

PUBLIC UTILITY IMPROVEMENT PLANS  
FOR  
**HANOVER ROAD  
IMPROVEMENTS**  
**ALBUQUERQUE, NM**

FEBRUARY 2017

PREPARED FOR  
MALOY MOBILE STORAGE  
535 COMANCY ROAD NE  
ALBUQUERQUE, NM 87107

PREPARED BY  
SCOTT M MCGEE  
9700 TANOAN DRIVE NE  
ALBUQUERQUE, NM 87111

INDEX TO DRAWINGS

SHEET NO.	TITLE
1	COVER SHEET
2	PLAT
3	PLAN AND PROFILE
4	DETAILS

AS-BUILTS CERTIFIED.

CLOSEOUT PACKAGE NOT COMPLETED.

PROJECT CLOSED OUT, MARCH 18, 2020

CERTIFICATE OF SUBSTANTIAL COMPLIANCE ON RECORD DRAWINGS

I, Scott M McGee, of the firm of SCOTT M MCGEE PE, LLC, a Registered Professional Engineer in the State of New Mexico, do hereby certify, to the best of my knowledge and belief, that the infrastructure installed as part of this project has been inspected by me or by a qualified person under my direct supervision and has been constructed in accordance with the plans and specifications approved by the City Engineer and that the original design intent of the approved plans has been met, except as noted by me on the as-built construction drawings. This Certification is based on site inspections by me or personnel under my direction and survey information provided by Brian J Martinez / Cartesian Surveys, NMPS number 18374.

Scott M McGee 4/24/18  
Scott M McGee NMPE 10519



SURVEYOR'S CERTIFICATION

I, BRIAN J. MARTINEZ, A DULY QUALIFIED, REGISTERED, PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF NEW MEXICO, DO HEREBY CERTIFY THAT THE 'AS-BUILT' INFORMATION SHOWN ON THESE DRAWINGS WAS OBTAINED FROM FIELD CONSTRUCTION AND 'AS-BUILT' SURVEYS PERFORMED BY ME OR UNDER MY SUPERVISION, THAT THE 'AS-BUILT' INFORMATION SHOWN ON THESE DRAWINGS WAS ADDED BY ME OR UNDER MY SUPERVISION, AND THAT THIS 'AS-BUILT' INFORMATION IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. CARTESIAN SURVEYS IS NOT RESPONSIBLE FOR ANY OF THE DESIGN CONCEPTS, CALCULATIONS, ENGINEERING, OR INTENT OF THE RECORDED DRAWINGS.

Brian J Martinez 3/28/18  
BRIAN J. MARTINEZ, NMPS 18374



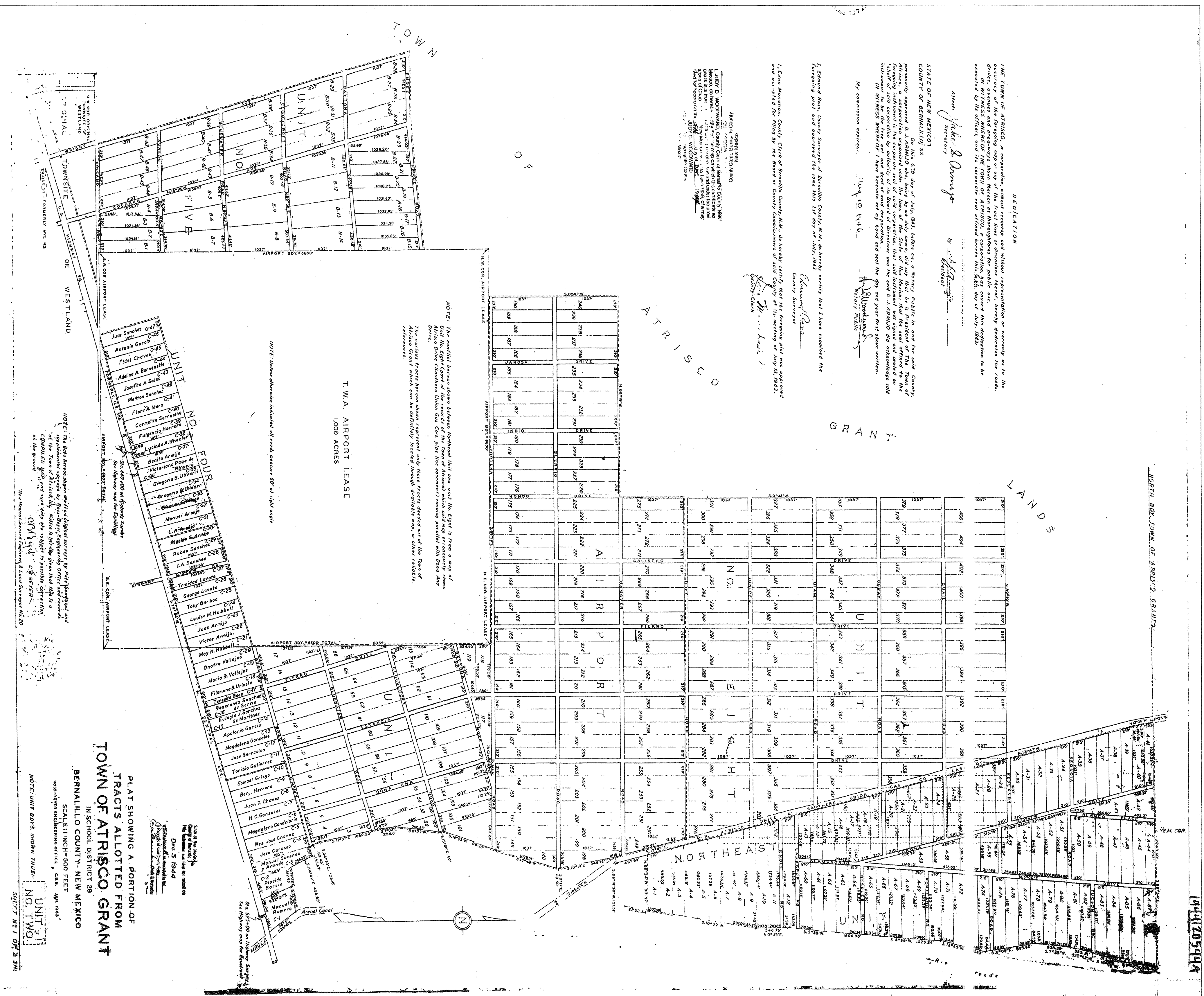
VICINITY MAP J-10

GENERAL NOTES

- ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED, EXCEPT AS OTHERWISE STATED OR PROVIDED HEREON, SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1986 EDITION THROUGH UPDATE #9 AND WILL BE REFERRED TO HEREIN AS "STANDARD SPECIFICATIONS".
- ALL CONSTRUCTION WITHIN CITY RIGHT-OF-WAY MUST BE DONE FROM APPROVED WORK ORDER DOCUMENTS FROM THE CITY.
- ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE, AND LOCAL LAWS, ORDINANCES, RULES, AND REGULATIONS CONCERNING CONSTRUCTION SAFETY AND HEALTH.
- CONTRACTOR AGREES THAT HE SHALL ASSUME THE SOLE AND COMPLETE RESPONSIBILITY FOR THE JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD HARMLESS THE OWNER AND ENGINEER FROM ANY AND ALL LIABILITY REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPT LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR ENGINEER.
- ALL EXCAVATION, TRENCHING, AND SHORING ACTIVITIES MUST BE ACCOMPLISHED IN ACCORDANCE WITH OSHA 29CFR 1926.650 SUBPART P.
- AN EXCAVATION/CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN CITY RIGHT-OF-WAY OR ABCWUA EASEMENTS.
- CONTRACTOR SHALL NOTIFY THE ENGINEER NOT LESS THAN SEVEN (7) DAYS PRIOR TO STARTING WORK IN ORDER THAT THE CITY SURVEYOR MAY TAKE NECESSARY MEASURES TO INSURE THE PRESERVATION OF SURVEY MONUMENTS. CONTRACTOR SHALL NOT DISTURB PERMANENT SURVEY MONUMENTS WITHOUT THE CONSENT OF THE CITY SURVEYOR AND SHALL NOTIFY THE CITY SURVEYOR AND BEAR THE EXPENSE OF REPLACING ANY THAT MAY BE DISTURBED WITHOUT PERMISSION. ONLY THE CITY SURVEYOR SHALL REPLACE SURVEY MONUMENTS. WHEN A CHANGE IS MADE IN THE FINISHED ELEVATIONS OF THE PAVEMENT OF ANY ROADWAY IN WHICH A PERMANENT SURVEY MONUMENT IS LOCATED, CONTRACTOR SHALL, AT HIS OWN EXPENSE, ADJUST THE MONUMENT COVER TO THE NEW GRADE UNLESS OTHERWISE SPECIFIED. REFER TO STANDARD SPECIFICATIONS SECTION 4.4.
- SEVEN (7) WORKING DAYS PRIOR TO STARTING CONSTRUCTION, CONTRACTOR SHALL SUBMIT TO DMD CONSTRUCTION COORDINATION DIVISION (CCD) A DETAILED CONSTRUCTION SCHEDULE. TWO (2) WORKING DAYS PRIOR TO CONSTRUCTION, CONTRACTOR SHALL OBTAIN A BARRICADING PERMIT FROM THE DMD CCD. CONTRACTOR SHALL NOTIFY BARRICADE ENGINEER (924-3400) PRIOR TO OCCUPYING AN INTERSECTION. REFER TO SECTION 19 OF STANDARD SPECIFICATIONS. PERMIT REQUESTS MAY BE DENIED OR DELAYED DUE TO CONFLICTS WITH OTHER PROJECTS IN THE AREA.
- TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTRACT NEW MEXICO ONE CALL SYSTEM (260-1990) FOR LOCATION OF EXISTING UTILITIES.
- CONTRACTOR SHALL ASSIST THE ENGINEER/INSPECTOR IN THE RECORDING OF DATA ON ALL UTILITY LINES AND ACCESSORIES AS REQUIRED BY THE CITY OF ALBUQUERQUE FOR THE PREPARATION OF "AS CONSTRUCTED" DRAWINGS. CONTRACTOR SHALL NOT COVER UTILITY LINES AND ACCESSORIES UNTIL ALL DATA HAS BEEN RECORDED.
- AT HIS OWN EXPENSE, CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR ANY DAMAGE TO EXISTING CURB & GUTTER, PAVEMENT, SIDEWALKS, ACCESSIBLE RAMPS, STRIPING, AND SIGNAGE, DURING CONSTRUCTION APART FROM THOSE SECTIONS INDICATED FOR REMOVAL ON THE PLANS AND SHALL REPAIR OR REPLACE, PER STANDARD SPECIFICATIONS.
- ALL STREET STRIPING ALTERED OR DESTROYED SHALL BE REPLACED WITH PLASTIC REFLECTORIZED PAVEMENT MARKING BY CONTRACTOR TO THE SAME LOCATION AS EXISTING OR AS INDICATED BY THIS PLAN SET.
- CONTRACTOR SHALL MAINTAIN A GRAFFITI-FREE WORK SITE. CONTRACTOR SHALL PROMPTLY REMOVE ALL GRAFFITI FROM EQUIPMENT, EITHER PERMANENT OR TEMPORARY.
- CONTRACTOR SHALL PROVIDE AND MAINTAIN ALL CONSTRUCTION SIGNING UNTIL THE PROJECT HAS BEEN ACCEPTED BY THE CITY OF ALBUQUERQUE.
- ALL UTILITIES AND UTILITY SERVICE LINES SHALL BE INSTALLED PRIOR TO PAVING.
- THE CONTRACTOR SHALL COORDINATE WITH THE ABCWUA SEVEN (7) DAYS IN ADVANCE OF PERFORMING WORK THAT AFFECTS PUBLIC WATER OR SANITARY SEWER INFRASTRUCTURE. WORK REQUIRING SHUTOFF OF FACILITIES DESIGNATED AS MASTER PLAN FACILITIES MUST BE COORDINATED WITH THE WATER AUTHORITY 14 DAYS IN ADVANCE OF PERFORMING SUCH WORK. ONLY WATER AUTHORITY CREWS ARE AUTHORIZED TO OPERATE PUBLIC VALVES. SHUTOFF REQUESTS MUST BE MADE ONLINE AT [HTTP://ABCWUA.ORG/CUSTOMER SERVICE/CONSTRUCTION INFO FOR BUILDERS/WATER MAIN SHUTOFF](http://abcwua.org/customer-service/construction-info-for-builders/water-main-shutoff).
- PROPOSED WATERLINE MATERIALS SHALL BE PVC PIPE MEETING AWWA C-900; DR18 REQUIREMENTS (6" - 12"). DUCTILE IRON PIPE MEETING AWWA C-150 REQUIREMENTS (6" - 64"). SEWER MATERIALS SHALL BE PVC SDR 35.
- ALL FITTINGS ON WATERLINE SHALL HAVE RESTRAINED JOINTS AS NOTED ON THE PLANS.
- ALL SANITARY SEWER LINE STATIONING REFERS TO SANITARY SEWER CENTERLINE STATIONING.
- ALL BACKFILL FOR TRENCHES WITHIN CITY R/W SHALL BE COMPACTED TO A MINIMUM OF 95% MAXIMUM DENSITY PER STANDARD DRAWING NO. 2465.
- ELECTRONIC MARKER SPHERES (EMS) WILL BE PLACED PER SECTION 170 OF THE CITY OF ALBUQUERQUE SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1986 EDITION AS REVISED THROUGH UPDATE #9.
- OTHER COMMON NOTES
- RCP SHALL BE INSTALLED SO THAT THE JOINT GAP AT THE HOME POSITION SHALL CONFORM TO THE APPROVED MANUFACTURER'S RECOMMENDATION. MANUFACTURER'S RECOMMENDED JOINT GAP TOLERANCES FOR EACH PIPE SIZE AND TYPE SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO PLACEMENT OF PIPE. RCP JOINTS SHALL NOT BE GROUTED UNLESS DIRECTED BY THE ENGINEER AFTER CITY APPROVAL.
- CONTRACTOR SHALL SECURE A "TOPSOIL DISTURBANCE PERMIT" PRIOR TO BEGINNING CONSTRUCTION.
- CONTRACTOR SHALL DETERMINE IN ADVANCE OF HIS CONSTRUCTION IF OVERHEAD UTILITY LINES, SUPPORT STRUCTURES, POLES, GUYS, ETC. ARE AN OBSTRUCTION TO CONSTRUCTION OPERATIONS. IF ANY OBSTRUCTION TO CONSTRUCTION OPERATIONS IS EVIDENT, CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE APPROPRIATE UTILITY OWNER TO REMOVE OR SUPPORT THE UTILITY OBSTRUCTION. ANY COST ASSOCIATED WITH THIS EFFORT SHALL BE THE RESPONSIBILITY OF CONTRACTOR.
- PNM WILL PROVIDE AT NO COST TO THE CITY OR THE CONTRACTOR THE REQUIRED PERSONNEL FOR INSPECTION OR OBSERVATION DEEMED NECESSARY BY PNM WHILE THE CONTRACTOR IS EXPOSING PNM'S CABLES. HOWEVER, THE CONTRACTOR SHALL BE CHARGED THE TOTAL COST ASSOCIATED WITH REPAIRS TO ANY DAMAGED CABLES OR FOR ANY COST ASSOCIATED WITH SUPPORTING OR RELOCATING THE POLES AND CABLES DURING CONSTRUCTION.
- PRIOR TO CONSTRUCTION, CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL PERTINENT EXISTING UTILITIES AND/OR OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
- EXISTING UTILITY LINE LOCATION ARE SHOWN IN AN APPROXIMATE MANNER ONLY AND LINES MAY EXIST WHERE NONE ARE SHOWN. THE LOCATION OF ANY EXISTING LINES IS BASED UPON INFORMATION PROVIDED BY THE UTILITY COMPANY, THE OWNER, OR BY OTHERS, AND MAY BE INCOMPLETE OR MAY BE OBSOLETE BY THE TIME CONSTRUCTION COMMENCES.
- THE ENGINEER HAS UNDERTAKEN NO FIELD VERIFICATION OF THE LOCATION, DEPTH, SIZE, OR TYPE OF EXISTING UNDERGROUND UTILITY LINES, MAKES NO REPRESENTATION PERTAINING THERETO, AND ASSUMES NO RESPONSIBILITY OR LIABILITY THEREFORE. CONTRACTOR SHALL INFORM ITSELF OF THE LOCATION OF ANY UTILITY LINE IN OR NEAR THE AREA OF THE WORK IN ADVANCE OF AND DURING EXCAVATION WORK. CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE CAUSED BY ITS FAILURE TO LOCATE, IDENTIFY, AND PRESERVE ALL EXISTING UTILITIES.
- CONTRACTOR SHALL SUPPORT ALL EXISTING, UNDERGROUND UTILITY LINES WHICH BECOME EXPOSED DURING CONSTRUCTION. PAYMENT FOR SUPPORTING WORK SHALL BE INCIDENTAL TO WATERLINE AND/OR SEWER LINE COSTS.
- CONTRACTOR IS TO SUPPORT AND MAINTAIN THE INTEGRITY OF ALL UNDERGROUND TELEPHONE, ELECTRIC CABLES AND CABLE TV UTILITIES AT NO ADDITIONAL COST TO THE OWNER. CABLE IS TO BE SUPPORTED EVERY 15 (MAXIMUM) FEET. CONTRACTOR SHALL COORDINATE WITH AND MAKE NECESSARY PAYMENT (IF ANY) TO UTILITY OWNER FOR DE-ENERGIZATION OF CABLES OR SUPPORT OF CABLES BY THE UTILITY OWNER.
- CONTRACTOR SHALL PROMPTLY CLEAN UP ANY MATERIAL EXCAVATED WITHIN THE PUBLIC R/W OR PRIVATE ROADWAY EASEMENTS SO THAT EXCAVATED MATERIAL IS NOT SUSCEPTIBLE TO BEING WASHED DOWN THE STREET OR INTO ANY PUBLIC DRAINAGE FACILITY.
- REMOVALS SHALL BE DISPOSED OF OFF-SITE LEGALLY BY THE CONTRACTOR.
- CONTRACTOR SHALL DISPOSE OF ALL UNSUITABLE MATERIAL IN AN ENVIRONMENTALLY ACCEPTABLE MANNER AT A LOCATION ACCEPTABLE TO THE PROJECT MANAGER. THERE WILL BE NO DIRECT COMPENSATION FOR THIS WORK.
- CONTRACTOR SHALL CONDUCT HIS OPERATIONS IN A MANNER WHICH WILL MINIMIZE INTERFERENCE WITH LOCAL TRAFFIC AND PEDESTRIAN PATHS INCLUDING ADA PATHWAYS.
- WORK AFFECTING ARTERIAL ROADWAYS MAY REQUIRE 24-HOUR CONSTRUCTION.
- ALL EXISTING SIGNS, MARKERS, DELINEATORS, ETC., WITHIN THE CONSTRUCTION LIMITS SHALL BE REMOVED, STORED AND RE-SET BY THE CONTRACTOR.
- WHEN ABUTTING EXISTING PAVEMENT TO NEW, SAWCUT EXISTING PAVEMENT TO A STRAIGHT EDGE AND AT A RIGHT ANGLE, OR AS APPROVED BY THE FIELD ENGINEER. REMOVAL OF BROKEN OR CRACKED PAVEMENT WILL ALSO BE REQUIRED.
- REMOVAL OF EXISTING CURB AND GUTTER OR SIDEWALK SHALL BE TO THE NEAREST JOINT.
- CURB & GUTTER, SIDEWALKS, AND DRIVE PADS SHALL MATCH ELEVATIONS OF ABUTTING EXISTING AREAS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE PROJECT ENGINEER.
- THE SUBGRADE PREP SHALL EXTEND ONE FOOT BEYOND THE FREE EDGE OF NEW CURB & GUTTER AND SIDEWALK.
- OVERNIGHT PARKING OF CONSTRUCTION EQUIPMENT SHALL NOT OBSTRUCT DRIVEWAYS OR DESIGNATED TRAFFIC LANES. CONTRACTOR SHALL NOT STORE ANY EQUIPMENT OR MATERIAL WITHIN PUBLIC R/W.
- CONTRACTOR SHALL TEST SUBGRADE R-VALUE PRIOR TO CONSTRUCTION. IF R-VALUE < 50, REMOVE 2 FEET OF SUBGRADE MATERIAL AND IMPORT MATERIAL WITH R-VALUE > 50 OR CONTACT THE ENGINEER IMMEDIATELY SO PAVEMENT SECTION CAN BE MODIFIED.

REV.	SHEETS	CITY ENGINEER	DATE	USER DEPARTMENT	DATE	USER DEPARTMENT	DATE
ENGINEER'S STAMP & SIGNATURE		APPROVALS		ENGINEER	DATE	APPROVED FOR CONSTRUCTION	
		TRANSPORTATION	<u>Brian J. Martinez</u>	<u>3/28/17</u>	<u>12/20/17</u>	<u>ABEWUA</u>	DATE CITY ENGINEER
		WATER/WASTEWATER	<u>Scott M. McGee</u>	<u>03-07-17</u>			
		HYDROLOGY	<u>Scott M. McGee</u>	<u>3/14/17</u>			
		CONSTR. MNGMT.	<u>Scott M. McGee</u>	<u>3/14/17</u>			
CITY PROJECT No.				SHEET OF			
606283				1 4			





PLAT SHOWING A PORTION OF  
TRACTS ALLOTTED FROM  
TOWN OF ATRISCO GRANT  
IN SCHOOL DISTRICT 28  
BERNALILLO COUNTY - NEW MEXICO  
SCALE: 1 INCH = 500 FEET  
NON-EXISTS ENGINEERING OFFICE, S.A. 301 1943  
NOTE: UNIT NO. 1 OF 2 SHEET  
SHEET NO. 1 OF 2 SHEET

NOTE:  
PLAT HAS BEEN REDUCED TO FIT TO SHEET. PLAT IS FOR INFORMATION ONLY AND IS NOT TO SCALE.  
THE STREET NAME "64th STREET" WAS ORIGINALLY PLATTED AS "FIERRO" AS SHOWN ON THIS PLAT.

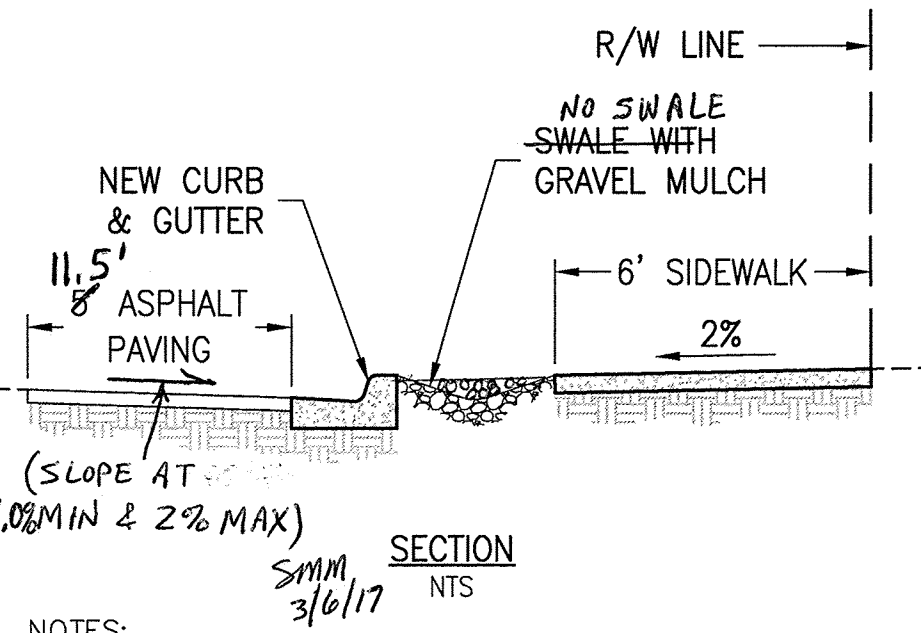
FOR INFORMATION ONLY

CITY OF ALBUQUERQUE PUBLIC WORKS DEPARTMENT ENGINEERING GROUP			
TITLE <b>HANOVER NW WATERLINE PLAT</b>			
DESIGN REVIEW COMMITTEE	CITY ENGINEER APPROVAL	MO/DAY/YEAR	MO/DAY/YEAR
CITY PROJECT NO. <b>606283</b>	ZONE MAP NO. <b>J-10</b>	SHEET <b>2</b> OF <b>4</b>	



Legend

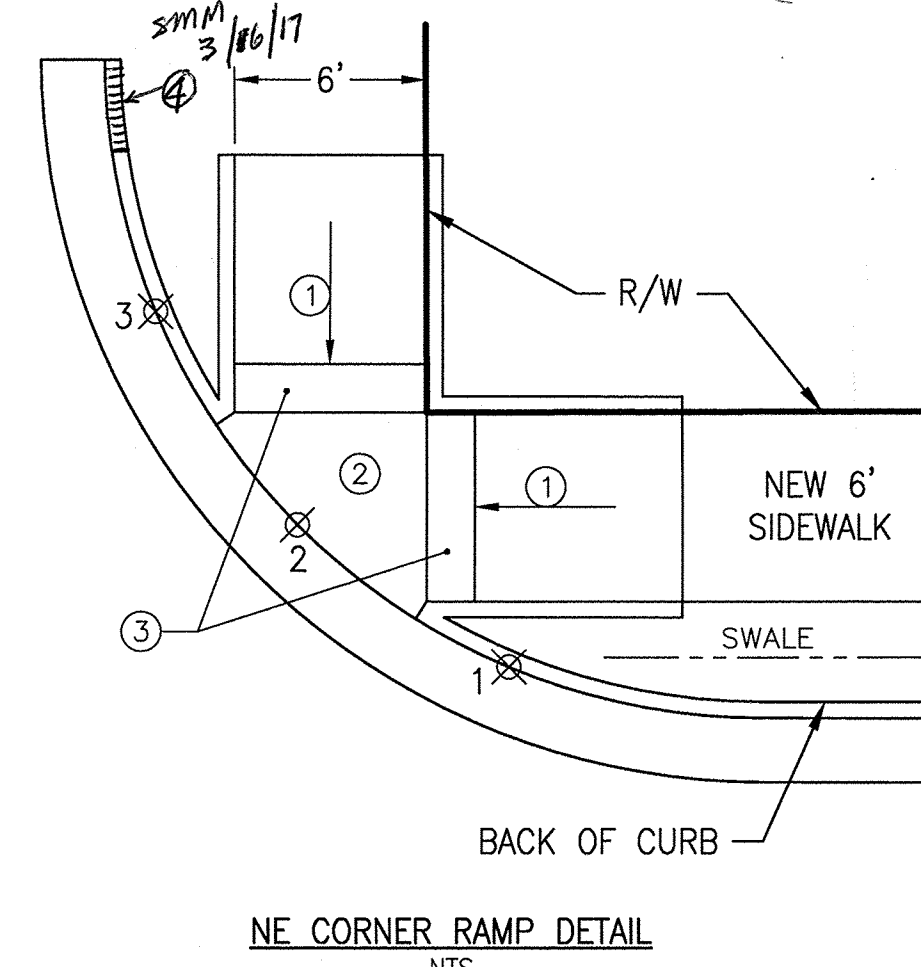
- OVERHEAD ELECTRICAL LINES
- POWER POLE
- NEW WATER LINE WITH SIZE
- ASPHALT PAVEMENT REMOVAL & REPLACEMENT (COLLECTOR) SMM 3/6/17
- NEW CURB & GUTTER (STANDARD) PER COA STD DWG NO. 2415A



- NOTES:
- SWALE SHALL HAVE 5:1 SIDE SLOPES.
  - FINAL GRADE EARTH SHALL BE 1-2" MINIMUM.
  - SWALE SURFACE SHALL HAVE GRAVEL MULCH (3/4" MINIMUM). DO NOT FILL ENTIRE SWALE.

1/4 PT TABLE

PT	TC	FL
1	04.15	03.48
2	---	03.53
3	04.25	03.58

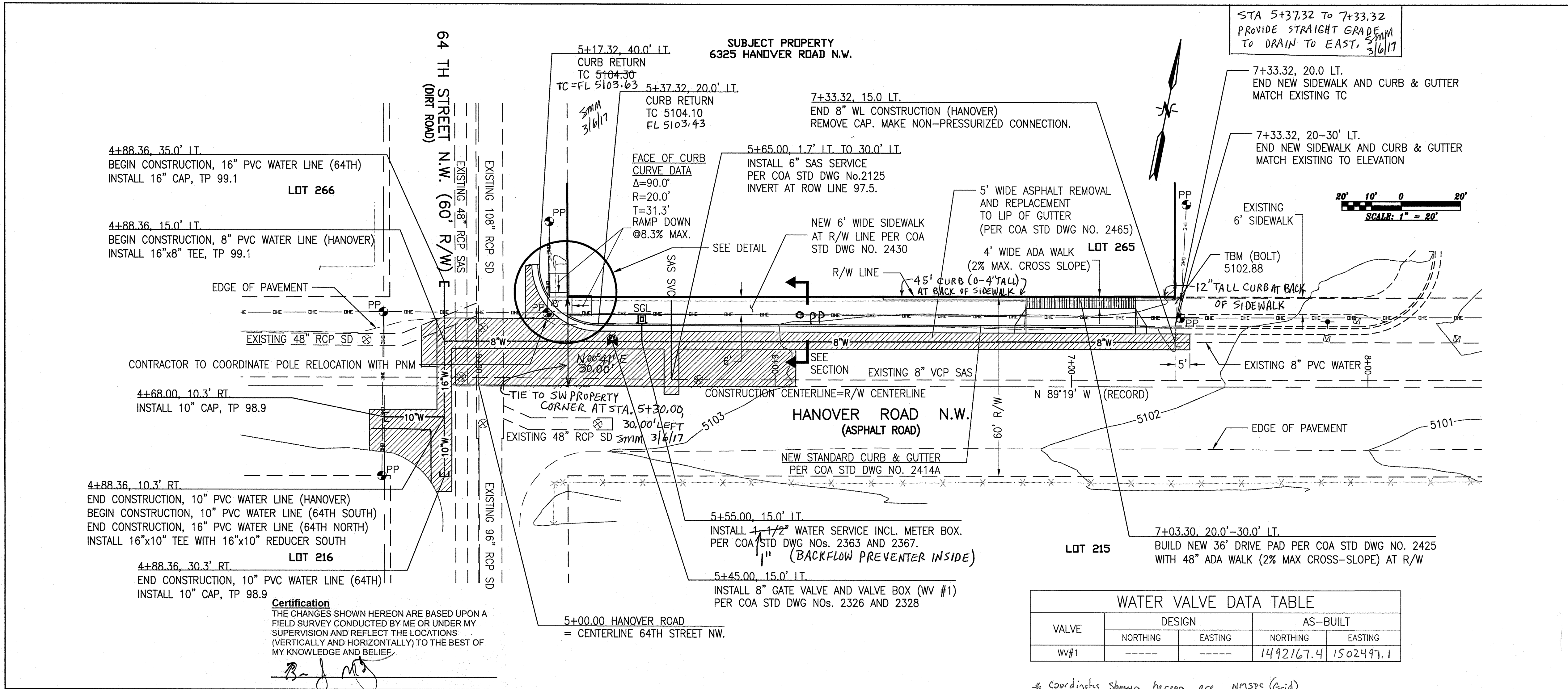


- NOTES:
- SLOPE RAMP DOWN @8.3% MAX (2% MAX) CROSS-SLOPE.
  - LANDING AREA (5'x5' MIN) AT 2% (MAX) SLOPE.
  - DETECTABLE WARNING STRIP (FULL WIDTH) SHALL BE CAST-IN-PLACE REPLACEABLE TO MEET ADA REQUIREMENTS.
  - TRANSITION CURB FROM 8" TO 0" OVER 2' SMM 3/6/17

ALBUQUERQUE BERNALILLO COUNTY  
WATER UTILITY AUTHORITY

TITLE: HANOVER NW WATERLINE  
PLAN AND PROFILE

DESIGN REVIEW COMMITTEE APPROVED MAR 14 2017	CITY ENGINEER APPROVAL DEC 20 2017	NO. / DAY / YR.	NO. / DAY / YR.
DESIGN REVIEW COMMITTEE	CITY ENGINEER	LAST DESIGN UPDATE	

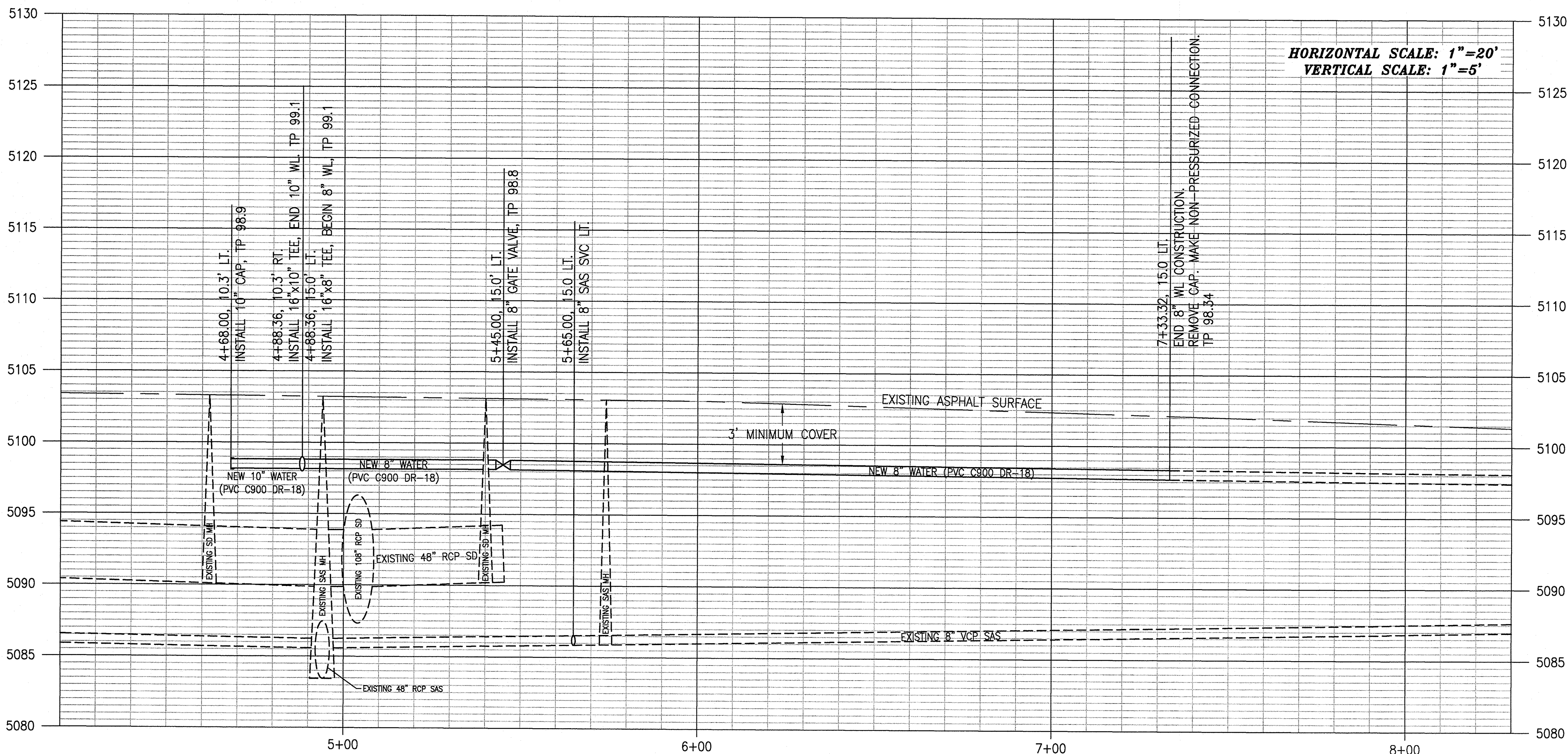


WATER VALVE DATA TABLE

VALVE	DESIGN		AS-BUILT	
	NORTHING	EASTING	NORTHING	EASTING
WV#1	---	---	1492167.4	1502497.1

\* Coordinates shown hereon are NAD83 (Goid)

**Certification**  
THE CHANGES SHOWN HEREON ARE BASED UPON A FIELD SURVEY CONDUCTED BY ME OR UNDER MY SUPERVISION AND REFLECT THE LOCATIONS (VERTICALLY AND HORIZONTALLY) TO THE BEST OF MY KNOWLEDGE AND BELIEF.

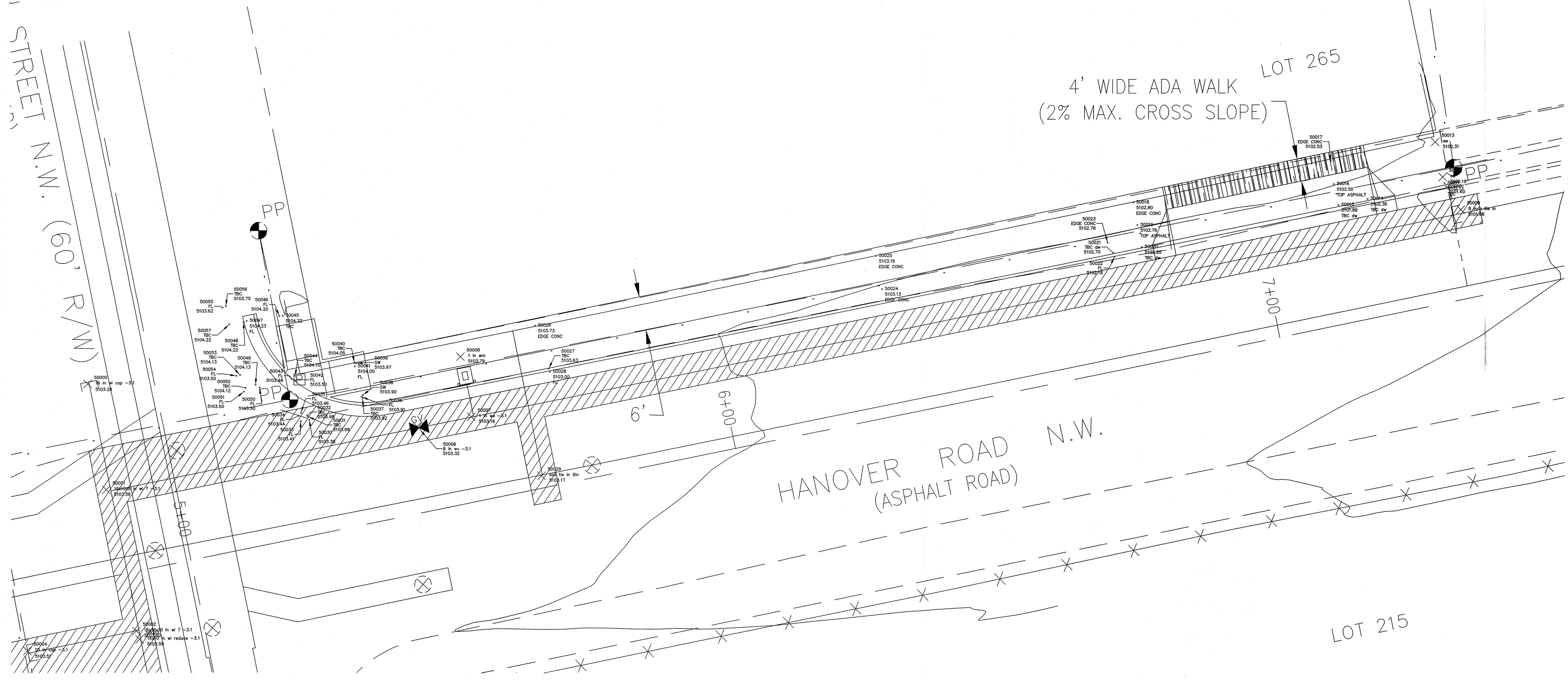




PP

LOT 265

LOT 215



<p style="text-align: center;">RESTRAINED JOINT LENGTHS, <math>L_T</math>, FOR TEES, (FT.) ALL JOINTS AT THE TEE MUST BE RESTRAINED.</p>		
SIZE	RUN	BRANCH
8x8x8	9	20
8x8x6	5	17
8x8x4	2	15
6x6x6	6	20
6x6x4	2	20

THIS TABLE IS BASED UPON THE FOLLOWING CRITERIA:

DEPTH OF BURY	3.0 FT. MINIMUM
FACTOR OF SAFETY	1.25
SOIL TYPE:	GM/SM - SILTY GRAVELS AND SILTY SANDS GRAVEL-SAND-SILT MIXTURES
TEST PRESSURE	150 PSI
TRENCH TYPE 4:	PIPE BEDDED IN SAND, GRAVEL, OR CRUSHED STONE TO DEPTH OF 1/8 PIPE DIAMETER, 4 INCH MINIMUM: BACKFILL COMPACTED TO TOP OF PIPE.

DIFFERENT CRITERIA, E.G., DUCTILE IRON PIPE, GREATER DEPTH OF BURY, ETC., WILL REQUIRE DIFFERENT RESTRAINED LENGTHS. THESE MUST BE CALCULATED BY A QUALIFIED PROFESSIONAL ENGINEER AND APPROVED BY THE PUBLIC WORKS DEPARTMENT

RESTRAINED JOINT LENGTHS, $L_T$ , FOR HORIZONTAL BENDS, VALVES, AND DEAD ENDS, (FT.)					
SIZE	HORIZ. BENDS				VALVES & DEAD ENDS
	90°	45°	22 1/2°	11 1/4°	
12	30	12	6	3	85
10	26	11	5	3	72
8	22	9	4	2	60
6	17	7	3	2	46
4	12	5	2	1	32

RESTRAINED JOINT LENGTHS,  $L_T$  ,  
FOR REDUCERS, (FT.)  
MINIMUM UNOBSTRUCTED, STRAIGHT-RUN LENGTH:  
RESTRAIN EITHER LARGE PIPE, OR SMALL PIPE

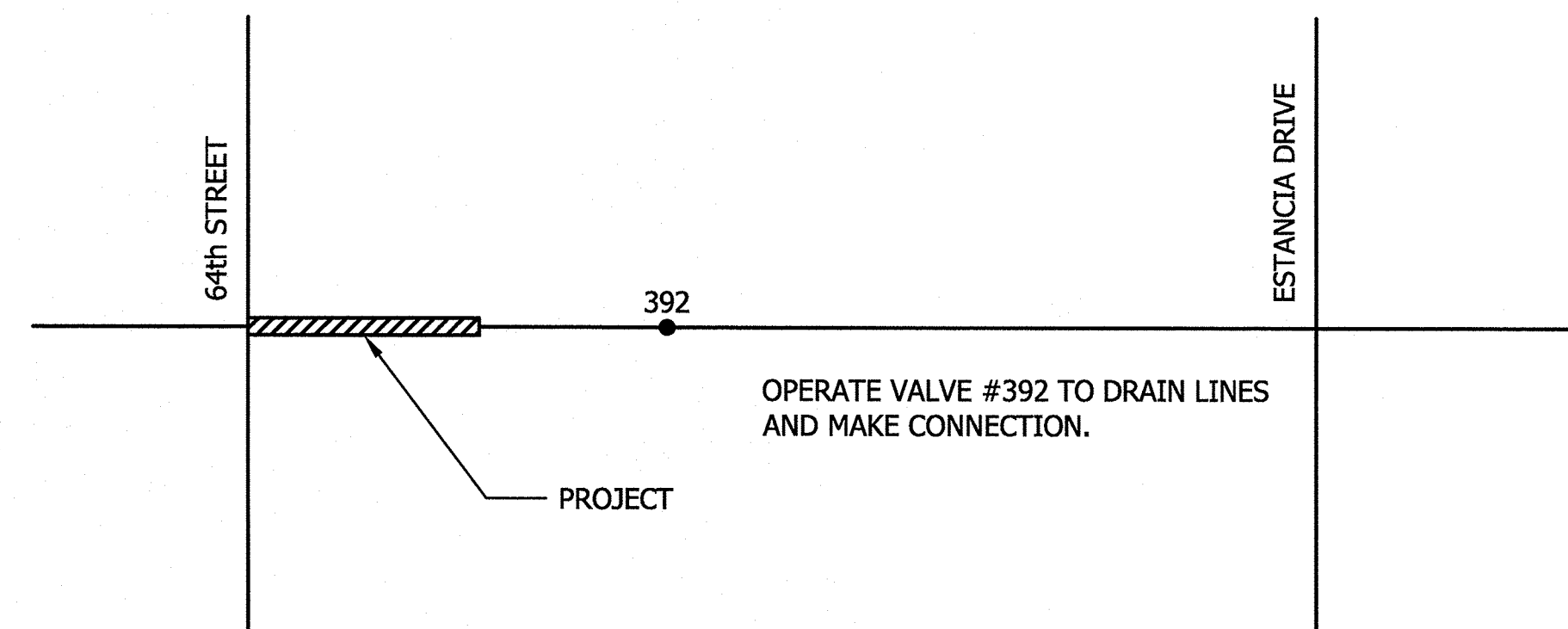
SIZE	LARGE SIDE	SMALL SIDE	SIZE	LARGE SIDE	SMALL SIDE
12x10	25	30	10x6	44	73
12x8	45	68	10x4	58	141
12x6	62	121	8x6	25	33
12x4	74	213	8x4	43	83
10x8	24	30	6x4	24	35

## RESTRAINED JOINT LENGTHS FOR WATERLINE FITTINGS

NOTES:

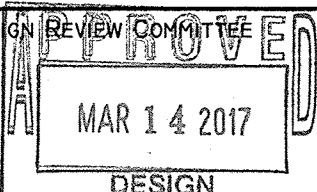
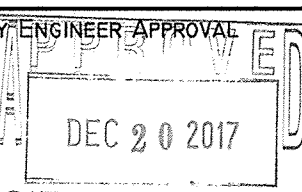
1. ALL MECHANICAL JOINTS SHALL BE RESTRAINED AT THE FITTING.
2. THE CONTRACTOR SHALL PROVIDE A MINIMUM PIPE LENGTH OF 20 LF FROM ALL MECHANICAL JOINTS. ALL PIPE JOINTS WITHIN 20 LF OF A MECHANICAL JOINT SHALL BE RESTRAINED AT THE CONTRACTOR'S EXPENSE.
3. THE CONTRACTOR SHALL RESTRAIN ALL PIPE JOINTS IN THE SPECIFIED DISTANCE LISTED IN THE TABLE ON THIS SHEET.
4. THE CONTRACTOR SHALL RESTRAIN ALL FIRE HYDRANT JOINTS FROM THE TEE ON THE MAIN TO THE FIRE HYDRANT FLANGE.

## WATER SHUT-OFF PLAN



THE CONTRACTOR SHALL COORDINATE WITH THE WATER AUTHORITY SEVEN (7) DAYS IN ADVANCE OF PERFORMING WORK THAT WILL AFFECT THE PUBLIC WATER OR SANITARY SEWER INFRASTRUCTURE. WORK REQUIRING SHUTOFF OF FACILITIES DESIGNATED AS MASTER PLAN FACILITIES MUST BE COORDINATED WITH THE WATER AUTHORITY 14 DAYS IN ADVANCE OF PERFORMING SUCH WORK. ONLY WATER AUTHORITY CREWS ARE AUTHORIZED TO OPERATE PUBLIC VALVES. SHUTOFF REQUESTS MUST BE MADE ONLINE AT [HTTP://IABCWUA.ORG/CONTENT/VIEW/463/729/](http://iabcwua.org/content/view/full/463/729/).

NO.	DATE	REVISIONS/REMARKS	BY	SURVEY INFORMATION	BENCH MARK	AS BUILT INFORMATION
				FIELD NOTES	ACS 23-111 ELEV. 5095.705 (NAVD 88)	CONTRACTOR <u>TLC</u> DATE <u>4/18</u>
				BY	1" ALUMINUM DISK IN THE TOP OF A STREET LIGHT BASE,	WORK STAKED BY <u>Carsten Surveys</u> DATE: <u>7/1</u>
				8-713 HARRIS SURVEYING	LOCATED IN THE SW QUADRANT OF COORS BLVD. AND	INSPECTOR'S APPROVAL <u>SM</u> DATE: <u>4/18</u>
				AUGUST 2008	HANOVER ROAD NW.	FIELD VERIFICATION BY <u>Carsten Surveys</u> DATE: <u>7/18</u>
						DRAWING CORRECTED BY <u>SM</u> DATE <u>4/18</u>
						MICRO-FILM INFORMATION
						RECORDED BY DATE:
						NO.
DESIGNED BY:	SM	DATE:	09/15/2016			
DRAWN BY:	EJS	DATE:	09/15/2016			
CHECKED BY:	CM	DATE:	09/15/2016			

ALBUQUERQUE BERNALILLO COUNTY WATER UTILITY AUTHORITY											
TITLE: <b>HANOVER NW WATERLINE DETAILS</b>											
DESIGN REVIEW COMMITTEE 	CITY ENGINEER APPROVAL 	NO. / DAY / YR. LAST DESIGN UPDATE <table border="1"> <tr><td> </td></tr> <tr><td> </td></tr> <tr><td> </td></tr> <tr><td> </td></tr> </table>					NO. / DAY / YR. <table border="1"> <tr><td> </td></tr> <tr><td> </td></tr> <tr><td> </td></tr> <tr><td> </td></tr> </table>				
CITY PROJECT NO. <b>606283</b>		ZONE MAP NO. <b>J-10</b>	SHEET: <b>4</b> OF <b>4</b>								