



Fig. 4. General view of the construction project.

too heavy for this kind of work. In spite of these handicaps, we did obtain a substantially good pavement as far as quality and serviceability are concerned, but the surface finish on some sections left much to be desired. (Fig. 4.) I am confident that on any future work of this type I could eliminate the mistakes we made and produce a pavement with a satisfactory surface finish with much less effort than we put into the work I have described.

#### WHAT SHALL WE DO WITH THE LOWER-THAN-COST BID?

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There is only one path by which we can make a proper approach to the subject assigned for discussion in this paper. It leads through the past history of our industry and our associations up to the present time, and ends in the basic ideas back of the National Recovery Act.

We realize that there is no need here for a general review of our experiences as contractors in the competitive market as it has existed and does yet exist in the construction industry. We can dispose of this part of our discussion by stating that any one of us not now convinced of the need for a change in this market cannot be convinced or converted, and that any attempt we might make to do so would simply be a wasted effort.

On the past history of our association and our associated effort much more can be said. Few of us realized, as we did our small parts in keeping these associations active over the period of years in which they have been our spokesmen, that we would ever see them reach the position we now know they have attained.

In the past they have been organizations made up of individuals of vastly different viewpoints—some dreamers, others serious thinkers and workers, and others dyed-in-the-wool skeptics—our attitude towards association efforts being governed wholly by our understanding of the business we are in, our lack of understanding of it, our appreciation or lack of appreciation of the benefits to be obtained, and our selfishness.

No better statement of the point we desire to make can be formed than that expressed by the two bricklayers. When questioned at work as to what they were doing, one replied, "I am laying bricks"; the other, "I am building a cathedral." Most of us have been just laying bricks, and have had no thought of the real structure we were actually trying to create.

#### HAVE ANTICIPATED NEW DEAL

Association doctrine in the past has anticipated the advent of the N.R.A., and the codes themselves. We could take from its files the things we have stood for and from them learn how little there is new to us in the present picture. We have stood for a code of ethics, striven to establish uniform credit practices; we have fought control of competition by establishing bases from which to compete; we have asked for qualifications of bidders, stood against bid peddling by contractors or awarding officials, protested against systems of rebates and special favors to bidders; and though we did not know and perhaps do not yet realize it, have actually prepared ourselves to take a real part in the New Deal.

If we have gotten the value from associations' past efforts, our viewpoint on the things we are about to do and our ability to understand them has advanced to the stage wherein we will readily comprehend the objects to be obtained under the codes, the basic ideas back of them, and the new field that they have opened for us. *Have we gotten this value?*

This question answered in the affirmative would simplify the task of selling to you our ideas in connection with a method of control for lower-than-cost bids. If answered in the negative, we know that it will destroy the effect of anything we have said in our discussion up to this point, for you will reject the thoughts advanced because you have not the proper background or viewpoint from which to judge them. We cannot take this chance and, therefore, must touch upon certain other things of importance which will go a long way towards quieting the doubt that might exist.

That the construction industry is an industry in the truest sense of the word cannot be disputed. Problems faced by it are in the main the same as those faced by other industries. While some of these problems are personal to construction itself and require solution based on the particular conditions that create them, this industry is subject to the same business practice, the same laws of supply and demand, and the same fundamental governing factors which have been developed by sound practice in business and which do regulate all industrial activity.

This is a fact of greatest importance to establish, since it will wipe out the theory so prevalent in the minds of contractors, that their industry is a cross-bred animal, so mixed in blood as to deny its proper classification as a business venture, and is, therefore, beyond all regulation, except as determined by statute, the whim and fancy of each and every person in it—and most of those outside it.

Why is all this of importance to us in the discussion of the method of control for lower-than-cost bids? Because without recognition of these facts, we cannot build our case; and even though we could, we would be erecting a structure that would fail through lack of proper foundation.

In the N.R.A. law, we have established the principle, right and proper beyond all challenge, that unlimited competition is an economic error, that competition should and can be controlled by business or industry working in agreements approved by itself and policing itself, and that business or industry can make a profit under this system and can so function without injury to the interests of the public.

It is proved in this connection that to deny industry a profit is, on the contrary, detrimental to the public good, for it brings out the fact that the responsibilities of an owner or operators of an industry, in the operation of it, are not personal to their own business establishment itself, but that they have an added and serious responsibility to the public, to labor, to their competitor, and to all industry, and that to permit such owners or operators to cut prices in selling or buying and to carry on as they have in the past, to the ruin of not only themselves but likewise their competitor and all others with whom they come in contact, is destructive, causes great loss to the public, to labor, and to industry, and therefore must be forbidden, for it is only by making a profit that industry can exist and fulfill this responsibility.

We who have had a part in the work already accomplished in connection with the construction industry and general construction code, which we are informed is about to be approved, have tried to consider all the factors that govern what should enter into it.

As your representative on a committee of highway contrac-

tors, it has been our privilege to act for you in this important matter. To be properly informed, we have made a study of many codes already approved for other industries, in order that we could base our claim for certain rights upon what had already been granted in these codes. We will continue to hold our ground and fight to obtain them.

#### BID CONTROL

In our study of the question of what we need in order to enable our industry and particularly the highway division to carry on as it must, we have come to one conclusion. We have decided that there is one right we must have; and were all others denied us, this alone would enable us to function as we should to govern ourselves, to protect others, and to comply with all our obligations.

We are so certain of our position that we would be ready to waive all else in our code, to let anyone write it, as long as we can be secure in this one provision, which the committee asked for on December 14, after having reviewed the tentative draft of Chapter 2, General Contractors' Code, dated December 9, 1933. Approval of this draft was given by the committee subject to inclusion in it of the following provision:

"It may prescribe bidding rules, requiring the inclusion in each bid of all direct and indirect costs, properly defined, and method for administering such rules, and the same when approved by the administrator shall apply to the respective subdivision proposing the rules."

In this we have what we must obtain, a control of the lower-than-cost bid and the means to determine it. The control of our industry will center in the policing of such bids.

We can under this provision compel the bids to be based on a cost that takes into consideration the actual costs involved, not those seen or determined by any individual, but those reflected in the industry as a whole. We would, therefore, actually bid the job, and not merely bid against our competition on it.

Where do we get our justification for such a provision? Let's view the approved codes of other industries all closely connected to our business.

**Builders' Supplies Trade Industry Code.** No member of the industry shall sell any material below cost. Cost shall be interpreted as the actual cost of merchandise, plus every element of expense involved in completing the sale and delivery of merchandise to the customer.

**Road Machinery Manufacturing Industry Code.** It shall be an unfair method of competition to sell below cost. Cost shall include all labor, all materials, all reasonable overheads, and reasonable selling collection, distribution, and delivery expenses.

Cement Industry Code. It shall be an unfair method of competition for any member of the industry to sell or offer to sell cement at less than his expenses of manufacture.

Manufacturing expenses as used herein shall include all direct labor, and material at cost or market, plus a proportionate share of all indirect expenses inclusive of maximum depreciation and/or depletion allowances computed according to federal income tax procedure.

We could cite the Mineral Aggregate Code and many others, which contain a clause to the effect that: "The products of those to be governed by such code shall not be sold below the cost of production," and in addition set up provision for systems by which such cost can be determined.

Now, let us get down to the things we must consider in applying this to industries and through that tie it into a plan wherein we take care of the situation we must meet in our industry. We recognize no dividing line existing between them.

Our subject specifies "lower-than-cost bids," with no reference to profit. Code provisions speak of "below cost" in the industry, which cost is to be determined by a survey of the costs of all manufacturers in the industry and must therefore include the most efficient as well as the most inefficient in its scope. The resulting cost of production is not an average cost, but a figure that will fall somewhere below the average, depending upon the ratio that exists between the number of efficient and inefficient plants, the producing capacity of these plants, and other factors.

This cost of production, therefore, when determined, will be higher than the cost of production of the most efficient plants and lower than that of the inefficient ones. This will permit the efficient plants to sell at the cost of production so established and in such sales have an item of profit included.

As a result, it becomes necessary for all those plants whose cost of production is above the cost established to take such action as will enable them to compete. This action can follow but one course. They must reduce their costs by increased efficiency, quality, and service, and in accomplishing this under some codes they must do so without increasing production, or enlargement of plant, unless permission is obtained so to do through the code authority. In some codes, provision is also made for an allocation of business.

"Experience has taught us that if we want a thing cheap, we must pay for it dearly." We ask public officials to recognize the fact that through operation under codes there will result an actual reduction of cost. This reduction may not be seen in dollars and cents, for products may cost more; but if we are sound in what we aim to do, it will show up in the values attained by a recovery in industry, in employment, in

increasing purchasing power, in property values, and in all other things necessary for recovery, not the least of which is peace and happiness to our people.

We wish to cite the expenditure of money under C.W.A. as an example. Who of us could contend that in any way such expenditure can be measured or justified on the economy of a dollar expended, or being awake to the need, attempt to justify it on that basis? No man can say the actual values it saved us, nor question what it may have saved us from.

Our government, recognizing all this, has provided that the purchase of materials and supplies for all work in which government money is spent shall be made from industries operating under codes of fair competition. This policy should be followed by the states, the counties, and the cities and all divisions of government—yes, and by the citizens thereof.

#### OUR PLAN

Our plan has been developed after many trials; we now present it to you as a suggestion of the method by which we can exercise, through a control of bids, a control of lower-than-cost selling in highway work. We do not say the plan is the ultimate plan; it will, we hope, lead to that determination. We welcome criticism of it to bring about that result.

We determine lower-than-cost bids by establishing from all bids actually received on a project the average bid; then by adding it to all bids below this average bid, we strike an average which we call the average of the average bid and the bids below. Under this plan, the award will be made to the bid filed that is either closest above or below or that equals this figure.

Why have we taken this means to arrive at a solution of our problems when we have already mentioned the provision for determination of cost of production in the highway industry? We recognize the conditions that enter into our case, and try to meet them. We know the trouble ahead of us in determining this cost of production of the products manufactured by the contractor. We realize the variables which enter into such production costs from project to project, and for the time being abandon their determination by a cost examination of all the industry or by records in a manner that would be satisfactory without great question of doubt, as being *next to impossible* on account of this variation having to be considered.

We apply to the problem our plan to establish this cost and yet retain the same reasonable profit item for efficient operation by using the actual selling price of the products of the industry as reflected in bona fide quotations or bids submitted for their sale.

We know that most of these bids or selling prices have been below the production cost of the products as reflected in the industry as a whole, and that they do not cover this cost. Though contention might be made on this by the uninformed, it in no wise destroys the fact that they are below the average cost, judged by the average cost bid by other contractors or manufacturers in the industry, which is in itself contrary to provisions in the codes.

In addition, these low bids do not reflect the item of reasonable profit that must enter into the rehabilitation of industry, as profit cannot be present until all cost is covered.

We do not destroy competition, for we do nothing to competitive conditions except as provided by the codes.

We do destroy the incentive of the bidder to be low, and we remove the condition that requires him to so be in order to secure a contract.

In this plan, we fix the control of the buyer in his purchases to a greater degree than before, and enable him to take a real part in the recovery program without great increase in cost. The plan follows closely the thought that if it is reasonable to have the state or awarding body fix a maximum estimate above which no award will be made, it is just as reasonable and much fairer that they should by the same reasoning have a minimum estimate below which they would make no award. The importance of this is plain, as it would carry out the idea of protection to the public interest completely rather than in part.

No one can question the soundness of this statement in the light of what has been developed in the awarding of public work. This has shown that the loss to the public and to industry and to labor resulting from awards on bids below actual cost can result in as great a loss as or a greater loss than that occasioned by an award at fair and reasonable prices which do at least reflect cost.

There is no problem involved in the determination of a minimum estimate, for that must be determined before the maximum estimate can be arrived at. The maximum estimate, if it has any claim for existing as such, must include an item of reasonable profit, and profit cannot be figured until costs are completely covered.

Our plan would direct more attention to the figuring of proper estimates of such cost; and as an industry through our code authority, we could assist the public officials in methods and means to that end, acting fairly with them and the public in so doing.

The plan will result in reduced costs, real economy based on the proper definition of the word in its true meaning. It will enable us as highway contractors to do our full part and to accept our obligation as we should as members of the high-

way division of the construction industry in the national program for recovery.

We can defend this plan, and that is our reason for endorsing it. All the defense cannot be made here. We acknowledge that it is revolutionary in character in that it is contrary to any plan heretofore used by awarding officials in the award of public or private work. It is revolutionary in that it takes away from a bidder the incentive to be low at any cost, and is further revolutionary in that the unbridled, unrestrained competition, which has hitherto existed, would be effectively checked, although true competitive bidding in itself would in no wise be limited.

Notwithstanding these revolutionary aspects, it might well be cited that this plan is no more revolutionary than the National Industrial Recovery Act itself, for in that it has been conceived. Any proposal of it prior to the advent of that law would have caused it to be rejected and discarded unceremoniously on the ground that it was without precedent and contrary to all existent interpretations of statutory provisions concerning the award of contracts.

We must repeat that the application of a code clause for determining costs of production in the highway industry is not as simple as it may seem, for we have many points to consider in that application.

It does prompt the question: "What is our production?" We contend that it is the project to be built. While we do manufacture units to enter into it, their cost of production is only a part of the costs of the whole, which constitutes our actual and final production. This is as true in this instance as in the production of a machine or any structure by any other manufacturer.

Recognition of this does not mean that we can ignore units in our determination. It is automatically handled in our plan, for in it by control of lower-than-cost bids we do take care of that factor.

We base our whole case upon the theory that a competent bid, including all costs, must include all costs and is as of much value to the public and their agent, the awarding body, as it is to the construction industry itself.

We know that contention will be made by some that this plan would be in violation of our state statutes, which provide for the award of contract to the "lowest and/or best bidder." Our reply to this contention would be that the competency, or adequacy, of a bid is as important a factor in determining "the lowest and/or best bidder" as would be the bidder's financial standing, equipment holdings, or experience.

If the competency, or adequacy, of a bid at which a given project is to be done can be predetermined or definitely assured by any plan that may be devised, surely it logically and

consistently becomes an important factor in what shall constitute the "lowest and/or best bidder."

Through the appreciation of this and its application to all bids, we will be able to carry out the obligation resting upon all of us and assist in the program of national recovery. In so doing, we must remember that our responsibilities in the future will include not merely the custody of our own fortunes, but the welfare of our industry and the welfare of our country.

EXHIBIT A

APPLICATION OF PLAN TO INDIANA PROJECTS. BIDS ALREADY RECEIVED

F. A. PROJECT

Number of Bids = 5

Engineer's Estimate = \$35,402.51

Bids:

\$29,419.30

29,861.32

29,897.68

30,807.41

31,212.42

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\$151,198.13

$$\text{Average Bid} = \frac{151,198.13}{5} = \$30,239.62$$

Average Bid + Bids Below Average:

\$30,239.62

29,897.68

29,861.32

29,419.30

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\$119,419.92

Average of Average Bid and Bids

$$\text{Below} = \frac{119,419.92}{4} = \$29,854.98$$

Number of Bids Below the Average of the Average Bid and Bids Below = 1; Above = 2.

Percentage of Increase over the Lowest Bid = 1.5%.

Note: This is the lowest per cent of increase in 25 trial tests applied to actual bids on 1933 projects.

EXHIBIT B

APPLICATION OF PLAN TO INDIANA PROJECT. BIDS ALREADY RECEIVED  
P.W.A. PROJECT

FIFTEEN BIDS RECEIVED ON CONCRETE PAVEMENT

Bids:

\$265,566.07

270,314.64

270,832.64

287,354.39 Bids Below Average Bid = 9; Above = 6

292,813.33

292,920.07 Average of Average Bid and Bids Below = \$286,876.61

295,709.68

297,035.94 Bids Below = 3; Above = 6

297,850.84

311,586.24 Increase over Low Bid = 8% +

312,132.37

315,337.78

317,147.52

321,498.38

327,428.14

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\$4,475,528.03

$$\text{Average Bid} = \frac{4,475,528.03}{15} = \$298,368.52$$

TWO BIDS RECEIVED ON ASPHALTIC MACADAM PAVEMENT

Bids:

\$287,707.77

288,556.41

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\$576,264.18

$$\text{Average Bid} = \frac{576,264.18}{2} = \$288,132.09$$

Average of Average Bid and Bids Below Average = \$287,985.97

Increased by 8% + (to compare with concrete bids) = \$311,024.84

Engineer's Estimate on Concrete = \$329,157.44

Engineer's Estimate on Asphaltic Macadam = \$371,915.37

Note: This represents the highest percentage of increase in 25 trial tests on actual bids received on projects during 1933.