



CITY OF SALEM - DEPARTMENT OF PUBLIC WORKS  
 555 LIBERTY STREET SE SALEM, OREGON 97301

# BATTLE CREEK PROPERTY

PLANS FOR THE CONSTRUCTION OF ROADWAY, BRIDGE,  
 STORM DRAINAGE, SANITARY SEWER, WATERLINE,  
 WALN CREEK REALIGNMENT, AND SITE GRADING

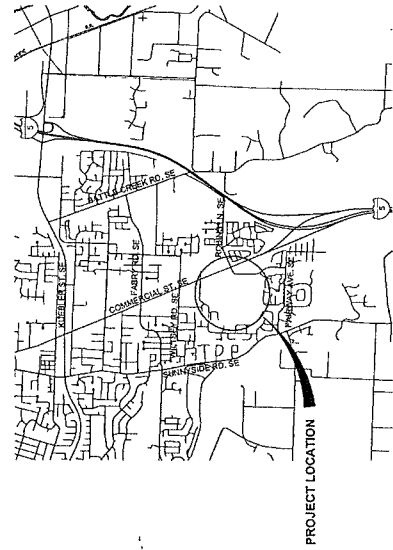
PN 710504

SEPTEMBER 22, 2011



Know what's below.  
 Call before you dig.

FRANCHISE UTILITY CONTACT	
Pacific Gas & Electric	
Central Valley	562-482-4000
CenturyLink	503-399-4600
Cable Com	541-772-2891
NW Natural	503-394-4600
Connect Cable	503-394-4600
Time Warner	503-394-4600



PROJECT LOCATION  
 SEC 23, T. 8S., R. 3W., W.M.  
**VICINITY MAP**  
 N.T.S.

**AS-BUILT**  
 THIS AS-CONSTRUCTED DRAWING WAS PREPARED UNDER MY SUPERVISION FROM DATA COLLECTED UNDER MY SUPERVISION AND REPRESENTS TO MY BEST KNOWLEDGE AND BELIEF THE AS-CONSTRUCTED PROJECT. THE CITY OF SALEM DOES NOT GUARANTEE THE ACCURACY OF THIS AS-CONSTRUCTED DRAWING.  
 Benjamin Henry, P.E. Project Manager  
 Date: 4/22/14  
 Date: 4/22/14

CITY OF Salem AT YOUR SERVICE

SHEET PREPARED BY:

ENGINEERING DIVISION  
 SALEM PUBLIC WORKS DEPARTMENT

engineers  
 planners  
 landscape architects

OAK  
 1000 NE Oregon Street  
 Portland, OR 97232  
 503-253-1100

SEALED  
 ORIGINALS SEALED BY:  
 SHEEP: 703890PE  
 DATE SIGNED: 08-21-2011  
 CERTIFICATE NO: 08-21-2011  
 EXPIRES: SEPTEMBER 22, 2011

BATTLE CREEK PROPERTY

NO.	REVISIONS	DATE	BY
1	AS-BUILT	2/14	BSP

PN: 710504

SUBJECT: 03XK  
 HORIZ SCALE: AS  
 VERT SCALE: SHOWN  
 DESIGN: GME  
 DRAWN: SLW  
 CHECKED: SLW A-D  
 APPROVED: SLW JLB 04-2011

SHEET TITLE  
 COVER SHEET

A01  
 SHEET 1 OF 103

WATER-SEWER-STSD



SEALED

DATE ISSUED: 09/22/2011  
DATE SIGNED: NOT LISTED  
CORPORATE EXPIRED:  
SEPTEMBER 22, 2011

BATTLE CREEK  
PROPERTY

NO.	REVISIONS	DESCRIPTION	DATE BY
1	AS-BUILT	2/14/2011	EBN

PN: 710504

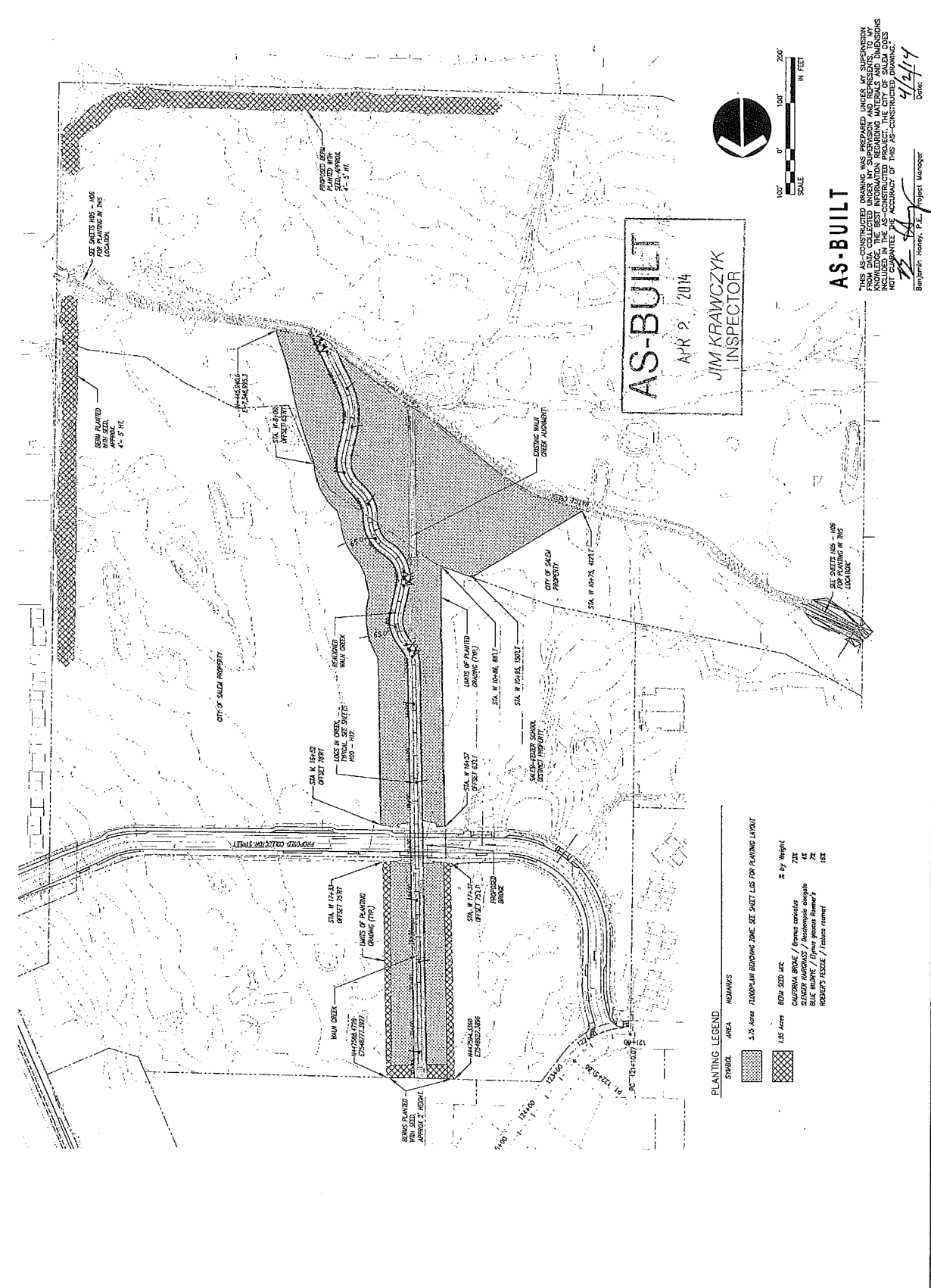
SURVEY:	OTAK
HORIZ SCALE:	AS SHOWN
VERT SCALE:	
DESIGN:	DOB
CHECKED:	SLW
APPROVED:	SLW

SHEET TITLE

WALN CREEK  
AND BERM  
PLANTING PLAN

L04

SHEET 37 OF 103



AS-BUILT  
APR 2, 2014  
JIM KRAWCZYK  
INSPECTOR

AS-BUILT

THIS AS-CONSTRUCTED DRAWING WAS PREPARED UNDER MY SUPERVISION AND TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE BEST INFORMATION REGARDING MATERIALS AND DIMENSIONS HAS BEEN OBTAINED AND IS INCORPORATED IN THIS DRAWING. THIS AS-CONSTRUCTED DRAWING DOES NOT REPRESENT THE ORIGINAL DESIGN OR CONSTRUCTION OF THE PROJECT. DATE: 4/2/14

Benjamin Haney, P.E. Project Manager



SHEET PREPARED BY:



Professional Seal  
Landscape Architect  
Salem, Oregon

SEALED

DATE: 04-02-2014  
DATE SIGNED: 04-02-2014  
CERTIFICATE NUMBER: 06-30-2013  
EXPIRES: SEPTEMBER 22, 2011

BATTLE CREEK  
PROPERTY

NO.	DESCRIPTION	DATE BY
1	AS BUILT	2014 BRN

PN: 710504

SURVEY:	OTAK
HORIZ SCALE:	AS SHOWN
VERT SCALE:	AS SHOWN
DESIGN:	PAJ
CHECKED:	SLW
APPROVED:	SLW

SHEET TITLE  
WALN CREEK  
GRADING  
IMPROVEMENTS  
SHEET INDEX

H00

SHEET 43 OF 103

AS-BUILT

THIS AS-CONSTRUCTED DRAWING WAS PREPARED UNDER THE SUPERVISION OF THE ENGINEER OF RECORD AND REPRESENTS THE AS-BUILT CONDITIONS OF THE PROJECT. THE CITY OF SALEM DOES NOT WARRANT THE ACCURACY OF THIS AS-CONSTRUCTED DRAWING.

4/2/14  
Date:

Benjamin Henry, Project Manager

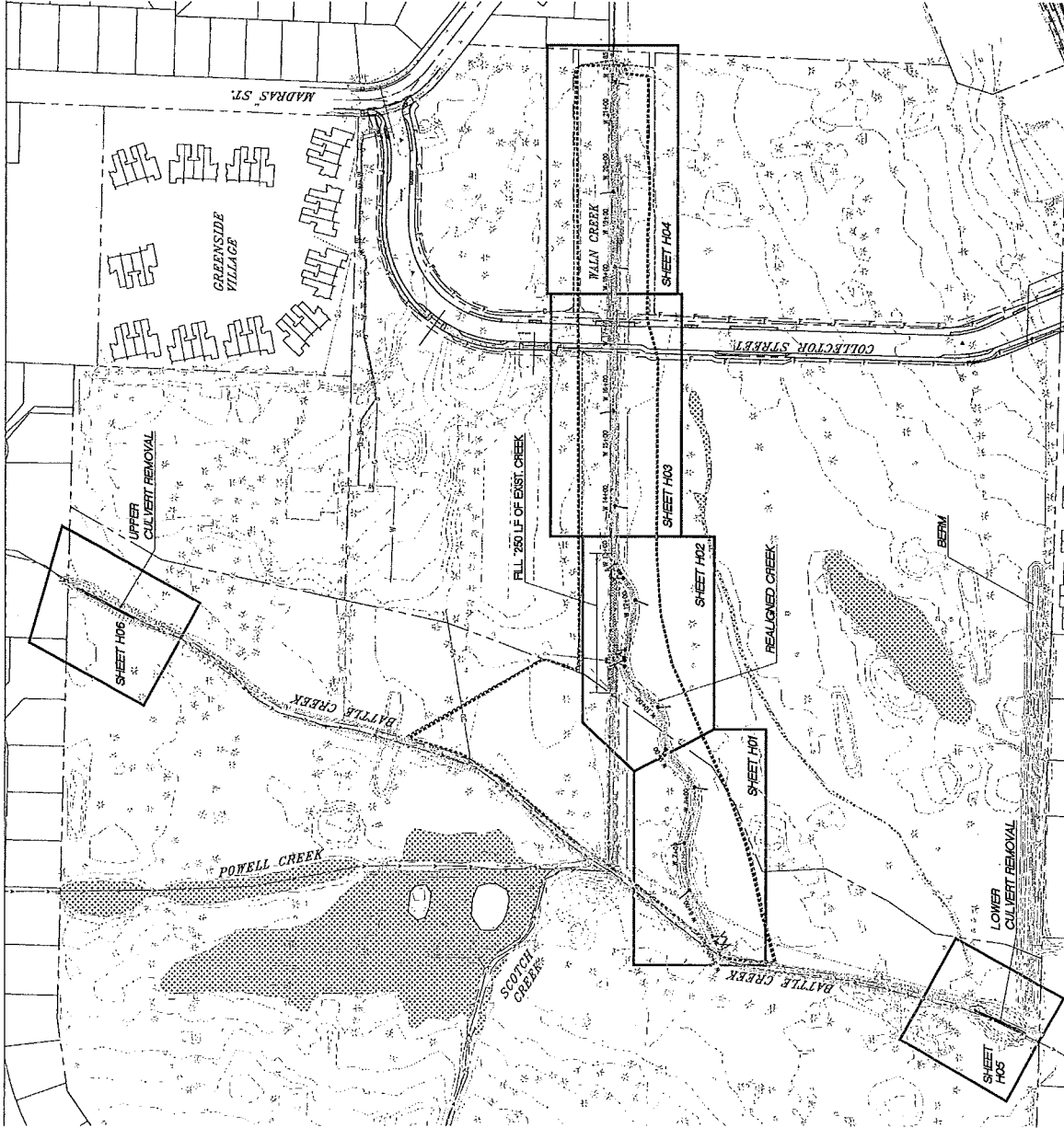
AS-BUILT

APR 2 2014

JIM KRAWCZYK  
INSPECTOR

LEGEND

- PROPERTY LINE
- WETLANDS/PODS
- STREAM CHANNEL
- FLOODPLAIN GRADING
- UNITS
- LOGS



PLAN



**SEALED**  
 T.W. KRAFT  
 CIVIL ENGINEER  
 DATE: 09/30/2011  
 CERTIFICATE EXPIRES: 09-30-2013  
 SEPTEMBER 22, 2011

BATTLE CREEK  
 PROPERTY

NO.	REVISION	DATE	BY
1	AS BUILT	2014	BRH

PN: 710504  
 SURVEY: OYAK  
 VERT SCALE: SHOWN  
 DESIGN: RJB  
 DRAWN: SC  
 CHECKED: SLW  
 APPROVED: SLW

SHEET TITLE  
 WALN CREEK  
 GRADING  
 IMPROVEMENTS  
 STA. W 0+00 TO  
 STA. W 9+00

**H01**  
 SHEET 44 OF 103

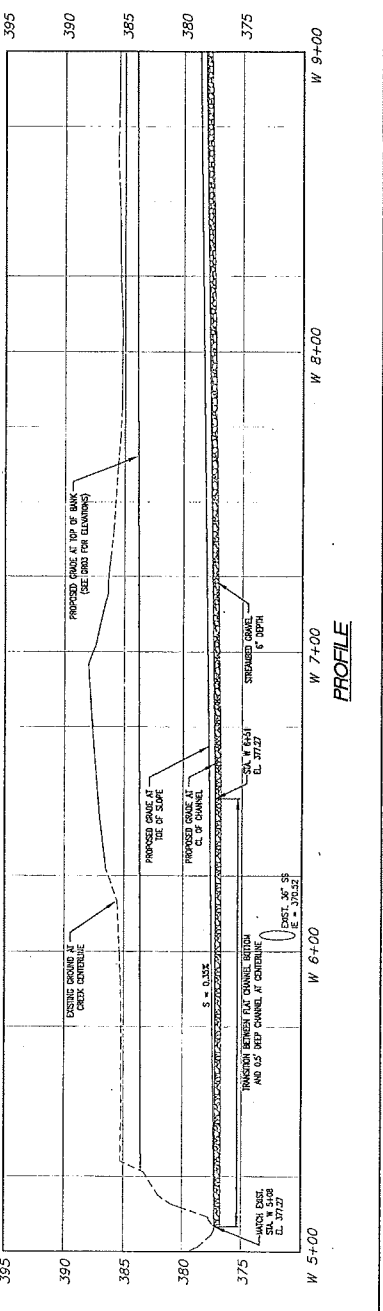
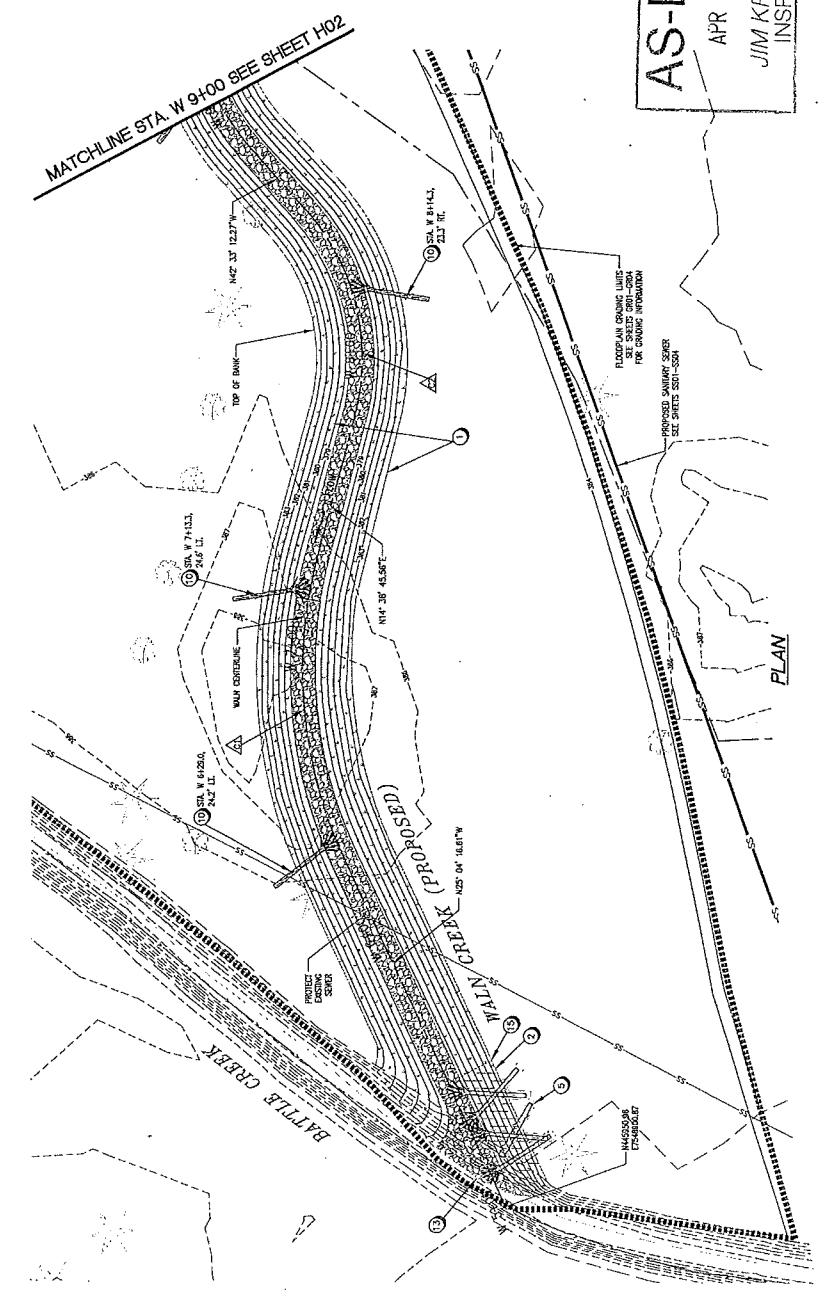
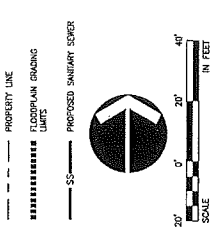
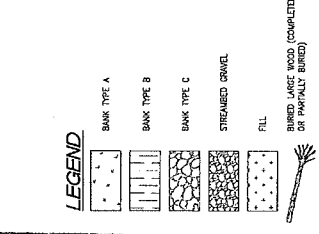
- REVISIONS**
- CONSTRUCT CHANNEL WITH BANK TYPE A FROM STA. W 5+50 TO STA. W 9+00 BOTH SIDES EXCEPT WHERE NOTED. SEE BANK DETAIL 1, SHEET H01.
  - CONSTRUCT CHANNEL WITH BANK TYPE B FROM STA. W 5+00 TO STA. W 5+49.87. SEE BANK DETAIL 2, SHEET H01.
  - INSTALL LOG WALL LOG WALL REFERENCE LINE FROM STA. W 5+56.84, 61.49 TO STA. W 5+60, 67.75 FT. SEE DETAIL SHEET H10.
  - INSTALL LARGE WOOD DEBRIS. SEE DETAIL 2 SHEET H11.
  - SEE SHEET H12 FOR CONFORMANCE DETAIL.
  - TRANSITION STREAMBANK TYPE. SEE TRANSITION DETAILS ON H02.

**GENERAL NOTES**  
 SEE SHEETS 001-002 FOR TREE PROTECTION AND REMOVAL

NUMBER	PI STATIONING	DELTA ANGLE	RADIUS	LENGTH	TANGENT
C1	W 6+81.78	39°71'73"	150'	103.98'	54.18'
C2	W 8+20.52	57°19'94"	75'	74.37'	40.89'

**AS-BUILT**  
 THIS AS-CONSTRUCTED DRAWING WAS PREPARED UNDER MY SUPERVISION FROM DATA COLLECTED UNDER MY SUPERVISION AND REPRESENTATIVE TO MY CLIENT. THE BEST INFORMATION REGARDING MATERIALS AND DIMENSIONS HAS BEEN OBTAINED AND I HAVE REVIEWED THE AS-CONSTRUCTED DRAWING. I DO NOT GUARANTEE THE ACCURACY OF THIS AS-CONSTRUCTED DRAWING.  
 4/2/14  
 Benjamin Krawczyk, Project Manager

**AS-BUILT**  
 APR 2 2014  
 JIM KRAWCZYK  
 INSPECTOR



**SEALED**  
 T.W. KRAFT  
 CIVIL ENGINEER  
 DATE: 09/30/2011  
 CERTIFICATE EXPIRES: 09-30-2013  
 SEPTEMBER 22, 2011

BATTLE CREEK  
 PROPERTY

NO.	REVISION	DATE	BY
1	AS BUILT	2014	BRH

PN: 710504  
 SURVEY: OYAK  
 VERT SCALE: SHOWN  
 DESIGN: RJB  
 DRAWN: SC  
 CHECKED: SLW  
 APPROVED: SLW

SHEET TITLE  
 WALN CREEK  
 GRADING  
 IMPROVEMENTS  
 STA. W 0+00 TO  
 STA. W 9+00

**H01**  
 SHEET 44 OF 103

SHEET NO. 50  
 DATE: 04/14/14  
 DRAWN BY: JMM  
 CHECKED BY: JMM  
 DESIGNED BY: JMM  
 PROJECT NO. 10-10-100  
 PROJECT NAME: WALN CREEK IMPROVEMENTS  
 SHEET TITLE: WALN CREEK GRADING IMPROVEMENTS STA. W 9+00 TO STA. W 13+30

**CITY OF Salem**  
 AT YOUR SERVICE  
**ENGINEERING DIVISION**  
 PUBLIC WORKS DEPARTMENT  
 REGISTERED PROFESSIONAL ENGINEER  
 LICENSE NO. 10856  
 STATE OF OREGON

**SEALED**  
 TUN B. KRAFT  
 REG. 70947PE  
 OREGON REGISTERED PROFESSIONAL ENGINEER  
 LICENSE NO. 10856  
 STATE OF OREGON  
 SEPTEMBER 22, 2011  
**BATTLE CREEK PROPERTY**

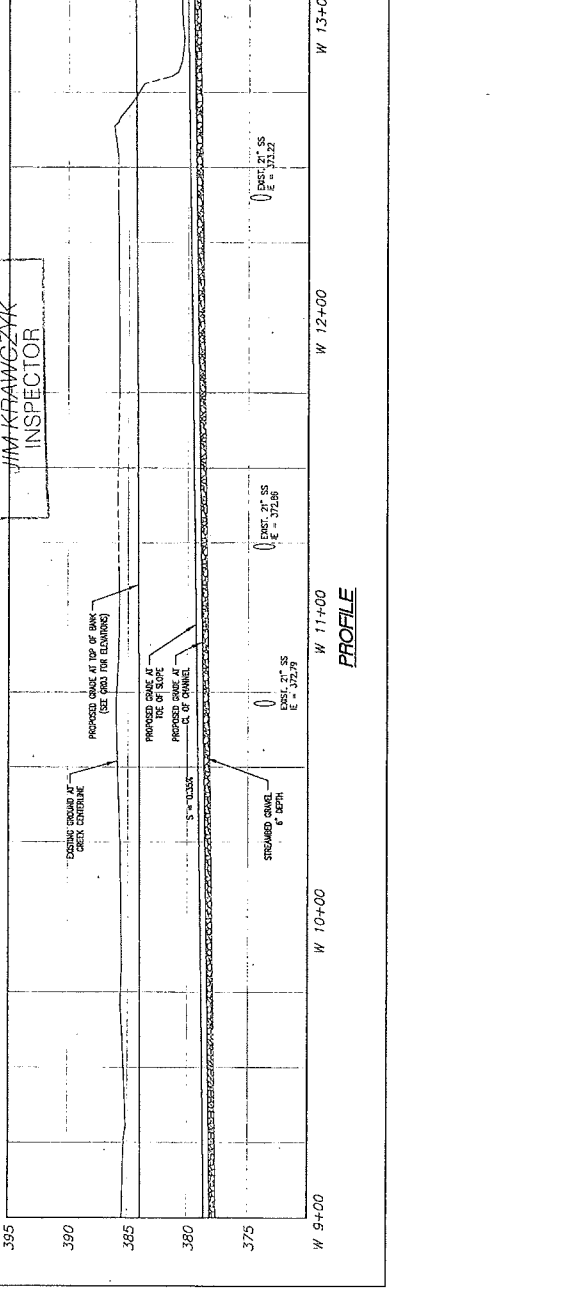
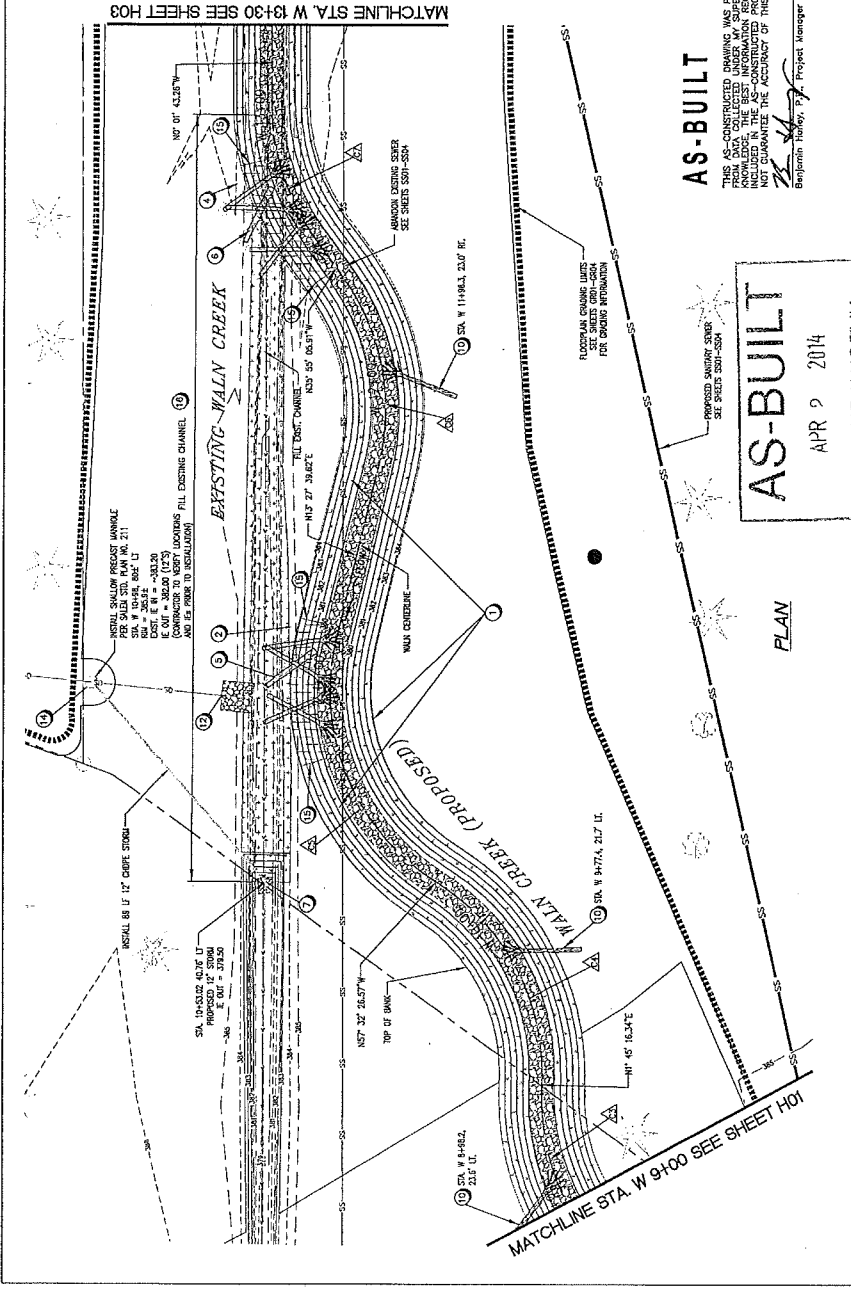
- REVISIONS**
- | NO. | DESCRIPTION | DATE | BY |
|-----|-------------|------|----|
| 1   |             |      |    |
| 2   |             |      |    |
| 3   |             |      |    |
| 4   |             |      |    |
| 5   |             |      |    |
| 6   |             |      |    |
| 7   |             |      |    |
| 8   |             |      |    |
| 9   |             |      |    |
| 10  |             |      |    |
- GENERAL NOTES**  
 SEE SHEETS 001-002 FOR TREE PROTECTION AND REMOVAL.
- CONSTRUCT CHANNEL WITH BANK TYPE A FROM STA. W 8+00 TO STA. W 13+30 BOTH SIDES EXCEPT WHERE NOTED. SEE BANK DETAIL 1, SHEET H02.
  - CONSTRUCT CHANNEL WITH BANK TYPE B FROM STA. W 10+75 TO STA. W 11+25 LT. SEE BANK DETAIL 2, SHEET H02.
  - CONSTRUCT CHANNEL WITH BANK TYPE B FROM STA. W 12+43 TO STA. W 12+98 LT. SEE BANK DETAIL 2, SHEET H02.
  - INSTALL LOG AM LOG AM REFERENCE LINE FROM STA. W 10+00 TO STA. W 11+25 LT. SEE DETAIL SHEET H02.
  - INSTALL LOG AM LOG AM REFERENCE LINE FROM STA. W 12+43 TO STA. W 12+98 LT. SEE DETAIL SHEET H02.
  - CONSTRUCT STORM OUTFALL. SEE DETAIL 1, SHEET H01.
  - INSTALL LARGE WOOD DEBRIS. SEE DETAIL 2, SHEET H01.
  - REMOVE EXIST. RIPRAP OUTFALL. ABANDON EXIST. 12" PIPE.
  - CUT AND CONNECT EXIST. 12" DIA. PIPE TO PROPOSED SHALLOW PRECAST MANHOLE. ABANDON EXIST. 12" DIA. PIPE SOUTH OF NEW PRECAST MANHOLE.
  - TRANSITION STREAMBANK TYPE. SEE TRANSITION DETAILS ON H02.
  - FILL EXISTING WALN CREEK CHANNEL BETWEEN STA. 10+53.41' LT. AND STA. 13+10. SEE SPECIFICATION FOR COMPACTION REQUIREMENTS.

**CENTERLINE CURVE DATA**

NUMBER	P.I. STATIONING	DELTA ANGLE (DEGREES)	LENGTH (FEET)	TANGENT (FEET)
C3	W 9+11.47	44°30'79"	75'	58.00'
C4	W 9+48.44	59°29'53"	75'	77.62'
C5	W 10+74.95	71°00'17"	75'	92.94'
C6	W 12+09.67	49°37'39"	75'	64.64'
C7	W 12+80.71	39°88'96"	75'	46.98'

**LEGEND**  
 BANK TYPE A  
 BANK TYPE B  
 BANK TYPE C  
 STABILIZED GRAVEL  
 FILL  
 BANKED WOOD LOGS (COMPLETE OR PARTIAL LOGS)  
 PROPERTY LINE  
 FLOODPLAIN GRADING LIMITS  
 PROPOSED SANITARY SEWER

**AS-BUILT**  
 APR 9 2014  
**JMM KRANGCZAK**  
 INSPECTOR  
 PROJECT MANAGER: Benjamin Robley, P.E.  
 DATE: 4/14/14

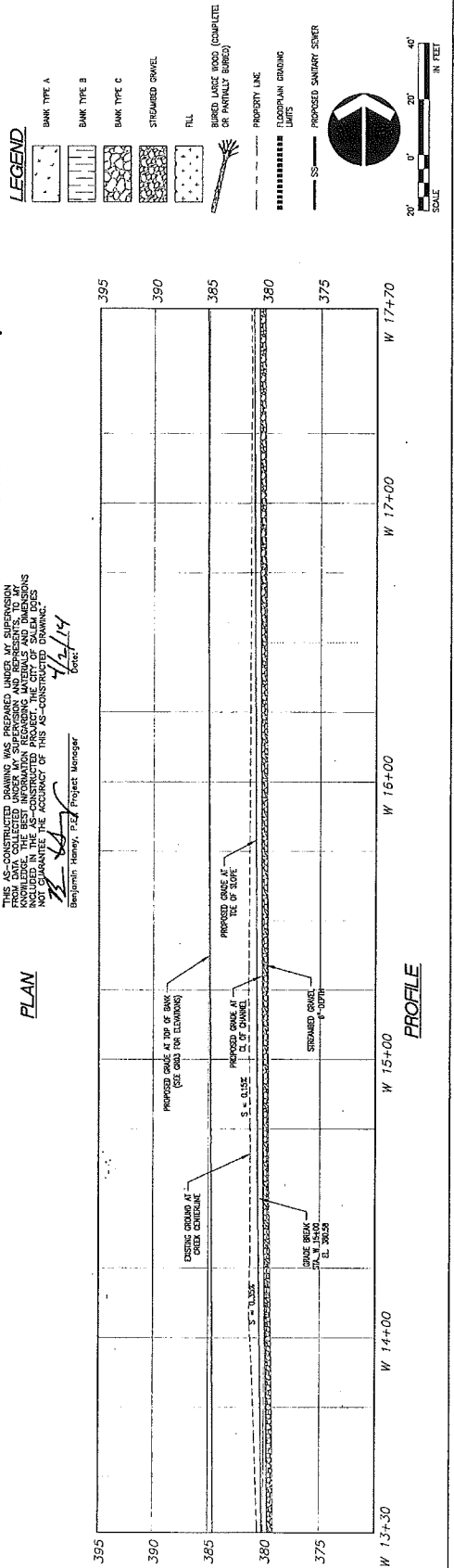
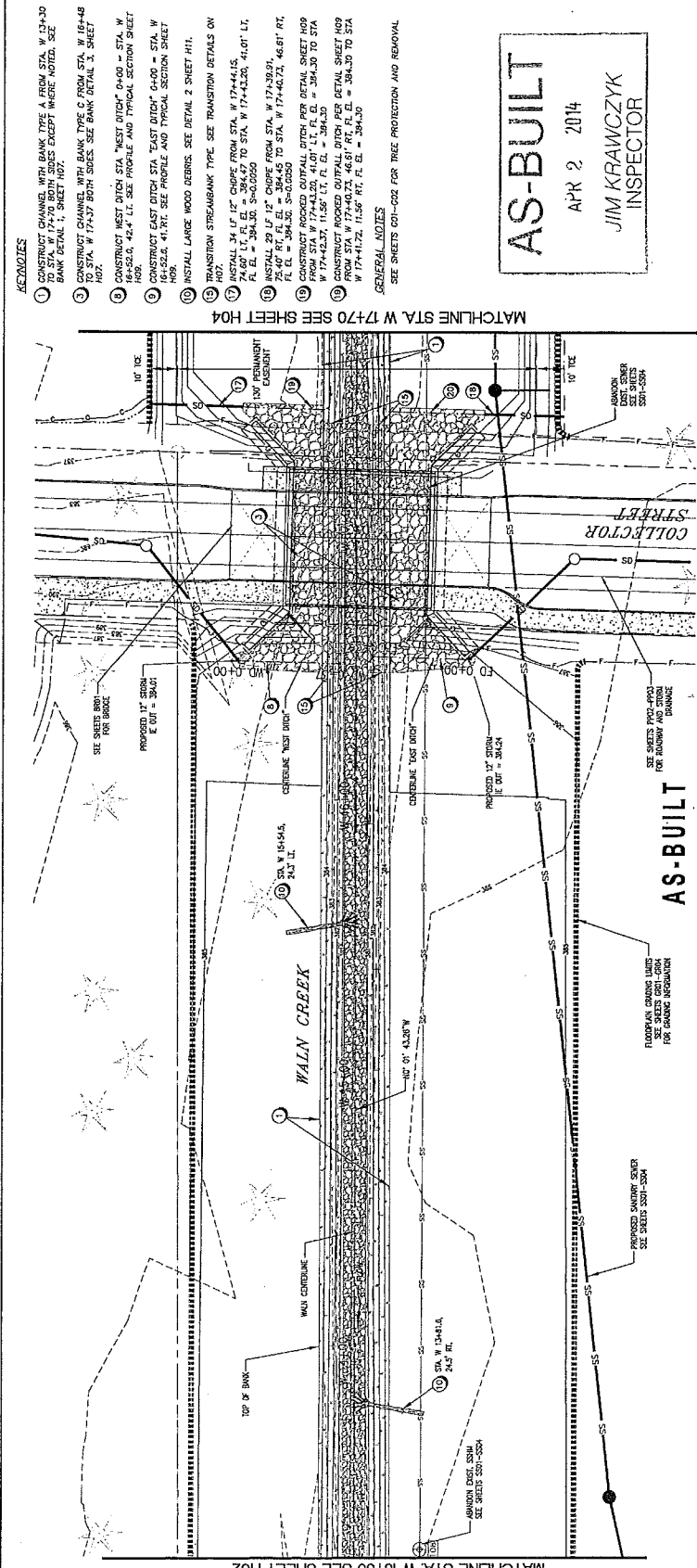


**H02**  
 SHEET 45 OF 103

**SCALE**  
 0' 20' 40'  
 IN FEET

THIS AS-CONSTRUCTED DRAWING WAS PREPARED UNDER MY SUPERVISION AND TO THE BEST OF MY KNOWLEDGE AND BELIEF, IT ACCURATELY REPRESENTS THE AS-CONSTRUCTED PROJECT. THE CITY OF SALEM DOES NOT GUARANTEE THE ACCURACY OF THIS AS-CONSTRUCTED DRAWING.

SHEET LIST  
 Location: 50  
 Revision:  
 C1155-1-190  
 C1155-1-191  
 C1155-1-192  
 C1155-1-193  
 C1155-1-194  
 C1155-1-195  
 C1155-1-196  
 C1155-1-197  
 C1155-1-198  
 C1155-1-199  
 C1155-1-200



**CITY OF SOLEM**  
 AT YOUR SERVICE  
 SHEET PREPARED BY:  
**ENGINEERING DIVISION**  
 PUBLIC WORKS DEPARTMENT

**CRK**  
 engineers  
 planners  
 landscape architects  
 architects  
 interior designers  
 interior decorators  
 interior finishers  
 interior painters  
 interior trimmers  
 interior woodworkers  
 interior upholsterers  
 interior window installers  
 interior window treatments  
 interior window treatments installers  
 interior window treatments designers  
 interior window treatments fabricators  
 interior window treatments installers

**SEALED**  
 TIM B. KRAT  
 REG. PROFESSIONAL ENGINEER  
 DATE: APRIL 2011  
 CERTIFICATE EXPIRES: 06-30-2013  
 SEPTEMBER 22, 2011

BATTLE CREEK  
 PROPERTY

NO.	DESCRIPTION	DATE BY
1	AS-BUILT	2/24/14 BBN

**PN: 710504**  
 SURVEY: OTAK  
 SCALE: AS SHOWN  
 DESIGN: R-B  
 DRAWN: SC  
 CHECKED: SLW  
 APPROVED: SLW

**WALN CREEK  
 GRADING  
 IMPROVEMENTS**  
 STA. W 13+30 TO  
 STA. W 17+70

**H03**  
 SHEET 46 OF 103

**REVISIONS**

- CONSTRUCT CHANNEL WITH BANK TYPE A FROM STA. W 13+30 TO STA. W 17+70 BOTH SIDES EXCEPT WHERE NOTED. SEE BANK DETAIL 1, SHEET H07.
- CONSTRUCT CHANNEL WITH BANK TYPE C FROM STA. W 16+48 TO STA. W 17+37 BOTH SIDES SEE BANK DETAIL 3, SHEET H09.
- CONSTRUCT WEST DITCH PER "WEST DITCH" 0+00 - STA. W 16+50.0 - 46.4' W. USE PROFILE AND TYPICAL SECTION SHEET H09.
- CONSTRUCT EAST DITCH "EAST DITCH" 0+00 - STA. W 16+50.0 - 46.4' W. USE PROFILE AND TYPICAL SECTION SHEET H09.
- INSTALL LARGE WOOD DEBRIS. SEE DETAIL 2 SHEET H11.
- TRANSITION STREAMBANK TYPE SEE TRANSITION DETAILS ON SHEET H09.
- INSTALL 34 LF 12" CHUTE FROM STA. W 17+44.15 TO STA. W 17+44.15. F.L. E.L. = 384.67 TO STA. W 17+42.00, 41.01' LT. F.L. E.L. = 384.30, 5+0-0050
- INSTALL 29 LF 12" CHUTE FROM STA. W 17+39.31 TO STA. W 17+39.31. F.L. E.L. = 384.30 TO STA. W 17+40.73, 46.61' RT. F.L. E.L. = 384.30, 5+0-0050
- CONSTRUCT ROCKED OUTFALL DITCH PER DETAIL SHEET H09 FROM STA. W 17+40.73, 46.61' RT. F.L. E.L. = 384.30 TO STA. W 17+41.72, 11.56' RT. F.L. E.L. = 384.30

GENERAL NOTES  
 SEE SHEETS 001-002 FOR TREE PROTECTION AND REMOVAL

**AS-BUILT**  
 APR 2 2014  
 JIM KRAWCZYK  
 INSPECTOR

**LEGEND**  
 BANK TYPE A  
 BANK TYPE B  
 BANK TYPE C  
 STREAMED GRVEL  
 FILL  
 BURIED LARGE WOOD (COMPLETE OR PARTIALLY BURIED)  
 PROPERTY LINE  
 FLOODPLAIN GRADING LIMITS  
 PROPOSED SANITARY SINKER

SCALE  
 0' 20' 40'  
 IN FEET







engineers  
planners  
surveyors  
landscape  
architects

THU B. ORFF  
DATE ISSUED: 04-21-2011  
CERTIFICATE NUMBER: 01-30-2013

**SEALED**

**BATTLE CREEK  
PROPERTY**

NO.	DESCRIPTION	DATE BY
1	AS BUILT	2/14 BRK

PN: 710504

SUBJECT: CREEK  
HORIZ SCALE: AS SHOWN  
VERT SCALE: SHOWN  
DESIGN: RLB  
CHECKED: SLW  
APPROVED: SLW

SHEET TITLE  
**CULVERT REMOVAL  
BATTLE CREEK  
LOWER CULVERT**

H05

SHEET 48 OF 103

- KEYNOTES**
- CONSTRUCT CHANNEL WITH BANK TYPE A FROM STA. LOWER CULVERT 0+21 TO STA. LOWER CULVERT 1+36 BOTH SIZES. SEE BANK DETAIL 3, SHEET #07. USE 1:5:1 R.V. SIDE SLOPE FOR TYPICAL BANK SECTION.
  - GRADUALLY WIDEN EXISTING STREAM BANK FROM 10' TO 15' BANK TYPE A. GRADUALLY INCREASE STREAM BOTTOM WIDTH FROM -2' AT STA. 1+36 TO -10' AT STA. 0+21.

**AS-BUILT**

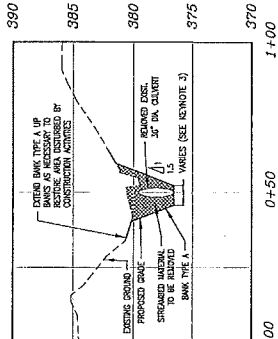
THIS AS-CONSTRUCTED DRAWING WAS PREPARED UNDER MY SUPERVISION FROM DATA COLLECTED UNDER MY SUPERVISION AND REPRESENTS TO THE BEST OF MY KNOWLEDGE AND BELIEF THE ACCURACY OF THIS AS-CONSTRUCTED DRAWING.

4/2/14  
Date: Benjamin Nowak, PE, Project Manager

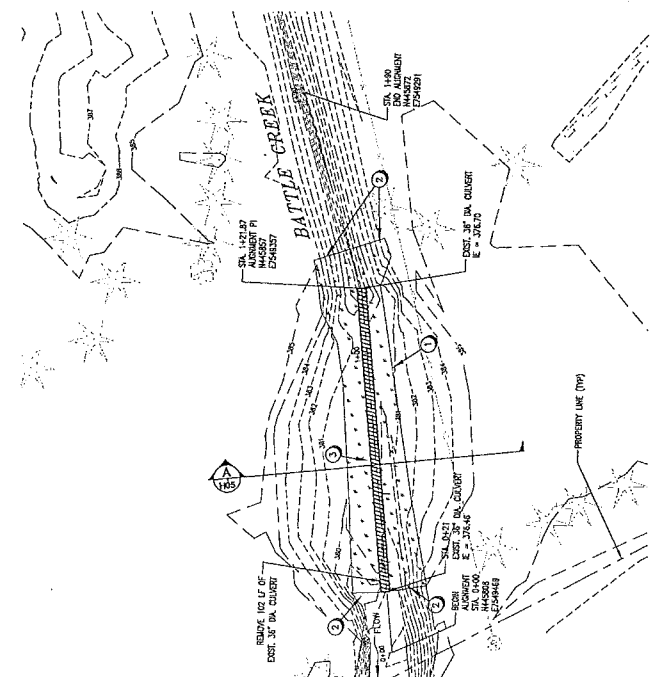
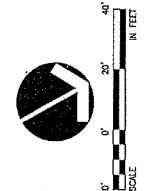
**LEGEND**

	BANK TYPE A
	BANK TYPE B
	BANK TYPE C
	STREAMBED GRAVEL
	FILL
	BURIED LARGE WOOD (COMPLETELY OR PARTIALLY BURIED)
	PROPERTY LINE
	PROPOSED GRADING
	LIMITS

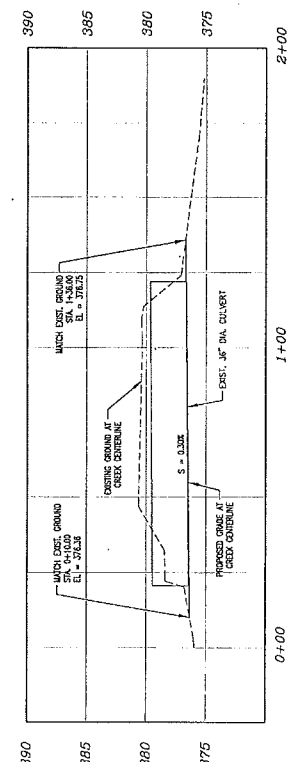
**AS-BUILT**  
APR 9 2014  
JIM KRACWICZYK  
INSPECTOR



**A CULVERT CROSS SECTION**  
H05



**PLAN**



**PROFILE**

SHEET PREPARED BY:



**OKK**  
 engineers  
 planners  
 architects  
 hydrographers  
 surveyors

SEALED

THE B. OKFET  
 DATE STAMPED: 10-06-2011  
 CERTIFICATE EXPIRES: 06-30-2013

BATTLE CREEK  
 PROPERTY

NO.	DESCRIPTION	DATE BY
1	AS-BUILT	2/4 ESH

PN: 710504

SUBJECT: AS-BUILT  
 HORIZ SCALE: SHOWN  
 VERT SCALE: SHOWN  
 DESIGN: RLB  
 CHECKED: SLW  
 APPROVED: SLW

SHEET TITLE  
 CULVERT REMOVAL  
 BATTLE CREEK  
 UPPER CULVERT

H06

SHEET 49 OF 103

**REMARKS**

- CONSTRUCT CHANNEL WITH BANK TYPE A FROM STA 1 FROM STA "UPPER CULVERT" 0+79 TO STA "UPPER CULVERT" 2+00 BOTH SIDES. SEE BANK DETAIL 1, SHEET H07. USE 1.5:1 H:V SIDE SLOPE FOR TYPICAL BANK SECTION.
- CONSTRUCT BANK TYPE A WITH 1.5:1 H:V SIDE SLOPE. BANK TYPE A SHALL BE CONSTRUCTED TO MATCH EXISTING SLOPE. FOR BANK TYPE B, MODIFY BANK SLOPE BY ADJUSTING SLOPE LIFT OFFSETS TO MATCH EXISTING SLOPE. BANK SLOPE SHALL BE 1.5:1 H:V TO 1.5:1 H:V.
- CONSTRUCT BANKS TO PROVIDE TYPICAL STREAM BOTTOM WIDTH OF 4' SLOPE.
- ADJUST BOTTOM WIDTH AS NECESSARY AT TRANSITIONS TO EXISTING SLOPE.
- VERIFY EXISTING ELEVATIONS AND DIMENSIONS. VERIFY EXISTING STRAINERS AS NECESSARY TO COMPLETE CULVERT REMOVAL AND BANK RESTORATION.

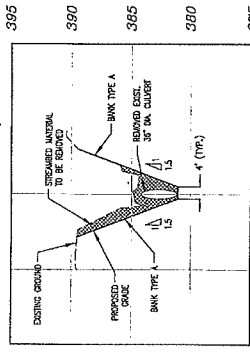
**AS-BUILT**

THIS AS-BUILT DRAWING WAS PREPARED UNDER MY SUPERVISION AND TO THE BEST OF MY KNOWLEDGE AND BELIEF, IT ACCURATELY REPRESENTS THE BEST INFORMATION REGARDING MATERIALS AND DIMENSIONS OF THE WORK SHOWN HEREON. I AM NOT GUARANTEEING THE ACCURACY OF THIS AS-CONSTRUCTED DRAWING.

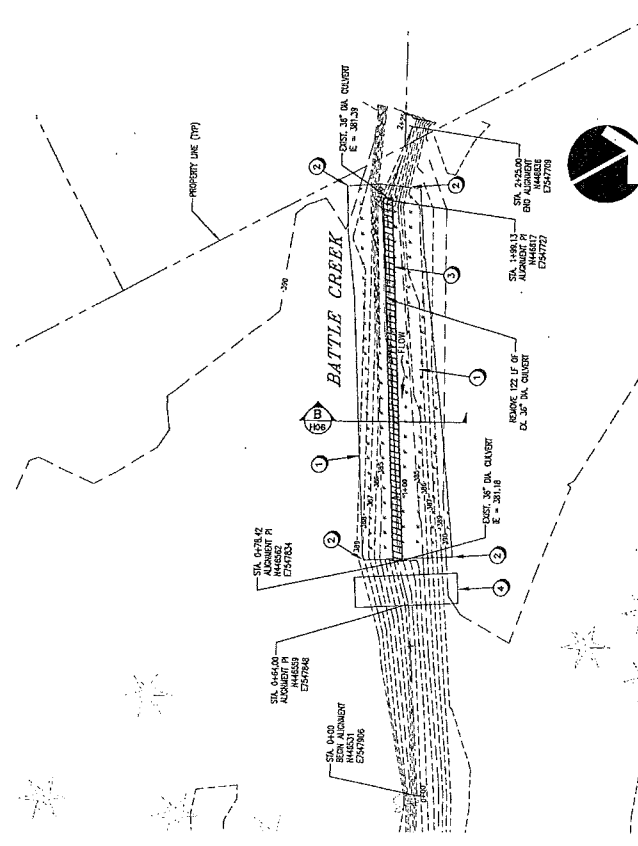
4/2/14  
 DATE  
 Benjamin Harvey, P.E. Project Manager

**AS-BUILT**  
 APR 9 2014  
 JIM KRAWCZYK  
 INSPECTOR

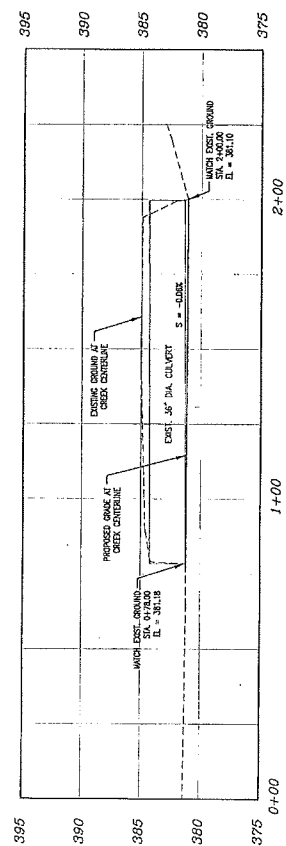
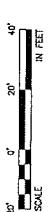
- LEGEND**
- BANK TYPE A
  - BANK TYPE B
  - BANK TYPE C
  - STREAMBED GRAVEL
  - FILL
  - SPURED LARGE WOOD (COMPLETED OR PARTIALLY BURRED)
  - PROPERTY LINE
  - PROPOSED GRADING LINES



**B CULVERT CROSS SECTION**  
 H06



**PLAN**



**PROFILE**



ENGINEERS  
LANDSCAPE ARCHITECTS  
SURVEYORS

OKA  
2020  
1000 NE Oregon Street  
Portland, OR 97232  
503.281.1000

SEALED

TIM B. KRFT  
DATE SIGNED: 08-21-2011  
CERTIFICATE NUMBER: 08-30-2013  
SEPTEMBER 22, 2011

BATTLE CREEK  
PROPERTY

NO.	DESCRIPTION	DATE
1	AS-BUILT	2/14/14

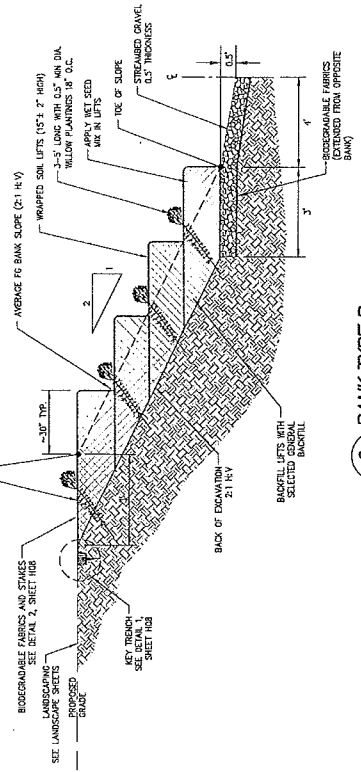
PN: 710504

SUBJECT: BANK RESTORATION  
HORIZONTAL SCALE: AS SHOWN  
VERTICAL SCALE: SHOWN  
DESIGN: RLB  
DRAWN: SC  
CHECKED: SLW  
APPROVED: SLW

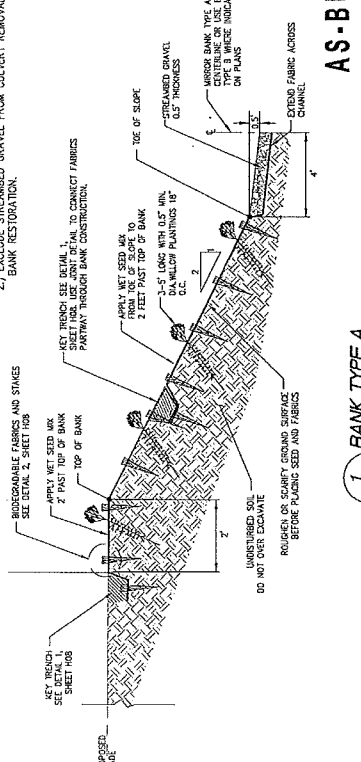
SHEET TITLE  
BANK TYPE SECTION DETAILS

H07  
SHEET 50 OF 103

NOTE:  
EXCLUDE STREAMBED GRAVEL FROM  
CULVERT REMOVAL BANK RESTORATION.



NOTE:  
1.) 2:1 BANK SLOPES APPLY TO TYPICAL BANK TYPE A CROSS SECTION. ALTERNATE BANK SLOPES FOR RESTORATION BANK RESTORATION ARE DESCRIBED ON PLAN SHEETS.  
2.) EXCLUDE STREAMBED GRAVEL FROM CULVERT REMOVAL BANK RESTORATION.



AS-BUILT

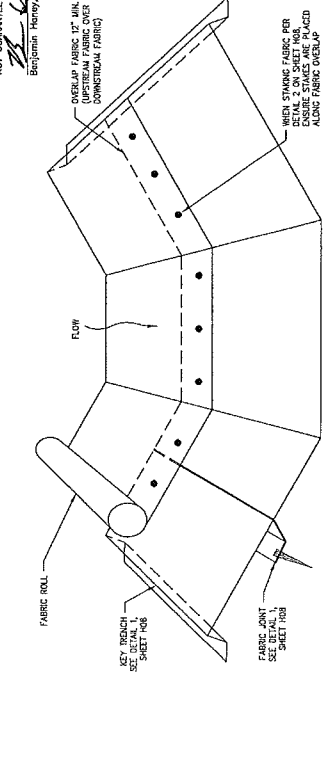
THIS AS-CONSTRUCTED DRAWING WAS PREPARED UNDER MY SUPERVISION FROM DATA COLLECTED UNDER MY SUPERVISION AND REVISIONS TO MY DRAWINGS ARE INDICATED BY CHANGES TO THIS AS-CONSTRUCTED DRAWING. THE CITY OF SALEM DOES NOT GUARANTEE THE ACCURACY OF THIS AS-CONSTRUCTED DRAWING.

4/2/14  
Date

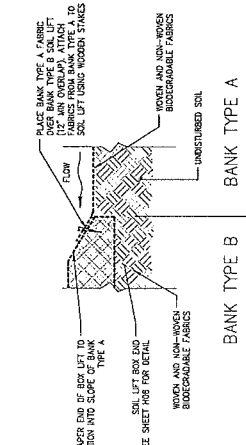
Benjamin Morley, P.E., Project Manager

AS-BUILT  
APR 2 2014  
JIM KRAWCZYK  
INSPECTOR

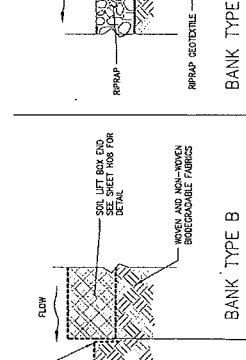
1 BANK TYPE A (H07) N.T.S.



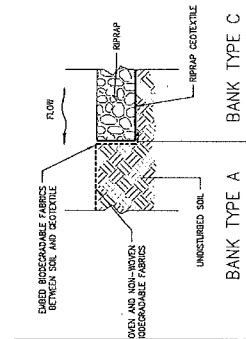
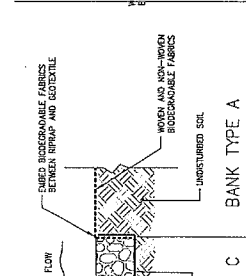
4 FABRIC OVERLAP (BANK TYPE A) (H07) N.T.S.



3 BANK TYPE C (H07) N.T.S.



2 BANK TYPE B (H07) N.T.S.



5 BANK TYPE TRANSITION DETAILS (H07) N.T.S.



SHEET PREPARED BY:



engineers  
planners  
landscape architects  
surveyors



SEALED  
TH. R. KNOTT  
REG. 70477PE  
DATE: 09/22/2014  
CERTIFICATE EXPIRES: 09-22-2013

SEPTEMBER 22, 2014

BATTLE CREEK  
PROPERTY

NO.	REVISIONS	DATE	BY
1	DESCRIPTION	2014	EBD
	AS-BUILT		

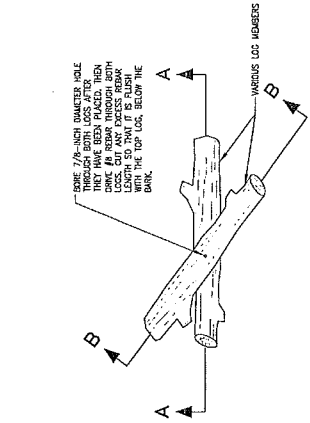
PN: 710504

SURVEY: OIAK  
DRAWN: JLB  
CHECKED: SJW  
APPROVED: SJW

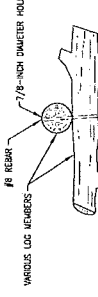
SHEET TITLE  
WALN CREEK  
LOG JAM  
DETAILS

H10

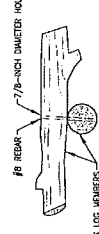
SHEET 53 OF 103



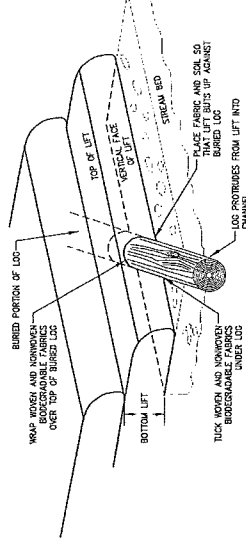
2 LOG PIN DETAIL, PLAN VIEW  
H10 N.T.S.



LOG PIN A-A SECTION VIEW  
N.T.S.

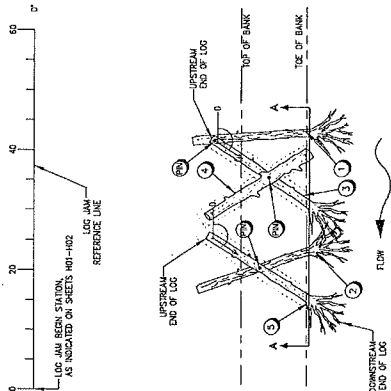


LOG PIN B-B SECTION VIEW  
N.T.S.

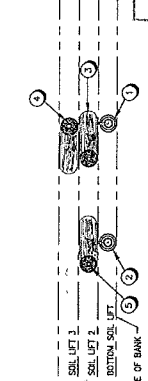


3 FABRIC DETAIL FOR LIFT AROUND WOOD  
H10 N.T.S.

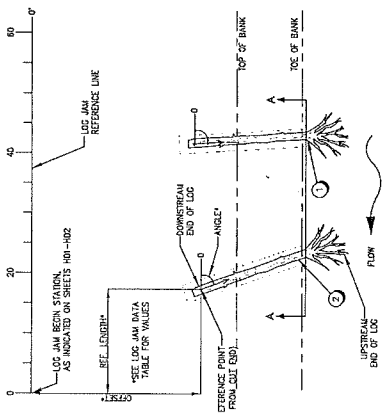
AS-BUILT  
APR 2 2014  
JIM KRAWCZYK  
INSPECTOR



- TRENCH AND INSTALL LOG 2 RESTING FIRMLY ON LOG 1. PIN LOG 2 TO LOG 1 WITH LOG PIN. LOG 2 SHOULD BE INSTALLED WITH SELECTED GENERAL BACKFILL TO FINISHED GRADE.
- TRENCH AND INSTALL LOG 4 RESTING FIRMLY ON LOG 3 AND INSTALL LOG 5 RESTING FIRMLY ON LOG 2. LOG 4 AND LOG 5 SHOULD BE INSTALLED WITH SELECTED GENERAL BACKFILL TO FINISHED GRADE.
- INSTALL LOG 3 RESTING FIRMLY ON LOG 2. LOG 3 SHOULD BE INSTALLED WITH SELECTED GENERAL BACKFILL TO FINISHED GRADE.



1b LOG JAM, STEP 2  
H10 N.T.S.



- TRENCH AND INSTALL LOG 1 RESTING FIRMLY ON LOG 1. PIN LOG 1 TO LOG 1 WITH LOG PIN. LOG 1 SHOULD BE INSTALLED WITH SELECTED GENERAL BACKFILL TO FINISHED GRADE.



1a LOG JAM, STEP 1  
H10 N.T.S.

AS-BUILT

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4/2/14  
Benjamin Healy, P.E. Project Manager

LOGS USED IN LOG JAMS SHALL BE 20' IN LENGTH AS MEASURED FROM CUT END TO CUT END OR CUT END TO BASE OF LOG. LOGS SHALL BE MEASURED 4.5 FEET FROM THE BASE OF THE LOG. LOG DBH SHALL BE 14"-18".

- #8 REBAR LOG PIN
- #8 REBAR LOG PIN (SEE DETAIL 2, THIS SHEET)

LOG JAM (SHEETS H01, H02) DATA TABLE:

ID	OS REF. LENGTH	OS OFFSET	US REF. LENGTH	US OFFSET	ANGLE	DEPTH RELATIVE TO TOE ±0.5'
1	41.54	43.95	41.54	43.95	750°	-0.75
2	17.39	43.04	41.11	45.95	217°	0.5
3	24.45	44.18	33.72	59.83	125°	1.3
4			28.35	44.34	238°	0.75

NOTE:  
REFERENCE POINT IS AT CENTER OF LOG AND LOCATED 1' FROM CUT END OF LOG. FOR LOGS WITH ROOT WAD, ANGLE MEASUREMENT FOR ROOT WAD LOGS IS 15° FROM CUT END OF LOG AT CENTER OF LOG.

SHEET PREPARED BY:



engineers  
planners  
landscape architects  
surveyors



SEALED

THI B. KIMPT  
REG. 70847FE  
DATE: 08-20-2011  
CERTIFICATE: 08-20-2013  
SEPTEMBER 22, 2011

BATTLE CREEK  
PROPERTY

NO.	REVISIONS	DESCRIPTION	DATE BY
1		AS-BUILT	2/14/14

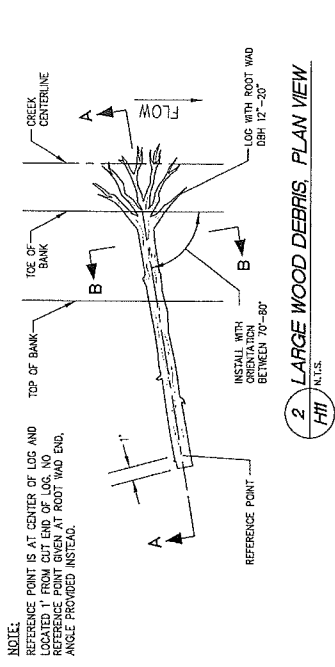
PN: 710504

SURVEY:	OAK
VERT SCALE:	AS SHOWN
DESIGN:	RJB
DRAWN:	SC
CHECKED:	SLW
APPROVED:	SLW

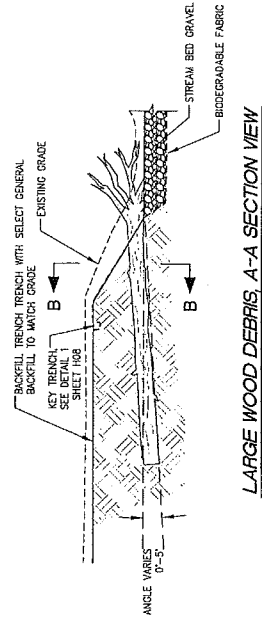
WALN CREEK  
STORM OUTFALL  
AND LARGE  
WOOD DEBRIS  
DETAILS

H11

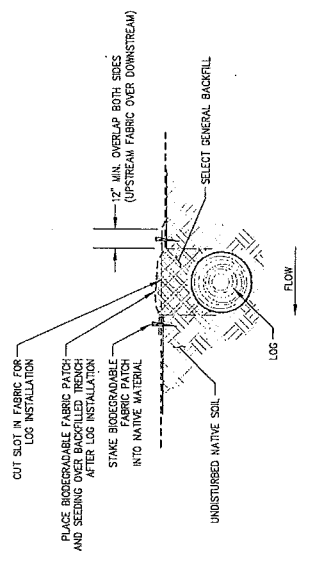
SHEET 54 OF 103



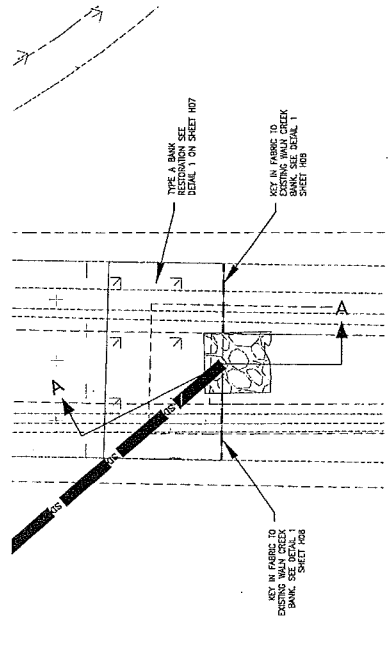
2 LARGE WOOD DEBRIS, PLAN VIEW  
N.T.S.



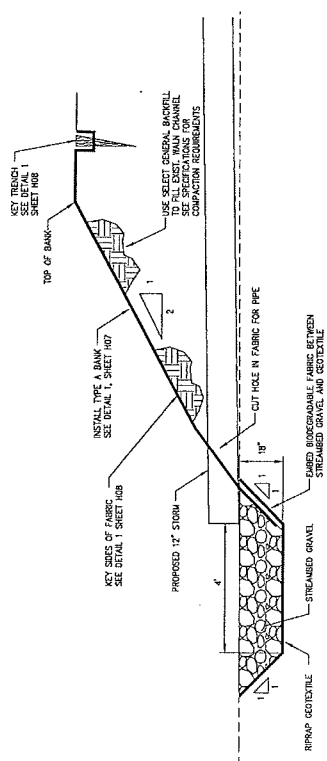
3 LARGE WOOD DEBRIS, A-A SECTION VIEW  
N.T.S.



4 LARGE WOOD DEBRIS, B-B SECTION VIEW  
N.T.S.



1 STORM OUTFALL, PLAN VIEW  
1" = 5'



2 STORM OUTFALL, A-A SECTION VIEW  
N.T.S.

**AS-BUILT**  
APR 2 2014  
JIM KRAWCZYK  
INSPECTOR

**AS-BUILT**

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Benjamin Honey, P.E. Project Manager  
Date: 4/2/14

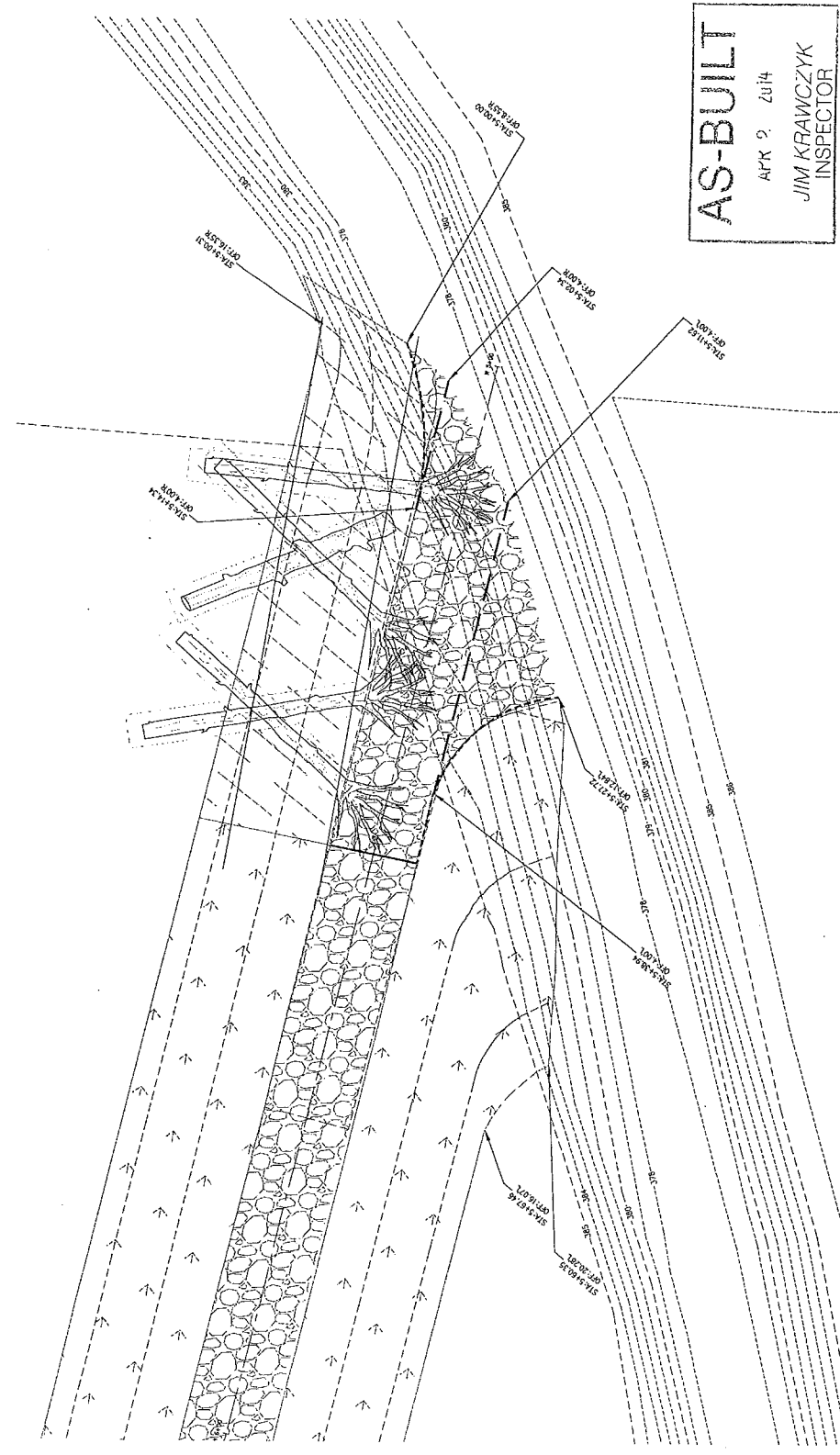
- SUGGESTED LARGE WOODY DEBRIS SEQUENCING:**
- STEP 1: GRADE CHANNEL TO SPECIFIED DIMENSIONS
  - STEP 2: INSTALL BIODEGRADABLE FABRICS AND CUT SLOT IN FABRIC AND TRENCH FOR LOG
  - STEP 3: PLACE BIODEGRADABLE FABRIC PATCH AND SEEDING OVER BACKFILLED TRENCH
  - STEP 4: INSTALL LARGE WOODY DEBRIS
  - STEP 5: BACKFILL AND COMPACT TRENCH
  - STEP 6: STAKE BIODEGRADABLE FABRIC PATCH INTO NATIVE MATERIAL
  - STEP 7: INSTALL STREAMBED GRAVEL

NO.	DESCRIPTION	DATE	BY
1	AS-BUILT	2/14	BBB

PN: 710504  
SURVEY: DTAK  
DRAWN BY: SIZEMAN  
DESIGNER: RJB  
CHECKED: SLW  
APPROVED: SLW

SHEET TITLE  
WALN CREEK  
CONFLUENCE  
DETAIL

H12  
SHEET 55 OF 103



**AS-BUILT**  
APR 2, 2014  
JIM KRAWCZYK  
INSPECTOR



CONFLUENCE PLAN

**AS-BUILT**

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7/2/14  
Date

Benjamin Honey, P.E. Project Manager