K09D039

HDR

DESIGN MEMORANDUM

Date: November 24, 2014

To: City of Albuquerque, Design Review Committee

From: Angela Valdez, PE, HDR Engineering AMV

cc: Edward Potthoff, HDR Engineering

RE: 98th Street and Avalon Road Intersection Reconstruction Project
(Project No. 7856.03)
Drainage Analysis

Project Description:

The City of Albuquerque has contracted with HDR to provide services for the 98th Street and Avalon Road Intersection Reconstruction Project at the intersection of 98th Street and Avalon under City Project No. 7856.03. The proposed roadway improvements include the following

- Replacement of the existing asphalt pavement on Avalon Road with new concrete pavement, from the intersection to a distance approximately 240' west of the intersection
- Replacement of the existing concrete curb and gutter along both sides of Avalon road with new standard curb and gutter, from the intersection to a distance approximately 240' west of the intersection
- Reconstruction of the existing concrete median with a new patterned concrete median on Avalon Road
- Replacement of the existing ADA ramps at the northwest and southwest corners of the intersection
- Replacement of the existing valley gutter across Avalon Road
- Replacement of the existing asphalt pavement on the southbound lanes of 98th Street with new concrete pavement, from the intersection to a distance approximately 495' north of the intersection
- Replacement of the existing asphalt pavement on the northbound lanes of 98th Street with new concrete pavement, from the intersection to a distance approximately 207' north of the intersection
- Construction of new asphalt curb along the east side of 98th Street from the intersection to a distance approximately 412' north of the intersection and connect to existing to existing standard curb
- Replacement of the existing concrete median nose with a new concrete patterned median nose on 98th Street

New construction is intended to match existing roadway profiles to minimize disturbance to adjacent right of way beyond the construction limits. Existing drainage patterns should remain unaltered, except for minor modifications due to proposed construction of the standard curb and gutter along the east side of 98th Street.

Purpose:

The purpose of this memorandum is to provide drainage analysis conducted in support of the proposed roadway improvements and provide design analysis for construction of a rundown structure to convey runoff from the roadway to an earth ditch along the east side of 98th Street. Calculations are limited to the 10-year, 6-hour design storm event.

Insignificant changes to peak runoff rates and patterns from proposed improvements are expected along Avalon Road and the west side of 98th Street, therefore analysis was limited to quantifying changes along the east side of 98th Street.

Existing Drainage Conditions:

The offsite basin contributing runoff at the intersection is local street drainage which collects from the I-40 Interchange Bridge, south to the 98th/Avalon Intersection. A spreadsheet is attached summarizing calculated basin runoff quantities during the 10-year, 6-hour design event. At this time, the City has no intentions of modifying the existing 98th Street storm drain system north of the project limits. In review of topographic information provided by the City, it appears that southbound lanes of 98th street drain to the west curb while and northbound lanes of 98th Street maintain individual crowned sections near the I-40 Interchange.

Runoff collected on the northbound lanes of 98th Street is conveyed in a southerly direction along the median and the north curb. Portions of the runoff are collected by existing grate inlets upstream of the project limits. Any bypass continues east toward the intersection and eventually sheet flows toward east curb. At the end of the curb, runoff discharges leaves the roadway and drains to the earth ditch. The earth ditch conveys runoff south toward the Volcan Intersection. (See Basin Map, for basin delineations.)

Proposed Drainage Conditions:

The proposed improvements will not increase runoff within the project limits. Rather, runoff will be collected by the extended standard curb to the south side of the intersection where it will be discharged to the existing earth channel as it has done historically.

During the 10-year storm event, the existing grate inlets on the northbound lanes of 98th Street, west of the project collect approximately 5.2-cfs (See Basin Map for inlet locations). The remaining 4.6-cfs, expected to accumulate at the 98th/Avalon intersection, will be conveyed via a triangular-shaped rip rap apron to the existing earth channel. It appears that the inlets capture sufficient runoff to maintain water surface spread to an estimated maximum of 9-feet, leaving approximately 15-feet of driving area free during the 10 year event. (See Worksheets for Grate Inlets on Grade, attached.)

The proposed rip rap blanket is designed assuming the longitudinal channel slope is approximately 6:1. The blanket will be inverted 1' deep, with 3:1 side slopes. The blanket will be constructed using a 12" thick section and lined with woven geotextile fabric.

98TH AND AVALON INTERSECTION IMPROVEMENTS

CITY OF ALBUQUERQUE

(Calculations per Section 22.2, City of Albuquerque Development Process Manual, 1997 Rev.)

November 7, 2014

10-YEAR PEAK RUNOFF SUMMARY

ZONE 1

			10-YEAR				
OFFSITE BASINS	LAND TREATMENT*	AREA (Acres)	PEAK DISCHARGE** (cfs)	TOTAL RUNOFF (cfs)	INTERCEPTED FLOW (cfs)	BYPASS FLOW (cfs)	NOTES
10	D	0.9876	2.85				
10	C	0.1932	0.29	3.14	2.18	0.96	2-GRATE INLETS ON GRADE
20	D	1.0398	3.01				
20	C	0.1502	0.22	4.19	3.06	1.13	2-GRATE INLETS ON GRADE
30	D	1.1248	3.25				
30	C	0.1683	0.25	4.63			TOTAL ESTIMATED RUNOFF AT 98TH/AVALON INTERSECTION

* Land treatments selected in accordance with Table A-4, Land Treatments

** Peak discharge rates/acre were selected from Table A-9, Peak Discharge

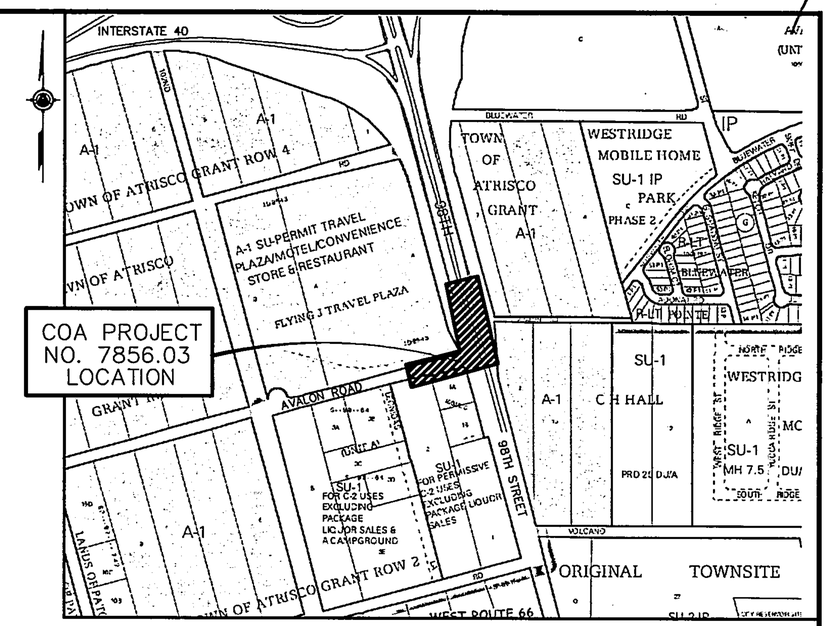
0 200 400 600 800 1,000 Feet

1 inch = 200 feet

City of Albu
98th Street and Avale
Ba
Project Number

2/4

CITY OF ALBUQUERQUE
NEW MEXICO



LOCATION MAP
ZONE ATLAS MAP K-8
ZONE ATLAS MAP K-9

NTS

Signed off on

DEPARTMENT OF MUNICIPAL DEVELOPMENT CONSTRUCTION PLANS FOR 98TH STREET AND AVALON ROAD INTERSECTION RECONSTRUCTION COA PROJECT NO. 7856.03

SHEET INDEX

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9 AVALON ROAD PLAN AND PROFILE
10 SIGNING & STRIPING GENERAL NOTES & QUANTITIES
11 SIGNING & STRIPING PLAN
12 SIGNAL GENERAL NOTES AND PLAN

HDR
2155 LOUISIANA BLVD NE,
SUITE 9500
ALBUQUERQUE, NM 87110
MAIN: (505) 830-5400
FAX: (505) 830-5454

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

ENGINEERS STAMP & SIGNATURE

EDWARD L. POTTHOFF JR. NEW MEXICO 17633 PROFESSIONAL ENGINEER

APPROVALS	ENGINEER	DATE
DRC Chairman		
Transportation		
Water/Wastewater		
Hydrology		
Parks		
Constr. Mngmt.		
Constr. Coord.		

****
APPROVED FOR CONSTRUCTION

City Engineer Date

City Project No. 7856.03

Sheet 1 Of 12

Date: Jan 27, 2015 - 4:05pm angallier Layout: 648700CVR
Drawing Name: C:\pwworking\phx\d0396408\01_CV01.dwg

PROPOSED	EXISTING	DESCRIPTION
S	(S)	SANITARY SEWER MANHOLE
D	(D)	STORM DRAIN MANHOLE
C	(C)	COMMUNICATION MANHOLE
W	(W)	WATER MANHOLE
E	(E)	ELECTRIC MANHOLE
SAS	SAS 8" CP	SANITARY SEWER LINE w/SIZE & TYPE
SD	SD 48" RC	STORM DRAIN LINE w/SIZE & TYPE
W	W 6" CI	WATER LINE w/SIZE & TYPE
FOC	FOC 6" CI	FIBER OPTIC LINE w/SIZE & TYPE
GAS	GAS 6" CI	GAS LINE w/SIZE & TYPE
CATV	CATV 6" CI	CABLE FIBER OPTIC LINE w/SIZE & TYPE
COMM	COMM	UNDERGROUND COMMUNICATION LINE
OHE	OHE	OVERHEAD ELECTRIC
UGE	UGE 2" CI	UNDERGROUND ELECTRIC LINE w/SIZE & TYPE
UGT	UGT 2" CI	UNDERGROUND COMMUNICATIONS LINE w/SIZE & TYPE
		ENCASEMENT
		STORM INLET (GRADE ELEVATION GIVEN IN PLANS IS EXTENDED FLOW LINE)
		WATER VALVE
		GAS VALVE
		BUTTERFLY VALVE
		FIRE HYDRANT
		REDUCER
		SAS SERVICE CONNECTION
		WATER SERVICE CONNECTION
		TEES
		CROSSES
		BENDS
		CAPS & PLUGS
WM	W	WATER METER
		FIRE HYDRANT
GM	GM	GAS METER
GV		GAS RISER
VB	VB	VALVE BOX
		TELEPHONE RISER
	TB	TELEPHONE BOOTH
	FA	FIRE ALARM BOX
		CURB & GUTTER
	SW	SIDEWALK
		BLOCK WALL
		CHAIN LINK FENCE
		FIELD FENCE
		RIGHT OF WAY LINES
		PROPERTY LINES(SIDE)
		PUBLIC EASEMENT
		POWER POLE W/LIGHT
		LIGHT POLE
		ELECTRIC POLE
	TL	TELEPHONE BOX
	CP	COMMUNICATION TPED
	SL	STREET LIGHT ELECTRIC BOX
	TS	TRAFFIC SIGNAL ELECTRIC BOX
	CA	CABLE ELECTRIC BOX
	CO	COMMUNICATION ELECTRIC BOX
	4" / 2"	DRIVEPAD
		MOBILITY IMPAIRED ACCESS RAMP
		C.O.A. PROJECT CONTROL POINT OR A.C.S. MONUMENT DO NOT DISTURB TEST BORING
		HORIZ. & VERT. CONTROL

ABBREVIATIONS

- ℄ CENTERLINE
- ℄ FLOWLINE
- TOC TOP OF CURB ELEVATION
- BOP BEGINNING OF PROJECT
- EOP END OF PROJECT
- BOC BEGINNING OF CONSTRUCTION
- EOC END OF CONSTRUCTION

GENERAL NOTES

1. THE CONTRACTOR SHALL PROVIDE INGRESS AND EGRESS TO LOCAL BUSINESSES AND RESIDENCES FOR THE DURATION OF THE PROJECT. THE CONTRACTOR SHALL ADVISE OF AND SCHEDULE ACCESS CLOSURES, AT LEAST 24 HOURS IN ADVANCE, WITH PROPERTY OWNERS AND THE CONSTRUCTION PROJECT MANAGER.
2. IF A PAVEMENT DROP–OFF IS CREATED DURING CONSTRUCTION, THE CONTRACTOR SHALL INITIATE PROTECTIVE ACTION. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE ITEM 337.070 – "CONCRETE PAVEMENT 11" THICK, PORTLAND CEMENT CONCRETE WITH FLY ASH, CIP" AND NO SEPARATE MEASUREMENT OR PAYMENT WILL BE MADE THEREFOR.
3. NO MATERIAL PITS HAVE BEEN DESIGNATED FOR THIS PROJECT. THE CONTRACTOR MAY OBTAIN SPECIFICATION BORROW OR SURFACING MATERIAL FROM ANY ACCEPTABLE SOURCE.
4. SEVEN (7) WORKING DAYS PRIOR TO BEGINNING CONSTRUCTION THE CONTRACTOR SHALL SUBMIT TO THE 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.
5. THE CONTRACTOR SHALL BE RESTRICTED TO THE USE OF 35 TON NON–VIBRATING ROLLER MAXIMUM TO OBTAIN THE REQUIRED COMPACTION IN PAVEMENT STRUCTURE, ROADWAY BACKFILL, EMBANKMENT, AND SUBGRADES IN URBAN AREAS WHERE THE USE OF HEAVIER EQUIPMENT COULD DAMAGE UNDERGROUND UTILITIES OR OTHER PERMANENT STRUCTURES.
6. ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED UNDER THIS CONTRACT SHALL, EXCEPT AS OTHERWISE STATED OR PROVIDED FOR HEREIN, BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1986 EDITION THROUGH UPDATE NO.8 AMENDMENT #1 OR AS MODIFIED BY THE PROJECT SPECIFICATIONS TITLED 98TH STREET AND AVALON ROAD INTERSECTION RECONSTRUCTION, AS STATED IN THE SPECIAL PROVISIONS.
7. TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT N.M. ONE–CALL SYSTEM, 260–1990, FOR LOCATION OF EXISTING UTILITIES.
8. ALL NEW STREET PAVING, CURB AND GUTTER, SIDEWALKS OR DRIVE PADS SHALL MATCH THE ELEVATIONS OF ABUTTING EXISTING AREAS AS SHOWN IN THE PLANS OR AS DIRECTED BY THE PROJECT MANAGER.
9. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH ALL OTHER CONTRACTORS AND UTILITY COMPANIES WORKING IN THE SAME AREA. THE CONTRACTOR MAY BE REQUIRED TO RESCHEDULE ACTIVITIES TO ALLOW ADDITIONAL CREWS TO PERFORM THEIR REQUIRED WORK. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR DELAYS OR INCONVENIENCE CAUSED BY UTILITY COMPANY WORK CREWS.
10. WHEN ABUTTING NEW PAVEMENT TO EXISTING, CONTRACTOR SHALL SAW CUT, TO FULL PAVEMENT DEPTH, THE EXISTING PAVEMENT TO A NEAT VERTICAL STRAIGHT LINE AS REQUIRED TO REMOVE ANY BROKEN OR CRACKED PAVEMENT AND MATCH NEW TO EXISTING. THIS WORK SHALL BE PAID UNDER ITEM 343.03, "EXISTING PAVEMENT, ASPHALT, CONCRETE, MORE THAN 4" THICK, SAWCUT, REMOVE & DISPOSE, COMPL."
11. THE CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR ANY DAMAGE TO EXISTING PAVEMENTS, PAVEMENT MARKINGS, CURB AND GUTTER, TRAIL OR SIDEWALK, CONCRETE BEYOND SAWCUT, AND SIGNAGE AT BACK OF PROPOSED DRIVEPAD DURING CONSTRUCTION, APART FROM THOSE SECTIONS INDICATED FOR REMOVAL ON THE PLANS, AND SHALL REPAIR OR REPLACE PER CITY OF ALBUQUERQUE STANDARDS AT CONTRACTOR'S OWN EXPENSE.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING, AT CONTRACTOR'S OWN EXPENSE, ALL PERMITS NECESSARY FOR CONSTRUCTION.
13. ALL WORK IMPACTING AN ARTERIAL ROADWAY WILL REQUIRE 24–HOUR CONSTRUCTION IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE'S ORANGE BARREL POLICY.
14. CRITICAL INTERSECTION WORK SHALL NOT START UNTIL THE CONTRACTOR HAS ALL MATERIAL, EQUIPMENT, AND NECESSARY PERSONNEL ON–SITE. TRAFFIC CONTROL DEVICES SHALL NOT BE PLACED PREMATURELY.
15. OVERNIGHT PARKING OF CONSTRUCTION VEHICLES ON PRIVATE PROPERTY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
16. THE CONTRACTOR SHALL TAKE PRECAUTIONS TO PROTECT HORIZONTAL AND VERTICAL CONTROL SURVEY MONUMENTS, AS SHOWN ON SHEETS, PRIOR TO INITIATING CONSTRUCTION. IF DURING THE COURSE OF CONSTRUCTION OPERATIONS, THE CONTRACTOR DISTURBS OR DESTROYS A MONUMENT, THE CONTRACTOR SHALL NOTIFY THE CITY SURVEYOR. THE MONUMENT SHALL ONLY BE REPLACED BY THE CITY SURVEY SECTION AT THE CONTRACTOR'S EXPENSE.
17. THE CONTRACTOR SHALL NOT STORE EQUIPMENT OR MATERIAL WITHIN RIGHT OF WAY UNLESS THE EQUIPMENT OR MATERIAL IS PROPERLY SHIELDED UTILIZING CURRENT SAFETY DESIGN AND INSTALLATION METHODS. THE SAFETY DESIGN FOR SHIELDING SHALL BE PROVIDED BY THE CONTRACTOR AND MUST BE APPROVED BY THE PROJECT MANAGER BEFORE IMPLEMENTING. THIS WORK, INCLUDING DESIGN, INSTALLATION, AND REMOVAL OF THE SHIELDING, SHALL BE CONSIDERED INCIDENTAL TO ITEM 621.401 "MOBILIZATION, COMPL." AND NO SEPARATE MEASUREMENT OR PAYMENT WILL BE MADE THEREFOR.
18. WHEN EXISTING TRAFFIC SIGNALS ARE TURNED OFF, THE CONTRACTOR SHALL HAVE AN OFF–DUTY POLICE OFFICER DIRECT TRAFFIC. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO ITEM 621.401 "MOBILIZATION, COMPL." AND NO ADDITIONAL PAYMENT WILL BE MADE.
19. THROUGHOUT THE LIFE OF THIS PROJECT, THE CONTRACTOR SHALL KEEP THE LOCAL NEWS MEDIA INFORMED OF CONSTRUCTION ACTIVITIES WHICH WILL IMPEDE OR DISRUPT THE NORMAL FLOW OF TRAFFIC.
20. THE CONTRACTOR SHALL MAINTAIN AN UP TO DATE SET OF AS–BUILT PLANS FOR THE PROJECT. THESE PLANS SHALL BE KEPT CURRENT, WITHIN TWO WEEKS AT ALL TIMES AND SHALL BE SUBJECT TO REVIEW BY THE PROJECT MANAGER THROUGHOUT THE PROJECT AND WILL BE REVISED BY THE PROJECT MANAGER FOR ACCURACY AND COMPLETENESS AT LEAST ONCE EVERY 30 DAYS. THE FINAL AS–BUILT PLANS SHALL BE SUBMITTED TO THE PROJECT MANAGER PRIOR TO FINAL PAYMENT.
21. THE CONTRACTOR WILL BE RESPONSIBLE FOR DISPOSING OF ALL DEBRIS, INCLUDING, BUT NOT LIMITED TO HAZARDOUS WASTE AT DISPOSAL SITES APPROVED BY GOVERNMENTAL AGENCIES REGULATING THE DISPOSAL OF SUCH ITEMS.
22. THE CONTRACTOR SHALL NOT PAVE OVER EXISTING WATER VALVE COVERS OR MANHOLE LIDS. IF FINISHED GRADE VARIES FROM EXISTING IN THE VICINITY OF EXISTING VALVES OR MANHOLES, CONTRACTOR SHALL ADJUST THE MANHOLE RIM OR VALVE CAN COVER AND COLLAR TO THE NEW GRADE. SEE STANDARD DWG 2461 FOR VALVE AND SEWER MANHOLE COLLAR, OR STAND DWG 2460 WHICH MAY BE USED FOR THE SEWER MANHOLE ADJUSTMENT ONLY. SEE STANDARD DWGS 2326 AND 2328 FOR THE VALVE CAN, COVER, AND RING. VALVE CAN MATERIAL WILL BE POLYMER COATED CMP ONLY. THIS WORK SHALL BE PAID FOR UNDER ITEM 920.40X– "EXISTING MANHOLE FRAME & COVER, ADJUST TO GRADE WITH METAL RINGS", 801.111– "VALVE BOX, RING & COVER, ADJUST TO GRADE."
23. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND MAINTAINING ALL PERMANENT SIGNING UNTIL PROJECT HAS BEEN ACCEPTED BY THE COA.
24. THE CONTRACTOR SHALL COORDINATE WITH THE WATER AUTHORITY SEVEN (7) DAYS IN ADVANCE OF PERFORMING WORK THAT WILL AFFECT THE PUBLIC WATER OR SANITARY SEWER INFRASTRUCTURE. WORK REQUIRING SHUTOFF OF WELL COLLECTORS, TRANSMISSION LINES, OR FACILITIES DESIGNATED AS MASTER PLAN FACILITIES MUST BE COORDINATED WITH THE WATER AUTHORITY 14 DAYS IN ADVANCE OF PERFORMING SUCH WORK. ONLY WATER AUTHORITY CREWS ARE AUTHORIZED TO OPERATE PUBLIC VALVES. SHUTOFF REQUESTS MUST BE MADE ONLINE AT HTTP://WWW.ABCWUA.ORG/WATER_SHUT_OFF_AND_TURN_ON_PROCEDURES.ASPX.
25. CONTRACTOR SHALL FIELD VERIFY HORIZONTAL AND VERTICAL LOCATION OF EXISTING UTILITIES PRIOR TO EXCAVATION. LOCATIONS SHOWN ON PLANS ARE FOR INFORMATION ONLY.
26. DETECTABLE WARNING DEVICES ARE CONSIDERED INCIDENTAL TO ITEM 340.023 – "WHEELCHAIR ACCESS RAMPS, 4" PCC, STD. CURB, CIP. SD 2418" AND NO ADDITIONAL PAYMENT WILL BE MADE THEREFOR.
27. ALL RINGS AND COVERS FOR VALVE BOX ADJUSTMENTS SHALL COMPLY WITH STANDARD DRAWING 2328, SHALL BE TRAFFIC RATED AND SHALL INCLUDE AN ELECTRONIC BALL MARKER (EMD) SPECIFIED IN THE WATER AUTHORITY'S APPROVED PRODUCT LIST. THE EMD SHALL BE INCIDENTAL TO ITEM 801.111–"VALVE BOX ADJUST TO GRADE, CIP. SD 2332" AND NO ADDITIONAL PAYMENT WILL BE MADE THEREFOR. WHERE ADJUSTMENT IS WITHIN CONCRETE PAVING SECTION THE CONTRACTOR SHALL REFER TO STANDARD DRAWING 2453 – PAVING STANDARD PENETRATIONS PCC PAVEMENT.
28. ALL SANITARY SEWER MANHOLE ADJUSTMENTS SHALL COMPLY WITH STANDARD DRAWING 2111, SHALL BE TRAFFIC RATED AND SHALL INCLUDE AN ELECTRONIC BALL MARKER (EMD) SPECIFIED IN THE WATER AUTHORITY'S APPROVED PRODUCT LIST WITH A CONCRETE COLLAR ONE FOOT UPSTREAM FROM THE MANHOLE. THE EMD SHALL BE INCIDENTAL TO ITEM 920.40X–"EXISTING MANHOLE FRAME & COVER, ADJUST TO GRADE WITH METAL RINGS, ANY DEPTH, CIP." AND NO ADDITIONAL PAYMENT WILL BE MADE THEREFOR.
29. WHEN APPEARING IN ANY PORTION OF THIS CONTRACT, THE WORDS "PLANT MIX BITUMINOUS PAVEMENT" (PMBP) AND THE WORDS "HOT MIX ASPHALT" (HMA) WILL HAVE THE SAME MEANING AS AND MAY BE USED INTERCHANGEABLY WITH THE WORDS "ASPHALT CONCRETE.
30. ALL EXCAVATION, TRENCHING AND SHORING ACTIVITIES MUST BE CARRIED OUT IN ACCORDANCE WITH OSHA 1926.650 SUBPART P.
31. SALVAGEABLE MATERIALS (SIGNS, BOLLARDS) FROM THE PROJECT SHALL BE HAULED TO THE CITY OF ALBUQUERQUE PINO YARDS. HAUL OF THE MATERIAL SHALL BE PERFORMED DURING NORMAL WORKING HOURS AS DIRECTED BY THE PROJECT MANAGER.
32. CONTRACTOR SHALL MAINTAIN A GRAFFITI–FREE WORK SITE. CONTRACTOR SHALL PROMPTLY REMOVE ANY AND ALL GRAFFITI FROM EQUIPMENT, WHETHER PERMANENT OR TEMPORARY.
33. REMOVAL OF EXISTING CURB AND GUTTER OR SIDEWALK SHALL BE TO THE NEAREST JOINT.
34. SUBGRADE PREP SHALL EXTEND ONE FOOT BEYOND ANY FREE EDGE OF NEW CURB AND GUTTER, AND SIDEWALK WITHIN THE RIGHT–OF–WAY.
35. BEFORE SCHEDULING DELIVERY OF CONCRETE, CONTRACTOR SHALL MEET WITH CITY INSPECTOR/PROJECT MANAGER TO ENSURE THE CONCRETE FORMWORK IS CONSTRUCTED TO DIMENSIONS AND GRADES SHOWN ON PLANS AND MEETS PROWAG, 2011 TECHNICAL DESIGN CRITERIA. CONTRACTOR SHALL CALIBRATE 24" ELECTRONIC DIGITAL LEVEL PRIOR TO VERIFYING MEASUREMENTS. CONTRACTOR SHALL VERIFY MEASUREMENTS MEET REQUIREMENTS OR REQUIRE CORRECTION OF ALL DISCREPANCIES BEFORE SCHEDULING OF CONCRETE TO ENSURE THE FINISHED CONCRETE WILL MEET PROWAG REQUIREMENTS. WHEN ALL MEASUREMENTS MEET REQUIREMENTS THEN THE INSPECTOR SHALL PERMIT CONCRETE POUR. CONTRACTOR SHALL REPEAT THE PROCEDURE AFTER CONCRETE POUR TO ENSURE THE CURB RAMP MEETS PROWAG COMPLIANCE. FINAL ACCEPTANCE OF A CURB RAMP DOES NOT OCCUR UNTIL THE FINAL INSPECTION OF THE PROJECT. THIS PROCEDURE SHALL BE CONSIDERED INCIDENTAL TO THE INSTALLATION OF THE ADA CURB RAMPS AND THE PROJECT.
36. THE PCC CONCRETE PAVEMENT SECTION WILL FOLLOW CITY OF ALBUQUERQUE CONCRETE PAVEMENT DETAILS FOR JOINTS AND JOINT PATTERNS, REFER TO STANDARD DRAWING 2450 – PAVING CONCRETE JOINTS, STANDARD DRAWING 2451 – PAVING CONCRETE JOINTS TYPES 5 & 6 AND STANDARD DRAWING 2452 – PAVING TYPICAL CONCRETE PAVEMENT JOINT PATTERN.

UTILITY CONTACTS

ERSTGAARD, JON	OFFICE PHONE: (505)289–3028 OFFICE FAX: 768–3629 JERSTGAARD@ABCWUA.ORG	ALBUQUERQUE BERNALILLO COUNTY WATER UTILITY AUTHORITY P.O. BOX 568 ALBUQUERQUE, NM 87103
GURULE, ANDREW	OFFICE PHONE: (505) 280–8014 ANDREW.GURULE@PNM.COM	PNM ELECTRIC 4201 EDITH BLVD. NE ALBUQUERQUE, NM 87107
DUNLOP, JOE	OFFICE PHONE: (505) 697–3156 JOE.DUNLOP@NMGCO.COM	NEW MEXICO GAS COMPANY 4625 EDITH NE ALBUQUERQUE, NM 87107
BROWN, JOHN	CELL PHONE: (505) 450–2338 OFFICE FAX: (505) 314–0890 JOHN@BCGASSETS.COM	BCG ASSETS 505 MARQUETTE AVENUE NW SUITE LL–110A ALBUQUERQUE, NM 87102
CROWEL, DAVID	OFFICE PHONE: (505) 842–2911 OFFICE FAX: (505) 842–2890 DCROWEL@ATT.COM	AT&T RESOURCE SUPERVISOR 111 3RD STREET NW ALBUQUERQUE, NM 87103
DARNELL, ANDY	OFFICE PHONE: (505) 346–4470 OFFICE FAX: 348–8666 ANDY.DARNELL@MCI.COM	MCI WORLDCOM OPERATIONS MANAGER 6001 MIDWAY PARK NE ALBUQUERQUE, NM 87109
MORTUS, MIKE	OFFICE PHONE: (505) 761–6252 OFFICE FAX: (505) 761–0599 CELL: (505) 269–4006 MIKE_MORTUS@CABLE.COMCAST.COM	COMCAST CONSTRUCTION COORDINATOR 4611 MONTBEL PLACE NE ALBUQUERQUE, NM 87107
HARRISON, ROYAL	OFFICE PHONE: (505) 938–7339 OFFICE FAX: 938–7380 CELL: (505) 301–9120 ROYAL.HARRISON@TWTELECOM.COM	TIME WARNER TELECOM OF NEW MEXICO SENIOR ENGINEER 5411 JEFFERSON STREET NE, STE. 200 ALBUQUERQUE, NM 87109
KELLY, LARRY	OFFICE PHONE: (505) 246–0501 OFFICE FAX: (505) 246–0479 CELL: (505) 270–3442 LARRY.KELLY@QWEST.COM	QWEST LONG DISTANCE SR. OPERATIONS TECH 400 TIJERAS NW SUITE 570 ALBUQUERQUE, NM 87102
MUELLER, RICK	OFFICE PHONE: (505) 217–0039 OFFICE FAX: 217–0048 RICHARD.MUELLER@PAETEC.COM	PAETEC COMMUNICATION FIELD TECHNICIAN 505 MARQUETTE NW (COMPASS BANK) SUITE 1600 ALBUQUERQUE, NM 87102
YOUNG, BEVERLY	OFFICE PHONE: (505) 245–5934 OFFICE FAX: (505) 245–6733 CELL: (505) 715–7529 BEVERLY.YOUNG@QWEST.COM	QWEST SR DESIGN NM ENGINEERING/PLANNING 400 TIJERAS NW ALBUQUERQUE, NM 87102
MUELLER, RICK	OFFICE PHONE: (505) 244–3161 OFFICE FAX: 244–0094 CELL: 228–3329 RDMUELLER@MCLEODUSA.COM	MCLEOD USA SUPERVISOR OF OUTSIDE TECHS. 505 MARQUETTE NW (COMPASS BANK) SUITE 1600 ALBUQUERQUE, NM 87102

INCIDENTAL ITEMS

- CORRECTION OF PAVEMENT DROP–OFF. SEE GENERAL NOTE 2, THIS SHEET
- MATCH EXISTING PAVEMENTS. SEE GENERAL NOTE 10, THIS SHEET
- CLEAR ZONE SHIELDING, SEE GENERAL NOTE 17, THIS SHEET
- OFF DUTY POLICE OFFICER, SEE GENERAL NOTE 18, THIS SHEET
- PROVIDE AND MAINTAIN ALL SIGNING, SEE GENERAL NOTE 23, THIS SHEET
- PROVIDE WATER SHUT–OFF PLAN, SEE GENERAL NOTE 24, THIS SHEET
- FIELD VERIFY EXISTING UTILITY LOCATIONS, GENERAL NOTE 25, THIS SHEET
- DETECTABLE WARNING DEVICES, SEE GENERAL NOTE 26, THIS SHEET
- EMD FOR WATER VALVE ADJUSTMENT, SEE GENERAL NOTE 27, THIS SHEET
- EMD AND COLLAR FOR SANITARY SEWER MANHOLE ADJUSTMENT, SEE GENERAL NOTE 28 THIS SHEET
- PREPOUR INSPECTION, SEE GENERATL NOTE 35, THIS SHEET

CALL BEFORE YOU DIG!
STATEWIDE 811
ALBUQUERQUE 260–1990

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

BENCH MARKS
THE STATION IS A COA SURVEY CONTROL 3–1/2" ALUMINUM DISK SET IN CONCRETE AND IS STAMPED "8–K9, 1989"
NAD 83 NMSP COORDINATES CENTRAL ZONE
NAVD 1988 ELEV = 5230.166'.
GROUND TO GRID FACTOR: 0.999678
NORTHING = 1484994.639
EASTING = 1492453.769

SURVEY INFORMATION
FIELD NOTES
NO. BY DATE

ENGINEER'S SEAL
EDWARD L. POTTHOFF JR. NEW MEXICO 17633 PROFESSIONAL ENGINEER

REVISIONS
NO. DATE REMARKS BY

HDR ENGINEERING INC.
DESIGNED BY: AMG DATE: 09/2014
DRAWN BY: AMG DATE: 09/2014
CHECKED BY: ELP DATE: 09/2014

HDR
2155 LOUISIANA BLVD NE,
SUITE 9500
ALBUQUERQUE, NM 87110
MAIN: (505) 830-5400
FAX: (505) 830-5454

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
TRANSPORTATION DEVELOPMENT DIVISION

TITLE: 98TH STREET AND AVALON ROAD INTERSECTION RECONSTRUCTION
LEGEND, GENERAL NOTES, INCIDENTALS & UTILITY OWNERS

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

City Project No. 7856.03 | Zone Map No. K–8,K–9 | Sheet 2 Of 12

Date: Jan 27, 2015 – 4:05pm, amguier Layout: Layout1
Drawing Name: c:\pwworking\phx\d0396408\02_GN01.dwg

SUMMARY OF QUANTITIES

COA ITEM NO.	SHORT DESCRIPTION	UNIT	ROADWAY		CONSTRUCTION ENGINEERING		SIGNING AND STRIPING		SIGNALS		PROJECT TOTAL	
			ESTIMATE	FINAL	ESTIMATE	FINAL	ESTIMATE	FINAL	ESTIMATE	FINAL	ESTIMATE	FINAL
4.01	CONSTRUCTION STAKING, COMPL.	LS			LS						LS	
4.02	CONSTRUCTION SURVEYING, COMPL.	LS			LS						LS	
6.05	CONSTRUCTION DEMOBILIZATION, COMPL.	LS			LS						LS	
301.02	SUBGRADE PREPARATION 12" AT 95% COMPACTION, CIP.	SY	4510								4510	
302.011	AGGREGATE BASE COURSE, CRUSHED 11" AT 95% COMPACTION, CIP. SD 2408	SY	4510								4510	
337.07	CONCRETE PAVEMENT, 11" THICK, PORTLAND CEMENT CONCRETE WITH FLY ASH, CIP. SD 2407	SY	4510								4510	
340.01	SIDEWALK, 4" THICK, PORTLAND CEMENT CONCRETE, INCL. SUBGRADE COMPACTION, CIP. 2430	SY	60								60	
340.023	WHEELCHAIR ACCESS RAMP, 4" PCC, STD. CURB., CIP. SD2418	SY	30								30	
340.05	CURB & GUTTER, STANDARD, PORTLAND CEMENT CONCRETE, INCL., SUBGRADE PREPARATION, CIP., SD 2415	LF	550								550	
340.061	CURB & GUTTER, MOUNTABLE MEDIAN, PORTLAND CEMENT CONCRETE, INCL., SUBGRADE PREPARATION, CIP., SD 2415	LF	710								710	
340.11	HEADER CURB, PORTLAND CEMENT CONCRETE, INCL. SUBGRADE, CIP., SD 2415	LF	140								140	
341.01	ASPHALT CONCRETE CURB, MACHINE EXTRUDED, CIP., SD 2415	LF	415								415	
343.03	EXISTING PAVEMENT, ASPHALT CONCRETE, MORE THAN 4" THICK, SAWCUT, REMOVE & DISPOSE, COMPL.	SY	4510								4510	
343.08	EXISTING CURB & GUTTER OR VALLEY GUTTER, PC CONCRETE, REMOVE & DISPOSE, COMPL.	LF	1520								1520	
343.085	EXISTING SIDEWALK, 4" PC CONCRETE, REMOVE & DISPOSE	SY	100								100	
346.1	TEXTURED MEDIAN PAVEMENT, 4" THICK COLORED PC CONCRETE, INCL. SUBGRADE COMPACTION, CIP. SD 2408	SF	1260								1260	
422.002	TRAFFIC SIGNAL PEDESTAL POLE, 10', CIP.	EA							2		2	
424.011	ELECTRICAL CONDUIT, 3", INCL. TRENCHING, BACKFILL, PATCHING, PUSHING, BORING, & JACKING, CIP.	LF							60		60	
425.003	ELECTRICAL PULL BOX, (LARGE), CIP.	EA							4		4	
425.101	ELECTRICAL PULL BOX, ANY TYPE, REMOVE & DISPOSE, CCMPL.	EA							4		4	
426.01	MULTI-CONDUCTOR CABLE, #5, CIP.	LF							430		430	
426.014	MULTI-CONDUCTOR CABLE, #20, CIP.	LF							70		70	
427.021	PEDESTRIAN COUNTDOWN SIGNAL (LED), CIP	EA							2		2	
427.042	PEDESTRIAN SOUND UNIT, CIP	EA							2		2	
428.01	PUSH BUTTON STATION, CIP.	EA							2		2	
441.001	REFLECTORIZED PLASTIC PAVEMENT MARKINGS, 4" WIDTH, CIP.	LF					2080				2080	
441.005	REFLECTORIZED PLASTIC PAVEMENT MARKINGS, 24" WIDTH, CIP.	LF					280				280	
441.01	REFLECTORIZED PLASTIC ARROW, RIGHT, CIP.	EA					4				4	
441.011	REFLECTORIZED PLASTIC ARROW, LEFT, CIP	EA					2				2	
441.02	REFLECTORIZED PLASTIC WORD, ONLY, CIP.	EA					1				1	
510.11	STRUCTURAL, REINFORCED PC CONRETE, 4000 PSI, INCL. FORMWORK, CIP	CY							2		2	
520.01	STRUCTURAL STEEL, FABRICATED, INCLUDING WELDING, CUTTING, DRILLING, ETC., CIP	LBS							40		40	
603.032	INSTALL NEW RIP-RAP LINED DITCHES, COMPLETE, INCLUDING GEOTEXTILE.	SF	95								95	
621.401	MOBILIZATION	LS			LS						LS	
710.075	POTHOLE, 0-10' DEEP, VACUUM EXPLORATORY EXCAVATION, INCL. PAVEMENT REMOVAL, DISPOSAL & REPLACEMENT, VERTICAL & HORIZONTAL UTILITY LOCATION DATA, COMPL.	EA							2		2	
801.112	VALVE BOX, RING & COVER, ADJUST TO GRADE, CIP. SD 2328	EA	2								2	
920.42	EXISTING MANHOLE FRAME & COVER, ADJUST TO PAVEMENT GRADE WHERE ADJUSTMENT OF CONCRETE OR BLOCK BARREL IS REQUIRED, CIP	EA	3								3	

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
THE STATION IS A COA SURVEY CONTROL, 3-1/2" ALUMINUM DISK, SET IN CONCRETE AND IS STAMPED "8-K9, 1989"
NAD 83 NMSP COORDINATES, CENTRAL ZONE
NAVD 1988 ELEV = 5250.166'
GROUND TO GRID FACTOR: 0.999678
NORTHING = 1484994.639
EASTING = 1492463.769

SURVEY INFORMATION
FIELD NOTES
NO. BY DATE

ENGINEER'S SEAL
EDWARD L. POTTHOFF JR. NEW MEXICO 17633 PROFESSIONAL ENGINEER

NO.	DATE	REMARKS	BY

REVISIONS

HDR ENGINEERING INC.
DESIGNED BY: AMG DATE: 09/2014
DRAWN BY: AMG DATE: 09/2014
CHECKED BY: ELP DATE: 09/2014

HDR
2155 LOUISIANA BLVD NE,
SUITE 9500
ALBUQUERQUE, NM 87110
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CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
TRANSPORTATION DEVELOPMENT DIVISION

TITLE: 98TH STREET AND AVALON ROAD INTERSECTION RECONSTRUCTION

SUMMARY OF QUANTITIES

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

City Project No. 7856.03 | Zone Map No. K-8,K-9 | Sheet 3 Of 12

Date: Jan 27, 2015 - 4:05pm amguiter Layout: Layout1
Drawing Name: C:\pwworking\phx\d0396408\03_S001.dwg

ITEM NO. 301.02 SUBGRADE PREPARATION 12" AT 95% COMPACTION, CIP.

STATION	OFFSET	TO	STATION	OFFSET	AREA SY	DESCRIPTION
98TH STREET ALIGNMENT						
11+54.42	0.00'	-	16+49.36	0.00'	3164.72	98TH STREET
AVALON ROAD ALIGNMENT						
51+57.02	0.00'	-	54+01.28	0.00'	1336.56	AVALON ROAD
TOTAL					4501.28	
USE					4510	

ITEM NO. 302.011 AGGREGATE BASE COURSE, CRUSHED 11" AT 95% COMPACTION, CIP. SD 2408

STATION	OFFSET	TO	STATION	OFFSET	AREA SY	DESCRIPTION
98TH STREET ALIGNMENT						
11+54.42	0.00'	-	16+49.36	0.00'	3164.72	98TH STREET
AVALON ROAD ALIGNMENT						
51+57.02	0.00'	-	54+01.28	0.00'	1336.56	AVALON ROAD
TOTAL					4501.28	
USE					4510	

ITEM NO. 337.07 CONCRETE PAVEMENT, 11" THICK, PORTLAND CEMENT CONCRETE WITH FLY ASH, CIP. SD 2407

STATION	OFFSET	TO	STATION	OFFSET	AREA SY	DESCRIPTION
98TH STREET ALIGNMENT						
11+54.42	0.00'	-	16+49.36	0.00'	3164.72	98TH STREET
AVALON ROAD ALIGNMENT						
51+57.02	0.00'	-	54+01.28	0.00'	1336.56	AVALON ROAD
TOTAL					4501.28	
USE					4510	

ITEM NO. 340.01 SIDEWALK, 4" THICK, PORTLAND CEMENT CONCRETE, INCL. SUBGRADE COMPACTION, CIP. SD 2430

STATION	OFFSET	TO	STATION	OFFSET	AREA SY	DESCRIPTION
98TH STREET ALIGNMENT						
11+58.39	65.82' LT	-	11+90.93	94.45' LT	34.88	SOUTHWEST 98TH STREET/AVALON ROAD INTERSECTION
12+93.25	63.05' LT	-	13+19.15	51.72' LT	20.35	NORTHWEST 98TH STREET/AVALON ROAD INTERSECTION
TOTAL					55.23	
USE					60	

STATIONS TAKEN AT TOP BACK OF CURB

ITEM NO. 340.023 WHEELCHAIR ACCESS RAMP, 4" PCC, STD. CURB., CIP. SD 2418

STATION	OFFSET	TO	STATION	OFFSET	AREA SY	DESCRIPTION
98TH STREET ALIGNMENT						
11+70.55	62.95' LT	-	11+84.51	62.96' LT	11.10	SOUTHWEST 98TH STREET/AVALON ROAD INTERSECTION
12+75.36	63.05' LT	-	12+93.25	63.05' LT	13.88	NORTHWEST 98TH STREET/AVALON ROAD INTERSECTION
TOTAL					24.98	
USE					30	

STATIONS TAKEN AT TOP BACK OF CURB

ITEM NO. 340.05 CURB & GUTTER, STANDARD, PC CONCRETE, INCL. SUBGRADE PREP., CIP. SD 2415

STATION	OFFSET	TO	STATION	OFFSET	LENGTH LF	DESCRIPTION
AVALON ROAD ALIGNMENT						
51+56.94	22.05' LT	-	53+99.09	94.47' LT	286.22	NORTHWEST 98TH STREET/AVALON ROAD INTERSECTION
51+61.10	23.79' RT	-	53+99.34	67.34' RT	262.82	SOUTHWEST 98TH STREET/AVALON ROAD INTERSECTION
TOTAL					549.04	
USE					550	

STATIONS TAKEN AT FLOWLINE OF CURB

ITEM NO. 340.11 HEADER CURB, PC CONCRETE, INCL. SUBGRADE, CIP., SD 2415

STATION	OFFSET	TO	STATION	OFFSET	LENGTH LF	DESCRIPTION
98TH STREET ALIGNMENT						
11+70.55	62.95' LT	-	11+84.51	62.96' LT	13.95	SOUTHWEST 98TH STREET/AVALON ROAD INTERSECTION
11+70.46	69.94' LT	-	11+89.58	68.97' LT	20.52	SOUTHWEST 98TH STREET/AVALON ROAD INTERSECTION
11+73.96	55.34' LT	-	11+85.57	64.04' LT	28.88	SOUTHWEST 98TH STREET/AVALON ROAD INTERSECTION
11+89.39	68.69' LT	-	11+90.26	88.26' LT	25.14	SOUTHWEST 98TH STREET/AVALON ROAD INTERSECTION
12+67.82	69.05' LT	-	12+93.25	69.05' LT	29.42	NORTHWEST 98TH STREET/AVALON ROAD INTERSECTION
12+75.36	63.05' LT	-	12+93.25	63.05' LT	17.89	NORTHWEST 98TH STREET/AVALON ROAD INTERSECTION
TOTAL					135.80	
USE					140	

ITEM NO. 340.061 CURB & GUTTER, MOUNTABLE MEDIAN, PC CONCRETE, INCL. SUBGRADE PREP., CIP. SD 2415

STATION	OFFSET	TO	STATION	OFFSET	LENGTH LF	DESCRIPTION
98TH STREET ALIGNMENT						
11+54.42	3.40' LT	-	11+65.22	6.06' LT	24.65	SOUTH 98TH STREET MEDIAN
12+84.73	5.04' LT	-	13+61.73	8.67' RT	80.91	NORTHEAST 98TH STREET MEDIAN
12+84.73	5.04' LT	-	16+49.36	8.67' LT	366.50	NORTHWEST 98TH STREET MEDIAN
AVALON ROAD ALIGNMENT						
52+63.59	2.36' LT	-	53+78.09	2.36' LT	233.19	AVALON ROAD MEDIAN
TOTAL					705.26	
USE					710	

STATIONS TAKEN AT FLOWLINE OF CURB

ITEM NO. 341.01 ASPHALT CONCRETE CURB, MACHINE EXTRUDED, CIP., SD 2415

STATION	OFFSET	TO	STATION	OFFSET	AREA SY	DESCRIPTION
98TH STREET ALIGNMENT						
11+45.86	36.46' RT	-	15+58.01	50.87' RT	412.6	EAST 98TH STREET
TOTAL					412.6	
USE					415	

ITEM NO. 343.03 EXISTING PAVEMENT, ASPHALT CONCRETE, MORE THAN 4" THICK, SAWCUT, REMOVE & DISPOSE, COMPL.

STATION	OFFSET	TO	STATION	OFFSET	AREA SY	DESCRIPTION
98TH STREET ALIGNMENT						
11+54.42	0.00'	-	16+49.36	0.00'	3164.72	98TH STREET
AVALON ROAD ALIGNMENT						
51+57.02	0.00'	-	54+01.28	0.00'	1336.56	AVALON ROAD
TOTAL					4501.28	
USE					4510	

ITEM NO. 343.085 EXISTING SIDEWALK, 4" PC CONCRETE, REMOVE & DISPOSE

STATION	OFFSET	TO	STATION	OFFSET	AREA SY	DESCRIPTION
98TH STREET ALIGNMENT						
11+58.39	65.82' LT	-	11+90.93	94.45' LT	58.26	SOUTHWEST 98TH STREET/ AVALON ROAD INTERSECTION
12+58.81	70.63' LT	-	13+19.15	51.72' LT	41.61	NORTHWEST 98TH STREET/ AVALON ROAD INTERSECTION
TOTAL					99.87	
USE					100	

STATIONS TAKEN AT TOP BACK OF CURB

ITEM NO. 343.08 EXISTING CURB & GUTTER OR VALLEY GUTTER, PC CONCRETE, REMOVE & DISPOSE, COMPL.

STATION	OFFSET	TO	STATION	OFFSET	LENGTH LF	DESCRIPTION
98TH STREET ALIGNMENT						
11+54.34	50.60' LT	-	13+14.15	51.00' LT	235.54	INTERSECTION OF 98TH STREET AND AVALON ROAD
11+54.42	3.40' LT	-	11+65.22	6.06' LT	24.65	MOUNTABLE C&G SOUTH 98TH STREET MEDIAN
12+84.73	5.04' LT	-	13+61.73	8.67' RT	80.91	MOUNTABLE C&G 98TH STREET NORTH MEDIAN
12+84.73	5.04' LT	-	16+49.36	8.67' LT	366.50	MOUNTABLE C&G 98TH STREET NORTH MEDIAN
AVALON ROAD ALIGNMENT						
51+61.10	23.79' RT	-	53+99.34	67.34' RT	262.82	STANDARD C&G SOUTHWEST 98TH STREET/AVALON ROAD INTERSECTION
51+56.94	22.05' LT	-	53+99.09	97.47' LT	292.49	STANDARD C&G NORTHWEST 98TH STREET/AVALON ROAD INTERSECTION
52+63.59	2.36' LT	-	53+78.09	2.36' LT	252.23	MOUNTABLE C&G AVALON ROAD MEDIAN
TOTAL					1515.15	
USE					1520	

STATIONS TAKEN AT FLOWLINE OF CURB

ITEM NO. 346.1 TEXTURED MEDIAN PAVEMENT, 4" THICK, COLORED PC CONCRETE, INCL. SUBGRADE COMPACTION, CIP. SD 2408

STATION	OFFSET	TO	STATION	OFFSET	AREA SF	DESCRIPTION
98TH STREET ALIGNMENT						
11+54.42	3.40' LT	-	11+65.22	6.06' LT	35.02	98TH STREET SOUTH MEDIAN
11+78.01	58.45' LT	-	11+83.08	62.46' LT	1.19	SOUTHWEST 98TH STREET/AVALON ROAD INTERSECTION
12+77.23	62.55' LT	-	12+84.29	58.55' LT	1.64	NORTHWEST 98TH STREET/AVALON ROAD INTERSECTION
12+84.73	5.04' LT	-	13+61.73	8.67' RT	993.71	98TH STREET NORTH MEDIAN
AVALON ROAD ALIGNMENT						
52+63.59	2.36' LT	-	53+78.09	2.36' LT	224.86	AVALON ROAD MEDIAN
TOTAL					1256.42	
USE					1260	

STATIONS TAKEN AT FLOWLINE OF CURB

ITEM NO. 603.032 INSTALL NEW RIP-RAP LINED DITCHES, COMPLETE, INCLUDING GEOTEXTILE

STATION	OFFSET	TO	STATION	OFFSET	AREA SF	DESCRIPTION
98TH STREET ALIGNMENT						
11+44.78	60.35' RT	-	11+44.86	36.63' RT	94.33	98TH STREET
TOTAL					94.33	
USE					95	

ITEM NO. 920.42 EXISTING MANHOLE FRAME & COVER, ADJUST TO PAVEMENT GRADE WHERE ADJUSTMENT OF CONCRETE OR BLOCK BARREL IS REQUIRED, CIP.

STATION	OFFSET	EACH	DESCRIPTION
12+23.59	3.30' LT	1	SANITARY SEWER MANHOLE
12+41.79	49.50' LT	1	STORM DRAIN MANHOLE
12+64.07	67.25' LT	1	STORM DRAIN MANHOLE
TOTAL		3	
USE		3	

ITEM NO. 801.112 VALVE BOX, RING & COVER, ADJUST TO GRADE, CIP. SD 2328

STATION	OFFSET	EACH	DESCRIPTION
52+21.94	14.90' LT	1	WATER VALVE
52+25.34	14.36' LT	1	WATER VALVE
TOTAL		2	
USE		2	

AS BUILT INFORMATION
CONTRACTOR / DATE
WORK STAKED BY / DATE
ACCEPTANCE BY / DATE
FIELD INSPECTOR BY / DATE
DRAWINGS CORRECTED BY / DATE
MICRO-FILM INFORMATION
RECORDED BY / DATE
NO. / DATE

BENCH MARKS
THE STATION IS A COA SURVEY CONTROL, 3-1/2" ALUMINUM DISK SET IN CONCRETE AND IS STAMPED "8-K9, 1989"
NAD 83 NMSP COORDINATES, CENTRAL ZONE
NAVD 1988 ELEV = 5250.165'.
GROUND TO GRID FACTOR: 0.999678
NORTHING = 1481934.639
EASTING = 1492463.769

SURVEY INFORMATION
FIELD NOTES
NO. / BY / DATE

ENGINEER'S SEAL
EDWARD L. POTTHOFF JR. NEW MEXICO 17633 PROFESSIONAL ENGINEER

REVISIONS
NO. / DATE / REMARKS / BY

HDR ENGINEERING INC.
DESIGNED BY: AMG DATE: 09/2014
DRAWN BY: AMG DATE: 09/2014
CHECKED BY: ELP DATE: 09/2014

HDR
2155 LOUISIANA BLVD NE,
SUITE 9500
ALBUQUERQUE, NM 87110
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MUNICIPAL DEVELOPMENT DEPARTMENT
TRANSPORTATION DEVELOPMENT DIVISION

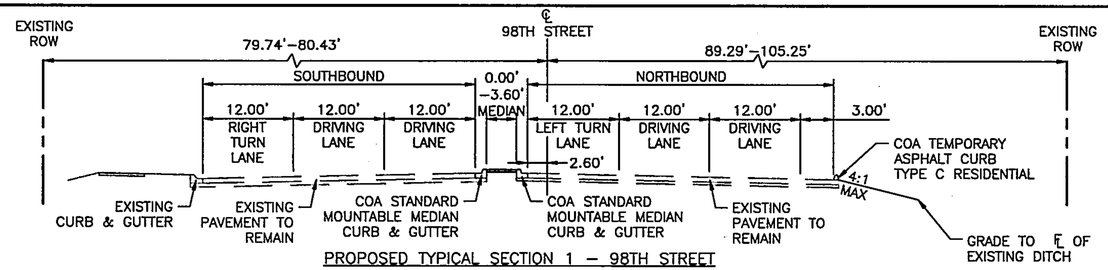
TITLE: 98TH STREET AND AVALON ROAD INTERSECTION RECONSTRUCTION

MISCELLANEOUS QUANTITIES

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

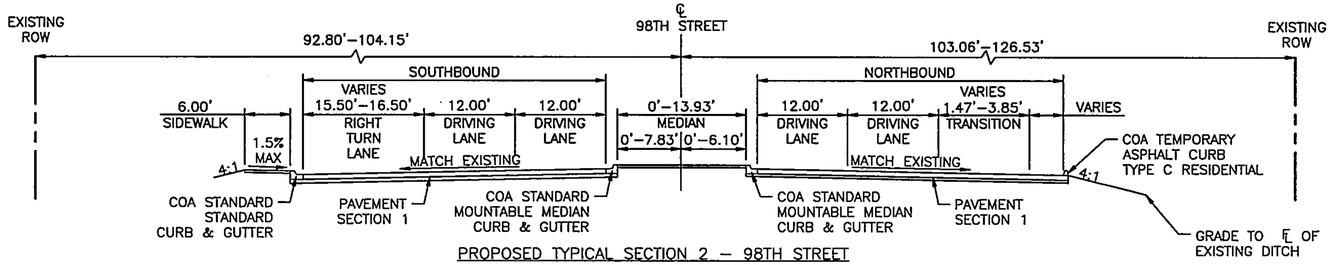
City Project No. 7856.03 | Zone Map No. K-8,K-9 | Sheet 4 Of 12

Date: Jan 27, 2015 - 4:05pm amguiler Layout: Layout1
Drawing Name: C:\pwworking\phx\d0398408\04_MQ01.dwg



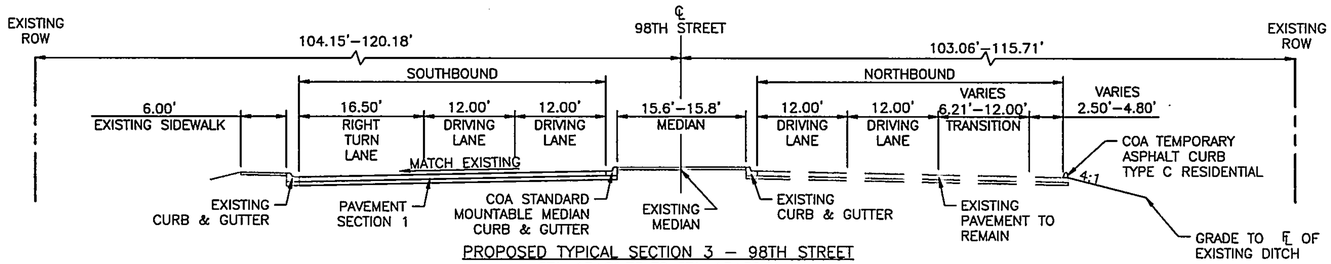
PROPOSED TYPICAL SECTION 1 – 98TH STREET
STA. 11+54.41 TO STA. 11+64.39

TRANSITION
STA. 11+45.86 TO STA. 11+54.41



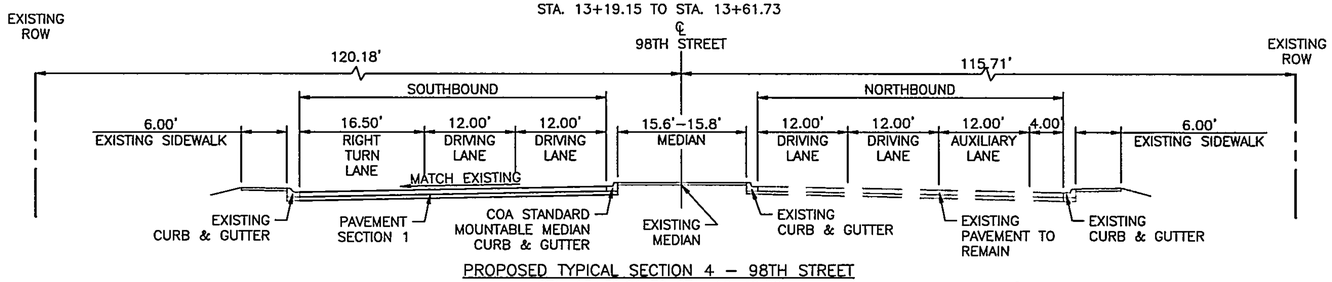
PROPOSED TYPICAL SECTION 2 – 98TH STREET
STA. 12+85.56 TO STA. 13+19.15

TRANSITION
STA. 11+64.39 TO STA. 12+85.56 (INTERSECTION)

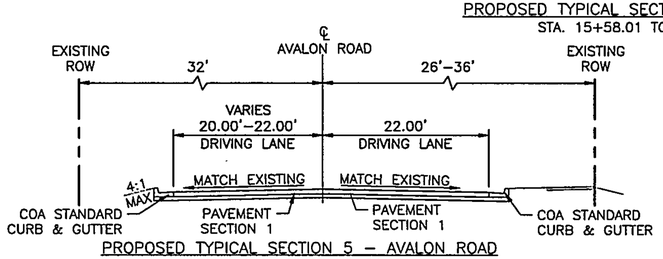


PROPOSED TYPICAL SECTION 3 – 98TH STREET
STA. 13+61.73 TO STA. 15+58.01

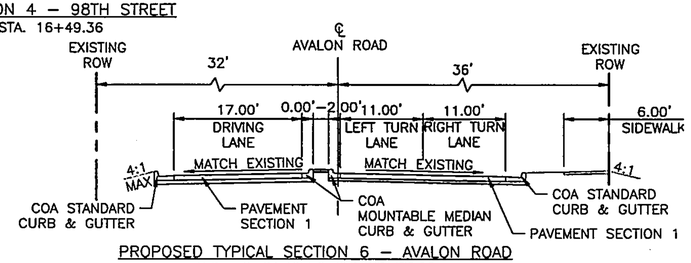
TRANSITION
STA. 13+19.15 TO STA. 13+61.73



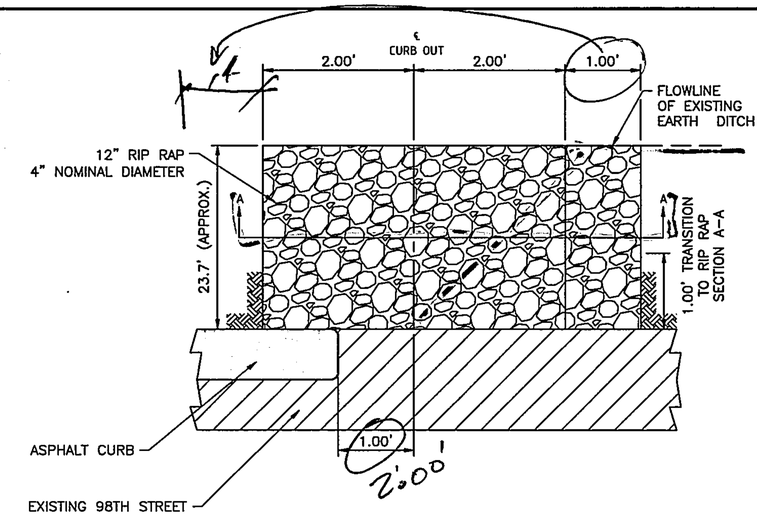
PROPOSED TYPICAL SECTION 4 – 98TH STREET
STA. 15+58.01 TO STA. 16+49.36



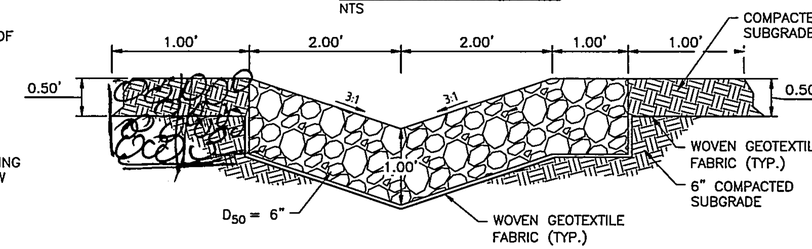
PROPOSED TYPICAL SECTION 5 – AVALON ROAD
STA. 51+57.02 TO 52+64.42



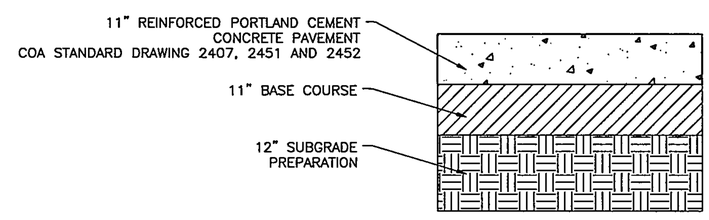
PROPOSED TYPICAL SECTION 6 – AVALON ROAD
STA. 52+64.42 TO STA 53+77.26



ASPHALT CURB CUT DETAIL
NTS

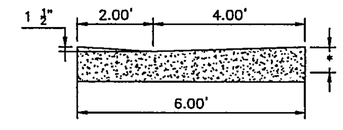


RIP RAP SECTION A–A
NTS



PAVEMENT SECTION 1

*SEE PAVEMENT SECTION, THIS SHEET



VALLEY GUTTER DETAIL
NTS

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

MICRO-FILM INFORMATION
RECORDED BY
DATE
NO.

BENCH MARKS
THE STATION IS A COA SURVEY CONTROL
3-1/2" ALUMINUM DISK SET IN CONCRETE
AND IS STAMPED "8-K9, 1989"
NAD 83 NMSP COORDINATES, CENTRAL ZONE
NAVD 1988, ELEV = 5250.166'.
GROUND TO GRID FACTOR: 0.999678
NORTHING = 1484934.539
EASTING = 1492463.769

SURVEY INFORMATION
FIELD NOTES
NO. BY DATE

ENGINEER'S SEAL
EDWARD L. POTTHOFF, JR. NEW MEXICO 17633 PROFESSIONAL ENGINEER

NO.	DATE	REMARKS	BY
		REVISIONS	

HDR ENGINEERING INC.
DESIGNED BY: AMG DATE: 09/2014
DRAWN BY: AMG DATE: 09/2014
CHECKED BY: ELP DATE: 09/2014

HDR
2155 LOUISIANA BLVD NE, SUITE 9500
ALBUQUERQUE, NM 87110
MAIN: (505) 828-5400
FAX: (505) 828-5454

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
TRANSPORTATION DEVELOPMENT DIVISION

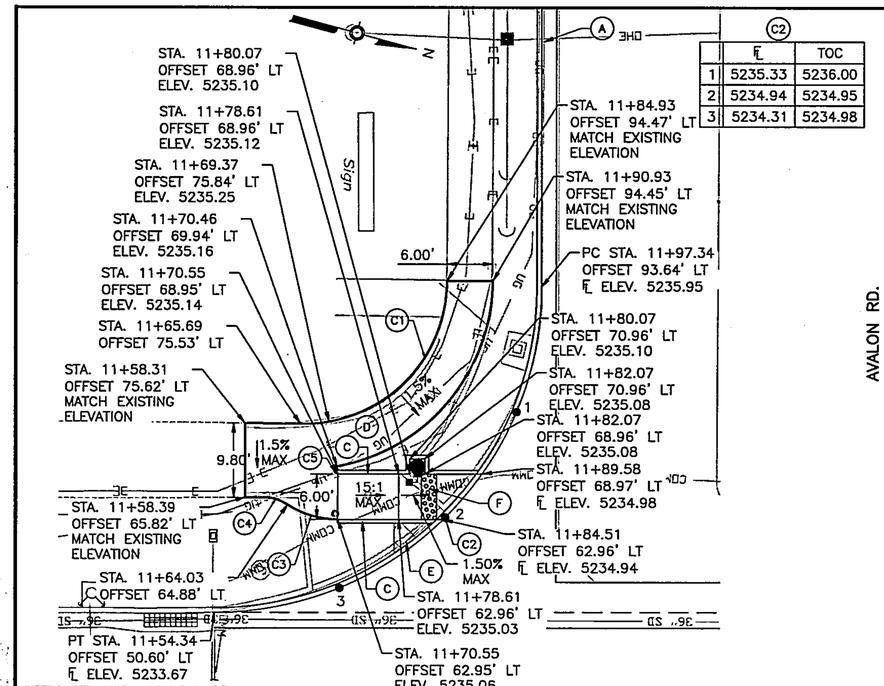
TITLE: 98TH STREET AND AVALON ROAD INTERSECTION RECONSTRUCTION

TYPICAL SECTIONS

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

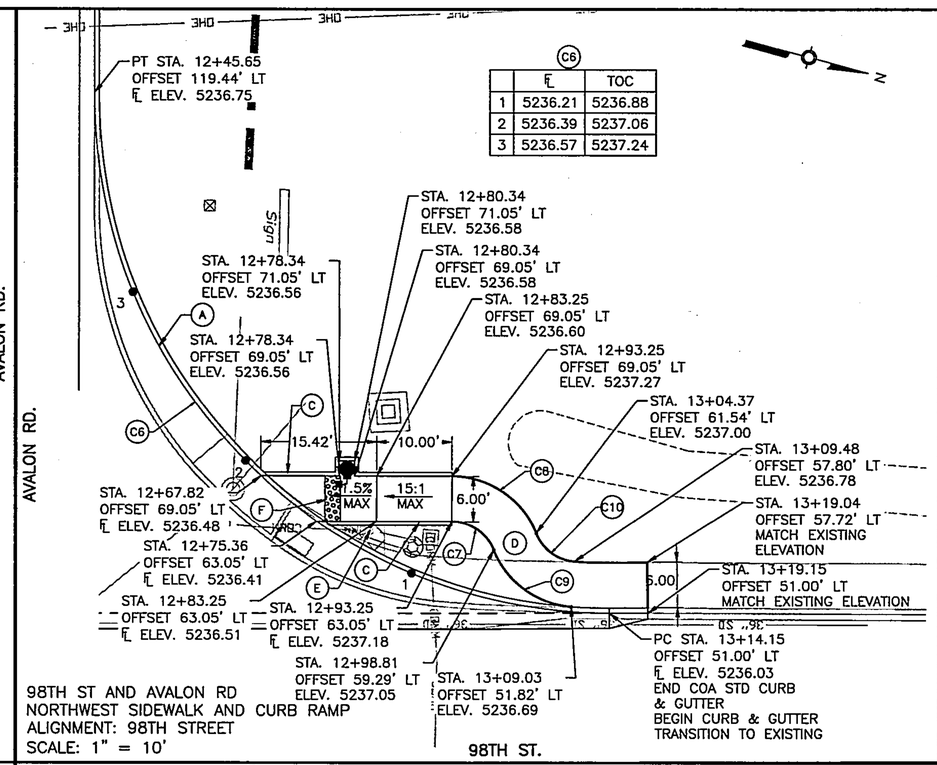
City Project No. 7856.03 | Zone Map No. K-8,K-9 | Sheet 5 of 12

Date: Jan 27, 2015 – 4:06pm amgallier Layout: Layout1
Drawing Name: C:\pwworking\pha\d0396408\05_TS01.dwg



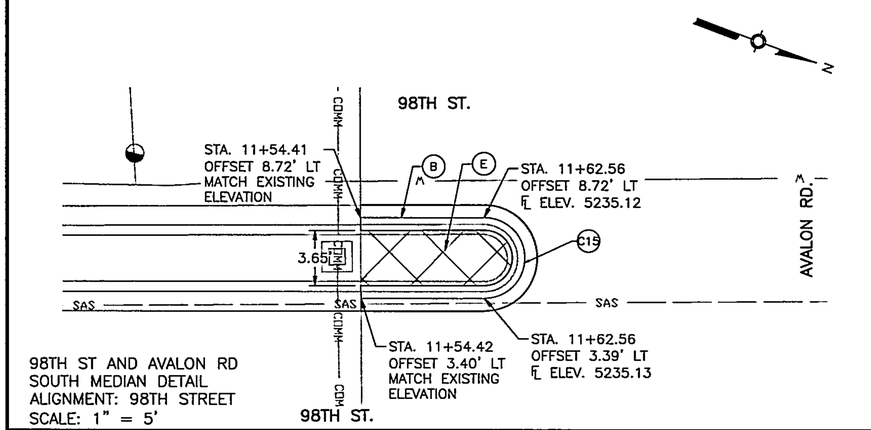
	℄	TOC
1	5235.33	5236.00
2	5234.94	5234.95
3	5234.31	5234.98

98TH ST AND AVALON RD
SOUTHWEST SIDEWALK AND CURB RAMP
ALIGNMENT: 98TH STREET
SCALE: 1" = 10'

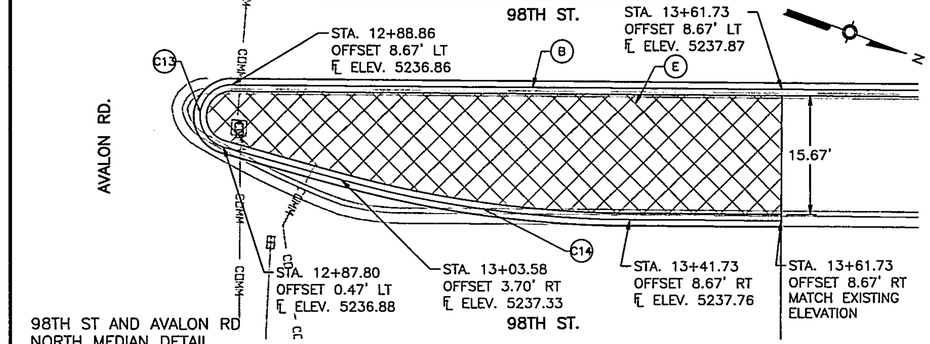


	℄	TOC
1	5236.21	5236.88
2	5236.39	5237.06
3	5236.57	5237.24

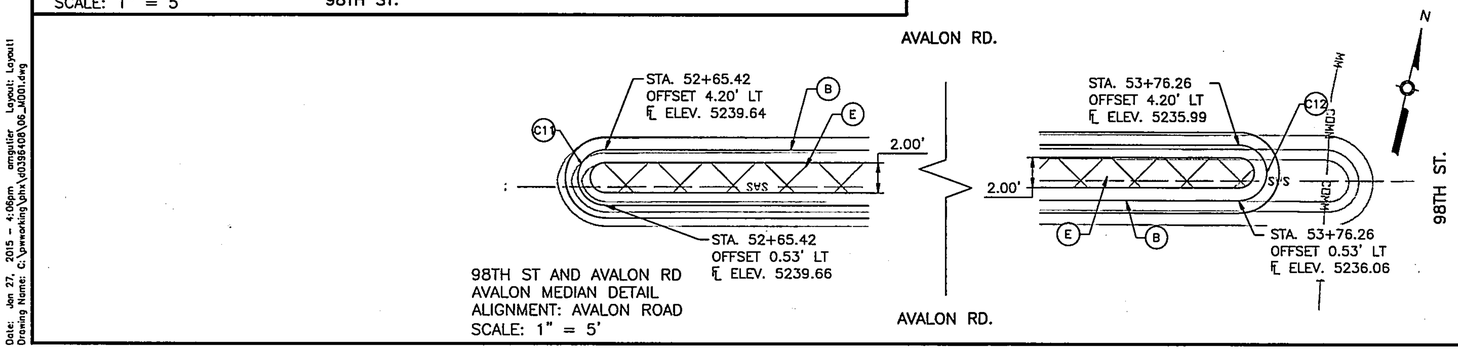
98TH ST AND AVALON RD
NORTHWEST SIDEWALK AND CURB RAMP
ALIGNMENT: 98TH STREET
SCALE: 1" = 10'



98TH ST AND AVALON RD
SOUTH MEDIAN DETAIL
ALIGNMENT: 98TH STREET
SCALE: 1" = 5'



98TH ST AND AVALON RD
NORTH MEDIAN DETAIL
ALIGNMENT: 98TH STREET
SCALE: 1" = 10'



98TH ST AND AVALON RD
AVALON MEDIAN DETAIL
ALIGNMENT: AVALON ROAD
SCALE: 1" = 5'

KEYED NOTES

(A) BUILD STANDARD CURB & GUTTER. SEE COA STANDARD DRAWING 2415A.

(B) BUILD MOUNTABLE MEDIAN CURB & GUTTER. SEE COA STANDARD DRAWING 2415B.

(C) BUILD HEADER CURB. SEE COA STANDARD DRAWING 2415B.

(D) BUILD 4" CONCRETE SIDEWALK. SEE COA STANDARD DRAWING 2430.

(E) BUILD 4" CONCRETE TEXTURED MEDIAN PAVEMENT. SEE COA STANDARD DRAWING 2408.

(F) INSTALL DETECTABLE WARNING SURFACE. UNLESS OTHERWISE NOTED TRUNCATED DOME STRIP SHALL BE 2' WIDE X LENGTH OF RAMP, 5' MIN. INSTALL PER MANUFACTURES RECOMMENDATIONS.

CURVE DATA

CURVE NO.	DELTA	RADIUS	LENGTH	TANGENT
C1	90°33'08"	19.00'	30.03'	19.18'
C2	90°03'00"	43.00'	67.58'	43.04'
C3	32°58'48"	12.00'	6.91'	3.55'
C4	33°21'41"	6.00'	3.49'	1.80'
C5	169°37'28"	0.50'	1.48'	5.51'
C6	89°48'59"	68.58'	107.51'	68.36'
C7	68°01'03"	6.00'	7.12'	4.05'
C8	68°01'03"	12.00'	14.25'	8.10'
C9	63°41'21"	12.00'	13.34'	7.45'
C10	63°41'21"	6.00'	6.67'	3.73'
C11	180°00'00"	1.83'	5.79'	N/A
C12	180°00'00"	1.83'	5.76'	N/A
C13	165°10'46"	4.17'	12.01'	32.04'
C14	14°49'14"	149.17'	38.58'	19.40'
C15	180°00'00"	2.66'	8.36'	N/A

AS BUILT INFORMATION
CONTRACTOR — DATE
WORK STAKED BY — DATE
INSPECTOR'S ACCEPTANCE BY — DATE
AND IS STAMPED "B-49, 1989"
NAD 83 NMSP COORDINATES CENTRAL ZONE VERIFICATION BY — DATE
NAVD 1988 ELEV = 5250.166'
GROUND TO GRID FACTOR: 0.999678
DRAWINGS CORRECTED BY
MICRO-FILM INFORMATION
NORTHING = 1484984.639
RECORDED BY — DATE
EASTING = 1492463.769
NO.

BENCH MARKS
THE STATION IS A COA SURVEY CONTROL 3-1/2" ALUMINUM DISK SET IN CONCRETE

SURVEY INFORMATION
FIELD NOTES
NO. BY DATE

ENGINEER'S SEAL
EDWARD L. POTTHOFF JR. NEW MEXICO 17633 PROFESSIONAL ENGINEER

NO.	DATE	REMARKS	BY
		REVISIONS	

HDR ENGINEERING INC.
DESIGNED BY: AMG DATE: 09/2014
DRAWN BY: AMG DATE: 09/2014
CHECKED BY: ELP DATE: 09/2014

HDR
2156 LOUISIANA BLVD NE,
SUITE 800
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CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
TRANSPORTATION DEVELOPMENT DIVISION

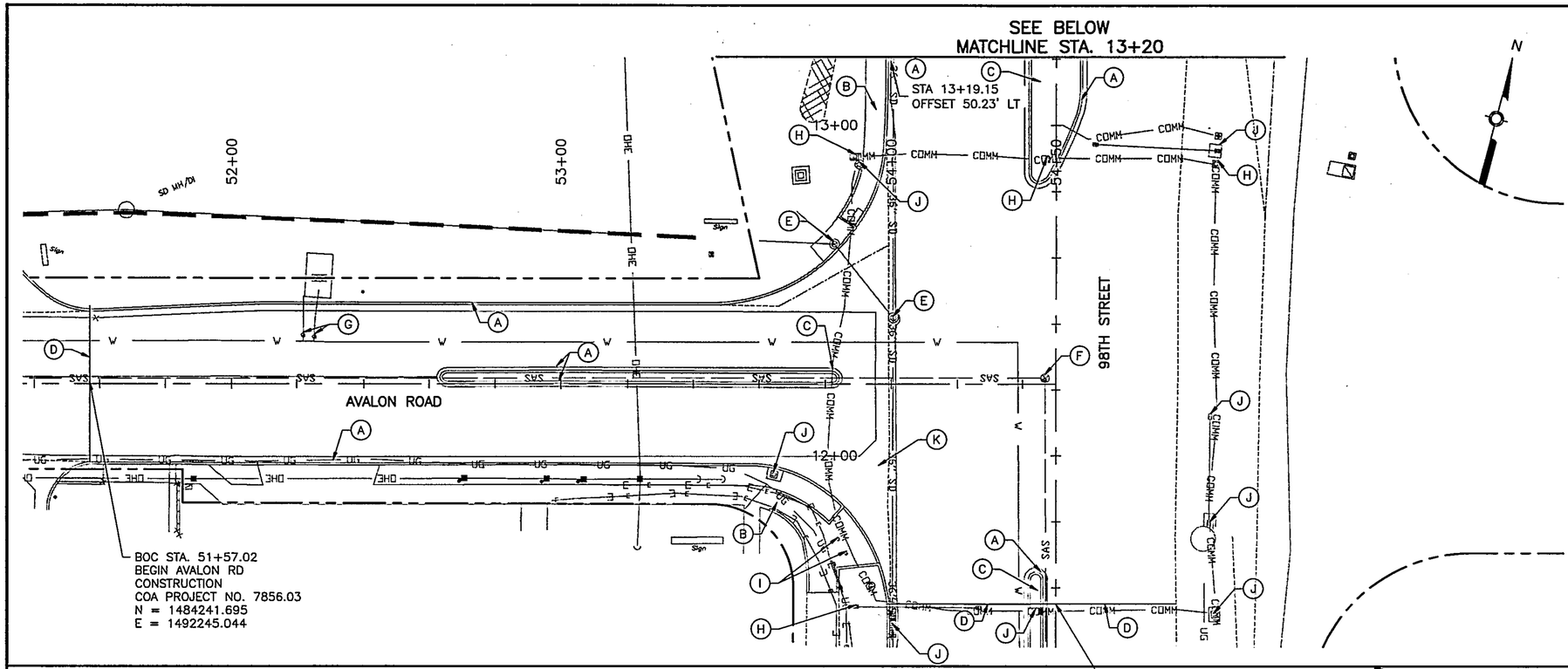
TITLE: 98TH STREET AND AVALON ROAD INTERSECTION RECONSTRUCTION

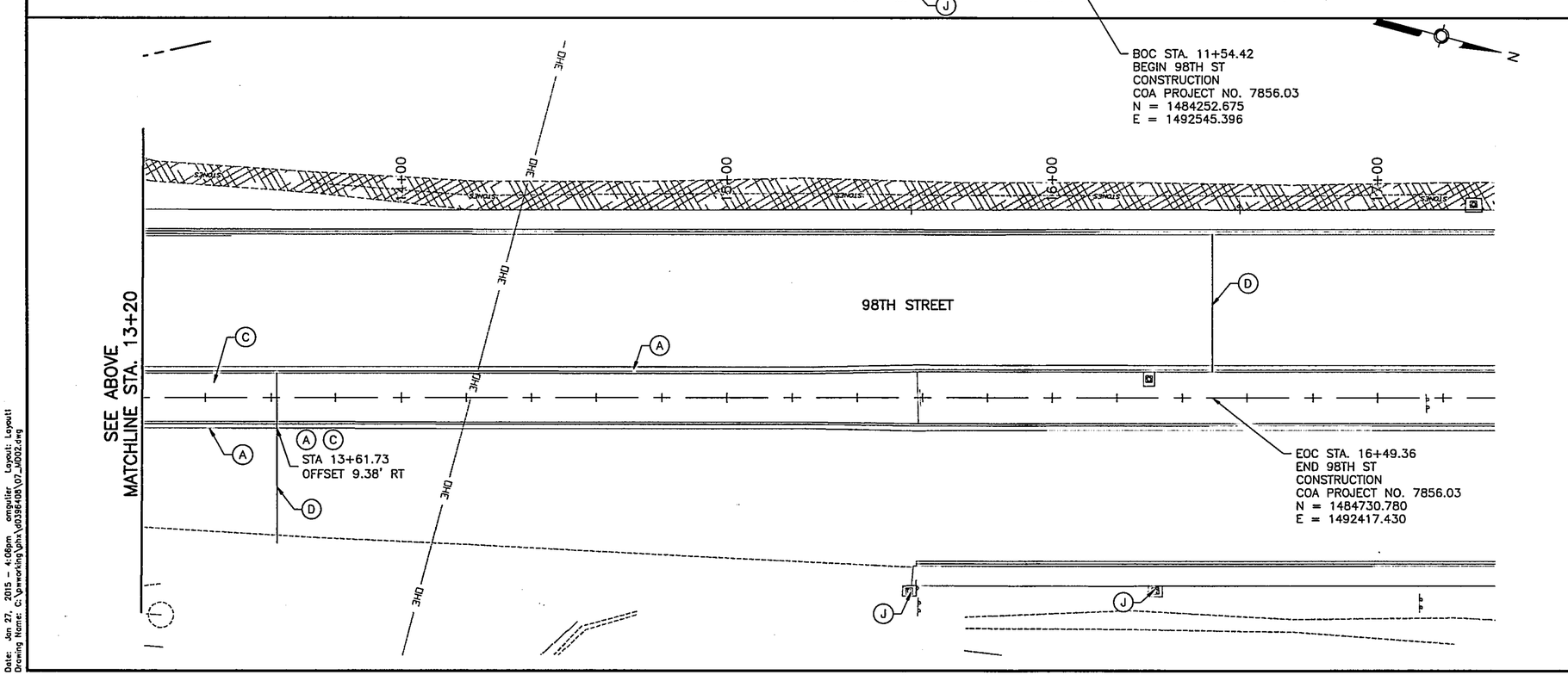
MISCELLANEOUS DETAILS

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

City Project No.	Zone Map No.	Sheet	Of
7856.03	K-8,K-9	6	12

Date: Jan 27, 2015 - 4:06pm amguiter Layout: Layout1
Drawing Name: C:\pwworking\pha\d0396408\06_M001.dwg





KEYED NOTES

- (A) REMOVE AND DISPOSE EXISTING CURB AND GUTTER TO THE NEAREST JOINT
- (B) REMOVE EXISTING AND DISPOSE CONCRETE SIDEWALK TO THE NEAREST JOINT
- (C) REMOVE AND DISPOSE EXISTING MEDIAN CONCRETE
- (D) NEAT VERTICAL SAWCUT AND REMOVE AND DISPOSE EXISTING PAVEMENT
- (E) STORM DRAIN MANHOLE TO REMAIN AND ADJUST TO GRADE
- (F) SANITARY SEWER MANHOLE TO REMAIN AND ADJUST TO GRADE
- (G) WATER VALVE TO REMAIN AND ADJUST TO GRADE
- (H) PULLBOX TO BE REMOVED AND DISPOSED
- (I) REMOVE BOLLARD AND DISPOSE
- (J) PROTECT AND LEAVE IN PLACE
- (K) REMOVE AND DISPOSE EXISTING VALLEY GUTTER

UTILITY LEGEND

- —COMM— UNDERGROUND COMMUNICATIONS LINE
- —E— UNDERGROUND ELECTRIC LINE
- —OHE— OVERHEAD ELECTRIC LINE
- —SAS— SANITARY SEWER LINE
- -SD 36"- 36" STORM DRAIN
- —SD— STORM DRAIN
- —UG— UNDERGROUND GAS LINE
- —W— UNDERGROUND WATER LINE

0 10' 20'

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AS BUILT INFORMATION

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

MICRO-FILM INFORMATION

	DATE
RECORDED BY	
NO.	

BENCH MARKS

THE STATION IS A COA SURVEY CONTROL 3-1/2" ALUMINUM DISK SET IN CONCRETE AND IS STAMPED "8-K9, 1993"

NAD 83 NMSP COORDINATES, CENTRAL ZONE

NAVD 1988 ELEV = 5250.165'.

GROUND TO GRID FACTOR: 0.999578

NORTHING = 1484994.639

EASTING = 1492463.769

SURVEY INFORMATION

FIELD NOTES

NO.	BY	DATE

ENGINEER'S SEAL

EDWARD L. POTTHOFF, JR. NEW MEXICO 17633 PROFESSIONAL ENGINEER

REVISIONS

NO.	DATE	REMARKS	BY

HDR ENGINEERING INC.

DESIGNED BY: AMG DATE: 09/2014

DRAWN BY: AMG DATE: 09/2014

CHECKED BY: ELP DATE: 09/2014

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
TRANSPORTATION DEVELOPMENT DIVISION

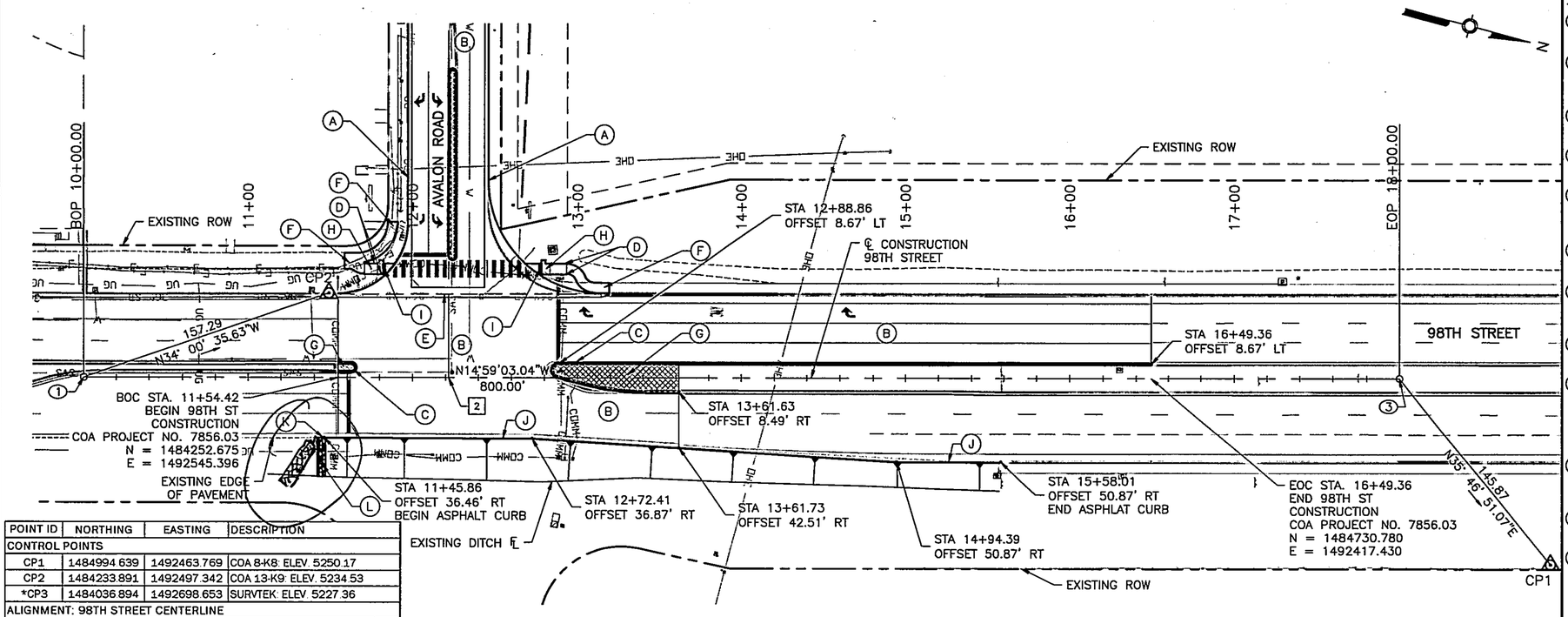
TITLE: 98TH STREET AND AVALON ROAD INTERSECTION RECONSTRUCTION

REMOVALS AND ADJUSTMENTS

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

City Project No.	Zone Map No.	Sheet	Of
7856.03	K-8,K-9	7	12

Date: Jan 27, 2015 - 4:08pm angulier Layout: Layout1
Drawing Name: C:\pwworking\pmx\d0396408\07_AD02.dwg

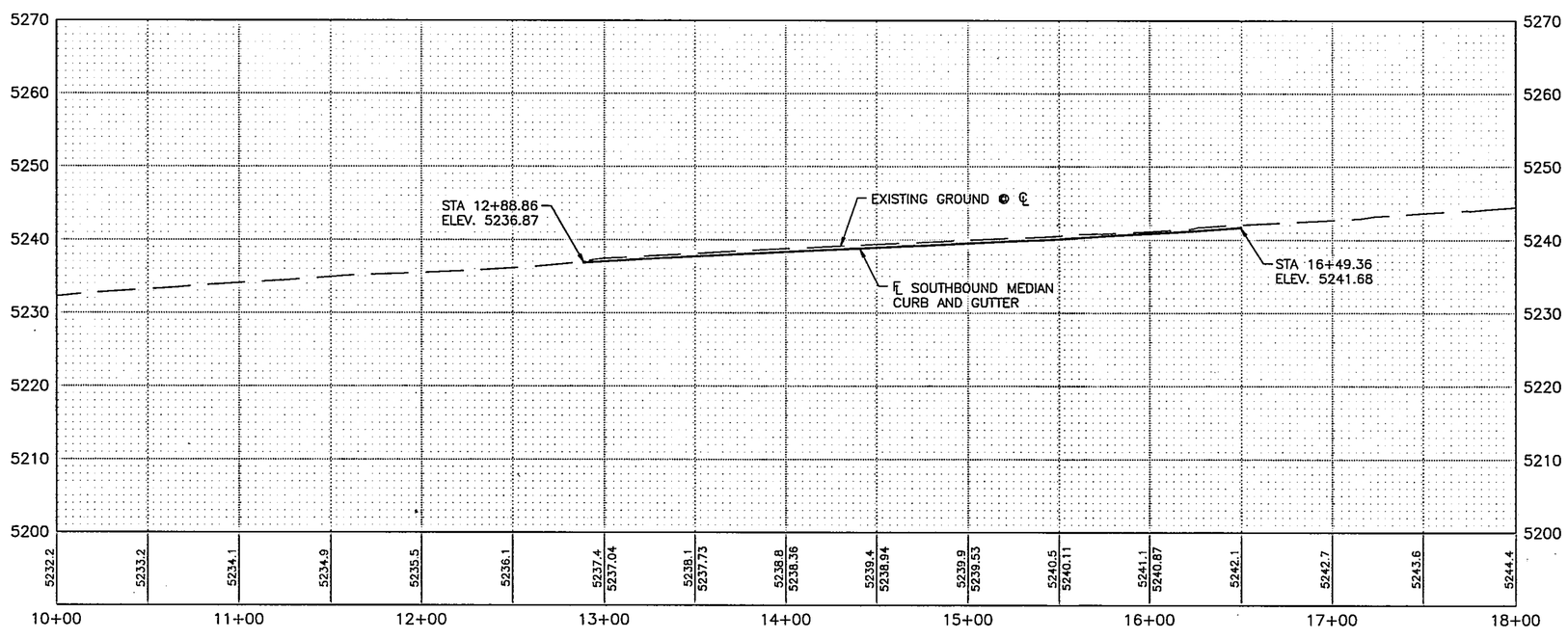


POINT ID	NORTHING	EASTING	DESCRIPTION
CONTROL POINTS			
CP1	1484994.639	1492463.769	COA 8-K8: ELEV. 5250.17
CP2	1484233.891	1492497.342	COA 13-K9: ELEV. 5234.53
*CP3	1484036.894	1492698.653	SURVTEK: ELEV. 5227.36
ALIGNMENT: 98TH STREET CENTERLINE			
1	1484103.503	1492585.323	BOP STA. 10+00.00
2	1484317.693	1492527.994	STA. 12+21.73 (98TH STREET) = STA. 54+50.00 (AVALON ROAD)
3	1484876.301	1492378.481	EOP STA. 18+00.00

* NOT SHOWN IN PLAN VIEW

SCALE:
HORZ. 1" = 40'
VERT. 1" = 10'

98TH STREET



KEYED NOTES

(A) BUILD STANDARD CURB & GUTTER. SEE COA STANDARD DRAWING 2415A.

(B) BUILD 11" REINFORCED CONCRETE PAVEMENT. SEE TYPICAL SECTION FOR PAVEMENT SECTION 1.

(C) BUILD MOUNTABLE MEDIAN CURB & GUTTER. SEE COA STANDARD DRAWING 2415B.

(D) BUILD HEADER CURB. SEE COA STANDARD DRAWING 2415B.

(E) BUILD 11" REINFORCED CONCRETE PAVEMENT AS VALLEY GUTTER. SEE TYPICAL SECTION FOR DETAIL

(F) BUILD 4" CONCRETE SIDEWALK. SEE COA STANDARD DRAWING 2430.

(G) BUILD 4" CONCRETE TEXTURED MEDIAN PAVEMENT. SEE COA STANDARD DRAWING 2408.

(H) BUILD CURB RAMP PER DETAIL. SEE MISCELLANEOUS DETAIL SHEET 6.

(I) INSTALL DETECTABLE WARNING SURFACE. UNLESS OTHERWISE NOTED TRUNCATED DOME STRIP SHALL BE 2' WIDE X LENGTH OF RAMP, 5' MIN. INSTALL PER MANUFACTURES RECOMMENDATIONS.

(J) BUILD TEMPORARY ASPHALT CURB TYPE C RESIDENTIAL. SEE COA STANDARD DRAWING 2415B.

(K) BUILD ASPHALT CURB CUT PER DETAIL, SEE SHEET 5.

(L) BUILD RIP RAP RUNDOWN PER DETAIL, SEE SHEET 5

UTILITY LEGEND

—COMM— UNDERGROUND COMMUNICATIONS LINE
—E— UNDERGROUND ELECTRIC LINE
—OHE— OVERHEAD ELECTRIC LINE
—SAS— SANITARY SEWER LINE
SD 36"– 36" STORM DRAIN
—SD— STORM DRAIN
—UG— UNDERGROUND GAS LINE
—W— UNDERGROUND WATER LINE

LEGEND

CONTROL POINTS
ROADWAY INTERSECTION POINT
ALIGNMENT PI
ALIGNMENT PC/PT

HDR
2155 LOUISIANA BLVD NE,
SUITE 9500
ALBUQUERQUE, NM 87110
MAIN: (505) 830-5400
FAX: (505) 830-5454

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

BENCH MARKS
THE STATION IS A COA SURVEY CONTROL, 3-1/2" ALUMINUM DISK SET IN CONCRETE AND IS STAMPED "3-K9, 1989"
NAD 83 NMSP COORDINATES, CENTRAL ZONE
NAVD 1988 ELEV. = 5250.166'
GROUND TO GRID FACTOR: 0.999678
NORTHING = 1484984.639
EASTING = 1492463.769

SURVEY INFORMATION
FIELD NOTES

NO.	BY	DATE

ENGINEER'S SEAL
EDWARD L. POTTHOFF JR. NEW MEXICO 17633 PROFESSIONAL ENGINEER

NO.	DATE	REMARKS	BY

REVISIONS

HDR ENGINEERING INC.
DESIGNED BY: AMG DATE: 09/2014
DRAWN BY: AMG DATE: 09/2014
CHECKED BY: ELP DATE: 09/2014

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
TRANSPORTATION DEVELOPMENT DIVISION

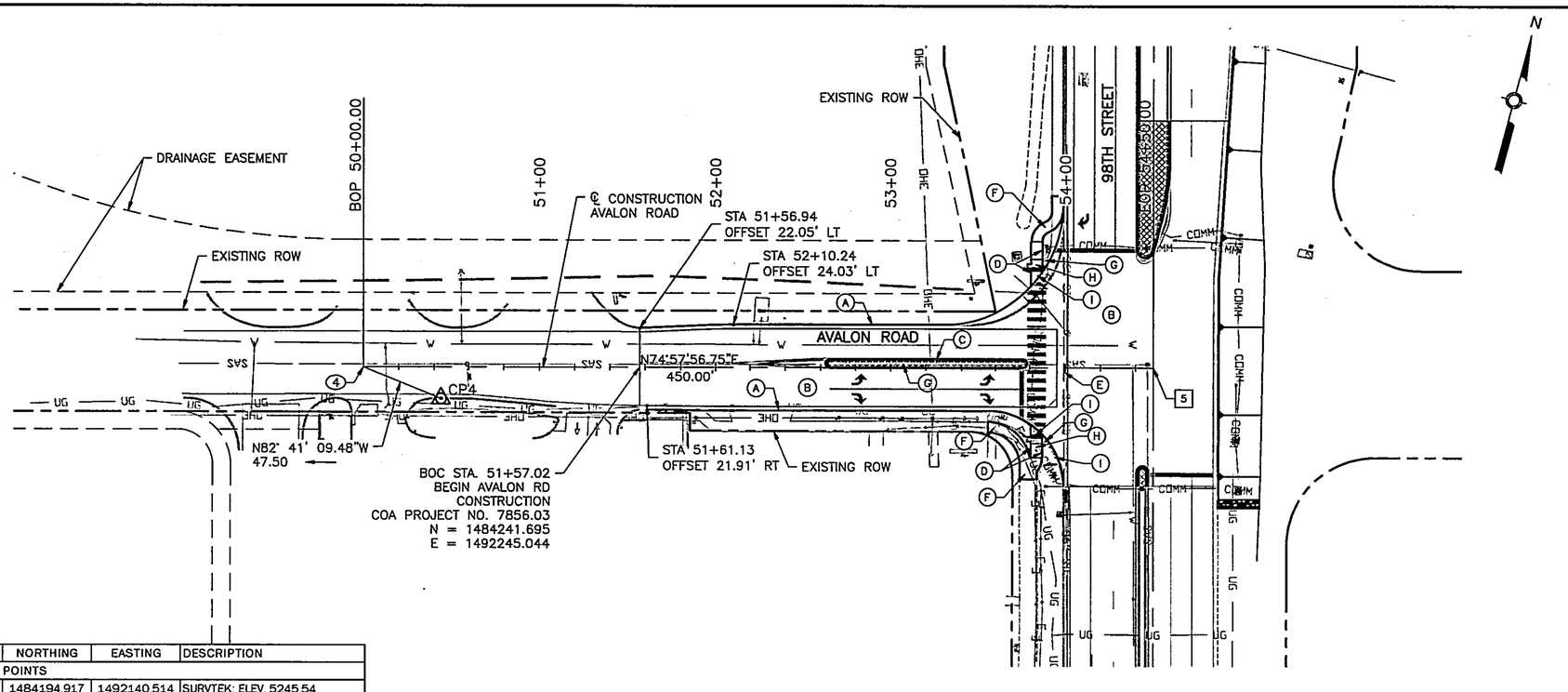
TITLE: 98TH STREET AND AVALON ROAD INTERSECTION RECONSTRUCTION

98TH STREET PLAN AND PROFILE

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

City Project No. 7856.03 | Zone Map No. K-8,K-9 | Sheet 8 Of 12

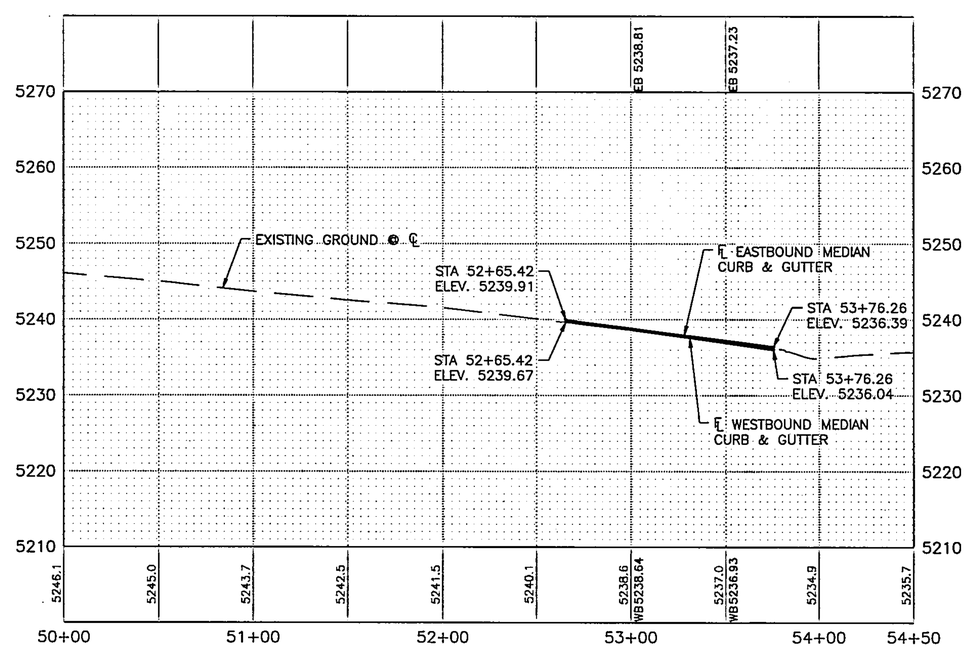
Date: Jan 27, 2015 - 4:06pm amguter Layout: Layout1
Drawing Name: C:\pwworking\phx\d0396408\08_PN\P01.dwg



POINT ID	NORTHING	EASTING	DESCRIPTION
CONTROL POINTS			
CP4	1484194.917	1492140.514	SURVTEK: ELEV. 5245.54
ALIGNMENT: 98TH STREET CENTERLINE			
4	1484200.965	1492093.397	BOP STA. 50+00.00
5	1484317.693	1492527.994	STA. 54+50.00 (AVALON ROAD) = STA. 12+21.73 (98TH STREET)

AVALON ROAD

SCALE:
HORZ. 1" = 40'
VERT. 1" = 10'



KEYED NOTES

(A) BUILD STANDARD CURB & GUTTER. SEE COA STANDARD DRAWING 2415A.

(B) BUILD 11" REINFORCED CONCRETE PAVEMENT. SEE TYPICAL SECTION FOR PAVEMENT SECTION 1.

(C) BUILD MOUNTABLE MEDIAN CURB & GUTTER. SEE COA STANDARD DRAWING 2415B.

(D) BUILD HEADER CURB. SEE COA STANDARD DRAWING 2415B.

(E) BUILD 11" REINFORCED CONCRETE PAVEMENT AS VALLEY GUTTER. SEE TYPICAL SECTION FOR DETAIL

(F) BUILD 4" CONCRETE SIDEWALK. SEE COA STANDARD DRAWING 2430.

(G) BUILD 4" CONCRETE TEXTURED MEDIAN PAVEMENT. SEE COA STANDARD DRAWING 2408.

(H) BUILD CURB RAMP PER DETAIL. SEE MISCELLANEOUS DETAIL SHEET 6.

(I) INSTALL DETECTABLE WARNING SURFACE. UNLESS OTHERWISE NOTED TRUNCATED DOME STRIP SHALL BE 2' WIDE X LENGTH OF RAMP, 5' MIN. INSTALL PER MANUFACTURES RECOMMENDATIONS.

(J) BUILD TEMPORARY ASPHALT CURB TYPE C RESIDENTIAL. SEE COA STANDARD DRAWING 2415B.

(K) BUILD ASPHALT CURB CUT PER DETAIL, SEE SHEET 5.

(L) BUILD RIP RAP RUNDOWN PER DETAIL, SEE SHEET 5

UTILITY LEGEND

—COMM— UNDERGROUND COMMUNICATIONS LINE
—E— UNDERGROUND ELECTRIC LINE
—OHE— OVERHEAD ELECTRIC LINE
—SAS— SANITARY SEWER LINE
-SD 36"- 36" STORM DRAIN
— SD — STORM DRAIN
— UG — UNDERGROUND GAS LINE
—W— UNDERGROUND WATER LINE

LEGEND

CONTROL POINTS
ROADWAY INTERSECTION POINT
ALIGNMENT PI
ALIGNMENT PC/PT

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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
THE STATION IS A COA SURVEY CONTROL 3-1/2" ALUMINUM DISK SET IN CONCRETE AND IS STAMPED "8-K9, 1989"
NAD 83 NMSP COORDINATES CENTRAL ZONE
NAVD 1988 ELEV = 5250.166'
GROUND TO GRID FACTOR: 0.999678
NORTHING = 1484924.639
EASTING = 1492453.769

SURVEY INFORMATION
FIELD NOTES
NO. | BY | DATE

ENGINEER'S SEAL
EDWARD L. POTTHOFF JR. NEW MEXICO 17633 PROFESSIONAL ENGINEER

NO.	DATE	REMARKS	BY
		REVISIONS	

HDR ENGINEERING INC.
DESIGNED BY: AMG DATE: 09/2014
DRAWN BY: AMG DATE: 09/2014
CHECKED BY: ELP DATE: 09/2014

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
TRANSPORTATION DEVELOPMENT DIVISION

TITLE: 98TH STREET AND AVALON ROAD INTERSECTION RECONSTRUCTION

AVALON ROAD PLAN AND PROFILE

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

City Project No. 7856.03 | Zone Map No. K-8,K-9 | Sheet 9 Of 12

Date: Jan 27, 2015 - 4:06pm amgulier Layout: Layout1
Drawing Name: C:\pwworking\phx\d0395408\09_PNP02.dwg

GENERAL NOTES FOR PAVEMENT MARKINGS

1. ALL PAVEMENT MARKINGS SHALL CONFORM TO THE CITY OF ALBUQUERQUE STANDARDS AND SPECIFICATIONS OR THE NEW MEXICO DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, CURRENT EDITION (2014).
2. THE PERMANENT PAVEMENT MARKINGS MAY BE MODIFIED AS DIRECTED BY THE PROJECT MANAGER.
3. THE CONTRACTOR MAY BE REQUIRED BY THE PROJECT MANAGER TO PREPARE AS-BUILT DRAWINGS OF THE EXISTING STRIPING AND PAVEMENT MARKINGS PRIOR TO CONSTRUCTION. THIS WORK SHALL BE INCLUDED IN ITEM 441.001, "REFLECTORIZED PLASTIC PAVEMENT MARKINGS, 4" WIDTH."
4. THE DESIGN SPEED FOR THE ROAD IS: 50 MPH. THE DESIGN VEHICLE IS: WB-67. THE POSTED SPEED LIMIT IS: 45 MPH.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LAYOUT AND INSTALLATION OF PAVEMENT MARKINGS ON FINAL SURFACE COURSE FOLLOWING CONTROL POINTS THAT HAVE BEEN SET NO MORE THAN 50 FEET APART ALONG THE LINES TO BE STRIPED. THE LAYOUT OF ALL PAVEMENT MARKINGS SHALL BE APPROVED BY THE PROJECT MANAGER PRIOR TO THE APPLICATION OF MATERIALS.
6. ALL LANE DIMENSIONS ARE FROM CENTER OF LANE STRIPE, CENTER OF DOUBLE LANE STRIPE, FACE OF CURB, OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.
7. THE FINAL LONGITUDINAL STRIPING SHALL BE PLASTIC REFLECTORIZED STRIPING PLACED OVER THE TEMPORARY STRIPING WITHIN 14 TO 30 CALENDAR DAYS AFTER COMPLETION OF THE FINAL PAVEMENT SURFACE, OR AS DIRECTED BY THE PROJECT MANAGER. ALL OTHER MARKINGS SHALL BE APPLIED AT THE SAME TIME. TEMPORARY STRIPING SHALL BE PAINT UNLESS NOTED OTHERWISE.
8. ALL FINAL TRANSVERSE MARKINGS SHALL BE REFLECTORIZED PLASTIC STRIPING. ALL PAVEMENT ARROWS AND LEGENDS SHALL BE A REFLECTORIZED PREFORMED PLASTIC PAVEMENT MARKING.
9. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THE FINAL SURFACE COURSE IS PLACED SO THAT THE STRIPING IS OFFSET ONE (1) FOOT CLEAR OF THE PAVEMENT CONSTRUCTION JOINT, UNLESS OTHERWISE DIRECTED BY THE PROJECT MANAGER.
10. THE CONTRACTOR SHALL CLEAN THE ROADWAY SURFACE TO THE SATISFACTION OF THE PROJECT MANAGER BY SWEEPING AND AIR-JET BLOWING IMMEDIATELY PRIOR TO THE PLACEMENT OF ALL PAVEMENT MARKINGS. THE TEMPERATURE SHALL NOT BE LESS THAN 50°F FOR THE PLACEMENT OF THERMOPLASTIC STRIPING.
11. THE PAVEMENT MARKING DRAWINGS ARE SCHEMATIC ONLY. THE CONTRACTOR SHALL FOLLOW ALL DIMENSIONS, DETAILS AND STANDARDS WHEN INSTALLING PAVEMENT, STRIPING, MARKINGS AND MARKERS.

98TH STREET AND AVALON ROAD - PERMANENT SIGNING & STRIPING QUANTITIES (ESTIMATED)

ITEM NUMBER	DESCRIPTION	UNIT	SUBTOTAL	USE
441.001	REFLECTORIZED PLASTIC PAVEMENT MARKINGS, 4" WIDTH	LF	2075.92	2080
441.005	REFLECTORIZED PLASTIC PAVEMENT MARKINGS, 24" WIDTH	LF	275.05	280
441.01	REFLECTORIZED PLASTIC ARROW, RIGHT	EACH	4	4
441.011	REFLECTORIZED PLASTIC ARROW, LEFT	EACH	2	2
441.02	REFLECTORIZED PLASTIC WORD, ONLY	EACH	1	1

98TH STREET AND AVALON ROAD - PAVEMENT MARKINGS SUMMARY

STATION	ITEM NO. 441.01 REFLECTORIZED PLASTIC ARROW, RIGHT (EACH)	ITEM NO. 441.011 REFLECTORIZED PLASTIC ARROW, LEFT (EACH)	ITEM NO. 441.02 REFLECTORIZED PLASTIC WORD, ONLY (EACH)	REMARKS
98TH STREET ALIGNMENT				
13+03.43	1			RIGHT TURN ARROW
13+80.87			1	"ONLY" IN RIGHT TURN LANE
14+63.43	1			RIGHT TURN ARROW
AVALON ROAD ALIGNMENT				
52+83.52	1			RIGHT TURN ARROW
52+83.52		1		LEFT TURN ARROW
53+56.50	1			RIGHT TURN ARROW
53+56.50		1		LEFT TURN ARROW
SUBTOTAL	4	2	1	
USE	4	2	1	

98TH STREET AND AVALON ROAD - PAVEMENT STRIPING SUMMARY

			REFLECTORIZED PLASTIC PAVEMENT MARKINGS					
			ITEM 441.001				ITEM 441.005	REMARKS
			4" LF				24" LF	
STATION	TO	STATION	SOLID WHITE	DASHED WHITE	SOLID YELLOW	DOUBLE YELLOW	SOLID WHITE	
98TH STREET ALIGNMENT								
11+60.96	-	11+60.96					36.62	STOP BAR
11+54.48	-	13+61.73	207.43					SOLID WHITE SHOULDER STRIPE
12+88.36	-	12+88.36					46.87	STOP BAR
12+88.86	-	16+49.36			360.00			SOLID YELLOW STRIPE
12+88.86	-	14+88.86	200.00					SOLID WHITE STRIPE
12+88.86	-	14+88.86	200.00					SOLID WHITE STRIPE
12+88.86	-	16+49.36	360.00					SOLID WHITE STRIPE
13+41.73	-	13+61.73			20.00			SOLID YELLOW STRIPE
13+41.73	-	13+61.73		5.00				DASHED WHITE STRIPE
14+88.86	-	16+49.36		40.12				DASHED WHITE LANE STRIPE
14+88.86	-	16+49.36		40.12				DASHED WHITE LANE STRIPE
AVALON ROAD ALIGNMENT								
51+57.02	-	52+15.52				116.99		SOLID DOUBLE YELLOW
52+15.29	-	52+62.75				95.06		SOLID DOUBLE YELLOW
52+15.52	-	52+62.75				94.60		SOLID DOUBLE YELLOW
52+62.75	-	53+76.26			113.50			SOLID YELLOW AROUND MEDIAN
52+62.75	-	53+76.26			113.50			SOLID YELLOW AROUND MEDIAN
52+65.42	-	53+75.01	109.59					SOLID WHITE STRIPE
53+75.51	-	53+75.51					28.76	STOP BAR
53+85.79	-	53+85.82					162.80	CROSSWALK
SUBTOTAL			1077.02	85.25	607.00	306.65	275.05	
TOTAL WHITE			1162.27				275.05	
TOTAL YELLOW					913.66			
TOTAL STRIPING			2075.92				275.05	
USE			2080				280	

AS BUILT INFORMATION
CONTRACTOR 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
THE STATION IS A COA SURVEY CONTROL, 3-1/2" ALUMINUM DISK SET IN CONCRETE AND IS STAMPED "B-K9, 1989"
NAD 83 NMSP COORDINATES CENTRAL ZONE
NAVD 1988 ELEV = 5250.165'
GROUND TO GRID FACTOR: 0.999972
NORTHING = 1484984.639
EASTING = 1492463.769

SURVEY INFORMATION
FIELD NOTES
NO. | BY | DATE

ENGINEER'S SEAL
EDWARD L. POTTHOFF JR. NEW MEXICO 17633 PROFESSIONAL ENGINEER

NO.	DATE	REMARKS	BY
		REVISIONS	

HDR ENGINEERING INC.
DESIGNED BY: AMG DATE: 09/2014
DRAWN BY: AMG DATE: 09/2014
CHECKED BY: ELP DATE: 09/2014

HDR
2155 LOUISIANA BLVD NE,
SUITE 5500
ALBUQUERQUE, NM 87110
MAIN: (505) 830-5400
FAX: (505) 830-5454

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
TRANSPORTATION DEVELOPMENT DIVISION

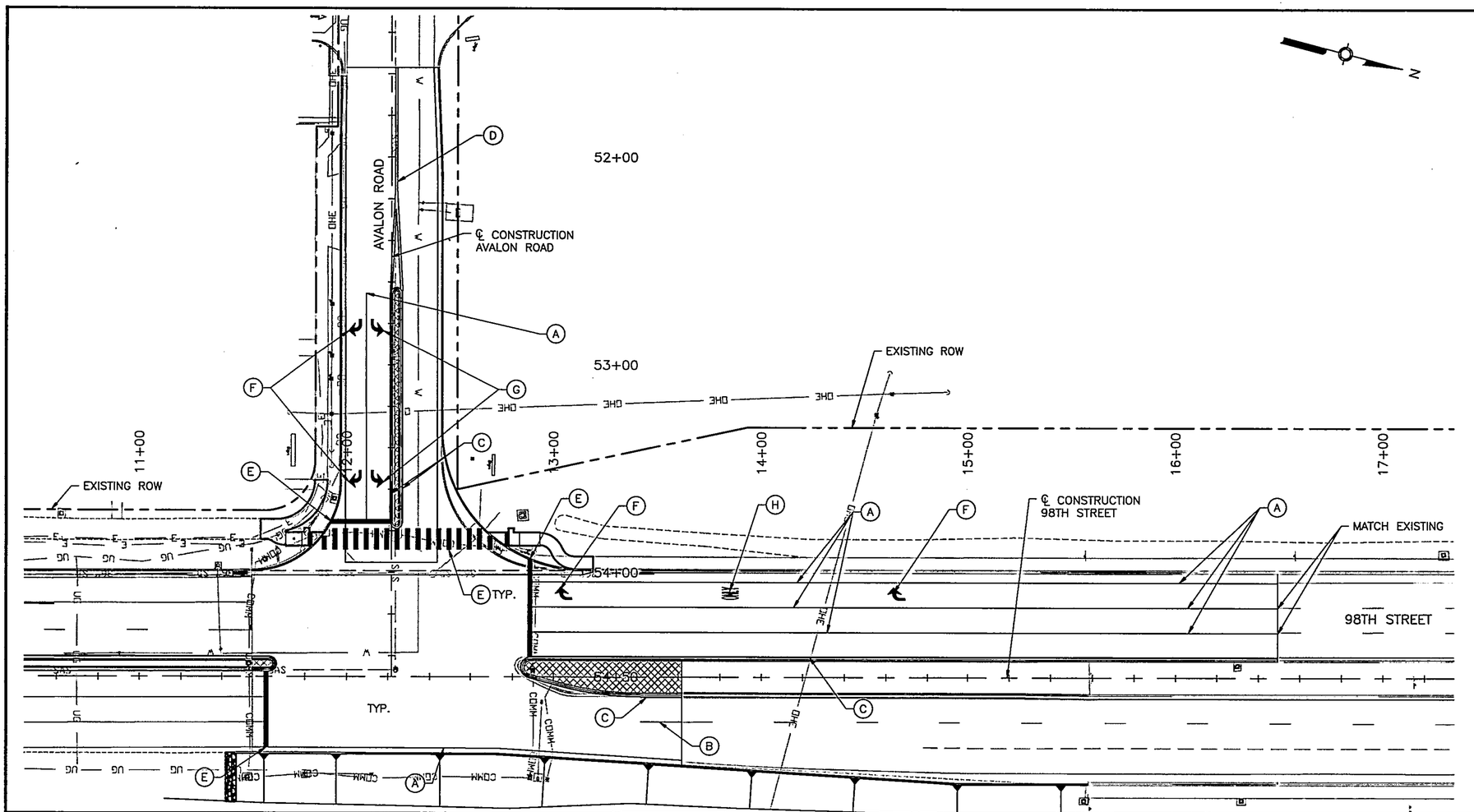
TITLE: 98TH STREET AND AVALON ROAD INTERSECTION RECONSTRUCTION

SIGNING & STRIPING GENERAL NOTES & QUANTITIES

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

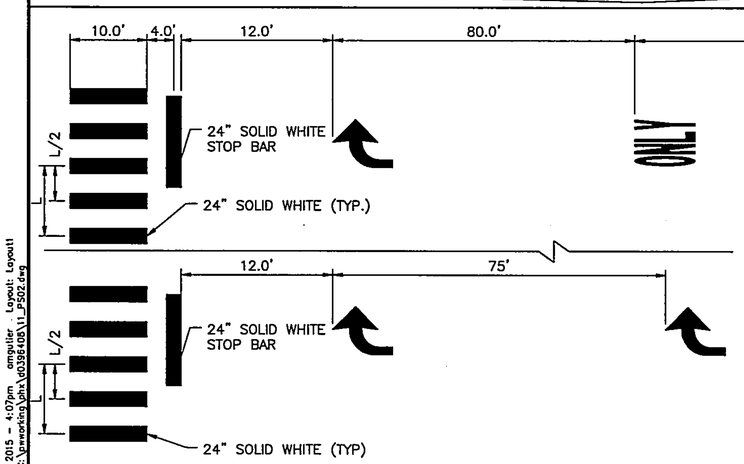
City Project No. 7856.03 | Zone Map No. K-8,K-9 | Sheet 10 Of 12

Date: Jan 27, 2015 - 4:07pm anguller Layout: Layout1
Drawing Name: C:\pwworking\pln\d0396408\10_PS01.dwg

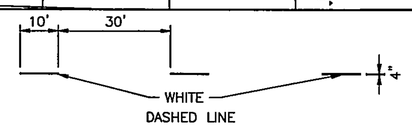


KEYED NOTES

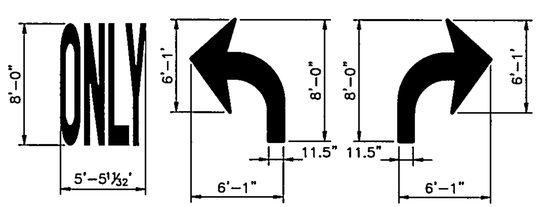
- (A) INSTALL 4" SOLID WHITE REFLECTORIZED PLASTIC PAVEMENT MARKING
- (B) INSTALL 4" DASHED WHITE REFLECTORIZED PLASTIC PAVEMENT MARKING
- (C) INSTALL 4" SOLID YELLOW REFLECTORIZED PLASTIC PAVEMENT MARKING
- (D) INSTALL 4" DOUBLE YELLOW REFLECTORIZED PLASTIC PAVEMENT MARK
- (E) INSTALL 24" SOLID WHITE REFLECTORIZED PLASTIC PAVEMENT MARKING
- (F) INSTALL REFLECTORIZED PLASTIC ARROW, RIGHT
- (G) INSTALL REFLECTORIZED PLASTIC ARROW, LEFT
- (H) INSTALL REFLECTORIZED PLASTIC WORD, ONLY



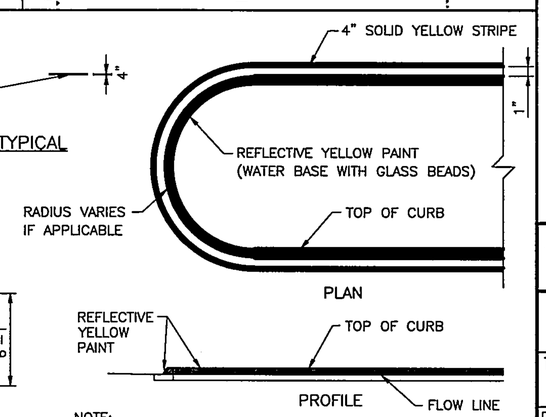
TURN LANE TYPICAL
NTS



LANE STRIPE SPACING TYPICAL
NTS



TYPICAL ROADWAY MESSAGE AND ARROW LAYOUT
NTS



NOTE:
MEDIAN CURB SHALL BE PAINTED WITH REFLECTIVE YELLOW PAINT FROM NOSE TO NOSE. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO SIGNING AND STRIPING AND NO ADDITIONAL PAYMENT SHALL BE MADE THEREFOR.

MEDIAN NOSE MARKING TYPICAL DETAIL
NTS

0 15' 30'

HDR
2155 LOUISIANA BLVD NE,
SUITE 9500
ALBUQUERQUE, NM 87110
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FAX: (505) 830-5454

AS BUILT INFORMATION
CONTRACTOR / DATE
WORK INSPECTOR'S ACCEPTANCE BY / DATE
VERIFICATION BY DRAWINGS CORRECTED BY / DATE

MICRO-FILM INFORMATION
RECORDED BY / DATE
NO.

BENCH MARKS
THE STATION IS A COA SURVEY CONTROL, 3-1/2" ALUMINUM DISK SET IN CONCRETE AND IS STAMPED "8-K9, 1989"
NAD 83 NMSP COORDINATES CENTRAL ZONE
NAVD 1988 ELEV. = 5250.166'
GROUND TO GRID FACTOR: 0.999672
NORTHING = 1484994.639
EASTING = 1492463.759

SURVEY INFORMATION
FIELD NOTES

NO.	BY	DATE

ENGINEER'S SEAL
EDWARD L. POTTHOFF III
NEW MEXICO
17633
PROFESSIONAL ENGINEER

NO.	DATE	REMARKS	BY
		REVISIONS	

HDR ENGINEERING INC.
DESIGNED BY: AMG DATE: 09/2014
DRAWN BY: AMG DATE: 09/2014
CHECKED BY: ELP DATE: 09/2014

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
TRANSPORTATION DEVELOPMENT DIVISION

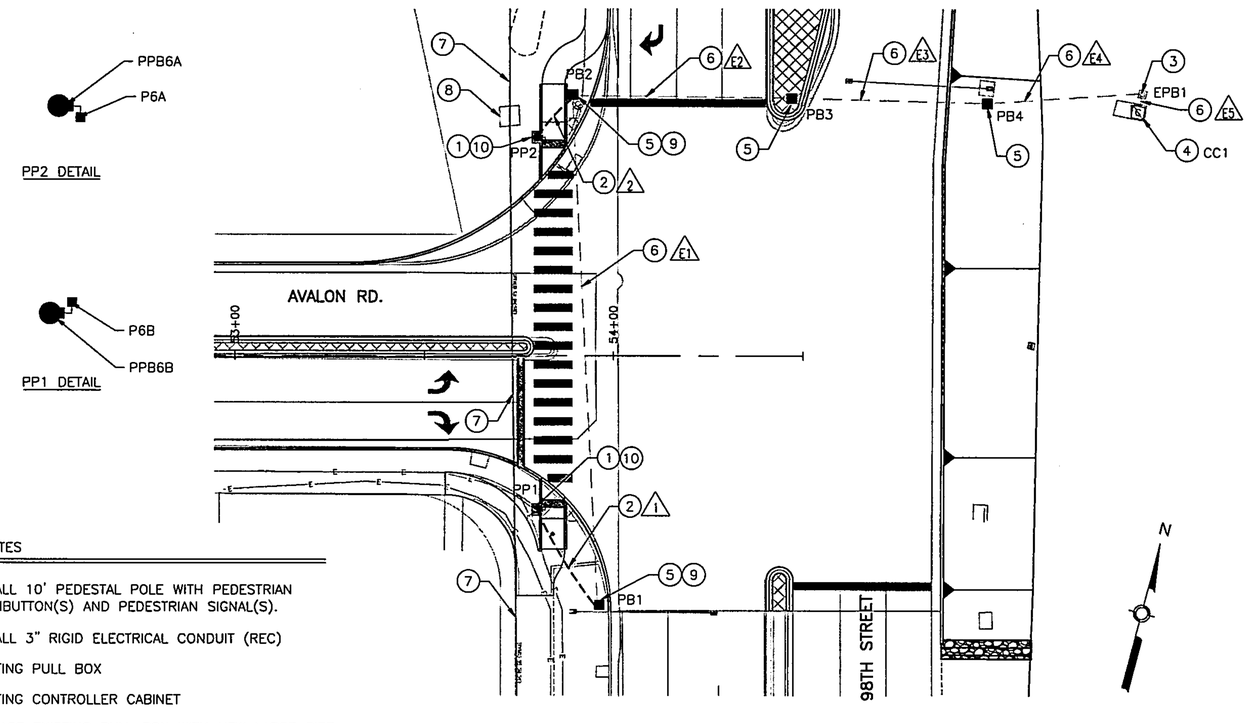
TITLE: 98TH STREET AND AVALON ROAD INTERSECTION RECONSTRUCTION

SIGNING & STRIPING PLAN

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

City Project No.	Zone Map No.	Sheet	Of
7856.03	K-8,K-9	11	12

Date: Jan 27, 2015 - 4:07pm emquiler Layout: Layout1
Drawing Name: C:\pwworking\abc\d0396403\L1_P502.dwg



KEYED NOTES

1. INSTALL 10' PEDESTAL POLE WITH PEDESTRIAN PUSHBUTTON(S) AND PEDESTRIAN SIGNAL(S).
2. INSTALL 3" RIGID ELECTRICAL CONDUIT (REC)
3. EXISTING PULL BOX
4. EXISTING CONTROLLER CABINET
5. REPLACE EXISTING PULL BOX WITH NEW LARGE SIZE PULL BOX
6. EXISTING TRAFFIC SIGNAL CONDUIT
7. EXISTING ITS CONDUIT (LOCATION APPROXIMATE)
8. EXISTING ITS PULL BOX
9. SPLICE NEW MCC #20 FROM PEDESTAL POLE INTO EXISTING MCC #20 (RING 2)
10. COMPLETE POTHOLING FOR PP1 AND PP2 LOCATIONS

ID #	TYPE OF POLE	STATION	OFFSET
PP1	PEDESTAL POLE TYPE I	53+79.94	40.64' RT
PP2	PEDESTAL POLE TYPE I	53+79.86	57.67' LT

NOTE: STATIONS AND OFFSETS ARE ON AVALON RD. ALIGNMENT AND ARE FOR CONTRACTORS INFORMATION ONLY. STATIONS AND OFFSETS SHALL BE VERIFIED IN FIELD PRIOR TO INSTALLATION. ALSO, PP1 SHALL BE INSTALLED PARALLEL TO BACK OF SIDEWALK.

TRAFFIC SIGNAL NOTES

1. CONTRACTOR SHALL CONTACT THE CITY OF ALBUQUERQUE FOR APPROVED PRODUCTS LISTING FOR TRAFFIC SIGNAL COMPONENTS.
2. LOCATIONS OF CONDUITS, FOUNDATIONS, POLES AND PULL BOXES SHOWN ON THE PLANS ARE SCHEMATIC AND SHALL BE ADJUSTED IN THE FIELD TO AVOID UTILITIES AND TO MAXIMIZE CLEAR SPACE AVAILABLE FOR PEDESTRIANS AND WHEELCHAIRS TO COMPLY WITH THE AMERICANS WITH DISABILITIES ACT. THE CONTRACTOR SHALL MEET WITH THE PROJECT MANAGER IN THE FIELD AT ALL LOCATIONS TO SPOT EQUIPMENT BEFORE BEGINNING THE WORK. ALL SUCH EQUIPMENT SHALL BE INSTALLED WITHIN THE RIGHT-OF-WAY.
3. THE CONTRACTOR IS WARNED THAT EXISTING CONDUITS MAY CONTAIN AC POWER AND CAUTION SHALL BE EXERCISED IN INTERCEPTING OR INSTALLING CABLE IN EXISTING CONDUIT.
4. THE CONTRACTOR SHALL NOTIFY THE CITY OF ALBUQUERQUE SIGNAL LAB THREE WORKING DAYS IN ADVANCE OF ANY ANTICIPATED WORK ON SIGNALS, LIGHTING, AND POWER SERVICES. TRAFFIC ENGINEERING PERSONNEL MUST BE PRESENT WHEN SIGNALS ARE SHUT OFF OR TURNED ON. THE CONTRACTOR SHALL ALSO NOTIFY THE CITY OF ALBUQUERQUE EACH TIME A TRAFFIC SIGNAL CONTROL DOOR IS OPENED. CONTRACTOR SHALL NOTIFY THE COA SIGNAL LAB TWO WEEKS PRIOR TO TURNING ON NEW SIGNALS.
5. THE CONTRACTOR SHALL NOTIFY PNM ELECTRIC THIRTY (30) DAYS IN ADVANCE OF CONSTRUCTION TO ENSURE THAT EXISTING FACILITIES ARE NOT DISRUPTED.
6. EXISTING CONDUITS TO BE REMOVED OR ABANDONED SHALL HAVE ALL WIRING REMOVED.
7. EXISTING CONDUITS SHALL BE REPAIRED, ADJUSTED, OR REPLACED AS DIRECTED BY THE PROJECT MANAGER WHERE ELECTRICAL PULL BOXES OR TRAFFIC MANHOLES ARE INSTALLED OR REPLACED.
8. THE CONTRACTOR SHALL FURNISH FOUNDATION ELEVATIONS TO CONSTRUCTION SERVICES FOR APPROVAL BEFORE INSTALLATION. THE CONTRACTOR SHALL GRADE AROUND THE FOUNDATIONS TO PROVIDE TRAVERSABLE SLOPES AS DIRECTED BY THE PROJECT MANAGER. THE CONTRACTOR SHALL SUBMIT CROSS-SECTIONS FOR APPROVAL BASED ON ACTUAL FIELD ELEVATIONS. ALL EXCAVATION AND/OR EMBANKMENT REQUIRED WILL BE CONSIDERED INCIDENTAL TO ITEM 510.110-STRUCTURAL REINFORCED PC CONCRETE.
9. ALL CONDUIT INSTALLED IN A TRENCH SHALL BE FLAGGED WITH CAUTION TAPE ONE FOOT ABOVE CONDUIT.
10. EXISTING INTERCONNECT AND ITS FACILITIES SHALL NOT BE AFFECTED DURING CONSTRUCTION. IF EXISTING ITS CONDUIT, 96 SINGLE MODE FIBER OPTIC CABLE AND/OR 6 SMFO IS DAMAGED DURING CONSTRUCTION, THE CONTRACTOR SHALL FROM EXISTING FULL SPLICE TO EXISTING FULL SPLICE.

TRAFFIC SIGNAL EQUIPMENT REQUIREMENTS

1. ALL SIGNAL ASSEMBLIES, PEDESTRIAN SIGNALS, PEDESTRIAN PUSH BUTTONS, CABINETS, AND FITTINGS SHALL COMPLY WITH THE CITY OF ALBUQUERQUE TYPE AND COLOR REQUIREMENTS.
2. "ALL OR NONE" BIDS BY SIGNAL EQUIPMENT MANUFACTURERS WILL NOT BE ALLOWED. MANUFACTURERS (AS A MINIMUM) SHALL PREPARE BIDS FOR EQUIPMENT AS FOLLOWS:
   A. SIGNAL HARDWARE EQUIPMENT SUCH AS SIGNAL HEADS, PEDESTRIAN SIGNALS, PEDESTRIAN PUSH BUTTONS, BACK PLATES AND ASSOCIATED FITTINGS.
3. THE EXISTING FIBER OPTIC COMMUNICATION SYSTEM SHALL BE PROTECTED AND MAINTAINED DURING ALL PHASES OF CONSTRUCTION.
4. ALL SIGNAL POLES SHALL BE STEEL TYPE STRUCTURES FOR ALL SIGNALIZED LOCATIONS. THE PROPOSED POLES SHOULD BE SIMILAR IN STYLE TO THE EXISTING SIGNAL POLES THAT ARE CALLED FOR REPLACEMENT.

TRAFFIC SIGNAL QUANTITIES - 98th ST AT AVALON RD (ESTIMATED)

ITEM NUMBER	ITEM	UNIT	TOTAL	USE
422.002	TRAFFIC SIGNAL PEDESTAL POLE, 10', CIP	EACH	2	2
424.011	ELECTRICAL CONDUIT 3", INCLUDING TRENCHING, BACKFILL, PATCHING, PUSHING, BORING AND JACKING, CIP	LIN FT	54	60
425.003	ELECTRICAL PULL BOX (LARGE), CIP	EACH	4	4
425.101	ELECTRICAL PULL BOX, ANY TYPE, REMOVE & DISPOSE, COMPL.	LIN FT	4	4
426.010	MULTI-CONDUCTOR CABLE #5, CIP	LIN FT	432	440
426.014	MULTI-CONDUCTOR CABLE #20, CIP	LIN FT	68	70
427.021	PEDESTRIAN COUNTDOWN SIGNAL (LED), CIP	EACH	2	2
427.042	PEDESTRIAN SOUND UNIT, CIP	EACH	2	2
428.210	PUSH BUTTON STATION, CIP	EACH	2	2
510.110	STRUCTURAL, REINFORCED PC CONCRETE, 4000 PSI, INCL. FORMWORK, CIP	C.Y.	1.04	2
520.010	STRUCTURAL STEEL, FABRICATED, INCLUDING WELDING, CUTTING, DRILLING, ETC., CIP	LBS	34	40
710.075	POTHOLE, 0'-10' DEEP, VACUUM EXPLORATORY EXCAVATION, INCL. PAVEMENT REMOVAL, DISPOSAL & REPLACEMENT, VERTICAL & HORIZONTAL UTILITY LOCATION DATA, COMPL.	EACH	2	2

CONDUIT AND CONDUCTOR REQUIREMENTS
98TH ST AT AVALON RD. (ESTIMATED)

RUN ID	CONDUIT LENGTH, SIZE AND TYPE: CONDUIT 3"	TYPE	REMARKS	CONDUIT FILL: MCC #5 LIN. FT.	CONDUIT FILL: MCC #20 LIN. FT.
1	36	REC	PP1 TO PB1	1 @ 44	1 @ 44
2	18	REC	PP1 TO PB2	1 @ 24	1 @ 24
E1			PB1 TO PB2	1 @ 143	
E2			PB2 TO PB3	1 @ 67	
E3			PB3 TO PB4	1 @ 60	
E4			PB4 TO EPB1	1 @ 51	
E5			EPB1 TO CC1	1 @ 11	
PP1			BASE TO P6B	1 @ 10	
PP1			BASE TO PPB6B	1 @ 6	
PP2			BASE TO P6A	1 @ 10	
PP2			BASE TO PPB6A	1 @ 6	
TOTAL	54			432	68
USE	60			440	70

TRAFFIC SIGNAL LEGEND

NEW	EXISTING	ITEM
■	□	PULL BOX (SYMBOL)
PB1	EPB1	PULL BOX (NUMBERING)
C	C	CONTROLLER CABINET
		CONDUIT RUN (SIGNALS)
		TRAFFIC SIGNAL PEDESTAL POLE WITH PEDESTRIAN PUSH BUTTONS AND INDICATIONS
X	EX	CONDUIT RUN NUMBER (SIGNAL)

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

BENCH MARKS
THE STATION IS A COA SURVEY CONTROL 3-1/2" ALUMINUM DISK SET IN CONCRETE AND IS STAMPED "8-K9, 1989"
NAD 83 NMSP COORDINATES, CENTRAL ZONE, GROUND
NAVD 1988 ELEV = 5250.166'
GROUND TO GRID FACTOR: 0.999678
NORTHING = 1484934.639
EASTING = 1492463.769

SURVEY INFORMATION
FIELD NOTES

NO.	BY	DATE

ENGINEER'S SEAL
EDWARD L. POTTHOFF, JR. NEW MEXICO 17633 PROFESSIONAL ENGINEER

NO.	DATE	REMARKS	BY

REVISIONS

HDR ENGINEERING INC.
DESIGNED BY: RC DATE: 11/2014
DRAWN BY: RC DATE: 11/2014
CHECKED BY: MG DATE: 11/2014

HDR
2155 LOUISIANA BLVD NE,
SUITE 9500
ALBUQUERQUE, NM 87110
MAIN: (505) 830-5400
FAX: (505) 830-5454

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
TRANSPORTATION DEVELOPMENT DIVISION

TITLE: 98TH STREET AND AVALON ROAD INTERSECTION RECONSTRUCTION

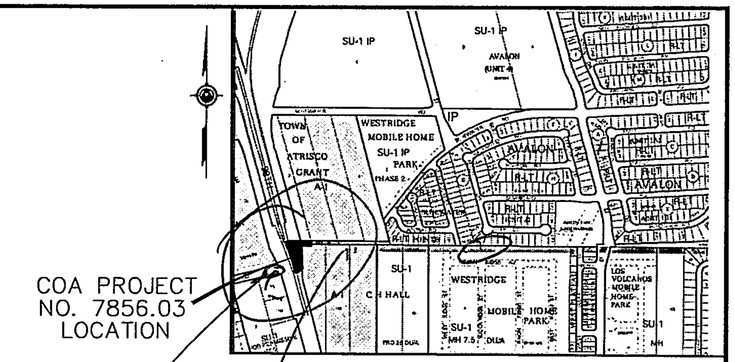
SIGNAL GENERAL NOTES AND PLAN

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

City Project No. 7856.03 | Zone Map No. K-8,K-9 | Sheet 12 Of 12

Date: Jan 27, 2015 - 4:07pm engstler Layout: Layout1
Drawing Name: C:\pwworking\abq\d0398408\12_S001.dwg

CITY OF ALBUQUERQUE
NEW MEXICO



LOCATION MAP
ZONE ATLAS MAP K-9

NTS

Avalon?

STREET NAMES

is it new?

10/15

924-3695

Rita

HYDR02064

where? N. arrows don't match location map.

DEPARTMENT OF MUNICIPAL DEVELOPMENT CONSTRUCTION PLANS FOR 98TH STREET AND AVALON ROAD INTERSECTION RECONSTRUCTION COA PROJECT NO. 7856.03

Need Flowline info @ curb returns

What drainage plan?

SHEET INDEX

1 TITLE, LOCATION MAP AND INDEX OF SHEETS
2 LEGEND, GENERAL NOTES, INCIDENTALS & UTILITY OWNERS
3 SUMMARY OF QUANTITIES
4 MISCELLANEOUS QUANTITIES
5 TYPICAL SECTIONS
6 MISCELLANEOUS DETAILS
7 REMOVALS AND ADJUSTMENTS
8 98TH STREET PLAN AND PROFILE
9 AVALON ROAD PLAN AND PROFILE
10 SIGNING & STRIPING GENERAL NOTES & QUANTITIES
11 SIGNING & STRIPING PLAN
12 SIGNAL GENERAL NOTES AND PLAN

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MAIN: (505) 830-5400
FAX: (505) 830-5454

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

ENGINEERS STAMP & SIGNATURE	APPROVALS	ENGINEER	DATE	**********
60% REVIEW	DRC Chairman			APPROVED FOR CONSTRUCTION
	Transportation			
	Water/Wastewater			
	Hydrology			
	Parks			City Engineer / Date
	Constr. Mngmt.			
	Constr. Coord.			
PRELIMINARY NOT FOR CONSTRUCTION 9/2014	City Project No. 7856.03			Sheet 1 Of 12

Date: Sep 30, 2014 - 5:18pm angular Layout: 64970COVR
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PROPOSED	EXISTING	DESCRIPTION
S	S	SANITARY SEWER MANHOLE
D	D	STORM DRAIN MANHOLE
C	C	COMMUNICATION MANHOLE
W	W	WATER MANHOLE
E	E	ELECTRIC MANHOLE
SAS	SAS 8" CP	SANITARY SEWER LINE w/SIZE & TYPE
SD	SD 48" RCP	STORM DRAIN LINE w/SIZE & TYPE
W	W 8"	WATER LINE w/SIZE & TYPE
FOC	FOC 8"	FIBER OPTIC LINE w/SIZE & TYPE
GAS	GAS 8"	GAS LINE w/SIZE & TYPE
CATV	CATV 8"	CABLE FIBER OPTIC LINE w/SIZE & TYPE
OHE	OHE	OVERHEAD ELECTRIC
UGE	UGE 8"	UNDERGROUND ELECTRIC LINE w/SIZE & TYPE
UGT	UGT 8"	UNDERGROUND COMMUNICATIONS LINE w/SIZE & TYPE
		ENCASEMENT
		STORM INLET (GRADE ELEVATION GIVEN IN PLANS IS EXTENDED FLOW LINE)
		WATER VALVE
		GAS VALVE
		BUTTERFLY VALVE
		FIRE HYDRANT
		REDUCER
		SAS SERVICE CONNECTION
		WATER SERVICE CONNECTION
		TEES
		CROSSES
		BENDS
		CAPS & PLUGS
WM	WM	WATER METER
		FIRE HYDRANT
GM	GM	GAS METER
GV		GAS RISER
VB	VB	VALVE BOX
		TELEPHONE RISER
	TB	TELEPHONE BOOTH
	FA	FIRE ALARM BOX
		CURB & GUTTER
	SW	SIDEWALK
		BLOCK WALL
		CHAIN LINK FENCE
		FIELD FENCE
		RIGHT OF WAY LINES
		PROPERTY LINES(SIDE)
		PUBLIC EASEMENT
		POWER POLE W/LIGHT
		LIGHT POLE
		ELECTRIC POLE
TL		TELEPHONE BOX
CP		COMMUNICATION TPED
	SL	STREET LIGHT ELECTRIC BOX
	TS	TRAFFIC SIGNAL ELECTRIC BOX
	CA	CABLE ELECTRIC BOX
	CO	COMMUNICATION ELECTRIC BOX
		DRIVEPAD
		MOBILITY IMPAIRED ACCESS RAMP
		C.O.A. PROJECT CONTROL POINT OR A.C.S. MONUMENT DO NOT DISTURB TEST BORING
		HORIZ. & VERT. CONTROL

ABBREVIATIONS

- ℄ CENTERLINE
- FL FLOWLINE
- TOC TOP OF CURB ELEVATION
- BOP BEGINNING OF PROJECT
- EOP END OF PROJECT

GENERAL NOTES

1. THE CONTRACTOR SHALL PROVIDE INGRESS AND EGRESS TO LOCAL BUSINESSES AND RESIDENCES FOR THE DURATION OF THE PROJECT. THE CONTRACTOR SHALL ADVISE OF AND SCHEDULE ACCESS CLOSURES, AT LEAST 24 HOURS IN ADVANCE, WITH PROPERTY OWNERS AND THE CONSTRUCTION PROJECT MANAGER.
2. IF A PAVEMENT DROP-OFF IS CREATED DURING CONSTRUCTION, THE CONTRACTOR SHALL INITIATE PROTECTIVE ACTION. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE ITEM 337.020 – "CONCRETE PAVEMENT 6" THICK, PORTLAND CEMENT CONCRETE WITH FLY ASH, CIP" AND NO SEPARATE MEASUREMENT OR PAYMENT WILL BE MADE THEREFOR.
3. NO MATERIAL PITS HAVE BEEN DESIGNATED FOR THIS PROJECT. THE CONTRACTOR MAY OBTAIN SPECIFICATION BORROW OR SURFACING MATERIAL FROM ANY ACCEPTABLE SOURCE.
4. SEVEN (7) WORKING DAYS PRIOR TO BEGINNING CONSTRUCTION THE CONTRACTOR SHALL SUBMIT TO THE 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.
5. THE CONTRACTOR SHALL BE RESTRICTED TO THE USE OF 35 TON NON-VIBRATING ROLLER MAXIMUM TO OBTAIN THE REQUIRED COMPACTION IN PAVEMENT STRUCTURE, ROADWAY BACKFILL, EMBANKMENT, AND SUBGRADES IN URBAN AREAS WHERE THE USE OF HEAVIER EQUIPMENT COULD DAMAGE UNDERGROUND UTILITIES OR OTHER PERMANENT STRUCTURES.
6. ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED UNDER THIS CONTRACT SHALL, EXCEPT AS OTHERWISE STATED OR PROVIDED FOR HEREIN, BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1986 EDITION THROUGH UPDATE NO.8 OR AS MODIFIED BY THE PROJECT SPECIFICATIONS TITLED 98TH STREET AND AVALON ROAD INTERSECTION RECONSTRUCTION, AS STATED IN THE SPECIAL PROVISIONS.
7. TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT N.M. ONE-CALL SYSTEM, 260-1990, FOR LOCATION OF EXISTING UTILITIES.
8. ALL NEW STREET PAVING, CURB AND GUTTER, SIDEWALKS OR DRIVE PADS SHALL MATCH THE ELEVATIONS OF ABUTTING EXISTING AREAS AS SHOWN IN THE PLANS OR AS DIRECTED BY THE PROJECT MANAGER.
9. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH ALL OTHER CONTRACTORS AND UTILITY COMPANIES WORKING IN THE SAME AREA. THE CONTRACTOR MAY BE REQUIRED TO RESCHEDULE ACTIVITIES TO ALLOW ADDITIONAL CREWS TO PERFORM THEIR REQUIRED WORK. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR DELAYS OR INCONVENIENCE CAUSED BY UTILITY COMPANY WORK CREWS.
10. WHEN ABUTTING NEW PAVEMENT TO EXISTING, CONTRACTOR SHALL SAW CUT, TO FULL PAVEMENT DEPTH, THE EXISTING PAVEMENT TO A NEAT VERTICAL STRAIGHT LINE AS REQUIRED TO REMOVE ANY BROKEN OR CRACKED PAVEMENT AND MATCH NEW TO EXISTING. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO ITEM 337.020 – "CONCRETE PAVEMENT, 6" THICK. PORTLAND CEMENT CONCRETE WITH FLY ASH, CIP. SD 2411, AND NO ADDITIONAL PAYMENT WILL BE MADE THEREFOR.
11. THE CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR ANY DAMAGE TO EXISTING PAVEMENTS, PAVEMENT MARKINGS, CURB AND GUTTER, TRAIL OR SIDEWALK, CONCRETE BEYOND SAWCUT AT BACK OF PROPOSED DRIVEPAD DURING CONSTRUCTION, APART FROM THOSE SECTIONS INDICATED FOR REMOVAL ON THE PLANS, AND SHALL REPAIR OR REPLACE PER CITY OF ALBUQUERQUE STANDARDS AT CONTRACTOR'S OWN EXPENSE.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING, AT CONTRACTOR'S OWN EXPENSE, ALL PERMITS NECESSARY FOR CONSTRUCTION.
13. ALL WORK IMPACTING AN ARTERIAL ROADWAY WILL REQUIRE 24-HOUR CONSTRUCTION IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE'S ORANGE BARREL POLICY.
14. CRITICAL INTERSECTION WORK SHALL NOT START UNTIL THE CONTRACTOR HAS ALL MATERIAL, EQUIPMENT, AND NECESSARY PERSONNEL ON-SITE. TRAFFIC CONTROL DEVICES SHALL NOT BE PLACED PREMATURELY.
15. OVERNIGHT PARKING OF CONSTRUCTION VEHICLES ON PRIVATE PROPERTY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
16. THE CONTRACTOR SHALL TAKE PRECAUTIONS TO PROTECT HORIZONTAL AND VERTICAL CONTROL SURVEY MONUMENTS, AS SHOWN ON SHEETS. PRIOR TO INITIATING CONSTRUCTION. IF DURING THE COURSE OF CONSTRUCTION OPERATIONS, THE CONTRACTOR DISTURBS OR DESTROYS A MONUMENT, THE CONTRACTOR SHALL NOTIFY THE CITY SURVEYOR. THE MONUMENT SHALL ONLY BE REPLACED BY THE CITY SURVEY SECTION AT THE CONTRACTOR'S EXPENSE.
17. THE CONTRACTOR SHALL NOT STORE EQUIPMENT OR MATERIAL WITHIN RIGHT OF WAY UNLESS THE EQUIPMENT OR MATERIAL IS PROPERLY SHIELDED UTILIZING CURRENT SAFETY DESIGN AND INSTALLATION METHODS. THE SAFETY DESIGN FOR SHIELDING SHALL BE PROVIDED BY THE CONTRACTOR AND MUST BE APPROVED BY THE PROJECT MANAGER BEFORE IMPLEMENTING. THIS WORK, INCLUDING DESIGN, INSTALLATION, AND REMOVAL OF THE SHIELDING, SHALL BE CONSIDERED INCIDENTAL TO ITEM 621.401 "MOBILIZATION, COMPL." AND NO SEPARATE MEASUREMENT OR PAYMENT WILL BE MADE THEREFOR.
18. WHEN EXISTING TRAFFIC SIGNALS ARE TURNED OFF, THE CONTRACTOR SHALL HAVE AN OFF-DUTY POLICE OFFICER DIRECT TRAFFIC. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO ITEM 621.401 "MOBILIZATION, COMPL." AND NO ADDITIONAL PAYMENT WILL BE MADE.
19. THROUGHOUT THE LIFE OF THIS PROJECT, THE CONTRACTOR SHALL KEEP THE LOCAL NEWS MEDIA INFORMED OF CONSTRUCTION ACTIVITIES WHICH WILL IMPEDE OR DISRUPT THE NORMAL FLOW OF TRAFFIC.
20. THE CONTRACTOR SHALL MAINTAIN AN UP TO DATE SET OF AS-BUILT PLANS FOR THE PROJECT. THESE PLANS SHALL BE KEPT CURRENT, WITHIN TWO WEEKS AT ALL TIMES AND SHALL BE SUBJECT TO REVIEW BY THE PROJECT MANAGER THROUGHOUT THE PROJECT AND WILL BE REVISED BY THE PROJECT MANAGER FOR ACCURACY AND COMPLETENESS AT LEAST ONCE EVERY 30 DAYS. THE FINAL AS-BUILT PLANS SHALL BE SUBMITTED TO THE PROJECT MANAGER PRIOR TO FINAL PAYMENT.
21. THE CONTRACTOR WILL BE RESPONSIBLE FOR DISPOSING OF ALL DEBRIS, INCLUDING, BUT NOT LIMITED TO HAZARDOUS WASTE AT DISPOSAL SITES APPROVED BY GOVERNMENTAL AGENCIES REGULATING THE DISPOSAL OF SUCH ITEMS.
22. THE CONTRACTOR SHALL NOT PAVE OVER EXISTING WATER VALVE COVERS OR MANHOLE LIDS. IF FINISHED GRADE VARIES FROM EXISTING IN THE VICINITY OF EXISTING VALVES OR MANHOLES, CONTRACTOR SHALL ADJUST THE MANHOLE RIM OR VALVE CAN COVER AND COLLAR TO THE NEW GRADE. SEE STANDARD DWG 2461 FOR VALVE AND SEWER MANHOLE COLLAR, OR STAND DWG 2460 WHICH MAY BE USED FOR THE SEWER MANHOLE ADJUSTMENT ONLY. SEE STANDARD DWGS 2326 AND 2328 FOR THE VALVE CAN, COVER, AND RING. VALVE CAN MATERIAL WILL BE POLYMER COATED CMP ONLY. THIS WORK SHALL BE PAID FOR UNDER ITEM 920.40X– "EXISTING MANHOLE FRAME & COVER, ADJUST TO GRADE WITH METAL RINGS", 801.111– "VALVE BOX, RING & COVER, ADJUST TO GRADE."
23. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND MAINTAINING ALL PERMANENT SIGNING UNTIL PROJECT HAS BEEN ACCEPTED BY THE COA.
24. THE CONTRACTOR SHALL COORDINATE WITH THE WATER AUTHORITY IN ADVANCE OF PERFORMING WORK THAT WILL AFFECT THE PUBLIC WATER OR SANITARY SEWER INFRASTRUCTURE. WORK REQUIRING SHUT-OFF OF FACILITIES DESIGNATED AS MASTER PLAN FACILITIES MUST BE COORDINATED WITH THE WATER AUTHORITY 14 DAYS IN ADVANCE OF PERFORMING SUCH WORK. SHUT-OFF REQUESTS MUST BE MADE ONLINE AT HTTP://ABCWUA.ORG/CONTENT/VIEW/468/729/. ONLY WATER AUTHORITY CREWS ARE AUTHORIZED TO OPERATE PUBLIC VALVES AND THIS WORK SHALL BE CONSIDERED INCIDENTAL TO ITEM 621.4.1 "MOBILIZATION, COMPL." NO ADDITIONAL PAYMENT WILL BE MADE THEREFOR.
25. CONTRACTOR SHALL FIELD VERIFY HORIZONTAL AND VERTICAL LOCATION OF EXISTING UTILITIES PRIOR TO EXCAVATION. LOCATIONS SHOWN ON PLANS ARE FOR INFORMATION ONLY.
26. DETECTABLE WARNING DEVICES ARE CONSIDERED INCIDENTAL TO ITEM 340.023 – "WHEELCHAIR ACCESS RAMPS, 4" PCC, STD. CURB, CIP. SD 2418" AND NO ADDITIONAL PAYMENT WILL BE MADE THEREFOR.
27. ALL RINGS AND COVERS FOR VALVE BOX ADJUSTMENTS SHALL COMPLY WITH STANDARD DRAWING 2328, SHALL BE TRAFFIC RATED AND SHALL INCLUDE AN ELECTRONIC BALL MARKER (EMD) SPECIFIED IN THE WATER AUTHORITY'S APPROVED PRODUCT LIST. THE EMD SHALL BE INCIDENTAL TO ITEM 801.111–"VALVE BOX ADJUST TO GRADE, CIP. SD 2332" AND NO ADDITIONAL PAYMENT WILL BE MADE THEREFOR.
28. ALL SANITARY SEWER MANHOLE ADJUSTMENTS SHALL COMPLY WITH STANDARD DRAWING 2111, SHALL BE TRAFFIC RATED AND SHALL INCLUDE AN ELECTRONIC BALL MARKER (EMD) SPECIFIED IN THE WATER AUTHORITY'S APPROVED PRODUCT LIST WITH A CONCRETE COLLAR ONE FOOT UPSTREAM FROM THE MANHOLE. THE EMD SHALL BE INCIDENTAL TO ITEM 920.40X–"EXISTING MANHOLE FRAME & COVER, ADJUST TO GRADE WITH METAL RINGS, ANY DEPTH, CIP." AND NO ADDITIONAL PAYMENT WILL BE MADE THEREFOR.
29. WHEN APPEARING IN ANY PORTION OF THIS CONTRACT, THE WORDS "PLANT MIX BITUMINOUS PAVEMENT" (PMBP) AND THE WORDS "HOT MIX ASPHALT" (HMA) WILL HAVE THE SAME MEANING AS AND MAY BE USED INTERCHANGEABLY WITH THE WORDS "ASPHALT CONCRETE.
30. ALL EXCAVATION, TRENCHING AND SHORING ACTIVITIES MUST BE CARRIED OUT IN ACCORDANCE WITH OSHA 1926.650 SUBPART P.
31. THE CONTRACTOR SHALL CONTACT ANTHONY MONTOYA AT THE ABCWUA (768-2713) PRIOR TO GRADING OPERATIONS AND AGAIN PRIOR TO PAVING OPERATIONS TO ARRANGE INTEGRITY TESTING OF THE ABCWUA'S FACILITIES.

UTILITY CONTACTS

MONTOYA, ANTHONY	OFFICE PHONE: (505)768-2713 OFFICE FAX: 768-3629 ALMONTOYA@ABCWUA.ORG	ALBUQUERQUE BERNALILLO COUNTY WATER UTILITY AUTHORITY P.O. BOX 1293 ALBUQUERQUE, NM 87103
GURULE, ANDREW	OFFICE PHONE: (505) 280-8014 ANDREW.GURULE@PNM.COM	PNM ELECTRIC 4201 EDITH BLVD. NE ALBUQUERQUE, NM 87107
DUNLOP, JOE	OFFICE PHONE: (505) 697-3156 JOE.DUNLOP@NMGCO.COM	NEW MEXICO GAS COMPANY 4625 EDITH NE ALBUQUERQUE, NM 87107
BROWN, JOHN	CELL PHONE: (505) 450-2338 OFFICE FAX: (505) 314-0890 JOHN@BCGASSETS.COM	BCG ASSETS 505 MARQUETTE AVENUE NW SUITE LL-110A ALBUQUERQUE, NM 87102
CROWEL, DAVID	OFFICE PHONE: (505) 842-2911 OFFICE FAX: (505) 842-2890 DCROWEL@ATT.COM	AT&T RESOURCE SUPERVISOR 111 3RD STREET NW ALBUQUERQUE, NM 87103
DARNELL, ANDY	OFFICE PHONE: (505) 346-4470 OFFICE FAX: 348-8666 ANDY.DARNELL@MCI.COM	MCI WORLDCOM OPERATIONS MANAGER 6001 MIDWAY PARK NE ALBUQUERQUE, NM 87109
MORTUS, MIKE	OFFICE PHONE: (505) 761-6252 OFFICE FAX: (505) 761-0599 CELL: (505) 269-4006 MIKE_MORTUS@CABLE.COMCAST.COM	COMCAST CONSTRUCTION COORDINATOR 4611 MONTBEL PLACE NE ALBUQUERQUE, NM 87107
HARRISON, ROYAL	OFFICE PHONE: (505) 938-7339 OFFICE FAX: 938-7380 CELL: (505) 301-9120 ROYAL.HARRISON@TWTELECOM.COM	TIME WARNER TELECOM OF NEW MEXICO SENIOR ENGINEER 5411 JEFFERSON STREET NE, STE. 200 ALBUQUERQUE, NM 87109
KELLY, LARRY	OFFICE PHONE: (505) 246-0501 OFFICE FAX: (505) 246-0479 CELL: (505) 270-3442 LARRY.KELLY@QWEST.COM	QWEST LONG DISTANCE SR. OPERATIONS TECH 400 TIJERAS NW SUITE 570 ALBUQUERQUE, NM 87102
MUELLER, RICK	OFFICE PHONE: (505) 217-0039 OFFICE FAX: 217-0048 RICHARD.MUELLER@PAETEC.COM	PAETEC COMMUNICATION FIELD TECHNICIAN 505 MARQUETTE NW (COMPASS BANK) SUITE 1600 ALBUQUERQUE, NM 87102
YOUNG, BEVERLY	OFFICE PHONE: (505) 245-5934 OFFICE FAX: (505) 245-6733 CELL: (505) 715-7529 BEVERLY.YOUNG@QWEST.COM	QWEST SR DESIGN NM ENGINEERING/PLANNING 400 TIJERAS NW ALBUQUERQUE, NM 87102
MUELLER, RICK	OFFICE PHONE: (505) 244-3161 OFFICE FAX: 244-0094 CELL: 228-3329 RDMUELLER@MCLEODUSA.COM	MCLEOD USA SUPERVISOR OF OUTSIDE TECHS. 505 MARQUETTE NW (COMPASS BANK) SUITE 1600 ALBUQUERQUE, NM 87102

INCIDENTAL ITEMS

- CORRECTION OF PAVEMENT DROP-OFF. SEE GENERAL NOTE 2, THIS SHEET
- MATCH EXISTING PAVEMENTS. SEE GENERAL NOTE 10, THIS SHEET
- REMOVALS, SEE GENERAL NOTE 18, THIS SHEET
- CLEAR ZONE SHIELDING, SEE GENERAL NOTE 17, THIS SHEET
- OFF DUTY POLICE OFFICER, SEE GENERAL NOTE 18, THIS SHEET
- PROVIDE AND MAINTAIN ALL SIGNING, SEE GENERAL NOTE 23, THIS SHEET
- PROVIDE WATER SHUT-OFF PLAN, SEE GENERAL NOTE 24, THIS SHEET
- FIELD VERIFY EXISTING UTILITY LOCATIONS, GENERAL NOTE 25, THIS SHEET
- DETECTABLE WARNING DEVICES, SEE GENERAL NOTE 26, THIS SHEET
- EMD FOR WATER VALVE ADJUSTMENT, SEE GENERAL NOTE 27, THIS SHEET
- EMD AND COLLAR FOR SANITARY SEWER MANHOLE ADJUSTMENT, SEE GENERAL NOTE 29 THIS SHEET

CALL BEFORE YOU DIG!
STATEWIDE 811
ALBUQUERQUE 260-1990

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

BENCH MARKS
THE STATION IS A COA SURVEY CONTROL.
DATE: 3-1/2" ALUMINUM DISK SET IN CONCRETE
AND IS STAMPED "B-K9, 1989"
NAD 83 NMSP COORDINATES, CENTRAL ZONE
NAVD 1988 ELEV = 5260.166'
GROUND TO GRID FACTOR: 0.999678

SURVEY INFORMATION
FIELD NOTES
NO. | BY | DATE

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

ENGINEER'S SEAL
60% REVIEW

PRELIMINARY
NOT FOR CONSTRUCTION
9/2014

NO.	DATE	REMARKS	BY
		REVISIONS	

HDR ENGINEERING INC.
DESIGNED BY: AMG — DATE: 09/2014
DRAWN BY: AMG — DATE: 09/2014
CHECKED BY: ELP — DATE: 09/2014

HDR
2155 LOUISIANA BLVD NE.
SUITE 9500
ALBUQUERQUE, NM 87110
MAIN: (505) 830-8400
FAX: (505) 830-8454

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
TRANSPORTATION DEVELOPMENT DIVISION

TITLE: 98TH STREET AND AVALON ROAD INTERSECTION RECONSTRUCTION
LEGEND, GENERAL NOTES, INCIDENTALS & UTILITY OWNERS

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

City Project No. 7856.03 | Zone Map No. K-9 | Sheet 2 Of 12

Date: Sep 30, 2014 – 5:17pm emguller Layout: Layout01
Drawing Name: C:\pwworking\pha\d0396146\02_G001.dwg

SUMMARY OF QUANTITIES

COA ITEM NO.	SHORT DESCRIPTION	UNIT	ROADWAY		CONSTRUCTION ENGINEERING		SIGNING AND STRIPING		SIGNALS		PROJECT TOTAL	
			ESTIMATE	FINAL	ESTIMATE	FINAL	ESTIMATE	FINAL	ESTIMATE	FINAL	ESTIMATE	FINAL
4.01	CONSTRUCTION STAKING, COMPL.	LS			LS						LS	
4.02	CONSTRUCTION SURVEYING, COMPL.	LS			LS						LS	
301.02	SUBGRADE PREPARATION 12" AT 95% COMPACTION, CIP.	SY	4300								4300	
302.01	AGGREGATE BASE COURSE, CRUSHED 6" AT 95% COMPACTION, CIP. SD 2408	SY	4300								4300	
337.02	CONCRETE PAVEMENT, 6" THICK, PORTLAND CEMENT CONCRETE WITH FLY ASH, CIP. SD 2411	SY	4300								4300	
340.01	SIDEWALK, 4" THICK, PORTLAND CEMENT CONCRETE, INCL. SUBGRADE COMPACTION, CIP. SD 2430	SY	555								555	
340.023	WHEELCHAIR ACCESS RAMP, 4" PCC, STD. CURB., CIP. SD2418	SY	85								85	
340.035	VALLEY GUTTER, PORTLAND CEMENT CONCRETE, REMOVE, DISPOSE & REPLACE, CIP.	SY	240								240	
340.05	CURB & GUTTER, STANDARD, PORTLAND CEMENT CONCRETE, INCL., SUBGRADE PREPARATION, CIP., SD 2415	LF	465								465	
340.06	CURB & GUTTER, MEDIAN, PORTLAND CEMENT CONCRETE, INCL., SUBGRADE PREPARATION, CIP., SD 2408	LF	935								935	
340.061	CURB & GUTTER, MOUNTABLE MEDIAN, PORTLAND CEMENT CONCRETE, INCL., SUBGRADE PREPARATION, CIP., SD 2415	LF	710								710	
340.11	HEADER CURB, PORTLAND CEMENT CONCRETE, INCL. SUBGRADE, CIP., SD 2415	LF	160								160	
340.21	24" SIDEWALK DRAIN, CIP., SD 2236	EA	4								4	
343.08	EXISTING CURB & GUTTER OR VALLEY GUTTER, PC CONCRETE, REMOVE & DISPOSE, COMPL.	LF	1610								1610	
343.085	EXISTING SIDEWALK, 4" PC CONCRETE, REMOVE & DISPOSE	SY	320								320	
346.1	TEXTURED MEDIAN PAVEMENT, 4" THICK COLORED PC CONCRETE, INCL. SUBGRADE COMPACTION, CIP. SD 2408	SF	1255								1255	
422.002	TRAFFIC SIGNAL PEDESTAL POLE, 10', CIP.	EA							3		3	
424.007	ELECTRICAL CONDUIT, 2", INCL., PUSHING, BORING & JACKING, CIP.	EA							80		80	
425.002	ELECTRICAL PULL BOX, (STANDARD), CIP.	EA							1		1	
425.1	ELECTRICAL PULL BOX, ANY TYPE, ADJUST TO GRADE, CIP.	LF	2								2	
426.001	SINGLE CONDUCTOR, #2, CIP.	EA							910		910	
427.021	PEDESTRIAN COUNTDOWN SIGNAL (LED), CIP	EA							3		3	
427.042	PEDESTRIAN SOUND UNIT, CIP	EA							3		3	
428.01	PUSH BUTTON STATION, CIP.	EA							3		3	
441.001	REFLECTORIZED PLASTIC PAVEMENT MARKINGS, 4" WIDTH, CIP.	LF					1720				1720	
441.004	REFLECTORIZED PLASTIC PAVEMENT MARKINGS, 12" WIDTH, CIP.	LF					350				350	
441.005	REFLECTORIZED PLASTIC PAVEMENT MARKINGS, 24" WIDTH, CIP.	LF					115				115	
441.01	REFLECTORIZED PLASTIC ARROW, RIGHT, CIP.	EA					4				4	
441.011	REFLECTORIZED PLASTIC ARROW, LEFT, CIP	EA					2				2	
441.02	REFLECTORIZED PLASTIC WORD, ONLY, CIP.	EA					1				1	
510.11	STRUCTURAL, REINFORCED PC CONRETE, 4000 PSI, INCL. FORMWORK, CIP	CY							2		2	
520.01	STRUCTURAL STEEL, FABRICATED, INCLUDING WELDING, CUTTING, DRILLING, ETC., CIP	LBS							60		60	
621.401	MOBILIZATION	LS	LS								LS	
801.112	VALVE BOX, RING & COVER, ADJUST TO GRADE, CIP. SD 2328	EA	2								2	
920.42	EXISTING MANHOLE FRAME & COVER, ADJUST TO PAVEMENT GRADE WHERE ADJUSTMENT OF CONCRETE OR BLOCK BARREL IS REQUIRED, CIP	EA	3								3	

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

BENCH MARKS
THE STATION IS A COA SURVEY CONTROL, 3-1/2" ALUMINUM DISK SET IN CONCRETE AND IS STAMPED "B-K9, 1989"
NAD 83 NMSP COORDINATES CENTRAL ZONE
NAVD 1988 ELEV = 5050.166'.
GROUND TO GRID FACTOR: 0.999672
NORTHING = 1484986.639
EASTING = 1492463.769

MICRO-FILM INFORMATION
RECORDED BY — DATE
NO.

SURVEY INFORMATION
FIELD NOTES
NO. | BY | DATE

ENGINEER'S SEAL
60% REVIEW
PRELIMINARY
NOT FOR CONSTRUCTION
9/2014

REVISIONS
NO. | DATE | REMARKS | BY

HDR ENGINEERING INC.
DESIGNED BY: AMG DATE: 09/2014
DRAWN BY: AMG DATE: 09/2014
CHECKED BY: ELP DATE: 09/2014

HDR
2155 LOUISIANA BLVD NE,
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ALBUQUERQUE, NM 87110
MAIN: (505) 830-5400
FAX: (505) 830-5454

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
TRANSPORTATION DEVELOPMENT DIVISION

TITLE: 98TH STREET AND AVALON ROAD INTERSECTION RECONSTRUCTION

SUMMARY OF QUANTITIES

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

City Project No. 7856.03 | Zone Map No. K-9 | Sheet 3 Of 12

Date: Sep 30, 2014 - 5:18pm emguiler Layout: Layout1
Drawing Name: c:\pwworking\pln\d0398408\03_S001.dwg

ITEM NO. 301.02 SUBGRADE PREPARATION 12" AT 95% COMPACTION, CIP.

STATION	OFFSET	TO	STATION	OFFSET	AREA SY	DESCRIPTION
98TH STREET ALIGNMENT						
11+54.42	0.00'	-	16+49.36	9.50' LT	3198.13	98TH STREET
AVALON ROAD ALIGNMENT						
51+57.02	0.00'	-	53+95.29	0.00'	1100.36	AVALON ROAD
TOTAL					4298.49	
USE					4300	

ITEM NO. 302.01 AGGREGATE BASE COURSE, CRUSHED 6" AT 95% COMPACTION, CIP. SD 2408

STATION	OFFSET	TO	STATION	OFFSET	AREA SY	DESCRIPTION
98TH STREET ALIGNMENT						
11+54.42	0.00'	-	16+49.36	9.50' LT	3198.13	98TH STREET
AVALON ROAD ALIGNMENT						
51+57.02	0.00'	-	53+95.29	0.00'	1100.36	AVALON ROAD
TOTAL					4298.49	
USE					4300	

ITEM NO. 337.02 CONCRETE PAVEMENT, 6" THICK, PORTLAND CEMENT CONCRETE WITH FLY ASH, CIP. SD 2411

STATION	OFFSET	TO	STATION	OFFSET	AREA SY	DESCRIPTION
98TH STREET ALIGNMENT						
	0.00'	-	16+49.36	9.50' LT	3198.13	98TH STREET
AVALON ROAD ALIGNMENT						
51+57.02	0.00'	-	53+95.29	0.00'	1100.36	AVALON ROAD
TOTAL					4298.49	
USE					4300	

ITEM NO. 340.01 SIDEWALK, 4" THICK, PORTLAND CEMENT CONCRETE, INCL. SUBGRADE COMPACTION, CIP. SD 2430

STATION	OFFSET	TO	STATION	OFFSET	AREA SY	DESCRIPTION
98TH STREET ALIGNMENT						
11+81.46	40.11' RT	-	16+49.38	51.54' RT	306.65	EAST 98TH STREET
11+90.09	86.87' LT	-	11+90.72	94.55' LT	4.76	SOUTHWEST 98TH STREET/AVALON ROAD INTERSECTION
12+92.87	63.05' LT	-	16+49.38	51.50' LT	239.23	NORTHWEST 98TH STREET/AVALON ROAD INTERSECTION
TOTAL					550.65	
USE					555	

STATIONS TAKEN AT TOP BACK OF CURB

ITEM NO. 340.023 WHEELCHAIR ACCESS RAMP, 4" PCC, STD. CURB., CIP. SD 2418

STATION	OFFSET	TO	STATION	OFFSET	AREA SY	DESCRIPTION
98TH STREET ALIGNMENT						
11+60.46	40.04' RT	-	11+81.46	40.11' RT	14.00	EAST 98TH STREET
11+57.40	65.63' LT	-	11+90.09	86.87' LT	54.28	SOUTHWEST 98TH STREET/AVALON ROAD INTERSECTION
12+77.33	63.05' LT	-	12+92.87	63.05' LT	13.08	NORTHWEST 98TH STREET/AVALON ROAD INTERSECTION
TOTAL					81.36	
USE					85	

STATIONS TAKEN AT TOP BACK OF CURB

ITEM NO. 340.035 VALLEY GUTTER, PORTALND CEMENT CONCRETE, REMOVE, DISPOSE & REPLACE, CIP.

STATION	OFFSET	TO	STATION	OFFSET	AREA SY	DESCRIPTION
98TH STREET ALIGNMENT						
11+54.34	50.60' LT	-	13+15.65	50.83' LT	239.72	INTERSECTION OF 98TH STREET AND AVALON ROAD
TOTAL					239.72	
USE					240	

ITEM NO. 340.05 CURB & GUTTER, STANDARD, PC CONCRETE, INCL. SUBGRADE PREP., CIP. SD 2415

STATION	OFFSET	TO	STATION	OFFSET	LENGTH LF	DESCRIPTION
AVALON ROAD ALIGNMENT						
51+56.94	22.05' LT	-	53+29.25	24.03' LT	172.35	NORTHWEST 98TH STREET/AVALON ROAD INTERSECTION
51+43.81	38.30' RT	-	53+99.34	67.34' RT	288.10	SOUTHWEST 98TH STREET/AVALON ROAD INTERSECTION
TOTAL					460.45	
USE					465	

STATIONS TAKEN AT FLOWLINE OF CURB

ITEM NO. 340.06 CURB & GUTTER, MEDIAN, PC CONCRETE, CIP. SD 2408

STATION	OFFSET	TO	STATION	OFFSET	LENGTH LF	DESCRIPTION
98TH STREET ALIGNMENT						
11+60.46	39.38' RT	-	16+49.38	50.88' RT	489.25	EAST 98TH STREET
12+45.65	120.77' RT	-	16+49.38	50.83' RT	443.62	NORTHWEST 98TH STREET/AVALON ROAD INTERSECTION
TOTAL					932.87	
USE					935	

STATIONS TAKEN AT FLOWLINE OF CURB

ITEM NO. 340.061 CURB & GUTTER, MOUNTABLE MEDIAN, PC CONCRETE, INCL. SUBGRADE PREP., CIP. SD 2415

STATION	OFFSET	TO	STATION	OFFSET	LENGTH LF	DESCRIPTION
98TH STREET ALIGNMENT						
11+54.42	3.40' LT	-	11+65.22	6.06' LT	24.65	SOUTH 98TH STREET MEDIAN
12+84.73	5.04' LT	-	13+61.73	8.67' RT	80.91	NORTHEAST 98TH STREET MEDIAN
12+84.73	5.04' LT	-	16+49.36	8.67' LT	366.50	NORTHWEST 98TH STREET MEDIAN
AVALON ROAD ALIGNMENT						
52+63.59	2.36' LT	-	53+78.09	2.36' LT	233.19	AVALON ROAD MEDIAN
TOTAL					705.26	
USE					710	

STATIONS TAKEN AT FLOWLINE OF CURB

ITEM NO. 340.11 HEADER CURB, PC CONCRETE, INCL. SUBGRADE, CIP., SD 2415

STATION	OFFSET	TO	STATION	OFFSET	LENGTH LF	DESCRIPTION
98TH STREET ALIGNMENT						
11+60.44	46.04' RT	-	11+84.44	46.11' RT	21.00	SOUTHEAST 98TH STREET
11+57.40	65.63' LT	-	11+67.96	52.82' LT	22.06	SOUTHWEST 98TH STREET/AVALON ROAD INTERSECTION
11+57.42	75.63' LT	-	11+83.94	88.03' LT	32.02	SOUTHWEST 98TH STREET/AVALON ROAD INTERSECTION
11+73.96	55.34' LT	-	11+84.52	62.97' LT	16.91	SOUTHWEST 98TH STREET/AVALON ROAD INTERSECTION
11+89.59	68.98' LT	-	11+90.09	86.87' LT	24.83	SOUTHWEST 98TH STREET/AVALON ROAD INTERSECTION
12+68.56	69.05' LT	-	12+92.87	69.05' LT	24.31	NORTHWEST 98TH STREET/AVALON ROAD INTERSECTION
12+76.15	63.05' LT	-	12+92.87	63.05' LT	16.72	NORTHWEST 98TH STREET/AVALON ROAD INTERSECTION
TOTAL					157.85	
USE					160	

ITEM NO. 340.21 24" SIDEWALK DRAIN, CIP., SD 2236

STATION	OFFSET	EACH	DESCRIPTION
12+06.98	40.19' RT	1	EAST 98TH STREET
13+06.88	42.52' RT	1	EAST 98TH STREET
14+06.88	48.82' RT	1	EAST 98TH STREET
15+06.98	51.54' RT	1	EAST 98TH STREET
TOTAL		4	
USE		4	

ITEM NO. 343.08 EXISTING CURB & GUTTER OR VALLEY GUTTER, PC CONCRETE, REMOVE & DISPOSE, COMPL.

STATION	OFFSET	TO	STATION	OFFSET	LENGTH LF	DESCRIPTION
98TH STREET ALIGNMENT						
11+54.42	3.40' LT	-	11+65.22	6.06' LT	24.65	MOUNTABLE C&G SOUTH 98TH STREET MEDIAN
12+45.65	120.77' RT	-	16+49.38	50.83' RT	443.62	MEDIAN C&G NORTHWEST 98TH STREET/AVALON ROAD INTERSECTION
12+84.73	5.04' LT	-	13+61.73	8.67' RT	80.91	MOUNTABLE C&G 98TH STREET MEDIAN
12+84.73	5.04' LT	-	16+49.36	8.67' LT	366.50	MOUNTABLE C&G 98TH STREET MEDIAN
AVALON ROAD ALIGNMENT						
51+43.81	38.30' RT	-	53+99.34	67.34' RT	288.10	STANDARD C&G SOUTHWEST 98TH STREET/AVALON ROAD INTERSECTION
51+56.94	22.05' LT	-	53+29.25	24.03' LT	172.35	STANDARD C&G NORTHWEST 98TH STREET/AVALON ROAD INTERSECTION
52+63.59	2.36' LT	-	53+78.09	2.36' LT	233.19	MOUNTABLE C&G AVALON ROAD MEDIAN
TOTAL					1609.33	
USE					1610	

STATIONS TAKEN AT FLOWLINE OF CURB

ITEM NO. 343.085 EXISTING SIDEWALK, 4" PC CONCRETE, REMOVE & DISPOSE

STATION	OFFSET	TO	STATION	OFFSET	AREA SY	DESCRIPTION
98TH STREET ALIGNMENT						
11+57.40	65.63' LT	-	11+90.72	94.55' LT	59.04	SOUTHWEST 98TH STREET/ AVALON ROAD INTERSECTION
12+58.81	70.63' LT	-	16+49.38	51.50' LT	259.55	NORTHWEST 98TH STREET/ AVALON ROAD INTERSECTION
TOTAL					318.59	
USE					320	

STATIONS TAKEN AT TOP BACK OF CURB

ITEM NO. 346.1 TEXTURED MEDIAN PAVEMENT, 4" THICK, COLORED PC CONCRETE, INCL. SUBGRADE COMPACTION, CIP. SD 2408

STATION	OFFSET	TO	STATION	OFFSET	AREA SF	DESCRIPTION
98TH STREET ALIGNMENT						
11+54.42	3.40' LT	-	11+65.22	6.06' LT	35.02	98TH STREET SOUTH MEDIAN
12+84.73	5.04' LT	-	13+61.73	8.67' RT	993.71	98TH STREET NORTH MEDIAN
AVALON ROAD ALIGNMENT						
52+63.59	2.36' LT	-	53+78.09	2.36' LT	224.86	AVALON ROAD MEDIAN
TOTAL					1253.59	
USE					1255	

STATIONS TAKEN AT FLOWLINE OF CURB

ITEM NO. 425.1 ELECTRICAL PULL BOX, ANY TYPE, ADJUST TO GRADE, CIP.

STATION	OFFSET	EACH	DESCRIPTION
11+94.19	85.53' LT	1	TRAFFIC BOX
12+90.44	60.95' LT	1	TRAFFIC BOX
TOTAL		2	
USE		2	

ITEM NO. 920.42 EXISTING MANHOLE FRAME & COVER, ADJUST TO PAVEMENT GRADE WHERE ADJUSTMENT OF CONCRETE OR BLOCK BARREL IS REQUIRED, CIP.

STATION	OFFSET	EACH	DESCRIPTION
12+23.59	3.30' LT	1	SANITARY SEWER MANHOLE
12+41.79	49.50' LT	1	STORM DRAIN MANHOLE
12+64.07	67.25' LT	1	STORM DRAIN MANHOLE
TOTAL		3	
USE		3	

ITEM NO. 801.112 VALVE BOX, RING & COVER, ADJUST TO GRADE, CIP. SD 2328

STATION	OFFSET	EACH	DESCRIPTION
52+21.94	14.90' LT	1	WATER VALVE
52+25.34	14.36' LT	1	WATER VALVE
TOTAL		2	
USE		2	

AS BUILT INFORMATION
CONTRACTOR DATE
WORK STAKED BY DATE
FIELD VERIFICATIONS BY DATE
ACCEPTANCE BY DATE
FIELD DRAWINGS CORRECTED BY DATE
MICRO-FILM INFORMATION
RECORDED BY DATE
NO. DATE

BENCH MARKS
THE STATION IS A COA SURVEY CONTROL.
3-1/2" ALUMINUM DISK SET IN CONCRETE
AND IS STAMPED "8-K9, 1989"
NAD 83 NMSP COORDINATES CENTRAL ZONE
NAVD 1988 ELEV = 5260.165'
GROUND TO GRID FACTOR: 0.999678
NORTHING = 1484994.639
EASTING = 1492463.769

SURVEY INFORMATION
FIELD NOTES
NO. BY DATE

ENGINEER'S SEAL

60% REVIEW

PRELIMINARY
NOT FOR CONSTRUCTION
9/2014

REMARKS BY
REVISIONS
HDR ENGINEERING INC.
DESIGNED BY: AMG DATE: 09/2014
DRAWN BY: AMG DATE: 09/2014
CHECKED BY: ELP DATE: 09/2014

HDR
2155 LOUISIANA BLVD NE,
SUITE 9500
ALBUQUERQUE, NM 87110
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FAX: (505) 830-5454

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
TRANSPORTATION DEVELOPMENT DIVISION

TITLE: 98TH STREET AND AVALON ROAD INTERSECTION RECONSTRUCTION

MISCELLANEOUS QUANTITIES

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

City Project No. 7856.03 | Zone Map No. K-9 | Sheet 4 Of 12

Date: Sep 30, 2014 - 5:18pm amguiller Layout: Layout1
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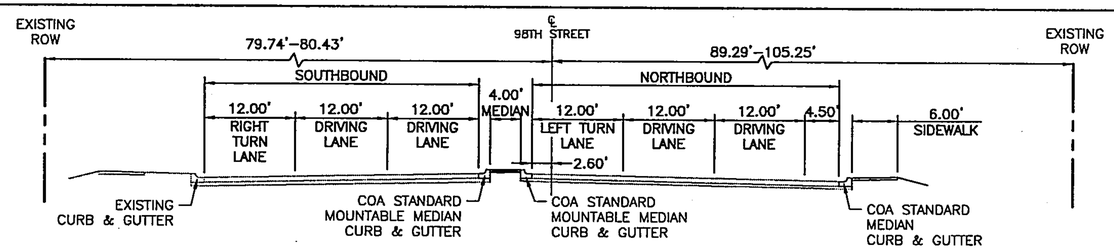
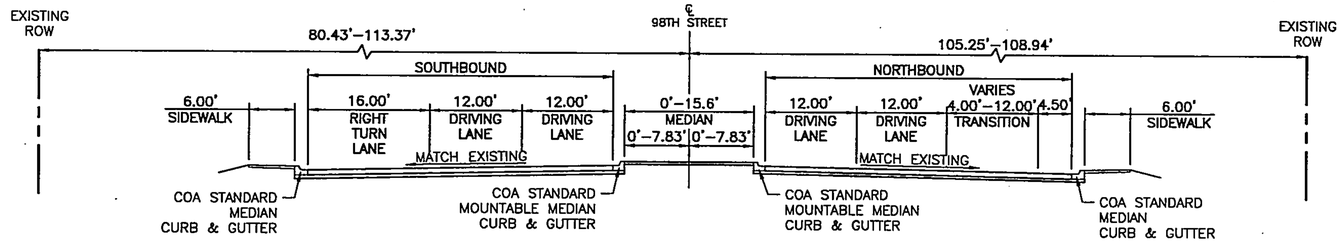
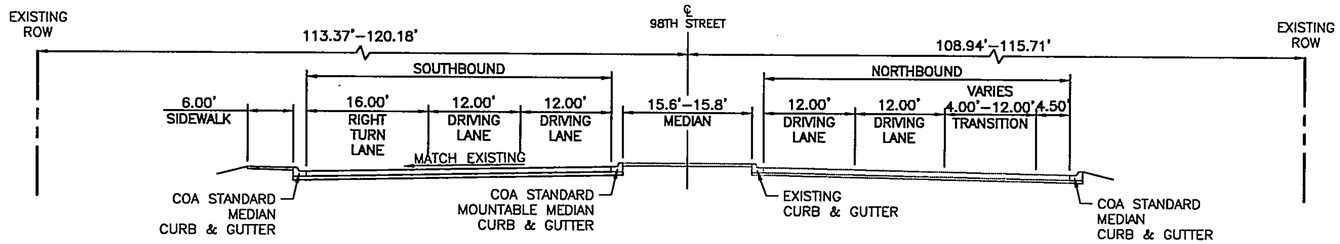


PROPOSED TYPICAL SECTION 1 – 98TH STREET
STA. 11+54.41 TO STA. 11+66.05

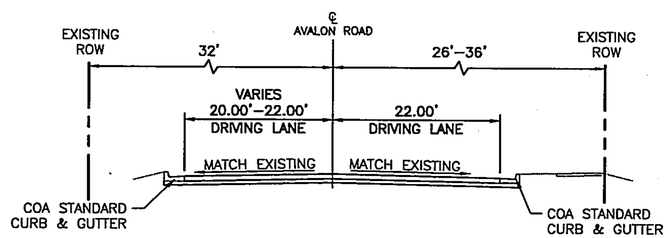


PROPOSED TYPICAL SECTION 2 – 98TH STREET
STA. 12+85.53 TO STA. 13+61.73

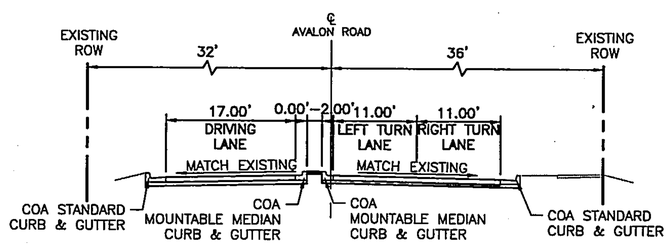
TRANSITION
STA. 11+66.05 TO STA. 12+85.53 (INTERSECTION)



PROPOSED TYPICAL SECTION 3 – 98TH STREET
STA. 13+61.73 TO STA. 16+50.00



PROPOSED TYPICAL SECTION 4 – AVALON ROAD
STA. 51+57.02 TO 52+64.42



PROPOSED TYPICAL SECTION 5 – AVALON ROAD
STA. 52+64.42 TO STA 53+77.26

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

BENCH MARKS
THE STATION IS A COA SURVEY CONTROL 3-1/2" ALUMINUM DISK SET IN CONCRETE AND IS STAMPED "B-K9, 1989"
NAD 83 NMSP COORDINATES, CENTRAL ZONE
NAVD 1988 ELEV = 5250.166'
GROUND TO GRID FACTOR: 0.999472
NORTHING = 1484994.639
EASTING = 1492463.769

SURVEY INFORMATION
FIELD NOTES
NO. BY DATE

ENGINEER'S SEAL
60% REVIEW
PRELIMINARY
NOT FOR CONSTRUCTION
9/2014

REVISIONS
NO. DATE REMARKS BY

HDR ENGINEERING INC.
DESIGNED BY: AMG DATE: 09/2014
DRAWN BY: AMG DATE: 09/2014
CHECKED BY: ELP DATE: 09/2014

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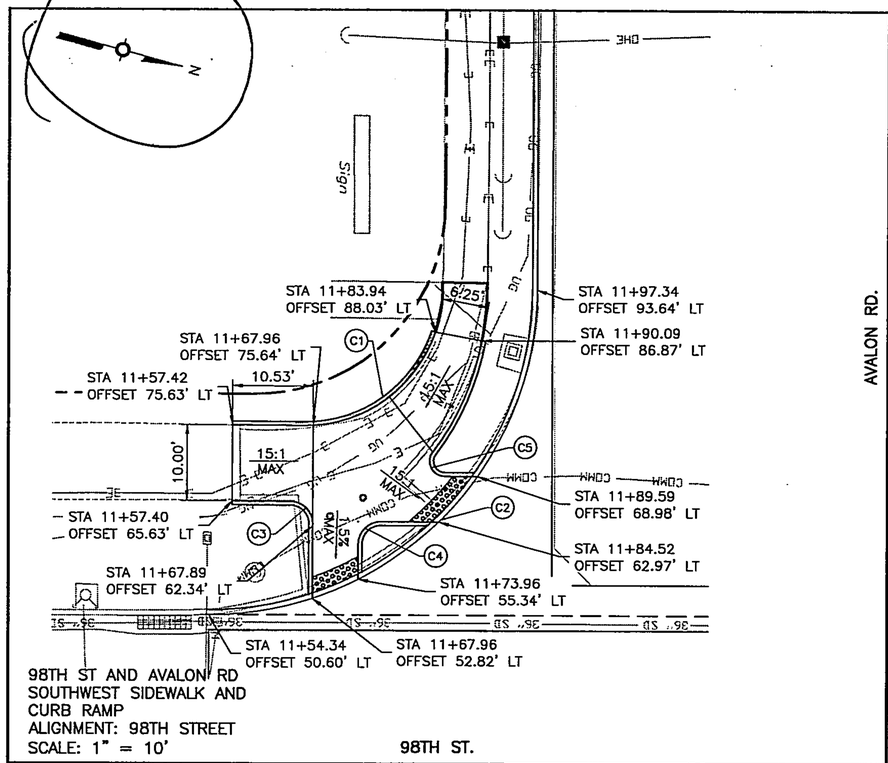
CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
TRANSPORTATION DEVELOPMENT DIVISION

TITLE: 98TH STREET AND AVALON ROAD INTERSECTION RECONSTRUCTION

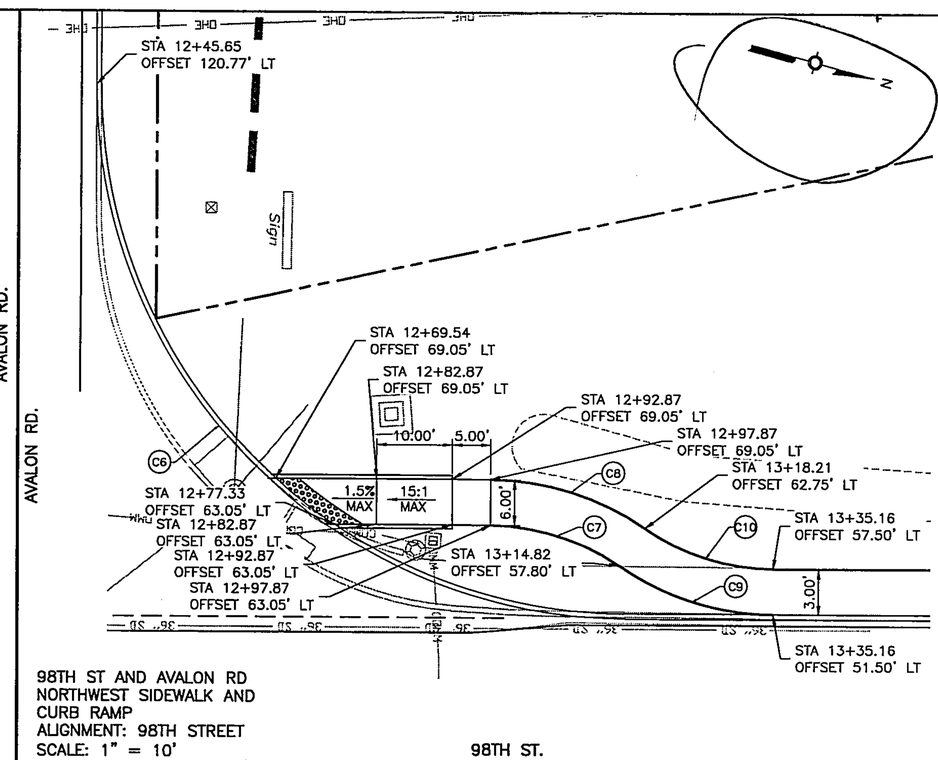
TYPICAL SECTIONS

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

City Project No. 7856.03 | Zone Map No. K–9 | Sheet 5 Of 12



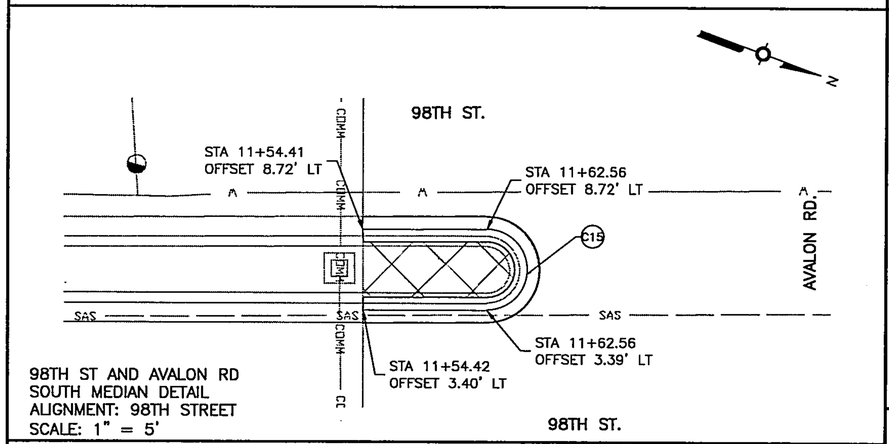
98TH ST AND AVALON RD
SOUTHWEST SIDEWALK AND
CURB RAMP
ALIGNMENT: 98TH STREET
SCALE: 1" = 10'



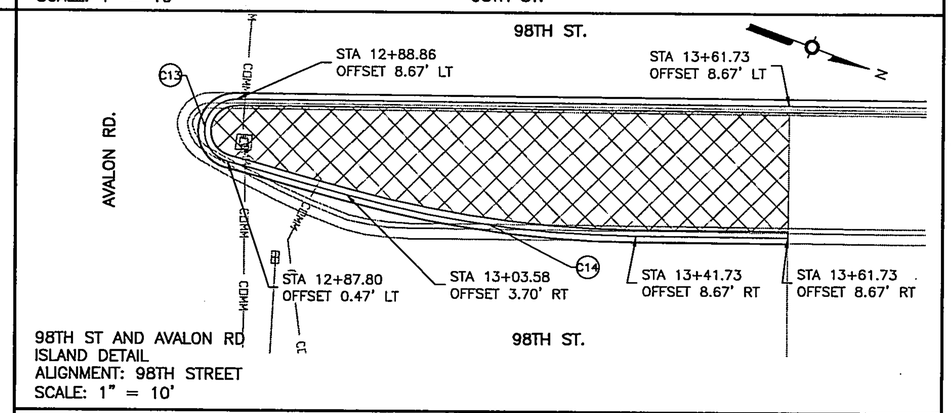
98TH ST AND AVALON RD
NORTHWEST SIDEWALK AND
CURB RAMP
ALIGNMENT: 98TH STREET
SCALE: 1" = 10'

CURVE DATA

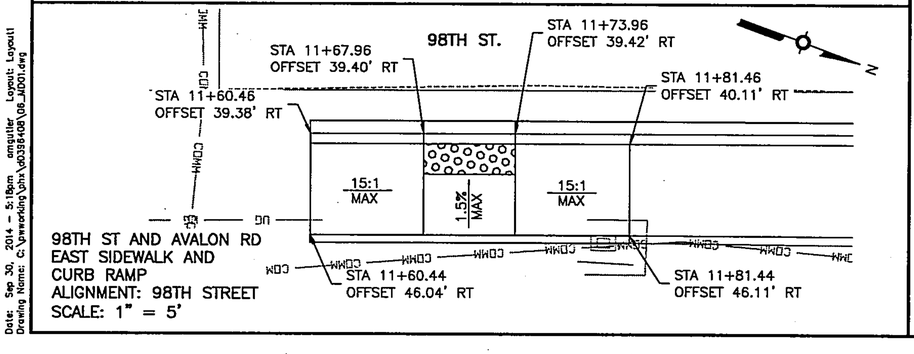
CURVE NO.	DELTA	RADIUS	LENGTH	TANGENT
C1	72°08'02"	18.00'	22.66'	13.11'
C2	99°03'00"	43.00'	67.58'	43.04'
C3	89°50'30"	3.00'	4.70'	2.99'
C4	89°57'00"	3.00'	4.71'	3.00'
C5	126°11'09"	2.00'	4.40'	3.94'
C6	89°57'00"	70.00'	109.89'	69.94'
C7	34°24'20"	30.00'	18.01'	9.29'
C8	34°24'20"	36.00'	21.62'	11.15'
C9	34°24'20"	36.00'	21.62'	11.15'
C10	34°24'20"	30.00'	18.01'	9.29'
C11	180°00'00"	1.83'	5.79'	N/A
C12	180°00'00"	1.83'	5.76'	N/A
C13	165°10'46"	4.17'	12.01'	32.04'
C14	14°49'14"	149.17'	38.58'	19.40'
C15	180°00'00"	2.66'	8.36'	N/A



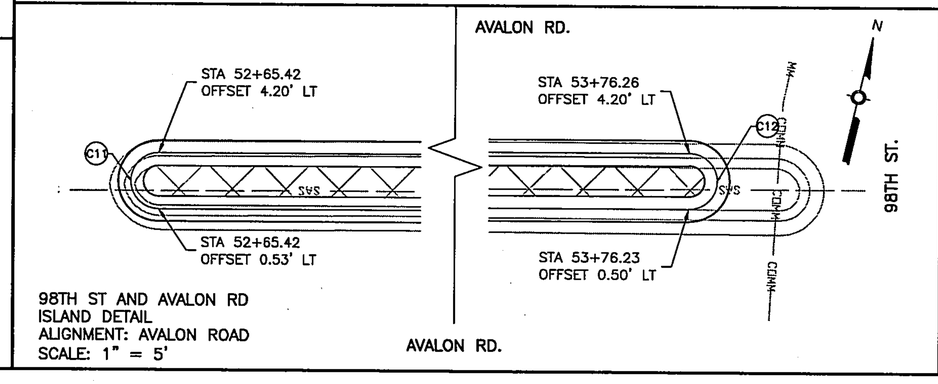
98TH ST AND AVALON RD
SOUTH MEDIAN DETAIL
ALIGNMENT: 98TH STREET
SCALE: 1" = 5'



98TH ST AND AVALON RD
ISLAND DETAIL
ALIGNMENT: 98TH STREET
SCALE: 1" = 10'



98TH ST AND AVALON RD
EAST SIDEWALK AND
CURB RAMP
ALIGNMENT: 98TH STREET
SCALE: 1" = 5'



98TH ST AND AVALON RD
ISLAND DETAIL
ALIGNMENT: AVALON ROAD
SCALE: 1" = 5'

Fix a do
Abbreviations

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. DATE

BENCH MARKS
THE STATION IS A COA SURVEY CONTROL MONUMENT AND IS STAMPED "B-K9, 1989" NAD 83 NMSP COORDINATES CENTRAL ZONE NAVD 1988 ELEV = 5250.166'. GROUND TO GRID FACTOR: 0.999672 NORTHING = 1484984.839 EASTING = 1492453.769

SURVEY INFORMATION
FIELD NOTES
NO. BY DATE

ENGINEER'S SEAL

60% REVIEW

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9/2014

REVISIONS
NO. DATE REMARKS BY

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MUNICIPAL DEVELOPMENT DEPARTMENT
TRANSPORTATION DEVELOPMENT DIVISION

TITLE: 98TH STREET AND AVALON ROAD INTERSECTION RECONSTRUCTION

MISCELLANEOUS DETAILS

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

City Project No. 7856.03 | Zone Map No. K-9 | Sheet 6 Of 12

Date: Sep 30, 2014 - 5:18pm amguitter Layout: Layout1
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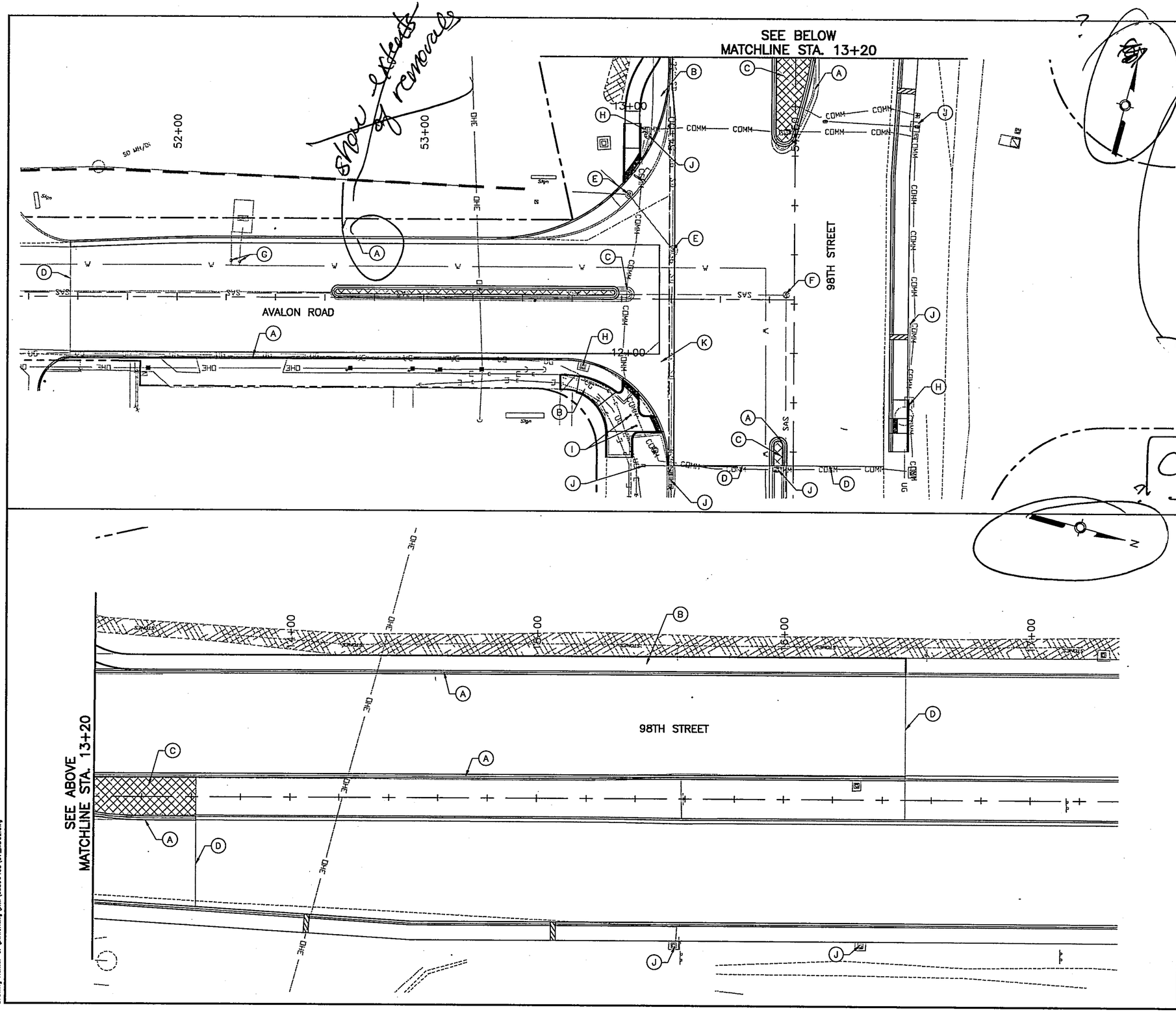

KEYED NOTES

- (A) REMOVE EXISTING CURB AND GUTTER
- (B) REMOVE EXISTING CONCRETE SIDEWALK
- (C) REMOVE EXISTING MEDIAN CONCRETE
- (D) NEAT VERTICAL SAWCUT AND REMOVE EXISTING PAVEMENT
- (E) STORM DRAIN MANHOLE TO REMAIN AND ADJUST TO GRADE
- (F) SANITARY SEWER MANHOLE TO REMAIN AND ADJUST TO GRADE
- (G) WATER VALVE TO REMAIN AND ADJUST TO GRADE
- (H) PULLBOX TO REMAIN AND ADJUST TO GRADE
- (I) REMOVE BOLLARD
- (J) PROTECT AND LEAVE IN PLACE
- (K) REMOVE EXISTING VALLEY GUTTER

Show extents of removals

Remove to nearest joint.

Can Note

UTILITY LEGEND

- —COM— UNDERGROUND COMMUNICATIONS LINE
- —E— UNDERGROUND ELECTRIC LINE
- —OHE— OVERHEAD ELECTRIC LINE
- —SAS— SANITARY SEWER LINE
- -SD 36"- 36" STORM DRAIN
- —SD— STORM DRAIN
- —UG— UNDERGROUND GAS LINE
- —W— UNDERGROUND WATER LINE

0 10' 20'

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AS BUILT INFORMATION

	DATE
CONTRACTOR	
WORK	
RESIDENT'S ACCEPTANCE BY	DATE
FIELD VERIFICATION BY	DATE
DRAWINGS CORRECTED BY	DATE

MICRO-FILM INFORMATION

	DATE
RECORDED BY	
NO.	

BENCH MARKS

THE STATION IS A COA SURVEY CONTROL AND IS STAMPED "8-K9, 1989"

NAD 83 NMSP COORDINATES CENTRAL ZONE

NAVD 1988 ELEV. = 5250.165'

GROUND TO GRID FACTOR: 0.999672

NORTHING = 1454994.639

EASTING = 1492453.769

SURVEY INFORMATION

FIELD NOTES

NO.	BY	DATE

ENGINEER'S SEAL

60% REVIEW

PRELIMINARY
NOT FOR CONSTRUCTION
9/2014

NO.	DATE	REMARKS	BY

REVISIONS

HDR ENGINEERING INC.

DESIGNED BY: AMG DATE: 09/2014
DRAWN BY: AMG DATE: 09/2014
CHECKED BY: ELP DATE: 09/2014

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
TRANSPORTATION DEVELOPMENT DIVISION

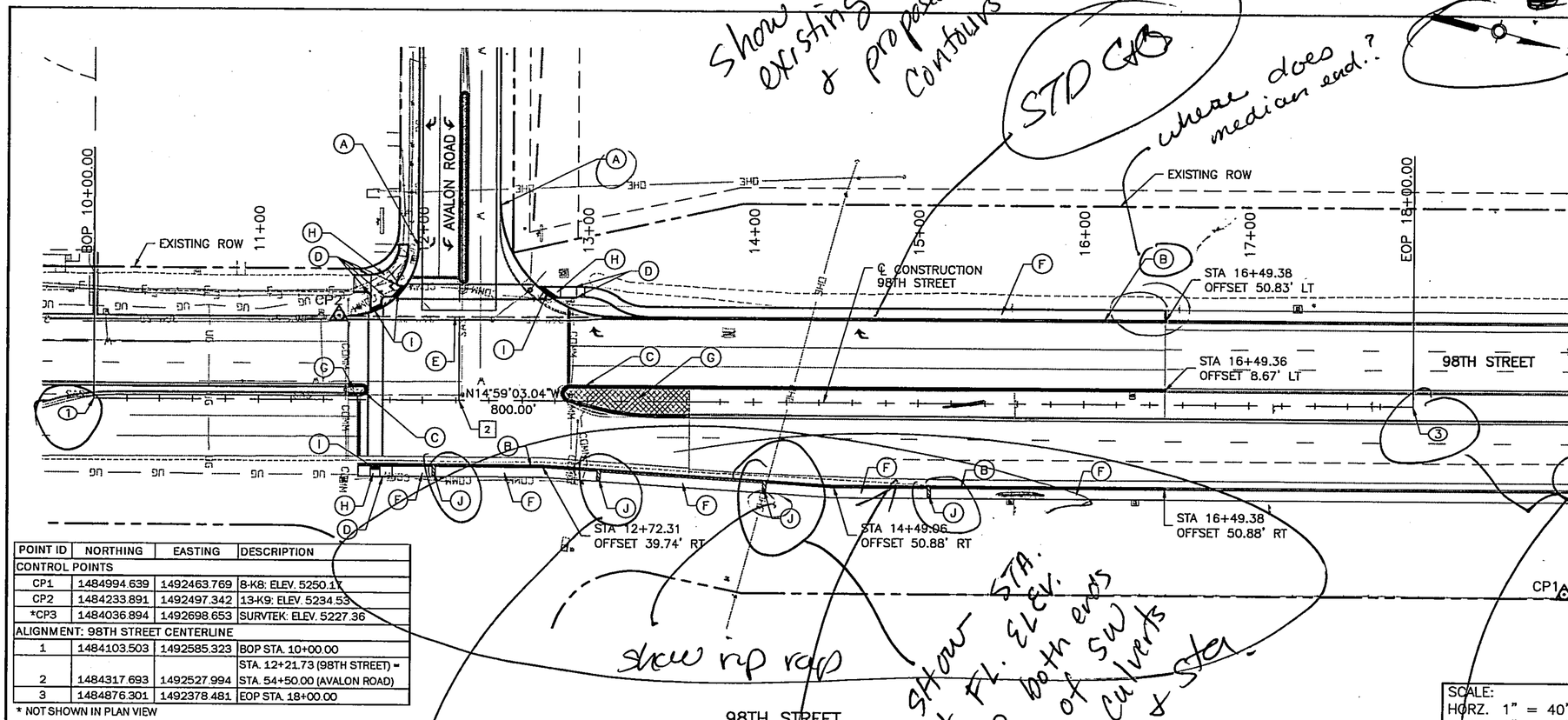
TITLE: 98TH STREET AND AVALON ROAD INTERSECTION RECONSTRUCTION

REMOVALS AND ADJUSTMENTS

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

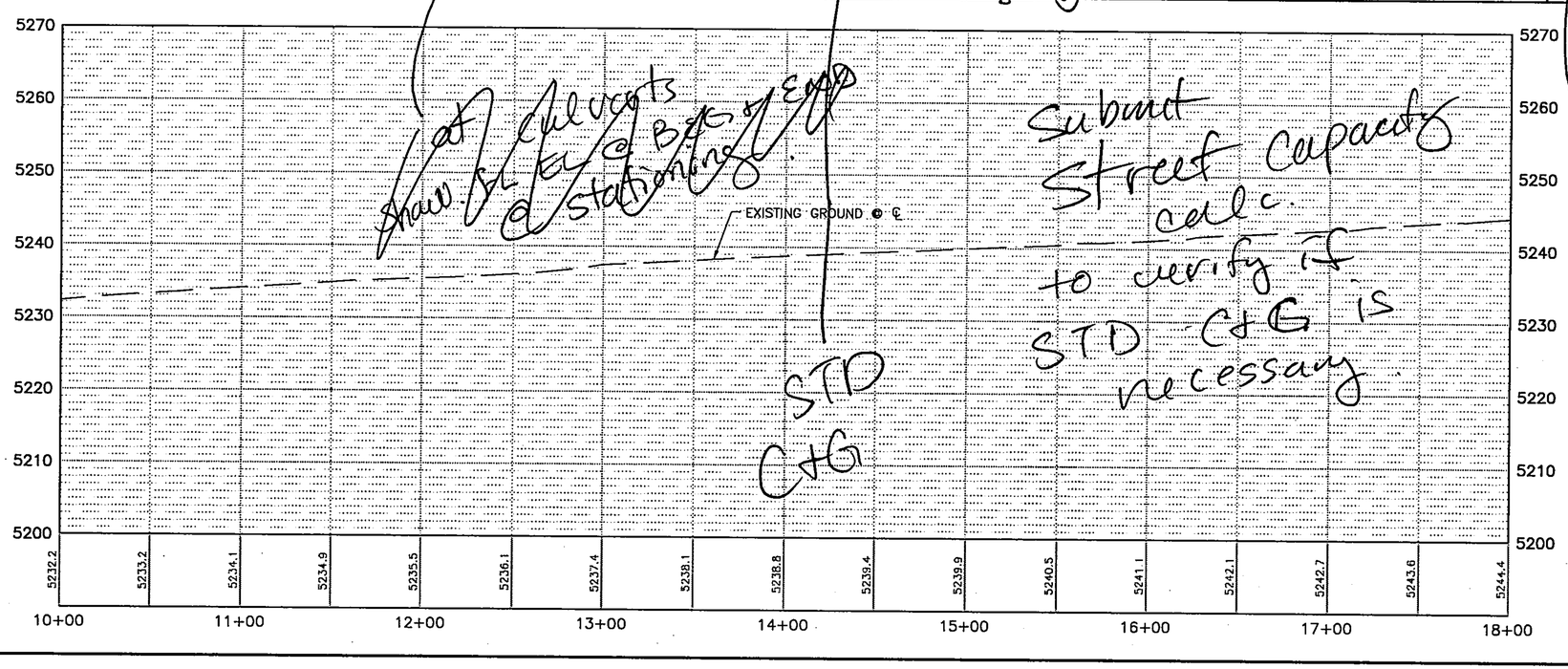
City Project No.	Zone Map No.	Sheet	Of
7856.03	K-9	7	12

Date: Sep 30, 2014 – 5:18pm ampotter Layout: Layout1
Drawing Name: C:\pwworking\phx\d0386408\07_JI002.dwg



POINT ID	NORTHING	EASTING	DESCRIPTION
CONTROL POINTS			
CP1	1484994.639	1492463.769	8-K8: ELEV. 5250.17
CP2	1484233.891	1492497.342	13-K9: ELEV. 5234.53
*CP3	1484036.894	1492698.653	SURVTEK: ELEV. 5227.36
ALIGNMENT: 98TH STREET CENTERLINE			
1	1484103.503	1492585.323	BOP STA. 10+00.00
2	1484317.693	1492527.994	STA. 12+21.73 (98TH STREET) = STA. 54+50.00 (AVALON ROAD)
3	1484876.301	1492378.481	EOP STA. 18+00.00

* NOT SHOWN IN PLAN VIEW



KEYED NOTES

- (A) BUILD STANDARD CURB & GUTTER. SEE COA STANDARD DRAWING 2415A.
- (B) BUILD MEDIAN CURB & GUTTER. SEE COA STANDARD DRAWING 2415B.
- (C) BUILD MOUNTABLE MEDIAN CURB & GUTTER. SEE COA STANDARD DRAWING 2415B.
- (D) BUILD HEADER CURB. SEE COA STANDARD DRAWING 2415B.
- (E) BUILD VALLEY GUTTER PER COA STANDARD DRAWING 2420
- (F) BUILD 4" CONCRETE SIDEWALK. SEE COA STANDARD DRAWING 2430.
- (G) BUILD 4" CONCRETE TEXTURED MEDIAN PAVEMENT. SEE COA STANDARD DRAWING 2408.
- (H) BUILD CURB RAMP PER DETAIL. SEE MISCELLANEOUS DETAIL SHEET.
- (I) INSTALL DETECTABLE WARNING SURFACE. UNLESS OTHERWISE NOTED TRUNCATED DOME STRIP SHALL BE 2' WIDE X LENGTH OF RAMP, 5' MIN. INSTALL PER MANUFACTURES RECOMMENDATIONS.
- (J) BUILD SIDEWALK CULVERT WITH STEEL PLATE. SEE COA STANDARD DRAWING 2236.

UTILITY LEGEND

- —COM— UNDERGROUND COMMUNICATIONS LINE
- —E— UNDERGROUND ELECTRIC LINE
- —OHE— OVERHEAD ELECTRIC LINE
- —SAS— SANITARY SEWER LINE
- -SD 36"- 36" STORM DRAIN
- —SD— STORM DRAIN
- —UG— UNDERGROUND GAS LINE
- —W— UNDERGROUND WATER LINE

LEGEND

- CONTROL POINTS
- ROADWAY INTERSECTION POINT
- ALIGNMENT PI
- ALIGNMENT PC/PT

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2155 LOUISIANA BLVD NE,
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CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
TRANSPORTATION DEVELOPMENT DIVISION

TITLE: 98TH STREET AND AVALON ROAD INTERSECTION RECONSTRUCTION

98TH STREET PLAN AND PROFILE

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

City Project No.	Zone Map No.	Sheet	Of
7856.03	K-9	8	12

AS BUILT INFORMATION

	DATE
CONTRACTOR	
WORK RESTORATION'S INSPECTED & ACCEPTANCE BY	
FIELD VERIFICATION BY	
DRAWINGS CORRECTED BY	

MICRO-FILM INFORMATION

	DATE
RECORDED BY	
NO.	

BENCH MARKS

THE STATION IS A COA SURVEY CONTROL 3-1/2" ALUMINUM DISK SET IN CONCRETE AND IS STAMPED "8-K9, 1989"
NAD 83 NM SP COORDINATES CENTRAL ZONE
NAVD 1988 ELEV. = 5250.166'
GROUND TO GRID FACTOR: 0.999672
NORTHING = 1484994.639
EASTING = 1492463.769

SURVEY INFORMATION

NO.	BY	DATE

FIELD NOTES

ENGINEER'S SEAL

60% REVIEW

PRELIMINARY
NOT FOR CONSTRUCTION
9/2014

REVISIONS

NO.	DATE	REMARKS	BY

HDR ENGINEERING INC.

DESIGNED BY: AMG	DATE: 09/2014	
DRAWN BY: AMG	DATE: 09/2014	
CHECKED BY: ELP	DATE: 09/2014	

Date: Sep 30, 2014 - 5:18pm amgutier Layout: Layout1
Drawing Name: C:\pwworking\plus\d0329\d0329\06_PHP01.dwg

show existing & proposed contours

STD C&G

where does median end?

show rip rap

show STA. FL. ELEV. both ends of SW culverts & @ ⊥ & STA.

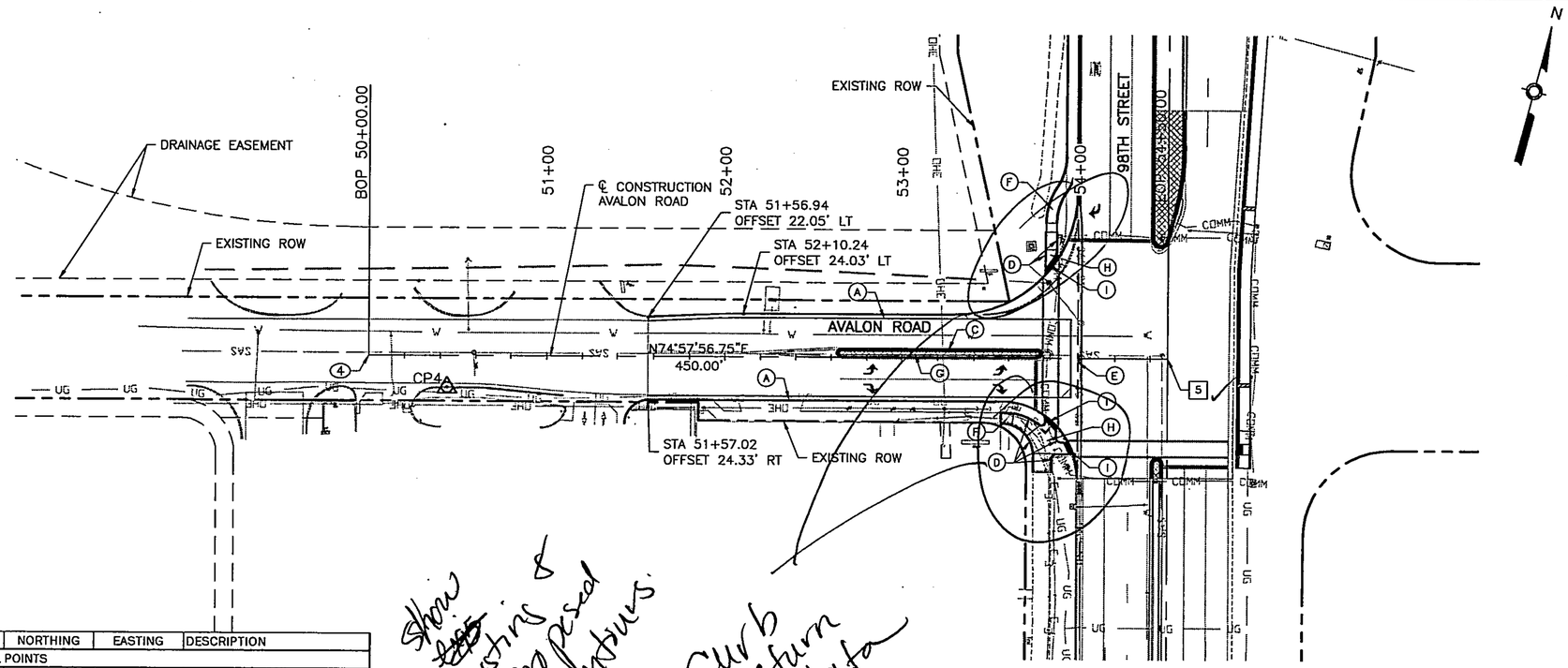
show all culverts @ BF & stationing

Submit Street Capacity calc. to verify if STD C&G is necessary

STD C&G

add: "Extend pl. 2' past back of sw"
• Tack weld bolts to plate

Show missing keyed notes



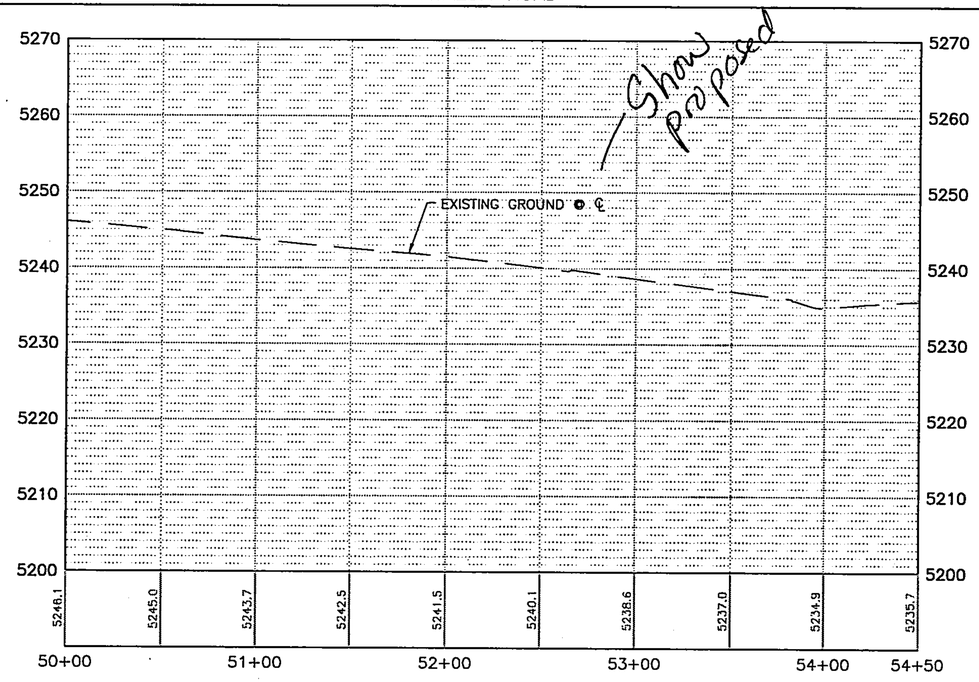
Show ~~all~~ existing & proposed contours.

Curb return data

POINT ID	NORTHING	EASTING	DESCRIPTION
CONTROL POINTS			
CP4	1484194.917	1492140.514	SURVTEK: ELEV. 5245.54
ALIGNMENT: 98TH STREET CENTERLINE			
4	1484200.965	1492093.397	BOP STA. 50+00.00
5	1484317.693	1492527.994	STA. 54+50.00 (AVALON ROAD) = STA. 12+21.73 (98TH STREET)

SCALE:
HORZ. 1" = 40'
VERT. 1" = 10'

AVALON ROAD



KEYED NOTES

(A) BUILD STANDARD CURB & GUTTER. SEE COA STANDARD DRAWING 2415A.

(B) BUILD MEDIAN CURB & GUTTER. SEE COA STANDARD DRAWING 2415B.

(C) BUILD MOUNTABLE MEDIAN CURB & GUTTER. SEE COA STANDARD DRAWING 2415B.

(D) BUILD HEADER CURB. SEE COA STANDARD DRAWING 2415B.

(E) BUILD VALLEY GUTTER PER COA STANDARD DRAWING 2420

(F) BUILD 4" CONCRETE SIDEWALK. SEE COA STANDARD DRAWING 2430.

(G) BUILD 4" CONCRETE TEXTURED MEDIAN PAVEMENT. SEE COA STANDARD DRAWING 2408.

(H) BUILD CURB RAMP PER DETAIL. ~~SEE MISCELLANEOUS DETAIL SHEET.~~

(I) INSTALL DETECTABLE WARNING SURFACE. UNLESS OTHERWISE NOTED TRUNCATED DOME STRIP SHALL BE 2' WIDE X LENGTH OF RAMP, 5' MIN. INSTALL PER MANUFACTURES RECOMMENDATIONS.

(J) BUILD SIDEWALK CULVERT WITH STEEL PLATE. SEE COA STANDARD DRAWING 2236.

See previous page for notes to add.

UTILITY LEGEND

—COM— UNDERGROUND COMMUNICATIONS LINE
—E— UNDERGROUND ELECTRIC LINE
—OHE— OVERHEAD ELECTRIC LINE
—SAS— SANITARY SEWER LINE
-SD 36"- 36" STORM DRAIN
— SD— STORM DRAIN
— UG— UNDERGROUND GAS LINE
—W— UNDERGROUND WATER LINE

LEGEND

CONTROL POINTS
ROADWAY INTERSECTION POINT
ALIGNMENT PI
ALIGNMENT PC/PT

HDR
2155 LOUISIANA BLVD NE,
SUITE 9500
ALBUQUERQUE, NM 87110
MAIN: (505) 830-5400
FAX: (505) 830-5454

AS BUILT INFORMATION
CONTRACTOR / DATE
WORK STAKED BY / DATE
INSPECTOR'S ACCEPTANCE BY / DATE
DRAWINGS CORRECTED BY / DATE

BENCH MARKS
THE STATION IS A COA SURVEY CONTROL, 3-1/2" ALUMINUM DISK SET IN CONCRETE AND IS STAMPED "B-19, 1989"
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NO.
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SURVEY INFORMATION
FIELD NOTES
NO. | BY | DATE

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REVISIONS
NO. | DATE | REMARKS | BY

HDR ENGINEERING INC.
DESIGNED BY: AMG DATE: 09/2014
DRAWN BY: AMG DATE: 09/2014
CHECKED BY: ELP DATE: 09/2014

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
TRANSPORTATION DEVELOPMENT DIVISION

TITLE: 98TH STREET AND AVALON ROAD INTERSECTION RECONSTRUCTION

AVALON ROAD PLAN AND PROFILE

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

City Project No. 7856.03 | Zone Map No. K-9 | Sheet 9 Of 12

Date: Sep 30, 2014 - 5:19pm amguiler Layout: Layout1
Drawing Name: C:\pwworking\pnx\d0395408\09_PHP02.dwg

GENERAL NOTES FOR PAVEMENT MARKINGS

1. ALL PAVEMENT MARKINGS SHALL CONFORM TO THE CITY OF ALBUQUERQUE STANDARDS AND SPECIFICATIONS OR THE NEW MEXICO DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, CURRENT EDITION.
2. ALL REMOVAL OF EXISTING PAVEMENT MARKINGS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH SECTION 721 OF THE NMDOT STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, CURRENT EDITION. PAINTING OVER EXISTING STRIPING DOES NOT CONSTITUTE APPROVED STRIPING REMOVAL OR OBLITERATION.
3. THE PERMANENT PAVEMENT MARKINGS MAY BE MODIFIED AS DIRECTED BY THE PROJECT MANAGER.
4. THE CONTRACTOR MAY BE REQUIRED BY THE PROJECT MANAGER TO PREPARE AS-BUILT DRAWINGS OF THE EXISTING STRIPING AND PAVEMENT MARKINGS PRIOR TO CONSTRUCTION. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO SIGNING AND STRIPING AND NO ADDITIONAL PAYMENT SHALL BE MADE THEREFOR.
5. THE DESIGN SPEED FOR THE ROAD IS: 50 MPH. THE DESIGN VEHICLE IS: WB-67. THE POSTED SPEED LIMIT IS: 45 MPH.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LAYOUT AND INSTALLATION OF PAVEMENT MARKINGS ON FINAL SURFACE COURSE FOLLOWING CONTROL POINTS THAT HAVE BEEN SET NO MORE THAN 50 FEET APART ALONG THE LINES TO BE STRIPED. THE LAYOUT OF ALL PAVEMENT MARKINGS SHALL BE APPROVED BY THE PROJECT MANAGER PRIOR TO THE APPLICATION OF MATERIALS.
7. ALL LANE DIMENSIONS ARE FROM CENTER OF LANE STRIPE, CENTER OF DOUBLE LANE STRIPE, FACE OF CURB, OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.
8. THE FINAL LONGITUDINAL STRIPING SHALL BE PLASTIC REFLECTORIZED STRIPING PLACED OVER THE TEMPORARY STRIPING WITHIN 14 TO 30 CALENDAR DAYS AFTER COMPLETION OF THE FINAL PAVEMENT SURFACE, OR AS DIRECTED BY THE PROJECT MANAGER. ALL OTHER MARKINGS SHALL BE APPLIED AT THE SAME TIME. TEMPORARY STRIPING SHALL BE PAINT UNLESS NOTED OTHERWISE.
9. ALL FINAL TRANSVERSE MARKINGS SHALL BE REFLECTORIZED PLASTIC STRIPING. ALL PAVEMENT ARROWS AND LEGENDS SHALL BE A REFLECTORIZED PREFORMED PLASTIC PAVEMENT MARKING.
10. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THE FINAL SURFACE COURSE IS PLACED SO THAT THE STRIPING IS OFFSET ONE (1) FOOT CLEAR OF THE PAVEMENT CONSTRUCTION JOINT, UNLESS OTHERWISE DIRECTED BY THE PROJECT MANAGER.
11. THE CONTRACTOR SHALL CLEAN THE ROADWAY SURFACE TO THE SATISFACTION OF THE PROJECT MANAGER BY SWEEPING AND AIR-JET BLOWING IMMEDIATELY PRIOR TO THE PLACEMENT OF ALL PAVEMENT MARKINGS. THE TEMPERATURE SHALL NOT BE LESS THAN 50°F FOR THE PLACEMENT OF THERMOPLASTIC STRIPING.
12. THE PAVEMENT MARKING DRAWINGS ARE SCHEMATIC ONLY. THE CONTRACTOR SHALL FOLLOW ALL DIMENSIONS, DETAILS AND STANDARDS WHEN INSTALLING PAVEMENT, STRIPING, MARKINGS AND MARKERS.
13. STRIPING ERADICATION SHALL BE ACCOMPLISHED BY WATER BLASTING OR SURFACE PLANING OF THE ROADWAY TO A MAXIMUM DEPTH OF 0.25 INCHES AND FOR A WIDTH EQUAL TO TWO TIMES THE WIDTH OF THE STRIPE OR MARKING TO BE REMOVED.

GENERAL NOTES FOR PERMANENT SIGNS

1. ALL NEW SIGNS SHALL MEET THE MINIMUM REQUIREMENTS SPECIFIED IN THE CURRENT EDITION OF THE MUTCD.
2. ALL EXISTING SIGNS TO REMAIN, EXCEPT AS SHOWN ON PLANS OR DIRECTED BY THE PROJECT MANAGER FOR REMOVAL.
3. ANY SIGNS REQUIRED TO BE REMOVED AND RELOCATED BY PROJECT MANAGER SHALL BE CONSIDERED INCIDENTAL AND NO ADDITIONAL PAYMENT SHALL BE MADE THEREFOR. ALL REMOVED SIGNS TO BE SALVAGED TO CITY OF ALBUQUERQUE PINO YARDS.
4. ALL EXISTING SIGNS SHALL BE CLEANED AND FREE OF GRAFFITI, DIRT OR OTHER OBSTRUCTIONS. THIS WORK SHALL BE CONSIDERED INCIDENTAL AND NO ADDITIONAL PAYMENT SHALL BE MADE THEREFOR.
5. ANY EXISTING SIGNS CONFLICTING WITH THE INTERSECTION OPERATION OR OTHER SIGNS SHALL BE REMOVED AS DIRECTED BY THE PROJECT MANAGER.
6. CONTACT CHRIS SALAZAR AT 857-8000 EXT. 8601 FOR HANDLING ARRANGEMENTS OF EXISTING SIGNS THAT ARE INDICATED AS TO BE REMOVED AND SALVAGED.
7. UNLESS SPECIFIED OTHERWISE, ALL NEW SIGNS SHALL BE MOUNTED ON A SINGLE 12 GAUGE POST, AS MANUFACTURED BY TELESPAR OR APPROVED EQUAL. POSTS SHALL BE SQUARE WITH DIMENSIONS AS FOLLOWS:
   1 1/2" X 1 1/2" NO PARKING SIGNS, BIKE LANE SIGNS
   2 1/4" X 2 1/4" ALL OTHER SIGNS
8. CONTRACTOR SHALL INSTALL A CORRESPONDINGLY SIZED 30 INCH LONG BASE POST WITH AN 18 INCH LONG BASE POST SLEEVE. SIGN POSTS SHOULD BE INSERTED 6 INCHES INTO THE BASE POST OR PER MANUFACTURER'S RECOMMENDATIONS.
9. ALL NEW SIGNS SHALL AT A MINIMUM, USE SUPER ENGINEERING GRADE REFLECTIVE SHEETING WITH GRAFFITI RESISTANT INKS OR COATING AS APPROVED BY THE TRAFFIC ENGINEER.
10. ALL SIGNING HARDWARE, INCLUDING BRACKETS, ARE CONSIDERED INCIDENTAL TO SIGN INSTALLATION AND NO ADDITIONAL PAYMENT WILL BE MADE THEREFOR.

INCIDENTAL ITEMS

1. SIGN HARDWARE AND BRACKETS PER GENERAL NOTES FOR PERMANENT SIGNS, NOTE 10, THIS SHEET.
2. CLEANING AND REMOVAL OF DEBRIS FOR EXISTING SIGNS PER GENERAL NOTES FOR PERMANENT SIGNS, NOTE 4, THIS SHEET.
3. REMOVAL OF SIGNS NOT DESIGNATED BUT REQUIRED PER GENERAL NOTES FOR PERMANENT SIGNS, NOTE 3, THIS SHEET.
4. AS-BUILT DRAWINGS PER GENERAL NOTES FOR PAVEMENT MARKINGS, NOTE 4, THIS SHEET.

SIGN SHEETING REQUIREMENTS:

TYPE VII, VIP SHEETING ON ALUMINUM SUBSTRATE
- STOP (R1-1)
- YIELD (WHITE ON RED R1-2)
- DO NOT ENTER (R5-1)
- WRONG WAY (R5-1A)

TYPE VII, VIP SHEETING ON ALUMINUM SUBSTRATE (YELLOW SHEETING)
- MERGE SIGNS (W4-1)
- CURVE SIGNS (W1-2)
- CHEVRON ALIGNMENT (W1-8)
- RAILROAD CROSSING ADVANCE WARNING SIGNS (W10-1,2,3,4)
- NO PASSING ZONE(W14-3)

FLUORESCENT STRONG YELLOW GREEN TYPE VII, VIP SHEETING ON ALUMINUM SUBSTRATE
- SCHOOL BUS STOP AHEAD (S3-1)
- SCHOOL ADVANCE & CROSSING (S1-1,2)
- PEDESTRIAN CROSSING (W8-5)
- BIKE CROSSING (W11-1)

TYPE III SHEETING ON ALUMINUM SUBSTRATE
- ALL OTHER PERMANENT SIGNAGE IN ACCORDANCE WITH STANDARD SPECIFICATION 701

TYPE III BACKGROUND WITH TYPE VII LEGENDS, BORDERS, NUMERALS, ETC. ALUMINUM SUBSTRATE
- EXTRUDED PANEL SIGNS

TYPE III SHEETING – ALUMINUM SUBSTRATE
- CONSTRUCTION SIGNS (VARIOUS)

FLUORESCENT ORANGE TYPE VII, VIP SHEETING – ALUMINUM SUBSTRATE
- CONSTRUCTION APPROACH SIGNS (W20-1,2,3,4,5,7)

98TH STREET AND AVALON ROAD - PERMANENT SIGNING & STRIPING QUANTITIES (ESTIMATED)

ITEM NUMBER	DESCRIPTION	UNIT	SUBTOTAL	USE
441.001	REFLECTORIZED PLASTIC PAVEMENT MARKINGS, 4" WIDTH	LF	1715.92	1720
441.004	REFLECTORIZED PLASTIC PAVEMENT MARKINGS, 12" WIDTH	LF	348.07	350
441.005	REFLECTORIZED PLASTIC PAVEMENT MARKINGS, 24" WIDTH	LF	112.25	115
441.01	REFLECTORIZED PLASTIC ARROW, RIGHT	EACH	4	4
441.011	REFLECTORIZED PLASTIC ARROW, LEFT	EACH	2	2
441.02	REFLECTORIZED PLASTIC WORD, ONLY	EACH	1	1

98TH STREET AND AVALON ROAD - PAVEMENT MARKINGS SUMMARY

STATION	ITEM NO. 441.01 REFLECTORIZED PLASTIC ARROW, RIGHT (EACH)	ITEM NO. 441.011 REFLECTORIZED PLASTIC ARROW, LEFT (EACH)	ITEM NO. 441.02 REFLECTORIZED PLASTIC WORD, ONLY (EACH)	REMARKS
98TH STREET ALIGNMENT				
13+03.43	1			RIGHT TURN ARROW
13+80.87			1	"ONLY" IN RIGHT TURN LANE
14+63.43	1			RIGHT TURN ARROW
AVALON ROAD ALIGNMENT				
52+83.52	1			RIGHT TURN ARROW
52+83.52		1		LEFT TURN ARROW
53+56.50	1			RIGHT TURN ARROW
53+56.50		1		LEFT TURN ARROW
SUBTOTAL	4	2	1	
USE	4	2	1	

98TH STREET AND AVALON ROAD - PAVEMENT STRIPING SUMMARY

			REFLECTORIZED PLASTIC PAVEMENT MARKINGS						
			ITEM 441.001				ITEM 441.004	ITEM 441.005	REMARKS
			4" LF				12" LF	24" LF	
STATION	TO	STATION	SOLID WHITE	DASHED WHITE	SOLID YELLOW	DOUBLE YELLOW	SOLID WHITE	SOLID WHITE	
98TH STREET ALIGNMENT									
11+60.96	-	11+60.96						36.62	STOP BAR
11+66.46	-	11+66.46					86.40		CROSSWALK
11+54.48	-	13+61.73	207.43						SOLID WHITE SHOULDER STRIPE
11+75.46	-	11+75.46					90.24		CROSSWALK
12+88.36	-	12+88.36						46.87	STOP BAR
12+88.86	-	16+49.36			360.00				SOLID YELLOW STRIPE
12+88.86	-	14+88.86	200.00						SOLID WHITE STRIPE
12+88.86	-	14+88.86	200.00						SOLID WHITE STRIPE
13+41.73	-	13+61.73			20.00				SOLID YELLOW STRIPE
13+41.73	-	13+61.73		5.00					DASHED WHITE STRIPE
14+88.86	-	16+49.36		40.12					DASHED WHITE LANE STRIPE
14+88.86	-	16+49.36		40.12					DASHED WHITE LANE STRIPE
AVALON ROAD ALIGNMENT									
51+57.02	-	52+15.52				116.99			SOLID DOUBLE YELLOW
52+15.29	-	52+62.75				95.06			SOLID DOUBLE YELLOW
52+15.52	-	52+62.75				94.60			SOLID DOUBLE YELLOW
52+62.75	-	53+76.26			113.50				SOLID YELLOW AROUND MEDIAN
52+62.75	-	53+76.26			113.50				SOLID YELLOW AROUND MEDIAN
52+65.42	-	53+75.01	109.59						SOLID WHITE STRIPE
53+75.51	-	53+75.51						28.76	STOP BAR
53+79.51	-	53+79.51					77.23		CROSSWALK
53+88.51	-	53+88.51					94.20		CROSSWALK
SUBTOTAL			717.02	85.25	607.00	306.65	348.07	112.25	
TOTAL WHITE			802.27				348.07	112.25	
TOTAL YELLOW					913.66				
TOTAL STRIPING			1715.92				348.07	112.25	
USE			1720				350	115	

AS BUILT INFORMATION
CONTRACTOR / DATE
WORK STAKED BY / DATE
INSPECTOR'S ACCEPTANCE BY / DATE
NAD 83 NMSP COORDINATES, CENTRAL ZONE, VERIFIED BY / DATE
DRAWINGS CORRECTED BY / DATE
MICRO-FILM INFORMATION
RECORDED BY / DATE
NO.

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SURVEY INFORMATION
FIELD NOTES

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HDR ENGINEERING INC.
DESIGNED BY: AMG DATE: 09/2014
DRAWN BY: AMG DATE: 09/2014
CHECKED BY: ELP DATE: 09/2014

HDR
2155 LOUISIANA BLVD NE,
SUITE 9500
ALBUQUERQUE, NM 87110
MAIN: (505) 830-5400
FAX: (505) 830-5454

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
TRANSPORTATION DEVELOPMENT DIVISION

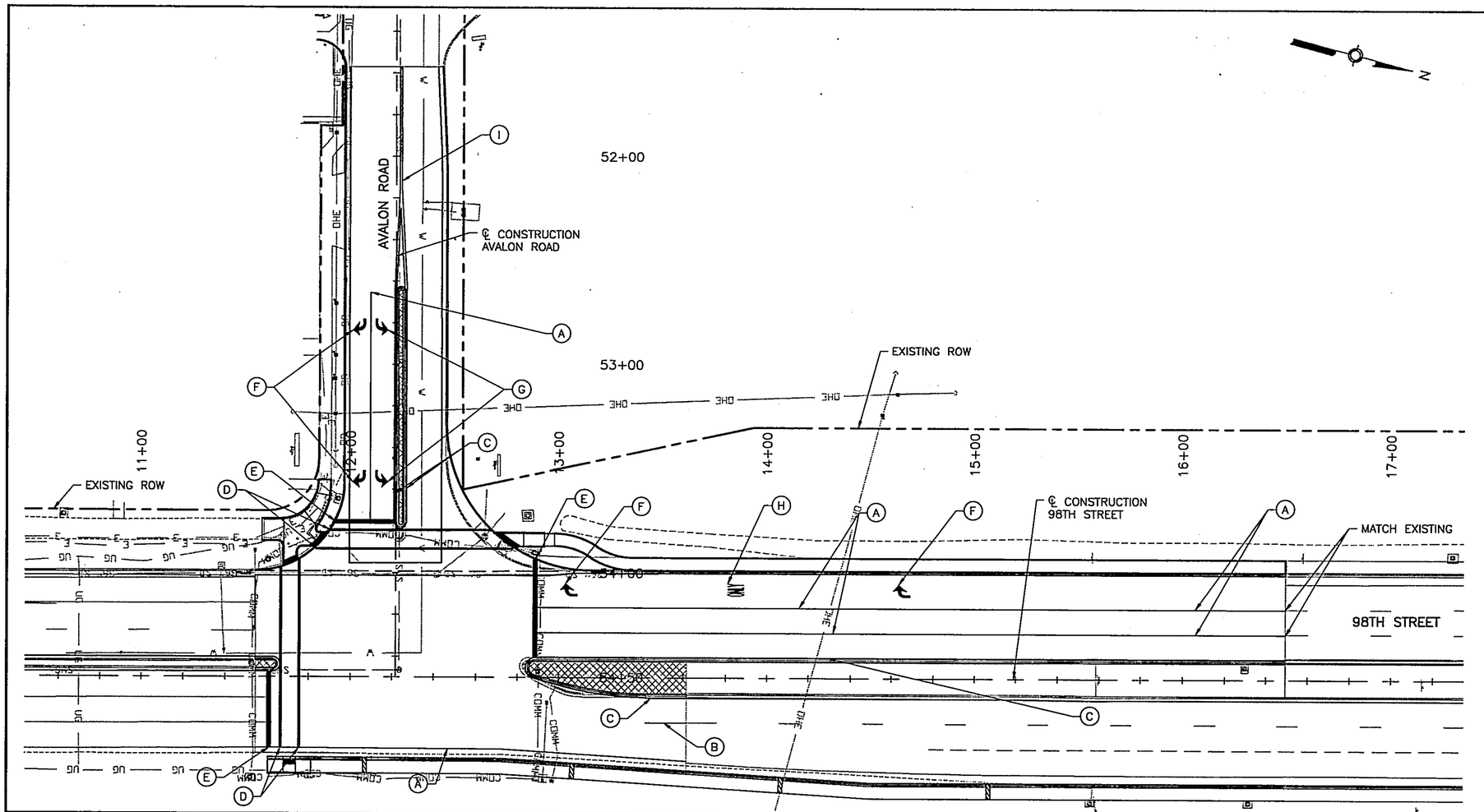
TITLE: 98TH STREET AND AVALON ROAD INTERSECTION RECONSTRUCTION

SIGNING & STRIPING GENERAL NOTES & QUANTITIES

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

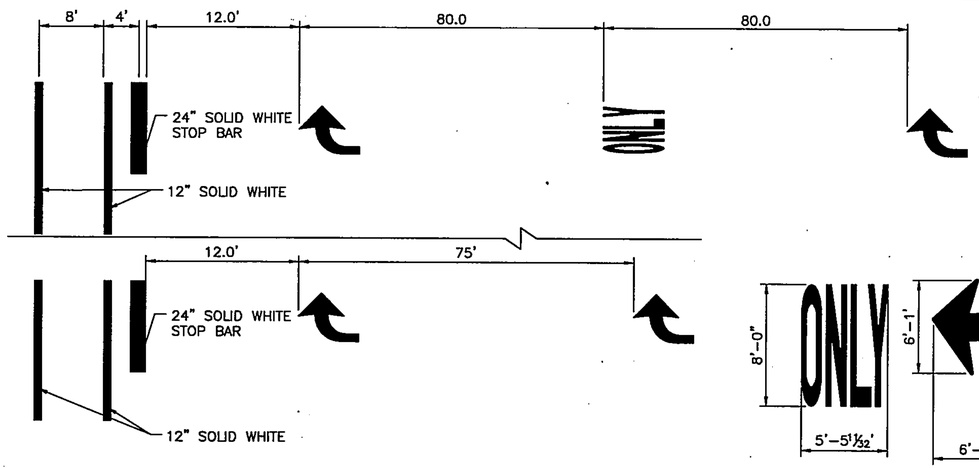
City Project No. 7856.03 | Zone Map No. K-9 | Sheet 10 Of 12

Date: Sep 30, 2014 - 5:19pm emguller Layout: Layout1
Drawing Name: C:\pwworking\phx\d0395408\10_PS01.dwg

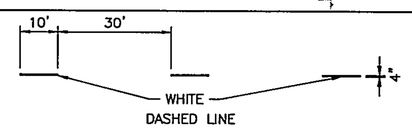


KEYED NOTES

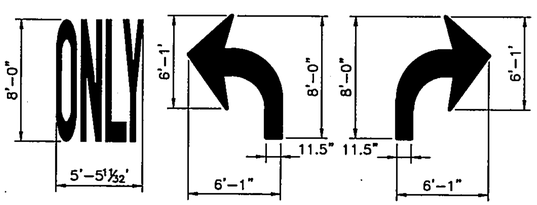
- (A) INSTALL 4" SOLID WHITE REFLECTORIZED PLASTIC PAVEMENT MARKING
- (B) INSTALL 4" DASHED WHITE REFLECTORIZED PLASTIC PAVEMENT MARKING
- (C) INSTALL 4" SOLID YELLOW REFLECTORIZED PLASTIC PAVEMENT MARKING
- (D) INSTALL 12" SOLID WHITE REFLECTORIZED PLASTIC PAVEMENT MARKING
- (E) INSTALL 24" SOLID WHITE REFLECTORIZED PLASTIC PAVEMENT MARKING
- (F) INSTALL REFLECTORIZED PLASTIC ARROW, RIGHT
- (G) INSTALL REFLECTORIZED PLASTIC ARROW, LEFT
- (H) INSTALL REFLECTORIZED PLASTIC WORD, ONLY
- (I) INSTALL 4" DOUBLE YELLOW REFLECTORIZED PLASTIC PAVEMENT MARKING



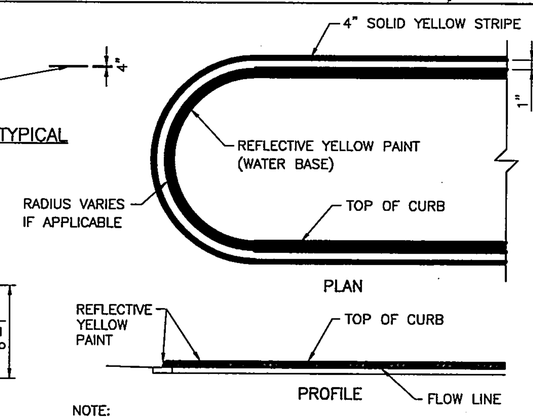
TURN LANE TYPICAL
NTS



LANE STRIPE SPACING TYPICAL
NTS



TYPICAL ROADWAY MESSAGE AND ARROW LAYOUT
NTS



NOTE:
MEDIAN CURB SHALL BE PAINTED WITH REFLECTIVE YELLOW PAINT FROM NOSE TO NOSE. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO SIGNING AND STRIPING AND NO ADDITIONAL PAYMENT SHALL BE MADE THEREFOR.

MEDIAN NOSE MARKING TYPICAL DETAIL
NTS

0 15' 30'

AS BUILT INFORMATION

		DATE
CONTRACTOR		
WORK STAKED BY		
RECORDS ACCEPTANCE BY		
FIELD VERIFICATION BY		
DRAWINGS CORRECTED BY		

MICRO-FILM INFORMATION

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REVISIONS

HDR ENGINEERING INC.
DESIGNED BY: AMG DATE: 09/2014
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HDR
2155 LOUISIANA BLVD NE.
SUITE 9500
ALBUQUERQUE, NM 87110
MAIN: (505) 830-5400
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CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
TRANSPORTATION DEVELOPMENT DIVISION

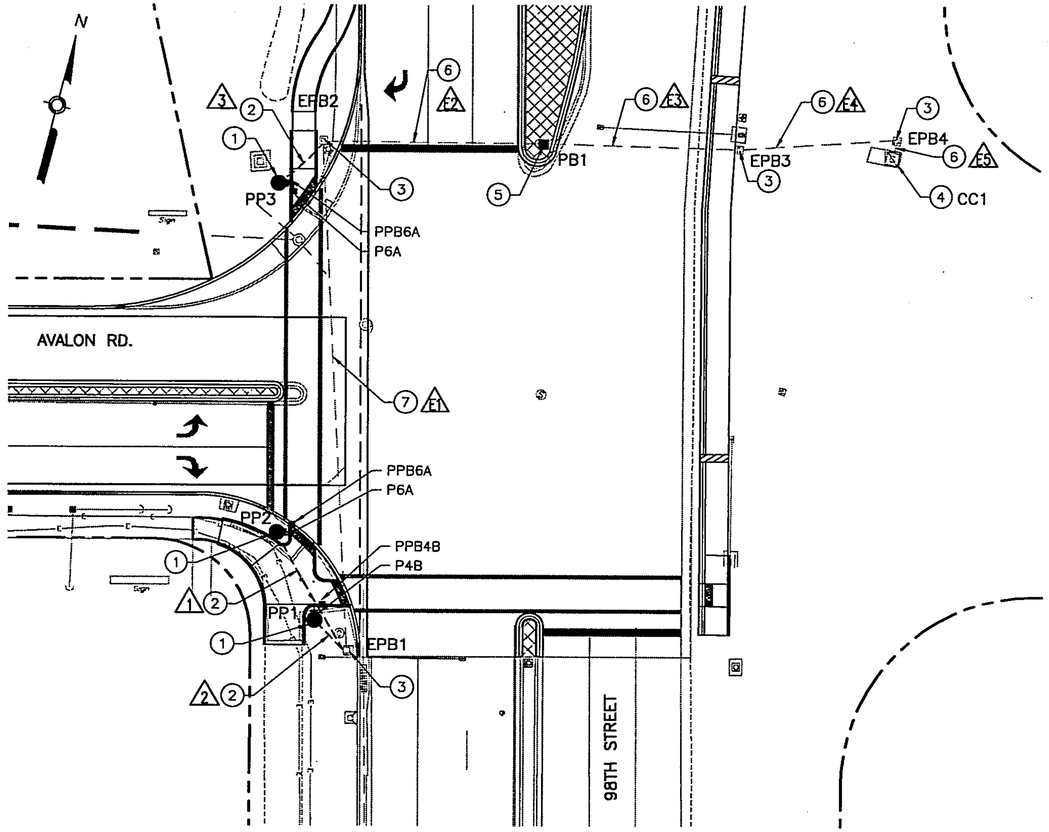
TITLE: 98TH STREET AND AVALON ROAD INTERSECTION RECONSTRUCTION

SIGNING & STRIPING PLAN

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

City Project No.	Zone Map No.	Sheet	Of
7856.03	K-9	11	12

Date: Sep 30, 2014 - 5:19pm amguilar Layout: Layout
Drawing Name: C:\pwworking\dhk\d0398408\11_SS02.dwg



KEYED NOTES

1. INSTALL 10' PEDESTAL POLE WITH PEDESTRIAN PUSHBUTTON(S) AND PEDESTRIAN SIGNAL(S).
2. INSTALL 2" RIGID ELECTRICAL CONDUIT (REC)
3. EXISTING PULL BOX
4. EXISTING CONTROLLER CABINET
5. REPLACE EXISTING PULL BOX IN MEDIAN
6. EXISTING TRAFFIC SIGNAL CONDUIT

TRAFFIC SIGNAL QUANTITIES - 98th ST AT AVALON RD (ESTIMATED)

ITEM NUMBER	ITEM	UNIT	TOTAL	USE
422.002	TRAFFIC SIGNAL PEDESTAL POLE, 10', CIP	EACH	3	3
424.007	ELECTRICAL CONDUIT 2", INCLUDING PUSHING, BORING AND JACKING, CIP	LIN FT	72	80
425.002	ELECTRICAL PULL BOX (STANDARD), CIP	EACH	1	1
426.001	SINGLE CONDUCTOR #2, CIP	LIN FT	902	910
427.021	PEDESTRIAN COUNTDOWN SIGNAL (LED), CIP	EACH	3	3
427.042	PEDESTRIAN SOUND UNIT, CIP	EACH	3	3
428.210	PUSH BUTTON STATION, CIP	EACH	3	3
510.110	STRUCTURAL, REINFORCED PC CONCRETE, 4000 PSI, INCL. FORMWORK, CIP	C.Y.	1.56	2
520.010	STRUCTURAL STEEL, FABRICATED, INCLUDING WELDING, CUTTING, DRILLING, ETC., CIP	LBS	51	60

CONDUIT AND CONDUCTOR REQUIREMENTS
98TH ST AT AVALON RD. (ESTIMATED)

CONDUIT LENGTH, SIZE AND TYPE					CONDUIT FILL
	SIZE/LENGTH				
RUN ID	2"	3"	TYPE	REMARKS	MCC #5 (LIN FT)
1	14		REC	PP1 TO EPB1	2 @ 20
2	40		REC	PP2 TO EPB1	2 @ 46
3	18		REC	PP3 TO EPB1	2 @ 24
E1			REC	EPB1 TO EPB2	2 @ 153
E2			REC	EPB2 TO PB1	2 @ 66
E3			REC	PB1 TO EPB3	2 @ 59
E4			REC	EPB3 TO EPB4	2 @ 48
E5			REC	EPB4 TO CC1	2 @ 11
PP1				BASE TO P6B	1 @ 10
PP1				BASE TO PPB6B	1 @ 6
PP2				BASE TO P4A	1 @ 10
PP2				BASE TO PPB4A	1 @ 6
PP3				BASE TO P6A	1 @ 10
PP3				BASE TO PPB6A	1 @ 6
TOTAL	72				902
USE	80				910

TRAFFIC SIGNAL NOTES

1. CONTRACTOR SHALL CONTACT THE CITY OF ALBUQUERQUE FOR APPROVED PRODUCTS LISTING FOR TRAFFIC SIGNAL COMPONENTS.
2. LOCATIONS OF CONDUITS, FOUNDATIONS, POLES AND PULL BOXES SHOWN ON THE PLANS ARE SCHEMATIC AND SHALL BE ADJUSTED IN THE FIELD TO AVOID UTILITIES AND TO MAXIMIZE CLEAR SPACE AVAILABLE FOR PEDESTRIANS AND WHEELCHAIRS TO COMPLY WITH THE AMERICANS WITH DISABILITIES ACT. THE CONTRACTOR SHALL MEET WITH THE PROJECT MANAGER IN THE FIELD AT ALL LOCATIONS TO SPOT EQUIPMENT BEFORE BEGINNING THE WORK. ALL SUCH EQUIPMENT SHALL BE INSTALLED WITHIN THE RIGHT-OF-WAY.
3. THE CONTRACTOR IS WARNED THAT EXISTING CONDUITS MAY CONTAIN AC POWER AND CAUTION SHALL BE EXERCISED IN INTERCEPTING OR INSTALLING CABLE IN EXISTING CONDUIT.
4. THE CONTRACTOR SHALL NOTIFY THE CITY OF ALBUQUERQUE SIGNAL LAB THREE WORKING DAYS IN ADVANCE OF ANY ANTICIPATED WORK ON SIGNALS, LIGHTING, AND POWER SERVICES. TRAFFIC ENGINEERING PERSONNEL MUST BE PRESENT WHEN SIGNALS ARE SHUT OFF OR TURNED ON. THE CONTRACTOR SHALL ALSO NOTIFY THE CITY OF ALBUQUERQUE EACH TIME A TRAFFIC SIGNAL CONTROL DOOR IS OPENED. CONTRACTOR SHALL NOTIFY THE COA SIGNAL LAB TWO WEEKS PRIOR TO TURNING ON NEW SIGNALS.
5. THE CONTRACTOR SHALL NOTIFY PNM ELECTRIC THIRTY (30) DAYS IN ADVANCE OF ANTICIPATED POWER SERVICE CONNECTIONS. THE CONTRACTOR SHALL COORDINATE WITH PNM ELECTRICAL TO ESTABLISH ELECTRICAL SERVICE IN THE CITY OF ALBUQUERQUE'S NAME. THE CONTRACTOR SHALL PAY PNM ELECTRIC ALL COSTS TO PROVIDE ELECTRICAL SERVICE. THIS WORK SHALL BE PAID FOR UNDER ITEM 421.015 SERVICE CONNECTION (SIGNAL).
6. FOR CONDUITS CONTAINING ONLY LOW VOLTAGE COMMUNICATION CABLES THE REQUIREMENTS FOR SINGLE CONDUCTOR BARE COPPER #6 AWG MAY BE WAIVED WHERE PERMITTED BY THE NATIONAL ELECTRICAL CODE.
7. EXISTING CONDUITS TO BE REMOVED OR ABANDONED SHALL HAVE ALL WIRING REMOVED.
8. EXISTING CONDUITS SHALL BE REPAIRED, ADJUSTED, OR REPLACED AS DIRECTED BY THE PROJECT MANAGER WHERE ELECTRICAL PULL BOXES OR TRAFFIC MANHOLES ARE INSTALLED OR REPLACED.
9. ANY EXISTING TRAFFIC SIGNAL EQUIPMENT AFFECTED BY PROJECT CONSTRUCTION INCLUDING POLES, CONTROLLER, CABINETS, SIGNAL HEADS, PEDESTRIAN HEADS, PEDESTRIAN PUSH BUTTONS, FITTINGS, BACK PLATES, LOAD SWITCHES, CONFLICT MONITORS, AND DETECTORS SHALL BE DELIVERED TO THE CITY OF ALBUQUERQUE PINO YARD.
10. THE CONTRACTOR SHALL FURNISH FOUNDATION ELEVATIONS TO THE PROJECT MANAGER FOR APPROVAL BEFORE INSTALLATION. THE CONTRACTOR SHALL GRADE AROUND THE FOUNDATIONS TO PROVIDE TRAVERSABLE SLOPES AS DIRECTED BY THE PROJECT MANAGER. THE CONTRACTOR SHALL SUBMIT CROSS-SECTIONS FOR APPROVAL BASED ON ACTUAL FIELD ELEVATIONS. ALL EXCAVATION AND/OR EMBANKMENT REQUIRED WILL BE CONSIDERED INCIDENTAL TO ITEM 511000-STRUCTURAL CONCRETE, CLASS "A".
11. ALL CONDUIT INSTALLED IN A TRENCH SHALL BE FLAGGED WITH CAUTION TAPE ONE FOOT ABOVE CONDUIT.

TRAFFIC SIGNAL EQUIPMENT REQUIREMENTS

1. ALL SIGNAL ASSEMBLIES, PEDESTRIAN SIGNALS, PEDESTRIAN PUSH BUTTONS, CABINETS, AND FITTINGS SHALL COMPLY WITH THE CITY OF ALBUQUERQUE TYPE AND COLOR REQUIREMENTS.
2. "ALL OR NONE" BIDS BY SIGNAL EQUIPMENT MANUFACTURERS WILL NOT BE ALLOWED. MANUFACTURERS (AS A MINIMUM) SHALL PREPARE SEPARATE BIDS FOR TWO GROUPS OF EQUIPMENT AS FOLLOWS:
   A. SIGNAL HARDWARE EQUIPMENT SUCH AS SIGNAL HEADS, PEDESTRIAN SIGNALS, PEDESTRIAN PUSH BUTTONS, BACK PLATES AND ASSOCIATED FITTINGS.
3. THE EXISTING FIBER OPTIC COMMUNICATION SYSTEM SHALL BE PROTECTED AND MAINTAINED DURING ALL PHASES OF CONSTRUCTION.
4. ALL SIGNAL POLES SHALL BE STEEL TYPE STRUCTURES FOR ALL SIGNALIZED LOCATIONS. THE PROPOSED POLES SHOULD BE SIMILAR IN STYLE TO THE EXISTING SIGNAL POLES THAT ARE CALLED FOR REPLACEMENT.

TRAFFIC SIGNAL LEGEND

NEW	EXISTING	ITEM
■	□	PULL BOX (SYMBOL)
PB1	EPB1	PULL BOX (NUMBERING)
C	C	CONTROLLER CABINET
— —	— —	CONDUIT RUN (SIGNALS)
		TRAFFIC SIGNAL PEDESTAL POLE WITH PEDESTRIAN PUSHBUTTONS AND INDICATIONS
X	EX	CONDUIT RUN NUMBER (SIGNAL)

0 10' 20'

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
THE STATION IS A COA SURVEY CONTROL 3-1/2" ALUMINUM DISK SET IN CONCRETE AND IS STAMPED "B-19, 1989"
NAD 83 NMSP COORDINATES CENTRAL ZONE
NAVD 1988 ELEV. = 5250.165'
GROUND TO GRID FACTOR: 0.999878
NORTHING = 1484984.639
EASTING = 1492453.769

SURVEY INFORMATION
FIELD NOTES
NO. BY DATE

ENGINEER'S SEAL

60% REVIEW

PRELIMINARY
NOT FOR CONSTRUCTION
9/2014

NO. DATE REMARKS BY
REVISIONS

HDR ENGINEERING INC.
DESIGNED BY: RC DATE: 09/2014
DRAWN BY: RC DATE: 09/2014
CHECKED BY: XX DATE: 09/2014

HDR
2155 LOUISIANA BLVD NE,
SUITE 9500
ALBUQUERQUE, NM 87110
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FAX: (505) 830-5454

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
TRANSPORTATION DEVELOPMENT DIVISION

TITLE: 98TH STREET AND AVALON ROAD INTERSECTION RECONSTRUCTION

SIGNAL GENERAL NOTES AND PLAN

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

City Project No. 7856.03 | Zone Map No. K-9 | Sheet 12 Of 12

Date: Sep 30, 2014 - 5:19pm, angullar, Layout: Layout1
Drawing Name: C:\pwworking\pha\d0396408\12_5001.dwg

Worksheet for Grate Inlet On Grade - Basin 10 (2 inlets)

Project Description

Solve For	Efficiency

Input Data

Discharge		1.43	ft³/s
Slope		0.01600	ft/ft
Gutter Width		1.03	ft
Gutter Cross Slope		0.12	ft/ft
Road Cross Slope		0.02	ft/ft
Roughness Coefficient		0.016	
Grate Width		1.03	ft
Grate Length		5.00	ft
Grate Type	P-50 mm (P-1-7/8")		
Clogging		50.00	%

Options

Grate Flow Option	Exclude None

Results

Efficiency	76.06	%
Intercepted Flow	1.09	ft³/s
Bypass Flow	0.34	ft³/s
Spread	6.88	ft
Depth	0.24	ft
Flow Area	0.53	ft²
Gutter Depression	0.11	ft
Total Depression	0.11	ft
Velocity	2.71	ft/s
Splash Over Velocity	9.11	ft/s
Frontal Flow Factor	1.00	
Side Flow Factor	0.53	
Grate Flow Ratio	0.49	
Active Grate Length	2.50	ft

Messages

Messages	Grate Length should be within the defined range of HEC-22's Chart 5 (approx. 0.5-4.5 ft / 0.15-1.35 m).

Worksheet for Grate Inlet On Grade - Basin 20 (2 inlets)

Project Description

Solve For	Efficiency

Input Data

Discharge		2.10	ft³/s
Slope		0.01100	ft/ft
Gutter Width		1.03	ft
Gutter Cross Slope		0.12	ft/ft
Road Cross Slope		0.02	ft/ft
Roughness Coefficient		0.016	
Grate Width		1.03	ft
Grate Length		5.00	ft
Grate Type	P-50 mm (P-1-7/8")		
Clogging		50.00	%

Options

Grate Flow Option	Exclude None

Results

Efficiency	72.91	%
Intercepted Flow	1.53	ft³/s
Bypass Flow	0.57	ft³/s
Spread	8.84	ft
Depth	0.28	ft
Flow Area	0.83	ft²
Gutter Depression	0.11	ft
Total Depression	0.11	ft
Velocity	2.52	ft/s
Splash Over Velocity	9.11	ft/s
Frontal Flow Factor	1.00	
Side Flow Factor	0.56	
Grate Flow Ratio	0.38	
Active Grate Length	2.50	ft

Messages

Messages	Grate Length should be within the defined range of HEC-22's Chart 5 (approx. 0.5-4.5 ft / 0.15-1.35 m).

Worksheet for Rip Rap

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.069	
Channel Slope	0.16670	ft/ft
Left Side Slope	3.00	ft/ft (H:V)
Right Side Slope	3.00	ft/ft (H:V)
Discharge	4.60	ft^3/s

Results

Normal Depth	0.63	ft
Flow Area	1.18	ft^2
Wetted Perimeter	3.96	ft
Hydraulic Radius	0.30	ft
Top Width	3.76	ft
Critical Depth	0.68	ft
Critical Slope	0.10659	ft/ft
Velocity	3.91	ft/s
Velocity Head	0.24	ft
Specific Energy	0.86	ft
Froude Number	1.23	
Flow Type	Supercritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.63	ft
Critical Depth	0.68	ft
Channel Slope	0.16670	ft/ft
Critical Slope	0.10659	ft/ft