: (651) 659-9001
Fax: (651) 659-1379

AET Project No. 28-01314
County: Paulding
Test Date: Oct 9, 2014
Section: 27
Roadway: C-60
From: C-87
To: T-79

Prev. Day's Avg. Air Temp.: 50 °F
Total AC: 4.5 in.
Daily ESALs: 3.0
Pavement Condition Index: 83
Haul Truck ESALs: 1,708
Soil Type: P
Draught Adjustment Factor: 0.00
Seasonal Correction Factor: 1.71

Design Period: 10 Years
Projection Factor: 1.2
Growth Factor: 11.07
10-year Design ESALs: 13,835
Design Period: 20 Years
Projection Factor: 1.6
Growth Factor: 24.91
20-year Design ESALs: 28,982

Station	Drop	Time	Air °F	Bit °F	Load	D1	D2	D3	D4	D5	D6	D7	D8	D9	Effective Values CBR %	Effective Values SN inches	Overlay Thickness inches	Spring Capacity tons/axle	Comments
3.1																			TWP 60,IC,TWP 87,WB"
3.1	1	7:38	51.8	48.3	5293	79.6	54.1	34.2	14.2	5.0	2.6	2.5	1.8	1.7	3.7	1.0	2.3	1.7	
3.1	2	7:38	51.8	48.3	5304	78.8	54.0	34.5	14.4	5.1	2.6	2.4	1.8	1.7	3.7	1.0	2.3	1.7	
3.1	3	7:38	51.8	48.3	7732	110.2	83.2	55.6	24.9	8.7	3.2	3.6	2.8	2.6	4.4	1.0	2.0	1.8	
3.1	4	7:38	51.8	48.3	7710	110.3	85.0	57.3	25.8	9.1	3.4	3.7	2.8	2.7	4.2	1.0	2.1	1.8	
3.1	1	7:39	51.8	48.3	5610	48.4	36.8	25.1	12.8	7.1	3.3	2.3	1.7	1.5	3.2	1.4	1.7	3.0	
3.1	2	7:39	51.8	48.3	5632	48.2	37.2	25.5	13.0	7.2	3.3	2.3	1.7	1.5	3.1	1.4	1.7	3.0	
3.1	3	7:39	51.8	48.3	8333	74.9	57.7	40.7	21.6	11.7	4.7	3.5	2.7	2.3	3.2	1.4	1.8	2.9	
3.1	4	7:39	51.8	48.3	8289	76.5	59.1	41.9	22.2	11.9	4.8	3.6	2.7	2.3	3.2	1.4	1.8	2.8	
3.2	1	7:40	51.8	47.9	5512	60.8	43.8	28.7	14.1	7.1	3.2	2.5	1.9	1.6	3.2	1.2	2.1	2.4	
3.2	2	7:40	51.8	47.9	5468	60.8	44.0	28.9	14.2	7.1	3.2	2.5	1.9	1.6	3.1	1.2	2.2	2.3	
3.2	3	7:40	51.8	47.9	8005	96.5	69.0	46.9	23.9	11.5	4.3	3.7	2.8	2.4	3.4	1.2	2.2	2.2	
3.2	4	7:40	51.8	47.9	7983	99.0	71	48.3	24.6	11.8	4.4	3.8	2.9	2.5	3.3	1.1	2.2	2.1	
3.3	1	7:41	51.8	47.7	5687	33.7	26.9	20.1	12.0	8.0	3.5	2.2	1.7	1.4	3.0	1.8	0.9	4.3	
3.3	2	7:41	51.8	47.7	5698	33.8	27.1	20.2	12.1	8.1	3.5	2.2	1.6	1.4	2.9	1.8	0.9	4.3	
3.3	3	7:41	51.8	47.7	8519	54.2	43.3	33.0	20.4	13.5	5.6	3.5	2.6	2.3	2.8	1.8	1.1	4.0	
3.3	4	7:41	51.8	47.7	8486	55.2	44.2	33.7	20.8	13.8	5.7	3.6	2.7	2.3	2.7	1.7	1.2	4.0	
3.3																			TWP 60,B-,B-10,WB"
3.4	1	7:42	51.8	47.2	5720	36.1	27.7	20.1	11.2	6.9	3.0	2.0	1.4	1.2	3.5	1.6	1.0	3.9	
3.4	2	7:42	51.8	47.2	5709	36.1	28.0	20.4	11.3	7.0	3.0	2.0	1.4	1.2	3.5	1.6	1.0	3.9	
3.4	3	7:42	51.8	47.2	8497	57.1	43.9	32.7	18.7	11.4	4.5	2.9	2.3	1.9	3.5	1.6	1.1	3.7	
3.4	4	7:42	51.8	47.2	8497	58.4	45.1	33.8	19.4	11.8	4.6	3.0	2.3	2.0	3.4	1.6	1.2	3.7	
3.5	1	7:43	51.8	46.7	5884	12.9	11.5	10.0	7.3	6.4	3.8	2.2	1.4	1.0	2.8	3.9	0.0	10.1	
3.5	2	7:43	51.8	46.7	5884	12.8	11.4	10.0	7.3	6.4	3.8	2.2	1.3	1.0	2.8	3.9	0.0	10.2	
3.5	3	7:43	51.8	46.7	8935	20.0	17.7	15.5	11.6	10.0	5.9	3.4	2.1	1.6	2.8	3.9	0.0	10.0	
3.5	4	7:43	51.8	46.7	8935	20.1	18	15.6	11.7	10.1	5.9	3.4	2.1	1.6	2.8	3.9	0.0	9.9	
3.6	1	7:44	51.8	47.8	5457	57.5	40.7	27.9	14.2	7.9	3.2	2.2	1.7	1.4	3.1	1.3	2.1	2.5	
3.6	2	7:44	51.8	47.8	5435	57.0	40.8	28.1	14.4	8.0	3.3	2.2	1.7	1.4	3.0	1.3	2.1	2.5	
3.6	3	7:44	51.8	47.8	8038	89.3	63.7	45.0	23.7	13.0	4.8	3.3	2.7	2.2	3.1	1.2	2.2	2.4	
3.6	4	7:44	51.8	47.8	8027	89.8	64.8	46.0	24.3	13.4	4.9	3.3	2.8	2.2	3.0	1.2	2.2	2.3	
3.7	1	7:45	51.8	47.8	5610	48.2	35.2	22.6	10.4	5.0	2.2	1.7	1.2	1.2	4.6	1.3	1.3	2.9	
3.7	2	7:45	51.8	47.8	5610	48.0	35.6	23.0	10.6	5.1	2.3	1.7	1.2	1.2	4.5	1.3	1.4	2.9	
3.7	3	7:45	51.8	47.8	8300	74.3	55.3	37.1	18.0	8.3	3.0	2.5	1.8	1.7	5.0	1.2	1.3	2.7	
3.7	4	7:45	51.8	47.8	8289	75.7	56.7	38.8	18.6	8.6	3.2	2.6	1.8	1.7	4.8	1.2	1.4	2.7	
3.8	1	7:46	51.8	47.8	5730	38.8	29.3	20.0	10.6	6.4	3.0	2.0	1.5	1.3	3.5	1.6	1.2	3.7	
3.8	2	7:46	51.8	47.8	5698	38.7	29.4	20.2	10.7	6.4	3.0	2.0	1.5	1.3	3.5	1.6	1.2	3.7	
3.8	3	7:46	51.8	47.8	8519	59.0	45.1	31.8	17.5	10.4	4.4	3.0	2.2	1.9	3.6	1.5	1.2	3.6	
3.8	4	7:46	51.8	47.8	8530	60.1	46.4	33.2	18.2	10.8	4.5	3.2	2.2	2.0	3.5	1.5	1.2	3.6	
3.9																			TWP 60,B-,B-09,EB"
3.9	1	7:48	51.8	47.9	5588	50.8	37.7	25.2	12.4	6.7	3.1	2.2	1.6	1.4	3.3	1.3	1.8	2.8	
3.9	2	7:48	51.8	47.9	5534	50.3	37.8	25.5	12.5	6.7	3.0	2.2	1.6	1.4	3.3	1.3	1.8	2.8	
3.9	3	7:48	51.8	47.9	8246	76.7	58.2	40.6	20.8	10.8	4.4	3.3	2.5	2.2	3.5	1.3	1.8	2.8	
3.9	4	7:48	51.8	47.9	8202	78.9	59.9	42.1	21.6	11.1	4.4	3.3	2.5	2.2	3.4	1.3	1.8	2.7	
4.0	1	7:49	51.8	48.1	5643	44.8	33.5	23.0	11.8	6.8	3.2	2.1	1.5	1.3	3.3	1.5	1.5	3.2	
4.0	2	7:49	51.8	48.1	5632	44.6	33.8	23.3	12.0	6.8	3.1	2.2	1.5	1.3	3.3	1.5	1.5	3.2	
4.0	3	7:49	51.8	48.1	8399	69.2	52.6	37.3	20.0	11.1	4.5	3.3	2.3	2.0	3.4	1.4	1.6	3.1	
4.0	4	7:49	51.8	48.1	8355	70.7	54.0	38.5	20.5	11.3	4.6	3.3	2.4	2.0	3.3	1.4	1.6	3.0	
4.1	1	7:50	51.8	47.9	5566	62.0	42.3	26.6	11.2	4.8	2.4	1.9	1.4	1.1	4.3	1.1	1.8	2.3	
4.1	2	7:50	51.8	47.9	5534	61.2	42.2	26.7	11.1	4.8	2.4	1.9	1.4	1.1	4.2	1.1	1.8	2.3	
4.1	3	7:50	51.8	47.9	8136	94.4	65.8	43.6	19.1	7.7	3.1	2.8	2.2	1.7	4.8	1.1	1.7	2.1	
4.1	4	7:50	51.8	47.9	8115	95.8	67.5	45.0	19.7	7.9	3.2	2.9	2.2	1.8	4.7	1.1	1.8	2.1	
4.1																			TWP 60,IC,TWP 79,WB"

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AET Project No. 28-01314
County: Paulding
Test Date: Oct 9, 2014
Section: 28
Roadway: C-60
From: T-79
To: T-75

Prev. Day's Avg. Air Temp.: 50 °F
Total AC: 1.5 in.
Daily ESALs: 3.0
Pavement Condition Index: 83
Haul Truck ESALs: 596
Soil Type: P
Draught Adjustment Factor: 0.00
Seasonal Correction Factor: 1.79

Design Period: 10 Years
Projection Factor: 1.2
Growth Factor: 11.07
10-year Design ESALs: 12,723
Design Period: 20 Years
Projection Factor: 1.6
Growth Factor: 24.91
20-year Design ESALs: 27,870

Station	Drop	Time	Air °F	Bit °F	Load	D1	D2	D3	D4	D5	D6	D7	D8	D9	Effective Values CBR %	Effective Values SN inches	Overlay Thickness inches	Spring Capacity tons/axle	Comments
4.1																			TWP 60,IC,TWP 79,WB"
4.1	1	7:51	51.8	48.8	5807	37.7	27.8	18.6	10.0	6.3	3.2	2.1	1.6	1.3	3.3	1.8	0.6	5.0	
4.1	2	7:51	51.8	48.8	5752	37.3	27.7	18.6	9.9	6.2	3.2	2.1	1.6	1.2	3.3	1.8	0.6	5.0	
4.1	3	7:51	51.8	48.8	8639	56.8	42.7	29.8	16.6	10.0	4.8	3.3	2.4	2.0	3.3	1.8	0.6	4.9	
4.1	4	7:51	51.8	48.8	8618	57.4	43.4	30.5	16.9	10.2	4.8	3.3	2.4	2.0	3.3	1.8	0.7	4.9	
4.2	1	7:52	51.8	48.1	5741	36.4	26.5	17.7	9.4	6.0	3.1	2.1	1.5	1.2	3.4	1.8	0.5	5.1	
4.2	2	7:52	51.8	48.1	5774	36.4	26.7	18.0	9.5	6.1	3.2	2.1	1.5	1.2	3.4	1.8	0.5	5.1	
4.2	3	7:52	51.8	48.1	8596	54.7	40.6	28.5	15.6	9.6	4.7	3.2	2.3	2.0	3.4	1.8	0.6	5.1	
4.2	4	7:52	51.8	48.1	8585	55.2	41.5	29.4	16.1	9.9	4.8	3.3	2.2	2.0	3.3	1.8	0.6	5.0	
4.3																			TWP 60,B-,B-8,WB"
4.3	1	7:53	51.8	48.7	5774	37.5	27.9	18.4	9.3	5.6	3.0	2.1	1.6	1.3	3.6	1.8	0.6	4.9	
4.3	2	7:53	51.8	48.7	5774	36.9	27.9	18.5	9.3	5.6	3.0	2.1	1.5	1.3	3.6	1.8	0.6	5.0	
4.3	3	7:53	51.8	48.7	8618	55.6	42.5	29.5	15.6	9.1	4.4	3.3	2.5	2.2	3.6	1.8	0.6	5.0	
4.3	4	7:53	51.8	48.7	8607	56.0	42.9	30.1	15.9	9.3	4.5	3.3	2.5	2.2	3.5	1.8	0.6	4.9	
4.4	1	7:54	51.8	48.7	5741	37.8	28	18.3	9.0	5.6	3.0	2.0	1.5	1.3	3.6	1.7	0.6	4.9	
4.4	2	7:54	51.8	48.7	5730	37.2	27.8	18.4	9.1	5.6	3.0	2.0	1.5	1.2	3.6	1.8	0.6	4.9	
4.4	3	7:54	51.8	48.7	8607	56.0	42.7	29.7	15.4	9.1	4.4	3.2	2.3	2.0	3.6	1.8	0.6	4.9	
4.4	4	7:54	51.8	48.7	8574	56.5	43.3	30.4	15.8	9.3	4.5	3.2	2.4	2.1	3.5	1.8	0.6	4.9	
4.5	1	7:55	51.8	48.7	5796	28.9	21.7	14.8	8.2	5.8	3.3	2.2	1.6	1.3	3.2	2.2	0.0	6.4	
4.5	2	7:55	51.8	48.7	5807	28.6	21.6	14.8	8.3	5.9	3.3	2.2	1.6	1.3	3.2	2.2	0.0	6.4	
4.5	3	7:55	51.8	48.7	8760	42.8	32.8	23.4	13.4	9.3	5.1	3.5	2.5	2.2	3.2	2.2	0.0	6.5	
4.5	4	7:55	51.8	48.7	8738	42.9	33.0	23.7	13.6	9.4	5.2	3.5	2.5	2.2	3.1	2.2	0.0	6.5	

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AET Project No. 28-01314
County: Paulding
Test Date: Oct 9, 2014
Section: 29
Roadway: C-60
From: US 127
To: T-117

Prev. Day's Avg. Air Temp.: 50 °F
Total AC: 3.4 in.
Daily ESALs: 9.0
Pavement Condition Index: 73
Haul Truck ESALs: 2,107
Soil Type: P
Draught Adjustment Factor: 0.00
Seasonal Correction Factor: 1.75

Design Period: 10 Years
Projection Factor: 1.2
Growth Factor: 11.07
10-year Design ESALs: 38,488
Design Period: 20 Years
Projection Factor: 1.6
Growth Factor: 24.91
20-year Design ESALs: 83,928

															Effective Values		Overlay	Spring	
															CBR	SN	Thickness	Capacity	
Station	Drop	Time	Air °F	Bit °F	Load	D1	D2	D3	D4	D5	D6	D7	D8	D9	%	inches	inches	tons/axle	Comments
0.0	1	8:05	55.4	49.2	6004	16.7	14.2	11.6	7.8	6.2	3.3	2.0	1.4	1.2	3.4	3.5	0.0	8.3	
0.0	2	8:05	55.4	49.2	6004	16.5	14.1	11.6	7.8	6.2	3.3	2.0	1.5	1.2	3.4	3.6	0.0	8.4	
0.0	3	8:05	55.4	49.2	9011	25.6	21.8	18.0	12.3	9.6	5.0	3.1	2.3	1.9	3.3	3.5	0.0	8.2	
0.0	4	8:05	55.4	49.2	9000	25.8	21.9	18.2	12.4	9.7	5.0	3.1	2.3	1.9	3.3	3.5	0.0	8.1	
0.1	1	8:06	55.4	49.2	5927	19.5	16.0	13.0	8.6	6.7	3.6	2.3	1.7	1.4	3.0	3.3	0.0	7.3	
0.1	2	8:06	55.4	49.2	5949	19.4	15.9	12.9	8.6	6.7	3.6	2.3	1.7	1.4	3.0	3.3	0.0	7.3	
0.1	3	8:06	55.4	49.2	8924	29.9	24.7	20.3	13.7	10.5	5.5	3.5	2.5	2.1	3.0	3.3	0.0	7.2	
0.1	4	8:06	55.4	49.2	8891	30.0	24.8	20.5	13.8	10.6	5.5	3.5	2.5	2.2	2.9	3.3	0.0	7.1	
0.2	1	8:07	55.4	49.1	5916	15.8	13.7	11.5	7.9	6.3	3.6	2.3	1.5	1.2	3.0	3.8	0.0	8.7	
0.2	2	8:07	55.4	49.1	5938	15.8	13.8	11.5	7.9	6.3	3.6	2.3	1.5	1.2	3.0	3.8	0.0	8.7	
0.2	3	8:07	55.4	49.1	8957	24.8	21.5	18.1	12.6	10.1	5.6	3.5	2.2	1.9	2.9	3.8	0.0	8.5	
0.2	4	8:07	55.4	49.1	8946	24.9	21.6	18.1	12.7	10.2	5.6	3.3	2.3	2.0	2.9	3.7	0.0	8.4	
0.2																			TWP 60,B-,B-17,EB"
0.3	1	8:08	55.4	49.2	5960	19.3	16.2	13.3	8.9	7.0	3.8	2.3	1.6	1.4	2.9	3.4	0.0	7.4	
0.3	2	8:08	55.4	49.2	5927	19.0	16.0	13.1	8.8	6.9	3.7	2.2	1.6	1.3	2.9	3.4	0.0	7.5	
0.3	3	8:08	55.4	49.2	8902	29.8	25.1	20.7	14.1	11.1	5.8	3.4	2.5	2.1	2.8	3.4	0.0	7.2	
0.3	4	8:08	55.4	49.2	8902	30.0	25.3	20.9	14.3	11.2	5.8	3.4	2.5	2.1	2.8	3.4	0.0	7.2	
0.4	1	8:09	55.4	49.3	5873	23.2	19.0	15.0	9.5	7.1	3.6	2.4	1.7	1.5	3.0	3.0	0.0	6.2	
0.4	2	8:09	55.4	49.3	5851	22.9	18.8	14.9	9.5	7.1	3.6	2.3	1.8	1.5	3.0	3.0	0.0	6.3	
0.4	3	8:09	55.4	49.3	8814	35.7	29.2	23.5	15.3	11.2	5.5	3.7	2.6	2.4	2.9	2.9	0.0	6.1	
0.4	4	8:09	55.4	49.3	8782	35.9	29.4	23.7	15.4	11.3	5.6	3.7	2.6	2.4	2.9	2.9	0.0	6.1	
0.5	1	8:10	55.4	49.6	5873	24.7	20	15.6	9.9	7.3	3.7	2.4	1.7	1.4	2.9	2.9	0.0	5.9	
0.5	2	8:10	55.4	49.6	5884	24.4	19.8	15.6	9.9	7.3	3.7	2.4	1.8	1.4	2.9	2.9	0.0	6.0	
0.5	3	8:10	55.4	49.6	8814	37.8	30.8	24.6	16.0	11.8	5.8	3.7	2.7	2.2	2.8	2.9	0.0	5.8	
0.5	4	8:10	55.4	49.6	8803	38.2	31.1	24.9	16.2	11.9	5.9	3.8	2.8	2.3	2.8	2.9	0.0	5.8	
0.6	1	8:11	55.4	49.9	5927	18.2	15.3	12.5	8.4	6.7	3.6	2.3	1.7	1.4	3.0	3.5	0.0	7.7	
0.6	2	8:11	55.4	49.9	5916	18.0	15.2	12.4	8.4	6.6	3.6	2.3	1.7	1.4	3.0	3.5	0.0	7.8	
0.6	3	8:11	55.4	49.9	8935	28.6	24.1	19.9	13.6	10.7	5.7	3.6	2.6	2.2	2.9	3.4	0.0	7.5	
0.6	4	8:11	55.4	49.9	8935	28.8	24.4	20.1	13.8	10.8	5.8	3.6	2.5	2.1	2.8	3.4	0.0	7.5	
0.7	1	8:12	53.6	49.9	5905	20.7	17.1	13.8	9.2	7.2	3.8	2.4	1.7	1.4	2.8	3.3	0.0	7.0	
0.7	2	8:12	53.6	49.9	5905	20.6	17.0	13.8	9.2	7.2	3.9	2.4	1.8	1.5	2.8	3.3	0.0	7.0	
0.7	3	8:12	53.6	49.9	8891	32.5	26.8	22.0	14.9	11.5	6.0	3.7	2.7	2.3	2.7	3.2	0.0	6.7	
0.7	4	8:12	53.6	49.9	8880	32.7	27.0	22.2	15.0	11.6	6.1	3.8	2.8	2.3	2.7	3.2	0.0	6.7	
0.8																			TWP 60,B-,B-18,WB"
0.8	1	8:14	53.6	49.9	5949	17.2	15	12.1	8.2	6.5	3.5	2.2	1.5	1.3	3.1	3.6	0.0	8.1	
0.8	2	8:14	53.6	49.9	5927	17.1	14.6	12.1	8.1	6.4	3.5	2.2	1.5	1.3	3.1	3.6	0.0	8.2	
0.8	3	8:14	53.6	49.9	8913	26.7	22.9	18.9	13.0	10.2	5.4	3.4	2.4	2.0	3.0	3.5	0.0	7.9	
0.8	4	8:14	53.6	49.9	8902	27.0	23.1	19.2	13.1	10.3	5.5	3.5	2.3	2.0	3.0	3.5	0.0	7.8	
0.9	1	8:15	53.6	50.0	5982	15.1	12.7	10.3	7.0	5.5	3.2	2.0	1.4	1.1	3.5	3.7	0.0	9.0	
0.9	2	8:15	53.6	50.0	5960	14.9	12.5	10.2	6.9	5.5	3.1	2.0	1.5	1.1	3.5	3.7	0.0	9.1	
0.9	3	8:15	53.6	50.0	9011	23.3	19.5	16.1	11.1	8.8	4.9	3.1	2.3	1.8	3.4	3.7	0.0	8.8	
0.9	4	8:15	53.6	50.0	8968	23.4	19.6	16.2	11.1	8.8	5.0	3.1	2.3	1.8	3.3	3.7	0.0	8.8	
1.0	1	8:16	53.6	50.0	5905	23.7	18.9	14.2	8.7	6.2	3.0	2.0	1.4	1.2	3.6	2.8	0.0	6.0	
1.0	2	8:16	53.6	50.0	5873	23.4	18.6	14.1	8.6	6.1	3.0	2.0	1.4	1.2	3.6	2.8	0.0	6.1	
1.0	3	8:16	53.6	50.0	8836	36.5	29.2	22.4	14.0	9.9	4.7	3.0	2.3	1.9	3.4	2.8	0.0	5.9	
1.0	4	8:16	53.6	50.0	8825	36.9	29.5	22.7	14.3	10.1	4.8	3.0	2.3	1.9	3.4	2.8	0.0	5.8	
1.0																			TWP 60,IC,TWP 117,EB"

American Engineering Testing, Inc.
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St. Paul, Minnesota 55114
Phone: (651) 659-9001
Fax: (651) 659-1379

AET Project No. 28-01314
County: Paulding
Test Date: Oct 9, 2014
Section: 30
Roadway: C-60
From: T-117
To: C-123

Prev. Day's Avg. Air Temp.: 50 °F
Total AC: 3.4 in.
Daily ESALs: 9.0
Pavement Condition Index: 63
Haul Truck ESALs: 2,145
Soil Type: P
Draught Adjustment Factor: 0.00
Seasonal Correction Factor: 1.75

Design Period: 10 Years
Projection Factor: 1.2
Growth Factor: 11.07
10-year Design ESALs: 38,526
Design Period: 20 Years
Projection Factor: 1.6
Growth Factor: 24.91
20-year Design ESALs: 83,966

Station	Drop	Time	Air °F	Bit °F	Load	D1	D2	D3	D4	D5	D6	D7	D8	D9	Effective Values CBR %	Effective Values SN inches	Overlay Thickness inches	Spring Capacity tons/axle	Comments
1.0																			TWP 60,IC,TWP 117,EB"
1.0	1	8:17	53.6	49.9	5949	16.0	13.5	11.1	7.7	6.4	3.8	2.3	1.7	1.3	2.9	3.5	0.0	8.7	
1.0	2	8:17	53.6	49.9	5916	15.7	13.4	11.1	7.8	6.3	3.7	2.4	1.6	1.2	2.9	3.5	0.0	8.8	
1.0	3	8:17	53.6	49.9	8946	24.9	21.1	17.7	12.5	10.2	6.0	3.7	2.5	2.0	2.8	3.5	0.0	8.5	
1.0	4	8:17	53.6	49.9	8946	25.1	21.3	17.8	12.7	10.3	6.0	3.7	2.6	2.0	2.7	3.5	0.0	8.5	
1.1	1	8:18	53.6	49.8	5916	17.7	14.7	11.9	7.9	6.2	3.4	2.2	1.6	1.2	3.2	3.1	0.0	7.9	
1.1	2	8:18	53.6	49.8	5905	17.5	14.6	11.9	7.9	6.2	3.4	2.2	1.5	1.2	3.2	3.1	0.0	7.9	
1.1	3	8:18	53.6	49.8	8913	27.9	23.2	19.1	12.9	10.1	5.4	3.5	2.5	2.0	3.0	3.0	0.0	7.6	
1.1	4	8:18	53.6	49.8	8902	28.0	23.4	19.4	13.1	10.1	5.5	3.6	2.5	2.0	3.0	3.1	0.0	7.6	
1.2	1	8:19	53.6	49.7	5916	19.9	16.8	13.5	8.8	6.8	3.5	2.2	1.5	1.2	3.1	2.8	0.0	7.1	
1.2	2	8:19	53.6	49.7	5873	19.6	16.5	13.3	8.7	6.7	3.4	2.1	1.5	1.1	3.1	2.8	0.0	7.2	
1.2	3	8:19	53.6	49.7	8836	31.1	26.4	21.4	14.3	10.9	5.4	3.3	2.4	1.9	3.0	2.8	0.0	6.9	
1.2	4	8:19	53.6	49.7	8858	31.5	26.8	21.8	14.6	11.1	5.5	3.4	2.5	2.1	2.9	2.8	0.0	6.8	
1.3																			TWP 60,B-,B-19,EB"
1.3	1	8:20	53.6	49.6	5949	15.7	13.6	11.4	7.9	6.7	4.1	2.7	1.9	1.4	2.7	3.7	0.0	8.9	
1.3	2	8:20	53.6	49.6	5949	15.6	13.5	11.3	7.9	6.7	4.1	2.6	1.9	1.4	2.7	3.7	0.0	8.9	
1.3	3	8:20	53.6	49.6	8957	24.6	21.3	18.0	12.8	10.7	6.4	4.2	2.9	2.3	2.6	3.7	0.0	8.6	
1.3	4	8:20	53.6	49.6	8957	24.8	21.4	18.1	12.9	10.8	6.4	4.2	2.9	2.3	2.6	3.7	0.0	8.6	
1.4	1	8:21	53.6	49.5	5895	24.0	19.8	15.5	10.0	7.6	4.1	2.7	1.9	1.5	2.6	2.7	0.1	6.2	
1.4	2	8:21	53.6	49.5	5873	23.8	19.7	15.4	9.9	7.6	4.1	2.7	1.9	1.5	2.6	2.7	0.0	6.2	
1.4	3	8:21	53.6	49.5	8825	36.6	30.4	24.2	16.0	12.1	6.5	4.2	3.0	2.4	2.5	2.7	0.1	6.1	
1.4	4	8:21	53.6	49.5	8814	37.0	30.8	24.6	16.3	12.3	6.6	4.2	3.0	2.5	2.5	2.7	0.2	6.0	
1.5	1	8:22	53.6	49.0	5884	20.6	16.8	13.3	8.9	6.9	3.9	2.5	1.7	1.4	2.8	2.9	0.0	6.9	
1.5	2	8:22	53.6	49.0	5873	20.3	16.6	13.2	8.8	6.9	3.8	2.5	1.7	1.4	2.8	2.9	0.0	7.0	
1.5	3	8:22	53.6	49.0	8803	31.5	25.7	20.8	14.2	11.1	6.0	3.8	2.7	2.3	2.7	2.9	0.0	6.9	
1.5	4	8:22	53.6	49.0	8847	31.8	26.1	21.2	14.4	11.3	6.1	3.9	2.7	2.3	2.7	2.9	0.0	6.8	
1.6	1	8:23	53.6	49.3	5862	16.1	13.6	11.1	7.5	6.1	3.5	2.2	1.5	1.2	3.1	3.3	0.0	8.5	
1.6	2	8:23	53.6	49.3	5862	15.9	13.5	11.0	7.5	6.1	3.4	2.2	1.5	1.2	3.1	3.3	0.0	8.5	
1.6	3	8:23	53.6	49.3	8858	25.1	21.1	17.4	12.1	9.8	5.4	3.4	2.4	1.9	3.0	3.3	0.0	8.3	
1.6	4	8:23	53.6	49.3	8880	25.3	21.3	17.6	12.2	9.9	5.5	3.5	2.4	1.9	3.0	3.3	0.0	8.2	
1.7	1	8:24	53.6	50.3	5971	12.1	10.3	8.5	5.9	5.0	3.1	2.1	1.5	1.2	3.6	3.9	0.0	10.7	
1.7	2	8:24	53.6	50.3	5993	11.9	10	8.5	5.9	5.0	3.1	2.0	1.5	1.2	3.6	3.9	0.0	10.8	
1.7	3	8:24	53.6	50.3	9044	18.6	15.8	13.2	9.3	7.8	4.7	3.2	2.2	1.8	3.5	3.9	0.0	10.6	
1.7	4	8:24	53.6	50.3	9033	18.6	15.8	13.2	9.4	7.8	4.8	3.2	2.3	1.8	3.5	3.9	0.0	10.6	
1.8																			TWP 60,B-,B-20,WB"
1.8	1	8:26	53.6	49.4	5895	16.4	13.6	11.0	7.4	6.0	3.4	2.2	1.6	1.3	3.2	3.2	0.0	8.3	
1.8	2	8:26	53.6	49.4	5905	16.3	13.6	11.0	7.4	6.0	3.4	2.2	1.6	1.3	3.2	3.3	0.0	8.4	
1.8	3	8:26	53.6	49.4	8946	25.2	21.0	17.2	11.8	9.5	5.4	3.4	2.5	2.1	3.0	3.3	0.0	8.3	
1.8	4	8:26	53.6	49.4	8946	25.4	21.2	17.4	12.0	9.6	5.4	3.4	2.5	2.1	3.0	3.3	0.0	8.3	
1.9	1	8:27	53.6	49.2	5862	18.3	15.0	11.9	7.7	6.1	3.2	1.9	1.4	1.1	3.4	2.9	0.0	7.5	
1.9	2	8:27	53.6	49.2	5840	18.1	14.8	11.8	7.7	6.0	3.1	1.9	1.4	1.1	3.4	2.9	0.0	7.6	
1.9	3	8:27	53.6	49.2	8858	28.1	23.0	18.6	12.4	9.6	4.9	3.0	2.2	1.8	3.3	2.9	0.0	7.4	
1.9	4	8:27	53.6	49.2	8858	28.4	23.3	18.8	12.6	9.7	4.9	3.1	2.2	1.8	3.3	2.9	0.0	7.4	
2.0	1	8:28	53.6	49.1	5905	17.8	15.2	12.5	8.5	6.9	3.7	2.2	1.5	1.2	2.9	3.2	0.0	7.9	
2.0	2	8:28	53.6	49.1	5862	17.6	15	12.4	8.5	6.8	3.7	2.2	1.4	1.2	2.9	3.2	0.0	7.9	
2.0	3	8:28	53.6	49.1	8869	27.7	23.7	19.6	13.7	11.0	5.9	3.5	2.4	1.9	2.7	3.2	0.0	7.7	
2.0	4	8:28	53.6	49.1	8847	27.8	23.9	19.8	13.9	11.1	6.0	3.5	2.4	2.0	2.7	3.2	0.0	7.7	
2.1																			TWP 60,IC,CR 123,EB"

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AET Project No. 28-01314
County: Paulding
Test Date: Oct 9, 2014
Section: 31
Roadway: C-60
From: C-123
To: T-131

Prev. Day's Avg. Air Temp.: 50 °F
Total AC: 2.7 in.
Daily ESALs: 9.0
Pavement Condition Index: 77
Haul Truck ESALs: 2,041
Soil Type: P
Draught Adjustment Factor: 0.00
Seasonal Correction Factor: 1.75

Design Period: 10 Years
Projection Factor: 1.2
Growth Factor: 11.07
10-year Design ESALs: 38,422
Design Period: 20 Years
Projection Factor: 1.6
Growth Factor: 24.91
20-year Design ESALs: 83,862

															Effective Values		Overlay	Spring	
															CBR	SN	Thickness	Capacity	
Station	**Drop**	**Time**	**Air °F**	**Bit °F**	**Load**	**D1**	**D2**	**D3**	**D4**	**D5**	**D6**	**D7**	**D8**	**D9**	**%**	**inches**	**inches**	**tons/axle**	**Comments**
2.1																			TWP 60,IC,CR 123,EB"
2.1	1	8:29	53.6	49.4	5960	12.8	10.9	9.1	6.3	5.2	3.1	2.0	1.4	1.1	3.6	3.7	0.0	12.1	
2.1	2	8:29	53.6	49.4	5938	12.6	10.8	8.9	6.2	5.2	3.0	2.0	1.4	1.1	3.6	3.8	0.0	12.2	
2.1	3	8:29	53.6	49.4	9000	19.9	16.9	14.1	9.9	8.2	4.8	3.1	2.2	1.7	3.5	3.7	0.0	11.9	
2.1	4	8:29	53.6	49.4	9044	20.1	17.1	14.2	10.0	8.3	4.8	3.1	2.2	1.7	3.4	3.7	0.0	11.8	
2.1	1	8:30	53.6	49.6	5916	16.5	13.9	11.3	7.6	6.0	3.3	2.1	1.5	1.2	3.3	3.2	0.0	9.9	
2.1	2	8:30	53.6	49.6	5905	16.3	13.8	11.2	7.5	6.0	3.3	2.1	1.5	1.2	3.3	3.2	0.0	10.0	
2.1	3	8:30	53.6	49.6	8924	25.5	21.5	17.6	12.1	9.5	5.1	3.3	2.3	1.9	3.2	3.2	0.0	9.7	
2.1	4	8:30	53.6	49.6	8924	25.7	21.7	17.7	12.2	9.6	5.2	3.2	2.3	1.9	3.2	3.2	0.0	9.7	
2.2	1	8:31	53.6	49.7	5851	21.7	17.7	13.9	8.9	6.6	3.4	2.1	1.5	1.2	3.2	2.6	0.0	7.8	
2.2	2	8:31	53.6	49.7	5851	21.6	17.6	13.9	8.9	6.6	3.4	2.1	1.5	1.2	3.2	2.6	0.0	7.8	
2.2	3	8:31	53.6	49.7	8814	33.6	27.5	21.9	14.5	10.7	5.3	3.3	2.4	2.0	3.0	2.6	0.0	7.6	
2.2	4	8:31	53.6	49.7	8814	34.0	28.0	22.4	14.6	10.9	5.4	3.3	2.5	2.1	3.0	2.6	0.0	7.5	
2.3	1	8:32	53.6	49.5	5927	14.5	12.3	10.1	6.8	5.6	3.3	2.1	1.5	1.2	3.3	3.5	0.0	11.0	
2.3	2	8:32	53.6	49.5	5927	14.4	12.2	10.0	6.7	5.5	3.2	2.1	1.5	1.2	3.4	3.5	0.0	11.0	
2.3	3	8:32	53.6	49.5	8989	22.4	18.8	15.5	10.7	8.7	5.0	3.3	2.4	1.9	3.3	3.5	0.0	10.8	
2.3	4	8:32	53.6	49.5	8978	22.5	18.9	15.6	10.8	8.7	5.0	3.3	2.4	1.9	3.3	3.5	0.0	10.8	
2.3																			TWP 60,B-,B-21,EB"
2.4	1	8:33	53.6	49.7	5818	26.9	21.2	15.8	9.4	6.6	3.3	2.2	1.6	1.3	3.2	2.2	0.7	6.4	
2.4	2	8:33	53.6	49.7	5818	26.8	21.3	15.8	9.4	6.6	3.3	2.2	1.6	1.3	3.2	2.2	0.7	6.4	
2.4	3	8:33	53.6	49.7	8760	40.7	32.6	24.8	15.2	10.6	5.2	3.4	2.5	2.1	3.1	2.3	0.7	6.4	
2.4	4	8:33	53.6	49.7	8716	41.1	32.9	25.2	15.5	10.8	5.3	3.5	2.5	2.1	3.0	2.3	0.7	6.3	
2.5	1	8:34	53.6	49.6	5807	27.1	21.8	16.4	9.7	6.8	3.1	2.0	1.5	1.2	3.4	2.2	0.7	6.3	
2.5	2	8:34	53.6	49.6	5807	26.9	21.6	16.4	9.7	6.8	3.2	2.1	1.5	1.2	3.4	2.2	0.7	6.3	
2.5	3	8:34	53.6	49.6	8727	41.3	33.3	25.8	15.9	11.1	5.0	3.3	2.4	2.0	3.2	2.2	0.7	6.2	
2.5	4	8:34	53.6	49.6	8716	41.6	33.6	26.2	16.2	11.3	5.1	3.3	2.5	2.0	3.2	2.2	0.8	6.2	
2.6	1	8:35	53.6	49.5	5884	21.9	17.9	14.1	8.8	6.5	3.2	2.1	1.4	1.2	3.4	2.5	0.0	7.7	
2.6	2	8:35	53.6	49.5	5840	21.6	17.7	13.9	8.8	6.4	3.1	2.2	1.3	1.1	3.4	2.5	0.0	7.7	
2.6	3	8:35	53.6	49.5	8814	33.6	27.4	21.9	14.1	10.3	5.1	3.2	2.5	2.0	3.2	2.6	0.0	7.6	
2.6	4	8:35	53.6	49.5	8825	34.0	27.8	22.2	14.4	10.4	5.1	3.3	2.5	2.0	3.2	2.5	0.0	7.5	
2.7	1	8:36	53.6	49.3	5927	17.1	14.2	11.4	7.5	5.9	3.2	2.0	1.5	1.2	3.4	3.0	0.0	9.5	
2.7	2	8:36	53.6	49.3	5873	16.8	13.9	11.2	7.4	5.9	3.2	2.0	1.5	1.1	3.4	3.1	0.0	9.6	
2.7	3	8:36	53.6	49.3	8902	26.4	21.9	17.9	12.0	9.4	5.1	3.2	2.3	1.9	3.2	3.1	0.0	9.4	
2.7	4	8:36	53.6	49.3	8902	26.6	22	18.0	12.1	9.6	5.1	3.2	2.3	1.9	3.2	3.1	0.0	9.3	
2.8	1	8:37	53.6	49.5	5818	25.3	20.4	15.0	8.9	6.1	2.9	1.9	1.3	1.2	3.7	2.2	0.5	6.6	
2.8	2	8:37	53.6	49.5	5774	25.0	20.2	15.0	8.8	6.1	2.9	2.0	1.3	1.2	3.7	2.2	0.4	6.6	
2.8	3	8:37	53.6	49.5	8727	38.6	31.5	23.9	14.6	10.1	4.7	3.0	2.2	1.9	3.4	2.2	0.5	6.6	
2.8	4	8:37	53.6	49.5	8716	39.0	31.9	24.3	14.9	10.3	4.7	3.1	2.2	1.9	3.4	2.2	0.5	6.5	
2.9																			TWP 60,B-,B-22,WB"
2.9	1	8:38	53.6	49.6	5774	29.7	23.9	17.7	10.2	7.0	3.4	2.4	1.8	1.4	3.1	2.1	1.0	5.8	
2.9	2	8:38	53.6	49.6	5763	29.6	23.9	17.8	10.3	7.0	3.4	2.4	1.8	1.5	3.1	2.1	1.0	5.8	
2.9	3	8:38	53.6	49.6	8683	45.4	37.0	28.2	17.0	11.5	5.4	3.7	2.9	2.4	3.0	2.1	1.1	5.8	
2.9	4	8:38	53.6	49.6	8639	45.9	37.5	28.8	17.3	11.7	5.5	3.8	2.9	2.4	2.9	2.1	1.1	5.7	
3.0	1	8:39	53.6	49.4	5851	23.7	19.2	14.9	9.4	7.0	3.6	2.4	1.9	1.6	3.0	2.5	0.1	7.2	
3.0	2	8:39	53.6	49.4	5829	23.5	19.0	14.9	9.4	7.0	3.6	2.4	1.9	1.6	2.9	2.5	0.1	7.3	
3.0	3	8:39	53.6	49.4	8749	36.2	29.3	23.3	15.1	11.2	5.7	3.7	2.9	2.5	2.8	2.6	0.2	7.1	
3.0	4	8:39	53.6	49.4	8749	36.7	30	23.7	15.4	11.4	5.8	3.8	2.8	2.5	2.8	2.5	0.2	7.1	
3.1	1	8:40	53.6	49.6	5730	33.7	26.1	19.8	11.9	8.1	3.8	2.5	1.9	1.6	2.8	2.0	1.5	5.2	
3.1	2	8:40	53.6	49.6	5720	33.4	25.9	19.8	11.9	8.0	3.8	2.5	1.9	1.6	2.8	2.0	1.5	5.3	
3.1	3	8:40	53.6	49.6	8574	51.9	40.4	31.5	19.6	13.2	5.9	3.9	3.1	2.6	2.6	2.0	1.6	5.1	
3.1	4	8:40	53.6	49.6	8541	52.6	41.1	32.0	20.0	13.4	6.0	4.0	3.1	2.6	2.6	2.0	1.6	5.0	
3.1																			TWP 60,IC,TWP 131,WB"

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AET Project No. 28-01314
County: Paulding
Test Date: Oct 9, 2014
Section: 32
Roadway: T-48
From: US 127
To: C-107

Prev. Day's Avg. Air Temp.: 50 °F
Total AC: 4.2 in.
Daily ESALs: 3.0
Pavement Condition Index: 85
Haul Truck ESALs: 1,335
Soil Type: P
Draught Adjustment Factor: 0.00
Seasonal Correction Factor: 1.71

Design Period: 10 Years
Projection Factor: 1.2
Growth Factor: 11.07
10-year Design ESALs: 13,462
Design Period: 20 Years
Projection Factor: 1.6
Growth Factor: 24.91
20-year Design ESALs: 28,609

Station	Drop	Time	Air °F	Bit °F	Load	D1	D2	D3	D4	D5	D6	D7	D8	D9	Effective Values CBR %	Effective Values SN inches	Overlay Thickness inches	Spring Capacity tons/axle	Comments
0.0																			TWP 48,IC,HWY 127,WB"
0.0	1	8:50	55.4	50.3	5895	21.1	17.6	14.3	9.4	7.3	3.6	2.3	1.6	1.3	3.0	2.6	0.0	6.8	
0.0	2	8:50	55.4	50.3	5916	21.1	17.7	14.2	9.5	7.3	3.8	2.3	1.6	1.2	2.9	2.7	0.0	6.9	
0.0	3	8:50	55.4	50.3	8847	33.6	28.1	22.9	15.5	11.8	5.9	3.5	2.5	2.0	2.8	2.6	0.0	6.5	
0.0	4	8:50	55.4	50.3	8836	33.9	28.3	23.1	15.7	12.0	5.9	3.5	2.5	2.0	2.7	2.6	0.0	6.5	
0.1	1	8:51	55.4	50.5	5785	27.6	22	16.1	9.8	6.7	3.1	2.0	1.5	1.3	3.5	2.0	0.1	5.2	
0.1	2	8:51	55.4	50.5	5785	27.5	21.5	16.1	9.8	6.7	3.1	2.0	1.5	1.3	3.5	2.0	0.1	5.2	
0.1	3	8:51	55.4	50.5	8650	44.2	34.5	26.4	16.4	11.1	4.8	3.1	2.4	2.0	3.3	2.0	0.3	4.9	
0.1	4	8:51	55.4	50.5	8629	44.6	34.7	26.7	16.6	11.3	4.9	3.1	2.4	2.0	3.2	2.0	0.4	4.9	
0.2	1	8:52	55.4	50.4	5862	25.0	20.6	16.0	9.9	7.1	3.4	2.1	1.6	1.3	3.2	2.2	0.0	5.8	
0.2	2	8:52	55.4	50.4	5862	24.8	20.5	15.9	9.9	7.1	3.3	2.0	1.6	1.3	3.2	2.2	0.0	5.8	
0.2	3	8:52	55.4	50.4	8771	39.8	32.8	25.8	16.5	11.6	5.3	3.2	2.5	2.1	3.0	2.2	0.0	5.5	
0.2	4	8:52	55.4	50.4	8760	40.0	33.0	26.1	16.6	11.8	5.3	3.2	2.4	2.1	3.0	2.2	0.0	5.5	
0.3																			TWP 48,B-,B-47,WB"
0.3	1	8:54	55.4	50.5	5829	24.2	20.3	16.3	10.6	8.0	3.9	2.3	1.7	1.5	2.8	2.4	0.0	6.0	
0.3	2	8:54	55.4	50.5	5807	24.0	20.1	16.2	10.6	7.9	3.8	2.3	1.7	1.4	2.8	2.4	0.0	6.0	
0.3	3	8:54	55.4	50.5	8727	39.4	32.7	26.6	17.6	13.0	6.0	3.5	2.7	2.3	2.7	2.3	0.0	5.6	
0.3	4	8:54	55.4	50.5	8705	39.8	32.9	26.7	17.7	13.0	6.1	3.6	2.7	2.3	2.6	2.3	0.0	5.6	
0.4	1	8:55	55.4	50.6	5741	28.5	23.0	18.0	11.2	8.1	3.9	2.4	1.8	1.4	2.7	2.2	0.2	5.1	
0.4	2	8:55	55.4	50.6	5785	28.5	23.0	18.1	11.3	8.2	3.9	2.5	1.9	1.5	2.7	2.2	0.2	5.2	
0.4	3	8:55	55.4	50.6	8618	45.7	36.7	29.2	18.6	13.3	6.1	3.8	2.8	2.4	2.6	2.1	0.4	4.9	
0.4	4	8:55	55.4	50.6	8618	46.3	37.3	29.6	18.9	13.5	6.2	3.9	2.9	2.4	2.5	2.1	0.5	4.8	
0.5	1	8:56	55.4	50.5	5971	12.2	10.7	9.1	6.6	5.7	3.5	2.2	1.6	1.1	3.1	4.0	0.0	10.8	
0.5	2	8:56	55.4	50.5	5938	12.1	10.6	9.1	6.6	5.7	3.5	2.2	1.6	1.2	3.1	4.0	0.0	10.8	
0.5	3	8:56	55.4	50.5	8989	18.9	16.5	14.1	10.4	8.9	5.4	3.5	2.4	1.9	3.1	4.0	0.0	10.6	
0.5	4	8:56	55.4	50.5	8989	19.0	16.5	14.1	10.5	8.9	5.4	3.5	2.5	1.9	3.1	4.0	0.0	10.6	
0.6	1	8:57	55.4	51.1	5873	19.0	15.7	12.2	7.9	6.0	3.2	2.1	1.4	1.2	3.4	2.7	0.0	7.3	
0.6	2	8:57	55.4	51.1	5829	18.7	15.5	12.1	7.8	5.9	3.2	2.1	1.5	1.2	3.3	2.7	0.0	7.4	
0.6	3	8:57	55.4	51.1	8869	29.6	24.5	19.4	12.9	9.6	5.0	3.3	2.3	1.9	3.2	2.7	0.0	7.2	
0.6	4	8:57	55.4	51.1	8858	29.8	24.6	19.5	13.0	9.7	5.1	3.3	2.4	1.9	3.2	2.7	0.0	7.1	
0.7	1	8:58	55.4	51.2	5807	27.6	22.3	17.2	10.6	7.3	3.5	2.3	1.7	1.4	3.0	2.1	0.1	5.3	
0.7	2	8:58	55.4	51.2	5818	27.5	22.3	17.3	10.7	7.4	3.5	2.3	1.7	1.4	3.0	2.1	0.1	5.3	
0.7	3	8:58	55.4	51.2	8705	44.1	35.5	27.8	17.7	12.1	5.6	3.5	2.7	2.2	2.9	2.1	0.3	5.0	
0.7	4	8:58	55.4	51.2	8672	44.5	35.9	28.2	18.0	12.2	5.7	3.5	2.7	2.2	2.8	2.1	0.3	5.0	
0.8																			TWP 48,B-,B-46,EB"
0.8	1	8:59	55.4	51.3	5741	30.4	24.9	19.2	12.0	8.4	3.8	2.4	1.8	1.5	2.8	2.0	0.4	4.8	
0.8	2	8:59	55.4	51.3	5752	30.3	24.8	19.2	12.0	8.5	3.8	2.4	1.8	1.5	2.8	2.1	0.4	4.9	
0.8	3	8:59	55.4	51.3	8563	49.1	39.9	31.3	20.0	13.9	6.0	3.7	2.9	2.4	2.6	2.0	0.7	4.5	
0.8	4	8:59	55.4	51.3	8574	49.6	40.4	31.7	20.2	14.1	6.0	3.7	2.9	2.4	2.6	2.0	0.7	4.5	
0.9	1	9:00	55.4	51.3	5709	32.6	25.8	19.6	11.9	8.2	3.5	2.2	1.7	1.4	3.0	1.9	0.7	4.5	
0.9	2	9:00	55.4	51.3	5752	32.6	26	19.8	12.1	8.4	3.6	2.3	1.7	1.5	2.9	1.9	0.6	4.5	
0.9	3	9:00	55.4	51.3	8541	51.4	41.0	31.8	19.8	13.6	5.6	3.4	2.7	2.3	2.8	1.9	0.8	4.3	
0.9	4	9:00	55.4	51.3	8552	52.1	41.7	32.3	20.1	13.9	5.7	3.5	2.7	2.4	2.8	1.9	0.9	4.3	
1.0	1	9:01	55.4	51.3	5785	28.8	22.9	17.9	11.1	8.1	4.0	2.5	1.9	1.5	2.7	2.2	0.2	5.1	
1.0	2	9:01	55.4	51.3	5752	28.3	22.6	17.7	11.0	8.1	4.0	2.4	1.8	1.5	2.7	2.2	0.2	5.2	
1.0	3	9:01	55.4	51.3	8683	44.8	36.3	28.9	18.5	13.3	6.2	3.9	2.9	2.4	2.6	2.2	0.3	5.0	
1.0	4	9:01	55.4	51.3	8683	45.1	37.0	29.5	19.0	13.6	6.3	4.0	2.9	2.5	2.5	2.2	0.4	5.0	
1.0																			TWP 48,IC,TWP 107,WB"

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AET Project No. 28-01314
County: Paulding
Test Date: Oct 9, 2014
Section: 33
Roadway: T-48
From: C-107
To: T-95

Prev. Day's Avg. Air Temp.: 50 °F
Total AC: 2.6 in.
Daily ESALs: 3.0
Pavement Condition Index: 85
Haul Truck ESALs: 1,740
Soil Type: P
Draught Adjustment Factor: 0.00
Seasonal Correction Factor: 1.75

Design Period: 10 Years
Projection Factor: 1.2
Growth Factor: 11.07
10-year Design ESALs: 13,867
Design Period: 20 Years
Projection Factor: 1.6
Growth Factor: 24.91
20-year Design ESALs: 29,014

															Effective Values		Overlay	Spring	
															CBR	SN	Thickness	Capacity	
Station	**Drop**	**Time**	**Air °F**	**Bit °F**	**Load**	**D1**	**D2**	**D3**	**D4**	**D5**	**D6**	**D7**	**D8**	**D9**	**%**	**inches**	**inches**	**tons/axle**	**Comments**
1.0																			TWP 48,IC,TWP 107,WB"
1.0	1	9:02	55.4	52.1	5763	32.9	25.7	18.0	9.7	6.4	3.3	2.3	1.7	1.4	3.2	2.4	0.0	5.3	
1.0	2	9:02	55.4	52.1	5774	32.8	25.9	18.3	9.9	6.5	3.3	2.3	1.8	1.4	3.2	2.4	0.0	5.3	
1.0	3	9:02	55.4	52.1	8618	53.5	42.0	30.1	16.6	10.6	5.0	3.5	2.7	2.3	3.2	2.3	0.0	4.9	
1.0	4	9:02	55.4	52.1	8585	54.1	42.7	30.8	17.1	10.8	5.1	3.6	2.8	2.3	3.1	2.3	0.0	4.9	
1.1	1	9:03	55.4	51.3	5566	49.3	35.7	24.0	12.3	6.9	3.2	2.6	2.1	1.8	3.2	1.9	0.5	3.5	
1.1	2	9:03	55.4	51.3	5534	49.0	35.8	24.3	12.4	7.0	3.3	2.6	2.1	1.8	3.1	2.0	0.5	3.5	
1.1	3	9:03	55.4	51.3	8235	77.7	57.0	39.9	21.1	11.4	4.5	3.9	3.3	2.7	3.3	1.9	0.5	3.3	
1.1	4	9:03	55.4	51.3	8213	79.2	58.3	41.1	21.8	11.8	4.7	4.0	3.3	2.7	3.2	1.9	0.6	3.3	
1.2	1	9:04	55.4	51.9	5665	47.2	35.0	22.5	10.9	6.1	3.2	2.5	1.9	1.5	3.2	2.0	0.3	3.7	
1.2	2	9:04	55.4	51.9	5632	46.6	34.3	22.5	10.9	6.1	3.2	2.4	1.8	1.5	3.2	2.0	0.3	3.8	
1.2	3	9:04	55.4	51.9	8377	70.8	52.7	35.9	18.3	9.8	4.6	3.7	2.9	2.3	3.3	2.0	0.3	3.7	
1.2	4	9:04	55.4	51.9	8399	72.2	54.0	37.0	18.8	10.0	4.7	3.8	2.9	2.4	3.3	2.0	0.4	3.6	
1.3																			TWP 48,B-,B-47,WB"
1.3	1	9:06	55.4	52.1	5720	38.9	28.3	19.7	10.3	6.4	3.2	2.3	1.7	1.4	3.2	2.2	0.0	4.5	
1.3	2	9:06	55.4	52.1	5730	38.7	28.4	20.0	10.6	6.5	3.3	2.3	1.8	1.4	3.2	2.2	0.0	4.6	
1.3	3	9:06	55.4	52.1	8519	58.9	44.1	31.7	17.3	10.5	4.9	3.5	2.7	2.2	3.2	2.2	0.0	4.5	
1.3	4	9:06	55.4	52.1	8497	59.7	45.1	32.6	17.8	10.7	5.0	3.5	2.7	2.2	3.1	2.2	0.0	4.4	
1.4	1	9:07	55.4	51.8	5490	54.9	41.3	27.8	13.1	7.0	3.1	2.5	2.0	1.7	3.2	1.8	0.7	3.2	
1.4	2	9:07	55.4	51.8	5512	54.3	41.2	28.1	13.2	7.1	3.2	2.5	2.0	1.7	3.2	1.8	0.7	3.2	
1.4	3	9:07	55.4	51.8	8169	82.5	62.9	44.6	22.2	11.6	4.5	3.7	3.1	2.7	3.4	1.8	0.7	3.1	
1.4	4	9:07	55.4	51.8	8158	84.3	64.4	45.8	22.9	11.9	4.6	3.8	3.1	2.7	3.3	1.8	0.7	3.1	
1.5	1	9:08	55.4	51.9	5632	48.5	36.2	25.1	12.8	7.3	3.3	2.4	1.9	1.7	3.1	2.0	0.4	3.6	
1.5	2	9:08	55.4	51.9	5643	48.5	36.5	25.4	13.0	7.4	3.3	2.4	2.0	1.8	3.1	2.0	0.4	3.7	
1.5	3	9:08	55.4	51.9	8344	73.7	55.8	40.2	21.6	12.2	4.8	3.6	2.8	2.6	3.2	1.9	0.4	3.5	
1.5	4	9:08	55.4	51.9	8322	75.1	57.1	41.3	22.2	12.4	4.8	3.6	2.8	2.6	3.2	1.9	0.5	3.5	
1.6	1	9:09	55.4	52.5	5840	28.7	21.9	15.6	8.8	6.0	3.2	2.3	1.6	1.2	3.3	2.6	0.0	6.1	
1.6	2	9:09	55.4	52.5	5818	28.5	21.9	15.7	8.7	5.9	3.2	2.3	1.6	1.2	3.3	2.6	0.0	6.1	
1.6	3	9:09	55.4	52.5	8727	43.5	33.3	24.4	14.1	9.5	4.9	3.4	2.5	2.0	3.3	2.6	0.0	6.0	
1.6	4	9:09	55.4	52.5	8727	44.3	34.1	25.1	14.4	9.7	4.9	3.4	2.6	2.0	3.2	2.6	0.0	5.9	
1.7	1	9:10	57.2	52.6	5643	45.8	34.6	24.1	12.6	7.3	3.3	2.4	1.9	1.6	3.2	2.0	0.3	3.9	
1.7	2	9:10	57.2	52.6	5643	45.6	34.7	24.4	12.7	7.3	3.3	2.4	1.9	1.6	3.1	2.0	0.3	3.9	
1.7	3	9:10	57.2	52.6	8421	68.6	52.7	38.2	20.9	12.0	4.9	3.6	2.9	2.5	3.1	2.0	0.3	3.8	
1.7	4	9:10	57.2	52.6	8377	69.9	53.8	39.3	21.4	12.1	5.0	3.7	2.9	2.5	3.1	2.0	0.3	3.8	
1.8																			TWP 48,B-,B-48,EB"
1.8	1	9:11	57.2	52.9	5643	47.5	36	24.4	12.1	6.8	3.2	2.4	1.9	1.6	3.2	2.0	0.3	3.7	
1.8	2	9:11	57.2	52.9	5654	47.2	35.9	24.6	12.2	6.8	3.2	2.4	1.9	1.6	3.2	2.0	0.3	3.7	
1.8	3	9:11	57.2	52.9	8388	71.8	54.7	38.8	20.1	10.9	4.6	3.6	2.9	2.5	3.4	2.0	0.3	3.6	
1.8	4	9:11	57.2	52.9	8355	73.0	55.7	39.7	20.5	11.1	4.7	3.7	2.9	2.5	3.3	1.9	0.4	3.6	
1.9	1	9:12	57.2	52.4	5676	39.7	30.0	20.6	10.9	6.5	3.2	2.3	1.7	1.4	3.3	2.2	0.0	4.4	
1.9	2	9:12	57.2	52.4	5676	39.2	29.9	20.7	10.9	6.6	3.2	2.4	1.7	1.4	3.2	2.2	0.0	4.5	
1.9	3	9:12	57.2	52.4	8454	59.5	45.7	32.5	17.8	10.6	4.8	3.5	2.7	2.2	3.2	2.2	0.0	4.4	
1.9	4	9:12	57.2	52.4	8454	60.4	46.8	33.5	18.3	10.9	4.9	3.6	2.8	2.3	3.2	2.2	0.0	4.3	
2.0	1	9:13	57.2	52.2	5785	34.6	25.7	17.7	8.9	4.8	2.0	1.5	1.0	0.9	5.4	2.1	0.0	4.8	
2.0	2	9:13	57.2	52.2	5730	34.1	25.5	17.7	8.9	4.8	2.0	1.5	1.1	0.9	5.2	2.1	0.0	4.9	
2.0	3	9:13	57.2	52.2	8629	52.4	39.6	28.1	14.7	7.8	3.0	2.2	1.8	1.5	5.3	2.1	0.0	4.7	
2.0	4	9:13	57.2	52.2	8639	53.2	40.3	28.8	15.1	8.2	3.0	2.3	1.8	1.5	5.3	2.1	0.0	4.7	
2.1	1	9:14	57.2	52.0	5709	32.0	23.7	15.9	8.3	4.8	2.2	1.6	1.2	1.0	4.7	2.2	0.0	5.2	
2.1	2	9:14	57.2	52.0	5741	32.0	24	16.3	8.4	4.9	2.2	1.6	1.2	1.0	4.7	2.2	0.0	5.2	
2.1	3	9:14	57.2	52.0	8563	51.3	38.3	26.4	14.0	7.8	3.1	2.4	1.9	1.5	5.0	2.1	0.0	4.8	
2.1	4	9:14	57.2	52.0	8552	51.9	39.3	27.2	14.5	8.1	3.2	2.5	1.9	1.5	4.9	2.1	0.0	4.8	
2.1																			TWP 48,IC,TWP 95,WB"

American Engineering Testing, Inc.
550 Cleveland Avenue North
St. Paul, Minnesota 55114
Phone: (651) 659-9001
Fax: (651) 659-1379

AET Project No. 28-01314
County: Paulding
Test Date: Oct 9, 2014
Section: 34
Roadway: T-48
From: US 127
To: T-117

Prev. Day's Avg. Air Temp.: 50 °F
Total AC: 1.4 in.
Daily ESALs: 3.0
Pavement Condition Index: 75
Haul Truck ESALs: 1,800
Soil Type: P
Draught Adjustment Factor: 0.00
Seasonal Correction Factor: 1.79

Design Period: 10 Years
Projection Factor: 1.2
Growth Factor: 11.07
10-year Design ESALs: 13,927
Design Period: 20 Years
Projection Factor: 1.6
Growth Factor: 24.91
20-year Design ESALs: 29,074

Station	Drop	Time	Air °F	Bit °F	Load	D1	D2	D3	D4	D5	D6	D7	D8	D9	Effective Values CBR %	Effective Values SN inches	Overlay Thickness inches	Spring Capacity tons/axle	Comments
0.0																			TWP 48,IC,HWY 127,EB"
0.0	1	9:20	57.2	52.7	5949	14.2	11.2	8.9	6.3	5.2	3.1	2.0	1.3	0.9	3.6	3.8	0.0	12.0	
0.0	2	9:20	57.2	52.7	5949	14.0	11.1	8.8	6.2	5.2	3.1	2.0	1.3	0.9	3.6	3.8	0.0	12.2	
0.0	3	9:20	57.2	52.7	8978	21.3	17.2	13.8	9.8	8.1	4.7	2.9	2.1	1.6	3.5	3.8	0.0	12.1	
0.0	4	9:20	57.2	52.7	8957	21.3	17.3	13.9	9.8	8.1	4.7	3.0	2.1	1.6	3.5	3.8	0.0	12.1	
0.1	1	9:21	57.2	52.5	5927	19.8	15.5	11.4	7.3	5.7	3.3	2.2	1.4	1.2	3.3	3.0	0.0	9.2	
0.1	2	9:21	57.2	52.5	5916	19.6	15.4	11.3	7.3	5.7	3.3	2.1	1.5	1.2	3.3	3.1	0.0	9.2	
0.1	3	9:21	57.2	52.5	8891	30.4	24.1	18.3	11.9	9.0	5.0	3.4	2.3	2.0	3.3	3.0	0.0	9.0	
0.1	4	9:21	57.2	52.5	8902	30.6	24.5	18.7	12.2	9.1	5.1	3.5	2.4	1.9	3.2	3.0	0.0	9.0	
0.2	1	9:22	57.2	52.4	5916	18.2	14.7	11.3	7.6	6.0	3.4	2.2	1.4	1.1	3.2	3.3	0.0	9.9	
0.2	2	9:22	57.2	52.4	5905	18.0	14.6	11.3	7.5	6.0	3.4	2.2	1.5	1.1	3.2	3.3	0.0	10.0	
0.2	3	9:22	57.2	52.4	8891	27.6	22.6	17.8	12.1	9.5	5.3	3.4	2.2	1.8	3.1	3.3	0.0	9.8	
0.2	4	9:22	57.2	52.4	8891	27.7	22.8	18.0	12.1	9.6	5.3	3.3	2.3	1.9	3.1	3.3	0.0	9.8	
0.3																			TWP 48,B-,B-44,EB"
0.3	1	9:24	57.2	52.9	5884	18.5	15.1	11.6	7.8	6.3	3.6	2.3	1.6	1.2	3.0	3.4	0.0	9.8	
0.3	2	9:24	57.2	52.9	5873	18.2	14.9	11.4	7.7	6.3	3.6	2.3	1.6	1.2	3.0	3.4	0.0	9.9	
0.3	3	9:24	57.2	52.9	8869	28.3	23.3	18.3	12.6	10.1	5.6	3.6	2.5	2.0	2.9	3.4	0.0	9.7	
0.3	4	9:24	57.2	52.9	8858	28.4	23.5	18.5	12.7	10.1	5.6	3.6	2.5	2.0	2.9	3.4	0.0	9.6	
0.4	1	9:25	57.2	52.9	5840	17.6	14.0	10.9	7.7	6.3	3.6	2.2	1.5	1.3	3.0	3.5	0.0	10.1	
0.4	2	9:25	57.2	52.9	5851	17.4	14.0	10.9	7.6	6.3	3.6	2.2	1.5	1.3	3.0	3.5	0.0	10.2	
0.4	3	9:25	57.2	52.9	8869	27.0	21.9	17.2	12.3	10.0	5.6	3.4	2.4	2.0	2.9	3.5	0.0	10.1	
0.4	4	9:25	57.2	52.9	8858	27.1	22.0	17.5	12.4	10.1	5.6	3.5	2.4	2.0	2.9	3.5	0.0	10.0	
0.5	1	9:26	57.2	53.0	5851	19.6	15.4	12.0	8.0	6.2	3.3	2.1	1.5	1.1	3.2	3.1	0.0	9.2	
0.5	2	9:26	57.2	53.0	5840	19.4	15.3	11.9	7.9	6.2	3.3	2.1	1.5	1.1	3.2	3.1	0.0	9.2	
0.5	3	9:26	57.2	53.0	8858	30.1	24.0	19.1	12.9	9.8	5.1	3.2	2.3	1.8	3.2	3.1	0.0	9.1	
0.5	4	9:26	57.2	53.0	8847	30.3	24.3	19.4	13.1	10.0	5.2	3.3	2.3	1.8	3.1	3.1	0.0	9.0	
0.6	1	9:27	57.2	53.2	5840	22.8	17.8	12.8	7.7	5.7	3.1	2.0	1.4	1.0	3.5	2.7	0.0	8.0	
0.6	2	9:27	57.2	53.2	5829	22.5	17.5	12.7	7.7	5.6	3.1	2.0	1.5	1.1	3.5	2.7	0.0	8.0	
0.6	3	9:27	57.2	53.2	8803	34.0	26.9	20.0	12.4	8.9	4.7	3.2	2.2	1.7	3.4	2.7	0.0	8.0	
0.6	4	9:27	57.2	53.2	8814	34.3	27.2	20.3	12.5	9.0	4.8	3.2	2.3	1.8	3.4	2.7	0.0	8.0	
0.7	1	9:28	57.2	52.5	5873	17.4	13.7	10.3	6.8	5.4	3.2	2.1	1.5	1.1	3.4	3.3	0.0	10.1	
0.7	2	9:28	57.2	52.5	5862	17.2	13.6	10.1	6.7	5.3	3.1	2.1	1.5	1.1	3.4	3.3	0.0	10.2	
0.7	3	9:28	57.2	52.5	8880	26.4	21	16.1	10.7	8.5	4.9	3.3	2.4	1.9	3.3	3.3	0.0	10.1	
0.7	4	9:28	57.2	52.5	8880	26.5	21.2	16.3	10.9	8.6	4.9	3.3	2.4	1.8	3.3	3.3	0.0	10.1	
0.8																			TWP 48,B-,B-43,WB"
0.8	1	9:29	57.2	52.5	5884	13.7	10.7	8.2	5.6	4.7	2.9	2.0	1.4	1.1	3.7	3.8	0.0	12.2	
0.8	2	9:29	57.2	52.5	5873	13.5	10.6	8.1	5.5	4.7	2.9	2.0	1.4	1.1	3.7	3.8	0.0	12.4	
0.8	3	9:29	57.2	52.5	8968	20.8	16.4	12.9	8.9	7.4	4.5	3.1	2.3	1.8	3.6	3.8	0.0	12.3	
0.8	4	9:29	57.2	52.5	8946	20.8	16.4	12.9	9.0	7.4	4.5	3.1	2.2	1.8	3.6	3.8	0.0	12.3	
0.9	1	9:30	57.2	53.0	5873	18.4	14.7	11.0	7.0	5.5	3.1	2.1	1.5	1.2	3.5	3.1	0.0	9.6	
0.9	2	9:30	57.2	53.0	5851	18.2	14.6	10.9	7.0	5.5	3.1	2.1	1.6	1.3	3.5	3.1	0.0	9.7	
0.9	3	9:30	57.2	53.0	8880	27.9	22.5	17.3	11.2	8.7	4.8	3.2	2.4	2.0	3.4	3.1	0.0	9.6	
0.9	4	9:30	57.2	53.0	8880	28.1	22.8	17.6	11.4	8.8	4.8	3.2	2.5	2.1	3.4	3.1	0.0	9.6	
1.0	1	9:31	57.2	52.8	5884	17.5	13.9	10.1	6.4	4.9	2.7	1.8	1.4	1.1	3.9	3.0	0.0	9.9	
1.0	2	9:31	57.2	52.8	5840	17.2	13.7	10.0	6.4	4.9	2.7	1.8	1.4	1.1	3.9	3.1	0.0	10.0	
1.0	3	9:31	57.2	52.8	8858	26.4	21	15.9	10.4	7.8	4.2	2.8	2.1	1.7	3.9	3.1	0.0	9.9	
1.0	4	9:31	57.2	52.8	8847	26.5	21.4	16.1	10.6	7.9	4.3	2.8	2.2	1.7	3.8	3.1	0.0	9.9	
1.0																			TWP 48,IC,TWP 117,EB"

American Engineering Testing, Inc.
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St. Paul, Minnesota 55114
Phone: (651) 659-9001
Fax: (651) 659-1379

AET Project No. 28-01314
County: Paulding
Test Date: Oct 9, 2014
Section: 35
Roadway: T-48
From: T-117
To: C-123

Prev. Day's Avg. Air Temp.: 50 °F
Total AC: 8.5 in.
Daily ESALs: 3.0
Pavement Condition Index: 44
Haul Truck ESALs: 586
Soil Type: P
Draught Adjustment Factor: 0.00
Seasonal Correction Factor: 1.45

Design Period: 10 Years
Projection Factor: 1.2
Growth Factor: 11.07
10-year Design ESALs: 12,713
Design Period: 20 Years
Projection Factor: 1.6
Growth Factor: 24.91
20-year Design ESALs: 27,860

Station	Drop	Time	Air °F	Bit °F	Load	D1	D2	D3	D4	D5	D6	D7	D8	D9	Effective Values CBR %	Effective Values SN inches	Overlay Thickness inches	Spring Capacity tons/axle	Comments
1.0																			TWP 48,IC,TWP 117,EB"
1.0	1	9:32	55.4	52.9	5763	21.2	18.1	14.8	9.8	7.1	2.7	1.9	1.3	1.1	3.9	2.2	0.0	6.2	
1.0	2	9:32	55.4	52.9	5763	21.1	18.0	14.8	9.8	7.1	2.7	1.9	1.3	1.1	3.9	2.2	0.0	6.2	
1.0	3	9:32	55.4	52.9	8639	35.3	30.0	24.8	16.5	12.0	4.2	2.7	2.1	1.8	3.8	2.1	0.0	5.6	
1.0	4	9:32	55.4	52.9	8650	35.7	30.3	25.1	16.9	12.1	4.3	2.8	2.1	1.8	3.7	2.1	0.0	5.6	
1.1	1	9:33	55.4	52.6	5796	25.1	20.8	16.8	11.2	8.4	4.0	2.1	1.4	1.4	2.7	2.4	0.0	5.6	
1.1	2	9:33	55.4	52.6	5774	24.8	20.5	16.6	11.0	8.3	3.9	2.1	1.5	1.4	2.7	2.3	0.0	5.6	
1.1	3	9:33	55.4	52.6	8672	41.5	34.2	27.8	18.8	14.0	6.2	3.2	2.6	2.2	2.6	2.2	0.1	5.1	
1.1	4	9:33	55.4	52.6	8661	41.9	34.4	28.0	18.9	14.0	6.3	3.2	2.7	2.2	2.5	2.2	0.2	5.1	
1.2	1	9:34	55.4	52.5	5752	22.8	19.5	15.9	10.6	8.1	4.0	2.3	1.7	1.4	2.6	2.5	0.0	6.0	
1.2	2	9:34	55.4	52.5	5741	22.7	19.5	15.8	10.6	8.1	4.0	2.3	1.7	1.4	2.6	2.5	0.0	6.0	
1.2	3	9:34	55.4	52.5	8639	37.1	31.6	26.0	17.7	13.4	6.4	3.6	2.7	2.4	2.5	2.5	0.0	5.6	
1.2	4	9:34	55.4	52.5	8639	37.3	31.8	26.2	17.9	13.6	6.5	3.6	2.8	2.4	2.4	2.5	0.0	5.6	
1.3																			TWP 48,B-,B-42,EB"
1.3	1	9:37	55.4	52.4	5829	15.7	13.4	11.2	7.8	6.6	3.7	2.2	1.4	1.1	2.9	3.2	0.0	8.3	
1.3	2	9:37	55.4	52.4	5829	15.6	13.4	11.1	7.8	6.5	3.7	2.2	1.5	1.2	2.9	3.2	0.0	8.4	
1.3	3	9:37	55.4	52.4	8782	25.1	21.3	18.0	12.8	10.6	5.8	3.4	2.3	1.8	2.8	3.2	0.0	7.9	
1.3	4	9:37	55.4	52.4	8793	25.2	21.4	18.1	12.8	10.7	5.9	3.5	2.3	1.9	2.7	3.2	0.0	7.9	
1.4	1	9:38	55.4	52.3	5829	16.1	13.8	11.6	8.1	6.8	3.8	2.3	1.5	1.2	2.8	3.2	0.0	8.2	
1.4	2	9:38	55.4	52.3	5840	16.0	13.8	11.6	8.1	6.8	3.8	2.3	1.6	1.2	2.8	3.3	0.0	8.2	
1.4	3	9:38	55.4	52.3	8803	26.2	22.4	19.0	13.5	11.1	6.1	3.6	2.4	2.0	2.6	3.2	0.0	7.7	
1.4	4	9:38	55.4	52.3	8814	26.3	22.5	19.1	13.6	11.2	6.2	3.6	2.5	2.0	2.6	3.2	0.0	7.7	
1.5	1	9:39	55.4	52.3	5785	16.9	14.4	12.1	8.4	6.9	3.8	2.2	1.5	1.3	2.8	3.1	0.0	7.8	
1.5	2	9:39	55.4	52.3	5807	16.8	14.4	12.1	8.4	6.9	3.8	2.2	1.5	1.2	2.8	3.1	0.0	7.9	
1.5	3	9:39	55.4	52.3	8782	27.3	23.2	19.6	13.8	11.2	6.1	3.5	2.4	2.0	2.6	3.0	0.0	7.4	
1.5	4	9:39	55.4	52.3	8782	27.4	23.3	19.7	13.9	11.3	6.1	3.5	2.4	2.0	2.6	3.0	0.0	7.4	
1.6	1	9:40	55.4	52.1	5807	19.1	16.1	13.3	9.0	7.2	3.8	2.2	1.5	1.2	2.8	2.8	0.0	7.0	
1.6	2	9:40	55.4	52.1	5829	19.1	16.2	13.4	9.1	7.3	3.9	2.2	1.5	1.2	2.8	2.8	0.0	7.1	
1.6	3	9:40	55.4	52.1	8771	31.2	26.4	22.1	15.3	12.1	6.2	3.5	2.4	2.0	2.6	2.8	0.0	6.6	
1.6	4	9:40	55.4	52.1	8760	31.4	26.6	22.3	15.4	12.2	6.3	3.6	2.5	2.0	2.5	2.8	0.0	6.6	
1.7	1	9:41	55.4	52.0	5807	17.9	15.7	13.3	9.6	8.0	4.6	2.8	1.9	1.3	2.3	3.3	0.0	7.6	
1.7	2	9:41	55.4	52.0	5807	17.9	15.6	13.3	9.5	8.0	4.6	2.8	1.9	1.4	2.3	3.3	0.0	7.6	
1.7	3	9:41	55.4	52.0	8782	29.0	25.1	21.5	15.6	12.9	7.3	4.4	2.9	2.2	2.2	3.2	0.0	7.2	
1.7	4	9:41	55.4	52.0	8738	29.0	25.1	21.5	15.5	12.9	7.4	4.4	2.9	2.2	2.2	3.2	0.0	7.1	
1.8																			TWP 48,B-,B-41,WB"
1.8	1	9:43	55.4	52.3	5741	19.4	16.2	13.1	8.9	6.8	3.5	1.9	1.4	1.2	3.0	2.7	0.0	6.8	
1.8	2	9:43	55.4	52.3	5785	19.4	16.2	13.2	8.9	6.9	3.5	2.0	1.4	1.2	3.0	2.7	0.0	6.9	
1.8	3	9:43	55.4	52.3	8716	31.9	26.6	21.8	15.0	11.3	5.6	3.0	2.2	1.9	2.9	2.6	0.0	6.4	
1.8	4	9:43	55.4	52.3	8705	32.0	26.8	22.1	15.1	11.4	5.6	3.2	2.3	2.0	2.9	2.6	0.0	6.4	
1.9	1	9:44	55.4	52.6	5807	19.3	16.3	13.0	8.4	6.5	3.3	1.9	1.2	1.0	3.2	2.6	0.0	6.9	
1.9	2	9:44	55.4	52.6	5796	19.1	16.3	13.0	8.5	6.6	3.4	1.9	1.3	1.0	3.1	2.7	0.0	6.9	
1.9	3	9:44	55.4	52.6	8782	32.5	27.0	21.6	14.3	10.8	5.3	2.8	2.0	1.6	3.0	2.5	0.0	6.3	
1.9	4	9:44	55.4	52.6	8727	32.6	27.2	21.8	14.4	10.9	5.4	2.9	2.0	1.7	3.0	2.5	0.0	6.3	
2.0	1	9:45	55.4	52.7	5720	25.8	21.3	17.6	12.4	10.7	6.9	4.7	3.2	2.4	1.5	3.1	0.0	5.7	
2.0	2	9:45	55.4	52.7	5730	25.6	21.2	17.5	12.4	10.8	6.9	4.7	3.3	2.4	1.5	3.1	0.0	5.7	
2.0	3	9:45	55.4	52.7	8639	41.6	34.0	28.2	20.3	17.0	10.5	6.9	4.8	3.6	1.5	2.9	0.0	5.3	
2.0	4	9:45	55.4	52.7	8639	42.0	34.3	28.5	20.5	17.2	10.6	7.0	4.9	3.6	1.5	2.9	0.0	5.3	
2.1																			TWP 48,IC,CR 123,WB"

American Engineering Testing, Inc.
550 Cleveland Avenue North
St. Paul, Minnesota 55114
Phone: (651) 659-9001
Fax: (651) 659-1379

AET Project No. 28-01314
County: Paulding
Test Date: Oct 9, 2014
Section: 36
Roadway: T-48
From: C-123
To: T-131

Prev. Day's Avg. Air Temp.: 50 °F
Total AC: 4.0 in.
Daily ESALs: 3.0
Pavement Condition Index: 83
Haul Truck ESALs: 623
Soil Type: P
Draught Adjustment Factor: 0.00
Seasonal Correction Factor: 1.71

Design Period: 10 Years
Projection Factor: 1.2
Growth Factor: 11.07
10-year Design ESALs: 12,750
Design Period: 20 Years
Projection Factor: 1.6
Growth Factor: 24.91
20-year Design ESALs: 27,897

															Effective Values		Overlay	Spring	
															CBR	SN	Thickness	Capacity	
Station	**Drop**	**Time**	**Air °F**	**Bit °F**	**Load**	**D1**	**D2**	**D3**	**D4**	**D5**	**D6**	**D7**	**D8**	**D9**	**%**	**inches**	**inches**	**tons/axle**	**Comments**
2.1																			TWP 48,IC,CR 123,WB"
2.1	1	9:46	55.4	52.8	5960	11.0	9.5	7.9	5.6	4.7	2.9	1.8	1.3	0.8	3.8	4.1	0.0	11.6	
2.1	2	9:46	55.4	52.8	5960	10.9	9.4	7.9	5.5	4.7	2.8	1.8	1.2	0.8	3.8	4.1	0.0	11.7	
2.1	3	9:46	55.4	52.8	9033	17.3	14.8	12.5	9.0	7.5	4.5	2.8	1.7	1.2	3.7	4.0	0.0	11.3	
2.1	4	9:46	55.4	52.8	9011	17.3	14.7	12.4	9.0	7.5	4.5	2.8	1.7	1.2	3.7	4.0	0.0	11.3	
2.1	1	9:47	55.4	52.6	5960	12.8	11.0	9.3	6.5	5.4	3.2	2.0	1.3	1.0	3.4	3.8	0.0	10.4	
2.1	2	9:47	55.4	52.6	5949	12.7	10.9	9.2	6.4	5.4	3.2	1.9	1.3	1.0	3.5	3.8	0.0	10.4	
2.1	3	9:47	55.4	52.6	8989	20.6	17.6	15.0	10.6	8.7	5.0	3.0	2.1	1.6	3.3	3.7	0.0	9.9	
2.1	4	9:47	55.4	52.6	9000	20.8	17.7	15.1	10.7	8.8	5.0	3.0	2.1	1.6	3.3	3.7	0.0	9.8	
2.2	1	9:48	55.4	52.7	5916	9.9	8.7	7.4	5.4	4.7	3.0	2.0	1.3	1.0	3.7	4.5	0.0	12.5	
2.2	2	9:48	55.4	52.7	5905	9.8	8.6	7.4	5.3	4.7	3.0	1.9	1.3	1.0	3.7	4.5	0.0	12.6	
2.2	3	9:48	55.4	52.7	9000	15.4	13.4	11.6	8.5	7.4	4.6	3.0	2.0	1.5	3.6	4.4	0.0	12.3	
2.2	4	9:48	55.4	52.7	9022	15.5	13.4	11.6	8.5	7.4	4.6	3.0	2.0	1.5	3.6	4.5	0.0	12.3	
2.3	1	9:49	55.4	52.6	5949	10.1	8.6	7.2	5.1	4.4	2.7	1.8	1.2	0.9	4.0	4.2	0.0	12.3	
2.3	2	9:49	55.4	52.6	5927	10.0	8.5	7.2	5.1	4.4	2.7	1.8	1.2	0.9	4.0	4.2	0.0	12.4	
2.3	3	9:49	55.4	52.6	9011	16.0	13.6	11.6	8.3	7.0	4.2	2.7	1.9	1.5	3.9	4.1	0.0	11.9	
2.3	4	9:49	55.4	52.6	9022	16.1	14	11.6	8.3	7.0	4.3	2.8	1.9	1.5	3.9	4.1	0.0	11.9	
2.4																			TWP 48,B-,B-40,WB"
2.4	1	9:51	55.4	52.8	5971	11.3	9.6	7.9	5.5	4.5	2.7	1.6	1.1	0.8	4.1	3.8	0.0	11.3	
2.4	2	9:51	55.4	52.8	5938	11.2	9.5	7.9	5.4	4.5	2.6	1.6	1.1	0.8	4.1	3.8	0.0	11.3	
2.4	3	9:51	55.4	52.8	9000	17.7	15.1	12.5	8.8	7.2	4.1	2.5	1.7	1.3	4.0	3.8	0.0	11.0	
2.4	4	9:51	55.4	52.8	8989	17.8	15.1	12.6	8.8	7.2	4.1	2.5	1.7	1.3	4.0	3.8	0.0	10.9	
2.5	1	9:52	55.4	52.6	5949	7.5	6.7	5.8	4.4	3.9	2.6	1.7	1.2	0.8	4.2	5.2	0.0	15.2	
2.5	2	9:52	55.4	52.6	5949	7.4	6.6	5.8	4.4	3.9	2.6	1.7	1.1	0.8	4.1	5.3	0.0	15.3	
2.5	3	9:52	55.4	52.6	9066	11.7	10.3	9.0	6.9	6.2	4.1	2.7	1.8	1.3	4.1	5.2	0.0	15.0	
2.5	4	9:52	55.4	52.6	9044	11.7	10.3	9.0	6.9	6.2	4.1	2.7	1.8	1.3	4.1	5.2	0.0	15.0	
2.6	1	9:53	55.4	52.8	5938	10.2	8.8	7.3	5.2	4.5	2.8	1.8	1.2	0.9	3.9	4.2	0.0	12.2	
2.6	2	9:53	55.4	52.8	5938	10.1	8.7	7.3	5.2	4.5	2.8	1.8	1.2	0.9	3.9	4.3	0.0	12.3	
2.6	3	9:53	55.4	52.8	9022	15.9	13.6	11.5	8.4	7.1	4.3	2.8	1.8	1.4	3.8	4.2	0.0	12.0	
2.6	4	9:53	55.4	52.8	9000	15.9	14	11.5	8.4	7.1	4.4	2.8	1.8	1.4	3.8	4.2	0.0	12.0	
2.7	1	9:54	55.4	52.8	5905	11.2	9.5	8.0	5.7	4.8	3.0	2.0	1.3	1.0	3.6	4.1	0.0	11.4	
2.7	2	9:54	55.4	52.8	5960	11.1	9.5	8.0	5.7	4.9	3.0	2.0	1.4	1.0	3.6	4.1	0.0	11.5	
2.7	3	9:54	55.4	52.8	9022	17.6	14.9	12.7	9.1	7.7	4.7	3.0	2.1	1.6	3.5	4.1	0.0	11.2	
2.7	4	9:54	55.4	52.8	9022	17.6	15.0	12.7	9.1	7.8	4.7	3.1	2.1	1.6	3.5	4.1	0.0	11.2	
2.8	1	9:55	55.4	52.8	5895	13.8	11.6	9.5	6.6	5.4	3.0	1.9	1.2	0.9	3.6	3.5	0.0	9.7	
2.8	2	9:55	55.4	52.8	5873	13.5	11.4	9.4	6.5	5.3	3.0	1.8	1.2	0.9	3.6	3.5	0.0	9.8	
2.8	3	9:55	55.4	52.8	8957	21.6	18.2	15.2	10.6	8.6	4.7	2.8	1.9	1.5	3.5	3.5	0.0	9.5	
2.8	4	9:55	55.4	52.8	8924	21.6	18.2	15.2	10.6	8.6	4.7	2.8	1.8	1.5	3.5	3.5	0.0	9.4	
2.8																			TWP 48,B-,B-39,EB"
2.9	1	9:56	55.4	52.7	5905	14.4	12.3	10.0	6.7	5.3	2.8	1.6	1.0	0.8	3.9	3.2	0.0	9.3	
2.9	2	9:56	55.4	52.7	5905	14.3	12.2	9.9	6.7	5.3	2.8	1.6	1.0	0.8	3.9	3.3	0.0	9.3	
2.9	3	9:56	55.4	52.7	8902	22.5	19.2	15.8	10.9	8.6	4.4	2.5	1.6	1.3	3.7	3.2	0.0	9.0	
2.9	4	9:56	55.4	52.7	8913	22.6	19.3	16.0	11.0	8.7	4.4	2.5	1.6	1.3	3.7	3.2	0.0	9.0	
3.0	1	9:57	55.4	52.8	5927	13.2	11.6	9.8	7.0	6.0	3.6	2.3	1.6	1.2	3.0	4.0	0.0	10.3	
3.0	2	9:57	55.4	52.8	5927	13.1	11.5	9.7	6.9	6.0	3.6	2.3	1.6	1.2	3.0	4.0	0.0	10.3	
3.0	3	9:57	55.4	52.8	8957	20.7	18.2	15.5	11.3	9.6	5.6	3.6	2.4	1.8	2.9	3.9	0.0	10.0	
3.0	4	9:57	55.4	52.8	8946	20.8	18.3	15.6	11.3	9.6	5.7	3.5	2.5	1.9	2.9	4.0	0.0	10.0	
3.1	1	9:58	55.4	52.8	5873	12.2	10.6	8.9	6.3	5.4	3.3	2.1	1.4	1.1	3.2	4.0	0.0	10.7	
3.1	2	9:58	55.4	52.8	5905	12.3	10.6	8.9	6.4	5.5	3.4	2.1	1.4	1.1	3.2	4.1	0.0	10.8	
3.1	3	9:58	55.4	52.8	8924	19.6	16.8	14.2	10.3	8.8	5.3	3.3	2.2	1.7	3.1	4.0	0.0	10.4	
3.1	4	9:58	55.4	52.8	8902	19.6	16.8	14.3	10.3	8.8	5.3	3.3	2.2	1.7	3.1	4.0	0.0	10.3	
3.1																			TWP 48,IC,TWP 131,WB"

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Phone: (651) 659-9001
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AET Project No. 28-00917
County: Paulding
Test Date: Oct 9, 2014
Section: 37
Roadway: T-48
From: T-131
To: T-137

Allowable Rut: 2 inches
Allowable Serviceability Loss: 2.5
Daily ESALs: 3.0
Haul ESALs: 0
Annual Growth: 2.2%
Surface Condition Rating: 68.0
Soil Type: P
Seasonal Correction Factor: 1.79

Design Period: 10 Years
Projection Factor: 1.2
Growth Factor: 11.07
10-year Design ESALs: 12,127
Design Period: 20 Years
Projection Factor: 1.6
Growth Factor: 24.91
20-year Design ESALs: 27,274

Station	Drop	Time	Air °F	Bit °F	Load	D9	D1	D2	D3	D4	D5	D6	D7	D8	Effective Values CBR	Effective Values SN inches	Overlay Thickness inches	TONN Capacity tons/axle	Comments
3.1																			TWP 48,IC,TWP 131,WB"
3.1	1	9:59	55.4	49.8	5534		43.0	32.5	24.8	14.4	8.9	3.5	2.3	1.7	2.7	1.7	0.0	4.8	
3.1	2	9:59	55.4	49.8	5555		42.6	32.4	24.9	14.7	9.1	3.6	2.3	1.7	2.7	1.7	0.0	4.9	
3.1	3	9:59	55.4	49.8	8268		65.8	50.2	39.3	23.9	14.4	5.1	3.3	2.6	2.5	1.7	0.0	4.7	
3.1	4	9:59	55.4	49.8	8268		71.2	50.8	40.3	24.5	14.7	5.3	3.5	2.7	2.4	1.6	0.0	4.4	
3.2	1	10:00	55.4	49.7	5271		64.9	48.2	33.0	16.7	9.0	3.6	2.8	2.1	2.5	1.3	1.0	3.1	
3.2	2	10:00	55.4	49.7	5249		63.6	47.4	33.1	16.9	9.0	3.6	2.7	2.1	2.5	1.3	0.9	3.2	
3.2	3	10:00	55.4	49.7	7808		95.1	72.8	51.9	27.8	14.3	4.8	3.7	3.0	2.4	1.3	0.7	3.1	
3.2	4	10:00	55.4	49.7	7819		96.7	73.9	53.8	29.2	14.8	4.9	3.8	3.0	2.3	1.3	0.7	3.1	
3.3	1	10:01	55.4	49.7	5348		58.8	43.6	30.0	15.2	7.3	1.8	1.3	1.1	3.2	1.3	0.0	3.5	
3.3	2	10:01	55.4	49.7	5391		57.7	43.3	30.1	15.3	7.4	1.8	1.4	1.1	3.2	1.3	0.0	3.6	
3.3	3	10:01	55.4	49.7	7972		88.8	69.1	47.9	25.1	11.8	1.9	1.6	1.5	2.9	1.3	0.8	3.4	
3.3	4	10:01	55.4	49.7	7950		90.0	69.7	49.0	25.5	11.8	1.9	1.6	1.5	2.9	1.3	0.9	3.4	
3.4																			TWP 48,B-,B-38,WB"
3.4	1	10:03	55.4	50.1	5435		50.3	32.8	25.5	14.2	9.6	3.2	1.9	1.5	2.5	1.5	0.0	4.1	
3.4	2	10:03	55.4	50.1	5468		49.9	32.6	25.7	14.4	9.6	3.2	1.9	1.5	2.5	1.5	0.0	4.1	
3.4	3	10:03	55.4	50.1	8104		75.9	50.4	40.2	23.0	14.1	4.1	2.5	2.2	2.5	1.5	0.0	4.0	
3.4	4	10:03	55.4	50.1	8093		77.3	51.0	41.1	23.6	14.3	4.0	2.6	2.2	2.5	1.5	0.0	4.0	
3.5	1	10:04	55.4	50.1	5249		67.8	48.7	32.9	15.8	7.2	1.6	1.7	1.6	3.2	1.2	0.7	3.0	
3.5	2	10:04	55.4	50.1	5304		67.7	48.8	33.3	16.0	7.3	1.6	1.7	1.6	3.2	1.2	0.7	3.0	
3.5	3	10:04	55.4	50.1	7765		102.1	75.2	52.4	26.1	10.8	1.2	2.1	2.2	3.1	1.2	0.8	2.9	
3.5	4	10:04	55.4	50.1	7732		104.0	76.1	53.7	26.5	10.9	1.3	2.3	2.2	3.1	1.1	0.9	2.9	
3.6	1	10:05	55.4	49.7	5326		63.8	44.0	29.5	14.3	7.2	3.2	2.2	1.5	3.2	1.2	0.4	3.2	
3.6	2	10:05	55.4	49.7	5337		62.8	43.4	29.4	14.4	7.3	3.2	2.3	1.6	3.2	1.2	0.3	3.2	
3.6	3	10:05	55.4	49.7	7940		93.8	67.8	45.9	23.4	11.3	4.4	3.2	2.3	3.1	1.2	0.2	3.2	
3.6	4	10:05	55.4	49.7	7885		93.9	68.2	46.5	24.2	11.7	4.6	3.3	2.3	2.9	1.2	1.1	3.2	
3.7	1	10:06	55.4	49.8	5468		34.2	26.0	18.9	11.3	7.4	3.2	2.0	1.4	3.2	1.8	0.0	5.9	
3.7	2	10:06	55.4	49.8	5457		33.7	25.7	18.9	11.4	7.5	3.2	2.0	1.5	3.2	1.9	0.0	6.0	
3.7	3	10:06	55.4	49.8	8289		54.1	41.0	31.0	19.1	12.3	4.9	3.0	2.2	2.9	1.8	0.0	5.7	
3.7	4	10:06	55.4	49.8	8300		54.9	41.7	31.9	19.7	12.6	4.9	3.1	2.3	2.9	1.8	0.0	5.6	
3.8	1	10:07	55.4	49.8	5249		67.2	49.1	34.3	16.3	7.9	2.7	2.3	1.9	2.9	1.2	1.5	3.0	
3.8	2	10:07	55.4	49.8	0:00		67	48.8	34.4	16.6	8.2	2.8	2.3	1.9	2.8	1.2	1.3	3.0	
3.8	3	10:07	55.4	49.8	7775		102.0	75.2	54.0	26.8	12.1	3.4	3.2	2.8	2.8	1.2	1.5	2.9	
3.8	4	10:07	55.4	49.8	7743		103.4	75.9	54.2	27.1	12.2	3.7	3.3	2.8	2.8	1.2	1.6	2.9	
3.9																			TWP 48,B-,B-37,EB"
3.9	1	10:09	55.4	49.8	5490		49.6	36.3	25.1	13.7	7.9	3.6	2.5	1.8	3.0	1.5	0.0	4.2	
3.9	2	10:09	55.4	49.8	5457		48.5	35.6	24.9	13.7	7.9	3.7	2.5	1.8	3.0	1.5	0.0	4.2	
3.9	3	10:09	55.4	49.8	8136		74.7	56.1	40.0	22.2	12.7	5.4	3.9	2.9	2.8	1.5	0.0	4.1	
3.9	4	10:09	55.4	49.8	8115		76.0	56.8	40.9	22.7	12.9	5.4	3.9	2.9	2.7	1.5	0.0	4.0	
4.0	1	10:10	55.4	49.7	5370		59.1	42.7	27.1	14.9	8.4	3.6	2.6	2.0	2.8	1.3	0.6	3.5	
4.0	2	10:10	55.4	49.7	5337		58.1	42.4	27.3	14.9	8.4	3.6	2.6	2.0	2.8	1.3	0.5	3.5	
4.0	3	10:10	55.4	49.7	7940		90.9	66.9	43.5	23.8	13.0	4.9	3.8	3.0	2.7	1.3	0.7	3.3	
4.0	4	10:10	55.4	49.7	7929		93.1	69.0	44.9	24.2	13.1	4.8	3.7	3.0	2.6	1.3	0.8	3.3	
4.1	1	10:11	55.4	49.7	5195		75.0	52.9	34.0	15.1	5.7	2.5	2.3	1.6	4.0	1.0	1.6	2.7	
4.1	2	10:11	55.4	49.7	5173		73.8	52.1	33.5	14.9	5.6	2.5	2.2	1.5	4.1	1.0	1.5	2.7	
4.1	3	10:11	55.4	49.7	7601		117.6	81.4	52.8	24.8	8.2	3.2	3.2	2.4	4.0	1.0	1.8	2.5	
4.1	4	10:11	55.4	49.7	7568		113.0	82.2	53.7	25.6	7.9	3.2	3.1	2.3	4.1	1.0	1.7	2.6	
4.1																			TWP 48,IC,TWP137,NB"

American Engineering Testing, Inc.
550 Cleveland Avenue North
St. Paul, Minnesota 55114
Phone: (651) 659-9001
Fax: (651) 659-1379

AET Project No. 28-01314
County: Paulding
Test Date: Oct 9, 2014
Section: 38
Roadway: T-137
From: T-48
To: 0.3 mi N

Prev. Day's Avg. Air Temp.: 50 °F
Total AC: 2.8 in.
Daily ESALs: 3.0
Pavement Condition Index: 69
Haul Truck ESALs: 0
Soil Type: P
Draught Adjustment Factor: 0.00
Seasonal Correction Factor: 1.75

Design Period: 10 Years
Projection Factor: 1.2
Growth Factor: 11.07
10-year Design ESALs: 12,127
Design Period: 20 Years
Projection Factor: 1.6
Growth Factor: 24.91
20-year Design ESALs: 27,274

														Effective Values		Overlay	Spring	
														CBR	SN	Thickness	Capacity	
Station	**Drop**	**Time**	**Air °F**	**Bit °F**	**Load**	**D1**	**D2**	**D3**	**D4**	**D5**	**D6**	**D7**	**D8**	**D9**	**%**	**inches**	**inches**	**tons/axle**	**Comments**
4.1																			TWP 48,IC,TWP137,NB"
4.1	1	10:12	55.4	54.1	5774	32.1	24.8	17.5	9.8	6.4	3.1	2.1	1.6	1.3	3.4	1.8	0.5	5.4	
4.1	2	10:12	55.4	54.1	5774	31.4	24.5	17.4	9.7	6.3	3.1	2.1	1.5	1.3	3.4	1.8	0.5	5.5	
4.1	3	10:12	55.4	54.1	8672	49.5	38.7	28.2	16.4	10.4	4.8	3.2	2.4	2.0	3.3	1.8	0.6	5.3	
4.1	4	10:12	55.4	54.1	8672	50.1	39.2	28.6	16.7	10.6	4.8	3.2	2.5	2.0	3.3	1.8	0.6	5.2	
4.2	1	10:13	55.4	54.2	5741	34.8	26.5	19.1	10.9	7.2	3.3	2.2	1.6	1.4	3.2	1.7	0.8	5.0	
4.2	2	10:13	55.4	54.2	5698	34.1	26.1	18.9	10.8	7.2	3.3	2.1	1.5	1.3	3.2	1.8	0.8	5.1	
4.2	3	10:13	55.4	54.2	8574	52.0	40.5	30.4	18.1	11.8	5.0	3.3	2.4	2.2	3.1	1.8	0.8	5.0	
4.2	4	10:13	55.4	54.2	8596	52.7	41.1	31.0	18.5	12.0	5.2	3.3	2.5	2.2	3.1	1.8	0.8	5.0	
4.2																			TWP 137,B-,B-36,NB"
4.3	1	10:15	55.4	53.6	5774	33.2	25.2	17.6	9.8	6.4	3.1	2.2	1.7	1.5	3.4	1.8	0.6	5.2	
4.3	2	10:15	55.4	53.6	5752	32.7	25.0	17.5	9.8	6.4	3.1	2.1	1.6	1.4	3.4	1.8	0.6	5.3	
4.3	3	10:15	55.4	53.6	8650	50.2	38.8	28.1	16.3	10.5	4.7	3.2	2.6	2.3	3.4	1.8	0.7	5.2	
4.3	4	10:15	55.4	53.6	8650	50.8	39.5	28.9	16.7	10.7	4.8	3.3	2.6	2.3	3.3	1.8	0.7	5.1	

Appendix D

Geotechnical Report Limitations and Guidelines for Use

Appendix D
Geotechnical Report Limitations and Guidelines for Use
Report No. 28-01314

D.1 REFERENCE

This appendix provides information to help you manage your risks relating to subsurface problems which are caused by construction delays, cost overruns, claims, and disputes. This information was developed and provided by ASFE[1], of which, we are a member firm.

D.2 RISK MANAGEMENT INFORMATION

D.2.1 Geotechnical Services are Performed for Specific Purposes, Persons, and Projects

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical engineering study conducted for a civil engineer may not fulfill the needs of a construction contractor or even another civil engineer. Because each geotechnical engineering study is unique, each geotechnical engineering report is unique, prepared solely for the client. No one except you should rely on your geotechnical engineering report without first conferring with the geotechnical engineer who prepared it. And no one, not even you, should apply the report for any purpose or project except the one originally contemplated.

D.2.2 Read the Full Report

Serious problems have occurred because those relying on a geotechnical engineering report did not read it all. Do not rely on an executive summary. Do not read selected elements only.

D.2.3 A Geotechnical Engineering Report is Based on A Unique Set of Project-Specific Factors

Geotechnical engineers consider a number of unique, project-specific factors when establishing the scope of a study. Typically factors include: the client's goals, objectives, and risk management preferences; the general nature of the structure involved, its size, and configuration; the location of the structure on the site; and other planned or existing site improvements, such as access roads, parking lots, and underground utilities. Unless the geotechnical engineer who conducted the study specifically indicates otherwise, do not rely on a geotechnical engineering report that was:

- not prepared for you,
- not prepared for your project,
- not prepared for the specific site explored, or
- completed before important project changes were made.

Typical changes that can erode the reliability of an existing geotechnical engineering report include those that affect:

- the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light industrial plant to a refrigerated warehouse,
- elevation, configuration, location, orientation, or weight of the proposed structure,
- composition of the design team, or
- project ownership.

As a general rule, always inform your geotechnical engineer of project changes, even minor ones, and request an assessment of their impact. Geotechnical engineers cannot accept responsibility or liability for problems that occur because their reports do not consider developments of which they were not informed.

D.2.4 Subsurface Conditions Can Change

A geotechnical engineering report is based on conditions that existed at the time the study was performed. Do not rely on a geotechnical engineering report whose adequacy may have been affected by: the passage of time; by man-made events, such as construction on or adjacent to the site; or by natural events, such as floods, earthquakes, or groundwater fluctuations. Always contact the geotechnical engineer before applying the report to determine if it is still reliable. A minor amount of additional testing or analysis could prevent major problems.

1 ASFE, 8811 Colesville Road/Suite G106, Silver Spring, MD 20910
Telephone: 301/565-2733: www.asfe.org

D.2.5 Most Geotechnical Findings Are Professional Opinions
Site exploration identified subsurface conditions only at those points where subsurface tests are conducted or samples are taken. Geotechnical engineers review field and laboratory data and then apply their professional judgment to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ, sometimes significantly, from those indicated in your report. Retaining the geotechnical engineer who developed your report to provide construction observation is the most effective method of managing the risks associated with unanticipated conditions.

D.2.6 A Geotechnical Engineering Report Is Subject to Misinterpretation
Other design team members' misinterpretation of geotechnical engineering reports has resulted in costly problems. Lower that risk by having your geotechnical engineer confer with appropriate members of the design team after submitting the report. Also retain your geotechnical engineer to review pertinent elements of the design team's plans and specifications. Contractors can also misinterpret a geotechnical engineering report. Reduce that risk by having your geotechnical engineer participate in prebid and preconstruction conferences, and by providing construction observation.

D.2.7 Do Not Redraw the Engineer's Logs
Geotechnical engineers prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in a geotechnical engineering report should never be redrawn for inclusion in architectural or other design drawings. Only photographic or electronic reproduction is acceptable, but recognizes that separating logs from the report can elevate risk.

D.2.8 Give Contractors a Complete Report and Guidance
Some owners and design professionals mistakenly believe they can make contractors liable for unanticipated subsurface conditions by limiting what they provide for bid preparation. To help prevent costly problems, give contractors the complete geotechnical engineering report, but preface it with a clearly written letter of transmittal. In the letter, advise contractors that the report was not prepared for purposes of bid development and that the report's accuracy is limited; encourage them to confer with the geotechnical engineer who prepared the report (a modest fee may be required) and/or to conduct additional study to obtain the specific types of information they need or prefer. A prebid conference can also be valuable. Be sure contractors have sufficient time to perform additional study. Only then might you be in a position to give contractors the best information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions.

D.2.9 Read Responsibility Provisions Closely
Some clients, design professionals, and contractors do not recognize that geotechnical engineering is far less exact than other engineering disciplines. This lack of understanding has created unrealistic expectations that have led to disappointments, claims, and disputes. To help reduce the risk of such outcomes, geotechnical engineers commonly include a variety of explanatory provisions in their report. Sometimes labeled "limitations" many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. Read these provisions closely. Ask questions. Your geotechnical engineer should respond fully and frankly.

D.2.10 Geoenvironmental Concerns Are Not Covered
The equipment, techniques, and personnel used to perform a geoenvironmental study differ significantly from those used to perform a geotechnical study. For that reason, a geotechnical engineering report does not usually relate any geoenvironmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. Unanticipated environmental problems have led to numerous project failures. If you have not yet obtained your own geoenvironmental information, ask your geotechnical consultant for risk management guidance. Do not rely on an environmental report prepared for someone else.

Summary: Notice of Update to October 24, 2016 Filing Regarding Compliance with Condition 25 of the Supplement – Road Use Agreement (Part 2 of 2) electronically filed by Mr. William V Vorys on behalf of Trishe Wind Ohio, LLC