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IN THE UNITED STATES DISTRICT COURT

FOR THE DISTRICT OF COLORADO

	CONSOLIDATED CASES
UNITED STATES OF AMERICA v. NORTHERN COLORADO WATER CONSERVANCY DISTRICT, et al.,	CIVIL NO. 2782
IN THE MATTER OF THE ADJUDICATION OF PRIORITIES OF WATER RIGHTS IN WATER DISTRICT NO. 36 FOR PURPOSES OF IRRIGATION PETITIONERS: THE COLORADO RIVER WATER CONSERVATION DISTRICT, THE GRAND VALLEY WATER USERS ASSOCIATION, ORCHARD MESA IRRIGATION DISTRICT, PALISADE IRRIGATION DISTRICT AND GRAND VALLEY IRRIGATION COMPANY	CIVIL NO. 5016
IN THE MATTER OF THE ADJUDICATION OF PRIORITIES OF WATER RIGHTS IN WATER DISTRICT NO. 36 FOR PURPOSES OTHER THAN IRRIGATION PETITIONERS: THE COLORADO RIVER WATER CONSERVATION DISTRICT, THE GRAND VALLEY WATER USERS ASSOCIATION, ORCHARD MESA IRRIGATION DISTRICT, PALISADE IRRIGATION DISTRICT AND GRAND VALLEY IRRIGATION COMPANY	CIVIL NO. 5017

FINDINGS OF FACT AND CONCLUSIONS OF LAW

AND

FINAL DECREE

DECREE

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLORADO

	CONSOLIDATED CASES
UNITED STATES OF AMERICA v. NORTHERN COLORADO WATER CONSERVANCY DISTRICT, et al	CIVIL NO.2782
IN THE MATTER OF THE ADJUDICATION OF PRIORITIES OF WATER RIGHTS IN WATER DISTRICT NO. 36 FOR PURPOSES OF IRRIGATION	
PETITIONERS: THE COLORADO RIVER WATER CONSERVATION DISTRICT, THE GRAND VALLEY WATER USERS ASSOCIATION, ORCHARD MESA IRRIGATION DISTRICT, PALISADE IRRIGATION DISTRICT AND GRAND VALLEY IRRIGATION COMPANY	CIVIL NO. 5016
IN THE MATTER OF THE ADJUDICATION OF PRIORITIES OF WATER RIGHTS IN WATER DISTRICT NO. 36 FOR PURPOSES OTHER THAN IRRIGATION	CIVIL NO. 5017
PETITIONERS: THE COLORADO RIVER WATER CONSERVATION DISTRICT, THE GRAND VALLEY WATER USERS ASSOCIATION, ORCHARD MESA IRRIGATION DISTRICT, PALISADE IRRIGATION DISTRICT AND GRAND VALLEY IRRIGATION COMPANY	

FINDINGS OF FACT AND CONCLUSIONS OF LAW

This matter having come on for trial, the United States of America acting by and through J. Lee Rankin, Assistant Attorney General, William H. Veeder, Special Assistant to the Attorney General, and H. Lawrence Hinkley, Assistant United States Attorney; the City and County of Denver acting by and through its attorneys Glenn G. Saunders, John P. Akolt, John C. Banks, Harold D. Roberts, John M. Dickson, Robert A. Dick, Peter H. Holme, Jr., and Allen Dines; the City of Colorado Springs acting by and through its attorneys Frederick T. Henry and William S. Jackson; the City of Englewood acting by and through its attorneys M. O. Shivers, Jr., Frederic L. Kirgis, and Omer L. Griffin;the Northern Colorado Water Conservancy District acting by and through William R. Kelly and John R. Clayton; the Colorado River Water Conservation District acting by and through Frank Delaney and John B. Barnard; the Grand Valley Water Users Association, Grand Valley Irrigation Company, Orchard Mesa Irrigation District and Palisade Irrigation District acting by and through Silmon Smith; evidence having been adduced and stipulations entered into among the several parties, this Court does hereby enter the following:

FINDINGS OF FACT AND CONCLUSIONS OF LAW

HISTORY OF LITIGATION

1. The case of the United States of America v. Northern Colorado Water Conservancy District, et al., was initiated in this court on June 10, 1949. Involved in this action are the respective rights to the use of water in the Colorado River and its tributaries and the Blue River and its tributaries of the United States of America, Northern Colorado Water Conservancy District, the Colorado River Water Conservation District, the Palisade Irrigation District, the City and County of Denver, the City of Englewood, the City of Colorado Springs. Originally named in the cause were the Public Service Company of Colorado and the South Platte Water Users Association. The Public Service Company of Colorado has been dismissed without prejudice. Also involved are the rights to the use of water of the City and County of Denver from and in the South Platte, Fraser and Williams Fork Rivers and their respective tributaries.

2. The United States of America in initiating Civil Action No. 2782 sought to have its rights to the use of water in the Colorado River and its tributaries quieted against the adverse claims of the City and County of Denver, the City of Colorado Springs, the South Platte Water Users Association, and the Moffat Tunnel Water and Development Company, predecessor in interest of the City of Englewood. It likewise sought to have declared in regard to the other parties defendant the validity of Senate Document No. 80, 75th Congress, 1st Session, and to have construed certain features of that document.

3. At the time of the initiation of this cause there was pending in Water District No. 36, Summit County, Colorado, Proceedings No. 1805 and 1806. Decrees were entered

in those proceedings awarding to the City and County of Denver a priority date of June 24, 1946, and to the City of Colorado Springs a priority date of May 13, 1948. Both the City and County of Denver and the City of Colorado Springs sued out writs of error. They sought to join the United States of America as a defendant in error in the above-mentioned proceedings before the Supreme Court of the State of Colorado in Cases No. 16881 and 16888 before the Court.

4. The United States of America moved to dismiss the writs of error in which the City and County of Denver and the City of Colorado Springs sought to join the United States. On March 5, 1953, the Supreme Court of the State of Colorado granted the motion of the United States of America, dismissing it from said cases and entered an order declaring that the writs of error "heretofore issued in said causes, and each of them, be, and they are, dismissed as to the defendant in error, The United States of America, otherwise to remain in full force and effect until the further order of the Court."

5. On October 18, 1954, the Supreme Court of the State of Colorado rendered its decision in the Proceedings No. 16881 and 16888, City and County of Denver v. Northern Colorado Water Conservancy District, et al. (276 Pacific 2d 992, 1954.) The Supreme Court of Colorado on December 13, 1954, denied Denver's motion for a rehearing and on January 14, 1955 denied its supplemental motion and petition for rehearing.

6. Although the priorities decreed by the District Court in Civil Actions No. 1805 and 1806 from which the City and County of Denver and the City of Colorado Springs appealed were affirmed, the Supreme Court of the State of Colorado nevertheless remanded the cause in accordance with the

following declaration:

"Where the interests of beneficiaries are not represented or protected by their trustees, the beneficiaries become proper and necessary parties, with the right to appear and present their case. This they did here and properly so, through the Colorado River Water Conservation District; then, when this was denied, promptly again through their local districts and association. Having appeared to the full extent of their ability, upon default of their trustee they were entitled to be heard.

"Accordingly, the decree of the trial court herein is affirmed, except as to its denial of any decree to the Green Mountain Reservoir and powerplant wherein its action is reversed and the case is remanded with instructions to the trial court to reopen the case as to the adjudication of said Green Mountain Reservoir and hydroelectric plant rights with permission to file claim as may be advised in that behalf, and, upon the evidence already introduced, and additional evidence, if any, which may be tendered, to adjudicate said rights."

7. The petitioners named in the caption hereof acting upon the remand of the Supreme Court of the State of Colorado petitioned the District Court in and for Summit County, Colorado, Civil Actions No. 1805 and 1806 for the issuance of alias notice and summons directed to the United States of America. That petition was granted and there was accordingly entered an appropriate order. Pursuant to the order of the District Court in and for Summit County, Colorado, there was served upon the Attorney-General of the United States of America on April 27, 1955, an alias notice and

summons in Civil Actions No. 1805 and 1806. That service was pursuant to 43 U. S. C. 666. A like petition was also filed in the said proceedings by the Northern Colorado Water Conservancy District.

8. On May 6, 1955, Civil Actions No. 1805 and 1806 were removed from the District Court of Summit County, Colorado, to this Court by the United States of America.

9. By its order of June 13, 1955, this Court denied the motions to remand of the City and County of Denver and the City of Colorado Springs. That order of June 13, 1955 denying the motions to remand specifically limited the issues in those removed cases to be in accordance with the mandate of the Supreme Court of the State of Colorado entered October 18, 1954 (276 Pacific 2d 992). An order on pretrial was duly entered in Civil Action No. 2782 and the removed cases designated in this court as 5016 and 5017, and an Order of Consolidation for trial was likewise duly entered. By that order it was specifically provided that the consolidation would be for purposes of trial and the taking of evidence but that any party could request this Court to enter separate findings of fact, conclusions of law and judgment.

The consolidated cases were duly set for trial on October 5, 1955.

THE COLORADO-BIG THOMPSON PROJECT

10. The Colorado-Big Thompson Project was sponsored by the Northern Colorado Water Users Association and its successor in interest, the Northern Colorado Water Conservancy District. Construction of that project was undertaken by the

United States of America pursuant to the Reclamation Act of June 17, 1902, 32 Stat. 388, 43 U. S. C. 391. Its construction was authorized by the Department of Interior Appropriation Act of August 9, 1937 (50 Stat. 595), which provided for the construction of the project in accordance with Senate Document No. 80, 75th Congress. On September 21, 1937, the President of the United States approved the finding of feasibility in accordance with the Reclamation Law.

11. The Colorado-Big Thompson Project as constructed and now in operation has as its objective, among others, the means for providing a supplemental supply of water for the irrigation of approximately 615,000 acres of irrigated land in the Counties of Larimer, Weld, Morgan, Washington, Logan, Boulder and Sedgwick, State of Colorado. These lands are all situated in the area generally known as the Eastern Slope of the Continental Divide within the State of Colorado and within the Drainage area of the South Platte River. The service area of the defendant, the Northern Colorado Water Conservancy District, a quasi-municipal corporation organized and existing pursuant to the laws of the State of Colorado, embraces approximately 800,000 acres.

12. The principal source of water delivered by the Colorado-Big Thompson Project to the lands within the Northern Colorado Water Conservancy District is the Colorado River. It is delivered to that agency by the United States of America by means of structures hereafter described and pursuant to contracts between the Northern Colorado Water Conservancy District and the United States of America.

GENERAL PHYSICAL DESCRIPTION

The Colorado-Big Thompson Project, despite its magnitude, the multiple purposes for which it has been constructed, the extensive system of dams, reservoirs, diversion works, tunnels, canals, conduits, basins, pumping plants, hydroelectric plants, and other structures for impounding, diverting or using water, is nevertheless an entire, interconnected, single, closely integrated project which must be administered in accordance with Senate Document No. 80, 75th Congress, 1st Session, and in accordance with the Stipulation, as amended, hereinafter set forth. The Colorado-Big Thompson Project requires the highest degree of correlation of its widely separated components. All references herein to Senate Document No. 80 pertain only to the matter set forth under the heading of "Manner of Operation of Project Facilities and Auxiliary Features", as set forth in that document. The objectives of the Colorado-Big Thompson Project and its method of operation, the places and purposes of use of the rights to the use of water of the United States of America are specified in Senate Document No. 80, 75th Congress, 1st Session.

1. Green Mountain Reservoir is located approximately sixteen miles southeast of the town of Kremmling, in Summit County, Colorado, and more particularly in all or parts of Sections 11, 12, 13, 14, 15 and 24 T. 2 S., R. 80 W., and Sections 17, 18, 19, 20, 21, 28, 29, 33 and 34, T. 2 S., R. 79 W., 6th Principal Meridian. This reservoir provides storage of water and the utilization of it in accordance with Senate Document No. 80.

The reservoir is formed by the construction of Green Mountain Dam across the Blue River, an earth and rock-fill dam having an impervious earth core with rock stabilizing sections on the upstream and downstream faces.

The normal high water surface elevation is 7950.0. The spillway discharge capacity of 25,000 cubic feet per second is controlled by three radial gates that are each twenty-five feet long and twenty-two feet high.

Green Mountain Dam is described as follows: Station 0 / 00 on the dam axis bears S. 36° 31' 45" W. a distance of 11,165 feet from the Southwest corner of Section 1, T. 2 S., R. 80 W., 6th Principal Meridian; thence the axis bears N. 21° 00' 00" E. The dam is 309 feet in height from the lowest point of excavation, with the crest at elevation 7960.0. The crest width is 40 feet. The crest length is 1284 feet, including spillway gate structure.

The total storage capacity of the Green Mountain Reservoir is 154,645 acre-feet, including 7,757 acre-feet dead storage.

The sources of water supply for storage in Green Mountain Reservoir are the Blue River and all tributaries of the Blue River upstream from the dam, and Elliott Creek by means of its diversion canal.

All of the direct flow of the Blue River and of Elliott Creek and the waters impounded in Green Mountain Reservoir pass through a conduit leading to the Green Mountain Powerplant. After passing through this hydro-electric powerplant, the water is returned to the Blue River.

Elliott Creek Feeder Canal has its beginning in a diversion works across Elliott Creek and more particularly at the intersection of the canal centerline with the head-gate structure of the diversion works, which point is Elliott Creek Feeder Canal Station 3/91.8; and which point..

bears N. 23° 26' E. a distance 2,545.1 feet from the Southwest corner of Section 15, T. 2 S., R. 80 W., 6th Principal Meridian. The canal has various sections, as necessary, with a capacity of 90 cubic feet per second, and extends from its point of beginning in an easterly direction 1.1 miles where it empties into Green Mountain Reservoir by means of a concrete chute that ends at Station 59+45.0 and which point bears S. 10° 23' 14" W. a distance of 3,149.7 feet from the Northwest corner of Section 14, T. 2 S., R. 80 W., 6th Principal Meridian.

The Green Mountain Powerplant is located adjacent to the downstream toe of the Green Mountain Dam and also adjacent to the Blue River channel, in Section 15, T. 2 S., R. 80 W., 6th Principal Meridian.

The conduit to the powerplant is fed through a 13'-6" diameter vertical shaft, an 18' 0" diameter reinforced concrete tunnel and a twin-barrel steel penstock in a 15'-9" x 23'-3" horseshoe-shaped tunnel. The vertical shaft drops 96.15 feet from the intake trashrack structure to the circular tunnel. The length of the circular tunnel is 569 feet. The slope of this tunnel is 5 feet per 1,000 feet of length. The penstocks are each approximately 906 feet long and 102 inches in diameter. The combined discharge capacity of the outlet works and powerplant is 2,000 cubic feet per second. The maximum amount of water claimed for development of hydroelectric energy through the powerplant is 1,726 cubic feet per second.

2. Improvement to the Colorado River and affected tributaries between Granby Dam and the confluence of the Blue and Colorado Rivers will protect the rights of the

land owners in the vicinity of Kremmling as provided by Senate Document No. 80, page 4, par. (j) et seq.

3. Lake Granby, located in Grand County, Colorado, is formed by Granby Dam across the Colorado River and four dikes in the immediate vicinity of this dam across four saddles or depressions in the earth's surface below the normal high water surface, elevation 8280.00 feet in the reservoir. The reservoir is located in all or parts of Sections 25, 26, 27, 34, 35 and 36, T. 3 N., R. 76 W.; Sections 29, 30 and 32, T. 3 N., R. 75 W.; Sections 1, 2, 3, 10, 11, 12, 13 and 15 T. 2 N., R. 76 W. and Sections 5, 6, 7, 8, 9, 14, 15, 16, 17, 18, 21, 22 and 23, T. 2 N., R. 75 W. The Granby Dam, across the bed of the Colorado River is located in Sections 11 and 12, T. 2 N., R. 76 W.

Granby Dam is described as follows: Station 11 + 00 of the dam axis bears N. 9° 37' W. a distance of 2,635.3 feet from the Southeast corner of Section 11, T. 2 N., R. 76 W., 6th Principal Meridian. The bearing of the axis of the dam is N. 49° 30' W. The maximum height of the dam is 298 feet above the lowest point in the foundation excavation. The length of the crest is 923 feet including the spillway gate structure. The structure is an earth and rock-fill dam with an impervious earth core in the center and rock fill or riprap on the outside faces. The crest width is 40 feet.

Dikes Nos. 1, 2 and 4 are interconnected and are located in Sections 10, 11, and 15, T. 2 N., R. 76 W. southwest of Granby Dam.

Dike No. 3 is described as follows: Station 20+00, of the dike axis bears S. 63° 17' 15" E. a distance of 1,996.6 feet from the Northwest corner of Section 13, T. 2 N.,

R. 76 W., 6th Principal Meridian.

The sources of supply for Lake Granby are the Colorado River and its tributaries above the location of Granby Dam, and the Willow Creek Diversion, which diversions are hereinafter described.

The total storage capacity of Lake Granby is 543,758 acre-feet, including 74,190 acre-feet of dead storage.

The water impounded in Lake Granby is pumped to Shadow Mountain Lake and thence via Grand Lake and the Alva B. Adams Tunnel, transported to the Eastern Slope.

4. The Western Slope Feeder Canals are a system of collection ditches diverting water from the tributaries of the Colorado River into Lake Granby which collection ditches are described as follows:

Willow Creek Reservoir is located approximately four miles north of Granby, in Grand County, Colorado, and more particularly in all or parts of Section 7, T. 2 N., R. 76 W., and Sections 1, 2, 11 and 12 T. 2 N., R. 77 W., 6th Principal Meridian. The reservoir stores water from Willow Creek and its tributaries upstream therefrom. The reservoir is formed by the construction of Willow Creek Dam across Willow Creek. It is an earth and rock-fill dam having an impervious earth core with rock stabilizing sections on the upstream and downstream faces. The maximum normal operating water surface elevation is 8130, with a flood water surface elevation of 8132. The uncontrolled spillway with crest at 8130 discharges at the rate of 3,200

cubic feet per second, when the water in the reservoir is at elevation 8132.

Willow Creek Dam is described as follows: Station 10/67.2 on the dam axis = Station 14/60.54 in the centerline of the diversion outlet works on the dam axis bears N. 18° 15' 41" W. a distance of 2,307.9 feet from the Southeast corner of Section 7, T. 2 N., R. 76 W., 6th Principal Meridian; thence from said station the axis bears N. 20° 42' E. a distance of 222.8 feet to a point of beginning of the dam axis, thence S. 20° 42' W. a distance of 388.9 feet to P. T. Station 9/01.1; thence on a curve to the right with a radius of 150.0 feet for an arc distance of 106.9 feet to P. C. Station 7/94.2; thence S. 61° 32' W. 604.2 feet, more or less. The dam is approximately 127 feet in height from the lowest point of excavation with the crest at elevation 8140. The crest width is 30 feet. The crest length is approximately 1,100 feet.

The total storage capacity of Willow Creek Reservoir is 10,553 acre-feet.

Willow Creek Feeder Canal has its beginning in Willow Creek Reservoir and more particularly at the intersection of Willow Creek Dam axis and the centerline of the diversion outlet works, which point is dam axis Station 10/67.2 and the diversion outlet works Station 14/60.54 and which point bears N. 18° 15' 41" W. 2,307.9 feet from the Southeast corner of Section 7, T. 2 N., R. 76 W., 6th Principal Meridian. The canal has various sections, as necessary, with a capacity of 400 cubic feet per second, and extends from its point of beginning in an easterly direction 2.0 miles to Station 120/95. 2 on the axis of the Willow Creek Forebay

Dam; thence the flow of water continues easterly through the Forebay 0.3 miles to the Willow Creek Pumping Plant, at which point a pumping plant with a capacity of 400 cubic feet per second is constructed to raise the water approximately 168 feet to a canal which continues easterly from the pumping plant 1.2 miles to Station 204/70.4 in the west abutment on the axis of Granby Dike No. 4; thence the canal continues in an easterly direction 0.1 of a mile and empties into Lake Granby by means of a concrete chute that ends at Station 211/30.0, and which point bears S.41° 34' 17" E. 5,966.2 feet from the Northwest corner Section 10, T. 2 N., R. 76 W., 6th Principal Meridian. All intercepted flows from named and unnamed creeks enroute to Lake Granby are also diverted into Lake Granby.

5. Granby Pumping Plant and Pump Canal.

The Granby Pumping Plant is located on the north shore of Lake Granby about seven and one-half miles northeast of Granby, Colorado in Section 35, T. 3 N., R. 76 W., 6th Principal Meridian. The building is of reinforced concrete design, 59'00" x 125' 00", and 188.5' from the submerged foundation to the top of the parapet. The Pumping Plant consists of three 6,000 horsepower electric motors which will drive three centrifugal pumps, each of which has a capacity of 200 cubic feet per second at a pumping head of 186 feet. The Granby Pumping Plant intake channel has its point of beginning inside Granby Reservoir at Station 13/00 of the Granby Pump Canal line, which point bears S. 73° 51' 59" W. a distance of 7,632.1 feet from the Northeast corner of Section 36, T. 3 N., R. 76 W.; thence the channel extends in a northerly direction 0.3 of a mile to the Granby Pumping Plant; thence the water is pumped by Granby Pumping Plant into the Granby Pumping Plant discharge conduit,

which has a capacity of 1,100 cubic feet per second, and which discharge conduit extends in a northerly direction for 0.7 of a mile to Station 64/55.0 BK. = 66/88.0 AH; at which point the water is released into the Granby Pump Canal.

Granby Pump Canal has its point of beginning at the end of the Granby Pumping Plant discharge conduit, which point is Station 64/55.0 BK = Station 66/88.0 AH; thence the unlined canal, with a capacity of 1,100 cubic feet per second, extends in a northerly direction for 1.8 miles to canal Station 161/31.3 = Station 29/63.7 of Shadow Mountain Dam and Dikes, which point bears N. 22° 20' 31" W. a distance of 3,277.0 feet from the Southeast corner of Section 24, T. 3 N., R. 76 W., and at which point the water flows into Shadow Mountain Lake.

6. Shadow Mountain Lake is in effect an extension of Grand Lake and acts as a conduit to the inlet of the Alva B. Adams Tunnel for water pumped from Lake Granby as well as water intercepted from tributaries of the Colorado River by Shadow Mountain Lake and Grand Lake. The two mentioned lakes also serve as a storage and regulating reservoir with the water surface normally maintained between elevations 8366 and 8367 which will provide a combined active capacity of 1,839 acre-feet. Shadow Mountain Lake is located upon all or portions of Sections 6, 7, 18 and 19, T. 3 N., R. 75 W., 6th Principal Meridian and Sections 12, 13 and 24, T. 3 N., R. 76 W., 6th Principal Meridian.

Shadow Mountain Dam is described as follows: Station 0/00 on the Shadow Mountain Dam axis extended bears N. 18° 55' E. a distance of 3,862.1 feet from the Southwest corner of Section 19, T. 3 N., R. 75 W., 6th Principal

Meridian. The maximum operating water surface elevation is 8367.0. The spillway capacity of 8,000 cubic feet per second is controlled by two radial gates each 18.0 feet long and 18.5 feet high. The dam is 63 feet in height from the lowest point of excavation, with the crest at elevation 8375. The crest length, including the dikes and the spillway section, is 3,077 feet. The crest width is 30 feet.

The sources of water supply for Shadow Mountain Lake are the direct flows of the Colorado River and its tributaries upstream from Shadow Mountain Dam and the water pumped from Granby Reservoir heretofore described.

The total storage capacity of Shadow Mountain Lake and usable storage of Grand Lake is 18,369 acre-feet.

The water impounded in Shadow Mountain Lake and Grand Lake flows through the Alva B. Adams Tunnel to the Eastern Slope or is released through the spillway radial gates into the Colorado River, and thence into Granby Reservoir and related works.

7. The Alva B. Adams Tunnel (Continental Divide Tunnel) extends from the east shore of Grand Lake, under the Continental Divide a distance of 13.1 miles in a northeasterly direction, to Wind River, a tributary of the Big Thompson River, which is a tributary of the South Platte River. Said tunnel has a diameter of nine feet nine inches, with a capacity of 550 cubic feet per second. The supply of water for said tunnel is obtained by means of the dams and collecting systems, ditches, and tributaries of the Colorado River, which combine to deliver water to the west or inlet portal of said Tunnel.

The inlet conduit of the said Tunnel extends from

Station 5/95 (West Portal) of the Alva B. Adams Tunnel in a southwesterly direction into Grand Lake. From Station 5/95, which station bears S. 74° 31' W., a distance of 1262.2 feet from the North quarter-corner of Section 9, T. 3 N., R. 75 W., 6th Principal Meridian, to Station 3/92.50, the inlet is a reinforced concrete, earth covered conduit with an outside width of 20'-6", and has two rectangular passages each 9 feet wide and 10'-6"high. From Station 3/92.50 the inlet structure fans out to an arc width of 300 feet at Station 2/39.00 which arc is the point of entrance of water from Grand Lake. The flow of water through the inlet into the Alva B. Adams Tunnel is controlled by two steel radial gates located in a gate structure at Station 5/88.

The said Alva B. Adams Tunnel is concrete lined, with a diameter of nine feet nine inches, throughout its entire length of 69,029.94 feet (13.1 miles) with a slope of 1.55 feet per 1,000 feet of length. Station 700/59.00 is the outlet or eastern portal of said Tunnel and said station bears S. 11° 13' 25" E., a distance of 1,967.7 feet from the Northwest corner of Section 9, T. 4 N., R. 73 W., 6th Principal Meridian. The Tunnel discharges water into the East Portal Reservoir.

8. The Estes Park Aqueduct and Power System transports Colorado River water from the outlet of the Alva B. Adams Tunnel into Lake Estes, formed by Olympus Dam across the Big Thompson River. The system develops hydroelectric power enroute through conduits more specifically described as follows:

The East Portal Reservoir is located approximately five miles in a southwesterly direction, from the town of

Estes Park, in Larimer County, Colorado and more particularly in part of Section 9, T. 4 N., R. 73 W., 6th Principal Meridian. The reservoir is formed by the construction of a rock-fill dam, having a concrete corewall, across Wind River. The dam is 82 feet in height from the lowest point of excavation; crest length is 245 feet including the spillway and outlet works; crest width is 30 feet; the capacity of East Portal Reservoir is 20 acre-feet.

Aspen Creek Siphon has its beginning at the right end of the East Portal Dam. It extends from the East Portal Reservoir to a 70.6 foot flume section located immediately west of the west portal of Rams Horn Tunnel. The said siphon has a reinforced concrete barrel ten feet nine inches diameter, with a capacity of 550 cubic feet per second.

Rams Horn Tunnel extends from the above-described flume at the east end of the Aspen Creek Siphon to the headworks of the Marys Lake Penstock, a distance of approximately 1.3 miles and has a carrying capacity of 550 cubic feet per second.

Marys Lake Penstock has its beginning at Station 845/80, located 96 feet from the outlet portal of Rams Horn Tunnel. The penstock is ninety-six inches in diameter and is designed to operate under a maximum head of 201.5 feet, with a capacity of 550 cubic feet per second. It enters the Marys Lake Powerplant at Station 850/46. A fixed wheel gate controls the flow into the penstock.

Marys Lake Powerplant is located on the southwest side of Marys Lake Reservoir at Station 850/80. The powerplant is a reinforced concrete building and houses one main generating unit and station-service equipment. The main generating

unit is an 8,100 kilowatt vertical shaft generator directly connected to an 11,300 horsepower hydraulic turbine. Water passing through the powerplant discharges directly into Marys Lake Reservoir.

Marys Lake Reservoir is located approximately two miles, in a southerly direction, from the town of Estes Park, in Larimer County, Colorado. The reservoir is formed by the construction of dikes along the east shore and south shore of the existing Marys Lake basin. The storage capacity of Marys Lake Reservoir is 952 acre-feet.

Prospect Mountain Conduit extends from Marys Lake Reservoir to the Prospect Mountain Tunnel. The conduit is twelve feet six inches in diameter and has a capacity of 1,300 cubic feet per second.

Prospect Mountain Tunnel is twelve feet six inches in diameter, with a reinforced concrete lining. It has a capacity of 1,300 cubic feet per second.

Estes Penstocks begin at the outlet portal of Prospect Mountain Tunnel and lead to the Estes Powerplant.

Estes Powerplant is located on the south bank of the Big Thompson River about one-half mile east of Estes Park, Larimer County, Colorado. It consists of three 15,000 kilowatt electric generators and three 21,000 horsepower hydraulic turbines fed by the three above-described penstocks. The total installed rated capacity of the powerplant is 45,000 kilowatts. Water passing through the Estes Powerplant is discharged directly into Lake Estes.

Lake Estes is located about one and one-half miles east of the town of Estes Park, in Larimer County, Colorado. It is the diversion works for the Estes-Foothills Aqueduct

and Power System, and controls the flow of water into the Big Thompson River, by means of a spillway. The lake is formed by the construction of Olympus Dam across the Big Thompson River. The dam is 60 feet in height from the lowest point of excavation with the crest at elevation 7481. The crest width is 30 feet. The crest length is 1,880 feet (including the diversion headworks). The total storage capacity of Lake Estes is 3,368 acre-feet.

9. The Estes-Foothills Aqueduct and Power System conveys water diverted from the Colorado River, excess waters of the Big Thompson River, and Big Thompson River water to be used for power from Lake Estes to the Flatiron Reservoir. Big Thompson River water used only for power is returned to the Big Thompson River at the Big Thompson wasteway. The system is more specifically described, starting at the headworks and continuing in an easterly direction, or the direction of flow, to the discharge into Flatiron Reservoir, as follows:

Olympus Siphon is a closed conduit section, 0.8 of a mile in length extending in an easterly direction. The conduit is designed for a capacity of 550 cubic feet per second and delivers water to the intake portal of Olympus Tunnel.

Olympus and Pole Hill Tunnels are continuous except for a short section of closed conduit at the common point and extend in an easterly direction for a distance of 7.2 miles, beginning at Station 88/80 which bears S. 23° 53' 22" E., a distance of 2,041.4 feet from the Northwest corner of Section 28, T. 5 N., R. 72 W., 6th Principal Meridian. The common point of the tunnels bears S. 45° 24' 05" W. a distance of 705.0 feet from the Northeast corner of Section 27, T. 5 N., R. 72 W. The tunnels are horseshoe shaped, nine feet nine inches in diameter,

with a capacity of 550 cubic feet per second, and convey water to Pole Hill Canal.

Pole Hill Canal, 0.5 of a mile in length with a capacity of 550 cubic feet per second, has its beginning at the outlet portal of Pole Hill tunnel. The canal delivers water to the headgate structure of Pole Hill Powerplant Penstock.

Pole Hill Penstock is a steel pipe having a diameter of ninety-six inches, is 0.35 of a mile in length, and leads in an easterly direction to its terminal in the Pole Hill Powerplant.

Pole Hill Powerplant is located in the canyon of Little Hell Creek at Station 517/18 on the centerline of the above-described penstock extended, which point bears N. 39° 02' 34" E., a distance of 636.6 feet from the Southwest corner of Section 26, T. 5 N., R. 71 W., 6th Principal Meridian. The powerplant is an insulated metal panel building 70 feet wide by 85 feet long and houses one main generating unit. The generating unit is a 33,250 kilowatt vertical shaft generator directly connected to a 47,500 horsepower turbine. Water passing through the power plant discharges into a very small afterbay and thence into Rattlesnake Tunnel.

Rattlesnake Tunnel, which is 1.7 miles in length, has a capacity of 550 cubic feet per second, is horseshoe-shaped and has a diameter of nine feet nine inches. The tunnel delivers water from the afterbay of Pole Hill Powerplant to Rattlesnake Reservoir. The tunnel has its beginning at Station 9/15, which point bears N. 70° 40' 56" E., a distance of 1,000.32 feet from the Southwest corner of Section 26, T. 5 N., R. 71 W., 6th Principal Meridian and passes through the mountains in an easterly direction to Station 96/78

which bears N. 35° 40' 32" W., a distance of 1,424.1 feet from the Southwest corner of Section 25, T. 5 N., R. 71 W., 6th Principal Meridian, at which point the water is delivered into Rattlesnake Reservoir.

Rattlesnake Reservoir is located in Larimer County, Colorado, and more particularly in parts of Section 25, T. 5 N., R. 71 W.; and in Sections 30 and 31, T. 5 N., R. 70 W., 6th Principal Meridian. This reservoir acts as pondage for, and re-regulation of, water between the Pole Hill and Flatiron Powerplants. The reservoir is formed by the construction of Rattlesnake Dam across the lower valley of Rattlesnake Park. It is an earth and rock-fill dam having an impervious earth core with rock stabilizing sections on both the upstream and downstream faces. The total storage capacity of Rattlesnake Reservoir is 2,381 acre-feet.

Bald Mountain Tunnel is a circular lined tunnel ten feet six inches in diameter that extends through the mountains in an easterly direction for a distance of about 1.3 miles. The capacity of this tunnel is 960 cubic feet per second. It delivers water to the penstock gate structure at the beginning of Flatiron Penstocks.

"Flatiron Penstocks begin in the penstock gate house which is at Station 88 + 00 which point bears S. 37° 44' 15" W., a distance of 1917.5 feet from the Northeast Corner of Section 32, T. 5N., R. 70 W., 6th Principal Meridian. Two steel penstocks approximately 1.11 miles in length deliver water to the Flatiron powerplant.

Flatiron Powerplant is located in Chimney Hollow Valley. The plant consists of two 48,000 horsepower turbines directly connected to two 31,500 kilowatt electric generators and a combination pump-turbine.

Flatiron Reservoir is located in Larimer County,

Colorado, and more particularly in parts of Sections 27 and 28, T. 5 N., R. 70 W., 6th Principal Meridian.

Flatiron Dam is approximately 86 feet in height from the lowest point of excavation with the crest at elevation 5486. The crest width is 30 feet. The crest length is approximately 1,725 feet, including the spillway section. The total storage capacity of Flatiron Reservoir is 830 acre-feet.

Big Thompson Powerplant will be located approximately seven and one-half miles west of the town of Loveland, Larimer County, Colorado and near the intersection of the Horsetooth Feeder Canal and the Big Thompson River. The powerplant will have a generating capacity of 4500 kilowatts. Water which passes through the turbines will be discharged into the Big Thompson River.

10. The Foothills Reservoirs and Feeder Canals transport Eastern and Western Slope diverted water from the Estes-Foothills Aqueduct and Power System to the Eastern Slope storage reservoirs for storage and release to irrigators as required or for restoration of diversional fluctuations in the Big Thompson River and to return like flows as will be withdrawn for power development purposes at Lake Estes.

From Flatiron Reservoir, water may be either discharged by gravity into the Horsetooth Feeder Canal or be pumped to Carter Lake. Water may be transported into or out of Carter Lake through the same pumping plant discharge tube and pressure tunnel hereinafter discussed.

The Flatiron Pumping Plant is located approximately 9 miles northwesterly from the town of Berthoud, in Larimer County, Colorado, in Section 28, T. 5 N., R. 70 W., 6th Principal Meridian. The one motor-generator in the Pumping Plant has a capacity of 370 cubic feet per second at a pumping head of 240 feet. When operated as a generator, using water from Carter Lake, the unit has a capacity of 8500 kilowatts.

Flatiron Pumping Plant takes water from Flatiron Reservoir and pumps it through a discharge pipe and pressure tunnel which has a diameter of eight feet and a maximum capacity of 550 cubic feet per second. Carter Lake Pressure Conduit and Pressure Tunnel extends to a trash-rack structure in Carter Lake. The stored water in Carter Lake may be released through the Carter Lake Pressure Tunnel and Conduit and the Flatiron Pumping Plant into Flatiron Reservoir.

Carter Lake is located in Larimer County, Colorado, in all or parts of Sections 34 and 35, T. 5 N., R. 70 W., and Sections 2, 3, 4, 9, 10, 15 and 16, T. 4 N., R. 70 W., 6th Principal Meridian. The reservoir is formed by placing an earth and rock-fill dam across an unnamed stream which is a tributary of Dry Creek, and by placing two earth and rock-fill dams across saddles.

The sources of supply of Carter Lake are project appropriated waters delivered through the inlet tunnel and tributaries of Carter Lake. The total storage capacity of Carter Lake is 112,830 acre-feet.

All project water and natural flows to Carter Lake Reservoir are utilized by the project through the outlet (which is also the inlet) and delivered to Flatiron Reservoir through the Flatiron Pumping Plant and/or through an outlet works at the right abutment of Carter Lake Dam No. 1 for delivery of water to the St. Vrain Supply Canal for purposes of irrigation.

Horsetooth Feeder Canal has its beginning in Flatiron Reservoir. The canal has various sections, as necessary, and has an initial capacity of 930 cubic feet per second, extends in a northerly direction a distance of 3.5 miles to a control

structure, at which point water is delivered from Tunnel No. 1; the beginning point of which is at a diversion works on the Big Thompson River. The Horsetooth Feeder Canal continues from said Tunnel No. 1, with a capacity of 930 cubic feet per second for 0.2 of a mile, at which point a control-flume delivers either that amount of water diverted through Tunnel No. 1, or that amount of water flowing from Flatiron Reservoir which is in excess of 550 cubic feet per second, or a combination of both, into the Big Thompson River, or to the Big Thompson Powerplant.

The Horsetooth Feeder Canal proceeds in a northerly direction by means of various sections, as necessary, and has a capacity of 550 cubic feet per second for a distance of 9.3 miles, delivering water in Horsetooth Reservoir.

The Horsetooth Reservoir is located in Larimer County, Colorado, and more particularly in all or parts of Sections 5, 6 and 8, T. 6 N., R. 69 W., Sections 6, 7, 18, 19, 20, 29, 30, 31 and 32, T. 7 N., R. 69 W., and Sections 1, 12 and 13, T. 7 N., R. 70 W., 6th Principal Meridian.

The source of supply of the reservoir is the project water delivered by the Horsetooth Feeder Canal, and intermittent streams intercepted by the reservoir. The total storage capacity of Horsetooth Reservoir is 153,252 acre-feet.

11. The Irrigation Supply Canals are the project features constructed by the Government for the delivery of water from the storage reservoirs. These canals deliver water to the North Poudre Ditch, the Cache la Poudre River, Big and Little Thompson Rivers, St. Vrain Creek, Lefthand Creek, Boulder Creek and South Platte River.

The St. Vrain Supply Canal has its beginning in Carter Lake. It extends from its point of beginning, in a southerly direction, with an initial capacity of 625 cubic feet per second, for a distance of 5.2 miles to a diversion works where 50 cubic feet per second may be delivered to the Little Thompson River. The canal continues in a southerly direction, with a capacity of 575 cubic feet per second, for a distance of 4.5 miles where the water is delivered to St. Vrain Creek.

The Boulder Creek Supply Canal, an extension of the St. Vrain Supply Canal, has its point of beginning in turnout of Station 518/00 St. Vrain Supply Canal which is Station 518/0580 Boulder Creek Supply Canal. It extends from its point of beginning, in a southerly direction, with a capacity of 200 cubic feet per second for a distance of approximately 16.2 miles to a diversion works where 25 cubic feet per second may be delivered to the Boulder & Lefthand Creek and Boulder & Whiterock Creek Ditches. The canal, with a capacity of 175 cubic feet per second, continues in a southerly direction for a distance of approximately .1 mile, where the water is delivered to Boulder Creek.

The South Platte Supply Canal has its beginning in the headgate of a diversion works across Boulder Creek, which is easterly and approximately three miles downstream, from the end of the Boulder Creek Supply Canal. It extends from its point of beginning, in an easterly direction with an initial capacity of 230 cubic feet per second and a terminal capacity of 125 cubic feet per second, for a distance of approximately 24.9 miles. It delivers water to the South Platte River at Station 1796/00 that bears S. 19° 41' E. a

distance of 1044.7 feet from the South 1/4 corner of Section 19, T. 2 N., R. 66 W., 6th Principal Meridian.

The Poudre Supply Canal has its beginning in Horsetooth Reservoir. It extends from its point of beginning, in a northerly direction, with an initial capacity of 1,500 cubic feet per second, for a distance of 5.2 miles to a bifurcation structure which is Poudre Supply C nal Station 283/36.6 = Poudre Supply Canal-Windsor Extension Station 0/00. The Poudre Supply Canal continues, with a capacity of 1,500 cubic feet per second, in a northerly direction from the bifurcation structure, through a series of flumes and chutes for 0.1 of a mile, at which point the water is delivered to the Cache la Poudre River.

The Poudre Supply Canal-Windsor Extension has its point of beginning in the bifurcation structure at Poudre Supply Canal Station 283/36.6. The canal extends from its point of beginning, in a northerly direction, with a capacity of 250 cubic feet per second, for a distance of 0.5 of a mile, where the water is delivered to the Windsor Canal and Reservoir Company Canal.

The North Poudre Supply Canal has its point of beginning in a diversion dam across the Cache la Poudre River, extending from its point of beginning in a northeasterly direction, with a capacity of 250 cubic feet per second, for a distance of 12.6 miles where the water is delivered to the North Poudre Ditch.

At the above-described principal points of delivery to the Cache la Poudre River, Big Thompson River, Little Thompson River, St. Vrain Creek, Lefthand Creek, Boulder Creek, South Platte River and the North Poudre Ditch, project

waters are delivered to the Northern Colorado Water Conservancy District for delivery and distribution to the water users for purposes of irrigation through existing, enlarged, improved or new irrigation facilities.

METHOD OF OPERATION OF THE COLORADO BIG-THOMPSON PROJECT

13. The Colorado River water delivered to the Northern Colorado Water Conservancy District consists of both direct-flow water from that stream and its tributaries and waters impounded in Shadow Mountain Lake, Grand Lake, Willow Creek Reservoir, and Lake Granby, also known as Granby Reservoir. Water is pumped from Lake Granby in the manner described under the heading of "General Physical Description" of the Colorado-Big Thompson Project. It then flows by gravity from Shadow Mountain Lake into Grand Lake, and from there it is delivered through the Continental Divide by means of the Alva B. Adams tunnel.

14. After leaving the eastern portal of the Alva B. Adams tunnel the Colorado River water diverted to the Eastern slope is conducted by gravity through a system of conduits and powerplants where it has been utilized to the full capacity of the structures described under "General Physical Description" for the generation of electrical energy. Having been thus utilized through its course down the Eastern Slope of the Rocky Mountains for the generation of electrical energy, the Colorado River water is delivered by the United States of America at Horsetooth Reservoir and Carter Lake above described to the Northern Colorado Water Conservancy District for distribution to and utilization by the consumers within the service area of that District. Colorado River water delivered through the Alva B. Adams tunnel is also

used in Estes Park, Colorado. Water from the Big Thompson River is likewise diverted through the power structure above described, and, like the Colorado River water, is utilized by the United States of America for the generation of electrical energy.

15. Colorado River water was first diverted through the Alva B. Adams Tunnel in the year 1947. The following were transmountain deliveries of Colorado River water: 1947 - 6,014 A.F.; 1948 - 9,390 A.F.; 1949 - 15,920 A.F.; 1950 - 28,060 A.F.; 1951 - 69,480 A. F.; 1952 - 74,480 A.F.; 1953 - 204,580 A. F.; 1954 - 320,140 A.F.; 1955 (to Sept. 30), 180,830 A.F.

The following are deliveries of Colorado River water for beneficial purposes within the Northern Colorado Water Conservancy District: 1947 - 6,009 A.F.; 1948 - 8,819 A.F.; 1949 - 15,160 A.F.; 1950 - 25,683 A. F. ; 1951 - 638 A. F.; 1952 - 41,141 A.F.; 1953 - 177,594 A.F.; 1954 - 301,486 A.F.; 1955 (to Sept.30) 221,486 A.F.

WATER USES ON THE WESTERN SLOPE FROM THE COLORADO-BIG THOMPSON PROJECT

16. Green Mountain Reservoir located on the Blue River, a tributary of the Colorado River, impounds water of that stream and Elliott Creek for later release to replace Colorado River water being impounded in Lake Granby, Shadow Mountain Reservoir, Willow Creek Reservoir, or Grand Lake, or diverted directly from the Colorado River and its tributaries through Shadow Mountain Lake, Grand Lake, and thence through the Alva B. Adams Tunnel. Water impounded in Green Mountain Reservoir is also utilized for the purposes specified in said Senate Document No. 80. There has been constructed and operated by the United States of America in conjunction with the Green Mountain Reservoir a powerplant by the same name. Through that powerplantthere has been diverted 1726 c.f.s. of the direct flow of the Blue River and Elliott Creek. There has likewise been used through that powerplant 154,645

acre-feet of storage for the purpose of generation of electrical energy. There has likewise been impounded and used in addition to the 154,645 acre-feet above mentioned approximately 6,316 acre-feet, which is in addition to the full storage capacity of Green Mountain Reservoir and came about by reason of the subsequent storage after initial releases from said reservoir in question.

17. The Green Mountain Reservoir has been operated by the Secretary of the Interior in a manner which meets the replacement requirements and the other operational features of the project, all of which are specified in Senate Document No. 80, 75th Congress, 1st Session, and set forth under the heading of that document "Manner of Operation of Project Facilities and Auxiliary Features". (See in that connection the Final Judgment and Final Decree entered by this Court predicated upon these Findings of Fact and Conclusions of Law.)

STIPULATION OF OCTOBER 5, 1955, FILED WITH THIS COURT ON THAT DATE AND THE AMENDMENT TO THAT STIPULATION, DATED OCTOBER 10, 1955

In an effort to resolve the conflict among the parties to these consolidated cases extensive conferences have been held. The result of those conferences has been an agreement among the parties pursuant to which the respective rights have been set forth and the basis of an amicable settlement declared. There follows a verbatim copy of the Stipulation, together with a copy of the Amendment to it.

"STIPULATION

"The [parties through their respective counsel] hereby stipulate and agree as follows:

"1. That they and each of them hereby approve the Final Judgment and the Final Decree to which this Stipulation is attached and into which this Stipulation is incorporated by reference; and

"Further stipulate and agree to move the Court before which these consolidated cases are pending to enter the Final Judgment and the Final Decree.

"2. It is further stipulated and agreed by and between the parties to this cause that they and each of them recognize the rights to the use of water and priorities set forth in the Final Judgment and Final Decree in these cases.

"3. It is further stipulated and agreed by and between the parties to this cause that the City and County of Denver and the City of Colorado Springs are in need of adequate supplies of water for municipal purposes both present and future. Likewise recognized by the parties is that the Blue River constitutes a source of supply to which each must look in the future if the respective municipalities are to reach their greatest potential.

"4. Notwithstanding their priority dates, the parties hereto further stipulate and agree that the parties to this cause will recognize the right to divert Blue River water by the City and County of Denver and the City of Colorado Springs for municipal purposes only, including domestic, industrial, yard, ground and park care, storage, fire, sewage, military and governmental, excluding, however, water for purposes of irrigation for agriculture, their rights as set forth in the decrees entered by the District Court of Summit County, Colorado, Water District No. 36, Civil Actions Nos. 1805 and 1806, which are part of the

record in consolidated Cases Nos. 5016 and 5017; subject nevertheless to the following limitations:

"(a) The rights of the City and County of Denver and the City of Colorado Springs are limited solely to municipal purposes as herein described and subject to the rights of the United States of America to fill each year the Green Mountain Reservoir to a capacity of 154,645 acre feet for utilization by the United States of America in accordance with the "Manner of Operation of Project Facilities and Auxiliary Features", contained in Senate Document No. 80, 75th Congress, 1st Session.

"This right to fill the reservoir as herein provided requires an amount of water (after provision for all prior rights) which added to the water in the storage in said Green Mountain Reservoir on a date between April 1st and May 15, to be fixed by the Secretary of the Interior each year in accordance with the plan of operation, would equal 154,645 acre feet had there been no releases from the storage in Green Mountain Reservoir. Provided, however, subject to the decision of the Secretary of the Interior that it will not adversely affect the ability of Green Mountain Reservoir to fulfill its function as set forth in the "Manner of Operation of Project Facilities and Auxiliary Features", contained in Senate Document No. 80, 75th Congress, 1st Session, except only as to the production of power, diversions by theCity and County of Denver and Colorado Springs may be made from time to time as approved by the Secretary of the Interior after the snow pack estimate by the United States of America and a determination has been made that it is reasonably probable that the Green Mountain Reservoir will be filled

during the season to the aforesaid capacity of 154,645 acre feet as measured herein.

"(b) The City and County of Denver and the City of Colorado Springs in consideration of the agreement by the United States of America to permit the use of rights to the use of water by those municipalities as provided in this Stipulation will

"(1) Deliver or cause to be delivered to the United States of America electrical energy at Green Mountain Substation or such other place or places to be designated by the Secretary of the Interior within a radius of eighty-five miles airline from Denver and all costs of delivery to be borne by the aforesaid municipalities.

"(2) The electrical energy herein provided for will be delivered to the United States in substantially the same amounts, at approximately the same hours and at substantially the same rates of delivery that would have been generated by the Green Mountain Powerplant had it not been for the diversions of the waters by the municipalities in question.

"Should the City and County of Denver and the City of Colorado Springs or either of them decide to let any other person, corporation or entity use the power drop from such water at any time, such agreement for such use shall be subject to the regulation and approval of the Secretary of the Interior of the United States.

"(c) The City and County of Denver and the City of Colorado Springs will at all times bypass water in quantities sufficient to meet all legal calls of downstream water rights on the Blue River, and within Colorado below the confluence of that stream with the main stream of the Colorado River,

having priorities earlier than the respective priority dates of said cities. This obligation adequately to provide water for the priorities on the Blue River and the Colorado River antedating the respective priority dates of said two cities, may be fulfilled by replacement storage by and on the Blue River or on the Williams River, subject nevertheless to the requirement that the parties provide that the plans for replacement storage will first have been approved by the Secretary of the Interior or his designated representative. Insofar as any proposed replacement storage on Williams River will adversely affect the Parshall Unit of the Cliffs Divide Project duly authorized representatives of the Petitioners in Civil Actions Nos. 5016 and 5017 shall have the right to also approve the proposal or submit it to this Court for adjudication as to legal rights. The water to be exchanged shall be on hand and in storage when the exchange is proposed. Any exchange approved shall not relieve said cities from the obligation to deliver electrical energy for the amount of water diverted from the Blue River.

"(d) The City and County of Denver and the City of Colorado Springs agree to hold harmless the United States of America for the full amount of any claims of any kind or character which may be finally determined by reason of their diversions from the Blue River.

"(e) To the extent that the importation and the use of water from the Colorado River System, over and above the quantity of water diverted from that source during the last year being October 1st, 1954 to September 30, 1955, by reason of the return flow from the municipal systems of said cities increase the amount of water said cities may lawfully utilize

from all sources in order to supply their municipal needs, through exchange or otherwise, to that same extent the right to divert water from the Blue River shall be correspondingly decreased, if such exchange is not exercised; provided, however, that the obligation to utilize water from the Colorado River System by exchange or otherwise shall be subject to the conditions, limitations, and safeguards as set forth in the following subdivision, the same being subdivision (f) of this paragraph.

"(f) In order to accomplish the objectives set forth in the immediately preceding subdivision hereof, the same being lettered (e), each city undertakes to exercise due diligence, within legal limitations and subject to economic feasibility. To that end, the City and County of Denver and the City of Colorado Springs shall, respectively, submit to the Secretary of the Interior on or before December 31st of each calendar year, beginning with the year 1957, a report showing by months for the water year ended September 30th last past, the quantities of water diverted by the reporting city from the Colorado River System, and whether and to what extent such water was used directly or placed in storage. After each city commences use of Blue River water said report shall also show by months for the same period the quantities of return flow from their municipal uses of such Colorado River water accruing to the South Platte River and to Fountain Creek, respectively, as measured at the gauging stations provided for herein. Each such report shall also show what steps, by legal action or otherwise, the reporting city has taken during the period covered by the report to utilize such return flow by exchange or otherwise to the extent water of

the Colorado River System is included therein, so as to reduce or minimize the demands of such city upon Blue River water, The United States of America reserves the right, at any time after use of Blue River water commences hereunder, to apply to this Court for injunctive or other remedial orders, suspending or proportionately reducing diversions or imposing conditions upon the taking of Blue River water by the particular city, if the United States shall establish as a fact that the particular city has failed to exercise due diligence in taking, with respect to return flow of water of the Colorado River System, all steps which, in view of legal limitations and economic feasibility, might reasonably be required of such city in establishing, enforcing, utilizing or operating a plan designed to accomplish said reduction by such city of its Blue River water use.

"(g) The City and County of Denver and the City of Colorado Springs will utilize Blue River water for municipal purposes and no other within their metropolitan areas. Such metropolitan area shall be limited to such an area as is reasonably integrated with the development of Denver or Colorado Springs, as the case may be. To the extent that those municipalities utilize water beyond their respective metroplitan areas from sources other than the Blue River, or lease or permit others to utilize waters from other sources for purposes other than municipal in character, the Blue River water diversions will be reduced pro tanto. Provided that the limitations in this subparagraph shall not apply in the case where electrical energy is produced by such water as an incident to its use for municipal purposes.

"(h) A reasonable number of gauging stations

including any relocations designated by the Secretary of the Interior will be installed, operated and maintained by the City and County of Denver and the City of ColoradoSprings for the purposes of measuring /1/ the quantities of water actually diverted from the Blue River; /2/ the increased return flow water into the South Platte River and other streams by reason of the diversion of Colorado River System. Within two years after the date of this Stipulation the cities will install said gauging stations to measure the return flow. As soon as gauging stations are established periodic reports of the flow of water at such stations will be reported to the Secretary of the Interior.

"5. The United States does not claim a priority, in connection with the Colorado-Big Thompson Project, senior to the City and County of Denver for the Upper Ute Park Reservoir on the Williams River referred to on pages 21 and 22 in the statements of claim of the United States respecting the Colorado-Big Thompson Project filed in Civil Action 5016 and 5017.

"6. Periodic plans for the operation of the Green Mountain Reservoir shall be developed by the duly authorized representatives of the Secretary of Interior in accordance with this Stipulation and submitted to the parties for comments within thirty days after the submission and then transmitted to the Secretary of Interior for his revision and adoption.

"7(a) As between the City and County of Denver and the City of Colorado Springs, and without affecting the rights of the other parties hereto, the City of Colorado Springs, under its priorities of May 13, 1948, shall be entitled to divert water from the Blue River and its tributaries,

notwithstanding the Denver rights of June 24, 1946; provided that all diversions from the Blue River and its tributaries under all rights heretofore decreed to or acquired by Colorado Springs, shall not exceed in any calendar year ten percent of the natural flow of the Blue River near Dillon below its confluence with the Snake River and Ten Mile Creek.

"7(b) The parties hereto agree to recognize that the City and County of Denver has the following priorities, both conditional and final:

"DIRECT RIGHTS:

Name	Priority Dates
Platte Canon Ditch	7-30-1861
Nevada Ditch	8-30-1861
Platte Canon Ditch	12-30-1863
Platte Canon Ditch	12-30-1864
Nevada Ditch	12-30-1865
*Borden Ditch	5- 1-1866
City Rights	12-20-1870
City Rights	12-31-1874
City Ditch	(11-28-1860 (11- 1-1873 (3- 7-1882
*Weed Ditch #42	5-1-1875
City Right	9-10-1878
** High Line Canal	1-18-1879
* 1/2 Weed Ditch #102	6-1- 1879
City Right	6-30-1880
*Love & Rayner Ditch	5- 8-1881
*1/2 Little Channel Ditch	5- 1-1882
*Island Ditch	5-20-1885
City Right	10- 1-1889

City Right . . . . . 9-1 -1892

City Right . . . . . 5-1 -1899

City Right . . . . . 12-6 -1910

Cherry Creek Galleries . . . . . 5-1 -1887

Harriman Ditch:

Undivided One-half:

Turkey Creek 4-16-1868

Bear Creek 3-16-1869

Bear Creek 5- 1-1871

Bear Creek 3- 1-1882

Entire:

Bear Creek . . . . . 12-5 -1889

Bear Creek 12-5- 1889

Turkey Creek 2-1- 1890

Turkey Creek 2-1- 1890

Bear Creek 8-15-1892

Bear Creek 8-15-1892

Turkey Creek 8-15-1892

Turkey Creek 8-15-1892

South Boulder Diversion Conduit . . . 1- 1-1930

Moffat Tunnel Diversion Unit . . . 7- 4-1921

Williams Fork Diversion Unit . . . 7- 4-1921

Storage Rights:

Name	Date
Antero Reservoir	10- 8-1907
11-Mile Canon Reservoir	7-10-1926
Lake Cheesman	(6-27-1389 (9-24-1893
Platte Canon Reservoir	9- 5-1902
Marston Lake	4- 1-1911
Soda Lakes	2-11-1893

Ralston Reservoir	(1 -1-1930 (10-31-1932
Reservoir No. 22	7- 4-1921 5-10-1945
Williams Fork Reservoir	11-10-1935***
Two Forks Reservoir (To the extent the same is to be filled from the South Platte River.)	(1-18-1905 (5- 1-1926
Grant Reservoir	
Strontia Reservoir	
Esterbrook Reservoir	
Vasquez Reservoir	(7 - 4-1921 7 - 7-1926
Steeleman Reservoir	9-22- 1937
St. Louis Reservoir	7- 4-1921

*Divertible only from April 15 to August 10, inclusive.

**City Right in High Line Canal is variable and intermittent.

***Subject to limitation herein provided in paragraph 4(c) respecting the Parshall Unit of the Cliffs Divide Project and the right to contest said decree because of the failure of the City and County of Denver to exercise due diligence.

The right is reserved to the parties to this Stipulation to contest the conditional decrees on the grounds that the City and County of Denver has failed from the date of this Judgment to prosecute its claims with due diligence provided further that the conditional decree to the Williams Fork Reservoir may be contested for failure to exercise due diligence at any time, subject to any applicable statutes of limitation.

"8. The City of Englewood shall have a right to divert up to 19,500 acre-feet of water annually from the sources and by means hereafter described; provided, however, that such diversion shall not be exercised by the City of

Englewood when the natural flow of the Colorado River is less than 1,250 c.f.s. at the Shoshone diversion dam, and required to fill vested rights, and its right to divert shall at all times be subject to diminution to the extent necessary to fill all senior rights and shall not be exercised at any time so as to interfere with any uses of water by the United States in connection with the Colorado-Big Thompson Project or in carrying out any part of the "Manner of Operation of Project Facilities and Auxiliary Features", contained in Senate Document 80, 75th Congress, 1st Session. The City of Englewood in connection with its right to divert as herein set forth shall have the right to construct replacement reservoirs to the extent required to meet all senior rights with which its diversions may be in conflict: Subject, nevertheless, to the approval of the Secretary of the Interior of any proposal thus to provide replacement storage.

"The rights to divert by the City of Englewood are as follows:

a. Hamilton-Cabin Creek Ditch:

70 c.f.s. having as its source Hamilton Creek and all intermediate drainage channels or slopes between Hamilton Creek and North Ranch Creek, including Cabin Creek, Little Cabin Creek and all named and unnamed streams but not from North Ranch Creek itself.

b. Extension and Enlargement of Hamilton-Cabin Creek Ditch:

2[illegible] c.f.s. having as its source Meadow Creek and intermediate drainage channels or slopes between said Meadow Creek and Hamilton Creek, including Trail Creek and Hurd Creek, and any and all unnamed and other named streams

but not from Hamilton Creek itself.

c. Cabin Creek Reservoir (Regulatory only):

4,250 acre-feet with its source Cabin Creek.

d. Meadow Creek Reservoir (Regulatory only):

5,100 acre-feet with its source Meadow Creek.

"Provided, however, that the rights to the use of water herein recognized in the City of Englewood may be diverted only for municipal purposes: Subject nevertheless to the right of all parties to this Judgment to contest the conditional decrees on the grounds that the City of Englewood has failed after the date of this Judgment to prosecute its claims with due diligence.

"9. The City of Englewood will transfer to the United States all of its rights to the use of water previously claimed by the City of Englewood as follows: In Ranch Creek Reservoir of July 15, 1933, for 478,079,187 cubic feet annually, source of water from RanchCreek and Hurd Creek; in the Enlargement of Ranch Creek Reservoir, with a priority date of October 1, 1933, for 483,858,406 cubic feet annually, the source of water, Ranch Creek, Hurd Creek, Meadow Creek and Fraser River.

"10. The City and County of Denver and the City of Colorado Springs agree that if the State of Colorado is required by reason of the Colorado River Compact, the Upper Colorado River Basin Compact, the Boulder Canyon Project Act as supplemented and amended, or any other compacts or laws, to deliver any water from the State, they will discontinue their diversions from the Blue River under the provisions of this Stipulation in advance of the discontinuance of the diversions and utilization of water by the Colorado-Big

Thompson Project or any of its components or units on the Eastern or Western Slopes of Colorado. The City of Englewood agrees to a similar limitation on its rights of diversion under the provisions of this Stipulation.

"11. It is stipulated and agreed by and between the parties to this Stipulation that the Secretary of the Interior shall promptly present to the Speaker of the House of Representatives and the Vice President for transmittal to the proper Committees copies of this Stipulation, informing them of the course that has been adopted in regard to the subject matter of this Stipulation. If no Committee of the Congress has reported a bill disapproving this Stipulation and Final Decree entered thereon within 120 days from the date the 84th Congress, Second Session convenes, or if such a bill in any event is not passed and approved during said Congress, the agreements contained herein shall become binding and of full force and effect as among the parties.

"12. It is understood and agreed between the parties to this Stipulation that if the proposed arrangement cannot be effectuated because of events described in Paragraph 11 of this Stipulation, then, and in that event without affecting the finality of the Judgment in these cases, the City and County of Denver and the City of Colorado Springs, or either of them shall have the right to present within a reasonable time to this Court for trial on the merits the sole question of whether, by reason of claimed "domestic" use they have a preferential right under the Colorado Constitution Article XVI, Section 6, or the Colorado River Compact, Article IV, irrespective of the prior rights of the United States of America in the Blue

River for the purpose of generation of electrical energy to take and divert that water for their claimed "domestic" use.

"Dated this 5th day of October, 1955."

/Signatures of respective counsel./

"AMENDMENT TO STIPULATION DATED OCTOBER 5, 1955 AND FILED WITH THE COURT ON THAT DATE

"The parties hereto stipulate and agree that the priority date of September 14, 1933, of the United States of America in the Blue River and its tributaries set forth in the Final Judgment referred to in paragraph numbered 1 of the Stipulation of October 5, 1955, and filed as of that date, be and the same is hereby amended by substituting in lieu thereof a priority date of August 1, 1935.

"Dated this 10th day of October, 1955."

/Signatures of respective counsel/

RIGHTS OF THE CITY AND COUNTY OF DENVER AND THE CITY OF COLORADO SPRINGS TO THE USE OF WATER IN THE BLUE RIVER AND ITS TRIBUTARIES

19. There were decreed to the City and County of Denver by the District Court of Summit County, Colorado, Water District No. 36, in Civil Actions No. 1805 and 1806 the following rights to the use of water:

a.	Montezuma Tunnel	6-24-46	788 Sec. Ft.
b.	Dillon Reservoir	6-24-46	252,678 Acre-feet.

Reference to the Stipulation, as amended, which is set forth above, is made in regard to these rights to the use of water.

The rights of the City and County of Denver to the use of water in the Blue River and its tributaries are more

fully described in the decrees entered in Water District No. 36, Civil Actions No. 1805 and 1806. Insofar as they describe the rights to the use of water adjudicated to the City and County of Denver those decrees are incorporated into these Findings of Fact and Conclusions of Law by reference and made a part of them as fully as though they were set forth in full herein.

20. Colorado Springs has had decreed to it by the District Court of Summit County, Colorado, Water District No. 36, the following rights to the use of water:

a. Continental-Hoosier Diversion System, August 5, 1929, a final decreed right of 77 c.f.s., and a conditional right of 10 c.f.s. of August 5, 1929.

b. Continental-Hoosier Diversion System, May 13, 1948, 400 c.f.s.;

c. Continental-Hoosier Diversion System, May 13, 1948, total storage 5,306 acre-feet.

Reference is here made to the Stipulation, as amended, and hereinabove set forth, which, with the exception herein noted, pertains only to the Colorado Springs 1948 rights described in subparagraphs b. and c. last above; the 1929 priority rights mentioned in subparagraph a. last above apply and are pertinent only for the purpose of computing the division of water between Denver and Colorado Springs as provided in paragraph 7(a) of said Stipulation.

Provided, however, that those diversions described in subparagraphs a, b, and c above, will be made solely for municipal purposes; subject nevertheless to the right of the parties to the Final Decree to contest the conditional decrees on the grounds that the City of Colorado Springs has

failed from and after the date of the Final Decree to prosecute its claims with due diligence.

The rights to the use of water by the City of Colorado Springs are more fully described in the Decree entered in Water District No. 36 in connection with the aforesaid rights and these descriptions are incorporated herein and made a part hereof as though they were set forth in full.

21. The City and County of Denver holds rights to the use of water in the Williams Fork River, the Fraser River, the South Platte River and their respective tributaries identified by the decrees listed in paragraph 7(b) of the stipulation, as amended, and as set forth above.

22. The references to the Williams Fork River and the Williams River throughout these Findings of Fact and Conclusions of Law, the Stipulation, as amended, the Final Judgment and the Final Decree in these consolidated cases means the same stream, which is a tributary to the Colorado River and enters that stream near Parshall, Colorado.

RIGHTS OF THE CITY OF ENGLEWOOD TO
THE USE OF WATER FROM THE COLORADO
RIVER AND ITS TRIBUTARIES

Heretofore there has been decreed in Water District No. 51 by the District Court in and for the County of Grand, State of Colorado, in Civil Action No. 657, to the Moffat Tunnel Water and Development Company, a Colorado corporation, predecessor in interest to the City of Englewood, the following conditional rights:

Hamilton Cabin Creek Ditch, priority July 2, 1932, 70 c.f.s.; Extension and Enlargement of Hamilton Cabin Creek Ditch, priority July 2, 1932, 25 c.f.s.; Cabin Creek Reservoir, priority date July 2, 1932, 4,250 acre-feet; Meadow

Creek Reservoir, priority July 2, 1932, 5,100 acre-feet; Ranch Creek Reservoir, priority date July 15, 1933, 478,079,187 cubic feet; Enlargement of Ranch Creek Reservoir, priority October 1, 1933, 483,858,406 cubic feet; Fraser Ditch, priority October 1, 1933, 30 c.f.s.

The aforesaid court has entered formal decrees of diligence in each even-numbered year beginning with 1940 to and including the year 1954. All of said rights of the Moffat Tunnel Water and Development Company have been conveyed to the City of Englewood, a municipal corporation of the State of Colorado.

The sources of supply for the above-named structures are Hamilton Creek, Cabin Creek, Ranch Creek, Hurd Creek, Meadow Creek, Fraser River, and other unnamed tributaries of the Colorado River. These rights to the use of water are more particularly described in and they are subject to the Stipulation, as amended, as set forth above, and in the Final Decree which is predicated upon these Findings of Fact and Conclusions of Law.

24. On August 1, 1935, the United States of America and the Northern Colorado Water Users Association initiated the Colorado-Big Thompson Project and all of its component parts described under the heading "General Physical Description", including Green Mountain Reservoir and Powerplant, and thereafter the United States of America prosecuted the Project to completion with due diligence. The United States of America within a reasonable time has diverted, impounded and applied to the beneficial uses specified in said Senate Document No. 80 the waters of the Colorado River and its tributaries, including the Blue River and its tributaries

to the full capacity of all of the structures of that project. The rights to the use of water of the United States of America are set forth specifically in the Final Judgment and in the Final Decree, both of which are predicated upon these Findings of Fact and Conclusions of Law. Reference is made to the Stipulation, as amended, which is set forth above in regard to the rights to the use of water of the United States of America. The United States of America shall have a priority for the Colorado-Big Thompson Project of August 1, 1935, in the Colorado River and its tributaries and in the Blue River and its tributaries.

25. Neither these Findings of Fact nor any single Finding of Fact contained herein shall be binding upon the intervenors in Civil Action No. 2782 of these consolidated cases. Findings of Fact and conclusions of law in regard to each of the intervenors shall be entered following the final hearing of the issues raised by their respective pleadings, and the responsive pleadings of the United States of America ~~in~~ if the cases of the intervenors are not disposed of on motion and the cases are actually tried on the merits.

Based upon the preceding Findings of Fact, including the Stipulation as amended, as set forth above, the following conclusions of law are entered:

CONCLUSIONS OF LAW

Based upon the evidence adduced in these consolidated cases and the stipulation, as amended, and set forth in the Findings of Fact, it is concluded:

(1) The parties to these consolidated cases are entitled to the priorities of rights to the use of water in the Colorado River, Williams Fork River, Fraser River, Blue

River and South Platte River, and their respective tributaries, all as set forth in the Findings of Fact, for the amounts and as of the priority dates therein specified. Those priorities are set forth in the Final Judgment and the Final Decree which are predicated upon these Findings of Fact and Conclusions of Law.

(2) The Secretary of the Interior is required to operate and administer the Colorado-Big Thompson Project in accordance with the provisions of said Senate Document No. 80 which are set forth under the heading of that document designated "Manner of Operation of Project Facilities and Auxiliary Features", the Stipulation as amended and set forth above, the Final Judgment and the Final Decree in these consolidated cases.

3. The Final Judgment and Final Decree attached to and accompanying these Findings of Fact and Conclusions of Law are predicated upon those findings and conclusions. Moreover, in the event the Stipulation, as amended, or any part of it should at any time be declared invalid the finality of the Final Judgment and the Final Decree respecting the priorities of the parties to these consolidated cases will in no way be affected by such a determination, reserving nevertheless the right of the City and County of Denver and the City of Colorado Springs to move for the resolution of the question saved as set forth in paragraph 12 of the Stipulation, as amended, or to take such other steps as may be saved to said cities under said paragraph 12.

Entered this 12 day of October, 1955.

William Lee Knous

WILLIAM LEE KNOUS
District Judge