

CITY NOTICES.

\$20,000.00.
CITY OF MEDFORD, OREGON.
WATER MAIN BONDS.
 The city council of the city of Medford, Oregon, will receive sealed bids up to 5 o'clock p. m., April 19th, 1910 for the sale of \$20,000.00 city of Medford water main bonds; 6 per cent; ten year.
 Bids to be accompanied by a certified check equal to 5 per cent of the amount bid for. The right to reject or accept any and all bids is reserved by the council.
 Bids to be addressed to Robert W. Telfer, city recorder. Certified check to be made payable to the city treasurer.

ROBT. W. TELFER,
 City Recorder.
 Dated Medford, Oregon, March 29, 1910.

STREET ASPHALT PAVEMENT.
 Specifications, submitted by the Barber Asphalt Paving Company:
EXCAVATING, ROLLING AND SUB-WORK.

The sub-foundation, excavating, rolling, curbing, drainage and all work of a preparatory nature having been performed in accordance with the official plans and specifications covering the same, the base shall then be laid as follows:
PORTLAND CEMENT CONCRETE FOUNDATION.

Upon the sub-grade, prepared as above described, Portland cement concrete composed of Portland cement, clean, sharp sand and broken stone or gravel, will be laid to an average thickness of 4 inches. The cement shall be of a good quality of American manufacture and shall be submitted to the duly authorized official for inspection at least ten (10) days before it is used. It shall conform to the following tests, conducted according to the methods recommended by the committee on uniform tests of cement of the Am. Soc. of C. E.: It shall not set in less than one (1) hour. When mixed in the proportion of one (1) part cement, by weight, and three (3) parts of standard sand, it shall have a tensile strength after exposure to one (1) day in air and six (6) days in water of at least one hundred and fifty (150) pounds.

The sand shall be clean and sharp, not more than 10 per cent of which shall pass a 50-mesh screen. It shall be free from loam adherent to the sand grains. The gravel shall be clean material. The broken stone shall consist of any hard rock or gravel which shall be satisfactory to the duly authorized official. It shall be of such a size that all will pass through a revolving screen, having holes two and one-half (2 1/2) inches in diameter, and be retained by a screen having holes one-half (1/2) inch in diameter. Stone which is the run of crusher may be used when provision is made for the consideration as sand of particles finer than one-half (1/2) inch which it contains. The unit of measure in mixing these materials will be the barrel of cement, weighing 360 pounds, and four (4) cubic feet of sand, gravel, slag and stone. They shall be mixed in the following proportions and in the following manner:
 The sand and cement shall be mixed dry in the proportion by volume one (1) of cement to three (3) of sand, and then made into a mortar by the addition of water. To this mortar will be added seven (7) measures of wet broken stone or gravel and the whole thoroughly mixed by hand or machinery until it is entirely uniform.

The concrete, as thus prepared, shall then be spread on the sub-grade and rammed until mortar comes to the surface, the surface being so graded that in its finished condition it shall average 1/4 inches below that of the finished pavement. No concrete shall be used that has been mixed more than one hour.
 The concrete, after laying, shall be properly protected and the surface shall be kept moist by sprinkling at proper intervals.
 At the expiration of such a period as is found to be necessary in order that the concrete shall have attained sufficient set to sustain a steam roller, the binder course shall be laid.

BINDER.
 The binder shall be composed of suitable clean broken stone or gravel passing a one and a quarter (1 1/4) inch screen, not more than five (5) per cent of which shall pass a No. 10 screen.
Asphaltic Cement.—The stone or gravel shall be heated in suitable appliances, not less than 200 degrees Fahrenheit, and then thoroughly mixed by machinery with asphaltic cement equivalent in composition to that hereinafter set forth, in such proportion as will cover the stone with a glossy coat and without any excess of asphaltic cement.

Laying.—The binder must be hauled to the work and spread while hot upon the foundation to a uniform thickness, after being immediately compacted by rolling. Its average depth shall be one (1) inch, and its upper surface shall be approximately parallel to the surface of the pavement to be laid. Upon this binder course shall be laid the wearing surface.

No traffic, except such as may be required in depositing the surface mixture or in otherwise prosecuting the work, shall be allowed on the binder course.
ASPHALT WEARING SURFACE.
Pavement Mixture.—The pavement mixture for the wearing surface shall be composed of:
 (a) Asphaltic cement.
 (b) A mineral aggregate.

ASPHALTIC CEMENT.
 The asphaltic cement shall consist of a homogeneous mixture of hard and soft bitumens in such proportion that it shall have a consistency as shown by the Bown penetration machine of between 50 and 85, depending upon the environment to which the surface will be exposed, and shall not be so susceptible to changes of temperature that if the consistency at 78 degrees Fahrenheit is 50 it shall be below 10 at 40 degrees Fahrenheit, or above 25 at 100 degrees Fahrenheit.

It shall consist of hydrocarbons so stable at 325 degrees Fahrenheit that 20 grams heated at this temperature for seven hours in a glass dish 1 1/4 inches high and 2 1/4 inches in diameter, shall not lose by volatilization

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more than 5 per cent.
 The asphaltic cement while in use must be thoroughly agitated. Samples of the same shall be supplied to the duly authorized official when required.

Mineral Aggregate.—The mineral aggregate shall consist of sand, properly graded, as hereinafter described, together with a filler, or fine mineral dust.

Sand.—The sand to be used shall consist of hard grains of satisfactory surface and shape, not containing more than one (1) per cent of clay or loam. On sifting, the whole shall pass a screen having ten (10) openings per lineal inch; fifteen (15) per cent shall pass a screen having eighty (80) openings per lineal inch, and at least seven (7) per cent shall pass a screen having one hundred (100) openings per lineal inch.

Filler.—The filler shall be powdered mineral matter of such a degree of fineness that the whole of it shall pass a 50-mesh screen and at least 66 per cent a 200-mesh sieve.

Combining Materials.—The materials complying with the above specifications shall be mixed in proportions by weight, said proportions to be varied from time to time within proper limits, in order to meet changing conditions in the grading and character of the mineral aggregate. The percentage of bitumen soluble in carbon bisulphide shall not be less than 9.5 more than 12.6 per cent, and shall be regulated by the pat paper test, which shall be conducted as follows:

There shall be removed from the wagon, upon a wooden paddle, a quantity of surface mixture, which shall be entirely representative of the average mixture in the load. A piece of brown manila paper, with a fairly smooth surface ten to twelve inches square, is then creased down the middle and opened out on a surface which will not conduct heat too rapidly, preferably a very firm and smooth surface of wood, but not of stone or metal. The hot mixture is then dropped into the paper sidewalks, from the paddle, and half the paper doubled over it. The mixture is then pressed down with a block of wood of convenient size, until its surface is flat. It is then struck five or six sharp blows with the block until the surface has a thickness of about one-half (1/2) inch. Upon removing the mixture, the paper will indicate by its stain whether the proportion of bitumen contained in the mixture tested is satisfactory.

The sand and asphaltic cement will be heated separately to approximately 340 degrees to 350 degrees Fahrenheit for the former, and 225 degrees Fahrenheit for the latter. The concrete dust shall be mixed while cold with the hot sand. The asphaltic cement will then be mixed with the sand and stone dust at the required temperature, and in the proper proportion in a suitable apparatus, so as to effect a thoroughly homogeneous mixture.

Laying the Pavement.—The above mixture shall be hauled to the street in trucks with proper protection from radiation, at a temperature of not less than 250 degrees Fahrenheit, and spread upon the binder to such a depth as will insure an average thickness of 1/4 inches, after compression by rolling. This compression shall be obtained by first smoothing the surface with a hand roller, or light steam roller, after which a hydraulic roller, or stone dust shall be swept over it, when the rolling will be continued with a steam roller until the surface is properly compacted.

SPECIFICATIONS.

Specifications governing the improvements of streets in the city of Medford by constructing an asphalt pavement, concrete curbs or concrete curbs and gutters and providing drainage facilities.

Submitted by Clark & Henry Construction Company.

OUTLINE OF THE WORK.
 The proposed work consists in furnishing all labor, material and appliances and improving certain streets in the city of Medford by grading the roadway and constructing thereon an asphalt pavement, consisting of a concrete foundation, inches in thickness, an asphaltic binder course, inches in thickness, an asphaltic wearing surface, inches in thickness, the finished surface of which shall be to official grade; also constructing standard meter boxes with cast iron covers, and furnishing and placing monument cases; removing and disposing of all surplus earth, gravel, cobbles and refuse material.

SUPERVISION OF WORK.
 The work shall be under the direction and supervision of the city engineer and the superintendent of streets of the city of Medford in their respective capacities as provided by law, and they shall have authority to stop the work whenever the provisions of these specifications are not being complied with and the contractor shall instruct his employees accordingly. The city engineer shall set all stakes to indicate lines and grade, and location and extent of the work, and make the final measurements and estimates.

TIME.
 The work must be commenced within fifteen (15) days from the date of the signing of the contract and completed within such time as shall be fixed therein by the authorized officer or officers of the city.

GRADING.
 It will be required that the streets be graded to a depth of 1/4 inches below the surface of the finished pavement and that all surplus earth, gravel, cobbles and refuse material be removed by the contractor, subject to the conditions for hauling and overhaul as provided under the subject of excavations in the general specifications prepared by the city engineer of the city of Medford.

By repeated tamping and rolling and the frequent application of water, the roadway shall be thoroughly compacted to the required elevation and contour, thus forming a sub-grade parallel to the surface of the finished pavement.

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If after repeated watering, tamping, and rolling, places are found in the sub-grade that are above or below the required grade, the surplus material shall be removed from the high places and the depressions filled; when the whole area disturbed shall, after further rolling, tamping and watering, have the required elevation and compactness.

The rolling shall be performed with a roller having a weight on the traction wheels not less than three hundred (300) pounds per inch width of tire.

LAYING CONCRETE FOUNDATION.
 The concrete shall, as soon as mixed, be evenly deposited upon the sub-grade and rammed until thoroughly compacted and until free mortar appears upon the surface.

The finished concrete foundation shall have a uniform thickness of inches and a regular contour parallel to the surface of the finished pavement and shall be set on each of the two (2) days following its completion and must be protected from traffic by temporarily closing the streets in whole or in part as the city engineer or the superintendent of streets may direct.

LAYING OF BINDER COURSE.
 After the concrete foundation, previously prepared, has become thoroughly set, hardened and dried, and after a period of not less than seven (7) days after it has been laid, and after it has been thoroughly cleaned and while it is thoroughly dry, a binder course, inches thick shall be constructed thereon in the following manner: The material composing the binder course, as hereinafter specified, while at a temperature between two hundred and fifty (250) degrees and three hundred and fifty (350) degrees Fahrenheit, must be spread uniformly over the concrete foundation with hot tools to such a depth that after compression it shall have a thickness of at least 1/4 inches. It must be rolled immediately with a steam roller weighing not less than one hundred and fifty (150) pounds to the inch of run and the rolling continued while the material is in a hot, plastic condition until it is thoroughly compacted into a firm layer with each particle of rock firmly cemented with its upper surface parallel to the finished surface of the street; such portions as may be inaccessible to the roller must be tamped with hot tampers to the same degree of compression and finished to a true surface.

LAYING WEARING SURFACE.
 Upon the binder course, while it is fresh, clean and perfectly dry, must be constructed an asphaltic wearing surface, inches in thickness, in the following manner: The material, composing the wearing surface, prepared as hereinafter specified, while at a temperature of not less than two hundred and fifty (250) degrees Fahrenheit, must be spread uniformly over the binder course with hot tools to such a depth that after ultimate compression it shall have a thickness of not less than 1/4 inches; immediately after spreading and while still hot and plastic, it must be compressed with hot hand rollers weighing not less than two hundred and fifty (250) pounds to the foot of run; this rolling must be immediately followed by a steam roller having a weight of one hundred and fifty (150) pounds to the inch of run and this rolling followed, while the material is still warm and plastic, by a steam roller having a weight of two hundred and fifty (250) pounds to the inch of run across the street, then crossing diagonally from side to side in two (2) directions and finally by rolling in the direction of the street; after the rolling the surface must be finished by brushing over it a small quantity of hydraulic cement; the finished surface must be smooth and true to grade and contour within the limits of one-fourth (1/4) inch variation in length of ten (10) feet as determined by a straight-edge; where inaccessible to the roller, the surface must be finished to an equal degree of compression with hot tampers and all edges finished with a hot edging tool.

Where manhole or catch basin curbs and covers are flush with the surface of the street the finished surface shall be finished one-quarter (1/4) inch higher than the curb all around it and likewise where the asphalt finishes against the face of the gutter it must be one-quarter (1/4) inch higher.

SPECIAL CONCRETE CURBS AND GUTTERS AS PER PLAN ATTACHED.
 Concrete curbs and gutters are to be constructed in accordance with plans hereto attached and in the following manner: A proper foundation shall be prepared by thoroughly tamping the earth upon which the gutter is to rest until a firm and compact foundation has been secured.

Proper forms shall be provided and after the concrete has been deposited in place it must be tamped sufficiently to fill all the voids and flush the mortar to the surface. The top surface of the concrete after having been properly tamped in the forms and while still fresh, shall be given a plaster coat one-quarter (1/4) inch thick of stiff cement mortar well troweled and floated smooth.

As soon as each section of curb and gutter is complete, it shall be covered with earth moistened with water and kept in this condition during the first seven (7) days after construction in order that the concrete may properly set.

EXCAVATION FOR SEWER PIPE.
 The excavation for sewer pipe shall be an open trench excavated to the true line and grade and have a width on the bottom sixteen (16) inches greater than the exterior diameter of the pipe. A small excavation shall be made under the bell of each section of the pipe so that the workmen's

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hands may be passed completely around the pipe in cementing the joints and so that the weights of the pipe shall not rest upon the bells. Whenever the bottom of the trench is soft, yielding or unsuitable for a foundation for the pipe, sufficient dry earth shall be rammed into the soft material to insure good foundation.

SEWER PIPE.

The pipes are designated by their interior diameters. They are to be of the best quality of vitrified, salt-glazed, ironstone, burned entirely through, thoroughly glazed on the interior and exterior surfaces and free from warps, cracks and other defects. They shall be of the ordinary hub and spigot type, not less than two feet in length, of a uniform standard thickness and shall not vary from true cylinders more than one thirty-sixth (1/36) of their diameter.

LAYING PIPE.

Adjustment of pipe to line and grade must be made by scraping away or filling in or tamping the earth under the body of the pipe and not by blocking or wedging up.

In laying the pipe the joints shall be completely filled with cement mortar and it will be required that the lower half of the socket of each pipe shall first be filled with cement mortar before the spigot end of the pipe is inserted. The spigot end of the pipe must then be pressed firmly into the bell, care being taken to compactly fill with mortar the annular space at the sides top and bottom, when a neat finish shall be given to the joint by the application of mortar, so as to form an evenly beveled surface from the exterior of the entering pipe to the exterior of the hub. In no case shall pipe be laid in water or be permitted to flow in the newly laid pipe within twelve (12) hours after it has been laid.

BACKFILLING.

In backfilling trenches, sand or loose fine earth, free from stones, shall be deposited and tamped in layers not exceeding six inches in thickness up to at least the top of the sewer, when the backfilling shall continue by tamping the earth material excavated in uniform layers not exceeding one (1) foot in depth to within one (1) foot of the surface of the street, when the trench shall be flooded with water until the earth filling has been saturated, then allowed to settle before continuing the backfilling. After the water has been absorbed the trench shall be completely filled and tamped in layers as before specified, when the earth material so deposited shall be rolled and compacted to the grade of the adjacent street.

Instead of the above process of backfilling, the same may be prosecuted by depositing and tamping loose, fine earth well under the bottom of the pipe and up to one-half the diameter of the pipe. Then the backfilling may be continued by depositing the earth material in uniform layers of two (2) feet without tamping but thoroughly flooding the same before another layer is deposited, the final flooding to be given when the trench is filled to within six (6) inches of the surface of the street and the flooding to be followed by sufficient backfilling to completely fill the trench when the surface of the filling material shall be compacted by rolling and made to conform in elevation to the adjacent street.

CONCRETE.

The proportions, by volume, for concrete in pavement foundation must be one (1) part cement, three (3) parts sand and six (6) parts broken rock or gravel. The proportions, by volume, for concrete in curbs, gutters and catch basins must be one (1) part cement, three (3) parts sand and five (5) parts broken rock or gravel.

If the mixing is done by hand, the sand, rock or gravel and cement shall be carefully measured and thoroughly mixed upon a tight platform by turning the mixture over three (3) times with a shovel and three (3) times more while sufficient water is being applied in a spray to thoroughly wet the mixture without washing out any of the cement, when every piece of rock shall be completely coated with mortar.

Only such quantities must be mixed at a time as can be promptly deposited and tamped in place before beginning to set.
 If a machine is used for mixing, it must be of a standard and approved type and the concrete so mixed shall be at least equivalent to that mixed by hand as above prescribed.

CEMENT.

All cement used shall be of a well established brand of Portland cement, furnished in original packages and bearing the original labels.

The minimum standard strength of standard briquettes of neat cement mixed with from eighteen (18) per cent to twenty (20) per cent of water, by weight, shall be as follows:
 After twenty-four (24) hours in moist air, one hundred and fifty (150) pounds per square inch.
 After one (1) day in moist air and six (6) days in water, four hundred and fifty (450) pounds per square inch.

After one day in moist air and twenty-seven (27) days in water six hundred (600) pounds per square inch.

CEMENT MORTAR.

The cement mortar used in laying pipe, setting catch basin curbs and for plastering the inside of catch basins shall be composed of one (1) part of Portland cement and two (2) parts of sand.

The cement mortar used for finishing the surface of concrete gutters and curbs shall be composed of one (1) part Portland cement and two (2) parts sand.

The sand and cement shall be carefully measured and thoroughly mixed with enough water to form a plastic mass.

No mortar shall be used that has begun to set.

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ASPHALTIC CEMENT.
 The asphaltic cement shall be a refined natural asphalt; be a mixture of a refined liquid asphalt with a refined solid asphalt or be an oil asphalt.

The asphaltic cement shall be homogeneous and its consistency must fall between the limits of sixty-five (65) and eighty (80) degrees penetration by the District of Columbia standard. It must be adhesive and ductile also slightly elastic at a temperature of thirty-two (32) degrees Fahrenheit. When heated to a temperature of three hundred (300) degrees Fahrenheit for eight (8) consecutive hours it must not lose more than five (5) per cent in weight and must not be so changed by such heating as to be made harder than of a consistency of twenty (20) degrees penetration by the District of Columbia standard.

If a natural asphalt or a mixture of a liquid asphalt with a refined solid asphalt, it must, when ready for use, contain at least sixty (60) per cent of bitumen soluble in chloroform, and if an oil asphalt, it must, when ready for use, contain at least ninety-nine (99) per cent of bitumen soluble in chloroform and contain no free carbon.

When the asphaltic cement is prepared by mixing a solid oil asphalt with a liquid asphalt, the solid oil asphalt shall be prepared by distilling the crude oil until the asphaltic residue has a penetration not less than sixty (60) degrees by the District of Columbia standard, and shall not be prepared by mixing or fluxing a solid asphalt with a liquid or softer asphalt.

The refined liquid asphalt used in softening a solid asphalt must be a stiff residuum of petroleum oil with an asphalt base. It must be free from water and free from light oils volatile at less than two hundred and fifty (250) degrees Fahrenheit. When heated to a temperature of three hundred (300) degrees Fahrenheit for five (5) consecutive hours it must not lose more than five (5) per cent in weight. It must contain not less than ninety-nine (99) per cent of bitumen soluble in chloroform and must contain no free carbon.

COMPOSITION OF BINDER COURSE.
 The binder course must be composed of asphaltic cement and sand, close grained rock or gravel of such sizes as will pass a one (1) inch screen; the rock or gravel and the asphalt cement are to be separately heated to a temperature of between two hundred and fifty (250) and three hundred and fifty (350) degrees Fahrenheit in suitable appliances and while both are at this temperature they are to be thoroughly mixed by suitable appliance in such proportions that each particle of rock or gravel will be thoroughly coated with a sufficient quantity of the asphaltic cement to bind the aggregate firmly together when spread and compressed; it must contain at least six (6) per cent of bitumen soluble in chloroform and must appear dull from lack of cement or from over heating must be rejected.

COMPOSITION OF WEARING SURFACE.
 The wearing surface must be composed of asphaltic cement, sand and stone dust proportioned and mixed so that the composition, by weight, shall be within the following specified limits:

- (1) Bitumen soluble in chloroform 9 to 13 per cent
- (2) Stone dust, . . . 6 to 14 per cent
- (3) Sand screened through 50 mesh and retained on 200 mesh screen 16 to 30 per cent
- (4) Sand screened through 50 mesh screen and retained on 80 mesh screen 16 to 30 per cent
- (5) Sand screened through 30 mesh screen and retained on 50 mesh screen 13 to 29 per cent
- (6) Sand screened through 20 mesh and retained on 30 mesh screen 4 to 9 per cent
- (7) Sand screened through 10 mesh and retained on 20 mesh screen 3 to 6 per cent

STONE DUST.
 The stone dust must be pulverized limestone of Portland cement quality must be of a degree of fineness that will all pass through a fifty (50) mesh to the inch screen and at least sixty (60) per cent, pass through a two hundred (200) mesh to the inch screen.

MISCELLANEOUS PROVISIONS.
 The contractor shall personally supervise his work or cause it to be done by a capable representative competent to receive and carry out any instructions that may be given him by the city engineer, superintendent of streets, or their representatives.

The material to be furnished must be of the best of their respective kinds. If upon inspection any material is found faulty it will be rejected and the contractor shall immediately remove it from the works.

Wherever these specifications prescribe or set forth a maximum and a minimum, either in size, percentage, or thickness, or relating to quality, kind or character of material, or other matter, the work shall be deemed to have been completed, in compliance with these specifications, and will be accepted as such, if done within the said maximum and minimum.

The contractor shall at all times during the preparation of the materials for asphalt pavement allow the city engineer, superintendent of streets or their representatives free access to all parts of the plant for the purpose of inspecting the preparation such materials and shall also allow said city engineer, superintendent of streets or their representatives to take samples of the materials used for the purpose of analyzing same.

The contractor shall furnish all labor, tools and appliances required to complete the work in accordance with these specifications and within the contract time. He must provide all necessary barricades and maintain lights at all points of danger.

ANNOUNCEMENT.

Dr. Goble is prepared to fit glasses in all cases of defective sight that glasses will remedy. Repairs of all kinds. Broken lenses duplicated. Indisible bifocals.

18 WEST MAIN STREET.

BARGAINS for BUYERS
 104 acres, cleared, close to station, \$20,000.
 42 acres, cleared, two and one-half miles from Medford, \$8000.
 20 acres, in pears, half mile from Central Point, \$7000.
 40 acres, 25 acres in alfalfa and irrigated; beautiful view; \$8000.
 32 acres, bearing orchard, close in, \$24,000.
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 Informal fudge parties are enjoyable affairs when G.E. electrically heated utensils are used. No visits to the kitchen are necessary, as the fudge may be prepared in any room in the house.

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Rogue River Electric Co.

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 Six lots on Medford Heights; price for a short time, \$700.
 Corner lot on West Main street; close in; a few days at \$1100.
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 11 NORTH CENTRAL AVENUE.