U.S. DEPARTMENT OF HOMELAND SECURITY
FEDERAL EMERGENCY MANAGEMENT AGENCY

OVERVIEW & CONCURRENCE FORM

O.M.B No. 1660-0016
Expires February 28, 2014

PAPERWORK BURDEN DISCLOSURE NOTICE

Public reporting burden for this form is estimated to average 1 hours per response. The burden estimate includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the needed data, and completing, reviewing, and submitting the form. You are not required to respond to this collection of information unless it displays a valid OMB control number. Send comments regarding the accuracy of the burden estimate and any suggestions for reducing this burden to: Information Collections Management, Department of Homeland Security, Federal Emergency Management Agency, 1800 South Bell Street, Arlington, VA 20958-3005, Paperwork Reduction Project (1660-0016). Submission of the form is required to obtain or retain benefits under the National Flood Insurance Program. **Please do not send your completed survey to the above address.**

PRIVACY ACT STATEMENT

AUTHORITY: The National Flood Insurance Act of 1968, Public Law 90-448, as amended by the Flood Disaster Protection Act of 1973, Public Law 93-234.

PRINCIPAL PURPOSE(S): This information is being collected for the purpose of determining an applicant's eligibility to request changes to National Flood Insurance Program (NFIP) Flood Insurance Rate Maps (FIRM).

ROUTINE USE(S): The information on this form may be disclosed as generally permitted under 5 U.S.C § 552a(b) of the Privacy Act of 1974, as amended. This includes using this information as necessary and authorized by the routine uses published in DHS/FEMA/NFIP/LOMA-1 National Flood Insurance Program (NFIP); Letter of Map Amendment (LOMA) February 15, 2006, 71 FR 7990.

DISCLOSURE: The disclosure of information on this form is voluntary; however, failure to provide the information requested may delay or prevent FEMA from processing a determination regarding a requested change to a (NFIP) Flood Insurance Rate Maps (FIRM).

A. REQUESTED RESPONSE FROM DHS-FEMA

This request is for a (check one):

☐ CLOMR: A letter from DHS-FEMA commenting on whether a proposed project, if built as proposed, would justify a map revision, or proposed hydrology changes (See 44 CFR Ch. 1, Parts 60, 65 & 72).

☒ LOMR: A letter from DHS-FEMA officially revising the current NFIP map to show the changes to floodplains, regulatory floodway or flood elevations. (See 44 CFR Ch. 1, Parts 60, 65 & 72)

B. OVERVIEW

1. The NFIP map panel(s) affected for all impacted communities is (are):

Community No.	Community Name	State	Map No.	Panel No.	Effective Date
Example: 480301 480287	City of Katy Harris County	TX TX	48473C 48201C	0005D 0220G	02/08/83 09/28/90
350002	Albuquerque, City of	NM	350001	0329H	08/16/12
350001	Bernalillo County - Unincorporated Areas	NM	350001	0329H	08/16/12

2. a. Flooding Source: N/A

b. Types of Flooding: ☐ Riverine ☐ Coastal ☒ Shallow Flooding (e.g., Zones AO and AH)
☐ Alluvial fan ☐ Lakes ☐ Other (Attach Description)

3. Project Name/Identifier: Cypress Drive Storm Drain Improvements

4. FEMA zone designations affected: AH (choices: A, AH, AO, A1-A30, A99, AE, AR, V, V1-V30, VE, B, C, D, X)

5. Basis for Request and Type of Revision:

a. The basis for this revision request is (check all that apply)

☒ Physical Change ☐ Improved Methodology/Data ☐ Regulatory Floodway Revision ☐ Base Map Changes
☐ Coastal Analysis ☒ Hydraulic Analysis ☒ Hydrologic Analysis ☐ Corrections
☐ Weir-Dam Changes ☐ Levee Certification ☐ Alluvial Fan Analysis ☐ Natural Changes
☒ New Topographic Data ☐ Other (Attach Description)

Note: A photograph and narrative description of the area of concern is not required, but is very helpful during review.

b. The area of revision encompasses the following structures (check all that apply)

Structures: ☐ Channelization ☐ Levee/Floodwall ☐ Bridge/Culvert

☐ Dam ☐ Fill ☒ Other (Attach Description)*

*local stormwater collection and conveyance system installed under existing Cypress Dr to alleviate flooding. No change in volume conveyed to discharge point.

6. ☐ Documentation of ESA compliance is submitted (required to initiate CLOMR review). Please refer to the instructions for more information.**

**Project area is 100% paved street. A critical habitat map is attached to the project narrative.

C. REVIEW FEE

Has the review fee for the appropriate request category been included? ☒ Yes Fee amount: $8,250.00

☐ No, Attach Explanation

Please see the DHS-FEMA Web site at http://www.fema.gov/plan/prevent/fhm/frm_fees.shtm **for Fee Amounts and Exemptions.**

D. SIGNATURE

All documents submitted in support of this request are correct to the best of my knowledge. I understand that any false statement may be punishable by fine or imprisonment under Title 18 of the United States Code, Section 1001.

Name: David J. Cooper, P.E.	Company: Weston Solutions, Inc.	
Mailing Address: 3840 Commons Ave, NE Albuquerque, NM 87109	Daytime Telephone No.: 505-837-6524	Fax No.:505-837-6595
	E-Mail Address: Sonny.Cooper@westonsolutions.com	
Signature of Requester (required):	Date:	

As the community official responsible for floodplain management, I hereby acknowledge that we have received and reviewed this Letter of Map Revision (LOMR) or conditional LOMR request. Based upon the community's review, we find the completed or proposed project meets or is designed to meet all of the community floodplain management requirements, including the requirements for when fill is placed in the regulatory floodway, and that all necessary Federal, State, and local permits have been, or in the case of a conditional LOMR, will be obtained. For Conditional LOMR requests, the applicant has documented Endangered Species Act (ESA) compliance to FEMA prior to FEMA's review of the Conditional LOMR application. For LOMR requests, I acknowledge that compliance with Sections 9 and 10 of the ESA has been achieved independently of FEMA's process. For actions authorized, funded, or being carried out by Federal or State agencies, documentation from the agency showing its compliance with Section 7(a)(2) of the ESA will be submitted. In addition, we have determined that the land and any existing or proposed structures to be removed from the SFHA are or will be reasonably safe from flooding as defined in 44CFR 65.2(c), and that we have available upon request by FEMA, all analyses and documentation used to make this determination.

Community Official's Name and Title: Don Briggs, PE, CFM; Floodplain Administrator	Community Name: Bernalillo County, NM	
Mailing Address: Bernalillo County Public Works Division 2400 Broadway, SE Albuquerque, NM 87102	Daytime Telephone No.: 505-848-1511	Fax No.: 505-848-1510
	E-Mail Address: drbriggs@bernco.gov	
Community Official's Signature (required):	Date:	

CERTIFICATION BY REGISTERED PROFESSIONAL ENGINEER AND/OR LAND SURVEYOR

This certification is to be signed and sealed by a licensed land surveyor, registered professional engineer, or architect authorized by law to certify elevation information data, hydrologic and hydraulic analysis, and any other supporting information as per NFIP regulations paragraph 65.2(b) and as described in the MT-2 Forms Instructions. All documents submitted in support of this request are correct to the best of my knowledge. I understand that any false statement may be punishable by fine or imprisonment under Title 18 of the United States Code, Section 1001.

Certifier's Name: David Cooper, P.E.	License No.: NM 21683		Expiration Date: 12/31/2017
Company Name: Weston Solutions, Inc.	Telephone No.: 505-837-6524		Fax No.: 505-837-6595
Signature:	Date:	E-Mail Address: sonny.cooper@westonsolutions.com	

Ensure the forms that are appropriate to your revision request are included in your submittal.

Form Name and (Number)	Required if …
☒ Riverine Hydrology and Hydraulics Form (Form 2)	New or revised discharges or water-surface elevations
☐ Riverine Structures Form (Form 3)	Channel is modified, addition/revision of bridge/culverts, addition/revision of levee/floodwall, addition/revision of dam
☐ Coastal Analysis Form (Form 4)	New or revised coastal elevations
☐ Coastal Structures Form (Form 5)	Addition/revision of coastal structure
☐ Alluvial Fan Flooding Form (Form 6)	Flood control measures on alluvial fans

Seal (Optional)

U.S. DEPARTMENT OF HOMELAND SECURITY
FEDERAL EMERGENCY MANAGEMENT AGENCY

RIVERINE HYDROLOGY & HYDRAULICS FORM

O.M.B No. 1660-0016
Expires February 28, 2014

PAPERWORK BURDEN DISCLOSURE NOTICE

Public reporting burden for this form is estimated to average 3.5 hours per response. The burden estimate includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the needed data, and completing, reviewing, and submitting the form. You are not required to respond to this collection of information unless a valid OMB control number appears in the upper right corner of this form. Send comments regarding the accuracy of the burden estimate and any suggestions for reducing this burden to: Information Collections Management, Department of Homeland Security, Federal Emergency Management Agency, 1800 South Bell Street, Arlington VA 20958-3005, Paperwork Reduction Project (1660-0016). Submission of the form is required to obtain or retain benefits under the National Flood Insurance Program. **Please do not send your completed survey to the above address.**

PRIVACY ACT STATEMENT

AUTHORITY: The National Flood Insurance Act of 1968, Public Law 90-448, as amended by the Flood Disaster Protection Act of 1973, Public Law 93-234.

PRINCIPAL PURPOSE(S): This information is being collected for the purpose of determining an applicant's eligibility to request changes to National Flood Insurance Program (NFIP) Flood Insurance Rate Maps (FIRM).

ROUTINE USE(S): The information on this form may be disclosed as generally permitted under 5 U.S.C § 552a(b) of the Privacy Act of 1974, as amended. This includes using this information as necessary and authorized by the routine uses published in DHS/FEMA/NFIP/LOMA-1 National Flood Insurance Program (NFIP); Letter of Map Amendment (LOMA) February 15, 2006, 71 FR 7990.

DISCLOSURE: The disclosure of information on this form is voluntary; however, failure to provide the information requested may delay or prevent FEMA from processing a determination regarding a requested change to a NFIP Flood Insurance Rate Maps (FIRM).

Flooding Source: N/A Project is a new section of storm water collection under Cypress Drive to alleviate existing flooding.

Note: Fill out one form for each flooding source studied

A. HYDROLOGY

1. Reason for New Hydrologic Analysis (check all that apply)

☐ Not revised (skip to section B) ☒ No existing analysis ☐ Improved data
☐ Alternative methodology ☐ Proposed Conditions (CLOMR) ☐ Changed physical condition of watershed

2. Comparison of Representative 1%-Annual-Chance Discharges

Location	Drainage Area (Sq. Mi.)	Effective/FIS (cfs)	Revised (cfs)
Cypress Drive	0.0214	Not calculated	41.9

3. Methodology for New Hydrologic Analysis (check all that apply)

☐ Statistical Analysis of Gage Records ☐ Precipitation/Runoff Model → Specify Model:
☐ Regional Regression Equations ☒ Other (please attach description) Modified Rational Method: Albuquerque 40-Acre and Smaller Basins

Please enclose all relevant models in digital format, maps, computations (including computation of parameters), and documentation to support the new analysis.

4. Review/Approval of Analysis

If your community requires a regional, state, or federal agency to review the hydrologic analysis, please attach evidence of approval/review.

5. Impacts of Sediment Transport on Hydrology

Is the hydrology for the revised flooding source(s) affected by sediment transport? ☐ Yes ☒ No**

If yes, then fill out Section F (Sediment Transport) of Form 3. If No, then attach your explanation.

**All drainage basins in project area are fully developed.

B. HYDRAULICS

1. Reach to be Revised N/A

	Description	Cross Section	Water-Surface Elevations (ft.) Effective	Proposed/Revised
Downstream Limit*				
Upstream Limit*				

*Proposed/Revised elevations must tie-into the Effective elevations within 0.5 foot at the downstream and upstream limits of revision.

2. Hydraulic Method/Model Used: Storm Sewer designed using SWMM5

3. Pre-Submittal Review of Hydraulic Models*

DHS-FEMA has developed two review programs, CHECK-2 and CHECK-RAS, to aid in the review of HEC-2 and HEC-RAS hydraulic models, respectively. We recommend that you review your HEC-2 and HEC-RAS models with CHECK-2 and CHECK-RAS.

4.

Models Submitted	Natural Run File Name:	Natural Run Plan Name:	Floodway Run File Name:	Floodway Run Plan Name:	Datum
Duplicate Effective Model*					
Corrected Effective Model*					
Existing or Pre-Project Conditions Model					
Revised or Post-Project Conditions Model	Cypress Drive As-Built System_LOMR_2-24-2017			N/A	NAVD88
Other - (attach description)					

* For details, refer to the corresponding section of the instructions.

No floodway delineation was performed for this project. The project proposes only to remove an isolated area designated as zone AH.

☒ Digital Models Submitted? (Required)

C. MAPPING REQUIREMENTS

A **certified topographic work map** must be submitted showing the following information (where applicable): the boundaries of the effective, existing, and proposed conditions 1%-annual-chance floodplain (for approximate Zone A revisions) or the boundaries of the 1%- and 0.2%-annual-chance floodplains and regulatory floodway (for detailed Zone AE, AO, and AH revisions); location and alignment of all cross sections with stationing control indicated; stream, road, and other alignments (e.g., dams, levees, etc.); current community easements and boundaries; boundaries of the requester's property; certification of a registered professional engineer registered in the subject State; location and description of reference marks; and the referenced vertical datum (NGVD, NAVD, etc.).

☒ Digital Mapping (GIS/CADD) Data Submitted (preferred) *

Topographic Information: Topographic and planimetric maps prepared by licensed survey firm (NAVD 88, State Plane NAD 83)

Source: Alpha Professional Surveying Date: 2009 and 2015

Accuracy: 1-ft vertical (* SEE ATTACHMENT A, THIS FORM)

Note that the boundaries of the existing or proposed conditions floodplains and regulatory floodway to be shown on the revised FIRM and/or FBFM must tie-in with the effective floodplain and regulatory floodway boundaries. Please attach **a copy of the effective FIRM and/or FBFM**, at the same scale as the original, annotated to show the boundaries of the revised 1%-and 0.2%-annual-chance floodplains and regulatory floodway that tie-in with the boundaries of the effective 1%-and 0.2%-annual-chance floodplain and regulatory floodway at the upstream and downstream limits of the area on revision.

☒ Annotated FIRM and/or FBFM (Required)

D. COMMON REGULATORY REQUIREMENTS*

1. For LOMR/CLOMR requests, do Base Flood Elevations (BFEs) increase? ☐ Yes ☒ No

   a. For CLOMR requests, if either of the following is true, please submit **evidence of compliance with Section 65.12 of the NFIP regulations**:

   - The proposed project encroaches upon a regulatory floodway and would result in increases above 0.00 foot compared to pre-project conditions.
   - The proposed project encroaches upon a SFHA with or without BFEs established and would result in increases above 1.00 foot compared to pre-project conditions.

   b. Does this LOMR request cause increase in the BFE and/or SFHA compared with the effective BFEs and/or SFHA? ☐ Yes ☒ No
   If Yes, please attach **proof of property owner notification and acceptance (if available)**. Elements of and examples of property owner notifications can be found in the MT-2 Form 2 Instructions.

2. Does the request involve the placement or proposed placement of fill? ☐ Yes ☒ No

   If Yes, the community must be able to certify that the area to be removed from the special flood hazard area, to include any structures or proposed structures, meets all of the standards of the local floodplain ordinances, and is reasonably safe from flooding in accordance with the NFIP regulations set forth at 44 CFR 60.3(A)(3), 65.5(a)(4), and 65.6(a)(14). Please see the MT-2 instructions for more information.

3. For LOMR requests, is the regulatory floodway being revised? ☐ Yes ☒ No

   If Yes, attach **evidence of regulatory floodway revision notification**. As per Paragraph 65.7(b)(1) of the NFIP Regulations, notification is required for requests involving revisions to the regulatory floodway. (Not required for revisions to approximate 1%-annual-chance floodplains [studied Zone A designation] unless a regulatory floodway is being established. Elements and examples of regulatory floodway revision notification can be found in the MT-2 Form 2 Instructions.)

4. For CLOMR requests, please submit documentation to FEMA and the community to show that you have complied with Sections 9 and 10 of the Endangered Species Act (ESA).

For actions authorized, funded, or being carried out by Federal or State agencies, please submit documentation from the agency showing its compliance with Section 7(a)(2) of the ESA. Please see the MT-2 instructions for more detail.

* Not inclusive of all applicable regulatory requirements. For details, see 44 CFR parts 60 and 65.

ATTACHMENT A

CERTIFIED TOPOGRAPHIC MAP

(MT-2 FORM 2)

LEGEND

4950	MAJOR CONTOUR
4949	MINOR CONTOUR
51+00	ROADWAY CENTERLINE
	SFHA ZONE AH
	SFHA ZONE X

SURVEY NOTES:

A. BEARINGS ARE BASED ON GEODETIC NORTH FROM GPS OBSERVATIONS.
B. DISTANCES ARE HORIZONTAL GROUND MEASUREMENTS IN US FEET.
C. ELEVATIONS ARE BASED ON A.G.R.S. STATION "15-J12".
STATION ELEVATION: 4965.627, STATION EASTING: 1511214.74
STATION NORTHING: 1487534.54 (NAD-83/NAVD-88 DATUM).

DAVID J. COOPER NEW MEXICO 21683 PROFESSIONAL ENGINEER

WESTON SOLUTIONS

3840 COMMONS AVE. NE
ALBUQUERQUE
NEW MEXICO

CYPRESS DRIVE STORM DRAIN PROJECT
LOMR APPLICATION
CERTIFIED TOPOGRAPHIC WORK MAP
ATTACHMENT 1 TO MT-2, FORM 2

FIGURE

I:\Projects\Bernalillo County\Cypress Drive Ph III\17.0 LOMR\Figures\13531 Cypress Certified Work Map.MT2F2.dwg April 21, 2017 - 12:47pm

LOMR APPLICATION AND HYDRAULIC ANALYSIS FOR CYPRESS DRIVE STORM DRAIN

Prepared For:

2400 Broadway SE
Albuquerque, New Mexico 87102

Prepared By:

3840 Commons Avenue, NE
Albuquerque, New Mexico 87109

April 2017

Table of Contents

Figures

Appendices

On CD:

1 INTRODUCTION

Weston Solutions, Inc. (Weston) was contracted by the Bernalillo County Public Works Department (County) to provide a design update of the Cypress Drive Road Improvements project, first designed in 2009 by Resources Technology, Inc. (RTI) (acquired by Weston in 2009). The project segment of Cypress Drive crossest the jurisdictional boundary between the City of Albuquerque (City) and Bernalillo County.

Design and construction of this project was split into two phases, with construction of the first phase completed in 2011 and construction of the second phase completed in 2016. Weston is preparing this Letter of Map Revision (LOMR) application for submittal to the Federal Emergency Management Agency (FEMA) with the intent of updating the Special Flood Hazard Area (SFHA) to reflect the change in conditions.

2 PROJECT LOCATION

Cypress Drive is residential street in southwest Albuquerque, New Mexico that runs east-west between Central Avenue and Atrisco Drive. The project segment of Cypress Drive starts at the intersection with Central Avenue, and runs east for approximately 1,800 feet where Cypress Drive crosses the Isleta Drain (See Figure 1 – Vicinity and Location Map).

The closest critical habitat from the Cypress Drive project site, which is for the Rio Grande Silvery Minnow, is approximately 0.55 miles to the east (See Figure 2 – Critical Habitat Map).

3 PROJECT DESCRIPTION

The Cypress Drive Storm Drain Project was conceived to eliminate or reduce flooding along Cypress Drive by capturing the stormwater flows in a new storm drain system and discharge into the existing Isleta Drain. Please see Appendix A for a more detailed project information.

4 TOPOGRAPHY

Alpha Professional Surveying, Inc. (Alpha) produced a topographic and planimetric map from field surveys of the right-of-way in 2009. Additional survey points were collected by Alpha in 2015 to supplement the current as-built conditions at that time. This data was used to prepare the storm drain and street design improvements. The coordinate system for the survey was tied to New Mexico State Plane Coordinates, Central Zone, North American Datum (NAD) 83, North American Vertical Datum (NAVD) 88 datum. Vertical control precision was for a 1-foot contour interval. For the drainage areas outside of the street right-of-way, the topographic survey was supplemented with contours from the Albuquerque/Bernalillo County LiDAR Mapping from 1999.

5 HYDROLOGIC ANALYSIS

The hydrologic analysis used in this study was prepared by RTI in the Cypress Drive Road Improvements Feasibility Study dated March 2009. That study employed the 40-Acre and

Smaller Basins method, whose procedure is provided in the City of Albuquerque Development Process Manual (DPM) in Part A of Chapter 22. The three drainage areas (A, B and C) delineated are shown on the map presented as Figure 3. The hydrologic results are presented in Table 1 (reproduced from the RTI study).

Table 1: Hydrologic Calculation Results

Basin ID	Area (acres)	10-Year Flow (cfs)	100-Year Flow (cfs)
A	5.17	9.7	17.0
B	6.08	13.1	21.7
C	2.46	5.3	8.8

In order to overcome the hydraulic difficulties poised by the flat grades of Cypress Drive, an alternative approach, termed peaks and valleys, was adopted. The underlying storm drain was designed with inlets at each valley and six new drainage areas were created, one for each inlet (See Figure 3). The 100-year flow rates reaching each inlet are presented in Table 2 (reproduced from the RTI study), along with the currently constructed conditions.

Table 2: Design Flow Rates at Storm Drain Inlets

Inlet-Basin ID	100-Year Flow (cfs)	Constructed Inlet Type and Number
1A	6.9	1 Modified MH Inlet (left) and 1 Double D (right)
1B	6.8	1 Modified MH Inlet (left) and 1 Double D (right)
2	9.3	2 Double Ds (1 each left and right)
3	5.2	1 Single D (left) & 1 Modified MH Inlet (right)
4	3.5	1 Single D (left) & 1 Modified MH Inlet (right)
5	10.2	2 Double Ds (1 each left and right)

Please see Appendix A for the detailed hydrologic analysis.

6 HYDRAULIC ANALYSIS

The hydraulic analysis for this study was accomplished with a model of the Cypress Drive storm drain system using the U.S. Environmental Protection Agency's (EPA) Storm Water Management Model (SWMM) Version 5.1.

SWMM is capable of modeling complex storm drain systems using conservation of mass and momentum equations for gradually varied, unsteady flow, and employs the Manning equation for non-pressurized flow and either the Hazen-Willams or Darcy-Weisback equation for pressurized flow.

6.1 Effective Model

An inquiry was placed to FEMA by the County, and an Effective Model does not exist for the project area. Therefore only a post-project hydraulic model was prepared for the current as-built conditions.

6.2 Hydraulic Analysis Results

The available as-built data (See Appendices B and C) was used to create a storm drain network in SWMM. Due to the presence of surcharging in manholes, Dynamic Wave routing was used as the flow routing method. A summary of the hydraulic results are listed in Table 3, the water surface profile and detailed output files are in Appendix D.

Table 3: Updated Storm Drain Hydraulics Summary

Pipe IDs	Manholes	Accumulated 100-Year Flow (cfs)	Pipe Size Rise x Span (inches)	Slope (%)	Percent Full (%)	Flow Velocity (ft/s)
P-8	MH A to B	10.6	19 x 30	0.37	76	3.96
P-7	MH B to C	14.1	24 x 38	0.29	62	4.61
P-6	MH C to D	19.3	24 x 38	0.25	92	3.92
P-5	MH D to D-2	28.6	29 x 45	0.35	63	4.56
P-4.5	MH D-2 to E	28.6	29 x 45	1.03	41	3.86
P-4	MH E to F	28.6	29 x 45	0.11	93	3.87
P-3	MH F to G	35.6	29 x 45	0.19	114	4.86
P-2	MH G to H	42.0	29 x 45	0.41	96	5.80
P-1	MH H to I (Water Quality Manhole)	41.9	29 x 45	1.47	47	6.18
P-0	MH I to Outfall	41.9	29 x 45	1.05	57	7.71

As shown in Table 3, the section of pipe between Manholes F and G will surcharge, causing Pipe P-3 to flow under pressure. Although there is slight surcharging, the SWMM model is not predicting that any manholes will overflow.

6.3 Floodplain Mapping

The floodplains from the current effective FIRM were mapped onto the Post-Project Conditions Work Map (Figure 4), which also shows the results of the post-project hydraulic analysis. Since the newly constructed Cypress Drive storm drain has capacity to contain and convey the 100-year design storm, this LOMR application proposes removal of the AH Zone at the eastern end of Cypress Drive. The Annotated FIRM, Figure 5, shows the AH Zone proposed for removal based on the post-project hydraulic analysis.

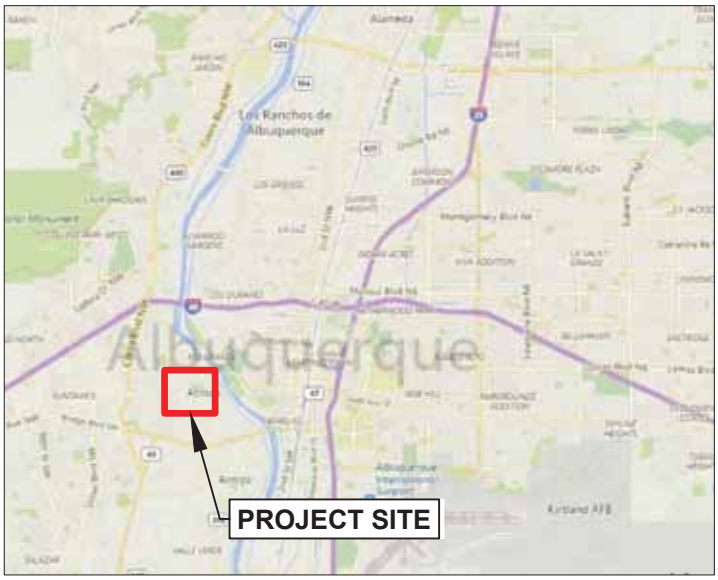
7 REFERENCES

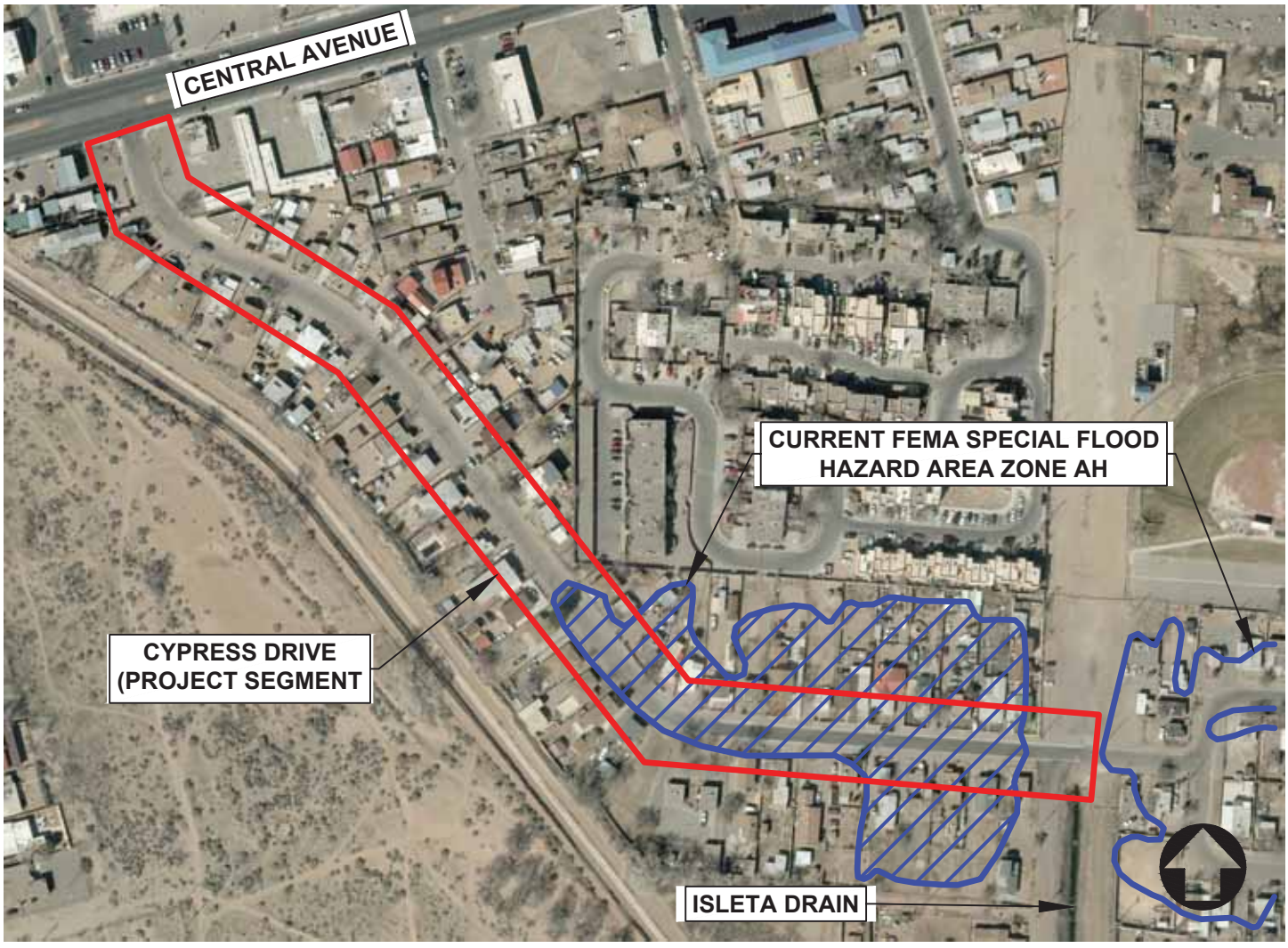
COA 2008. *Albuquerque Development Process Manual, Volume II- Design Criteria*. City of Albuquerque. 2008 Edition.

RTI 2009. *Cypress Drive Road Improvements Feasibility Study*. RTI. 2009.

WESTON 2016. *Design Basis Report, Cypress Drive Road Improvements (Phase II)*. Weston Solutions, Inc. (Weston). March 2016.

FIGURES





WESTON SOLUTIONS

3840 COMMONS AVE. NE
ALBUQUERQUE
NEW MEXICO

CYPRESS DRIVE STORM DRAIN PROJECT
LOMR APPLICATION
VICINITY AND LOCATION MAP
(NTS)

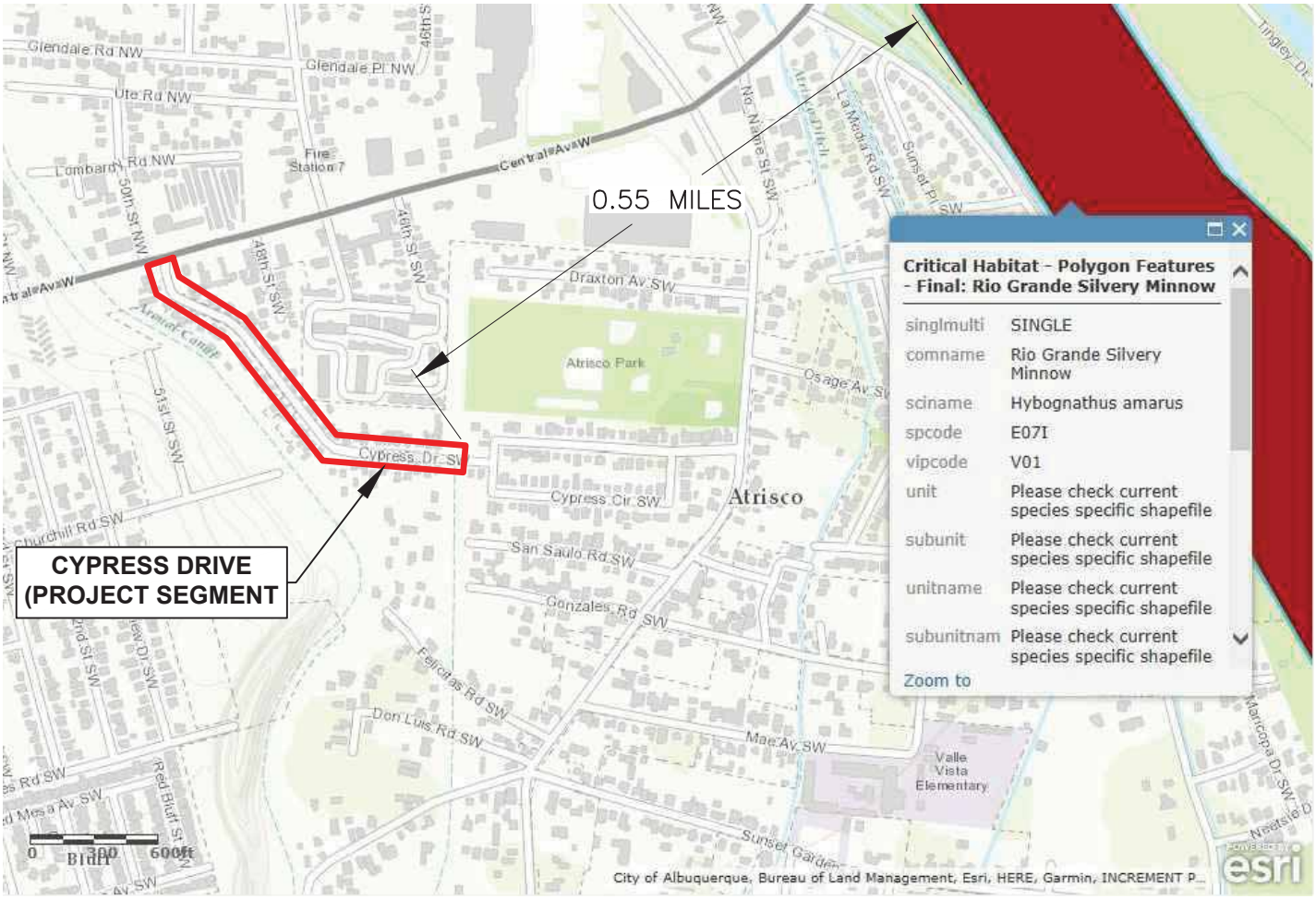
FIGURE

1

I:\Projects\Bernalillo County\Cypress Drive Ph II\17.0 LOMR\Figures\13531 Cypress LOMR Vicinity Map.dwg April 21, 2017 - 12:52pm

Critical Habitat for Threatened & Endangered Species [USFWS]

A specific geographic area(s) that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection.

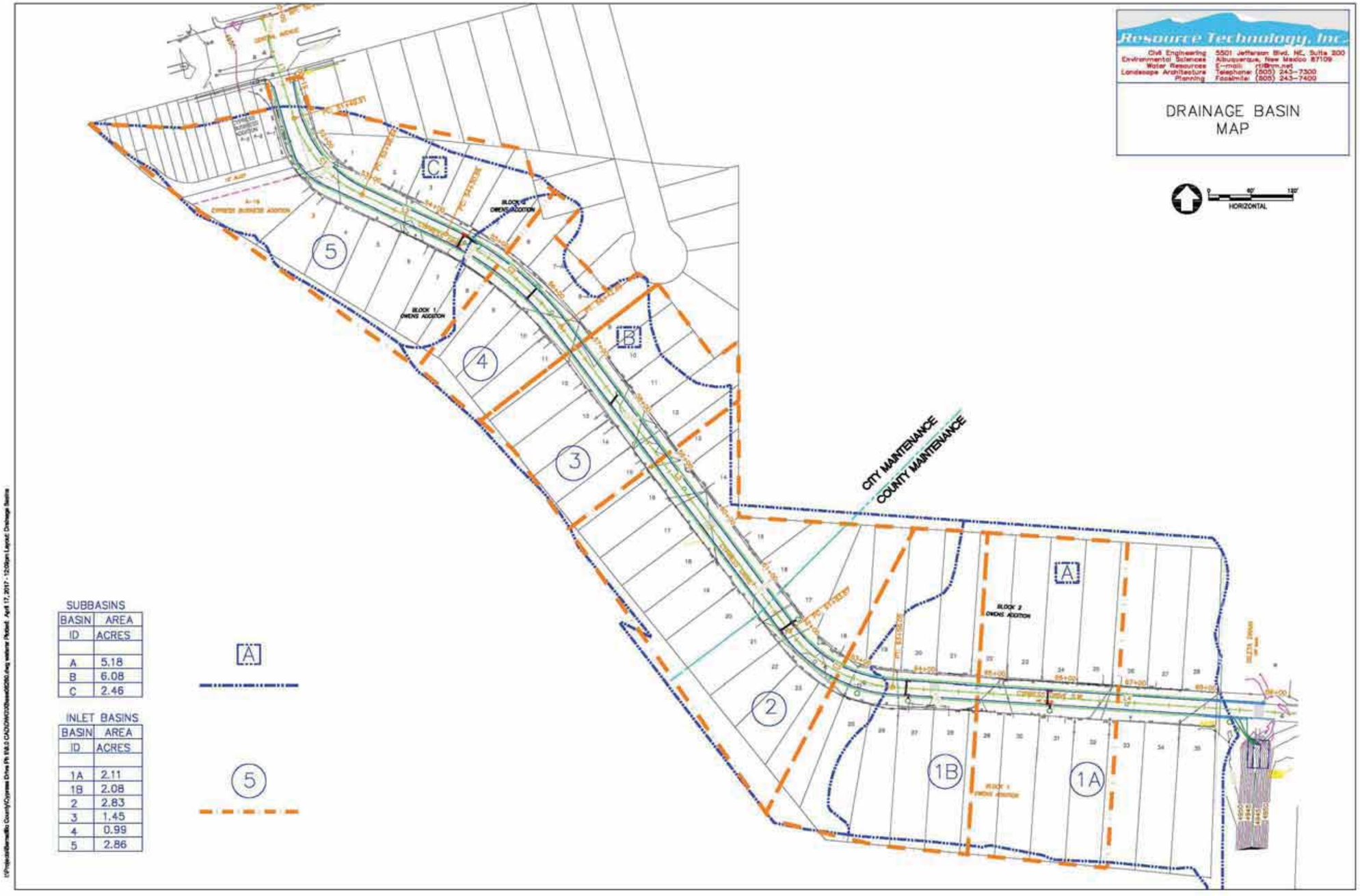


City of Albuquerque, Bureau of Land Management, Esri, HERE, Garmin, INCREMENT P, Intermap, USGS, METI/NASA, EPA, USDA

Resource Technology, Inc.
Civil Engineering
Environmental Sciences
Water Resources
Landscape Architecture
Planning
5501 Jefferson Blvd. NE, Suite 200
Albuquerque, New Mexico 87109
E-mail: rti@rtinm.net
Telephone: (505) 243-7300
Facsimile: (505) 243-7400

DRAINAGE BASIN MAP

HORIZONTAL



SUBBASINS

BASIN ID	AREA ACRES
A	5.18
B	6.08
C	2.46

INLET BASINS

BASIN ID	AREA ACRES
1A	2.11
1B	2.08
2	2.83
3	1.45
4	0.99
5	2.86

[A]

(5)

I:\Projects\Bernalillo County\Cypress Drive Ph II\17.0 LOMR\Figures\13531 Cypress LOMR Vicinity Map.dwg April 24, 2017 - 8:48am

WESTON SOLUTIONS

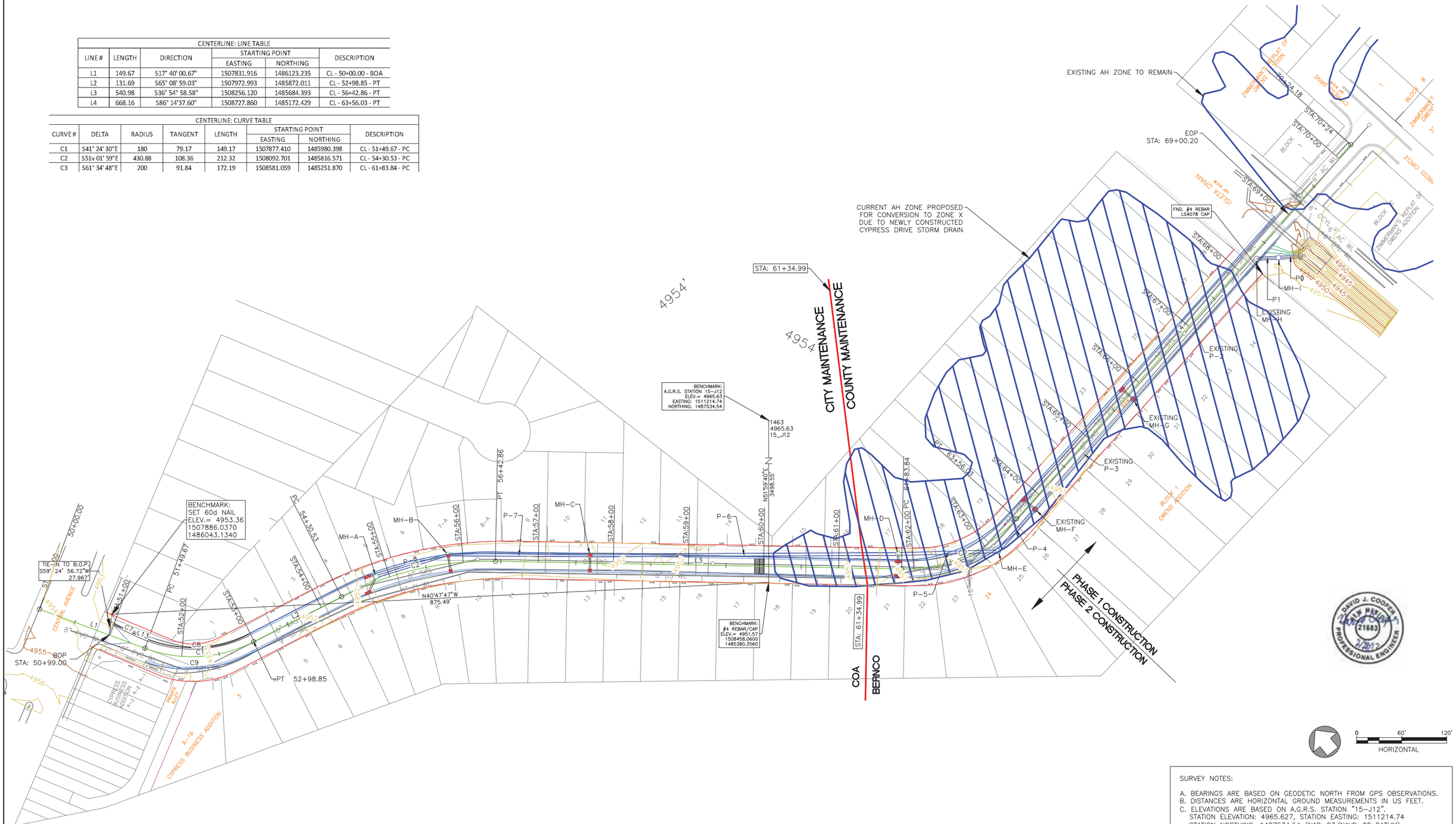
3840 COMMONS AVE. NE
ALBUQUERQUE
NEW MEXICO

CYPRESS DRIVE STORM DRAIN PROJECT
LOMR APPLICATION
DRAINAGE BASIN MAP
(NTS)

FIGURE
3

CENTERLINE: LINE TABLE					
LINE #	LENGTH	DIRECTION	STARTING POINT		DESCRIPTION
			EASTING	NORTHING	
L1	149.67	S17° 40' 00.67"	1507831.916	1486123.235	CL - 50+00.00 - BOA
L2	131.69	S65° 08' 59.03"	1507972.993	1485872.011	CL - 52+98.85 - PT
L3	540.98	S36° 54" 58.58"	1508256.120	1485684.393	CL - 56+42.86 - PT
L4	668.16	S86° 14'37.60"	1508727.860	1485172.429	CL - 63+56.03 - PT

CENTERLINE: CURVE TABLE							
CURVE #	DELTA	RADIUS	TANGENT	LENGTH	STARTING POINT		DESCRIPTION
					EASTING	NORTHING	
C1	S41° 24' 30"E	180	79.17	149.17	1507877.410	1485980.398	CL - 51+49.67 - PC
C2	S51v 01' 59"E	430.88	108.36	212.32	1508092.701	1485816.571	CL - 54+30.53 - PC
C3	S61° 34' 48"E	200	91.84	172.19	1508581.059	1485251.870	CL - 61+83.84 - PC



SURVEY NOTES:

A. BEARINGS ARE BASED ON GEODETIC NORTH FROM GPS OBSERVATIONS.
B. DISTANCES ARE HORIZONTAL GROUND MEASUREMENTS IN US FEET.
C. ELEVATIONS ARE BASED ON A.G.R.S. STATION "15-J12".
STATION ELEVATION: 4965.627, STATION EASTING: 1511214.74
STATION NORTHING: 1487534.54 (NAD-83/NAVD-88 DATUM).

DAVID J. COOPER NEW MEXICO 21583 PROFESSIONAL ENGINEER

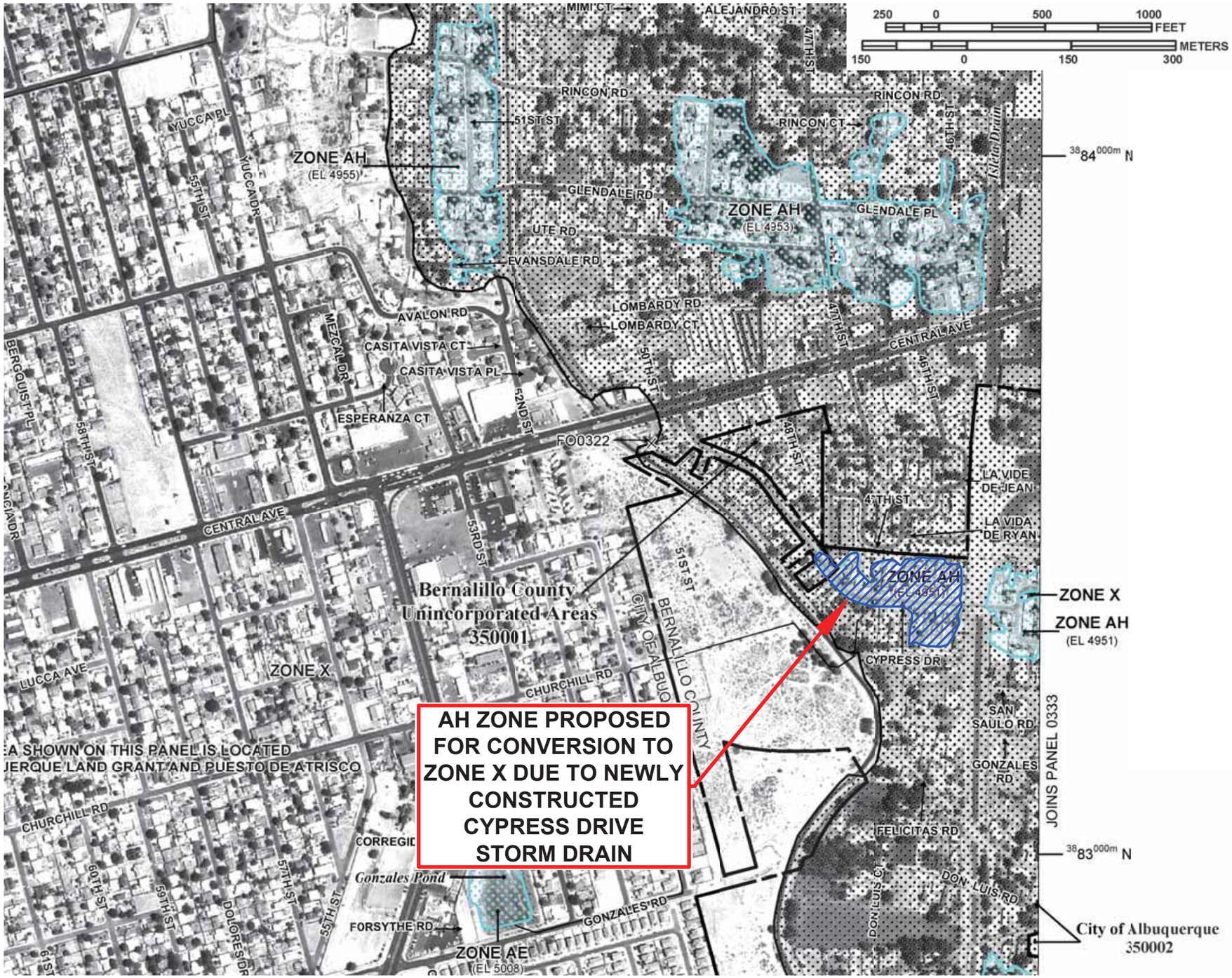
WESTON SOLUTIONS

3840 COMMONS AVE. NE
ALBUQUERQUE
NEW MEXICO

CYPRESS DRIVE STORM DRAIN PROJECT
LOMR APPLICATION
POST-PROJECT CONDITIONS WORK MAP

FIGURE
4

I:\Projects\Bernalillo County\Cypress Drive Ph II\17.0 LOMR\Figures\13531 Cypress LOMR Work Map.dwg April 21, 2017 - 12:47pm



NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0329H

FIRM

FLOOD INSURANCE RATE MAP

BERNALILLO COUNTY, NEW MEXICO AND INCORPORATED AREAS

PANEL 329 OF 825

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
ALBUQUERQUE, CITY OF	350002	0329	H
BERNALILLO COUNTY UNINCORPORATED AREAS	350001	0329	H

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
35001C0329H

MAP REVISED
AUGUST 16, 2012

Federal Emergency Management Agency

DAVID J. COOPER
NEW MEXICO
21683
PROFESSIONAL ENGINEER
2/28/17

THIS IS AN OFFICIAL COPY OF THE ABOVE REFERENCED FLOOD MAP

WESTON SOLUTIONS
3840 COMMONS AVE. NE
ALBUQUERQUE
NEW MEXICO

CYPRESS DRIVE STORM DRAIN PROJECT
LOMR APPLICATION
REVISED FLOOD INSURANCE RATE MAP
35001C0329H (PREVIOUSLY REVISED AUG. 2012)

FIGURE
5

I:\Projects\Bernalillo County\Cypress Drive Ph II\17.0 LOMR\Figures\13531 Cypress LOMR Vicinity Map.dwg April 24, 2017 - 8:44am

APPENDIX A: CYPRESS DRIVE DESIGN BASIS REPORT (ON CD ONLY)

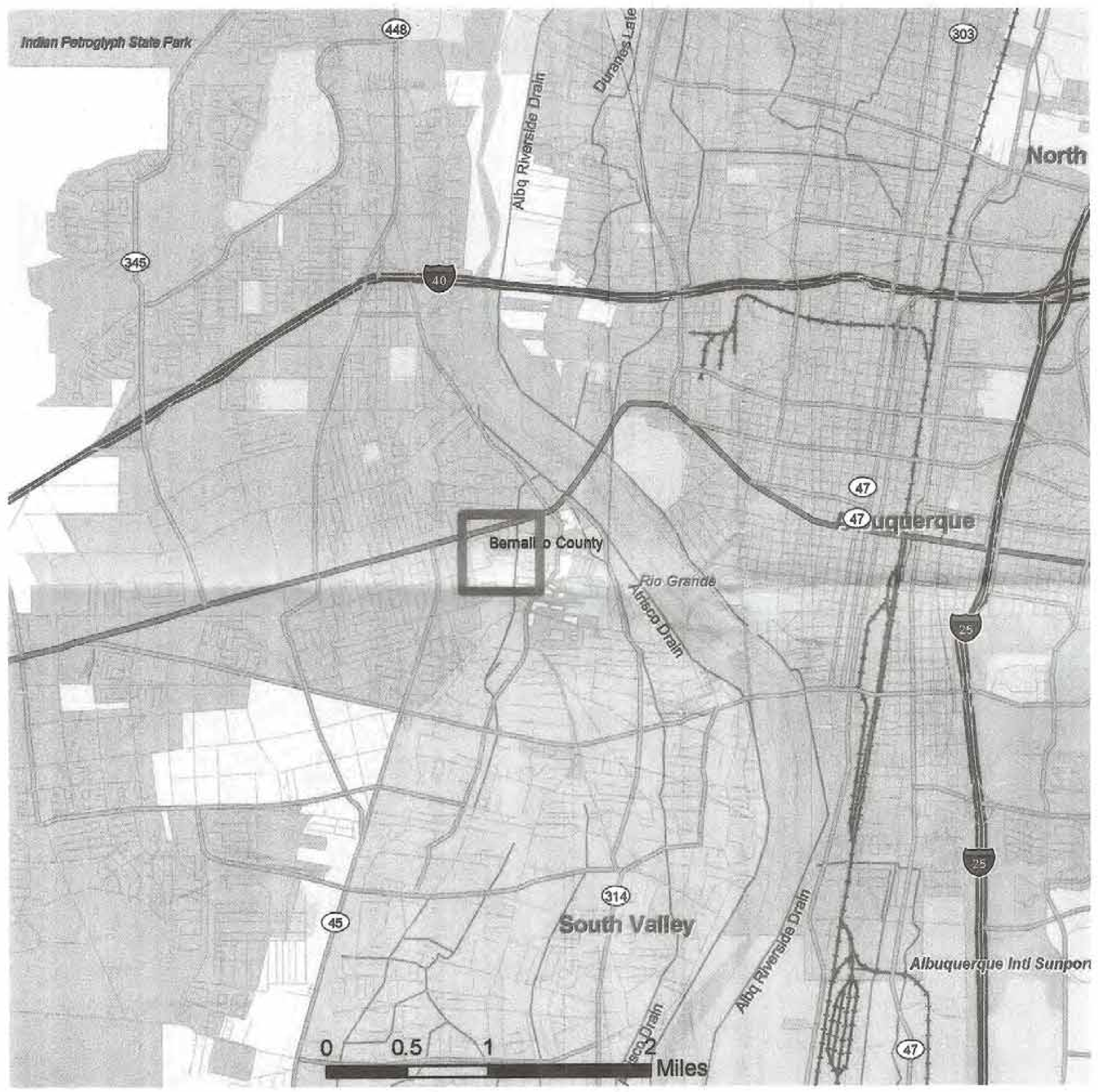
APPENDIX B: CYPRESS DRIVE STORM DRAIN CONSTRUCTION PLANS, PHASE I AS-BUILT RECORD DRAWINGS

CYPRESS DRIVE STORM DRAIN

PHASE I AS-BUILT
RECORD DRAWINGS

ALBUQUERQUE ASPHALT
REDLINES

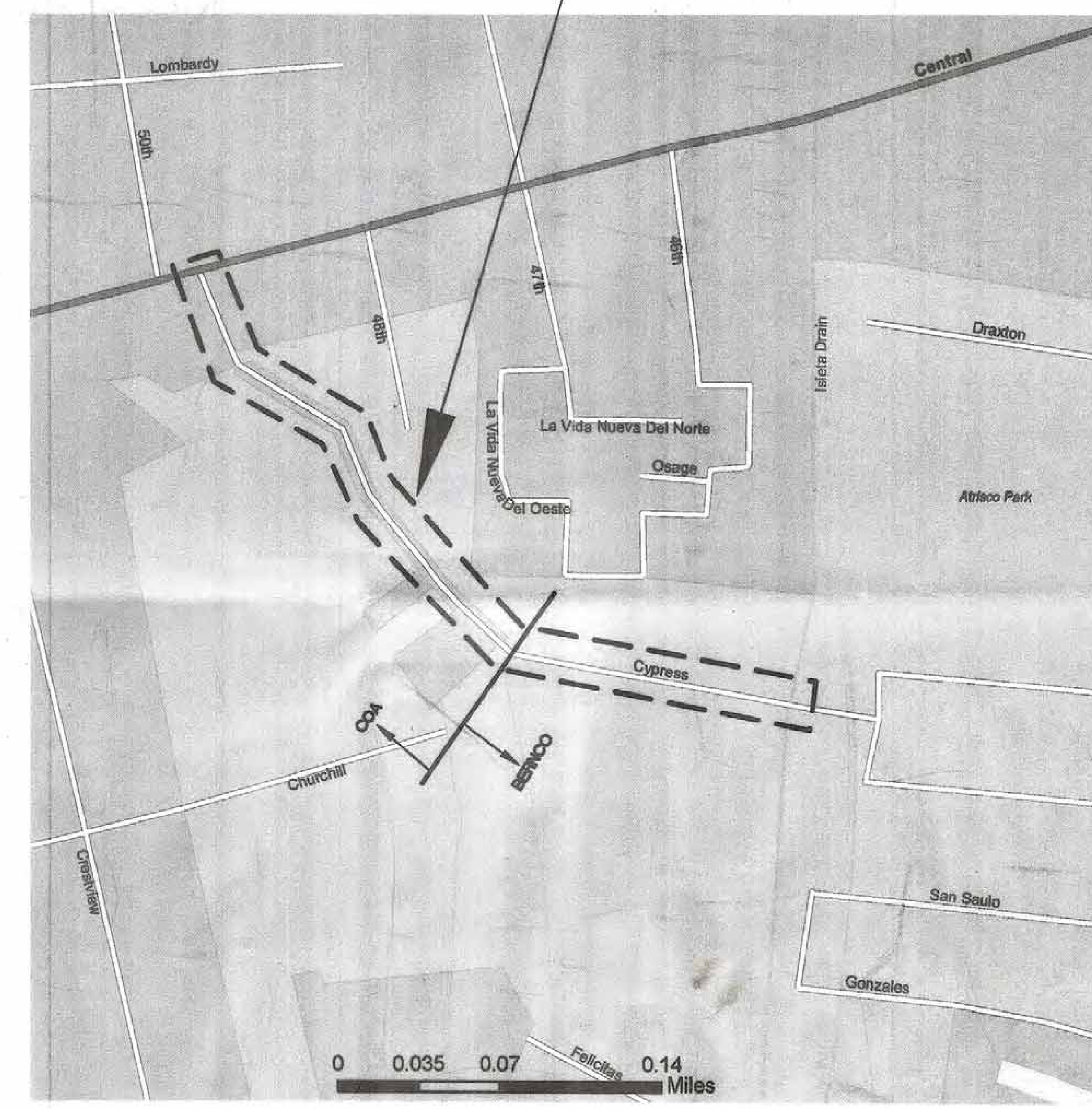
CONSTRUCTION PLANS
BERNALILLO COUNTY, NEW MEXICO



VICINITY MAP

BERNALILLO COUNTY
STATE OF NEW MEXICO

PROJECT LOCATION



LOCATION MAP ZONE ATLAS K-11/K-12

INDEX OF SHEETS

SHEET	TITLE
1	COVER SHEET
2	GENERAL NOTES AND LEGEND
3	SURVEY CONTROL
4	PLAN & PROFILE STA 50+00 TO 54+10
5	PLAN & PROFILE STA 54+10 TO 58+00
6	PLAN & PROFILE STA 58+00 TO 61+90
7	PLAN & PROFILE STA 61+90 TO 65+80
8	PLAN & PROFILE STA 65+80 TO EOP
9	WATER AND SAS SERVICE DETAILS
10	ROADWAY AND CURB DETAILS
11	RUNDOWN AND EROSION PROTECTION DETAILS
12	COUNTY TRAFFIC CONTROL
13	COUNTY TRAFFIC CONTROL NOTES

REV.	SHEETS	CITY ENGINEER	DATE	USER DEPARTMENT	DATE	USER DEPARTMENT	DATE

BERNALILLO COUNTY PUBLIC WORKS DIV. DATE
PWCO 90020

Resource Technology, Inc.
Civil Engineering, Environmental Sciences, Water Resources, Landscape Architecture, Planning
5501 Jefferson Blvd. NE, Suite 200
Albuquerque, New Mexico 87109
E-mail: rti@rtiabq.com
Telephone: (505) 243-7300
Facsimile: (505) 243-7400

ENGINEERS STAMP & SIGNATURE
MICHAEL D. SMITH, NEW MEXICO, 16050, LICENSED PROFESSIONAL ENGINEER, 9-16-09

APPROVALS	ENGINEER	DATE
WATER/WASTEWATER	[signature]	7-27-09
Hydrology	Bradley L. Bingham	7/27/09

APPROVED FOR CONSTRUCTION

ENGINEER DATE
JUNE 2009

COUNTY PROJECT NO.	CITY PROJECT NO.	SHEET	OF
TS08-04	601791	1	13

VERTICAL DATUM IS NAVD 88

GOVERNING SPECIFICATIONS

1) THE CONTRACTOR SHALL ABIDE BY ALL LOCAL, STATE, AND FEDERAL LAWS, REGULATIONS, AND RULES WHICH APPLY TO THIS PLAN SET

2) ALL WORK DETAILED ON THIS PLAN SET TO BE PERFORMED UNDER CONTRACT SHALL, UNLESS OTHERWISE STATED, BE PERFORMED IN ACCORDANCE WITH THE BERNALILLO COUNTY ORDINANCES AND CITY OF ALBUQUERQUE (COA) STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1986 EDITION (INCLUDING REVISIONS THOUGH UPDATE #7, AND AMENDMENT # 1).

SURVEY/MONUMENTATION INFORMATION

3) INFORMATION PERTAINING TO THE MONUMENTATION FOR THIS PROJECT MAY BE OBTAINED FROM THE CITY OF ALBQ. PUBLIC WORKS DEPT, SURVEY SECTION.

4) THE 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. REPLACEMENT SHALL BE DONE ONLY BY THE CITY SURVEYOR. 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 TO THE NEW GRADE UNLESS OTHERWISE SPECIFIED, REFER TO SECTION 4.4 OF THE GENERAL CONDITIONS OF THE STANDARD SPECIFICATIONS.

5) CONTRACTOR IS RESPONSIBLE FOR PROTECTING AND MAINTAINING ALL EXISTING MONUMENTATION CONTROLS. IN THE EVENT OF INADVERTANT DESTRUCTION OR ALTERATION THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE CITY SURVEYOR.

6) CONSTRUCTION STAKING SHALL INCLUDE ALL SURVEYING AND CONTROL STAKING NECESSARY TO ESTABLISH PROJECT CENTERLINE, TOE OF SLOPE CATCH POINTS AND OTHER FEATURES AS REQUIRED FOR CONSTRUCTION OF THE PROJECT.

7) THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND RECORDING ALL EXISTING AND FINAL GRADES BY CROSS-SECTIONING OR OTHER MEANS, FOR THE PURPOSE OF DETERMINING EARTHWORK QUANTITIES. THESE RECORDS WILL BE SUBJECT TO REVIEW BY THE CITY AND/OR ENGINEER FOR VERIFICATION OF PAY QUANTITIES.

EARTHWORK

8) AN EXCAVATION/CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN THE CITY RIGHT OF WAY.

9) THE EARTHWORK QUANTITIES ARE BASED ON FINAL VOLUMES COMPACTED IN PLACE. ON-SITE EXCAVATION AND BACK FILL QUANTITY IS BASED ON A SHRINKAGE FACTOR OF 20%.

10) UNLESS OTHERWISE STATED WITHIN THIS PLAN SET ALL SIDESLOPES SHALL BE 3H:1V MAXIMUM, KEEPING SLOPES FLATTER WHEREVER POSSIBLE. SLOPES SHALL TRANSITION SMOOTHLY TO EXISTING GRADES AND ADJACENT STRUCTURES IN ALL CASES.

11) NO MATERIAL PITS HAVE BEEN IDENTIFIED FOR THIS PROJECT. THE CONTRACTOR MAY OBTAIN SUITABLE MATERIAL FROM ANY ACCEPTABLE SOURCE, PROVIDED THAT IT MEETS PROJECT SPECIFICATIONS. ALL MATERIAL PIT ACTIONS SHALL BE IN COMPLIANCE WITH SECTION 205 OF THE C.O.A. SPECIFICATIONS. NO ADDITIONAL PAYMENT SHALL BE MADE FOR HAULING OF SUCH MATERIAL.

12) THE DESIGN "R" VALUE FOR THIS PROJECT IS 50. MATERIAL WITH AN "R" VALUE OF LESS THAN 50 SHALL NOT BE PLACED IN, NOR ALLOWED TO REMAIN WITHIN, THE TOP TWO FEET OF FINISHED SUBGRADE.

13) THE CONTRACTOR SHALL WARP SLOPES WHERE NECESSARY TO STAY WITHIN THE RIGHT-OF-WAY OR CONSTRUCTION LIMITS, OR TO MEET EXISTING STRUCTURES.

14) ALL EXCAVATION TRENCHING AND SHORING ACTIVITIES MUST BE CARRIED OUT IN ACCORDANCE WITH OSHA 29, CFR 1926.650, SUBPART P.

15) THE CONTRACTOR SHALL BE RESTRICTED TO THE USE OF A 35 TON NON-VIBRATING ROLLER MAXIMUM TO OBTAIN THE REQUIRED COMPACTION IN EMBANKMENT AND SUB GRADE IN URBAN OR OTHER AREAS WHERE THE USE OF HEAVIER EQUIPMENT COULD DAMAGE UNDERGROUND UTILITIES OR OTHER PERMANENT STRUCTURES.

16) CONTRACTOR SHALL PROMPTLY CLEAN UP ANY MATERIAL EXCAVATED WITHIN THE PUBLIC RIGHT-OF-WAY SO THAT THE EXCAVATED MATERIAL IS NOT SUSCEPTIBLE TO BEING WASHED DOWN THE STREET, INTO STORM DRAIN SYSTEMS, OR DOWN ARROYOS.

17) PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY EXISTING HORIZONTAL AND VERTICAL LOCATIONS OF ALL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER OR SURVEYOR IMMEDIATELY SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.

UTILITIES

18) ** WARNING ** – EXISTING UTILITY LINE LOCATIONS ARE SHOWN IN APPROXIMATE MANNER ONLY, AND SUCH LINES MAY EXIST WHERE NONE ARE SHOWN. THE LOCATION OF ANY SUCH EXISTING LINES IS BASED UPON INFORMATION PROVIDED BY THE UTILITY COMPANY, THE OWNER, OR BY OTHERS, AND THE INFORMATION 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 THEREFOR. THE 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. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE CAUSED BY ITS FAILURE TO LOCATE, IDENTIFY, AND PRESERVE ANY AND ALL EXISTING UTILITIES. THE CONTRACTOR SHALL COMPLY WITH STATE STATUTES, MUNICIPAL AND LOCAL ORDINANCES, RULES AND REGULATIONS PERTAINING TO THE LOCATION OF THESE LINES AND FACILITIES, IN PLANNING AND CONDUCTING EXCAVATION, WHETHER BY CALLING OR NOTIFYING THE UTILITIES, COMPLYING WITH "BLUE STAKES" PROCEDURES, OR OTHERWISE.

19) THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES WHEN WORKING NEAR THEIR SYSTEMS. TWO WORKING DAYS PRIOR TO ANY EXCAVATION, THE CONTRACTOR SHALL CALL NEW MEXICO ONE CALL SYSTEM INC. AT 260-1990 OR 811 VIA CELL PHONE REGARDING LOCATION OF EXISTING UTILITIES. CONTRACTOR MAY BE REQUIRED TO RESCHEDULE ITS ACTIVITIES TO ALLOW UTILITY CREWS TO PERFORM THEIR REQUIRED WORK.

20) IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO PROTECT ALL EXISTING UTILITIES WITH IN THE CONSTRUCTION AREA. ANY DAMAGE RESULTING FROM CONSTRUCTION ACTIVITIES WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE AND SHALL BE APPROVED BY THE ENGINEER.

21) CONTRACTOR SHALL SUPPORT ALL EXISTING UNDERGROUND UTILITY LINES WHICH BECOME EXPOSED DURING CONSTRUCTION. PAYMENT FOR ALL SUPPORTING WORK SHALL BE INCIDENTAL TO CONSTRUCTION COSTS.

22) ALL UTILITY VALVE BOXES, MANHOLES, AND/OR UTILITY POLES WHICH FALL WITHIN CONSTRUCTION ZONE SHALL BE ADJUSTED TO GRADE OR RELOCATED BY THE RESPECTIVE UTILITIES, UNLESS OTHERWISE NOTED ON PLANS. THE CONTRACTOR SHALL COORDINATE SUCH ACTIVITIES IN ORDER TO FACILITATE ADJUSTMENT OR RELOCATION IN A TIMELY MANNER.

23) CONTRACTOR SHALL COORDINATE WITH THE ABCWUA (857-8200) SEVEN (7) WORKING DAYS IN ADVANCE OF ANY WORK THAT MAY AFFECT EXISTING PUBLIC WATER OR SEWER UTILITIES. EXISTING VALVES TO BE OPERATED BY ABCWUA PERSONNEL ONLY. CONTRACTOR SHALL CONTACT THE WATER SYSTEMS DIVISION SEVEN (7) WORKING DAYS PRIOR TO NEEDING VALVES TURNED ON OR OFF.

24) PNM (PUBLIC SERVICE CO. OF NEW MEXICO) WILL PROVIDE AT NO COST TO THE CITY OR TO 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.

25) RCP SHALL BE INSTALLED SO THAT THE JOINT GAP AT THE HOME POSITION SHALL CONFORM TO THE APPROVED MANUFACTURER'S RECOMMENDATIONS. 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. RCP SHALL BE RUBBER GASKETED TONGUE AND GROOVE.

26) ALL UTILITIES AND UTILITY SERVICE LINES SHALL BE INSTALLED PRIOR TO PAVING. BACK FILL COMPACTION SHALL BE ACCORDING TO SPECIFIED STREET USE.

GENERAL CONSTRUCTION

27) THE CONTRACTOR IS TO COORDINATE ALL WORK WITH THE ENGINEER.

28) IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO SECURE AND SUPPLY WATER FOR THE PROJECT. THE COST WILL BE INCIDENTAL TO COMPLETION OF THE PROJECT AND NO SEPARATE PAYMENT WILL BE MADE THEREFORE.

29) THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REMOVALS REQUIRED TO COMPLETE THE PROJECT. ADDITIONAL REMOVALS NOT SHOWN ON THE PLANS MAY BE DESIGNATED BY THE MANAGER. ALL REMOVALS, UNLESS OTHERWISE INDICATED WILL BE INCIDENTAL TO SITE CLEARING AND GRUBBING.

30) ANY SALVAGEABLE MATERIALS REMOVED FROM THIS PROJECT SHALL BE HAULED AND STOCK PILED AT A LOCAL LOCATION DETERMINED BY THE ENGINEER. HAUL OF SUCH MATERIALS SHALL BE INCIDENTAL TO SITE CLEARING AND GRUBBING.

31) THE CONTRACTOR SHALL BE REQUIRED TO CONFINE HIS WORK WITHIN THE CONSTRUCTION LIMITS AND/OR RIGHT-OF-WAY LIMITS.

32) THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE CAUSED BY IT TO EXISTING WALLS, FENCES, SIDEWALKS, TRAIL SURFACES, IRRIGATION LINES, VALVE BOXES, MANHOLES, CURB AND GUTTER, ETC, DURING CONSTRUCTION AND SHALL REPAIR OR REPLACE SAME AT ITS OWN EXPENSE. THE CONTRACTOR IS RESPONSIBLE FOR DOCUMENTATION OF ANY EXISTING DAMAGE PRIOR TO START OF CONSTRUCTION.

33) SEVEN (7) WORKING DAYS PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT TO CONSTRUCTION COORDINATION DIVISION A DETAILED CONSTRUCTION SCHEDULE. TWO (2) WORKING DAYS PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL OBTAIN A BARRICADING PERMIT FROM THE CONSTRUCTION COORDINATION DIVISION. CONTRACTOR SHALL NOTIFY BARRICADE ENGINEER (924-3400) PRIOR TO OCCUPYING AN INTERSECTION. REFER TO SECTION 19 OF THE GENERAL CONDITIONS OF THE COA STANDARD SPECIFICATIONS.

34) THE CONTRACTOR SHALL BE THE RESPONSIBLE PARTY FOR THE IMPLEMENTATION AND MAINTENANCE OF ALL TRAFFIC CONTROL PROCEDURES AND MATERIALS. THE CONTRACTOR SHALL HAVE PERSONNEL AVAILABLE 24 HOURS PER DAY, SEVEN (7) DAYS PER WEEK TO INSPECT AND MAINTAIN TRAFFIC CONTROL DEVICES AS DIRECTED BY THE ENGINEER. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND MAINTAINING ALL CONSTRUCTION SIGNING UNTIL PROJECT HAS BEEN ACCEPTED BY THE CITY OF ALBUQUERQUE AND/OR BERNALILLO COUNTY.

35) CONTRACTOR SHALL PRESERVE ALL EXISTING SIGNS. SIGNS REMOVED TO FACILITATE CONSTRUCTION SHALL BE INSTALLED AT THE SAME LOCATION PER COA STD SPECS.

36) ALL STREET STRIPING ALTERED OR DESTROYED SHALL BE REPLACED WITH REFLECTORIZED PAVEMENT MARKINGS BY CONTRACTOR TO LOCATION AS EXISTING OR AS INDICATED BY THIS PLAN SET.

37) ALL SIGNS AND CODING WILL BE IN ACCORDANCE WITH THE LATEST EDITION OF MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS – "TRAFFIC CONTROL DEVICES FOR BICYCLE FACILITIES," PUBLISHED BY THE U.S. DEPARTMENT OF TRANSPORTATION. COORDINATE LOCATION FOR NEW SIGNS AND/OR POSTS WITH TRAFFIC OPS. ENGINEER.

38) WHEN ABUTTING NEW CURB AND GUTTER TO EXISTING PAVEMENT, A ONE FOOT (1') WIDE SECTION OF EXISTING PAVEMENT ADJACENT TO THE NEW CURB AND GUTTER SHALL BE SAWCUT, REMOVED, AND REPLACED AS PER THE STANDARD SPECIFICATIONS. REFERENCE COA STANDARD DRAWING #2415. NO DIRECT PAYMENT WILL BE MADE FOR SAW CUTTING.

39) THE FINAL SURFACE OF THE REPLACED PAVEMENT AND GUTTER SHALL CONFORM TO A GRADE LINE SET BY THE CONTRACTOR SUCH THAT THE PAVEMENT AND GUTTER WILL READILY DRAIN AND DOES NOT VARY SIGNIFICANTLY FROM ADJACENT EXISTING GRADES.

40) ALL SAWCUT PAVEMENT SHALL HAVE A UNIFORM EDGE AND BE SPRAYED WITH TACK.

41) WHEN REMOVAL OF EXISTING CURB AND GUTTER OR SIDEWALK IS REQUIRED, REMOVE BACK TO NEAREST SUITABLE JOINT UNLESS OTHERWISE NOTED.

42) EXISTING CURB AND GUTTER NOT CALLED OUT TO BE REMOVED UNDER THE CONTRACT WHICH IS DAMAGED OR DISPLACED BY THE CONTRACTOR SHALL BE REMOVED AND REPLACED BY THE CONTRACTOR AT THE CONTRACTOR'S OWN EXPENSE PER COA STANDARD DWG. 2415A

43) CONTRACTOR SHALL INDICATE SAS SERVICE LINE LOCATION WITH IMPRINTED "5" ON CURB FOR ALL SAS SERVICE LINES EXPOSED DURING CONSTRUCTION.

44) CONTRACTOR SHALL RECORD DATA ON ALL UTILITY LINES AND ACCESSORIES AS 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. THESE SHALL BE KEPT CURRENT AT ALL TIMES AND SHALL BE SUBJECT TO REVIEW BY THE ENGINEER THROUGHOUT THE PROJECT. THE FINAL AS-BUILT PLANS SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO FINAL PAYMENT.

45) QUANTITIES SHOWN HEREIN, FOR THE VARIOUS BID ITEMS, ARE FOR THE CONTRACTOR'S INFORMATION ONLY. PAYMENT SHALL BE BASED ON ACTUAL QUANTITIES AS CONSTRUCTED.

46) OVERNIGHT PARKING OF CONSTRUCTION EQUIPMENT SHALL NOT OBSTRUCT DRIVEWAYS OR DESIGNATED TRAFFIC LANES. THE CONTRACTOR SHALL NOT STORE ANY EQUIPMENT OR MATERIAL WITHIN THE PUBLIC RIGHT-OF-WAY.

47) CONTRACTOR SHALL MAINTAIN A GRAFFITI-FREE WORK SITE. CONTRACTOR SHALL PROMPTLY REMOVE ANY GRAFFITI FROM ALL EQUIPMENT AND STRUCTURES, WHETHER PERMANENT OR TEMPORARY.

WASTE DISPOSAL REQUIREMENTS

48) THE CONTRACTOR SHALL PROPERLY HANDLE AND DISPOSE OF ALL ASPHALT PAVEMENT MATERIAL REMOVED ON THE PROJECT BY BREAKING DOWN TO MAXIMUM 4" SIZE AND PLACING WITHIN NEW ROADWAY PRISM AT LEAST 2 FEET BELOW FINISHED GRADE, RECYCLING, STOCK PILING, AND/OR HAULING TO AN APPROVED LANDFILL IN ACCORDANCE WITH THE REGULATIONS OF THE NEW MEXICO SOLID WASTE ACT.

49) ITEMS DESIGNATED FOR REMOVAL WITHOUT SALVAGE, UNSUITABLE CONSTRUCTION MATERIALS AND DEBRIS FROM CLEARING AND GRUBBING, ARE TO BE PLACED IN AN ENVIRONMENTALLY SUITABLE DISPOSAL SITE DECIDED UPON AND COORDINATED BY THE CONTRACTOR, WITH THE APPROPRIATE REGULATORY AGENCIES. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING OF THE DETAILS OF DISPOSAL OPERATIONS. BORROW MATERIAL, ROCK WASTE, VEGETATIVE DEBRIS, ETC. SHALL NOT BE PLACED IN WETLAND AREAS OR AREAS WHICH MAY IMPACT ENDANGERED SPECIES OR ARCHAEOLOGICAL RESOURCES. AN ARCHAEOLOGICAL SURVEY AND ENVIRONMENTAL CLEARANCE SHALL BE GAINED BY THE CONTRACTOR BEFORE DISPOSAL SITES ARE ACCEPTED.

HAZARDOUS SPILLS REQUIREMENTS

50) THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPORTING AND CLEANUP OF SPILLS ASSOCIATED WITH PROJECT CONSTRUCTION AND SHALL REPORT AND RESPOND TO SPILLS OF HAZARDOUS MATERIALS SUCH AS GASOLINE, DIESEL, MOTOR OILS, SOLVENTS, CHEMICALS, TOXIC AND CORROSIVE SUBSTANCES, ETC., WHICH MAY BE A THREAT TO PUBLIC HEALTH OR THE ENVIRONMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPORTING DISCOVERIES OF PAST SPILLS AND OF CURRENT SPILLS NOT ASSOCIATED WITH CONSTRUCTION. REPORTS SHALL BE MADE IMMEDIATELY TO THE NM ENVIRONMENT DEPARTMENT EMERGENCY RESPONSE AT 827-9329. NON-EMERGENCIES MAY BE REPORTED TO 428-2500.

ENVIRONMENTAL COMPLIANCE

51) THE CONTRACTOR SHALL COMPLY WITH ALL REGULATIONS OF THE U.S. ENVIRONMENTAL PROTECTION AGENCY, INCLUDING THE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEMS (NPDES) PROGRAM. FOR INFORMATION, CONTACT THE NPDES CONTACT FOR THE STATE OF NEW MEXICO AT (505) 827-2855. THE CONTRACTOR IS RESPONSIBLE FOR SECURING ALL PERMITS REQUIRED BY FEDERAL, STATE, AND CITY REGULATIONS FOR NPDES COMPLIANCE.

52) THE AIR POLLUTION CONTROL REGULATION OF THE ALBUQUERQUE – BERNALILLO COUNTY AIR QUALITY CONTROL BOARD LIMIT EMISSIONS OF PARTICULATE MATTER AND THE USE OF CUT BACK ASPHALT. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CLARIFY THESE RESTRICTIONS WITH THE ENVIRONMENTAL HEALTH DEPARTMENT PRIOR TO SUBMITTAL OF BIDS TO AVOID CONFLICT WITH THE REGULATIONS. CALL THE ENVIRONMENTAL HEALTH DEPARTMENT AT 768-2600.

VIBRATION MONITORING AND VIDEO TAPING

53) VIBRATION MONITORING AND VIDEO TAPING DOCUMENTATION SHALL BE PERFORMED IN AND AROUND ALL STRUCTURES AS DEFINED IN THIS GENERAL NOTE AND AS DIRECTED BY THE PROJECT MANAGER. "STRUCTURE" IS DEFINED AS BUILDINGS, RETAINING AND PRIVACY WALLS, END WALLS, DROP INLETS, CATCH BASINS, SEWER AND SERVICE PIPES, DRAINS AND OTHER FEATURES THAT MAY BE ENCOUNTERED DURING CONSTRUCTION. THE CONSTRUCTION AREA AND AREAS ADJACENT TO THE LIMITS OF CONSTRUCTION SHALL ALSO BE VIDEO TAPED.

UTILITY CONTACTS

PNM ELECTRIC	CHRIS BUDD	(505) 401-7432
COMCAST	MORTUS, MIKE	(505) 761-6235
QWEST/US WEST	BEVERLY YOUNG	(505) 245-5934
ABCWUA	ANTHONY MONTOYA	(505) 768-2713
GAS CO. OF NM	JOE DUNLOP	(505) 269-7506
AT&T	MARK EDWARDS	(505) 227-1151

EXISTING LEGEND

- –OHU– = OVERHEAD UTILITY LINE
- = SEWER MANHOLE
- = WATER METER
- = WATER VALVE
- = SEWER CLEANOUT
- = ELECTRIC RISER
- = DRAINAGE MANHOLE
- = TELEPHONE RISER
- = POWER POLE
- = FIRE HYDRANT

- SANITARY MANHOLE & LINE
- FENCE
- — T — UNDERGROUND TELEPHONE LINE
- — CATV — CABLE TELEVISION
- — FO — FIBER OPTIC LINE
- WATER LINE
- — G — GAS LINE

PROPOSED LEGEND

- MOUNTABLE CURB & GUTTER
- STORM DRAIN MANHOLE & LINE
- DOUBLE D INLET
- SINGLE D INLET
- WATER LINE

ABBREVIATIONS

BOP	BEGINNING OF PROJECT
EOP	END OF PROJECT
LF	LINEAR FEET
R/W	RIGHT-OF-WAY
MH	MANHOLE
GR	GRATE

AS-BUILT INFORMATION

CONTRACTOR	DATE
WORK STAKED BY	DATE
INSPECTOR'S ACCEPTANCE BY	DATE
FIELD VERIFICATION BY	DATE
DRAWINGS CORRECTED BY	DATE

MICRO-FILM INFORMATION

RECORDED BY	DATE
NO.	

BENCH MARKS

BEARINGS ARE BASED ON GEODETIC NORTH FROM GPS OBSERVATIONS. DISTANCES ARE HORIZONTAL GROUND MEASUREMENTS IN US FEET. ELEVATIONS ARE BASED ON A.G.R.S. STATION "15-J12". ELEVATION OF STATION = 4965.627 (NAVD 1988 DATUM).

SURVEY INFORMATION

FIELD NOTES

NO.	BY	DATE

ENGINEER'S SEAL

MICHAEL D. SMITH NEW MEXICO 16050 LICENSED PROFESSIONAL ENGINEER 9-16-09

No.	Date	REVISIONS REMARKS	By

DESIGN	
Designed By: MDS	DATE:JUNE 2009
Drawn By: CP,RAO,PMW	DATE:JUNE 2009
Checked By: EVD	DATE:JUNE 2009

Resource Technology, Inc.

Civil Engineering
Environmental Sciences
Water Resources
Landscape Architecture
Planning

5501 Jefferson Blvd. NE, Suite 200
Albuquerque, New Mexico 87109
E-mail: rti@rtiabq.com
Telephone: (505) 243-7300
Facsimile: (505) 243-7400

BERNALILLO COUNTY

CYPRESS DRIVE STORM DRAIN GENERAL NOTES AND LEGEND

Design Review Committee	City Engineer Approval	Last Design Update	Mo./Day/Yr.	Mo./Day/Yr.

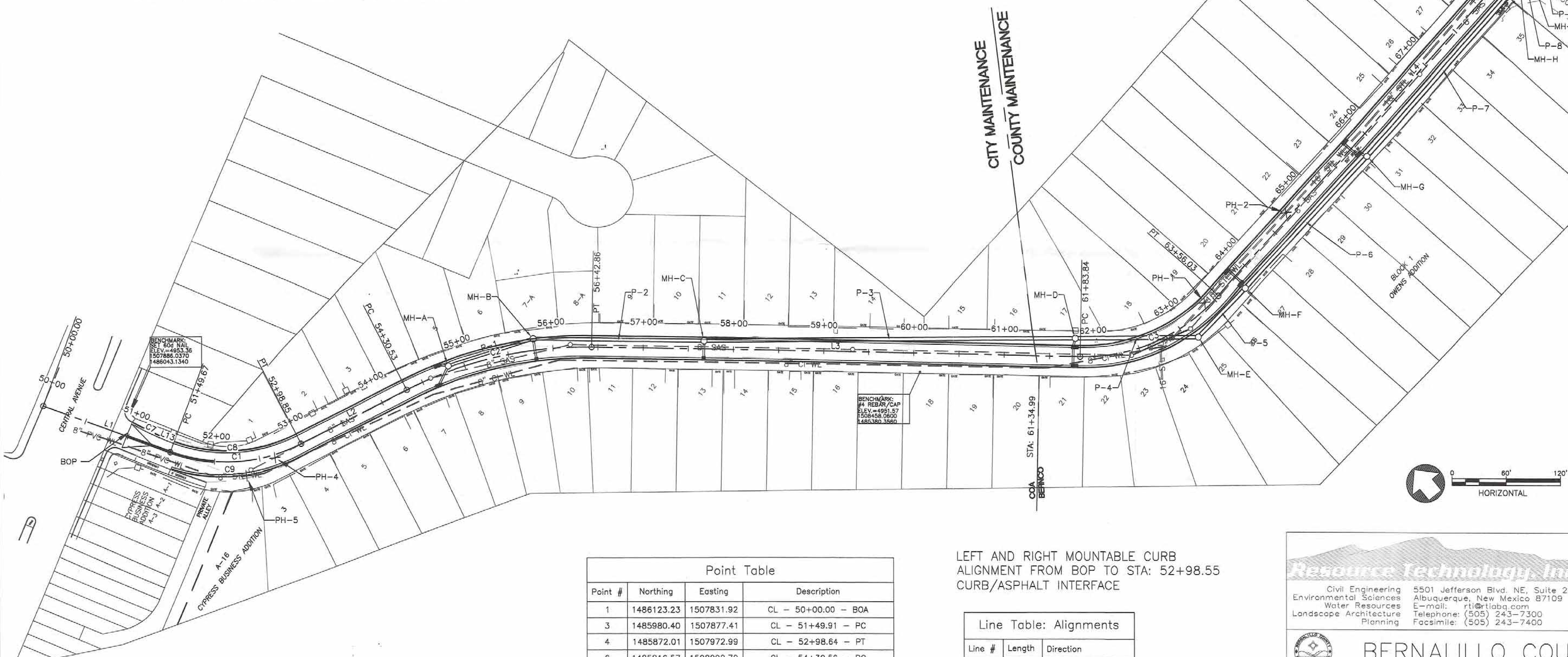
County Project No.	City Project No.	Zone Map No.	Sheet	Of
TS08-04	601791	K-11/12	2	13

MANHOLE LOCATION TABLE				
MANHOLE ID	MANHOLE CENTER N	MANHOLE CENTER E	PIPE ID	PIPE SLOPE
SD MH-A	1485796.775	1508142.105		
			P-1	0.26%
SD MH-B	1485740.949	1508223.289		
			P-2	0.25%
SD MH-C	1485590.251	1508337.748		
			P-3	0.25%
SD MH-D	1485268.392	1508593.409		
			P-4	0.35%
SD MH-E	1485161.946	1508678.576		
			P-5	0.35%
SD MH-F	1485153.829	1508752.523		
			P-6	0.35%
SD MH-G	1485138.813	1508952.432		
			P-7	0.48%
SD MH-H	1485122.872	1509206.573		
			P-8	0.53%
SD MH-I	1485111.622	1509216.471		
			P-9	0.49%
PIPE OUTFALL	1485111.622	1509216.471		

* SEE PLAN AND PROFILE SHEETS FOR STA & OFFSETS

POTHOLE	UTILITY			DEPTH	
#	Type	Material	Diameter	To Top	To Bottom
1	H2O	METALIC	12"	48"	60"
2	H2O	METALIC	12"	44"	54"
3	H2O	METALIC	12"	36"	48"
4	SAS	CLAY TILE	8"	56"	
5	H2O	METALIC	8"	21"	

NOTE: 12" WATERLINE IS MOST LIKELY 16" AS SHOWN IN AS-BUILTS



LEFT AND RIGHT MOUNTABLE CURB ALIGNMENT FROM BOP TO STA: 52+98.55 CURB/ASPHALT INTERFACE

Point Table			
Point #	Northing	Easting	Description
1	1486123.23	1507831.92	CL – 50+00.00 – BOA
3	1485980.40	1507877.41	CL – 51+49.91 – PC
4	1485872.01	1507972.99	CL – 52+98.64 – PT
6	1485816.57	1508092.70	CL – 54+30.56 – PC
7	1485684.39	1508256.12	CL – 56+42.89 – PT
9	1485251.87	1508581.06	CL – 61+83.87 – PC
10	1485172.43	1508727.86	CL – 63+56.05 – PT
11	1485128.66	1509394.58	CL – 70+24.21 – EOA
12	1485905.18	1507901.37	CL – 52+28.84 – CPI
13	1485771.03	1508191.03	CL – 55+38.93 – CPI

CENTERLINE

Line Table: Alignments		
Line #	Length	Direction
L1	149.67	S17° 40' 00.67"E
L2	131.69	S65° 08' 59.03"E
L3	540.98	S36° 54' 58.58"E
L4	668.16	S86° 14' 37.60"E

CENTERLINE

Curve Table: Alignments				
Curve #	Delta	Radius	Tangent	Length
C1	S41° 24' 30"E	180.00	79.17	149.17
C2	S51° 01' 59"E	430.88	108.36	212.32
C3	S61° 34' 48"E	200.00	91.84	172.19

Line Table: Alignments		
Line #	Length	Direction
L13	2.93	S15° 00' 14.64"E

Curve Table: Alignments				
Curve #	Delta	Radius	Tangent	Length
C7	S11° 50' 34"E	357.09	19.72	39.40
C8	S40° 04' 37"E	169.37	79.24	148.23
C9	S40° 51' 02"E	180.00	81.76	153.48

AS-BUILT INFORMATION
CONTRACTOR DATE
WORK STAKED BY DATE
INSPECTOR'S ACCEPTANCE BY DATE
FIELD VERIFICATION BY DATE
DRAWINGS CORRECTED BY DATE

MICRO-FILM INFORMATION
RECORDED BY DATE
NO.

BENCH MARKS
BEARINGS ARE BASED ON GEODETIC NORTH FROM GPS OBSERVATIONS. DISTANCES ARE HORIZONTAL GROUND MEASUREMENTS IN US FEET. ELEVATIONS ARE BASED ON A.C.R.S. STATION "15-J12". ELEVATION OF STATION = 4965.627 (NAVD 1988 DATUM).

SURVEY INFORMATION
FIELD NOTES
NO. BY DATE

ENGINEER'S SEAL
MICHAEL D. SMITH, NEW MEXICO, 18050, LICENSED PROFESSIONAL ENGINEER, 9-16-09

No.	Date	By	REMARKS
			REVISIONS
			DESIGN
Designed By: MDS			DATE: JUNE 2009
Drawn By: CP, RAO, PMW			DATE: JUNE 2009
Checked By: EVD			DATE: JUNE 2009

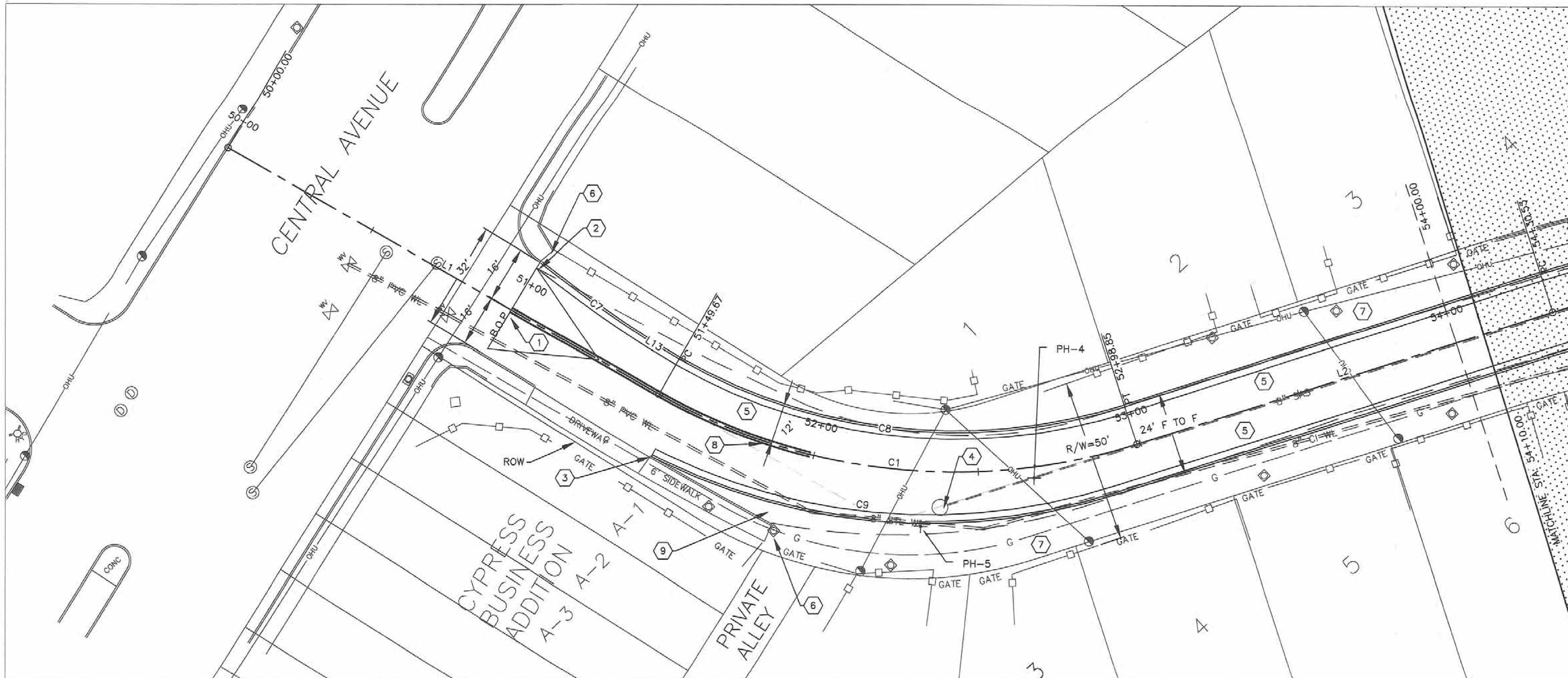
Resource Technology, Inc.
Civil Engineering, Environmental Sciences, Water Resources, Landscape Architecture, Planning
5501 Jefferson Blvd. NE, Suite 200
Albuquerque, New Mexico 87109
E-mail: rti@rtiabq.com
Telephone: (505) 243-7300
Facsimile: (505) 243-7400

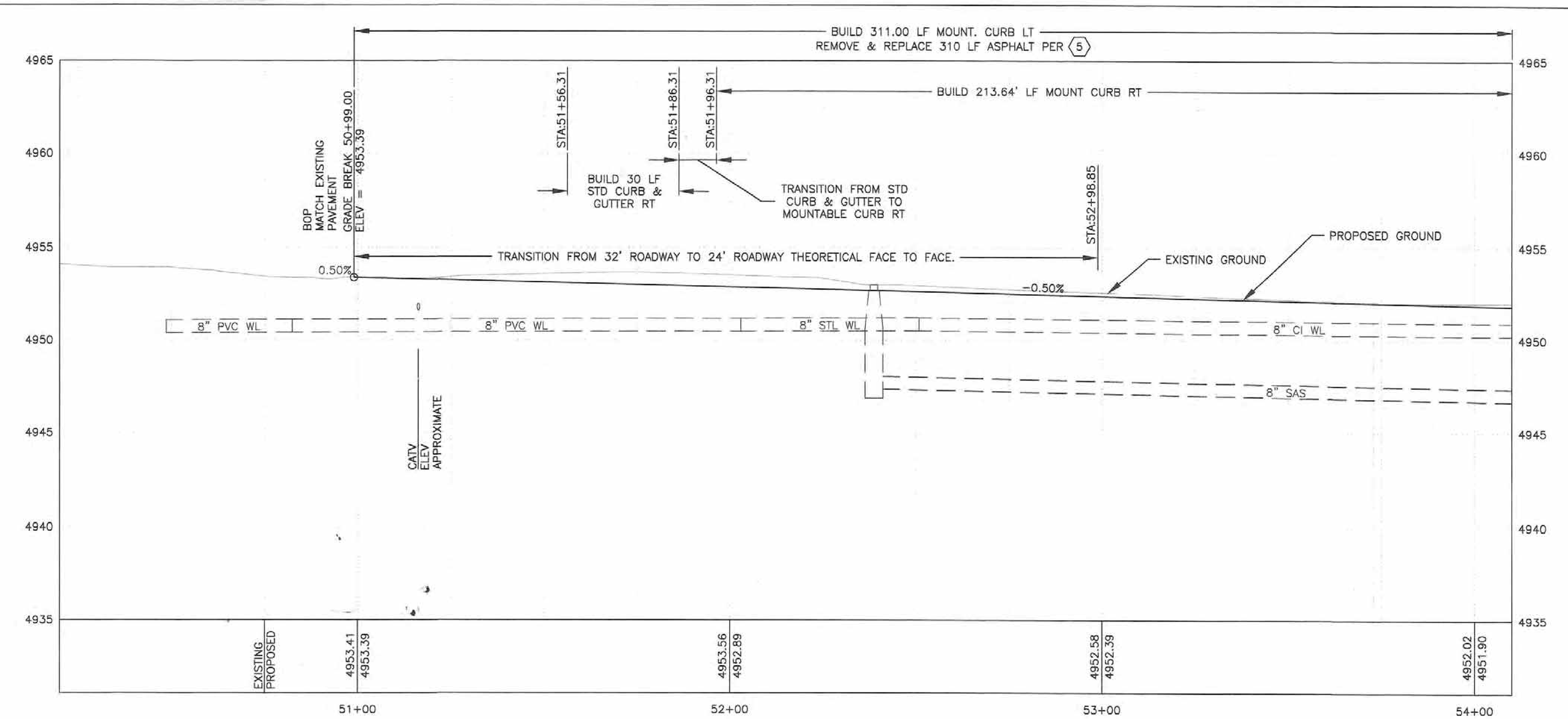
BERNALILLO COUNTY

CYPRESS DRIVE STORM DRAIN SURVEY CONTROL

Design Review Committee	City Engineer Approval	Mo./Day/Yr.	Mo./Day/Yr.
		Last Design Update	

County Project No.	City Project No.	Zone Map No.	Sheet	Of
TS08-04	601791	K-11/12	3	13





GENERAL NOTES

1. SEE SHEET 10 FOR PAVEMENT DETAILS
2. WATERLINE IS IN FOREGROUND; HOWEVER IT IS SHOWN IN PROFILE FOR INFORMATIONAL PURPOSES.
3. CONTRACTOR IS RESPONSIBLE FOR VERIFYING HORIZONTAL AND VERTICAL LOCATIONS OF ALL UTILITIES. UTILITY LOCATIONS SHOWN IN APPROXIMATE MANNER ONLY. CONTRACTOR IS RESPONSIBLE FOR REPLACEMENT COST OF UTILITY LINES DAMAGED IN THE COURSE OF CONSTRUCTION.
4. CONSTRUCTION LIMITS/EASEMENTS ARE FROM FENCE LINE TO FENCE LINE. DO NOT DISTURB FENCE AND/OR WALL. CONTRACTOR IS RESPONSIBLE FOR REPLACEMENT COST OF FENCE AND/OR WALL DAMAGED IN THE COURSE OF CONSTRUCTION.
5. SEE SHEET 3 FOR POTHOLE TABLE AND LINE AND CURB TABLES.

KEYED NOTES

1. SAWCUT PAVEMENT STA: 50+99.00 BEGIN TRANSITION FROM NO CROWN AT STA: 50+99.00 TO 1% CROWN AT STA: 51+24.00
2. 10' TRANSITION FROM MOUNTABLE CURB TO EXISTING HANDICAP RAMP WITH STANDARD C & G INTERFACE.
3. REMOVE 1 SECTION CURB AND GUTTER FROM JOINT WITH EXISTING DRIVEWAY (DO NOT DISTURB DRIVEPAD). CONSTRUCT 30 LF. STANDARD CURB AND GUTTER AND TRANSITION OVER 10' TO MOUNTABLE CURB.
4. ADJUST MANHOLE ELEV. TO NEW GRADE. INCLUDE CONCRETE PAD PER COA STD DWG 2101. CONCRETE PAD INCIDENTAL TO ADJUSTMENT.
5. REMOVE AND DISPOSE OF EXISTING ASPHALT FOR FULL STREET WIDTH.
6. PROVIDE 6H:1V MINIMUM TIE-IN GRADES TO EXISTING ELEV.
7. GRADE TO DRAIN FROM FENCE LINE TO MOUNTABLE CURB. DO NOT DISTURB EXISTING UTILITY POLES OR SERVICES (INCLUDING WATER METERS).
8. 4" DOUBLE THERMOPLASTIC YELLOW STRIP PER STANDARD.
9. BACKFILL BETWEEN CURB AND GUTTER. GRADE TO DRAIN TO NEW ROADWAY.

AS-BUILT INFORMATION: CONTRACTOR / DATE; WORK STAKED BY / DATE; INSPECTOR'S ACCEPTANCE BY / DATE; FIELD VERIFICATION BY / DATE; DRAWINGS CORRECTED BY / DATE

MICRO-FILM INFORMATION: RECORDED BY / DATE; NO.

BENCH MARKS: BEARINGS ARE BASED ON GEODETIC NORTH FROM GPS OBSERVATIONS. DISTANCES ARE HORIZONTAL GROUND MEASUREMENTS IN US FEET. ELEVATIONS ARE BASED ON A.G.R.S. STATION "15-J12". ELEVATION OF STATION = 4965.627 (NAVD 1988 DATUM).

SURVEY INFORMATION: FIELD NOTES — NO. / BY / DATE

ENGINEER'S SEAL: MICHAEL D. SMITH, NEW MEXICO, 16050, LICENSED PROFESSIONAL ENGINEER, 9-16-09

VERTICAL: 0 4' 8'

HORIZONTAL: 0 20' 40'

No.	Date	REMARKS	By	
		REVISIONS		
		DESIGN		
Designed By: MDS				DATE: JUNE 2009
Drawn By: CP,RMO,PMW				DATE: JUNE 2009
Checked By: EVD				DATE: JUNE 2009

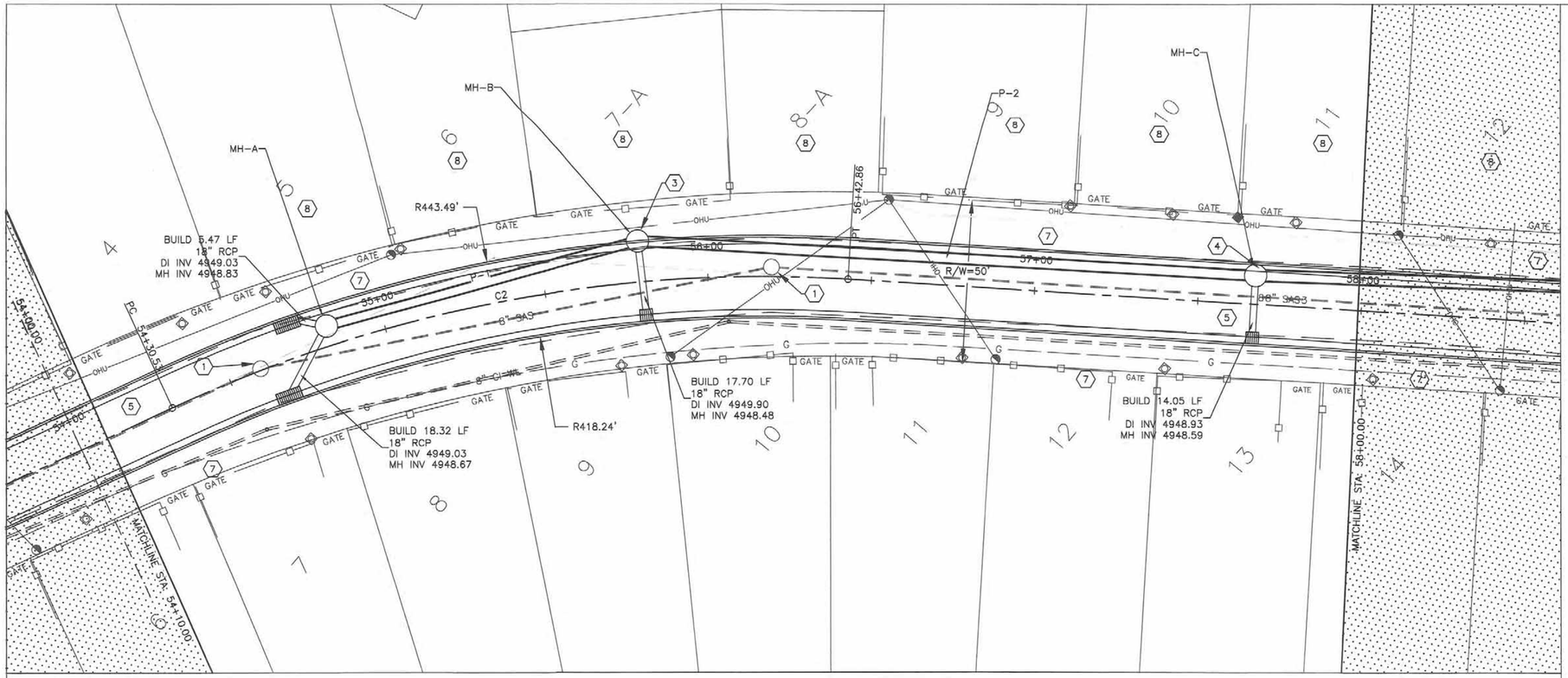
Resource Technology, Inc.
Civil Engineering, Environmental Sciences, Water Resources, Landscape Architecture, Planning
5501 Jefferson Blvd. NE, Suite 200
Albuquerque, New Mexico 87109
E-mail: rti@rtiabq.com
Telephone: (505) 243-7300
Facsimile: (505) 243-7400

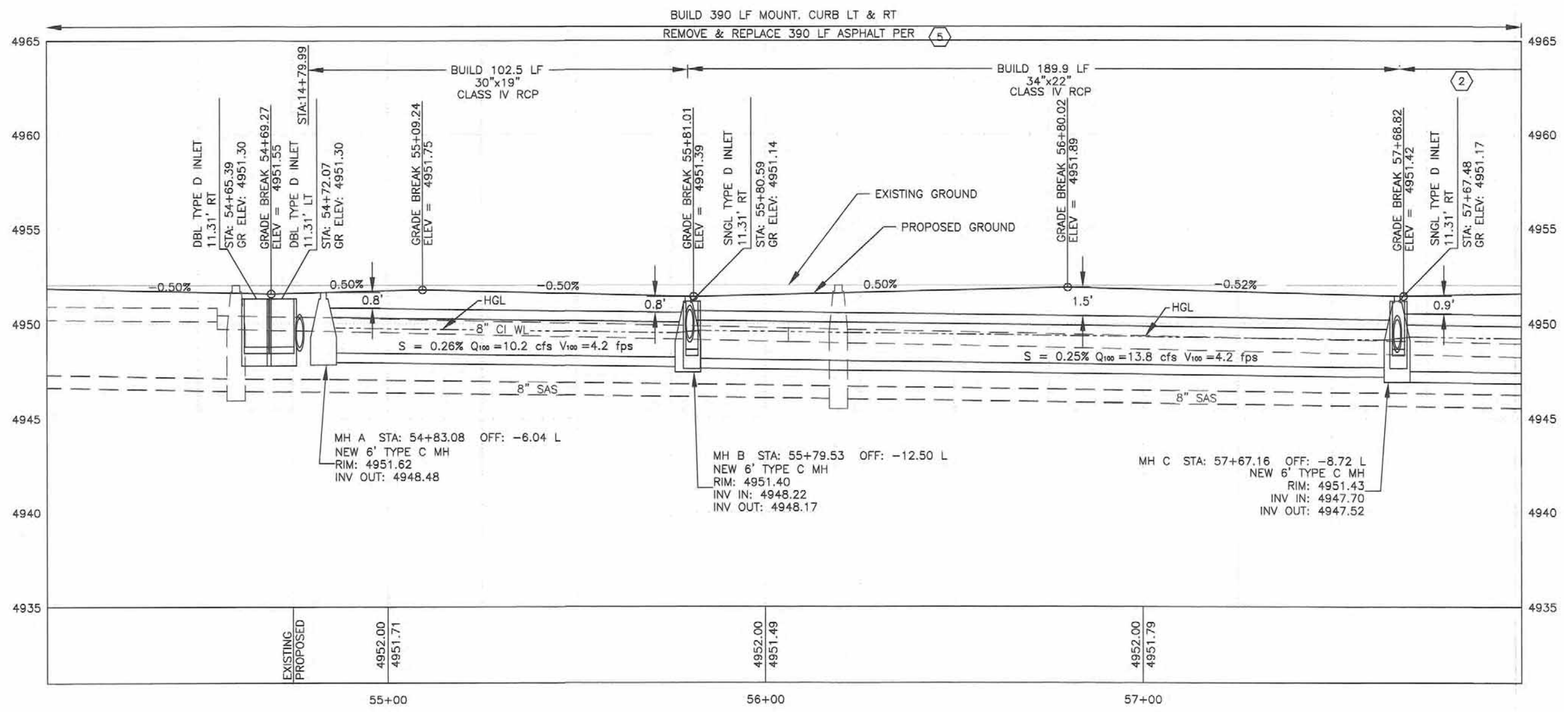
BERNALILLO COUNTY

CYPRESS DRIVE STORM DRAIN
PLAN & PROFILE STA 50+00 TO 54+10

Design Review Committee	City Engineer Approval	Last Design Update	Mo./Day/Yr.	Mo./Day/Yr.

County Project No.	City Project No.	Zone Map No.	Sheet	Of
TS08-04	601791	K-11/12	4	13





GENERAL NOTES

1. SEE SHEET 10 FOR PAVEMENT DETAILS
2. WATERLINE IS IN FOREGROUND; HOWEVER IT IS SHOWN IN PROFILE FOR INFORMATIONAL PURPOSES.
3. INLET OFFSET AND ELEV. REFERS TO BACK OF GRATE. ALL DROP INLETS CONSTRUCTED PER COA STD DWGS 2206 & 2220.
4. CONTRACTOR IS RESPONSIBLE FOR VERIFYING HORIZONTAL AND VERTICAL LOCATIONS OF ALL UTILITIES. UTILITY LOCATIONS SHOWN IN APPROXIMATE MANNER ONLY. CONTRACTOR IS RESPONSIBLE FOR REPLACEMENT COST OF UTILITY LINES DAMAGED IN THE COURSE OF CONSTRUCTION.
5. CONSTRUCTION LIMITS/EASEMENTS ARE FROM FENCE LINE TO FENCE LINE. SO NOT DISTURB FENCE AND/OR WALL. CONTRACTOR IS RESPONSIBLE FOR REPLACEMENT COST OF FENCE AND/OR WALL DAMAGED IN THE COURSE OF CONSTRUCTION.
6. RCP STORM DRAIN AND LATERALS SHALL BE GASKETED TONGUE AND GROOVE.
7. TYPE C MANHOLES CONSTRUCTED PER COA STD DWGS 2101, 2107 AND 2110 UNLESS OTHERWISE NOTED.

KEYED NOTES

1 ADJUST MANHOLE ELEV TO NEW GRADE, INCLUDE CONCRETE PAD PER COA STD DWG. 2101. CONCRETE PAD INCIDENTAL TO ADJUSTMENTS.

2 SEE SHEET 6. RCP LENGTH AND TYPE.

3 MANHOLE OPENING CENTERED ON SOUTH-WEST, WITH NEENAH FRAME AND R-1792-FG GRATE OR APPROVED EQUIVALENT. SEE SHEET 10 FOR CURB MODIFICATION

4 MANHOLE OPENING CENTERED ON NORTH-EAST, WITH NEENAH FRAME AND R-1792-FG GRATE OR APPROVED EQUIVALENT. SEE SHEET 10 FOR CURB MODIFICATION.

5 REMOVE AND DISPOSE OF EXISTING ASPHALT FOR FULL STREET WIDTH.

7 GRADE TO DRAIN FROM FENCE LINE TO MOUNTABLE CURB. DO NOT DISTURB EXISTING UTILITY POLES OR SERVICES (INCLUDING WATER METERS).

8 SEE SHEET 9 DETAIL 2 FOR SAS SERVICE MODIFICATION AND . DETAIL 4 FOR WATER SERVICE MODIFICATION

SURVEY INFORMATION
FIELD NOTES

NO.	BY	DATE

BENCH MARKS

AS-BUILT INFORMATION

CONTRACTOR DATE
STAKED BY DATE
INSPECTOR'S ACCEPTANCE BY DATE
FIELD VERIFICATION BY DATE
DRAWINGS CORRECTED BY DATE

BEARINGS ARE BASED ON GEODETIC NORTH FROM GPS OBSERVATIONS. DISTANCES ARE HORIZONTAL GROUND MEASUREMENTS IN US FEET. ELEVATIONS ARE BASED ON A.G.R.S. STATION "15-J12". ELEVATION OF STATION = 4965.627 (NAVD 1988 DATUM).

MICRO-FILM INFORMATION
RECORDED BY DATE
NO.

SEAL

ENGINEER'S SEAL
MICHAEL D. SMITH NEW MEXICO 14009 LICENSED PROFESSIONAL ENGINEER
9-16-09

0 4' 8'
VERTICAL
0 20' 40'
HORIZONTAL

No.	Date	REMARKS
		REVISIONS
		DESIGN

Designed By: MDS DATE:JUNE 2009
Drawn By: CP,RAO,PMW DATE:JUNE 2009
Checked By: EVD DATE:JUNE 2009

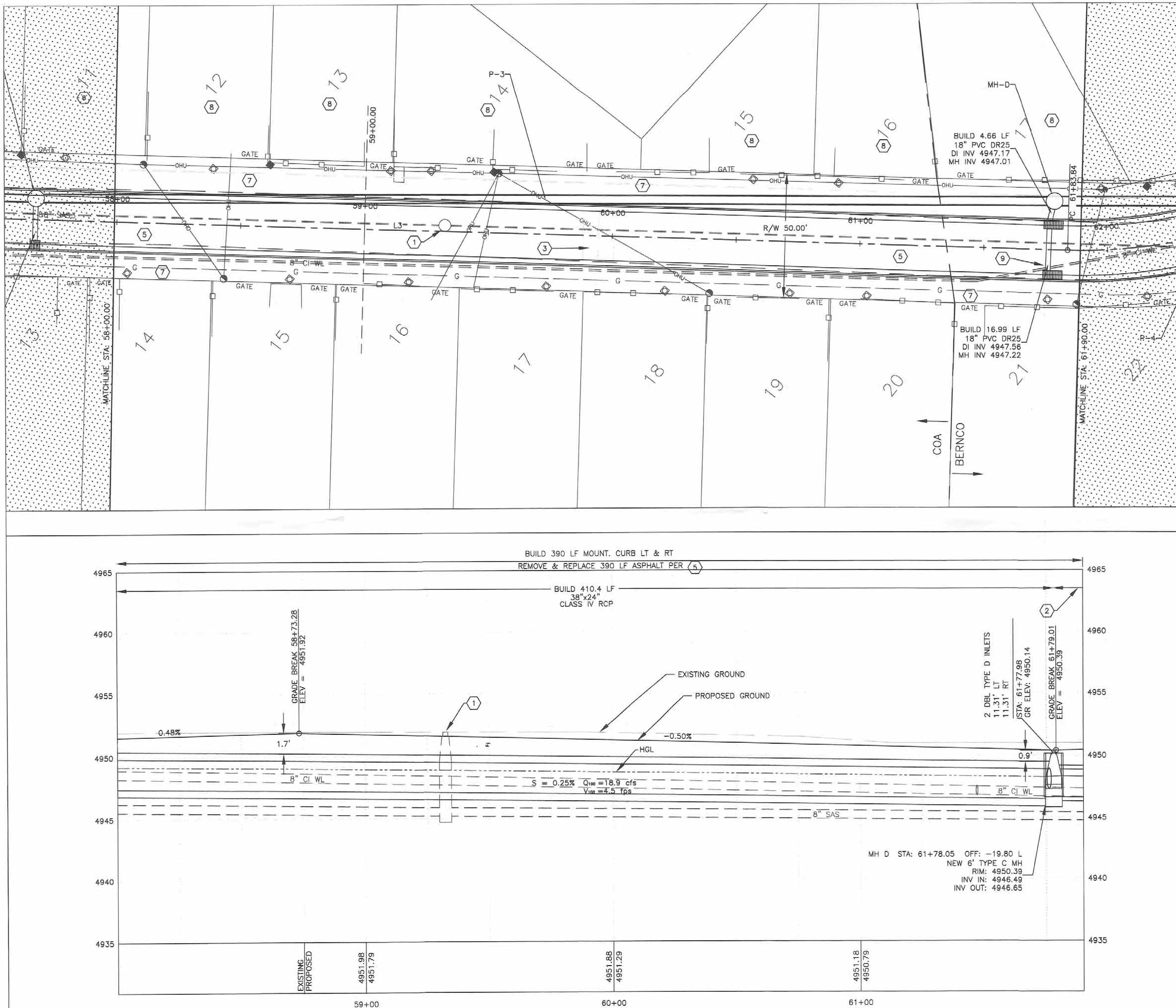
Resource Technology, Inc
Civil Engineering
Environmental Sciences
Water Resources
Landscape Architecture
Planning
5501 Jefferson Blvd. NE, Suite 200
Albuquerque, New Mexico 87109
E-mail: rti@rtiabq.com
Telephone: (505) 243-7300
Facsimile: (505) 243-7400

BERNALILLO COUNTY

CYPRESS DRIVE STORM DRAIN
PLAN & PROFILE STA 54+10 TO 58+00

Design Review Committee	City Engineer Approval	Last Design Update	Mo./Day/Yr.	Mo./Day/Yr.

County Project No.	City Project No.	Zone Map No.	Sheet	Of
TS08-04	601791	K-11/12	5	13



GENERAL NOTES

1. SEE SHEET 10 FOR PAVEMENT DETAILS
2. WATERLINE IS IN FOREGROUND; HOWEVER IT IS SHOWN IN PROFILE FOR INFORMATIONAL PURPOSES.
3. INLET OFFSET AND ELEV REFERS TO BACK OF GRATE.
4. CONTRACTOR IS RESPONSIBLE FOR VERIFYING HORIZONTAL AND VERTICAL LOCATIONS OF ALL UTILITIES. UTILITY LOCATIONS SHOWN IN APPROXIMATE MANNER ONLY. CONTRACTOR IS RESPONSIBLE FOR REPLACEMENT COST OF UTILITY LINES DAMAGED IN THE COURSE OF CONSTRUCTION.
5. CONSTRUCTION LIMITS/EASEMENTS ARE FROM FENCE LINE TO FENCE LINE. SO NOT DISTURB FENCE AND/OR WALL. CONTRACTOR IS RESPONSIBLE FOR REPLACEMENT COST OF FENCE AND/OR WALL DAMAGED IN THE COURSE OF CONSTRUCTION.
6. RCP STORM DRAIN AND LATERALS SHALL BE GASKETED TONGUE AND GROOVE.
7. TYPE C MANHOLES CONSTRUCTED PER COA STD DWGS 2101, 2107 AND 2110 UNLESS OTHERWISE NOTED.

KEYED NOTES

1 ADJUST MANHOLE ELEV. TO NEW GRADE, INCLUDE CONCRETE PAD PER COA STD DWG. 2101. CONCRETE PAD INCIDENTAL TO ADJUSTMENTS.

2 SEE SHEET 7. FOR RCP LENGTH AND TYPE.

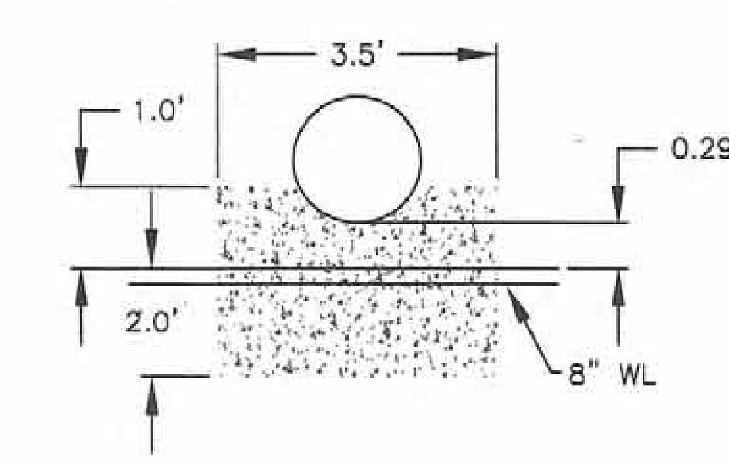
3 REPLACE SPEED HUMP PER SHEET 10.

5 REMOVE AND DISPOSE OF EXISTING ASPHALT FOR FULL STREET WIDTH.

7 GRADE TO DRAIN FROM FENCE LINE TO MOUNTABLE CURB. DO NOT DISTURB EXISTING UTILITY POLES OR SERVICES (INCLUDING WATER METERS).

8 SEE SHEET 9 DETAIL 2 FOR SAS SERVICE MODIFICATION AND DETAIL 4 FOR WATER SERVICE MODIFICATION.

9 PER COA STD SPEC 207, 3.0 FT LEAN FILL CENTERED ON 18" RCP.



VERTICAL: 0 4' 8'

HORIZONTAL: 0 20' 40'

AS-BUILT INFORMATION: CONTRACTOR — DATE; WORK STAKED BY — DATE; INSPECTOR'S ACCEPTANCE BY — DATE; FIELD VERIFICATION BY — DATE; DRAWINGS CORRECTED BY — DATE

MICRO-FILM INFORMATION: RECORDED BY — DATE; NO.

BENCH MARKS: BEARINGS ARE BASED ON GEODETIC NORTH FROM GPS OBSERVATIONS. DISTANCES ARE HORIZONTAL GROUND MEASUREMENTS IN US FEET. ELEVATIONS ARE BASED ON A.G.R.S. STATION "15-J12". ELEVATION OF STATION = 4965.627 (NAVD 1988 DATUM).

SURVEY INFORMATION — FIELD NOTES: NO. | BY | DATE

ENGINEER'S SEAL

No.	Date	REMARKS	By
		REVISIONS	
		DESIGN	

Designed By: MDS DATE: JUNE 2009
Drawn By: CP,RAO,PMW DATE: JUNE 2009
Checked By: EVD DATE: JUNE 2009

Resource Technology, Inc.

Civil Engineering, Environmental Sciences, Water Resources, Landscape Architecture, Planning

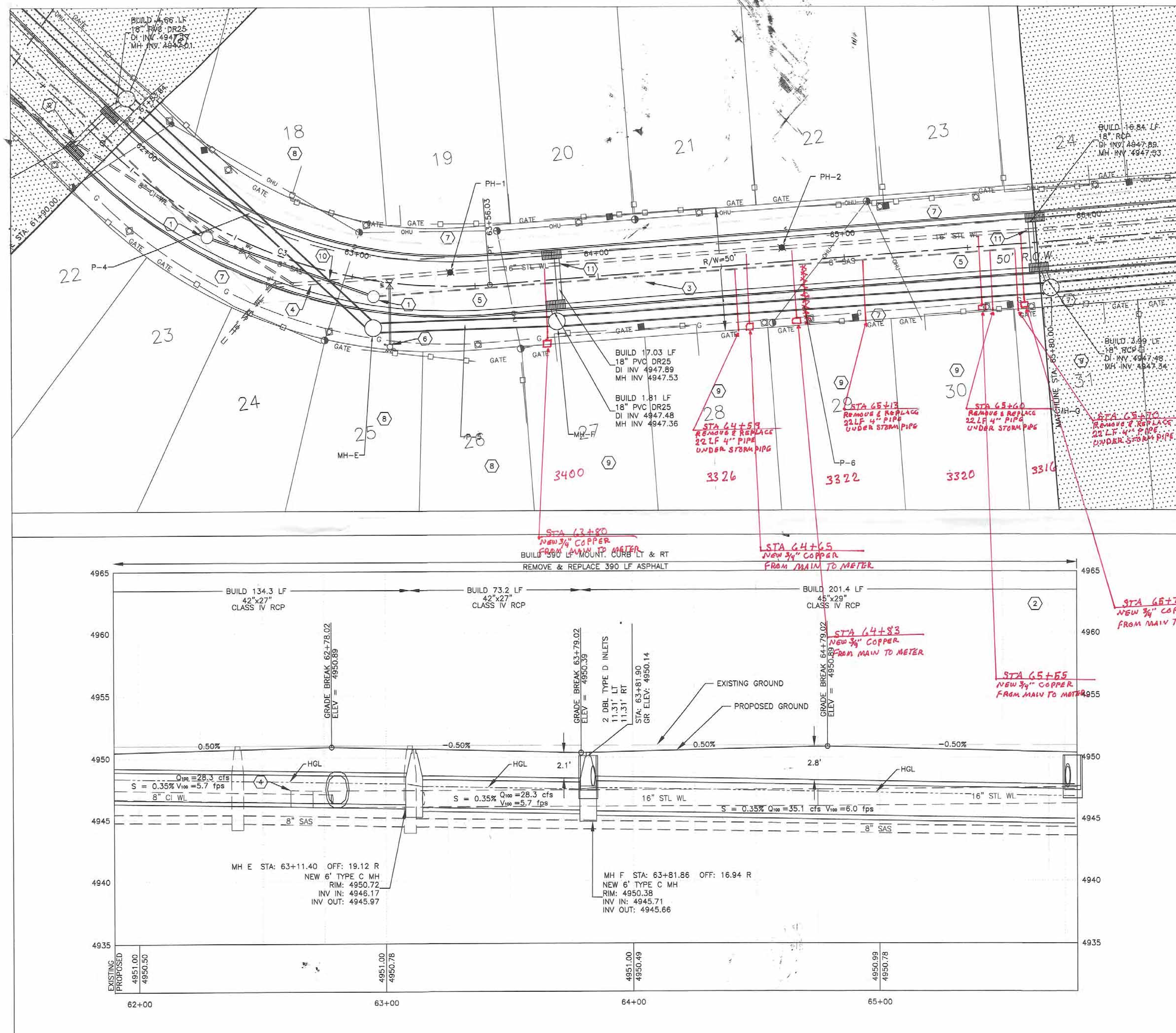
5501 Jefferson Blvd. NE, Suite 200
Albuquerque, New Mexico 87109
E-mail: rti@rtiabq.com
Telephone: (505) 243-7300
Facsimile: (505) 243-7400

BERNALILLO COUNTY

CYPRESS DRIVE STORM DRAIN
PLAN & PROFILE STA 58+00 TO 61+90

Design Review Committee	City Engineer Approval	Last Design Update	Mo./Day/Yr.	Mo./Day/Yr.

County Project No.	City Project No.	Zone Map No.	Sheet	Of
TS08-04	601791	K-11/12	6	13



GENERAL NOTES

1. SEE SHEET 10 FOR PAVEMENT DETAILS
2. WATERLINE IS IN FOREGROUND; HOWEVER IT IS SHOWN IN PROFILE FOR INFORMATIONAL PURPOSES.
3. INLET OFFSET AND ELEV REFERS TO BACK OF GRATE.
4. CONTRACTOR IS RESPONSIBLE FOR VERIFYING HORIZONTAL AND VERTICAL LOCATIONS OF ALL UTILITIES. UTILITY LOCATIONS SHOWN IN APPROXIMATE MANNER ONLY. CONTRACTOR IS RESPONSIBLE FOR REPLACEMENT COST OF UTILITY LINES DAMAGED IN THE COURSE OF CONSTRUCTION.
5. CONSTRUCTION LIMITS/EASEMENTS ARE FROM FENCE LINE TO FENCE LINE. SO NOT DISTURB FENCE AND/OR WALL. CONTRACTOR IS RESPONSIBLE FOR REPLACEMENT COST OF FENCE AND/OR WALL DAMAGED IN THE COURSE OF CONSTRUCTION.
5. SEE SHEET 3 FOR POTHOLE TABLE AND LINE AND CURB TABLE.
6. RCP STORM DRAIN AND LATERALS SHALL BE GASKETED TONGUE AND GROOVE.
7. TYPE C MANHOLES CONSTRUCTED PER COA STD DWGS 2101, 2107 AND 2110 UNLESS OTHERWISE NOTED.

KEYED NOTES

1. ADJUST MANHOLE ELEV. TO NEW GRADE, INCLUDE CONCRETE PAD PER COA STD DWG. 2101. CONCRETE PAD INCIDENTAL TO ADJUSTMENTS.
2. SEE SHEET 8 FOR RCP END STATION.
3. REPLACE SPEED HUMP PER SHEET 10.
4. SEE SHEET 9 FOR WATERLINE MODIFICATION.
5. REMOVE AND DISPOSE OF EXISTING ASPHALT FOR FULL STREET WIDTH.
6. NOTIFY FIRE MARSHAL SEVEN (7) DAYS PRIOR TO WATERLINE SHUTOFF THAT THE HYDRANT WILL BE TEMPORARILY OUT OF SERVICE. COVER IN BLACK PLASTIC WHILE OUT OF SERVICE.
7. GRADE TO DRAIN FROM FENCE LINE TO MOUNTABLE CURB. DO NOT DISTURB EXISTING UTILITY POLES OR SERVICES (INCLUDING WATER METERS).
8. SEE SHEET 9 DETAIL 2 FOR SAS SERVICE MODIFICATION AND DETAIL 4 FOR WATER SERVICE MODIFICATION.
9. SEE SHEET 9 DETAIL 1 FOR SAS SERVICE MODIFICATION.
10. SEE SHEET 9 DETAIL 3 FOR RCP CROSSING OF SAS MAIN.
11. SEE SHEET 9 DETAIL 5 FOR LEAN FILL DETAIL.

VERTICAL 0 4' 8'

HORIZONTAL 0 20' 40'

AS-BUILT INFORMATION: CONTRACTOR / DATE; WORK STAKED BY / DATE; INSPECTOR'S ACCEPTANCE BY / DATE; FIELD VERIFICATION BY / DATE; DRAWINGS CORRECTED BY / DATE

MICRO-FILM INFORMATION: RECORDED BY / DATE; NO.

BENCH MARKS: BEARINGS ARE BASED ON GEODETIC NORTH FROM GPS OBSERVATIONS. DISTANCES ARE HORIZONTAL GROUND MEASUREMENTS IN US FEET. ELEVATIONS ARE BASED ON A.G.R.S. STATION "15-J12". ELEVATION OF STATION = 4965.627 (NAVD 1988 DATUM).

SURVEY INFORMATION: FIELD NOTES — NO. / BY / DATE

ENGINEER'S SEAL: MICHAEL D. SMITH, NEW MEXICO, 16050, LICENSED PROFESSIONAL ENGINEER, 9-16-09

REVISIONS: No. / Date / REMARKS / By

DESIGN: Designed By: MDS DATE: JUNE 2009; Drawn By: CP, RAO, PMW DATE: JUNE 2009; Checked By: EVD DATE: JUNE 2009

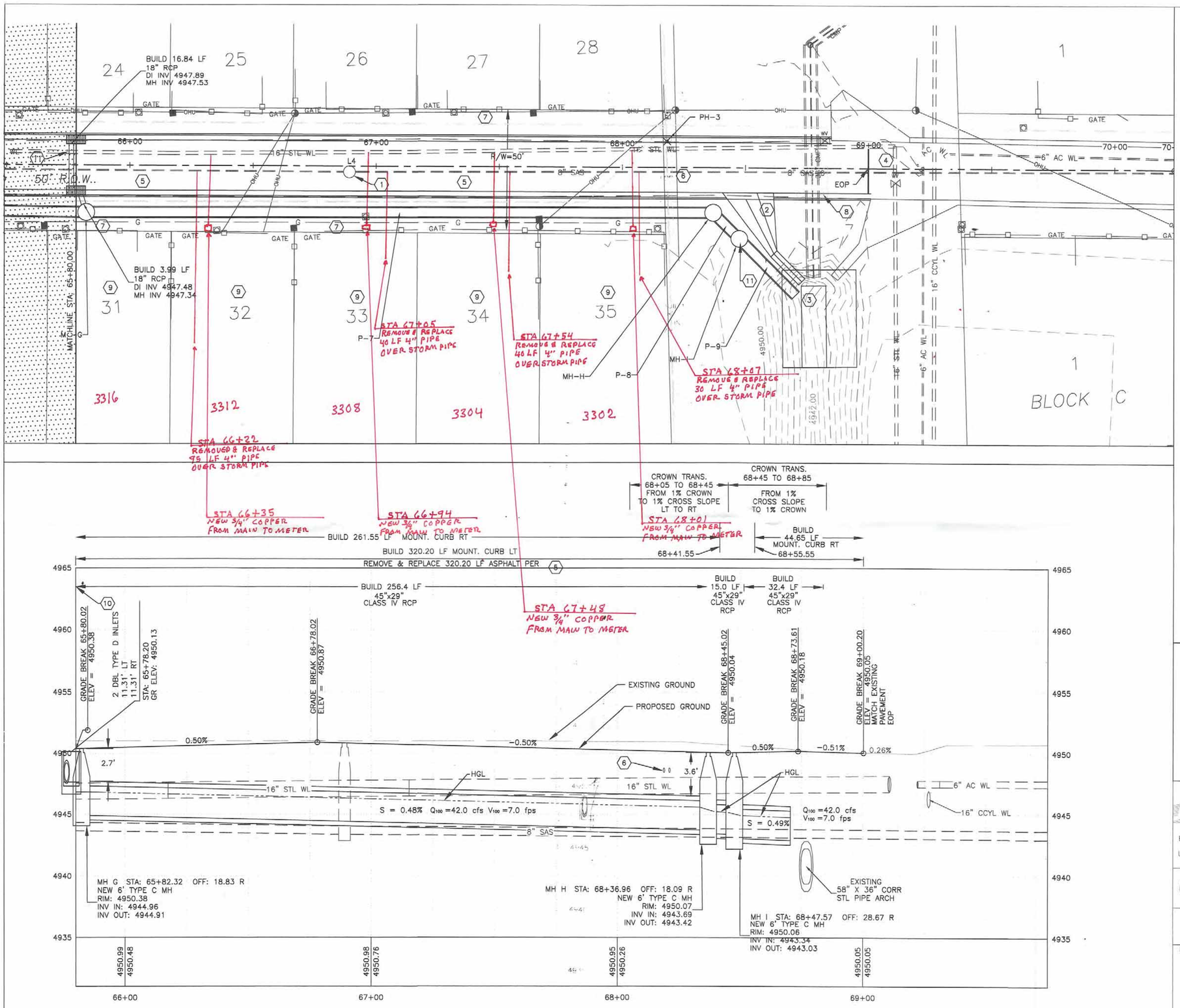
Resource Technology, Inc.
Civil Engineering, Environmental Sciences, Water Resources, Landscape Architecture, Planning
5501 Jefferson Blvd. NE, Suite 200, Albuquerque, New Mexico 87109
E-mail: rti@rtiabq.com
Telephone: (505) 243-7300
Facsimile: (505) 243-7400

BERNALILLO COUNTY

CYPRESS DRIVE STORM DRAIN PLAN & PROFILE STA 61+90 TO 65+80

Design Review Committee	City Engineer Approval	Last Design Update	Mo./Day/Yr.	Mo./Day/Yr.

County Project No.	City Project No.	Zone Map No.	Sheet	Of
TS08-04	601791	K-11/12	7	13



GENERAL NOTES

1. SEE SHEET 10 FOR PAVEMENT DETAILS
2. CONTRACTOR IS RESPONSIBLE FOR VERIFYING HORIZONTAL AND VERTICAL LOCATIONS OF ALL UTILITIES. UTILITY LOCATIONS SHOWN IN APPROXIMATE MANNER ONLY. CONTRACTOR IS RESPONSIBLE FOR REPLACEMENT COST OF UTILITY LINES DAMAGED IN THE COURSE OF CONSTRUCTION.
3. CONSTRUCTION LIMITS/EASEMENTS ARE FROM FENCE LINE TO FENCE LINE. SO NOT DISTURB FENCE AND/OR WALL. CONTRACTOR IS RESPONSIBLE FOR REPLACEMENT COST OF FENCE AND/OR WALL DAMAGED IN THE COURSE OF CONSTRUCTION.
5. SEE SHEET 3 FOR POTHOLE TABLE AND LINE AND CURB TABLE.
6. RCP STORM DRAIN AND LATERALS SHALL BE GASKETED TONGUE AND GROOVE.
7. TYPE C MANHOLES CONSTRUCTED PER COA STD DWGS 2101, 2107 AND 2110 UNLESS OTHERWISE NOTED.

KEYED NOTES

1. ADJUST MANHOLE ELEV TO NEW GRADE, INCLUDE CONCRETE PAD PER COA STD DWG. 2101. CONCRETE PAD INCIDENTAL TO ADJUSTMENTS.
2. SEE SHEET 11 FOR RUNDOWN DETAILS
3. SEE SHEET 11 FOR EROSION PROTECTION DETAILS
4. SAWCUT PAVEMENT STA: 69+00.09
5. REMOVE AND DISPOSE OF EXISTING ASPHALT.
6. FIBER OPTIC LINE AND TELEPHONE LINE ELEVATIONS ARE APPROXIMATE. BOTH LINES SHALL BE SUPPORTED AND PROTECTED DURING CONSTRUCTION. CONTACT AT&T REP FOR STANDBY THREE DAYS PRIOR TO CONSTRUCTION NEAR FIBER OPTIC LINE.
7. GRADE TO DRAIN FROM FENCE LINE TO MOUNTABLE CURB. DO NOT DISTURB EXISTING UTILITY POLES OR SERVICES (INCLUDING WATER METERS)
8. REPLACE SPEED HUMP PER SHEET 10.
9. SEE SHEET 9 DETAIL 2 FOR SAS SERVICE MODIFICATION AND DETAIL 4 FOR WATER SERVICE MODIFICATION.
10. SEE SHEET 7 FOR RCP LENGTH AND TYPE
11. WATER QUALITY MH STC900 PRECAST CONCRETE STORMCEPTOR OR APPROVED EQUIVALENT.

0 4' 8'
VERTICAL
0 20' 40'
HORIZONTAL

SURVEY INFORMATION
FIELD NOTES

NO.	BY	DATE

BENCH MARKS

BEARINGS ARE BASED ON GEODETIC NORTH FROM GPS OBSERVATIONS. DISTANCES ARE HORIZONTAL GROUND MEASUREMENTS IN US FEET. ELEVATIONS ARE BASED ON A.G.R.S. STATION "15-J12". ELEVATION OF STATION = 4965.627 (NAVD 1988 DATUM).

AS-BUILT INFORMATION

CONTRACTOR DATE
STAKED BY DATE
INSPECTOR'S FIELD FINANCE BY DATE
VERIFICATION BY DATE
DRAWINGS CORRECTED BY DATE

MICRO-FILM INFORMATION

RECORDED BY DATE
NO.

ENGINEER'S SEAL
RANDELL D. SMITH
NEW MEXICO
16050
LICENSED PROFESSIONAL ENGINEER
9-16-09

No.	Date	REMARKS / REVISIONS / DESIGN	By
	DATE:JUNE 2009	Designed By: MDS	
	DATE:JUNE 2009	Drawn By: CP,RAO,PMW	
	DATE:JUNE 2009	Checked By: EVD	

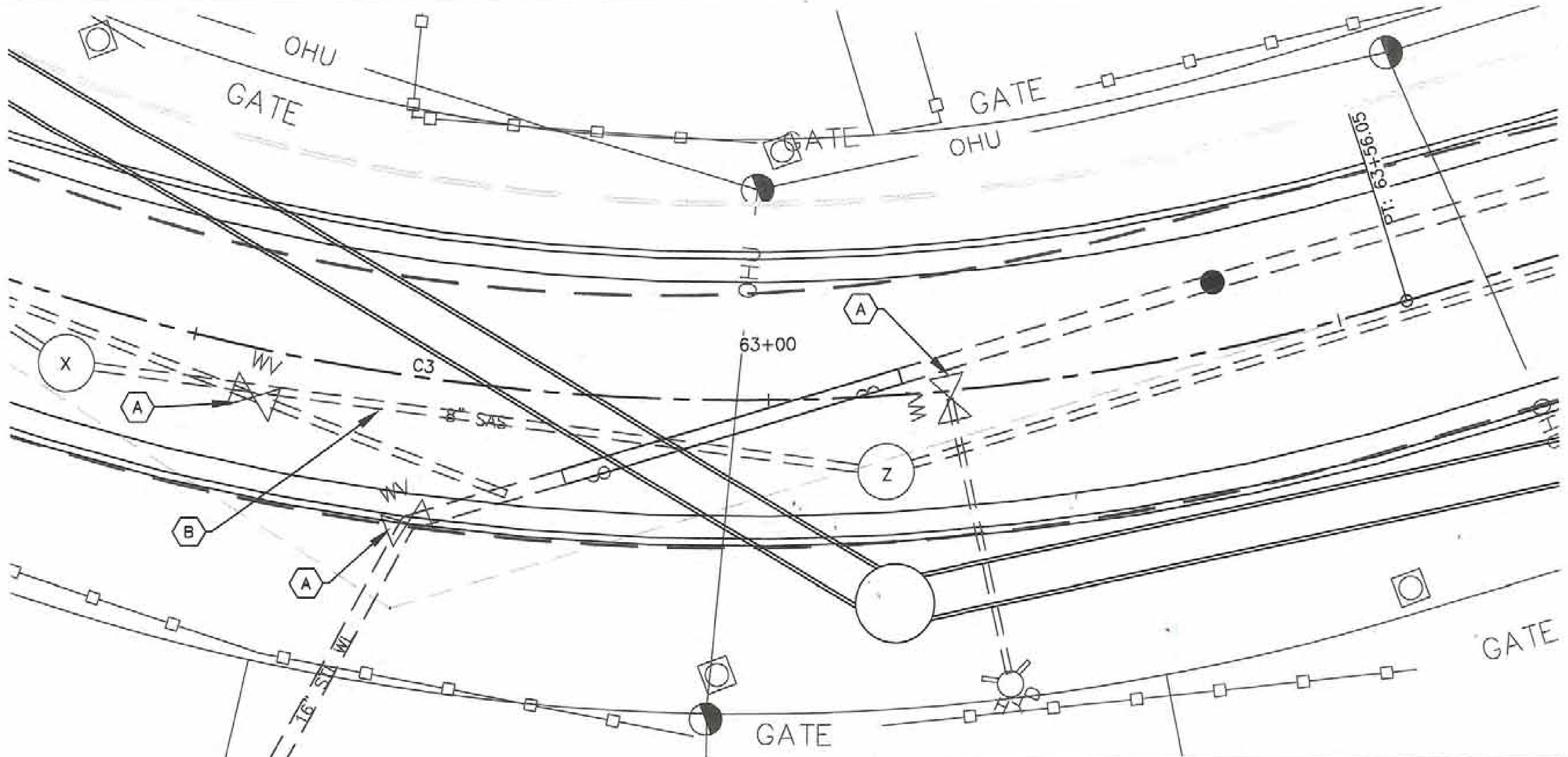
Resource Technology, Inc.
Civil Engineering
Environmental Sciences
Water Resources
Landscape Architecture
Planning
5501 Jefferson Blvd. NE, Suite 200
Albuquerque, New Mexico 87109
E-mail: rti@rtiabq.com
Telephone: (505) 243-7300
Facsimile: (505) 243-7400

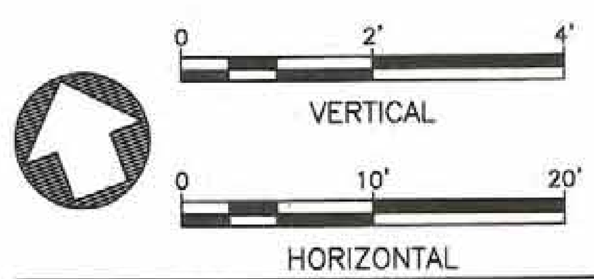
BERNALILLO COUNTY

CYPRESS DRIVE STORM DRAIN
PLAN & PROFILE STA 65+80 TO EOP

Design Review Committee	City Engineer Approval	Last Design Update	Mo./Day/Yr.	Mo./Day/Yr.

County Project No.	City Project No.	Zone Map No.	Sheet	Of
TS08-04	601791	K-11/12	8	13





(A) ADJUST WV COLLAR TO NEW GRADE PER COA STD DWG 2326. CONCRETE COLLOR INCIDENTAL TO WV ADJUSTMENT.

(B) REPLACE 8" VCP WITH 8" PVC BETWEEN MANHOLE X AND Z.

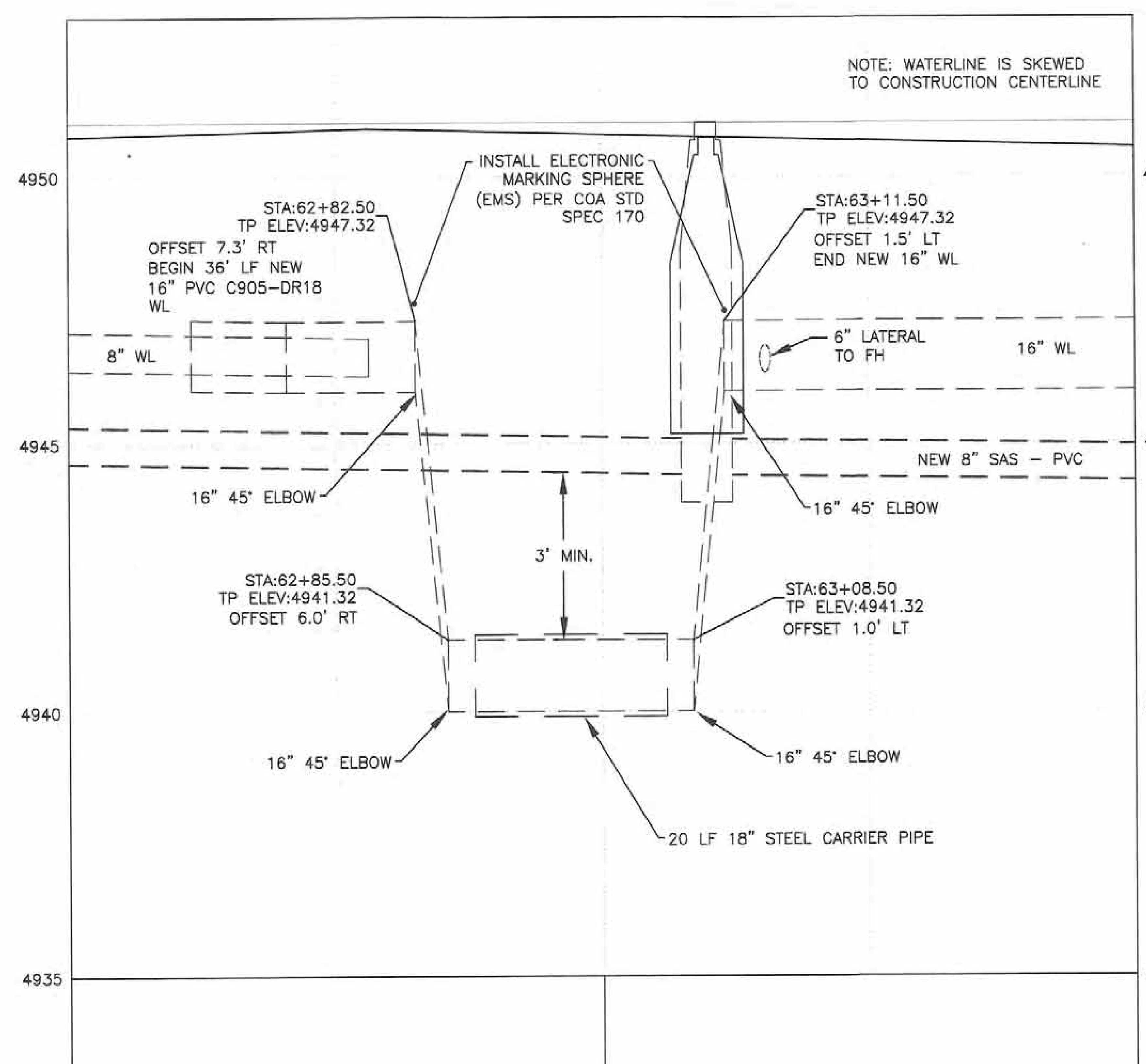
STA:	RESTRAINED LENGTH*
62+82.50	55
62+85.50	8
63+08.50	8
63+11.50	55

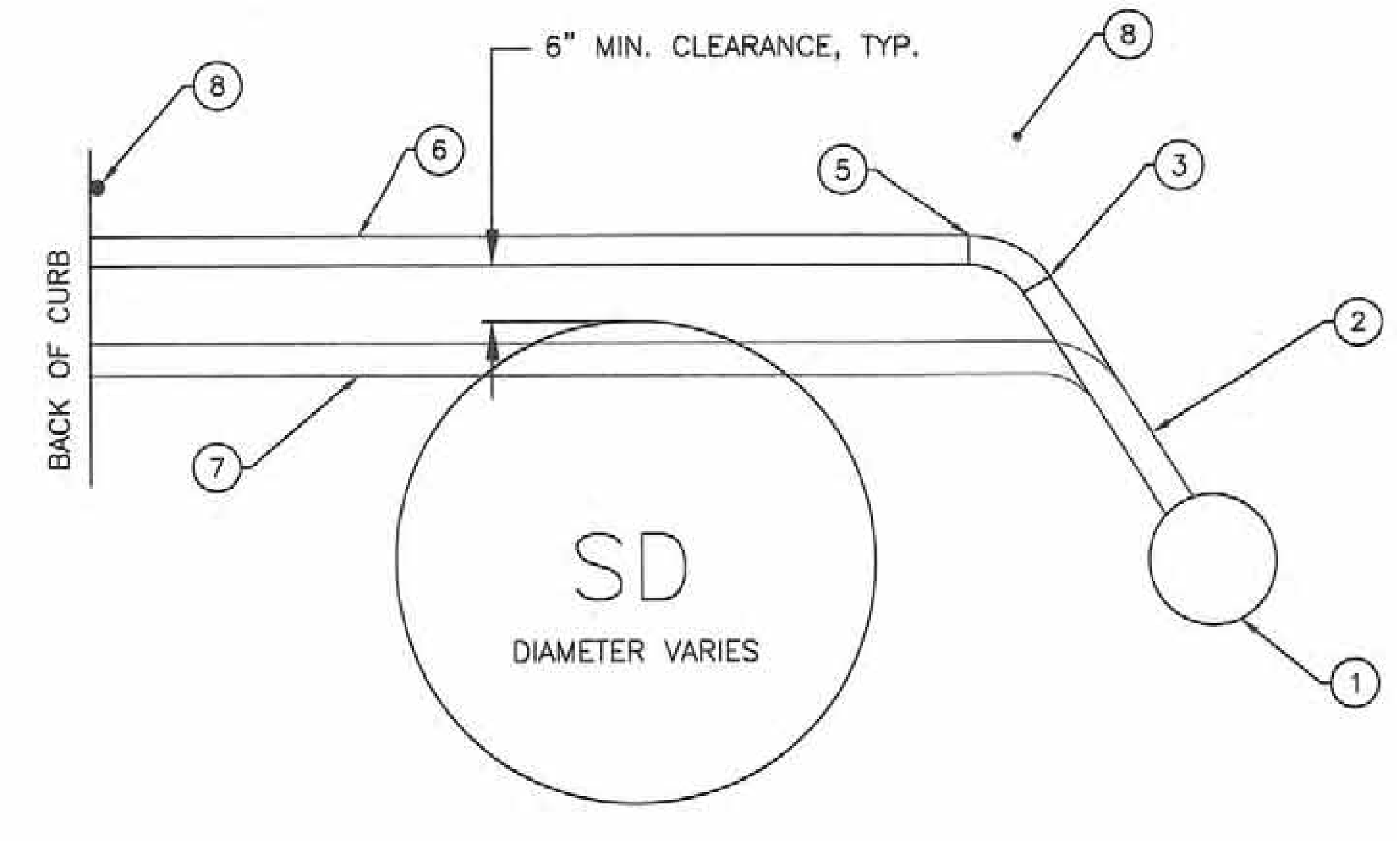
RESTRAIN FULL LENGTH WITHIN CARRIER PIPE

*RESTRAINED EACH SIDE OF FITTING

LOT#	CYPRESS ADDRESS	CLEANOUT DEPTH (FT)	SAS SERVICE SLOPE	CLEARANCE OVER PIPE
35	3302	1.1	2.08%	18.8"
34	3304			
33	3308			
32	3312	1.4	2.08%	7.3"
31	3316	2.0	1.36%	1.0"
30	3320	1.5	2.08%	12.8"
29	3322	1.0	2.08%	7.5"
28	3326			
27	3400			

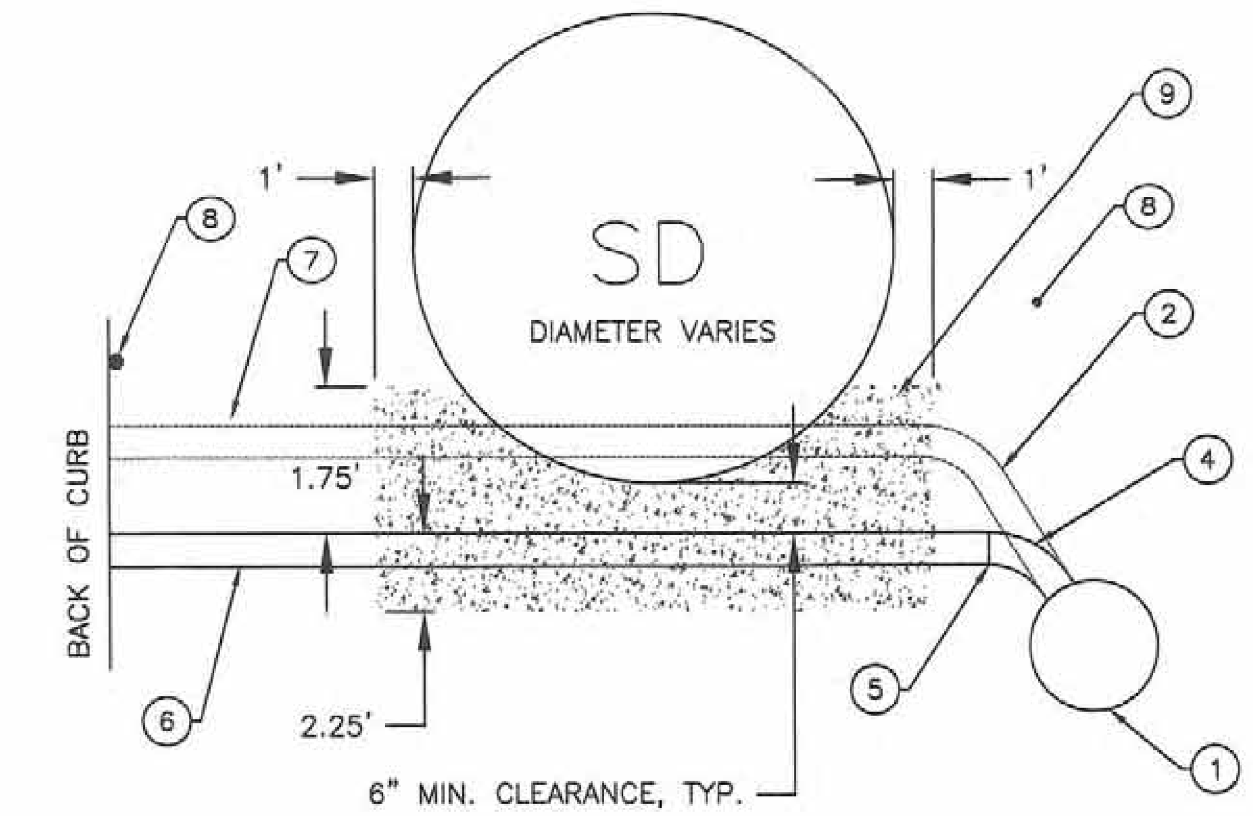
LOT#'S REFER TO SOUTH SIDE OF CYPRESS. BLANKS INDICATE HOME OWNERS DID NOT RESPOND TO ACCESS PERMISSION LETTER AND WERE NOT AVAILABLE ON TWO SUBSEQUENT SITE VISITS.





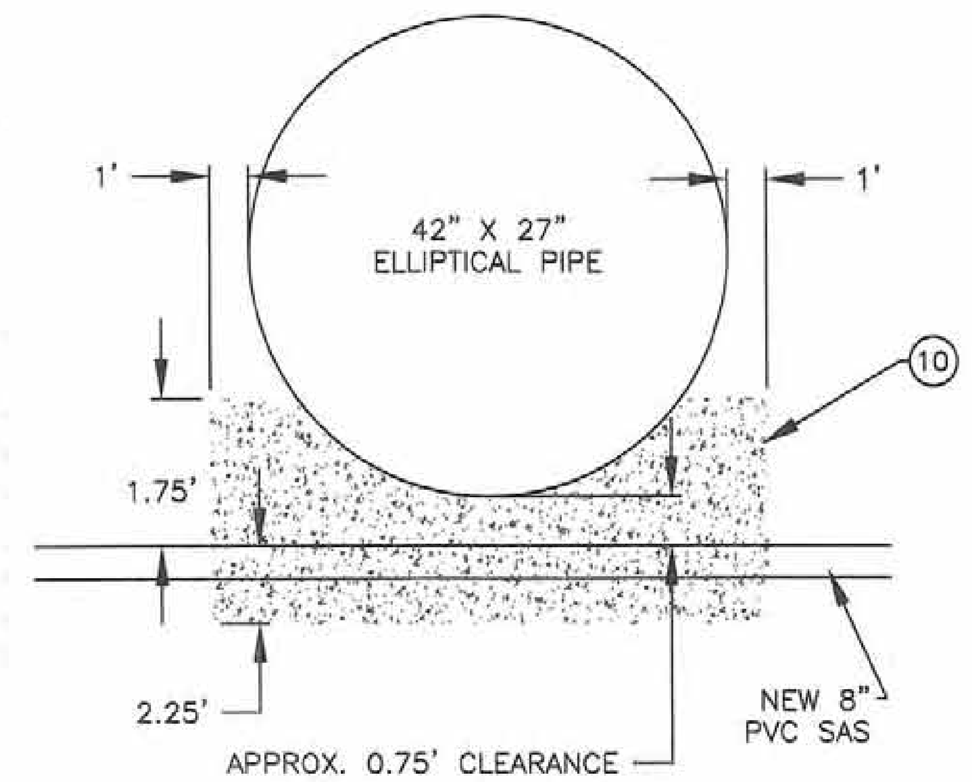
1 EXISTING SAS SERVICE ADJUSTMENT REROUTE OVER STORM DRAIN

9 SERVICES FROM STA: 63+10 TO 68+20

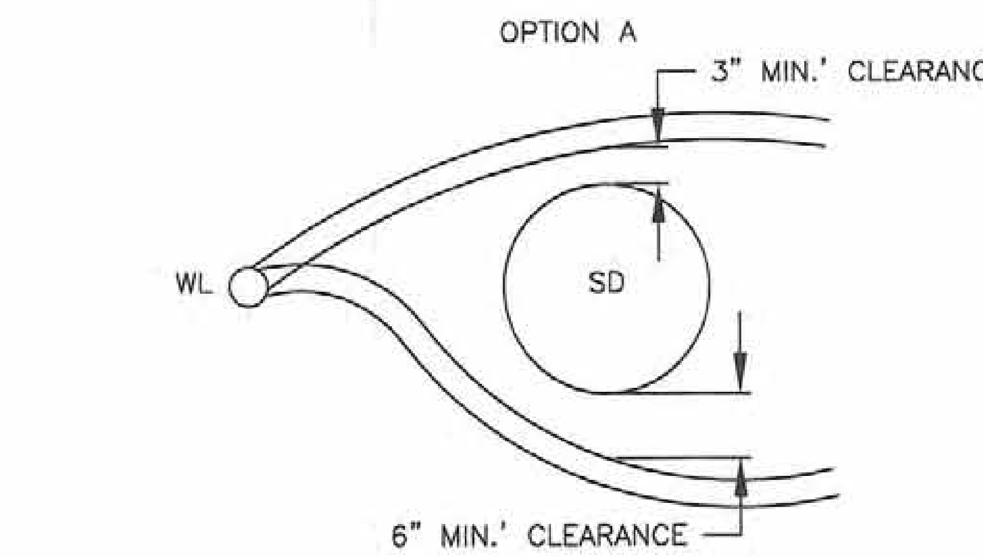


2 EXISTING SAS SERVICE ADJUSTMENT REROUTE UNDER STORM DRAIN

16 SERVICES FROM STA: 54+80 TO 62+75

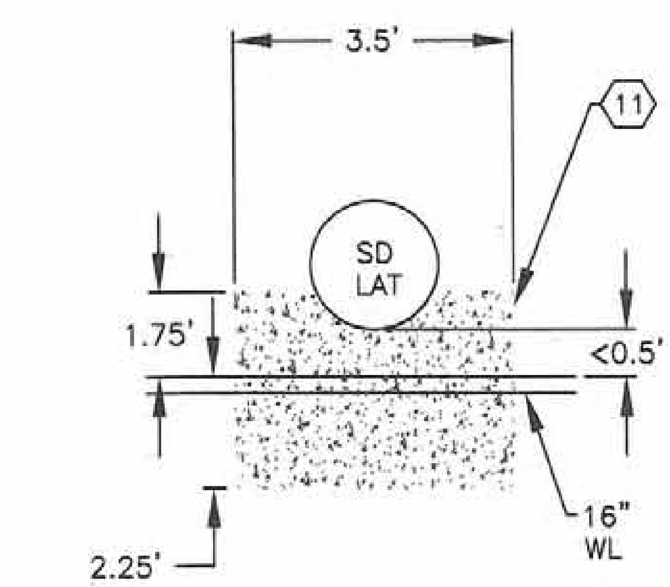


3 STORM DRAIN CROSSING OF SAS



REPLACE SERVICE LINE WITH COPPER SERVICE LINE FROM MAIN TO METER – NO SPLICING AND NO KINKING OF LINE. CONTRACTOR HAS OPTION OF PLACING NEW SERVICE LINE UNDER STORM DRAIN WITH 6" MIN. CLEARANCE.

4 EXISTING WATER SERVICE REPLACEMENT



5 16" WL LEAN FILL DETAIL

KEYED NOTES

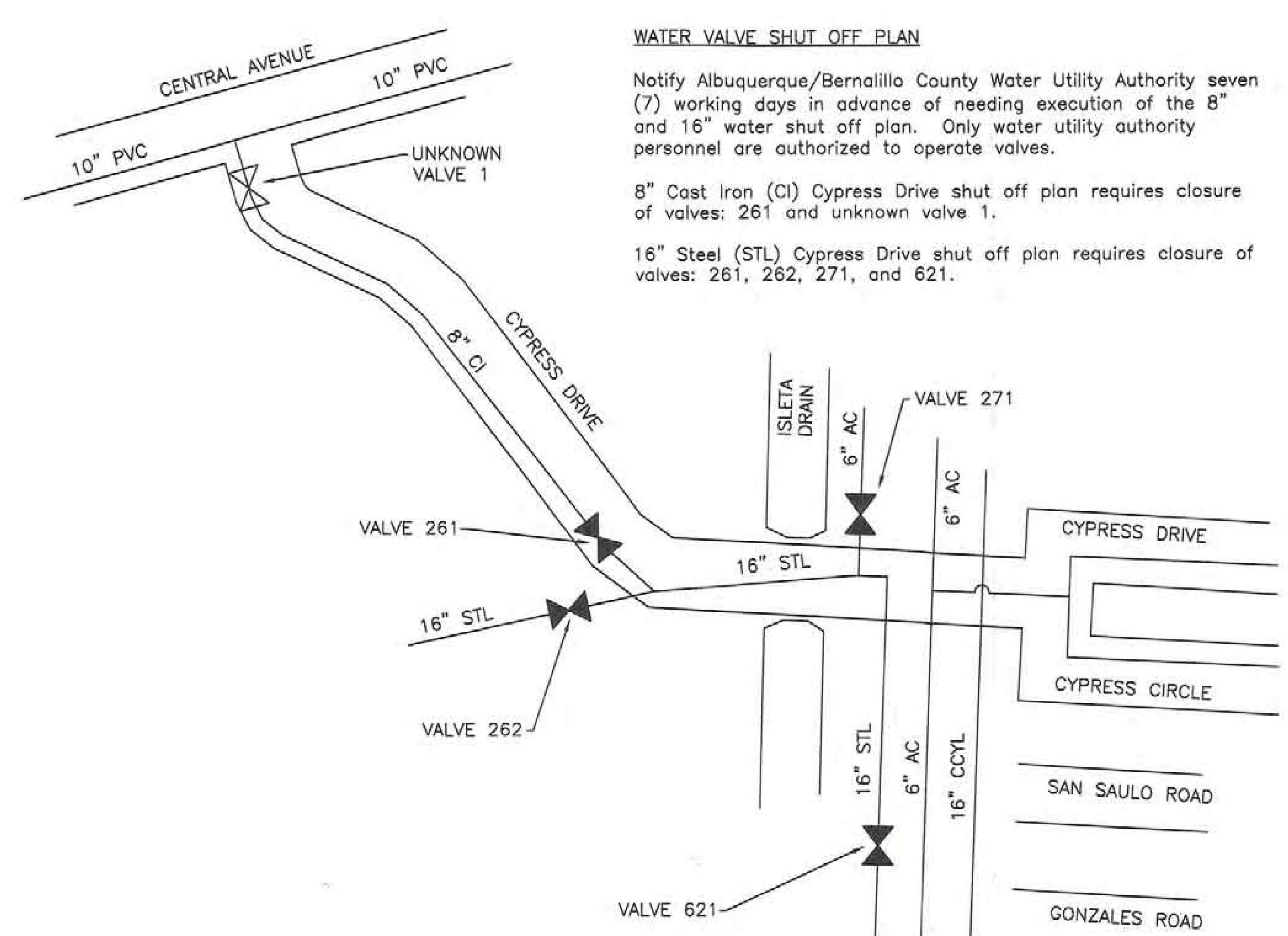
1. EXISTING 8" VITRIFIED CLAY PIPE SAS
2. EXISTING 4" VITRIFIED CLAY PIPE RISER
3. EXTEND 4" VITRIFIED CLAY PIPE RISER
4. SHORTEN 4" VITRIFIED CLAY PIPE RISER
5. TRANSITION 4" VITRIFIED CLAY PIPE TO 4" PVC
6. PVC WITH UNIFORM SLOPE FROM JUNCTION TO SERVICE AT PROPERTY LINE. MINIMUM SLOPE 2.08%
7. REMOVE AND DISPOSE OF 4" SAS PIPE
8. INSTALL ELECTRONIC MARKING SPHERE (EMS) AT BACK OF CURB AND BEND PER COA STD SPEC 170.
9. PER COA STD SPEC 207, 4.25 FT. LEAN FILL CENTERED ON SAS SERVICE. LEAN FILL VOLUME IS 4 FT. X 4.25 FT X (SD DIA. + 2 FT.).
10. PER COA STD SPEC 207,12 FT. LEAN FILL CENTERED ON SAS MAIN. LEAN FILL VOLUME IS 4 FT. X 12 FT. X 5.5 FT.
11. PER COA STD. SPEC. 207, 5 FT. LEAN FILL CENTERED ON 16" WL.

WATER VALVE SHUT OFF PLAN

Notify Albuquerque/Bernalillo County Water Utility Authority seven (7) working days in advance of needing execution of the 8" and 16" water shut off plan. Only water utility authority personnel are authorized to operate valves.

8" Cast iron (CI) Cypress Drive shut off plan requires closure of valves: 261 and unknown valve 1.

16" Steel (STL) Cypress Drive shut off plan requires closure of valves: 261, 262, 271, and 621.



WATER SHUTOFF PLAN

AS–BUILT INFORMATION: CONTRACTOR; WORK STARTED BY — DATE; INSPECTOR'S ACCEPTANCE BY — DATE; FIELD VERIFICATION BY — DATE; DRAWINGS CORRECTED BY — DATE

MICRO–FILM INFORMATION: RECORDED BY — DATE; NO.

BENCH MARKS

BEARINGS ARE BASED ON GEODETIC NORTH FROM GPS OBSERVATIONS. DISTANCES ARE HORIZONTAL GROUND MEASUREMENTS IN US FEET. ELEVATIONS ARE BASED ON A.G.R.S. STATION "15–J12". ELEVATION OF STATION = 4965.627 (NAVD 1988 DATUM).

SURVEY INFORMATION: FIELD NOTES — NO. | BY | DATE

ENGINEER'S SEAL

MICHAEL D. SMITH, NEW MEXICO, 16050, LICENSED PROFESSIONAL ENGINEER, 9-16-09

REMARKS			
REVISIONS	No.	Date	By
DESIGN	Designed By: MDS		DATE:JUNE 2009
	Drawn By: CP,RAO,PMW		DATE:JUNE 2009
	Checked By: EVD		DATE:JUNE 2009

Resource Technology, Inc.
Civil Engineering
Environmental Sciences
Water Resources
Landscape Architecture
Planning
5501 Jefferson Blvd. NE, Suite 200
Albuquerque, New Mexico 87109
E–mail: rti@nm.net
Telephone: (505) 243–7300
Facsimile: (505) 243–7400

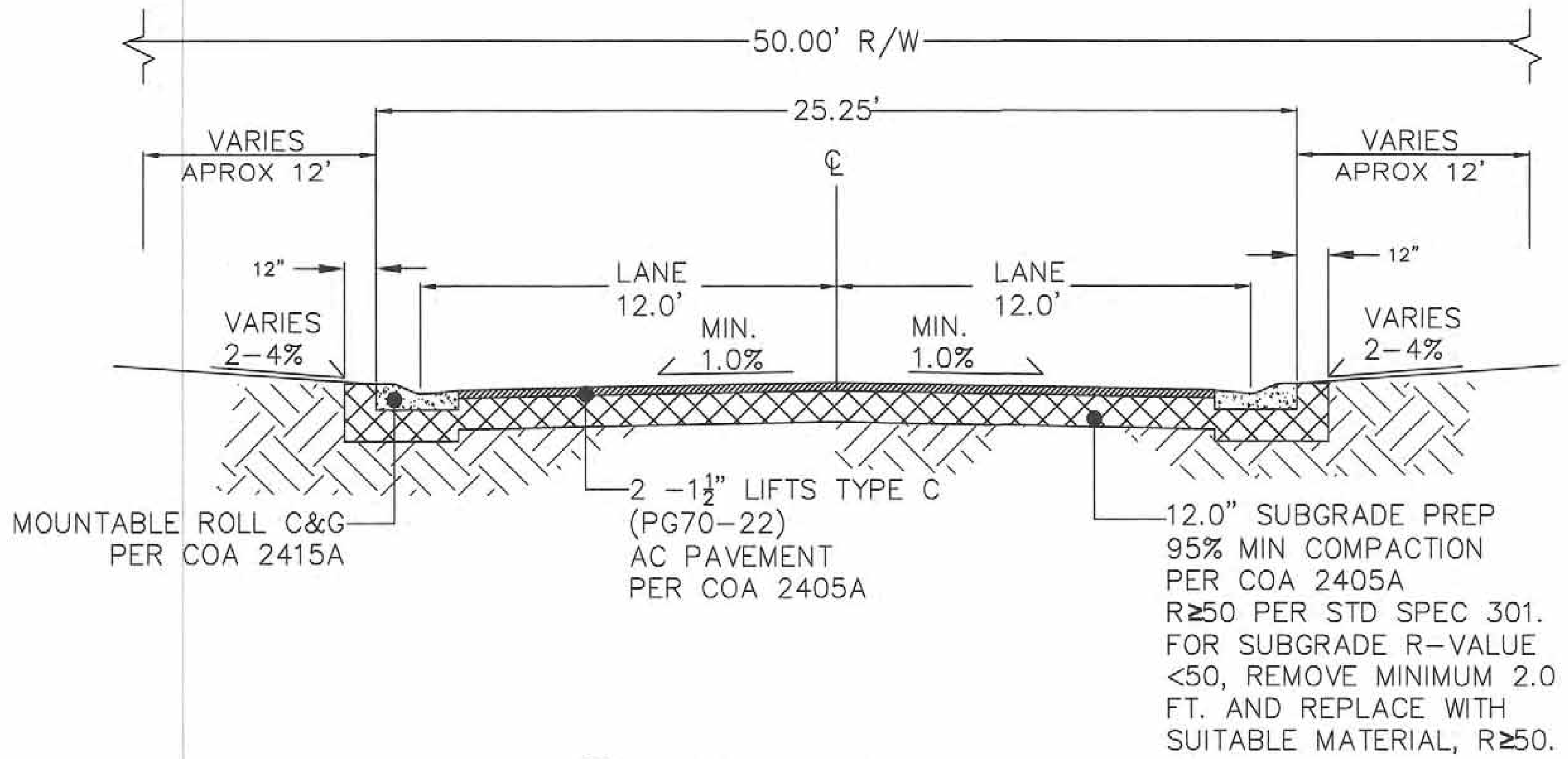
BERNALILLO COUNTY

CYPRESS DRIVE STORM DRAIN
WATER AND SAS SERVICE DETAILS

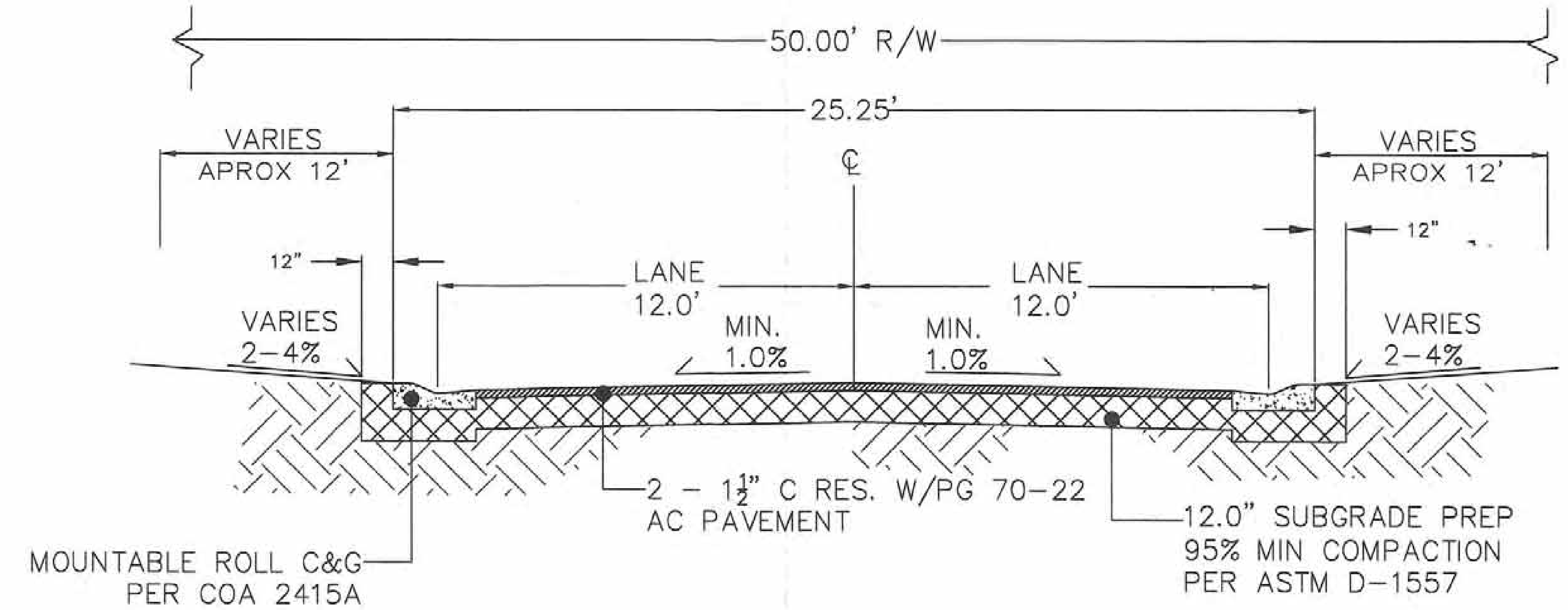
Design Review Committee	City Engineer Approval	Mo./Day/Yr.	Mo./Day/Yr.

Last Design Update

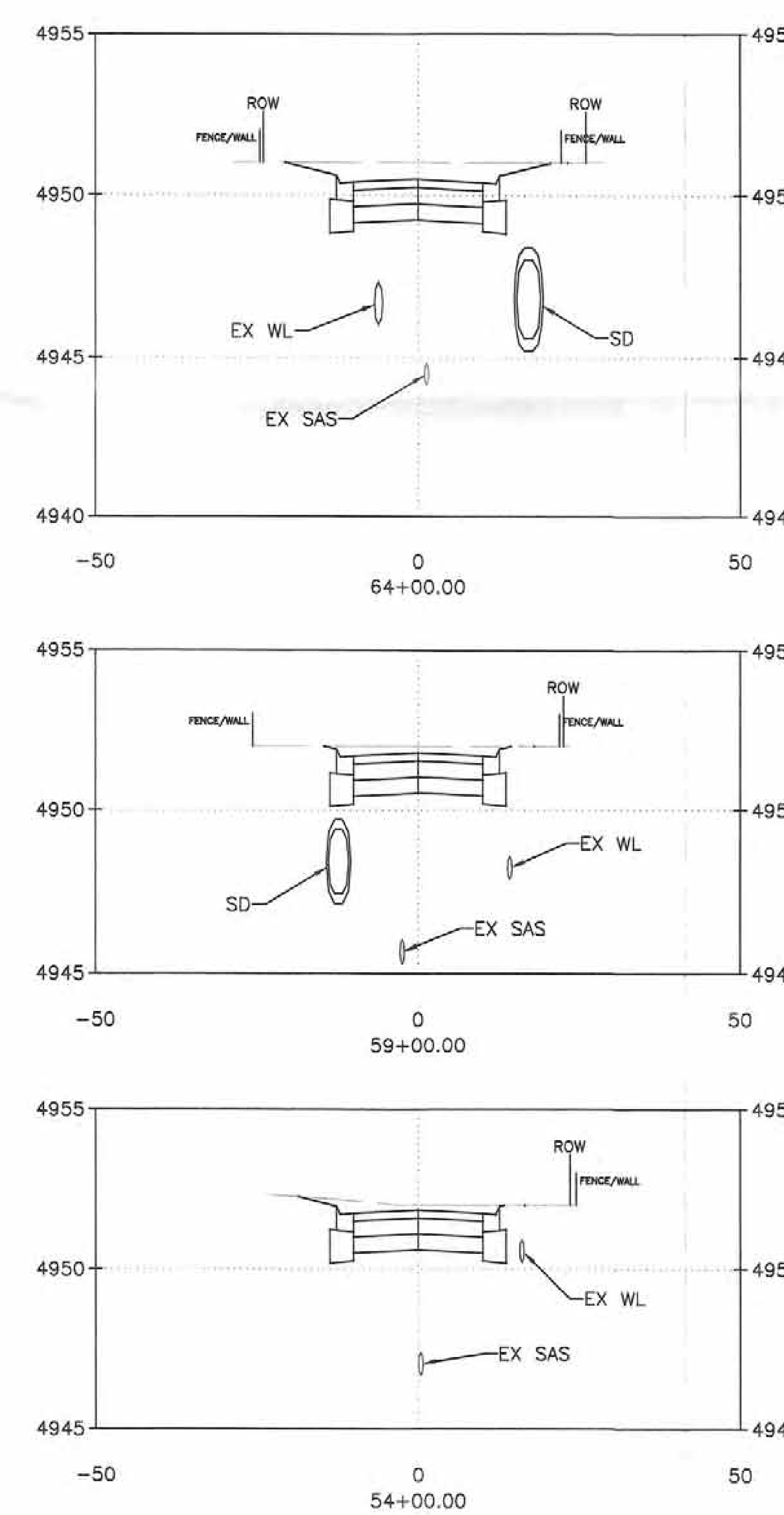
County Project No.	City Project No.	Zone Map No.	Sheet	Of
TS08–04	601791	K–11/12	9	13



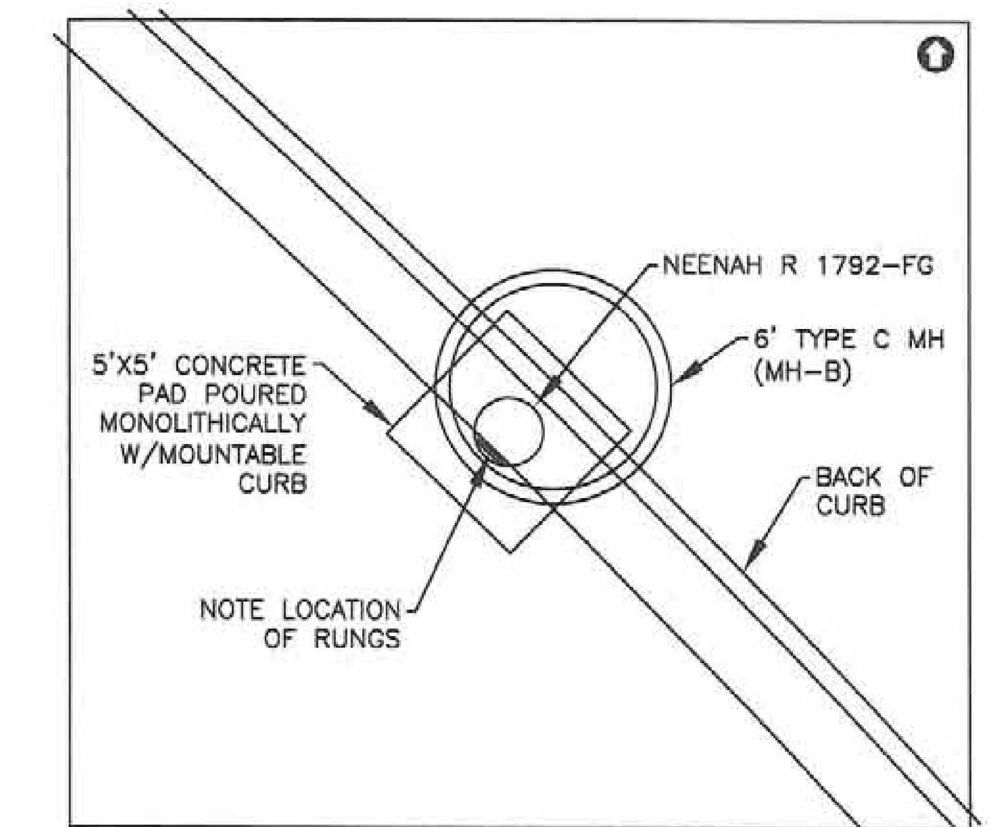
COA TYPICAL ROAD SECTION
STA: 52+50 TO TBD



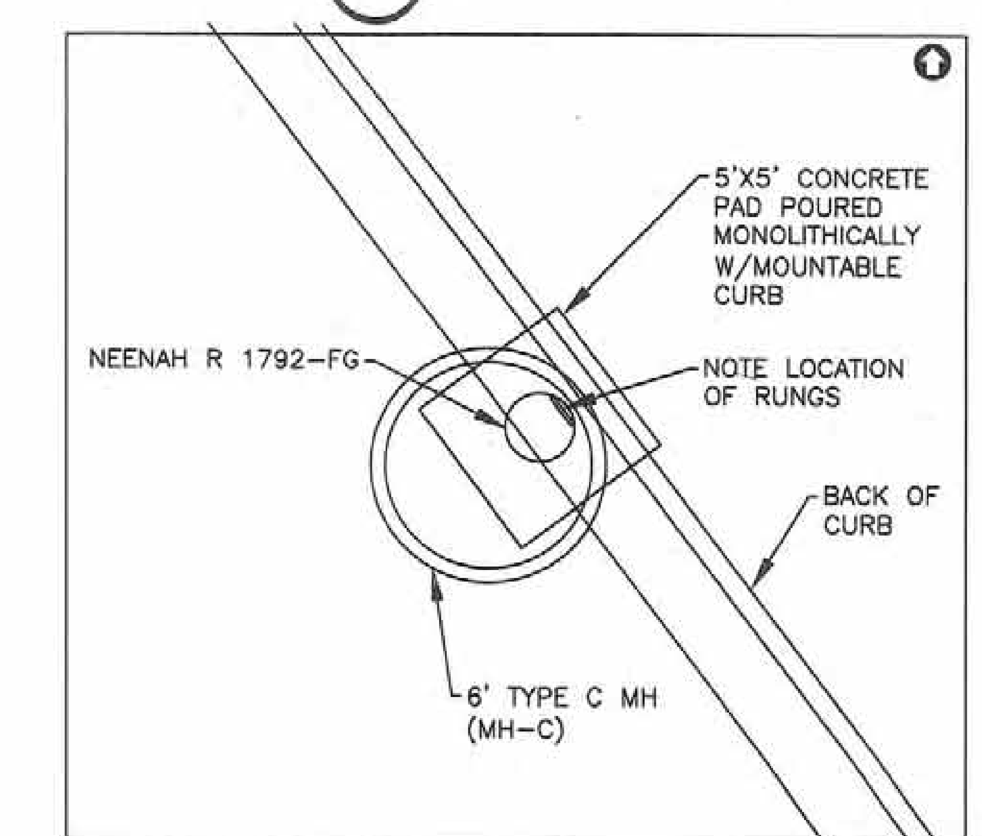
COUNTY TYPICAL ROAD SECTION
STA: TBD TO 69+00.09



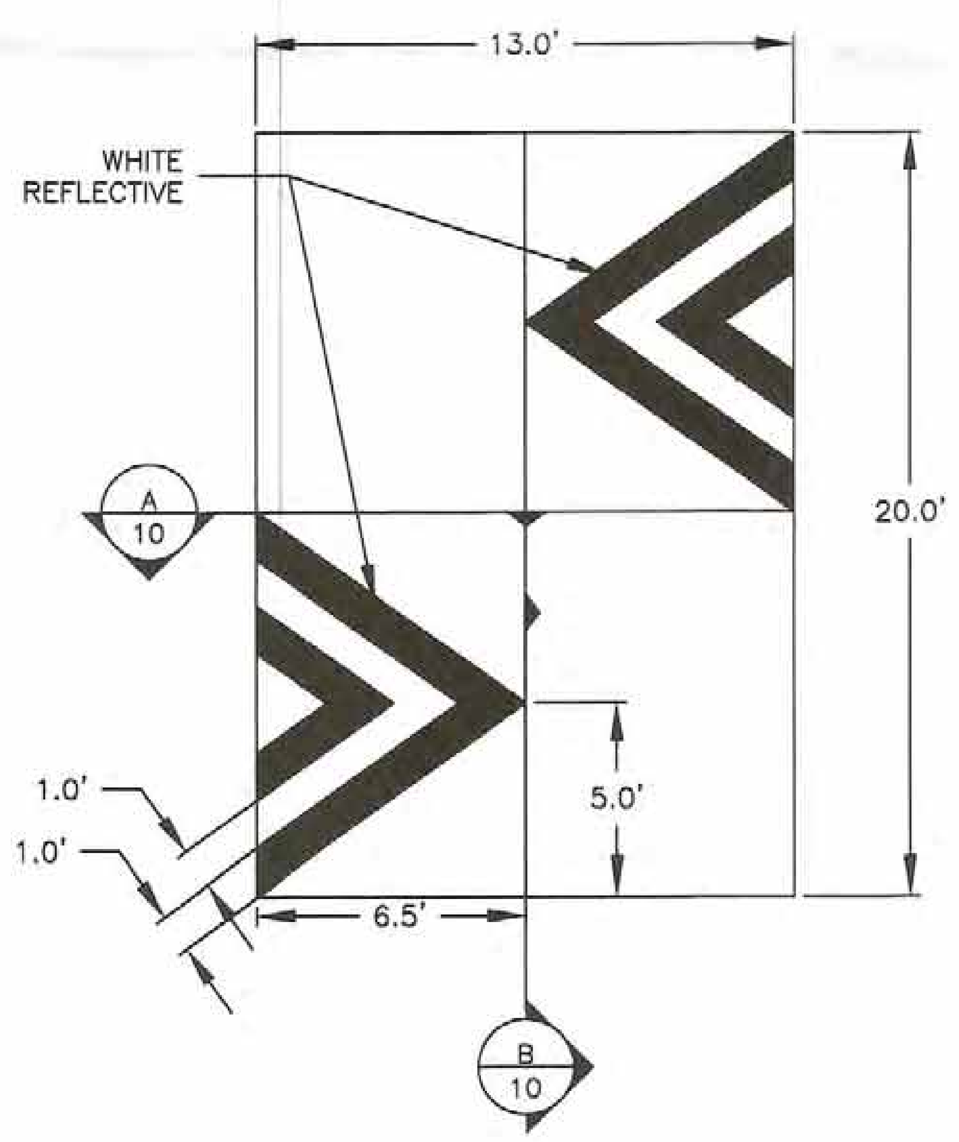
SECTION VIEWS



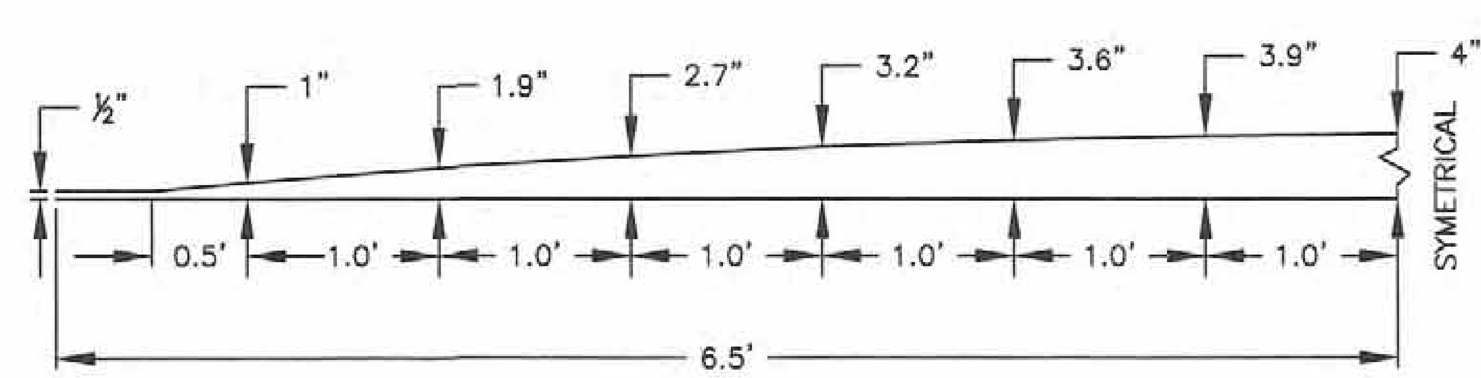
MH-B CURB DETAIL



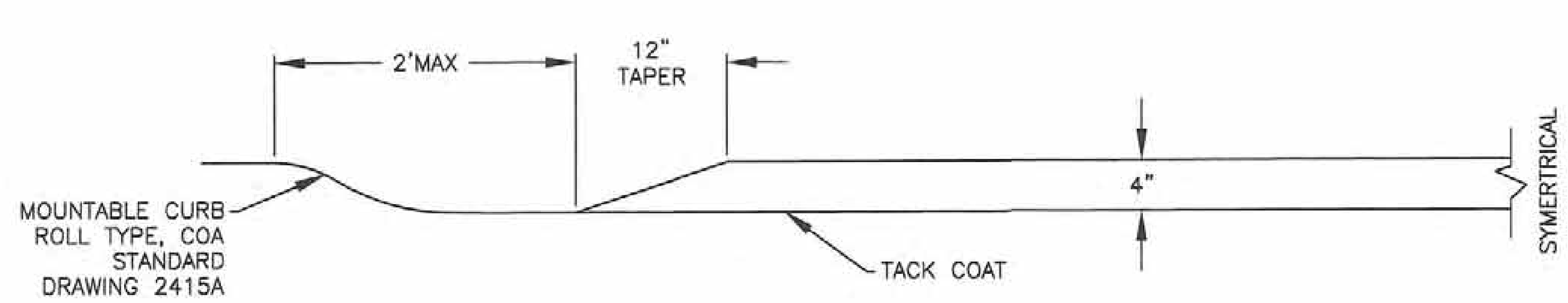
MH-C CURB DETAIL



SPEED HUMP
NTS



SECTION A
NTS



SECTION B
NTS

AS-BUILT INFORMATION
CONTRACTOR — DATE
WORK STAKED BY — DATE
INSPECTOR'S ACCEPTANCE BY — DATE
FIELD VERIFICATION BY — DATE
DRAWINGS CORRECTED BY — DATE

MICRO-FILM INFORMATION
RECORDED BY — DATE
NO.

BENCH MARKS
BEARINGS ARE BASED ON GEODETIC NORTH FROM GPS OBSERVATIONS. DISTANCES ARE HORIZONTAL GROUND MEASUREMENTS IN US FEET. ELEVATIONS ARE BASED ON A.G.R.S. STATION "15-J12". ELEVATION OF STATION = 4965.627 (NAVD 1988 DATUM).

SURVEY INFORMATION
FIELD NOTES
NO.	BY	DATE

ENGINEER'S SEAL
MICHAEL D. SMITH — NEW MEXICO — 16050 — LICENSED PROFESSIONAL ENGINEER — 9-16-09

No.	Date	By	REMARKS
			REVISIONS
			DESIGN

Designed By: MDS	DATE: JUNE 2009
Drawn By: CP,RAO,PMW	DATE: JUNE 2009
Checked By: EVD	DATE: JUNE 2009

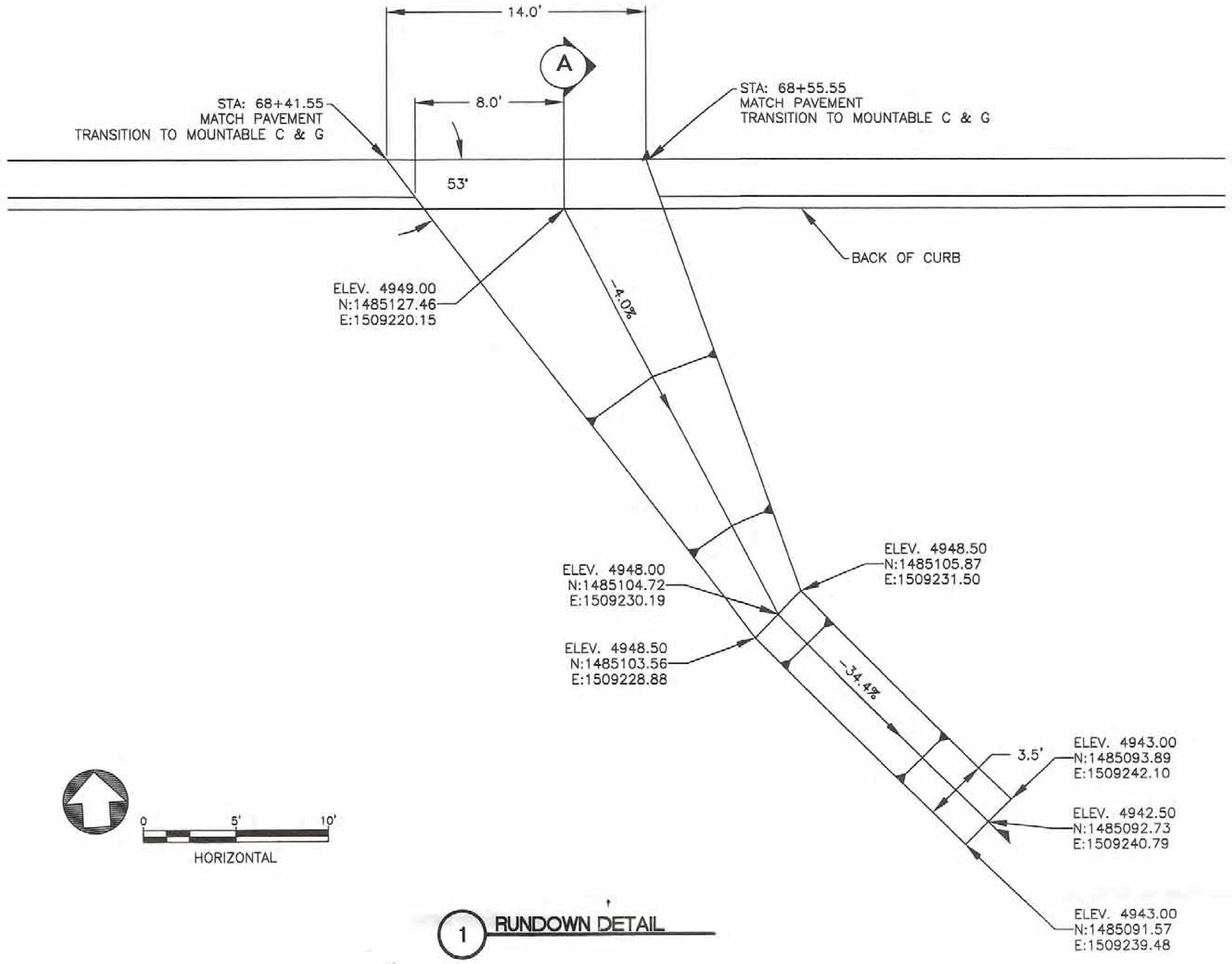
Resource Technology, Inc.
Civil Engineering
Environmental Sciences
Water Resources
Landscape Architecture
Planning
5501 Jefferson Blvd. NE, Suite 200
Albuquerque, New Mexico 87109
E-mail: rti@rtiabq.com
Telephone: (505) 243-7300
Facsimile: (505) 243-7400

BERNALILLO COUNTY

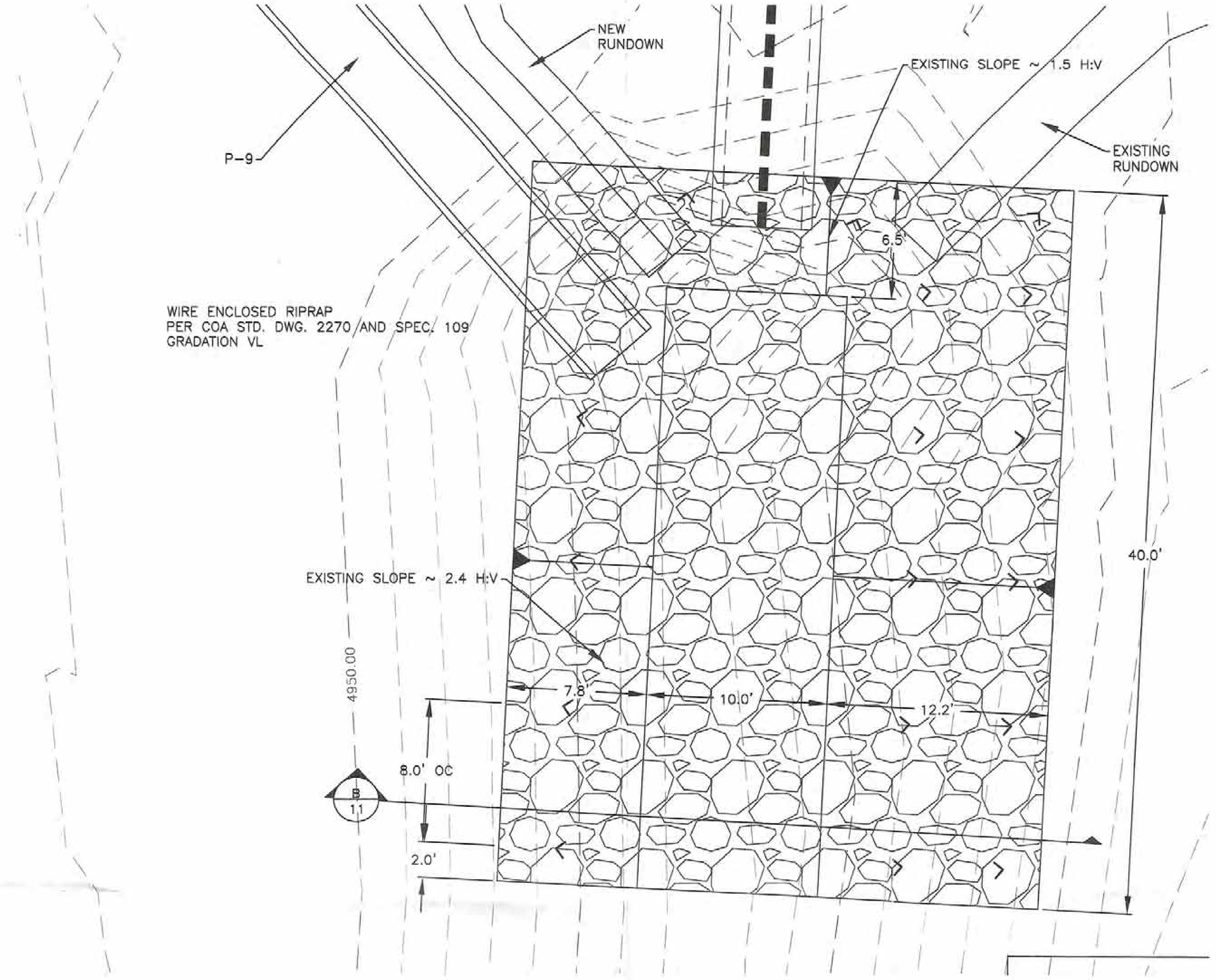
CYPRESS DRIVE STORM DRAIN
ROADWAY AND CURB DETAILS

Design Review Committee	City Engineer Approval	Last Design Update	Mo./Day/Yr.	Mo./Day/Yr.

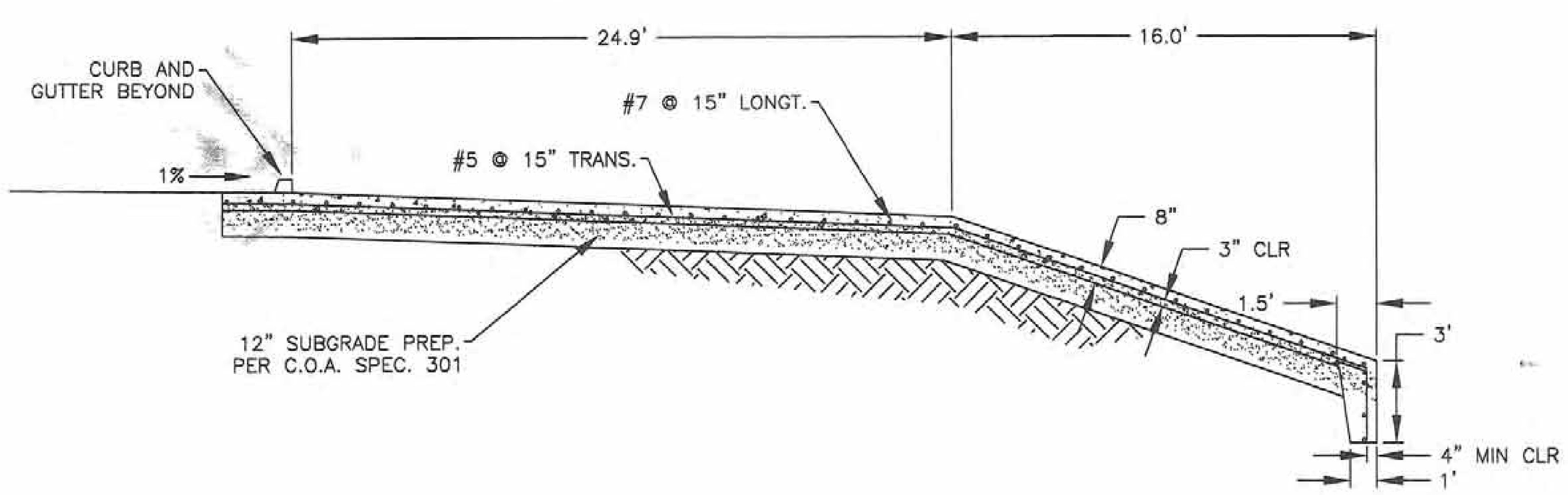
County Project No.	City Project No.	Zone Map No.	Sheet	Of
TS08-04	601791	K-11/12	10	13



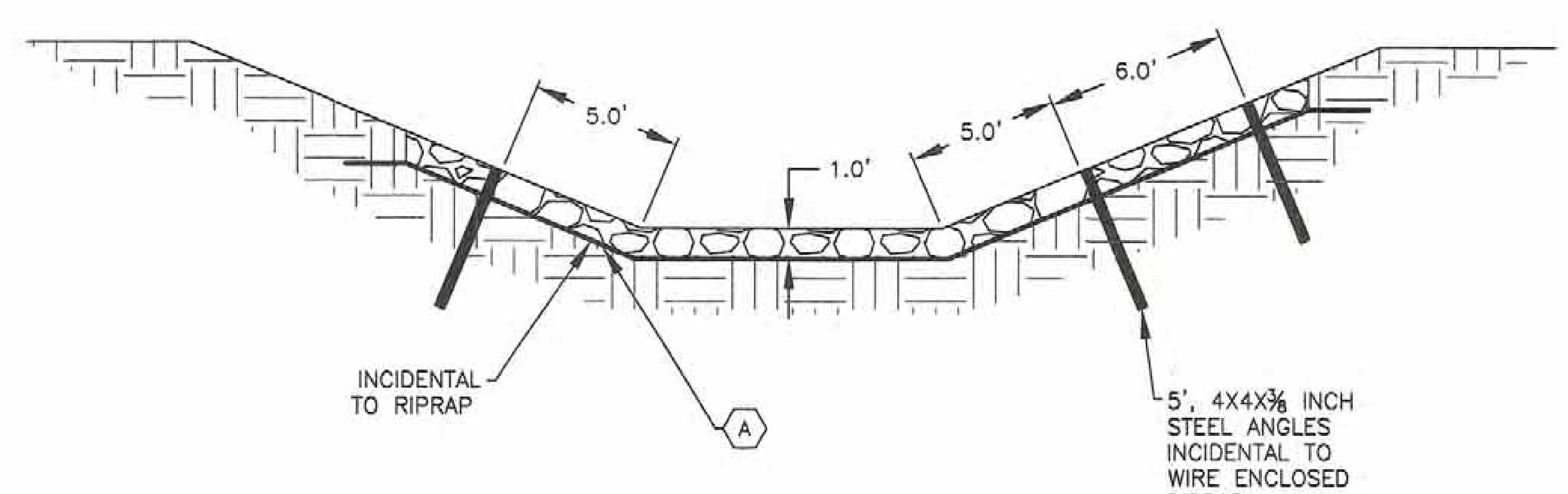
1 RUNDOWN DETAIL



2 RIPRAP DETAIL



A SECTION



B SECTION

A. PLACE CLASS 1 NON-WOVEN GEOTEXTILE (FILTER FABRIC). FABRIC SHALL BE IN ACCORDANCE WITH SECTION 604, SOIL AND DRAINAGE GEOTEXTILES NMDOT STD SPECS FOR HIGHWAY AND BRIDGE CONSTRUCTION, 2007 EDITION.

AS-BUILT INFORMATION

CONTRACTOR	DATE
WORK STAKED BY	DATE
INSPECTOR'S ACCEPTANCE BY	DATE
FIELD VERIFICATION BY	DATE
DRAWINGS CORRECTED BY	DATE

MICRO-FILM INFORMATION

RECORDED BY	DATE
NO.	

BENCH MARKS

BEARINGS ARE BASED ON GEODETIC NORTH FROM GPS OBSERVATIONS. DISTANCES ARE HORIZONTAL GROUND MEASUREMENTS IN US FEET. ELEVATIONS ARE BASED ON A.G.R.S. STATION "15-J12". ELEVATION OF STATION = 4965.627 (NAVD 1988 DATUM).

SURVEY INFORMATION

FIELD NOTES

NO.	BY	DATE

ENGINEER'S SEAL

MICHAEL D. SMITH, NEW MEXICO, 16050, LICENSED PROFESSIONAL ENGINEER, 9-16-09

No.	Date	REMARKS	By

REVISIONS

DESIGN

Designed By: MDS	DATE: JUNE 2009
Drawn By: CP, RAO, PMW	DATE: JUNE 2009
Checked By: EVD	DATE: JUNE 2009

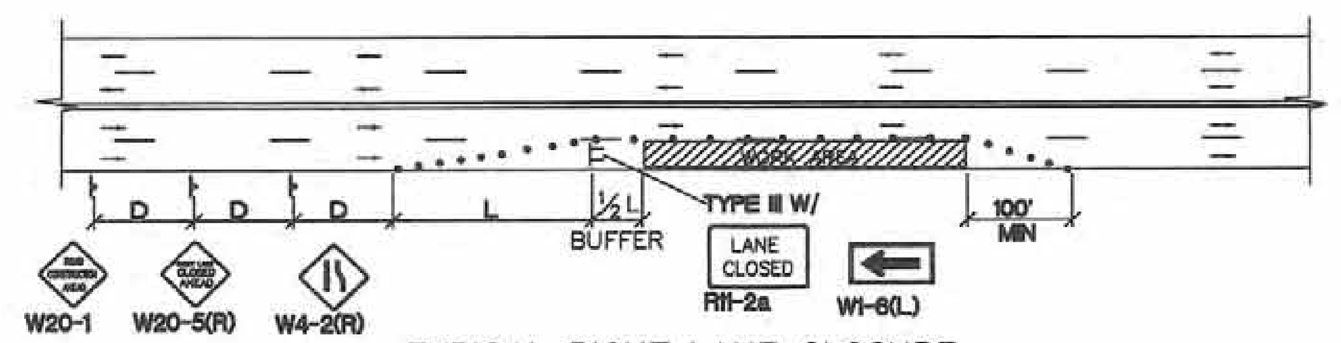
Resource Technology, Inc.
Civil Engineering
Environmental Sciences
Water Resources
Landscape Architecture
Planning
5501 Jefferson Blvd. NE, Suite 200
Albuquerque, New Mexico 87109
E-mail: rti@rtiabq.com
Telephone: (505) 243-7300
Facsimile: (505) 243-7400

BERNALILLO COUNTY

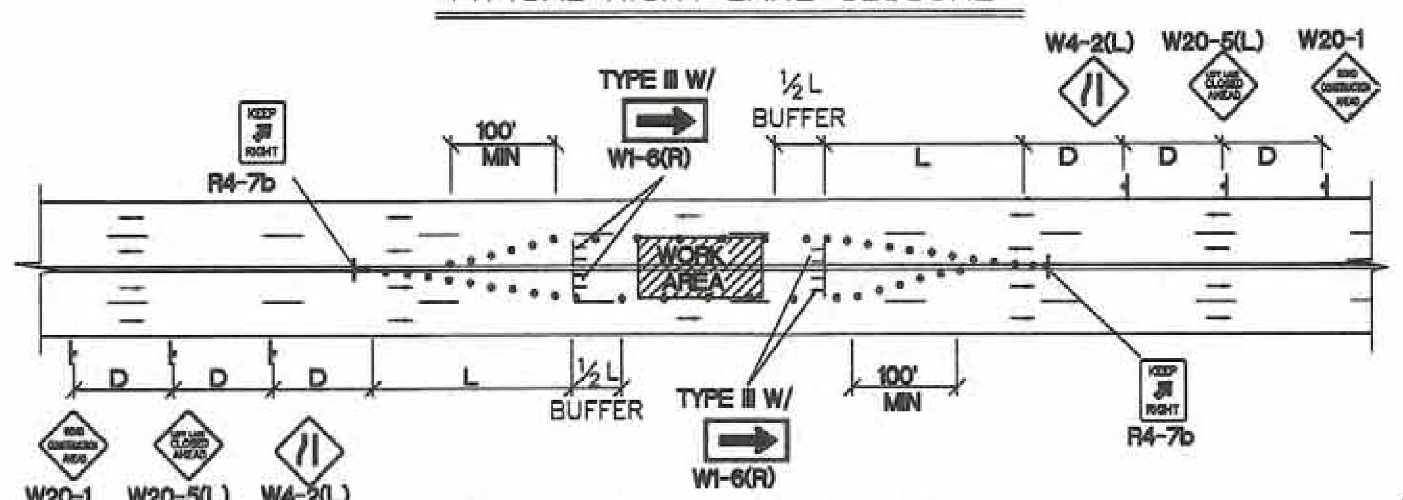
CYPRESS DRIVE STORM DRAIN
RUNDOWN AND EROSION PROTECTION DETAILS

Design Review Committee	City Engineer Approval	Last Design Update	Mo./Day/Yr.	Mo./Day/Yr.

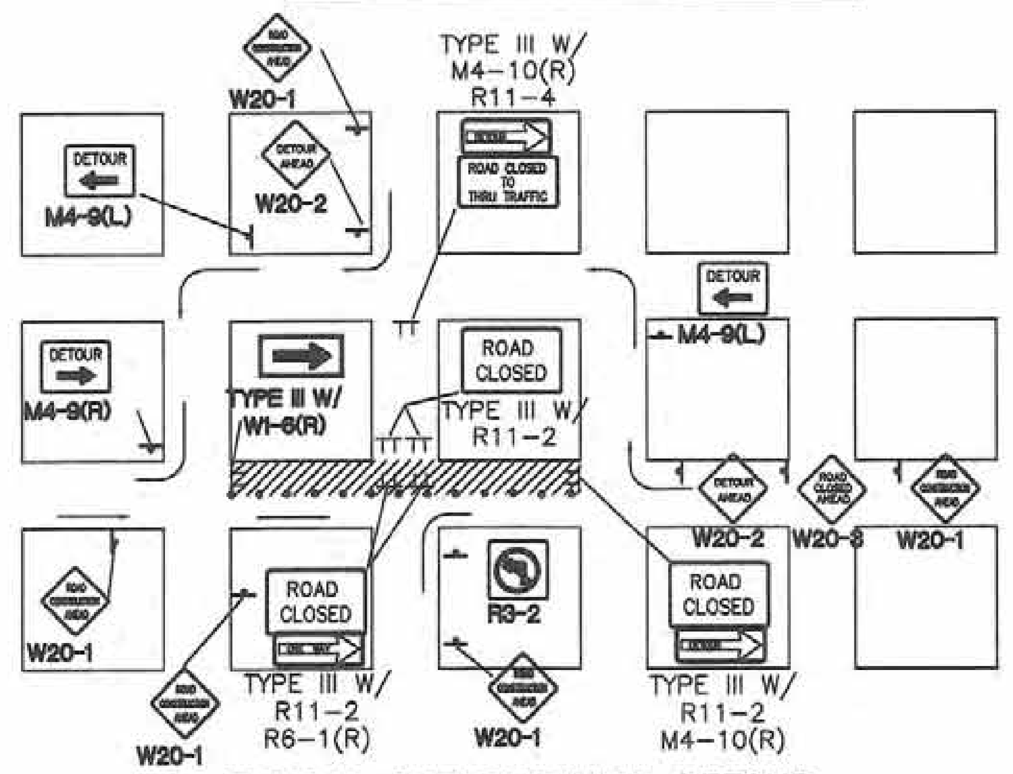
County Project No.	City Project No.	Zone Map No.	Sheet	Of
TS08-04	601791	K-11/12	11	13



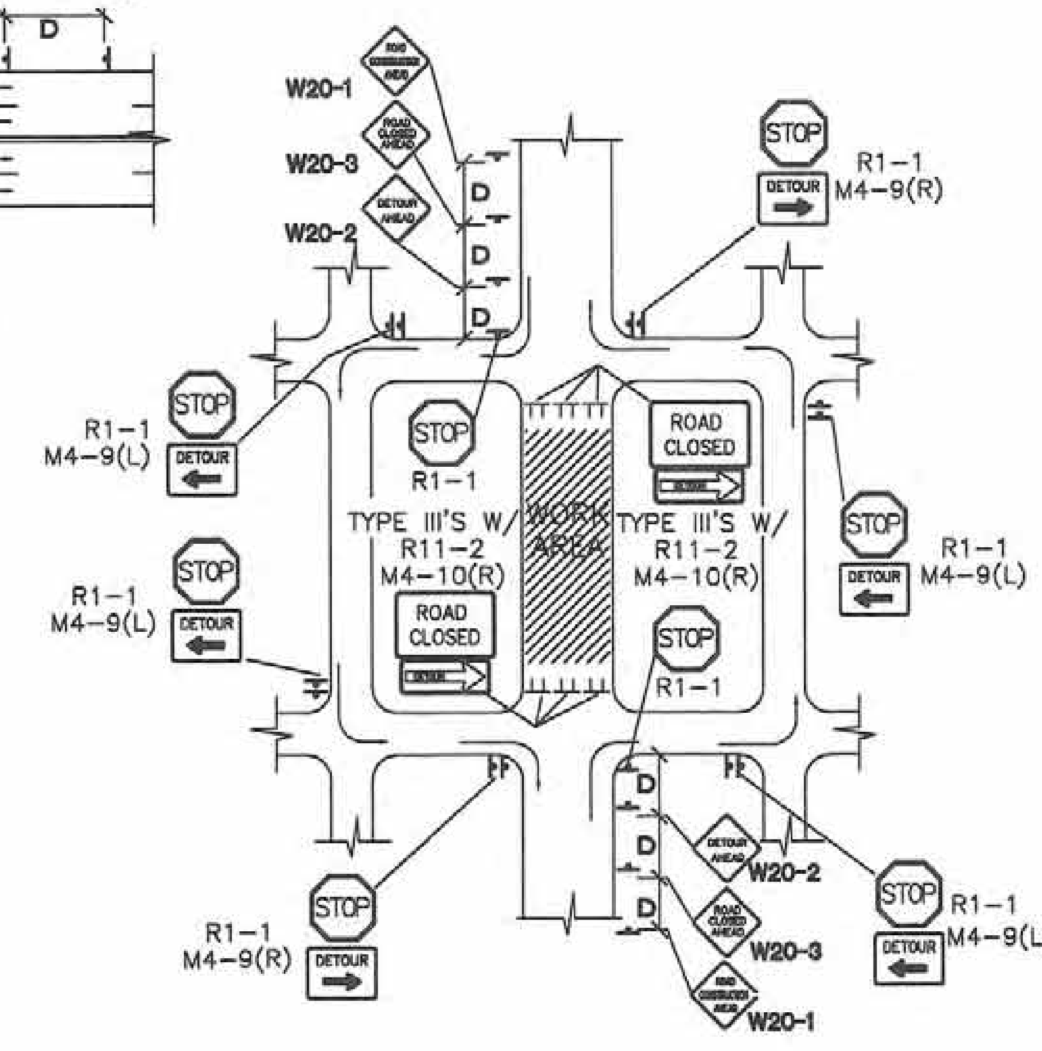
TYPICAL RIGHT LANE CLOSURE



TYPICAL LEFT LANE CLOSURE

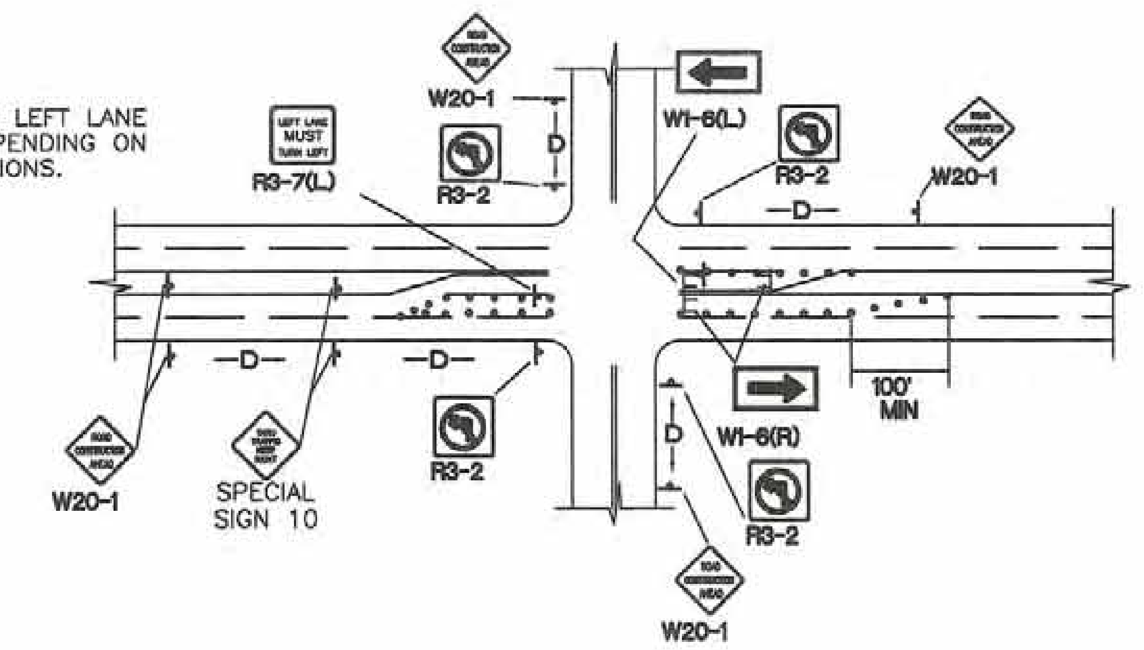


TYPICAL ONE DIRECTION DETOUR



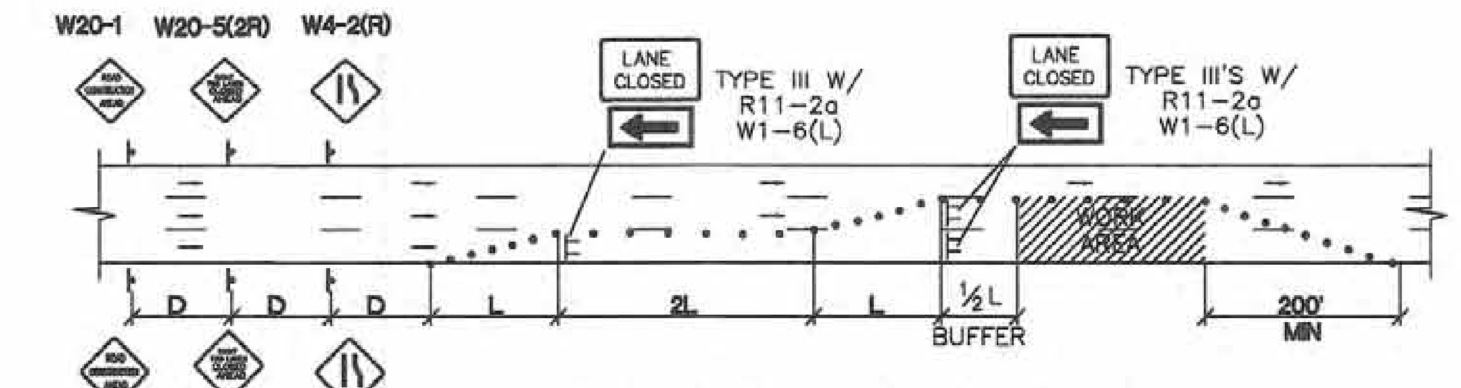
TYPICAL STREET CLOSURE

NOTE: (R1-1) BASED ON FIELD CONDITIONS.

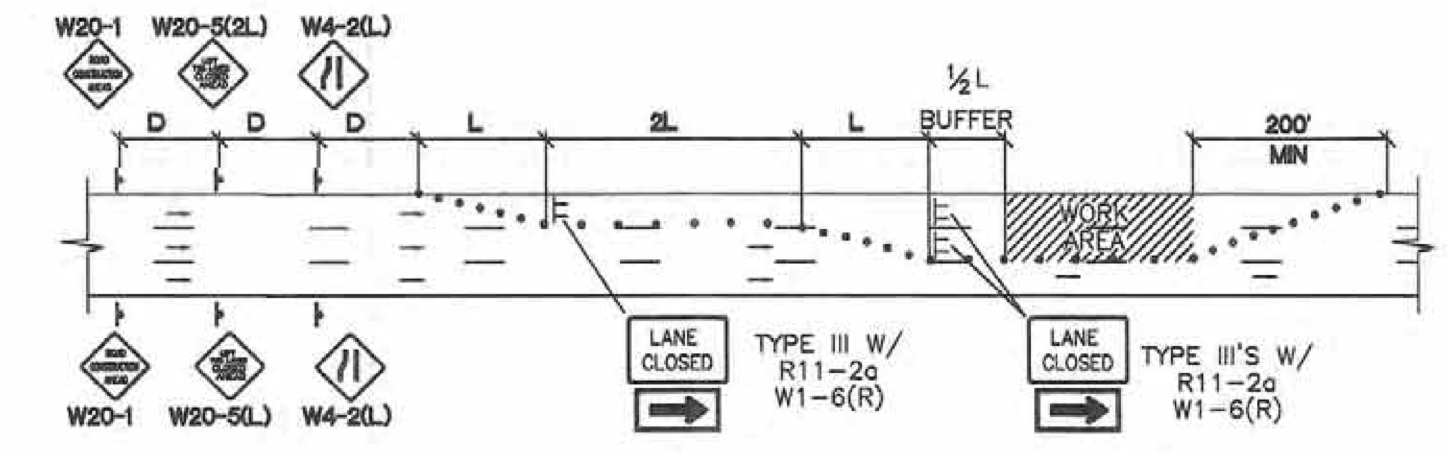


TYPICAL LANE CLOSURE AT INTERSECTION

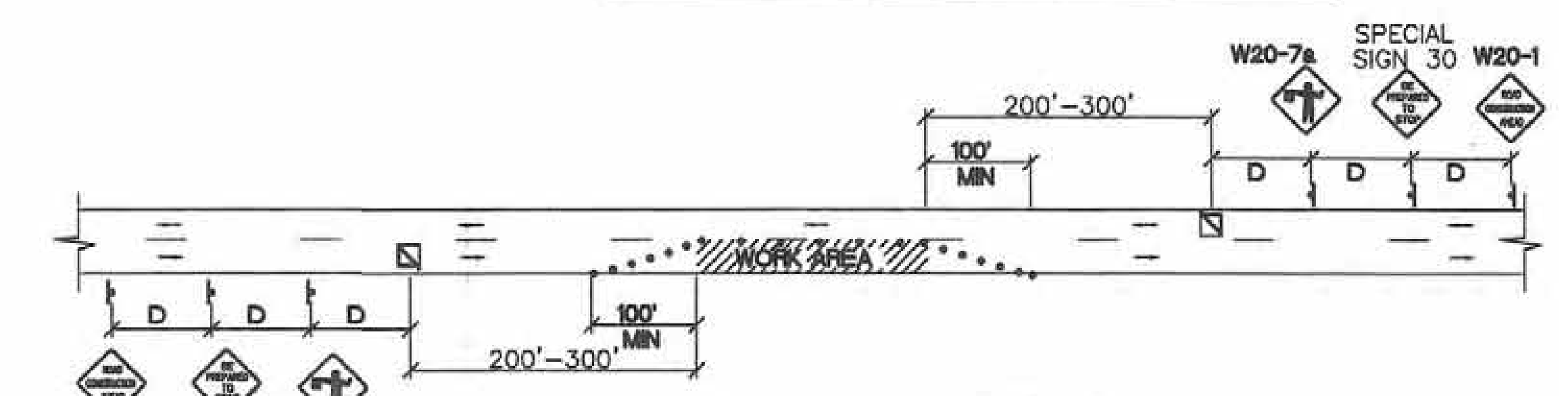
NOTE: DEPENDING ON WORK ZONE LOCATION.



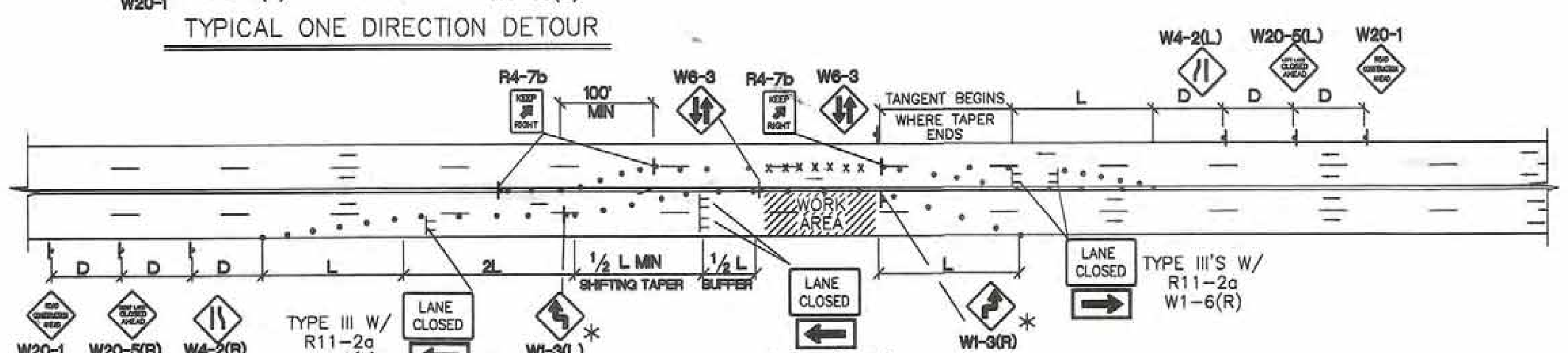
TYPICAL DOUBLE RIGHT LANE CLOSURE



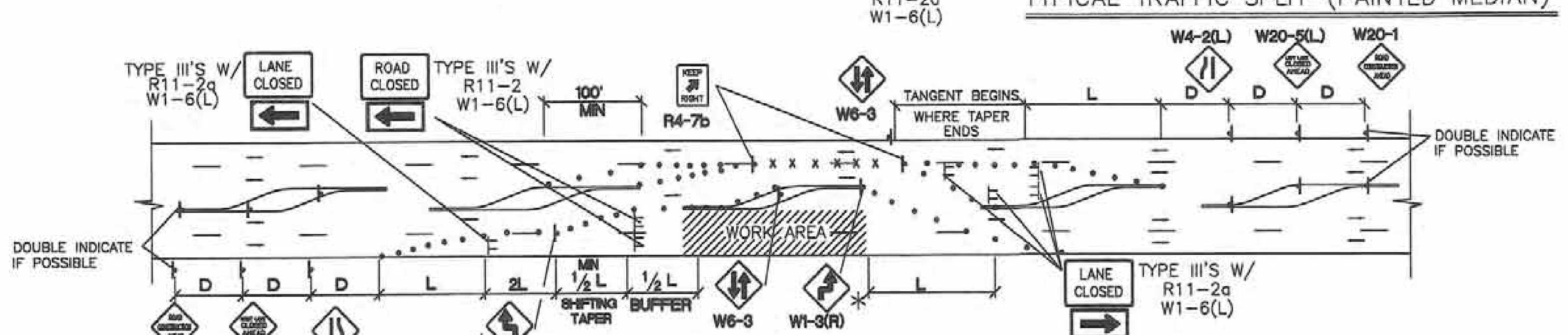
TYPICAL DOUBLE LEFT LANE CLOSURE



TYPICAL FLAGGING OPERATION



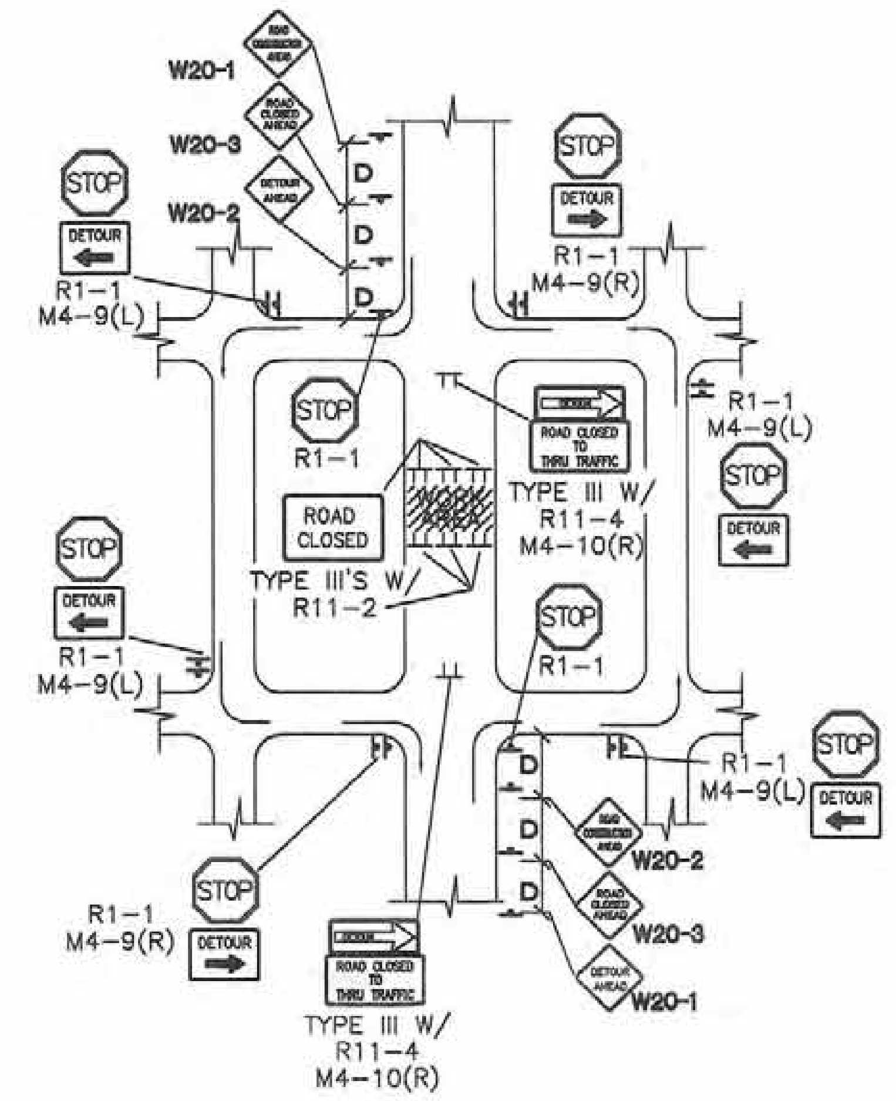
TYPICAL TRAFFIC SPLIT-(PAINTED MEDIAN)



TYPICAL TRAFFIC SPLIT - (RAISED MEDIAN)

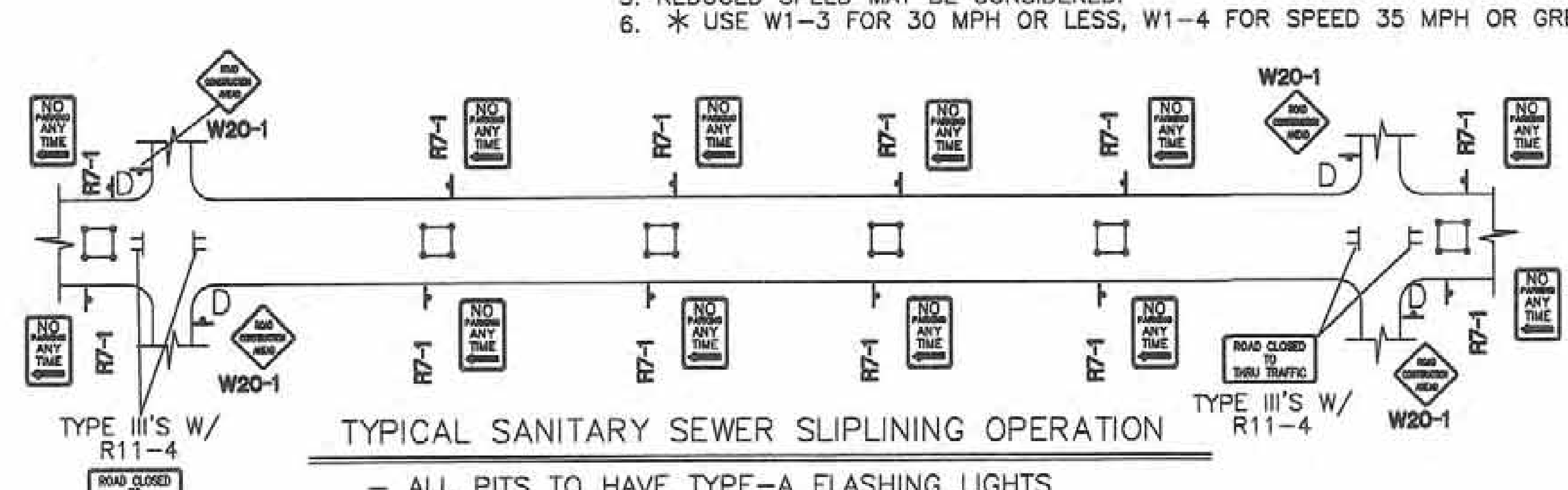
TRAFFIC SPLIT NOTES:

1. THE OFFSET DISTANCE MUST BE CALCULATED IN ALL SHIFTING TAPERS. THE OFFSET DISTANCES SHALL INCLUDE LANE WIDTHS PLUS MEDIAN WIDTHS.
2. 1/2 L IS THE MINIMUM DISTANCE FOR SHIFTING TAPERS.
3. REVERSE CURVES MAY BE IMPLEMENTED. ALL CURVE DATA SHALL BE CALCULATED.
4. MEDIAN REMOVAL SHALL BE REQUIRED IF 1/2 L OR REVERSE CURVE IS NOT SUFFICIENT. MEDIAN REMOVAL SHALL TAKE PLACE BEFORE SPLITS.
5. REDUCED SPEED MAY BE CONSIDERED.
6. * USE W1-3 FOR 30 MPH OR LESS, W1-4 FOR SPEED 35 MPH OR GREATER.



TYPICAL MID-BLOCK CLOSURE

NOTE: (R1-1) BASED ON FIELD CONDITIONS.



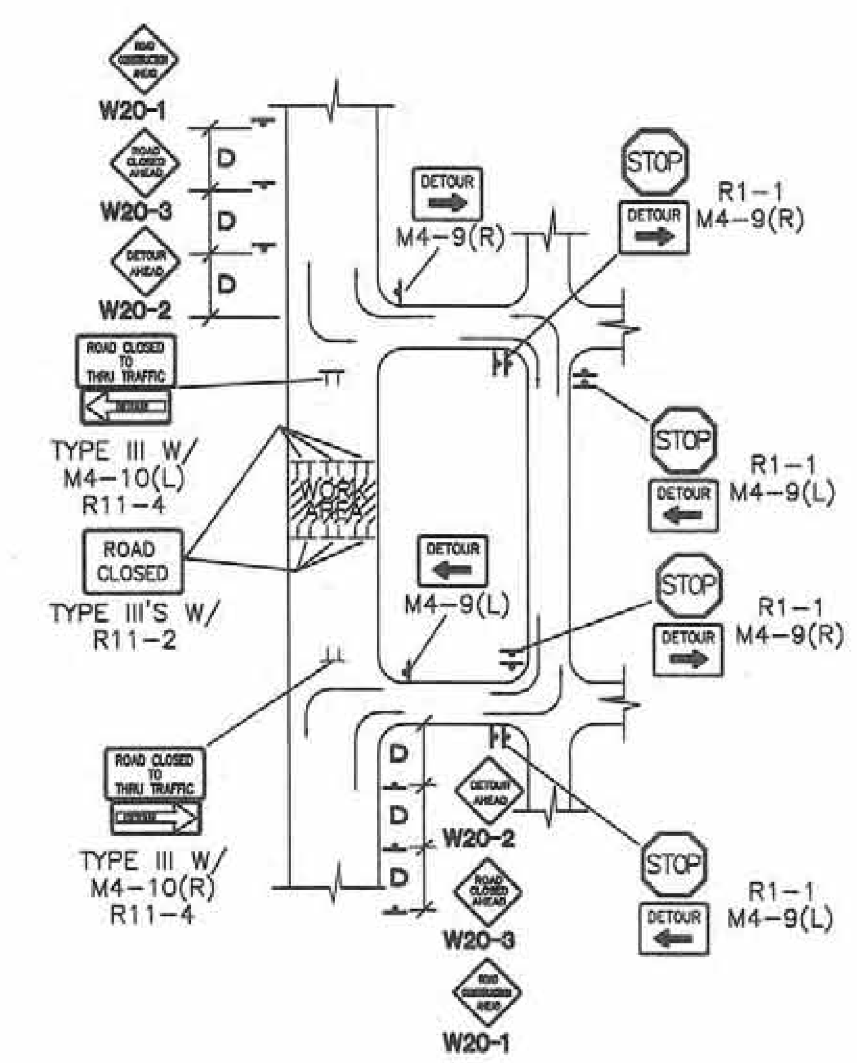
TYPICAL SANITARY SEWER SLIPLINING OPERATION

- ALL PITS TO HAVE TYPE-A FLASHING LIGHTS
- ALL PITS TO HAVE FLAGLINE

GENERAL NOTE:

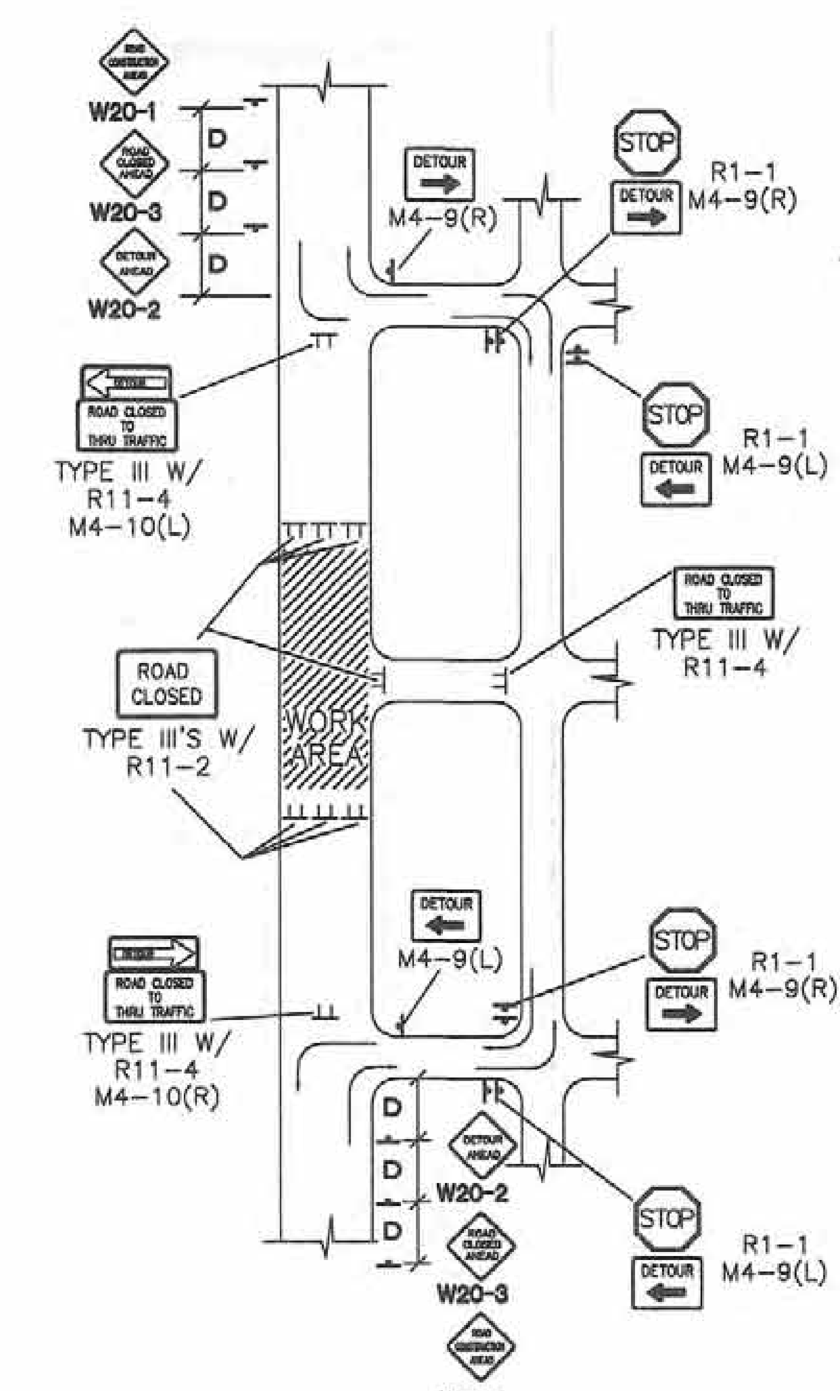
ALL CONSTRUCTION WARNING SIGNS SHALL HAVE A BLACK LEGEND ON A ORANGE BACKGROUND.

⚠ ALL ADVANCE WARNING SIGNS SHALL BE A MINIMUM OF 36" THIRTY SIX INCHES BY 36" THIRTY SIX INCHES IN SIZE AND SHALL HAVE ONE WARNING LIGHT.



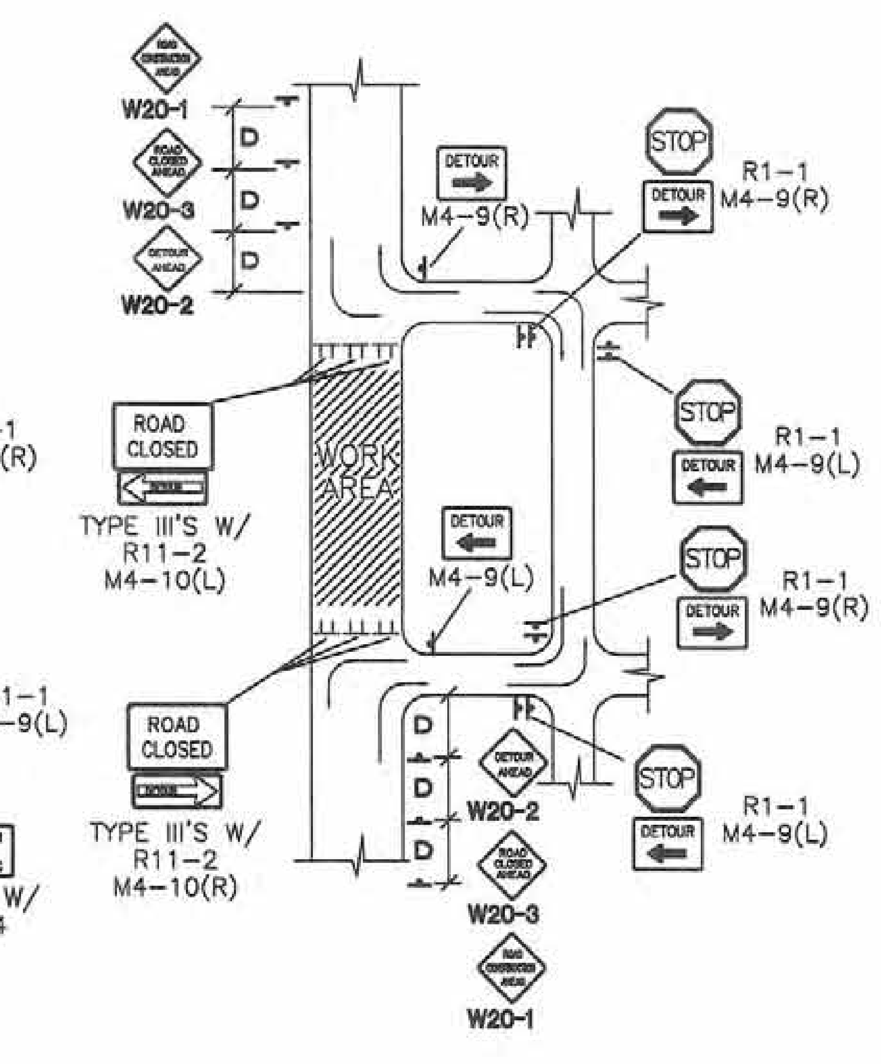
TYPICAL STREET CLOSURE

NOTE: (R1-1) BASED ON FIELD CONDITIONS.



TYPICAL STREET CLOSURE

NOTE: (R1-1) BASED ON FIELD CONDITIONS.



TYPICAL STREET CLOSURE

NOTE: (R1-1) BASED ON FIELD CONDITIONS.

FOR INFORMATION ONLY

AS-BUILT INFORMATION
CONTRACTOR — DATE
WORK STAKED BY — DATE
INSPECTOR'S ACCEPTANCE BY — DATE
FIELD VERIFICATION BY — DATE
DRAWINGS CORRECTED BY — DATE
MICRO-FILM INFORMATION
RECORDED BY — DATE
NO.

BENCH MARKS

SURVEY INFORMATION
FIELD NOTES
NO. | BY | DATE

ENGINEER'S SEAL

COA STANDARD

NO.	DATE	REMARKS	BY
	9/24/97	REVISED GENERAL NOTE	J.D.L

REVISIONS

DESIGN
DESIGNED BY BOHANNAN HUSTON — DATE 5-97
DRAWN BY BOHANNAN HUSTON — DATE 5-97
CHECKED BY BOHANNAN HUSTON — DATE 5-97

COUNTY OF BERNALILLO

TITLE: TYPICAL TRAFFIC CONTROL & SIGNING EXAMPLES (REF MUTCD)

DESIGN REVIEW COMMITTEE	CITY ENGINEER APPROVAL	LAST DESIGN UPDATE	MO./DAY/YR.	MO./DAY/YR.

CITY PROJECT NO. 601791 /TS08-04 | ZONE MAP NO. | SHEET 12 OF 13

CONSTRUCTION TRAFFIC CONTROL GENERAL NOTES

1. PROJECT IS SUBJECT TO THE REQUIREMENTS OF COUNTY ORDINANCE NO. 95–12 AND COUNTY ORDINANCE NO. 96–3. THE CONTRACTOR IS RESPONSIBLE FOR ACQUIRING ALL PERMITS NECESSARY. CONTRACTOR SHALL CALL 848–1504 FOR MORE INFORMATION.

2. THE CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN TO THE COUNTY TRAFFIC CONTROL ADMINISTRATOR AT LEAST 72 HOURS PRIOR TO COMMENCEMENT OF WORK. TRAFFIC CONTROL PLANS SHALL BE PREPARED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), LATEST EDITION AND BY CERTIFIED PERSONNEL AND MUST BE APPROVED PRIOR TO COMMENCEMENT OF WORK ON THE PROJECT. CALL 848–1504 FOR FURTHER INFORMATION.

3. A DAILY TRAFFIC CONTROL LOG SHALL BE MAINTAINED BY THE CONTRACTOR REFLECTING THE TYPES AND LOCATIONS OF ALL TRAFFIC CONTROL DEVICES, SIGNS, BARRICADES, ETC. BEING USED ON THE PROJECT IN COMPLIANCE WITH THE APPROVED TRAFFIC CONTROL PLAN. THIS LOG SHALL BE SUBMITTED TO THE BERNALILLO COUNTY TRAFFIC CONTROL ADMINISTRATOR UPON COMPLETION OF THE PROJECT CONSTRUCTION OR WHEN SO REQUESTED BY THE PROJECT MANAGER OR THE BERNALILLO COUNTY TRAFFIC CONTROL ADMINISTRATOR.

4. CONTRACTOR SHALL PROVIDE A WEEKLY CONSTRUCTION ACTIVITY SCHEDULE TO BERNALILLO COUNTY PUBLIC WORKS DIVISION ATTN: PROJECT MANAGER

5. THE CONTRACTOR SHALL FILE A WEEKLY WRITTEN REPORT TO THE TRAFFIC CONTROL ADMINISTRATOR DESCRIBING THE TRAFFIC CONTROL PLAN THAT WILL BE IN EFFECT FOR THE FOLLOWING WEEK.

6. SUBJECT TO THE APPROVED TRAFFIC CONTROL PLAN, AT LEAST ONE LANE SHALL BE OPEN TO TRAFFIC AT ALL TIMES. CONTRACTOR SHALL PROVIDE PROPER SIGNAGE AND FLAGMAN AND SHALL MAINTAIN THE TRAFFIC LANE IN SUCH A MANNER AS TO ASSURE PROPER SAFETY TO THE TRAVELING PUBLIC AT ALL TIMES, EXCEPT WHEN GRADING, EXCAVATION AND BACKFILL OPERATIONS ARE BEING CONDUCTED IMMEDIATELY IN FRONT OF THE PROPERTY, IN WHICH CASE ACCESS WILL NOT BE DENIED FOR MORE THAN 4 HOURS WITHOUT APPROVAL BY THE COUNTY.

7. TRAFFIC LANES PROVIDED DURING CONSTRUCTION SHALL BE MAINTAINED, IN SUCH A CONDITION UNDER ALL WEATHER CONDITIONS, SO AS TO PERMIT THE REASONABLE PASSAGE OF PASSENGER VEHICLES, AND SHALL BE KEPT GRADED AND SMOOTH, AND WATERED SEVERAL TIMES DAILY TO CONTROL DUST.

8. TYPICAL TRAFFIC CONTROL PLANS DO NOT REFLECT THE EXISTING TOPOGRAPHY SUCH AS DRIVEWAYS, LANE WIDTHS, AND BUSINESS/RESIDENTIAL ACCESSES. EVERY LOCATION THAT REQUIRES CONSTRUCTION TRAFFIC CONTROL SHALL HAVE A DETAILED TRAFFIC CONTROL PLAN SHOWING ALL EXISTING TOPOGRAPHY.

9. CONSTRUCTION SHALL NOT BEGIN UNLESS A TRAFFIC CONTROL PLAN HAS BEEN APPROVED AND VERIFIED BY BERNALILLO COUNTY TRAFFIC ENGINEERING.

10. ALL CONSTRUCTION TRAFFIC CONTROL DEVICES SHALL COMPLY WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), LATEST EDITION. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INSTALL, SERVICE AND MAINTAIN ALL TRAFFIC CONTROL DEVICES. TRAFFIC CONTROL DEVICES SHALL NOT BE REMOVED OR ALTERED IN ANY WAY WITHOUT THE APPROVAL OF THE COUNTY TRAFFIC CONTROL ADMINISTRATOR, PER SECTION 6A–4 OF THE MUTCD, LATEST EDITION.

11. THE CONSTRUCTION TRAFFIC CONTROL INITIAL SET–UP FOR EACH PHASE SHALL BE BY AN AMERICAN TRAFFIC SAFETY SERVICES ASSOCIATION (ATSSA) CERTIFIED WORKSITE TRAFFIC SUPERVISOR. THE MAINTENANCE AND SERVICING SHALL ALSO BE DONE BY AN ATSSA CERTIFIED WORKSITE TRAFFIC SUPERVISOR OR EQUIVALENT.

12. CONTRACTOR IS RESPONSIBLE TO MAINTAIN AND SERVICE ALL TRAFFIC CONTROL DEVICES 24 HOURS A DAY, 7 DAYS A WEEK THROUGHOUT LENGTH OF PROJECT. CONTRACTOR IS RESPONSIBLE THAT ALL TRAFFIC CONTROL DEVICES COMPLY WITH THE MUTCD, LATEST EDITION.

13. ALL ADVANCE WARNING SIGNS SHALL BE DOUBLE INDICATED WHENEVER THERE ARE MULTI–LANE TRAFFIC IN ANY ONE GIVEN DIRECTION AND THERE IS SUFFICIENT MEDIAN SPACE.

14. ALL BARRICADES IN ALL TAPERS AND TANGENTS SHALL BE PLACED APART, A DISTANCE MEASURED IN FEET, EQUAL TO THAT OF THE POSTED SPEED LIMIT. NO EXCEPTIONS UNLESS APPROVED BY BERNALILLO COUNTY TRAFFIC ENGINEERING PER MUTCD SECTION 6A–4.

15. ALL WORK IN ARTERIAL ROADWAYS SHALL BE ON A CONTINUOUS 24 HOUR PER DAY BASIS UNTIL COMPLETED.

16. EQUIPMENT OR MATERIALS SHALL NOT BE STORED WITHIN 15 FEET OF A TRAVELED TRAFFIC LANE DURING NON–WORKING HOURS WITHOUT THE APPROVAL OF BERNALILLO COUNTY TRAFFIC ENGINEERING.

17. CONTRACTOR SHALL PROVIDE AND MAINTAIN A SAFE AND ADEQUATE MEANS OF CHANNELIZING PEDESTRIAN TRAFFIC AROUND AND THROUGH THE CONSTRUCTION AREA.

18. CONTRACTOR IS RESPONSIBLE FOR OBLITERATION OF ANY CONFLICTING STRIPING AND RESPONSIBLE FOR ALL TEMPORARY STRIPING.

19. CONTRACTOR SHALL MAINTAIN ACCESS TO ALL FACILITIES, BUSINESSES AND/OR RESIDENTS AT ALL TIMES.

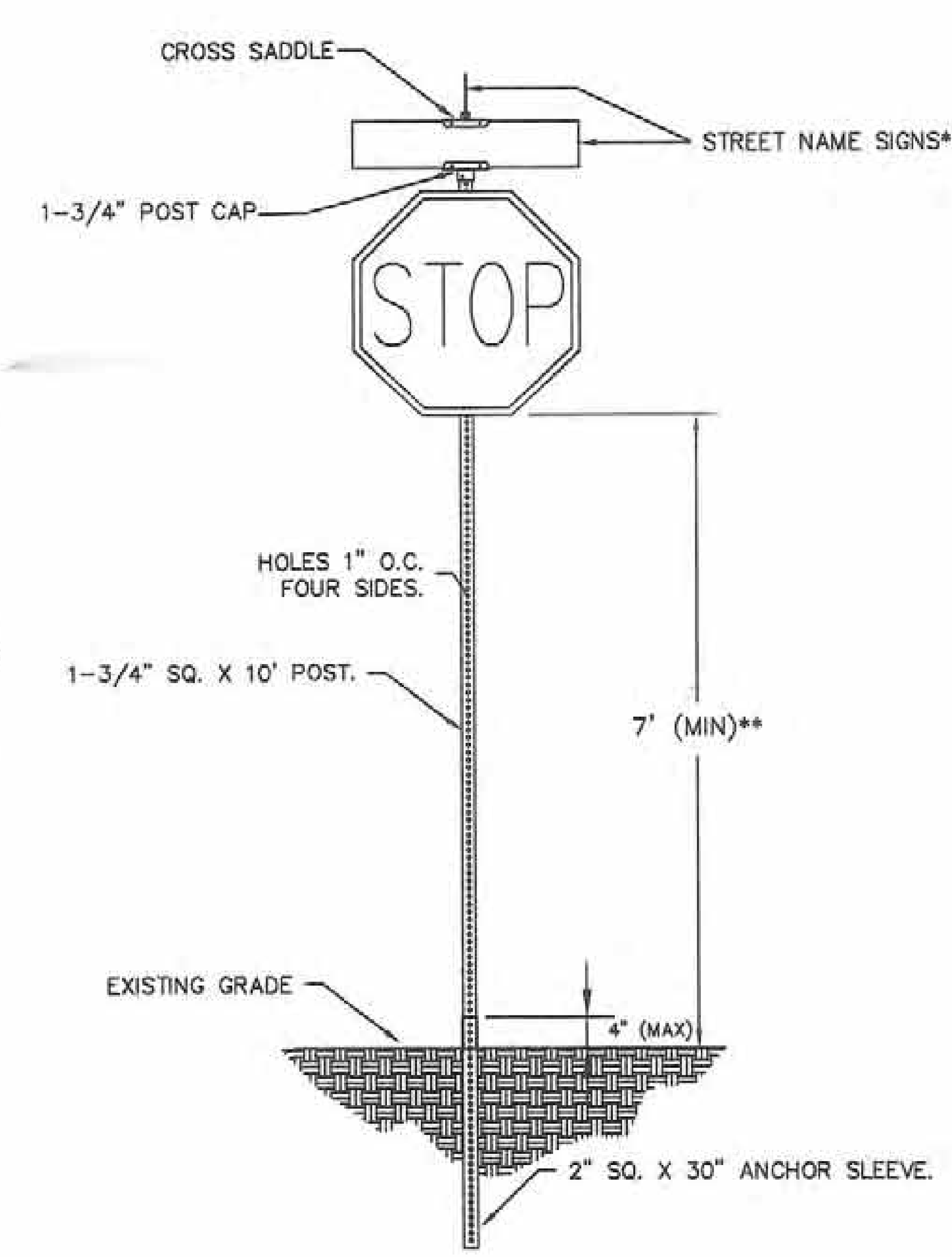
20. CONTRACTOR SHALL PROVIDE ACCESS SIGNS FOR BUSINESSES LOCATED WITHIN THE CONSTRUCTION AREA UNDER THE SUPERVISION OF BERNALILLO COUNTY TRAFFIC ENGINEERING. EACH ACCESS SIGN SHALL HAVE 5 INCH, WHITE LETTERING ON BLUE BACKGROUND. SHOPPING CENTERS AND MALLS SHALL BE LISTED AS SUCH.

21. 48 HOURS PRIOR TO OCCUPYING OR CLOSING OF A RIGHT–OF–WAY, CONTRACTOR SHALL NOTIFY: POLICE, FIRE DEPARTMENT, SCHOOLS, HOSPITALS, TRANSIT AUTHORITY, BUSINESSES AND/OR RESIDENTS THAT WILL BE AFFECTED BY THE CONSTRUCTION.

22. ANY FIELD ADJUSTMENTS SHALL BE APPROVED BY BERNALILLO COUNTY TRAFFIC ENGINEERING.

23. EXCAVATIONS SHALL BE PLATED, TEMPORARILY PATCHED OR RESURFACED PRIOR TO OPENING OF TRAFFIC. A MINIMUM OF 11 FEET, SHALL BE PROVIDED FOR TRAFFIC IN ANY GIVEN DIRECTION. CONTRACTOR IS RESPONSIBLE FOR ANY WORK INVOLVED IN SATISFYING THESE REQUIREMENTS.

24. THE CONTRACTOR SHALL CONTACT BERNALILLO COUNTY TRAFFIC ENGINEER (848–1575) BEFORE REMOVING AND/OR INSTALLING ANY TRAFFIC SIGNS OR PERMANENT STRIPING AND MARKINGS. ALL STRIPING, PAVEMENT MARKINGS INCLUDING CROSSWALKS, LEGENDS AND SYMBOLS ARE TO BE CONSTRUCTED OF INTERSECTION GRADE COLD PLASTIC AND LINE MARKINGS ARE TO BE CONSTRUCTED OF DURABLE PAINT IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) LATEST EDITION. ANY PAVEMENT MARKINGS AND SIGNS REMOVED OR DAMAGED DURING CONSTRUCTION SHALL BE REPLACED AT EXISTING LOCATIONS. SUCH WORK SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION OF THE PROJECT.



SIGN POST DETAIL
SCALE: N.T.S

*ALL STREET NAME SIGNS SHALL BE WHITE LETTERS ON GREEN BACKGROUND WITH HI INTENSITY REFLECTIVE SHEETING. ALL LETTERS SHALL BE 4" FOR POSTED SPEEDS OF 25 MPH AND BELOW AND 6" FOR POSTED SPEEDS GREATER THAN 25 MPH.
**SEE MUTCD FOR MINIMUM MOUNTING HEIGHT IN RURAL AREAS

# OF POSTS	MAXIMUM SIGN SQUARE FOOTAGE
1	6
2	12
3	18

TAPER REQUIREMENT

SPEED LIMIT (MPH)	TAPER LENGTH(L) (FEET)			MINIMUM NUMBER OF DEVICES FOR TAPER	MAXIMUM DEVICE SPACING IN FEET	
	10' LANE	11' LANE	12' LANE		ALONG TAPER	AFTER TAPER
20	70	75	80	5	20	20
25	105	115	125	6	25	25
30	150	165	180	7	30	30
35	205	225	245	8	35	35
40	270	295	320	9	40	40
45	450	495	540	13	45	45
50	500	550	600	13	50	50
55	550	605	660	13	55	55

RECOMMENDED SIGN SPACING(D) FOR

ADVANCE WARNING SIGN SERIES

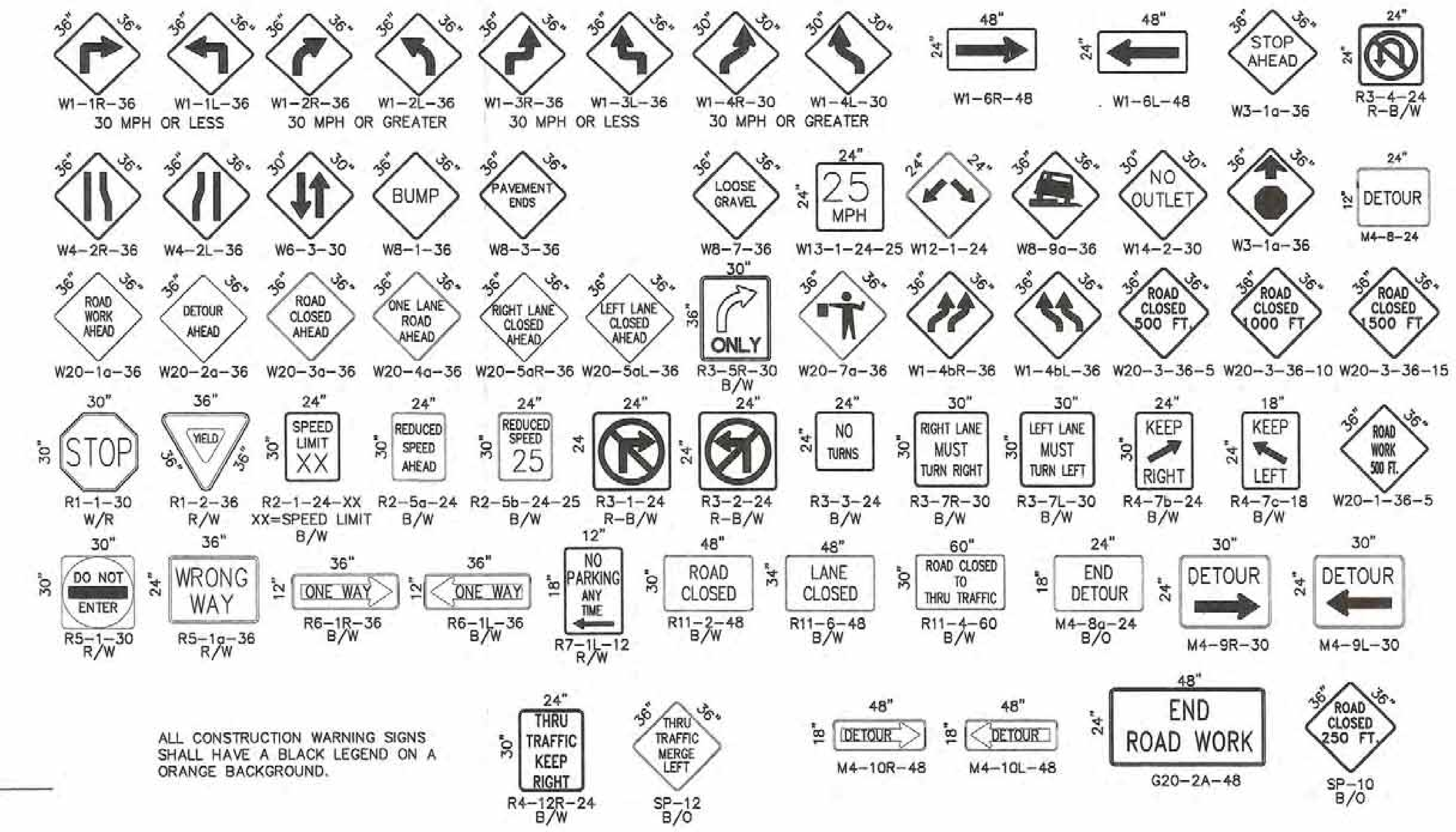
SPEED MILES PER HOUR	MINIMUM DISTANCE IN FEET BETWEEN SIGNS	FROM LAST SIGN TO TAPER
0–20	10 X SPEED LIMIT	10 X SPEED LIMIT
25–30	10 X SPEED LIMIT	10 X SPEED LIMIT
30–35	10 X SPEED LIMIT	10 X SPEED LIMIT
40–45	10 X SPEED LIMIT	10 X SPEED LIMIT
50–60	10 X SPEED LIMIT	10 X SPEED LIMIT

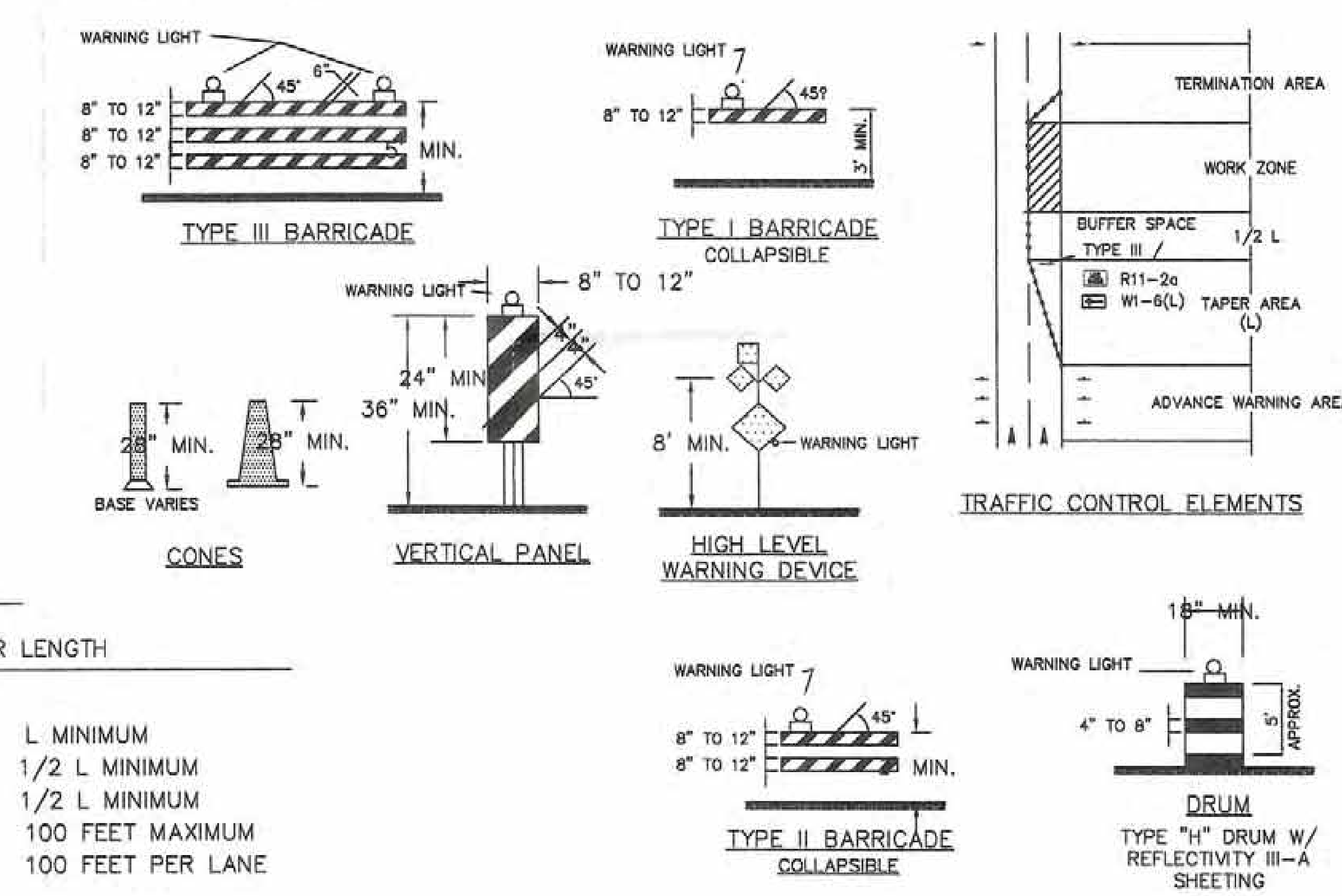
LEGEND

(hatched)	WORK AREA
•	BARRICADE – TYPE I, TYPE II, OR TYPE "H" DRUM W/ REFLECTIVITY III–A SHEETING
⊣	BARRICADE – TYPE III
X	VERTICAL PANEL
⊣	WARNING SIGN
D	DISTANCE BETWEEN SIGNS – A DISTANCE MEASURED IN FEET EQUAL TO A VALUE OF TEN TIMES THE SPEED LIMIT OF THE STREET
⊠	FLAGMAN POSITION
S	SPACING BETWEEN BARRICADES– A DISTANCE MEASURED IN FEET EQUAL TO THE SPEED LIMIT OF THE STREET
L	TAPER LENGTH – SEE CHART BELOW

THE TANGENT LENGTH IS EQUAL TO THE TAPER LENGTH FOR A GIVEN STREET.

SIGN FACE DETAILS





TAPER CRITERIA

TYPE OF TAPER	TAPER LENGTH
UPSTREAM TAPER:	
MERGING TAPER	L MINIMUM
SHIFTING TAPER	1/2 L MINIMUM
SHOULDER TAPER	1/2 L MINIMUM
TWO–WAY TRAFFIC TAPER	100 FEET MAXIMUM
DOWNSTREAM TAPERS	100 FEET PER LANE

TAPER LENGTH COMPUTATION

SPEED LIMIT	
40 MPH OR LESS	$L = \frac{WS^2}{60}$
40 MPH OR GREATER	$L = W \times S$

L = TAPER LENGTH
W = WIDTH OF OFFSET IN FEET
S = POSTED SPEED OR OFF–PEAK 85–PERCENTILE SPEED IN MPH

NO.	DESCRIPTION	BY	DATE
	REVISIONS		

COUNTY OF BERNALILLO

CYPRESS DRIVE STORM DRAIN SIGNING & CONSTRUCTION TRAFFIC CONTROL STANDARDS

FOR INFORMATION ONLY

PROJECT NO.	DRAWN:	DATE:
601791 / TS08–04	CHECKED:	SCALE:

APPENDIX C: CYPRESS DRIVE STORM DRAIN CONSTRUCTION PLANS, PHASE II AS-BUILT RECORD DRAWINGS

CYPRESS DRIVE STORM DRAIN

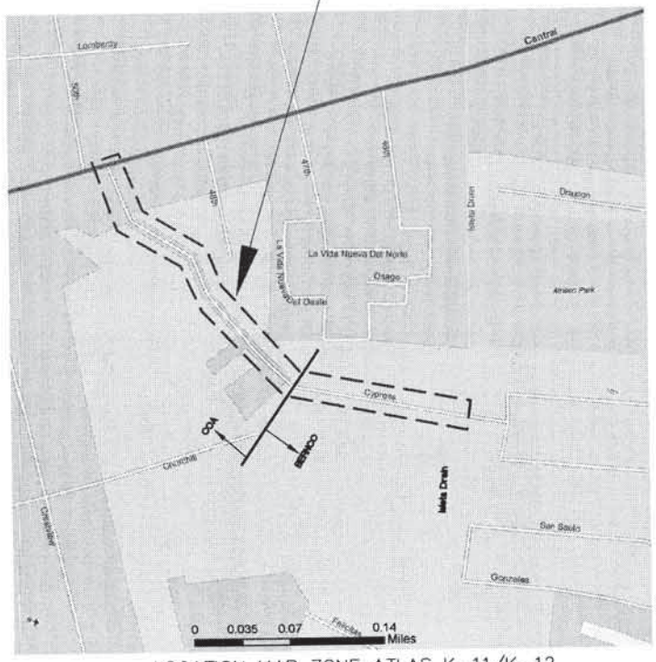
CONSTRUCTION PLANS
BERNALILLO COUNTY, NEW MEXICO

PHASE II AS-BUILT
RECORD DRAWINGS

VICINITY MAP

BERNALILLO COUNTY
STATE OF NEW MEXICO

PROJECT LOCATION



LOCATION MAP ZONE ATLAS K-11/K-12

INDEX OF SHEETS

SHEET	TITLE
1	COVER SHEET
2	GENERAL NOTES AND LEGEND
3	SURVEY CONTROL
4	PLAN & PROFILE STA 50+00 TO 54+10
5	PLAN & PROFILE STA 54+10 TO 58+00
6	PLAN & PROFILE STA 58+00 TO 61+90
7	PLAN & PROFILE STA 61+90 TO 65+80
8	PLAN & PROFILE STA 65+80 TO EOP
9	WATER AND SAS SERVICE DETAILS
10	ROADWAY AND CURB DETAILS
11	RUNDOWN AND EROSION PROTECTION DETAILS
12	STANDARD DETAILS
13	COUNTY TRAFFIC CONTROL
14	COUNTY TRAFFIC CONTROL NOTES

SURVEYOR'S CERTIFICATE

I, Andrew S Medina, a duly qualified Licensed Professional 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 of under my supervision and that this "as-built" information is true and correct to the best of my knowledge and belief. I am not responsible for any of the design concepts, calculations, engineering, or intent of the record drawings.

ANDREW S. MEDINA — NEW MEXICO — 12649 — REGISTERED PROFESSIONAL SURVEYOR

Andrew S. Medina, NMPS 12649 — Date 10-26-2016

SANDIA LAND SURVEYING, LLC
15 CASA TIERRA NOS
PLACITAS, NM. 87043
505-259-8130

VERTICAL DATUM IS NAVD 88

WESTON SOLUTIONS

REV.	SHEETS	CITY ENGINEER	DATE	USER DEPARTMENT	DATE	USER DEPARTMENT	DATE
ENGINEERS STAMP & SIGNATURE		APPROVALS		ENGINEER	DATE	APPROVED FOR CONSTRUCTION	
		D.R.C. Chair					
		Hydrology					
		Transportation					
		Risk					
		A.B.C.W.U.A.					

DAVID J. COOPER — NEW MEXICO — 21583 — PROFESSIONAL ENGINEER — 3/22/16

ENGINEER	DATE
	MAR 2016

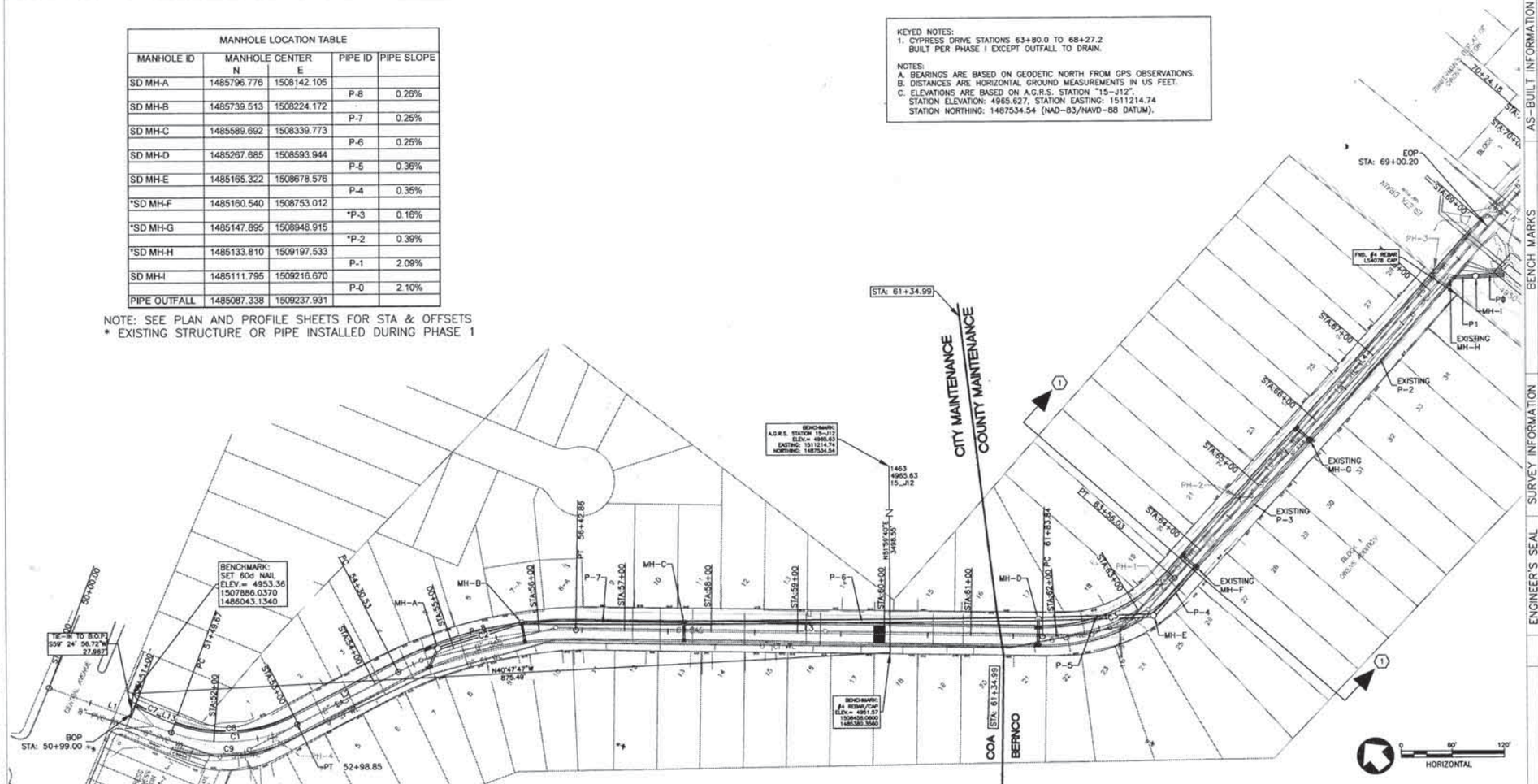
COUNTY PROJECT NO.	CITY PROJECT NO.	SHEET	OF
20160006	601791	1	14

MANHOLE LOCATION TABLE				
MANHOLE ID	MANHOLE CENTER N	E	PIPE ID	PIPE SLOPE
SD MH-A	1485796.776	1508142.105		
			P-8	0.26%
SD MH-B	1485739.513	1508224.172		
			P-7	0.25%
SD MH-C	1485589.692	1508339.773		
			P-6	0.25%
SD MH-D	1485267.685	1508593.944		
			P-5	0.36%
SD MH-E	1485165.322	1508678.576		
			P-4	0.35%
*SD MH-F	1485160.540	1508753.012		
			*P-3	0.16%
*SD MH-G	1485147.895	1508948.915		
			*P-2	0.39%
*SD MH-H	1485133.810	1509197.533		
			P-1	2.09%
SD MH-I	1485111.795	1509216.670		
			P-0	2.10%
PIPE OUTFALL	1485087.338	1509237.931		

NOTE: SEE PLAN AND PROFILE SHEETS FOR STA & OFFSETS
* EXISTING STRUCTURE OR PIPE INSTALLED DURING PHASE 1

KEYED NOTES:
1. CYPRESS DRIVE STATIONS 63+80.0 TO 68+27.2 BUILT PER PHASE I EXCEPT OUTFALL TO DRAIN.

NOTES:
A. BEARINGS ARE BASED ON GEODETIC NORTH FROM GPS OBSERVATIONS.
B. DISTANCES ARE HORIZONTAL GROUND MEASUREMENTS IN US FEET.
C. ELEVATIONS ARE BASED ON A.G.R.S. STATION "15-J12". STATION ELEVATION: 4965.627, STATION EASTING: 1511214.74 STATION NORTHING: 1487534.54 (NAD-83/NAVD-88 DATUM).



POTHOLE	UTILITY			DEPTH	
#	Type	Material	Diameter	To Top	To Bottom
1	H2O	METALLIC	12"	48"	60"
2	H2O	METALLIC	12"	44"	54"
3	H2O	METALLIC	12"	36"	48"
4	SAS	CLAY TILE	8"	56"	
5	H2O	METALLIC	8"	21"	

NOTE: 12" WATERLINE MIGHT BE 16" AS SHOWN IN HISTORIC AS-BUILTS

CENTERLINE: LINE TABLE					
LINE #	LENGTH	DIRECTION	STARTING POINT EASTING	STARTING POINT NORTHING	DESCRIPTION
L1	149.67	S17° 40' 00.67"	1507831.916	1486123.235	CL - 50+00.00 - BOA
L2	131.69	S65° 08' 59.03"	1507972.993	1485872.011	CL - 52+98.85 - PT
L3	540.98	S36° 54' 58.58"	1508256.120	1485684.393	CL - 56+42.86 - PT
L4	668.16	S86° 14'37.60"	1508727.860	1485172.429	CL - 63+56.03 - PT

CENTERLINE: CURVE TABLE							
CURVE #	DELTA	RADIUS	TANGENT	LENGTH	STARTING POINT EASTING	STARTING POINT NORTHING	DESCRIPTION
C1	541° 24' 30"E	180	79.17	149.17	1507877.410	1485980.398	CL - 51+49.67 - PC
C2	551+ 01' 59"E	430.88	108.36	212.32	1509092.701	1485816.571	CL - 54+30.53 - PC
C3	561° 34' 48"E	200	91.84	172.19	1508581.059	1485251.870	CL - 61+83.84 - PC

AS-BUILT INFORMATION
CONTRACTOR — DATE
SURVEYED BY: SLS — DATE 10-24-16
INSPECTOR'S FIELD MARKINGS — DATE
AS-BUILTED BY — DATE
CORRECTED BY — DATE

BENCH MARKS
BEARINGS ARE BASED ON GEODETIC NORTH FROM GPS OBSERVATIONS. DISTANCES ARE HORIZONTAL GROUND MEASUREMENTS IN US FEET. ELEVATIONS ARE BASED ON A.G.R.S. STATION "15-J12". ELEVATION OF STATION: 4965.627, STATION EASTING: 1511214.74; STATION NORTHING: 1487534.54 (NAD-83/NAVD-88 DATUM).

MICRO-FILM INFORMATION
RECORDED BY — DATE
NO.

SURVEY INFORMATION
FIELD NOTES
NO. — BY — DATE
SLS 10-24-16

ENGINEER'S SEAL
DAVID J. COOPER — NEW MEXICO — 21683 — PROFESSIONAL ENGINEER

No.	Date	REVISIONS / REMARKS	By
		DESIGN	

Designed By: MDS — DATE: MAR 2016
Drawn By: CP, RW — DATE: MAR 2016
Checked By: LBS — DATE: MAR 2016

WESTON SOLUTIONS

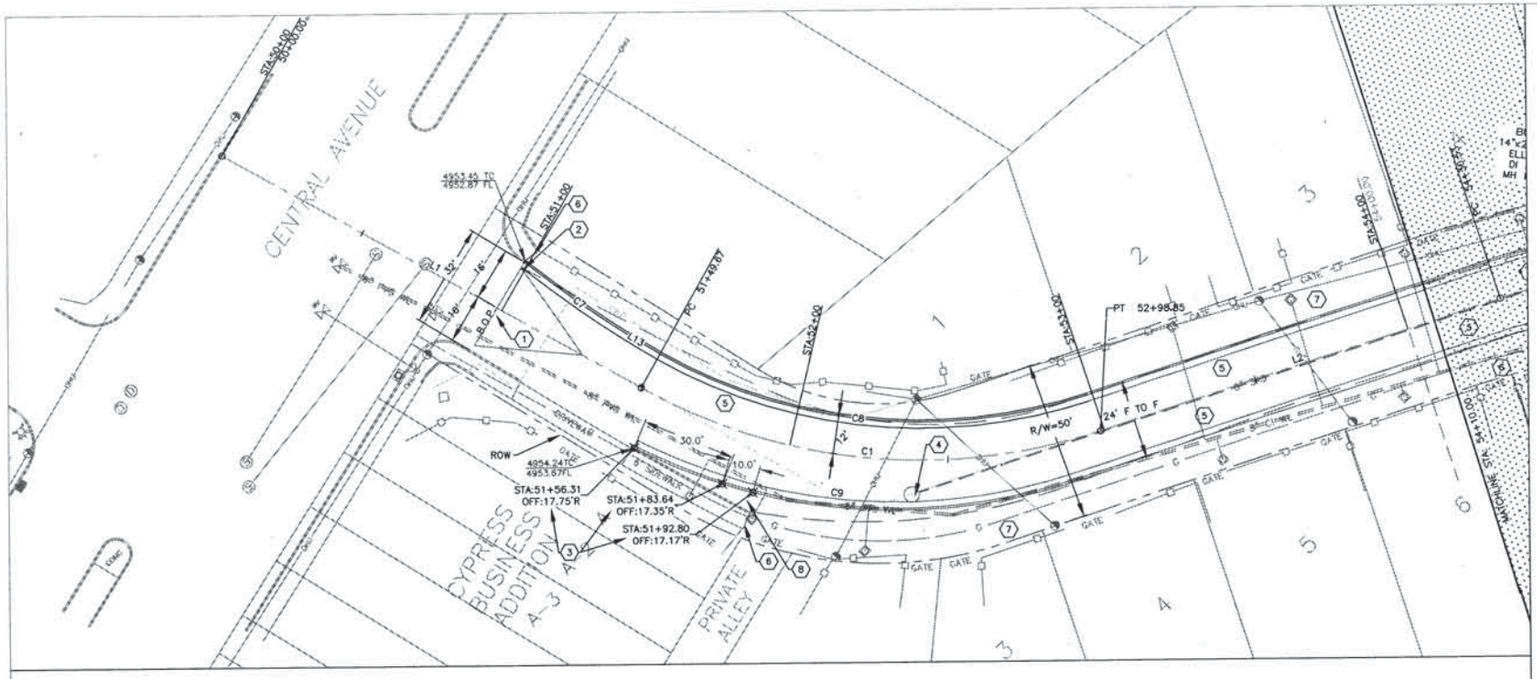
BERNALILLO COUNTY

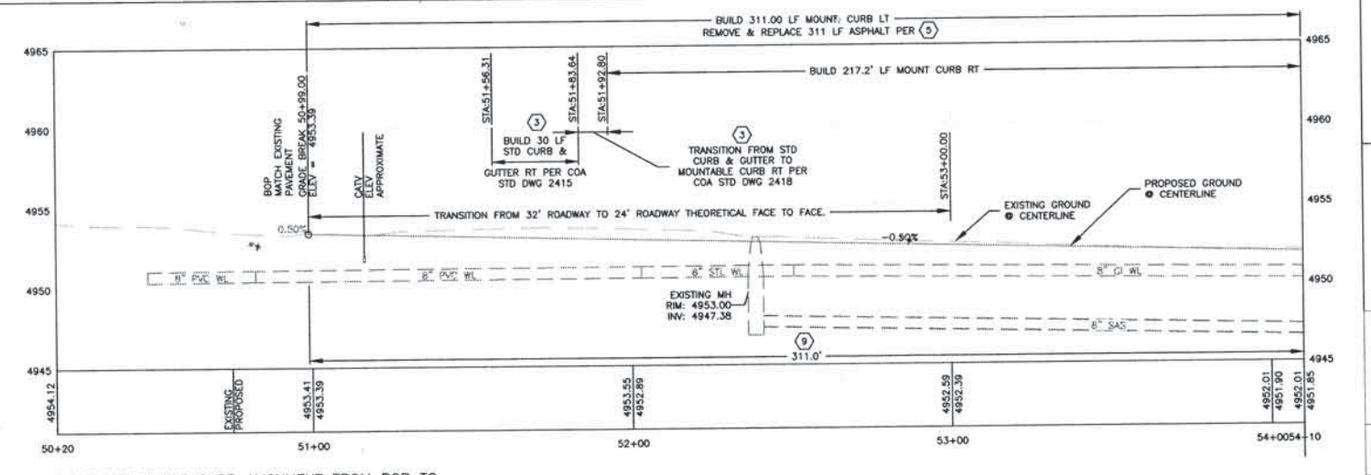
CYPRESS DRIVE STORM DRAIN
SURVEY CONTROL

Design Review Committee	City Engineer Approval	Last Design Update	Mo./Day/Yr.	Mo./Day/Yr.

County Project No.	City Project No.	Zone Map No.	Sheet	Of
20160006	601791	K-11/12	3	14

I:\Projects\Bernalillo County\Cypress Drive Ph II\18.0 CAD\2015\SURVEY.dwg waterno' Plotted: March 22, 2016 - 1:04pm Layout: 3





LEFT AND RIGHT MOUNTABLE CURB ALIGNMENT FROM BOP TO STA: 52+98.55 CURB/ASPHALT INTERFACE

Line Table: Alignments		
Line #	Length	Direction
L13	2.93	S15° 00' 14.84"E

Curve Table: Alignments				
Curve #	Delta	Radius	Tangent	Length
C7	51° 50' 34"E	352.09	19.72	38.40
C8	540° 04' 37"L	169.37	79.24	148.23
C9	540° 51' 02"E	180.00	81.78	155.48

GENERAL NOTES

A. SEE SHEET 10 FOR PAVEMENT DETAILS

B. WATERLINE IS IN FOREGROUND; HOWEVER IT IS SHOWN IN PROFILE FOR INFORMATIONAL PURPOSES.

C. CONTRACTOR IS RESPONSIBLE FOR VERIFYING HORIZONTAL AND VERTICAL LOCATIONS OF ALL UTILITIES. UTILITY LOCATIONS SHOWN IN APPROXIMATE MANNER ONLY. CONTRACTOR IS RESPONSIBLE FOR REPLACEMENT COST OF UTILITY LINES DAMAGED IN THE COURSE OF CONSTRUCTION.

D. CONSTRUCTION LIMITS/EASEMENTS ARE FROM FENCE LINE TO FENCE LINE. DO NOT DISTURB FENCE AND/OR WALL. CONTRACTOR IS RESPONSIBLE FOR REPLACEMENT COST OF FENCE AND/OR WALL DAMAGED IN THE COURSE OF CONSTRUCTION.

E. SEE SHEET 3 FOR POTHOLE TABLE AND LINE AND CURB TABLES. SEE SHEET 9 FOR WATER/SEWER DETAILS.

KEYED NOTES

1. SAWCUT PAVEMENT STA: 50+99.00 BEGIN TRANSITION FROM NO CROWN AT STA: 50+99.00 TO MIN. 1% CROWN AT STA: 51+24.00
2. 10' TRANSITION FROM MOUNTABLE CURB TO EXISTING HANDICAP RAMP WITH STANDARD C & G INTERFACE.
3. STA: 51+56.0 RT: REMOVE 1 SECTION OF EXISTING CURB AND GUTTER FROM JOINT (DO NOT DISTURB DRIVEPAD). CONSTRUCT 30 LF. STANDARD CURB AND GUTTER AND TRANSITION OVER 10' TO MOUNTABLE CURB.
4. ADJUST MANHOLE ELEV. TO NEW GRADE. INCLUDE CONCRETE PAD PER COA STD DWG 2101. CONCRETE PAD INCIDENTAL TO ADJUSTMENT.
5. REMOVE AND DISPOSE OF EXISTING ASPHALT FOR FULL STREET WIDTH.
6. EXISTING SIDEWALK SHALL REMAIN IN PLACE. AT END OF EXISTING SIDEWALK, PROVIDE 6H:1V MINIMUM TIE-IN GRADES TO EXISTING ELEVATION.
7. GRADE TO DRAIN FROM FENCE LINE TO MOUNTABLE CURB. DO NOT DISTURB EXISTING UTILITY POLES OR SERVICES (INCLUDING WATER METERS).
8. BACKFILL BETWEEN EXISTING AND NEW CURB AND GUTTER. GRADE TO DRAIN TO NEW ROADWAY.
9. STA 50+99 TO STA 58+73.28 REMOVE AND REPLACE EXISTING WATERLINE WITH 8" PVC WATERLINE WITH MINIMUM OF 3' OF COVER. MATCH EXISTING AT STA. 58+73.28.

VERTICAL 0 4' 8'

HORIZONTAL 0 20' 40'

AS-BUILT INFORMATION
CONTRACTOR DATE
SURVEYED BY DATE
INSPECTOR'S SIGNATURE DATE
FIELD VERIFICATION BY DATE
DRAWINGS BY DATE
BENCH MARKS
BEARINGS ARE BASED ON GEODETIC NORTH FROM GPS OBSERVATIONS. DISTANCES ARE HORIZONTAL GROUND MEASUREMENTS IN US FEET. ELEVATIONS ARE BASED ON A.G.R.S. STATION "15-J12". ELEVATION OF STATION = 4965.627 (NAVD 1988 DATUM).
MICRO-FILM INFORMATION
RECORDED BY DATE
NO.

SURVEY INFORMATION
FIELD NOTES
NO. BY DATE
SLS 10-24-16

ENGINEER'S SEAL
DAVID J. COOPER NEW MEXICO 21683 REGISTERED PROFESSIONAL ENGINEER

No.	Date	REVISIONS	By
		REMARKS	
		DESIGN	

Designed By: MDS DATE: MAR 2016
Drawn By: CP, RW DATE: MAR 2016
Checked By: LBS DATE: MAR 2016

WESTON SOLUTIONS

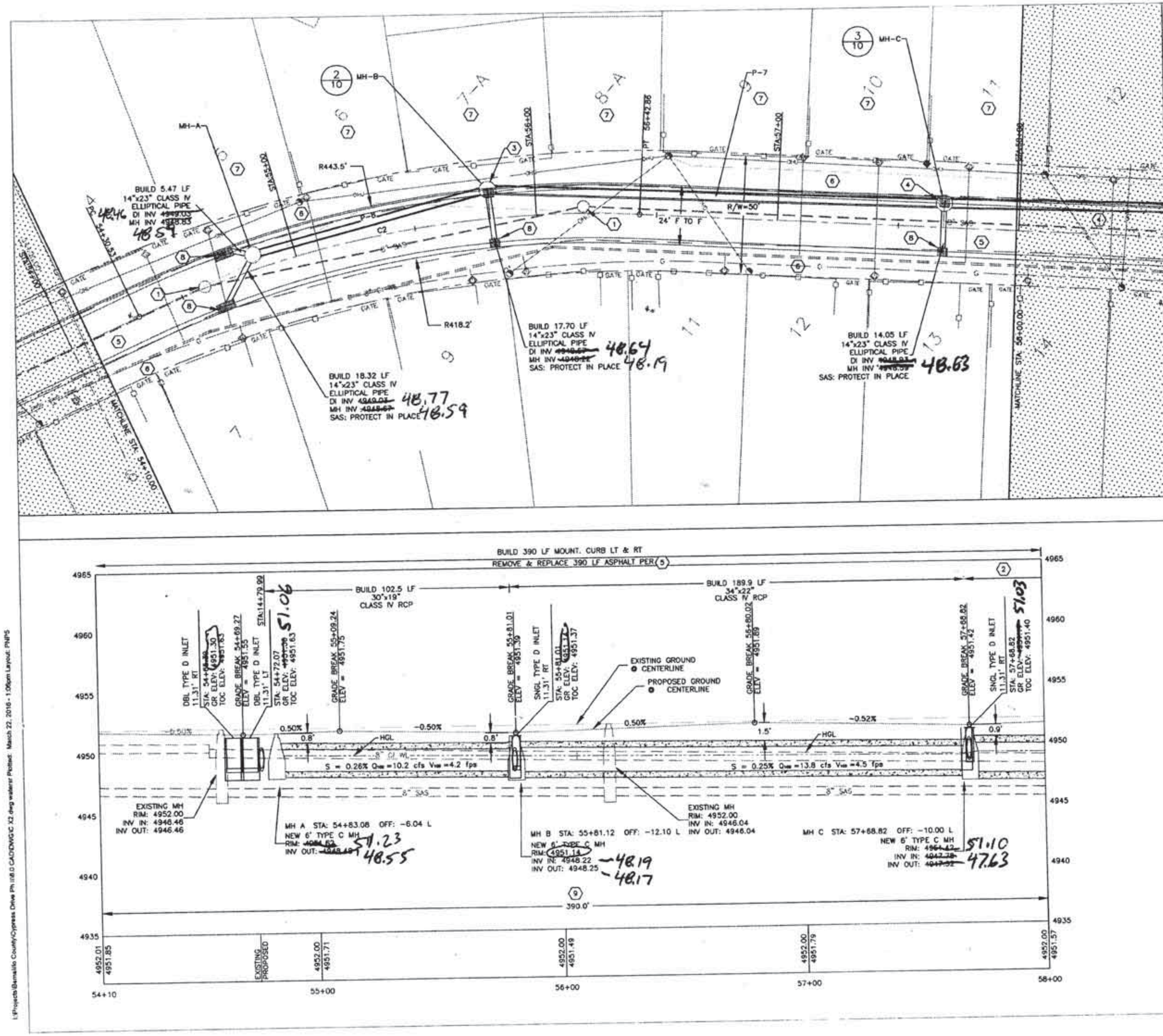
BERNALILLO COUNTY

CYPRESS DRIVE STORM DRAIN
PLAN & PROFILE STA 50+00 TO 54+10

Design Review Committee	City Engineer Approval	Last Design Update	Mo./Day/Yr.	Mo./Day/Yr.

County Project No.	City Project No.	Zone Map No.	Sheet	Of
20160006	601791	K-11/12	4	14

I:\Projects\Bernalillo County\Cypress Drive Ph II\8.0 CAD\DWG\C X2.dwg watersr Plotted: March 22, 2016 - 1:05pm Layout: PNP4



GENERAL NOTES

A. SEE SHEET 10 FOR PAVEMENT DETAILS.

B. WATERLINE IS IN FOREGROUND; HOWEVER IT IS SHOWN IN PROFILE FOR INFORMATIONAL PURPOSES.

C. INLET OFFSET AND ELEV. REFERS TO BACK OF GRATE. ALL DROP INLETS CONSTRUCTED PER COA STD DWGS 2206 & 2220-MODIFIED, SEE SHEET 11.

D. CONTRACTOR IS RESPONSIBLE FOR VERIFYING HORIZONTAL AND VERTICAL LOCATIONS OF ALL UTILITIES. UTILITY LOCATIONS SHOWN IN APPROXIMATE MANNER ONLY. CONTRACTOR IS RESPONSIBLE FOR REPLACEMENT COST OF UTILITY LINES DAMAGED IN THE COURSE OF CONSTRUCTION.

E. CONSTRUCTION LIMITS/EASEMENTS ARE FROM FENCE LINE TO FENCE LINE. SO NOT DISTURB FENCE AND/OR WALL. CONTRACTOR IS RESPONSIBLE FOR REPLACEMENT COST OF FENCE AND/OR WALL DAMAGED IN THE COURSE OF CONSTRUCTION.

F. RCP STORM DRAIN AND LATERALS SHALL BE GASKETED TONGUE AND GROOVE.

G. TYPE C MANHOLES CONSTRUCTED PER COA STD DWGS 2208, 2212 AND 2210 UNLESS OTHERWISE NOTED.

KEYED NOTES

1 ADJUST MANHOLE ELEV TO NEW GRADE PER COA STD SPEC 920, INCLUDE CONCRETE PAD PER COA STD DWG. 2101. CONCRETE PAD INCIDENTAL TO ADJUSTMENTS.

2 SEE SHEET 6. RCP LENGTH AND TYPE.

3 MANHOLE OPENING CENTERED ON SOUTH-WEST, WITH SINGLE TYPE D INLET OR APPROVED EQUIVALENT. SEE SHEET 10 FOR CURB MODIFICATION.

4 MANHOLE OPENING CENTERED ON NORTH-EAST, WITH SINGLE TYPE D INLET OR APPROVED EQUIVALENT. SEE SHEET 10 FOR CURB MODIFICATION.

5 REMOVE AND DISPOSE OF EXISTING ASPHALT FOR FULL STREET WIDTH.

6 GRADE TO DRAIN FROM FENCE LINE TO MOUNTABLE CURB. DO NOT DISTURB EXISTING UTILITY POLES OR SERVICES (INCLUDING WATER METERS).

7 SEE SHEET 9 DETAIL 1 FOR SAS SERVICE MODIFICATION AND DETAIL 3 FOR WATER SERVICE MODIFICATION.

8 INSTALL DROP INLET GRATE PER MODIFIED COA STANDARD DRAWING 2220. SEE 1/12

9 STA 50+99 TO STA 58+73.28 REMOVE AND REPLACE EXISTING WATERLINE WITH 8" PVC WATERLINE WITH MINIMUM OF 3' OF COVER. MATCH EXISTING AT STA. 58+73.28.

10 ADJUST EXISTING MANHOLE COVER TO FINISHED GRADE PER COA STD SPEC SECTION 920.

AS-BUILT INFORMATION — CONTRACTOR; DATE 10-24-16; STAKED BY SLS

BENCH MARKS — BEARINGS ARE BASED ON GEODETIC NORTH FROM GPS OBSERVATIONS. DISTANCES ARE HORIZONTAL GROUND MEASUREMENTS IN US FEET. ELEVATIONS ARE BASED ON A.G.R.S. STATION "15-J12". ELEVATION OF STATION = 4965.827 (NAVD 1988 DATUM).

SURVEY INFORMATION — FIELD NOTES — NO. — BY SLS — DATE 10-24

MICRO-FILM INFORMATION

ENGINEER'S SEAL

REVISIONS — No. | Date | REMARKS | By — DESIGN

Designed By: MDS DATE: MAR 2016
Drawn By: CP, RW DATE: MAR 2016
Checked By: LBS DATE: MAR 2016

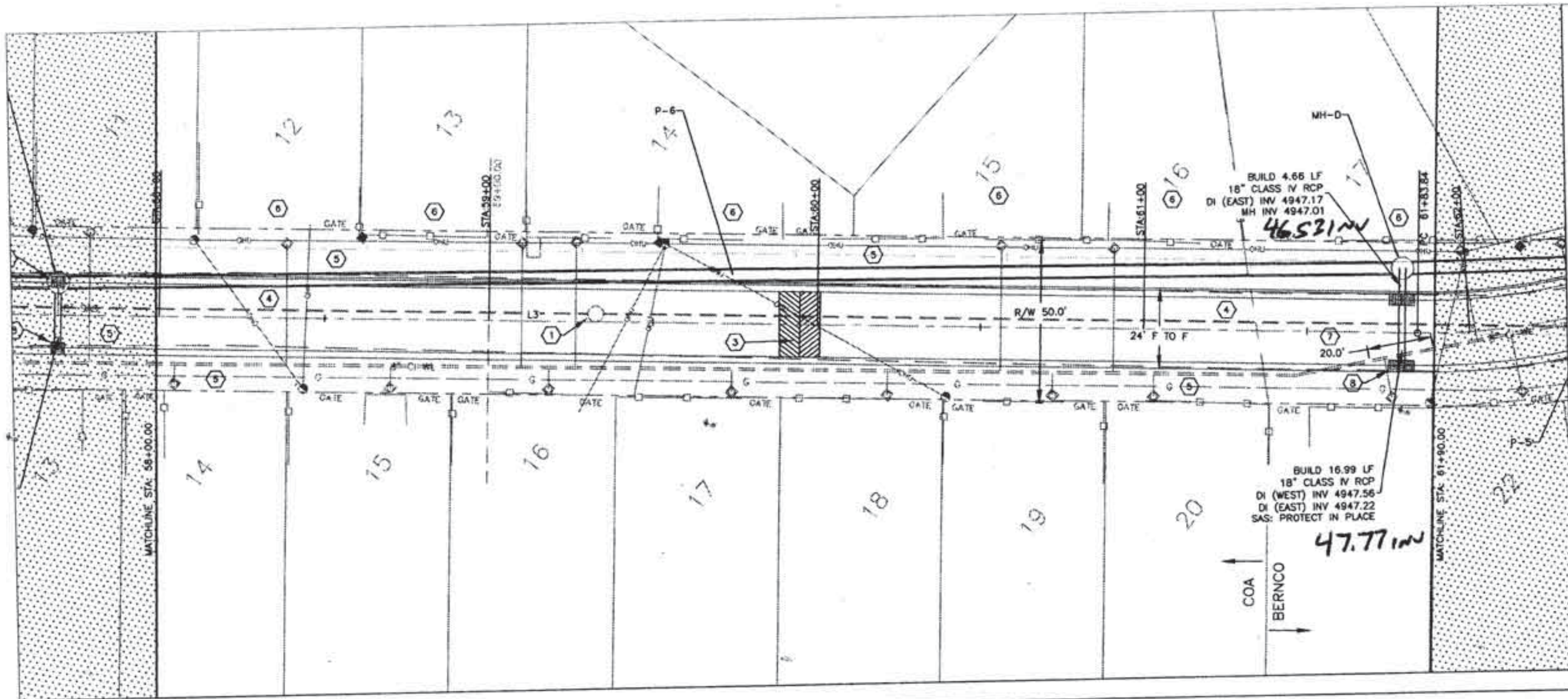
WESTON SOLUTIONS

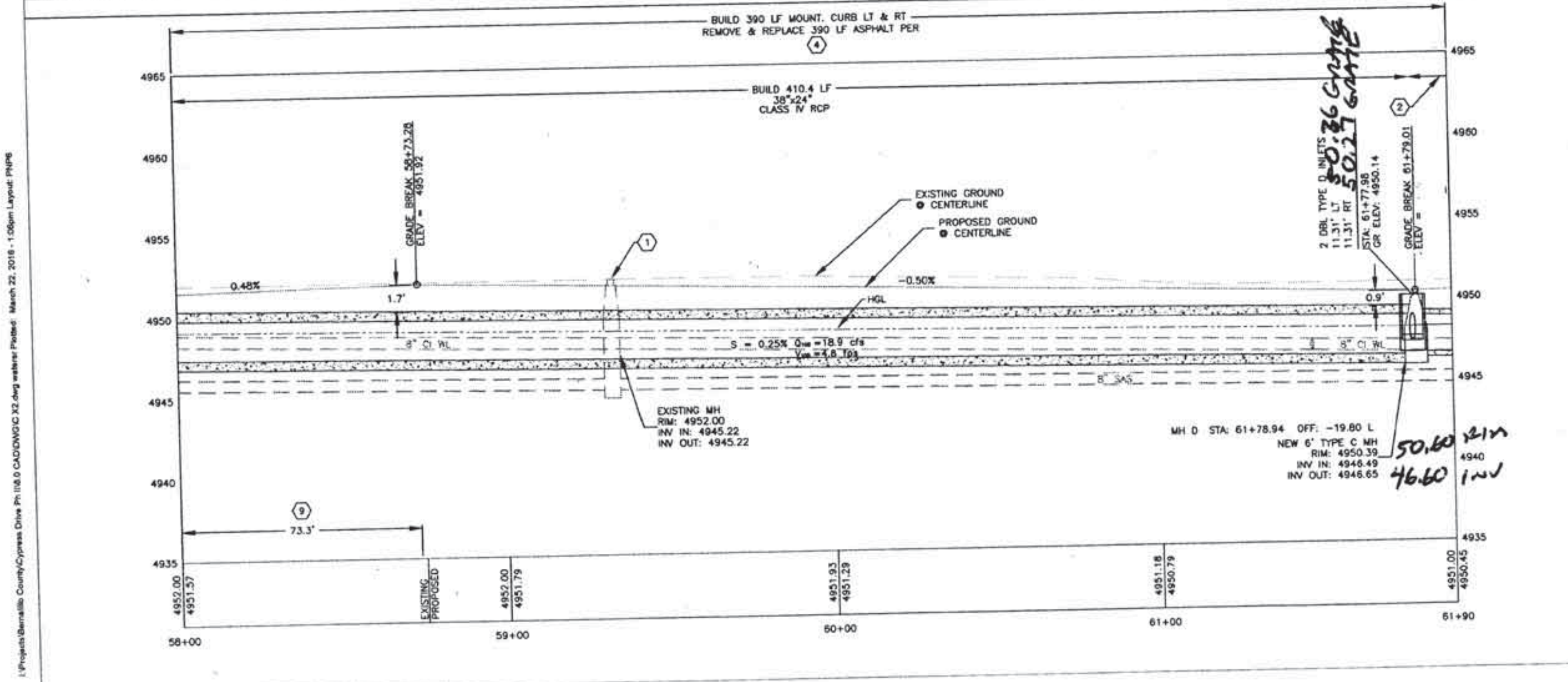
BERNALILLO COUNTY

CYPRESS DRIVE STORM DRAIN
PLAN & PROFILE STA 54+10 TO 58+00

Design Review Committee	City Engineer Approval	Mo./Day/Yr.	Mo./Day/Yr.

County Project No.	City Project No.	Zone Map No.	Sheet	Of
20160006	601791	K-11/12	5	14





GENERAL NOTES

A. SEE SHEET 10 FOR PAVEMENT DETAILS

B. WATERLINE IS IN FOREGROUND; HOWEVER IT IS SHOWN IN PROFILE FOR INFORMATIONAL PURPOSES.

C. INLET OFFSET AND ELEV REFERS TO BACK OF GRATE.

D. CONTRACTOR IS RESPONSIBLE FOR VERIFYING HORIZONTAL AND VERTICAL LOCATIONS OF ALL UTILITIES. UTILITY LOCATIONS SHOWN IN APPROXIMATE MANNER ONLY. CONTRACTOR IS RESPONSIBLE FOR REPLACEMENT COST OF UTILITY LINES DAMAGED IN THE COURSE OF CONSTRUCTION.

E. CONSTRUCTION LIMITS/EASEMENTS ARE FROM FENCE LINE TO FENCE LINE. SO NOT DISTURB FENCE AND/OR WALL. CONTRACTOR IS RESPONSIBLE FOR REPLACEMENT COST OF FENCE AND/OR WALL DAMAGED IN THE COURSE OF CONSTRUCTION.

F. RCP STORM DRAIN AND LATERALS SHALL BE GASKETED TONGUE AND GROOVE.

G. TYPE C MANHOLES CONSTRUCTED PER COA STD DWGS 2208, 2212 AND 2210 UNLESS OTHERWISE NOTED.

KEYED NOTES

1. ADJUST MANHOLE ELEV TO NEW GRADE PER COA STD SPEC 920, INCLUDE CONCRETE PAD PER COA STD DWG. 2101. CONCRETE PAD INCIDENTAL TO ADJUSTMENTS.
2. SEE SHEET 7. FOR RCP LENGTH AND TYPE.
3. REPLACE SPEED HUMP PER SHEET 10.
4. REMOVE AND DISPOSE OF EXISTING ASPHALT FOR FULL STREET WIDTH.
5. GRADE TO DRAIN FROM FENCE LINE TO MOUNTABLE CURB. DO NOT DISTURB EXISTING UTILITY POLES OR SERVICES (INCLUDING WATER METERS).
6. SEE SHEET 9 DETAIL 1 FOR SAS SERVICE MODIFICATION AND DETAIL 3 FOR WATER SERVICE MODIFICATION.
7. RELOCATE 20.0' WATER LINE PER 3/12
8. INSTALL DROP INLET GRATE PER MODIFIED COA STANDARD DRAWING 2220. SEE 1/12
9. STA 50+99 TO STA 58+73.28 REMOVE AND REPLACE EXISTING WATERLINE WITH 8" PVC WATERLINE WITH MINIMUM OF 3' OF COVER. MATCH EXISTING AT STA. 58+73.28.

VERTICAL

HORIZONTAL

WESTON SOLUTIONS

BERNALILLO COUNTY

CYPRESS DRIVE STORM DRAIN
PLAN & PROFILE STA 58+00 TO 61+90

Design Review Committee | City Engineer Approval | Mo./Day/Yr. | Mo./Day/Yr.

Last Design Update

County Project No.	City Project No.	Zone Map No.	Sheet	Of
20160006	601791	K-11/12	6	14

AS-BUILT INFORMATION
CONTRACTOR | DATE
STAKED BY SLS | DATE 10-24-16
INSPECTOR'S ACCEPTANCE BY | DATE
FIELD VERIFICATION BY | DATE
DRAWINGS CORRECTED BY | DATE

MICRO-FILM INFORMATION
RECORDED BY | DATE
NO.

BENCH MARKS
BEARINGS ARE BASED ON GEODETIC NORTH FROM GPS OBSERVATIONS. DISTANCES ARE HORIZONTAL GROUND MEASUREMENTS IN US FEET. ELEVATIONS ARE BASED ON A.C.R.S. STATION "15-J12", ELEVATION OF STATION = 4965.627 (NAVD 1988 DATUM).

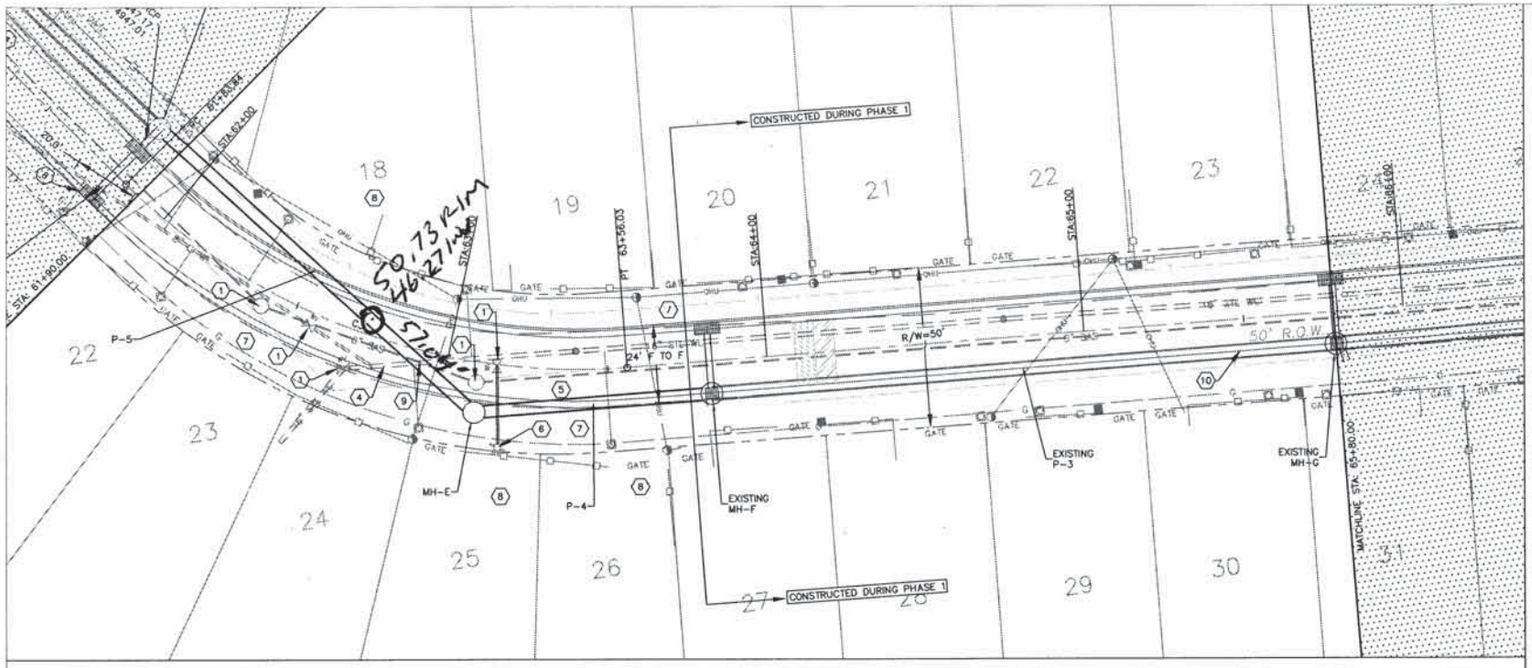
SURVEY INFORMATION
FIELD NOTES
NO. | BY SLS | DATE

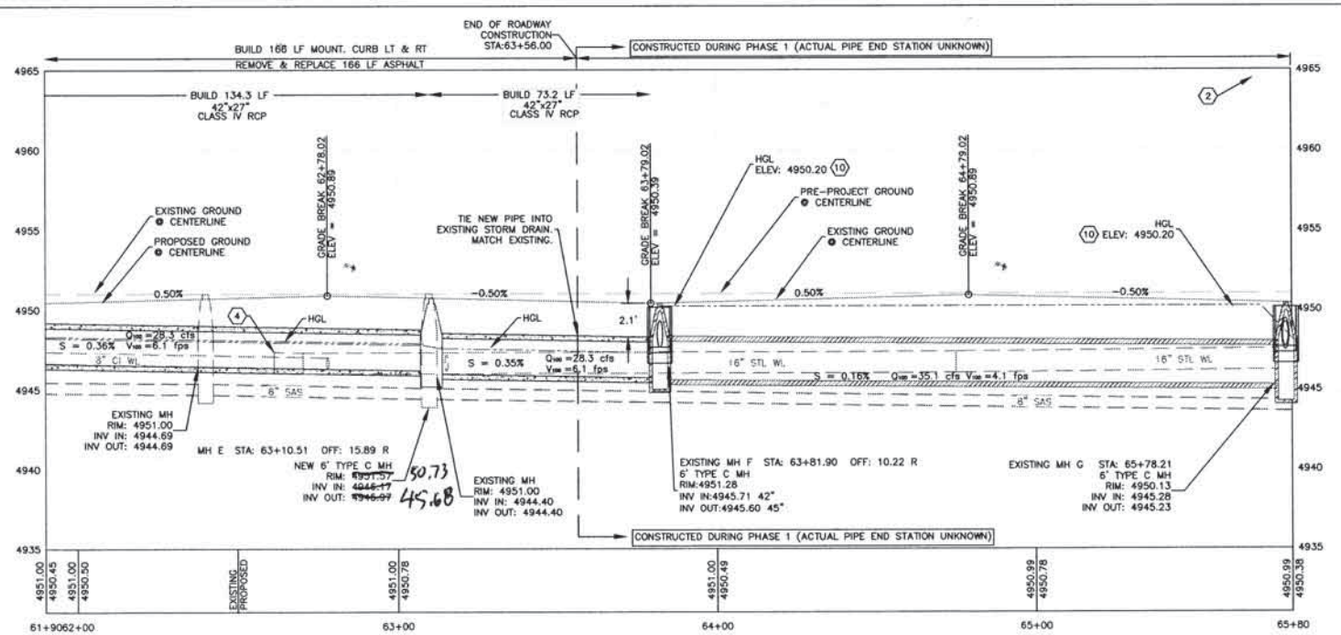
ENGINEER'S SEAL
DAVID J. COOPER
PROFESSIONAL ENGINEER
(21883)

No.	Date	REVISIONS	By
		REMARKS	
		DESIGN	

Designed By: MDS DATE: MAR 2016
Drawn By: CP, RW DATE: MAR 2016
Checked By: LBS DATE: MAR 2016

I:\Projects\Bernalillo County\Cypress Drive Ph II\8.0 CAD\DWG\C X2.dwg waterl Plotted: March 22, 2016 - 1:06pm Layout: PNP6





GENERAL NOTES

A. SEE SHEET 10 FOR PAVEMENT DETAILS

B. WATERLINE IS IN FOREGROUND; HOWEVER IT IS SHOWN IN PROFILE FOR INFORMATIONAL PURPOSES.

C. INLET OFFSET AND ELEV REFERS TO BACK OF GRATE.

D. CONTRACTOR IS RESPONSIBLE FOR VERIFYING HORIZONTAL AND VERTICAL LOCATIONS OF ALL UTILITIES. UTILITY LOCATIONS SHOWN IN APPROXIMATE MANNER ONLY. CONTRACTOR IS RESPONSIBLE FOR REPLACEMENT COST OF UTILITY LINES DAMAGED IN THE COURSE OF CONSTRUCTION.

E. CONSTRUCTION LIMITS/EASEMENTS ARE FROMFENCE LINE TO FENCE LINE. SO NOT DISTURB FENCE AND/OR WALL. CONTRACTOR IS RESPONSIBLE FOR REPLACEMENT COST OF FENCE AND/OR WALL DAMAGED IN THE COURSE OF CONSTRUCTION.

F. SEE SHEET 3 FOR POTHOLE TABLE AND LINE AND CURB TABLE.

G. RCP STORM DRAIN AND LATERALS SHALL BE GASKETED TONGUE AND GROOVE.

H. TYPE C MANHOLES CONSTRUCTED PER COA STD DWGS 2101, 2107 AND 2110 UNLESS OTHERWISE NOTED.

KEYED NOTES

1 ADJUST MANHOLE ELEV TO NEW GRADE PER COA STD SPEC 920. INCLUDE CONCRETE PAD PER COA STD DWG. 2101. CONCRETE PAD INCIDENTAL TO ADJUSTMENTS. ADJUST WATER VALVE COVER TO NEW GRADE PER COA STD SPEC 801. CONCRETE PAD INCIDENTAL TO ADJUSTMENTS.

2 SEE SHEET 8 FOR RCP END STATION.

4 RELOCATE WATER LINE PER (3/12)

5 REMOVE AND DISPOSE OF EXISTING ASPHALT FOR FULL STREET WIDTH TO APPROX. STA. 63+51 (BOP OF PHASE I PAVING).

6 NOTIFY FIRE MARSHAL SEVEN (7) DAYS PRIOR TO WATERLINE SHUTOFF THAT THE HYDRANT WILL BE TEMPORARILY OUT OF SERVICE. COVER IN BLACK PLASTIC WHILE OUT OF SERVICE.

7 GRADE TO DRAIN FROM FENCE LINE TO MOUNTABLE CURB. DO NOT DISTURB EXISTING UTILITY POLES OR SERVICES (INCLUDING WATER METERS).

8 SEE SHEET 9 DETAIL 1 FOR SAS SERVICE MODIFICATION AND DETAIL 3 FOR WATER SERVICE MODIFICATION.

9 SEE SHEET 9 DETAIL 2 FOR RCP CROSSING OF SAS MAIN.

10 STORM DRAIN PIPE BETWEEN MH F AND MH G IS SURCHARGED. WATER WILL OVERFLOW MH F.

VERTICAL 0 4' 8'

HORIZONTAL 0 20' 40'

AS-BUILT INFORMATION
CONTRACTOR: DATE: 10-24-16
BENCH MARKS: BEARINGS ARE BASED ON GEODETIC NORTH FROM GPS OBSERVATIONS. DISTANCES ARE HORIZONTAL GROUND MEASUREMENTS IN US FEET. ELEVATIONS ARE BASED ON A.G.R.S. STATION "15-J12". ELEVATION OF STATION = 4965.627 (NAVD 1988 DATUM).
SURVEY INFORMATION: FIELD NOTES NO. SLS BY SLS DATE 10-24
MICRO-FILM INFORMATION: RECORDED BY: DATE: NO.
ENGINEER'S SEAL: DAVID J. COOPER NEW MEXICO 21683 REGISTERED PROFESSIONAL ENGINEER

No.	Date	REVISIONS REMARKS	By
		DESIGN	
Designed By: MDS			DATE: MAR 2016
Drawn By: CP, RW			DATE: MAR 2016
Checked By: LBS			DATE: MAR 2016

WESTON SOLUTIONS

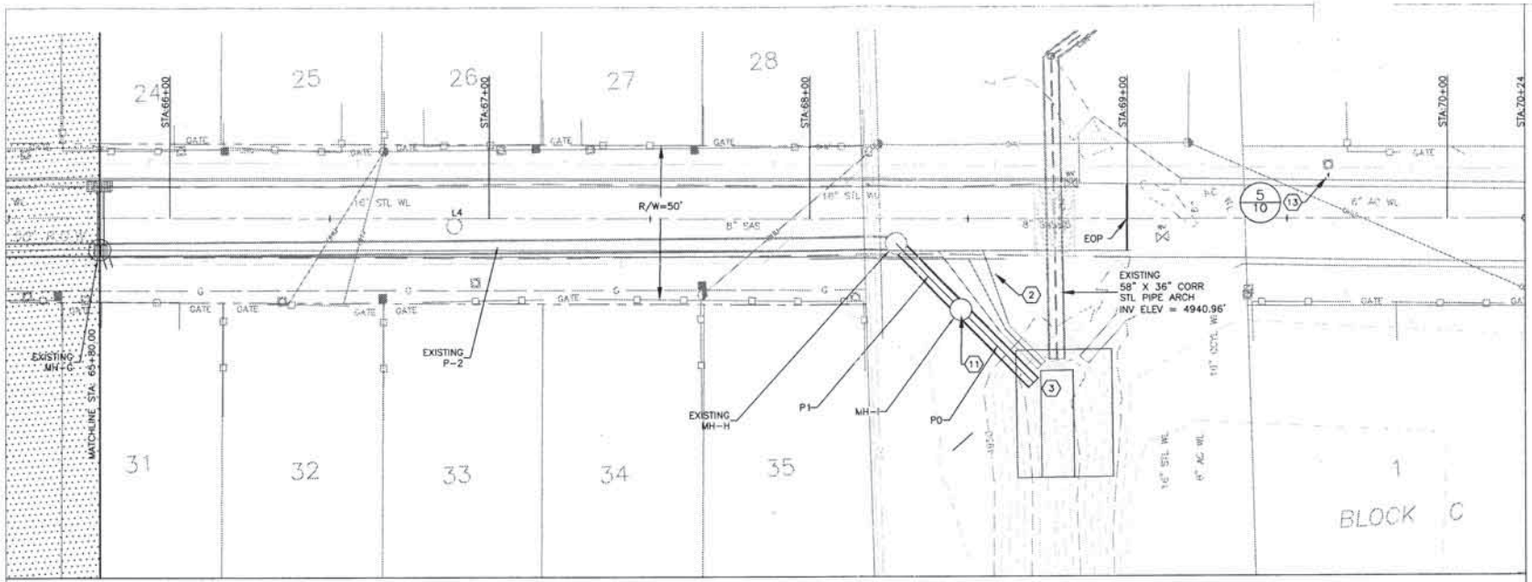
BERNALILLO COUNTY

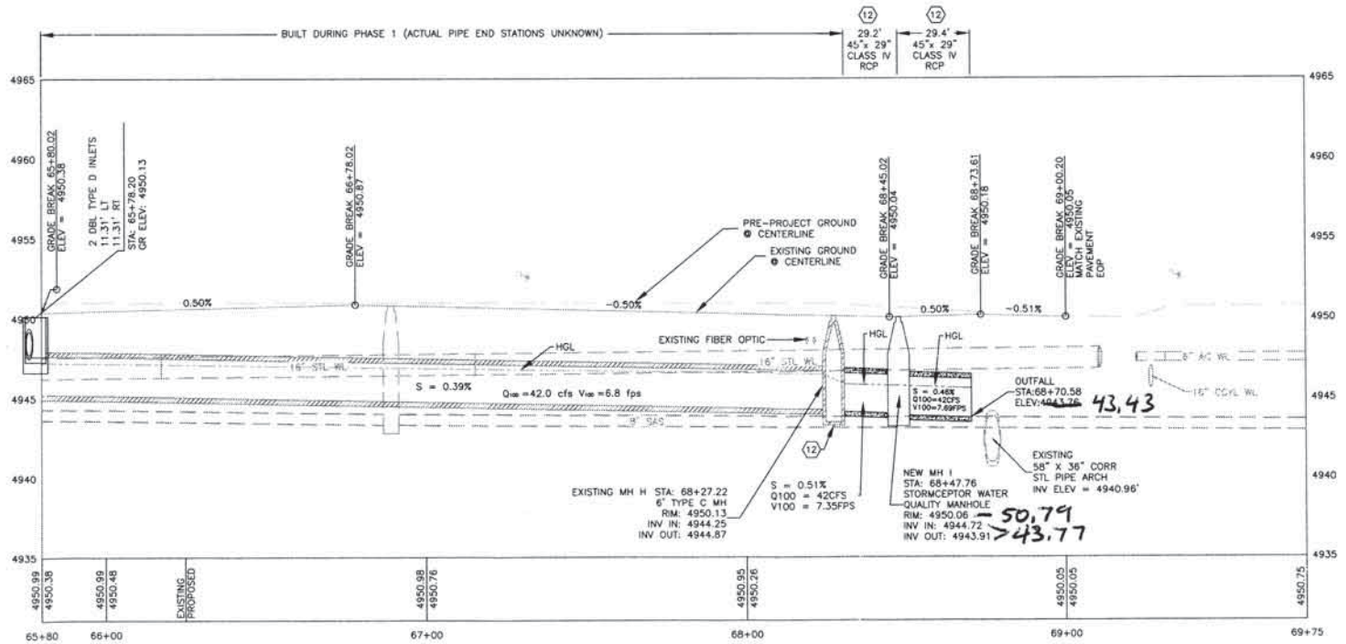
CYPRESS DRIVE STORM DRAIN
PLAN & PROFILE STA 61+90 TO 65+80

Design Review Committee	City Engineer Approval	Last Design Update	Mo./Day/Yr.	Mo./Day/Yr.

County Project No.	City Project No.	Zone Map No.	Sheet	Of
20160006	601791	K-11/12	7	14

I:\Projects\Bernalillo County\Cypress Drive Ph II\8.0 CAD\DWG\C X2.dwg waterer Plotted: March 22, 2016 - 1:07pm Layout: PNP7





GENERAL NOTES

A. SEE SHEET 10 FOR PAVEMENT DETAILS

B. CONTRACTOR IS RESPONSIBLE FOR VERIFYING HORIZONTAL AND VERTICAL LOCATIONS OF ALL UTILITIES. UTILITY LOCATIONS SHOWN IN APPROXIMATE MANNER ONLY. CONTRACTOR IS RESPONSIBLE FOR REPLACEMENT COST OF UTILITY LINES DAMAGED IN THE COURSE OF CONSTRUCTION.

C. CONSTRUCTION LIMITS/EASEMENTS ARE FROM FENCE LINE TO FENCE LINE. DO NOT DISTURB FENCE AND/OR WALL. CONTRACTOR IS RESPONSIBLE FOR REPLACEMENT COST OF FENCE AND/OR WALL DAMAGED IN THE COURSE OF CONSTRUCTION.

D. SEE SHEET 3 FOR POTHOLE TABLE AND LINE AND CURB TABLE.

E. RCP STORM DRAIN AND LATERALS SHALL BE GASKETED TONGUE AND GROOVE.

F. TYPE C MANHOLES CONSTRUCTED PER COA STD DWGS 2101, 2107 AND 2110 UNLESS OTHERWISE NOTED.

KEYED NOTES

2 SEE SHEET 11 FOR RUNDOWN DETAILS

3 SEE SHEET 11 FOR EROSION PROTECTION DETAILS

11 WATER QUALITY MH STC900 PRECAST CONCRETE STORMCEPTOR OR APPROVED EQUIVALENT. SHALL BE MAINTAINED BY BERNALILLO COUNTY.

12 IT IS NOT KNOWN WHAT WAS CONSTRUCTED DOWNSTREAM OF MH H DURING PHASE 1. CONTRACTOR SHALL VERIFY WHICH DESIGN FEATURES WERE BUILT AND WHICH REMAIN TO BE BUILT.

13 INSTALL SPEED HUMP WARNING SIGNAGE AT STATION 69+62.85, 13.62' LT PER COA STANDARD SPECIFICATIONS SECTION 450 AND THE MUTCD.

0 4' 8'
VERTICAL
0 20' 40'
HORIZONTAL

SURVEY INFORMATION
FIELD NOTES
NO. BY DATE
SLS 10-24

BENCH MARKS
BEARINGS ARE BASED ON GEODETIC NORTH FROM CPS OBSERVATIONS. DISTANCES ARE HORIZONTAL GROUND MEASUREMENTS IN US FEET. ELEVATIONS ARE BASED ON A.G.R.S. STATION "15_J12". ELEVATION OF STATION = 4965.627 (NAVD 1988 DATUM).

AS-BUILT INFORMATION
CONTRACTOR
WORK STAKED BY SLS DATE 10-24-16
ACCEPTANCE BY DATE
VERIFICATION BY DATE
CORRECTED BY DATE

MICRO-FILM INFORMATION
RECORDED BY DATE
NO.

ENGINEER'S SEAL
DAVID J. COOPER NEW MEXICO 21683 PROFESSIONAL ENGINEER 3/22/16

No.	Date	REVISIONS / REMARKS / DESIGN	By
1	11/15	CURRENT CONDITION	SC

Designed By: MDS DATE: MAR 2016
Drawn By: CP, RW DATE: MAR 2016
Checked By: LBS DATE: MAR 2016

WESTON SOLUTIONS

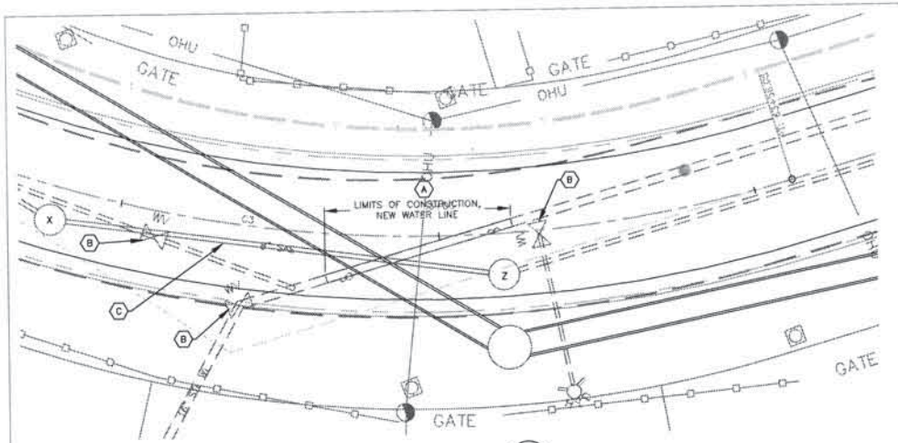
BERNALILLO COUNTY

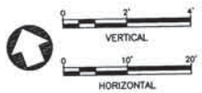
CYPRESS DRIVE STORM DRAIN
PLAN & PROFILE STA 65+80 TO EOP

Design Review Committee	City Engineer Approval	Last Design Update Mo./Day/Yr.	Mo./Day/Yr.

County Project No.	City Project No.	Zone Map No.	Sheet	Of
20160006	601791	K-11/12	8	14

I:\Projects\Bernalillo County\Cypress Drive Ph II\8.0 CAD\DWG\C X2.dwg watersr Plotted: March 22, 2016 - 1:07pm Layout: PhP8





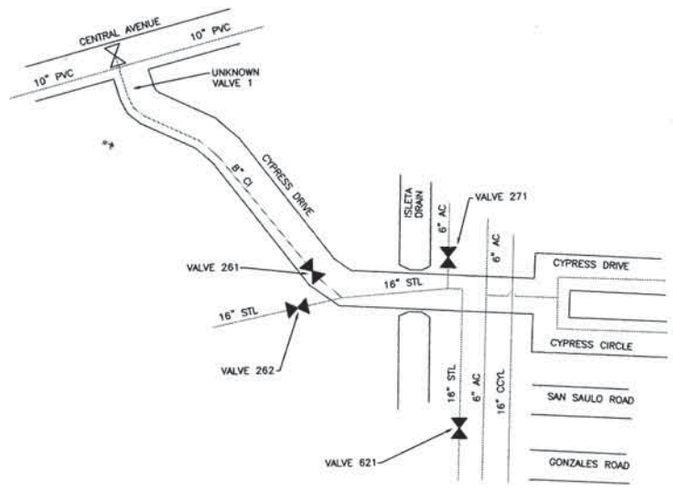
(A) RELOCATE EXISTING 16" WATER LINE PER 3/12

(B) ADJUST WV COLLAR TO NEW GRADE PER COA STD DWG 2326. CONCRETE COLLAR INCIDENTAL TO WV ADJUSTMENT.

(C) REPLACE 8" VCP WITH 8" PVC PRESSURE PIPE BETWEEN MANHOLES X AND Z.

STA:	RESTRAINED LENGTH*	FITTINGS
62+82.50	55	16" 45° ELBOW
62+85.50	8	16" 45° ELBOW
63+08.50	8	16" 45° ELBOW
63+11.50	55	16" 45° ELBOW

*RESTRAINED EACH SIDE OF FITTING



WATER SHUTOFF PLAN

WATER VALVE SHUT OFF PLAN

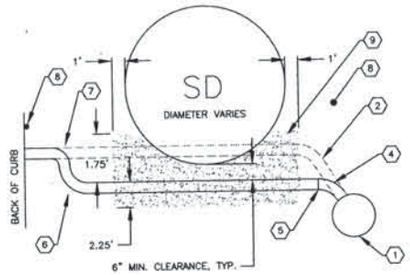
Notify Albuquerque/Bernalillo County Water Utility Authority seven (7) working days in advance of needing execution of the 8" water shut off plan.

Notify Albuquerque/Bernalillo County Water Utility Authority fourteen (14) working days in advance of needing execution of the 16" water shut off plan.

Only water utility authority personnel are authorized to operate valves.

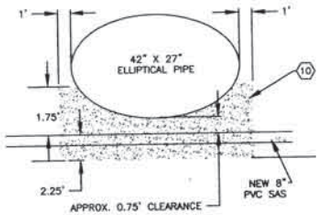
8" Cast Iron (CI) Cypress Drive shut off plan requires closure of valves: 261 and unknown valve 1.

16" Steel (STL) Cypress Drive shut off plan requires closure of valves: 261, 262, 271, and 621.

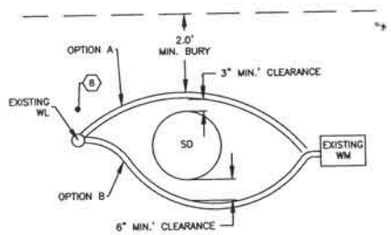


1 EXISTING SAS SERVICE ADJUSTMENT REROUTE UNDER STORM DRAIN

16 SERVICES FROM STA: 54+80 TO 62+75



2 STORM DRAIN CROSSING OF SAS



REPLACE SERVICE LINE WITH COPPER SERVICE LINE FROM MAIN TO METER – NO SPLICING AND NO KINKING OF LINE. CONTRACTOR HAS OPTION OF PLACING NEW SERVICE LINE UNDER STORM DRAIN WITH 6" MIN. CLEARANCE.

3 EXISTING WATER SERVICE REPLACEMENT

37 SERVICES FROM STA: 52+02.93 TO 63+81.90

KEYED NOTES

1. EXISTING 8" VITRIFIED CLAY PIPE SAS
2. EXISTING 4" VITRIFIED CLAY PIPE RISER
3. EXTEND 4" VITRIFIED CLAY PIPE RISER
4. SHORTEN 4" VITRIFIED CLAY PIPE RISER
5. TRANSISTION 4" VITRIFIED CLAY PIPE TO 4" PVC
6. PVC WITH UNIFORM SLOPE FROM JUNCTION TO SERVICE AT PROPERTY LINE. MINIMUM SLOPE 2.08%
7. REMOVE AND DISPOSE OF 4" SAS PIPE
8. INSTALL ELECTRONIC MARKING SPHERE (EMS) AT BACK OF CURB AND BEND PER COA STD SPEC 170.
9. PER COA STD SPEC 207, 4.25 FT. LEAN FILL CENTERED ON SAS SERVICE. LEAN FILL VOLUME IS 4 FT. X 4.25 FT X (SD DIA. + 2 FT.).
10. PER COA STD SPEC 207,12 FT. LEAN FILL CENTERED ON SAS MAIN. LEAN FILL VOLUME IS 4 FT. X 12 FT. X 5.5 FT.
11. PER COA STD. SPEC. 207, 5 FT. LEAN FILL CENTERED ON 16" WL.

AS-BUILT INFORMATION
CONTRACTOR — DATE
SURVEYED BY — DATE
INSPECTOR'S — DATE
FIELD NOTES — DATE
DRAWINGS BY — DATE
CORRECTED BY — DATE
RECORDED BY — DATE
NO.

BENCH MARKS
BEARINGS ARE BASED ON GEODETIC NORTH FROM GPS OBSERVATIONS. DISTANCES ARE HORIZONTAL GROUND MEASUREMENTS IN US FEET. ELEVATIONS ARE BASED ON A.G.R.S. STATION "15-J12". ELEVATION OF STATION = 4965.627 (NAVD 1988 DATUM).

SURVEY INFORMATION
MICRO-FILM INFORMATION
FIELD NOTES
NO. BY DATE
SLS 10-24

ENGINEER'S SEAL
DAVID J. COOPER NEW MEXICO 21683 REGISTERED PROFESSIONAL ENGINEER 3/22

No.	Date	REVISIONS	By	DATE:
		REMARKS		DATE: MAR 2016
		DESIGN		DATE: MAR 2016

Designed By: MDS
Drawn By: CP, RW
Checked By: LBS

WESTON SOLUTIONS

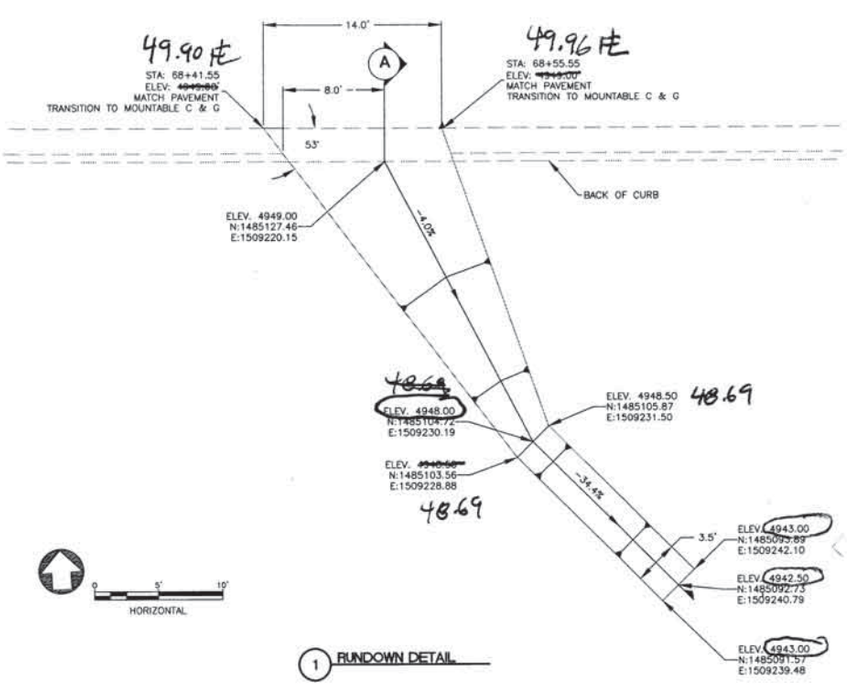
BERNALILLO COUNTY

CYPRESS DRIVE STORM DRAIN
WATER AND SAS SERVICE DETAILS

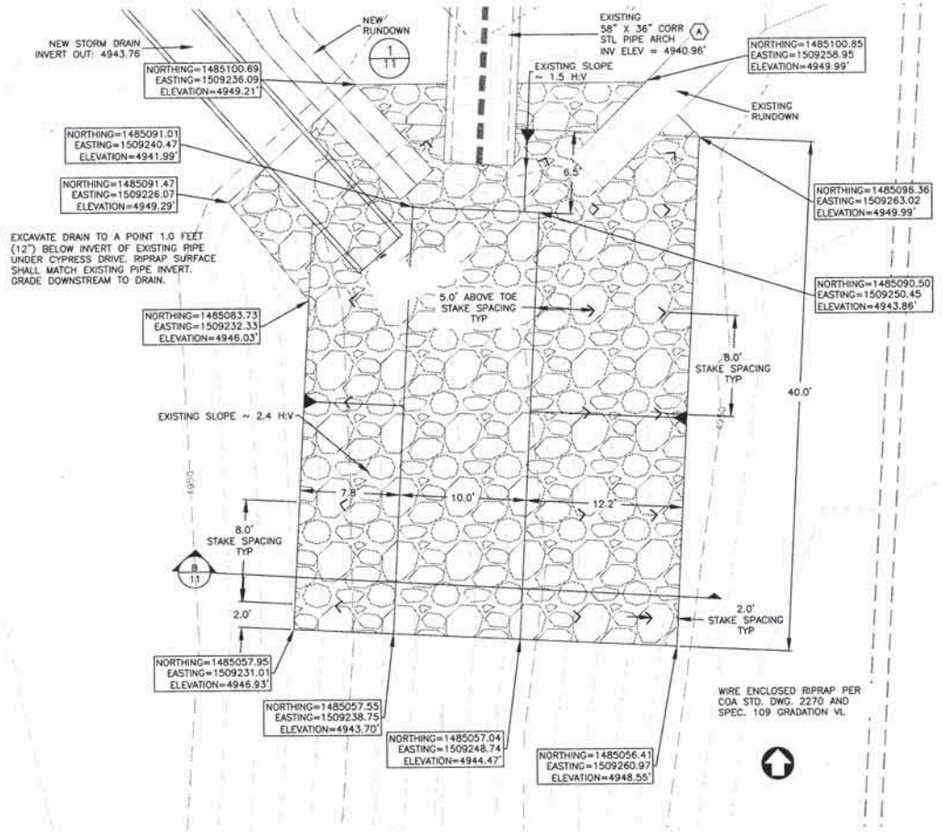
Design Review Committee	City Engineer Approval	Last Design Update	Mo./Day/Yr.	Mo./Day/Yr.

County Project No.	City Project No.	Zone Map No.	Sheet	Of
20160006	601791	K-11/12	9	14

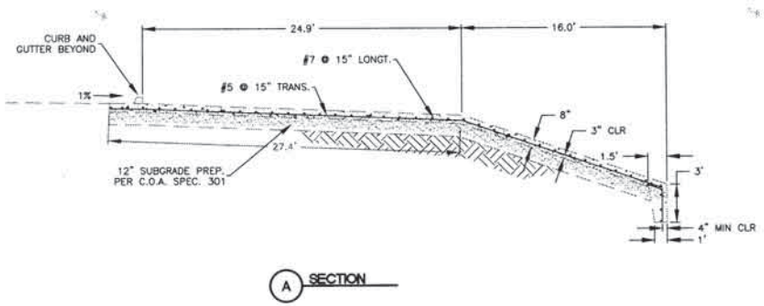
10-2414



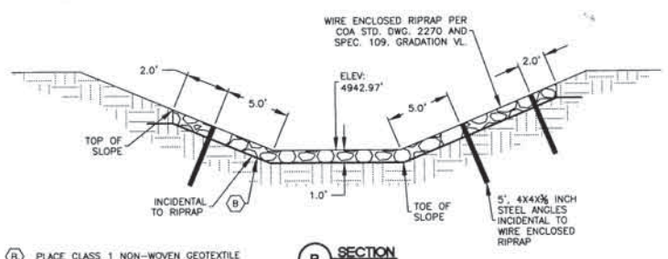
1 RUNDOWN DETAIL



2 RIPRAP DETAIL



A SECTION



B SECTION

B PLACE CLASS 1 NON-WOVEN GEOTEXTILE (FILTER FABRIC). FABRIC SHALL BE IN ACCORDANCE WITH SECTION 604, SOIL AND DRAINAGE GEOTEXTILES NMDOT STD SPECS FOR HIGHWAY AND BRIDGE CONSTRUCTION, 2007 EDITION.

AS-BUILT INFORMATION
CONTRACTOR — DATE
SURVEYED BY — DATE 10-24-16
INSPECTED BY — DATE
FIELD BOOK NO. BY — DATE
DRAWING BY — DATE

BENCH MARKS
BEARINGS ARE BASED ON GEODETIC NORTH FROM GPS OBSERVATIONS. DISTANCES ARE HORIZONTAL GROUND MEASUREMENTS IN US FEET. ELEVATIONS ARE BASED ON A.G.R.S. STATION "15-J12". ELEVATION OF STATION = 4965.627 (NAVD 1988 DATUM).

MICRO-FILM INFORMATION
RECORDED BY — DATE
NO.

SURVEY INFORMATION
FIELD NOTES
NO. | BY | DATE
SLS | 10-24-16

ENGINEER'S SEAL
DAVID J. COOPER
NEW MEXICO
21683
PROFESSIONAL ENGINEER

No.	Date	By	REVISIONS REMARKS DESIGN
			DATE: MAR 2016
			DATE: MAR 2016
			DATE: MAR 2016

Designed By: MDS
Drawn By: CP, RW
Checked By: LBS

WESTON SOLUTIONS

BERNALILLO COUNTY

CYPRESS DRIVE STORM DRAIN
RUNDOWN AND EROSION PROTECTION DETAILS

Design Review Committee	City Engineer Approval	Last Design Update	Mo./Day/Yr.	Mo./Day/Yr.

County Project No.	City Project No.	Zone Map No.	Sheet	Of
20160006	601791	K-11/12	11	14

I:\Projects\Bernalillo County\Cypress Drive Ph II\8.0 CAD\2015\DETAILS.dwg watsrsi Plotted: March 22, 2016 - 1:06pm Layout: 11

APPENDIX D: SWMM MODEL RESULTS

APPENDIX D: SWMM MODEL RESULTS

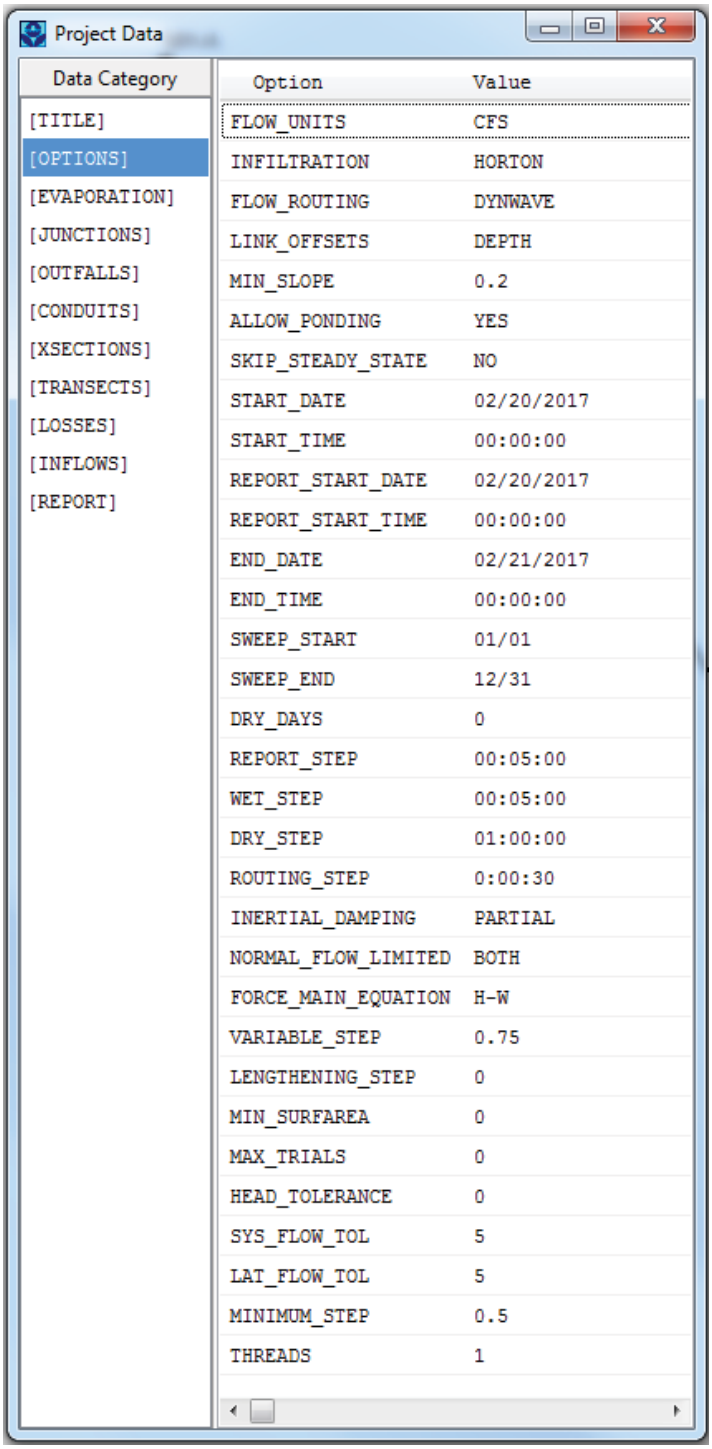


Figure 1: SWMM Model Settings

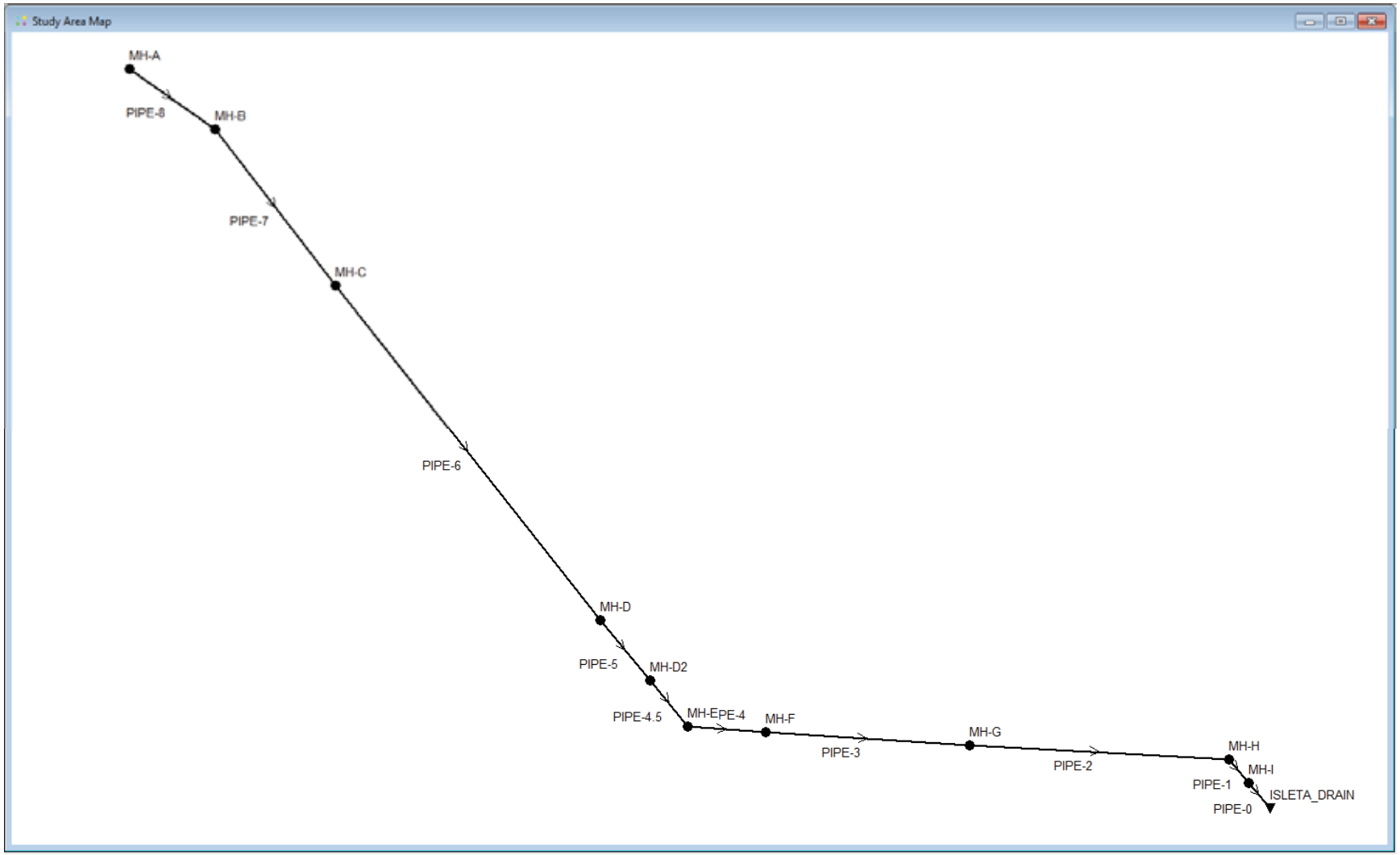


Figure 2: SWMM Model Storm Drain Layout

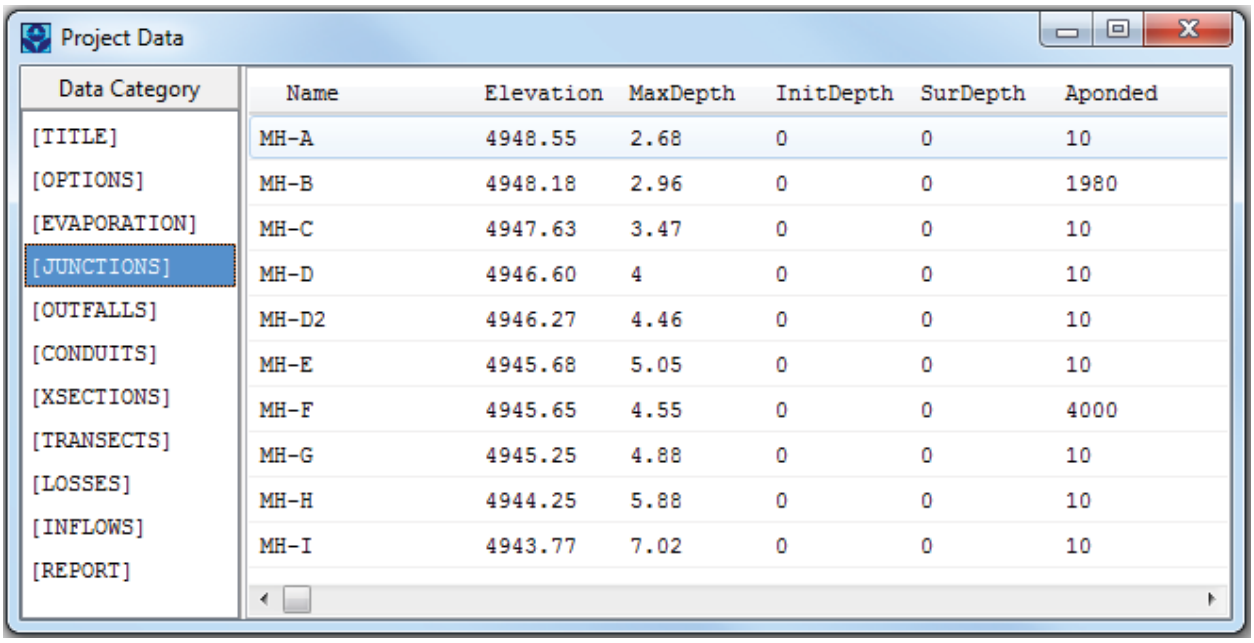


Figure 3: SWMM Model Junction (Node) Inputs

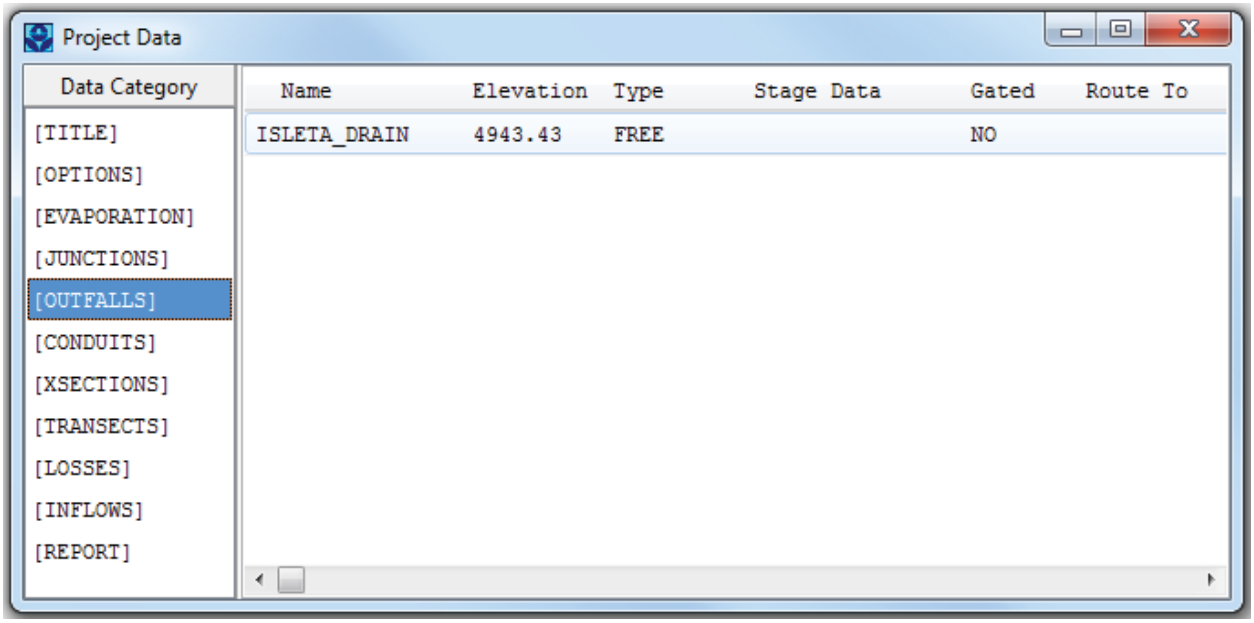


Figure 4: SWMM Model Outfall Node Inputs

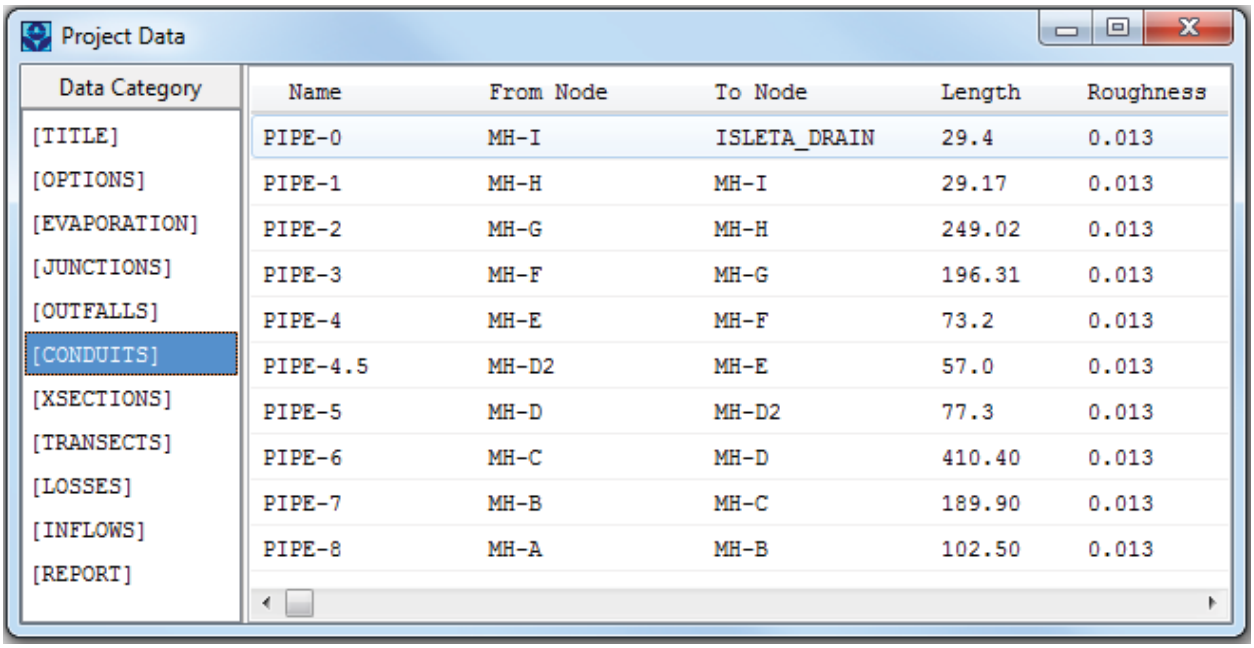


Figure 5: SWMM Model Conduit (Link) Inputs

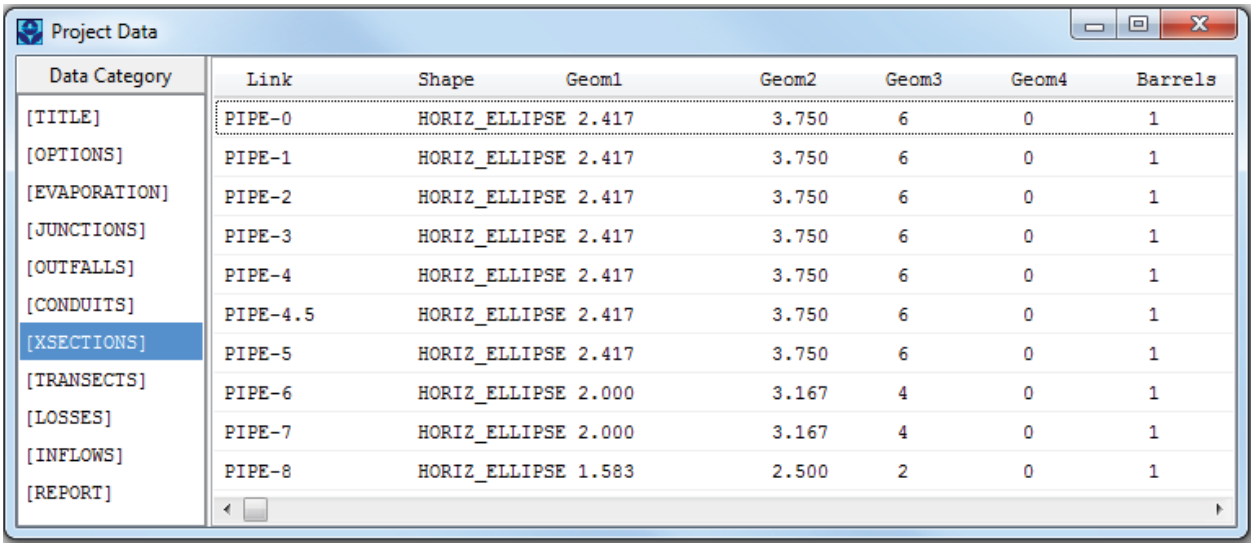


Figure 6: SWMM Model Link Cross Sections (Pipe Cross-Sections)

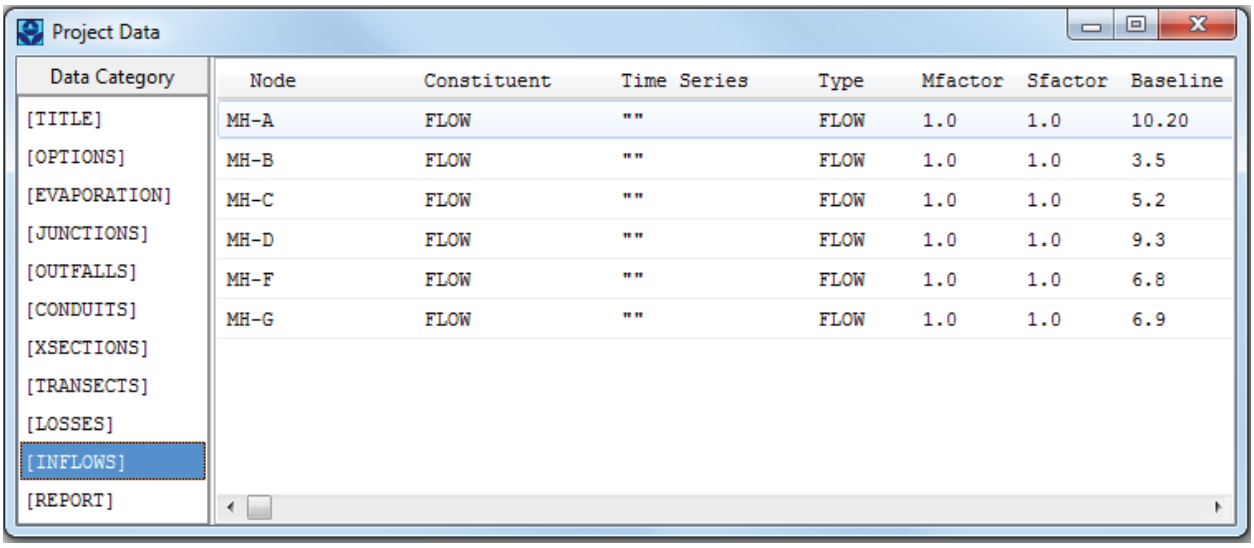
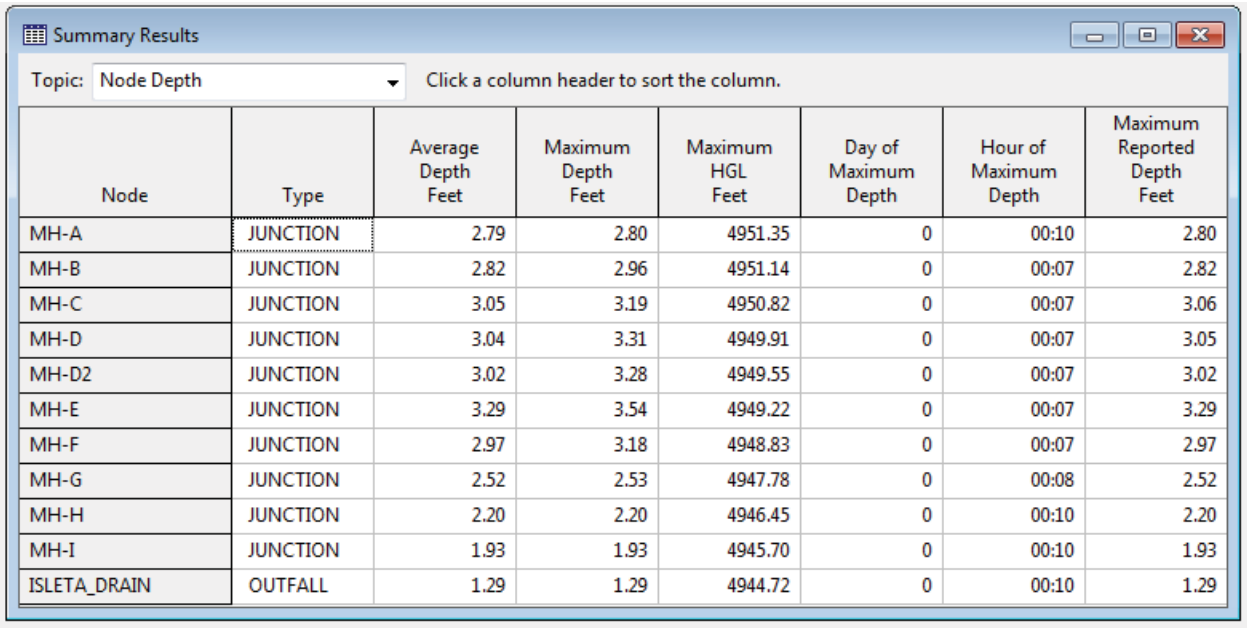


Figure 7: SWMM Model Node Inflow Inputs



Node	Type	Average Depth Feet	Maximum Depth Feet	Maximum HGL Feet	Day of Maximum Depth	Hour of Maximum Depth	Maximum Reported Depth Feet
MH-A	JUNCTION	2.79	2.80	4951.35	0	00:10	2.80
MH-B	JUNCTION	2.82	2.96	4951.14	0	00:07	2.82
MH-C	JUNCTION	3.05	3.19	4950.82	0	00:07	3.06
MH-D	JUNCTION	3.04	3.31	4949.91	0	00:07	3.05
MH-D2	JUNCTION	3.02	3.28	4949.55	0	00:07	3.02
MH-E	JUNCTION	3.29	3.54	4949.22	0	00:07	3.29
MH-F	JUNCTION	2.97	3.18	4948.83	0	00:07	2.97
MH-G	JUNCTION	2.52	2.53	4947.78	0	00:08	2.52
MH-H	JUNCTION	2.20	2.20	4946.45	0	00:10	2.20
MH-I	JUNCTION	1.93	1.93	4945.70	0	00:10	1.93
ISLETA_DRAIN	OUTFALL	1.29	1.29	4944.72	0	00:10	1.29

Figure 8: SWMM Model Node Results Summary

Summary Results

Topic: Node Inflow — Click a column header to sort the column.

Node	Type	Maximum Lateral Inflow CFS	Maximum Total Inflow CFS	Day of Maximum Inflow	Hour of Maximum Inflow	Lateral Inflow Volume 10^6 gal	Total Inflow Volume 10^6 gal	Flow Balance Error Percent
MH-A	JUNCTION	10.20	10.20	0	00:00	6.59	6.59	0.033
MH-B	JUNCTION	3.50	14.11	0	00:07	2.26	8.85	0.051
MH-C	JUNCTION	5.20	19.30	0	00:07	3.36	12.2	0.096
MH-D	JUNCTION	9.30	28.59	0	00:07	6.01	18.2	0.061
MH-D2	JUNCTION	0.00	28.55	0	00:07	0	18.2	0.021
MH-E	JUNCTION	0.00	28.59	0	00:07	0	18.2	0.022
MH-F	JUNCTION	6.80	35.44	0	00:07	4.39	22.6	0.034
MH-G	JUNCTION	6.90	42.46	0	00:07	4.46	27	0.045
MH-H	JUNCTION	0.00	41.98	0	00:08	0	27	0.027
MH-I	JUNCTION	0.00	41.90	0	00:10	0	27	0.006
ISLETA_DRAIN	OUTFALL	0.00	41.90	0	00:10	0	27	0.000

Figure 9: SWMM Model Node Flow Results

Summary Results

Topic: Link Flow — Click a column header to sort the column.

Link	Type	Maximum |Flow| CFS	Day of Maximum Flow	Hour of Maximum Flow	Maximum |Velocity| ft/sec	Max / Full Flow	Max / Full Depth
PIPE-0	CONDUIT	41.90	0	00:10	7.71	0.57	0.67
PIPE-1	CONDUIT	41.90	0	00:10	6.18	0.47	0.85
PIPE-2	CONDUIT	41.98	0	00:08	5.80	0.96	0.96
PIPE-3	CONDUIT	35.56	0	00:07	4.86	1.14	1.00
PIPE-4	CONDUIT	28.64	0	00:07	3.87	0.93	1.00
PIPE-4.5	CONDUIT	28.59	0	00:07	3.86	0.41	1.00
PIPE-5	CONDUIT	28.55	0	00:07	4.56	0.63	1.00
PIPE-6	CONDUIT	19.29	0	00:07	3.92	0.92	1.00
PIPE-7	CONDUIT	14.10	0	00:07	4.61	0.62	1.00
PIPE-8	CONDUIT	10.61	0	00:07	3.96	0.76	1.00

Figure 10: SWMM Model Link Flow Results

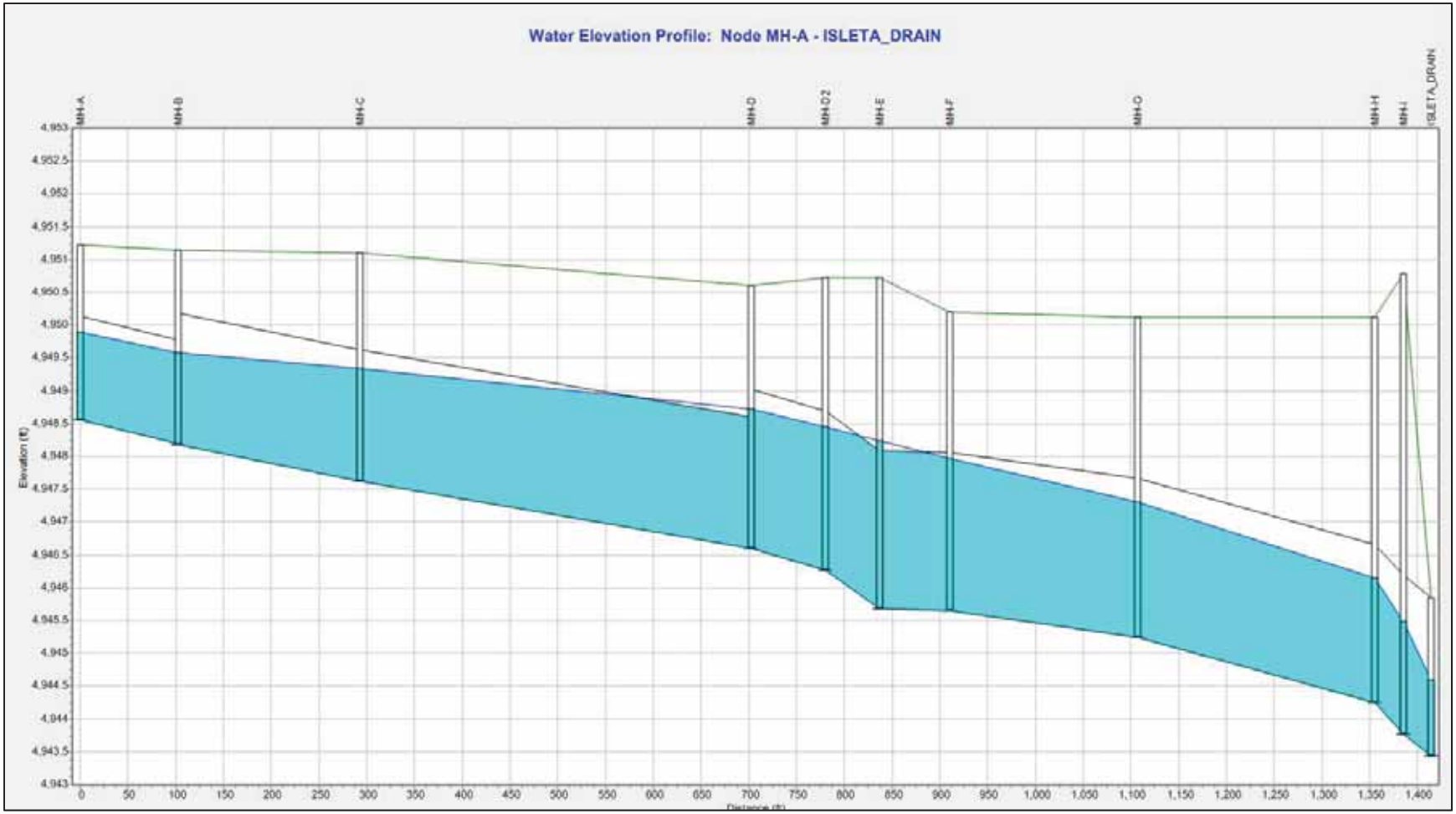


Figure 11: SWMM Model Water Surface Profile Plot