

CITY OF ALBUQUERQUE

Planning Department
Alan Varela, Director



Mayor Timothy M. Keller

March 7, 2023

Ron Bohannon, P.E.
Tierra West, LLC
5571 Midway Park Place NE
Albuquerque, NM, 87109

RE: Sawmill Tract H, 1921 Bellamah Ave. NW
Grading & Drainage Plan
Engineer's Stamp Date: 1/4/2023
Hydrology File: J13D017B

Dear Mr. Bohannon:

Based upon the information provided in your submittal received 2/3/2023, the Grading & Drainage Plan is not approved for action by the DHO on Site Plan for Building Permit Approval. The following comments need to be addressed for approval of the above referenced project.

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov

1. Please provide pond 2 location, volume and cross-section on sheet #GR-1.
2. Show the bioswale for proposed basin 1.
3. On sheet #GR-1, Proposed Drainage: It states that "The pond in basin 2 will retain the developed runoff of 0.036 ac-ft which is less than the required water quality volume of 0.40 ac-ft". – This statement is confusing. First of all, the retention pond volume should not be less than the SWQV. Secondly, would pond 1 volume be counted for part of the SWQV? Please clarify. Also, the required SWQV is 0.04 ac-ft, not 0.40 ac-ft. This might be a typo.
4. On the same sheet: The next sentence states that "The pond will drain 7.15 cfs. Therefore the total discharge from the site will be 8.09 cfs". – Please provide calculations showing that where these number come from.

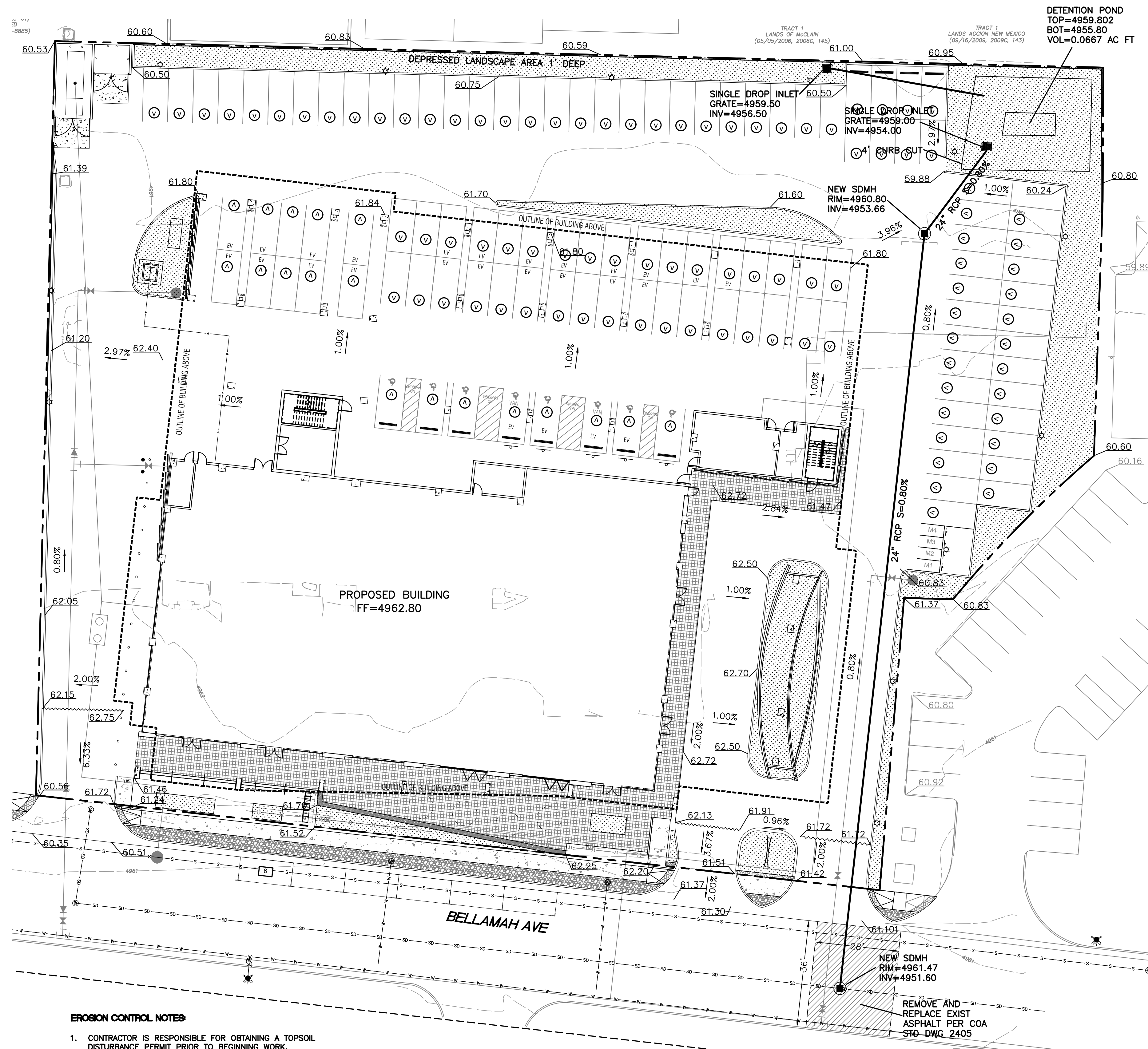
THE POND IN BASIN 2 WILL RETAIN THE DEVELOPED RUNOFF OF 0.036 AC-FT WHICH IS LESS THAN THE REQUIRED WATER QUALITY VOLUME OF 0.40 AC-FT. THE POND WILL DRAIN AT RATE OF 7.15 CFS. THEREFORE THE TOTAL DISCHARGE FROM THE SITE WILL BE 8.09 CFS WHICH IS BELOW THE EXISTING DISCHARGE OF 8.13 CFS.

If you have any questions, please contact me at 505-924-3695 or tchen@cabq.gov.

Sincerely,

Tiequan Chen, P.E.
Principal Engineer, Hydrology
Planning Department, Development Review Services

DATE SUBMITTED: 01.04.2023



- LEGEND**
- CURB & GUTTER
 - BOUNDARY LINE
 - RIGHT-OF-WAY
 - BUILDING
 - PROPOSED SIDEWALK
 - EXISTING CURB & GUTTER
 - WATER BLOCK
 - LANDSCAPING
 - EXISTING INDEX CONTOUR
 - EXISTING CONTOUR
 - EXISTING STORM SEWER
 - EXISTING SANITARY SEWER
 - PROPOSED DROP INLET
 - PROPOSED SDMH

- NOTICE TO CONTRACTORS**
- AN EXCAVATION/CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN CITY RIGHT-OF-WAY.
 - ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED, EXCEPT AS OTHERWISE STATED OR PROVIDED HEREON, SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF ALBUQUERQUE INTERIM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1985.
 - TWO WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE, 785-1234, FOR LOCATION OF EXISTING UTILITIES.
 - PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL CONNECTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
 - BACKFILL COMPACTION SHALL BE ACCORDING TO TRAFFIC/STREET USE.
 - MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.
 - WORK ON ARTERIAL STREETS SHALL BE PERFORMED ON A 24-HOUR BASIS.

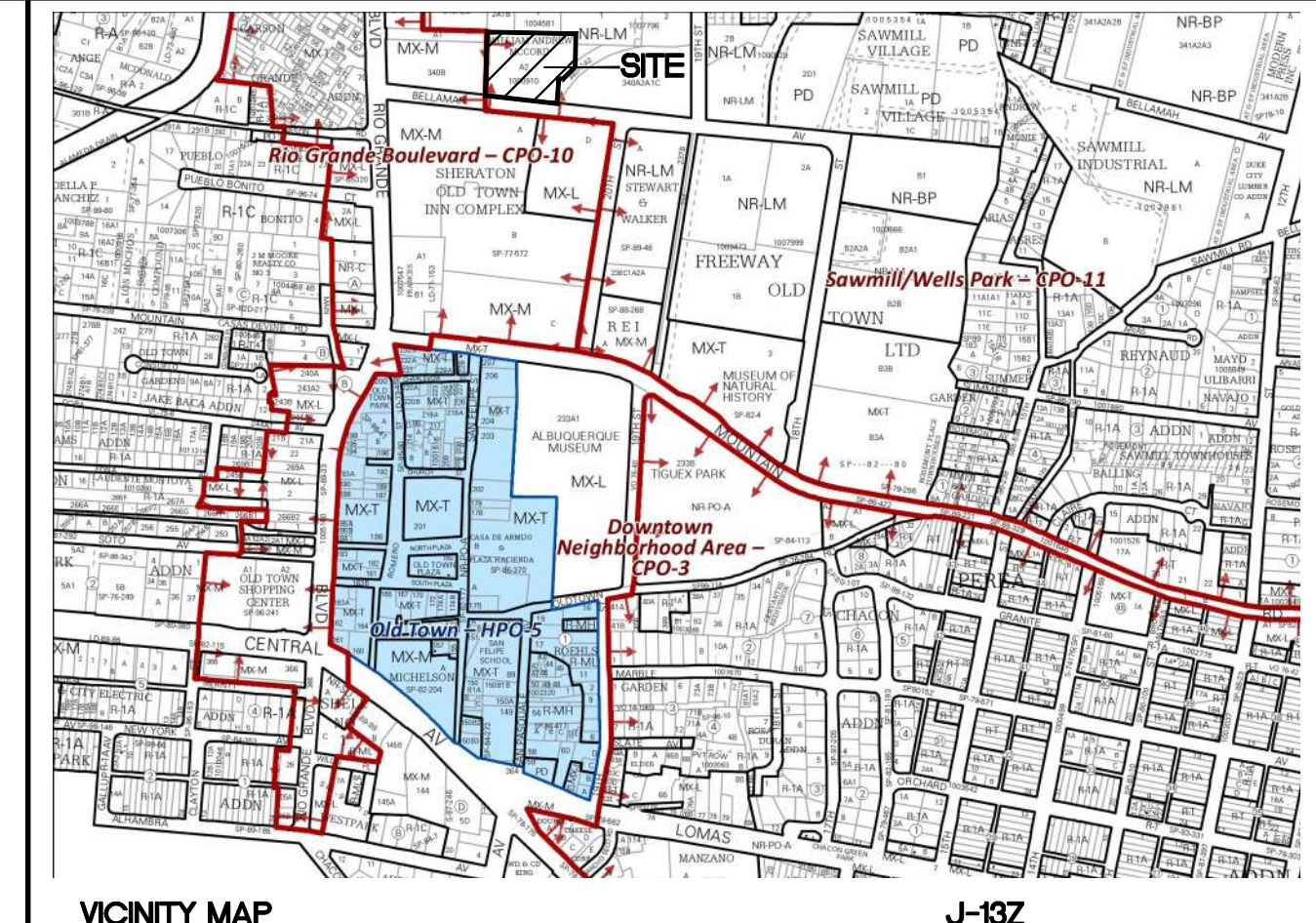
EXISTING DRAINAGE:

THIS SITE IS CURRENTLY A WAREHOUSE WITH PAVED PARKING IN FRONT AND GRAVEL PARKING IN THE BACK. THE SITE IS BOUNDED BY COMMERCIAL BUILDINGS TO THE WEST, NORTH AND EAST AND BELLAMAH AVENUE TO THE SOUTH CONTAINING APPROXIMATELY 2.03 ACRES. THE SITE IS DIVIDED INTO 5 BASINS WITH BASIN A DISCHARGING 0.98 CFS TO BELLAMAH AVENUE. BASIN B DRAINS TO A STORM SEWER INLET THAT DRAINS TO THE EXISTING STORM SEWER IN BELLAMAH AVENUE. BASINS C, D AND E DRAIN TO THE GRAVEL PARKING AREA WHERE INFILTRATES THE GROUND AND EVAPORATES. THERE ARE NO OFFSITE FLOWS THAT ENTER THE SITE. THE SITE IS LOCATED ON FIRM MAP 35001C0331H AS SHOWN ABOVE. THE MAP SHOWS THAT THE SITE DOES NOT LIE WITHIN ANY 100 YEAR FLOOD PLAIN. THE SITE GENERATES A TOTAL OF 8.13 CFS WITH A 100YR, 6-HR VOLUME OF 0.337 AC-FT.

PROPOSED DRAINAGE:

THE SITE IS NOW DIVIDED INTO TWO BASINS. BASIN 1 WILL DRAIN TO THE NORTH INTO A BIOSWALE AND A DETENTION POND OVER THE SURFACE. THE BIOSWALE WILL DRAIN TO THE POND SO THE WATER QUALITY VOLUME IS CAPTURED AND RETAINED. THE POND WILL DRAIN VIA A DROP INLET TO A STORM SEWER THAT WILL CONNECT TO THE STORM SEWER IN BELLAMAH. BASIN 2 IS THE FRONT PART OF THE BUILDING AND HARDSURFACE ALONG THE STREET. THIS BASIN WILL DISCHARGE 0.94 CFS TO BELLAMAH WHICH IS 0.04 CFS LESS THAN WAS PREVIOUSLY DRAINED TO THE STREET. FROM THERE THE RUNOFF IS CAPTURED IN EXISTING DROP INLETS ALONG BELLAMAH AVE.



THE POND IN BASIN 2 WILL RETAIN THE DEVELOPED RUNOFF OF 0.036 AC-FT WHICH IS LESS THAN THE REQUIRED WATER QUALITY VOLUME OF 0.40 AC-FT. THE POND WILL DRAIN AT RATE OF 7.15 CFS. THEREFORE THE TOTAL DISCHARGE FROM THE SITE WILL BE 8.09 CFS WHICH IS BELOW THE EXISTING DISCHARGE OF 8.13 CFS.

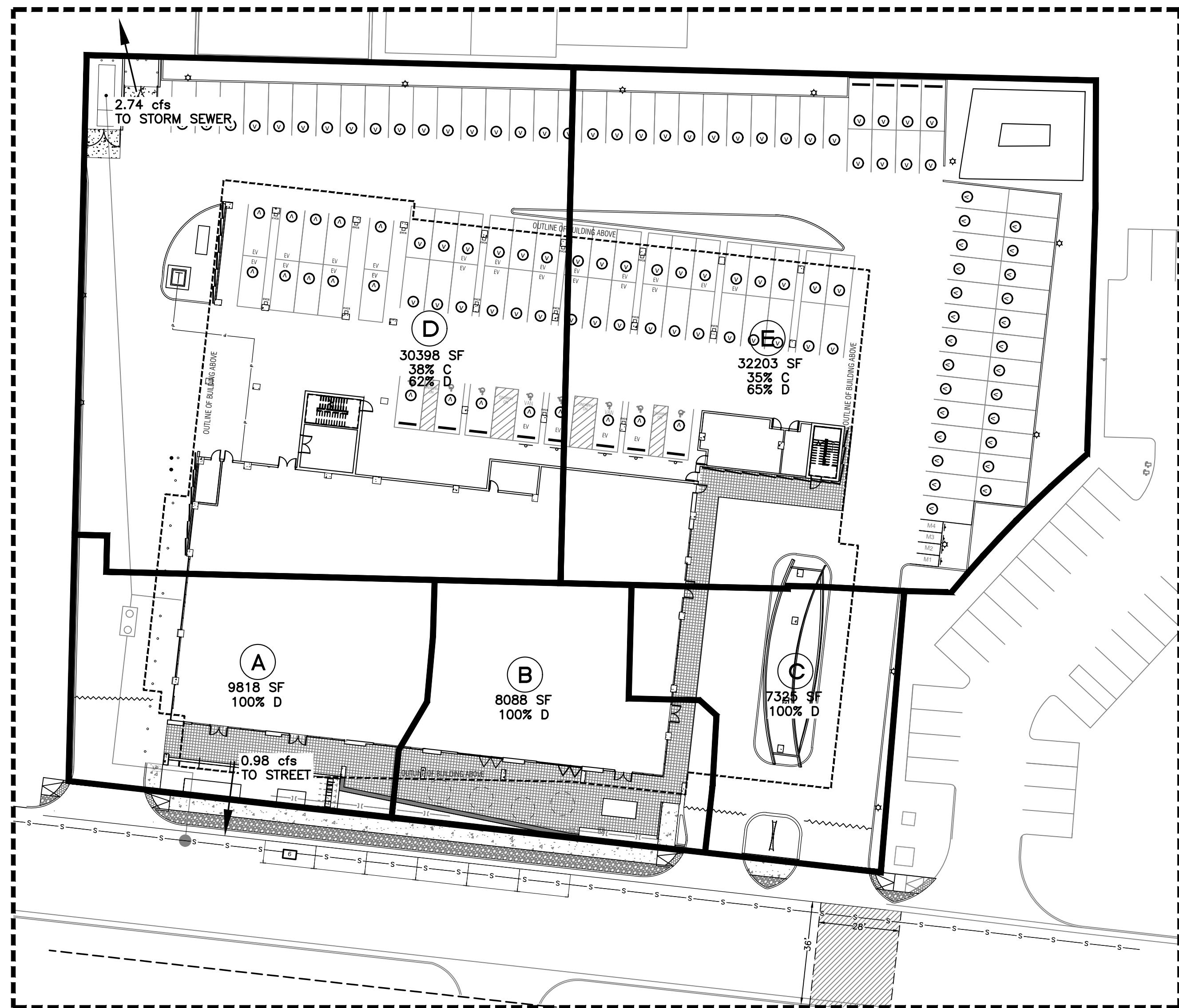


- EROSION CONTROL NOTES:**
- CONTRACTOR IS RESPONSIBLE FOR OBTAINING A TOPSOIL DISTURBANCE PERMIT PRIOR TO BEGINNING WORK.
 - CONTRACTOR IS RESPONSIBLE FOR MAINTAINING RUN-OFF ON SITE DURING CONSTRUCTION.
 - CONTRACTOR IS RESPONSIBLE FOR CLEANING ALL SEDIMENT THAT GETS INTO EXISTING RIGHT-OF-WAY.
 - REPAIR OF DAMAGED FACILITIES AND CLEANUP OF SEDIMENT ACCUMULATIONS ON ADJACENT PROPERTIES AND IN PUBLIC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR.
 - ALL EXPOSED EARTH SURFACES MUST BE PROTECTED FROM WIND AND WATER EROSION PRIOR TO FINAL (CITY) ACCEPTANCE OF ANY PROJECT.
 - ALL SLOPES NOT STABILIZED AT THE END OF THE PROJECT SHALL BE STABILIZED IN ACCORDANCE WITH COA SPECS OR 3" GRAVEL.

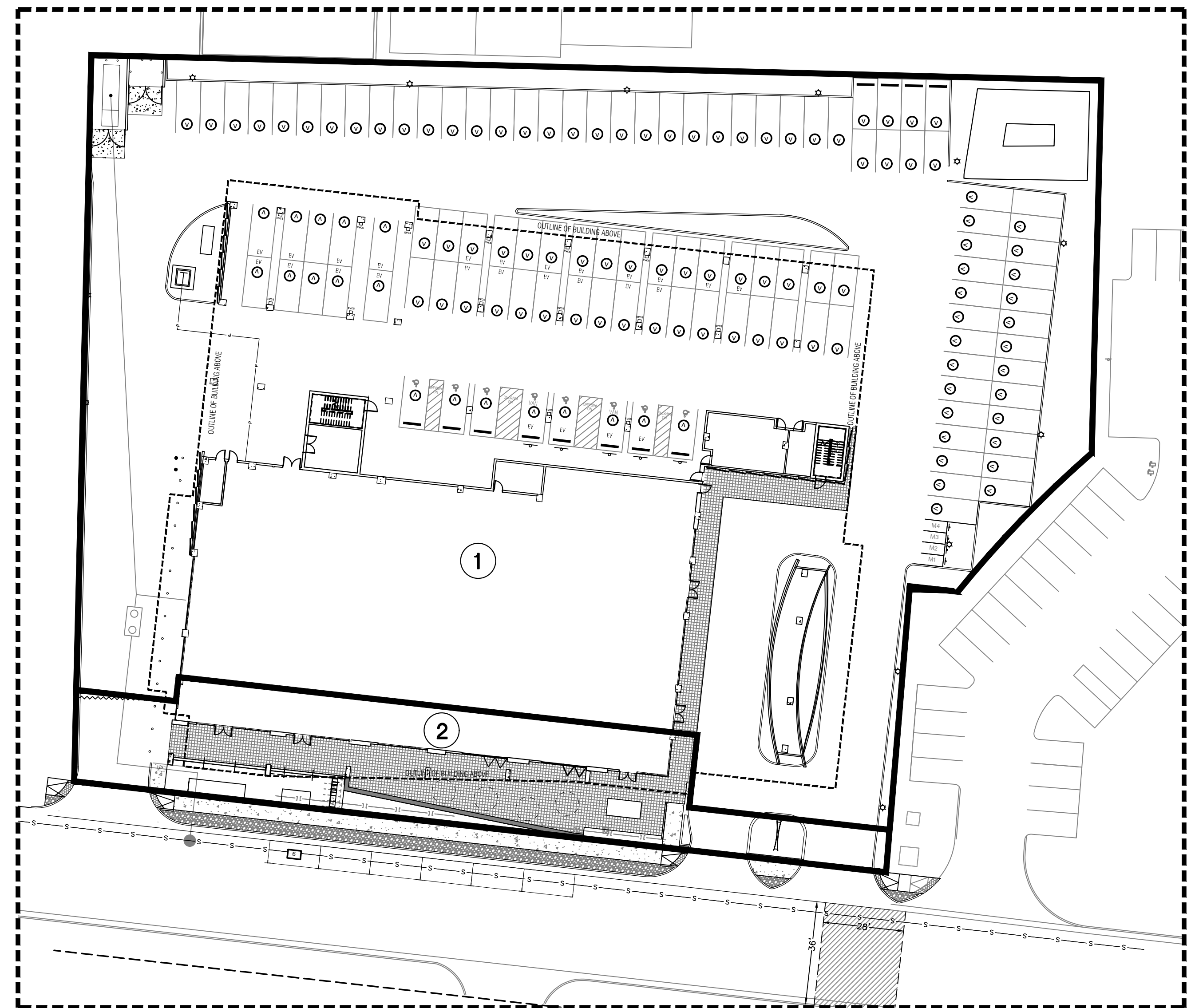
CAUTION

ALL EXISTING UTILITIES SHOWN WERE OBTAINED FROM RESEARCH, AS-BUILTS, SURVEYS OR INFORMATION PROVIDED BY OTHERS. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO CONDUCT ALL NECESSARY FIELD INVESTIGATIONS PRIOR TO AND INCLUDING ANY EXCAVATION, TO DETERMINE THE ACTUAL LOCATION OF UTILITIES AND OTHER IMPROVEMENTS, PRIOR TO STARTING THE WORK. ANY CHANGES FROM THIS PLAN SHALL BE COORDINATED WITH AND APPROVED BY THE ENGINEER.

| | | |
|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|------------------|
|  | 1921 BELLAMAH AVE NW ALBUQUERQUE, NM | DRAWN BY pm |
| | GRADING PLAN | DATE 1-4-23 |
| |  | SHEET # GR-1 |
| | | JOB # 2022047 |



EXISTING BASINS



PROPOSED BASINS

Weighted E Method

Weighted E Method

Existing Basins

| Basin | Area (sf) | Area (acres) | Treatment A | | Treatment B | | Treatment C | | Treatment D | | 100-Year | | | 10-Year | | |
|-------|-----------|--------------|-------------|---------|-------------|---------|-------------|---------|-------------|---------|-----------------|----------------|----------|-----------------|----------------|----------|
| | | | % | (acres) | % | (acres) | % | (acres) | % | (acres) | Weighted E (in) | Volume (ac-ft) | Flow cfs | Weighted E (in) | Volume (ac-ft) | Flow cfs |
| A | 9,818 | 0.23 | 0% | 0 | 0% | 0.00 | 0% | 0.00 | 100% | 0.23 | 2,330 | 0.044 | 0.98 | 1.510 | 0.028 | 0.61 |
| B | 8,088 | 0.19 | 0% | 0 | 0% | 0.00 | 0% | 0.00 | 100% | 0.19 | 2,330 | 0.036 | 0.81 | 1.510 | 0.023 | 0.50 |
| C | 7,325 | 0.17 | 0% | 0 | 0% | 0.00 | 0% | 0.00 | 100% | 0.17 | 2,330 | 0.033 | 0.73 | 1.510 | 0.021 | 0.46 |
| D | 30,968 | 0.71 | 0% | 0 | 0% | 0.00 | 38% | 0.27 | 62% | 0.44 | 1,836 | 0.109 | 2.74 | 1,119 | 0.066 | 1.62 |
| E | 32,203 | 0.74 | 0% | 0 | 0% | 0.00 | 35% | 0.26 | 65% | 0.48 | 1,875 | 0.116 | 2.87 | 1,150 | 0.071 | 1.71 |
| | | | | | | | | | | | 0.337 | | 8.13 | | | |

Developed Basins

| Basin | Area (sf) | Area (acres) | Treatment A | | Treatment B | | Treatment C | | Treatment D | | 100-Year | | | 10-Year | | | |
|-------|-----------|--------------|-------------|---------|-------------|---------|-------------|---------|-------------|---------|------------------|----------------|----------|-----------------|----------------|----------|--|
| | | | % | (acres) | % | (acres) | % | (acres) | % | (acres) | Weighted E (in) | Volume (ac-ft) | Flow cfs | Weighted E (in) | Volume (ac-ft) | Flow cfs | |
| 1 | 78,739 | 1.81 | 0% | 0 | 12% | 0.22 | 0% | 0.00 | 90% | 1.63 | 2,193 | 0.330 | 7.57 | 1,395 | 0.210 | 4.61 | |
| 2 | 9,607 | 0.22 | 0% | 0 | 3% | 0.01 | 0% | 0.00 | 97% | 0.21 | 2,284 | 0.042 | 0.94 | 1,474 | 0.027 | 0.59 | |
| | | | | | | | | | | | 1.84 | | 0.372 | | 8.52 | | |
| | | | | | | | | | | | Required Ponding | | 0.036 | | | | |

Equations:

Weighted E = Ea * Aa + Eb * Ab + Ec * Ac + Ed * Ad / (Total Area)

Volume = Weighted D * Total Area

Flow = Qa * Aa + Qb * Ab + Qc * Ac + Qd * Ad

Excess Precipitation, E (inches)

| Zone 2 | 100-Year | 10 - Year |
|----------------|----------|-----------|
| E _a | 0.62 | 0.15 |
| E _b | 0.8 | 0.3 |
| E _c | 1.03 | 0.48 |
| E _d | 2.33 | 1.51 |

Peak Discharge (cfs/acre)

| Zone 2 | 100-Year | 10 - Year |
|----------------|----------|-----------|
| Q _a | 1.71 | 0.41 |
| Q _b | 2.36 | 0.95 |
| Q _c | 3.05 | 1.59 |
| Q _d | 4.34 | 2.71 |

Water Quality Calculation: 0.26" x 1.84 ac = 1,737 cubic feet (0.040 ac-ft)

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|------------------|
| <p>ENGINEER'S SEAL</p> <p>RONALD R. BOHANNAN</p> <p>NEW MEXICO</p> <p>7868</p> <p>PROFESSIONAL ENGINEER</p> <p>1-4-23</p> <p>RONALD R. BOHANNAN</p> <p>P.E. #7868</p> | 1921 BELLAMAH AVE NW ALBUQUERQUE, NM | DRAWN BY pm |
| | BASIN MAP | DATE 1-4-23 |
| | | DRAWING |
| | <p>TIERRA WEST, LLC</p> <p>5571 MIDWAY PARK PL NE ALBUQUERQUE, NEW MEXICO 87109 (505) 858-3100 www.tierrawestllc.com</p> | SHEET # GR-2 |
| | | JOB # 2022047 |