I. EXECUTIVE SUMMARY AND INTRODUCTION

THE PROPOSED MARK 3S DEVELOPMENT IS LOCATED WITHIN THE LA CUEVA SECTOR PLAN AREA OF NORTH ALBUQUERQUE ACRES. THE SITE DEVELOPMENT PLANS FOR THE PROJECT WERE APPROVED THROUGH EPC. A PRELIMINARY GRADING PLAN WAS INCLUDED IN THE EPC SET AND THIS SUBMITTAL IS CONSISTENT WITH THAT PLAN. MOST OF THE REQUIRED PUBLIC INFRASTRUCTURE IN HOLLY AVENUE NE HAS BEEN CONSTRUCTED BY PREVIOUS PROJECTS DESIGNED AND INSPECTED BY THIS ENGINEER (LOS VIGILS, VINEYARD COURT ESTATES). THE REMAINING PORTIONS REQUIRED FOR THIS PROJECT ARE THE PERMANENT HALF—WIDTH PAVING AND THE CONSTRUCTION OF TWO STORM INLETS. THE SITE DISCHARGES FREELY TO PUBLIC DRAINAGE IMPROVEMENTS IN HOLLY THAT WERE DESIGNED AND SIZED FOR THIS DISCHARGE. CONCURRENT WITH THE DRB SITE PLAN APPROVALS, A PLATTING ACTION IS PROPOSED SUPPORTING THE LOT LINE ELIMINATION AND VACATION OF 2 FEET OF HOLLY RIGHT—OF—WAY BEING INCORPORATED INTO THE SITE. THE PURPOSE OF THIS PLAN IS TO OBTAIN ROUGH GRADING AND BUILDING PERMIT APPROVALS.

II. PROJECT DESCRIPTION:

AS SHOWN BY VICINITY MAP C-20 LOCATED HEREON, THE SITE IS LOCATED IN THE NORTH ALBUQUERQUE ACRES SECTION OF ALBUQUERQUE, ON HOLLY AVE NE BETWEEN VENTURA ST. N.E. AND HOLBROOK STREET N.E. THE EXISTING LEGAL DESCRIPTION IS THE EAST HALF OF LOT 9 AND ALL OF LOT 10, BLOCK 20, TRACT 3, UNIT 3, NORTH ALBUQUERQUE ACRES. THE SITE IS ZONED SU-2/MIXED USE AND THE PROPOSED OFFICE DEVELOPMENT IS CONSISTENT WITH THE ZONING.

AS SHOWN BY PANEL 141 OF 825 OF THE NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAPS, BERNALILLO COUNTY, NEW MEXICO, AND INCORPORATED AREAS, DATED SEPTEMBER 20, 1996, REVISED TO REFLECT LOWR DATED 03/23/2004, THE SITE DOES NOT LIE WITHIN THE VICINITY OF ANY DESIGNATED FLOOD HAZARD ZONES.

III. BACKGROUND DOCUMENTS

THE FOLLOWING IS A LIST OF DOCUMENTS RELATED TO THE SITE AND SURROUNDING AREA. THIS LIST MAY NOT BE INCLUSIVE, HOWEVER, REPRESENTS A SUMMARY OF RELEVANT PLANS AND DOCUMENTS WHICH ARE KNOWN TO THE ENGINEER AT THE TIME OF PLAN PREPARATION.

- A. THE "NORTH AND SOUTH DOMINGO BACA ARROYO AND PASEO DEL NORTE CORRIDOR DRAINAGE MANAGEMENT PLAN" PREPARED FOR AMAFCA BY RESOURCE TECHNOLOGY, INC. (RTI) DATED DECEMBER, 1991. THIS PLAN HAS BEEN ADOPTED BY AMAFCA AS A GUIDELINE FOR DRAINAGE MANAGEMENT WITHIN THIS AREA WHICH INCLUDES THE NORTH DOMINGO BACA ARROYO (NDBA). AMAFCA RESOLUTION 1992—3 DATED JANUARY 03, 1992 FORMALLY ADOPTED THIS PLAN WHICH IDENTIFIES THE EXTENSION OF PERMANENT DRAINAGE IMPROVEMENTS WITHIN THE NDBA CORRIDOR, AND ESTABLISHED DEVELOPED DRAINAGE BASIN BOUNDARIES WITHIN THE PLAN AREAS. AS SHOWN BY THIS PLAN, THIS SITE IS IDENTIFIED TO DRAIN TO PUBLIC STORM DRAIN IMPROVEMENTS CONSTRUCTED WITHIN THE HOLLY RIGHT—OF—WAY.
- B. REQUEST FOR LETTER OF MAP REVISION (LOMR) FOR THE NORTH DOMINGO BACA ARROYO CARMEL AVENUE STORM DRAIN EXTENSION PREPARED BY JMA DATED 12/08/2003 AND APPROVED BY FEMA 03/23/2004 (FEMA CASE NUMBER 04-06-671P). THIS LOMR SUPPORTS THE COMPLETED NORTH DOMINGO BACA ARROYO CARMEL AVENUE STORM DRAIN EXTENSION COST SHARE PROJECT BY AMAFCA. UPON FEMA APPROVAL, AND IT REMOVED THE ASSOCIATED FLOODPLAIN DESIGNATION FROM THE NDBA WEST OF A POINT MIDBLOCK BETWEEN HOLBROOK STREET AND EUBANK.
- C. DRAINAGE REPORT FOR "LOS VIGILS SUBDIVISION" BY JEFF MORTENSEN & ASSOCIATES, INC, DATED 12/31/2002, HYDROLOGY FILE C20/D41. THIS PLAN THE CONSTRUCTION OF A 45 LOT RESIDENTIAL SUBDIVISION LOCATED TO THE NORTH OF THIS PROJECT ON THE NORTH SIDE OF HOLLY. THE LOS VIGILS PROJECT EXTENDED THE HOLLY STORM DRAIN ACROSS THE FRONTAGE OF THIS SITE AND DESIGNED THE REQUIRED INLETS ON THE SOUTH SIDE WHICH MUST NOW BE CONSTRUCTED. A BASIN MAP, STREET HYDRAULICS AND STORM DRAIN HYDRAULICS ANALYSIS WERE INCLUDED IN THIS SUBMITTAL TO ADDRESS THE EXTENSION OF HOLLY TO HOLBROOK ALL DEVELOPMENT ON HOLLY, INCLUDING THIS SITE.
- D. GRADING PLAN FOR "DESERT RIDGE OFFICE PARK" BY JMA, HYDROLOGY FILE C20/D51. THIS PLAN WAS APPROVED FOR THE UPSTREAM SITE IMMEDIATELY TO THE EAST (PROJECT # 1003277). THE DRAINAGE CONCEPTS PRESENTED THEREIN ARE CONSISTENT WITH THOSE NOW PROPOSED.

THE PROPOSED CONSTRUCTION DRAINING DIRECTLY AND FREELY TO PERMANENT HOLLY AVENUE NE DRAINAGE IMPROVEMENTS AS PROPOSED AND DESCRIBED HEREIN IS IN ACCORDANCE WITH THE POLICIES AND REQUIREMENTS OF THE ABOVE LISTED DOCUMENTS, AND IS CONSISTENT WITH THE CONCEPTS PREVIOUSLY ESTABLISHED BY THE CITY AND AMAFCA FOR NOBA DEVELOPMENT.

IV. EXISTING CONDITIONS:

THE SITE IS CURRENTLY UNDEVELOPED. EXISTING SITE RUNOFF DRAINS TO HOLLY AVE NE TO EXISTING DOWNSTREAM PUBLIC STORM DRAIN FACILITIES THAT WERE CONSTRUCTED BY LOS VIGILS (REF. C). HOLLY AVE NE TO THE NORTH IS A PUBLIC STREET WITH HALF—WIDTH (NORTH) PERMANENT PAVING IMPROVEMENTS. THE UPSTREAM SECTION OF HOLLY HAS PERMANENT FULL WIDTH IMPROVEMENTS. CONSTRUCTED BY VINEYARD COURT ESTATES, CPN 718781. PASEO DEL NORTE TO THE SOUTH IS A FULLY DEVELOPED PUBLIC STREET WITH A DRAINAGE DITCH, PUBLIC STORM DRAIN, AND PAVED ASPHALT TRAIL.

OFFSITE FLOWS DO NOT ENTER THE SITE FROM THE DEVELOPED SITE TO THE EAST OR FROM THE PUBLIC STREETS TO THE NORTH AND SOUTH WHICH EXHIBIT PARALLEL TOPOGRAPHY. THE DEVELOPED SITE TO THE WEST, PETE'S LANDSCAPING, IS TOPOGRAPHICALLY LOWER AND INCAPABLE OF CONTRIBUTING OFFSITE FLOWS.

V. DEVELOPED CONDITIONS

THE PROPOSED IMPROVEMENTS CONSIST OF THE CONSTRUCTION OF A MONTESSORI SCHOOL AND AN OFFICE BUILDING WITH PAVED PARKING, UTILITY AND LANDSCAPING IMPROVEMENTS. AS DEMONSTRATED BY THE STREET HYDRAULIC, STORM DRAIN AND INLET CALCULATIONS AND ANALYSIS CONTAINED WITHIN THE DRAINAGE REPORTS FOR LOS VIGILS AND VINEYARD COURT ESTATES, THE HOLLY STORM DRAIN AND STREET IS DESIGNED TO ACCEPT THE FREE DISCHARGE OF FULLY DEVELOPED RUNOFF FROM THE PROPERTIES FRONTING ON HOLLY, INCLUDING THIS SITE. ALL IMPROVEMENTS PROPOSED HEREIN ARE CONSISTENT WITH THE PREVIOUSLY APPROVED DEVELOPMENT PLANS FOR THIS SECTION OF HOLLY.

VI. GRADING PLAN

THE GRADING PLAN SHOWS: 1) EXISTING GRADES INDICATED BY SPOT ELEVATIONS AND CONTOURS AT 1 FT INTERVALS FROM THE JMA TOPO SURVEY DATED 10/25/2006, 2) PROPOSED GRADES INDICATED BY FINISHED FLOOR ELEVATIONS, SPOT ELEVATIONS, AND CONTOURS AT 1 FT INTERVALS, 3) THE LIMIT AND CHARACTER OF THE EXISTING IMPROVEMENTS, 4) THE LIMIT AND CHARACTER OF THE PROPOSED IMPROVEMENTS, AND 5) CONTINUITY BETWEEN EXISTING AND PROPOSED GRADES.

VII. CALCULATIONS

THE CALCULATIONS, REPRODUCED FORM THE APPROVED CONCEPTUAL GRADING PLAN AND WHICH APPEAR HEREON, ANALYZE BOTH THE EXISTING AND DEVELOPED CONDITIONS FOR THE 100—YEAR, 6—HOUR RAINFALL EVENT. THE PROCEDURE FOR 40—ACRE AND SMALLER BASINS, AS SET FORTH IN THE REVISION OF SECTION 22.2, HYDROLOGY OF THE DEVELOPMENT PROCESS MANUAL, VOLUME 2, DESIGN CRITERIA, DATED JANUARY, 1993, HAS BEEN USED TO QUANTIFY THE PEAK RATE OF DISCHARGE AND VOLUME OF RUNOFF GENERATED. AS DEMONSTRATED BY THE LOMR AND APPROVED DRAINAGE REPORTS PREPARED BY THIS OFFICE TO SUPPORT THE RECENTLY CONSTRUCTED AMAFCA NDBA PROJECT AND FOR LOS VIGILS, VINEYARD COURT ESTATES, AND THE DESERT RIDGE OFFICE PARK PROJECT (SEE REFERENCES), THE PUBLIC STORM DRAIN IN HOLLY IS SIZED FOR FREE DISCHARGE OF FULLY DEVELOPED RUNOFF FROM THIS SITE.

IX. CONCLUSION

1) THE PROPOSED SITE IMPROVEMENTS AND DRAINAGE CONCEPT ARE CONSISTENT WITH THE DEVELOPMENT CRITERIA ESTABLISHED BY PREVIOUSLY APPROVED PLANS FOR NDBA DEVELOPMENT AND THIS SPECIFIC PROJECT. 2) DEVELOPED RUNOFF FROM THIS SITE WILL DRAIN FREELY TO PERMANENT PUBLIC HOLLY PAVING AND STORM DRAINAGE IMPROVEMENTS, WHICH WERE CONSTRUCTED FOR LOS VIGILS AND VINEYARD COURT ESTATES. 3) THERE ARE NO DPM DESIGN VARIANCES, DRAINAGE EASEMENTS OR DRAINAGE COVENANTS ANTICIPATED AT THIS TIME.

CALCULATIONS

SITE CHARACTERISTICS

- 1. PRECIPITATION ZONE = 3
- 2. Ps.100 = P300 = 2.60 IN
- 3. TOTAL PROJECT AREA (At) = 58,462 SF / 1.34 AC
- 4. EXISTING LAND TREATMENT

TREATMENT AREA (SF/AC) % 58,462 / 1.34 100

5. DEVELOPED LAND TREATMENT

TREATMENT AREA (SF/AC) %
B 5,640 / 0.13 10
C 5,640 / 0.13 10
D 47,182 / 1.08 80

EXISTING CONDITION

1. VOLUME

Ew = (EAAA + EBAB + EcAc + EDAD)/AT Ew = 1.29 IN $V_{100} = (Ew/12)A_{T} = (1.29/12)(58,426) = 6,280 \text{ CF}$

2. PEAK DISCHARGE

QP = QPA AA + QPBAB + QPCAC + QPDADQP = Q100 = (3.45)(1.34) = 4.6 CFS

DEVELOPED CONDITION

1. VOLUME

 $Ew = (E_AA_A + E_BA_B + E_CA_C + E_DA_D)/AT$ $Ew = [(0.92)(0.13) + (1.29)(0.13) + (2.36)(1.08)]/1.34 = 2.12 |N V100 = (E_W/12)AT = (2.12/12)(58,462) = 10,330 CF$

2. PEAK DISCHARGE

QP = QPA AA + QPBAB + QPCAC + QPDADQP = Q100 = (2.60)(0.13)+(3.45)(0.13)+(5.02)(1.08) = 6.2 CFS

COMPARISON

1. VOLUME

 $\Delta V_{100} = 10,330-6,280 = 4,050 \text{ CF}$ (INCREASE)

2. PEAK DISCHARGE

 $\Delta_{Q100} = 6.2-4.6 = 1.6 \text{ CFS}$ (INCREASE)

A

2015 UPDATE - SUBMITTAL FOR BUILDING PERMIT FOR BUILDING A.

AS SHOWN BY THE ENGINEER'S CERTIFICATION DATED 10/05/2007, BUILDING A WAS NOT COMPLETED WITH THE ORIGINAL PHASE OF DEVELOPMENT IN 2007. BUILDING A WAS ORIGINALLY PROPOSED AS A SINGLE STORY STRUCTURE, AND IT IS NOW PROPOSED TO CONSTRUCT BUILDING A WITH THE SAME FOOTPRINT AND EXISTING SITE WORK WITH TWO MINOR CHANGES: 1) THE CHANGE TO 2-STORY ADDS THE STARWAY LANDING AT THE SOUTHWEST CORNER, AND 2) THERE WILL BE A SMALL SET OF STARS AND A WALKWAY CONNECTING BUILDING A TO EXISTING BUILDING B. ALL OTHER SITE WORK IS EXISTING. BECAUSE THERE IS NO PROPOSED SITE WORK AND THIS IS AN INFILL PROJECT, PROVIDING NEW STORMHATER QUALITY INFROVEMENTS IS NOT PRATICAL OR FEASIBLE. IT SHOULD BE NOTED THAT THE WATER QUALITY INTENT OF THIS ORDINANCE IS NET DOWNSTREAM OF THIS SITE AS THE EVENTUAL OUTFALL IS TO THE AMAFCA NORTH DOMINGO BACA DAM.



5/11/2015

JEFF MORTENSEN & ASSOCIATES, INC.

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| ALBUQUERQUE | NEV MEXICO 97109

| ENGINEERS | SURVEYURS (505) 345-4250

| FAX: 905 345-4254 | ESTABLISHED 1977

DRAINAGE PLAN AND CALCULATIONS HOLLY MARK 38 DEVELOPMENT

			NC.	DATE	BY	REVISIONS	JOB NO.	2006.070.6
ı	DESIGNED BY	<u>G.M.</u>	A	05/15	G.M.	UPDATE FOR BUILDING A CONSTRUCTION		2000.070.0
		DDW					DATE	02/2007
	DRAWN BY	RRW						02/2007
ı	APPROVED BY	G.M.	\				SHEET	OF .
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