

# AS-BUILT SURVEY OF LITTLE ALAMANCE CREEK STREAM RESTORATION

SCO# 060685501  
ALAMANCE COUNTY

**REFERENCES:**

**OWNER:**  
NORTH CAROLINA ECOSYSTEM ENHANCEMENT PROGRAM  
1652 MAIL SERVICE CENTER  
RALEIGH, NC 27099-1652  
(919)715-0476  
EEP PROJ. MGR.: KRISTIE CORSON  
EEP REVIEW COORDINATOR: ED HAJNOS

**CONTRACTOR:**  
SHAMROCK ENVIRONMENTAL CORPORATION  
BROWNS SUMMIT, NC  
(919)375-1989

**DESIGNER:**  
ARCADIS G & M OF NORTH CAROLINA  
RALEIGH, NC  
(919)854-1282

**CONSERVATION EASEMENT REFERENCES:**  
ALAMANCE CO. REGISTER OF DEEDS- D.B. 2795, PG. 535 & M.B. 73, PG. 122

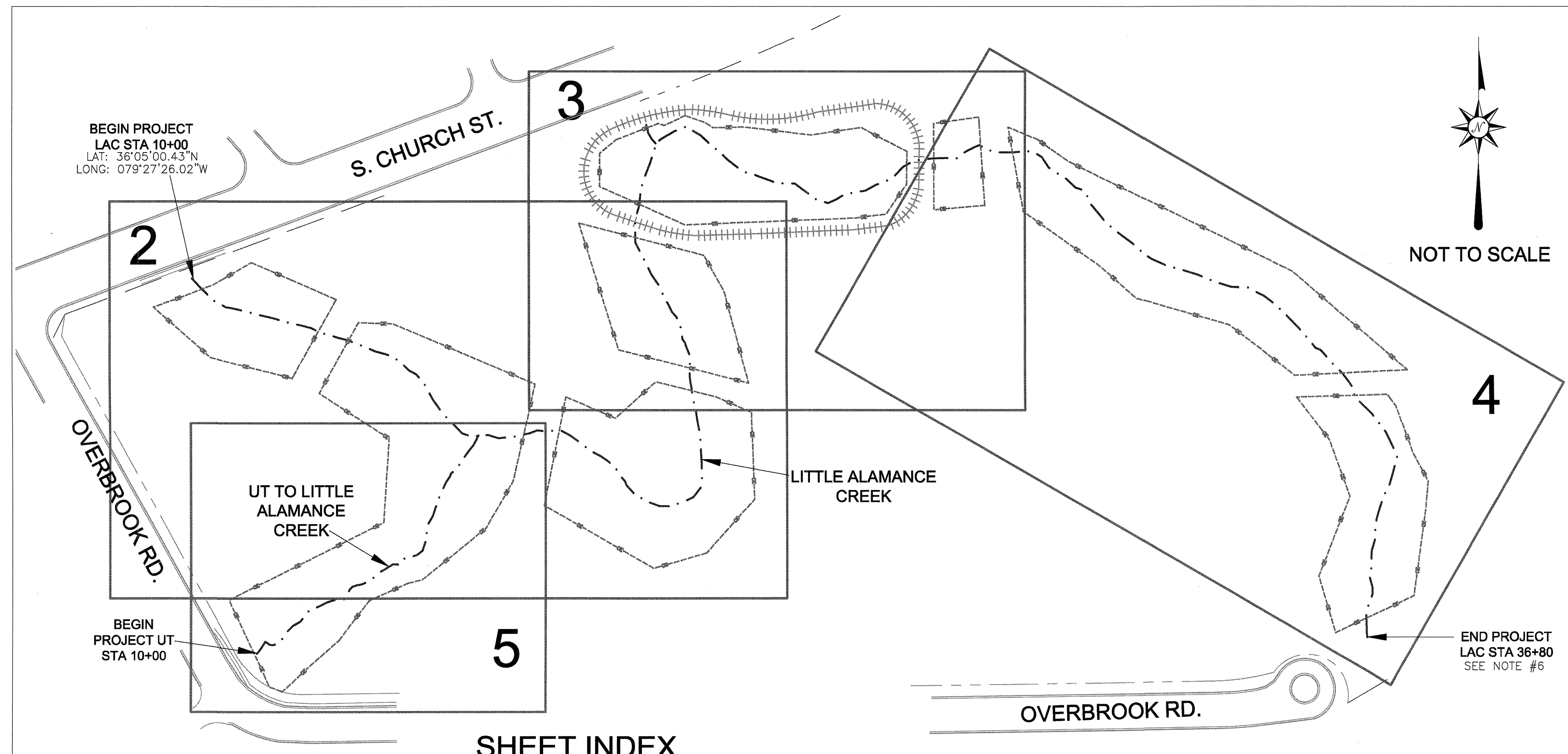
I, ELISABETH G. TURNER, AS A DULY REGISTERED PROFESSIONAL LAND SURVEYOR IN THE STATE OF NORTH CAROLINA, HEREBY CERTIFY THAT THE DATA SHOWN ON THIS DRAWING, WAS OBTAINED UNDER MY SUPERVISION, IS AN ACCURATE AND COMPLETE REPRESENTATION OF WHAT WAS CONSTRUCTED IN THE FIELD, AND THAT THE PHYSICAL DIMENSIONS OR ELEVATIONS SHOWN THUS ARE AS-BUILT CONDITIONS EXCEPT WHERE OTHERWISE NOTED HEREON. WITNESS MY ORIGINAL SIGNATURE, REGISTRATION NUMBER, AND SEAL THIS 11th DAY OF APRIL, 2012.

*Elisabeth G. Turner*  
ELISABETH G. TURNER, P.L.S. #L-4440

PNT#	Northing(Y)	Easting(X)	Elev(Z)	Description
2	849626.56	1864964.91	589.61	EX GPS#2 NAIL
10	849446.95	1865344.56	578.12	EX TRAV10 NAIL
13	849809.06	1865972.92	575.54	EX TRAV13
22	849153.39	1865140.58	581.79	TLS#22 NAIL
23	849433.40	1865553.93	577.57	TLS#23 NAIL
24	849629.75	1866209.52	576.24	TLS#24 NAIL
200	849623.05	1865525.06	578.16	TBM200 NAIL IN TREE
201	849471.81	1865344.21	579.49	TBM201 NAIL IN TREE
202	849521.17	1865134.27	580.46	TBM202 REBAR W/CAP
204	849689.65	1866026.78	576.66	TBM204 EX. PK IN ASPHALT

**GENERAL NOTES**

- ALL DISTANCES ARE HORIZONTAL UNLESS OTHERWISE NOTED.
- THE VERTICAL DATUM IS NAVD88.
- THE BASIS OF BEARINGS IS NCGS STATE PLANE GRID COORDINATES NAD83 (NSRS 2007) DATUM.
- CONTROL BASED ON EXISTING CONTROL DATA PROVIDED BY DESIGNER AND VERIFIED DURING THE CONSTRUCTION & AS-BUILT SURVEYS.
- THIS MAP IS NOT FOR RECORDATION, SALES, OR CONVEYANCES AND DOES NOT COMPLY WITH G.S. 47-30 MAPPING REQUIREMENTS.
- THE LONGITUDINAL STATIONING SHOWN ON THE PLAN VIEW AND LONGITUDINAL PROFILE IS THE AS-BUILT SURVEY LENGTH WHICH MAY VARY FROM THE FINAL DESIGN LENGTH.
- CROSS SECTIONS ARE FROM LEFT BANK TO RIGHT BANK (FACING DOWNSTREAM).
- CONTOURS & INFORMATION SHOWN OUTSIDE THE AS-BUILT LIMITS OF DISTURBANCE WAS TAKEN FROM EXISTING CONDITIONS AND DESIGN DATA PROVIDED BY THE DESIGNER. EXISTING CONTOURS ARE SHOWN AS DASHED LINES.
- CONSERVATION EASEMENT, PROPERTY LINES, AND PLANTING ZONES PROVIDED BY DESIGNER.

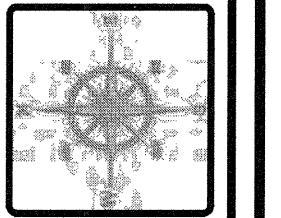


**SHEET INDEX**

- SHEET 1 - TITLE, VICINITY MAP, SHEET INDEX, AND GENERAL NOTES
- SHEET 2 - LITTLE ALAMANCE CREEK STA 10+00 TO 19+20
- SHEET 3 - LITTLE ALAMANCE CREEK STA 19+20 TO 27+40
- SHEET 4 - LITTLE ALAMANCE CREEK STA 27+40 TO 36+80
- SHEET 5 - UT TO LITTLE ALAMANCE CREEK STA 10+00 TO 14+40
- SHEET 6 - PLANTING PLAN

REVISIONS, DATE, AND INITIAL:

**TURNER LAND SURVEYING, PLLC**  
3201 Glenridge Drive, Raleigh, NC 27604 -- (919)875-1378  
P-0702 -- Lturner@atl.net -- Dturner119@atl.net  
www.TURNERLANDSURVEYING.com



TITLE  
AS-BUILT SURVEY OF  
LITTLE ALAMANCE CREEK  
STREAM RESTORATION  
SCO# 060685501

ALAMANCE COUNTY  
NORTH CAROLINA

DATE: 03/16/12  
SURVEYED BY: DST  
DRAWN BY: DST/EGT  
REVIEWED BY: DST/EGT  
PROJECT: TLS-11-020  
FILE: LITTLE ALAMANCE CREEK\_92372\_TLS\_AB\_F  
SCALE: AS SHOWN

SHEET  
**1**



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 SEAL L-4440  
 ELISABETH G. TURNER

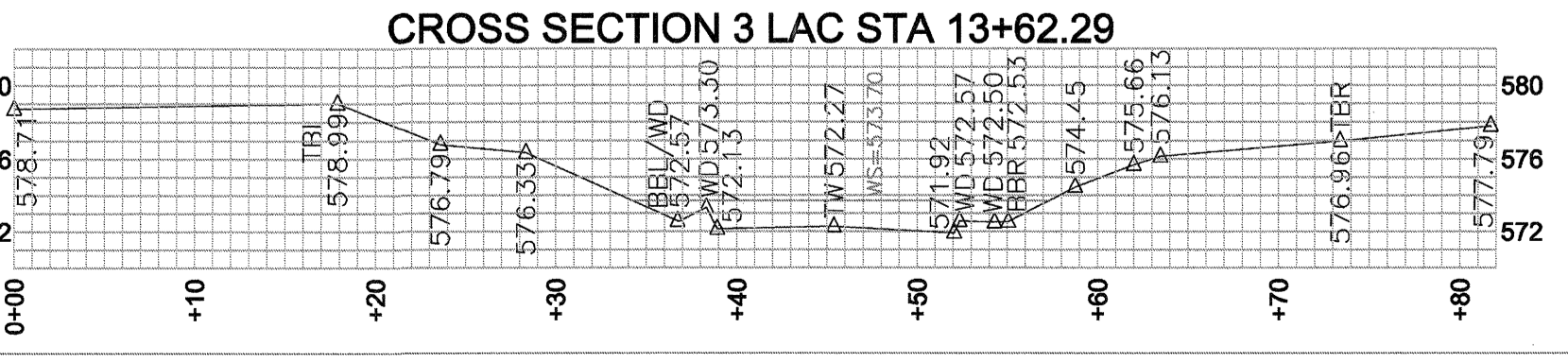
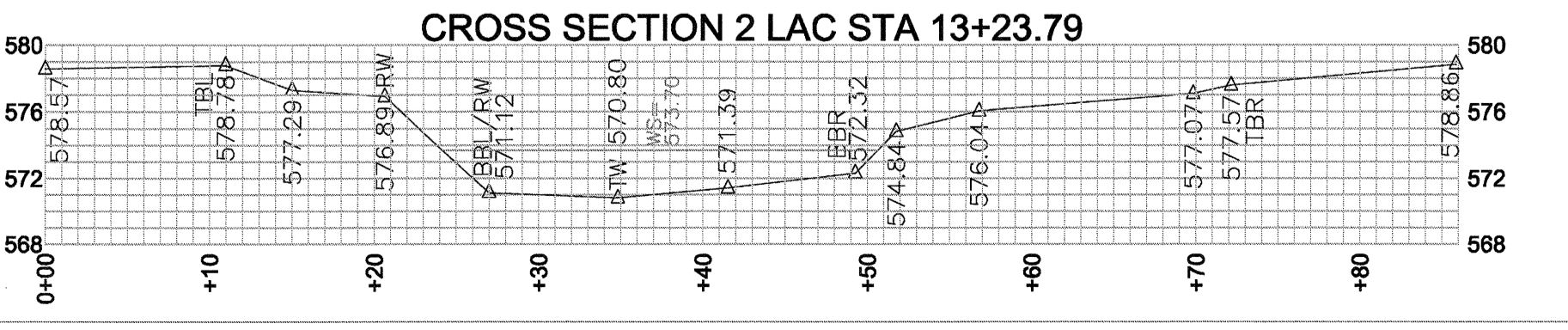
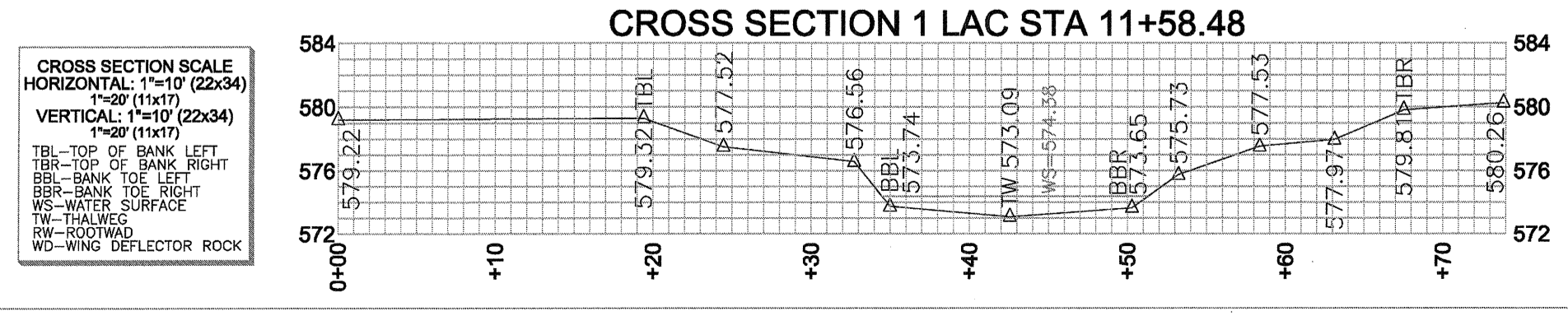
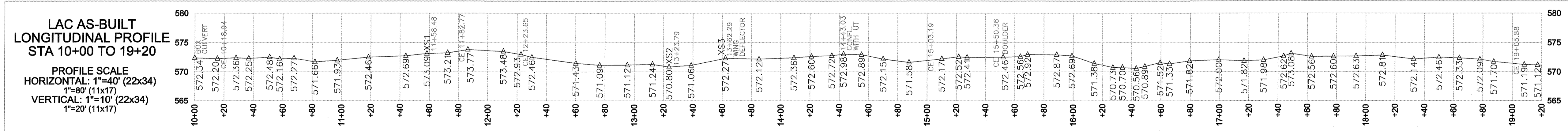
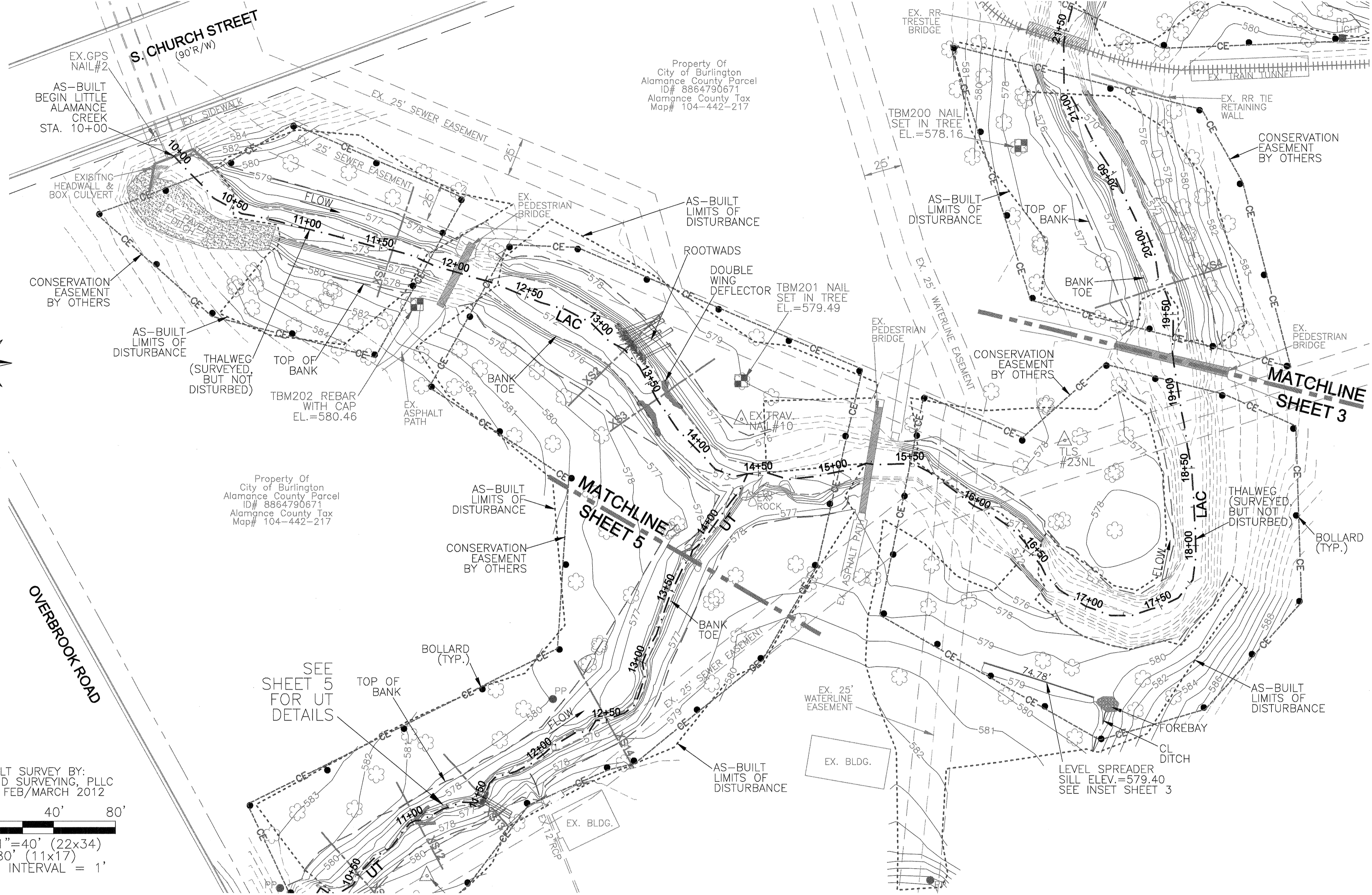
**GENERAL NOTES**

1. ALL DISTANCES ARE HORIZONTAL UNLESS OTHERWISE NOTED.
2. THE VERTICAL DATUM IS NAVD88.
3. THE BASIS OF BEARINGS IS NCGS STATE PLANE GRID COORDINATES NAD83 (NSRS 2007) DATUM.
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8. CONTOURS & INFORMATION SHOWN OUTSIDE THE AS-BUILT LIMITS OF DISTURBANCE WAS TAKEN FROM EXISTING CONDITIONS AND DESIGN DATA PROVIDED BY THE DESIGNER. EXISTING CONTOURS ARE SHOWN AS DASHED LINES.
9. CONSERVATION EASEMENT, PROPERTY LINES, AND PLANTING ZONES PROVIDED BY DESIGNER.

**LEGEND:**

	THALWEG
	TOP OF BANK
	TOE OF BANK
	CONSERVATION EASEMENT
	LIMITS OF DISTURBANCE
	ROOTWAD
	BOLLARD
	TREE (LOCATED WITHIN LIMITS OF DISTURBANCE ONLY)
	CONTROL POINT/BENCHMARK

AS-BUILT SURVEY BY:  
 TURNER LAND SURVEYING, PLLC  
 SURVEYED FEB/MARCH 2012  
 SCALE: 1"=40' (22x34)  
 1"=80' (11x17)  
 CONTOUR INTERVAL = 1'



REVISIONS, DATE, AND INITIAL:

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**LITTLE ALAMANCE CREEK STA 10+00 TO 19+20**

AS-BUILT SURVEY OF  
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 SCO# 060685501

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SHEET **2**



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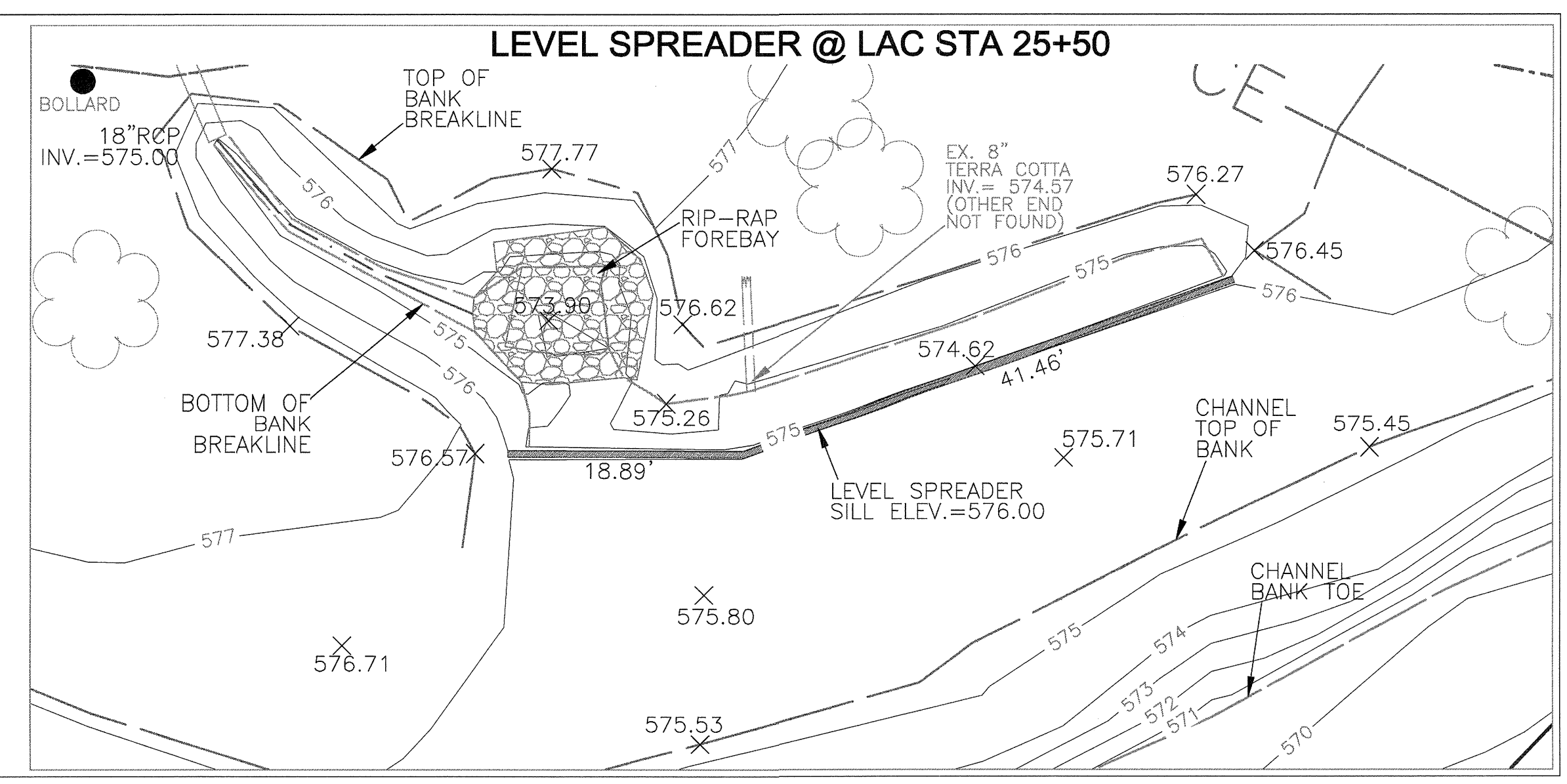
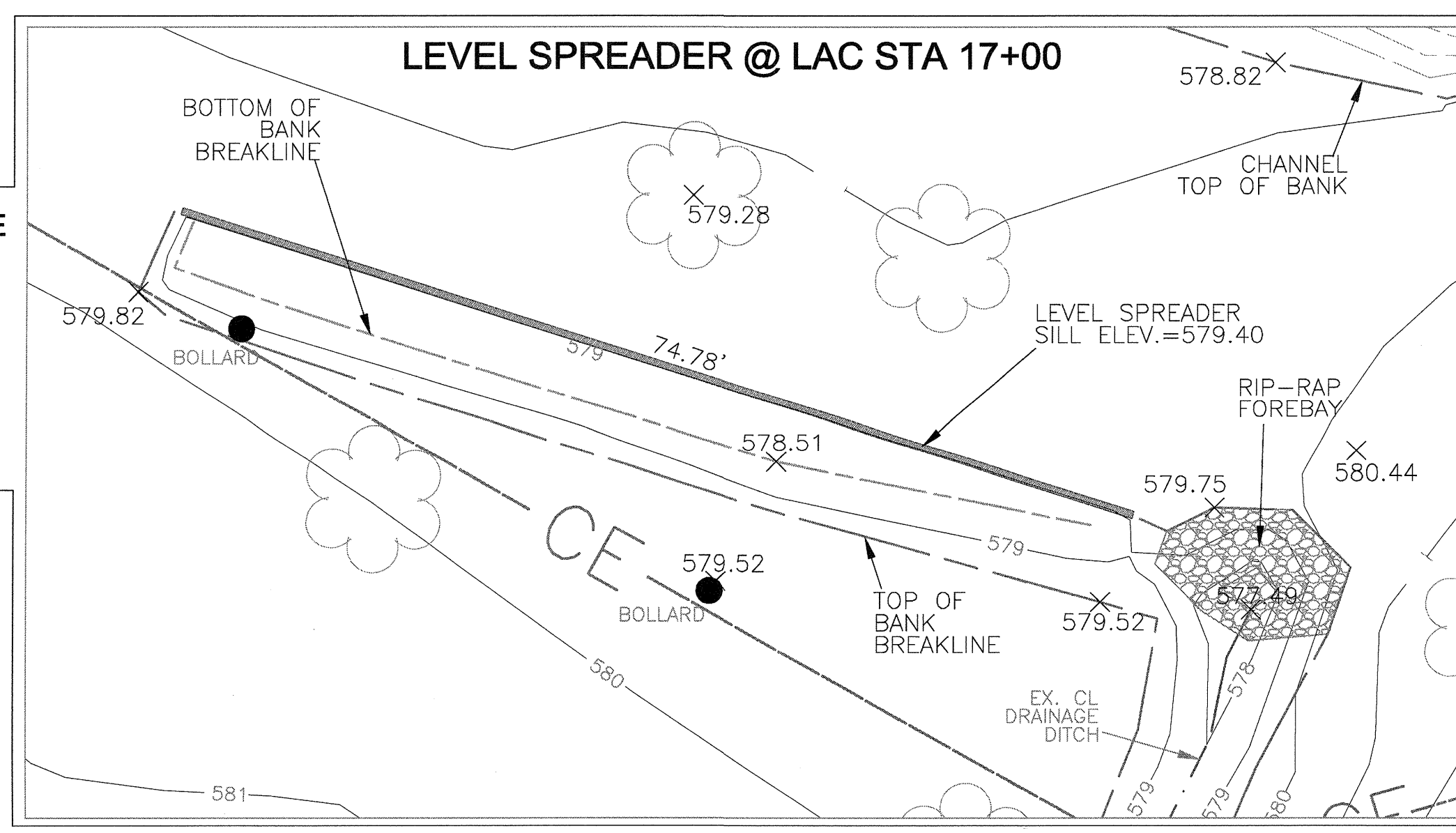
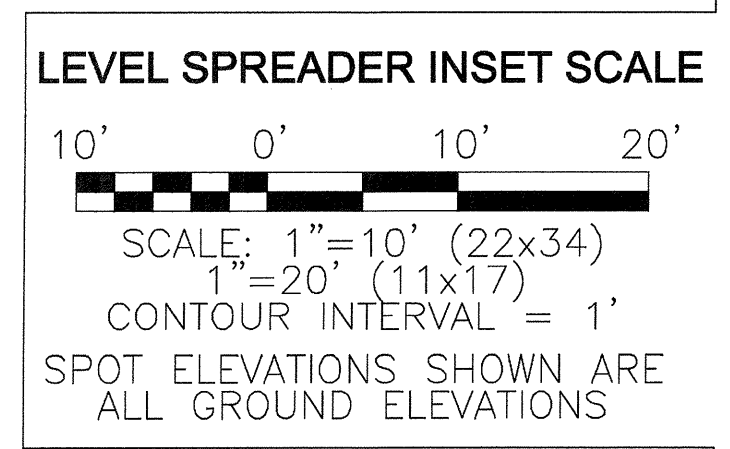
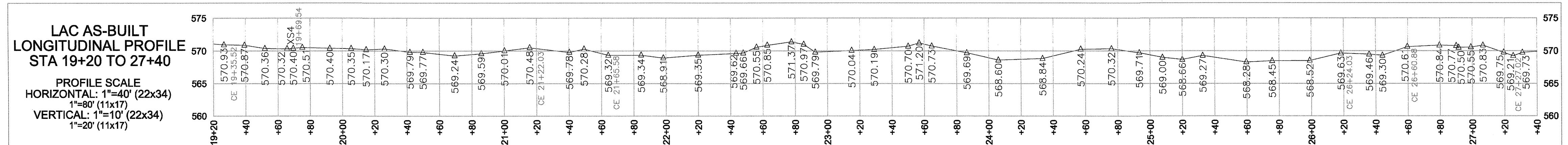
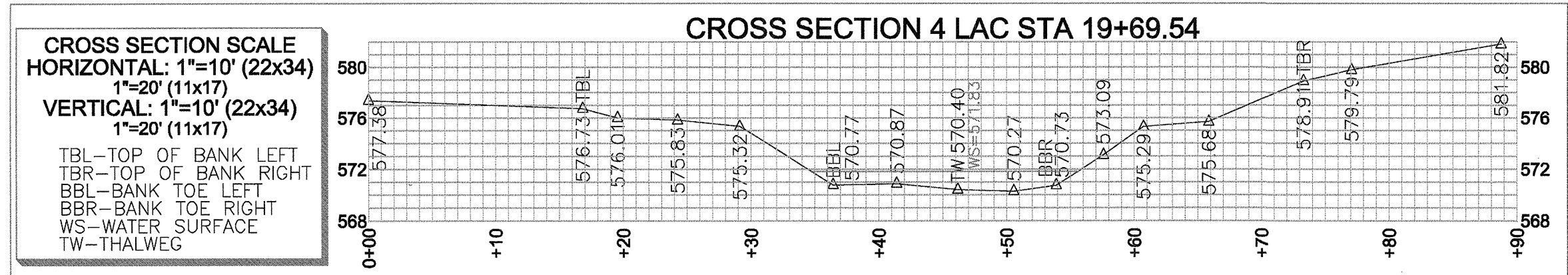
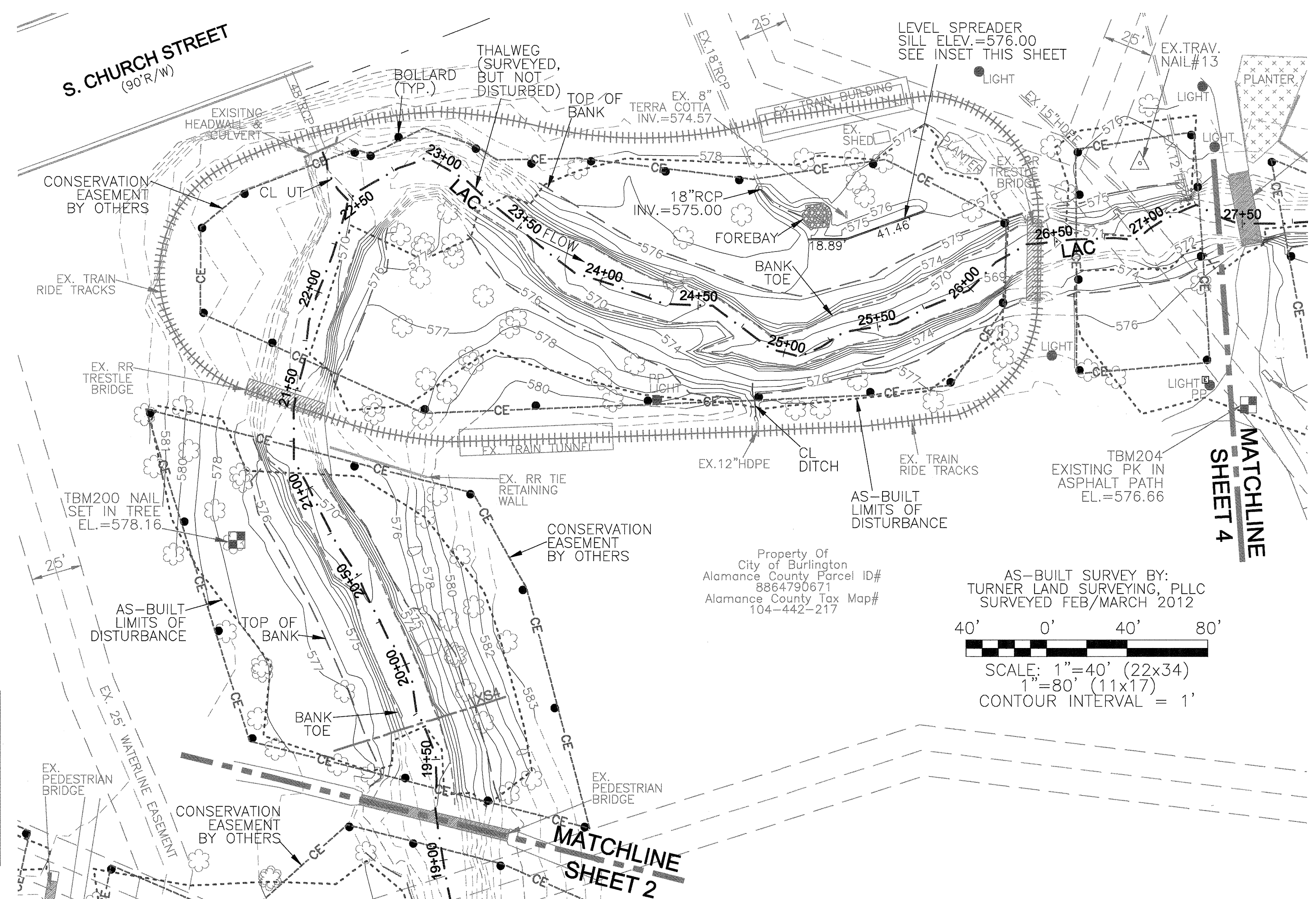
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**LEGEND:**

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	TOE OF BANK
	CONSERVATION EASEMENT
	LIMITS OF DISTURBANCE
	ROOTWAD
	BOLLARD
	TREE (LOCATED WITHIN LIMITS OF DISTURBANCE ONLY)
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 WWW.TURNERLANDSURVEYING.COM

**LITTLE ALAMANCE CREEK STA 19+20 TO 27+40**

AS-BUILT SURVEY OF  
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 STREAM RESTORATION  
 SCO# 060685501

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SHEET **3**

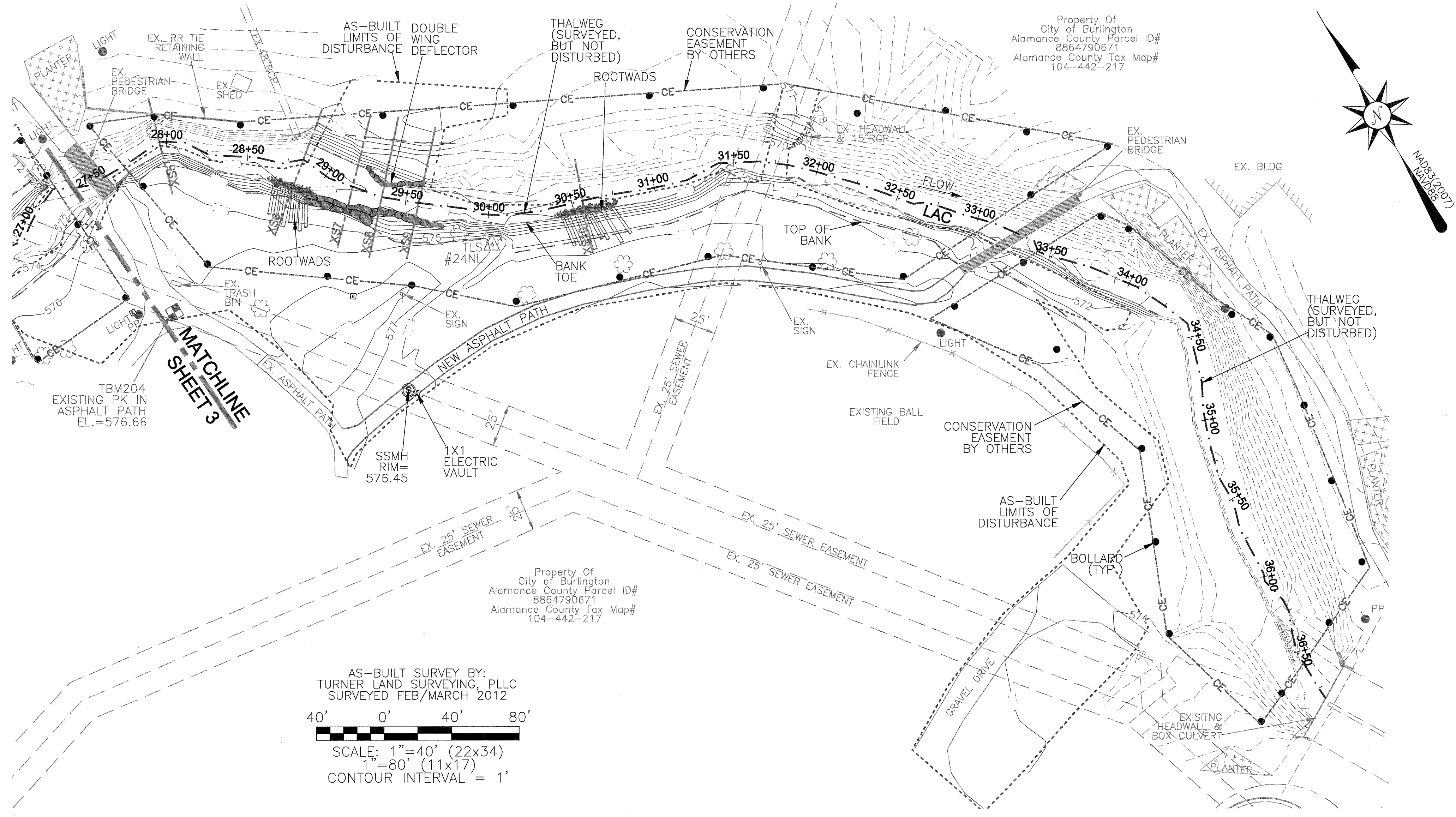


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**GENERAL NOTES**

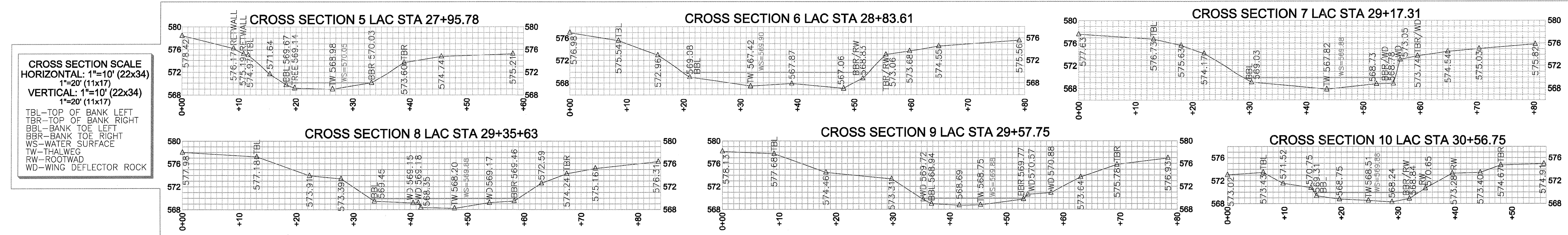
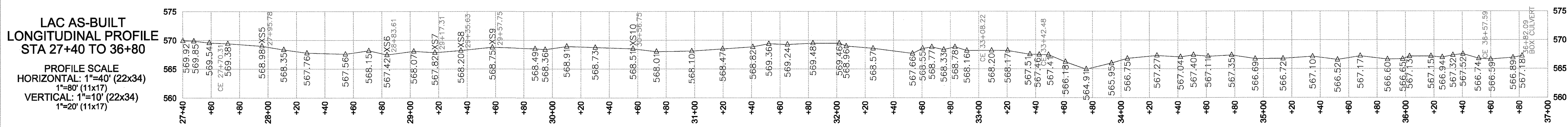
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**LEGEND:**

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- BOLLARD
- ☼ TREE (LOCATED WITHIN LIMITS OF DISTURBANCE ONLY)
- ▲ CONTROL POINT/BENCHMARK

AS-BUILT SURVEY BY:  
 TURNER LAND SURVEYING, PLLC  
 SURVEYED FEB/MARCH 2012  
 SCALE: 1"=40' (22x34)  
 1"=80' (11x17)  
 CONTOUR INTERVAL = 1'



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LITTLE ALAMANCE CREEK STA 27+40 TO 36+80

AS-BUILT SURVEY OF  
 LITTLE ALAMANCE CREEK  
 STREAM RESTORATION  
 SCO# 060685501

ALAMANCE COUNTY NORTH CAROLINA

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SHEET 4



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**GENERAL NOTES**

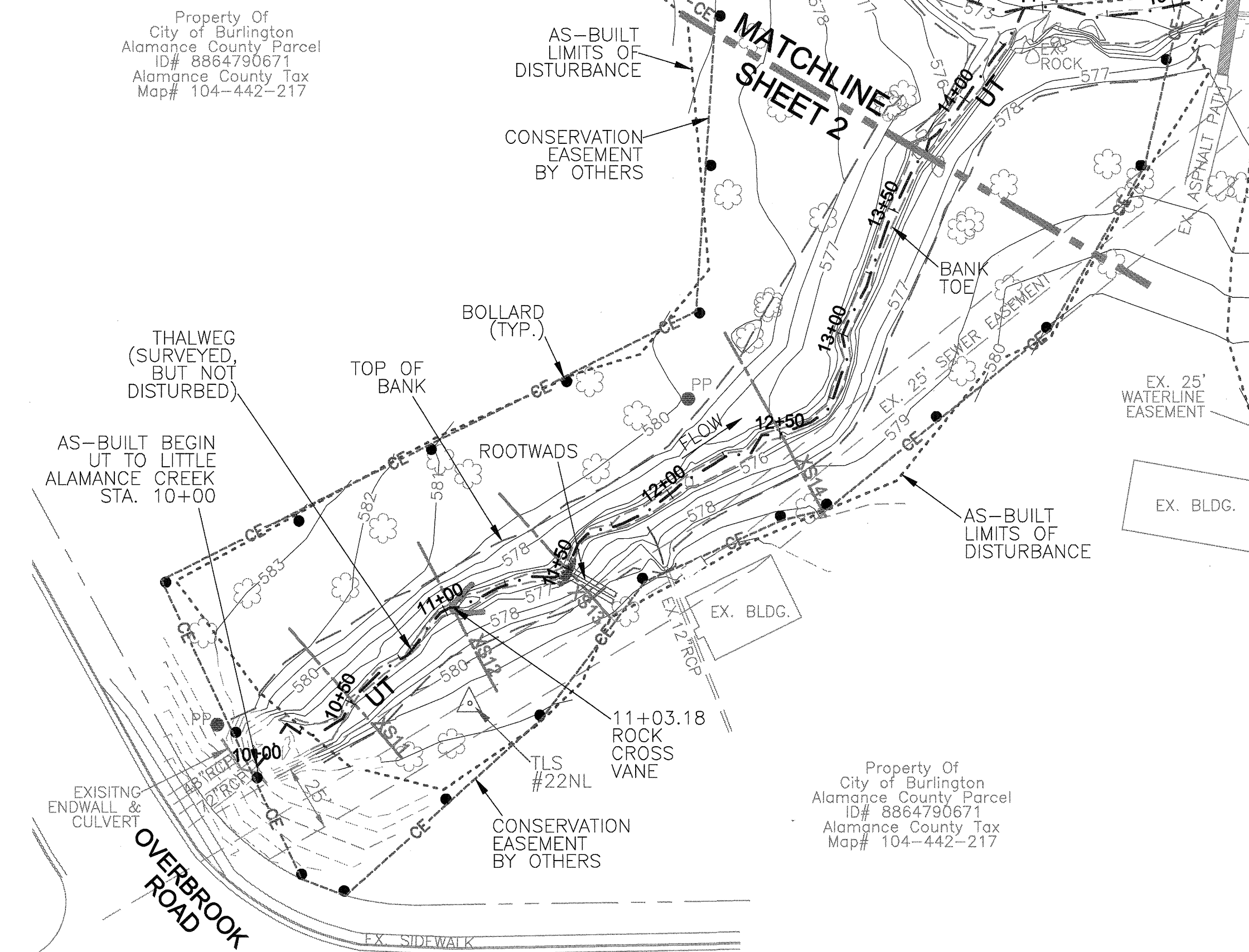
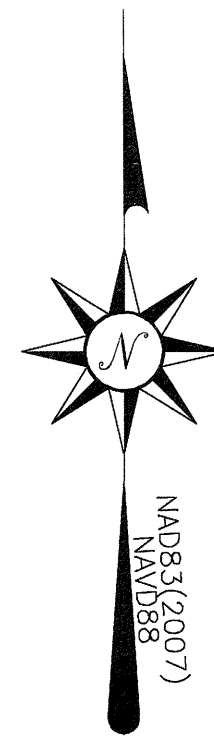
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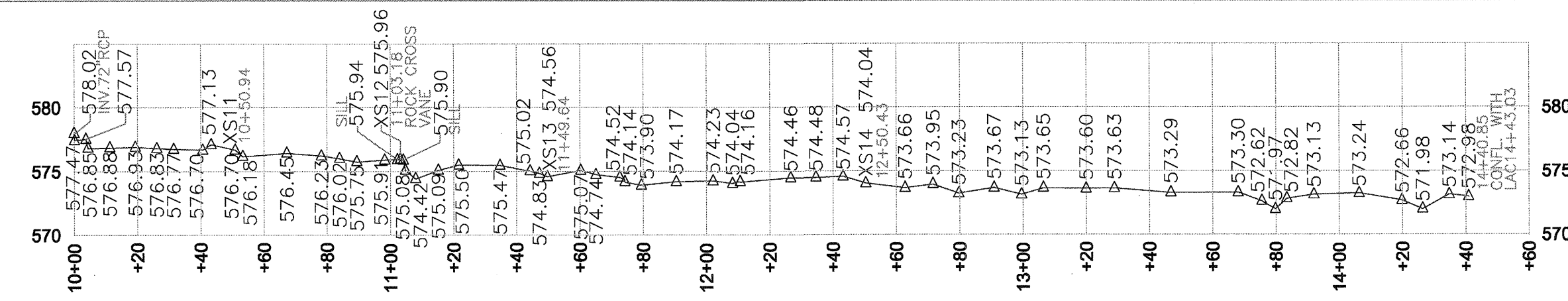
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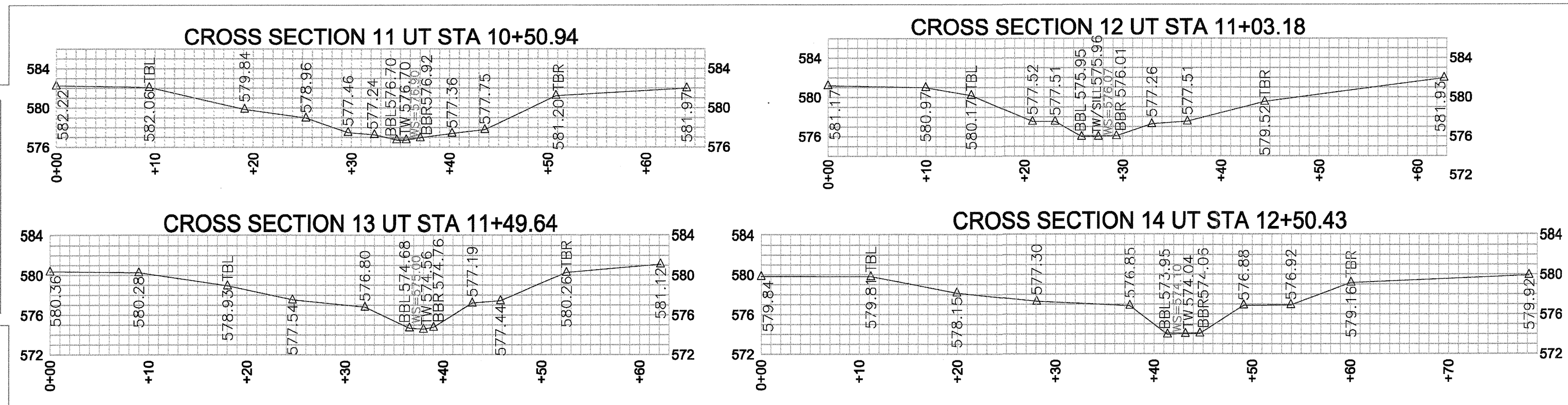
**UT AS-BUILT LONGITUDINAL PROFILE STA 10+00 TO 14+40**

PROFILE SCALE  
 HORIZONTAL: 1"=40' (22x34)  
 1"=80' (11x17)  
 VERTICAL: 1"=10' (22x34)  
 1"=20' (11x17)



**CROSS SECTION SCALE**  
 HORIZONTAL: 1"=10' (22x34)  
 1"=20' (11x17)  
 VERTICAL: 1"=10' (22x34)  
 1"=20' (11x17)

TBL—TOP OF BANK LEFT  
 TBR—TOP OF BANK RIGHT  
 BBL—BANK TOE LEFT  
 BBR—BANK TOE RIGHT  
 WS—WATER SURFACE  
 TW—THALWEG  
 SILL—ROCK SILL OF ROCK CROSS VANE



REVISIONS, DATE, AND INITIAL:

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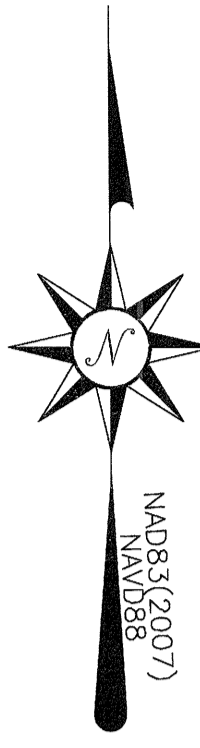
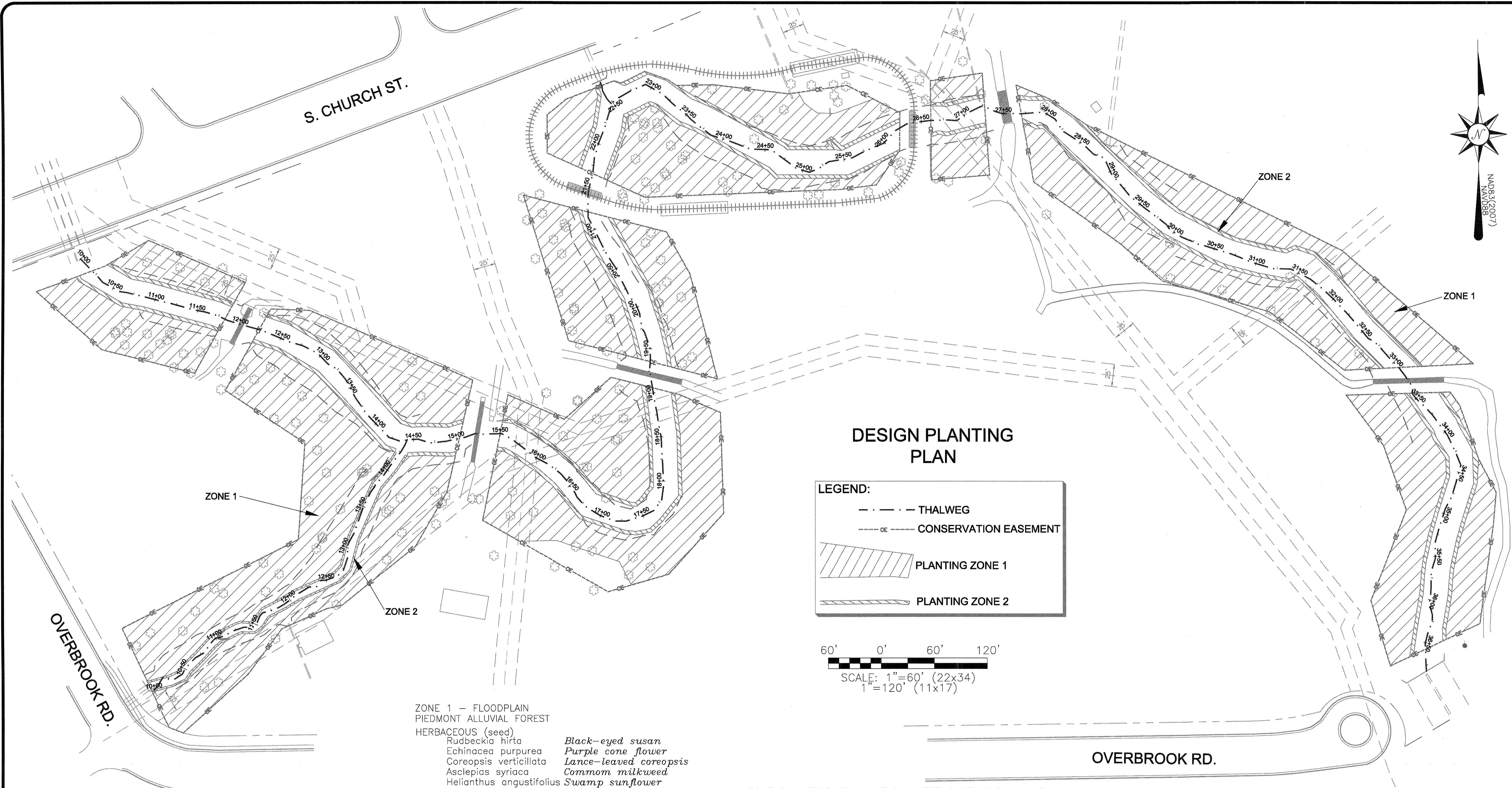
**UT TO LITTLE ALAMANCE CREEK STA 10+00 TO 14+40**

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NORTH CAROLINA  
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 SHEET **5**

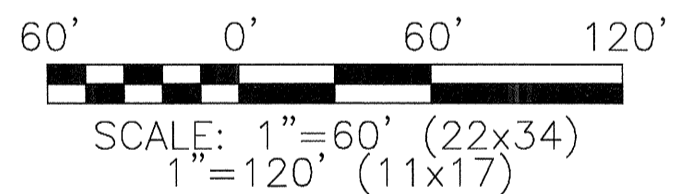




### DESIGN PLANTING PLAN

**LEGEND:**

- THALWEG
- - - CONSERVATION EASEMENT
- [Hatched pattern] PLANTING ZONE 1
- [Hatched pattern] PLANTING ZONE 2



- ZONE 1 – FLOODPLAIN  
PIEDMONT ALLUVIAL FOREST**
- HERBACEOUS (seed)**
- |                          |                          |
|--------------------------|--------------------------|
| Rudbeckia hirta          | Black-eyed susan         |
| Echinacea purpurea       | Purple cone flower       |
| Coreopsis verticillata   | Lance-leaved coreopsis   |
| Asclepias syriaca        | Common milkweed          |
| Helianthus angustifolius | Swamp sunflower          |
| Bidens aristosa          | Showy tickseed sunflower |
- GRASS (seed)**
- |                     |                 |
|---------------------|-----------------|
| Andropogon gerardii | Big bluestem    |
| Sorghastrum nutans  | Indiangrass     |
| Schizachyrium       | Little bluestem |
| Panicum virgatum    | Switch grass    |
- SHRUB**
- |                      |               |
|----------------------|---------------|
| Carpinus caroliniana | Ironwood      |
| Lindera benzoin      | Spicebush     |
| Cornus amomum        | Silky dogwood |
| Sambucus canadensis  | Elderberry    |
| Viburnum dentatum    | Arrowwood     |
| Celtis laevigata     | Sugarberry    |
- CANOPY**
- |                        |                   |
|------------------------|-------------------|
| Betula nigra           | River birch       |
| Quercus pagoda         | Cherrybark oak    |
| Fraxinus pennsylvanica | Green ash         |
| Platanus occidentalis  | Sycamore          |
| Juglans nigra          | Black walnut      |
| Carya ovata            | Shagbark hickory  |
| Carya cordiformis      | Bitternut hickory |
- UNDERSTORY**
- |                 |                   |
|-----------------|-------------------|
| Cornus florida  | Flowering dogwood |
| Ilex opaca      | American holly    |
| Asimina triloba | Paw paw           |

- ZONE 2 – EDGE OF LOW FLOW WATER SURFACE TO BANKFULL  
PIEDMONT ALLUVIAL FOREST**
- HERBACEOUS (seed)**
- |                         |                        |
|-------------------------|------------------------|
| Eupatorium fistulosum   | Joe-pye weed           |
| Lobelia cardinalis      | Cardinal flower        |
| Monarda didyma          | Bee balm               |
| Vernonia noveboracensis | Ironweed               |
| Eupatorium perfoliatum  | Boneset                |
| Coreopsis lanceolata    | Lance leaved coreopsis |
- GRASS (seed)**
- |                          |                      |
|--------------------------|----------------------|
| Panicum clandestinum     | Deertongue           |
| Hystrix patula           | Bottle-brush grass   |
| Panicum virgatum         | Switch grass         |
| Chasmanthimom latifolium | River oats           |
| Carex intumescens        | Bladder (star) sedge |
| Juncus effusus           | Soft rush            |
| Juncus coriaceous        | Leathery rush        |
- SHRUBS, CANOPY, AND UNDERSTORY SAME  
COMPOSITION AS ZONE 1 WITH THE ADDITION OF:**
- LIVE STAKES**
- |                           |               |
|---------------------------|---------------|
| Salix nigra               | Black willow  |
| Cephalanthus occidentalis | Button bush   |
| Cornus amomum             | Silky dogwood |
| Salix sericea             | Silky willow  |

- GENERAL NOTES**
1. ALL DISTANCES ARE HORIZONTAL UNLESS OTHERWISE NOTED.
  2. THE VERTICAL DATUM IS NAVD88.
  3. THE BASIS OF BEARINGS IS NCGS STATE PLANE GRID COORDINATES NAD83 (NSRS 2007) DATUM.
  4. CONTROL BASED ON EXISTING CONTROL DATA PROVIDED BY DESIGNER AND VERIFIED DURING THE CONSTRUCTION & AS-BUILT SURVEYS.
  5. THIS MAP IS NOT FOR RECORDATION, SALES, OR CONVEYANCES AND DOES NOT COMPLY WITH G.S. 47-30 MAPPING REQUIREMENTS.
  6. THE LONGITUDINAL STATIONING SHOWN ON THE PLAN VIEW AND LONGITUDINAL PROFILE IS THE AS-BUILT SURVEY LENGTH WHICH MAY VARY FROM THE FINAL DESIGN LENGTH.
  7. CROSS SECTIONS ARE FROM LEFT BANK TO RIGHT BANK (FACING DOWNSTREAM).
  8. CONTOURS & INFORMATION SHOWN OUTSIDE THE AS-BUILT LIMITS OF DISTURBANCE WAS TAKEN FROM EXISTING CONDITIONS AND DESIGN DATA PROVIDED BY THE DESIGNER. EXISTING CONTOURS ARE SHOWN AS DASHED LINES.
  9. CONSERVATION EASEMENT, PROPERTY LINES, AND PLANTING ZONES PROVIDED BY DESIGNER.

I, ELISABETH G. TURNER, AS A DULY REGISTERED PROFESSIONAL LAND SURVEYOR IN THE STATE OF NORTH CAROLINA, HEREBY CERTIFY THAT THE DATA SHOWN ON THIS DRAWING, WAS OBTAINED UNDER MY SUPERVISION, IS AN ACCURATE AND COMPLETE REPRESENTATION OF WHAT WAS CONSTRUCTED IN THE FIELD, AND THAT THE PHYSICAL DIMENSIONS OR ELEVATIONS SHOWN THUS ARE AS-BUILT CONDITIONS EXCEPT WHERE OTHERWISE NOTED HEREON. WITNESS MY ORIGINAL SIGNATURE, REGISTRATION NUMBER, AND SEAL THIS 11th DAY OF APRIL, 2012.

*Elisabeth G. Turner*  
 ELISABETH G. TURNER, P.L.S. #L-4440  
 NORTH CAROLINA PROFESSIONAL LAND SURVEYOR  
 SEAL L-4440  
 ELISABETH G. TURNER

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 PLANTING PLAN  
 AS-BUILT SURVEY OF  
 LITTLE ALAMANCE CREEK  
 STREAM RESTORATION  
 SCO# 060685501  
 NORTH CAROLINA  
 ALAMANCE COUNTY  
 DATE: 03/16/12  
 SURVEYED BY: DST  
 DRAWN BY: DST/EGT  
 REVIEWED BY: DST/EGT  
 PROJECT: TLS-11-020  
 FILE: LITTLE ALAMANCE CREEK\_92372\_TLS\_AB\_F  
 SCALE: AS SHOWN  
 SHEET  
**6**