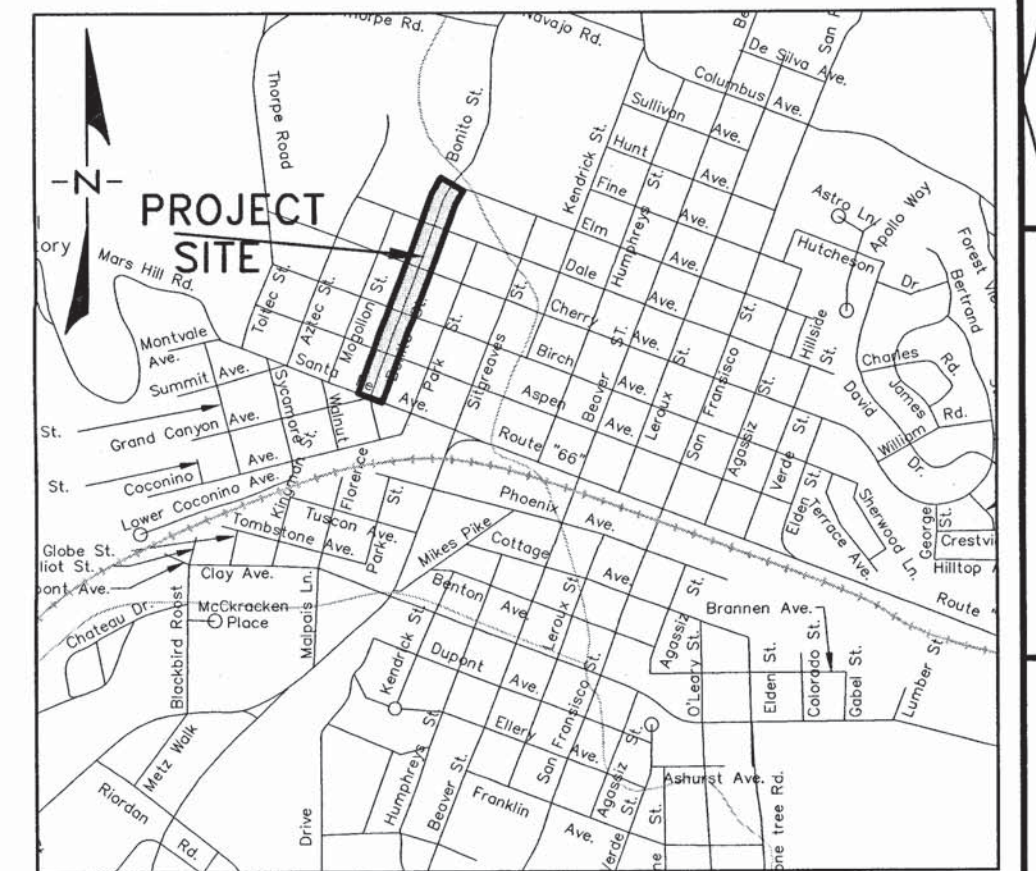


BONITO STREET IMPROVEMENT PLANS CONSTRUCTION PLANS

A PROPOSED IMPROVEMENT IN A PORTION OF SECTION 16, TOWNSHIP 21
NORTH, RANGE 7 EAST, GILA AND SALT RIVER BASE AND MERIDIAN,
COCONINO COUNTY, ARIZONA



CITY OF FLAGSTAFF
VICINITY MAP
NOT TO SCALE

3/9/15

WOODSON ENGINEERING AND SURVEYING, INC.
124 N. ELDEN ST. • FLAGSTAFF, AZ 86001 • PHONE: (928) 774-4636 FAX: (928) 774-4646

113801

BONITO STREET
IMPROVEMENT PLANS
CONSTRUCTION PLANS

DRAWN BY: AAS
DATE: 12/15/14
PROJ. NO.: 113801
FN: 01 Cover

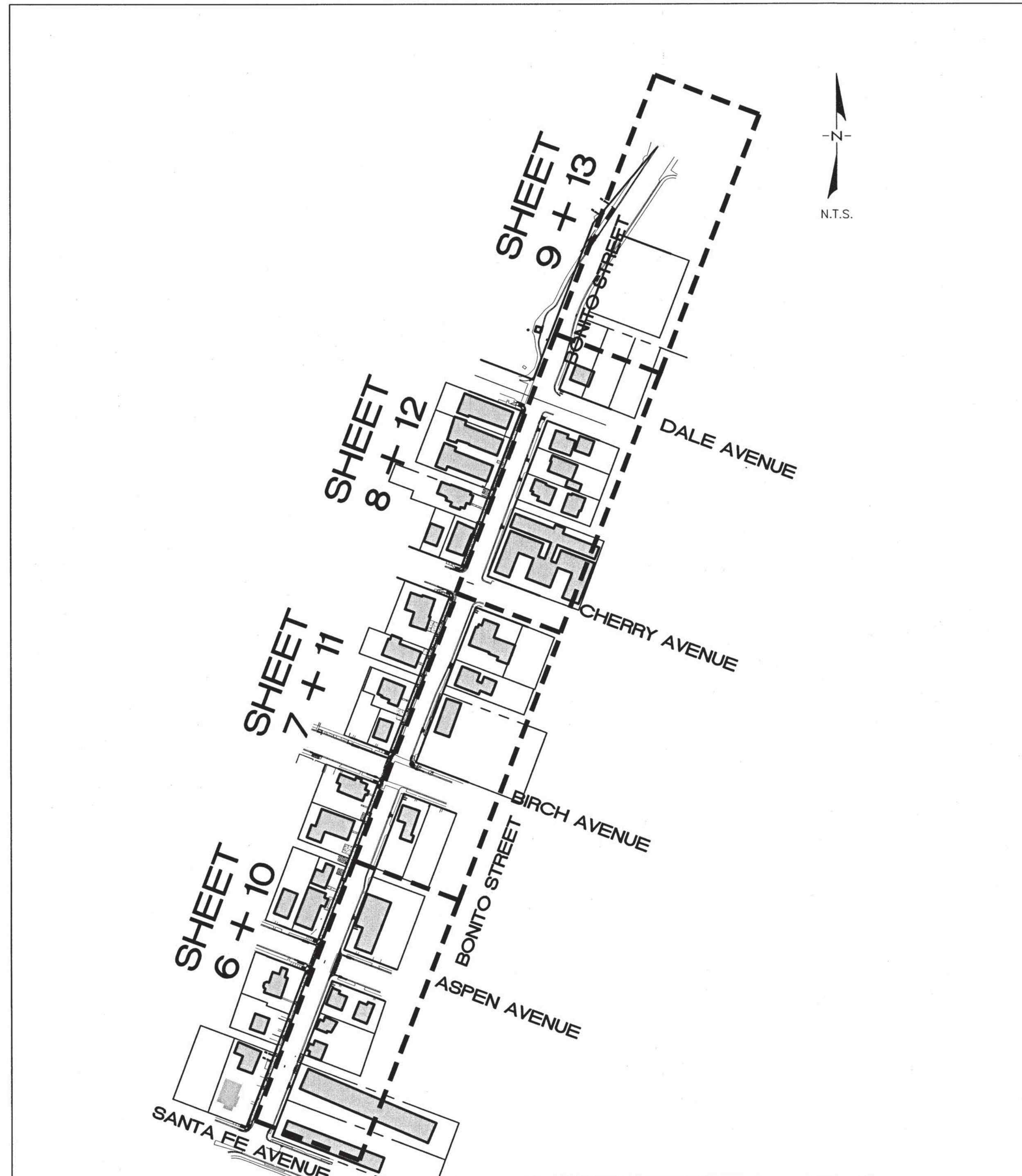
LEGEND

	EXISTING PROPERTY LINE
	EXISTING ROAD CENTERLINE
	EXISTING EASEMENT
	EXISTING MAJOR CONTOUR
	EXISTING MINOR CONTOUR
	EXISTING FLOWLINE
	EXISTING WATER LINE
	EXISTING SANITARY SEWER LINE
	EXISTING STORM DRAIN
	EXISTING GAS LINE
	EXISTING OVERHEAD ELECTRIC LINE
	EXISTING UNDERGROUND ELECTRIC LINE
	EXISTING CABLE TV LINE
	EXISTING TELEPHONE LINE
	EXISTING FIBER OPTIC LINE
	EXISTING CHAIN LINK FENCE
	EXISTING WOOD FENCE
	EXISTING WALL
	EXISTING CONCRETE
	EXISTING STRUCTURE
	EXISTING PAVEMENT
	PROPOSED WATER LINE
	PROPOSED SANITARY SEWER LINE
	PROPOSED STORM DRAIN
	PROPOSED CONCRETE
	PROPOSED PAVEMENT REPLACEMENT
	PROPOSED MILL AND OVERLAY
	EXISTING WATER VALVE
	EXISTING WATER METER
	EXISTING FIRE HYDRANT
	EXISTING SANITARY SEWER MANHOLE
	EXISTING STORM DRAIN MANHOLE
	EXISTING CATCH BASIN
	EXISTING GAS VALVE
	EXISTING GAS METER
	EXISTING ELECTRIC METER
	EXISTING MISCELLANEOUS MANHOLE
	EXISTING UTILITY POLE
	EXISTING GUY ANCHOR
	EXISTING LIGHT POLE
	EXISTING SIGN POST
	EXISTING BOLLARD
	EXISTING TREE TO REMAIN (DIAMETER AND P=PINE, J=JUNIPER, D=DECIDUOUS)
	FOUND RIGHT-OF-WAY MONUMENT AS NOTED
	FOUND REBAR AS NOTED
	FOUND MONUMENT AS NOTED
	FOUND NAIL AS NOTED
	PROPOSED WATER VALVE
	PROPOSED WATER METER
	PROPOSED FIRE HYDRANT
	PROPOSED SANITARY SEWER MANHOLE
	PROPOSED SANITARY SEWER CLEANOUT
	PROPOSED STORM DRAIN MANHOLE
	PROPOSED CATCH BASIN
	PROPOSED AIR RELEASE VALVE

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UTILITY ACKNOWLEDGEMENT

BY LETTER	01/05/15
ARIZONA PUBLIC SERVICE	DATE
BY LETTER	01/22/15
UNISOURCE ENERGY	DATE
BY LETTER	01/07/15
CENTURY LINK	DATE
BY LETTER	12/29/14
SUDDEN LINK	DATE

CITY OF FLAGSTAFF APPROVAL

<i>Robert D. Bennett</i>	3/12/15
CITY ENGINEER	DATE
<i>Eric Sellers</i>	3-12-2015
PUBLIC WORKS DIRECTOR	DATE
<i>Randley M. Hill</i>	11 MARCH 2015
UTILITIES DIRECTOR	DATE

ADEQ APPROVAL

APPROVAL TO CONSTRUCT 20150017	2/4/15
WATER	DATE
CONSTRUCTION AUTHORIZATION 20150017	01/28/15
SEWER	DATE

IMPERVIOUS AREA CALCULATION

NO ADDITIONAL IMPERVIOUS AREA IS BEING PROPOSED FOR THIS PROJECT.

GENERAL NOTE

THESE PLANS WERE PREPARED UNDER THE 2012 EDITION OF THE CITY OF FLAGSTAFF ENGINEERING DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS AND THE 2013 EDITION OF THE MAG UNIFORM STANDARD SPECIFICATIONS AND DETAILS.

CONCEPT APPROVAL

THE CITY OF FLAGSTAFF APPROVES THESE PLANS FOR CONCEPT ONLY. ALL LIABILITY FOR ERRORS OR OMISSIONS IS THE RESPONSIBILITY OF THE DESIGN ENGINEER.

AUTHORIZATION TO CONSTRUCT

THE SIGNATURES ABOVE ARE REQUIRED BEFORE THE CONTRACTOR CAN COMMENCE. UNSIGNED, THESE PLANS HAVE NOT BEEN COMPLETED WITH RESPECT TO AGENCY REVIEW AND APPROVAL.

OWNER/DEVELOPER

CITY OF FLAGSTAFF
UTILITIES DEPARTMENT
211 W. ASPEN AVE.
FLAGSTAFF, AZ 86001
(928) 774-7685

ENGINEER

WOODSON ENGINEERING AND SURVEYING, INC.
124 N. ELDEN ST.
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SUMMARY OF UTILITY CONFLICTS

SHEET 10	
SEWER MAIN AND GAS MAIN	STA 10+50
SEWER MAIN AND 16" WATER MAIN	STA 10+50
SEWER MAIN AND STORM DRAIN	STA 12+15
SEWER MAIN AND RECLAIMED WATER	STA 12+20
SEWER MAIN AND WATER MAIN	STA 12+40
SEWER MAIN AND STORM DRAIN	STA 12+50
SHEET 11	
SEWER MAIN AND STORM DRAIN	STA 14+12
SEWER MAIN AND WATER MAIN	STA 15+80
SEWER MAIN AND STORM DRAIN	STA 16+22
SEWER MAIN AND GAS MAIN	STA 17+60
WATER MAIN AND GAS MAIN	STA 17+60
SEWER MAIN AND WATER MAIN	STA 17+65
SHEET 12	
WATER MAIN AND SEWER MAIN	STA 21+17
WATER MAIN AND STORM DRAIN	STA 23+95
SHEET 13	
WATER MAIN AND STORM DRAIN	STA 24+38
WATER MAIN AND GAS MAIN	STA 25+95

AS-BUILT DRAWINGS
DATE: 3/28/16
BY: ALICIA STOFFERS, PE

WOODSON
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EXPIRES 9/30/2015

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FF57A

COF #03-13012
SHEET 1 OF 22



C.O.F. GENERAL NOTES

13-06-007-0001 GENERAL NOTES
1. APPROVAL OF THESE PLANS BY THE CITY ENGINEER IS FOR A ONE-YEAR PERIOD, SUBSEQUENT TO THE DATE OF APPROVAL. IF CONSTRUCTION WORK IS NOT STARTED WITHIN THE ONE-YEAR PERIOD OR HAS BEEN DISCONTINUED FOR ANY REASON FOR LONGER THAN ONE YEAR, THE PLANS SHALL BE RESUBMITTED FOR REVIEW AND RE-APPROVAL.
2. PLAN REVIEW BY THE CITY DOES NOT EXTEND TO MATERIAL QUANTITIES SHOWN ON THE PLANS.
3. A PUBLIC WORKS PERMIT, ISSUED BY THE CITY, IS REQUIRED FOR ALL WORK IN CITY RIGHTS-OF-WAY OR EASEMENTS AND FOR CONSTRUCTION OF ANY IMPROVEMENTS INTENDED TO BECOME PUBLIC PROPERTY.
4. THE CITY SHALL BE NOTIFIED 24 HOURS PRIOR TO BEGINNING DIFFERENT PHASES OF CONSTRUCTION SO THAT CITY INSPECTORS MAY BE SCHEDULED.
5. ALL MATERIALS AND WORKMANSHIP SHALL COMPLY WITH THE FLAGSTAFF CITY CODE TITLE 13 "ENGINEERING DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS", THE CURRENT "MAG UNIFORM STANDARD SPECIFICATIONS AND DETAILS FOR PUBLIC WORKS CONSTRUCTION", THE CITY OF FLAGSTAFF STORMWATER DESIGN MANUAL, AND WITH GENERALLY ACCEPTED ENGINEERING DESIGN AND GOOD CONSTRUCTION PRACTICE. ALL WORK AND MATERIALS WHICH DO NOT CONFORM TO THE STANDARDS AND SPECIFICATIONS ARE SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR IS RESPONSIBLE FOR REVIEWING CHAPTER 21 OF THESE (FLAGSTAFF DESIGN) STANDARDS WHICH MAKES MINOR MODIFICATIONS TO CERTAIN MAG SPECIFICATIONS AND DETAILS.
6. ANY WORK PERFORMED WITHOUT THE KNOWLEDGE AND APPROVAL OF THE CITY ENGINEER OR HIS AUTHORIZED REPRESENTATIVE, IS SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
7. THE CITY ENGINEER OR HIS AUTHORIZED REPRESENTATIVE MAY SUSPEND THE WORK BY WRITTEN NOTICE WHEN, IN HIS JUDGEMENT, PROGRESS IS UNSATISFACTORY, WORK BEING DONE IS UNAUTHORIZED OR DEFECTIVE, WEATHER CONDITIONS ARE UNSUITABLE, OR THERE IS DANGER TO THE PUBLIC HEALTH OR SAFETY.
8. THE CITY ENGINEER MAY ORDER ANY OR ALL MATERIALS USED IN THE WORK TO BE TESTED ACCORDING TO THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) AND THE AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) STANDARDS. THE CONTRACTOR SHALL, AT HIS EXPENSE, SUPPLY ALL SAMPLES REQUIRED FOR TESTING.
9. ACCESS WHICH MEETS SECTION 13-13-004-0001, FIRE HYDRANTS, WATER MAINS AND STREET NAME SIGNS SHALL BE IN PLACE AND APPROVED BEFORE AND AT ALL TIMES DURING ON-SITE COMBUSTIBLE CONSTRUCTION AND/OR PRIOR TO ISSUANCE OF BUILDING PERMITS IN NEW SUBDIVISIONS. FIRE DEPARTMENT AND ENGINEERING SECTION APPROVAL IS REQUIRED FOR OBSTRUCTION OF ACCESS OR WATER SYSTEM SHUTDOWN.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE STREETS AND OF PARTIALLY COMPLETED PORTIONS OF THE WORK UNTIL FINAL ACCEPTANCE OF THE WORK. THE CONTRACTOR SHALL SUBMIT TO THE CITY ENGINEER FOR APPROVAL A CONSTRUCTION SCHEDULE FOR ANY STREETS REQUIRED TO BE CLOSED OR PARTIALLY CLOSED FOR THE CONSTRUCTION ACTIVITY. THE CONTRACTOR SHALL REOPEN THE STREETS NO LATER THAN THE OPENING DATE SHOWN ON THE CONSTRUCTION SCHEDULE OR UPON ORDER OF THE CITY ENGINEER. THE REGULATION AND CONTROL OF CONSTRUCTION TRAFFIC SHALL BE AS DIRECTED BY THE CITY ENGINEER OR HIS AUTHORIZED REPRESENTATIVE.
11. APPROVAL OF A PORTION OF THE WORK IN PROGRESS DOES NOT GUARANTEE ITS FINAL ACCEPTANCE. TESTING AND EVALUATION MAY CONTINUE UNTIL WRITTEN FINAL ACCEPTANCE OF A COMPLETE WORKABLE UNIT. ANY DEFECTS WHICH APPEAR IN THE WORK WITHIN ONE YEAR FROM THE DATE OF ACCEPTANCE AND WHICH ARE DUE TO IMPROPER WORKMANSHIP OR INFERIOR MATERIALS SUPPLIED SHALL BE CORRECTED BY OR AT THE EXPENSE OF THE OWNER/DEVELOPER OR THE CONTRACTOR.
12. ACCEPTANCE OF COMPLETED PUBLIC IMPROVEMENTS WILL NOT BE GIVEN UNTIL DEFECTIVE OR UNAUTHORIZED WORK IS REMOVED, AND FINAL CLEAN-UP IS COMPLETE.
13. LOCATION OF UNDERGROUND UTILITIES BEFORE WORK IS BEGUN IS TO BE ACCOMPLISHED IN ACCORDANCE WITH ARS 40-360.22.
14. IF WORK IS DONE ON PRIVATE PROPERTY IN RELATION TO A PROJECT CONSTRUCTED UNDER THESE STANDARDS, THE CONTRACTOR WILL PROVIDE THE CITY WITH WRITTEN AUTHORIZATION FROM THE PROPERTY OWNER TO DO SO.
15. THE ESTABLISHMENT AND USE OF TEMPORARY CONSTRUCTION YARDS SHALL CONFORM TO THE CURRENT CITY ZONING CODE STANDARDS FOR "TEMPORARY USES".
16. ALL EXCAVATED MATERIAL SHALL BE DISPOSED OF IN ACCORDANCE WITH APPLICABLE CITY CODES AND REGULATIONS. THE CONTRACTOR SHALL OBTAIN ALL REQUIRED CITY APPROVALS AND PERMITS, AS DEEMED NECESSARY BY THE CITY TO DISPOSE OF EXCAVATED MATERIAL.
17. ALL CONSTRUCTION STAKING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR/DEVELOPER AND PERFORMED UNDER THE DIRECT SUPERVISION OF A REGISTERED LAND SURVEYOR OR CIVIL ENGINEER.
18. ALL TRAFFIC SIGN SHEETING SHALL BE TYPE VIII AS DESIGNED BY ASTM D4956-07a1 STANDARD SPECIFICATIONS FOR RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL, UNLESS SPECIFIED OTHERWISE ON THE CONSTRUCTION PLANS.
19. WHEN THE CONSTRUCTION PLANS SPECIFY GRAFFITI CONTROL ON BRIDGES OR OTHER STRUCTURES, THE CONTRACTOR SHALL SEAL THE STRUCTURE FIRST USING MONOCHEM AQUASEAL ME 12 AND THEN APPLY MONOCHEM PERMASHIELD, SACRIFICIAL GRAFFITI CONTROL SYSTEM (OR APPROVED EQUAL).
20. ALL AREAS DISTURBED DURING CONSTRUCTION SHALL BE STABILIZED AND RESEEDED IN ACCORDANCE WITH CHAPTER 13-17 OF THIS TITLE. IN THE EVENT THAT THE CONSTRUCTION ACTIVITY DISTURBS MORE THAN ONE ACRE, A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) SHALL BE PREPARED IN ORDER TO OBTAIN A CONSTRUCTION GENERAL PERMIT FROM ADEQ.
C.O.F. WATER AND SEWER NOTES
ALL DESIGN, CONSTRUCTION, TESTING AND INSPECTION SHALL CONFORM TO THE ADEQ REQUIREMENTS: WATER DISTRIBUTION IN ACCORDANCE WITH BULLETINS 10 AND 8, AND SEWER COLLECTION IN ACCORDANCE WITH AAC TITLE 18. IN THE EVENT THE ADEQ REQUIREMENTS CONFLICT WITH THESE STANDARDS, THE MORE RESTRICTIVE SHALL APPLY.
A. ROUGH GRADING SHALL BE COMPLETED WITHIN ONE-TENTH OF A FOOT OF PLANNED GRADE AND APPROVED BY THE CITY ENGINEER'S AUTHORIZED REPRESENTATIVES PRIOR TO INSTALLATION OF UNDERGROUND UTILITIES.
B. NO TRENCH SHALL BE FILLED WITH BEDDING MATERIAL OR BACKFILL UNTIL THE EXCAVATION AND PIPE LAYING, RESPECTIVELY, HAVE BEEN APPROVED BY THE CITY ENGINEER'S AUTHORIZED REPRESENTATIVE.
C. A WATER PRESSURE TEST IS REQUIRED OF ALL WATER LINES AND A HYDROSTATIC OR AIR TEST IS REQUIRED OF ALL SEWER LINES AND MANHOLES. TESTS ARE TO BE CONDUCTED AFTER BACKFILLING IS COMPLETE AND COMPACTED ON ALL PUBLIC AND/OR PRIVATE UNDERGROUND UTILITIES.
D. WATER AND SEWER SERVICE LINES ARE TO BE MARKED AS SHOWN ON THE STANDARD SERVICE DETAILS.
E. WATER LINE DISINFECTION IS TO BE ACCOMPLISHED AS OUTLINED IN ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY (A.D.E.Q.) "BULLETIN NO. 8."

C.O.F. WATER AND SEWER NOTES CONT'D

F. WATER PIPE CLASSIFICATION SHALL BE CLASS 305 FOR A.W.W.A. C-900 PVC AND CLASS 350 FOR DUCTILE IRON UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER. C-900 SHALL CONFORM TO THE CURRENT "MAG UNIFORM STANDARD SPECIFICATIONS AND DETAILS FOR PUBLIC WORKS CONSTRUCTION". ALL DUCTILE IRON PIPE LINES SHALL BE POLYETHYLENE ENCASED IN ACCORDANCE WITH MAG SPECIFICATIONS.
G. ALL MATERIALS THAT COME INTO CONTACT WITH DRINKING WATER SHALL CONFORM TO NSF STANDARD 61 INCLUDING, BUT NOT LIMITED TO, GASKETS, LUBRICANTS, PIPE FITTINGS, AND VALVES. (NSF-PW SEAL) (R18-4-119B).
H. ALL PUBLIC SANITARY SEWER LINES AND PRIVATE SEWER SERVICE LINES WITHIN A PUBLIC UTILITY EASEMENT OR RIGHT-OF-WAY WILL BE INSPECTED PRIOR TO ACCEPTANCE BY THE CITY.
I. WATER AND SEWER MAINS SHALL BE SEPARATED IN ORDER TO PROTECT PUBLIC WATER SYSTEMS FROM POSSIBLE CONTAMINATION. ALL DISTANCES ARE MEASURED PERPENDICULARLY FROM THE OUTSIDE OF THE SEWER MAIN TO THE OUTSIDE OF THE WATER MAIN. SEPARATION REQUIREMENTS ARE AS FOLLOWS:
1. A WATER MAIN SHALL NOT BE PLACED:
(A) WITHIN SIX FEET, HORIZONTAL DISTANCE, AND LESS THAN TWO FEET, VERTICAL DISTANCE, ABOVE THE TOP OF A SEWER MAIN UNLESS EXTRA PROTECTION IS PROVIDED. EXTRA PROTECTION SHALL CONSIST OF CONSTRUCTING THE SEWER MAIN WITH MECHANICAL JOINT DUCTILE IRON PIPE OR WITH SLIP-JOINT DUCTILE IRON PIPE IF JOINT RESTRAINT IS PROVIDED. ALTERNATE EXTRA PROTECTION SHALL CONSIST OF ENCASED BOTH THE WATER AND SEWER MAINS IN AT LEAST SIX INCHES OF CONCRETE FOR AT LEAST TEN FEET BEYOND THE AREA COVERED BY THIS PARAGRAPH.
(B) WITHIN TWO FEET HORIZONTALLY AND TWO FEET BELOW THE SEWER MAIN. WHEN A WATER MAIN IS PLACED BELOW THE SEWER MAIN, EXTRA PROTECTION IS ALWAYS REQUIRED REGARDLESS OF THE VERTICAL SEPARATION.
2. NO WATER PIPE SHALL PASS THROUGH OR COME INTO CONTACT WITH ANY PART OF A SEWER MANHOLE. THE MINIMUM HORIZONTAL SEPARATION BETWEEN WATER MAINS AND MANHOLES SHALL BE SIX FEET, MEASURED FROM THE CENTER OF THE MANHOLE.
3. THE MINIMUM SEPARATION BETWEEN FORCE MAINS OR PRESSURE SEWERS AND WATER MAINS SHALL BE TWO FEET VERTICALLY AND SIX FEET HORIZONTALLY UNDER ALL CONDITIONS. WHERE A SEWER FORCE MAIN CROSSES ABOVE OR LESS THAN SIX FEET BELOW A WATER LINE, THE SEWER MAINS SHALL BE ENCASED IN AT LEAST SIX INCHES OF CONCRETE OR CONSTRUCTED USING MECHANICAL JOINT DUCTILE IRON PIPE FOR TEN FEET ON EITHER SIDE OF THE WATER MAIN.
4. EVEN WHEN EXTRA PROTECTION IS UTILIZED, THE MINIMUM CLEARANCE BETWEEN WATER AND SEWER SHALL BE ONE FOOT (1').
5. THE SEPARATION REQUIREMENTS DO NOT APPLY TO BUILDING, PLUMBING, OR INDIVIDUAL HOUSE SERVICE CONNECTIONS.
J. WHEN HYDROSTATIC TESTING IS PERFORMED, SEWER LINES SHALL BE TESTED FOR INFILTRATION/EXFILTRATION PER ARIZONA ADMINISTRATIVE CODE R18-9-E301(D)(2). MANHOLES SHALL BE TESTED BY FILLING THE MANHOLE WITH WATER. THE APPLICANT SHALL ENSURE THAT THE DROP IN WATER LEVEL DOES NOT EXCEED 0.001 OF THE TOTAL MANHOLE VOLUME IN ONE HOUR.
WHEN AIR TESTING IS PERFORMED, SEWER LINES SHALL BE TESTED IN ACCORDANCE WITH ASTM F1417-92. MANHOLES SHALL BE TESTED IN ACCORDANCE WITH ASTM C1244-93.
K. SEWER PIPE SHALL BE SDR 35, ASTM D3034 FOR PVC PIPE, OR CLASS 150 DIP LINED WITH PROTECTO 401 CERAMIC EPOXY OR HDPE ASTM F894. ALL DUCTILE IRON PIPELINES SHALL BE POLYETHYLENE ENCASED IN ACCORDANCE WITH MAG SPECIFICATIONS. SPECIAL DESIGN CONSIDERATIONS MAY REQUIRE A HIGHER CLASS RATING OF DIP.
L. NO WATER SETTLING OF TRENCH FILL MATERIAL IS ALLOWED.
M. ALL WATER AND SEWER DESIGN AND CONSTRUCTION SHALL CONFORM TO THE CURRENT ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY (A.D.E.Q.) REQUIREMENTS. WHEN A.D.E.Q. REQUIREMENTS ARE IN CONFLICT WITH THESE STANDARDS, THE MORE RESTRICTIVE SHALL APPLY.
N. TRACER WIRES AND TAPES SHALL BE INSTALLED PRIOR TO TESTING THE WATER OR SEWER MAIN AS REQUIRED BY C.O.F. STANDARDS SECTION 13-09-001-0002. (STRIP WIRE 2 INCHES AT TERMINATION OF THE SERVICE)
O. WATER VALVES SHALL BE ADJUSTED PER C.O.F. DETAIL NO. 9-03-060 AND MANHOLES SHALL BE ADJUSTED PER C.O.F. DETAIL NO. 9-03-062.
P. ONE HUNDRED PERCENT (100%) OF THE SEWER LINE SHALL BE TESTED FOR UNIFORM SLOPE BY REMOTE CAMERA AND TESTED FOR SHORT-TERM DEFLECTION.
1. WHEN A SEWER SERVICE IS REQUIRED TO BE ABANDONED, IT SHALL BE ABANDONED AT THE PROPERTY LINE AND CAPPED USING THE APPROPRIATE MATERIALS (PVC, CLAY, OR CONCRETE).
2. WHEN AN EXISTING WATER SERVICE IS REQUIRED TO BE ABANDONED, IT SHALL BE ABANDONED AT THE MAIN. THE SADDLE AND CORP. STOP SHALL BE REMOVED AND THE MAIN CLAMPED WITH AN APPROVED FULL CIRCLE REPAIR CLAMP.
Q. THE LOCATION OF WATER SERVICES SHALL BE IDENTIFIED BY BRANDING A "W" ON THE TOP OR FACE OF CURB.
R. SEWER SERVICE LOCATIONS SHALL BE IDENTIFIED BY BRANDING A "S" ON THE TOP OR FACE OF CURB.

C.O.F. PAVING NOTES

A. EXCEPT POINT OF MATCHING TERMINATION AND OVERLAY, IF NECESSARY, SHALL BE DETERMINED IN THE FIELD BY THE CITY ENGINEER OR HIS AUTHORIZED REPRESENTATIVE. WHEN A LONGITUDINAL JOINT ASSOCIATED WITH A TRENCH PATH, PAVEMENT MATCH OR OTHER OCCURS ON A STREET WITH A BIKE LANE, THE JOINT SHALL BE LOCATED OUTSIDE OF THE BIKE LANE.
B. NO JOB WILL BE CONSIDERED COMPLETE UNTIL: A) ALL CURBS, PAVEMENTS, SIDEWALKS, CATCH BASINS, STORM DRAINS, AND MANHOLES HAVE BEEN CLEANED OF ALL DIRT AND DEBRIS; B) SURVEY MONUMENTS ARE INSTALLED AND STAMPED; C) ALL FRAMES, COVERS AND VALVE BOXES ARE ADJUSTED TO GRADE.
C. NO PAVING CONSTRUCTION SHALL BE STARTED UNTIL ALL UTILITY LINES ARE COMPLETED AND APPROVED UNDER PROPOSED PAVED AREAS.
D. BASE COURSE WILL NOT BE PLACED UNTIL SUBGRADE HAS BEEN APPROVED BY THE CITY ENGINEER OR HIS AUTHORIZED REPRESENTATIVE.
E. THE LOCATION OF ALL WATER VALVES, FIRE HYDRANTS, AND MANHOLES MUST AT ALL TIMES DURING CONSTRUCTION BE REFERENCED AND MADE ACCESSIBLE TO THE CITY.
F. UTILITY FACILITIES IN CONFLICT WITH THIS WORK WILL BE RELOCATED BY THE PERMITTEE OR THE UTILITY OWNER. THIS ACTIVITY SHALL BE COORDINATED WITH THE OWNER OF THE UTILITY TO PREVENT ANY UNNECESSARY INTERRUPTION OF SERVICE TO EXISTING CUSTOMERS.
G. EXISTING STREET NAME SIGNS, TRAFFIC SIGNS AND DEVICES ASSOCIATED WITH THE PROJECT SHALL BE MAINTAINED DURING CONSTRUCTION AND RELOCATED BY THE CONTRACTOR AS SHOWN ON THE APPROVED PLANS.
H. ANY CHANGES OR ADDITIONS TO PAVEMENT MARKINGS CAUSED BY PAVEMENT OVERLAY, CHIP SEAL OR INSTALLATION OF UNDERGROUND FACILITIES SHALL BE SHOWN ON THE APPROVED PLANS.

I. A CHIP SEAL IS REQUIRED ON ALL PUBLIC PAVING PROJECTS. ON PROJECTS WHERE THE CONTRACTOR CAUSES EXCESSIVE DAMAGE TO AN EXISTING PAVED STREET OR THERE ARE MULTIPLE STREET CUTS (MAXIMUM OF FOUR IN 500 FEET) AN ASPHALT OVERLAY SHALL BE REQUIRED.

J. A PRIME COAT IS NOT REQUIRED UNLESS SO SPECIFIED IN THE SOILS AND PAVEMENT REPORT AND/OR SHOWN ON THE PLANS.

K. ALL CURB AND GUTTER, SIDEWALK, DRIVEWAYS, AND SIDEWALK RAMPS SHALL BE CONSTRUCTED ON A MINIMUM 3 INCHES OF AGGREGATE BASE COURSE (ABC). THE ABC SHALL BE CONSTRUCTED PER MAG SECTION 310 AND SHALL BE COMPACTED TO 95 % RELATIVE DENSITY. ALL PRECAST STRUCTURES SUCH AS MANHOLE BASES, CATCH BASINS, AND BOX CULVERTS SHALL BE CONSTRUCTED ON A MINIMUM OF 3 INCHES ABC.

L. PERMANENT PAVEMENT MARKINGS.
1. TRANSVERSE PAVEMENT MARKINGS SUCH AS STOP BARS, CROSSWALKS, ARROWS AND LEGENDS SHALL BE INSTALLED PER ADOT STANDARD SPECIFICATION 705, TYPE 1.
2. LONGITUDINAL PAVEMENT MARKINGS SHALL BE INSTALLED PER ADOT SPECIFICATION 708 AND SHALL BE APPLIED IN TWO COATS.

M. TEMPORARY PAVEMENT MARKINGS.
1. TEMPORARY PAVEMENT MARKINGS WHEN APPROVED, SHALL BE INSTALLED PER ADOT STANDARD SPECIFICATION 701-3.05.
2. THE USE OF TEMPORARY MARKINGS IS STRONGLY DISCOURAGED AND MAY ONLY BE USED WITH PRIOR APPROVAL.
a. WHEN IT IS USED, THE CONTRACTOR MUST BE AVAILABLE TO RESTRIPE AS NEEDED UNTIL THE PERMANENT MARKINGS CAN BE INSTALLED.
NOTE: WHEN IT IS IMPRACTICAL FOR THE CONTRACTOR TO PROVIDE PERMANENT MARKINGS THE CITY PUBLIC WORKS DEPARTMENT MAY INSTALL THE MARKINGS ON BEHALF OF THE CONTRACT PROVIDED THE FEE FOR THE WORK IS AGREED UPON AND PAID FOR IN ADVANCE.

N. THE MAXIMUM THICKNESS OF A SINGLE LIFT OF PAVEMENT SHALL BE 4 INCHES.

ADEQ STANDARD NOTES

THE STATE LAW, ARS SECTION 49-104.B.10, REQUIRES THAT CONSTRUCTION OF THE PROJECT MUST BE IN ACCORDANCE WITH THE RULES AND REGULATIONS OF THE ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY. THIS CERTIFICATE WILL BE VOID IF CONSTRUCTION HAS NOT STARTED WITHIN ONE YEAR OF THE APPROVAL DATE. UPON REQUEST A WRITTEN TIME EXTENSION MAY BE GRANTED BY THE DEPARTMENT.

A DEFLECTION TEST OF THE TOTAL LENGTH OF ALL SEWER LINES MADE OF PLASTIC SHALL BE REQUIRED TO ENSURE THAT THE INSTALLATION MEETS OR EXCEEDS THE MANUFACTURER'S RECOMMENDATIONS PER AAC R18-9-E301(D)(2)(i).

ALL PVC WATERLINES AND FITTINGS SHALL HAVE NSF-PW SEAL. ALL MATERIALS AND PRODUCTS USED IN DRINKING WATER SYSTEM SHALL CONFORM TO NSF STANDARD 61.

PIPE, FITTINGS, VALVES, FIRE HYDRANTS AND OTHER APPEARANCES SHALL CONFORM TO THE CURRENT STANDARDS OF THE AMERICAN WATER WORKS ASSOCIATION, AMERICAN STANDARDS ASSOCIATION OR THE FEDERAL GOVERNMENT.

EXFILTRATION/INFILTRATION FROM MANHOLES SHALL BE LIMITED TO 0.1 GALLON/HOUR/VERT FOOT.

INSTALLATION OF PVC SEWERS MUST BE IN CONFORMANCE WITH CURRENT STANDARD SPECIFICATION ASTM D2321.

PER AAC R18-9-301(D)(2)(b)(i), MINIMUM COVER REQUIRED FOR SEWER SERVICE MAINS IS 3'.

MANHOLES WILL BE TESTED PER AAC R18-9-E301(D)(93)(e) USING THE WATERTIGHTNESS METHOD OR NEGATIVE AIR PRESSURE TESTING.

TEST EACH SEGMENT OF THE SEWER LINE FOR LEAKAGE USING THE APPLICABLE METHOD LISTED IN AAC R18-9-E301(D)(2)(j).

WOODSON ENGINEERING GENERAL NOTES

THE WORK SHALL BE DONE IN ACCORDANCE WITH THE MOST CURRENT EDITION(S) OF THE FOLLOWING SPECIFICATIONS AND THESE PLANS: MAG UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, CITY OF FLAGSTAFF ENGINEERING DESIGN AND CONSTRUCTION STANDARDS, ADHS (ADEQ) ENGINEERING BULLETINS NO. 8 AND 10 AND ARIZONA ADMINISTRATIVE CODE R18-4 (WATER SYSTEMS), ARIZONA ADMINISTRATIVE CODE R18-9-E301 (SEWER WORKS), AWWA STANDARDS, MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), AND ADOT STANDARD SPECIFICATIONS AND DRAWINGS.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN COPIES OF THE ABOVE STANDARDS, SPECIFICATIONS, AND DETAILS, AS WELL AS ALL OTHER STANDARDS AND SPECIFICATIONS WHICH MAY BE NECESSARY TO COMPLETELY AND ACCURATELY INTERPRET THESE PLANS.

ALL QUANTITIES SHOWN ARE APPROXIMATE AND ARE FURNISHED SOLELY FOR THE CONTRACTOR'S CONVENIENCE. THEY DO NOT NECESSARILY CORRESPOND TO BID SCHEDULE ITEMS. PAYMENT WILL BE BASED ON BID SCHEDULE ITEMS FOR THE ENTIRE JOB AS SHOWN OR INFERRED BY THESE PLANS. THE CONTRACTOR SHALL NOT BE RELIEVED OF RESPONSIBILITY FOR INDEPENDENTLY ESTIMATING QUANTITIES PRIOR TO BIDDING.

THE LOCATION OF EXISTING FEATURES INDICATED ON THE PLANS ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL NOT BE RELIEVED OF RESPONSIBILITY FOR MAKING COMPLETE AND ACCURATE ON-SITE DETERMINATIONS OF THE LOCATIONS OF ALL UTILITIES, STRUCTURES AND FIELD CONDITIONS, WHICH MAY AFFECT THE PROGRESS OF THE WORK.

THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING WHAT PERMITS WILL BE REQUIRED FOR THE WORK AND OBTAINING AT HIS OWN EXPENSE ALL PERMITS REQUIRED UNLESS STATED OTHERWISE IN THE CONTRACT.

CERTIFICATION OF PRIVATE/NON-BUILDING STRUCTURES MAY BE REQUIRED BY THE CITY OF FLAGSTAFF. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN ANY REQUIRED CERTIFICATIONS.

ALL ELEVATIONS SHOWN ON THE PLANS ARE FINISHED SURFACE ELEVATIONS (EXCEPT AS NOTED).

THE REGISTRANTS DUTY TO SEAL PROFESSIONAL DOCUMENTS DOES NOT EXTEND TO STANDARD DETAILS. SPECIFICATIONS THAT HAVE BEEN OFFICIALLY ADOPTED AND PROVIDED BY THE AGENCY THAT HAS JURISDICTION OVER THIS PROJECT. THE STANDARD DETAILS AND SPECIFICATIONS SHOWN WITH THESE DOCUMENTS ARE INCLUDED TO PROVIDE CLEAR AND COMPLETE INFORMATION AND WERE NOT PREPARED BY THE REGISTRANT.

GENERAL STRIPING NOTES

ALL PAVEMENT STRIPING SHALL CONFORM TO THE APPLICABLE ADOT SPECIFICATIONS FOR PAINT, MATERIALS, STRIPING, AND MARKING. ALL WHITE PAINT SHALL BE TREATED FOR REFLECTIVITY. ALL STRIPING SHALL BE IN CONFORMANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.

EROSION PROTECTION

THE CONTRACTOR IS RESPONSIBLE FOR STABILIZATION OF SOILS AND PREVENTION OF EROSION DURING CONSTRUCTION WHERE SLOPE STABILIZATION REQUIRES THE ESTABLISHMENT OF PLANTS, EROSION PROTECTION SHALL REMAIN IN PLACE UNTIL PLANTS ARE ESTABLISHED TO THE SATISFACTION OF THE OWNER AND THE APPROVING AGENCY.

RESOURCE PROTECTION

THE CITY PLANNING DIRECTOR OR HIS AUTHORIZED REPRESENTATIVE MAY SUSPEND THE WORK BY WRITTEN NOTICE WHEN, IN HIS JUDGMENT, LAND DISTURBANCE IS OCCURRING IN RESOURCE PROTECTED AREAS.

TEMPORARY TREE PROTECTION FENCING SHALL BE INSTALLED PRIOR TO ANY ON-SITE CONSTRUCTION OR GRADING ACTIVITIES. FENCING SHALL BE 6' HIGH CHAIN LINK SECURED TO 1-POST OR SNOW FENCING SECURED TO T-POST, WITH TOP CORNER WIRE.

JOB SITE SAFETY

NEITHER THE PROFESSIONAL ACTIVITIES OF THE DESIGN PROFESSIONAL, NOR THE PRESENCE OF THE DESIGN PROFESSIONAL OR HIS OR HER EMPLOYEES AND SUB CONSULTANTS AT A CONSTRUCTION SITE, SHALL RELIEVE THE GENERAL CONTRACTOR AND ANY OTHER ENTITY OF THEIR OBLIGATIONS, DUTIES, AND RESPONSIBILITIES INCLUDING, BUT NOT LIMITED TO, CONSTRUCTION MEANS, METHODS, SEQUENCE, TECHNIQUES OR PROCEDURES NECESSARY FOR PERFORMING, SUPERINTENDING OR COORDINATING ALL PORTIONS OF THE WORK OF CONSTRUCTION IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND ANY HEALTH OR SAFETY PRECAUTIONS REQUIRED BY ANY REGULATORY AGENCIES. THE DESIGN PROFESSIONAL AND HIS OR HER PERSONNEL HAVE NO AUTHORITY TO EXERCISE ANY CONTROL OVER ANY CONSTRUCTION CONTRACTOR OR OTHER ENTITY OR THEIR EMPLOYEES IN CONNECTION WITH THEIR WORK OR ANY HEALTH OR SAFETY PRECAUTIONS. THE CLIENT AGREES THAT THE GENERAL CONTRACTOR IS SOLELY RESPONSIBLE FOR JOBSITE SAFETY, AND WARRANTS THAT THIS INTENT SHALL BE MADE EVIDENT IN THE CLIENT'S AGREEMENT WITH THE GENERAL CONTRACTOR. THE CLIENT ALSO AGREES THAT THE CLIENT, THE DESIGN PROFESSIONAL AND THE DESIGN PROFESSIONAL'S CONSULTANTS SHALL BE INDEMNIFIED AND SHALL BE MADE ADDITIONAL INSURED UNDER THE GENERAL CONTRACTOR'S GENERAL LIABILITY INSURANCE POLICY.

RIGHT-OF-WAY AND TRAFFIC CONTROL

THE CONTRACTOR SHALL PROVIDE ANY NECESSARY TRAFFIC CONTROL DEVICES REQUIRED FOR THE CONTROL OF VEHICLE AND PEDESTRIAN TRAFFIC AFFECTED BY THE CONSTRUCTION. ALL TRAFFIC CONTROL PLANS MUST BE APPROVED BY THE OWNER OR HIS REPRESENTATIVE PRIOR TO IMPLEMENTATION.

CONSTRUCTION STAKES, LINES AND GRADES

THE CONTRACTOR SHALL BE RESPONSIBLE FOR RETAINING A REGISTERED LAND SURVEYOR, LICENSED TO PRACTICE IN ARIZONA WHO SHALL BE RESPONSIBLE FOR PROVIDING ALL STAKES NECESSARY TO ESTABLISH CONSTRUCTION LINES AND GRADES. STAKES PROVIDED SHALL BE OF SUFFICIENT NUMBER TO SATISFY THE ENGINEER THAT THE WORK MAY BE CONSTRUCTED IN ACCORDANCE WITH THE PLANS.

ALL COSTS ASSOCIATED WITH STAKING ARE TO BE BORNE BY THE CONTRACTOR. NO ADDITIONAL PAYMENT TO THE CONTRACTOR FOR EXTRA STAKES OR FOR RESTAKING WILL BE ALLOWED.

UTILITIES

UNDERGROUND UTILITY LOCATIONS SHOWN ON THESE PLANS WERE DETERMINED FROM FIELD MEASUREMENTS, CONSTRUCTION PLANS, RECORD PLANS OR UTILITY MAPS FURNISHED BY OTHERS. LOCATIONS OF UNDERGROUND UTILITIES ARE TO BE REGARDED AS APPROXIMATE ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ESTABLISH IN THE FIELD THE ACTUAL LOCATIONS OF ALL UNDERGROUND LINES WHICH MAY IN ANY WAY AFFECT THE WORK.

IT IS NOT WITHIN THE SCOPE OF THE PLANS FOR THE ENGINEER TO LOCATE, IDENTIFY OR FORESEE EVERY UTILITY CONFLICT WHICH MAY ARISE DURING THE CONSTRUCTION PHASE OF THE PROJECT. BUT IT IS THE INTENT OF THE OWNER TO REASONABLY COMPENSATE THE CONTRACTOR FOR THE WORK REQUIRED TO RELOCATE OR ADJUST UTILITIES CONFLICTING WITH THE CONSTRUCTION OF THE PROJECT. TO THAT END, UTILITIES (AS DEFINED IN MAG 101.2) WHICH ARE ENCOUNTERED WILL BE ADDRESSED AS FOLLOWS:

1) UTILITY RELOCATIONS OR ADJUSTMENTS NOTED ON THE PLANS SHALL BE PAID FOR PER THE BID SCHEDULE.

2) UTILITY RELOCATIONS OR ADJUSTMENTS NOT NOTED ON THE PLANS SHALL BE ADDRESSED ON A CASE BY CASE BASIS. THE ENGINEER SHALL DETERMINE WHAT WORK IS REQUIRED TO PRODUCE THE DESIRED FINAL PRODUCT. IF A UNIT AND PRICE DOES NOT EXIST THEN COMPENSATION MUTUALLY ACCEPTABLE TO THE OWNER, CONTRACTOR, AND ENGINEER SHALL BE MADE.

IN EITHER SITUATION, WORK ON THE SPECIFIC CASE SHALL NOT PROCEED UNTIL THE AMOUNT OF COMPENSATION IS AGREED UPON.

COMPENSATION FOR UTILITY RELOCATIONS AND ADJUSTMENTS SHALL NOT INCLUDE COSTS FOR REPAIR TO THE UTILITY DAMAGED BY THE CONTRACTOR OR HIS SUBCONTRACTOR(S). THE CONTRACTOR IS NOT RELIEVED OF THE RESPONSIBILITY FOR DETERMINING THE LOCATION OF ALL UTILITIES AFFECTING THE WORK.

THE APPROPRIATE UTILITY COMPANIES SHALL BE NOTIFIED BY THE CONTRACTOR PRIOR TO ANY CONSTRUCTION. THE "BLUE STAKE" NUMBER IS 1-800-STAKEIT. CONTRACTOR SHALL ALLOW TWO WORKING DAYS AFTER "BLUE STAKE" IS NOTIFIED, BEFORE COMMENCING ANY EXCAVATION WORK IN THE PROXIMITY OF BURIED UTILITIES.

AT LEAST 48 HOURS PRIOR NOTICE IS REQUIRED BEFORE DISRUPTING EXISTING UTILITY SERVICE TO MAKE CONNECTIONS OR DISCONNECTIONS. THE NOTICE MUST INCLUDE THE EXACT TIME OF THE DISRUPTION OF SERVICE AND THE EXPECTED DURATION OF THE LOSS OF SERVICE.

CERTAIN UTILITIES ARE TO REMAIN IN SERVICE DURING THE CONSTRUCTION OF THE FILL AND UPON COMPLETION OF THE CONTRACT. THESE UTILITIES SHALL BE PROTECTED DURING THE CONSTRUCTION AND CUT OR FILL PLACEMENT SHALL NOT PROHIBIT MAINTENANCE ACCESS TO THESE UTILITIES.

DRAINAGE MAINTENANCE DURING CONSTRUCTION

ADEQUATE DRAINAGE, EROSION AND SEDIMENT CONTROL MEASURES, BEST MANAGEMENT PRACTICES, AND/OR OTHER STORMWATER MANAGEMENT FACILITIES SHALL BE PROVIDED AND MAINTAINED AT ALL TIMES DURING CONSTRUCTION. DAMAGES TO ADJACENT PROPERTY AND/OR THE CONSTRUCTION SITE CAUSED BY THE CONTRACTOR'S OR PROPERTY OWNER'S FAILURE TO PROVIDE AND MAINTAIN ADEQUATE DRAINAGE AND EROSION/SEDIMENT CONTROL FOR THE CONSTRUCTION AREA SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND/OR PROPERTY OWNER.

CONSTRUCTION DRAINS SHALL BE PROVIDED AS NEEDED TO ENABLE WATER TO DRAIN FROM THE CONSTRUCTION AREA RAPIDLY AND WITHOUT DAMAGING THE WORK IN PROGRESS. TO FURTHER PROMOTE GOOD DRAINAGE OF THE SITE, DRAINAGE CHANNELS, CULVERTS, AND STRUCTURES, SHALL BE CONSTRUCTED FROM DOWNSTREAM TO UPSTREAM IN SUCH A WAY THAT, DURING CONSTRUCTION, THEY DO NOT IMPEDE THE FLOW OF WATER FROM THE CONSTRUCTION AREA.

NO EXTENSION OF TIME SHALL BE GRANTED ON ACCOUNT OF THE TIME REQUIRED TO MAKE SUCH REPAIRS.

FILL CONSTRUCTION

SITE PREPARATION, EXCAVATION AND PLACEMENT SHALL BE IN ACCORDANCE WITH THE CITY OF FLAGSTAFF ENGINEERING STANDARDS, MAG UNIFORM STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION OR AS INDICATED ON THE PLANS. THE BID SCHEDULE ITEM FOR FILL CONSTRUCTION IS INTENDED TO INCLUDE FULL PAYMENT FOR ALL MATERIAL REQUIRED TO BUILD THE PROJECT AND THE DISPOSAL OF ANY EXCESS MATERIAL FROM THE SITE.

MISCELLANEOUS REMOVALS AND OTHER WORK

REMOVALS NECESSITATED BY THE WORK AS IT PROGRESSES AND NOT SPECIFICALLY CALLED OUT ON THE PLANS WILL BE CONSIDERED INCIDENTAL WORK.

WATER SUPPLY

THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR AND PROVIDE ALL NECESSARY WATER FOR HIS CONSTRUCTION OPERATION AT HIS OWN EXPENSE.

CLEANUP AND DUST CONTROL

THROUGHOUT ALL PHASES OF THE CONSTRUCTION THE CONTRACTOR SHALL KEEP THE WORK AREA, ADJACENT PROPERTIES AND STREETS CLEAN AND FREE FROM EXCESSIVE DEBRIS, DUST AND DEBRIS GENERATED BY THE CONSTRUCTION ACTIVITY.

DESIGN STANDARDS

GRAVITY SEWER SLOPE REQUIREMENTS

Table with 4 columns: DIA, MIN, MAX, and values for 8", 15", 27", 30" diameters.

MOST CONSERVATIVE SLOPE REQUIREMENT USED
MIN - PER AAC R18-9-E301
MAX - PER FLAGSTAFF ENGINEERING STANDARDS 9-02-050, n=0.010

SEWER SERVICE SEPARATIONS PER COF 13-109-001-0004

WATER MAIN MUST BE 6" ABOVE SEWER SERVICES OR SEWER SERVICES MUST BE 1' OVER A WATER MAIN

AS-BUILT DRAWINGS stamp including date 3/28/16, by Alicia Stoffers, PE, and Woodson Engineering and Surveying, Inc. logo.



EXPIRES 9/30/2016



113801

WOODSON ENGINEERING AND SURVEYING, INC. 124 N. ELDEN ST. • FLAGSTAFF, AZ 86001 • PHONE: (928) 774-4636 FAX: (928) 774-4646

3/9/15

BONITO ST. IMPROVEMENT PLANS CITY OF FLAGSTAFF CONSTRUCTION PLANS

EROSION CONTROL

THE CONTRACTOR SHALL COMPLY WITH ALL OF THE PROVISIONS OF THE CITY OF FLAGSTAFF STORMWATER DESIGN MANUAL RELATING TO EROSION CONTROL.

STORMWATER POLLUTION PREVENTION PLANS ARE REQUIRED FOR ANY LAND DISTURBING ACTIVITY BETWEEN 1 AND 5 ACRES.

THE CONTRACTOR SHALL RESEED ALL DISTURBED AREA. THE WORK SHALL CONSIST OF FURNISHING, HAULING, PLACING, AND APPLYING EROSION CONTROL (SEED, MULCH, AND EROSION CONTROL BLANKETS) TO ALL DISTURBED AREAS WITHIN THE PROJECT AREAS AS SHOWN ON THE PLANS.

PERMANENT OR TEMPORARY SOIL STABILIZATION SHOULD BE APPLIED TO DENuded AREAS WITHIN FIFTEEN DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. SOIL STABILIZATION SHOULD ALSO BE APPLIED WITHIN FIFTEEN DAYS TO DENuded AREAS WHICH MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN SIXTY DAYS.

APPLICABLE PRACTICES INCLUDE BUT ARE NOT LIMITED TO TEMPORARY EROSION CONTROL MATERIAL, VEGETATIVE ESTABLISHMENT, MULCHING AND THE EARLY APPLICATION OF A GRAVEL BASE IN AREAS TO BE PAVED.

ALL TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE MAINTAINED AND REPAIRED AS NEEDED TO ASSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION. DAMAGES WHICH MAY OCCUR TO ADJACENT PROPERTY DURING CONSTRUCTION ARE THE RESPONSIBILITY OF THE PROPERTY OWNER AND/OR THE PERMITTEE.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) NOTE

THE ENVIRONMENTAL PROTECTION AGENCY (EPA) REGULATES STORM WATER DISCHARGES FROM CONSTRUCTION SITES UNDER THE NATIONAL STORM WATER PROGRAM. THE PROJECT OWNER AND THE CONSTRUCTION CONTRACTOR SHARE RESPONSIBILITY AND LIABILITY UNDER THIS PROGRAM. ACTIVITIES COVERED UNDER THIS PROGRAM INCLUDE CLEARING, GRADING, AND EXCAVATION. PROJECTS THAT ARE INCLUDED HAVE DISTURBED AREAS WITH MORE THAN 1 ACRES. UNDER NPDES THE CONTRACTOR MUST PREVENT POLLUTANTS FROM THE SITE FROM ENTERING WATERS OF THE US.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTROL EROSION AND RUNOFF FROM A CONSTRUCTION SITE. TO COMPLY WITH REGULATIONS, THE CONTRACTOR MUST FILE A NOTICE OF INTENT TO DISCHARGE (NOI) 2 DAYS BEFORE CONSTRUCTION BEGINS. A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) MUST BE DEVELOPED BY BOTH THE OWNER AND THE CONTRACTOR AS PART OF COMPLIANCE WITH THESE REGULATIONS. THE OWNER AND THE CONTRACTOR MUST ALSO IMPLEMENT THE SWPPP. DURING CONSTRUCTION, BOTH THE OWNER AND THE CONTRACTOR MUST CERTIFY THAT ALL WORK PERFORMED PER NPDES REGULATIONS. AFTER CONSTRUCTION IS COMPLETE, THE OWNER AND THE CONTRACTOR MUST FILE A NOTICE OF TERMINATION. ALL WORK DESCRIBED ABOVE MUST BE PERFORMED IN ACCORDANCE WITH NPDES AND THE NATIONAL STORM WATER PROGRAM REGULATIONS.

Call two working days before you dig. 1-800-STAKE-IT. (928) 774-4636. (OUTSIDE MARICOPA COUNTY)

Revisions table with columns for revision number, description, and date.

WOODSON ENGINEERING AND SURVEYING, INC. logo and contact information.

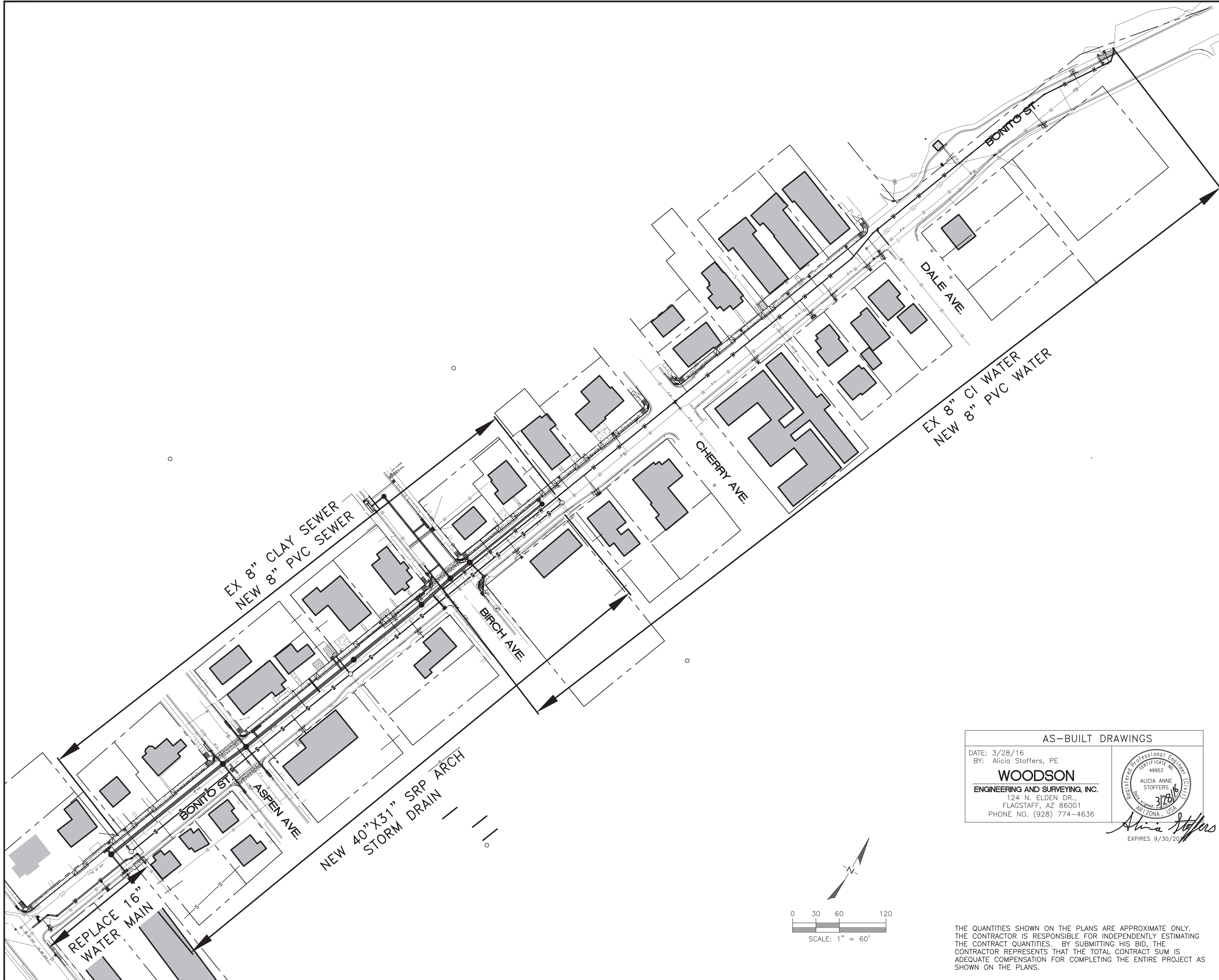
WOODSON ENGINEERING AND SURVEYING, INC. logo and contact information.

BONITO STREET

TYPICAL NOTES FF57A

DESIGNED BY: AAS
DRAWN BY: AAS
CHECKED BY: RLS

Scale and project information table.



APPROXIMATE QUANTITIES PUBLIC IMPROVEMENTS

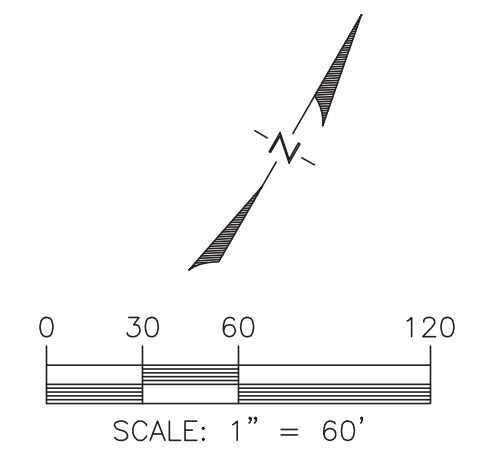
ITEM	QUANTITY
Sawcut, Remove & Dispose Existing Pavement	4,042 SY
Sawcut, Remove & Dispose Existing Concrete	7,615 SF
Sawcut, Remove & Dispose Existing Curb and Gutter	566 LF
Install Survey Monument	4 EA
Mill and Remove Exist. A.C. Pavement and Remove Trees	1,947 SY
A.C. Pavement 4" A.C. on 6" A.B.C	3,729 SY
Asphaltic Concrete for Overlay (2" Thick)	1,947 SY
AC Pavement (T-Top COF SD 9-01-030)	448 SY
Valley Gutter per COF Std Dtl 08-06-010	1,189 SF
6" Vertical Curb & Gutter	1,084 LF
Concrete Sidewalk (MAG SD 230)	4,710 SF
Sidewalk Ramp Type 1	3 EA
Sidewalk Ramp Type 2	2 EA
Residential Driveway Type 1	2,354 SF
Residential Driveway Type 2	338 SF
Remove and Replace Existing Driveway	110 SF
Sidewalk Ramp Type 3	3 EA
Sidewalk Ramp Type 4	1 EA
AC Pavement (T-Top in Mill 2" / 6")	337 EA
Remove and Replace Existing sign	6 EA
Concrete Slope (18" wide)	750 SF
Remove and Replace Dry Stack Wall	1 EA
18" SRP	304 LF
40"x31" (36" Equiv) SRP Arch	594 LF
24" SRP	302 LF
Connect Existing Storm Drain to New MH	1 EA
Catch Basin (MAG 534 E-single)	6 EA
Catch Basin (MAG 532 C, L=12')	2 EA
5' Storm Manhole	7 EA
Catch Basin (MAG 534 E-double)	2 EA
Catch Basin (MAG 534 E-3 units)	2 EA
Catch Basin (MAG 534 E-4 units)	3 EA
4' Storm Manhole	2 EA
Catch Basin (MAG 537 G)	1 EA
Remove & Dispose Existing Water Valve	9 EA
Abandon Water Main in Place	1 EA
20" DIP Class 350 Reclaimed Water	15 LF
8" PVC C-900 Waterline (with fittings)	1,160 LF
Remove & Replace 3/4" Water Service	13 EA
Remove & Replace 1" Water Service	3 EA
Remove & Replace 2" Water Service	3 EA
Connect to Existing Waterline	8 EA
8"X8" Tee	2 EA
Remove, Salvage and Replace Fire Hydrant Assembly	4 EA
8" Gate Valve (w/box & cover)	9 EA
8"X8" Cross	1 EA
8" 45° Bend	3 EA
8" 11.25° Bend	3 EA
Air Release Valve	2 EA
8" DIP Class 350 Water	80 LF
8" DIP Class 350 Water Vertical Realignment	28 LF
1" Water Service to 2-3/4" manifold	2 EA
16" DIP Class 350 Water	185 LF
16" 22.5° Bend	2 EA
16" 45° Bend	3 EA
16" Gate Valve (w/box & cover)	2 EA
16" 90° Bend	1 EA
16" Stub	1 EA
16" Tee	2 EA
Adjust Existing Valve to Grade	1 EA
Remove & Replace 3/4" Water Service	1 EA
Remove & Replace 3/4" Water Service	1 EA
Remove & Replace 1" Water Service (103 N Birch)	1 EA
Remove Exist Manhole	3 EA
8" DIP Class 150 Sewer Line	65 LF
8" PVC SDR 35 Sewer Line	687 LF
Remove & Replace 4" Sewer Service	4 EA
4' Sanitary Sewer Manhole	1 EA
5' Sanitary Sewer Manhole	3 EA
Remove & Replace 6" Sewer Service	1 EA
Connect to Exist Manhole	3 EA
Abandon Service	3 EA
Concrete Encasement of Ex Sewer	74 LF
Traffic Control	1 LS
SWPPP	1 LS

AS-BUILT DRAWINGS

DATE: 3/28/16
BY: Alicia Stoffers, PE

WOODSON
ENGINEERING AND SURVEYING, INC.
124 N. ELDEN DR.,
FLAGSTAFF, AZ 86001
PHONE NO. (928) 774-4636

Alicia Stoffers
EXPIRES 9/30/2016



THE QUANTITIES SHOWN ON THE PLANS ARE APPROXIMATE ONLY. THE CONTRACTOR IS RESPONSIBLE FOR INDEPENDENTLY ESTIMATING THE CONTRACT QUANTITIES. BY SUBMITTING HIS BID, THE CONTRACTOR REPRESENTS THAT THE TOTAL CONTRACT SUM IS ADEQUATE COMPENSATION FOR COMPLETING THE ENTIRE PROJECT AS SHOWN ON THE PLANS.

FF57A

113801

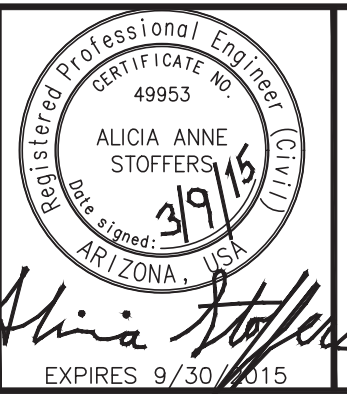
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3/9/15

BONITO ST. IMPROVEMENT PLANS
CITY OF FLAGSTAFF
CONSTRUCTION PLANS



REVISIONS:
2/2/15 PER ADEQ PIPE MATERIAL TYPES ADDED



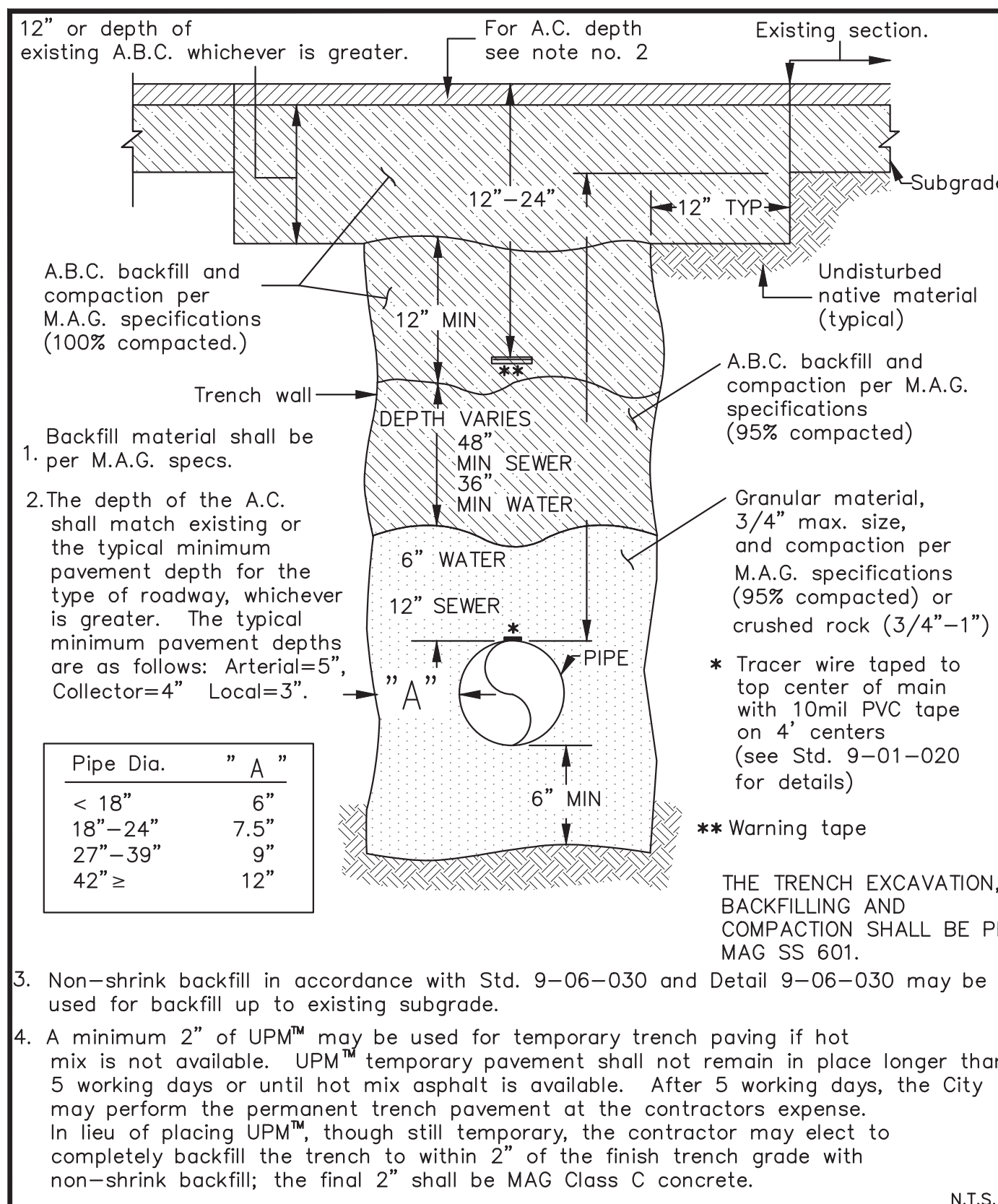
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BONITO STREET

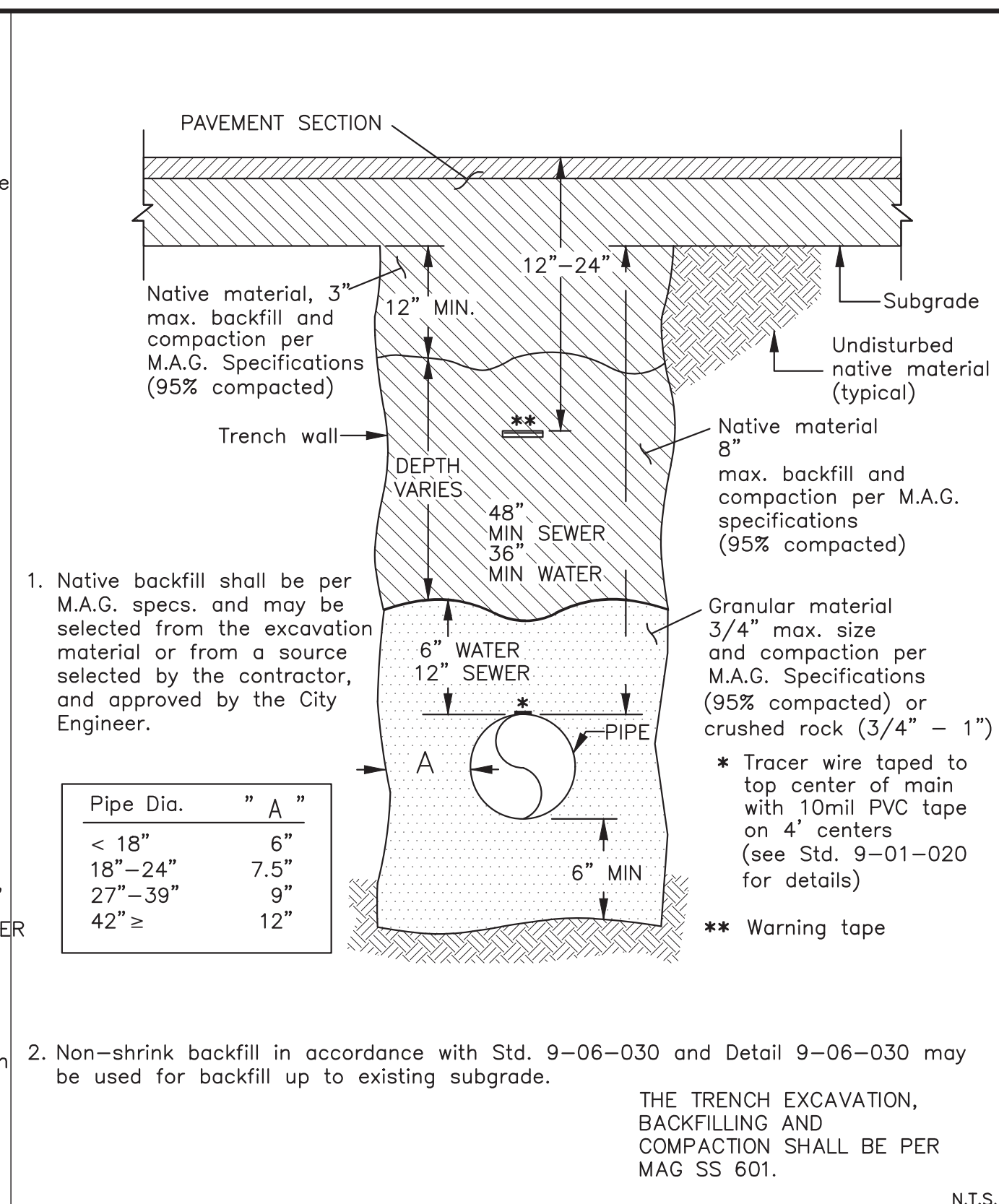
OVERALL UTILITY PLAN
& QUANTITIES

HOR SCALE: 1"=20'
VERT SCALE: 1"=2'
DATE: 3/9/15
PROJECT NO.: 113801
AGENCY NO.: 03-13012
SHEET NO.: 3 OF 22

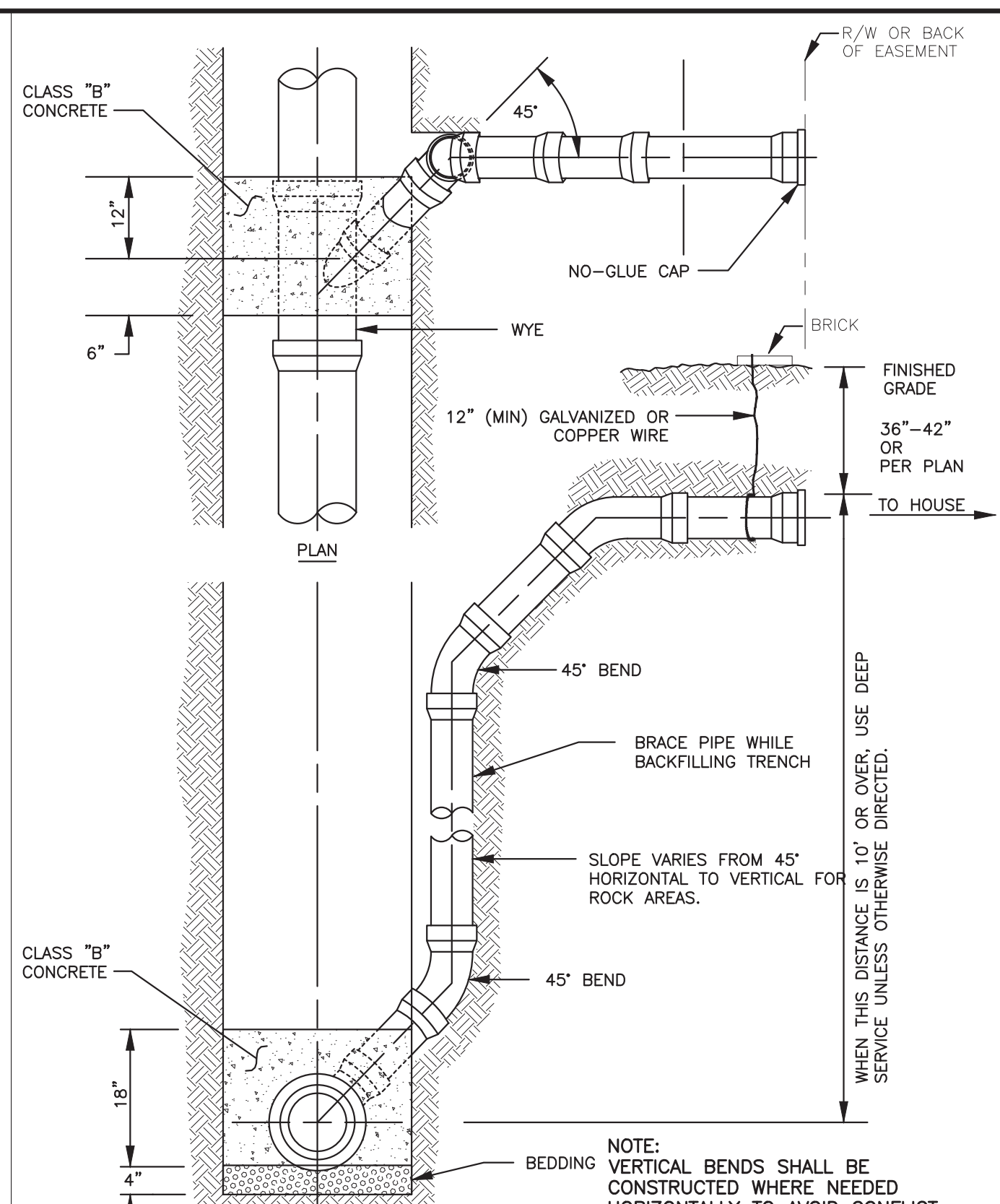
DESIGNED BY: AAS
DRAWN BY: AAS
CHECKED BY: RLS



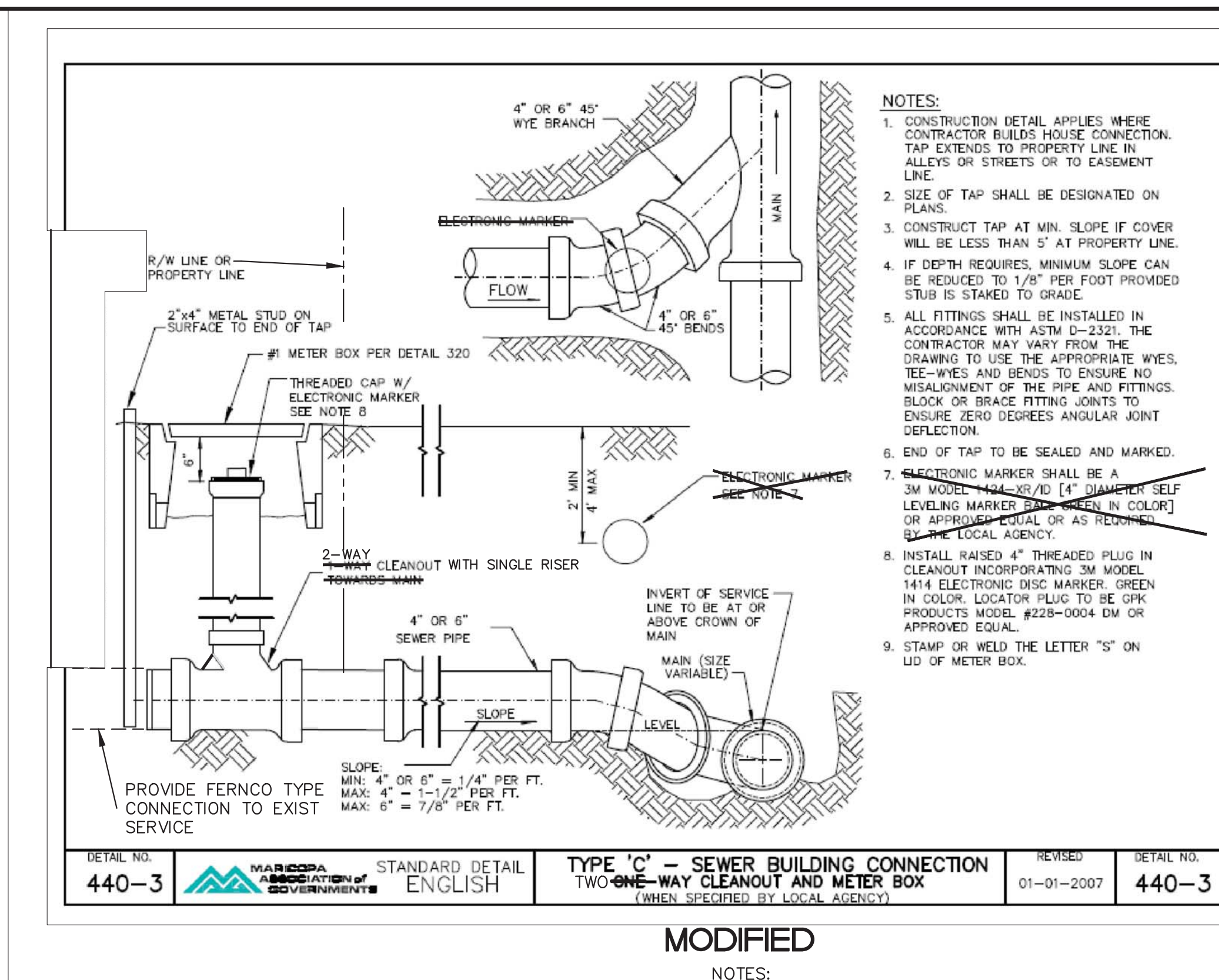
Pipe Dia.	" A "
< 18"	6"
18"-24"	7.5"
27"-39"	9"
42" ≥	12"



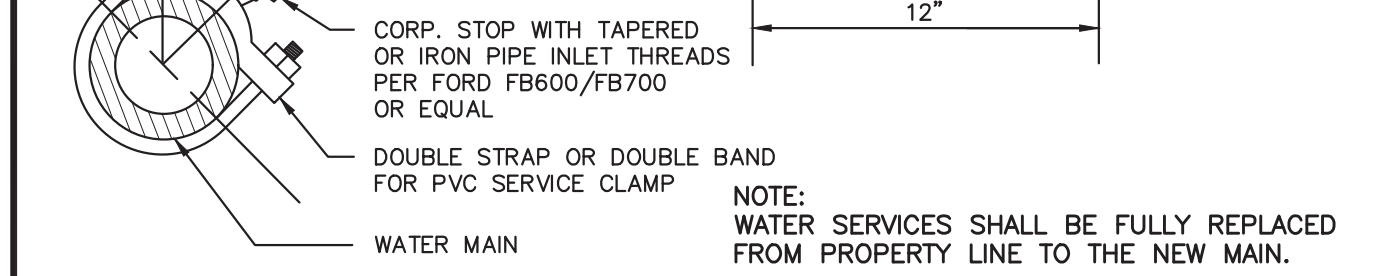
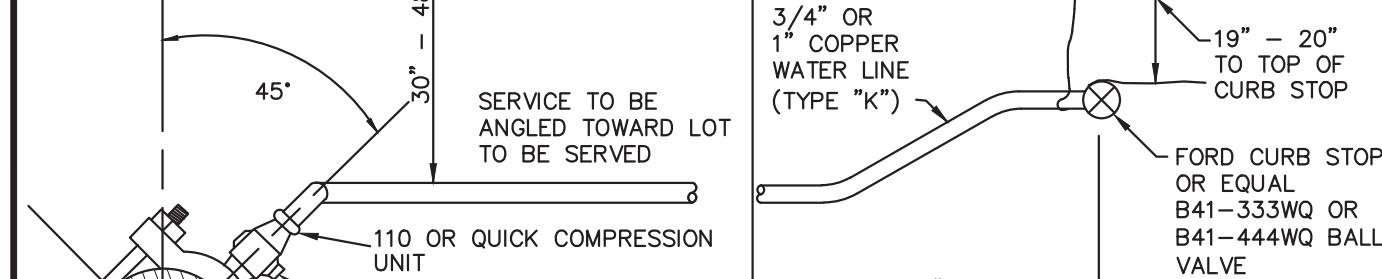
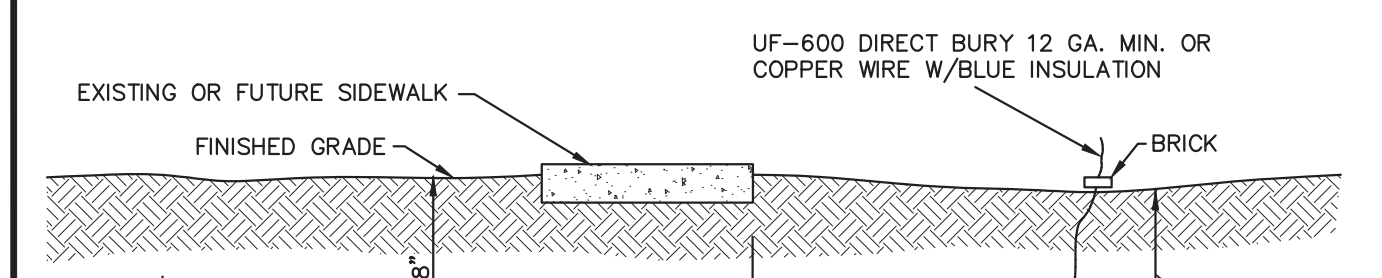
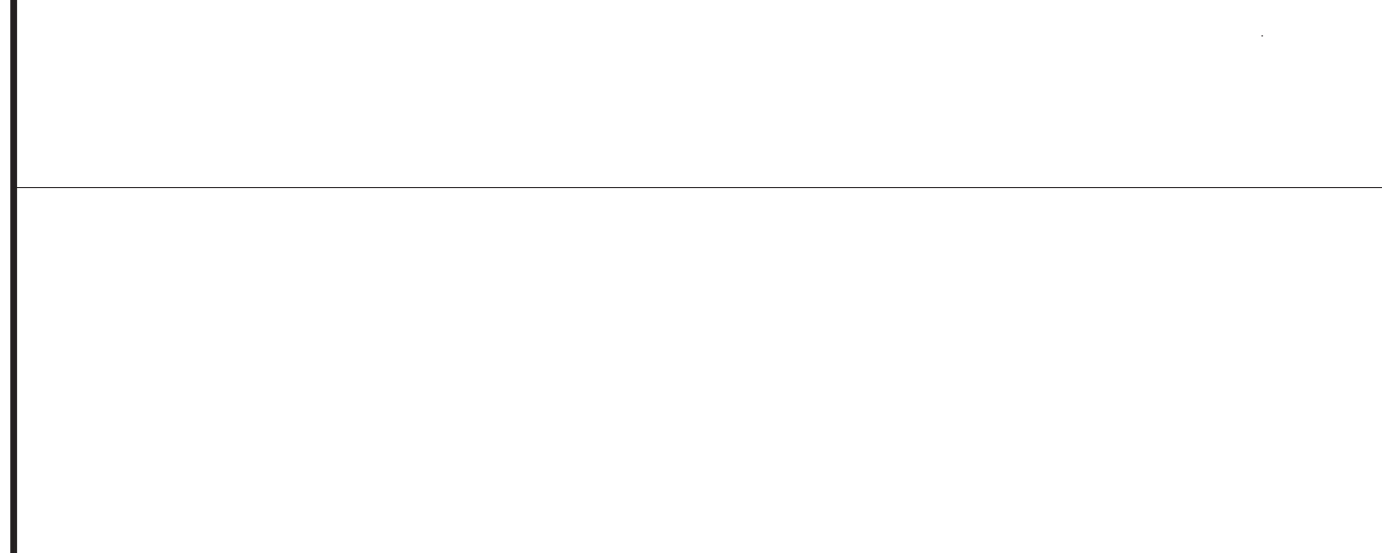
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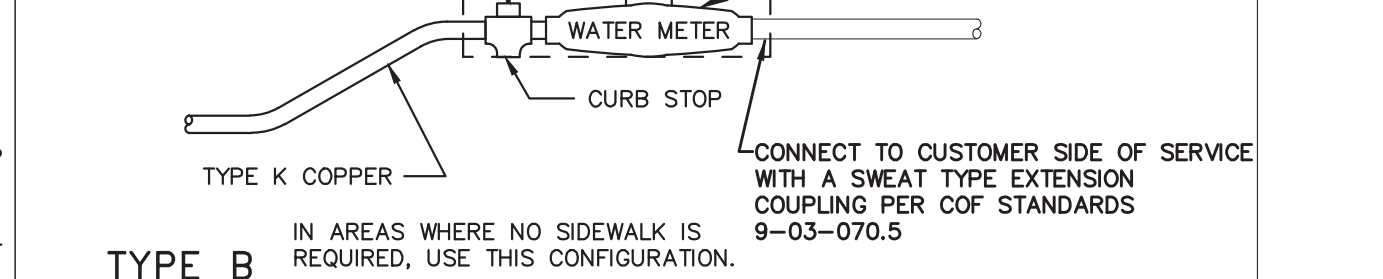
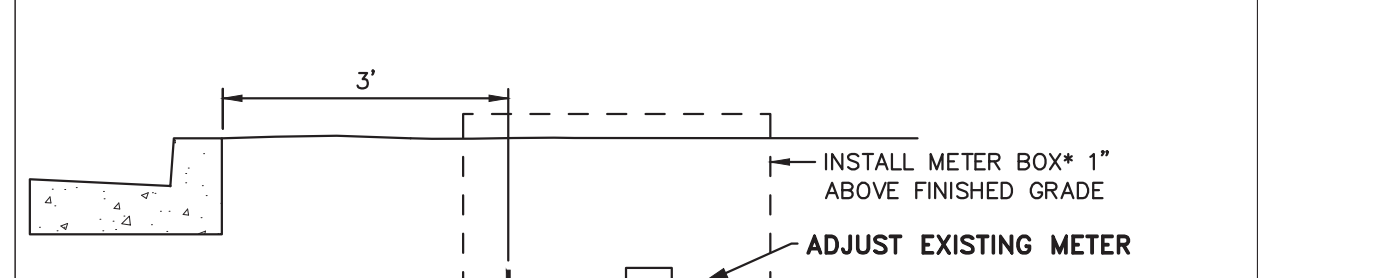
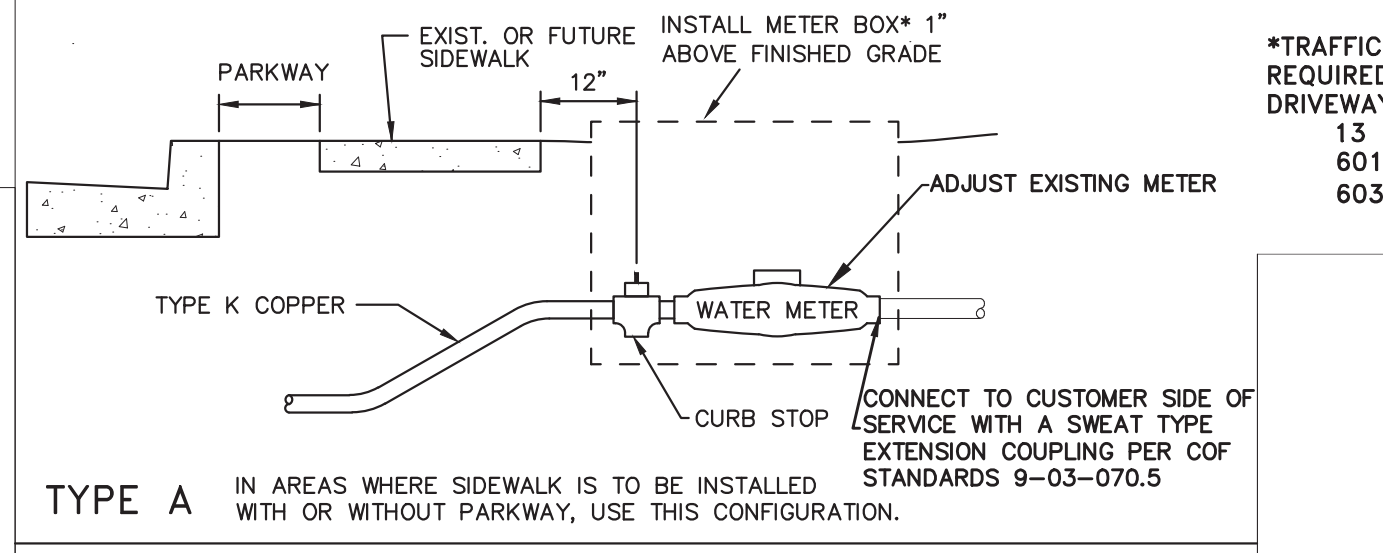
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Effective 12/18/07	ENGINEERING DETAIL			



Rev. 12/3/11	City of Flagstaff	9-02-080	1	1
Effective 12/18/07	ENGINEERING DETAIL			



Rev. 1/28/11	City of Flagstaff	9-03-070	1	2
Effective 01/20/09	ENGINEERING DETAIL			



Rev. 12/18/07	City of Flagstaff	9-03-070	1	2
Effective 12/18/07	ENGINEERING DETAIL			

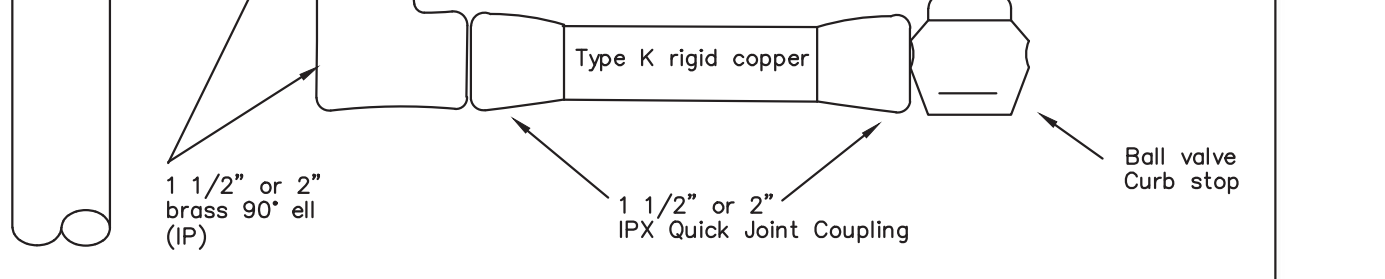
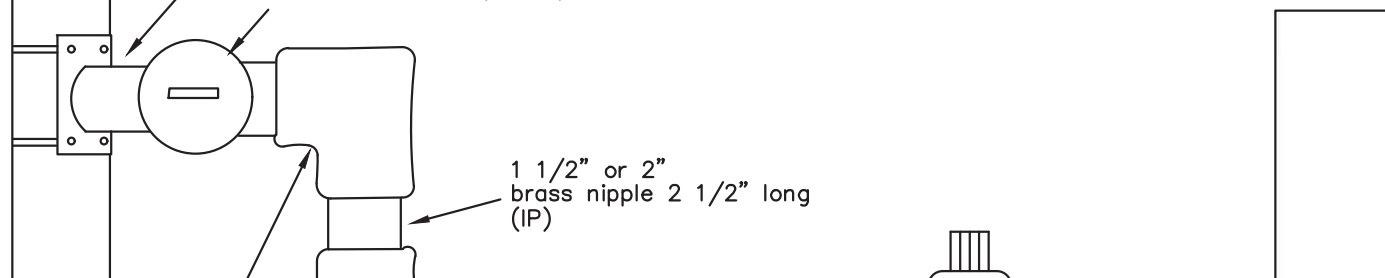
AS-BUILT DRAWINGS

DATE: 3/28/16
BY: Alicia Stoffers, PE

WOODSON
ENGINEERING AND SURVEYING, INC.
124 N. ELDEN DR.,
FLAGSTAFF, AZ 86001
PHONE NO. (928) 774-4636

REGISTERED PROFESSIONAL ENGINEER
CERTIFICATE NO. 49953
ALICIA ANNE STOFFERS
3/28/16
ARIZONA, USA

EXPIRES 9/30/2015



Rev. 11/1/11	City of Flagstaff	9-03-071	1	1
Effective 12/18/07	ENGINEERING DETAIL			

Rev. 11/9/11	City of Flagstaff	9-01-030	1	1
Effective 12/18/07	ENGINEERING DETAIL			

Rev. 12/3/11	City of Flagstaff	9-02-080	1	1
Effective 12/18/07	ENGINEERING DETAIL			

Rev. 1/28/11	City of Flagstaff	9-03-070	1	2
Effective 01/20/09	ENGINEERING DETAIL			

Rev. 12/18/07	City of Flagstaff	9-03-070	1	2
Effective 12/18/07	ENGINEERING DETAIL			

Rev. 11/1/11	City of Flagstaff	9-03-071	1	1
Effective 12/18/07	ENGINEERING DETAIL			

Rev. 11/9/11	City of Flagstaff	9-01-030	1	1
Effective 12/18/07	ENGINEERING DETAIL			

Rev. 12/3/11	City of Flagstaff	9-02-080	1	1
Effective 12/18/07	ENGINEERING DETAIL			

Rev. 1/28/11	City of Flagstaff	9-03-070	1	2
Effective 01/20/09	ENGINEERING DETAIL			

CALL TWO WORKING DAYS BEFORE YOU DIG

1-800-STAKE-IT
1-800-782-5348
(OUTSIDE MARICOPA COUNTY)

REVISIONS:

--	--	--	--	--

REGISTERED PROFESSIONAL ENGINEER
CERTIFICATE NO. 49953
ALICIA ANNE STOFFERS
3/9/15
ARIZONA, USA

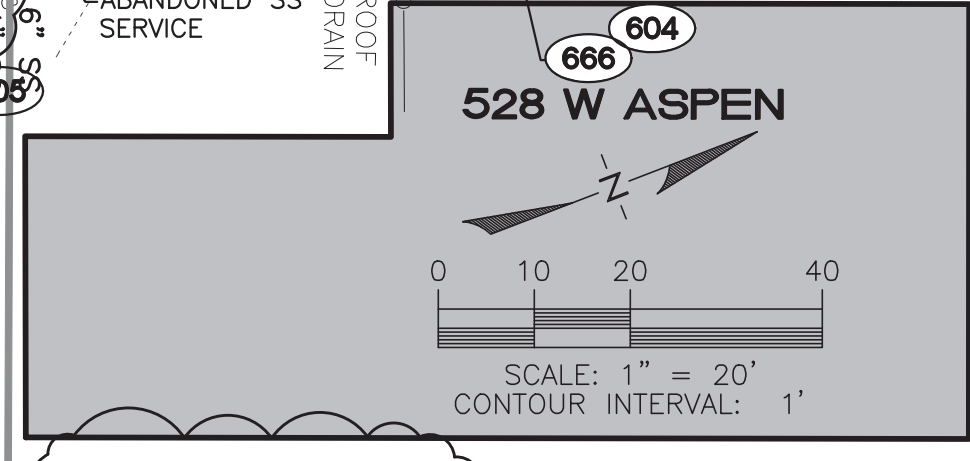
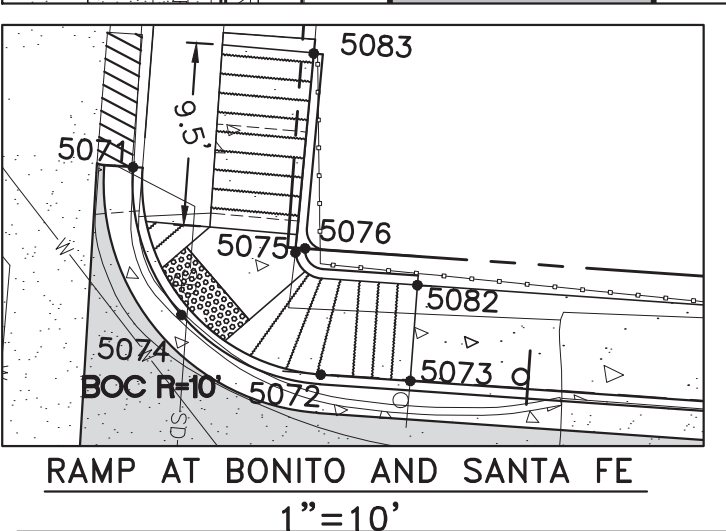
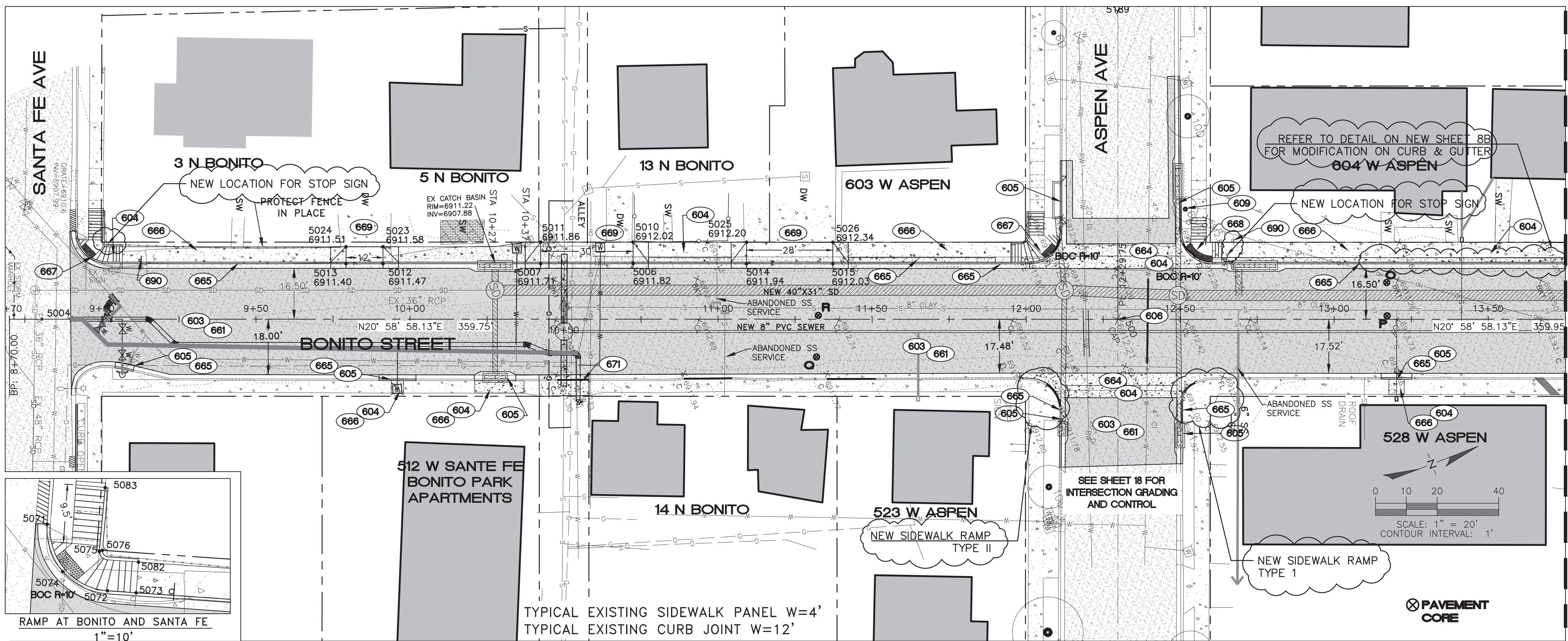
EXPIRES 9/30/2015

WOODSON
ENGINEERING AND SURVEYING, INC.
124 N. ELDEN ST.
FLAGSTAFF, AZ 86001
PHONE: (928) 774-4636 FAX: (928) 774-4646

BONITO STREET

DETAILS

HOR SCALE: 1"=20'
VERT SCALE: 1"=2'
DATE: 3/9/15
PROJECT NO.: 113801
AGENCY NO.: 03-13012
SHEET NO.: 4 OF 22



MATCHLINE
SEE SHEET 7

**CONSTRUCTION NOTES
PUBLIC IMPROVEMENTS**

- 603 (2135 S.Y.) SAWCUT AND REMOVE EXISTING A.C. PAVEMENT AND SOIL MATERIAL TO A DEPTH OF 10" FROM FINISH GRADE. SCARIFY SUBGRADE TO 9" DEPTH AND COMPACT TO 95% STANDARD DENSITY. DISPOSE OF MATERIAL OFFSITE AT AN APPROVED LOCATION.
- 604 (2949 S.F.) SAWCUT, REMOVE AND DISPOSE OF EXISTING CONCRETE SIDEWALK AND VALLEY GUTTERS.
- 605 (216 L.F.) SAWCUT, REMOVE AND DISPOSE OF EXISTING CURB AND GUTTER.
- 606 (1 EA.) INSTALL STANDARD SURVEY MONUMENT AND BENCHMARK IN ACCORDANCE WITH COF SD NO. 11-01-010 TYPE A. REFER TO CONTROL SHEET FOR COORDINATES
- 609 (1 EA.) REMOVE AND DISPOSE OF EXISTING TREE.
- 661 (1968 S.Y.) INSTALL NEW ASPHALT CONCRETE AND AGGREGATE BASE COURSE IN ACCORDANCE WITH MAG SS 310 & 321 AND PER TYPICAL SECTIONS AND PAVEMENT STRUCTURAL SECTION 1 ON SHEET 5.
- 664 (800 S.F.) INSTALL 8' VALLEY GUTTER PER COF SD 8-06-010.
- 665 (364 L.F.) CONSTRUCT 6" (TYPE "A") VERTICAL CURB AND GUTTER IN ACCORDANCE WITH MAG SD NO. 220, MODIFIED TO PLACE 3" AB UNDER ALL CURB.
- 666 (1618 S.F.) CONSTRUCT 5' WIDE SIDEWALK IN ACCORDANCE WITH MAG SD NO. 230, MODIFIED TO PLACE 3" AB UNDER ALL SIDEWALK.
- 667 (2 EA.) CONSTRUCT SIDEWALK RAMP TYPE 1 PER TYPICAL DETAIL ON SHEET 5 AND PER CONTROL POINTS ON THIS SHEET OR THE INTERSECTION GRADING SHEET.
- 668 (1 EA.) CONSTRUCT SIDEWALK RAMP TYPE 2 PER TYPICAL DETAIL ON SHEET 5 AND PER CONTROL POINTS ON THIS SHEET OR THE INTERSECTION GRADING SHEET.
- 669 (817 S.F.) CONSTRUCT DRIVEWAY ENTRANCE TYPE 1 PER DETAIL ON SHEET 5. WIDTH AS SHOWN ON PLAN.
- 671 (110 S.F.) REMOVE AND REPLACE EXISTING DRIVEWAY ENTRANCE. MATCH EXISTING CONFIGURATION AND GRADES.
- 690 (2 EA.) REMOVE AND RELOCATE EXISTING SIGN (STOP AND STREET NAME ON ONE POLE).
- 692 (279 S.F.) CONSTRUCT 18" WIDE CONCRETE SLOPE IN ACCORDANCE WITH MAG SD NO. 230, MODIFIED TO PLACE 3" AB UNDER ALL CONCRETE.

AS-BUILT DRAWINGS

DATE: 3/28/16
 BY: Alicia Stoffers, PE
WOODSON
 ENGINEERING AND SURVEYING, INC.
 124 N. ELDEN ST. DR.
 FLAGSTAFF, AZ 86001
 PHONE NO. (928) 774-4636



POINT TABLE				
POINT NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION
5006	4187.55	9669.03	6911.82	FL
5007	4159.54	9658.29	6911.71	FL
5010	4190.06	9662.49	6912.02	EG
5011	4162.05	9651.75	6911.86	EG
5012	4111.77	9639.96	6911.47	fl
5013	4100.56	9635.67	6911.40	fl
5014	4221.96	9682.22	6911.94	fl
5015	4248.10	9692.25	6912.03	fl
5023	4113.74	9634.83	6911.58	EG
5024	4102.53	9630.53	6911.51	EG
5025	4224.47	9675.69	6912.20	EG
5026	4250.61	9685.71	6912.34	EG
5071	4022.44	9594.35	6910.40	FL-ME
5072	4028.63	9607.54	6911.31	boc
5073	4032.99	9609.21	6911.35	BOC
5074	4022.60	9602.44	6910.77	fl
5075	4029.23	9601.07	6910.87	sw
5076	4029.77	9601.02	6911.37	boc
5082	4034.80	9604.55	6911.43	SW
5083	4033.16	9591.44	6911.56	SW-ME

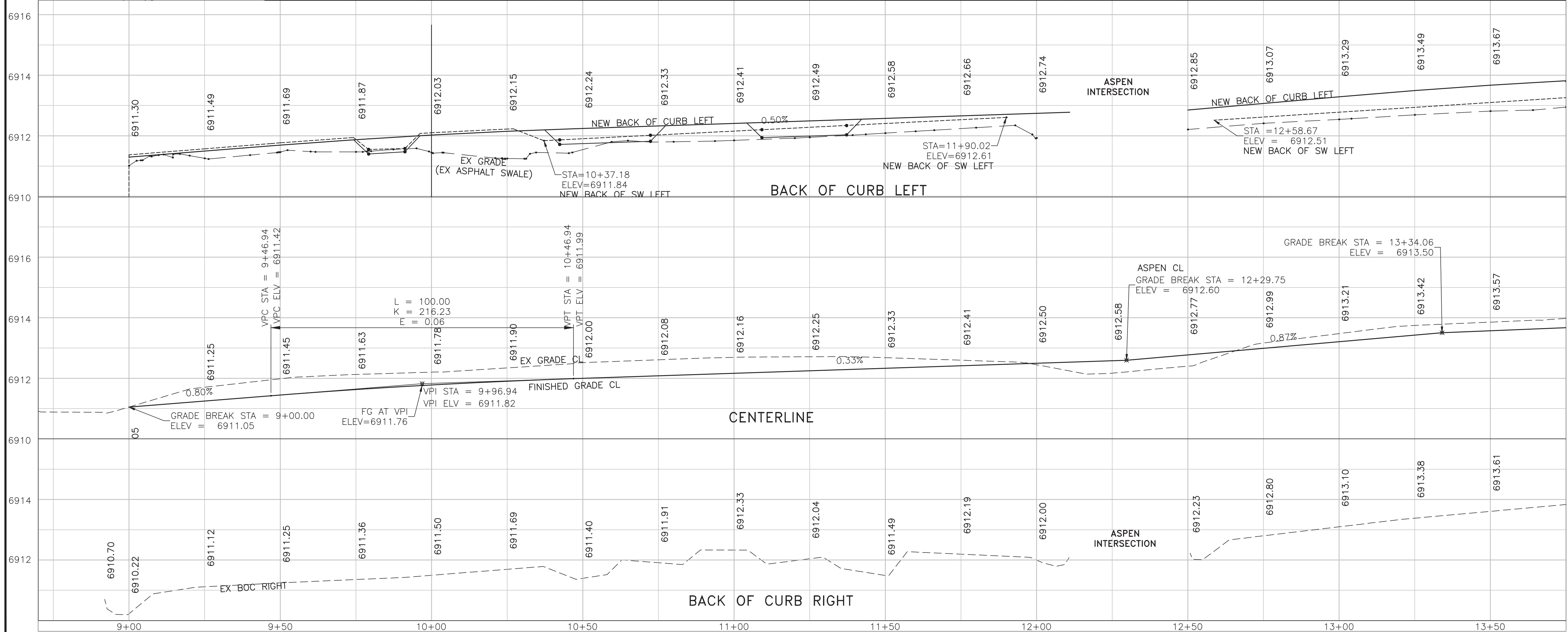
GENERAL NOTES

FIELD TOPOGRAPHY AND BOUNDARY SURVEY INFORMATION USED TO PREPARE THIS DRAWING WERE MADE BY WOODSON ENGINEERING & SURVEY, INC. IN AUGUST, 2013.

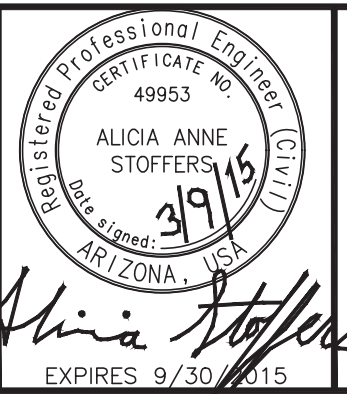
CENTERLINE CONTROL IS SHOWN ON SHEET 20.

ALL ELEVATIONS SHOWN ON THE PLANS ARE FINISHED SURFACE ELEVATIONS (EXCEPT AS NOTED).

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REVISIONS:



WOODSON
 ENGINEERING AND SURVEYING, INC.
 124 N. ELDEN ST.
 FLAGSTAFF, AZ 86001
 PHONE: (928) 774-4636 FAX: (928) 774-4646

BONITO STREET

PAVING AND GRADING
 STA 8+90 TO STA 13+75

FF57A

HOR SCALE: 1"=20'
VERT SCALE: 1"=2'
DATE: 3/9/15
PROJECT NO.: 113801
AGENCY NO.: 03-13012
SHEET NO.: 6 OF 22

113801

WOODSON ENGINEERING AND SURVEYING, INC.
 124 N. ELDEN ST. • FLAGSTAFF, AZ 86001 • PHONE: (928) 774-4636 FAX: (928) 774-4646

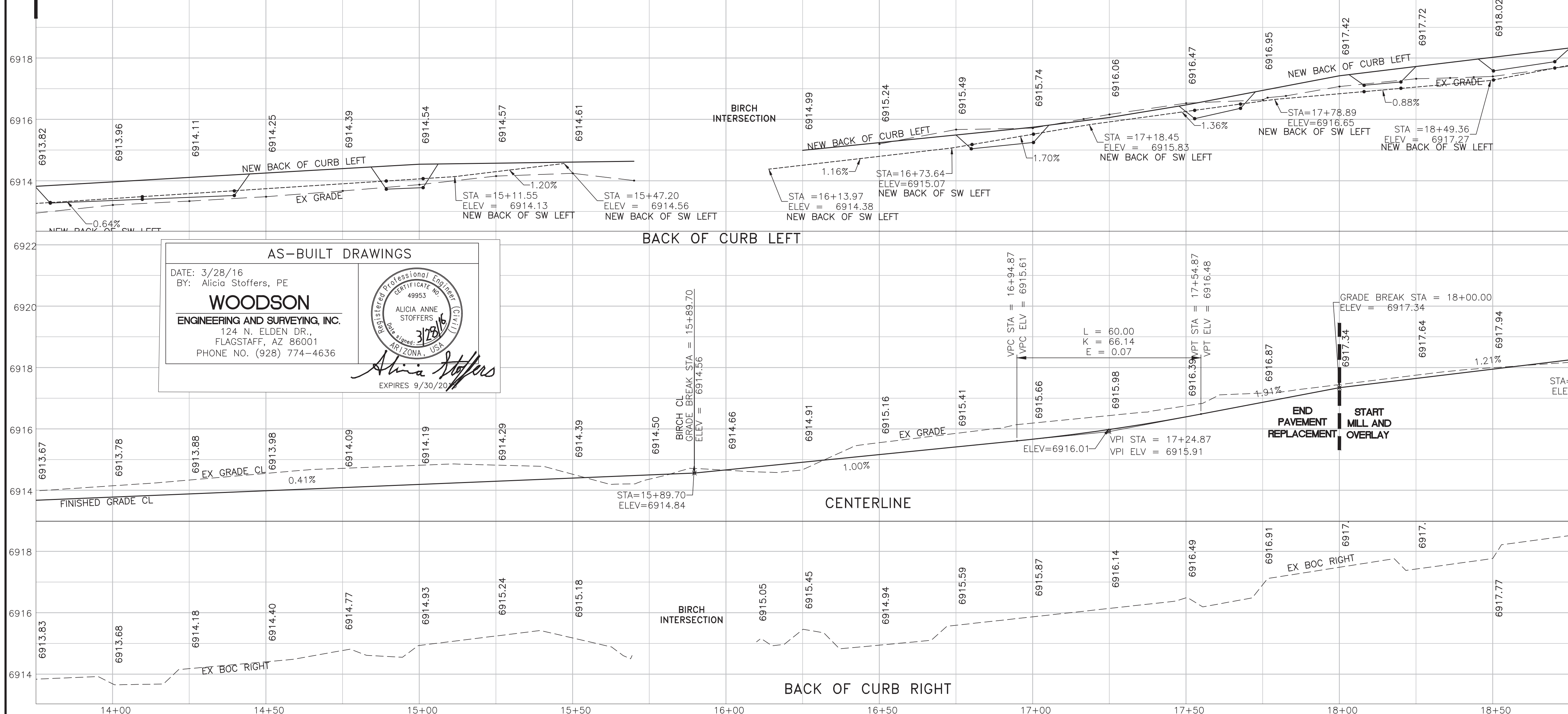
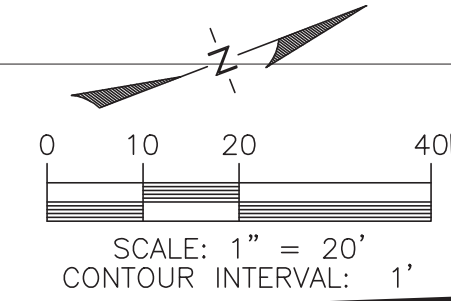
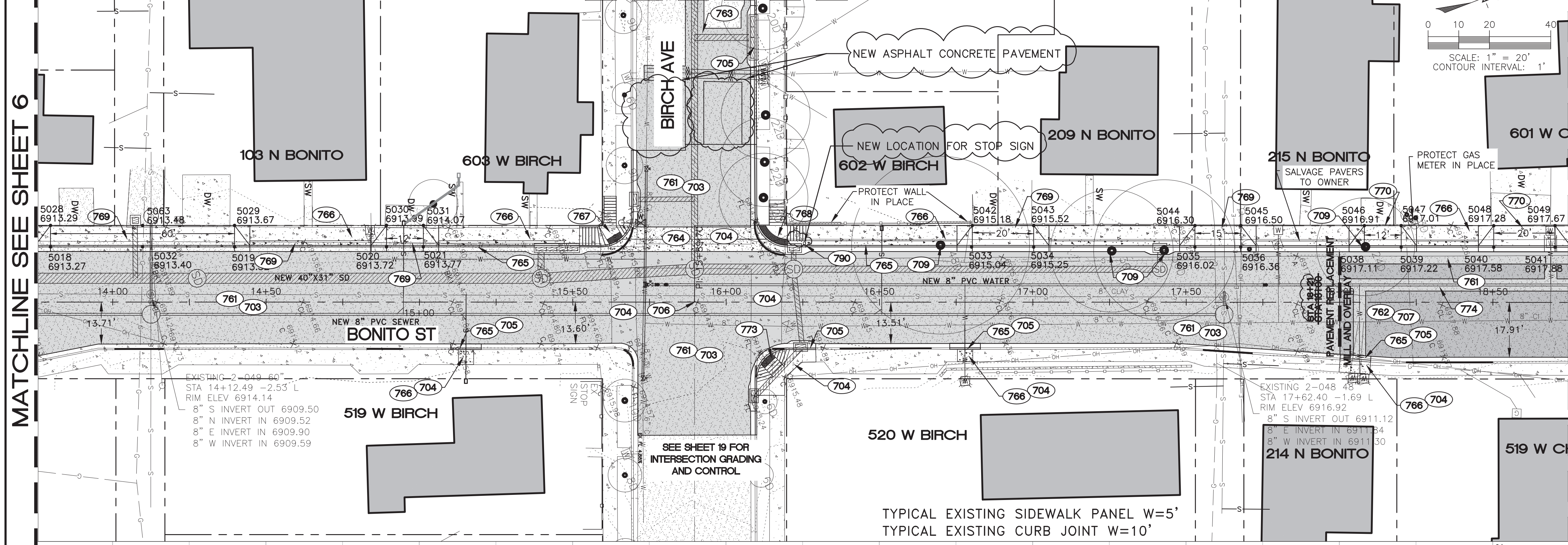
3/9/15

BONITO ST. IMPROVEMENT PLANS
 CITY OF FLAGSTAFF
 CONSTRUCTION PLANS

MATCHLINE SEE SHEET 19

MATCHLINE SEE SHEET 6

MATCHLINE SEE SHEET 8



AS-BUILT DRAWINGS
 DATE: 3/28/16
 BY: Alicia Stoffers, PE
WOODSON
 ENGINEERING AND SURVEYING, INC.
 124 N. ELDEN DR.
 FLAGSTAFF, AZ 86001
 PHONE NO. (928) 774-4636

- CONSTRUCTION NOTES**
PUBLIC IMPROVEMENTS
- 703 (1845 S.Y.) SAWCUT AND REMOVE EXISTING A.C. PAVEMENT AND SOIL MATERIAL TO A DEPTH OF 10" FROM FINISH GRADE. SCARIFY SUBGRADE TO 9" DEPTH AND COMPACT TO 95% STANDARD DENSITY. DISPOSE OF MATERIAL OFFSITE AT AN APPROVED LOCATION.
 - 704 (3380 S.F.) SAWCUT, REMOVE AND DISPOSE OF EXISTING CONCRETE SIDEWALK AND VALLEY GUTTERS.
 - 705 (192 L.F.) SAWCUT, REMOVE AND DISPOSE OF EXISTING CURB AND GUTTER.
 - 706 (1 EA.) INSTALL STANDARD SURVEY MONUMENT AND BENCHMARK IN ACCORDANCE WITH COF SD NO. 11-01-010 TYPE A.
 - 707 (253 S.Y.) MILL AND REMOVE EXISTING PAVEMENT 2" BELOW FINISHED GRADE AT CENTERLINE PER PROFILE. DISPOSE OF MATERIAL OFFSITE AT AN APPROVED LOCATION.
 - 708 (4 EA.) REMOVE AND DISPOSE OF EXISTING TREE.
 - 709 (1696 S.Y.) INSTALL NEW ASPHALT CONCRETE AND AGGREGATE BASE COURSE IN ACCORDANCE WITH MAG SS 310 & 321 AND PER PAVEMENT STRUCTURAL SECTION 1 ON SHEET 5.
 - 710 (253 S.Y.) INSTALL NEW 2" ASPHALT PAVEMENT OVER MILLED SURFACE IN ACCORDANCE WITH MAG SS 321 AND PER PAVEMENT STRUCTURAL SECTION 2 ON SHEET 5.
 - 711 (221 S.Y.) INSTALL NEW ASPHALT CONCRETE AND AGGREGATE BASE COURSE IN ACCORDANCE WITH MAG SS 310 & 321 AND PER TRENCHING AND BACKFILL COF SD 9-01-030. STORM DRAIN TRENCH PER 8-02-010.
 - 712 (389 S.F.) INSTALL 8" VALLEY GUTTER PER COF SD 8-06-010.
 - 713 (309 L.F.) CONSTRUCT 6" (TYPE "A") VERTICAL CURB AND GUTTER IN ACCORDANCE WITH MAG SD NO. 220, MODIFIED TO PLACE 3" AB UNDER ALL CURB.
 - 714 (1239 S.F.) CONSTRUCT 5' WIDE SIDEWALK IN ACCORDANCE WITH MAG SD NO. 230, MODIFIED TO PLACE 3" AB UNDER ALL SIDEWALK.
 - 715 (1 EA.) CONSTRUCT SIDEWALK RAMP TYPE 1 PER TYPICAL DETAIL ON SHEET 5 AND PER CONTROL POINTS ON THIS SHEET OR THE INTERSECTION GRADING SHEET.
 - 716 (1 EA.) CONSTRUCT SIDEWALK RAMP TYPE 2 PER TYPICAL DETAIL ON SHEET 5 AND PER CONTROL POINTS ON THIS SHEET OR THE INTERSECTION GRADING SHEET.
 - 717 (1215 S.F.) CONSTRUCT DRIVEWAY ENTRANCE TYPE 1 PER DETAIL ON SHEET 5. WIDTH AS SHOWN ON PLAN.
 - 718 (338 S.F.) CONSTRUCT DRIVEWAY ENTRANCE TYPE 2 PER DETAIL ON SHEET 5. WIDTH AS SHOWN ON PLAN.
 - 719 (1 EA.) CONSTRUCT SIDEWALK RAMP TYPE 4 PER TYPICAL DETAIL ON SHEET 5 AND PER CONTROL POINTS ON THIS SHEET OR THE INTERSECTION GRADING SHEET.
 - 720 (45 S.Y.) INSTALL NEW ASPHALT CONCRETE AND AGGREGATE BASE COURSE IN ACCORDANCE WITH MAG SS 310 & 321 AND PER TRENCHING AND BACKFILL COF SD 9-01-030. TOP 2 INCHES OF AC INCLUDED IN THE OVERLAY QUANTITY.
 - 721 (1 EA.) REMOVE AND RELOCATE EXISTING SIGN (STOP AND STREET NAME ON ONE POLE).
 - 722 (332 S.F.) CONSTRUCT 18" WIDE CONCRETE SLOPE IN ACCORDANCE WITH MAG SD NO. 230, MODIFIED TO PLACE 3" AB UNDER ALL CONCRETE.
 - 723 (1 EA.) REMOVE AND REPLACE DRY STACK WALL AS NECESSARY FOR WATER SERVICE REPLACEMENT.

POINT NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION
5018	4474.49	9779.07	6913.27	fl
5019	4530.51	9800.56	6913.52	fl
5020	4576.77	9818.30	6913.72	fl
5021	4587.97	9822.60	6913.77	fl
5028	4476.99	9772.54	6913.29	EG
5029	4533.01	9794.02	6913.67	EG
5030	4579.27	9811.76	6913.99	EG
5031	4590.48	9816.06	6914.07	EG
5032	4502.50	9789.81	6913.40	FL
5033	4754.87	9886.63	6915.04	FL
5034	4773.79	9893.89	6915.25	FL
5035	4822.86	9912.73	6916.02	FL
5036	4836.82	9918.08	6916.36	FL
5038	4874.44	9932.52	6917.11	FL
5039	4885.64	9936.82	6917.22	FL
5040	4913.82	9947.63	6917.58	FL
5041	4932.49	9954.81	6917.88	FL
5042	4757.60	9880.18	6915.18	EG
5043	4776.29	9887.36	6915.52	EG
5044	4825.37	9906.19	6916.30	EG
5045	4839.32	9911.54	6916.50	EG
5046	4876.94	9925.99	6916.91	EG
5047	4888.15	9930.29	6917.01	EG
5048	4916.32	9941.10	6917.28	EG
5049	4935.00	9948.26	6917.67	EG
5063	4505.00	9783.28	6913.48	eg

GENERAL NOTES

FIELD TOPOGRAPHY AND BOUNDARY SURVEY INFORMATION USED TO PREPARE THIS DRAWING WERE MADE BY WOODSON ENGINEERING & SURVEY, INC. IN AUGUST, 2013.

CENTERLINE CONTROL IS SHOWN ON SHEET 20.

ALL ELEVATIONS SHOWN ON THE PLANS ARE FINISHED SURFACE ELEVATIONS (EXCEPT AS NOTED).

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 (OUTSIDE MARICOPA COUNTY)

REVISIONS:

WOODSON
 ENGINEERING AND SURVEYING, INC.
 124 N. ELDEN ST.
 FLAGSTAFF, AZ 86001
 PHONE: (928) 774-4636 FAX: (928) 774-4646

BONITO STREET
 PAVING AND GRADING
 STA 13+75 TO STA 18+75

HOR SCALE: 1"=20'
 VERT SCALE: 1"=2'
 DATE: 3/9/15
 PROJECT NO.: 113801
 AGENCY NO.: 03-13012
 SHEET NO.: 7 OF 22

DESIGNED BY: AAS
 DRAWN BY: AAS
 CHECKED BY: RLS

113801

WOODSON ENGINEERING AND SURVEYING, INC.
 124 N. ELDEN ST. • FLAGSTAFF, AZ 86001 • PHONE: (928) 774-4636 FAX: (928) 774-4646

3/9/15

BONITO ST. IMPROVEMENT PLANS
 CITY OF FLAGSTAFF
 CONSTRUCTION PLANS

CONSTRUCTION NOTES
PUBLIC IMPROVEMENTS

- 803 (62 S.Y.) SAWCUT AND REMOVE EXISTING A.C. PAVEMENT AND SOIL MATERIAL TO A DEPTH OF 10" FROM FINISH GRADE. SCARIFY SUBGRADE TO 9" DEPTH AND COMPACT TO 95% STANDARD DENSITY. DISPOSE OF MATERIAL OFFSITE AT AN APPROVED LOCATION.
- 804 (1082 S.F.) SAWCUT, REMOVE AND DISPOSE OF EXISTING CONCRETE SIDEWALK AND VALLEY GUTTERS.
- 805 (125 L.F.) SAWCUT, REMOVE AND DISPOSE OF EXISTING CURB AND GUTTER.
- 806 (2 EA.) INSTALL STANDARD SURVEY MONUMENT AND BENCHMARK IN ACCORDANCE WITH COF SD NO. 11-01-010 TYPE A.
- 807 (1694 S.Y.) MILL AND REMOVE EXISTING PAVEMENT 2" BELOW FINISHED GRADE AT CENTERLINE PER PROFILE. DISPOSE OF MATERIAL OFFSITE AT AN APPROVED LOCATION.
- 809 (2 EA.) REMOVE AND DISPOSE OF EXISTING TREE.
- 861 (65 S.Y.) INSTALL NEW ASPHALT CONCRETE AND AGGREGATE BASE COURSE IN ACCORDANCE WITH MAG SS 310 & 321 AND PER PAVEMENT STRUCTURAL SECTION 1 ON SHEET 5.
- 862 (1694 S.Y.) INSTALL NEW 2" ASPHALT PAVEMENT OVER MILLED SURFACE IN ACCORDANCE WITH MAG SS 321 AND PER PAVEMENT STRUCTURAL SECTION 2 ON SHEET 5.
- 863 (13 S.Y.) INSTALL NEW ASPHALT CONCRETE AND AGGREGATE BASE COURSE IN ACCORDANCE WITH MAG SS 310 & 321 AND PER TRENCHING AND BACKFILL COF SD 9-01-030.
- 865 (351 L.F.) CONSTRUCT 6" (TYPE "A") VERTICAL CURB AND GUTTER IN ACCORDANCE WITH MAG SD NO. 220, MODIFIED TO PLACE 3" AB UNDER ALL CURB.
- 866 (1642 S.F.) CONSTRUCT 5' WIDE SIDEWALK IN ACCORDANCE WITH MAG SD NO. 230, MODIFIED TO PLACE 3" AB UNDER ALL SIDEWALK.
- 869 (322 S.F.) CONSTRUCT DRIVEWAY ENTRANCE TYPE 1 PER DETAIL ON SHEET 5. WIDTH AS SHOWN ON PLAN.
- 872 (3 EA.) CONSTRUCT SIDEWALK RAMP TYPE 3 PER TYPICAL DETAIL ON SHEET 5 AND PER CONTROL POINTS ON THIS SHEET OR THE INTERSECTION GRADING SHEET.
- 874 (292 S.Y.) INSTALL NEW ASPHALT CONCRETE AND AGGREGATE BASE COURSE IN ACCORDANCE WITH MAG SS 310 & 321 AND PER TRENCHING AND BACKFILL COF SD 9-01-030. TOP 2 INCHES OF AC IN T-TOP PATCH INCLUDED IN THE OVERLAY QUANTITY.
- 890 (3 EA.) REMOVE AND RELOCATE EXISTING SIGN (STOP AND STREET NAME ON ONE POLE).
- 892 (189 S.F.) CONSTRUCT 18" WIDE CONCRETE SLOPE IN ACCORDANCE WITH MAG SD NO. 230, MODIFIED TO PLACE 3" AB UNDER ALL CONCRETE.

PAVEMENT CORE

AS-BUILT DRAWINGS

DATE: 3/28/16
By: Alicia Stoffers, PE

WOODSON
ENGINEERING AND SURVEYING, INC.
124 N. ELDEN DR.,FLAGSTAFF, AZ 86001
PHONE NO. (928) 774-4636

Alicia Stoffers
EXPIRES 9/30/2018

POINT TABLE

POINT NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION
5050	5092.13	10016.08	6918.49	FL
5051	5110.80	10023.25	6918.06	FL
5052	5161.86	10042.85	6917.08	FL
5053	5173.07	10047.15	6916.94	FL
5054	5094.10	10010.95	6918.60	EG
5055	5112.77	10018.12	6918.17	EG
5056	5163.83	10037.71	6917.19	EG
5057	5175.03	10042.01	6917.05	EG

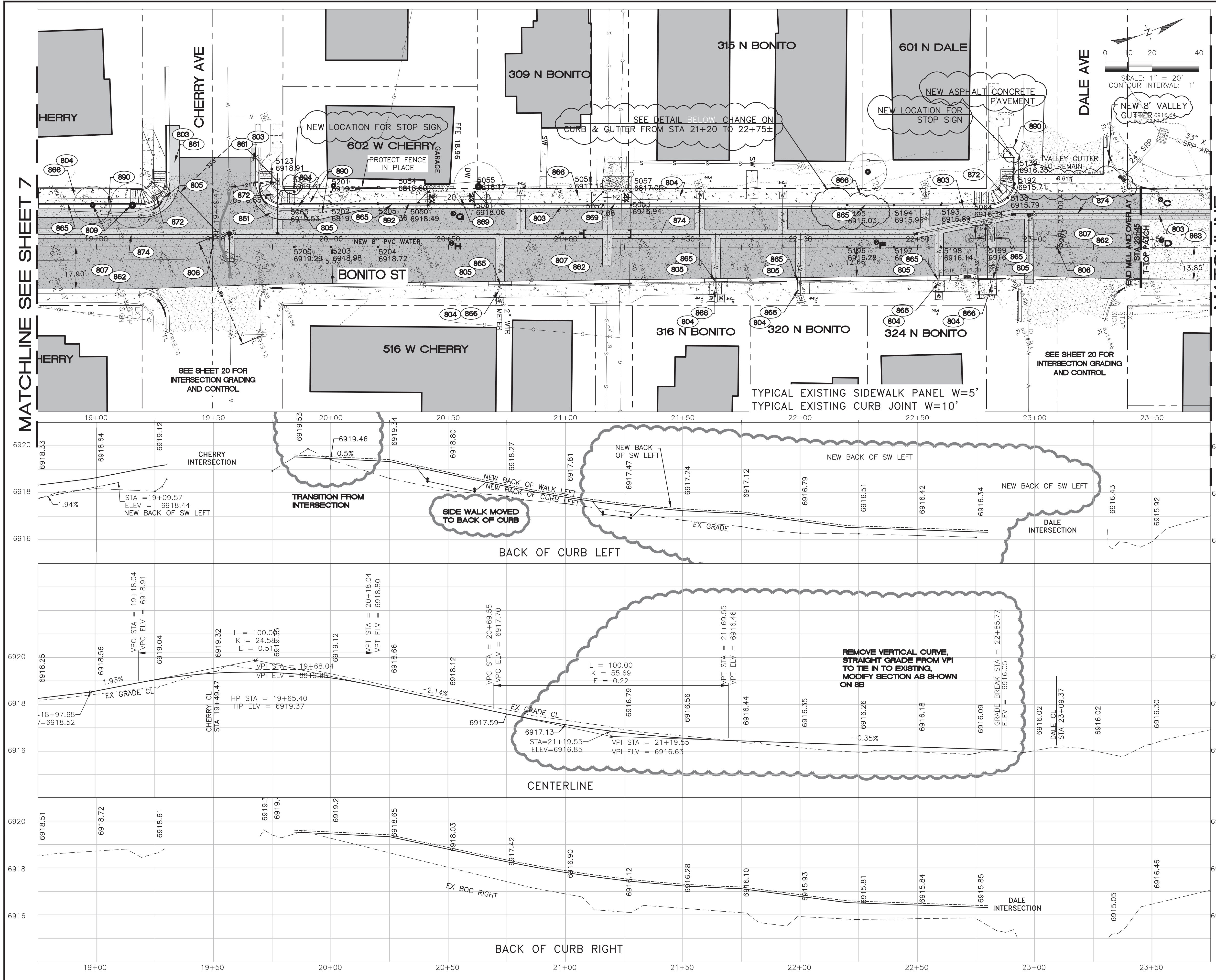
GENERAL NOTES

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CENTERLINE CONTROL IS SHOWN ON SHEET 20.

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MATCHLINE SEE SHEET 7

MATCHLINE SEE SHEET 9

CALL TWO WORKING DAYS BEFORE YOU DIG
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1-800-782-5348
(OUTSIDE MARICOPA COUNTY)

REVISIONS:

Alicia Stoffers
EXPIRES 9/30/2018

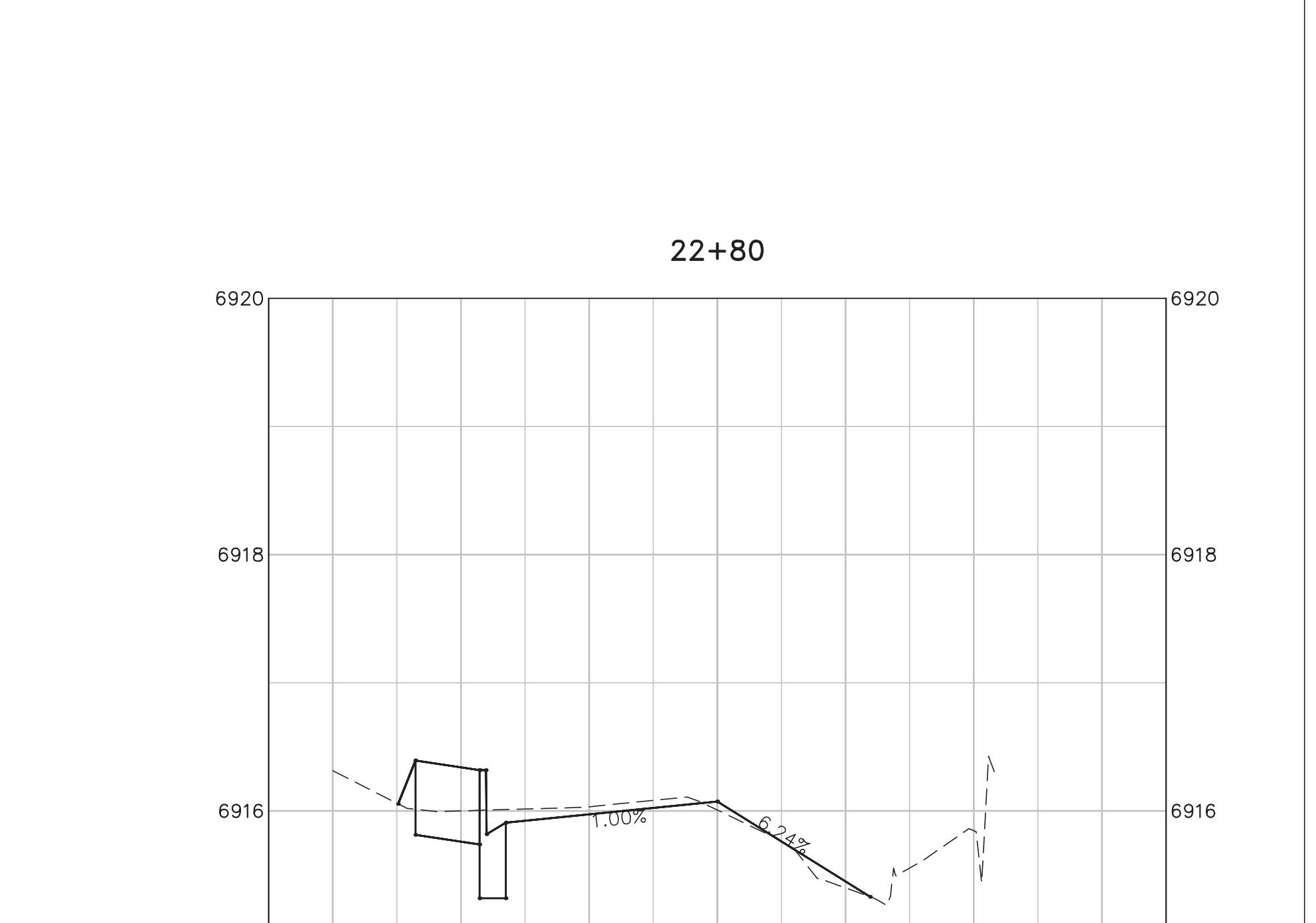
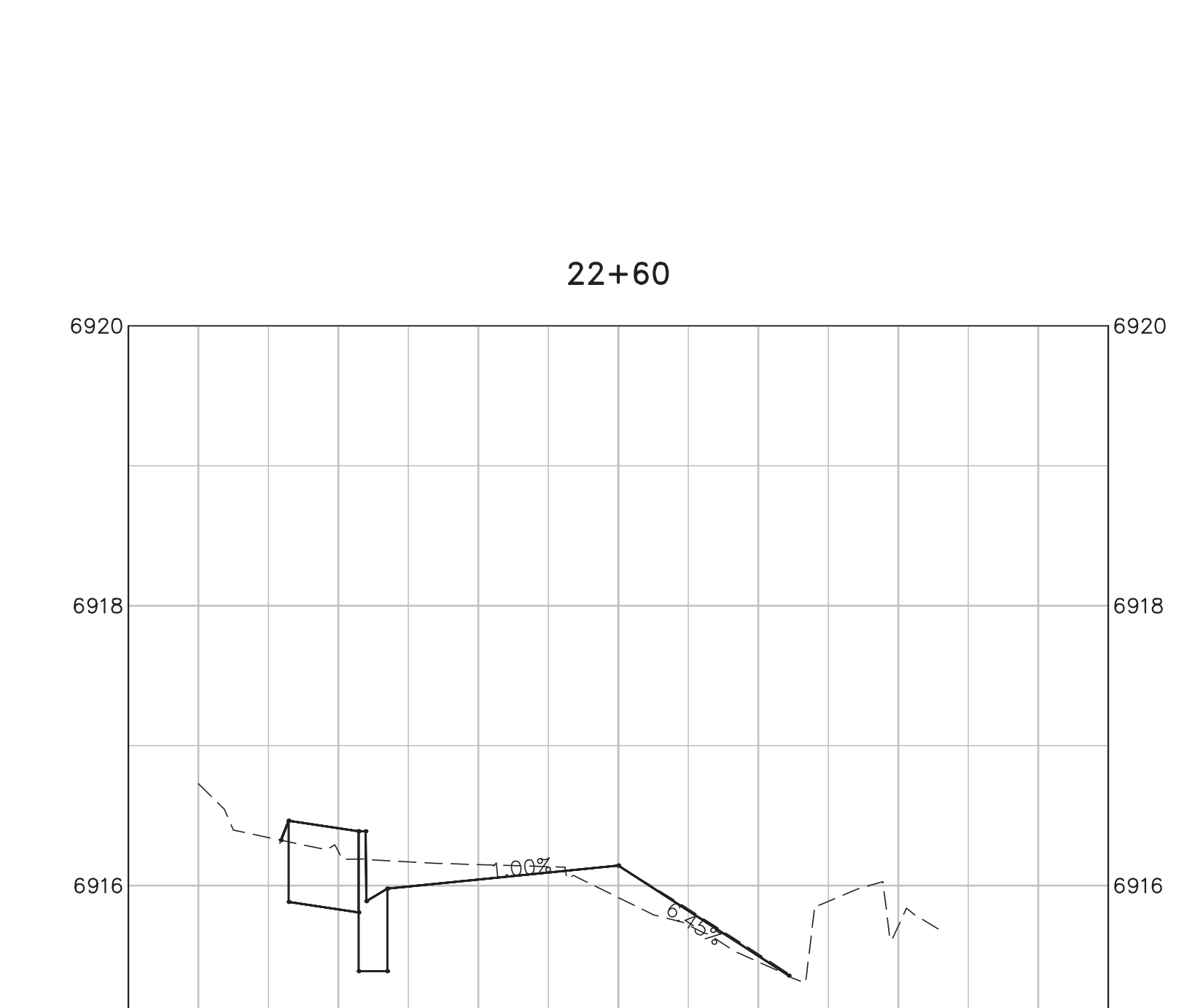
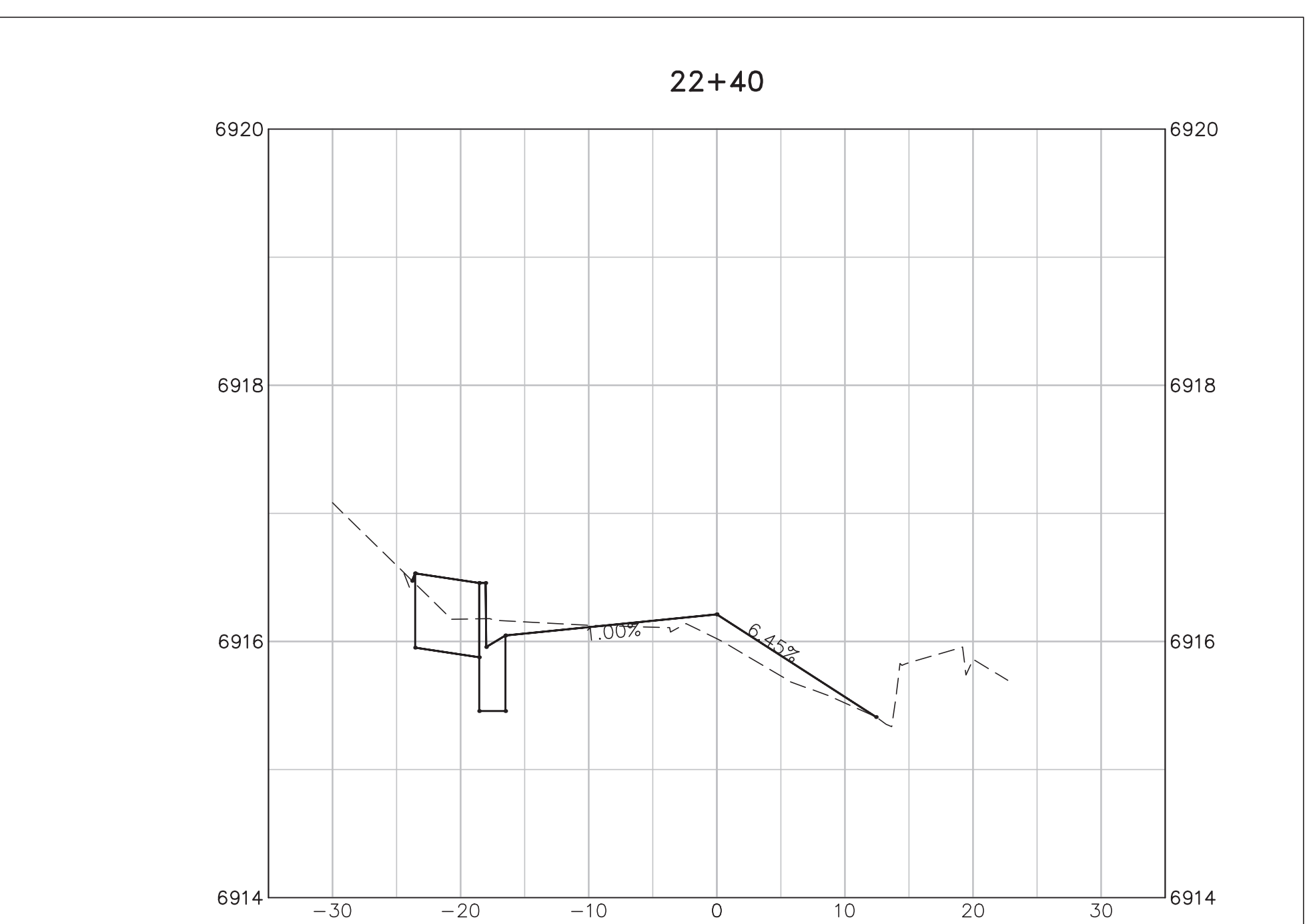
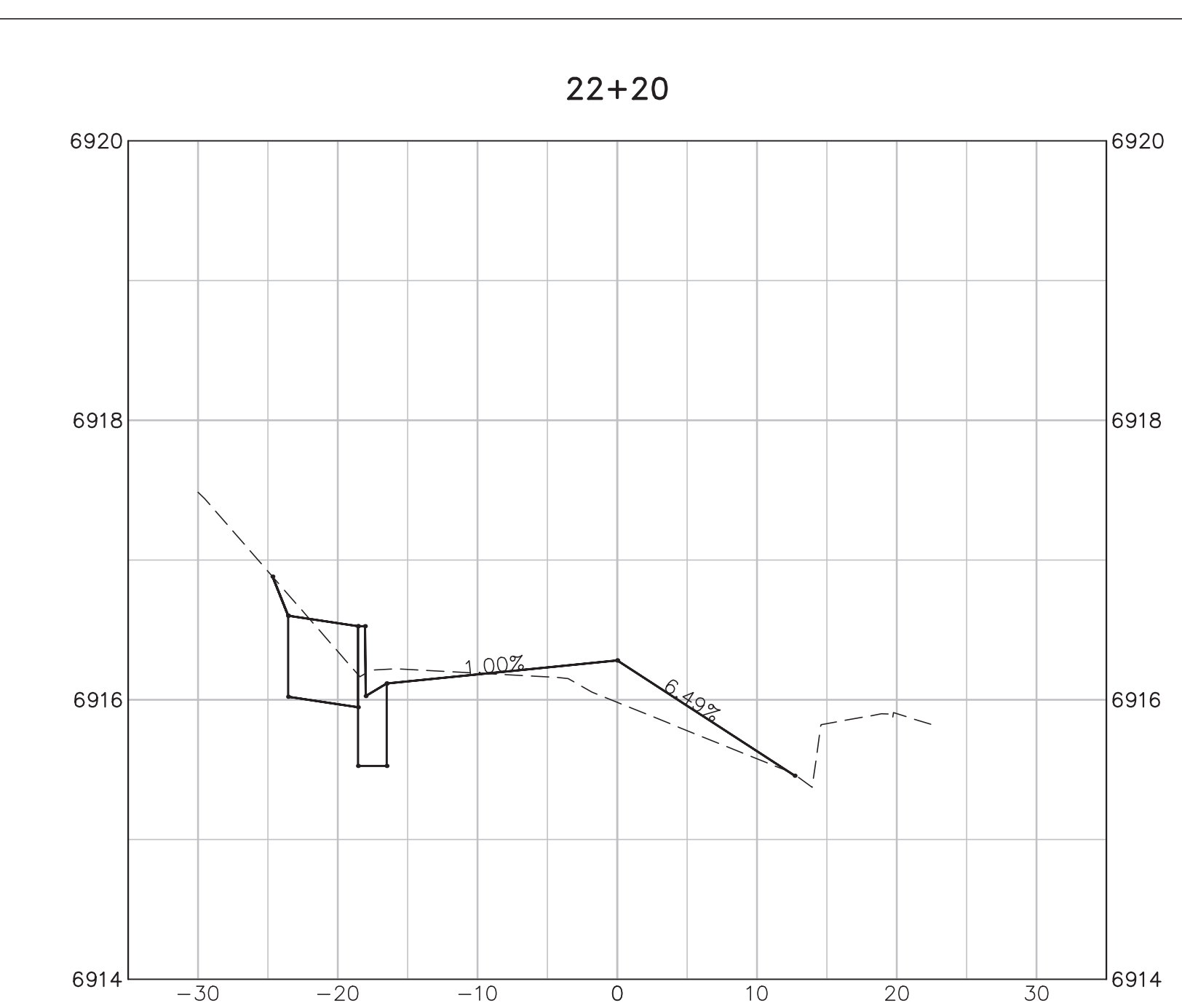
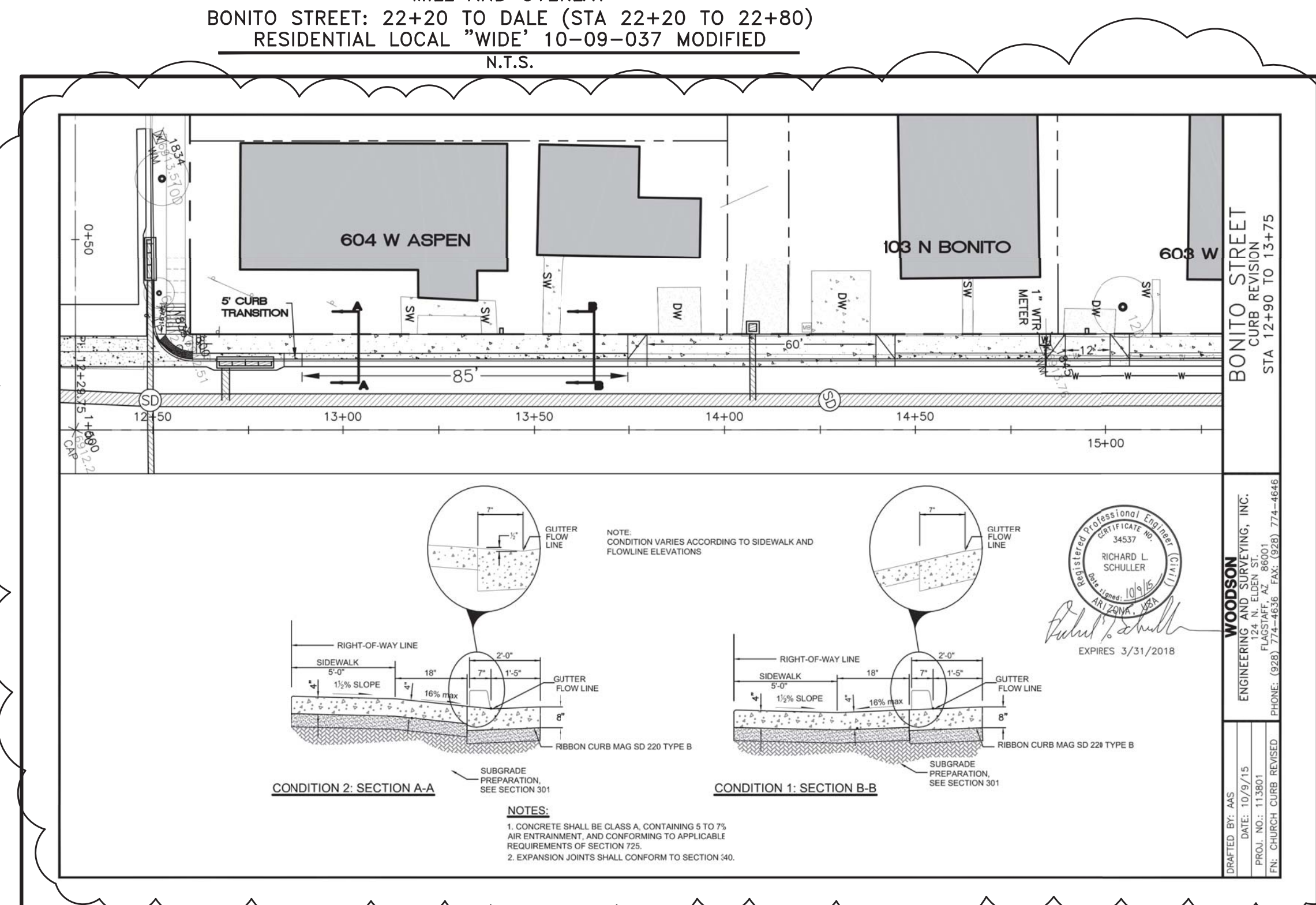
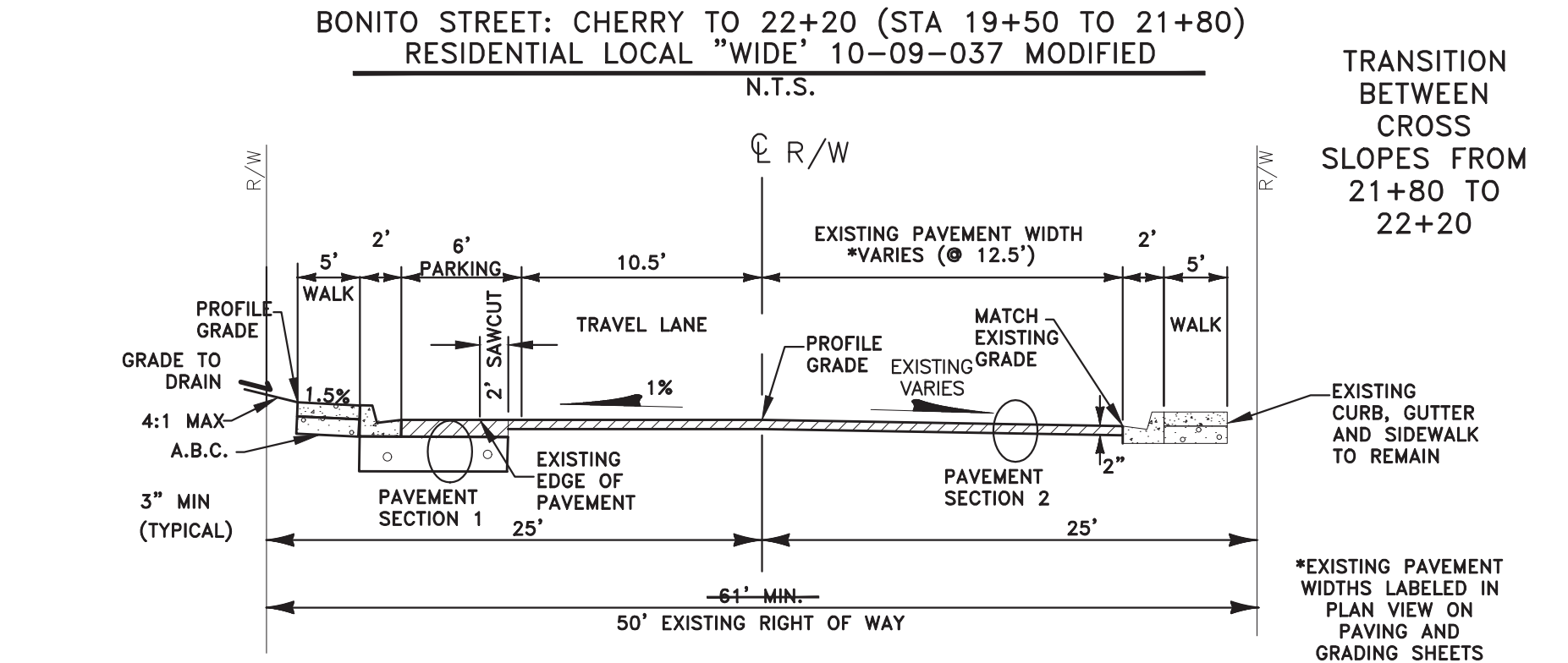
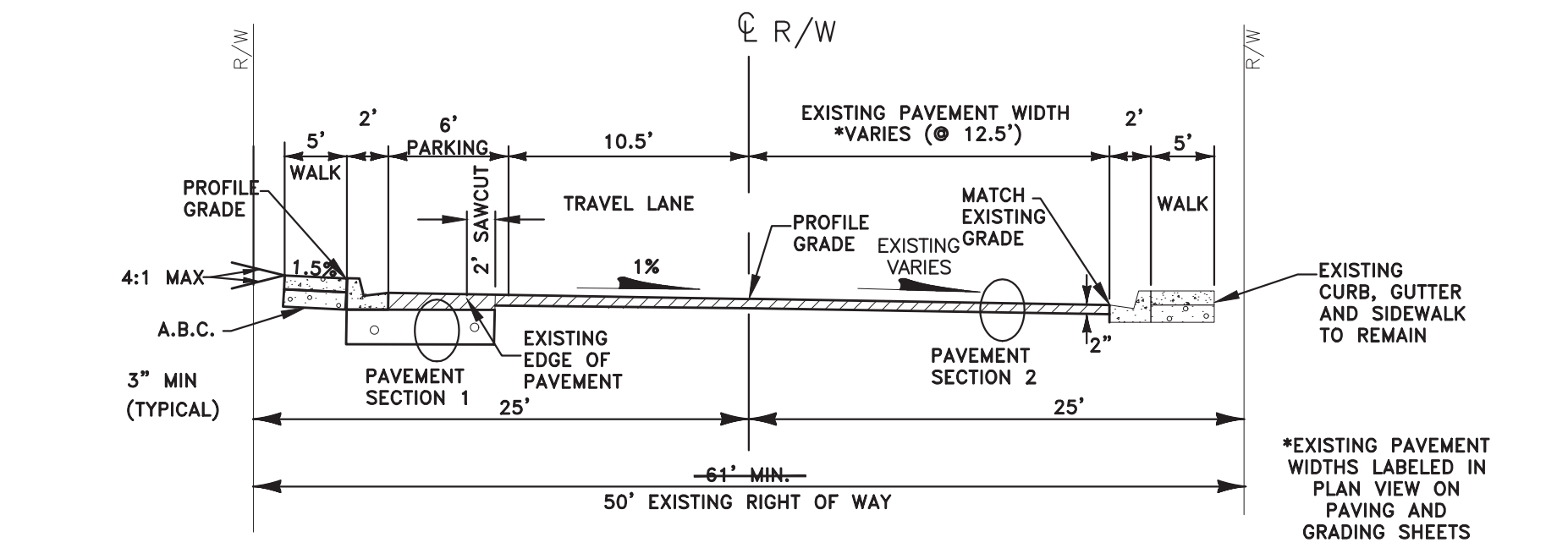
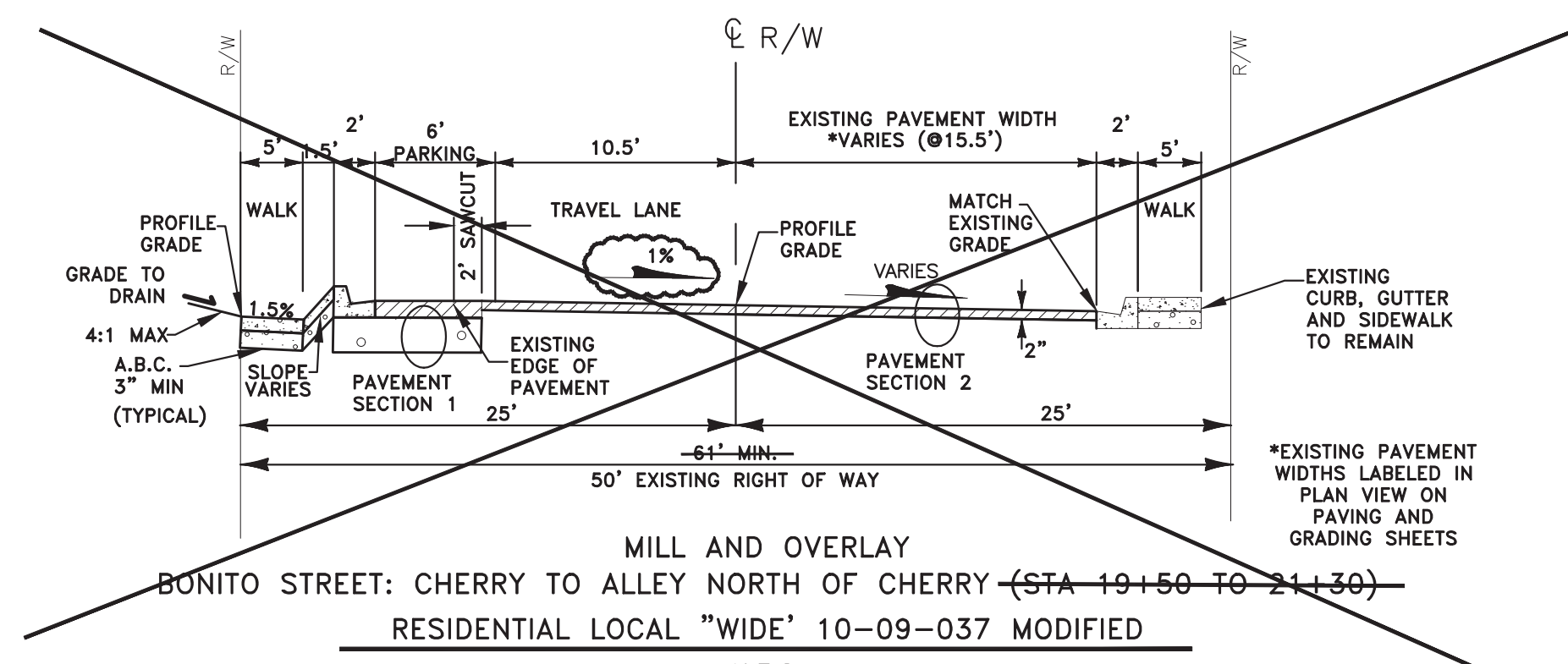
WOODSON
ENGINEERING AND SURVEYING, INC.
124 N. ELDEN ST.
FLAGSTAFF, AZ 86001
PHONE: (928) 774-4636 FAX: (928) 774-4646

BONITO STREET

PAVING AND GRADING
STA 18+75 TO STA 23+75

HOR SCALE: 1"=20'
VERT SCALE: 1"=2'
DATE: 3/9/15
PROJECT NO.: 113801
AGENCY NO.: 03-13012
SHEET NO.: 8 OF 22

WOODSON ENGINEERING AND SURVEYING, INC.
124 N. ELDEN ST. • FLAGSTAFF, AZ 86001 • PHONE: (928) 774-4636 FAX: (928) 774-4646
3/9/15
BONITO ST. IMPROVEMENT PLANS
CITY OF FLAGSTAFF
CONSTRUCTION PLANS



AS-BUILT DRAWINGS

DATE: 3/28/16
BY: Alicia Stoffers, PE

WOODSON
ENGINEERING AND SURVEYING, INC.
124 N. ELDEN DR.,
FLAGSTAFF, AZ 86001
PHONE NO. (928) 774-4636

Professional Engineer Seal for Alicia Anne Stoffers, No. 49953, expires 9/30/2018.

GENERAL NOTES

FIELD TOPOGRAPHY AND BOUNDARY SURVEY INFORMATION USED TO PREPARE THIS DRAWING WERE MADE BY WOODSON ENGINEERING & SURVEY, INC. IN AUGUST, 2013.

CENTERLINE CONTROL IS SHOWN ON SHEET 20.

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(OUTSIDE MARICOPA COUNTY)

REVISIONS:

9/2/15 GRADING REVISION	▲
9/15/15 GRADING REVISION	▲

Professional Engineer Seal for Alicia Anne Stoffers, No. 49953, expires 9/30/2015.

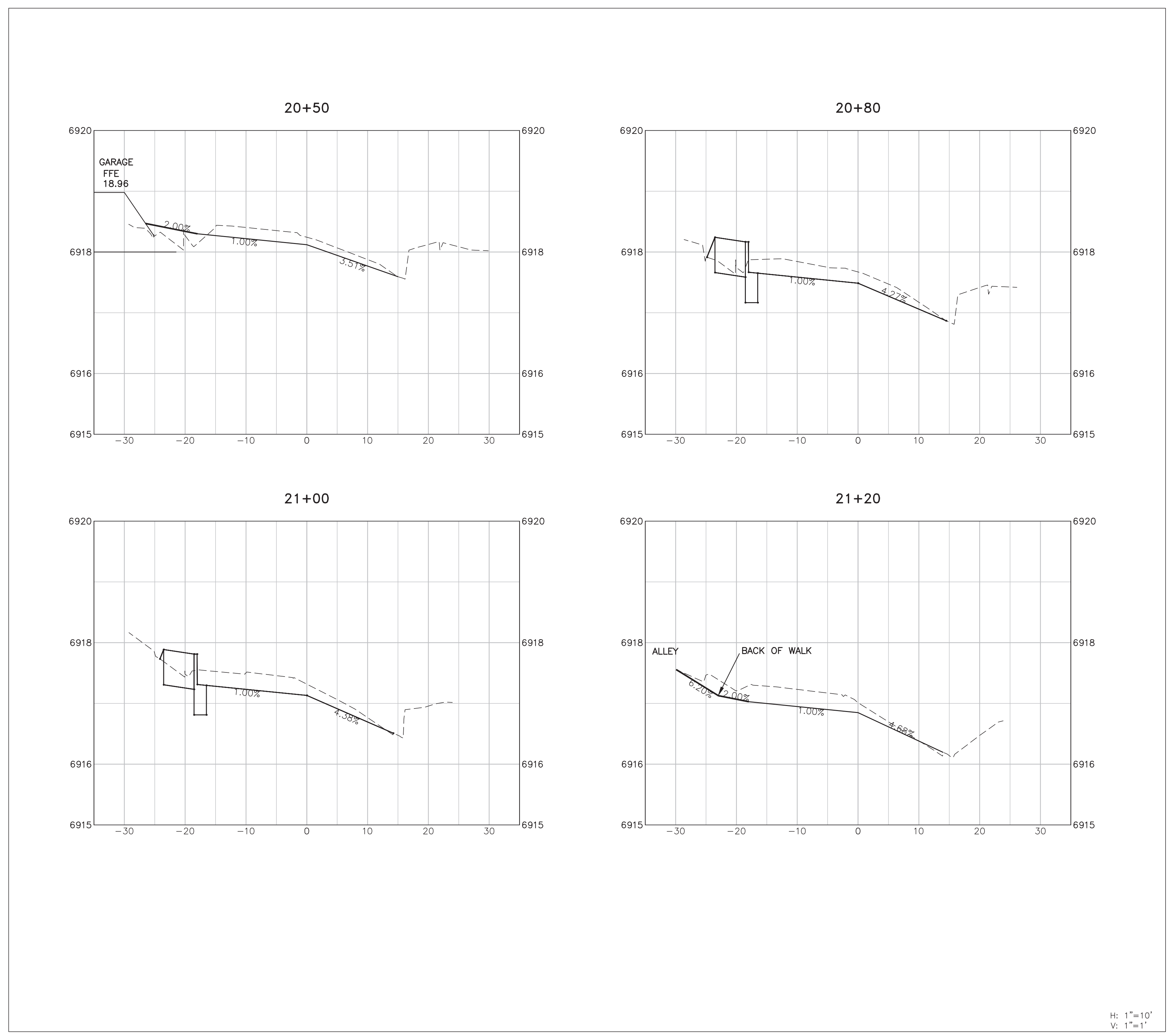
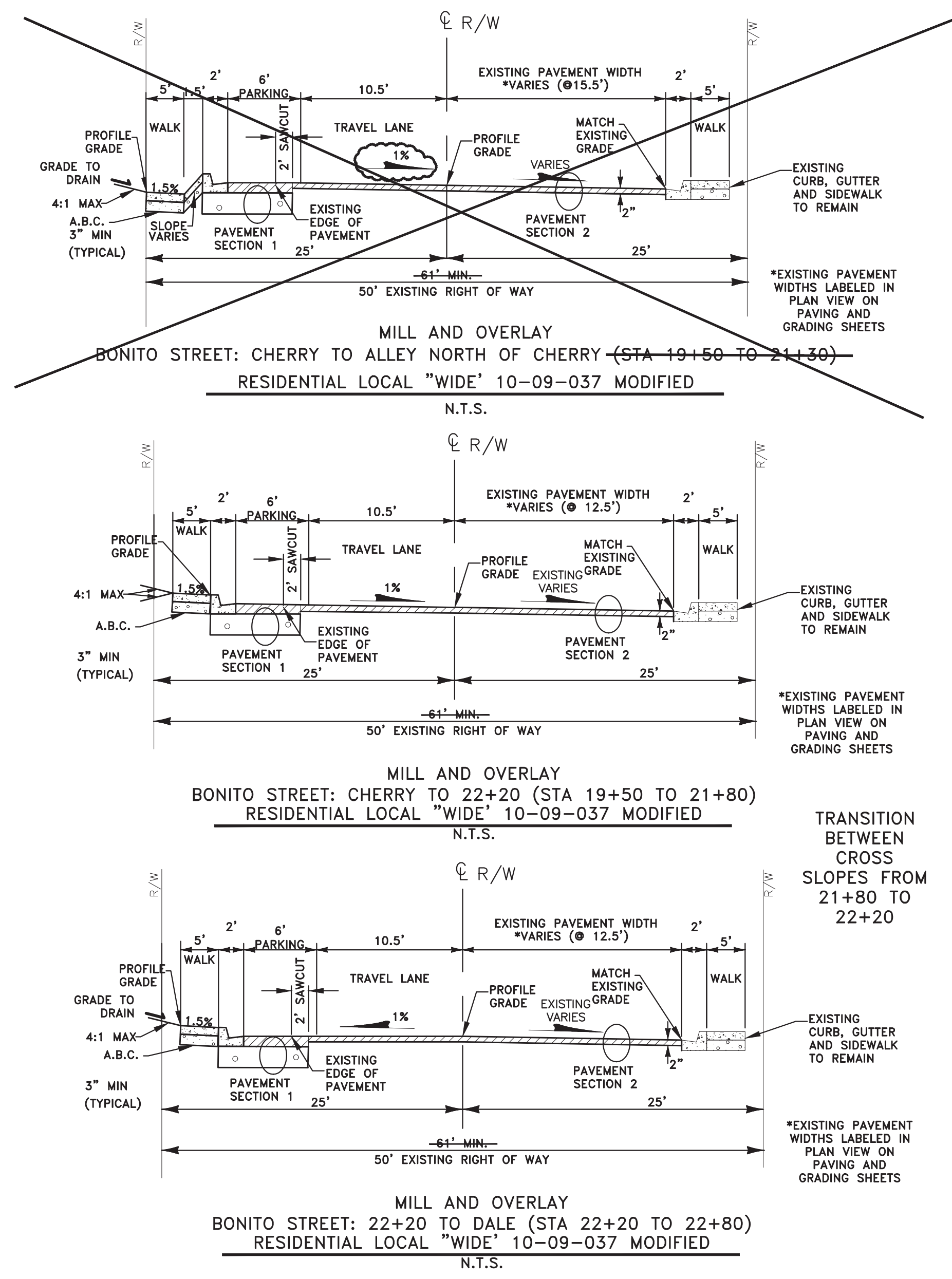
WOODSON
ENGINEERING AND SURVEYING, INC.
124 N. ELDEN ST.
FLAGSTAFF, AZ 86001
PHONE: (928) 774-4636 FAX: (928) 774-4646

BONITO STREET

TYPICAL SECTIONS
STA 22+20 TO STA 22+80

HOR SCALE: 1"=20'
VERT SCALE: 1"=2'
DATE: 3/9/15
PROJECT NO.: 113801
AGENCY NO.: 03-13012
SHEET NO.: 8B OF 22

DESIGNED BY: AAS
DRAWN BY: AAS
CHECKED BY: RLS



AS-BUILT DRAWINGS

DATE: 3/28/16
BY: Alicia Stoffers, PE

WOODSON
ENGINEERING AND SURVEYING, INC.
124 N. ELDEN DR.,
FLAGSTAFF, AZ 86001
PHONE NO. (928) 774-4636

Professional Engineer Seal: Alicia Anne Stoffers, Certificate No. 49953, Expires 9/30/2016

GENERAL NOTES

FIELD TOPOGRAPHY AND BOUNDARY SURVEY INFORMATION USED TO PREPARE THIS DRAWING WERE MADE BY WOODSON ENGINEERING & SURVEY, INC. IN AUGUST, 2013.

CENTERLINE CONTROL IS SHOWN ON SHEET 20.

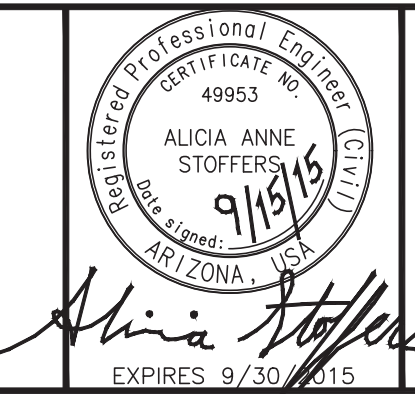
ALL ELEVATIONS SHOWN ON THE PLANS ARE FINISHED SURFACE ELEVATIONS (EXCEPT AS NOTED).

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NEW SHEET



REVISIONS:	
9/2/15 GRADING REVISION	▲
9/15/15 GRADING REVISION	▲



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BONITO STREET

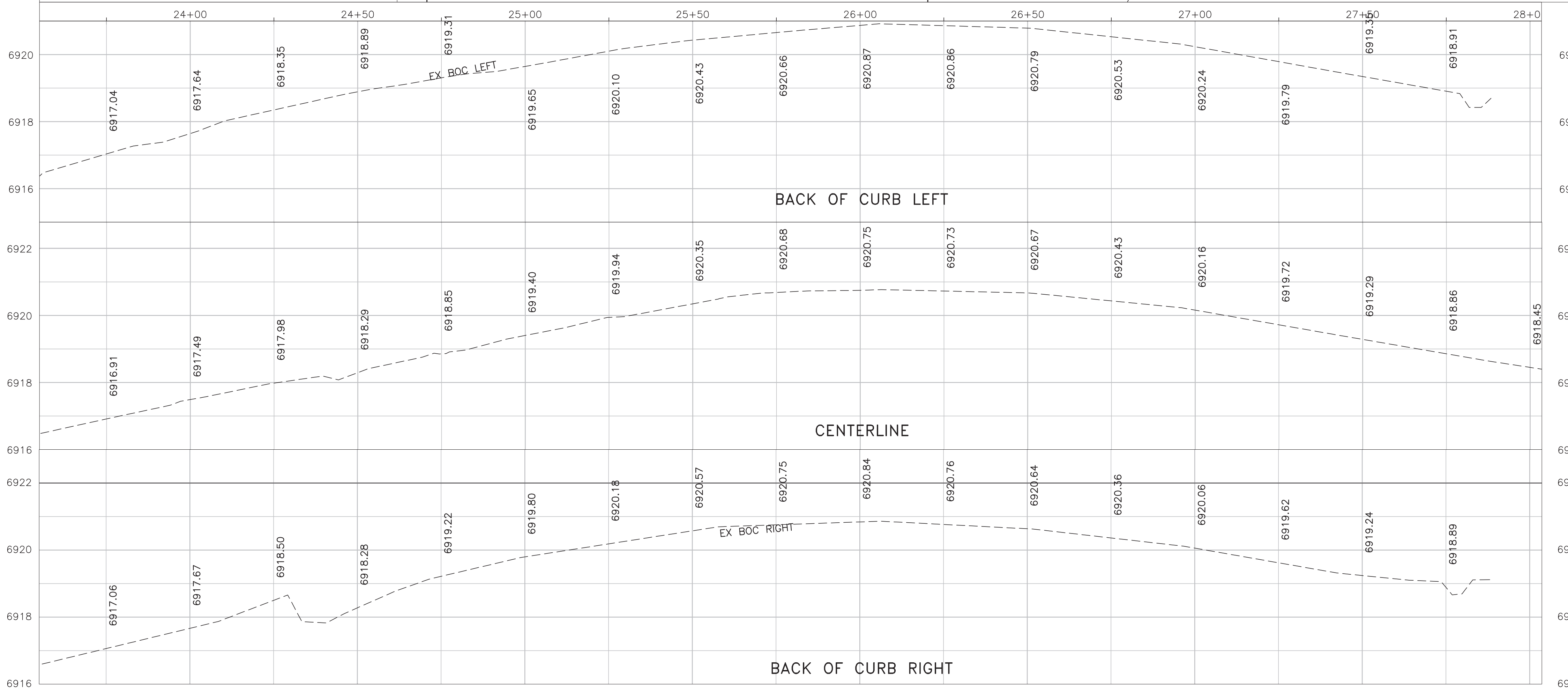
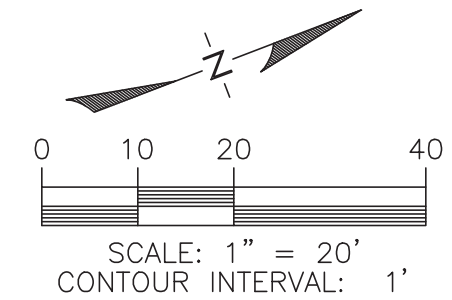
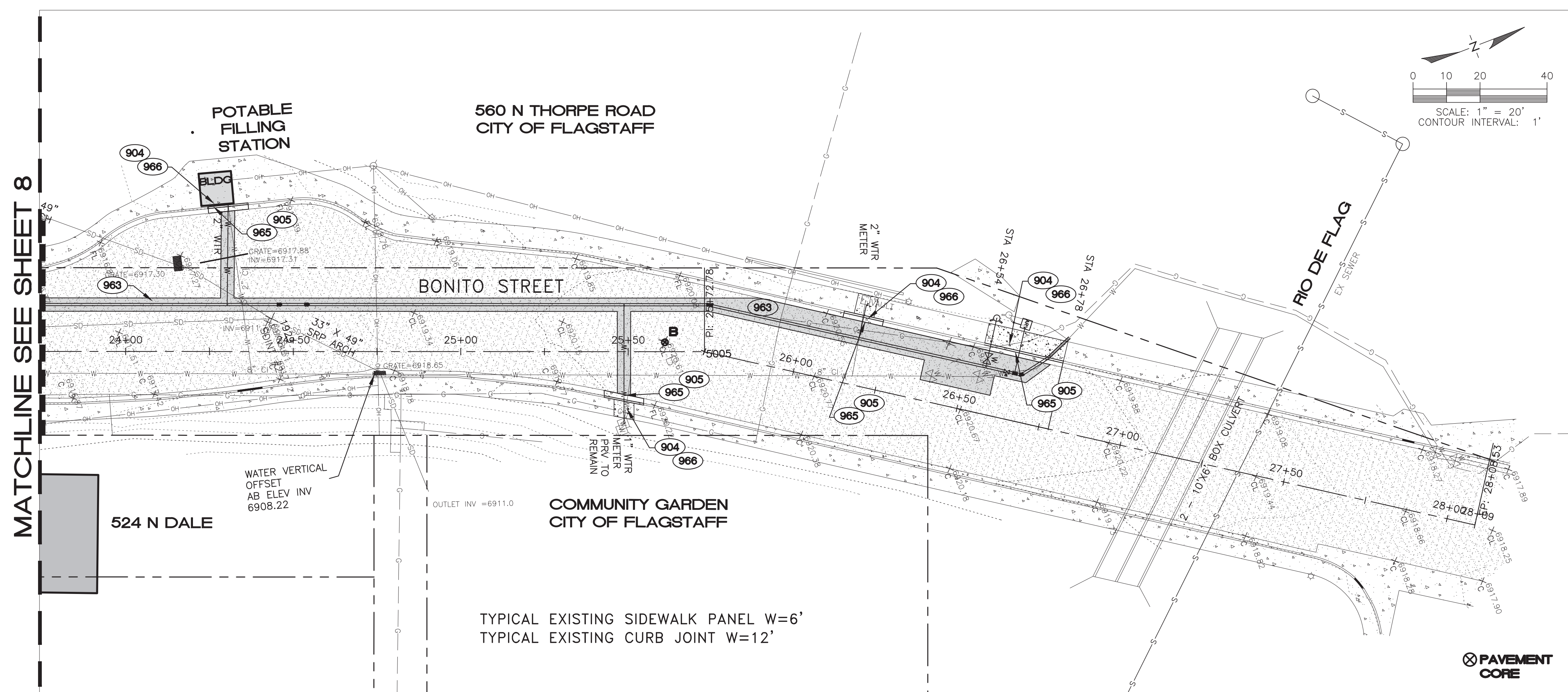
TYPICAL SECTIONS
STA 20+50 TO STA 21+50

HOR SCALE: 1"=20'
VERT SCALE: 1"=2'
DATE: 3/9/15
PROJECT NO.: 113801
AGENCY NO.: 03-13012
SHEET NO.: BC OF 22

113801
WOODSON ENGINEERING AND SURVEYING, INC.
 124 N. ELDEN ST. • FLAGSTAFF, AZ 86001 • PHONE: (928) 774-4636 FAX: (928) 774-4646
 9/15/15
 BONITO ST. IMPROVEMENT PLANS
 CITY OF FLAGSTAFF
 CONSTRUCTION PLANS
 DESIGNED BY: AAS
 DRAFTER BY: AAS
 CHECKED BY: RLS

CONSTRUCTION NOTES
PUBLIC IMPROVEMENTS

- 904 (204 S.F.) SAWCUT, REMOVE AND DISPOSE OF EXISTING CONCRETE SIDEWALK AND VALLEY GUTTERS.
- 905 (33 L.F.) SAWCUT, REMOVE AND DISPOSE OF EXISTING CURB AND GUTTER.
- 963 (214 S.Y.) INSTALL NEW ASPHALT CONCRETE AND AGGREGATE BASE COURSE IN ACCORDANCE WITH MAG SS 310 & 321 AND PER TRENCHING AND BACKFILL COF SD 9-01-030.
- 965 (60 L.F.) CONSTRUCT 6" (TYPE "A") VERTICAL CURB AND GUTTER IN ACCORDANCE WITH MAG SD NO. 220, MODIFIED TO PLACE 3" AB UNDER ALL CURB.
- 966 (211 S.F.) CONSTRUCT 5' WIDE SIDEWALK IN ACCORDANCE WITH MAG SD NO. 230, MODIFIED TO PLACE 3" AB UNDER ALL SIDEWALK.



AS-BUILT DRAWINGS

DATE: 3/28/16
BY: Alicia Stoffers, PE

WOODSON
ENGINEERING AND SURVEYING, INC.
124 N. ELDEN DR.,
FLAGSTAFF, AZ 86001
PHONE NO. (928) 774-4636

Alicia Stoffers
EXPIRES 9/30/2016

PER PLAN

GENERAL NOTES

FIELD TOPOGRAPHY AND BOUNDARY SURVEY INFORMATION USED TO PREPARE THIS DRAWING WERE MADE BY WOODSON ENGINEERING & SURVEY, INC. IN AUGUST, 2013.

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1-800-782-5348
(OUTSIDE MARICOPA COUNTY)

REVISIONS:

NO.	DATE	DESCRIPTION

Alicia Stoffers
EXPIRES 9/30/2016

WOODSON
ENGINEERING AND SURVEYING, INC.
124 N. ELDEN ST.
FLAGSTAFF, AZ 86001
PHONE: (928) 774-4636 FAX: (928) 774-4646

BONITO STREET

PAVING AND GRADING
STA 23+75 TO STA 28+09

HOR SCALE: 1"=20'
VERT SCALE: 1"=2'
DATE: 3/9/15
PROJECT NO.: 113801
AGENCY NO.: 03-13012
SHEET NO.: 9 OF 22

DESIGNED BY: AAS
DRAWN BY: AAS
CHECKED BY: RLS

MATCHLINE SEE SHEET 8

113801

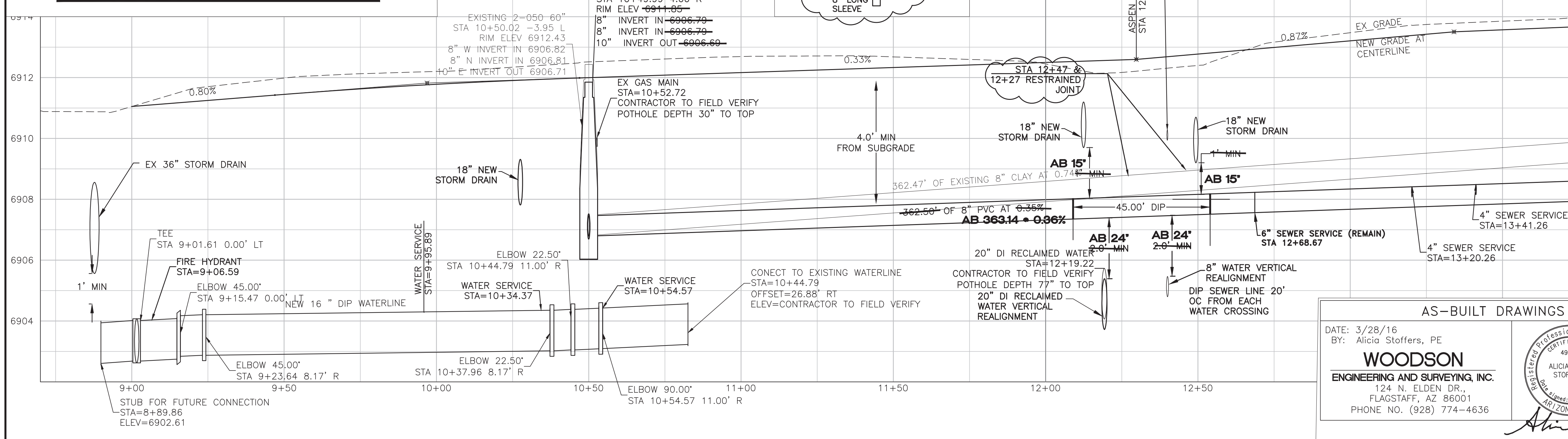
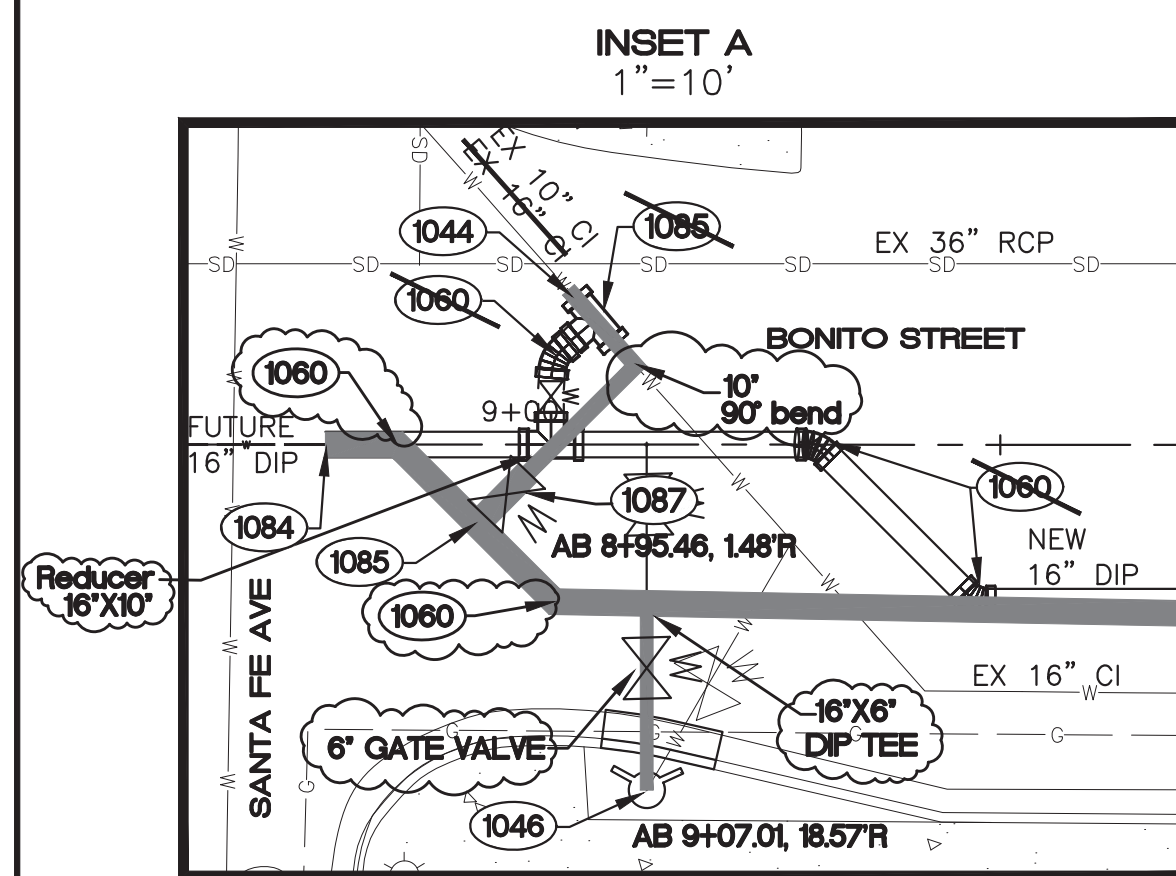
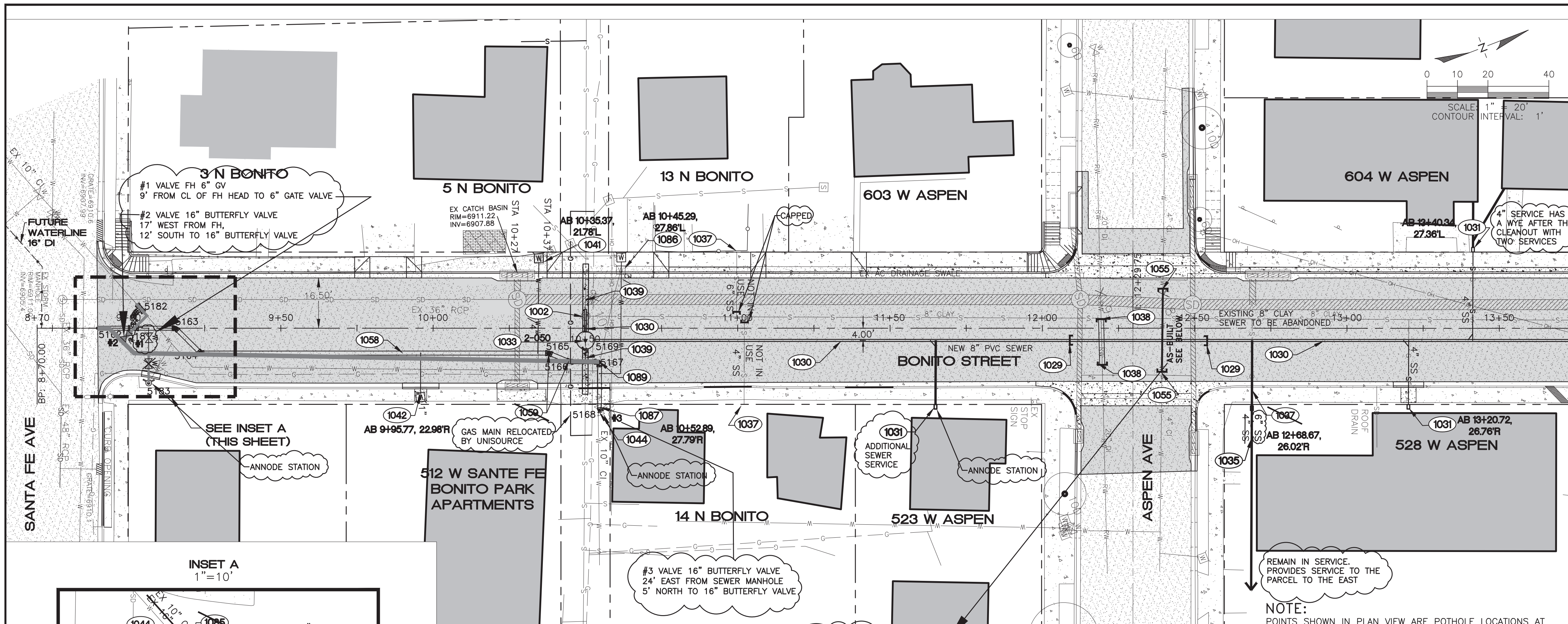
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124 N. ELDEN ST. • FLAGSTAFF, AZ 86001 • PHONE: (928) 774-4636 FAX: (928) 774-4646

3/9/15

BONITO ST. IMPROVEMENT PLANS
CITY OF FLAGSTAFF
CONSTRUCTION PLANS

CONSTRUCTION NOTES
PUBLIC IMPROVEMENTS

- 1002 (1 EA) REMOVE EXISTING SEWER MANHOLE. DISPOSE OF MATERIAL OFFSITE AT AN APPROVED LOCATION. EXTEND EXISTING PIPES TO NEW MANHOLE AT EXISTING GRADE. PREVENT DEBRIS FROM ENTERING EXISTING SYSTEM. BULKHEAD EXISTING PIPES TO BE ABANDONED PER MAG SD 427.
- 1029 (45 L.F.) INSTALL 8" DIA. DI (CLASS 150, LINED) SEWER LINE IN ACCORDANCE WITH MAG SS 601 & 615. TYPICAL TRENCHING AND BACK FILL PER COF SD NO. 9-01-030.
- 1030 (288 L.F.) INSTALL 8" DIA. PVC (SDR 35) SEWER LINE IN ACCORDANCE WITH MAG SS 601 & 615. TYPICAL TRENCHING AND BACK FILL PER COF SD NO. 9-01-030.
- 1031 (2 EA) REMOVE AND REPLACE 4" DIA. PVC SANITARY SEWER SERVICE, FROM MAIN TO RIGHT OF WAY, IN ACCORDANCE WITH MODIFIED MAG SD NO. 440-3. INSTALL 4" DIA. PVC DEEP SANITARY SEWER SERVICE WHERE REQUIRED IN ACCORDANCE WITH COF SD NO. 9-02-080. CONNECT TO EXISTING SERVICE PER DETAIL ON SHEET 4. CONTRACTOR SHALL FIELD VERIFY SIZE OF SERVICE.
- 1033 (1 EA) CONSTRUCT 60" DIAMETER MANHOLE IN ACCORDANCE WITH MAG SD NO. 420 & NO. 424. ADJUST FRAME AND COVER IN ACCORDANCE WITH COF SD NO. 9-03-062.
- 1037 (3 EA) ABANDON EXISTING SEWER SERVICE IN PLACE. CAP AT THE PROPERTY LINE WITH CONCRETE. VERIFY SERVICE IS NOT IN USE PRIOR TO ABANDONMENT.
- 1038 (15 L.F.) INSTALL 20" DIA. DI RECLAIMED WATERLINE (CLASS 350) COMPLETE INCLUDING ALL APPURTENANCES PER MAG SS 601 AND SS 610. TYPICAL TRENCHING AND BACK FILL PER COF SD NO. 9-01-030. DEFLECT JOINT IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. INCLUDES BENDS AS NECESSARY FOR VERTICAL REALIGNMENT PER MAG SD 370.
- 1039 (37 L.F.) CONCRETE ENCASE 8" SANITARY SEWER PER MAG SD 404.
- 1041 (1 EA) REMOVE AND REPLACE 3/4" WATER SERVICE, FROM MAIN TO RIGHT OF WAY, IN ACCORDANCE WITH COF 9-03-070 ON SHEET 4.
- 1042 (1 EA) REMOVE AND REPLACE 1" WATER SERVICE, FROM MAIN TO RIGHT OF WAY, IN ACCORDANCE WITH COF 9-03-070 ON SHEET 4.
- 1044 (2 EA) NEW 16" WATER LINE TO EXISTING 10" WATER LINE CONNECTION WITH FITTINGS AND BENDS AS NECESSARY FOR ANY VERTICAL ALIGNMENT PER MAG SD 370.
- 1046 (1 EA) REMOVE AND REPLACE FIRE HYDRANT ASSEMBLY IN ACCORDANCE WITH COF SD NO. 13-03-011. WITH 16" MJ X 6" FLANGE TEE, 6" FLANGE X 6" MJ VALVE, VALVE BOX, AND COVER TO FINISHED GRADE. SALVAGE REMOVED HYDRANT TO FLAGSTAFF YARD.
- 1055 (28 L.F.) INSTALL 8" DIA. DI WATERLINE (CLASS 350) COMPLETE INCLUDING ALL APPURTENANCES PER MAG SD 404 AND MAG SS 601 AND SS 610. TYPICAL TRENCHING AND BACK FILL PER COF SD NO. 9-01-030. DEFLECT JOINT IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. INCLUDES FITTINGS FOR CONNECTION TO EXISTING 4" CI AND BENDS AS NECESSARY FOR VERTICAL REALIGNMENT PER MAG SD 370.
- 1058 (185 L.F.) INSTALL 16" DIA. DI WATERLINE (CLASS 350) COMPLETE INCLUDING ALL APPURTENANCES PER MAG SD 404 AND MAG SS 601 AND SS 610. TYPICAL TRENCHING AND BACK FILL PER COF SD NO. 9-01-030. DEFLECT JOINT IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- 1059 (2 EA) INSTALL 16" DIA. 22.5' BEND. THRUST BLOCK IN ACCORDANCE WITH MAG SD NO. 380.
- 1060 (3 EA) INSTALL 16" DIA. 45' BEND. THRUST BLOCK IN ACCORDANCE WITH MAG SD NO. 380.
- 1084 (1 EA) STUB WITH WATERTIGHT SEAL 16" DI WATERLINE FOR FUTURE CONNECTION.
- 1085 (2 EA) NEW 16"X16" PVC TEE. THRUST BLOCK PER MAG SD 380.
- 1086 (1 EA) REMOVE AND REPLACE 3/4" WATER SERVICE NON TYPICAL, FROM MAIN TO RIGHT OF WAY, IN ACCORDANCE WITH COF 9-03-070. TRAFFIC RATED, LID REQUIRED. CONNECT TO EXISTING SERVICE PER DETAIL ON SHEET 4. ITEM INCLUDES BENDS AS NECESSARY FOR VERTICAL AND HORIZONTAL ALIGNMENT.
- 1087 (2 EA) INSTALL GATE VALVE ON 16" WATERLINE (INCL. VALVE BOX AND COVER) IN ACCORDANCE WITH MAG SD NO. 301 AND MAG SS 610. INSTALL AND ADJUST VALVE BOX AND COVER PER MAG SD 391.
- 1089 (1 EA) INSTALL 16" DIA. 90' BEND. THRUST BLOCK IN ACCORDANCE WITH MAG SD NO. 380.
- 1135 (1 EA) INSTALL 6" SEWER SERVICE



SEE SHEET 14 FOR UTILITY CROSS SECTIONS, PROFILES AND NOTES

POINT NO.	NORTHING	EASTING	DESCRIPTION
5162	4010.69	9620.48	WTR-FIELD VERIFY
5163	4034.60	9629.64	BEND
5164	4039.30	9640.20	BEND
5165	4146.04	9681.14	BEND
5166	4151.40	9686.22	BEND
5167	4160.54	9689.73	BEND
5168	4154.83	9704.60	GV
5169	4158.77	9681.55	MH
5181	4021.66	9624.68	TEE
5182	4026.13	9619.44	TEE
5183	4019.86	9643.26	FH

GENERAL NOTES

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AS-BUILT DRAWINGS

DATE: 3/28/16
BY: Alicia Stoffers, PE

WOODSON
ENGINEERING AND SURVEYING, INC.
124 N. ELDEN DR.,
FLAGSTAFF, AZ 86001
PHONE NO. (928) 774-4636

EXPIRES 9/30/2016

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(OUTSIDE MARICOPA COUNTY)

REVISIONS:

EXPIRES 9/30/2015

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ENGINEERING AND SURVEYING, INC.

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FLAGSTAFF, AZ 86001
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BONITO STREET

WATER AND SEWER
STA 8+70 TO STA 13+75

HOR SCALE: 1"=20'

VERT SCALE: 1"=2'

DATE: 3/9/15

DESIGNED BY: AAS
DRAWN BY: AAS
CHECKED BY: RLS

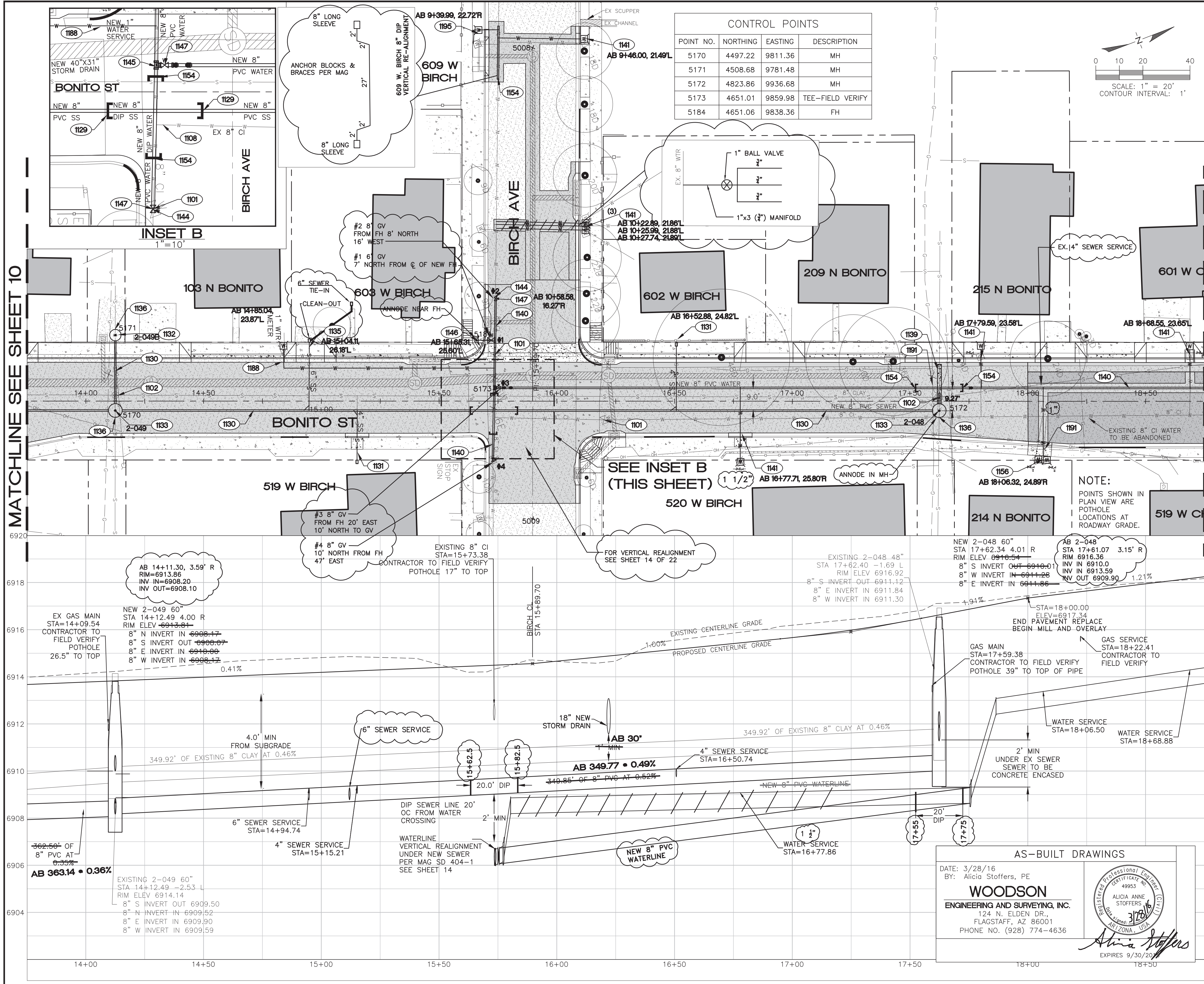
PROJECT NO.: 113801
AGENCY NO.: 03-13012
SHEET NO.: 10 OF 22

WOODSON ENGINEERING AND SURVEYING, INC.
124 N. ELDEN ST. • FLAGSTAFF, AZ 86001 • PHONE: (928) 774-4636 FAX: (928) 774-4646

113801

3/9/15

BONITO ST. IMPROVEMENT PLANS
CITY OF FLAGSTAFF
CONSTRUCTION PLANS



**CONSTRUCTION NOTES
PUBLIC IMPROVEMENTS**

- 1101 (3 EA.) REMOVE EXISTING WATER VALVE. DISPOSE OF MATERIAL OFFSITE AT AN APPROVED LOCATION. BULKHEAD ALL OPEN PIPES OF ABANDONED PIPES.
- 1102 (2 EA.) REMOVE EXISTING SEWER MANHOLE. DISPOSE OF MATERIAL OFFSITE AT AN APPROVED LOCATION. EXTEND EXISTING PIPES TO NEW MANHOLE AT EXISTING GRADE. PREVENT DEBRIS FROM ENTERING EXISTING SYSTEM. BULKHEAD EXISTING PIPES TO BE ABANDONED PER MAG SD 427.
- 1108 (1 EA.) ABANDON WATER MAIN SEAL ENDS OF PIPES.
- 1129 (20 L.F.) INSTALL 8" DIA. DI (CLASS 150, LINED) SEWER LINE IN ACCORDANCE WITH MAG SS 601 & 615. TYPICAL TRENCHING AND BACK FILL PER COF SD NO. 9-01-030.
- 1130 (399 L.F.) INSTALL 8" DIA. PVC (SDR 35) SEWER LINE IN ACCORDANCE WITH MAG SS 601 & 615. TYPICAL TRENCHING AND BACK FILL PER COF SD NO. 9-01-030.
- 1131 (2 EA.) REMOVE AND REPLACE 4" DIA. PVC SANITARY SEWER SERVICE, FROM MAIN TO RIGHT OF WAY, IN ACCORDANCE WITH MODIFIED MAG SD NO. 440-3. INSTALL 4" DIA. PVC DEEP SANITARY SEWER SERVICE WHERE REQUIRED IN ACCORDANCE WITH COF SD NO. 9-02-080. CONNECT TO EXISTING SERVICE PER DETAIL ON SHEET 4. CONTRACTOR SHALL FIELD VERIFY SIZE OF SERVICE.
- 1132 (1 EA.) CONSTRUCT 48" DIAMETER MANHOLE IN ACCORDANCE WITH MAG SD NO. 420 & NO. 424. ADJUST FRAME AND COVER IN ACCORDANCE WITH COF SD NO. 9-03-062.
- 1133 (2 EA.) CONSTRUCT 60" DIAMETER MANHOLE IN ACCORDANCE WITH MAG SD NO. 420 & NO. 424. ADJUST FRAME AND COVER IN ACCORDANCE WITH COF SD NO. 9-03-062.
- 1135 (1 EA.) REMOVE AND REPLACE 6" DIA. PVC SANITARY SEWER SERVICE, FROM MAIN TO RIGHT OF WAY, IN ACCORDANCE WITH MAG SD NO. 440-3, MODIFIED PER DETAIL ON SHEET 4. INSTALL 6" DIA. PVC DEEP SANITARY SEWER SERVICE WHERE REQUIRED IN ACCORDANCE WITH COF SD NO. 9-02-080. CONNECT TO EXISTING SERVICE PER DETAIL ON SHEET 4. CONTRACTOR SHALL FIELD VERIFY SIZE OF SERVICE.
- 1136 (3 EA.) CONNECT EXISTING SEWER LINE TO NEW MANHOLE. PREVENT DEBRIS FROM ENTERING EXISTING SYSTEM. ADJUST PIPE AS NEEDED.
- 1139 (17 L.F.) CONCRETE ENCASE 8" SANITARY SEWER PER MAG SD 404.
- 1140 (328 L.F.) INSTALL 8" DIA. PVC WATERLINE (C-900/CL 200) COMPLETE INCLUDING ALL APPURTENANCES PER MAG SS 601 AND SS 610. TYPICAL TRENCHING AND BACK FILL PER COF SD NO. 9-01-030. DEFLECT JOINT IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- 1141 (7 EA.) REMOVE AND REPLACE 3/4" WATER SERVICE, FROM MAIN TO RIGHT OF WAY, IN ACCORDANCE WITH COF 9-03-070. CONNECT TO EXISTING SERVICE PER DETAIL ON SHEET 4.
- 1144 (2 EA.) NEW 8" WATER LINE TO EXISTING 8" WATER LINE CONNECTION WITH BENDS AS NECESSARY FOR ANY VERTICAL ALIGNMENT.
- 1145 (1 EA.) NEW 8"x8" PVC TEE. THRUST BLOCK PER MAG SD 380.
- 1146 (1 EA.) REMOVE AND REPLACE FIRE HYDRANT ASSEMBLY IN ACCORDANCE WITH COF SD NO. 13-03-011. WITH 8" MJ X 6" FLANGE TEE, 6" FLANGE X 6" MJ VALVE, VALVE BOX, AND COVER TO FINISHED GRADE. SALVAGE REMOVED HYDRANT TO FLAGSTAFF YARD.
- 1147 (3 EA.) INSTALL 8" GATE VALVE (INCL. VALVE BOX AND COVER) IN ACCORDANCE WITH MAG SD NO. 301 AND MAG SS 610. INSTALL AND ADJUST VALVE BOX AND COVER PER COF SD 9-03-062.
- 1154 (60 L.F.) INSTALL 8" DIA. DI WATERLINE (CLASS 350) COMPLETE INCLUDING ALL APPURTENANCES PER MAG SS 601 AND SS 610. TYPICAL TRENCHING AND BACK FILL PER COF SD NO. 9-01-030. DEFLECT JOINT IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. INCLUDES BENDS AS NECESSARY FOR VERTICAL REALIGNMENT PER MAG SD 370.
- 1156 (1 EA.) INSTALL 1" DIA. COPPER WATER SERVICE CONNECTION PER COF STANDARD DETAIL NO. 9-03-081 ON SHEET 4. CONSTRUCT COPPER MANIFOLD WITH 1" DIA. WATER SERVICE CONNECTION AND 2 3/4" DIA. COPPER WATER SERVICE CONNECTIONS FOR 3/4" METERS. LOCATION PER DETAIL ON SHEET 4.
- 1188 (1 EA.) REMOVE AND REPLACE 1" WATER SERVICE (NON-TYPICAL), FROM MAIN TO RIGHT OF WAY AS SHOWN, IN ACCORDANCE WITH COF 9-03-070 ON SHEET 4. ITEM INCLUDES BENDS AS NECESSARY FOR VERTICAL AND HORIZONTAL ALIGNMENT.
- 1191 (INCIDENTAL) COORDINATE VERTICAL RELOCATION OF GAS LINE WITH UNISOURCE.
- 1195 (1 EA.) RELOCATE 3/4" WATER SERVICE (NON-TYPICAL), FROM MAIN TO RIGHT OF WAY AS SHOWN, IN ACCORDANCE WITH COF 9-03-070 ON SHEET 4. ITEM INCLUDES BENDS AS NECESSARY FOR VERTICAL AND HORIZONTAL ALIGNMENT PER MAG SD 370 AND TO CONNECT TO EXISTING SERVICE.

SEE SHEET 14 FOR UTILITY CROSS SECTIONS, PROFILES AND NOTES

GENERAL NOTES

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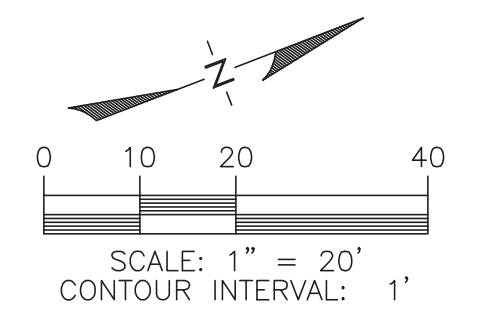
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MATCHLINE SEE SHEET 10

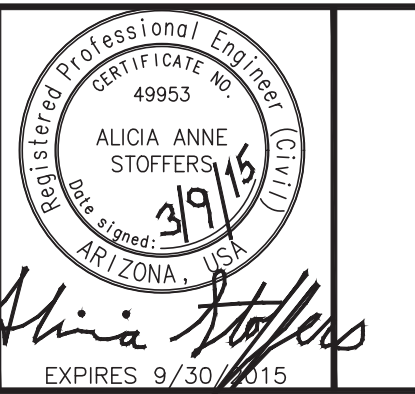
MATCHLINE SEE SHEET 12



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1-800-782-5348
(OUTSIDE MARICOPA COUNTY)

REVISIONS:

NO.	DATE	DESCRIPTION



WOODSON
ENGINEERING AND SURVEYING, INC.
124 N. ELDEN ST.
FLAGSTAFF, AZ 86001
PHONE: (928) 774-4636 FAX: (928) 774-4646

AS-BUILT DRAWINGS

DATE: 3/28/16
BY: Alicia Stoffers, PE

WOODSON
ENGINEERING AND SURVEYING, INC.
124 N. ELDEN DR.,
FLAGSTAFF, AZ 86001
PHONE NO. (928) 774-4636

Alicia Stoffers
EXPIRES 9/30/2016

BONITO STREET

WATER AND SEWER

STA 13+75 TO STA 18+75

HOR SCALE: 1"=20'
VERT SCALE: 1"=2'

DATE: 3/9/15

PROJECT NO.: 113801
AGENCY NO.: 03-13012
SHEET NO.: 11 OF 22

WOODSON ENGINEERING AND SURVEYING, INC.
124 N. ELDEN ST. • FLAGSTAFF, AZ 86001 • PHONE: (928) 774-4636 FAX: (928) 774-4646

BONITO ST. IMPROVEMENT PLANS
CITY OF FLAGSTAFF
CONSTRUCTION PLANS

113801

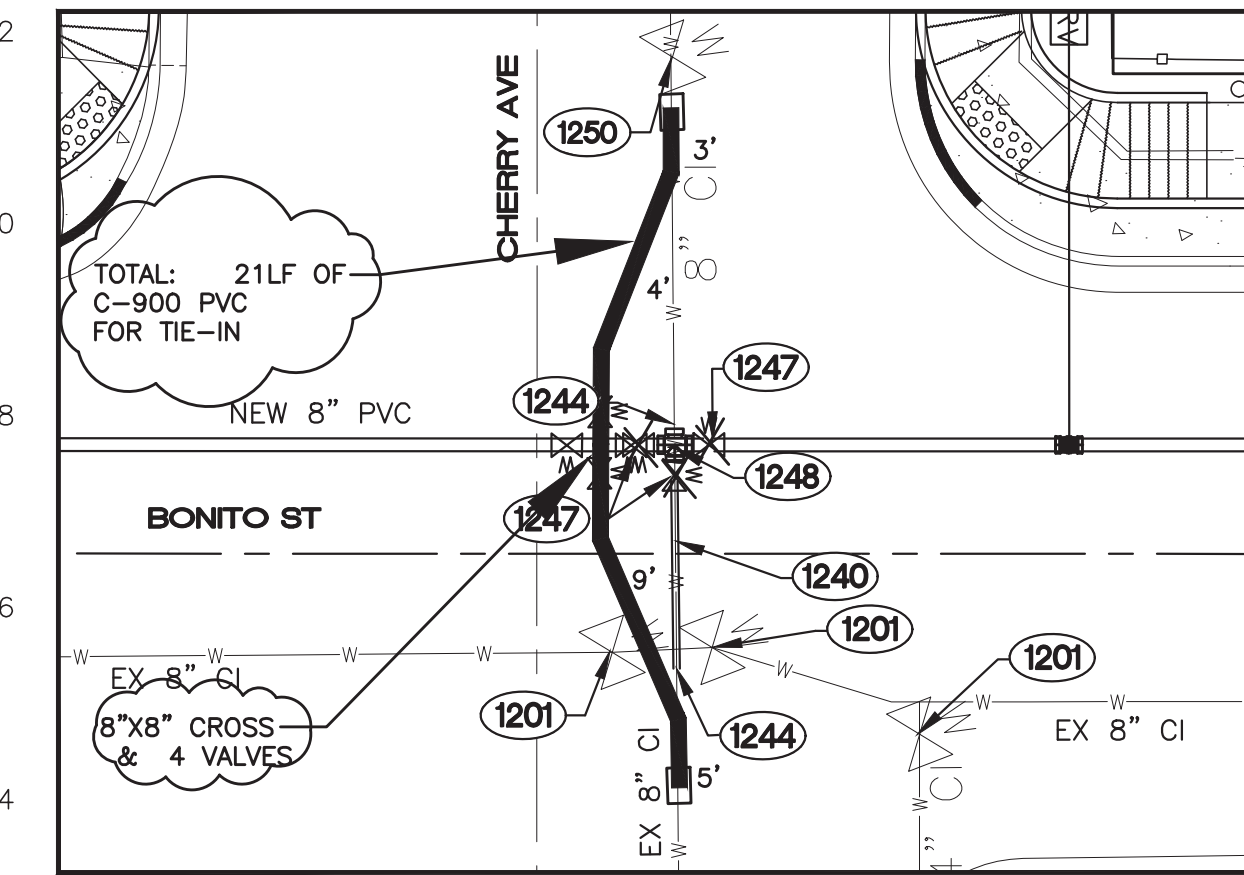
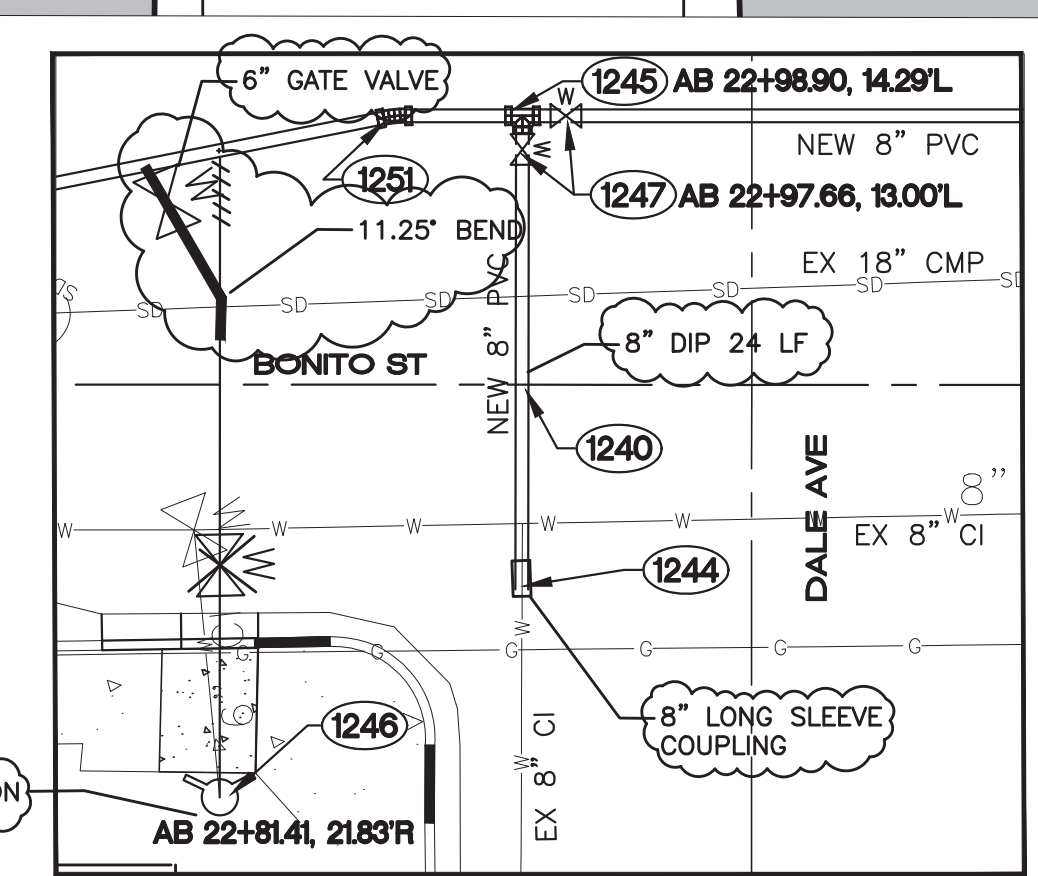
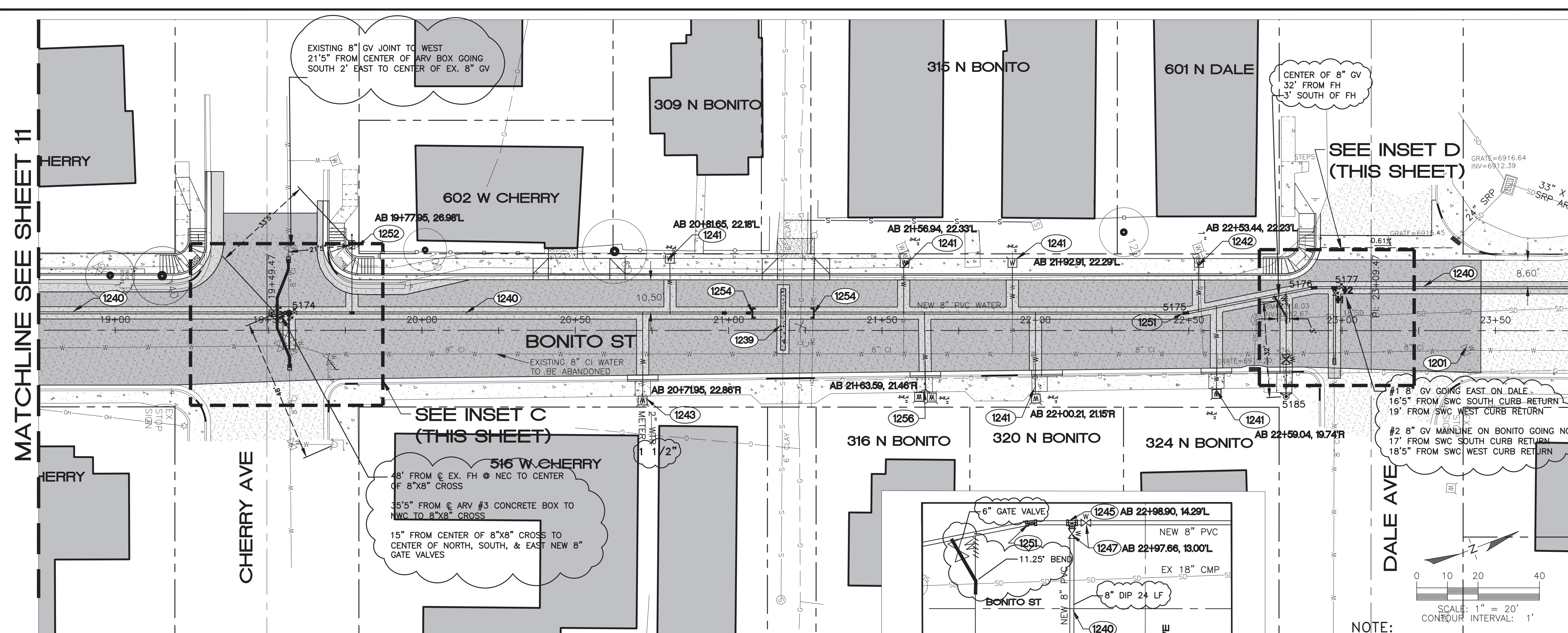
3/9/15

MATCHLINE SEE SHEET 11

MATCHLINE SEE SHEET 13

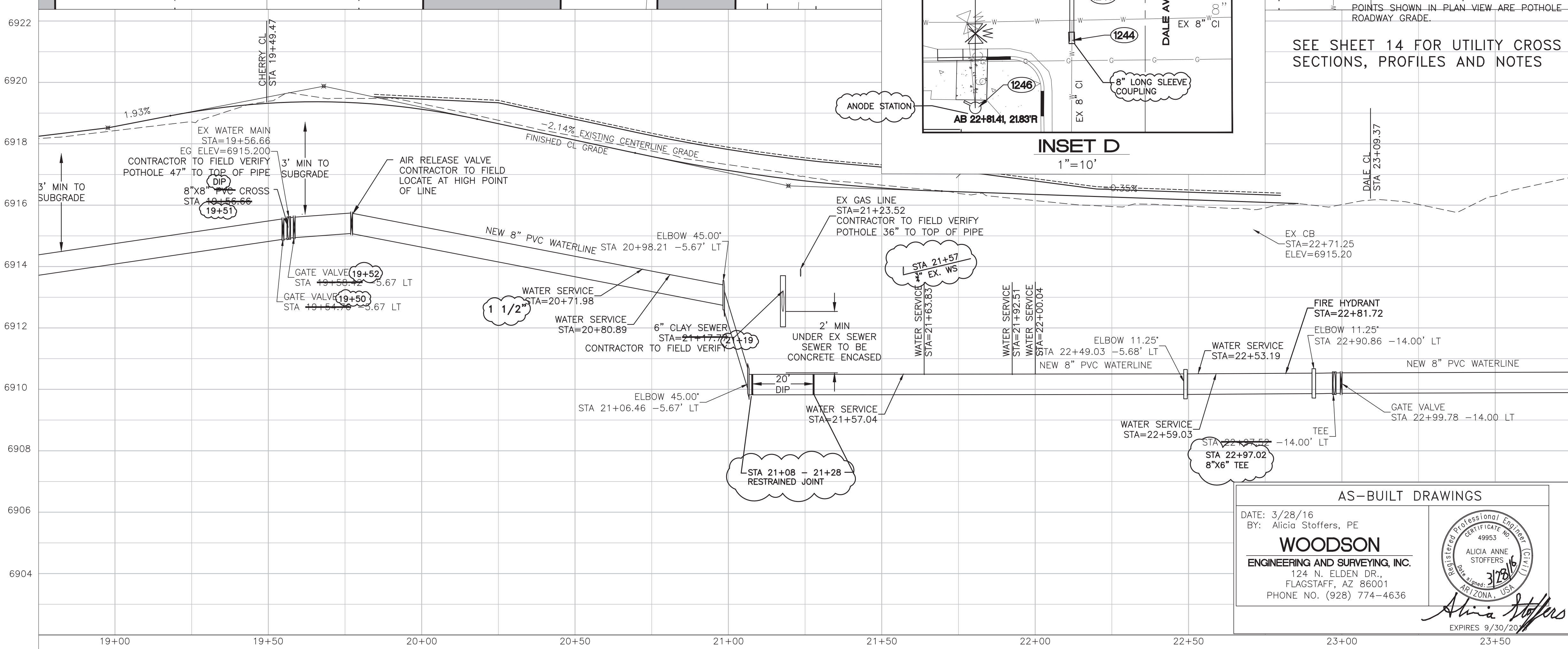
CONSTRUCTION NOTES PUBLIC IMPROVEMENTS

- 1201 (4 EA.) REMOVE EXISTING WATER VALVE. DISPOSE OF MATERIAL OFFSITE AT AN APPROVED LOCATION. BULKHEAD ALL OPEN PIPES REMAINING.
- 1239 (20 L.F.) CONCRETE ENCASE 8" SANITARY SEWER PER MAG SD 404.
- 1240 (532 L.F.) INSTALL 8" DIA. PVC WATERLINE (C-900/CL 200) COMPLETE INCLUDING ALL APPURTENANCES PER MAG SS 601 AND SS 610. TYPICAL TRENCHING AND BACK FILL PER COF SD NO. 9-01-030. DEFLECT JOINT IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- 1241 (5 EA.) REMOVE AND REPLACE 3/4" WATER SERVICE, FROM MAIN TO RIGHT OF WAY, IN ACCORDANCE WITH COF 9-03-070. CONNECT TO EXISTING SERVICE PER DETAIL ON SHEET 4.
- 1242 (1 EA.) REMOVE AND REPLACE 1" WATER SERVICE, FROM MAIN TO RIGHT OF WAY, IN ACCORDANCE WITH COF 9-03-070 ON SHEET 4.
- 1243 (1 EA.) REMOVE AND REPLACE 2" WATER SERVICE, FROM MAIN TO EXISTING METER VAULT, IN ACCORDANCE WITH COF 9-03-070. CONNECT TO EXISTING SERVICE PER DETAIL ON SHEET 4.
- 1244 (3 EA.) NEW 8" WATER LINE TO EXISTING 8" WATER LINE CONNECTION WITH BENDS AS NECESSARY FOR ANY VERTICAL ALIGNMENT.
- 1245 (1 EA.) NEW 8"x8" PVC TEE. THRUST BLOCK PER MAG SD 380.
- 1246 (1 EA.) REMOVE AND REPLACE FIRE HYDRANT ASSEMBLY IN ACCORDANCE WITH COF SD NO. 13-03-011. WITH 8" MJ X 6" FLANGE TEE, 6" FLANGE X 6" MJ VALVE, VALVE BOX, AND COVER TO FINISHED GRADE. SALVAGE REMOVE HYDRANT TO FLAGSTAFF YARD.
- 1247 (5 EA.) INSTALL 8" GATE VALVE (INCL. VALVE BOX AND COVER) IN ACCORDANCE WITH MAG SD NO. 301 AND MAG SS 610. INSTALL AND ADJUST VALVE BOX AND COVER PER COF SD 9-03-062.
- 1248 (1 EA.) NEW 8"x8" PVC CROSS. THRUST BLOCK PER MAG SD 380.
- 1250 (1 EA.) ADJUST VALVE BOX AND COVER PER COF SD 9-03-062.
- 1251 (2 EA.) INSTALL 8" DIA. 11.25" BEND. THRUST BLOCK IN ACCORDANCE WITH MAG SD NO. 380.
- 1252 (1 EA.) INSTALL 1" AIR RELEASE VALVE PER DETAIL ON SHEET 4. CONTRACTOR TO FIELD LOCATE AT HIGH POINT IN LINE.
- 1254 (20 L.F.) INSTALL 8" DIA. DI WATERLINE (CLASS 350) COMPLETE INCLUDING ALL APPURTENANCES PER MAG SS 601 AND SS 610. TYPICAL TRENCHING AND BACK FILL PER COF SD NO. 9-01-030. DEFLECT JOINT IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. INCLUDES BENDS AS NECESSARY FOR VERTICAL REALIGNMENT.
- 1256 (1 EA.) INSTALL 1" DIA. COPPER WATER SERVICE CONNECTION PER COF STANDARD DETAIL NO. 9-03-081 ON SHEET 4. CONSTRUCT COPPER MANIFOLD WITH 1" DIA. WATER SERVICE CONNECTION AND 2 3/4" DIA. COPPER WATER SERVICE CONNECTIONS FOR 3/4" METERS. LOCATION PER DETAIL ON SHEET 4.



NOTE:
POINTS SHOWN IN PLAN VIEW ARE POTHOLE LOCATIONS AT ROADWAY GRADE.

SEE SHEET 14 FOR UTILITY CROSS SECTIONS, PROFILES AND NOTES



CONTROL POINTS			
POINT NO.	NORTHING	EASTING	DESCRIPTION
5174	5008.73	9997.28	CROSS-FIELD VERIFY
5175	5281.66	10102.04	BEND
5176	5323.73	10109.26	BEND
5177	5329.95	10111.65	TEE
5185	5302.53	10139.14	FH

GENERAL NOTES

FIELD TOPOGRAPHY AND BOUNDARY SURVEY INFORMATION USED TO PREPARE THIS DRAWING WERE MADE BY WOODSON ENGINEERING & SURVEY, INC. IN AUGUST, 2013.

CENTERLINE CONTROL IS SHOWN ON SHEET 20.

ALL ELEVATIONS SHOWN ON THE PLANS ARE FINISHED SURFACE ELEVATIONS (EXCEPT AS NOTED).

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AS-BUILT DRAWINGS

DATE: 3/28/16
By: Alicia Stoffers, PE

WOODSON
ENGINEERING AND SURVEYING, INC.
124 N. ELDEN DR.,
FLAGSTAFF, AZ 86001
PHONE NO. (928) 774-4636

113801

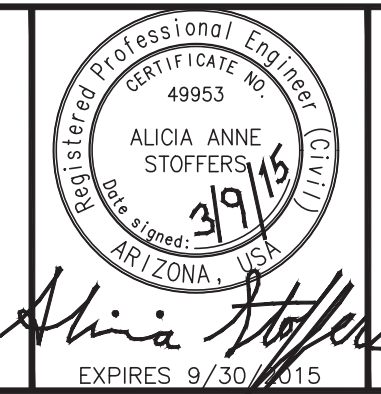
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124 N. ELDEN ST. • FLAGSTAFF, AZ 86001 • PHONE: (928) 774-4636 FAX: (928) 774-4646

3/9/15

BONITO ST. IMPROVEMENT PLANS
CITY OF FLAGSTAFF
CONSTRUCTION PLANS



REVISIONS:



WOODSON
ENGINEERING AND SURVEYING, INC.
124 N. ELDEN ST.
FLAGSTAFF, AZ 86001
PHONE: (928) 774-4636 FAX: (928) 774-4646

BONITO STREET

WATER AND SEWER
STA 18+75 TO STA 23+75

HOR SCALE: 1"=20'
VERT SCALE: 1"=2'
DATE: 3/9/15
PROJECT NO.: 113801
AGENCY NO.: 03-13012
SHEET NO.: 12 OF 22

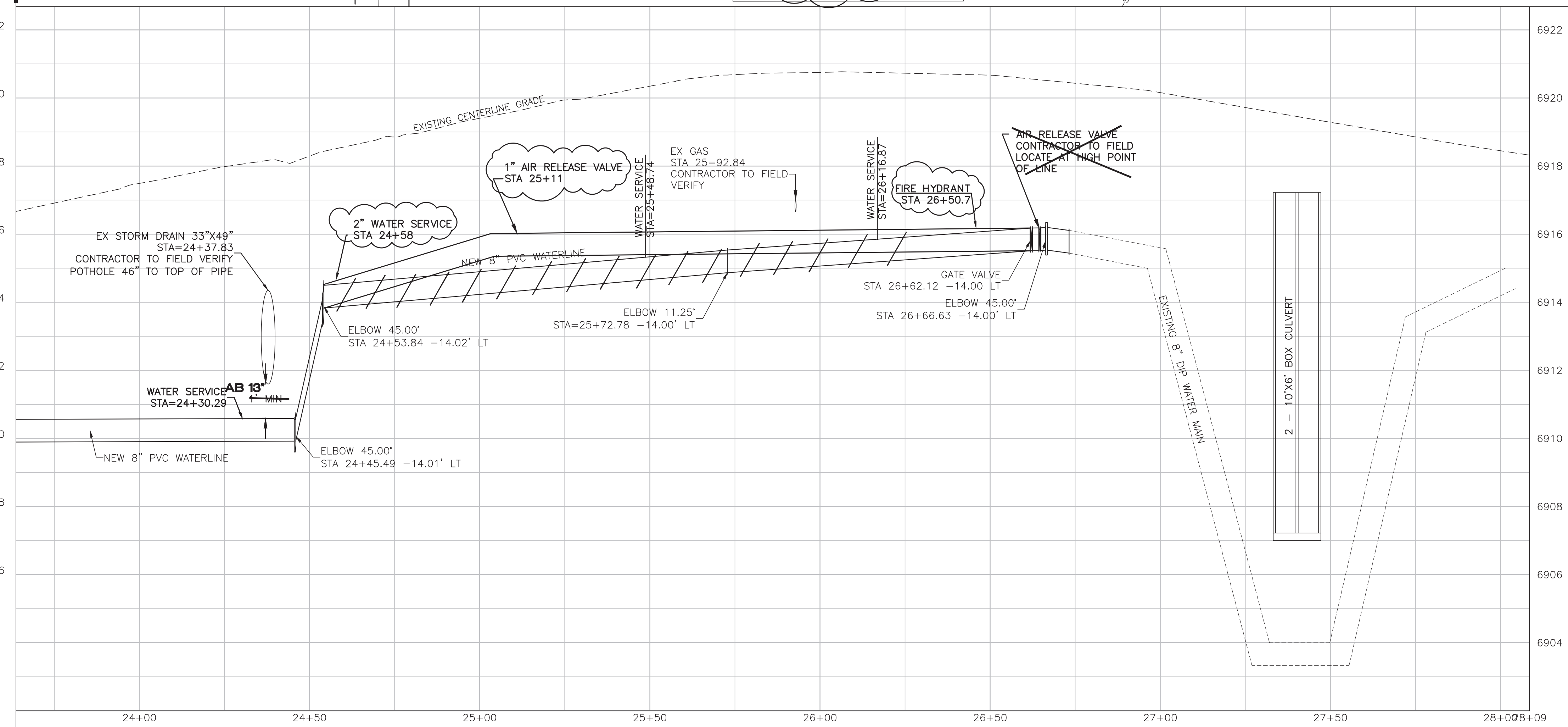
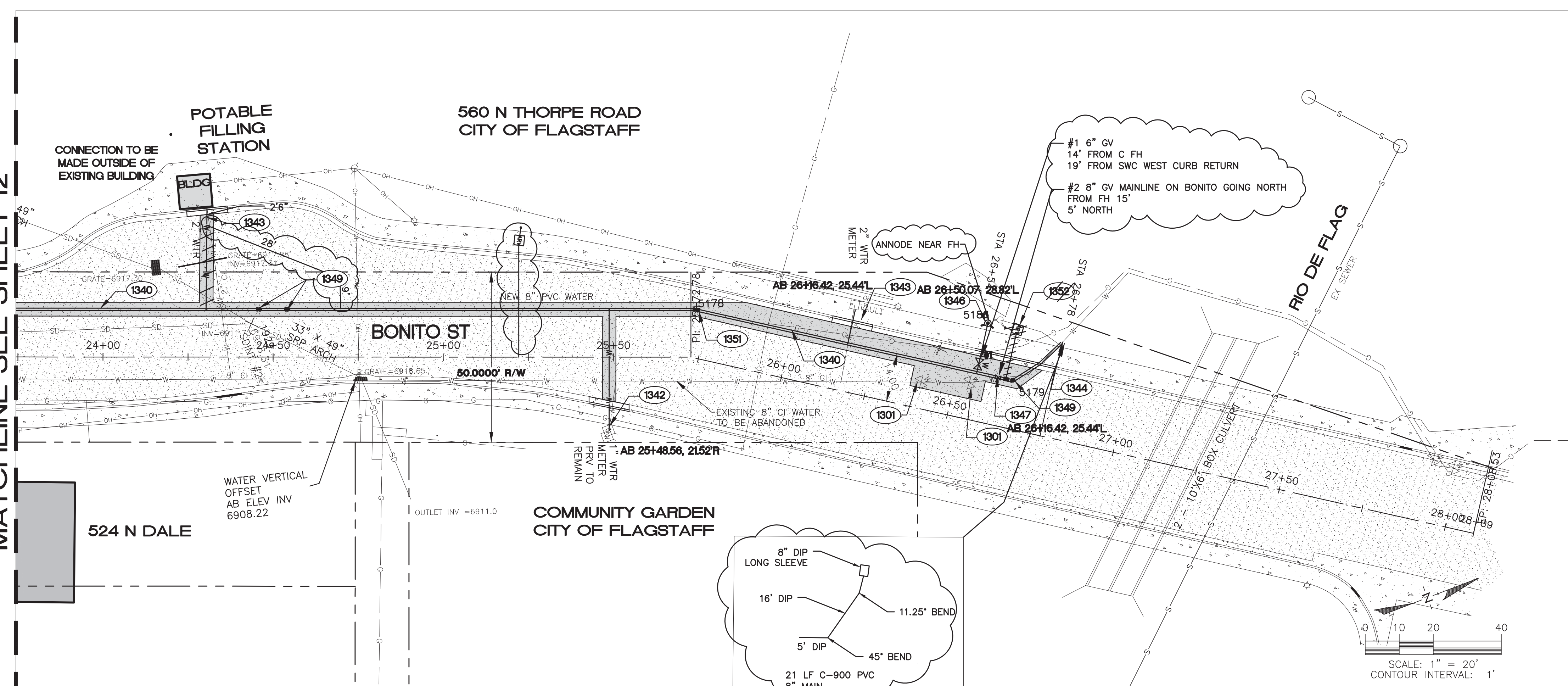
DESIGNED BY: AAS
DRAWN BY: AAS
CHECKED BY: RLS

CONSTRUCTION NOTES
PUBLIC IMPROVEMENTS

- (1301) (2 EA.) REMOVE EXISTING WATER VALVE. DISPOSE OF MATERIAL OFFSITE AT AN APPROVED LOCATION. BULKHEAD ALL OPEN PIPES REMAINING.
- (1340) (300 L.F.) INSTALL 8" DIA. PVC WATERLINE (C-900/CL 200) COMPLETE INCLUDING ALL APPURTENANCES PER MAG SS 601 AND SS 610. TYPICAL TRENCHING AND BACK FILL PER COF SD NO. 9-01-030. DEFLECT JOINT IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- (1342) (1 EA.) REMOVE AND REPLACE 1" WATER SERVICE, FROM MAIN TO RIGHT OF WAY, IN ACCORDANCE WITH COF 9-03-070. CONNECT TO EXISTING SERVICE PER DETAIL ON SHEET 4.
- (1343) (2 EA.) REMOVE AND REPLACE 2" WATER SERVICE, FROM MAIN TO EXISTING METER VAULT, IN ACCORDANCE WITH COF 9-03-070. CONNECT TO EXISTING SERVICE PER DETAIL ON SHEET 4.
- (1344) (1 EA.) NEW 8" WATER LINE TO EXISTING 8" WATER LINE CONNECTION WITH BENDS AS NECESSARY FOR ANY VERTICAL ALIGNMENT.
- (1346) (1 EA.) REMOVE EXISTING AND INSTALL A NEW FIRE HYDRANT ASSEMBLY IN ACCORDANCE WITH COF SD NO. 13-03-011. WITH 8" MJ X 6" FLANGE TEE, 6" FLANGE X 6" MJ VALVE, VALVE BOX, AND COVER TO FINISHED GRADE. SALVAGE REMOVED HYDRANT TO FLAGSTAFF YARD.
- (1347) (1 EA.) INSTALL 8" GATE VALVE (INCL. VALVE BOX AND COVER) IN ACCORDANCE WITH MAG SD NO. 301 AND MAG SS 610. INSTALL AND ADJUST VALVE BOX AND COVER PER MAG SD 391.
- (1349) (3 EA.) INSTALL 8" DIA. 45° BEND. THRUST BLOCK IN ACCORDANCE WITH MAG SD NO. 380.
- (1351) (1 EA.) INSTALL 8" DIA. 11.25° BEND. THRUST BLOCK IN ACCORDANCE WITH MAG SD NO. 380.
- (1352) (1 EA.) INSTALL 1" AIR RELEASE VALVE PER DETAIL ON SHEET 4. CONTRACTOR TO FIELD LOCATE AT HIGH POINT IN LINE.

NOTE:
POINTS SHOWN IN PLAN VIEW ARE POTHOLE LOCATIONS AT ROADWAY GRADE.

MATCHLINE SEE SHEET 12



AS-BUILT DRAWINGS

DATE: 3/28/16
By: Alicia Stoffers, PE

WOODSON
ENGINEERING AND SURVEYING, INC.
124 N. ELDEN DR.,FLAGSTAFF, AZ 86001
PHONE NO. (928) 774-4636

CONTROL POINTS			
POINT NO.	NORTHING	EASTING	DESCRIPTION
5178	5588.38	10210.84	BEND
5179	5667.79	10263.71	BEND
5186	5666.96	10245.27	FH

GENERAL NOTES

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(OUTSIDE MARICOPA COUNTY)

REVISIONS:

NO.	DESCRIPTION

WOODSON
ENGINEERING AND SURVEYING, INC.

124 N. ELDEN ST.
FLAGSTAFF, AZ 86001
PHONE: (928) 774-4636 FAX: (928) 774-4646

BONITO STREET

WATER AND SEWER
STA 23+75 TO STA 28+09

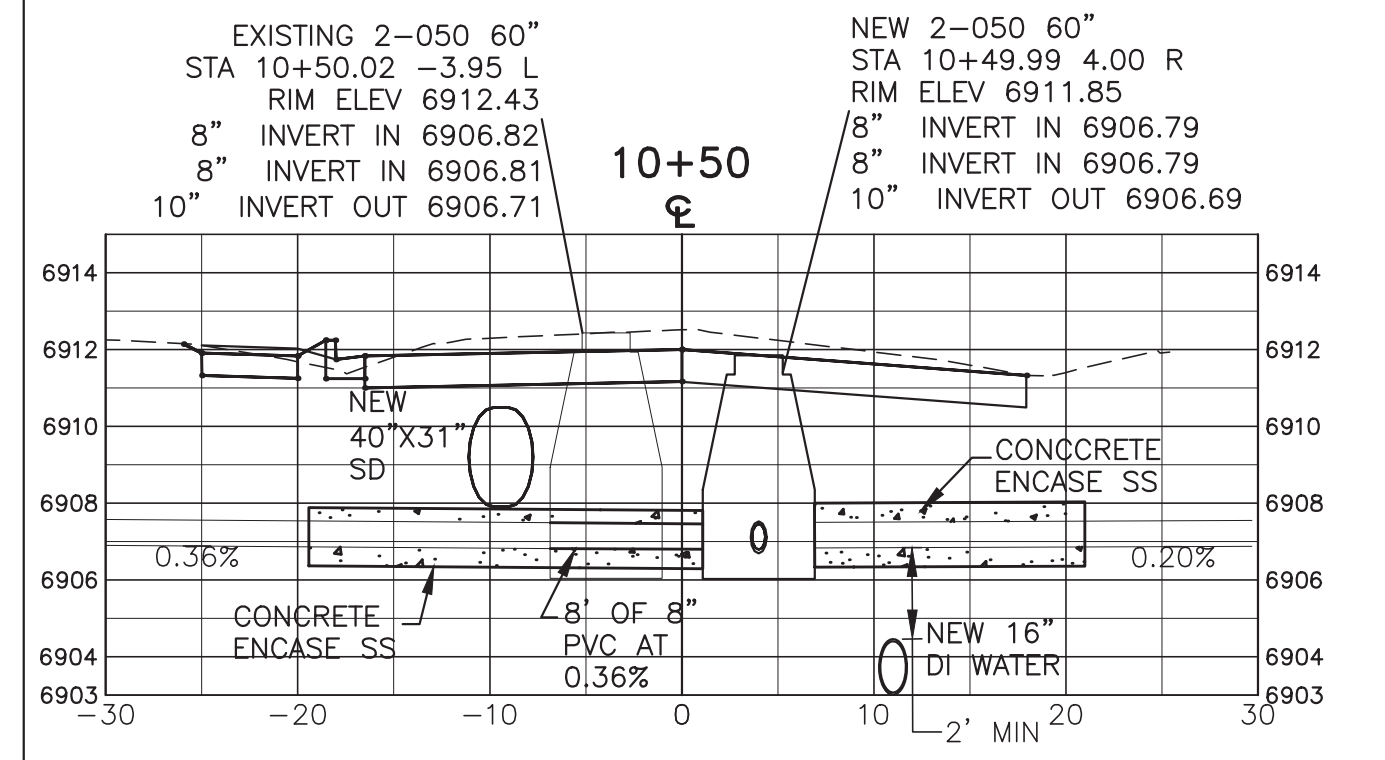
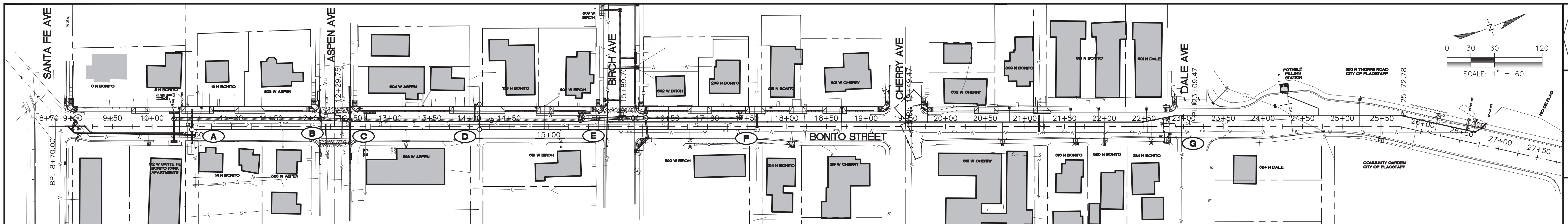
HOR SCALE: 1"=20'
VERT SCALE: 1"=2'
DATE: 3/9/15
PROJECT NO.: 113801
AGENCY NO.: 03-13012
SHEET NO.: 13 OF 22

113801

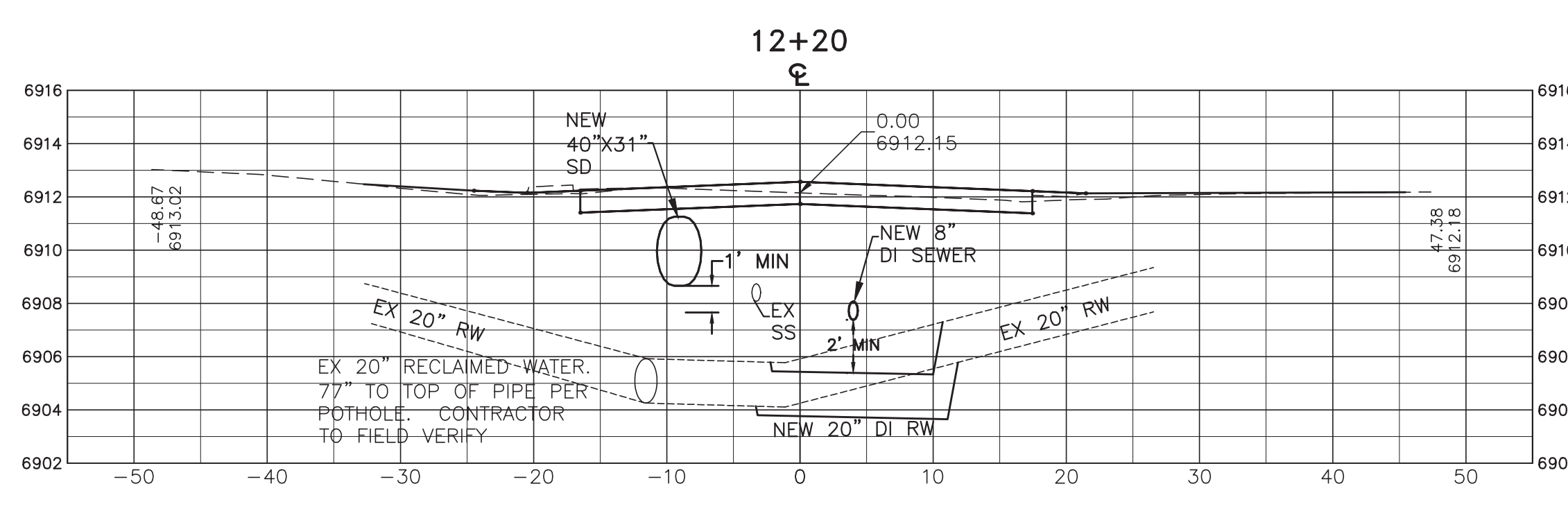
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3/9/15

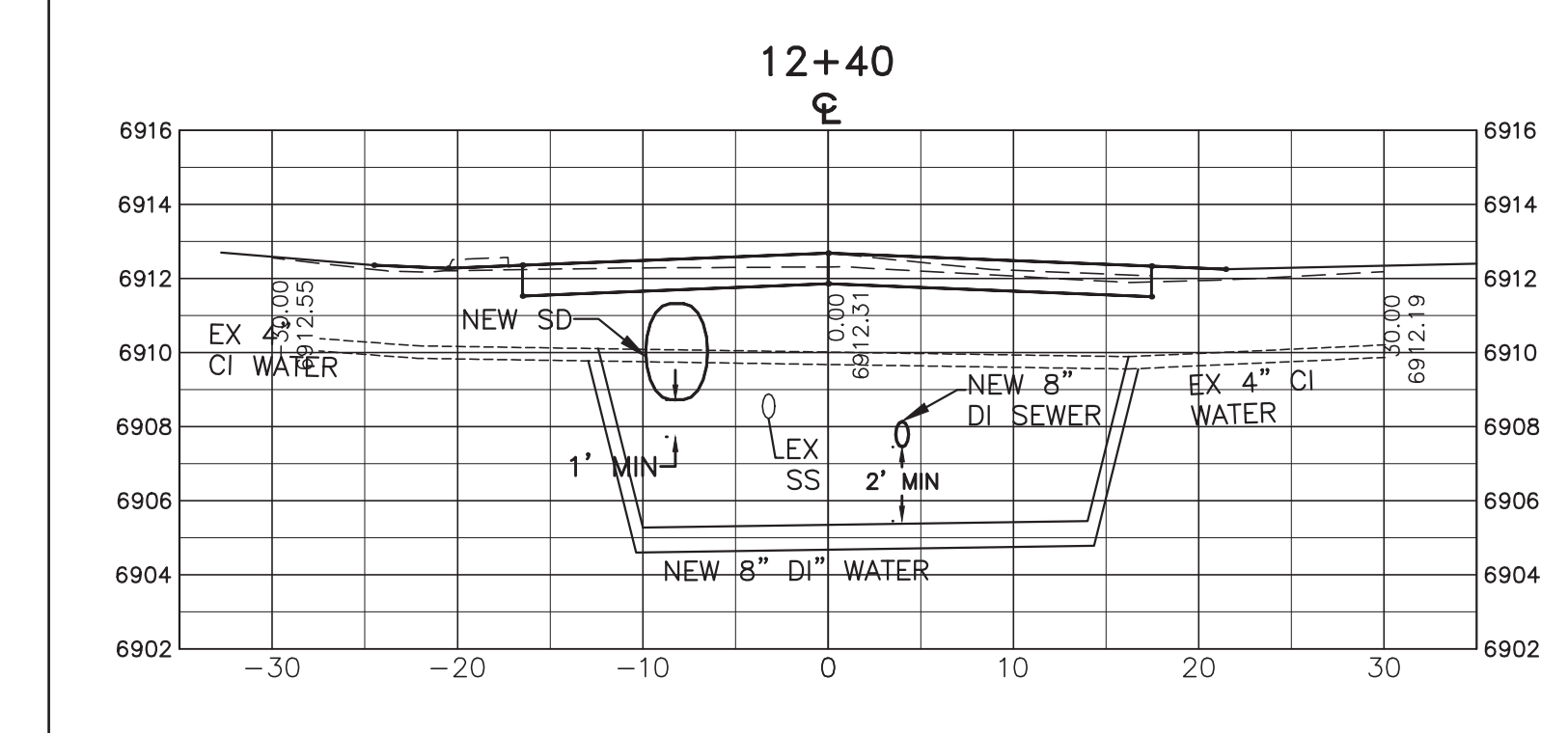
BONITO ST. IMPROVEMENT PLANS
CITY OF FLAGSTAFF
CONSTRUCTION PLANS



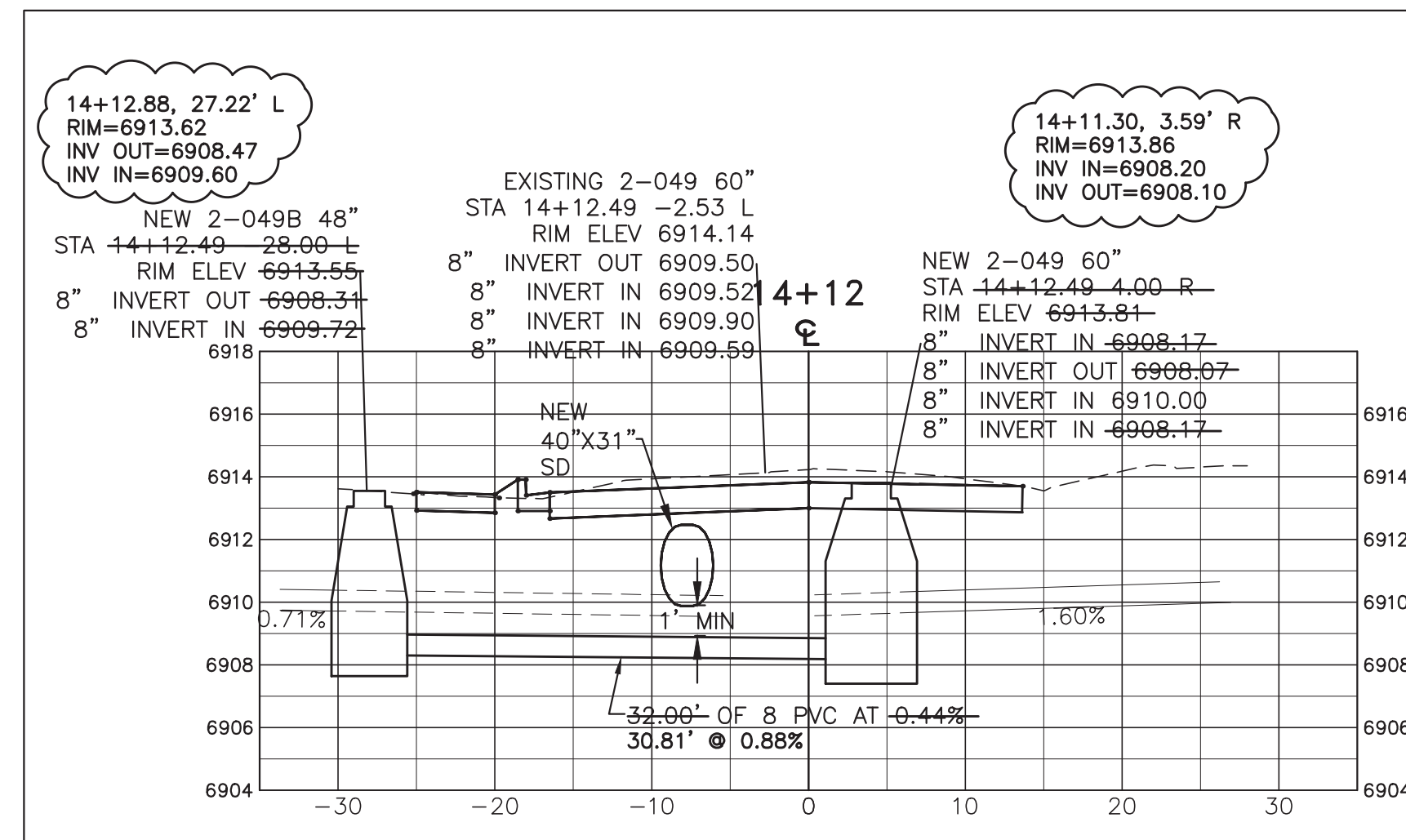
A BONITO STREET STA 10+50
H: 1"=10'
V: 1"=5'



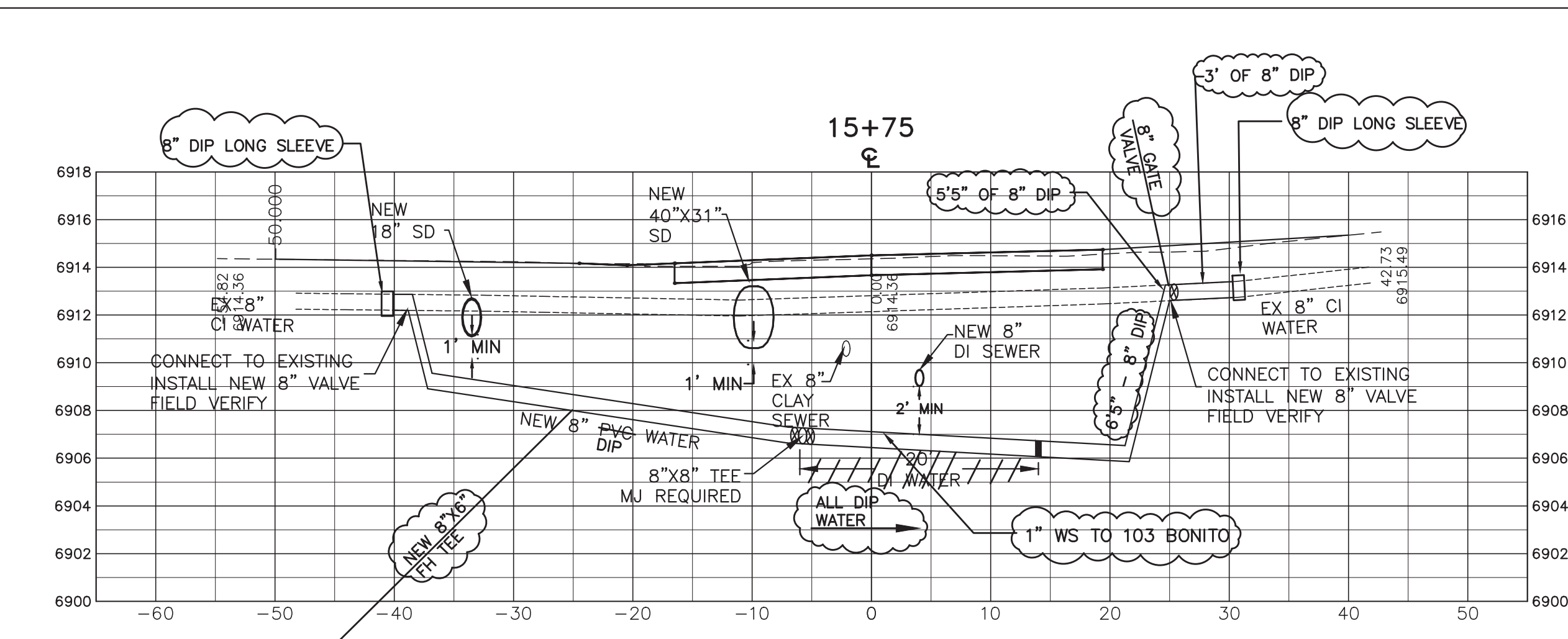
B BONITO STREET STA 12+20
H: 1"=10'
V: 1"=5'



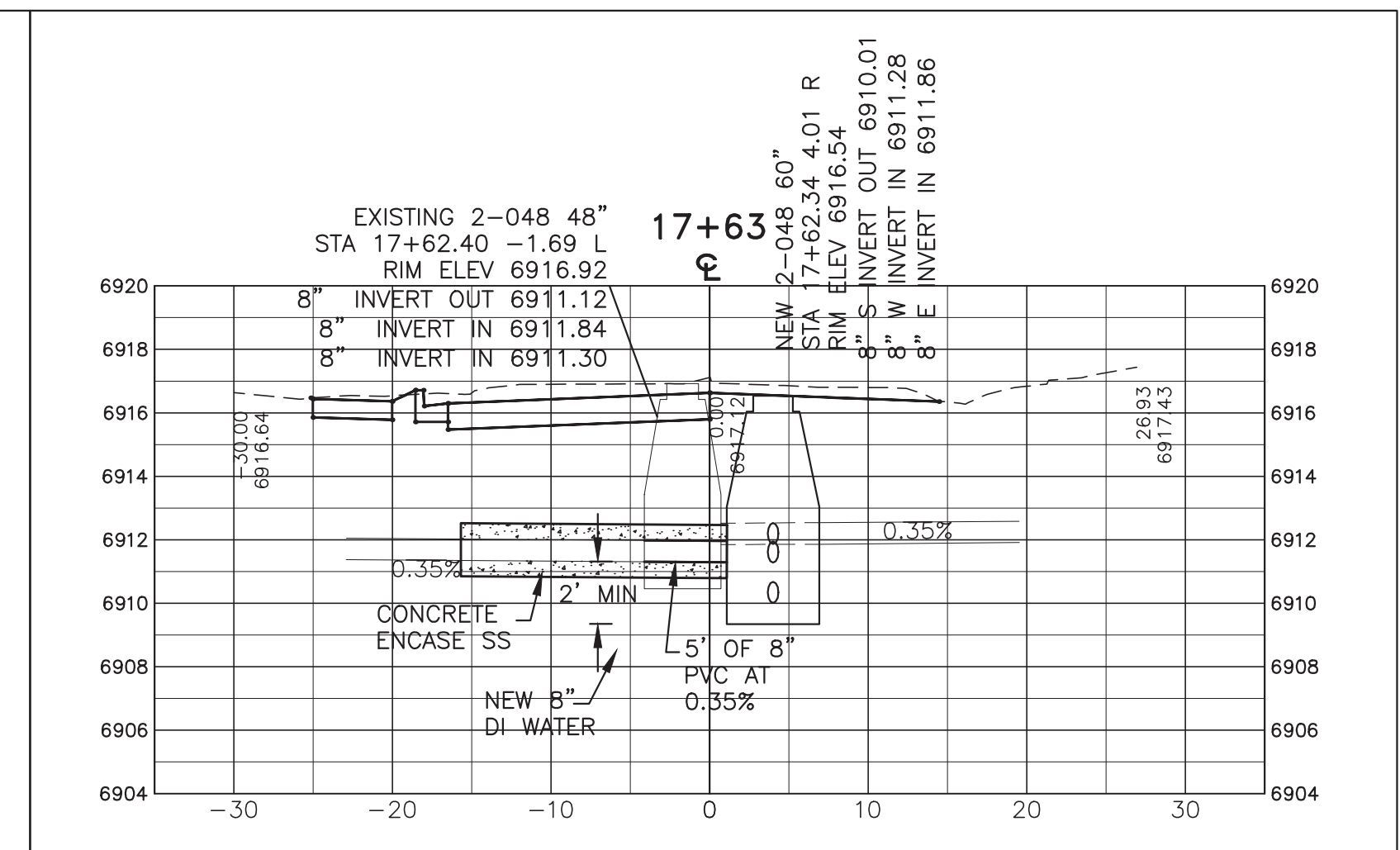
C BONITO STREET STA 12+40
H: 1"=10'
V: 1"=5'



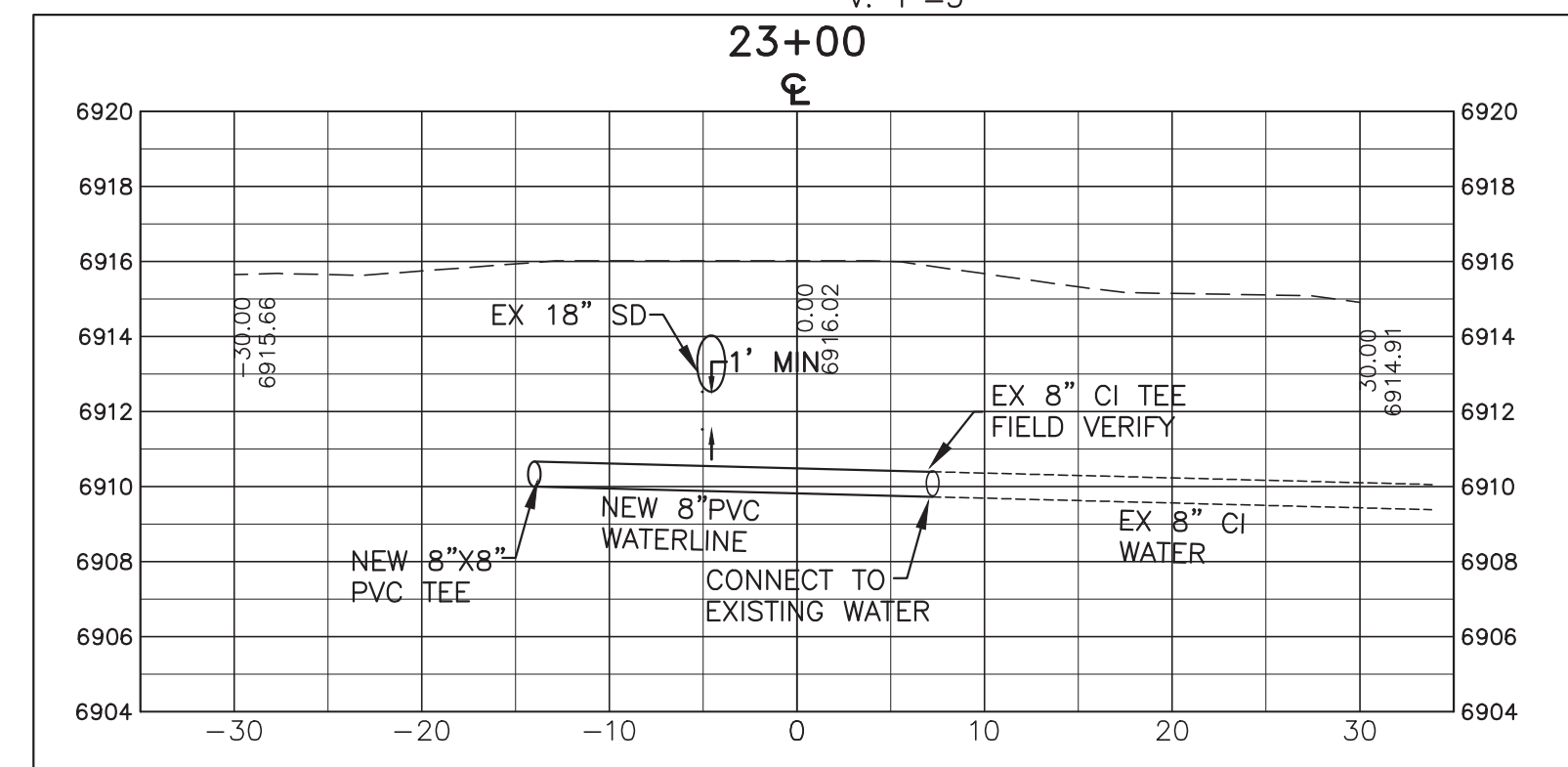
D BONITO STREET STA 14+12
H: 1"=10'
V: 1"=5'



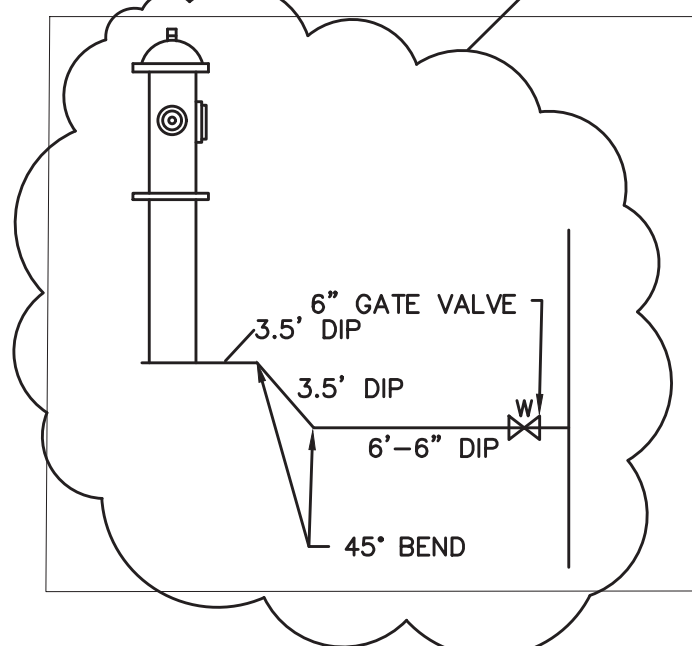
E BONITO STREET STA 15+75
H: 1"=10'
V: 1"=5'



F BONITO STREET STA 17+63
H: 1"=10'
V: 1"=5'



G BONITO STREET STA 23+00
H: 1"=10'
V: 1"=5'



NOTES

UTILITY SEPARATION MUST BE IN ACCORDANCE WITH MAG SS 310 AND MAG SD 404.

STORM DRAIN SEPARATION PER COF SS 13-09-001-0003.

UNIT COSTS ON SHEETS 11-13 SHALL INCLUDE ALL APPURTENANCES AND FITTINGS NECESSARY TO MEET SEPARATION REQUIREMENTS.

AS-BUILT DRAWINGS

DATE: 3/28/16
BY: Alicia Stoffers, PE

WOODSON
ENGINEERING AND SURVEYING, INC.
124 N. ELDEN DR.,
FLAGSTAFF, AZ 86001
PHONE NO. (928) 774-4636

REGISTERED PROFESSIONAL ENGINEER
ALICIA ANNE STOFFERS
3/28/16
ARIZONA, USA

GENERAL NOTES

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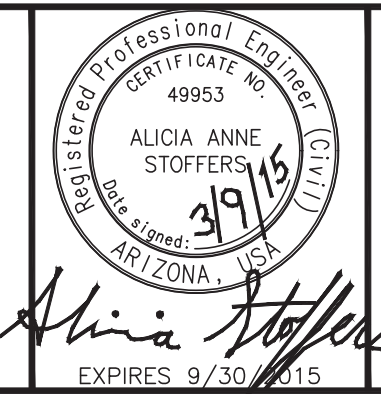
CENTERLINE CONTROL IS SHOWN ON SHEET 20.

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REVISIONS:



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ENGINEERING AND SURVEYING, INC.
124 N. ELDEN ST.
FLAGSTAFF, AZ 86001
PHONE: (928) 774-4636 FAX: (928) 774-4646

BONITO STREET

UTILITY CONFLICT
PROFILES

HOR SCALE: 1"=20'
VERT SCALE: 1"=2'
DATE: 3/9/15
PROJECT NO.: 113801
AGENCY NO.: 03-13012
SHEET NO.: 14 OF 22

DESIGNED BY: AAS
DRAWN BY: AAS
CHECKED BY: RLS

BONITO ST. IMPROVEMENT PLANS
CITY OF FLAGSTAFF
CONSTRUCTION PLANS

WOODSON ENGINEERING AND SURVEYING, INC.
124 N. ELDEN ST. • FLAGSTAFF, AZ 86001 • PHONE: (928) 774-4636 FAX: (928) 774-4646

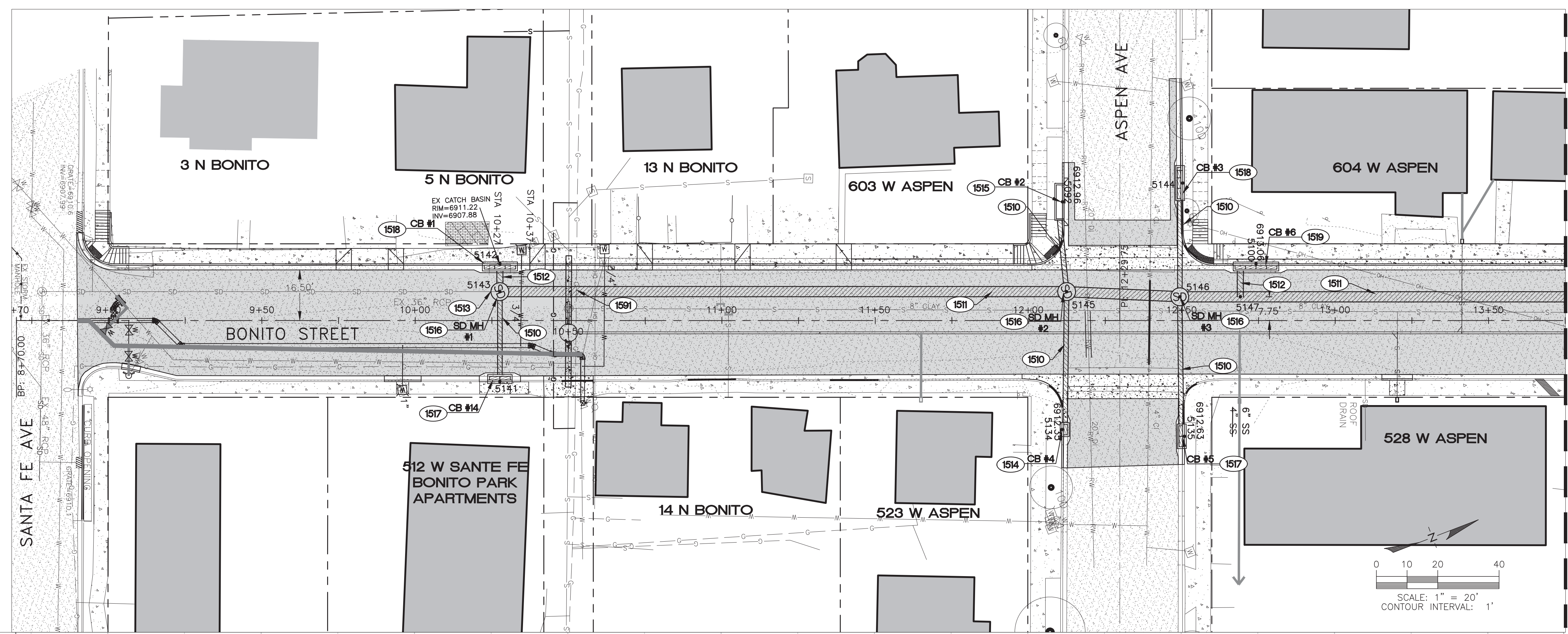
3/9/15

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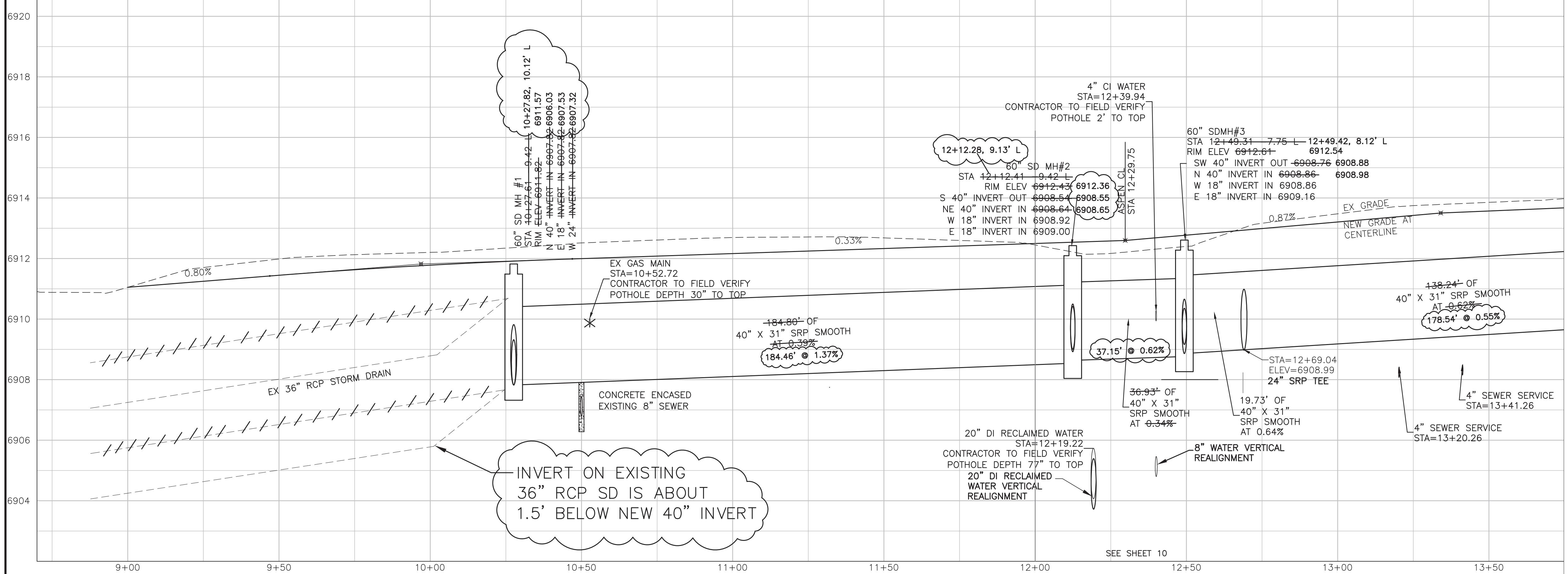
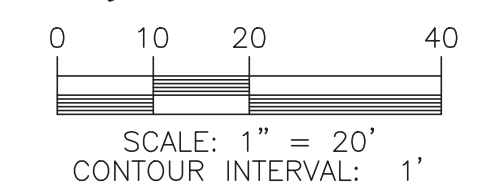
CONSTRUCTION NOTES
PUBLIC IMPROVEMENTS

- 1510 (182 L.F.) INSTALL 18" SMOOTH SRP (14 GA.) IN ACCORDANCE WITH MAG SS 601 & 621. INSTALL AT LOCATIONS NOTED ON PLAN.
- 1511 (348 L.F.) INSTALL 40"x31" SMOOTH SRP (36" EQUIV) (14 GA.) IN ACCORDANCE WITH MAG SS 601 & 621. INSTALL AT LOCATIONS NOTED ON PLAN.
- 1512 (18 L.F.) INSTALL 24" SMOOTH SRP (14 GA.) IN ACCORDANCE WITH MAG SS 601 & 621. INSTALL AT LOCATIONS NOTED ON PLAN.
- 1513 (1 EA.) CONNECT EXISTING STORM DRAIN PIPE TO NEW STORM MANHOLE. FIELD VERIFY LOCATION OF EXISTING STORM DRAIN.
- 1514 (1 EA.) CONSTRUCT TYPE "E" CATCH BASIN, SINGLE UNIT IN ACCORDANCE WITH MAG SD NO. 534. LOCATE PER THE CONTROL POINT AT BACK OF CURB IN THE MIDDLE OF THE CATCH BASIN.
- 1515 (1 EA.) CONSTRUCT TYPE "C" CATCH BASIN, SINGLE UNIT IN ACCORDANCE WITH MAG SD NO. 532, MODIFIED FOR 11' OPENING. LOCATE PER THE CONTROL POINT AT BACK OF CURB IN THE MIDDLE OF THE CATCH BASIN.
- 1516 (3 EA.) CONSTRUCT STORM DRAIN MANHOLE IN ACCORDANCE WITH MAG SD NO. 520 AND NO. 522, SHALLOW MANHOLE MODIFIED TO 60" DIAMETER. INSTALL AT LOCATIONS NOTED ON PLAN.
- 1517 (2 EA.) CONSTRUCT TYPE "E" CATCH BASIN, DOUBLE UNIT IN ACCORDANCE WITH MAG SD NO. 534. LOCATE PER THE CONTROL POINT AT BACK OF CURB IN THE MIDDLE OF THE CATCH BASIN.
- 1518 (2 EA.) CONSTRUCT TYPE "E" CATCH BASIN IN ACCORDANCE WITH MAG SD NO. 534, MODIFIED TO HAVE THREE GRATES. LOCATE PER THE CONTROL POINT AT BACK OF CURB IN THE MIDDLE OF THE CATCH BASIN.
- 1519 (1 EA.) CONSTRUCT TYPE "E" CATCH BASIN IN ACCORDANCE WITH MAG SD NO. 534, MODIFIED TO HAVE FOUR GRATES. LOCATE PER THE CONTROL POINT AT BACK OF CURB IN THE MIDDLE OF THE CATCH BASIN.
- 1591 (INCIDENTAL) COORDINATE VERTICAL RELOCATION OF GAS LINE WITH UNISOURCE.

NOTES:
SEE SHEET 17 FOR STORM DRAIN LATERAL PROFILES. QUANTITIES NOTED ON THIS SHEET.



MATCHLINE
SEE SHEET 16



POINT NO.	NORTHING	EASTING	DESCRIPTION
5092	4324.43	9699.37	BOC-CB
5100	4376.13	9740.81	BOC-CB
5134	4297.71	9768.58	BOC-CB
5135	4334.22	9784.93	BOC-CB
5141	4132.17	9688.43	BOC-CB
5142	4145.93	9652.53	BOC-CB
5143	4142.68	9661.01	SD MH
5144	4363.23	9707.70	BOC-CB
5145	4315.22	9727.18	SD MH
5146	4349.07	9741.95	SD MH
5147	4367.49	9749.02	TEE

AS-BUILT DRAWINGS

DATE: 3/28/16
BY: Alicia Stoffers, PE

WOODSON
ENGINEERING AND SURVEYING, INC.
124 N. ELDEN DR.,
FLAGSTAFF, AZ 86001
PHONE NO. (928) 774-4636

GENERAL NOTES

FIELD TOPOGRAPHY AND BOUNDARY SURVEY INFORMATION USED TO PREPARE THIS DRAWING WERE MADE BY WOODSON ENGINEERING & SURVEY, INC. IN AUGUST, 2013.

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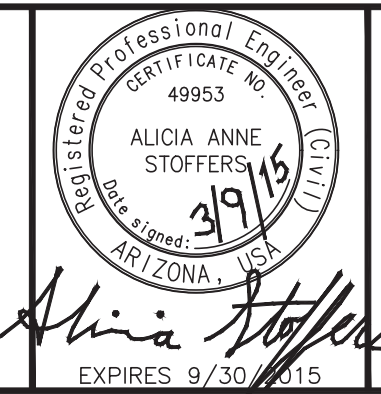
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3/9/15

BONITO ST. IMPROVEMENT PLANS
CITY OF FLAGSTAFF
CONSTRUCTION PLANS



REVISIONS:



WOODSON
ENGINEERING AND SURVEYING, INC.

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FLAGSTAFF, AZ 86001
PHONE: (928) 774-4636 FAX: (928) 774-4646

BONITO STREET

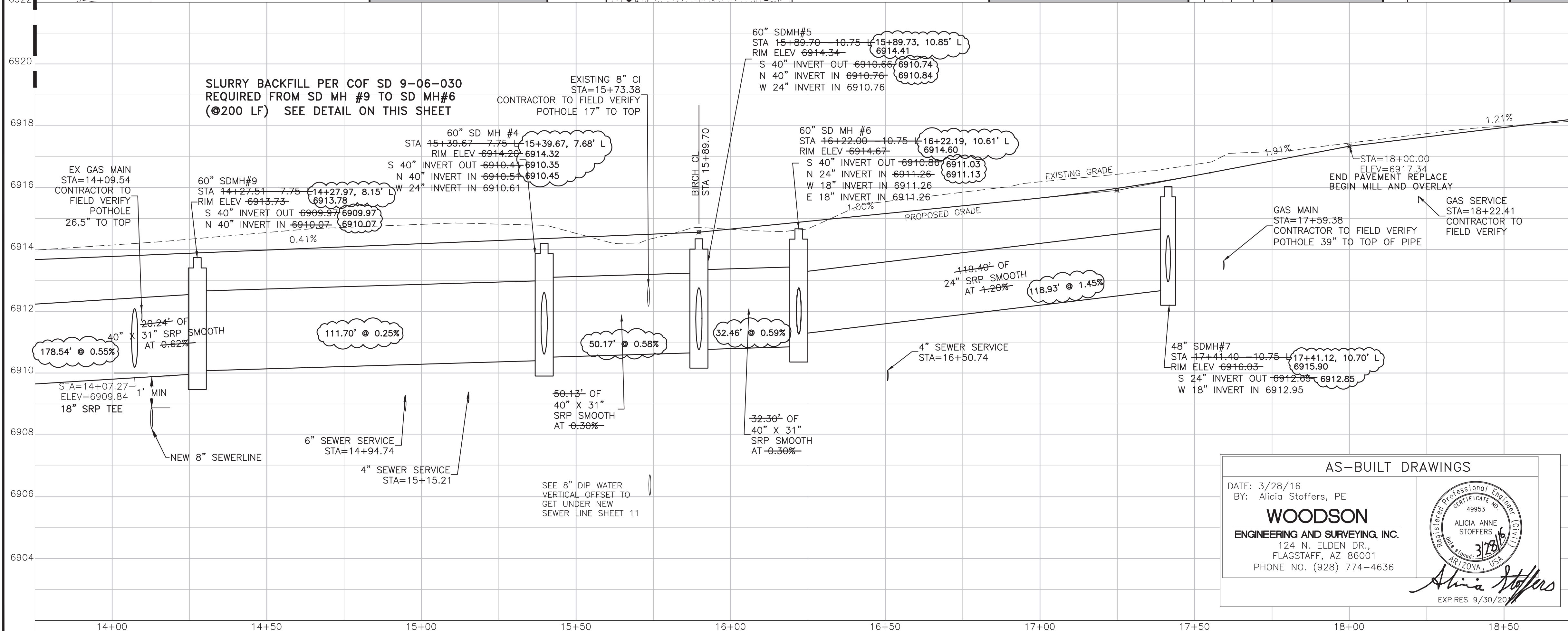
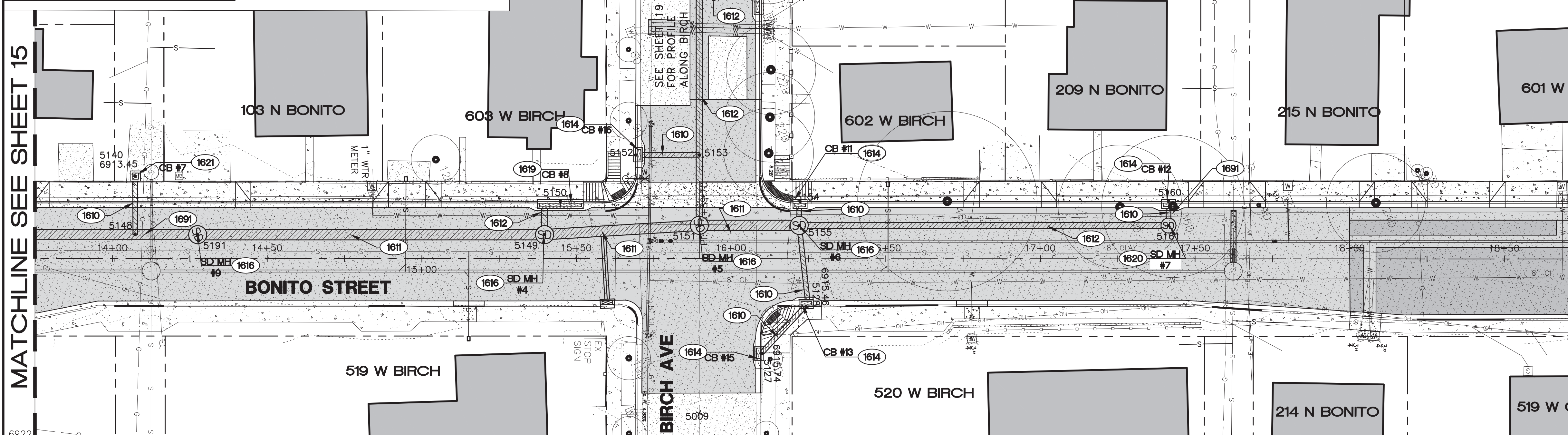
STORM DRAIN
STA 8+90 TO STA 13+75

HOR SCALE: 1"=20'
VERT SCALE: 1"=2'
DATE: 3/9/15
PROJECT NO.: 113801
AGENCY NO.: 03-13012
SHEET NO.: 15 OF 22

DESIGNED BY: AAS
DRAWN BY: AAS
CHECKED BY: RLS

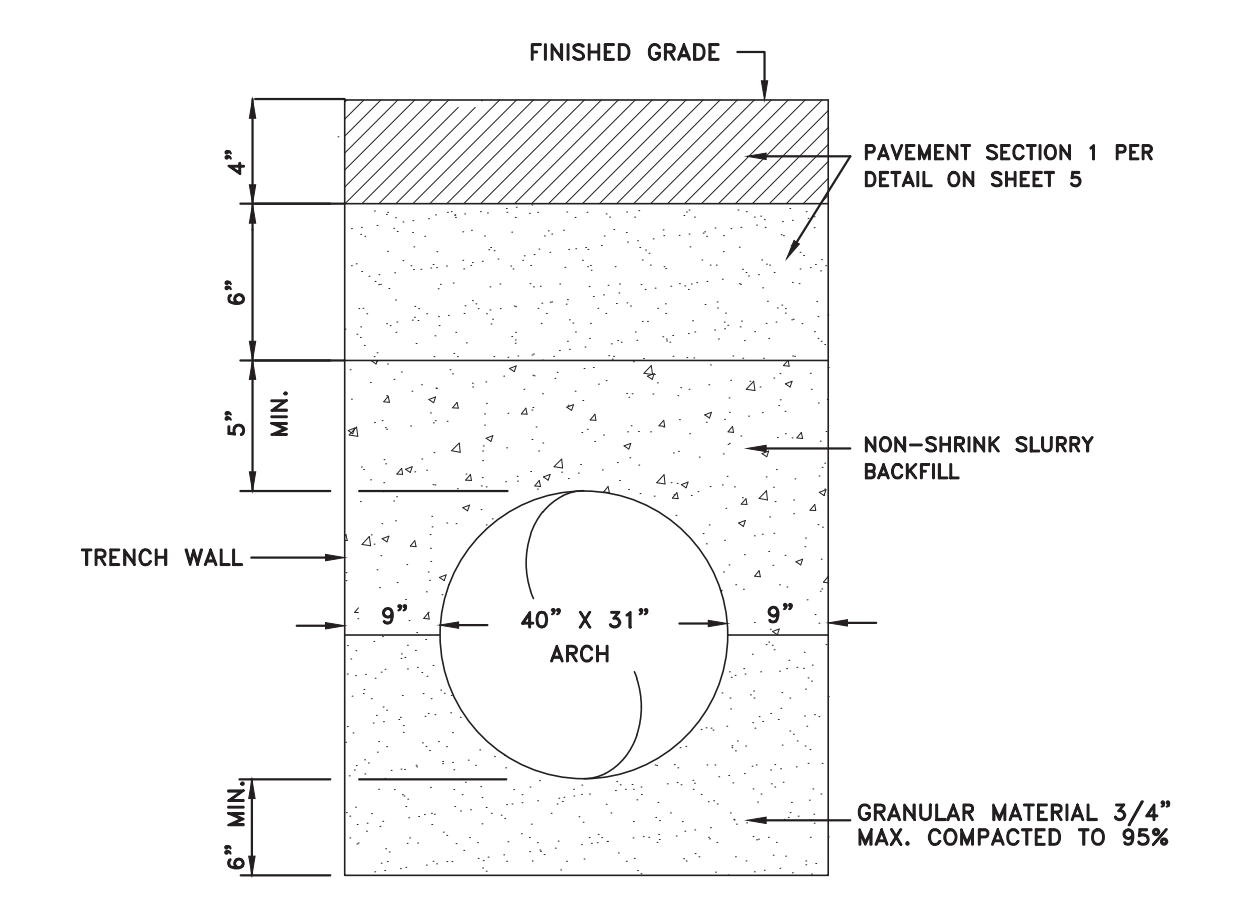
CONTROL POINTS			
POINT NO.	NORTHING	EASTING	DESCRIPTION
5127	4672.04	9906.95	BOC-CB
5128	4690.83	9897.95	boc-cb
5140	4503.34	9780.85	CB CENTER
5148	4496.56	9798.52	TEE
5149	4620.20	9845.86	SD MH
5150	4628.81	9837.72	BOC-CB
5151	4667.97	9861.04	SD MH
5152	4656.90	9832.44	BOC-CB
5153	4676.11	9839.81	TEE
5154	4701.16	9865.48	BOC-CB

CONTROL POINTS			
POINT NO.	NORTHING	EASTING	DESCRIPTION
5155	4698.13	9872.62	SD MH
5156	4713.74	9797.74	BOC-CB
5157	4716.53	9734.43	SD MH
5158	4697.37	9726.95	BOC-CB
5159	4695.03	9790.47	TEE
5160	4812.40	9908.09	boc-cb
5161	4809.60	9915.40	SD MH
5191	4515.44	9805.76	SD MH



- ### CONSTRUCTION NOTES PUBLIC IMPROVEMENTS
- 1610 (122 L.F.) INSTALL 18" SMOOTH SRP (14 GA.) IN ACCORDANCE WITH MAG SS 601 & 621. INSTALL AT LOCATIONS NOTED ON PLAN.
 - 1611 (246 L.F.) INSTALL 40"x31" SMOOTH SRP (36" EQUIV) (14 GA.) IN ACCORDANCE WITH MAG SS 601 & 621. INSTALL AT LOCATIONS NOTED ON PLAN.
 - 1612 (284 L.F.) INSTALL 24" SMOOTH SRP (14 GA.) IN ACCORDANCE WITH MAG SS 601 & 621. INSTALL AT LOCATIONS NOTED ON PLAN.
 - 1614 (5 EA.) CONSTRUCT TYPE "E" CATCH BASIN, SINGLE UNIT IN ACCORDANCE WITH MAG SD NO. 534. LOCATE PER THE CONTROL POINT AT BACK OF CURB IN THE MIDDLE OF THE CATCH BASIN.
 - 1615 (1 EA.) CONSTRUCT TYPE "C" CATCH BASIN IN ACCORDANCE WITH MAG SD NO. 532, MODIFIED FOR 12' OPENING. LOCATE PER THE CONTROL POINT AT BACK OF CURB IN THE MIDDLE OF THE CATCH BASIN.
 - 1616 (4 EA.) CONSTRUCT STORM DRAIN MANHOLE IN ACCORDANCE WITH MAG SD NO. 520 AND NO. 522, SHALLOW MANHOLE MODIFIED TO 60" DIAMETER. INSTALL AT LOCATIONS NOTED ON PLAN.
 - 1619 (2 EA.) CONSTRUCT TYPE "E" CATCH BASIN IN ACCORDANCE WITH MAG SD NO. 534, MODIFIED TO HAVE FOUR GRATES. LOCATE PER THE CONTROL POINT AT BACK OF CURB IN THE MIDDLE OF THE CATCH BASIN.
 - 1620 (2 EA.) CONSTRUCT 48" STORM DRAIN MANHOLE IN ACCORDANCE WITH MAG SD NO. 520 AND NO. 522. INSTALL AT LOCATIONS NOTED ON PLAN.
 - 1621 (1 EA.) CONSTRUCT TYPE "G" CATCH BASIN SINGLE GRATE IN ACCORDANCE WITH MAG SD NO. 537. LOCATE PER THE CONTROL POINT AT CENTER OF THE CATCH BASIN.
 - 1691 (INCIDENTAL) COORDINATE VERTICAL RELOCATION OF GAS LINE WITH UNISOURCE.

NOTES:
SEE SHEET 17 FOR STORM DRAIN LATERAL PROFILES. QUANTITIES NOTED ON THIS SHEET.



NON-SHRINK SLURRY BACKFILL IN ACCORDANCE WITH STD. 9-06-030 AND DETAIL 9-06-030. BACKFILL SHALL BE PROPORTIONED AS FOLLOWS: 2,600 LBS OF 3/8" MINUS AGGREGATE, 800 LBS SAND, 94 LBS CEMENT AND 11 GALLONS WATER.

STORM DRAIN TRENCH
STA 14+25 TO 16+22
NO SCALE

AS-BUILT DRAWINGS

DATE: 3/28/16
BY: Alicia Stoffers, PE

WOODSON
ENGINEERING AND SURVEYING, INC.
124 N. ELDEN DR.,
FLAGSTAFF, AZ 86001
PHONE NO. (928) 774-4636 FAX: (928) 774-4646

Alicia Stoffers
EXPIRES 9/30/2016

GENERAL NOTES

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1-800-782-5348
(OUTSIDE MARICOPA COUNTY)

FN: 16 SD

REVISIONS:

NO.	DESCRIPTION

REGISTERED PROFESSIONAL ENGINEER
CERTIFICATE NO. 49953
ALICIA ANNE STOFFERS
3/9/15
ARIZONA, USA
Alicia Stoffers
EXPIRES 9/30/2015

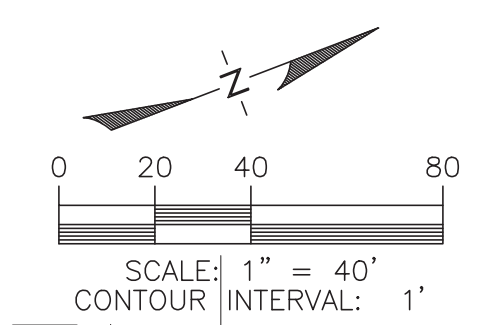
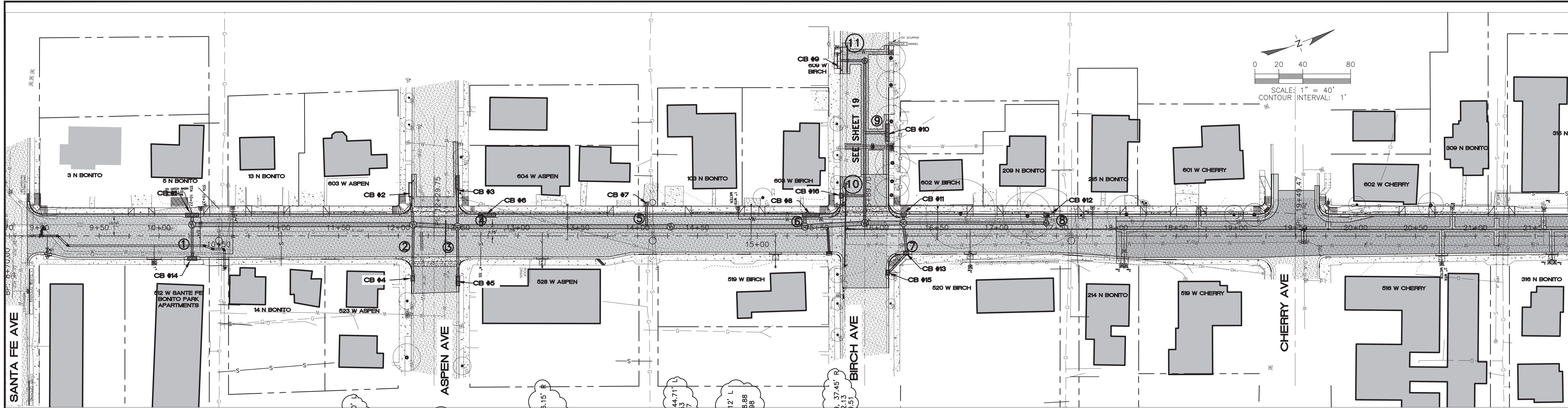
WOODSON
ENGINEERING AND SURVEYING, INC.
124 N. ELDEN ST.
FLAGSTAFF, AZ 86001
PHONE: (928) 774-4636 FAX: (928) 774-4646

BONITO STREET

STORM DRAIN
STA 13+75 TO STA 18+75

HOR SCALE: 1"=20'
VERT SCALE: 1"=2'
DATE: 3/9/15
PROJECT NO.: 113801
AGENCY NO.: 03-13012
SHEET NO.: 16 OF 22

113801
WOODSON ENGINEERING AND SURVEYING, INC.
 124 N. ELDEN ST. • FLAGSTAFF, AZ 86001 • PHONE: (928) 774-4636 FAX: (928) 774-4646
 3/9/15
 BONITO ST. IMPROVEMENT PLANS
 CITY OF FLAGSTAFF
 CONSTRUCTION PLANS
 DESIGNED BY: AAS
 DRAWN BY: AAS
 CHECKED BY: RLS

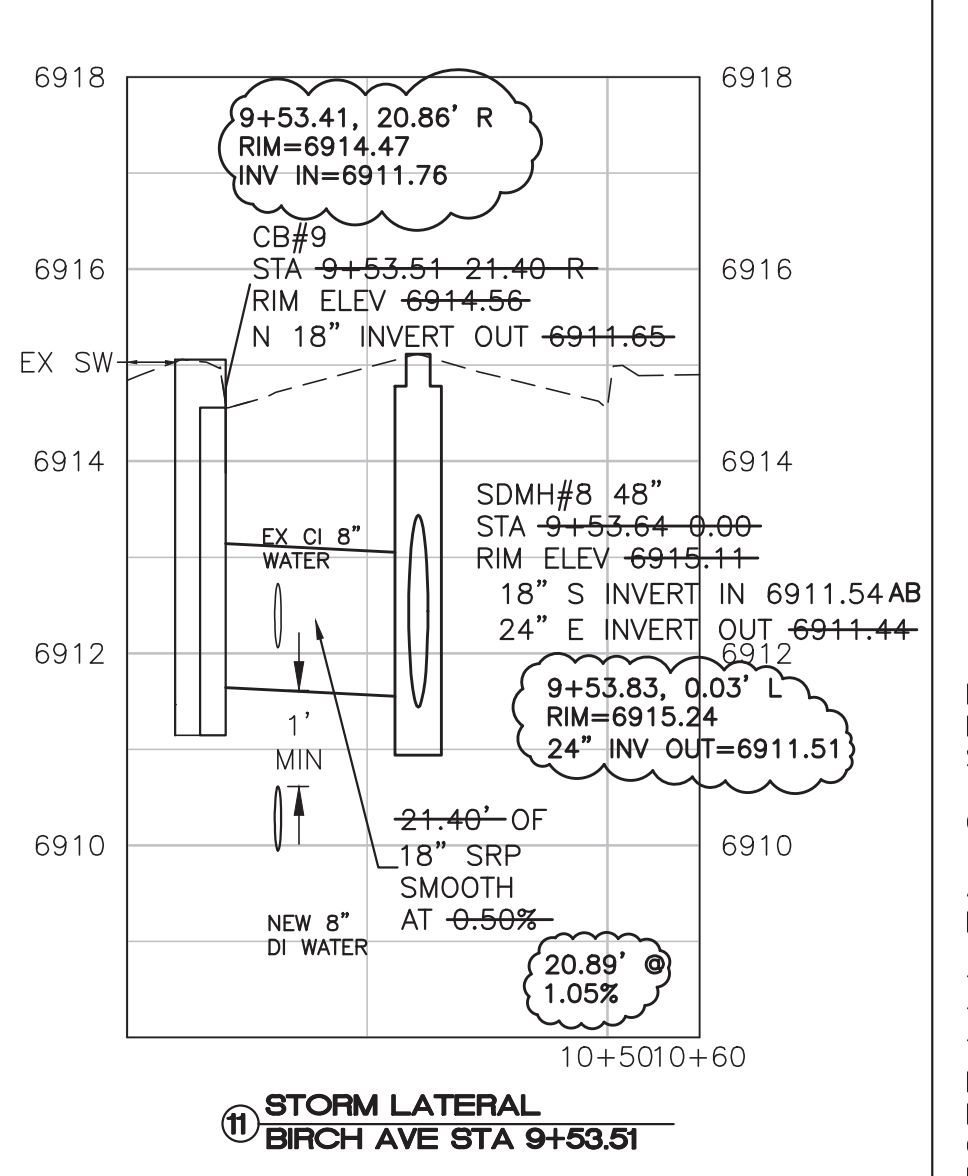
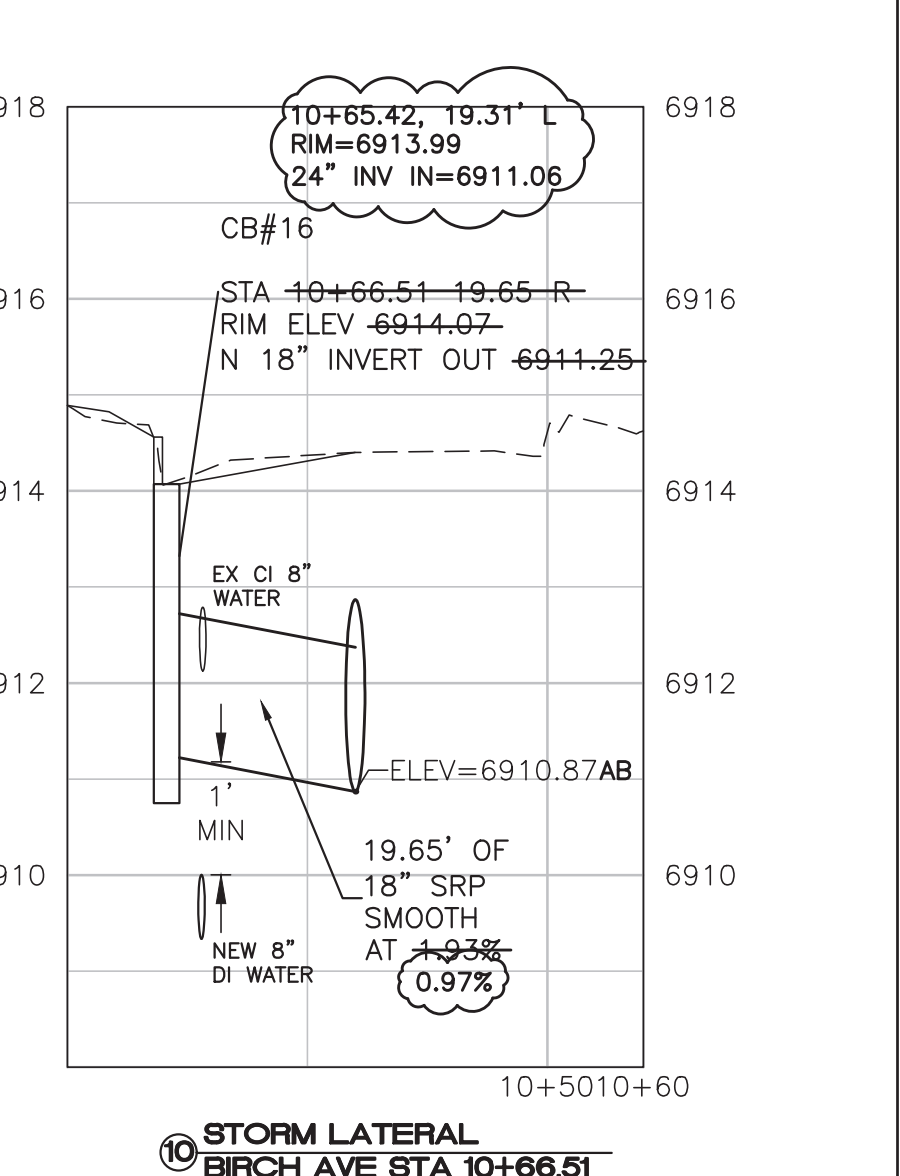
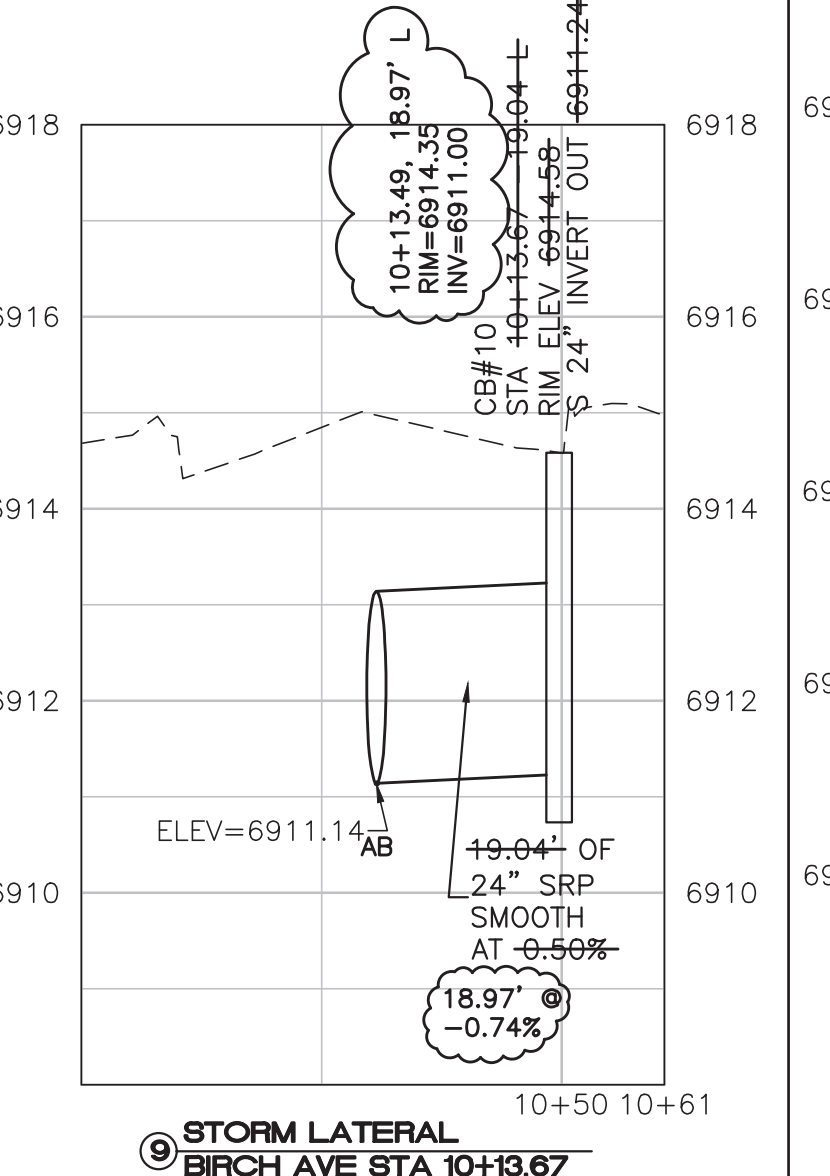
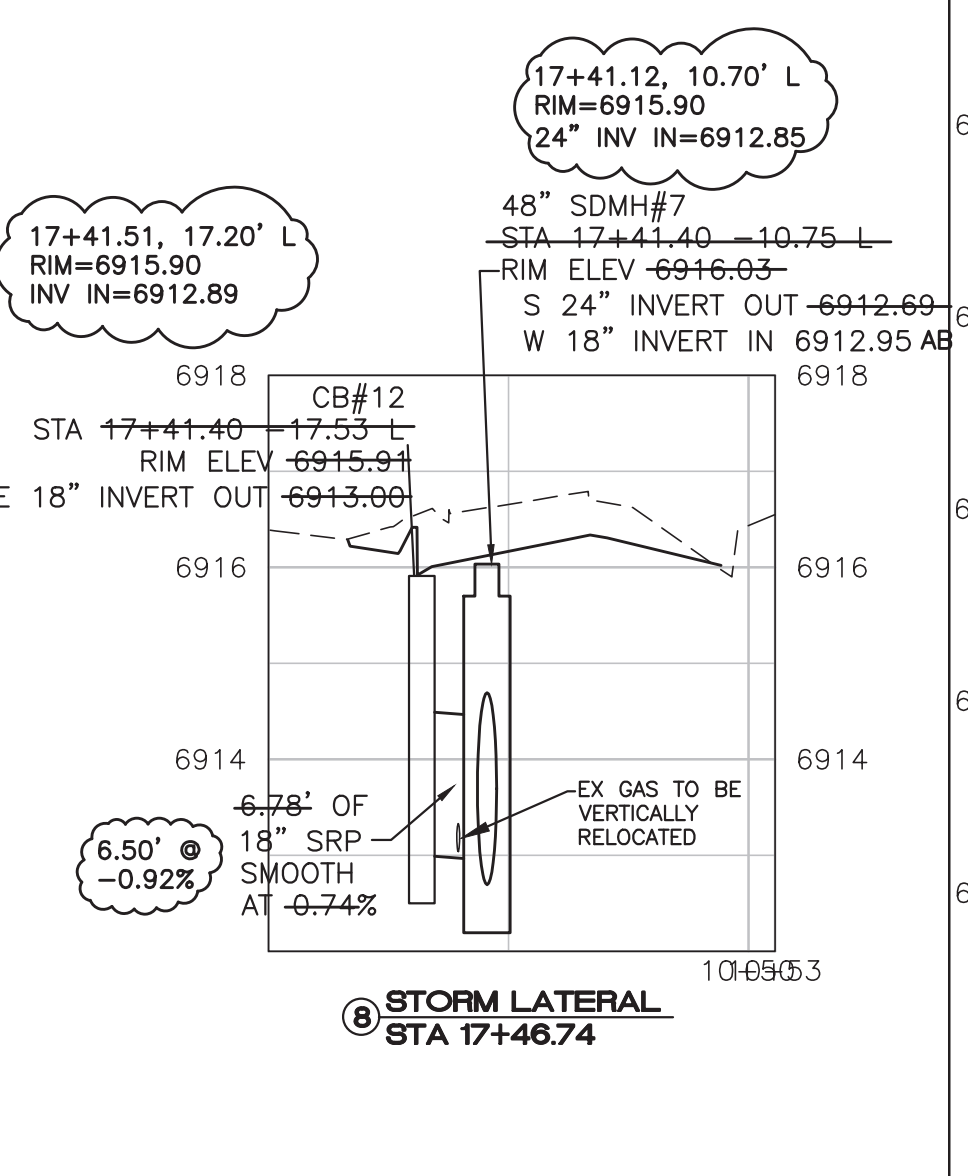
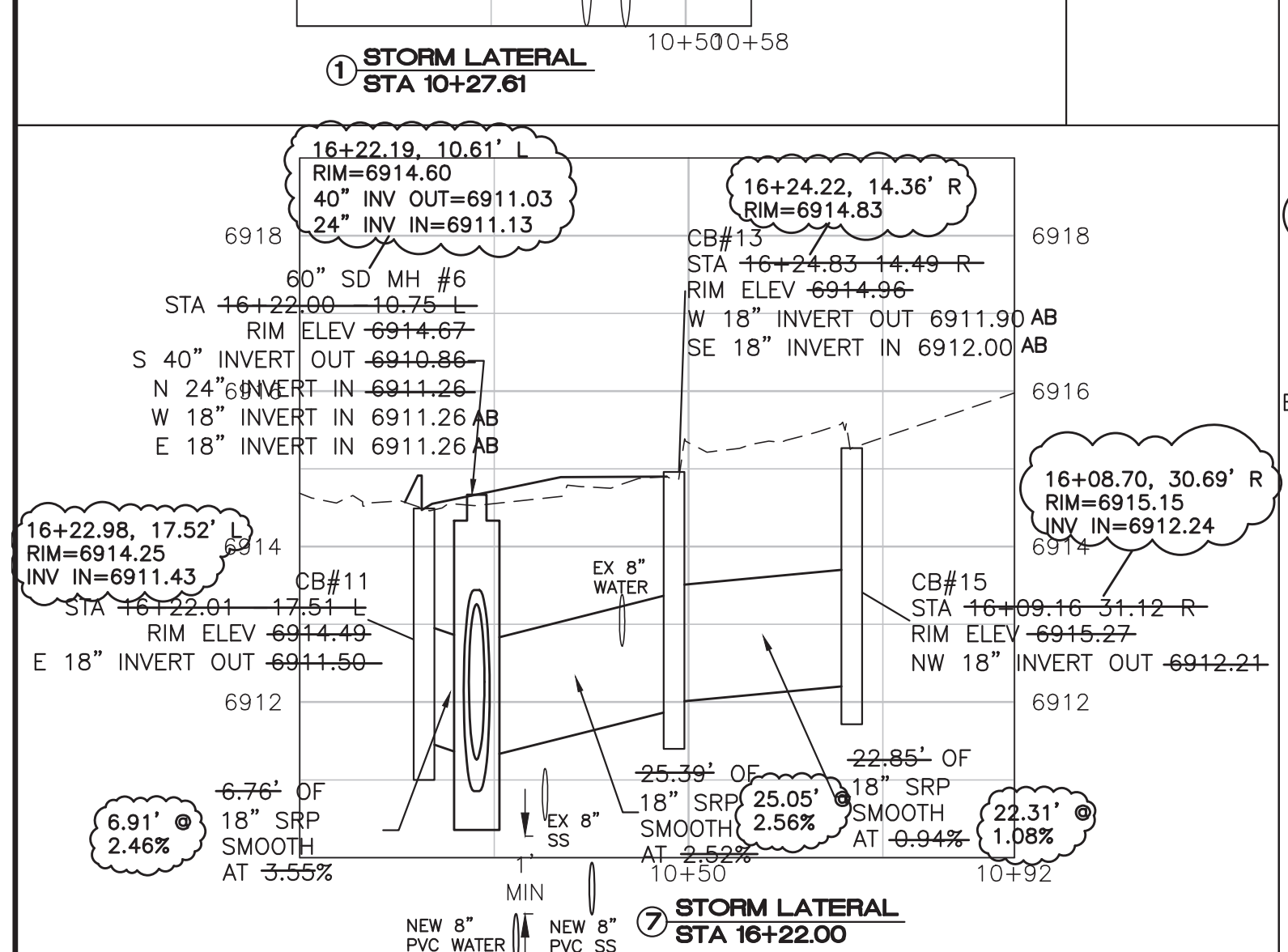
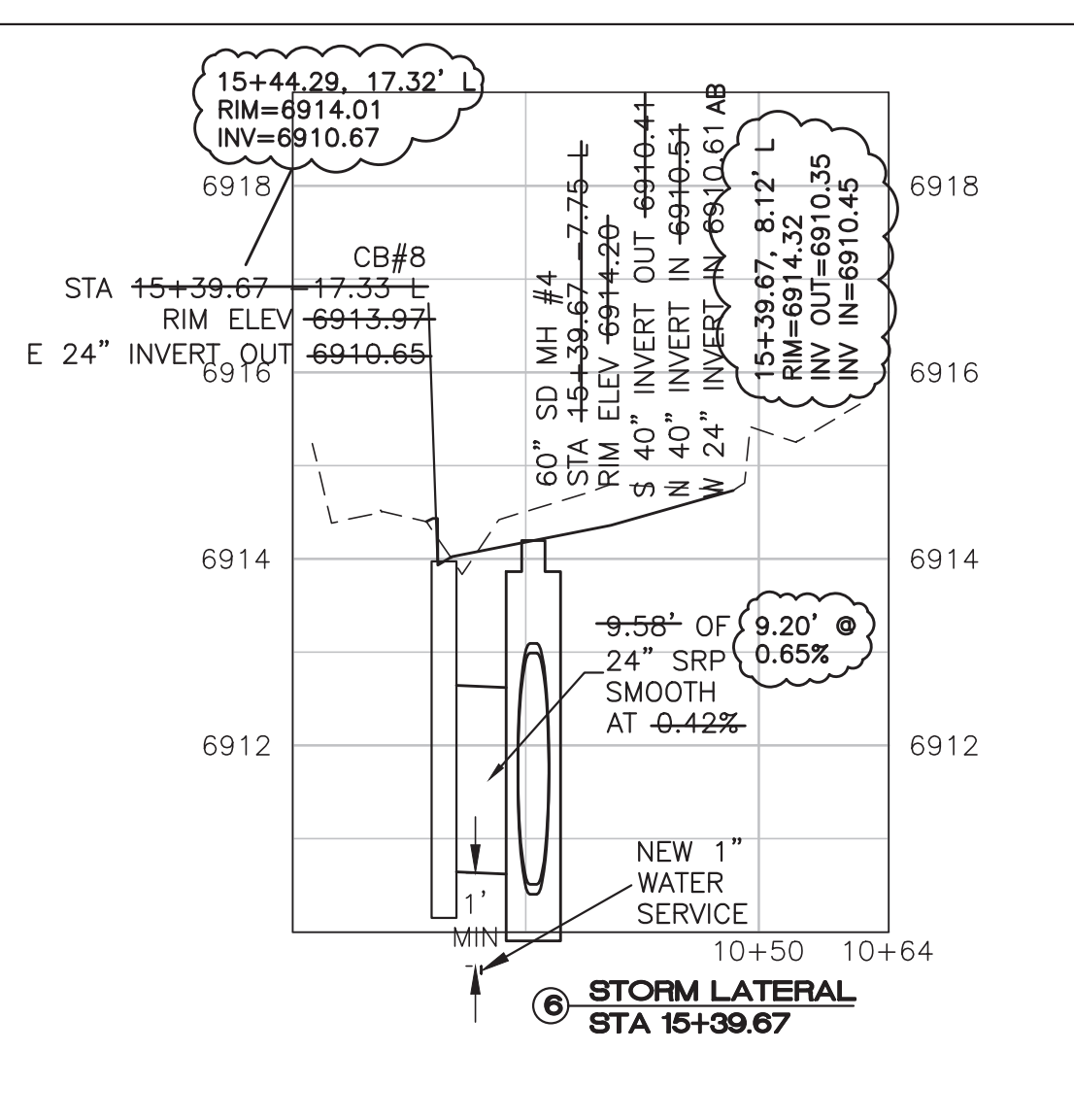
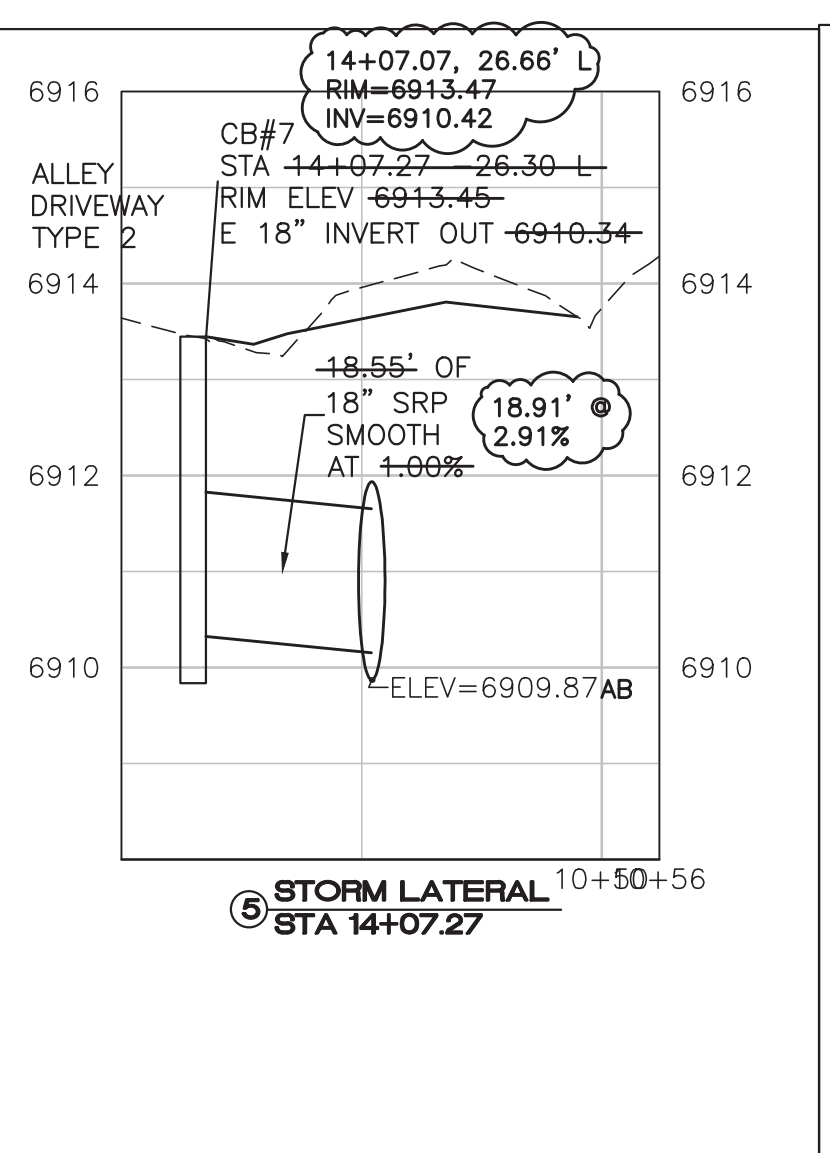
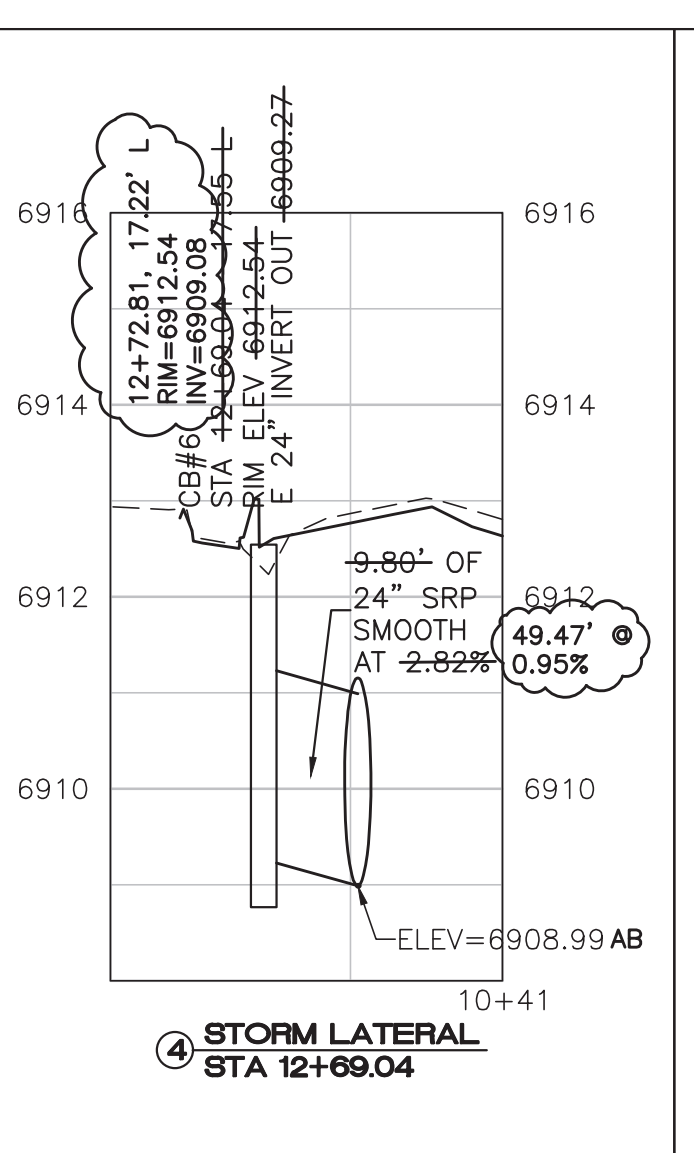
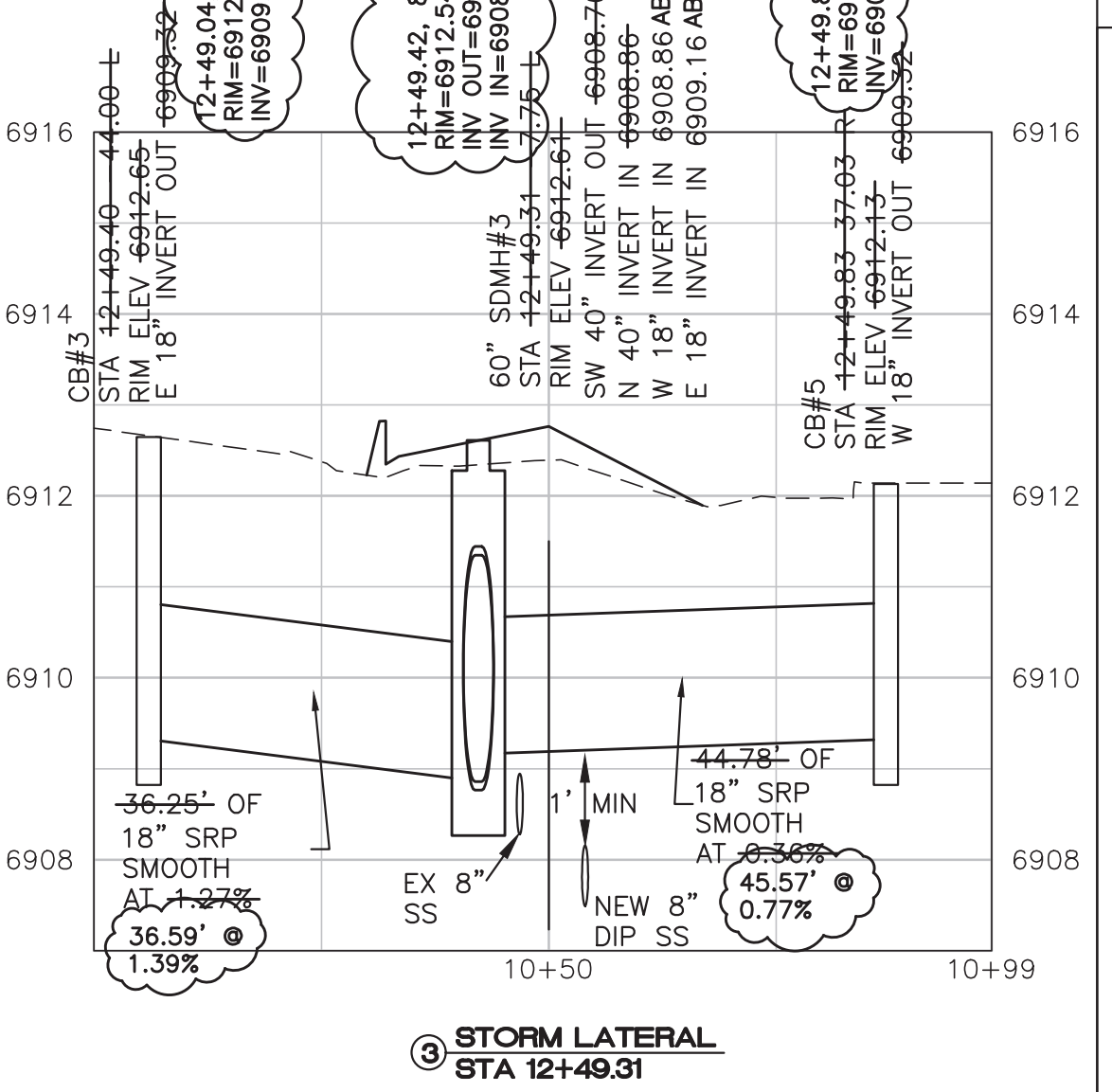
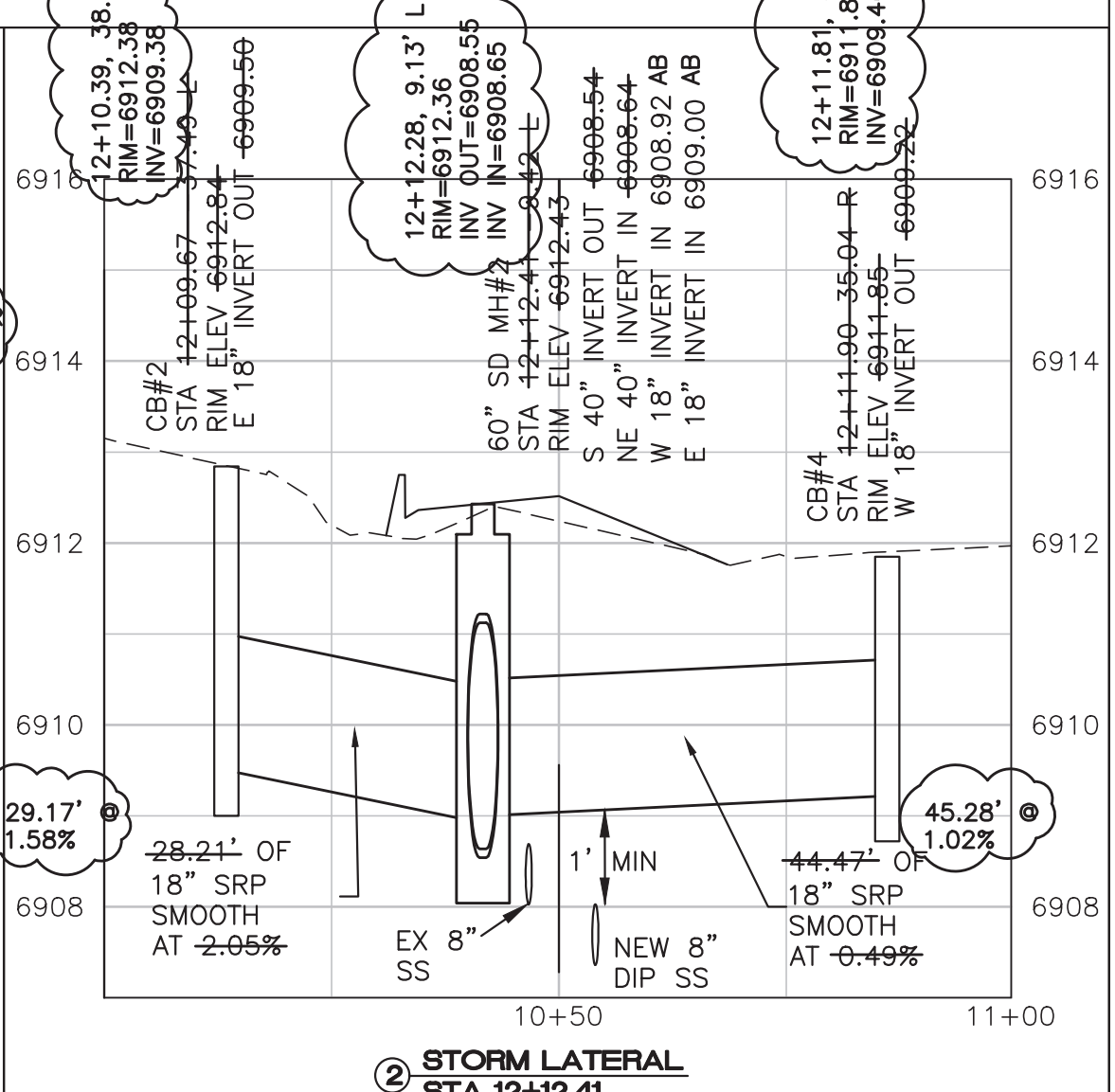
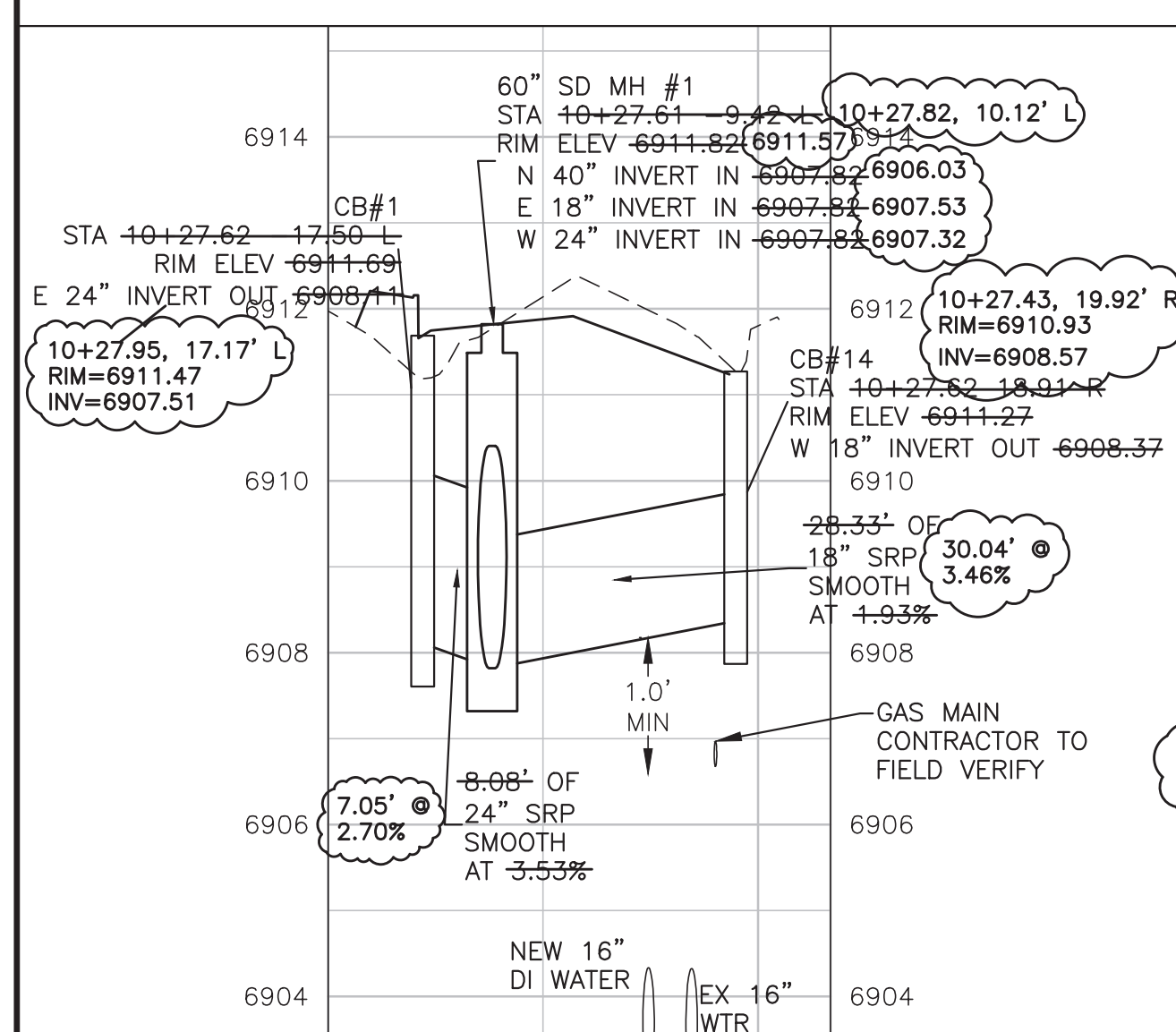


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124 N. ELDEN ST. • PHONE: (928) 774-4636 FAX: (928) 774-4646

3/9/15

BONITO ST. IMPROVEMENT PLANS
CITY OF FLAGSTAFF
CONSTRUCTION PLANS



AS-BUILT DRAWINGS

DATE: 3/28/16
BY: Alicia Stoffers, PE

WOODSON
ENGINEERING AND SURVEYING, INC.
124 N. ELDEN DR.,
FLAGSTAFF, AZ 86001
PHONE NO. (928) 774-4636

GENERAL NOTES

FIELD TOPOGRAPHY AND BOUNDARY SURVEY INFORMATION USED TO PREPARE THIS DRAWING WERE MADE BY WOODSON ENGINEERING & SURVEY, INC. IN AUGUST, 2013.

CENTERLINE CONTROL IS SHOWN ON SHEET 20.

ALL ELEVATIONS SHOWN ON THE PLANS ARE FINISHED SURFACE ELEVATIONS (EXCEPT AS NOTED).

THE INFORMATION ON THESE CONSTRUCTION PLANS CONCERNING THE TYPE, SIZE, AND LOCATION OF UTILITIES HAS BEEN SHOWN BASED ON THE BEST INFORMATION AVAILABLE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINATION OF EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROTECT ALL EXISTING UTILITIES, IN PLACE, UNLESS OTHERWISE NOTED OR SPECIFIED.

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(OUTSIDE MARICOPA COUNTY)

REVISIONS:

WOODSON
ENGINEERING AND SURVEYING, INC.

124 N. ELDEN ST.
FLAGSTAFF, AZ 86001
PHONE: (928) 774-4636 FAX: (928) 774-4646

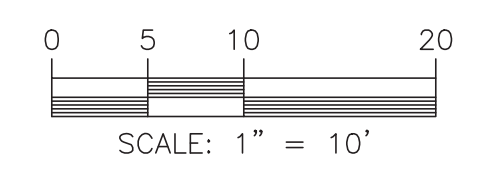
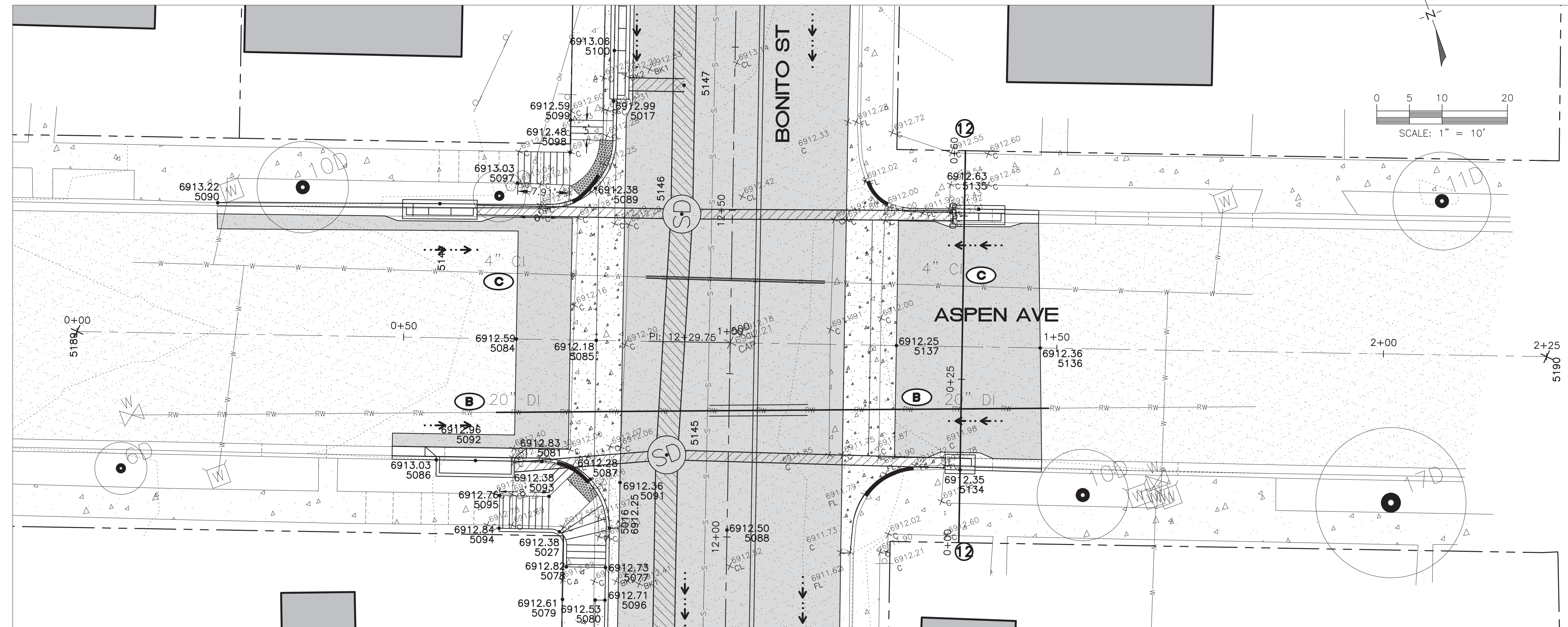
BONITO STREET

STORM DRAIN LATERAL PROFILES

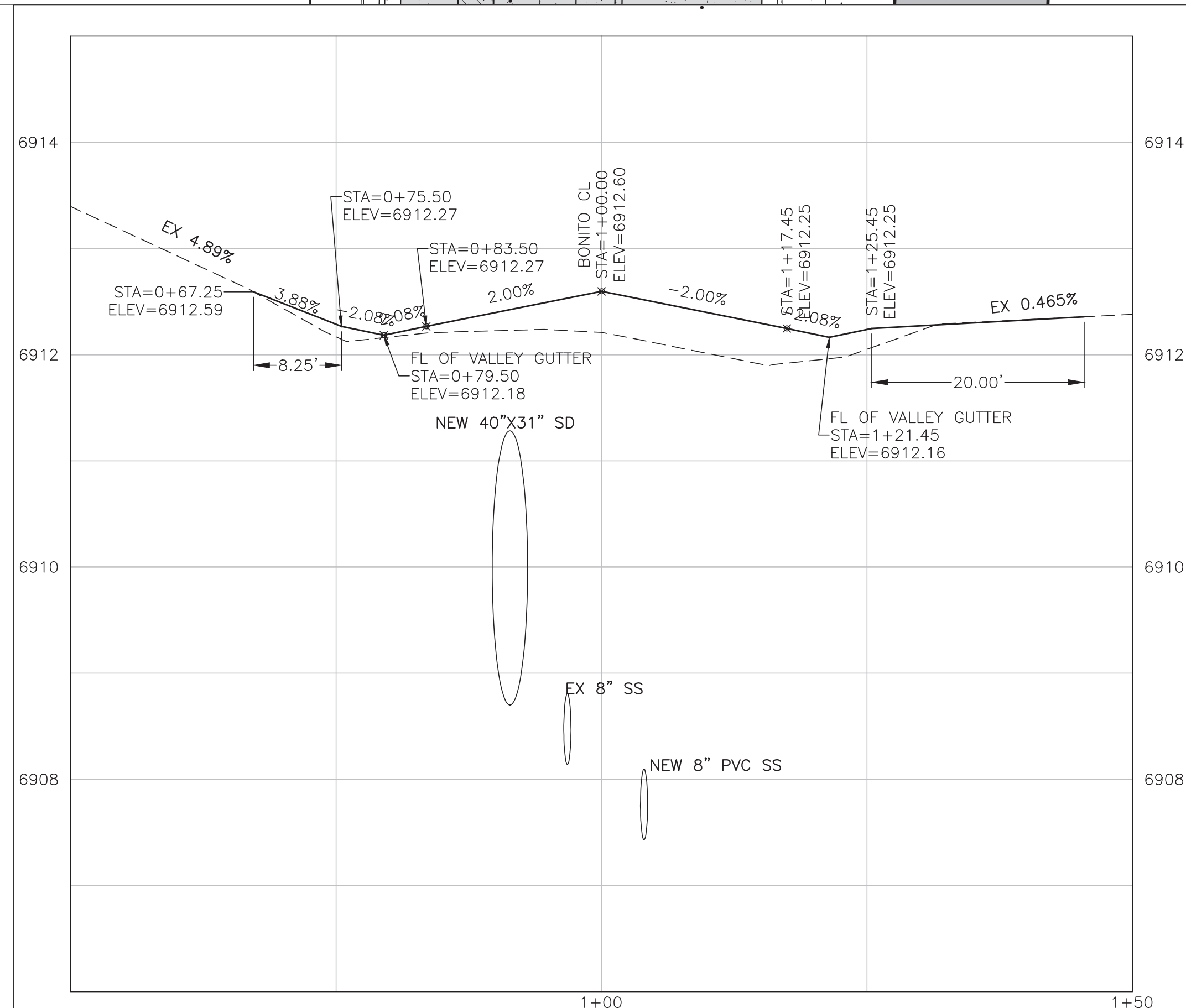
HOR SCALE: 1"=20'
VERT SCALE: 1"=2'

DATE: 3/9/15
PROJECT NO.: 113801
AGENCY NO.: 03-13012
SHEET NO.: 17 OF 22

DESIGNED BY: AAS
DRAWN BY: AAS
CHECKED BY: RLS



POINT TABLE				
POINT NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION
5016	4307.70	9715.11	6912.25	FL
5017	4368.89	9738.04	6912.99	boc
5027	4309.77	9707.71	6912.38	SW
5077	4302.23	9712.47	6912.73	BOC
5078	4304.38	9706.87	6912.82	SW
5079	4299.89	9704.62	6912.61	SW-ME
5080	4298.10	9709.28	6912.53	SW
5081	4320.80	9708.87	6912.83	BOC
5084	4339.77	9711.61	6912.59	CL-ME
5085	4335.38	9723.04	6912.18	FL
5086	4326.57	9693.77	6913.03	BOC-ME
5087	4315.74	9714.89	6912.28	FL
5088	4301.26	9731.91	6912.50	CL
5089	4357.30	9730.88	6912.38	FL
5090	4375.01	9675.79	6913.22	BOC-ME
5091	4313.69	9719.01	6912.36	SE
5092	4324.43	9699.37	6912.96	BOC-CB
5093	4315.42	9708.07	6912.38	SW
5094	4313.46	9699.22	6912.84	SW-ME
5095	4318.13	9701.01	6912.76	SW-ME
5096	4297.57	9710.68	6912.71	BOC
5097	4362.13	9719.94	6913.03	SW-ME
5098	4363.79	9729.12	6912.48	SW
5099	4368.42	9730.90	6912.59	SW-ME
5100	4376.13	9740.81	6913.06	BOC-CB
5134	4297.71	9768.58	6912.35	BOC-CB
5135	4334.22	9784.93	6912.63	BOC-CB
5136	4311.04	9786.50	6912.36	CL-ME
5137	4318.92	9765.93	6912.25	CL
5189	4363.85	9648.82	0.00	CL
5190	4283.28	9858.90	0.00	CL



ASPEN CENTERLINE

H: 1"=10'
V: 1"=1'

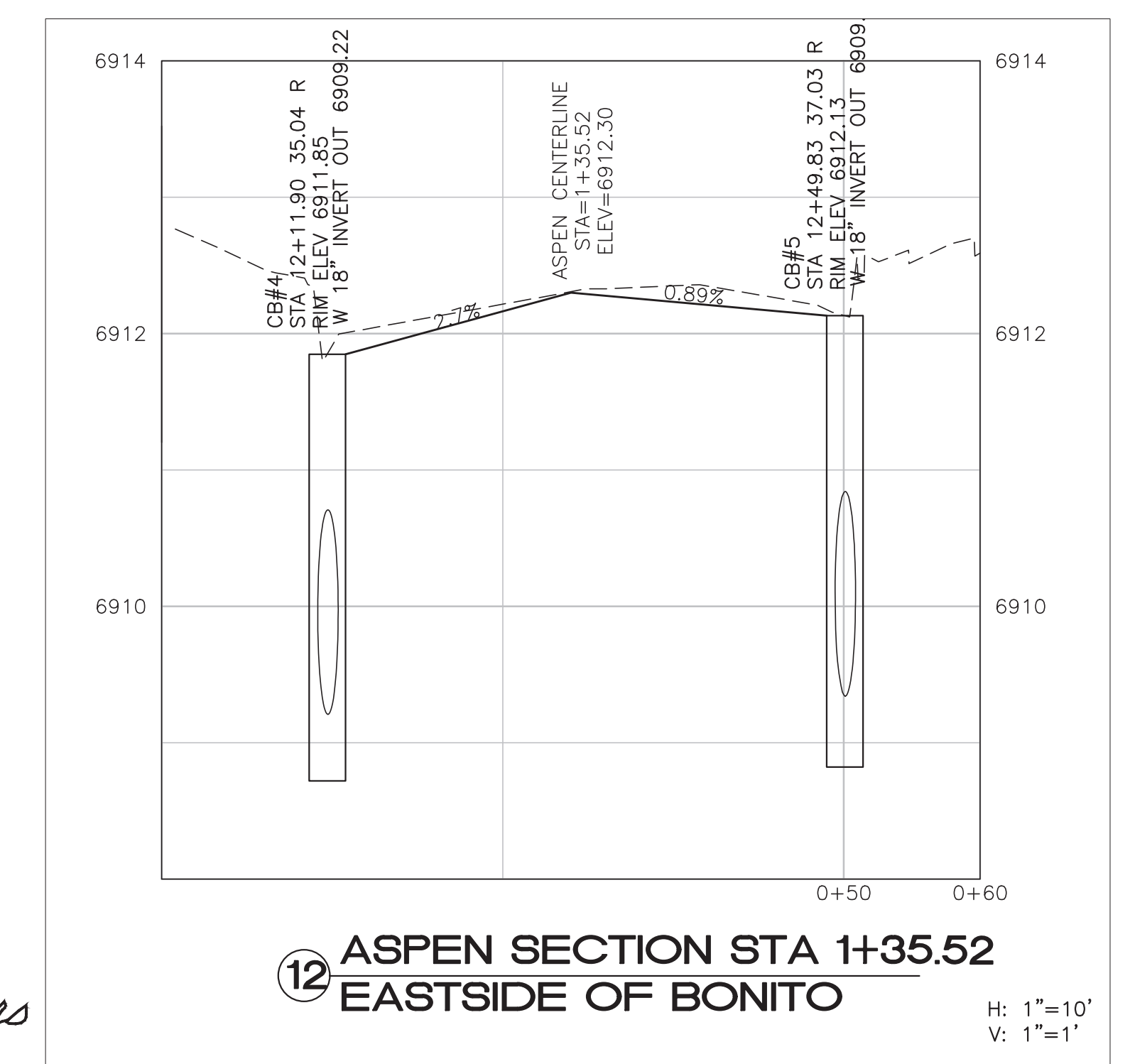
AS-BUILT DRAWINGS

DATE: 3/28/16
BY: Alicia Stoffers, PE

WOODSON
ENGINEERING AND SURVEYING, INC.
124 N. ELDEN DR.,
FLAGSTAFF, AZ 86001
PHONE NO. (928) 774-4636

Alicia Stoffers
EXPIRES 9/30/2016

PER PLAN



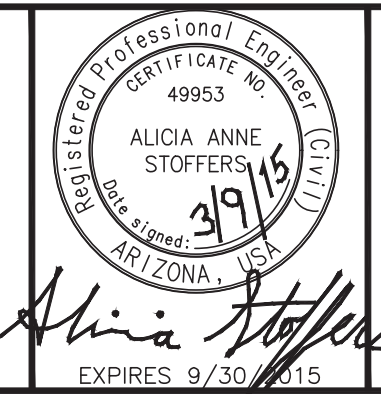
12 ASPEN SECTION STA 1+35.52 EASTSIDE OF BONITO

H: 1"=10'
V: 1"=1'



REVISIONS:

NO.	DATE	DESCRIPTION



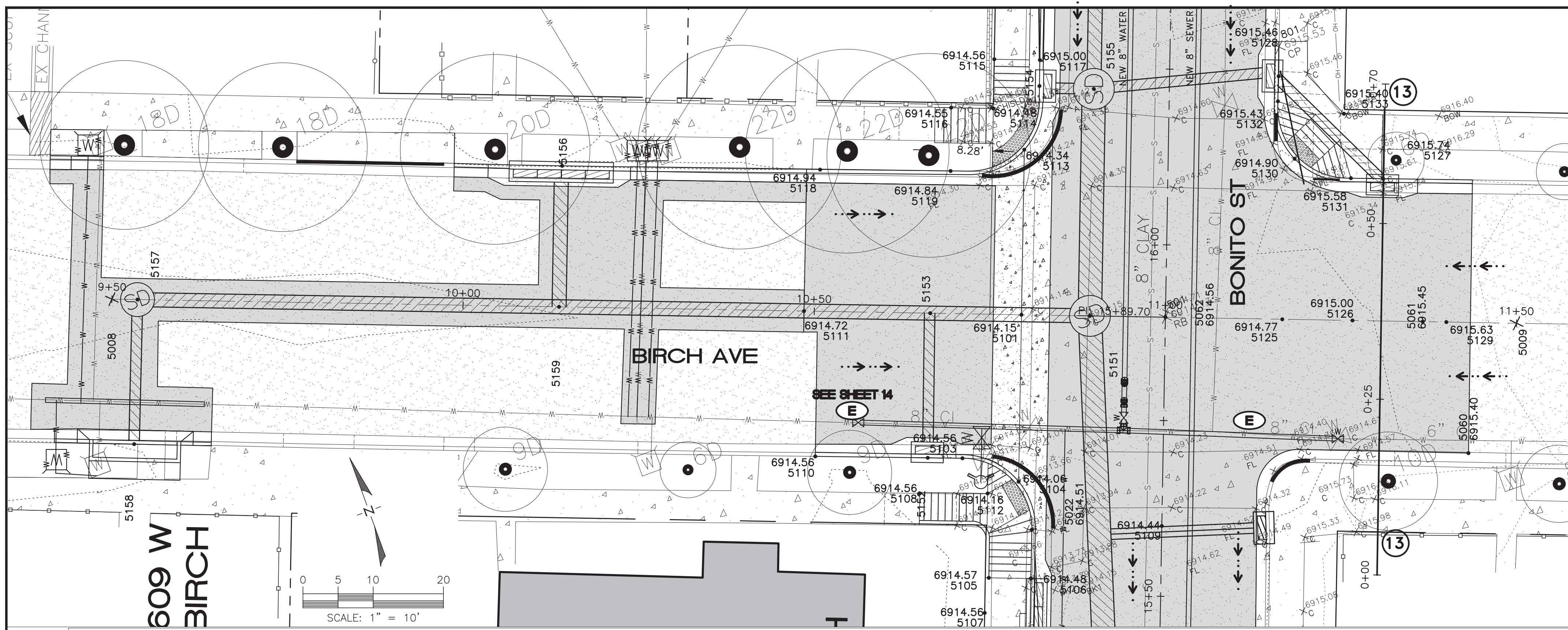
WOODSON
ENGINEERING AND SURVEYING, INC.
124 N. ELDEN ST.
FLAGSTAFF, AZ 86001
PHONE: (928) 774-4636 FAX: (928) 774-4646

BONITO STREET

ASPEN AVE
INTERSECTION

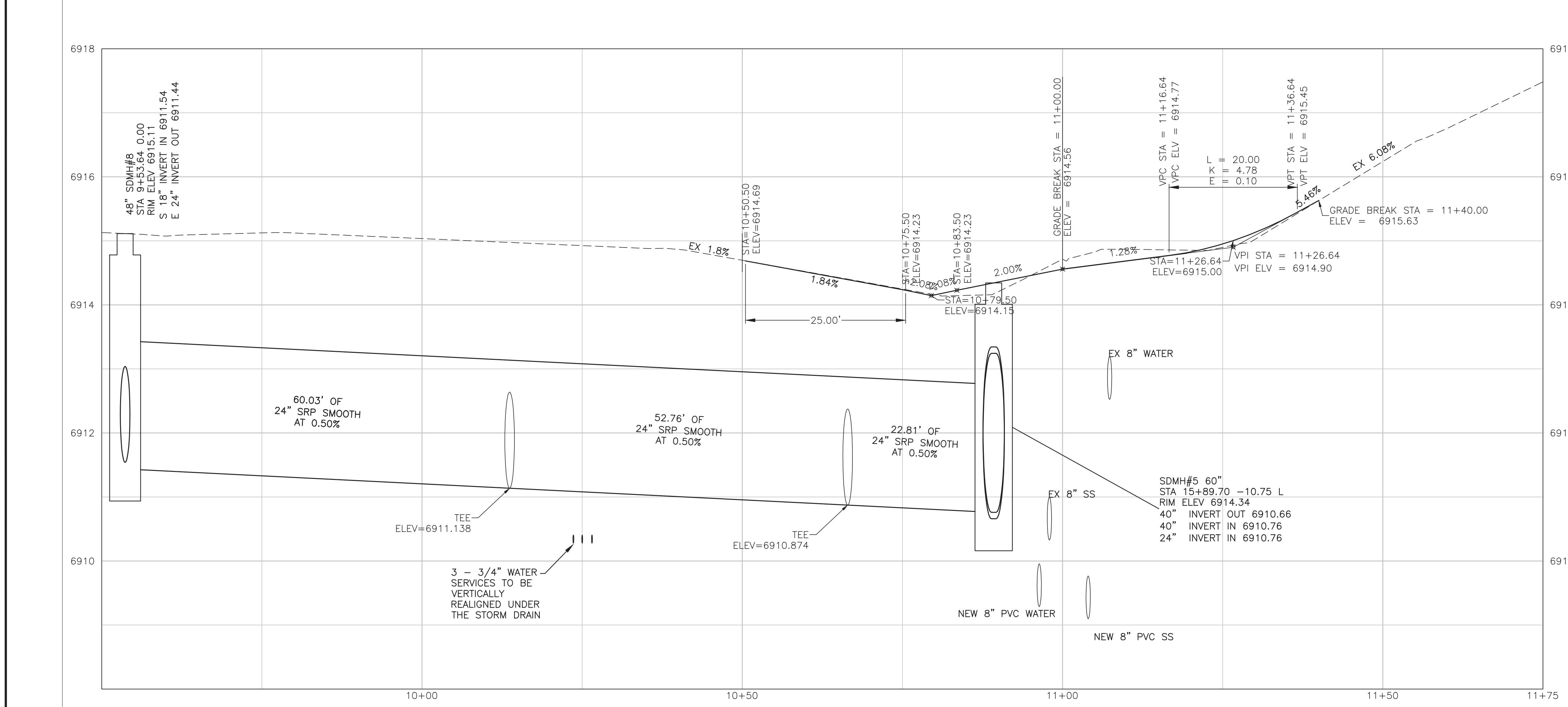
HOR SCALE: 1"=20'
VERT SCALE: 1"=2'
DATE: 3/9/15
PROJECT NO.: 113801
AGENCY NO.: 03-13012
SHEET NO.: 18 OF 22

DESIGNED BY: AAS
DRAWN BY: AAS
CHECKED BY: RLS



POINT NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION
5022	4642.21	9842.86	6914.51	fl
5060	4631.20	9905.01	6915.40	ME LIP
5061	4651.00	9905.29	6915.45	CL -VPT
5062	4664.12	9871.08	6914.56	FG
5101	4671.46	9851.94	6914.15	FL
5103	4655.15	9837.07	6914.56	BOC
5104	4649.28	9843.43	6914.06	FL
5105	4637.88	9834.78	6914.57	SW
5106	4635.74	9840.37	6914.48	BOC
5107	4633.39	9832.52	6914.56	SW-ME
5108	4652.53	9829.65	6914.56	SW-ME
5109	4636.39	9860.44	6914.44	CL
5110	4662.57	9817.47	6914.56	BOC-ME
5111	4682.53	9823.04	6914.72	CL
5112	4649.22	9838.72	6914.16	SW
5113	4693.39	9860.36	6914.34	FL
5114	4700.41	9858.21	6914.48	SW-ME
5115	4706.94	9860.74	6914.56	SW-ME
5116	4702.56	9852.61	6914.55	SW-ME
5117	4704.61	9866.81	6915.00	BOC

POINT NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION
5118	4700.66	9832.07	6914.94	BOC-ME
5119	4694.13	9849.45	6914.84	BOC
5125	4658.15	9886.61	6914.77	CL-VPC
5126	4654.58	9895.95	6915.00	CL VPI
5127	4672.04	9906.95	6915.74	BOC-CB
5128	4690.83	9897.95	6915.46	BOC-CB
5129	4649.79	9908.43	6915.63	CL-ME
5130	4679.01	9896.08	6914.90	FL
5131	4673.67	9902.66	6915.58	BOC
5132	4687.51	9896.64	6915.43	BOC
5133	4682.63	9904.87	6915.40	SE-ME

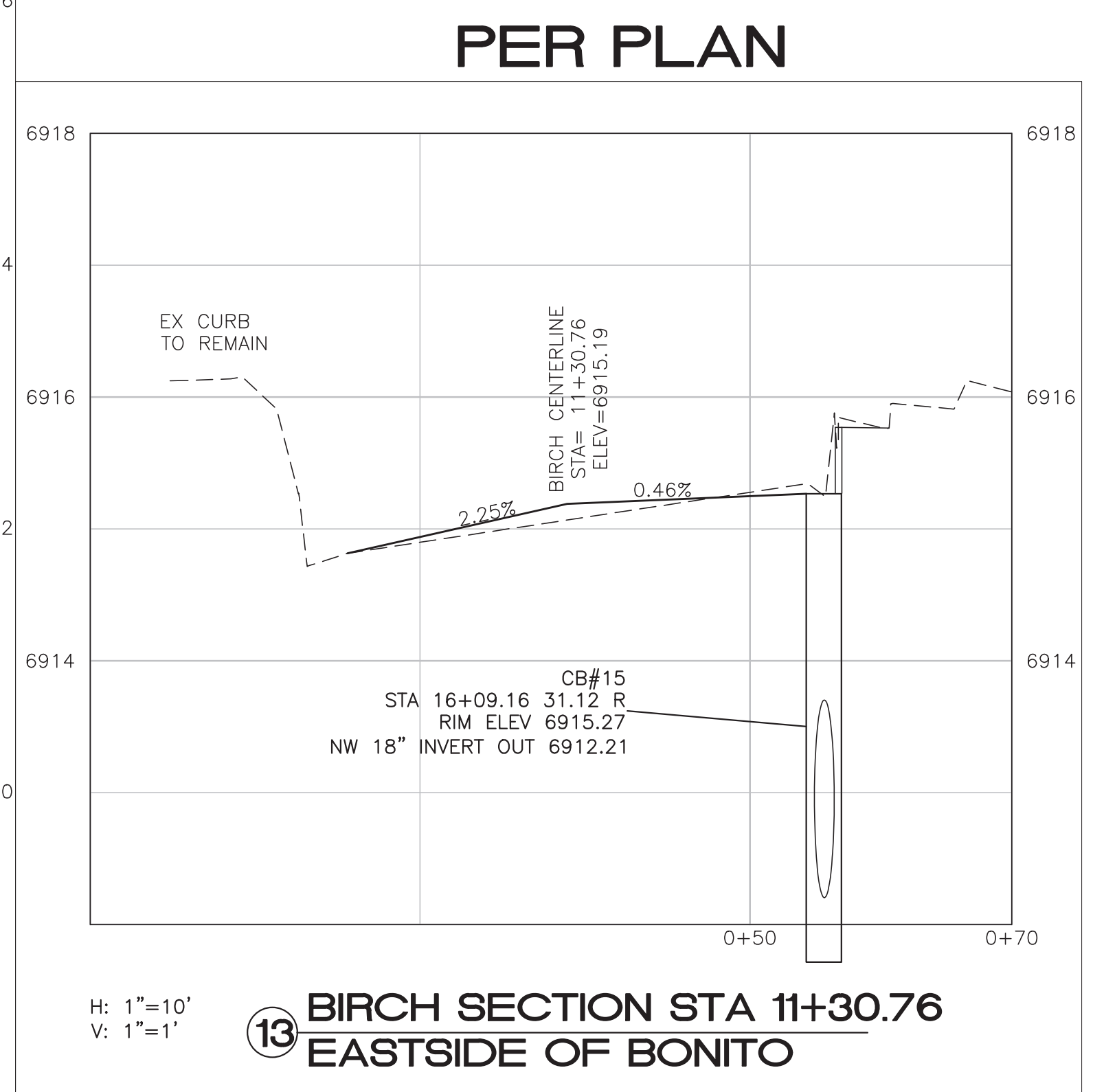


AS-BUILT DRAWINGS

DATE: 3/28/16
 BY: Alicia Stoffers, PE

WOODSON
 ENGINEERING AND SURVEYING, INC.
 124 N. ELDEN DR.,
 FLAGSTAFF, AZ 86001
 PHONE NO. (928) 774-4636

Alicia Stoffers
EXPIRES 9/30/2016



BIRCH CENTERLINE

H: 1"=10'
V: 1"=1'

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 1-800-782-5348
 (OUTSIDE MARICOPA COUNTY)

REVISIONS:

NO.	DESCRIPTION

Alicia Stoffers
EXPIRES 9/30/2015

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 ENGINEERING AND SURVEYING, INC.

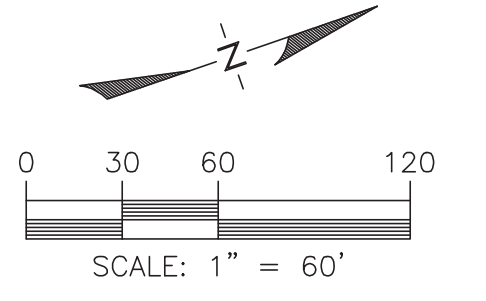
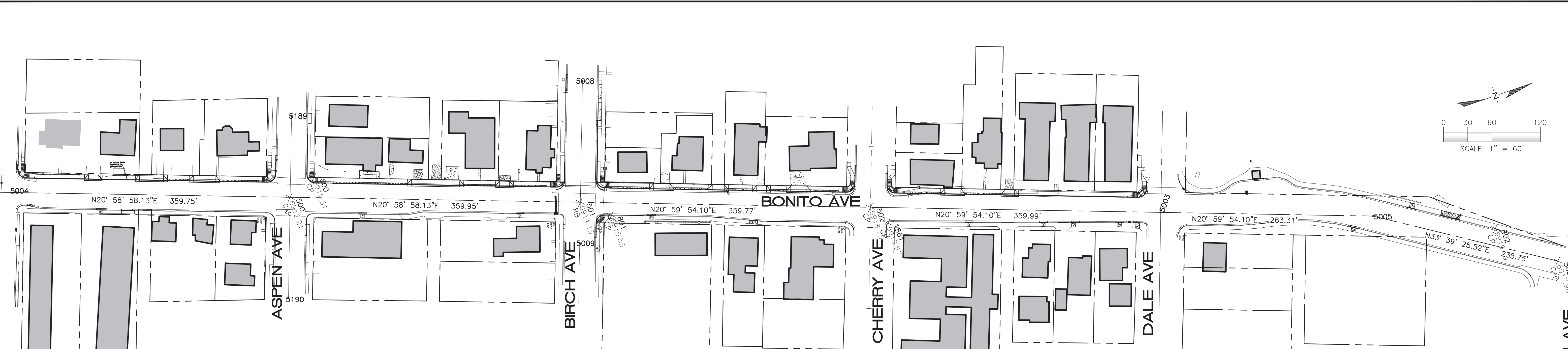
124 N. ELDEN ST.
 FLAGSTAFF, AZ 86001
 PHONE: (928) 774-4636 FAX: (928) 774-4646

BONITO STREET

BIRCH AVE INTERSECTION

HOR SCALE: 1"=20'
VERT SCALE: 1"=2'
DATE: 3/9/15
PROJECT NO.: 113801
AGENCY NO.: 03-13012
SHEET NO.: 19 OF 22

113801
WOODSON ENGINEERING AND SURVEYING, INC.
 124 N. ELDEN ST. • FLAGSTAFF, AZ 86001 • PHONE: (928) 774-4636 FAX: (928) 774-4646
 3/9/15
 BONITO ST. IMPROVEMENT PLANS
 CITY OF FLAGSTAFF
 CONSTRUCTION PLANS
 DESIGNED BY: AAS
 DRAFTER BY: AAS
 CHECKED BY: RLS



CENTERLINE CONTROL

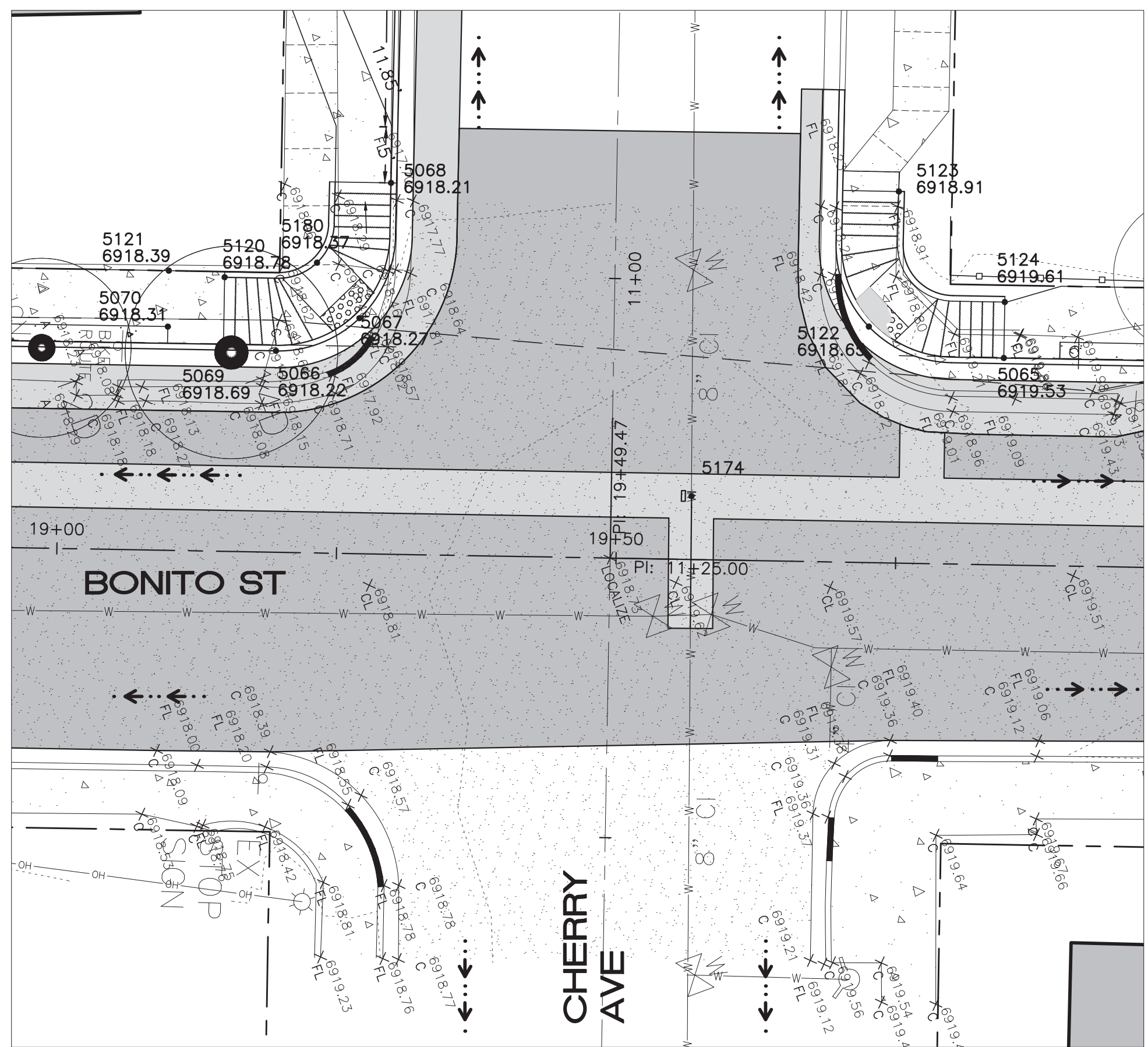
1"=60'

CONTROL POINTS				
POINT NO.	NORTHING	EASTING	DESCRIPTION	
5003	5336.09	10129.00	CL	
5004	4010.82	9620.52	CL	
5005	5581.91	10223.36	CL	
5008	4717.83	9731.02	BIRCH CL	
5009	4646.21	9917.76	CL	
5189	4363.85	9648.82	CL	
5190	4283.28	9858.90	CL	

CONTROL POINT TABLE				
POINT NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION
500	4328.04	9742.18	6912.21	AC "LS 25083"
501	4664.12	9871.08	6914.13	1/2" REBAR IN HH
502	5000.00	10000.00	6918.73	1/2" REBAR IN HH
503	5778.15	10354.02	6917.98	2" AC IN HH

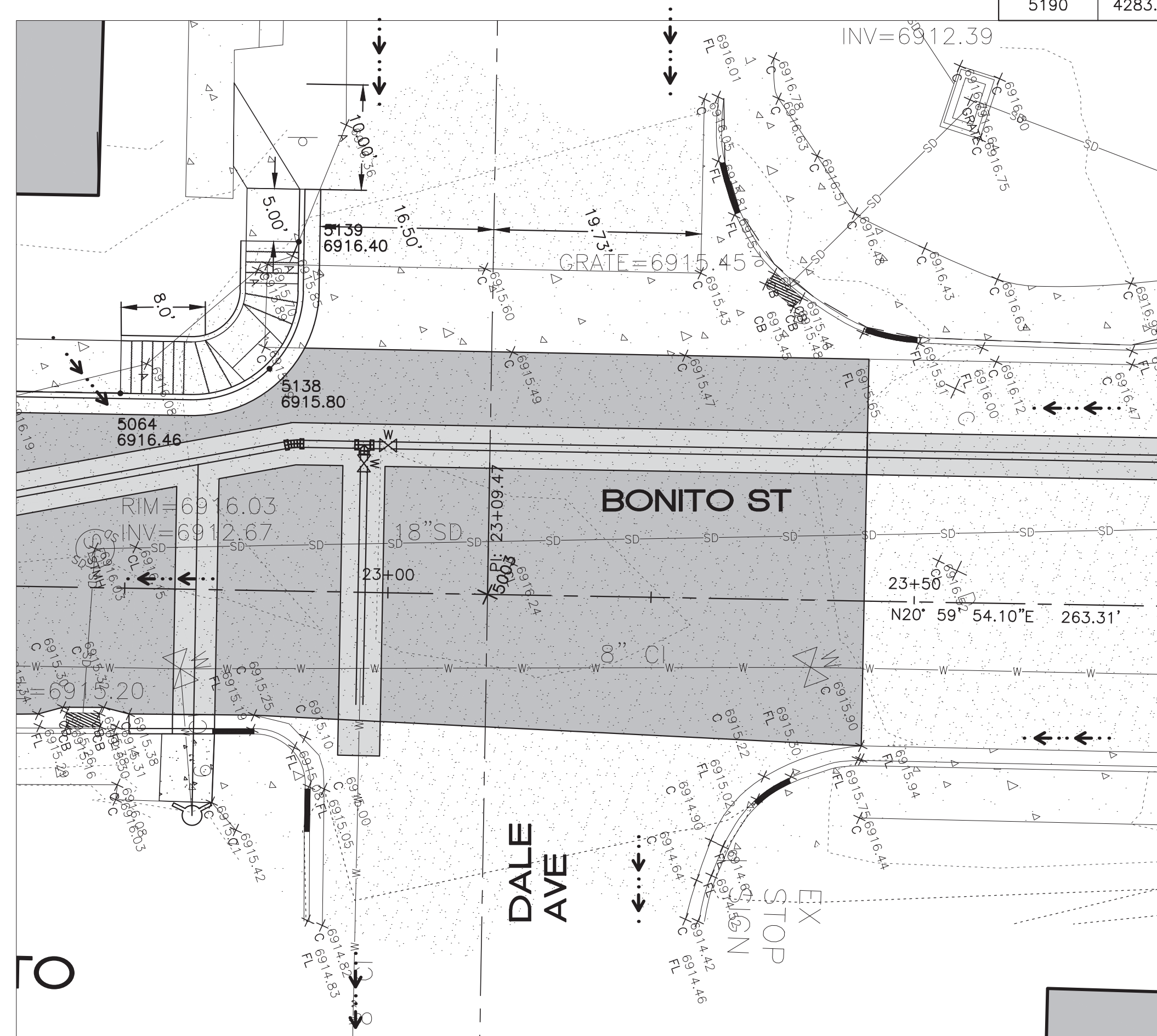
SURVEY NOTES

FIELD MEASUREMENTS USED TO PREPARE THIS MAP WERE MADE IN AUGUST, 2013.
 BASIS OF BEARINGS: DERIVED FROM GPS OBSERVATIONS
 BASIS OF ELEVATIONS: NAVD 88
 GPS OBSERVATIONS MADE UTILIZING CORS STATION: NAU FLAGSTAFF CORS ARP: PID - DL1882
 NAD 83(2011) POSITION: 35° 10' 38.30178" N
 111° 39' 25.29096" W
 NAVD 88 ORTHO HEIGHT: 6929.1 FEET



CHERRY INTERSECTION

1"=10'



DALE INTERSECTION

1"=10'

GRADING CONTROL POINTS

POINT TABLE				
POINT NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION
5064	5309.86	10099.12	6916.46	BOC
5065	5039.19	9995.23	6919.53	BOC
5066	4978.26	9972.38	6918.22	FL
5067	4986.27	9972.18	6918.27	FL-HP
5068	4993.06	9961.78	6918.21	BOC-ME
5069	4974.04	9970.22	6918.69	BOC
5070	4969.91	9967.03	6918.31	SW
5120	4976.19	9964.62	6918.78	SW
5121	4971.71	9962.36	6918.39	SW-ME
5122	5028.81	9988.47	6918.65	FL
5123	5035.46	9978.03	6918.91	SW-ME
5124	5040.98	9990.56	6919.61	SW
5138	5323.96	10101.77	6915.80	FL
5139	5330.71	10091.39	6916.40	BOC
5180	4984.40	9966.21	6918.37	SW

AS-BUILT DRAWINGS

DATE: 3/28/16
 BY: Alicia Stoffers, PE

WOODSON
 ENGINEERING AND SURVEYING, INC.
 124 N. ELDEN DR.
 FLAGSTAFF, AZ 86001
 PHONE NO. (928) 774-4636

Alicia Stoffers
 EXPIRES 9/30/2021

113801

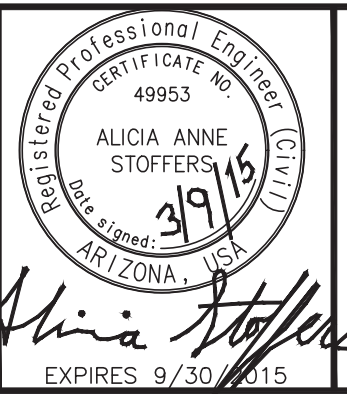
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3/9/15

BONITO ST. IMPROVEMENT PLANS
 CITY OF FLAGSTAFF
 CONSTRUCTION PLANS



REVISIONS:



WOODSON
 ENGINEERING AND SURVEYING, INC.
 124 N. ELDEN ST.
 FLAGSTAFF, AZ 86001
 PHONE: (928) 774-4636 FAX: (928) 774-4646

BONITO STREET

CONTROL SHEET

HOR SCALE: 1"=20'
VERT SCALE: 1"=2'
DATE: 3/9/15
PROJECT NO.: 113801
AGENCY NO.: 03-13012
SHEET NO.: 20 OF 22

DESIGNED BY: AAS
 DRAFTER BY: AAS
 CHECKED BY: RLS

LEGEND

- RIGHT-OF-WAY
- (B) [Symbol] STORM DRAIN INLET PROTECTION
- [Symbol] DUST CONTROL, BMP 43-46
- SEDIMENT LOG

CONSTRUCTION SEQUENCING:

EROSION CONTROL SILT FENCE PER PLAN AND STABILIZED CONSTRUCTION ENTRANCES AT ALL CONSTRUCTION ENTRANCES TO THE SITE.

- SITE CLEARING.
- GENERAL SITE GRADING AND UTILITY INSTALLATIONS.
- SEED/SOD STABILIZATION WITHIN TWO WEEKS AFTER COMPLETION OF FINAL GRADING OR DISTURBANCE.
- REMOVE CONSTRUCTION SEDIMENT FROM DETENTION STORAGE AREAS AND STORM SEWER AS NECESSARY TO RE-ESTABLISH SITE TO SPECIFICATIONS INDICATED ON THE PLAN.
- AFTER STABILIZATION, REMOVE SILT FENCE WITH MINIMAL DISTURBANCE.

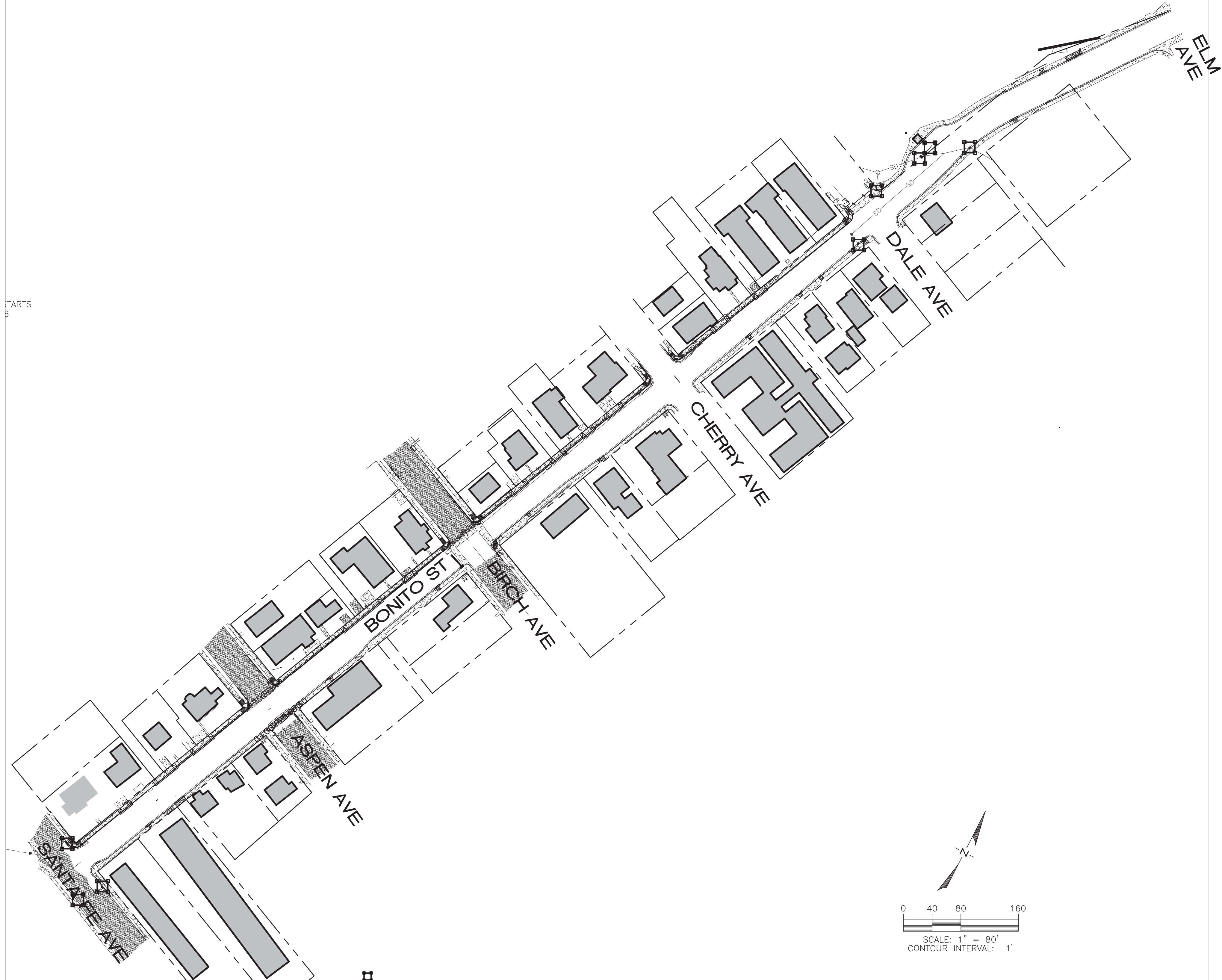
SWPPP CONSTRUCTION NOTES:

1. DUST CONTROL WILL BE ACHIEVED ACCORDING TO BMP STANDARDS AS SHOWN ON THE DETAIL BMP 43-46 ON SHEET 17.
2. ALL SUBCONTRACTORS WILL BE RESPONSIBLE FOR CLEANOFF OF MUD OR DIRT PRIOR TO ENTRY ONTO CITY STREETS.
3. NO MAINTENANCE OF VEHICLES WILL BE DONE ONSITE.
4. A FENCED YARD FOR EQUIPMENT WILL BE MAINTAINED AT THE SITE. SUBCONTRACTORS WILL FURNISH FENCE TO MAINTAIN SUPPLIES AND MINIMIZE WIND BLOWING DEBRIS. ALL DEBRIS TO BE PICKED UP ON A DAILY BASIS.
5. ANY GAS OR OIL SPILLED WILL REQUIRE IMMEDIATE NOTIFICATION TO OWNER AND APPROPRIATE CLEAN-UP. ANY CONTAMINATED SOIL SHALL BE HAULED TO HAZARDOUS WASTE LOCATION.

NOTE:
INLET PROTECTION SHALL BE PROVIDED FOR ALL STORM DRAIN(S) DURING CONSTRUCTION TO ENSURE THEY ARE NOT SILTED IN. PROVIDE INLET SEDIMENT CONTROL WITH CURB FILTER PER DETAIL ON SHEET 17.

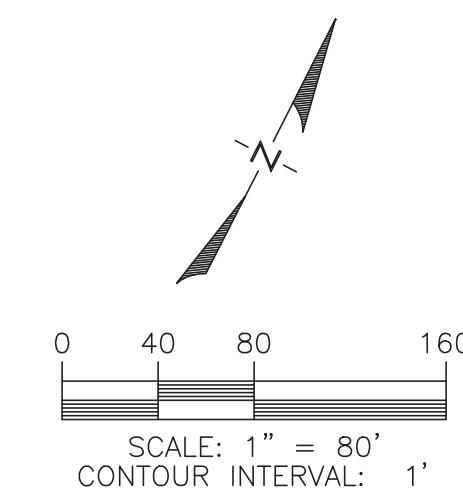
OWNER/DEVELOPER

SIGNATURE OF PERMITEE/CONTRACTOR _____ DATE _____



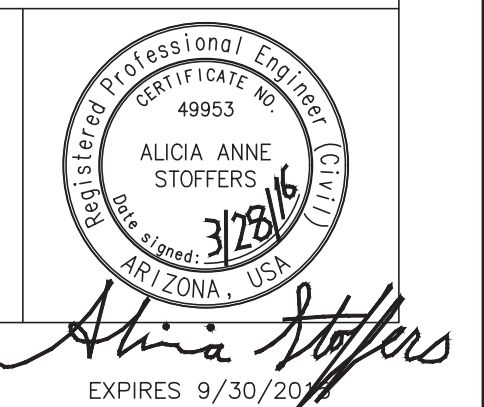
NOTES FOR STORMWATER POLLUTION PREVENTION PLAN

1. A COPY OF THE APPROVED GRADING & DRAINAGE PLAN FOR THIS PROJECT, TOGETHER WITH A COPY OF THE NOTICE OF INTENT (NOI) AND THIS STORM WATER POLLUTION PREVENTION PLAN (SWPPP), SHALL BE MAINTAINED ON THE SITE AND AVAILABLE FOR REVIEW. THOSE ELEMENTS OF THE GRADING & DRAINAGE PLAN PERTINENT TO OR REFERENCED ON THE SWPPP SHALL BE CONSIDERED A PART OF THE SWPPP. OPERATOR SHALL POST A SIGN INDICATING THE AZPDES NOI AUTHORIZATION OR NUMBER, CONTACT NAMES AND PHONE NUMBERS AND A BRIEF PROJECT DESCRIPTION.
2. THE PERMITEE SHALL MAINTAIN RECORDS OF DATES WHEN MAJOR GRADING OPERATIONS OCCUR, AND WHEN STABILIZATION IS INITIATED AND COMPLETED. INDICATE ANY REASON FOR DELAYS.
3. THE PERMITEE SHALL PERFORM, AT A MINIMUM, A VISUAL INSPECTION OF THE CONSTRUCTION SITE ONCE EVERY 14 DAYS AND WITHIN 24 HOURS OF RAINFALL GREATER THAN OR EQUAL HALF AN INCH OR MORE. THE OPERATOR SHALL PREPARE A REPORT DOCUMENTING HIS/HER FINDINGS ON PROBLEM AREAS. SEE SWPPP CHECKLIST, PART IV, H.5 FOR INSPECTION REPORT REQUIREMENTS. THE OPERATOR'S REPORT IS TO BE MAINTAINED ON THE SITE. FACILITIES SHALL BE MAINTAINED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTIONING. IN ADDITION, ALL TEMPORARY SILTATION CONTROLS SHALL BE MAINTAINED IN A SATISFACTORY CONDITION UNTIL SUCH TIME THAT CLEARING AND/OR CONSTRUCTION IS COMPLETE, PERMANENT DRAINAGE FACILITIES ARE OPERATIONAL, AND THE POTENTIAL FOR EROSION HAS BEEN MINIMIZED BY SITE STABILIZATION ACCORDING TO THE PROJECT CONSTRUCTION PLANS.
4. ALL SEDIMENT ACCUMULATED AT SILTATION CONTROLS, INCLUDING DETENTION BASINS, SHALL BE REMOVED AFTER EACH RAINFALL EVENT.
5. THE PERMITEE SHALL AMEND THIS PLAN WITHIN TWO WEEKS AS NECESSARY DURING THE COURSE OF CONSTRUCTION TO RESOLVE ANY PROBLEM AREAS WHICH BECOME EVIDENT DURING THE CONSTRUCTION AND/OR DURING RAINFALLS OR TO ADDRESS ANY CHANGES IN DESIGN OR PROJECT SCOPE.
6. THE PERMITEE SHALL FILE A NOTICE OF TERMINATION (NOT) AFTER COMPLETION OF CONSTRUCTION AND PLACEMENT OF FINAL LANDSCAPE MATERIALS. THE NOT IS TO BE SUPPLIED TO THE DEVELOPMENT SERVICES DEPARTMENT PROJECT ENGINEERING INSPECTOR TO FINAL THE SWPPP PERMIT.
7. THE PERMITEE SHALL SAVE ALL RECORDS, INCLUDING THE NOI, SWPPP AND NOT AND INSPECTION REPORTS ON FILE FOR A MINIMUM OF THREE (3) YEARS FROM THE DATE OF FILING THE NOT.
8. THE IMPLEMENTATION OF THESE PLANS AND CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE FACILITIES IS THE RESPONSIBILITY OF THE PERMITEE/CONTRACTOR UNTIL ALL CONSTRUCTION IS APPROVED AND THE NOT SUBMITTED.
9. THE FACILITIES SHOWN ON THIS PLAN MUST BE CONSTRUCTED IN CONJUNCTION WITH ALL CLEARING ACTIVITIES IN SUCH A MANNER AS TO INSURE THAT SEDIMENT-LADEN WATER DOES NOT ENTER THE DRAINAGE SYSTEM OR VIOLATE APPLICABLE WATER STANDARDS. AND MUST BE INSTALLED AND IN OPERATION PRIOR TO ANY GRADING, UTILITY INSTALLATION OR LAND CLEARING, WHEREVER POSSIBLE, MAINTAIN NATURAL VEGETATION FOR SILT CONTROL BUFFERS.
10. THE PERMITEE'S/CONTRACTOR'S NOI MUST BE RECEIVED PRIOR TO THE SWPPP PERMIT BEING ISSUED. THE OPERATOR/CONTRACTOR THAT WILL BE PULLING THE GRADING & DRAINAGE PERMIT MUST HAVE THE SWPPP PERMIT ISSUED IN THE NAME.



AS-BUILT DRAWINGS

DATE: 3/28/16
BY: Alicia Stoffers, PE
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Alicia Stoffers
EXPIRES 9/30/2016

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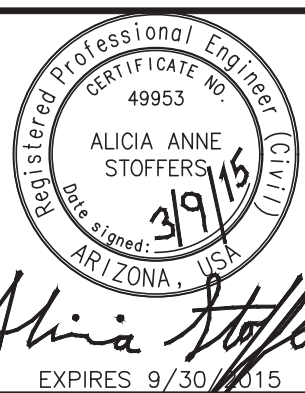
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3/9/15

BONITO ST. IMPROVEMENT PLANS
CITY OF FLAGSTAFF
CONSTRUCTION PLANS



REVISIONS:



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BONITO STREET

SWPPP

HOR SCALE: 1"=20'
VERT SCALE: 1"=2'
DATE: 3/9/15
PROJECT NO.: 113801
AGENCY NO.: 03-13012
SHEET NO.: 21 OF 22

DESIGNED BY: AAS
DRAWN BY: AAS
CHECKED BY: RLS

SYMBOL D.C. **DUST CONTROL BMP-43** FLOOD CONTROL DISTRICT OF MARICOPA COUNTY 1 OF 4

DIAGRAM **CONDITIONS WHERE PRACTICE APPLIES**

- PERMETER CONTROL
- SLOPE PROTECTION
- SEDIMENT TRAPPING
- DRAINAGE WAY & STREAM PROTECTION
- TEMPORARY STABILIZATION
- PERMANENT STABILIZATION & EXPOSURE LIMITS
- NON-SEDIMENT POLLUTION CONTROL

DEFINITION

A COMPREHENSIVE PLAN TO LIMIT OFF-SITE SEDIMENTATION BY CONTROLLING THE SITES POTENTIAL FOR PRODUCING AIR BORNE FUGITIVE DUST AND TRACK-OUT OF SEDIMENTS.

PURPOSE

SEDIMENTS WHICH ARE TRANSPORTED FROM CONSTRUCTION SITES BY STORMWATER RUNOFF, WIND, EROSION AND VEHICLE TRACKOUT ARE OFTEN RE-DISPERSED TO THE AIR BY SUBSEQUENT VEHICULAR TRAFFIC AND HIGH WINDS. LIKEWISE, THESE SEDIMENTS MAY BE TRANSPORTED BY THE NEXT RAINFALL INTO PUBLIC STORM SEWER SYSTEMS. IMPLEMENTATION OF CONTROL MEASURES TO MINIMIZE THE GENERATION OF FUGITIVE DUST FROM CONSTRUCTION SITES WILL ALSO LIMIT QUANTITY OF SEDIMENTS IN STORMWATER.

APPROPRIATE APPLICATIONS

PRIMARY SOURCES OF DUST FROM DEVELOPMENT AND CONSTRUCTION ACTIVITIES ARE:

- GRADING OPERATIONS (LAND CLEARING AND EARTHMOVING)
- DRILLING AND BLASTING
- BATCH DROP OPERATIONS (LOADER OPERATION)
- EXPOSED AREAS, CLEARED UNSTABILIZED AREA
- VEHICLE TRAFFIC ON UNPAVED SURFACES
- SEDIMENT TRACKING ON PAVED SURFACES
- BLASTING AND WRECKING BALL OPERATIONS
- SOIL AND DEBRIS STORAGE PILES

THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH THE REQUIREMENTS OF THE AIR POLLUTION CONTROL PERMIT. REFER TO APPENDIX D FOR ADDITIONAL INFORMATION ON DUST CONTROL IN MARICOPA COUNTY. THE DIVISION OF AIR POLLUTION CONTROL'S APPROACH TO REDUCE AIR POLLUTION FROM CONSTRUCTION SITES WILL BE TO REQUIRE:

SYMBOL D.C. **DUST CONTROL BMP-44** FLOOD CONTROL DISTRICT OF MARICOPA COUNTY 2 OF 4

DEFINITION

PERMITS REQUIRE THE USE OF REASONABLY AVAILABLE DUST CONTROL MEASURES. ENFORCE VISIBLE OPACITY EMISSION LIMITS TO DETERMINE COMPLIANCE REQUIRE DUST CONTROL PLANS FOR CONSTRUCTION OR LAND CLEARING PROJECTS. ENFORCEMENT ACTIVITIES WITH PRIORITY GIVEN TO CITIZEN COMPLAINTS REQUIRE CONTRACTORS TO MAINTAIN RECORDS.

PLANNING CONSIDERATIONS

MANY OF THE REASONABLY AVAILABLE CONTROL MEASURES FOR CONTROLLING FUGITIVE DUST FROM CONSTRUCTION SITES CAN ALSO BE IMPLEMENTED AS BEST MANAGEMENT PRACTICES FOR STORMWATER POLLUTION PREVENTION. THOSE BEST MANAGEMENT PRACTICES INCLUDE:

PAVE, VEGETATE, OR CHEMICALLY STABILIZE ACCESS POINTS TO PAVED ROADS. PROVIDE COVERS FOR TRUCKS TRANSPORTING MATERIALS THAT CONTRIBUTE DUST. PROVIDE FOR WET SUPPRESSION OR CHEMICAL STABILIZATION OF EXPOSED SOILS. PROVIDE FOR RAPID CLEANUP OF SEDIMENTS DEPOSITED ON PAVED ROADS. FURNISH STABILIZED CONSTRUCTION ROAD ENTRANCES AND VEHICLE WASH DOWN AREAS. STABILIZE UNPAVED HAUL ROADS, PARKING AND STAGING AREAS. IMPLEMENT DUST CONTROL, SEDIMENT-LADEN STORMWATER ONTO PAVED SURFACES. STABILIZE ABANDONED CONSTRUCTION SITE USING VEGETATION OR CHEMICAL STABILIZATION METHODS. LIMIT THE AMOUNT OF AREAS DISTURBED BY CLEARING AND EARTH MOVING OPERATIONS BY SCHEDULING THESE ACTIVITIES IN PHASES.

THE FOLLOWING TABLE, DUST CONTROL APPLICATION PROVIDES GUIDANCE ON THE APPROPRIATE BEST MANAGEMENT PRACTICES RECOMMENDED FOR TYPICAL FIELD OPERATIONS AND CONDITIONS. THERE ARE MANY PRODUCTS AVAILABLE AS DUST PALLIATIVES FOR CHEMICALLY STABILIZING GRAVEL ROADWAYS AND STOCKPILES. THE TYPES OF CHEMICALS AVAILABLE AND RECOMMENDATIONS FOR THEIR USE ARE TABULATED IN THE CHART OF COMMONLY USED DUST PALLIATIVES.

MAINTENANCE REQUIREMENTS

DUST CONTROL IS AN ONGOING PROCESS DURING SITE CONSTRUCTION. RE-APPLICATION OF DUST CONTROL MEASURE MAY BE NECESSARY UNTIL CONSTRUCTION IS COMPLETE.

SYMBOL D.C. **DUST CONTROL BMP-45** FLOOD CONTROL DISTRICT OF MARICOPA COUNTY 3 OF 4

FIELD CONDITION	PERMANENT VEGETATION	MULCHING	WET SUPPRESSION (WATERING)	CHEMICAL DUST SUPPRESSION	GRAVEL OR ASPHALT SURFACING	SAND FENCES	TEMPORARY GRAVEL CONSTRUCTION ENTRANCES/EQUIPMENT WASH DOWN	HAUL TRUCK COVERS	MINIMIZE EXTENT OF AREA DISTURBED
DISTURBED AREAS NOT SUBJECT TO TRAFFIC	X	X	X	X	X				
DISTURBED AREAS SUBJECT TO TRAFFIC			X	X	X				X
MATERIAL STOCK PILE STABILIZATION			X	X		X			
DEMOLITION			X	X			X	X	
CLEARING/EXCAVATION			X	X					X
TRUCK TRAFFIC ON UNPAVED ROADS			X	X	X			X	
MUD/DIRT CARRYOUT					X		X		

SYMBOL D.C. **DUST CONTROL BMP-46** FLOOD CONTROL DISTRICT OF MARICOPA COUNTY 4 OF 4

COMMONLY USED CHEMICAL DUST PALLIATIVES

CHEMICAL TYPES	SALTS		LIGNOSULFATES		BITUMENS	
	DELICUESCENT AND HYDROSCOPIC CHEMICALS	ORGANIC NON-BITUMINOUS BINDERS	CALCIUM LIGNOSULFONATE SODIUM LIGNOSULFONATE AMMONIUM LIGNOSULFONATE	PETROLEUM BASED PRODUCTS*		
LIMITATIONS	CAN LOSE EFFECTIVENESS IN DRY PERIODS WITH LOW HUMIDITY. LEACHES FROM ROAD IN HEAVY RAIN.	NOT AFFECTED BY DRY WEATHER AND LOW HUMIDITY. LEACHED FROM ROAD IN HEAVY RAIN IF NOT SUFFICIENTLY CURED.	BEST PERFORMANCE ON GRAVEL ROADS WITH HIGH SURFACE FINES (10-30%) AND DENSE COMPACT SURFACE WITH NO LOOSE GRAVEL.	BUNKER OIL ASPHALT PRIMER EMULSIFIED ASPHALT	GENERALLY EFFECTIVE REGARDLESS OF CLIMATE CONDITIONS MAY POTHOLE IN WET WEATHER.	
COMMENTS	CALCIUM CHLORIDE IS POPULAR, MAY BECOME GRAVEL SURFACES WITH HIGH FINES.	INEFFECTIVE ON GRAVEL SURFACES LOW IN FINES. MAY BECOME SLIPPERY WHEN WET ON GRAVEL SURFACES WITH HIGH FINES CONTENT.			CREATES A HARDENED CRUST.	

*MOTOR OILS AND OIL TREATMENTS ARE NOT RECOMMENDED DUE TO ADVERSE EFFECTS ON PLANT LIFE AND GROUNDWATER.
*NOT RECOMMENDED DUE TO ADVERSE EFFECTS ON PLANT LIFE.

SYMBOL I.P. **STORM DRAIN INLET PROTECTION BMP-69** FLOOD CONTROL DISTRICT OF MARICOPA COUNTY 1 OF 5

DIAGRAM **CONDITIONS WHERE PRACTICE APPLIES**

- PERMETER CONTROL
- SLOPE PROTECTION
- SEDIMENT TRAPPING
- DRAINAGE WAY & STREAM PROTECTION
- TEMPORARY STABILIZATION
- PERMANENT STABILIZATION & EXPOSURE LIMITS
- NON-SEDIMENT POLLUTION CONTROL

DEFINITION

A SEDIMENT FILTER OF AN EXCAVATED IMPOUNDING AREA AROUND A STORM DRAIN, DROP INLET OR CURB INLET.

PURPOSE

TO PREVENT SEDIMENT FROM ENTERING STORM DRAINAGE SYSTEMS PRIOR TO PERMANENT STABILIZATION OF THE DISTURBED AREA.

APPROPRIATE APPLICATIONS

WHERE STORM DRAIN INLETS ARE TO BE MADE OPERATIONAL BEFORE PERMANENT STABILIZATION OF THE DISTURBED DRAINAGE AREA. DIFFERENT TYPES OF STRUCTURES ARE APPLICABLE TO DIFFERENT CONDITIONS:

- FILTER FABRIC FENCE** - APPLICABLE WHERE THE INLET DRAINS A RELATIVELY SMALL (LESS THAN 1 ACRE) FLAT AREA (LESS THAN 5 PERCENT SLOPE). DO NOT PLACE FABRIC UNDER GRATE AS THE COLLECTED SEDIMENT MAY FALL INTO THE DRAIN WHEN THE FABRIC IS RETRIEVED.
- EXCAVATED DROP INLET SEDIMENT TRAP** - PROTECTION AGAINST SEDIMENT ENTERING A STORM DRAIN INLET CAN BE PROVIDED BY EXCAVATING AN AREA IN THE APPROACH TO THE DRAIN. THE DRAINAGE AREA FOR A DRAIN PROTECTED IN THIS MANNER IS ONE ACRE. PROVIDE WEEP HOLES TO DRAIN THE SHALLOW POOL.

• **ADVANTAGES:**

- INLET PROTECTION PREVENTS SEDIMENT FROM ENTERING THE STORM DRAIN SYSTEM AND CLOGGING IT.

SYMBOL I.P. **STORM DRAIN INLET PROTECTION BMP-70** FLOOD CONTROL DISTRICT OF MARICOPA COUNTY 2 OF 5

DEFINITION

PONDING WILL OCCUR AT THE INLET WITH POSSIBLE SHORT TERM FLOODING.

CURB INLETS ON SLOPES CANNOT BE EFFECTIVELY PROTECTED BECAUSE THE STORMWATER WILL BYPASS THE INLET AND CONTINUE DOWNGRADE.

FILTER FABRIC FENCES ARE LIMITED TO STORM DRAIN INLETS FOR SMALL DRAINAGE AREAS OF FIVE ACRES OR LESS. FOR LARGER DRAINAGE AREAS, SMALLER SEDIMENT CATCHMENT AREAS ARE RECOMMENDED.

PLANNING CONSIDERATIONS

WHERE STORM SEWERS ARE MADE OPERATIONAL BEFORE THEIR DRAINAGE AREA IS STABILIZED, OR WHERE CONSTRUCTION IS ADJACENT TO AN EXISTING STORM SEWER, LARGE AMOUNTS OF SEDIMENT MAY ENTER THE STORM SEWER SYSTEM. IN CASES OF EXTREME SEDIMENT LOADING, THE STORM SEWER ITSELF MAY CLOG AND LOSE A MAJOR PORTION OF ITS CAPACITY. TO AVOID THESE PROBLEMS, IT IS NECESSARY TO PREVENT SEDIMENT FROM ENTERING THE SYSTEM AT THE INLETS.

THIS PRACTICE CONTAINS SEVERAL TYPES OF INLET FILTERS AND TRAPS WHICH HAVE DIFFERENT APPLICATIONS DEPENDENT UPON SITE CONDITIONS AND TYPE OF INLET. OTHER INNOVATIVE TECHNIQUES FOR ACCOMPLISHING THE SAME PURPOSE ARE ENCOURAGED, BUT ONLY AFTER SPECIFIC PLANS AND DETAILS ARE SUBMITTED TO AND APPROVED BY THE LOCAL GOVERNMENT.

DESIGN AND SIZING CRITERIA

GRATES AND SPACES OF ALL INLETS SHOULD BE SECURED TO PREVENT SEEPAGE OF SEDIMENT-LADEN WATER. ALL INLET PROTECTION MEASURES SHOULD INCLUDE SEDIMENT Sumps OF 1 TO 2 FEET IN DEPTH AND WITH 2:1 SIDE SLOPES. INSTALLATION PROCEDURE FOR FILTER FABRIC FENCE:

- PLACE 2 INCH BY 2 INCH WOODEN STAKES AROUND THE PERIMETER OF THE INLET A MAXIMUM OF 3 FEET APART AND DRIVE THEM AT LEAST 8 INCHES INTO THE GROUND. THE STAKES MUST BE AT LEAST 3 FEET LONG.

SYMBOL I.P. **STORM DRAIN INLET PROTECTION BMP-71** FLOOD CONTROL DISTRICT OF MARICOPA COUNTY 3 OF 5

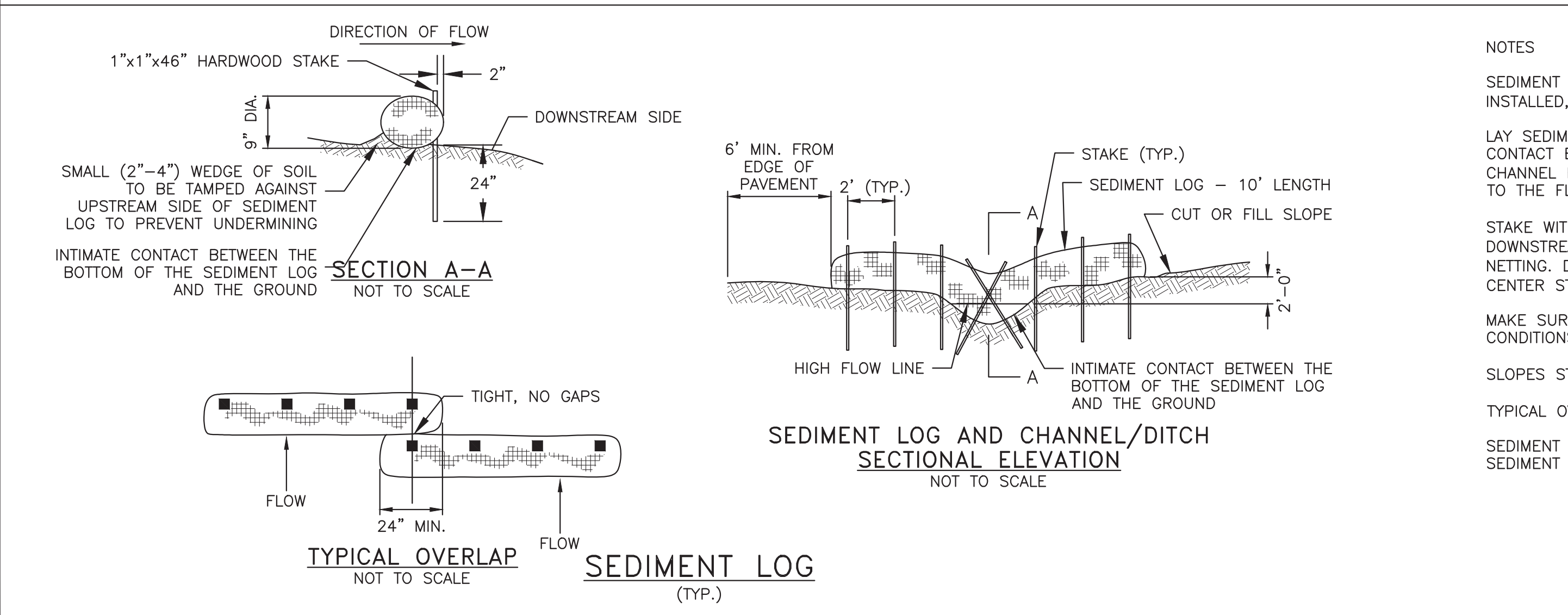
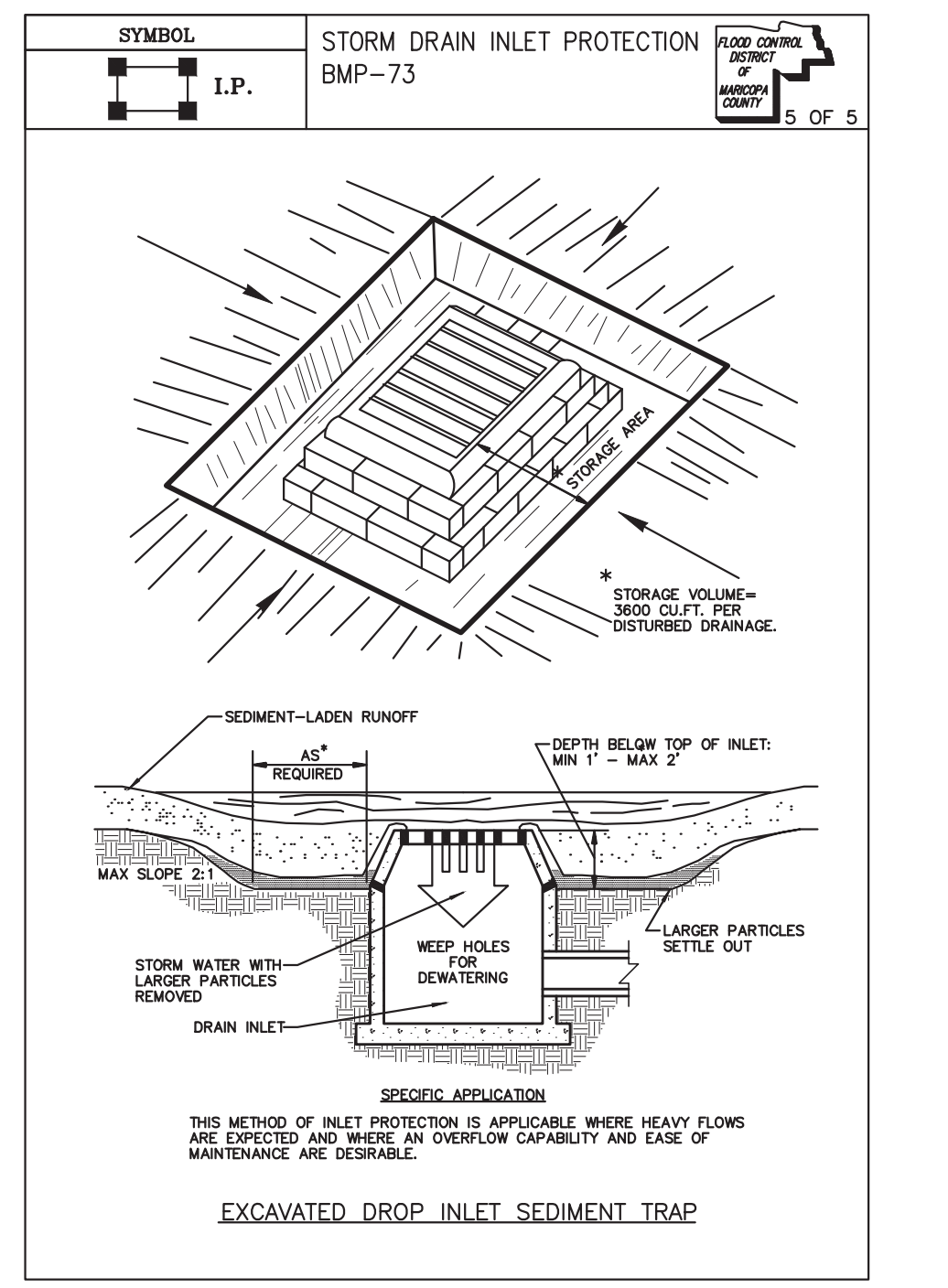
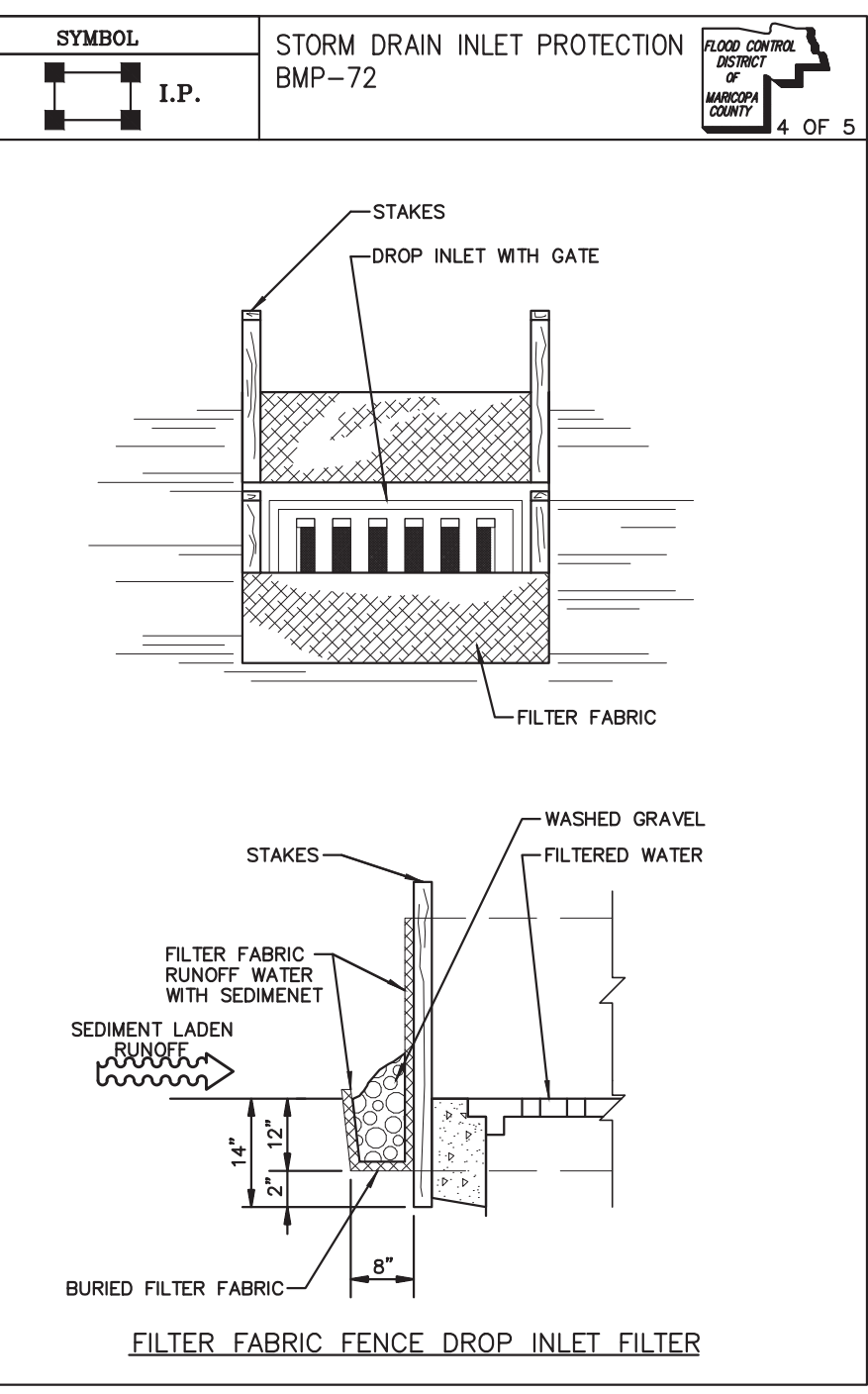
DESIGN AND SIZING CRITERIA

- EXCAVATE A TRENCH APPROXIMATELY 8 INCHES WIDE AND 12 INCHES DEEP AROUND THE OUTSIDE PERIMETER OF THE STAKES.
- STAPLE THE FILTER FABRIC (FOR MATERIALS AND SPECIFICATIONS, SEE SILT FENCE BMP) TO WOODEN STAKES SO THAT 32 INCHES OF THE FABRIC EXTENDS OUT AND CAN BE FORMED INTO THE TRENCH. USE HEAVY-DUTY STAPLES AT LEAST 1/2 INCH IN LENGTH.
- BACKFILL THE TRENCH WITH 3/4" INCH OR LESS WASHED GRAVEL ALL THE WAY AROUND.

MAINTENANCE REQUIREMENTS

FOR SYSTEMS USING FILTER FABRIC: INSPECTIONS SHOULD BE MADE ON A REGULAR BASIS, ESPECIALLY AFTER LARGE STORM EVENTS. IF THE FABRIC BECOMES CLOGGED, IT SHOULD BE REPLACED. SEDIMENT SHOULD BE REMOVED WHEN IT REACHES APPROXIMATELY ONE-HALF THE HEIGHT OF THE FENCE. IF A SUMP IS USED, SEDIMENT SHOULD BE REMOVED WHEN IT FILLS APPROXIMATELY ONE-HALF THE DEPTH OF THE HOLE.

REFERENCES (1, 3, 11, 14, 23)



NOTES

SEDIMENT LOGS SHALL BE LOCATED AS INDICATED IN PLANS OR AS DIRECTED BY THE ENGINEER. THEY SHALL BE SELECTED, INSTALLED, AND MAINTAINED WITH MANUFACTURER'S SPECIFICATIONS AND GOOD ENGINEERING PRACTICES.

LAY SEDIMENT LOG ACROSS PREPARED CHANNEL. TRENCHING OR BURIAL OF SEDIMENT LOGS IS NOT REQUIRED. THE INTIMATE CONTACT BETWEEN THE BOTTOM OF THE LOG AND THE GROUND IS MANDATORY. THE LOGS SHALL BE INSTALLED IN THE SWALE OR CHANNEL BOTTOM AND SHALL CONTINUE UP THE SIDE SLOPES 2'-0" ABOVE THE HIGH FLOW LINE, MEASURED PERPENDICULARLY TO THE FLOW OF WATER.

STAKE WITH 1" x 1" x 46" MIN. HARDWOOD STAKES ON 2 FEET CENTERS. THE STAKE SHALL BE PLACED THROUGH THE DOWNSTREAM SIDE ONLY 2" INTO THE LOG. IT IS ONLY NECESSARY FOR THE STAKES TO GRAB ONE OR TWO INCHES OF THE NETTING. DO NOT DRIVE THE STAKES THROUGH THE CENTER OF THE LOG. THE STAKES MUST BE DRIVEN INTO THE GROUND 24". CENTER STAKES SHALL BE PLACED IN AN "X" PATTERN.

MAKE SURE NO GAPS EXIST BETWEEN THE SOIL AND THE SEDIMENT LOGS. REPAIR ANY RILLS OR GULLIES PROMPTLY. IN ROCKY CONDITIONS, THE ENGINEER WILL EVALUATE THE PLACEMENT OF SEDIMENT LOGS.

SLOPES STEEPER THAN 4:1 SHALL APPLY ROCK RIPRAP FOR CHANNEL/DITCH LINING OR CHECK DAMS WHEN SUITABLE.

TYPICAL OVERLAP APPLIES ONLY TO THE SITUATION WHERE CHANNEL/DITCH IS WIDER THAN THE LENGTH OF ONE SEDIMENT LOG.

SEDIMENT LOGS AND STAKES TO BE REMOVED ONCE CONSTRUCTION ACTIVITIES ARE COMPLETE. CONTRACTOR SHALL DISPOSE OF SEDIMENT LOGS, STAKES, AND ANY TRAPPED SEDIMENT MATERIAL AND FILL SHALLOW TRENCH CREATED BY SEDIMENT LOGS.

DANDY CURB SACK™ SPECIFICATIONS

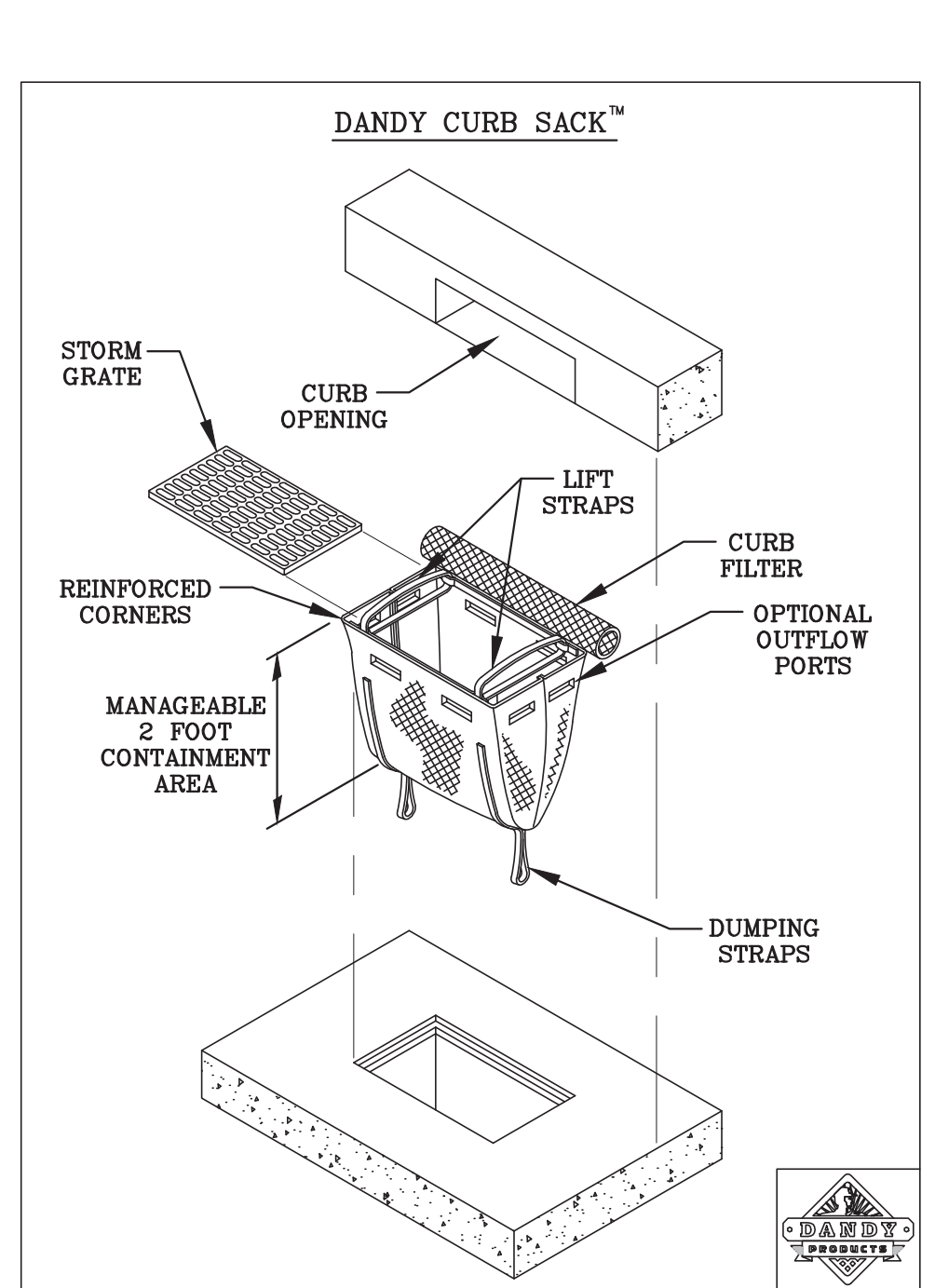
NOTE: THE DANDY CURB SACK™ WILL BE MANUFACTURED IN THE U.S.A. FROM A WOVEN MONOFILAMENT FABRIC THAT MEETS OR EXCEEDS THE FOLLOWING SPECIFICATIONS:

Mechanical Properties	Test Method	Units	MARV
Grab Tensile Strength	ASTM D 4632	KN (lbf)	1.78 (400) x 1.40 (315)
Grab Tensile Elongation	ASTM D 4632	%	18 x 18
Puncture Strength	ASTM D 4633	KN (lbf)	0.87 (190)
Mullen Burst Strength	ASTM D 3786	MPa (psi)	5508 (800)
Trapezoid Tear Strength	ASTM D 4533	KN (lbf)	0.67 (150) x 0.33 (75)
UV Resistance	ASTM D 4355	%	90
Apparent Opening Size	ASTM D 4751	Mm (US Std Sieve)	0.425 (40)
Flow Rate	ASTM D 4491	l/min/m² (gal/min/ft²)	2852 (70)
Permeability	ASTM D 4491	sec	0.90

HI-FLOW DANDY CURB SACK™ (SAFETY RANGE)

Mechanical Properties	Test Method	Units	MARV
Grab Tensile Strength	ASTM D 4632	KN (lbf)	1.62 (365) x 0.89 (200)
Grab Tensile Elongation	ASTM D 4632	%	24 x 10
Puncture Strength	ASTM D 4633	KN (lbf)	0.40 (90)
Mullen Burst Strength	ASTM D 3786	MPa (psi)	3297 (450)
Trapezoid Tear Strength	ASTM D 4533	KN (lbf)	0.51 (115) x 0.33 (75)
UV Resistance	ASTM D 4355	%	90
Apparent Opening Size	ASTM D 4751	Mm (US Std Sieve)	0.425 (40)
Flow Rate	ASTM D 4491	l/min/m² (gal/min/ft²)	5907 (145)
Permeability	ASTM D 4491	sec	2.1

*Note: All Dandy Sacks™ can be ordered with our optional oil absorbent pillows



AS-BUILT DRAWINGS

DATE: 3/28/16
By: Alicia Stoffers, PE

WOODSON ENGINEERING AND SURVEYING, INC.
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ALICIA ANNE STOFFERS
Professional Engineer License No. 49953
Arizona, USA
Expires 9/30/2016

PROJECT: DR. BY:
CITY/STATE: DATE: DR. NO:

CALL TWO WORKING DAYS BEFORE YOU DIG
1-800-STAKE-IT
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REGISTERED PROFESSIONAL ENGINEER
ALICIA ANNE STOFFERS
49953
ARIZONA, USA
EXPIRES 9/30/2016

BONITO STREET

SWPPP

HOR SCALE: 1"=20'
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3/9/15
BONITO ST. IMPROVEMENT PLANS
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