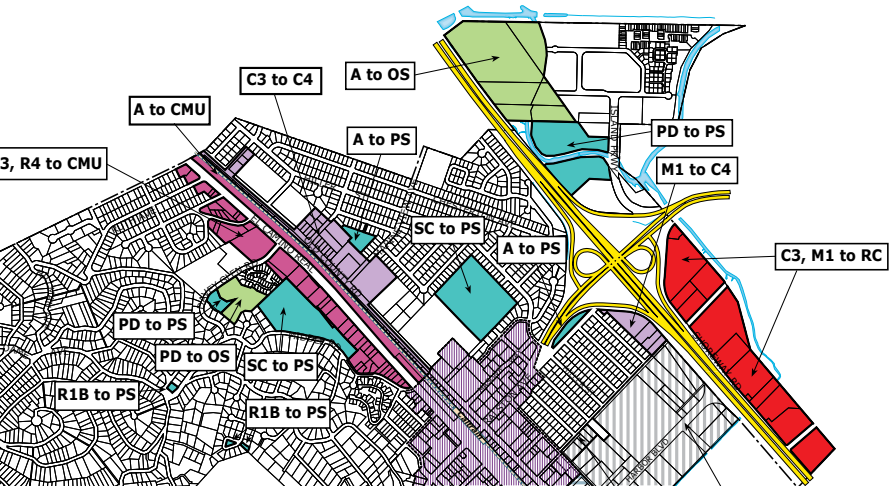

CITY OF BELMONT

General Plan, Phase I Zoning, Belmont Village Specific Plan, and Climate Action Plan

Final Environmental Impact Report

SCH #2016082075

September 28, 2017

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1 Introduction

This Program Final Environmental Impact Report (EIR) has been prepared by the City of Belmont in accordance with the California Environmental Quality Act (CEQA). The City of Belmont is the lead agency responsible for ensuring that the proposed City of Belmont General Plan, Belmont Village Specific Plan & Village Zoning (BVSP), Phase I Zoning, and Climate Action Plan (CAP) comply with CEQA.

1.1 Purpose

The Final EIR includes the Draft EIR and this document, which includes:

- Comments and responses to comments on the Draft EIR
- Corrections and clarifications to the Draft EIR
- Corrections to the Proposed Project (Draft General Plan, Draft Belmont Village Specific Plan & Village Zoning, Draft Phase I Zoning Regulations, and Draft Climate Action Plan) that result from changes to the Draft EIR

It is intended to disclose to City of Belmont decision makers, responsible agencies, organizations, and the general public, the potential impacts of implementing the draft General Plan, draft Belmont Village Specific Plan, draft Phase I Zoning Regulations, and draft Climate Action Plan (collectively referred to as the "Proposed Project" and described in Chapter 3 of the Draft EIR). This program level analysis addresses potential impacts of activities associated with implementation of the Proposed Project, which is described in Chapter 3: Project Description, of the Draft EIR.

The primary purpose of the Final EIR is to revise and refine the environmental analysis in the Draft EIR, published June 30, 2017, in response to comments received during the public review period. The review period for the Draft EIR (State Clearinghouse No. 2016082075) ran for 50 days, from Friday, June 30, 2017 to Friday, August 18, 2017.

This document, combined with the Draft EIR, constitutes the Final EIR on the project. This Final EIR amends and incorporates by reference the Draft EIR, which, along with the City of Belmont draft General Plan, draft BVSP, Phase I Zoning, and draft CAP are available at the following links:

- http://www.belmont-2035generalplan.com
- http://www.planbelmontvillage.com
- http://www.belmont.gov/ClimateActionPlan

1.2 CEQA Process

Upon publication of the Final EIR, the Planning Commission and City Council will hold public hearings to certify the EIR and to consider adoption of the draft General Plan, draft BVSP, draft Phase I Zoning Regulations, and draft CAP. Before the City Council may approve the various discretionary actions needed on the Proposed Project, it must independently review and consider the information contained in the Final EIR, certifying that the Final EIR adequately discloses the environmental effects of the Proposed Project, that the Final EIR has been completed in conformance with CEQA, and that the decision-making body of the Lead Agency independently reviewed and considered the information contained in the Final EIR. Certification of the Final EIR would indicate the city's determination that the Final EIR adequately evaluates the environmental impacts that could be associated with the Proposed Project.

For impacts identified in the EIR that cannot be reduced to a level that is less than significant, the City must make findings and prepare a Statement of Overriding Considerations for approval of the Project if specific social, economic, or other factors justify the Proposed Project's unavoidable adverse environmental effects.

If the City decides to approve the Proposed Project for which the Final EIR has been prepared, it will issue a Notice of Determination.

The City of Belmont has prepared this document pursuant to CEQA Guidelines Section 15132, which specifies that the Final EIR shall consist of:

- The Draft EIR or a revision of the Draft
- A list of persons, organizations, and public agencies commenting on the Draft EIR
- Comments and recommendations received on the Draft EIR
- The response of the Lead Agency to significant environmental points raised in the review process
- Any other information added by the Lead Agency

This Final EIR incorporates comments from public agencies and the general public. It also contains the Lead Agency's responses to those comments. Copies of the Final EIR have been provided to agencies and other parties that commented on the Draft EIR or have requested the Final EIR.

The Final EIR is also available online at: http://www.belmont-2035generalplan.com/library.html.

1.3 New Information in the Final EIR

If *significant new information* is added to an EIR after notice of public review has been given, but before final certification of the EIR, the Lead Agency must issue a new notice and recirculate the EIR for further comments and consultation. Significant new information is that which discloses:

- A new significant environmental impact would result from the project or from a new mitigation measure proposed to be implemented;
- A substantial increase in the severity of an environmental impact would result unless mitigation measures are adopted that reduce the impact to a level of insignificance;
- A feasible project alternative or mitigation measure considerably different from others previously analyzed would clearly lessen the significant environmental impacts of the project, but the project's proponents decline to adopt it; or
- The Draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded.

Corrections or clarifications to the Draft EIR identified in this document do not constitute *significant new information* pursuant to Section 15088.5 of the CEQA Guidelines; this new information merely clarifies and makes insignificant changes to an adequate EIR.

Information presented in the Draft EIR and this document support this determination.

1.4 Organization

This document contains the following components:

- **Chapter 2** lists all of the agencies, organizations and individuals that submitted written comments on the Draft EIR; reproduces all comments, and provides a unique number for each comment in the page margin.
- **Chapter 3** provides numbered responses to comments.
- **Chapter 4** lists revisions to the Draft EIR by chapter and page, in the same order as the revisions would appear in the Draft EIR.
- **Chapter 5** lists revisions to the Proposed Project that directly result from or relate to changes to the Draft EIR.

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2 Comments on the Draft EIR

This chapter contains copies of the comment letters received on the Draft EIR. A total of 23 comment letters and emails were received during the 50-day comment period. In addition, a meeting of the City of Belmont Planning Commission was held on August 15, 2017 (during the comment period) for the purpose of allowing members of the public to provide oral comments on the Draft EIR. A total of 10 members of the public provided comments at this meeting. Oral comments were also received from one regional agency on a different occasion. This chapter also includes a letter from the State Clearinghouse acknowledging the City's compliance with State Clearinghouse review requirements pursuant to CEQA and stating which comments were submitted by State agencies.

Each letter is identified by a designator (e.g. "Letter A1"). Specific comments within each letter are identified by a designator in the page margin that reflects the sequence of the specific comment within the correspondence (e.g. "A1-1" for the first comment in Letter A1). Comments and responses to comments are organized by Public Agency comments and responses (section A), Organization and Individual comments and responses (section B), and Oral comments and responses (section C). Within each category, comments are listed in the order in which they were received.

Responses to comments are found in Chapter 3 of this Final EIR. Responses focus on comments that raise important environmental issues or pertain to the adequacy of analysis in the Draft EIR or to other aspects pertinent to the potential effects of the Proposed Project on the environment pursuant to CEQA. Comments that address policy issues, opinions or other topics beyond the purview of the Draft EIR or CEQA are noted as such for the public record. Where comments are on the merits of the Proposed Project rather than on the Draft EIR, these are also noted in the responses. Where appropriate, the information and/or revisions suggested in the comment letters have been incorporated into the Final EIR. These revisions are included in Chapter 4 (EIR revisions) and Chapter 5 (Proposed Project revisions) of this Final EIR.

Comments received are listed in Table 2-1.

Table 2-1 Comments Received on the Draft EIR

Comment #	*Date*	*Commenter*	*Agency/Organization*
Agencies (Federal, State Regional, Local) (A)			
A1	July 7, 2017	Tammy Rudock, General Manager	Mid-Peninsula Water District
A2	July 18, 2017	J. E. Allen, Captain	Department of California Highway Patrol
A3	August 14, 2017	Teresa Herrera, PE, Assistant Manager, Chief	Silicon Valley Clean Water

Table 2-1 Comments Received on the Draft EIR

Comment #	*Date*	*Commenter*	*Agency/Organization*
		Engineering Officer	
A4	August 18, 2017	Patricia Maurice, District Branch Chief	Department of Transportation
A5	August 21, 2017	Scott Morgan, Director	State Clearinghouse and Planning Unit, Governor's Office of Planning and Research
Organizations/Individuals (B)			
B1	June 30, 2017	Kevin Burke	
B2	July 7, 2017	Tim O'Brien	
B3	July 7, 2017	Josh Powell	
B4	July 9, 2017	Eric Moyer	
B5	July 26, 2017	Mark Cerqueira	
B6	July 29, 2017	Kevin Burke	
B7	August 1, 2017	Coralin Feierbach	
B8	August 1, 2017	Kristin Mercer	
B9	August 3, 2017	Kristin Mercer	
B10	August 11, 2017	Kevin Burke	
B11	August 14, 2017	Kristin Mercer	
B12	August 14, 2017	Kristin Mercer	
B13	August 15, 2017	Adina Levin	Friends of Caltrain
B14	August 15, 2017	Corey Smith	San Francisco Housing Action Coalition
B15	August 16, 2017	Mark and Etta Herbach	
B16	August 17, 2017	Jo Ann Arneson	
B17	August 17, 2017	Diane Bailey	
B18	August 17, 2017	Jeff Marshall	
Oral Comments (C)			
C1	August 15, 2017	Kevin Burke	
C2	August 15, 2017	Jo Ann Arneson	
C3	August 15, 2017	Sam Van	
C4	August 15, 2017	Sarah Feldman	
C5	August 15, 2017	Annette Garcia	
C6	August 15, 2017	Tori Park	
C7	August 15, 2017	Mohammed Mohi-Uddin	
C8	August 15, 2017	Diane Bailey	
C9	August 15, 2017	Alan Sarver	
C10	August 15, 2017	Mary Morrissey Parden	Belmont Chamber of Commerce

Table 2-1 Comments Received on the Draft EIR

Comment #	*Date*	*Commenter*	*Agency/Organization*
C11	August 16, 2017	Christy Riviere, Allison Kirk	BAAQMD

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From: Tammy Rudock [mailto:TammyR@midpeninsulawater.org]

Sent: Monday, July 17, 2017 11:42 AMTo: Carlos de Melo <cdemelo@belmont.gov>

Cc: Brent Chester <brentc@midpeninsulawater.org>; Jeanette Kalabolas <jeanettek@midpeninsulawater.org>; Rene Ramirez <rramirez@midpeninsulawater.org>; Candy Pina <candyp@midpeninsulawater.org>

Subject: Belmont DRAFT GP & EIR - MPWD Comments

Hi, Carlos.

I have reviewed the relevant sections of the referenced draft documents with regard to the MPWD and water supply and provide the following comments:

1. EIR - Figure 4.13-1: Existing Water System in the Planning Area - the facilities labeled COUNTY WATER DISTRICT should be labeled MPWD. A1-1

2. GP - Conservation Element, page 5-14: WATER SUPPLY AND DEMAND - it should reference that the MPWD prepared its UWMP in 2015, rather than 2010 (which is outdated). A1-2

3. GP - Conservation Element, page 5-15: Figure 5-6: POTABLE WATER FACILITIES - the facilities labeled COUNTY WATER DISTRICT should be labeled MPWD. A1-3

4. GP - Conservation Element, page 5-17: Table 5-4 is from the 2010 UWMP and is outdated and should be replaced with 2015 UWMP data found on page 22 of the Appendices (Tables 7-F, 8, and 9). Also the BASELINE WATER CONSERVATION information is outdated and should be replaced with 2015 UWMP data found in Sections 5.6 and 5.7 on page 29 and Table 5-1. A1-4

Please let me know if the consultant needs further clarification, and we appreciate the opportunity to provide feedback.

Tammy Rudock General Manager

3 Dairy LanePost Office Box 129 Belmont, CA 94002

(650) 591-8941 www.midpeninsulawater.org<http://www.midpeninsulawater.org/>

SUSTAINABLE WATER FOR FUTURE GENERATIONS

2016082075

State of California—Transportation Agency

EDMUND G. BROWN Jr., Governor

DEPARTMENT OF CALIFORNIA HIGHWAY PATROL
Redwood City Area
355 Convention Way
650-369-6261
(800) 735-2929 (TT/TDD)
(800) 735-2922 (Voice)

CCEAR
8-18-17

July 18, 2017

File No.: 330.12899.A14321.17-237

Governor's Office of Planning & Research
JUL 21 2017
STATE CLEARINGHOUSE

State Clearinghouse
1400 Tenth Street, Room 121
Sacramento, CA 95814

The Redwood City Area of the California Highway Patrol recently received a "Notice of Completion" Environmental Impact Report for the proposed Belmont General Plan, Belmont Village Specific Plan, Climate Action Plan, and Phase I Zoning, State Clearing House (SCH) #2016082075. After our review, we have concerns with the potential impact this project could have on traffic congestion.

Our concerns relate to the proposed increase of 1,500 households and 3,300 new jobs in this project. The project is located in close proximity to U.S. 101, which is a major arterial route that connects San Francisco to San Jose along with serving the Peninsula communities in-between. San Mateo County has experienced an incredible amount of growth within the last few years in both population and employment. This particular project will have a negative impact on our operations due to the increased traffic congestion, which could lead to a potential increase in traffic collisions within our jurisdiction. It will also cause additional enforcement demands and have a negative impact on emergency response times in an already severely impacted area.

A2-1

A2-2

Should you need additional information or assistance, please feel free to contact Lieutenant J. Holeman at (650) 369-6261.

Sincerely,

For

J. E. ALLEN, Captain
Commander
Redwood City Area

cc: Special Projects Section

SILICON VALLEY CLEAN WATER
JOINT POWERS AUTHORITY ~ A PUBLIC ENTITY

SVCW

1400 RADIO ROAD
REDWOOD CITY, CALIFORNIA 94065
650.591.7121 | FAX: 650.591.7122
WWW.SVCW.ORG

CITY OF SAN CARLOS | CITY OF REDWOOD CITY | CITY OF BELMONT | WEST BAY SANITARY DISTRICT

August 14, 2017

Carlos de Melo, Community Development Director
City of Belmont
One Twin Pines Lane, Suite 310
Belmont, CA 94002

Subject: Draft Environmental Impact Report for the 2035 General Plan, Phase 1 Zoning, Belmont Village Specific Plan, and Climate Action Plan

Dear Mr. de Melo,

Thank you for the opportunity to comment on the Draft Environmental Impact Report (DEIR). Silicon Valley Clean Water (SVCW) is a Joint Powers Authority, conveying and treating the wastewater from the Cities of Belmont, San Carlos and Redwood City, along with the West Bay Sanitary District. As Belmont is a member agency of SVCW, we are supportive of Belmont's planning efforts.

As stated in the DEIR, Belmont operates the wastewater collection system throughout the City, and SVCW owns and operates the wastewater pump station on Shoreway Rd. At this Shoreway facility (which SVCW calls its Belmont Pump Station), all of Belmont's wastewater is pumped into the SVCW Conveyance System for treatment at the SVCW treatment plant and discharge into the Bay. SVCW is in the design phase of its Regional Environmental Sewer Conveyance Upgrade (RESCU) Program, a program that will include rehabilitating the Belmont Pump Station and the pipelines that convey the wastewater to the plant.

SVCW has the following comments on the DEIR:

A3-1

The DEIR indicates that the proposed plans will result in increased residential, commercial, office and industrial uses in the City, therefore increasing the wastewater flowrates. SVCW has been coordinating with City staff in the implementation of the RESCU program since 2009, and is currently using the Average Dry Weather Flow and Peak Wet Weather Flow indicated in the 2010 Sanitary Sewer System Capacity Analysis in its flow projections for the RESCU program (Table 4.13-4 in the DEIR). As values from this report are noted to be the basis of the flowrates for the General Plan development, SVCW is confident that its plans are in line with Belmont projections.

A3-2

Additionally, the DEIR indicates that the Belmont Village Specific Plan development will increase the average dry weather from about 147,000 gallons per day (gpd) to approximately 260,000 gpd, an increase of approximately 113,000 gpd or approximately 0.1 million gallons per day (mgd). While wet weather flows are not provided in the DEIR document, SVCW anticipates that the nominal increase in peak wet weather flows (PWWF) will be similarly in the 0.1 mgd range. SVCW's planned RESCU Program

improvements to the Belmont Pump Station and SVCW Conveyance pipelines will be able to accommodate this anticipated projected flow rate. A3-2

While projected PWWFs for the Belmont Village Specific Plan are not stated in the DEIR, SVCW has had the opportunity to review a Technical Memorandum prepared by HydroScience that provided wastewater hydraulic modeling for the planned improvements ("Belmont Village Development Hydraulic Modeling and Analysis – FINAL", dated November 15, 2016). This memo provided PWWF projections that are much higher than the 0.1 mgd increase anticipated by SVCW. If peak flows are as projected in the HydroScience report, SVCW's planned RESCU improvements will not be able to accommodate the projected flow rates. A3-3

In SVCW's opinion, the PWWF projections are based on a flawed use of a "peaking factor" in developing the projected PWWF. HydroScience was instructed to use the same peaking factor on the Belmont Village flow increases as used in the City of Belmont as a whole. Generally, the increase in wastewater flow during a storm event are caused by infiltration and inflow (I/I), in which stormwater enters the sewer through cracked sewer pipes, or inappropriate connections to the sewer, such as roof drains. The peaking factor for a particular area is the multiplier that represents the difference in the Average Dry Weather Flow (ADWF) and the PWWF. In this case, the analysis applied the peaking factor to the increase in ADWF in order to project the additional PWWF.

The development of the Belmont Village area will most likely reduce the I/I in the City's sewer system, based on the sewer improvements that are planned, and possible removal of inappropriate sources of inflow. Given this assumption, it is SVCW's opinion that application of the peaking factor used for the entire City to a new development is not appropriate. Such analysis would significantly overestimate the amount of flow from the Belmont Village Area during storm events.

Thank you for considering our comments on the DEIR. If you have any questions regarding this letter, please contact me at 650-832-6220 or therrera@svcw.org.

Sincerely,
SILICON VALLEY CLEAN WATER

Teresa Herrera, P.E.
Assistant Manager / Chief Engineering Officer

DEPARTMENT OF TRANSPORTATION
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Making Conservation a California Way of Life

August 18, 2017

GTS # 04-SM-2016-00112
SCH # 2016082075

Mr. Carlos de Melo
Community Development Director
City of Belmont
One Twin Pines Ln. #310
Belmont, CA 94002

Belmont General Plan Update, Belmont Village Specific Plan, and Climate Action Plan – Draft Environmental Impact Report

Dear Mr. de Melo:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the Belmont General Plan Update, Belmont Village Specific Plan, and Climate Action Plan. In tandem with the Metropolitan Transportation Commission's (MTC) Sustainable Communities Strategy (SCS), Caltrans' mission signals a modernization of our approach to evaluate and mitigate impacts to the State Transportation Network (STN). Caltrans' *Strategic Management Plan 2015-2020* aims to reduce Vehicle Miles Traveled (VMT) by tripling bicycle and doubling both pedestrian and transit travel by 2020. Our comments are based on the June 30, 2017 draft Environmental Impact Report (draft EIR). Additional comments may be forthcoming pending final review.

Project Understanding

The Belmont General Plan is a comprehensive update to all elements of the City's General Plan except the Housing Element. Phase I zoning regulations implement the General Plan to ensure the conformity of development projects to the General Plan's new land use direction. The Belmont Village Specific Plan provides detailed policy direction, development standards, and implementation actions for redevelopment of the City's downtown area. The Specific Plan includes zoning regulations pertaining to that specific area.

Climate Action Plan

The Climate Action Plan will serve as a qualified greenhouse gas reduction strategy consistent with the goals of AB32 and CEQA Guidelines.

Belmont Village Specific Plan

The Association of Bay Area Governments (ABAG) has identified areas within the project scope as a planned Priority Development Areas (PDA), which emphasizes mixed-use and transit and pedestrian connectivity.

The Belmont Village Priority Development Area ("PDA") is strategically located adjacent to the Belmont Caltrain station, at the intersection of El Camino Real and Ralston Avenue. Amenities in and around the Plan Area include SamTrans local and regional bus routes (260, 262, 397, and ECR); the Belmont Civic Center; Twin Pines Park; Village Center shopping; Notre Dame de Namur University (NDNU); US 101 and 280; and the new pedestrian/bicycle bridge that links downtown Belmont to the San Francisco Bay Trail, Belmont Sports Complex, and major employers like Oracle, Volkswagen of America, and SunEdison.

Belmont's overall vision for the Belmont Village PDA is aligned with the City's goals and objectives for revitalizing the downtown area to stimulate economic development and enhance livability for residents, workers, and visitors. Belmont envisions becoming a sustainable community that is walkable and transit-oriented with a safe, efficient multi-modal transportation network; energy-efficient and focused on clean, renewable forms of energy; affordable and desirable for a variety of household types; and committed to increasing the supply and improving the balance of employment and housing opportunities.

For a complete map of PDA designations please refer to ABAG's Priority Development Area Showcase at http://gis.abag.ca.gov/website/PDAShowcase/.

Lead Agency

As the Lead Agency, the City of Belmont is responsible for all project mitigation, including any needed improvements to the STN. The project's fair share contribution, financing, scheduling, implementation responsibilities and lead agency monitoring should be fully discussed for all proposed mitigation measures.

Multimodal Planning

The Plan should include measures to promote use of transit, active transportation, and ride pooling/sharing that discourage private vehicle trips. The plan should include measures to meet the requirement that frequent transit service be within walking distance.

A4-1

Vehicle Trip Reduction

A4-2

From Caltrans' *Smart Mobility 2010: A Call to Action for the New Decade*, the project site is identified as **Place Type 4: Suburban Communities** where location efficiency factors, such as community design, are weak and regional accessibility varies. Given the size of the project, it should include a robust Transportation Demand Management (TDM) Program for individual projects to reduce VMT and greenhouse gas emissions. Such measures will be critical in order to facilitate efficient transportation access to and from the site and reduce transportation impacts associated with the project. The measures listed below will promote smart mobility and reduce regional VMT.

- Lower parking ratios;
- Subsidize transit passes on an ongoing basis;
- Transit and trip planning resources;
- Projects design to encourage walking, bicycling and convenient transit access;
- Carpool and vanpool ride-matching support;
- Public bike-share system;
- Employer provided bicycles so employees may access nearby destinations;
- Fix-it bicycle repair station(s);
- Secured bicycle storage facilities;
- Programs to encourage employers to provide showers, changing rooms and lockers;
- Charging stations and designated parking spaces for electric vehicles;
- Transportation and commute information kiosk or web portal;
- Parking cash out/parking pricing;
- Emergency Ride Home program;
- Aggressive trip reduction targets with Lead Agency monitoring and enforcement; and
- The Lead Agency should encourage the Participation/Formation in/of a Transportation Management Association (TMA) as individual projects pursuant to this plan are built out, this should include regular monitoring and enforcement to ensure that trip reduction goals are being met and strategies to intervene if such goals are not being met.

For additional TDM options, please refer to the Federal Highway Administration's *Integrating Demand Management into the Transportation Planning Process: A Desk Reference* (Chapter 8). The reference is available online at:

http://www.ops.fhwa.dot.gov/publications/fhwahop12035/fhwahop12035.pdf.

Transportation Impact Fees

A4-3

Please identify project-generated traffic and estimate the costs of public transportation improvements necessitated by the proposed project; viable funding sources such as development and/or transportation impact fees should also be identified. We encourage a sufficient allocation of fair share contributions toward multi-modal and regional transit improvements to fully mitigate cumulative impacts to regional transportation. We also strongly support measures to

increase sustainable mode shares, thereby reducing VMT. A4-3

This plan should also include measures to mitigate the regional impacts of the development associated with this plan. This includes ensuring that measures are taken to promote regional connectivity via alternative modes; improving the access to and quality of active transportation and transit services in the region central to this goal. A4-4

Traffic Operations

The Belmont General Plan indicates that the projects would result in significant impacts on 12 freeway segments (see Table 38) for "2035 Plus Project" peak-hour Freeway Operations. The Projects should pay their fair share contributions toward the planned construction of the San Mateo County US 101 Managed Lanes Project. A4-5

Encroachment Permit

Please be advised that any work or traffic control that encroaches onto the state ROW requires an encroachment permit that is issued by the Department. To apply, a completed encroachment permit application, environmental documentation, and five (5) sets of plans clearly indicating state ROW must be submitted to: Office of Permits, California DOT, District 4, P.O. Box 23660, Oakland, CA 94623-0660. Traffic-related mitigation measures should be incorporated into the construction plans during the encroachment permit process. See the website link below for more information. http://www.dot.ca.gov/hq/traffops/developserv/permits/ A4-6

Thank you again for including Caltrans in the environmental review process. Should you have any questions regarding this letter, please contact Jake Freedman at 510-286-5518 or jake.freedman@dot.ca.gov.

Sincerely,

for PATRICIA MAURICE
District Branch Chief
Local Development - Intergovernmental Review

c: State Clearinghouse

STATE OF CALIFORNIA

Governor's Office of Planning and Research

State Clearinghouse and Planning Unit

Edmund G. Brown Jr.
Governor

Ken Alex
Director

August 21, 2017

Carlos de Melo
City of Belmont
One Twins Pine Lane, Suite 310
Belmont, CA 94002-3893

Subject: Belmont General Plan Update, Belmont Village Specific Plan, and Climate Action Plan (CAP), and Phase I Zoning
SCH#: 2016082075

Dear Carlos de Melo:

The State Clearinghouse submitted the above named Draft EIR to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on August 18, 2017, and the comments from the responding agency (ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

A5-1

Please note that Section 21104(c) of the California Public Resources Code states that:

> "A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

These comments are forwarded for use in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the commenting agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

Scott Morgan
Director, State Clearinghouse

Enclosures
cc: Resources Agency

From: Kevin Burke
Sent: Friday, June 30, 2017 3:36 PM
To: Carlos de Melo <cdemelo@belmont.gov>; Davina Hurt <dhurt@belmont.gov>
Subject: Comment on Draft EIR

Hi,
I'm a Belmont resident, a small business owner and a renter living on Old County Road. Thank you for your work on the draft EIR. It's a good step in the right direction. I appreciate the steps taken toward increasing density near Caltrain, rezoning the areas around Ralston and OCR as mixed use (instead of its current freeway designation). I also appreciate the steps toward unbundling parking, which decrease the cost of building new housing and encourage eco-friendly modes of transportation like car sharing, taking public transit and biking.

The biggest environmental impact of Belmont's proposed general plan isn't measured in the EIR or even required as part of CEQA analysis. It's the continued failure of Peninsula cities to add as many housing units as it's adding jobs. Since 2010 San Mateo County has added 75,000 new jobs<https://data.edd.ca.gov/Labor-Force-and-Unemployment-Rates/Local-Area-Unemployment-Statistics-LAUS-Annual-Ave/7jbb-3rb8> and only 4,100 new housing units<http://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-5/>. Yet Belmont proposes to worsen this ratio, by adding more jobs than housing units. B1-1

When there are more jobs than there are places for people to live to work in those jobs, we end up with people commuting really long distances from places like Gilroy, Livermore, or Morgan Hill<http://www.eastbaytimes.com/2017/05/01/as-california-grows-menlo-park-and-other-bay-area-cities-see-population-boom/>, all of which led the Bay in population growth last year. The EIR does not take into account the environmental impact from a family that could have lived in Belmont if it had more housing, but instead buys a single family home in Gilroy or Morgan Hill. Gilroy is not a job center or very close to a job center. Gilroy has more homes with lawns; the EIR does not take into account that water use is higher when people choose homes with lawns instead of condos/duplexes/apartments in Belmont.

I think Belmont could and should do a lot more to plan for more housing units, in excess of even the amounts proposed by Alternative 1. The plan calls for roughly 0.6% growth every year. Menlo Park recently grew by 5% in a single year; Mountain View is aggressively adding housing along ECR and planning to add 10,000 units in North Bayshore (a 30% population increase). In particular I would like to see: B1-2

- Higher density in the Belmont Village area and for student housing next to NDNU. Building designated-as-affordable housing is admirable but majority of people making low and very low incomes rent at market rates, and will for some time. The more housing we add, the lower market rate rents will be. Especially next to Caltrain, we should be zoning for 4 stories and encouraging use of the state's density bonuses to construct 4 or 5 story apartment buildings. There will be six trains an hour stopping at Belmont when electrification is finished; we can support that many commuters near Caltrain. We should also help our students have more places to live near NDNU.

- Zoning parts of the Harbor Industrial Area for R-2/R-3/R-4 housing. Manhattan used to be composed of farms, but gradually switched to skyscrapers as the land became more valuable. The land in the Peninsula is some of the most valuable in the country<https://faculty.chicagobooth.edu/chang-tai.hsieh/research/growth.pdf> and it's not clear that industrial is the highest value use for the land. Where owners of light industry properties in the area are willing to sell, new buyers should be able to add apartments.

- More parts of Belmont rezoned from R-1 to R-2 or R-3, especially between OCR and 101. Single family zoning was pioneered in Berkeley in the early 1900's as a way to exclude "undesirables" and "heathen Chinese."<http://www.berkeleyside.com/2017/06/13/opinion-berkeleys-zoning-laws-wall-off-communities-color-seniors-low-income-people-others/> The racial animus may be gone from zoning codes, but they help preserve the demographic makeup of the people that were able to purchase homes (and get loans in the 1960's) in Belmont when homes were more affordable, or on the market. Single family zoning preserves lots of land (and tax breaks) for wealthy homeowners, and push more people to rent. Renters (like myself) do not get any tax breaks. It is hard to argue that the "harm" to existing Belmont homeowners from a few extra duplexes around the edges of the SFH areas outweighs the pressing need of our young people and our poor for a place to live.

- Focus less on adding jobs, and more on adding housing. The unemployment rate in San Mateo County is 3%. We are doing fantastically on ensuring that people who want jobs can get one. Yet there are so many people I know (including myself) who can't afford to live where they grew up, paying more than half their salary in rent, driving 2

hours each way to get to work, or fleeing the Bay Area for less expensive homes. We should be focusing more on adding homes and less on adding offices. I've lived in the Bay Area my whole life, my parents are here, and I'd like to keep living here, though I worry more and more about my ability to keep doing that. B1-2

Thanks for considering my concerns,
Kevin

--
Kevin Burke

From: Retired Firemen

Sent: Monday, July 03, 2017 2:33 PM

To: Carlos de Melo <cdemelo@belmont.gov>

Subject: Bicycling

Dear Mr. de Melo,

I have looked over the draft plans and environmental reports. I am happy to see bicycle riding included. I don't find any bicycle parking facilities. It is well enough to be safe riding to the store or restaurant, but there must be safe, secure areas to place your bicycle. Is there any requirement anywhere for bicycle parking? B2-1

Tim O'Brien

From: Gmail [hidden]
Sent: Friday, July 07, 2017 9:42 AM
To: City Council <CityCouncil@belmont.gov>
Subject: Housing vs Jobs

City Council,

I hear that you're considering one new plan that would add 3300 jobs and 1500 housing units, and one plan ("Alternative 1") that would add 2100 jobs and 2400 housing units.
Given the housing crisis, we need to do our part to build more housing than jobs. Many cities chase after the higher taxes provided by jobs, but this comes at a cost of higher traffic congestion and pollution. I'm in favor of planning for more housing and less jobs.

B3-1

Thank you.

Josh Powell

Eric Moyer

9 Lyndhurst Ct.
Belmont, CA 94002
650-269-6602

July 9, 2017

Carlos de Melo
Community Development Director
City of Belmont
One Twin Pines Lane, Suite 110
Belmont, CA 94002
650-595-7440

re: Comments on Draft EIR and Revised Draft General Plan

Dear Mr. de Melo:

Upon reviewing the Draft EIR and Revised Draft General Plan, I want to call out what I believe is an error on the Seismic and Geologic Hazards maps (Figure 4.5-1 in the Draft EIR and Figure 6-1 in Revised Draft General Plan). In both of these maps, my property at 9 Lyndhurst Ct is denoted as encompassing an area of "High Landslide Potential", possibly due to location of an Existing Landslide Distribution. B4-1

However, reviewing the "Existing Landslide Distribution" map on the Association of Bay Area Governments GIS site (http://resilience.abag.ca.gov/landslides/) this area is denoted in a different place - specifically, located on the other side of Lyndhurst Avenue from where your map locates it.

In addition, according to a private Geotechnical Investigation I had completed in November of 2013, it was noted that there are "no mapped geologic hazards landslides constraining the site". A copy of portions of this Geotechnical Investigation is enclosed.

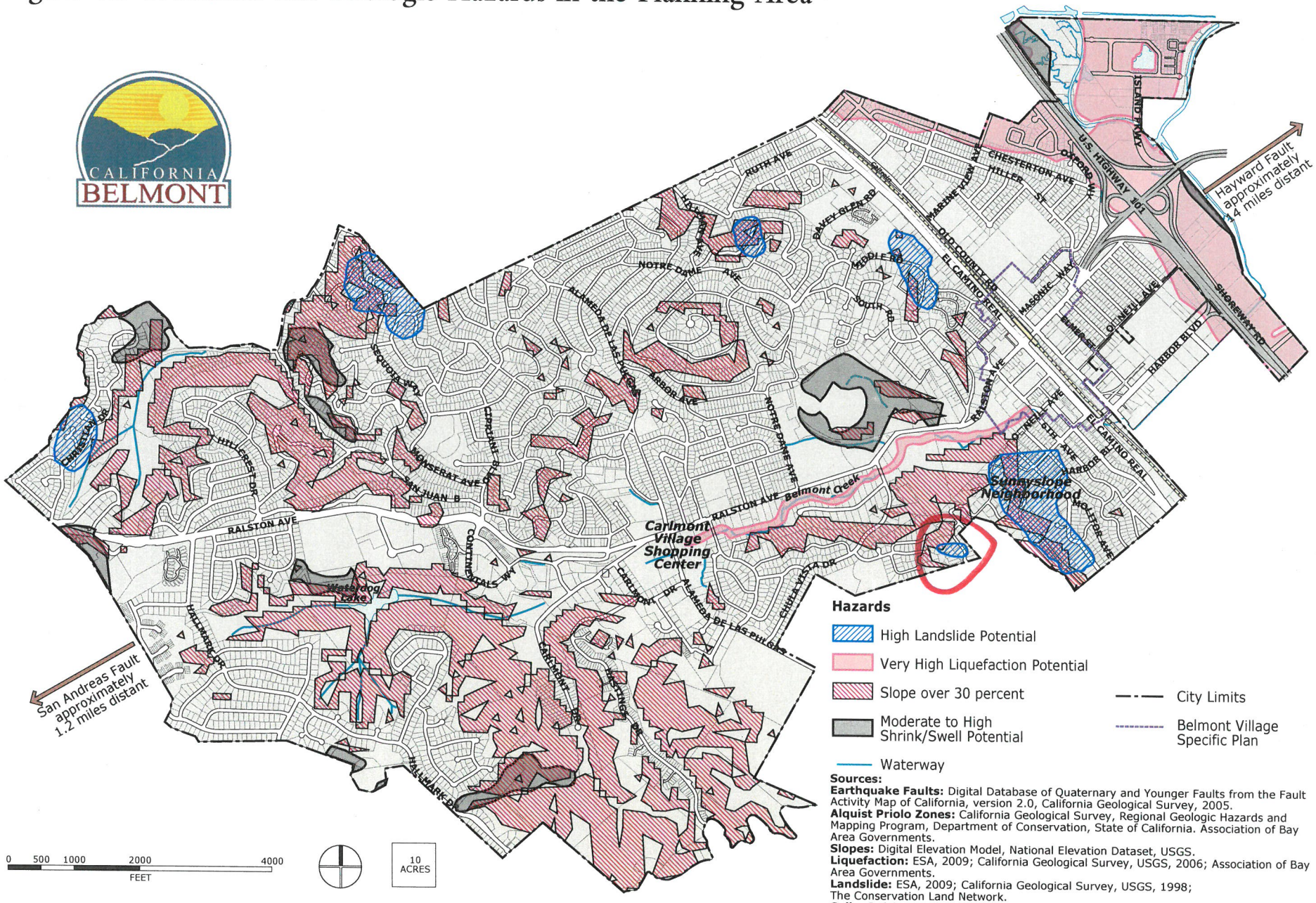
Since the revised general plan is contemplating to "Prohibit development in areas at risk of landslides… as shown in Figure 6-1" it is essential that your mapping of high landslide potential areas is corrected in the final EIR and General Plan.

Please investigate and correct this mapping error.

Sincerely yours,

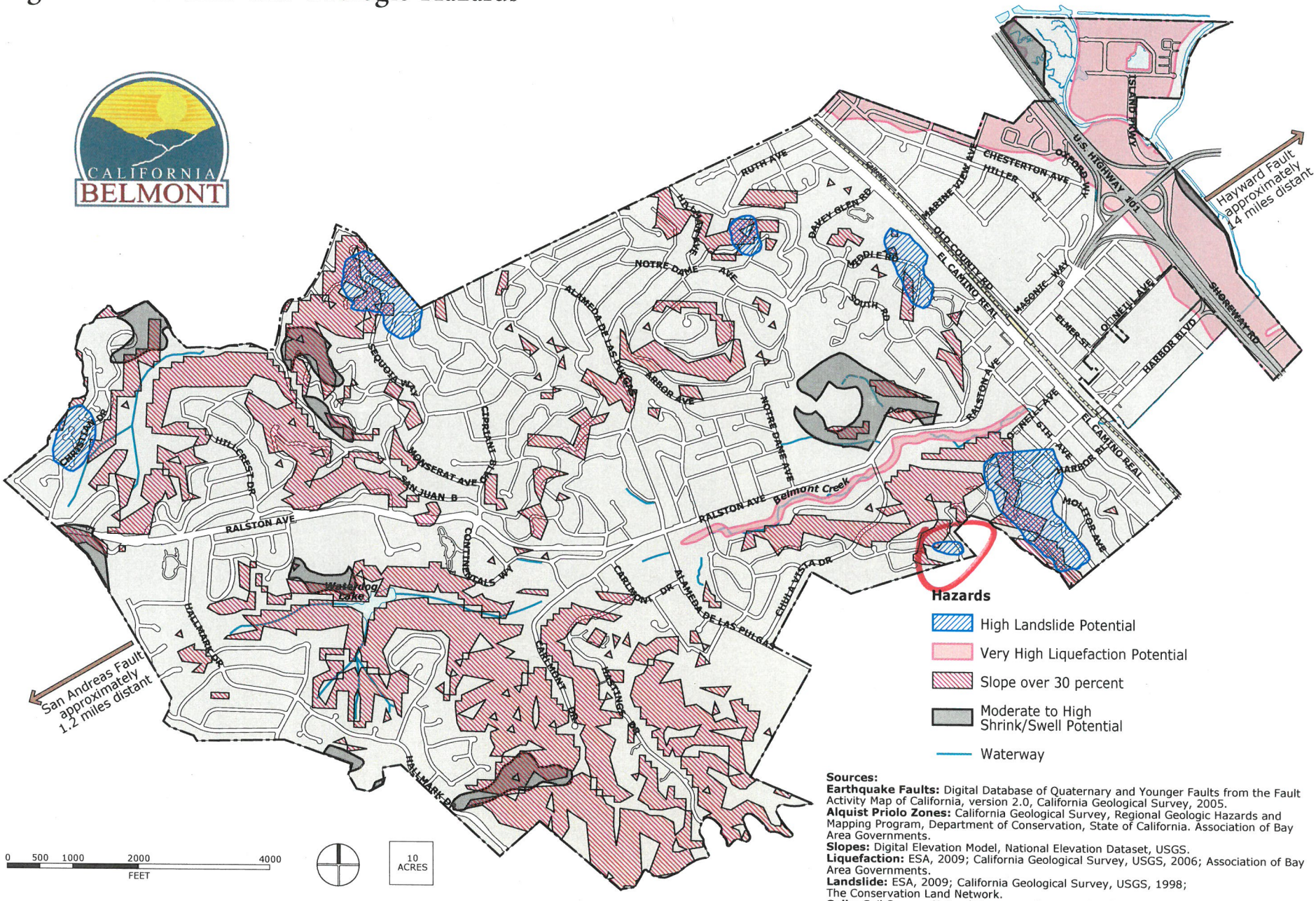
Eric Moyer

Figure 4.5-1: Seismic and Geologic Hazards in the Planning Area

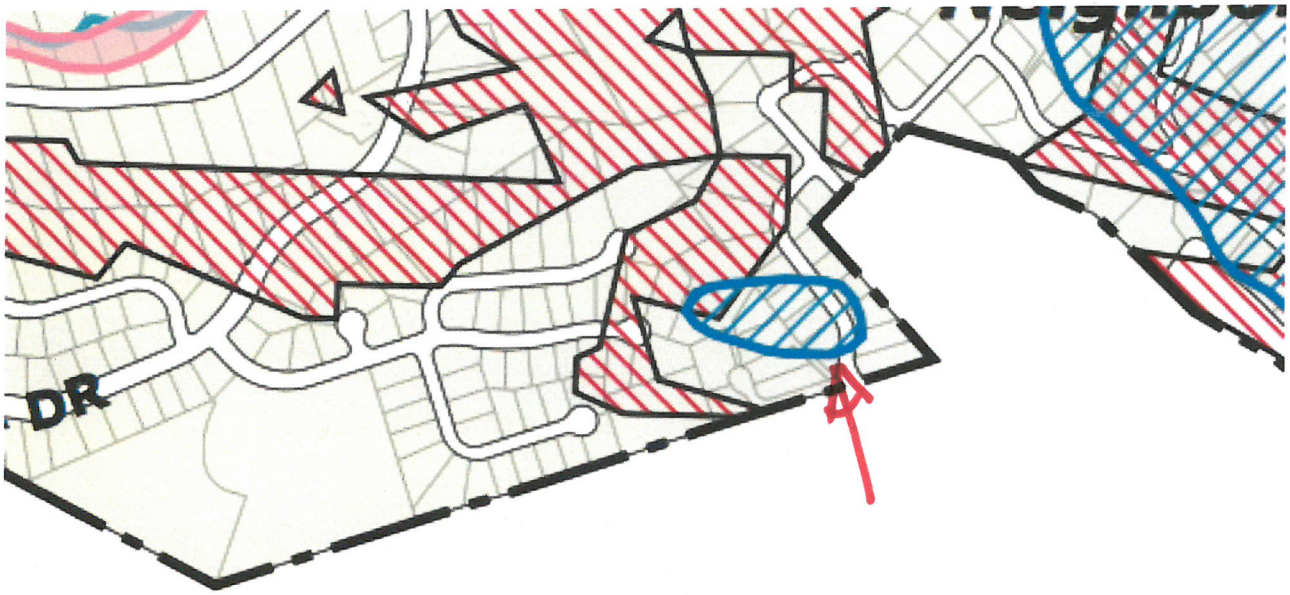


Sources:
Earthquake Faults: Digital Database of Quaternary and Younger Faults from the Fault Activity Map of California, version 2.0, California Geological Survey, 2005.
Alquist Priolo Zones: California Geological Survey, Regional Geologic Hazards and Mapping Program, Department of Conservation, State of California. Association of Bay Area Governments.
Slopes: Digital Elevation Model, National Elevation Dataset, USGS.
Liquefaction: ESA, 2009; California Geological Survey, USGS, 2006; Association of Bay Area Governments.
Landslide: ESA, 2009; California Geological Survey, USGS, 1998; The Conservation Land Network.
Soils: Soil Survey, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey.

Figure 6-1: Seismic and Geologic Hazards



Sources:
Earthquake Faults: Digital Database of Quaternary and Younger Faults from the Fault Activity Map of California, version 2.0, California Geological Survey, 2005.
Alquist Priolo Zones: California Geological Survey, Regional Geologic Hazards and Mapping Program, Department of Conservation, State of California. Association of Bay Area Governments.
Slopes: Digital Elevation Model, National Elevation Dataset, USGS.
Liquefaction: ESA, 2009; California Geological Survey, USGS, 2006; Association of Bay Area Governments.
Landslide: ESA, 2009; California Geological Survey, USGS, 1998; The Conservation Land Network.
Soils: Soil Survey, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey.
Fire and Flood Hazards: City of Belmont, 2014.



Hazards

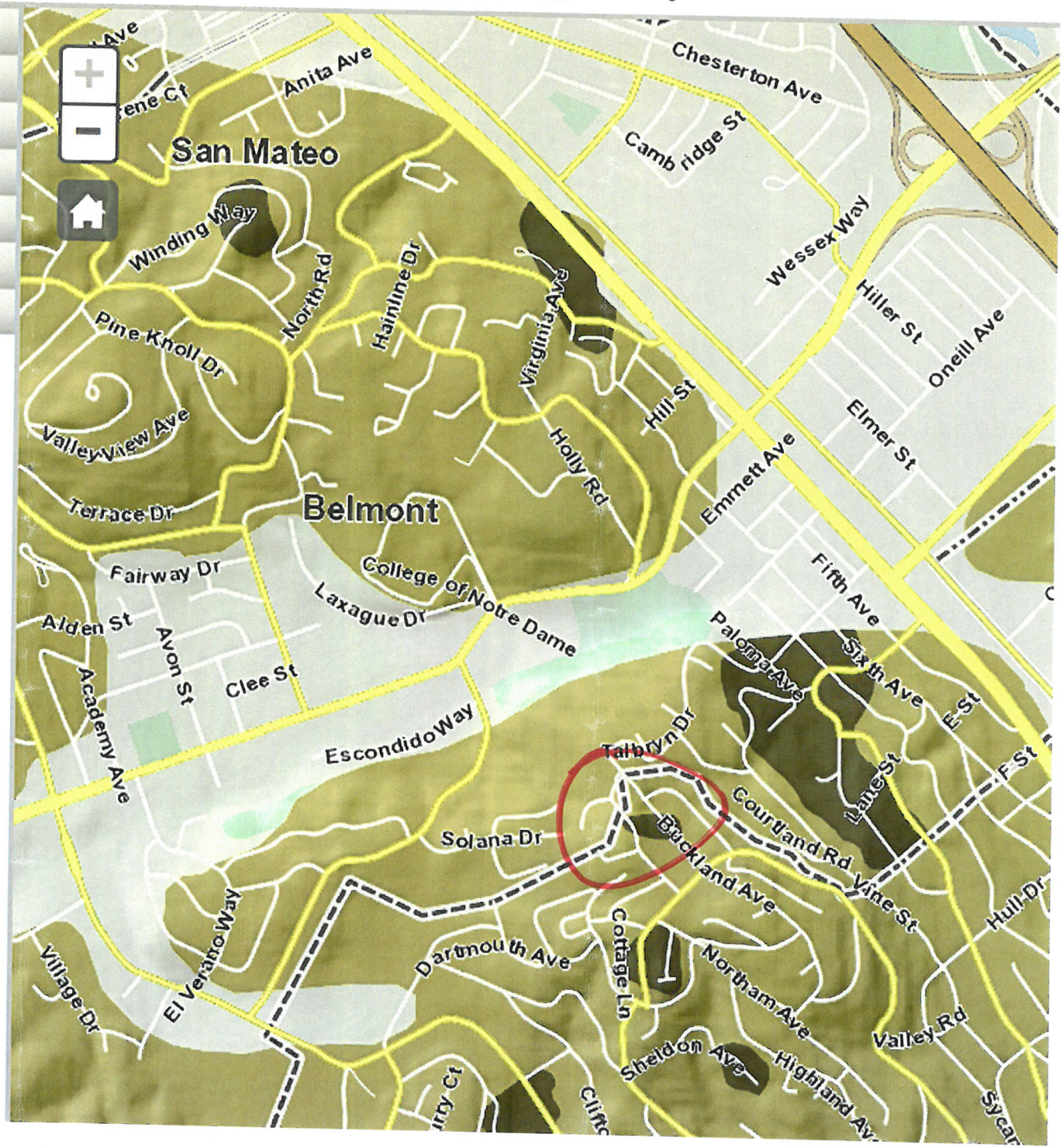
High Landslide Potential

ASSOCIATION OF BAY AREA GOVERNMENTS
RESILIENCE PROGRAM

- Legend
- Faults
- Shaking Scenarios
- Other Earthquake
- Flooding
- Wildfire
- Landslide

Click to toggle visibility of landslide layers

- [ ] Rainfall Induced Landslide Areas
- [x] Existing Landslide Distribution
- [ ] Earthquake Induced Landslide Study Zones



November 1, 2013
Job 2546.01.00

Eric and Michele Moyer
9 Lyndhurst Court
Belmont, California 94002-3758

RE: **GEOTECHNICAL INVESTIGATION**
Proposed Landscaping
9 Lyndhurst Court
Belmont, California

Dear Eric and Michele:

INTRODUCTION

Site Location and Proposed Project

Pursuant to your authorization, we have completed the referenced project, located in the Carlmont subdivision of Belmont, California (Plate 1, Vicinity Map). We understand you propose to remodel the site landscaping around your house (Plate 2, Site Plan). You are considering 2 schemes; both will include a new site retaining wall to replace the existing dilapidated timber wall supporting the cut slope behind your house. Plan A retains the existing deck on the northern side of the house, and the stairs leading down to a new landscape area below the house that is connected to the deck by a contour path and stairs. It calls for new hardscapes at the southwest side of the house, and on the west side of the garage combined with terrace walls.

Plan B includes rebuilding the existing deck with similar modifications as described in Plan A.

Purpose and Scope of Services

The purpose of this investigation was to evaluate the site geotechnical, and to provide pertinent geotechnical recommendations for the proposed landscape improvements.

The findings, conclusions, and recommendations in this report are based upon the following scope of services:

- Review of pertinent geologic and geotechnical literature and maps. Plate 3 depicts an excerpt from a regional geologic map covering the site area;
- Drilling of 5 borings to practical refusal in the proposed improvement areas. A continuous sample of the earth materials encountered was obtained by advancing a 1 ½ -inch O.D., split spoon sampler with a portable, gas-powered Wacker BHF 30S percussion hammer that imparts 35 ft. lbs. of axial force on the sampler at a rate of 1270 blows per minute. The locations of the borings are illustrated on Plate 2. The Logs of Borings are contained on Plates 4-6. Plates 7 and 8 contain descriptions of the terms and symbols used on the logs;
- Laboratory testing of selected samples from the borings. Tests included moisture content, dry density, Atterberg limits, and pocket penetrometer. The results of the lab tests are contained on the boring logs and Plate 9, Plasticity Chart;
- Analysis of the data and preparation of this report. Plate 10 depicts a representative soil profile across the proposed improvement area.

FINDINGS

Geologic Setting

The site is located at an approximate elevation of 450 feet above sea level on the westerly flank of a mass graded, northwesterly trending ridgeline. Historic aerial photographs indicate grading of Lyndhurst Court and the site was some time after 1956. This area drains in seasonal swales cut in the ridge flank to Belmont Creek, approximately 400 feet north of the site (Plate 1).

The site area is Franciscan chert. Chert bedrock, exposed in steep roadcuts leading to the site, occurs as soft to very hard, contorted, thin beds generally inclined to the southwest. It is mantled by colluvium commonly comprised of sand and gravel supported by plastic clay.

There are no mapped geologic hazards landslides constraining the site.

There are no active faults constraining the proposed development area (State of California, 1974). An active trace of the San Andreas fault is mapped approximately 2 ½ miles southwest of the site and the active Hayward fault zone is mapped approximately 16 miles to the northeast.

The active San Andreas fault zone is mapped approximately 2 miles to the southwest. The active Hayward fault zone is mapped approximately 16 miles to

The following plates are attached and complete this report:

Plate 1 – Vicinity Map
Plate 2 – Site Plan
Plate 3 – Geologic Map
Plate 4 – Logs of Borings 1 and 2
Plate 5 – Log of Borings 3 and 4
Plate 6 – Log of Boring 5
Plate 7 – Key to Borings
Plate 8 – Rock Hardness Criteria
Plate 9 – Plasticity Chart
Plate 10 – Generalized Cross Section A-A'

We trust that this provides you with the information you require at this time. If you have any questions, please call.

Very truly yours,

Earth Investigations Consultants

REGISTERED GEOLOGIST
JOEL E. BALDWIN
No. EG 1132
CERTIFIED ENGINEERING GEOLOGIST
STATE OF CALIFORNIA

Joel E. Baldwin, II
Engineering Geologist 1132 (renewal date 2/28/15)

David W. Buckley

REGISTERED PROFESSIONAL ENGINEER
DAVID W. BUCKLEY
C. 34386
Exp. 9/30/15
CIVIL
STATE OF CALIFORNIA

David W. Buckley
Civil Engineer 34386 (Renewal date 9/30/15)

JEB:DWB:jb:gi
Distribution: e-file and 3 bound copies to addressee

From: Mark Cerqueira

Date: July 26, 2017 at 8:56:42 PM GMT

To: cdemelo@belmont.gov, CityCouncil@belmont.gov

Subject: Draft EIR feedback

Greetings,

I am a Belmont resident/renter. I think we should add more housing to avoid having rents go up even further. I have seen rents go up 50% in the 3 years I've lived in Belmont.

I support and would like:

Switch to using Alternative 1, which adds more housing and fewer offices. More housing in Belmont Village and fewer offices. B5-1

Rezone Harbor Industrial Area for Multifamily HousingRezone some R-1 areas as R-2 (Duplexes) B5-2

Thank you!

mc

From: Kevin Burke

Sent: Saturday, July 29, 2017 11:35 AM

To: x-City Manager's Office <cmanager@belmont.gov>

Subject: Schools, General Plan and CA Govt code

Hi,

A number of Belmont residents on e.g. Nextdoor have been worried about the impacts of the new General Plan on school enrollment in Belmont. This makes me think that these concerns may come up at the Planning Commission hearing on August 15, or at the City Council meetings to approve the plan later on in the fall.

B6-1

It's my understanding that *it's illegal to make a land use decision on the basis that schools are inadequate*, per here: http://codes.findlaw.com/ca/government-code/gov-sect- 65996.html

Quoting:

"a state or local agency may not deny or refuse to approve a legislative or adjudicative act, or both, involving, but not limited to, the planning, use, or development of real property or any change in governmental organization or reorganization, as defined in Section 56021 or 56073, on the basis that school facilities are inadequate."

This was cited recently in an EIR appeal by the staff for the town of Danville, in the East Bay, as follows:

A number of speakers expressed concern that the project would create overcrowding at the local schools. There is no evidence to support this concern. According to the most recent enrollment projections for the San Ramon Valley Unified School District (March 2016), there is adequate room at the affected schools to accommodate the number of students that would be generated by the project.

However, even if there were a projected lack of classroom space, state law prohibits the Town from taking that into consideration in reviewing the application. Legislation dating back to 1998 provides that the exclusive mitigation for school impacts of development

are the impact fees that are charged by the local school district. Cities and counties are prohibited from taking any further actions. Government Code Section 65996.

B6-1

I was wondering if this legislation would apply to the General Plan/EIR recommendations, and whether the Planning Commission members and/or the City Council are aware of this law.

Thanks! Kevin

On Aug 1, 2017, at 9:51 PM, Coralin Feierbach <hidden> wrote:

Hi Carlos,

I believe that there is a mistake on the new DEIR general plan map attached.As you know, Measure F covers both the north and south parts of the open space areas (HRO1, HRO2 and HRO3) whereas in the map attached, Measure F incorrectly covers only the north of Ralston part of our city (San Juan Canyon HRO1 and HRO2). B7-1

For example: Certainly, area above Carlmont HIGH is HRO3 when is covered by Measure F. Could this map dealing with HRO (Measure F coverage) please be corrected and resubmitted? Please let me know as Measure F and what it implies is very, very important to many of us. Thank you so much!

Coralin

On Aug 1, 2017, at 10:07 PM, Kristin Mercer wrote:

Hi Carlos,

A cursory review of the attached GP DEIR map raises the following questions. Please explain:

1. Why are open spaces south of Ralston Ave omitted from the Measure F Overlay? Measure F lands, as detailed in the attached Measure F 2005 Ordinance, encompass all existing HRO districts (HRO 1, 2 and 3). Regardless of what you name them, those districts cannot be rezoned to higher density without a vote of the public, and thus remain protected by Measure F. B8-1

2. Why is the former Jewish Community Center (Live Oak Way off Carlmont Drive) zoned Institution? It was converted to housing, is privately owned, and is very unlikely ever to revert to institutional use. B8-2

3 Why are some churches zoned Institution and others Residential? I.e. the churches on Lori Drive (Skymont) and Marine View (Sterling Downs) are zoned Residential yet they have the same use as other churches. If the City foresees different uses for these two sites, how about the other institutions throughout the city? B8-3

4. Why is Davey Glen park zoned Residential instead of Public Community Facility? The city spent $2million and it's a permanently preserved easement – why doesn't the zoning memorialize that? B8-4

5. The cluster homes on Arroyo View above Continentals are lower density than the Carlmont Drive apartments – why are they zoned High Density instead of Low Density. Does the City consider that sensitive hillside with limited access to be appropriate for high-rise high-density housing? B8-5

Thank you,

Kristin

On Aug 3, 2017, at 5:22 PM, Kristin Mercer wrote:

Hi Carlos,

With further review of the various published zoning maps I have additional questions and see more possible errors:

6. The NDNU property does not extend in a finger up to Folger Drive. Those two parcels on Folger are residential, not NDNU Institution. B9-1

7. Has the eventual intended use of the Folger Drive Water District property been discussed? It seems to me that, since it's public knowledge the District is considering selling some or all of these parcels, the General Plan should address what the City envisions/prefers for those sites. B9-2

8. There are some discrepancies between maps in properties abutting Harbor Industrial Area. The DEIR map attached shows the finger parcel at the end of Grenada St as residential but I suspect it is intended as Commercial. The 2035 Land Use map in the Draft Land Use Element shows the parcels on the SW corner of Elmer and O'Neill as Belmont but I believe they are HIA. B9-3

9. At the West end of Ralston above Fox School there is a parcel with Water District tanks and also a few currently zoned R1E parcels. The DEIR map shows them all as Residential, and the Draft Land Use map shows them as all Public/Community facilities. Please resolve the discrepancy and explain the actual intent in zoning for these parcels. B9-4

10. Please discuss the zoning of Davis Drive which was revised by PC action to enable the development of CSUS. On all the Draft GP maps CSUS parcels appear zoned Commercial. Does this comport with school use, and what does that imply for the rest of Davis Drive? B9-5

Thank you for your research and response,

Kristin Mercer

From: Kevin Burke
Date: August 11, 2017 at 10:24:39 AM PDT
To: Carlos de Melo <cdemelo@belmont.gov>
Subject: Baylands comments/analysis that's relevant to the Belmont EIR

Mr. de Melo,

Our county neighbors to the north, Brisbane, are deciding what to do with the Baylands, a 660-acre plot of land near Candlestick Park. While Brisbane is considering a lot larger numbers than Belmont is, it still faces the same fundamental problems Belmont faces: choosing to zone for jobs or for housing, and what's the right balance of each. B10-1

Recently three dozen tech CEO's including Salesforce, Yelp, AT&T and Comcast implored the San Mateo Board of Supervisors to step in to steer Brisbane toward the housing variant of the Baylands plan. Their comments can be found in the PDF here: https://twitter.com/rolandlisf/status/894999682258051072.

Notably the stats they cite about projects in San Mateo County also apply to Belmont's choice of zoning: San Mateo County has hit just 52% of its housing goals, compared with 57% across the entire Bay Area, only 3 of the 17 largest projects underway in SMC contain any new housing, and over 600,000 vehicles enter the Bay Area every day from surrounding communities for their commute. These issues could be addressed by altering the zoning to build more housing.

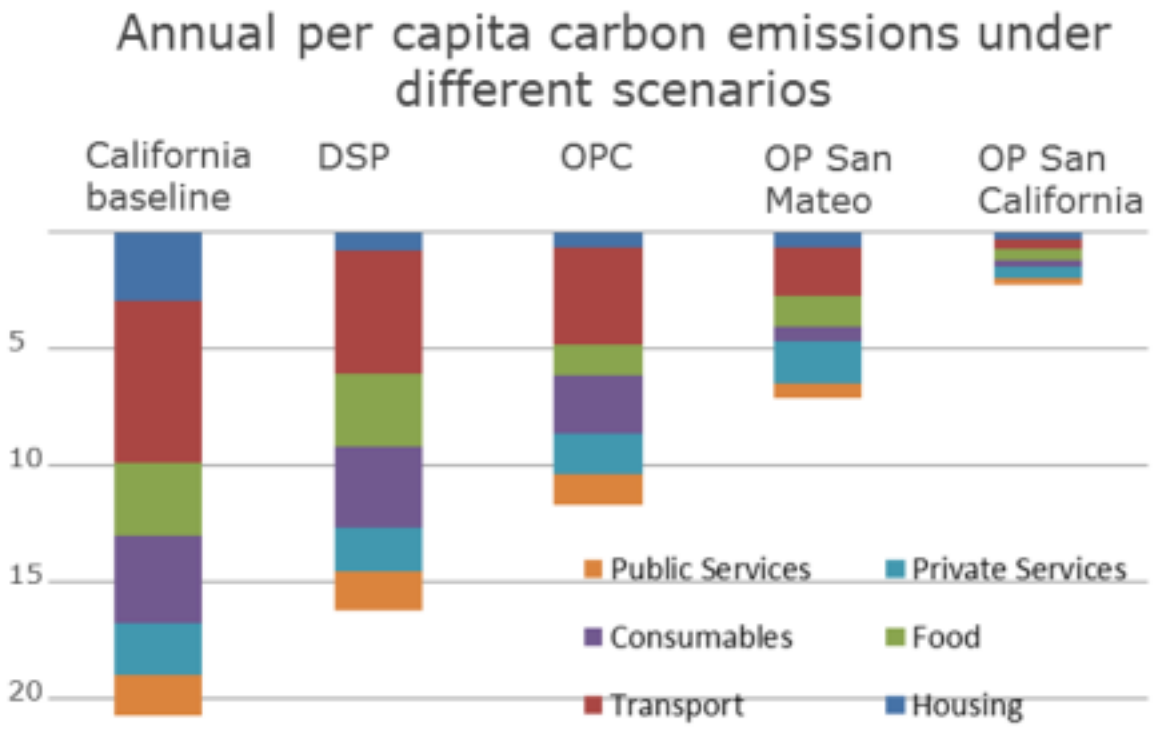
Another study on the Baylands project found that the option that reduced carbon emissions by the largest amount would include 9,000 new housing units on the site, more than double what the developer proposes. From the conclusion on page 17:

From a planetary perspective, the development option which brings the largest carbon saving will have the biggest overall environmental benefit; these are likely to be developments including a higher level of residential development. Increasing residential numbers has the potential to reduce traffic congestion in the area and improve air quality. And therefore deliver local benefits.

See attached for a chart (from page 43 of 45) where they plot per-capita carbon emissions under various different plans.

The use of "from a planetary perspective" is notable and distinct from the EIR analysis, I think, which only considers the environmental impact to Belmont of people living in Belmont or commuting to Belmont. It doesn't consider that when Belmont builds more housing there's less demand for single family homes with lawns and long commutes in Gilroy, or when Belmont builds more housing, commutes on average will get shorter and traffic in neighboring cities will decline. B10-2

--
Kevin Burke


Annual per capita carbon emissions under different scenarios
California baseline
DSP
OPC
OP San Mateo
OP San California
5
10
15
20
Public Services
Private Services
Consumables
Food
Transport
Housing

From: Kristin Mercer

Sent: Monday, August 14, 2017 2:29 PM

To: Planning Comm <PlanningComm@belmont.gov>

Cc: City Council <CityCouncil@belmont.gov>; Jon Mays <jon@smdailyjournal.com>

Subject: Belmont Plans Firehouse Square without a firehouse

Belmont's draft Village Plan calls for a historic Firehouse Square with no firehouse. Village Policy 2.2-3 allows "redevelopment" (read demolition) of the historic firehouse, needlessly discarding the only remaining registered public historic structure in the Village. With thoughtful restoration and a modest side/rear addition the structure could lend itself to numerous profitable uses which would both stimulate local business and retain village character (café/bistro with outdoor dining, gallery, spa). Further this historic structure is perfectly situated at the foot of the planned pedestrian mall, providing a postcard-perfect visual anchor to the street. This setting is one that smart planners would capitalize on, not demolish for high-density housing. I know that Sarris Regis is demanding this free land from Belmont in order to "warrant" their investment. Doesn't Belmont have enough self-respect to resist selling out our character and history to developer greed and a handful of condo's? B11-1

I urge you to revise Village Policy 2.2-3 to require retention of the original Firehouse Building, while allowing renovations to the rear and non-historic additions only.

Kristin Mercer

From: Kristin Mercer

Sent: Monday, August 14, 2017 3:46 PM

To: Planning Comm <PlanningComm@belmont.gov>

Cc: City Council <CityCouncil@belmont.gov>

Subject: General Plan Open Space-Privately Owned

In the Draft EIR report, OS-PO is described on page 3-22 as privately owned open space. Please respond to the following:

B12-1

1. The maps in figures 3-4 and 3-5 do not indicate any OS-PO districts (not even in the legend). Where exactly are the OS-PO areas? 2. If open space is truly open space, why has the city created the obvious loophole of allowing single-family residences in this open space, even if conditionally?

Pg 3-22 of EIR http://nebula.wsimg.com/6dd0c6af1d189566af1ce73dfa66a1a9?AccessKeyId=27651CB3593D0D229FCC&disposition=0&alloworigin=1"Open Space Privately Owned (OS -PO).

The Open Space Privately Owned District, which complements the existing Open Space Public District,is established to provide for and preserve privately-owned natural areas. These areas may be maintained tomanage wildfire risk, erosion and other hazards, where feasible, and may include agricultural uses, low-impact recreational uses and privately-owned land that is deed-restricted for open space preservation.Permitted uses include agricultural use, open space and low-impact recreational uses, and public utility and public service structures. Conditional use is also granted for single -family residences."

3. Isn't this single-family loophole a direct conflict with the stated Objectives on pg. 3-37:

B12-2

"Open Space for Natural Resource Conservation

*Protect and maintain open space for the preservation of natural resources.

*Protect and preserve open space for public health, safety and recreation in areas that require special management for regulation."

Please also include in public comments.

Thank you.

Kristin Mercer

From: On Behalf Of Adina Levin
Sent: Tuesday, August 15, 2017 11:06 AM
To: Carlos de Melo <cdemelo@belmont.gov>; Planning Comm <PlanningComm@belmont.gov>
Subject: DEIR for 2035 General Plan, Belmont Village Specific Plan, Climate Action Plan

Dear Belmont Planning Commissioners and staff,

Thank you for the opportunity to comment on the Draft Environmental Impact Report for the 2035 General Plan, Belmont Village Specific Plan & Zoning, and Climate Action Plan.http://www.belmont-2035generalplan.com/

Friends of Caltrain is a 501c3 nonprofit supporting stable funding and successful modernization for Caltrain, as part of a system of transportation services and policies to increase the use of sustainable transportation on the corridor. We have ~6,000 participants on the corridor from San Francisco through San Jose. We've been closely following transit-oriented development plans on the corridor, and have several comments on transportation and related topics.

Belmont's overall goal to create a vibrant town center update with opportunities to shop, dine, work, live, and play in a compact, mixed-use environment will help local quality of life, will help address local and regional housing challenges, and help increase the use of sustainable transportation.

Jobs and Housing

While we have some questions about the details of the jobs and housing scenarios studied in the EIR, the main point is consistent in the Peninsula Corridor - adding housing near jobs and services reduces vehicle miles per person, the new metric that the California Environmental Quality Act will use to evaluate the environmental impact of transportation. The state is transitioning to VMT per person because this is much more strongly correlated to the environmental impacts of greenhouse gas emissions and particle pollution. https://www.opr.ca.gov/docs/Revised_VMT_CEQA_Guidelines_Proposal_January_20_2016.pdf. B13-1

By contrast, studies show that automotive level of service, the measurement of vehicle delay that is becoming obsolete to assess environmental impact, is not correlated with pollution. http://usa.streetsblog.org/2017/07/06/urban-myth-busting-congestion-idling-and-carbon-emissions/

The staff report comments that although vehicle miles travelled per person declines, the vehicle miles locally in the plan area will increase. From an environmental perspective, this is a good reason to do infill development in mixed-use, transit-rich places. If development is not located in places like Belmont Village, it will be located in further out, exurban areas, with more driving and pollution.

Even though local driving may increase, mixed use development in walkable, transit-rich places still provides mobility benefits to the local area. Robust research shows that even though driving may be slower when infill development is added, people spend less time driving, because the destinations and services that they need are on average, closer to reach (see slides 11-18) http://mtc.ca.gov/sites/default/files/CGanson_MTC_Planning_Innovations_743_6-8-17.pdf
For example, if the downtown has more shops and restaurants that local residents and workers enjoy, they will be more likely to shop locally than to drive further to for services or lunch. So congestion may increase, but overall convenience increase.

Therefore, we support the plan version that improves jobs housing balance. Given the Bay Area's severe housing crisis, where 40% of residents are considering leaving according to a recent Bay Area Council poll, and lower-income residents are displaced to distant locations and face long commutes back for jobs, adding incremental housing in the plan area will help Belmont do its part to address the housing shortage, while improving the liveliness of the downtown area and the diversity of the community.

Parking, transportation demand management, and access

The plan includes a number of strong policies to help improve access to the area and reduce traffic. B13-2

We strongly support the plan's standards for ample pedestrian access, sidewalks, public plazas & spaces, amenities such as benches, and shading.

We support the recommendations for shared parking and unbundled parking. Shared parking can make the most efficient use of real estate, allowing uses that require parking at different times of day to share the space, and allowing more of the real estate to be used for valuable purposes such as retail, homes, offices, and public space. Unbundled parking can improve housing affordability by allowing residents to purchase only the parking needed by their household. B13-2

Charging for parking helps improve convenient access to downtown. Using the principles and examples described in the High Cost of Free Parking, the price can be set to make sure that there is always available space in desirable locations. As in Redwood City and San Mateo, prices can be set lower for spaces that are somewhat less close, giving people choices. Current parking technology no longer requires visitors to carry a pocket full of quarters and to feed meters. People can add funds to the meter with their mobile phone. Prices can be set to discourage people from staying for long periods of time in locations where turnover is beneficial for businesses, but to allow people to avoid the annoyance of parking tickets in they need to stay.

We support the creation of a parking benefit district that invests a portion of the revenue from parking feeds back into the area to to maintain landscaping, improve streets, and other benefits. In addition, we recommend that Belmont use adopt a policy that is already in use in San Mateo and Redwood City, that would allow in-lieu fees to be used for transportation demand management programs that would help downtown workers, residents, and visitors to get around with less driving, and therefore to reduce parking demand and traffic.

We strongly support the transportation demand management policy, including applying TDM requirements for projects including residential, commercial, and mixed use, as can be seen with successful implementation nearby in San Mateo. We support the the recommendation to can set up a Transportation Management Association, an entity that can manage vehicle trip reduction programs for a collection of smaller organizations, enabling the area to provide transportation benefits that resemble programs that can be provided by much larger organizations.

With regard to transportation demand management, we recommend that the city consider stronger goals and requirements. We recommend a 25% reduction, following the example of other mixed-use areas seeing infill development. For example, the San Antonio Precise Plan area has a reduction for commercial developments of 20-30%, and the San Mateo Rail Corridor Plan area has a trip reduction of 25% among all of the uses, with requirements becoming stricter over time as the transportation infrastructure improves.
See: http://www.cityofsanmateo.org/DocumentCenter/View/1812

In summary, the constellation of parking and transportation demand management policies helps make an important shift. One of the key goals of city plans is to facilitate access, helping people get to where they need to go. This continues to be the case. Historically, that was provided by requiring parking, assuming that almost all access would be by driving. To help improve quality of life and environmental goals, cities are turning to a different mix, with a relatively lower share of driving, and a higher share of walking, bicycling, transit, and other modes.

Transition from LOS to VMT

Lastly, while this EIR uses LOS, which was the metric required by the California Environmental Quality Act when this process began, we recommend that the city transition to using the new VMT metric as soon as feasible. San Francisco and Oakland have already made the transition, and other cities including San Jose, Redwood City and Menlo Park are in the process of planning the transition. B13-3

Using the new metrics will make it easier to create places and transportation that reduces pollution, improves access and safety. The sooner the changes are implemented, the sooner cities can more easily support sustainable transportation. Belmont will have examples from other cities to draw on in making this transition.

Thank you for your consideration.

Sincerely,

Adina Levin

Friends of Caltrain

From: Corey Smith

Sent: Tuesday, August 15, 2017 12:40 PM

To: Steve Simpson <ssimpson@belmont.gov>; Kathy Meola <KMeola@belmont.gov>; Thomas McCune <tmccune@belmont.gov>; Nathan Majeski <nmajeski@belmont.gov>; Justin Hendrix <JHendrix@belmont.gov>; Amy Goldfarb <agoldfarb@belmont.gov>; Carlos de Melo <cdemelo@belmont.gov>

Cc: Todd David todd@sfhac.org

Subject: Belmont EIR for General Plan

Community Development Director and members of the Belmont Planning Commission,

On behalf of the 300 business and individual members that make up the San Francisco Housing Action Coalition (SFHAC), we want to reach out regarding the General Plan Amendment EIR.

The SFHAC strongly encourages you to adapt any changes to your General Plan that will increase home creation and be cognizant of the region's jobs/housing balance. As you know, the region's severe housing shortage has led to an affordability and displacement crisis never before seen in the Bay Area. We're advocates for a growing region and know how critical jobs are for future generations. You can help by building mores homes for current and future employees and residents of the Peninsula and the Bay Area than any alternative proposes. That said, Alternative 1 does provide the only appropriate balance given the regional challenges. B14-1

Please be thoughtful on the regional impact of your decisions, it affects us all.

Respectfully,

Corey Smith

Organizer, SFHAC

Comments on the City of Belmont's June 2017 DEIR by Mark and Etta Herbach: August 16, 2017

Thank you for the opportunity to provide comments on the City of Belmont's June 2017 DEIR. While our comments focus on one area in both the DEIR and draft General Plan that we respectfully request be reconsidered, we do want to thank the Staff, Commissioners, and participants in the process thus far for all of the hard work which is clearly reflected in the two documents in which we offer comments.

The issue we wish to raise is that the importance from a safety perspective of evaluating the appropriate length of dead end streets in Belmont is not currently expressly integrated into Chapter 4.9: Land Use, Population, and Housing in 6.10-1 on page 4.9-27 of the DEIR. We believe the appropriate length of cul-de-sacs needs to be addressed directly, especially because of the high fire danger in our community. B15-1

By way of background, an examination of the maximum length of cul-de-sacs in cities throughout the Peninsula range from a high of 800 feet in Belmont to 250 feet in Burlingame. Alphabetically arranged, maximum Code requirements from cities on the Peninsula follow:

> Atherton- less than 300 feet; Belmont - 800 feet; Burlingame -250 feet; East Palo Alto (hazardous fire area)- 600 feet; Hillsborough- 500 feet; Menlo Park-300 feet; Mountain View (R1 and R2 Residential Zoning Districts)-700 feet; Palo Alto- 350 feet or less; Redwood City- 250 feet; San Carlos-500 feet; San Jose-500 feet; South San Francisco- 500 feet; and Sunnyvale- 400 feet.

Since Belmont already allows the highest maximum cul-de-sac length of all of these cities, and our Code provisions on point were adopted before the Oakland Hills firestorm, we believe the standard in our Code should be reviewed with a view toward seriously enhancing safety. After all, a key intent of providing a maximum length for a cul-de-sac with attendant turn around widths and appropriate weight bearing road capabilities, for example, is to allow residents to expeditiously exit to escape raging flames while heavy machinery is brought in to put out the fire. Therefore, to maximize the safety of the public and preserve our property, the City should effectively utilize its police powers to address the specifics of the high fire hazardous area found in Belmont. The importance of thoroughly reviewing the maximum length of a cul-de-sac and strictly evaluating the criteria the City is using to address any development of new roadways is an essential approach in this day and age. To do otherwise would ignore the Urban-Wildland Interface (High or Very High Fire Hazard Severity Zone) categorization applicable in Belmont.

The text of 6.10-1 states:

"Ensure that new roadways are developed in accordance with standards the Municipal Code. In all new development, require adequate access to be provided for emergency vehicles, including adequate widths, turning radii, hard standing areas, and vertical clearance."

Based upon the details we offered above, we would request the language be revised as follows:

Ensure that new roadways are developed in accordance with standards in the Municipal Code. In all new development, require adequate access to be provided for emergency vehicles, including adequate widths, turning radii, hard standing areas, and vertical clearance. In addition, ensure that the maximum length of cul-de-sacs articulated in the Belmont Code is reevaluated timely in light of

the high fire danger which exists in Belmont and experience gained throughout California in the years following the Oakland Hills fire. The granting of any exemption which exceeds the reevaluated maximum cul-de-sac length should be made on an extremely limited basis with a view toward ensuring that the public safety factor is given the most weight in any potential exemption analysis.

B15-1

If the final EIR does not reflect the proposed text we have offered, please explain the basis for rejecting our request. Thank you.

Comments on The Belmont General Plan Public Review Draft by Mark and Etta Herbach: August 16, 2017

Consistent with the approach requested for the DEIR regarding the subject of safety and cul-de-sac length, we would request comparable revisions be made to The Belmont General Plan Public Review Draft, Roadways Goal 3.4 at p 3-23.

3.4-2 currently provides: "Provide road improvement standards, including rights-of-way, pavement condition, pavement width, and grade, that account for reasonable safety and recognize variations in local physical conditions."

We would modify that language as follows:

Provide road improvement standards, including rights-of-way, pavement condition, pavement width, grade, and length of cul-de sacs that maximize safety while recognizing variations in local physical conditions.

Similarly, Goal 6.10, emphasizes minimizing damage to people and property. Related Policy 6.10-1 needs to be revised. See the Safety Element of The Belmont General Plan Public Review Draft, at p 6-30.

Policy 6.10-1 currently states: "Ensure that new roadways are developed in accordance with standards in the Municipal Code (Sec. 7-11) requiring all-weather access prior to issuance of building permit. In all new development, require adequate access to be provided for emergency vehicles, including adequate widths, turning radii, hard standing areas, and vertical clearance; also require home addresses and street signage to be visible."

Consistent with the rationale in our DEIR comments, we would revise the text as follows:

Ensure that new roadways are developed in accordance with standards in the Municipal Code. In all new development, require adequate access to be provided for emergency vehicles, including adequate widths, turning radii, hard standing areas, and vertical clearance. In addition, ensure that the maximum length of cul-de-sacs articulated in the Belmont Code is reevaluated timely in light of the high fire danger which exists in Belmont and experience gained throughout California in the years following the Oakland Hills fire. The granting of any exemption which exceeds the reevaluated maximum cul-de-sac length should be made on an extremely limited basis with a view toward ensuring that the public safety factor is given the most weight in any potential exemption analysis.

Thank you for the opportunity to submit comments on Belmont's June 2017 Draft EIR and Draft General Plan.

Mark and Etta Herbach August 16, 2017

From: Jo Ann Arneson

Sent: Thursday, August 17, 2017 10:54 PM

To: Carlos de Melo <cdemelo@belmont.gov>

Subject: DEIR Comments Balance housing and jobs

To whom it may concern:

As I stated at the August 15 Planning Commission I am for the alternative. It is essential to have more housing so people will be able to live and work in Belmont. We don't need more commuting and polluting. It is not realistic to think most people will take public transportation. For years I took the KX express bus to the airport which went every 30 minutes. Then it changed to 60 minutes. Now it goes four times in the early morning and four times in the pm. B16-1

Affordable housing is a prime concern. Rents have skyrocketed. We need teachers, beauticians, restaurant workers, clerks, dental assistants etc. to be able to reside where they work. It looks as though I'll have to move out of the area.

It is essential for a vibrant, thriving Belmont to have people work and live here instead of commuting in for work and not caring about and supporting the community.

I hope that recreation will be a high-priority. I used to have a season pass to Marine World and was very sad to see it leave. It was educational, a great place for young people to work and lots of fun. I took lessons and skated at Belmont Iceland. Two of the best Belmont venues closed. Throughout the Bay Area we have lost recreational opportunities--Circle Star theater, movie theaters, drive in theater, miniature golf, bowling, Grand Prix, ice skating, Bay Meadows racing, Bay Meadows golf and Marine World. communities require quality recreation. Young people need positive activities to keep them out of trouble. B16-2

Thank you for your consideration.

Jo Ann Arneson

40 year resident

From: Diane Bailey
Sent: Thursday, August 17, 2017 7:52 AM
To: x-community development <cdev@belmont.gov>; Planning Comm <PlanningComm@belmont.gov>; Eric Reed <ereed@belmont.gov>; Charles Stone - Mayor <cstone@belmont.gov>; Warren Lieberman <wlieberman@belmont.gov>; Douglas Kim - Vice Mayor <dkim@belmont.gov>; Davina Hurt <dhurt@belmont.gov>; Carlos de Melo <cdemelo@belmont.gov>
Cc: Alan Sarver <asarver@earthlink.net>; Adina Levin <aldeivnian@gmail.com>; Kevin Burke <kev@inburke.com>; Cari Pang Chen <cari@rebuildingtogetherpeninsula.org>
Subject: Re: Belmont General Plan Update Comments

Dear Planning Commissioners, Council Members and Staff,

Thank you for the opportunity to comment again on the Climate Action Plan, Village Specific Plan, General Plan, and EIR. I appreciate all the hard work that went into each of these. As i review previous comments on these items, i think the earlier comments largely reflect my support and recommendations, with several additional items. Please accept these additional notes:

1) I support each of these plans, and in particular support Alternative 1 of the DEIR, which provides more housing. B17-1

2) Housing & Density: I support the comments made by Kevin Burke and several others at the Planning Commission earlier this week, about the need for housing, and particularly affordable housing. Please consider a higher FAR limit to allow more housing over retail in new mixed-use developments in the station core and village core areas. Also, i support the comments from Adina Levin with Friends of Caltrain in her letter submitted recently or about to be sent. B17-2

3) Environmental Standards: I support the Climate Action Plan and have commented recently/separately on that. Congrats again on opting for ECO100 for city power, and thank you for making that choice. However, the planing and zoning documents are the most impactful on climate and the environment. Please consider more specific planning policies and zoning requirements for 100% Renewable Energy for all new developments, similar to the standards recently adopted by the City of Menlo Park. It's important to make sure that new developments do not increase the carbon footprint of Belmont as we try to reduce carbon and cope with rising bay levels. Please also consider building elevation requirements that are several feet above future flood levels to accommodate anticipated increases in Bay levels. Both of these standards can be found in the new zoning regulation in Menlo Park, described in the factsheet attached, with links to the plan and regulatory language. Several more specific recommendations are listed below. B17-3 B17-4

Please accept the informal comments listed below.

Many thanks for the important work that you do to make Belmont a great place. I can't wait to see the downtown and station areas redeveloped.
Warm regards,
Diane Bailey,
Middlesex Road, Belmont

Additional Comments on the Belmont Village Specific Plan, General Plan, Zoning, Climate Action Plan, and EIR

Specific Plan:

- Appreciate the growth in Housing – a more than doubling of units, but this growth is outstripped by the increase in jobs, which is almost double that of new housing units added. This worsens the jobs-housing imbalance. Recommend adding more housing units downtown and allowing for taller buildings downtown to accommodate this growth and create density to support more transit.

- Should increase maximum FAR to at least 3 to allow more residential to be built on top of retail in mixed use sites in the downtown and station area cores.

- Appreciate many of the policies to avoid car-centric designs, for example

o Policy 2.1-14 - Multi-story Format Required for Large Buildings. (e.g. avoiding single story big box stores)

o Policy 2.1-15 - Wrapped Parking Structures (e.g. maintaining interest along sidewalks)

o Policy 2.1-16 - Community Gathering Spaces and Placemaking Strategies

- Strongly support Program 4.6: Parking – to reduce parking minimums for multi-family, and develop shared parking strategies. The less surface land dedicated to parking, the better for a vibrant, healthy downtown.

- Appreciate the proposed distribution of affordable housing on both sides of El Camino, and strategies to facilitate more affordable housing development.

- Mobility: The citywide goals to reduce vehicles-miles traveled per capita by 15 percent should be increased to 25 percent.

- Parking: Unbundled parking, “park once” and paid parking strategies are good; however, on-street parking should be minimized.

- Strongly support Urban Design goals; recommend a commitment also to more public art.

Zoning:
Like /Support

- Standards for ample pedestrian access, sidewalks, public plazas & spaces, amenities such as benches, and shading.

- Mixed use zoning

- Parking requirements in Section 8: “Outside of shopping centers, parking areas and structures must be placed behind or beneath buildings.”

- Tree & landscape requirements for parking lots

- Bicycle parking standards

- TDM Programs: “All projects subject to the requirements of this section that do not have GreenTRIP Certification shall implement any combination of the following measures to achieve the required VMT reduction and promote use of non-auto and shared mobility options.” In particular, paid parking is an effective option on the list.

Support with further recommendations:

- 5% EV Charging spots in parking facilities with 20 or more spaces serving Multi-Unit Residential and Hotels and Motels. However, this should also apply to any new retail and workplaces.

Recommended Additions:

- The zoning fails to make any sustainable building requirements for renewable energy, LEED Standards, building above future flooding levels, water reuse, and waste reduction. Please consider adopting a sustainability element based on the provisions in the recent City of Menlo Park zoning or that of other nearby cities.

Conservation Policies in the General Plan
Like/Support

- Climate Action Plan & commitment to GHG reductions

Support with further recommendations:

- Air Quality goals & protecting vulnerable populations, though the plan is silent on how to do that. For instance, putting the sports complex directly next to 101 puts players at risk from toxic diesel soot and other freeway pollutants. Under the new plan, I would hope the area around the freeway would not be used for playing fields, schools, or any other sensitive land uses.

- Climate goals of 15% GHG reduction from 2005 to 2020 and 50% reduction by 2035 is not so ambitious but

could be made more meaningful with more concrete steps to ensure new developments are carbon free

• Adaptation strategies in Policy 5.11-3 including promoting resiliency and addressing climate change impacts, such as sea level rise, are important, but the zoning standards should reflect this by including a minimum elevation for all new developments of 2 feet above future (2050) flood levels.
Recommended Additions

• The General Plan should include a clean energy goal with specific targets

o 100% renewable power citywide by 2025;

o Zero Net Carbon standards for new developments > 10,000 sf

o Clean transportations goals should go beyond the Air District CAP measures to include an “EV First” purchasing policy, and EV charging infrastructure required for all new parking facilities.

On Sun, Feb 14, 2016 at 11:05 PM, Diane Bailey wrote:
Dear Mayor Reed, City Council Members, Planning Commissioners and Staff,

Thank you so much for your hard work on the General Plan update for Belmont. This is such an important task for all cities, including our small and lovely city of Belmont.

We moved to Sterling Downs 6 years ago and have been so happy to watch our neighborhood including our local school, Nesbit, improve so much. With three small kids, i haven't had a lot of time for civic engagement. However, i've developed the two attached sustainability guides for General Plan updates of circulation and land use in my professional work in Menlo Park. I think they can be of use here in Belmont as well, since they include specific examples of GP language from some of the best Plans in the region and successful policies implemented in other cities.

On land use planning, in addition to the best practices attached, i'd like to see allowance of greater density along El Camino and other major corridors, coupled with micro-units or other dense, affordable housing to address the extreme housing shortage in the area. Although Belmont has a small-town charm, building up to six stories along the busiest areas wouldn't detract from the quaint feel if the buildings were designed right with plenty of trees, setbacks and public amenities. Our downtown could use more of a downtown feel than a Safeway plaza with a few restaurants. Allowing greater density will help sustain the improved public transit that we need.

On circulation, i very much appreciate the emphasis on complete streets serving everyone, but am concerned that current bike routes are too dangerous. We're uncomfortable allowing our kids to bike on streets with sharrows (arrows depicting bike access) because they have to dodge between parked cars and moving cars, which doesn't feel safe. On roads like Ralston that have bike lanes, they still feel unsafe because the lanes disappear at the busiest areas and aren't protected from cars. Please consider installing some separated bike lanes to improve safety and access.

On conservation, i wish our town could take bolder action to address climate change. The current 15% greenhouse gas (GHG) reduction target for 2020 relies on state and other actions for the most part. Belmont recently voted to join Peninsula Clean Energy, which will bring in a cleaner power supply. For that, i thank you! Could a commitment be made to use the cleanest power available, with a goal of 100% renewable power by 2020 or as soon as economically feasible? Could other GHG reduction goals be embraced, such as an increase in mobility mode share of bikes, walking, transit, carpools and other alternatives to single-occupancy driving? Could Belmont consider requiring new buildings larger 10,000 or 25,000 square feet to meet net zero energy standards or LEED Platinum? Finally, with the proliferation of options for zero-dollar-down solar arrangements (e.g. PPAs or leases), Belmont should explore solar installations for all municipal buildings this year.

Thanks very much for considering my comments. We are so grateful for your efforts to make Belmont a great place to live, and feel very fortunate to live here.
Sincerely,

Diane Bailey

From: On Behalf Of marshall
Sent: Thursday, August 17, 2017 8:09 PM
To: Carlos de Melo <cdemelo@belmont.gov>
Subject: Comments on DRAFT ENVIRONMENTAL IMPACT REPORT for the DRAFT 2035 GENERAL PLAN

To: Carlos de Melo
cdemelo@belmont.gov<mailto:cdemelo@belmont.gov>
Community Development Director City of Belmont
One Twin Pines Lane, Suite 310
Belmont, CA 94002
(650) 595-7440<tel:(650)595-7440>

Carlos,

Please accept this email as comments on the Belmont "DRAFT ENVIRONMENTAL IMPACT REPORT for the DRAFT 2035 GENERAL PLAN" as submitted during the document review period.

I have reviewed much of the proposed new General Plan and the DEIR associated with it. I think it is quite comprehensive and a very positive step for the City of Belmont.

It is clear that a major effort has been made to address the kinds of natural disaster safety issues we face in our City including earthquakes, landslides, liquefaction, wildfires, etc. As a long-time Belmont resident I believe this is very important.

As for my specific comments/questions on the DEIR:

B18-1

(1) On page 4.5-11 of the DEIR there is a discussion about the Seismic Hazards Mapping Act (SHMA) with the statement, "There are no Seismic Hazard Zones in the Planning Area..." As you are surely aware, the California Geological Survey has been mapping hazards as mandated by the SHMA since shortly after the 1989 Loma Prieta earthquake. For many years the San Mateo quadrangle, that includes Belmont, has been listed as "mapping in progress." However, just today (17 August 2017) the preliminary Seismic Hazard Map for the area that includes Belmont was released. You can see from the released preliminary map that there are substantial areas of Belmont that show a significant risk of earthquake triggered landslides or liquefaction and will be subject to the State requirements of the Seismic Hazards Mapping Act in the near future. Obviously the timing of this release is inconvenient given the timeline for the DEIR and the new General Plan. But I would hope that this latest information could be incorporated and be used to improve planning and enhance public safety in future years - as is clearly the intent of the Seismic Hazards Mapping Act. As you know there has been much work in recent years by geotechnical experts to better understand, evaluate, mitigate, and plan for earthquake, landslide, and liquefaction risks and it is in the best interest of Belmont and its residents to include this information and knowledge in future planning decisions. Please comment on how this latest information will be incorporated.

The following are links to the updated information from the California Geological Survey:

http://www.conservation.ca.gov/cgs/shzp/Documents/PreliminarySHZReleaseStatement_8-17-2017.pdf
http://gmw.conservation.ca.gov/SHP/EZRIM/Maps/SAN_MATEO_EZRIM_PRELIM.pdf
http://gmw.conservation.ca.gov/SHP/EZRIM/Reports/SHZR/Preliminary_SHZR_113_San_Mateo.pdf

http://www.conservation.ca.gov/cgs/shzp/Pages/SHMPpgminfo.aspx
http://www.conservation.ca.gov/cgs/shzp/webdocs/Documents/sp117.pdf
http://www.conservation.ca.gov/cgs/shzp/webdocs/Documents/sp118_revised.pdf
http://www-scec.usc.edu/resources/catalog/LiquefactionproceduresJun99.pdf
http://www-scec.usc.edu/resources/catalog/LandslideProceduresJune02.pdf

In case you are unaware of it, please see this additional map from the USGS that evaluates and displays expected slope stability in San Mateo County during a major earthquake:

https://pubs.usgs.gov/imap/1257e/plate-1.pdf --- (a bit sobering as it shows some broad occupied sloped areas with a prediction of as much as 25% of the land area "likely to fail in a major earthquake.")

(2) As a minor related comment: I believe there may be a mistake on the map of figure 4.5-2. It shows a high landslide risk at the corner of Old County Rd. and Harbor Blvd. Since there is no significant slope in this area I assume that this was simply a mistake in drawing the map. B18-2

(3) I note that there are a number of areas in the proposed General Plan and the DEIR that speak to the potentially severe wildfire dangers that exist in Belmont. I applaud this. I know that the General Plan provides a high level framework and it will be followed by more detailed implementation actions that will be incorporated into future Specific Plans, Statutes, Planning Procedures, etc. It is my observation that many of the lessons learned in the disastrous and deadly Oakland Hills fire of 1991 (as well as other major wildfires in California and elsewhere) have not been incorporated into current City statutes, development codes, etc. Belmont's narrow winding streets with many dead-ends and with limited emergency ingress/egress and turn-around capability on hilly, wooded, terrain mirror the proven deadly fire conditions of the Oakland Hills. I would hope that as various General Plan implementation processes continue over the next few years the City's statutes, procedures, etc. will be updated to reflect the latest knowledge, codes, and expert recommendations about wildfires and safety. Any feedback related to how this might happen would be much appreciated B18-3

Thank you for the work of you and your staff on this comprehensive new General Plan,

Jeff Marshall

OTHER BUSINESS / UPDATES

Draft Environmental Impact Report (DEIR) – 2035 General Plan & Interim Zoning, Belmont Village Specific Plan & Zoning, Climate Action Plan.

City Attorney Rennie stated that this is purely a legislative matter.

Community Development Director deMelo stated that various components of the project have been before the Commission; this project has been reviewed and evaluated for a number of years. The comprehensive project covers the General Plan, the Belmont Village Specific Plan and the Climate Action Plan and some associated policy plans as well as the Draft Environmental Impact Report (DEIR). Tonight, serves as an opportunity for the community to provide verbal comments before the public comment period ends on August 18, 2017.

Sophie Martin, Dyett & Bhatia, presented a PowerPoint presentation on the 2035 Belmont General Plan Update, Belmont Village Specific Plan, Phase 1 Zoning Code Update, and Climate Action Plan. She stated that the last day to submit comments to Mr. deMelo, the Community Development Director is Friday August 18, 2017. This is a perfect opportunity for the public, agencies, and the Planning Commission to provide comments.

She strongly encourages that comments should be sent in writing so that the consultants can fully understand what is being said and that we are able to respond to them. Comments can be provided on-line, US Mail or at the General Plan and Belmont Village Specific Plan URL.

A Draft Environmental Impact Report (EIR) is required by the California Environmental Quality Act (CEQA). CEQA provides Disclosure, Analysis, Mitigation and Reasonable Alternatives.

The Belmont General Plan, Belmont Village Specific Plan and Climate Action Plan Draft EIR is a Programmatic EIR: *"A general environmental assessment for an overall program of projects intended to be developed over a long-term planning horizon."* This is looking at the city and does not get into the same level of specificity that a project does.

There are four potential Environmental Impact Findings:

1. No Impact.
2. Less than Significant.
3. Less than Significant with Mitigation.
4. Significant and Unavoidable.

The Significant, Unavoidable Impacts were:

1. Air Quality due to construction-related emissions, long-term operational emissions and exposing sensitive receptors to pollutants.
2. Noise due to exposure to short-term construction noise and vibration, and long-term traffic noise.

DRAFT

3. Transportation due to intersection and roadway Level of Service/delay. Going forward CEQA will have Vehicle Miles Traveled as the metric and not Level of Service.

City Attorney Rennie stated that Vehicles Miles Traveled is a state driven regulatory change and not a city choice.

The Alternatives to the Proposed Project:

1. No Project Alternative (1982 General Plan and the 1990/1995 Downtown Specific Plan and No Climate Action Plan, which does not equal no growth or no development; rather represents current planning documents remaining in place.

2. Alternative 1, Balanced Mixed Use, which is designed to potentially mitigate various significant impacts of the Proposed Project by creating a more balanced relationship between housing and commercial development in certain areas.

In September 2017, the city will release the Final EIR, which will contain responses to comments, edits and revisions to the Draft EIR. In the final months of 2017, the Planning Commission and the City Council will hold adoption hearings.

Community Development Director deMelo stated that no decisions are to be made tonight. Tonight's meeting is about listening and hearing comments from the public and the Planning Commission. Next week, the city will start looking at the comments received from the public. We have prepared five (5) policy documents as well as the DEIR.

Kevin Burke, small business owner and renter here in Belmont, like 42% of Belmont residents who rent in the city, I'm trying to save up to buy a home. As you may be aware the high price of rent is a really big area of concern for renters and the business community. Statewide more than 1 of 3 renters pay more than half their salary in rent. My girlfriend and I are going to pay $40,000 this year on rent here in Belmont. Many renters may be scared to speak out, I spoke to 2 people in the last week who are afraid of giving a public comment for fear of retaliation from their landlord.

Since 2010, San Mateo County has added seventy-five thousand jobs and only four thousand new housing units; that's increased competition for San Mateo apartments, in the same time frame the average rent has gone from $1,600 per month to $3,100 per month. The new plan calls for Belmont to add thirty-three hundred jobs and only fifteen hundred new housing units, that would be fine except every peninsula community is and has continued to add more jobs then housing. San Francisco in that same time frame has added ninety-eight thousand jobs and seventeen thousand housing units, Santa Clara county has added a hundred and fifty-seven thousand new jobs and only thirty thousand housing units since 2010. It's not really clear where the extra people are going to live and commute from.

C1-1

The fastest growing towns in the bay area are places like Gilroy, Morgan Hill, Brentwood and Dublin, mostly single-family homes with lawns. It's not good for the environment and it's not good for traffic when those people are commuting long distances to get to their jobs and I think the plan as currently written would exasperate that by adding many more jobs than housing units and it also puts stress on rent for apartments here in Belmont. To echo what the presenter said about Level of Service, Level of Service prioritizes a 20-minute commute on an empty freeway over a five-minute commute on a congested road; it has to do with how fast you can get around

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the roads and kind of prioritizes that commute from far out in Gilroy compared to infill development, which is why the state is switching away from it. I think if we did consider the Vehicle Miles Traveled (VMT) it would be much more favorable to housing here in Belmont. I would also say that there is a contradiction in the heart of any EIR, which is, people are an environmental impact we use water, electricity, we drive cars, from that respective of course adding more people is gonna have an impact on the environment. I think a better question is what is the impact of adding an extra person here versus adding an extra person say in Gilroy in which the EIR doesn't really address and is not legally required to address. I think there is a good argument to have less of an impact here in Belmont. C1-2

I'd like you to consider Alternative 1 please. The unemployment rate in San Mateo County is about 2% and it's not clear we need more room for office space. Literally every month someone I know is leaving the Bay Area because of the high cost of housing. My brother and my sister have already left. I'd like you to consider Alternative 1 in the plan which would add twenty-four hundred housing units; I think three hundred of those would be affordable and 2,100 jobs. I think this would be much better for traffic, for the environment and for the community as a whole. Thank you. C1-3

Jo Ann Arneson, Belmont Resident, spoke and stated she preferred Alternative 1. I think it's very important to have a balance of jobs and housing. In order to have a thriving, vibrant community, I think we want people to not only work here but live here and contribute to the community and I'm not in favor of people commuting and polluting. Thank you. C2-1

Sam Van, Belmont Resident, I'm here because I've lived in Belmont for the past thirty years. I'm a single mother with two kids and my rent has doubled in four years. So, adding more businesses and less housing is going to drive rents even higher and for that we need more housing and more affordable housing for the people that live in Belmont should be the first to get first dibs. Thank you. C3-1

Sarah Feldman, Belmont Resident, wanted to echo what Kevin and JoAnn spoke about earlier, jobs/housing balance. I think it's incredibly important but I think we are leaving out a third category which is really relevant, which is recreation. As we are adding more people to the city it's important that they also have places to go to recreate. The City of Belmont, at the moment is actually below their goal for recreation even from what the EIR says, it says "While Belmont currently falls short of achieving its developed parkland standard, the city has many acres of open space and miles of trails". But I encourage you to think about how many kids can recreate in a safe and supervised manor on a hiking trail. In the Environmental Impact Report, there is an assessment of recreation and traffic and community impact of the Belmont Village Specific Plan, in the recreation section, with public services there is a reference to a community gathering space but a community gathering space is not the same as the recreational asset that Belmont lost over a year ago, which is an ice rink. Although it did similarly gather a general, you know culture that was community based that exists at a rink, this community gathering space is not necessarily a recreational facility, it could be a place where people go to drink beer, it could be anything that is non-recreational, so I encourage a little more specificity in that language. C4-1 C4-2

Within the historical resources inventory I also encourage you to add Belmont Iceland because it had been here for 60 years and it was the training ground for Olympian Brian Boitano. C4-3

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Without recreational replacement for Belmont's ice rink, the plan falls short for fixing the commute problems that are now inherent in every Belmont skaters weekly recreation to San Francisco, San Jose and Dublin. Hockey parents used to spend over a $1,000 a week in Belmont which they are now taking to other cities. C4-4

Overall the EIR is not substantial, as it does not thoroughly address the traffic and recreation problem which is causing longer commutes for formal Belmont Iceland skaters, but I do hope that the city considers these thoughts and does everything in its power to reopen the rink. Thank you. C4-5

Annette Garcia, Belmont Resident. Thank you, Planning Commission, for your time. I am also here to discuss the recreation aspect of it and request that the Planning Commission consider that one of the things that made Belmont really special and unique as a community over the last 60 years was having skating and hockey and a gem of Belmont Iceland and I know you've heard this, we talked about it many times but I'm here because we don't want you to forget.

I know recreation is an important part of planning a city, yes, we are talking about having more development for more places for people to live and also being equal with the amount of jobs being here but, if you don't have recreation for people of all ages you have unhappy people.

Diverse recreation is really important, not all children are basketball, baseball or soccer players. There are children; I had a child today; I'm a figure skating coach and he currently has ADD and he got out there on the ice and his grandmother said you know he said "I want to do this forever" and there is nothing else that makes him as happy, nothing else that he can go out there and just skate around for an hour and really enjoy, he's tried everything else so I think having diverse options for children here in this community will make it a more rich and diverse community. Again, it's important to the children in surrounding communities who also came here so Belmont children weren't the only children who benefited from here. C5-1

I grew up in Redwood City, but I started my skating here in Belmont and trained under a coach here and I spent almost every day at the rink, so it's not just Belmont, it's the surrounding communities in San Mateo County, so I ask that you also please consider diverse recreation for Belmont and that includes other children from San Mateo County that will use your facilities. Thank you.

Tori Park, Belmont Resident. I also want to bring up the fact that recreation is really important. I just moved to Belmont a few months ago and I've spent my entire childhood in Belmont. Before that I use to live in Woodside and I would come to the rink every day and spend several hours a day skating, going out with friends and then bringing business to Belmont, so I think it's really important that we do have that recreation, but that we also take into account for the residents that are already here and not overbuild and not over develop without giving people options of things to do. I live right by Waterdog Lake Park and I adore being by a trail but I also kind of hate that there are not as many options for going to the gym; or going and skating, I have to go to Redwood City to do it or while I'm at work I have to go to Yerba Buena or on the weekends I tend to go to Dublin as well if I can't find the ice time to teach my kids. I have tons of parents that can't be here because they have kids who have school starting tomorrow and out of about 10 kids that I had before the rink closed I've lost 50% of them because they can't make the commute anymore and C6-1

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they all regret the fact that there is not as much ability for kids to go from school to a place that is easy for them to make friends and foster relationships that they keep forever.

Mohammad Mohi-Uddin, I am representing my client he owns four lots in Belmont on Ralston Avenue, so I'm here to give some relief to Kevin to build some houses; but when the Ralston Avenue was wide enough they put a retaining wall so we don't have any access so we need to know from where do we get the access for those lots. I'm trying to sell this for the past six months, there is no access so Belmont Canyon Road south, these lots are between what do you call it the traffic light by 92 and Belmont Canyon Road south. The water company says that to remove those pipes that are passing through the lots as an easement is a four hundred thousand dollar to five hundred-thousand-dollar expense or go through Ralston Avenue. But the city has closed that and put a retaining wall so either move the sand or let us build some houses. We can easily make four houses there and if the zoning changes we can make eight houses if allowed so that is our request. So, what do we do, what is the exit from Ralston Avenue so we need access that is the problem, we are not having access to those lots and the City of Belmont says that there is a road there already that goes to lot number four. I have the lot maps and to remove those pipes that go underneath those lots that's another heavy expense to develop. Thank you. C7-1

Diane Bailey, a resident of the city's Sterling Downs neighborhood. I really want to compliment the City. I think it's a monumental feat to pull together this many plans and documents in one shot with one EIR and I really appreciate the task at hand. I have numerous comments that I will share with you in writing but I just wanted to summarize. I strongly support this plan and I'm really happy to see the City of Belmont move forward with this project and bring Belmont a downtown. Right now, it's just a large Safeway parking lot and you know a lot of our friends and neighbors go out to other cities when they do recreation or evenings out with their families and so I know we would all love to stay here more if there was more of a downtown in a kind of a there there to Belmont so it's very exciting to see this happen. C8-1

I want to echo some of the comments about jobs/housing balance. This is a really pressing issue throughout the Bay Area, the cost of living is driving a lot of people out and its painful for us to watch our friends and neighbors leave because of the cost of living. I know that the onus can't be the burden of a small town like Belmont but we would like to see more density downtown and I think this plan is a great start but I wonder if the city could consider in certain circumstances higher floor area ratio limits, and building up more stories to allow greater density on the mixed-use developments envisioned in the downtown plan just to have more housing and more affordable housing especially on top of the retail. A lot of local cities have done this successfully. I'm thinking of Redwood City but San Mateo as well and so I know folks are really concerned about too much density. Don't change Belmont too much but we need to do our part to elevate the housing crunch and I think the downtown area Belmont Village Specific Plan is the perfect place for that density. I have a bunch of environmental standards that I would also like to be considered and I will put those in writing but I will also point out that I work on these things for a living. I focus my efforts in Menlo Park. The City of Menlo Park recently went through its own General Planning process and that was completed late last year and they came up with very green building standard development standards. It really doesn't cost developers more money, it just requires more thoughtful and careful planning and so we really encourage this commission and city to look at those standards. We've sent our sustainability guides in our email comments before and I will send them again as a reminder. We have a green building standards fact sheet that is just two pages that C8-2

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summarizes what was done in Menlo Park and we draw on examples from throughout the region and beyond and so Belmont doesn't need to reinvent the wheel. We can build in renewable energy and clean building and zero carbon building standards into this plan without too much effort, it just draws on existing samples.

In terms of sustainable transportation, great TDM list, I love what you are doing with the parking, making a more people centric downtown instead of car centric. I will put the rest in writing. Thank you so much.

Alan Sarver, Belmont Resident. I didn't prepare anything to say, I came here to listen this evening as well and I just wanted to support the points that Diane just made and focus on a good living/housing and employment balance in the work that we do. I really think that a multi-level, multi-use density along the transportation corridor is the way that we accomplish the long-range goals we have moving forward. I'm very pleased to hear her comments about standards that have been worked on and developed to really get everything in place and ensure that we move strongly in that direction. I've had the chance to be involved in a lot of the meetings that led to the plan being developed and I think the community has been heard very well in building this up. I just do hope that our focus is very much on Belmont taking its place as part of the fabric of the solution emerging along the peninsula. We can't do more than our own share of a small town but we want to do everything that we can to be an effective part of the solution. Thank you very much for this great work. C9-1

Mary Morrissey Parden, Board Member of the Belmont Chamber of Commerce. We have certainly been following all three of these plans and we highly support the direction its taking. I'm here primarily to listen, but I did want to follow up on one of the comments the speaker made about development standards. I think this plan had some intention of not having really tight development standards so we weren't going to get something cookie cutter like the last or the current Downtown Specific Plan. You can see it's a pretty cookie cutter look and that was done with intent and purpose and I think loosening up development standards helps developers bring in projects that have a broader range to you. I know we will talk further about this, but I just wanted to follow up on the speaker prior to last. Thank you. C10-1

Community Development Director deMelo stated that we heard from folks from the audience that wish to address the Commission and we would not be responding to comments tonight and that the meeting was video recorded and that we would be working with Dyett & Bhatia after the comment period closes on August 18, 2017. We will be coming up with a schedule for public hearing review, and adoption of the documents and release of the Final EIR.

Community Development Director deMelo stated that September through December will be busy months, as we are reviewing this large-scale project. He recommended to the commissioners that they drive around the community and see the progress of all the development projects that are happening. The first hotel, the Marriott should be ready to open in about a month; Crystal Springs Upland School is approaching their completion and will be holding a ribbon cutting event at the end of this month, on August 27th; the two mixed use projects along El Camino Real are in the process of framing; and Autobahn has given us some revised updates on their anticipated date of completion and that is February of next year. There is a new gas station being built at Old County

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Road and Ralston Avenue, which is going to be a 76 Station with some additional pumps, a mini mart building and a car wash. We also have lots of projects including single family homes coming before this Commission in the next few months.

City Attorney Rennie stated that there could possibly be another process training opportunity for the Commissioners. He is currently working on some ideas, more in-depth discussion on the Brown Act, Ex-parte contact or other aspects about being a Commissioner. Commissioners can send him ideas offline, and training will be conducted in an informal setting.

ADJOURNMENT: to a regular meeting of the Planning Commission to be held on September 5, 2017, at this time being 8:35 P.M.

Prepared by,
Irma Hernandez
Temporary Administrative Assistant

Approved by,
Carlos deMelo, Community Development Director

Meeting televeised and web streamed.

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3 Responses to Comments

This chapter includes responses to each comment, and in the same order as presented in Chapter 2. The responses are marked with the same number-letter combination as the comment to which they respond, as shown in the margin of the comment letters.

A. Agencies

A1 Tammy Rudock, Mid-Peninsula Water District

A1-1 The comment identifies a map labeling error on DEIR Figure 4.13-1. The map is corrected and included in Chapter 4, Corrections to the Draft EIR.

A1-2 The comment references an incorrect citation in the Draft General Plan Conservation Element. Although the analysis relied on the 2015 Urban Water Management Plan (UWMP), Draft EIR cited the 2010 version of the UWMP. The error is corrected and included in Chapter 5, Corrections to the Proposed Project.

A1-3 The comment identifies a map labeling error on Figure 5-6 in the Draft General Plan. The map is corrected and included in Chapter 5, Corrections to the Proposed Project.

A1-4 The comment identifies outdated information in the Draft General Plan Conservation Element. The tables and text that the comment references are updated with the correct information provided by the commenter and included in Chapter 5, Corrections to the Proposed Project. The adjustments with respect to updated water conservation information clarify the information presenting in the Draft General Plan but do not result in a change with respect to the severity of the any of the Proposed Project's impacts.

A2 J. E. Allen, Captain, California Highway Patrol (CHP)

A2-1 The commenter believes that the project will have a negative impact on CHP operations, which could lead to a potential increase in traffic collisions. While projecting future potential increases in traffic collisions is outside the scope of an EIR, the Draft EIR does provide analysis of freeway segments and the potential changes associated with the proposed Plan. Please refer to Draft EIR Table 4.12-4 for existing freeway level of service and Draft EIR Table 4.12-36 for projected freeway level of service. As discussed on page 4.12-167 of the Draft EIR, the Proposed Project would result in a significant and unavoidable impact on all studied freeway segments (Impact 4.12-8).

A2-2 The commenter states the Proposed Project will cause additional CHP enforcement demands and have a negative impact on emergency response times along US 101. The Proposed Project increases congestion on US 101 in the vicinity of the Planning Area which could potentially affect emergency vehicle response times, to the extent noted in Draft EIR table 4.12-36. Thus, to the extent that the plans would affect the density of vehicles on the freeway (density is a measure of the number of vehicles per mile) and average speed on the freeway, there could be a corresponding change to the response times for emergency vehicles traveling through the Planning Area, unless sirens are used to reduce their delay. As discussed on page 4.12-175 of the Draft EIR, per the City's CEQA threshold criteria, since the impact of potential mitigation measures cannot be accurately quantified, the Proposed Project's impact on emergency access remains significant and unavoidable (Impact 4.12-9).

A3 Teresa Herrera, PE, Silicon Valley Clean Water

A3-1 The comment expresses confidence that the sewer flow rates used to analyze General Plan development are consistent with the agency's assumptions and projections, which is noted.

A3-2 The comment affirms that SVCW's planned RESCU Program improvements to the Belmont Pump Station and SVWC conveyance pipelines will be sufficient to accommodate the flow rates projected for the Belmont Village Specific Plan Area, which is noted.

A3-3 The comment expresses concern that the "peaking factor" used to develop the projected Peak Wet Weather Flow (PWWF) for the BVSP incorrectly overestimates the flows generated by new development in a storm event. The flows to the pump station were adjusted with the assumption that new development and future improvements made in the Belmont Village area and other areas will likely produce less wet weather inflow and infiltration than would be predicted by the master plan methodology. For these areas the future additional flows have been re-computed based on additional peak dry weather flow (PDWF) expected from the additional development plus an I/I allowance of 1,000 gal/day/acre. This method estimates a future PWWF of 19.4 mgd at the Belmont Pump Station. Please refer to Appendix A of this Final EIR for the revised Technical Memorandum that provides the corrected analysis. No change to the EIR significance findings for this impact results from this new analysis, as the corrected analysis does not identify any new facility needs not already identified in Impact 4.13-2 and associated mitigation measures UTIL-2 and UTIL-3, which address necessary sewer system improvements.

A4 Patricia Maurice, Department of Transportation (Caltrans)

A4-1 The commenter suggests that the Proposed Project should encourage the use of transit, active transportation, and ride sharing through improved pedestrian access to frequent transit service. The Draft Belmont General Plan (GP) and Draft Belmont Village Specific Plan (BVSP) promote complete street strategies to incorporate active transportation and access to transit service throughout the City of Belmont. The proposed update to street

typology prioritizes active transportation and transit service on roadway system. Please refer to GP Goals 3.1 – 3.3 and 3.5 – 3.7 and BVSP Goals 3.1 – 3.4.

A4-2 The commenter suggests that the Proposed Project should include a Transportation Demand Management (TDM) Program for individual development projects to reduce vehicle miles traveled (VMT) and greenhouse gas emissions (GHG). The BVSP aims to reduce automobile trips in the Planning Area through the required implementation of TDM measures for development projects meeting the requirements of Section 31.7 of the Zoning Ordinance Amendment. The BVSP also encourages projects not meeting the requirements to also consider implementing TDM measures. Please refer to BVSP Policy 3.4-1.

A4-3 The commenter requested project trip generation information. The commenter suggests that the City of Belmont should identify viable funding sources to provide sufficient allocation of fair share contributions towards multi-modal and regional transportation improvements. For project-generated trip information please refer to Draft EIR tables 4.12-26 and 4.12-27. As discussed in the Draft EIR, the Proposed Project would have a less than significant impact with respect to transit ridership (Impact 4.12-7). Although cost estimation for regional transportation improvement is not required as mitigation for the Proposed Project and is therefore outside the scope of an environmental impact report, which analyzes potential environmental effects of the project, the City of Belmont is committed to work with Caltrain, Samtrans, C/CAG and Caltrans to identify and jointly pursue funding for regional transportation projects.

A4-4 The commenter suggests that the plan should include measures to mitigate the regional impacts associated with the project. The commenter states these measures should include promoting regional connectivity via alternative modes and improving the access to and quality of alternative transportation and transit services. The Proposed Project promotes improved access and facilities for Caltrain and Samtrans in the City of Belmont. The Proposed Project also promotes improved pedestrian and bicycle access to the Belmont Caltrain Station and existing and future transit stops throughout the City of Belmont. Please refer to BVSP Policies 3.3-1 – 3.3-3 and GP Policies 3.7-1 – 3.7-8. Despite these components of the Proposed Project and the incorporation of all feasible mitigation, the Draft EIR discusses the Proposed Project's significant and unavoidable impacts with respect to certain local and regional intersections, street segments, and freeways.

A4-5 The commenter suggests that development projects should pay their fair share contributions towards the planned construction of the San Mateo County US 101 Managed Lanes Project. While cost estimation for regional transportation improvement is outside the scope of an environmental impact report, which analyzes potential environmental effects of the project, the City of Belmont is committed to work with C/CAG, Caltrans, and other relevant parties to identify and jointly pursue funding for regional transportation projects. Payment of fair share of fees may have the potential to reduce the severity of the impact, but as described in the Draft EIR under Impact 4.12-1, impacts to vehicular congestion on areawide roadways, including US 101, are identified as significant and unavoidable.

A4-6 The commenter notes that any work or traffic control that encroaches onto the State right-of-way (ROW) requires an encroachment permit issued by the Department of Transportation. The comment is noted.

A5 Scott Morgan, State Clearinghouse

A5-1 The letter acknowledges the City of Belmont's compliance with the State Clearinghouse requirements for draft environmental documents, pursuant to CEQA; the comment is noted.

B. Organizations and Individuals

B1 Kevin Burke (1)

B1-1 The comment expresses a preference for CEQA to require an analysis of the balance between the number of jobs and housing in a jurisdiction, which is noted.

The commenter also states that the EIR does not take into account the transportation-related environmental impacts from an imbalance between jobs and housing; nor does it account for the water-related environmental impacts from the limited housing supply in Belmont, which results in people living in other jurisdictions with typically larger-lots and greater residential water use for landscaping.

The Draft EIR accounts for the regional balance in jobs and housing by being consistent with the adopted Regional Transportation Plan/Sustainable Community Strategies (RTP/SCS). Draft EIR Chapter 4.6: Energy, Greenhouse Gases, and Climate explains that "the socioeconomic assumptions and housing element update is consistent with the long-range forecasts made for the RTP/SCS."[1] Per State law, RTP/SCS must accommodate the regional housing needs,[2] based on the Regional Housing Needs Allocation (RHNA) developed by the Association of Bay Area Governments. One of the objectives of the RHNA is: "Promoting an improved intraregional relationship between jobs and housing."[3]

In regards to transportation-related impacts more specifically, Draft EIR Chapter 4.6: Energy, Greenhouse Gases, and Climate analyzes the greenhouse gas (GHG) emissions from the Proposed Project. The discussion of Impact 4.6-1 analyzes the potential GHG emissions from mobile sources and growth in vehicle miles traveled (VMT). The Draft General Plan and Belmont Village Specific Plan allow and encourage mixed-use development and establish policies to reduce trip length and overall VMT, including, but not limited to, the following:

[1] Draft EIR Chapter 4.6, page 4.6-42.

[2] California Government Code Section 65080(b)(2)(B)

[3] Association of Bay Area Governments, Regional Housing Need Plan San Francisco Bay Area 2014-2022. <http://www.abag.ca.gov/files/ABAG_Final_RHNA_Publication.pdf>

General Plan Policies

Policy 2.3-2: Encourage higher density residential uses located in close proximity to commercial services, employment opportunities, and major transportation corridors and facilities.

Belmont Village Specific Plan Policies

Policy 6.4-8: Consistent with the goals and policies in the General Plan's Land Use Element and development patterns shown on the General Plan Land Use Diagram, promote mixed-use development in the Village and along the El Camino Real Corridor that is supportive of alternative modes of transportation (public transit, walking, bicycling, etc.) and lessens the need for and length of vehicle trips.

In regards to water-related impacts more specifically, Draft EIR Chapter 4.13: Utilities analyzes the Proposed Project's impacts on utilities, including water use. The analysis of Impact 4.13-2 explains that while water demand is expected to increase through the horizon year of the General Plan as population and job growth occur, per capita water use is gradually expected to trend downward. In addition, the Proposed Project includes policies to reduce urban water use.

B1-2 The comment expresses a preference for Belmont to plan for more housing units, which is noted. The comment states a policy preference and does not pertain to the substance or adequacy of the Draft EIR, and it may be considered by decision-makers.

B2 Tim O'Brien

B2-1 The comment expresses concern about a lack of planned bicycle parking facilities. The comment does not address the adequacy of the Draft EIR's analysis of the Proposed Project's transportation analysis. Moreover, the Proposed Project does include requirements for bicycle parking in both the zoning measures and the BVSP.

The Phase I Zoning introduces a new section to the zoning code on "Off-street Parking and Loading in Corridor Mixed Use and Regional Commercial Districts", which establishes minimum bicycle parking requirements and standards for long-term and short-term bicycle parking (Section 8A.4 Bicycle Parking). In addition, long-term and short-term bicycle parking is included as a transportation demand management strategy in Section 8A.7.4 Vehicle Trip Reduction Measures.

The Belmont Village zoning also establishes minimum bicycle parking requirements, as well as standards for long-term and short-term bicycle parking facilities (Section 31.6.8 Bicycle Parking).

B3 Josh Powell

B3-1 The comment expresses a preference for Alternative 1, which is noted.

B4 Eric Moyer

B4-1 The comment notes a potential mapping error in the Seismic and Geologic Hazards map (Figure 4.5-1 in the Draft EIR and Figure 6-1 in the Draft General Plan). The property in question is identified as having "High Landslide Potential" on the Seismic and Geologic Hazards map. The commenter provided information showing that the "Existing Landslide Distribution" according to the Association of Bay Area Governments (ABAG) Resilience Program differs from the Seismic and Geologic Hazards map. In addition, the commenter provided a geotechnical investigation of the property in question, stamped by a licensed civil engineer, that states: "There are no mapped geologic hazards landslides constraining the site."

The landslide data on the Seismic and Geologic Hazards map is based on the most recent data from the California Geologic Survey of the U.S. Geological Survey (USGS). It is consistent with ABAG's data on "Rainfall Induced Landslides," rather than the "Existing Landslide Distribution" data. However, on August 17, 2017, the California Geologic Survey released preliminary mapping of Seismic Hazard Zones in the San Mateo Quadrangle, which includes the Planning Area. According to these preliminary maps, the area in question appears not to be located within the Earthquake-Induced Landslide Zone.

There is potential for inaccuracies or errors at the parcel-level in the Seismic and Geologic Hazards map (Figure 4.5-1 in the Draft EIR and Figure 6-1 in the Draft General Plan), as well as potential for new USGS data to be released over the horizon of the General Plan. Therefore, as shown in Chapters 4 and 5 of this document, Policy 6.1-3 has been revised to allow development in areas at risk of landslides, if a licensed civil engineer assesses the site and determines that there is no risk of landslides on the property. In addition, a new policy (Policy 6.1-12) has been added to the Draft General Plan to ensure that the Seismic and Geologic Hazards map reflects the most recent USGS data.

B5 Mark Cerqueira

B5-1 The comment expresses a preference for Alternative 1, which is noted.

B5-2 The comment suggests locations where rezoning should be considered to allow additional housing; these suggestions are outside the scope of the EIR but are noted for decision-maker considerations.

B6 Kevin Burke (2)

B6-1 The comment expresses concern about the impacts of the Draft General Plan on school enrollment in Belmont and poses inquiries about the legality of this concern. The discussion of Impact 4.11-2 in the Draft EIR analyzes the impact of the Proposed Project on school enrollment and concluded that the Proposed Project would result in a less than significant environmental impact with respect to schools. As suggested in the comment, there are State regulations related to both the siting and financing of new schools. The siting of new schools is regulated by the California Department of Education, not the City of Belmont. In addition, fees levied against new development are deemed "full and

complete mitigation of the impacts of any legislative or adjudicative act, involving, but not limited to, the planning, use, or development of real property… on the provision of adequate school facilities."[4] Therefore, although the projected school enrollment is higher than the current school capacity in Belmont, no mitigation other than school fees levied against new development is required.

B7 Coralin Feierbach

B7-1 The comment expresses a concern that the General Plan Land Use Diagram does not indicate the Measure F Overlay for HRO-designated properties south of Ralston Avenue. The error is acknowledged, and the General Plan Land Use Diagram (Figure 3-4 in the Draft EIR and Figure 2-4 in the Draft General Plan) are updated such that all HRO-designated properties (HRO-1, 2, and 3) within these areas will be appropriately designated with the Measure F Overlay. Because this correction addresses a map error that reflects current policy, and does not result in any change to analysis or growth projections, it does not change the analysis of impacts in the Draft EIR that rely on those projections.

B8 Kristin Mercer (1)

B8-1 See response to Comment B7-1.

B8-2 The comment questions the zoning designation for the former Jewish Community Center property located on Carlmont Drive, which has been redeveloped to multi-family residential. The City's Zoning Map correctly identifies the subject property with the PD – Planned Development designation. The General Plan Land Use Diagram (Figure 3-4 in the Draft EIR and Figure 2-4 in the Draft General Plan) is corrected with the appropriate Medium Density Residential (RM) designation. Because this change corrects a minor error that reflects current policy, and does not result in any change to analysis or growth projections, it does not change the analysis of impacts in the Draft EIR that rely on those projections.

B8-3 The comment questions church zoning designations (specifically churches located on Lori Drive and Marine View Way). Places of Assembly/Worship (i.e. Churches) are located throughout the city with a variety of zoning designations (e.g. R-1B Single Family Residential, PD – Planned Development). The City is not proposing any changes to the current General Plan Land Use Designation/Zoning Map for the subject Lori Drive or Marine View Way properties. Any future alternative use of current church property located throughout the City will be evaluated in concert with the General Plan/Zoning Code.

B8-4 The comment concerns on the land use designation for the City's Davey Glen Park and adjacent open space area and claims that this site is identified as residential. No map in the Draft EIR has been identified that indicates the subject parcel as Residential. The

[4] California Government Code Section 65995

Draft Phase 1 Zoning Map amendments already propose to redesignate the Davey Glen Park property from PD - Planned Development to PS – Public/Community Facilities.

B8-5 The comment questions the zoning designation for the Arroyo View residential development above Continentals street. The current zoning designation for these properties is Planned Development. The General Plan Land Use Diagram (Figure 3-4 in the Draft EIR and Figure 2-4 in the Draft General Plan) is amended to address consistency with the existing on-site multi-family residential uses. Because this change corrects a minor error that reflects current conditions, and does not result in any change to analysis or growth projections, it does not change the analysis of impacts in the Draft EIR that rely on those projections.

B9 Kristin Mercer (2)

B9-1 The comment indicates a map error on properties located adjacent to NDNU and Folger Drive. The General Plan Land Use Diagram (Figure 3-4 in the Draft EIR and Figure 2-4 in the Draft General Plan) is corrected to address this error. Because this change corrects a minor error that reflects current conditions, and does not result in any change to analysis or growth projections, it does not change the analysis of impacts in the Draft EIR that rely on those projections.

B9-2 The comment questions the zoning designation and future use of the Mid-Peninsula Water District property on Folger Drive. One goal of the Phase 1 Zoning project is to correct known zoning map errors, assign correct land use districts and create consistency with existing development. In this case, all Mid-Peninsula Water District Tank properties are currently used as Public Facilities and are designated as such. The General Plan and Phase 1 Zoning changes address this consistency. An exception is the three Water District parcels on Folger Drive, which will continue their R-1B (Single Family Residential) designation to preserve potential future (non-public) uses for these properties.

B9-3 The comment questions the zoning designations for properties located on O'Neill Avenue and Elmer Street adjacent to the unincorporated Harbor Industrial Area (HIA). The comment suggests that a parcel fronting on O'Neill Avenue (across from Granada Street) has not been identified is mapped as Residential; however, no map in the Draft EIR is identified as showing the parcel as such. The additional three parcels that are the subject of the comment, which abut Elmer Street and O'Neill Avenue, are located in the unincorporated HIA area. The City is proposing to pre-zone these parcels as Village Corridor Mixed-Use. No changes to the Draft EIR or the Proposed Project are necessary.

B9-4 The comment questions the zoning designations for Mid-Peninsula Water District property and vacant single family residential lots located above Fox School. The Phase 1 Zoning Map changes correctly identify the Mid-Peninsula Water District parcel as amended to the Public/Community Facilities (PS) designation. The corresponding General Plan Land Use Diagram (Figure 3-4 in the Draft EIR and Figure 2-4 in the Draft General Plan) is corrected for the adjacent vacant four single family residential lots to the residential low-density designation. Because this change corrects a minor error that reflects current conditions, and does not result in any change to analysis or growth

projections, it does not change the analysis of impacts in the Draft EIR that rely on those projections.

B9-5 The comment questions the zoning for the CSUS parcels located on Davis Drive. The Phase 1 Zoning Map correctly indicates the CSUS property amendments from the E2.2 to the PD designation. The General Plan Land Use Diagram (Figure 3-4 in the Draft EIR and Figure 2-4 in the Draft General Plan) is amended to assign the Institutional land use designation to this parcel for consistency.

B10 Kevin Burke (3)

B10-1 The comment describes concerns about the need for housing in Brisbane and how these housing concerns are relevant to Belmont, which is noted. The comment does not pertain to the adequacy or substance of the Draft EIR or to conditions in Belmont specifically; however, policy considerations posed by this comment may be considered by decision-makers.

B10-2 The comment claims that the EIR analysis only considers changes and impacts within Belmont. Section 6.2, Cumulative Impacts, of Chapter 6 in the Draft EIR discusses impacts "created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts." In many cases the Cumulative Context, including past, present, and probable future projects producing related impacts, is defined in the Draft EIR as the Planning Area, but some impacts are analyzed on a larger geographical scale. For example, the Cumulative Context for cumulative impacts related to air quality in the Draft EIR is the Planning Area and the entire San Francisco Bay Area Air Basin.

B11 Kristin Mercer (3)

B11-1 The comment questions the current and potential future use of the City's Firehouse Square property located at Fifth & O'Neill avenues. The City originally purchased the subject property with Low-Moderate Income (LMI) Housing funds, establishing the future intended use of the subject property to include below market rate housing. The City intends to facilitate redevelopment of the subject property to include both commercial and residential uses, including below market rate housing, as required. The Draft EIR identified the Firehouse building as a significant historic resource and identifies two mitigation measures in Impact 4.4-1 that are required to ensure that impacts associated with redevelopment of the property are reduced to less than significant levels. Mitigation Measure CULT-1 requires any project applicant proposing physical changes to the Firehouse Building to maintain the existing structure's historic Spanish façade, while Mitigation Measure CULT-2 requires such a project to include detailed signage with historical information about the site, consistent with the recommendations of the historical evaluation prepared for the resource. The impact of the BVSP and Village Zoning, after Mitigation Measures CULT-1 and CULT-2, is less than significant.

B12 Kristin Mercer (4)

B12-1 The comment asks where land in the Planning Area is designated Open Space-Privately Owned (OS-PO), because Figure 3-4 and 3-5 do not show this designation. The comment also asks why the OS-PO zoning district allows for single-family residences. The OS-PO district was considered in an earlier draft of the Phase I Zoning regulations reviewed by the Planning Commission; however, in the final Public Review draft of the regulations, it was removed. The inclusion of the description of the OS-PO district in the Draft EIR is an error; the City is not proposing to include this district in the Zoning Code at this time. Therefore, pages 3-9 and 3-13 of the Draft EIR are amended to remove references to this district (see Chapter 4 of this Final EIR for edits).

B12-2 The comment asks whether allowing for the development of single-family residences in the OS-PO zoning district is in conflict with the objectives of the Draft General Plan objectives related to Open Space for Natural Resource Protection. See response to comment B12-1.

B13 Adina Levin, Friends of Caltrain

B13-1 The comment expresses a preference for Alternative 1, which is noted.

B13-2 The comment expresses support for the Proposed Project's parking and transportation demand management policies (TDM), which is noted. The comment also expresses support for more aggressive TDM requirements, which is a policy consideration that may be considered by the Planning Commission and City Council.

B13-3 The comment points out that per SB 743, cities and other project proponents and lead agencies will soon transition to using Vehicle Miles Traveled (VMT) as an EIR metric and significance threshold instead of Level of Service, which is a correct observation. At the time that this Draft EIR was released, the California Office of Planning and Research (OPR) had not provided final guidance on this matter. The City of Belmont has chosen to provide VMT data in the EIR for informational purposes to facilitate preparation of future environmental documents in the city. In addition, the Circulation Element of the Draft General Plan includes Goal 3.2: "Reduce dependence on the automobile for travel and achieve a reduction in vehicle miles traveled (VMT) per capita of 15 percent by year 2035."

B14 Corey Smith, San Francisco Housing Action Coalition

B14-1 The comment expresses a preference for Alternative 1, which is noted.

B15 Mark and Etta Herbach

B15-1 The comment questions the City's length of roadways in concert with cul-de-sac standards and fire safety as related to development. The Proposed Project (2035 General Plan Update) does not propose to change the City's roadway standards within Hillside Residential/Open Space areas of the city. The City's current roadway standards for the San Juan and Western Hills area, which is a high fire hazard area of the City, already include standards requiring such roads be designed and constructed to minimize grading;

adequately handle the traffic of proposed development and constructed to engineering standards; provide adequate ingress and egress for emergency services vehicles; and consider sight distance, curve radii, and access to abutting properties. Intersections of all hillside roads shall also be designed to accepted engineering standards. The City's current standards adequately address fire safety and emergency access, and no changes to the Draft EIR are required.

B16 Jo Ann Arneson

B16-1 The comment expresses a preference for Alternative 1, which is noted.

B16-2 The comment expresses concern that various commercial recreation destinations in Belmont and the surrounding area have closed over the years, and identifies providing adequate recreational facilities as a high priority. Privately owned and operated recreation facilities are outside the control of the City of Belmont, and provision of these amenities is also outside of the City's control and outside the purview of the EIR. However, impacts related to public recreation facilities are discussed in Chapter 4.11 of the EIR, Public Services and Recreation. It is a high priority of the City of Belmont to ensure that public recreational opportunities and facilities are provided in the Planning Area to meet the needs of the current and future population. Policies, priorities, and strategies related to recreation are found in the Parks, Recreation, and Open Space Element of the Draft General Plan.

B17 Diane Bailey

B17-1 The comment expresses preference for Alternative 1 of the DEIR, which is noted.

B17-2 The comment expresses preference for more housing, especially affordable housing, as well as increased density and improved jobs-housing balance. These suggestions are outside the scope of the EIR but are noted for decision-maker consideration.

B17-3 The comment recommends adding planning policies and zoning requirements for renewable energy in new development. As noted in the comment, the Climate Action Plan includes Measure EC6 requiring the City to "continue to opt for the ECO100 option (100% renewable energy) for all City facilities", as well as Measure EM3 requiring feasibility studies on the installation of renewable energy projects at City facilities. However, the suggestions regarding planning and zoning requirements are policy considerations outside the scope of the EIR and are noted for decision-maker consideration.

B17-4 The comment recommends adding planning policies and zoning requirements regarding building elevations to anticipate increasing sea levels. These suggestions are outside the scope of the EIR but are noted for decision-maker considerations.

B18 Jeff Marshall

B18-1 The comment references new California Geological Survey mapping of seismic hazards in the Planning Area. The California Department of Conservation California Geological

Survey released an "Announcement of Preliminary Review Maps of New and Revised Seismic Hazard Zones" on August 17, 2017. The Preliminary Review Maps of the San Mateo 7.5-Minute Quadrangle, San Mateo County, cover the Planning Area and will be important in understanding and reducing seismic risks in the Planning Area. The Preliminary Review Maps show that there are substantial areas of liquefaction zones and earthquake-induced landslide zones in the Planning Area.

To acknowledge this new preliminary information and the forthcoming finalized maps, language has been added to Section 6.2 Seismic and Geologic Hazards of the General Plan, as well as to the Regulatory Settings in the DEIR, as shown in Chapter 5. In addition, as shown in Chapter 5 of this document, Policy 6.1-12 has been added to the Draft General Plan to ensure that the City updates Figure 6-1: Seismic and Geologic Hazards once new, finalized data is released. Similarly, although the preliminary maps of the Seismic Hazard Zones suggest a greater amount of the Planning Area is at risk liquefaction and landslides, the policies in the Draft General Plan ensure that implementation of the Proposed Project would not expose people or structure to potential substantial adverse effects from seismic hazards. Policy 6.1-3 prohibits development in areas at risk of landslides or high or very high liquefaction in areas shown in Draft General Plan Figure 6-1, and the new Policy 6.1-12 ensures that Draft General Plan Figure 6-1 is based on the most recent, reliable data available.

B18-2 The comment notes a potential error in Figure 4.5-2: Seismic and Geologic Hazards of the Draft EIR related to landslide risk. Figure 4.5-2 in the EIR and Figure 6-1 in the Belmont Village Specific Plan has been updated, as shown in Chapter 5 of this document.

B18-3 The comment recommends that the General Plan implementation process, including new ordinances and specific plans, reflect the latest knowledge and practices related to wildfires and safety. This comment is noted, and the policy direction may be considered by decision-makers.

C. Oral Comments

C1 Kevin Burke

C1-1 The comment expresses preference for more housing, which is noted.

C1-2 The comment expresses concern for the use of Level of Service (LOS) as a CEQA threshold. Per Senate Bill 743 (Steinberg, 2013), cities and other project proponents and lead agencies will soon transition to using Vehicle Miles Traveled (VMT) as an EIR metric and significance threshold instead of Level of Service. At the time that this Draft EIR was released, the California Office of Planning and Research (OPR) had not provided final guidance on this matter. See response to comment B13-3.

The comment also expresses concern that CEQA does not require the comparison of potential environmental impacts from development in different locations in the region.

This concern is noted, but it does not pertain to the substance or adequacy of the Draft EIR.

C1-3 The comment expresses preference for Alternative 1, which is noted.

C2 Jo Ann Arneson

C2-1 The comment expresses preference for Alternative 1, which is noted.

C3 Sam Van

C3-1 The comment expresses preference for more housing, including affordable housing, which is noted.

C4 Sarah Feldman

C4-1 The comment expresses preference for Alternative 1 because of its jobs-housing balance, which is noted.

C4-2 The comment expresses concern about the lack of recreational space in the Planning Area and notes that hiking trails and community gathering space in Belmont Village should not be considered equivalent to recreational space. The discussion in Impact 4.11-2 of the Draft EIR Chapter 4.11: Public Services and Recreation analyzes the impacts of the Proposed Project on the physical deterioration of existing parks and recreation facilities in the Planning Area. The discussion in Impact 4.11-2 refers to the 294 acres of undeveloped public open space in the Planning Area as a recreational asset. However, the impact analysis relies on an examination of the potential for new parkland as the population of the Planning Area grows and concludes that there is sufficient vacant land to meet the need for parkland in the future. As explained in the Draft EIR, policies in the General Plan support the attainment of the parkland standard. The discussion of Impact 4.11-2 also considers the need for parkland in Belmont Village, and concludes that 2.2 acres of neighborhoods parks need to be added to the Belmont Village Specific Plan Area to meet the standard of 3.0 acres of community parks and 2.0 neighborhood parks. As discussed in the Draft EIR, Belmont Village Specific Plan Policy 5.9-1 reads: "Strive to achieve provision of a minimum of 2.2 acres of neighborhood parkland across the Planning Area, recognizing that park space in urban, downtown environments may take the form of plazas, pocket parks, and flexible spaces." The City's support for community gathering spaces does not change the City's aim to provide more parkland in the Belmont Village Specific Plan Area, as established in Policy 5.9-1.

It is acknowledged that the commenter's remark pertains to the loss of the Belmont Iceland facility, which was a private business over which the City of Belmont had no control. Still, the City acknowledges the role that the facility played in providing Belmont residents and the broader community with a unique recreational opportunity, and the City also acknowledges that these types of recreational facilities do not serve the same function as parks, natural open space, and trails. Upon adoption of the Proposed Project, the City will be undertaking an update to its Parks, Recreation, and Open Space Master

Plan, which will analyze and plan for more specifically the different recreational needs of the City of Belmont.

C4-3 The comment encourages Belmont Iceland to be added to the historical resources inventory. The EIR relies on the City's Historical Resources Inventory conducted in 1991, as well as a comprehensive record search by the Northwest Information Center of the California Historic Resources Information System. Adding historical resources to the City's inventory or to regional inventories is a policy decision. This suggestion is outside the scope of the EIR but is noted for decision-maker consideration.

C4-4 The comment suggests that the Draft EIR should consider the longer trip lengths associated with ice skaters having to travel further to reach ice rinks with the closure of Belmont Iceland. The travel demand modeling used in this analysis considers broad travel patterns associated with a citywide collection of households and nonresidential uses associated with the Proposed Project land use designations and intensities, aggregated to the Traffic Analysis Zone (TAZ) level and forecast to the year 2035. It is not, nor is it required to be, specific enough to assign trips and trip lengths to individual parcels and precise uses on each parcel. The Proposed Project does not preclude development of a different ice rink within the Planning Area at a later date; should this occur, the specific traffic impacts of that use would be evaluated on a project-specific level as appropriate.

C4-5 The comment requests that the City work to reopen Belmont Iceland, which is noted. The comment does not pertain to the substance or adequacy of the Draft EIR.

C5 Annette Garcia

C5-1 The comment requests the City to consider the importance of diverse recreation opportunities, which is noted. The comment does not pertain to the substance or adequacy of the Draft EIR. See also response to Comment C4-2.

C6 Tori Park

C6-1 The comment expresses concern about the lack of recreational opportunities, especially in the future. Refer to response to Comment C4-2.

C7 Mohammed Mohi-Uddin

C7-1 The comment includes an inquiry to the City about gaining access to private property on Ralston Avenue. The comment does not pertain to the substance or adequacy of the Draft EIR.

C8 Diane Bailey

C8-1 The comment expresses concern about the jobs-housing balance in the Planning Area and expresses preference for more density in the Belmont Village Specific Plan Area. The comment is noted, but it does not pertain to the substance or adequacy of the Draft EIR. The policy preference may be considered by decision-makers.

C8-2 The comment encourages the City to adopt or encourage sustainable building standards, which is noted. The comment does not pertain to the substance or adequacy of the Draft EIR; rather, it is a policy recommendation that may be considered by decision-makers.

C9 Alan Sarver

C9-1 The comment expresses concern about the jobs-housing balance in the Planning Area and expresses preference for more density in the Belmont Village Specific Plan Area. The comment is noted and the policy preference may be considered by decision-makers.

C10 Mary Morrissey Parden, Belmont Chamber of Commerce

C10-1 The comment addresses the development standards in the BVSP and does not pertain to the content of the Draft EIR.

C11 Christy Riviere and Allison Kirk, Bay Area Air Quality Management District (BAAQMD)

C11-1 City staff received verbal comments from Bay Area Air Quality Management District (BAAQMD) staff regarding the Draft EIR's analysis of the Proposed Project's consistency with the BAAQMD's *2010 Clean Air Plan* (Christy Riviere, personal communication, August 16, 2017). The commenter noted that the Draft EIR analysis referenced the BAAQMD's *2010 Clean Air Plan* and not the *2017 Clean Air Plan*. The *2017 Clean Air Plan* was adopted by the BAAQMD Board of Directors on April 19, 2017, approximately two months prior to the public release of the Draft EIR on June 30, 2017.

State CEQA Guidelines Section 15125 states that the appropriate baseline conditions for an EIR are established at the time when the Notice of Preparation (NOP) is published. The NOP for the Proposed Project was sent to reviewing agencies, interested parties, and organizations on September 1, 2016. At that time, the applicable air quality attainment plan (AQAP) was the *2010 Clean Air Plan.* The DEIR found that the Proposed Project would support the primary goals of the *2010 Clean Air Plan* and provided an appendix (Appendix C) which detailed how the applicable control measures were consistent with the Proposed Project (see pages 25-34 in Section 4.2 *Air Quality* of the Draft EIR). CEQA does not require a project to demonstrate consistency with a plan that is adopted after baseline conditions are established. Notwithstanding, recognizing the importance of the *2017 Clean Air Plan* in reducing regional air pollution and protecting public health, the following discussion evaluates the Proposed Project's consistency with the *2017 Clean Air Plan.*

The *2017 Clean Air Plan* focuses on two primary goals: protecting public health and protecting the climate. The Proposed Project includes policies that support these goals, including policies which promote alternative modes of transportation, adaptation measures which seek to reduce GHG emissions, and land use policies which support high-density development near public transit. The Proposed Project therefore supports the primary goals of the *2017 Clean Air Plan*. The *2017 Clean Air Plan* contains control measures aimed at reducing air pollution in the region. Many of the control measures included in the *2010 Clean Air Plan* have been carried forward into the *2017 Clean Air*

Plan (for example, all of the six Land Use and Local Impacts measures have been carried forward into the 2017 plan). Of the 35 control measures from the *2010 Clean Air Plan* which the DEIR found applicable to the Proposed Project, 31 are ongoing and have been carried forward in the *2017 Clean Air Plan.* Of the remaining four, two have been adopted as rules and two have not been included in the *2017 Clean Air Plan.* Therefore, the Proposed Project contains policies and/or measures that incorporate the primary purpose of control measures contained in the *2017 Clean Air Plan*. The *2010 Clean Air Plan* included further study measures which at the time were not formalized as control measures. The *2017 Clean Air Plan* incorporates ten of these as formal control measures. These new control measures, which cover a range of emission reducing and energy efficient activities, would not present any inconsistency with the Proposed Project. The General Plan, Climate Action Plan, and BVSP (which together comprise the Proposed Project) include numerous policies that promote mixed-use development, alternative modes of transportation, renewable energy, and sustainable land use design. Neither the proposed General Plan nor the BVSP would cause the disruption, delay, or otherwise hinder implementation of any applicable control measure from the *2017 Clean Air Plan*. Rather, the plans would support and facilitate their implementation.

Based on the above analysis, the Proposed Project is consistent with the *2017 Clean Air Plan* as it supports its primary goals, includes applicable control measures, and does not disrupt or hinder the implementation of any of its measures. Accordingly, adoption of the Climate Action Plan and development under the proposed General Plan and BVSP would not fundamentally conflict with the *2017 Clean Air Plan* and would have a less than significant air quality impact.

4 Revisions to the Draft EIR

Chapter 3, Project Description

On page 3-9, revise the text under "Phase I Zoning Content and Purpose" as follows, and renumber the remaining items in the list accordingly:

> … ~~8. **Add Section 6C, Open Space Privately-Owned District.** Provides regulations for the new OS-PO District.~~

On page 3-13, revise the text under "Phase I Zoning":

> … The Agricultural and Open Space District has been eliminated, reflecting the absence of agricultural land in the Planning Area, as well as an intention to provide regulations that distinguish areas serving as community facilities from areas to be preserved as natural terrain. ~~All~~ Most areas falling under this district have been rezoned as ~~one of two~~ a newly created district~~s~~, ~~Open Space Privately-Owned and~~ Public/Semi-Public, while a few parcels along El Camino Real have been rezoned as Commercial Mixed Use.

On page 3-17, revise Figure 3-4, General Plan Land Use Diagram

On page 3-18, revise Figure 3-5, Phase 1 Zoning Map Amendments

Chapter 4.5: Geology, Soils, and Seismicity

On page 4.5-1, revise the text under "Seismic Hazards Mapping Act, California Public Resources Code Sections 2690-2699.6":

> The Seismic Hazards Mapping Act was developed to protect the public from the effects of strong groundshaking, liquefaction, landslides, or other ground failure, and from other hazards caused by earthquakes. This act requires the State Geologist to delineate various seismic hazard zones and requires cities, counties, and other local permitting agencies to regulate certain development projects within these zones. Before a development permit is granted for a site within a Seismic Hazard Zone, a geotechnical investigation of the site must be conducted and appropriate mitigation measures incorporated into the project design. Geotechnical investigations conducted within Seismic Hazard Zones must incorporate standards specified by the California Geologic Society (CGS) Special Publication 117, Guidelines for Evaluating and Mitigating Seismic Hazards.[7] ~~There are no Seismic Hazard Zones in the Planning Area; the Alquist Priolo Zone~~

~~along the San Andreas is in the vicinity, but is outside of the Planning Area to the southwest.~~ As of August 2017, the California Geologic Survey released preliminary mapping of Seismic Hazard Zones in the San Mateo Quadrangle, which includes the Planning Area. The preliminary Seismic Hazard Zones suggest that a substantial amount of land in the Planning Area is at risk of liquefaction and earthquake-induced landslides.

On page 4.5-6, revise Figure 4.5-2: Seismic and Geologic Hazards in the BVSP Area:

On page 4.5-17, add the following:

…As shown in Figure 4.5-1, locations within the Planning Area are considered prone to liquefaction hazards. Almost all of the area east of Highway 101 and some land west of Highway 101 along Chesterton Avenue is at risk of liquefaction due to the presence of soils that are often saturated or characteristic of wetlands. In addition, limited areas along the Belmont Creek are at risk. As of August 2017, the California Geologic Survey released preliminary mapping of Seismic Hazard Zones in the San Mateo Quadrangle, which includes the Planning Area. The preliminary Seismic Hazard Zones suggest that a larger area around Highway 101 and Belmont Creek in the Planning Area is at risk of liquefaction. Damage from earth-quake induced ground failure associated with liquefaction could be high in buildings constructed on improperly engineered fills or saturated alluvial sediments that have not received adequate compaction or treatment in accordance with current building code requirements….

Seismically Induced Landslides

…
The impacts from landslides on development of future land uses associated with the proposed General Plan and Phase I Zoning…Proposed developments would also adhere to the hillside development requirements contained in the proposed policies, including Draft General Plan Policy 4.4-3 that requires clustered development in the hillside areas to limit exposure to steep slopes; Policy 5.2-1 that encourages that areas with steep slopes remain undeveloped; Policy 6.1-6 requires geotechnical studies to include analysis of erosion and make recommendations, as warranted; ~~and~~ Policy 6.1-11 that requires the City to support erosion prevention, and Policy 6.1-12 that requires the City to update Figure 6-1 Seismic and Geologic Hazards based on the most recent reliable data. In addition, the Phase I Zoning continues the existing regulations in the Hillside Residential and Open Space District to resist landslides through development standards based on the average slope of the site, as well as slope stabilization techniques.

On page 4.5-18, under "Proposed General Plan Policies that Would Reduce the Impact," revise Policy 6.1-3 as follows:

Policy 6.1-3 Prohibit development in areas at risk of landslides or high or very high liquefaction as shown in Figure 6-1, or on slopes steeper than 30 percent, unless detailed site investigations by licensed engineers ensure that risks do not exist, or can be reduced to acceptable levels and the structure will be protected for its expected life.

On page 4.5-18, under "Proposed General Plan Policies that Would Reduce the Impact," add Policy 6.1-12 as follows:

Policy 6.1-12: Update Figure 6-1 with seismic and geologic hazards as new data from official, reliable sources is released.

Chapter 4.12: Transportation

On pages 4.12-128 to 4.12-132, revise the "notes" line of Table 4.12-31:

Table 4-1: 2035 plus Project Peak Hour Intersection Levels of Service

Study Intersection Approach	*Peak Hour*	*Existing*			*2035 plus Project*		
		Delay	*V/C*	*LOS*	*Delay*	*V/C*	*LOS*
…							
14. Ralston Avenue/Fifth Avenue*	AM	-	-	-	1.8	0.41	A
	PM	-	-	-	4.4	0.41	A
…							

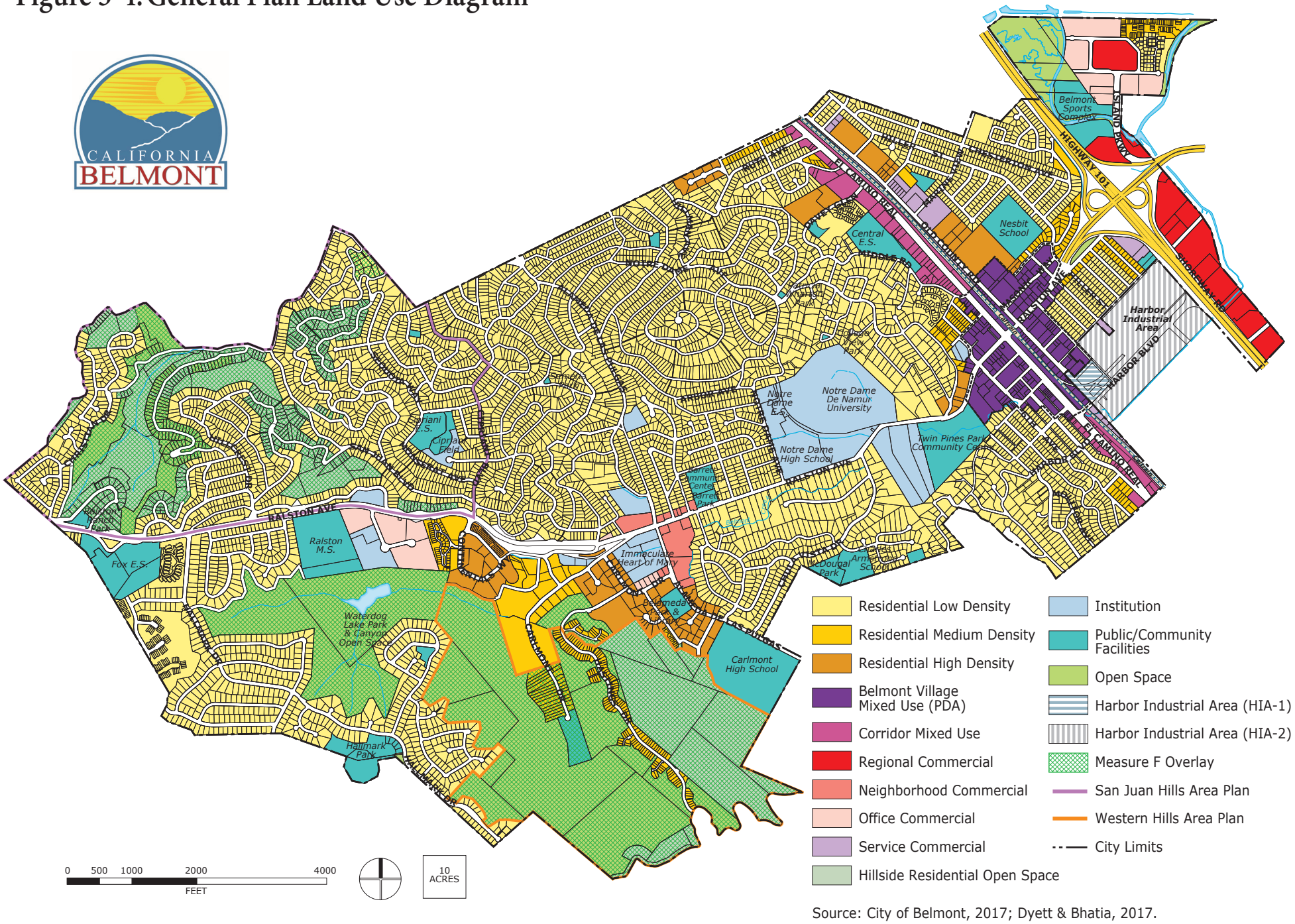
Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service; Results for minor approaches to two-way stop-controlled intersections are indicated in *italics;* V/C = Volume to Capacity Ratio; V/C Ratios are reported by approach for TWSC intersections; ** = delay greater than 120 seconds; **Bold** text = deficient operation.

* = intersection only evaluated under 2035 plus Project Conditions. Fifth Avenue approaches operate at LOS E.

Chapter 4.13: Utilities

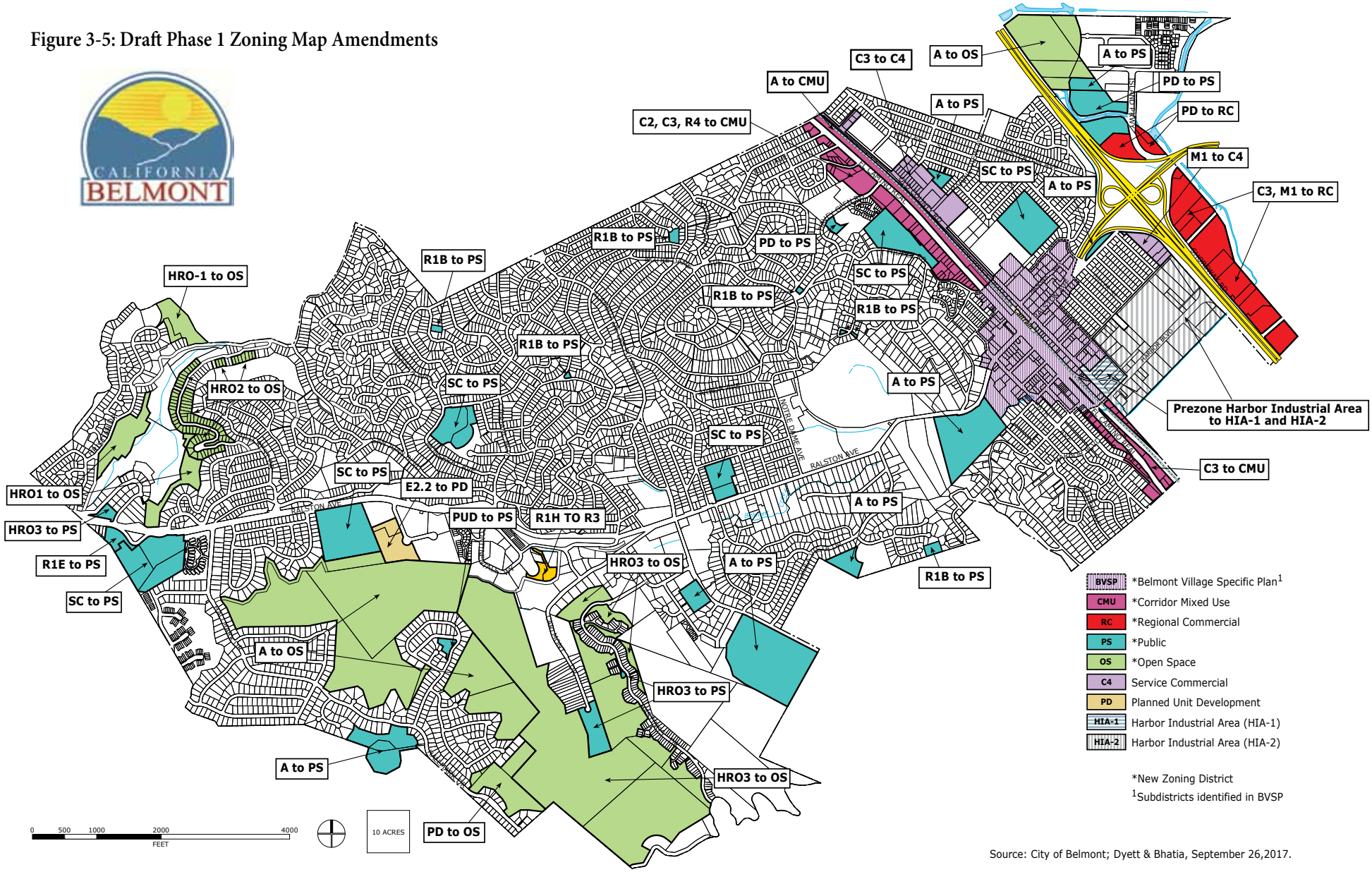
On page 4.13-2, revise Figure 4.13-1: Existing Water System in the Planning Area.

Figure 3-4: General Plan Land Use Diagram



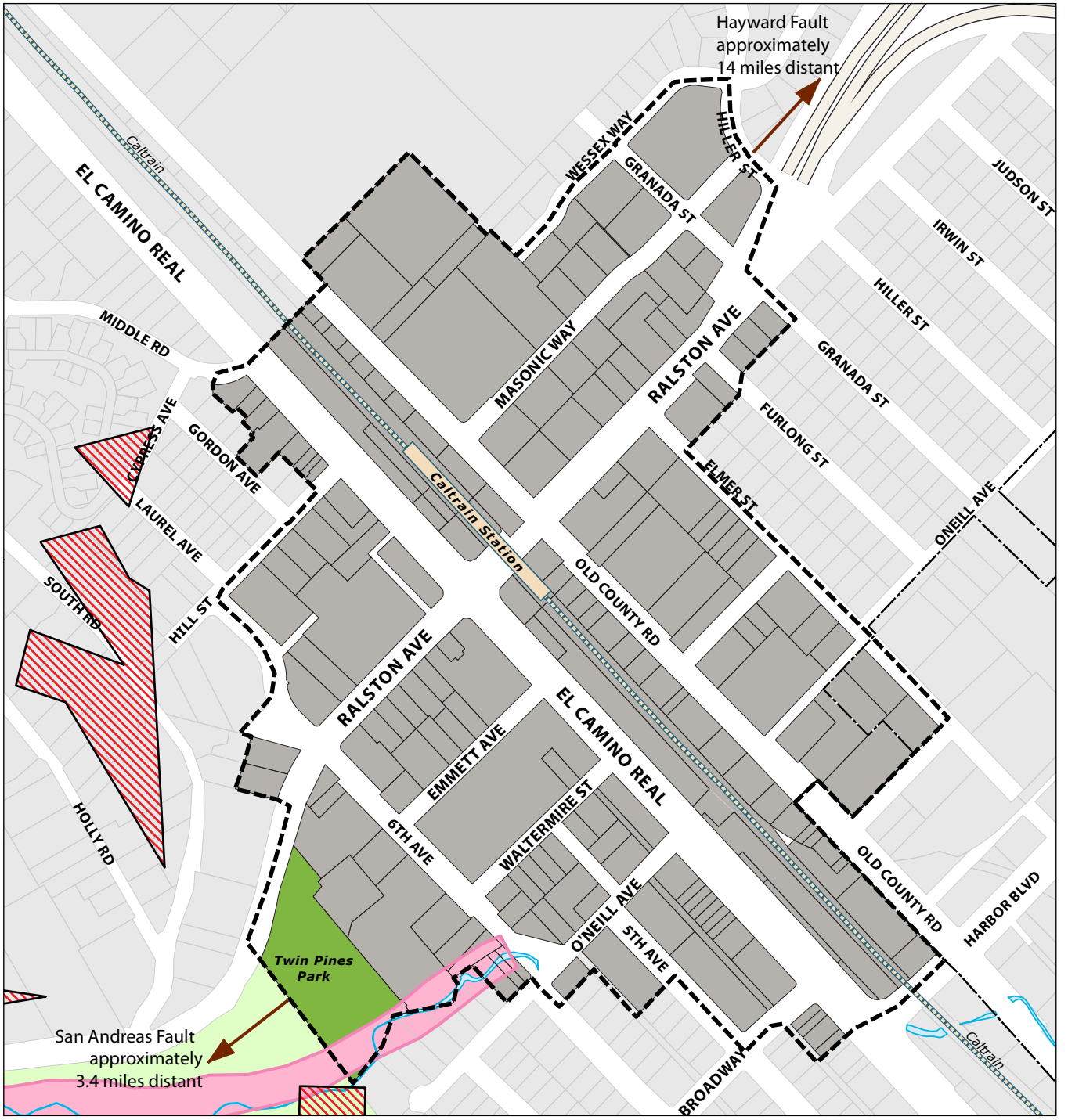
Source: City of Belmont, 2017; Dyett & Bhatia, 2017.

Figure 3-5: Draft Phase 1 Zoning Map Amendments



Source: City of Belmont; Dyett & Bhatia, September 26,2017.

Figure 4.5-2: Seismic and Geologic Hazards in the BVSP Area



Environmental Hazards

- Very High Liquefaction
- Slope over 30 percent
- Caltrain
- Waterway
- Study Area Parcels
- Belmont Village Planning Area
- City of Belmont

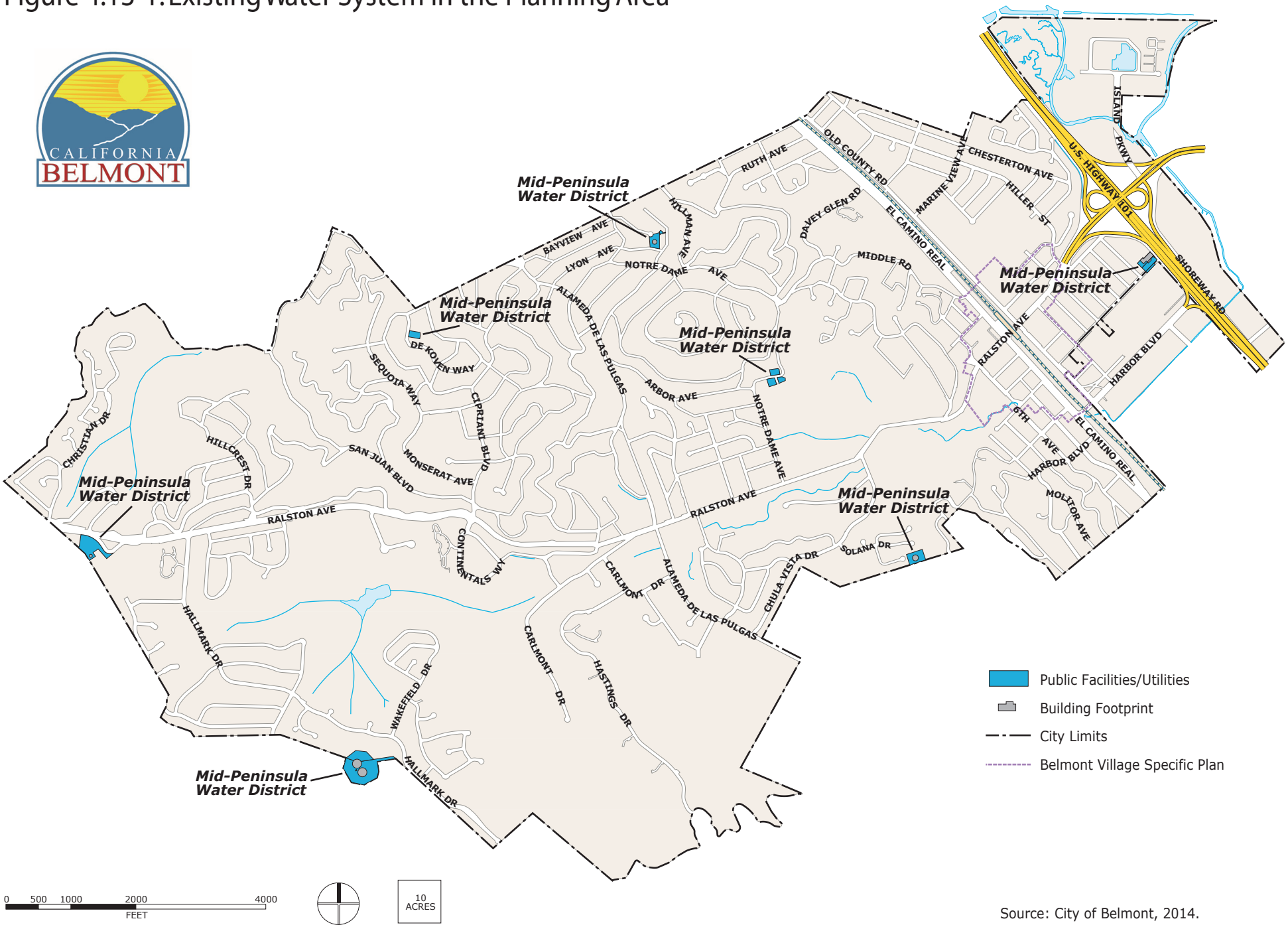
0 200 400 800
FEET

1 ACRE
0.25 ACRE

Source: California Geological Survey, 2006; National Elevation Dataset, USGS 2015; The Bay Area Conservation Land Network, 2015; Association of Bay Area Governments, 2015; FEMA, 2016; City of Belmont, 2015; Dyett & Bhatia, 2016.

DYETT & BHATIA
Urban and Regional Planners

Figure 4.13-1: Existing Water System in the Planning Area



Source: City of Belmont, 2014.

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5 Revisions to the Proposed Project

5.1 Draft General Plan

Chapter 2 Land Use Element

On page 2-16, revise Figure 2-4, General Plan Land Use Diagram [included at the end of this section].

Chapter 5 Conservation Element

On page 5-14, revise the text below "Water Supply and Demand":

> State law requires that the Conservation Element of General Plans be developed in coordination with water, flood management, water conservation, and groundwater agencies (Section 65302.2) and include a discussion and evaluation of water supply and demand (Section 65352.5). The Mid-Peninsula Water District (MPWD) provides water for the City of Belmont, and it prepared an Urban Water Management Plan (UWMP) in ~~2010~~2015, which is the source for the information presented in this section…

On page 5-15, revise Figure 5-6: Potable Water Facilities in the Planning Area [included at the end of this section].

On page 5-17, revise the text below "Baseline Water Conservation":

> In 2009, the California Water Code incorporated the Water Conservation Act (SBx7-7), which proposed a 20 percent reduction in statewide urban water use by 2020. Table 5-4 shows a summary of water use targets and current use, as presented in the ~~2010~~2015 Urban Water Management Plan. MPWD will have to reduce 5 percent of its total water use from the applicable baseline to meet the water reduction goal by 2020. MPWD, as a member of the California Urban Water Conservation Council (CUWCC), may also choose another water reduction target – an 18 percent reduction in potable water demand from an applicable baseline by 2018, to demonstrate compliance with the programmatic Best Management Practices (BMPs). In ~~2010~~2015, the District's consumption was ~~108.6~~ 85 gallons per capita daily (GPCD), indicating that ~~it needs to continue implementing the BMPs to reach~~ the applicable BMP goal for 2018 of 106.3 GPCD is within reach if it continues to implement the BMPs.

On page 5-17, revise Table 5-4: Summary of Water Use Targets and Current Use:

Table 5-4: Summary of Water Use Targets and Current Use

SBx7-7 Targets	
2015 SBx7-7 Interim Target	~~137.0~~126 GPCD[1]
2020 SBx7-7 Target	~~119.3~~121 GPCD
California Urban Water Conservation Council Targets	
2018 BMP Compliance Target	106.3 GPCD
Current Water Use	
~~a) 5-yr. average ending in 2010~~5 Year Baseline GPCD	~~119.3~~127 GPCD
~~b)~~ ~~2010~~2015 actual (1 year)	~~108.6~~85 GPCD

Notes:

1. Gallons per Capita Daily

Source: Mid-Peninsula Water District Urban Water Management Plan 2010, 2011, 2015.

Chapter 6 Safety Element

On page 6-3, revise the text below "Seismicity and Ground Shaking":

…

Figure 6-1 shows potential seismic and geological hazard locations in the City of Belmont. In Belmont, surface rupture and liquefaction from seismic events may result in low to moderate risk to the northeast corner of the city and along Belmont Creek. As of August 2017, the California Geologic Survey released preliminary mapping of Seismic Hazard Zones in the San Mateo Quadrangle, which includes the Planning Area. The preliminary Seismic Hazard Zones suggest that a substantial amount of land in the Planning Area is at risk of liquefaction and earthquake-induced landslides. In addition, g~~G~~round shaking~~, however,~~ could bring widespread and serious damage to Belmont. The entire city, as with most regions in San Mateo County, has a MMI (Modified Mercalli Intensity) Shaking Severity Level of 8 (Very Strong).

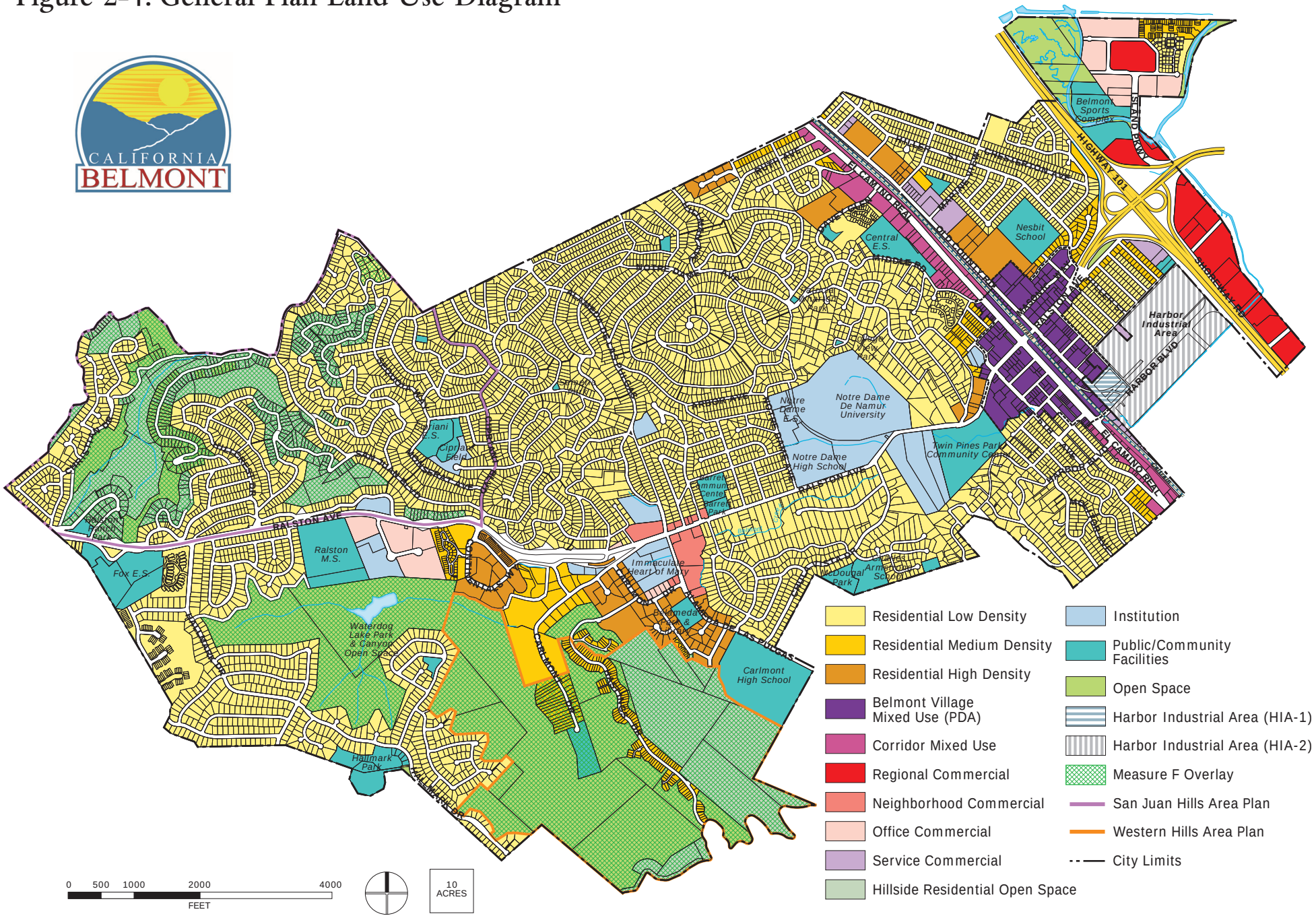
On page 6-24, revise Policy 6.1-3:

Policy 6.1-3 Prohibit development in areas at risk of landslides or high or very high liquefaction as shown in Figure 6-1, or on slopes steeper than 30 percent, unless detailed site investigations by licensed engineers ensure that risks do not exist, or can be reduced to acceptable levels and the structure will be protected for its expected life.

On page 6-24, add Policy 6.1-12:

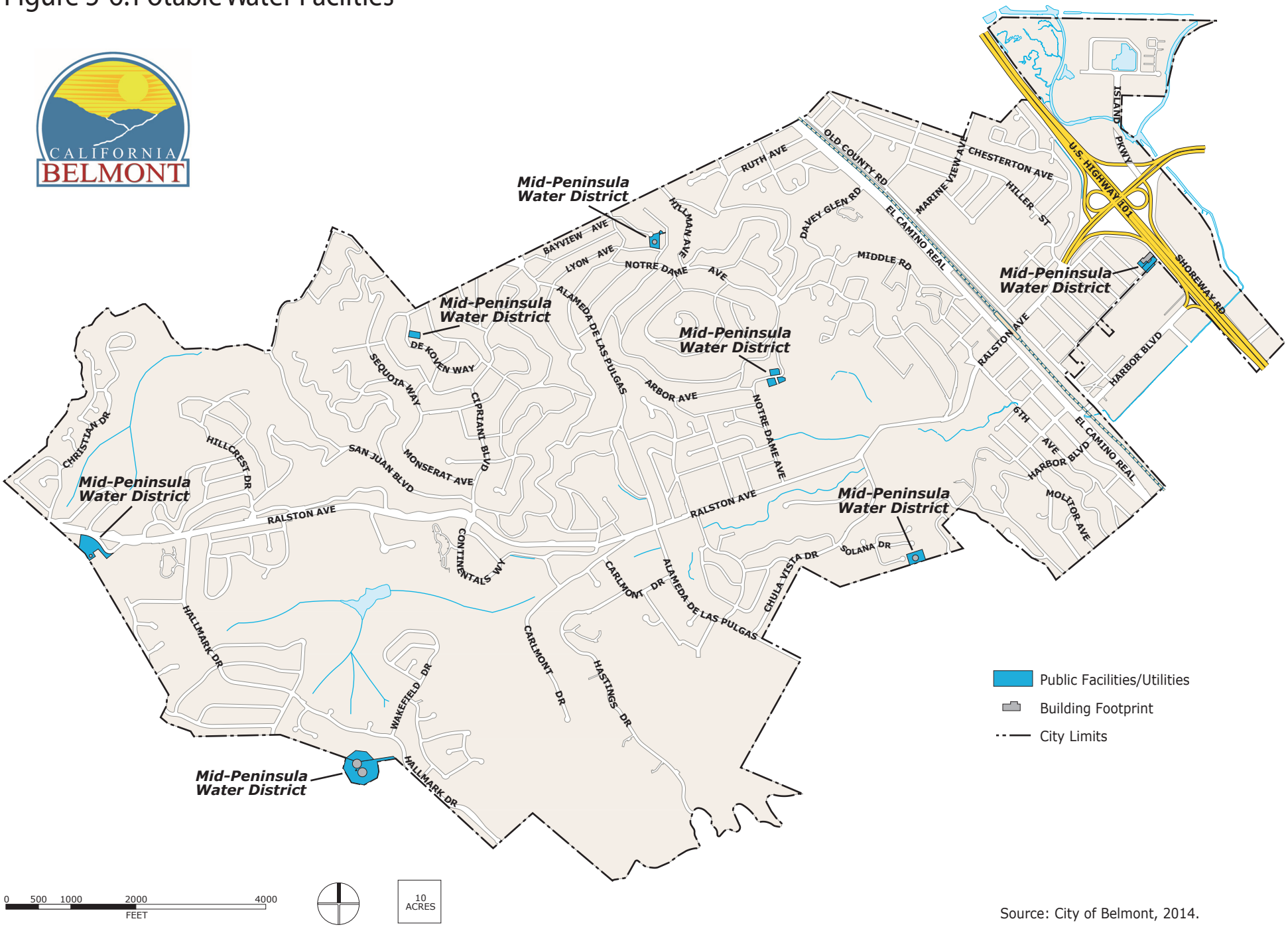
Policy 6.1-12 Update Figure 6-1 as new data from official, reliable sources is released.

Figure 2-4: General Plan Land Use Diagram



Source: City of Belmont, 2017; Dyett & Bhatia, 2017.

Figure 5-6: Potable Water Facilties

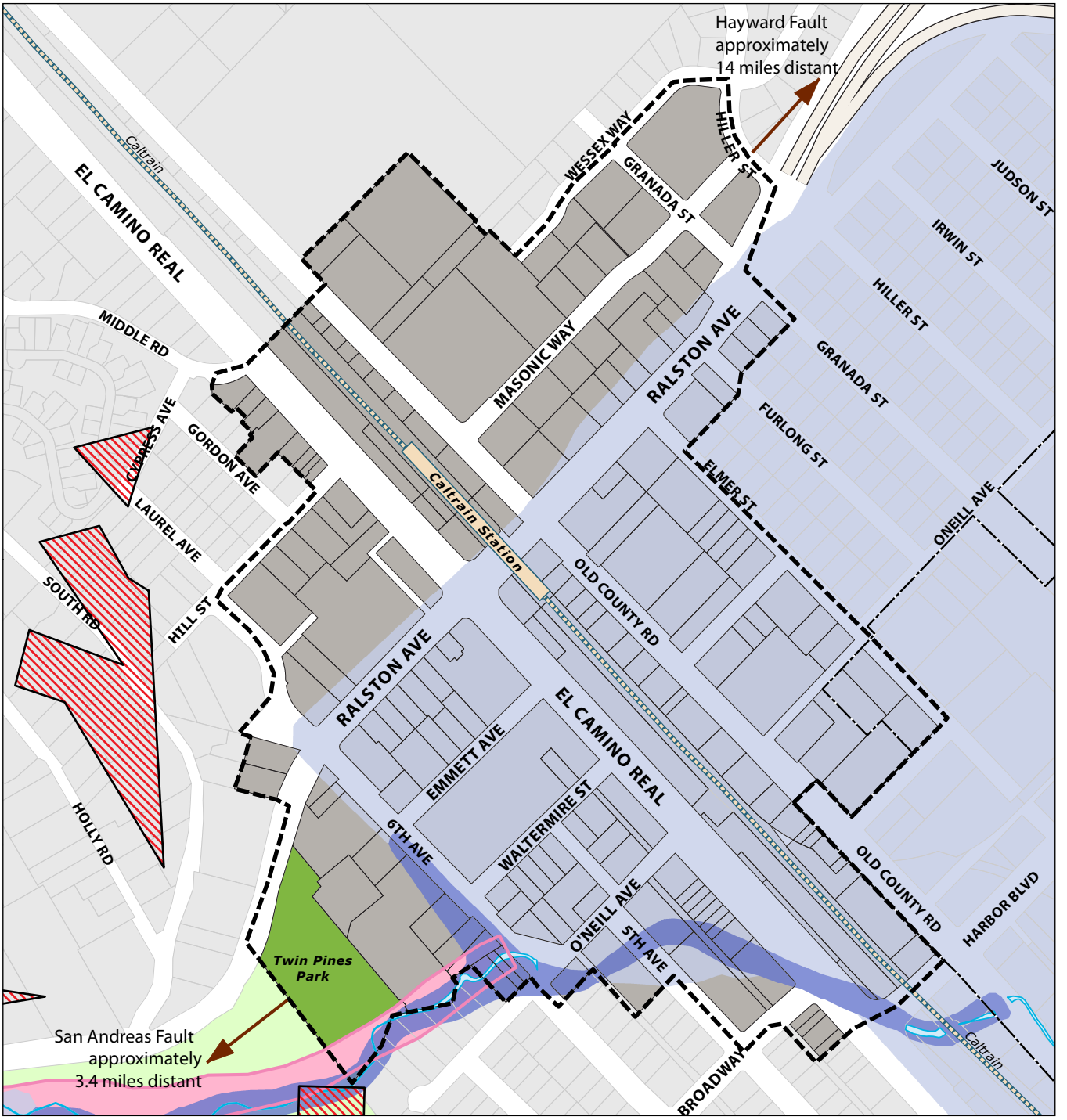


Source: City of Belmont, 2014.

5.2 Draft Belmont Village Specific Plan

On page 6-3, revise Figure 6-1: Environmental Resources & Constraints [included at the end of this section].

Figure 6-1: Environmental Resources and Constraints



Environmental Hazards

- Very High Liquefaction
- Slope over 30 percent
- 100 Year Flood Zone
- 500 Year Flood Zone
- Caltrain
- Waterway
- Study Area Parcels
- Belmont Village Planning Area
- City of Belmont

0 200 400 800
FEET

1 ACRE
0.25 ACRE

Source: California Geological Survey, 2006; National Elevation Dataset, USGS 2015; The Bay Area Conservation Land Network, 2015; Association of Bay Area Governments, 2015; FEMA, 2016; City of Belmont, 2015; Dyett & Bhatia, 2016.

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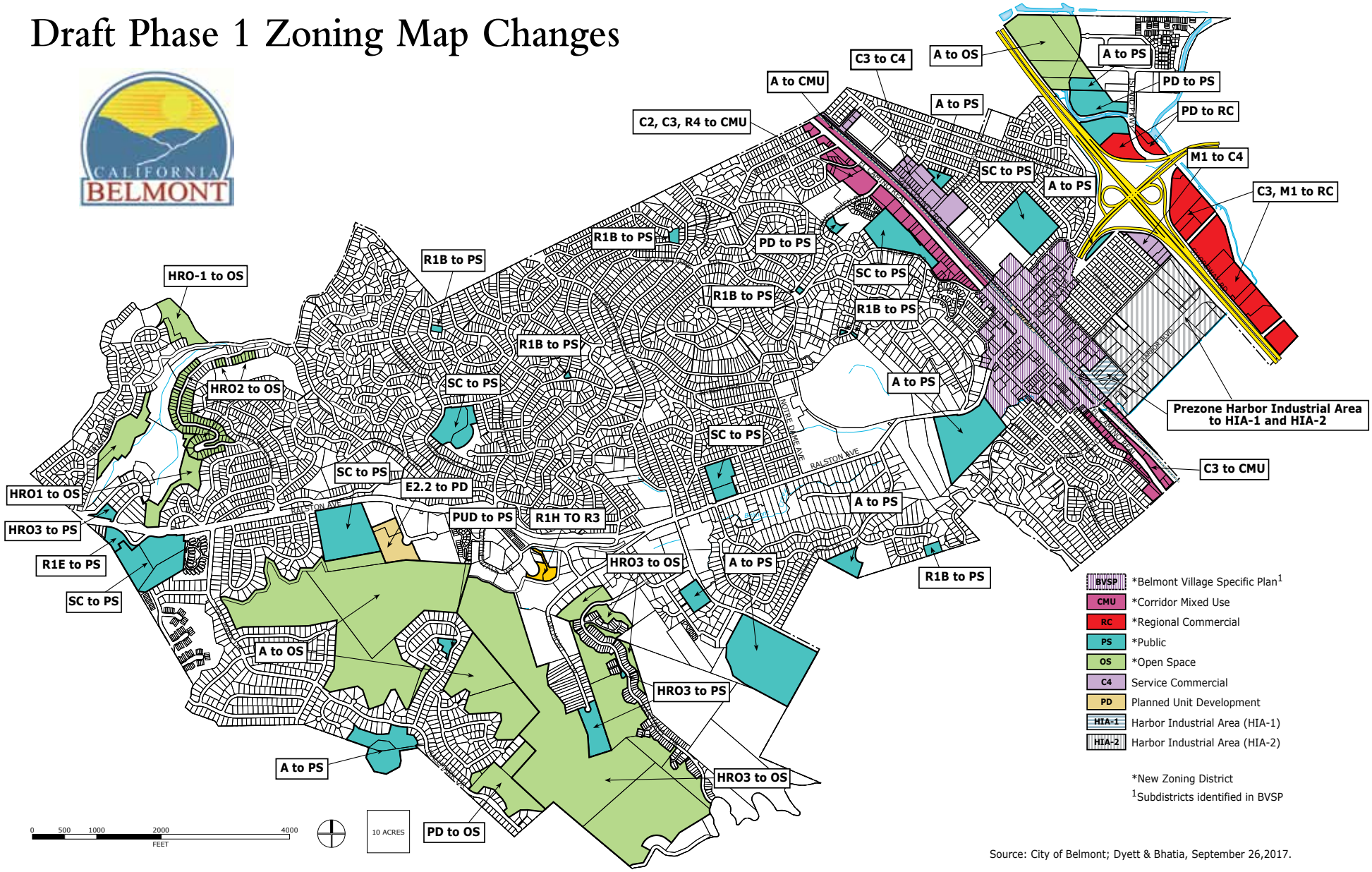
5.3 Draft Phase I Zoning Regulations

Revise the Draft Phase I Zoning Map Amendments figure [included at the end of this section].

Draft Phase 1 Zoning Map Changes



Source: City of Belmont; Dyett & Bhatia, September 26,2017.

Appendix A: Belmont Village Development Hydraulic Modeling and Analysis – FINAL (revised)

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Technical Memorandum

HydroScience
Strategic Water Solutions

Sacramento • Berkeley • San Jose • Concord

To: Carlos de Melo, Community Development Director

From: Cindy Preuss, P.E.

Prepared By: Alex Park, P.E.

Reviewed By: Kyle Horn and Eric Petrel

Subject: Belmont Village Development Hydraulic Modeling and Analysis – FINAL (revised)

Date: September 7, 2017

The City of Belmont and previously Mark Thomas & Company have retained HydroScience Engineers, Inc. (HydroScience) to conduct a hydraulic analysis of the proposed Belmont Village Specific Plan Redevelopment Project (Project) using the City of Belmont's existing sewer collection system hydraulic model. The intent of this effort is to identify any infrastructure improvements necessary to accommodate the redevelopment. This Technical Memorandum (TM) documents the results of the hydraulic model analysis.

Background

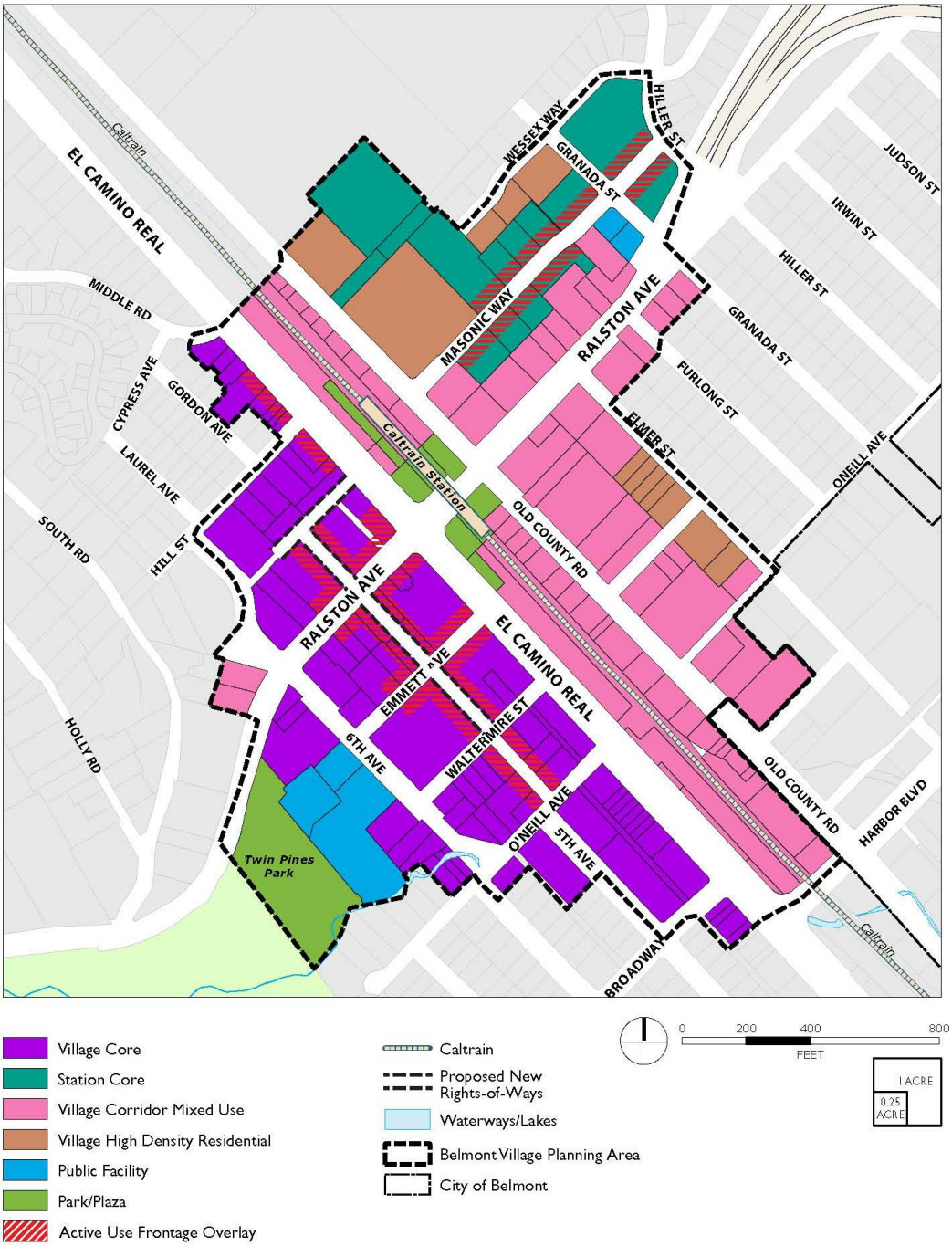
The City of Belmont operates and maintains approximately 85 miles of sanitary sewers ranging from 4-inch diameter to 27-inch diameter, 11 pump stations (PS), five miles of force mains, and conveys sewage from fifteen collection basins. HydroScience is concurrently providing engineering design services to upgrade the sanitary sewer collection system on Ralston Avenue between the approximate limits of Alameda de las Pulgas and El Camino Real. The Ralston Avenue project is in response to hydraulic capacity related sewer surcharging at various locations within the limits of work. The same model is being used to evaluate both the Ralston Avenue project and the Belmont Village development. However, in addition to hydraulic evaluation of the existing sewer facilities to determine recommended improvements along Ralston Avenue, design and preparation of contract documents for the improvements selected for implementation, and bid and engineering services during construction are also part of that project. The analysis for the other project is summarized in the *Ralston Avenue Sewer Rehabilitation Project Preliminary Design Report Memorandum* prepared for the City of Belmont.

The Belmont Village Project is just downstream and within the vicinity of the Ralston Avenue Project. The focus of this TM are the hydraulic deficiencies and recommendations for the sewers downstream of both Belmont Village developments and the Ralston Avenue project limits.

Proposed Project

Belmont Village encompasses approximately 80.7 acres around the intersection of El Camino Real Boulevard and Ralston Avenue in downtown Belmont. The project encompasses the area around the Belmont Caltrain station and is currently zoned for commercial, office, mixed use, and other non-single family residential land uses. The Belmont Village Planning Area is roughly bounded by Wessex Way, Hiller Street and the City limits on the east, and Sixth Avenue from Broadway Street to Hill Street and Middle Road on the west. **Figure 1** presents the project area and proposed land uses for Belmont Village.

Figure 1: Belmont Village Proposed Land Use



Source: City of Belmont, 2014; San Mateo County Assessor's Parcel Database, 2014

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The Belmont Village project proposes to create both a Village Core and Station Core of mixed use and higher density commercial and residential land uses. Unit counts would be increased from approximately 342 to 894 EDUs, and an additional 370,000 SF of commercial building space would be added within the 80.7 acre project area. The proposed future land use is detailed in **Table 1**.

Table 1: Belmont Village Proposed Land Use

Parameter	Non-Residential Building Area (1000 square feet)	Dwelling Units
Village Core w/ Comm Benefits	323.07	479
Village Corridor Mixed Use	525.98	137
Station Core	94.35	128
Village High Density Residential	0	150
Public Facility	68.15	-
Park / Plaza	28.53	-
Right-of-way (Railroad and Roadway)	0	-
Total	**1,040.09**	**894**

Purpose

The purpose of this hydraulic analysis is to evaluate the existing collection system for capacity of future anticipated flows associated with the redevelopment of Belmont Village. The objectives of this analysis are to:

- Understand the hydraulic performance of the existing sewer collection system downstream of Belmont Village under future peak wet weather flows,
- Identify deficiencies in the existing system that need to be improved or upgraded in order to accommodate Belmont Village flows, and
- Identify any pipelines requiring upsizing, the upsized pipeline diameter, and the improvement limits.

Existing System Description

This section describes the City's wastewater collection and conveyance system, and general collection system operation.

Wastewater Collection System

The City of Belmont operates and maintains approximately 85 miles of sanitary sewers ranging from 4-inch diameter to 27-inch diameter. The existing collection system and tributary basins from the original hydraulic model are shown in **Figure 2**. The model consists of 15 sewer tributary basins, or "sub-basins," 11 wastewater pump stations, and five miles of force mains. Generally,

the area north of Ralston Ave flows to the Hiller Street PS and the area south of Ralston Ave flows to the Shoreway PS. The majority of the flow from the Belmont wastewater collection system flows to the Shoreway Pump Station (PS), then to the Silicon Valley Clean Water (SVCW) wastewater treatment plant. The Shoreway PS has a maximum capacity of 12 million gallons per day (MGD). The Belmont Village area is served by 6-inch diameter to 21-inch diameter pipelines.

Figure 2: Existing Collection System Model Network

Hydraulic Model Analysis

The City of Belmont's existing hydraulic model was utilized to simulate and analyze the impact the increased flows from the Belmont Village project would have on the City's wastewater collection system. This section documents the methodology used to evaluate the hydraulic model.

Model Development and Criteria

The City's original hydraulic model was developed as a static model in H2OMap Sewer as part of the *Belmont Sewer System Capacity Analysis* in April 2010. In 2014, additional modeling was done by Schaaf and Wheeler to assess the sewer hydraulics for the Ralston Avenue Sanitary Sewer Main Replacement Project. The system wide impacts to the sewer hydraulics were summarized in the *City of Belmont Sewer Modeling Memorandum* (Schaaf & Wheeler, 2015). During this modeling effort, model parameters for manhole inverts and pipe diameters were adjusted based on a field visit in December 2014.

HydroScience received the hydraulic model on August 2, 2016. The model included a recently added flow at Merry Moppet. This model was then updated based on field survey data and future flows provided by the City. Field Survey data included pipe sizes and pipe invert information, and future development demands included Belmont Village amongst other planned developments. The model included both existing and future scenarios.

Hydraulic Deficiency Criteria

Hydraulic deficiencies in gravity pipes were identified where the freeboard, or the distance between the hydraulic grade line (HGL) and the ground surface as indicated by the manhole rim elevation, was 0.25 feet or less at the design flow. The freeboard is also called "unfilled depth" in the hydraulic model. The design flow is defined as the future peak wet weather flow (PWWF).

Hydraulic Design Criteria

The maximum depth to diameter (d/D) ratio for sizing the replacement pipes is 0.90.

Unit Flow Factors

Future flow estimates for the project were provided to HydroScience by Mark Thomas & Company. A summary of estimated future redevelopment flow conditions is presented in **Table 2**.

Table 2: Belmont Village Estimated Future Flow Conditions

Land Use	Persons/Unit	GPD/person	gpd/unit	gpd/1000 sf (building)
Village Core[1]	2.1	85	178.5	96.5
Village Corridor Mixed Use[1]	2.1	85	178.5	96.5
Station Core[1]	2.1	85	178.5	96.5
Village High Density Residential	2.1	85	178.5	-
Public Facility	-	-	-	96.5
Park/Plaza	-	-	-	96.5

Notes:
1. ADWF accounts for the residential unit flow plus the commercial building square footage flow.

Modeling Scenarios

This analysis uses the future peak wet weather flow scenario from the existing hydraulic model and focuses on the effects of the future Belmont Village development. The scenario evaluated includes existing pipe diameters and future buildout peak wet weather flow. The model was then used to size pipes to adequately transmit future flows. Improvements for the Ralston Avenue project were also included in the model identifying pipe upsize recommendations to represent all future recommendations and prevent upstream constriction of flow.

Hydraulic Modeling Results

This section describes the various system conditions that were evaluated as part of the hydraulic modeling analysis and the results of the analysis.

System Flows

Mark Thomas & Company provided the most recent land use by parcel in shapefile (.shp) format on September 23, 2016 for the Belmont Village Development. The ADWF was calculated using the unit flow factors shown in **Table 2**, then the basin peaking factors from the original model were used to calculate PWWF (PWWF=ADWF x PF), based on which basin each parcel is in. Belmont Village parcels fall within Basins 2, 3, 4, and 5. A summary of the total Belmont Village flow by land use is provided in **Table 3**. A detailed summary of land use and flow by parcel is included in **Attachment A**. The previous future development flows in the Belmont Village area were removed and replaced with the updated flows for Belmont Village.

Table 3: Belmont Village Flows by Land Use

Land Use	ADWF (gpd)	PWWF (gpd)
Village Core	102,643	1,349,582
Village Corridor Mixed Use	89,971	1,268,510
Station Core	32,040	265,925
Village High Density Residential	26,770	291,024
Public Facility	6,581	80,798
Park/Plaza	2,750	21,744
Total	**260,755**	**3,277,583**

Per the City's request, the future flows based on upcoming development projects throughout the City were also updated. These projects and flows are summarized in **Table 4**. The PWWF was calculated using the basin peaking factors used in the original model. **Figure 3** shows the Belmont Village parcels and locations of the additional development projects provided by the City.

Table 4: Additional Development Projects Provided by the City

Status	Project No.	Project Name	Additional DW Flow (gpd)	Sewer Basin	Peaking Factor	Calculated PWWF (gpd)	Calculated PWWF (gpm)	Load MH
Approved Projects	1	Autobahn Motors	220	1	4.8	1,056	1	400026
	2	Mixed Use Development	4,508	2	14.3	64,464	45	442008
	3	New Hotel	331,200	1	4.8	1,589,760	1104	460296
	4	Mixed Use Development	13,470	6	5.2	70,044	49	442004
	5	Crystal Springs Uplands School (CSUS)	0	12	10.1	0	0	None
Projects Under Review	6	New Hotel	189,257	1	4.8	908,434	631	433419
	7	Merry Moppet/Belmont Oaks Academy[1]	43,200	11	6.2	267,840	186	450108
Horizon Projects	8	Firehouse Square Mixed-Use Development	Belmont Village[2]					
	9	Commercial Office Bldg	1,235	2	14.3	17,661	12	400022
		Total Additional DWF	594,786	Total Additional PWWF		2,919,259	2,027	

Notes:
1. Merry Moppet flows were added by Schaaf & Wheeler prior to providing the model to HydroScience.
2. The Firehouse Square development is within the Belmont Village development and was therefore included in the Belmont Village additional Flows.

Figure 3: Additional Future Model Flows

Collection System Capacity

At the revised buildout conditions, higher flow rates result in exceeded capacity in the existing gravity sewers and lift stations downstream of the development. Improvements to the system are required to accommodate the higher flow rates to prevent manhole surcharging and sanitary sewer overflows. Various pipelines would need to be upsized in order to maintain freeboard in the pipelines.

Pipeline improvements are generally needed in the primary collector sewers along Waltermire St, O'Neill Ave, and Karen Rd to the south of Ralston Ave as well as Masonic Way and Hiller St to the north of Ralston Ave. These pipelines in particular will be the most heavily impacted in the future by new development. Both of these alignments feed two separate lift stations, the Hiller Street LS to the north and the Shoreway Pump Station to the south of Ralston Ave.

Improvements upstream of Belmont Village are discussed in the *Preliminary Design Report for the Ralston Avenue Sewer Rehabilitation Project*.

It is estimated that approximately 5,600 feet of pipeline downstream of Belmont Village will need to be upsized in order to accommodate full buildout flow conditions. A portion of the pipe projects, 1,675 feet out of the 5,600 feet of pipe as shown in Table 5, are directly required because of the Belmont Village development. Pipes that need to be upsized on Ralston Avenue upstream of Belmont Village are presented as part of a separate project. **Table 5** details the locations, length of pipeline improvements, and the original and upsized pipeline diameters. **Figure 4** presents the locations of proposed improvements. **Attachment B** provides output tables for the CIP pipe sizes.

Table 5: Recommended Pipeline Upsizing Improvements

Location	Original Pipeline Diameter	Upsized Pipeline Diameter	Length of Pipeline (ft)	Upsize Condition
Waltermire St	18-inch	27-inch	120	Upsize required prior to Belmont Village Development (3,925 ft)
	18-inch	30-inch	110	
	21-inch	30-inch	455	
Elmer St	21-inch	30-inch	300	
O'Neill Ave	21-inch	24-inch	735	
	21-inch	27-inch	810	
Karen Rd to LS	21inch	30-inch	770	
	27-inch	36-inch	625	
Masonic Way	6-inch	8-inch	420	Upsize only required after Belmont Village Development (1,675 ft)
Hiller St	8-inch	10-inch	750	
	10-inch	12-inch	440	
	10-inch	15-inch	65	
Total Length of Pipeline Improvements			**5,600**	

Figure 4: Belmont Village Pipeline Improvements

Lift Station Capacity Improvements

As Silicon Valley Clean Water stated in their review of the *Draft Environmental Impact Report for the 2035 General Plan, Phase 1 Zoning, Belmont Village Specific Plan, and Climate Action Plan*, new development and future improvements made in the Belmont Village area and other areas will likely produce less wet weather inflow and infiltration than would be predicted by the master plan methodology. New main sewers and laterals will be made with modern leak resistant materials and will be less susceptible to infiltration than the existing facilities. For these areas we re-computed the future additional flows based on additional peak dry weather flow (PDWF) expected from the additional development plus an I/I allowance of 1000 gal/day/acre. The additional PDWF is listed below in Table 6.

Table 6: Shoreway Pump Station Design Flow Summary

Project Name	Additional DW Flow (gpd)	Sewer Basin	Peaking Factor (PDWF)	Calculated PDWF (gpd)	Acres	Infiltration based on 1000 gal/day/ac (gpd)	Total Additional Future Flow (gpd)
1 - Autobahn Motors	220	1	2.28	502	4.59	4593	5,095
2 - Mixed Use Development	4,508	2	2.49	11,225	1.00	1000	12,225
3 - New Hotel	331,200	1	2.28	755,136	5.08	5078	760,214
4 - Mixed Use Development	13,470	6	2.27	30,577	1.47	1473	32,050
5 - Crystal Springs Uplands School (CSUS)	0	12	2.45	0	6.55	6550	6,550
6 - New Hotel	189,257	1	2.28	431,506	9.82	9815	441,321
7 - Merry Moppet/Belmont Oaks Academy	43,200	11	2.26	97,632	1.49	1492	99,124
8 - Firehouse Square Mixed-Use Development	Firehouse Flows Included in Belmont Village						
9 - Commercial Office Bldg	1,235	2	2.49	3,075	0.78	784	3,859
Additional City Projects Totals	**583,090**			**1,329,653**	**31**	**30,785**	**1,360,437**
Belmont Village Project Flows by Basin	183,620	2	2.49	457,213	39.2	39,220	496,433
	48,568	3	1.52	73,823	10.1	10,120	83,943
	5,555	4	1.96	10,888	1.5	1,470	12,358
	23,008	5	1.84	42,335	6.5	6,530	48,865
Belmont Village Project Totals	**260,751**			**584,259**	**57.3**	**57,340**	**641,599**
Total Additional Flow City Projects + Belmont Village (mgd)	0.84			1.91		0.09	**2.00**

Projections for future peak wet weather flows at the Shoreway PS for the previously planned City development projects was 17.4 mgd. This flow projection increases to 18.9 mgd with the additional developments listed in Table 6 and increases again to 19.4 mgd with the Belmont Village development. The existing Shoreway PS capacity is 12 mgd. Silicon Valley Clean Water (SVCW) is currently evaluating the capacity and condition of the Shoreway PS (also called the "Belmont Pump Station"), which pumps to the SVCW wastewater treatment plant. The anticipated date for reconstructing the Shoreway PS is February 2024, to be operational in February 2025. There is also a gravity pipeline in design to connect the Shoreway PS to a new gravity system,

which is scheduled to start construction in February 2023. Prior to development, adequate capacity of the Shoreway PS should be confirmed.

The Hiller Street PS reported current capacity is 1.22 mgd (850 gpm), which is of sufficient size to handle the future peak wet weather flows for both the previously planned and additional City development projects projected at 1.22 mgd. This capacity represents a single duty pump and does not include the standby pump capacity that is also 1.22 mgd (850 gpm). The future peak wet weather flow is now projected to be 1.87 mgd (1300 gpm) with the Belmont Village development. Therefore, this pump station would require improvements be made in order to accommodate the Belmont Village flows. However, a City field supervisor reported that during larger storms, there is currently surcharging in the upstream sewer with both pumps running as well as electrical issues. HydroScience is currently working on another project with the City evaluating the structural, mechanical, and electrical components of the City's pump stations. This surcharging issue will be further examined as part of the Pump Station Assessment and Inventory Project.

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ATTACHMENT A

Mark Thomas & Company

Belmont Village Development Hydraulic Analysis

Land Use and Flow by Parcel

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Attachment A
Belmont Village Land Use and Flows

OBJECTID	APN	Residential Units	Non-Residential Sq Ft	Land use	x_coord	Y_coord	UnitQ_Res	UnitQNotRe	ResQ_gpd	NoResQgpd	TotBVQ_gpd	TotBVQ_gpm	LoadMH	BV_Q_gpd	BV_Q_gpm	SwrBound	PDWF PF	BV PDWF (gpd)	PWWF PF	BV PWWF (gpm)	BV PWWF (gpd)
167	045165010	0	0	Park/Plaza	6046319	2017331	178.5	96.5	0.00	0.00	0.00	0.00	02T154M	0.00	0.00	2	2.49	0	14.3	0.00	0
175	040312180	13	19,380	Station Core	6046773	2017680	178.5	96.5	2335.00	1870.20	4205.00	2.92	03C171M	4204.95	2.92	3	1.52	6392	8.1	23.65	34060
176	040312080	8	0	Village High Density Residential	6046868	2017771	178.5	96.5	1428.00	0.00	1428.00	0.99	03C171M	1428.00	0.99	3	1.52	2171	8.1	8.03	11567
179	040290300	24	0	Village High Density Residential	6046368	2017702	178.5	96.5	4284.00	0.00	4284.00	2.98	02C278M	4284.00	2.98	2	2.49	10667	14.3	42.54	61261
321	040333070	5	0	Village High Density Residential	6047609	2016737	178.5	96.5	892.50	0.00	892.50	0.62	02T013L	892.50	0.62	2	2.49	2222	14.3	8.86	12763
330	040331100	1	5,929	Village Corridor Mixed Use	6047134	2016634	178.5	96.5	207.60	572.15	779.80	0.54	02C246M	779.77	0.54	2	2.49	1942	14.3	7.74	11151
605	040312150	10	0	Station Core	6047023	2017793	178.5	96.5	1785.00	0.00	1785.00	1.24	03C153L	1785.00	1.24	3	1.52	2713	8.1	10.04	14459
636	040312170	10	0	Station Core	6046911	2017675	178.5	96.5	1785.00	0.00	1785.00	1.24	03C154M	1785.00	1.24	3	1.52	2713	8.1	10.04	14459
658	040331050	1	3,680	Village Corridor Mixed Use	6046996	2016778	178.5	96.5	125.50	355.12	480.60	0.33	02C243M	480.63	0.33	2	2.49	1197	14.3	4.77	6873
665	040331040	1	3,931	Village Corridor Mixed Use	6046967	2016810	178.5	96.5	140.50	379.34	519.80	0.36	02C243M	519.82	0.36	2	2.49	1294	14.3	5.16	7433
671	045184120	0	2,754	Village Core	6046749	2016007	178.5	96.5	0.00	265.76	265.80	0.18	02T025M	265.76	0.18	2	2.49	662	14.3	2.64	3800
803	103390010	48	0	Village High Density Residential	6046629	2017524	178.5	96.5	8568.00	0.00	8568.00	5.95	03C157M	8568.00	5.95	3	1.52	13023	8.1	48.20	69401
809	045241020	2	8,171	Village Corridor Mixed Use	6047492	2016256	178.5	96.5	276.90	788.50	1065.00	0.74	02C066M	1065.35	0.74	2	2.49	2653	14.3	10.58	15235
939	045163210	32	32,670	Village Core	6046346	2016773	178.5	96.5	5676.00	3152.70	8829.00	6.13	02T161U	8828.96	6.13	2	2.49	21984	14.3	87.68	126254
958	040290260	21	30,250	Station Core	6046490	2017874	178.5	96.5	3677.00	2919.10	6596.00	4.58	03C172M	6596.23	4.58	3	1.52	10026	8.1	37.10	53429
997	045163230	21	0	Village Core	6046104	2016810	178.5	96.5	3749.00	0.00	3749.00	2.60	02C168M	3748.50	2.60	2	2.49	9334	14.3	37.22	53604
999	040331020	1	3,548	Village Corridor Mixed Use	6046900	2016879	178.5	96.5	145.40	342.38	487.80	0.34	02C243M	487.76	0.34	2	2.49	1215	14.3	4.84	6975
1137	040312090	9	0	Village High Density Residential	6046945	2017860	178.5	96.5	1607.00	0.00	1607.00	1.12	03C169L	1606.50	1.12	3	1.52	2442	8.1	9.04	13013
1148	040335030	2	0	Village Corridor Mixed Use	6047483	2017594	178.5	96.5	357.00	0.00	357.00	0.25	02T114M	357.00	0.25	2	2.49	889	14.3	3.55	5105
1202	040311010	0	2,454	Village Corridor Mixed Use	6046217	2017616	178.5	96.5	85.13	236.81	321.90	0.22	02C278M	321.93	0.22	2	2.49	802	14.3	3.20	4604
1291		0	0	Park/Plaza	6047052	2017822	178.5	96.5	0.00	0.01	0.01	0.00	03C153L	0.01	0.00	3	1.52	0	8.1	0.00	0
1297		0	0	Park/Plaza	6047324	2015868	178.5	96.5	0.00	0.01	0.01	0.00	02C077M	0.01	0.00	2	2.49	0	14.3	0.00	0
1725	040312200	3	4,867	Station Core	6046471	2017625	178.5	96.5	568.70	469.67	1038.00	0.72	02C277M	1038.46	0.72	2	2.49	2586	14.3	10.31	14850
1763	040312130	18	0	Village High Density Residential	6047041	2017947	178.5	96.5	3213.00	0.00	3213.00	2.23	03C169L	3213.00	2.23	3	1.52	4884	8.1	18.07	26025
1769	040311030	1	2,865	Village Corridor Mixed Use	6046281	2017549	178.5	96.5	98.80	276.47	375.30	0.26	02C277M	375.27	0.26	2	2.49	934	14.3	3.73	5366
1861	040316010	6	7,420	Station Core	6047387	2017911	178.5	96.5	995.00	716.03	1711.00	1.19	03C159M	1710.91	1.19	3	1.52	2601	8.1	9.62	13858
1939	040315010	17	25,220	Station Core	6047252	2018097	178.5	96.5	3020.00	2433.70	5454.00	3.79	03C161M	5453.95	3.79	3	1.52	8290	8.1	30.68	44177
2035	040312210	3	4,128	Station Core	6046613	2017773	178.5	96.5	554.10	398.35	952.50	0.66	03C172M	952.46	0.66	3	1.52	1448	8.1	5.36	7715
2067	040313050	0	2,653	Public Facility	6047253	2017794	178.5	96.5	0.00	256.01	256.00	0.18	03C159M	256.01	0.18	3	1.52	389	8.1	1.44	2074
2072	040313060	0	3,043	Public Facility	6047306	2017740	178.5	96.5	0.00	293.65	293.60	0.20	03C159M	293.65	0.20	3	1.52	446	8.1	1.65	2379
2092	040311100	1	7,017	Village Corridor Mixed Use	6046535	2017281	178.5	96.5	262.90	677.14	940.00	0.65	02C276M	940.04	0.65	2	2.49	2341	14.3	9.34	13443
2098	040313150	12	0	Village Corridor Mixed Use	6047060	2017425	178.5	96.5	2142.00	0.00	2142.00	1.49	02T116M	2142.00	1.49	2	2.49	5334	14.3	21.27	30631
2124	045182030	4	2,313	Village Core	6046448	2016491	178.5	96.5	681.30	223.20	904.50	0.63	05T001U	904.63	0.63	5	1.84	1665	7.9	4.96	7147
2128	040312120	18	0	Station Core	6047122	2017868	178.5	96.5	3213.00	0.00	3213.00	2.23	03C153L	3213.00	2.23	3	1.52	4884	8.1	18.07	26025
2181	040313260	35	0	Village Corridor Mixed Use	6047134	2017555	178.5	96.5	6248.00	0.00	6248.00	4.34	03C154M	6247.50	4.34	2	2.49	15556	14.3	62.04	89339
2211	040313440	0	1,249	Village Corridor Mixed Use	6047199	2017570	178.5	96.5	0.00	120.53	120.50	0.08	03C153L	120.53	0.08	2	2.49	300	14.3	1.20	1724
2240	040312160	10	0	Station Core	6046966	2017734	178.5	96.5	1785.00	0.00	1785.00	1.24	03C154M	1785.00	1.24	3	1.52	2713	8.1	10.04	14459
2253	040311050	1	2,995	Village Corridor Mixed Use	6046356	2017469	178.5	96.5	106.30	289.02	395.30	0.27	02C277M	395.32	0.27	2	2.49	984	14.3	3.93	5653
2269	040313370	5	13,810	Village Corridor Mixed Use	6047226	2017702	178.5	96.5	872.50	1332.70	2205.00	1.53	03C153L	2205.22	1.53	3	1.52	3352	8.1	12.40	17862
2310	040311040	0	2,747	Village Corridor Mixed Use	6046319	2017509	178.5	96.5	81.54	265.09	346.60	0.24	02C277M	346.63	0.24	2	2.49	863	14.3	3.44	4957
2315	040313210	10	0	Station Core	6046941	2017465	178.5	96.5	1785.00	0.00	1785.00	1.24	03C156M	1785.00	1.24	3	1.52	2713	8.1	10.04	14459
2335	040313160	0	3,088	Station Core	6047102	2017657	178.5	96.5	0.00	297.99	298.00	0.21	03C154M	297.99	0.21	3	1.52	453	8.1	1.68	2414
2354	045162240	4	3,780	Village Core	6046003	2017397	178.5	96.5	758.30	364.77	1123.00	0.78	02C130M	1123.00	0.78	2	2.49	2796	14.3	11.15	16059
2381	040332270	16	40,220	Village Corridor Mixed Use	6047165	2016937	178.5	96.5	2897.00	3881.20	6778.00	4.71	02C243M	6778.29	4.71	2	2.49	16878	14.3	67.31	96929
2388	040332220	5	15,300	Village Corridor Mixed Use	6047150	2017210	178.5	96.5	952.10	1476.50	2429.00	1.69	02T241M	2428.51	1.69	2	2.49	6047	14.3	24.12	34728
2413	040313380	2	9,975	Village Corridor Mixed Use	6047257	2017613	178.5	96.5	358.20	962.59	1321.00	0.92	02T114M	1320.81	0.92	2	2.49	3289	14.3	13.12	18888
2441	040311120	2	7,580	Village Corridor Mixed Use	6046686	2017122	178.5	96.5	310.60	731.47	1042.00	0.72	02C153M	1042.07	0.72	2	2.49	2595	14.3	10.35	14902
2452	040332100	12	0	Village High Density Residential	6047436	2016921	178.5	96.5	2142.00	0.00	2142.00	1.49	02C268M	2142.00	1.49	2	2.49	5334	14.3	21.27	30631
2456	045182250	22	16,940	Village Core	6046685	2016618	178.5	96.5	3891.00	1634.70	5526.00	3.84	02C084U	5526.01	3.84	2	2.49	13760	14.3	54.88	79022
2457	046031050	5	14,420	Village Corridor Mixed Use	6047586	2016457	178.5	96.5	891.30	1391.50	2283.00	1.59	02C063M	2282.84	1.59	2	2.49	5684	14.3	22.67	32645
2470	040334300	5	15,390	Village Corridor Mixed Use	6047278	2017345	178.5	96.5	967.80	1485.10	2453.00	1.70	02T116M	2453.02	1.70	2	2.49	6108	14.3	24.36	35078
2485	040313270	0	5,480	Village Corridor Mixed Use	6047011	2017375	178.5	96.5	0.00	528.82	528.80	0.37	02T117M	528.82	0.37	2	2.49	1317	14.3	5.25	7562
2496	040311020	0	1,601	Village Corridor Mixed Use	6046248	2017583	178.5	96.5	55.26	154.50	209.80	0.15	02C278M	209.76	0.15	2	2.49	522	14.3	2.08	3000
2499	040313200	8	0	Station Core	6047007	2017534	178.5	96.5	1428.00	0.00	1428.00	0.99	03C154M	1428.00	0.99	3	1.52	2171	8.1	8.03	11567
2501	040335020	2	0	Village Corridor Mixed Use	6047440	2017549	178.5	96.5	357.00	0.00	357.00	0.25	02T114M	357.00	0.25	2	2.49	889	14.3	3.55	5105
2552	040313310	0	0	Station Core	6046860	2017381	178.5	96.5	0.00	0.00	0.00	0.00	03C157M	0.00	0.00	3	1.52	0	8.1	0.00	0
2553	040311060	1	3,989	Village Corridor Mixed Use	6046406	2017417	178.5	96.5	146.20	384.94	531.10	0.37	02C277M	531.14	0.37	2	2.49	1323	14.3	5.27	7595
2573	040313250	2	7,505	Village Corridor Mixed Use	6047099	2017465	178.5	96.5	286.10	724.23	1010.00	0.70	02T116M	1010.42	0.70	2	2.49	2516	14.3	10.03	14449
2588	040335300	0	2,190	Village Corridor Mixed Use	6047399	2017504	178.5	96.5	0.00	211.34	211.30	0.15	02C264M	211.34	0.15	2	2.49	526	14.3	2.10	3022
2645	045162020	1	0	Village Core	6046051	2017369	178.5	96.5	178.50	0.00	178.50	0.12	02C130M	178.50	0.12	2	2.49	444	14.3	1.77	2553
2666	045162180	10	0	Village Core	6046094	2017256	178.5	96.5	1785.00	0.00	1785.00	1.24	02C175M	1785.00	1.24	2	2.49	4445	14.3	17.73	25526

OBJECTID	APN	Residential Units	Non-Residential Sq Ft	Land use	x_coord	Y_coord	UnitQ_Res	UnitQNotRe	ResQ_gpd	NoResQgpd	TotBVQ_gpd	TotBVQ_gpm	LoadMH	BV_Q_gpd	BV_Q_gpm	SwrBound	PDWF PF	BV PDWF (gpd)	PWWF PF	BV PWWF (gpm)	BV PWWF (gpd)
2673	045162060	0	3,708	Village Core	6046172	2017238	178.5	96.5	0.00	357.82	357.80	0.25	02C127M	357.82	0.25	2	2.49	891	14.3	3.55	5117
2678	045162160	3	1,928	Village Core	6046077	2017333	178.5	96.5	530.00	186.05	716.00	0.50	02C130M	716.07	0.50	2	2.49	1783	14.3	7.11	10240
2688	040334030	8	0	Village Corridor Mixed Use	6047337	2017417	178.5	96.5	1428.00	0.00	1428.00	0.99	02C264M	1428.00	0.99	2	2.49	3556	14.3	14.18	20420
2698	040311070	1	3,924	Village Corridor Mixed Use	6046461	2017359	178.5	96.5	147.80	378.67	526.50	0.37	02C277M	526.47	0.37	2	2.49	1311	14.3	5.23	7529
2730	045162080	1	803	Village Core	6046214	2017192	178.5	96.5	162.90	77.52	240.40	0.17	02C125M	240.46	0.17	2	2.49	599	14.3	2.39	3439
2759	040313280	5	15,740	Village Corridor Mixed Use	6046935	2017296	178.5	96.5	972.10	1518.90	2491.00	1.73	03C157M	2490.97	1.73	2	2.49	6203	14.3	24.74	35621
2786	040313430	0	5,986	Village Corridor Mixed Use	6046764	2017279	178.5	96.5	0.00	577.65	577.60	0.40	02C153M	577.65	0.40	2	2.49	1438	14.3	5.74	8260
2793	040332250	0	1,239	Village Corridor Mixed Use	6047046	2017153	178.5	96.5	0.00	119.56	119.60	0.08	02T241M	119.56	0.08	2	2.49	298	14.3	1.19	1710
2810	040332230	10	22,290	Village Corridor Mixed Use	6047022	2017065	178.5	96.5	1785.00	2151.00	3936.00	2.73	02T242M	3935.99	2.73	2	2.49	9801	14.3	39.09	56285
2814	040332060	4	0	Village High Density Residential	6047319	2017039	178.5	96.5	714.00	0.00	714.00	0.50	02C267M	714.00	0.50	2	2.49	1778	14.3	7.09	10210
2819	045163060	6	5,542	Village Core	6046309	2017036	178.5	96.5	1031.00	534.80	1566.00	1.09	02T161U	1565.49	1.09	2	2.49	3898	14.3	15.55	22387
2839	040313140	0	127	Village Corridor Mixed Use	6046841	2017198	178.5	96.5	0.00	12.27	12.27	0.01	02C119M	12.27	0.01	2	2.49	31	14.3	0.12	175
2900	045162070	1	1,093	Village Core	6046200	2017209	178.5	96.5	225.60	105.47	331.10	0.23	02C125M	331.12	0.23	2	2.49	824	14.3	3.29	4735
2923	040332240	0	12,370	Village Corridor Mixed Use	6047248	2017111	178.5	96.5	0.00	1193.70	1194.00	0.83	02C267M	1193.71	0.83	2	2.49	2972	14.3	11.85	17070
2925	045162090	1	1,075	Village Core	6046231	2017179	178.5	96.5	213.50	103.74	317.20	0.22	02C126M	317.18	0.22	2	2.49	790	14.3	3.15	4536
2933	045163050	8	0	Village Core	6046245	2016995	178.5	96.5	1428.00	0.00	1428.00	0.99	02C166M	1428.00	0.99	2	2.49	3556	14.3	14.18	20420
2971	040333140	0	17,720	Village Corridor Mixed Use	6047363	2016661	178.5	96.5	0.00	1710.00	1710.00	1.19	02T016M	1709.98	1.19	2	2.49	4258	14.3	16.98	24453
2993	045245200	0	2,639	Village Core	6046936	2015772	178.5	96.5	0.00	254.66	254.70	0.18	02C029M	254.66	0.18	2	2.49	634	14.3	2.53	3642
3049	045163070	5	3,535	Village Core	6046314	2017089	178.5	96.5	970.50	341.13	1312.00	0.91	02C164L	1311.62	0.91	2	2.49	3266	14.3	13.03	18756
3075	040332140	1	0	Village Corridor Mixed Use	6047081	2017016	178.5	96.5	178.50	0.00	178.50	0.12	02C243M	178.50	0.12	2	2.49	444	14.3	1.77	2553
3076	040332070	4	0	Village High Density Residential	6047346	2017012	178.5	96.5	714.00	0.00	714.00	0.50	02C267M	714.00	0.50	2	2.49	1778	14.3	7.09	10210
3087	045164030	7	6,495	Village Core	6046493	2016897	178.5	96.5	1225.00	626.77	1852.00	1.29	02T161U	1851.97	1.29	2	2.49	4611	14.3	18.39	26483
3094	040332260	10	27,240	Village Corridor Mixed Use	6047263	2016837	178.5	96.5	1812.00	2628.70	4441.00	3.08	02C244M	4440.44	3.08	2	2.49	11057	14.3	44.10	63498
3097	045163140	8	0	Village Core	6046146	2016903	178.5	96.5	1428.00	0.00	1428.00	0.99	02C167M	1428.00	0.99	2	2.49	3556	14.3	14.18	20420
3105	045163240	7	6,554	Village Core	6046247	2016630	178.5	96.5	1183.00	632.46	1815.00	1.26	05C158M	1815.08	1.26	5	1.84	3340	7.9	9.96	14339
3117	045241040	0	1,495	Village Corridor Mixed Use	6047589	2016174	178.5	96.5	0.00	144.27	144.30	0.10	02C071L	144.27	0.10	2	2.49	359	14.3	1.43	2063
3158	040332080	4	0	Village High Density Residential	6047372	2016985	178.5	96.5	714.00	0.00	714.00	0.50	02C268M	714.00	0.50	2	2.49	1778	14.3	7.09	10210
3161	045163080	6	5,251	Village Core	6046352	2016955	178.5	96.5	1153.00	506.72	1660.00	1.15	02T161U	1659.87	1.15	2	2.49	4133	14.3	16.48	23736
3171	040332090	4	0	Village High Density Residential	6047398	2016959	178.5	96.5	714.00	0.00	714.00	0.50	02C268M	714.00	0.50	2	2.49	1778	14.3	7.09	10210
3174	045163150	8	0	Village Core	6046190	2016949	178.5	96.5	1428.00	0.00	1428.00	0.99	02C166M	1428.00	0.99	2	2.49	3556	14.3	14.18	20420
3187	040331190	1	0	Village Corridor Mixed Use	6047039	2016733	178.5	96.5	178.50	0.00	178.50	0.12	02C246M	178.50	0.12	2	2.49	444	14.3	1.77	2553
3199	040333150	10	0	Village High Density Residential	6047539	2016811	178.5	96.5	1785.00	0.00	1785.00	1.24	02C271M	1785.00	1.24	2	2.49	4445	14.3	17.73	25526
3211	040333130	17	43,100	Village Corridor Mixed Use	6047492	2016597	178.5	96.5	3015.00	4159.10	7174.00	4.98	02C062M	7174.02	4.98	2	2.49	17863	14.3	71.24	102588
3216	040333040	1	0	Village Corridor Mixed Use	6047463	2016764	178.5	96.5	178.50	0.00	178.50	0.12	02C271M	178.50	0.12	2	2.49	444	14.3	1.77	2553
3233	040331200	0	0	Park/Plaza	6046857	2016931	178.5	96.5	0.00	0.00	0.00	0.00	02T242M	0.00	0.00	2	2.49	0	14.3	0.00	0
3248	040333110	0	4,155	Village Corridor Mixed Use	6047661	2016691	178.5	96.5	0.00	400.96	401.00	0.28	02C273M	400.96	0.28	2	2.49	998	14.3	3.98	5734
3272	040331030	1	4,132	Village Corridor Mixed Use	6046934	2016844	178.5	96.5	149.10	398.74	547.80	0.38	02C243M	547.86	0.38	2	2.49	1364	14.3	5.44	7834
3274	040332110	5	12,880	Village Corridor Mixed Use	6047313	2016780	178.5	96.5	843.80	1242.90	2087.00	1.45	02C271M	2086.62	1.45	2	2.49	5196	14.3	20.72	29839
3318	045182060	4	3,479	Village Core	6046555	2016599	178.5	96.5	733.80	335.72	1070.00	0.74	05T001U	1069.53	0.74	5	1.84	1968	7.9	5.87	8449
3342	045184020	1	0	Village Core	6046813	2016031	178.5	96.5	178.50	0.00	178.50	0.12	02C088U	178.50	0.12	2	2.49	444	14.3	1.77	2553
3367	040333030	1	0	Village Corridor Mixed Use	6047431	2016731	178.5	96.5	178.50	0.00	178.50	0.12	02C271M	178.50	0.12	2	2.49	444	14.3	1.77	2553
3390	045182260	2	1,406	Village Core	6046604	2016689	178.5	96.5	414.80	135.68	550.50	0.38	02T163M	550.51	0.38	2	2.49	1371	14.3	5.47	7872
3391	040331160	1	5,981	Village Corridor Mixed Use	6047090	2016680	178.5	96.5	209.00	577.17	786.20	0.55	02C246M	786.12	0.55	2	2.49	1957	14.3	7.81	11241
3404	045181260	0	10,010	Public Facility	6046406	2016108	178.5	96.5	0.00	965.97	966.00	0.67	02C091U	965.97	0.67	5	1.84	1777	7.9	5.30	7631
3443	040331110	2	7,236	Village Corridor Mixed Use	6047185	2016580	178.5	96.5	296.50	698.27	994.80	0.69	02T018M	994.79	0.69	2	2.49	2477	14.3	9.88	14226
3453	045152560	8	6,971	Village Core	6046209	2016564	178.5	96.5	1490.00	672.70	2163.00	1.50	05C158M	2162.48	1.50	5	1.84	3979	7.9	11.86	17084
3467	045241050	0	1,631	Village Corridor Mixed Use	6047609	2016159	178.5	96.5	58.69	157.39	216.10	0.15	02C071L	216.09	0.15	2	2.49	538	14.3	2.15	3090
3509	046031070	12	35,020	Village Corridor Mixed Use	6047759	2016353	178.5	96.5	2099.00	3379.40	5478.00	3.80	02C063M	5478.59	3.80	2	2.49	13642	14.3	54.41	78344
3550	040331130	5	12,650	Village Corridor Mixed Use	6047278	2016482	178.5	96.5	822.50	1220.70	2043.00	1.42	02T018M	2043.21	1.42	2	2.49	5088	14.3	20.29	29218
3558	045241030	1	6,876	Village Corridor Mixed Use	6047549	2016206	178.5	96.5	250.10	663.53	913.60	0.63	02C071L	913.68	0.63	2	2.49	2275	14.3	9.07	13066
3569	045244170	4	3,388	Village Core	6047387	2015881	178.5	96.5	799.00	326.94	1126.00	0.78	02C077M	1125.89	0.78	4	1.96	2207	13.8	10.79	15537
3599	045182040	4	3,251	Village Core	6046482	2016525	178.5	96.5	686.30	313.72	1000.00	0.69	05T001U	1000.01	0.69	5	1.84	1840	7.9	5.49	7900
3605	040331120	1	0	Village Corridor Mixed Use	6047223	2016539	178.5	96.5	178.50	0.00	178.50	0.12	02T018M	178.50	0.12	2	2.49	444	14.3	1.77	2553
3617	045182020	4	3,368	Village Core	6046411	2016456	178.5	96.5	784.00	325.01	1109.00	0.77	05C159M	1108.94	0.77	5	1.84	2040	7.9	6.08	8761
3650	045182200	5	2,850	Village Core	6046571	2016432	178.5	96.5	840.90	275.03	1116.00	0.78	02C086U	1115.97	0.77	2	2.49	2779	14.3	11.08	15958
3663	045183070	3	1,898	Village Core	6046908	2016353	178.5	96.5	560.00	183.16	743.20	0.52	02T023M	743.11	0.52	2	2.49	1850	14.3	7.38	10626
3672	045152370	0	4,513	Village Corridor Mixed Use	6046104	2016390	178.5	96.5	0.00	435.50	435.50	0.30	05C154M	435.50	0.30	5	1.84	801	7.9	2.39	3440
3700	045184050	1	0	Village Core	6046903	2016118	178.5	96.5	178.50	0.00	178.50	0.12	02T024M	178.50	0.12	2	2.49	444	14.3	1.77	2553
3701	045185060	0	4,997	Village Core	6047087	2016102	178.5	96.5	0.00	482.21	482.20	0.33	02C076U	482.21	0.33	2	2.49	1201	14.3	4.79	6896
3703	045182010	8	6,612	Village Core	6046384	2016381	178.5	96.5	1479.00	638.06	2117.00	1.47	05C162M	2116.88	1.47	5	1.84	3895	7.9	11.61	16723
3730	045182220	5	2,972	Village Core	6046467	2016288	178.5	96.5	877.00	286.80	1164.00	0.81	02C087L	1163.77	0.81	2	2.49	2898	14.3	11.56	16642

Attachment A
Belmont Village Land Use and Flows

OBJECTID	APN	Residential Units	Non-Residential Sq Ft	Land use	x_coord	Y_coord	UnitQ_Res	UnitQNotRe	ResQ_gpd	NoResQgpd	TotBVQ_gpd	TotBVQ_gpm	LoadMH	BV_Q_gpd	BV_Q_gpm	SwrBound	PDWF PF	BV PDWF (gpd)	PWWF PF	BV PWWF (gpm)	BV PWWF (gpd)
3801	045183100	53	52,930	Village Core	6046754	2016287	178.5	96.5	9421.00	5107.70	14530.00	10.09	02C081M	14528.98	10.09	2	2.49	36177	14.3	144.28	207764
3826	045152380	0	2,570	Village Corridor Mixed Use	6046077	2016318	178.5	96.5	0.00	248.01	248.00	0.17	05C156M	248.01	0.17	5	1.84	456	7.9	1.36	1959
3829	045181010	3	2,943	Village Core	6046248	2016307	178.5	96.5	485.30	284.00	769.30	0.53	05C159M	769.31	0.53	5	1.84	1416	7.9	4.22	6078
3833	040331170	2	10,350	Village Corridor Mixed Use	6047356	2016400	178.5	96.5	359.00	998.77	1358.00	0.94	02C066M	1357.71	0.94	2	2.49	3381	14.3	13.48	19415
3836	045182210	7	6,653	Village Core	6046518	2016379	178.5	96.5	1237.00	642.01	1879.00	1.30	02C087L	1879.06	1.30	2	2.49	4679	14.3	18.66	26871
3494	045182050	5	4,088	Village Core	6046523	2016556	178.5	96.5	894.10	394.49	1289.00	0.90	05T001U	1288.64	0.89	5	1.84	2371	7.9	7.07	10180
3504	045182180	4	2,713	Village Core	6046644	2016502	178.5	96.5	800.40	261.80	1062.00	0.74	02C086U	1062.23	0.74	2	2.49	2645	14.3	10.55	15190
3514	045182190	4	2,458	Village Core	6046613	2016462	178.5	96.5	725.20	237.20	962.40	0.67	02C086U	962.37	0.67	2	2.49	2396	14.3	9.56	13762
3869	045244050	1	1,250	Village Core	6047319	2015955	178.5	96.5	266.70	120.63	387.30	0.27	02T079U	387.38	0.27	2	2.49	965	14.3	3.85	5539
3925	045181160	3	2,082	Village Core	6046262	2016266	178.5	96.5	469.30	200.91	670.20	0.47	05C162M	670.11	0.47	5	1.84	1233	7.9	3.68	5294
3933	045185010	3	1,907	Village Core	6046963	2016182	178.5	96.5	562.60	184.03	746.60	0.52	02C080M	746.69	0.52	2	2.49	1859	14.3	7.42	10678
3940	045181250	0	28,530	Park/Plaza	6046261	2015784	178.5	96.5	0.00	2753.10	2753.00	1.91	05T107M	2753.15	1.91	5	1.84	5066	7.9	15.10	21750
3985	045181170	21	14,290	Village Core	6046281	2016171	178.5	96.5	3750.00	1379.00	5129.00	3.56	05T003M	5129.27	3.56	5	1.84	9438	7.9	28.14	40521
3987	045185020	5	3,081	Village Core	6047006	2016224	178.5	96.5	908.90	297.32	1206.00	0.84	02T023M	1206.30	0.84	2	2.49	3004	14.3	11.98	17250
3995	045181280	0	46,530	Public Facility	6046474	2015881	178.5	96.5	0.00	4490.10	4490.00	3.12	02C089M	4490.15	3.12	2	2.49	11180	14.3	44.59	64209
3997	045184030	1	0	Village Core	6046841	2016059	178.5	96.5	178.50	0.00	178.50	0.12	02C088U	178.50	0.12	2	2.49	444	14.3	1.77	2553
3998	045181230	0	5,913	Public Facility	6046315	2016006	178.5	96.5	0.00	570.60	570.60	0.40	05T003M	570.60	0.40	5	1.84	1050	7.9	3.13	4508
4013	045185070	4	2,642	Village Core	6047043	2016150	178.5	96.5	779.30	254.95	1034.00	0.72	02C026U	1034.34	0.72	2	2.49	2576	14.3	10.27	14791
4022	045244180	0	12,700	Village Core	6047472	2015790	178.5	96.5	0.00	1225.60	1226.00	0.85	04C036M	1225.55	0.85	4	1.96	2402	13.8	11.74	16913
4036	045184040	1	0	Village Core	6046871	2016087	178.5	96.5	178.50	0.00	178.50	0.12	02T024M	178.50	0.12	2	2.49	444	14.3	1.77	2553
4047	045181290	7	6,351	Village Core	6046574	2015924	178.5	96.5	1276.00	612.87	1889.00	1.31	02C089M	1888.41	1.31	2	2.49	4702	14.3	18.75	27004
4065	045184070	2	0	Village Core	6046994	2015981	178.5	96.5	357.00	0.00	357.00	0.25	02C028M	357.00	0.25	2	2.49	889	14.3	3.55	5105
4078	045244070	1	1,275	Village Core	6047353	2015918	178.5	96.5	262.40	123.04	385.40	0.27	02T079U	385.50	0.27	4	1.96	756	13.8	3.69	5320
4080	045244020	1	1,338	Village Core	6047268	2016010	178.5	96.5	266.50	129.12	395.60	0.27	02T079U	395.65	0.27	2	2.49	985	14.3	3.93	5658
4104	045243020	0	0	Village Corridor Mixed Use	6047440	2016080	178.5	96.5	0.00	0.00	0.00	0.00	02C068U	0.00	0.00	2	2.49	0	14.3	0.00	0
4131	045244010	41	7,383	Village Core	6047228	2016053	178.5	96.5	7319.00	712.46	8031.00	5.58	02C078U	8030.96	5.58	2	2.49	19997	14.3	79.75	114843
4152	045184130	0	6,807	Village Core	6046938	2016002	178.5	96.5	0.00	656.88	656.90	0.46	02C026U	656.88	0.46	2	2.49	1636	14.3	6.52	9393
4172	045245210	0	11,510	Village Core	6047081	2015797	178.5	96.5	0.00	1110.70	1111.00	0.77	02C094M	1110.72	0.77	2	2.49	2766	14.3	11.03	15883
4211	045181090	5	0	Village Core	6046628	2015869	178.5	96.5	892.50	0.00	892.50	0.62	02C092M	892.50	0.62	2	2.49	2222	14.3	8.86	12763
4242	045243040	0	2,240	Village Corridor Mixed Use	6047730	2015765	178.5	96.5	0.00	216.16	216.20	0.15	02C069M	216.16	0.15	2	2.49	538	14.3	2.15	3091
4243	045243030	0	0	Village Corridor Mixed Use	6047576	2015932	178.5	96.5	0.00	0.00	0.00	0.00	02C069M	0.00	0.00	2	2.49	0	14.3	0.00	0
4247	045244160	0	4,410	Village Core	6047181	2015938	178.5	96.5	0.00	425.57	425.60	0.30	02C027M	425.57	0.30	2	2.49	1060	14.3	4.23	6086
4248	045244030	1	1,254	Village Core	6047285	2015991	178.5	96.5	266.90	121.01	387.90	0.27	02T079U	387.83	0.27	2	2.49	966	14.3	3.85	5546
4254	045184110	1	0	Village Core	6046785	2015963	178.5	96.5	178.50	0.00	178.50	0.12	02C092M	178.50	0.12	2	2.49	444	14.3	1.77	2553
4258	045244040	1	1,224	Village Core	6047302	2015973	178.5	96.5	260.40	118.12	378.50	0.26	02T079U	378.55	0.26	2	2.49	943	14.3	3.76	5413
4261	045241230	1	4,742	Village Corridor Mixed Use	6047648	2016125	178.5	96.5	153.20	457.60	610.80	0.42	02C071L	610.76	0.42	2	2.49	1521	14.3	6.07	8734
4267	046031080	8	19,350	Village Corridor Mixed Use	6047662	2016431	178.5	96.5	1507.00	1867.30	3374.00	2.34	02C063M	3374.34	2.34	2	2.49	8402	14.3	33.51	48253
4340	045244060	2	1,141	Village Core	6047336	2015936	178.5	96.5	267.90	110.11	378.00	0.26	02T079U	378.00	0.26	2	2.49	941	14.3	3.75	5405
4083	045184100	1	0	Village Core	6046835	2015910	178.5	96.5	178.50	0.00	178.50	0.12	02C029M	178.50	0.12	2	2.49	444	14.3	1.77	2553
4182	045184090	1	0	Village Core	6046886	2015930	178.5	96.5	178.50	0.00	178.50	0.12	02C029M	178.50	0.12	2	2.49	444	14.3	1.77	2553
4381	045244150	0	11,230	Village Core	6047346	2015761	178.5	96.5	0.00	1083.70	1084.00	0.75	04C036M	1083.70	0.75	4	1.96	2124	13.8	10.39	14955
4429	045248010	1	1,315	Village Core	6047587	2015665	178.5	96.5	266.70	126.90	393.60	0.27	04C035M	393.51	0.27	4	1.96	771	13.8	3.77	5430
4440	045248020	1	0	Village Core	6047604	2015647	178.5	96.5	178.50	0.00	178.50	0.12	04C035M	178.50	0.12	4	1.96	350	13.8	1.71	2463
4459	045248040	2	929	Village Core	6047655	2015593	178.5	96.5	272.70	89.69	362.40	0.25	04T027U	362.42	0.25	4	1.96	710	13.8	3.47	5001
4548	045248030	3	2,660	Village Core	6047630	2015621	178.5	96.5	543.20	256.69	799.90	0.56	04T027U	799.95	0.56	4	1.96	1568	13.8	7.67	11039
4757	045241240	3	12,260	Village Corridor Mixed Use	6047428	2016323	178.5	96.5	603.30	1183.10	1786.00	1.24	02C066M	1786.38	1.24	2	2.49	4448	14.3	17.74	25545
4763	045241160	10	24,300	Village Corridor Mixed Use	6047785	2015942	178.5	96.5	1814.00	2345.00	4159.00	2.89	02C069M	4158.51	2.89	2	2.49	10355	14.3	41.30	59467
4767	045185090	0	9,490	Village Core	6047108	2016236	178.5	96.5	0.00	915.78	915.80	0.64	02T072U	915.79	0.64	2	2.49	2280	14.3	9.09	13096
4782	045241210	5	11,570	Village Corridor Mixed Use	6047643	2016072	178.5	96.5	823.20	1116.50	1940.00	1.35	02C071L	1939.70	1.35	2	2.49	4830	14.3	19.26	27738
5285	045241170	2	9,038	Village Corridor Mixed Use	6047887	2015833	178.5	96.5	305.90	872.17	1178.00	0.82	02C069M	1178.16	0.82	2	2.49	2934	14.3	11.70	16848
4767	045185100	3	1,536	Village Core	6047082	2016209	178.5	96.5	453.40	148.22	601.60	0.42	02T072U	915.79	0.64	2	2.49	2280	14.3	9.09	13096
15763	045243050	0	0	Village Corridor Mixed Use	6047584	2015977	178.5	96.5	0.00	0.00	0.00	0.00	02C068U	0.00	0.00	2	2.49	0	14.3	0.00	0
4261	045241220	0	1,210	Village Corridor Mixed Use	6047683	2016088	178.5	96.5	49.59	116.77	166.40	0.12	02C071L	610.76	0.42	2	2.49	1521	14.3	6.07	8734
15763	045186010	0	0	Park/Plaza	6047023	2016569	178.5	96.5	0.00	0.00	0.00	0.00	02T019M	0.00	0.00	2	2.49	0	14.3	0.00	0
15765	045165020	0	0	Village Corridor Mixed Use	6046599	2017028	178.5	96.5	0.00	0.01	0.01	0.00	02T122M	0.01	0.00	2	2.49	0	14.3	0.00	0
15763		0	0	Park/Plaza	6047300	2016352	178.5	96.5	0.00	0.00	0.00	0.00	02C066M	0.00	0.00	2	2.49	0	14.3	0.00	0
15765		0	0	Park/Plaza	6046446	2017291	178.5	96.5	0.00	0.01	0.01	0.00	02T154M	0.01	0.00	2	2.49	0	14.3	0.00	0
4002	045261020	0	1,474	Village Core	6046759	2015796	178.5	96.5	0.00	142.24	142.20	0.10	02C092M	142.21	0.10	2	2.49	354	14.3	1.41	2034
4028	045261010	0	2,898	Village Core	6046777	2015812	178.5	96.5	0.00	279.66	279.70	0.19	02C092M	279.70	0.19	2	2.49	696	14.3	2.78	4000
4044	045181100	2	0	Village Core	6046672	2015842	178.5	96.5	357.00	0.00	357.00	0.25	02C092M	357.00	0.25	2	2.49	889	14.3	3.55	5105
4074	045261030	0	838	Village Core	6046730	2015772	178.5	96.5	0.00	80.87	80.87	0.06	02C031M	80.86	0.06	2	2.49	201	14.3	0.80	1156

OBJECTID	APN	Residential Units	Non-Residential Sq Ft	Land use	x_coord	Y_coord	UnitQ_Res	UnitQNotRe	ResQ_gpd	NoResQgpd	TotBVQ_gpd	TotBVQ_gpm	LoadMH	BV_Q_gpd	BV_Q_gpm	SwrBound	PDWF PF	BV PDWF (gpd)	PWWF PF	BV PWWF (gpm)	BV PWWF (gpd)
4446	045261040	0	0		6046686	2015739	178.5	96.5	0.00	0.00	0.00	0.00	02C031M	0.00	0.00	0		0	0.0	0.00	0
														260,751				584,259			3,277,585

ATTACHMENT B

Mark Thomas & Company

Belmont Village Development Hydraulic Analysis

Output Reports

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ID	From ID	To ID	Diameter (	Length (ft)	Slope	Total Flow	Unpeakabl	Peakable F	Coverage F	Infiltration	Storm Flov	Flow Type	Velocity (ft	d/D	q/Q	Water Dep	Critical De	Froude Nu	Full Flow (g	Coverage (	Backwater	Adjusted D	Adjusted V
10	09C128M	09C127M	6	89.988	0.074	8.631	8.631	0	0	0	0	Free Surfa	2.682	0.079	0.013	0.039	0.067	2.896	686.926	0	No	0.039	2.682
100	13C196M	13C047L	6	181.457	0.045	5.975	5.975	0	0	0	0	Free Surfa	2.021	0.074	0.011	0.037	0.056	2.247	537.06	0	Yes	0.064	0.904
1000	14C031M	14C029M	6	146.206	0.046	106.921	106.921	0	0	0	0	Free Surfa	4.78	0.301	0.197	0.151	0.245	2.556	541.417	0	Yes	0.166	4.198
1001	14C006M	14C004M	6	227.466	0.184	75.371	75.371	0	0	0	0	Free Surfa	7.062	0.179	0.07	0.089	0.204	4.995	1,082.70	0	Yes	0.091	6.832
1002	03C071M	03C069U	6	207.747	0.013	17.738	17.738	0	0	0	0	Free Surfa	1.799	0.169	0.062	0.085	0.097	1.309	285.073	0	Yes	0.088	1.705
1003	06C149M	06C148M	6	283.156	0.05	115.359	115.359	0	0	0	0	Free Surfa	5.035	0.307	0.204	0.153	0.255	2.667	564.955	0	No	0.153	5.035
1004	06C174M	06C173M	6	258.833	0.076	11.51	11.51	0	0	0	0	Free Surfa	2.955	0.089	0.017	0.045	0.078	2.986	696.678	0	No	0.045	2.955
1005	06C148M	06C147M	6	92.12	0.063	115.359	115.359	0	0	0	0	Free Surfa	5.462	0.289	0.182	0.145	0.255	2.988	632.925	0	Yes	0.175	4.206
1006	06C176M	06C171L	6	300.421	0.068	9.417	9.417	0	0	0	0	Free Surfa	2.667	0.084	0.014	0.042	0.07	2.789	656.175	0	No	0.042	2.667
1007	06C171L	06C169M	6	50.981	0.083	9.417	9.417	0	0	0	0	Free Surfa	2.87	0.08	0.013	0.04	0.07	3.078	729.046	0	Yes	0.058	1.668
1008	06C172M	06C169M	6	124.996	0.115	11.51	11.51	0	0	0	0	Free Surfa	3.409	0.081	0.013	0.041	0.078	3.619	855.008	0	Yes	0.058	2.018
1009	06C144M	06C143M	6	201.313	0.031	51.127	51.127	0	0	0	0	Free Surfa	3.364	0.229	0.115	0.114	0.167	2.088	445.405	0	No	0.114	3.364
101	03C157M	03C156M	6	33.302	0.046	178.919	178.919	0	0	0	0	Free Surfa	5.53	0.395	0.329	0.197	0.321	2.538	543.693	0	Yes	0.222	4.724
1010	06T006M	06T004M	8	256.591	0.032	277.585	277.585	0	0	0	0	Free Surfa	5.336	0.366	0.287	0.244	0.37	2.214	968.331	0	No	0.244	5.336
1011	03C081M	03C079M	6	277.477	0.004	40.135	40.135	0	0	0	0	Free Surfa	1.504	0.343	0.252	0.171	0.147	0.749	158.982	0	No	0.171	1.504
1012	03C082M	03C081M	6	282.692	0.005	40.135	40.135	0	0	0	0	Free Surfa	1.622	0.324	0.227	0.162	0.147	0.833	176.612	0	Yes	0.167	1.561
1013	09C044M	09C043M	6	139.318	0.154	3.699	3.699	0	0	0	0	Free Surfa	2.674	0.044	0.004	0.022	0.044	3.853	990.359	0	No	0.022	2.674
1014	09T074M	09T073M	10	307.721	0.006	170.168	170.168	0	0	0	0	Free Surfa	2.584	0.314	0.214	0.262	0.268	1.046	794.887	0	No	0.262	2.584
1015	09C043M	09T042M	6	44.344	0.069	3.699	3.699	0	0	0	0	Free Surfa	2.02	0.054	0.006	0.027	0.044	2.646	661.561	0	Yes	0.084	0.377
1016	11T003U	11T002M	8	131.362	0.007	466.405	466.405	0	0	0	0	Pressurize	2.977	1	1.032	0.667	0.476	0.643	452.113	0	No	0.667	2.977
1017	12T017U	12T016L	8	286.984	0.042	657.732	657.732	0	0	0	0	Free Surfa	7.415	0.552	0.589	0.368	0.567	2.393	1,116.20	0	No	0.368	7.415
1018	09C097L	09C096M	6	142.522	0.079	37.377	37.377	0	0	0	0	Free Surfa	4.254	0.156	0.053	0.078	0.142	3.228	707.9	0	Yes	0.08	4.078
1019	12T016L	12T014U	8	72.649	0.044	657.732	657.732	0	0	0	0	Free Surfa	7.536	0.545	0.577	0.363	0.567	2.454	1,140.23	0	No	0.363	7.536
102	13C047L	13C046M	6	323.093	0.075	50.191	50.191	0	0	0	0	Free Surfa	4.559	0.183	0.073	0.091	0.166	3.188	689.791	0	No	0.091	4.559
1020	12T014U	12T013M	8	100.535	0.084	657.732	657.732	0	0	0	0	Free Surfa	9.598	0.451	0.418	0.3	0.567	3.526	1,574.31	0	Yes	0.377	7.203
1021	12T006M	12T004M	10	225.857	0.019	657.732	657.732	0	0	0	0	Free Surfa	5.479	0.492	0.487	0.41	0.542	1.704	1,349.98	0	No	0.41	5.479
1022	09C007M	09C006M	6	161.25	0.128	136.309	136.309	0	0	0	0	Free Surfa	7.39	0.262	0.151	0.131	0.279	4.261	904.122	0	Yes	0.161	5.564
1023	09C096M	09T072M	6	184.024	0.062	37.377	37.377	0	0	0	0	Free Surfa	3.915	0.165	0.059	0.083	0.142	2.883	628.822	0	Yes	0.184	1.273
1024	09T042M	09T041M	8	192.369	0.016	68.108	68.108	0	0	0	0	Free Surfa	2.799	0.213	0.099	0.142	0.178	1.565	687.869	0	No	0.142	2.799
1025	10C254M	10C253M	8	351.518	0.138	38.71	38.71	0	0	0	0	Free Surfa	5.036	0.096	0.019	0.064	0.133	4.251	2,017.93	0	Yes	0.064	5
1027	10C253M	10C252M	8	320.313	0.132	38.71	38.71	0	0	0	0	Free Surfa	4.964	0.097	0.02	0.065	0.133	4.17	1,976.77	0	Yes	0.073	4.117
1028	11C101L	11C099M	6	220.941	0.057	7.585	7.585	0	0	0	0	Free Surfa	2.36	0.079	0.013	0.039	0.063	2.549	604.832	0	No	0.039	2.36
1029	09C118M	09C117M	6	238.59	0.083	5.754	5.754	0	0	0	0	Free Surfa	2.469	0.063	0.008	0.032	0.055	2.978	727.856	0	Yes	0.039	1.834
103	15C034M	15C033M	6	156.205	0.085	108.775	108.775	0	0	0	0	Free Surfa	5.986	0.26	0.148	0.13	0.248	3.471	736.734	0	Yes	0.143	5.228
1030	09C117M	09C116M	6	365.059	0.129	15.618	15.618	0	0	0	0	Free Surfa	3.89	0.091	0.017	0.046	0.091	3.89	905.17	0	Yes	0.057	2.776
1032	11C086L	11C084M	6	406.176	0.023	43.99	43.99	0	0	0	0	Free Surfa	2.901	0.228	0.114	0.114	0.155	1.803	384.471	0	No	0.114	2.901
1033	11C073M	11C072M	8	326.941	0.095	57.643	57.643	0	0	0	0	Free Surfa	4.979	0.127	0.034	0.085	0.164	3.641	1,672.93	0	Yes	0.089	4.615
1034	11C084M	11C083M	6	94.029	0.068	59.159	59.159	0	0	0	0	Free Surfa	4.641	0.202	0.09	0.101	0.18	3.076	660.708	0	No	0.101	4.641
1035	09C104M	09C103U	6	127.084	0.077	12.947	12.947	0	0	0	0	Free Surfa	3.071	0.094	0.019	0.047	0.083	3.019	699.609	0	Yes	0.05	2.783
1036	11T011M	11T009M	8	43.489	0.113	315.516	315.516	0	0	0	0	Free Surfa	8.745	0.281	0.172	0.187	0.396	4.208	1,830.56	0	Yes	0.23	6.587
1037	11C072M	11T009M	8	51.903	0.062	57.643	57.643	0	0	0	0	Free Surfa	4.294	0.141	0.043	0.094	0.164	2.979	1,354.26	0	Yes	0.183	1.648
1038	11T009M	11T008M	8	50.664	0.055	445.818	445.818	0	0	0	0	Free Surfa	7.398	0.409	0.351	0.273	0.473	2.881	1,271.08	0	Yes	0.302	6.474
1039	09C109M	09C108M	6	94.827	0.153	11.509	11.509	0	0	0	0	Free Surfa	3.765	0.076	0.012	0.038	0.078	4.138	986.116	0	Yes	0.038	3.699
104	15C139M	15C138M	6	233.35	0.1	61.02	61.02	0	0	0	0	Free Surfa	5.354	0.187	0.076	0.094	0.183	3.698	798.636	0	Yes	0.132	3.282
1040	11C082M	11C081U	6	121.738	0.016	59.159	59.159	0	0	0	0	Free Surfa	2.758	0.292	0.186	0.146	0.18	1.499	317.6	0	No	0.146	2.758
1041	09C108M	09C102M	6	165.22	0.138	11.509	11.509	0	0	0	0	Free Surfa	3.635	0.078	0.012	0.039	0.078	3.947	937.687	0	Yes	0.054	2.214
1042	09C103U	09C102M	6	138.146	0.045	12.947	12.947	0	0	0	0	Free Surfa	2.539	0.107	0.024	0.054	0.083	2.336	532.849	0	Yes	0.062	2.065
1043	09C111M	09C109M	6	78.355	0.028	11.509	11.509	0	0	0	0	Free Surfa	2.086	0.113	0.027	0.057	0.078	1.867	423.196	0	No	0.057	2.086
1044	11T008M	11T007U	8	142.539	0.028	445.818	445.818	0	0	0	0	Free Surfa	5.75	0.496	0.493	0.331	0.473	1.991	903.993	0	Yes	0.344	5.461
1045	07C069M	07C068M	6	150.674	0.173	62.159	62.159	0	0	0	0	Free Surfa	6.526	0.165	0.059	0.083	0.185	4.81	1,049.40	0	Yes	0.105	4.606
1046	10T011M	10T009U	12	128	0.035	3,194.15	3,194.15	0	0	0	0	Pressurize	9.061	1	1.062	1	0.971	1.597	3,008.57	0	Yes	1	9.061
1048	09T071M	07T058M	10	266.314	0.013	207.545	207.545	0	0	0	0	Free Surfa	3.509	0.291	0.184	0.242	0.297	1.482	1,125.80	0	No	0.242	3.509
105	15C172U	15C151M	4	201.224	0.03	5.306	5.306	0	0	0	0	Free Surfa	1.791	0.129	0.036	0.043	0.059	1.837	148.963	0	Yes	0.054	1.295
1050	09T001M	07T059M	10	142.914	0.019	209.349	209.349	0	0	0	0	Free Surfa	4.019	0.266	0.154	0.221	0.298	1.784	1,356.99	0	Yes	0.253	3.326
1052	10C113M	10C112M	6	57.645	0.299	3.322	3.322	0	0	0	0	Free Surfa	3.261	0.036	0.002	0.018	0.042	5.212	1,381.63	0	Yes	0.021	2.53
1053	10C112M	10C111M	8	11.018	0.228	6.644	6.644	0	0	0	0	Free Surfa	3.516	0.037	0.003	0.025	0.055	4.797	2,599.14	0	Yes	0.031	2.519
1054	10C111M	10C063L	6	132.516	0.055	6.644	6.644	0	0	0	0	Free Surfa	2.23	0.075	0.011	0.037	0.059	2.472	590.446	0	Yes	0.058	1.151
1055	13T201M	13T199M	6	161.02	0.102	289.342	289.342	0	0	0	0	Free Surfa	8.389	0.414	0.359	0.207	0.407	3.743	805.615	0	Yes	0.227	7.428
1056	08C554M	08C551M	6	73.589	0.086	2.065	2.065	0	0	0	0	Free Surfa	1.828	0.039	0.003	0.019	0.033	2.821	739.975	0	Yes	0.04	0.626
1057	08C553M	08C552M	6	148.606	0.083	6.194	6.194	0	0	0	0	Free Surfa	2.522	0.065	0.009	0.033	0.057	2.988	726.616	0	No	0.033	2.522
1058	08C201M	08C199M	6	170.134	0.063	202.327	202.327	0	0	0	0	Free Surfa	6.393	0.388	0.319	0.194	0.342	2.962	633.585	0	No	0.194	6.393
1059	08C599M	08C593M	6	133.467	0.082	6.194	6.194	0	0	0	0	Free Surfa	2.518	0.066	0.009	0.033	0.057	2.981	724.762	0	Yes	0.044	1.623
106	15C066U	15C064M	6	70.698	0.438	34.49	34.49	0	0	0	0	Free Surfa	7.579	0.099	0.021	0.05	0.136	7.257	1,670.84	0	Yes	0.081	3.702
1060	08C036M	08C034U	6	138.266	0.263	373.683	373.683	0	0	0	0	Free Surfa	12.708	0.368	0.289	0.184	0.45	6.076	1,294.89	0	No	0.184	12.708
1061	08C457M	08C442M	6	158.822	0.048	8.258	8.258	0	0	0	0	Free Surfa	2.278	0.085	0.015	0.043	0.066	2.36	554.094	0	Yes	0.059	1.403
1062	08C524M	08C523M	6	85.091	0.032	10.323	10.323	0	0	0	0	Free Surfa	2.12	0.104	0.023	0.052	0.074	1.983	453.931	0	Yes	0.063	1.589
1063	08C442M	08C441L	6	13.812	0.367	76.388	76.388	0	0	0	0	Free Surfa	9.046	0.152	0.05	0.076	0.206	6.963	1,530.58	0	Yes	0.087	7.461
1064	08C441L	08C439M	6	79.158	0.17	86.711	86.711	0	0	0	0	Free Surfa	7.152	0.195	0.083	0.098	0.22	4.829	1,039.59	0	Yes	0.102	6.754
1065	08C453M	08C439M	6	164.3	0.051	14.452	14.452	0	0	0	0	Free Surfa	2.76	0.109	0.025	0.055	0.087	2.516	572.529	0	Yes	0.08	1.583
1067	08C373M	08C372L	6	121.784	0.053	78.453	78.453	0	0	0	0	Free Surfa	4.591	0.249	0.135	0.124	0.209	2.726	579.384	0	No	0.124	4.591
1068	08C456U	08C441L	6	187.448	0.058	10.323	10.323	0	0	0	0	Free Surfa	2.602	0.091	0.017	0.045	0.074	2.613	608.609	0	Yes	0.071	1.336
1069	08C526M	08C524M	6	102.973	0.082	10.323	10.323	0	0	0	0	Free Surfa	2.934	0.084	0.014	0.042	0.074	3.071	722.722	0	Yes	0.047	2.471
107	15T109M	15T108M	6	98.13	0.116	475.135	475.135	0	0	0	0	Free Surfa	9.986	0.531	0.554	0.266	0.478	3.818	858.173	0	No	0.266	9.986
1070	08C374M	08C373M	6	95.206	0.07	59.872	59.872	0	0	0	0	Free Surfa	4.7	0.202	0.089	0.101	0.181	3.116	669.288	0	Yes	0.113	4.026
1071	06C071M	06C069M	6	239.617	0.108	16.742	16.742	0	0	0	0	Free Surfa	3.743	0.098	0.02	0.049	0.094	3.605	831.19	0	Yes	0.05	3.66
1072	08C482M	08C472M	6	105.144	0.043	10.323	10.323	0	0	0	0	Free Surfa	2.347	0.097	0.02	0.049	0.074	2.273	524.861	0	Yes	0.119	0.644
1073	08C427M	08C426M	6	143.508	0.087	130.065	130.065	0	0	0	0	Free Surfa	6.337	0.283	0.175	0.142	0.272	3.506	742.947	0	Yes	0.157	5.477
1074	08C399M	08C377M	6	312.106	0.002	14.452	14.452	0	0	0	0	Free Surfa	0.888	0.24	0.126	0.12	0.087	0.537	114.252	0	No	0.12	0.888
1075	08C377M	08C376M	6	150.936	0.082	43.356	43.356	0	0	0	0	Free Surfa	4.506	0.166	0.06	0.083	0.153	3.309	721.543	0	Yes	0.088	4.127
1076	08C038M	08C037U	6	222.144	0.019	284.907	284.907	0	0	0	0	Free Surfa	4.414	0.687	0.817	0.344	0.404	1.397	348.843	0	Yes	0.344	4.411
1077	08C564M	08C559M	6	48.635	0.303	10.323	10.323	0	0	0	0	Free Surfa	4.627	0.061	0.007	0.031	0.074	5.665	1,389.94	0	Yes	0.045	2.607
1078	08C561M	08C559M	6	105.054	0.206	8.258	8.258	0	0	0	0	Free Surfa	3.782	0.06	0.007	0.03	0.066	4.665	1,146.96	0	Yes	0.045	2.1
1079	08C559M	08C558M	6	78.646	0.059	18.581	18.581	0	0	0	0	Free Surfa	3.116	0.12	0.03	0.06	0.099	2.714	611.398	0	No	0.06	3.116
108	12C113M	12C082M	6	213.19	0.081	50.971	50.971	0	0	0	0	Free Surfa	4.712	0.18	0.071	0.09	0.167	3.317	718.313	0	Yes	0.094	4.432
1080	08C619M	08C042M	6	246.744	0.049	12.387	12.387	0	0	0	0	Free Surfa	2.593	0.103	0.022	0.051	0.081	2.441	559.804	0	Yes	0.117	0.79
1081	08C356M	08C354M	6	146.298	0.146	18.581	18.581	0	0	0	0	Free Surfa	4.283	0.096	0.019	0.048	0.099	4.17	963.894	0	Yes	0.066	2.726
1082	08C551M	08C549M	6	269.148	0.083	22.711	22.711	0	0	0	0	Free Surfa	3.741	0.121	0.031	0.061	0.11	3.237	728.472	0	No	0.061	3.741
1083	08C236M	08C234M	6	150.595	0.044	43.355	43.355	0	0	0	0	Free Surfa	3.61	0.194	0.082	0.097	0.153	2.446	526.881	0	Yes	0.099	3.494
1084	08C237M	08C236M	6	202.583	0.01	26.839	26.839	0	0	0	0	Free Surfa	1.857	0.221	0.107	0.11	0.12	1.174	250.887	0	No	0.11	1.857
1085	07C053L	07C051U	8	86.085	0.018	1.828	1.828	0	0	0	0	Free Surfa	0.982	0.037	0.003	0.025	0.029	1.346	730.4	0	No	0.025	0.982
1086	07T012M	07T011M	10	103.491	0.013	387.867	387.867	0	0	0	0	Free Surfa	4.117	0.409	0.351	0.341	0.411	1.434	1,105.07	0	No	0.341	4.117
1087	04C064M	04C063M	6	245.935	0.074	56.929	56.929	0	0	0	0	Free Surfa	4.726	0.194	0.083	0.097	0.177	3.198	688.855	0	Yes	0.144	2.712
1088	04C081M	04C079M	6	92.023	0.006	8.133	8.133	0	0	0	0	Free Surfa	1.104	0.138	0.041	0.069	0.065	0.892	197.852	0	No	0.069	1.104
1089	10C159L	10C158M	6	206.701	0.01	21.039	21.039	0	0	0	0	Free Surfa	1.717	0.197	0.085	0.098	0.106	1.154	248.375	0	No	0.098	1.717
109	12C083M	12C082M	6	176.341	0.049	67.31	67.31	0	0	0	0	Free Surfa	4.29	0.234	0.12	0.117	0.193	2.631	560.658	0	No	0.117	4.29
1090	10C083M	10C082M	6	80.804	0.037	27.517	27.517	0	0	0	0	Free Surfa	2.989	0.161	0.056	0.081	0.121	2.23	487.501	0	No	0.081	2.989
1091	06C168M	06C164L	6	164.159	0.164	4.185	4.185	0	0	0	0	Free Surfa	2.838	0.046	0.004	0.023	0.047	4.002	1,021.98	0	Yes	0.05	0.925
1092	04C102M	04C088U	6	285.879	0.067	32.531	32.531	0	0	0	0	Free Surfa	3.858	0.152	0.05	0.076	0.132	2.971	653.075	0	Yes	0.101	2.553
1093	10C118L	10C117M	6	111.967	0.015	6.644	6.644	0	0	0	0	Free Surfa	1.426	0.101	0.021	0.051	0.059	1.354	311.132	0	Yes	0.051	1.426
1094	06C043U	06C042M	6	134.813	0.072	16.742	16.742	0	0	0	0	Free Surfa	3.25	0.108	0.025	0.054	0.094	2.98	679.049	0	Yes	0.06	2.785
1095	06C217M	06C216M	6	268.552	0.002	4.185	4.185	0	0	0	0	Free Surfa	0.651	0.126	0.034	0.063	0.047	0.552	123.746	0	No	0.063	0.651
1096	06C073M	06C072M	6	109.616	0.229	3.139	3.139	0	0	0	0	Free Surfa	2.919	0.038	0.003	0.019	0.04	4.581	1,207.55	0	Yes	0.022	2.316
1097	06C086M	06C084M	6	220.849	0.084	17.788	17.788	0	0	0	0	Free Surfa	3.491	0.107	0.024	0.054	0.097	3.213	732.879	0	No	0.054	3.491
1098	06C134M	06C133M	6	139.933	0.015	63.494	63.494	0	0	0	0	Free Surfa	2.792	0.305	0.202	0.152	0.187	1.483	314.22	0	No	0.152	2.792
1099	06C042M	06C041L	6	231.877	0.031	16.742	16.742	0	0	0	0	Free Surfa	2.423	0.132	0.037	0.066	0.094	2.003	446.483	0	No	0.066	2.423
11	12T012M	12T011M	8	125.979	0.082	657.732	657.732	0	0	0	0	Free Surfa	9.516	0.454	0.423	0.302	0.567	3.482	1,556.05	0	Yes	0.341	8.151
110	07C081M	07C079M	6	158.673	0.011	23.767	23.767	0	0	0	0	Free Surfa	1.866	0.202	0.089	0.101	0.113	1.237	265.705	0	No	0.101	1.866
1100	06C228M	06C226M	6	54.541	0.018	3.139	3.139	0	0	0	0	Free Surfa	1.214	0.068	0.009	0.034	0.04	1.413	341.903	0	No	0.034	1.214
1101	06C226M	06C134M	6	123.3	0.114	6.278	6.278	0	0	0	0	Free Surfa	2.826	0.061	0.007	0.031	0.057	3.466	850.839	0	Yes	0.092	0.568
1102	06C136M	06C134M	6	131.639	0.015	57.216	57.216	0	0	0	0	Free Surfa	2.692	0.29	0.184	0.145	0.177	1.469	311.234	0	Yes	0.149	2.601
1103	06C066M	06C064M	6	274.211	0	16.742	16.742	0	0	0	0	Free Surfa	0.519	0.394	0.328	0.197	0.094	0.238	51.031	0	No	0.197	0.519

ID	From ID	To ID	Diameter (	Length (ft)	Slope	Total Flow	Unpeakabl	Peakable F	Coverage F	Infiltration	Storm Flov	Flow Type	Velocity (ft	d/D	q/Q	Water Dep	Critical De	Froude Nu	Full Flow (g	Coverage (	Backwater	Adjusted D	Adjusted V
1104	06C227M	06C226M	6	40.547	0.162	3.139	3.139	0	0	0	0	Free Surfa	2.592	0.041	0.003	0.02	0.04	3.907	1,017.72	0	Yes	0.025	1.855
1105	06C052M	06C051M	6	297.834	0.04	7.325	7.325	0	0	0	0	Free Surfa	2.061	0.084	0.014	0.042	0.062	2.15	505.653	0	Yes	0.043	2.011
1106	06C019M	06C018L	6	174.52	0.092	95.219	95.219	0	0	0	0	Free Surfa	5.915	0.238	0.125	0.119	0.231	3.592	764.806	0	Yes	0.125	5.521
1107	06C044M	06C019M	6	130	0.31	2.093	2.093	0	0	0	0	Free Surfa	2.866	0.029	0.001	0.014	0.033	5.126	1,405.94	0	Yes	0.067	0.299
1108	03C118L	03C117M	6	249.926	0.012	37.627	37.627	0	0	0	0	Free Surfa	2.221	0.247	0.134	0.124	0.143	1.323	281.216	0	No	0.124	2.221
1109	06C024M	06C023M	6	346.759	0.071	81.616	81.616	0	0	0	0	Free Surfa	5.171	0.235	0.121	0.117	0.213	3.164	674.165	0	Yes	0.123	4.857
111	12C114M	12C113M	6	128.205	0.027	50.971	50.971	0	0	0	0	Free Surfa	3.19	0.237	0.123	0.119	0.167	1.943	413.791	0	No	0.119	3.19
1110	06C023M	06C022M	6	87.732	0.051	81.616	81.616	0	0	0	0	Free Surfa	4.576	0.256	0.144	0.128	0.213	2.673	567.526	0	No	0.128	4.576
1111	06C021M	06C019M	6	114.405	0.068	93.126	93.126	0	0	0	0	Free Surfa	5.274	0.254	0.142	0.127	0.228	3.092	656.727	0	No	0.127	5.274
1112	05C073M	05C019M	6	299.317	0.007	34.959	34.959	0	0	0	0	Free Surfa	1.744	0.278	0.169	0.139	0.137	0.974	206.402	0	Yes	0.229	0.89
1113	05C021M	05C019M	8	193.29	0.121	178.622	178.622	0	0	0	0	Free Surfa	7.586	0.208	0.095	0.138	0.294	4.293	1,889.58	0	Yes	0.228	3.768
1114	07C033M	07T029M	6	217.774	0.009	5.472	5.472	0	0	0	0	Free Surfa	1.11	0.105	0.023	0.053	0.053	1.034	236.471	0	No	0.053	1.11
1115	07T004U	07T003M	24	371.688	0.016	5,536.71	5,536.71	0	0	0	0	Free Surfa	8.827	0.457	0.427	0.913	1.262	1.858	12,956.49	0	Yes	0.977	8.086
1116	04C059M	04C058M	6	110.101	0.068	65.062	65.062	0	0	0	0	Free Surfa	4.75	0.213	0.099	0.106	0.189	3.065	656.336	0	No	0.106	4.75
1117	07C033M	08C058M	6	159.34	0.025	9.154	9.154	0	0	0	0	Free Surfa	1.858	0.105	0.023	0.053	0.069	1.73	395.642	0	No	0.053	1.858
1118	04C088U	04C087L	6	303.476	0.068	92.171	92.171	0	0	0	0	Free Surfa	5.273	0.253	0.14	0.126	0.227	3.104	659.443	0	No	0.126	5.273
1119	07C034M	07C033M	6	67.595	0.027	14.626	14.626	0	0	0	0	Free Surfa	2.22	0.128	0.035	0.064	0.088	1.866	417.389	0	No	0.064	2.22
112	12C111M	12C097L	6	67.861	0.045	1.618	1.618	0	0	0	0	Free Surfa	1.359	0.04	0.003	0.02	0.029	2.061	537.673	0	Yes	0.043	0.441
1120	08C064M	08C063M	6	258.675	0.013	35.097	35.097	0	0	0	0	Free Surfa	2.198	0.237	0.123	0.118	0.138	1.339	285.197	0	No	0.118	2.198
1121	04C058M	04C057M	6	180.901	0.121	65.062	65.062	0	0	0	0	Free Surfa	5.841	0.184	0.074	0.092	0.189	4.068	879.632	0	Yes	0.095	5.588
1122	02C046L	02C044M	6	152.446	0.466	24.274	24.274	0	0	0	0	Free Surfa	6.966	0.083	0.014	0.041	0.114	7.316	1,723.37	0	Yes	0.06	4.021
1123	08C058M	08T001M	6	191.083	0.027	9.154	9.154	0	0	0	0	Free Surfa	1.915	0.103	0.022	0.051	0.069	1.802	413.242	0	Yes	0.5	0.104
1124	08T001M	07T028M	15	222.708	0.001	3,450.59	3,450.59	0	0	0	0	Pressurize	6.265	1	4.118	1.25	0.543	0.987	837.856	0	No	1.25	6.265
1125	04C087L	04C086M	6	108.548	0.176	92.171	92.171	0	0	0	0	Free Surfa	7.384	0.199	0.087	0.1	0.227	4.931	1,060.21	0	Yes	0.123	5.48
1126	07T036M	05T072M	15	354.759	0.013	3,126.24	3,126.24	0	0	0	0	Free Surfa	6.89	0.768	0.936	0.96	1.058	1.241	3,338.93	0	No	0.96	6.89
1127	08C063M	08C062M	6	150.605	0.025	35.097	35.097	0	0	0	0	Free Surfa	2.807	0.199	0.087	0.1	0.138	1.874	402.823	0	Yes	0.104	2.634
1128	08C066M	08C061M	6	313.935	0.014	37.162	37.162	0	0	0	0	Free Surfa	2.303	0.239	0.125	0.119	0.142	1.398	297.501	0	Yes	0.167	1.436
1129	12C077M	12C076M	6	297.585	0.031	232.115	232.115	0	0	0	0	Free Surfa	5.118	0.511	0.52	0.256	0.367	2.006	446.76	0	No	0.256	5.118
113	12C084M	12C083M	6	165.309	0.003	67.31	67.31	0	0	0	0	Free Surfa	1.632	0.475	0.458	0.237	0.193	0.67	147.095	0	No	0.237	1.632
1130	10C228M	10T012M	12	92.718	0.266	731.011	731.011	0	0	0	0	Free Surfa	14.472	0.201	0.088	0.201	0.542	6.805	8,272.03	0	Yes	0.371	6.146
1131	10C216M	10C214M	6	135.504	0.014	19.933	19.933	0	0	0	0	Free Surfa	1.936	0.174	0.066	0.087	0.103	1.387	301.269	0	No	0.087	1.936
1132	10C222M	10C216M	6	178.585	0.052	5.537	5.537	0	0	0	0	Free Surfa	2.072	0.069	0.01	0.035	0.054	2.385	575.501	0	Yes	0.061	0.905
1133	10C236M	10C234M	8	179.662	0.082	98.832	98.832	0	0	0	0	Free Surfa	5.559	0.171	0.063	0.114	0.216	3.486	1,556.82	0	No	0.114	5.559
1134	10C234M	10C233M	8	228.363	0.112	98.832	98.832	0	0	0	0	Free Surfa	6.209	0.158	0.054	0.105	0.216	4.053	1,822.30	0	No	0.105	6.209
1135	10C129M	10C128M	6	211.512	0.139	116.272	116.272	0	0	0	0	Free Surfa	7.272	0.237	0.123	0.119	0.256	4.428	942.881	0	Yes	0.123	6.912
1136	10C128M	10C127M	6	268.211	0.105	116.272	116.272	0	0	0	0	Free Surfa	6.583	0.254	0.142	0.127	0.256	3.859	819.62	0	Yes	0.142	5.667
1137	10C131M	10C129M	6	203.432	0.109	107.413	107.413	0	0	0	0	Free Surfa	6.52	0.242	0.129	0.121	0.246	3.925	835.234	0	No	0.121	6.52
1138	10T006M	10T004U	12	168.463	0.04	3,425.39	3,425.39	0	0	0	0	Pressurize	9.717	1	1.07	1	0.977	1.712	3,202.24	0	No	1	9.717
1139	10C218M	10C217M	6	54.15	0.257	8.859	8.859	0	0	0	0	Free Surfa	4.168	0.059	0.007	0.03	0.068	5.188	1,278.89	0	Yes	0.038	2.878
1140	10C124U	10C123M	6	102.416	0.126	172.745	172.745	0	0	0	0	Free Surfa	7.852	0.298	0.193	0.149	0.315	4.226	895.445	0	No	0.149	7.852
1141	10C187M	10C186M	6	68.773	0.155	6.644	6.644	0	0	0	0	Free Surfa	3.207	0.058	0.007	0.029	0.059	4.027	995.089	0	Yes	0.034	2.58
1142	10C163M	10C157L	6	216.621	0.094	7.751	7.751	0	0	0	0	Free Surfa	2.817	0.071	0.01	0.035	0.064	3.209	772.208	0	Yes	0.057	1.392
1143	10C269M	10T268M	6	115.103	0.118	8.859	8.859	0	0	0	0	Free Surfa	3.183	0.071	0.01	0.036	0.068	3.613	868.357	0	No	0.036	3.183
1144	10C127M	10C126M	6	254.095	0.086	156.135	156.135	0	0	0	0	Free Surfa	6.655	0.312	0.211	0.156	0.299	3.491	739.817	0	Yes	0.232	3.899
1145	10C126M	10C124U	6	31.932	0.133	160.564	160.564	0	0	0	0	Free Surfa	7.851	0.283	0.174	0.141	0.304	4.349	921.509	0	Yes	0.145	7.566
1146	10C182L	10C181M	6	190.72	0.097	13.288	13.288	0	0	0	0	Free Surfa	3.36	0.09	0.017	0.045	0.084	3.378	786.926	0	Yes	0.05	2.895
1147	10C168M	10C129M	6	207.981	0.012	8.859	8.859	0	0	0	0	Free Surfa	1.433	0.123	0.032	0.061	0.068	1.233	276.947	0	Yes	0.09	0.822
1148	10C199M	10C193M	6	199.134	0.036	8.859	8.859	0	0	0	0	Free Surfa	2.109	0.094	0.018	0.047	0.068	2.076	481.195	0	Yes	0.048	2.061
1149	10C193M	10C141M	6	192.899	0.18	21.039	21.039	0	0	0	0	Free Surfa	4.787	0.097	0.02	0.049	0.106	4.639	1,071.14	0	Yes	0.095	1.814
115	10C231M	10C229U	8	28.944	0.085	145.135	145.135	0	0	0	0	Free Surfa	6.315	0.204	0.091	0.136	0.264	3.606	1,588.90	0	No	0.136	6.315
1150	08C078M	08C077M	6	308.015	0.059	33.033	33.033	0	0	0	0	Free Surfa	3.715	0.157	0.054	0.079	0.133	2.807	614.962	0	No	0.079	3.715
1151	08C394M	08C373M	6	130.106	0.046	18.581	18.581	0	0	0	0	Free Surfa	2.873	0.126	0.034	0.063	0.099	2.431	544.45	0	Yes	0.094	1.624
1152	08C684M	08C674M	6	174.862	0.08	22.71	22.71	0	0	0	0	Free Surfa	3.695	0.122	0.032	0.061	0.11	3.185	715.944	0	Yes	0.07	3.015
1153	08C396L	08C394M	6	130.616	0.044	18.581	18.581	0	0	0	0	Free Surfa	2.814	0.128	0.035	0.064	0.099	2.364	528.633	0	No	0.064	2.814
1154	08C397M	08C396L	6	129.003	0.107	18.581	18.581	0	0	0	0	Free Surfa	3.839	0.104	0.023	0.052	0.099	3.598	824.089	0	Yes	0.058	3.259
1155	08C468M	08C467M	6	109.014	0.04	8.258	8.258	0	0	0	0	Free Surfa	2.14	0.089	0.016	0.044	0.066	2.17	506.591	0	Yes	0.091	0.751
1156	08C686M	08C684M	6	243.348	0.076	22.71	22.71	0	0	0	0	Free Surfa	3.625	0.124	0.033	0.062	0.11	3.103	696.618	0	No	0.062	3.625
1157	08C426M	08C424M	6	121.562	0.063	163.098	163.098	0	0	0	0	Free Surfa	6.027	0.346	0.257	0.173	0.306	2.983	633.882	0	Yes	0.203	4.853
1158	08C467M	08C426M	6	82.538	0	8.258	8.258	0	0	0	0	Free Surfa	0.436	0.268	0.157	0.134	0.066	0.249	52.734	0	Yes	0.155	0.353
1159	08C454M	08C453M	6	140.987	0.02	14.452	14.452	0	0	0	0	Free Surfa	1.993	0.137	0.04	0.068	0.087	1.62	359.695	0	No	0.068	1.993
116	12C117M	12C116M	6	207.8	0.029	30.744	30.744	0	0	0	0	Free Surfa	2.824	0.181	0.072	0.091	0.129	1.983	429.417	0	Yes	0.091	2.797
1160	07T047M	07T012M	10	120.049	0.045	205.047	205.047	0	0	0	0	Free Surfa	5.431	0.212	0.098	0.176	0.295	2.722	2,091.16	0	Yes	0.259	3.168
1161	08C113M	08C111M	6	81.935	0.014	6.194	6.194	0	0	0	0	Free Surfa	1.37	0.099	0.02	0.05	0.057	1.315	302.891	0	No	0.05	1.37
1162	13C228L	13C227M	6	63.446	0.043	69.904	69.904	0	0	0	0	Free Surfa	4.143	0.246	0.133	0.123	0.197	2.471	525.498	0	No	0.123	4.143
1163	10C201M	10C194M	6	138.108	0.09	4.429	4.429	0	0	0	0	Free Surfa	2.347	0.055	0.006	0.027	0.048	3.043	758.58	0	Yes	0.03	2.082
1164	10C194M	10C193M	6	77.368	0.352	12.18	12.18	0	0	0	0	Free Surfa	5.127	0.064	0.008	0.032	0.08	6.145	1,498.87	0	Yes	0.04	3.649
1165	10C104M	10C061M	6	146.125	0.132	3.322	3.322	0	0	0	0	Free Surfa	2.455	0.044	0.004	0.022	0.042	3.564	918.063	0	Yes	0.049	0.735
1166	10C094U	10C093M	6	87.78	0.075	4.429	4.429	0	0	0	0	Free Surfa	2.197	0.057	0.006	0.029	0.048	2.785	690.06	0	No	0.029	2.197
1167	10C093M	10C082M	6	138.595	0.093	4.429	4.429	0	0	0	0	Free Surfa	2.374	0.054	0.006	0.027	0.048	3.09	771.331	0	Yes	0.045	1.118
1168	10C196L	10C194M	6	104.371	0.039	7.751	7.751	0	0	0	0	Free Surfa	2.073	0.087	0.016	0.044	0.064	2.125	497.396	0	No	0.044	2.073
1169	06C156M	06C154M	6	274.421	0.107	6.577	6.577	0	0	0	0	Free Surfa	2.808	0.063	0.008	0.032	0.059	3.382	826.068	0	No	0.032	2.808
117	12C116M	12C114M	6	188.456	0.027	30.744	30.744	0	0	0	0	Free Surfa	2.77	0.184	0.074	0.092	0.129	1.931	417.694	0	Yes	0.105	2.28
1172	07C061U	07T054M	6	326.484	0.023	12.797	12.797	0	0	0	0	Free Surfa	2.008	0.125	0.033	0.063	0.082	1.709	383.037	0	No	0.063	2.008
1175	07C048M	07T047M	6	273.125	0.014	35.397	35.397	0	0	0	0	Free Surfa	2.305	0.23	0.116	0.115	0.138	1.425	303.849	0	No	0.115	2.305
1176	13C209M	13C208L	6	235.387	0.041	39.436	39.436	0	0	0	0	Free Surfa	3.447	0.188	0.077	0.094	0.146	2.377	513.264	0	Yes	0.104	2.967
1177	08C076M	08C074M	6	116.633	0.053	33.033	33.033	0	0	0	0	Free Surfa	3.563	0.162	0.057	0.081	0.133	2.652	579.441	0	Yes	0.102	2.561
1178	08C074M	08C073M	6	50.408	0.037	64.001	64.001	0	0	0	0	Free Surfa	3.805	0.246	0.132	0.123	0.188	2.273	483.335	0	Yes	0.125	3.728
1179	13C208L	13C207M	6	224.572	0.018	39.436	39.436	0	0	0	0	Free Surfa	2.593	0.229	0.115	0.114	0.146	1.609	343.209	0	No	0.114	2.593
118	10C257M	10C232M	6	36.8	0.074	3.164	3.164	0	0	0	0	Free Surfa	1.981	0.049	0.005	0.024	0.041	2.718	688.744	0	Yes	0.077	0.371
1181	08C073M	08C072M	6	188.389	0.033	64.001	64.001	0	0	0	0	Free Surfa	3.653	0.253	0.14	0.126	0.188	2.148	456.332	0	Yes	0.35	0.971
1182	13C261U	13C259M	6	371.446	0.012	39.796	39.796	0	0	0	0	Free Surfa	2.24	0.255	0.143	0.128	0.147	1.31	278.293	0	No	0.128	2.24
1183	13C253M	13C238M	6	124.369	0.502	25.487	25.487	0	0	0	0	Free Surfa	7.255	0.083	0.014	0.042	0.117	7.599	1,788.75	0	Yes	0.045	6.461
1184	07C049M	07C048M	6	264.13	0.01	35.397	35.397	0	0	0	0	Free Surfa	2.016	0.253	0.141	0.127	0.138	1.184	251.53	0	No	0.127	2.016
1185	08C087M	08C072M	6	92.882	0.112	16.516	16.516	0	0	0	0	Free Surfa	3.772	0.097	0.02	0.048	0.094	3.66	845.529	0	Yes	0.311	0.286
1186	08C081U	08C071U	6	54.155	0.042	35.097	35.097	0	0	0	0	Free Surfa	3.356	0.176	0.068	0.088	0.138	2.392	519.007	0	Yes	0.143	1.686
1187	08C072M	08C071U	6	158.873	0.001	80.517	80.517	0	0	0	0	Pressurize	0.914	1	1.355	0.5	0.181	0.228	59.427	0	No	0.5	0.914
1188	10C074M	10C073M	6	241.343	0.136	12.181	12.181	0	0	0	0	Free Surfa	3.679	0.08	0.013	0.04	0.08	3.933	930.789	0	Yes	0.04	3.633
1189	08C088M	08C087M	6	235.988	0.115	16.516	16.516	0	0	0	0	Free Surfa	3.81	0.096	0.019	0.048	0.094	3.71	857.638	0	Yes	0.048	3.791
119	10C232M	10C231M	8	188.619	0.058	106.425	106.425	0	0	0	0	Free Surfa	5.024	0.193	0.081	0.129	0.224	2.956	1,307.67	0	Yes	0.132	4.821
1190	08C082M	08C081U	6	149.206	0.096	35.097	35.097	0	0	0	0	Free Surfa	4.486	0.144	0.045	0.072	0.138	3.549	784.019	0	Yes	0.08	3.851
1191	10C077M	10C056M	6	184.232	0.032	14.395	14.395	0	0	0	0	Free Surfa	2.346	0.122	0.032	0.061	0.087	2.023	454.804	0	Yes	0.11	0.996
1192	13C262M	13C256M	6	125.222	0.008	2.39	2.39	0	0	0	0	Free Surfa	0.848	0.072	0.01	0.036	0.035	0.958	230.113	0	Yes	0.045	0.611
1193	08C089U	08C088M	6	78.739	0.119	16.516	16.516	0	0	0	0	Free Surfa	3.848	0.096	0.019	0.048	0.094	3.761	870.067	0	Yes	0.048	3.829
1195	11C099M	11C098M	6	89.528	0.084	7.585	7.585	0	0	0	0	Free Surfa	2.69	0.072	0.01	0.036	0.063	3.039	729.659	0	No	0.036	2.69
1196	11C098M	11C019M	6	152.772	0.179	7.585	7.585	0	0	0	0	Free Surfa	3.505	0.06	0.007	0.03	0.063	4.337	1,067.06	0	Yes	0.151	0.338
1197	10C233M	10C232M	8	210.186	0.119	98.832	98.832	0	0	0	0	Free Surfa	6.331	0.156	0.053	0.104	0.216	4.162	1,873.13	0	Yes	0.116	5.389
1198	12C081M	12C077M	6	398.047	0.002	64.182	64.182	0	0	0	0	Free Surfa	1.417	0.511	0.519	0.255	0.188	0.556	123.745	0	Yes	0.256	1.416
1199	10C213M	10C212U	8	150	0.187	19.933	19.933	0	0	0	0	Free Surfa	4.583	0.065	0.008	0.044	0.095	4.709	2,351.75	0	Yes	0.049	3.87
12	12T013M	12T012M	8	100.758	0.023	657.732	657.732	0	0	0	0	Free Surfa	5.8	0.68	0.805	0.453	0.567	1.604	816.948	0	No	0.453	5.8
120	07C018U	07C017M	6	225.418	0.156	89.582	89.582	0	0	0	0	Free Surfa	7.009	0.203	0.09	0.101	0.224	4.641	996.648	0	Yes	0.12	5.497
1200	10C211M	10C209M	6	169.502	0.022	8.859	8.859	0	0	0	0	Free Surfa	1.757	0.107	0.024	0.053	0.068	1.623	370.632	0	No	0.053	1.757
1202	10C214M	10C213M	8	77.352	0.065	19.933	19.933	0	0	0	0	Free Surfa	3.18	0.084	0.014	0.056	0.095	2.881	1,391.67	0	No	0.056	3.18
1203	10C152M	10C123M	6	183.949	0.079	8.859	8.859	0	0	0	0	Free Surfa	2.767	0.078	0.012	0.039	0.068	2.993	710.39	0	Yes	0.094	0.774
1204	10C123M	10T006M	6	146.418	0.141	181.604	181.604	0	0	0	0	Free Surfa	8.292	0.297	0.192	0.148	0.324	4.471	947.365	0	Yes	0.5	2.061
1205	10C224M	10C223M	6	88.612	0.041	5.537	5.537	0	0	0	0	Free Surfa	1.902	0.073	0.011	0.037	0.054	2.126	508.802	0	No	0.037	1.902
1206	10C217M	10C216M	6	127.138	0.1	14.396	14.396	0	0	0	0	Free Surfa	3.482	0.093	0.018	0.047	0.087	3.448	800.213	0	Yes	0.067	2.052
1207	10C096M	10C083M	6	110.233	0.092	3.322	3.322	0	0	0	0	Free Surfa	2.166	0.048	0.004	0.024	0.042	3.014	766.69	0	Yes	0.052	0.679
1208	10C091U	10C089M	4	175.065	0.063	2.215	2.215	0	0	0	0	Free Surfa	1.777	0.072	0.01	0.024	0.038	2.463	214.674	0	Yes	0.042	0.764
1209	13T204U	13T203M	6	129	0.042	85.291	85.291	0	0	0	0	Free Surfa	4.334	0.275	0.165	0.137	0.218	2.437	516.567	0	Yes	0.145	4.004
121	10T008M	10T007M	12	281.212	0.058	3,214.08	3,214.08	0	0	0	0	Free Surfa	12.216	0.699	0.835	0.699	0.977	2.693	3,847.05	0	Yes	0.732	11.623
1210	08C077M	08C076M	6	497.446	0.107	33.033	33.033	0	0	0	0	Free Surfa	4.568	0.137	0.04	0.068	0.133	3.716	825.508	0	Yes	0.075	4.012

ID	From ID	To ID	Diameter (	Length (ft)	Slope	Total Flow	Unpeakabl	Peakable F	Coverage F	Infiltration	Storm Flov	Flow Type	Velocity (ft	d/D	q/Q	Water Dep	Critical De	Froude Nu	Full Flow (g	Coverage (	Backwater	Adjusted D	Adjusted V
1211	10C076M	10C074M	6	113.369	0.048	12.181	12.181	0	0	0	0	Free Surfa	2.553	0.103	0.022	0.051	0.08	2.404	551.335	0	No	0.051	2.553
1212	10C114M	10C113M	6	170.706	0.077	3.322	3.322	0	0	0	0	Free Surfa	2.035	0.05	0.005	0.025	0.042	2.771	700.735	0	No	0.025	2.035
1213	08C112M	08C111M	6	184.828	0.006	10.323	10.323	0	0	0	0	Free Surfa	1.201	0.154	0.051	0.077	0.074	0.918	201.668	0	No	0.077	1.201
1214	08C111M	08C109M	6	103.538	0.102	16.517	16.517	0	0	0	0	Free Surfa	3.654	0.099	0.02	0.05	0.094	3.507	807.843	0	Yes	0.077	1.911
1215	10C366U	10T027M	6	142.066	0.166	3.322	3.322	0	0	0	0	Free Surfa	2.658	0.042	0.003	0.021	0.042	3.965	1,029.47	0	Yes	0.089	0.312
1216	10C367L	10C366U	6	71.572	0.09	3.322	3.322	0	0	0	0	Free Surfa	2.148	0.048	0.004	0.024	0.042	2.98	757.478	0	No	0.024	2.148
1217	10C092M	10C089M	6	143.493	0.028	8.859	8.859	0	0	0	0	Free Surfa	1.923	0.1	0.021	0.05	0.068	1.833	421.58	0	Yes	0.056	1.655
1218	10C197M	10C196L	6	106.714	0.198	7.751	7.751	0	0	0	0	Free Surfa	3.659	0.059	0.007	0.03	0.064	4.561	1,124.48	0	Yes	0.037	2.679
1219	10C368M	10T028M	6	242.395	0.083	8.859	8.859	0	0	0	0	Free Surfa	2.81	0.078	0.012	0.039	0.068	3.055	725.971	0	Yes	0.097	0.735
1220	13C229L	13C228L	6	270.846	0.032	69.904	69.904	0	0	0	0	Free Surfa	3.709	0.266	0.155	0.133	0.197	2.121	449.938	0	No	0.133	3.709
1221	10C198M	10C197M	6	155.466	0.037	7.751	7.751	0	0	0	0	Free Surfa	2.04	0.088	0.016	0.044	0.064	2.079	486.025	0	No	0.044	2.04
1222	10C103M	10C102M	6	52.281	0.12	4.429	4.429	0	0	0	0	Free Surfa	2.588	0.051	0.005	0.026	0.048	3.468	872.968	0	No	0.026	2.588
1223	08C118M	08C117M	6	155.458	0.053	16.516	16.516	0	0	0	0	Free Surfa	2.896	0.116	0.029	0.058	0.094	2.562	579.315	0	Yes	0.063	2.596
1224	08C327M	08C326M	6	17.678	0.113	14.452	14.452	0	0	0	0	Free Surfa	3.635	0.091	0.017	0.045	0.087	3.647	849.304	0	Yes	0.057	2.599
1225	10C207M	10C202M	6	63.971	0.074	2.215	2.215	0	0	0	0	Free Surfa	1.771	0.042	0.003	0.021	0.034	2.642	685.874	0	Yes	0.022	1.648
1226	08C341M	08C339M	6	144.031	0.169	20.646	20.646	0	0	0	0	Free Surfa	4.653	0.098	0.02	0.049	0.105	4.495	1,037.00	0	No	0.049	4.653
1227	08C328M	08C327M	6	147.047	0.056	14.452	14.452	0	0	0	0	Free Surfa	2.85	0.107	0.024	0.054	0.087	2.627	599.534	0	No	0.054	2.85
1228	08C339M	08C338L	6	51.5	0.302	20.646	20.646	0	0	0	0	Free Surfa	5.699	0.085	0.015	0.043	0.105	5.906	1,386.50	0	Yes	0.053	4.184
1229	08C329M	08T013M	6	249.35	0.013	64.002	64.002	0	0	0	0	Free Surfa	2.601	0.323	0.226	0.161	0.188	1.338	283.757	0	No	0.161	2.601
123	07C017M	07C016M	6	120.007	0.044	89.582	89.582	0	0	0	0	Free Surfa	4.478	0.278	0.169	0.139	0.224	2.502	530.239	0	Yes	0.186	2.995
1230	13C232M	13C231M	6	259.554	0.009	9.56	9.56	0	0	0	0	Free Surfa	1.322	0.137	0.04	0.068	0.071	1.076	238.929	0	Yes	0.082	1.018
1231	10C149M	10C148M	6	282.596	0.045	9.966	9.966	0	0	0	0	Free Surfa	2.354	0.095	0.019	0.047	0.072	2.312	535.515	0	No	0.047	2.354
1232	10C369M	10T031M	6	207.947	0.126	7.751	7.751	0	0	0	0	Free Surfa	3.128	0.066	0.009	0.033	0.064	3.695	897.843	0	Yes	0.096	0.651
1233	08C331M	08C329M	6	131.95	0.011	64.002	64.002	0	0	0	0	Free Surfa	2.474	0.335	0.242	0.167	0.188	1.247	264.694	0	No	0.167	2.474
1234	10C036M	10C034M	6	96.216	0.06	93.017	93.017	0	0	0	0	Free Surfa	5.041	0.262	0.151	0.131	0.228	2.906	616.679	0	Yes	0.133	4.94
1235	08C349M	08C348M	6	300.681	0.031	24.941	24.941	0	0	0	0	Free Surfa	2.724	0.161	0.056	0.08	0.115	2.037	445.407	0	No	0.08	2.724
1237	08C346M	08C344M	6	138.595	0.012	6.194	6.194	0	0	0	0	Free Surfa	1.272	0.104	0.023	0.052	0.057	1.189	272.232	0	No	0.052	1.272
1238	08C347M	08C344M	6	48.992	0.033	4.129	4.129	0	0	0	0	Free Surfa	1.617	0.067	0.009	0.034	0.046	1.89	457.878	0	No	0.034	1.617
1239	10T032M	10T031M	6	250.569	0.091	118.485	118.485	0	0	0	0	Free Surfa	6.276	0.267	0.156	0.133	0.259	3.587	760.737	0	Yes	0.147	5.501
124	07C067M	07C066M	6	153.329	0.01	18.282	18.282	0	0	0	0	Free Surfa	1.642	0.184	0.074	0.092	0.099	1.143	247.236	0	No	0.092	1.642
1240	08C337M	08C336M	6	51.281	0.323	20.646	20.646	0	0	0	0	Free Surfa	5.838	0.084	0.014	0.042	0.105	6.101	1,435.19	0	Yes	0.064	3.133
1241	08C041M	08C039M	6	168.205	0.077	208.519	208.519	0	0	0	0	Free Surfa	6.948	0.373	0.297	0.187	0.347	3.293	702.4	0	No	0.187	6.948
1242	08C613M	08C039M	6	124.717	0.309	16.516	16.516	0	0	0	0	Free Surfa	5.371	0.076	0.012	0.038	0.094	5.89	1,403.03	0	Yes	0.094	1.43
1243	08C333L	08C332M	6	93.166	0.021	64.002	64.002	0	0	0	0	Free Surfa	3.145	0.281	0.173	0.141	0.188	1.746	369.957	0	No	0.141	3.145
1244	08C336M	08C334M	6	40.179	0.153	64.002	64.002	0	0	0	0	Free Surfa	6.314	0.172	0.065	0.086	0.188	4.55	989.081	0	Yes	0.103	4.874
1245	08C334M	08C333L	6	50.112	0.04	64.002	64.002	0	0	0	0	Free Surfa	3.923	0.241	0.127	0.12	0.188	2.37	504.439	0	Yes	0.131	3.496
1246	08C039M	08C038M	6	93.964	0.204	225.035	225.035	0	0	0	0	Free Surfa	10.062	0.301	0.197	0.151	0.361	5.381	1,140.08	0	Yes	0.247	5.185
1247	08C604U	08C603U	6	109.072	0.025	43.356	43.356	0	0	0	0	Free Surfa	2.976	0.222	0.108	0.111	0.153	1.877	400.936	0	Yes	0.119	2.687
1248	08C606M	08C604U	6	279.02	0.019	43.356	43.356	0	0	0	0	Free Surfa	2.697	0.238	0.124	0.119	0.153	1.639	348.988	0	No	0.119	2.697
1249	08C552M	08C551M	6	52.69	0.402	6.194	6.194	0	0	0	0	Free Surfa	4.369	0.045	0.004	0.023	0.057	6.244	1,601.24	0	Yes	0.042	1.772
125	10T016M	10T014M	10	296.747	0.134	2,383.62	2,383.62	0	0	0	0	Free Surfa	15.735	0.594	0.661	0.495	0.823	4.318	3,604.56	0	Yes	0.561	13.609
1250	08C202L	08C201M	6	198.216	0.048	202.327	202.327	0	0	0	0	Free Surfa	5.811	0.417	0.364	0.209	0.342	2.582	556.064	0	No	0.209	5.811
1251	08C342M	08C336M	6	162.651	0.101	18.581	18.581	0	0	0	0	Free Surfa	3.77	0.105	0.023	0.053	0.099	3.511	803.032	0	Yes	0.069	2.511
1252	08C357M	08C356M	6	158.154	0.006	18.581	18.581	0	0	0	0	Free Surfa	1.356	0.213	0.099	0.106	0.099	0.875	187.385	0	No	0.106	1.356
1253	08T017M	08T016M	10	263.591	0.006	1,567.16	1,567.16	0	0	0	0	Pressurize	6.402	1	2.107	0.833	0.577	1.236	743.788	0	No	0.833	6.402
1254	08C203M	08C202L	8	298.831	0.032	202.327	202.327	0	0	0	0	Free Surfa	4.922	0.309	0.207	0.206	0.314	2.25	978.479	0	Yes	0.207	4.875
1255	08C042M	08C041M	6	318.171	0.076	198.196	198.196	0	0	0	0	Free Surfa	6.817	0.365	0.284	0.182	0.339	3.275	697.624	0	Yes	0.185	6.709
1256	08C562L	08C561M	6	132.494	0.098	8.258	8.258	0	0	0	0	Free Surfa	2.92	0.072	0.01	0.036	0.066	3.296	791.083	0	No	0.036	2.92
1257	08C602M	08C601M	6	158.505	0.023	8.258	8.258	0	0	0	0	Free Surfa	1.766	0.101	0.021	0.051	0.066	1.675	384.845	0	No	0.051	1.766
1259	08C556M	08C548M	6	158.742	0.133	24.775	24.775	0	0	0	0	Free Surfa	4.523	0.113	0.027	0.056	0.115	4.059	920.73	0	Yes	0.072	3.156
126	15C101M	15C099M	8	277.424	0.03	10.612	10.612	0	0	0	0	Free Surfa	2.007	0.075	0.011	0.05	0.069	1.928	945.575	0	Yes	0.052	1.868
1260	08C549M	08C548M	6	128.079	0.102	22.711	22.711	0	0	0	0	Free Surfa	4.02	0.115	0.028	0.058	0.11	3.568	807.32	0	Yes	0.073	2.858
1261	08C354M	08C353U	6	144.115	0.015	18.581	18.581	0	0	0	0	Free Surfa	1.937	0.166	0.06	0.083	0.099	1.424	310.484	0	No	0.083	1.937
1262	08C596U	08C594M	6	139.442	0.214	16.516	16.516	0	0	0	0	Free Surfa	4.723	0.083	0.014	0.042	0.094	4.955	1,167.05	0	Yes	0.046	4.104
1263	08C204M	08C203M	8	239.976	0.049	202.327	202.327	0	0	0	0	Free Surfa	5.722	0.277	0.168	0.185	0.314	2.775	1,207.54	0	Yes	0.195	5.295
1264	08C558M	08C557L	6	54.127	0.139	18.581	18.581	0	0	0	0	Free Surfa	4.218	0.097	0.02	0.049	0.099	4.084	942.98	0	No	0.049	4.218
1265	08T018M	08T017M	10	308.769	0.037	782.707	782.707	0	0	0	0	Free Surfa	7.411	0.446	0.41	0.372	0.593	2.45	1,908.62	0	Yes	0.833	3.197
1266	08C383M	08C364M	6	139.154	0.024	4.129	4.129	0	0	0	0	Free Surfa	1.446	0.072	0.011	0.036	0.046	1.627	390.195	0	Yes	0.152	0.182
1267	08C323M	08C322M	6	57.806	0.167	8.258	8.258	0	0	0	0	Free Surfa	3.51	0.064	0.008	0.032	0.066	4.221	1,030.44	0	No	0.032	3.51
1268	08C547M	08C546M	6	248.058	0.034	33.033	33.033	0	0	0	0	Free Surfa	3.056	0.18	0.071	0.09	0.133	2.151	465.95	0	Yes	0.093	2.915
1269	08C412M	08C411L	6	206.656	0.034	76.389	76.389	0	0	0	0	Free Surfa	3.881	0.275	0.165	0.137	0.206	2.182	462.622	0	No	0.137	3.881
127	12C104M	12C087M	6	244.679	0.005	8.091	8.091	0	0	0	0	Free Surfa	0.998	0.148	0.047	0.074	0.065	0.78	171.899	0	Yes	0.094	0.71
1270	08C572M	08C573M	6	221.641	0.005	13.213	13.213	0	0	0	0	Free Surfa	1.19	0.184	0.074	0.092	0.084	0.83	179.494	0	No	0.092	1.19
1271	08C217M	08C216M	6	191.416	0.016	88.776	88.776	0	0	0	0	Free Surfa	3.11	0.36	0.277	0.18	0.223	1.505	320.452	0	No	0.18	3.11
1272	08C227M	08C217M	6	95.138	0.246	6.194	6.194	0	0	0	0	Free Surfa	3.686	0.051	0.005	0.025	0.057	4.971	1,253.44	0	Yes	0.103	0.476
1273	08C543M	08C542M	6	239.832	0.113	41.291	41.291	0	0	0	0	Free Surfa	4.981	0.15	0.049	0.075	0.15	3.86	849.423	0	Yes	0.085	4.189
1274	08C517M	08C494M	6	165.192	0.05	18.581	18.581	0	0	0	0	Free Surfa	2.956	0.124	0.033	0.062	0.099	2.527	567.217	0	Yes	0.112	1.259
1275	08C416M	08C414M	6	188.258	0.027	28.904	28.904	0	0	0	0	Free Surfa	2.703	0.179	0.07	0.089	0.125	1.91	413.924	0	No	0.089	2.703
1276	08C436M	08C434M	6	159.6	0.055	18.581	18.581	0	0	0	0	Free Surfa	3.04	0.122	0.031	0.061	0.099	2.624	590.21	0	No	0.061	3.04
1277	08C522M	08C521M	6	130.639	0.117	24.775	24.775	0	0	0	0	Free Surfa	4.322	0.116	0.029	0.058	0.115	3.817	862.566	0	Yes	0.065	3.677
1278	08C681M	08C679U	6	177.49	0.053	6.194	6.194	0	0	0	0	Free Surfa	2.154	0.073	0.011	0.036	0.057	2.418	579.479	0	No	0.036	2.154
1279	08C419M	08C418M	6	360.941	0.077	26.839	26.839	0	0	0	0	Free Surfa	3.835	0.133	0.038	0.067	0.12	3.157	702.811	0	Yes	0.077	3.097
128	15C099M	15C098M	8	287.349	0.02	10.612	10.612	0	0	0	0	Free Surfa	1.744	0.082	0.014	0.055	0.069	1.596	773.054	0	No	0.055	1.744
1280	08C518M	08C517M	6	115.062	0.071	18.581	18.581	0	0	0	0	Free Surfa	3.337	0.114	0.028	0.057	0.099	2.977	674.277	0	Yes	0.06	3.137
1281	08C409M	08C408M	6	242.745	0.069	35.097	35.097	0	0	0	0	Free Surfa	3.981	0.157	0.053	0.078	0.138	3.018	661.496	0	No	0.078	3.981
1282	08C437M	08C436M	6	81.519	0.114	18.581	18.581	0	0	0	0	Free Surfa	3.929	0.102	0.022	0.051	0.099	3.711	851.803	0	Yes	0.056	3.436
1283	08C369U	08C368M	6	281.341	0.074	142.454	142.454	0	0	0	0	Free Surfa	6.159	0.309	0.207	0.154	0.285	3.249	688.524	0	No	0.154	6.159
1284	08C221L	08C219M	6	194.451	0.005	45.42	45.42	0	0	0	0	Free Surfa	1.71	0.341	0.251	0.171	0.157	0.853	181.076	0	Yes	0.171	1.709
1285	08C417M	08C416M	6	178.781	0.073	28.904	28.904	0	0	0	0	Free Surfa	3.838	0.14	0.042	0.07	0.125	3.078	681.804	0	Yes	0.08	3.185
1286	08C423M	08C422M	6	400.517	0.03	278.713	278.713	0	0	0	0	Free Surfa	5.29	0.577	0.633	0.289	0.4	1.912	440.583	0	No	0.289	5.29
1287	08C222U	08C221L	6	137.778	0.007	45.42	45.42	0	0	0	0	Free Surfa	1.935	0.312	0.211	0.156	0.157	1.015	215.117	0	Yes	0.163	1.816
1288	08C678L	08C675U	6	22.73	0.093	3.066	3.066	0	0	0	0	Free Surfa	2.123	0.046	0.004	0.023	0.04	3.014	771.503	0	Yes	0.5	0.035
1289	08C683M	08C677M	6	152.03	0.067	10.323	10.323	0	0	0	0	Free Surfa	2.733	0.088	0.016	0.044	0.074	2.791	652.879	0	Yes	0.05	2.261
129	15C136M	15C134M	6	155.795	0.015	37.143	37.143	0	0	0	0	Free Surfa	2.377	0.233	0.119	0.117	0.142	1.46	311.037	0	Yes	0.117	2.375
1291	08C516M	08C514M	6	298.686	0.055	20.646	20.646	0	0	0	0	Free Surfa	3.149	0.128	0.035	0.064	0.105	2.653	593.489	0	Yes	0.067	2.904
1292	08C519M	08C518M	6	122.81	0.041	18.581	18.581	0	0	0	0	Free Surfa	2.737	0.131	0.037	0.065	0.099	2.278	508.263	0	No	0.065	2.737
1293	08C677M	08C676U	6	139.431	0.062	16.517	16.517	0	0	0	0	Free Surfa	3.06	0.112	0.026	0.056	0.094	2.76	626.878	0	Yes	0.068	2.317
1294	08C682M	08C676U	6	59.9	0.031	4.129	4.129	0	0	0	0	Free Surfa	1.581	0.068	0.009	0.034	0.046	1.834	443.389	0	Yes	0.057	0.748
1295	08C452M	08C438M	6	117.228	0.122	6.194	6.194	0	0	0	0	Free Surfa	2.89	0.06	0.007	0.03	0.057	3.588	883.713	0	Yes	0.08	0.675
1296	08C601M	08C594M	6	220.529	0.044	8.258	8.258	0	0	0	0	Free Surfa	2.208	0.087	0.016	0.044	0.066	2.263	529.863	0	Yes	0.047	1.989
1297	08C361M	08C359M	6	43.938	0.128	20.646	20.646	0	0	0	0	Free Surfa	4.231	0.104	0.023	0.052	0.105	3.954	905.059	0	No	0.052	4.231
1298	08C359M	08C353U	6	152.257	0.214	20.646	20.646	0	0	0	0	Free Surfa	5.057	0.092	0.018	0.046	0.105	5.028	1,168.28	0	Yes	0.053	4.136
1299	08C594M	08C593M	6	51.781	0.223	24.774	24.774	0	0	0	0	Free Surfa	5.415	0.1	0.021	0.05	0.115	5.175	1,191.09	0	Yes	0.053	5.002
13	12T031L	12T029M	8	139.11	0.027	425.617	425.617	0	0	0	0	Free Surfa	5.618	0.487	0.478	0.325	0.462	1.967	890.101	0	No	0.325	5.618
130	15C133M	15C132M	6	77.631	0.015	37.143	37.143	0	0	0	0	Free Surfa	2.392	0.232	0.118	0.116	0.142	1.473	313.934	0	Yes	0.117	2.381
1300	08C348M	08T021M	6	300.352	0.055	24.941	24.941	0	0	0	0	Free Surfa	3.324	0.14	0.042	0.07	0.115	2.669	591.428	0	Yes	0.223	0.655
1301	08T021M	08T019U	10	101.649	0.034	766.258	766.258	0	0	0	0	Free Surfa	7.137	0.452	0.419	0.376	0.586	2.342	1,827.75	0	Yes	0.48	5.244
1302	08C353U	08C352M	6	56.8	0.263	39.227	39.227	0	0	0	0	Free Surfa	6.589	0.119	0.03	0.06	0.146	5.742	1,293.86	0	Yes	0.064	5.985
1303	08C563M	08C556M	6	111.885	0.167	6.194	6.194	0	0	0	0	Free Surfa	3.217	0.056	0.006	0.028	0.057	4.143	1,031.02	0	Yes	0.042	1.739
1304	08C548M	08C032U	6	193.262	0.077	47.486	47.486	0	0	0	0	Free Surfa	4.544	0.176	0.068	0.088	0.161	3.239	702.753	0	Yes	0.172	1.772
1305	08C238M	08C237M	6	154.136	0.051	26.839	26.839	0	0	0	0	Free Surfa	3.308	0.148	0.047	0.074	0.12	2.583	569.288	0	Yes	0.092	2.404
1306	08C206M	08C204M	6	250.656	0.04	202.327	202.327	0	0	0	0	Free Surfa	5.43	0.439	0.399	0.22	0.342	2.339	507.059	0	No	0.22	5.43
1307	08C037U	08C036M	6	293.859	0.019	284.907	284.907	0	0	0	0	Free Surfa	4.408	0.688	0.818	0.344	0.404	1.393	348.258	0	No	0.344	4.408
1308	08C352M	08T022M	6	229.472	0.154	39.227	39.227	0	0	0	0	Free Surfa	5.47	0.136	0.04	0.068	0.146	4.463	992.113	0	No	0.068	5.47
1309	08T022M	08T021M	8	77.041	0.034	1,498.87	1,498.87	0	0	0	0	Pressurize	9.567	1	1.492	0.667	0.64	2.065	1,004.36	0	No	0.667	9.567
131	15C132M	15C131M	6	165.845	0.015	37.143	37.143	0	0	0	0	Free Surfa	2.371	0.234	0.12	0.117	0.142	1.455	310.016	0	Yes	0.129	2.06
1310	08C207M	08C206M	6	217.702	0.065	132.132	132.132	0	0	0	0	Free Surfa	5.732	0.308	0.206	0.154	0.274	3.029	641.669	0	Yes	0.187	4.4
1311	08C593M	08C582M	6	164	0.223	30.968	30.968	0	0	0	0	Free Surfa	5.8	0.111	0.026	0.055	0.129	5.252	1,193.53	0	Yes	0.325	0.511
1312	08C582M	08C036M	6	114.328	0	88.776	88.776	0	0	0	0	Pressurize	1.007	1	1.716	0.5	0.168	0.251	51.738	0	No	0.5	1.007
1313	08C166M	08C164L	6	250.06	0.025	94.969	94.969	0	0	0	0	Free Surfa	3.718	0.332	0.238	0.166	0.231	1.884	399.831	0	No	0.166	3.718
1314	08C032U	08C031M	6	67.824	0.153	512.009	512.009	0	0	0	0	Free Surfa	11.307	0.511	0.519	0.255	0.483	4.435	987.426	0	Yes	0.275	10.292

ID	From ID	To ID	Diameter (	Length (ft)	Slope	Total Flow	Unpeakabl	Peakable F	Coverage F	Infiltration	Storm Flov	Flow Type	Velocity (ft	d/D	q/Q	Water Dep	Critical De	Froude Nu	Full Flow (g	Coverage (	Backwater	Adjusted D	Adjusted V
1315	08C167M	08C166M	6	141.894	0.003	94.969	94.969	0	0	0	0	Free Surfa	1.652	0.621	0.708	0.31	0.231	0.566	134.232	0	No	0.31	1.652
1316	08C597M	08C596U	6	324.051	0.009	16.516	16.516	0	0	0	0	Free Surfa	1.586	0.176	0.067	0.088	0.094	1.132	245.609	0	No	0.088	1.586
1317	08C031M	08C029M	6	103.473	0.112	553.3	553.3	0	0	0	0	Free Surfa	10.213	0.591	0.656	0.295	0.487	3.632	843.684	0	Yes	0.5	6.278
1318	08C598M	08C597M	6	165.723	0.054	16.516	16.516	0	0	0	0	Free Surfa	2.92	0.115	0.028	0.058	0.094	2.591	586.268	0	Yes	0.073	2.082
1319	08C034U	08C033M	6	133.717	0.282	373.683	373.683	0	0	0	0	Free Surfa	13.04	0.361	0.278	0.18	0.45	6.302	1,341.80	0	Yes	0.239	9.005
132	10C219M	10C218M	6	69.271	0.3	5.537	5.537	0	0	0	0	Free Surfa	3.814	0.046	0.004	0.023	0.054	5.406	1,382.80	0	Yes	0.026	3.113
1320	08C033M	08C032U	6	139.419	0.078	464.523	464.523	0	0	0	0	Free Surfa	8.526	0.593	0.66	0.297	0.476	3.023	703.36	0	No	0.297	8.526
1321	08C319M	08C167M	6	75.418	0.317	12.387	12.387	0	0	0	0	Free Surfa	4.968	0.066	0.009	0.033	0.081	5.855	1,421.76	0	Yes	0.172	0.462
1322	08C168L	08C167M	6	139.855	0.01	49.549	49.549	0	0	0	0	Free Surfa	2.236	0.299	0.195	0.15	0.164	1.2	254.252	0	Yes	0.23	1.252
1323	08C209M	08C208M	6	100.486	0.01	132.132	132.132	0	0	0	0	Free Surfa	2.895	0.514	0.524	0.257	0.274	1.131	252.142	0	No	0.257	2.895
1324	08C583U	08C582M	6	197.954	0.002	53.679	53.679	0	0	0	0	Free Surfa	1.329	0.467	0.445	0.234	0.171	0.551	120.657	0	Yes	0.414	0.688
1325	08C592M	08C586M	6	104.583	0.054	6.194	6.194	0	0	0	0	Free Surfa	2.18	0.072	0.011	0.036	0.057	2.456	589.277	0	Yes	0.043	1.701
1326	08C241M	08C240M	6	241.726	0.039	26.839	26.839	0	0	0	0	Free Surfa	3.015	0.158	0.054	0.079	0.12	2.278	499.013	0	No	0.079	3.015
1327	08C169M	08C168L	6	202.082	0.081	49.549	49.549	0	0	0	0	Free Surfa	4.685	0.178	0.069	0.089	0.164	3.325	720.833	0	Yes	0.119	3.075
1328	08C566M	08C033M	6	132.857	0.026	90.84	90.84	0	0	0	0	Free Surfa	3.72	0.321	0.223	0.161	0.225	1.921	407.19	0	Yes	0.229	2.313
1329	08C321M	08C319M	6	246.143	0.009	12.387	12.387	0	0	0	0	Free Surfa	1.418	0.155	0.052	0.078	0.081	1.079	236.646	0	No	0.078	1.418
133	10C227M	10C218M	6	102.383	0.183	3.322	3.322	0	0	0	0	Free Surfa	2.747	0.041	0.003	0.02	0.042	4.144	1,079.50	0	Yes	0.025	2.017
1330	08C211M	08C209M	6	92.32	0.065	132.132	132.132	0	0	0	0	Free Surfa	5.745	0.307	0.205	0.154	0.274	3.038	643.713	0	Yes	0.205	3.874
1331	08C544M	08C031M	6	230.467	0.016	33.033	33.033	0	0	0	0	Free Surfa	2.364	0.216	0.102	0.108	0.133	1.514	324.016	0	Yes	0.202	0.993
1332	08T023M	08T022M	8	268.431	0.063	1,455.51	1,455.51	0	0	0	0	Pressurize	9.29	1	1.07	0.667	0.658	2.005	1,359.66	0	No	0.667	9.29
1333	08C171M	08C169M	6	79.401	0.166	49.549	49.549	0	0	0	0	Free Surfa	6.015	0.149	0.048	0.075	0.164	4.671	1,028.44	0	Yes	0.082	5.279
1334	08C172M	08C171M	6	338.946	0.032	49.549	49.549	0	0	0	0	Free Surfa	3.38	0.223	0.109	0.112	0.164	2.127	454.238	0	No	0.112	3.38
1335	08C173M	08C172M	6	280.017	0.037	49.549	49.549	0	0	0	0	Free Surfa	3.557	0.215	0.102	0.108	0.164	2.281	488.044	0	Yes	0.11	3.467
1336	08C242M	08C241M	6	101.125	0.099	26.839	26.839	0	0	0	0	Free Surfa	4.184	0.126	0.034	0.063	0.12	3.551	795.773	0	Yes	0.071	3.518
1337	08C029M	08C028M	6	219.413	0.044	553.3	553.3	0	0	0	0	Pressurize	6.278	1	1.05	0.5	0.485	1.565	526.732	0	No	0.5	6.278
1338	08C587M	08C586M	6	226.815	0.029	18.581	18.581	0	0	0	0	Free Surfa	2.437	0.142	0.043	0.071	0.099	1.946	430.661	0	No	0.071	2.437
1339	08C364M	08T023M	8	270.596	0.012	202.326	202.326	0	0	0	0	Free Surfa	3.442	0.401	0.339	0.268	0.314	1.355	596.697	0	Yes	0.667	1.291
134	10C171M	10C131M	6	121.872	0.065	8.859	8.859	0	0	0	0	Free Surfa	2.588	0.082	0.014	0.041	0.068	2.736	645.433	0	Yes	0.081	0.955
1340	08C403M	08T024M	6	142.359	0.058	6.194	6.194	0	0	0	0	Free Surfa	2.226	0.071	0.01	0.036	0.057	2.526	607.228	0	No	0.036	2.226
1341	08T024M	08T023M	8	146.159	0.077	1,234.60	1,234.60	0	0	0	0	Free Surfa	10.744	0.688	0.818	0.459	0.654	2.941	1,509.03	0	Yes	0.667	7.88
1342	08C028M	08C027M	6	158.05	0.074	594.591	594.591	0	0	0	0	Free Surfa	8.749	0.72	0.869	0.36	0.49	2.654	684.594	0	Yes	0.366	8.602
1343	08C243M	08C242M	6	108.085	0.103	26.839	26.839	0	0	0	0	Free Surfa	4.243	0.125	0.033	0.062	0.12	3.619	811.797	0	Yes	0.063	4.213
1344	08C578M	08C567M	6	170.734	0.192	18.581	18.581	0	0	0	0	Free Surfa	4.72	0.09	0.017	0.045	0.099	4.752	1,107.61	0	Yes	0.109	1.308
1345	08C567M	08C566M	6	207.163	0.02	90.84	90.84	0	0	0	0	Free Surfa	3.355	0.346	0.257	0.173	0.225	1.66	352.832	0	No	0.173	3.355
1346	08C589M	08C584M	6	159.447	0.001	14.452	14.452	0	0	0	0	Free Surfa	0.656	0.298	0.193	0.149	0.087	0.353	74.821	0	Yes	0.157	0.609
1347	08C322M	08C173M	6	104.7	0.178	8.258	8.258	0	0	0	0	Free Surfa	3.591	0.063	0.008	0.031	0.066	4.352	1,064.80	0	Yes	0.069	1.114
1348	08C591M	08C589M	6	147.045	0.083	14.452	14.452	0	0	0	0	Free Surfa	3.267	0.098	0.02	0.049	0.087	3.16	729.186	0	Yes	0.099	1.171
1349	08C027M	08T026M	6	155.4	0.069	600.785	600.785	0	0	0	0	Free Surfa	8.55	0.744	0.903	0.372	0.491	2.516	665.535	0	No	0.372	8.55
135	10C221M	10C219M	6	73.775	0.253	5.537	5.537	0	0	0	0	Free Surfa	3.596	0.048	0.004	0.024	0.054	4.996	1,270.60	0	No	0.024	3.596
1350	08T026M	08T024M	8	103.554	0.06	1,213.96	1,213.96	0	0	0	0	Free Surfa	9.612	0.751	0.914	0.501	0.654	2.424	1,328.14	0	No	0.501	9.612
1351	08C174M	08C173M	6	136.283	0.039	14.452	14.452	0	0	0	0	Free Surfa	2.506	0.117	0.029	0.058	0.087	2.208	498.837	0	Yes	0.083	1.505
1352	08C541L	08C028M	6	289.713	0.043	41.291	41.291	0	0	0	0	Free Surfa	3.546	0.19	0.079	0.095	0.15	2.43	524.174	0	Yes	0.228	1.058
1353	08C213M	08C212M	6	264.08	0.065	132.132	132.132	0	0	0	0	Free Surfa	5.746	0.307	0.205	0.154	0.274	3.039	643.903	0	Yes	0.173	4.872
1354	08C568M	08C567M	6	225.592	0.04	61.936	61.936	0	0	0	0	Free Surfa	3.872	0.237	0.123	0.119	0.185	2.358	501.982	0	Yes	0.146	2.897
1355	08C577U	08C576M	6	157.295	0.149	12.387	12.387	0	0	0	0	Free Surfa	3.817	0.079	0.013	0.04	0.081	4.108	973.881	0	Yes	0.042	3.493
1356	08C501M	08C499M	6	192.403	0.076	132.132	132.132	0	0	0	0	Free Surfa	6.079	0.295	0.19	0.148	0.274	3.288	696.561	0	Yes	0.154	5.75
1357	08C546M	08C544M	6	394.089	0.026	33.033	33.033	0	0	0	0	Free Surfa	2.785	0.192	0.081	0.096	0.133	1.895	408.43	0	Yes	0.102	2.56
1358	08C576M	08C574M	6	116.9	0.091	12.387	12.387	0	0	0	0	Free Surfa	3.213	0.089	0.016	0.044	0.081	3.258	760.847	0	Yes	0.056	2.283
1359	08C581M	08C574M	6	185.433	0.009	8.258	8.258	0	0	0	0	Free Surfa	1.265	0.127	0.035	0.064	0.066	1.067	238.689	0	Yes	0.066	1.208
136	15C156M	15C154M	6	69.462	0.058	29.422	29.422	0	0	0	0	Free Surfa	3.552	0.15	0.049	0.075	0.126	2.753	605.928	0	No	0.075	3.552
1360	08C574M	08C568M	6	220.912	0.116	33.858	33.858	0	0	0	0	Free Surfa	4.737	0.135	0.039	0.068	0.135	3.87	860.38	0	Yes	0.093	2.987
1361	08C176M	08C174M	6	214.678	0.043	14.452	14.452	0	0	0	0	Free Surfa	2.594	0.114	0.028	0.057	0.087	2.314	524.246	0	Yes	0.058	2.549
1362	08C214M	08C213M	6	142.581	0.039	132.132	132.132	0	0	0	0	Free Surfa	4.795	0.351	0.264	0.175	0.274	2.356	500.859	0	No	0.175	4.795
1363	08C224M	08C214M	6	126.157	0.314	10.323	10.323	0	0	0	0	Free Surfa	4.684	0.061	0.007	0.03	0.074	5.759	1,414.84	0	Yes	0.103	0.79
1364	08C386M	08C384M	6	161.335	0.083	37.162	37.162	0	0	0	0	Free Surfa	4.333	0.154	0.051	0.077	0.142	3.317	728.298	0	Yes	0.083	3.891
1365	08C384M	08C366M	6	164.785	0.046	37.162	37.162	0	0	0	0	Free Surfa	3.521	0.177	0.069	0.089	0.142	2.501	542.267	0	Yes	0.161	1.517
1366	08C573M	08C574M	6	66.25	0.005	13.213	13.213	0	0	0	0	Free Surfa	1.193	0.183	0.073	0.092	0.084	0.833	180.089	0	No	0.092	1.193
1367	08C411L	08T026M	6	227.892	0.052	578.075	578.075	0	0	0	0	Pressurize	6.56	1	1.007	0.5	0.489	1.635	574.129	0	No	0.5	6.56
1368	08C499M	08C498M	6	261.895	0.056	132.132	132.132	0	0	0	0	Free Surfa	5.45	0.319	0.221	0.16	0.274	2.822	598.198	0	No	0.16	5.45
1369	08C306L	08C304M	6	383.972	0.037	72.259	72.259	0	0	0	0	Free Surfa	3.937	0.262	0.15	0.131	0.2	2.274	482.577	0	No	0.131	3.937
1370	08C308M	08C307M	6	28.188	0.042	14.452	14.452	0	0	0	0	Free Surfa	2.568	0.115	0.028	0.057	0.087	2.283	516.623	0	No	0.057	2.568
1371	08C318M	08C317M	6	46	0.032	6.194	6.194	0	0	0	0	Free Surfa	1.818	0.082	0.014	0.041	0.057	1.925	454.29	0	No	0.041	1.818
1372	08C314L	08C307M	6	92.439	0.159	6.194	6.194	0	0	0	0	Free Surfa	3.164	0.056	0.006	0.028	0.057	4.05	1,006.27	0	Yes	0.04	1.848
1373	08C387M	08C386M	6	227.541	0.057	37.162	37.162	0	0	0	0	Free Surfa	3.802	0.168	0.061	0.084	0.142	2.777	604.793	0	No	0.084	3.802
1374	08C542M	08C541L	6	276.372	0.045	41.291	41.291	0	0	0	0	Free Surfa	3.591	0.188	0.077	0.094	0.15	2.472	533.637	0	Yes	0.095	3.569
1375	08C317M	08C316M	6	29.275	0.459	6.194	6.194	0	0	0	0	Free Surfa	4.574	0.044	0.004	0.022	0.057	6.64	1,710.36	0	Yes	0.033	2.525
1376	08C316M	08C314L	6	144.15	0.025	6.194	6.194	0	0	0	0	Free Surfa	1.657	0.087	0.016	0.043	0.057	1.699	397.812	0	No	0.043	1.657
1377	08C367M	08C366M	6	377.742	0.053	142.454	142.454	0	0	0	0	Free Surfa	5.457	0.337	0.245	0.169	0.285	2.742	582.01	0	Yes	0.201	4.303
1378	08C569M	08C568M	6	351.272	0.014	19.82	19.82	0	0	0	0	Free Surfa	1.931	0.174	0.066	0.087	0.103	1.386	300.979	0	Yes	0.103	1.519
1379	08C388M	08C387M	6	215.022	0.031	37.162	37.162	0	0	0	0	Free Surfa	3.056	0.196	0.084	0.098	0.142	2.061	443.551	0	No	0.098	3.056
138	13C193L	13C192M	6	155.413	0.043	4.78	4.78	0	0	0	0	Free Surfa	1.852	0.068	0.009	0.034	0.05	2.158	522.197	0	No	0.034	1.852
1380	08C498M	08C497M	6	252.114	0.071	132.132	132.132	0	0	0	0	Free Surfa	5.929	0.3	0.196	0.15	0.274	3.175	672.642	0	No	0.15	5.929
1381	08C413M	08C412M	6	161.411	0.095	28.904	28.904	0	0	0	0	Free Surfa	4.214	0.132	0.037	0.066	0.125	3.493	778.922	0	Yes	0.102	2.251
1382	08C571M	08C572M	6	118.364	0.005	13.213	13.213	0	0	0	0	Free Surfa	1.192	0.183	0.073	0.092	0.084	0.831	179.776	0	Yes	0.092	1.191
1383	08C571M	08C569M	6	122.703	0.185	19.82	19.82	0	0	0	0	Free Surfa	4.748	0.094	0.018	0.047	0.103	4.685	1,086.41	0	Yes	0.089	1.857
1384	08C218M	08C217M	6	106.181	0.013	82.582	82.582	0	0	0	0	Free Surfa	2.848	0.364	0.283	0.182	0.214	1.37	291.693	0	No	0.182	2.848
1385	08C228U	08C218M	6	102.093	0.215	10.323	10.323	0	0	0	0	Free Surfa	4.104	0.067	0.009	0.033	0.074	4.822	1,170.08	0	Yes	0.108	0.741
1386	08C302M	08C301M	6	52.948	0.117	72.259	72.259	0	0	0	0	Free Surfa	5.946	0.196	0.084	0.098	0.2	4.01	863.347	0	Yes	0.111	4.946
1387	08C229M	08C228U	6	149.528	0.029	10.323	10.323	0	0	0	0	Free Surfa	2.038	0.107	0.024	0.054	0.074	1.879	428.888	0	No	0.054	2.038
1388	08C304M	08C303M	6	343.788	0.058	72.259	72.259	0	0	0	0	Free Surfa	4.642	0.233	0.119	0.116	0.2	2.855	608.445	0	Yes	0.148	3.321
1389	08C303M	08C302M	6	236.045	0.011	72.259	72.259	0	0	0	0	Free Surfa	2.549	0.358	0.274	0.179	0.2	1.238	263.369	0	No	0.179	2.549
139	02C248M	02C247M	6	368.206	0.003	10.633	10.633	0	0	0	0	Pressurize	0.884	0.194	0.082	0.097	0.075	0.599	128.93	0	Yes	0.5	0.121
1390	08C422M	08C421M	6	141.467	0.05	297.294	297.294	0	0	0	0	Free Surfa	6.51	0.514	0.524	0.257	0.412	2.543	566.987	0	Yes	0.436	3.647
1391	08C418M	08C412M	6	259.264	0.025	26.839	26.839	0	0	0	0	Free Surfa	2.573	0.176	0.067	0.088	0.12	1.835	398.205	0	Yes	0.113	1.804
1392	08C492M	08C421M	6	233.541	0.11	204.392	204.392	0	0	0	0	Free Surfa	7.837	0.337	0.244	0.168	0.344	3.938	836.06	0	Yes	0.391	2.761
1393	08C493M	08C492M	6	113.015	0.104	196.134	196.134	0	0	0	0	Free Surfa	7.609	0.334	0.241	0.167	0.337	3.842	815.348	0	Yes	0.168	7.564
1394	08C389U	08C388M	6	187.251	0.112	37.162	37.162	0	0	0	0	Free Surfa	4.808	0.143	0.044	0.071	0.142	3.82	844.507	0	Yes	0.085	3.763
1395	08C662M	08C661M	6	191.516	0.129	22.71	22.71	0	0	0	0	Free Surfa	4.362	0.109	0.025	0.055	0.11	3.985	907.459	0	Yes	0.055	4.256
1396	08C414M	08C413M	6	166.736	0.032	28.904	28.904	0	0	0	0	Free Surfa	2.871	0.172	0.064	0.086	0.125	2.075	451.158	0	No	0.086	2.871
1397	08C494M	08C493M	6	190.358	0.094	175.488	175.488	0	0	0	0	Free Surfa	7.092	0.324	0.227	0.162	0.318	3.641	772.171	0	Yes	0.165	6.947
1398	08C434M	08C422M	6	145.949	0.099	18.581	18.581	0	0	0	0	Free Surfa	3.737	0.106	0.023	0.053	0.099	3.469	792.967	0	Yes	0.155	0.799
1399	08C368M	08C367M	6	272.672	0.088	142.454	142.454	0	0	0	0	Free Surfa	6.548	0.295	0.19	0.148	0.285	3.54	750.007	0	Yes	0.158	5.958
14	12T032M	12T031L	8	53.577	0.039	425.617	425.617	0	0	0	0	Free Surfa	6.461	0.437	0.396	0.292	0.462	2.417	1,074.82	0	Yes	0.308	6.011
140	10C184M	10C177M	6	76.916	0.384	11.073	11.073	0	0	0	0	Free Surfa	5.132	0.06	0.007	0.03	0.076	6.356	1,564.81	0	Yes	0.049	2.454
1400	08C497M	08C496M	6	165.755	0.102	132.132	132.132	0	0	0	0	Free Surfa	6.75	0.274	0.164	0.137	0.274	3.804	806.427	0	No	0.137	6.75
1401	08C496M	08C494M	6	29.64	0.17	156.907	156.907	0	0	0	0	Free Surfa	8.502	0.263	0.151	0.131	0.3	4.901	1,039.98	0	Yes	0.147	7.281
1402	08C513M	08C492M	6	114.141	0.031	8.258	8.258	0	0	0	0	Free Surfa	1.958	0.094	0.019	0.047	0.066	1.925	446.183	0	Yes	0.108	0.591
1403	08C408M	08C407M	6	98.824	0.104	35.097	35.097	0	0	0	0	Free Surfa	4.606	0.142	0.043	0.071	0.138	3.678	814.029	0	Yes	0.08	3.885
1404	08C521M	08C496M	6	88.471	0.049	24.775	24.775	0	0	0	0	Free Surfa	3.181	0.144	0.044	0.072	0.115	2.52	557.059	0	Yes	0.102	1.931
1405	08C391M	08C389U	6	108.719	0.136	37.162	37.162	0	0	0	0	Free Surfa	5.153	0.136	0.04	0.068	0.142	4.196	932.227	0	Yes	0.07	4.975
1406	08C514M	08C493M	6	117.451	0.035	20.646	20.646	0	0	0	0	Free Surfa	2.689	0.142	0.044	0.071	0.105	2.142	473.835	0	Yes	0.119	1.284
1407	08C219M	08C218M	6	292.235	0.005	45.42	45.42	0	0	0	0	Free Surfa	1.708	0.342	0.251	0.171	0.157	0.852	180.902	0	Yes	0.176	1.634
1408	08C438M	08C423M	6	102.562	0.08	107.357	107.357	0	0	0	0	Free Surfa	5.83	0.262	0.15	0.131	0.246	3.364	713.837	0	Yes	0.21	3.06
1409	08C372L	08C371U	6	17.798	0.199	123.873	123.873	0	0	0	0	Free Surfa	8.401	0.224	0.11	0.112	0.265	5.274	1,125.95	0	Yes	0.129	6.896
141	13C052M	13C051M	6	137.944	0.02	31.071	31.071	0	0	0	0	Free Surfa	2.478	0.2	0.087	0.1	0.129	1.652	355.153	0	No	0.1	2.478
1410	08C393M	08C372L	6	228.279	0.006	10.323	10.323	0	0	0	0	Free Surfa	1.202	0.154	0.051	0.077	0.074	0.92	202.003	0	Yes	0.094	0.893
1411	08C392M	08C371U	6	397.565	0.042	18.581	18.581	0	0	0	0	Free Surfa	2.766	0.13	0.036	0.065	0.099	2.31	515.788	0	Yes	0.105	1.377
1412	08C439M	08C438M	6	21.983	0.168	101.163	101.163	0	0	0	0	Free Surfa	7.459	0.211	0.098	0.106	0.238	4.831	1,034.79	0	Yes	0.118	6.345
1413	08C523M	08C522M	6	269.701	0.041	24.775	24.775	0	0	0	0	Free Surfa	3.003	0.15	0.048	0.075	0.115	2.33	513.015	0	No	0.075	3.003
1414	08C676U	08C674M	6	222.272	0.022	20.646	20.646	0	0	0	0	Free Surfa	2.295	0.159	0.055	0.079	0.105	1.727	378.104	0	No	0.079	2.295
1415	08C424M	08C423M	6	261.308	0.023	171.356	171.356	0	0	0	0	Free Surfa	4.251	0.466	0.444	0.233	0.314	1.766	386.171	0	Yes	0.261	3.684

ID	From ID	To ID	Diameter (	Length (ft)	Slope	Total Flow	Unpeakabl	Peakable F	Coverage F	Infiltration	Storm Flov	Flow Type	Velocity (ft	d/D	q/Q	Water Dep	Critical De	Froude Nu	Full Flow (g	Coverage (	Backwater	Adjusted D	Adjusted V
1416	08C466M	08C424M	6	218.717	0.021	8.258	8.258	0	0	0	0	Free Surfa	1.715	0.103	0.022	0.052	0.066	1.61	368.883	0	Yes	0.142	0.399
1417	08C472M	08C471M	6	102.166	0.015	92.904	92.904	0	0	0	0	Free Surfa	3.045	0.378	0.304	0.189	0.228	1.433	305.955	0	No	0.189	3.045
1418	08C471M	08C427M	6	60.715	0.025	92.904	92.904	0	0	0	0	Free Surfa	3.675	0.329	0.234	0.165	0.228	1.871	396.883	0	No	0.165	3.675
1419	08C461M	08C444M	6	59.2	0.022	4.129	4.129	0	0	0	0	Free Surfa	1.415	0.074	0.011	0.037	0.046	1.58	378.184	0	Yes	0.054	0.795
142	10C281M	10T021M	6	174.512	0.059	50.939	50.939	0	0	0	0	Free Surfa	4.219	0.195	0.083	0.097	0.167	2.853	614.301	0	No	0.097	4.219
1420	08C473L	08C472M	6	106.237	0.057	82.581	82.581	0	0	0	0	Free Surfa	4.785	0.25	0.137	0.125	0.214	2.83	601.42	0	Yes	0.157	3.484
1421	06C103M	06C102M	6	230.339	0.107	15.695	15.695	0	0	0	0	Free Surfa	3.656	0.096	0.019	0.048	0.091	3.572	826.387	0	No	0.048	3.656
1422	08C481M	08C479M	6	204.997	0.056	16.516	16.516	0	0	0	0	Free Surfa	2.952	0.115	0.028	0.057	0.094	2.629	595.291	0	Yes	0.059	2.844
1423	08C429M	08C428M	6	239.35	0.086	33.032	33.032	0	0	0	0	Free Surfa	4.234	0.144	0.045	0.072	0.133	3.352	740.767	0	No	0.072	4.234
1424	08C382L	08C381M	6	256.49	0.018	20.646	20.646	0	0	0	0	Free Surfa	2.137	0.167	0.06	0.083	0.105	1.568	341.696	0	No	0.083	2.137
1425	08C479M	08C478L	6	100.176	0.045	16.516	16.516	0	0	0	0	Free Surfa	2.743	0.12	0.031	0.06	0.094	2.381	535.999	0	No	0.06	2.743
1426	06C101M	06C099M	6	185.905	0.123	15.695	15.695	0	0	0	0	Free Surfa	3.833	0.093	0.018	0.046	0.091	3.807	884.351	0	Yes	0.047	3.724
1428	08C491M	08C478L	6	154.797	0.012	8.258	8.258	0	0	0	0	Free Surfa	1.415	0.118	0.029	0.059	0.066	1.242	280.332	0	Yes	0.059	1.412
1429	06C117M	06C107M	6	185.511	0.038	2.093	2.093	0	0	0	0	Free Surfa	1.386	0.047	0.004	0.024	0.033	1.94	494.223	0	Yes	0.026	1.214
143	15C169M	15C168M	6	62.239	0.04	55.714	55.714	0	0	0	0	Free Surfa	3.776	0.224	0.11	0.112	0.175	2.37	506.062	0	Yes	0.116	3.614
1430	08C433M	08C432M	6	303.125	0.008	16.516	16.516	0	0	0	0	Free Surfa	1.466	0.186	0.075	0.093	0.094	1.016	219.612	0	No	0.093	1.466
1431	08C431L	08C429M	6	150.55	0.061	16.516	16.516	0	0	0	0	Free Surfa	3.045	0.112	0.027	0.056	0.094	2.742	622.29	0	Yes	0.064	2.509
1432	08C432M	08C431L	6	134.164	0.045	16.516	16.516	0	0	0	0	Free Surfa	2.735	0.121	0.031	0.06	0.094	2.372	533.977	0	No	0.06	2.735
1433	06C116M	06C107M	6	187.572	0.011	7.325	7.325	0	0	0	0	Free Surfa	1.298	0.115	0.028	0.058	0.062	1.152	260.733	0	No	0.058	1.298
1434	06C094M	06C082M	6	354.31	0.085	60.689	60.689	0	0	0	0	Free Surfa	5.039	0.194	0.083	0.097	0.183	3.41	734.483	0	Yes	0.102	4.688
1435	06C104M	06C096M	6	54.665	0.141	28.252	28.252	0	0	0	0	Free Surfa	4.799	0.119	0.03	0.059	0.123	4.199	947.051	0	Yes	0.078	3.225
1436	09C059M	09C031M	6	131.035	0.122	1.439	1.439	0	0	0	0	Free Surfa	1.849	0.03	0.002	0.015	0.027	3.238	882.33	0	Yes	0.056	0.267
1437	09C066L	09C031M	6	192.921	0.005	8.631	8.631	0	0	0	0	Free Surfa	1.059	0.148	0.047	0.074	0.067	0.825	181.792	0	Yes	0.085	0.864
1438	09C069M	09C066L	6	106.162	0.015	2.877	2.877	0	0	0	0	Free Surfa	1.107	0.068	0.009	0.034	0.039	1.287	311.338	0	Yes	0.054	0.559
1439	09C067M	09C066L	6	98.367	0.01	2.877	2.877	0	0	0	0	Free Surfa	0.963	0.075	0.011	0.037	0.039	1.066	254.589	0	Yes	0.056	0.535
144	15C154M	15C153M	6	190.81	0.058	29.422	29.422	0	0	0	0	Free Surfa	3.563	0.15	0.048	0.075	0.126	2.764	608.463	0	No	0.075	3.563
1440	09C068M	09C067M	6	176.181	0.006	2.877	2.877	0	0	0	0	Free Surfa	0.786	0.086	0.015	0.043	0.039	0.811	190.233	0	No	0.043	0.786
1441	09C032U	09C031M	6	270.504	0.108	27.333	27.333	0	0	0	0	Free Surfa	4.333	0.124	0.033	0.062	0.121	3.7	830.098	0	Yes	0.079	3.04
1443	09C037M	09C036M	6	149.551	0.038	13.666	13.666	0	0	0	0	Free Surfa	2.444	0.114	0.028	0.057	0.085	2.177	492.912	0	No	0.057	2.444
1444	09C048M	09T042M	6	167.631	0.021	4.932	4.932	0	0	0	0	Free Surfa	1.451	0.082	0.014	0.041	0.051	1.537	362.818	0	Yes	0.091	0.448
1445	12T003M	12T002M	10	75.753	0.037	660.968	660.968	0	0	0	0	Free Surfa	7.034	0.408	0.35	0.34	0.544	2.452	1,889.50	0	Yes	0.379	6.108
1446	11C068M	11C059M	6	36.722	0.068	1.517	1.517	0	0	0	0	Free Surfa	1.535	0.035	0.002	0.018	0.028	2.478	658.828	0	No	0.018	1.535
1447	11T002M	11T001M	8	356.552	0.029	480.274	480.274	0	0	0	0	Free Surfa	5.984	0.51	0.516	0.34	0.491	2.036	930.079	0	Yes	0.368	5.422
1448	09C017M	09C016M	8	177.983	0.099	90.63	90.63	0	0	0	0	Free Surfa	5.783	0.157	0.053	0.104	0.207	3.796	1,708.05	0	No	0.104	5.783
1449	08C104M	08C103M	6	233.156	0.042	28.904	28.904	0	0	0	0	Free Surfa	3.174	0.16	0.056	0.08	0.125	2.378	520.149	0	Yes	0.096	2.43
145	15C162M	15C161M	6	97.165	0.01	13.265	13.265	0	0	0	0	Free Surfa	1.531	0.155	0.052	0.077	0.084	1.167	256.159	0	Yes	0.086	1.31
1450	10C289M	10C288M	6	248.929	0.016	14.396	14.396	0	0	0	0	Free Surfa	1.82	0.145	0.045	0.073	0.087	1.434	316.498	0	Yes	0.079	1.604
1451	10C063L	10C062M	6	166.027	0.112	46.509	46.509	0	0	0	0	Free Surfa	5.141	0.159	0.055	0.08	0.159	3.86	844.851	0	Yes	0.087	4.553
1452	04C041M	04C040M	6	106.844	0.026	28.043	28.043	0	0	0	0	Free Surfa	2.631	0.179	0.069	0.089	0.123	1.862	403.545	0	Yes	0.091	2.575
1453	08C182M	08C181M	6	163.152	0.009	82.208	82.208	0	0	0	0	Free Surfa	2.452	0.405	0.345	0.203	0.214	1.108	237.959	0	Yes	0.26	1.775
1454	05C123M	05C122M	6	113.834	0.068	24.22	24.22	0	0	0	0	Free Surfa	3.545	0.131	0.037	0.066	0.114	2.943	656.327	0	No	0.066	3.545
1455	05C054M	05C053M	6	138.696	0.014	28.931	28.931	0	0	0	0	Free Surfa	2.17	0.209	0.095	0.104	0.125	1.414	303.213	0	Yes	0.106	2.121
1456	05C053M	05C052M	6	94.48	0.021	37.369	37.369	0	0	0	0	Free Surfa	2.679	0.215	0.102	0.108	0.142	1.717	367.375	0	No	0.108	2.679
1457	05C064M	05C051M	6	114.697	0.129	4.822	4.822	0	0	0	0	Free Surfa	2.725	0.052	0.005	0.026	0.05	3.611	905.983	0	Yes	0.076	0.575
1458	03C021M	03C019M	6	350.289	0.015	22.397	22.397	0	0	0	0	Free Surfa	2.057	0.181	0.072	0.091	0.109	1.444	312.723	0	Yes	0.092	2.01
1459	06C146M	06C144M	6	141.716	0.042	51.127	51.127	0	0	0	0	Free Surfa	3.735	0.213	0.099	0.106	0.167	2.41	516.08	0	Yes	0.11	3.541
146	10C167M	10C166M	6	46.261	0.065	7.751	7.751	0	0	0	0	Free Surfa	2.479	0.077	0.012	0.039	0.064	2.704	643.01	0	Yes	0.046	1.926
1460	06T008M	06T007L	8	287.056	0.03	142.345	142.345	0	0	0	0	Free Surfa	4.314	0.264	0.152	0.176	0.261	2.149	935.872	0	No	0.176	4.314
1461	06C147M	06T007L	8	131.772	0.013	127.915	127.915	0	0	0	0	Free Surfa	3.13	0.307	0.205	0.205	0.247	1.434	623.63	0	No	0.205	3.13
1463	03C084U	03T011M	6	139.474	0.022	10.034	10.034	0	0	0	0	Free Surfa	1.832	0.113	0.027	0.056	0.073	1.644	372.966	0	Yes	0.169	0.382
1464	03C088U	03C087U	6	64.917	0.049	5.017	5.017	0	0	0	0	Free Surfa	1.975	0.067	0.009	0.033	0.051	2.314	560.785	0	Yes	0.036	1.74
1465	06C169M	06T119U	6	154.442	0.028	20.927	20.927	0	0	0	0	Free Surfa	2.504	0.151	0.049	0.075	0.106	1.935	425.565	0	Yes	0.101	1.636
1466	06T121M	06T119U	8	249.553	0.008	109.836	109.836	0	0	0	0	Free Surfa	2.546	0.32	0.221	0.213	0.228	1.141	496.466	0	No	0.213	2.546
1467	06T007L	06T006M	8	283.258	0.04	277.585	277.585	0	0	0	0	Free Surfa	5.825	0.344	0.254	0.229	0.37	2.507	1,093.09	0	Yes	0.237	5.571
1468	03C087U	03C012M	6	88.428	0.025	5.017	5.017	0	0	0	0	Free Surfa	1.548	0.079	0.013	0.039	0.051	1.667	395.275	0	Yes	0.15	0.226
147	10C188M	10C184M	6	132.773	0.104	4.429	4.429	0	0	0	0	Free Surfa	2.462	0.053	0.005	0.027	0.048	3.245	812.896	0	Yes	0.028	2.242
1470	03C012M	03T011M	6	356.714	0.004	82.6	82.6	0	0	0	0	Free Surfa	1.781	0.521	0.535	0.26	0.214	0.69	154.355	0	Yes	0.271	1.692
1471	06C143M	06T118M	6	261.014	0.044	51.127	51.127	0	0	0	0	Free Surfa	3.807	0.21	0.096	0.105	0.167	2.475	530.307	0	Yes	0.164	2.037
1472	06T119U	06T118M	8	168.758	0.013	49.361	49.361	0	0	0	0	Free Surfa	2.364	0.191	0.08	0.127	0.151	1.399	619.058	0	Yes	0.175	1.505
1474	03C019M	03C018M	6	363.985	0.013	22.397	22.397	0	0	0	0	Free Surfa	1.965	0.187	0.076	0.094	0.109	1.357	292.969	0	No	0.094	1.965
1475	06T004M	06T003M	8	17.925	0.223	277.585	277.585	0	0	0	0	Free Surfa	10.724	0.222	0.108	0.148	0.37	5.858	2,568.85	0	Yes	0.21	6.544
1478	06T118M	06T002M	8	157.559	0.006	100.488	100.488	0	0	0	0	Free Surfa	2.193	0.334	0.241	0.223	0.218	0.959	417.791	0	No	0.223	2.193
148	13C184M	13C183M	6	38.936	0.051	13.145	13.145	0	0	0	0	Free Surfa	2.681	0.105	0.023	0.052	0.083	2.501	572.274	0	No	0.052	2.681
1480	03C018M	03C017M	6	218.543	0.016	22.397	22.397	0	0	0	0	Free Surfa	2.091	0.179	0.07	0.09	0.109	1.477	320	0	Yes	0.091	2.059
1481	03C013L	03C012M	6	375.617	0.001	77.583	77.583	0	0	0	0	Pressurize	0.88	1	1.011	0.5	0.206	0.219	76.746	0	No	0.5	0.88
1482	03C096M	03C094M	6	126.901	0.008	17.559	17.559	0	0	0	0	Free Surfa	1.514	0.189	0.078	0.095	0.097	1.039	224.147	0	Yes	0.102	1.357
1483	03C089M	03C013L	6	134.159	0.006	5.017	5.017	0	0	0	0	Free Surfa	0.933	0.111	0.026	0.056	0.051	0.842	191.294	0	Yes	0.282	0.098
1484	03C094M	03C093M	6	115.062	0.004	17.559	17.559	0	0	0	0	Free Surfa	1.227	0.219	0.105	0.11	0.097	0.779	166.45	0	Yes	0.112	1.19
1485	03C017M	03C016L	6	275.538	0.015	22.397	22.397	0	0	0	0	Free Surfa	2.028	0.183	0.073	0.091	0.109	1.416	306.391	0	Yes	0.154	0.969
1487	03C091M	03C016L	6	116.843	0.006	3.763	3.763	0	0	0	0	Free Surfa	0.855	0.097	0.02	0.049	0.044	0.828	191.206	0	Yes	0.134	0.197
1488	03C093M	03C092M	6	273.348	0.004	17.559	17.559	0	0	0	0	Free Surfa	1.154	0.229	0.115	0.114	0.097	0.716	152.724	0	No	0.114	1.154
1489	09C129M	09C128M	6	164.524	0.024	8.631	8.631	0	0	0	0	Free Surfa	1.813	0.103	0.022	0.051	0.067	1.709	391.938	0	No	0.051	1.813
149	15T029M	15T028M	6	172.752	0.077	289.999	289.999	0	0	0	0	Free Surfa	7.565	0.449	0.415	0.224	0.408	3.217	699.296	0	Yes	0.224	7.563
1490	07C076M	07C074M	6	149.787	0.072	25.595	25.595	0	0	0	0	Free Surfa	3.679	0.133	0.038	0.066	0.117	3.035	676.067	0	No	0.066	3.679
1491	09C124M	09C123M	6	115.364	0.09	12.228	12.228	0	0	0	0	Free Surfa	3.193	0.088	0.016	0.044	0.08	3.246	758.39	0	No	0.044	3.193
1492	09C092M	09C091L	6	258.868	0.072	18.702	18.702	0	0	0	0	Free Surfa	3.356	0.114	0.028	0.057	0.1	2.993	677.907	0	Yes	0.064	2.87
1493	07C073M	07C072M	6	94.298	0.067	21.938	21.938	0	0	0	0	Free Surfa	3.425	0.126	0.034	0.063	0.108	2.908	651.826	0	No	0.063	3.425
1494	09C126M	09C124M	6	92.662	0.007	12.228	12.228	0	0	0	0	Free Surfa	1.274	0.166	0.06	0.083	0.08	0.936	204.197	0	No	0.083	1.274
1495	07C082M	07C077M	6	76.538	0.004	3.656	3.656	0	0	0	0	Free Surfa	0.768	0.103	0.022	0.051	0.044	0.724	166.051	0	Yes	0.057	0.657
1496	07C078M	07C077M	6	106.387	0.042	23.767	23.767	0	0	0	0	Free Surfa	2.993	0.146	0.046	0.073	0.113	2.355	519.829	0	No	0.073	2.993
1497	09C113M	09C112M	6	245.329	0.006	41.102	41.102	0	0	0	0	Free Surfa	1.757	0.311	0.21	0.156	0.149	0.923	195.523	0	No	0.156	1.757
1499	09C016M	09C014M	8	303.54	0.145	106.454	106.454	0	0	0	0	Free Surfa	6.949	0.154	0.051	0.103	0.224	4.599	2,072.37	0	Yes	0.103	6.946
15	12T037M	12T036U	8	187.588	0.022	307.337	307.337	0	0	0	0	Free Surfa	4.825	0.426	0.378	0.284	0.39	1.833	812.337	0	Yes	0.288	4.749
150	13C036M	13C034M	6	149.651	0.076	57.361	57.361	0	0	0	0	Free Surfa	4.779	0.194	0.082	0.097	0.177	3.238	697.492	0	No	0.097	4.779
1500	09C052M	09C051M	6	152.836	0.007	6.474	6.474	0	0	0	0	Free Surfa	1.078	0.12	0.031	0.06	0.058	0.936	210.878	0	No	0.06	1.078
1501	09C134M	09C133U	6	151.915	0.023	0	0	0	0	0	0	Free Surfa	0	0	0	0	0	0	383.538	0	No	0	0
1502	09C133U	09T087U	6	27.06	0.087	0	0	0	0	0	0	Free Surfa	0	0	0	0	0	0	742.839	0	Yes	0.076	0
1503	09C053M	09C052M	6	139.752	0.007	6.474	6.474	0	0	0	0	Free Surfa	1.062	0.121	0.031	0.061	0.058	0.918	206.424	0	No	0.061	1.062
1504	09C014M	09C013M	8	144.358	0.145	106.454	106.454	0	0	0	0	Free Surfa	6.944	0.154	0.051	0.103	0.224	4.594	2,070.34	0	Yes	0.104	6.783
1505	09C049M	09C013M	6	166.371	0.029	11.509	11.509	0	0	0	0	Free Surfa	2.116	0.112	0.027	0.056	0.078	1.904	432.095	0	Yes	0.081	1.239
1506	09C051M	09C049M	6	216.255	0.019	6.474	6.474	0	0	0	0	Free Surfa	1.519	0.095	0.019	0.048	0.058	1.488	344.609	0	Yes	0.052	1.338
1507	09C054M	09C049M	6	111.06	0.011	5.035	5.035	0	0	0	0	Free Surfa	1.167	0.096	0.019	0.048	0.051	1.139	263.342	0	Yes	0.052	1.035
1508	09C088M	09T087U	6	196.231	0.03	33.807	33.807	0	0	0	0	Free Surfa	2.933	0.188	0.078	0.094	0.135	2.017	435.488	0	Yes	0.123	2.002
1509	09C013M	09C012M	8	113.235	0.156	117.963	117.963	0	0	0	0	Free Surfa	7.346	0.159	0.055	0.106	0.237	4.78	2,147.61	0	Yes	0.107	7.263
151	13C192M	13C037M	6	113.327	0.385	4.78	4.78	0	0	0	0	Free Surfa	3.978	0.04	0.003	0.02	0.05	6.013	1,567.27	0	Yes	0.058	0.84
1510	11T012M	11T011M	8	430.087	0.006	315.516	315.516	0	0	0	0	Free Surfa	2.918	0.652	0.759	0.434	0.396	0.835	415.678	0	No	0.434	2.918
1511	09T083M	09T082M	8	85.248	0.005	110.571	110.571	0	0	0	0	Free Surfa	2.042	0.378	0.303	0.252	0.229	0.833	364.975	0	No	0.252	2.042
1512	09T082M	09T081M	8	56.538	0.032	110.571	110.571	0	0	0	0	Free Surfa	4.12	0.228	0.114	0.152	0.229	2.22	972.183	0	Yes	0.178	3.297
1513	09C089L	09C088M	6	259.942	0.071	33.807	33.807	0	0	0	0	Free Surfa	3.99	0.152	0.05	0.076	0.135	3.068	674.126	0	Yes	0.085	3.392
1514	09C119M	09T083M	6	311.9	0.063	35.245	35.245	0	0	0	0	Free Surfa	3.862	0.16	0.056	0.08	0.138	2.891	632.327	0	Yes	0.166	1.379
1515	09C121M	09C119M	6	202.664	0.04	17.263	17.263	0	0	0	0	Free Surfa	2.662	0.127	0.034	0.063	0.096	2.251	503.926	0	Yes	0.072	2.221
1516	09C122U	09C121M	6	127.192	0.069	17.263	17.263	0	0	0	0	Free Surfa	3.231	0.111	0.026	0.055	0.096	2.924	664.618	0	Yes	0.059	2.923
1517	09C131M	09C119M	6	292.918	0.126	7.193	7.193	0	0	0	0	Free Surfa	3.059	0.064	0.008	0.032	0.061	3.678	898.044	0	Yes	0.056	1.329
1518	09C046M	09C044M	6	195	0.07	3.699	3.699	0	0	0	0	Free Surfa	2.035	0.053	0.006	0.027	0.044	2.673	668.938	0	No	0.027	2.035
1519	09C091L	09C089L	6	321.106	0.101	33.807	33.807	0	0	0	0	Free Surfa	4.507	0.14	0.042	0.07	0.135	3.619	801.812	0	Yes	0.073	4.235
152	13C037M	13C036M	6	259.819	0.081	57.361	57.361	0	0	0	0	Free Surfa	4.876	0.191	0.08	0.096	0.177	3.328	717.62	0	Yes	0.096	4.827
1520	09C127M	09C119M	6	266.16	0.137	8.631	8.631	0	0	0	0	Free Surfa	3.323	0.068	0.009	0.034	0.067	3.863	934.395	0	Yes	0.057	1.55
1521	09C123M	09C122U	6	333.551	0.141	12.228	12.228	0	0	0	0	Free Surfa	3.735	0.08	0.013	0.04	0.08	4.009	949.598	0	Yes	0.048	2.864
1522	09T041M	09T039U	8	145.9	0.024	68.108	68.108	0	0	0	0	Free Surfa	3.217	0.193	0.081	0.129	0.178	1.893	837.553	0	No	0.129	3.217
1523	11C056M	11T001M	6	53.907	0.019	205.172	205.172	0	0	0	0	Free Surfa	4.074	0.556	0.597	0.278	0.345	1.511	343.908	0	Yes	0.418	2.608
1524	11C058M	11T002M	6	256.642	0.051	13.869	13.869	0	0	0	0	Free Surfa	2.718	0.108	0.024	0.054	0.086	2.501	570.475	0	Yes	0.5	0.157

ID	From ID	To ID	Diameter (	Length (ft)	Slope	Total Flow	Unpeakabl	Peakable F	Coverage F	Infiltration	Storm Flov	Flow Type	Velocity (ft	d/D	q/Q	Water Dep	Critical De	Froude Nu	Full Flow (g	Coverage (	Backwater	Adjusted D	Adjusted V
1525	11C057M	11C056M	6	191.539	0.03	19.172	19.172	0	0	0	0	Free Surfa	2.498	0.142	0.044	0.071	0.101	1.99	440.185	0	Yes	0.175	0.699
1526	10C208M	10T007M	6	134.855	0.015	8.859	8.859	0	0	0	0	Free Surfa	1.545	0.116	0.029	0.058	0.068	1.365	308.422	0	No	0.058	1.545
1528	10C051M	10T001L	6	164.14	0.04	188.76	188.76	0	0	0	0	Free Surfa	5.326	0.423	0.373	0.211	0.33	2.348	506.44	0	Yes	0.5	2.142
1529	10C178M	10C177M	6	207.946	0.005	13.288	13.288	0	0	0	0	Free Surfa	1.172	0.186	0.076	0.093	0.084	0.811	175.101	0	No	0.093	1.172
153	15T117M	15T116M	6	355.17	0.013	384.931	384.931	0	0	0	0	Pressurize	4.368	1	1.314	0.5	0.409	1.089	292.836	0	No	0.5	4.368
1530	10C174M	10C132M	6	127.657	0.035	26.576	26.576	0	0	0	0	Free Surfa	2.887	0.161	0.056	0.081	0.119	2.154	470.906	0	Yes	0.096	2.229
1531	10C132M	10C131M	6	210.187	0.124	98.554	98.554	0	0	0	0	Free Surfa	6.653	0.225	0.111	0.112	0.235	4.169	890.069	0	Yes	0.117	6.302
1532	10C177M	10C176M	6	60.032	0.067	26.576	26.576	0	0	0	0	Free Surfa	3.627	0.138	0.041	0.069	0.119	2.937	651.784	0	Yes	0.07	3.561
1533	10C176M	10C174M	6	194.752	0.06	26.576	26.576	0	0	0	0	Free Surfa	3.497	0.141	0.043	0.071	0.119	2.795	618.657	0	Yes	0.076	3.167
1534	04C197M	04C196L	6	201.922	0.026	40.664	40.664	0	0	0	0	Free Surfa	2.94	0.214	0.1	0.107	0.148	1.89	404.62	0	No	0.107	2.94
1535	06T203M	06T126M	8	51.442	0.029	123.737	123.737	0	0	0	0	Free Surfa	4.088	0.248	0.135	0.165	0.243	2.105	918.635	0	Yes	0.201	3.1
1536	03C127M	03C126U	6	252.922	0.004	28.848	28.848	0	0	0	0	Free Surfa	1.369	0.289	0.182	0.144	0.124	0.749	158.771	0	No	0.144	1.369
1537	06C191M	06C189M	6	132.366	0.084	13.603	13.603	0	0	0	0	Free Surfa	3.212	0.095	0.019	0.047	0.085	3.153	730.478	0	No	0.047	3.212
1538	03C116M	03T097L	6	268.949	0.013	37.627	37.627	0	0	0	0	Free Surfa	2.236	0.246	0.133	0.123	0.143	1.335	283.903	0	Yes	0.357	0.558
1539	06C186M	06C184M	6	221.613	0.023	8.371	8.371	0	0	0	0	Free Surfa	1.773	0.102	0.022	0.051	0.066	1.676	384.733	0	Yes	0.055	1.601
154	06C108U	06C104M	6	243.436	0.05	6.278	6.278	0	0	0	0	Free Surfa	2.122	0.074	0.011	0.037	0.057	2.358	563.548	0	Yes	0.048	1.444
1540	06C201M	06C184M	6	161.574	0.126	5.232	5.232	0	0	0	0	Free Surfa	2.774	0.055	0.006	0.027	0.052	3.596	896.726	0	Yes	0.043	1.43
1541	06C197M	06C196U	6	48.768	0.093	8.371	8.371	0	0	0	0	Free Surfa	2.883	0.073	0.011	0.037	0.066	3.224	772.026	0	No	0.037	2.883
1542	06C014M	06C013M	6	55.826	0.088	228.107	228.107	0	0	0	0	Free Surfa	7.455	0.379	0.305	0.189	0.363	3.505	748.379	0	Yes	0.207	6.633
1543	06C164L	06C163L	6	271.795	0.1	39.762	39.762	0	0	0	0	Free Surfa	4.719	0.152	0.05	0.076	0.147	3.636	799.311	0	Yes	0.08	4.357
1544	10C286M	10C284M	6	295.125	0.008	42.08	42.08	0	0	0	0	Free Surfa	1.936	0.295	0.19	0.148	0.151	1.047	221.888	0	No	0.148	1.936
1545	10C137M	10C136M	6	112.935	0.009	59.797	59.797	0	0	0	0	Free Surfa	2.245	0.342	0.252	0.171	0.181	1.119	237.602	0	Yes	0.179	2.11
1546	04C074M	04C073M	6	81.841	0.101	24.398	24.398	0	0	0	0	Free Surfa	4.087	0.12	0.03	0.06	0.114	3.558	801.69	0	Yes	0.087	2.368
1547	10C121M	10C069M	6	92.462	0.211	2.215	2.215	0	0	0	0	Free Surfa	2.551	0.033	0.002	0.016	0.034	4.304	1,159.52	0	Yes	0.025	1.309
1548	10C204M	10C203M	6	100.079	0.154	8.859	8.859	0	0	0	0	Free Surfa	3.488	0.067	0.009	0.033	0.068	4.085	990.338	0	Yes	0.04	2.674
1549	10C359M	10C358L	6	217.924	0.083	13.288	13.288	0	0	0	0	Free Surfa	3.178	0.094	0.018	0.047	0.084	3.133	726.572	0	No	0.047	3.178
155	03C022M	03T004L	6	152.48	0.033	30.281	30.281	0	0	0	0	Free Surfa	2.939	0.174	0.066	0.087	0.128	2.106	457.239	0	Yes	0.334	0.483
1550	10C147M	10C146M	6	202.344	0.032	29.899	29.899	0	0	0	0	Free Surfa	2.914	0.174	0.066	0.087	0.127	2.091	454.159	0	No	0.087	2.914
1551	10C097M	10C084M	8	156.155	0.051	3.156	3.156	0	0	0	0	Free Surfa	1.66	0.037	0.003	0.025	0.038	2.261	1,224.37	0	Yes	0.048	0.637
1552	08C344M	08T014M	6	162.593	0.208	10.323	10.323	0	0	0	0	Free Surfa	4.06	0.067	0.009	0.034	0.074	4.753	1,152.06	0	Yes	0.215	0.286
1553	08C332M	08C331M	6	135.962	0.078	64.002	64.002	0	0	0	0	Free Surfa	4.964	0.204	0.091	0.102	0.188	3.276	703.368	0	Yes	0.135	3.345
1554	11C061M	11C059M	6	190.88	0.035	8.668	8.668	0	0	0	0	Free Surfa	2.067	0.094	0.018	0.047	0.067	2.036	471.935	0	No	0.047	2.067
1555	11C067M	11C066M	6	30.017	0.053	8.668	8.668	0	0	0	0	Free Surfa	2.388	0.085	0.015	0.043	0.067	2.473	580.407	0	No	0.043	2.388
1556	11C064M	11C063U	6	56.148	0.051	8.668	8.668	0	0	0	0	Free Surfa	2.36	0.086	0.015	0.043	0.067	2.434	570.772	0	Yes	0.046	2.142
1558	07C021M	07C019M	6	136.185	0.081	47.533	47.533	0	0	0	0	Free Surfa	4.616	0.174	0.066	0.087	0.161	3.308	718.438	0	Yes	0.093	4.201
1559	07C019M	07C018U	6	231.677	0.171	89.582	89.582	0	0	0	0	Free Surfa	7.248	0.198	0.086	0.099	0.224	4.859	1,045.10	0	Yes	0.1	7.127
1560	04C143M	04C142M	6	116.91	0.05	108.436	108.436	0	0	0	0	Free Surfa	4.954	0.297	0.192	0.148	0.247	2.672	566.13	0	No	0.148	4.954
1561	10T007M	10T006M	12	420.529	0.046	3,222.94	3,222.94	0	0	0	0	Free Surfa	11.136	0.765	0.933	0.765	0.977	2.25	3,455.21	0	Yes	1	9.143
1562	10C181M	10C179M	6	165.136	0.043	13.288	13.288	0	0	0	0	Free Surfa	2.53	0.11	0.025	0.055	0.084	2.304	524.342	0	Yes	0.069	1.8
1563	04C068M	04C067M	6	96.22	0.01	56.929	56.929	0	0	0	0	Free Surfa	2.346	0.32	0.221	0.16	0.177	1.214	257.414	0	No	0.16	2.346
1564	04C067M	04C066L	6	157.141	0.019	56.929	56.929	0	0	0	0	Free Surfa	2.917	0.273	0.163	0.137	0.177	1.646	348.884	0	No	0.137	2.917
1565	04C177L	04C176M	6	98.956	0.009	27.109	27.109	0	0	0	0	Free Surfa	1.833	0.224	0.111	0.112	0.121	1.149	245.311	0	No	0.112	1.833
1566	10C157L	10C127M	6	116.155	0.086	39.863	39.863	0	0	0	0	Free Surfa	4.477	0.158	0.054	0.079	0.147	3.382	740.877	0	Yes	0.117	2.529
1567	07C013M	07T012M	8	292.196	0.001	182.82	182.82	0	0	0	0	Pressurize	1.167	1	1.1	0.667	0.283	0.252	166.22	0	No	0.667	1.167
1568	10T001L	07T046M	18	258.358	0.035	4,299.59	4,299.59	0	0	0	0	Free Surfa	11.093	0.491	0.485	0.737	1.195	2.576	8,866.97	0	No	0.737	11.093
1569	07T046M	07T054M	10	27.947	0.02	18.924	18.924	0	0	0	0	Free Surfa	1.999	0.082	0.014	0.068	0.087	1.639	1,386.96	0	No	0.068	1.999
157	13C076M	13C061M	6	141.532	0.022	5.975	5.975	0	0	0	0	Free Surfa	1.582	0.088	0.016	0.044	0.056	1.616	378.07	0	Yes	0.062	0.947
1570	10C158M	10C157L	6	68.815	0.033	21.039	21.039	0	0	0	0	Free Surfa	2.639	0.146	0.046	0.073	0.106	2.074	457.591	0	Yes	0.076	2.495
1572	10C153M	10C124U	6	108.949	0.001	12.181	12.181	0	0	0	0	Free Surfa	0.749	0.24	0.126	0.12	0.08	0.453	96.461	0	Yes	0.134	0.638
1573	10C164M	10C163M	6	108.292	0.037	7.751	7.751	0	0	0	0	Free Surfa	2.038	0.088	0.016	0.044	0.064	2.076	485.285	0	No	0.044	2.038
1574	10C142M	10C141M	6	59.053	0.052	29.899	29.899	0	0	0	0	Free Surfa	3.438	0.155	0.052	0.078	0.127	2.618	574.408	0	Yes	0.109	2.104
1575	10C081M	10C057M	6	58.269	0.117	50.771	50.771	0	0	0	0	Free Surfa	5.362	0.164	0.059	0.082	0.167	3.96	864.293	0	Yes	0.104	3.806
1576	02C143M	02C142M	6	32.425	0.371	25.654	25.654	0	0	0	0	Free Surfa	6.54	0.09	0.017	0.045	0.117	6.594	1,537.37	0	Yes	0.062	4.06
1577	02C142M	02C140M	6	125.817	0.043	28.755	28.755	0	0	0	0	Free Surfa	3.188	0.159	0.055	0.08	0.124	2.396	524.56	0	Yes	0.08	3.186
1578	02C141M	02C139M	6	196.866	0.092	28.755	28.755	0	0	0	0	Free Surfa	4.159	0.132	0.038	0.066	0.124	3.438	766.179	0	Yes	0.082	3.028
1579	06C056M	06C051M	6	211.6	0.046	7.325	7.325	0	0	0	0	Free Surfa	2.162	0.081	0.014	0.041	0.062	2.293	541.54	0	Yes	0.042	2.058
158	13C062M	13C061M	6	108.865	0.084	97.438	97.438	0	0	0	0	Free Surfa	5.761	0.247	0.133	0.123	0.234	3.434	730.031	0	No	0.123	5.761
1580	10C186M	10C184M	6	206.805	0.048	6.644	6.644	0	0	0	0	Free Surfa	2.136	0.077	0.012	0.038	0.059	2.333	555.189	0	No	0.038	2.136
1581	10C169M	10C168M	6	204.995	0.031	8.859	8.859	0	0	0	0	Free Surfa	2	0.098	0.02	0.049	0.068	1.933	446.152	0	Yes	0.055	1.677
1582	10C106M	10C107M	6	19.729	0.083	3.322	3.322	0	0	0	0	Free Surfa	2.085	0.049	0.005	0.024	0.042	2.864	726.005	0	Yes	0.025	1.971
1583	10C107M	10C104M	6	47.69	0.06	3.322	3.322	0	0	0	0	Free Surfa	1.866	0.053	0.005	0.026	0.042	2.468	618.782	0	No	0.026	1.866
1584	10C143M	10C142M	6	153.452	0.012	29.899	29.899	0	0	0	0	Free Surfa	2.027	0.224	0.11	0.112	0.127	1.273	271.72	0	No	0.112	2.027
1585	10C144M	10C143M	6	115.478	0.017	29.899	29.899	0	0	0	0	Free Surfa	2.338	0.203	0.09	0.101	0.127	1.547	332.3	0	Yes	0.107	2.173
1586	10C082M	10C081M	6	99.193	0.137	31.946	31.946	0	0	0	0	Free Surfa	4.931	0.127	0.034	0.063	0.131	4.171	933.861	0	Yes	0.073	4.027
1587	08C122M	08C101M	6	157.171	0.017	4.129	4.129	0	0	0	0	Free Surfa	1.275	0.079	0.013	0.039	0.046	1.374	325.698	0	No	0.039	1.275
1588	10C291M	10C289M	6	269.318	0.076	8.859	8.859	0	0	0	0	Free Surfa	2.728	0.079	0.013	0.04	0.068	2.937	696.029	0	Yes	0.056	1.632
1589	04C031M	04C029M	8	222.433	0.004	34.627	34.627	0	0	0	0	Free Surfa	1.412	0.214	0.1	0.142	0.126	0.787	345.908	0	No	0.142	1.412
159	10C333M	10C332M	6	112.318	0.046	4.429	4.429	0	0	0	0	Free Surfa	1.858	0.064	0.008	0.032	0.048	2.224	542.362	0	Yes	0.041	1.301
1590	06C166L	06C164L	6	141.633	0.136	5.232	5.232	0	0	0	0	Free Surfa	2.85	0.054	0.006	0.027	0.052	3.73	932.46	0	Yes	0.051	1.096
1591	03C103U	03C102M	8	256.535	0.004	126.856	126.856	0	0	0	0	Free Surfa	2.115	0.407	0.348	0.272	0.246	0.826	364.095	0	No	0.272	2.115
1592	03C133M	03C103U	8	190.746	0.007	22.576	22.576	0	0	0	0	Free Surfa	1.475	0.154	0.051	0.103	0.101	0.977	440.216	0	Yes	0.187	0.627
1593	03C117M	03C116M	6	245.125	0.013	37.627	37.627	0	0	0	0	Free Surfa	2.236	0.246	0.133	0.123	0.143	1.335	283.957	0	Yes	0.123	2.236
1594	06C016M	06C014M	6	106.663	0.093	228.107	228.107	0	0	0	0	Free Surfa	7.617	0.373	0.296	0.186	0.363	3.614	770.778	0	Yes	0.188	7.535
1595	06C192M	06C191M	6	157.654	0.014	13.603	13.603	0	0	0	0	Free Surfa	1.719	0.145	0.046	0.073	0.085	1.354	298.889	0	No	0.073	1.719
1596	03C104M	03C105U	8	113.401	0.001	82.958	82.958	0	0	0	0	Free Surfa	1.079	0.493	0.488	0.328	0.197	0.375	170.134	0	Yes	0.328	1.079
1597	06C127M	06T126M	6	239.696	0.046	86.514	86.514	0	0	0	0	Free Surfa	4.509	0.27	0.159	0.135	0.22	2.56	542.954	0	Yes	0.186	2.892
1599	03C068L	03C067L	6	164.992	0.025	17.738	17.738	0	0	0	0	Free Surfa	2.271	0.144	0.045	0.072	0.097	1.797	397.115	0	No	0.072	2.271
16	12T036U	12T034M	8	163	0.039	425.617	425.617	0	0	0	0	Free Surfa	6.474	0.437	0.395	0.291	0.462	2.424	1,077.63	0	Yes	0.31	5.959
160	15T031M	15T029M	6	154.886	0.077	289.999	289.999	0	0	0	0	Free Surfa	7.561	0.449	0.415	0.225	0.408	3.215	698.952	0	No	0.225	7.561
1600	03C128L	03C127M	6	102.769	0.005	28.848	28.848	0	0	0	0	Free Surfa	1.474	0.274	0.164	0.137	0.124	0.831	176.124	0	Yes	0.141	1.42
1601	03C129M	03C128L	6	63.097	0.018	3.763	3.763	0	0	0	0	Free Surfa	1.286	0.074	0.011	0.037	0.044	1.435	343.397	0	Yes	0.087	0.367
1602	03C131M	03C128L	6	49.041	0.012	3.763	3.763	0	0	0	0	Free Surfa	1.103	0.082	0.014	0.041	0.044	1.167	275.308	0	Yes	0.089	0.355
1603	06C199M	06C198L	6	271.659	0.16	10.464	10.464	0	0	0	0	Free Surfa	3.723	0.072	0.01	0.036	0.074	4.212	1,011.42	0	Yes	0.038	3.46
1605	06C163L	06C162M	6	197.613	0.064	39.762	39.762	0	0	0	0	Free Surfa	4.04	0.169	0.062	0.084	0.147	2.942	640.62	0	Yes	0.106	2.922
1606	06T126M	06T124M	8	305.4	0.02	210.251	210.251	0	0	0	0	Free Surfa	4.199	0.356	0.272	0.238	0.32	1.77	773.13	0	No	0.238	4.199
1607	06C196U	06C194M	6	109.63	0.104	8.371	8.371	0	0	0	0	Free Surfa	2.996	0.071	0.01	0.036	0.066	3.395	815.81	0	No	0.036	2.996
1608	03C076M	03C074M	6	56.752	0.035	2.508	2.508	0	0	0	0	Free Surfa	1.423	0.052	0.005	0.026	0.036	1.889	474.012	0	Yes	0.032	1.062
1609	06C198L	06C181M	6	59.37	0.106	10.464	10.464	0	0	0	0	Free Surfa	3.226	0.079	0.013	0.04	0.074	3.474	823.508	0	Yes	0.05	2.252
161	13C097M	13C096M	6	159.989	0.054	3.585	3.585	0	0	0	0	Free Surfa	1.839	0.056	0.006	0.028	0.043	2.358	586	0	No	0.028	1.839
1611	03C122M	03C121M	6	92.505	0.012	27.593	27.593	0	0	0	0	Free Surfa	1.999	0.214	0.1	0.107	0.122	1.286	275.346	0	Yes	0.108	1.968
1612	04C127M	04C017M	6	134.947	0.066	35.242	35.242	0	0	0	0	Free Surfa	3.926	0.158	0.054	0.079	0.138	2.956	647.359	0	Yes	0.124	2.061
1613	10C133U	10C132M	6	273.62	0.059	71.978	71.978	0	0	0	0	Free Surfa	4.662	0.231	0.117	0.116	0.2	2.876	613.086	0	No	0.116	4.662
1614	10C052M	10C051M	6	249.552	0.024	188.76	188.76	0	0	0	0	Free Surfa	4.43	0.487	0.478	0.244	0.33	1.791	394.839	0	No	0.244	4.43
1615	04C063M	04C062M	6	120.375	0.007	65.062	65.062	0	0	0	0	Free Surfa	2.108	0.381	0.308	0.191	0.189	0.987	210.929	0	No	0.191	2.108
1616	10C154U	10C153M	6	343.368	0.011	12.181	12.181	0	0	0	0	Free Surfa	1.549	0.145	0.045	0.072	0.08	1.223	270.066	0	Yes	0.096	1.027
1617	04C104M	04C103M	6	78.177	0.029	32.531	32.531	0	0	0	0	Free Surfa	2.878	0.186	0.076	0.093	0.132	1.994	430.741	0	No	0.093	2.878
1618	10C284M	10C283M	6	328.401	0.028	42.08	42.08	0	0	0	0	Free Surfa	3.076	0.212	0.099	0.106	0.151	1.985	425.145	0	No	0.106	3.076
1619	10C161M	10C159L	6	195.809	0.111	21.039	21.039	0	0	0	0	Free Surfa	4.039	0.109	0.025	0.055	0.106	3.688	839.939	0	Yes	0.076	2.468
162	15T018M	15T017M	6	169.379	0.071	530.507	530.507	0	0	0	0	Free Surfa	8.446	0.67	0.79	0.335	0.485	2.728	671.499	0	No	0.335	8.446
1620	04C103M	04C102M	6	22.823	0.122	32.531	32.531	0	0	0	0	Free Surfa	4.765	0.131	0.037	0.066	0.132	3.956	882.521	0	Yes	0.071	4.27
1621	10C053M	10C052M	6	194.675	0.081	132.714	132.714	0	0	0	0	Free Surfa	6.237	0.291	0.184	0.145	0.275	3.401	720.575	0	Yes	0.194	4.187
1622	10C134M	10C133U	6	198.657	0.01	71.978	71.978	0	0	0	0	Free Surfa	2.476	0.365	0.284	0.182	0.2	1.189	253.354	0	No	0.182	2.476
1623	04C062M	04C061M	6	204.432	0.064	65.062	65.062	0	0	0	0	Free Surfa	4.661	0.215	0.102	0.108	0.189	2.987	639.135	0	No	0.108	4.661
1624	10C119M	10C118L	6	157.573	0.015	6.644	6.644	0	0	0	0	Free Surfa	1.425	0.101	0.021	0.051	0.059	1.352	310.713	0	No	0.051	1.425
1625	10C191U	10C189M	6	223.596	0.065	6.644	6.644	0	0	0	0	Free Surfa	2.363	0.072	0.01	0.036	0.059	2.673	641.855	0	No	0.036	2.363
1626	10C189M	10C136M	6	98.572	0.406	12.181	12.181	0	0	0	0	Free Surfa	5.386	0.062	0.008	0.031	0.08	6.564	1,608.51	0	Yes	0.109	0.859
1627	10C073M	10C052M	6	301.045	0.126	12.181	12.181	0	0	0	0	Free Surfa	3.588	0.081	0.014	0.041	0.08	3.804	898.044	0	Yes	0.142	0.59
1628	02C047M	02C046L	6	102.215	0.043	24.274	24.274	0	0	0	0	Free Surfa	3.038	0.146	0.046	0.073	0.114	2.385	526.199	0	No	0.073	3.038
1629	04C076M	04C074M	6	156.162	0.159	24.398	24.398	0	0	0	0	Free Surfa	4.799	0.107	0.024	0.054	0.114	4.42	1,008.39	0	Yes	0.057	4.419
163	13C086M	13C084M	6	98.145	0.444	11.95	11.95	0	0	0	0	Free Surfa	5.524	0.06	0.007	0.03	0.079	6.836	1,682.17	0	Yes	0.051	2.515
1630	04C061M	04C059M	6	189.516	0.077	65.062	65.062	0	0	0	0	Free Surfa	4.968	0.206	0.093	0.103	0.189	3.259	699.277	0	Yes	0.105	4.857

ID	From ID	To ID	Diameter (	Length (ft)	Slope	Total Flow	Unpeakabl	Peakable F	Coverage F	Infiltration	Storm Flov	Flow Type	Velocity (ft	d/D	q/Q	Water Dep	Critical De	Froude Nu	Full Flow (g	Coverage (	Backwater	Adjusted D	Adjusted V
1631	10C067M	10C066M	6	162.388	0.015	27.684	27.684	0	0	0	0	Free Surfa	2.192	0.201	0.088	0.1	0.122	1.458	313.298	0	Yes	0.11	1.919
1632	04C073M	04C072M	6	68.383	0.007	24.398	24.398	0	0	0	0	Free Surfa	1.604	0.229	0.115	0.114	0.114	0.995	212.209	0	No	0.114	1.604
1633	08C091M	08C074M	6	315.148	0.076	30.968	30.968	0	0	0	0	Free Surfa	3.968	0.144	0.045	0.072	0.129	3.142	694.205	0	Yes	0.097	2.562
1634	10C066M	10C064M	6	106.599	0.008	27.684	27.684	0	0	0	0	Free Surfa	1.7	0.24	0.127	0.12	0.122	1.028	218.743	0	No	0.12	1.7
1635	10C138M	10C137M	6	173.445	0.006	59.797	59.797	0	0	0	0	Free Surfa	1.922	0.384	0.312	0.192	0.181	0.897	191.727	0	No	0.192	1.922
1636	04C191M	04C189M	6	299.855	0.036	10.844	10.844	0	0	0	0	Free Surfa	2.237	0.104	0.023	0.052	0.076	2.095	479.759	0	No	0.052	2.237
1637	10C287M	10C286M	6	248.204	0.019	42.08	42.08	0	0	0	0	Free Surfa	2.649	0.236	0.122	0.118	0.151	1.617	344.382	0	Yes	0.133	2.244
1639	08C092M	08C091M	6	179.077	0.145	30.968	30.968	0	0	0	0	Free Surfa	4.981	0.123	0.032	0.062	0.129	4.275	960.199	0	Yes	0.067	4.426
164	13C096M	13C086M	6	62.59	0.085	3.585	3.585	0	0	0	0	Free Surfa	2.157	0.05	0.005	0.025	0.043	2.92	736.914	0	No	0.025	2.157
1640	10C056M	10C054M	6	321.031	0.056	132.714	132.714	0	0	0	0	Free Surfa	5.463	0.32	0.222	0.16	0.275	2.826	599.11	0	No	0.16	5.463
1641	10C064M	10C063L	6	150.582	0.015	27.684	27.684	0	0	0	0	Free Surfa	2.159	0.203	0.09	0.102	0.122	1.428	306.519	0	No	0.102	2.159
1642	10C293M	10C287M	6	145.277	0.05	12.181	12.181	0	0	0	0	Free Surfa	2.603	0.101	0.021	0.051	0.08	2.469	567.061	0	Yes	0.084	1.24
1643	09C062M	09C061U	6	82.883	0.049	1.439	1.439	0	0	0	0	Free Surfa	1.348	0.037	0.003	0.019	0.027	2.121	559.469	0	Yes	0.02	1.191
1644	11C074M	11C073M	8	326.242	0.074	57.643	57.643	0	0	0	0	Free Surfa	4.564	0.135	0.039	0.09	0.164	3.236	1,477.52	0	No	0.09	4.564
1645	10C179M	10C178M	6	267.434	0.007	13.288	13.288	0	0	0	0	Free Surfa	1.369	0.167	0.061	0.084	0.084	1.002	218.359	0	Yes	0.088	1.264
1646	04C077M	04C076M	6	53.311	0.03	24.398	24.398	0	0	0	0	Free Surfa	2.664	0.161	0.056	0.08	0.114	1.992	435.657	0	No	0.08	2.664
1647	10C054M	10C053M	6	297.736	0.059	132.714	132.714	0	0	0	0	Free Surfa	5.573	0.315	0.215	0.158	0.275	2.906	615.861	0	No	0.158	5.573
1648	10C136M	10C134M	6	163.294	0.009	71.978	71.978	0	0	0	0	Free Surfa	2.395	0.374	0.297	0.187	0.2	1.134	242.006	0	No	0.187	2.395
1649	04C078M	04C071M	6	62.29	0.178	8.133	8.133	0	0	0	0	Free Surfa	3.573	0.062	0.008	0.031	0.065	4.345	1,064.22	0	Yes	0.044	2.154
165	02C062M	02C273M	21	181.057	0.008	207.424	207.424	0	0	0	0	Free Surfa	2.697	0.124	0.033	0.217	0.241	1.233	6,341.54	0	No	0.217	2.697
1650	04C072M	04C071M	6	186.313	0.087	24.398	24.398	0	0	0	0	Free Surfa	3.876	0.124	0.033	0.062	0.114	3.313	743.297	0	No	0.062	3.876
1651	04C051M	04C049M	6	97.271	0.099	7.703	7.703	0	0	0	0	Free Surfa	2.863	0.07	0.01	0.035	0.063	3.287	792.71	0	No	0.035	2.863
1652	08C083M	08C082M	6	103.247	0.012	35.097	35.097	0	0	0	0	Free Surfa	2.129	0.242	0.129	0.121	0.138	1.281	272.558	0	No	0.121	2.129
1653	08C093M	08C092M	6	114.642	0.02	30.968	30.968	0	0	0	0	Free Surfa	2.505	0.198	0.086	0.099	0.129	1.679	361.208	0	No	0.099	2.505
1654	08C084M	08C083M	6	34.309	0.049	35.097	35.097	0	0	0	0	Free Surfa	3.539	0.17	0.063	0.085	0.138	2.571	559.412	0	Yes	0.103	2.68
1655	10C288M	10C287M	6	136.931	0.008	14.396	14.396	0	0	0	0	Free Surfa	1.43	0.172	0.064	0.086	0.087	1.033	224.558	0	Yes	0.102	1.117
1656	10C139M	10C138M	6	237.899	0.002	59.797	59.797	0	0	0	0	Free Surfa	1.324	0.51	0.517	0.255	0.181	0.52	115.759	0	No	0.255	1.324
1657	10C141M	10C139M	6	85.786	0.014	50.938	50.938	0	0	0	0	Free Surfa	2.504	0.281	0.173	0.141	0.167	1.39	294.505	0	Yes	0.198	1.571
1658	10C059M	10C058L	6	188.914	0.083	50.938	50.938	0	0	0	0	Free Surfa	4.758	0.179	0.07	0.09	0.167	3.362	728.521	0	Yes	0.099	4.128
1659	10C062M	10C061M	6	146.84	0.061	47.616	47.616	0	0	0	0	Free Surfa	4.17	0.187	0.077	0.094	0.161	2.878	621.429	0	No	0.094	4.17
166	15C052M	15C051M	6	64.051	0.453	37.142	37.142	0	0	0	0	Free Surfa	7.844	0.102	0.022	0.051	0.142	7.407	1,699.65	0	No	0.051	7.844
1660	10C061M	10C059M	6	54.264	0.154	50.938	50.938	0	0	0	0	Free Surfa	5.908	0.154	0.051	0.077	0.167	4.514	990.91	0	Yes	0.083	5.28
1661	10C058L	10C057M	6	126.318	0.039	50.938	50.938	0	0	0	0	Free Surfa	3.63	0.216	0.103	0.108	0.167	2.322	496.603	0	Yes	0.117	3.233
1662	10C057M	10C056M	6	198.389	0.082	101.709	101.709	0	0	0	0	Free Surfa	5.804	0.253	0.14	0.127	0.239	3.413	725.033	0	Yes	0.143	4.878
1663	08C086L	08C084M	6	276.413	0.12	35.097	35.097	0	0	0	0	Free Surfa	4.838	0.137	0.04	0.068	0.138	3.931	873.102	0	Yes	0.077	4.102
1664	10C108L	10C062M	6	121.843	0.269	1.107	1.107	0	0	0	0	Free Surfa	2.246	0.022	0.001	0.011	0.024	4.586	1,310.63	0	Yes	0.052	0.225
1665	10C089M	10C081M	6	137.369	0.019	11.074	11.074	0	0	0	0	Free Surfa	1.806	0.122	0.032	0.061	0.076	1.558	350.176	0	Yes	0.072	1.429
1666	08C101M	08C099M	6	319.653	0.068	107.357	107.357	0	0	0	0	Free Surfa	5.49	0.274	0.164	0.137	0.246	3.094	656.056	0	Yes	0.182	3.7
1667	10C088M	10C087M	6	162.82	0.138	6.644	6.644	0	0	0	0	Free Surfa	3.08	0.06	0.007	0.03	0.059	3.815	939.231	0	Yes	0.036	2.339
1668	08C123U	08C101M	6	297.907	0.131	47.485	47.485	0	0	0	0	Free Surfa	5.459	0.155	0.052	0.078	0.161	4.158	912.195	0	No	0.078	5.459
1669	08C126M	08C124L	6	250.621	0.146	47.485	47.485	0	0	0	0	Free Surfa	5.673	0.151	0.049	0.076	0.161	4.381	963.586	0	No	0.076	5.673
167	13C094L	13C093M	6	202.21	0.059	9.56	9.56	0	0	0	0	Free Surfa	2.559	0.087	0.016	0.043	0.071	2.624	614.42	0	Yes	0.108	0.68
1670	08C124L	08C123U	6	128.001	0.154	47.485	47.485	0	0	0	0	Free Surfa	5.783	0.149	0.048	0.075	0.161	4.496	990.207	0	Yes	0.076	5.617
1671	10C087M	10C086M	6	221.744	0.09	11.073	11.073	0	0	0	0	Free Surfa	3.092	0.085	0.015	0.042	0.076	3.217	756.063	0	Yes	0.047	2.65
1672	08C099M	08C098L	6	253.955	0.016	134.196	134.196	0	0	0	0	Free Surfa	3.441	0.455	0.424	0.227	0.276	1.451	316.142	0	No	0.227	3.441
1673	10C102M	10C087M	6	68.94	0.498	4.429	4.429	0	0	0	0	Free Surfa	4.248	0.037	0.002	0.018	0.048	6.738	1,781.67	0	Yes	0.03	2.02
1674	10C086M	10C084M	6	370.808	0.087	16.61	16.61	0	0	0	0	Free Surfa	3.459	0.103	0.022	0.052	0.094	3.251	745.059	0	Yes	0.061	2.715
1675	10C084M	10C083M	6	180.077	0.051	24.195	24.195	0	0	0	0	Free Surfa	3.217	0.14	0.042	0.07	0.114	2.58	571.627	0	Yes	0.075	2.897
1676	10C292M	10C291M	6	292.007	0.104	8.859	8.859	0	0	0	0	Free Surfa	3.044	0.073	0.011	0.037	0.068	3.402	814.379	0	Yes	0.038	2.879
1677	08C102M	08C101M	6	229.647	0.01	28.904	28.904	0	0	0	0	Free Surfa	1.899	0.229	0.115	0.115	0.125	1.178	251.208	0	No	0.115	1.899
1678	10C146M	10C144M	6	293.072	0.04	29.899	29.899	0	0	0	0	Free Surfa	3.138	0.165	0.059	0.083	0.127	2.313	504.597	0	Yes	0.092	2.687
1679	10C098L	10C084M	6	267.709	0.205	4.429	4.429	0	0	0	0	Free Surfa	3.12	0.045	0.004	0.023	0.048	4.456	1,142.38	0	Yes	0.046	1.078
168	15T011M	15T009M	6	137.569	0.139	567.649	567.649	0	0	0	0	Free Surfa	11.176	0.56	0.603	0.28	0.489	4.125	941.147	0	Yes	0.283	11.031
1680	08C612U	08C609M	6	109.809	0.102	4.129	4.129	0	0	0	0	Free Surfa	2.395	0.052	0.005	0.026	0.046	3.202	805.219	0	Yes	0.054	0.795
1681	08C103M	08C102M	6	172.627	0.011	28.904	28.904	0	0	0	0	Free Surfa	1.944	0.225	0.111	0.113	0.125	1.217	259.764	0	Yes	0.114	1.921
1682	08T011M	08T009M	12	317.075	0.01	1,711.68	1,711.68	0	0	0	0	Pressurize	4.856	1	1.068	1	0.807	0.856	1,603.14	0	Yes	1	4.856
1683	10C361M	10C359M	6	151.902	0.112	13.288	13.288	0	0	0	0	Free Surfa	3.527	0.087	0.016	0.044	0.084	3.606	843.517	0	Yes	0.045	3.344
1684	08C609M	08C608M	6	317.304	0.082	43.356	43.356	0	0	0	0	Free Surfa	4.515	0.166	0.06	0.083	0.153	3.318	723.571	0	Yes	0.094	3.801
1685	10C362M	10C361M	6	63.344	0.004	13.288	13.288	0	0	0	0	Free Surfa	1.093	0.196	0.084	0.098	0.084	0.737	158.629	0	No	0.098	1.093
1686	08C313M	08C312M	6	92.68	0.057	14.452	14.452	0	0	0	0	Free Surfa	2.867	0.107	0.024	0.053	0.087	2.648	604.62	0	Yes	0.059	2.489
1687	02C197M	02C196L	6	87.865	0.304	10.632	10.632	0	0	0	0	Free Surfa	4.674	0.062	0.008	0.031	0.075	5.686	1,392.57	0	Yes	0.034	4.126
1688	08C273M	08C267U	6	71.45	0.068	10.323	10.323	0	0	0	0	Free Surfa	2.752	0.087	0.016	0.044	0.074	2.819	659.69	0	Yes	0.046	2.524
1689	08C267U	08T147M	6	174.098	0.204	22.71	22.71	0	0	0	0	Free Surfa	5.118	0.098	0.02	0.049	0.11	4.943	1,140.59	0	Yes	0.5	0.258
169	13C089M	13C088M	6	80.942	0.005	5.975	5.975	0	0	0	0	Free Surfa	0.955	0.124	0.033	0.062	0.056	0.818	183.611	0	No	0.062	0.955
1690	08C252M	08C251M	6	316.519	0.066	43.356	43.356	0	0	0	0	Free Surfa	4.189	0.175	0.067	0.087	0.153	2.996	650.546	0	Yes	0.092	3.882
1691	08T148M	08T147M	6	35.272	0.018	384.779	384.779	0	0	0	0	Pressurize	4.366	1	1.132	0.5	0.435	1.088	339.86	0	Yes	0.5	4.366
1692	08C108U	08C107M	6	199.187	0.056	28.904	28.904	0	0	0	0	Free Surfa	3.49	0.15	0.049	0.075	0.125	2.705	595.423	0	No	0.075	3.49
1693	08T013M	08T012M	10	170.405	0.118	1,658.00	1,658.00	0	0	0	0	Free Surfa	13.742	0.494	0.491	0.412	0.792	4.264	3,380.15	0	Yes	0.833	6.773
1694	08C611U	08C609M	6	257.307	0.086	10.323	10.323	0	0	0	0	Free Surfa	2.978	0.083	0.014	0.041	0.074	3.133	738.347	0	Yes	0.062	1.636
1695	08C608M	08C607M	6	237.428	0.033	43.356	43.356	0	0	0	0	Free Surfa	3.263	0.208	0.095	0.104	0.153	2.129	456.577	0	No	0.104	3.263
1696	08C107M	08C106M	6	67.936	0.298	28.904	28.904	0	0	0	0	Free Surfa	6.284	0.1	0.021	0.05	0.125	5.995	1,379.01	0	Yes	0.059	4.897
1697	08C106M	08C104M	6	132.118	0.08	28.904	28.904	0	0	0	0	Free Surfa	3.962	0.137	0.041	0.069	0.125	3.213	713.324	0	Yes	0.074	3.53
1698	10C351M	10C349M	6	199.519	0.005	17.717	17.717	0	0	0	0	Free Surfa	1.317	0.21	0.097	0.105	0.097	0.855	183.263	0	No	0.105	1.317
1699	08T014M	08T013M	10	86.214	0.124	1,587.81	1,587.81	0	0	0	0	Free Surfa	13.866	0.475	0.457	0.396	0.785	4.413	3,472.08	0	No	0.396	13.866
17	12T018M	12T017U	8	193.177	0.076	657.732	657.732	0	0	0	0	Free Surfa	9.267	0.463	0.438	0.309	0.567	3.348	1,501.48	0	Yes	0.338	8.237
170	13C158M	13C157M	6	132.471	0.067	63.335	63.335	0	0	0	0	Free Surfa	4.69	0.211	0.097	0.105	0.187	3.043	651.943	0	No	0.105	4.69
1700	08C351M	08C349M	6	166.352	0.025	24.941	24.941	0	0	0	0	Free Surfa	2.506	0.17	0.063	0.085	0.115	1.818	395.586	0	No	0.085	2.506
1701	10C151M	10C149M	6	174.757	0.114	9.966	9.966	0	0	0	0	Free Surfa	3.261	0.076	0.012	0.038	0.072	3.584	854.099	0	Yes	0.043	2.746
1702	08C338L	08C337M	6	188.974	0.06	20.646	20.646	0	0	0	0	Free Surfa	3.246	0.125	0.033	0.063	0.105	2.763	619.688	0	No	0.063	3.246
1703	08C617U	08C041M	6	147.608	0.075	10.323	10.323	0	0	0	0	Free Surfa	2.838	0.085	0.015	0.043	0.074	2.937	689.234	0	Yes	0.115	0.677
1704	08C607M	08C606M	6	203.281	0.06	43.356	43.356	0	0	0	0	Free Surfa	4.041	0.179	0.07	0.09	0.153	2.853	618.099	0	Yes	0.104	3.252
1705	08C358M	08C357M	6	126.801	0.039	18.581	18.581	0	0	0	0	Free Surfa	2.712	0.132	0.037	0.066	0.099	2.249	501.455	0	Yes	0.086	1.837
1706	08C181M	08C179M	6	206.027	0.002	82.208	82.208	0	0	0	0	Free Surfa	1.394	0.635	0.731	0.317	0.214	0.47	112.503	0	No	0.317	1.394
1707	08C193M	08T134M	6	142.346	0.055	10.323	10.323	0	0	0	0	Free Surfa	2.547	0.092	0.017	0.046	0.074	2.539	590.351	0	No	0.046	2.547
1708	08C199M	08C198M	8	243.66	0.05	202.327	202.327	0	0	0	0	Free Surfa	5.751	0.276	0.166	0.184	0.314	2.795	1,216.02	0	Yes	0.189	5.542
1709	08C194M	08C193M	6	123.655	0.137	10.323	10.323	0	0	0	0	Free Surfa	3.506	0.074	0.011	0.037	0.074	3.903	933.309	0	Yes	0.041	2.962
171	10C344M	10C343M	6	141.52	0.049	42.078	42.078	0	0	0	0	Free Surfa	3.726	0.186	0.075	0.093	0.151	2.582	557.869	0	No	0.093	3.726
1710	05C044M	05C043M	8	99.742	0.086	435.458	435.458	0	0	0	0	Free Surfa	8.66	0.357	0.274	0.238	0.467	3.645	1,591.96	0	No	0.238	8.66
1711	08C184M	08C183M	6	113.278	0.026	20.646	20.646	0	0	0	0	Free Surfa	2.415	0.153	0.051	0.077	0.105	1.85	406.37	0	Yes	0.092	1.852
1712	08C183M	08C182M	6	117.253	0.103	82.208	82.208	0	0	0	0	Free Surfa	5.903	0.215	0.101	0.108	0.214	3.786	809.999	0	Yes	0.155	3.528
1713	08C188M	08C183M	6	115.662	0.071	23.064	23.064	0	0	0	0	Free Surfa	3.552	0.127	0.034	0.063	0.111	3.002	671.993	0	Yes	0.085	2.302
1714	08C189M	08C188M	6	57.357	0.123	23.064	23.064	0	0	0	0	Free Surfa	4.303	0.111	0.026	0.056	0.111	3.891	883.994	0	Yes	0.06	3.897
1715	08C191M	08C189M	6	182.076	0.108	12.387	12.387	0	0	0	0	Free Surfa	3.413	0.085	0.015	0.043	0.081	3.534	829.528	0	Yes	0.049	2.772
1716	08C198M	08T138M	8	299.933	0.041	202.327	202.327	0	0	0	0	Free Surfa	5.345	0.291	0.184	0.194	0.314	2.524	1,097.74	0	Yes	0.251	3.748
1717	08T138M	08T137M	8	156.551	0.11	787.368	787.368	0	0	0	0	Free Surfa	11.109	0.463	0.437	0.308	0.605	4.017	1,800.98	0	No	0.308	11.109
1718	08C186M	08C184M	6	163.696	0.128	20.646	20.646	0	0	0	0	Free Surfa	4.223	0.104	0.023	0.052	0.105	3.943	902.471	0	Yes	0.064	3.107
1719	08C187M	08C186M	6	207.372	0.041	20.646	20.646	0	0	0	0	Free Surfa	2.828	0.137	0.041	0.069	0.105	2.293	509.101	0	No	0.069	2.828
172	10C313M	10C312U	6	158.008	0.007	52.045	52.045	0	0	0	0	Free Surfa	1.942	0.344	0.254	0.172	0.169	0.965	205.05	0	No	0.172	1.942
1720	08C251M	08C249M	6	134.607	0.044	43.356	43.356	0	0	0	0	Free Surfa	3.612	0.194	0.082	0.097	0.153	2.448	527.201	0	No	0.097	3.612
1721	08C269M	08C268M	6	198.335	0.025	12.387	12.387	0	0	0	0	Free Surfa	2.041	0.121	0.031	0.061	0.081	1.766	397.45	0	No	0.061	2.041
1722	08C274M	08C273M	6	174.131	0.147	10.323	10.323	0	0	0	0	Free Surfa	3.598	0.073	0.011	0.036	0.074	4.041	968.5	0	Yes	0.04	3.127
1723	08C276M	08T148M	6	142.572	0.013	74.324	74.324	0	0	0	0	Pressurize	2.773	0.344	0.254	0.172	0.203	1.378	292.792	0	Yes	0.5	0.843
1724	08C286M	08C276M	6	157.446	0.013	12.387	12.387	0	0	0	0	Free Surfa	1.615	0.142	0.044	0.071	0.081	1.286	284.586	0	Yes	0.5	0.141
1725	08C296M	08T156M	6	114.501	0.091	6.194	6.194	0	0	0	0	Free Surfa	2.61	0.064	0.008	0.032	0.057	3.129	763.397	0	Yes	0.118	0.392
1726	08C294M	08C292M	6	154.688	0.032	12.387	12.387	0	0	0	0	Free Surfa	2.231	0.114	0.027	0.057	0.081	1.993	451.552	0	Yes	0.069	1.692
1727	02C204M	02C203M	6	89.903	0.194	4.873	4.873	0	0	0	0	Free Surfa	3.15	0.048	0.004	0.024	0.05	4.371	1,111.10	0	Yes	0.03	2.254
1728	06C034M	06C033M	6	315.94	0.058	49.179	49.179	0	0	0	0	Free Surfa	4.147	0.192	0.081	0.096	0.164	2.823	608.362	0	Yes	0.105	3.673
1729	02T158M	02T157M	8	259.733	0.01	620.594	620.594	0	0	0	0	Pressurize	3.961	1	1.163	0.667	0.517	0.855	533.514	0	No	0.667	3.961
173	10C334M	10C313M	6	88.215	0.092	1.107	1.107	0	0	0	0	Free Surfa	1.549	0.029	0.001	0.014	0.024	2.791	767.254	0	Yes	0.093	0.098
1730	08C297M	08C296M	6	151.5	0.089	6.194	6.194	0	0	0	0	Free Surfa	2.59	0.064	0.008	0.032	0.057	3.097	754.89	0	No	0.032	2.59
1731	08C293M	08C292M	6	163.803	0.01	4.129	4.129	0	0	0	0	Free Surfa	1.083	0.088	0.016	0.044	0.046	1.103	257.763	0	Yes	0.062	0.651

ID	From ID	To ID	Diameter (	Length (ft)	Slope	Total Flow	Unpeakabl	Peakable F	Coverage F	Infiltration	Storm Flov	Flow Type	Velocity (ft	d/D	q/Q	Water Dep	Critical De	Froude Nu	Full Flow (g	Coverage (	Backwater	Adjusted D	Adjusted V
1732	06C059M	06C058U	6	127.368	0.041	4.185	4.185	0	0	0	0	Free Surfa	1.746	0.064	0.008	0.032	0.047	2.087	508.574	0	No	0.032	1.746
1733	02C147M	02C146M	6	43.461	0.196	8.86	8.86	0	0	0	0	Free Surfa	3.799	0.063	0.008	0.032	0.068	4.581	1,119.29	0	Yes	0.045	2.278
1734	08C192M	08C189M	6	130.045	0.121	10.677	10.677	0	0	0	0	Free Surfa	3.395	0.077	0.012	0.039	0.075	3.695	878.373	0	Yes	0.047	2.538
1735	05C046M	05C044M	8	273.736	0.17	435.458	435.458	0	0	0	0	Free Surfa	11.091	0.299	0.194	0.199	0.467	5.162	2,245.08	0	Yes	0.219	9.74
1736	08C233M	08C232M	6	127.534	0.015	43.355	43.355	0	0	0	0	Free Surfa	2.5	0.251	0.138	0.126	0.153	1.476	313.584	0	No	0.126	2.5
1737	05C059M	05C046M	6	89.312	0.227	2.411	2.411	0	0	0	0	Free Surfa	2.684	0.033	0.002	0.017	0.035	4.477	1,202.12	0	Yes	0.108	0.173
1738	08C232M	08C231M	6	123.911	0.198	43.355	43.355	0	0	0	0	Free Surfa	6.154	0.134	0.039	0.067	0.153	5.053	1,124.70	0	No	0.067	6.154
1739	08C231M	08T138M	6	279.479	0.264	43.355	43.355	0	0	0	0	Free Surfa	6.806	0.125	0.033	0.063	0.153	5.792	1,298.42	0	Yes	0.185	1.458
174	13C034M	13C033M	6	155.089	0.149	57.361	57.361	0	0	0	0	Free Surfa	6.05	0.165	0.059	0.082	0.177	4.467	974.75	0	Yes	0.104	4.316
1740	08C254M	08C244M	6	110.477	0.105	6.194	6.194	0	0	0	0	Free Surfa	2.735	0.062	0.008	0.031	0.057	3.332	816.467	0	Yes	0.052	1.258
1741	05C062M	05C061M	6	143.456	0.018	2.411	2.411	0	0	0	0	Free Surfa	1.107	0.06	0.007	0.03	0.035	1.367	336.317	0	No	0.03	1.107
1742	08C256L	08C246M	6	72.075	0.01	6.194	6.194	0	0	0	0	Free Surfa	1.195	0.109	0.025	0.054	0.057	1.093	249.018	0	Yes	0.064	0.94
1743	08C246M	08C244M	6	110.317	0.175	49.55	49.55	0	0	0	0	Free Surfa	6.126	0.147	0.047	0.074	0.164	4.789	1,055.65	0	Yes	0.074	6.112
1744	05C061M	05C048M	6	27.722	0.072	2.411	2.411	0	0	0	0	Free Surfa	1.804	0.043	0.004	0.022	0.035	2.63	678.215	0	Yes	0.059	0.409
1745	08C263M	08C262M	6	219.426	0.101	22.71	22.71	0	0	0	0	Free Surfa	4.009	0.115	0.028	0.058	0.11	3.556	804.254	0	Yes	0.068	3.144
1746	05C049M	05C048M	6	15.201	0.066	45.697	45.697	0	0	0	0	Free Surfa	4.242	0.18	0.071	0.09	0.158	2.99	647.633	0	Yes	0.093	4.014
1747	08C247U	08C246M	6	52.814	0.158	43.356	43.356	0	0	0	0	Free Surfa	5.685	0.142	0.043	0.071	0.153	4.538	1,004.30	0	Yes	0.072	5.519
1748	05C051M	05C049M	6	66.979	0.015	42.191	42.191	0	0	0	0	Free Surfa	2.452	0.25	0.137	0.125	0.151	1.452	308.529	0	No	0.125	2.452
1749	05C052M	05C051M	6	32.535	0.031	37.369	37.369	0	0	0	0	Free Surfa	3.056	0.196	0.084	0.098	0.142	2.057	442.68	0	Yes	0.112	2.548
175	13C157M	13C033M	6	75.027	0.557	63.335	63.335	0	0	0	0	Free Surfa	9.897	0.126	0.034	0.063	0.187	8.408	1,884.42	0	Yes	0.094	5.487
1750	08C258M	08C257M	6	123.281	0.008	33.033	33.033	0	0	0	0	Free Surfa	1.839	0.258	0.145	0.129	0.133	1.071	227.414	0	Yes	0.14	1.628
1751	08C248M	08C247U	6	62.338	0.259	43.356	43.356	0	0	0	0	Free Surfa	6.758	0.126	0.034	0.063	0.153	5.736	1,285.29	0	Yes	0.067	6.182
1752	05C056M	05C054M	6	133.526	0.02	19.287	19.287	0	0	0	0	Free Surfa	2.158	0.158	0.054	0.079	0.101	1.627	356.455	0	Yes	0.092	1.741
1753	08C259M	08C258M	6	140.968	0.026	22.71	22.71	0	0	0	0	Free Surfa	2.491	0.16	0.056	0.08	0.11	1.865	408.026	0	Yes	0.104	1.701
1754	08C312M	08C311M	6	105.216	0.027	14.452	14.452	0	0	0	0	Free Surfa	2.189	0.128	0.035	0.064	0.087	1.839	411.174	0	Yes	0.079	1.615
1755	05C063U	05C049M	6	344.273	0.113	3.506	3.506	0	0	0	0	Free Surfa	2.363	0.047	0.004	0.023	0.043	3.325	848.614	0	Yes	0.057	0.637
1756	02C202M	02C201M	6	129.256	0.171	4.873	4.873	0	0	0	0	Free Surfa	3.016	0.049	0.005	0.025	0.05	4.122	1,043.52	0	No	0.025	3.016
1757	08C271M	08C269M	6	189.597	0.105	12.387	12.387	0	0	0	0	Free Surfa	3.377	0.086	0.015	0.043	0.081	3.485	817.137	0	Yes	0.052	2.568
1758	05C121M	05C119M	6	247.65	0.097	35.069	35.069	0	0	0	0	Free Surfa	4.49	0.144	0.045	0.072	0.138	3.553	785.118	0	Yes	0.073	4.401
1759	08C264M	08C263M	6	331.155	0.079	22.71	22.71	0	0	0	0	Free Surfa	3.669	0.123	0.032	0.061	0.11	3.154	708.752	0	No	0.061	3.669
176	13C033M	13C032M	6	112.135	0.118	120.696	120.696	0	0	0	0	Free Surfa	6.934	0.252	0.139	0.126	0.261	4.088	868.522	0	Yes	0.135	6.291
1760	05C066M	05C053M	6	225.907	0.106	8.438	8.438	0	0	0	0	Free Surfa	3.021	0.071	0.01	0.036	0.067	3.425	823.011	0	Yes	0.072	1.087
1761	08C311M	08C309M	6	177.027	0.005	14.452	14.452	0	0	0	0	Free Surfa	1.259	0.188	0.077	0.094	0.087	0.867	187.198	0	No	0.094	1.259
1762	02C203M	02C202M	6	176.059	0.034	4.873	4.873	0	0	0	0	Free Surfa	1.717	0.072	0.01	0.036	0.05	1.936	464.578	0	No	0.036	1.717
1763	02C198M	02C197M	6	99.367	0.052	10.632	10.632	0	0	0	0	Free Surfa	2.532	0.094	0.018	0.047	0.075	2.493	577.846	0	No	0.047	2.532
1764	08C268M	08C267U	6	168.884	0.097	12.387	12.387	0	0	0	0	Free Surfa	3.293	0.087	0.016	0.044	0.081	3.369	788.313	0	Yes	0.046	3.025
1765	08C253M	08C252M	6	50.16	0.02	43.356	43.356	0	0	0	0	Free Surfa	2.729	0.236	0.122	0.118	0.153	1.666	354.735	0	No	0.118	2.729
1766	02C218M	02C221M	6	42.559	0.383	0.443	0.443	0	0	0	0	Free Surfa	1.916	0.013	0	0.007	0.015	5.045	1,562.99	0	Yes	0.013	0.693
1767	02C219M	02C221M	6	74.009	0.241	0.443	0.443	0	0	0	0	Free Surfa	1.632	0.015	0	0.007	0.015	4.072	1,239.88	0	Yes	0.014	0.664
1768	08C299M	08C298M	6	264.264	0.048	10.323	10.323	0	0	0	0	Free Surfa	2.434	0.095	0.019	0.047	0.074	2.389	553.255	0	Yes	0.055	1.969
1769	08C277M	08C276M	6	182.516	0.006	51.614	51.614	0	0	0	0	Free Surfa	1.822	0.358	0.274	0.179	0.168	0.885	188.299	0	Yes	0.5	0.586
177	10C337M	10C314M	6	64.765	0.034	9.966	9.966	0	0	0	0	Free Surfa	2.139	0.101	0.021	0.051	0.072	2.032	466.857	0	Yes	0.07	1.318
1770	08C298M	08C157U	6	115.638	0.015	10.323	10.323	0	0	0	0	Free Surfa	1.637	0.124	0.033	0.062	0.074	1.398	313.538	0	Yes	0.146	0.481
1771	06C036M	06C034M	6	22.026	0.175	39.762	39.762	0	0	0	0	Free Surfa	5.734	0.133	0.038	0.066	0.147	4.735	1,054.98	0	Yes	0.081	4.273
1772	02C217M	02C216M	6	127.422	0.165	3.987	3.987	0	0	0	0	Free Surfa	2.804	0.045	0.004	0.023	0.046	4.004	1,026.36	0	Yes	0.023	2.797
1773	08C157U	08T156M	6	133.226	0.062	272.521	272.521	0	0	0	0	Free Surfa	6.868	0.461	0.434	0.23	0.396	2.874	627.353	0	No	0.23	6.868
1774	06C142M	06C141M	6	277.853	0.081	19.881	19.881	0	0	0	0	Free Surfa	3.567	0.114	0.028	0.057	0.103	3.181	720.545	0	No	0.057	3.567
1775	03C171M	03C169L	6	245.714	0.011	52.891	52.891	0	0	0	0	Free Surfa	2.342	0.303	0.2	0.152	0.17	1.247	264.294	0	No	0.152	2.342
1776	02C181M	02C179U	6	162.181	0.015	54.893	54.893	0	0	0	0	Free Surfa	2.648	0.285	0.178	0.143	0.173	1.459	309.078	0	Yes	0.143	2.643
1777	02C146M	02C144M	6	54.925	0.129	25.654	25.654	0	0	0	0	Free Surfa	4.526	0.116	0.028	0.058	0.117	4.013	907.712	0	Yes	0.061	4.164
1778	02C228M	02C146M	6	112.054	0.082	4.873	4.873	0	0	0	0	Free Surfa	2.335	0.059	0.007	0.029	0.05	2.925	722.212	0	Yes	0.044	1.302
1779	06C057M	06C056M	6	113.753	0.098	7.325	7.325	0	0	0	0	Free Surfa	2.814	0.068	0.009	0.034	0.062	3.267	790.251	0	Yes	0.037	2.452
178	13T023M	13T022M	6	199.526	0.021	480.281	480.281	0	0	0	0	Pressurize	5.45	1	1.317	0.5	0.447	1.358	364.684	0	Yes	0.5	5.45
1780	06C139M	06C138M	6	130.488	0.131	19.881	19.881	0	0	0	0	Free Surfa	4.207	0.102	0.022	0.051	0.103	3.975	912.381	0	Yes	0.055	3.736
1781	02C232M	02C228M	6	43.354	0.077	1.772	1.772	0	0	0	0	Free Surfa	1.681	0.037	0.003	0.019	0.03	2.656	701.372	0	Yes	0.024	1.148
1782	06C058U	06C039M	6	143.148	0.105	4.185	4.185	0	0	0	0	Free Surfa	2.435	0.051	0.005	0.026	0.047	3.259	820.034	0	Yes	0.071	0.543
1783	06C039M	06C038M	6	146.555	0.017	39.762	39.762	0	0	0	0	Free Surfa	2.536	0.234	0.12	0.117	0.147	1.555	331.433	0	No	0.117	2.536
1784	02C233M	02C232M	6	86.492	0.074	1.772	1.772	0	0	0	0	Free Surfa	1.656	0.037	0.003	0.019	0.03	2.604	686.965	0	No	0.019	1.656
1785	02C144M	02C143M	6	121.311	0.081	25.654	25.654	0	0	0	0	Free Surfa	3.85	0.129	0.036	0.065	0.117	3.224	720.452	0	No	0.065	3.85
1786	02C139M	02C138L	6	276.186	0.018	28.755	28.755	0	0	0	0	Free Surfa	2.339	0.197	0.085	0.099	0.124	1.571	337.971	0	No	0.099	2.339
1787	06C041L	06C039M	6	80.568	0.165	16.742	16.742	0	0	0	0	Free Surfa	4.331	0.089	0.016	0.045	0.094	4.389	1,024.56	0	Yes	0.081	1.816
1788	06C232M	06C231M	6	110.91	0.132	9.417	9.417	0	0	0	0	Free Surfa	3.37	0.071	0.01	0.036	0.07	3.82	917.977	0	No	0.036	3.37
1789	06C067M	06C066M	6	66.023	0.032	16.742	16.742	0	0	0	0	Free Surfa	2.451	0.131	0.037	0.066	0.094	2.035	453.957	0	Yes	0.131	0.906
179	10C347M	10C346L	6	174.001	0.042	42.078	42.078	0	0	0	0	Free Surfa	3.535	0.193	0.081	0.096	0.151	2.403	517.757	0	No	0.096	3.535
1790	06C138M	06C137M	6	169.164	0.068	19.881	19.881	0	0	0	0	Free Surfa	3.348	0.119	0.03	0.06	0.103	2.921	658.211	0	Yes	0.066	2.89
1791	06C068L	06C067M	6	203.134	0.046	16.742	16.742	0	0	0	0	Free Surfa	2.784	0.12	0.031	0.06	0.094	2.418	544.384	0	Yes	0.063	2.609
1792	06C069M	06C068L	6	125.201	0.095	16.742	16.742	0	0	0	0	Free Surfa	3.58	0.101	0.021	0.051	0.094	3.395	779.829	0	Yes	0.055	3.14
1793	06C051M	06C049M	6	187.86	0.139	14.65	14.65	0	0	0	0	Free Surfa	3.925	0.087	0.016	0.043	0.088	4.026	942.809	0	Yes	0.046	3.565
1794	06C054M	06C049M	6	189.167	0.075	3.139	3.139	0	0	0	0	Free Surfa	1.979	0.049	0.005	0.024	0.04	2.723	690.517	0	Yes	0.037	1.073
1795	02C227M	02C226M	6	85.289	0.017	3.101	3.101	0	0	0	0	Free Surfa	1.167	0.069	0.01	0.035	0.04	1.346	324.89	0	No	0.035	1.167
1796	06C231M	06C229M	6	77.062	0.172	9.417	9.417	0	0	0	0	Free Surfa	3.697	0.067	0.009	0.034	0.07	4.326	1,048.44	0	No	0.034	3.697
1797	02C226M	02C224M	6	51.893	0.031	3.101	3.101	0	0	0	0	Free Surfa	1.445	0.06	0.007	0.03	0.04	1.793	441.708	0	No	0.03	1.445
1798	02C224M	02C223M	6	98.685	0.42	3.101	3.101	0	0	0	0	Free Surfa	3.592	0.032	0.002	0.016	0.04	6.072	1,636.96	0	Yes	0.026	1.799
1799	02C223M	02C142M	6	168.753	0.015	3.101	3.101	0	0	0	0	Free Surfa	1.127	0.071	0.01	0.035	0.04	1.283	308.805	0	Yes	0.057	0.552
18	12T044M	12T043U	8	251.373	0.035	307.337	307.337	0	0	0	0	Free Surfa	5.664	0.378	0.304	0.252	0.39	2.308	1,011.50	0	Yes	0.257	5.507
180	13C146M	13T023M	6	136.982	0.027	46.342	46.342	0	0	0	0	Pressurize	3.126	0.225	0.111	0.112	0.159	1.958	418.06	0	Yes	0.5	0.526
1800	06C049M	06C031L	6	113.952	0.121	17.789	17.789	0	0	0	0	Free Surfa	3.956	0.099	0.02	0.049	0.097	3.803	876.57	0	Yes	0.113	1.189
1801	06C032M	06C031L	6	199.516	0.022	49.179	49.179	0	0	0	0	Free Surfa	2.956	0.244	0.13	0.122	0.164	1.773	377.142	0	Yes	0.149	2.224
1802	06C137M	06C136M	6	123.093	0.031	19.881	19.881	0	0	0	0	Free Surfa	2.53	0.145	0.045	0.072	0.103	1.998	441.25	0	Yes	0.109	1.406
1803	06C229M	06C136M	6	138.001	0.225	9.417	9.417	0	0	0	0	Free Surfa	4.058	0.063	0.008	0.032	0.07	4.902	1,198.22	0	Yes	0.088	0.897
1804	06C031L	06C029M	6	140.466	0.011	71.153	71.153	0	0	0	0	Free Surfa	2.551	0.354	0.268	0.177	0.198	1.247	265.158	0	Yes	0.2	2.161
1805	03C092M	03C016L	6	217.609	0.005	17.559	17.559	0	0	0	0	Free Surfa	1.321	0.208	0.095	0.104	0.097	0.862	184.911	0	Yes	0.161	0.719
1806	06C048M	06C028M	6	96.415	0.331	3.139	3.139	0	0	0	0	Free Surfa	3.319	0.034	0.002	0.017	0.04	5.441	1,453.38	0	Yes	0.115	0.204
1807	06C053M	06C052M	6	137.171	0.012	7.325	7.325	0	0	0	0	Free Surfa	1.334	0.113	0.027	0.057	0.062	1.196	271.253	0	No	0.057	1.334
1808	06C072M	06C063M	6	111.563	0.066	3.139	3.139	0	0	0	0	Free Surfa	1.896	0.05	0.005	0.025	0.04	2.571	649.211	0	Yes	0.046	0.777
1809	06C064M	06C063M	6	243.176	0.334	33.484	33.484	0	0	0	0	Free Surfa	6.834	0.105	0.023	0.052	0.134	6.377	1,459.31	0	Yes	0.059	5.661
181	10C358L	10C347M	6	130.639	0.101	13.288	13.288	0	0	0	0	Free Surfa	3.407	0.09	0.017	0.045	0.084	3.442	802.873	0	Yes	0.071	1.751
1810	06C084M	06C083M	6	35.497	0.342	17.788	17.788	0	0	0	0	Free Surfa	5.692	0.077	0.012	0.039	0.097	6.208	1,476.59	0	Yes	0.044	4.707
1812	06C076M	06C064M	6	182.175	0.003	16.742	16.742	0	0	0	0	Free Surfa	1.104	0.228	0.114	0.114	0.094	0.686	146.351	0	No	0.114	1.104
1813	06C216M	06C214M	6	194.552	0.286	4.185	4.185	0	0	0	0	Free Surfa	3.446	0.041	0.003	0.02	0.047	5.19	1,351.50	0	Yes	0.022	3.031
1814	03C137L	03C136M	6	332.644	0.003	22.576	22.576	0	0	0	0	Free Surfa	1.157	0.273	0.163	0.137	0.11	0.653	138.444	0	No	0.137	1.157
1815	06C074M	06C063M	6	126.791	0.04	4.185	4.185	0	0	0	0	Free Surfa	1.734	0.065	0.008	0.032	0.047	2.067	503.376	0	Yes	0.05	0.926
1816	06C224M	06C223U	6	90.898	0.001	5.232	5.232	0	0	0	0	Free Surfa	0.426	0.197	0.085	0.099	0.052	0.286	61.544	0	No	0.099	0.426
1817	06C223U	06C133M	6	168.46	0.135	5.232	5.232	0	0	0	0	Free Surfa	2.84	0.054	0.006	0.027	0.052	3.712	927.668	0	Yes	0.064	0.803
1818	06C133M	06C132M	6	136.843	0.096	68.726	68.726	0	0	0	0	Free Surfa	5.464	0.2	0.088	0.1	0.195	3.639	781.964	0	No	0.1	5.464
1819	06C077M	06C076M	6	81.591	0.018	16.742	16.742	0	0	0	0	Free Surfa	2.011	0.15	0.049	0.075	0.094	1.556	342.365	0	Yes	0.095	1.442
182	13C214M	13C213M	6	208.143	0.089	57.274	57.274	0	0	0	0	Free Surfa	5.052	0.186	0.076	0.093	0.177	3.495	755.119	0	Yes	0.096	4.845
1822	06C029M	06C028M	6	106.269	0.005	71.153	71.153	0	0	0	0	Free Surfa	1.869	0.446	0.411	0.223	0.198	0.797	173.199	0	No	0.223	1.869
1823	06C078M	06C077M	6	245.842	0.006	16.742	16.742	0	0	0	0	Free Surfa	1.364	0.197	0.085	0.098	0.094	0.917	197.234	0	No	0.098	1.364
1824	06C079M	06C078M	6	155.03	0.003	16.742	16.742	0	0	0	0	Free Surfa	1.089	0.231	0.117	0.115	0.094	0.673	143.398	0	No	0.115	1.089
1825	06C089M	06C082M	6	82.542	0.15	2.093	2.093	0	0	0	0	Free Surfa	2.229	0.034	0.002	0.017	0.033	3.664	979.187	0	Yes	0.062	0.332
1826	06C083M	06C082M	6	198.698	0.123	17.788	17.788	0	0	0	0	Free Surfa	3.979	0.098	0.02	0.049	0.097	3.833	883.929	0	Yes	0.078	2.02
1827	06C082M	06C081L	6	69.319	0.1	80.57	80.57	0	0	0	0	Free Surfa	5.812	0.214	0.101	0.107	0.212	3.734	799.063	0	No	0.107	5.812
1828	06C047M	06C026M	6	99.071	0.245	3.139	3.139	0	0	0	0	Free Surfa	2.99	0.037	0.003	0.018	0.04	4.732	1,250.56	0	Yes	0.106	0.231
1829	06C081L	06C062M	6	60.634	0.11	80.57	80.57	0	0	0	0	Free Surfa	6.01	0.209	0.096	0.105	0.212	3.91	837.91	0	Yes	0.12	4.931
183	13T022M	13T021M	6	131.034	0.034	480.281	480.281	0	0	0	0	Pressurize	5.45	1	1.026	0.5	0.476	1.358	468.188	0	Yes	0.5	5.45
1830	06C063M	06C062M	6	255.133	0.18	40.808	40.808	0	0	0	0	Free Surfa	5.842	0.133	0.038	0.067	0.149	4.812	1,071.58	0	Yes	0.101	3.19
1831	06C132M	06C131M	6	265.717	0.129	68.726	68.726	0	0	0	0	Free Surfa	6.073	0.186	0.076	0.093	0.195	4.205	908.441	0	No	0.093	6.073
1832	06C046M	06C044M	6	170.792	0.043	2.093	2.093	0	0	0	0	Free Surfa	1.44	0.046	0.004	0.023	0.033	2.041	522.098	0	No	0.023	1.44
1834	06C212M	06C211M	6	45.171	0.278	21.973	21.973	0	0	0	0	Free Surfa	5.647	0.089	0.016	0.045	0.108	5.71	1,332.21	0	Yes	0.057	3.912
1835	06C027M	06C026M	6	93.8	0.011	74.292	74.292	0	0	0	0	Free Surfa	2.55	0.365	0.285	0.183	0.203	1.224	260.713	0	Yes	0.188	2.456

ID	From ID	To ID	Diameter (	Length (ft)	Slope	Total Flow	Unpeakabl	Peakable F	Coverage F	Infiltration	Storm Flov	Flow Type	Velocity (ft	d/D	q/Q	Water Dep	Critical De	Froude Nu	Full Flow (g	Coverage (	Backwater	Adjusted D	Adjusted V
1836	06C022M	06C021M	6	222.528	0.089	93.126	93.126	0	0	0	0	Free Surfa	5.818	0.237	0.123	0.119	0.228	3.541	754.122	0	Yes	0.123	5.534
1837	06C062M	06C061M	6	74.877	0.088	121.378	121.378	0	0	0	0	Free Surfa	6.253	0.272	0.162	0.136	0.262	3.535	749.657	0	Yes	0.161	4.967
1838	06C018L	06C017U	6	121.44	0.063	95.219	95.219	0	0	0	0	Free Surfa	5.172	0.262	0.15	0.131	0.231	2.984	633.248	0	Yes	0.154	4.117
1839	06C211M	06T204L	6	191.288	0.042	21.973	21.973	0	0	0	0	Free Surfa	2.923	0.14	0.042	0.07	0.108	2.345	519.561	0	Yes	0.151	0.978
184	13C151M	13C149U	6	148.209	0.074	23.901	23.901	0	0	0	0	Free Surfa	3.637	0.128	0.035	0.064	0.113	3.061	684.795	0	Yes	0.076	2.852
1840	06C206M	06T204L	6	364.229	0.008	27.434	27.434	0	0	0	0	Free Surfa	1.733	0.235	0.122	0.118	0.121	1.06	225.735	0	Yes	0.175	0.999
1841	06C131M	06C129M	6	312.573	0.14	68.726	68.726	0	0	0	0	Free Surfa	6.236	0.183	0.073	0.091	0.195	4.36	943.24	0	Yes	0.092	6.169
1842	06C129M	06C128M	6	98.649	0.131	68.726	68.726	0	0	0	0	Free Surfa	6.103	0.185	0.075	0.093	0.195	4.233	914.752	0	Yes	0.097	5.759
1843	06C017U	06C016M	6	114.675	0.112	228.107	228.107	0	0	0	0	Free Surfa	8.132	0.355	0.27	0.178	0.363	3.966	843.697	0	Yes	0.182	7.867
1844	06C167M	06C166L	6	154.066	0.074	5.232	5.232	0	0	0	0	Free Surfa	2.306	0.062	0.008	0.031	0.052	2.808	687.937	0	No	0.031	2.306
1845	03C123L	03C122M	6	131.947	0.011	6.271	6.271	0	0	0	0	Free Surfa	1.242	0.107	0.024	0.053	0.057	1.146	261.668	0	Yes	0.08	0.687
1846	03C106L	03C104M	8	118.585	0.003	82.958	82.958	0	0	0	0	Free Surfa	1.531	0.378	0.303	0.252	0.197	0.624	273.517	0	Yes	0.29	1.267
1848	06C154M	06C153M	6	159.712	0.139	6.577	6.577	0	0	0	0	Free Surfa	3.076	0.06	0.007	0.03	0.059	3.821	941.439	0	No	0.03	3.076
1849	03C077M	03C074M	6	56.392	0.035	3.763	3.763	0	0	0	0	Free Surfa	1.614	0.063	0.008	0.032	0.044	1.946	475.523	0	Yes	0.035	1.412
1850	03C124U	03C122M	6	109.999	0.02	6.271	6.271	0	0	0	0	Free Surfa	1.535	0.092	0.018	0.046	0.057	1.525	354.405	0	Yes	0.077	0.734
1851	06C153M	06C011M	6	123.463	0.164	6.577	6.577	0	0	0	0	Free Surfa	3.259	0.057	0.006	0.029	0.059	4.13	1,023.01	0	Yes	0.107	0.477
1852	06C012M	06C011M	6	195.582	0.091	228.107	228.107	0	0	0	0	Free Surfa	7.553	0.375	0.299	0.188	0.363	3.571	761.918	0	No	0.188	7.553
1853	06C202M	06T123M	6	111.165	0.157	10.552	10.552	0	0	0	0	Free Surfa	3.703	0.072	0.011	0.036	0.074	4.169	999.981	0	Yes	0.135	0.551
1854	06T124M	06T123M	8	155.462	0.034	210.251	210.251	0	0	0	0	Free Surfa	5.089	0.31	0.208	0.206	0.32	2.321	1,009.65	0	Yes	0.22	4.668
1855	06C194M	06C193M	6	173.088	0.153	8.371	8.371	0	0	0	0	Free Surfa	3.425	0.065	0.008	0.033	0.066	4.065	988.721	0	Yes	0.053	1.697
1856	06C193M	06C188M	6	35.445	0.005	8.371	8.371	0	0	0	0	Free Surfa	1.061	0.145	0.045	0.072	0.066	0.837	184.869	0	No	0.072	1.061
1857	06C189M	06C188M	6	267.317	0.152	13.603	13.603	0	0	0	0	Free Surfa	3.955	0.082	0.014	0.041	0.085	4.173	984.056	0	Yes	0.049	3.086
1858	06C182M	06C161M	6	143.173	0.172	11.365	11.365	0	0	0	0	Free Surfa	3.909	0.073	0.011	0.037	0.077	4.371	1,046.46	0	Yes	0.054	2.209
1859	03C074M	03C073L	6	105.944	0.047	6.271	6.271	0	0	0	0	Free Surfa	2.081	0.075	0.011	0.038	0.057	2.299	548.544	0	Yes	0.046	1.55
186	13C216M	13C214M	6	199.952	0.1	57.274	57.274	0	0	0	0	Free Surfa	5.263	0.181	0.072	0.091	0.177	3.697	800.372	0	Yes	0.092	5.156
1860	06C188M	06C187M	6	120.973	0.106	21.974	21.974	0	0	0	0	Free Surfa	4.034	0.112	0.027	0.056	0.108	3.627	823.012	0	Yes	0.057	3.989
1861	06T123M	06T122M	8	113.977	0.027	236.279	236.279	0	0	0	0	Free Surfa	4.839	0.35	0.263	0.233	0.34	2.062	899.576	0	No	0.233	4.839
1862	06C179M	06C178M	6	230.656	0.061	12.701	12.701	0	0	0	0	Free Surfa	2.825	0.099	0.02	0.049	0.082	2.717	626.133	0	Yes	0.057	2.273
1863	06C187M	06C178M	6	33.546	0.1	21.974	21.974	0	0	0	0	Free Surfa	3.945	0.114	0.028	0.057	0.108	3.52	797.338	0	Yes	0.061	3.572
1864	03C044M	03C043M	6	345.501	0.005	52.678	52.678	0	0	0	0	Free Surfa	1.789	0.368	0.289	0.184	0.17	0.855	182.254	0	Yes	0.186	1.767
1865	06C011M	06T009M	6	137.183	0.032	131.881	131.881	0	0	0	0	Free Surfa	4.454	0.37	0.291	0.185	0.274	2.124	452.725	0	No	0.185	4.454
1868	03C073L	03C066U	6	131.96	0.01	6.271	6.271	0	0	0	0	Free Surfa	1.214	0.108	0.025	0.054	0.057	1.112	253.495	0	Yes	0.065	0.936
1869	03C108M	03C110M	6	28.512	0.001	60.203	60.203	0	0	0	0	Free Surfa	0.988	0.653	0.761	0.326	0.182	0.326	79.128	0	Yes	0.326	0.988
187	02C099M	02C098M	6	134.405	0.024	8.164	8.164	0	0	0	0	Free Surfa	1.781	0.1	0.021	0.05	0.065	1.701	391.434	0	Yes	0.058	1.449
1870	06T009M	06T008M	8	371.028	0.086	142.345	142.345	0	0	0	0	Free Surfa	6.287	0.202	0.089	0.135	0.261	3.61	1,591.57	0	Yes	0.155	5.139
1871	06C159M	06C146M	6	272.433	0.083	51.127	51.127	0	0	0	0	Free Surfa	4.75	0.18	0.07	0.09	0.167	3.35	725.648	0	Yes	0.098	4.19
1872	03C086U	03C084U	6	166.662	0.033	10.034	10.034	0	0	0	0	Free Surfa	2.112	0.102	0.022	0.051	0.073	1.991	456.903	0	Yes	0.054	1.964
1873	06C177M	06T121M	6	48.356	0.04	34.675	34.675	0	0	0	0	Free Surfa	3.278	0.178	0.069	0.089	0.137	2.327	504.45	0	Yes	0.151	1.546
1875	06C178M	06C177M	6	326.468	0.143	34.675	34.675	0	0	0	0	Free Surfa	5.138	0.13	0.036	0.065	0.137	4.283	956.195	0	Yes	0.077	4.031
1876	06T122M	06T121M	12	321.495	0.018	236.279	236.279	0	0	0	0	Free Surfa	4.016	0.224	0.11	0.224	0.301	1.784	2,155.56	0	No	0.224	4.016
1877	09C132M	09C131M	6	71.136	0.112	7.193	7.193	0	0	0	0	Free Surfa	2.932	0.065	0.009	0.033	0.061	3.476	845.233	0	No	0.033	2.932
1878	07C079M	07C078M	6	264.066	0.113	23.767	23.767	0	0	0	0	Free Surfa	4.224	0.115	0.028	0.057	0.113	3.755	849.942	0	Yes	0.065	3.519
1879	07C074M	07C069M	6	318.579	0.189	25.595	25.595	0	0	0	0	Free Surfa	5.167	0.105	0.023	0.053	0.117	4.802	1,097.96	0	Yes	0.068	3.589
188	08C117M	08C099M	6	123.492	0.045	20.645	20.645	0	0	0	0	Free Surfa	2.931	0.134	0.039	0.067	0.105	2.407	535.679	0	Yes	0.147	0.953
1880	07C027M	07C026L	6	75.872	0.013	47.533	47.533	0	0	0	0	Free Surfa	2.427	0.274	0.164	0.137	0.161	1.367	289.884	0	No	0.137	2.427
1881	05C089M	05C088M	6	91.065	0.01	7.233	7.233	0	0	0	0	Free Surfa	1.25	0.117	0.029	0.059	0.062	1.1	248.357	0	Yes	0.061	1.167
1882	05C027M	05C026M	6	105.258	0.081	140.047	140.047	0	0	0	0	Free Surfa	6.317	0.299	0.195	0.15	0.283	3.39	718.09	0	Yes	0.15	6.298
1883	05C024M	05C023M	6	313.953	0.122	164.156	164.156	0	0	0	0	Free Surfa	7.651	0.292	0.186	0.146	0.307	4.159	881.004	0	Yes	0.146	7.641
1884	02C057M	02C056M	6	109.873	0.069	8.418	8.418	0	0	0	0	Free Surfa	2.601	0.079	0.013	0.039	0.066	2.802	664.438	0	Yes	0.048	1.957
1885	03T098M	03T097L	12	268.414	0.006	762.407	762.407	0	0	0	0	Free Surfa	3.602	0.579	0.636	0.579	0.554	0.918	1,198.57	0	Yes	0.586	3.555
1886	03C032M	03C031M	6	206.049	0.017	25.085	25.085	0	0	0	0	Free Surfa	2.227	0.186	0.075	0.093	0.116	1.544	333.757	0	No	0.093	2.227
1887	04C118L	04C012M	6	29.039	0.314	10.844	10.844	0	0	0	0	Free Surfa	4.754	0.062	0.008	0.031	0.076	5.776	1,414.35	0	Yes	0.153	0.472
1888	04C117M	04C012M	6	253.864	0.066	10.844	10.844	0	0	0	0	Free Surfa	2.766	0.09	0.017	0.045	0.076	2.789	650.332	0	No	0.045	2.766
1889	04C101M	04C099M	6	193.085	0.083	24.398	24.398	0	0	0	0	Free Surfa	3.822	0.125	0.034	0.063	0.114	3.249	728.288	0	Yes	0.064	3.733
189	08C116M	08C099M	6	140.809	0.035	6.194	6.194	0	0	0	0	Free Surfa	1.861	0.08	0.013	0.04	0.057	1.985	469.537	0	Yes	0.134	0.327
1890	08C131M	08C127M	6	217.537	0.026	45.42	45.42	0	0	0	0	Free Surfa	3.052	0.225	0.111	0.113	0.157	1.909	407.436	0	Yes	0.124	2.677
1891	08C127M	08T005M	6	409.623	0.013	45.42	45.42	0	0	0	0	Free Surfa	2.376	0.269	0.158	0.135	0.157	1.351	286.566	0	Yes	0.162	1.841
1892	08C114M	08C098L	6	178.21	0.041	20.646	20.646	0	0	0	0	Free Surfa	2.827	0.137	0.041	0.069	0.105	2.292	508.731	0	Yes	0.127	1.173
1893	08C128M	08C125M	6	247.654	0.018	10.323	10.323	0	0	0	0	Free Surfa	1.738	0.119	0.03	0.06	0.074	1.515	341.538	0	Yes	0.06	1.728
1894	08T134M	08T133M	8	90.775	0.1	814.207	814.207	0	0	0	0	Free Surfa	10.828	0.484	0.473	0.323	0.611	3.805	1,719.79	0	Yes	0.596	5.512
1895	08C179M	08T133M	6	61.781	0.092	82.208	82.208	0	0	0	0	Free Surfa	5.668	0.221	0.107	0.111	0.214	3.58	764.808	0	Yes	0.49	0.938
1896	07C072M	07C071M	6	242.033	0.19	21.938	21.938	0	0	0	0	Free Surfa	4.942	0.098	0.02	0.049	0.108	4.773	1,101.25	0	Yes	0.054	4.275
1897	05C102M	05C101M	6	66.941	0.036	24.109	24.109	0	0	0	0	Free Surfa	2.832	0.153	0.05	0.076	0.114	2.173	477.508	0	Yes	0.104	1.818
1898	07C071M	07C069M	6	181.675	0.086	21.938	21.938	0	0	0	0	Free Surfa	3.747	0.118	0.03	0.059	0.108	3.285	741.167	0	Yes	0.071	2.877
1899	09C093M	09C092M	6	252.003	0.055	18.702	18.702	0	0	0	0	Free Surfa	3.062	0.122	0.031	0.061	0.1	2.644	594.703	0	No	0.061	3.062
19	12C102M	12C101M	6	168.165	0.061	8.091	8.091	0	0	0	0	Free Surfa	2.458	0.08	0.013	0.04	0.065	2.633	623.358	0	Yes	0.044	2.137
190	08C121M	08C117M	6	51.393	0.022	4.129	4.129	0	0	0	0	Free Surfa	1.411	0.074	0.011	0.037	0.046	1.574	376.562	0	Yes	0.052	0.851
1900	07C077M	07C019M	6	168.502	0.104	27.423	27.423	0	0	0	0	Free Surfa	4.282	0.126	0.034	0.063	0.121	3.637	815.149	0	Yes	0.081	2.966
1901	05C103M	05C102M	6	277.068	0.137	24.109	24.109	0	0	0	0	Free Surfa	4.538	0.111	0.026	0.055	0.114	4.116	935.813	0	Yes	0.066	3.515
1902	09C137M	09C093M	6	171.384	0.006	4.316	4.316	0	0	0	0	Free Surfa	0.897	0.103	0.022	0.052	0.047	0.842	192.877	0	Yes	0.056	0.792
1903	09C094M	09C093M	6	217.575	0.009	4.316	4.316	0	0	0	0	Free Surfa	1.051	0.093	0.018	0.046	0.047	1.043	242.089	0	Yes	0.054	0.85
1904	05C029M	05C028L	6	200.872	0.097	67.506	67.506	0	0	0	0	Free Surfa	5.458	0.198	0.086	0.099	0.193	3.658	786.704	0	No	0.099	5.458
1905	05C092M	05C091M	6	348.625	0.016	14.466	14.466	0	0	0	0	Free Surfa	1.828	0.145	0.045	0.073	0.087	1.44	317.958	0	Yes	0.076	1.699
1906	05C031L	05C029M	6	66.978	0.088	67.506	67.506	0	0	0	0	Free Surfa	5.265	0.203	0.09	0.102	0.193	3.482	747.702	0	No	0.102	5.265
1907	07C022M	07C021M	6	295.673	0.019	47.533	47.533	0	0	0	0	Free Surfa	2.739	0.251	0.138	0.126	0.161	1.616	343.441	0	No	0.126	2.739
1908	05C091M	05C084M	6	78.001	0.215	65.308	65.308	0	0	0	0	Free Surfa	7.151	0.16	0.056	0.08	0.19	5.352	1,170.73	0	Yes	0.106	4.818
1909	05C093M	05C091M	6	166.109	0.011	50.842	50.842	0	0	0	0	Free Surfa	2.335	0.296	0.19	0.148	0.167	1.262	267.265	0	No	0.148	2.335
191	10C101M	10C099M	6	64.158	0.143	5.537	5.537	0	0	0	0	Free Surfa	2.945	0.055	0.006	0.027	0.054	3.823	953.512	0	No	0.027	2.945
1910	05C032M	05C031L	6	156.184	0.047	65.095	65.095	0	0	0	0	Free Surfa	4.173	0.233	0.119	0.117	0.189	2.565	546.492	0	No	0.117	4.173
1911	05C101M	05C032M	6	274.833	0.004	24.109	24.109	0	0	0	0	Free Surfa	1.303	0.263	0.151	0.131	0.114	0.75	159.236	0	No	0.131	1.303
1912	07C068M	07C016M	6	156.004	0.029	62.159	62.159	0	0	0	0	Free Surfa	3.493	0.256	0.143	0.128	0.185	2.042	433.587	0	Yes	0.181	2.166
1913	05C033M	05C032M	6	222.603	0.118	22.904	22.904	0	0	0	0	Free Surfa	4.235	0.112	0.026	0.056	0.111	3.818	866.792	0	Yes	0.086	2.258
1914	07C023M	07C022M	6	101.475	0.113	47.533	47.533	0	0	0	0	Free Surfa	5.193	0.161	0.056	0.08	0.161	3.883	849.254	0	Yes	0.103	3.632
1915	05C084M	05C027M	6	64.399	0.037	72.541	72.541	0	0	0	0	Free Surfa	3.944	0.262	0.15	0.131	0.2	2.277	483.167	0	Yes	0.14	3.58
1916	05C028L	05C027M	6	188.897	0.127	67.506	67.506	0	0	0	0	Free Surfa	5.998	0.185	0.075	0.093	0.193	4.161	899.207	0	Yes	0.121	4.093
1917	05C088M	05C087M	6	200.656	0.007	7.233	7.233	0	0	0	0	Free Surfa	1.093	0.128	0.035	0.064	0.062	0.918	205.108	0	No	0.064	1.093
1918	05C096M	05C032M	6	161.165	0.052	10.849	10.849	0	0	0	0	Free Surfa	2.548	0.095	0.019	0.048	0.076	2.497	578.002	0	Yes	0.082	1.15
1919	05C087M	05C086M	6	82.59	0.01	7.233	7.233	0	0	0	0	Free Surfa	1.247	0.117	0.029	0.059	0.062	1.097	247.733	0	No	0.059	1.247
192	10C099M	10C086M	6	150.024	0.273	5.537	5.537	0	0	0	0	Free Surfa	3.69	0.047	0.004	0.023	0.054	5.173	1,318.88	0	Yes	0.038	1.842
1920	05C086M	05C084M	6	195.577	0.105	7.233	7.233	0	0	0	0	Free Surfa	2.876	0.067	0.009	0.033	0.062	3.38	820.059	0	Yes	0.082	0.766
1921	07C063M	07C062L	6	67.604	0.009	18.282	18.282	0	0	0	0	Free Surfa	1.598	0.188	0.077	0.094	0.099	1.102	237.878	0	No	0.094	1.598
1922	05C097M	05C096M	6	119.403	0.023	10.849	10.849	0	0	0	0	Free Surfa	1.912	0.116	0.028	0.058	0.076	1.695	383.268	0	No	0.058	1.912
1923	05C098U	05C097M	6	223.715	0.159	10.849	10.849	0	0	0	0	Free Surfa	3.756	0.073	0.011	0.037	0.076	4.209	1,008.17	0	Yes	0.047	2.577
1924	05C079M	05C026M	6	119.173	0.008	10.849	10.849	0	0	0	0	Free Surfa	1.342	0.147	0.047	0.074	0.076	1.049	231.3	0	Yes	0.112	0.735
1925	07C064M	07C063M	6	40.431	0.01	18.282	18.282	0	0	0	0	Free Surfa	1.66	0.183	0.073	0.091	0.099	1.161	251.153	0	Yes	0.093	1.628
1926	07C066M	07C064M	6	104.226	0.01	18.282	18.282	0	0	0	0	Free Surfa	1.642	0.184	0.074	0.092	0.099	1.144	247.33	0	No	0.092	1.642
1927	07C014M	07C013M	8	192.595	0.01	182.82	182.82	0	0	0	0	Free Surfa	3.074	0.405	0.345	0.27	0.297	1.204	530.515	0	Yes	0.456	1.603
1928	05C083M	05C082M	6	60.314	0.008	10.849	10.849	0	0	0	0	Free Surfa	1.336	0.148	0.047	0.074	0.076	1.043	229.901	0	Yes	0.076	1.291
1929	04C043M	04C042M	6	167.09	0.059	8.133	8.133	0	0	0	0	Free Surfa	2.434	0.081	0.013	0.04	0.065	2.594	613.285	0	No	0.04	2.434
193	10C339M	10C338M	6	91.408	0.012	9.966	9.966	0	0	0	0	Free Surfa	1.497	0.129	0.036	0.064	0.072	1.254	280.248	0	No	0.064	1.497
1930	08C068M	08C067M	6	559.19	0.018	163.099	163.099	0	0	0	0	Free Surfa	3.815	0.488	0.48	0.244	0.306	1.54	339.651	0	Yes	0.5	1.851
1931	04C054U	04C053M	6	205.433	0.082	119.28	119.28	0	0	0	0	Free Surfa	6.052	0.275	0.165	0.138	0.26	3.401	720.982	0	Yes	0.173	4.421
1932	04C136M	04C133M	6	81.168	0.188	5.422	5.422	0	0	0	0	Free Surfa	3.223	0.051	0.005	0.025	0.053	4.346	1,095.91	0	Yes	0.036	1.909
1933	07T009M	07T008M	8	19.416	0.174	0	0	0	0	0	0	Free Surfa	0	0	0	0	0	0	2,265.55	0	Yes	-0.062	0
1934	02C037U	02C036M	6	143.413	0.145	24.488	24.488	0	0	0	0	Free Surfa	4.647	0.11	0.025	0.055	0.114	4.227	961.64	0	Yes	0.065	3.608
1935	04T008M	04T007L	6	224.193	0.087	333.354	333.354	0	0	0	0	Free Surfa	8.233	0.468	0.446	0.234	0.432	3.412	746.685	0	Yes	0.278	6.618
1936	04C083M	04T007L	6	122.798	0.09	140.968	140.968	0	0	0	0	Free Surfa	6.576	0.292	0.186	0.146	0.284	3.576	757.547	0	Yes	0.234	3.479
1937	08C109M	08C097M	6	416.207	0.038	47.485	47.485	0	0	0	0	Free Surfa	3.534	0.21	0.096	0.105	0.161	2.297	492.219	0	Yes	0.468	0.554
1938	04C042M	04C038M	6	152.023	0.084	8.133	8.133	0	0	0	0	Free Surfa	2.75	0.074	0.011	0.037	0.065	3.057	730.733	0	Yes	0.071	1.064
1939	08C067M	08T003M	8	253.399	0.001	406.717	406.717	0	0	0	0	Pressurize	2.596	1	2.177	0.667	0.301	0.56	186.798	0	Yes	0.667	2.596
194	13C231M	13C229L	6	265.653	0.122	69.904	69.904	0	0	0	0	Free Surfa	5.979	0.19	0.079	0.095	0.197	4.091	882.378	0	Yes	0.114	4.61

ID	From ID	To ID	Diameter (	Length (ft)	Slope	Total Flow	Unpeakabl	Peakable F	Coverage F	Infiltration	Storm Flov	Flow Type	Velocity (ft	d/D	q/Q	Water Dep	Critical De	Froude Nu	Full Flow (g	Coverage (	Backwater	Adjusted D	Adjusted V
1940	08T003M	08T002M	15	152.108	0.014	3,111.85	3,111.85	0	0	0	0	Pressurize	7.172	0.735	0.89	0.919	1.056	1.35	3,495.33	0	Yes	1.25	5.65
1941	08C094M	08C067M	6	107.222	0.001	243.618	243.618	0	0	0	0	Pressurize	2.764	1	3.468	0.5	0.197	0.689	70.253	0	Yes	0.5	2.764
1942	04C047M	04C046M	6	320.389	0.047	62.012	62.012	0	0	0	0	Free Surfa	4.126	0.227	0.113	0.114	0.185	2.571	548.677	0	Yes	0.172	2.316
1943	04T007L	04T006M	6	133.871	0.063	474.322	474.322	0	0	0	0	Free Surfa	7.898	0.645	0.747	0.322	0.477	2.633	634.643	0	Yes	0.327	7.767
1944	04C082M	04T006M	6	332.549	0.061	18.976	18.976	0	0	0	0	Free Surfa	3.179	0.12	0.03	0.06	0.1	2.767	623.442	0	Yes	0.196	0.593
1945	03T099U	03T098M	10	255.133	0.006	734.814	734.814	0	0	0	0	Free Surfa	3.519	0.795	0.972	0.663	0.574	0.746	756.016	0	No	0.663	3.519
1946	03C033M	03C032M	6	200.121	0.017	25.085	25.085	0	0	0	0	Free Surfa	2.205	0.187	0.076	0.093	0.116	1.524	329.123	0	No	0.093	2.205
1947	03C059M	03C058M	6	192.416	0.018	48.694	48.694	0	0	0	0	Free Surfa	2.741	0.255	0.143	0.128	0.163	1.604	340.548	0	Yes	0.13	2.662
1948	03C063L	03C058M	6	99.972	0.009	3.763	3.763	0	0	0	0	Free Surfa	1.001	0.087	0.016	0.044	0.044	1.024	239.578	0	Yes	0.088	0.358
1949	03C058M	03C057M	6	234.068	0.018	52.457	52.457	0	0	0	0	Free Surfa	2.787	0.266	0.155	0.133	0.169	1.595	338.235	0	Yes	0.135	2.725
195	10C148M	10C147M	6	82.117	0.046	9.966	9.966	0	0	0	0	Free Surfa	2.381	0.094	0.018	0.047	0.072	2.347	544.246	0	Yes	0.067	1.418
1950	03T097L	03T003M	12	173.763	0.006	800.034	800.034	0	0	0	0	Free Surfa	3.683	0.592	0.658	0.592	0.568	0.925	1,216.31	0	Yes	0.662	3.231
1951	03T004L	03T003M	10	136.137	0.004	498.51	498.51	0	0	0	0	Free Surfa	2.732	0.698	0.834	0.582	0.469	0.66	597.538	0	Yes	0.657	2.409
1952	05C078M	05C077M	6	240.416	0.015	22.904	22.904	0	0	0	0	Free Surfa	2.065	0.183	0.074	0.092	0.111	1.441	311.59	0	Yes	0.096	1.936
1953	05C077M	05C076M	6	299.872	0.011	22.904	22.904	0	0	0	0	Free Surfa	1.82	0.2	0.088	0.1	0.111	1.212	260.472	0	Yes	0.12	1.402
1954	05C076M	05C074L	6	301.563	0.003	22.904	22.904	0	0	0	0	Free Surfa	1.128	0.281	0.173	0.141	0.111	0.626	132.708	0	No	0.141	1.128
1955	04C018M	04C017M	6	77.435	0.141	189.764	189.764	0	0	0	0	Free Surfa	8.406	0.303	0.2	0.152	0.331	4.478	948.781	0	Yes	0.161	7.768
1956	07C037L	07T007M	6	333.35	0.014	12.797	12.797	0	0	0	0	Free Surfa	1.69	0.141	0.043	0.07	0.082	1.353	299.503	0	Yes	0.153	0.561
1957	07T009M	07T032M	10	276.122	0.017	389.768	389.768	0	0	0	0	Free Surfa	4.645	0.375	0.3	0.313	0.413	1.701	1,301.34	0	Yes	0.499	2.548
1958	05C023M	05C022M	6	267.367	0.143	178.622	178.622	0	0	0	0	Free Surfa	8.304	0.293	0.187	0.146	0.321	4.51	955.401	0	No	0.146	8.304
1959	04C134M	04C133M	6	147.9	0.107	10.844	10.844	0	0	0	0	Free Surfa	3.27	0.08	0.013	0.04	0.076	3.494	826.522	0	Yes	0.043	2.902
196	10C203M	10C206M	6	245.734	0.038	8.859	8.859	0	0	0	0	Free Surfa	2.137	0.093	0.018	0.047	0.068	2.113	490.292	0	No	0.047	2.137
1960	07T032M	07T031M	10	120.054	0.019	389.768	389.768	0	0	0	0	Free Surfa	4.793	0.367	0.287	0.306	0.413	1.778	1,358.78	0	Yes	0.502	2.527
1961	04C124M	04C123M	6	30.637	0.723	24.398	24.398	0	0	0	0	Free Surfa	8.131	0.075	0.011	0.037	0.114	8.992	2,146.74	0	Yes	0.048	5.64
1962	07T007M	07T006M	21	457.86	0.018	4,817.12	4,817.12	0	0	0	0	Free Surfa	8.796	0.506	0.51	0.885	1.221	1.856	9,449.15	0	Yes	0.899	8.617
1963	07T031M	07T029M	10	352.685	0.016	389.768	389.768	0	0	0	0	Free Surfa	4.508	0.384	0.312	0.32	0.413	1.63	1,249.06	0	No	0.32	4.508
1964	04C126M	04C124M	6	66.463	0.014	24.398	24.398	0	0	0	0	Free Surfa	2.033	0.194	0.082	0.097	0.114	1.378	296.754	0	No	0.097	2.033
1965	05C074L	05C073M	6	298.176	0.017	34.959	34.959	0	0	0	0	Free Surfa	2.447	0.219	0.105	0.11	0.137	1.555	332.39	0	Yes	0.124	2.044
1966	04C123M	04C122M	6	70.362	0.11	24.398	24.398	0	0	0	0	Free Surfa	4.215	0.117	0.029	0.059	0.114	3.71	837.789	0	Yes	0.059	4.205
1967	02C049L	02C048M	6	243.347	0.156	24.274	24.274	0	0	0	0	Free Surfa	4.757	0.108	0.024	0.054	0.114	4.376	998.142	0	Yes	0.054	4.68
1968	05C022M	05C021M	8	163.664	0.138	178.622	178.622	0	0	0	0	Free Surfa	7.948	0.201	0.089	0.134	0.294	4.575	2,018.22	0	Yes	0.136	7.763
1969	04C089M	04C088U	6	169.099	0.023	59.64	59.64	0	0	0	0	Free Surfa	3.155	0.267	0.156	0.134	0.181	1.802	382.185	0	No	0.134	3.155
197	10C206M	10C147M	6	142.382	0.238	11.074	11.074	0	0	0	0	Free Surfa	4.342	0.067	0.009	0.034	0.076	5.078	1,230.55	0	Yes	0.06	1.837
1970	07T029M	07T028M	10	346.683	0.017	395.239	395.239	0	0	0	0	Free Surfa	4.585	0.383	0.311	0.319	0.416	1.66	1,272.01	0	Yes	0.633	1.981
1971	07T028M	07T004U	12	16.763	0.009	719.587	719.587	0	0	0	0	Free Surfa	4.246	0.485	0.474	0.485	0.538	1.218	1,516.67	0	Yes	0.805	2.366
1972	04C119M	04C118L	6	250.674	0.142	10.844	10.844	0	0	0	0	Free Surfa	3.604	0.075	0.011	0.038	0.076	3.983	950.635	0	No	0.038	3.604
1973	04C071M	04C069M	6	49.556	0.228	32.531	32.531	0	0	0	0	Free Surfa	5.925	0.113	0.027	0.057	0.132	5.313	1,204.79	0	Yes	0.062	5.14
1974	04C057M	04C056M	6	154.806	0.095	65.062	65.062	0	0	0	0	Free Surfa	5.353	0.196	0.084	0.098	0.189	3.61	777.189	0	Yes	0.127	3.677
1975	05C094M	05C031L	6	109.313	0.014	2.411	2.411	0	0	0	0	Free Surfa	1.029	0.063	0.008	0.032	0.035	1.239	302.703	0	Yes	0.067	0.346
1976	07C024U	07C023M	6	159.896	0.126	47.533	47.533	0	0	0	0	Free Surfa	5.396	0.156	0.053	0.078	0.161	4.091	896.829	0	Yes	0.079	5.293
1977	07C026L	07C024U	6	165.066	0.051	47.533	47.533	0	0	0	0	Free Surfa	3.912	0.196	0.084	0.098	0.161	2.639	568.08	0	No	0.098	3.912
1978	05C026M	05C024M	6	202.517	0.109	164.156	164.156	0	0	0	0	Free Surfa	7.359	0.301	0.197	0.15	0.307	3.939	834.52	0	No	0.15	7.359
1979	05C082M	05C081M	6	219.915	0.007	10.849	10.849	0	0	0	0	Free Surfa	1.248	0.155	0.052	0.078	0.076	0.951	208.537	0	Yes	0.078	1.23
198	08T012M	08T011M	10	159.142	0.01	1,711.68	1,711.68	0	0	0	0	Pressurize	6.992	1	1.732	0.833	0.664	1.35	988.018	0	Yes	0.833	6.992
1980	05C081M	05C079M	6	238.159	0.006	10.849	10.849	0	0	0	0	Free Surfa	1.213	0.158	0.054	0.079	0.076	0.915	200.39	0	No	0.079	1.213
1981	05C058M	05C057M	6	194.771	0.009	10.849	10.849	0	0	0	0	Free Surfa	1.383	0.144	0.045	0.072	0.076	1.093	241.386	0	No	0.072	1.383
1982	02C208M	02C199M	6	99.963	0.052	0.886	0.886	0	0	0	0	Free Surfa	1.188	0.029	0.002	0.015	0.021	2.11	577.448	0	Yes	0.026	0.516
1983	02C199M	02C198M	6	174.24	0.15	10.632	10.632	0	0	0	0	Free Surfa	3.653	0.073	0.011	0.037	0.075	4.083	977.431	0	Yes	0.042	3.006
1984	08T147M	08T146M	6	280.411	0.019	407.489	407.489	0	0	0	0	Pressurize	4.624	1	1.18	0.5	0.438	1.152	345.335	0	No	0.5	4.624
1985	02C186L	02C184M	6	200.472	0.145	2.658	2.658	0	0	0	0	Free Surfa	2.37	0.039	0.003	0.019	0.037	3.668	962.946	0	Yes	0.019	2.36
1986	02C164L	02C126M	6	110.024	0.01	121.213	121.213	0	0	0	0	Free Surfa	2.812	0.492	0.486	0.246	0.262	1.13	249.589	0	Yes	0.5	1.375
1987	02C126M	02C124M	6	225.6	0.012	289.51	289.51	0	0	0	0	Pressurize	3.285	1	1.064	0.5	0.396	0.819	272.059	0	Yes	0.5	3.285
1988	05C128M	05C127M	6	114.882	0.044	2.411	2.411	0	0	0	0	Free Surfa	1.519	0.049	0.005	0.024	0.035	2.09	529.872	0	Yes	0.03	1.113
1989	02C153M	02T118M	6	238.527	0.016	19.101	19.101	0	0	0	0	Free Surfa	1.999	0.165	0.06	0.083	0.101	1.472	321.002	0	Yes	0.5	0.217
199	10C323M	10C322M	6	256.486	0.002	16.61	16.61	0	0	0	0	Free Surfa	0.884	0.266	0.155	0.133	0.094	0.506	107.281	0	No	0.133	0.884
1990	02C174M	02C167M	6	389.535	0.1	3.544	3.544	0	0	0	0	Free Surfa	2.272	0.048	0.004	0.024	0.043	3.144	798.507	0	Yes	0.06	0.585
1991	08C272M	08C271M	6	231.496	0.055	12.387	12.387	0	0	0	0	Free Surfa	2.701	0.1	0.021	0.05	0.081	2.58	593.511	0	No	0.05	2.701
1992	02C266M	02C254M	6	375.54	0.008	7.089	7.089	0	0	0	0	Free Surfa	1.155	0.122	0.032	0.061	0.061	0.995	223.794	0	Yes	0.074	0.877
1993	02T154M	02T122M	10	249.436	0.015	620.594	620.594	0	0	0	0	Free Surfa	4.908	0.513	0.522	0.428	0.526	1.487	1,188.62	0	No	0.428	4.908
1994	02C127M	02C125M	6	56.28	0.015	159.471	159.471	0	0	0	0	Free Surfa	3.533	0.51	0.516	0.255	0.303	1.388	308.847	0	Yes	0.493	1.814
1995	02C276M	02C274U	6	42.955	0.008	93.624	93.624	0	0	0	0	Free Surfa	2.485	0.443	0.405	0.221	0.229	1.065	231.158	0	Yes	0.223	2.469
1996	02T117M	02T116M	18	11.15	0.008	4,368.89	4,368.89	0	0	0	0	Pressurize	5.508	1	1.034	1.5	1.185	0.793	4,223.40	0	No	1.5	5.508
1997	02T241M	02T116M	18	14.022	0.034	79.978	79.978	0	0	0	0	Free Surfa	3.453	0.068	0.009	0.101	0.155	2.325	8,773.50	0	Yes	1.032	0.137
1998	02C207M	02C206M	6	79.393	0.125	4.43	4.43	0	0	0	0	Free Surfa	2.63	0.051	0.005	0.025	0.048	3.544	893.265	0	Yes	0.029	2.139
1999	02C192L	02C191M	6	136.246	0.079	3.987	3.987	0	0	0	0	Free Surfa	2.174	0.054	0.006	0.027	0.046	2.847	711.831	0	No	0.027	2.174
2	09C064M	09C063M	6	70.663	0.01	7.193	7.193	0	0	0	0	Free Surfa	1.241	0.117	0.029	0.059	0.061	1.092	246.603	0	No	0.059	1.241
20	12T041U	12T039M	6	282.396	0.016	307.337	307.337	0	0	0	0	Free Surfa	4.068	0.8	0.977	0.4	0.418	1.105	314.537	0	No	0.4	4.068
200	10C202M	10C206M	6	59.703	0.049	2.215	2.215	0	0	0	0	Free Surfa	1.538	0.046	0.004	0.023	0.034	2.186	559.754	0	Yes	0.028	1.124
2000	02C129M	02C128M	6	187.386	0.089	80.989	80.989	0	0	0	0	Free Surfa	5.584	0.221	0.107	0.111	0.212	3.527	753.639	0	Yes	0.172	3.025
2001	02T156M	02T154M	8	300.913	0.012	620.594	620.594	0	0	0	0	Pressurize	3.961	1	1.035	0.667	0.545	0.855	599.325	0	No	0.667	3.961
2002	02C277M	02C276M	6	301.358	0.008	84.289	84.289	0	0	0	0	Free Surfa	2.411	0.418	0.366	0.209	0.217	1.069	230.441	0	Yes	0.215	2.321
2003	02C152M	02C151M	6	66.134	0.134	6.202	6.202	0	0	0	0	Free Surfa	2.98	0.059	0.007	0.029	0.057	3.736	922.746	0	Yes	0.033	2.534
2004	02C193M	02C188M	6	146.399	0.058	3.987	3.987	0	0	0	0	Free Surfa	1.945	0.058	0.007	0.029	0.046	2.451	606.415	0	No	0.029	1.945
2005	08C301M	08C158M	6	222.737	0.097	107.357	107.357	0	0	0	0	Free Surfa	6.251	0.249	0.136	0.125	0.246	3.705	787.332	0	Yes	0.156	4.554
2006	08T152M	08T151M	8	258.053	0.035	295.231	295.231	0	0	0	0	Free Surfa	5.649	0.368	0.288	0.245	0.382	2.339	1,023.37	0	No	0.245	5.649
2007	07T042M	07T041U	10	231.666	0.006	349.62	349.62	0	0	0	0	Free Surfa	3.092	0.47	0.45	0.392	0.39	0.99	777.624	0	Yes	0.833	1.428
2008	04C022M	04C021M	6	29.2	0.133	24.398	24.398	0	0	0	0	Free Surfa	4.506	0.112	0.026	0.056	0.114	4.06	921.612	0	Yes	0.063	3.81
2009	04C066L	04C064M	6	223.014	0.039	56.929	56.929	0	0	0	0	Free Surfa	3.761	0.228	0.114	0.114	0.177	2.338	498.607	0	No	0.114	3.761
201	10C322M	10C321U	6	266.946	0.023	16.61	16.61	0	0	0	0	Free Surfa	2.165	0.142	0.044	0.071	0.094	1.724	381.415	0	Yes	0.076	1.961
2010	04C093M	04C092M	6	209.663	0.074	24.398	24.398	0	0	0	0	Free Surfa	3.662	0.129	0.036	0.065	0.114	3.067	685.283	0	Yes	0.065	3.654
2011	04C176M	04C174L	6	207.088	0.028	27.109	27.109	0	0	0	0	Free Surfa	2.68	0.172	0.065	0.086	0.121	1.933	420.125	0	No	0.086	2.68
2012	04C184M	04C183M	6	93.897	0.055	5.422	5.422	0	0	0	0	Free Surfa	2.094	0.068	0.009	0.034	0.053	2.436	589.507	0	No	0.034	2.094
2013	04C181L	04C179M	6	62.392	0.158	5.422	5.422	0	0	0	0	Free Surfa	3.035	0.053	0.005	0.026	0.053	4.008	1,004.65	0	Yes	0.035	1.967
2014	04C079M	04C063M	6	79.866	0.263	8.133	8.133	0	0	0	0	Free Surfa	4.096	0.057	0.006	0.028	0.065	5.218	1,294.77	0	Yes	0.109	0.57
2015	02C056M	02C054M	6	178.831	0.08	19.051	19.051	0	0	0	0	Free Surfa	3.493	0.113	0.027	0.056	0.101	3.139	712.147	0	Yes	0.058	3.37
2016	04C133M	04C132M	6	79.928	0.125	16.266	16.266	0	0	0	0	Free Surfa	3.899	0.094	0.018	0.047	0.093	3.848	892.372	0	No	0.047	3.899
2017	04C019M	04C018M	6	154.626	0.165	189.764	189.764	0	0	0	0	Free Surfa	8.891	0.291	0.185	0.146	0.331	4.843	1,026.10	0	Yes	0.149	8.642
2018	04C179M	04C180M	6	98.872	0.103	13.167	13.167	0	0	0	0	Free Surfa	3.421	0.089	0.016	0.044	0.083	3.472	810.855	0	No	0.044	3.421
202	08C324M	08T012M	6	61.433	0.128	14.452	14.452	0	0	0	0	Free Surfa	3.791	0.088	0.016	0.044	0.087	3.86	902.147	0	Yes	0.5	0.164
2022	04C039M	04C038M	6	231.165	0.028	28.043	28.043	0	0	0	0	Free Surfa	2.706	0.175	0.067	0.088	0.123	1.935	420.107	0	Yes	0.096	2.365
2023	04C174L	04C173M	6	111.849	0.102	27.109	27.109	0	0	0	0	Free Surfa	4.238	0.126	0.034	0.063	0.121	3.601	807.006	0	Yes	0.066	3.968
2024	02C054M	02C053M	6	55.257	0.065	19.051	19.051	0	0	0	0	Free Surfa	3.255	0.118	0.03	0.059	0.101	2.854	643.962	0	No	0.059	3.255
2025	04C178M	04C162M	6	15.541	0.064	13.167	13.167	0	0	0	0	Free Surfa	2.902	0.099	0.021	0.05	0.083	2.781	640.509	0	Yes	0.279	0.26
2026	04C173M	04C172L	6	54.772	0.071	27.109	27.109	0	0	0	0	Free Surfa	3.726	0.137	0.04	0.069	0.121	3.025	671.617	0	Yes	0.072	3.453
2027	04C186L	04C179M	6	209.392	0.052	7.745	7.745	0	0	0	0	Free Surfa	2.291	0.081	0.013	0.041	0.064	2.432	574.38	0	Yes	0.043	2.144
2028	07T008M	07T007M	21	269.407	0.007	4,804.32	4,804.32	0	0	0	0	Free Surfa	6.016	0.693	0.827	1.213	1.219	1.01	5,812.37	0	No	1.213	6.016
2029	04C196L	04C194U	6	194.984	0.051	40.664	40.664	0	0	0	0	Free Surfa	3.753	0.181	0.071	0.09	0.148	2.64	571.828	0	No	0.09	3.753
203	08C326M	08C324M	6	100.109	0.02	14.452	14.452	0	0	0	0	Free Surfa	1.982	0.137	0.04	0.069	0.087	1.608	356.897	0	No	0.069	1.982
2030	02C051M	02C049L	6	38.359	0.357	19.051	19.051	0	0	0	0	Free Surfa	5.898	0.079	0.013	0.039	0.101	6.36	1,508.13	0	Yes	0.047	4.608
204	08C239M	08C238M	6	153.954	0.1	26.839	26.839	0	0	0	0	Free Surfa	4.201	0.125	0.034	0.063	0.12	3.571	800.336	0	Yes	0.068	3.709
2041	04C137M	04C136M	6	53.96	0.269	5.422	5.422	0	0	0	0	Free Surfa	3.648	0.047	0.004	0.023	0.053	5.13	1,309.24	0	Yes	0.024	3.425
2042	02C101M	02C037U	6	397.956	0.022	6.202	6.202	0	0	0	0	Free Surfa	1.592	0.089	0.017	0.045	0.057	1.609	375.46	0	Yes	0.05	1.358
2043	08C097M	08C096L	6	447.142	0.006	243.618	243.618	0	0	0	0	Pressurize	2.764	1	1.256	0.5	0.335	0.689	194.019	0	Yes	0.5	2.764
2044	03C024M	03C023M	6	288.464	0.007	30.281	30.281	0	0	0	0	Free Surfa	1.696	0.256	0.144	0.128	0.128	0.99	210.249	0	No	0.128	1.696
2045	07T006M	07T004U	21	346.778	0.016	4,817.12	4,817.12	0	0	0	0	Free Surfa	8.446	0.522	0.538	0.914	1.221	1.746	8,955.69	0	No	0.914	8.446
2046	02C044M	02C043M	6	195.021	0.031	24.274	24.274	0	0	0	0	Free Surfa	2.708	0.158	0.054	0.079	0.114	2.041	446.826	0	No	0.079	2.708
2047	07T002M	07T001M	24	318.288	0.01	5,536.71	5,536.71	0	0	0	0	Free Surfa	7.421	0.523	0.539	1.046	1.262	1.434	10,271.66	0	No	1.046	7.421
2048	05C019M	05C018U	8	259.465	0.007	213.581	213.581	0	0	0	0	Free Surfa	2.897	0.477	0.461	0.318	0.323	1.028	463.26	0	No	0.318	2.897
2049	05T072M	05T071M	15	369.79	0.015	3,126.24	3,126.24	0	0	0	0	Free Surfa	7.236	0.732	0.886	0.915	1.058	1.368	3,529.17	0	Yes	0.934	7.082
205	08C208M	08C207M	6	83.563	0.036	132.132	132.132	0	0	0	0	Free Surfa	4.638	0.359	0.276	0.18	0.274	2.247	478.271	0	No	0.18	4.638
2050	08C061M	08C060M	6	148.018	0.013	111.486	111.486	0	0	0	0	Free Surfa	3.067	0.431	0.386	0.216	0.251	1.337	288.999	0	No	0.216	3.067

ID	From ID	To ID	Diameter (	Length (ft)	Slope	Total Flow	Unpeakabl	Peakable F	Coverage F	Infiltration	Storm Flov	Flow Type	Velocity (ft	d/D	q/Q	Water Dep	Critical De	Froude Nu	Full Flow (g	Coverage (	Backwater	Adjusted D	Adjusted V
2051	04C011M	04T009M	6	275.036	0.024	317.177	317.177	0	0	0	0	Free Surfa	4.927	0.685	0.814	0.343	0.424	1.563	389.635	0	No	0.343	4.927
2052	02C042M	02C041M	6	143.341	0.073	28.704	28.704	0	0	0	0	Free Surfa	3.839	0.14	0.042	0.07	0.124	3.086	683.952	0	No	0.07	3.839
2053	07T001M	05T136M	24	415.968	0.018	5,536.71	5,536.71	0	0	0	0	Free Surfa	9.194	0.443	0.404	0.885	1.262	1.972	13,688.54	0	No	0.885	9.194
2054	04C097M	04C096M	6	75.776	0.064	10.844	10.844	0	0	0	0	Free Surfa	2.729	0.091	0.017	0.045	0.076	2.739	637.753	0	Yes	0.048	2.501
2055	04C069M	04C054U	6	89.126	0.105	32.531	32.531	0	0	0	0	Free Surfa	4.517	0.136	0.04	0.068	0.132	3.68	817.709	0	Yes	0.103	2.492
2056	04C056M	04C054U	6	101.052	0.015	65.062	65.062	0	0	0	0	Free Surfa	2.747	0.314	0.214	0.157	0.189	1.436	304.337	0	No	0.157	2.747
2057	04C098M	04C084M	6	217.638	0.013	13.555	13.555	0	0	0	0	Free Surfa	1.651	0.149	0.048	0.075	0.085	1.284	282.644	0	Yes	0.101	1.063
2058	04C086M	04C084M	6	248.386	0.061	116.569	116.569	0	0	0	0	Free Surfa	5.436	0.292	0.186	0.146	0.257	2.956	626.149	0	No	0.146	5.436
2059	04C049M	04C047M	6	52.88	0.111	7.703	7.703	0	0	0	0	Free Surfa	2.98	0.068	0.009	0.034	0.063	3.469	839.626	0	Yes	0.074	0.953
206	08C362M	08T023M	6	165.171	0.022	10.323	10.323	0	0	0	0	Free Surfa	1.845	0.115	0.028	0.057	0.074	1.644	372.155	0	Yes	0.5	0.117
2060	04C048M	04C047M	6	164.933	0.119	54.309	54.309	0	0	0	0	Free Surfa	5.494	0.169	0.062	0.085	0.172	3.995	869.73	0	Yes	0.099	4.384
2061	04T009M	04T008M	6	77.72	0.104	333.354	333.354	0	0	0	0	Free Surfa	8.778	0.446	0.409	0.223	0.432	3.75	814.25	0	Yes	0.228	8.497
2062	08C059M	08T002M	6	355.205	0.008	111.486	111.486	0	0	0	0	Pressurize	2.516	0.502	0.504	0.251	0.251	0.998	221.283	0	Yes	0.5	1.265
2063	08T002M	08T001M	15	262.791	0.009	3,441.43	3,441.43	0	0	0	0	Pressurize	6.248	1	1.276	1.25	0.991	0.985	2,697.67	0	Yes	1.25	6.248
2064	02C041M	02C039M	6	171.608	0.231	28.704	28.704	0	0	0	0	Free Surfa	5.734	0.106	0.024	0.053	0.124	5.311	1,213.15	0	Yes	0.055	5.444
2065	02C039M	02C038M	6	214.261	0.172	28.704	28.704	0	0	0	0	Free Surfa	5.177	0.114	0.027	0.057	0.124	4.626	1,048.14	0	No	0.057	5.177
2066	05C018U	05T017M	8	140.126	0.007	213.581	213.581	0	0	0	0	Free Surfa	2.795	0.49	0.484	0.327	0.323	0.975	441.586	0	No	0.327	2.795
2067	05T071M	05T017M	21	217.835	0.006	3,126.24	3,126.24	0	0	0	0	Free Surfa	5.201	0.545	0.576	0.953	0.976	1.046	5,423.16	0	Yes	1.069	4.523
2068	04C096M	04C083M	6	144.426	0.039	10.844	10.844	0	0	0	0	Free Surfa	2.304	0.102	0.022	0.051	0.076	2.18	500.568	0	Yes	0.098	0.883
2069	04C084M	04C083M	6	108.521	0.13	130.124	130.124	0	0	0	0	Free Surfa	7.323	0.256	0.143	0.128	0.272	4.284	909.675	0	Yes	0.137	6.644
207	08C363M	08C362M	6	185.025	0.022	10.323	10.323	0	0	0	0	Free Surfa	1.846	0.114	0.028	0.057	0.074	1.644	372.327	0	Yes	0.057	1.846
2070	08C096L	08C094M	6	163.849	0.018	243.618	243.618	0	0	0	0	Pressurize	4.164	0.63	0.723	0.315	0.376	1.412	336.85	0	Yes	0.5	2.764
2071	04T006M	04T004M	6	115.895	0.063	493.298	493.298	0	0	0	0	Free Surfa	7.947	0.663	0.779	0.332	0.48	2.589	633.498	0	No	0.332	7.947
2072	04C053M	04T004M	6	306.505	0.017	119.28	119.28	0	0	0	0	Free Surfa	3.446	0.415	0.361	0.208	0.26	1.535	330.497	0	Yes	0.268	2.476
2073	02C036M	02C034M	6	181.428	0.038	24.488	24.488	0	0	0	0	Free Surfa	2.912	0.151	0.05	0.076	0.114	2.245	493.598	0	No	0.076	2.912
2074	08C098L	08C097M	6	250.416	0.044	154.842	154.842	0	0	0	0	Free Surfa	5.22	0.37	0.292	0.185	0.298	2.487	530.198	0	Yes	0.5	1.757
2075	04C052M	04T004M	6	96.176	0.01	5.422	5.422	0	0	0	0	Free Surfa	1.175	0.1	0.021	0.05	0.053	1.12	257.473	0	Yes	0.19	0.177
2076	04C038M	04C037M	6	305.156	0.022	36.176	36.176	0	0	0	0	Free Surfa	2.698	0.21	0.096	0.105	0.14	1.755	376.096	0	Yes	0.16	1.484
2077	05T016M	05T014M	21	180.661	0.009	3,339.82	3,339.82	0	0	0	0	Free Surfa	6.238	0.497	0.495	0.869	1.01	1.331	6,752.37	0	Yes	1.405	3.595
2078	05T013M	05T012M	21	77.475	0.021	3,775.28	3,775.28	0	0	0	0	Free Surfa	8.87	0.417	0.363	0.729	1.077	2.108	10,406.20	0	No	0.729	8.87
2079	04T004M	04T003M	8	152.069	0.054	618	618	0	0	0	0	Free Surfa	8.021	0.494	0.489	0.329	0.552	2.786	1,263.62	0	Yes	0.338	7.748
208	08C579M	08C578M	6	221.409	0.003	18.581	18.581	0	0	0	0	Free Surfa	1.152	0.239	0.125	0.119	0.099	0.699	148.906	0	No	0.119	1.152
2080	04C046M	04T003M	6	295.787	0.003	62.012	62.012	0	0	0	0	Free Surfa	1.569	0.46	0.432	0.23	0.185	0.658	143.475	0	Yes	0.288	1.178
2081	08T004M	08T005M	15	23.174	0.025	2,659.71	2,659.71	0	0	0	0	Free Surfa	8.652	0.546	0.578	0.682	0.985	2.055	4,599.02	0	Yes	0.726	8.022
2082	04C029M	04C028M	8	310.071	0.005	34.627	34.627	0	0	0	0	Free Surfa	1.468	0.208	0.095	0.139	0.126	0.83	365.403	0	Yes	0.667	0.221
2083	02C033M	02C032M	6	167.162	0.044	24.488	24.488	0	0	0	0	Free Surfa	3.07	0.146	0.046	0.073	0.114	2.412	532.163	0	Yes	0.084	2.488
2084	02C097M	02C032M	6	368.844	0.047	3.544	3.544	0	0	0	0	Free Surfa	1.751	0.057	0.006	0.029	0.043	2.216	548.82	0	Yes	0.062	0.56
2085	04C044M	04T003M	6	95.739	0.002	7.626	7.626	0	0	0	0	Free Surfa	0.712	0.179	0.07	0.09	0.063	0.502	108.876	0	Yes	0.259	0.166
2086	05C039M	05C038M	6	263.346	0.021	1.205	1.205	0	0	0	0	Free Surfa	0.951	0.042	0.003	0.021	0.025	1.412	366.067	0	No	0.021	0.951
2087	05C038M	05T008M	6	113.159	0.036	1.205	1.205	0	0	0	0	Free Surfa	1.144	0.037	0.003	0.019	0.025	1.807	477.397	0	No	0.019	1.144
2088	08T006M	08T004M	12	181.273	0.043	2,649.39	2,649.39	0	0	0	0	Free Surfa	10.466	0.675	0.797	0.675	0.953	2.377	3,322.86	0	Yes	0.679	10.404
2089	02C032M	02C031M	6	155.675	0.032	36.196	36.196	0	0	0	0	Free Surfa	3.064	0.192	0.08	0.096	0.14	2.089	450.209	0	Yes	0.103	2.771
209	08C586M	08C584M	6	163.982	0.233	24.775	24.775	0	0	0	0	Free Surfa	5.507	0.099	0.02	0.049	0.115	5.294	1,219.98	0	Yes	0.107	1.784
2090	02C096M	02C031M	6	421.445	0.04	6.645	6.645	0	0	0	0	Free Surfa	1.997	0.08	0.013	0.04	0.059	2.131	503.957	0	Yes	0.075	0.801
2091	08C129M	08C128M	6	72.218	0.094	10.323	10.323	0	0	0	0	Free Surfa	3.073	0.081	0.013	0.04	0.074	3.269	772.587	0	Yes	0.05	2.247
2092	04T003M	04T002M	8	279.396	0.056	687.638	687.638	0	0	0	0	Free Surfa	8.338	0.521	0.535	0.347	0.577	2.797	1,284.39	0	Yes	0.428	6.475
2093	04C037M	04C035M	6	294.764	0.001	36.176	36.176	0	0	0	0	Free Surfa	0.993	0.432	0.387	0.216	0.14	0.432	93.48	0	Yes	0.348	0.552
2094	05C041M	05T013M	8	261.852	0.073	435.458	435.458	0	0	0	0	Free Surfa	8.154	0.374	0.297	0.249	0.467	3.346	1,465.14	0	Yes	0.404	4.384
2095	08C132M	08T006M	6	201.677	0.026	12.387	12.387	0	0	0	0	Free Surfa	2.067	0.12	0.031	0.06	0.081	1.797	404.827	0	Yes	0.284	0.239
2096	05T006M	05T004M	18	167.837	0.017	3,776.48	3,776.48	0	0	0	0	Free Surfa	8.203	0.563	0.609	0.845	1.123	1.741	6,203.11	0	Yes	0.939	7.233
2097	08T009M	08T008M	12	287.035	0.01	1,711.68	1,711.68	0	0	0	0	Pressurize	4.856	1	1.068	1	0.807	0.856	1,603.23	0	Yes	1	4.856
2098	04T002M	04T001U	8	119.33	0.023	760.538	760.538	0	0	0	0	Free Surfa	5.934	0.762	0.929	0.508	0.599	1.474	818.441	0	Yes	0.598	5.135
2099	04C028M	04T027U	10	101.275	0.003	86.302	86.302	0	0	0	0	Free Surfa	1.682	0.263	0.151	0.219	0.189	0.751	571.291	0	Yes	0.833	0.353
21	09C026M	09C024M	6	241.421	0.115	54.666	54.666	0	0	0	0	Free Surfa	5.439	0.171	0.064	0.086	0.173	3.932	855.112	0	No	0.086	5.439
210	08C584M	08C583U	6	179.41	0.008	53.679	53.679	0	0	0	0	Free Surfa	2.11	0.331	0.236	0.165	0.171	1.071	227.235	0	Yes	0.199	1.636
2100	04C036M	04T002M	6	129.771	0.008	31.242	31.242	0	0	0	0	Free Surfa	1.828	0.249	0.135	0.124	0.13	1.085	230.67	0	Yes	0.316	0.532
2101	05T136M	05T134M	24	124.899	0.018	5,536.71	5,536.71	0	0	0	0	Free Surfa	9.217	0.442	0.403	0.884	1.262	1.979	13,734.05	0	Yes	1.361	5.417
2102	08C079M	08C068M	6	88.756	0.011	4.129	4.129	0	0	0	0	Free Surfa	1.113	0.087	0.015	0.043	0.046	1.144	268.019	0	Yes	0.144	0.197
2103	02C038M	02C037U	6	173.191	0.253	18.286	18.286	0	0	0	0	Free Surfa	5.169	0.084	0.014	0.042	0.099	5.402	1,270.68	0	Yes	0.048	4.177
2104	02C076U	02T074M	10	121.683	0.042	17.365	17.365	0	0	0	0	Free Surfa	2.527	0.066	0.009	0.055	0.084	2.313	2,015.78	0	Yes	0.689	0.08
2105	02T079U	02C078U	12	231.94	0.004	899.039	899.039	0	0	0	0	Free Surfa	3.109	0.764	0.932	0.764	0.604	0.629	964.88	0	Yes	1	2.55
2106	02C091U	02C089M	6	245.025	0.007	53.775	53.775	0	0	0	0	Free Surfa	2.036	0.34	0.249	0.17	0.172	1.018	216.118	0	No	0.17	2.036
2107	02C063M	02C062M	4	240.361	0.031	119.519	119.519	0	0	0	0	Free Surfa	4.286	0.67	0.789	0.223	0.287	1.697	151.491	0	No	0.223	4.286
2108	05C153M	05C152M	6	276.66	0.086	15.671	15.671	0	0	0	0	Free Surfa	3.389	0.101	0.021	0.05	0.091	3.227	741.962	0	Yes	0.061	2.531
2109	08T142M	08T141M	8	108.985	0.039	485.942	485.942	0	0	0	0	Free Surfa	6.691	0.471	0.452	0.314	0.494	2.391	1,075.51	0	Yes	0.319	6.559
211	08C404M	08C403M	6	217.082	0.006	6.194	6.194	0	0	0	0	Free Surfa	1.025	0.121	0.031	0.06	0.057	0.889	200.005	0	No	0.06	1.025
2110	02C087L	02C086U	6	234.387	0.005	38.259	38.259	0	0	0	0	Free Surfa	1.635	0.311	0.21	0.156	0.144	0.859	181.946	0	Yes	0.174	1.397
2111	02C083M	02C082M	8	274.867	0.013	124.323	124.323	0	0	0	0	Free Surfa	3.069	0.305	0.203	0.204	0.243	1.411	613.637	0	Yes	0.646	0.801
2112	02T018M	02T017L	30	108.208	0.003	8,010.00	8,010.00	0	0	0	0	Free Surfa	4.927	0.692	0.824	1.729	1.43	0.693	9,719.39	0	No	1.729	4.927
2113	02C064M	02T017L	8	277.049	0.002	144.563	144.563	0	0	0	0	Free Surfa	1.556	0.573	0.626	0.382	0.263	0.49	231.018	0	Yes	0.539	1.065
2114	02C169M	02C168M	6	150.903	0.13	0.506	0.506	0	0	0	0	Free Surfa	1.374	0.018	0.001	0.009	0.016	3.094	911.768	0	Yes	0.042	0.145
2115	05C151M	05C123M	6	188.217	0.01	15.671	15.671	0	0	0	0	Free Surfa	1.576	0.17	0.063	0.085	0.091	1.144	248.91	0	No	0.085	1.576
2116	08T144M	08T143U	8	223.258	0.106	485.942	485.942	0	0	0	0	Free Surfa	9.641	0.358	0.274	0.239	0.494	4.054	1,770.77	0	Yes	0.276	7.918
2117	08C257M	08T144M	6	236.96	0.004	33.033	33.033	0	0	0	0	Free Surfa	1.456	0.304	0.201	0.152	0.133	0.774	164.032	0	No	0.152	1.456
2118	02C244M	02C243M	6	217.897	0.006	66.184	66.184	0	0	0	0	Free Surfa	1.996	0.402	0.34	0.201	0.191	0.906	194.433	0	Yes	0.208	1.909
2119	02C123U	02T122M	21	70.729	0	3,583.93	3,583.93	0	0	0	0	Pressurize	3.32	1	4.227	1.75	0.495	0.442	847.876	0	No	1.75	3.32
212	08C212M	08C211M	6	90.229	0.028	132.132	132.132	0	0	0	0	Free Surfa	4.214	0.386	0.315	0.193	0.274	1.96	419.124	0	No	0.193	4.214
2120	02T163M	02T162U	21	34.429	0.005	3,156.32	3,156.32	0	0	0	0	Free Surfa	5.016	0.565	0.612	0.989	0.981	0.983	5,155.91	0	No	0.989	5.016
2121	05C069L	05C068M	6	94.353	0.007	8.438	8.438	0	0	0	0	Free Surfa	1.179	0.136	0.039	0.068	0.067	0.962	213.886	0	No	0.068	1.179
2122	05C068M	05C056M	6	169.617	0.022	8.438	8.438	0	0	0	0	Free Surfa	1.733	0.104	0.023	0.052	0.067	1.621	371.013	0	Yes	0.066	1.238
2123	08C309M	08C308M	6	229.657	0.07	14.452	14.452	0	0	0	0	Free Surfa	3.077	0.102	0.022	0.051	0.087	2.914	669.137	0	Yes	0.054	2.803
2124	02C173M	02C175M	6	283.979	0.075	4.43	4.43	0	0	0	0	Free Surfa	2.202	0.057	0.006	0.029	0.048	2.793	692.018	0	Yes	0.045	1.121
2125	02T242M	02T241M	8	399.758	0.007	54.675	54.675	0	0	0	0	Pressurize	1.985	0.232	0.118	0.155	0.159	1.059	463.408	0	Yes	0.667	0.349
2126	02T118M	02T117M	18	399.566	0.007	4,363.64	4,363.64	0	0	0	0	Pressurize	5.502	1	1.091	1.5	1.155	0.792	3,998.68	0	Yes	1.5	5.502
2127	08T008M	08T007U	12	383.33	0.01	1,711.68	1,711.68	0	0	0	0	Pressurize	4.856	1	1.067	1	0.807	0.856	1,604.10	0	No	1	4.856
2128	08T007U	08T006M	12	183.742	0.075	2,637.00	2,637.00	0	0	0	0	Free Surfa	13.005	0.559	0.602	0.559	0.952	3.398	4,382.97	0	No	0.559	13.005
2129	02C031M	02C029M	6	285.586	0.027	43.644	43.644	0	0	0	0	Free Surfa	3.043	0.22	0.106	0.11	0.154	1.93	412.615	0	Yes	0.165	1.715
213	08C406L	08T026M	6	309.804	0.025	35.097	35.097	0	0	0	0	Free Surfa	2.785	0.201	0.088	0.1	0.138	1.854	398.413	0	Yes	0.301	0.634
2130	02C094M	02C029M	6	180.687	0.016	48.692	48.692	0	0	0	0	Free Surfa	2.62	0.264	0.152	0.132	0.163	1.506	319.614	0	Yes	0.176	1.751
2131	08C178M	08C177M	6	297.308	0.04	28.904	28.904	0	0	0	0	Free Surfa	3.107	0.162	0.057	0.081	0.125	2.31	504.572	0	Yes	0.088	2.767
2132	08C177M	08T133M	6	421.678	0.021	28.904	28.904	0	0	0	0	Free Surfa	2.487	0.19	0.079	0.095	0.125	1.705	367.883	0	Yes	0.482	0.332
2133	08T133M	08T007U	8	135.818	0.083	925.319	925.319	0	0	0	0	Free Surfa	10.42	0.553	0.59	0.368	0.63	3.361	1,567.93	0	Yes	0.464	7.953
2134	05C042M	05C041M	8	297.569	0.104	435.458	435.458	0	0	0	0	Free Surfa	9.275	0.34	0.249	0.227	0.467	4.016	1,750.58	0	No	0.227	9.275
2135	04T001U	02T079U	12	290.723	0.004	876.204	876.204	0	0	0	0	Free Surfa	3.392	0.687	0.817	0.687	0.596	0.759	1,072.15	0	Yes	0.726	3.197
2136	02C092M	02C089M	6	83.092	0.043	21.915	21.915	0	0	0	0	Free Surfa	2.94	0.139	0.042	0.07	0.108	2.366	524.481	0	Yes	0.113	1.459
2137	08C197M	08C196M	6	260.552	0.017	16.516	16.516	0	0	0	0	Free Surfa	1.942	0.153	0.05	0.076	0.094	1.491	327.494	0	No	0.076	1.942
2138	02C029M	02C028M	6	185.704	0.009	98.41	98.41	0	0	0	0	Free Surfa	2.618	0.442	0.404	0.221	0.235	1.124	243.783	0	Yes	0.379	1.374
2139	02C028M	02C027M	6	17.903	0.015	101.955	101.955	0	0	0	0	Pressurize	3.149	0.395	0.329	0.198	0.239	1.445	309.512	0	Yes	0.5	1.157
214	08C216M	08C214M	6	204.745	0.023	88.776	88.776	0	0	0	0	Free Surfa	3.543	0.327	0.231	0.164	0.223	1.81	383.826	0	Yes	0.169	3.375
2140	05C141M	05C139M	6	127.311	0.045	40.469	40.469	0	0	0	0	Free Surfa	3.57	0.186	0.076	0.093	0.148	2.47	533.717	0	No	0.093	3.57
2141	08C196M	08T136M	6	295.034	0.051	16.516	16.516	0	0	0	0	Free Surfa	2.87	0.117	0.029	0.058	0.094	2.531	571.73	0	Yes	0.203	0.492
2142	08T136M	08T134M	8	215.096	0.076	803.884	803.884	0	0	0	0	Free Surfa	9.725	0.522	0.537	0.348	0.609	3.259	1,497.17	0	No	0.348	9.725
2143	02C089M	02C088U	18	127.297	0.016	139.032	139.032	0	0	0	0	Free Surfa	3.145	0.105	0.023	0.157	0.205	1.693	6,038.28	0	No	0.157	3.145
2144	08T137M	08T136M	8	140.322	0.113	787.368	787.368	0	0	0	0	Free Surfa	11.244	0.458	0.43	0.306	0.605	4.089	1,830.52	0	Yes	0.327	10.314
2145	05C114M	05C113U	6	354.371	0.076	37.68	37.68	0	0	0	0	Free Surfa	4.216	0.158	0.054	0.079	0.143	3.18	696.395	0	Yes	0.088	3.637
2146	05C161U	02C093M	24	275.615	0.011	6,396.60	6,396.60	0	0	0	0	Free Surfa	7.926	0.557	0.598	1.114	1.36	1.468	10,702.66	0	No	1.114	7.926
2147	05C157M	05C156M	8	165.451	0.004	2.411	2.411	0	0	0	0	Free Surfa	0.646	0.059	0.007	0.039	0.033	0.699	353.967	0	No	0.039	0.646
2149	05C162M	02C091U	6	197.213	0.01	48.476	48.476	0	0	0	0	Free Surfa	2.205	0.298	0.193	0.149	0.163	1.187	251.532	0	Yes	0.159	2.005
215	08C381M	08C379L	6	173.438	0.136	20.646	20.646	0	0	0	0	Free Surfa	4.314	0.103	0.022	0.051	0.105	4.059	930.657	0	Yes	0.061	3.38
2150	05C159M	05C161U	24	295.253	0.004	6,396.60	6,396.60	0	0	0	0	Free Surfa	5.41	0.782	0.955	1.563	1.36	0.755	6,700.64	0	No	1.563	5.41
2151	02C081M	02T020U	6	256.01	0.011	417.249	417.249	0	0	0	0	Pressurize	4.735	1	1.564	0.5	0.392	1.18	266.742	0	Yes	0.5	4.735

ID	From ID	To ID	Diameter (	Length (ft)	Slope	Total Flow	Unpeakabl	Peakable F	Coverage F	Infiltration	Storm Flov	Flow Type	Velocity (ft	d/D	q/Q	Water Dep	Critical De	Froude Nu	Full Flow (g	Coverage (	Backwater	Adjusted D	Adjusted V
2152	02C066M	02C064M	8	52.185	0.008	99.328	99.328	0	0	0	0	Free Surfa	2.423	0.308	0.206	0.205	0.217	1.108	482.012	0	Yes	0.294	1.493
2153	05T002M	05T104M	18	18.779	0.027	963.241	963.241	0	0	0	0	Free Surfa	6.662	0.238	0.124	0.357	0.553	2.338	7,759.67	0	No	0.357	6.662
2154	05C149M	05C148M	6	236.824	0.138	13.26	13.26	0	0	0	0	Free Surfa	3.795	0.083	0.014	0.042	0.084	3.982	937.893	0	Yes	0.043	3.606
2155	05C142M	05C141M	6	284.094	0.244	40.469	40.469	0	0	0	0	Free Surfa	6.481	0.123	0.032	0.062	0.148	5.554	1,246.96	0	Yes	0.077	4.66
2156	02T074M	02T073U	8	11.239	0.004	332.592	332.592	0	0	0	0	Pressurize	2.626	0.754	0.917	0.502	0.407	0.66	362.711	0	Yes	0.667	2.123
2157	05C156M	05C154M	8	220.54	0.051	3.772	3.772	0	0	0	0	Free Surfa	1.76	0.041	0.003	0.027	0.041	2.301	1,230.88	0	Yes	0.035	1.217
2158	02C069M	02C068U	8	339.971	0.008	57.526	57.526	0	0	0	0	Free Surfa	2.074	0.233	0.119	0.155	0.163	1.104	482.82	0	No	0.155	2.074
2159	05C116M	05C114M	6	181.128	0.09	37.68	37.68	0	0	0	0	Free Surfa	4.467	0.152	0.05	0.076	0.143	3.439	756.099	0	Yes	0.077	4.338
216	06C102M	06C101M	6	119.063	0.142	15.695	15.695	0	0	0	0	Free Surfa	4.034	0.089	0.016	0.045	0.091	4.078	951.53	0	Yes	0.045	3.931
2160	02C243M	02T242M	6	213.98	0.026	155.488	155.488	0	0	0	0	Free Surfa	4.296	0.43	0.384	0.215	0.299	1.876	405.443	0	Yes	0.5	1.764
2162	02C201M	02C199M	6	75.075	0.193	4.873	4.873	0	0	0	0	Free Surfa	3.146	0.048	0.004	0.024	0.05	4.363	1,108.85	0	Yes	0.03	2.219
2163	02C119M	02T118M	21	63.853	0.01	4,204.64	4,204.64	0	0	0	0	Free Surfa	6.91	0.55	0.586	0.963	1.139	1.38	7,177.82	0	Yes	1.75	3.895
2164	02C187M	02C186L	6	50.55	0.129	2.658	2.658	0	0	0	0	Free Surfa	2.272	0.04	0.003	0.02	0.037	3.466	905.93	0	No	0.02	2.272
2165	02T122M	02T121M	21	217.482	0.01	4,204.52	4,204.52	0	0	0	0	Free Surfa	6.796	0.557	0.599	0.976	1.139	1.345	7,023.62	0	Yes	1.474	4.334
2166	05C057M	05C056M	6	245.557	0.058	10.849	10.849	0	0	0	0	Free Surfa	2.639	0.093	0.018	0.046	0.076	2.618	607.843	0	Yes	0.063	1.698
2167	02C196L	02C194L	6	113.235	0.153	10.632	10.632	0	0	0	0	Free Surfa	3.678	0.073	0.011	0.037	0.075	4.121	987.127	0	Yes	0.041	3.11
2168	02C206M	02C194L	6	178.375	0.041	4.43	4.43	0	0	0	0	Free Surfa	1.786	0.066	0.009	0.033	0.048	2.108	512.138	0	Yes	0.039	1.384
2169	02C254M	02C253M	8	234.285	0.02	27.355	27.355	0	0	0	0	Free Surfa	2.294	0.13	0.036	0.086	0.112	1.66	761.072	0	Yes	0.12	1.435
217	06C092U	06C086M	6	86.555	0.122	4.185	4.185	0	0	0	0	Free Surfa	2.563	0.05	0.005	0.025	0.047	3.49	882.507	0	Yes	0.039	1.301
2170	02C263M	02C253M	6	374.156	0.013	7.089	7.089	0	0	0	0	Free Surfa	1.374	0.108	0.025	0.054	0.061	1.26	287.066	0	Yes	0.103	0.539
2171	02C214M	02C213M	6	133.195	0.07	1.329	1.329	0	0	0	0	Free Surfa	1.488	0.033	0.002	0.017	0.026	2.486	667.963	0	No	0.017	1.488
2172	08T149M	08T148M	8	99.093	0.07	310.455	310.455	0	0	0	0	Free Surfa	7.326	0.315	0.216	0.21	0.392	3.307	1,438.81	0	Yes	0.667	1.982
2173	02C191M	02C189M	6	50.51	0.085	3.987	3.987	0	0	0	0	Free Surfa	2.224	0.053	0.005	0.026	0.046	2.935	735.362	0	Yes	0.026	2.221
2174	02C264M	02C254M	6	273.983	0.01	20.266	20.266	0	0	0	0	Free Surfa	1.697	0.193	0.082	0.097	0.104	1.152	248.328	0	No	0.097	1.697
2175	03C158M	03C157M	6	212.19	0.008	105.987	105.987	0	0	0	0	Free Surfa	2.56	0.476	0.46	0.238	0.244	1.05	230.42	0	No	0.238	2.56
2176	08T151M	08T149M	8	115.279	0.057	295.231	295.231	0	0	0	0	Free Surfa	6.7	0.325	0.228	0.216	0.382	2.977	1,296.14	0	No	0.216	6.7
2177	02C189M	02C188M	6	53.21	0.084	3.987	3.987	0	0	0	0	Free Surfa	2.217	0.053	0.005	0.027	0.046	2.923	732.095	0	Yes	0.028	2.09
2178	02C128M	02C130M	6	63.332	0.015	135.882	135.882	0	0	0	0	Free Surfa	3.383	0.465	0.442	0.233	0.278	1.407	307.622	0	Yes	0.242	3.218
2179	02C184M	02C129M	6	340.475	0.142	2.658	2.658	0	0	0	0	Free Surfa	2.35	0.039	0.003	0.019	0.037	3.625	950.807	0	Yes	0.065	0.394
218	06C087M	06C086M	6	94.106	0.221	13.603	13.603	0	0	0	0	Free Surfa	4.507	0.075	0.011	0.038	0.085	4.974	1,186.90	0	Yes	0.046	3.388
2180	03C154M	03C153L	6	176.453	0.017	280.791	280.791	0	0	0	0	Free Surfa	4.24	0.703	0.842	0.352	0.402	1.315	333.383	0	No	0.352	4.24
2181	02C259M	02C252L	6	273.088	0.003	4.43	4.43	0	0	0	0	Free Surfa	0.753	0.119	0.03	0.059	0.048	0.659	148.692	0	No	0.059	0.753
2182	02C178M	02C177U	6	183.822	0.015	54.893	54.893	0	0	0	0	Free Surfa	2.65	0.285	0.177	0.143	0.173	1.46	309.4	0	Yes	0.143	2.645
2183	02C231U	02C229M	6	100.969	0.199	3.101	3.101	0	0	0	0	Free Surfa	2.772	0.039	0.003	0.019	0.04	4.294	1,127.47	0	No	0.019	2.772
2184	06C037M	06C036M	6	374.062	0.133	39.762	39.762	0	0	0	0	Free Surfa	5.213	0.142	0.043	0.071	0.147	4.162	921.064	0	No	0.071	5.213
2185	06C141M	06C139M	6	206.865	0.14	19.881	19.881	0	0	0	0	Free Surfa	4.315	0.1	0.021	0.05	0.103	4.114	946.209	0	Yes	0.051	4.26
2186	02C209M	02C136M	6	171.953	0.129	7.088	7.088	0	0	0	0	Free Surfa	3.064	0.063	0.008	0.031	0.061	3.706	906.207	0	No	0.031	3.064
2187	02C137M	02C136M	6	34.339	0.014	30.97	30.97	0	0	0	0	Free Surfa	2.215	0.216	0.102	0.108	0.129	1.418	303.467	0	No	0.108	2.215
2188	03C153L	03C152U	8	179.203	0.014	322.506	322.506	0	0	0	0	Free Surfa	4.078	0.504	0.506	0.336	0.4	1.398	636.88	0	Yes	0.389	3.397
2189	03C159M	03C152U	6	110.405	0.021	23.783	23.783	0	0	0	0	Free Surfa	2.353	0.172	0.064	0.086	0.113	1.697	369.014	0	Yes	0.264	0.503
219	08C487M	08C427M	6	207.865	0.149	4.129	4.129	0	0	0	0	Free Surfa	2.736	0.047	0.004	0.024	0.046	3.828	975.333	0	Yes	0.083	0.433
2190	02T114M	02T113M	21	316.985	0.014	4,524.74	4,524.74	0	0	0	0	Free Surfa	7.938	0.522	0.538	0.913	1.183	1.641	8,417.35	0	Yes	1.124	6.176
2191	02C148M	02C147M	6	201.224	0.13	8.86	8.86	0	0	0	0	Free Surfa	3.288	0.07	0.01	0.035	0.068	3.773	909.624	0	No	0.035	3.288
2192	02C279L	02C278M	6	299.687	0.003	4.557	4.557	0	0	0	0	Free Surfa	0.722	0.124	0.033	0.062	0.049	0.617	138.373	0	Yes	0.138	0.231
2193	08C223M	08C222U	6	231.601	0.009	45.42	45.42	0	0	0	0	Free Surfa	2.077	0.296	0.191	0.148	0.157	1.12	237.327	0	Yes	0.152	2.004
2194	02T023M	02T022U	27	56.488	0.003	6,422.14	6,422.14	0	0	0	0	Free Surfa	4.511	0.744	0.903	1.674	1.316	0.626	7,109.96	0	No	1.674	4.511
2195	08C234M	08C233M	6	314.269	0.036	43.355	43.355	0	0	0	0	Free Surfa	3.385	0.203	0.09	0.101	0.153	2.239	480.85	0	Yes	0.114	2.884
2196	02T021L	02T019M	27	61.47	0.008	7,978.06	7,978.06	0	0	0	0	Free Surfa	7.459	0.578	0.635	1.301	1.473	1.269	12,570.14	0	Yes	1.419	6.726
2197	05C148M	05C143M	6	175.706	0.104	13.26	13.26	0	0	0	0	Free Surfa	3.433	0.089	0.016	0.044	0.084	3.48	812.411	0	Yes	0.048	3.079
2198	05C143M	05C142M	6	178.839	0.152	21.698	21.698	0	0	0	0	Free Surfa	4.553	0.103	0.022	0.051	0.108	4.289	983.773	0	Yes	0.057	3.952
2199	08T139M	08T138M	8	180.125	0.064	541.686	541.686	0	0	0	0	Free Surfa	8.273	0.435	0.393	0.29	0.52	3.103	1,379.11	0	Yes	0.299	7.946
22	09C024M	09C023M	6	227.602	0.144	54.666	54.666	0	0	0	0	Free Surfa	5.891	0.162	0.057	0.081	0.173	4.383	957.905	0	Yes	0.1	4.331
220	08C469M	08C474U	6	151.215	0.065	8.258	8.258	0	0	0	0	Free Surfa	2.531	0.079	0.013	0.04	0.066	2.72	644.575	0	Yes	0.066	1.205
2200	08T141M	08T139M	8	279.253	0.035	485.942	485.942	0	0	0	0	Free Surfa	6.432	0.486	0.476	0.324	0.494	2.255	1,020.07	0	No	0.324	6.432
2201	02T019M	02T018M	27	60.205	0.005	7,978.06	7,978.06	0	0	0	0	Free Surfa	6.14	0.683	0.811	1.538	1.473	0.92	9,838.55	0	Yes	1.633	5.75
2202	05C158M	05T002M	6	183.283	0.005	58.978	58.978	0	0	0	0	Free Surfa	1.877	0.386	0.316	0.193	0.18	0.872	186.511	0	No	0.193	1.877
2203	05C144L	05C143M	6	83.241	0.145	8.438	8.438	0	0	0	0	Free Surfa	3.366	0.066	0.009	0.033	0.067	3.96	961.143	0	Yes	0.042	2.356
2204	05T002M	05T001U	18	286.635	0.014	3,127.47	3,127.47	0	0	0	0	Free Surfa	7.226	0.536	0.561	0.804	1.022	1.586	5,570.33	0	No	0.804	7.226
2205	05C047M	05C046M	6	156.864	0.089	48.108	48.108	0	0	0	0	Free Surfa	4.798	0.171	0.064	0.086	0.162	3.472	755.121	0	Yes	0.142	2.329
2206	05C146M	05C144L	6	96.767	0.077	8.438	8.438	0	0	0	0	Free Surfa	2.7	0.077	0.012	0.039	0.067	2.944	700.192	0	No	0.039	2.7
2207	08C244M	08T139M	6	154.114	0.218	55.744	55.744	0	0	0	0	Free Surfa	6.859	0.148	0.047	0.074	0.175	5.353	1,179.54	0	Yes	0.182	1.921
2208	08T143U	08T142M	8	77.983	0.039	485.942	485.942	0	0	0	0	Free Surfa	6.697	0.471	0.451	0.314	0.494	2.395	1,077.03	0	Yes	0.314	6.694
2209	08C164L	08C163M	6	198.408	0.041	94.969	94.969	0	0	0	0	Free Surfa	4.418	0.293	0.187	0.146	0.231	2.4	508.387	0	Yes	0.156	4.062
221	08C401M	08C378M	6	144.212	0.244	8.258	8.258	0	0	0	0	Free Surfa	4.007	0.058	0.007	0.029	0.066	5.041	1,246.28	0	Yes	0.056	1.538
2210	05C152M	05C151M	6	165.81	0.019	15.671	15.671	0	0	0	0	Free Surfa	1.988	0.145	0.045	0.072	0.091	1.568	346.201	0	Yes	0.079	1.761
2211	05C117M	05C116M	6	414.363	0.082	37.68	37.68	0	0	0	0	Free Surfa	4.328	0.155	0.052	0.078	0.143	3.296	723.08	0	No	0.078	4.328
2212	02C246M	02C244M	6	28.919	0.016	22.088	22.088	0	0	0	0	Free Surfa	2.073	0.178	0.069	0.089	0.109	1.468	318.112	0	Yes	0.145	1.04
2213	05C048M	05C047M	6	135.87	0.054	48.108	48.108	0	0	0	0	Free Surfa	4.008	0.194	0.082	0.097	0.162	2.715	584.88	0	No	0.097	4.008
2214	05C147M	05C146M	6	155.119	0.021	8.438	8.438	0	0	0	0	Free Surfa	1.722	0.105	0.023	0.052	0.067	1.607	367.619	0	No	0.052	1.722
2215	05T001U	02T163M	18	150.537	0.036	3,150.85	3,150.85	0	0	0	0	Free Surfa	10.304	0.41	0.352	0.614	1.026	2.672	8,953.22	0	No	0.614	10.304
2217	05C124M	05C123M	6	80.301	0.056	8.549	8.549	0	0	0	0	Free Surfa	2.423	0.084	0.014	0.042	0.067	2.534	596.142	0	Yes	0.054	1.676
2218	02T013L	02T012U	24	265.906	0.01	8,495.82	8,495.82	0	0	0	0	Free Surfa	7.94	0.71	0.852	1.419	1.565	1.221	9,969.75	0	No	1.419	7.94
2219	02T121M	02C119M	21	220.373	0.002	4,204.52	4,204.52	0	0	0	0	Pressurize	3.895	1	1.277	1.75	1.003	0.519	3,293.07	0	No	1.75	3.895
222	08C476M	08C474U	6	101.743	0.127	47.484	47.484	0	0	0	0	Free Surfa	5.402	0.156	0.053	0.078	0.161	4.099	898.715	0	Yes	0.085	4.778
2220	02T016M	02T014M	30	395.832	0.002	8,171.54	8,171.54	0	0	0	0	Free Surfa	4.5	0.768	0.937	1.92	1.445	0.573	8,723.26	0	No	1.92	4.5
2221	02C168M	02C167M	6	142.135	0.112	39.946	39.946	0	0	0	0	Free Surfa	4.909	0.148	0.047	0.074	0.147	3.829	843.755	0	Yes	0.085	3.989
2222	02C268M	02C269U	6	50.933	0.021	65.955	65.955	0	0	0	0	Free Surfa	3.142	0.288	0.181	0.144	0.191	1.723	364.952	0	Yes	0.174	2.413
2223	05C126M	05C124M	6	84.3	0.069	8.549	8.549	0	0	0	0	Free Surfa	2.604	0.08	0.013	0.04	0.067	2.791	661.001	0	Yes	0.041	2.51
2224	05C118M	05C117M	6	400.984	0.085	35.069	35.069	0	0	0	0	Free Surfa	4.288	0.149	0.048	0.074	0.138	3.339	735.476	0	Yes	0.076	4.155
2225	08C262M	08T146M	6	373.681	0.052	30.968	30.968	0	0	0	0	Free Surfa	3.485	0.157	0.054	0.079	0.129	2.634	577.045	0	No	0.079	3.485
2226	08T146M	08T144M	8	150.527	0.039	452.909	452.909	0	0	0	0	Free Surfa	6.56	0.453	0.422	0.302	0.477	2.402	1,073.41	0	No	0.302	6.56
2227	02C124M	02C123U	6	18.758	0	289.51	289.51	0	0	0	0	Pressurize	3.285	1	36.258	0.5	0.065	0.819	7.985	0	No	0.5	3.285
2228	02C167M	02C166M	6	137.119	0.077	57.67	57.67	0	0	0	0	Free Surfa	4.809	0.194	0.082	0.097	0.178	3.259	702.053	0	Yes	0.112	3.893
223	06C113M	06C112M	6	79.659	0.118	9.417	9.417	0	0	0	0	Free Surfa	3.238	0.073	0.011	0.037	0.07	3.62	866.645	0	Yes	0.038	3.07
2230	05C119M	05C118M	6	115.765	0.086	35.069	35.069	0	0	0	0	Free Surfa	4.315	0.148	0.047	0.074	0.138	3.367	742.124	0	Yes	0.074	4.302
2231	02C176M	02C168M	6	335.503	0.113	2.215	2.215	0	0	0	0	Free Surfa	2.052	0.038	0.003	0.019	0.034	3.217	847.679	0	Yes	0.046	0.538
2232	05C127M	05C063U	6	152.53	0.018	3.506	3.506	0	0	0	0	Free Surfa	1.253	0.072	0.01	0.036	0.043	1.419	340.948	0	No	0.036	1.253
2233	05C127M	05C126M	6	107.616	0.108	8.549	8.549	0	0	0	0	Free Surfa	3.054	0.072	0.01	0.036	0.067	3.46	831.321	0	Yes	0.038	2.814
2234	02C166M	02C164L	6	84.157	0.09	108.188	108.188	0	0	0	0	Free Surfa	6.087	0.256	0.143	0.128	0.247	3.56	755.95	0	Yes	0.187	3.603
2235	02C188M	02C131M	6	124.906	0.241	7.974	7.974	0	0	0	0	Free Surfa	3.948	0.057	0.006	0.029	0.065	5.001	1,238.62	0	Yes	0.068	1.107
2236	02C131M	02C129M	6	181.864	0.066	65.852	65.852	0	0	0	0	Free Surfa	4.733	0.215	0.101	0.107	0.191	3.037	649.877	0	Yes	0.109	4.635
2237	08C289M	08C283M	6	216.917	0.02	18.581	18.581	0	0	0	0	Free Surfa	2.136	0.155	0.052	0.078	0.099	1.627	356.913	0	Yes	0.093	1.631
2238	08C284L	08C283M	6	169.642	0.022	6.194	6.194	0	0	0	0	Free Surfa	1.587	0.09	0.017	0.045	0.057	1.603	373.812	0	Yes	0.077	0.718
2239	02C213M	02C212L	6	145.776	0.15	1.329	1.329	0	0	0	0	Free Surfa	1.937	0.028	0.001	0.014	0.026	3.538	976.562	0	Yes	0.022	0.981
224	08C379L	08C378M	6	101.887	0.037	20.646	20.646	0	0	0	0	Free Surfa	2.745	0.14	0.042	0.07	0.105	2.202	487.766	0	Yes	0.076	2.434
2240	08C288M	08C287M	6	142.987	0.045	14.452	14.452	0	0	0	0	Free Surfa	2.636	0.113	0.027	0.056	0.087	2.365	536.369	0	No	0.056	2.636
2241	02C253M	02C252L	8	235.415	0.004	38.874	38.874	0	0	0	0	Free Surfa	1.438	0.229	0.115	0.153	0.134	0.773	338.284	0	No	0.153	1.438
2242	02C261M	02C252L	6	374.934	0.001	7.089	7.089	0	0	0	0	Free Surfa	0.619	0.188	0.077	0.094	0.061	0.427	92.209	0	No	0.094	0.619
2243	02C221M	02C217M	6	160.488	0.295	3.987	3.987	0	0	0	0	Free Surfa	3.43	0.04	0.003	0.02	0.046	5.243	1,371.39	0	Yes	0.021	3.091
2244	02C262M	02C253M	6	272.815	0.016	4.43	4.43	0	0	0	0	Free Surfa	1.277	0.083	0.014	0.041	0.048	1.344	316.635	0	Yes	0.097	0.369
2245	02C132M	02C131M	6	90.283	0.11	57.878	57.878	0	0	0	0	Free Surfa	5.448	0.178	0.069	0.089	0.178	3.86	836.816	0	Yes	0.098	4.729
2246	08T153M	08T152M	8	181.54	0.128	295.231	295.231	0	0	0	0	Free Surfa	8.969	0.263	0.152	0.175	0.382	4.472	1,947.85	0	Yes	0.21	6.968
2247	08C283M	08C282M	6	57.239	0.009	24.775	24.775	0	0	0	0	Free Surfa	1.737	0.219	0.105	0.109	0.115	1.104	235.996	0	Yes	0.114	1.648
2248	08C278M	08C277M	6	223.415	0.009	51.614	51.614	0	0	0	0	Free Surfa	2.157	0.316	0.217	0.158	0.168	1.123	238.007	0	Yes	0.169	1.977
2249	02C194L	02C195U	6	40.209	0.123	15.062	15.062	0	0	0	0	Free Surfa	3.79	0.091	0.017	0.045	0.089	3.804	885.943	0	No	0.045	3.79
225	08C378M	08C377M	6	105.759	0.038	28.904	28.904	0	0	0	0	Free Surfa	3.05	0.165	0.059	0.082	0.125	2.252	491.491	0	No	0.082	3.05
2250	02C133L	02C132M	6	260.417	0.072	57.878	57.878	0	0	0	0	Free Surfa	4.702	0.197	0.085	0.099	0.178	3.156	679.05	0	No	0.099	4.702
2251	08C279M	08C278M	6	68.68	0.007	51.614	51.614	0	0	0	0	Free Surfa	2.008	0.333	0.24	0.167	0.168	1.015	215.444	0	No	0.167	2.008
2252	08C287M	08C279M	6	66.336	0.153	14.452	14.452	0	0	0	0	Free Surfa	4.041	0.084	0.015	0.042	0.087	4.207	988.717	0	Yes	0.104	1.083
2253	03C156M	03C154M	6	249.891	0.023	188.96	188.96	0	0	0	0	Free Surfa	4.348	0.495	0.491	0.247	0.33	1.741	385.015	0	Yes	0.299	3.43
2254	02T116M	02T114M	18	428.102	0.013	4,504.54	4,504.54	0	0	0	0	Free Surfa	7.552	0.704	0.843	1.056	1.221	1.351	5,342.50	0	No	1.056	7.552

ID	From ID	To ID	Diameter (	Length (ft)	Slope	Total Flow	Unpeakabl	Peakable F	Coverage F	Infiltration	Storm Flov	Flow Type	Velocity (ft	d/D	q/Q	Water Dep	Critical De	Froude Nu	Full Flow (g	Coverage (	Backwater	Adjusted D	Adjusted V
2255	08T154M	08T153M	8	168.204	0.027	295.231	295.231	0	0	0	0	Free Surfa	5.091	0.397	0.333	0.265	0.382	2.016	887.086	0	No	0.265	5.091
2256	02T157M	02T156M	8	248.79	0.038	620.594	620.594	0	0	0	0	Free Surfa	7.044	0.549	0.584	0.366	0.553	2.282	1,062.64	0	Yes	0.655	3.976
2257	02C252L	02C251M	8	234.001	0.004	50.393	50.393	0	0	0	0	Free Surfa	1.62	0.253	0.14	0.169	0.153	0.825	359.908	0	Yes	0.175	1.53
2258	02C216M	02C212L	6	174.904	0.163	3.987	3.987	0	0	0	0	Free Surfa	2.789	0.045	0.004	0.023	0.046	3.975	1,018.21	0	Yes	0.026	2.241
2259	08T156M	08T154M	8	48.643	0.072	295.231	295.231	0	0	0	0	Free Surfa	7.306	0.305	0.202	0.203	0.382	3.362	1,462.23	0	Yes	0.234	6.017
226	08C451M	08C449M	6	208.124	0.007	16.516	16.516	0	0	0	0	Free Surfa	1.449	0.187	0.076	0.094	0.094	1.001	216.071	0	Yes	0.12	1.016
2260	02C212L	02C211M	6	131.159	0.158	7.088	7.088	0	0	0	0	Free Surfa	3.293	0.06	0.007	0.03	0.061	4.081	1,004.74	0	Yes	0.03	3.266
2261	08C281M	08C279M	6	159.477	0.006	24.775	24.775	0	0	0	0	Free Surfa	1.544	0.238	0.124	0.119	0.115	0.939	199.947	0	Yes	0.143	1.194
2262	08C282M	08C281M	6	229.56	0.007	24.775	24.775	0	0	0	0	Free Surfa	1.567	0.235	0.121	0.118	0.115	0.958	204.109	0	Yes	0.118	1.555
2263	02C211M	02C209M	6	5.713	0.151	7.088	7.088	0	0	0	0	Free Surfa	3.239	0.061	0.007	0.03	0.061	3.992	981.382	0	Yes	0.031	3.15
2264	02C278M	02C277M	6	298.993	0.003	52.379	52.379	0	0	0	0	Free Surfa	1.463	0.426	0.378	0.213	0.169	0.642	138.534	0	No	0.213	1.463
2265	02C236M	02C234M	6	133.964	0.149	2.658	2.658	0	0	0	0	Free Surfa	2.388	0.038	0.003	0.019	0.037	3.705	973.067	0	Yes	0.021	2.147
2266	02C134U	02C133L	6	136.501	0.075	42.816	42.816	0	0	0	0	Free Surfa	4.35	0.169	0.062	0.084	0.152	3.169	690.032	0	Yes	0.092	3.872
2267	02C151M	02C149M	6	266.252	0.055	6.202	6.202	0	0	0	0	Free Surfa	2.191	0.072	0.01	0.036	0.057	2.472	593.304	0	No	0.036	2.191
2268	02C234M	02C148M	6	89.658	0.082	2.658	2.658	0	0	0	0	Free Surfa	1.945	0.044	0.004	0.022	0.037	2.814	724.237	0	Yes	0.028	1.332
2269	02C149M	02C148M	6	238.144	0.125	6.202	6.202	0	0	0	0	Free Surfa	2.908	0.06	0.007	0.03	0.057	3.616	890.988	0	Yes	0.032	2.575
227	06C088M	06C087M	6	269.278	0.166	13.603	13.603	0	0	0	0	Free Surfa	4.077	0.081	0.013	0.04	0.085	4.347	1,028.00	0	No	0.04	4.077
2270	02C229M	02C228M	6	161.198	0.208	3.101	3.101	0	0	0	0	Free Surfa	2.813	0.038	0.003	0.019	0.04	4.379	1,151.52	0	Yes	0.024	1.975
2271	02C182M	02C181M	6	76.085	0.015	54.893	54.893	0	0	0	0	Free Surfa	2.639	0.286	0.178	0.143	0.173	1.452	307.719	0	No	0.143	2.639
2272	06C033M	06C032M	6	334.018	0.03	49.179	49.179	0	0	0	0	Free Surfa	3.286	0.226	0.112	0.113	0.164	2.051	437.814	0	Yes	0.118	3.113
2273	02C138L	02C137M	6	243.409	0.079	30.97	30.97	0	0	0	0	Free Surfa	4.034	0.142	0.044	0.071	0.129	3.212	710.512	0	Yes	0.09	2.894
2274	02T159M	02T158M	8	269.199	0.01	620.594	620.594	0	0	0	0	Pressurize	3.961	1	1.129	0.667	0.524	0.855	549.628	0	Yes	0.667	3.961
2275	03C172M	03C164L	6	221.894	0.006	44.611	44.611	0	0	0	0	Free Surfa	1.778	0.327	0.232	0.164	0.156	0.908	192.6	0	No	0.164	1.778
2276	03C152U	03C151U	8	240.392	0.007	346.288	346.288	0	0	0	0	Free Surfa	3.138	0.663	0.779	0.442	0.415	0.885	444.756	0	No	0.442	3.138
2277	02T113M	02T112M	21	517.86	0.008	5,823.29	5,823.29	0	0	0	0	Free Surfa	6.593	0.762	0.929	1.334	1.341	1.011	6,266.93	0	No	1.334	6.593
2278	02T241M	02T239U	8	1,184.32	0.012	0	0	0	0	0	0	Free Surfa	0	0	0	0	0	0	589.301	0	Yes	0.249	0
2279	03C169L	03C162M	6	166.354	0.05	80.001	80.001	0	0	0	0	Free Surfa	4.536	0.254	0.142	0.127	0.211	2.661	565.131	0	Yes	0.209	2.286
228	08C484L	08C473L	6	99.282	0.075	4.129	4.129	0	0	0	0	Free Surfa	2.154	0.055	0.006	0.028	0.046	2.778	691.638	0	Yes	0.076	0.485
2280	02C281M	02C279L	6	300.137	0.002	4.557	4.557	0	0	0	0	Free Surfa	0.626	0.137	0.04	0.069	0.049	0.508	112.897	0	No	0.069	0.626
2281	03C164L	03C163L	6	217.484	0.045	52.495	52.495	0	0	0	0	Free Surfa	3.87	0.211	0.098	0.106	0.169	2.507	536.956	0	Yes	0.119	3.277
2282	03C163L	03C162M	6	133.905	0.019	52.495	52.495	0	0	0	0	Free Surfa	2.826	0.264	0.152	0.132	0.169	1.625	344.876	0	Yes	0.212	1.478
2283	02C249M	02T239U	8	381.139	0.002	73.431	73.431	0	0	0	0	Free Surfa	1.4	0.369	0.29	0.246	0.185	0.579	253.155	0	No	0.246	1.4
2284	02C183M	02C182M	6	275.154	0.015	54.893	54.893	0	0	0	0	Free Surfa	2.644	0.286	0.178	0.143	0.173	1.456	308.601	0	Yes	0.143	2.642
2285	03C166M	03C164L	6	250.072	0.002	7.884	7.884	0	0	0	0	Free Surfa	0.786	0.171	0.064	0.086	0.064	0.569	123.682	0	Yes	0.096	0.67
2286	03C168M	03C167L	6	163.966	0.005	7.884	7.884	0	0	0	0	Free Surfa	1.009	0.144	0.045	0.072	0.064	0.798	176.373	0	Yes	0.074	0.964
2287	03C167L	03C166M	6	52.966	0.004	7.884	7.884	0	0	0	0	Free Surfa	0.922	0.153	0.051	0.077	0.064	0.706	155.161	0	No	0.077	0.922
2289	03C151U	03C149M	8	207.741	0.02	361.339	361.339	0	0	0	0	Free Surfa	4.82	0.483	0.471	0.322	0.425	1.697	766.47	0	Yes	0.389	3.809
229	08C428M	08C427M	6	159.251	0.127	33.032	33.032	0	0	0	0	Free Surfa	4.855	0.131	0.037	0.065	0.133	4.036	900.535	0	Yes	0.104	2.505
2290	03C162M	03C161M	6	264.116	0.007	132.496	132.496	0	0	0	0	Free Surfa	2.482	0.583	0.643	0.292	0.275	0.891	205.946	0	Yes	0.471	1.54
2291	03C161M	03C149M	6	133.603	0.003	163.175	163.175	0	0	0	0	Pressurize	1.852	1	1.167	0.5	0.282	0.461	139.878	0	No	0.5	1.852
2292	02C283M	02C282M	6	172.368	0.003	4.557	4.557	0	0	0	0	Free Surfa	0.714	0.125	0.034	0.063	0.049	0.607	135.995	0	No	0.063	0.714
2293	03C149M	03C148M	10	214.034	0.008	524.514	524.514	0	0	0	0	Free Surfa	3.83	0.547	0.58	0.456	0.482	1.113	904.199	0	Yes	0.468	3.707
2294	06C209M	06C208M	6	230.653	0.174	27.434	27.434	0	0	0	0	Free Surfa	5.123	0.111	0.026	0.056	0.121	4.634	1,052.87	0	Yes	0.068	3.851
2295	02C282M	02C281M	6	300.458	0.003	4.557	4.557	0	0	0	0	Free Surfa	0.722	0.124	0.033	0.062	0.049	0.616	138.196	0	Yes	0.065	0.671
2296	06C208M	06C207M	6	88.62	0.039	27.434	27.434	0	0	0	0	Free Surfa	3.038	0.159	0.055	0.08	0.121	2.282	499.576	0	Yes	0.1	2.187
2297	03T101M	03T100U	10	149.343	0.006	676.455	676.455	0	0	0	0	Free Surfa	3.479	0.741	0.899	0.617	0.55	0.796	752.551	0	Yes	0.629	3.411
2298	01C048M	01C043M	8	235.965	0.002	3.242	3.242	0	0	0	0	Free Surfa	0.555	0.08	0.013	0.053	0.038	0.515	250.323	0	Yes	0.342	0.04
2299	01C044M	01C043M	8	237.589	0.002	6.863	6.863	0	0	0	0	Free Surfa	0.694	0.114	0.028	0.076	0.056	0.536	249.466	0	Yes	0.084	0.601
230	08C486L	08C474U	6	257.937	0.053	12.387	12.387	0	0	0	0	Free Surfa	2.666	0.101	0.021	0.05	0.081	2.535	582.564	0	Yes	0.071	1.612
2300	01C046M	01C044M	8	270.171	0.002	6.863	6.863	0	0	0	0	Free Surfa	0.663	0.118	0.029	0.078	0.056	0.505	233.94	0	No	0.078	0.663
2301	06C207M	06C206M	6	349.539	0.007	27.434	27.434	0	0	0	0	Free Surfa	1.68	0.241	0.127	0.12	0.121	1.015	215.88	0	No	0.12	1.68
2302	03C148M	03T101M	10	242.871	0.007	524.514	524.514	0	0	0	0	Free Surfa	3.591	0.576	0.631	0.48	0.482	1.007	831.433	0	Yes	0.549	3.068
2303	03C028M	03C027M	6	224.26	0.004	26.518	26.518	0	0	0	0	Free Surfa	1.395	0.268	0.157	0.134	0.119	0.795	168.612	0	No	0.134	1.395
2304	03C132M	03T100U	6	191.356	0.034	29.511	29.511	0	0	0	0	Free Surfa	2.962	0.17	0.063	0.085	0.126	2.148	467.373	0	Yes	0.363	0.43
2305	03C027M	03C026M	6	134.796	0.011	26.518	26.518	0	0	0	0	Free Surfa	1.93	0.213	0.1	0.107	0.119	1.244	266.362	0	No	0.107	1.93
2306	03C134M	03C133M	6	178.511	0.008	22.576	22.576	0	0	0	0	Free Surfa	1.643	0.213	0.1	0.107	0.11	1.059	226.706	0	No	0.107	1.643
2307	03C034M	03C033M	6	114.225	0.017	25.085	25.085	0	0	0	0	Free Surfa	2.219	0.186	0.076	0.093	0.116	1.537	332.107	0	Yes	0.093	2.212
2308	03C061M	03C059M	6	256.889	0.018	48.694	48.694	0	0	0	0	Free Surfa	2.735	0.256	0.143	0.128	0.163	1.599	339.462	0	No	0.128	2.735
2309	03T003M	03C002M	15	62.89	0.005	1,298.54	1,298.54	0	0	0	0	Free Surfa	3.876	0.585	0.647	0.732	0.683	0.878	2,007.80	0	No	0.732	3.876
231	08C474U	08C473L	6	98.031	0.133	68.129	68.129	0	0	0	0	Free Surfa	6.123	0.184	0.074	0.092	0.194	4.266	922.473	0	Yes	0.109	4.829
2310	03C062M	03C057M	6	235.518	0.009	12.542	12.542	0	0	0	0	Free Surfa	1.431	0.156	0.053	0.078	0.081	1.087	238.431	0	Yes	0.108	0.899
2311	03C031M	03T006M	6	199.348	0.025	25.085	25.085	0	0	0	0	Free Surfa	2.529	0.17	0.063	0.085	0.116	1.837	399.893	0	Yes	0.5	0.285
2312	03T006M	03T004L	10	278.894	0.001	468.229	468.229	0	0	0	0	Pressurize	1.913	1	1.254	0.833	0.403	0.369	373.404	0	No	0.833	1.913
2313	03C067L	03C066U	6	119.034	0.036	17.738	17.738	0	0	0	0	Free Surfa	2.582	0.132	0.037	0.066	0.097	2.14	477.06	0	Yes	0.071	2.335
2314	03C072M	03C064M	6	387.018	0.005	17.559	17.559	0	0	0	0	Free Surfa	1.304	0.21	0.097	0.105	0.097	0.847	181.516	0	Yes	0.122	1.051
2315	03C057M	03T007M	6	250.949	0.024	64.999	64.999	0	0	0	0	Free Surfa	3.303	0.275	0.165	0.137	0.189	1.857	393.674	0	Yes	0.5	0.738
2316	03T007M	03T006M	10	277.19	0.001	443.144	443.144	0	0	0	0	Pressurize	1.81	1	1.183	0.833	0.404	0.349	374.55	0	Yes	0.833	1.81
2317	03T008M	03T007M	10	364.33	0.001	257.117	257.117	0	0	0	0	Pressurize	1.55	0.641	0.742	0.534	0.332	0.402	346.52	0	Yes	0.833	1.05
2318	03C107M	03C106L	6	361.223	0.002	82.958	82.958	0	0	0	0	Free Surfa	1.383	0.644	0.746	0.322	0.215	0.461	111.154	0	No	0.322	1.383
2319	03C142M	03C109M	6	135.666	0.001	26.298	26.298	0	0	0	0	Free Surfa	0.822	0.392	0.324	0.196	0.119	0.379	81.114	0	Yes	0.263	0.56
232	06C099M	06C098M	6	198.917	0.104	15.695	15.695	0	0	0	0	Free Surfa	3.621	0.096	0.019	0.048	0.091	3.526	815.035	0	Yes	0.053	3.118
2320	03C109M	03C108M	6	115.501	0.001	60.203	60.203	0	0	0	0	Free Surfa	0.976	0.66	0.773	0.33	0.182	0.319	77.923	0	No	0.33	0.976
2321	03C143M	03C142M	6	203.437	0.001	26.298	26.298	0	0	0	0	Free Surfa	0.807	0.397	0.332	0.198	0.119	0.369	79.171	0	No	0.198	0.807
2322	03T009M	03T008M	10	358.56	0.007	210.71	210.71	0	0	0	0	Free Surfa	2.752	0.351	0.264	0.292	0.299	1.047	798.219	0	Yes	0.659	1.014
2323	03C043M	03C042U	6	349.382	0.005	52.678	52.678	0	0	0	0	Free Surfa	1.746	0.375	0.299	0.187	0.17	0.825	176.132	0	No	0.187	1.746
2324	03C064M	03T009M	6	256.494	0.009	41.568	41.568	0	0	0	0	Free Surfa	2.067	0.279	0.17	0.14	0.15	1.153	244.248	0	Yes	0.216	1.141
2325	03C036M	03T007M	6	257.957	0.005	121.028	121.028	0	0	0	0	Free Surfa	2.184	0.602	0.675	0.301	0.262	0.766	179.252	0	Yes	0.5	1.373
2326	03C041M	03C036M	6	24.95	0.008	79.017	79.017	0	0	0	0	Free Surfa	2.337	0.408	0.35	0.204	0.21	1.052	226.071	0	Yes	0.253	1.771
2327	03C144M	03C143M	6	127.365	0.007	5.017	5.017	0	0	0	0	Free Surfa	1.003	0.106	0.024	0.053	0.051	0.929	212.257	0	Yes	0.126	0.289
2328	03T011M	03T009M	8	285.895	0.003	113.956	113.956	0	0	0	0	Free Surfa	1.806	0.423	0.373	0.282	0.233	0.689	305.11	0	Yes	0.287	1.764
2329	03C039M	03C036M	6	343.571	0.018	17.559	17.559	0	0	0	0	Free Surfa	2.03	0.154	0.052	0.077	0.097	1.55	340.099	0	Yes	0.189	0.575
233	15C056M	15C054M	6	106.884	0.073	23.877	23.877	0	0	0	0	Free Surfa	3.628	0.128	0.035	0.064	0.113	3.052	682.462	0	Yes	0.078	2.733
2330	03C146M	03C143M	6	161.122	0.006	21.281	21.281	0	0	0	0	Free Surfa	1.418	0.227	0.113	0.113	0.106	0.884	188.716	0	Yes	0.156	0.907
2331	03C111U	03C109M	6	237.883	0.001	33.905	33.905	0	0	0	0	Free Surfa	0.872	0.454	0.423	0.227	0.135	0.368	80.203	0	Yes	0.278	0.672
2332	03C078U	03T009M	6	256.672	0.004	55.186	55.186	0	0	0	0	Free Surfa	1.688	0.398	0.334	0.199	0.174	0.771	165.3	0	Yes	0.246	1.281
2334	03C038M	03C037U	8	180.568	0.004	24.452	24.452	0	0	0	0	Free Surfa	1.251	0.182	0.073	0.122	0.106	0.758	336.645	0	Yes	0.122	1.25
2335	03C146M	03C112L	6	257.937	0.003	16.346	16.346	0	0	0	0	Free Surfa	1.089	0.227	0.113	0.113	0.093	0.679	144.95	0	Yes	0.171	0.616
2336	03C112L	03C111U	6	150.878	0.001	33.905	33.905	0	0	0	0	Free Surfa	0.867	0.456	0.426	0.228	0.135	0.365	79.615	0	No	0.228	0.867
2337	03C079M	03C078U	6	278.229	0.005	40.135	40.135	0	0	0	0	Free Surfa	1.638	0.322	0.224	0.161	0.147	0.845	179.113	0	Yes	0.18	1.406
2338	03C147M	03C113M	6	101.613	0.006	7.525	7.525	0	0	0	0	Free Surfa	1.094	0.132	0.037	0.066	0.063	0.906	201.951	0	Yes	0.118	0.472
2339	03C113M	03C112L	6	259.885	0.001	17.559	17.559	0	0	0	0	Free Surfa	0.661	0.341	0.251	0.171	0.097	0.33	70.047	0	Yes	0.199	0.536
234	13T058M	13T057M	12	227.495	0.016	9.56	9.56	0	0	0	0	Free Surfa	1.455	0.05	0.005	0.05	0.059	1.399	1,999.75	0	No	0.05	1.455
2341	03C114L	03C115M	6	202.139	0.003	10.034	10.034	0	0	0	0	Free Surfa	0.949	0.178	0.069	0.089	0.073	0.673	146.02	0	Yes	0.089	0.948
2342	12T002M	12T001M	10	112.75	0.018	660.968	660.968	0	0	0	0	Free Surfa	5.392	0.501	0.501	0.417	0.544	1.66	1,319.08	0	Yes	0.443	5.005
2343	09T073M	09T072M	10	110.291	0.048	170.168	170.168	0	0	0	0	Free Surfa	5.275	0.189	0.078	0.158	0.268	2.802	2,168.13	0	Yes	0.221	3.267
2344	11C059M	11T003U	6	261.649	0.111	10.185	10.185	0	0	0	0	Free Surfa	3.243	0.077	0.012	0.039	0.073	3.531	839.425	0	Yes	0.384	0.14
2346	09T076M	09T074M	10	109.456	0.018	170.168	170.168	0	0	0	0	Free Surfa	3.738	0.241	0.128	0.201	0.268	1.747	1,332.80	0	Yes	0.231	3.067
2347	12T009M	12T008M	10	231.812	0.006	657.732	657.732	0	0	0	0	Free Surfa	3.592	0.7	0.838	0.584	0.542	0.866	785.163	0	No	0.584	3.592
2348	09T072M	09T071M	10	150.926	0.007	207.545	207.545	0	0	0	0	Free Surfa	2.811	0.342	0.251	0.285	0.297	1.086	826.694	0	No	0.285	2.811
2349	04C148M	04C147M	6	77.108	0.385	13.555	13.555	0	0	0	0	Free Surfa	5.462	0.066	0.009	0.033	0.085	6.448	1,566.48	0	Yes	0.035	4.933
235	08C507M	08C506M	6	126.149	0.188	45.42	45.42	0	0	0	0	Free Surfa	6.119	0.139	0.042	0.07	0.157	4.933	1,093.62	0	Yes	0.089	4.285
2350	09T039U	09C004M	6	15.403	0.13	73.04	73.04	0	0	0	0	Free Surfa	6.19	0.192	0.08	0.096	0.201	4.22	909.866	0	Yes	0.171	2.743
2351	09T038M	09T003M	10	24.87	0.02	209.349	209.349	0	0	0	0	Free Surfa	4.105	0.262	0.15	0.218	0.298	1.837	1,398.03	0	No	0.218	4.105
2352	07T044M	07T043M	10	187.802	0.007	349.62	349.62	0	0	0	0	Free Surfa	3.292	0.448	0.413	0.373	0.39	1.086	846.116	0	No	0.373	3.292
2353	02C061M	02C059M	6	145.649	0.005	8.418	8.418	0	0	0	0	Free Surfa	1.006	0.151	0.049	0.075	0.066	0.777	171.001	0	No	0.075	1.006
2354	04C156M	04C144M	6	281.919	0.073	24.398	24.398	0	0	0	0	Free Surfa	3.644	0.13	0.036	0.065	0.114	3.047	680.628	0	Yes	0.1	1.933
2355	04C139M	04C019M	6	91.319	0.403	2.711	2.711	0	0	0	0	Free Surfa	3.398	0.031	0.002	0.015	0.037	5.9	1,603.47	0	Yes	0.081	0.295
2356	04C021M	04C019M	6	159.537	0.054	24.398	24.398	0	0	0	0	Free Surfa	3.28	0.139	0.042	0.07	0.114	2.642	585.637	0	Yes	0.108	1.751
2357	04C183M	04C182M	6	71	0.106	5.422	5.422	0	0	0	0	Free Surfa	2.635	0.058	0.007	0.029	0.053	3.317	820.283	0	No	0.029	2.635
2358	04C107M	04C106M	6	257.997	0.087	35.242	35.242	0	0	0	0	Free Surfa	4.338	0.148	0.047	0.074	0.138	3.386	746.303	0	No	0.074	4.338
2359	04C182M	04C181L	6	109.362	0.113	5.422	5.422	0	0	0	0	Free Surfa	2.695	0.057	0.006	0.029	0.053	3.419	847.357	0	No	0.029	2.695

ID	From ID	To ID	Diameter (	Length (ft)	Slope	Total Flow	Unpeakabl	Peakable F	Coverage F	Infiltration	Storm Flow	Flow Type	Velocity (ft	d/D	q/Q	Water Dep	Critical De	Froude Nu	Full Flow (g	Coverage (	Backwater	Adjusted D	Adjusted V
236	15C057M	15C056M	6	120.259	0.141	23.877	23.877	0	0	0	0	Free Surfa	4.565	0.109	0.025	0.055	0.113	4.163	947.626	0	Yes	0.059	4.051
2362	04C192U	04C189M	6	84.879	0.194	8.133	8.133	0	0	0	0	Free Surfa	3.682	0.061	0.007	0.03	0.065	4.523	1,110.96	0	Yes	0.04	2.455
2363	08T016M	08T015M	10	154.184	0.11	1,567.16	1,567.16	0	0	0	0	Free Surfa	13.229	0.487	0.479	0.406	0.783	4.142	3,273.96	0	Yes	0.406	13.227
2365	02C077M	02C076U	6	264.609	0.006	12.577	12.577	0	0	0	0	Free Surfa	1.253	0.171	0.064	0.086	0.081	0.907	197.203	0	No	0.086	1.253
2366	09C047L	09T039U	6	101.136	0.084	4.932	4.932	0	0	0	0	Free Surfa	2.366	0.059	0.007	0.029	0.051	2.965	732.276	0	Yes	0.063	0.775
2367	12T001M	10T251M	10	313.287	0.012	660.968	660.968	0	0	0	0	Free Surfa	4.671	0.561	0.606	0.468	0.544	1.333	1,091.60	0	No	0.468	4.671
2368	04C147M	04C146L	6	137.293	0.219	13.555	13.555	0	0	0	0	Free Surfa	4.485	0.075	0.011	0.038	0.085	4.948	1,180.62	0	Yes	0.051	2.868
2369	04C149M	04C148M	6	267.827	0.146	13.555	13.555	0	0	0	0	Free Surfa	3.894	0.083	0.014	0.041	0.085	4.092	964.109	0	No	0.041	3.894
237	13C078M	13C077U	6	192.221	0.106	34.656	34.656	0	0	0	0	Free Surfa	4.623	0.14	0.042	0.07	0.137	3.714	822.905	0	Yes	0.084	3.545
2370	10C258U	10C257M	6	111.182	0.299	3.164	3.164	0	0	0	0	Free Surfa	3.212	0.035	0.002	0.018	0.041	5.193	1,381.11	0	Yes	0.021	2.473
2371	04C146L	04C144M	6	146.111	0.132	32.531	32.531	0	0	0	0	Free Surfa	4.899	0.129	0.035	0.064	0.132	4.107	918.107	0	Yes	0.1	2.584
2372	10C259M	10C258U	6	146.605	0.101	3.164	3.164	0	0	0	0	Free Surfa	2.201	0.046	0.004	0.023	0.041	3.131	801.621	0	No	0.023	2.201
2374	09T002M	09T001M	10	502.577	0.014	209.349	209.349	0	0	0	0	Free Surfa	3.563	0.289	0.183	0.241	0.298	1.509	1,146.30	0	No	0.241	3.563
2375	07T058M	07T044M	10	12.582	0.032	349.62	349.62	0	0	0	0	Free Surfa	5.603	0.302	0.199	0.252	0.39	2.317	1,760.22	0	Yes	0.313	4.168
2376	04C151M	04C149M	6	137.097	0.097	13.555	13.555	0	0	0	0	Free Surfa	3.375	0.091	0.017	0.046	0.085	3.375	785.336	0	No	0.046	3.375
2377	07T059M	07T058M	8	34.253	0.018	278.176	278.176	0	0	0	0	Free Surfa	4.341	0.428	0.381	0.286	0.37	1.644	729.256	0	No	0.286	4.341
2378	04C144M	04C143M	6	138.409	0.019	56.929	56.929	0	0	0	0	Free Surfa	2.933	0.272	0.162	0.136	0.177	1.658	351.555	0	Yes	0.142	2.758
2379	04C131U	04C129M	6	119.967	0.087	35.242	35.242	0	0	0	0	Free Surfa	4.331	0.148	0.047	0.074	0.138	3.378	744.341	0	Yes	0.099	2.855
238	13C224M	13C223L	6	143.689	0.456	72.294	72.294	0	0	0	0	Free Surfa	9.597	0.14	0.042	0.07	0.2	7.695	1,704.52	0	Yes	0.094	6.287
2380	04C026M	04C024M	6	242.109	0.011	24.398	24.398	0	0	0	0	Free Surfa	1.879	0.205	0.092	0.102	0.114	1.237	265.462	0	No	0.102	1.879
2381	04C159M	04C146L	6	485.093	0.078	18.976	18.976	0	0	0	0	Free Surfa	3.461	0.113	0.027	0.056	0.1	3.104	704.069	0	Yes	0.06	3.135
2382	04C152M	04C143M	6	280.168	0.057	51.507	51.507	0	0	0	0	Free Surfa	4.178	0.198	0.085	0.099	0.168	2.803	603.018	0	Yes	0.124	3.039
2383	04C158M	04C157M	6	52.553	0.218	24.398	24.398	0	0	0	0	Free Surfa	5.352	0.1	0.021	0.05	0.114	5.121	1,178.76	0	Yes	0.055	4.634
2384	04C157M	04C156M	6	115.511	0.099	24.398	24.398	0	0	0	0	Free Surfa	4.066	0.12	0.031	0.06	0.114	3.534	795.916	0	Yes	0.062	3.845
2385	04C024M	04C141M	6	69.651	0.549	17.524	17.524	0	0	0	0	Free Surfa	6.684	0.068	0.009	0.034	0.096	7.743	1,871.43	0	Yes	0.051	3.702
2386	04C024M	04C023M	6	219.785	0.085	6.874	6.874	0	0	0	0	Free Surfa	2.622	0.068	0.009	0.034	0.06	3.037	734.038	0	No	0.034	2.622
2387	04C094M	04C093M	6	89.025	0.095	24.398	24.398	0	0	0	0	Free Surfa	4.01	0.121	0.031	0.061	0.114	3.468	780.222	0	Yes	0.063	3.829
2388	04C129M	04C128M	6	291.217	0.011	35.242	35.242	0	0	0	0	Free Surfa	2.077	0.247	0.134	0.124	0.138	1.236	262.819	0	No	0.124	2.077
2389	04C023M	04C022M	6	41.428	0.621	6.874	6.874	0	0	0	0	Free Surfa	5.247	0.043	0.003	0.021	0.06	7.702	1,990.43	0	Yes	0.039	2.184
239	13C234M	13C224M	6	75.767	0.023	2.39	2.39	0	0	0	0	Free Surfa	1.211	0.056	0.006	0.028	0.035	1.547	383.965	0	Yes	0.049	0.533
2390	07T056M	07T054M	10	193.227	-0.015	136.101	136.101	0	0	0	0	Pressurize	0.556	1		0.833	0	0.107		0	No	0.833	0.556
2391	02C058M	02C057M	6	127.664	0.076	8.418	8.418	0	0	0	0	Free Surfa	2.689	0.077	0.012	0.039	0.066	2.931	697.159	0	Yes	0.039	2.644
2392	04C141M	04C022M	6	197.597	0.031	17.524	17.524	0	0	0	0	Free Surfa	2.439	0.136	0.04	0.068	0.096	1.989	442.083	0	No	0.068	2.439
2393	04C154M	04C153U	6	56.723	0.025	51.507	51.507	0	0	0	0	Free Surfa	3.106	0.243	0.13	0.122	0.168	1.865	396.83	0	No	0.122	3.106
2394	04C153U	04C152M	6	195.736	0.074	51.507	51.507	0	0	0	0	Free Surfa	4.569	0.186	0.075	0.093	0.168	3.168	684.636	0	Yes	0.096	4.366
2395	04C199M	04C171M	6	91.318	0.149	8.133	8.133	0	0	0	0	Free Surfa	3.364	0.065	0.008	0.032	0.065	4.008	976.053	0	Yes	0.049	1.838
2396	04C172L	04C171M	6	114.994	0.046	27.109	27.109	0	0	0	0	Free Surfa	3.212	0.152	0.05	0.076	0.121	2.473	543.614	0	No	0.076	3.212
2397	04C114U	04C113M	6	152.597	0.014	18.976	18.976	0	0	0	0	Free Surfa	1.886	0.172	0.064	0.086	0.1	1.363	296.352	0	No	0.086	1.886
2398	02C053M	02C052M	6	144.382	0.113	19.051	19.051	0	0	0	0	Free Surfa	3.944	0.104	0.022	0.052	0.101	3.699	847.492	0	No	0.052	3.944
2399	02C052M	02C051M	6	111.364	0.171	19.051	19.051	0	0	0	0	Free Surfa	4.56	0.094	0.018	0.047	0.101	4.497	1,042.85	0	No	0.047	4.56
24	12C183M	12C191M	6	273.525	0.015	8.738	8.738	0	0	0	0	Free Surfa	1.551	0.115	0.028	0.058	0.068	1.378	311.77	0	Yes	0.064	1.334
240	13C028M	13C027M	6	215.733	0.1	124.281	124.281	0	0	0	0	Free Surfa	6.59	0.267	0.156	0.133	0.266	3.767	799.086	0	No	0.133	6.59
2401	04C092M	04C091M	6	235.733	0.073	24.398	24.398	0	0	0	0	Free Surfa	3.646	0.129	0.036	0.065	0.114	3.049	681.161	0	No	0.065	3.646
2402	04C121M	04C017M	6	125.804	0.091	24.398	24.398	0	0	0	0	Free Surfa	3.941	0.123	0.032	0.061	0.114	3.388	761.198	0	Yes	0.115	1.585
2404	04C106M	04C089M	6	286.751	0.09	35.242	35.242	0	0	0	0	Free Surfa	4.388	0.147	0.046	0.073	0.138	3.439	758.509	0	Yes	0.103	2.676
2405	04C194U	04C168M	6	175.385	0.061	40.664	40.664	0	0	0	0	Free Surfa	3.987	0.173	0.065	0.087	0.148	2.867	622.832	0	Yes	0.09	3.762
2406	04C171M	04C169M	6	188.845	0.147	35.242	35.242	0	0	0	0	Free Surfa	5.213	0.13	0.036	0.065	0.138	4.343	969.55	0	Yes	0.068	4.929
2407	04C169M	04C168M	6	38.552	0.143	40.664	40.664	0	0	0	0	Free Surfa	5.389	0.141	0.043	0.07	0.148	4.318	956.408	0	Yes	0.082	4.312
241	13C108M	13C107M	6	172.298	0.044	60.946	60.946	0	0	0	0	Free Surfa	3.997	0.229	0.115	0.115	0.183	2.478	528.46	0	Yes	0.122	3.66
2412	04C122M	04C121M	6	128.069	0.109	24.398	24.398	0	0	0	0	Free Surfa	4.196	0.118	0.029	0.059	0.114	3.687	832.369	0	Yes	0.06	4.065
2413	04C017M	04C016M	6	214.533	0.159	249.404	249.404	0	0	0	0	Free Surfa	9.48	0.339	0.247	0.169	0.38	4.747	1,008.02	0	Yes	0.187	8.289
2414	04C168M	04C167L	6	177.699	0.176	81.328	81.328	0	0	0	0	Free Surfa	7.116	0.187	0.077	0.094	0.213	4.909	1,060.22	0	Yes	0.117	5.174
2415	04C193L	04C167L	6	231.039	0.009	9.295	9.295	0	0	0	0	Free Surfa	1.296	0.136	0.04	0.068	0.07	1.057	234.929	0	Yes	0.104	0.698
2416	04C167L	04C166M	6	135.161	0.043	90.623	90.623	0	0	0	0	Free Surfa	4.459	0.281	0.173	0.141	0.225	2.476	524.773	0	Yes	0.224	2.365
2419	04C016M	04C014M	6	220.634	0.097	276.513	276.513	0	0	0	0	Free Surfa	8.146	0.409	0.351	0.205	0.399	3.661	786.79	0	Yes	0.212	7.767
242	13C127M	13C107M	6	248.457	0.063	38.24	38.24	0	0	0	0	Free Surfa	3.964	0.167	0.06	0.083	0.144	2.908	634.002	0	Yes	0.106	2.791
2420	04C166M	04C164M	6	61.533	0.003	90.623	90.623	0	0	0	0	Free Surfa	1.59	0.616	0.699	0.308	0.225	0.548	129.559	0	No	0.308	1.59
2421	04C164M	04C163M	6	193.426	0.058	150.582	150.582	0	0	0	0	Free Surfa	5.724	0.339	0.247	0.169	0.294	2.866	608.628	0	Yes	0.189	4.942
2422	04C112M	04C111M	6	236.722	0.076	18.976	18.976	0	0	0	0	Free Surfa	3.44	0.113	0.027	0.057	0.1	3.079	698.092	0	No	0.057	3.44
2423	04C099M	04C086M	6	335.021	0.073	24.398	24.398	0	0	0	0	Free Surfa	3.648	0.129	0.036	0.065	0.114	3.051	681.616	0	Yes	0.105	1.803
2424	04C012M	04C011M	6	110.041	0.04	298.201	298.201	0	0	0	0	Free Surfa	5.982	0.552	0.589	0.276	0.413	2.231	506.628	0	Yes	0.309	5.21
2425	04C014M	04C013M	6	79.506	0.075	276.513	276.513	0	0	0	0	Free Surfa	7.42	0.439	0.399	0.22	0.399	3.197	692.841	0	No	0.22	7.42
2426	04C013M	04C012M	6	392.856	0.136	276.513	276.513	0	0	0	0	Free Surfa	9.208	0.374	0.297	0.187	0.399	4.363	930.794	0	No	0.187	9.208
2427	04C189M	04C187M	6	154.592	0.133	18.977	18.977	0	0	0	0	Free Surfa	4.174	0.099	0.021	0.05	0.1	3.998	920.479	0	Yes	0.079	2.104
2428	04C187M	04C164M	6	117.338	0.051	59.959	59.959	0	0	0	0	Free Surfa	4.21	0.219	0.105	0.109	0.182	2.678	572.501	0	Yes	0.139	2.987
2429	04C188M	04C187M	6	336.858	0.016	40.982	40.982	0	0	0	0	Free Surfa	2.466	0.244	0.13	0.122	0.149	1.48	314.805	0	No	0.122	2.466
243	05C043M	05C042M	8	209.167	0.103	435.458	435.458	0	0	0	0	Free Surfa	9.266	0.34	0.249	0.227	0.467	4.011	1,748.24	0	No	0.227	9.266
2430	05C037U	05C035M	6	122.115	0.351	22.904	22.904	0	0	0	0	Free Surfa	6.2	0.086	0.015	0.043	0.111	6.382	1,495.79	0	Yes	0.044	5.981
2431	05C034U	05C033M	6	293.038	0.165	22.904	22.904	0	0	0	0	Free Surfa	4.762	0.103	0.022	0.052	0.111	4.472	1,024.84	0	Yes	0.054	4.485
2432	05C036M	05C034U	6	52.916	0.138	22.904	22.904	0	0	0	0	Free Surfa	4.473	0.108	0.024	0.054	0.111	4.109	937.013	0	No	0.054	4.473
2433	05C099M	05C098U	6	153.267	0.037	10.849	10.849	0	0	0	0	Free Surfa	2.261	0.103	0.022	0.052	0.076	2.125	487.156	0	No	0.052	2.261
2434	02C059M	02C058M	6	227.899	0.048	8.418	8.418	0	0	0	0	Free Surfa	2.293	0.086	0.015	0.043	0.066	2.366	554.816	0	No	0.043	2.293
2435	04C132M	04C019M	6	336.431	0.151	16.266	16.266	0	0	0	0	Free Surfa	4.17	0.09	0.017	0.045	0.093	4.213	982.589	0	Yes	0.095	1.391
2436	04C128M	04C127M	6	324.785	0.085	35.242	35.242	0	0	0	0	Free Surfa	4.29	0.149	0.048	0.075	0.138	3.335	734.499	0	Yes	0.077	4.101
2437	04C198M	04C169M	6	60.397	0.102	5.422	5.422	0	0	0	0	Free Surfa	2.602	0.059	0.007	0.029	0.053	3.261	805.347	0	Yes	0.05	1.189
2438	04C113M	04C112M	6	208.773	0.104	18.976	18.976	0	0	0	0	Free Surfa	3.835	0.105	0.023	0.053	0.1	3.566	815.449	0	Yes	0.055	3.629
2439	04C163M	04C162M	6	397.21	0.027	150.582	150.582	0	0	0	0	Free Surfa	4.338	0.416	0.362	0.208	0.294	1.93	415.625	0	Yes	0.358	2.229
244	08C637M	08C636M	6	164.607	0.055	12.387	12.387	0	0	0	0	Free Surfa	2.699	0.1	0.021	0.05	0.081	2.576	592.615	0	No	0.05	2.699
2440	02C048M	02C047M	6	100.868	0.142	24.274	24.274	0	0	0	0	Free Surfa	4.605	0.11	0.025	0.055	0.114	4.189	952.886	0	Yes	0.064	3.684
2441	02C043M	02C042M	6	145.411	0.174	25.603	25.603	0	0	0	0	Free Surfa	5.022	0.107	0.024	0.054	0.117	4.622	1,054.22	0	Yes	0.062	4.094
2442	04C032M	04C031M	6	210.425	0.004	34.627	34.627	0	0	0	0	Free Surfa	1.483	0.311	0.21	0.155	0.137	0.779	165.134	0	No	0.155	1.483
2446	13C103M	13C102M	6	181.332	0.28	94.67	94.67	0	0	0	0	Free Surfa	8.765	0.18	0.071	0.09	0.23	6.173	1,336.92	0	Yes	0.094	8.245
2449	05C138M	05C113U	6	54.271	0.098	40.469	40.469	0	0	0	0	Free Surfa	4.704	0.154	0.051	0.077	0.148	3.597	789.671	0	Yes	0.086	3.973
245	08C506M	08C504M	6	32.512	0.031	45.42	45.42	0	0	0	0	Free Surfa	3.23	0.217	0.103	0.108	0.157	2.064	441.506	0	No	0.108	3.23
2454	02T009M	02T008M	27	233.886	0.009	8,495.82	8,495.82	0	0	0	0	Free Surfa	7.712	0.593	0.659	1.333	1.522	1.29	12,888.42	0	No	1.333	7.712
2455	02T007M	02T006M	27	230.899	0.011	8,495.82	8,495.82	0	0	0	0	Free Surfa	8.427	0.551	0.588	1.24	1.522	1.482	14,459.02	0	Yes	1.315	7.845
2456	02T006M	02T004L	27	72.777	0.008	8,495.82	8,495.82	0	0	0	0	Free Surfa	7.343	0.618	0.702	1.389	1.522	1.192	12,105.31	0	No	1.389	7.343
2457	02C257M	02C251M	6	274.216	0.001	4.43	4.43	0	0	0	0	Free Surfa	0.526	0.152	0.05	0.076	0.048	0.405	89.042	0	Yes	0.129	0.246
2458	02C256M	02C249M	6	374.213	0.001	11.519	11.519	0	0	0	0	Free Surfa	0.714	0.239	0.125	0.119	0.078	0.434	92.298	0	Yes	0.183	0.396
2463	02T012U	02T011U	24	234.528	0.013	8,495.82	8,495.82	0	0	0	0	Free Surfa	9.058	0.631	0.725	1.262	1.565	1.534	11,717.95	0	No	1.262	9.058
2469	13T004U	13T003M	12	34.092	0.015	1,810.89	1,810.89	0	0	0	0	Pressurize	6.298	0.76	0.926	0.76	0.85	1.281	1,955.24	0	Yes	1	5.137
247	02T001M	01T001M	36	535.131	0.009	14,404.50	14,404.50	0	0	0	0	Free Surfa	9.083	0.5	0.5	1.5	1.838	1.475	28,822.41	0	No	1.5	9.083
2470	13T006M	13T004U	12	253.174	0.015	1,810.89	1,810.89	0	0	0	0	Free Surfa	6.286	0.762	0.928	0.762	0.85	1.277	1,951.32	0	Yes	1	5.137
2471	02T011U	02T009M	24	234.708	0.015	8,495.82	8,495.82	0	0	0	0	Free Surfa	9.465	0.608	0.686	1.216	1.565	1.648	12,389.51	0	No	1.216	9.465
2473	02T008M	02T007M	27	237.057	0.007	8,495.82	8,495.82	0	0	0	0	Free Surfa	7.306	0.62	0.706	1.396	1.522	1.182	12,026.32	0	No	1.396	7.306
2475	02C258M	02C251M	6	374.863	0.001	7.089	7.089	0	0	0	0	Free Surfa	0.551	0.204	0.091	0.102	0.061	0.363	78.032	0	Yes	0.142	0.344
2476	01T004M	01T003M	6	64.266	0.011	810.618	810.618	0	0	0	0	Pressurize	9.198	1	3.098	0.5	0.389	2.292	261.637	0	Yes	0.5	9.198
2477	02T107M	02T106M	27	469.895	0.004	5,907.35	5,907.35	0	0	0	0	Free Surfa	5.042	0.624	0.713	1.404	1.26	0.812	8,284.00	0	Yes	1.831	3.799
2479	02T109M	02T108M	21	90.217	0.002	5,907.35	5,907.35	0	0	0	0	Pressurize	5.472	1	1.76	1.75	1.013	0.729	3,357.39	0	No	1.75	5.472
248	09C114M	09T078M	8	201.724	0.086	2.877	2.877	0	0	0	0	Free Surfa	1.943	0.032	0.002	0.021	0.036	2.878	1,598.67	0	Yes	0.081	0.264
2480	02T239U	02T238M	12	235.521	0.012	73.431	73.431	0	0	0	0	Free Surfa	2.476	0.139	0.041	0.139	0.166	1.412	1,771.13	0	Yes	1	0.208
2481	02T238M	02T237M	12	35.533	0.001	84.064	84.064	0	0	0	0	Pressurize	1.202	0.253	0.14	0.253	0.177	0.5	601.438	0	Yes	1	0.238
2482	02T237M	02T109M	12	27.001	0.002	84.064	84.064	0	0	0	0	Pressurize	1.326	0.236	0.122	0.236	0.177	0.573	689.948	0	Yes	1	0.238
249	09T079M	09T078M	10	93.042	0.008	126.189	126.189	0	0	0	0	Free Surfa	2.568	0.255	0.142	0.212	0.23	1.165	887.596	0	No	0.212	2.568
2492	02C071L	02C064M	8	255.127	0.006	45.235	45.235	0	0	0	0	Free Surfa	1.743	0.222	0.108	0.148	0.145	0.951	416.972	0	Yes	0.265	0.779
2493	05C067M	05C054M	6	303.669	0.025	9.644	9.644	0	0	0	0	Free Surfa	1.912	0.107	0.024	0.053	0.071	1.766	403.069	0	Yes	0.079	1.082
2494	09C136L	09C134M	6	226.792	0.029	0	0	0	0	0	0	Free Surfa	0	0	0	0	0	0	432.506	0	No	0	0
2497	13C098M	13T018M	6	33.519	0.054	117.375	117.375	0	0	0	0	Pressurize	5.192	0.304	0.2	0.152	0.258	2.765	585.784	0	Yes	0.5	1.332
2498	12T021M	12T019M	8	239.8	0.036	425.617	425.617	0	0	0	0	Free Surfa	6.267	0.448	0.413	0.298	0.462	2.312	1,031.26	0	No	0.298	6.267
2499	12T019M	12T018M	8	50.576	0.086	657.732	657.732	0	0	0	0	Free Surfa	9.689	0.448	0.412	0.298	0.567	3.575	1,594.64	0	Yes	0.304	9.473
25	12C172M	12C171M	6	126.925	0.035	47.454	47.454	0	0	0	0	Free Surfa	3.432	0.214	0.1	0.107	0.161	2.207	472.368	0	Yes	0.116	3.063

ID	From ID	To ID	Diameter (	Length (ft)	Slope	Total Flow	Unpeakabl	Peakable F	Coverage F	Infiltration	Storm Flov	Flow Type	Velocity (ft	d/D	q/Q	Water Dep	Critical De	Froude Nu	Full Flow (g	Coverage (	Backwater	Adjusted D	Adjusted V
250	09C012M	09C011L	8	214.207	0.146	117.963	117.963	0	0	0	0	Free Surfa	7.182	0.162	0.057	0.108	0.237	4.635	2,079.91	0	Yes	0.108	7.177
2500	08C489M	08C477M	6	153.73	0.021	6.194	6.194	0	0	0	0	Free Surfa	1.551	0.091	0.017	0.045	0.057	1.555	361.903	0	Yes	0.052	1.273
2502	13C256M	13C254M	6	60.99	0.47	42.186	42.186	0	0	0	0	Free Surfa	8.254	0.108	0.024	0.054	0.151	7.589	1,730.73	0	Yes	0.064	6.366
2503	10T018M	10C017U	8	301.357	0.058	372.01	372.01	0	0	0	0	Free Surfa	7.209	0.364	0.283	0.243	0.431	3.001	1,312.24	0	No	0.243	7.209
2506	05T004M	05T003M	18	474.525	0.011	3,994.30	3,994.30	0	0	0	0	Free Surfa	6.865	0.688	0.818	1.032	1.154	1.253	4,881.46	0	No	1.032	6.865
251	09C102M	09C101M	6	100.151	0.053	24.456	24.456	0	0	0	0	Free Surfa	3.258	0.14	0.042	0.07	0.114	2.615	579.438	0	Yes	0.101	1.915
2513	05T071M	05T136M	12	32.012	0.077	0	0	0	0	0	0	Free Surfa	0	0	0	0	0	0	4,459.03	0	Yes	0.12	0
2514	13C211M	13C209M	6	365.004	0.061	39.436	39.436	0	0	0	0	Free Surfa	3.954	0.17	0.063	0.085	0.146	2.867	623.715	0	Yes	0.089	3.686
2516	13T206M	13T204U	6	49.852	0.06	85.291	85.291	0	0	0	0	Free Surfa	4.932	0.251	0.138	0.125	0.218	2.915	619.419	0	Yes	0.131	4.616
2519	07T039M	07T038M	15	351.765	0.031	4,804.32	4,804.32	0	0	0	0	Free Surfa	10.536	0.771	0.941	0.964	1.198	1.887	5,103.17	0	No	0.964	10.536
252	09T078M	09T077M	10	43.354	0.044	129.066	129.066	0	0	0	0	Free Surfa	4.684	0.17	0.063	0.142	0.232	2.635	2,056.48	0	Yes	0.164	3.777
2520	07T041U	07T039M	12	28.232	-0.018	349.62	349.62	0	0	0	0	Pressurize	0.992	1		1	0	0.175		0	No	1	0.992
2521	07T046M	07T039M	15	37.001	0.096	4,454.70	4,454.70	0	0	0	0	Free Surfa	16.305	0.497	0.495	0.621	1.182	4.117	9,004.49	0	No	0.621	16.305
2522	07C051U	07T047M	8	48.747	0.038	1.828	1.828	0	0	0	0	Free Surfa	1.274	0.031	0.002	0.021	0.029	1.908	1,063.09	0	No	0.021	1.274
2524	06C162M	06C161M	6	324.512	0.012	39.762	39.762	0	0	0	0	Free Surfa	2.251	0.254	0.142	0.127	0.147	1.32	280.336	0	No	0.127	2.251
2525	06C214M	06C213M	6	159.977	0.141	4.185	4.185	0	0	0	0	Free Surfa	2.694	0.048	0.004	0.024	0.047	3.731	948.17	0	Yes	0.04	1.269
2526	11T069M	10T011M	12	362.227	0.039	3,194.15	3,194.15	0	0	0	0	Pressurize	9.061	1	1.015	1	0.975	1.597	3,148.24	0	Yes	1	9.061
2527	06C182M	06C181M	6	5.408	0.007	2.238	2.238	0	0	0	0	Free Surfa	0.77	0.073	0.011	0.037	0.034	0.861	206.015	0	Yes	0.049	0.502
2528	03C121M	03T098M	6	358.288	0.011	27.593	27.593	0	0	0	0	Free Surfa	1.937	0.219	0.105	0.109	0.122	1.232	263.44	0	Yes	0.344	0.426
2529	03C126U	03T099U	6	226.74	0.011	28.848	28.848	0	0	0	0	Free Surfa	1.972	0.223	0.109	0.111	0.124	1.241	265.137	0	Yes	0.387	0.394
253	09C011L	09C009M	8	214.218	0.146	117.963	117.963	0	0	0	0	Free Surfa	7.172	0.162	0.057	0.108	0.237	4.627	2,075.70	0	No	0.108	7.172
2530	03C102M	03T101M	8	249.714	0.004	126.856	126.856	0	0	0	0	Free Surfa	2.05	0.417	0.364	0.278	0.246	0.789	348.741	0	Yes	0.448	1.134
2535	05T012M	05T011M	18	238.618	0.022	3,775.28	3,775.28	0	0	0	0	Free Surfa	9.042	0.521	0.535	0.781	1.123	2.023	7,051.80	0	No	0.781	9.042
2536	05T014M	05T013M	21	36.989	0.037	3,339.82	3,339.82	0	0	0	0	Free Surfa	10.487	0.336	0.243	0.588	1.01	2.821	13,723.19	0	Yes	1.585	3.249
2537	05T017M	05T016M	21	247.488	0.004	3,339.82	3,339.82	0	0	0	0	Free Surfa	4.646	0.632	0.726	1.106	1.01	0.841	4,600.16	0	No	1.106	4.646
2538	05T134M	05T133M	24	261.458	0.003	5,536.71	5,536.71	0	0	0	0	Pressurize	3.927	1	1	2	1.262	0.489	5,535.63	0	No	2	3.927
2539	07T003M	07T002M	24	47.516	0.01	5,536.71	5,536.71	0	0	0	0	Free Surfa	7.458	0.521	0.536	1.042	1.262	1.445	10,338.47	0	Yes	1.044	7.439
254	09T077M	09T076M	10	142.977	0.014	129.066	129.066	0	0	0	0	Free Surfa	3.138	0.225	0.111	0.187	0.232	1.523	1,166.14	0	Yes	0.194	2.98
2540	07T028M	07T036M	15	379.321	0.014	3,126.24	3,126.24	0	0	0	0	Free Surfa	7.075	0.748	0.909	0.935	1.058	1.309	3,439.50	0	Yes	1.078	6.188
2541	05T133M	05T132M	24	293.306	0.006	5,536.71	5,536.71	0	0	0	0	Free Surfa	6.206	0.605	0.68	1.21	1.262	1.085	8,137.72	0	No	1.21	6.206
2542	05T132M	05T131M	24	394.423	0.01	5,536.71	5,536.71	0	0	0	0	Free Surfa	7.272	0.531	0.554	1.063	1.262	1.39	9,999.41	0	No	1.063	7.272
2543	07T011M	07T009M	10	206.622	0.024	387.867	387.867	0	0	0	0	Free Surfa	5.183	0.345	0.256	0.287	0.411	1.991	1,516.82	0	No	0.287	5.183
2544	07T038M	07T008M	18	330.589	0.027	4,804.32	4,804.32	0	0	0	0	Free Surfa	10.288	0.57	0.62	0.855	1.256	2.166	7,747.59	0	Yes	0.909	9.554
2545	03C136M	03C134M	6	153.307	0.004	22.576	22.576	0	0	0	0	Free Surfa	1.241	0.26	0.148	0.13	0.11	0.72	152.744	0	No	0.13	1.241
2546	02T017L	02T016M	30	59.664	0.068	8,154.56	8,154.56	0	0	0	0	Free Surfa	16.292	0.278	0.169	0.696	1.444	4.069	48,217.26	0	Yes	1.035	9.46
2547	02C271M	02C269U	6	166.108	0.018	27.109	27.109	0	0	0	0	Free Surfa	2.29	0.192	0.081	0.096	0.121	1.559	336.097	0	Yes	0.15	1.215
2548	02C269U	02C273M	6	305.72	0.002	93.065	93.065	0	0	0	0	Free Surfa	1.325	0.743	0.902	0.372	0.228	0.39	103.131	0	No	0.372	1.325
2549	02T014M	02T013L	30	299.814	0.003	8,171.54	8,171.54	0	0	0	0	Free Surfa	4.937	0.703	0.842	1.758	1.445	0.685	9,706.43	0	No	1.758	4.937
255	09C112M	09T076M	6	200.591	0.014	41.102	41.102	0	0	0	0	Free Surfa	2.356	0.252	0.139	0.126	0.149	1.387	294.733	0	Yes	0.164	1.64
2550	02C267M	02C268M	8	228.835	0.01	30.503	30.503	0	0	0	0	Free Surfa	1.861	0.161	0.057	0.108	0.118	1.202	539.224	0	Yes	0.126	1.487
2551	02C272M	02C271M	6	273.427	0.011	1.78	1.78	0	0	0	0	Free Surfa	0.852	0.059	0.007	0.029	0.03	1.067	263.56	0	Yes	0.063	0.279
2552	02C088U	02C080M	18	202.121	0.021	142.578	142.578	0	0	0	0	Free Surfa	3.44	0.1	0.021	0.15	0.208	1.894	6,790.76	0	Yes	1.162	0.216
2553	02C027M	02C026U	6	57.552	0.009	106.181	106.181	0	0	0	0	Pressurize	2.602	0.471	0.451	0.235	0.245	1.074	235.353	0	Yes	0.5	1.205
2555	05T104M	05C159M	24	24	0.009	6,386.29	6,386.29	0	0	0	0	Free Surfa	7.373	0.59	0.655	1.181	1.359	1.312	9,747.29	0	Yes	1.501	5.627
2556	05C154M	05T002M	8	67.918	0.02	6.161	6.161	0	0	0	0	Free Surfa	1.481	0.063	0.008	0.042	0.053	1.545	774.868	0	Yes	0.303	0.089
2557	05T003M	05T002M	18	292.292	0.028	4,025.57	4,025.57	0	0	0	0	Free Surfa	10.011	0.505	0.509	0.758	1.159	2.283	7,903.27	0	Yes	0.781	9.643
2558	05T106M	05T104M	18	323.121	0.026	5,423.05	5,423.05	0	0	0	0	Free Surfa	10.448	0.622	0.71	0.934	1.318	2.065	7,635.46	0	No	0.934	10.448
2559	05T107M	05T106M	18	122.464	0.047	5,423.05	5,423.05	0	0	0	0	Free Surfa	13.11	0.517	0.529	0.775	1.318	2.947	10,254.73	0	Yes	0.915	10.708
256	09C009M	09C005M	8	52.165	0.17	125.772	125.772	0	0	0	0	Free Surfa	7.725	0.161	0.056	0.107	0.245	5.001	2,245.17	0	No	0.107	7.725
2560	04C091M	04C089M	6	218.36	0.105	24.398	24.398	0	0	0	0	Free Surfa	4.152	0.118	0.03	0.059	0.114	3.635	819.986	0	Yes	0.096	2.05
2568	13T007M	13T006M	12	316.158	0.022	1,810.89	1,810.89	0	0	0	0	Free Surfa	7.445	0.652	0.759	0.652	0.85	1.74	2,385.72	0	Yes	0.707	6.801
257	10C156M	10C126M	6	122.182	0.19	4.429	4.429	0	0	0	0	Free Surfa	3.042	0.046	0.004	0.023	0.048	4.309	1,101.92	0	Yes	0.082	0.469
2579	07T043M	07T042M	10	107.569	0.023	349.62	349.62	0	0	0	0	Free Surfa	4.984	0.329	0.234	0.274	0.39	1.966	1,495.29	0	Yes	0.28	4.831
258	07T054M	07T047M	10	247.569	0.036	167.822	167.822	0	0	0	0	Free Surfa	4.733	0.202	0.09	0.169	0.266	2.429	1,870.51	0	No	0.169	4.733
2580	07T058M	07T057M	10	199.803	0.005	136.101	136.101	0	0	0	0	Free Surfa	2.181	0.302	0.199	0.252	0.239	0.902	685.222	0	Yes	0.362	1.334
259	08C119M	08C118M	6	187.641	0.022	16.516	16.516	0	0	0	0	Free Surfa	2.147	0.142	0.044	0.071	0.094	1.709	377.903	0	No	0.071	2.147
2591	07T032M	07T007M	8	15.9	0.038	0	0	0	0	0	0	Free Surfa	0	0	0	0	0	0	1,056.37	0	Yes	-0.065	0
26	12C184M	12C171M	6	95.187	0.096	11.784	11.784	0	0	0	0	Free Surfa	3.228	0.086	0.015	0.043	0.079	3.337	782.779	0	Yes	0.084	1.21
260	10C256M	10C254M	8	149.744	0.123	38.71	38.71	0	0	0	0	Free Surfa	4.838	0.099	0.02	0.066	0.133	4.027	1,904.77	0	No	0.066	4.838
2607	09C031M	09C029M	6	30.233	0.033	37.403	37.403	0	0	0	0	Free Surfa	3.137	0.193	0.081	0.096	0.142	2.131	459.224	0	No	0.096	3.137
261	10C252M	10C231M	8	111.668	0.048	38.71	38.71	0	0	0	0	Free Surfa	3.489	0.123	0.032	0.082	0.133	2.59	1,193.73	0	Yes	0.109	2.312
264	02T002U	02T001M	36	88.534	0.009	14,404.50	14,404.50	0	0	0	0	Free Surfa	9.082	0.5	0.5	1.5	1.838	1.475	28,817.14	0	No	1.5	9.082
265	02T104M	02T103M	27	759.04	0.002	5,907.35	5,907.35	0	0	0	0	Pressurize	3.31	1	1.063	2.25	1.22	0.389	5,555.56	0	No	2.25	3.31
266	02T003M	02T002U	30	768.386	0.003	8,497.15	8,497.15	0	0	0	0	Free Surfa	5.051	0.714	0.859	1.784	1.475	0.691	9,897.29	0	No	1.784	5.051
267	10C172M	10C171M	6	268.432	0.027	8.859	8.859	0	0	0	0	Free Surfa	1.903	0.101	0.021	0.051	0.068	1.808	415.485	0	No	0.051	1.903
268	13C168M	13C167M	6	44.102	0.009	22.705	22.705	0	0	0	0	Free Surfa	1.716	0.208	0.094	0.104	0.11	1.121	240.473	0	Yes	0.117	1.447
269	15C161M	15C159M	6	112.611	0.004	13.265	13.265	0	0	0	0	Free Surfa	1.139	0.19	0.079	0.095	0.084	0.78	168.252	0	Yes	0.1	1.06
27	12C181M	12C171M	6	161.384	0.041	13.107	13.107	0	0	0	0	Free Surfa	2.474	0.11	0.026	0.055	0.083	2.247	510.862	0	Yes	0.09	1.215
270	15C159M	15C158M	6	112.705	0.004	16.157	16.157	0	0	0	0	Free Surfa	1.206	0.209	0.096	0.105	0.093	0.785	168.182	0	No	0.105	1.206
272	13C169M	13C168M	6	122.766	0.01	19.12	19.12	0	0	0	0	Free Surfa	1.675	0.187	0.077	0.094	0.101	1.156	249.641	0	Yes	0.099	1.553
273	15C168M	15C165M	6	100.067	0.031	55.714	55.714	0	0	0	0	Free Surfa	3.464	0.238	0.124	0.119	0.175	2.104	447.997	0	Yes	0.119	3.462
274	15C092M	15C091M	6	213.759	0.01	50.408	50.408	0	0	0	0	Free Surfa	2.202	0.306	0.204	0.153	0.166	1.167	247.154	0	No	0.153	2.202
275	02T004L	02T003M	27	34.943	0.011	8,495.82	8,495.82	0	0	0	0	Free Surfa	8.41	0.552	0.589	1.242	1.522	1.478	14,419.24	0	Yes	1.329	7.742
276	13C167M	13C166M	6	81.838	0.009	34.655	34.655	0	0	0	0	Free Surfa	1.9	0.26	0.148	0.13	0.137	1.1	233.527	0	No	0.13	1.9
277	15C037M	15C036M	6	238.919	0.061	108.775	108.775	0	0	0	0	Free Surfa	5.325	0.282	0.174	0.141	0.248	2.951	625.427	0	Yes	0.149	4.935
278	10T279L	10T278U	6	226.511	0.02	130.604	130.604	0	0	0	0	Free Surfa	3.767	0.416	0.362	0.208	0.273	1.677	361.003	0	Yes	0.209	3.752
279	13C171M	13C169M	6	154.404	0.007	19.12	19.12	0	0	0	0	Free Surfa	1.498	0.202	0.09	0.101	0.101	0.992	213.124	0	No	0.101	1.498
28	12C183M	12C182M	6	273.254	0.095	13.107	13.107	0	0	0	0	Pressurize	3.318	0.09	0.017	0.045	0.083	3.337	777.617	0	No	0.045	3.318
280	10C173M	10C172M	6	93.683	0.022	8.859	8.859	0	0	0	0	Free Surfa	1.781	0.106	0.023	0.053	0.068	1.654	377.956	0	No	0.053	1.781
281	15C124M	15C123M	6	223.946	0.036	106.122	106.122	0	0	0	0	Free Surfa	4.351	0.321	0.223	0.16	0.244	2.247	476.376	0	No	0.16	4.351
282	13C187M	13C186M	6	122.608	0.494	4.78	4.78	0	0	0	0	Free Surfa	4.337	0.038	0.003	0.019	0.05	6.751	1,775.32	0	Yes	0.026	2.759
283	13C166M	13C164M	6	162.372	0.009	34.655	34.655	0	0	0	0	Free Surfa	1.953	0.255	0.143	0.128	0.137	1.143	242.692	0	Yes	0.132	1.863
284	15C167M	15C166M	6	60.933	0.025	55.714	55.714	0	0	0	0	Free Surfa	3.174	0.253	0.141	0.127	0.175	1.865	396.172	0	No	0.127	3.174
285	15C153M	15C152M	6	191.212	0.078	29.422	29.422	0	0	0	0	Free Surfa	3.951	0.139	0.042	0.07	0.126	3.181	705.329	0	Yes	0.07	3.95
286	13C183M	13C163M	6	295.332	0.195	13.145	13.145	0	0	0	0	Free Surfa	4.27	0.076	0.012	0.038	0.083	4.681	1,114.96	0	Yes	0.068	1.811
287	13C164M	13C163M	6	52.451	0.009	39.435	39.435	0	0	0	0	Free Surfa	2.026	0.273	0.163	0.136	0.146	1.144	242.555	0	No	0.136	2.026
288	10C162M	10C161M	6	163.556	0.09	21.039	21.039	0	0	0	0	Free Surfa	3.75	0.115	0.028	0.057	0.106	3.337	755.418	0	No	0.057	3.75
289	15C123M	15C122M	6	399.224	0.04	106.122	106.122	0	0	0	0	Free Surfa	4.534	0.311	0.21	0.156	0.244	2.381	504.578	0	No	0.156	4.534
29	12C182M	12C181M	6	268.012	0.096	13.107	13.107	0	0	0	0	Free Surfa	3.33	0.09	0.017	0.045	0.083	3.353	781.495	0	Yes	0.05	2.848
290	15C091M	15C089M	6	211.933	0.042	50.408	50.408	0	0	0	0	Free Surfa	3.72	0.211	0.098	0.106	0.166	2.41	516.306	0	Yes	0.125	2.911
291	15C151M	15C149M	6	32.688	0.149	34.728	34.728	0	0	0	0	Free Surfa	5.21	0.129	0.036	0.065	0.137	4.363	974.92	0	No	0.065	5.21
292	15C152M	15C151M	6	86.077	0.078	29.422	29.422	0	0	0	0	Free Surfa	3.949	0.139	0.042	0.07	0.126	3.179	704.727	0	No	0.07	3.949
293	13C048M	13C047L	6	393.255	0.08	37.046	37.046	0	0	0	0	Free Surfa	4.276	0.155	0.052	0.077	0.142	3.261	715.664	0	Yes	0.084	3.773
294	15C036M	15C034M	6	186.939	0.041	108.775	108.775	0	0	0	0	Free Surfa	4.593	0.314	0.214	0.157	0.248	2.401	508.753	0	No	0.157	4.593
295	13C163M	13C162M	6	200.01	0.083	62.14	62.14	0	0	0	0	Free Surfa	5.041	0.198	0.085	0.099	0.185	3.383	727.718	0	Yes	0.112	4.206
296	10C071M	10C069M	6	47.016	0.232	5.537	5.537	0	0	0	0	Free Surfa	3.49	0.049	0.005	0.024	0.054	4.801	1,217.29	0	Yes	0.03	2.627
297	10C069M	10C068U	6	107.709	0.102	7.752	7.752	0	0	0	0	Free Surfa	2.899	0.069	0.01	0.035	0.064	3.336	804.762	0	Yes	0.068	1.075
298	15C122M	15C121M	6	134.384	0.082	143.265	143.265	0	0	0	0	Free Surfa	6.387	0.302	0.198	0.151	0.286	3.412	722.81	0	Yes	0.153	6.266
299	10T023M	10T279L	6	150.252	0.01	130.604	130.604	0	0	0	0	Free Surfa	2.914	0.507	0.511	0.253	0.273	1.149	255.383	0	No	0.253	2.914
3	09C063M	09C034M	6	174.02	0.015	7.193	7.193	0	0	0	0	Free Surfa	1.449	0.106	0.023	0.053	0.061	1.346	307.808	0	Yes	0.057	1.296
30	12C151L	12C149M	6	99.236	0.016	11.327	11.327	0	0	0	0	Free Surfa	1.704	0.129	0.035	0.064	0.077	1.428	319.113	0	No	0.064	1.704
300	15C089M	15C088M	6	211.268	0.012	50.408	50.408	0	0	0	0	Free Surfa	2.368	0.291	0.184	0.145	0.166	1.291	273.629	0	Yes	0.16	2.077
3000	13C194M	13C193L	6	82.694	0.008	4.78	4.78	0	0	0	0	Free Surfa	1.051	0.099	0.021	0.05	0.05	1.006	231.65	0	No	0.05	1.051
3002	08C557L	08C556M	10	14.375	0.095	18.581	18.581	0	0	0	0	Free Surfa	3.43	0.056	0.006	0.047	0.087	3.406	3,036.08	0	Yes	0.052	2.961
3004	04C162M	04C161M	6	45.598	0.004	163.749	163.749	0	0	0	0	Pressurize	1.858	1	1.021	0.5	0.303	0.463	160.399	0	Yes	0.5	1.858
3006	06C128M	06C127M	6	67.237	0.151	86.514	86.514	0	0	0	0	Free Surfa	6.857	0.201	0.088	0.1	0.22	4.562	980.327	0	Yes	0.118	5.469
3008	06C213M	06C212M	6	115.839	0.109	21.973	21.973	0	0	0	0	Free Surfa	4.069	0.112	0.026	0.056	0.108	3.669	833.196	0	No	0.056	4.069
301	10C068U	10C067M	6	81.744	0.015	27.684	27.684	0	0	0	0	Free Surfa	2.156	0.203	0.09	0.102	0.122	1.425	305.934	0	No	0.102	2.156
3010	06C218M	06C213M	8	102.06	0.091	17.788	17.788	0	0	0	0	Free Surfa	3.442	0.073	0.011	0.049	0.09	3.333	1,638.10	0	Yes	0.052	3.109
3012	06C219M	06C220M	8	146.928	0.032	17.788	17.788	0	0	0	0	Free Surfa	2.398	0.094	0.018	0.063	0.09	2.049	975.599	0	Yes	0.063	2.397
3014	03C054M	03C053M	8	179.149	0.004	15.051	15.051	0	0	0	0	Free Surfa	1.143	0.139	0.041	0.093	0.083	0.798	363.393	0	Yes	0.093	1.136

ID	From ID	To ID	Diameter (	Length (ft)	Slope	Total Flow	Unpeakabl	Peakable F	Coverage F	Infiltration	Storm Flov	Flow Type	Velocity (ft	d/D	q/Q	Water Dep	Critical De	Froude Nu	Full Flow (g	Coverage (	Backwater	Adjusted D	Adjusted V
3016	03C051M	03C049M	8	45.293	0.004	8.78	8.78	0	0	0	0	Free Surfa	0.968	0.107	0.024	0.072	0.063	0.772	361.359	0	No	0.072	0.968
3018	03C052M	03C051M	8	123.784	0.006	8.78	8.78	0	0	0	0	Free Surfa	1.106	0.098	0.02	0.065	0.063	0.923	437.171	0	Yes	0.069	1.033
302	15C096M	15C094M	6	72.286	0.008	26.531	26.531	0	0	0	0	Free Surfa	1.74	0.229	0.115	0.115	0.119	1.079	230.045	0	No	0.115	1.74
3020	03C047M	03C046M	8	239.841	0.006	26.339	26.339	0	0	0	0	Free Surfa	1.519	0.168	0.061	0.112	0.11	0.962	430.054	0	Yes	0.113	1.493
3022	03C048M	03C047M	8	140.567	0.006	26.339	26.339	0	0	0	0	Free Surfa	1.532	0.167	0.061	0.111	0.11	0.972	435.13	0	Yes	0.112	1.526
3024	03C042U	03C041M	6	320.332	0.005	52.678	52.678	0	0	0	0	Free Surfa	1.801	0.366	0.286	0.183	0.17	0.863	183.946	0	Yes	0.194	1.672
3026	02T106M	02T104M	27	24.215	0.005	5,907.35	5,907.35	0	0	0	0	Pressurize	5.787	0.557	0.597	1.252	1.26	1.011	9,892.92	0	Yes	2.25	3.31
3028	13T001M	SAN_JUAN	8	1	1.949	2,002.75	2,002.75	0	0	0	0	Free Surfa	40.883	0.351	0.264	0.234	0.665	17.395	7,591.80	0	No	0.234	40.883
303	10C324M	10C308M	6	139.099	0.023	14.34	14.34	0	0	0	0	Free Surfa	2.08	0.132	0.037	0.066	0.087	1.721	383.639	0	Yes	0.124	0.838
3030	15C149M	NAUGHTO	8	1	1.122	34.728	34.728	0	0	0	0	Free Surfa	10.123	0.056	0.006	0.037	0.126	11.279	5,760.17	0	No	0.037	10.123
3034	06T002M	06T003M	12	20.872	0.09	343.009	343.009	0	0	0	0	Free Surfa	7.892	0.181	0.071	0.181	0.365	3.922	4,802.95	0	Yes	0.227	5.708
3038	03C002M	HILLER_W	10	1	0.1	1,298.54	1,298.54	0	0	0	0	Free Surfa	12.156	0.45	0.416	0.375	0.742	3.998	3,117.95	0	No	0.375	12.156
304	10C308M	10T023M	6	102.06	0.014	84.102	84.102	0	0	0	0	Free Surfa	2.885	0.365	0.285	0.183	0.216	1.384	294.888	0	Yes	0.218	2.278
3042	04C034M	EL_CAMIN	12	11.019	0.182	51.675	51.675	0	0	0	0	Free Surfa	5.716	0.062	0.008	0.062	0.138	4.928	6,830.67	0	Yes	0.531	0.272
3046	01C041M	ISLAND_PA	10	1	1	5.326	5.326	0	0	0	0	Free Surfa	5.303	0.018	0.001	0.015	0.046	9.31	9,859.82	0	Yes	0.508	0.034
3048	01C011M	ISLAND_PA	10	9.22	0.001	22.37	22.37	0	0	0	0	Free Surfa	0.76	0.178	0.069	0.148	0.095	0.418	324.721	0	No	0.148	0.76
305	10C297M	10C296M	6	207.07	0.003	12.181	12.181	0	0	0	0	Free Surfa	1.001	0.196	0.084	0.098	0.08	0.675	145.228	0	No	0.098	1.001
306	15C166M	15C164M	6	265.497	0.064	55.714	55.714	0	0	0	0	Free Surfa	4.461	0.199	0.087	0.1	0.175	2.979	640.478	0	No	0.1	4.461
3060	14C002M	HASKINS_	4	1	1	182.292	182.292	0	0	0	0	Free Surfa	17.375	0.313	0.213	0.104	0.321	11.137	856.411	0	No	0.104	17.375
307	15C094M	15C093M	6	106.791	0.052	26.531	26.531	0	0	0	0	Free Surfa	3.329	0.146	0.046	0.073	0.119	2.616	577.236	0	Yes	0.073	3.304
308	15C093M	15C033M	6	192.651	0.05	26.531	26.531	0	0	0	0	Free Surfa	3.279	0.148	0.047	0.074	0.119	2.563	565.035	0	Yes	0.115	1.733
309	15C164M	15C163M	6	48.375	0.087	55.714	55.714	0	0	0	0	Free Surfa	4.967	0.185	0.075	0.092	0.175	3.45	745.691	0	No	0.092	4.967
31	09C019L	09C018L	6	250.524	0.091	90.63	90.63	0	0	0	0	Free Surfa	5.814	0.233	0.119	0.116	0.225	3.574	761.725	0	Yes	0.125	5.256
310	13C162M	13C161M	6	236.489	0.032	62.14	62.14	0	0	0	0	Free Surfa	3.586	0.251	0.138	0.126	0.185	2.118	449.966	0	Yes	0.134	3.262
311	10T024M	10T023M	6	131.472	0.09	210.394	210.394	0	0	0	0	Free Surfa	7.356	0.36	0.278	0.18	0.349	3.558	757.523	0	Yes	0.217	5.744
312	10C296M	10C294M	6	100.135	0.076	12.181	12.181	0	0	0	0	Free Surfa	2.997	0.092	0.018	0.046	0.08	2.985	693.844	0	Yes	0.054	2.402
313	15C138M	15C119M	6	304.929	0.009	61.02	61.02	0	0	0	0	Free Surfa	2.302	0.341	0.25	0.17	0.183	1.15	244.111	0	Yes	0.201	1.839
314	15C121M	15C119M	6	148.591	0.076	145.918	145.918	0	0	0	0	Free Surfa	6.263	0.31	0.209	0.155	0.289	3.295	698.226	0	Yes	0.194	4.631
315	15C173M	15C172U	4	78.341	0.074	5.306	5.306	0	0	0	0	Free Surfa	2.449	0.104	0.023	0.035	0.059	2.803	232.884	0	Yes	0.039	2.076
316	15C088M	15C087M	6	221.059	0.033	119.387	119.387	0	0	0	0	Free Surfa	4.37	0.348	0.261	0.174	0.26	2.155	457.939	0	No	0.174	4.37
317	10C192M	10C189M	6	212	0.035	5.537	5.537	0	0	0	0	Free Surfa	1.806	0.076	0.012	0.038	0.054	1.983	472.42	0	No	0.038	1.806
318	15C163M	15C147M	6	112.375	0.122	55.714	55.714	0	0	0	0	Free Surfa	5.594	0.17	0.063	0.085	0.175	4.057	882.796	0	Yes	0.5	0.632
319	13C161M	13C159L	6	158.619	0.019	62.14	62.14	0	0	0	0	Free Surfa	2.987	0.286	0.178	0.143	0.185	1.644	348.295	0	No	0.143	2.987
32	12C063M	12C062M	6	232.497	0.086	117.836	117.836	0	0	0	0	Free Surfa	6.146	0.27	0.159	0.135	0.258	3.491	740.282	0	Yes	0.208	3.404
320	15C147M	15C146M	6	138.299	0.021	135.544	135.544	0	0	0	0	Free Surfa	3.87	0.419	0.367	0.21	0.278	1.715	369.591	0	Yes	0.5	1.538
321	10C078M	10C077M	6	162.236	0.053	14.395	14.395	0	0	0	0	Free Surfa	2.782	0.109	0.025	0.054	0.087	2.547	580.203	0	Yes	0.058	2.548
322	15C087M	15C086U	6	218.624	0.04	119.387	119.387	0	0	0	0	Free Surfa	4.694	0.331	0.236	0.165	0.26	2.383	505.64	0	Yes	0.173	4.414
323	10C079L	10C078M	6	190.196	0.161	14.395	14.395	0	0	0	0	Free Surfa	4.104	0.083	0.014	0.042	0.087	4.301	1,012.60	0	Yes	0.048	3.335
324	15C146M	15C144M	6	212.497	0.017	135.544	135.544	0	0	0	0	Free Surfa	3.561	0.446	0.411	0.223	0.278	1.519	330.067	0	Yes	0.5	1.538
325	15T032L	15T031M	6	177.495	0.113	275.917	275.917	0	0	0	0	Free Surfa	8.595	0.393	0.326	0.196	0.398	3.958	847.465	0	Yes	0.21	7.836
326	10C294M	10C293M	6	213.841	0.023	12.181	12.181	0	0	0	0	Free Surfa	1.984	0.122	0.032	0.061	0.08	1.71	384.401	0	No	0.061	1.984
327	09C023M	09C022M	6	165.025	0.051	71.929	71.929	0	0	0	0	Free Surfa	4.436	0.239	0.126	0.12	0.2	2.687	571.946	0	No	0.12	4.436
328	12C192M	12C064M	6	275.615	0.049	30.216	30.216	0	0	0	0	Free Surfa	3.373	0.158	0.054	0.079	0.127	2.542	556.508	0	Yes	0.119	1.882
329	12C066M	12C064M	6	151.336	0.011	54.257	54.257	0	0	0	0	Free Surfa	2.385	0.305	0.202	0.152	0.172	1.267	268.484	0	Yes	0.156	2.32
33	09C018L	09C017M	6	77.212	0.053	90.63	90.63	0	0	0	0	Free Surfa	4.785	0.267	0.156	0.134	0.225	2.731	579.366	0	No	0.134	4.785
330	12C188M	12C064M	6	239.275	0.008	8.443	8.443	0	0	0	0	Free Surfa	1.244	0.131	0.037	0.065	0.067	1.035	230.851	0	No	0.065	1.244
331	12C167L	12C147M	6	71.903	0.253	16.181	16.181	0	0	0	0	Free Surfa	4.983	0.079	0.013	0.04	0.093	5.363	1,271.23	0	Yes	0.076	1.907
332	12C148M	12C147M	6	148.16	0.092	11.327	11.327	0	0	0	0	Free Surfa	3.147	0.085	0.015	0.042	0.077	3.268	767.708	0	Yes	0.078	1.299
333	12T054M	12T053M	6	241.364	0.013	227.397	227.397	0	0	0	0	Free Surfa	3.652	0.665	0.782	0.333	0.363	1.187	290.921	0	No	0.333	3.652
334	12C126U	12C114M	6	248.333	0.056	5.664	5.664	0	0	0	0	Free Surfa	2.145	0.069	0.009	0.034	0.054	2.478	598.567	0	Yes	0.076	0.665
335	07C016M	07C014M	6	49.176	0.018	151.741	151.741	0	0	0	0	Free Surfa	3.761	0.467	0.444	0.233	0.295	1.562	341.593	0	Yes	0.252	3.415
336	12C087M	12C086M	6	269.349	0.032	51.129	51.129	0	0	0	0	Free Surfa	3.415	0.226	0.112	0.113	0.167	2.131	454.818	0	Yes	0.126	2.935
337	03C026M	03C024M	6	27.406	0.018	30.281	30.281	0	0	0	0	Free Surfa	2.39	0.201	0.089	0.101	0.128	1.588	341.057	0	Yes	0.114	1.991
338	06C222M	460264	6	78.908	0.05	9.417	9.417	0	0	0	0	Free Surfa	2.394	0.09	0.017	0.045	0.07	2.411	561.93	0	Yes	0.046	2.298
34	12C168M	12C167L	6	281.482	0.063	12.945	12.945	0	0	0	0	Free Surfa	2.863	0.099	0.02	0.05	0.083	2.748	632.982	0	No	0.05	2.863
340	01C012M	01C011M	10	109.808	0.005	22.37	22.37	0	0	0	0	Free Surfa	1.269	0.125	0.033	0.104	0.095	0.837	673.266	0	Yes	0.126	0.959
342	01C016M	01C014M	8	374.413	0.003	11.184	11.184	0	0	0	0	Free Surfa	0.897	0.134	0.038	0.089	0.071	0.639	292.062	0	No	0.089	0.897
343	01C013M	01C012M	10	320.988	0.004	21.289	21.289	0	0	0	0	Free Surfa	1.185	0.126	0.034	0.105	0.093	0.777	623.601	0	No	0.105	1.185
344	01C014M	01C013M	8	242.042	0.004	11.184	11.184	0	0	0	0	Free Surfa	1.006	0.124	0.033	0.082	0.071	0.746	343.899	0	Yes	0.094	0.832
345	01C042M	01C013M	8	144.056	0.015	10.105	10.105	0	0	0	0	Free Surfa	1.557	0.086	0.015	0.057	0.068	1.394	671.107	0	Yes	0.081	0.928
346	01C043M	01C042M	8	239.56	0.002	10.105	10.105	0	0	0	0	Free Surfa	0.777	0.138	0.041	0.092	0.068	0.545	248.437	0	No	0.092	0.777
348	01C047M	01C046M	8	246.043	0.002	6.863	6.863	0	0	0	0	Free Surfa	0.686	0.115	0.028	0.077	0.056	0.528	245.142	0	Yes	0.078	0.674
349	08C478L	08C477M	6	102.76	0.109	24.774	24.774	0	0	0	0	Free Surfa	4.226	0.118	0.03	0.059	0.115	3.703	835.467	0	No	0.059	4.226
35	12C171M	12T054M	6	272.463	0.048	75.581	75.581	0	0	0	0	Free Surfa	4.392	0.25	0.137	0.125	0.205	2.601	552.692	0	Yes	0.229	1.923
350	06C112M	06C111M	6	147.841	0.087	9.417	9.417	0	0	0	0	Free Surfa	2.916	0.079	0.013	0.039	0.07	3.144	745.666	0	Yes	0.047	2.236
351	03C119M	03C118L	6	77.263	0.012	37.627	37.627	0	0	0	0	Free Surfa	2.22	0.247	0.134	0.124	0.143	1.322	281.019	0	No	0.124	2.22
354	03C029L	03C026M	6	53.578	0.019	3.763	3.763	0	0	0	0	Free Surfa	1.29	0.074	0.011	0.037	0.044	1.441	344.962	0	Yes	0.069	0.515
355	06C098M	06C097M	6	161.975	0.046	15.695	15.695	0	0	0	0	Free Surfa	2.723	0.117	0.029	0.058	0.091	2.401	542.288	0	No	0.058	2.723
356	06C109M	06C106M	6	116.391	0.194	3.139	3.139	0	0	0	0	Free Surfa	2.758	0.039	0.003	0.019	0.04	4.247	1,113.22	0	Yes	0.031	1.382
358	06C097M	06C096M	6	69.44	0.197	15.695	15.695	0	0	0	0	Free Surfa	4.525	0.083	0.014	0.041	0.091	4.761	1,122.05	0	Yes	0.069	2.14
359	06C096M	06C094M	6	229.954	0.087	60.689	60.689	0	0	0	0	Free Surfa	5.087	0.193	0.082	0.097	0.183	3.454	744.215	0	Yes	0.097	5.063
36	12C056M	12T054M	6	260.793	0.013	138.062	138.062	0	0	0	0	Free Surfa	3.27	0.484	0.472	0.242	0.281	1.328	292.35	0	Yes	0.287	2.636
360	06C106M	06C104M	6	220.624	0.341	21.974	21.974	0	0	0	0	Free Surfa	6.06	0.085	0.015	0.043	0.108	6.279	1,473.90	0	Yes	0.051	4.66
361	06C221M	06C128M	6	210.773	0.11	17.788	17.788	0	0	0	0	Free Surfa	3.837	0.101	0.021	0.05	0.097	3.649	838.897	0	Yes	0.075	2.13
362	06C011M	06C152U	6	20.409	0.025	115.359	115.359	0	0	0	0	Free Surfa	3.896	0.37	0.291	0.185	0.255	1.858	396.01	0	No	0.185	3.896
363	03C138M	03C107M	6	99.145	0.041	10.034	10.034	0	0	0	0	Free Surfa	2.288	0.097	0.02	0.049	0.073	2.219	512.412	0	Yes	0.185	0.338
364	11T014M	11T013U	8	288.778	0.04	315.516	315.516	0	0	0	0	Free Surfa	6.033	0.368	0.289	0.245	0.396	2.497	1,092.57	0	Yes	0.249	5.903
365	11T007U	11T006M	8	144.697	0.021	445.818	445.818	0	0	0	0	Free Surfa	5.199	0.537	0.564	0.358	0.473	1.709	790.935	0	No	0.358	5.199
366	09C101M	09C099M	6	320.324	0.004	24.456	24.456	0	0	0	0	Free Surfa	1.309	0.265	0.153	0.132	0.114	0.751	159.366	0	No	0.132	1.309
367	12T008M	12T007M	10	102.765	0.012	657.732	657.732	0	0	0	0	Free Surfa	4.574	0.569	0.618	0.474	0.542	1.294	1,063.68	0	No	0.474	4.574
368	11T016M	11T014M	8	340.082	0.06	315.516	315.516	0	0	0	0	Free Surfa	6.972	0.331	0.236	0.221	0.396	3.065	1,334.84	0	Yes	0.233	6.472
369	12T007M	12T006M	10	99.71	0.053	657.732	657.732	0	0	0	0	Free Surfa	8.052	0.368	0.289	0.307	0.542	2.982	2,278.77	0	Yes	0.358	6.532
37	12C057M	12C056M	6	236.018	0.045	138.062	138.062	0	0	0	0	Free Surfa	5.1	0.346	0.257	0.173	0.281	2.524	536.323	0	Yes	0.207	3.995
370	09C107M	09C098M	6	181.709	0.049	2.38	2.38	0	0	0	0	Free Surfa	1.575	0.047	0.004	0.024	0.035	2.203	561.326	0	Yes	0.047	0.564
371	09C099M	09C098M	6	84.109	0.066	24.456	24.456	0	0	0	0	Free Surfa	3.525	0.133	0.038	0.066	0.114	2.91	648.211	0	Yes	0.069	3.358
372	09C008M	09C007M	8	433.993	0.116	125.772	125.772	0	0	0	0	Free Surfa	6.741	0.177	0.068	0.118	0.245	4.154	1,850.07	0	Yes	0.124	6.222
373	11T004M	11T003U	8	289.425	0.026	445.818	445.818	0	0	0	0	Free Surfa	5.613	0.505	0.509	0.337	0.473	1.92	875.39	0	Yes	0.533	3.322
374	09C098M	09C097L	6	171.053	0.117	37.377	37.377	0	0	0	0	Free Surfa	4.897	0.142	0.043	0.071	0.142	3.908	864.85	0	Yes	0.074	4.556
375	09C006M	09C004M	6	205.115	0.031	136.309	136.309	0	0	0	0	Free Surfa	4.418	0.381	0.308	0.191	0.279	2.069	442.067	0	Yes	0.218	3.686
377	09T003M	09T002M	10	60.318	0.062	209.349	209.349	0	0	0	0	Free Surfa	6.126	0.197	0.085	0.164	0.298	3.186	2,458.45	0	Yes	0.203	4.544
378	09C004M	09T038M	10	120.102	0.012	209.349	209.349	0	0	0	0	Free Surfa	3.464	0.295	0.19	0.246	0.298	1.45	1,101.89	0	No	0.246	3.464
379	10C209M	10C208M	6	275.053	0.15	8.859	8.859	0	0	0	0	Free Surfa	3.455	0.067	0.009	0.034	0.068	4.033	976.703	0	No	0.034	3.455
38	12C058M	12C057M	6	417.543	0.071	138.062	138.062	0	0	0	0	Free Surfa	6.001	0.307	0.205	0.154	0.281	3.173	672.295	0	Yes	0.163	5.517
380	10C226M	10C224M	6	194.503	0.039	5.537	5.537	0	0	0	0	Free Surfa	1.876	0.074	0.011	0.037	0.054	2.087	498.993	0	No	0.037	1.876
381	10C261U	10C237U	8	126	0.122	49.002	49.002	0	0	0	0	Free Surfa	5.187	0.111	0.026	0.074	0.151	4.074	1,901.14	0	Yes	0.088	3.973
382	12C086M	12C084M	6	387.868	0.025	67.31	67.31	0	0	0	0	Free Surfa	3.374	0.277	0.168	0.139	0.193	1.887	400.028	0	Yes	0.188	2.22
383	15C098M	15C097M	8	301.475	0.043	10.612	10.612	0	0	0	0	Free Surfa	2.262	0.069	0.009	0.046	0.069	2.264	1,122.62	0	Yes	0.083	0.946
384	10T268M	10C017U	6	27	0.039	8.859	8.859	0	0	0	0	Free Surfa	2.162	0.093	0.018	0.046	0.068	2.147	498.652	0	Yes	0.14	0.438
385	13C189M	13C188M	6	221.683	0.046	4.78	4.78	0	0	0	0	Free Surfa	1.893	0.067	0.009	0.033	0.05	2.221	538.67	0	No	0.033	1.893
386	15C171M	15C169M	6	101.953	0.118	55.714	55.714	0	0	0	0	Free Surfa	5.52	0.172	0.064	0.086	0.175	3.984	866.274	0	Yes	0.099	4.506
387	10C166M	10C164M	6	117.64	0.017	7.751	7.751	0	0	0	0	Free Surfa	1.554	0.106	0.024	0.053	0.064	1.441	329.232	0	No	0.053	1.554
388	13C051M	13C049M	6	186.479	0.066	31.071	31.071	0	0	0	0	Free Surfa	3.791	0.149	0.048	0.074	0.129	2.949	649.516	0	No	0.074	3.791
389	13C049M	13C048M	6	98.011	0.137	37.046	37.046	0	0	0	0	Free Surfa	5.158	0.136	0.04	0.068	0.142	4.206	934.825	0	Yes	0.073	4.681
39	12C164M	12C163M	6	128.646	0.098	3.236	3.236	0	0	0	0	Free Surfa	2.198	0.046	0.004	0.023	0.041	3.102	792.325	0	Yes	0.036	1.148
390	15C158M	15C157M	6	106.49	0.012	16.157	16.157	0	0	0	0	Free Surfa	1.723	0.163	0.058	0.082	0.093	1.278	278.986	0	No	0.082	1.723
391	13C188M	13C187M	6	36.031	0.152	4.78	4.78	0	0	0	0	Free Surfa	2.878	0.05	0.005	0.025	0.05	3.897	983.741	0	No	0.025	2.878
392	13C038M	13C037M	6	144.238	0.108	52.581	52.581	0	0	0	0	Free Surfa	5.267	0.171	0.063	0.085	0.17	3.817	830.32	0	Yes	0.09	4.84
393	15C069M	15C068M	6	62.091	0.103	34.49	34.49	0	0	0	0	Free Surfa	4.574	0.141	0.042	0.07	0.136	3.667	812.182	0	Yes	0.074	4.273
394	13C072M	13C071M	6	289.787	0.046	22.706	22.706	0	0	0	0	Free Surfa	3.032	0.14	0.042	0.07	0.11	2.436	539.925	0	Yes	0.104	1.71
395	10C117M	10C068U	6	52.725	0.015	6.644	6.644	0	0	0	0	Free Surfa	1.426	0.101	0.021	0.051	0.059	1.354	311.029	0	Yes	0.076	0.785
396	10C072M	10C071M	6	161.199	0.049	3.322	3.322	0	0	0	0	Free Surfa	1.739	0.055	0.006	0.028	0.042	2.245	559.158	0	No	0.028	1.739

ID	From ID	To ID	Diameter (	Length (ft)	Slope	Total Flow	Unpeakabl	Peakable F	Coverage F	Infiltration	Storm Flov	Flow Type	Velocity (ft	d/D	q/Q	Water Dep	Critical De	Froude Nu	Full Flow (g	Coverage (	Backwater	Adjusted D	Adjusted V
397	10C122M	10C071M	6	51.58	0.084	2.215	2.215	0	0	0	0	Free Surfa	1.855	0.04	0.003	0.02	0.034	2.811	733.194	0	Yes	0.022	1.599
398	13C046M	13C044M	6	191.23	0.091	50.191	50.191	0	0	0	0	Free Surfa	4.895	0.174	0.066	0.087	0.166	3.513	763.169	0	Yes	0.09	4.633
399	15C033M	15T032L	6	161.093	0.064	135.306	135.306	0	0	0	0	Free Surfa	5.754	0.312	0.212	0.156	0.278	3.016	639.189	0	Yes	0.176	4.876
4	09C034M	09C033M	6	254.148	0.116	27.333	27.333	0	0	0	0	Free Surfa	4.44	0.122	0.032	0.061	0.121	3.824	859.653	0	Yes	0.073	3.406
40	12C146M	12C144M	6	115.06	0.009	27.508	27.508	0	0	0	0	Free Surfa	1.787	0.231	0.117	0.115	0.121	1.104	235.398	0	Yes	0.131	1.492
400	13C074M	13C073M	6	84.454	0.109	22.706	22.706	0	0	0	0	Free Surfa	4.105	0.114	0.027	0.057	0.11	3.671	831.985	0	Yes	0.106	1.668
400026	15C048M	15C047M	8	346.994	0.053	29.184	29.184	0	0	0	0	Free Surfa	3.313	0.105	0.023	0.07	0.116	2.667	1,251.46	0	No	0.07	3.313
400028	15C047M	15C046M	8	92.815	0.097	29.184	29.184	0	0	0	0	Free Surfa	4.092	0.091	0.017	0.061	0.116	3.545	1,693.37	0	Yes	0.062	4.009
400030	15C046M	15C044U	8	115.893	0.086	29.184	29.184	0	0	0	0	Free Surfa	3.928	0.094	0.018	0.063	0.116	3.355	1,597.39	0	Yes	0.09	2.32
400032	15C044U	15C043U	8	73.321	0.014	42.449	42.449	0	0	0	0	Free Surfa	2.302	0.175	0.067	0.117	0.14	1.425	635.075	0	Yes	0.122	2.162
400034	15C041M	15C039M	8	192.825	0.005	42.449	42.449	0	0	0	0	Free Surfa	1.636	0.222	0.108	0.148	0.14	0.893	391.613	0	No	0.148	1.636
400038	15C102M	15C039M	8	304.208	0.054	7.959	7.959	0	0	0	0	Free Surfa	2.252	0.057	0.006	0.038	0.06	2.484	1,264.78	0	Yes	0.089	0.641
400040	15C039M	RALSTON_	8	108.473	0.009	50.408	50.408	0	0	0	0	Free Surfa	2.109	0.21	0.097	0.14	0.153	1.187	522.129	0	No	0.14	2.109
400042	10C249M	10C248M	8	96.336	0.033	18.825	18.825	0	0	0	0	Free Surfa	2.461	0.096	0.019	0.064	0.092	2.081	988.003	0	Yes	0.066	2.347
400044	10C248M	10C247M	8	111.622	0.025	18.825	18.825	0	0	0	0	Free Surfa	2.241	0.102	0.022	0.068	0.092	1.834	864.348	0	Yes	0.093	1.422
400046	10C247M	10C246U	8	308.941	0.003	18.825	18.825	0	0	0	0	Free Surfa	1.009	0.177	0.068	0.118	0.092	0.621	276.724	0	No	0.118	1.009
400048	10C243M	10C242M	8	70.177	0.021	25.469	25.469	0	0	0	0	Free Surfa	2.283	0.124	0.033	0.083	0.108	1.691	779.244	0	Yes	0.091	1.989
400050	10C242M	10C241M	8	48.759	0.01	25.469	25.469	0	0	0	0	Free Surfa	1.755	0.148	0.048	0.099	0.108	1.184	535.602	0	No	0.099	1.755
400052	10C241M	10C239L	8	222.504	0.032	38.757	38.757	0	0	0	0	Free Surfa	3.036	0.136	0.04	0.091	0.134	2.144	978.423	0	No	0.091	3.036
400054	10C263M	10C262M	8	219.353	0.045	11.073	11.073	0	0	0	0	Free Surfa	2.335	0.069	0.01	0.046	0.071	2.329	1,153.99	0	No	0.046	2.335
400056	10C262M	10C239L	8	132.461	0.072	11.073	11.073	0	0	0	0	Free Surfa	2.75	0.062	0.008	0.041	0.071	2.901	1,459.38	0	Yes	0.056	1.759
400058	10C239L	10C238M	8	109.012	0.152	49.83	49.83	0	0	0	0	Free Surfa	5.628	0.106	0.023	0.071	0.152	4.522	2,121.41	0	Yes	0.089	4.007
40006	10C264M	10C241M	8	172.986	0.002	8.859	8.859	0	0	0	0	Free Surfa	0.794	0.124	0.033	0.083	0.063	0.588	271.124	0	Yes	0.087	0.741
400060	10C238M	10C237U	8	30	0.026	49.83	49.83	0	0	0	0	Free Surfa	3.047	0.161	0.056	0.107	0.152	1.97	884.128	0	Yes	0.155	1.797
40008	10C266M	10C264M	8	56.64	0.023	8.859	8.859	0	0	0	0	Free Surfa	1.73	0.073	0.011	0.049	0.063	1.68	826.383	0	Yes	0.066	1.113
40010	06C091M	06C089M	6	129.649	0.163	2.093	2.093	0	0	0	0	Free Surfa	2.295	0.034	0.002	0.017	0.033	3.809	1,020.91	0	Yes	0.017	2.262
40012	15T014M	15T013M	6	30.013	0.129	530.507	530.507	0	0	0	0	Free Surfa	10.697	0.549	0.585	0.275	0.485	4	907.407	0	Yes	0.5	6.02
40014	15T013M	15T012M	6	154.756	0.049	567.649	567.649	0	0	0	0	Pressurize	6.441	1	1.019	0.5	0.488	1.605	557.164	0	No	0.5	6.441
40018	15C126M	15C124M	6	361.166	0.005	47.755	47.755	0	0	0	0	Free Surfa	1.753	0.348	0.26	0.174	0.161	0.865	183.864	0	No	0.174	1.753
40020	13C067M	13C066M	6	77.118	0.119	95.603	95.603	0	0	0	0	Free Surfa	6.49	0.224	0.11	0.112	0.231	4.075	870.184	0	No	0.112	6.49
40022	13C066M	13C064M	6	262.532	0.119	95.603	95.603	0	0	0	0	Free Surfa	6.492	0.224	0.11	0.112	0.231	4.078	870.743	0	No	0.112	6.492
40024	13C132M	13C131M	6	33.807	0.307	20.315	20.315	0	0	0	0	Free Surfa	5.709	0.084	0.015	0.042	0.104	5.954	1,399.88	0	No	0.042	5.709
40026	14C016U	14C014M	6	214.205	0.191	66.607	66.607	0	0	0	0	Free Surfa	6.903	0.167	0.06	0.083	0.192	5.065	1,103.97	0	Yes	0.085	6.718
40028	14C014M	14C013M	6	60.828	0.164	66.607	66.607	0	0	0	0	Free Surfa	6.541	0.173	0.065	0.086	0.192	4.707	1,022.87	0	Yes	0.096	5.636
40030	13T057M	13T056M	8	250.295	0.034	9.56	9.56	0	0	0	0	Free Surfa	2.021	0.069	0.01	0.046	0.066	2.018	999.824	0	Yes	0.667	0.061
40032	13T056M	13T003M	8	122.387	0.01	9.56	9.56	0	0	0	0	Pressurize	1.334	0.092	0.017	0.061	0.066	1.154	551.111	0	Yes	0.667	0.061
40034	13T003M	13T002M	8	13.005	0.014	1,820.45	1,820.45	0	0	0	0	Pressurize	11.62	1	2.807	0.667	0.564	2.508	648.589	0	Yes	0.667	11.62
40036	13T002M	13T001M	8	13.005	0.047	1,820.45	1,820.45	0	0	0	0	Pressurize	11.62	1	1.547	0.667	0.652	2.508	1,176.77	0	Yes	0.667	11.62
40038	02C093M	02T025M	24	63.471	0.061	6,396.60	6,396.60	0	0	0	0	Free Surfa	14.851	0.345	0.255	0.689	1.36	3.684	25,044.52	0	Yes	1.049	8.54
40040	02T024M	02T023M	27	193.433	0.002	6,402.78	6,402.78	0	0	0	0	Pressurize	3.588	1	1.093	2.25	1.255	0.422	5,860.50	0	No	2.25	3.588
40042	09C033M	09C030U	6	118.311	0.029	27.333	27.333	0	0	0	0	Free Surfa	2.726	0.171	0.064	0.086	0.121	1.972	428.928	0	Yes	0.088	2.597
40044	03C016L	03C014M	6	135.565	0.005	72.566	72.566	0	0	0	0	Free Surfa	1.977	0.434	0.391	0.217	0.2	0.858	185.671	0	Yes	0.225	1.886
40046	03C014M	03C013L	6	87.902	0.004	72.566	72.566	0	0	0	0	Free Surfa	1.802	0.466	0.443	0.233	0.2	0.749	163.82	0	Yes	0.371	1.036
40048	09C106L	09C104M	6	191.069	0.098	12.947	12.947	0	0	0	0	Free Surfa	3.35	0.089	0.016	0.045	0.083	3.395	792.401	0	Yes	0.046	3.205
40050	11T005M	11T004M	8	43.793	0.091	445.818	445.818	0	0	0	0	Free Surfa	8.92	0.356	0.271	0.237	0.473	3.763	1,643.49	0	Yes	0.287	6.907
40052	10T014M	10T013M	10	157.374	0.09	2,383.62	2,383.62	0	0	0	0	Free Surfa	13.456	0.68	0.805	0.566	0.823	3.329	2,961.63	0	No	0.566	13.456
40054	10T013M	10T012M	10	85.858	0.247	2,463.14	2,463.14	0	0	0	0	Free Surfa	20.046	0.502	0.503	0.418	0.824	6.163	4,901.17	0	No	0.418	20.046
40056	10T012M	11T071M	12	209.534	0.122	3,194.15	3,194.15	0	0	0	0	Free Surfa	16.419	0.541	0.57	0.541	0.977	4.388	5,605.19	0	Yes	0.586	14.874
40060	11T071M	11T069M	12	156.473	0.075	3,194.15	3,194.15	0	0	0	0	Free Surfa	13.614	0.632	0.726	0.632	0.977	3.259	4,401.82	0	Yes	1	9.061
40062	13C082M	13T016M	6	9.521	0.153	41.826	41.826	0	0	0	0	Pressurize	5.557	0.14	0.042	0.07	0.151	4.457	987.425	0	Yes	0.5	0.475
40064	11C123M	11C107M	6	62.909	0.036	14.563	14.563	0	0	0	0	Free Surfa	2.438	0.12	0.03	0.06	0.088	2.122	478.059	0	No	0.06	2.438
40066	11C107M	11C106L	6	129.588	0.07	14.563	14.563	0	0	0	0	Free Surfa	3.075	0.102	0.022	0.051	0.088	2.904	666.429	0	Yes	0.056	2.708
40068	11C078M	11C077M	6	301.651	0.032	34.889	34.889	0	0	0	0	Free Surfa	3.044	0.188	0.077	0.094	0.137	2.098	452.908	0	No	0.094	3.044
40070	11C077M	11C076M	6	291.939	0.056	34.889	34.889	0	0	0	0	Free Surfa	3.71	0.164	0.058	0.082	0.137	2.748	599.835	0	Yes	0.089	3.288
40072	11C076M	11C074M	8	210.963	0.056	57.643	57.643	0	0	0	0	Free Surfa	4.142	0.144	0.045	0.096	0.164	2.837	1,286.49	0	No	0.096	4.142
40074	11C062M	11C061M	6	58.747	0.066	8.668	8.668	0	0	0	0	Free Surfa	2.574	0.081	0.013	0.041	0.067	2.736	646.402	0	Yes	0.044	2.297
40078	09C061U	09C059M	6	40.491	0.025	1.439	1.439	0	0	0	0	Free Surfa	1.062	0.044	0.004	0.022	0.027	1.541	396.813	0	No	0.022	1.062
40080	13C186M	13C164M	6	34.122	0.05	4.78	4.78	0	0	0	0	Free Surfa	1.953	0.065	0.008	0.033	0.05	2.317	563.601	0	No	0.033	1.953
40082	13C238M	13C237M	6	36.381	0.535	36.242	36.242	0	0	0	0	Free Surfa	8.253	0.097	0.02	0.049	0.14	8.001	1,847.52	0	No	0.049	8.253
40084	13C237M	13C236M	6	41.122	0.613	36.242	36.242	0	0	0	0	Free Surfa	8.651	0.094	0.018	0.047	0.14	8.525	1,976.33	0	Yes	0.053	7.228
40086	13T017M	13T016M	6	44.163	0.059	609.606	609.606	0	0	0	0	Pressurize	7.94	0.813	0.993	0.407	0.491	2.112	613.841	0	Yes	0.5	6.917
40088	02C034M	02C033M	6	205.495	0.088	24.488	24.488	0	0	0	0	Free Surfa	3.896	0.124	0.033	0.062	0.114	3.331	747.642	0	Yes	0.068	3.441
40090	07T057M	07T056M	10	161.401	0.021	136.101	136.101	0	0	0	0	Free Surfa	3.683	0.208	0.095	0.174	0.239	1.861	1,430.63	0	Yes	0.833	0.556
40092	02C136M	02C134U	6	154.4	0.07	38.058	38.058	0	0	0	0	Free Surfa	4.108	0.162	0.057	0.081	0.143	3.059	668.428	0	Yes	0.083	3.984
40096	06C173M	06C172M	6	153.17	0.099	11.51	11.51	0	0	0	0	Free Surfa	3.243	0.084	0.014	0.042	0.078	3.385	796.158	0	No	0.042	3.243
40098	06C026M	06C024M	6	52.901	0.009	77.431	77.431	0	0	0	0	Free Surfa	2.468	0.386	0.315	0.193	0.207	1.148	245.481	0	No	0.193	2.468
401	10C312U	10C311M	6	21.5	0.163	56.474	56.474	0	0	0	0	Free Surfa	6.212	0.16	0.055	0.08	0.176	4.657	1,018.92	0	Yes	0.099	4.584
40102	08C071U	08C069U	6	379.4	0.036	158.97	158.97	0	0	0	0	Free Surfa	4.894	0.396	0.331	0.198	0.302	2.242	480.378	0	Yes	0.199	4.851
40104	09C029M	HASTINGS	6	1	1	37.403	37.403	0	0	0	0	Free Surfa	10.362	0.085	0.015	0.042	0.142	10.752	2,525.02	0	No	0.042	10.362
40106	03C139M	03C107M	6	100.229	0.003	12.721	12.721	0	0	0	0	Free Surfa	0.978	0.205	0.092	0.103	0.082	0.644	138.143	0	Yes	0.212	0.357
40108	06C181M	06C179M	6	185.149	0.025	12.701	12.701	0	0	0	0	Free Surfa	2.051	0.123	0.032	0.061	0.082	1.763	396.049	0	No	0.061	2.051
40110	06C028M	06C027M	6	165.912	0.006	74.292	74.292	0	0	0	0	Free Surfa	2.071	0.427	0.379	0.213	0.203	0.908	196.032	0	No	0.213	2.071
40112	08C477M	08C476M	6	10.407	0.177	30.968	30.968	0	0	0	0	Free Surfa	5.346	0.117	0.029	0.059	0.129	4.704	1,062.30	0	Yes	0.068	4.274
40114	13C207M	13T206M	6	296.367	0.074	41.271	41.271	0	0	0	0	Free Surfa	4.284	0.166	0.06	0.083	0.15	3.145	685.623	0	Yes	0.104	3.098
40116	11C066M	11C064M	6	213.189	0.062	8.668	8.668	0	0	0	0	Free Surfa	2.521	0.082	0.014	0.041	0.067	2.66	627.398	0	Yes	0.042	2.438
40118	10C223M	10C217M	6	133.883	0.225	5.537	5.537	0	0	0	0	Free Surfa	3.453	0.049	0.005	0.025	0.054	4.732	1,198.66	0	Yes	0.036	1.994
40120	08C062M	08C061M	6	164.803	0.018	35.097	35.097	0	0	0	0	Free Surfa	2.479	0.218	0.104	0.109	0.138	1.58	337.941	0	Yes	0.162	1.417
40122	06C061M	06C017U	6	55.5	0.027	121.378	121.378	0	0	0	0	Free Surfa	4.091	0.37	0.292	0.185	0.262	1.948	415.387	0	No	0.185	4.091
40124	06C013M	06C012M	6	145.7	0.048	228.107	228.107	0	0	0	0	Free Surfa	5.966	0.448	0.413	0.224	0.363	2.54	552.112	0	No	0.224	5.966
40126	06C183M	06C182M	6	72.844	0.026	13.603	13.603	0	0	0	0	Free Surfa	2.141	0.125	0.033	0.062	0.085	1.823	408.762	0	No	0.062	2.141
40128	08C162M	08C161M	6	187.761	0.026	94.969	94.969	0	0	0	0	Free Surfa	3.78	0.328	0.232	0.164	0.231	1.929	409.153	0	No	0.164	3.78
40130	04C109M	04C108M	6	10.881	0.05	18.976	18.976	0	0	0	0	Free Surfa	2.967	0.126	0.034	0.063	0.1	2.521	565.104	0	No	0.063	2.967
40132	04C108M	04C011M	6	63.915	0.086	18.976	18.976	0	0	0	0	Free Surfa	3.591	0.11	0.026	0.055	0.1	3.263	742.251	0	Yes	0.199	0.581
40134	08C307M	08C301M	6	199.984	0.123	20.646	20.646	0	0	0	0	Free Surfa	4.165	0.105	0.023	0.053	0.105	3.871	884.964	0	Yes	0.089	1.954
40136	06C161M	06C159M	6	4.721	0.212	51.127	51.127	0	0	0	0	Free Surfa	6.615	0.143	0.044	0.071	0.167	5.256	1,162.11	0	Yes	0.081	5.551
40142	01C002U	01T001M	6	498.302	0.001	815.684	815.684	0	0	0	0	Pressurize	9.256	1	12.496	0.5	0.19	2.307	65.274	0	Yes	0.5	9.256
40144	10T004U	10T003U	15	91	0.123	4,110.83	4,110.83	0	0	0	0	Free Surfa	17.531	0.442	0.403	0.552	1.161	4.762	10,207.68	0	Yes	0.782	11.334
40146	11T001M	10T004U	10	925.299	0.012	685.446	685.446	0	0	0	0	Free Surfa	4.713	0.574	0.627	0.479	0.554	1.324	1,092.44	0	No	0.479	4.713
40148	15C040M	15C037M	6	100.215	0.033	108.775	108.775	0	0	0	0	Free Surfa	4.283	0.33	0.236	0.165	0.248	2.176	461.659	0	No	0.165	4.283
40150	10T002U	10T001L	18	97	0.017	4,110.83	4,110.83	0	0	0	0	Free Surfa	8.361	0.595	0.663	0.892	1.17	1.709	6,202.64	0	No	0.892	8.361
40154	15C141U	15C121M	6	203	0.021	2.653	2.653	0	0	0	0	Free Surfa	1.206	0.061	0.007	0.03	0.037	1.484	364.577	0	Yes	0.093	0.235
40156	10C017U	10T016M	8	82	0.07	380.869	380.869	0	0	0	0	Free Surfa	7.775	0.351	0.264	0.234	0.436	3.308	1,443.76	0	Yes	0.364	4.348
40158	10C228M	10T013M	6	93	0.009	79.521	79.521	0	0	0	0	Free Surfa	2.401	0.402	0.34	0.201	0.21	1.091	234.044	0	Yes	0.309	1.388
40160	10C237U	10C236M	8	175	0.123	98.832	98.832	0	0	0	0	Free Surfa	6.404	0.155	0.052	0.103	0.216	4.227	1,904.08	0	Yes	0.109	5.956
40161	13C140M	13C109M	6	166.349	0.132	23.901	23.901	0	0	0	0	Free Surfa	4.467	0.111	0.026	0.056	0.113	4.041	918.261	0	Yes	0.076	2.842
40162	10C246U	10C244U	8	80	0.008	18.825	18.825	0	0	0	0	Free Surfa	1.465	0.136	0.04	0.091	0.092	1.033	470.944	0	No	0.091	1.465
40163	15C165M	15C167M	6	58.892	0.031	55.714	55.714	0	0	0	0	Free Surfa	3.461	0.238	0.124	0.119	0.175	2.102	447.53	0	Yes	0.123	3.312
40164	10C244U	10C243M	8	75	0.008	18.825	18.825	0	0	0	0	Free Surfa	1.499	0.134	0.039	0.09	0.092	1.065	486.389	0	No	0.09	1.499
40165	12C090M	12C091M	6	88.292	0.081	21.193	21.193	0	0	0	0	Free Surfa	3.635	0.118	0.029	0.059	0.106	3.192	720.457	0	Yes	0.073	2.663
40166	08C533U	08C532M	6	205	0.039	26.839	26.839	0	0	0	0	Free Surfa	3.027	0.157	0.054	0.079	0.12	2.289	501.667	0	No	0.079	3.027
40167	12C130M	12T052M	6	70.561	0.157	30.586	30.586	0	0	0	0	Free Surfa	5.113	0.12	0.031	0.06	0.128	4.448	1,001.98	0	Yes	0.181	1.062
40168	08C679U	08C678L	8	30.863	0.078	3.066	3.066	0	0	0	0	Free Surfa	1.914	0.033	0.002	0.022	0.037	2.762	1,522.12	0	Yes	0.034	1.018
40169	08C675U	08C677M	6	105.215	0.02	6.194	6.194	0	0	0	0	Free Surfa	1.542	0.091	0.017	0.046	0.057	1.541	358.59	0	No	0.046	1.542
40171	08C679U	08C675U	6	41.169	0.11	3.128	3.128	0	0	0	0	Free Surfa	2.263	0.044	0.004	0.022	0.04	3.262	838.509	0	Yes	0.5	0.035
40173	08C240M	08C239M	6	86.07	0.039	26.839	26.839	0	0	0	0	Free Surfa	3.018	0.157	0.054	0.079	0.12	2.28	499.488	0	No	0.079	3.018
40175	08T015M	08T014M	10	144.82	0.11	1,567.16	1,567.16	0	0	0	0	Free Surfa	13.225	0.487	0.479	0.406	0.783	4.14	3,272.98	0	No	0.406	13.225
40177	02C140M	02C141M	6	92.119	0.043	28.755	28.755	0	0	0	0	Free Surfa	3.184	0.159	0.055	0.08	0.124	2.393	523.724	0	No	0.08	3.184
40179	08C060M	08C059M	6	147.712	0.013	111.486	111.486	0	0	0	0	Free Surfa	3.069	0.431	0.385	0.215	0.251	1.338	289.224	0	Yes	0.5	1.265
40181	03T100U	03T099U	10	103.594	0.006	705.966	705.966	0	0	0	0	Free Surfa	3.494	0.769	0.938	0.641	0.562	0.769	752.247	0	Yes	0.652	3.436
40183	03C105U	03C103U	8	142.04	0.001	82.958	82.958	0	0	0	0	Free Surfa	1.079	0.493	0.488	0.328	0.197	0.375	170.114	0	No	0.328	1.079
40185	03C110M	03C107M	6	124.438	0.001	60.203	60.203	0	0	0	0	Free Surfa	0.987	0.653	0.761	0.327	0.182	0.326	79.062	0	No	0.327	0.987

ID	From ID	To ID	Diameter (	Length (ft)	Slope	Total Flow	Unpeakabl	Peakable F	Coverage F	Infiltration	Storm Flov	Flow Type	Velocity (ft	d/D	q/Q	Water Dep	Critical De	Froude Nu	Full Flow (g	Coverage (	Backwater	Adjusted D	Adjusted V
40186	11C054U	11C053U	6	236.645	0.004	24.27	24.27	0	0	0	0	Free Surfa	1.334	0.26	0.148	0.13	0.114	0.773	164.141	0	Yes	0.13	1.333
40187	03C115M	03C113M	6	142.18	0.003	10.034	10.034	0	0	0	0	Free Surfa	0.948	0.178	0.069	0.089	0.073	0.672	145.792	0	Yes	0.13	0.553
40188	11C053U	11C052U	6	225.844	0.004	24.27	24.27	0	0	0	0	Free Surfa	1.332	0.26	0.148	0.13	0.114	0.772	163.765	0	Yes	0.138	1.229
40189	06C220M	06C218M	8	92.938	0.032	17.788	17.788	0	0	0	0	Free Surfa	2.397	0.094	0.018	0.063	0.09	2.048	975.063	0	No	0.063	2.397
40190	11C126U	11C052U	6	255.142	0.039	6.068	6.068	0	0	0	0	Free Surfa	1.928	0.077	0.012	0.039	0.056	2.098	498.638	0	Yes	0.092	0.544
40191	02T025M	02T024M	24	225.302	0.005	6,399.24	6,399.24	0	0	0	0	Free Surfa	5.67	0.746	0.907	1.493	1.36	0.831	7,058.46	0	Yes	1.906	4.617
40192	11C052U	11C051U	6	270.952	0.004	30.338	30.338	0	0	0	0	Free Surfa	1.424	0.291	0.184	0.145	0.128	0.776	164.501	0	Yes	0.146	1.418
40193	02T020U	02T021L	27	61.443	0.005	7,978.06	7,978.06	0	0	0	0	Free Surfa	6.088	0.689	0.819	1.549	1.473	0.906	9,738.93	0	No	1.549	6.088
40194	11C051U	11C049U	6	176.248	0.004	30.338	30.338	0	0	0	0	Free Surfa	1.412	0.293	0.187	0.146	0.128	0.767	162.504	0	No	0.146	1.412
40195	02C082M	02T020U	8	18.323	0.36	124.323	124.323	0	0	0	0	Free Surfa	10.01	0.133	0.038	0.089	0.243	7.139	3,263.72	0	Yes	0.667	0.794
40196	11C049U	11C048U	6	176.079	0.004	30.338	30.338	0	0	0	0	Free Surfa	1.426	0.291	0.184	0.145	0.128	0.778	164.794	0	Yes	0.151	1.349
40197	02C273M	02T013L	21	23.034	0.068	315.417	315.417	0	0	0	0	Free Surfa	6.473	0.091	0.017	0.159	0.298	3.472	18,527.28	0	Yes	0.789	0.668
40198	11C124U	11C048U	6	217.651	0.058	4.551	4.551	0	0	0	0	Free Surfa	2.026	0.062	0.007	0.031	0.049	2.475	607.051	0	Yes	0.094	0.396
40199	02C038M	04C015U	6	62.006	0.198	16.177	16.177	0	0	0	0	Free Surfa	4.573	0.084	0.014	0.042	0.093	4.779	1,124.15	0	Yes	0.042	4.564
402	10C332M	10C312U	6	141.072	0.007	4.429	4.429	0	0	0	0	Free Surfa	0.978	0.099	0.02	0.05	0.048	0.938	216.07	0	Yes	0.065	0.662
40200	11C048U	11C047U	6	154.013	0.004	34.889	34.889	0	0	0	0	Free Surfa	1.47	0.314	0.214	0.157	0.137	0.768	162.771	0	Yes	0.174	1.28
40201	04C015U	04C010U	6	63.712	0.196	16.177	16.177	0	0	0	0	Free Surfa	4.555	0.084	0.014	0.042	0.093	4.754	1,117.98	0	No	0.042	4.555
40202	11C047U	11C046U	6	90.552	0.004	51.167	51.167	0	0	0	0	Free Surfa	1.657	0.381	0.309	0.191	0.167	0.776	165.71	0	Yes	0.191	1.651
40203	04C010U	04T009M	6	107.082	0.199	16.177	16.177	0	0	0	0	Free Surfa	4.581	0.084	0.014	0.042	0.093	4.79	1,126.94	0	Yes	0.102	1.256
40204	11C046U	11C044U	6	89.896	0.004	51.167	51.167	0	0	0	0	Free Surfa	1.645	0.383	0.312	0.192	0.167	0.768	164.167	0	No	0.192	1.645
40205	02C095M	02C094M	6	182.92	0.028	37.662	37.662	0	0	0	0	Free Surfa	2.961	0.202	0.089	0.101	0.143	1.964	421.825	0	Yes	0.116	2.417
40206	11C044U	11C043U	6	63.542	0.004	51.167	51.167	0	0	0	0	Free Surfa	1.649	0.383	0.311	0.191	0.167	0.77	164.595	0	No	0.191	1.649
40207	04C035M	04T002M	6	24.891	0.001	41.658	41.658	0	0	0	0	Free Surfa	1.029	0.468	0.446	0.234	0.15	0.426	93.322	0	Yes	0.495	0.474
40208	11C043U	11C042M	6	169.647	0.004	51.167	51.167	0	0	0	0	Free Surfa	1.664	0.38	0.307	0.19	0.167	0.781	166.766	0	No	0.19	1.664
40209	04C040M	04C039M	6	185.139	0.023	28.043	28.043	0	0	0	0	Free Surfa	2.521	0.184	0.074	0.092	0.123	1.756	379.859	0	No	0.092	2.521
40210	10T009U	10T008M	12	128	0.035	3,214.08	3,214.08	0	0	0	0	Pressurize	9.118	1	1.079	1	0.969	1.607	2,979.39	0	No	1	9.118
40211	04C180M	04C178M	6	70.24	0.142	13.167	13.167	0	0	0	0	Free Surfa	3.829	0.082	0.014	0.041	0.083	4.04	952.736	0	Yes	0.045	3.311
40212	10C212U	10T009U	8	189	0.075	19.933	19.933	0	0	0	0	Free Surfa	3.326	0.081	0.013	0.054	0.095	3.061	1,484.42	0	No	0.054	3.326
40213	05T130M	05T109M	18	70.39	0.017	5,536.71	5,536.71	0	0	0	0	Free Surfa	8.895	0.732	0.886	1.098	1.327	1.534	6,246.33	0	No	1.098	8.895
40214	10T003U	10T002U	18	177	0.016	4,110.83	4,110.83	0	0	0	0	Free Surfa	8.032	0.615	0.698	0.923	1.17	1.602	5,892.29	0	No	0.923	8.032
40215	02C195U	02C133L	6	221.433	0.137	15.062	15.062	0	0	0	0	Free Surfa	3.931	0.088	0.016	0.044	0.089	3.995	933.268	0	Yes	0.071	1.949
40216	11C063U	11C062M	6	66.443	0.03	8.668	8.668	0	0	0	0	Free Surfa	1.956	0.098	0.02	0.049	0.067	1.89	436.106	0	No	0.049	1.956
40217	02C175M	02C166M	6	135.49	0.073	22.156	22.156	0	0	0	0	Free Surfa	3.548	0.123	0.032	0.062	0.109	3.04	682.645	0	Yes	0.095	1.907
40218	08C371U	08C369U	6	75.139	0.093	142.454	142.454	0	0	0	0	Free Surfa	6.682	0.291	0.185	0.146	0.285	3.641	771.463	0	Yes	0.15	6.411
40219	02C130M	02C127M	6	231.138	0.015	155.918	155.918	0	0	0	0	Free Surfa	3.521	0.502	0.503	0.251	0.299	1.397	309.827	0	Yes	0.253	3.487
40220	06C152U	06C151U	6	63.611	0.151	115.359	115.359	0	0	0	0	Free Surfa	7.461	0.232	0.118	0.116	0.255	4.601	980.922	0	Yes	0.13	6.319
40221	02C125M	02C126M	6	34.736	0.015	165.147	165.147	0	0	0	0	Pressurize	3.561	0.521	0.535	0.26	0.308	1.38	308.645	0	Yes	0.5	1.874
40222	06C151U	06C149M	6	206.164	0.063	115.359	115.359	0	0	0	0	Free Surfa	5.453	0.289	0.183	0.145	0.255	2.981	631.518	0	Yes	0.149	5.237
40223	08T005M	08T003M	15	253.152	0.018	2,705.13	2,705.13	0	0	0	0	Free Surfa	7.611	0.615	0.698	0.769	0.993	1.662	3,877.14	0	Yes	1.25	4.911
40224	06C157U	06C147M	6	147.115	0.081	3.139	3.139	0	0	0	0	Free Surfa	2.034	0.048	0.004	0.024	0.04	2.823	717.81	0	Yes	0.114	0.207
40225	08C125M	08T004M	6	225.761	0.018	10.323	10.323	0	0	0	0	Free Surfa	1.718	0.12	0.031	0.06	0.074	1.493	336.101	0	Yes	0.371	0.147
40226	06C158U	06C157U	6	145.459	0.027	3.139	3.139	0	0	0	0	Free Surfa	1.383	0.062	0.008	0.031	0.04	1.683	412.392	0	No	0.031	1.383
40227	460264	06C221M	6	101.368	0.039	9.417	9.417	0	0	0	0	Free Surfa	2.208	0.095	0.019	0.048	0.07	2.163	500.643	0	Yes	0.049	2.117
40228	06T121M	06C234U	12	7.846	0.01	161.118	161.118	0	0	0	0	Free Surfa	2.933	0.213	0.1	0.213	0.247	1.337	1,618.98	0	Yes	0.217	2.861
40229	06C225M	06C221M	6	189.143	0.01	8.371	8.371	0	0	0	0	Free Surfa	1.343	0.123	0.032	0.062	0.066	1.152	258.672	0	No	0.062	1.343
40230	06T119U	06C233U	12	9.288	0.022	81.402	81.402	0	0	0	0	Free Surfa	3.116	0.127	0.035	0.127	0.174	1.859	2,352.75	0	Yes	0.199	1.632
40231	06T003M	NORTH_R0	12	17.703	0.056	620.594	620.594	0	0	0	0	Free Surfa	7.961	0.273	0.163	0.273	0.497	3.177	3,810.64	0	No	0.273	7.961
40232	06C234U	06C233U	12	247.701	0.009	161.118	161.118	0	0	0	0	Free Surfa	2.793	0.221	0.107	0.221	0.247	1.25	1,511.02	0	Yes	0.246	2.395
40233	02C210M	02C134U	6	136.708	0.015	0.886	0.886	0	0	0	0	Free Surfa	0.763	0.04	0.003	0.02	0.021	1.168	305.41	0	Yes	0.024	0.568
40234	06C233U	06T002M	12	329.077	0.009	242.52	242.52	0	0	0	0	Free Surfa	3.141	0.271	0.161	0.271	0.305	1.259	1,509.53	0	No	0.271	3.141
40235	09C120M	09C117M	8	122.539	0.009	9.864	9.864	0	0	0	0	Free Surfa	1.28	0.096	0.019	0.064	0.067	1.079	512.173	0	No	0.064	1.28
40236	08C261U	08C258M	6	136.904	0.015	10.323	10.323	0	0	0	0	Free Surfa	1.606	0.126	0.034	0.063	0.074	1.362	305.191	0	Yes	0.096	0.874
40237	09C005M	09C010M	8	50.744	0.197	125.772	125.772	0	0	0	0	Free Surfa	8.129	0.155	0.052	0.103	0.245	5.361	2,414.05	0	Yes	0.108	7.629
40239	09C010M	09C008M	8	193.669	0.138	125.772	125.772	0	0	0	0	Free Surfa	7.179	0.169	0.062	0.113	0.245	4.527	2,023.17	0	Yes	0.115	6.954
40240	02C179U	02C178M	6	83.468	0.015	54.893	54.893	0	0	0	0	Free Surfa	2.639	0.286	0.178	0.143	0.173	1.452	307.763	0	No	0.143	2.639
40241	09C110M	09T042M	6	144.971	0.045	0	0	0	0	0	0	Free Surfa	0	0	0	0	0	0	533.058	0	Yes	0.071	0
40242	02C177U	02C128M	6	206.333	0.015	54.893	54.893	0	0	0	0	Free Surfa	2.641	0.286	0.178	0.143	0.173	1.454	307.999	0	Yes	0.188	1.815
40243	11T006M	11T005M	8	145.016	0.028	445.818	445.818	0	0	0	0	Free Surfa	5.746	0.496	0.494	0.331	0.473	1.989	903.152	0	No	0.331	5.746
40244	02C274U	03C158M	6	54.324	0.008	93.624	93.624	0	0	0	0	Free Surfa	2.454	0.447	0.412	0.224	0.229	1.046	227.246	0	Yes	0.231	2.354
40245	10C255M	10C229U	8	313.743	0.145	4.429	4.429	0	0	0	0	Free Surfa	2.653	0.034	0.002	0.023	0.045	3.776	2,071.80	0	Yes	0.073	0.473
40246	02T162U	02T161U	21	261.183	0.018	3,156.32	3,156.32	0	0	0	0	Free Surfa	7.93	0.396	0.331	0.693	0.981	1.942	9,534.92	0	Yes	1.75	2.924
40247	08C540U	08C535U	6	223.953	0.018	6.194	6.194	0	0	0	0	Free Surfa	1.477	0.094	0.018	0.047	0.057	1.456	337.455	0	No	0.047	1.477
40248	02T161U	02C123U	21	88.516	0.006	3,294.42	3,294.42	0	0	0	0	Free Surfa	5.218	0.567	0.615	0.992	1.003	1.021	5,359.27	0	Yes	1.75	3.052
40249	08C535U	08C027M	6	92.065	0.022	6.194	6.194	0	0	0	0	Free Surfa	1.582	0.09	0.017	0.045	0.057	1.596	372.162	0	Yes	0.193	0.197
40250	02T242M	02T118M	6	4.467	0.071	139.9	139.9	0	0	0	0	Pressurize	6.033	0.309	0.208	0.155	0.283	3.18	673.706	0	Yes	0.5	1.587
40251	05C035M	05C036M	6	26.395	0.286	22.904	22.904	0	0	0	0	Free Surfa	5.774	0.091	0.017	0.045	0.111	5.799	1,350.54	0	Yes	0.05	5.053
40252	02C271M	02C062M	6	302.073	0.007	16.663	16.663	0	0	0	0	Free Surfa	1.407	0.192	0.081	0.096	0.094	0.958	206.585	0	Yes	0.115	1.089
40253	09C030U	09C032U	6	80.099	0.022	27.333	27.333	0	0	0	0	Free Surfa	2.479	0.183	0.073	0.091	0.121	1.733	374.821	0	No	0.091	2.479
40254	02C026U	02C080M	6	210.585	0.007	122.976	122.976	0	0	0	0	Pressurize	2.504	0.545	0.577	0.272	0.264	0.942	213.107	0	Yes	0.5	1.395
40255	09C035M	09C034M	6	22.367	0.14	13.666	13.666	0	0	0	0	Free Surfa	3.848	0.084	0.014	0.042	0.085	4.015	944.266	0	Yes	0.052	2.847
40256	02C086U	02C084U	6	159.001	0.008	69.447	69.447	0	0	0	0	Free Surfa	2.208	0.387	0.317	0.193	0.196	1.026	219.359	0	Yes	0.208	2.002
40257	02C100U	02T003M	6	329.66	0.012	1.329	1.329	0	0	0	0	Free Surfa	0.804	0.05	0.005	0.025	0.026	1.091	275.449	0	Yes	0.5	0.015
40258	02C084U	02C083M	6	69.009	0.014	124.323	124.323	0	0	0	0	Free Surfa	3.276	0.445	0.409	0.223	0.266	1.4	303.957	0	No	0.223	3.276
40259	01C035M	01T001M	27	55.4	0.208	1,104.84	1,104.84	0	0	0	0	Free Surfa	13.509	0.092	0.017	0.206	0.528	6.356	63,501.02	0	Yes	0.478	3.989
40260	02C080M	02C081M	6	18.376	0.204	272.968	272.968	0	0	0	0	Pressurize	10.621	0.333	0.24	0.167	0.396	5.37	1,139.59	0	Yes	0.5	3.097
40262	02C078U	02T074M	8	18.179	0.003	315.227	315.227	0	0	0	0	Pressurize	2.012	1	1.009	0.667	0.394	0.434	312.413	0	Yes	0.667	2.012
40264	02T022U	02T020U	27	28.331	0.021	7,436.48	7,436.48	0	0	0	0	Free Surfa	10.43	0.421	0.369	0.947	1.421	2.174	20,130.26	0	Yes	1.294	6.997
40265	01T015M	01C012M	6	247.458	0.014	1.081	1.081	0	0	0	0	Free Surfa	0.8	0.044	0.004	0.022	0.024	1.162	299.35	0	Yes	0.063	0.168
40266	02C078U	02T073U	12	22.295	0.005	663.564	663.564	0	0	0	0	Pressurize	3.325	0.552	0.589	0.552	0.515	0.876	1,126.20	0	Yes	1	1.882
40267	01C065U	01C054U	6	22.1	0.108	0.648	0.648	0	0	0	0	Free Surfa	1.389	0.021	0.001	0.011	0.018	2.888	830.189	0	Yes	0.03	0.299
40268	02T073U	02T072U	12	30.358	0.005	996.156	996.156	0	0	0	0	Pressurize	3.502	0.752	0.915	0.752	0.637	0.72	1,088.80	0	Yes	1	2.826
40269	01C060U	01C052U	6	15.406	0.039	1.081	1.081	0	0	0	0	Free Surfa	1.142	0.034	0.002	0.017	0.024	1.872	499.964	0	Yes	0.36	0.016
40270	02T072U	02T022U	12	241.74	0.003	1,014.35	1,014.35	0	0	0	0	Pressurize	2.877	1	1.25	1	0.572	0.507	811.321	0	No	1	2.877
40272	04T027U	04T001U	10	206.255	0.002	97.441	97.441	0	0	0	0	Free Surfa	1.349	0.336	0.243	0.28	0.201	0.526	400.319	0	No	0.28	1.349
40274	02C068U	02C067U	8	239.647	0.008	57.526	57.526	0	0	0	0	Free Surfa	2.074	0.233	0.119	0.155	0.163	1.104	482.93	0	No	0.155	2.074
40276	02C067U	02C066M	8	192.381	0.008	57.526	57.526	0	0	0	0	Free Surfa	2.075	0.233	0.119	0.155	0.163	1.105	483.37	0	Yes	0.18	1.681
40278	15C043U	15C042U	8	103.95	0.01	42.449	42.449	0	0	0	0	Free Surfa	2.036	0.191	0.08	0.127	0.14	1.205	533.368	0	Yes	0.14	1.767
40280	15C042U	15C041M	8	223.016	0.004	42.449	42.449	0	0	0	0	Free Surfa	1.554	0.231	0.117	0.154	0.14	0.832	364.142	0	No	0.154	1.554
40282	11C121M	11C047U	6	497.879	0.027	16.278	16.278	0	0	0	0	Free Surfa	2.285	0.135	0.039	0.068	0.093	1.869	415.694	0	Yes	0.129	0.902
40284	02C102U	02C043M	6	148.544	0.081	1.329	1.329	0	0	0	0	Free Surfa	1.564	0.032	0.002	0.016	0.026	2.657	717.496	0	Yes	0.035	0.493
40286	03C083M	03C078U	6	302.054	0.005	15.051	15.051	0	0	0	0	Free Surfa	1.2	0.2	0.088	0.1	0.089	0.8	171.904	0	Yes	0.149	0.68
40288	03C037U	03C036M	8	349.671	0.004	24.452	24.452	0	0	0	0	Free Surfa	1.25	0.182	0.073	0.122	0.106	0.757	336.385	0	Yes	0.211	0.573
40290	03C066U	03C064M	6	230.996	0.038	24.009	24.009	0	0	0	0	Free Surfa	2.877	0.151	0.049	0.075	0.113	2.224	489.184	0	Yes	0.107	1.727
40292	10C267U	10C243M	8	128.352	0.008	6.644	6.644	0	0	0	0	Free Surfa	1.086	0.082	0.014	0.055	0.055	0.992	479.996	0	Yes	0.069	0.779
40294	10C229U	10C228M	8	174.819	0.134	149.564	149.564	0	0	0	0	Free Surfa	7.474	0.185	0.075	0.124	0.268	4.49	1,992.09	0	Yes	0.162	5.071
40296	10C250M	10C255M	8	285.19	0.063	4.429	4.429	0	0	0	0	Free Surfa	1.987	0.042	0.003	0.028	0.045	2.564	1,366.18	0	No	0.028	1.987
403	13C044M	13C043M	6	110.126	0.067	50.191	50.191	0	0	0	0	Free Surfa	4.394	0.187	0.077	0.094	0.166	3.032	654.761	0	Yes	0.094	4.365
40300	10C097M	08C351M	6	171.066	0.031	0.166	0.166	0	0	0	0	Free Surfa	0.594	0.015	0	0.008	0.009	1.469	445.83	0	Yes	0.055	0.031
40302	10T019U	10T018M	8	125.228	0.062	372.01	372.01	0	0	0	0	Free Surfa	7.384	0.358	0.274	0.239	0.431	3.105	1,356.48	0	Yes	0.241	7.295
40304	10T278U	10T019U	6	43.995	0.02	130.604	130.604	0	0	0	0	Free Surfa	3.737	0.418	0.366	0.209	0.273	1.658	357.112	0	Yes	0.224	3.417
40306	10T023M	10T022U	8	269.647	0.01	168.321	168.321	0	0	0	0	Free Surfa	3.081	0.38	0.307	0.253	0.285	1.252	548.871	0	Yes	0.275	2.759
40308	10T022U	10T021M	6	133.741	0.01	168.321	168.321	0	0	0	0	Free Surfa	3.086	0.594	0.661	0.297	0.311	1.094	254.532	0	No	0.297	3.086
40310	10T274U	10T273U	12	180.456	0.055	2,002.75	2,002.75	0	0	0	0	Free Surfa	10.866	0.518	0.531	0.518	0.884	2.987	3,774.30	0	No	0.518	10.866
40312	10T273U	10T016M	12	358.757	0.072	2,002.75	2,002.75	0	0	0	0	Free Surfa	12.016	0.479	0.464	0.479	0.884	3.473	4,316.27	0	Yes	0.487	11.759
40314	08C603U	08C038M	6	144.485	0.014	43.356	43.356	0	0	0	0	Free Surfa	2.443	0.255	0.143	0.128	0.153	1.43	303.687	0	Yes	0.236	1.062
40316	08C069U	08C068M	6	295.086	0.034	158.97	158.97	0	0	0	0	Free Surfa	4.809	0.401	0.339	0.201	0.302	2.186	468.991	0	Yes	0.222	4.197
40318	08T019U	08T018M	10	254.918	0.034	1,534.13	1,534.13	0	0	0	0	Free Surfa	8.368	0.701	0.839	0.584	0.779	2.015	1,828.81	0	No	0.584	8.368
40320	08T021M	08T019U	10	101.222	0.035	767.872	767.872	0	0	0	0	Free Surfa	7.152	0.452	0.419	0.376	0.587	2.347	1,831.60	0	Yes	0.48	5.256
40322	08T018M	08T017M	10	307.394	0.038	784.456	784.456	0	0	0	0	Free Surfa	7.427	0.446	0.41	0.372	0.593	2.456	1,912.88	0	Yes	0.833	3.204
40326	01C033U	01C029U	6	323.508	0.002	1.405	1.405	0	0	0	0	Free Surfa	0.475	0.074	0.011	0.037	0.027	0.528	126.191	0	No	0.037	0.475
40332	01C029U	01C028U	6	104.007	0.003	1.405	1.405	0	0	0	0	Free Surfa	0.477	0.074	0.011	0.037	0.027	0.531	126.973	0	Yes	0.042	0.398

ID	From ID	To ID	Diameter (	Length (ft)	Slope	Total Flow	Unpeakabl	Peakable F	Coverage F	Infiltration	Storm Flov	Flow Type	Velocity (ft	d/D	q/Q	Water Dep	Critical De	Froude Nu	Full Flow (g	Coverage (	Backwater	Adjusted D	Adjusted V
40334	01C067U	01C066U	6	99.093	0.003	0.27	0.27	0	0	0	0	Free Surfa	0.29	0.034	0.002	0.017	0.012	0.477	127.586	0	Yes	0.017	0.289
40336	01C066U	01C028U	6	82.526	0.003	0.27	0.27	0	0	0	0	Free Surfa	0.288	0.034	0.002	0.017	0.012	0.474	126.766	0	Yes	0.032	0.114
40338	01C028U	01C027U	6	87.525	0.002	2.269	2.269	0	0	0	0	Free Surfa	0.548	0.093	0.018	0.047	0.034	0.542	125.727	0	No	0.047	0.548
40340	01C027U	01C026U	6	29.168	0.003	2.269	2.269	0	0	0	0	Free Surfa	0.555	0.093	0.018	0.046	0.034	0.551	128.039	0	Yes	0.046	0.55
40342	01C026U	01C022U	6	192.187	0.002	2.269	2.269	0	0	0	0	Free Surfa	0.546	0.093	0.018	0.047	0.034	0.54	125.266	0	No	0.047	0.546
40348	01C022U	01C021U	6	87.754	0.003	2.269	2.269	0	0	0	0	Free Surfa	0.556	0.092	0.018	0.046	0.034	0.553	128.423	0	Yes	0.046	0.551
40350	01C021U	01C019U	6	38.696	0.002	2.269	2.269	0	0	0	0	Free Surfa	0.546	0.094	0.018	0.047	0.034	0.539	125.11	0	Yes	0.049	0.514
40352	01C019U	01C018U	6	281.673	0.002	2.701	2.701	0	0	0	0	Free Surfa	0.578	0.101	0.021	0.051	0.037	0.548	125.876	0	Yes	0.062	0.433
40354	01C018U	01C049U	6	247.575	0.001	2.701	2.701	0	0	0	0	Free Surfa	0.341	0.145	0.046	0.073	0.037	0.268	59.181	0	No	0.073	0.341
40356	01C062U	01C061U	6	261.087	0.003	1.945	1.945	0	0	0	0	Free Surfa	0.525	0.086	0.015	0.043	0.032	0.54	126.472	0	No	0.043	0.525
40358	01C061U	01C059U	6	19.092	0.003	1.945	1.945	0	0	0	0	Free Surfa	0.525	0.086	0.015	0.043	0.032	0.54	126.606	0	Yes	0.043	0.524
40360	01C059U	01C058U	6	152.498	0.002	1.945	1.945	0	0	0	0	Free Surfa	0.522	0.087	0.015	0.043	0.032	0.536	125.546	0	No	0.043	0.522
40362	01C058U	01C057U	6	68.323	0.003	1.945	1.945	0	0	0	0	Free Surfa	0.529	0.086	0.015	0.043	0.032	0.545	127.791	0	Yes	0.043	0.526
40364	01C057U	01C056U	6	41.395	0.002	1.945	1.945	0	0	0	0	Free Surfa	0.523	0.087	0.015	0.043	0.032	0.538	125.953	0	No	0.043	0.523
40366	01C056U	01C054U	6	64.999	0.002	1.945	1.945	0	0	0	0	Free Surfa	0.524	0.087	0.015	0.043	0.032	0.538	126.058	0	Yes	0.046	0.474
40368	01C064U	01C065U	6	274.868	0.007	0.648	0.648	0	0	0	0	Free Surfa	0.544	0.04	0.003	0.02	0.018	0.825	215.386	0	Yes	0.5	0.007
40370	01C054U	01C053U	6	26.704	0.003	2.593	2.593	0	0	0	0	Free Surfa	0.576	0.099	0.02	0.049	0.037	0.553	127.419	0	Yes	0.05	0.573
40372	01C053U	01C052U	6	98.455	0.002	2.593	2.593	0	0	0	0	Free Surfa	0.571	0.099	0.021	0.05	0.037	0.547	125.959	0	Yes	0.054	0.505
40374	01C063U	01C060U	6	145.178	0.007	1.081	1.081	0	0	0	0	Free Surfa	0.624	0.052	0.005	0.026	0.024	0.834	209.563	0	No	0.026	0.624
40376	01C052U	01C051U	6	122.082	0.003	3.674	3.674	0	0	0	0	Free Surfa	0.639	0.117	0.029	0.058	0.044	0.563	127.239	0	No	0.058	0.639
40378	01C051U	01C049U	6	118.82	0.003	3.674	3.674	0	0	0	0	Free Surfa	0.66	0.114	0.028	0.057	0.044	0.589	133.472	0	No	0.057	0.66
40380	01C049U	01C016M	6	31.703	0.01	6.375	6.375	0	0	0	0	Free Surfa	1.196	0.111	0.026	0.055	0.058	1.084	246.444	0	Yes	0.072	0.812
40382	02T103M	02T002U	27	13.655	0.025	5,907.35	5,907.35	0	0	0	0	Free Surfa	10.516	0.352	0.266	0.793	1.26	2.429	22,185.99	0	Yes	1.339	5.335
40384	01T003M	01C002U	6	247.42	0.015	810.618	810.618	0	0	0	0	Pressurize	9.198	1	2.6	0.5	0.421	2.292	311.81	0	Yes	0.5	9.198
40386	01T034M	01T006M	6	217.176	0	639.719	639.719	0	0	0	0	Pressurize	7.259	1	12.96	0.5	0.164	1.809	49.363	0	Yes	0.5	7.259
404	13C159L	13C158M	6	241.71	0.303	62.14	62.14	0	0	0	0	Free Surfa	7.948	0.144	0.045	0.072	0.185	6.289	1,389.34	0	Yes	0.089	5.887
40404	07T054M	07T039M	12	13.945	0.093	0	0	0	0	0	0	Free Surfa	0	0	0	0	0	0	4,876.49	0	No	0	0
405	15C119M	15C118M	6	224.599	0.035	206.938	206.938	0	0	0	0	Free Surfa	5.17	0.464	0.44	0.232	0.346	2.154	470.734	0	No	0.232	5.17
406	15C144M	15C143U	6	223.26	0.013	135.544	135.544	0	0	0	0	Pressurize	3.204	0.484	0.474	0.242	0.278	1.3	286.236	0	Yes	0.5	1.538
407	15C086U	15C084M	6	186.118	0.029	119.387	119.387	0	0	0	0	Free Surfa	4.164	0.361	0.279	0.181	0.26	2.012	428.342	0	No	0.181	4.164
408	15C084M	15T032L	6	222.478	0.031	119.387	119.387	0	0	0	0	Free Surfa	4.263	0.355	0.27	0.177	0.26	2.08	442.482	0	Yes	0.187	3.974
409	10C116M	10C112M	6	134.985	0.304	3.322	3.322	0	0	0	0	Free Surfa	3.277	0.036	0.002	0.018	0.042	5.247	1,391.51	0	Yes	0.021	2.535
41	12C163M	12C162M	6	75.81	0.076	13.754	13.754	0	0	0	0	Free Surfa	3.12	0.097	0.02	0.049	0.085	3.021	697.394	0	No	0.049	3.12
410	13C043M	13C042M	6	307.511	0.071	52.581	52.581	0	0	0	0	Free Surfa	4.543	0.189	0.078	0.095	0.17	3.12	673.239	0	No	0.095	4.543
411	15C143U	15C142M	6	108.811	0.005	135.544	135.544	0	0	0	0	Pressurize	2.154	0.672	0.792	0.336	0.278	0.695	171.164	0	Yes	0.5	1.538
412	13C073M	13C072M	6	251.633	0.002	22.706	22.706	0	0	0	0	Free Surfa	0.976	0.31	0.209	0.155	0.11	0.514	108.894	0	No	0.155	0.976
413	13C182M	13C181M	6	176.689	0.143	1.195	1.195	0	0	0	0	Free Surfa	1.844	0.027	0.001	0.013	0.025	3.434	953.568	0	No	0.013	1.844
414	15C142M	15T117M	6	91.298	0.01	135.544	135.544	0	0	0	0	Pressurize	2.866	0.529	0.549	0.264	0.278	1.099	246.77	0	Yes	0.5	1.538
415	15C118M	15T117M	6	222.042	0.071	206.938	206.938	0	0	0	0	Free Surfa	6.735	0.38	0.307	0.19	0.346	3.161	675.092	0	Yes	0.5	2.348
416	10C109M	10C108L	6	51.313	0.234	1.107	1.107	0	0	0	0	Free Surfa	2.14	0.023	0.001	0.011	0.024	4.299	1,222.35	0	No	0.011	2.14
417	13C039M	13C038M	6	116.669	0.24	52.581	52.581	0	0	0	0	Free Surfa	6.971	0.141	0.042	0.07	0.17	5.586	1,237.23	0	Yes	0.078	6.017
418	13C042M	13C041M	6	335.768	0.118	52.581	52.581	0	0	0	0	Free Surfa	5.432	0.167	0.061	0.083	0.17	3.981	867.629	0	No	0.083	5.432
419	13C041M	13C039M	6	46.003	0.128	52.581	52.581	0	0	0	0	Free Surfa	5.592	0.164	0.058	0.082	0.17	4.142	904.269	0	No	0.082	5.592
42	12C162M	12C161M	6	85.537	0.078	13.754	13.754	0	0	0	0	Free Surfa	3.138	0.097	0.02	0.048	0.085	3.044	702.983	0	Yes	0.048	3.136
420	15T028M	15T027M	6	225.753	0.077	289.999	289.999	0	0	0	0	Free Surfa	7.562	0.449	0.415	0.224	0.408	3.215	698.99	0	Yes	0.23	7.311
421	15C068M	15C067U	6	114.308	0.071	34.49	34.49	0	0	0	0	Free Surfa	4.005	0.154	0.051	0.077	0.136	3.061	671.988	0	No	0.077	4.005
422	15T116M	15T114M	6	183.717	0.07	384.931	384.931	0	0	0	0	Free Surfa	7.829	0.546	0.578	0.273	0.454	2.942	665.998	0	Yes	0.286	7.4
423	15T027M	15T026M	6	110.35	0.076	316.53	316.53	0	0	0	0	Free Surfa	7.723	0.473	0.454	0.236	0.423	3.182	697.568	0	No	0.236	7.723
424	15C067U	15C066U	6	136.181	0.096	34.49	34.49	0	0	0	0	Free Surfa	4.452	0.143	0.044	0.072	0.136	3.534	781.29	0	No	0.072	4.452
425	13C081M	13C079M	6	161.665	0.024	34.656	34.656	0	0	0	0	Free Surfa	2.748	0.201	0.088	0.1	0.137	1.828	392.887	0	No	0.1	2.748
426	13C071M	13C069L	6	242.392	0.013	47.802	47.802	0	0	0	0	Free Surfa	2.41	0.276	0.167	0.138	0.161	1.351	286.473	0	No	0.138	2.41
427	15T114M	15T113M	6	177.816	0.069	443.298	443.298	0	0	0	0	Free Surfa	8.083	0.597	0.666	0.298	0.471	2.854	665.446	0	No	0.298	8.083
428	15T026M	15T024M	6	223.531	0.123	316.53	316.53	0	0	0	0	Free Surfa	9.224	0.413	0.357	0.206	0.423	4.125	887.324	0	Yes	0.207	9.181
429	15C064M	15C063M	6	58.944	0.015	34.49	34.49	0	0	0	0	Free Surfa	2.313	0.226	0.112	0.113	0.136	1.446	308.522	0	No	0.113	2.313
43	12C166U	12C163M	6	121.69	0.022	4.045	4.045	0	0	0	0	Free Surfa	1.395	0.073	0.011	0.037	0.046	1.561	373.808	0	Yes	0.043	1.114
430	13C069L	13C068M	6	98.793	0.073	47.802	47.802	0	0	0	0	Free Surfa	4.466	0.179	0.07	0.09	0.161	3.156	683.882	0	No	0.09	4.466
431	15T113M	15T112M	6	246.989	0.075	443.298	443.298	0	0	0	0	Free Surfa	8.329	0.582	0.641	0.291	0.471	2.994	691.763	0	No	0.291	8.329
432	13C079M	13C078M	6	434.32	0.043	34.656	34.656	0	0	0	0	Free Surfa	3.374	0.174	0.066	0.087	0.137	2.42	525.701	0	No	0.087	3.374
433	15T024M	15T023M	6	107.212	0.12	316.53	316.53	0	0	0	0	Free Surfa	9.138	0.416	0.361	0.208	0.423	4.07	876.07	0	Yes	0.227	8.118
434	13C099M	13C098M	6	51.397	0.372	117.375	117.375	0	0	0	0	Free Surfa	10.322	0.187	0.076	0.093	0.258	7.134	1,540.99	0	Yes	0.5	1.332
435	10C364M	10C363M	6	322.668	0.033	7.751	7.751	0	0	0	0	Free Surfa	1.954	0.091	0.017	0.045	0.064	1.963	457.16	0	No	0.045	1.954
436	15T023M	15T022M	6	108.137	0.066	316.53	316.53	0	0	0	0	Free Surfa	7.297	0.494	0.49	0.247	0.423	2.925	646.457	0	No	0.247	7.297
437	15C083M	15C082M	6	121.949	0.032	18.571	18.571	0	0	0	0	Free Surfa	2.517	0.138	0.041	0.069	0.099	2.033	451.031	0	No	0.069	2.517
438	15T112M	15T111M	6	187.113	0.083	443.298	443.298	0	0	0	0	Free Surfa	8.66	0.564	0.609	0.282	0.471	3.182	727.606	0	Yes	0.459	5.231
439	13C063M	13C062M	6	186.618	0.067	97.438	97.438	0	0	0	0	Free Surfa	5.331	0.261	0.149	0.13	0.234	3.085	654.619	0	No	0.13	5.331
44	11C019M	11C018M	6	235.936	0.031	256.357	256.357	0	0	0	0	Free Surfa	5.232	0.544	0.575	0.272	0.385	1.97	445.547	0	No	0.272	5.232
440	04C044M	02C095M	6	87.491	0.045	37.662	37.662	0	0	0	0	Free Surfa	3.514	0.179	0.07	0.09	0.143	2.482	537.668	0	Yes	0.136	1.952
441	15C063M	15C062M	6	329.229	0.133	58.367	58.367	0	0	0	0	Free Surfa	5.835	0.171	0.063	0.085	0.179	4.226	919.27	0	Yes	0.091	5.299
442	15C082M	15C062M	6	88.844	0.061	18.571	18.571	0	0	0	0	Free Surfa	3.153	0.119	0.03	0.059	0.099	2.758	622.051	0	Yes	0.078	2.106
443	15T111M	15T109M	6	177.527	0.03	443.298	443.298	0	0	0	0	Pressurize	5.03	1	1.011	0.5	0.47	1.254	438.297	0	No	0.5	5.03
444	15C137M	15T109M	6	294.647	0.065	31.837	31.837	0	0	0	0	Free Surfa	3.795	0.151	0.049	0.076	0.131	2.929	644.008	0	Yes	0.171	1.199
445	13C061M	13C059M	6	294.3	0.529	103.413	103.413	0	0	0	0	Free Surfa	11.253	0.161	0.056	0.081	0.241	8.402	1,837.13	0	No	0.081	11.253
446	13C077U	13C067M	6	210.652	0.027	34.656	34.656	0	0	0	0	Free Surfa	2.837	0.196	0.084	0.098	0.137	1.91	411.107	0	No	0.098	2.837
447	13C068M	13C067M	6	423.445	0.077	47.802	47.802	0	0	0	0	Free Surfa	4.541	0.177	0.068	0.088	0.161	3.228	700.071	0	Yes	0.1	3.799
448	13C219M	13C218M	6	211.013	0.108	18.009	18.009	0	0	0	0	Free Surfa	3.825	0.102	0.022	0.051	0.098	3.619	830.763	0	Yes	0.053	3.613
449	08C343M	08T014M	6	357.26	0.035	10.323	10.323	0	0	0	0	Free Surfa	2.177	0.102	0.022	0.051	0.074	2.055	471.516	0	Yes	0.223	0.271
45	11C094M	11C084M	6	54.714	0.353	3.034	3.034	0	0	0	0	Free Surfa	3.359	0.033	0.002	0.017	0.04	5.591	1,500.48	0	Yes	0.059	0.52
450	08C616M	08C613M	6	114.515	0.013	8.258	8.258	0	0	0	0	Free Surfa	1.448	0.116	0.029	0.058	0.066	1.281	289.757	0	No	0.058	1.448
451	08C614M	08C613M	6	112.614	0.04	8.258	8.258	0	0	0	0	Free Surfa	2.136	0.089	0.016	0.045	0.066	2.164	505.197	0	No	0.045	2.136
452	13C059M	13T016M	6	51.747	0.373	103.413	103.413	0	0	0	0	Free Surfa	9.951	0.175	0.067	0.088	0.241	7.107	1,542.54	0	Yes	0.5	1.173
453	15T022M	15T021M	6	181.591	0.076	316.53	316.53	0	0	0	0	Free Surfa	7.722	0.473	0.454	0.236	0.423	3.182	697.438	0	Yes	0.5	3.592
455	13C064M	13C063M	6	164.463	0.14	97.438	97.438	0	0	0	0	Free Surfa	6.913	0.217	0.103	0.108	0.234	4.413	943.938	0	Yes	0.119	6.032
456	13C107M	13C106M	6	164.4	0.1	117.111	117.111	0	0	0	0	Free Surfa	6.474	0.259	0.147	0.129	0.257	3.761	798.336	0	No	0.129	6.474
457	13T016M	13T014M	6	77.542	0.028	754.845	754.845	0	0	0	0	Pressurize	8.565	1	1.8	0.5	0.465	2.135	419.472	0	Yes	0.5	8.565
458	15C062M	15C061M	6	147.554	0.136	76.938	76.938	0	0	0	0	Free Surfa	6.384	0.194	0.083	0.097	0.207	4.319	930.199	0	Yes	0.171	2.889
459	15T021M	15T019M	6	94.496	0.132	530.507	530.507	0	0	0	0	Free Surfa	10.796	0.545	0.578	0.273	0.485	4.057	918.471	0	Yes	0.28	10.437
46	09T087U	09T086M	8	196.918	0.015	75.326	75.326	0	0	0	0	Free Surfa	2.795	0.228	0.114	0.152	0.188	1.504	658.445	0	No	0.152	2.795
461	13C124L	13C123M	6	136.945	0.19	3.585	3.585	0	0	0	0	Free Surfa	2.848	0.042	0.003	0.021	0.043	4.238	1,099.46	0	Yes	0.027	1.918
462	15C061M	15C059M	6	173.565	0.015	148.57	148.57	0	0	0	0	Free Surfa	3.464	0.49	0.482	0.245	0.292	1.396	308.032	0	No	0.245	3.464
463	15C059M	15T021M	6	53.05	0.334	213.978	213.978	0	0	0	0	Free Surfa	11.828	0.259	0.147	0.129	0.352	6.871	1,458.47	0	Yes	0.451	2.557
464	15T019M	15T018M	6	144.517	0.111	530.507	530.507	0	0	0	0	Free Surfa	10.103	0.576	0.63	0.288	0.485	3.659	842.264	0	Yes	0.311	9.19
465	13C083M	13C082M	6	155.838	0.371	21.51	21.51	0	0	0	0	Free Surfa	6.204	0.083	0.014	0.041	0.107	6.527	1,538.37	0	Yes	0.5	0.244
466	15C071U	15C059M	6	62.19	0.064	65.408	65.408	0	0	0	0	Free Surfa	4.659	0.216	0.103	0.108	0.19	2.979	637.326	0	Yes	0.119	4.079
467	13T014M	13T013M	6	101.329	0.02	754.845	754.845	0	0	0	0	Pressurize	8.565	1	2.128	0.5	0.442	2.135	354.742	0	Yes	0.5	8.565
468	13C084M	13C083M	6	68	0.036	21.51	21.51	0	0	0	0	Free Surfa	2.732	0.145	0.045	0.072	0.107	2.156	476.144	0	No	0.072	2.732
469	15T108M	15T107L	6	168.998	0.28	475.135	475.135	0	0	0	0	Free Surfa	13.885	0.412	0.355	0.206	0.478	6.217	1,337.21	0	No	0.206	13.885
47	12C144M	12C143M	6	156.727	0.003	27.508	27.508	0	0	0	0	Free Surfa	1.274	0.294	0.188	0.147	0.121	0.69	146.28	0	Yes	0.158	1.15
470	10C374M	10C373M	6	222.124	0.107	4.429	4.429	0	0	0	0	Free Surfa	2.487	0.053	0.005	0.026	0.048	3.289	824.803	0	Yes	0.033	1.768
471	10C373M	10C033M	6	118.759	0.113	11.073	11.073	0	0	0	0	Free Surfa	3.351	0.08	0.013	0.04	0.076	3.586	848.52	0	Yes	0.089	1.039
472	10C376M	10C373M	6	103.495	0.01	6.644	6.644	0	0	0	0	Free Surfa	1.251	0.11	0.026	0.055	0.059	1.135	258.178	0	No	0.055	1.251
473	15T017M	15T016M	6	123.069	0.118	530.507	530.507	0	0	0	0	Free Surfa	10.33	0.565	0.612	0.283	0.485	3.789	867.01	0	Yes	0.303	9.488
474	15C072M	15C071U	6	256.066	0.073	65.408	65.408	0	0	0	0	Free Surfa	4.883	0.209	0.096	0.105	0.19	3.177	680.966	0	Yes	0.106	4.769
475	13C091M	13C084M	6	161.31	0.047	9.56	9.56	0	0	0	0	Free Surfa	2.37	0.092	0.017	0.046	0.071	2.366	550.271	0	Yes	0.059	1.631
476	15C076M	15C061M	6	286.713	0.009	71.632	71.632	0	0	0	0	Free Surfa	2.41	0.371	0.293	0.185	0.199	1.147	244.533	0	Yes	0.215	1.976
477	15T107L	15T106L	6	139.296	0.403	475.135	475.135	0	0	0	0	Free Surfa	15.843	0.373	0.297	0.187	0.478	7.512	1,602.35	0	Yes	0.189	15.624
478	15C081M	15C076M	6	94.04	0.078	13.265	13.265	0	0	0	0	Free Surfa	3.118	0.095	0.019	0.048	0.084	3.056	707.402	0	Yes	0.116	0.851
479	13T013M	13T012M	6	212.706	0.014	754.845	754.845	0	0	0	0	Pressurize	8.565	1	2.517	0.5	0.414	2.135	299.872	0	Yes	0.5	8.565
48	12T053M	12T052M	8	461.323	0.01	227.397	227.397	0	0	0	0	Free Surfa	3.355	0.447	0.412	0.298	0.333	1.239	552.441	0	Yes	0.3	3.324
480	13C093M	13C092L	6	64.829	0	9.56	9.56	0	0	0	0	Free Surfa	0.353	0.346	0.258	0.173	0.071	0.175	37.106	0	No	0.173	0.353
481	15T106L	15T104M	6	101.801	0.373	475.135	475.135	0	0	0	0	Free Surfa	15.411	0.381	0.308	0.19	0.478	7.221	1,542.72	0	Yes	0.192	15.195
482	15T016M	15T014M	6	168.893	0.078	530.507	530.507	0	0	0	0	Free Surfa	8.786	0.648	0.752	0.324	0.485	2.918	705.129	0	No	0.324	8.786

ID	From ID	To ID	Diameter (	Length (ft)	Slope	Total Flow	Unpeakabl	Peakable F	Coverage F	Infiltration	Storm Flov	Flow Type	Velocity (ft	d/D	q/Q	Water Dep	Critical De	Froude Nu	Full Flow (g	Coverage (	Backwater	Adjusted D	Adjusted V
483	08C632M	08C049M	6	153.399	0.029	10.323	10.323	0	0	0	0	Free Surfa	2.031	0.107	0.024	0.054	0.074	1.871	427.009	0	Yes	0.084	1.048
484	13C092L	13C091M	6	109.323	0.089	9.56	9.56	0	0	0	0	Free Surfa	2.95	0.079	0.013	0.039	0.071	3.177	753.141	0	Yes	0.043	2.633
485	14C058M	14C057L	6	204	0.057	5.258	5.258	0	0	0	0	Free Surfa	2.113	0.066	0.009	0.033	0.052	2.492	605.35	0	No	0.033	2.113
486	14C037M	14C036M	6	171.267	0.093	10.517	10.517	0	0	0	0	Free Surfa	3.082	0.082	0.014	0.041	0.074	3.261	769.669	0	Yes	0.056	1.949
487	08C421M	08C411L	6	322.818	0.108	501.686	501.686	0	0	0	0	Free Surfa	9.858	0.561	0.605	0.28	0.482	3.635	829.683	0	No	0.28	9.858
488	14C012M	14C011M	6	109.05	0.071	75.371	75.371	0	0	0	0	Free Surfa	5.055	0.226	0.112	0.113	0.204	3.16	674.438	0	No	0.113	5.055
489	14C047M	14C041M	6	74.697	0.533	3.506	3.506	0	0	0	0	Free Surfa	4.049	0.032	0.002	0.016	0.043	6.839	1,843.13	0	Yes	0.03	1.622
49	09T086M	09T084M	8	223.561	0.023	75.326	75.326	0	0	0	0	Free Surfa	3.297	0.203	0.091	0.136	0.188	1.887	831.669	0	No	0.136	3.297
490	08C669U	08C658M	6	111.405	0.08	16.516	16.516	0	0	0	0	Free Surfa	3.357	0.105	0.023	0.052	0.094	3.127	715.489	0	Yes	0.073	2.078
491	08C668M	08C657M	6	104.118	0.156	2.065	2.065	0	0	0	0	Free Surfa	2.246	0.034	0.002	0.017	0.033	3.717	995.724	0	Yes	0.055	0.391
492	08C658M	08C657M	6	22.397	0.072	51.613	51.613	0	0	0	0	Free Surfa	4.546	0.187	0.076	0.093	0.168	3.144	679.09	0	No	0.093	4.546
493	08C666M	08C657M	6	54.502	0.168	4.129	4.129	0	0	0	0	Free Surfa	2.85	0.046	0.004	0.023	0.046	4.043	1,034.65	0	Yes	0.058	0.723
494	08C667U	08C666M	6	90.802	0.173	4.129	4.129	0	0	0	0	Free Surfa	2.883	0.046	0.004	0.023	0.046	4.106	1,051.75	0	Yes	0.023	2.867
495	02C251M	02C249M	8	236.316	0.005	61.912	61.912	0	0	0	0	Free Surfa	1.78	0.274	0.164	0.182	0.17	0.869	378.029	0	Yes	0.214	1.425
496	14C011M	14C009M	6	120.517	0.253	75.371	75.371	0	0	0	0	Free Surfa	7.897	0.165	0.059	0.083	0.204	5.817	1,268.88	0	No	0.083	7.897
497	15C049M	15T013M	6	28.327	0.228	37.142	37.142	0	0	0	0	Free Surfa	6.164	0.12	0.031	0.06	0.142	5.349	1,204.42	0	Yes	0.433	0.458
498	13C087M	13C086M	6	295.53	0.065	5.975	5.975	0	0	0	0	Free Surfa	2.298	0.068	0.009	0.034	0.056	2.67	645.807	0	No	0.034	2.298
499	15C077M	15C076M	6	197.426	0.014	34.49	34.49	0	0	0	0	Free Surfa	2.25	0.23	0.116	0.115	0.136	1.392	296.814	0	Yes	0.15	1.548
5	09C036M	09C035M	6	200.814	0.131	13.666	13.666	0	0	0	0	Free Surfa	3.761	0.085	0.015	0.043	0.085	3.894	913.806	0	No	0.043	3.761
50	11C018M	11T017M	6	214.454	0.238	256.357	256.357	0	0	0	0	Free Surfa	11.029	0.31	0.208	0.155	0.385	5.808	1,230.62	0	No	0.155	11.029
500	13C088M	13C087M	6	159.57	0.031	5.975	5.975	0	0	0	0	Free Surfa	1.776	0.081	0.013	0.041	0.056	1.888	446.161	0	No	0.041	1.776
501	15C051M	15C049M	6	106.246	0.483	37.142	37.142	0	0	0	0	Free Surfa	8.02	0.101	0.021	0.05	0.142	7.632	1,754.44	0	Yes	0.055	6.989
502	15T012M	15T011M	6	156.448	0.093	567.649	567.649	0	0	0	0	Free Surfa	9.572	0.638	0.736	0.319	0.489	3.217	771.623	0	No	0.319	9.572
503	15T104M	15T103M	6	164.927	0.345	475.135	475.135	0	0	0	0	Free Surfa	14.984	0.389	0.32	0.194	0.478	6.936	1,484.00	0	Yes	0.5	5.391
504	15T009M	15T008M	6	150.121	0.13	567.649	567.649	0	0	0	0	Free Surfa	10.89	0.572	0.624	0.286	0.489	3.961	909.925	0	Yes	0.347	8.685
505	13T009M	13T008M	6	123.343	0.03	754.845	754.845	0	0	0	0	Pressurize	8.565	1	1.716	0.5	0.47	2.135	439.922	0	Yes	0.5	8.565
506	15T001M	13T008M	10	132.503	0.005	1,056.05	1,056.05	0	0	0	0	Pressurize	4.314	1	1.528	0.833	0.556	0.833	691.109	0	Yes	0.833	4.314
507	15T008M	15T007M	6	157.91	0.051	567.649	567.649	0	0	0	0	Free Surfa	7.359	0.818	0.998	0.409	0.489	1.944	568.939	0	Yes	0.434	6.988
508	15T103M	15T007M	6	61.977	0.025	475.135	475.135	0	0	0	0	Pressurize	5.391	1	1.18	0.5	0.46	1.344	402.522	0	No	0.5	5.391
509	15C073M	15C072M	6	385.417	0.035	65.408	65.408	0	0	0	0	Free Surfa	3.748	0.252	0.139	0.126	0.19	2.208	469.074	0	No	0.126	3.748
51	11C083M	11C082M	6	87.336	0.234	59.159	59.159	0	0	0	0	Free Surfa	7.156	0.15	0.048	0.075	0.18	5.55	1,221.78	0	Yes	0.111	4.088
510	15C078M	15C077M	6	204.548	0.036	34.49	34.49	0	0	0	0	Free Surfa	3.164	0.181	0.072	0.091	0.136	2.221	480.819	0	Yes	0.103	2.64
511	15T007M	15T006L	10	297.542	0.033	1,056.05	1,056.05	0	0	0	0	Free Surfa	7.639	0.551	0.587	0.459	0.684	2.209	1,798.15	0	No	0.459	7.639
512	15T006L	15T004M	10	197.441	0.035	1,056.05	1,056.05	0	0	0	0	Free Surfa	7.779	0.543	0.573	0.452	0.684	2.271	1,841.47	0	Yes	0.566	5.963
513	13T008M	13T007M	12	37.769	0.009	1,810.89	1,810.89	0	0	0	0	Pressurize	5.137	1	1.175	1	0.792	0.905	1,541.23	0	No	1	5.137
514	15C058M	15C053M	6	198.606	0.101	13.265	13.265	0	0	0	0	Free Surfa	3.406	0.089	0.017	0.045	0.084	3.443	803.14	0	Yes	0.058	2.341
515	15C053M	15C052M	6	98.063	0.116	37.142	37.142	0	0	0	0	Free Surfa	4.874	0.142	0.043	0.071	0.142	3.892	861.264	0	No	0.071	4.874
516	15T004M	15T003L	10	257.724	0.012	1,056.05	1,056.05	0	0	0	0	Free Surfa	4.938	0.816	0.996	0.68	0.684	1.013	1,060.41	0	No	0.68	4.938
517	15T003L	15T002M	10	396.704	0.013	1,056.05	1,056.05	0	0	0	0	Free Surfa	5.236	0.768	0.936	0.64	0.684	1.155	1,127.66	0	No	0.64	5.236
518	15T002M	15T001M	10	87.468	0.195	1,056.05	1,056.05	0	0	0	0	Free Surfa	14.649	0.336	0.243	0.28	0.684	5.714	4,349.09	0	Yes	0.812	4.344
519	15C054M	15C053M	6	113.923	0.017	23.877	23.877	0	0	0	0	Free Surfa	2.16	0.183	0.073	0.092	0.113	1.509	326.346	0	No	0.092	2.16
52	11C079M	11T017M	6	236.666	0.1	59.159	59.159	0	0	0	0	Free Surfa	5.305	0.184	0.074	0.092	0.18	3.693	798.387	0	Yes	0.117	3.778
520	15C074M	15C073M	6	158.218	0.11	65.408	65.408	0	0	0	0	Free Surfa	5.655	0.189	0.078	0.094	0.19	3.884	838.2	0	Yes	0.11	4.532
521	15C079M	15C078M	6	159.711	0.004	34.49	34.49	0	0	0	0	Free Surfa	1.399	0.323	0.226	0.162	0.136	0.719	152.557	0	No	0.162	1.399
522	08C249M	08C248M	6	98.494	0.117	43.356	43.356	0	0	0	0	Free Surfa	5.115	0.152	0.05	0.076	0.153	3.932	864.035	0	No	0.076	5.115
523	08C508M	08C507M	6	245.715	0.075	35.097	35.097	0	0	0	0	Free Surfa	4.103	0.153	0.051	0.077	0.138	3.144	690.423	0	No	0.077	4.103
524	08C226M	08C224M	6	54.084	0.168	10.323	10.323	0	0	0	0	Free Surfa	3.77	0.07	0.01	0.035	0.074	4.303	1,035.97	0	No	0.035	3.77
527	14C027M	14C026M	6	91.3	0.015	8.764	8.764	0	0	0	0	Free Surfa	1.558	0.115	0.028	0.057	0.068	1.385	313.567	0	No	0.057	1.558
529	14C028M	14C027M	6	50.575	0.09	8.764	8.764	0	0	0	0	Free Surfa	2.89	0.076	0.012	0.038	0.068	3.185	759.604	0	Yes	0.048	2.053
53	09T084M	09T083M	8	83.761	0.025	75.326	75.326	0	0	0	0	Free Surfa	3.398	0.199	0.087	0.133	0.188	1.966	867.991	0	Yes	0.192	2.014
530	14C061M	14C059L	6	121.426	0.247	7.011	7.011	0	0	0	0	Free Surfa	3.832	0.054	0.006	0.027	0.061	5.022	1,255.74	0	Yes	0.029	3.419
531	08C664M	08C663M	6	112.901	0.091	22.71	22.71	0	0	0	0	Free Surfa	3.857	0.119	0.03	0.059	0.11	3.374	761.073	0	No	0.059	3.857
532	14C051M	14C034M	6	48.907	0.071	33.303	33.303	0	0	0	0	Free Surfa	3.963	0.151	0.05	0.076	0.134	3.055	671.804	0	Yes	0.09	3.064
533	14C036M	14C034M	6	183.086	0.009	10.517	10.517	0	0	0	0	Free Surfa	1.378	0.142	0.043	0.071	0.074	1.1	243.454	0	No	0.071	1.378
534	08C651M	08C649L	6	128.493	0.066	41.291	41.291	0	0	0	0	Free Surfa	4.112	0.171	0.064	0.086	0.15	2.973	646.639	0	No	0.086	4.112
535	08C663M	08C662M	6	67.797	0.125	22.71	22.71	0	0	0	0	Free Surfa	4.307	0.11	0.025	0.055	0.11	3.917	891.062	0	No	0.055	4.307
536	08C407M	08C406L	6	454.405	0.042	35.097	35.097	0	0	0	0	Free Surfa	3.338	0.177	0.068	0.088	0.138	2.374	514.947	0	Yes	0.094	3.04
537	14C034M	14C033M	6	236.823	0.046	52.584	52.584	0	0	0	0	Free Surfa	3.896	0.21	0.097	0.105	0.17	2.528	541.659	0	Yes	0.121	3.195
538	08C649L	08C648M	6	132.186	0.134	43.356	43.356	0	0	0	0	Free Surfa	5.361	0.147	0.047	0.074	0.153	4.19	923.763	0	No	0.074	5.361
54	11C081U	11C079M	6	179.589	0.032	59.159	59.159	0	0	0	0	Free Surfa	3.561	0.244	0.13	0.122	0.18	2.137	454.555	0	No	0.122	3.561
540	08C458M	08C443M	6	205.218	0.117	10.323	10.323	0	0	0	0	Free Surfa	3.319	0.077	0.012	0.038	0.074	3.625	862.547	0	Yes	0.076	1.228
541	08C443M	08C442M	6	99.73	0.058	68.13	68.13	0	0	0	0	Free Surfa	4.558	0.226	0.112	0.113	0.194	2.846	607.456	0	No	0.113	4.558
542	08C459M	08C443M	6	101.797	0.079	4.129	4.129	0	0	0	0	Free Surfa	2.194	0.055	0.006	0.027	0.046	2.848	710.237	0	Yes	0.07	0.548
543	08C463M	08C446M	6	209.469	0.099	14.452	14.452	0	0	0	0	Free Surfa	3.474	0.094	0.018	0.047	0.087	3.432	796.174	0	Yes	0.088	1.375
544	08C527M	08C526M	6	121.257	0.012	10.323	10.323	0	0	0	0	Free Surfa	1.492	0.132	0.038	0.066	0.074	1.233	274.782	0	No	0.066	1.492
545	08C376M	08C374M	6	43.578	0.05	43.356	43.356	0	0	0	0	Free Surfa	3.8	0.187	0.077	0.094	0.153	2.623	566.436	0	Yes	0.097	3.592
546	08C446M	08C444M	6	91.346	0.016	47.484	47.484	0	0	0	0	Free Surfa	2.607	0.26	0.148	0.13	0.161	1.511	320.643	0	No	0.13	2.607
547	08C444M	08C443M	6	100.625	0.226	53.678	53.678	0	0	0	0	Free Surfa	6.863	0.144	0.045	0.072	0.171	5.43	1,199.69	0	Yes	0.093	4.779
548	08C398M	08C374M	6	182.838	0.013	16.516	16.516	0	0	0	0	Free Surfa	1.769	0.163	0.058	0.081	0.094	1.313	286.872	0	Yes	0.091	1.501
549	01T006M	01T004M	6	343.332	0.017	810.618	810.618	0	0	0	0	Pressurize	9.198	1	2.491	0.5	0.428	2.292	325.431	0	Yes	0.5	9.198
55	09C116M	09T081M	6	170.016	0.022	15.618	15.618	0	0	0	0	Free Surfa	2.114	0.139	0.041	0.069	0.091	1.707	378.636	0	Yes	0.136	0.801
550	08C448M	08C447M	6	85.365	0.068	33.032	33.032	0	0	0	0	Free Surfa	3.901	0.152	0.05	0.076	0.133	3	659.192	0	No	0.076	3.901
551	08C447M	08C446M	6	97.828	0.128	33.032	33.032	0	0	0	0	Free Surfa	4.863	0.131	0.037	0.065	0.133	4.045	902.477	0	Yes	0.098	2.721
552	08C483L	08C473L	6	198.518	0.076	10.323	10.323	0	0	0	0	Free Surfa	2.857	0.085	0.015	0.043	0.074	2.963	695.815	0	Yes	0.084	1.06
553	08C462M	08C444M	6	99.841	0.143	2.065	2.065	0	0	0	0	Free Surfa	2.18	0.034	0.002	0.017	0.033	3.571	953.598	0	Yes	0.045	0.532
554	06C114M	06C113M	6	157.656	0.145	9.417	9.417	0	0	0	0	Free Surfa	3.48	0.07	0.01	0.035	0.07	3.988	961.16	0	Yes	0.036	3.356
555	08C402M	08C401M	6	62.56	0.113	8.258	8.258	0	0	0	0	Free Surfa	3.069	0.07	0.01	0.035	0.066	3.524	849.561	0	No	0.035	3.069
557	08C488M	08C476M	6	289.195	0.068	16.516	16.516	0	0	0	0	Free Surfa	3.173	0.109	0.025	0.055	0.094	2.899	660.229	0	Yes	0.066	2.384
558	06C093M	06C092U	6	100.045	0.03	4.185	4.185	0	0	0	0	Free Surfa	1.572	0.069	0.01	0.035	0.047	1.811	437.175	0	No	0.035	1.572
559	01C037M	MOTEL_6_	6	37.433	0.053	143.203	143.203	0	0	0	0	Free Surfa	5.476	0.337	0.245	0.169	0.286	2.749	583.65	0	No	0.169	5.476
56	12C141M	12C139M	6	184.01	0.334	49.353	49.353	0	0	0	0	Free Surfa	7.681	0.126	0.034	0.063	0.164	6.516	1,460.12	0	Yes	0.088	4.701
560	08C449M	08C448M	6	110.127	0.005	33.032	33.032	0	0	0	0	Free Surfa	1.537	0.293	0.187	0.146	0.133	0.835	176.813	0	No	0.146	1.537
561	02C247M	02T238M	6	378.555	0.001	10.633	10.633	0	0	0	0	Pressurize	0.642	0.243	0.13	0.122	0.075	0.386	82.079	0	Yes	0.5	0.121
562	08C464M	08C449M	6	168.303	0.053	16.516	16.516	0	0	0	0	Free Surfa	2.912	0.116	0.028	0.058	0.094	2.581	583.902	0	Yes	0.102	1.278
563	02T108M	02T107M	27	309.983	0.005	5,907.35	5,907.35	0	0	0	0	Free Surfa	5.699	0.564	0.609	1.268	1.26	0.987	9,695.35	0	Yes	1.336	5.349
565	02T112M	02T111L	21	199.953	0.01	5,823.29	5,823.29	0	0	0	0	Free Surfa	7.366	0.687	0.817	1.202	1.341	1.246	7,131.52	0	Yes	1.575	5.691
566	02T111L	02T109M	21	11.026	0.331	5,823.29	5,823.29	0	0	0	0	Pressurize	26.903	0.255	0.142	0.445	1.341	8.43	41,026.89	0	Yes	1.75	5.394
567	06C107M	06C106M	6	170.562	0.373	9.418	9.418	0	0	0	0	Free Surfa	4.836	0.056	0.006	0.028	0.07	6.203	1,541.89	0	Yes	0.035	3.429
568	06C111M	06C106M	6	238.542	0.021	9.417	9.417	0	0	0	0	Free Surfa	1.787	0.11	0.025	0.055	0.07	1.626	369.892	0	No	0.055	1.787
569	03C056M	03C053M	8	51.813	0.006	2.508	2.508	0	0	0	0	Free Surfa	0.728	0.056	0.006	0.037	0.033	0.81	413.79	0	Yes	0.065	0.318
57	09T081M	09T079M	10	161.049	0.01	126.189	126.189	0	0	0	0	Free Surfa	2.722	0.244	0.131	0.204	0.23	1.263	963.223	0	Yes	0.208	2.643
570	03C141M	03C139M	6	66.765	0.003	12.721	12.721	0	0	0	0	Free Surfa	0.979	0.205	0.092	0.102	0.082	0.644	138.199	0	Yes	0.103	0.979
575	03C046M	03C041M	8	141.309	0.006	26.339	26.339	0	0	0	0	Free Surfa	1.467	0.172	0.064	0.115	0.11	0.917	409.166	0	Yes	0.159	0.916
578	03C053M	03C048M	8	203.855	0.006	17.559	17.559	0	0	0	0	Free Surfa	1.318	0.14	0.042	0.093	0.089	0.917	417.224	0	Yes	0.102	1.154
579	03C049M	03C048M	8	160.658	0.006	8.78	8.78	0	0	0	0	Free Surfa	1.092	0.099	0.02	0.066	0.063	0.907	429.03	0	Yes	0.089	0.71
58	12C159L	12C158L	6	132.614	0.004	8.091	8.091	0	0	0	0	Free Surfa	0.975	0.15	0.049	0.075	0.065	0.755	166.122	0	Yes	0.075	0.969
584	11C042M	11C041L	6	206.324	0.044	89.839	89.839	0	0	0	0	Free Surfa	4.464	0.279	0.17	0.14	0.224	2.488	527.365	0	Yes	0.142	4.37
585	11C121M	11C119M	6	270.442	0.005	7.081	7.081	0	0	0	0	Free Surfa	0.994	0.135	0.039	0.068	0.061	0.813	180.828	0	No	0.068	0.994
586	11C119M	11C042M	6	251.032	0.055	18.952	18.952	0	0	0	0	Free Surfa	3.071	0.122	0.032	0.061	0.1	2.643	593.888	0	Yes	0.1	1.501
587	11C122M	11C121M	6	299.937	0.023	12.741	12.741	0	0	0	0	Free Surfa	1.991	0.126	0.034	0.063	0.082	1.691	378.989	0	Yes	0.065	1.885
588	11C041L	11C039M	6	257.985	0.039	89.839	89.839	0	0	0	0	Free Surfa	4.279	0.288	0.181	0.144	0.224	2.346	497.127	0	Yes	0.213	2.509
589	11C117M	11C039M	6	201.599	0.005	15.169	15.169	0	0	0	0	Free Surfa	1.232	0.197	0.085	0.099	0.09	0.827	177.836	0	Yes	0.19	0.492
59	12C158L	12C157U	6	97.911	0.004	8.091	8.091	0	0	0	0	Free Surfa	0.963	0.151	0.05	0.076	0.065	0.743	163.396	0	No	0.076	0.963
590	11C113M	11C119M	6	228.024	0.04	11.871	11.871	0	0	0	0	Free Surfa	2.382	0.106	0.024	0.053	0.079	2.209	504.784	0	Yes	0.057	2.132
591	11C118L	11C117M	6	186.743	0.005	15.169	15.169	0	0	0	0	Free Surfa	1.265	0.194	0.082	0.097	0.09	0.858	184.775	0	Yes	0.098	1.248
592	11C123M	11C122M	6	217.542	0.027	12.741	12.741	0	0	0	0	Free Surfa	2.133	0.12	0.03	0.06	0.082	1.857	418.258	0	Yes	0.061	2.06
593	11C116U	11C038M	6	224.634	0.059	13.652	13.652	0	0	0	0	Free Surfa	2.851	0.103	0.022	0.051	0.085	2.682	614.98	0	Yes	0.147	0.631
594	11C039M	11C038M	6	192.751	0.005	111.076	111.076	0	0	0	0	Free Surfa	2.166	0.565	0.611	0.282	0.25	0.795	181.872	0	No	0.282	2.166
595	12C206M	12C204M	6	293.652	0.194	8.091	8.091	0	0	0	0	Free Surfa	3.677	0.061	0.007	0.03	0.065	4.524	1,111.58	0	Yes	0.036	2.828
597	11C113M	11C112M	6	222.28	0.068	15.433	15.433	0	0	0	0	Free Surfa	3.096	0.106	0.024	0.053	0.09	2.872	656.24	0	No	0.053	3.096
598	11C112M	11C111M	6	132.624	0.06	6.364	6.364	0	0	0	0	Free Surfa	2.269	0.072	0.01	0.036	0.058	2.569	616.966	0	Yes	0.037	2.198

ID	From ID	To ID	Diameter (	Length (ft)	Slope	Total Flow	Unpeakabl	Peakable F	Coverage F	Infiltration	Storm Flov	Flow Type	Velocity (ft	d/D	q/Q	Water Dep	Critical De	Froude Nu	Full Flow (g	Coverage (	Backwater	Adjusted D	Adjusted V
599	11C106L	11C104M	6	122.268	0.035	14.563	14.563	0	0	0	0	Free Surfa	2.409	0.121	0.031	0.06	0.088	2.088	469.988	0	No	0.06	2.409
6	09C058M	09C057M	6	80.427	0.022	6.474	6.474	0	0	0	0	Free Surfa	1.603	0.092	0.017	0.046	0.058	1.6	372.143	0	No	0.046	1.603
60	12C157U	12C142M	6	146.27	0.004	8.091	8.091	0	0	0	0	Free Surfa	0.977	0.15	0.049	0.075	0.065	0.758	166.762	0	No	0.075	0.977
600	12C204M	12C203M	6	167.862	0.048	8.091	8.091	0	0	0	0	Free Surfa	2.264	0.084	0.015	0.042	0.065	2.357	553.946	0	Yes	0.055	1.542
601	11C111M	11C109M	6	251.211	0.05	6.364	6.364	0	0	0	0	Free Surfa	2.131	0.075	0.011	0.037	0.058	2.361	563.812	0	Yes	0.039	2.022
602	12C074M	12C073M	6	220.03	0.002	3.236	3.236	0	0	0	0	Free Surfa	0.591	0.113	0.027	0.056	0.041	0.531	120.367	0	No	0.056	0.591
603	11C109M	11C037M	6	282.889	0.037	6.364	6.364	0	0	0	0	Free Surfa	1.922	0.08	0.013	0.04	0.058	2.055	486.419	0	Yes	0.148	0.293
604	11C038M	11C037M	6	273.142	0.011	124.728	124.728	0	0	0	0	Free Surfa	2.942	0.485	0.475	0.243	0.266	1.192	262.633	0	Yes	0.249	2.847
605	11C114M	11C037M	6	79.088	0.012	7.585	7.585	0	0	0	0	Free Surfa	1.37	0.114	0.027	0.057	0.063	1.224	277.467	0	Yes	0.156	0.323
606	12C203M	12C202M	6	149.727	0.061	24.272	24.272	0	0	0	0	Free Surfa	3.42	0.135	0.039	0.067	0.114	2.801	623.178	0	Yes	0.068	3.36
607	12C073M	12C072M	6	199.315	0.094	8.09	8.09	0	0	0	0	Free Surfa	2.856	0.072	0.01	0.036	0.065	3.222	773.152	0	Yes	0.044	2.11
608	11C104M	11C103M	6	106.706	0.037	14.563	14.563	0	0	0	0	Free Surfa	2.46	0.119	0.03	0.06	0.088	2.148	484.273	0	Yes	0.071	1.919
609	12C072M	12C071M	6	140.498	0.111	19.417	19.417	0	0	0	0	Free Surfa	3.945	0.105	0.023	0.052	0.102	3.675	840.651	0	Yes	0.058	3.398
61	11T013U	11T012M	8	256.518	0.036	315.516	315.516	0	0	0	0	Free Surfa	5.778	0.38	0.306	0.253	0.396	2.348	1,029.57	0	Yes	0.344	3.872
610	12C207M	12C201M	6	71.61	0.028	3.236	3.236	0	0	0	0	Free Surfa	1.415	0.062	0.008	0.031	0.041	1.718	420.502	0	Yes	0.046	0.8
611	12C202M	12C201M	6	131.814	0.055	24.272	24.272	0	0	0	0	Free Surfa	3.301	0.138	0.041	0.069	0.114	2.67	592.342	0	No	0.069	3.301
612	12C178M	12C177M	6	379.224	0.011	15.147	15.147	0	0	0	0	Free Surfa	1.629	0.162	0.057	0.081	0.09	1.211	264.685	0	Yes	0.09	1.396
613	12C179M	12C178M	6	401.027	0.027	15.147	15.147	0	0	0	0	Free Surfa	2.246	0.13	0.036	0.065	0.09	1.873	418.191	0	Yes	0.073	1.895
614	12C179M	12C198M	6	423.524	0.014	10.743	10.743	0	0	0	0	Free Surfa	1.593	0.13	0.036	0.065	0.075	1.329	296.607	0	No	0.065	1.593
615	12C209M	12C073M	6	128.559	0.004	4.854	4.854	0	0	0	0	Free Surfa	0.806	0.12	0.031	0.06	0.05	0.699	157.47	0	No	0.06	0.806
616	12T028M	12T027M	8	333.01	0.035	425.617	425.617	0	0	0	0	Free Surfa	6.236	0.449	0.415	0.3	0.462	2.295	1,024.47	0	No	0.3	6.236
617	12T023M	12T022M	8	95.9	0.011	425.617	425.617	0	0	0	0	Free Surfa	4.002	0.642	0.744	0.428	0.462	1.158	572.258	0	No	0.428	4.002
618	12C124M	12C123M	6	218.462	0.077	9.709	9.709	0	0	0	0	Free Surfa	2.813	0.082	0.014	0.041	0.071	2.964	698.838	0	No	0.041	2.813
619	12T029M	12T028M	8	150.028	0.028	425.617	425.617	0	0	0	0	Free Surfa	5.701	0.482	0.469	0.321	0.462	2.01	907.697	0	No	0.321	5.701
62	12T049M	12T048M	8	99.115	0.072	307.337	307.337	0	0	0	0	Free Surfa	7.393	0.311	0.21	0.207	0.39	3.363	1,463.02	0	Yes	0.225	6.62
620	12T022M	12T021M	8	70.656	0.028	425.617	425.617	0	0	0	0	Free Surfa	5.734	0.479	0.465	0.32	0.462	2.028	914.912	0	No	0.32	5.734
621	12T004M	12T003M	10	127.893	0.078	660.968	660.968	0	0	0	0	Free Surfa	9.25	0.333	0.24	0.278	0.544	3.622	2,755.95	0	Yes	0.309	8.003
622	12C119M	12C118M	6	196.787	0.01	24.272	24.272	0	0	0	0	Free Surfa	1.817	0.209	0.096	0.104	0.114	1.183	253.599	0	No	0.104	1.817
623	12T026M	12T024M	8	262.052	0.024	425.617	425.617	0	0	0	0	Free Surfa	5.399	0.503	0.504	0.335	0.462	1.854	843.973	0	No	0.335	5.399
624	12T024M	12T023M	8	269.212	0.045	425.617	425.617	0	0	0	0	Free Surfa	6.828	0.419	0.367	0.28	0.462	2.619	1,158.73	0	Yes	0.354	5.037
625	12C109M	12C129L	6	303.545	0.113	7.124	7.124	0	0	0	0	Free Surfa	2.93	0.065	0.008	0.033	0.061	3.483	847.676	0	No	0.033	2.93
626	11C036L	11C034M	6	276.447	0.006	150.813	150.813	0	0	0	0	Free Surfa	2.518	0.643	0.745	0.322	0.294	0.841	202.443	0	Yes	0.323	2.507
627	11C037M	11C036L	6	132.819	0.013	150.813	150.813	0	0	0	0	Free Surfa	3.334	0.51	0.518	0.255	0.294	1.309	291.324	0	Yes	0.288	2.865
628	12C071M	12C069M	6	168.056	0.058	21.086	21.086	0	0	0	0	Free Surfa	3.224	0.127	0.035	0.064	0.106	2.718	608.254	0	Yes	0.067	2.987
629	11C112M	11C031M	6	329.877	0.121	9.069	9.069	0	0	0	0	Free Surfa	3.233	0.072	0.01	0.036	0.069	3.66	879.109	0	Yes	0.156	0.387
63	12C139M	12C138M	6	134.575	0.03	49.353	49.353	0	0	0	0	Free Surfa	3.276	0.227	0.113	0.114	0.164	2.04	435.324	0	No	0.114	3.276
630	11C032M	11C031M	6	157.102	0.013	159.914	159.914	0	0	0	0	Free Surfa	3.326	0.536	0.561	0.268	0.303	1.265	284.898	0	Yes	0.272	3.266
631	12C069M	12C068M	6	171.122	0.038	21.086	21.086	0	0	0	0	Free Surfa	2.777	0.141	0.043	0.071	0.106	2.221	491.663	0	Yes	0.071	2.759
632	12C177M	12C176M	6	362.952	0.023	32.891	32.891	0	0	0	0	Free Surfa	2.64	0.199	0.087	0.1	0.133	1.764	379.346	0	No	0.1	2.64
633	12C201M	12C199M	6	170.448	0.121	27.508	27.508	0	0	0	0	Free Surfa	4.521	0.121	0.031	0.061	0.121	3.909	879.474	0	Yes	0.07	3.659
634	11C033M	11C032M	6	104.477	0.019	159.914	159.914	0	0	0	0	Free Surfa	3.877	0.475	0.458	0.237	0.303	1.592	349.357	0	Yes	0.253	3.58
635	11C034M	11C033M	6	238.354	0.006	150.813	150.813	0	0	0	0	Free Surfa	2.496	0.648	0.753	0.324	0.294	0.829	200.308	0	No	0.324	2.496
636	12C197M	12C177M	6	203.045	0.009	17.744	17.744	0	0	0	0	Free Surfa	1.589	0.184	0.074	0.092	0.097	1.105	238.993	0	Yes	0.096	1.503
637	12C208M	12C068M	6	100.026	0.01	3.236	3.236	0	0	0	0	Free Surfa	0.992	0.079	0.013	0.04	0.041	1.066	252.469	0	Yes	0.055	0.606
638	12C068M	12C067M	6	316.407	0.049	24.322	24.322	0	0	0	0	Free Surfa	3.161	0.142	0.044	0.071	0.114	2.516	556.499	0	Yes	0.079	2.704
639	12C189M	12C176M	6	185.308	0.042	2.427	2.427	0	0	0	0	Free Surfa	1.503	0.049	0.005	0.025	0.035	2.055	520.229	0	Yes	0.053	0.485
64	12T051M	12T049M	8	224.145	0.048	307.337	307.337	0	0	0	0	Free Surfa	6.391	0.346	0.257	0.231	0.39	2.74	1,195.11	0	No	0.231	6.391
640	11C103M	11C102M	6	337.886	0.071	38.833	38.833	0	0	0	0	Free Surfa	4.145	0.163	0.058	0.082	0.145	3.074	671.255	0	No	0.082	4.145
642	12C198M	12C192M	6	288.544	0.082	10.743	10.743	0	0	0	0	Free Surfa	2.964	0.085	0.015	0.043	0.075	3.072	721.103	0	Yes	0.061	1.756
643	12C199M	12C067M	6	159.806	0.047	29.935	29.935	0	0	0	0	Free Surfa	3.313	0.159	0.055	0.08	0.127	2.489	544.712	0	Yes	0.084	3.09
644	12C173L	12C172M	6	383.901	0.136	47.454	47.454	0	0	0	0	Free Surfa	5.542	0.153	0.051	0.077	0.161	4.244	932.211	0	Yes	0.092	4.271
645	11C091M	11C089M	6	130.774	0.148	21.237	21.237	0	0	0	0	Free Surfa	4.486	0.102	0.022	0.051	0.106	4.236	972.108	0	No	0.051	4.486
646	11C024M	11C023M	6	286.615	0.202	242.704	242.704	0	0	0	0	Free Surfa	10.246	0.314	0.214	0.157	0.375	5.354	1,134.84	0	No	0.157	10.246
647	12C153L	12C152M	6	116.73	0.03	11.327	11.327	0	0	0	0	Free Surfa	2.124	0.111	0.026	0.055	0.077	1.924	437.228	0	No	0.055	2.124
648	11C092M	11C091M	6	169.697	0.035	18.203	18.203	0	0	0	0	Free Surfa	2.589	0.134	0.038	0.067	0.098	2.127	473.445	0	No	0.067	2.589
649	11C093M	11C092M	6	132.929	0.062	6.068	6.068	0	0	0	0	Free Surfa	2.267	0.069	0.01	0.035	0.056	2.607	628.969	0	Yes	0.051	1.291
65	12C138M	12C137M	6	43.615	0.086	49.353	49.353	0	0	0	0	Free Surfa	4.771	0.175	0.067	0.087	0.164	3.413	741.084	0	No	0.087	4.771
650	11C089M	11C088U	6	141.121	0.151	21.237	21.237	0	0	0	0	Free Surfa	4.514	0.102	0.022	0.051	0.106	4.272	980.816	0	Yes	0.062	3.393
651	12C152M	12C151L	6	66.639	0.03	11.327	11.327	0	0	0	0	Free Surfa	2.13	0.111	0.026	0.055	0.077	1.931	439.074	0	Yes	0.06	1.897
652	11C023M	11C022M	6	107.159	0.287	242.704	242.704	0	0	0	0	Free Surfa	11.621	0.287	0.179	0.143	0.375	6.385	1,352.81	0	Yes	0.223	6.398
653	11C097M	11C092M	6	67.199	0.037	12.135	12.135	0	0	0	0	Free Surfa	2.324	0.109	0.025	0.055	0.08	2.12	482.723	0	Yes	0.061	1.987
654	11C088U	11C087M	6	124.85	0.145	43.99	43.99	0	0	0	0	Free Surfa	5.544	0.146	0.046	0.073	0.155	4.363	963.058	0	Yes	0.076	5.187
655	11C022M	11C021L	6	107.76	0.02	242.704	242.704	0	0	0	0	Free Surfa	4.363	0.604	0.678	0.302	0.375	1.528	357.82	0	No	0.302	4.363
656	12C149M	12C148M	6	115.898	0.017	11.327	11.327	0	0	0	0	Free Surfa	1.75	0.127	0.034	0.063	0.077	1.481	331.697	0	No	0.063	1.75
657	12C169M	12C167L	6	85.839	0.09	3.236	3.236	0	0	0	0	Free Surfa	2.131	0.047	0.004	0.024	0.041	2.975	757.628	0	Yes	0.032	1.388
658	11C087M	11C086L	6	123.89	0.1	43.99	43.99	0	0	0	0	Free Surfa	4.868	0.159	0.055	0.08	0.155	3.657	800.381	0	Yes	0.097	3.667
659	11C096L	11C088U	6	332.157	0.032	9.101	9.101	0	0	0	0	Free Surfa	2.024	0.099	0.02	0.049	0.069	1.946	448.512	0	Yes	0.061	1.481
66	12C137M	12T052M	6	114.968	0.171	49.353	49.353	0	0	0	0	Free Surfa	6.076	0.148	0.047	0.074	0.164	4.743	1,045.33	0	Yes	0.188	1.628
660	12C147M	12C146M	6	84.766	0.009	27.508	27.508	0	0	0	0	Free Surfa	1.844	0.226	0.112	0.113	0.121	1.152	245.913	0	Yes	0.114	1.815
661	12C061M	12C059M	6	356	0.002	117.836	117.836	0	0	0	0	Pressurize	1.337	1	1.003	0.5	0.258	0.333	117.432	0	No	0.5	1.337
662	12C062M	12C061M	6	251.987	0.006	117.836	117.836	0	0	0	0	Free Surfa	2.315	0.561	0.605	0.281	0.258	0.853	194.815	0	Yes	0.394	1.582
663	12C161M	12C143M	6	141.633	0.077	13.754	13.754	0	0	0	0	Free Surfa	3.135	0.097	0.02	0.049	0.085	3.04	701.957	0	Yes	0.109	0.97
664	12C143M	12C142M	6	130.735	0.004	41.262	41.262	0	0	0	0	Free Surfa	1.57	0.339	0.247	0.169	0.15	0.787	167.019	0	No	0.169	1.57
665	12C142M	12C141M	6	72.521	0.191	49.353	49.353	0	0	0	0	Free Surfa	6.315	0.144	0.045	0.072	0.164	4.998	1,104.34	0	No	0.072	6.315
666	12C134M	12C133M	6	142.784	0.066	3.236	3.236	0	0	0	0	Free Surfa	1.91	0.051	0.005	0.025	0.041	2.569	647.148	0	Yes	0.045	0.819
667	12C128M	12C130M	6	105.214	0.157	30.586	30.586	0	0	0	0	Free Surfa	5.113	0.12	0.031	0.06	0.128	4.448	1,002.02	0	No	0.06	5.113
668	12C131M	12C128M	6	221.004	0.088	23.462	23.462	0	0	0	0	Free Surfa	3.845	0.122	0.031	0.061	0.112	3.322	747.281	0	No	0.061	3.845
669	12C133M	12C132M	6	216.989	0.067	23.462	23.462	0	0	0	0	Free Surfa	3.493	0.13	0.036	0.065	0.112	2.917	651.395	0	No	0.065	3.493
67	12T052M	12T051M	8	253.179	0.018	307.337	307.337	0	0	0	0	Free Surfa	4.451	0.453	0.422	0.302	0.39	1.629	728.124	0	No	0.302	4.451
670	12C132M	12C131M	6	419.015	0.102	23.462	23.462	0	0	0	0	Free Surfa	4.055	0.117	0.029	0.059	0.112	3.569	805.969	0	Yes	0.06	3.948
671	12C136M	12C133M	6	139.1	0.024	4.854	4.854	0	0	0	0	Free Surfa	1.514	0.078	0.012	0.039	0.05	1.637	388.447	0	Yes	0.052	0.998
672	12C122M	12C121M	6	107.527	0.058	9.709	9.709	0	0	0	0	Free Surfa	2.558	0.088	0.016	0.044	0.071	2.609	609.976	0	Yes	0.067	1.387
673	11T017M	11T016M	6	438.53	0.51	315.516	315.516	0	0	0	0	Free Surfa	15.383	0.283	0.175	0.142	0.423	8.511	1,803.58	0	Yes	0.181	10.959
674	12C123M	12C122M	6	113.442	0.106	9.709	9.709	0	0	0	0	Free Surfa	3.153	0.076	0.012	0.038	0.071	3.456	823.015	0	Yes	0.041	2.829
675	12C129L	12C128M	6	167.272	0.117	7.124	7.124	0	0	0	0	Free Surfa	2.968	0.064	0.008	0.032	0.061	3.544	863.694	0	Yes	0.046	1.751
676	12T027M	12T026M	8	128.28	0.051	425.617	425.617	0	0	0	0	Free Surfa	7.142	0.405	0.345	0.27	0.462	2.795	1,231.98	0	Yes	0.303	6.153
677	12C101M	12C099M	6	132.505	0.028	8.091	8.091	0	0	0	0	Free Surfa	1.882	0.096	0.019	0.048	0.065	1.837	425.007	0	No	0.048	1.882
678	11C028U	11C027M	6	230.197	0.01	226.018	226.018	0	0	0	0	Free Surfa	3.218	0.743	0.902	0.372	0.362	0.947	250.466	0	No	0.372	3.218
679	11C027M	11C026M	6	147.94	0.046	226.018	226.018	0	0	0	0	Free Surfa	5.891	0.449	0.415	0.225	0.362	2.504	544.404	0	Yes	0.239	5.439
68	12T048M	12T047M	8	176.826	0.04	307.337	307.337	0	0	0	0	Free Surfa	5.983	0.363	0.282	0.242	0.39	2.495	1,090.82	0	Yes	0.25	5.728
680	11C026M	11C024M	6	166.877	0.035	242.704	242.704	0	0	0	0	Free Surfa	5.424	0.506	0.51	0.253	0.375	2.141	475.665	0	No	0.253	5.424
681	12C078M	12C077M	6	125.564	0.032	167.933	167.933	0	0	0	0	Free Surfa	4.72	0.424	0.375	0.212	0.311	2.077	448.188	0	Yes	0.234	4.152
682	12C091M	12C089M	6	247.782	0.038	32.52	32.52	0	0	0	0	Free Surfa	3.167	0.174	0.066	0.087	0.132	2.272	493.478	0	Yes	0.098	2.677
683	12C096M	12C094M	6	158.4	0.062	16.99	16.99	0	0	0	0	Free Surfa	3.097	0.113	0.027	0.056	0.095	2.778	629.979	0	Yes	0.066	2.452
684	10C271M	10C269M	6	121.619	0.037	8.859	8.859	0	0	0	0	Free Surfa	2.12	0.094	0.018	0.047	0.068	2.092	485.001	0	No	0.047	2.12
685	04C138M	04C019M	6	278.216	0.491	146.389	146.389	0	0	0	0	Free Surfa	12.14	0.195	0.083	0.097	0.289	8.212	1,768.59	0	Yes	0.121	8.849
686	10C283M	10C282M	6	149.939	0.098	50.939	50.939	0	0	0	0	Free Surfa	5.042	0.172	0.064	0.086	0.167	3.638	790.913	0	Yes	0.088	4.88
687	13C242M	13C241M	6	56.476	0.092	10.755	10.755	0	0	0	0	Free Surfa	3.095	0.083	0.014	0.041	0.075	3.255	766.923	0	Yes	0.048	2.46
688	13C243M	13C242M	6	153.037	0.042	10.755	10.755	0	0	0	0	Free Surfa	2.345	0.1	0.021	0.05	0.075	2.239	515.032	0	No	0.05	2.345
689	10C356M	10C354M	6	94.593	0.238	8.859	8.859	0	0	0	0	Free Surfa	4.059	0.06	0.007	0.03	0.068	5.008	1,231.34	0	Yes	0.032	3.733
69	12T047M	12T046M	8	154.505	0.032	307.337	307.337	0	0	0	0	Free Surfa	5.493	0.387	0.317	0.258	0.39	2.209	969.906	0	Yes	0.258	5.482
690	05T008M	05T007M	18	219.757	0.046	3,776.48	3,776.48	0	0	0	0	Free Surfa	11.829	0.423	0.373	0.635	1.123	3.009	10,119.23	0	Yes	0.667	11.083
691	05T131M	05T129M	24	403.306	0.013	5,536.71	5,536.71	0	0	0	0	Free Surfa	8.104	0.488	0.479	0.976	1.262	1.637	11,549.01	0	No	0.976	8.104
692	05T129M	05T130M	18	121.857	0.026	5,536.71	5,536.71	0	0	0	0	Free Surfa	10.429	0.635	0.731	0.952	1.327	2.031	7,577.40	0	Yes	1.025	9.585
693	05C111M	05T109M	10	17.49	0.218	83.545	83.545	0	0	0	0	Free Surfa	7.236	0.094	0.018	0.078	0.186	5.539	4,607.93	0	Yes	0.436	0.645
694	13C217M	13C216M	6	87.802	0.065	57.274	57.274	0	0	0	0	Free Surfa	4.506	0.202	0.089	0.101	0.177	2.99	642.281	0	No	0.101	4.506
695	05C139M	05C138M	6	131.544	0.243	40.469	40.469	0	0	0	0	Free Surfa	6.472	0.124	0.033	0.062	0.148	5.543	1,244.49	0	Yes	0.069	5.468
696	12C099M	12C098M	6	54.084	0.081	11.327	11.327	0	0	0	0	Free Surfa	2.999	0.088	0.016	0.044	0.077	3.064	716.678	0	Yes	0.061	1.864
697	12C107M	12C106M	6	193.871	0.115	11.327	11.327	0	0	0	0	Free Surfa	3.391	0.081	0.013	0.04	0.077	3.614	854.427	0	Yes	0.046	2.757
698	10T251M	10C228M	10	122.505	0.042	660.968	660.968	0	0	0	0	Free Surfa	7.386	0.394	0.327	0.328	0.544	2.63	2,020.03	0	No	0.328	7.386
699	12C127M	12C117M	6	163.274	0.095	2.427	2.427	0	0	0	0	Free Surfa	1.989	0.041	0.003	0.02	0.035	2.992	778.689	0	Yes	0.055	0.454

ID	From ID	To ID	Diameter (	Length (ft)	Slope	Total Flow	Unpeakabl	Peakable F	Coverage F	Infiltration	Storm Flov	Flow Type	Velocity (ft	d/D	q/Q	Water Dep	Critical De	Froude Nu	Full Flow (g	Coverage (	Backwater	Adjusted D	Adjusted V
7	09C057M	09C026M	6	175.019	0.029	6.474	6.474	0	0	0	0	Free Surfa	1.783	0.085	0.015	0.043	0.058	1.846	433.264	0	Yes	0.064	0.98
70	12T046M	12T044M	8	93.471	0.031	307.337	307.337	0	0	0	0	Free Surfa	5.47	0.388	0.319	0.259	0.39	2.196	964.438	0	No	0.259	5.47
700	12C118M	12C117M	6	265.306	0.06	24.272	24.272	0	0	0	0	Free Surfa	3.41	0.135	0.039	0.068	0.114	2.79	620.376	0	Yes	0.079	2.713
701	12C098M	12C097L	6	143.634	0.007	11.327	11.327	0	0	0	0	Free Surfa	1.307	0.155	0.052	0.077	0.077	0.996	218.647	0	No	0.077	1.307
702	12C109M	12C108M	6	259.073	0.015	2.585	2.585	0	0	0	0	Free Surfa	1.063	0.065	0.008	0.033	0.037	1.263	307.531	0	No	0.033	1.063
703	12C097L	12C096M	6	152.204	0.033	16.99	16.99	0	0	0	0	Free Surfa	2.475	0.132	0.037	0.066	0.095	2.051	457.196	0	No	0.066	2.475
704	12C089M	12C088L	6	360.754	0.016	32.52	32.52	0	0	0	0	Free Surfa	2.305	0.217	0.103	0.109	0.132	1.471	314.596	0	No	0.109	2.305
705	12C094M	12C093M	6	162.413	0.018	16.99	16.99	0	0	0	0	Free Surfa	2.007	0.152	0.05	0.076	0.095	1.544	339.263	0	No	0.076	2.007
706	12C108M	12C093M	6	290.385	0.024	2.585	2.585	0	0	0	0	Free Surfa	1.259	0.058	0.007	0.029	0.037	1.587	392.485	0	Yes	0.049	0.574
707	12C093M	12C092M	6	277.08	0.04	21.193	21.193	0	0	0	0	Free Surfa	2.839	0.14	0.042	0.07	0.106	2.284	506.319	0	No	0.07	2.839
708	12C092M	12C090M	6	69.294	0.082	21.193	21.193	0	0	0	0	Free Surfa	3.649	0.117	0.029	0.059	0.106	3.207	724.193	0	Yes	0.059	3.642
709	12C088L	12C087M	6	281.902	0.036	43.038	43.038	0	0	0	0	Free Surfa	3.373	0.202	0.09	0.101	0.153	2.234	479.88	0	Yes	0.107	3.106
71	12T038M	12T037M	8	110.198	0.035	307.337	307.337	0	0	0	0	Free Surfa	5.664	0.378	0.304	0.252	0.39	2.308	1,011.68	0	Yes	0.268	5.213
710	15C129M	15C128M	6	67.596	0.015	55.714	55.714	0	0	0	0	Free Surfa	2.646	0.288	0.181	0.144	0.175	1.449	307.117	0	Yes	0.144	2.646
711	15C131M	15C129M	6	106.243	0.016	55.714	55.714	0	0	0	0	Free Surfa	2.722	0.283	0.174	0.141	0.175	1.507	319.403	0	Yes	0.143	2.684
712	12C103M	12C086M	6	61.404	0.039	1.618	1.618	0	0	0	0	Free Surfa	1.292	0.042	0.003	0.021	0.029	1.926	499.821	0	Yes	0.08	0.179
713	12C079M	12C078M	6	272.44	0.004	167.933	167.933	0	0	0	0	Pressurize	1.906	1	1.098	0.5	0.296	0.475	152.978	0	No	0.5	1.906
714	15C134M	15C133M	6	66.099	0.015	37.143	37.143	0	0	0	0	Free Surfa	2.374	0.234	0.12	0.117	0.142	1.457	310.576	0	No	0.117	2.374
715	10C183U	10C182L	6	55.602	0.048	13.288	13.288	0	0	0	0	Free Surfa	2.629	0.107	0.024	0.053	0.084	2.426	553.733	0	No	0.053	2.629
716	13C027M	13T026M	6	65.199	0.072	124.281	124.281	0	0	0	0	Free Surfa	5.865	0.29	0.183	0.145	0.266	3.204	678.88	0	No	0.145	5.865
717	13C032M	13C031M	6	201.16	0.07	120.696	120.696	0	0	0	0	Free Surfa	5.747	0.288	0.181	0.144	0.261	3.15	667.531	0	No	0.144	5.747
718	13C227M	13C226M	6	136.28	0.376	69.904	69.904	0	0	0	0	Free Surfa	8.88	0.145	0.045	0.072	0.197	7.009	1,547.89	0	No	0.072	8.88
719	13C329U	10C328M	6	224.364	0.027	14.34	14.34	0	0	0	0	Free Surfa	2.206	0.127	0.034	0.063	0.087	1.864	417.299	0	No	0.063	2.206
72	12T011M	12T009M	10	204.199	0.024	657.732	657.732	0	0	0	0	Free Surfa	6.052	0.456	0.426	0.38	0.542	1.975	1,542.86	0	Yes	0.482	4.485
720	10C336M	10C313M	6	117.18	0.065	2.215	2.215	0	0	0	0	Free Surfa	1.695	0.043	0.003	0.021	0.034	2.491	643.98	0	Yes	0.097	0.186
721	10C282M	10C281M	6	191.604	0.082	50.939	50.939	0	0	0	0	Free Surfa	4.726	0.18	0.071	0.09	0.167	3.331	721.639	0	Yes	0.094	4.46
722	10C272M	10C271M	6	77.833	0.094	8.859	8.859	0	0	0	0	Free Surfa	2.942	0.075	0.011	0.038	0.068	3.25	775.779	0	Yes	0.042	2.475
723	10C277M	10C276M	6	126.158	0.031	6.644	6.644	0	0	0	0	Free Surfa	1.835	0.085	0.015	0.043	0.059	1.902	446.566	0	Yes	0.047	1.583
724	10C276M	10T021M	6	142.032	0.014	6.644	6.644	0	0	0	0	Free Surfa	1.384	0.103	0.022	0.052	0.059	1.3	298.054	0	No	0.052	1.384
725	10T021M	10T019U	8	36.398	0.061	241.406	241.406	0	0	0	0	Free Surfa	6.509	0.287	0.179	0.191	0.344	3.098	1,347.53	0	Yes	0.215	5.532
726	13T199M	13T198M	6	290.851	0.055	289.342	289.342	0	0	0	0	Free Surfa	6.66	0.495	0.491	0.247	0.407	2.667	589.707	0	No	0.247	6.66
727	13T197M	13T026M	6	116.635	0.015	289.342	289.342	0	0	0	0	Free Surfa	4.002	0.765	0.932	0.382	0.407	1.145	310.439	0	No	0.382	4.002
728	13T198M	13T197M	6	107.016	0.025	289.342	289.342	0	0	0	0	Free Surfa	4.91	0.634	0.73	0.317	0.407	1.657	396.44	0	Yes	0.35	4.396
73	12T039M	12T038M	6	177.21	0.023	307.337	307.337	0	0	0	0	Free Surfa	4.793	0.683	0.81	0.341	0.418	1.524	379.264	0	No	0.341	4.793
730	10C346L	10C344M	6	97.747	0.089	42.078	42.078	0	0	0	0	Free Surfa	4.601	0.161	0.056	0.08	0.151	3.441	752.659	0	Yes	0.087	4.124
731	13T026M	13T024M	6	172.65	0.032	433.939	433.939	0	0	0	0	Free Surfa	5.828	0.788	0.962	0.394	0.469	1.613	450.961	0	Yes	0.5	4.924
732	13C213M	13C212L	6	276.491	0.071	57.274	57.274	0	0	0	0	Free Surfa	4.652	0.197	0.085	0.099	0.177	3.123	671.94	0	Yes	0.136	2.959
733	13T024M	13T023M	6	71.269	0.046	433.939	433.939	0	0	0	0	Pressurize	6.816	0.679	0.803	0.339	0.469	2.179	540.285	0	Yes	0.5	4.924
734	06T204L	06T203M	8	302.811	0.008	123.737	123.737	0	0	0	0	Free Surfa	2.551	0.348	0.26	0.232	0.243	1.09	475.476	0	No	0.232	2.551
735	03C069U	03C068L	6	211.43	0.009	17.738	17.738	0	0	0	0	Free Surfa	1.62	0.182	0.072	0.091	0.097	1.135	245.582	0	No	0.091	1.62
736	06C184M	06C183M	6	194.706	0.035	13.603	13.603	0	0	0	0	Free Surfa	2.365	0.117	0.029	0.058	0.085	2.087	471.496	0	Yes	0.06	2.248
737	10C298M	10T021M	6	47.731	0.124	15.502	15.502	0	0	0	0	Free Surfa	3.828	0.092	0.017	0.046	0.091	3.817	887.449	0	No	0.046	3.828
738	04C116L	04C114U	6	207.017	0.089	18.976	18.976	0	0	0	0	Free Surfa	3.632	0.109	0.025	0.055	0.1	3.314	754.501	0	Yes	0.07	2.52
739	10C303M	10C302M	6	44.354	0.234	4.429	4.429	0	0	0	0	Free Surfa	3.268	0.044	0.004	0.022	0.048	4.742	1,221.39	0	Yes	0.027	2.403
74	12T034M	12T033M	8	219.199	0.026	425.617	425.617	0	0	0	0	Free Surfa	5.519	0.494	0.49	0.329	0.462	1.915	869.11	0	No	0.329	5.519
740	10C302M	10C301M	6	157.608	0.047	4.429	4.429	0	0	0	0	Free Surfa	1.864	0.064	0.008	0.032	0.048	2.233	544.76	0	No	0.032	1.864
741	13C179M	13C178M	6	86.026	0.022	2.39	2.39	0	0	0	0	Free Surfa	1.183	0.057	0.006	0.029	0.035	1.498	371.085	0	Yes	0.036	0.833
742	13C191M	13C178M	6	54.557	0.071	1.195	1.195	0	0	0	0	Free Surfa	1.446	0.031	0.002	0.016	0.025	2.48	671.461	0	Yes	0.03	0.557
743	13C252M	13C251U	6	103.473	0.221	14.34	14.34	0	0	0	0	Free Surfa	4.583	0.077	0.012	0.039	0.087	4.996	1,188.31	0	Yes	0.044	3.769
744	10C299M	10C298M	6	131.247	0.346	15.502	15.502	0	0	0	0	Free Surfa	5.482	0.072	0.01	0.036	0.091	6.189	1,485.35	0	Yes	0.041	4.53
745	10C301M	10C299M	6	162.482	0.115	4.429	4.429	0	0	0	0	Free Surfa	2.552	0.052	0.005	0.026	0.048	3.404	855.647	0	Yes	0.031	1.959
746	13C172M	13C171M	6	73.968	0.009	19.12	19.12	0	0	0	0	Free Surfa	1.656	0.189	0.078	0.094	0.101	1.138	245.636	0	Yes	0.098	1.574
747	13C173M	13C172M	6	75.401	0.009	19.12	19.12	0	0	0	0	Free Surfa	1.645	0.19	0.079	0.095	0.101	1.128	243.291	0	No	0.095	1.645
748	13C174M	13C173M	6	75.805	0.009	19.12	19.12	0	0	0	0	Free Surfa	1.642	0.19	0.079	0.095	0.101	1.125	242.641	0	No	0.095	1.642
749	13C178M	13C177M	6	127.65	0.224	19.12	19.12	0	0	0	0	Free Surfa	5.023	0.088	0.016	0.044	0.101	5.117	1,196.07	0	Yes	0.057	3.46
75	12T033M	12T032M	8	205.15	0.029	425.617	425.617	0	0	0	0	Free Surfa	5.805	0.475	0.458	0.317	0.462	2.065	929.991	0	No	0.317	5.805
750	13C251U	13C249M	6	110.357	0.077	14.34	14.34	0	0	0	0	Free Surfa	3.173	0.099	0.02	0.049	0.087	3.046	701.675	0	Yes	0.056	2.675
751	10C304M	10C299M	6	115.612	0.012	11.073	11.073	0	0	0	0	Free Surfa	1.515	0.138	0.041	0.069	0.076	1.228	272.551	0	No	0.069	1.515
752	13C176M	13C174M	6	127.716	0.009	19.12	19.12	0	0	0	0	Free Surfa	1.602	0.193	0.082	0.097	0.101	1.088	234.336	0	No	0.097	1.602
753	13C177M	13C176M	6	45.15	0.033	19.12	19.12	0	0	0	0	Free Surfa	2.575	0.139	0.042	0.07	0.101	2.075	460.237	0	Yes	0.083	1.99
754	13C248M	13C247M	6	64.111	0.047	14.34	14.34	0	0	0	0	Free Surfa	2.664	0.112	0.026	0.056	0.087	2.405	546.209	0	No	0.056	2.664
755	13C241M	13C239M	6	47.399	0.027	10.755	10.755	0	0	0	0	Free Surfa	2.017	0.111	0.026	0.055	0.075	1.828	415.426	0	No	0.055	2.017
756	13C239M	13C238M	6	171.513	0.141	10.755	10.755	0	0	0	0	Free Surfa	3.589	0.075	0.011	0.037	0.075	3.971	948.118	0	Yes	0.043	2.928
757	10C307M	10C306M	6	63.67	0.156	11.073	11.073	0	0	0	0	Free Surfa	3.747	0.074	0.011	0.037	0.076	4.166	995.921	0	Yes	0.043	3.018
758	13C244U	13C243M	6	205.548	0.02	10.755	10.755	0	0	0	0	Free Surfa	1.822	0.119	0.03	0.059	0.075	1.593	359.172	0	No	0.059	1.822
759	13C259M	13C258M	6	82.689	0.02	39.796	39.796	0	0	0	0	Free Surfa	2.669	0.226	0.112	0.113	0.147	1.668	356.034	0	No	0.113	2.669
76	12C082M	12T036U	6	200.293	0.31	118.281	118.281	0	0	0	0	Free Surfa	9.7	0.196	0.084	0.098	0.259	6.534	1,406.39	0	Yes	0.195	3.728
760	13C247M	13C246M	6	63.266	0.221	14.34	14.34	0	0	0	0	Free Surfa	4.582	0.077	0.012	0.039	0.087	4.994	1,187.80	0	Yes	0.047	3.44
762	13C246M	13C236M	6	81.468	0.049	14.34	14.34	0	0	0	0	Free Surfa	2.709	0.11	0.026	0.055	0.087	2.46	559.502	0	Yes	0.057	2.567
763	13C258M	13C257M	6	162.403	0.036	39.796	39.796	0	0	0	0	Free Surfa	3.288	0.195	0.083	0.098	0.147	2.221	478.289	0	Yes	0.104	3.004
764	10C309M	10C308M	6	126.023	0.031	69.762	69.762	0	0	0	0	Free Surfa	3.668	0.268	0.157	0.134	0.196	2.09	443.224	0	Yes	0.158	2.909
765	10C326M	10C324M	6	363.961	0.064	14.34	14.34	0	0	0	0	Free Surfa	2.972	0.104	0.022	0.052	0.087	2.788	638.888	0	Yes	0.059	2.459
766	04C111M	04C109M	6	77.358	0.103	18.976	18.976	0	0	0	0	Free Surfa	3.819	0.106	0.023	0.053	0.1	3.547	810.682	0	Yes	0.058	3.348
767	10C354M	10C353M	6	96.503	0.149	8.859	8.859	0	0	0	0	Free Surfa	3.449	0.067	0.009	0.034	0.068	4.024	974.368	0	Yes	0.041	2.597
768	13C254M	13T206M	6	137.36	0.12	42.186	42.186	0	0	0	0	Free Surfa	5.113	0.15	0.048	0.075	0.151	3.968	873.546	0	Yes	0.1	3.36
769	10C357M	10C353M	6	87.641	0.064	9.966	9.966	0	0	0	0	Free Surfa	2.659	0.087	0.016	0.044	0.072	2.724	637.53	0	Yes	0.046	2.472
77	12T043U	12T042M	8	157.081	0.03	307.337	307.337	0	0	0	0	Free Surfa	5.358	0.394	0.328	0.263	0.39	2.132	937.338	0	Yes	0.289	4.722
770	10C327M	10C326M	6	211.77	0.009	14.34	14.34	0	0	0	0	Free Surfa	1.522	0.164	0.058	0.082	0.087	1.127	245.936	0	No	0.082	1.522
771	13T203M	13T202M	6	90.104	0.096	159.774	159.774	0	0	0	0	Free Surfa	6.964	0.307	0.205	0.153	0.303	3.686	781.037	0	Yes	0.157	6.728
772	13C029M	13C028M	6	86.255	0.062	124.281	124.281	0	0	0	0	Free Surfa	5.559	0.301	0.197	0.151	0.266	2.973	629.852	0	No	0.151	5.559
773	13C031M	13C029M	6	46.402	0.126	120.696	120.696	0	0	0	0	Free Surfa	7.1	0.248	0.134	0.124	0.261	4.224	897.928	0	Yes	0.137	6.146
774	10C352M	10C342M	6	74.685	0.013	18.825	18.825	0	0	0	0	Free Surfa	1.853	0.173	0.065	0.086	0.1	1.334	289.979	0	Yes	0.089	1.783
775	13T202M	13T201M	6	62.828	0.079	159.774	159.774	0	0	0	0	Free Surfa	6.507	0.322	0.225	0.161	0.303	3.351	710.534	0	Yes	0.184	5.424
776	11C108M	11C033M	6	144.793	0.074	9.101	9.101	0	0	0	0	Free Surfa	2.726	0.081	0.013	0.04	0.069	2.906	687.21	0	Yes	0.139	0.456
777	12C193L	12C192M	6	338.645	0.007	19.473	19.473	0	0	0	0	Free Surfa	1.48	0.207	0.094	0.103	0.102	0.969	207.866	0	No	0.103	1.48
778	12C194M	12C193L	6	424.153	0.003	19.473	19.473	0	0	0	0	Free Surfa	1.11	0.253	0.14	0.127	0.102	0.653	138.656	0	No	0.127	1.11
779	11C031M	11C029L	6	212.564	0.014	176.567	176.567	0	0	0	0	Free Surfa	3.542	0.552	0.589	0.276	0.319	1.321	299.972	0	Yes	0.287	3.374
78	12T042M	12T041U	8	83.003	0.015	307.337	307.337	0	0	0	0	Free Surfa	4.216	0.473	0.454	0.315	0.39	1.504	676.881	0	Yes	0.357	3.592
780	12C197M	12C196M	6	220.09	0.001	4.91	4.91	0	0	0	0	Free Surfa	0.44	0.184	0.074	0.092	0.051	0.306	66.138	0	No	0.092	0.44
781	12C196M	12C194M	6	308.607	0.04	4.91	4.91	0	0	0	0	Free Surfa	1.822	0.07	0.01	0.035	0.051	2.091	504.179	0	Yes	0.081	0.533
782	12C176M	12C174M	6	299.268	0.059	35.318	35.318	0	0	0	0	Free Surfa	3.781	0.163	0.058	0.081	0.138	2.807	613.051	0	Yes	0.092	3.15
783	12C067M	12C066M	6	179.789	0.104	54.257	54.257	0	0	0	0	Free Surfa	5.242	0.175	0.067	0.087	0.172	3.75	814.01	0	Yes	0.12	3.338
784	11C102M	11C028U	6	193.132	0.112	38.833	38.833	0	0	0	0	Free Surfa	4.877	0.146	0.046	0.073	0.145	3.833	845.955	0	Yes	0.222	1.026
785	11C029L	11C028U	6	180.975	0.011	176.567	176.567	0	0	0	0	Free Surfa	3.223	0.596	0.665	0.298	0.319	1.139	265.443	0	Yes	0.335	2.815
786	11C021L	11C019M	6	138.941	0.119	242.704	242.704	0	0	0	0	Free Surfa	8.468	0.361	0.279	0.18	0.375	4.093	871.278	0	Yes	0.226	6.265
787	12C059M	12C058M	6	233.635	0.006	138.062	138.062	0	0	0	0	Free Surfa	2.459	0.609	0.687	0.304	0.281	0.856	201.104	0	No	0.304	2.459
788	12C106M	12C091M	6	305.199	0.038	11.327	11.327	0	0	0	0	Free Surfa	2.301	0.105	0.023	0.052	0.077	2.144	490.377	0	Yes	0.07	1.519
789	15C128M	15C127M	6	81.243	0.015	55.714	55.714	0	0	0	0	Free Surfa	2.645	0.289	0.182	0.144	0.175	1.449	306.876	0	No	0.144	2.645
79	12C112M	12C099M	6	71.403	0.111	1.618	1.618	0	0	0	0	Free Surfa	1.852	0.033	0.002	0.016	0.029	3.118	839.514	0	Yes	0.03	0.747
790	10C314M	10C313M	6	201.89	0.074	48.723	48.723	0	0	0	0	Free Surfa	4.497	0.181	0.071	0.09	0.163	3.164	685.134	0	Yes	0.131	2.647
791	10C316M	10C314M	6	31.53	0.051	34.328	34.328	0	0	0	0	Free Surfa	3.558	0.167	0.06	0.083	0.136	2.61	568.982	0	Yes	0.087	3.353
792	10C341M	10C316M	6	57.014	0.11	2.215	2.215	0	0	0	0	Free Surfa	2.033	0.038	0.003	0.019	0.034	3.176	835.948	0	Yes	0.051	0.468
793	10T028M	10T027M	6	300.456	0.07	140.632	140.632	0	0	0	0	Free Surfa	6.004	0.311	0.211	0.156	0.283	3.152	667.884	0	Yes	0.157	5.956
794	13C249M	13C248M	6	116.301	0.031	14.34	14.34	0	0	0	0	Free Surfa	2.297	0.123	0.032	0.062	0.087	1.968	441.834	0	No	0.062	2.297
795	10C306M	10C304M	6	114.16	0.049	11.073	11.073	0	0	0	0	Free Surfa	2.501	0.098	0.02	0.049	0.076	2.417	557.745	0	Yes	0.059	1.904
796	13C236M	13T203M	6	160.112	0.452	50.582	50.582	0	0	0	0	Free Surfa	8.6	0.119	0.03	0.059	0.166	7.527	1,697.93	0	Yes	0.106	3.692
797	13C257M	13C256M	6	157.008	0.022	39.796	39.796	0	0	0	0	Free Surfa	2.761	0.22	0.107	0.11	0.147	1.748	373.48	0	No	0.11	2.761
798	10C353M	10C352M	6	68.382	0.151	18.825	18.825	0	0	0	0	Free Surfa	4.354	0.096	0.019	0.048	0.1	4.244	981.253	0	Yes	0.067	2.665
799	10C331M	10C311M	6	304.626	0.081	13.288	13.288	0	0	0	0	Free Surfa	3.155	0.094	0.018	0.047	0.084	3.103	718.987	0	Yes	0.082	1.4
8	09C027M	09C026M	6	216.028	0.125	48.192	48.192	0	0	0	0	Free Surfa	5.393	0.158	0.054	0.079	0.162	4.068	891.017	0	Yes	0.5	0.547
80	12C076M	12T019M	6	195.576	0.493	232.115	232.115	0	0	0	0	Free Surfa	13.908	0.244	0.131	0.122	0.367	8.333	1,772.30	0	Yes	0.21	6.597

ID	From ID	To ID	Diameter (	Length (ft)	Slope	Total Flow	Unpeakabl	Peakable F	Coverage F	Infiltration	Storm Flov	Flow Type	Velocity (ft	d/D	q/Q	Water Dep	Critical De	Froude Nu	Full Flow (g	Coverage (	Backwater	Adjusted D	Adjusted V
800	10C311M	10C309M	6	177.295	0.052	69.762	69.762	0	0	0	0	Free Surfa	4.419	0.235	0.121	0.118	0.196	2.703	575.939	0	Yes	0.126	4.012
801	10T026M	10T024M	6	244.28	0.047	210.394	210.394	0	0	0	0	Free Surfa	5.812	0.43	0.384	0.215	0.349	2.537	548.384	0	No	0.215	5.812
802	10C342M	10T026M	6	115.491	0.111	60.903	60.903	0	0	0	0	Free Surfa	5.556	0.182	0.072	0.091	0.183	3.892	842.22	0	Yes	0.153	2.666
803	10C328M	10C327M	6	198.464	0.03	14.34	14.34	0	0	0	0	Free Surfa	2.276	0.124	0.033	0.062	0.087	1.944	436.099	0	Yes	0.072	1.835
804	13C181M	13C158M	6	73.675	0.368	1.195	1.195	0	0	0	0	Free Surfa	2.563	0.021	0.001	0.011	0.025	5.332	1,532.67	0	Yes	0.058	0.21
805	13C212L	13T201M	6	50.927	0.04	129.568	129.568	0	0	0	0	Free Surfa	4.791	0.346	0.257	0.173	0.271	2.372	504.002	0	Yes	0.19	4.216
806	10C343M	10C342M	6	218.284	0.075	42.078	42.078	0	0	0	0	Free Surfa	4.325	0.168	0.061	0.084	0.151	3.164	689.278	0	Yes	0.087	4.069
807	13C223L	13C212L	6	31.56	0.055	72.294	72.294	0	0	0	0	Free Surfa	4.554	0.236	0.122	0.118	0.2	2.78	592.204	0	Yes	0.145	3.394
808	10T027M	10T026M	6	82.804	0.07	143.954	143.954	0	0	0	0	Free Surfa	6.049	0.315	0.215	0.158	0.287	3.156	668.848	0	Yes	0.186	4.814
809	13C226M	13C224M	6	34.173	0.461	69.904	69.904	0	0	0	0	Free Surfa	9.54	0.138	0.041	0.069	0.197	7.725	1,714.21	0	Yes	0.07	9.408
81	12C174M	12C173L	6	240.875	0.04	47.454	47.454	0	0	0	0	Free Surfa	3.603	0.207	0.094	0.103	0.161	2.359	506.025	0	No	0.103	3.603
810	02C098M	02C032M	6	29.512	0.008	8.164	8.164	0	0	0	0	Free Surfa	1.21	0.13	0.036	0.065	0.065	1.009	225.32	0	Yes	0.08	0.889
811	10C348M	10C347M	6	186.179	0.017	25.468	25.468	0	0	0	0	Free Surfa	2.204	0.189	0.078	0.094	0.117	1.514	326.767	0	Yes	0.095	2.171
812	05T011M	05T009M	18	376.221	0.004	3,775.28	3,775.28	0	0	0	0	Pressurize	4.76	1	1.3	1.5	0.984	0.685	2,904.20	0	Yes	1.5	4.76
813	10C363M	10C348M	6	125.518	0.041	7.751	7.751	0	0	0	0	Free Surfa	2.119	0.086	0.015	0.043	0.064	2.189	513.447	0	Yes	0.069	1.063
814	13C147M	13C146M	6	170.833	0.267	46.342	46.342	0	0	0	0	Free Surfa	6.968	0.129	0.036	0.064	0.159	5.839	1,305.01	0	Yes	0.339	0.729
815	10T029M	10T028M	6	240.801	0.072	131.773	131.773	0	0	0	0	Free Surfa	5.955	0.299	0.194	0.149	0.274	3.198	677.521	0	Yes	0.153	5.786
816	05T009M	05T008M	18	102.53	0.047	3,775.28	3,775.28	0	0	0	0	Free Surfa	11.922	0.421	0.369	0.631	1.123	3.044	10,228.20	0	No	0.631	11.922
817	13C148L	13C147M	6	110.952	0.116	46.342	46.342	0	0	0	0	Free Surfa	5.207	0.158	0.054	0.079	0.159	3.934	861.745	0	No	0.079	5.207
818	13C149U	13C148L	6	231.203	0.077	46.342	46.342	0	0	0	0	Free Surfa	4.496	0.174	0.066	0.087	0.159	3.22	699.372	0	No	0.087	4.496
819	05C137M	05C111M	6	279.993	0.038	2.411	2.411	0	0	0	0	Free Surfa	1.439	0.051	0.005	0.025	0.035	1.943	490.137	0	Yes	0.052	0.502
82	09C022M	09C021M	6	252.535	0.12	71.929	71.929	0	0	0	0	Free Surfa	5.987	0.194	0.082	0.097	0.2	4.056	873.607	0	No	0.097	5.987
820	05T007M	05T006M	18	126.068	0.012	3,776.48	3,776.48	0	0	0	0	Free Surfa	7.138	0.633	0.728	0.949	1.123	1.393	5,190.67	0	No	0.949	7.138
821	13C156M	13C149U	6	212.508	0.1	22.441	22.441	0	0	0	0	Free Surfa	3.974	0.115	0.028	0.058	0.109	3.528	798.354	0	Yes	0.072	2.849
822	10C338M	10C337M	6	300.545	0.098	9.966	9.966	0	0	0	0	Free Surfa	3.085	0.079	0.013	0.039	0.072	3.326	788.678	0	Yes	0.045	2.539
823	13C152M	13C151M	6	220.765	0.051	23.901	23.901	0	0	0	0	Free Surfa	3.2	0.14	0.042	0.07	0.113	2.574	570.508	0	No	0.07	3.2
824	10C317M	10C316M	6	370.622	0.081	32.113	32.113	0	0	0	0	Free Surfa	4.101	0.144	0.045	0.072	0.131	3.243	716.519	0	Yes	0.078	3.68
825	10C318M	10C317M	6	24.706	0.034	32.113	32.113	0	0	0	0	Free Surfa	3.043	0.177	0.069	0.089	0.131	2.161	468.628	0	No	0.089	3.043
826	05T109M	05T108M	18	247.925	0.026	5,620.25	5,620.25	0	0	0	0	Free Surfa	10.442	0.642	0.743	0.963	1.334	2.015	7,560.02	0	Yes	1.5	7.086
827	05T108M	05T004M	12	45.539	0.017	217.816	217.816	0	0	0	0	Free Surfa	3.871	0.217	0.103	0.217	0.289	1.749	2,115.76	0	No	0.217	3.871
828	13T019M	13T018M	6	145.383	0.01	480.281	480.281	0	0	0	0	Pressurize	5.45	1	1.927	0.5	0.38	1.358	249.195	0	Yes	0.5	5.45
829	13T021M	13T019M	6	118.926	0.029	480.281	480.281	0	0	0	0	Pressurize	5.45	1	1.123	0.5	0.467	1.358	427.692	0	Yes	0.5	5.45
83	12C188M	12C187M	6	367.846	0.016	11.784	11.784	0	0	0	0	Free Surfa	1.736	0.131	0.037	0.065	0.079	1.444	322.215	0	No	0.065	1.736
830	10C349M	10C348M	6	182.245	0.031	17.717	17.717	0	0	0	0	Free Surfa	2.444	0.137	0.04	0.068	0.097	1.987	441.274	0	Yes	0.081	1.898
831	13C218M	13C217M	6	141.931	0.079	18.009	18.009	0	0	0	0	Free Surfa	3.42	0.11	0.025	0.055	0.098	3.112	707.977	0	Yes	0.078	2.056
832	13C103M	13C156M	6	225.172	0.016	22.441	22.441	0	0	0	0	Free Surfa	2.078	0.18	0.071	0.09	0.109	1.463	316.912	0	No	0.09	2.078
833	05C112L	05C111M	8	164.853	0.031	81.134	81.134	0	0	0	0	Free Surfa	3.74	0.196	0.084	0.131	0.195	2.181	963.766	0	No	0.131	3.74
834	08C536U	08C504M	6	237.046	0.078	14.452	14.452	0	0	0	0	Free Surfa	3.195	0.099	0.02	0.05	0.087	3.065	706.027	0	Yes	0.065	2.14
835	08C538M	08C507M	6	103.888	0.012	10.323	10.323	0	0	0	0	Free Surfa	1.517	0.131	0.037	0.065	0.074	1.262	281.479	0	Yes	0.067	1.452
836	08C588M	08C587M	6	152.362	0.271	18.581	18.581	0	0	0	0	Free Surfa	5.32	0.083	0.014	0.042	0.099	5.584	1,315.18	0	Yes	0.056	3.416
837	05C122M	05C121M	6	200.823	0.07	24.22	24.22	0	0	0	0	Free Surfa	3.594	0.13	0.036	0.065	0.114	2.998	669.42	0	Yes	0.069	3.332
838	08C528M	08C501M	6	173.515	0.016	6.194	6.194	0	0	0	0	Free Surfa	1.418	0.097	0.019	0.048	0.057	1.377	318.168	0	Yes	0.098	0.508
839	08C529M	08C528M	6	92.737	0.113	6.194	6.194	0	0	0	0	Free Surfa	2.807	0.061	0.007	0.03	0.057	3.449	847.327	0	Yes	0.039	1.917
84	12C187M	12C186M	6	314.138	0.058	11.784	11.784	0	0	0	0	Free Surfa	2.705	0.097	0.019	0.048	0.079	2.629	607.437	0	No	0.048	2.705
840	13C153M	13C152M	6	197.902	0.008	23.901	23.901	0	0	0	0	Free Surfa	1.649	0.221	0.107	0.111	0.113	1.042	222.524	0	No	0.111	1.649
841	10C321U	10C319M	6	174.665	0.013	16.61	16.61	0	0	0	0	Free Surfa	1.788	0.162	0.057	0.081	0.094	1.33	290.506	0	No	0.081	1.788
842	10C319M	10C318M	6	119.574	0.094	32.113	32.113	0	0	0	0	Free Surfa	4.329	0.139	0.042	0.069	0.131	3.49	773.745	0	Yes	0.079	3.589
843	13C101U	13C099M	6	128.339	0.146	117.375	117.375	0	0	0	0	Free Surfa	7.41	0.236	0.122	0.118	0.258	4.528	964.539	0	No	0.118	7.41
844	13C102M	13C101U	6	103.935	0.248	105.425	105.425	0	0	0	0	Free Surfa	8.66	0.196	0.084	0.098	0.244	5.837	1,256.62	0	Yes	0.108	7.543
845	10T031M	10T029M	6	282.622	0.056	131.773	131.773	0	0	0	0	Free Surfa	5.43	0.32	0.221	0.16	0.274	2.81	595.736	0	No	0.16	5.43
846	05C113U	05C112L	8	102.832	0.103	78.149	78.149	0	0	0	0	Free Surfa	5.624	0.144	0.045	0.096	0.191	3.854	1,748.07	0	Yes	0.113	4.421
847	13C154M	13C153M	6	97.243	0.172	23.901	23.901	0	0	0	0	Free Surfa	4.898	0.104	0.023	0.052	0.113	4.576	1,047.64	0	Yes	0.081	2.561
848	13C104M	13C103M	6	143.46	0.112	117.111	117.111	0	0	0	0	Free Surfa	6.74	0.251	0.139	0.126	0.257	3.977	844.836	0	No	0.126	6.74
849	13C106M	13C104M	6	288.22	0.13	117.111	117.111	0	0	0	0	Free Surfa	7.11	0.242	0.129	0.121	0.257	4.281	910.863	0	Yes	0.123	6.921
85	12C156M	12C154L	6	187.232	0.03	11.327	11.327	0	0	0	0	Free Surfa	2.121	0.111	0.026	0.055	0.077	1.92	436.374	0	Yes	0.055	2.121
850	13C117M	13C101U	6	57.585	0.212	11.95	11.95	0	0	0	0	Free Surfa	4.273	0.071	0.01	0.036	0.079	4.842	1,163.23	0	Yes	0.077	1.394
851	13C123M	13C117M	6	121.944	0.025	3.585	3.585	0	0	0	0	Free Surfa	1.405	0.067	0.009	0.034	0.043	1.644	398.284	0	Yes	0.035	1.341
852	13C118M	13C117M	6	63.64	0.466	8.365	8.365	0	0	0	0	Free Surfa	5.042	0.05	0.005	0.025	0.066	6.831	1,724.58	0	Yes	0.03	3.794
853	13T018M	13T017M	6	322.014	0.046	609.606	609.606	0	0	0	0	Pressurize	6.917	1	1.128	0.5	0.486	1.724	540.41	0	Yes	0.5	6.917
854	13C122M	13C121M	6	75.757	0.025	4.78	4.78	0	0	0	0	Free Surfa	1.528	0.077	0.012	0.039	0.05	1.666	396.287	0	No	0.039	1.528
855	13C119M	13C118M	6	72.265	0.136	8.365	8.365	0	0	0	0	Free Surfa	3.285	0.067	0.009	0.034	0.066	3.843	931.511	0	No	0.034	3.285
856	13C121M	13C119M	6	119.821	0.042	4.78	4.78	0	0	0	0	Free Surfa	1.847	0.068	0.009	0.034	0.05	2.15	520.219	0	No	0.034	1.847
857	05T108M	05T107M	18	330.621	0.013	5,407.95	5,407.95	0	0	0	0	Pressurize	6.818	1	1	1.5	1.316	0.981	5,407.95	0	No	1.5	6.818
858	13C222M	13C221M	6	167.616	0.101	14.34	14.34	0	0	0	0	Free Surfa	3.488	0.093	0.018	0.046	0.087	3.459	803.312	0	Yes	0.067	2.039
859	13C221M	13C219M	6	175.274	0.011	18.009	18.009	0	0	0	0	Free Surfa	1.738	0.175	0.067	0.088	0.098	1.242	269.725	0	No	0.088	1.738
86	12C064M	12C063M	6	360.919	0.028	92.917	92.917	0	0	0	0	Free Surfa	3.865	0.317	0.218	0.159	0.228	2.008	425.543	0	No	0.159	3.865
860	13C233M	13C232M	6	150.975	0.117	9.56	9.56	0	0	0	0	Free Surfa	3.248	0.074	0.011	0.037	0.071	3.616	864.812	0	Yes	0.053	1.933
861	10C034M	10C033M	6	365.991	0.053	93.017	93.017	0	0	0	0	Free Surfa	4.842	0.27	0.16	0.135	0.228	2.749	582.852	0	Yes	0.137	4.758
862	08C618M	08C042M	6	293.436	0.051	12.387	12.387	0	0	0	0	Free Surfa	2.627	0.102	0.022	0.051	0.081	2.484	570.149	0	Yes	0.117	0.793
863	13C126M	13C119M	6	98.624	0.069	3.585	3.585	0	0	0	0	Free Surfa	2.007	0.053	0.005	0.026	0.043	2.651	664.629	0	Yes	0.03	1.663
864	10C037M	10C036M	6	104.207	0.022	93.017	93.017	0	0	0	0	Free Surfa	3.504	0.341	0.251	0.171	0.228	1.748	371.276	0	No	0.171	3.504
865	10C033M	10T032M	6	137.86	0.061	104.09	104.09	0	0	0	0	Free Surfa	5.233	0.277	0.168	0.138	0.242	2.93	621.09	0	No	0.138	5.233
866	13C144M	13C111M	6	176.924	0.028	16.73	16.73	0	0	0	0	Free Surfa	2.339	0.136	0.039	0.068	0.094	1.91	424.691	0	Yes	0.089	1.573
867	10C371M	10T032M	6	152.401	0.08	14.395	14.395	0	0	0	0	Free Surfa	3.215	0.098	0.02	0.049	0.087	3.096	713.771	0	Yes	0.091	1.307
868	13C112M	13C111M	6	85.031	0.131	9.56	9.56	0	0	0	0	Free Surfa	3.38	0.072	0.01	0.036	0.071	3.815	915.623	0	Yes	0.073	1.193
869	13C136M	13C127M	6	50.681	0.097	5.975	5.975	0	0	0	0	Free Surfa	2.637	0.062	0.008	0.031	0.056	3.211	786.808	0	Yes	0.057	1.071
87	09C056M	09C019L	6	173.126	0.013	5.754	5.754	0	0	0	0	Free Surfa	1.306	0.097	0.02	0.049	0.055	1.265	291.984	0	Yes	0.083	0.604
870	13C109M	13C108M	6	350.424	0.09	60.946	60.946	0	0	0	0	Free Surfa	5.152	0.192	0.081	0.096	0.183	3.509	756.483	0	Yes	0.105	4.511
871	13C111M	13C109M	6	255.726	0.019	37.045	37.045	0	0	0	0	Free Surfa	2.56	0.221	0.107	0.11	0.142	1.619	345.902	0	No	0.11	2.56
872	08C634M	08C633M	6	103.542	0.003	10.323	10.323	0	0	0	0	Free Surfa	0.967	0.179	0.07	0.089	0.074	0.684	148.266	0	No	0.089	0.967
873	08C633M	08C632M	6	43.356	0.014	10.323	10.323	0	0	0	0	Free Surfa	1.588	0.127	0.034	0.063	0.074	1.341	300.241	0	No	0.063	1.588
874	10C377M	10C037M	6	177.594	0.093	3.322	3.322	0	0	0	0	Free Surfa	2.169	0.048	0.004	0.024	0.042	3.019	768.108	0	Yes	0.097	0.276
875	13C113M	13C112M	6	93.516	0.253	9.56	9.56	0	0	0	0	Free Surfa	4.243	0.062	0.008	0.031	0.071	5.178	1,269.40	0	Yes	0.033	3.77
876	13C116M	13C114M	6	111.463	0.025	9.56	9.56	0	0	0	0	Free Surfa	1.89	0.107	0.024	0.053	0.071	1.743	397.908	0	No	0.053	1.89
877	13C114M	13C113M	6	18.931	0.138	9.56	9.56	0	0	0	0	Free Surfa	3.439	0.071	0.01	0.036	0.071	3.906	938.815	0	No	0.036	3.439
878	10C372M	10C371M	6	160.129	0.04	14.395	14.395	0	0	0	0	Free Surfa	2.535	0.116	0.028	0.058	0.087	2.247	508.142	0	No	0.058	2.535
879	13C137M	13C136M	6	126.358	0.027	5.975	5.975	0	0	0	0	Free Surfa	1.689	0.084	0.014	0.042	0.056	1.765	415.106	0	No	0.042	1.689
88	09C021M	09C019L	6	214.23	0.175	71.929	71.929	0	0	0	0	Free Surfa	6.841	0.177	0.068	0.088	0.2	4.865	1,055.44	0	Yes	0.102	5.539
880	08C048M	08C047M	6	178.814	0.082	94.969	94.969	0	0	0	0	Free Surfa	5.682	0.245	0.131	0.122	0.231	3.402	723.481	0	Yes	0.159	3.951
881	08C629U	08C048M	6	59.475	0.164	12.387	12.387	0	0	0	0	Free Surfa	3.949	0.077	0.012	0.039	0.081	4.301	1,022.82	0	Yes	0.08	1.349
882	08C043M	08C042M	6	295.15	0.062	150.712	150.712	0	0	0	0	Free Surfa	5.866	0.333	0.239	0.167	0.294	2.967	629.458	0	Yes	0.174	5.506
883	08C051M	08C049M	6	135.181	0.091	72.259	72.259	0	0	0	0	Free Surfa	5.452	0.208	0.095	0.104	0.2	3.562	763.698	0	Yes	0.11	5.052
884	13C142M	13C140M	6	106.178	0.139	23.901	23.901	0	0	0	0	Free Surfa	4.543	0.11	0.025	0.055	0.113	4.135	940.926	0	Yes	0.055	4.505
885	10C041M	10C039M	6	120.972	0.017	57.582	57.582	0	0	0	0	Free Surfa	2.78	0.285	0.177	0.143	0.178	1.532	324.666	0	Yes	0.152	2.552
886	08C049M	08C048M	6	70.466	0.079	82.582	82.582	0	0	0	0	Free Surfa	5.371	0.231	0.117	0.115	0.214	3.32	707.675	0	Yes	0.119	5.148
887	08C047M	08C046M	6	240.341	0.014	94.969	94.969	0	0	0	0	Free Surfa	2.984	0.39	0.322	0.195	0.231	1.379	295.202	0	Yes	0.198	2.916
888	10C039M	10C038M	6	192.096	0.01	57.582	57.582	0	0	0	0	Free Surfa	2.355	0.321	0.223	0.161	0.178	1.215	257.644	0	Yes	0.179	2.024
889	10C038M	10C037M	6	351.979	0.006	63.119	63.119	0	0	0	0	Free Surfa	1.94	0.396	0.332	0.198	0.186	0.888	190.336	0	No	0.198	1.94
89	12C154L	12C153L	6	197.677	0.03	11.327	11.327	0	0	0	0	Free Surfa	2.12	0.111	0.026	0.055	0.077	1.919	436.227	0	No	0.055	2.12
890	08C627U	08C626M	6	141.505	0.014	28.904	28.904	0	0	0	0	Free Surfa	2.154	0.21	0.096	0.105	0.125	1.401	300.188	0	No	0.105	2.154
891	08C532M	08C531M	6	149.673	0.097	26.839	26.839	0	0	0	0	Free Surfa	4.144	0.127	0.034	0.063	0.12	3.506	785.104	0	Yes	0.077	3.114
892	08C503L	08C502M	6	159.531	0.048	125.938	125.938	0	0	0	0	Free Surfa	5.099	0.324	0.227	0.162	0.267	2.62	555.566	0	No	0.162	5.099
893	14C059L	14C052U	6	87.433	0.131	7.011	7.011	0	0	0	0	Free Surfa	3.075	0.062	0.008	0.031	0.061	3.737	915.031	0	Yes	0.045	1.77
894	14C021M	14C019M	6	251.321	0.057	50.832	50.832	0	0	0	0	Free Surfa	4.151	0.197	0.085	0.098	0.167	2.792	600.769	0	No	0.098	4.151
895	08C647M	08C646M	6	160.8	0.112	10.323	10.323	0	0	0	0	Free Surfa	3.275	0.078	0.012	0.039	0.074	3.561	846.356	0	Yes	0.04	3.164
896	08C644M	08C643M	6	108.271	0.095	20.646	20.646	0	0	0	0	Free Surfa	3.804	0.112	0.027	0.056	0.105	3.425	777.327	0	Yes	0.068	2.874
897	14C046M	14C043M	6	178.961	0.126	10.517	10.517	0	0	0	0	Free Surfa	3.428	0.076	0.012	0.038	0.074	3.763	896.451	0	No	0.038	3.428
898	14C013M	14C012M	6	167.825	0.073	66.607	66.607	0	0	0	0	Free Surfa	4.927	0.211	0.097	0.105	0.192	3.195	684.496	0	Yes	0.109	4.687
899	08C671M	08C669U	6	262.062	0.115	16.516	16.516	0	0	0	0	Free Surfa	3.806	0.096	0.019	0.048	0.094	3.704	856.274	0	Yes	0.05	3.569
9	12C121M	12C119M	6	199.507	0.019	24.272	24.272	0	0	0	0	Free Surfa	2.265	0.179	0.07	0.09	0.114	1.599	346.503	0	Yes	0.097	2.019
90	12C186M	12C184M	6	254.909	0.134	11.784	11.784	0	0	0	0	Free Surfa	3.624	0.079	0.013	0.04	0.079	3.898	923.852	0	Yes	0.041	3.416

ID	From ID	To ID	Diameter (	Length (ft)	Slope	Total Flow	Unpeakabl	Peakable F	Coverage F	Infiltration	Storm Flov	Flow Type	Velocity (ft	d/D	q/Q	Water Dep	Critical De	Froude Nu	Full Flow (g	Coverage (	Backwater	Adjusted D	Adjusted V
900	14C043M	14C042M	6	148.826	0.175	10.517	10.517	0	0	0	0	Free Surfa	3.845	0.07	0.01	0.035	0.074	4.39	1,056.97	0	No	0.035	3.845
901	08C292M	08C291M	6	168.542	0.013	16.516	16.516	0	0	0	0	Free Surfa	1.79	0.161	0.057	0.081	0.094	1.335	291.809	0	Yes	0.118	1.039
902	14C042M	14C041M	6	82.712	0.182	10.517	10.517	0	0	0	0	Free Surfa	3.894	0.07	0.01	0.035	0.074	4.466	1,076.55	0	Yes	0.039	3.26
903	08C659M	08C658M	6	236.503	0.24	35.097	35.097	0	0	0	0	Free Surfa	6.174	0.116	0.028	0.058	0.138	5.469	1,236.96	0	Yes	0.076	4.187
904	14C049M	14C048M	6	155.432	0.418	8.764	8.764	0	0	0	0	Free Surfa	4.923	0.053	0.005	0.026	0.068	6.511	1,632.59	0	Yes	0.029	4.299
905	13C128M	13C127M	6	301.329	0.011	32.265	32.265	0	0	0	0	Free Surfa	2.04	0.235	0.121	0.118	0.132	1.247	265.679	0	No	0.118	2.04
906	13C138M	13C129M	6	192.771	0.044	3.585	3.585	0	0	0	0	Free Surfa	1.71	0.059	0.007	0.029	0.043	2.139	527.841	0	Yes	0.052	0.748
907	13C129M	13C128M	6	63.05	0.041	23.9	23.9	0	0	0	0	Free Surfa	2.963	0.147	0.047	0.074	0.113	2.318	511.075	0	Yes	0.096	2.03
908	08C052M	08C051M	6	85.278	0.066	43.356	43.356	0	0	0	0	Free Surfa	4.182	0.175	0.067	0.088	0.153	2.99	649.015	0	Yes	0.096	3.679
909	08C636M	08C051M	6	160.684	0.075	12.387	12.387	0	0	0	0	Free Surfa	3	0.093	0.018	0.047	0.081	2.971	689.572	0	Yes	0.075	1.488
91	12C191M	12C063M	6	299.483	0.007	8.738	8.738	0	0	0	0	Free Surfa	1.165	0.14	0.042	0.07	0.068	0.935	207.169	0	Yes	0.102	0.673
910	08C046M	08C044M	6	130.403	0.012	94.969	94.969	0	0	0	0	Free Surfa	2.85	0.404	0.343	0.202	0.231	1.291	277.146	0	No	0.202	2.85
911	08C044M	08C043M	6	156.254	0.092	150.712	150.712	0	0	0	0	Free Surfa	6.741	0.301	0.197	0.151	0.294	3.605	763.813	0	Yes	0.159	6.276
912	08C631M	08C629U	6	218.698	0.045	12.387	12.387	0	0	0	0	Free Surfa	2.513	0.105	0.023	0.053	0.081	2.339	535.109	0	No	0.053	2.513
913	13T012M	13T011M	6	106.31	0.01	754.845	754.845	0	0	0	0	Pressurize	8.565	1	2.962	0.5	0.384	2.135	254.854	0	Yes	0.5	8.565
914	13T011M	13T009M	6	124.453	0.06	754.845	754.845	0	0	0	0	Pressurize	8.565	1	1.225	0.5	0.492	2.135	615.962	0	Yes	0.5	8.565
915	13C139M	13C132M	6	100.9	0.076	3.585	3.585	0	0	0	0	Free Surfa	2.07	0.052	0.005	0.026	0.043	2.764	695.037	0	Yes	0.034	1.382
916	13C131M	13C129M	6	56.559	0.511	20.315	20.315	0	0	0	0	Free Surfa	6.814	0.075	0.011	0.037	0.104	7.554	1,804.29	0	Yes	0.055	3.805
917	08C053U	08C052M	6	165.343	0.024	43.356	43.356	0	0	0	0	Free Surfa	2.933	0.224	0.11	0.112	0.153	1.839	392.737	0	No	0.112	2.933
918	08C537U	08C536U	6	99.31	0.046	14.452	14.452	0	0	0	0	Free Surfa	2.657	0.112	0.027	0.056	0.087	2.39	542.43	0	No	0.056	2.657
919	08C621M	08C044M	6	173.205	0.09	39.227	39.227	0	0	0	0	Free Surfa	4.527	0.155	0.052	0.077	0.146	3.453	757.714	0	Yes	0.114	2.595
92	07C062L	07C014M	8	146.018	0.01	18.282	18.282	0	0	0	0	Free Surfa	1.583	0.127	0.034	0.085	0.091	1.159	532.476	0	Yes	0.177	0.547
920	13C143M	13C142M	6	288.344	0.07	23.901	23.901	0	0	0	0	Free Surfa	3.579	0.129	0.036	0.065	0.113	2.995	669.247	0	No	0.065	3.579
921	13C141M	13C133M	6	141.121	0.021	4.78	4.78	0	0	0	0	Free Surfa	1.452	0.08	0.013	0.04	0.05	1.555	368.154	0	Yes	0.041	1.399
922	13C133M	13C132M	6	118.971	0.211	16.73	16.73	0	0	0	0	Free Surfa	4.724	0.084	0.014	0.042	0.094	4.935	1,160.88	0	Yes	0.042	4.713
923	10C042M	10C041M	6	299.573	0.05	57.582	57.582	0	0	0	0	Free Surfa	4.122	0.216	0.102	0.108	0.178	2.641	565.014	0	Yes	0.125	3.335
924	08C056M	08C054M	6	164.789	0.058	43.356	43.356	0	0	0	0	Free Surfa	3.991	0.181	0.071	0.09	0.153	2.805	607.381	0	No	0.09	3.991
925	08C054M	08C053U	6	149.898	0.07	43.356	43.356	0	0	0	0	Free Surfa	4.27	0.173	0.065	0.086	0.153	3.075	668.412	0	Yes	0.099	3.493
926	13C134M	13C133M	6	307.065	0.015	11.95	11.95	0	0	0	0	Free Surfa	1.69	0.134	0.039	0.067	0.079	1.386	308.411	0	No	0.067	1.69
927	08C057M	08C056M	6	130.6	0.015	43.356	43.356	0	0	0	0	Free Surfa	2.476	0.253	0.14	0.126	0.153	1.457	309.408	0	No	0.126	2.476
928	08C622M	08C621M	6	200.567	0.103	39.227	39.227	0	0	0	0	Free Surfa	4.75	0.15	0.048	0.075	0.146	3.685	811.382	0	Yes	0.076	4.636
929	08C623M	08C622M	6	121.51	0.105	28.904	28.904	0	0	0	0	Free Surfa	4.366	0.129	0.035	0.064	0.125	3.664	819.208	0	Yes	0.07	3.892
93	13C054M	13C053M	6	276.956	0.027	31.071	31.071	0	0	0	0	Free Surfa	2.752	0.186	0.075	0.093	0.129	1.907	412.013	0	No	0.093	2.752
930	08C624M	08C623M	6	233.583	0.009	28.904	28.904	0	0	0	0	Free Surfa	1.848	0.233	0.12	0.117	0.125	1.134	241.742	0	No	0.117	1.848
931	10C043L	10C042M	6	160.577	0.009	57.582	57.582	0	0	0	0	Free Surfa	2.265	0.331	0.236	0.165	0.178	1.15	244.044	0	No	0.165	2.265
932	08C626M	08C624M	6	160.006	0.018	28.904	28.904	0	0	0	0	Free Surfa	2.333	0.198	0.086	0.099	0.125	1.562	335.985	0	Yes	0.108	2.066
933	08C504M	08C503L	6	88.015	0.176	59.872	59.872	0	0	0	0	Free Surfa	6.493	0.161	0.057	0.081	0.181	4.842	1,058.50	0	Yes	0.121	3.626
934	14C023M	14C022L	6	140.613	0.053	21.034	21.034	0	0	0	0	Free Surfa	3.117	0.13	0.036	0.065	0.106	2.598	580.035	0	No	0.065	3.117
935	08C531M	08C503L	6	140.203	0.022	26.839	26.839	0	0	0	0	Free Surfa	2.457	0.182	0.072	0.091	0.12	1.723	372.911	0	Yes	0.126	1.535
936	08C539M	08C509M	6	23.239	0.224	4.129	4.129	0	0	0	0	Free Surfa	3.15	0.043	0.003	0.021	0.046	4.624	1,194.88	0	Yes	0.055	0.773
937	08C509M	08C508M	6	201.175	0.04	35.097	35.097	0	0	0	0	Free Surfa	3.281	0.179	0.07	0.089	0.138	2.319	502.519	0	No	0.089	3.281
938	08C163M	08C162M	6	190.082	0.026	94.969	94.969	0	0	0	0	Free Surfa	3.756	0.329	0.234	0.165	0.231	1.911	405.449	0	No	0.165	3.756
939	10C049M	10C048M	6	232.476	0.053	9.966	9.966	0	0	0	0	Free Surfa	2.489	0.091	0.017	0.046	0.072	2.491	579.786	0	No	0.046	2.489
94	15C127M	15C171M	6	234.896	0.03	55.714	55.714	0	0	0	0	Free Surfa	3.397	0.241	0.128	0.121	0.175	2.049	435.889	0	No	0.121	3.397
940	08C511M	08C509M	6	125.201	0.013	16.516	16.516	0	0	0	0	Free Surfa	1.751	0.164	0.058	0.082	0.094	1.296	282.845	0	Yes	0.086	1.642
941	10C044M	10C043L	6	320.738	0.005	35.435	35.435	0	0	0	0	Free Surfa	1.541	0.307	0.205	0.154	0.138	0.815	172.677	0	Yes	0.159	1.464
942	08C534U	08C533U	6	86	0.04	26.839	26.839	0	0	0	0	Free Surfa	3.03	0.157	0.053	0.079	0.12	2.293	502.502	0	Yes	0.079	3.029
943	08C502M	08C501M	6	131.593	0.057	125.938	125.938	0	0	0	0	Free Surfa	5.392	0.311	0.21	0.155	0.267	2.834	600.553	0	No	0.155	5.392
944	08C653M	08C652M	6	25.101	0.104	41.291	41.291	0	0	0	0	Free Surfa	4.835	0.153	0.051	0.077	0.15	3.706	814.06	0	Yes	0.085	4.158
945	08C654M	08C653M	6	39.878	0.104	41.291	41.291	0	0	0	0	Free Surfa	4.84	0.153	0.051	0.077	0.15	3.712	815.441	0	Yes	0.077	4.837
946	14C022L	14C021M	6	240.095	0.104	21.034	21.034	0	0	0	0	Free Surfa	3.956	0.111	0.026	0.055	0.106	3.587	815.486	0	Yes	0.077	2.451
947	14C026M	14C021M	6	123.061	0.3	8.764	8.764	0	0	0	0	Free Surfa	4.388	0.057	0.006	0.028	0.068	5.581	1,383.87	0	Yes	0.063	1.35
948	10C046L	10C044M	6	108.291	0.009	35.435	35.435	0	0	0	0	Free Surfa	1.965	0.258	0.146	0.129	0.138	1.143	242.644	0	Yes	0.141	1.73
949	10C047U	10C046L	6	160.511	0.015	35.435	35.435	0	0	0	0	Free Surfa	2.356	0.227	0.113	0.114	0.138	1.468	313.228	0	Yes	0.121	2.145
95	15C157M	15C156M	6	103.346	0.058	16.157	16.157	0	0	0	0	Free Surfa	2.977	0.112	0.027	0.056	0.093	2.68	608.406	0	Yes	0.066	2.372
950	10C048M	10C047U	6	123.01	0.165	9.966	9.966	0	0	0	0	Free Surfa	3.703	0.07	0.01	0.035	0.072	4.251	1,025.07	0	Yes	0.074	1.221
951	08C266M	08C264M	6	139.411	0.071	22.71	22.71	0	0	0	0	Free Surfa	3.536	0.126	0.034	0.063	0.11	3.001	672.364	0	No	0.063	3.536
952	08C366M	08C364M	6	189.635	0.031	198.197	198.197	0	0	0	0	Free Surfa	4.919	0.466	0.443	0.233	0.339	2.043	446.926	0	Yes	0.25	4.489
953	08C628M	08C627U	6	229.111	0.008	28.904	28.904	0	0	0	0	Free Surfa	1.763	0.241	0.128	0.121	0.125	1.064	226.344	0	No	0.121	1.763
954	08C161M	08C159M	6	275.812	0.058	94.969	94.969	0	0	0	0	Free Surfa	5.008	0.268	0.157	0.134	0.231	2.857	605.971	0	Yes	0.169	3.618
955	10C378M	10C047U	6	174.36	0.049	5.537	5.537	0	0	0	0	Free Surfa	2.03	0.07	0.01	0.035	0.054	2.319	558.491	0	Yes	0.074	0.676
956	08C512M	08C511M	6	298.114	0.02	16.516	16.516	0	0	0	0	Free Surfa	2.052	0.147	0.047	0.073	0.094	1.607	354.348	0	Yes	0.078	1.892
957	08C652M	08C651M	6	315.794	0.046	41.291	41.291	0	0	0	0	Free Surfa	3.63	0.187	0.076	0.093	0.15	2.509	541.789	0	No	0.093	3.63
958	14C024M	14C016U	6	75.731	0.068	15.775	15.775	0	0	0	0	Free Surfa	3.128	0.107	0.024	0.053	0.091	2.889	659.613	0	Yes	0.068	2.179
959	14C019M	14C018M	6	74.458	0.106	50.832	50.832	0	0	0	0	Free Surfa	5.179	0.169	0.062	0.084	0.167	3.776	822.423	0	No	0.084	5.179
96	15C097M	15C040M	6	110.332	0.033	58.367	58.367	0	0	0	0	Free Surfa	3.589	0.24	0.126	0.12	0.179	2.171	462.084	0	Yes	0.276	1.17
960	08C639M	08C638M	6	262.759	0.028	14.452	14.452	0	0	0	0	Free Surfa	2.23	0.127	0.034	0.063	0.087	1.886	422.251	0	No	0.063	2.23
961	14C052U	14C051M	6	190.215	0.194	33.303	33.303	0	0	0	0	Free Surfa	5.647	0.119	0.03	0.059	0.134	4.937	1,113.37	0	Yes	0.068	4.678
962	08C159M	08C158M	6	219.191	0.011	94.969	94.969	0	0	0	0	Free Surfa	2.8	0.409	0.351	0.205	0.231	1.259	270.526	0	No	0.205	2.8
963	08C643M	08C642M	6	87.331	0.022	20.646	20.646	0	0	0	0	Free Surfa	2.275	0.16	0.055	0.08	0.105	1.706	373.322	0	No	0.08	2.275
964	08C672M	08C671M	6	192.256	0.144	16.516	16.516	0	0	0	0	Free Surfa	4.118	0.091	0.017	0.046	0.094	4.12	958.699	0	Yes	0.047	3.957
965	14C017M	14C016U	6	129.808	0.131	50.832	50.832	0	0	0	0	Free Surfa	5.586	0.16	0.056	0.08	0.167	4.185	915.626	0	Yes	0.082	5.423
966	14C018M	14C017M	6	76.534	0.195	50.832	50.832	0	0	0	0	Free Surfa	6.415	0.145	0.046	0.073	0.167	5.052	1,115.16	0	Yes	0.076	5.976
967	08C642M	08C641M	6	129.51	0.227	20.646	20.646	0	0	0	0	Free Surfa	5.158	0.091	0.017	0.046	0.105	5.164	1,201.85	0	No	0.046	5.158
968	08C646M	08C641M	6	146.373	0.092	10.323	10.323	0	0	0	0	Free Surfa	3.06	0.081	0.013	0.041	0.074	3.25	767.856	0	Yes	0.043	2.802
969	14C057L	14C056M	6	156.751	0.493	5.258	5.258	0	0	0	0	Free Surfa	4.463	0.04	0.003	0.02	0.052	6.791	1,773.81	0	Yes	0.026	3.055
97	13C053M	13C052M	6	142.275	0.027	31.071	31.071	0	0	0	0	Free Surfa	2.783	0.184	0.074	0.092	0.129	1.937	418.697	0	Yes	0.096	2.623
970	14C063M	14C056M	6	48.097	0.562	3.506	3.506	0	0	0	0	Free Surfa	4.125	0.032	0.002	0.016	0.043	7.011	1,893.01	0	Yes	0.024	2.292
971	08C158M	08C157U	6	132.719	0.071	202.326	202.326	0	0	0	0	Free Surfa	6.668	0.376	0.301	0.188	0.342	3.145	671.345	0	Yes	0.209	5.784
972	14C053M	14C052U	6	260.3	0.14	26.292	26.292	0	0	0	0	Free Surfa	4.683	0.115	0.028	0.057	0.119	4.166	943.102	0	Yes	0.058	4.568
973	08C656M	08C649L	6	40.854	0.074	2.065	2.065	0	0	0	0	Free Surfa	1.737	0.04	0.003	0.02	0.033	2.634	687.425	0	Yes	0.047	0.495
975	14C054M	14C053M	6	171.304	0.024	26.292	26.292	0	0	0	0	Free Surfa	2.534	0.175	0.067	0.088	0.119	1.811	393.059	0	No	0.088	2.534
976	14C056M	14C054M	6	108.835	0.194	8.764	8.764	0	0	0	0	Free Surfa	3.769	0.063	0.008	0.032	0.068	4.55	1,112.13	0	Yes	0.06	1.478
977	08C673M	08C659M	6	269.006	0.118	12.387	12.387	0	0	0	0	Free Surfa	3.521	0.083	0.014	0.042	0.081	3.686	867.568	0	Yes	0.05	2.715
978	08C661M	08C659M	6	35.289	0.112	22.71	22.71	0	0	0	0	Free Surfa	4.153	0.113	0.027	0.056	0.11	3.729	845.956	0	Yes	0.057	4.073
979	08C291M	08T156M	6	29.331	0.002	16.516	16.516	0	0	0	0	Free Surfa	0.858	0.271	0.16	0.135	0.094	0.487	103.205	0	Yes	0.179	0.581
98	06C237M	06C236M	6	176.721	0.014	5.232	5.232	0	0	0	0	Free Surfa	1.278	0.093	0.018	0.046	0.052	1.27	294.991	0	No	0.046	1.278
980	14C062M	14C054M	6	57.726	0.126	17.528	17.528	0	0	0	0	Free Surfa	4	0.097	0.02	0.048	0.096	3.881	896.326	0	Yes	0.068	2.436
982	14C033M	14C032M	6	185.28	0.016	52.584	52.584	0	0	0	0	Free Surfa	2.689	0.274	0.164	0.137	0.17	1.516	321.3	0	Yes	0.138	2.66
983	14C048M	14C032M	6	173.05	0.198	8.764	8.764	0	0	0	0	Free Surfa	3.798	0.063	0.008	0.031	0.068	4.597	1,124.45	0	Yes	0.085	0.88
984	06C038M	06C037M	6	246.883	0.037	39.762	39.762	0	0	0	0	Free Surfa	3.333	0.193	0.082	0.097	0.147	2.263	487.696	0	No	0.097	3.333
986	14C009M	14C008M	6	156.003	0.31	75.371	75.371	0	0	0	0	Free Surfa	8.486	0.157	0.054	0.079	0.204	6.415	1,405.58	0	No	0.079	8.486
987	02C222M	02C138L	6	399.727	0.212	2.215	2.215	0	0	0	0	Free Surfa	2.554	0.032	0.002	0.016	0.034	4.311	1,161.56	0	Yes	0.044	0.589
988	14C041M	14C039M	6	305.672	0.123	14.023	14.023	0	0	0	0	Free Surfa	3.71	0.088	0.016	0.044	0.086	3.789	886.352	0	No	0.044	3.71
989	14C039M	14C038M	6	153.441	0.391	14.023	14.023	0	0	0	0	Free Surfa	5.546	0.067	0.009	0.033	0.086	6.506	1,577.98	0	Yes	0.041	4.071
99	03C023M	03C022M	6	286.001	0.007	30.281	30.281	0	0	0	0	Free Surfa	1.701	0.256	0.143	0.128	0.128	0.994	211.152	0	No	0.128	1.701
990	14C008M	14C007M	6	120.104	0.412	75.371	75.371	0	0	0	0	Free Surfa	9.381	0.147	0.046	0.073	0.204	7.351	1,620.91	0	Yes	0.079	8.371
992	14C032M	14C031M	6	243.858	0.026	68.359	68.359	0	0	0	0	Free Surfa	3.421	0.278	0.169	0.139	0.194	1.912	405.303	0	Yes	0.145	3.229
993	14C038M	14C031M	6	183.987	0.35	29.798	29.798	0	0	0	0	Free Surfa	6.705	0.098	0.02	0.049	0.127	6.473	1,493.23	0	Yes	0.1	2.382
994	14C007M	14C006M	6	53.662	0.221	75.371	75.371	0	0	0	0	Free Surfa	7.535	0.171	0.063	0.085	0.204	5.457	1,186.96	0	Yes	0.087	7.292
996	14C029M	14C003M	6	172.527	0.023	106.921	106.921	0	0	0	0	Free Surfa	3.733	0.361	0.278	0.18	0.245	1.805	384.233	0	Yes	0.182	3.674
997	14C004M	14C003M	6	287.901	0.153	75.371	75.371	0	0	0	0	Free Surfa	6.614	0.187	0.076	0.094	0.204	4.567	986.435	0	Yes	0.139	3.766
998	14C003M	14C002M	6	16.211	0.062	182.292	182.292	0	0	0	0	Free Surfa	6.167	0.369	0.291	0.185	0.324	2.942	627.133	0	No	0.185	6.167

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