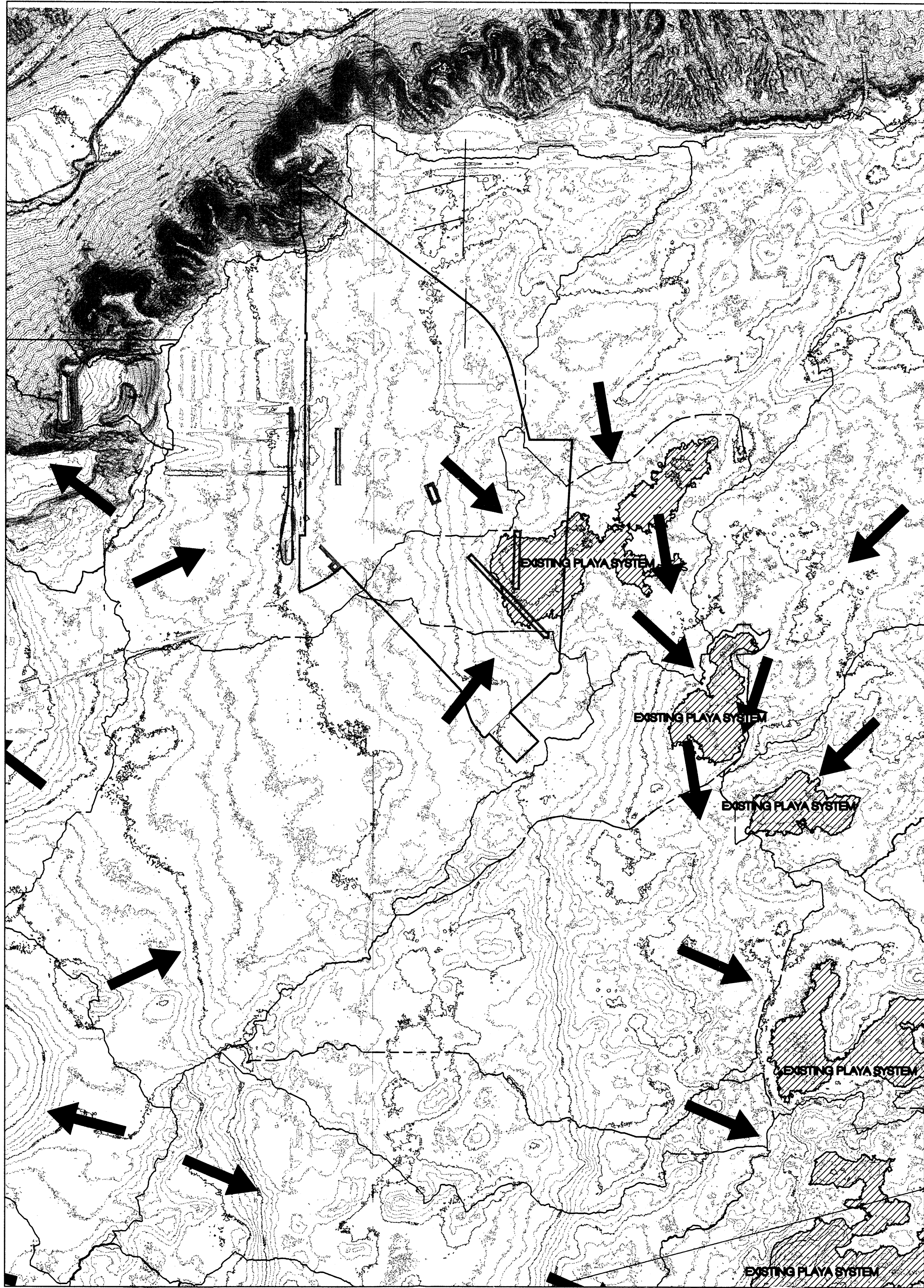
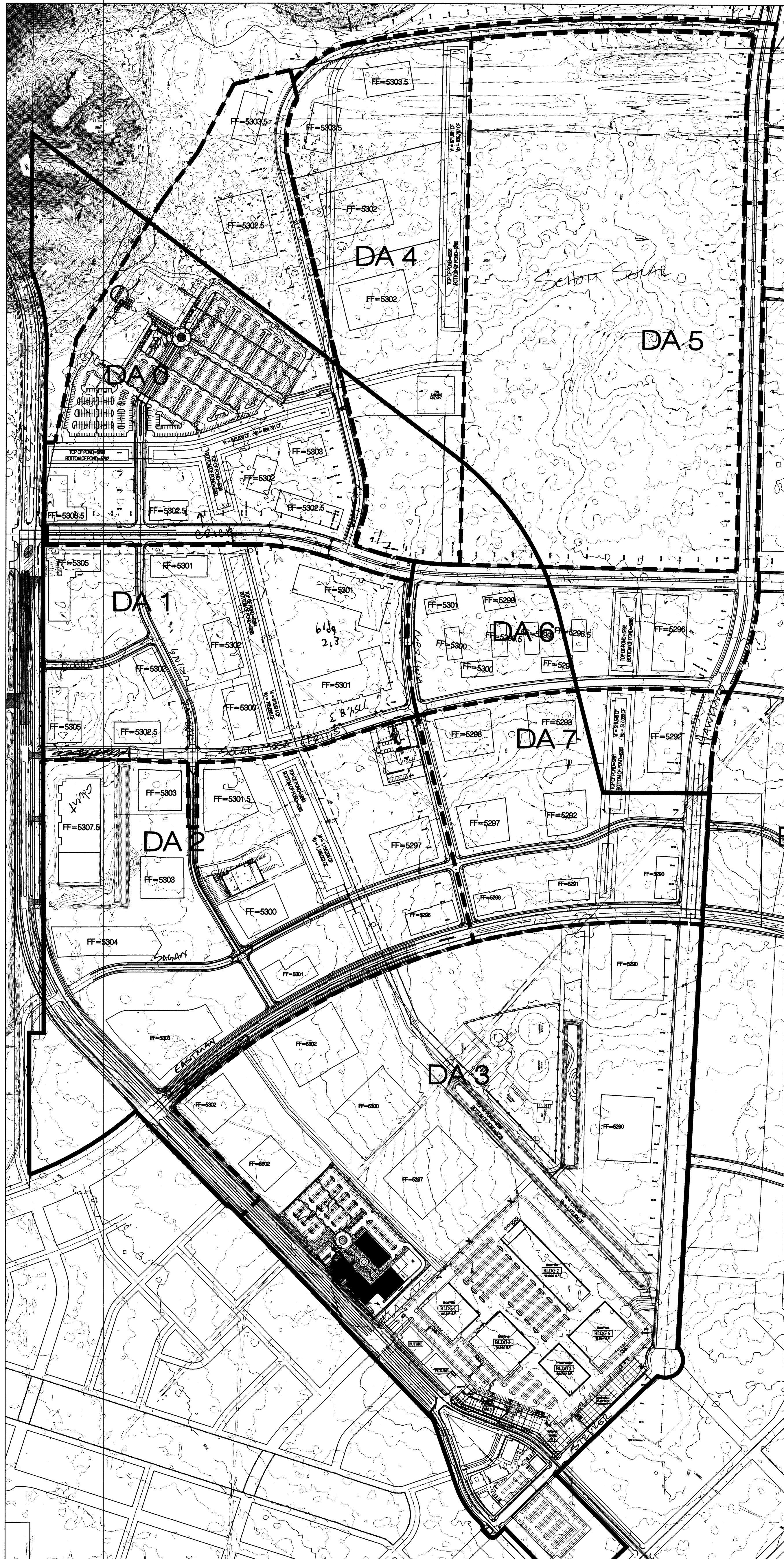




EXISTING BASINS MAP  
SCALE 1" = 1000'

March  
08



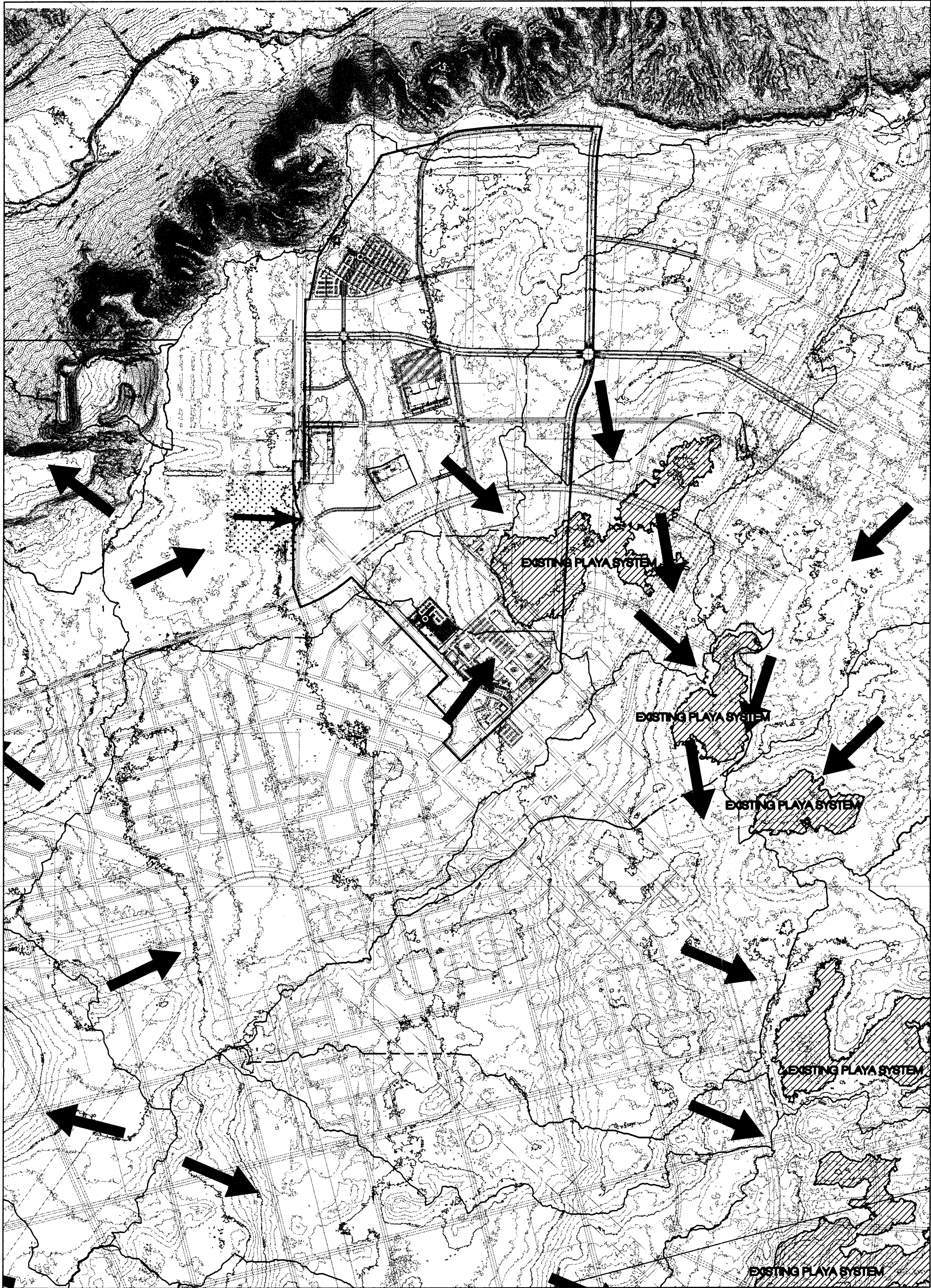
PROPOSED BASINS MAP  
SCALE 1" = 300'

**EMPLOYMENT CENTER MESA DEL SOL PHASE 2 BASIN CALCULATIONS**  
Ultimate Development Conditions Basin Data Table

|                                                                                                                                |           |        |                            | This table is based on the DPM Section 22.2, Zone: 2 |      |       |           |        |                       |                         |               |  |  |  |  |
|--------------------------------------------------------------------------------------------------------------------------------|-----------|--------|----------------------------|------------------------------------------------------|------|-------|-----------|--------|-----------------------|-------------------------|---------------|--|--|--|--|
| DRAINAGE AREA                                                                                                                  | Area      | Area   | Land Treatment Percentages |                                                      |      |       | Q(100)    | Q(100) | V(100) <sub>6hr</sub> | V(100) <sub>10day</sub> | Total Volume  |  |  |  |  |
| ID                                                                                                                             | (SQ. FT)  | (AC.)  | A                          | B                                                    | C    | D     | (cfs/ac.) | (cfs)  | (CF)                  | (CF)                    | Provided (CF) |  |  |  |  |
| DA 0                                                                                                                           | 2,955,639 | 67.85  | 0.0%                       | 10.0%                                                | 0.0% | 90.0% | 4.46      | 302.48 | 489,158               | 843,835                 | 964,701       |  |  |  |  |
| DA 1                                                                                                                           | 2,156,475 | 49.51  | 0.0%                       | 10.0%                                                | 0.0% | 90.0% | 4.46      | 220.70 | 356,897               | 615,674                 | 765,696       |  |  |  |  |
| DA 2                                                                                                                           | 4,056,776 | 93.13  | 0.0%                       | 10.0%                                                | 0.0% | 90.0% | 4.46      | 415.18 | 671,396               | 1,158,209               | 1,168,053     |  |  |  |  |
| DA 3                                                                                                                           | 5,991,002 | 137.53 | 0.0%                       | 10.0%                                                | 0.0% | 90.0% | 4.46      | 613.13 | 991,511               | 1,710,431               | 1,738,404     |  |  |  |  |
| DA 4                                                                                                                           | 2,352,681 | 54.01  | 0.0%                       | 10.0%                                                | 0.0% | 90.0% | 4.46      | 240.78 | 389,369               | 671,691                 | 754,881       |  |  |  |  |
| DA 5                                                                                                                           | 4,295,410 | 98.61  | 0.0%                       | 10.0%                                                | 0.0% | 90.0% | 4.46      | 439.60 | 710,890               | 1,226,340               | ***           |  |  |  |  |
| DA 6                                                                                                                           | 3,297,296 | 75.70  | 0.0%                       | 10.0%                                                | 0.0% | 90.0% | 4.46      | 337.45 | 545,703               | 941,378                 | 969,788       |  |  |  |  |
| *** - The flow generated from this drainage area will be retained on site. Pond sizing will be performed in future submittals. |           |        |                            |                                                      |      |       |           |        |                       |                         |               |  |  |  |  |

\*\*\* - The flow generated from this drainage area will be retained on site. Pond sizing will be performed in future submittals.



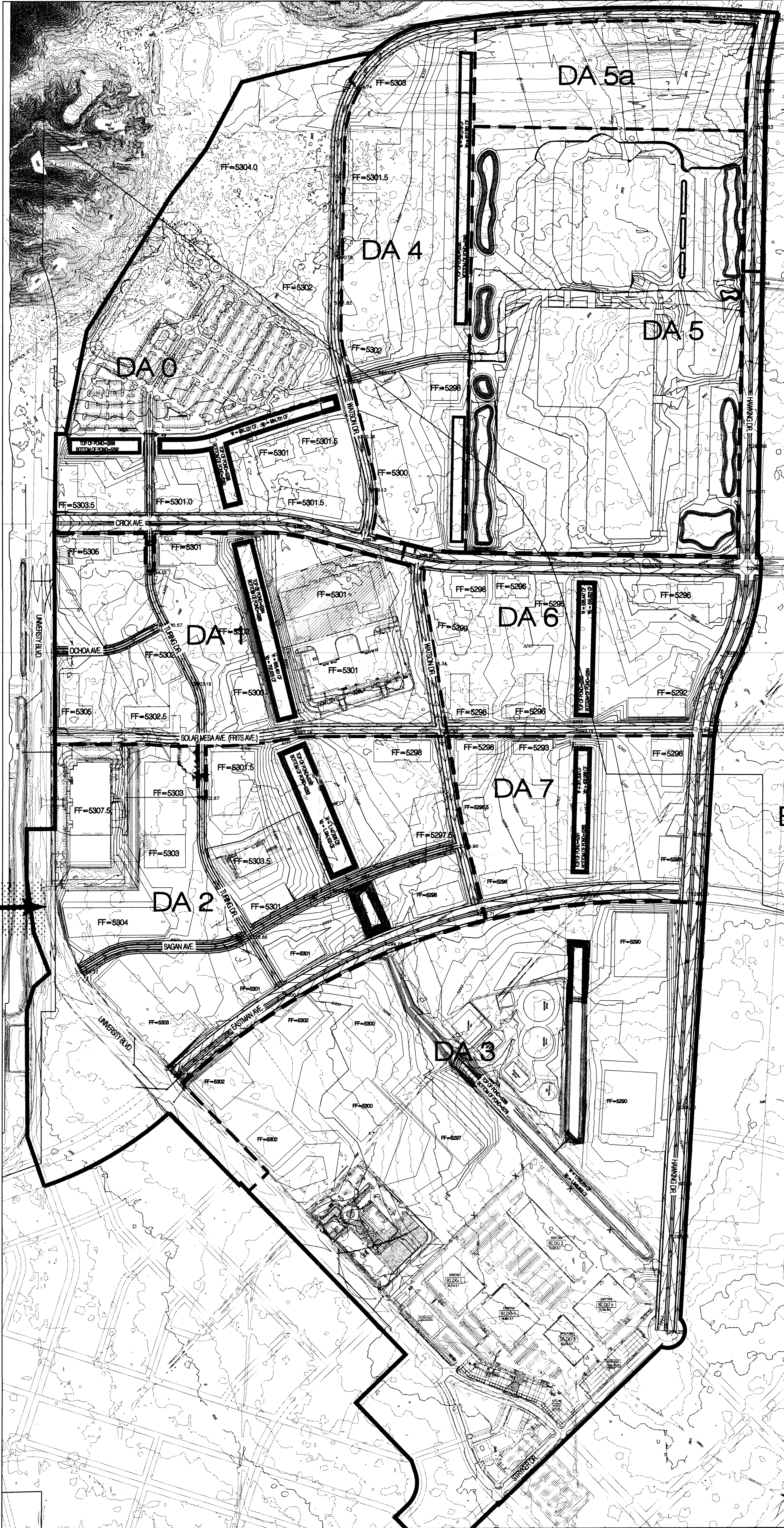


EXISTING BASINS MAP  
SCALE 1" = 1000'

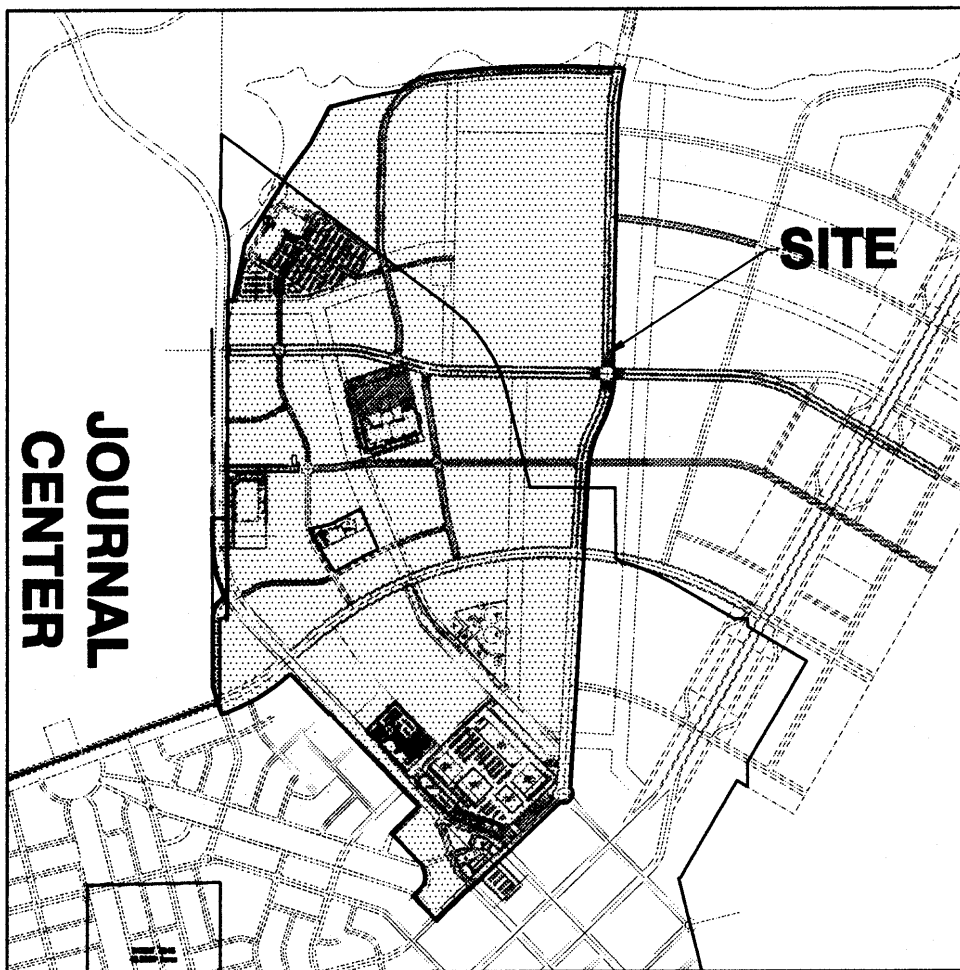
NOTE:  
FINISHED FLOORS AND PROPOSED  
GRADING SHOWN ARE CONCEPTUAL.

| MESA DEL SOL INNOVATION PARK PHASE 2- BASIN CALCULATIONS |                  |               |                            |       |      |       |                     |                 |                   |                    |
|----------------------------------------------------------|------------------|---------------|----------------------------|-------|------|-------|---------------------|-----------------|-------------------|--------------------|
| Ultimate Development Conditions Basin Data Table         |                  |               |                            |       |      |       |                     |                 |                   |                    |
| This table is based on the DPM Section 22.2, Zone: 12    |                  |               |                            |       |      |       |                     |                 |                   |                    |
| DRAINAGE AREA<br>ID                                      | Area<br>(SQ. FT) | Area<br>(AC.) | Land Treatment Percentages |       |      |       | Q(100)<br>(cfs/ac.) | Q(100)<br>(cfs) | V(100)1hr<br>(CF) | V(100)1day<br>(CF) |
|                                                          |                  |               | A                          | B     | C    | D     |                     |                 |                   |                    |
| DA 0                                                     | 3,281,406        | 74.87         | 0.0%                       | 10.0% | 0.0% | 90.0% | 4.46                | 333.78          | 539,763           | 931,131            |
| DA 1                                                     | 2,299,303        | 52.78         | 0.0%                       | 10.0% | 0.0% | 90.0% | 4.46                | 236.31          | 380,535           | 656,451            |
| DA 2                                                     | 4,019,285        | 92.27         | 0.0%                       | 10.0% | 0.0% | 90.0% | 4.46                | 411.34          | 865,192           | 1,147,506          |
| DA 3                                                     | 6,193,429        | 142.18        | 0.0%                       | 10.0% | 0.0% | 90.0% | 4.46                | 633.85          | 1,025,012         | 1,788,224          |
| DA 4                                                     | 2,091,134        | 48.01         | 0.0%                       | 10.0% | 0.0% | 90.0% | 4.46                | 214.01          | 346,083           | 597,019            |
| DA 5                                                     | 3,484,699        | 80.00         | 0.0%                       | 10.0% | 0.0% | 90.0% | 4.46                | 356.62          | 576,703           | 994,856            |
| DA 5a                                                    | 869,412          | 19.96         | 0.0%                       | 10.0% | 0.0% | 90.0% | 4.46                | 88.98           | 143,888           | 248,217            |
| DA 6                                                     | 1,878,972        | 43.14         | 0.0%                       | 10.0% | 0.0% | 90.0% | 4.46                | 192.30          | 310,970           | 536,447            |
| DA 7                                                     | 1,266,532        | 29.05         | 0.0%                       | 10.0% | 0.0% | 90.0% | 4.46                | 129.52          | 209,446           | 361,309            |
| TOTAL                                                    | 25,363,081       | 582.26        |                            |       |      |       |                     |                 |                   |                    |

\*\*\* - The flow generated from this drainage area will be retained on site. Pond sizing will be performed in future submittals.



PROPOSED BASINS MAP  
SCALE 1" = 300'



LOCATION MAP  
ZONE ATLAS INDEX MAP Q-15, 16, R-15, 16, & S-16

#### DRAINAGE MANAGEMENT PLAN

##### GENERAL

This submittal is a revision to previously approved 'Mesa del Sol Innovation Park Bulk Land Plat, Drainage Management Plan (Engineer's Stamp Date 6-8-07, COA Hydro File # R16/D097). It describes the drainage scheme for Phase 2 of the Mesa del Sol Innovation Park. This phase of the Employment Center development is located within the Mesa Top, which is a closed basin, and lies adjacent to several minor natural playas. Under this condition, no surface stormwater escapes to the Tijeras arroyo, the Rio Grande or any other surface drainage system. This drainage management plan will serve as guidelines for ultimate pond sizing, grading throughout the +580 acres and provide a drainage framework within each drainage area. In addition, this drainage management plan respects the intrinsic natural value of the extreme and unique landscape while addressing water quality goals.

##### HYDROLOGY

The Mesa Top is part of a unique hydrologic area for Albuquerque which consists of many existing playas. The existing playas have sufficient storage capacity to accommodate very infrequent storm events in the range of the 500-year storm event. Per the Level B Master Plan, the existing 100-year design storm generates approximately 380 acre feet of runoff, well below the calculated 2500 ac-ft capacity of the existing playa system. The City of Albuquerque design criteria established by the drainage ordinance and the Design Process Manual (DPM) section 22, does not adequately address drainage management requirements for the Employment Center area, specifically the playa condition. The methodology selected for hydrological analysis of the site for both existing and proposed development conditions is the 100-year, 10-day storm event to size the retention ponds, while the same frequency and 6-hour duration storm was used in drainage piping, inlet design, etc. The retention ponds will not receive credit for the depleting actions of evaporation, minor surface infiltration and passive infiltration devices. It is considered that with monitoring of these ponds, and documentation of successful stormwater discharge, that the design event for the ponds may be reduced.

##### EXISTING CONDITIONS

Currently, there are a number of drainage facilities serving the Mesa del Sol development, including a temporary retention pond east of Advent Solar, and two permanent retention ponds serving the Albuquerque Studios site. The remainder of the Employment Center within the Phase 2 boundary continues to drain to the existing playa system located east of University Blvd. These undeveloped areas consist of slopes ranging from mild (less than 5%) to extremely flat (less than 0.5%). The 'EXISTING BASIN MAP' shows the existing planning area along with existing delineated drainage areas as shown on the approved Level B Master Plan.

##### PROPOSED CONDITIONS

The Employment Center Phase 2 consists of approximately 580+ acres of industrial, commercial and mixed used development. It is recommended by the Level B Master Plan that on-site retention ponds be used as the primary storm water management method for the Mesa Top area. The proposed system would consist of an engineered retention pond system which would locate many retention ponds strategically throughout the development. Due to the flat slopes associated with the Mesa Top, collecting and retaining developed runoff onsite is the most practical approach to storm water management, as opposed to a single ponding area. This plan proposes regional ponds within the identified open space areas that are distributed throughout the community at locations appropriate to serve development. Each pond is proposed as a retention pond or a system of retention ponds, which are self contained. These Distributed Retention Irrigation/Infiltration Ponds (DRIPs) are proposed as the primary drainage management method for the Mesa Top watershed. This approach is somewhat modular and scalable allowing these ponds to be centrally located within each drainage area and sized to meet the local design runoff volume for the contributing area. This ease of location and design makes the DRIP system applicable to all parts of the playa basin area. Discharge generated by the Employment Center will drain directly into DRIPs located centrally along each drainage area (also labeled as open space). These ponds will be sized to accept drainage developed by the 100-year, 10-day storm event. The developed land treatments for each block were conservatively analyzed as 90% land treatment D and 10% land treatment C (see 'MESA DEL SOL INNOVATION PARK PHASE 2 DRAINAGE AREA CALCULATIONS' table). This table depicts the proposed 10-day volumes generated for each drainage area. Ponds within these drainage areas have been sized to accommodate the associated volume of runoff generated within the allotted space. Drainage from each site and the adjacent roads within the drainage area will be conveyed to the DRIPs via surface flow and storm drains. The DRIP scheme is intended to be multi-use. These ponds shall serve as permanent drainage outfalls, which are also visually aesthetic and will include open space trails, recreational areas, sitting areas, water fountains, xeriscaping, and wildlife habitat. The DRIP system that is proposed for the employment center area closely resembles the existing drainage situation present in this area. This solution is practical and viable method for stormwater management in the Employment Center Mesa Top area.

##### CONCLUSION

This drainage submittal has been prepared in accordance with the approved Level A and Level B master plans associated with the Mesa del Sol development. This plan demonstrates the proposed grading and drainage concepts associated with the Phase 2 boundary within the Employment Center. The implementation of these concepts would result in the safe retention of the 100 yr, 10 day storm event. With this submittal we are requesting COA hydrology department approval in support of DRB approval for the 'BULK LAND PLAT FOR MESA DEL SOL INNOVATION PARK II'.

##### LEGEND

- EMPLOYMENT CENTER BOUNDARY
- EX. DRAINAGE BASIN BOUNDARY
- EX. PLAYA SYSTEM
- EX. FLOW DIRECTION
- PROPOSED DRAINAGE BASIN BOUNDARY

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APR 04 2008  
HYDROLOGY SECTION

Bohannon & Huston

Courtyard 1 7500 Jefferson St. NE Albuquerque, NM 87109-4335

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Mesa Del Sol  
INNOVATION PARK II

Albuquerque, New Mexico

REVISIONS

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DRAWN BY

REVIEWED BY

DATE

PROJECT NO.

DRAWING NAME

070181

Innovation Park II  
Drainage  
Management Plan

SHEET NO.

OF