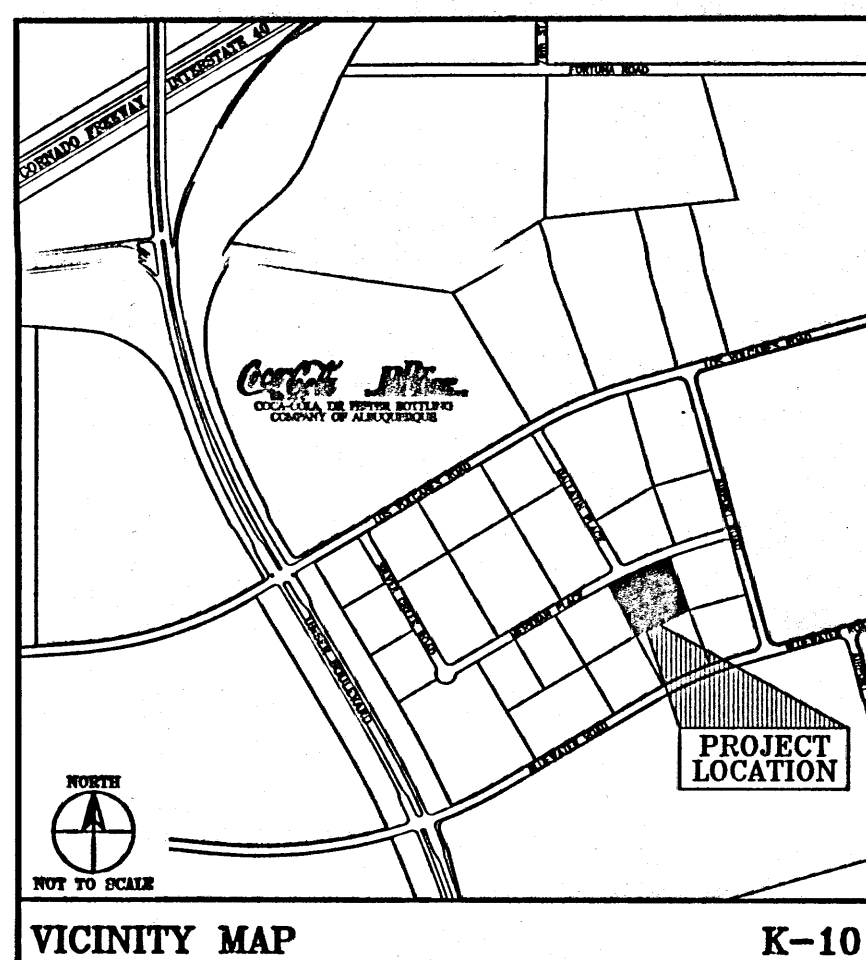


| | |
|---|--|
| <p><u>ADDRESS:</u></p> <p>7300 MERDIAN PLACE, NW</p> <p><u>LEGAL DESCRIPTION:</u></p> <p>LOT 13, MERIDIAN BUSINESS PARK</p> | <p><u>BENCH MARK:</u></p> <p>ACS MONUMENT 10-K10 LOCATED AT THE SOUTHEAST CORNER OF UNSER BOULEVARD AND LOS VOLCANES ROAD</p> <p>ELEVATION = 5142.73 FT.</p> |
|---|--|



1. TWO WORKING DAY PRIOR TO ANY EXCAVATION, THE CONTRACTOR SHALL CALL FOR LOCATION OF EXISTING UTILITIES.
2. ALL WORK WITHIN THE CITY RIGHT OF WAY SHALL BE PERFORMED IN ACCORDANCE WITH THE APPLICABLE CITY OF ALBUQUERQUE STANDARD AND PROCEDURE.
3. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS, LAWS, AND RULES CONCERNING SAFETY AND HEALTH.
4. PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL VERIFY THE EXISTING SITE CONDITIONS AND INFORM THE ARCHITECT / ENGINEER OF ANY DISCREPANCY BETWEEN THE INFORMATION SHOWN THE PLANS AND THOSE OF THE EXISTING SITE.
5. THE OWNER SHALL VERIFY LOCATIONS OF POINTS WITH GEOTECHNICAL ENGINEER PRIOR TO PROCEEDING WITH ANY CONSTRUCTION WORK ON THIS PROJECT, AND INFORM THE ARCHITECT / ENGINEER OF ANY ADDITIONAL REQUIREMENTS.
6. CONTRACTOR SHALL PROVIDE THE ARCHITECT / ENGINEER AS BUILT SURVEY FOR ENGINEER'S CERTIFICATION.

GRADING AND DRAINAGE PLAN - LOT 13

DRAINAGE PLAN

THE FOLLOWING ITEMS CONCERNING THE LOT-13, MERIDIAN; BUSINESS PARK GRADING AND DRAINAGE PLAN ARE CONTAINED HEREON:

THE PROPOSED IMPROVEMENTS, AS SHOWN BY THE VICINITY MAP, ARE LOCATED ON THE NORTH SIDE OF MERIDIAN PLACE N.W. THE SITE IS UNDEVELOPED. THE LAND SLOPES FROM NORTHWEST TO SOUTHEAST AT AN APPROXIMATE SLOPE OF 2.0%. THE SITE WAS IN A FLOOD HAZARD ZONE, BUT THE CONSTRUCTION OF THE UNSER DIVERSION CHANNEL REMOVED THE SITE FROM THE FLOOD HAZARD ZONE.

THE MASTER DRAINAGE PLAN FOR THIS SUBDIVISION WAS PREPARED BY EASTERLING AND ASSOCIATES. THE MASTER PLAN ESTABLISHED A DISCHARGE RATE OF 0.10 CFS/ACRE AND REQUIRES TEMPORARY DIVERSION DITCHES AND PONDS TO CONTROL THE RUNOFF BE CONSTRUCTED ON EACH LOT.

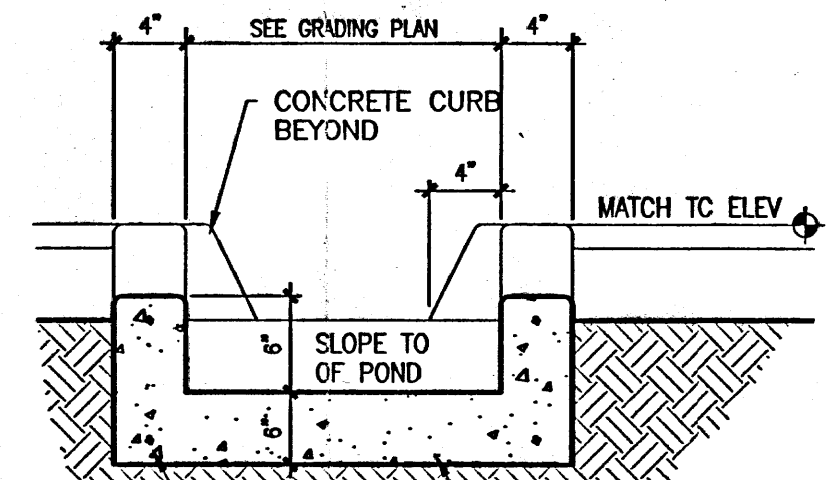
THIS SITE IS HIGHER THAN THE LAND TO THE EAST AND SOUTH. THE STREET TO THE NORTH PREVENTS OFF SITE FLOWS FROM THAT DIRECTION. THE SITE TO THE WEST HAS BEEN DEVELOPED. THEREFORE OFF SITE FLOWS ARE NOT CONSIDERED SIGNIFICANT.

- THE GRADING PLAN SHOWS:
1. THE EXISTING AND PROPOSED GRADES, INDICATED BY SPOT ELEVATIONS AND CONTOURS AT 1'-0" INTERVALS.
 2. CONTINUITY BETWEEN EXISTING AND PROPOSED ELEVATIONS.
 3. THE LIMIT AND CHARACTER OF EXISTING IMPROVEMENTS, AND
 4. THE LIMIT AND CHARACTER OF THE PROPOSED IMPROVEMENTS.

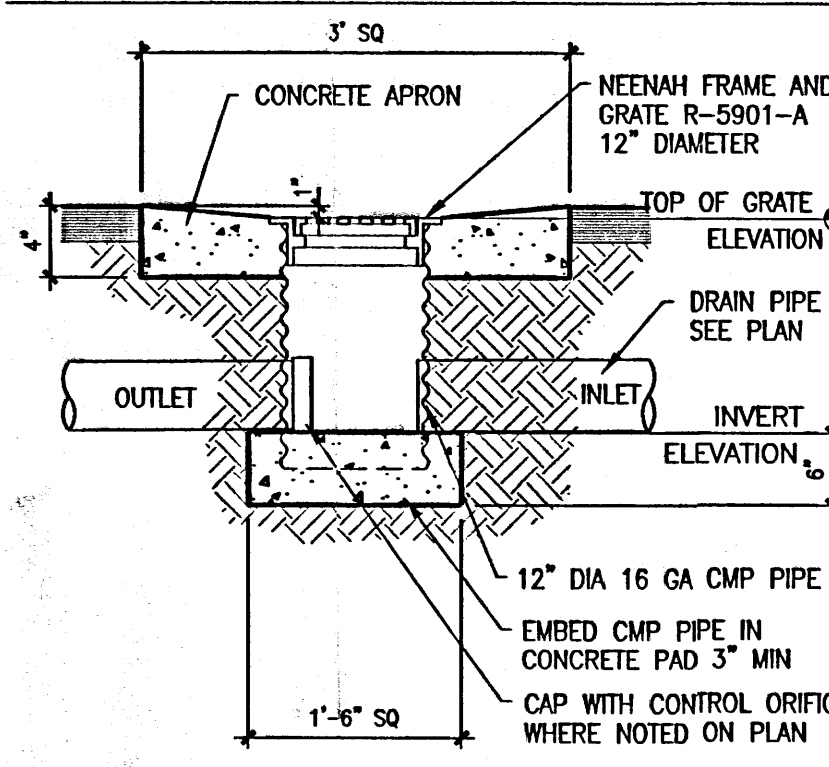
THE PROPOSED IMPROVEMENTS CONSIST OF A WAREHOUSE / OFFICE WITH ASSOCIATED PARKING AND LANDSCAPING. THE RUNOFF FROM THE SITE FLOW TO DETENTION POND A. POND A IS DIVIDED INTO TWO SUB-PONDS, POND A-1 LOCATED ALONG THE SOUTH PROPERTY LINE AND POND A-2 LOCATED ALONG THE EAST PROPERTY LINE. BOTH POND DISCHARGE INTO THE EXISTING PRIVATE STORM DRAIN AT THE SOUTH EAST CORNER OF THE SITE. THE COMBINED RATE OF DISCHARGE FROM THE PONDS IS 0.29 CFS (0.1 CFS/ACR).

THE CALCULATIONS ANALYZE THE EXISTING AND PROPOSED CONDITIONS FOR THE 6-HOUR, 100 YEAR RAINFALL EVENT. THE ANALYSIS IS IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE DEVELOPMENT PROCESS MANUAL VOLUME II. AS SHOWN BY THESE CALCULATIONS, THE RATE AND VOLUME OF RUNOFF WILL INCREASE BUT THE POND(S) WITH CONTROLLED OUTLETS WILL MITIGATE THE INCREASE. THIS PLAN IS IN CONFORMANCE WITH THE MASTER DRAINAGE PLAN.


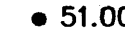





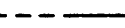




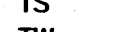






CALCULATIONS
 PRECIPITATION ZONE = 1
 TOTAL SITE AREA = 2.919 ACRES
BASIN A
 AREA = 2.919 ACRES
 EXISTING CONDITIONS
 LAND TREATMENT A=100%
 E = 0.44(1.00) = 0.44 INCHES
 V = 0.44(2.919) / 12 = 0.107 ACRE FEET
 Q = 1.29 (1.00) (2.919) = 3.77 CFS
 DEVELOPED CONDITIONS
 LAND TREATMENT B=100% D=90%
 E = 0.87 (0.10) + 0.97 (0.90) = 1.84 INCHES
 V = 1.84 (2.919) / 12 = 0.448 ACRE FEET
 Q = [2.03 (0.10) + 4.37 (0.90)] (2.919) = 12.07 CFS
 INCREASE IN RATE OF RUNOFF = 0.341 ACRE FT
 INCREASE IN RATE OF RUNOFF = 8.30 CFS
POND VOLUME BASIN A
 $T_p = 2.10 \text{ HR}$ $0.25 \text{ Ad/At} = 0.25(0.90) = 0.225 \text{ HR}$
 $T_p = 2.10 \text{ E At/Qp} = 0.25 \text{ Ad/At} = 0.712 \text{ HR}$
 $T_p = (0.7 \text{ Tc}) + ((1.6 - \text{Ad/At}) / 12) = 0.198 \text{ HR}$
 $V_{\text{required}} = 19,627 \text{ CF}$
POND VOLUME POND A-1
 $V = (0.5^3 \text{ ELEV } 5102.0 - 0.5^3 \text{ ELEV } 5069.9) * 1.0 + 0.5^3 (5969.9 + 18) * 0.6 = 17,163 \text{ CF}$
DISCHARGE PIPE SIZES AT POND A-1
 $USE \ 2" \ \text{DIA ORIFICE}$ $AREA = 3.14 \text{ IN SQ} = 0.0218 \text{ SF}$
 $Q = 0.60 (0.0218) \sqrt{2 (32.2) (3.0)} = 0.182 \text{ CFS}$
POND VOLUME POND A-2
 $V = (0.5^3 \text{ ELEV } 5102.0 - 0.5^3 \text{ ELEV } 5012.0)$
 $V = (0.5^3 (2003 + 2 * 1097 + 488) * 1.0 + 0.5^3 (488 + 9) * 0.5) = 2,468 \text{ CFS}$
DISCHARGE PIPE SIZES AT POND A-2
 $Q = 0.292 - 0.182 = 0.11 = 0.60 \text{ A} \sqrt{2 (32.2) (2.5)}$
 $TAL = 1.63 \text{ INCHES}$ $USE \ 1 \ 1/2" \ \text{DIA ORIFICE}$
TOTAL POND VOLUME POND A = 17,163 + 2,468 = 19,631 SF



1 CONCRETE RUNDOWN



2 DROP INLET

- LEGEND:
- | | |
|---|-------------------------|
|  | EXISTING SPOT ELEVATION |
|  | NEW SPOT ELEVATION |
|  | EXISTING CONTOUR |
|  | NEW CONTOUR |
|  | SWALE |
|  | VERIFIED ELEVATION |
|  | AS BUILT ELEVATION |
|  | BASIN BOUNDARY |
|  | PROPERTY LINE |
|  | FLOW LINE |
|  | GROUND |
|  | INVERT |
|  | TOP OF ASPHALT |
|  | TOP OF CURB |
|  | TOP OF GRATE |
|  | TOP OF CONCRETE SLAB |
|  | TOP OF WALL |
|  | TEMPORARY BENCH MARK |
|  | GRAVEL |

1. JOHN ARTHUR BLESSIN, NMPE 13481- OF THE FIRM CLAUDIO VIGIL ARCHITECTS, HEREBY CERTIFY THIS PROJECT HAS BEEN GRADED AND WILL DRAIN IN SUBSTANTIAL COMPLIANCE WITH AND IN ACCORDANCE WITH THE DESIGN INTENT OF THE APPROVED PLAN DATED 3/77/01- THE RECORD DRAWING. I HAVE CONDUCTED A VISUAL DESIGN VERIFICATION AND HAVE BEEN INFORMED BY ME OR UNDER MY DIRECT SUPERVISION AND IS TRUE, AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. THIS CERTIFICATION IS SUBMITTED IN SUPPORT OF A REQUEST FOR PERMANENT CERTIFICATE OF OCCUPANCY.

THE CURB ALONG THE SOUTH PROPERTY LINE AND TRASH ENCLOSURES HAVE NOT BEEN INSTALLED PENDING APPROVAL OF BY DBP OF LOT 14.

THE RECORD INFORMATION PRESENTED HEREON IS NOT NECESSARILY COMPLETE AND INTENDED ONLY TO VERIFY SUBSTANTIAL COMPLIANCE OF THE GRADING AND DRAINAGE ASPECTS OF THIS PROJECT. ANY DELAYING ON THIS RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OR ITS ACCURACY BEFORE USING IT FOR ANY OTHER PURPOSE.

J Arthur Blessen, PE date
NM PE# 13481

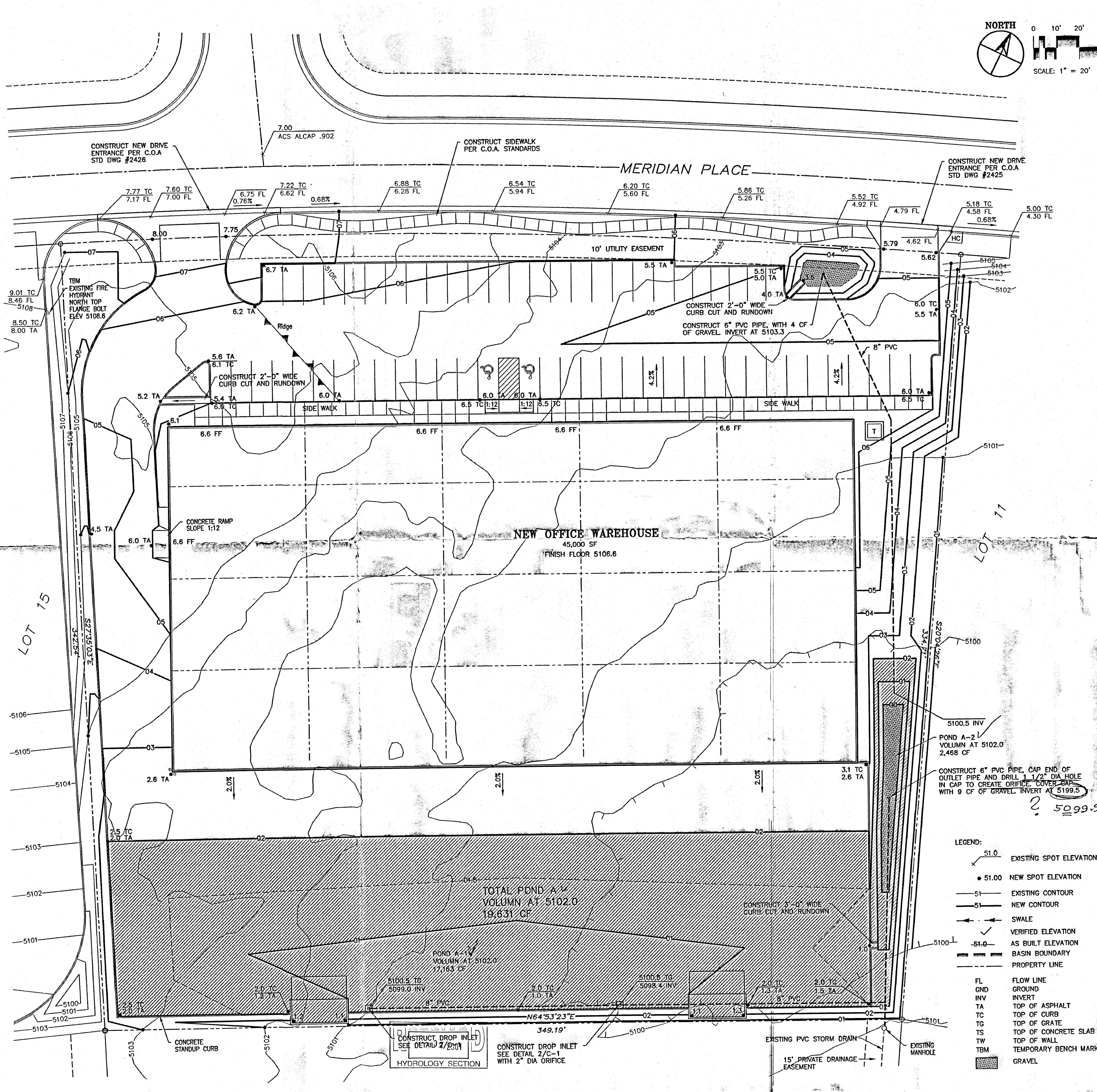
NEW OFFICE WAREHOUSE
45,000 SF
✓ FINISH FLOOR ~~5106.6~~
5106.43

TOTAL POND A
VOLUMEN AT 5102.0
19,631 CF

POND A-1
VOLUME AT 5102.0
17,163 CF

5100.5 INV
5101.03
POND A-2
VOLUME AT 5102.0
2,468 CF

✓
CONSTRUCT 6" PVC PIPE, CAP END OF
OUTLET PIPE AND DRILL 1 1/2" DIA HOLE
IN CAP TO CREATE ORIFICE. COVER CAP
WITH 9 CF OF GRAVEL. INVERT AT ~~5199.5~~
5099.9



- ADDRESS:
7300 MERIDIAN PLACE, NW
LEGAL DESCRIPTION:
LOT 13, MERIDIAN BUSINESS PARK
- BENCH MARK:
ACS MONUMENT 10-K10 LOCATED AT THE SOUTHEAST CORNER OF UNSUB BOULEVARD AND LOS VOLCANES ROAD ELEVATION = 5142.79 FT.
- CONSTRUCTION NOTES
1. TWO WORKING DAY PRIOR TO ANY EXCAVATION, THE CONTRACTOR SHALL CALL FOR LOCATION OF EXISTING UTILITIES.
 2. ALL WORK WITHIN THE CITY RIGHT OF WAY SHALL BE PERFORMED IN ACCORDANCE WITH THE APPLICABLE CITY OF ALBUQUERQUE STANDARD AND PROCEDURE.
 3. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS, LAWS, AND RULES CONCERNING SAFETY AND HEALTH.
 4. PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL VERIFY THE EXISTING SITE CONDITIONS AND INFORM THE ARCHITECT / ENGINEER OF ANY DISCREPANCY BETWEEN THE INFORMATION SHOWN THE PLANS AND THOSE OF THE EXISTING SITE.
 5. THE OWNER SHALL VERIFY LOCATIONS OF PONDS WITH GEOTECHNICAL ENGINEER PRIOR TO PROCEEDING WITH ANY CONSTRUCTION WORK ON THIS PROJECT, AND INFORM THE ARCHITECT / ENGINEER OF ANY ADDITIONAL REQUIREMENTS.
 6. CONTRACTOR SHALL PROVIDE THE ARCHITECT / ENGINEER AS BUILT SURVEY FOR ENGINEER'S CERTIFICATION.

GRADING AND DRAINAGE PLAN - LOT 13

DRAINAGE PLAN

THE FOLLOWING ITEMS CONCERNING THE LOT-13, MERIDIAN BUSINESS PARK GRADING AND DRAINAGE PLAN ARE CONTAINED HEREIN:

1. VICINITY MAP
2. GRADING PLAN
3. CALCULATIONS

THE PROPOSED IMPROVEMENTS, AS SHOWN BY THE VICINITY MAP, ARE LOCATED ON THE NORTH SIDE OF MERIDIAN PLACE N.W. THE SITE IS UNDEVELOPED. THE LAND SLOPES FROM NORTHWEST TO SOUTHEAST AT AN APPROXIMATE SLOPE OF 2.0%. THE SITE WAS IN A FLOOD HAZARD ZONE, BUT THE CONSTRUCTION OF THE UNSUB DIVISION CHANNEL REMOVED THE SITE FROM THE FLOOD HAZARD ZONE.

THE MASTER DRAINAGE PLAN FOR THIS SUBDIVISION WAS PREPARED BY EASTERLING AND ASSOCIATES. THE MASTER PLAN ESTABLISHED A DISCHARGE RATE OF 0.10 CFS/ACRE AND REQUIRES TEMPORARY DIVERSION DITCHES AND PONDS TO CONTROL THE RUNOFF BE CONSTRUCTED ON EACH LOT.

THIS SITE IS HIGHER THAN THE LAND TO THE EAST AND SOUTH. THE STREET TO THE NORTH PREVENTS OFF SITE FLOWS FROM THAT DIRECTION. THE SITE TO THE WEST HAS BEEN DEVELOPED. THEREFORE OFF SITE FLOWS ARE NOT CONSIDERED SIGNIFICANT.

THE GRADING PLAN SHOWS:

1. THE EXISTING AND PROPOSED GRADES, INDICATED BY SPOT ELEVATIONS AND CONTOURS AT 1'-0" INTERVALS.
2. CONTINUITY BETWEEN EXISTING AND PROPOSED ELEVATIONS.
3. THE LIMIT AND CHARACTER OF EXISTING IMPROVEMENTS, AND
4. THE LIMIT AND CHARACTER OF THE PROPOSED IMPROVEMENTS.

THE PROPOSED IMPROVEMENTS CONSIST OF A WAREHOUSE / OFFICE WITH ASSOCIATED PARKING AND LANDSCAPING. THE RUNOFF FROM THE SITE FLOW TO DETENTION POND A. POND A IS DIVIDED INTO TWO SUB-PONDS, POND A-1 LOCATED ALONG THE SOUTH PROPERTY LINE AND POND A-2 LOCATED ALONG THE EAST PROPERTY LINE. BOTH POND DISCHARGE INTO THE EXISTING PRIVATE STORM DRAIN AT THE SOUTH EAST CORNER OF THE SITE. THE COMBINED RATE OF DISCHARGE FROM THE PONDS IS 0.29 CFS (0.1 CFS/ACRE).

THE CALCULATIONS ANALYZE THE EXISTING AND PROPOSED CONDITIONS FOR THE 6-HOUR, 100 YEAR RAINFALL EVENT. THE ANALYSIS IS IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE DEVELOPMENT PROCESS MANUAL VOLUME II. AS SHOWN BY THESE CALCULATIONS, THE RATE AND VOLUME OF RUNOFF WILL INCREASE BUT THE POND(S) WITH CONTROLLED OUTLETS WILL MITIGATE THE INCREASE. THIS PLAN IS IN CONFORMANCE WITH THE MASTER DRAINAGE PLAN.

CALCULATIONS
PRECIPITATION ZONE = 1
TOTAL SITE AREA = 2.919 ACRES

BASIN A
AREA = 2.919 ACRES
EXISTING CONDITIONS
LAND TREATMENT A=100%
E = 0.44(1.00) = 0.44 INCHES
V = 0.44 (2.919) / 12 = 0.107 ACRE FEET
Q = 1.29 (1.00) (2.919) = 3.77 CFS

DEVELOPED CONDITIONS
LAND TREATMENT B=10% D=90%
E = 0.67 (0.10) + 1.97 (0.90) = 1.84 INCHES
V = 1.84 (2.919) / 12 = 0.448 ACRE FEET
Q = [2.03 (0.10) + 4.37 (0.90)] (2.919) = 12.07 CFS

INCREASE IN VOLUME OF RUNOFF = 0.341 ACRE FT
INCREASE IN RATE OF RUNOFF = 8.30 CFS

POND VOLUME BASIN A
T_p = 0.2 HR
T_d = 2.107 E At / Op - 0.25 Ad / At = 0.225 (0.90) = 0.225 HR
T = (0.7 TC) + ((1.6 - Ad / At) / 12) = 0.198 HR
V_{required} = 19,627 CF

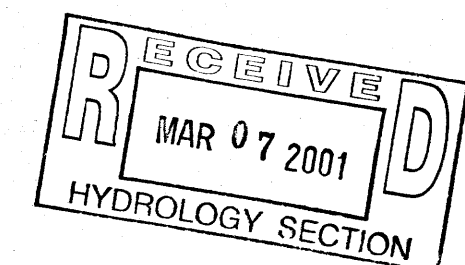
POND VOLUME POND A-1
VOLUME @ ELEV 5102.0
V = [0.5*(25364+5969)*1.0+0.5*(5969+18)*0.6] = 17,163 CF

DISCHARGE PIPE SIZES AT POND A-1
USE 2" DIA ORIFICE AREA = 3.14 IN SQ = 0.0218 SF
Q = 0.60 (0.0218) √ 2 (32.2) (3.0) = 0.182 CFS

POND VOLUME POND A-2
VOLUME @ ELEV 5102.0
V = [0.5*(2005+2*1097+488)*1.0+0.5*(488+9)*0.5] = 2,468 CF

DISCHARGE PIPE SIZES AT POND A-2
Q = 0.292 - 0.182 = 0.11 = 0.60 A √ 2 (32.2) (2.5)
DIA = 1.63 INCHES USE 1 1/2" DIA ORIFICE

TOTAL POND VOLUME POND A = 17,163 + 2,468 = 19,631 SF



GRADING AND DRAINAGE PLAN

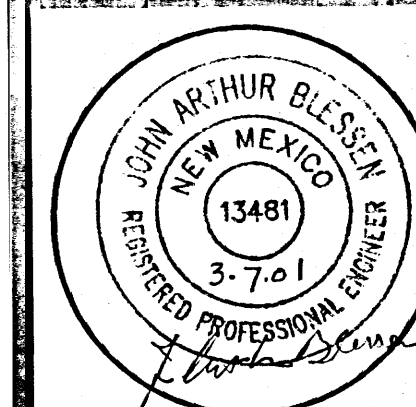
FEBRUARY 2, 2001

1"=20'-0"



CLAUDIO VIGIL ARCHITECTS

MERIDIAN LOT 13
NEW OFFICE WAREHOUSE
7300 MERIDIAN PLACE, NW
ALBUQUERQUE, NEW MEXICO

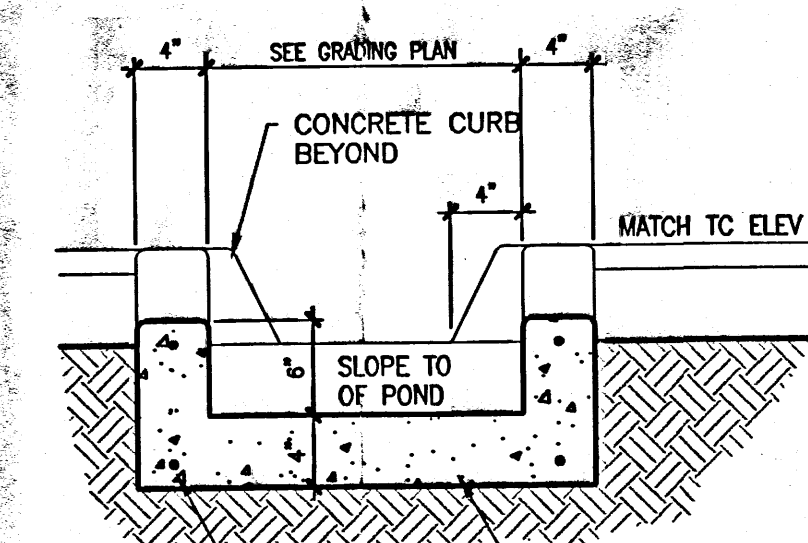


SHEET

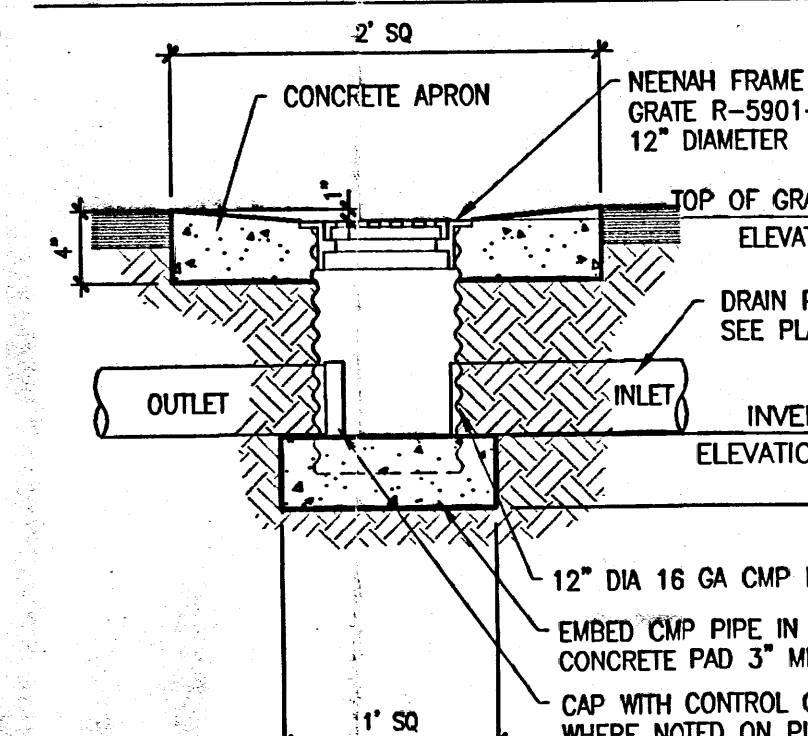
C-1

PROJECT NUMBER
01015

1305 Tijeras NW Albuquerque, NM 87102-2882
Phone: 505/842-1113 Fax: 505/842-1330



1 CONCRETE RUNDOWN



2 DROP INLET

- LEGEND:
- 51.0 EXISTING SPOT ELEVATION
 - 51.00 NEW SPOT ELEVATION
 - 51 — EXISTING CONTOUR
 - 51 — NEW CONTOUR
 - SWALE
 - ✓ VERIFIED ELEVATION AS BUILT ELEVATION
 - BASIN BOUNDARY
 - PROPERTY LINE
 - FL FLOW LINE
 - GND GROUND
 - INV INVERT
 - TA TOP OF ASPHALT
 - TC TOP OF CURB
 - TG TOP OF GRATE
 - TS TOP OF CONCRETE SLAB
 - TW TOP OF WALL
 - TBM TEMPORARY BENCH MARK
 - GRAVEL