



# Drainage Master Plan Update

## Project: BU01 - Woodland Drive Crossing



**Project Type:** Flooding      **Drainage CIP Ranking:** 50      **Existing Study:** Yes      **TxDot:** No  
**Date Identified:** 2002      **Total Weighted Score:** 689      **Panel #:** P10  
**Date Last Reported:**      **Project Cost:** \$175,000      **Council District:** 4  
**Original Cost Year:** 2010      **Study File Name:** Burton Creek Flood Study - Klotz 2002

### Description:

Woodland Drive is classified as a local street according to the City of Bryan Thoroughfare Plan. Two-5'x5' RCBs will be needed to convey the 50-year storm event per the TxDOT design requirements. In addition to the culvert improvements, channel widening and re-grading may be necessary to mitigate any adverse impacts. Detailed design for the 100-year storm event has not been studied.

### Justification:

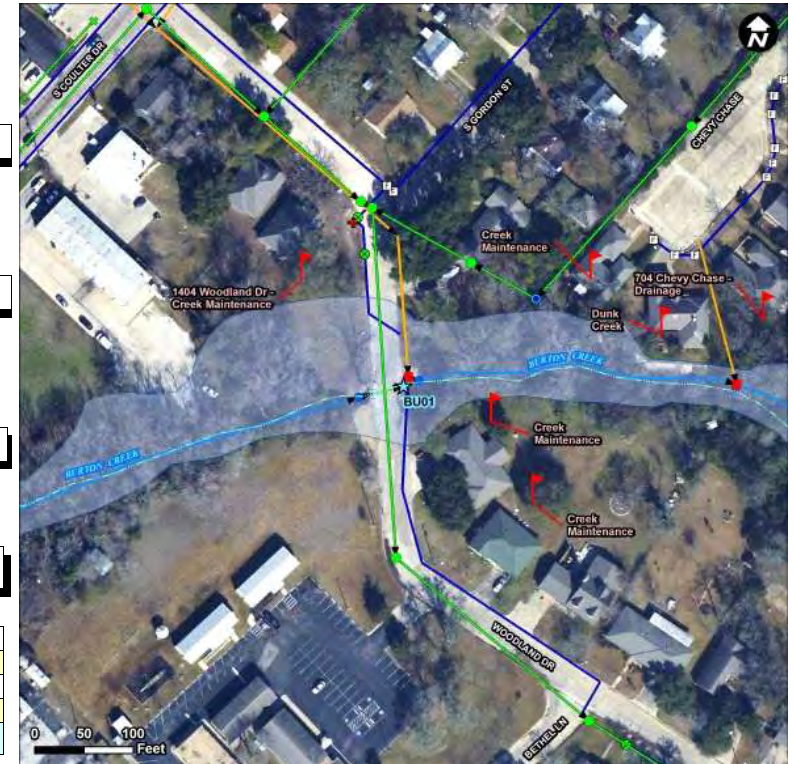
There is an existing 66" diameter pipe culvert conveying flow from Burton Creek beneath Woodland Drive. Both residential and commercial buildings are located adjacent to this crossing. Woodland Drive experiences flooding beginning in the 25-year storm event. During the 100-year storm event, the road is overtopped by a depth of 0.94 ft. Velocities during the 100-year storm event are considered erosive at 22 fps.

### Funding Options:

No funding has currently been obtained. The City has applied for a grant to study the area.

### Funding Source Summary:

Type	Original	Source	2011	2012	2013	2014	2015
Stormwater	\$22,900	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Design/Survey</b>	<b>\$22,900</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
Stormwater	\$152,100	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Const</b>	<b>\$152,100</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Total</b>	<b>\$175,000</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>



### Ranking Criteria

<b>Life Safety:</b>	7	<b>Street Flooding:</b>	0	<b>Infrastructure Damage:</b>	7	<b>Maintenance:</b>	2
<b>Structures Flooding:</b>	3	<b>Frequency of Flooding:</b>	4	<b>Funding Source:</b>	0	<b>Project Cost:</b>	9
<b>Right-of-Way Availability:</b>	10						



# Drainage Master Plan Update

## Project: BU02 - Avondale Crossing



**Project Type:** Flooding      **Drainage CIP Ranking:** 20      **Existing Study:** Yes      **TxDOT:** No  
**Date Identified:** 2002      **Total Weighted Score:** 827      **Panel #:** P10  
**Date Last Reported:**      **Project Cost:** \$222,500      **Council District:** 4  
**Original Cost Year:** 2010      **Study File Name:** Burton Creek Flood Study - Klotz 2002

### Description:

Avondale Avenue is classified as a collector street according to the City of Bryan Thoroughfare Plan. An additional 8.5' x 10' box culvert is proposed to be built next to the two existing culverts to convey the 50-year storm event per the TxDOT design requirements. Channel widening and regrading may be necessary to mitigate any adverse impacts. Detailed design for the 100-year storm event has not been studied.

### Justification:

There are two existing 8.5' x 10' box culverts that convey flow from Burton Creek under Avondale Road. The crossing is adjacent to residential buildings, and 10 structures upstream of the crossing are located within the floodplain. The City identified flooding at 605 Cache Drive, which is just outside of the floodway. During the 50-year storm event, velocities are considered erosive at 10 fps, which is above TxDOT design requirements of 8 fps.

### Funding Options:

### Funding Source Summary:

Type	Original	Source	2011	2012	2013	2014	2015
Stormwater	\$29,100	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Design/Survey</b>	<b>\$29,100</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
Stormwater	\$193,400	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Const</b>	<b>\$193,400</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Total</b>	<b>\$222,500</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>



### Ranking Criteria

<b>Life Safety:</b>	8	<b>Street Flooding:</b>	2	<b>Infrastructure Damage:</b>	4	<b>Maintenance:</b>	4
<b>Structures Flooding:</b>	10	<b>Frequency of Flooding:</b>	4	<b>Funding Source:</b>	0	<b>Project Cost:</b>	8
<b>Right-of-Way Availability:</b>	10						





# Drainage Master Plan Update

## Project: BU03 - Esther Blvd Crossing



**Project Type:** Flooding      **Drainage CIP Ranking:** 23      **Existing Study:** Yes      **TxDot:** No  
**Date Identified:** 2002      **Total Weighted Score:** 813      **Panel #:** Q11  
**Date Last Reported:**      **Project Cost:** \$217,200      **Council District:** 4  
**Original Cost Year:** 2010      **Study File Name:** Burton Creek Flood Study - Klotz 2002

### Description:

Burton Creek is classified as a local street according to the City of Bryan Thoroughfare Plan. An additional 2-8'x8' box culverts are needed to convey the 50-year storm event per the TxDOT design requirements. Channel widening and regrading may be necessary to mitigate any adverse impacts. Detailed design for the 100-year storm event has not been studied.

### Justification:

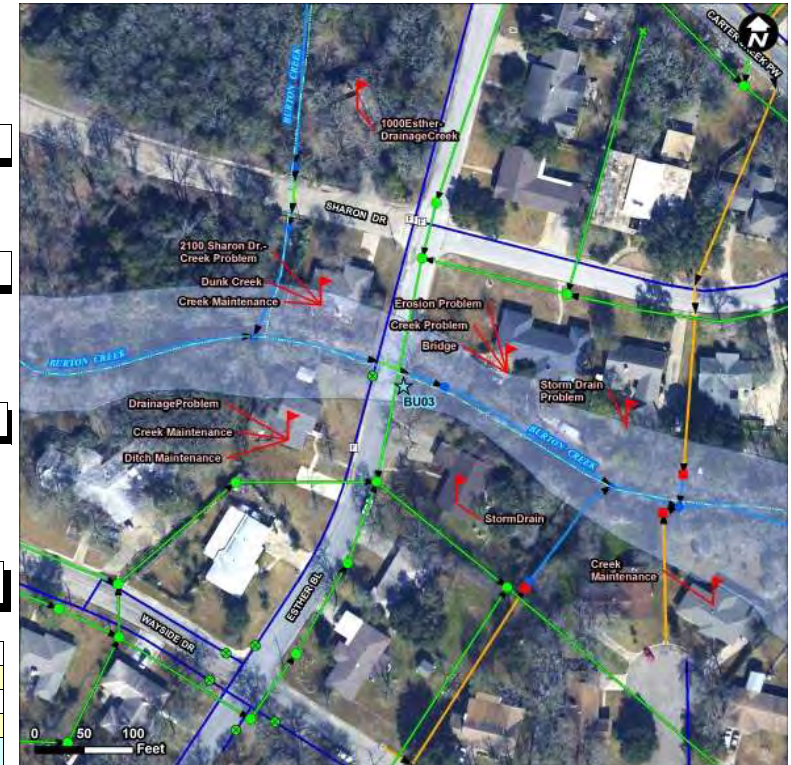
There are two existing 8'x8' box culverts that convey flow from Burton Creek beneath Esther Boulevard. Residential homes are located adjacent to this crossing, and upstream of the culvert, there are 4 homes located within the floodplain. Esther Blvd experiences flooding beginning in the 10-year storm event. During the 100-year storm event, the road is overtopped by a depth of 1.3 feet. 902 and 1000 Esther Blvd are documented as repetitive loss structures.

### Funding Options:

If a buyout of the homes is cost beneficial, this project has potential to be considered for the Severe Repetitive Loss Grant, the repetitive Flood Claims Grant, the Hazard Mitigation Grant Program, the Pre-Disaster Mitigation Grant, and the Flood Mitigation Assistance Project Grant. These grants are suggestions and further investigation would be necessary to determine if these projects qualify for the suggested grants.

### Funding Source Summary:

Type	Original	Source	2011	2012	2013	2014	2015
Stormwater	\$28,400	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Design/Survey</b>	<b>\$28,400</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
Stormwater	\$188,800	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Const</b>	<b>\$188,800</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Total</b>	<b>\$217,200</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>



### Ranking Criteria

<b>Life Safety:</b>	8	<b>Street Flooding:</b>	0	<b>Infrastructure Damage:</b>	4	<b>Maintenance:</b>	2
<b>Structures Flooding:</b>	10	<b>Frequency of Flooding:</b>	7	<b>Funding Source:</b>	0	<b>Project Cost:</b>	8
<b>Right-of-Way Availability:</b>	10						



# Drainage Master Plan Update

## Project: BU04 - Burton Drive Crossing



**Project Type:** Flooding      **Drainage CIP Ranking:** 14      **Existing Study:** Yes      **TxDot:** No  
**Date Identified:** 2002      **Total Weighted Score:** 868      **Panel #:** Q11  
**Date Last Reported:**      **Project Cost:** \$217,200      **Council District:** 4  
**Original Cost Year:** 2010      **Study File Name:** Burton Creek Flood Study - Klotz 2002

### Description:

Burton Creek is classified as a local street according to the City of Bryan Thoroughfare Plan. An additional 2-8'x8' box culverts are needed to convey the 50-year storm event per the TxDOT design requirements. Channel widening and re-grading may be necessary to mitigate any adverse impacts. Detailed design for the 100-year storm event has not been studied.

### Justification:

There are three existing 8'x8' box culverts that convey flow from Burton Creek beneath Burton Drive. Adjacent to the crossing are residential buildings, two of which are in the floodplain. Burton Drive experiences flooding beginning in the 10-year storm event. During the 100-year storm event, the road is overtopped by a depth of 1.88 ft.

### Funding Options:

### Funding Source Summary:

Type	Original	Source	2011	2012	2013	2014	2015
Stormwater	\$28,400	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Design/Survey</b>	<b>\$28,400</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
Stormwater	\$188,800	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Const</b>	<b>\$188,800</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Total</b>	<b>\$217,200</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>



### Ranking Criteria

<b>Life Safety:</b>	9	<b>Street Flooding:</b>	0	<b>Infrastructure Damage:</b>	4	<b>Maintenance:</b>	4
<b>Structures Flooding:</b>	10	<b>Frequency of Flooding:</b>	7	<b>Funding Source:</b>	0	<b>Project Cost:</b>	8
<b>Right-of-Way Availability:</b>	10						





# Drainage Master Plan Update

## Project: BU05 - Willow Bend Drive Flooding



**Project Type:** Flooding      **Drainage CIP Ranking:** 2      **Existing Study:** Yes      **TxDot:** Yes  
**Date Identified:** 2002      **Total Weighted Score:** 1023      **Panel #:** Q11  
**Date Last Reported:** 2005      **Project Cost:** \$2,319,708      **Council District:** 4  
**Original Cost Year:** 2010      **Study File Name:** Memo about willowbend Flooding Summary May 2009

### Description:

Villa Maria Road is classified as a major arterial road based upon the City of Bryan Thoroughfare Plan. The City proposes an acquisition of property as the most effective option as a span bridge and culvert improvements still caused flooding upstream.

### Justification:

There are two existing 10'x8' box culverts that convey flow Burton Creek beneath Villa Maria Road. Residential and commercial buildings are located adjacent to this crossing. The homes along Willow Bend Drive have reported flooding and three residents have filed on their flood insurance repeatedly. The City also identified this area as flooding based on insufficient channel capacity. Villa Maria Road experiences flooding beginning in the 50 year storm event, and is overtopped by a depth of 3.36 ft during the 100-year storm event. 2508 and 2510 Willowbend Drive are considered repetitive loss structures.

### Funding Options:

If a buyout is preferred and cost beneficial, this project has potential to be considered for the Severe Repetitive Loss Grant, Flood Mitigation Assistance Project Grant, the Repetitive Loss Claims Grant, the Pre-Disaster Mitigation Grant, and the Hazard Mitigation Grant Program. These funding options are suggestions and further investigation would be necessary to determine if this project qualifies for the suggested grants.

### Funding Source Summary:

Type	Original	Source	2011	2012	2013	2014	2015
Stormwater	\$302,571	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Design/Survey</b>	<b>\$302,571</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
Stormwater	\$2,017,137	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Const</b>	<b>\$2,017,137</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Total</b>	<b>\$2,319,708</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>



### Ranking Criteria

<b>Life Safety:</b>	10	<b>Street Flooding:</b>	4	<b>Infrastructure Damage:</b>	10	<b>Maintenance:</b>	10
<b>Structures Flooding:</b>	10	<b>Frequency of Flooding:</b>	2	<b>Funding Source:</b>	0	<b>Project Cost:</b>	4



# Drainage Master Plan Update

## Project: BU06 - Broadmoor Street Crossing



**Project Type:** Flooding      **Drainage CIP Ranking:** 43      **Existing Study:** Yes      **TxDot:** No  
**Date Identified:** 2002      **Total Weighted Score:** 713      **Panel #:** Q11  
**Date Last Reported:**      **Project Cost:** \$401,600      **Council District:** 4  
**Original Cost Year:** 2010      **Study File Name:** Burton Creek Flood Study - Klotz 2002

### Description:

Broadmoor Drive is classified as a major collector road based upon the City of Bryan Thoroughfare Plan. A span bridge is required to replace the existing culverts and convey the 50-year storm event per the TxDOT design requirements. Channel widening and re-grading may be required at the crossing. The proposed improvements are designed to the 50-year storm event per the TxDOT design requirement.

### Justification:

There are two existing 11' x 10.5' and three existing 8.5' x 10' box culverts that convey flow from Burton Creek under Broadmoor Street. Residential buildings are adjacent to the crossing, and a small tributary meets Burton Creek at this crossing. The road experiences flooding beginning in the 25-year storm event, and Broadmoor Dr is overtopped by a depth of 1.28 ft during the 100-year storm event.

### Funding Options:

### Funding Source Summary:

Type	Original	Source	2011	2012	2013	2014	2015
Stormwater	\$52,400	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Design/Survey</b>	<b>\$52,400</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
Stormwater	\$349,200	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Const</b>	<b>\$349,200</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Total</b>	<b>\$401,600</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>



### Ranking Criteria

<b>Life Safety:</b>	5	<b>Street Flooding:</b>	6	<b>Infrastructure Damage:</b>	7	<b>Maintenance:</b>	0
<b>Structures Flooding:</b>	3	<b>Frequency of Flooding:</b>	7	<b>Funding Source:</b>	0	<b>Project Cost:</b>	7
<b>Right-of-Way Availability:</b>	10						





# Drainage Master Plan Update

## Project: BU07 - College Crossing



**Project Type:** Flooding      **Drainage CIP Ranking:** 43      **Existing Study:** Yes      **TxDot:** No  
**Date Identified:** 2002      **Total Weighted Score:** 713      **Panel #:** S11  
**Date Last Reported:**      **Project Cost:** \$357,000      **Council District:** 5  
**Original Cost Year:** 2010      **Study File Name:** Burton Creek Flood Study - Klotz 2002

### Description:

South College Street is classified as a minor arterial street based upon the City of Bryan Thoroughfare Plan. 2-9'x5' box culverts are needed to replace the existing culverts in order to convey the 50-year storm event per the TxDOT design requirement. Channel widening and re-grading may be necessary to mitigate any adverse impacts. Detailed design for the 100-year storm event has not been studied.

### Justification:

There is an existing 6'x5' box culvert that conveys flow from Burton Creek Tributary C under South College Street near Hensel park. Residential buildings are adjacent to the crossing. South College Street is flooding beginning in the 10-year storm event and is overtopped by a depth of 0.4 ft during the 100-year storm event.

### Funding Options:

### Funding Source Summary:

Type	Original	Source	2011	2012	2013	2014	2015
Stormwater	\$46,600	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Design/Survey</b>	<b>\$46,600</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
Stormwater	\$310,400	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Const</b>	<b>\$310,400</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Total</b>	<b>\$357,000</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>



### Ranking Criteria

<b>Life Safety:</b>	5	<b>Street Flooding:</b>	6	<b>Infrastructure Damage:</b>	7	<b>Maintenance:</b>	0
<b>Structures Flooding:</b>	3	<b>Frequency of Flooding:</b>	7	<b>Funding Source:</b>	0	<b>Project Cost:</b>	7
<b>Right-of-Way Availability:</b>	10						



# Drainage Master Plan Update

## Project: BU08 - Duncan Street Crossing



**Project Type:** Flooding      **Drainage CIP Ranking:** 36      **Existing Study:** Yes      **TxDot:** No  
**Date Identified:** 2002      **Total Weighted Score:** 737      **Panel #:** Q10  
**Date Last Reported:**      **Project Cost:** \$137,000      **Council District:** 1  
**Original Cost Year:** 2010      **Study File Name:** Burton Creek Flood Study - Klotz 2002

### Description:

Duncan Street is classified as a local street based upon the City of Bryan Thoroughfare Plan. A 6'x5' box culvert would be needed to replace the existing culvert to convey the 50-year storm event per TxDOT design requirements. Channel widening and re-grading may be necessary to mitigate any adverse impacts. Detailed design for the 100-year storm even has not been studied.

### Justification:

There is an existing 36" diameter pipe culvert that conveys flow from Burton Creek Tributary D under Duncan Street. Residential buildings are adjacent to the crossing. Duncan Street begins flooding during the 10-year storm event and is overtopped by a depth of 0.89 ft during the 100-year storm event.

### Funding Options:

### Funding Source Summary:

Type	Original	Source	2011	2012	2013	2014	2015
Stormwater	\$17,900	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Design/Survey</b>	<b>\$17,900</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
Stormwater	\$119,100	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Const</b>	<b>\$119,100</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Total</b>	<b>\$137,000</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>



### Ranking Criteria

<b>Life Safety:</b>	7	<b>Street Flooding:</b>	0	<b>Infrastructure Damage:</b>	4	<b>Maintenance:</b>	0
<b>Structures Flooding:</b>	8	<b>Frequency of Flooding:</b>	7	<b>Funding Source:</b>	0	<b>Project Cost:</b>	9
<b>Right-of-Way Availability:</b>	10						





# Drainage Master Plan Update

## Project: BU09 - Tract North of Carson Crossing



**Project Type:** Flooding      **Drainage CIP Ranking:** 38      **Existing Study:** Yes      **TxDot:** No  
**Date Identified:** 2002      **Total Weighted Score:** 734      **Panel #:** Q10  
**Date Last Reported:**      **Project Cost:** \$343,700      **Council District:** 1  
**Original Cost Year:** 2010      **Study File Name:** Burton Creek Flood Study - Klotz 2002

### Description:

2-6"x6" box culverts are needed to replace the existing culverts in order to convey the 50-year storm event per TxDOT design requirements. The proposed culverts run underneath a commercial building, which may require demolition of the existing structure. These culverts also connect to the proposed box culverts beneath Carson Street, just downstream of these commercial buildings. Detailed design for the 100-year storm event has not been studied.

### Justification:

There are 3- 24" diameter pipes that convey Burton Creek Tributary D under commercial buildings north of Carson Street. The building begins to flood beginning in the 10-year storm event. During the 100-year storm event, the road is overtopped by a depth of 2.29 ft.

### Funding Options:

### Funding Source Summary:

Type	Original	Source	2011	2012	2013	2014	2015
Stormwater	\$44,900	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Design/Survey</b>	<b>\$44,900</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
Stormwater	\$298,800	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Const</b>	<b>\$298,800</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Total</b>	<b>\$343,700</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>



### Ranking Criteria

<b>Life Safety:</b>	10	<b>Street Flooding:</b>	0	<b>Infrastructure Damage:</b>	4	<b>Maintenance:</b>	2
<b>Structures Flooding:</b>	8	<b>Frequency of Flooding:</b>	7	<b>Funding Source:</b>	0	<b>Project Cost:</b>	8
<b>Right-of-Way Availability:</b>	3						



# Drainage Master Plan Update

## Project: BU10 - Carson Street Crossing



**Project Type:** Flooding      **Drainage CIP Ranking:** 46      **Existing Study:** Yes      **TxDot:** No  
**Date Identified:** 2002      **Total Weighted Score:** 707      **Panel #:** Q10  
**Date Last Reported:**      **Project Cost:** \$205,700      **Council District:** 5  
**Original Cost Year:** 2010      **Study File Name:** Burton Creek Flood Study - Klotz 2002

### Description:

Carson Street is classified as a collector street based upon the City of Bryan Thoroughfare Plan. 2'-6"x6' box culverts are needed to replace the existing culverts in order to convey the 50-year storm event per TxDOT design requirement. Channel widening and re-grading may be necessary to mitigate any adverse impacts. The proposed culverts are a continuation of the 2'-6"x6' box culverts proposed under the commercial building just north of Carson Street. Detailed design for the 100-year storm event has not been studied.

### Justification:

There is an existing 5'x3' box culvert that conveys flow from Burton Creek Tributary D under Carson Street. Just upstream of this crossing, three 24" diameter pipes convey water under commercial buildings and into the 5'x3' culvert. Carson Street begins flooding during the 10-year storm event, and the road is overtopped by a depth of 0.39 ft during the 100-year storm event. The commercial building begins flooding during the 10-year storm event and floods up to 2.29 ft during the 100-year storm event.

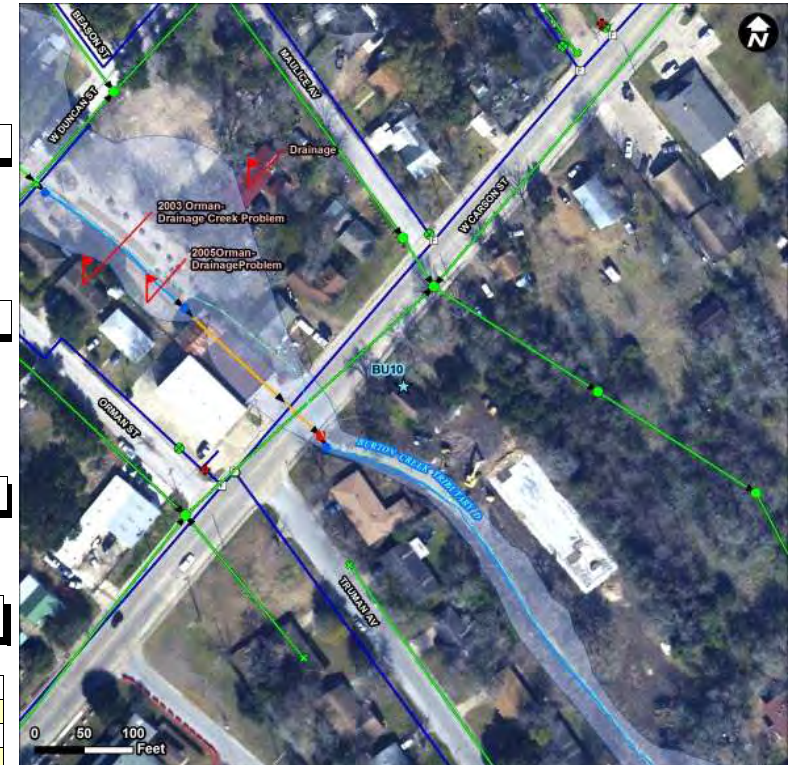
### Funding Options:

### Funding Source Summary:

Type	Original	Source	2011	2012	2013	2014	2015
Stormwater	\$26,900	Stormwater	\$0	\$0	\$0	\$0	\$0
Design/Survey	\$26,900		\$0	\$0	\$0	\$0	\$0
Stormwater	\$178,800	Stormwater	\$0	\$0	\$0	\$0	\$0
Const	\$178,800		\$0	\$0	\$0	\$0	\$0
<b>Total</b>	<b>\$205,700</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>

### Ranking Criteria

<b>Life Safety:</b>	5	<b>Street Flooding:</b>	2	<b>Infrastructure Damage:</b>	4	<b>Maintenance:</b>	0
<b>Structures Flooding:</b>	8	<b>Frequency of Flooding:</b>	7	<b>Funding Source:</b>	0	<b>Project Cost:</b>	8







# Drainage Master Plan Update

## Project: BU11 - Williamson Crossing



**Project Type:** Flooding      **Drainage CIP Ranking:** 30      **Existing Study:** Yes      **TxDot:** No  
**Date Identified:** 2002      **Total Weighted Score:** 788      **Panel #:** Q10  
**Date Last Reported:**      **Project Cost:** \$250,600      **Council District:** 5  
**Original Cost Year:** 2010      **Study File Name:** Burton Creek Flood Study - Klotz 2002

### Description:

Williamson Street is classified as a local street based upon the City of Bryan Thoroughfare Plan. 3-10'x6' box culverts are proposed to replace the existing box culverts in order to convey the 50-year storm event per the TxDOT design requirement. Channel re-grading and widening may be necessary to mitigate any adverse impacts. Detailed design for the 100-year storm event has not been studied.

### Justification:

There are two existing 5'x4' box culverts that convey flow from Burton Creek Tributary D beneath Williamson Street. Williamson Street begins flooding during the 50-year storm event, and the road is overtopped by a depth of 0.58 ft during the 100-year storm event. The City also identified flooding along Truman Street and Franklin Street upstream of the Williamson Street crossing. Twenty nine (29) homes are in the Burton Creek floodplain, and eight (8) of them are in the floodway. This project is a part of the lake lowering, according to the City of Bryan.

### Funding Options:

This project could be funded through the Flood Mitigation Assistance Project Grant.

### Funding Source Summary:

Type	Original	Source	2011	2012	2013	2014	2015
Stormwater	\$32,700	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Design/Survey</b>	<b>\$32,700</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
Stormwater	\$217,900	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Const</b>	<b>\$217,900</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Total</b>	<b>\$250,600</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>



### Ranking Criteria

<b>Life Safety:</b>	7	<b>Street Flooding:</b>	3	<b>Infrastructure Damage:</b>	4	<b>Maintenance:</b>	4
<b>Structures Flooding:</b>	10	<b>Frequency of Flooding:</b>	2	<b>Funding Source:</b>	0	<b>Project Cost:</b>	8
<b>Right-of-Way Availability:</b>	10						



# Drainage Master Plan Update

## Project: BU12 - College Crossing Trib D



**Project Type:** Flooding      **Drainage CIP Ranking:** 62      **Existing Study:** Yes      **TxDot:** No  
**Date Identified:** 2002      **Total Weighted Score:** 641      **Panel #:** R11  
**Date Last Reported:**      **Project Cost:** \$435,300      **Council District:** 5  
**Original Cost Year:** 2010      **Study File Name:** Burton Creek Flood Study - Klotz 2002

### Description:

South College Street is classified as a minor arterial street based upon the City of Bryan Thoroughfare Plan. Two additional 11'x7.5' box culverts are proposed to be built adjacent to the existing box culverts in order to convey the 50-year storm event per the TxDOT design requirement. Channel re-grading and widening may be necessary to mitigate any adverse impacts. Detailed design for the 100-year storm event has not been studied.

### Justification:

There are two existing 9'x7.5' box culverts that convey flow from Burton Creek Tributary D under South College Street. The crossing is located downstream of Country Club Lake. Commercial buildings and undeveloped land are adjacent to this crossing. South College Street begins flooding during the 25-year storm event, and the road is overtopped by a depth of 0.21 ft during the 100-year storm event.

### Funding Options:

### Funding Source Summary:

Type	Original	Source	2011	2012	2013	2014	2015
Stormwater	\$56,800	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Design/Survey</b>	<b>\$56,800</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
Stormwater	\$378,500	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Const</b>	<b>\$378,500</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Total</b>	<b>\$435,300</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>



### Ranking Criteria

<b>Life Safety:</b>	5	<b>Street Flooding:</b>	6	<b>Infrastructure Damage:</b>	4	<b>Maintenance:</b>	2
<b>Structures Flooding:</b>	3	<b>Frequency of Flooding:</b>	4	<b>Funding Source:</b>	0	<b>Project Cost:</b>	7
<b>Right-of-Way Availability:</b>	10						





# Drainage Master Plan Update

## Project: BU13 - Cavitt Crossing



**Project Type:** Flooding      **Drainage CIP Ranking:** 45      **Existing Study:** Yes      **TxDot:** No  
**Date Identified:** 2002      **Total Weighted Score:** 710      **Panel #:** R11  
**Date Last Reported:**      **Project Cost:** \$249,700      **Council District:** 5  
**Original Cost Year:** 2010      **Study File Name:** Burton Creek Flood Study - Klotz 2002

### Description:

Cavitt Road is classified as a minor arterial street based on the City of Bryan Thoroughfare Plan. Two additional 7'x8' box culverts are proposed to be built adjacent to the existing box culverts in order to convey the 50-year storm event per TxDOT design requirements. Channel re-grading and widening may be necessary to mitigate any adverse impacts. Detailed design for the 100-year storm event has not yet been studied.

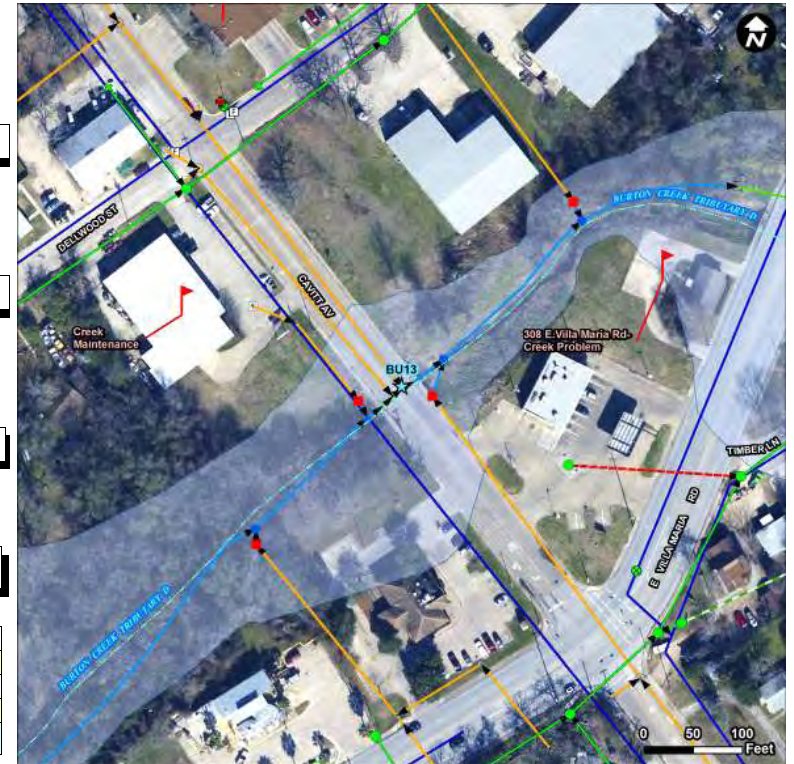
### Justification:

There are three existing 9'x8' box culverts that convey flow from Burton Creek Tributary D beneath Cavitt Road. Commercial buildings are adjacent to the crossing, and there are 10 structures located within the Burton Creek Tributary D floodplain upstream of the Cavitt Road crossing. Cavitt Road begins flooding during the 25-year storm event, and it is overtopped by a depth of 0.34 ft during the 100-year storm event.

### Funding Options:

### Funding Source Summary:

Type	Original	Source	2011	2012	2013	2014	2015
Stormwater	\$32,600	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Design/Survey</b>	<b>\$32,600</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
Stormwater	\$217,100	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Const</b>	<b>\$217,100</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Total</b>	<b>\$249,700</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>



### Ranking Criteria

<b>Life Safety:</b>	5	<b>Street Flooding:</b>	3	<b>Infrastructure Damage:</b>	4	<b>Maintenance:</b>	0
<b>Structures Flooding:</b>	10	<b>Frequency of Flooding:</b>	4	<b>Funding Source:</b>	0	<b>Project Cost:</b>	8
<b>Right-of-Way Availability:</b>	10						



# Drainage Master Plan Update

## Project: BU14 - Villa Maria Trib D Crossing



**Project Type:** Flooding      **Drainage CIP Ranking:** 9      **Existing Study:** Yes      **TxDOT:** Yes  
**Date Identified:** 2002      **Total Weighted Score:** 902      **Panel #:** R11  
**Date Last Reported:**      **Project Cost:** \$305,500      **Council District:** 5  
**Original Cost Year:** 2010      **Study File Name:** Burton Creek Flood Study - Klotz 2002

### Description:

Villa Maria Road is classified as a major arterial road based upon the City of Bryan Thoroughfare Plan. Two additional 8'x7' box culverts are needed adjacent to the existing box culverts in order to convey the 50-year storm event per TxDOT design requirements. Channel re-grading and widening may be necessary to mitigate any adverse impacts. Detailed design for the 100-year storm event has not yet been studied.

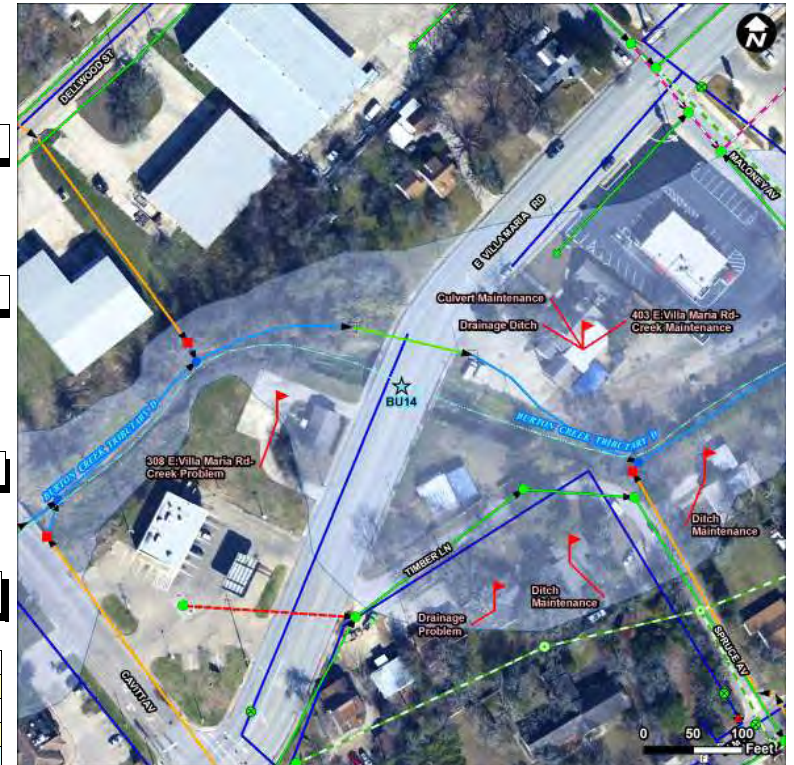
### Justification:

There are three existing 10'x7' box culverts that convey flow from Burton Creek Tributary D underneath Villa Maria Road. Both commercial and residential buildings are adjacent to this crossing. Villa Maria begins flooding during the 10-year storm event, and the road is overtopped by a depth of 4.04 ft during the 100-year storm event. Six (6) structures are located within the Burton Creek Tributary D floodplain upstream of Villa Maria Road. The City also identified this area as having drainage issues in the bridges with flooding issues database.

### Funding Options:

### Funding Source Summary:

Type	Original	Source	2011	2012	2013	2014	2015
Stormwater	\$39,900	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Design/Survey</b>	<b>\$39,900</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
Stormwater	\$265,600	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Const</b>	<b>\$265,600</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Total</b>	<b>\$305,500</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>



### Ranking Criteria

<b>Life Safety:</b>	10	<b>Street Flooding:</b>	10	<b>Infrastructure Damage:</b>	4	<b>Maintenance:</b>	0
<b>Structures Flooding:</b>	8	<b>Frequency of Flooding:</b>	7	<b>Funding Source:</b>	0	<b>Project Cost:</b>	8
<b>Right-of-Way Availability:</b>	8						





# Drainage Master Plan Update

## Project: BU15 - Maloney Crossing



**Project Type:** Flooding      **Drainage CIP Ranking:** 29      **Existing Study:** Yes      **TxDot:** No  
**Date Identified:** 2002      **Total Weighted Score:** 789      **Panel #:** R11  
**Date Last Reported:**      **Project Cost:** \$319,700      **Council District:** 5  
**Original Cost Year:** 2010      **Study File Name:** Burton Creek Flood Study - Klotz 2002

### Description:

Maloney Road is classified as a local street based on the City of Bryan Thoroughfare Plan. Four 10'x8' box culverts are needed to replace the existing culverts in order to convey the 50-year storm event per the TxDOT design requirement. Channel re-grading and widening may be necessary to mitigate any adverse impacts. Detailed design for the 100-year storm event has not yet been studied.

### Justification:

There are five existing 54" diameter pipe culverts that convey flow from Burton Creek Tributary D beneath Maloney Road. Residential buildings are adjacent to this crossing. Maloney Road begins flooding during the 10-year storm event, and the road is overtopped by a depth of 4 ft during the 100-year storm event. The City also identified this area as having drainage issues.

### Funding Options:

### Funding Source Summary:

Type	Original	Source	2011	2012	2013	2014	2015
Stormwater	\$41,700	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Design/Survey</b>	<b>\$41,700</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
Stormwater	\$278,000	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Const</b>	<b>\$278,000</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Total</b>	<b>\$319,700</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>



### Ranking Criteria

<b>Life Safety:</b>	10	<b>Street Flooding:</b>	0	<b>Infrastructure Damage:</b>	4	<b>Maintenance:</b>	0
<b>Structures Flooding:</b>	8	<b>Frequency of Flooding:</b>	7	<b>Funding Source:</b>	0	<b>Project Cost:</b>	8
<b>Right-of-Way Availability:</b>	10						



## Drainage Master Plan Update



### Project: BU17 - SH6 to 29th Street Improvements

**Project Type:** Maintenance    **Drainage CIP Ranking:** 115    **Existing Study:** Yes    **TxDot:** No  
**Date Identified:** 2002    **Total Weighted Score:** 202    **Panel #:** R12  
**Date Last Reported:**    **Project Cost:** \$140,201    **Council District:** 4  
**Original Cost Year:** 2010    **Study File Name:** Burton Creek Flood Study - Klotz 2002

#### Description:

An earthen channel with 3:1 side slopes and a bottom width of 62 ft to 110 ft for approximately 3800 LF is needed to contain the 100-year storm event within the channel banks. Clearing and maintenance is also necessary to keep the velocities low and prevent erosion.

#### Justification:

The existing channel is a trapezoidal earthen channel with 1.5:1 side slopes and a 35-40 ft bottom width. The channel is slightly overgrown with low to medium vegetation and runs through a medium density residential neighborhood. The channel currently does not have capacity to convey the 100-year storm event, which causes flooding along the overbanks.

#### Funding Options:

#### Funding Source Summary:

Type	Original	Source	2011	2012	2013	2014	2015
Stormwater	\$18,287	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Design/Survey</b>	<b>\$18,287</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
Stormwater	\$121,914	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Const</b>	<b>\$121,914</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Total</b>	<b>\$140,201</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>



#### Ranking Criteria

<b>Life Safety:</b>	0	<b>Street Flooding:</b>	0	<b>Infrastructure Damage:</b>	4	<b>Maintenance:</b>	0
<b>Structures Flooding:</b>	0	<b>Frequency of Flooding:</b>	0	<b>Funding Source:</b>	0	<b>Project Cost:</b>	9
<b>Right-of-Way Availability:</b>	0						





## Drainage Master Plan Update

### Project: BU18 - 9th Street to Rosemary Channel Improvements



**Project Type:** Erosion      **Drainage CIP Ranking:** 101      **Existing Study:** Yes      **TxDot:** No  
**Date Identified:** 2002      **Total Weighted Score:** 288      **Panel #:** R12  
**Date Last Reported:**      **Project Cost:** \$864,000      **Council District:** 4  
**Original Cost Year:** 2010      **Study File Name:**

#### Description:

The slope paving panels with significant damage and grout panels with minor damage need to be removed and replaced. A concrete liner along the bottom of the channel for approximately 1200 LF is needed as well as a drop structure and riprap just downstream of the concrete liner to prevent future erosion of the channel.

#### Justification:

The existing Burton Creek channel 150 ft upstream of 29th Street to 150 ft downstream of Rosemary Street has concrete paved 1.5:1 side slopes, 30 ft bottom width, and an earthen bottom. There are baffle blocks for energy dissipation downstream of the 29th Street Bridge. High velocities during the 100-year storm event cause severe erosion along the earthen channel bottom, which is causing the concrete paved side slopes to fail due to undermining of the slope toe-wall.

#### Funding Options:

#### Funding Source Summary:

Type	Original	Source	2011	2012	2013	2014	2015
Stormwater	\$97,000	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Design/Survey</b>	<b>\$97,000</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
Stormwater	\$767,000	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Const</b>	<b>\$767,000</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Total</b>	<b>\$864,000</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>

#### Ranking Criteria

<b>Life Safety:</b>	0	<b>Street Flooding:</b>	0	<b>Infrastructure Damage:</b>	7	<b>Maintenance:</b>	2
<b>Structures Flooding:</b>	0	<b>Frequency of Flooding:</b>	0	<b>Funding Source:</b>	0	<b>Project Cost:</b>	6
<b>Right-of-Way Availability:</b>	3						





## Drainage Master Plan Update



### Project: BU19 - Rosemary to Tanglewood Drive Channel Improvements

**Project Type:** Flooding  
**Date Identified:** 2002  
**Date Last Reported:**  
**Original Cost Year:** 2010

**Drainage CIP Ranking:** 112  
**Total Weighted Score:** 216  
**Project Cost:** \$1,488,000  
**Study File Name:** Burton Creek Flood Study - Klotz 2002

**Existing Study:** Yes  
**Panel #:** R12  
**Council District:** 4

**TxDot:** No

#### Description:

A concrete lined channel with 1.5:1 side slopes and a 30 ft bottom width for approximately 1500 LF is proposed to contain the 100-year water surface elevation within the channel banks. An earthen channel was considered for this stretch of channel, but due to ROW constraints, the concrete lined channel is recommended. The concrete lined channel will also lower the water surface elevation at Tanglewood Drive by approximately 1 foot. This impact will diminish to zero downstream of the Broadmoor culverts.

#### Justification:

The existing Burton Creek channel from Rosemary Street to Tanglewood Drive is earthen with a 1.5:1 side slopes and 30 ft bottom width. There are some concrete lined areas around bends for erosion protection. The confluence of Burton Creek Tributary C with Burton Creek is located along this stretch of channel. The banks are overgrown with trees and brush, and the channel has insufficient capacity to contain the 100-yr WSEL within the banks. The City also identified flooding along 826 and 827 Vine Street due to insufficient channel capacity.

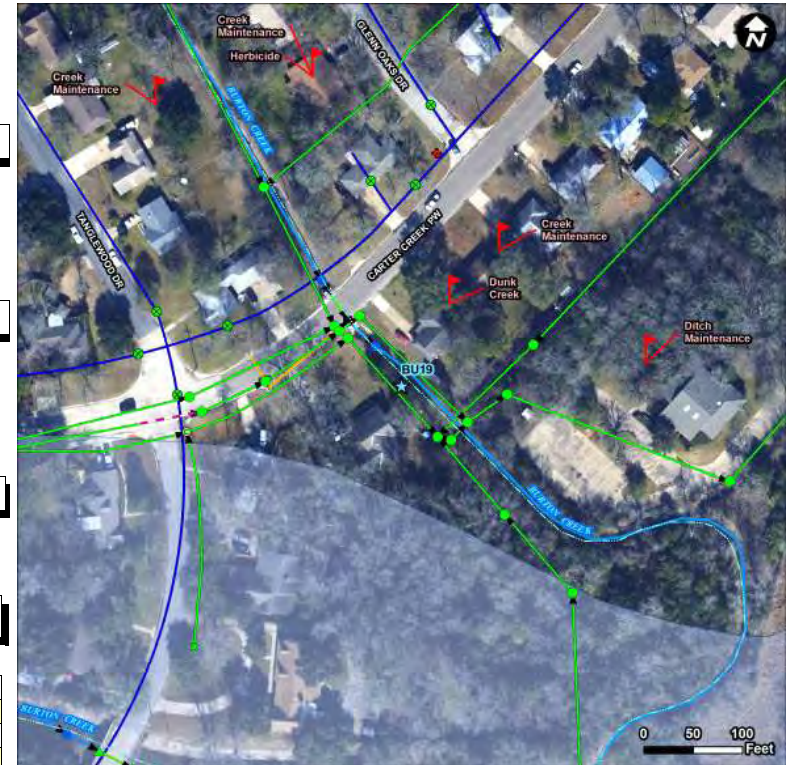
#### Funding Options:

#### Funding Source Summary:

Type	Original	Source	2011	2012	2013	2014	2015
Stormwater	\$172,000	Stormwater	\$0	\$0	\$0	\$0	\$0
Design/Survey	\$172,000		\$0	\$0	\$0	\$0	\$0
Stormwater	\$1,316,000	Stormwater	\$0	\$0	\$0	\$0	\$0
Const	\$1,316,000		\$0	\$0	\$0	\$0	\$0
<b>Total</b>	<b>\$1,488,000</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>

#### Ranking Criteria

<b>Life Safety:</b>	0	<b>Street Flooding:</b>	0	<b>Infrastructure Damage:</b>	4	<b>Maintenance:</b>	2
<b>Structures Flooding:</b>	0	<b>Frequency of Flooding:</b>	0	<b>Funding Source:</b>	0	<b>Project Cost:</b>	5







## Drainage Master Plan Update



### Project: BU20 - Woodland Drive to Avondale Ave Channel Improvements

**Project Type:** Maintenance    **Drainage CIP Ranking:** 118    **Existing Study:** Yes    **TxDot:** No  
**Date Identified:** 2002    **Total Weighted Score:** 178    **Panel #:** P10  
**Date Last Reported:**    **Project Cost:** \$1,348,000    **Council District:** 4  
**Original Cost Year:** 2010    **Study File Name:** Burton Creek Flood Study - Klotz 2002

#### Description:

Channel clearing and widening along this reach is needed to improve the Manning's n values and conveyance of the existing channel. A bottom width of 6 to 18 ft is needed to contain the 100-year water surface elevation within the channel banks and control velocities to prevent erosion.

#### Justification:

The existing channel is earthen and overgrown. There is dense vegetation within the overbanks and channel, which causes limited access to the channel. Structural encroachments occur along the channel and riprap and concrete rubble has been installed in various parts to control erosion.

#### Funding Options:

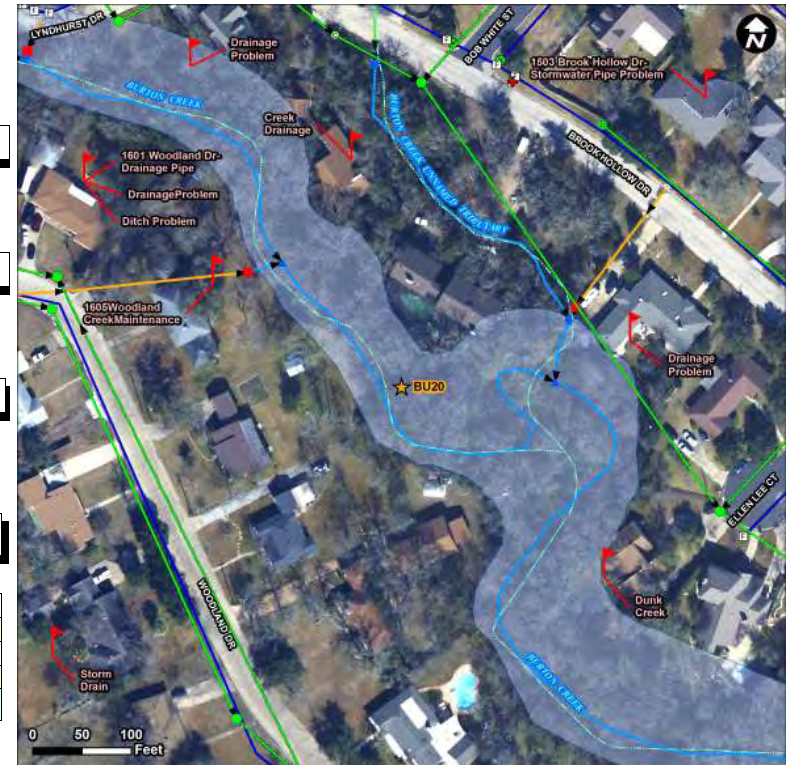
If cost beneficial, this project may qualify for the Flood Mitigation Assistance Project Grant, the Hazard Mitigation Grant Program (following a declared natural disaster), or the Pre-Disaster Mitigation Grant. These funding options are suggestions and would need further investigation to determine if this project qualifies for any of the suggested grants.

#### Funding Source Summary:

Type	Original	Source	2011	2012	2013	2014	2015
Stormwater	\$120,000	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Design/Survey</b>	<b>\$120,000</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
Stormwater	\$1,228,000	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Const</b>	<b>\$1,228,000</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Total</b>	<b>\$1,348,000</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>

#### Ranking Criteria

<b>Life Safety:</b>	0	<b>Street Flooding:</b>	0	<b>Infrastructure Damage:</b>	4	<b>Maintenance:</b>	2
<b>Structures Flooding:</b>	0	<b>Frequency of Flooding:</b>	0	<b>Funding Source:</b>	0	<b>Project Cost:</b>	5
<b>Right-of-Way Availability:</b>	0						





## Drainage Master Plan Update



### Project: BU21 - Burton Creek to S. College Avenue Channel Improvements

**Project Type:** Maintenance    **Drainage CIP Ranking:** 120    **Existing Study:** Yes    **TxDot:** No  
**Date Identified:** 2002    **Total Weighted Score:** 126    **Panel #:** S11  
**Date Last Reported:**    **Project Cost:** \$144,108    **Council District:** 5  
**Original Cost Year:** 2010    **Study File Name:** Burton Creek Flood Study - Klotz 2002

#### Description:

Channel clearing to improve the Manning's n to 0.04 will help reduce the water surface elevation by approximately 2 feet. Channel improvements of a bottom width of 6 to 14 ft and 3:1 side slopes are necessary to reduce the 100-year water surface elevation to near the channel banks.

#### Justification:

The existing Burton Creek Tributary C channel is largely overgrown with dense vegetation from Burton Creek to S College Avenue. There are currently no plans found for channel construction, but modifications have been made at the Texas Avenue Bridge to improve flooding conditions.

#### Funding Options:

#### Funding Source Summary:

Type	Original	Source	2011	2012	2013	2014	2015
Stormwater	\$144,108	Stormwater	\$0	\$0	\$0	\$0	\$0
Const	\$144,108		\$0	\$0	\$0	\$0	\$0
<b>Total</b>	<b>\$144,108</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>



#### Ranking Criteria

<b>Life Safety:</b>	0	<b>Street Flooding:</b>	0	<b>Infrastructure Damage:</b>	0	<b>Maintenance:</b>	0
<b>Structures Flooding:</b>	0	<b>Frequency of Flooding:</b>	0	<b>Funding Source:</b>	0	<b>Project Cost:</b>	9
<b>Right-of-Way Availability:</b>	0						





## Drainage Master Plan Update

Project: BU22 - Texas Ave to S. College Ave. along Trib D



**Project Type:** Maintenance    **Drainage CIP Ranking:** 95    **Existing Study:** Yes    **TxDot:** No  
**Date Identified:** 2002    **Total Weighted Score:** 338    **Panel #:** R11  
**Date Last Reported:**    **Project Cost:** \$82,087    **Council District:** 5  
**Original Cost Year:** 2010    **Study File Name:** Burton Creek Flood Study - Klotz 2002

### Description:

Channel improvements including a bottom width of 14 to 18 ft and 3:1 side slopes as well as channel clearing to a Manning's n of 0.04 are necessary to contain the 100-year water surface elevation within the channel banks.

### Justification:

The existing earthen Burton Creek Tributary D channel is overgrown and undersized from Texas Ave to South College Avenue. Country Club Lake is located just upstream S College Avenue. The City identified this area with general flooding on both sides of Tributary D with 7 structures in the floodway.

### Funding Options:

### Funding Source Summary:

Type	Original	Source	2011	2012	2013	2014	2015
Stormwater	\$82,087	Stormwater	\$0	\$0	\$0	\$0	\$0
Const	\$82,087		\$0	\$0	\$0	\$0	\$0
<b>Total</b>	<b>\$82,087</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>



### Ranking Criteria

<b>Life Safety:</b>	0	<b>Street Flooding:</b>	0	<b>Infrastructure Damage:</b>	0	<b>Maintenance:</b>	0
<b>Structures Flooding:</b>	10	<b>Frequency of Flooding:</b>	1	<b>Funding Source:</b>	0	<b>Project Cost:</b>	10
<b>Right-of-Way Availability:</b>	0						



# Drainage Master Plan Update



## Project: BU23 - Williamson to Duncan Channel Improvements

**Project Type:** Maintenance    **Drainage CIP Ranking:** 97    **Existing Study:** Yes    **TxDot:** No  
**Date Identified:** 2002    **Total Weighted Score:** 322    **Panel #:** Q10  
**Date Last Reported:**    **Project Cost:** \$82,087    **Council District:** 5  
**Original Cost Year:** 2010    **Study File Name:** Burton Creek Flood Study - Klotz 2002

### Description:

Channel clearing to a Manning's n of 0.04 and channel improvements including a 6 ft bottom width and 3:1 vegetated side slopes are necessary to contain the 100-year water surface elevation within the channel banks.

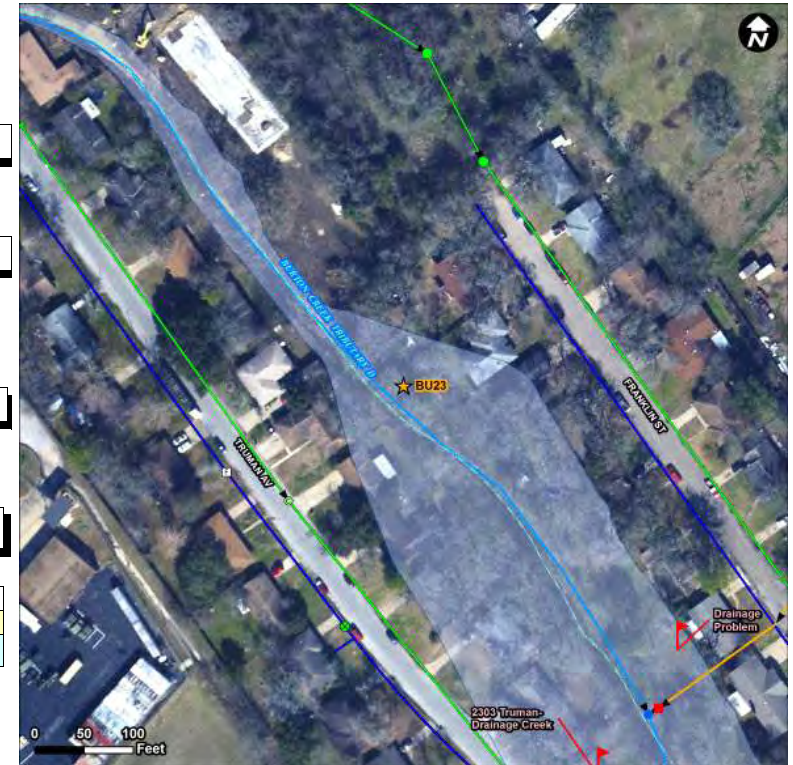
### Justification:

The existing Burton creek Tributary D channel is densely vegetated from Williamson Street to Duncan Street. Along the channel, some home owners and businesses have built structures over the channel, further restricting flow. Immediately upstream of Carson Street, the channel is enclosed in 3-24" diameter culverts located under a commercial building. The channel runs through a residential area.

### Funding Options:

### Funding Source Summary:

Type	Original	Source	2011	2012	2013	2014	2015
Stormwater	\$82,087	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Const</b>	<b>\$82,087</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Total</b>	<b>\$82,087</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>



### Ranking Criteria

<b>Life Safety:</b>	0	<b>Street Flooding:</b>	0	<b>Infrastructure Damage:</b>	7	<b>Maintenance:</b>	2
<b>Structures Flooding:</b>	0	<b>Frequency of Flooding:</b>	1	<b>Funding Source:</b>	0	<b>Project Cost:</b>	10
<b>Right-of-Way Availability:</b>	0						





# Drainage Master Plan Update



## Project: BU24 - Burton Creek Channel Maintenance Program

**Project Type:** Maintenance    **Drainage CIP Ranking:** 113    **Existing Study:** Yes    **TxDot:** No  
**Date Identified:** 2002    **Total Weighted Score:** 210    **Panel #:** R12  
**Date Last Reported:**    **Project Cost:** \$66,560    **Council District:** 4  
**Original Cost Year:** 2010    **Study File Name:** Burton Creek Flood Study - Klotz 2002

### Description:

A long-range maintenance program is needed once initial clearing has been completed to maintain the improved channel conditions and prevent flooding and erosion along the channels. The City will have to work with local contractors to develop a routine maintenance program. For budgeting purposes it assumed maintenance will be performed semi-annually. This may need to be adjusted for larger storm events that are not anticipated.

### Justification:

The existing channels are generally overgrown with trees and brush causing their original hydraulic capacity to be lost.

### Funding Options:

### Funding Source Summary:

Type	Original	Source	2011	2012	2013	2014	2015
Stormwater	\$66,560	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Const</b>	<b>\$66,560</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Total</b>	<b>\$66,560</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>



### Ranking Criteria

<b>Life Safety:</b>	0	<b>Street Flooding:</b>	0	<b>Infrastructure Damage:</b>	0	<b>Maintenance:</b>	2
<b>Structures Flooding:</b>	0	<b>Frequency of Flooding:</b>	0	<b>Funding Source:</b>	0	<b>Project Cost:</b>	10
<b>Right-of-Way Availability:</b>	3						



# Drainage Master Plan Update

## Project: BU25 - Oakridge Drive and Barak Lane



**Project Type:** Flooding      **Drainage CIP Ranking:** 15      **Existing Study:** Yes      **TxDot:** No  
**Date Identified:** 2003      **Total Weighted Score:** 863      **Panel #:** Q12  
**Date Last Reported:**      **Project Cost:** \$1,737,998      **Council District:** 4  
**Original Cost Year:** 2010      **Study File Name:** RFQ - Thompson Report 2003

### Description:

Oak Ridge Lane is classified as a local street according to the City of Bryan Thoroughfare Plan. The existing system needs to be replaced with a system ranging in sizes from a 24" RCP to a 42" RCP at the downstream end. The proposed improvements will prevent Oak Ridge Drive from flooding during the 10-year storm event, per City criteria.

### Justification:

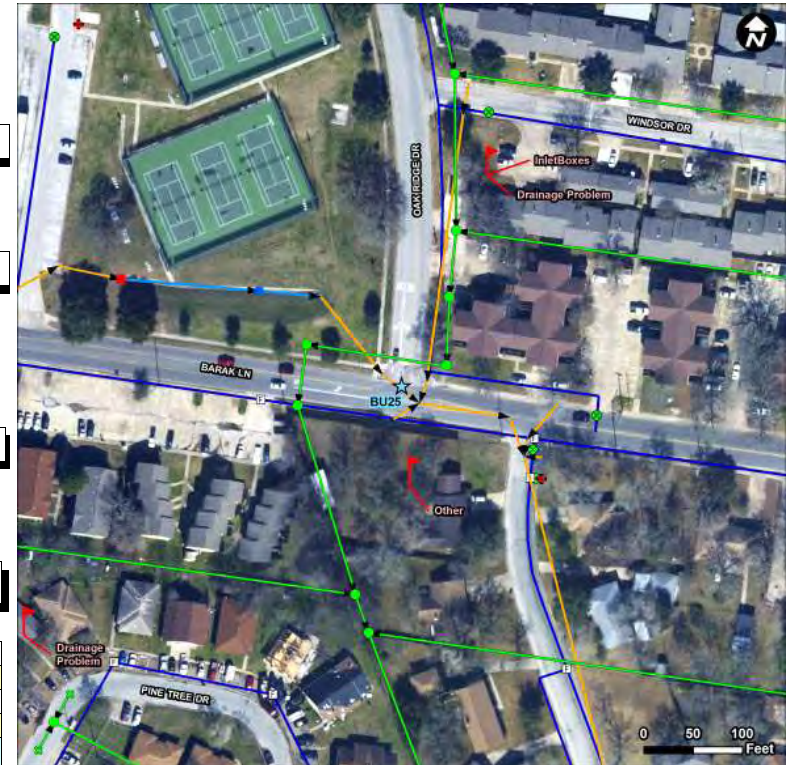
The City identified this intersection with drainage issues flooding more than approximately 2 feet. It is located at the low point of both Barak Lane and Oakridge Drive, so runoff from both streets collects and ponds at the intersection. The intersection is adjacent to residential buildings and a school is located to the northwest. The Thompson "Storm Water Modeling and Infrastructure Mapping Project" project number O4102 identified Oak Ridge Lane as flooding during the 10-year storm event from Barak Lane to the downstream creek outfall.

### Funding Options:

If this project is cost beneficial (has a cost-benefit ratio of 1), then it may qualify for the Flood Mitigation Assistance Grant, the Hazard Mitigation Grant Project, or the Pre-Disaster Mitigation Grant. These funding options are suggestions and further investigation is needed to determine if this project qualifies for the suggested grants.

### Funding Source Summary:

Type	Original	Source	2011	2012	2013	2014	2015
Stormwater	\$226,695	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Design/Survey</b>	<b>\$226,695</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
Stormwater	\$1,511,303	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Const</b>	<b>\$1,511,303</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Total</b>	<b>\$1,737,998</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>



### Ranking Criteria

<b>Life Safety:</b>	10	<b>Street Flooding:</b>	7	<b>Infrastructure Damage:</b>	7	<b>Maintenance:</b>	0
<b>Structures Flooding:</b>	6	<b>Frequency of Flooding:</b>	7	<b>Funding Source:</b>	0	<b>Project Cost:</b>	5
<b>Right-of-Way Availability:</b>	10						





# Drainage Master Plan Update

## Project: BU27 - Hillside Drive Flooding



**Project Type:** Flooding      **Drainage CIP Ranking:** 76      **Existing Study:** No      **TxDot:** No  
**Date Identified:** 2010      **Total Weighted Score:** 510      **Panel #:** Q12  
**Date Last Reported:**      **Project Cost:** \$25,000      **Council District:** 4  
**Original Cost Year:** 2010      **Study File Name:**

### Description:

Hillside Drive is considered a local street, according to the City of Bryan Thoroughfare Plan. A drainage study is needed in this area to determine the cause of flooding and if other homes are flooding in the area. Once a study is performed, a detailed design is needed to propose improvements that will reduce property flooding. This project only includes the study phase.

### Justification:

2911 Hillside Drive is a residential home located near Hillside Drive and Old Oaks Drive. According to the City of Bryan Flooding and Erosion Issues database, the backyard of this home is flooding. Hillside Drive is a curb and gutter asphalt paved road.

### Funding Options:

### Funding Source Summary:

Type	Original	Source	2011	2012	2013	2014	2015
Stormwater	\$25,000	Stormwater	\$0	\$0	\$0	\$0	\$0
Design/Survey	\$25,000		\$0	\$0	\$0	\$0	\$0
<b>Total</b>	<b>\$25,000</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>



### Ranking Criteria

<b>Life Safety:</b>	0	<b>Street Flooding:</b>	0	<b>Infrastructure Damage:</b>	4	<b>Maintenance:</b>	0
<b>Structures Flooding:</b>	8	<b>Frequency of Flooding:</b>	7	<b>Funding Source:</b>	0	<b>Project Cost:</b>	10
<b>Right-of-Way Availability:</b>	3						







# Drainage Master Plan Update

## Project: BU29 - Sprucewood Street Flooding



**Project Type:** Flooding      **Drainage CIP Ranking:** 79      **Existing Study:** No      **TxDot:** No  
**Date Identified:** 2010      **Total Weighted Score:** 484      **Panel #:** R10  
**Date Last Reported:**      **Project Cost:** \$25,000      **Council District:** 5  
**Original Cost Year:** 2010      **Study File Name:**

### Description:

A study of the Sprucewood Street drainage and a detailed design phase is needed to assess existing flooding and propose improvements that will reduce flooding in the area. This project includes the local analysis to determine the cause of flooding and propose alternatives. A construction cost should be provided as part of this local analysis.

### Justification:

The dead end of Sprucewood Street is experiencing flooding due to blocked drainage from the fill at the Gehrig property, according to the City of Bryan flooding and erosion database. The area is at the end of a subdivision in an open lot.

### Funding Options:

### Funding Source Summary:

Type	Original	Source	2011	2012	2013	2014	2015
Stormwater	\$25,000	Stormwater	\$0	\$0	\$0	\$0	\$0
Design/Survey	\$25,000		\$0	\$0	\$0	\$0	\$0
<b>Total</b>	<b>\$25,000</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>



### Ranking Criteria

<b>Life Safety:</b>	0	<b>Street Flooding:</b>	0	<b>Infrastructure Damage:</b>	0	<b>Maintenance:</b>	4
<b>Structures Flooding:</b>	5	<b>Frequency of Flooding:</b>	4	<b>Funding Source:</b>	0	<b>Project Cost:</b>	10
<b>Right-of-Way Availability:</b>	10						



# Drainage Master Plan Update

## Project: BU30 - Farm Patch Flooding



**Project Type:** Flooding      **Drainage CIP Ranking:** 13      **Existing Study:** Yes      **TxDot:** No  
**Date Identified:** 2010      **Total Weighted Score:** 873      **Panel #:** R11  
**Date Last Reported:**      **Project Cost:** \$59,361      **Council District:** 5  
**Original Cost Year:** 2010      **Study File Name:** RFQ - Thompson Report 2003

### Description:

The Thompson Report proposes that the existing system at the intersection of South College Avenue and Pleasant Street is to be upsized to a 42" RCP before outfalling into the existing swale along Pleasant Street. Further improvements to the swale may be necessary to reduce flooding to the rest of the property. A study of the swale and drainage of the property is needed to fully assess the cause of flooding at the Farm Patch Store.

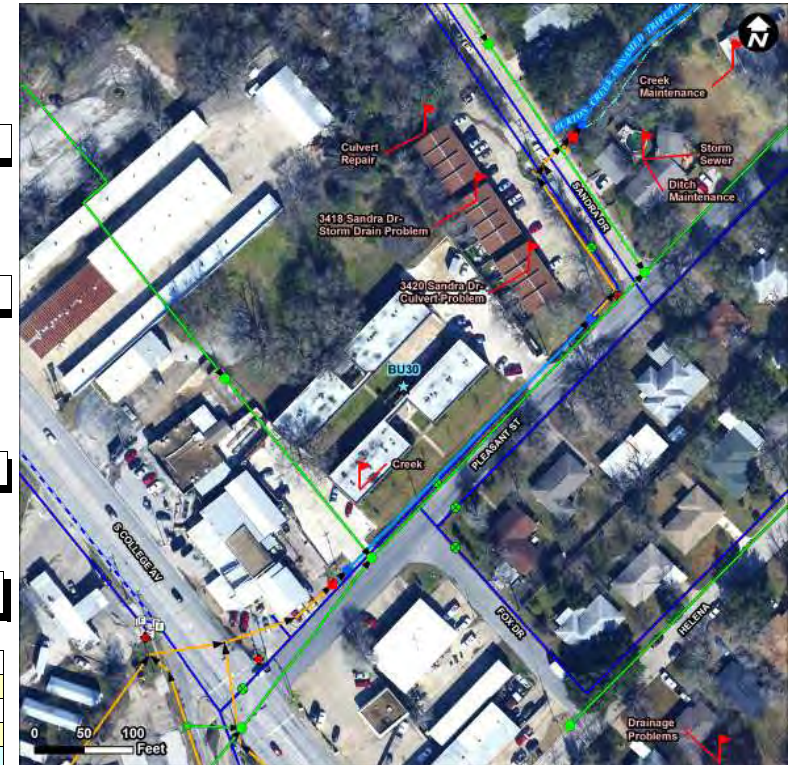
### Justification:

The Farm Patch store located on Pleasant Road between Sandra and South College Ave is experiencing flooding of approximately 0.5 ft, according to the City of Bryan flooding and erosion issues database. The area is mainly commercial, and runoff is drained through a system of streets, storm drain, and a drainage swale along Pleasant Road. The Thompson "Storm Water Modeling and Infrastructure Mapping Project" project number O4071 identifies the existing system near the intersection of College Avenue and Pleasant Street as flooding during the 10-year storm event.

### Funding Options:

### Funding Source Summary:

Type	Original	Source	2011	2012	2013	2014	2015
Stormwater	\$7,742	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Design/Survey</b>	<b>\$7,742</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
Stormwater	\$51,619	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Const</b>	<b>\$51,619</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Total</b>	<b>\$59,361</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>



### Ranking Criteria

<b>Life Safety:</b>	5	<b>Street Flooding:</b>	3	<b>Infrastructure Damage:</b>	7	<b>Maintenance:</b>	2
<b>Structures Flooding:</b>	10	<b>Frequency of Flooding:</b>	7	<b>Funding Source:</b>	0	<b>Project Cost:</b>	10
<b>Right-of-Way Availability:</b>	10						





## Drainage Master Plan Update

### Project: BU31 - Trib 5 Sandra Dr to Holick Ln Erosion



**Project Type:** Erosion      **Drainage CIP Ranking:** 90      **Existing Study:** No      **TxDot:** No  
**Date Identified:** 2010      **Total Weighted Score:** 412      **Panel #:** R11  
**Date Last Reported:**      **Project Cost:** \$289,800      **Council District:** 5  
**Original Cost Year:** 2010      **Study File Name:**

#### Description:

A study of approximately 280 LF of Burton Creek Tributary 5 channel is needed to determine the necessary culvert and/or channel improvements to assess existing erosion in the area and propose improvements. Spatial constraints due to buildings on either side of the stream may cause design complications.

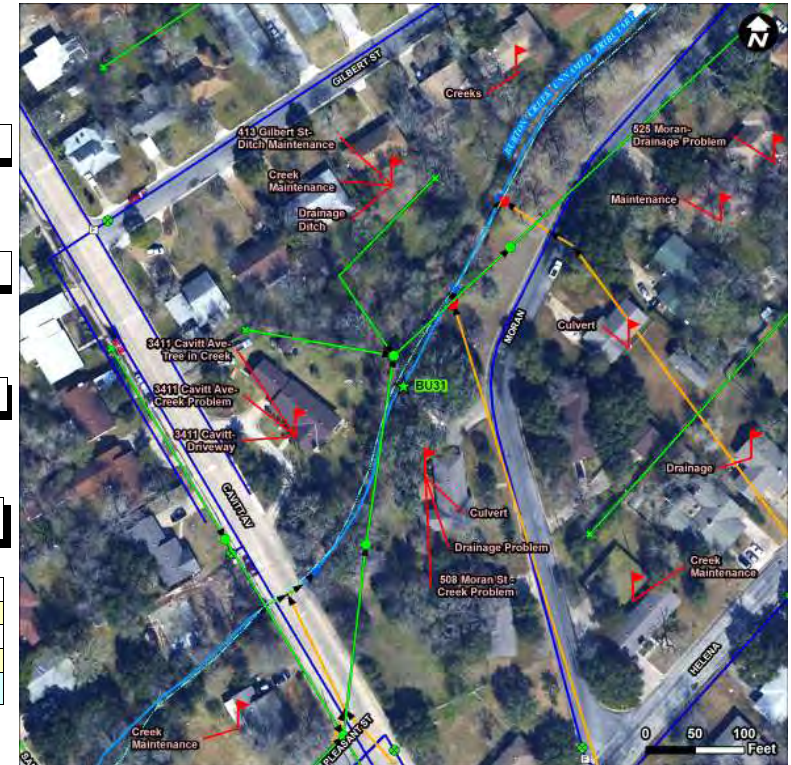
#### Justification:

Burton Creek Tributary 5 between Sandra Drive and Holick Lane runs through a residential area and underneath Cavitt Drive. There is a City Park on one side of the stream. The City identified erosion along the stream, which could cause damage to nearby properties.

#### Funding Options:

#### Funding Source Summary:

Type	Original	Source	2011	2012	2013	2014	2015
Stormwater	\$37,800	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Design/Survey</b>	<b>\$37,800</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
Stormwater	\$252,000	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Const</b>	<b>\$252,000</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Total</b>	<b>\$289,800</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>



#### Ranking Criteria

<b>Life Safety:</b>	0	<b>Street Flooding:</b>	0	<b>Infrastructure Damage:</b>	7	<b>Maintenance:</b>	8
<b>Structures Flooding:</b>	0	<b>Frequency of Flooding:</b>	0	<b>Funding Source:</b>	0	<b>Project Cost:</b>	8
<b>Right-of-Way Availability:</b>	3						



## Drainage Master Plan Update

### Project: BU32 - Trib 5 Holick Ln to Broadmoor Dr Flooding



**Project Type:** Flooding      **Drainage CIP Ranking:** 94      **Existing Study:** No      **TxDot:** No  
**Date Identified:** 2010      **Total Weighted Score:** 340      **Panel #:** R11  
**Date Last Reported:**      **Project Cost:** \$2,587,500      **Council District:** 4  
**Original Cost Year:** 2010      **Study File Name:**

#### Description:

A study of approximately 2500 LF of Burton Creek Tributary 5 channel is needed as well as a design phase for culvert and/or channel improvements to assess existing flooding in the area and propose improvements. Spatial constraints due to buildings on either side of the stream may cause design complications.

#### Justification:

The area along Burton Creek Tributary 5 from Hollick Lane to Burton Creek at Broadmoor Drive is experiencing general flooding, according the City of Bryan flooding and erosion issues database. Tributary 5 runs through commercial and residential buildings and crosses three roads along this stretch of channel.

#### Funding Options:

If cost beneficial, this project may qualify for the Flood Mitigation Assistance grant, Hazard Mitigation Grant Program, or the Pre-Disaster Mitigation Grant. These funding options are suggestions and further investigation is needed to determine if this project qualifies for the suggested grants.

#### Funding Source Summary:

Type	Original	Source	2011	2012	2013	2014	2015
Stormwater	\$337,500	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Design/Survey</b>	<b>\$337,500</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
Stormwater	\$2,250,000	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Const</b>	<b>\$2,250,000</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Total</b>	<b>\$2,587,500</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>



#### Ranking Criteria

<b>Life Safety:</b>	0	<b>Street Flooding:</b>	0	<b>Infrastructure Damage:</b>	0	<b>Maintenance:</b>	0
<b>Structures Flooding:</b>	7	<b>Frequency of Flooding:</b>	4	<b>Funding Source:</b>	0	<b>Project Cost:</b>	8
<b>Right-of-Way Availability:</b>	3						





# Drainage Master Plan Update



## Project: BU33 - Spring Lane Residential Flooding

**Project Type:** Flooding      **Drainage CIP Ranking:** 108      **Existing Study:** No      **TxDot:** No  
**Date Identified:** 2010      **Total Weighted Score:** 231      **Panel #:** Q11  
**Date Last Reported:**      **Project Cost:** \$25,000      **Council District:** 4  
**Original Cost Year:** 2010      **Study File Name:**

### Description:

A drainage study and detailed design need to be completed to assess flooding in the area and propose improvements that will reduce flooding. The drainage analysis is proposed as this project. As a result of this analysis alternatives to eliminate flooding should be provided.

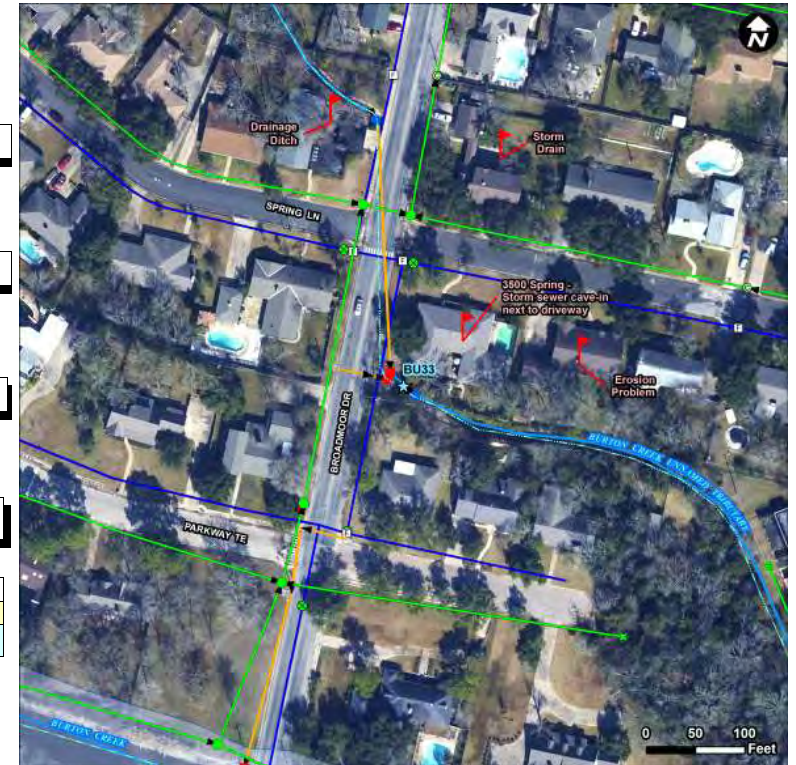
### Justification:

3500 Spring Lane is a residential home located just outside the Burton Creek floodplain near Broadmoor Drive. There is a small drainage swale behind the home that outfalls into Burton Creek and causes the property to flood, according to the City of Bryan flooding and erosion issues database.

### Funding Options:

### Funding Source Summary:

Type	Original	Source	2011	2012	2013	2014	2015
Stormwater	\$25,000	Stormwater	\$0	\$0	\$0	\$0	\$0
Design/Survey	\$25,000		\$0	\$0	\$0	\$0	\$0
<b>Total</b>	<b>\$25,000</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>



### Ranking Criteria

<b>Life Safety:</b>	0	<b>Street Flooding:</b>	0	<b>Infrastructure Damage:</b>	7	<b>Maintenance:</b>	0
<b>Structures Flooding:</b>	0	<b>Frequency of Flooding:</b>	0	<b>Funding Source:</b>	0	<b>Project Cost:</b>	7
<b>Right-of-Way Availability:</b>	0						



## Drainage Master Plan Update

### Project: BU34 - Trib C Greenway to S College Erosion



**Project Type:** Erosion      **Drainage CIP Ranking:** 121      **Existing Study:** No      **TxDot:** No  
**Date Identified:** 2010      **Total Weighted Score:** 122      **Panel #:** S11  
**Date Last Reported:**      **Project Cost:** \$569,250      **Council District:** 5  
**Original Cost Year:** 2010      **Study File Name:**

#### Description:

Erosion control is needed along Burton Creek Tributary C to prevent property damage due to further erosion of the channel. This project includes the channel assessment and design to approximately 550 LF of Burton Creek.

#### Justification:

Burton Creek Tributary C from Greenway Drive to upstream of South College Avenue experiences erosion, according to the City of Bryan flooding and erosion issues database. The channel flows between two rows of residential homes and surrounded by trees and brush. Detailed design has not yet been studied for this area.

#### Funding Options:

#### Funding Source Summary:

Type	Original	Source	2011	2012	2013	2014	2015
Stormwater	\$74,250	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Design/Survey</b>	<b>\$74,250</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
Stormwater	\$495,000	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Const</b>	<b>\$495,000</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Total</b>	<b>\$569,250</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>



#### Ranking Criteria

<b>Life Safety:</b>	0	<b>Street Flooding:</b>	0	<b>Infrastructure Damage:</b>	2	<b>Maintenance:</b>	0
<b>Structures Flooding:</b>	0	<b>Frequency of Flooding:</b>	0	<b>Funding Source:</b>	0	<b>Project Cost:</b>	6
<b>Right-of-Way Availability:</b>	0						





# Drainage Master Plan Update

## Project: BU36 - Trib C and Vine Street Erosion



**Project Type:** Erosion      **Drainage CIP Ranking:** 108      **Existing Study:** No      **TxDot:** No  
**Date Identified:** 2010      **Total Weighted Score:** 231      **Panel #:** R12  
**Date Last Reported:**      **Project Cost:** \$434,700      **Council District:** 4  
**Original Cost Year:** 2010      **Study File Name:**

### Description:

Erosion control is needed along approximately 870 LF of Burton Creek Tributary C near 827 Vine Street to prevent property damage due to further erosion of the channel. Included in the project is channel assessment, study and design to improve the current conditions and prevent future erosion.

### Justification:

Burton Creek Tributary C along the rear of 827 Vine Street is experiencing erosion, according to the City of Bryan flooding and erosion issues database. The channel flows approximately 45 feet behind the structure at 827 Vine Street and outfalls into Burton Creek approximately 320 LF downstream. It is surrounded by trees and brush as well as residential homes along the overbanks. Detailed design has not been studied for this area.

### Funding Options:

### Funding Source Summary:

Type	Original	Source	2011	2012	2013	2014	2015
Stormwater	\$56,700	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Design/Survey</b>	<b>\$56,700</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
Stormwater	\$378,000	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Const</b>	<b>\$378,000</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Total</b>	<b>\$434,700</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>

### Ranking Criteria

<b>Life Safety:</b>	0	<b>Street Flooding:</b>	0	<b>Infrastructure Damage:</b>	7	<b>Maintenance:</b>	0
<b>Structures Flooding:</b>	0	<b>Frequency of Flooding:</b>	0	<b>Funding Source:</b>	0	<b>Project Cost:</b>	7
<b>Right-of-Way Availability:</b>	0						





## Drainage Master Plan Update

### Project: BU37 - Kent and Oxford St Intersection Flooding



**Project Type:** Flooding      **Drainage CIP Ranking:** 58      **Existing Study:** Yes      **TxDot:** No  
**Date Identified:** 2003      **Total Weighted Score:** 664      **Panel #:** Q11  
**Date Last Reported:**      **Project Cost:** \$210,408      **Council District:** 4  
**Original Cost Year:** 2010      **Study File Name:** RFQ - Thompson Report 2003

#### Description:

Oxford Street is classified as a local street according to the City of Bryan Thoroughfare Plan. The existing storm drain system needs to be upsized to a 36" RCP along Oxford Street from Avon Street to Kent Street. The proposed improvements will prevent flooding at Oxford and Kent Streets during the 10-year storm event.

#### Justification:

The intersection of Kent and Oxford Streets is located in a medium density residential neighborhood. Runoff from all directions flows to this intersection and there is a small creek to the south of the intersection and ponds approximately 6 to 12 inches. There is an existing system that outfalls into this creek. Runoff collects at the low point and causes general flooding near the intersection, according to the City of Bryan flooding and erosion issues database. The Thompson "Storm Water Modeling and Infrastructure Mapping Project" project number O4080 identified Oxford Street and Kent Street as flooding during the 10-year storm event.

#### Funding Options:

#### Funding Source Summary:

Type	Original	Source	2011	2012	2013	2014	2015
Stormwater	\$27,444	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Design/Survey</b>	<b>\$27,444</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
Stormwater	\$182,964	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Const</b>	<b>\$182,964</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Total</b>	<b>\$210,408</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>



#### Ranking Criteria

<b>Life Safety:</b>	7	<b>Street Flooding:</b>	0	<b>Infrastructure Damage:</b>	4	<b>Maintenance:</b>	0
<b>Structures Flooding:</b>	3	<b>Frequency of Flooding:</b>	9	<b>Funding Source:</b>	0	<b>Project Cost:</b>	8
<b>Right-of-Way Availability:</b>	10						





# Drainage Master Plan Update

## Project: BU38 - Trib 7 and Skrivane Drive Flooding



**Project Type:** Flooding      **Drainage CIP Ranking:** 117      **Existing Study:** No      **TxDot:** No  
**Date Identified:** 2010      **Total Weighted Score:** 180      **Panel #:** P11  
**Date Last Reported:**      **Project Cost:** \$900,450      **Council District:** 4  
**Original Cost Year:** 2010      **Study File Name:**

### Description:

A study of the Burton Creek Tributary 7 and detailed design need to be completed to assess the flooding in the area. The result of the study should be proposed alternatives to mitigate flooding and prevent future erosion.

### Justification:

Burton Creek Tributary 7 flows between the homes along Skrivane Drive and Carter Blvd. The channel is mostly short grass with few trees along the banks and is causing general flooding in the area, according to the City of Bryan flooding and erosion issues database.

### Funding Options:

### Funding Source Summary:

Type	Original	Source	2011	2012	2013	2014	2015
Stormwater	\$117,450	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Design/Survey</b>	<b>\$117,450</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
Stormwater	\$783,000	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Const</b>	<b>\$783,000</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Total</b>	<b>\$900,450</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>



### Ranking Criteria

<b>Life Safety:</b>	0	<b>Street Flooding:</b>	0	<b>Infrastructure Damage:</b>	0	<b>Maintenance:</b>	2
<b>Structures Flooding:</b>	0	<b>Frequency of Flooding:</b>	4	<b>Funding Source:</b>	0	<b>Project Cost:</b>	6
<b>Right-of-Way Availability:</b>	0						



# Drainage Master Plan Update

## Project: BU39 - Epy's Subdivision Flooding



**Project Type:** Flooding      **Drainage CIP Ranking:** 104      **Existing Study:** No      **TxDot:** No  
**Date Identified:** 2010      **Total Weighted Score:** 236      **Panel #:** P11  
**Date Last Reported:**      **Project Cost:** \$25,000      **Council District:** 4  
**Original Cost Year:** 2010      **Study File Name:**

### Description:

A study of the drainage in that Epy's Subdivision and a detailed design phase are needed to assess the flooding and proposed improvements to reduce flooding in the area. The project only includes the first phase of study. Once alternatives are identified a construction cost can be completed.

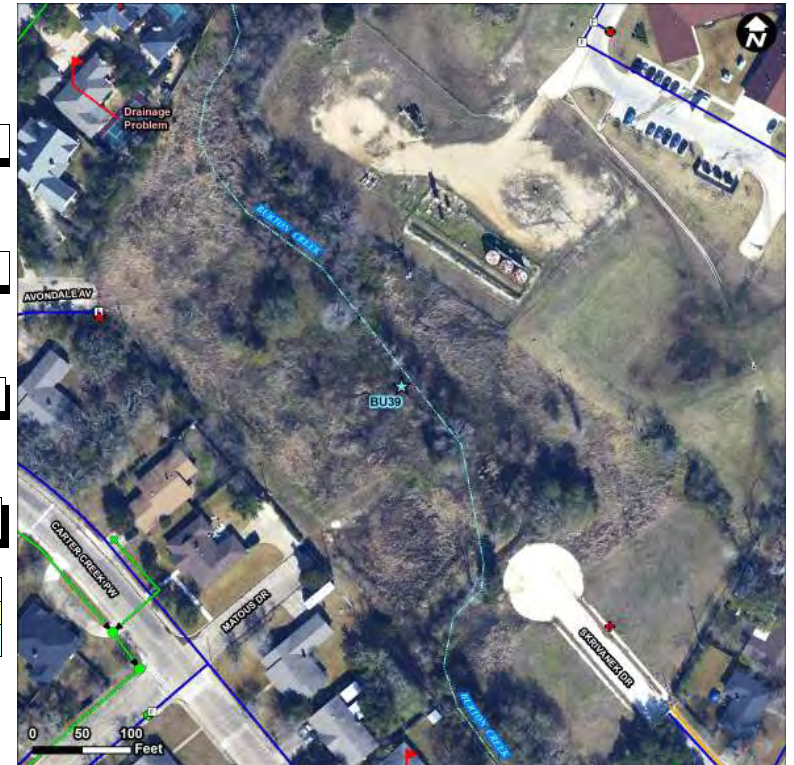
### Justification:

There is a small patch of undeveloped land located at the northeast end of Skrivaneek Drive in Epy's Subdivision. Runoff from surrounding neighborhoods flows to this area and causes general flooding, according to the City of Bryan flooding and erosion issues database.

### Funding Options:

### Funding Source Summary:

Type	Original	Source	2011	2012	2013	2014	2015
Stormwater	\$25,000	Stormwater	\$0	\$0	\$0	\$0	\$0
Design/Survey	\$25,000		\$0	\$0	\$0	\$0	\$0
<b>Total</b>	<b>\$25,000</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>



### Ranking Criteria

<b>Life Safety:</b>	0	<b>Street Flooding:</b>	0	<b>Infrastructure Damage:</b>	0	<b>Maintenance:</b>	2
<b>Structures Flooding:</b>	0	<b>Frequency of Flooding:</b>	4	<b>Funding Source:</b>	0	<b>Project Cost:</b>	10
<b>Right-of-Way Availability:</b>	0						





# Drainage Master Plan Update

## Project: BU40 - Wayside Drive Erosion



**Project Type:** Erosion      **Drainage CIP Ranking:** 100      **Existing Study:** No      **TxDot:** No  
**Date Identified:** 2010      **Total Weighted Score:** 296      **Panel #:** Q11  
**Date Last Reported:**      **Project Cost:** \$155,250      **Council District:** 4  
**Original Cost Year:** 2010      **Study File Name:**

### Description:

Erosion control is needed along approximately 150 LF of Burton Creek to prevent property damage due to further erosion of the channel. This project includes the channel assessment and design of improvements.

### Justification:

2109 Wayside Drive, Borden Residence, is located in a residential neighborhood near Esther Boulevard. Burton Creek channel flows adjacent to the backyard and the residential structure is just outside of the Burton Creek floodplain. According to the City of Bryan flooding and erosion issues database, the property is experiencing erosion along the back of the lot, which is located within the Burton Creek floodway. Detailed design has not yet been studied for this area.

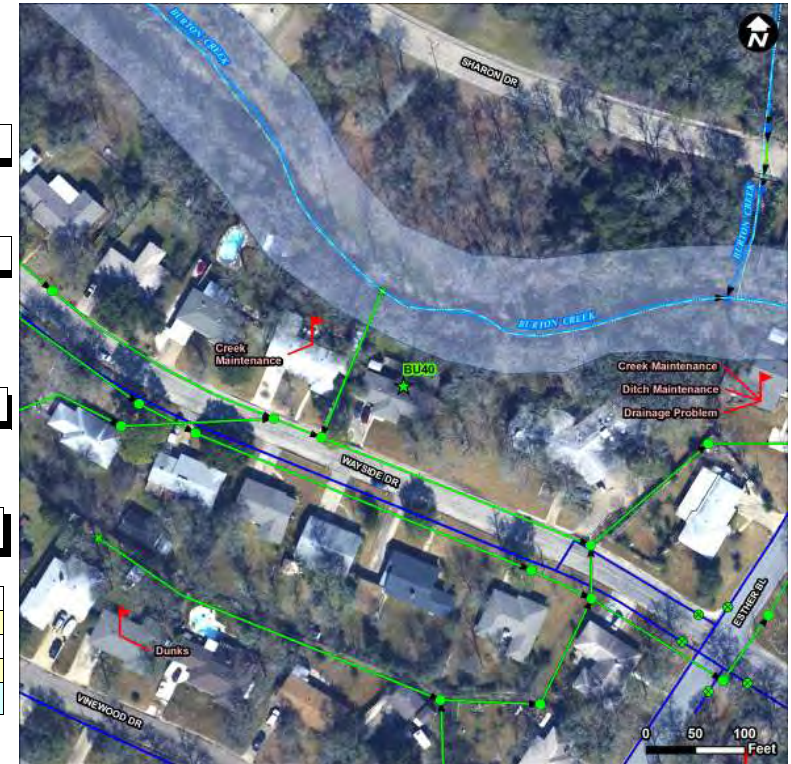
### Funding Options:

### Funding Source Summary:

Type	Original	Source	2011	2012	2013	2014	2015
Stormwater	\$20,250	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Design/Survey</b>	<b>\$20,250</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
Stormwater	\$135,000	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Const</b>	<b>\$135,000</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Total</b>	<b>\$155,250</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>

### Ranking Criteria

<b>Life Safety:</b>	0	<b>Street Flooding:</b>	0	<b>Infrastructure Damage:</b>	7	<b>Maintenance:</b>	0
<b>Structures Flooding:</b>	0	<b>Frequency of Flooding:</b>	0	<b>Funding Source:</b>	0	<b>Project Cost:</b>	9
<b>Right-of-Way Availability:</b>	3						





## Drainage Master Plan Update



### Project: BU41 - Burton Creek Tributary D and E Channel Improvements

**Project Type:** Flooding  
**Date Identified:** 2010  
**Date Last Reported:**  
**Original Cost Year:** 2010

**Drainage CIP Ranking:** 28  
**Total Weighted Score:** 790  
**Project Cost:** \$1,552,500  
**Study File Name:**

**Existing Study:** No  
**Panel #:** R10  
**Council District:** 5  
**TxDot:** No

#### Description:

A study and detailed design of the area is proposed to assess the flooding and design improvements to prevent flooding. This design includes approximately 1,500 LF of channel improvements.

#### Justification:

There is a creek that flows between residential homes from the Bryan apartments to East Villa Maria Road. The creek crosses two streets and is conveyed under East Villa Maria Road where it outfalls into Burton Creek Tributary D. There are two FEMA repetitive loss structures in the area of this project. The City identified general flooding of about 2 feet along this creek in the flooding and erosion issues database.

#### Funding Options:

A Flood Mitigation Assistance Planning Grant may be possible for a watershed study. If the project is cost beneficial, this project may also qualify for the Severe Repetitive Loss Grant, the Repetitive Flood Claims Grant, the Flood Mitigation Assistance Project Grant, the Pre-Disaster Mitigation Grant, and the Hazard Mitigation Grant Program (following a declared natural disaster). These funding options are suggestions and would need further investigation to determine if this project qualifies for one of the suggested grants for a buy-out or construction.

#### Funding Source Summary:

Type	Original	Source	2011	2012	2013	2014	2015
Stormwater	\$202,500	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Design/Survey</b>	<b>\$202,500</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
Stormwater	\$1,350,000	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Const</b>	<b>\$1,350,000</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Total</b>	<b>\$1,552,500</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>

#### Ranking Criteria

<b>Life Safety:</b>	10	<b>Street Flooding:</b>	3	<b>Infrastructure Damage:</b>	7	<b>Maintenance:</b>	6
<b>Structures Flooding:</b>	7	<b>Frequency of Flooding:</b>	4	<b>Funding Source:</b>	0	<b>Project Cost:</b>	5
<b>Right-of-Way Availability:</b>	3						







# Drainage Master Plan Update

## Project: BU42 - 605 Cache Street Flooding



**Project Type:** Flooding      **Drainage CIP Ranking:** 111      **Existing Study:** No      **TxDot:** No  
**Date Identified:** 2010      **Total Weighted Score:** 224      **Panel #:** P10  
**Date Last Reported:**      **Project Cost:** \$776,250      **Council District:** 4  
**Original Cost Year:** 2010      **Study File Name:**

### Description:

As part of this project a detailed hydrologic and hydraulic study needs to be performed to determine alternatives to eliminate flooding in the area. Upon completion of the study phase, detailed design will be needed for approximately 750 LF of channel improvements.

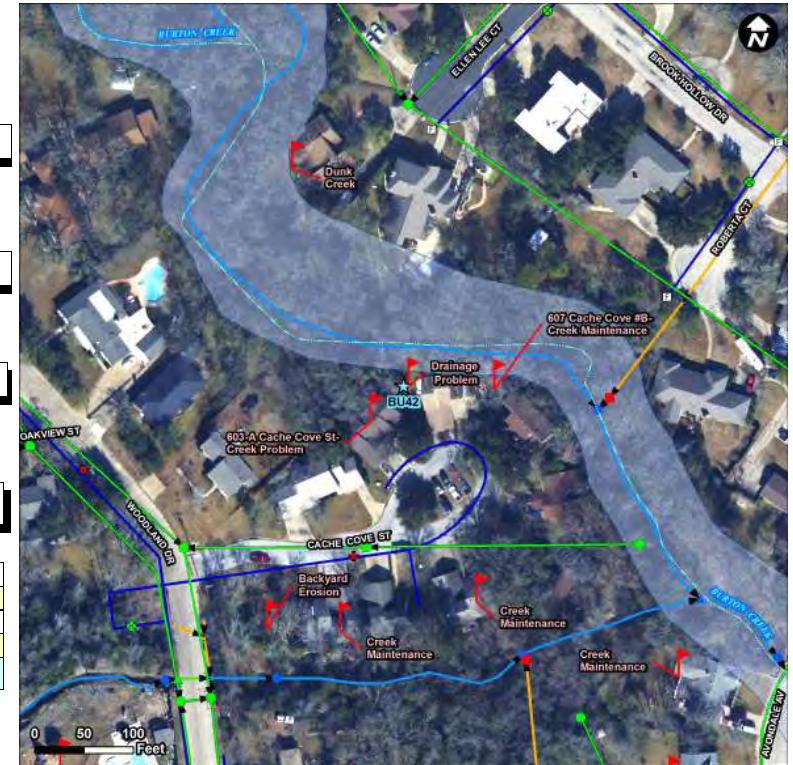
### Justification:

605 Cache Street is located just outside of the Burton Creek floodplain. It is upstream of the Avondale Road crossing, and the City identified the home with general flooding based on the flooding and erosion issues database.

### Funding Options:

### Funding Source Summary:

Type	Original	Source	2011	2012	2013	2014	2015
Stormwater	\$101,250	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Design/Survey</b>	<b>\$101,250</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
Stormwater	\$675,000	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Const</b>	<b>\$675,000</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Total</b>	<b>\$776,250</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>



### Ranking Criteria

<b>Life Safety:</b>	0	<b>Street Flooding:</b>	0	<b>Infrastructure Damage:</b>	4	<b>Maintenance:</b>	2
<b>Structures Flooding:</b>	0	<b>Frequency of Flooding:</b>	2	<b>Funding Source:</b>	0	<b>Project Cost:</b>	6
<b>Right-of-Way Availability:</b>	0						



## Drainage Master Plan Update

### Project: BU43 - 2508 and 2510 Willowbend Circle Flooding



**Project Type:** Flooding      **Drainage CIP Ranking:** 74      **Existing Study:** No      **TxDot:** No  
**Date Identified:** 2010      **Total Weighted Score:** 572      **Panel #:** Q11  
**Date Last Reported:**      **Project Cost:** \$400,000      **Council District:** 4  
**Original Cost Year:** 2010      **Study File Name:**

#### Description:

The City proposed a buyout of these two (2) homes that are located within the floodplain and near the floodway. This project may have grant funding opportunities.

#### Justification:

Two residential structures, 2508 and 2510 Willowbend Circle, are located upstream of the Villa Maria culvert. The homes have been reported as repetitive loss structures and are built below the crown of the road. The homes flood approximately 1-2 ft from Burton Creek, which flows behind the homes. The resident at 2508 has built a berm around his home to prevent flooding.

#### Funding Options:

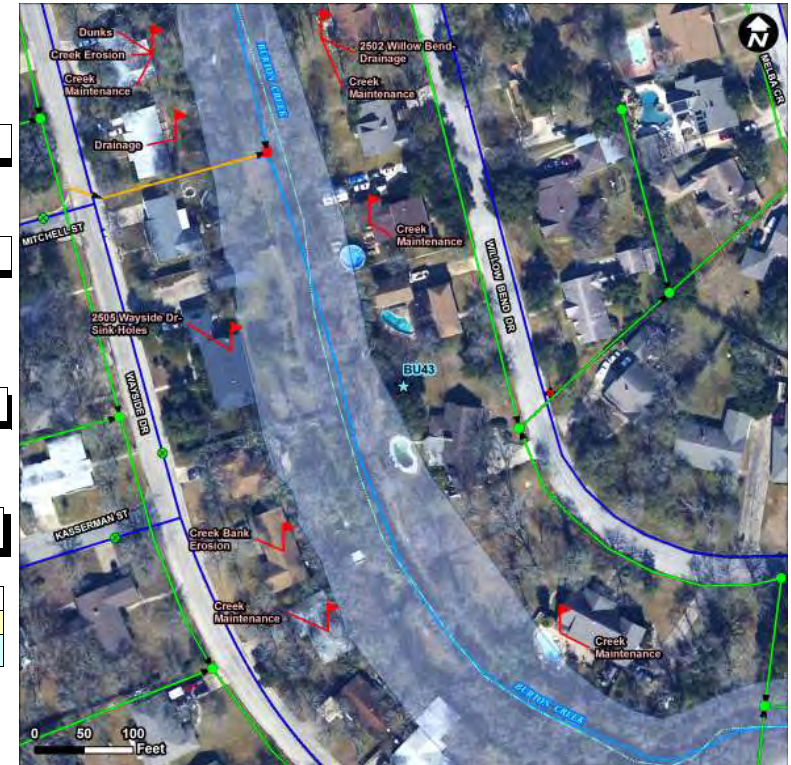
If cost beneficial for a buyout of these homes, this project has potential to be funded through the Repetitive Flood Claims Grant, Severe Repetitive Loss Grant, Pre-Disaster Mitigation, or the Flood Mitigation Assistance project Grant.

#### Funding Source Summary:

Type	Original	Source	2011	2012	2013	2014	2015
Stormwater	\$400,000	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Const</b>	<b>\$400,000</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Total</b>	<b>\$400,000</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>

#### Ranking Criteria

<b>Life Safety:</b>	0	<b>Street Flooding:</b>	0	<b>Infrastructure Damage:</b>	10	<b>Maintenance:</b>	2
<b>Structures Flooding:</b>	10	<b>Frequency of Flooding:</b>	2	<b>Funding Source:</b>	0	<b>Project Cost:</b>	7
<b>Right-of-Way Availability:</b>	3						







## Drainage Master Plan Update

### Project: BU44 - Avondale to Esther Channel Improvements



**Project Type:** Erosion      **Drainage CIP Ranking:** 116      **Existing Study:** Yes      **TxDot:** No  
**Date Identified:** 2002      **Total Weighted Score:** 184      **Panel #:** Q11  
**Date Last Reported:**      **Project Cost:** \$1,966,500      **Council District:** 4  
**Original Cost Year:** 2010      **Study File Name:** Burton Creek Flood Study - Klotz 2002

#### Description:

Channel clearing and widening along approximately 1,900 LF of this reach is needed to improve the Manning's n values and conveyance of the existing channel. A bottom width of 6 to 18 ft is needed to contain the 100-year water surface elevation within the channel banks and control velocities to prevent erosion. Erosion control and bank stabilization may be needed at various parts of the reach.

#### Justification:

The existing channel is earthen and overgrown. There is dense vegetation within the overbanks and channel, which causes limited access to the channel. Structural encroachments occur along the channel and riprap and concrete rubble has been installed in various parts to control erosion.

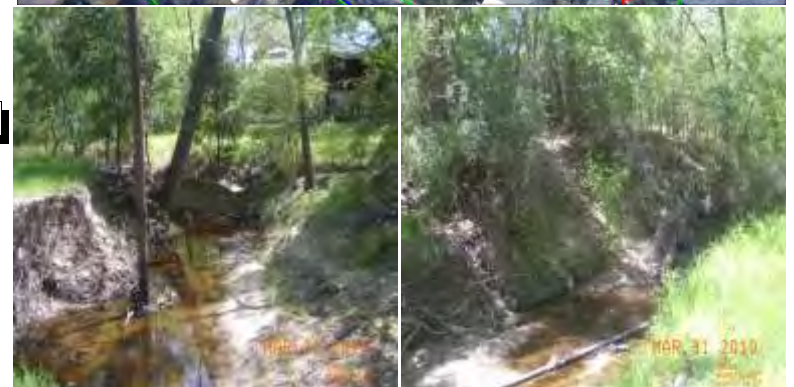
#### Funding Options:

#### Funding Source Summary:

Type	Original	Source	2011	2012	2013	2014	2015
Stormwater	\$256,500	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Design/Survey</b>	<b>\$256,500</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
Stormwater	\$1,710,000	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Const</b>	<b>\$1,710,000</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Total</b>	<b>\$1,966,500</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>

#### Ranking Criteria

<b>Life Safety:</b>	0	<b>Street Flooding:</b>	0	<b>Infrastructure Damage:</b>	4	<b>Maintenance:</b>	0
<b>Structures Flooding:</b>	0	<b>Frequency of Flooding:</b>	0	<b>Funding Source:</b>	0	<b>Project Cost:</b>	5
<b>Right-of-Way Availability:</b>	3						









## Drainage Master Plan Update



### Project: BU46 - Burton to Villa Maria along Burton Creek Channel Improvements

**Project Type:** Erosion      **Drainage CIP Ranking:** 114      **Existing Study:** Yes      **TxDot:** No  
**Date Identified:** 2002      **Total Weighted Score:** 203      **Panel #:** Q11  
**Date Last Reported:**      **Project Cost:** \$1,552,500      **Council District:** 4  
**Original Cost Year:** 2010      **Study File Name:** Burton Creek Flood Study - Klotz 2002

#### Description:

Channel clearing and widening along approximately 1,500 LF of this reach is needed to improve the Manning's n values and conveyance of the existing channel. A bottom width of 6 to 18 ft is needed to contain the 100-year water surface elevation within the channel banks and control velocities to prevent erosion. Erosion control and bank stabilization may be needed at various parts of the reach.

#### Justification:

The existing channel is earthen and overgrown. There is dense vegetation within the overbanks and channel, which causes limited access to the channel. Structural encroachments occur along the channel and riprap and concrete rubble has been installed in various parts to control erosion.

#### Funding Options:

If cost beneficial, this project may qualify for the BCR Grant. This funding options is a suggestion and further investigation is needed to determine if this project qualifies for the suggested grant.

#### Funding Source Summary:

Type	Original	Source	2011	2012	2013	2014	2015
Stormwater	\$202,500	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Design/Survey</b>	<b>\$202,500</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
Stormwater	\$1,350,000	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Const</b>	<b>\$1,350,000</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Total</b>	<b>\$1,552,500</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>



#### Ranking Criteria

<b>Life Safety:</b>	0	<b>Street Flooding:</b>	0	<b>Infrastructure Damage:</b>	7	<b>Maintenance:</b>	0
<b>Structures Flooding:</b>	0	<b>Frequency of Flooding:</b>	0	<b>Funding Source:</b>	0	<b>Project Cost:</b>	5
<b>Right-of-Way Availability:</b>	0						



## Drainage Master Plan Update

### Project: BU48 - Briar Oaks Drive Storm Sewer Improvements



**Project Type:** Flooding      **Drainage CIP Ranking:** 48      **Existing Study:** Yes      **TxDot:** No  
**Date Identified:** 2003      **Total Weighted Score:** 705      **Panel #:** Q12  
**Date Last Reported:**      **Project Cost:** \$241,137      **Council District:** 4  
**Original Cost Year:** 2010      **Study File Name:** RFQ - Thompson Report 2003

#### Description:

Briar Oaks Drive is classified as a local street based on the City of Bryan Thoroughfare Plan. The existing system needs to be upsized to a 24" RCP from Woodmere Drive to Holly drive and a 42" RCP from Holly Drive to the existing 48" RCP west of Windridge Drive. The proposed system prevents Briar Oaks Drive from flooding during the 10-year storm event per City requirements.

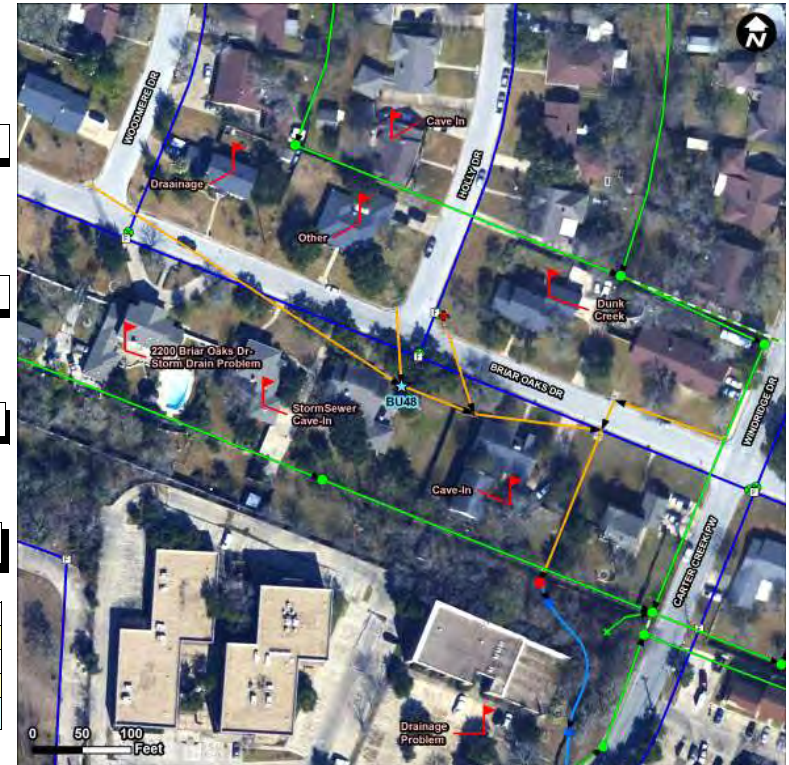
#### Justification:

Briar Oaks Drive from Woodmere Drive to Windridge Drive is drained through an existing storm sewer system. The area is surrounded by residential buildings and the streets are flooding during the 10-year storm event, according to the Thompson "Storm Water Modeling and Infrastructure Mapping Project" project number O4103. The flooding is approximately 6 inches.

#### Funding Options:

#### Funding Source Summary:

Type	Original	Source	2011	2012	2013	2014	2015
Stormwater	\$31,452	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Design/Survey</b>	<b>\$31,452</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
Stormwater	\$209,685	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Const</b>	<b>\$209,685</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Total</b>	<b>\$241,137</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>



#### Ranking Criteria

<b>Life Safety:</b>	5	<b>Street Flooding:</b>	2	<b>Infrastructure Damage:</b>	7	<b>Maintenance:</b>	2
<b>Structures Flooding:</b>	3	<b>Frequency of Flooding:</b>	7	<b>Funding Source:</b>	0	<b>Project Cost:</b>	8
<b>Right-of-Way Availability:</b>	10						





# Drainage Master Plan Update

## Project: BU49 - Hillside Drive Storm Sewer Improvements



**Project Type:** Flooding  
**Date Identified:** 2003  
**Date Last Reported:**  
**Original Cost Year:** 2010

**Drainage CIP Ranking:** 19  
**Total Weighted Score:** 837  
**Project Cost:** \$807,632  
**Study File Name:** RFQ - Thompson Report 2003

**Existing Study:** Yes  
**Panel #:** Q12  
**Council District:** 4  
**TxDot:** No

### Description:

Hillside Drive is classified as a local street, according to the City of Bryan Thoroughfare Plan. The existing storm sewer system needs to be upsized to a 2'x4' RCB from Oak Hill Drive to Greenridge Circle where it increases to a 2'x5' RCB until Valley Oaks Circle. The system then increases to a 3'x7' RCB and outfalls into an existing drainage swale at the south end of the subdivision. The proposed system prevents Hillside Drive from flooding during the 10-year storm event, per City requirements.

### Justification:

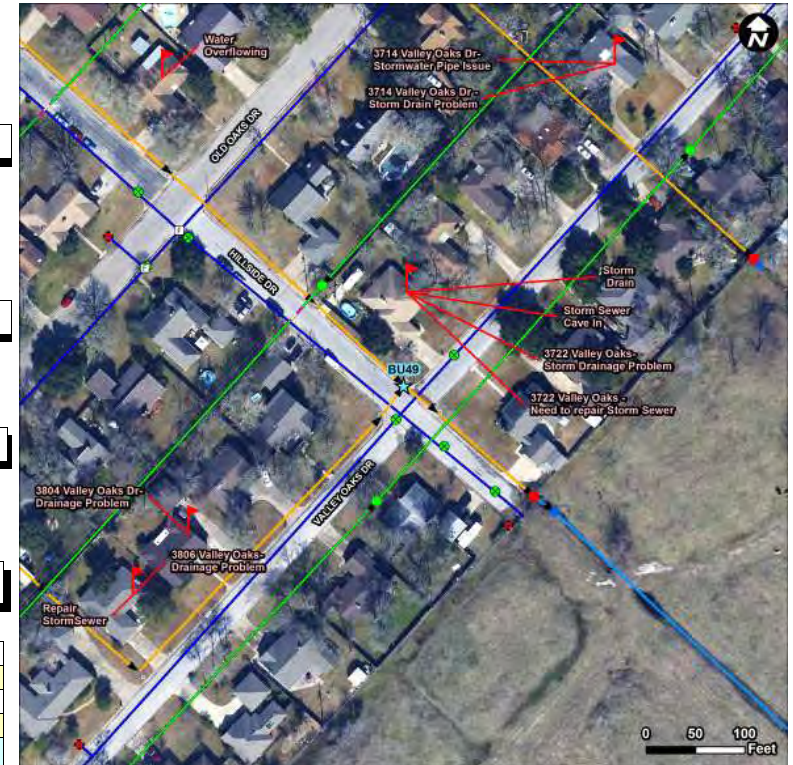
Hillside Drive from oak Hill Drive to Valley Oaks Drive is drained through an existing storm sewer system. The area is surrounded by residential buildings and a school to the northwest. According to the Thompson "Storm Water Modeling and Infrastructure Mapping Project" project number O4147, Hillside Drive experiences flooding during the 10-year storm event.

### Funding Options:

If cost beneficial, this project may qualify for the Flood Mitigation Assistance grant, Hazard Mitigation Grant Program, or the Pre-Disaster Mitigation Grant. These funding options are suggestions and further investigation is needed to determine if this project qualifies for the suggested grants.

### Funding Source Summary:

Type	Original	Source	2011	2012	2013	2014	2015
Stormwater	\$105,343	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Design/Survey</b>	<b>\$105,343</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
Stormwater	\$702,289	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Const</b>	<b>\$702,289</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Total</b>	<b>\$807,632</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>



### Ranking Criteria

<b>Life Safety:</b>	0	<b>Street Flooding:</b>	3	<b>Infrastructure Damage:</b>	7	<b>Maintenance:</b>	10
<b>Structures Flooding:</b>	10	<b>Frequency of Flooding:</b>	7	<b>Funding Source:</b>	0	<b>Project Cost:</b>	6
<b>Right-of-Way Availability:</b>	10						



## Drainage Master Plan Update

### Project: BU50 - S College Avenue Storm Sewer Improvements



**Project Type:** Flooding      **Drainage CIP Ranking:** 59      **Existing Study:** Yes      **TxDot:** No  
**Date Identified:** 2003      **Total Weighted Score:** 657      **Panel #:** R10  
**Date Last Reported:**      **Project Cost:** \$569,226      **Council District:** 5  
**Original Cost Year:** 2010      **Study File Name:** RFQ - Thompson Report 2003

#### Description:

South College Avenue is classified as a minor arterial according to the City of Bryan Thoroughfare Plan. The Thompson Report proposed to upsize the existing system to a 42" RCP from Davis Street to the outfall at the South College Street and Tributary D culvert. The City proposed to extend this 42" RCP upstream to Roundtree Drive. The proposed system will prevent South College Avenue from flooding during the 10-year storm event, per City requirements.

#### Justification:

South College Avenue from Roundtree Drive to the crossing with Burton Creek Tributary D is drained through an existing storm sewer system. The area is surrounded by commercial buildings as well as Country Club Lake to the west. According to the Thompson "Storm Water Modeling and Infrastructure Mapping Project" project number OI4223, S College Avenue is flooding during the 10-year storm event.

#### Funding Options:

If cost beneficial, this project may qualify for the Flood Mitigation Assistance grant, Hazard Mitigation Grant Program, or the Pre-Disaster Mitigation Grant. These funding options are suggestions and further investigation is needed to determine if this project qualifies for the suggested grants.

#### Funding Source Summary:

Type	Original	Source	2011	2012	2013	2014	2015
Stormwater	\$74,247	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Design/Survey</b>	<b>\$74,247</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
Stormwater	\$494,979	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Const</b>	<b>\$494,979</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Total</b>	<b>\$569,226</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>



#### Ranking Criteria

<b>Life Safety:</b>	0	<b>Street Flooding:</b>	3	<b>Infrastructure Damage:</b>	4	<b>Maintenance:</b>	8
<b>Structures Flooding:</b>	5	<b>Frequency of Flooding:</b>	7	<b>Funding Source:</b>	0	<b>Project Cost:</b>	6
<b>Right-of-Way Availability:</b>	10						





## Drainage Master Plan Update

### Project: BU51 - 826 and 827 Vine Street Property Flooding



**Project Type:** Flooding      **Drainage CIP Ranking:** 47      **Existing Study:** No      **TxDot:** No  
**Date Identified:** 2010      **Total Weighted Score:** 706      **Panel #:** R12  
**Date Last Reported:**      **Project Cost:** \$416,630      **Council District:** 4  
**Original Cost Year:** 2010      **Study File Name:**

#### Description:

The City plans to buyout these homes as necessary. The cost includes the cost of each home per 2010 Brazos Appraisal District.

#### Justification:

Residential structures, 826 and 827 Vine Street, are located within the Burton Creek floodplain. The homes are in a residential subdivision where a tributary meets Burton Creek. According to the Flooding and Erosion Issues database from the City of Bryan, the back of these houses are flooding approximately 6 inches and there is major erosion near the residences.

#### Funding Options:

If cost beneficial for a buy-out of these two homes, this project could be funded through the Flood Mitigation Assistance Project Grant, Severe Repetitive Loss Grant, the Repetitive Flood Claims Grant, Flood Mitigation Assistance Project Grant, the Pre-Disaster Mitigation Grant, or the Hazard Mitigation Grant Program (following a declared natural disaster in Texas). These funding options are suggestions and further investigation is necessary to determine if the project will qualify for the suggested grants.

#### Funding Source Summary:

Type	Original	Source	2011	2012	2013	2014	2015
Stormwater	\$416,630	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Const</b>	<b>\$416,630</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Total</b>	<b>\$416,630</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>



#### Ranking Criteria

<b>Life Safety:</b>	5	<b>Street Flooding:</b>	0	<b>Infrastructure Damage:</b>	10	<b>Maintenance:</b>	0
<b>Structures Flooding:</b>	7	<b>Frequency of Flooding:</b>	9	<b>Funding Source:</b>	0	<b>Project Cost:</b>	7
<b>Right-of-Way Availability:</b>	3						



## Drainage Master Plan Update



Project: BU52 - Truman Street between Franklin Street and Truman Avenue.

**Project Type:** Flooding  
**Date Identified:** 2003  
**Date Last Reported:**  
**Original Cost Year:** 2010  
**Drainage CIP Ranking:** 55  
**Total Weighted Score:** 673  
**Project Cost:** \$57,500  
**Study File Name:** RFQ - Thompson Report 2003  
**Existing Study:** Yes  
**TxDot:** No  
**Panel #:** Q10  
**Council District:** 5

### Description:

Franklin Street is classified as a local street, according to the City of Bryan Thoroughfare Plan. Storm sewer and inlet improvements are needed in this area to prevent future flooding. A 24" RCP is proposed from Franklin Avenue to Burton Creek Tributary D to prevent flooding in Franklin Street during the 10-year storm event, per City requirements.

### Justification:

There is an existing storm sewer system between Franklin Street and Truman Avenue that outfalls into Burton Creek Tributary D. The sewer system services Franklin Avenue and the residential homes surrounding it. According to the City, the inlet needs to be replaced. The Thompson "Storm Water Modeling and Infrastructure Mapping Project" project number O4002 identified the sewer system as undersized and causing flooding during the 10-year storm event.

### Funding Options:

### Funding Source Summary:

Type	Original	Source	2011	2012	2013	2014	2015
Stormwater	\$7,500	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Design/Survey</b>	<b>\$7,500</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
Stormwater	\$50,000	Stormwater	\$0	\$0	\$0	\$0	\$0
<b>Const</b>	<b>\$50,000</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Total</b>	<b>\$57,500</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>



### Ranking Criteria

<b>Life Safety:</b>	5	<b>Street Flooding:</b>	0	<b>Infrastructure Damage:</b>	7	<b>Maintenance:</b>	0
<b>Structures Flooding:</b>	3	<b>Frequency of Flooding:</b>	7	<b>Funding Source:</b>	0	<b>Project Cost:</b>	10
<b>Right-of-Way Availability:</b>	10						