

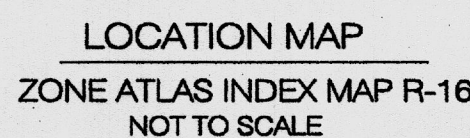
PROPOSED CONDITIONS  
SCALE: 1"=50'

### LEGEND

PROPERTY LINE  
EXISTING CONTOURS  
EXISTING GROUND SPOT ELEVATION  
EXISTING ELECTRICAL POLE  
PROPOSED SPOT ELEVATION  
TC=TOP OF CURB, FL=FLOW LINE  
INV=INVERT ELEVATION

WEIR COEFFICIENT = 2.600						X-SECTION DISTANCE = 0.100		
POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1.0	0.0	0.0	3.0	6.0	-0.5			
2.0	2.0	-0.5	4.0	8.0	0.0			
WSL	DEPTH		FLOW	FLOW		FLOW		TOPWD
INC	AREA		RATE	VEL		PLUS		
FT.	SQ.FT.	(CFS)	(FPS)	OBSTRUCTIONS				
0.100	0.100	0.440	0.355	0.807		4.800		
0.200	0.200	0.960	1.079	1.124		5.600		
0.300	0.300	1.560	2.119	1.358		6.400		
0.400	0.400	2.240	3.472	1.550		7.200		
0.500	0.500	3.000	5.147	1.716		8.000		

HYMO PROGRAM SUMMARY TABLE (AHYMO_97) - INPUT FILE = FSI.TXT				- VERSION: 1997.02c		RUN DATE (MON/DAY/YR) = 10/20/2008		USER NO. = AHYMO-S-9702c BahanHu-AH		PAGE = 1	
COMMAND	HYDROGRAPH IDENTIFICATION	FROM ID NO.	TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	NOTATION	
*S AHYMO FILE FOR MESA DEL SOLO DRAINAGE											
*S DEVELOPED CONDITIONS, 24HR, 100YR.											
*S RAINFALL TYPE= 1											
										RAIN6=	2.350
*S CALCULATE BASIN 2A/											
COMPUTE NM HYD		PROPOSED	- 1	.00283	7.43	.260	1.72086	1.500	4.103	PER IMP=	60.00
*S OUTLET WORKS = 2-24" SIDEWALK CULVERTS @ 1.83CFS/CULVERT											
ROUTE RESERVOIR		POND	1 11	.00283	2.27	.255	1.69098	1.850	1.253	AC-FT=	.157
FINISH											



1. INTRODUCTION  
THE PURPOSE OF THIS SUBMITTAL IS TO PRESENT A FINAL GRADING AND DRAINAGE PLAN FOR THE PROPOSED FIRE HOUSE AT MESA DEL SOL. THE SITE IS LOCATED EAST OF ADVENT SOLAR. THERE IS VACANT LAND TO THE WEST AND SOUTH AND PUBLIC ROADS (FRITTS CROSSING AND WATSON DRIVE) TO THE NORTH AND EAST. THE PROJECT WILL INCLUDE ONE BUILDING WITH A TRUCK BAY ALONG WITH PARKING AND LANDSCAPED AREAS. WITH THIS SUBMITTAL WE ARE SEEKING HYDROLOGY APPROVAL FOR BUILDING PERMIT APPROVAL.

II. EXISTING HYDROLOGIC CONDITIONS  
THE SITE IS APPROXIMATELY 1.8 ACRES AND IS CURRENTLY UNDEVELOPED. THE LAND SLOPES 0.5% TO 1.0% FROM THE WEST TO THE SOUTHEAST TOWARD EXISTING TEMPORARY RETENTION POND T CREATED WITH THE ROADWAY ROUGH GRADING PROJECT (SEE EXISTING CONDITIONS).

III. PROPOSED HYDROLOGIC CONDITIONS

THE DRAINAGE ANALYSIS OF THIS SITE FOLLOWS THE GUIDELINES AND FRAMEWORK OF THE DRAINAGE AREA TWO (D2) DRAINAGE MANAGEMENT PLAN (DMP) (COA HYDRO FILE R16/D42, ENGINEER STAMP DATE 5-19-2008) IN WHICH THIS SITE LIES WITHIN THE NORTHEAST CORNER OF BASIN 2M. THE D42-DMP SHOWS ALL OF BASIN 2M DRAINING DIRECTLY TO THE DRAINAGE AREA 2 REGIONAL RETENTION POND LOCATED TO THE WEST OF WATSON DRIVE AND SAGAN AVENUE. STORM DRAINAGE FROM THIS SITE, THE HOUSE SITE WILL DRAIN DIRECTLY TO WATSON DRIVE, WHERE IT WILL BE COLLECTED WITHIN THE STORM DRAIN SYSTEM WHICH EVENTUALLY OUTFALLS INTO THE REGIONAL RETENTION POND. (NOTE: WE WILL REVISE THE D42-DMP SHOWING THIS NEW CONFIGURATION.)

THE FIRE HOUSE SITE WAS DIVIDED INTO MULTIPLE BASINS WHICH DRAIN BOTH OVERLAND AND THROUGH A SYSTEM OF SWALES, SIDEWALK CULVERTS, AND CURB OPENINGS. THE SWALES PROVIDE SMALL WATER HARVESTING AREAS THAT CONVEY DRAINAGE TO A LARGER WATER HARVESTING AREA LOCATED AT THE SOUTHEAST CORNER OF THE SITE. DURING THE INTERIM CONDITIONS, THIS DRAINAGE WILL ENTER WATSON DR. AND THEN OFFLOAD INTO A TEMPORARY RETENTION POND LOCATED SOUTH OF THE SITE. VIA A CURB OPENING, THE POND WILL DRAIN INTO THE POND WHICH WAS SIZED TO ACCEPT THE 100-YR. 10DAY STORM EVENT. IN THE FUTURE, THE FLOW WILL ENTER WATSON DRIVE AS PREVIOUSLY STATED, UNTIL IT REACHES THE STORM DRAINAGE SYSTEM WHERE IT WILL BE CONVEYED TO THE POND. PLEASE SEE BASIN DATA TABLE FOR ASSOCIATED COMPUTATIONS.

THERE WILL BE WATER HARVESTING AREAS LOCATED THROUGHOUT THE SITE AND ALL RETENTION VOLUMES WERE NOT INCLUDED IN THE HYDROLOGIC ANALYSIS FOR THE DEVELOP DISCHARGE TO THE REGIONAL RETENTION POND. HOWEVER, AT THE SOUTHEAST CORNER OF THE SITE, THE LARGE WATER HARVESTING AREA WILL ALSO ACT AS A DETENTION POND TO REDUCE THE TOTAL OUTFALL. AN AHYMO ANALYSIS WAS COMPLETED AND THE ENTIRE SITE WAS ROUTED THROUGH THIS POND/WATER HARVESTING AREA, WHICH REDUCED THE TOTAL OUTFALL OF THIS SITE FROM 7.41CFS TO 2.27CFS (SEE AHYMO PROGRAM SUMMARY), RESULTING IN 20 24" SIDEWALK CULVERTS OUTFALLING INTO WATSON DR.

THE TEMPORARY RETENTION POND AT THE SOUTH END OF THE SITE WILL ACCEPT THE DEVELOPED FLOWS FROM THE FIRE HOUSE PROJECT AS WELL AS MINOR UNDEVELOPED DRAINAGE FROM THE SURROUNDING OFFSITE BASINS. THE VOLUME REQUIRED IS 24,958.26CF AND THE VOLUME PROVIDED IS 26,510CF. THE TOTAL FLOW FROM THE SITE IS 2.270CFS.

OFFSITE DRAINAGE

CURRENT DRAINAGE FROM THE WEST (OFFSITE T-1) WILL BE DIVERTED ALONG THE WESTERN PROPERTY LINE TO THE TEMPORARY POND 1 CONSTRUCTED WITH THE ROADWAY ROUGH GRADING PROJECT. DRAINAGE TO THE SOUTHWEST WILL CONTINUE TO OUTFALL TO THE TEMPORARY RETENTION POND CONSTRUCTED WITH THE ROUGH GRADING PROJECT (POND T). UPON DEVELOPMENT OF THESE SITES, DRAINAGE WILL CONFORM TO THE REQUIREMENTS SET FORTH IN DAP 2M. IN ADDITION, HALF OF WATSON DR.; FROM SOLOR MESA AVE. TO THE SOUTHERN PROPERTY LINE OF THE FIRE HOUSE, WILL ALSO ENTER THE NEW TEMPORARY POND. THE DRAINAGE FOR WATSON WILL FURTHER BE DETAILED IN A FUTURE SUBMITTAL.

FLOODPLAIN  
IN ACCORDANCE WITH FEMA COMMUNITY MAP PANEL #35001C0555 D, THE SITE IS NOT LOCATED WITHIN A  
FLOODPLAIN.

IV. CONCLUSION

THE 100YR PEAK DISCHARGE FROM THE SITE IS APPROXIMATELY 2.27CFS WITH A 100YR, 10DAY VOLUME OF 17,790CF. THESE FLOWS WERE COMPUTED IN ACCORDANCE WITH SECTION 22.2 OF THE DEVELOPMENT PROCESS MANUAL. THIS DRAINAGE MANAGEMENT PLAN IS CAPABLE OF SAFELY PASSING THE 100 YEAR STORM EVENT AND MEETS CITY AND LEVEL B REQUIREMENTS. WITH THIS SUBMITTAL WE ARE SEEKING HYDROLOGY APPROVAL FOR BUILDING PERMIT APPROVAL.

RECEIVED  
NOV 6 4 2008  
HYDROLOGY  
SECTION

# Bohannon ▲ Huston

**ENGINEERING ▲ SPATIAL DATA ▲ ADVANCED TECHNOLOGIES**

architecture  
interiors  
landscape  
planning  
engineering

# Dekker Perich Sabatini

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ARCHITECT

ENGINEER

A circular professional engineer seal for Michael Balaskovits, New Mexico. The seal contains the text "MICHAEL BALASKOVITS", "NEW MEXICO", "18187", "11-4-08", "LICENSED PROFESSIONAL ENGINEER". The name "Michael Balaskovits" is handwritten in cursive above the seal.

PROJECT

**FIRE HOUSE  
@ MESA DEL SOL**

ALBUQUERQUE, NEW MEXICO

## REVISIONS

DRAWN BY

REVIEWED BY

DATE **SEPTEMBER 22, 2008**

PROJECT NO. 07025

DRAWING NAME

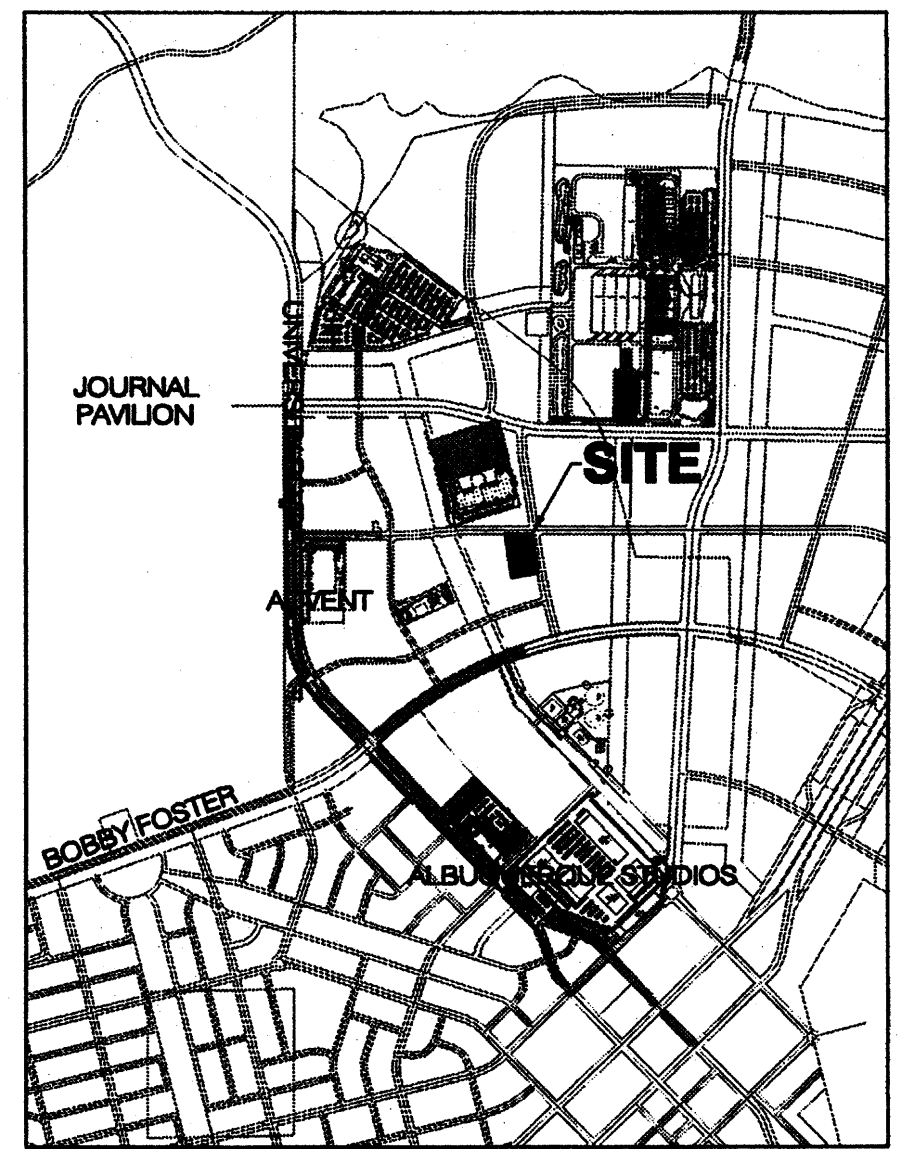
# DRAINAGE MANAGEMENT PLAN

SHEET NO.

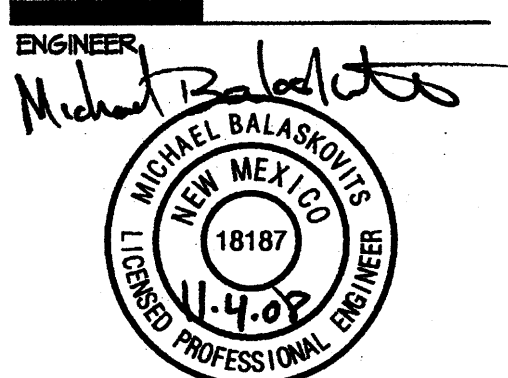
COO1

OF





LOCATION MAP  
ZONE ATLAS INDEX MAP R-16  
NOT TO SCALE



PROJECT

**FIRE HOUSE  
@ MESA DEL SOL**  
ALBUQUERQUE, NEW MEXICO

REVISIONS
△
△
△
△

DRAWN BY	
REVIEWED BY	
DATE	SEPTEMBER 22, 2008
PROJECT NO.	07025
DRAWING NAME	

**GRADING AND  
DRAINAGE  
PLAN**

SHEET NO.  
**C100**

OF

**LEGEND**

- PROPERTY LINE
- EXISTING CONTOURS
- EXISTING GROUND SPOT ELEVATION
- EXISTING ELECTRICAL POLE
- PROPOSED SPOT ELEVATION
- TC=TOP OF CURB, FL=FLOW LINE
- INV=INVERT ELEVATION
- PROPOSED DIRECTION OF FLOW
- WATER BLOCK
- PROPOSED INDEX CONTOURS
- PROPOSED INTER CONTOURS
- PROPOSED CURB & GUTTER
- EXISTING STORM DRAIN MANHOLE

**PROJECT BENCH MARKS:**

- BENCHMARK #1  
1.16  
N145339.35 E1533242.614 5291.48
- BENCHMARK #2  
3.016  
N1457546.798 E1534025.978 5310.42

**GENERAL NOTES**

- ALL WORK DETAILED ON THESE PLANS AND PERFORMED UNDER THIS CONTRACT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND THE PROJECT GEOTECHNICAL REPORT. WHERE APPLICABLE, CITY OF ALBUQUERQUE PUBLIC WORKS STANDARDS SHALL APPLY.
- THE CONTRACTOR SHALL ABIDE BY ALL LOCAL, STATE, AND FEDERAL LAWS, RULES AND REGULATIONS WHICH APPLY TO THE CONSTRUCTION OF THESE IMPROVEMENTS, INCLUDING EPA REQUIREMENTS WITH RESPECT TO STORM WATER DISCHARGE.
- PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL POTENTIAL OBSTRUCTIONS INCLUDING ALL UNDERGROUND UTILITIES. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION OBSERVER OR ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
- TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, THE CONTRACTOR SHALL CONTACT LINE LOCATING SERVICE FOR LOCATION OF EXISTING UTILITIES.
- ALL ELECTRICAL, TELEPHONE, CABLE TV, GAS AND OTHER UTILITY LINES, CABLES, AND APPURTENANCES ENCOUNTERED DURING CONSTRUCTION THAT REQUIRE RELOCATION, SHALL BE COORDINATED WITH THAT UTILITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF ALL NECESSARY UTILITY ADJUSTMENTS. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR DELAYS OR INCONVENIENCES CAUSED BY UTILITY COMPANY WORK CREWS. THE CONTRACTOR MAY BE REQUIRED TO RESCHEDULE HIS ACTIVITIES TO ALLOW UTILITY CREWS TO PERFORM THEIR REQUIRED WORK.
- THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL EXISTING UTILITY LINES WITHIN THE CONSTRUCTION AREA. ANY DAMAGE TO EXISTING FACILITIES CAUSED BY CONSTRUCTION ACTIVITY SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE AND APPROVED BY THE CONSTRUCTION OBSERVER.
- CONSTRUCTION ACTIVITY SHALL BE LIMITED TO THE PROPERTY AND/OR PROJECT LIMITS. ANY DAMAGE TO ADJACENT PROPERTIES RESULTING FROM THE CONSTRUCTION PROCESS SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE.
- OVERNIGHT PARKING OF CONSTRUCTION EQUIPMENT SHALL NOT OBSTRUCT DRIVEWAYS OR DESIGNATED TRAFFIC LANES. THE CONTRACTOR SHALL NOT STORE ANY EQUIPMENT OR MATERIAL WITHIN THE PUBLIC RIGHT-OF-WAY.
- THE CONTRACTOR SHALL OBTAIN ALL THE NECESSARY PERMITS FOR THE PROJECT PRIOR TO COMMENCING CONSTRUCTION (I.E., BARRICADING, TOPSOIL DISTURBANCE, EXCAVATION PERMITS, EPA STORM WATER PERMITS, ETC.).
- ALL PROPERTY CORNERS DESTROYED DURING CONSTRUCTION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. ALL PROPERTY CORNERS MUST BE RESET BY A REGISTERED LAND SURVEYOR.
- THE CONTRACTOR SHALL PREPARE A CONSTRUCTION TRAFFIC CONTROL AND SIGNING PLAN AND OBTAIN APPROVAL OF SUCH PLAN FROM THE CITY OF ALBUQUERQUE, TRAFFIC ENGINEERING DEPARTMENT, PRIOR TO BEGINNING ANY CONSTRUCTION WORK ON OR ADJACENT TO EXISTING STREETS.
- ALL BARRICADES AND CONSTRUCTION SIGNING SHALL CONFORM TO APPLICABLE SECTIONS OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD), US DEPARTMENT OF TRANSPORTATION, LATEST EDITION.
- THE CONTRACTOR SHALL MAINTAIN ALL CONSTRUCTION BARRICADES AND SIGNING AT ALL TIMES. THE CONTRACTOR SHALL VERIFY THE PROPER LOCATION OF ALL BARRICADES AT THE END AND BEGINNING OF EACH DAY.
- THE CONTRACTOR SHALL TAKE ALL STEPS NECESSARY TO CONFORM WITH EPA REQUIREMENTS, INCLUDING COMPLIANCE WITH NPDES PHASE 2 REQUIREMENTS.

**GRADING KEYED NOTES**

- INSTALL 3' VALLEY GUTTER PER DETAIL 1, SHEET C101.
- INSTALL 10'X10' RIP RAP BLANKET PER DETAIL 3, SHEET C101.
- WATER HARVESTING AREA, SEE LANDSCAPE PLAN FOR DETAILS.
- PROVIDE 24" CURB OPENING PER DETAIL 2, SHEET C101.
- INSTALL 1-24" SIDEWALK CULVERT PER COA STD DWG 2236.
- TEMPORARY RETENTION POND
- INSTALL 4' COBBLE SWALE PER DETAIL 4, SHEET C101.
- INSTALL ASPHALT RUNDOWN PER DETAIL 5, SHEET C101. OPENING SHALL BE A 10' MINIMUM TRANSITIONING TO A 6' WIDE RUNDOWN.
- INSTALL 2-24" SIDEWALK CULVERT PER COA STD DWG 2236.
- PROVIDE 48" CURB OPENING PER DETAIL 2, SHEET C101. TRANSITION COBBLE SWALE RUNDOWN FROM 6" AT OPENING TO 4" WITHIN 5'.
- INSTALL 1-24" SIDEWALK CULVERT PER COA STD DWG 2236.

*From volume  
explanation of how this will work  
- Spillway to*

NOTE: ALL SIDEWALKS SHALL HAVE A MAXIMUM CROSS SLOPE OF 2% AND A MINIMUM CROSS SLOPE OF 1%.

