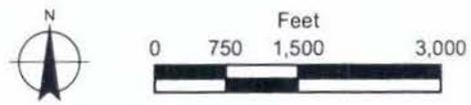


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IHC Property Transaction
 Sections 7 & 18, T8S, R3E
 Spanish Fork, Utah

PROJECT NO:	11U-N8016
SHEET No:	1
DRAWN BY:	MBradley
DATE:	12-15-11
REVISED BY:	
DATE:	

Figure 1: Property Location with Access Directions



Contour Interval = 5'

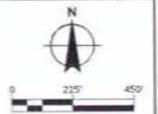
Area A	0.22 ac
Area B	0.20 ac
Area C	0.21 ac
Area D	0.26 ac
Area E	0.63 ac
Area F	0.27 ac
Area G	0.18 ac
Area H	0.17 ac
Playa	12.79 ac
Total	14.93 ac

- Explanation**
- Delineation Boundary
 - Sampling Point - Upland
 - Sampling Point - Wetland
 - Delineated Wetland



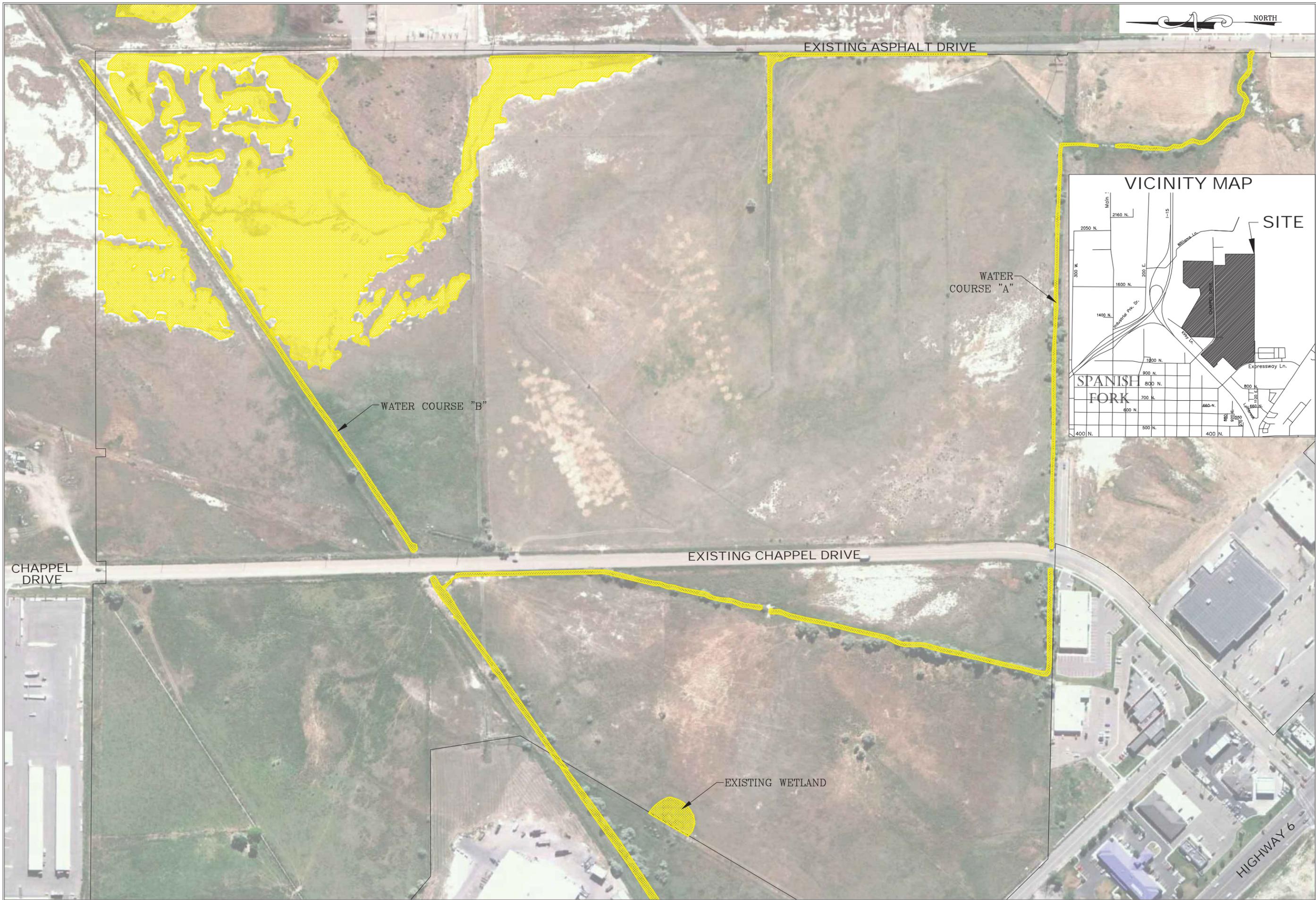
IHC Property Transaction
 Sections 7 & 18, T8S, R3E, SLB&M
 Spanish Fork, Utah

Figure 3: Wetland Delineation Map

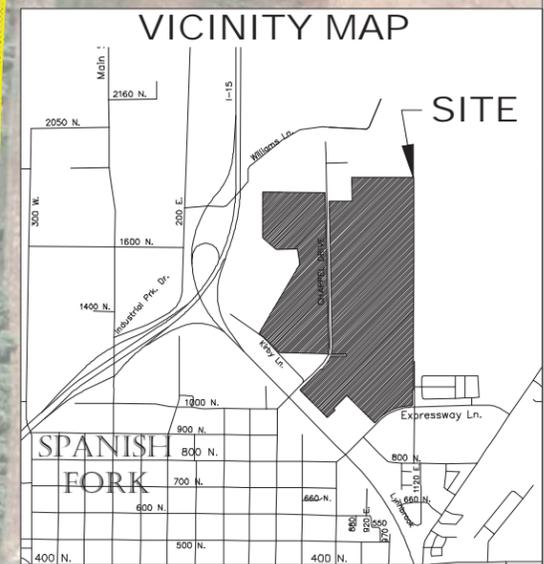


PROJECT No:	11U-N8016
SHEET:	2
DRAWN BY:	MBradley
DATE:	7-8-12
REVISED BY:	MBradley
DATE:	7-11-12
REVIEWED BY:	
DATE:	

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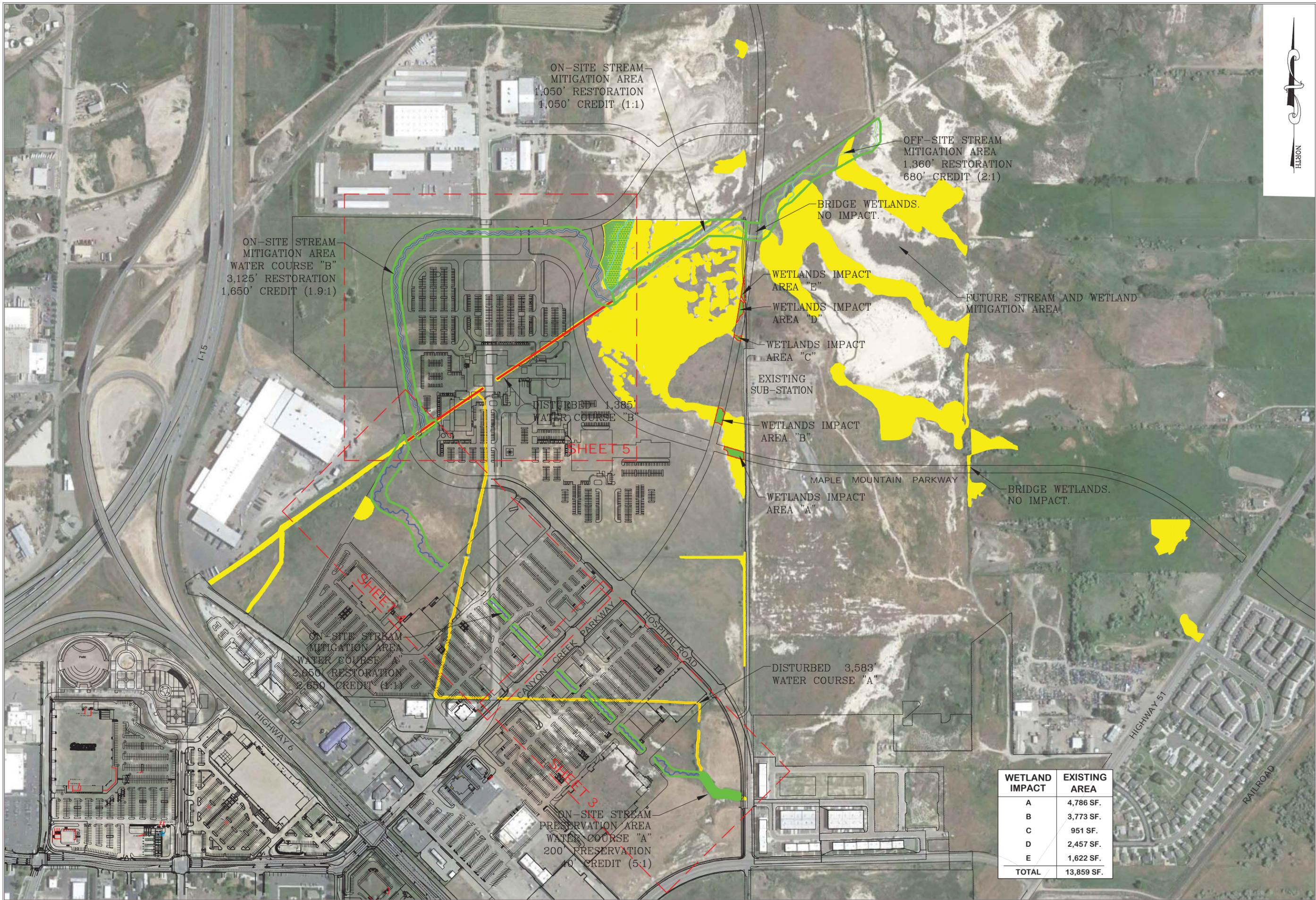
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PLANNERS
 3302 N. Main Street
 Spanish Fork, UT 84660
 Phone: 801.798.0555
 Fax: 801.798.9393
 office@lei-eng.com
 www.lei-eng.com



EXISTING WETLANDS AND STREAM LOCATIONS
EXISTING CONDITIONS

REVISIONS	
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2.	
3.	
4.	
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LEI PROJECT #:
2011-0859
 DRAWN BY:
RWH
 DESIGNED BY:
BTG-DAB
 SCALE:
1" = 250'
 DATE:
01/07/2013



ON-SITE STREAM
MITIGATION AREA
1,050' RESTORATION
1,050' CREDIT (1:1)

OFF-SITE STREAM
MITIGATION AREA
1,360' RESTORATION
680' CREDIT (2:1)

ON-SITE STREAM
MITIGATION AREA
WATER COURSE "B"
3,125' RESTORATION
1,650' CREDIT (1.9:1)

BRIDGE WETLANDS.
NO IMPACT.

WETLANDS IMPACT
AREA "E"

WETLANDS IMPACT
AREA "D"

WETLANDS IMPACT
AREA "C"

EXISTING
SUB-STATION

WETLANDS IMPACT
AREA "B"

FUTURE STREAM AND WETLAND
MITIGATION AREA

DISTURBED 1,385'
WATER COURSE "B"

WETLANDS IMPACT
AREA "A"

MAPLE MOUNTAIN PARKWAY

BRIDGE WETLANDS.
NO IMPACT.

ON-SITE STREAM
MITIGATION AREA
WATER COURSE
"C"
650' RESTORATION
650' CREDIT (1:1)

DISTURBED 3,583'
WATER COURSE "A"

ON-SITE STREAM
PRESERVATION AREA
WATER COURSE "A"
200' PRESERVATION
40' CREDIT (5:1)

WETLAND IMPACT	EXISTING AREA
A	4,786 SF.
B	3,773 SF.
C	951 SF.
D	2,457 SF.
E	1,622 SF.
TOTAL	13,859 SF.



REVISIONS

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DESIGNED BY:
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SCALE:
1" = 500'
DATE:
01/07/2013

HOSPITAL ROAD

CANYON CREEK PARKWAY

1,465' DISTURBED
WATER COURSE "A"

166' CREDIT (1:1)
WATER COURSE "A"
STEP-POOL REACH

248' CREDIT (1:1)
WATER COURSE "A"

POTENTIAL
RIPARIAN AREA

223' CREDIT (1:1)
WATER COURSE "A"

WATER COURSE "A"
PRESERVATION
AND BUFFER
ENHANCEMENT
5:1 RATIO

388' CREDIT (1:1)
WATER COURSE "A"



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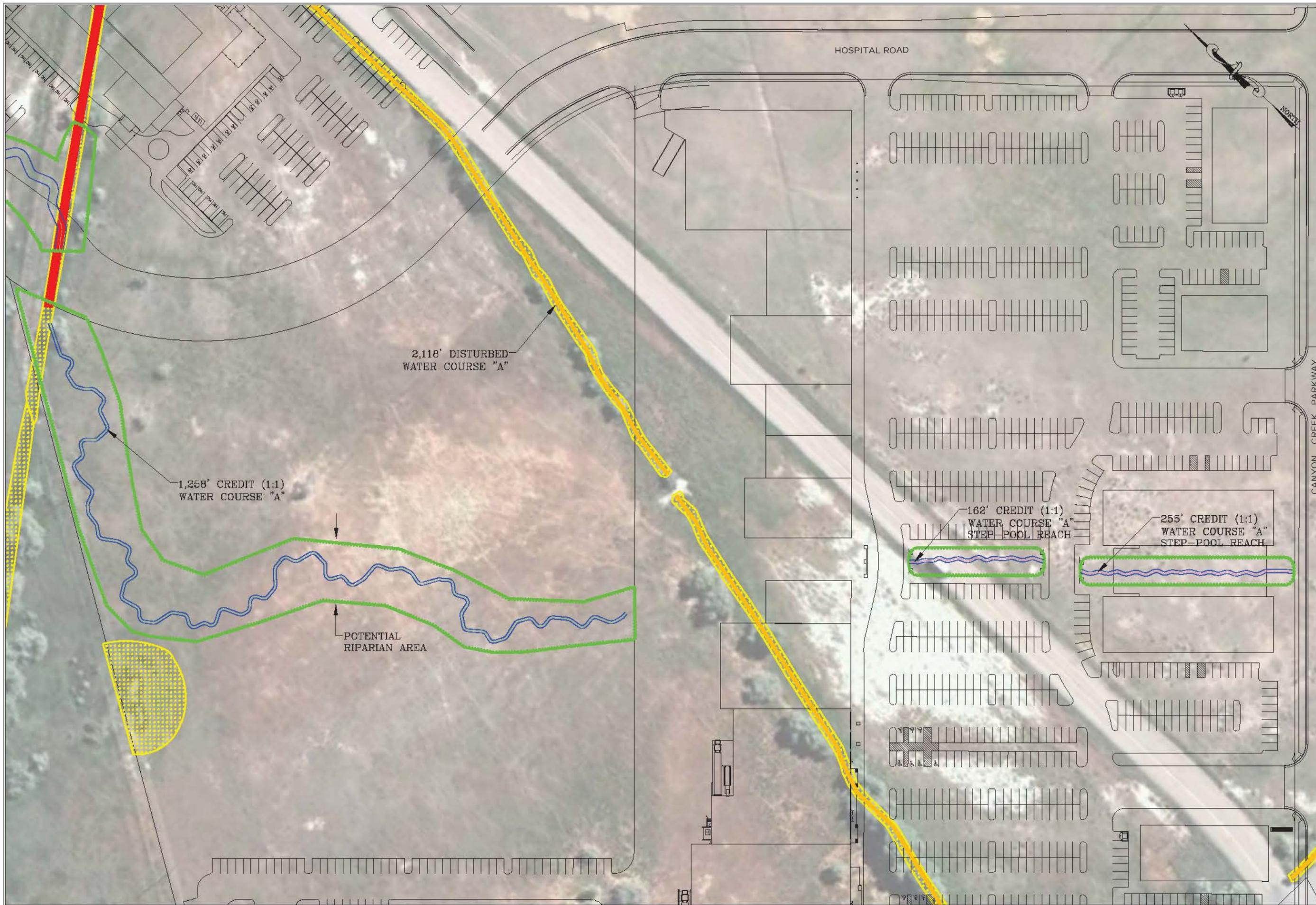
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POTENTIAL STREAM RE-ALIGNMENT
WATER COURSE A

REVISIONS	
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RWH
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SCALE:
1" = 100'
DATE:
01/07/2013



POTENTIAL STREAM RE-ALIGNMENT
 WATER COURSE A

REVISIONS	
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POTENTIAL STREAM RE-ALIGNMENT AND
MITIGATION
WATER COURSE B

REVISIONS	
1.	
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LEI PROJECT #:
2011-0859
DRAWN BY:
RWH
DESIGNED BY:
BTG-DAB
SCALE:
1" = 150'
DATE:
01/07/2013

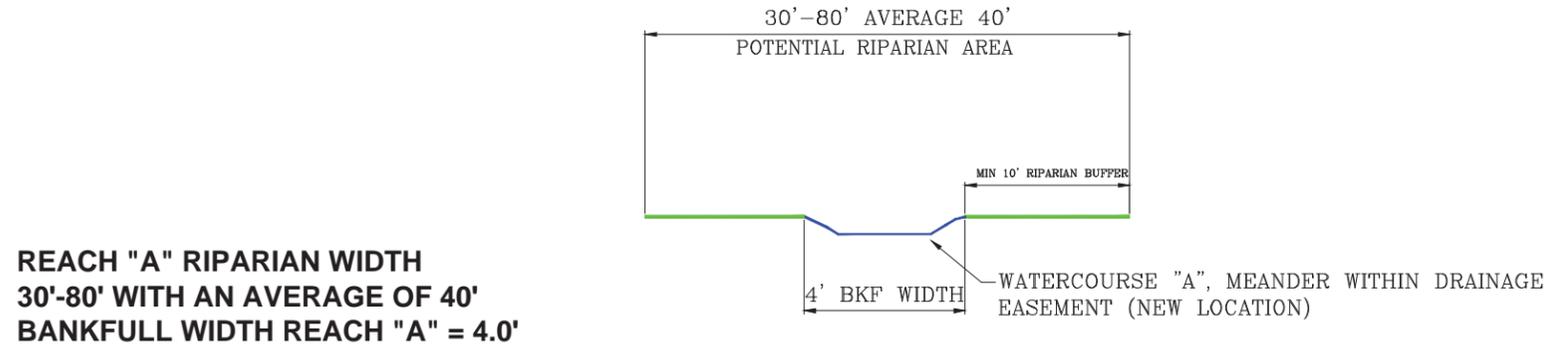


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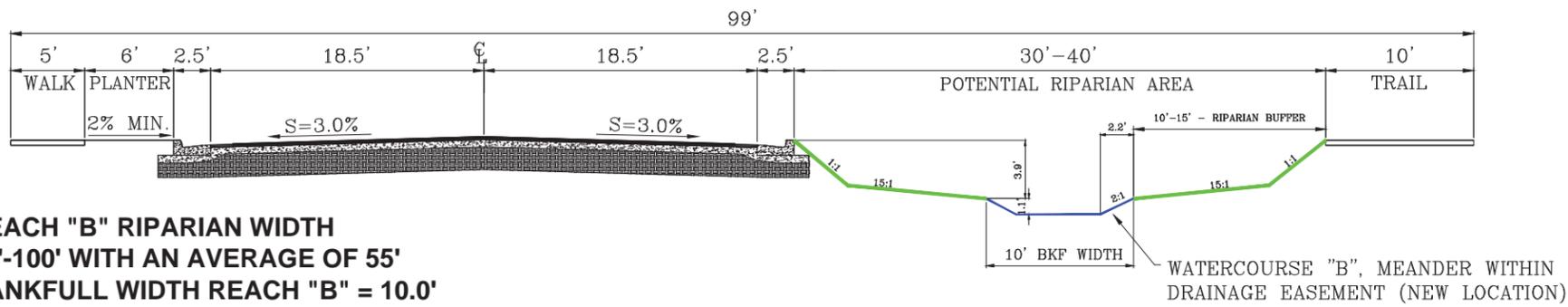


CONCEPT LEVEL TYPICAL CROSS-SECTION
DETAILS



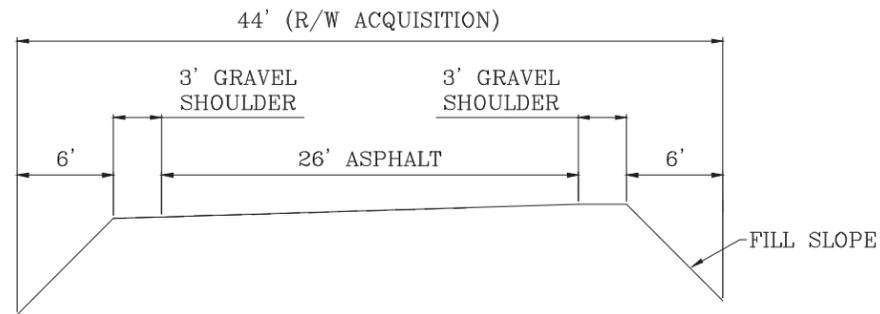
**REACH "A" RIPARIAN WIDTH
30'-80' WITH AN AVERAGE OF 40'
BANKFULL WIDTH REACH "A" = 4.0'**

1 | WATER COURSE "A" CROSS-SECTION AND RIPARIAN AREA

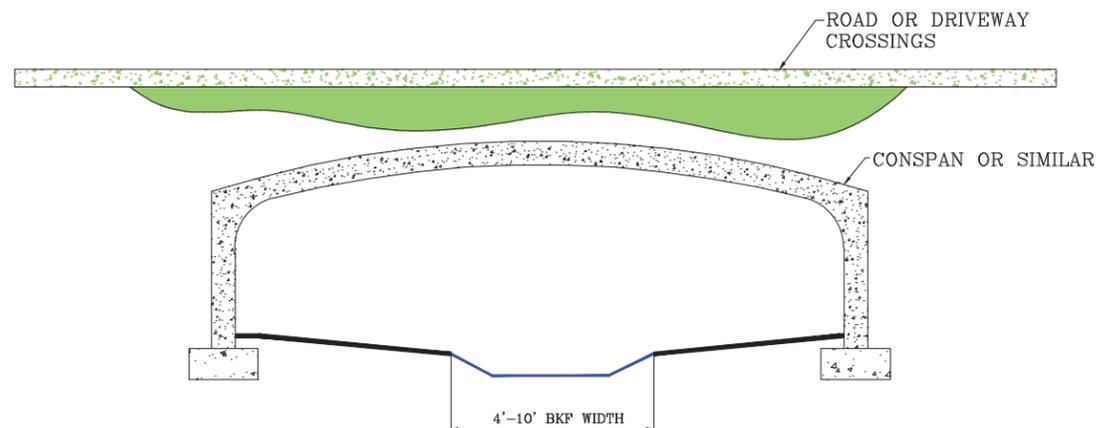


**REACH "B" RIPARIAN WIDTH
40'-100' WITH AN AVERAGE OF 55'
BANKFULL WIDTH REACH "B" = 10.0'**

2 | ROAD CROSS-SECTION



3 | ROAD CROSS-SECTION



4 | TYPICAL 3 - SIDED CULVERT

REVISIONS	
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LEI PROJECT #:
2010-0672

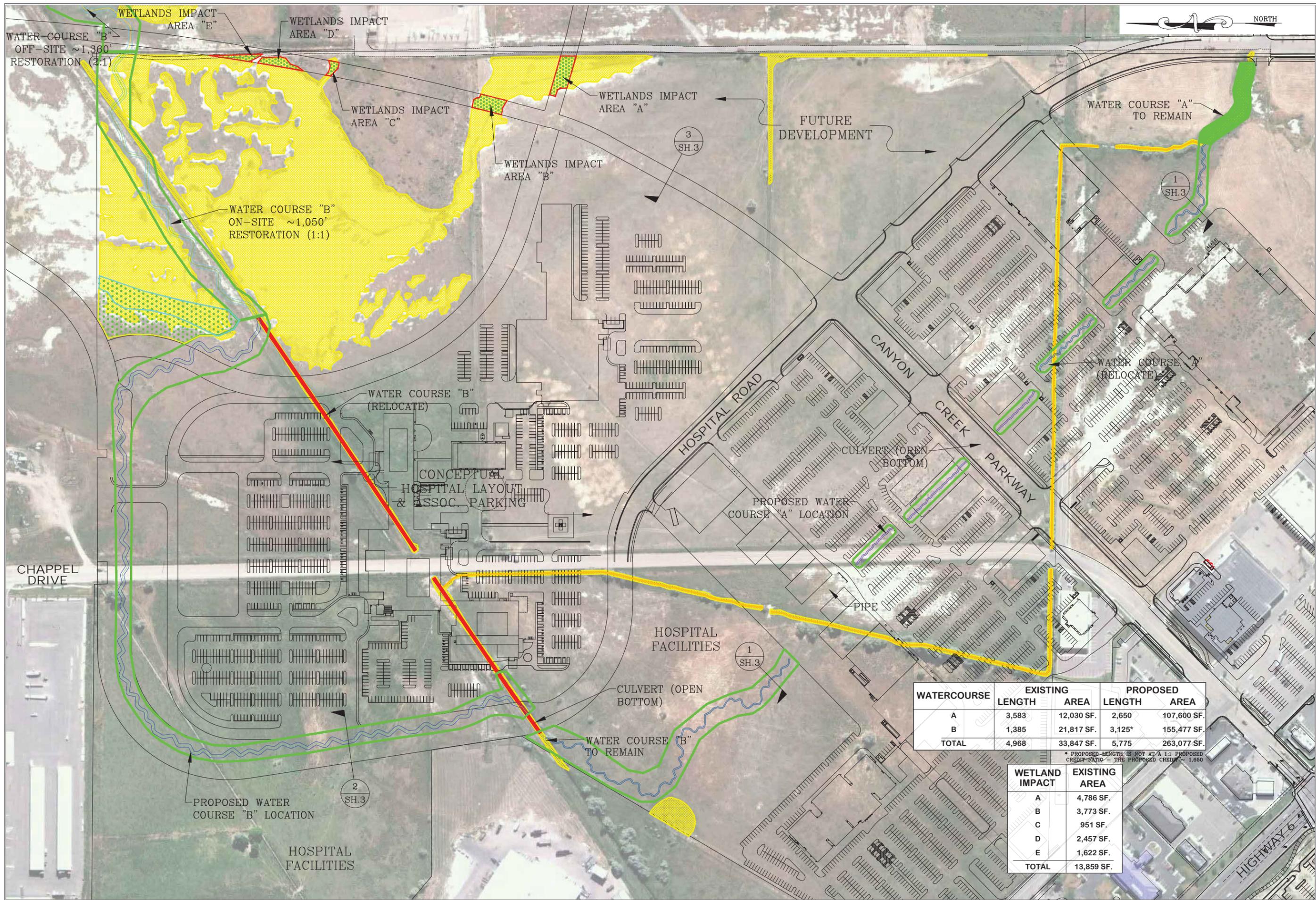
DRAWN BY:
RWH

DESIGNED BY:
BTG-DAB

SCALE:
N.T.S.

DATE:
01/07/2013

SHEET



TENEDOR
 PROPOSED PROJECT PLAN

WATERCOURSE	EXISTING		PROPOSED	
	LENGTH	AREA	LENGTH	AREA
A	3,583	12,030 SF.	2,650	107,600 SF.
B	1,385	21,817 SF.	3,125*	155,477 SF.
TOTAL	4,968	33,847 SF.	5,775	263,077 SF.

* PROPOSED LENGTH IS NOT AT A 1:1 PROPOSED CREDIT RATIO - THE PROPOSED CREDIT IS 1:850

WETLAND IMPACT	EXISTING AREA
A	4,786 SF.
B	3,773 SF.
C	951 SF.
D	2,457 SF.
E	1,622 SF.
TOTAL	13,859 SF.

REVISIONS
1
2
3
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5

LEI PROJECT #:
 2011-0859
 DRAWN BY:
 RWB
 DESIGNED BY:
 BTG-DAB
 SCALE:
 1" = 250'
 DATE:
 01/07/2013
 SHEET

Canyon Crossing

Prepared by:

Stantec Consulting Services, Inc.
2950 E. Harmony Road, Suite 290
Fort Collins, CO 80528
Project No.: 212205000



January 23, 2013

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Executive Summary

At the request of the Woodbury Corporation, Stantec Consulting Services Inc. has prepared the ENG 4345 permit application and some preliminary documentation with a complete mitigation document to follow. The purpose of the project is to develop a portion of the property into a regional hospital and trauma unit and supplement the remaining area with the development of commercial businesses. Associated infrastructure, including the construction of a road system to allow access to and from the proposed project are included in the proposed project design.

Currently, there are two small stream channels or irrigation/stormwater canals on the subject property. Watercourse "A" (current length ~3,900 ft.) is a relatively small irrigation canal that enters the subject property at the southeast corner. Watercourse "B" (current length ~ 2,284) is a large stream channel with a drainage basin greater than 1.5 square miles. The current configuration of this water course indicates that it has been straightened and ditched in the past. In addition to the two stream channels on the subject property there is some area designated as "non-wetland waters of the US" or Playa. This designation was arrived at by the US Army Corps of Engineers following review and approval of a Preliminary Jurisdictional Delineation for wetlands.

In order to accomplish the development of the subject property as proposed it will be necessary to impact waters of the US. These impacts are intended to be minimal in scope and efforts have been made to avoid impacts.

The 13,589 square feet of wetland disturbance, will be compensated through on-site wetland creation and wetland enhancement. The proposed mitigation ratios of 5:1 for wetland creation and 2:1 for wetland enhancement with no more than 50% of the total mitigation area being creation is proposed for these minor impacts that were mostly avoided and successfully minimized by the site development plan.

This proposal will impact approximately 4,968 linear feet of existing watercourse/canal. This impact will be mitigated by restoring 4,300 linear feet of stream channel. It is estimated that the riparian buffer corridor for the existing alignment is 2,847 sq. ft., and the area for the new alignment will be approximately 263,000 sq. ft. There will be an on-site and offsite stream mitigation options to account for the ~700 ft of reduction in stream length. There will be no net loss of wetland habitat by this proposal. In fact, there is a net gain of 20% based on linear feet of streams and an overall gain of 20% of wetland area. There will be over a 500% increase in Riparian Buffer area and Corridor. This proposed alignment increases the wetland regulated area by more than 100% over its current alignment.

1.0 BOX "18" – NATURE OF ACTIVITY

1.1 PROPOSED PROJECT SUMMARY

The proposed project consists of the development of multiple contiguous parcels comprising 156-acres of land in the City of Spanish Fork, Utah. The land is currently owned by several individuals and is used for agriculture, primarily as livestock pasture.

The proposed project is to develop a portion of the property into a regional hospital and trauma unit and supplement the remaining area with the development of commercial businesses. Associated infrastructure, including the construction of a road system to allow access to and from the proposed project are included in the proposed project design. The property is an ideal site for a hospital, as the parcel is adjacent to Interstate 15 and offers easy access for emergency vehicles. The proposed medical facility location was chosen due to the proximity to appropriate transportation routes. An alternatives analysis was completed but other potential sites were rejected due to highway access restrictions. It is vital that medical facility be located along a major transportation corridor with easy access for emergency vehicles to reach the hospital. The proposed medical facility location was chosen due to the proximity to appropriate transportation routes. An alternatives analysis was completed but other potential sites were rejected due to highway access restrictions. It is vital that medical facility be located along a major transportation corridor with easy access for emergency vehicles to reach the hospital.

1.2 EXISTING CONDITIONS

Currently, there are two small stream channels or irrigation/stormwater canals on the subject property. Watercourse "A" (current length ~3,900 ft.) is a relatively small irrigation canal that enters the subject property at the southeast corner. It runs northwest then west then north; ultimately discharging into the larger watercourse "B" canal. The existing dimensions of channel A are ~3-4 ft width near the ordinary high water or bankfull stage. Channel A is maintained and dredged on a regular basis and currently has a maintained depth of approximately 2.0ft. Watercourse "A" is manmade and linear. Channel sinuosity is only present where the canal enters the subject property from an underground pipe at the southeast corner. Stantec has not yet completed a geomorphic assessment of water course "A", but will provide a summary of the geomorphic assessment survey data in the formal mitigation plan that will be submitted at a later date.

Watercourse "B" is a large stream channel with a drainage basin greater than 1.5 square miles. The current configuration of this water course indicates that it has been straightened and ditched in the past. Water course "B" has been constructed to carry stormwater as well as a small percentage of groundwater from residential dewatering efforts in the city. This canal enters the subject property parcel from the southwest and proceeds in a direct line diagonal across the parcel to the northeast before turning to the north off the subject property. This

watercourse is aligned in a northeasterly direction and ultimately discharges into Dry Creek, a tributary to a navigable waterway. Watercourse "B"'s primary purpose is to transport stormwater from the City of Spanish Fork's stormwater collection system. The current length of watercourse "B" is ~ 2,284 feet. The existing dimensions of this channel configuration are ~9-11 ft width near the ordinary high water or bankfull stage. This channel is maintained and dredged on a regular basis and currently has a maintained depth of approximately 3 ft. Stantec has not yet completed a geomorphic assessment of water course "B", but will provide a summary of the geomorphic assessment survey data in the formal mitigation plan that will be submitted at a later date.

In addition to the two stream channels on the subject property there is some area designated as "non-wetland waters of the US" or Playa. This designation was arrived at by the US Army Corps of Engineers following review and approval of a Preliminary Jurisdictional Delineation for wetlands. The wetland delineation map prepared by IHI and approved by the US Army Corps of Engineers is included in Appendix A.

1.3 PROJECT REQUIREMENTS

In order to accomplish the development of the subject property as proposed it will be necessary to impact waters of the US. These impacts are intended to be minimal in scope and efforts have been made to avoid impacts. The major activity associated with the proposed development is to realign and relocate both of the canals on the subject property. Due to the channels' current location on the subject property, both severely restrict any proposed development of the property now and in the future.

As previously discussed, water course "B" is the larger of the two canals on the subject property. The majority of water in this canal is from storm events, but due to areas of high groundwater in the City, the canal also transports groundwater from residential dewatering efforts. Appendix B Sheet 2 provides a plan view of the both the current location and proposed realignment location for channel "B". In order to effectively use the property identified in Appendix B Sheet 2 for the Regional Medical facility, it will be necessary to relocate channel "B." The regional medical facility requires a minimum of 60 acres of property in order to allow for construction and provide for additional growth as necessary. The area designated on Appendix B Sheet 2 provides the necessary area to meet the demands of the facility. In addition to providing proposed alignment of the canals, Appendix B Sheet 2 also provides information as to the preliminary location of the hospital, its required ancillary components and parking. Canal "B" is proposed to be realigned and the new alignment will be such that it does not impact additional designated waters of the US.

In order to provide for future growth and allow for a proposed connector road linking Spanish Fork City and this proposed development with the City of Springville to the north, this proposal includes activities that will have minor impact to the playa, non-wetland waters of the US, and areas along the eastern edge of the subject property. Appendix B Sheet 2 also depicts the locations for the proposed impacts. A total of 0.32-acres of impacts are anticipated as a result

of road construction. The design team has reviewed numerous possible layouts for the road in order to avoid and minimize impacts to waters of the US. Due to engineering, safety, and construction constraints imposed by transportation officials the current proposed alignment was chosen, as it minimizes and avoids impacts to jurisdictional wetlands to the greatest extent possible, given the most limiting factors. Wetland impacts total 0.32-acres (13,859 square feet) for the proposed project. This design avoids the vast majority of wetlands depicted on the map in Appendix A. Proposed are 23,300 square feet of new wetlands created adjacent to existing wetlands on-site. An additional 23,300 square feet of marginal wetland on-site will be enhanced to serve as mitigation for the 13,859 square feet of wetland impacts. The area created or enhanced will total approximately 46,600 square feet. The ecological uplift associated with the creation and enhancement will be documented in the mitigation plan but is expected to be a significant.

Appendix B Sheets 1, 2, and 6 illustrate the existing ditch alignment and jurisdictional wetlands, the proposed ditch relocation and alignment, and a cross-section of the proposed newly constructed ditch and vegetation/ riparian buffer enhancements. These sheets also display the proposed development.

The proposed restoration activity for this permit is to combine and realign and restore ecologic function to both stream channels in order to facilitate efficient development of the subject parcel and reverse the impacts of the past land use on these channels. It is also proposed that a small section of meander channel in water course "A" be avoided and stay preserved with buffer enhancements. In order to maximize the value of the subject property for its intended use, it will be necessary to relocate and fill the existing Watercourse A and realign it to transport irrigation water along the Loop Road and discharge back into the larger Watercourse B. The current location of these two water courses is not the geomorphic location that would have naturally formed and therefore the realignment will not have a significant change in substrate availability or soil types for riparian function.

The existing Watercourse A is approximately 3,900 feet long. The proposed plan avoids impacts to 310 linear feet of meandering channel near the beginning at the point of entry at the corner of 1100 East and Expressway Lane. The remaining 3,583 linear feet of water course "A" with approximately 12,030 square feet of surface area below the Ordinary High Water Mark (OHWM), will be restored and re-aligned with buffer improvements proposed. The proposed alignment will change the existing configuration to one where the ditch alignment closely follows the proposed Loop Road; at the intersection of Loop Road and Canyon Crossing, the ditch goes in a southwesterly direction and then turns in a northwest direction until it reconnects and discharges back into Watercourse B.

Approximately 3,583 linear feet of Watercourse A will be filled and reconstructed to fit into the development and serve a natural resource feature in the proposed development. The restored length will be 2,650 linear feet with a reduction of 933 linear feet of stream channel. The riparian buffer area will be increased through restoration to over 8 times from 12,030 sqft to approximately 108,000 sqft. The design restored channel width of reach A will be approximately 4ft with a width to depth ratio ranging from 12-18, a sinuosity of at least 1.2 and a riparian

CANYON CROSSING

BOX "18" – NATURE OF ACTIVITY

January 23, 2013

corridor of 30' – 80' with an average width of approximately 40' or 10 times the width of the bankfull channel. The restored channels will be designed as a mixture of step-pool systems and riffle-pool low gradient alluvial reaches. The restoration and mitigation will be incorporated into the development through signage and discontinuous walking trails.

Approximately 1,385 linear feet of Watercourse B will be filled and reconstructed adjacent to Loop Road. This linear footage is equal to approximately 21,817 square feet of surface area designated as jurisdictional below the Ordinary High Water Mark. The proposed alignment of Watercourse B will result in approximately 3,125 linear feet of channel. The riparian buffer area will be increased through restoration to over 7 times from 21,817 sqft to approximately 155,500 sqft. The design restored channel width of reach B will be approximately 10ft with a width to depth ratio ranging from 12-14, a sinuosity of at least 1.2 and a riparian corridor of 30' – 100' with an average width of approximately 50' or 5 times the width of the bankfull channel. The restored channel will be designed as a riffle-pool low gradient alluvial reach. The restoration and mitigation will be incorporated into the development through signage and discontinuous walking trails.

In summary, the proposed project as depicted will impact a total of 4,968 linear feet of ditch system, covering an area of approximately 33,847 square feet of area below the OHWM. The results of the realignment effort will be the creation of approximately 5,775 linear feet of restored stream channel, covering an estimated area of 263,077 square feet of riparian area with an average riparian buffer corridor width of approximately 45'. The ecological uplift associated with the re-alignment, restoration, and riparian buffer enhancements will be documented in the mitigation plan but is expected to be a very significant increase.

Two structures are planned to facilitate road crossings with this proposal. The structures will be open bottom culverts and, therefore, will not impact the watercourses. A typical concept detail of the sided culvert is displayed on Appendix B Sheet 6

At this time, the anticipated start date for this project is August 2013, with a projected completion date of November 2013.

The attached drawings illustrate the proposed activity, the proposed development layout of roads, and buildings. Appendix B Sheet 7 summarizes the disturbance and proposed restored areas and lengths. The current design in a concept feasibility design the exact layout of the restored streams, riparian corridors, wetland creation and wetland enhancement may change based on a geomorphic assessment and site investigation. The ecological uplift associated with all mitigation activities will be documented in the mitigation plan that will be submitted at a later date.

2.0 BOX "19" – PURPOSE OF DISTURBANCE

Spanish Fork City is strategically located in the near center of Utah County, and current projections indicate the City's growth will continue to increase, placing more demands for services.

Tenedor has a long-standing commitment to facilitating growth in communities and has approached Spanish Fork City to assist them with this growth. Tenedor intends to develop the property as a center of medicine and commerce, including the construction of a regional medical center.

There is a significant need for a major health-care facility in the immediate region. In order to effectively operate such a facility, it needs to be located close to major transportation corridors. With I-15 just west of the project area, and with the construction of Canyon Crossing, the proposed project area is well positioned to accommodate the health-care facility. The nearest large health-care facility is in Provo, approximately 25 miles north of Spanish Fork. Construction of a major regional health-care facility requires the following criteria be considered:

1. Land area of approximately 80 contiguous acres.
2. Multiple regional access points, allowing access in emergency situations even in the event of a single transportation system failure.
3. The regional health-care facility needs to be located at the center of the population and the center of the transportation systems.
4. The regional health care-facility site needs to be located in an area served by collector and arterial road systems from the neighboring municipalities.
5. The regional health-care facility will have greater than normal utility requirements that need to be provided by the local municipalities and regional utility companies.

The subject parcels meet these criteria, but only if the existing watercourses can be relocated to allow for the facility construction.

In addition to the need to support the community by constructing a regional medical facility, other activities will include the construction of retail businesses to support the community and the medical facility. As part of this proposed development, an associated transportation corridor has been designed to provide a connector road between Spanish Fork City and Springville to the north.

3.0 BOX "20" – REASON FOR DISCHARGE

The only discharge of fill material into a water body will be the filling of the existing canals on the site following the construction of the newly realigned system. The other identified wetlands on the subject property will be avoided for this construction effort and for the road alignment.

Appendix B Sheet 6 illustrates the proposed cross-section of both watercourses. Existing flows will be maintained. One major benefit for this project will be improved watercourse sidewalls, which will be more conducive to allowing native vegetation to grow and have a more aesthetic appearance to the community.

4.0 BOX "23" – AVOIDANCE AND MINIMIZATION-COMPENSATION

4.1 AVOIDANCE

4.1.1 Wetlands

Appendix A indicates the presence of one area considered jurisdictional wetlands on the project area. This area is considered a traditional palustrine emergent seasonally flooded wetland. This wetland area is a small ponded area located in close proximity to the large Watercourse B. Investigation suggests that this area may not be receiving water from the watercourse, but is likely being hydrated by groundwater. The proposed project will not impact this wetland, and thus it will be avoided. Appendix B Sheet 2 displays how the development plan and Maple Mountain Road was design to avoid any major impacts to this wetland. Avoidance was critical to preserve this existing wetland. There will however be a very minor impact to this wetland that could not avoided with the design and layout of Canyon Creek Parkway and the parcel boundaries. The minimization of this impact will be included in the minimization section 4.2.

The remaining jurisdictional water features are the two linear, human-constructed watercourses/canals (Watercourses A and B) that transport irrigation return water, stormwater, and a small percentage of groundwater to Dry Creek, a tributary to a traditional navigable water. These watercourses are low quality agricultural that have very little riparian function and no sinuosity with the exception of a short section of watercourse A. The proposed plan avoids impacts to 310 linear feet of meandering channel near the beginning at the point of entry of watercourse A at the corner of 1100 East and Expressway Lane. This 310 ft reach will be avoided, preserved and the buffer will be increased and enhanced.

4.1.2 Streams

The man-made nature and the maintenance of the remaining portions of water course A and B as well as the lack of riffle, pools, sinuosity or riparian buffers, led the design team to decide to offer an ecological benefit to these water courses as a result of the proposed development and avoidance not considered the Least Damaging Practicable Alternative (LEDPA). To avoid these low quality features would result in no increased buffers and a channel that would still require significant maintenance and dredging in the future. As well as the environmental considerations the current ditch locations are linear but followed historic property lines with shape angle that results in a parcel dissected into irregular smaller parcels that would significant limit develop and probably eliminate the development of the space for a 60 acre medical facility. The medical facility is in the public's best interest of due to the expanding nature of the Spanish Forks community. Spanish Forks has decided that this site location provides the access needed for a major medical facility will having less environmental impacts than other proposed locations. Based on environmental, public need, cost, logistics and existing technology this site is the LEDPA for a development focused around a medical facility in Spanish Fork, Utah. Based on the premises of this application, neither of these watercourses/canals could be avoided in order

to achieve the goal of the project and the LEDPA. While avoidance and minimization of impacts to streams is a valuable concept, the opportunity to restore and provide ecological uplift to these stream systems while achieving the LEDPA is proposed course of action.

4.2 MINIMIZATION

4.2.1 Wetlands

There will be minor impacts to wetlands that could not be avoided with the design and layout of Canyon Creek Parkway and the parcel boundaries. These impacts are displayed in Appendix B Sheet 2. The design team minimized the impacts by adjusted in the alignment of Canyon Creek Parkway while still allowing for safe driving conditions for emergency vehicles and regular traffic. A shift in the Canyon Creek Parkway alignment in either direction would have resulted in a greater impacted area. The associated mitigation for these wetland impacts will be included in section 4.3.

4.2.2 Streams

Based on the premises presented in the previous section of this application, neither of these watercourses/canals, with the exception of the 310ft reach of watercourse A, could be avoided or minimized in order to achieve the goal of the project and the LEDPA. While minimization of impacts to streams is a valuable concept, the opportunity to restore and provide ecological uplift to these stream systems while achieving the LEDPA is proposed course of action.

4.3 MITIGATION COMPENSATION

4.3.1 Wetlands

The 13,589 square feet of wetland disturbance will be compensated through on-site wetland creation and wetland enhancement. The proposed mitigation ratios of 5:1 for wetland creation and 2:1 for wetland enhancement with no more than 50% of the total mitigation area being creation is proposed for these minor impacts that were mostly avoided and successfully minimized by the site development plan. The design team has determined this site and site layout to be the LEDPA. The proposed wetland mitigation is labeled in Appendix B Sheets 5 and 7 near the interchange of Maple Mountain Parkway and the proposed Loop Road. This area is approximately 46,600 square feet with 23,300 sqft dedicated to wetland creation and 23,300 sqft dedicated to wetland enhancement. The detail design, monitoring, functional assessment data and site assessment of the proposed wetland mitigation will be proposed in a mitigation plan at a later date. Table 1 summarizes the wetland mitigation proposed for the site development wetland impacts of 13,589 square feet. The wetland area created or enhanced will be increased through restoration to over 3 times greater from 13,859 sqft to approximately 46,600 sqft. The ecological uplift associated with the creation and enhancement will be documented in the mitigation plan but is expected be a significant.

4.3.2 Streams – Water Course "A"

The proposed realignment, if approved, will offer a significant increase in function and value over the current conditions. Appendix B Sheet 6 depicts the cross sectional view of the ditches, along with the conceptual re-vegetation along the corridors. The goal of the applicant is to restore an environment where the stream becomes a beneficial feature for the environment and development. The proposed mitigation at this time is to install obligate and facultative wetland plants as well as riparian shrubs and trees. These plants will offer some bank stabilization and provide some bank-type habitat for insects and small birds. Along the top of the ditches, trees, such as box elders or cottonwoods, could be planted to support the ecosystem. These trees and landscaping will provide additional habitat for the system by allowing nesting sites for birds as well as providing a haven for insects, which in turn provide a food source for the birds. Appendix B Sheets 3 and 4 display the proposed channel alignment for watercourse A as well as the 310 ft of stream preservation and buffer enhancement proposed.

Approximately 3,583 linear feet of Watercourse A will be filled and reconstructed to fit into the development and serve a natural resource feature in the proposed development. The restored length will be 2,650 linear foot with a reduction of 933 linear feet of stream channel. The riparian buffer area will be increased through restoration to over 8 times from 12,030 sqft to approximately 108,000 sqft. The design restored channel width of reach A will be approximately 4ft with a width to depth ratio ranging from 12-18, a sinuosity of at least 1.2 and a riparian corridor of 30' – 80' with an average width of approximately 40' or 10 times the width of the bankfull channel. The restored channels will be designed as a mixture of step-pool systems and riffle-pool low gradient alluvial reaches. The restoration and mitigation will be incorporated into the development through signage and discontinuous walking trails.

4.3.3 Streams – Water Course "B"

The proposed realignment, if approved, will offer a significant increase in function and value over the current conditions. Appendix B Sheet 6 depicts the cross sectional view of the ditches, along with the conceptual re-vegetation along the corridors. The goal of the applicant is to restore an environment where the stream becomes a beneficial feature for the environment and development. The proposed mitigation at this time is to install obligate and facultative wetland plants as well as riparian shrubs and trees. These plants will offer some bank stabilization and provide some bank-type habitat for insects and small birds. Along the top of the ditches, trees, such as box elders or cottonwoods, could be planted to support the ecosystem. These trees and landscaping will provide additional habitat for the system by allowing nesting sites for birds as well as providing a haven for insects, which in turn provide a food source for the birds. Appendix B Sheet 5 display the proposed channel alignment for watercourse B.

Approximately 1,385 linear feet of Watercourse B will be filled and reconstructed adjacent to Loop Road. This linear footage is equal to approximately 21,817 square feet of surface area designated as jurisdictional below the Ordinary High Water Mark. The proposed alignment of Watercourse B will result in approximately 3,125 linear feet of channel. The riparian buffer area

CANYON CROSSING

BOX "23" – AVOIDANCE AND MINIMIZATION-COMPENSATION

January 23, 2013

will be increased through restoration to over 7 times from 21,817 sqft to approximately 155,500 sqft. The design restored channel width of reach B will be approximately 10ft with a width to depth ratio ranging from 12-14, a sinuosity of at least 1.2 and a riparian corridor of 30' – 100' with an average width of approximately 50' or 5 times the width of the bankfull channel. The restored channel will be designed as a riffle-pool low gradient alluvial reach. The restoration and mitigation will be incorporated into the development through signage and discontinuous walking trails.

It is the applicant's belief that, restoration of the water courses and increasing the riparian area covered, coupled with the proposed re-vegetation schedule, sufficient mitigation will be achieved to mitigate any impacts to waters of the U.S. Table 1 summarizes the stream mitigation proposed for the site.

This proposal will impact approximately 4,968 linear feet of existing watercourse/canal. This impact will be mitigated by restoring 4,300 linear feet of stream channels. It is estimated that the riparian buffer corridor for the existing alignment is 2,847 sq. ft., and the area for the new alignment will be approximately 263,000 sq. ft. There will be an on-site and offsite stream mitigation options to account for the ~700 ft of reduction in stream length. There will be no net loss of wetland habitat by this proposal. In fact, there is a net gain of 20% based on linear feet of streams and an overall gain of 20% of wetland area. There will be over a 500% increase in Riparian Buffer area and Corridor. This proposed alignment increases the wetland regulated area by more than 100% over its current alignment.

	Disturbed	1:1 Restoration (lf) *	On-site 1:1 Mitigation (lf)	On-site 5:1 Mitigation**	Offsite 2:1 Mitigation ***	Disturbed Buffer (Sqft)	Proposed Buffer (Sqft)	Resultant Mitigation Balance	Percent Increase
Stream Reach B	1385 lf	1650 lf	1050 lf		1260 lf	21817 sqft	155477 sqft	1945 lf	
Stream Reach A	3583 lf	2650 lf		200 lf		12030 sqft	107600 sqft	-893 lf	
Stream Reach C					100 lf			50 lf	
Wetlands	13589 sqft			23300 sqft	23300 sqft			2721 sqft	
Temporary Wetland Impacts****	110,250 sqft								
Total Wetland Mitigation	13589 sqft				16310 sqft			2721 sqft	20%
Total Stream Reach Mitigation	4968 lf	4300 lf			6070 lf			1102 lf	22%
* Based on valley length of disturbed Reach									
** On-site 5:1 Preservation -Buffer Enhancement or Wetland Creation									
*** Offsite 2:1 Stream Restoration Mitigation or Wetland Enhancement									
****Based on wetland area temporarily disturbed by wetland enhancement and stream channel restoration									

Figure 1 - Wetland and Stream Mitigation