# BRIGHAM CITY LOGAN CITY GREAT SALT LAKE OGDEN WYOMING SALT LAKE CITY ORDER WYOMING SALT LAKE CITY ORDER WYOMING GREEN RIVER ORDER ORDER

### **AREA MAP**

# THESE PLANS HAVE BEEN REVIEWED AND APPROVED BY THE FOLLOWING: PUBLIC WORKS DIRECTOR: MARK NIELSEN, P.E. DATE WATER DIVISION MANAGER: PAUL LINDHARDT, P.E. DATE CITY ENGINEER: BILL YOUNG, P.E. DATE

## LOGAN CITY

### **500 NORTH WATER LINE**

**JANUARY 2017** 

**BID SET** 



THIS ELECTRONIC SEAL IS ONLY VALID IF DIGITALLY SIGNED BELOW.



PROJECT NO. 57-16-044



1047 South 100 West, Suite 180, Logan, UT 84321 p 435 713 9514 f 435 713 9503 r www.jub.com

OTHER J-U-B COMPANIES







### **INDEX TO SHEETS**

	0
GENERAL	
G-001	COVER SHEET
G-002	GENERAL NOTES, VICINITY MAP, AREA MAP
G-101	SURVEY CONTROL
CIVIL	
C-201	CULINARY WATER LINE / ELECTRICAL CONDUIT
C-202	CULINARY WATER LINE / ELECTRICAL CONDUIT
C-203	CULINARY WATER LINE / ELECTRICAL CONDUIT
C-401	ADDITIONAL VALVE LOCATIONS
C-501	CIVIL DETAILS

### NOTICE AND DISCLAIME

THE PLANS AND/OR SPECIFICATIONS (DOCUMENTS) ARE THE PROPERTY OF J-U-B ENGINEERS, INC. ("J-U-B") AND BY USING THE DOCUMENTS YOU AGREE TO BE BOUND BY THE TERMS AND CONDITIONS IN THIS NOTICE AND DECLARAGE.

USEN, THE DOCUMENTS CREATES NO DUTY IN CONTRACT, TORE, EQUITY OR OTHERWISE OF J-U-B TO THE USER. THE USER SHALL NOT (1) DISSEMNATE THE DOCUMENTS, OR ANY PART THEREOF, TO OTHER WITHOUT THE WRITTEN CONSENT OF J-U-B, OR (ii) USE THE DOCUMENTS, OR ANY PART THEREOF, FOR ANY USE OTHER THAN A DESIGNATED HEREN FOR THE INTENDED PROJECT. THE DOCUMENTS ARE NOT INTENDED FOR USE IN CREATING DISTORMED FOR THE INTENDED PROJECT. THE DOCUMENTS ARE NOT INTENDED FOR USE IN CREATING DISTORMED FOR GRADING OR EARTHWORK, SURVEY, STAKING LAYOUT UNLESS SPECIFICALLY IDENTIFIED AS SULD! IN THE

J-U-B AND ITS AGENTS SHALL NOT BE LIMBLE FOR ANY DAWAGES OR CLAIMS ARISING OUT OF THE UNAUTHORIZED USE OR MISUSE OF THE DOCUMENTS, OR ANY PART THEREOF, WHETHER SUCH DAWAGE OR CLAIM IS REAGED IN CONTRACT, FORT OR OTHERWISE. THE USER HERESY RELEASES AND SHALL DEFEND, DIDENNIFY AND HOLD II-U-B AND ITS ACENTS HARMLESS FROM ANY DAMAGES OR CLAIMS ARISING OUT OF OR RELATED IN ANY WAY TO, THE USESPE SINGHLIPORIZED ISSO IN MISUS OF THE POOLUMENTS OR AND PART THEREOF.

THE DECOMENTS AND PRINCED IN LECTRONIC FORMAL THE LECTRONIC DATE
SOURCES OF THE DOCUMENTS ARE REPORTED WITH DO MARKAUTS OF AND HIM.
MATTER ESPRESS OF MOVELED, NOLLOWN, WHICH LISTS, COMPARISON, ANY REPRESENTATION
OF MARKAUTS OF ACCURACY DULLIS, COMPLETENESS, COMPARISON HIM. INSITE

SHEET NUMBER:

G-001

### **GENERAL NOTES**

- 1. LOGAN CITY CORPORATION AND THE ENGINEER HAVE JURISDICTION OVER THIS PROJECT. CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND BUSINESS LICENSES PRIOR TO CONSTRUCTION.
- 2. CONTRACTOR IS RESPONSIBLE FOR DUST ABATEMENT AND ANY LIABILITY ISSUES RELATED TO DUST AT ANY LOCATION WHICH MAY BE CAUSED BY THIS PROJECT.
- THE CONTRACTOR IS RESPONSIBLE FOR TRAFFIC CONTROL AND PROTECTION OF PEDESTRIANS IN AND AROUND THIS WORK. REFERENCE THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD LATEST EDITION FOR WORK ZONE TRAFFIC
- 4. ANY WORK DONE WITHIN A PUBLIC RIGHT-OF-WAY SHALL BE COORDINATED WITH THE APPROPRIATE TRANSPORTATION AGENCY AND SHALL MEET THE REQUIREMENTS OF THAT AGENCY AND, IN PARTICULAR, REQUIREMENTS OF ANY RIGHT-OF-WAY SPECIAL USE PERMIT, OR OTHER PERMIT. ALL WORK SHALL MEET CURRENT OSHA REQUIREMENTS.
- 5. WHERE WORK IS PERFORMED ON EASEMENTS, THE CONTRACTOR SHALL TAKE EVERY PRECAUTION TO ELIMINATE ANY ADVERSE EFFECTS ON THE ADJACENT PROPERTY AND/OR TO RESTORE IT TO ITS ORIGINAL CONDITION.
- ALL DISTANCES AND DATA SHALL BE CHECKED BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. IN CASE OF CONFLICT THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY SO THAT CLARIFICATION MAY BE MADE PRIOR TO THE START OF THE WORK.
- THE CONTRACTOR SHALL ARRANGE FOR, SECURE AND PAY FOR DIRECTLY, ANY AND ALL TEMPORARY UTILITY SUPPLIES (E.G. WATER POWER, AND TELEPHONE) IT MAY REQUIRE FOR PROSECUTION OF ITS WORK. THE COST OF SUCH UTILITIES SHALL BE INCLUDED IN THE APPROPRIATE BID ITEM WITH WHICH IT IS ASSOCIATED.
- 8. SHOULD CONSTRUCTION BE HALTED BECAUSE OF INCLEMENT WEATHER CONDITIONS, THE CONTRACTOR WILL COMPLETELY CLEAN UP ALL AREAS AND MAINTAIN THE SURFACE IN GOOD CONDITION DURING THE SHUT-DOWN PERIOD.
- THE CONTRACTOR'S PERSONNEL, EQUIPMENT, AND OPERATIONS SHALL COMPLY FULLY WITH ALL APPLICABLE STANDARDS, REGULATIONS, AND REQUIREMENTS OF EXISTING FEDERAL, UTAH STATE, AND LOCAL GOVERNMENTAL AGENCIES.
- 10. ALL WORK SHALL BE CONTAINED IN OR LIMITED TO THE CITY/COUNTY/STATE RIGHT-OF-WAY, CITY'S PROPERTY, EASEMENTS, OR APPROVED STAGING AREAS.
- 11. COORDINATE WITH LOGAN CITY WATER DEPARTMENT ON WATER MAIN SHUT DOWNS . THE 16 INCH WATER MAIN ON 600 EAST IS A MAIN FEED LINE TO A PART OF THE CITY AND SHUT DOWNS NEED TO BE COORDINATED AHEAD OF TIME. LIMIT SHUTDOWNS TIMES AS MUCH AS POSSIBLE

### **EXISTING UTILITIES**

- 1. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE APPROPRIATE UTILITY COMPANIES WHEN CONSTRUCTION MIGHT INTERFERE WITH NORMAL OPERATION OF ANY UTILITIES. IT SHALL ALSO BE THE CONTRACTOR'S RESPONSIBILITY TO HAVE THE APPROPRIATE UTILITY COMPANY FIELD-LOCATE ANY UTILITY INSTALLATIONS WHICH MIGHT BE AFFECTED BY CONSTRUCTION PRIOR TO BEGINNING WORK IN THAT AREA.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING SERVICE OF EXISTING UTILITIES AND FOR RESTORING ANY UTILITIES DAMAGED DUE TO CONSTRUCTION AT NO ADDITIONAL COST TO THE OWNER.
- DEPTHS AND ELEVATIONS OF UTILITIES ARE UNKNOWN UNLESS OTHERWISE SHOWN. CONTRACTOR SHALL FIELD VERIFY UTILITY LOCATIONS, DEPTHS, AND ELEVATIONS. ANY DISCREPANCIES AND/OR CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.
- NOT ALL UTILITIES ARE SHOWN ON PLANS, INCLUDING GAS, PHONE, POWER, FIBER OPTIC, CABLE, ETC. ONLY THE MAINS FOR THE CULINARY WATER, SECONDARY WATER, SEWER AND STORM DRAIN ARE SHOWN.

### **INSPECTION AND TESTING**

- 1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MATERIALS TESTING INCLUDING BUT NOT LIMITED TO CONCRETE, LEAK, PRESSURE, AND COMPACTION. ALL TESTS SHALL MEET MINIMUM ENGINEER REQUIREMENTS. SEE THE CONTRACT DOCUMENTS AND DRAWINGS FOR FREQUENCY OF TESTING. RESULTS ARE TO BE DELIVERED TO SPECIAL INSPECTOR, OWNER AND ENGINEER.
- 2. THE CONTRACTOR IS RESPONSIBLE TO COORDINATE WITH ENGINEER AND SPECIAL INSPECTOR FOR INSPECTIONS OF WORK AT APPROPRIATE INTERVALS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PAY FOR ADDITIONAL INSPECTIONS THAT ARE THE RESULT OF HIS WORKMANSHIP.

# PROJECT LOCATION IDAHO UTAH MAJOR HIGHWAYS WYOMING JUAB ARIZONA

### **AREA MAP**

### **CONTACT PHONE NUMBERS**

ENGINEER
----------

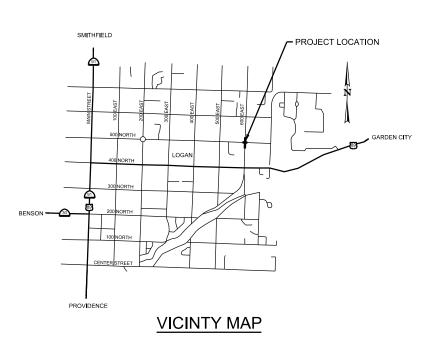
J-U-B LOGAN OFFICE

JOHN POWELL SAM POWELL	801-725-4044 (c) 435-757-2221 (c)	PROJECT MANAGER PROJECT ENGINEER
LOGAN CITY		
TYLER CADY	435-716-9162 (o)	CITY PROJECT MANAGER
BILL YOUNG	435-716-9106 (o)	CITY ENGINEER
STEPHEN CROSBY	435-716-9622 (c)	L&P DISTRIBUTION MANAGER
PAUL LINDHARDT	435-716-9622 (o)	WATER/WASTE WATER MANAGER

435-713-9514



**CALL 2 BUSINESS DAYS IN ADVANCE BEFORE** YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES



J-U-B ENGINEERS, INC

J-B ENGINEERS, INC 047 South 100 West, Suite 180 Logan, UT 84321 Phone: 435.713.9514 Fax: 435.713.9503 J-U-B E 1047

BID SET



VICINITY MAP

500 NORTH WATER LINE LOGAN CITY NOTES,

AT FULL SIZE, IF NOT O

SHEET NUMBER

G-002

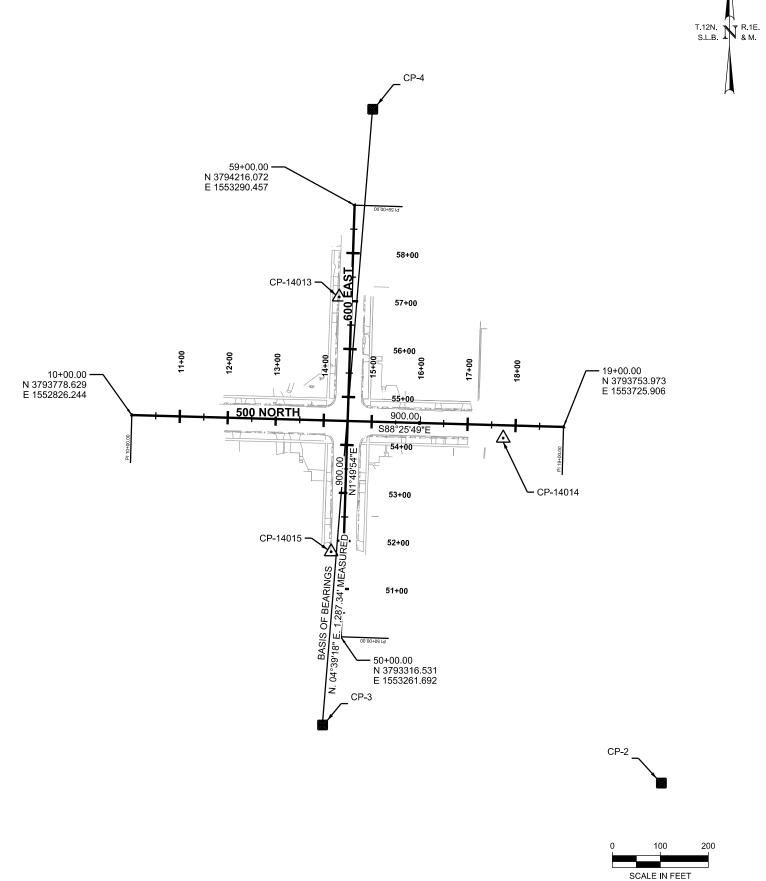
### SURVEY CONTROL NOTES:

- THE STATE PLANE AND GEODETIC COORDINATES WERE DERIVED USING THE UTAH AGRC "T.U.R.N." V.R.S. NETWORK. SPATIAL REFERENCE: N.A.D. 83 (2011) EPOCH 2010. (DATES OF OCCUPATION: APRIL 26 AND NOVEMBER 11, 2016)
- PROJECT COORDINATES WERE DERIVED BY HOLDING THE OBSERVED N.A.D. 83, U.S. SURVEY FOOT, STATE PLANE, UTAH NORTH ZONE VALUES FOR EACH CONTROL POINT AND SCALING SAID VALUES TO GROUND ABOUT N. 3793724.417, E. 1553229.484 USING A COMBINED GRID TO GROUND SCALE FACTOR OF 1.0002257217 (0.99977432924). ALL DISTANCES ARE GROUND VALUES.
- THE BAIS OF BEARINGS WAS ESTABLISHED USING THE OBSERVED N.A.D. 83 BEARING OF N04°39'18"E ALONG THE LINE BETWEEN CONTROL POINT NUMBER 3 AND CONTROL POINT
- CONTROL POINT CP-14013 SERVES AS THE PRIMARY BENCHMARK FOR THIS PROJECT USING THE V.R.S. DERIVED N.A.V.D. 88, U.S. SURVEY FOOT ELEVATION OF 4,643.168 (GEOID12A).
- THE CONTROL POINT COORDINATES SHOWN HEREON ARE BASED ON ACTUAL FIELD MEASUREMENTS AND SHOULD BE USED FOR ALL CONSTRUCTION STAKING.
- CONTROL POINTS CP-14013, CP-14014, AND CP-14015 SERVE AS THE PRIMARY VERTICAL CONTROL POINTS FOR THIS PROJECT. CONTROL POINTS CP-1, CP-2, CP-3, AND CP-4 SERVE AS THE PRIMARY HORIZONTAL CONTROL POINTS. ALL OTHER POINTS SERVE AS SECONDARY CONTROL.

	PROJECT CONTROL POINT COORDINATES										
POINT #	NORTHING	EASTING	DESCRIPTION								
CP-1	3793065.744	1551918.209	4600.25	LOGAN CITY MONUMENT #231							
CP-2	3793011.776	1553929.802	4675.07	LOGAN CITY MONUMENT #392							
CP-3	3793132.825	1553223.842	4642.67	LOGAN CITY MONUMENT #227							
CP-4	3794415.916	1553328.315	4645.31	LOGAN CITY MONUMENT #226							
CP-14013	3794024.818	1553258.490	4643.17	NAIL							
CP-14014	3793730.699	1553600.170	4656.71	NAIL							
CP-14015	3793493.794	1553241.675	4642.76	NAIL							

N.A.D. 83 STATE PLANE, GRID AND GEOGRAPHIC CONTROL POINT COORDINATES										
POINT #	NORTHING	EASTING	LATITUDE	LONGITUDE						
CP-1	3793065.892	1551918.505	N41°44'19.57213"	W111°49'27.32550"						
CP-2	3793011.936	1553929.644	N41°44'19.11239"	W111°49'00.79543"						
CP-3	3793132.958	1553223.843	N41°44'20.28247"	W111°49'10.11099"						
CP-4	3794415.759	1553328.292	N41°44'32.95950"	W111°49'08.79541"						
CP-14013	3794024.749	1553258.483	N41°44'29.09405"	W111°49'09.69731"						
CP-14014	3793730.697	1553600.086	N41°44'26.20138"	W111°49'05.17709"						
CP-14015	3793493.845	1553241.672	N41°44'23.84845"	W111°49'09.89332"						



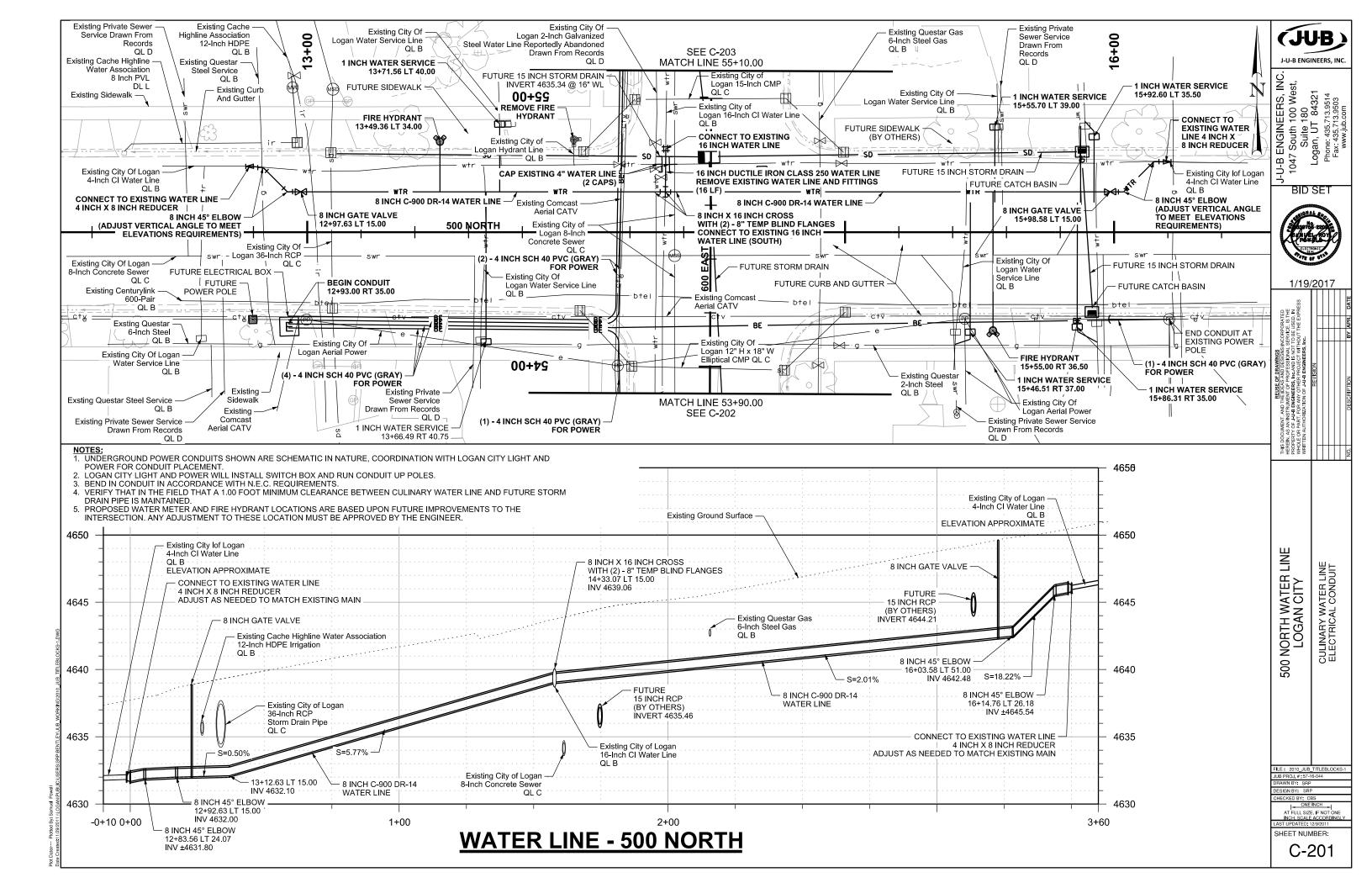


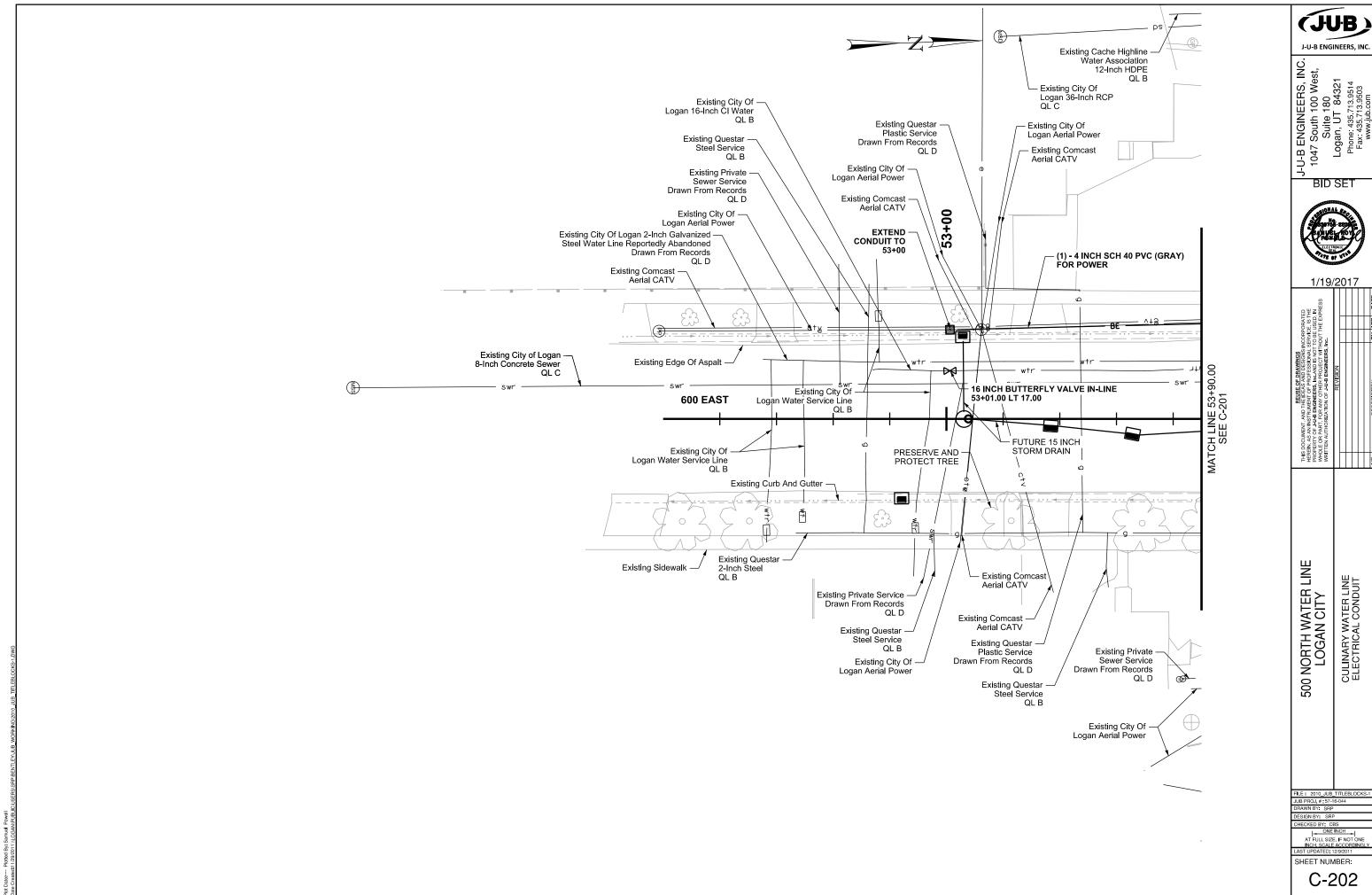


ONE INCH | AT FULL SIZE, IF NOT ON

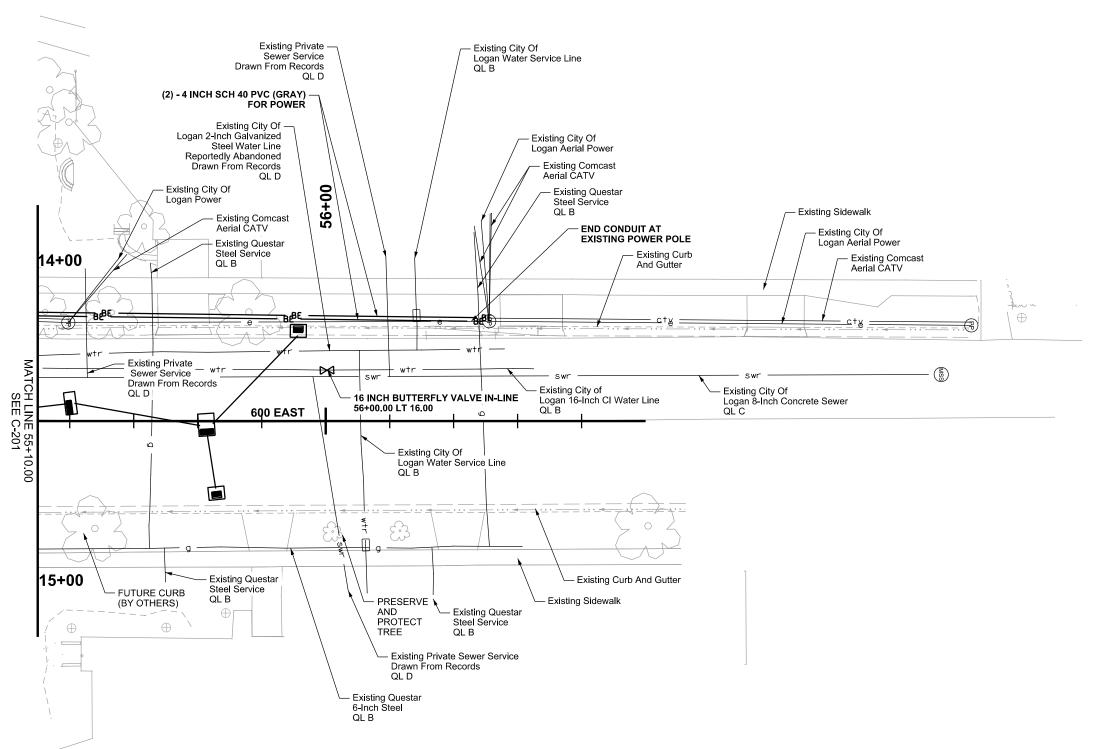
SHEET NUMBER:

G-101









J-U-B ENGINEERS, INC.

J-U-B ENGINEERS, INC. 1047 South 100 West, Suite 180 Logan, UT 84321 Phone: 435,713,9503 www.iub.com

BID SET



1/19/2017 THIS DOC HEREIN, A PROPERT WHOLE C

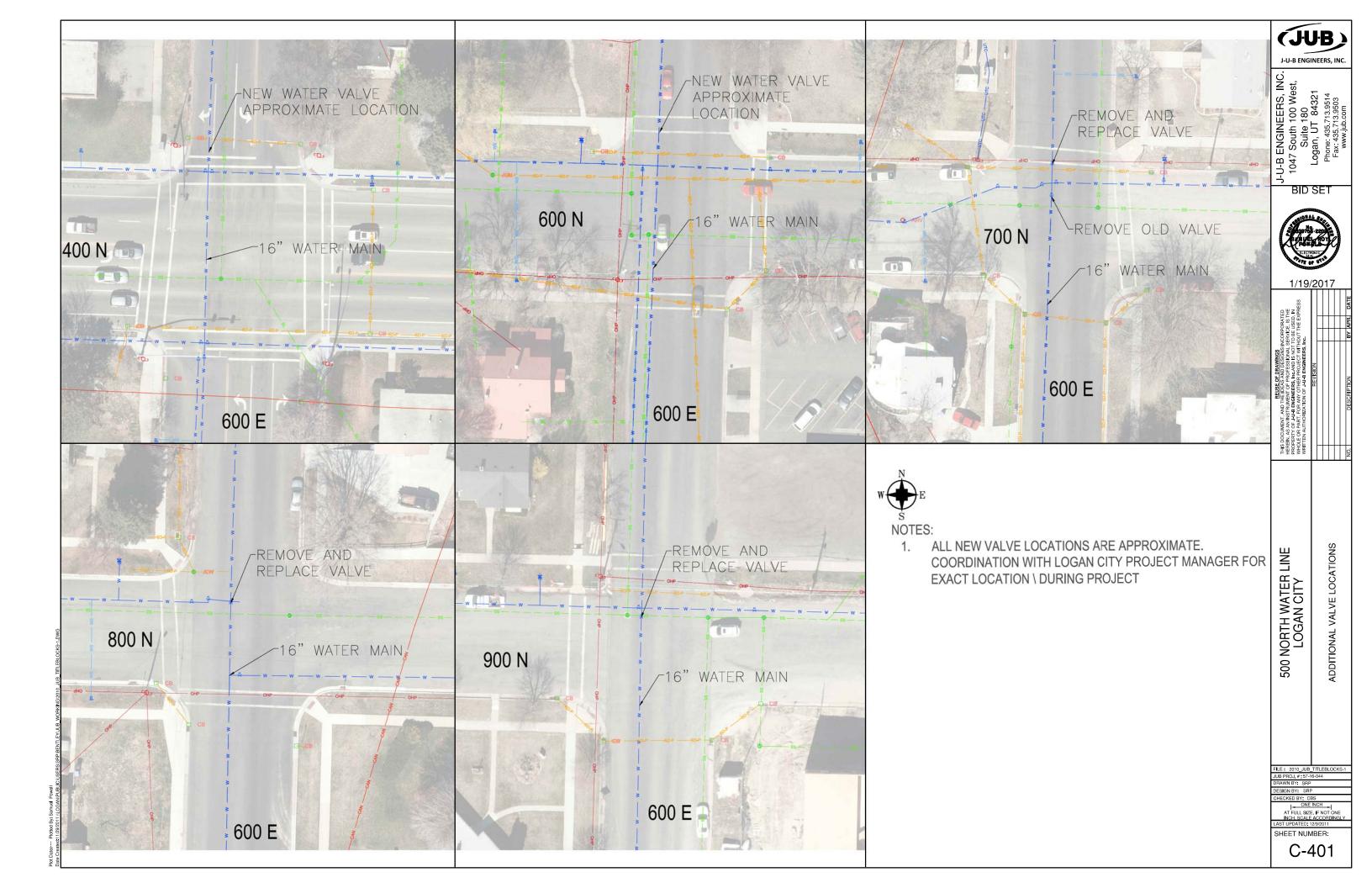
> 500 NORTH WATER LINE LOGAN CITY CULINARY WATER LINE ELECTRICAL CONDUIT

RAWN BY: SRP ESIGN BY: SRP

ONE INCH

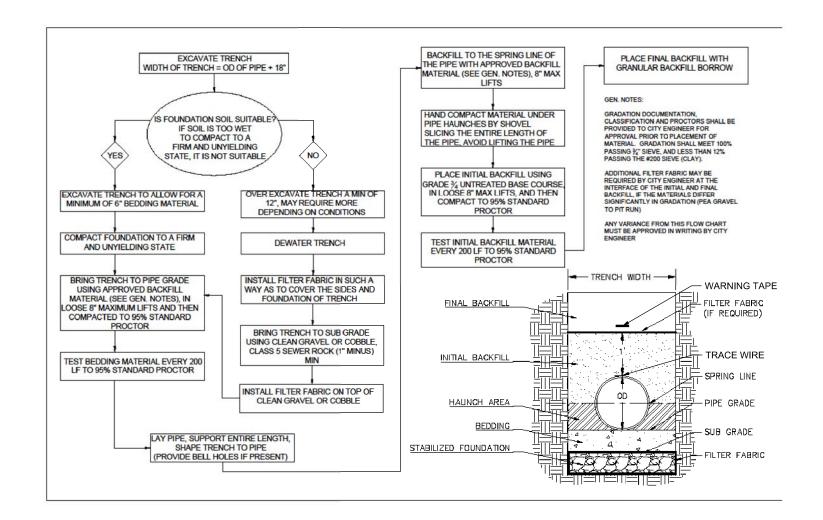
SHEET NUMBER:

C-203



### NOTES:

- 1. SURFACE RETORATION:
- A. ASPHALT: 2" ASPHALT, 6 INCH UNTREATED BASE COURSE
- B. LANDSCAPING: 4 INCH OF TOPSOIL, USE EXISTING. GRADE TO MATCH EXISTING.
- C. CURB AND GUTTER: UNTREATED BASE COURSE COMPACTED SMOOTH D. SIDEWALK: UNTREATED BASE COURSE, GRADE TO MATCH EXISTING.
- **ELECTRICAL TRENCH DETAIL**



### WATER LINE TRENCH DETAIL

THRUST BLOCK BEARING AREA IN SQUARE FEET  Pipe Size (in) Tee 45 bend 90 bend										
Tee	90 bend									
1.8	1.4	2.5								
3.7	2.8	5.2								
6.3	4.8	8.9								
	Tee 1.8 3.7 6.3	Tee         45 bend           1.8         1.4           3.7         2.8								

<sup>\*</sup> See APWA Plan No. 561 as Amended by Logan City for thrust block details

CALCULATED RESTRAINT LENGTH														
Fitting Type	Nominal Size	Branch Size	Reduced Size	Bend Angle	Pipe Material	Soil Type	Safety Factor	Trench Type	Depth of Bury	Test Pressure	Length Along Run	Lowside Depth	Restraint Length	Restraint Length 2
Reducer	8		4		PVC	SM	1.5	4	5	250			53 ft.	
Horizontal														
Bend	8			45	PVC	SM	1.5	4	5	250			12 ft.	
Vertical Offset	8			45	PVC	SM	1.5	4	4	250		6	38 ft.	10 ft.
Tee	8	6			PVC	SM	1.5	4	5	250	10		1 ft.	
Dead End	4				PVC	SM	1.5	4	4	250			50 ft.	
Horizontal	_								_					
Bend	6			90	PVC	SM	1.5	4	5	250	l	1	21 ft.	

<sup>\*</sup>Joint Restraint Calculator Website: http://rcp.ebaa.com/

### THRUST BLOCK BEARING AREA

### THRUST RESTRAINT CALCULATIONS

J-U-B ENGINEERS, INC J-B ENGINEERS, INC 1047 South 100 West, Suite 180 Logan, UT 84321 Phone: 435,713,9514 Park 435,713,9503 www.lub.com J-U-B E **BID SET** NORTH WATER LINE LOGAN CITY ONE INCH | AT FULL SIZE, IF NOT ON

SHEET NUMBER: C-501

Plot Date:--- Plotted By: Samuel Powell Date Created:11/29/2011 %LOGANIPUBLIC:USERS/SRP\BENTLEY\JUB\_WORKING\2010\_JUB\_TITI