

MINUTES OF THE FIFTY-SECOND MEETING
DECEMBER 6, 1952

Pursuant to adjournment the Ohio Turnpike Commission met in special open session at its offices at 361 E. Broad Street, Columbus, Ohio at 10:30 A. M. on December 6, 1952.

The meeting was called to order by the Chairman, the roll was called, and the attendance was reported to be as follows:

Present: Allen, Teagarden, Shocknessy, McKay, Linzell.

Absent: None.

The Chairman announced that a verbatim record of the proceedings of the meeting would be taken and transcribed by Mr. Ira W. Pratte, Court Reporter of Springfield, Ohio.

Resolution No. 109-1952, approving the report by the committee on guard rail was moved for adoption by Mr. Linzell, and seconded by Mr. Allen, as follows:

"RESOLVED that the Commission hereby approves the report made to it by its committee, comprised of Messrs. A. J. Allen, S. O. Linzell, R.J. Lehman and V. A. Faller, upon the use of guard rail on Ohio Turnpike Project No. 1, and adopts the criteria therein set forth in said report."

A vote by ayes and nays was taken and all members responded to roll call. The vote was as follows:

Ayes, Allen, Teagarden, McKay, Linzell, Shocknessy.

Nays, None.

The Chairman declared the resolution adopted.

Resolution No. 110-1952, approving the report by the committee on drainage criteria was moved for adoption by Mr. McKay and seconded by Mr. Teagarden, as follows:

"RESOLVED that the Commission hereby approves the report made to it by its committee under drain-

age pipe design criteria, comprised of Messrs. McKay, Teagarden, Kauer and Morrison, and adopts the criteria therein set forth."

A vote by ayes and nays was taken and all members responded to roll call. The vote was as follows:

Ayes, Allen, McKay, Teagarden, Shocknessy, Linzell.

Nays, None.

The Chairman declared the resolution adopted.

Resolution No. 111-1952, declaring the necessity of appropriating property and directing that proceedings to effect such appropriation be begun and prosecuted was moved by Mr. Teagarden and seconded by Mr. McKay, as follows:

"RESOLVED that the Commission has endeavored for a reasonable time to agree with the owner or owners of the property described herein as to the compensation to be paid therefor, but has been unable to agree with said owner or owners, and said property is needed for the construction and efficient operation of the Ohio Turnpike Project No. 1, and

"BE IT FURTHER RESOLVED that proceedings be begun and prosecuted to effect the appropriation of the following-described property from the following-named owner or owners and persons having interests therein, together with any and all abutter's rights, including access rights, appurtenant to any remaining portion of the lands of said owner or owners;

<u>Owner (s)</u>	<u>Place of Residence</u>
Hydrocoal Transportation Company	Youngstown, Ohio
Mary B. Nelson	Address Unknown
County Auditor of Mahoning County	Mahoning County Court House, Youngstown, O.
County Treasurer of Mahoning County	Mahoning County Court House, Youngstown, O.

"The aforementioned property to be appropriated is described as follows:

PARCEL NO. 199-K

Situated in the Township of Springfield, County of Mahoning and State of Ohio, and known as being part of Original Springfield Township Section No. 36, and being all that part of the lands described in the deed to Hydrocoal Transportation Company dated October 6, 1952, and recorded in Volume 686, Page 235 of Mahoning County Deed Records, lying within a strip of land 280 feet wide between parallel lines, and North-easterly line of said strip being parallel to and distant 130 feet Northeasterly, measured on a line normal to the centerline of Ohio Turnpike Project No. 1, as shown by plat recorded in Volume 33, Page 10 of Mahoning County Map Records, and the Southwesterly line of said strip being parallel to and distant 150 feet Southwesterly, measured on a line normal to said center line."

A vote by ayes and nays was taken and all members responded to roll call. The vote was as follows:

Ayes, Allen, Teagarden, McKay, Shocknessy, Linzell.

Nays, None.

The Chairman declared the resolution adopted.

Resolution No. 112-1952, rescinding Resolution No. 84-1952 was moved for adoption by Mr. Allen and seconded by Mr. Teagarden, as follows:

"WHEREAS it appears that there were certain errors in the description of the property to be appropriated contained in resolution No. 84-1952, and

"WHEREAS it is desirable that said resolution be rescinded so that negotiations may be resumed with the owners of Parcel No. 186-C on

the basis of the revised description;

"NOW, THEREFORE, BE IT

"RESOLVED that resolution No. 84-1952, directing that proceedings to appropriate property be begun and prosecuted, be and it hereby is rescinded; and

"FURTHER RESOLVED that the general counsel is hereby directed to dismiss the appropriation proceedings for parcel No. 186-C now pending in the Common Pleas Court of Mahoning County."

A vote by ayes and nays was taken and all members responded to roll call. The vote was as follows:

Ayes, Allen, McKay, Teagarden, Shocknessy, Linzell.

Nays, None.

The Chairman declared the resolution adopted.

Resolution No. 113-1952, adopting policy with respect to maintenance of grade separation structures was moved by Mr. McKay and seconded by Mr. Allen, as follows:

"RESOLVED that the Commission hereby adopts as its policy with respect to the maintenance of grade-separation structures the policy recommended to it in the written memorandum under date of December 5, 1952, signed by the Chief Engineer of the Commission, and addressed to the members of the Commission."

A vote by ayes and nays was taken and all members responded to roll call. The vote was as follows:

Ayes, Allen, Teagarden, McKay, Shocknessy, Linzell.

Nays, None.

The Chairman declared the resolution adopted.

Resolution No. 114-1952, authorizing licenses or permits in certain special instances over right-of-way of Ohio Turnpike

Project No. 1 was moved for adoption by Mr. McKay and seconded by Mr. Teagarden, as follows:

"WHEREAS in instances where the travelway of Ohio Turnpike Project No. 1 is located on structures it is normally possible to cross the right of way of Turnpike Project No. 1 beneath the structures without interfering in any way with the travelway of said Project;

"WHEREAS in some instances where the right of way of said Project divides existing ownership parcels it is to the interest of the Commission in order to mitigate damages to the separated parts of those ownership parcels to permit the owners of those parcels to utilize the right of way of said Project:

"NOW, THEREFORE, BE IT

RESOLVED that each of the Chief of the Right-of-way Section and the Executive Assistant be, and each of them hereby is, authorized to permit persons to utilize the right of way of Ohio Turnpike Project No. 1 in those places where the travelway of the Ohio Turnpike Project No. 1 passes over structures and the utilization permitted will not interfere with the travelway of said Project, when the authorization of such utilization will result in mitigation of damages to the Commission or will otherwise aid in the negotiation for the right of way involved; provided, however, that neither of them shall grant any authorization until the same shall have been approved by General Counsel, or an attorney designated by him for the purpose, by the Chief Engineer, and by the Commission's consulting engineer."

A vote by ayes and nays was taken and all members responded to roll call. The vote was as follows:

Ayes, Allen, Teagarden, McKay, Shocknessy, Linzell.

Nays, None.

The Chairman declared the resolution adopted.

The following documents, which were placed before the Commission during the meeting or had been handed to the members prior to the meeting, were filed with the Secretary-Treasurer or otherwise handled, as indicated in the following tabulation:

1. Report of the Secretary-Treasurer listing documents transmitted to each member of the Commission since December 2, 1952.
2. Report of Guard Rail Committee to Turnpike Commission, dated December 6, 1952 and signed by Messrs. A. J. Allen, S. O. Linzell, R. J. Lehman and V. A. Faller.
3. Report of Drainage Committee, as amended dated December 6, 1952 and signed by Messrs. J. Gordon McKay, O. L. Teagarden, N. J. Morrison and T. J. Kauer.
4. Recommendation dated December 6, 1952, signed by Chief of Right-of-way Section, Chief Engineer and General Counsel stating that negotiations for right-of-way parcel No. 199-K have been unsuccessful and that acquisition of this land is necessary for the construction of Ohio Turnpike Project No.1.
5. Memorandum by the Chief Engineer on "Maintenance of Structures", dated December 5, 1952.
6. Proposed General Specifications and proposed Supplemental Specifications for Ohio Turnpike Project No. 1
7. Standard Drawings for Ohio Turnpike Project No. 1
8. Memorandum by the Chief Engineer on "Standard Drawing Revisions", dated December 5, 1952.
9. Letter from the consulting engineers, dated December 5, 1952 and signed by E. J. Donnelly, pertaining to design standards, economic comparison between pavement types, adequacy of quantities and unit costs with accompanying memorandum on "Pavement Type for the Ohio Turnpike Project No. 1, dated December 5, 1952.
10. Letter from the consulting engineers, dated December 6, 1952 and signed by E. J. Donnelly, pertaining to estimates of additional engineering costs secured from each of 16 firms of consulting engineers.
11. Letter from the consulting engineers, dated December 6, 1952 and signed by E. J. Donnelly, pertaining to comments by 15 firms of contracting engineers with respect to proposed General Specifications.
12. Letter from Director of Highways to Executive Assistant, dated December 1, 1952, pertaining to unit costs of pavement items.

13. Memorandum of the Department of Highways on "Construction Specifications for Ohio Turnpike", dated November 26, 1952, attached to original transcript of proceedings of the meeting.
14. Letter from Mr. T. J. Evans, Chairman of the Pennsylvania Turnpike Commission to the Chairman of the Ohio Turnpike Commission under date of December 5, 1952, pertaining to pavement experience.
15. Report by Mr. E. L. Sheley, dated November 29, 1952, pertaining to inspection of pavement on the New Jersey Turnpike, including two bound volume of photographs.
16. Memorandum entitled "Evidence in Mandamus Proceedings" submitted to each member of the Commission by Mr. David Ralph Hertz, Attorney for Richard Shafer.
17. Memorandum entitled "The Monopolistic Character of the Portland Cement Industry" submitted to each member of the Commission by Mr. Hertz.
18. Memorandum entitled "The Effect of Turnpike Needs upon Portland Cement Scarcity" submitted to each member of the Commission by Mr. Hertz.

The Chairman declared the meeting adjourned until 1:30 P. M. on Tuesday, December 9, 1952. The time of adjournment was 6 o'clock P. M.

Approved as a correct transcript of the
Proceedings of the Ohio Turnpike Commission



A. J. Allen
Secretary-Treasurer

1 REPORT OF THE PROCEEDINGS OF MEETING OF THE OHIO TURNPIKE
2 COMMISSION HELD IN THE BLUE ROOM OF THE SENECA HOTEL,
3 COLUMBUS, OHIO, ON SATURDAY, DECEMBER 6, 1952, BEGINNING
4 AT 10:30 O'CLOCK, A. M.

5 - - -

6 COMMISSION MEMBERS PRESENT:

7 James W. Shocknessy, Chairman
8 O. L. Teagarden, Vice-Chairman
9 A. J. Allen
S. O. Linzell
J. Gordon McKay

10 - - -

11 OTHERS PRESENT:

12 Frank C. Dunbar, Jr., General Counsel, Ohio Turnpike Com-
mission.
13 John Lansdale, and Henry Crawford, of Squire, Sanders &
Dempsey, Special Counsel to Ohio Turnpike Commission.
14 John Sellar, Comptroller and Assistant Secretary-Treasurer,
Ohio Turnpike Commission.
15 T. J. Kauer, Chief Engineer, Ohio Turnpike Commission.
Charles P. Smith, Executive Assistant, Ohio Turnpike Com-
mission.
16 E. L. Sheley, Engineer, Ohio Turnpike Commission.
17 David Ralph Hertz, Robert Dow Hamilton and Paul Griffith,
Counsel for Richard Shafer.
18 E. J. Donnelly, of J. E. Greiner Company, Consulting
Engineers to Ohio Turnpike Commission.

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MORNING SESSION,

Saturday, December 6, 1952.

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CHAIRMAN SHOCKNESSY: All right, the meeting will come to order.

This is a special meeting of the Ohio Turnpike Commission called for this day and hour in this place pursuant to adjournment.

Will the secretary call the roll, please?

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Thereupon the secretary called the roll, all members being present.

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CHAIRMAN SHOCKNESSY: All members of the Commission have answered present.

Now, I request that we maintain order and silence insofar as we can except for the deliberations of the Commission.

The Chairman has no formal report to make today. There are a number of matters which will require the action of the Commission which will arise in due course.

Does the secretary-treasurer have a report?

MR. SOLLER: Yes, sir.

Since the last meeting the following documents have been transmitted to each member of the Commission.

1 1. Semi-monthly right-of-way summary for the period
2 November 15th to 30th, mailed December 3rd.

3 2. Financial statements for the period ending Nov-
4 ember 30, 1952, mailed December 3rd.

5 3. Erie County Farmers' request for alignment
6 changes, D-11, mailed December 4th.

7 4. Copies of suggested form of notice to bidders,
8 which was presented to the Commission at the meeting on Decem-
9 ber 2nd, mailed December 4th.

10 5. Proposed changes in language of general specifi-
11 cations, which proposed changes were incorporated in draft of
12 the general specifications which was presented to meeting of
13 Commission on December 2nd, mailed December 3rd.

14 6. Copy of pertinent portions of transcript of pro-
15 ceedings in Case No. 4866 in the Court of Appeals, Franklin
16 County, Ohio, under style of State, ex rel Shafer versus Ohio
17 Turnpike Commission, et al, mailed December 4th special de-
18 livery.

19 7. Recommendation on maintenance of structures,
20 transmitted December 5th.

21 8. Recommended revisions to the general specifi-
22 cations, transmitted December 6th.

23 The following documents were transmitted to each
24 member of the Commission prior to the last meeting but were
25 not included in the secretary-treasurer's report at that meet-

1 ing:

2 1. Letter regarding Horvitz Company, contractor's
3 inability to perform work on the Baltimore and Ohio right-of-
4 way, mailed December 1st.

5 2. Proposed revised specifications for guard rail,
6 mailed December 1st.

7 3. Proposed specifications for delineators, I-24,
8 mailed December 1st.

9 4. Proposed specifications for temporary cattle
10 fence, I-28, mailed December 1st, and revision thereto, mailed
11 December 2nd.

12 CHAIRMAN SHOCKNESSY: Thank you, Mr. Soller.

13 Is there any discussion on the secretary's report?

14 (No response.)

15 In the absence of any discussion, the report of the
16 secretary is received and accepted as offered.

17 Off the record.

18 (Discussion off the record.)

19 CHAIRMAN SHOCKNESSY: At the last meeting the
20 consulting engineer was requested to seek conference with the
21 principal officials of the B. and O. Railroad with respect to
22 obtaining right of entry in Summit County where there has been
23 some controversy about an early entry by the Commission. Can
24 you advise us, Mr. Donnelley, what has happened since the last
25 meeting in that respect?

1 MR. DONNELLEY: Yes, Mr. Chairman and gentle-
2 men. We have been in conference with the officials of the
3 B. and O. Railroad and they have advised us --

4 CHAIRMAN SHOCKNESSY: Which officials?

5 MR. DONNELLEY: We talked to Mr. A. C. Clark,
6 chief engineer.

7 They have advised us that as soon as an agreement is
8 reached on what Article X of the proposed agreement, which is
9 the indemnity clause -- that they will immediately issue an
10 order for the contractor to move in on their right-of-way;
11 they will not hold up that order until the final agreement is
12 drafted and signed.

13 The principal difference on the indemnity clause, as
14 Mr. Dunbar pointed out, is that the railroads are asking what
15 we consider -- we agree with General Counsel -- a very unusual
16 request -- that the Commission indemnify the railroad against
17 any liability arising out of their own negligence.

18 Our house counsel in Baltimore is meeting with the
19 General Counsel and the right-of-way engineer of the B. and O.
20 Railroad on Monday next week and we hope to have concurrence
21 with them at that time. Following that it will be necessary
22 to get the approval of that clause by the General Counsel of
23 the Erie Railroad, who is acting as chairman for the Railroad
24 Committee.

25 CHAIRMAN SHOCKNESSY: All right, now, how long

1 is it going to take to get all this done?

2 MR. DONNELLEY: I would say that next week
3 would do it, Mr. Chairman.

4 CHAIRMAN SHOCKNESSY: We have a letter from Mr.
5 Horvitz taking serious exception to the delay and indicating
6 that it may be costly.

7 MR. DONNELLEY: Well, it has boiled down to
8 just the one clause of the agreement that is under discussion
9 at the present time and on which no agreement has been reached.
10 I wouldn't expect that it will take long to satisfy both
11 parties in that respect.

12 CHAIRMAN SHOCKNESSY: All right.

13 Well, now, Mr. Dunbar, are you working with the
14 Greiner Company in seeking disposition of this thing promptly?
15 Are they reporting to you?

16 MR. DUNBAR: Yes, sir. They reported by
17 long distance telephone yesterday upon the status of it at
18 that time, and I shall continue to do everything in my
19 power to see that the matter is resolved.

20 CHAIRMAN SHOCKNESSY: Well, now, what is Horvitz
21 going to be told?

22 MR. DUNBAR: Horvitz so far has been told
23 that the letter which he sent a few days ago has been referred
24 to the J. E. Greiner Company, which has the responsibility
25 for conducting negotiations with railroad companies in such mat.

1 ters, and we were asking them for an immediate report.

2 CHAIRMAN SHOCKNESSY: Well, it might be a
3 good plan to keep the Commission advised from time to time on
4 this matter for the information of the Commission members
5 and not await the next meeting.

6 MR. DUNBAR: Very well, sir.

7 CHAIRMAN SHOCKNESSY: Now, we have three committees
8 appointed at the last meeting who may want to make an interim
9 or a final report respectively.

10 Mr. Linzell, you are Chairman of the Guard Rail
11 Committee. Do you want to make a report?

12 MR. LINZELL: The Guard Rail Committee has
13 studied the usage of guard rail and the specifications there-
14 of for Turnpike Project No. 1, and I wish to present this
15 report. Do you desire it read?

16 CHAIRMAN SHOCKNESSY: Will you read it, please,
17 Mr. Linzell?

18 MR. LINZELL: Addressed to James Shocknessy
19 and the other members of the Commission here.

20 "As a result of thorough study by this committee,
21 it desires to make the following recommendations for the
22 use of guard rail on Ohio Turnpike Project No. 1:

23 1. Deep steel beam type guard rail to be used on all
24 structures carrying the Turnpike and on all guard rail
25 splays on the approaches thereto and adjacent to all

1 piers and abutments of structures going over the Turnpike
2 where protection is required. This shall include all
3 structures where railings have not been provided.

4 2. Four cable guard rail mounted on spring brackets to
5 be used on all other locations on the main roadways of
6 the Turnpike.

7 3. Shallow beam or tension plate guard rail at ramps of
8 interchanges and other locations on the Turnpike where
9 essentially slow moving traffic is to be protected.

10 4. The type of guard rail to be used on public highways
11 affected by the construction of the Turnpike will be
12 chosen by the local authority having jurisdiction over
13 such highways. Any type of guard rail excepting obso-
14 lete types such as two plank, three plank, plank and
15 cable, or chain link may be used.

16 "A. J. Allen S. O. Linzell"

17 "R. S. Lehman V. A. Faller"

18 CHAIRMAN SHOCKNESSY: Thank you, Mr. Linzell.

19 The report, which I take it is a final report --

20 MR. LINZELL: That is a final report.

21 CHAIRMAN SHOCKNESSY: -- of the Committee appointed
22 at the last meeting to make a recommendation to the Commission
23 with respect to guard rail has been received. Is there any
24 question?

25 (No response.)

In the absence of any question, the report will be

1 accepted and will be the subject of resolution.

2 The drainage pipe committee, Chairman, Mr. McKay.
3 Do you have a report, Mr. McKay?

4 MR. MCKAY: Mr. Chairman, here are copies
5 of the report.

6 The Commission considered at a public hearing the
7 question of the drainage design criteria for culvert pipe,
8 had a subsequent long discussion itself, and then at the
9 last meeting a committee consisting of Messrs. McKay, Kauer,
10 Teagarden, and a representative of the Greiner Company, Mr.
11 Morrison, conferred at length and submit herewith the follow-
12 ing report addressed:

13 "To: Messrs. Shocknessy, Teagarden, Allen, McKay, Linzell
14 From: Drainage Committee.

15 Re: Drainage Design Criteria

16 In accordance with instructions of the Chairman the
17 Drainage Committee, consisting of Messrs. J. Gordon McKay, O.
18 L. Teagarden, N. J. Morrison and T. J. Kauer, met on December
19 5, 1952 to consider minor changes in criteria relating to the
20 use of corrugated metal pipe and to the use of larger sizes of
21 pipe.

22 The following are the Committee's recommendations for
23 making the desired changes in the Drainage Design Criteria:

24 A. General

25 1. The use of corrugated metal pipe under the Turnpike

1 pavement and paved shoulders in sizes small than 30 inch-
2 es will not be prohibited.

3 2. The maximum size of pipe to be used for pipe culverts
4 will not be limited, excepting by hydraulic, structural,
5 and other engineering factors including relative econom-
6 ics.

7 B. All other provisions of the Design Criteria, except-
8 ing those which have been previously amended, remain in
9 effect.

10 C. The design of pipe culverts larger than 72 inches in
11 diameter but not exceeding 96 inches, and of pipe-arch
12 culverts larger than 72 inches in height but not exceed-
13 ing 96 inches, shall be in accordance with the following
14 provisions;

15 1. Pipe culverts and pipe-arch culverts larger than 72
16 inches in size may be used provided that the depth of
17 flow in the pipe does not exceed 72 inches for a 100-year
18 frequency. Where pipe culverts larger than 72 inches in
19 size are used, the elevation of the water surface at the
20 culvert entrance shall be not more than 96 inches above
21 the invert of the culvert for a 100-year frequency.

22 2. Drainage Details

23 (a) Type and use of pipe: Reinforced Concrete or
24 Corrugated Metal

25 (b) The gauges of corrugated metal pipe shall be as

1 follows:"

2 And the detailed list of the gauges are herein design-
3 nated specifically by table.

4 "(c) The gauges of corrugated metal arches shall be
5 as follows:"

6 And then the details related to the corrugated metal
7 arches, gauges of pipe-arch culverts for various fills, and
8 the multi-plate pipe arches, details with respect to differ-
9 ences in size.

10 "D. The design of pipe culverts and pipe-arch culverts
11 having diameters or heights greater than 96 inches shall
12 be in accordance with the following provisions:

13 1. The depth of flow in the culvert for a 25-year flood
14 shall be not greater than six-tenths the normal span of
15 the culvert, and for the maximum design flood shown on
16 Figure 15 shall be not greater than three-fourths the nor-
17 mal span of the culvert.

18 2. Culvert outlets shall be investigated for the possi-
19 bility of erosion caused by high outlet velocities and by
20 turbulence resulting from the dissipation of energy which
21 occurs when the water in the culvert is discharged into a
22 less confined channel. Adequate protection against
23 erosion shall be provided in the form of riprap, stream
24 bed paving, or energy dissipators.

25 3. The culverts shall be designed structurally. Compute

1 the live and dead loads which the culvert must carry, and
2 by structural analysis determine the required culvert
3 section.

4 4. Plans for culverts must be adequate. Headwalls,
5 riprap, ditch paving, energy dissipators, special founda-
6 tions, etc., are to be detailed on the contract plans.
7 When beveled ends are used on corrugated metal culverts
8 in lieu of endwalls, the slopes at entrance and outlet
9 ends shall be riprapped to a height 18 inches above the
10 top of the culvert. The width of the riprap shall be
11 determined by requirements for erosion protection and by
12 considerations of appearance. Skewed ends shall not be
13 beveled.

14 5. Pipe culverts and pipe-arch culverts shall be used
15 only where the economy of such construction as opposed to
16 concrete culverts can be readily demonstrated. Compara-
17 tive estimates must take into consideration all items of
18 cost."

19 Signed, J. Gordon McKay, O. L. Teagarden, T. J.

20 Kauer, M. J. Morrison.

21 I move the adoption of the report.

22 CHAIRMAN SHOCKNESSY: Thank you, Dr. McKay.

23 The report has been received. Is there any dis-
24 cussion on the report?

25 MR. DUNBAR: May I address a question to

1 the Committee, Mr. Chairman?

2 I notice in paragraph B the statement is made, "All
3 other provisions of the Design Criteria, excepting those which
4 have been previously amended, remain in effect."

5 Dr. McKay, is the language "excepting those which
6 have been previously amended" intended to refer to what is
7 said in this report, or to relate to some other amendment?

8 MR. McKAY: It is presumed to relate only
9 to our own report here with respect to drainage. We are af-
10 fected to some extent by what we have already approved at the
11 last meeting so far as drainage is concerned by the Agricul-
12 tural Drainage Report, and it has to be covered, and that is
13 what we are referring to.

14 Now, if the language "Agricultural Drainage" will
15 clear that, Mr. Chairman, that is what we mean.

16 MR. DUNBAR: May I take the liberty, then,
17 of suggesting just a minor change in this before you vote on
18 it?

19 MR. McKAY: Yes, indeed.

20 MR. DUNBAR: I suggest that paragraph B
21 might be amended to read, "All other provisions of the Design
22 Criteria, except as otherwise herein provided, and excepting
23 to the extent that the same may have previously been amended
24 by the Commission, shall remain in effect."

25 MR. McKAY: I would accept that.

1 Is that agreeable to you, Mr. Teagarden?

2 MR. TEAGARDEN: That is all right.

3 MR. McKAY: Mr. Kauer?

4 MR. KAUER: That is what we intended.

5 MR. McKAY: Who will speak for Mr. Morri-
6 son? Is he here?

7 MR. DONNELLEY: I will.

8 MR. McKAY: Do you agree to that?

9 MR. DONNELLEY: Yes.

10 MR. McKAY: The amendment is agreeable to
11 the Committee.

12 MR. DUNBAR: Before we vote this morning,
13 may I suggest just one other thing?

14 CHAIRMAN SHOCKNESSY: I am not going to vote this
15 morning. I am just going to receive the report.

16 MR. DUNBAR: I think it might be pertinent
17 to submit an inquiry to Mr. Linzell.

18 Mr. Linzell, this inquiry is to you in your capacity
19 as Director of Highways. The question is, do you in that
20 capacity, and to the extent that anything involved in the re-
21 ports of these two committees and the adoption thereof, and
22 to the extent that the Commission's action at its meeting on
23 December 2, 1952 -- to the extent that any of those things may
24 have constituted any changes in or additions to the design
25 standards for Ohio Turnpike Project No. 1, approve them?

1 MR. LINZELL: Yes, I approve them.

2 CHAIRMAN SHOCKNESSY: Mr. Linzell's reply to your
3 question, Mr. Dunbar, constitutes an affirmation by the Di-
4 rector of Highways of the design standards as they may be af-
5 fected by the reports --

6 MR. DUNBAR: And by the Commission's --

7 CHAIRMAN SHOCKNESSY: -- and by the Commission's
8 adoption, if it does adopt them, pursuant to law.

9 The report, the second report as amended, is re-
10 ceived, accepted, and approved.

11 Mr. Allen, do you want to make any report on your
12 committee with respect to the petroleum matter?

13 MR. ALLEN: The only thing I can report at
14 this time is that we are at work on it and the Greiner people
15 are making a thorough study of the material presented to us
16 by the Petroleum Committee and are going to report back with-
17 in a few days to our committee, and then we will take action
18 and get in touch with the committee as appointed by the pe-
19 troleum people.

20 CHAIRMAN SHOCKNESSY: Are there any questions of
21 Mr. Allen?

22 (No response.)

23 Mr. Allen's report is received as an interim report
24 of the committee and approved as offered.

25 Now, Mr. Dunbar, could you suggest some language

1 for resolutions in approval of the reports submitted by the
2 Committee on Guard Rail and by the Committee on Drainage Pipe
3 Criteria?

4 MR. DUNBAR: Yes, sir. I would suggest
5 that the Commission might adopt a resolution to be worded as
6 follows:

7 "Resolved that the Commission hereby approves the
8 report made to it by its committee, comprised of Messrs. Allen
9 and Linzell, on the use of guard rail on Ohio Turnpike Project
10 No. 1 and --

11 CHAIRMAN SHOCKNESSY: There are two other members
12 of that committee.

13 MR. ALLEN: Kauer is on it.

14 MR. KAUER: Mr. Lehman served in my stead
15 on that.

16 CHAIRMAN SHOCKNESSY: Kauer and Lehman -- Kauer was
17 a member. And who served as the Greiner Company representa-
18 tive?

19 MR. LINZELL: Faller. They were present
20 in the discussion, Mr. Faller and Mr. Lehman.

21 CHAIRMAN SHOCKNESSY: We don't have their signa-
22 tures on that report, so will the secretary see that the re-
23 port is signed?

24 MR. DUNBAR: With that amendment, then, of
25 the language I suggested to include those names, and continu-

1 ing my suggested language -- " -- adopts the criteria set
2 forth in said report."

3 That I think, sir, would be a sufficient action
4 upon it if it would be the desire of the Commission to adopt
5 the report.

6 CHAIRMAN SHOCKNESSY: Mr. Linzell, it was your re-
7 port. Will you move adoption of that resolution?

8 MR. LINZELL: I move the adoption of that
9 resolution.

10 MR. ALLEN: Second.

11 CHAIRMAN SHOCKNESSY: It has been moved by Mr. Lin-
12 zell and seconded by Mr. Allen that the Commission adopt --
13 Mr. Reporter, will you read the language?

14 MR. DUNBAR: I would be glad to restate it
15 since there were interruptions.

16 CHAIRMAN SHOCKNESSY: All right, restate it.

17 MR. DUNBAR: Resolved that the Commission
18 hereby approves the report made to it by its committee upon
19 the use of guard rail, comprised of Messrs. Linzell, Allen,
20 Lehman and Faller, and adopts the criteria therein set forth."

21 CHAIRMAN SHOCKNESSY: You have heard the resolution.
22 Is there any discussion?

23 (No response.)

24 The resolution as moved by Mr. Linzell and seconded
25 by Mr. Allen has been heard. In the absence of any dis-

1 cussion, will the secretary call the roll?

2 - - -

3 The members answered the roll call as follows:

4 Mr. Linzell: Yes.

5 Mr. Allen: Yes.

6 Mr. Teagarden: Yes.

7 Mr. McKay: Yes.

8 Chairman Shocknessy: Yes.

9 - - -

10 CHAIRMAN SHOCKNESSY: The resolution is unanimously
11 adopted.

12 MR. SOLLER: Mr. Chairman, may the record
13 show, or, rather, identify that as Resolution No. 109-1952?

14 CHAIRMAN SHOCKNESSY: It may.

15 MR. DUNBAR: Now, sir, as to the other re-
16 port, I would suggest the following language for a resolution:

17 "Resolved that the Commission does hereby approve
18 the report submitted to it by its committee upon drainage de-
19 sign criteria, comprised of Messrs. McKay, Teagarden, Kauer
20 and Morrison, and adopts the criteria therein set forth."

21 MR. MCKAY: I move the adoption of the
22 resolution.

23 MR. TEAGARDEN: I second it.

24 CHAIRMAN SHOCKNESSY: You have heard the resolution
25 offered by Mr. McKay and seconded by Mr. Teagarden. Is

1 there any discussion?

2 (No response.)

3 Call the roll, please.

4 - - -

5 The members answered the roll call as follows:

6 Mr. McKay: Yes.

7 Mr. Teagarden: Yes.

8 Mr. Allen: Yes.

9 Mr. Linzell: Yes.

10 Chairman Shocknessy: Yes.

11 - - -

12 MR. SOLLER: And similarly, Mr. Chairman,
13 may that be identified as No. 110-1952?

14 CHAIRMAN SHOCKNESSY: It may be.

15 The resolution is adopted unanimously.

16 Off the record.

17 (Discussion off the record.)

18 CHAIRMAN SHOCKNESSY: Mr. Linzell, will you confirm
19 by letter your approval stated here of the content of those
20 resolutions in pursuance of the requirements of the statute?

21 MR. LINZELL: I will, yes.

22 (See next page.)
23
24
25

1 CHAIRMAN SHOCKNESSY: Mr. Dunbar, I believe you

2 have a number of matters to bring before the Commission.

3 MR. DUNBAR: Yes, sir.

4 The first matter is an appropriation of property.

5 I reported to the Commission at its meeting on December 2,
6 1952, with respect to a parcel of land situated adjacent
7 to the Ohio-Pennsylvania State line owned by Hydracoal
8 Transportation Company, and at that time stated to the
9 Commission that unless satisfactory arrangements for the
10 acquisition of that land could be made between that meeting
11 and this that I would present a recommendation that it be
12 appropriated.

13 Those arrangements have not been made. Therefore,
14 I tender a recommendation signed by Mr. Hartford, the
15 Commission's Chief of its Right-of-Way Section, stating
16 that negotiations have been unsuccessful; a report by Mr.
17 Kauer stating that the acquisition of this land is
18 necessary for the construction of Ohio Turnpike Project
19 Number 1; and my written concurrence in the recommendation
20 of the Chief of the-Right-of-Way Section, and a recommendation
21 that title be acquired in fee simple.

22 I have prepared and herewith present for your
23 consideration a form of resolution which would be
24 appropriate to declare the necessity of appropriating this
25 property and directing that proceedings to effect such

1 appropriation be begun and prosecuted.

2 MR. TEAGARDEN: Mr. Chairman, I offer a
3 resolution declaring the necessity for appropriating property
4 and directing that proceedings to effect such appropriation
5 be begun and prosecuted against the owners, Hydracoal
6 Transportation Company, Youngstown, Ohio; May B. Nelson,
7 address unknown; County Auditor of Mahoning County, at
8 Mahoning County Courthouse, Youngstown, Ohio; County
9 Treasurer of Mahoning County, Mahoning County Courthouse,
10 Youngstown, Ohio.

11 I move the adoption of the resolution.

12 MR. MCKAY: Second the resolution.

13 CHAIRMAN SHOCKNESSY: You have heard the resolution
14 offered by Mr. Teagarden and seconded by Dr. McKay,
15 authorizing that proceedings be instituted to effect the
16 appropriation of property known as parcel Number 199-K.
17 Is there any discussion?

18 (No response.)

19 In the absence of discussion, the secretary will
20 call the roll, please.

21 - - -

22 The members answered the roll call as follows:

23 MR. TEAGARDEN: Yes.

24 MR. MCKAY: Yes.

25 MR. ALLEN: Yes.

3

1 Mr. Linzell: Yes.

2 Chairman Shocknessy: Yes.

3 - - -

4 CHAIRMAN SHOCKNESSY: The resolution is unanimously
5 adopted.

6 Proceed, Mr. Dunbar.

7 MR. DUNBAR: Mr. Chairman, members of
8 the Commission: At a previous meeting the Commission
9 adopted its Resolution Number 84-1952, declaring the
10 necessity of appropriating Parcel Number 186-C, which is a
11 parcel in Mahoning County.

12 It has developed since the time the Commission
13 adopted that resolution and since the application for
14 appropriation was filed in the Common Pleas Court of
15 Mahoning County, that the refined and completed con-
16 struction plans indicate that some additional land will be
17 required on one side of this parcel and that a somewhat
18 lesser width may be required on the other side of the center
19 line.

20 We proceeded, as you know, with considerable
21 speed in these matters in order that the acquisition of
22 right-of-way in the eastern section could be expedited as
23 much as possible. However, since the development, I
24 recommend to you that you rescind your action by Resolution
25 Number 84-1952 and direct that General Counsel shall dismiss

1 or cause to be abandoned the appropriation proceedings
2 previously commenced, so that negotiations can be con-
3 ducted with respect to the changed parcel which results
4 from this refinement of plans.

5 I have drafted and herewith present to you a
6 form of resolution by which this might be accomplished.

7 MR. ALLEN: I will offer this resolution
8 rescinding 84-1952.

9 "Whereas it appears that there were certain errors
10 in the description of the property to be appropriated con-
11 tained in Resolution 84-1952, and

12 "Whereas it is desirable that said resolution be
13 rescinded so that negotiations may be resumed with the
14 owners of Parcel Number 186-C on the basis of the revised
15 description, now therefore

16 "Be it resolved that Resolution Number 84-1952,
17 directing that proceedings to appropriate property be begun
18 and prosecuted, be and it hereby is rescinded, and

19 "Further resolved that the General Counsel is
20 hereby directed to dismiss the appropriation proceedings
21 for Parcel No. 186-C now pending in the Common Pleas Court of
22 Mahoning County."

23 MR. TEAGARDEN: I second it.

24 CHAIRMAN SHOCKNESSY: You have heard the resolution
25 offered by Mr. Allen and seconded by Mr. Teagarden,

5
1 rescinding Resolution Number 84-1952. Is there any
2 discussion?

3 (No response.)

4 In the absence of any discussion, the secretary
5 will call the roll.

6 - - -

7 The members answered the roll call as follows:

8 MR. ALLEN: Yes.

9 MR. TEAGARDEN: Yes.

10 MR. MCKAY: Yes.

11 MR. LINZEL: Yes.

12 CHAIRMAN SHOCKNESSY: Yes.

13 - - -

14 CHAIRMAN SHOCKNESSY: The resolution is unanimously
15 adopted.

16 Proceed, Mr. Dunbar.

17 MR. DUNBAR: Mr. Chairman, by memorandum
18 under date of December 5, 1952, signed by T. J. Kauer,
19 Chief Engineer, and addressed to the members of the
20 Commission, the Chief Engineer has pointed out to the
21 Commission the problem involved in the maintenance of
22 structures, grade separations structures, for the Turnpike
23 Project, and has recommended a policy to be adopted by the
24 Commission in that regard.

25 I know that you have that report already before

1 you. I think it was indicated in the report of the
2 Secretary-Treasurer that that had been submitted to you.

3 I suggest that it would be in order for you to
4 take action upon that if it should be your desire to
5 adopt the policy recommended by the Chief Engineer of the
6 Commission, and I see no objection to it from the legal
7 standpoint. It appears in that regard to be entirely
8 satisfactory. And I would suggest that it would be in
9 order for you to adopt a resolution which would simply
10 declare the policy of the Commission with respect to the
11 maintenance of grade separation structures to be as set
12 forth in the memorandum of the Chief Engineer to the members
13 of the Commission under date of December 5, 1952.

14 CHAIRMAN SHOCKNESSY: What is the disposition of
15 the Commission? Does that seem satisfactory to the
16 Commission?

17 MR. MCKAY: I recall only one question
18 in it, which dealt with, as I recall, Mr. Kauer's comment
19 on it that perhaps we might be responsible for sidewalks
20 if they are included on any such structure. Is that in
21 here or out of here?

22 MR. KAUER: It is in here.

23 MR. MCKAY: It is in here in language.
24 I didn't find it.

25 It is a normal sort of thing; is that right?

1 MR. KAUER: In the first paragraph, the
2 third line from the bottom. "Such maintenance shall include
3 repair of walks," and so forth.

4 MR. MCKAY: Okay.

5 CHAIRMAN SHOCKNESSY: Do you have a resolution,
6 Mr. Dunbar, which might embody an action of the Commission?

7 MR. DUNBAR: I think such a resolution
8 might be as follows:

9 "Resolved that the Commission hereby adopts as
10 its policy with respect to the maintenance of grade separation
11 structures the policy recommended to it in the written
12 memorandum under date of December 5, 1952, signed by the
13 Chief Engineer of the Commission, and addressed to the
14 members of the Commission."

15 CHAIRMAN SHOCKNESSY: Off the record.

16 (Discussion off the record.)

17 MR. MCKAY: I move the adoption of the
18 resolution.

19 MR. ALLEN: Second.

20 CHAIRMAN SHOCKNESSY: You have heard the resolution
21 offered by Dr. McKay and seconded by Mr. Allen. Is there
22 any discussion?

23 (No response.)

24 In the absence of discussion, will the secretary
25 call the roll, please?

- - -

1 The members answered the roll call as follows:

2 MR. MCKAY: Yes.

3 MR. ALLEN: Yes.

4 MR. TEAGARDEN: Yes.

5 MR. LINZELL: Yes.

6 CHAIRMAN SHOCKNESSY: Yes.

7 - - -

8 CHAIRMAN SHOCKNESSY: The resolution is unanimously
9 adopted and numbered as --

10 MR. SOLLER: 113-1952.

11 CHAIRMAN SHOCKNESSY: Proceed, Mr. Dunbar.

12 MR. DUNBAR: Next, this sort of situation
13 occurs occasionally: There will be acquired land for
14 the erection of a bridge over a stream or perhaps some other
15 obstacle in the path of the Turnpike. The portions of the
16 land adjoining the Turnpike right-of-way are, therefore,
17 severed by the Commission's acquisition of that land.

18 In many instances the amount of damages that will
19 be sustained by the land owner can be mitigated if
20 opportunity were to be afforded to the owner of the severed
21 portions of the parcel to pass to an fro under the structure,
22 or perhaps to install pipes for his use, or things of that
23 sort.

24 I have made inquiry of the Commission's consulting
25 engineer and its Chief Engineer and the Chief of its right-

9
1 of-way section with regard to this situation, and am inform-
2 ed by all of them that in their opinion there would be no
3 prejudice whatsoever to the interests of the Commission and
4 that it would in many instances result in our having to
5 pay a less amount for the land to be acquired, or would
6 otherwise facilitate and expedite the negotiations and the
7 acquisition of the land if the Commission were in appro-
8 priate cases to authorize such persons to have access to
9 that land, in other words, to pass under the structure.

3
10 To that end I suggest that you might adopt a
11 resolution which would authorize the granting of licenses
12 or permits for such purposes. I have prepared a resolution
13 which would authorize either the Chief of the Right-of-Way
14 Section or the Executive Assistant to the Commission, sub-
15 ject to the approval of General Counsel and of the Chief
16 Engineer and of the Consulting Engineer, to grant such
17 permission in appropriate cases.

18 MR. MCKAY: Might I ask a question?
19 Does that mean that there would be some sort of a pre-
20 ventive method for foot pedestrians or vehicles to get onto
21 the Turnpike anywhere near the traveled way?

22 MR. DUNBAR: No, sir. I understand that
23 in all such cases it is contemplated by the engineers that
24 the Turnpike right-of-way boundary fence will be brought in
25 or toed in to the abutments of the structure, or near there,

0

1 so that no one would have access to the Turnpike proper.

2 MR. MCKAY: Okay.

3 MR. DUNBAR: It would simply be passing,
4 generally speaking, along a stream, or whatever was being
5 crossed, underneath a bridge.

6 MR. MCKAY: Mr. Chairman, I so move
7 Resolution Number 114-1952:

8 "RESOLVED that each of the Chief of the Right-of-
9 Way Section and the Executive Assistant be, and each of
10 them hereby is, authorized to permit persons to utilize the
11 right of way of Ohio Turnpike Project No. 1 in those places
12 where the travelway of Ohio Turnpike Project No. 1 passes
13 over structures and the utilization permitted will not
14 interfere with the travelway of said Project when the
15 authorization of such utilization will result in mitigation
16 of damages to the Commission or will otherwise aid in the
17 negotiation for the right of way involved; provided, however,
18 that neither of them shall grant any authorization until the
19 same shall have been approved by General Counsel, or an
20 attorney designated by him for the purpose, by the Chief
21 Engineer, and by the Commission's consulting engineer."

22 I move the resolution.

23 CHAIRMAN SHOCKNESSY: Is there a second of Dr.
24 McKay's resolution?

25 MR. TEAGARDEN: Second.

1 CHAIRMAN SHOCKNESSY: You have heard the resolution
2 of Dr. McKay, seconded by Mr. Teagarden, authorizing
3 licenses or permits in certain special instances over right-
4 of-way of the Turnpike Project No. 1. Is there any dis-
5 cussion?

6 (No response.)

7 In the absence of any discussion, will the
8 secretary call the roll, please?

9 - - -

10 The members answered the roll call as follows:

11 MR. MCKAY: Yes.

12 MR. TEAGARDEN: Yes.

13 MR. ALLEN: Yes.

14 MR. LINZELL: Yes.

15 CHAIRMAN SHOCKNESSY: Yes.

16 - - -

17 CHAIRMAN SHOCKNESSY: The resolution is unanimously
18 adopted.

19 Proceed, Mr. Dunbar.

20 MR. DUNBAR: You will recall that there
21 has been priously before you the matter of the replacement
22 by the remaining partners, namely, Messrs. Carpenter,
23 Dunlap and Free, of the firm of appraisers and brokers
24 handling the appraisal and negotiation work on the eastern
25 portion of the Turnpike, of their deceased associate, Mr.

12

1 Rudolph.

2 I was directed at a previous meeting of the
3 Commission to address a letter to them, which I did, calling
4 attention to the provision of the contract to which I have
5 referred and asking them to report to the Commission the
6 name of the person selected and a statement with respect to
7 the qualifications of that person. Since then the Commission
8 has received, and copies have been furnished to all members
9 of the Commission, a letter from the surviving partners of
10 that firm stating that in their opinion the replacement of
11 Mr. Rudolph is unnecessary and undesirable, and setting forth
12 their reasons for that belief.

13 I was asked by the Chairman to consider that letter
14 and to make a report at this meeting of the Commission with
15 respect to it.

16 I have made inquiry of the Chief of the Right-of-
17 Way Section and of our consulting engineer and our Chief
18 Right-of-Way attorney, inquiring among other things as to
19 the character and quality of the performance of the work
20 by this firm before and since Mr. Rudolph's death, inquiring
21 as to the schedule of performance which they are maintaining.

22 On the basis of the information given to me by
23 all three of these and their recommendations, in which I con-
24 cur, I suggest and recommend to the Commission that it appears
25 that at this time it is not important to the interests of the

1 Commission that it insist upon the enforcement of the
2 provision of the Commission's contract with this firm re-
3 quiring the replacement of such an associate.

4 My recommendation, therefore, would be that I be
5 directed to say by letter to the surviving partners that
6 at the present time the Commission is not disposed to en-
7 force the requirement, without, however, waiving its full
8 rights under the contract to require at any time in the
9 future the performance of that particular requirement.

10 CHAIRMAN SHOCKNESSY: What is the disposition of
11 the Commission with respect to that?

12 MR. TEAGARDEN: I think Mr. Dunbar should be
13 given authority to proceed along the line he has suggested.
14 I think the matter is not so important. Why can't we let
15 it lay for another month or thirty days?

16 CHAIRMAN SHOCKNESSY: Is that agreeable?

17 MR. LINZELL: Yes.

18 MR. ALLEN: Yes.

19 MR. MCKAY: Yes.

20 CHAIRMAN SHOCKNESSY: You may advise the remain-
21 ing partners that the Commission is not at this time in-
22 sisting that a new partner be substituted for Mr. Rudolph
23 and will give further consideration to the matter in thirty
24 days.

25 MR. DUNBAR: Very well, sir, I will do so.

1 Now, at the December 2nd meeting of the Commission
2 I presented to it various documents in connection with the
3 performance of the construction work on the first, or
4 easternmost, construction section, which covers approximately
5 five miles of the proposed Turnpike, commencing at the Ohio-
6 Pennsylvania State Line. At that time, among the documents
7 which were presented, copies of which, or some of which had
8 already been in the hands of members of the Commission for
9 some time, were certain plans for the performance of that
10 work. What I am about to say at this time does not relate
11 to those plans. I will come to that later.

12 I will now again bring to your attention the pro-
13 posed general specifications and proposed supplemental
14 specifications for the construction not merely of that
15 particular section, but of Ohio Turnpike Project No. 1 in
16 its entirety.

17 As you will recall, the specifications which were
18 then and before that time in your hands and have been under
19 examination by you -- or, I should say that this relates
20 only to the proposed general specifications -- had been put
21 in the form of a printer's proof with, however, various
22 suggested changes and additions which had been developed
23 by the Commission's consulting engineer, its Chief Engineer,
24 and in some instances by me as General Counsel.

25 The supplemental specifications which were then

1 before you were in the form of mimeographed matter largely,
2 with certain additional matter representing suggested changes
3 and additions since the original preparation of the draft, and
4 also some photostated pages.

5 I am informed that since the meeting on December
6 2nd the Director of Highways, through his engineer representa-
7 tives, the Chief Engineer of the Commission and his sub-
8 ordinates, and the Commission's consulting engineer, have
9 held extended conferences with respect to various aspects
10 of these specifications; that they have developed a meeting
11 of the minds with respect to such additional changes, includ-
12 ing in some instances the correction of typographical errors,
13 and in other cases slight modifications of language.

14 There are presented to you and are here now before
15 you a set of the proposed general specifications in which
16 these recommended changes have been indicated, and a set of
17 the proposed supplemental specifications in which these
18 recommended changes have been indicated. Of course, the
19 Director of Highways is here present as a member of the
20 Commission and can speak for himself, but I remind you that
21 at the last meeting of the Commission he submitted a doc-
22 ument, the characterization of which was the subject of a
23 slight difference of opinion between the Chairman and the
24 Director, but one of them at least called it a critique
25 and the other one called it comments.

1 CHAIRMAN SHOCKNESSY: Guess who? (Laughter)

2 MR. DUNBAR:

6 I understand that that has
3 been the subject of these conferences and further consider-
4 ation that I have mentioned, and all of these persons have
5 now come into complete agreement.

6 I should further report to you that the Chief
7 Engineer of the Commission addressed a letter to the con-
8 sulting engineering immediately after the Commission's
9 last meeting directing the consulting engineer to inquire of
10 the fifteen other firms of contracting engineers with re-
11 spect to their views on these proposed specifications, and
12 I understand that the consulting engineer is ready to present
13 a report on that today.

14 As I stated at the December 2nd meeting, it appear-
15 ed that it is quite necessary, in order to eliminate delays
16 and additional costs in the construction of the project,
17 that the Commission proceed to take bids upon the first
18 construction section, and as a prerequisite to that you
19 should take such action as you will with respect to these
20 proposed specifications. I suggest that there be separated
21 in your consideration first those specifications, and then
22 the other contract documents that will be required in con-
23 nection with contract section C-1.

24 That statement, I believe, is probably sufficient
25 to put the matter before you.

1 Oh, I want to say one further thing.

2 Mr. Kauer, these standard drawings that were
3 presented to the Commission at the last meeting apply to
4 the whole Turnpike Project, do they not, and not merely
5 to contract C-1?

6 MR. KAUER: Yes, sir. They apply
7 to the entire Turnpike Project and will be used where
8 applicable.

9 MR. DUNBAR: Then those standard draw-
10 ings are also before you, I suggest, for consideration in
11 connection with the proposed general and supplemental
12 specifications.

13 In that connection one comment should be made.
14 Mr. Kauer has informed me that standard drawing number 18
15 has been modified somewhat since the Commission's meeting
16 on December 2nd. That particular standard drawing relates
17 to guard rails, and I understand that some change was made
18 therein. He can explain the nature of it -- I don't know
19 exactly what it is -- if you want to inquire of him.

20 Now, Mr. Kauer has for presentation at this time
21 a written memorandum under date of December 5th, addressed
22 to the members of the Commission, which points out various
23 other minor, as I understand it, suggested revisions in
24 various of these proposed standard drawings. Those have
25 been made, and the entire matter and all the papers are

1 before you.

2 CHAIRMAN SHOCKNESSY: Are you suggesting, Mr.
3 Dunbar, that Mr. Kauer offer this letter now?

4 MR. DUNBAR: Has it been placed before
5 the Commission, Mr. Kauer?/

6 MR. KAUER: You have it.

7 MR. DUNBAR: Oh, yes. I beg your pardon.
8 He had handed me a stack of copies of it.

9 CHAIRMAN SHOCKNESSY: Will you distribute those?
10 They need not be read aloud.

11 I would like to mention now, the matters that we
12 are approaching are likely to be time-consuming. It is
13 my suggestion that we recess for lunch at twelve-thirty and
14 resume the meeting at one-forty-five.

15 The consideration of these general specifications
16 and the recommendation that the Commission authorize an
17 advertisement for bids on contract section number 1 brings
18 before the Commission for discussion, consideration, and
19 such action as the Commission may choose to take, a deter-
20 mination, for the purpose of what action it may choose to
21 take, of its present judgment upon the engineering report
22 of the Greiner Company. Its judgment upon that report
23 for its present purposes requires that it advert to sub-
24 stantiating recommendations which it has received hitherto,
25 to its own experience, and to all other information at its

1 disposal, and the whole reservoir of human affairs to which
2 it has access.

3 The Commission as constituted on September 4,
4 1951, took an action which for the purpose of that occasion
5 required an exercise of judgment and an evaluation of the
6 report in the light of its own experience at that time.

7 The action of the Commission on September 4, 1951,
8 has been the subject of microscopic examination and the
9 very skillful interrogation of very competent persons.

10 Without attempting to state what the effect of
11 the Commission's action upon September 4, 1951, was, it is
12 an action which has not been the subject of any further
13 formal action other than that taken here today with respect
14 to guard rails and drainage pipe, so far as I can presently
15 remember.

16 May I ask, is that correct?

17 MR. KAUER: Yes, sir, it is correct.

18 MR. SMITH: And agricultural drainage.

19 CHAIRMAN SHOCKNESSY: Yes, and as it might be
20 affected by the Commission's approval of the report and
21 recommendation with respect to agricultural drainage.

22 MR. CRAWFORD: The bond resolution.

23 CHAIRMAN SHOCKNESSY: Of course, the report was
24 incorporated, I would say by reference, was it not, Mr.
25 Crawford, in the bond resolution?

1 MR. CRAWFORD: In effect, yes, sir.

2 CHAIRMAN SHOCKNESSY: Now, the Commission on
3 September 4, 1951, was constituted according to law of five
4 members, two of whom are no longer members of the Commission.
5 The Commission as constituted today is composed of five
6 members, one of whom is an appointive member to replace
7 Murray Seasongood of Cincinnati, who resigned since the
8 action of September 4, 1951, and of a new ex officio member,
9 the Director of Highways, and three members who were members
10 of the Commission on September 4, 1951.

11 It has been the Commission's continuing purpose,
12 I believe, and speaking for myself as a member I know, to
13 give continuing consideration to every factor affecting
14 the ultimate adequacy of the project which was and is the
15 subject of the report dated August 15, 1951, which the
16 Commission approved on September 4, 1951.

17 I have said not only that the Commission as present-
18 ly constituted is a different body as to membership from
19 what it was at that time, but implied in my continuing
20 reference to that date, September 4, 1951, and our taking
21 notice of the date upon which we meet here today, that
22 approximately fifteen months in time have passed since
23 the action of September 4, 1951, was taken, with whatever
24 effect it had for the purposes for which it was taken at
25 that time.

1 I personally would have been inclined to oppose an
2 approval of the Commission at this time, so long after
3 September 4, 1951, of the report dated August 15, 1951,
4 had it not had that microscopic examination which it has
5 had recently. Not only might the report well have been
6 given a further intensive examination by the Commission as
7 to paving type, which is the subject of some existing
8 litigation, but also as to drain pipe and guard rail and
9 other matters embodied in the report.

10 Off the record.

11 (Discussion off the record.)

12 Indeed, a few weeks ago an advertisement was
13 inserted in the newspapers in accordance with law seeking
14 bids upon contract section number 1, and the Chairman on
15 behalf of the Commission assumed to speak for the Commission
16 without formal authority with respect to that advertisement
17 and requested the withdrawal of the advertisement from the
18 newspapers so that the Commission might take opportunity
19 to evaluate the evidence adduced in the Second District
20 Court of Appeals in the case, which for the purpose of this
21 discussion we shall refer to as the Shafer case.

22 The Commission, as the Secretary reported, has
23 had opportunity, which it has taken, to advert to the
24 testimony taken in that case and to evaluate it. The
25 transcript of the proceedings has been furnished to the

1 members of the Commission. The members have had opportunity
2 to read it and evaluate it.

3 This Commission has hitherto often been required
4 to take bold action in pursuance of the purposes envisioned
5 for it by the General Assembly in the enactment of the law
6 under which it is created.

7 The Commission'sought and accomplished the financ-
8 ing of Ohio Turnpike Project No. 1 during the very pendency
9 of litigation in the Supreme Court of the United States.
10 Never in the history of finance so far as we know was an
11 undertaking such as the one which this Commission has been
12 financed while any formidable litigation was pending.

13 I am making no recommendation to the Commission
14 at this time with respect to any action that it may take
15 here today. My purpose in this statement is merely for
16 the benefit of the members of the commission, to direct
17 attention to matters to which it must give its profoundest
18 consideration.

19 This Commission borrowed three hundred and twenty-
20 six million dollars on its credit. There is nothing behind
21 the bonds of the Ohio Turnpike Commission other than the
22 widest and deepest respect for the integrity of a public
23 body which any public body within memory has received.
24 The credit of the State of Ohio is not behind these bonds.
25 There is nothing behind these bonds of this Commission

23

1 except the belief in the financial world of the integrity
2 of this Commission in its personality and in its purposes.

3 Every day this Commission waits to take an action
4 which has an ultimate effect upon the completion of its
5 schedule is costly in a net interest of amount in approx-
6 imately thirteen thousand dollars. That takes not into
7 consideration the net loss in revenue.

8 This Commission expected, in accordance with
9 schedule, to take bids on December 3rd for the first contract
10 section. It meets here today to consider whether or not
11 it should seek bids immediately hereafter for the con-
12 struction of that same section. It meets here several
13 weeks later than it otherwise would have to take this
14 action had it not been for the intervention of some litigation,
15 to whose purpose and intent I take no exception. Not only
16 do I take no exception to the purposes and intention of
17 the litigation, but I have shown it, as Chairman of this
18 Commission, great reverence. I have not sought to dis-
19 credit the purposes of the men who brought the litigation.

20 I can say to you members here today that I have
21 the profound satisfaction of being able to mention that the
22 counsel for the Relator in the Shafer case stated for the
23 record that he did not contend that this Commission has not
24 acted in good faith, and he further said for the record
25 that he had no evidence at the time he made the statement

1 that the Commission was in bad faith.

2 For that statement I am not necessarily grateful,
3 because it is a statement of truth and I don't think we have
4 to be grateful to people for being honest. But I am
5 pleased that the counsel for the relator in the Shafer case
6 choose so to state for the record.

7 Because of the respect which I have for the
8 processes of our courts and which this Commission has, with-
9 out formal authority from the Commission but with an implied
10 authority which I have always assumed to have, I invited
11 counsel for the Relator in that case to attend this meeting
12 here today. Not only have I done so in behalf of this
13 Commission without any formal authority, but I have done
14 more than that -- I have told these people that we'll
15 recognize them to make a statement and to ask questions.

16 Now, I suppose everybody is beginning to wonder
17 when that might begin if I continue to talk. (Laughter)

18 But I'm very serious here in these statements
19 I am making, so that they be fully understood by the members
20 of the Commission, the staff of the Commission, and our
21 guests today.

22 Again I say, I shall not ask at this time -- I am
23 not saying what I may ask before the day is over -- or
24 recommend any specific action to this Commission.

25 Had it not been for the intervention of the Shafer

1 case, I would have asked the Commission to hold a formal
2 public hearing to hear from all persons interested, their
3 evaluation of the Greiner Report and of any recommendations
4 which either it or the Director of Highways made to the
5 Commission. Personally I don't think that a public hearing
6 is necessary, because something better than a public hearing
7 has been had. In the Second District Court of Appeals
8 an examination of the Greiner Report and the Director of
9 Highways' recommendations has been made which is far more
10 searching and exhaustive than we would have been able to
11 make in a public hearing which might have been concluded
12 in a day. The hearing in the Shafer case has been going on
13 approximately six weeks, I believe.

14 MR. CRAWFORD: Four weeks. The trial
15 started November 6. But there were depositions prior
16 to that for several weeks. The taking of the evidence
17 has been going on for several weeks, that's right.

18 (See next page.)
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1 CHAIRMAN SHOCKNESSY: Now, again I say, I person-
2 ally am taking no exception to the purposes of the action.
3 Every man under our system is entitled to advance his cause
4 before the courts however he chooses. So, what has been ac-
5 complished in the Second District Court of Appeals in the
6 hearing in the Shafer case is illuminating, to say the very
7 least.

8 Now, at our meeting on December 2nd, on behalf of
9 the Commission I asked the consulting engineer to prepare re-
10 plies to three questions. The consulting engineer also has
11 a request from the Commission to report on at least one other
12 matter. The Director of Highways has at least one, and I
13 believe two reports to submit to the Commission. I have
14 some documents which I shall submit to the Commission.

15 With that introductory statement, unless the Com-
16 mission chooses to ask me any questions, I shall call upon
17 the consulting engineer to report to the Commission specifi-
18 cally on the questions which the Commission requested the
19 consulting engineer answer.

20 Is there anything first before that?

21 MR. McKAY: No.

22 CHAIRMAN SHOCKNESSY: Mr. Linzell?

23 MR. LINZELL: No.

24 MR. ALLEN: No.

25 MR. TEAGARDEN: No.

1 CHAIRMAN SHOCKNESSY: Mr. Donnelley, will you come
2 forward?

3 MR. DONNELLEY: Mr. Chairman, members of the
4 Commission --

5 CHAIRMAN SHOCKNESSY: Mr. E. J. Donnelley, partner,
6 J. E. Greiner Company, consulting engineer to the Ohio Turn-
7 pike Commission upon Project No. 1, pursuant to contract
8 entered into, I believe, on October 7th --

9 MR. DUNBAR: October 2nd.

10 CHAIRMAN SHOCKNESSY: October 2, 1951.

11 MR. DONNELLEY: Mr. Chairman, members of the
12 Commission, I have here a letter --

13 CHAIRMAN SHOCKNESSY: I believe I disagree with
14 that. Is it the 2nd, are you sure?

15 MR. DUNBAR: I'm quite sure.

16 CHAIRMAN SHOCKNESSY: I thought it was --

17 MR. McKAY: It was a regular meeting.

18 CHAIRMAN SHOCKNESSY: Well, there was some question
19 about the date of the letter, the date of the acceptance.

20 MR. DUNBAR: Offer made September 27, ac-
21 cepted on October 2nd.

22 CHAIRMAN SHOCKNESSY: That's the 7, then. All
23 right. There was a 7, but it is the wrong 7. All right.

24 MR. DONNELLEY: I have here a letter address-
25 ed to the Ohio Turnpike Commission under date of December

1 5th:

2 "Gentlemen:

3 "We have, since rendering our Engineering Report, kept
4 abreast of current developments in highway engineering, and
5 we see no reason to make any change in the design standards
6 or in the pavement design recommended therein.

7 "At your request, we have re-examined the economic com-
8 parison between flexible and rigid pavement. We adhere to
9 our original recommendations. Memorandum showing results
10 of this re-examination is attached.

11 "Insofar as our cost estimate in the Engineering Report
12 is concerned, it is of interest that the estimates of the
13 contacting engineer for Construction Section 1, based upon
14 their detailed design work, confirm the adequacy of the
15 quantities and unit costs developed by us in that Report.
16 It is of further interest to note that the detailed quanti-
17 ties and bid unit prices for the sub-structure of Construc-
18 tion Section 5 also confirmed the adequacy of the Report
19 quantities and unit prices.

20 "Very truly yours,

21 "J. E. GREINER COMPANY

22 "by E. J. Donnelly"

23 CHAIRMAN SHOCKNESSY: Are you handing me that?

24 MR. DONNELLEY: I will, sir. I was going
25 to hand you the whole document at one time, but I will hand

1 you that.

2 CHAIRMAN SHOCKNESSY: Oh, I thought it was separate.

3 MR. DONNELLEY: Now, the memorandum referred
4 to in that document is also dated under December 5th and ad-
5 dressed to the Ohio Turnpike Commission.

6 "In developing the original studies of pavement types
7 for Ohio Turnpike Project No. 1, we made a complete and
8 thorough analysis of both flexible and rigid type pavements,
9 or, as they are more popularly referred to, asphalt and con-
10 crete pavements respectively. The J. E. Greiner Company
11 does not and never has favored either type of pavement and
12 we have consistently stated that it is possible to design a
13 pavement of either material equally capable of carrying the
14 design load. On other projects we have made analyses simi-
15 lar to those conducted for the Ohio Turnpike, and have
16 recommended asphalt pavement where our analyses indicated
17 that the flexible type pavement was best suited for a par-
18 ticular project. Each project, however, presents a separ-
19 ate and distinct problem and must be treated as such. The
20 decision in every instance must be based upon geographic lo-
21 cation, availability of materials, availability of contract-
22 ors, methods of awarding construction contracts, construc-
23 tion schedules and other similar factors.

24 "The studies that we conducted on the Ohio Turnpike in-
25 cluded an analysis of the following factors:

- 1 1. The establishment of an axle load upon which
- 2 the pavements were designed.
- 3 2. The development of comparable designs of as-
- 4 phalt and concrete pavements, both of which are
- 5 capable of carrying the design load.
- 6 3. The determination of the method by which con-
- 7 struction contracts will be awarded.
- 8 4. The determination of whether or not the Ohio
- 9 Turnpike should be of one type of pavement
- 10 throughout.
- 11 5. An analysis of the relative costs of construct-
- 12 ing and maintaining both asphalt and concrete
- 13 pavements.

14 "As stated above the initial step in the analysis of
15 the problem was the establishment of a realistic design load.
16 Realizing that a continuous expressway highway from New York
17 to Chicago will be a reality in a few years and realizing
18 the induced heavy truck traffic that would result therefrom,
19 we established an axle load of 36,000 pounds for the design
20 of the pavements. We now reaffirm that conclusion.

21 "Based upon the above design load, designs were develop-
22 ed for both asphalt and concrete pavements. Both designs
23 were considered to be of equal load carrying capacity.

24 "The asphalt pavement design consisted of:

25 3 1/2" asphaltic concrete surface and binder course.

1 3" penetration macadam course.

2 5" water-bound macadam course.

3 16 1/2" blanket course (SS-5 Ohio Specifications)

4 The 16 1/2" blanket course would be laid on thoroughly compact-
5 ed subsoil having a California Bearing Ration value of not less
6 than 5.

7 "The concrete pavement design consisted of:

8 10" reinforced portland cement concrete pavement.

9 6" granular sub-base material.

10 The granular sub-base would be of a stable non-frost heaving
11 material such as bank sand and gravel, slag, crushed stone, or
12 mixtures thereof having a plasticity index of 3 or less. The
13 granular sub-base material would be laid on a thoroughly com-
14 pacted suitable sub-soil having a sub-grade reaction modulus
15 of 150 or more.

16 "On the matter of comparable designs, we would like to
17 refer to the meeting of the Ohio Turnpike Commission on August
18 20, 1951 at which time the Commission heard from representa-
19 tives of both the asphalt and concrete industries. Prior to
20 that meeting both industries were cognizant of the concrete
21 pavement design outlined above, but were not cognizant of the
22 asphalt pavement design which had been developed by us for
23 comparative studies. It was necessary, therefore, in order
24 to properly present their briefs to the Commission, for both
25 industries to develop what they considered to be a comparable
asphalt pavement design. The asphalt industry presented a

1 design showing a total depth of pavement of 27 inches and
2 the concrete industry developed a total depth of 29 inches.
3 The total depth of the asphalt pavement set forth hereinbe-
4 fore is 28 inches, therefore, there can be no doubt that we
5 had developed comparable designs and consequently had de-
6 veloped a sound and fair basis of comparison between the
7 two competing types of pavement. Based upon the original
8 data and the data that has been developed since that time,
9 it is still our opinion that the above designs are sound and
10 are comparable.

11 "In developing the estimated cost and construction
12 schedule for the Ohio Turnpike, it was necessary to fully
13 explore the methods of awarding construction contracts and
14 the advantages and disadvantages of each method. Basicall-
15 ly, it had to be determined whether separate contracts would
16 be awarded for grading and drainage, structures, and paving,
17 or award contracts for grading drainage and structures with
18 the paving contracts handled separately, or award so called
19 "package" contracts which include all construction opera-
20 tions within a three to five mile construction section nec-
21 essary to complete and ready that section to receive traf-
22 fic. We determined that the "package" contract would pro-
23 duce the Ohio Turnpike at minimum costs for the following
24 reasons:

- 25 1. All construction operations within a con-

1 struction section are under the control of a single
2 organization, thereby reducing to a minimum the over-
3 head costs.

4 2. The contractor can schedule and control each
5 and every one of the operations necessary to carry his
6 contract through to completion and at no time and in no
7 way is dependent upon the operations of other contract-
8 ors during the prosecution of his work. This elimi-
9 nates contingent costs that would be added to bid pric-
10 es to provide for delays and interruptions to con-
11 struction operations that would result if one contract-
12 or is dependent upon the operations of another in the
13 performance of his contract and also eliminates the
14 possibility of claims for damages arising from such
15 conditions.

16 3. The contractor is permitted to place material
17 orders with suppliers months in advance of the need for
18 such materials at the site of the work. For instance
19 the contractor can order the aggregates required for
20 the pavement at least six months in advance of paving
21 operations. The supplier or producer is thereby per-
22 mitted to rationally schedule his production to meet
23 the demands of the project and both the producer and
24 the contractor can stockpile materials in advance of
25 the time when peak demands for such materials must be

1 met. There can be no question that such a plan results
2 in substantial reduction in material costs when compar-
3 ed to any alternative plan that would not permit regu-
4 lated demand, production and stockpiling of materials.
5 Considering the tremendous quantities of materials in-
6 volved in the construction of the Ohio Turnpike, any
7 plan involving the ordering of such quantities of ma-
8 terials within a relatively short period of time for
9 practically immediate delivery would place a very heavy
10 burden on the producers of northern Ohio, would neces-
11 sarily increase the cost of production, and would un-
12 doubtedly result in substantial delays in the progress
13 of the work.

14 "For the reasons outlined above we adopted the "pack-
15 age" contract method as the basis of the estimated cost set
16 forth in the Engineering Report, dated August 15, 1951 and
17 we consider the use of "package" contracts to be essential
18 if the costs of the Ohio Turnpike are to be within our es-
19 timates. Furthermore we have had intimate knowledge of and
20 have rendered engineering services for major highway pro-
21 jects as well as turnpike projects in recent years, and it
22 has been our experience that there are substantial dollar
23 savings in the cost of construction by utilizing the "pack-
24 age" contract method.

25 "The next determination to be made covered the question

1 of whether or not the pavement on the Ohio Turnpike should
2 or should not be of uniform type. The design standards for
3 the Turnpike were developed to produce a highway of the high-
4 est standards it is possible to build. These standards ex-
5 tended through the complete range of design criteria such as
6 a limit of 2% upgrades, very flat horizontal curves, long
7 sight distances, a wide median divider, wide paved shoulders
8 flanking each directional roadway, drainage standards to
9 preclude the possibility of roadway flooding, and other simi-
10 lar requirements commensurate with the development of a
11 highway project of the highest type. Keeping in mind such
12 criteria, we considered that any plan that would produce a
13 "crazy quilt" pattern of paving consisting of a few miles of
14 one type of pavement followed by a few miles of a different
15 type is not consistent with the standards that were develop-
16 ed for the other elements of the highway. While one will
17 frequently encounter a change in pavement type in traveling
18 the highways of the United States, neither the riding sur-
19 face nor the other standards of design for the ordinary
20 highway systems are comparable to the standards for the Ohio
21 Turnpike. In addition to the disadvantage of the "crazy
22 quilt" pattern, any plan which would permit a change of
23 pavement every few miles would produce a difficult mainten-
24 ance problem, requiring the maintenance of two types of
25 pavement with consequent increases in maintenance costs.

11:ms

1 " For the reasons outlined above we concluded that
2 the pavement on the Ohio Turnpike should be of uniform type
3 It is also of interest to note that at the aforementioned
4 meeting of the Ohio Turnpike Commission on August 20, 1951,
5 the Chairman directed a question to the representatives
6 of both the asphalt and concrete industries inquiring whether
7 or not they considered uniformity of type of pavement type
8 to be desirable. The answers, without exception, were in
9 the affirmative. It is of further interest to note that every
10 turnpike in the United States, either constructed or under
11 construction, has a uniform pavement throughout its length
12 and furthermore we know of no other major highway project
13 constructed in recent years where the pavement type has
14 been varied within the length of the project.

15 " In developing the estimated comparative costs of
16 asphalt and concrete pavement, we compared the cost of an
17 asphalt pavement having a total depth of 28 inches as set
18 forth hereinbefore against the concrete pavement 16 inches
19 in depth plus adjustments in the subgrade required to re-
20 move unsuitable material excessively susceptible to frost
21 action. In order to provide for the above mentioned un-
22 suitable material we assume that 12 inches of suitable
23 borrow material would have to be laid under the concrete
24 pavement for the full length of the Turnpike thus we com-
25 pared a total depth of 28 inches of material in each case.

1 "We studied and analysed the records of the High-
2 way Department of Ohio and other States relative to bids
3 received during recent years for both types of pavement and
4 based our estimate upon these studies and analyses. Detailed
5 studies were made of available sources of materials for both
6 types of pavement and of the impact that the heavy demand
7 to satisfy the requirements of the project would have upon
8 such sources. From these data we prepared our analyses.

9 "In order to check our data, we then retained two
10 large firms of road building contractors known to be experi-
11 enced in large scale construction of both types of pavements.
12 From the strip maps prepared for the project we established
13 five hypothetical construction contracts, each approximately
14 five miles in length and assigned three five mile sections
15 to each of the contractors. This resulted in an over-
16 lapping of the areas of analysis and a check of one con-
17 tractor's estimates against the other. Estimates of paving
18 and earthwork quantities for each section were furnished the
19 contractors and they were requested to prepare unit prices
20 for thses items just as though they were submitting com-
21 petitive bids for the work. The results of independent
22 analyses by these contractors confirmed the conclusions that
23 we had reached as a result of our own studies.

24 "While the above studies and analyses were being
25 made, the Ohio Department of Highways independently prepared

1 designs for asphalt and concrete pavements for the Turnpike
 2 and conducted its own analyses and estimates of the comparative
 3 costs. The findings of the Department also confirmed our
 4 conclusions, namely, that concrete pavement was more
 5 economical than asphalt pavement for the Ohio Turnpike.

6 "We have recently reviewed our findings and have
 7 analysed all additional data that has become available since
 8 we made our original studies. The following tabulation
 9 portrays the unit prices that were utilized for the com-
 10 parative estimates of cost of the two types of pavements and
 11 the average bid prices received in Ohio and other States.

	"3-1/2" "Asphaltic Concrete S. Y.	3" Penetration Macadam S. Y.	5' Waterbound Macadam S.Y.	Granular Sub-base C.Y.	Blank Course C.Y.
"J. E. Greiner Co. July, 1951	\$ 1.58	1.33	\$ 1.26	3.00	3.00
"Ohio Dept. of Highways 1951-Bids	1.86	1.08	1.12	-	3.00
"Ohio Dept. of Highways 1952-Estimate	1.46	1.25	1.25	4.50	3.75
"Columbus Airport Dec. 1951	1.87	-	-	-	-
"Pa. Dept. of Highways-1951	2.02	1.42	1.24	-	-
"Pa. Dept. of Highways-1952	2.02	1.41	1.19	-	-
"Md. Dept. of Highways-1951	1.88	1.62	1.50	-	-

1	"Md. Dept. of Highways - 1952	1.88	1.62	1.50	-	-
2						
3	"New Jersey Turnpike-1950	2.66	- 2.66	-	-	-
4						
5	"C. J. Langenfelder Est. -1951	2.41	1.61	1.24	4.65	2.27
6						
7	"S. J. Groves Est.-1951	2.54	1.40	1.25	4.03	2.16
8						
9		" 9" R.C. Pavement S.Y.	10" R.C. Pavement S.Y.	Granular Sub-base C.Y.	Borrow G. I.	
10						
11	"J. E. Greiner Co. July 1951	-	5.10	4.33	0.64	
12						
13	"Ohio Dept. of Highway-1951-Bid	4.50	-	-	0.60	
14						
15	"Ohio Dept. of Highway-1952-Est.	-	5.25	4.50	0.60	
16	"Western Ext. Pa. Turnpike-1950	4.47	-	2.80	0.33	
17						
18	"Pa. Dept. of Highways-1951	5.56	5.54	-	-	
19	"Pa. Dept. of Highways-1952	4.92	-	-	-	
20	"C.J.Langenfelder Est.-1951	4.70	-	4.65	0.63	
21						
22	"S. J. Groves Est.-1951	4.70	-	4.03	0.71	
23	"Columbus Airport Dec., 1951	(13" R.C. Pavement - \$4.95/SY)				
24						
25						

1 "Based upon the unit prices developed by J. E.
2 Greiner Company in July 1951 the estimates of the two types
3 of pavement were as follows:

4 "Flexible Pavement - \$ 55,737,901

5 "Rigid Pavement - 52,934,369

6 "Based upon the unit prices developed by the Ohio
7 Department of Highways in December, 1952 the estimates of
8 the two types of pavement are as follows:

9 "Flexible Pavement - \$ 61,162,669

10 "Rigid Pavement - 53,980,771

11 "As reported in the November, 1952 issue of Roads
12 and Streets, the Indiana Highway Department recently took
13 bids on two adjacent five mile test sections of paving. One
14 section designed to meet the recommendations of the Asphalt
15 Institute consisted of 1-inch asphaltic concrete surface
16 course, 1-1/2 inches asphaltic concrete binder course, 2-1/2
17 inches of hot mixed asphaltic concrete base, 8 inches of water-
18 bound macadam, and 5 to 8 inches of permeable drain sub-
19 base or a total of 18 to 21 inches. The low bid was
20 approximately \$5.50 per square yard. The concrete section
21 designed to meet the recommendations of the Portland Cement
22 Association consisted of 9 inches of reinforced concrete laid
23 on 5 to 6 inches of selected subgrade. The low bid was
24 approximately \$5.01 per square yard.

25 "In the same issue of Roads and Streets the

1 Delaware Highway Department reported the results of alternative
2 bidding of pavement types for three contracts on U. S. Route
3 13 which is characterized in the article as the Delaware
4 upper highway. The contracts were 5.850, 8.385 and 7.956
5 miles in length respectively. The flexible pavement design
6 consisted of 3-1/4 inches asphaltic concrete surface and
7 binder course, 8 inches of waterbound macadam, 1 inch of
8 compacted quarry screenings and 8 inches of selected material.
9 The concrete section consisted of 9 inches of reinforced
10 concrete and 7 inches of selected material. On all three
11 contracts the rigid alternate was low and, as a matter of
12 fact, in every instance where a contractor bid both alternates,
13 the concrete alternate was low. The weighted average costs
14 based upon the lowest bids received were \$5.07 for flexible
15 pavement, and \$4.63 for concrete pavement.

16 "Based upon review and analysis of the foregoing
17 data we are satisfied that our conclusions of July and Aug-
18 ust 1951, were sound and we reaffirm our findings namely,
19 the concrete paving is more economical than asphalt pavement
20 for the Ohio Turnpike.

21 "As to comparative maintenance costs, it is very
22 difficult, if not impossible to obtain usable data from the
23 records of highway departments. Such records cover high-
24 ways of all types of design, varying roadway widths, varying
25 ages and the like. The Paving Committee for the New Jersey

1 Turnpike spent months analyzing data on maintenance costs, and
2 since J. E. Greiner Company was represented on that committee,
3 we had access to such data. The conclusions reached by the
4 Committee were as follows:

5 "Flexible Pavement

6 \$0.02/SY/Yr. First Five Years.

7 \$0.07/SY/Yr. Next Thirty Years.

8 "Rigid Pavement

9 \$0.01/SY/Yr. First Five Years.

10 \$0.06/SY/Yr. Next Thirty Years.

11 "We analyzed these data and reviewed the actual
12 maintenance costs on the original 160 miles of the Pennsylvania
13 Turnpike which consisted of a 9 inch reinforced concrete pave-
14 ment with no selected subgrade under the pavement. The actual
15 maintenance costs in Pennsylvania averaged less than \$0.02/SY/Yr.
16 for 10 years." And that included ordinary maintenance as well
17 as slab replacement. "This coupled with the fact that our
18 representative on the New Jersey Turnpike Paving Committee was
19 of the opinion that the maintenance costs for flexible pave-
20 ment for the last thirty years should be \$0.093/SY/Yr. instead
21 of \$0.07/SY/Yr. led us to the conclusion that the figures de-
22 veloped in New Jersey were conservative and suitable for com-
23 parative studies in Ohio. We therefore reaffirm our con-
24 clusions that the estimated maintenance expenditures over a
25 thirty-five period on Ohio Turnpike Project No. 1 will be as
follows:

"Flexible Pavement - \$14,228,000

"Rigid Pavement - \$11,956,000

"Based upon all of the data presented hereinbefore,
we made and reaffirm the following recommendations:

"1. An axle load of 36,000 pounds should be used
in designing the pavement for the Ohio
Turnpike.

"2. Construction sections of the Turnpike should
be advertised, competitively bid and awarded
on the basis of 'package' contracts.

"3. The pavement throughout the length of the
Turnpike should be of a uniform type.

"4. The pavement for the Turnpike should be con-
crete consisting of 10 inches of reinforced
portland cement concrete laid on 6 inches of
granular sub-base material.

"Since the above recommendations were made and
included in our Engineering Report of August 15, 1951,
the asphalt industry has recommended that alternative bids
for paving material be employed on the Ohio Turnpike. This
recommendation is not compatible with the last three
recommendations listed above.

"Assuming that the theory of 'package' contracts
will be utilized and that the pavement will be of uniform
type, then alternative bidding can only be employed if the

1 advertising for construction contracts is delayed until plans
2 and specifications for the entire project are completed. On
3 the basis of the progress schedule incorporated in our
4 Engineering Report of August 15, 1951, this would mean that
5 no construction contracts would be awarded for a period of
6 twelve months following the delivery of the bonds which were
7 sold to finance the project. Such a delay would be incurred
8 because it will be necessary to complete all plans and re-
9 ceive bids on all construction sections before an analysis
10 can be made to determine the type of pavement to be used.
11 This would necessitate the receiving of bids for the entire
12 project within a very short period of time and the award of
13 all construction contracts for 240 miles of highway simul-
14 taneously. Such a plan would materially increase the cost
15 of the project for the following reasons:

16 "1. The completion of the project would be delayed
17 for a period of six months or more thereby in-
18 creasing the interest cost during the con-
19 struction period and resulting in a loss of
20 revenue for a similar period.

21 "2. It would make it impossible to complete the
22 expedited section of the Ohio Turnpike adjacent
23 to the Pennsylvania line in the calendar year
24 1953 with the resulting loss of anticipated
25 revenues from that section.

20

1 "3. By advertising and awarding all the construc-
2 tion sections comprising 240 miles of highway
3 within a very short period of time, the
4 competition by prospective bidders on each
5 contract would be reduced to a minimum and
6 would result in increased costs of construction.

7 "4. The orders for materials required for the entire
8 project would be placed simultaneously thus
9 placing a tremendous burden upon the producers
10 or northern Ohio and would assuredly increase
11 the cost of materials.

12 "Assuming that the theory of 'package' contracts
13 is utilized and that alternative bidding on pavement types is
14 employed, then it becomes possible that the Ohio Turnpike
15 will assume the 'crazy quilt' pattern resulting from a change
16 of pavement type every few miles. The disadvantages of this
17 plan have been discussed hereinbefore.

18 "The only other alternative, if alternative bidding
19 on pavement types is utilized, is to dispense with the theory
20 of 'package' contracts and its inherent economic advantages
21 and award separate contracts for paving operations. This
22 would necessitate the awarding of contracts for grading,
23 drainage and structures and the delaying of pavement contracts
24 until such time as the grading operations have advanced
25 sufficiently to receive the paving. The paving contracts

1 for the entire project would then have to be advertised and
2 bids received and analyzed before awards are made. Based upon
3 the analyses of all the bids, the type of pavement would be
4 selected and all of the contracts would be awarded simul-
5 taneously. This procedure would increase the cost of con-
6 struction for reasons discussed in detail hereinbefore,
7 namely:

- 8 "1. The necessity of duplicate overhead organ-
9 ications within a construction section.
- 10 "2. The necessity of duplicate operations by two
11 contractors within a construction section.
- 12 "3. The inability of the producer and the con-
13 tractor to rationally schedule, and control
14 production and to stockpile materials required
15 for paving operations.
- 16 "4. The inability of a contractor to properly
17 control his operations because of his
18 dependency upon the operations of other
19 contractors.
- 20 "5. The possibility of claims for damages arising
21 out of delays resulting from the lack of
22 unified control of all construction operations
23 within a construction section.

24 "Having re-examined all the basic data upon which
25 our recommendations were based and having examined all the

recommendations and data furnished us by others, the conclusions which we reached and which were set forth in our Engineering Report of August 15, 1951 remain unchanged. We therefore reiterate our previous recommendations, namely, that -

- "1. Construction sections of the Ohio Turnpike be advertised, competitively bid and awarded on the basis of 'package' contracts.
- "2. The pavement throughout the length of the Turnpike should be of uniform type.
- "3. The pavement for the Turnpike should be concrete consisting of 10 inches of reinforced portland cement concrete laid on 6 inches of granular sub-base material.

"J. E. GREINER COMPANY

E. J. Donnelly"

CHAIRMAN SHOCKNESSY: Thank you, Mr. Donnelly.

We shall resume our deliberations after recess.

We are about ten minutes over time. So let us resume here at five minutes before two.

(Thereupon a recess was taken until 1:55 o'clock, P. M.)

AFTERNOON SESSION,
Saturday, December 6, 1952.

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CHAIRMAN SHOCKNESSY: All right, we will come to order now, folks.

All members of the Commission are present after the recess.

Before proceeding with the reports, I would like to appoint a committee to handle a request that we have had from Erie County for a change in the line as it affects certain farms there, and accordingly I will name Dr. McKay Chairman of the Committee. And, Doctor, I will hand you the letter of the Chief Engineer under date of December 4th, and mention as members of the Committee Mr. Kauer and the Greiner Company.

At your earliest convenience it would be a good plan to meet and make a recommendation to the Commission not later than the next meeting. I mean, the next regular meeting.

MR. MCKAY: The first Tuesday in January.

CHAIRMAN SHOCKNESSY: Yes.

Now, where is Mr. Donnelley?

MR. DONNELLEY: Right here, sir.

CHAIRMAN SHOCKNESSY: Mr. Donnelley, you had

1 finished offering a -- I am afraid to use the word -- I
2 was going to say critique of your report. (Laughter)
3 Anyhow, we have some other reports to be received from you.
4 I believe Dr. McKay particularly had requested certain
5 information.

6 Doctor, will you call upon him?

7 MR. McKAY: I would like to ask Mr.
8 Donnelley if he is prepared to report on two questions
9 which I have raised and which the commission has agreed to
10 be raised.

11 Number 1, Mr. Donnelley, is the question of what
12 is involved in your opinion as consulting engineers with
13 respect to the consequences of alternative designs of cross
14 section of pavement types that have been under discussion,
15 and any economic costs of delay that may be involved with
16 respect to cost to the Commission itself in construction.

17 The second question I would like to raise, that
18 I would like to have you prepared to make an answer on,
19 is the question of the sixteen contract design engineers'
20 opinions with respect to the general and the supplementary
21 specifications that we have before us.

22 I think that was raised, Mr. Chairman, at the
23 last meeting of the Commission.

24 I would like to hear on both subjects on behalf
25 of the Commission, if you are prepared.

1 MR. DONNELLEY: Yes, sir, I have letters
2 prepared on both subjects, Dr. McKay, and if I may I will
3 just read these letters to the Commission.

4 "Gentlemen:

5 "Pursuant to your request --

6 CHAIRMAN SHOCKNESSY: The subject of the first
7 letter is?

8 MR. DONNELLEY: The subject of the first
9 letter is the costs, additional engineering costs and the
10 other related costs to preparing alternative designs and
11 taking alternative bids for paving.

12 MR. McKAY: Okay.

13 MR. DONNELLEY: "Pursuant to your request
14 we submit herewith the results of estimates we have secured
15 from each of the sixteen firms of Contracting Engineers,
16 now engaged in the design of Ohio Turnpike Project No. 1.
17 These estimates relate to the probable additional engineer-
18 ing costs incidental to the preparation of plans suitable
19 for the taking of alternative bids on both flexible and
20 rigid types of roadway pavement. Along with the estimated
21 engineering costs we have secured from each Contracting
22 Engineer an estimate of the length of time by which the
23 completion of plans, ready for bidding, will be delayed if
24 those plans must be prepared for such alternative bids.

25 "The estimates in question cover the twenty

1 Design Sections, aggregating 228.4 miles of Turnpike, under
2 design by the Contracting Engineers at the present time.
3 The estimated additional costs total \$1,191,225. for the
4 twenty Design Sections. This figure is equivalent to about
5 \$5216 per mile of Turnpike. Assuming that this average
6 additional cost per mile would apply also to the 13 miles
7 of Design Section 21 at the extreme western end of the
8 Turnpike, not yet under design, another \$67,808 must be
9 added to the above total. Thus for the entire Turnpike
10 it is indicated that the additional engineering costs in
11 question will approximate \$1,259,000.

12 "In our opinion this figure represents an entirely
13 reasonable estimate and we concur in it.

14 "The Contracting Engineers estimates of the
15 additional time which they would require varied from section
16 to section between a minimum of about one month to a
17 maximum of about two months. The two month delay would
18 apply to the critical Design Section D-1 at the eastern end
19 of the Turnpike as well as to several intermediate sections
20 and indicates a probable delay of at least two months in
21 the opening of the Turnpike to traffic. Based on antic-
22 ipated earnings in the first year of operation as set forth
23 in the Traffic Report and on estimated maintenance and
24 operating expenses for the first year, a delay of two months
25 would entail a loss of net revenues of some \$3,060,000.

1 "Summarizing the foregoing we have to report
2 to the Commission that based on estimates furnished by your
3 Contracting Engineers the necessary engineering procedures
4 incidental to taking alternative bids on flexible and
5 rigid types of pavements involves an unanticipated expend-
6 iture of some \$1,259,000 for engineering services and a
7 delay of some two months in completion of the project result-
8 ing in a loss of about \$3,060,000 in net revenue.

9 "Moreover there are certain other elements tend-
10 ing to increase costs inherent in alternative bidding.
11 These costs are not easily estimated but they are neverthe-
12 less real and in our opinion substantial. For example
13 the delayed decision as to type makes it impossible for
14 material suppliers to stockpile pavement materials in
15 anticipation of the demand for such materials.

16 "The taking of alternative bids presents a
17 question as to whether or not alternating types of pavement
18 in checkerboard pattern would be permitted. If they are
19 we believe that maintenance costs would increase. If not
20 paving contracts separate from the grading and structure
21 contracts would probably be required and such an arrange-
22 ment, involving more than one responsible contractor on a
23 given section of roadway, could result in substantial
24 increase in both cost of construction and the time required
25 for completion of the project.

1 "Very truly yours,"

2 Mr. Chairman, I hand you this report and the
3 replies that were received from each of the contracting
4 engineers as to their estimate of costs on their section
5 and the time required.

6 CHAIRMAN SHOCKNESSY: Thank you, Mr. Donnelley.

7 MR. DONNELLEY: Now, the second question
8 is the matter of the approval of the general and supplement-
9 al specifications.

10 This is also addressed to the Commission.

11 "On November 24, 1952 we were advised, by letter
12 from the Chief Engineer of the Commission, of your desire
13 that the Contracting Engineers be instructed to comment on
14 the proposed General Specifications for Ohio Turnpike
15 Project No. 1, preliminary drafts of which had previously
16 been furnished them in mimeographed form, and to advise
17 whether or not these specifications met with their approval
18 and to make such recommended changes as may be required.
19 We have passed this request on to the fifteen Contracting
20 Engineers (excluding J. E. Greiner Company) and have re-
21 ceived replies in writing from each of them. Copies of
22 our letters to the Contracting Engineers and the original
23 replies are attached hereto.

24 "Eight of the replies expressed or implied
25 approval of the specifications without comment or sugges-

1 tions. The remaining seven also either expressed or
2 implied approval but added certain comments and suggestions
3 covering a number of items. Many of these comments are
4 no longer pertinent because of recent revisions which have
5 been made in the specifications and which are embodied in
6 the proposed specifications which were presented to the
7 Commission at its meeting on December 2, 1952. Other
8 comments had to do with matters which are peculiar to certain
9 localities and are not properly a subject for inclusion in
10 the General Specifications but can more appropriately be
11 covered in the special provisions of the pertinent contract.

12 "We have considered the merits of the relatively
13 few comments and suggestions not included in the above
14 categories and we have discussed them with representatives
15 of your engineering staff and of the Department of Highways.
16 It is our opinion that no significant improvement in the
17 specifications as now written would result from the adoption
18 of any of the modifications which have been suggested but
19 not already incorporated in the draft before you for your
20 consideration.

21 "We approve the specifications as now written.
22 We recommend that those specifications be approved by the
23 Commission.

24 "Very truly yours,"

25 Mr. Chairman, I hand you this letter with all of

the comments from the Contracting Engineers relative to the matter.

CHAIRMAN SHOCKNESSY: Mr. Donnelley, you mentioned that eight of the replies expressed or implied approval of the specifications, without comment or suggestions. The remaining seven letters either expressed or implied approval but added certain comments and suggestions covering a number of items. Now, I am understanding from your statements that those comments and suggestions were not with respect to any substantial change.

MR. DONNELLEY: That is correct.

CHAIRMAN SHOCKNESSY: And that these fifteen engineering firms, who we believe are representative of the top echelon of similar firms in the United States, are therefore giving substantial approval?

MR. DONNELLEY: That is correct, sir.

CHAIRMAN SHOCKNESSY: Now, you say in your last paragraph, "We approve the specifications as now written. We recommend that those specifications be approved by the Commission."

Now, you mean, the general specifications and the supplementary?

MR. DONNELLEY: And the supplemental specifications, yes, sir.

CHAIRMAN SHOCKNESSY: Thank you.

Now, Mr. Linzell, I mentioned this morning that we had received from you as Director of Highways a comparison of unit costs which I would like to call upon you for now.

(See next page.)

1 MR. LINZELL: On December the 1st I wrote
2 the Turnpike Commission and stated as follows:

3 "In accordance with your request by letter of
4 November 28, we have reviewed the question of unit prices
5 which should be used --

6 CHAIRMAN SHOCKNESSY: Mr. Linzell, for the purpose
7 of this record, I would like to ask you to show that the
8 letter is addressed there --

9 MR. LINZELL: Mr. C. P. Smith, Executive
10 Assistant to the Turnpike Commission.

11 "In accordance with your request by letter of
12 November 28, we have reviewed the question of unit prices
13 which should be used in comparing construction costs for the
14 two types of pavement which were considered about a year and
15 a half ago for Ohio Turnpike Project No. 1.

16 "The unit prices tabulated below are those which
17 we would use now if we were making such a study at the
18 present time."

19 I can repeat them if you wish, but they are
20 identically the same figures that Mr. Donnelley used in
21 his report when he used the phrase "State Highway 1952
22 estimated costs."

23 Do you think it necessary to read the rest of it?

24 CHAIRMAN SHOCKNESSY: I wish you would.

25 MR. LINZELL: Skipping the tabular material,

3-2

1 I will go on with the rest of the letter.

2 "In view of the limited time available for making
3 this study, the costs given above are not based on a detail-
4 ed cost analysis of each item and of each section such as
5 our estimates would make if they were preparing estimates
6 of a project for a sale. They are based rather on an overall
7 appraisal of cost trends for major construction items during
8 the past year and a half. Both the engineers' estimate and the
9 contractors' bid prices have been studied on jobs where type
10 of construction and size of the item were such as to appear
11 applicable to the type of contracts that will be involved in
12 constructing the turnpike. For some items such as the
13 penetration macadam and the asphaltic concrete which we have
14 not had on many large jobs in the last year and a half we
15 have considered costs on jobs several years old and then
16 adjusted them to present day prices.

17 "You will note under the granular sub base items
18 we have given the cost of two types of material. It was
19 our understanding that the free draining type was used in
20 previous considerations for sub base under the concrete
21 while the less restrictive type was used in the lower 16 $\frac{1}{2}$ "
22 of the full depth flexible design. Recent studies made by
23 engineers of the department indicate that drainage of
24 waterbound macadam base is very important and we therefore
25 would suggest now that 6" of free draining sub base should be ^{also}

1 used immediately under the waterbound macadam and extended
2 through the shoulders to the fill or ditch slopes to pro-
3 vide drainage for the macadam. The bottom 10 $\frac{1}{2}$ " of the sub
4 base in the flexible pavement should be the regular un-
5 restricted blanket course material listed as Item I-22
6 grading A, B, C, or D.

7 "The foregoing figures represents our considered
8 judgment of fair and equitable unit prices for making a
9 comparison of the two designs today. You will note that they
10 do not differ greatly from those used in the J. E. Greiner
11 study of a year and a half ago."

12 I may comment that had I known I was going to be
13 asked to study the Greiner Report and the recommendations
14 made, that I would have appraised myself and brought myself
15 up-to-date on figures without being prompted by the
16 Commission to do so.

17 (See next page.)
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1 CHAIRMAN SHOCKNESSY: Thank you, Mr. Linzell.

2 Now, Mr. Linzell, that document that you had
3 last week, or early this week, which shall remain nameless,
4 will you bring to the attention of the Commission at this
5 time so that it may appear in the record?

6 MR. HERTZ: I didn't quite hear that,
7 Mr. Shocknessy. Would you please have it read?

8 (The last statement by Chairman Shocknessy was
9 read by the reporter.)

10 MR. LINZELL: The nameless document is
11 just a facetious statement made because Mr. Shocknessy and
12 myself differed on whether it should be called a critique
13 or some other document. I said comments by the department.

14 The comments were made for me or by me, I might
15 say, because members of my staff studied these specifications
16 which were in printer's proof form mostly (some of it was
17 in mimeograph form) of the Turnpike Commission's general
18 specifications.

19 I had these specifications compared with our
20 Highway Department specifications word for word. The
21 document, the nameless document, simply called attention
22 to those variations that existed in the Turnpike specifi-
23 cations that differed from our highway specifications.

24 I may say that almost all of the comments called
25 attention to small differences in wording, many typo-

1 graphical errors, and in a few instances what I considered
2 pertinent differences,

3 CHAIRMAN SHOCKNESSY: Without reading this, Mr.
4 Linzell, I would like it to be incorporated by reference
5 in the proceedings of this meeting. Is that agreeable with
6 you?

7 MR. LINZELL: Yes.

8 CHAIRMAN SHOCKNESSY: Is that agreeable to all
9 members of the Commission, that it be incorporated by
10 reference in the proceedings of the meeting?

11 (The members of the Commission nodded their heads
12 affirmatively.)

13 CHAIRMAN SHOCKNESSY: All the members have indi-
14 cated it will be agreeable for this memorandum dated
15 November 26, 1952, on the subject of construction specifi-
16 cations for Ohio Turnpike, from Charles W. Allen to George
17 J. Thornmyer, to be incorporated as part of the proceedings
18 of this meeting.

19 - - -

20 The memorandum dated November 26, 1952, above
21 referred to is attached to the original transcript of the
22 proceedings of this meeting.

23 - - -

24 MR. DUNBAR: Mr. Chairman, may I make
25 a comment?

2-3

1 I stated when I made my report that I had been
2 informed that all the matters which were the subject of
3 that communication which has just been made a part of the
4 record had been thoroughly gone over in the past three or
5 four days by Mr. Linzell or his representatives, the
6 Chief Engineer and his representatives, and the J. E.
7 Greiner Company, and that all matters as to which there
8 were differences had been composed to the complete satis-
9 faction of all of them. I think it might be well for Mr.
10 Linzell to state whether that is the case.

11 CHAIRMAN SHOCKNESSY: Yes, Mr. Linzell, will
12 you state whether or not the representatives of the High-
13 way Department --

14 MR. LINZELL: Show me the review documents
15 you have here of the specifications, the ones you are
16 referring to.

17 CHAIRMAN SHOCKNESSY: Mr. Linzell is verifying
18 whether or not the differences which are mentioned in the
19 memorandum as existing between the specifications of the
20 Commission and the usual specifications of the Highway
21 Department have been composed.

22 MR. DUNBAR: I might say that last
23 night I asked that question of Mr. Thormyer of Mr. Linzell's
24 department, and he confirmed, or he made the statement upon
25 which my statement was based, but I thought the Commission

2-4

1 might well have --

2 CHAIRMAN SHOCKNESSY: Mr. Linzell is making a
3 spot check right now.

4 MR. LINZELL: I am just making a spot
5 check of those I considered important.

6 MR. DUNBAR: I thought it might be
7 desirable for the Commission to have it directly from Mr.
8 Linzell.

9 MR. LINZELL: I am satisfied that the
10 pertinent comments that I made have been incorporated in
11 the specifications, have been given effect to in those
12 specifications.

13 CHAIRMAN SHOCKNESSY: That is, you consider that
14 the specifications of the Commission have been reconciled
15 in all respects wherein a reconciliation would be desirable.

16 MR. LINZELL: Yes.

17 CHAIRMAN SHOCKNESSY: If you will bear with me
18 just a few moments, there is something that I want to
19 check before we proceed.

20 Do we have any other reports to come before the
21 Commission? No reports which the Commission has re-
22 quested are yet to come before it? Is that correct?

23 (No response.)

24 Evidently it is.

25 I have before me a letter addressed to the Ohio

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1 Turnpike Commission by the Chairman of the Pennsylvania
2 Turnpike Commission:

3 "In answer to your recent inquiry, I am very glad
4 to give you the following information:

5 "The original Turnpike, 160 miles in length, has
6 been in operation since October 1940. At this time the
7 riding surface of this original section is excellent. No
8 unusual maintenance problems have existed. What pavement
9 replacements have been required are due primarily to drain-
10 age problems, as no special sub-grade exists under the
11 original section of the Turnpike. Actual slab replacements
12 have been very small. The average annual replacement and
13 maintenance costs have run approximately two cents per square
14 yard of the total pavement for a period of ten years and
15 seven months.

16 "In view of the Commission's satisfactory
17 experience on the original section, they have since con-
18 structed both the Philadelphia and the Western Extensions
19 of concrete pavement but with special sub-grade below the
20 pavement. Riding qualities have been very satisfactory.
21 The Commission is now engaged in the construction of the
22 Delaware River Extension, and in view of past satisfactory
23 experience is again using concrete pavement with a special
24 sub-grade below the pavement.

25 In conclusion let me say that the Commission has

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1 been completely satisfied with the results achieved from
2 the use of concrete pavement, both as to maintenance costs
3 and a definite assurance of a high standard of riding
4 qualities that must always be obtained.

5 "Very truly yours,

6 "T. J. Evans, Chairman"

7 The letter is on the stationery of Commonwealth
8 of Pennsylvania, Pennsylvania Turnpike Commission, under
9 date of December 5, 1952.

10 I believe that the Commission should now under-
11 take a general discussion of the recommendations, documents,
12 which have been brought to its attention today, whether
13 for the first time, as in the case of several of Mr.
14 Donnelley's letters, or the seventy times seven times in
15 the case of the Greiner Report of August 15, 1951.

16 And I see a colleague of mine in the room smiling,
17 because he knows that seventy times seven is an understatement
18 of the number of times that the Greiner Report has
19 been before the Commission.

20 Gentlemen; as we undertake our discussions,
21 deliberations, today we bear in mind that we are an autonomous
22 public body exercising judgment and taking action in
23 accordance with law. We are not bound by the opinion
24 of any expert, whether that expert be an employee of the
25 Commission on a contract of personal service, or other basis.

1 This deliberative public body has enjoined upon
2 it by law the duty of exercising its judgment in accordance
3 with law, mindful of all considerations, whether economic,
4 engineering or otherwise. There is no single authority --
5 and I am using authority to mean authoritative expert --
6 whose judgment this Commission is bound to accept over any
7 independent exercise of its own judgment.

8 When I spoke earlier today I mentioned that the
9 Commission has before it all the testimony which has been
10 adduced in the Second District Court of Appeals in the
11 Shafer case recently. I must add to that that so also
12 does it have before it testimony and authority adduced in
13 other litigation with which the Commission is familiar.
14 The Commission in furtherance of its mission has had the
15 help of many skills, the skills of lawyers, the skills of
16 engineers, the skills of civic minded persons, upon which
17 to rest its judgment, in addition to experience which the
18 several members have derived in their own lifetime and
19 which their education and background compose.

20 I mentioned this morning the Commission owes a
21 debt of three hundred twenty-six million dollars, whose
22 daily service charge has a compulsion which is inexorable.
23 I mentioned this morning that the net service charge upon
24 the Commission for debt is approximately thirteen thousand
25 dollars a day.

1 MR. MCKAY: That is the average for
2 the life of the bonds after it is open.

3 CHAIRMAN SHOCKNESSY: I said service charge on
4 the debt, which is interest only.

5 MR. MCKAY: That is the average on
6 the bonds after opening.

7 CHAIRMAN SHOCKNESSY: It is net after return upon
8 investment.

9 MR. MCKAY: I am saying it is a differ-
10 ent figure after that. That is the average, because after
11 the construction job is done, the net return applies only
12 to the first three years, Jr. Then your average is for
13 the life of the bonds.

14 MR. MCKAY: For three years only?

15 CHAIRMAN SHOCKNESSY: The average is thirteen
16 thousand dollars net.

17 MR. MCKAY: From then on the average is
18 around fourteen or fifteen thousand.

19 MR. CRAWFORD: It will go up as con-
20 struction moneys are spent.

21 MR. MCKAY: That is right.

22 MR. DUNBAR: The present rate.

23 CHAIRMAN SHOCKNESSY: The present net interest
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1 cost to the Commission is thirteen thousand dollars.

2 MR. McKAY: For the construction
3 period.

5
4 CHAIRMAN SHOCKNESSY: At 2:35 tomorrow it will
5 be another thirteen thousand, and every day it accumulates
6 thirteen thousand.

7 MR. DUNBAR: Almost every day it goes
8 up --

9 MR. McKAY: Through the construction
10 period.

11 CHAIRMAN SHOCKNESSY: It is bound to go up in
12 arithmetical proportion as the funds are excused, and the
13 investment return would be expected to be less.

14 I want to ask Mr. Donnelley something before I
15 proceed further.

16 Mr. Donnelley, you mentioned thirty-five years
17 this morning, in reading from your report, as the period
18 of maintenance, I believe. Is that correct?

19 MR. DONNELLEY: That is correct.

20 CHAIRMAN SHOCKNESSY: Now, the period
21 arithmetically would be thirty-seven years?

22 MR. DONNELLEY: That is correct, sir.

23 CHAIRMAN SHOCKNESSY: Now, I would like to know
24 whether or not there would be any appreciable difference
25 in your conclusion if you had used thirty-seven rather than

1 thirty-five?

2 MR. DONNELLEY: In my opinion there would
3 be no difference, Mr. Chairman.

4 CHAIRMAN SHOCKNESSY: Now, I said "appreciable"
5 and you say, "no."

6 MR. DONNELLEY: That's right.

7 CHAIRMAN SHOCKNESSY: All right, that's all,
8 Mr. Donnelley.

9 I would like to have read that portion about this
10 interest discussion so we are sure it is correct.

11 (Thereupon, the record was read by the reporter,
12 beginning with Chairman Shooknessy's statement, "I mentioned
13 this morning the Commission owes a debt of three hundred
14 twenty six million dollars, whose daily service charge has
15 a compulsion which is inexorable," to the end of the
16 discussion with reference to interest charges.)

17 CHAIRMAN SHOCKNESSY: Do you have an exception
18 to take to that, Mr. Crawford?

19 MR. CRAWFORD: No, sir.

20 (See next page.)
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1 CHAIRMAN SHOCKNESSY: Now, Mr. Crawford has
2 brought to my attention I omitted something which I intend-
3 ed to mention when Judge Hertz made his statement, but I
4 am willing to make it now.

5 The Shafer case, of course, is proceeding at this
6 time, and any evaluation of it that we make is an evaluation
7 in its current status. The case next week may develop
8 testimony which would have an impact which we could not
9 evaluate today because we are ignorant of what such testi-
10 mony might be.

11 Off the record.

12 (Discussion off the record.)

13 CHAIRMAN SHOCKNESSY: Now, regardless of where
14 we are in our discussions, no later than three-thirty we
15 will expect to take a fifteen minute recess. If the
16 discussions of the Commission have proceeded to a point
17 where it will be desirable immediately after recess to have
18 Judge Hertz make his statement, we will do so.

19 Is that all right, Judge Hertz?

20 MR. HERTZ: That is agreeable.

21 CHAIRMAN SHOCKNESSY: All right.

22 I need not admonish, but I will utter again the
23 caveat that no expert is entitled to control our deliber-
24 ations nor our conclusions.

25 What questions do we have for these experts?

1 (No response.)

2 Well, I will open up with one.

3 MR. McKAY: Well, Mr. Chairman, I am
4 perfectly willing to -- I have asked I think during the
5 period, as undoubtedly Mr. Donnelley --

6 MR. HERTZ: I can't hear very well.
7 Is there any objection to my moving up?

8 CHAIRMAN SHOCKNESSY: No, not a bit.

9 MR. McKAY: I think members of this
10 Commission and Mr. Donnelley particularly of the Greiner
11 Company and Mr. Kauer well recall that as far as I am con-
12 cerned individually with respect to judgment -- it began
13 about the first regular meeting, of the day before the
14 4th of July, 1951. Now, on the preliminary report of the
15 Greiner Company and the subsequently final report of the
16 Greiner Company on August 15th, I would like to state
17 briefly why I operate the way I do.

18 I am fundamentally a man that has been in the
19 research field ever since I began teaching at the University
20 of Wisconsin in the early twenties. I taught at that time
21 as part of a course in transportation the first course in
22 highway planning that was ever carried in any curriculum
23 of any university in the country. For a period of three
24 years Thomas McDonald of the United States Bureau of
25 Public Roads employed me, as a member of the University

1 Faculty, as a part time consultant with respect to laying
2 the basis for traffic and planning research concerning the
3 establishment of the present Federal System, with which I
4 later worked with E. W. James, who was assigned in charge
5 of the designation of the routes and their numbering system.

6 Three years later I was requested to take over
7 and organize the Division of Highway Planning and Economics
8 of the United States Bureau of Public Roads by Mr. McDonald,
9 who is still the Commissioner. I moved my family to
10 Washington. And during this period I was engaged in a
11 great many different things, principally in connection with
12 the planning of state highway systems, the first of which
13 was in the State of Ohio in 1925, at which time we began
14 the basis of the use of traffic flow charts, density, re-
15 lationship to width, and using technical engineers out of
16 M. I. T., Illinois, and the Ames Agricultural College,
17 particularly Professor Ogg, Sheffield Scientific at Yale.
18 A variety of different researches went underway in that
19 period of time.

20 I am not attempting to state that I am any sort
21 of an expert in the engineering field, but during those
22 years, with all of the engineers in the different highway
23 departments, -- I think the most able that I remember was
24 Mr. Schmidt, who recently died, as Secretary of the High-
25 way Department of Pennsylvania, one of the collaborators

4
1 with the Pennsylvania Turnpike Commission -- not Schmidt,
2 Schmonk.

3 The most difficult planning project that we had
4 was with the State of Pennsylvania, which at that time --
5 and my opinion is still the same after many years have
6 gone by -- that I thought they sat on the right-hand side
7 of the throne of God with respect to the designing and
8 planning of highway projects.

9 We had during that course of years many research
10 types and plans. My division was made responsible by the
11 Research Group of the United States Bureau of Public Roads
12 of questions of maintenance records on Federal Aid projects
13 throughout the country. They passed over my desk.

14 Years have gone by. There have been a lot of
15 changes. Neverthe less, when it came to the question of
16 the application of my personal judgment with respect to
17 matters of the kind that began last July, I had four
18 problems principally in my mind, and I will tell you frank-
19 ly how I approached it.

20 In the preliminary report there was raised, in
21 my individual opinion, four major things. One was trans-
22 verse flow. The second was the cross section design of
23 pavement and type. The third was whether or not dual
24 type of structures was wise or unwise with respect to
25 this turnpike. And the fourth was whether or not, in

5
1 addition to the other criteria, both with respect to align-
2 ment and with respect to the separation to break monotony
3 with respect to upgrades and downgrades -- the fourth one
4 was the question as to whether or not the ten foot
5 bituminous type on the outside of the flow lane and the
6 eight foot bituminous type on the inside of the flow lane
7 was a wise decision.

8 Because at that time we were very seriously
9 involved in the question that you all recall, which was the
10 ability to finance the project, I made these contacts, not
11 that I was unwilling personally to read and understand and
12 consider the recommendations of the J. E. Greiner Company
13 and of the Ohio State Highway Department, represented by
14 Mr. Kauer, which I did. But I submitted to the United
15 States Bureau of Public Roads very shortly thereafter
16 fourteen individual criteria which are still in the approved
17 Greiner Report.

18 Mr. McDonald's engineers reported on those
19 fourteen criteria, and I was advised that Major Allen had
20 filed with them prior thereto supplementary information
21 on the same subject.

22 The specific questions raised of the design
23 engineers and of the Bureau at that time are in my files,
24 and perhaps as you and Mr. Teagarden and Mr. Kauer recall,
25 I brought them to a specific meeting and you all had them

1 for consideration.

2 At no time in any judgment that I made with
3 respect to an engineering problem is the question of cost
4 a sole judgment as far as I am concerned. I have been
5 involved in projects in the United States Bureau of Public
6 Roads in which it resulted that the highest cost ultimately
7 was the most satisfactory project. I've seen that in
8 bidding and in the awarding of contracts for approximately
9 twenty-three years in my own field in the municipal and
10 county and school and state finance in the State of Ohio.
11 So I'm not bound at all by the question of cost. It's
12 an important element, but in my personal judgment it is
13 only one of several elements.

14 The second group that I considered and touched
15 and consulted with outside of the Bureau and their specific
16 memorandums, which perhaps may be familiar to some of the
17 men around the table, is Pike Johnson in the Automotive
18 Foundation. Pike Johnson at the time that I was with
19 the Bureau was the Director of Research for the Automotive
20 and the Truck Manufacturers Association. I have known
21 him all these years, and he cooperated in the early days.
22 The net result of that recommendation was that I consulted
23 with Johnson with respect to some of the design elements.

24 A third man in whom I had great confidence in
25 the years in which I was in the Bureau, and he is still with

1 the Bureau in an unofficial way, but has been the chief
2 engineer in charge not only of design but of financing and
3 of construction, is E. W. James, who has been I think for
4 twenty-five years the chief engineer in charge of the
5 design and the financing of the Pan American Highways from
6 our border all the way down through the Panama Canal Zone.

7 The information received from men of that kind
8 has been confirmed again by subsequent conferences with the
9 same men and the same type of experts, subsequent to the
10 Greiner Report filed last August. In addition to that,
11 I have had some questions with respect to the question of
12 dual bridges. I have asked some of the design engineers
13 qualified to discuss it, and their unanimous opinion has
14 been the same with respect to dual bridges of the type
15 proposed in this criteria.

16 I have had personally, and have discussed it
17 rather informally, but it is in part my own judgment, during
18 these years in Ohio and elsewhere -- I am gone a good deal
19 through the middle west. I do a good deal of driving.
20 I was quite concerned about the question due to the
21 difference in color of type with respect to visibility.
22 Personally I consulted with Mat Leukish, who is probably
23 the outstanding light expert in the Nela Park group with
24 General Electric. I have no formal report on it. It was
25 informal. Yet it added to the store of information I am

steadily receiving.

During this entire period, as far as I am concerned, Mr. Chairman, I have continually to the best of my ability, not as an engineer but as a research economist, checked the sources of information that I had some confidence in, independent of the Greiner Report, and independent of the Ohio State Highway Department, and I arrived at my decisions accordingly.

I have one minor question that is a big question, as perhaps you men may note, that I react to, which is the question of safety with respect to customers on this Turnpike. I am inclined to think that their safety, even if it costs more, is a wise expenditure with respect to having a type of improvement which is uniform throughout its length and which is of a color that is more visible at night. That is a minor consideration.

So I report in conclusion to you that throughout this period -- I have read the entire transcript up to date -- I have no change in my personal opinion arrived at from several different points of view with respect to the design criteria and, as you note from my vote here today, as to the minor modifications that have taken place in the three additional design criteria. On the basis of the experience I have had, and the people in whom I have confidence in the engineering field supplementing the sources of the

1 written report, I have arrived at the same decision.

2 The question of cost to me is an important factor,
3 but it is not a major factor at all.

4 I think that summarizes briefly, Mr. Chairman,
5 the basis along the road on which I have arrived at my
6 decision.

7 CHAIRMAN SHOCKNESSY: Dr. McKay, I am personally
8 most interested in your statement as to the factors which
9 impel you to the decisions that you have reached in the
10 past and which are likely to impel you to decisions in the
11 future. I said that no engineering expert compels a
12 conclusion, no lawyer compels a conclusion. You have said
13 no economic consideration compels a conclusion. But the
14 things that you mentioned and the things that I mentioned,
15 and other things that have not been mentioned, will lead
16 this Commission to its conclusion upon the subjects before
17 it, whatever that conclusion may be.

18 Mr. Dunbar, I'd like your opinion as a lawyer
19 and as the General Counsel of this Commission, as to whether
20 or not the so-called alternative method of bidding upon
21 competitive designs is required by law.

22 MR. DUNBAR: Mr. Chairman, that I suppose
23 is the principal legal question which is presented in the
24 so-called Shafer case. Therefore, it is one to which
25 both I and special counsel handling the trial of that case

1 have, of course, devoted considerable attention.

2 It is my opinion that the law of Ohio does not
3 at all require that this Commission take competitive bids
4 on alternative types or alternative designs of paving or
5 of other components of the Turnpike project or of any turn-
6 pike project, nor upon alternative types of materials to
7 be used in the construction of such a project. In other
8 words, there is no question but that under the law of this
9 state, and specifically under the Ohio Turnpike Act, this
10 Commission is compelled when it awards contracts for the
11 construction of a turnpike project or portions thereof,
12 and when such a contract involves the expenditure of more
13 than one thousand dollars it must take competitive bids
14 upon it. But I do not believe that there is any require-
15 ment that there be the so-called alternative bids, and in
16 my opinion the law of Ohio is pretty well settled to that
17 effect.

18 The conclusion that I have stated is applicable
19 in a case in which the possible alternative designs or
20 types or materials either are or are not competitive. In
21 other words, I don't believe that the mere fact that
22 certain designs related to any particular component of a
23 turnpike project may be in competition with each other
24 would control the answer to the legal question which you
25 posed.

1 CHAIRMAN SHOCKNESSY: Would any of the members
2 like to ask Mr. Dunbar any question in respect to that
3 answer?

4 Mr. Allen, what is your opinion of the Greiner
5 Report?

6 MR. ALLEN: Well, I might state right
7 off that I am making no attempt to qualify as a highway
8 engineer. I spent some nineteen years in engineering
9 work and I have spent, as you probably could all guess,
10 several more than that in executive work where I was making
11 conclusions based on all of the facts, both engineering
12 and others.

13 On this question I have tried to evaluate certain
14 things as they affect me.

15 I drove about a month ago over both the
16 Pennsylvania and the New Jersey Turnpikes, and there were
17 one or two things that impressed me.

18 One perhaps can be all overcome on the New
19 Jersey Turnpike. Wherever the concrete of the bridges
20 met the flexible principal roadway, I suffered a bump.
21 And I don't know whether that can be overcome. It is
22 surprising that an outfit as progressive as the Turnpike
23 Commission would allow that to happen if it can easily be
24 overcome.

25 I have studied the Greiner Report and, of course,

1 have listened to many discussions in connection with all or
2 various parts of it. And my personal feeling in connection
3 with roads, and the various people that I have talked with,
4 I rather get the impression that there is a predominance
5 certainly of the people that I have talked with that feel
6 just a little more safe and a little better about a concrete
7 road than they do a blacktop road.

8 Based on my experience in coming to conclusions,
9 I am certainly at the present time in position where I have
10 no hesitancy in meeting the decision that we are about to
11 meet today on accepting the Greiner Report as modified in
12 connection with the drainage tile and guard rails and
13 various other things. I am perfectly satisfied that I
14 have every right to meet that and come to a decision today.

15 CHAIRMAN SHOCKNESSY: Have you ever talked with
16 any of your engineering and financial expert friends of a
17 lifetime about this project and derived any opinions from
18 them about it?

19 MR. ALLEN: I have. In my work I
20 have contacted quite a few people that I have respect for
21 on things of this kind, and that has helped me come to the
22 conclusion that I certainly would favor the concrete road;
23 And also I have arrived at the point where I would favor
24 the concrete road even if it were shown to be possibly
25 slightly more expensive than the black top road.

1 MR. HERTZ: Off the record.

2 (Discussion off the record.)

3 CHAIRMAN SHOCKNESSY: I'm not going to ask until
4 after we hear from Judge Hertz whether or not action
5 should be taken today upon the general specifications and
6 the authorization of an advertisement for bids in the
7 contract number 1, known as C-1.

8 Mr. Teagarden, you haven't commented here today.
9 We are confining ourselves at this time pretty much to the
10 things that have been discussed so far, but there is no
11 reason for us not to discuss things affecting this pro-
12 ject which have not yet been discussed today.

13 MR. TEAGARDEN: Well, Mr. Chairman, I am
14 not an expert in the field of engineering and constructing
15 highways. For the past twenty-five years I have been
16 more or less in the banking business, and in addition as
17 head of a business that does several million dollars in
18 sales each year. I mention this to illustrate that in
19 my opinion I have sufficient background to enable me to
20 arrive at conclusions in my own way.

21 I will say at the outset that my decision in
22 approving the Greiner Report, or the engineer's report,
23 September the 4th was not wholly based upon the information
24 contained in the report. I had some personal experiences
25 of my own during the time that, or previous to the approval

1 of the engineer's report, in that I drove the Maine Turnpike
2 and other roads throughout the various states in order
3 that I might form a personal observation as to the type
4 of pavements that I would like.

5 I might say that my experience in going over
6 the Maine Turnpike, I found it rough in travel. It was not
7 a smooth highway as one might think.

8 Only recently I drove the New Jersey Turnpike,
9 to be exact, on November 14th of this year.

10 Only this week in traveling from Columbus to
11 my home, on Wednesday of this week, there was considerable
12 snow which was melting. On Route 23 from Columbus to
13 about two miles this side of Delaware it is mostly asphalt
14 pavement. I found it very slippery. But when we arrived
15 at the concrete pavement about two miles this side of
16 Delaware it was smooth. It was not slippery. And there
17 was plenty of snow, about the same amount of snow as
18 appeared along the route.

19 During my travels for the past several months,
20 almost invariably in traveling macadam highways you would
21 observe a sign which reads, "Slippery when wet." Not
22 once -- and I observed very carefully -- did I find a
23 similar sign along a concrete highway.

24 I would like, Mr. Chairman, if I might, to direct
25 a question at this time to Mr. Donnelley.

15

1 CHAIRMAN SHOCKNESSY: Surely. Mr. Donnelley.

2 MR. TEAGARDEN: To satisfy myself with
3 respect to slipperiness on asphalt roads, what is the
4 cause of the slipperiness on those highways?

5 MR. DONNELLEY: Mr. Teagarden, in the
6 analysis of the comparative maintenance costs which we used
7 for the Ohio Turnpike, one of the elements going into the
8 maintenance of the flexible highway was what we call a
9 seal coat, which has to be applied periodically, usually
10 somewhere between three and five years, to combat such
11 slickness as you are talking about. So that in our opinion
12 that slickness can be overcome through such treatment as a
13 seal coat if applied at proper intervals.

14 MR. TEAGARDEN: How often do you say,
15 about two or three years?

16 MR. DONNELLEY: About every three to five
17 years.

18 MR. TEAGARDEN: Three to five, thank you.

19 I might also mention that on November 14th when
20 I came across the New Jersey Turnpike I observed several
21 signs along that road which read, "Broken pavement. Drive
22 slow." At one point for about five miles the pavement
23 was broken in a number of places which slowed up traffic.

24 I understand, Mr. Chairman, that a report of the
25 New Jersey Turnpike was prepared, and if that report is

1 available I would like to have it.

2 Mr. Kauer, are you familiar with the report that
3 was made on the New Jersey situation about that broken
4 pavement condition?

5 MR. KAUER: There were some photographs
6 taken, Mr. Teagarden. I think you saw those and some
7 comments probably with respect to them.

8 MR. TEAGARDEN: Who made that report? Do
9 you know?

10 MR. KAUER: Well, Mr. Sheley of the
11 Turnpike Staff, engineer.

12 MR. TEAGARDEN: Could we have Mr. Sheley
13 come up ?

14 CHAIRMAN SHOCKNESSY: Yes, surely.

15 Mr. Sheley, will you come up? Mr. Teagarden
16 would like to ask you some questions.

17 MR. TEAGARDEN: Mr. Sheley, I understand
18 you recently made a report on the New Jersey Turnpike and
19 took some photographs. Do you have those with you?

20 MR. SHELEY: That is right, Mr.
21 Teagarden.

22 MR. TEAGARDEN: I would like, if it is
23 agreeable, that you pass them around to the several
24 members of the Commission so that they might see for them-
25 selves the condition which I am referring to on the New

1 Jersey Turnpike.

2 I might in conclusion, Mr. Chairman, state that
3 I have read most all the briefs in the recent Shafer case.
4 In fact, I concluded the reading of the last one at two
5 o'clock this morning. I have not found in that testimony
6 any information that would at this moment change my support
7 of the engineer's report as amended at this time. I feel
8 that my opinion expressed in approving the report
9 September the 4th remains the same today as it was then.

10 CHAIRMAN SHOCKNESSY: Is that all you want to
11 say, Mr. Teagarden?

12 Mr. Sheley, do you want to discuss these pictures?

13 MR. SHELEY: Well, the pictures that
14 were taken on this one day trip over the Turnpike I think
15 are self-explanatory. What I did was enter the Turnpike
16 at the North Camden interchange, and we drove north to the
17 north terminal, and then south, and then back to the point
18 of entry during this one day tour.

19 MR. TEAGARDEN: That was on November 28;
20 is that right?

21 MR. SHELEY: That was on the day after
22 Thanksgiving. The 28th is right, sir.

23 We felt the best way to record what we saw was
24 by taking photographs and logging the approximate locations.
25 We did not attempt to record all the conditions mentioned

1 by Mr. Teagarden of rough approaches to structures, but we
2 did take sufficient photographs to make a record of what
3 the conditions are at most of these structures. And the
4 other photographs I think are typical, self-explanatory
5 with the log notes that are attached.

6 Are there any specific questions?

7 MR. TEAGARDEN: I think, Mr. Chairman, the
8 photographs speak for themselves and corroborate what I
9 have said in my statement with reference to the New Jersey
10 situation.

11 MR. HERTZ: Mr. Chairman, may I ask
12 one question? Do any of these photographs by any chance
13 include any pictures of broken concrete pavement? Or
14 aren't there any of that kind throughout the country?

15 CHAIRMAN SHOCKNESSY: Well, this was just a
16 tour of the New Jersey Turnpike.

17 MR. HERTZ: I see.

18 CHAIRMAN SHOCKNESSY: Is there any broken con-
19 crete on that road, Judge Hertz?

20 MR. HERTZ: What is that?

21 CHAIRMAN SHOCKNESSY: Is there any broken concrete
22 on that road?

23 MR. HERTZ: Not on the New Jersey
24 Turnpike. It would be interesting to take similar pictures
25 on the Pennsylvania Turnpike, however, and on some concrete

9

1 roads built by Mr. Kauer in the State of Ohio.

2 CHAIRMAN SHOCKNESSY: That Kauer is a busy
3 fellow.

4 MR. DUNBAR: Mr. Sheley, are these notes
5 that I see attached to each of these photographs your notes?
6 Were they made by you?

7 MR. SHELEY: That's right. I made a
8 log of the trip and we recorded mileage. We entered the
9 Turnpike, as I remember, at about 18,442 speedometer read-
10 ing, and the subsequent speedometer readings through the
11 route that I outlined are shown, I believe, on each of
12 your photographs, with my comments for each of the pictures
13 that were logged in my report.

14 MR. DUNBAR: Thank you, sir.

15 MR. SHELEY: Is that all?

16 CHAIRMAN SHOCKNESSY: Are there any other
17 questions of Mr. Sheley?

18 (No response.)

19 Thank you, Mr. Sheley. That's all.

20 Mr. Linzell, you have been singularly quiet
21 around here.

22 MR. LINZELL: I was not present at the
23 September the 4th meeting that seems to be discussed so
24 much today.

25 CHAIRMAN SHOCKNESSY: September 4, 1951?

21

1 MR. LINZELL: September 4, 1951. But on
2 reviewing the Greiner Report and on reviewing some of the
3 information that was in my files concerning the Turnpike,
4 I believe that were I present at that meeting I would have
5 taken the same action that my predecessor did. Since that
6 time and on reviewing what information I have been able to
7 take the time to study and the information that has been
8 brought forth today, I see no reason why I would change
9 my ideas, in that I would have taken the same action had I
10 been present at that meeting.

11 CHAIRMAN SHOCKNESSY: Judge Hertz may still ask
12 this question or may intend to ask this question later,
13 but I am going to ask it now.

14 Mr. Donnelley, what about the resurfacing in
15 Pennsylvania? How much resurfacing has been done?

16 MR. DONNELLEY: There has been no re-
17 surfacing, Mr. Chairman. There have been slab replace-
18 ments. Up through this current year one and a half per
19 cent of the total pavement of the Pennsylvania Turnpike
20 has been replaced, and under that pavement that has been
21 replaced has been placed selected sub-grade material and
22 under-drains.

23 CHAIRMAN SHOCKNESSY: Well, I would like you
24 to differentiate the sections in Pennsylvania when you
25 talk about them.

2
1 MR. DONNELLEY: I am speaking entirely of
2 the old 160 miles that was completed in 1940. There has
3 been no replacement --

4 CHAIRMAN SHOCKNESSY: Well, but, you see, there
5 is an experience about the same in time in New Jersey,
6 between the eastern extension and the New Jersey Turnpike.

7 MR. DONNELLEY: No. The eastern extension
8 is a year older than the New Jersey Turnpike. The
9 Western Extension/^{is}of identical age with the New Jersey
10 Turnpike.

11 On neither the Eastern nor the Western Extensions
12 have there been any slab replacements to date. All the
13 slab replacements that have been made were made on the
14 original 160 miles, which were opened to traffic back in
15 1940. And since 1940, of that original 160 miles of the
16 total pavement that was laid in 1940 to date one and one-
17 half per cent of it has been replaced.

18 CHAIRMAN SHOCKNESSY: One and one-half per cent
19 of the total area of the 160 miles has been replaced, and
20 when you say "replaced", you mean, slab replacement?

21 MR. DONNELLEY: Slab replacement, yes, sir.

22 CHAIRMAN SHOCKNESSY: Now, can you tell me how
23 much resurfacing has been done there? You say no re-
24 surfacing?

25 MR. DONNELLEY: No resurfacing. It has all

23

1 been replacement.

2 CHAIRMAN SHOCKNESSY: Well, will it be resurfaced?

3 MR. DONNELLEY: It will be eventually, yes,
4 sir.

5 CHAIRMAN SHOCKNESSY: When?

6 MR. DONNELLEY: It was contemplated
7 originally that it would be resurfaced in about twenty years.
8 But based upon our most recent inspection -- we make annual
9 inspections up there -- upon completion of the replacement
10 program, which will be completed in the spring of 1953,
11 it is our opinion that it will not need resurfacing for
12 another twenty years from now.

13 MR. McKAY: Are you talking about the
14 difference between the traveled surface, or the approaches
15 at interchanges, or both?

16 CHAIRMAN SHOCKNESSY: Well, I think both.

17 MR. DONNELLEY: Well, we can't talk about
18 that, because those ramps were originally put in as flexible
19 pavement, and the ramps to the service stations were put
20 in as flexible pavement. But all the service station
21 ramps have since been replaced with concrete.

22 I am not talking about that. I am talking about
23 the one and one-half per cent.

24 MR. McKAY: You are talking about
25 travel surface only?

1 MR. DONNELLEY: I am talking about travel
2 surface only.

3 CHAIRMAN SHOCKNESSY: The continuous travel
4 surface?

5 MR. DONNELLEY: Yes, sir, the twenty-four
6 foot lane in either direction throughout.

7 MR. DUNBAR: I think Mr. Donnelley ought
8 to state why these slab replacements are made and whether
9 there is a difference between that old pavement --

10 MR. MCKAY: Yes.

11 MR. DUNBAR: -- in Pennsylvania and
12 what is proposed for the Ohio Turnpike in these specifications
13 and criteria.

14 MR. MCKAY: And what was the cause of
15 failure.

16 MR. DONNELLEY: The old Turnpike, the old
17 160 miles, consisted of a nine-inch pavement laid on parent
18 sub-grade. There was no selected sub-grade placed under
19 the pavement.

20 CHAIRMAN SHOCKNESSY: Mr. Evans makes that point
21 in his letter.

22 MR. DONNELLEY: Just as they found it and
23 compacted it, the concrete was laid on top.

24 There were other elements which caused difficulty
25 in that original 160 miles.

1 At that time we didn't have the most recent
2 developments in joint compounds. The old tar joint
3 materials were put into the joints and they required re-
4 placement not once a year, but they ran even as many as
5 three a year throughout the life.

6 We also had the difficulty with the median strip.
7 We had a raised median strip, and snow would pile up on
8 the median strip and as it melted it would seep down
9 through the median strip, there being no grainage under-
10 neath it, and would be trapped under the pavement.

11 All of those conditions tended to cause the
12 failures that have occurred.

13 Now, where we had a good sub-grade material we
14 have had not the same difficulty. In other words, we have
15 had shale and others -- we have had some clays out there
16 that have held up very well. But the replacements that
17 we have found necessary were those places where water was
18 trapped under the pavement and we got the humping result-
19 ing therefrom and the pavement failed.

20 MR. McKAY: It was drainage?

21 MR. DONNELLEY: It was primarily a drain-
22 age problem, yes, sir.

23 MR. McKAY: That would be a material
24 problem and drainage.

25 MR. DONNELLEY: Now, on the Ohio Turnpike,

1 instead of a nine-inch pavement we are proposing a ten-
2 inch pavement, and we have beneath that six inches of
3 selected sub-grade, just as was placed under the pavements
4 of both the Eastern and Western Extensions of the Turnpike
5 and which is being placed under the pavement on the Delaware
6 Extension.

7 MR. TEAGARDEN: Now, Mr. Donnelley, you
8 mentioned that the service station areas, which had
9 originally been put in with asphalt, have been replaced
10 by the use of concrete.

11 MR. DONNELLEY: Yes, sir.

12 MR. TEAGARDEN: There must have been some
13 reason for that. Would you mind telling us about that?

14 MR. DONNELLEY: Yes, sir.

15 That is no reflection upon asphalt pavement,
16 because they were put in with very inferior materials.
17 It was a very thin pavement slab. They didn't expect
18 the wear and tear that they got. They did not hold up
19 for four years before we had to go in and replace with
20 asphalt. But that was not a properly designed pavement,
21 is what it would amount to.

22 So ultimately it was found to be cheaper to take
23 them out entirely and replace them with comparable pave-
24 ments that we have on the travelway.

25 MR. TEAGARDEN: I see.

1 CHAIRMAN SHOCKNESSY: Are there any other questions?

2 Yes, Mr. Dunbar, have you got any questions?

3 MR. DUNBAR: I have been making a few
4 notes of the things that have transpired here today, and
5 also over a period of fifteen months or so have raised some
6 questions myself. One thing I think might be commented
7 on by Mr. Donnelley. I think it would be useful for the
8 Commission to have the information.

9 He has made a statement to me in the past to the
10 effect that one of the major problems in constructing a
11 flexible pavement lies in the very fact that it is flexible
12 and there is some give, and that he has a plan whereby
13 that kind of thing, or the probability of its occurring,
14 might be eliminated or minimized by the use of forms of some
15 sort. I think it might be worth while for him to comment
16 on that for the sake of the Commission.

17 CHAIRMAN SHOCKNESSY: Will you, Mr. Donnelley,
18 comment for the Commission as Mr. Dunbar suggests?

19 MR. DONNELLEY: The discussion arose as
20 to whether or not it is possible to attain as smooth a
21 riding surface with flexible pavement as it is with
22 concrete, and my answer to that question was in the
23 affirmative, that in our opinion it is possible. However,
24 we need more close control than has heretofore been used
25 generally in the industry.

1 The riding surface on a flexible pavement as
2 generally constructed is totally dependent upon the human
3 element and the ability of the individuals to obtain that
4 riding surface. It is not possible to attain that riding
5 surface just with short sections of straight edges sixteen
6 or twenty feet long and holding to a variation within that
7 distance.

8 We are of the opinion that if the macadam courses
9 are laid either with forms, not to confine the material,
10 either forms or rails upon which can be run templates just
11 as you run a template across a concrete surfacing, that
12 you can then finish the macadam surfaces both to a crown
13 and to a longitudinal grade that will produce a smooth
14 riding surface, because if those macadam course are laid
15 to template elevations, controlled elevations, from
16 instruments, and so forth, then when the Barber Green
17 machines come on top to lay the asphalt they are riding on
18 a true surface both in crown and in horizontal alignment,
19 and we feel that that method of construction will produce
20 a smooth riding surface on a flexible pavement.

21 I know of no highway that was constructed in
22 that manner. However, the Asphalt Institute, when they
23 made their report for the Philadelphia Extension of the
24 Pennsylvania Turnpike, incorporated an idea which was much
25 the same as that, except that they showed forms to confine

1 the material rather than forms to control the template.

2 MR. ALLEN: Mr. Donnelley, wouldn't
3 you like to see that tried out on ten or twenty miles
4 before you would like to put it on 240 miles of turnpike?
5 Do you feel sure enough about it so that you would --

6 MR. DONNELLEY: Well, our sureness is only
7 our opinion. We have no experience to refer you to. But
8 that is our opinion, Mr. Allen.

9 CHAIRMAN SHOCKNESSY: Mr. Donnelley, you have
10 said many times in my presence that you could design just
11 as satisfactory a highway with flexible pavement as with
12 rigid pavement. Now, I want to know, is there a highway
13 that we could look at that has been designed for flexible
14 pavement that is as satisfactory as you intend, if we
15 accept your recommendation, the Ohio Turnpike to be?

16 Do you want the question read again?

17 MR. DONNELLEY: No. I have got the
18 question.

19 If you are referring to turnpikes, Mr. Chairman,
20 I can't refer you to --

21 CHAIRMAN SHOCKNESSY: No. I want a road, a
22 highway. You have said you can design -- you have said it
23 many times -- a highway, a road -- it doesn't matter whether
24 it is a toll highway, whether you call it a turnpike or not
25 -- which would be equal in all respects to the highway which

1 you have designed for Ohio,

2 MR. DUNBAR: Using asphalt.

3 MR. McKAY: You meant back in there,
4 a flexible highway?

5 CHAIRMAN SHOCKNESSY: A flexible highway, yes.

6 MR. McKAY: You said a highway.

7 CHAIRMAN SHOCKNESSY: A highway of flexible
8 material.

9 MR. McKAY: Yes.

10 MR. DONNELLEY: Mr. Chairman, there have
11 been good flexible highways built. To stand here and
12 refer to one offhand, I can't do that.

13 CHAIRMAN SHOCKNESSY: No, but you didn't say
14 "built". Your words have been "design". Invariably you
15 have said, "We can design."

16 MR. DONNELLEY: I know of no highway that
17 has been constructed based upon the design that I just
18 outlined here to you of use of forms on the macadam courses,
19 and that's the key to the riding surface, in our opinion.

20 CHAIRMAN SHOCKNESSY: Well, then, when you have
21 said that a flexible highway equal to the rigid highway
22 can be designed, you meant that it would be designed and
23 constructed as you have just described?

24 MR. DONNELLEY: That is correct.

25 CHAIRMAN SHOCKNESSY: And so far as you know,

1 no highway has been so built?

2 MR. DONNELLEY: To my knowledge, I know of
3 none.

4 CHAIRMAN SHOCKNESSY: Then I want to ask you one
5 thing else, and you don't need to answer it if you don't
6 want to, but tighten your seat belt.

7 You were on the New Jersey Turnpike? You built
8 a section of it?

9 MR. DONNELLEY: Yes, sir.

10 CHAIRMAN SHOCKNESSY: If you were designing a
11 flexible highway for Ohio, would you design a flexible
12 highway like the New Jersey Highway?

13 MR. DONNELLEY: No, sir.

14 CHAIRMAN SHOCKNESSY: I suppose that is a flat
15 enough answer. (Laughter)

16 MR. DONNELLEY: In the supervision of the
17 construction of our section of the New Jersey Turnpike,
18 we are confident that we applied all of the supervision,
19 the manpower, and the detailed supervision of construction
20 that it is possible to give, and we are not ourselves
21 satisfied with the results which we achieved on our section
22 on the New Jersey Turnpike.

23 CHAIRMAN SHOCKNESSY: All right, that's a fair
24 statement.

25 All right, let us recess until three-fifty.

(Recess taken.)

CHAIRMAN SHOCKNESSY: It is 3:55. The full membership of the Commission is present after the recess.

Now, if the members of the Commission are so disposed, I think now would be a good time to receive Judge Hertz and his associates, if he is ready.

MR. HERTZ: I am ready.

CHAIRMAN SHOCKNESSY: Judge Hertz.

MR. HERTZ: Mr. Chairman and Members of the Commission:

It would be singularly ungracious and probably even callous on my part if I were to fail to acknowledge the generosity and the kindness of your Chairman in having arranged for me to be here today, and I feel also in courtesy and duty bound to acknowledge the kindly remarks that he made concerning the proceedings in what he was pleased to refer to as the Shafer case.

I will say, however, that if there has been anything pleasant and congenial in the proceedings in the Shafer case, I gladly credit my associates, Mr. Hamilton and Mr. Griffith, with that pleasantness and congeniality. If, however, in the exercise of the microscope to which your chairman has referred we have exposed to view the presence of noxious bacteria, I am afraid that I who wielded that microscope will have to assume that responsibility.

1 Now, while I am grateful for the opportunity to
2 appear before this Commission this afternoon, I hope you
3 will pardon me if I admit that my gratitude is somewhat
4 dampened by the character of the meeting that I witnessed
5 today. Especially is that gratitude dampened when I
6 realize that it is the second meeting of the kind that
7 has taken place.

8 I have heard substantially each and every member
9 of this Commission already express himself concerning the
10 futility of anything that I might say. Each man here has
11 already indicated his readiness and his acceptance of the
12 Greiner recommendations. Dr. McKay started. The other
13 gentlemen completed. Mr. Shocknessy alone has left some
14 ambiguity concerning his position. As to the position of
15 the others, your decision is already apparent.

16 Mr. Allen I believe has already used the words,
17 referring to the fact that he is still satisfied with the
18 "conclusion which we are about to reach this afternoon."
19 I take that to mean that Mr. Allen knows that you are going
20 to accept the Greiner Report, and you must understand then
21 that I am quite impressed with the futility of my making
22 any expended remarks.

23 CHAIRMAN SHOCKNESSY: Would you permit an
24 interruption, Judge?

25 MR. HERTZ:

Beg pardon?

1 CHAIRMAN SHOCKNESSY: Would you permit an interruption?

2 MR. HERTZ: Yes.

3 CHAIRMAN SHOCKNESSY: I think, if I remember the words
4 -- I noted them very carefully, too --

5 MR. HERTZ: Yes.

6 CHAIRMAN SHOCKNESSY: He said, "the conclusion with
7 which we are faced this afternoon."

8 MR. HERTZ: Mr. Shocknessy, I will not enter
9 into any discussion of what the record shows. The record will
10 speak for itself.

11 I therefore feel, gentlemen of the Commission, as if
12 we who advocate the use of a flexible pavement have been call-
13 ed here this afternoon for no other purpose than merely to say,
14 "We who are about to die salute you."

15 CHAIRMAN SHOCKNESSY: "Ave, ave morituri salutamus,
16 eh!" That is what they said.

17 MR. HERTZ: Or to change the simile, I am
18 somewhat reminded of the Arkansas judge who declared at the
19 beginning of a murder trial in the face of a clamoring mob,
20 "Boys, let's give the poor devil a fair trial and hang him later."

21 Or, gentlemen, I feel very much as if I were the
22 defendatn in a criminal proceeding after the jury has already
23 returned its verdict, called into the courtroom for the first
24 time and then permitted to speak only on why sentence should
25 not be imposed upon him.

Now, that's a rather disturbing situation.

1 CHAIRMAN SHOCKNESSY: Judge Hertz, you were
2 invited before.

3 MR. HERTZ: I beg pardon?

4 CHAIRMAN SHOCKNESSY: You were invited before.

5 MR. HERTZ: Of course, we were. We
6 were invited before for a meeting on August 20, --

7 CHAIRMAN SHOCKNESSY: That's the one.

8 MR. HERTZ: -- 1951. And at that
9 meeting the Highway Director had already made his recom-
10 mendations. The consulting engineer had already made his
11 recommendations. The rigid pavement design had already
12 been announced, and the advocates of flexible pavement
13 were not told the pavement with which a comparison had
14 been made. It was left to them to guess what kind of a
15 flexible pavement had been compared with the rigid pave-
16 ment, and the burden of proof of showing that the engineers
17 were wrong was placed upon the advocates of asphalt pave-
18 ment.

19 That, gentlemen, was not a fair hearing. The
20 hearing today is not a fair hearing.

21 As a matter of fact, as I sat here listening to
22 these proceedings, it was very difficult for me to believe
23 that the entire matter had not been carefully rehearsed
24 and carefully prepared, particularly when one of the actors
25 muffed a line and called for the report on the New Jersey

1 Turnpike when all he meant was a collection of photographs
2 showing that asphalt pavement sometimes cracks up.

3 So that I do not speak to you gentlemen in the
4 spirit of believing that anything that I am going to say
5 is going to influence your opinion one bit. But I am
6 going to call your attention to new matter --

7 CHAIRMAN SHOCKNESSY: Good.

8 MR. HERTZ: -- which to my knowledge
9 has never been presented to you before.

10 I have prepared three memoranda -- I acknowledge
11 the assistance of my associates, of course -- which I will
12 hand to your secretary for distribution to each of the
13 members of the Commission, and I call the attention of
14 the Commission to the contents of those memoranda.

15 Insofar as I know --

16 CHAIRMAN SHOCKNESSY: Judge, would you be willing
17 to read them, to state them to the Commission now?

18 MR. HERTZ: I shall mention them brief-
19 ly, but I believe that they are of sufficient importance
20 to require that each and every member of the Commission
21 read them carefully before you take any action upon the
22 decision that is now pending before you.
23
24
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1 I will mention that one memorandum concerns itself
2 with the monopolistic character of the Portland Cement
3 Industry, and I will content myself with reading only the
4 first paragraph of that memorandum.

5 "As of this date, December 6, 1952, all of the
6 companies upon which the Ohio Turnpike Commission relies as
7 sources of cement for the Ohio Turnpike Project No. 1 have
8 not satisfied the Federal Trade Commission that they are in
9 compliance with the Commission's order issued against them
10 to cease and desist from maintaining a conspiracy to fix
11 and maintain unreasonable and non-competitive prices in the
12 sale of cement throughout the United States."

13 I shall give you very briefly a history of the
14 litigation upon which that statement is based.

15 Years ago the Federal Trade Commission made a
16 complaint against the Portland Cement Institute and some
17 seventy to eighty Portland Cement Companies in the United
18 States, charging them with violation of the Federal Trade
19 Commission Act, the Clayton Act, and the Robinson-Patman
20 Act, and more specifically charging them with having engaged
21 in a conspiracy the effect of which was to maintain
22 abnormally high prices for Portland Cement, and the social
23 consequences of which were to gouge both private enterprise
24 and public agencies that found it necessary to purchase
25 Portland Cement.

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1 The Federal Trade Commission found these defendants
2 guilty of those violations as charged. The matter was
3 appealed to the Circuit Court of Appeals which reversed
4 the Federal Trade Commission, and subsequently it was
5 appealed to the Supreme Court of the United States. The
6 Supreme Court of the United States sustained the Federal
7 Trade Commission, as a result of which the Circuit Court
8 of Appeals was ordered by the Supreme Court to issue an
9 order upon the Respondents to cease and desist, and under
10 the rules of the Federal Trade Commission the Respondents
11 were compelled within sixty days thereafter to file evidence
12 showing that they were in compliance with the law.

13 A number of the Respondents did file papers. But
14 I have in my possession a telegram based upon a letter
15 from the Federal Trade Commission, which telegram was sent
16 from Washington last evening at 5:09, in which it is perfect-
17 ly clear that the Federal Trade Commission is not yet
18 satisfied that the Portland Cement industry is complying
19 with the law.

20 CHAIRMAN SHOCKNESSY: Will you read it?

21 MR. HERTZ: The letter is signed by a
22 law firm in Washington known as Strauch, Nolan and Diggins--

23 MR. HAMILTON: The telegram is signed.

24 MR. HERTZ: The telegram is signed by
25 them.

1 They telegraphed to me?

2 "I have received the following letter from the
3 Federal Trade Commission. This letter will follow in due
4 course.

5 'RE docket 3167, Cement Institute and others.

6 "'In answer to your phone inquiry of this after-
7 noon, please be advised that this Division has received in
8 due course for processing reports from some seventy-five out
9 of seventy-seven respondents in this case and now has them
10 under consideration for the purpose of determining what,
11 if anything, further needs to be required in the way of a
12 report, whether the reports do or do not show in the
13 opinion of this Division compliance with the order to cease
14 and desist, and is giving as expeditious attention to the
15 matter as is possible in view of the task imposed prior to
16 making its report and recommendations to the Commission."

17 I may have difficulty reading this because the
18 punctuation isn't there. My inflections may be wrong.

19 to
20 "'Up/the present time none of these reports of
21 compliance have been received and filed by the Commission.
22 The procedure of this Division when reports of compliance
23 are received pursuant to an order to cease and desist is
24 to examine them carefully, determine what, if anything, is
25 required, and if an when this Division is satisfied that
the reports do show satisfactory compliance with the order,

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1 to so report to the Commission and recommend that such
2 reports should be received and filed by the Commission.
3 No such recommendation has yet been made with reference to
4 any of these reports. Until such time as they are so
5 received and filed, the information contained therein is
6 treated as confidential by direction of the Commission to
7 this Division."

8 "Signed, P. B. Morehouse,
9 Assistant General Counsel."

10 That telegram is available for examination at
11 any time that any of you desire to see it.

12 Mr. Hamilton expects to receive the original
13 letter upon which this telegram is based, and it should be
14 here Monday. It will then be available for your examination.

15 Now, in addition to that --

16 CHAIRMAN SHOCKNESSY: Are you going to refer to the
17 other two letters, Judge?

18 MR. HERTZ: No. I am going to talk
19 more about monopoly.

20 In addition to that, during the period of time
21 intervening between the order of the Federal Trade Commission
22 and the affirmance in the Supreme Court, the United States
23 of America, acting by the Anti-Trust Division of the Depart-
24 ment of Justice, filed another suit against substantially
25 the same defendants. That action was filed in the United

1 States District Court of Colorado. It is still pending in
2 that Court.

3 It charges the defendants this time not with
4 violation of the Federal Trade Commission Act, the Robinson-
5 Patman Act and the Clayton Act, but this time with the
6 violation of a provision of the Sherman Anti-Trust Act.

7 The defendants filed their motion in that case
8 to dismiss the case, arguing that since the Federal Trade
9 Commission had issued its order of compliance, it was to
10 be presumed that they were in compliance. The government
11 argued the doctrine of law familiar to all lawyers, that
12 a conspiracy once started in effect is presumed to continue
13 until it is shown to have ceased.

14 The Court overruled the motion to dismiss, refused
15 to give the defendants the benefit of any such presumption,
16 and based its opinion upon the doctrine that they were
17 charged with a separate offense in Colorado different from
18 the offense with which they were charged before the Federal
19 Trade Commission.

20 That is the posture in which the cement industry
21 finds itself today.

22 Now for my point. It is going to be very easy
23 to misunderstand or misrepresent what I say here, and I
24 am saying what I do now in order to avoid misrepresentation.

25 I am not saying to you that it is your duty not

1 to buy cement. That's not my position. I am pointing out
2 to you, however, that in purchasing cement you are purchas-
3 ing from an industry that is already insulated within itself
4 against competition from among its component parts.

5 Now, when you adopt a rule of single bidding and
6 you eliminate alternative bidding, you are in effect giving
7 this industry additional insulation, and this time it's
8 insulation against rival materials and competitive types.

9 You are confronted squarely with this question of
10 policy -- are you going to help the United States Government
11 fight monopoly, or are you going to help the monopolists
12 by extending the field of their already established monopoly
13 into a field of monopoly that they do not enjoy now, namely,
14 monopoly against rival materials?

15 Your Chairman this afternoon was very impressive
16 when he pointed out the fact that three hundred and twenty-
17 six million dollars has been loaned to this commission on
18 the basis of faith and credit in its integrity. May I in
19 addition now point out to you that you are also servants
20 of the people of the State of Ohio? You are members of
21 the United States of America, and you are advocates of free
22 and competitive enterprise.

23 May I point out to you that the enemies of our
24 capitalistic society are not only Reds and Communists, but
25 also the monopolists who are seeking to destroy it. The

1 only difference between them is that the Reds and the
2 Communists want to give the monopoly to a government, a
3 state, and the monopolists want to take the monopoly for
4 themselves. And you, by determining that you are not
5 going to have competitive bids, are placing yourselves on
6 the side of the monopolists.

7 Now, I want to mention the second memorandum,
8 and that deals with the scarcity of Portland Cement.

9 We have received a report specially prepared for us
10 by Professor Stocking, who is the head of the Economics
11 Department of Vanderbilt University, who is the co-author
12 of the standard book published by the Twentieth Century
13 Foundation on Free Enterprise and Monopoly, concerning
14 the availability of Portland Cement in the State of Ohio.

15 I shall not bore you with figures, because the
16 figures are completely set forth in the documents that
17 I have given to you. But a quick examination of those
18 figures will disclose that even if you disregard the as
19 yet unknown needs of the Atomic Energy Plant down in Pike
20 County, you will be placing a burden upon the Portland
21 Cement supply of the State of Ohio far, far in excess of
22 what it can carry. And the consequence of the burden that
23 you will place upon them will be that you will be throwing
24 the ultimate consumers of Portland Cement to the mercy of
25 the monopoly that I have previously described. Not only

1 will the Turnpike Commission and the toll payers on the
2 Turnpike Commission be required to pay tribute to this
3 monopoly, but each and every builder and contractor and
4 construction interest in the State of Ohio that needs
5 cement will be victimized by the monopoly who, by reason
6 of scarcity of material, will be able to charge extortionate
7 prices. You have got to consider whether you are willing
8 to do that by closing your bidding and limiting it to
9 Portland Cement.

10 Now, my third memorandum I shall not discuss. It
11 is merely a short resume of some of the things that have
12 been developed under the microscope, if you please, in the
13 action that is now pending in the Second District Court
14 of Appeals.

15 I understand from the statements that were made
16 today that each and every member of the Commission has
17 read that evidenced. I submit to you, however, that you
18 haven't seen the exhibits.

19 Chairman Shocknessy: That is right.

20 MR. HERTZ: And unless you see those
21 exhibits, you don't, can't possibly, understand the evidence.
22 I suggest that you read my memorandum and then if, after
23 reading the memorandum, you feel any desire to know more
24 about the basis for the things that I say, we shall be
25 pleased to permit you to examine the exhibits in our

1 possession, and I am certain your counsel, Mr. Lansdale,
2 will be happy to let you see the exhibits in his possession.
3 Between us, Lansdale and I have all the exhibits, we hope.

4 (See the next page.)
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1 But, I will briefly touch upon one or two things
2 about the evidence in that case that I don't think you
3 gentlemen know yet. I don't want to put anybody on the spot,
4 but the temptation is very great, to ask you gentlemen of
5 the Commission to raise your hands in response to the next
6 question. How many of you know that originally the Greiner
7 Company studied a comparison of a 30 inch pavement in
8 asphalt and a 30 inch pavement in concrete? Did you ever
9 know that before? (Mr. McKay raised his hand.)

10 MR. LANSDALE: Now, I have something to say
11 about this because I don't feel, either here or elsewhere,
12 that the individual members of this Commission are subject
13 to interrogation by you.

14 MR. HERTZ: I am not--

15 CHAIRMAN SHOCKNESSY: Oh, he is not doing
16 that.

17 MR. HERTZ: I say that the temptation was
18 great, but I am resisting it.

19 MR. LANSDALE: I misunderstood you.

20 MR. HERTZ: I am resisting it. I am just
21 putting that rhetorically to find out whether you knew.

22 MR. LANSDALE: They did.

23 MR. HERTZ: Well, you knew something that
24 the testimony says you didn't know.

25 MR. MCKAY: Well, not my testimony.

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MR. HERTZ: Not your testimony, no.

2 Did you know also that when the original figures
3 were prepared they showed that a 30-inch flexible pavement
4 would cost less than a 30-inch rigid pavement? And,
5 did you know that when they figured that 30-inch flexible
6 pavement they figured \$2.45 and \$2.50 for an item that the
7 writer, after the Director of Highways became indignant
8 about it, cut from \$2.45 and \$2.50 to, my recollection is,
9 \$1.53 to \$1.61? And, if you take their own figures and
10 correct their own figures the way they themselves should
11 have corrected them on their own admissions, you'll find
12 that you could have had a 30-inch flexible pavement for
13 less money than you are going to pay for a 16-inch rigid
14 pavement. And, remember that everybody tells you that
15 30 inches of asphalt pavement is more than adequate to
16 meet every conceivable need that you will find upon this
17 highway.

18 I ask you another thing. Did you ever see what
19 we call Exhibit K in this lawsuit? Now, I dare say that
20 the members of this Commission have seen two drafts of the
21 Greimer report. You saw a tentative draft and then you
22 saw the final draft after it was printed. From what I
23 understand of the evidence there was a first draft, and
24 here it is, and you never saw that and you were never told
25 anything about it.

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MR. McKAY: What is the date on it?

MR. HERTZ: That's the evidence. That's the evidence in the case.

MR. LANSDALE: Oh, it is not the evidence in the case. I get so tired--

CHAIRMAN SHOCKNESSY: Let Judge Hertz make his statement.

MR. HERTZ: If Mr. Lansdale disagrees with me, let him point to the page of the record that shows that I am wrong.

MR. LANSDALE: I will.

MR. HERTZ: Now, if you will take the pavement estimate in what we call Exhibit K, the Greimer report form that I claim you never saw, and compare that with the Greimer figures for a 30-inch flexible pavement--

CHAIRMAN SHOCKNESSY: Will you submit to an interruption? Doctor McKay asked for the date on that.

MR. HERTZ: The date on this? Well, I'm a little sorry, I can't give you the date.

MR. LANSDALE: I can tell you.

MR. McKAY: What is it?

MR. HERTZ: We have a stipulation on the date.

MR. LANSDALE: June 28.

MR. McKAY: Filed June 28.

1 MR. LANSDALE: Yes.

2 MR. MCKAY: I have seen this report.

3 MR. HERTZ: Now, if you will examine this
4 and compare the figures for pavement cost estimates that
5 appear in what we call Exhibit K, you will find that they
6 coincide to the penny with the Greiner Company figures for
7 the cost of a flexible pavement with a 30-inch design as
8 figured on the high figures that I criticized and that
9 everybody agreed should be substituted. And, you will find
10 that this entire report is based upon that design; namely,
11 a 30-inch flexible design.

12 Now, here is the interesting thing about this.
13 Turn to the maintenance figures that appear in the back of
14 Exhibit K and compare the roadway maintenance figures that
15 were given you as the estimated maintenance on a 16-inch
16 rigid pavement, and you'll find that they tally to the
17 penny.

18 Now, this engineering firm, with all of its
19 eminence, slipped up. They tell you in one breath that it
20 costs less money to maintain a rigid pavement, and then
21 in their official report they give you maintenance
22 figures that were based upon a flexible pavement. And,
23 gentlemen, this is the serious part about this. In the
24 prospectus that you issued and upon which you sold your
25 bonds you represented as probable maintenance costs figures

1m5 1 that were prepared for a 30-inch flexible pavement and which
2 were never prepared for the 16-inch rigid concrete pavement.
3 Now, that's the record.

4 Now, we have not had the opportunity that I should
5 like, to use the microscope on the new evidence that came
6 in today: the statement by Mr. Donnelley. And, I am not
7 going to ask you to give me any more time, because whether
8 you give me any more time or not is not important. But,
9 I am going to suggest to you gentlemen that you should take
10 more time of your own volition and without any request or
11 promise from me, to examine carefully and to study the
12 document that was given you this very day.

13 Let me point out that in the covering letter
14 by Mr. Donnelley he says in his last paragraph: "It is
15 of interest that the estimates of the contracting engineer
16 for Construction Section 1, based upon their detailed
17 design work, confirm the adequacy of the quantities and
18 unit costs developed by us in that Report."

19 I think it is your duty and I certainly, as
20 counsel for the Relator in the pending lawsuit, conceive
21 it to be my duty to examine those figures carefully, yes,
22 if you please, under a microscope, to see if that statement
23 is true.

24 He goes on to say: "It is of further interest
25 to note that the detailed quantities and bid unit prices

im6 1 for the sub-structure of Construction Section 5 also con-
2 firmed the adequacy of the Report quantities and unit prices.
3 Gentlemen, you will observe the weasel language. What do
4 they confirm? The quantities, the prices? No, the adequacy
5 of the quantities and prices. Adequacy for what? Adequacy
6 for a report on feasibility of building a turnpike? Probably!
7 Adequacy for a report on whether you can get the turnpike
8 financed? Probably. But, adequacy to permit you to make
9 a comparison of costs where the entire difference of cost
10 is the difference between \$55,000,000 and \$52,000,000? No,
11 not that kind of adequacy. And, there again you should
12 examine carefully before you reach your conclusions.

13 Now, we were told today by Mr. Donnelley that it
14 will cost you more money to have alternative bidding. Well,
15 gentlemen, it will cost you even less money if you don't
16 have any bidding at all. Let's just let this contract on
17 a unit price basis or on a cost plus basis, and let's
18 abolish all competitive bidding if you want to save the
19 cost of arranging for bidding. This thing can be reduced
20 to an absurdity.

21 CHAIRMAN SHOCKNESSY: Not under the law.

22 MR. HERTZ: Well, we will argue about the
23 law in the Court of Appeals. And, while I have a great
24 deal of respect for Mr. Dunbar and for your counsel and
25 desire in no way to be construed as saying anything

1m7 1 disrespectful of them as lawyers, I will submit that we
2 are going to try to get the Court of Appeals to see the
3 law otherwise.

4 CHAIRMAN SHOCKNESSY: No, but I am saying
5 we can't abolish it under the law of Ohio. That is one
6 thing we can't do.

7 MR. HERTZ: That is right. Now, as long
8 as you are going to have competitive bidding and the
9 Legislature of Ohio has already declared that the cost of
10 competitive bidding is a proper and a necessary and legiti-
11 mate cost, let's do a good job of competitive bidding.
12 Let's go all the way, let's not do only a limited job of
13 competitive bidding.

14 Now, we are told also that if you are going to
15 have competitive bidding you are going to have delay.
16 Well, gentlemen, I have never been confronted with a
17 situation in my life in which it wasn't possible for me
18 to make up my mind what I wanted to do and then find good
19 reasons for doing it. That's always possible. You can
20 always rationalize to justify any foregone conclusion that
21 you may entertain. And, they say that if you want to have
22 competitive bidding you have got to wait until the entire
23 highway is planned, all the details and specifications are
24 completed, and that will mean that you have got to wait
25 for all that period of time and you are going to lose all

1 that revenue because of the waiting. That is not so. That
2 is not true. You can get your work done by sections and you
3 can arrange for your competitive bidding section by section,
4 and you don't have to wait until the plans for the entire
5 highway are completed. That is simply one of the rationali-
6 zations that men contrive when they are trying to justify
7 a preconceived conclusion.

8 Now, let's take some more of what they say in
9 their report. "In developing the original studies of
10 pavement types for Ohio Turnpike Project No. 1, we made a
11 complete and thorough analysis of both flexible and rigid
12 type pavement, or, as they are more popularly referred to,
13 asphalt and concrete pavements respectively." Well, you
14 gentlemen may not have heard yet what they did and what
15 they meant by that, but in this lawsuit, under the micro-
16 scope, we found out.

17 They compared two 30-inch designs and then after
18 it was shown that the flexible would cost less than the
19 concrete they redesigned and then they came up with a
20 design of 16 inches for rigid and 28 inches for flexible.
21 Now, while they said in the beginning that if you want to
22 have comparable designs you have got to compare 30 against 30,
23 after it is found that that way flexible costs less than rigid
24 the opinion is changed and it suddenly says that in order
25 to compare flexible with rigid it is enough if you compare

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1 28 with 16. But, they protected themselves. They added
2 some more language, and in Exhibit 1, the report that you
3 finally had, they leave themselves way out of difficulty.
4 They knew, because Mr. Marshall of the State Highway Department
5 had reminded them of that fact.

6 MR. McKAY: Is that the August 15 report,
7 Ralph?

8 MR. HERTZ: That is the August 15 report.

9 And, engineers generally know it. It's not a
10 secret that one of the greatest reasons for failure on
11 concrete pavement-- and, gentlemen, I am not going to take
12 the position of the opponents to flexible pavement today
13 and say that all concrete pavement is bad. No, it isn't.
14 Some concrete pavement is good, some flexible pavement is
15 good. Some concrete pavement is bad, and some flexible
16 pavement is bad. You'll find good and bad of both types.

17 One of the greatest reasons that concrete pave-
18 ment fails is what is known as frost heaving. I am now
19 talking about something that I don't know a great deal
20 about because I'm not an engineer and I've learned it only
21 specially for this case, so I may be slightly wrong, but
22 I think in general outline I come within as much accuracy
23 as the Greiner report, at least. Now, when frost, when water,
24 gets down under the bottom of the pavement, if it encounters
25 fine, silty material there by reason of capillary action,

1 the water is brought to formation in a sort of a layer and
2 ice is formed, and as that solid layer of ice is formed in
3 this silty soil the result is that the foundation of your
4 pavement is undermined, and then when the thawing season
5 comes and the heavy trucks pass over that pavement the
6 foundation gives. The result is your concrete, which is
7 rigid by definition and has no flexibility, breaks, ruptures,
8 the engineers call it, and then you have got a problem in
9 maintenance. And, then you have got in most cases to re-
10 place a concrete slab that may be 30 or 40 feet long.

11 That is what Mr. Donnelley was talking about
12 when he said to you that they don't resurface in Pennsyl-
13 vania on the Turnpike; that is, the old part of the Turn-
14 pike; they replace concrete slabs. Well, if you will stop
15 and think a moment you will see which is more expensive,
16 putting an asphalt surface over it or putting or replacing
17 an entire slab.

18 So that the Greiner people knew that they would
19 have to take some precautions against the possibility of frost
20 heaving. And they know also, mind you, that in northern
21 Ohio there is considerable risk, at least to a depth of
22 28 or 30 inches, of having this frost problem arise. But,
23 they have got only a 16-inch pavement. What are they going
24 to do about the frost getting into the soil, the sub-soil
25 under the 16 inches? So they say, "The sub-base material

1m11

1 will be non-frost bearing and the sub-base material, that is,
2 the 6 inches-- and, then, the sub-base material will be laid
3 on a thoroughly compacted sub-grade from which all soils
4 excessively susceptible to frost action will be removed
5 and replaced with suitable materials." In other words,
6 that means that wherever along the highway, to a depth of
7 28 or 30 inches they find silty soils or certain types of
8 clay soils that will not resist this frost problem, they
9 will excavate that and replace it with soils that will be
10 frost resistant.

11 Well, they never figured the cost of that when
12 they measured the comparison of costs. They did put in
13 an item of borrow. They said, "We'll go along the highway
14 and in certain places we'll have to cut a grade and in other
15 places we'll have to fill it up. So, we'll take the stuff
16 from the cut and we'll put that in the fill, and then, if
17 we don't have enough material we'll go out to some place
18 along the highway or near the highway, or if we can't get
19 it near enough to the highway, as far away as we have to
20 go, and we'll borrow some soil and we'll put that soil in
21 under the 16-inch pavement."

22 Now, the trouble with that, however, is that
23 borrow is not always soil that is frost resistant. Some-
24 times it is, sometimes it isn't. Now, ordinary borrow can
25 be gotten for possibly, as they say, 65 cents. But, if you

iml2

1 are going to be particular about the kind of borrow you use
2 and insist that the stuff that goes under the 16 inches
3 in all cases should be frost resistant, you cannot use mater-
4 ials that are merely suitable for borrow. You have got to
5 use material that is suitable for frost resistance, and
6 that costs more money.

7 Now, in the comparison of costs that they give you
8 of \$52,000,000 for rigid against \$55,000,000 for flexible,
9 they figured every penny that flexible pavement could possi-
10 bly cost, but they paid no attention to the extra money
11 that they would have to pay for buying frost resistant soils
12 to replace frost susceptible soils. They realize that they
13 are in trouble with that so today they give you a new design,
14 something entirely brand new, and they are no longer talk-
15 ing of removing frost susceptible materials and replacing
16 it with frost resistant materials. But, on page 3 they
17 say, "The granular sub-base material would be laid on a
18 thoroughly compacted suitable sub-soil having a sub-grade
19 reaction modulus of 150 or more." Now, a sub-grade reaction
20 modulus of 150 or more has no relationship, necessarily,
21 to frost resistance. A modulus of that kind is used to
22 describe the power of the soil to support a load, and they
23 are no longer talking now of a suitable material to resist
24 frost. They are merely talking about a suitable material
25 to carry the 18,000 pound wheel load. So that, even today,

im 1 gentlemen of the Commission, the Greiner Company is not
2 giving you a candid report.

4-1

1 I observe also on page 1 of their report -- and
2 this to me is very significant language -- the decision in
3 every instance must be based upon geographic location,
4 availability of materials, availability of contractors,
5 methods of awarding construction contracts, construction
6 schedules, and other similar factors.

7 In other words, this is high-faluting engineering
8 language to mean that you have got to cut your suit to
9 fit your customer, and you have got to build the kind of
10 a pavement that is best in the particular locality where
11 you are going build it.

12 Well, does the Greiner Company know that this
13 Turnpike is going to be 241 miles long? Do they know
14 that they are going to start at one end of Ohio and finish
15 at the other end of Ohio? Do they know that along that
16 241 miles there are going to be some places where it is
17 easy to get certain aggrates and other places where it
18 is going to be hard to get those aggregates? Do they
19 know that at some places it is going to be easy to get
20 asphalt and going to be easy to get Portland Cement, and
21 in other places it is going to be hard to get the same
22 things? Do they know that in some parts of that Turnpike
23 they are going to find contractors who are equipped, and
24 in other parts of the Turnpike they are going to find
25 contractors who are not equipped? Do they realize that when

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1 you are talking about 241 miles you're talking about the
2 very situation where the language that they themselves use
3 applies?

4 And yet they, in total indifference and completely
5 ignoring the language that they themselves use, recommend
6 that you use one type of pavement throughout the entire
7 241 miles -- a self-contradiction if ever there was one.

8 Now, how do they justify this business of a
9 single type of road.

10 Well, first of all, they say we mustn't have a
11 crazy quilt. Well, I've driven from Cleveland to
12 Columbus many times, and I daresay that I have found dozens
13 and dozens of different types of pavement. I was not
14 aware at anytime that I was driving on a crazy quilt.

15 Now, my recollection of a crazy quilt is some thing
16 that my grandmother used to make when she would gather up
17 all the small rags that were around the house and sew them
18 together and use them as the top of a blanket or a quilt
19 that she was making. And we called that a crazy quilt.
20 Generally the shapes were irregular, the pieces were small,
21 and the whole thing was merely a hodge-podge. If she had
22 a good sense of color and color combination, she could make
23 a crazy quilt that looked pretty good. Otherwise the
24 quilt would look what it was called, crazy.

25 Well, now, we are not proposing to build a crazy

1 quilt. Neither Portland Cement, gentlemen, or asphalt is
2 to be compared to the rags that our grandmothers used in
3 building crazy quilt. Nor are we talking of building a
4 few feet of Portland Cement, a few feet of asphalt, a few
5 feet of Portland Cement. That would be a crazy quilt.

6 We recognize that you have got to build your
7 sections, your contract sections, in sufficient length to
8 permit you to conduct maintenance fairly and properly, to
9 permit you to build economically. But don't forget the
10 point of diminishing returns.

11 Merely because it will cost you so much a mile
12 to build ten miles, and the same proportion will continue
13 if you build twenty miles, it doesn't necessarily follow
14 that when you get up to 241 miles you haven't passed the
15 point of diminishing returns. You gentlemen who are
16 economists and who have studied economics know what I mean
17 by that point.

18 So that there isn't necessarily any economy in a
19 single type pavement, nor does that type of pavement have
20 to be called a crazy quilt. It is the old story -- give
21 a dog a bad name and then it is easy to kill it. Call
22 alternative pavements crazy quilts and then you don't have
23 to argue about them.

24 Well, gentlemen, I submit to your discretion
25 that that argument has no validity, and its invalidity

1 appears upon its very face.

2 Now, the argument is made also that you have got
3 to have continuity of type in order to save on maintenance.
4 The argument is that if you have asphalt here and Portland
5 Cement here you are going to have to buy equipment for
6 Portland Cement and you are going to have to buy equipment
7 for asphalt.

8 Well, there are two difficulties with that
9 argument.

10 Difficulty number 1 that they seem to forget is
11 that they are building shoulders of asphalt and these
12 asphalt shoulders are going to be right next to the Portland
13 Cement shoulders. When you buy equipment to maintain
14 the shoulders, you can use the same equipment to maintain
15 your Portland Cement. So that argument really boomerangs
16 on them. If you pave with asphalt you need only one kind
17 of equipment. You'll use the same equipment to maintain
18 your shoulders that you will your pavement. But if you
19 build with Portland Cement you've got to use equipment for
20 your shoulders and a special equipment for your Portland
21 Cement.

22 That's the first thing that is wrong with that
23 argument.

24 Now, the second thing that is wrong with it:
25 You will notice that they talk about resurfacing the concrete

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1 That's one of the amusing things about this, and I expect
2 to talk about that a few minutes later. What do you suppose
3 they resurface a concrete pavement with?

4 You'll notice that in their recommendations they
5 say that the concrete pavement will have to be resurfaced
6 after a certain number of years. What do you think they
7 are going to resurface it with? Concrete? No. Asphalt,
8 this same dark, Dr. McKay, poorly lighted, slippery, un-
9 safe material that isn't good enough to be used originally,
10 is going to be the surface of your highway after it starts
11 deteriorating, because that is standard maintenance practice.

12 Well, now, if you are going to build a highway
13 eventually that is going to be surfaced with asphalt, why
14 not do the sensible thing in the beginning and use asphalt
15 right from the very beginning?

16 So that there isn't anything to this argument
17 about continuity of type. Again it's another illustration
18 of how cleverly, when you want to, you can find reasons
19 to justify a conclusion that you have previously reached.

20 Now, they say that you have got to have continuity
21 of type in order to have package contracts. Well, I didn't
22 know what a package contract was. I felt rather bad about
23 it until I started talking to contractors in Ohio who had
24 extensive experience, and they hadn't heard of package
25 contracts, either.

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1 Finally after a great deal of digging I discovered
2 what a package contract is. A package contract is a contract
3 of the very same kind that the State Department of Highways
4 has been having for many, many years, nothing new about it
5 at all except the name.

6 All that a package contract calls for is an
7 arrangement under which one contractor does the grading,
8 the sub-base, the finishing of the road, and everything that
9 has to be done. You turn over a section of your highway
10 to him and you say, "You do the entire job from beginning
11 to end." Now, that is --

12 CHAIRMAN SHOCKNESSY: But don't they take bids in
13 the State Highway Department?

14 MR. HERTZ: That is not true.

15 CHAIRMAN SHOCKNESSY: In the State Highway Depart-
16 ment?

17 MR. HERTZ: The State Highway Department
18 has not taken bids in the alternative, but they formerly
19 did.

20 CHAIRMAN SHOCKNESSY: But you are speaking about
21 what they are doing right now.

22 MR. HERTZ: Now. What I am talking about
23 is merely to show you that you can have what they call
24 package contracts and have alternative bidding at the same
25 time. They are not inconsistent. They can be done.

1 All you have to do --

2 CHAIRMAN SHOCKNESSY: But the State Highway Depart-
3 ment's procedure is not an example of that?

4 MR. HERTZ: The State Highway Department's
5 procedure is not an example of it at the present time. But
6 I think, Mr. Shocknessy, if your memory will carry you back
7 you will find that at one time it was the procedure. And
8 the State of Ohio has prospered, and we once had good roads
9 in the State of Ohio in spite of the fact that we had
10 alternative type bidding.

11 Now, I'd like to point out that there isn't
12 anything inconsistent with package contracts if you are
13 going to have twenty-mile sections. All you have to do
14 if you really want to have competitive bidding and you want
15 to have alternative bidding is, arrange to have your sections
16 cut up, use twenty miles as your standard, and then try to
17 have your competitive bidding on twenty mile stretches. It
18 can be done. It has been done and you can have package
19 bidding.

20 CHAIRMAN SHOCKNESSY: Well, you would do it by
21 consolidating the several contract sections?

22 MR. HERTZ: Why, of course, it could be
23 done. In other words, I am not telling you to do it,
24 because, after all, you are going to have to make your
25 minds what to do and who am I to tell you what to do?

1 CHAIRMAN SHOCKNESSY: A great expert, I discover.

2 MR. HERTZ: All that I am telling you is
3 that if you want to do it you can find a way to do it.
4 That's all.

5 Well, of course, what I am talking about is
6 twenty mile units with four or five mile job sections at
7 a time.

8 CHAIRMAN SHOCKNESSY: Well, that's what I said,
9 you would consolidate several job/sections?

10 MR. HERTZ: That's right. In other
11 words, it can be done if there is a will to do it.

12 Now, of course, if you have made up your minds
13 that you want to have one type of pavement and that type has
14 to be Portland Cement concrete, then you suddenly discover
15 that package contracts cannot be worked, because there is
16 a danger that you might by alternative bidding give the
17 asphalt people a chance to beat the bid. But outside of
18 that, there isn't any rational basis for saying that this
19 thing can't be done. It can be done.

20 Will you gentlemen please indulge me? You will
21 realize that this letter of Mr. Donnelley's is brand new
22 to me and I haven't had time to organize my thoughts as
23 well as I should like to.

24 CHAIRMAN SHOCKNESSY; It is brand new to us, too.
25 We haven't seen it until today.

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1 MR. HERTZ:

2 I should like to point out
3 that one of the statements of fact in the Greiner letter
4 on page 7 is a little misleading when it is said that:
5 "It is also of interest to note that at the aforementioned
6 meeting of the Ohio Turnpike Commission on August 20, 1951,
7 the Chairman directed a question to the representatives of
8 both the asphalt and concrete industries inquiring whether
9 or not they considered uniformity of type of pavement type
10 to be desirable."

11 Well, gentlemen, that's like saying, do you con-
12 sider a desirable thing to be desirable? Of course,
13 continuity of pavement is a nice thing to have. Nobody
14 objects to it. It's not a bad thing. But there is such
15 a thing as paying too much for something that isn't important
16 and that is the difficulty with that statement.

17 Now, Mr. Gray did make the statement before this
18 Commission in answer to Mr. Shocknessy's question that he
19 had no objection to continuity of pavement if it was avail-
20 able. And he also wrote you a letter, Mr. Shocknessy,
21 a few days after that meeting and he made his position dear
22 in that letter, and that letter is in evidence. And he
23 takes the position that I am taking here, that while there
24 is no objection to continuity of pavement, it is not an
25 important thing that requires/you should go out and sac-
rifice other principles and other costs in order to obtain

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1 it.

2 They point out in their statement:

3 "It is of further interest to note that every turn-
4 pike in the United States, either constructed or under
5 construction, has a uniform pavement throughout its length
6 and further more we know of no other major highway project
7 constructed in recent years where the pavement type has been
8 varied within the length of the project."

9 Let me point out concerning that, that not one of
10 the projects that they are talking about is 241 miles long.
11 And let me point out also that in each one where they have
12 continuity of pavement they took alternative bids -- witness
13 the New Jersey experience -- with the exception of the
14 Pennsylvania Turnpike.

15 Again I point out, referring to the same subject
16 matter to which I adverted before, at page 8:

17 "In developing the estimated comparative costs
18 of asphalt and concrete pavement, we compared the cost of
19 an asphalt pavement having a total depth of 28 inches as
20 set forth hereinbefore against the concrete pavement 16
21 inches in depth plus adjustments in the sub-grade required
22 to remove unsuitable material excessively susceptible to
23 frost action."

24 Now, they are no longer removing the material.
25 Now they are simply adjusting the material. Formerly they

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1 were removing it and replacing it. Now they are adjusting.
2 I'd like to know the meaning of the change in words. What's
3 the difference?

4 CHAIRMAN SHOCKNESSY: Mr. Donnelley, you might
5 answer that.

6 MR. DONNELLEY: No difference.

7 MR. HERTZ: Well, then, why do you use
8 the following language, "In order to provide for the above-
9 mentioned unsuitable material we assumed that 12 inches
10 of suitable borrow material would have to be laid under the
11 concrete pavement *****."

12 Now, suitable borrow material is specifically
13 defined in the specifications of the Ohio State Department
14 of Highways. Borrow material is there defined as shale,
15 or stone, or gravel, or random material. Any kind of material
16 is suitable for Borrow, with the exception of vegetation,
17 vegetable matter, stumps and things of that sort. But any
18 kind of soil is suitable borrow material.

19 Now, if their language means the same as it meant
20 before --

21 CHAIRMAN SHOCKNESSY: May I interrupt? I assume
22 you meant borrow that was suitable, rather than suitable
23 borrow.

24 MR. DONNELLEY: That is correct.

25 MR. HERTZ: Suitable for what, suitable

1 for borrow, or suitable for frost resistance? Now, let's
2 get that pinned down. And if you are going to say suitable
3 for borrow, let's find the cost you have to pay for it.

4 Now, of course, you must bear this in mind,
5 gentlemen, there are estimates and estimates. I might go
6 to a contractor sitting within the precincts of his office
7 and say to him, "Joe, I'm thinking of building a ten mile
8 highway of Portland Cement concrete, 10 inch slab with a
9 6 inch sub-base material, and I would like to get an idea
10 of how much it will cost me to build a mile." And the
11 contractor in the comfort of his office and the ease of his
12 chair can say to me, it will cost you so much and so much.

13 Then I might say to the contractor, "Well, let's
14 go out and look at this line and see where we are going to
15 build this highway and see what you think."

16 Then he goes out on the line with me and sees
17 where he is going to cut and where he is going to have to
18 fill. He learns something about the borrow problem. He
19 learns something about the grading, about the general contour
20 of terrain. He learns something about the drainage problem.

21 Then he comes back to me and he says, "Well, Hertz,
22 that figure that I gave you at the office was only a rule of
23 thumb. I've got to give you a closer estimate now." And
24 so he gives me a second estimate.

25 Then I come back to him and I say, "I have had

1 competent geological studies made here. I have had good
2 geologists, and they've used all the available material,
3 everything they could possibly get to find out what it should
4 cost me to build that road, how much I have got to figure
5 on grading and soil conditions, and so on. And here's what
6 they tell me. Can you give me an estimate now on what this
7 road is going to cost me?"

8 So the contractor will say, "Well, yes, I can
9 give you a better estimate than I gave you before." And
10 he'll revise his estimate a second time.

11 Then I go out and I have plans and specifications
12 for my highway drawn and I have detailed soil studies made.
13 Every three hundred feet I have borings made and I get the
14 Nutting Company of Cincinnati, just as you folks are doing
15 now, to make these borings and these soil studies and these
16 analyses, and I get everything that I possibly need in order
17 to get ready to build that highway, and then I come back
18 to my friend and I say to him, "Give me your estimate now."
19 and he'll give me a fourth estimate.

20 Now, which is the estimate that you should use in
21 making up your mind whether you are going to build asphalt
22 or concrete? Isn't it the very best estimate you possibly
23 can get? Isn't that the way to make your decision if
24 economics is an important part of the decision?

25 Well, what have you done in this case? You

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1 accepted the second estimate that I gave to my friend, the
2 one where all he had was a lot of geological material and
3 before he had any detailed information concerning actually
4 what is there. He had a lot of theory of what was there.
5 He had a lot of good reasons to expect what was there, but
6 he didn't know. The last time he knew exactly, and that's
7 the time he was able to give me a pretty close estimate.

8 Now, that's the thing I want to point out to
9 this Commission. You gentlemen have acted upon an estimate
10 that was made for a purpose that neither the law nor you
11 or the contract with the Greiner people ever intended.

12 CHAIRMAN SHOCKNESSY: Which action are you referring
13 to?

14 MR. HERTZ: What is that?

15 CHAIRMAN SHOCKNESSY; Which action are you referring
16 to?

17 MR. HERTZ: The action of September 4th.

18 And as far as I know, you haven't anything
19 different before you to this day, because, as I understand,
20 the soil studies by the Nutting Company are not completed
21 even now.

22 Now, I notice on page 8 of the report that Mr.
23 Donnelley says that: "Detailed studies were made of avail-
24 able sources of materials for both types of pavement and of
25 the impact that the heavy demand to satisfy the requirements

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1 of the project would have upon such sources."

2 Significantly there isn't any mention here of the
3 fact that he found out that there is a scarcity of Portland
4 Cement in Ohio; that they are going to need a lot of
5 Portland Cement for the Atomic Energy Plant, and that even
6 though nine Portland Cement Companies, all of whom have been
7 enjoined from continuing a conspiracy to violate the laws
8 of the United States, have promised you that they'll furnish
9 you the Portland Cement, you don't know what they are going
10 to charge you for it. You don't know what the cost is
11 going to be. You are putting yourselves at their mercy
12 by not finding out by means of alternative competitive
13 bidding that they are giving you the very best price that
14 should be available.

15 They tell you that they retained two large firms
16 of road building contractors. Significantly, neither of
17 them is from Ohio. Neither of them have ever had any
18 substantial Ohio experience. Neither of them have any
19 familiarity with Ohio conditions, except the familiarity
20 that they acquired when the Greiner people asked them to
21 come out here and look things over, nothing more.

22 We have in evidence the reports that these con-
23 tractors gave to them, and I assure you, Mr. Teagarden,
24 that you as a business man and, Mr. Allen, that you as
25 a business man and, Dr. McKay, you as a public official,

1 and you, Mr. Shocknessy, as a public official, and you, Mr.
2 Linzell, as present Director of State Highways, would never,
3 never in a business of your own rely on the kind of letters
4 that these contractors gave these people -- utterly meaning-
5 less and utterly devoid of any value whatever. Those
6 letters are in evidence. You are welcome to examine them.

7 "While the above studies and analyses were being
8 made," says the letter, "The Ohio Department of Highways
9 independently prepared designs for asphalt and concrete
10 pavements for the turnpike and conducted its own analyses
11 and estimates of the comparative costs."

12 Now, I want to tell you about that. Naturally,
13 when I wanted to find out what that meant I asked Mr. Kauer
14 under oath and under examination. Mr. Kauer admitted that
15 he hadn't made any of the studies himself, and quite natural-
16 ly and quite understandably he pointed out that he is a
17 busy man, he is the head of a large force, that he can't
18 be expected to do all these things himself, for which there
19 is no criticism. He said, therefore, he was required to
20 rely upon his staff.

21 That's where we got into trouble. Who were the
22 staff? Well, gentlemen, the staff was the staff. After
23 considerable difficulty we managed to learn that the staff
24 meant the Bureau Chiefs.

25 So we called in the Bureau Chiefs and we found out

1 that the Bureau Chiefs knew very little about it. All they
2 knew was that they had been to a meeting or two. Some
3 denied being at more than one meeting. Some said they were
4 at two, and they listened to what they were told and then
5 everybody said hallelujah, it should be concrete, and they
6 all joined in and said hallelujah, and it was concrete.

7 Now, that was the extent of the studies. There
8 were available in the State Highway Department at that time
9 studies of comparative maintenance costs of concrete and
10 asphalt pavement that would be very significant in this case.
11 Well, we've got them in trial in court. But the Director
12 of Highways never had them. He never even knew that they
13 had been prepared, and he had never seen the letter in
14 which they were prepared.

15 Significantly, the letter was written in answer
16 to an inquiry by the Portland Cement Association and it was
17 very bad news for the Portland Cement Association because
18 it showed that the maintenance costs on asphalt are much
19 lower than the maintenance costs on concrete.

20 Now, that was the extent to which the staff chiefs
21 did anything.

22 So then we said, "Well, who do you mean by staff?"

23 Well, then, we learned that there was another
24 committee that was known as the T. I. T. Committee. That,
25 in spite of what you might think, means the technology, or

1 the Technical Information for the Turnpike Committee. And,
2 of course, you can understand that we immediately started
3 calling that committee the Dagmar Committee.

4 CHAIRMAN SHOCKNESSY: Oh, I realize that.

5 (Laughter)

6 M R. HERTZ: And the sad thing about the
7 T.I.T. Committee was if each and every member of that Com-
8 mittee by himself alone possessed all of the charms of
9 Dagmar, they still wouldn't be large enough --

10 CHAIRMAN SHOCKNESSY: Every one?

11 MR. HERTZ: Every one. They still
12 wouldn't be large enough to permit Mr. Kauer to hide behind
13 them, because these men said that they had nothing to do
14 with this, with the exception of two people. Two people
15 participated in the decisions. One was Mr. Marshall and
16 one was Mr. Allen.

17 Mr. Allen's participation was very limited. It
18 consisted merely of looking over some of the work that
19 Mr. Marshall had done, checking it, concurring with it,
20 and going along with him. And Mr. Marshall did all the
21 work.

22 We haven't called Mr. Lehman yet. It may be
23 that Mr. Lehman did more work. You will understand that
24 we haven't called him because he is at present an employee
25 of the Turnpike Commission.

1 CHAIRMAN SHOCKNESSY: Well, you have called some
2 others. I don't know why you discriminated against Lehman.
3 You called some others.

4 MR. HERTZ: We called those that we had
5 to call. We didn't call any more than what we had to call.
6 I anticipate that before the case is over we will hear from
7 Mr. Lehman.

8 But outside of that we have not heard who was
9 responsible for maintenance figures. There isn't a soul
10 in the Highway Department who can tell you that he will
11 take responsibility for the maintenance figures that you
12 were given, not one. Mr. McCaughey said he had nothing to
13 do with it. Mr. Reppel, being his Bureau Chief Assistant,
14 had nothing to do with it.

15 The only evidence we have that the maintenance
16 figures were even discussed comes from a little memorandum
17 on a pad of paper prepared by Mr. Marshall, in which some
18 figures appear that Mr. Marshall says he himself doesn't
19 understand and doesn't know anything about, and he remembers
20 that he was given these figures by the Greiner Company.

21 There is no evidence that anybody ever studied
22 maintenance figures, but there is evidence of this, that
23 they took the maintenance figures that they had worked out
24 in the New Jersey pavement committee report and they just
25 transposed them into Ohio, and they said the same thing.

1 Now, in New Jersey the maintenance figures were
2 prepared for flexible pavement, and they are using the same
3 figures for a concrete pavement in Ohio that they had used
4 in New Jersey for a flexible pavement. That is shown by
5 the --

6 CHAIRMAN SHOCKNESSY: "They," is the Greiner Company?

7 MR. HERTZ: The Greiner Company.

8 That is shown by the fact that the maintenance
9 figures in Exhibit K and in its antecedent, Exhibit 1, are
10 the very same thing.

11 There isn't any evidence that the Ohio experience
12 on maintenance was ever even referred to or examined in
13 determining what would be the comparative maintenance costs.

14 (See next page.)
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1 Now, gentlemen, I am very sorry that the Commission
2 saw fit to proceed the way you have. I am very sorry that
3 you saw fit not to call in the two rival and competing
4 types of pavement before the engineers ever made a report,
5 and had the engineers listened to the two rivals they might
6 have learned a great deal, and I am sure that a lot of us
7 would have benefited from the knowledge that would have
8 been developed.

9 For example, Mr. McKay says that he has learned
10 through Doctor Leukish up in Cleveland that a concrete
11 pavement is to be preferred from the light point of view.
12 Now, if Mr. McKay had been present at a meeting before the
13 engineers made a recommendation he would have learned that
14 you can build an asphalt pavement that is almost the same
15 color as concrete. Did you know that?

16 MR. MCKAY: That is a recent development,
17 I think, isn't it, Ralph?

18 MR. HERTZ: Yes, That can be done.

19 CHAIRMAN SHOCKNESSY: Well, I was going to offer
20 that in refutation.

21 MR. HERTZ: Not only that, you would have
22 learned also that you can build one which has the very same
23 safety, anti-skid features if you use the proper aggregate
24 and you use the proper content of your material. So that,
25 as far as safety and light is concerned, there is no choice

2 1 between the two types.

2 CHAIRMAN SHOCKNESSY: Well, that applies
3 also to the resurfacing. I was going to go over that on
4 the resurfacing.

5 MR. HERTZ: Of course, it does.

6 CHAIRMAN SHOCKNESSY: But I didn't. But,
7 since you are talking about the pastel shades of asphalt,
8 I think that is applicable there.

9 MR. HERTZ: If you say you don't want to
10 use black top, then don't figure on using black top when
11 you resurface. If, on the other hand, you recognize the
12 value of the newer developments that permit you to build
13 asphalt with the same color, then don't use that argument
14 against asphalt.

15 Now, Mr. Allen says that in going over the New
16 Jersey Turnpike he encountered some bumps at the bridges.
17 I think if we had had a meeting of that kind in the begin-
18 ning, Mr. Allen would have discovered that good engineers
19 can eliminate those bumps. They don't have to be there.

20 CHAIRMAN SHOCKNESSY: Mr. Donnelley--

21 MR. HERTZ: Yes. Now, Mr. Donnelley says
22 that building with asphalt requires stricter control. I
23 don't know whether that is true or not, but I would consider
24 that a very poor argument. Whether you build of rigid
25 pavement or whether you build of flexible pavement, you

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1 gentlemen want to exercise strict control and you want a
2 good road. Now, you might have learned that at a meeting
3 of that kind.

4 Now, I don't want to bore you by going into too
5 great detail.

6 CHAIRMAN SHOCKNESSY: We can't be bored,
7 not with this kind of discussion.

8 MR. HERTZ: All right, you are inviting it,
9 so you will get it.

10 CHAIRMAN SHOCKNESSY: We will get it, yes.
11 Come on. You want to make the six-thirty. I am not going
12 to let you make it now.

13 (Laughter.)

14 MR. HERTZ: Mr. Teegarden was also worried
15 about slippery concrete. If we had had a meeting of that
16 kind he would have been reassured about slippery asphalt.
17 Asphalt doesn't have to be slippery. The slipperiness can
18 be eliminated, as Mr. Donnelley told you, and it can also
19 be eliminated by using some of the newer ideas in building
20 asphalt.

21 Now, if there was anything more disturbing to
22 people who come here for a fair hearing than that demon-
23 stration about the pictures of the New Jersey Turnpike,
24 I've never seen it. First of all, it would seem to me that
25 Mr. Teegarden got a little confused in his lines. He called

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1 for a New Jersey report and what he really wanted was a
2 New Jersey photograph.

3 CHAIRMAN SHOCKNESSY: That's the report.
4 He meant report-- didn't you?

5 MR. TEEGARDEN: I said so.

6 MR. HERTZ: Now, Mr. Teegarden, I can take
7 you to various parts of the country and I'll get you pictures
8 of concrete roads that will horrify you and I'll get you
9 pictures of flexible pavements that will delight you, and
10 I'll do the opposite, too. So, don't be impressed with
11 these pictures. These pictures mean nothing. You can
12 always get a photograph of pavement to prove anything that
13 you want to prove.

14 Now, if you want to satisfy yourself, tell the
15 same fellow who took these pictures to go out and take
16 certain pictures on the Pennsylvania Turnpike. Tell him
17 to go out and take certain pictures on some of the concrete
18 roads that have been built recently in Ohio that have
19 already failed, and I'll admit that you will find similar
20 pictures on flexible pavement.

21 Of course, there are failures. Every jar of
22 pickles that you produce doesn't turn out right, and so,
23 once in a while you do turn out a poor pickle. But, that
24 wouldn't--

25 (Laughter.)

5 1 CHAIRMAN SHOCKNESSY: You are not only
2 catching hell on asphalt and concrete, but also on pickles.

3 MR. McKAY: He is pickled.

4 MR. HERTZ: Will you change that to sauer
5 kraut?

6 Now, I don't, on that basis, indict your entire
7 industry and say your industry isn't reliable and you can't
8 produce good products. Of course, that would be a ridicu-
9 lous thing to say and it is just as ridiculous to say it
10 in this case. Mr. Shocknessy pointed out that there is
11 no resurfacing in Pennsylvania. I have given you the
12 answer to that.

13 CHAIRMAN SHOCKNESSY: No. I asked the
14 question.

15 MR. HERTZ: You asked Mr. Donnelley and he
16 told you-- well, of course, you brought it out. There is
17 no resurfacing in Pennsylvania on the Pennsylvania Turnpike.
18 Of course, there isn't, but there is slab replacement,
19 and I assure you the cost is much, much more than resur-
20 facing would ever cost. Now, you have asked--

21 CHAIRMAN SHOCKNESSY: Well, it depends on
22 how much of each you would have.

23 MR. HERTZ: You have asked Mr. Donnelley
24 whether he can point out a road built of flexible design
25 satisfactory to him, that would be as good as a concrete

6 1 road. Mr. Donnelly unfortunately, in spite of his extensive
2 experience, was unable at this present moment to recall
3 such an instance. Give us a chance. We'll find plenty of
4 them for you. I came unprepared today and I am not ready
5 to tell you, but we will find plenty of them for you.

6 CHAIRMAN SHOCKNESSY: That was his trouble.

7 He was unprepared for the question.

8 MR. HERTZ: Now, bear this in mind. Don't
9 let anybody force you into the position of saying that the
10 large percentage of flexible pavements that have been built
11 in Ohio and which are still being built and which are going
12 to be built in the future have been mistakes and are failures.
13 You've got some excellent flexible pavement in Ohio and
14 excellent flexible pavement can be built.

15 CHAIRMAN SHOCKNESSY: Judge Hertz, may I
16 ask you a question appropo of that?

17 MR. HERTZ: Yes.

18 CHAIRMAN SHOCKNESSY: I was greatly im-
19 pressed with Mr. Shafer's testimony which I read, wherein
20 he said that he thought the ideal road was not the road
21 that the Asphalt Institute and you people would recommend,
22 nor the one that--

23 MR. HERTZ: Don't say that I recommend
24 anything. I am just a lawyer. I am not an engineer. I
25 don't recommend anything.

7 1 CHAIRMAN SHOCKNESSY: Nor the one that
2 Mr. Donnelly would recommend, but rather one that had a
3 rigid base and three and a half inches of asphalt surface,
4 and I am most interested in that. I wish you would tell me
5 more about that.

6 MR. HERTZ: I wish I could. I wish I could.
7 That happens to be something that wasn't in my homework
8 and I haven't studied it. I don't know.

9 CHAIRMAN SHOCKNESSY: Off the record.

10 (Off the record discussion.)

11 CHAIRMAN SHOCKNESSY: No, but, seriously,
12 I was greatly impressed with that.

13 Really, I don't think you ought to overlook it.
14 I don't think you ought to pass that. Mr. Shafer mentions
15 forty years of experience, and I don't think that it should
16 be disregarded.

17 MR. HERTZ: Well, if you wish us to do that
18 and will give us an opportunity to do it, we will get you
19 information about that, but I myself am not ready with that
20 kind of information this afternoon. If you ask for it we
21 will get it for you.

22 MR. HAMILTON: I think what he said, Jim, was
23 that you had to have the same base. I think he still wanted
24 that same 12 inch suitable base under it and then maybe an
25 8 or 9 inch slab and then asphalt, which would make, of

8 course, a very ideal road, in his opinion. I believe that
1 is what he said. In other words, his theory was that the
2 base was the most important part of it, and then you could
3 put a slab of concrete there to improve the riding surface,
4 I think.

5 CHAIRMAN SHOCKNESSY: Well, I read it to
6 mean that neither of the designs which are in controversy
7 is ideal, but rather that this original design which he was
8 discussing in the testimony would be as near ideal as could
9 be attained. I only read the testimony, but I visualized
10 his pointing out in front, and he said, "Right out in front
11 here you have something similar," didn't he, in that line of
12 questioning?

13 MR. HERTZ: Well, Jim, the only thing I
14 can say to you about that is that among Paul Griffith and
15 Bob Hamilton and Dick Shafer and I, we know everything there
16 is to be known about pavement, but that happens to be one of
17 the things that the others three guys know. I don't know
18 anything about it.

19 CHAIRMAN SHOCKNESSY: And one of them isn't
20 here.

21 (Laughter.)

22 CHAIRMAN SHOCKNESSY: Well, I did find it
23 very interesting.

24 MR. HERTZ: I don't know anything about it.
25

9 1 CHAIRMAN SHOCKNESSY:

All right, go ahead.

2 I am sorry.

3 MR. HERTZ:

4 But, I am going to conclude
5 with something about which I feel quite deeply, entirely
6 apart and aside from the fact that I happen to be a lawyer
7 in this case. I love the private enterprise system, and
8 I love the competitive system, and I love the capitalist
9 system. It has been awfully good to all of us and we owe
10 it everything that we can possibly give it to save it and
11 to strengthen it and to make it grow.

12 CHAIRMAN SHOCKNESSY:

13 You mean it wasn't
14 saved on the 4th of November?

15 (Laughter.)

16 MR. HERTZ:

17 Well, I think it was Thomas
18 Jefferson who said that the struggle for liberty has to go
19 on forever. It is never won.

20 CHAIRMAN SHOCKNESSY:

21 I thought that's
22 what all that hassle was about.

23 MR. HERTZ:

24 In all earnestness, I do want
25 to say this to you. I think of everything I have said here
this afternoon the most important is the problem that I have
raised with reference to the monopoly and the extortionate
practices of the Portland Cement Industry. I'm not basing
that on my opinion. I'm not basing it upon my judgment.
I'm basing it upon findings by the United States Supreme

10 1 Court and by the recognized Government agency that has the
2 jurisdiction over such matters. And I ask you, don't permit
3 yourself to give further insulation against competition
4 to an industry that already has no competition within itself.

5 There is only one way in which this monopoly can
6 be fought and that is by compelling it to compete with its
7 rival materials. If you close the door to alternative
8 bidding here you are saying to this monopoly, "We're at your
9 mercy. Do anything you please." If, on the other hand, you
10 do force alternative bidding here you are not taking the
11 position that you won't use Portland cement, because maybe
12 you'll find after all considerations that you do want to
13 use Portland cement, and if that happens, use Portland cement.
14 But, at least, let the Portland Cement Industry know that
15 you are going to do everything you can to force them to
16 compete.

17 I thank you.

18 CHAIRMAN SHOCKNESSY: Thank you, Judge
19 Hertz.

20 You know, you remind me, in your conclusion, of
21 another great man who is prone every two years, in even
22 numbered years--

23 MR. HERTZ: Now, I see why you said you
24 were cynical.

25 CHAIRMAN SHOCKNESSY: No. He says

11_1 every two years, in even numbered years, very effectively,

2 "And now, ladies and gentlemen, in conclusion let me say to
3 you that if you believe I will make a better Governor than
4 my opponent, then I ask you to vote for me; but, if you
5 believe that my opponent is better for the State of Ohio,
6 then I ask you, in conscience, to vote for him." You remind
7 me a great deal of him.

8 MR. HERTZ: Well, I am very much encouraged
9 by that because I understand he also used to win.

10 (Laughter.)

11 CHAIRMAN SHOCKNESSY: He was defeated for
12 the State Senate back in 1922.

13 Thank you very much.

14 Judge Hertz, quite seriously, I personally thank
15 you for your magnificent argument, and I know that I
16 bespeak the gratitude of the Commission for your coming
17 here and speaking as you have. I do not believe that you
18 would have shown us the attention and consideration and
19 extended to us the benefit of your brilliant intellect if
20 you did not believe that we are honestly deliberating this
21 matter.

22 I was a bit depressed only with one part of your
23 argument, and that was your introduction where you said
24 that your gratitude was dampened by the appearances here
25 today. I assume you came a bit skeptical and I feared when

12 1 you said that, that you had grown cynical while you were
2 here. Nothing here should lead you to be cynical.

3 I said earlier today, Judge Hertz, that I did not
4 then make a recommendation to this Commission for action
5 today. I reserved the right in that statement to seek the
6 Commission's action today. I am deeply and profoundly
7 mindful of the economic compulsion under which this Com-
8 mission operates because of the service charge on the loan.
9 If I had any predisposition at all, for that reason I
10 was impelled to ask the Commission to take action upon
11 the Greiner report as amended, supplemented and explained,
12 to take action upon the general supplemental specifications,
13 to take action upon the specifications for Contract C-1,
14 to authorize an advertisement for bids upon Contract C-1.
15 If I had any predisposition as Chairman of this Commission
16 when we convened here today, it would have been so because
17 of the economic compulsion which we suffer.

18 I have listened thoughtfully all day, despite
19 what you have implied in your usage about some of the
20 members here having missed lines and cues. I want to assure
21 you, and I do so assure, as the Chairman of this Public
22 Body, and in furtherance of the respect to which Public
23 Bodies must give worship, that there has been no dress
24 rehearsal and there have been no lines memorized and there
25 were no lines missed and no cues missed today, Judge,

13 1 because there were neither lines nor cues provided.

2 Now, I personally am very deeply impressed with
3 your arguments, not only because of the respect I have for
4 your arguments but because of the respect that I have for
5 this Public Body, which gives worship to honest deliberation
6 in the conduct of its affairs. As Chairman of this Commis-
7 sion I am not going to ask the Commission to take action
8 today on any of the four items that I believe I mentioned,
9 provided I have honestly understood you, that you have
10 spoken to us as you have because you believe that in the
11 consideration of this matter we want to be and expect to
12 be fair. If you believe that, as you indicated to the
13 record in the Court you believed in the good faith of this
14 Commission, then--

15 MR. HERTZ: Well, Mr. Chairman, I don't
16 think-- you will pardon my taking exception to that.

17 CHAIRMAN SHOCKNESSY: Yes.

18 MR. HERTZ: I don't think the question
19 before this Commission is what I happen to think of you.
20 That is not important. The important thing is are you
21 prepared to exercise your discretion?

22 CHAIRMAN SHOCKNESSY: Of course, we are
23 prepared to exercise our discretion.

24 MR. HERTZ: You haven't considered the
25 material that I have just given you today at all.

14

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CHAIRMAN SHOCKNESSY:

I didn't say when

2

I would ask them to do it.

3

MR. HERTZ:

Oh, I see.

4

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I understood you to mean you are prepared now to exercise your discretion.

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CHAIRMAN SHOCKNESSY:

I didn't say that.

7

I don't think the record will show I said that.

8

MR. HERTZ:

I have no right to ask for

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anything from this Commission except that you exercise your discretion properly. That is all.

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CHAIRMAN SHOCKNESSY:

All right. If you

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I didn't intend to argue a point, but I am going to a little bit. Your argument about the monopoly goes not to the legal right of the Commission but rather to the moral impact of the Commission's action. Is that correct?

15 1 MR. HERTZ: No. I think it has legal
2 consequences. I think you will find authorities in Ohio
3 that where a monopoly--

4 CHAIRMAN SHOCKNESSY: Well, you didn't say
5 so.

6 MR. HERTZ: I didn't argue law to you
7 gentlemen today. I forgot that there were any lawyers
8 present.

9 CHAIRMAN SHOCKNESSY: Even Lansdale you
10 forgot.

11 (Laughter.)

12 MR. HERTZ: I addressed myself to laymen
13 this afternoon entirely. I didn't even talk to engineers.

14 CHAIRMAN SHOCKNESSY: All right. You
15 talked about some of them, though. You mentioned the
16 exhibits which you are willing to make available to us.

17 MR. HERTZ: Yes, and we have some additional
18 documents we'll be happy to show you, too.

19 CHAIRMAN SHOCKNESSY: Now, how do you pro-
20 pose that we get to see them?

21 MR. HERTZ: I would suppose the easiest
22 way to do that is for you to have Mr. Lansdale get in touch
23 with Mr. Hamilton or Mr. Griffith or myself, and Jack and
24 I have been able to work things out amicably throughout this
25 trial and I am confident we can do it some more.

16

1 CHAIRMAN SHOCKNESSY: All right. I would
2 like to see the exhibits, all of them. I think all the
3 members would. Are you willing for Mr. Lansdale to have
4 the exhibits and make them available to us here at our
5 headquarters?

6 MR. HERTZ: Of course.

7 CHAIRMAN SHOCKNESSY: All right. Then in
8 pursuance of our purposes to be right, I am asking the
9 members of the Commission to take this matter under advise-
10 ment and meet again at a time next week which will be agree-
11 able. When can you do it?

12 MR. McKAY: I think I would like to examine
13 these and the consequences of them. I would like to see the
14 exhibits that Judge Hertz has referred to. My personal
15 schedule in the end of the week is rough. I am avoiding
16 everything else, at least from Wednesday on. I don't know
17 whether I can get cleared Tuesday or not, Jim, but I am
18 stuck Wednesday, Thursday and Friday.

19 MR. LINZELL: That is the same way with me.
20 Tuesday is probably easier for me to break then--

21 CHAIRMAN SHOCKNESSY: What about Tuesday
22 at any time agreeable?

23 MR. ALLEN: It is OK with me.

24 MR. TEEGARDEN: Any time is agreeable to me.

25 MR. HERTZ: Gentlemen, Mr. Hamilton has

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1 suggested some further material that he would like to submit
2 for your consideration that he didn't cover.

3 CHAIRMAN SHOCKNESSY: Right now?

4 MR. HERTZ: We will get it together for
5 you. I just wanted the record to indicate that we have
6 additional material we would like to get to you.

7 CHAIRMAN SHOCKNESSY: Well, we will have to
8 have it in time.

9 MR. HERTZ: When are you going to meet
10 again?

11 CHAIRMAN SHOCKNESSY: Well, I would like to
12 have everything you are going to offer--

13 MR. HERTZ: Yes?

14 CHAIRMAN SHOCKNESSY: --promptly. That is,
15 tonight or tomorrow.

16 MR. HERTZ: We can get it in by tonight or
17 tomorrow, can't we?

18 MR. HAMILTON: What did you want to get in?

19 MR. HERTZ: Everything we want to offer.
20 This document that you mention, and so forth.

21 MR. HAMILTON: Well, I had only in mind that
22 one point and that was in regard to this monopoly.

23 MR. HERTZ: All right, you state the point.

24 MR. HAMILTON: The only point I had in mind,
25 Jim, was that there was nothing sacred about their cease

18 1 and desist order not being technically complied with. The
2 main point was that in the past, ever since 1904, this
3 industry has followed a course of conduct that has been
4 restrictive. And, you will find the Federal Trade Commission
5 finding contains the minutes of one of the association
6 meetings when they were formulating this plan. Back as
7 early as 1904 this statement was made at the meeting of the
8 Cement Institute, and I will read it to you:

9 "The main grievance which the association has
10 here today is the grievance for uniform price for cement.
11 I feel that I can safely state that two-thirds of those
12 present today are ready to adopt any proceedings that will
13 advance and keep the price of cement where it should be,
14 and if there is any member here who has the ability to
15 present to the Executive Committee something that will
16 accomplish this, I assure them that the Executive Committee
17 will do all in their power to put it in force."

18 "Now, it is in your hands, not in the hands of
19 the Executive Committee, and I agree with you and will sustain
20 any motion that will advance the price of cement for the
21 year."

22 And then later in the same finding of facts is
23 a letter from the president of one of the cement companies
24 where he says back in 1934-- John Tischner, who is President
25 of Riverside-- "the truth is, of course, that there can be

19 1 no serious discussion of our case unless it is recognized
2 that ours is an industry above all others that cannot stand
3 free competition."

4 I was telling Judge Hertz to bring to your atten-
5 tion there was nothing sacred about the simple fact that
6 the cease and desist order hadn't been complied with, but
7 it was a pattern of conduct built up, and we must have some
8 competition.

9 (Off the record.)


10 CHAIRMAN SHOCKNESSY: All right. We are
11 adjourned until one-thirty on Tuesday, the 9th of December.

12 (Thereupon the meeting was adjourned.)
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COURT REPORTER'S CERTIFICATE

I, Ira W. Pratte, do hereby certify that I reported the proceedings of meeting of Ohio Turnpike Commission held in the Blue Room of the Seneca Hotel, Columbus, Ohio, on Saturday, December 6, 1952, beginning at 10:30 o'clock, A. M.; that all of the above and foregoing is a true and correct transcript of the proceedings as reported by me in this matter on the 6th day of December, 1952.


Ira W. Pratte, Court Reporter

RESEARCH ENGINEER'S OFFICE
101 NORTH HIGH STREET
COLUMBUS 15, OHIO

November 26, 1952

File: 15-32

Memorandum to: George J. Thornyer
From: Charles W. Allen
Subject: Construction Specifications for Ohio Turnpike

In accordance with your request of November 11, 1952, the Turnpike Specifications which you loaned to us have been checked with the pertinent items of the January 1, 1953 Ohio Department of Highways Construction and Material Specifications. In general the Turnpike Specifications are the same as the Departments. Deviations which we consider substantial are given below:

DIVISION I

GENERAL CONDITIONS

The laws relating to the Turnpike are different than those relating to the Highway Department and their organization is different. Because of this their "General Conditions" are greatly different than our "General Clauses and Covenants". A somewhat hasty study shows the differences listed below.

Sec. G-1 Definitions and Terms

The following terms, not defined in our specifications, are defined in the Turnpike specifications:

Addenda
Chief Engineer
Commission
Construction Section
Contract Document
General Specifications
Materials
Public Roads
Supplemental Specifications

The following terms, defined in our specifications, are not defined in the Turnpike specifications:

The State
Department
Director

"Addenda" are apparently last minute "Special Provisions". They are given to each person who obtained a set of "Contract Documents" not later than 7 days before the date on which bids will be opened.

Their term "Engineer" is broader in scope than ours.

"General Specifications" correspond to our specifications book.

Sec. G-2 Proposal Requirements and Conditions

The proposal quantities may be increased or decreased without limit and without requiring an Extra Work Contract. A new section, G-2.06 Subsurface Conditions, has been added. This section makes available data from subsurface exploration but assumes no responsibility for the use made of them by the Contractor.

Bidders shall submit qualifications for the work with their bids instead of at least 10 days before bids are opened.

Sec. G-3 Award and Execution of the Contract

Bond in the amount of Contract price is required by the Turnpike specifications.

Sec. G-4 Scope of Work

Reference to "Special Work" has not been included.

Extra work contract is not required for increased or decreased quantities.

Extra work consists of work for which no unit price exists.

Sec. G-4.04 Maintenance of Local Traffic has been expanded to include what we would call "through" traffic.

A new section on field offices has been added.

A section on photographs has been added. The Contractor is required to take photographs of The Work on or about the first of the month.

Sec. G-5 Control of The Work

No mention is made of coordination of Plans, Specifications and Special Provisions.

The authorities and duties of Project Engineer are not covered.

The Turnpike specifications do not cover protection from construction equipment and hauling equipment.

A new section, G-5.11 on Accident Prevention has been added. Machinery, equipment and other hazards shall be guarded in accordance with the "Manual of Accident Prevention in Construction" of the American General Contractors.

The section, G-5.12, covering "Claims for Extension of Time" has been added. This permits the Contractor to claim a time extension on account of "work required to be performed on materials required to be furnished" provided he files his claim before beginning the work in question.

Sec. G-6 Control of Material

Each source of supply shall have been approved by the Engineer before delivery is started.

Within 24 hours after receiving the shipment of material, the Contractor shall advise the Engineer, in writing, of the kind, size, quantity and location thereof.

Adequate cement storage shall be provided for at least one days run.

Materials which do not conform to specifications may be allowed to remain in place or may be used when permitted by the Engineer, but in such cases the Engineer shall have authority to reduce the unit price with the respect to such materials.

Sec. G-7 Legal Relations and Responsibility To The Public

The Contractor is required to furnish satisfactory proof of satisfactory compliance of laws, statute and etc., upon request.

Control of closing a state highway vested in the Engineer (Turnpike). No requirement included requiring temporary route markers to be placed in advance of closing.

The Contractor shall furnish, erect, maintain, etc., all necessary temporary routes, road closed and etc. signs.

The Contractor must make own arrangements with railroads for a temporary crossing. Work is subject to inspection and approval of the railroad.

Navigation shall not be interferred with. Work in stream beds shall conform to the regulations prescribed by the local District Engineer of the U.S. Corps of Engineers.

A new section G-7.17 Insurance has been added which covers the type and amount of insurance which the Contractor is required to carry. A new section G-7.18 Report of Accidents, etc., has been added which requires injury to the person or property of "any third person" to be reported within 24 hours.

G-8 Prosecution and Progress

The Turnpike specifications require the Contractor to pay 0.04 percent of bid price for each day he is late in completing the contract. The payment shall be not less than \$40.00 per day. This assessment is termed "liquidated damages".

G-9 Measurement and Payment

Payment and compensation for extra work consists of direct cost plus 50 percent. Direct cost includes: wages, material delivered to the work plus all taxes, all taxes and insurance bond premiums and equipment rental according to the associated equipment distributors schedule.

No allowance will be made for fuel, lubricates, or equipment repair. The equipment allowances will be intended to cover such costs.

Under partial payment, 10 percent of the cost of the completed work and 15 percent of the cost of the delivered material are retained on each estimate.

The Engineer is the judge of completion.

The Commission may withhold from the Contract total amount of any claims which the Commission may have against the Contractor.

G-10 Miscellaneous Provisions

A new section, G-10.01 Coordination of Contract Documents has been added. This is essentially the same as our section G-5.04. Section G-10.02 Transportation Tax Exemption has been added. This is essentially the same as our Special Provisions entitled "Federal Transportation Tax".

DIVISION II
CONTROL OF CONSTRUCTION EQUIPMENT

- Sec. CE-1 Rollers. The only significant change is to add a specification for "Grid Rollers" (Sec. CE-1.09). In Sec. CE-1.07, in the footnote at the bottom of the table the word "place" should read "plane".
- Sec. CE-2 Pressure Distributors. No change.
- Sec. CE-3 Bituminous Concrete Plant Equipment. No change.
- Sec. CE-4 Bituminous Concrete Spreading and Finishing Machine. No change.
- Sec. CE-5 Bituminous Concrete Pavers. No change.
- Sec. CE-6 Portland Cement Concrete Paving Mixers. No change.
- Sec. CE-7 Truck Mixers and Truck Agitators. No change.
- Sec. CE-8 Portland Cement Concrete Stationary Mixer. No change.
- Sec. CE-9 Portland Cement Concrete Spreading and Finishing Machines. Specifications for spreaders added to this section.

Turnpike specifications do not permit a single screed transverse finishing machine.

Turnpike specifications require a longitudinal finishing machine.

Turnpike specifications require vibrator. It is to be mounted on spreader or transverse finishing machine. Vibrating element must not contact the forms. To the best of my knowledge the only finisher available in this section that meets the Turnpike requirements is the Blaw-Knox.

We had poor results on the one project built with the vibrator on the spreader.

Other vibratory equipment may be used on a trial basis under both specifications.

- Sec. CE-10 Concrete Material Scales. This section has been revised to require moisture determining equipment, tighter tolerances on weighing and graphic recorders.

To the best of my knowledge each batching plant must have some leased SC² equipment.

DIVISION III
CONSTRUCTION DETAILS

Item E-1 Roadway Excavation

Rock is not limited to material which cannot be incorporated in an 8" layer.

Random material required to have enough fines to separate and fully bed the rock or shale.

Sod not salvaged in the scalping operations.

Unsuitable material not covered in Sec. E-1.05.

Salvaged top soil not required to be placed on shoulders, slopes and ditches.

Unsuitable material to be wasted outside the right-of-way.

References to widening have been deleted.

References to traffic bound surface course have also been deleted.

Deviation for cut slope and fill slope of one foot will not be permitted.

Method of Measurement and Basis of Payment do not include separate items for subgrade and unsuitable material.

Item E-2 Excavation for Structures

Trees and stumps will be removed under Item E-2. References to Items E-9, S-22 and S-24 have been deleted since these items are not carried in the Turnpike specifications.

Excavation will be classified as "dry" and "wet". No classification is made of rock or shale.

When pipe structures are to be placed under a fill it is mandatory to place the fill to an elevation of 2 feet above the top of pipe before the pipe is laid.

When running water is encountered the installation of a temporary pipe in the culvert location is required.

Trench widths are specified to be not narrower than the outside diameter of the pipe plus 20 inches and below an elevation 2 feet above the top of the pipe trench shall be not wider than twice the outside diameter of the pipe.

When concrete encasement for cradle is specified, the width of the trench below the top of the cradle for encasement shall be equal to the specified width of the cradle or encasement.

If suitable replacement material is not found in excavation, resort to E-4 Borrow specified.

When pipe is placed under an embankment, the previous construction of embankment to 2 feet over the elevation of the top of the pipe and subsequent trenching of the embankment in order to lay the pipe is mandatory. The Turnpike specifications allow for payment in this case.

The specified density is not required for pipe backfill but the backfill shall be uniformly and thoroughly compacted.

When the height of fill over "rigid pipe structures" exceed a given height for a given strength of pipe, the "Imperfect Method" of backfilling is specified.

References to timber abutments have been deleted.

For pipe culverts, excavation will be paid for to the bottom of encasement.

For pipe not over 24 inches in diameter the width of trench is 20 inches greater than the pipe diameter.

Item E-3 Channel Excavation

Channel excavation includes excavation for intercepting ditches and all other ditches beyond the top of cut slope or beyond the toe of embankment.

Reference to Item E-9, S-22 and S-24 have been deleted, since these items are not carried in the Turnpike specifications.

Item E-4 Borrow

Considerable details have been added relative to the location of borrow pits and conditions in which they shall be left.

Item E-8 Removal of Existing Pavement, Sidewalk or Curb

Reference to base and wearing course has been deleted from the title.

In the Turnpike specifications the wearing courses are included under pavement. All reference to base and wearing course has been deleted from this item.

Item E-9 Removal of Trees and Stumps

This entire item is not included in the Turnpike specifications.

Item E-11 Water

No significant changes in this item.

Item E-12 Removal of Pipe

No significant changes in this item.

BASE COURSES FOR FOUNDATION FOR PAVEMENTS

The Turnpike specifications do not include any base courses or foundations for pavement.

SURFACE COURSES OR PAVEMENT

The only surface courses or pavement in the Turnpike specifications are for Item T-33 and Item T-71.

Item T-33 Bituminous Macadam Surface Course

Details for applying seal coat, spreading aggregate and rolling incorporate the essential features of the Department's Item T-31.

Item T-71 Reinforced Portland Cement Concrete Pavement

High-early-strength cement not listed as an alternate under "Materials". However, it is mentioned under "Ready Mixed", "Curing," etc .

Forms must be 1/4 inch thick and have a width of base of at least 10 inches.

Cement storage capacity required for a full days run.

An upper limit of 175° F. has been added with respect to heating mixing water.

No reference made to method of making yield tests.

Concrete must be vibrated.

The Turnpike specifications do not include colorless membrane curing.

The number of test specimens has been increased.

Contraction and longitudinal joints are to be saved. It may be impossible to meet the specification requirements.

Contraction and longitudinal joints must be sealed with Sec. M-10.26 Sealer.

Measurement and payment is limited to the square yard basis.

STRUCTURES
Sec. S-0.01 Structures General

The Turnpike specifications do not carry requirements for a field office.

Sec. S-0.02 Concrete Bridges Including Concrete Work for Other
Type Bridges

No change.

Sec. S-0.03 Steel Bridges Including Steel Work For
Other Bridges

No change.

Sec. S-0.04 Timber Bridges

The Turnpike specifications do not carry this section.

Sec. S-0.05 Culverts and Retaining Walls

No change.

Item S-1 Concrete for Structures

The exception for railing has been deleted from the coarse aggregate requirements of Sec. S-1.02.

Contractors are required to provide means of storing adequate supply of cement for at least one full day's run.

Tongue and groove dressed lumber of uniform thickness shall be used when called for on the Plans.

The number of test specimens has been increased.

Reference to "existing walls" has been deleted from the Turnpike specifications.

An upper limit of 175°F has been added with respect to heating mixing water.

Alternate provisions relative to membrane curing compounds have been deleted.

A wood float required for sidewalk finishing.

The provision relative to no deduction for volume in case of timber or concrete piles has been deleted.

Item S-2 Patching Concrete Structures

This item is not included in the Turnpike Specifications.

Item S-3 Waterproofing

Width of premolded sealing strip not given.

Provisions relative to old structures have been deleted.

Item S-4 Reinforcing Steel

The Turnpike specifications have deleted the provisions for expanded metal mesh.

Item S-6 Pneumatically Placed Mortar

The Turnpike specifications do not include this entire item.

Item S-7 Structural Steel

Provisions relative to existing structures have been deleted. Submerged arc welding on down hand work will be permitted on approval of the Engineer. The entire section on "Nameplates" has been deleted.

Provision for painting pneumatically placed mortar has been deleted.

Item S-8 Painting

A provision has been added which requires brushing only for applying shop coat.

A provision relative to old structures has been deleted.

Sec. S-8.03 General, Sec. S-8.04 Shop Painting and Sec. S-8.05 Field Painting have been completely rewritten covering different practices.

Sec. S-8.07 General, has also been completely changed.

Item S-9 Structural Expansion and/or Contraction Joints

Reference to cork filler has been deleted.

Item S-13 Bridge Timber and Timber Bridges

The Turnpike specifications do not include this item.

Item S-14 Railing

A provision that railing posts, panels and openings be vertical has been changed to require that they be normal to grade.

Requirements have been added relative to aluminum and galvanized steel anchor posts.

Reference to concrete, timber and brick railing have been omitted from the Turnpike specifications.

Item S-15 Temporary Run-Around, Bridge and Approaches

This entire item has been omitted from the Turnpike specifications.

Item S-16 First Test Pile

This item has been included in the Turnpike specifications without any change.

Item S-17 Pile Test Load

This item has been included without any change.

Item S-18 Bearing Piles

The Contractor is required to submit for the Engineer's approval a schedule of the length of piles he proposes to order.

Provisions for using a drop hammer have been deleted from the Turnpike specifications. However, a distance of fall not to exceed 10 feet is specified for steam hammers.

Provisions relative to use of cut-off portions of piles have been omitted. The Section on painting of piles is not carried in the Turnpike specifications.

The Turnpike specifications do not cover cast-in-place reinforced concrete piles of the type where the casing is removed.

Provisions for reinforcing cast-in-place piles have been revised. As a general rule reinforcement is limited to the upper half only.

The Turnpike specifications pay for the number of linear feet of piles of the respective types delivered to the site or cast-in-place. Measurement for driving piles by the linear foot basis measured below the cut-off.

The Turnpike specifications pay for splices for piles.

Item S-20 Stone Masonry

The Turnpike specifications do not carry this item.

Item S-21 Stone Facing and Stone Trim

The Turnpike specifications do not carry this item.

Item S-22 Removal of Portions of Existing Structure

The Turnpike specifications do not carry this item.

Item S-23 Dowel Holes

The Turnpike specifications do not carry this item.

Item S-24 Removal of Existing Structures

The Turnpike specifications do not carry this item.

Item S-25 Electrical Equipment

The Turnpike specifications do not carry this item.

Item S-26 Name Plates

The Turnpike specifications do not carry this item.

Item S-27 Pipe for Roadway Culverts

The entire item rewritten. Now covers both fabricated pipe and sectional plate pipe.

The table for minimum Bedding Depth for Pipe does not include sizes larger than 96 inches.

A table is included giving strutting requirements for sectional plate pipe 60 inches to 144 inches in diameter.

The Turnpike specifications include requirements for field coating and paving of sectional plate structures.

Joints of plain and reinforced concrete pipes are required to be made with cement mortar. Joints in vitrified clay pipe and vitrified clay lined concrete pipe required to be made with bituminous material or rubber.

Or Pipe Structures

This item has been omitted from the Turnpike specifications. However, sectional plate pipe are covered in their Item S-27.

Item S-29 Drainage of Structures

The porous backfill requirements have been changed to provide for a Fine Filter Aggregate of Sec. M-2.1 Sand and a Coarse Filter Aggregate of M-3, No 34 size with a limit of 100 percent passing the inch and half sieve.

The top of the porous backfill is to extend to the bottom of the subbase under pavements and shoulders and to within 12 inches of the finished grade at other locations. The Turnpike specifications do not carry the provisions that the material sizes shall be such as to obtain a rigid unyielding fill which will permit drainage.

Provisions have been made to use A.W.W.A. Cast Iron Pipe for draining of structures.

Item S-30 Materials. Furnished Only

This entire item is not carried in the Turnpike specifications.

INCIDENTAL CONSTRUCTION

Item I-1 Pipe for Driveways

Joints for pipe for driveways shall be cemented or sealed in conformance with the requirements of Sec. 27.04 of the Turnpike specifications.

Item I-2 Storm Sewers

Sec. M-6.2 Cast Iron Culvert Pipe, Sec. M-10.39 Bituminous Joint Compound and Sec. M-10.38 Cement Mortar have been added as materials for this item.

Excavation shall be in accordance with the requirements of Sec. E-2.03 and Sec. S-27.03. In case the flow line changes more than 1 foot, compensation or deduction in payment will be made in accordance with Item E-2 instead of by Supplemental Agreement.

Provision for constructing pipe sewers in embankment has been deleted.

Pipe sewers shall be constructed in accordance with the requirements of Sec. S-27.03 and Sec. S-27.04.

The Turnpike specifications do not carry the requirements to construct key of whole brick without hammering the key brick into place. They also omit requirement to plaster the outside of arch and have numerous other modifications as far as brick sewers are concerned.

Item I-3 Roadway Drainage

The list of pipe given under Sec. I-3.02 does not include Sec. M-6.13
Vitrified Clay Cradle Invert Pipe.

Porous backfill shall consist of Fine Filter Aggregate and Coarse Filter
Aggregate.

Excavation is to be made in accordance with their Sec. S-27.03.

Changes in grade in excess of 1 foot will be paid for or nonperformed as
Item E-2 Excavation.

Item I-4 Pipe Underdrains

Pipe meeting the requirements of Sec. M-6.8 Vitrified Clay Pipe has been
added.

Porous backfill shall be sand or No. 34 Aggregate modified as previously
mentioned.

Although 6 kinds of pipe are listed under Sec. I-4.02 Materials, only
Perforated Vitrified Sewer Pipe, Perforated Plain Concrete Pipe, Perforated Corrugated
Metal Pipe, or Perforated Helical Corrugated Metal Pipe shall be used unless otherwise
specified.

Perforated corrugated metal pipe shall be fully bituminous coated.

Perforated plain concrete pipe shall have bell and spigot joints.

Perforated Vitrified Sewer Pipe shall be standard strength with either bell
or plain end. For plain end pipe, the collars shall be furnished or in lieu of
collars two spring clips per joint may be furnished. It should be noted that plain
end pipe is not covered in the Material Details section.

Comments regarding excavation made under I-3 also apply to I-4. Except that
in addition, the trench is dug deep enough below grade to accommodate a two inch
layer of Coarse Filter Aggregate under this pipe.

This item contains no provisions for making lateral connections, closing
joints near tees or plugging upper ends of pipe lines.

Perforated pipe shall be placed with the perforations down.

Provision has been made for mortaring bottom half of bell and spigot joints.

After the pipe has been laid, coarse filter aggregate (Modified No. 34) shall
be placed to half the depth of the pipe.

Item I-5 Pipe Specials

No changes have been made in this item.

Item I-6 Relaying Pipe

No changes have been made in this item.

Item I-7 Reinforced Concrete Approach Slab

The only changes made in this item is to delete the case where the approach slab is to be used as base.

Item I-8 Manholes, Catch Basins, Inlets
Or Monument Boxes

Provisions for adjusting existing facilities to grade are not included.

Reference is made to their material detail section covering mortar instead of the various ingredients.

Cast iron instead of wrought iron steps are specified.

Under Sec. I-8.05 the reference to "Sec. C-10.38" should doubtless be changed to "Sec. M-10.38".

Item I-9 Stone Underdrain

The Turnpike specifications did not include this item.

Item I-10 Riprap and Dumped Rock Fill

There are no changes in this item.

Item I-11 Sandstone Curb and Header Curb

The Turnpike specifications did not include this item.

Item I-12 Concrete Curb, Combination Curb and Gutter
And Header Curb

Membrane curing compound is not permitted under this item.

Item I-13 Sidewalks and Concrete Steps

Editorial changes only.

Item I-14 Paved Gutter, Ditches and Stream Beds

Brick has been deleted as a material under this item.

Editorial revisions have been made in the item to include "ditches and stream beds.

I-15 Guard Rail

The Turnpike specifications do not include the following types:

- Wire cable - three rail element
- Woven Wire (Tape)
- Woven Wire (Band)
- Flexible Steel Plate Tension

Specifications for wood posts and braces have been deleted. Unless otherwise specified, they require steel posts.

For wire cable type, post spacing is limited to 12 feet.

References to re-erecting rail have been deleted.

Item I-16 Manholes, Catch Basins, or Inlets Abandoned

This entire item is not included in the Turnpike specifications.

Item I-17 Side Approaches, Mail Box Turnouts And Berm Material

This entire item is not included in the Turnpike specifications.

Item I-19 Insulation Course

The entire item is not included in the Turnpike specifications.

Item I-20 Insulation Course

This entire item is not included in the Turnpike specifications.

Item I-21 Portland Cement Concrete Median And Traffic Island Pavement

This entire item is not included in the Turnpike specifications.

Item I-22 Selected Subbase

Since most of the text for this item has been rewritten, the comments given below cover major differences only.

The grading requirements are essentially those of our "Grading A". The Turnpike specifications do not permit the use of salvaged road metal as such.

The Turnpike specifications limit the PI to "3" instead of "6".

They also limit the particles smaller than 0.02 mm to 3 percent or less by weights.

They do not provide for adding fines to top two inches to secure surface stability,

The Turnpike specifications provide for mixing in place of material to secure desired grading.

Item I-23 Right-of-Way Fence

This item is not included in the State's standard specifications.

ROADSIDE IMPROVEMENT

Item L-1 Topsoil Stockpiled

This item is not included in the Turnpike specifications.

Item L-2 Topsoil Furnished and Placed

No changes.

Item L-3 Placing Stockpiled Topsoil

No changes.

Item L-4 Renovating Existing Soil

This item is not included in the Turnpike specifications.

Item L-5 Seeding and Renovating Existing Sod

This item is not included in the Turnpike specifications

Item L-6 Roadside Cleanup

Under this item trees are required to be pruned regardless of caliper

The Turnpike specifications do not give a method of pruning shrubs under this item.

The method of measurement has been changed from "Roadside Cleanup Units" to "Total Area" and the basis of payment has been made a lump sum.

Item L-7 Riprap for Tree Protection

The Turnpike specifications do not include this item.

Item L-8 Aggregate for Tree Root Aeration

The Turnpike specifications do not cover this item.

Item L-9 Seeding and Protecting or Seeding Roadway Areas

Editorial changes have been made in the areas to be seeded.

The actual seeding has been restricted to "between April 15 and June 15" or between "August 15 and October 15."

Item L-10 Sodding

No changes.

Item L-11 Relaying Salvaged Sod

The Turnpike specifications do not include this item.

Item L-12 Planting Vines

The Turnpike specifications do not include this item.

Item L-13 Planting Shrubs

The Turnpike specifications do not include this item.

Item L-14 Planting Trees

The Turnpike specifications do not include this item.

Item L-15 Planting Salvaged Plants

The Turnpike specifications do not include this item.

Item L-16 Large Trees Moved and Reset

The Turnpike specifications do not include this item.

Item L-17 Pruning Existing Trees

The existing trees pruned and treated are paid for as a part of the clean up work at the contract lump sum price bid for "Item L-6 Roadside Cleanup".

Item L-18 Mulching

No change.

Item L-19 Seeding and Mulching

This is a special seeding item and covers areas designated by the Engineer "between the eastern extremity of the Turnpike near Petersburg and the westerly end at the Indiana line."

DIVISION IV MATERIAL DETAILS

Minimum Requirements for Sampling Materials.

The table does not include requirements relative to: berm material, binder soil, bituminous concrete, bone meal, paving brick, cork joint material and stabilized base.

Portland Cement: Reference to uncertified bins has been deleted.

Paint: Size of samples changed.

Various other changes have been made which appear to be in line with changes in the main text.

Item M-1 Specifications For Portland Cement

Sec. M-1.1 Air-Entraining Portland Cement. Three day tensile strength requirements have been changed from 150 to 225 pounds per square inch. The 7 day tensile strength requirements remain the same. 28 day requirements not included.

Sec. M-1.2 High-Early-Strength Air-Entraining Portland Cement. The air-entraining addition identity statement has not been included. This is a recent correction in our own specifications and may not have been available to the Commission.

Sec. M-1.3 Portland Cement. No change.

Sec. M-1.4 High-Early-Strength Portland Cement. No change.

Sec. M-1.5 Admixtures. No change.

Sec. M-1.6 Masonry Cement. No change.

Item M-2 Specifications for Fine Aggregates

Sec. M-2.1 Sand. The 12 percent soundness loss exception for Sec. B-71.04 has been deleted.

Sec. M-2.2 Sand. The reference to pneumatically placed mortar has been deleted.

The 12 percent soundness loss exception for Sec. B-71.04 has been deleted.

Sec. M-2.3 Sand (Cement Grout and ~~Masonry~~ Sand). Reference to pneumatically placed mortar has been deleted.

Sec. M-2.7 Screenings. No change.

Sec. M-2.9 Sandstone Rock Asphalt. The Turnpike Specifications do not cover this material.

Sec. M-2.10 Natural Asphaltic Limestone. The Turnpike Specifications do not cover this material.

Sec. M-2.11 Sand. The 12 percent soundness loss exception for Sec. B-71.04 has been deleted.

Sec. M-2.13 Gravel Screenings. No change.

Sec. M-2.14 Crushed Gravel Screenings. No change.

Item M-3 Specifications for Coarse Aggregates

In the Table "Sizes of Coarse Aggregates" the word "road" in the footnote should read "void".

Sec. M-3.1 Limestone. No change.

Sec. M-3.3 Limestone. No change.

Sec. M-3.4 Limestone. No change.

Sec. M-3.5 Crushed Rock and Slag. No change.

Sec. M-3.6 Slag. No change.

Sec. M-3.7 Slag. No change.

Sec. M-3.91 Gravel. No change.

Sec. M-3.92 Gravel. No change.

Sec. M-3.93 Crushed Gravel. No change.

Sec. M-3.10 Gravel. No change.

Sec. M-3.11 Gravel. No change.

Sec. M-3.12 Grade A Granulated Slag. No change.

Sec. M-3.13 Grade B Water Granulated Blast Furnace Slag. No change.

Item M-4 Specifications for Brick

Sec. M-4.1 Brick. This section on paving brick has been omitted.

Sec. M-4.2 Brick. Reference to salvaged brick has been deleted.

Item M-5 Specifications for Bituminous Materials

- Sec. M-5.1 Specifications for Asphalt Cements. No change.
- Sec. M-5.2 Specifications for Rapid Curing Asphalts. The entries for viscosity at 60°C. and 82.2°C. appear to have been reversed.
- Sec. M-5.3 Specifications for Medium Curing Liquid Asphalts. No change.
- Sec. M-5.4 Specifications for Slow Curing Liquid Asphalts. No change.
- Sec. M-5.5 Specifications for Asphalt Emulsions. No change.
- Sec. M-5.6 Specifications for Miscellaneous Asphalts. No change.
- Sec. M-5.7 Specifications for Tars. No change.
- Sec. M-5.8 Specifications for Waterproofing Pitch. No change.
- Sec. M-5.9 Specifications for Creosote. No change.
- Sec. M-5.10 Specifications for Liquefier. No change.
- Sec. M-5.11 Specifications for Gasoline. The Turnpike Specifications use "motor" method of test and values for octane number. The Department's Specifications recently changed to the "research" method of test with an increase in the octane rating from "77+" to "84+."
- Sec. M-5.12 Specifications for Cut-Back Asphalt Emulsions. No change.

Item M-6 Specifications for Pipe

- Sec. M-6.2 Cast Iron Culvert Pipe. No change.
- Sec. M-6.3 Cast Iron Soil Pipe and Fittings. Weight of 5 foot length of single hub, 10 inch pipe changed from "215" to "250" and weight per foot of 8 inch pipe changed from "39" to "30". I believe that these are errors in the Turnpike Specifications.
- Sec. M-6.4 (a) Plain Corrugated Metal Pipe. Weight and Gage Table changed as follows:
1. Turnpike Specifications do not include the following sizes: 27, 33, 84, 90 and 96 inch diameters.
 2. Provisions added for 14 gage pipe in 10, 12 and 15 inch diameters.
 3. Provisions for 12 gage pipe in 12, 15, 18 and 21 inch diameters added.

4. Provisions added for 10 gage pipe in 21, 24 and 30 inch diameters.
5. Provisions added for 8 gage pipe in 30 and 36 inch diameters.
6. Gage to be as called for on the Plans etc.

End finish is required on all 14 and 16 gage pipe instead of 24 inch, 14-gage pipe or 16-gage pipe of smaller diameter.

Maximum diameter for 7 inch couplings changed from "42 inches" to "30 inches". Couplings shall be 12 inches wide for pipe 36 to 60 inches in diameter and 24 inches wide for all pipe over 60 inches in diameter. The requirement that Type B Couplings be not wider than 12 inches has been deleted.

Sec. M-6.4 (b) Perforated Corrugated Metal Pipe Requirements for 24" diameter pipe added.

Number of Rows of Holes for 18 and 21 inch diameter pipe changed from "6" to "8" and the Minimum Width of Unperforated Segment changed as follows:

Diameter	Minimum Width etc.	
	Ohio	Turnpike
10	9	8
15	13	12
18	16 1/2	14
21	20	16 1/2

Perforations shall be not less than 1/4 inch nor more than 3/8 inches.

Sec. M-6.4 (c) Bituminous Coated Corrugated Metal Pipe. Turnpike Specifications give detailed requirements for bituminous material.

Sec. M-6.4 (d) Paved Invert Bituminous Coated Corrugated Metal Pipe. Word "Invert" has been added to the title. Pavement at crest of corrugations required to be at least 1/8 inch thick.

Sec. M-6.4 (e) Perforated Bituminous Coated Corrugated Metal Pipe. No change.

Sec. M-6.4 (f) Perforated Bituminous Coated Corrugated Metal Pipe. No change.

Sec. M-6.4 (g) Sectional Corrugated Metal Plate Pipe-Archs. Turnpike Specifications require depth of corrugations to be not less than "2 inches" instead of "1 3/8 inches".

Where called for on Plans etc., the bottom plates shall be of heavier gage than rest of structure. We require the invert to be two gages heavier than the remainder unless No. 1 gage is used throughout. Under (7) Forming and Punching Plates they have the same requirement that the State has.

Turnpike specifications give "Moment of Inertia" and "Section Modulus" for various gage plates.

Single plates shall not weigh more than 750 pounds.

Turnpike specifications require spelter coating to be 3 ounces per square foot of double exposed surface for plates of 7 gage and heavier. Tolerance on coating requirements given.

Table for determining gage given.

Physical requirements for bolts given.

Drawing and table of dimensions for Sectional-Plate Pipe-Arch added.

Sec. M-6.4 (h) Helical Perforated Corrugated Metal Pipe. No change except that the gage shall be as specified on the Plans.

Perforations shall be in accordance with their requirements for Sec. M-6.4 (c).

Requirements for bituminous coating added.

Sec. M-6.4 (i) Corrugated Metal Pipe Arch. Title changed.

Gage as specified on the Plans. Gage requirements deleted from table.

Sec. M-6.5 Plain Cement Concrete Pipe. Revised to include perforated pipe.

Turnpike specifications do not include 27, 30, 33 and 36 inch diameter.

Tolerances in dimensions expressed as a percentage.

Sec. M-6.6 Reinforced Concrete Pipe. Requirements for heavy duty (4000 D) pipe added.

Circular pipe with elliptical reinforcement and elliptical pipe with circular reinforcement not permitted.

In paragraph "16. Strength Requirements" reference should be made to Table IV.

Paragraph "19. Cylinder Core and Ring Tests" should also cover "(d)" pipe.

Tolerance for internal diameter changed from "1.5%" to "0.1%" for pipe of 36 inch diameter or less and from "1.0%" to ".75%" for larger pipe.

Turnpike specifications do not include 39 and 108 inch (a) pipe.

Turnpike specifications do not include 21, 27, 33, 39, 102 and 108 inch (b) pipe.

Turnpike specifications do not include 15, 18, 27, 33, 102 and 108 inch (c) pipe.

Sec. M-6.7 Drain Tile. In the fifth entry of Table III the word "percentage" should be inserted following the word "flakes".

Sec. M-6.8 Vitrified Clay Pipe. Title and scope changed.

The letter designation has been changed from "(c)" to "(a)" for standard strength perforated pipe and from "(d)" to "(b)" for extra strength perforated pipe.

Perforation requirements are different.

Requirements for "Resistance to Action of Acids" have been deleted.

Salt glaze required except perforated pipe may be ceramic glazed on the inside.

In Table I, 2 and 2 1/2 foot laying lengths deleted.

The "*" should be added following the word "Variation" in the heading of the Table.

Footnote added stating that perforated pipe is to be 4 to 24 inches in diameter.

In Table II same changes as Table I except the *.

Sec. M-6.9 Welded and Seamless Steel Pipe. Same except for typographical errors in table.

Sec. M-6.10 Welded Wrought-Iron Pipe. Turnpike specifications do not include diameters less than 1 inch nor more than 6 inches.

Sec. M-6.12 Square and Rectangular Steel Tubing. In Table II the next-to-the-last word in the heading should be "RECTANGULAR".

Sec. M-6.13 Vitrified Clay Cradle Invert Pipe. In the first line of the second paragraph change "pie" to "pipe". Illustration not included.

15. Fittings. Change reference to "12, 13 and 14".

18. Rejection. (d) Change reference to "13".

Sec. M-6.14 Vitrified Clay Liner Plates. Not carried in State specifications.

Item M-7 Specifications for Metallic Materials

Sec. M-7.1 Billet Steel Concrete Reinforcement Bars. No change.

Sec. M-7.2 Rail Steel Concrete Reinforcement Bars. No change.

Sec. M-7.3 Cold-Drawn Steel Wire for Concrete Reinforcement. No change.

Sec. M-7.4 (a) Structural Steel. No change.

Sec. M-7.4 (b) Structural Steel, Copper Bearing. No change.

Sec. M-7.4 (c) Steel for Sheet Piling. No change.

Sec. M-7.4 (d) Galvanized Steel. No change.

Sec. M-7.5 Steel Forgings. No change.

Sec. M-7.6 Wrought Iron. No change.

Sec. M-7.7 Steel Castings. No change.

Sec. M-7.8 Gray Iron Castings. Turnpike specifications provide for only : "class 30" material.

Requirement has been added that castings must be "true to form and thickness".

Requirement has been added for special machining and grinding along with requirement for two coats of bituminous paint.

Sec. M-7.9 Malleable Castings. This material is not covered in the Turnpike Specifications.

Sec. M-7.10 Rolled Phosphor Bronze. This material not carried in the Turnpike specifications.

Sec. M-7.11 Cast Phosphor Bronze. This material not covered in the Turnpike Specifications.

Sec. M-7.12 Leaded Bronze. In the fourth line the word "plant" should be changed to "plane".

Sec. M-7.13 Sheet Copper. This material is not covered in the Turnpike specifications.

Sec. M-7.14 Sheet Lead. This material is not covered in the Turnpike Specifications.

Sec. M-7.15 Fabricated Steel Reinforcement. Under Type "A", paragraph relative to welding of joints and hinging of fabrics has been deleted.

Sec. M-7.16 Welding Electrodes and Deposited Weld Metal. Electrode No. E6012 has been deleted. The reference to the date and subsequent revisions of the American Welding Society Specifications has been deleted.

Sec. M-7.17 Cold Rolled Steel. No change.

Sec. M-7.18 Steel Gratings and Frames. This material is not covered in the State specifications.

Sec. M-7.19 Cast Iron Pipe. This is A.W.W.A. Pipe and is not carried in the State specifications.

Sec. M-7.20 Aluminum. This item is not carried in the State specifications.

Item M-8 Specifications for Lumber

Table I Species and Grades of Structural Timber. In the fifth entry under "Use", a dagger reference mark should be made to a footnote.

In the next to the last footnote entry reference is still made by "***".

However, the footnote with two asterisks refers to strip floor or plank floor. This footnote is the one which we refer to with a dagger.

Opposite "Railings Rails and Guard Rail Plank" and under "Long Leaf", the word "Planks" has been omitted after the word "and".

Sec. M-8.2 Structural Lumber. The reference to Sec. M-8.21, Sec. M-8.22 and Sec. M-8.23 has been deleted.

Sec. M-8.21 Douglas Fir. Under "212" and opposite "Slope of Grain" "15" has been changed to read "12" in the Turnpike specifications.

Sec. M-8.22 Southern Yellow Pine. In the Turnpike specifications the table given at the top of page 264 should come at the end of the section. Material appearing under the second table on page 264, with the exception of the footnote, should be the heading for the top table. In this material "394" has been changed to "349".

Sec. M-8.23 Oak. No change.

Sec. M-8.231 Bridge Plank and Crossing Plank. This section not carried in the Turnpike specifications.

Sec. M-8.232 Sheet Piling, Sewer Sheathing and Hardwood. There is no change in this section, except that the word "Hearts" has been omitted from the heading. However, it is misplaced as it has been inserted between two paragraphs of Sec. M-8.24 Creosoting.

Sec. M-8.233 Sound Square Edge. No change.

Sec. M-8.24 Creosoting. The paragraph covering fabrication plans for lumber furnished for bridges has been deleted from the Turnpike specifications.

Sec. M-8.3 Round Timber Piles. No change.

Sec. M-8.4 Round Wood Guard Rail Posts. This section is not covered in the Turnpike specifications.

Sec. M-8.5 Square Sawn Wood Guard Rail Posts. This section is not covered in the Turnpike specifications.

Sec. M-8.6 Treated Wood Guard Rail Posts. This section not covered in the Turnpike specifications.

Item M-9 Specifications for Oils and Paints

The Turnpike specifications under this item and without section designation carry requirements for painting structural steel in the shop and in the field. The material detail sections for paint the same or similar to those carried in our book are under a heading "Material Specifications for Painting other than Structural Steel".

Sec. M-9.1 Raw Linseed Oil. No change.

Sec. M-9.2 Boiled Linseed Oil. No change.

Sec. M-9.3 Turpentine. No change.

Sec. M-9.4 Mineral Spirits. No change.

Sec. M-9.5 Liquid Paint Drier. No change.

Sec. M-9.6 (a) White Paint and Tinted Paints Made on a White Base. No change.

Sec. M-9.6 (b) White Paint and Tinted Paints Made on a White Base. In "Pigment", the formula in the Turnpike specifications contains "Pm". I believe that this should be "Pb".

Sec. M-9.7 (a) White Paint (Prime Coat for Wood). No change.

Sec. M-9.7 (b) White Paint (Prime Coat for Wood). The Turnpike specifications do not carry the test on drying time on a tin panel.

Sec. M-9.8 Black Paint. No change.

Sec. M-9.9 Red Lead Paint. No change.

Sec. M-9.10 Semi-Quick Drying Red Lead Paint. No change.

Sec. M-9.11 Graphite Paint. The Turnpike specifications do not cover this type of paint.

Sec. M-9.12 Aluminum Paint. No change, except the word "rosin" has been changed to "resin".

Sec. M-9.13 Yellow Equipment Enamel. The Turnpike specifications do not carry this section.

Sec. M-9.14 Black Equipment Enamel. The Turnpike specifications do not carry this section.

Sec. M-9.15 White Traffic (Zone) Paint. The Turnpike specifications do not carry this section.

Sec. M-9.16 Yellow Traffic (Zone) Paint. The Turnpike specifications do not carry this section.

Sec. M-9.17 Black Zone Paint(Tar). The Turnpike specifications do not carry this section.

Sec. M-9.18 Asphalt Varnish. No change.

Sec. M-9.19 Coal Tar Pitch Paint. No change, however, the footnote should appear immediately after the tabular material.

Sec. M-9.20 Lead Chromate Metal Priming Paint. The word "rosin" has been changed to "resin". In the Kauri reduction test the temperature has been changed from "25°C." to "250°C.". It may be that this is an error.

Sec. M-9.21 Zinc Chromate Metal Priming Paint. No change.

Item M-10 Specifications for Miscellaneous Materials

Sec. M-10.01 Bituminous Premolded Expansion Joint Filler. No change.

Sec. M-10.02 Preformed Expansion Joint Filler. No change.

Sec. M-10.03 Wood Board Expansion Joint Filler. No change.

Sec. M-10.09 Hydrated Lime. No change.

Sec. M-10.10 Waterproofing Fabric (Asphalt Saturated). Requirements for asphalt deleted from the Turnpike specifications.

Sec. M-10.11 Waterproofing Fabric (Pitch Saturated). No change.

Sec. M-10.12 Sheet Asbestos Packing. No change.

Sec. M-10.20 Calcium Chloride. No change.

Sec. M-10.21 Calcium Magnesium Chloride. No change.

Sec. M-10.22 Sodium Chloride. The Turnpike specifications do not carry this section.

Sec. M-10.23 Hot-Poured Joint Sealer. No change.

Sec. M-10.24 Membrane Curing Compound. The Turnpike specifications do not carry this section.

Sec. M-10.26 Cold Applied, Ready Mixed Joint and Crack Sealer. The Turnpike specifications do not cover the method of testing.

There are several typographical errors in the detail requirements list.

Sec. M-10.30 Guard Rail (Metal Finish). No change.

Sec. M-10.31 Guard Rail (End Anchorage and Bracing). No change.

Sec. M-10.32 Guard Rail (Wire Cable Type). No change.

Sec. M-10.33 Guard Rail-Woven Wire Type (Tape). The Turnpike specifications do not include this section.

Sec. M-10.34 Guard Rail - Woven Wire Type (Band). The Turnpike specifications do not contain this section.

Sec. M-10.35 Guard Rail-Flexible Steel Plate Tension Type. The Turnpike specifications do not carry this section.

Sec. M-10.36 Guard Rail-Steel Beam Type (Deep). No change.

Sec. M-10.37 Guard Rail-Steel Beam Type (Shallow). No change.

Sec. M-10.38 Mortar. This section is not included in the Department's specifications.

Sec. M-10.39 Bituminous Joint Compound. This section is not included in the Department's specifications.

Sec. M-10.40 Bridge Railing Pads. This section is not included in the Department's specifications.

Your complete files are returned herewith.



Charles W. Allen

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