PROCEDURE FOR IMPLEMENTATION

OF THE

INTERMITTENT STREAM POLICY

HUGHES CREEK AND LICK FORK CREEK

MOUNTAIN VIEW, ARKANSAS

January, 1984

Prepared By:

McCLELLAND CONSULTING ENGINEERS, INC.
900 West Markham
Little Rock, Arkansas 72201

(501) 371-0272

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SECTION I

DESCRIPTION OF HUGHES CREEK AND LICK FORK CREEK

SECTION I

DESCRIPTION OF HUGHES CREEK AND LICK FORK CREEK

Hughes Creek is an intermittent stream originating in the western part of Mountain View, Arkansas. From Mountain View it flows northwesterly approximately 2.1 miles to another intermittent stream, Lick Fork Creek. Lick Fork flows north approximately 2.5 miles to South Sylamore Creek, which is a tributary of the White River. All of these streams are in planning segment 4F of the White River Basin. The area around Mountain View is moderately to steeply sloped, with ground elevations ranging from 600 to 850 feet above mean sea level. Wide valleys in the rural areas outside Mountain View are used primarily for livestock grazing and agricultural purposes.

Descriptions of Hughes Creek and Lick Fork Creek were given in the "Waste Load Allocation Study for Mountain View, Arkansas," performed for the Arkansas Department of Pollution Control and Ecology by Summerlin Associates, Inc., and Camp, Dresser and McKee, Inc., in September, 1982. According to the Study, Hughes Creek is a small spring-fed stream which flows over exposed carbonate rock. The creek is intermittent, with effluent from Mountain View's wastewater treatment plant comprising the majority of the flow during periods of low runoff. According to the Arkansas Geological Commission's Water Resources Circular No. 12, the 7-day, 10-year low flow for Hughes Creek is 0 cfs. The study describes Lick Fork Creek as a steep, rocky stream which flows intermittently

during the summer months. A more detailed description of these creeks may be found in the Waste Load Allocation (WLA) Study, a copy of which is attached.

At the present time, Hughes Creek and Lick Fork Creek are not listed in the Arkansas Water Quality Standards, Regulation No. 2. Therefore, the classification of South Sylamore Creek applies to these streams, or Use Class A and Fisheries Class S. Use Class A is defined as: "Suitable for primary contact recreation, propagation of desirable species of fish, wildlife and other aquatic life, raw water source for public water supplies and other compatible uses". The Fisheries Class S (Smallmouth Bass Fishery) requires a minimum dissolved oxygen level of 6.0 mg/l. It is the purpose of this procedure to recommend classification of Hughes Creek and Lick Fork Creek as intermittent/ephemeral streams, thereby allowing a minimum dissolved oxygen of 1.0 mg/l.

SECTION II

MAPS

A. Location Map

B. Watershed

C. Segment 4F Drainage Basin

SECTION II

MAPS

A. The locations of Hughes Creek and Lick Fork Creek are given in Figure No. 1.

B. The locations of the existing, proposed, and anticipated discharges in the affected watershed are illustrated in Figure No. 2. Presently, the City of Mountain View discharges from its wastewater treatment plant into Hughes Creek. The City of Mountain View proposes to renovate and improve its existing treatment plant. In order to meet a minimum DO standard of 1.0 mg/l for Hughes Creek and Lick Fork Creek (assuming they are classified as intermittent), the City of Mountain View will have to treat its waste to a BOD of 10 mg/l, TSS of 15 mg/l, NH_3-N of 10 mg/l and DO of 5 mg/l.

C. South Sylamore Creek is the nearest downstream enduring natural pool capable of supporting a balanced indigenous aquatic community. The location of South Sylamore Creek can be seen in Figure No. 3.

D. South Sylamore Creek is also the nearest downstream watercourse not found to be an ephemeral or intermittent stream or drainage ditch.

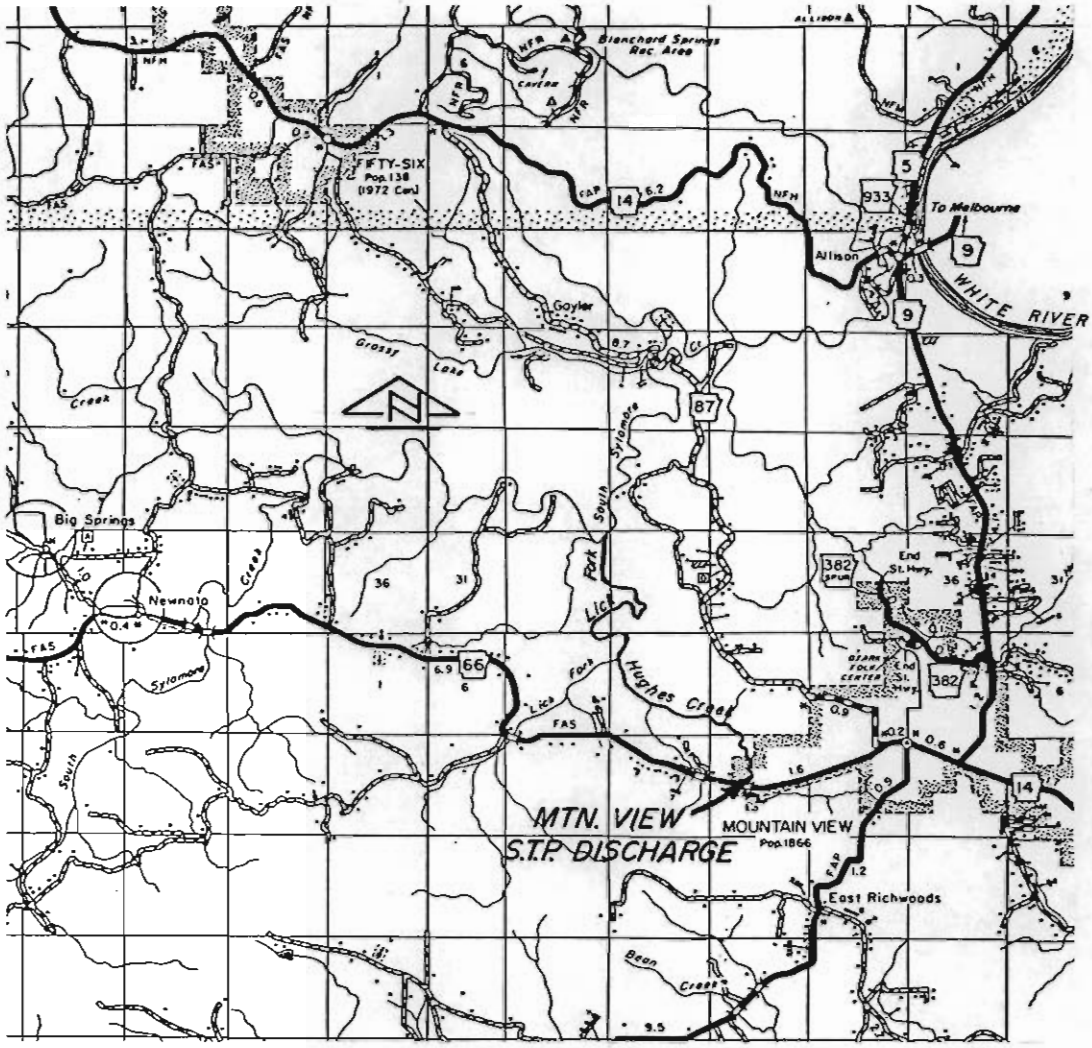


FIGURE Nº1

LOCATION MAP

HUGHES CREEK AND
LICK FORK CREEK

CITY OF MTN. VIEW DISCHARGE

MOUNTAIN VIEW, ARKANSAS
NOVEMBER, 1983

McCLELLAND CONSULTING ENGINEERS INC.

little rock, arkansas

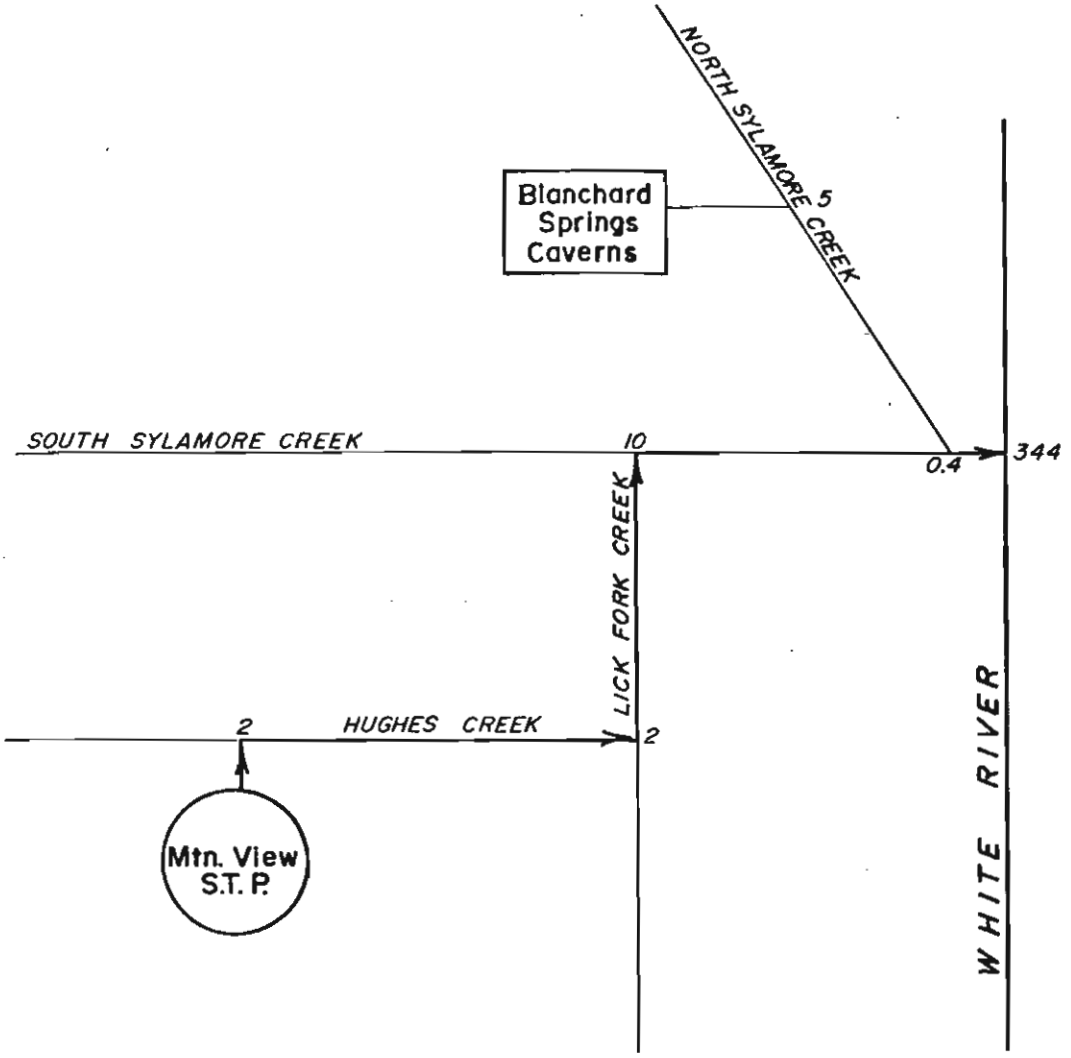


FIGURE Nº2

DISCHARGERS TO HUGHES CREEK AND LICK FORK CREEK

MOUNTAIN VIEW, ARKANSAS
NOVEMBER, 1983

McCLELLAND CONSULTING ENGINEERS INC.

little rock, arkansas

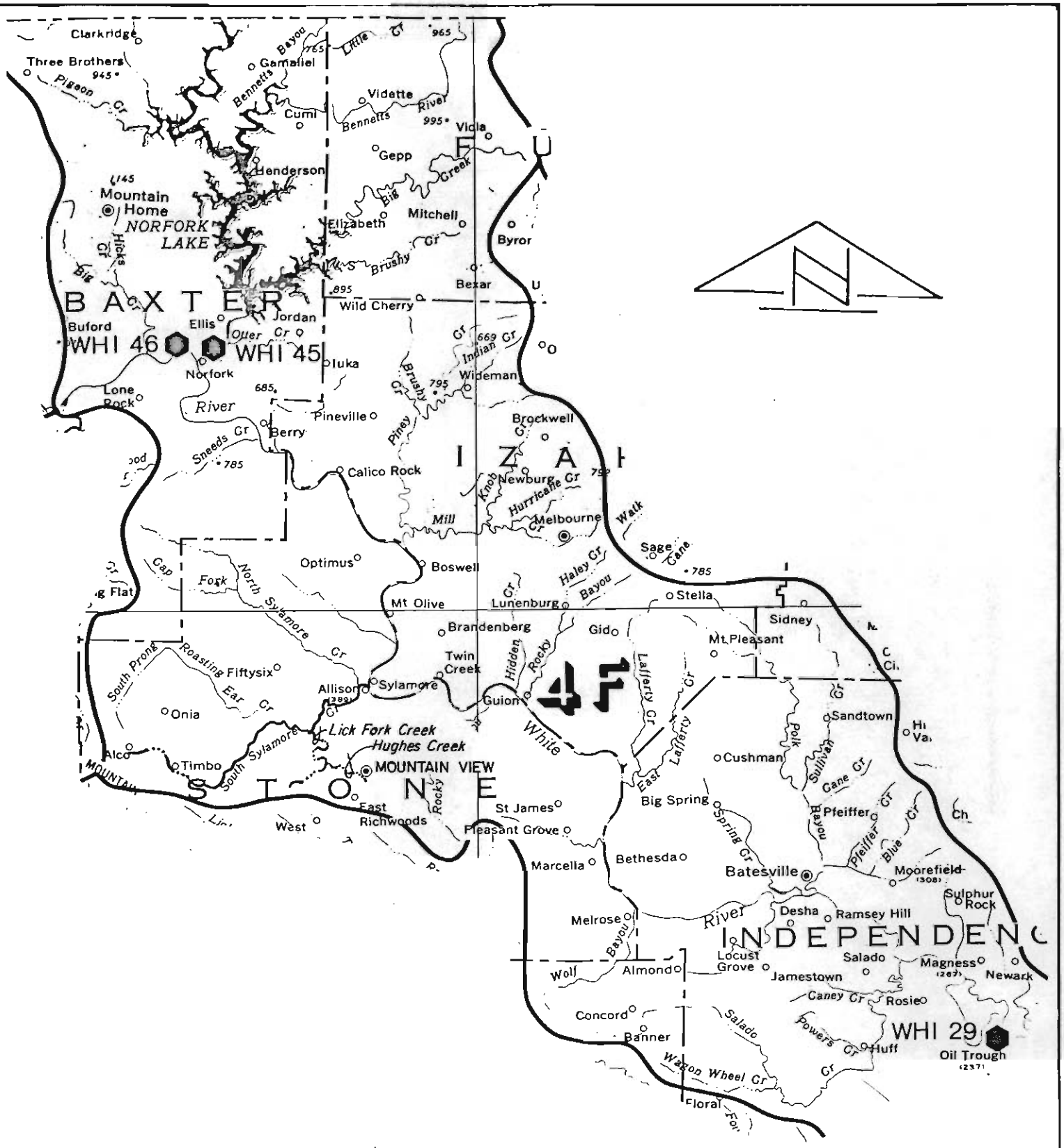


FIGURE Nº3

SEGMENT 4F DRAINAGE AREAS

McCLELLAND CONSULTING ENGINEERS INC.

little rock, arkansas

MOUNTAIN VIEW, ARKANSAS
NOVEMBER, 1983

SECTION III

DISCHARGE DESCRIPTION

SECTION III

DISCHARGE DESCRIPTION

The City of Mountain View monitors its wastewater discharge bi-monthly.

Table No. 1 gives the physical and chemical characteristics of Mountain View's discharge for the year 1982.

Table No. 2 gives the discharge characteristics necessary at the wastewater treatment plant after renovation and improvements to maintain a minimum DO level of 1.0 mg/l in Hughes Creek and Lick Fork Creek.

TABLE NO. 1

CITY OF MOUNTAIN VIEW, ARKANSAS

1982 PHYSICAL AND CHEMICAL CHARACTERISTICS

Flow, mgd	.377
pH, std. units	7.08
BOD, mg/l	17.3
TSS, mg/l	13.5
Fecal Coliform, no./100 ml	7.5×10^4
Settleable Solids, mg/l	0

TABLE NO. 2

CITY OF MOUNTAIN VIEW, ARKANSAS

FUTURE CONDITIONS

PHYSICAL AND CHEMICAL CHARACTERISTICS

Flow, mgd	.504
BOD, mg/l	10
TSS, mg/l	15
NH_3-N, mg/l	10
Dissolved Oxygen, mg/l	5

SECTION IV

MATHEMATICAL MODEL OF FUTURE DISCHARGE IN HUGHES CREEK AND LICK FORK CREEK

SECTION IV

MATHEMATICAL MODEL OF FUTURE

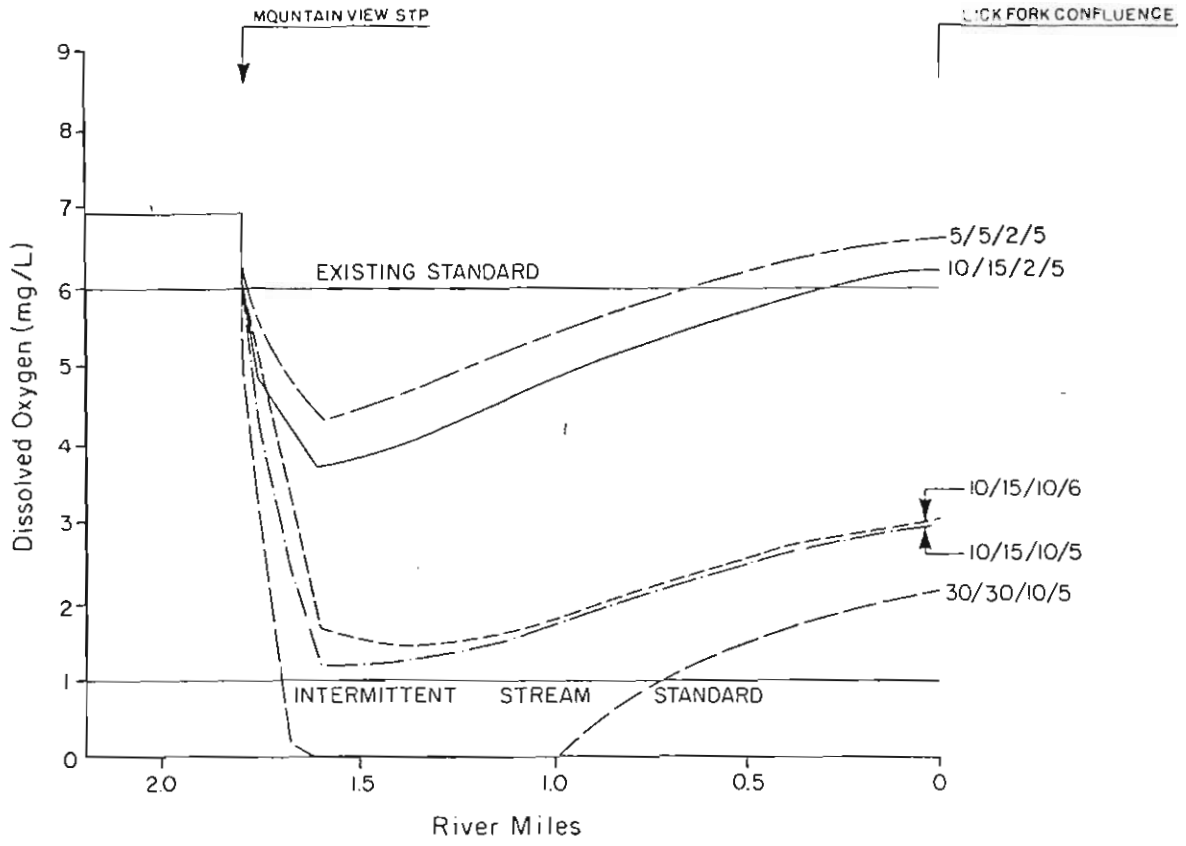
DISCHARGE IN HUGHES CREEK AND LICK FORK CREEK

Summerlin Associates, Inc., and Camp, Dresser and McKee, Inc., under contract to the Arkansas Department of Pollution Control and Ecology, utilized a steady-state model (QUAL-TX) to simulate water quality in the stream segments impacted by the City of Mountain View's wastewater treatment effluent. Five alternative treatment levels were evaluated. With the exception of secondary treatment (30/30/10/5), all other treatment levels provided in-stream DO levels above the intermittent stream standard of 1 mg/l DO. Similarly, only the secondary treatment level resulted in a DO level in South Sylamore Creek of less than 6.0 mg/l, the applicable standard for a smallmouth bass fishery. Therefore, advanced secondary treatment (10/15/10/5) is the minimum level of treatment which would not result in a violation of downstream water quality standards under the intermittent stream policy.

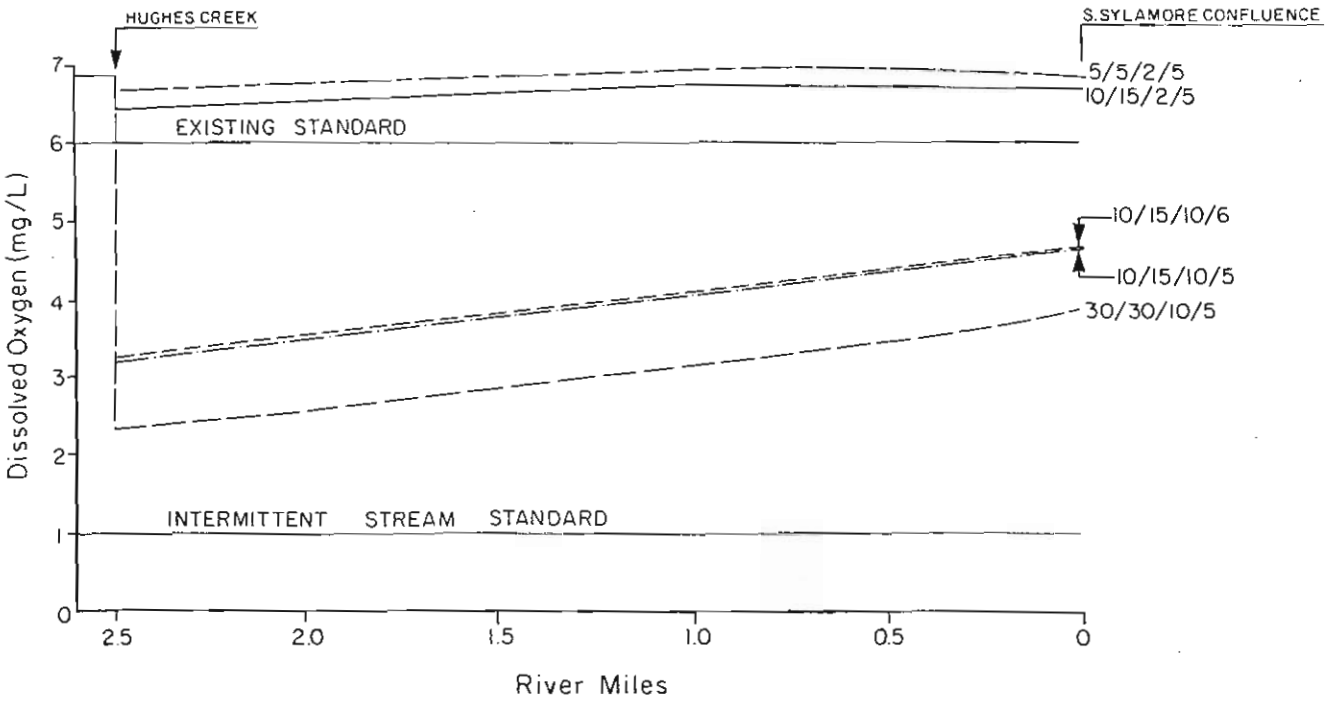
The WLA Study also indicated that even the most stringent advanced waste treatment level (5/5/2/5) would not provide sufficient effluent quality to maintain DO concentrations in Hughes Creek above the existing 6.0 mg/l standard.

The WLA Study and the simulated DO profiles for the alternative treatment levels are attached.

HUGHES CREEK



LICK FORK



TREATMENT LEVEL DEFINITION: 10/15/2/5 = BOD_5/TSS/NH_3-N/DO

SIMULATED D.O. PROFILES FOR ALTERNATIVE TREATMENT LEVELS

SECTION V

ALTERNATIVES TO DISCHARGE

SECTION V

ALTERNATIVES TO DISCHARGE

The "Environmental Assessment of Proposed Facility Plan for Wastewater Collection and Treatment Facilities for Mountain View, Arkansas" evaluated other alternatives to discharge than the proposed renovation and improvement of the existing facilities. In the report, four alternatives were considered. These were flow and waste reduction measures; upgrading operation and maintenance, and efficiency of existing facilities; Innovative/Alternative technology including land treatment, wastewater treatment and reuse, and aquaculture; and, alternate biological treatment processes.

Flow and waste reduction was not believed to be practical nor economically feasible because the current per capita flow of 74 GPCD is not considered excessive. Upgrading the operation and maintenance and efficiency was rejected because the existing plant does not have the hydraulic or treatment capacities to meet the projected effluent standards and because the present O & M program is excellent. Land treatment was ruled out because of unsuitable topography and geology. Treatment and reuse of wastewater was rejected because it would cost twice as much as it presently costs to treat the water from their present source, the White River. Aquaculture was ruled out because it would require abandoning the present site and obtaining 40 acres to

construct new units. The alternate biological treatment processes were rejected due to higher capital and/or operation and maintenance costs and less reliability. The environmental impacts of all the alternatives were essentially the same.

It was determined that the proposed action was the best means of providing the required level of treatment (10/15/10/5) for Mountain View.

SECTION VI

IMPACTS OF DISCHARGE

SECTION VI

IMPACTS OF DISCHARGE

A. Watercourse as a Source of Water Supply:

Because Mountain View's water supply intake is immediately downstream from the confluence of Sylamore Creek and the White River, the Arkansas Department of Health has requested that Mountain View's discharge permit require the fecal coliform content of Mountain View's sewage discharge to be in accordance with the Arkansas Department of Pollution Control and Ecology's requirements for class AA streams.

B. Effects of Watercourse for the Propagation and Support of Balanced Indigenous Aquatic Communities:

The Arkansas Game and Fish Commission has raised several concerns about the classification of Hughes and Lick Fork Creeks as intermittent streams (see attached correspondence). The Department of Pollution Control and Ecology is presently working on addressing these concerns.

C. Effects on Recreational Use:

Because Sylamore Creek is used for recreation by the public, the Department of Health has requested the fecal coliform requirement described under Item A.

D. Effects on Karst or Recharge Area:

The Arkansas Geological Commission has indicated that these creeks should be considered as having the potential of Karstic influence or effect. (See attached correspondence)

E. Effects on Wetlands:

No "wetlands" exist in the Mountain View area so that effects of this kind are not anticipated.

F. Violation of Water Quality Standards:

The computer model prepared in conjunction with the Waste Load Allocation Study for Mountain View, Arkansas concluded that a discharge from Mountain View of 10 mg/l BOD, 15 mg/l TSS, 10 mg/l NH_3-N, and 5 mg/l dissolved oxygen will not violate water quality standards of 1.0 mg/l dissolved oxygen in Hughes Creek and Lick Fork Creek. The WLA Study (including the computer model) is attached.

G. Creation of Public Health Hazard or Nuisance Condition:

The Arkansas Department of Health has no objection as long as the fecal coliform requirement described in Item A is met.

SECTION VII

CORRESPONDENCE

A. Arkansas Department of Health

B. Arkansas Geological Commission

C. Arkansas Game and Fish Commission

ARKANSAS DEPARTMENT OF HEALTH
4815 West Markham Street
Little Rock, Ark. 72201

November 10, 1983

Mr. Lawson Anderson
Environmental Specialist
McClelland Consulting Engineers, Inc.
1311 West 2nd Street
Little Rock, AR 72202

RE: Intermittant Stream Reclassification
Hughes Creek & Lick Fork Creek
Mountain View, Arkansas

Dear Mr. Anderson:

Reference is made to our letter dated October 26, 1983 pertaining to the request for reclassification of Hughes and Lick Fork Creeks as intermittant streams. We have reviewed the additional information you presented and as a result we have no objection to such a reclassification if the following stipulation is included in the discharge permit.

Since the Sylamore Creek is used for recreation by the public and Mountain View's water supply intake is immediately downstream from the confluence of Sylamore Creek and the White River, the fecal coliform content of Mountain View's sewage discharge shall be in accordance with the Department of Pollution Control and Ecology's requirements for class AA streams.

Sincerely,

T.A. Skinner, P.E.
Chief Engineer
Division of Engineering

orig. file
copy LA

TAS:rp

cc: Department of Pollution Control & Ecology

RECEIVED 11/15/83

BILL CLINTON
GOVERNOR

Arkansas DEPARTMENT OF HEALTH

4815 WEST MARKHAM STREET • LITTLE ROCK, ARKANSAS 72201
TELEPHONE AC 501 661-2000

BEN N. SALTZMAN, M.D.
DIRECTOR

October 26, 1983

Mr. Lawson Anderson
Environmental Specialist
McClelland Consulting Engineers, Inc.
1311 West 2nd Street
Little Rock, AR 72202

RE: Intermittant Stream Reclassification
Hughes Creek & Lick Fork Creek
Mountain View, Arkansas

Dear Mr. Anderson:

We are in receipt of your request for our comments on the proposed reclassification of Hughes and Lick Fork Creeks as intermittant streams, and thus reduced effluent limitations. In view of the following items we must go on records as being opposed to any such reclassification:

1. Both creeks are tributary to Sylamore Creek which is used by the public for body contact activity (e.g.; swimming, wading, etc.)

2. There are public water supply intakes located downstream of the confluence of Sylamore Creek and the White River. Mountain View's water intake is immediately downstream of this confluence and Bateville's is further downstream.

In keeping with our past policy on discharge to streams with the above useages, the effluent should receive the equivalent of tertiary treatment with disinfection.

Sincerely,

T.A. Skinner, P.E.
Chief Engineer
Division of Engineering

TAS:BM.rp

cc: Department of Pollution Control & Ecology

RECEIVED
11/8/83

Arkansas GEOLOGICAL COMMISSION
VARDELLE PARHAM GEOLOGY CENTER ● 3815 WEST ROOSEVELT ROAD ● LITTLE ROCK, ARKANSAS 72204

NORMAN F. WILLIAMS
STATE GEOLOGIST
501-371-1488

January 3, 1984

Mr. Lawson Anderson
c/o McClelland Engineers, Inc.
900 West Markham
Little Rock, Arkansas 72201

Dear Mr. Anderson:

This letter is in reply to your telephone request for geologic and hydrologic information on Hughes and Lick Fork Creeks North and West of Mountain View, Stone County, Arkansas.

These creeks are developed on sandstone and shale in the headwaters area and traverse Mississippian, Silurian and Ordovician carbonates in the middle and lower parts of the course.

Recharge is from local precipitation and will vary accordingly. The response to precipitation should be quite rapid.

There are a number of karst features in the area and the full course of these streams should be considered as having the potential of karstic influence or effect.

Yours very truly,

O. A. Wise
Geologist

OAW:kh

Arkansas Game & Fish Commission

2 Natural Resources Drive Little Rock, Arkansas 72205

November 10, 1983

orig. LRC
copy LA

Mr. Lawson Anderson
McClelland Consulting Engineers,
Inc.
1311 West Second Street
Little Rock, AR 72201

Dear Mr. Anderson:

After review of the "Waste Load Allocation Study for Mountain View, Arkansas" by our Fisheries staff, we feel that we must object to the proposed reclassification of Hughes and Lick Fork Creeks as "intermittent streams".

The critical summer temperature used (23.5^{0} C.) in the modeling effort is too low. This would tend to bias predicted D.O. values in an upward fashion. During late summer, it is not uncommon for small, shallow streams to closely reflect air temperatures and reach 28-30^{0} C. It is important that our agency know what effect these higher critical temperatures would have on predicted D.O. values, especially, in South Sylamore Creek.

There is also some concern over the method in which the predicted D.O. value for South Sylamore Creek was obtained. It is our feeling that the 8.3 D.O. value (80% saturation) assumed for a summer D.O. value in South Sylamore Creek is too high, and that in reality D.O. violations might possibly occur under the proposed treatment plan. Also, it is our opinion that the model did not satisfactorily address predicted D.O. values of South Sylamore Creek.

The study noted that Hughes Creek becomes a "losing" stream just below the effluents' point of entry. As there are numerous caves and springs in the carst region surrounding the study area, there is naturally some concern over the potential for the effluent to enter these delicate ecosystems. Other similar studies completed in North Arkansas have incorporated some geological work to determine if effluents were in fact reaching these delicate subterranean environments.

Since Lick Fork is likely to serve as spawning and nursery areas for fishes from South Sylamore Creek, we feel that water quality standards should be met in this stream at least during the fish spawning and nursery period.

In closing, we reiterate our objection to the reclassification of Lick Fork Creek as an "intermittent stream" under the proposed treatment level. However,

the study data indicates that advanced treatment (10/15/2/5) would allow the D.O. in Hughes Creek to recover before its confluence with Lick Creek. Should this be the case, we would not object to the reclassification of Hughes Creek as "intermittent", providing our previous questions are satisfactorily addressed.

If you have further questions or comments, please address them to Mr. Tommie Crawford of our Fisheries staff.

Cordially,

Steve N. Wilson
Director

SNW:TC:jmc

SECTION VIII

PUBLIC INVOLVEMENT

Proof Of Publication

STONE COUNTY LEADER

Mountain View, Arkansas, Oct. 24 1983

I, James Holland, do solemnly swear that I am editor and publisher of the Stone County Leader, a weekly newspaper, published in the town of Mountain View, Stone County, Arkansas, and having a bona-fide circulation in said county, and do hereby certify that the notice attached hereto was published in said

Stone County Leader 1 weeks, i. e., beginning with the issue of October 20, 1983, and ending with the issue of October 20, 1983.

James Holland

(Printer's Fee, $ 12.48)

Subscribed and sworn to before me on this 24 day of October, 1983

Phyllis D Hammock
Notary Public

My Commission expires December, 1990.

NOTICE OF PUBLIC MEETING

The City of Mountain View, Arkansas will hold a public meeting at 7 p.m., on November 22, 1983 at the Mountain View City Hall. The subject will be the proposed classification of Hughes Creek and Lock Fork Creek, which flow into South Sylamore Creek in Stone County, Arkansas.

The proposed stream classification will utilize the Intermittent Stream Policy of the Arkansas Water Quality Standards, Regulation No. 2. The public is encouraged to attend this meeting.

Mayor Lona Ackerman,
Mountain View, Arkansas.
Published in the Leader
Oct. 20, 1983.

PUBLIC MEETING

MOUNTAIN VIEW, ARKANSAS

SUBJECT: PROPOSED CLASSIFICATION OF HUGHES & LICK FORK CREEK

SIGNATURE	ADDRESS
Tom Matheson	Mtn View, Ark.
James Dorrough	" "
Chester Dassance	" " " "
J.K. Williams	" " " "
Mildred Bennett	" " " "
Brenda Burroughs	" " " "
James Henderson	" " " "
Lawson Anderson	MCE; Little Rock, AR
Paul T Selig	" " " "

SUMMARY OF PUBLIC MEETING

HUGHES CREEK AND LICK FORK CREEK STREAM CLASSIFICATION

MOUNTAIN VIEW, ARKANSAS

November 22, 1983

The public meeting was held at 7:00 p.m., following a recess of the City Council meeting which began at 6:30 p.m. The only people in attendance were those who were already present for the City Council meeting - the Council members, the Recorder, and the Water and Sewer Superintendent, James Henderson. The Council meeting continued after the public meeting was adjourned.

Mr. Anderson: Explained purpose of meeting. Defined "intermittent" and "ephemeral" according to Regulation No. 2. Explained why classification of South Sylamore Creek applies to Hughes and Lick Fork Creeks at the present time and why the classification request is being made. Explained that, according to the Waste Load Allocation (WLA) Study conducted for the Arkansas Department of Pollution Control and Ecology (ADPCE), even the most stringent advanced waste treatment level of 5/5/2/5 (BOD, TSS, Ammonia-N, DO) would not be sufficient to maintain DO concentrations in Hughes Creek above the existing 6 mg/l standard. Stated that four other treatment levels were evaluated and, assuming that these creeks are classified as intermittent, the WLA Study indicated that a treatment level of 10/15/10/5 would not result in a violation of downstream water quality standards, including the 6 mg/l DO standard in South Sylamore Creek. Unless these creeks are classified as intermittent, Mountain View will not be able to produce wastewater of a high enough quality to prevent a violation of existing stream standards. Explained requirements for comments from Arkansas Health Department, Game and Fish Commission, and Geological Commission. Mentioned that ADPCE will hold a public hearing in Little Rock during latter part of January to discuss stream classification requests and other issues. Summarized situation - unless creeks are classified intermittent, a "zero discharge" recommendation is likely, which might require land application or building another plant at a different site with a different receiving stream. Does everyone understand or do I need to explain a little more? If anyone has any comments which they would like to go on the record, we would be glad to take them and include them in the report.

Mayor Ackerman: Soliciting comments one way or the other?

Mr. Anderson: Yes, it doesn't matter which way they go.

Mayor Ackerman: Do we need any action on the part of the Council saying that we recommend or do not recommend, of course you know we would recommend that they be classified as intermittent streams.

Mr. Anderson: You can do that.

Mr. Passmore: What that sounds like to me is the fact that you get so much pollution... that comes out of this plant when you get through treating it... that you're supposed to have so much water to wash it on downstream.

Mr. Henderson: What they're basically saying is that the standards that they set forth for your discharge or waste has to meet a certain limit. The way it's standing now, South Sylamore Creek is a Class A, Smallmouth Bass stream. They also consider Hughes Creek and Lick Fork Creek to be the same classification.

Mr. Anderson: Because they're not classified.

Mr. Passmore: What I'm saying, if these streams were running all the time, then they would approve this?

Mr. Henderson: Actually, what he's saying is that the plant could not meet (standards) if they were running all the time and were not intermittent streams, as I understand it.

Mr. Selig: No, that's not necessarily true. The way the capacity of the stream is measured is by the actual flow in the stream. Then you're dumping the water from the sewer plant in there and what you try to calculate is how much capacity the stream has to finish treating the water, if you may.

Mr. Passmore: Move it on?

Mr. Selig: Well no, it treats it as it runs down the stream. Streams are self-cleansing. The DO levels are based on the ability of fish to survive or spawn or whatever and 6 mg/l DO is the maximum. That's the highest limit that they set. That's the same for smallmouth or trout, and that's the level that they determined is required for them to spawn. It goes further down. I'm not sure if it's 3 mg/l or 4 mg/l for survival of fish. They have to have at least 3 or 4 mg/l to survive. And so, based on that there is no water in the stream except the sewage, then there is no way to maintain the DO. If there's no water, there's no fish is what it boils down to. If there were water, the sewage would mix with the stream and it would assimilate more sewage.

Mr. Passmore: In other words, the old theory that it runs over so many rocks for so long it purifies it?

Mr. Anderson: It aerates it. When you put the sewage in there, you have to maintain a certain DO level. When you put the sewage in, that's where the BOD is, Biochemical Oxygen Demand. There are organics in the sewage discharge and as they're digested by organisms in the water the oxygen is used up to a certain point. There're trying to stay above a certain (DO) level. Hughes Creek and Lick Fork, since they are not classified yet, or at all, have to maintain the same standard that South

Sylamore Creek does, and that is a high level of 6 mg/l because of the smallmouth fishery. So, if they were classified as intermittent, and they are intermittent, you wouldn't have to meet as high a limit, and by the time it gets to the South Sylamore, according to this study, it will have recovered enough that it won't affect the fishery or anything in the South Sylamore.

Mr. Henderson: We are asking for it to be reclassified, but who actually reclassifies that creek.

Mr. Anderson: Pollution Control and Ecology. It's not really being reclassified. It never was classified. There are a lot of streams in Arkansas that are not classified at all. Under the law, Regulation No. 2, they take on (the classification) of the first stream down that is classified, even though they may not resemble each other in any way.

Mayor Ackerman: Sylamore Creek is classified. These two creeks are not classified. To me, it looks like it's just as simple as this, if you don't have water out there half the year, you're not likely to have fish of any consequence. Of course, the pollution that might come out of there at times might do something on downstream.

Ms. Bennett: If we classify it, will they take it as classified by us doing it, or do they come back and do it themselves?

Mr. Selig: The City of Mountain View is requesting that the streams be classified intermittent. Pollution Control actually makes the final decision.

Ms. Bennett: I see.

Mr. Anderson: These three agencies I mentioned will give their comments. Pollution Control can override them, but they're not likely to. There're going to try to answer their questions and satisfy them. Because they are their concerns, too. If these other agencies raise some concern, they're going to look into it. But, it does come down to Pollution Control.

Mr. Henderson: Is their any problem with reclassifying these two and then going ahead and running into South Sylamore?

Mr. Anderson: That's what this WLA Study was done for several years ago, as to what effect it was going to have downstream. Is that what your're asking, is it going to affect the South Sylamore? That's why they tested five levels of treatment, to see which one would be the minimum level and still not have an adverse effect downstream. According to the study, 10/15/10/5 will not have that adverse effect on the South Sylamore. In other words, you can still stay above 1 mg/l in Hughes and Lick Fork, and then by the time it gets to South Sylamore, it's run over the rocks and picked up air from the atmosphere and reoxygenated so that it meets the South Sylamore standard of 6 mg/l by the time it gets there.

Mr. Dommert: Is this figured on the amount of waste that is treated?

Mr. Anderson: What they did was take a worst case situation, where there was no flow in Hughes, or just a very minimal amount for the computer model, basically no flow. So that what you've got going down the stream is treated wastewater. By the time it gets that far, however many miles it is, I think it's about two miles for each stream, it has recovered and reaerated so that it doesn't violate the South Sylamore standard. Because that will remain the same regardless, 6 mg/l in the South Sylamore.

Mr. Passmore: Looks to me like what's going to happen, if they don't reclassify this then we're in trouble on our sewer system.

Mr. Anderson: Exactly.

Mayor Ackerman: Do we need to make a statement as a body or do we need a motion?

Mr. Anderson: Just a statement, as citizens or as the City Council.

Mayor Ackerman: We would like to make a statement as the City Council that we do favor these two streams be classified as intermittent streams. I'm sure that's unanimous among everyone here (everyone agrees).

Mr. Selig: Just the fact that you're going through the procedure is a statement that you're in favor. We really didn't have any comments, just questions. We'll summarize what was said and attach it to the report, then send it up here to you.

Mr. Anderson: Explained what happens to application after it is turned in to ADPCE - review, public hearing, EPA, etc. Also, informed those present of Health Department's concern about fecal coliform in South Sylamore Creek and that they were satisfied when they learned that the treatment would be advanced and would include chlorination, with the condition that the discharge meet the fecal coliform limits for a Class AA stream. Also, informed Council of concerns raised by the Game and Fish Commission and that this problem was being worked on.

The meeting was adjourned and the City Council meeting reconvened. A tape recording was made of the meeting and will be kept on file at McClelland Consulting Engineers, Inc.

1-6-84
#9

McCLELLAND CONSULTING ENGINEERS INC.

Environmental and Materials Testing
Civil, Environmental and Chemical Engineering Consulting

LITTLE ROCK
JAMES E. McCLELLAND, P.E.
FRED NIELSEN, R.L.S.

FAYETTEVILLE
J.E. McCLELLAND, P.E.
VERNON D. ROWE, P.E.

January 6, 1984

Mr. Jim Shell
Chief, Water Division
Arkansas Department of Pollution
Control and Ecology
8001 National Drive
Little Rock, AR 72009

Dear Mr. Shell:

Enclosed, you will find a copy of the Procedure for Implementation of the Intermittent Stream Policy for Hughes Creek and Lick Fork Creek near Mountain View, Arkansas. I have also enclosed a copy of the related Waste Load Allocation Study.

If you have any questions or need additional information, please contact me.

Sincerely,

McCLELLAND CONSULTING ENGINEERS, INC.

Lawson Anderson

Lawson Anderson
Environmental Specialist

LA/ncm

Enclosures

900 W. MARKHAM LITTLE ROCK, ARKANSAS 72201-1999 TELEPHONE (501) 371-0272/378-7808

your file copy

STATE OF ARKANSAS
DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY
8001 NATIONAL DRIVE, P.O. BOX 9583
LITTLE ROCK, ARKANSAS 72209

PHONE: (501) 562-7444

January 11, 1984

Mr. Tommie Crawford
Arkansas Game and Fish Commission
#2 Natural Resources Drive
Little Rock, Arkansas 72205

Dear Tommie:

We have been reviewing the Mountain View Wasteload Allocation Study in response to your 11-10-83 letter to Mr. Lawson Anderson of McClelland Consulting Engineers. We have provided the following comments in an attempt to alleviate your valid concerns regarding Hughes, Lick Fork and South Sylamore Creeks.

We agree that the critical temperature used in the model (23.9°C) is to low for these streams, however, according to the sensitivity analyses done in the report the dissolved oxygen in Lick Fork Creek will remain above 6 mg/l even with a 4 degree increase in temperature during critical conditions with a 10-15-2-5 ($CBOD_5$-TSS-NH_3-D.O.) effluent. Therefore, we are recommending this value as the required effluent limit.

Assuming an increase in flow and velocity during the spawning period, we used a reaeration rate based on stream slope which indicated that the general standard of 6 mg/l D.O. would be met in Hughes and Lick Fork Creeks during this time (when stream temperatures are 20°C or lower). These spawning period runs utilize seasonal limits of 10-15-10-6.

The predicted D.O. values for South Sylamore Creek appear to be in error in the report. An 80% stauration value at 23.9°C gives a D.O. of 6.8 mg/l. In any event, if our recommended limits (10-15-2-5) are used for the project, then the dissolved oxygen levels in South Sylamore Creek will not be reduced below the existing standard of 6 mg/l.

Based on the 10-15-2-5 treatment level, only Hughes Creek will be necessary to be declared intermittent. Both Lick Fork and South Sylamore Creeks will retain the existing standard.

We hope these comments have provided useful information towards alleviating the concerns that exist with this project. If we can be of further assistance. please contact us.

Sincerely,

Bob Singleton

Bob Singleton
Engineer II
Water Division

BS/kw

cc: McClelland Consulting Engineers, Inc.
Mayor Lona Ackerman, City of Mountain View, Arkansas
Mr. Larry Wilson, ADPC&E