

## Changes to Technical Support Document – September 2015

### ***Technical Support Document for Total Maximum Daily Loads for Indicator Bacteria in Lake Houston, East Fork San Jacinto River, West Fork San Jacinto River, and Crystal Creek Watersheds***

Dr. Larry Hauck and his team at the Texas Institute for Applied Environmental Research at Tarleton State University performed the technical analyses used in developing the load allocations for this project. They had completed the technical support document (“TSD”; the document used to create the TMDL document that will be submitted for adoption by the TCEQ and approval by EPA) over a year ago. Rapid growth in this project’s watershed means that changes to the list of facilities with discharge permits occur regularly, and this affects the allocations in the TMDL. So, we asked Dr. Hauck to update the TSD using the most recent permit information. That was completed on 9/15/15 and was posted to the TCEQ website at the following link:

[https://www.tceq.texas.gov/assets/public/waterquality/tmdl/82sanjacinto/82-sanjac\\_tsd\\_2015.pdf](https://www.tceq.texas.gov/assets/public/waterquality/tmdl/82sanjacinto/82-sanjac_tsd_2015.pdf)

In the previous version of the TSD, we listed 52 permitted dischargers, of which 46 have a human waste component and were considered in the development of the TMDL allocations. The new version lists 60 permitted dischargers, of which 53 have a human waste component. There are 11 new permitted facilities, while three permits were canceled, leading to the overall increase by eight. Also, three permits were amended (two to increase their total discharge, and one to decrease its discharge). In addition to the obvious changes to sections of the text, tables, and maps that give information about permitted facilities, the discharge totals for each assessment unit (AU) were also used in creating the load duration curves as well as developing various parts of the TMDL equation. The following tables summarize this by presenting the final TMDL allocations presented in the original TSD and the updated table from the revised TSD.

Original TMDL Allocations (All loads expressed as billion MPN/day)

<b>AU</b>	<b>TMDL</b>	<b>WLA<sub>WWTF</sub></b>	<b>WLA<sub>SW</sub></b>	<b>LA<sub>TOTAL</sub></b>	<b>MOS</b>
1002_06	6,232	191.1	301.0	5,629	110.5
1003_01	857.0	5.36	1.75	807.0	42.85
1003_02	722.8	4.36	1.19	681.1	36.14
1003_03	203.3	0.27	0.11	192.8	10.17
1004_01	2,765	185.8	196.1	2,295	88.09
1004_02	1,140	93.34	4.03	1,034	9.07
1004D_01	135.7	9.67	18.72	100.5	6.78

New TMDL Allocations (All loads expressed as billion MPN/day)

<b>AU</b>	<b>TMDL</b>	<b>WLA<sub>WWTF</sub></b>	<b>WLA<sub>SW</sub></b>	<b>LA<sub>TOTAL</sub></b>	<b>MOS</b>
1002_06	6,197	200.96	288.17	5,601.30	106.57
1003_01	866.4	11.52	1.75	809.81	43.32
1003_02	722.8	4.36	1.19	681.11	36.14
1003_03	203.3	0.270	0.108	192.752	10.170
1004_01	2,779	195.64	196.82	2,297.77	88.77
1004_02	1,141	93.88	4.04	1,033.96	9.12
1004D_01	137.8	11.20	18.79	100.92	6.89

Note that the numbers in four of the AUs (1003\_01, 1004\_01, 1004\_02, and 1004D\_01) increased as a result of the greater total discharge to them (or to upstream AUs). Two remained the same (1003\_02 and 1003\_03) as there were no changes to the dischargers in those AUs. AU 1002\_06 also had no changes to its dischargers, but Dr. Hauck found an error in the original calculations, and corrected it in this version. This led to a slight decrease in the overall allocation numbers for this AU.

Mr. Ron Stein, Program Lead  
Total Maximum Daily Load Program  
Texas Commission on Environmental Quality  
MC-203  
P.O. Box 13087  
Austin, TX 78711-3087

Subject: Letter of Support from the East and West Fork of the San Jacinto River (EWFSJR) TMDL Plan Coordination Committee for the Inclusion of EWFSJR Watersheds with the BIG Project Area

Dear Mr. Stein,

The EWFSJR Plan Coordination Committee (Coordination Committee) requests TCEQ allow the committee to join the Bacteria Implementation Group (BIG). In merging with the BIG, the Coordination Committee satisfies the requirement to develop an implementation plan to achieve bacteria reductions in the EWFSJR watersheds. The BIG's Bacteria Implementation Plan (I-Plan) was developed by local and regional stakeholders to achieve the water quality standard for contact recreation in the region's bayous and tributaries.

The EWFSJR Plan process was initiated in July 2013 with three public meetings. A coordination committee representing the region's cities, counties and political subdivisions, and private sector agriculture/business, non-profits and citizens was formed April 29, 2014. The committee designated seven technical workgroups to meet and review the draft TMDL Technical Support Document and excerpts of TCEQ approved implementation plans and to consider the question of whether to join the BIG, implementing the I-Plan, or to develop a standalone implementation plan for their watersheds. The coordination committee deliberated on the recommendations of the technical workgroups October 1, 2014 and voted unanimously to join the BIG. In an effort to encourage implementation and acquaint watershed stakeholders with the I-Plan, the Coordination Committee approached other entities, and their letters of support are attached to this letter.

Coordination Committee members found that geographic factors, common stakeholders, similar bacteria source concerns, cost efficiencies, and the desire to initiate implementation were reasons to support joining the BIG. EWFSJR watersheds lay adjacent to the BIG Project Area and a portion of the Lake Houston watershed, including Caney Creek and Peach Creek in between the East Fork and the West Fork, currently reside within the BIG Project Area. Several of the jurisdictions on the Coordination Committee are already affected by the BIG as those jurisdictions include other watersheds in the BIG Project Area. Additionally, the Coordination Committee found that it shares common types of bacteria sources with the BIG, including: waste water treatment facilities; on-site sewage facilities; stormwater management; and residential sources, which were adequately addressed in the I-Plan. The Coordination Committee found joining the BIG presents an opportunity to conserve costs while allowing for a shorter timeframe to initiate implementation of the I-Plan.

The Coordination Committee noted during this planning process that the EWFSJR watersheds are in a unique region. Specifically, EWFSJR watersheds will bring to the BIG large areas of undeveloped land used extensively for agricultural and silvicultural production. The Coordination Committee will recommend in its petition to join the BIG, that the BIG consider the following modifications to the I-Plan or implementation planning process:

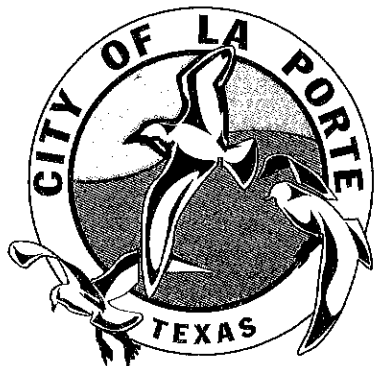
- 1) Continue EWFSJR Coordination Committee
- 2) Address a lack of representation on the BIG from undeveloped areas, including local governments, rural agencies, and agriculture producers,
- 3) Address a lack of monitoring data from undeveloped areas,
- 4) Encourage a broader more unified region-wide educational and environmental awareness campaign concerning bacteria and the BIG, and
- 5) Encourage implementation practices for commercial, residential and governmental/institutional developments which address bacteria impacts by restoring impaired watersheds and preventing future impairments due to new development.
- 6) Encourage increased enforcement of current local and state environmental laws.

Thank you for the opportunity to work together on improving water quality in the region.

Sincerely,

[Signatures]

The East and West Fork of the San Jacinto TMDL Coordination Committee



# City of La Porte

*Established 1892*

Mr. Ron Stein, Program Lead  
Total Maximum Daily Load Program  
Texas Commission on Environmental Quality  
MC-203  
P.O. Box 13087  
Austin, TX 78711-3087

March 17, 2014

Subject: Letter of Support from the Armand Bayou Implementation Plan Coordination Committee for Armand Bayou to Join the Bacteria Implementation Group

Dear Mr. Stein,

The Armand Bayou Implementation Plan Coordination Committee (Coordination Committee) asks to join the Bacteria Implementation Group (BIG) in order to satisfy the requirements of an Implementation Plan (I-Plan) for bacteria in the Armand Bayou watershed. This I-Plan is the effort made to achieve the water quality standard for contact recreation in the bayou (Segment 1113).

The Armand Bayou I-Plan process started in January 2013 when the Coordination Committee was formed to represent the jurisdictions, agencies, and other entities that are stakeholders in the watershed. The Coordination Committee formed work groups to review the BIG document and applicable data from the University of Houston technical study. After a few months of deliberation, the Coordination Committee voted in August to request to join the BIG. Coordination Committee members were present at the BIG semi-annual meeting in October to request to join the BIG after the technical presentation to the BIG.

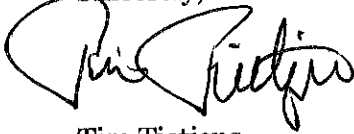
Representatives from all cities and counties and political jurisdictions in the Armand Bayou watershed were invited to meetings and are represented on the Coordination Committee. Several of the jurisdictions were already affected by the BIG as they include other watersheds already included in the BIG area and are members of the Joint Task Force.

The Coordination Committee has reviewed the BIG I-Plan and understands that it can be used as a menu of potential implementation measures as applicable for their watershed. The Armand

Bayou Watershed is a unique area in the region. It has more natural areas than the surrounding region, is inhabited by more wildlife and used more heavily for recreation; there is also less development than is typical throughout the region. Therefore, the watershed will use the measures from the BIG I-Plan that address these unique characteristics.

Thank you for the opportunity to work together on improving water quality in Armand Bayou.

Sincerely,

A handwritten signature in black ink, appearing to read "Tim Tietjens". The signature is fluid and cursive, with the first name "Tim" being larger and more prominent than the last name "Tietjens".

Tim Tietjens

Director of Planning

The Armand Bayou Implementation Plan Coordination Committee Representative

Implementation Plan for One TMDL for Bacteria in Gilleland Creek

TRANSPORTATION AND NATURAL RESOURCES  
JOSEPH P. GIESELMAN, EXECUTIVE MANAGER  
NATURAL RESOURCES & ENVIRONMENTAL QUALITY



411 West 13th Street  
Executive Office Building  
PO Box 1748  
Austin, Texas 78767  
(512) 854-9383  
FAX (512) 854-4697

September 21, 2010

Dear Ms. Ross:

The purpose of this letter is to express support and pledge our participation in the Gilleland Creek Implementation Plan. Travis County is committed to the reduction of bacteria concentrations in the Gilleland Creek watershed through the approach outlined in the Gilleland Creek Implementation Plan.

Travis County understands the Gilleland Creek Implementation Plan document is a planning tool that contains feasible proposals for bacteria reduction in the Gilleland Creek watershed, that participation in the plan is strictly voluntary, and that, if funding cannot be secured for any of the measures contained in the plan, there is not a legal obligation to comply with the provisions of the plan. Travis County also understands that under 30 TAC §309.2(b), the TCEQ has the legal authority to set effluent criteria stringent enough to protect contact recreation in Gilleland Creek if voluntary measures do not result in the achievement of Water Quality Standards in Gilleland Creek.

As a formal measure of the support of Travis County, please accept the enclosed resolution, passed unanimously (4 – 0) on this date by the Commissioners Court.

Sincerely,

A handwritten signature in cursive script that reads "Thomas W. Weber".

Thomas W. Weber  
Environmental Quality Program Manager  
Transportation & Natural Resources Department  
[Thomas.Weber@co.travis.tx.us](mailto:Thomas.Weber@co.travis.tx.us)

Enclosure

Travis County Commissioners Court



# Resolution

WHEREAS, Gilleland Creek is a significant, 31-mile long water course in Eastern Travis County with a drainage area of 76 square miles;

WHEREAS, in 2004, the Texas Commission on Environmental Quality (TCEQ) and the U.S. Environmental Protection Agency (EPA) determined that Gilleland Creek no longer met standards of water quality deemed safe for contact recreation such as swimming, due to elevated levels of coliform bacteria;

WHEREAS, on April 21, 2009, the EPA approved a Total Maximum Daily Load (TMDL) that establishes pollutant loads of bacteria which can be assimilated into Gilleland Creek while still meeting water quality standards;

WHEREAS, the established TMDL will require reductions to existing pollutant loads into Gilleland Creek to meet water quality standards;

WHEREAS, Travis County staff has worked with the TCEQ and local stakeholders to develop a TMDL Implementation Plan (I-Plan) that includes strategies for eliminating or reducing pollutant sources;

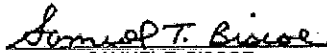
WHEREAS, Travis County staff is committed to prioritizing inspections of on-site sewerage facilities (OSSFs) in the Gilleland Creek watershed where the County is the Authorized Agent, and enforcing compliance with regulations when malfunctioning OSSFs are detected;

WHEREAS, Travis County staff is developing revisions to the Travis County Code that, if approved, would harmonize development requirements of the overlapping jurisdictions in the Gilleland Creek watershed and would implement restrictions that would include development setbacks and further storm water treatment; and

WHEREAS, on August 27, 2010, the TCEQ published the proposed Gilleland Creek TMDL I-Plan seeking public input, before considering formal adoption of the I-Plan.


NOW, THEREFORE, BE IT RESOLVED BY THE TRAVIS COUNTY COMMISSIONERS COURT, THAT the Court supports the August 27, 2010, Gilleland Creek Implementation Plan and pledges its participation to implement the strategies identified in the I-Plan.

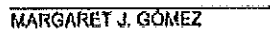
SIGNED AND ENTERED THIS 21<sup>st</sup> DAY OF SEPTEMBER, 2010.

  
SAMUEL T. BISCOE  
COUNTY JUDGE

  
RON DAVIS  
COMMISSIONER, PRECINCT 1

  
SARAH ECKHARDT  
COMMISSIONER, PRECINCT 2

  
KAREN L. HUBER  
COMMISSIONER, PRECINCT 3

  
MARGARET J. GÓMEZ  
COMMISSIONER, PRECINCT 4



Implementation Plan for One TMDL for Bacteria in Gilleland Creek



September 23, 2010

Mr. Ron Stein  
TMDL Project Manager  
Texas Commission on Environmental Quality, MC-203  
P.O. Box 13087  
Austin, TX 78711-3087

Re: Gilleland Creek Implementation Plan

Dear Mr. Stein:

As a steward of the lower Colorado River and its tributaries, the Lower Colorado River Authority (LCRA) extends our support and pledges participation in the proposed Gilleland Creek Implementation Plan to reduce bacteria concentrations identified by the Gilleland Creek Total Maximum Daily Load (TMDL) process. LCRA actively participated in the development of the TMDL for Gilleland Creek, and is committed to assisting with the proposed recommendations of the Implementation Plan to restore water quality in this tributary to the Colorado River.

LCRA understands that implementation of proposed measures in the plan is dependent upon available funding and LCRA is under no legal or financial obligation to comply with the provisions therein. However, LCRA appreciates the efforts and planning that have been put forth thus far and recognizes the importance of restoring water quality in Gilleland Creek. LCRA welcomes the opportunity to participate and utilize any of our existing Water Quality programs that may be of use to the implementation process.

Sincerely,

A handwritten signature in black ink that reads "Bryan Cook". The signature is written in a cursive, slightly slanted style.

Bryan Cook, Supervisor  
Water Quality



## City of Austin

Austin Water Utility & Watershed Protection Department  
P.O. Box 1088, Austin, Texas 78767

September 24, 2010

Mr. Ron Stein, Program Lead  
Total Maximum Daily Load Program  
Texas Commission on Environmental Quality  
MC-203  
P.O. Box 13087  
Austin, TX 78711-3087

Subject: Letter of Support for the Gilleland Creek TMDL Implementation Plan

Dear Mr. Stein:

On behalf of the City of Austin, we would like to thank you for the opportunity to show our support for the Gilleland Creek TMDL Implementation Plan. As you know, protection of our water resources is a high priority for the City of Austin and its citizens.

The plan contains six management measures that when put into action may help lower the amount of bacteria in Gilleland Creek. Through this letter, we want to express our commitment to help implement those measures. We recognize that the measures are voluntary and not legally binding on the City, especially where insufficient funding or resources would prohibit their implementation. We also recognize – should the voluntary measures alone fall short of lowering bacteria, that 30 TAC §309.2(b) authorizes the TCEQ to establish effluent criteria to supplement the measures and help to achieve the contact recreation standard for Gilleland Creek.

Thank you again for the opportunity to show our support for the Gilleland Creek TMDL Implementation Plan.

Sincerely,

Handwritten signature of Greg Meszaros.

Greg Meszaros, Director  
Austin Water Utility

Handwritten signature of Victoria Li.

Victoria Li, Director  
Watershed Protection Department

*The City of Austin is committed to compliance with the Americans with Disabilities Act. Reasonable modifications and equal access to communications will be provided upon request.*