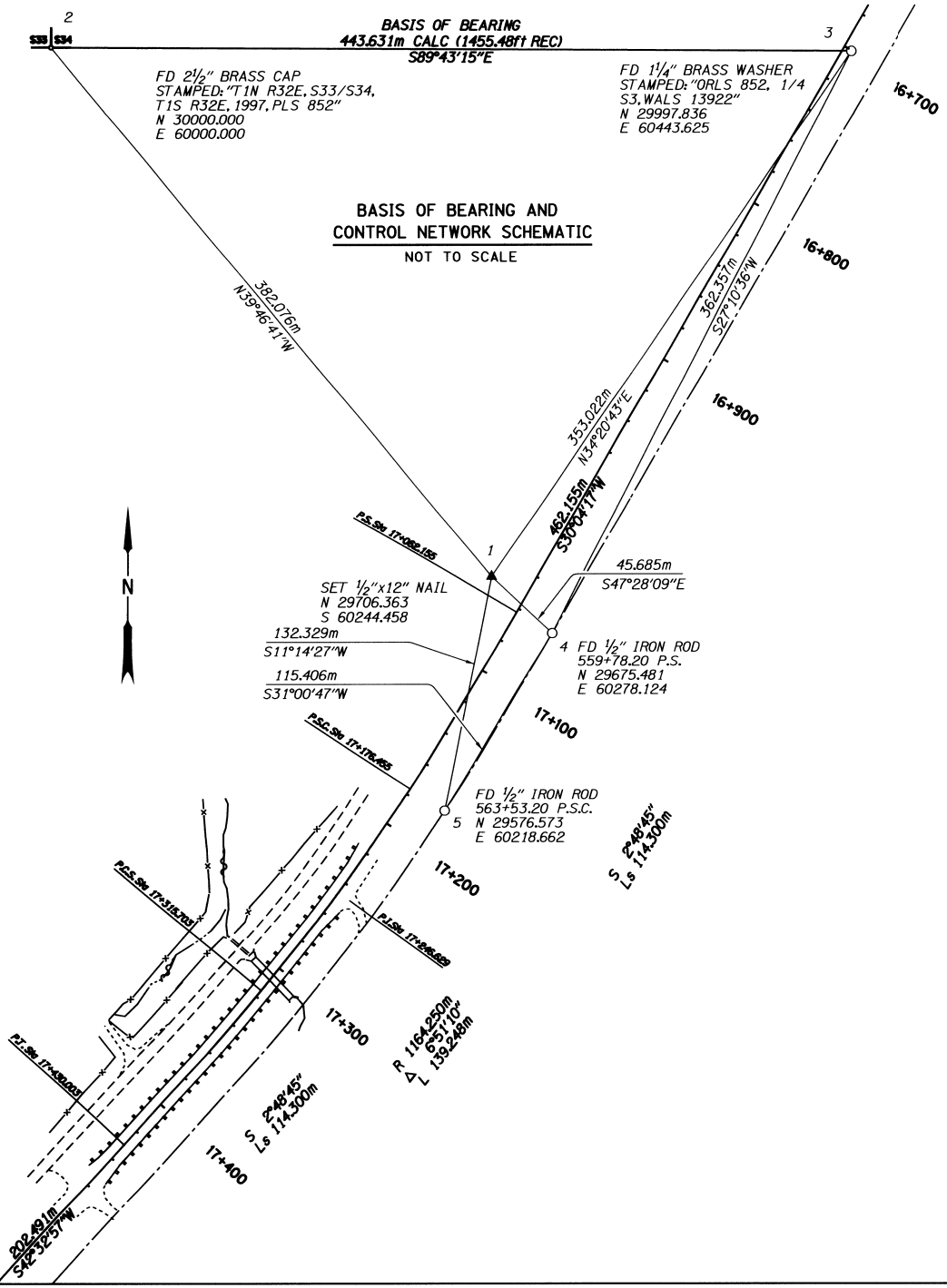
N.E.¼ SEC. 3 T.1 S. R.32 E. W. M.



NARRATIVE

THE PURPOSE OF THIS SURVEY IS TO ESTABLISH A NETWORK AND PROVIDE MAPPING FOR THE IMPROVEMENTS TO THE OLD BRIDGE AND RCBC ON STEWART CREEK FISH PASSAGE. THIS PROJECT STARTED OUT AS A VICINITY MAP AND MODEL OF THE STREAMBED. DUE TO THE RIGHT OF WAY AND PREVIOUS ALIGNMENT RESOLUTION IT WAS DETERMINED THAT THE RIGHT OF WAY NEEDED TO BE RESOLVED.

THE MAPPING CREW CONSISTED OF JERRY MILLS (INSTRUMENT MAN AND NOTE KEEPER), TOM HUEBNER (ROD MAN), AND ZACH RUBY (ROD MAN). THE CREW STARTED ON JUNE 20, 2001, AND FINISHED ON JUNE 29, 2001. THE NETWORK CREW CONSISTED OF BRENT REYNOLDS (INSTRUMENT MAN AND NOTE KEEPER) AND TOM HUEBNER (ROD MAN). THE FIELD WORK FOR THE NETWORK WAS DONE ON SEPTEMBER 27, 2002. THIS SURVEY TOOK PLACE IN TOWNSHIP 1 SOUTH; RANGE 32 EAST; SECTION 3.

NETWORK POINT 1 IS A SET ½" BY 12" NAIL. NETWORK POINT 2 IS A FOUND 2½" BRASS CAP SECTION CORNER: T1N R32E S33 S34 1997 PLS 852. NETWORK POINT 3 IS A FOUND 1 ¼" BRASS WASHER SECTION CORNER: T1S R32E ¼ S3 OPLS 852 WALS 13922 FLUSH WITH ROAD. NETWORK POINT 4 IS A FOUND ½" IRON PIN AT HIGHWAY STATION 559+78.20 PS 75.00 LEFT (FEET). NETWORK POINT 5 IS A FOUND ½" IRON PIN AT HIGHWAY STATION 563+53.20 PS 75.00 LEFT (FEET).

THIS SURVEY USED EXISTING MONUMENTS FROM COUNTY SURVEY 97-140-C; POINTS 2 AND 3 AS BASIS OF BEARING S 89° 43' 15" E. THE COORDINATES FOR POINT 2 WERE ASSUMED AS NORTH 30000; EAST 60000. THE COORDINATES FOR POINT 3 WERE CALCULATED USING RECORDED BEARING AND CALCULATED DISTANCE.

HORIZONTAL LEAST SQUARES ADJUSTMENT WAS THEN CALCULATED IN LISCAD TO ESTABLISH COORDINATES FOR OTHER NETWORK POINTS. THE LEAST SQUARES ADJUSTMENT METHOD PRODUCED ANGULAR AND DISTANCE RESIDUALS (THE AMOUNT THE FIELD OBSERVED MEASUREMENTS WERE CHANGED DUE TO THE ADJUSTMENT). THE ANGULAR RESIDUALS AVERAGED 1.5 SECONDS, WITH THE GREATEST RESIDUAL BEING 2 SECONDS. THE DISTANCE RESIDUALS AVERAGED 0.1 MM THE GREATEST BEING 1 MM. THE NETWORK MEETS ODOT STANDARDS.

THE VERTICAL DATA FOR THIS PROJECT WAS OBTAINED FROM BENCHMARK P 32, ELEVATION 462.952 METERS 1929 DATUM ADJUSTED IN 1947. THE BENCH MARK IS LOCATED ABOUT 0.3 MILES NORTH OF THE STEWART CREEK BRIDGE 51 FEET NORTH OF AN EAST WEST FENCE, 3.5 FEET SOUTH OF A POWER TRANSMISSION LINE POLE, AND 26 FEET WEST OF THE FRONTAGE ROAD CENTER LINE.

THE DATA WAS OBTAINED, EDITED AND CONVERTED TO A DIGITAL TERRAIN MODEL BY LISCAD (VERSION 4.1). THE EQUIPMENT USED ON THIS PROJECT WAS A LECIA TCA 1800 (98-TS10), AND A LIETZ LEVEL NA 2002 (99-DL02).

EXISTING RIGHT OF WAY CENTERLINE WAS RESOLVED USING DATA FROM STATE RIGHT OF WAY MAP 7B-35-10 (OCTOBER 1955, REVISED SEPTEMBER 1957) AND FOUND POINTS 4 AND 5. ENGLISH STATIONS AT POINTS 4 AND 5 WERE THEN CONVERTED TO METRIC. STATE RIGHT OF WAY MAPS ARE ON FILE WITH RIGHT OF WAY UNIT IN SALEM, AND COPIES ARE AVAILABE AT THE DISTRICT 12 OFFICE IN PENDLETON.

METRIC SURVEY

RECEIVED BY
Umatilla County Surveyor
Date 4-03
Rec'd By KK
No. 03-60-B

TO CONVERT METERS TO FEET DIVIDE BY 0.3048

REGISTERED PROFESSIONAL LAND SURVEYOR
OREGON
JANUARY 15, 2002
FRANK H. READING
59616LS
EXPIRATION DATE: 12/31/03

OREGON DEPARTMENT OF TRANSPORTATION

HORIZONTAL CONTROL, RECOVERY, RETRACEMENT MAP

UMATILLA HIGH CULVERT RETROFIT

(STEWART CREEK FISH PASSAGE)

PENDLETON - JOHN DAY HWY UMATILLA COUNTY

FOR O.D.O.T. REGION 5 — 80788 KIK RD, HERMISTON OR 97830

SEPTEMBER 27, 2002 — SHEET 1 OF 1