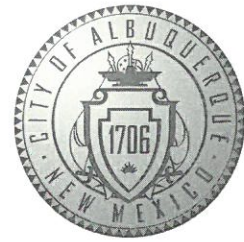


CITY OF ALBUQUERQUE



October 13, 2017

J. Graeme Means, P.E.
High Mesa Consulting Group
6010 B Midway Park Blvd NE
Albuquerque, NM 87109

RE: **Penske Truck Leasing Addition**
1400 Candelaria NE
Grading and Drainage Plan
Engineer's Stamp Date 10/9/17 (File: H15D052)

Dear Mr. Means:

Based on the information provided in your submittal received on 10/10/17, this plan is approved for Building Permit with the following recommendation:

1. Perforate the pipe and add gravel bedding to allow the stormdrain to dewater.

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

Sincerely,

Dana Peterson, P.E.
Senior Engineer, Planning Dept.
Development Review Services

DRAINAGE PLAN

I. INTRODUCTION AND EXECUTIVE SUMMARY

THE PROJECT SITE IS AN EXISTING DEVELOPED COMMERCIAL SITE. THE SITE IS LOCATED NEAR THE INTERSECTION OF CANDELARIA AVE NE AND PAN AMERICAN FREEWAY (SOUTH BOUND). THE PROPOSED PROJECT SCOPE IS TO REMOVE AN EXISTING BUILDING AND REPLACE IT WITH A LARGER BUILDING ADDITION THAT CONNECTS TO THE MAIN BUILDING. THE DRAINAGE DESIGN INTENT SHALL BE TO MAINTAIN THE EXISTING DRAINAGE PATTERNS OF THE SITE ESTABLISHED BY THE ORIGINAL 1993 (CERTIFIED 1997) APPROVED PLAN FOR THIS SITE.

THIS SUBMITTAL IS MADE IN SUPPORT OF BUILDING PERMIT APPROVAL.

II. PROJECT DESCRIPTION

AS SHOWN BY PANEL 332 OF 825 OF THE NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAPS PUBLISHED BY FEMA FOR BERNALILLO COUNTY, NEW MEXICO, REVISED SEPTEMBER 26, 2008, THIS SITE DOES NOT LIE WITHIN A DESIGNATED FLOOD HAZARD ZONE.

III. BACKGROUND DOCUMENTS

THE PREPARATION OF THIS SUBMITTAL RELIED UPON THE FOLLOWING DOCUMENTS:

- GRADING AND DRAINAGE PLAN PREPARED BY HIGH MESA CONSULTING GROUP (FORMERLY JEFF MORTENSEN & ASSOCIATES) DATED 8/06/1993 AND CERTIFIED 08/12/1997. THIS 1993 ESTABLISHED THE EXISTING DRAINAGE PATTERN FOR THE SITE, WITH BASIN A-1 FREE DISCHARGING DIRECTLY TO CANDELARIA ROAD AND BASIN A-2 HAVING CONTROLLED DISCHARGE VIA A PRIVATE STORM DRAIN LINE THAT DISCHARGES TO CANDELARIA ROAD. THE 1993 RECORD DRAWING GRADING & DRAINAGE PLAN IS INCLUDED IN THIS CONSTRUCTION PLAN SET (SHEET 4) FOR REFERENCE.
- PARTIAL TOPOGRAPHIC AND UTILITY SURVEY PREPARED BY HIGH MESA CONSULTING GROUP, NMPS 11184, DATED 08/15/2017. THE SURVEY PROVIDES THE EXISTING CONDITIONS FOR THIS PROJECT. THE SURVEY IS INCLUDED IN THIS CONSTRUCTION PLAN SET (SHEET 2) FOR REFERENCE.

IV. EXISTING CONDITIONS

THE PROJECT SITE CONSISTS OF AN EXISTING SUPPORT BUILDING LOCATED ADJACENT TO THE NORTHEAST CORNER OF THE EXISTING MAIN BUILDING, AND IS SURROUNDED ON THE REMAINING SIDES BY EXISTING ASPHALT PAVING. THE PROJECT SITE IS LOCATED WITHIN BASIN A-1 AS ESTABLISHED BY THE 1993 DRAINAGE PLAN, REFERENCED ABOVE. THE EXISTING SUPPORT BUILDING AND PAVEMENT GENERALLY DRAINS FROM SOUTHEAST TO NORTHWEST TO SURFACE FLOW INTO CANDELARIA ROAD NE.

V. DEVELOPED CONDITIONS

THE PROPOSED CONSTRUCTION CONSISTS OF REMOVAL OF THE EXISTING SUPPORT BUILDING AT THE NORTHEAST CORNER OF THE MAIN BUILDING, AND REPLACEMENT WITH A NEW LARGER BUILDING ADDITION AT THIS SAME CORNER. EXISTING IMPERVIOUS AREA WILL BE REMOVED AND REPLACED WITH NEW IMPERVIOUS AREA, THEREFORE THERE WILL BE NO CHANGE TO THE RUNOFF GENERATED BY THE SITE. RUNOFF FROM THE PROJECT AREA WILL CONTINUE TO DRAIN FROM SOUTHEAST TO NORTHWEST, PER THE EXISTING DRAINAGE PATTERN OF THE SITE.

THE NEW BUILDING ADDITION WILL BLOCK A PORTION OF RUNOFF FROM THE EXISTING SITE, THEREFORE, A NEW PRIVATE STORM DRAIN SYSTEM IS PROPOSED TO COLLECT THE RUNOFF SOUTH OF THE BUILDING AND ROUTE IT AROUND THE BUILDING TO DISCHARGE VIA HUBBLER IN THE PARKING LOT NORTH OF THE BUILDING. THIS STORM DRAIN ($Q_{HD} = 13.65$ CFS) IS SIZED TO CONVEY THE SITE RUNOFF FROM THE CONTRIBUTING AREA SOUTH OF THE BUILDING ($Q_{HD} = 3.4$ CFS), SEE SHEET 4 FOR CONTRIBUTING AREA LIMITS.

VI. FIRST FLUSH

DUE TO THE LIMITED SCOPE OF THE PROJECT, OPPORTUNITIES FOR THE CAPTURE AND TREATMENT OF THE FIRST FLUSH FROM THE NEW BUILDING IS CONSTRAINED. PER THE GEOTECH REPORT FOR THE SITE, LANDSCAPED WATER HARVESTING AREAS ADJACENT TO THE BUILDING ARE DISALLOWED, SO NO NEW LANDSCAPED TREATMENT AREAS COULD BE CONSTRUCTED. STORMWATER RUNOFF GENERATED BY THE NEW BUILDING WILL DRAIN ACROSS THE NORTH PARKING LOT VIA EXISTING PAVED FLOWLINE TO AN EXISTING LANDSCAPED STRIP ADJACENT TO CANDELARIA ROAD. THIS LANDSCAPED AREA WILL BE REGRADED AND DERESSED TO CAPTURE AND TREAT THE FIRST FLUSH RUNOFF TO THE MAXIMUM EXTENT PRACTICABLE.

VII. GRADING PLAN

THE GRADING PLAN SHOWS 1.) EXISTING AND PROPOSED GRADES INDICATED BY SPOT ELEVATIONS AND CONTOURS AT 1'-0" INTERVALS, 2.) THE LIMIT AND CHARACTER OF THE EXISTING AND PROPOSED IMPROVEMENTS, AND 3.) CONTINUITY BETWEEN EXISTING AND PROPOSED GRADES. AS SHOWN BY THIS PLAN, THE PROPOSED IMPROVEMENTS WILL NOT CHANGE THE PEAK DISCHARGE AND VOLUME OF RUNOFF GENERATED BY THE SITE. THE PROPOSED IMPROVEMENTS WILL GENERALLY DRAIN FROM SOUTHEAST TO NORTHWEST INTO LANDSCAPED WATER HARVESTING AREAS TO TREAT THE FIRST FLUSH RUNOFF BEFORE FREE DISCHARGING INTO CANDELARIA ROAD.

VIII. CALCULATIONS

NO OVERALL SITE CALCULATIONS WERE PREPARED AS THIS PROJECT WILL REPLACE EXISTING IMPERVIOUS AREA WITH NEW IMPERVIOUS AREA, RESULTING IN NO CHANGE TO RUNOFF GENERATED. PROJECT SPECIFIC CALCULATIONS ARE INCLUDED FOR THE NEW BUILDING FIRST FLUSH RUNOFF GENERATED, AS WELL AS FOR THE CONTRIBUTING AREA RUNOFF SOUTH OF THE NEW BUILDING. 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, WAS USED IN THESE CALCULATIONS. IN ADDITION, VOLUME OF THE PROPOSED DEPRESSED LANDSCAPED AREA INTENDED FOR FIRST FLUSH TREATMENT CALCULATED USING THE AVERAGE END-AREA METHOD. CALCULATIONS FOR THE NEW PRIVATE STORM DRAIN CAPACITY WERE PERFORMED USING FLOWMASTER V6.0, BASED UPON MANNING'S EQUATION FOR GRAVITY FLOW IN PIPES.

IX. CONCLUSIONS

THE FOLLOWING CONCLUSIONS HAVE BEEN ESTABLISHED AS A RESULT OF THE EVALUATIONS CONTAINED HEREIN:

1. THIS PROJECT REPRESENTS A MODIFICATION TO AN EXISTING DEVELOPED SITE.
2. THE PROPOSED IMPROVEMENT WILL MAINTAIN AND NOT ALTER THE EXISTING DRAINAGE PATTERNS OF THE SITE.
3. THE PROPOSED IMPROVEMENTS WILL RESULT IN NO CHANGE TO THE DEVELOPED PEAK DISCHARGE AND VOLUME OF RUNOFF VOLUME GENERATED BY THE SITE.
4. THE PROPOSED IMPROVEMENTS WILL NOT ADVERSELY IMPACT DOWNSTREAM PROPERTIES OR DOWSTREAM DRAINAGE CONDITIONS
5. PROPOSED WATER HARVESTING AREAS ARE SIZED TO CAPTURE AND TREAT THE FIRST FLUSH RUNOFF FROM THE NEW BUILDING TO THE MAXIMUM EXTENT PRACTICABLE.
6. THIS SUBMITTAL IS MADE IN SUPPORT OF BUILDING PERMIT APPROVAL.

CALCULATIONS

I. BUILDING CHARACTERISTICS

| | | | | |
|----|------------------------------------|--------------|-------|----|
| A. | PRECIPITATION ZONE = | | 2 | |
| B. | $P_{100, 6\text{ HR}} = P_{360} =$ | | 2.35 | IN |
| C. | TOTAL PROJECT AREA (A_T) = | | 1,169 | SF |
| | | | 0.03 | AC |
| D. | LAND TREATMENT | | | |
| 1. | DEVELOPED LAND TREATMENT | | | |
| | TREATMENT | AREA (SF/AC) | | |
| | A | | | |
| | B | | | |
| | C | | | |
| | D | | 1,169 | SF |
| | | | 0.03 | AC |

II. BUILDING FIRST FLUSH CALCULATIONS

| | | |
|----|---|--------------|
| A. | BUILDING SQUARE FOOTAGE = 1,170 SF (0.03 AC) | |
| 1. | <u>RETENTION REQUIREMENT</u> | |
| | <u>a. VOLUME</u> | |
| | $V_{RO} = ((P_{FI} - I_{AO})/12)A_O$ | |
| | $V_{RO} = ((0.44 - 0.10)/12)(1170.00) =$ | <u>30 CF</u> |
| 2. | LANDSCAPED WATER HARVESTING CAPACITY = | <u>35 CF</u> |
| 3. | LANDSCAPED WATER HARVESTING CAPACITY (35 CF) > V_{RO} (30 CF) | ∴ OKAY |

III. CONTRIBUTING AREA CHARACTERISTICS

A. PRECIPITATION ZONE = 2

B. $P_{100, 6\text{ HR}} = P_{360} =$ 2.35 **IN**

C.

| | | |
|--------------------------------|--------|----|
| TOTAL PROJECT AREA (A_T) = | 31,095 | SF |
| | 0.71 | AC |

D. LAND TREATMENTS

1.

| DEVELOPED LAND TREATMENT | | | |
|--------------------------|--------------|----|-----|
| TREATMENT | AREA (SF/AC) | | % |
| A | | | |
| B | | | |
| C | | | |
| D | 31,095 | SF | 100 |
| | 0.71 | AC | |

IV. CONTRIBUTING AREA HYDROLOGY

| | | | |
|--|--|------------------------|-----------------|
| <u>A. DEVELOPED CONDITION</u> | | | |
| 1. | <u>100-YR STORM</u> | | |
| | <u>a. VOLUME</u> | | |
| $E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D) / A_T$ | | | |
| $E_W =$ | $(0.53 * 0.00) + (0.78 * 0.00) + (1.13 * 0.00) + (2.12 * 0.71) / 0.71 =$ | <u>2.12 IN</u> | |
| $V_{100, 6+HR} = (E_W / 12) A_T =$ | $(2.12 / 12) 0.71 =$ | $0.1261 \quad AC-FT =$ | <u>5,490 CF</u> |
| | <u>b. PEAK DISCHARGE</u> | | |
| $Q_{P100} = Q_{PA} A_A + Q_{PB} A_B + Q_{PC} A_C + Q_{PD} A_D$ | | | |
| $=$ | $(1.56 * 0.00) + (2.28 * 0.00) + (3.14 * 0.00) + (4.70 * 0.71) =$ | $Q_{P100} =$ | <u>3.4 CFS</u> |
| <u>B. STORM DRAIN CAPACITY</u> | | | |
| 1. | <u>18" STORM DRAIN</u> | | |
| | <u>a. CAPACITY (PER FLOWMASTER)</u> | | |
| $Q_{18" CAP} = 13.65 CFS$ | | | |
| 2. | $Q_{18" CAP} (13.65 CFS) > Q_{P100} (3.4 CFS)$ | \therefore OKAY | |

LEGEND

| | |
|---------|---|
| ASPH | ASPHALT PAVING |
| ASV | ANTI-SIPHON VALVE |
| BOH | BUILDING OVERHANG |
| C&G | CONCRETE CURB AND GUTTER |
| CC | CONCRETE CURB |
| CDP | CONCRETE DRIVE PAD |
| CID | CENTERLINE DOOR |
| CLF/BW | CHAIN LINK FENCE WITH BARBED WIRE |
| CO | SEWER CLEANOUT |
| CONC | CONCRETE |
| CSW | CONCRETE SIDEWALK |
| DCO | DOUBLE SANITARY SEWER CLEANOUT |
| E/PM | ELECTRIC LINE BY PAINT MARK |
| EC | ELECTRIC CONDUIT |
| EDC | ELECTRIC DISCONNECT |
| EJB | ELECTRIC JUNCTION BOX |
| EO | ELECTRIC OUTLET |
| FL | FLOWLINE |
| G/PM | GAS LINE BY PAINT MARK |
| GP | METAL GUARD POST |
| GRV | GRAVEL |
| HCS | HANDICAPPED PARKING SPACE SIGN |
| ICB | IRRIGATION CONTROL BOX |
| IVB | IRRIGATION VALVE BOX |
| OHC(1) | OVERHEAD COMMUNICATIONS LINE (# OF LINES) |
| OHE(1) | OVERHEAD ELECTRIC LINE (# OF LINES) |
| FS | PAINTED PARKING STALL STRIPE |
| RR | RIVER ROCK |
| SAS/PM | SANITARY SEWER LINE BY PAINT MARK |
| TA | TOP OF ASPHALT |
| TC | TOP OF CURB |
| TCO | TOP OF CONCRETE |
| TG | TOP OF GRATE |
| VG | VALLEY GUTTER |
| W/PM | WATER LINE BY PAINT MARK |
| WCR | WHEEL CHAIR RAMP |
| WLP | WOOD LIGHT POLE |
| WMB | WATER METER BOX |
| WS | WATER STOP |
| WVB | WATER VALVE BOX |
| 1.0% | TREE TRUNK DIAMETER |
| | CONIFEROUS TREE |
| | DECIDUOUS TREE |
| | SHRUB |
| INV | INVERT |
| TA | TOP OF ASPHALT PAVEMENT |
| TC | TOP OF CURB |
| TG | TOP OF GRATE |
| + 27.31 | EXISTING SPOT ELEVATION |
| 27.25 | PROPOSED SPOT ELEVATION |
| 50.30 | EXISTING FLOWLINE |
| 30 | PROPOSED FLOWLINE |
| 50.30 | EXISTING CONTOUR |
| 30 | PROPOSED CONTOUR |
| | EXISTING DIRECTION OF FLOW |
| | PROPOSED DIRECTION OF FLOW |
| | RIGHT OF WAY LINE |
| | PUBLIC EASEMENT LINE |
| | HIGH POINT / DIVIDE |
| | PROPOSED CONCRETE |
| | PROPOSED ASPHALT PAVING |
| | PROPOSED LANDSCAPE AREA |

CONSTRUCTION NOTES:

1. ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED UNDER CONTRACT SHALL, EXCEPT AS OTHERWISE STATED OR APPROVED FOR HEREON, BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS-PUBLIC WORKS CONSTRUCTION-1986-UPDATE NO. 9.
2. TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL SYSTEM, 811, FOR DESIGNATION (LINE-SPOTTING) OF EXISTING UTILITIES.
3. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ALL POTENTIAL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL INTERPRETATIONS IT MAKES WITHOUT FIRST CONTACTING THE ENGINEER AS REQUIRED ABOVE.
4. ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, RULES AND REGULATIONS CONCERNING CONSTRUCTION SAFETY AND HEALTH.
5. ALL CONSTRUCTION WITHIN PUBLIC RIGHT-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE CITY OF ALBUQUERQUE STANDARDS AND PROCEDURES.
6. UTILITY INFORMATION SHOWN HEREON IS BASED UPON ON-SITE SURFACE EVIDENCE AND ALBUQUERQUE BERNALILLO COUNTY WATER UTILITY AUTHORITY DISTRIBUTION MAPS, AVAILABLE RECORD DRAWINGS AND UTILITY LINE-SPOTS PROVIDED BY HIGH MESA CONSULTING GROUP (2017.037.1 SITE UTILITY DIAGRAM DATED 08-02-2017). IN ADDITION, UTILITY LINE-SPOTS WERE REQUESTED VIA THE NEW MEXICO ONE CALL SERVICE (TICKET #17JU280383). UTILITY LINES SHOWN ON THIS DRAWING ARE SHOWN IN AN APPROXIMATE MANNER ONLY AND SUCH LINES MAY EXIST WHERE NONE ARE SHOWN. IF ANY SUCH EXISTING LINES ARE SHOWN, THE LOCATION IS BASED UPON INFORMATION PROVIDED BY THE OWNER OF SAID UTILITY, AND THE INFORMATION MAY BE INCOMPLETE, OR MAY BE OBSOLETE BY THE TIME CONSTRUCTION COMMENCES. THE SURVEYOR HAS CONDUCTED ONLY PRELIMINARY INVESTIGATION OF THE LOCATION, DEPTH, SIZE, OR TYPE OF EXISTING UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES. THIS INVESTIGATION IS NOT CONCLUSIVE, AND MAY NOT BE COMPLETE, THEREFORE, MAKES NO REPRESENTATION PERTAINING THERETO, AND ASSUMES NO RESPONSIBILITY OR LIABILITY THEREFOR. THE PROPERTY OWNER, DEVELOPER, OR CONTRACTOR SHALL INFORM ITSELF OF THE LOCATION OF ANY UTILITY LINE, PIPELINE, OR UNDERGROUND UTILITY LINE IN OR NEAR THE AREA OF THE WORK IN ADVANCE OF AND DURING EXCAVATION WORK. THE PROPERTY OWNER, DEVELOPER, OR CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE CAUSED BY ITS FAILURE TO LOCATE, IDENTIFY AND PRESERVE ANY AND ALL EXISTING UTILITIES, PIPELINES, AND UNDERGROUND UTILITY LINES. IN PLANNING AND CONDUCTING EXCAVATION, THE CONTRACTOR SHALL COMPLY WITH STATE STATUTES, MUNICIPAL AND LOCAL ORDINANCES, RULES AND REGULATIONS, IF ANY, PERTAINING TO THE LOCATION OF THESE LINES AND FACILITIES.
7. THE DESIGN OF PLANTERS AND LANDSCAPED AREAS IS NOT PART OF THIS PLAN. ALL PLANTERS AND LANDSCAPED AREAS ADJACENT TO THE BUILDING(S) SHALL BE PROVIDED WITH POSITIVE DRAINAGE TO AVOID ANY PONDING ADJACENT TO THE STRUCTURE. FOR CONSTRUCTION DETAILS, REFER TO LANDSCAPING PLAN.
8. THE GRADES INDICATED ON THIS PLAN ARE FINISHED GRADES UNLESS OTHERWISE INDICATED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LEAVING SUBGRADE AT ELEVATIONS THAT SHALL ACCOMMODATE PROPOSED IMPROVEMENTS AS INDICATED ON THE PLANS INCLUDING, BUT NOT LIMITED TO, SURFACE DRAINAGE STRUCTURES, PAVING AND LANDSCAPING SURFACING.

LEGAL DESCRIPTION

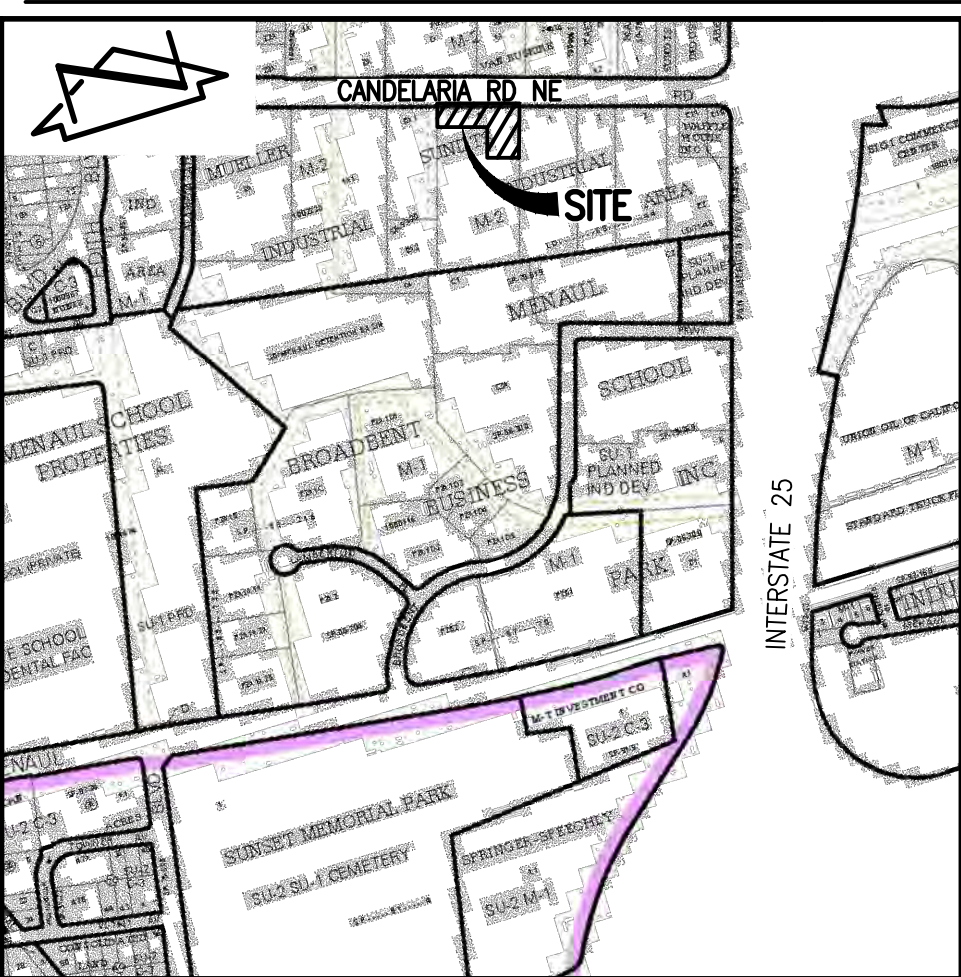
LOT E, SUNDT'S INDUSTRIAL AREA



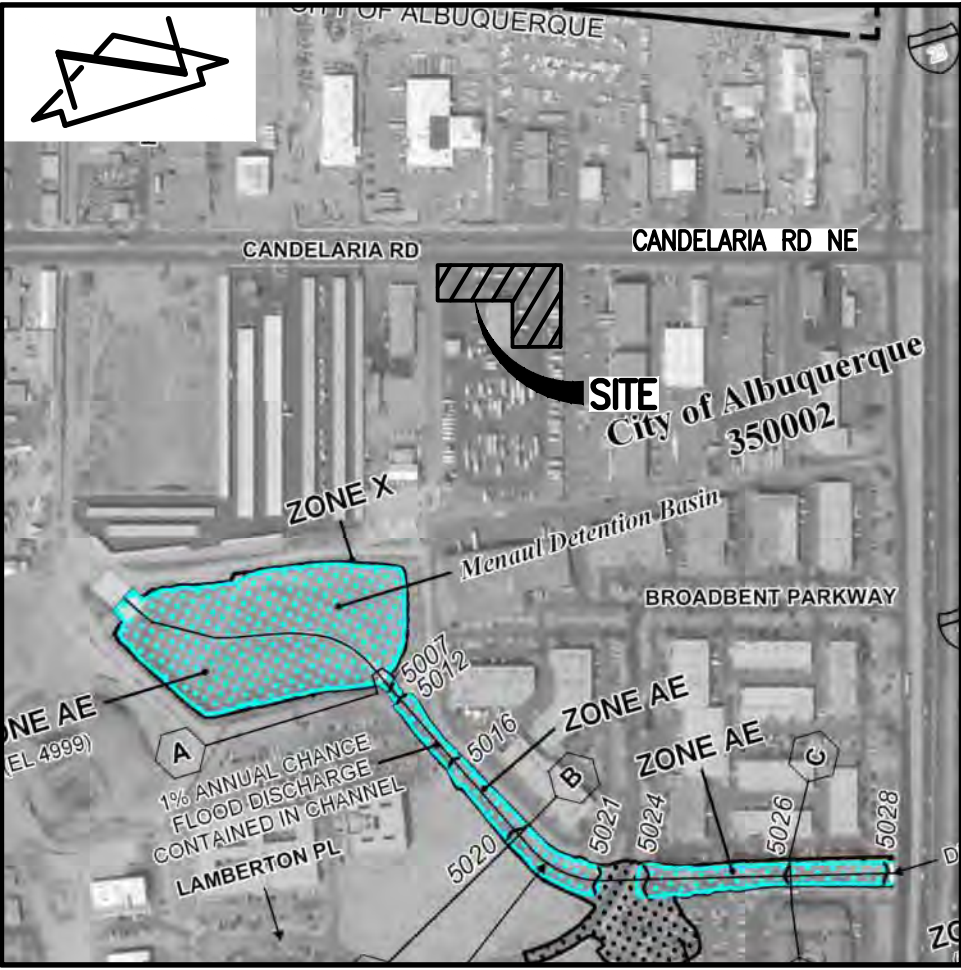
Kevin Georges & Associates

Architecture & Planning

214 Truman Street NE — Albuquerque, New Mexico 87108-1333 505/255-4975



VICINITY MAP H-15
SCALE: 1" = 750'



F.I.R.M. 332 of 825
SCALE: 1" = 500' DATE: 09-26-2008

PROJECT BENCHMARK

AGRS 3" BRASS DISC STAMPED "CANDELARIA 1979", SET IN TOP OF A CONCRETE POST FLUSH WITH GROUND, NEAR THE NORTHEAST QUADRANT OF THE INTERSECTION OF CANDELARIA BLVD AND UNIVERSITY AVE NE.
NORTHING 1,497,091.458 (GRID) 1,497,091.46 (GROUND)
EASTING 1,528,901.06 (GRID) 1,528,901.06 (GROUND)
ELEVATION = 5090.846 FEET (NAVD 1988)

TEMPORARY BENCHMARK (T.B.M.) #1

A MAG NAIL IN ASHALT NEAR THE WESTERN MOST DRIVE ENTRANCE TO THE SITE, AS SHOWN ON THIS SHEET.
NORTHING 1,497,470.95 (GROUND)
EASTING 1,526,806.99 (GROUND)
ELEVATION = 5023.78 FEET (NAVD 1988)

TEMPORARY BENCHMARK (T.B.M.) #2

A MAG NAIL IN ASHALT NEAR THE EASTERN MOST DRIVE ENTRANCE TO THE SITE, AS SHOWN ON THIS SHEET.
NORTHING 1,497,402.05 (GROUND)
EASTING 1,527,019.81 (GROUND)
ELEVATION = 5031.27 FEET (NAVD 1988)

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A MAG NAIL IN ASHALT NEAR THE SOUTHERN PORTION OF THE SITE, AS SHOWN ON THIS SHEET.
NORTHING 1,497,248.90 (GROUND)
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INDEX OF CIVIL DRAWINGS

| SHEET | DESCRIPTION |
|-------|--|
| 1 | COVER SHEET, VICINITY MAP, FIRM, LEGAL DESCRIPTION, DRAINAGE PLAN & CONSTRUCTION NOTES |
| 2 | PARTIAL TOPOGRAPHIC AND UTILITY SURVEY |
| 3 | SITE PLAN |
| 4 | RECORD GRADING PLAN (FOR INFORMATION ONLY) |
| 5 | GRADING PLAN |
| 6 | PAVING AND DRAINAGE SECTIONS AND DETAILS |



AN ADDITION TO
PENSKE TRUCK LEASING
1400 CANDELARIA ROAD NE
ALBUQUERQUE, NEW MEXICO



6010-B Midway Park Blvd. NE • Albuquerque, New Mexico 87109
Phone: 505.345.4250 • Fax: 505.345.4254 • www.highmesacg.com

| | | | | |
|-------------|-------|------------|-----------|-------------|
| DRAWN BY: | DATE: | REVISIONS: | DATE: | ISSUED FOR: |
| J.Y.R. | | | 10/9/2017 | SITE REVIEW |
| CHECKED BY: | | | SHEET NO: | 1 |
| G.M. | | | | |
| PROJECT NO: | | | | |
| 2017.21 | | | | |

File Path: P:\MVA\2017\0371\384\Plot Date: 08-15-2017
File Name: 20170371_TOPO.DWG Plot Time: 11:44 am

HIGH MESA Consulting Group
Engineers, Surveyors & Surveyors Utility Consultants

6010-B Midway Park Blvd. NE • Albuquerque, New Mexico 87109
Phone: 505.345.4250 • Fax: 505.345.4254 • www.highmesag.com

PARTIAL TOPOGRAPHIC AND UTILITY SURVEY
PENSKE

PROJECT BENCHMARK

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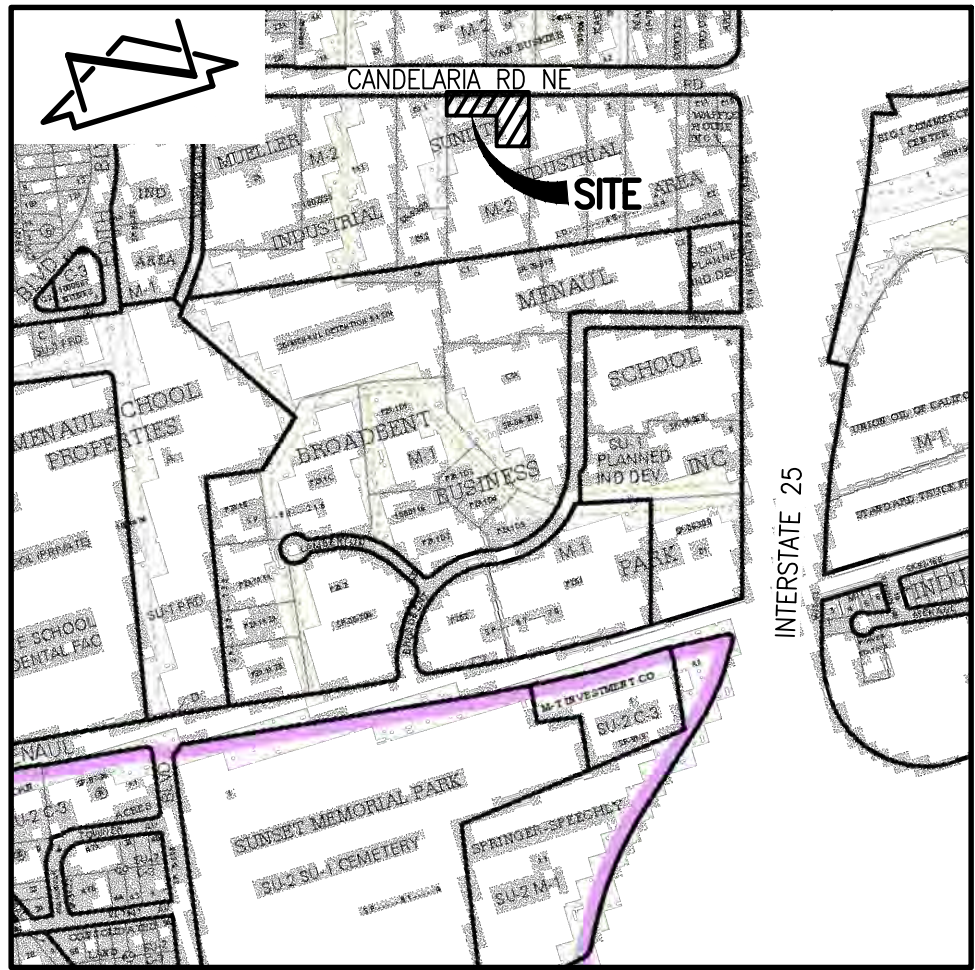
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VICINITY MAP
SCALE: 1" = 750'

H-15

LEGEND

| | |
|--------|---|
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| BOH | BUILDING OVERHANG |
| C&G | CONCRETE CURB AND GUTTER |
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| 1.0" | TREE TRUNK DIAMETER |
| | CONIFEROUS TREE |
| | DECIDUOUS TREE |
| | SHRUB |

NOTES

- A TOPOGRAPHIC AND UTILITY SURVEY WAS PERFORMED IN AUGUST, 2017. THIS IS NOT A BOUNDARY SURVEY.
- ALL DISTANCES ARE GROUND DISTANCES.
- SITE LOCATED WITHIN SECTION 9, TOWNSHIP 10 NORTH, RANGE 3 EAST, N.M.P.M.
- UTILITY INFORMATION SHOWN HEREON IS BASED UPON ONSITE SURFACE EVIDENCE AND ALBUQUERQUE BERNALILLO COUNTY WATER UTILITY AUTHORITY DISTRIBUTION MAPS, AVAILABLE RECORD DRAWINGS AND UTILITY LINE-SPOTS PROVIDED BY HIGH MESA CONSULTING GROUP (2017.037.1 SITE UTILITY DIAGRAM DATED 08-02-2017). IN ADDITION, UTILITY LINE-SPOTS WERE REQUESTED VIA THE NEW MEXICO ONE CALL SERVICE (TICKET #17JU280383). UTILITY LINES SHOWN ON THIS DRAWING ARE SHOWN IN AN APPROXIMATE MANNER ONLY AND SUCH LINES MAY EXIST WHERE NONE ARE SHOWN. IF ANY SUCH EXISTING LINES ARE SHOWN, THE LOCATION IS BASED UPON INFORMATION PROVIDED BY THE OWNER OF SAID UTILITY, AND THE INFORMATION MAY BE INCOMPLETE, OR MAY BE OBSOLETE BY THE TIME CONSTRUCTION COMMENCES. THE SURVEYOR HAS CONDUCTED ONLY PRELIMINARY INVESTIGATION OF THE LOCATION, DEPTH, SIZE, OR TYPE OF EXISTING UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES. THIS INVESTIGATION IS NOT CONCLUSIVE, AND MAY NOT BE COMPLETE, THEREFORE, MAKES NO REPRESENTATION PERTAINING THERETO, AND ASSUMES NO RESPONSIBILITY OR LIABILITY THEREFOR. THE PROPERTY OWNER, DEVELOPER, OR CONTRACTOR SHALL INFORM ITSELF OF THE LOCATION OF ANY UTILITY LINE, PIPELINE, OR UNDERGROUND UTILITY LINE IN OR NEAR THE AREA OF THE WORK IN ADVANCE OF AND DURING EXCAVATION WORK. THE PROPERTY OWNER, DEVELOPER, OR CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE CAUSED BY ITS FAILURE TO LOCATE, IDENTIFY AND PRESERVE ANY AND ALL EXISTING UTILITIES, PIPELINES, AND UNDERGROUND UTILITY LINES. IN PLANNING AND CONDUCTING EXCAVATION, THE CONTRACTOR SHALL COMPLY WITH STATE STATUTES, MUNICIPAL AND LOCAL ORDINANCES, RULES AND REGULATIONS, IF ANY, PERTAINING TO THE LOCATION OF THESE LINES AND FACILITIES.
- THIS TOPOGRAPHIC AND UTILITY SURVEY HAS BEEN PREPARED BASED UPON NAVD 88 DATUM. PREVIOUS SURVEYS AND ABCWUA/CITY OF ALBUQUERQUE RECORD DRAWINGS OF THIS AREA HAVE BEEN CONDUCTED BASED UPON NGVD 29 DATUM. SPECIAL CARE SHOULD BE EXERCISED WHEN COMPARING ELEVATIONS FROM THIS SURVEY TO CURRENT AND PREVIOUS SURVEYS, PLANS AND AS-BUILT DOCUMENTS.

CONTROL SURVEY NOTE

A CONTROL SURVEY WAS CONDUCTED AT THE SITE ON AUGUST 13, 2017. CONTROL WAS PROJECTED ONTO THE SUBJECT SITE UTILIZING RTK GPS OBSERVATIONS COMBINED WITH GEOID 12B(CONUS) TO ESTABLISH HORIZONTAL AND VERTICAL POSITIONS BASED UPON NAD83/NAVD 88 DATUM. THE RTK OBSERVATIONS WERE USED TO ESTABLISH THE TEMPORARY BENCHMARKS AT THE PROJECT SITE. THE POINTS OBSERVED HAVE BEEN QUALITY CONTROLLED FOR RELATIVE ACCURACY. AN AGRS CONTROL STATION IN THE VICINITY OF THE PROJECT WAS OBSERVED IN ORDER TO PROVIDE REFERENCE TIES TO THE SITE. THE CONTROL STATION USED TO PROJECT FROM GRID TO GROUND FOR THIS PROJECT IS AGRS CONTROL STATION "CANDELARIA 1979".

SURVEYORS CERTIFICATION

I, CHARLES G. CALA, JR., NEW MEXICO PROFESSIONAL SURVEYOR NO. 11184, DO HEREBY CERTIFY; THAT THIS TOPOGRAPHIC AND UTILITY SURVEY AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO, AND THAT IT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

Charles G. Cala, Jr.
CHARLES G. CALA, JR., NMPS 11184



8/15/2017
DATE

| SURVEYED BY | NO. | DATE | BY | REVISIONS | JOB NO. |
|-------------|-----|------|----|-----------|--------------|
| | | | | | |
| E.J.S. | | | | | 2017.037.1 |
| E.J.S. | | | | | DATE 09-2017 |
| C.G.C. | | | | | SHEET 2 OF 6 |

File Path: P:\DWG\2017\2017.037.2\BKG [Plot Date: 10-09-2017
File Name: 170372_SH.3.DWG [Plot Time: 3:12 pm

SURVEY NOTE:
THE TOPOGRAPHIC INFORMATION DEPICTED HEREON IS BASED UPON THE PARTIAL TOPOGRAPHIC AND UTILITY SURVEY PREPARED BY HIGH MESA CONSULTING GROUP, NMPS NO. 11184, DATED 08/15/2017 (2017.037.1).



AN ADDITION TO
PENSKE TRUCK LEASING
1400 CANDELARIA ROAD NE
ALBUQUERQUE, NEW MEXICO

HIGH MESA Consulting Group
Albuquerque, New Mexico

6010-B Midway Park Blvd. NE • Albuquerque, New Mexico 87109
Phone: 505.345.4250 • Fax: 505.345.4254 • www.highmesacg.com

| | | | | |
|-------------|------|-----------|-----------|-------------|
| DRAWN BY: | DATE | REVISIONS | DATE: | ISSUED FOR: |
| J.Y.R. | | | 10/9/2017 | SITE REVIEW |
| CHECKED BY: | | | SHEET NO: | |
| G.M. | | | | |
| PROJECT NO: | | | | |
| 2017.21 | | | | |

SITE PLAN

| |
|---|
| 3 |
|---|

PROJECT BENCHMARK

AGRS 3" BRASS DISC STAMPED "CANDELARIA 1979", SET IN TOP OF A CONCRETE POST FLUSH WITH GROUND, NEAR THE NORTHEAST QUADRANT OF THE INTERSECTION OF CANDELARIA BLVD AND UNIVERSITY AVE. NE.
NORTHING 1,497,091.458 (GRID) 1,497,091.46 (GROUND)
EASTING 1,528,901.06 (GRID) 1,528,901.06 (GROUND)
ELEVATION = 5090.846 FEET (NAVD 1988)

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A MAG NAIL IN ASHALT NEAR THE WESTERN MOST DRIVE ENTRANCE TO THE SITE, AS SHOWN ON THIS SHEET.
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EASTING 1,526,806.99 (GROUND)
ELEVATION = 5023.78 FEET (NAVD 1988)

TEMPORARY BENCHMARK (T.B.M.) #2

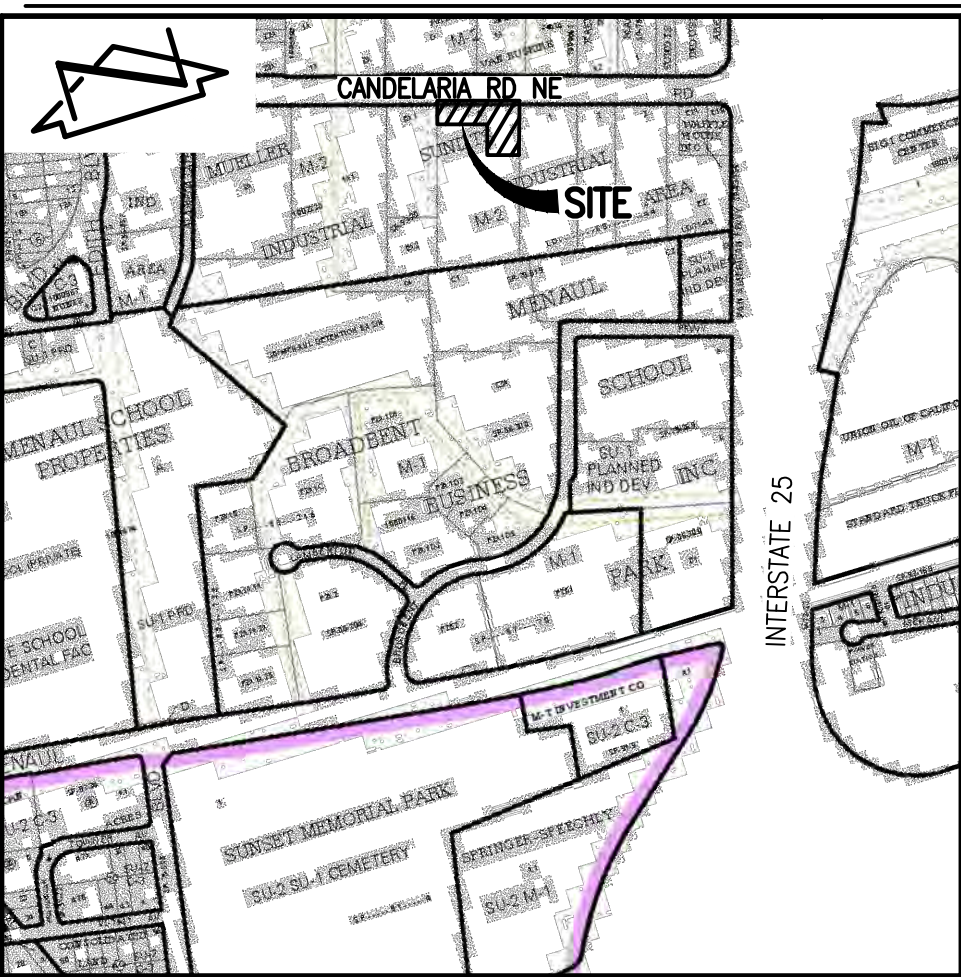
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EASTING 1,527,019.81 (GROUND)
ELEVATION = 5031.27 FEET (NAVD 1988)

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A MAG NAIL IN ASHALT NEAR THE SOUTHERN PORTION OF THE SITE, AS SHOWN ON THIS SHEET.
NORTHING 1,497,248.90 (GROUND)
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ELEVATION = 5031.33 FEET (NAVD 1988)

LEGEND

| | |
|-------|-------------------------|
| 1.0'φ | TREE TRUNK DIAMETER |
| | CONIFEROUS TREE |
| | DECIDUOUS TREE |
| | SHRUB |
| | PROPOSED CONCRETE |
| | PROPOSED ASPHALT PAVING |
| | PROPOSED GRAVEL AREA |



VICINITY MAP H-15
SCALE: 1" = 750'

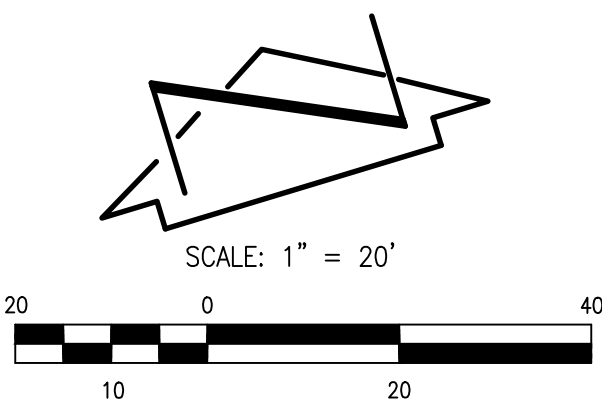
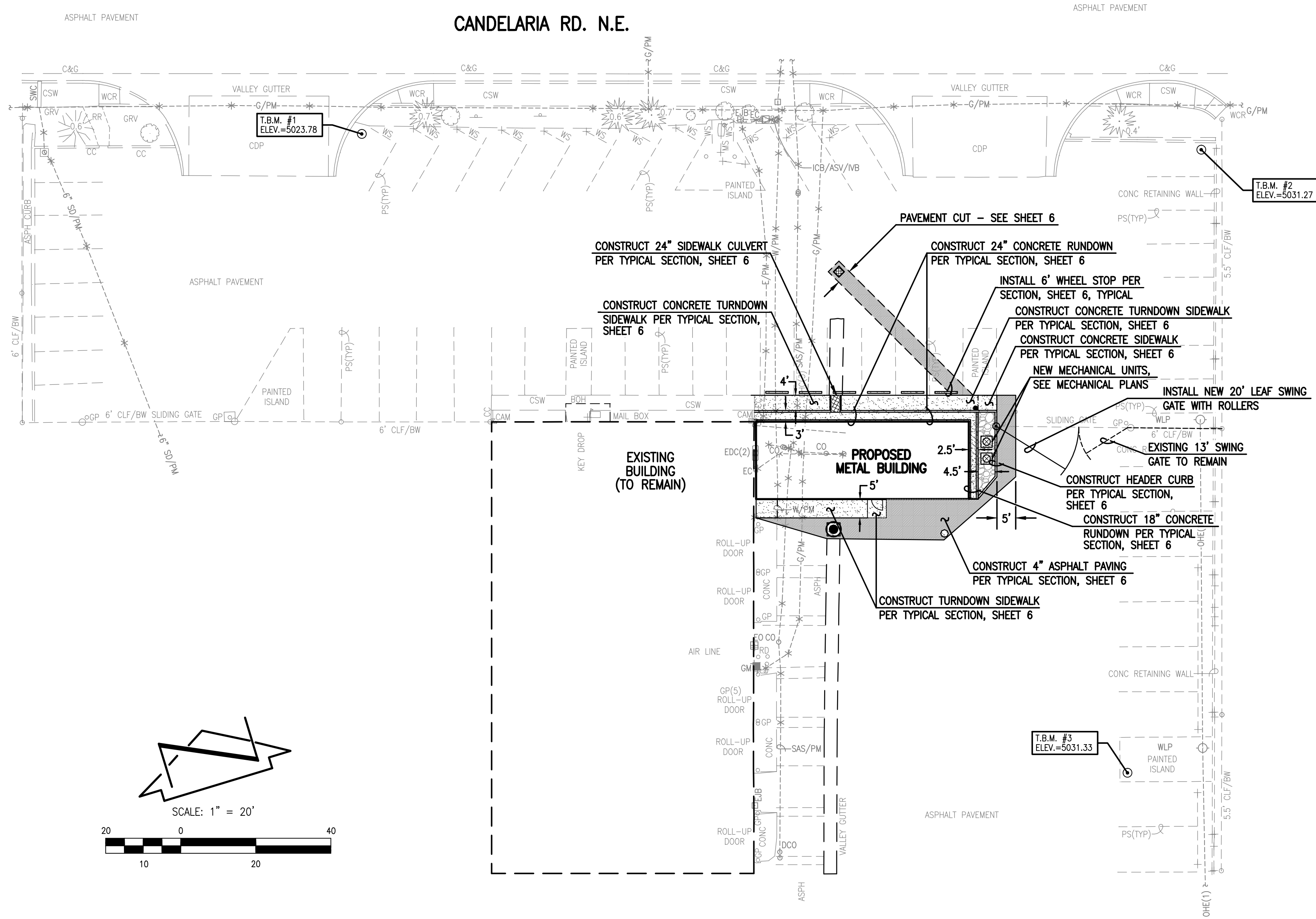
CONSTRUCTION NOTES:

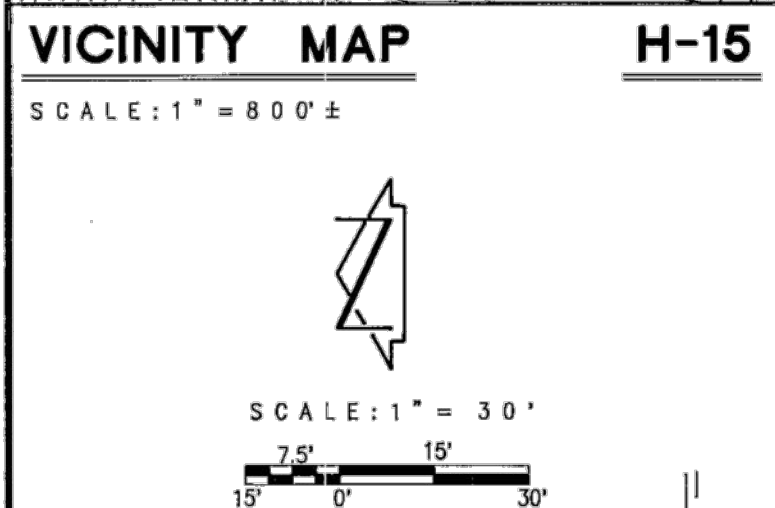
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- TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL SYSTEM, 811, FOR DESIGNATION (LINE-SPOTTING) OF EXISTING UTILITIES.
- PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ALL POTENTIAL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL INTERPRETATIONS IT MAKES WITHOUT FIRST CONTACTING THE ENGINEER AS REQUIRED ABOVE.
- ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, RULES AND REGULATIONS CONCERNING CONSTRUCTION SAFETY AND HEALTH.
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- UTILITY INFORMATION SHOWN HEREON IS BASED UPON ONSITE SURFACE EVIDENCE AND ALBUQUERQUE BERNALILLO COUNTY WATER UTILITY AUTHORITY DISTRIBUTION MAPS, AVAILABLE RECORD DRAWINGS AND UTILITY LINE-SPOTS PROVIDED BY HIGH MESA CONSULTING GROUP (2017.037.1 SITE UTILITY DIAGRAM DATED 08-02-2017). IN ADDITION, UTILITY LINE-SPOTS WERE REQUESTED VIA THE NEW MEXICO ONE CALL SERVICE (TICKET #17JUZ80383). UTILITY LINES SHOWN ON THIS DRAWING ARE SHOWN IN AN APPROXIMATE MANNER ONLY AND SUCH LINES MAY EXIST WHERE NONE ARE SHOWN. IF ANY SUCH EXISTING LINES ARE SHOWN, THE LOCATION IS BASED UPON INFORMATION PROVIDED BY THE OWNER OF SAID UTILITY, AND THE INFORMATION MAY BE INCOMPLETE, OR MAY BE OBSOLETE BY THE TIME CONSTRUCTION COMMENCES. THE SURVEYOR HAS CONDUCTED ONLY PRELIMINARY INVESTIGATION OF THE LOCATION, DEPTH, SIZE, OR TYPE OF EXISTING UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES. THIS INVESTIGATION IS NOT CONCLUSIVE, AND MAY NOT BE COMPLETE, THEREFORE, MAKES NO REPRESENTATION PERTAINING THERETO, AND ASSUMES NO RESPONSIBILITY OR LIABILITY THEREFOR. THE PROPERTY OWNER, DEVELOPER, OR CONTRACTOR SHALL INFORM ITSELF OF THE LOCATION OF ANY UTILITY LINE, PIPELINE, OR UNDERGROUND UTILITY LINE IN OR NEAR THE AREA OF THE WORK IN ADVANCE OF AND DURING EXCAVATION WORK. THE PROPERTY OWNER, DEVELOPER, OR CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE CAUSED BY ITS FAILURE TO LOCATE, IDENTIFY AND PRESERVE ANY AND ALL EXISTING UTILITIES, PIPELINES, AND UNDERGROUND UTILITY LINES. IN PLANNING AND CONDUCTING EXCAVATION, THE CONTRACTOR SHALL COMPLY WITH STATE STATUTES, MUNICIPAL AND LOCAL ORDINANCES, RULES AND REGULATIONS, IF ANY, PERTAINING TO THE LOCATION OF THESE LINES AND FACILITIES.
- THE DESIGN OF PLANTERS AND LANDSCAPED AREAS IS NOT PART OF THIS PLAN. ALL PLANTERS AND LANDSCAPED AREAS ADJACENT TO THE BUILDING(S) SHALL BE PROVIDED WITH POSITIVE DRAINAGE TO AVOID ANY PONDING ADJACENT TO THE STRUCTURE. FOR CONSTRUCTION DETAILS, REFER TO LANDSCAPING PLAN.
- THE GRADES INDICATED ON THIS PLAN ARE FINISHED GRADES UNLESS OTHERWISE INDICATED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LEAVING SUBGRADE AT ELEVATIONS THAT SHALL ACCOMMODATE PROPOSED IMPROVEMENTS AS INDICATED ON THE PLANS INCLUDING, BUT NOT LIMITED TO, SURFACE DRAINAGE STRUCTURES, PAVING AND LANDSCAPING SURFACING.



2017.037.2

NOTE:
REFER TO DEMO PLAN FOR REMOVAL OF EXISTING METAL BUILDING AND RELATED APPURTENANCES NOT SHOWN HEREON FOR CLARITY.





PROJECT BENCHMARK

A SQUARE, CHISELED ON TOP OF CONCRETE CURB AT THE ENE CURB RETURN LOCATED AT THE INTERSECTION OF CANDELARIA ROAD N.E. AND HIGH STREET N.E. IN THE NORTHEAST QUADRANT OF THE INTERSECTION.
ELEVATION = 4995.328 FEET (M.S.L.D.)

T.B.M.

FINISHED FLOOR ELEVATION OF EXISTING BUILDING AS SHOWN ON THE DRAWING BELOW.
ELEVATION = 5026.79

LEGAL DESCRIPTION

UNPLATTED

LEGEND

- | | |
|-----|-------------------------|
| TW | TOP OF WALL |
| BW | BOTTOM OF WALL |
| FL | TOP OF CURB |
| FL | FLOW LINE |
| TAC | TOP OF ASPHALT CURB |
| THC | TOP OF HEADER CURB |
| TCO | TOP OF CONCRETE |
| TA | TOP OF ASPHALT |
| + | EXISTING SPOT ELEVATION |
| - | EXISTING CONTOUR |
| - | PROPOSED CONTOUR |

- AS-BUILT LEGEND**
- 17.00V AS-BUILT = AS DESIGNED
 - 22.50V AS-BUILT ELEVATION
 - 17.99-.01 AS-BUILT ELEVATION

DRAINAGE PLAN

The following items concerning the Penske Truck Leasing Drainage Plan are contained hereon:

1. Vicinity Map
2. Grading Plan
3. Calculations
4. Sections & Details

As shown by the Vicinity Map, the site is located on the south side of Candelaria Road N.E. between Broadway Boulevard N.E. and the I-25 West Frontage Road. At present, the site is developed as a truck leasing facility. The front portion (Basin A-1) of the property is fully developed with paving, building area and limited landscaping. The rear portion (Basin A-2) is used for vehicle storage. The area is developed with compacted gravel and two mobile homes used as office facilities.

As shown by Panel 23 of 50 of the National Flood Insurance Program Flood Insurance Rate Maps for the City of Albuquerque, New Mexico, dated October 14, 1983, this site does not lie within a designated flood hazard zone. The site currently drains in a northerly direction toward Candelaria Road N.E. From this point, runoff drains west to a designated flood hazard zone which is situated at the intersection of Candelaria Road and the Railroad. It is because of this that the controlled discharge of runoff from Basin A-2 is required for the development of that portion of the site. Basin A-1 represents an existing condition for which no additional treatment of the runoff is required.

The Grading Plan shows 1) existing and proposed grades indicated by spot elevations and contours at 1'0" intervals, 2) the limit and character of the existing improvements, 3) the limit and character of the proposed improvements, 4) Drainage Basin boundaries indicated by the south edge of the existing asphalt paving and 5) continuity between existing and proposed grades. As shown by this plan, the proposed development consists of the grading and paving of Basin A-2. A single "D" storm inlet will be located within the new paving to provide detention ponding. An 8" extruded asphalt curb will be constructed along the west edge of the paving to further control runoff and eliminate the potential discharge of runoff from the site onto the adjacent property which lies to the west. The maximum pond depth will be 18" measured from the top-of-grate to the maximum water surface level of 22.5. The ponded runoff will discharge via a 6" drain line which will discharge into the back of a 12" sidewalk culvert which will be constructed within the south curb line of Candelaria Road N.E.

The Calculations which appear hereon analyze 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 August, 1991, has been used to compute both the peak discharge and volume of runoff generated by this site. As shown by these calculations, the proposed improvements will increase the volume of runoff generated by Basin A-2. Due to the controlled discharge of runoff, the peak rate of discharge from Basin A-2 to Candelaria Road N.E. will be significantly decreased. No changes in runoff characteristics for Basin A-1 are anticipated. The pond volume has been calculated using the Average End Area Method, while the capacity of the 6" drain line has been calculated by the Orifice Equation for Entrance Conditions and the Manning Equation for Pipe Flow Conditions.

DRAINAGE CERTIFICATION

As indicated by the as-built information shown hereon, the paving in Basin A-2 has been graded and drained in substantial compliance with the approved Grading and Drainage Plan dated 08-06-93. The as-built information shown hereon has been obtained by me or under my direct supervision, verified by visual inspection on 08-10-97, and is true and correct to the best of my knowledge and belief.



08.12.97
Date

CALCULATIONS

Site Characteristics

1. Precipitation Zone 2.
2. $P_{6,100} = P_{360} = 2.35"$
3. Total Area (A_T) 4.54 ac.
4. Existing Land Treatment

A. Basin A (A01 + A-2)

| Treatment | Area (sf/ac) | % |
|-----------|--------------|----|
| B | 1,550/0.04 | 01 |
| C | 98,200/2.26 | 50 |
| D | 97,650/2.24 | 49 |

5. Developed Land Treatment

A. Basin A-1

| Treatment | Area (sf/ac) | % |
|-----------|--------------|------|
| B | 1,550/0.04 | 1.6 |
| D | 94,700/2.18 | 98.4 |

B. Basin A-2

| Treatment | Area (sf/ac) | % |
|-----------|--------------|------|
| C | 1,400/0.03 | 1.4 |
| D | 99,750/2.29 | 98.6 |

Existing Condition - (Basin A)

1. Volume

$$E_W = (E_{A1} + E_{A2} + E_{C1} + E_{C2} + E_{D1} + E_{D2}) / A_T$$
$$E_W = (0.78)(0.04) + (1.13)(2.26) + (2.12)(2.24) / 4.54 = 1.62"$$
$$V_{100} = (E_W / 12) A_T$$
$$V_{100} = (1.62 / 12) 4.54 = 0.6129 \text{ ac.ft.}; 26,700 \text{ cf}$$

2. Peak Discharge

$$Q_P = Q_{PA} A_A + Q_{PB} A_B + Q_{PC} A_C + Q_{PD} A_D$$
$$Q_P = Q_{100} = (2.28)(0.04) + (3.14)(2.26) + (4.70)(2.24) = 17.7 \text{ cfs}$$

Developed Condition

A. Basin A-1

1. Volume

$$E_W = (E_{A1} + E_{A2} + E_{C1} + E_{C2} + E_{D1} + E_{D2}) / A_T$$
$$E_W = (0.78)(0.04) + 2.12(2.18) / 4.54 = 1.03"$$
$$V_{100} = (E_W / 12) A_T$$
$$V_{100} = (1.03 / 12) 4.54 = 0.3897 \text{ ac.ft.}; 17,000 \text{ cf}$$

2. Peak Discharge

$$Q_P = Q_{PA} A_A + Q_{PB} A_B + Q_{PC} A_C + Q_{PD} A_D$$
$$Q_P = Q_{100} = (2.28)(0.04) + (4.70)(2.18) = 10.3 \text{ cfs}$$

B. Basin A-2

1. Volume

$$E_W = (E_{A1} + E_{A2} + E_{C1} + E_{C2} + E_{D1} + E_{D2}) / A_T$$
$$E_W = (1.13)(0.03) + 2.12(2.29) / 4.54 = 1.08"$$
$$V_{100} = (E_W / 12) A_T$$
$$V_{100} = (1.08 / 12) 4.54 = 0.4086 \text{ ac.ft.}; 17,800 \text{ cf}$$

2. Peak Discharge

$$Q_P = Q_{PA} A_A + Q_{PB} A_B + Q_{PC} A_C + Q_{PD} A_D$$
$$Q_P = Q_{100} = (3.14)(0.03) + (4.70)(2.29) = 10.9 \text{ cfs}$$

Comparison

1. $\Delta V_{100} = (17,000 + 17,800) - 26,700 = 8,100 \text{ cf (increase)}$
2. $\Delta Q_{100} = 17.7 - (10.3 + 0.4) = 7.0 \text{ cfs (decrease)}$

Pond Volume

| Elev. | A (sf) | Vol (cf) | % Vol (cf) |
|-------|--------|----------|------------|
| 21 | 0 | 4,515 | 4,515 |
| 22 | 9,030 | 14,148 | 18,663 |
| 22.5 | 20,928 | | |

Volume at Max. W.S.L. = 18,663 cf > $V_{100} = 17,800 \text{ cf}$

Pond Discharge

1. Pipe flow (Manning Equation)

Using Feild's Hydraulics Calculator for Gravity Flow in Pipes
Let:
 $n = 0.013$
 $d = 6"$
 $s = 0.0040$
 $q = 0.36 \text{ cfs}$

$$V_{100} = 49,444 \text{ sec}$$
$$t = V_{100} / q = 824 \text{ min} = 13.7 \text{ hr} < 24 \text{ hr}$$

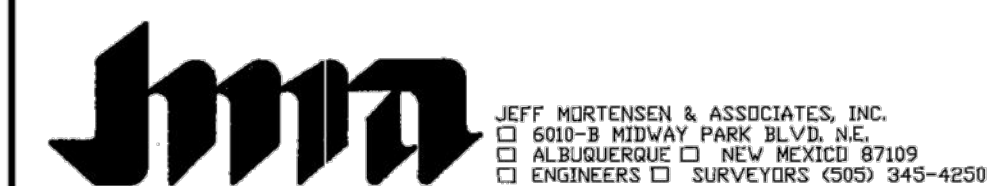
2. Inlet Control (Orifice Equation)

$$Q = CA(2gh)^{0.5}$$

Let:
 $C = 0.6$
 $A = 7/4 (8")^2 = 0.35 \text{ sf}$
 $g = 32.2 \text{ ft/sec}^2$
 $h = 22.5 - 19 - 0.25 = 3.25 \text{ ft}$
 $Q = 3.4 \text{ cfs} > q$
 $t = V_{100} / Q = 34,800 \text{ cf} / 3.4 \text{ cfs} = 10,235 \text{ sec} = 171 \text{ min.}$
 $= 2.8 \text{ hr.} < 24 \text{ hrs.}$

Pipe Flow Capacity Governs Discharge

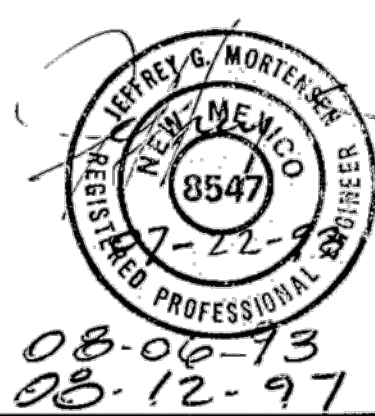
| APPROVALS | NAME | DATE |
|---------------|------|------|
| A.C.E./DESIGN | | |
| INSPECTOR | | |
| A.C.E./FIELD | | |



GRADING AND DRAINAGE PLAN PENSKE TRUCK LEASING

This Plan is updated to reflect as-constructed conditions for Basin A-2 and to add a gas pump canopy in Basin A-1. The as-constructed improvements are part of the Drainage Certification above. The canopy will be constructed above existing paving and hence will not create any additional runoff. It will drain via internal roof drains which discharge at ground level; the roof runoff will not be directed onto adjacent property, but onto the existing paving. The drainage pattern of the site will not be altered by the construction of the canopy.

DRAINAGE PLAN UPDATE



08-06-13
08-12-97

FOR INFORMATION ONLY

| DESIGNED BY | J.G.M./G.R.B. | DATE | 08/93 | BY | J.G.M. | REVISIONS | JOB NO. | 930515 |
|-------------|---------------|------|-------|----|--------|--------------------------------------|---------|---------|
| DRAWN BY | S.G.H. | DATE | 10/93 | BY | J.G.M. | REDUCE PAVING LIMITS; ADD WHEELSTOPS | DATE | 07-1993 |
| APPROVED BY | J.G.M. | DATE | 6/97 | BY | J.G.M. | ADD CANOPY | SHEET | 4 OF |



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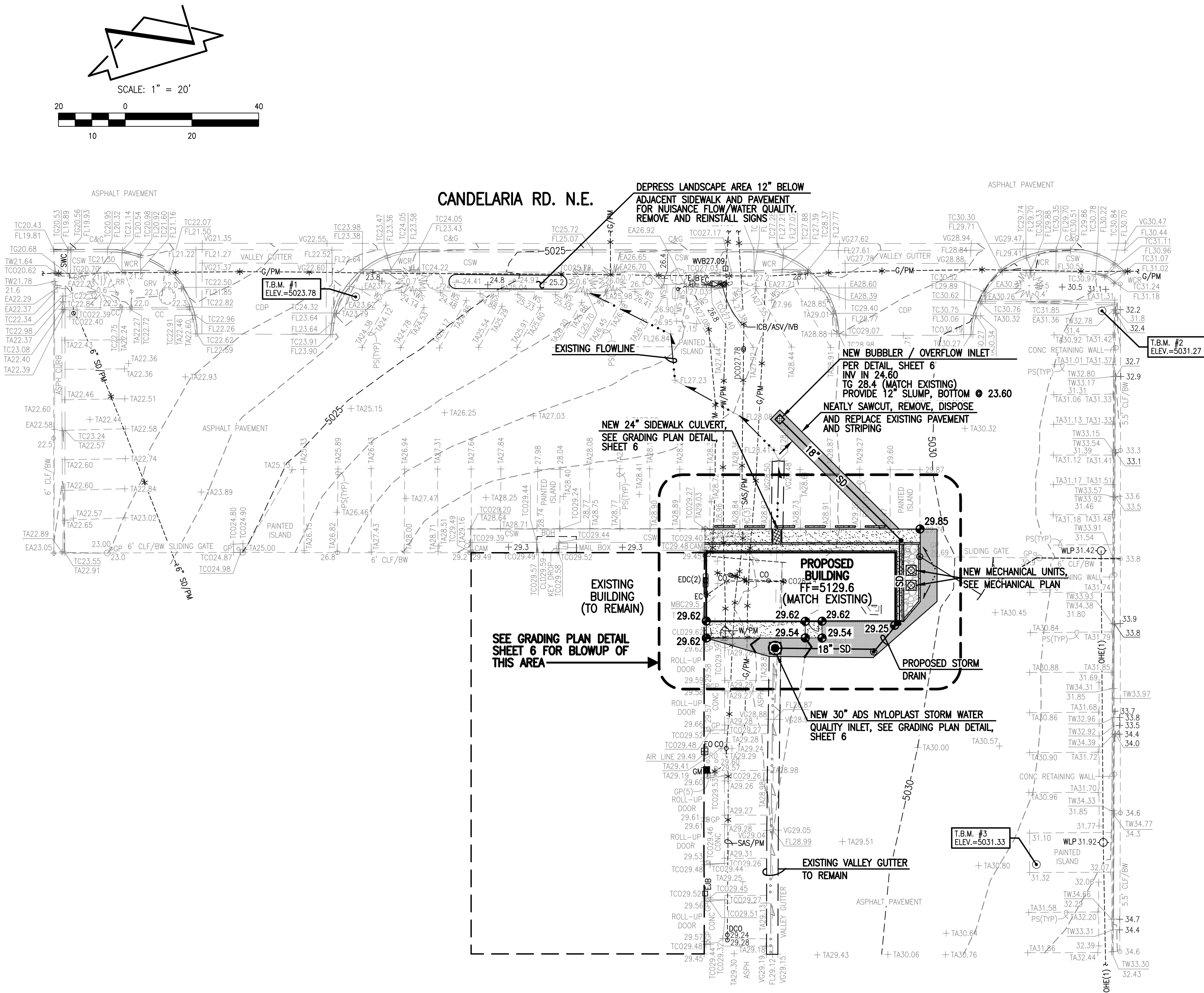
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4. ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, RULES, AND REGULATIONS CONCERNING CONSTRUCTION SAFETY AND HEALTH.
5. ALL CONSTRUCTION WITHIN PUBLIC RIGHT-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE CITY OF ALBUQUERQUE STANDARDS AND PROCEDURES.
6. UTILITY INFORMATION SHOWN HEREON IS BASED UPON ONSITE SURFACE EVIDENCE AND ALBUQUERQUE BERNALILLO COUNTY WATER UTILITY AUTHORITY RECORDS. SUCH INFORMATION MAY BE INCONCLUSIVE. DRAWINGS AND UTILITY LINE-SPOTS PROVIDED BY HIGH MESA CONSULTING GROUP (2017.037.1 SITE UTILITY DIAGRAM DATED 08-02-2017). IN ADDITION, UTILITY LINE-SPOTS WERE REQUESTED VIA THE NEW MEXICO ONE CALL SERVICE (TICKET #17JU280383). UTILITY LINES SHOWN ON THIS DRAWING ARE SHOWN IN AN APPROXIMATE MANNER ONLY. SUCH EXISTING LINES MAY EXIST, HOWEVER, NONE ARE SHOWN. SUCH EXISTING LINES ARE SHOWN, THE LOCATION IS BASED UPON INFORMATION PROVIDED BY THE OWNER OF SAID UTILITY, AND THE INFORMATION MAY BE INCOMPLETE, OR MAY BE OBSOLETE BY THE TIME CONSTRUCTION COMMENCES. THEREFORE, THE CONTRACTOR HAS TO CONDUCT A FIELD SURVEY OF THE LOCATION, DEPTH, SIZE, OR TYPE OF EXISTING UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES. THIS INVESTIGATION IS NOT CONCLUSIVE, AND MAY NOT BE COMPLETE, THEREFORE, MAKES NO REPRESENTATION PERTAINING THERETO. THE CONTRACTOR, NO OTHER PARTY, THE CITY OF ALBUQUERQUE, THE PROPERTY OWNER, DEVELOPER, OR CONTRACTOR SHALL INFORM ITSELF OF THE LOCATION OF ANY UTILITY LINE, PIPELINE, OR UNDERGROUND UTILITY LINE IN OR NEAR THE AREA OF THE WORK AND ADVANCE ANY NECESSARY EXCAVATION PERMIT. THE PROPERTY OWNER, DEVELOPER, OR CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL DAMAGE CAUSED BY ITS FAILURE TO LOCATE, IDENTIFY AND PRESERVE ANY AND ALL EXISTING UTILITIES, PIPELINES, AND UNDERGROUND UTILITY LINES. IN PLANNING AND EXCAVATING, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CITY AND STATE STATUTES, MUNICIPAL AND LOCAL ORDINANCES, RULES AND REGULATIONS, IF ANY, PERTAINING TO THE LOCATION OF THESE LINES AND FACILITIES.
7. THE DESIGN OF PLANTERS AND LANDSCAPED AREAS IS NOT PART OF THIS PLAN. ALL PLANTERS AND LANDSCAPED AREAS ADJACENT TO THE BUILDING(S) SHALL PROVIDE WITH POSITIVE DRAINAGE TO AVOID ANY POTENTIAL ADJACENT TO THE STRUCTURE. FOR CONSTRUCTION DETAILS, REFER TO LANDSCAPING PLAN.
8. THE GRADES INDICATED ON THIS PLAN ARE FINISHED GRADES UNLESS OTHERWISE INDICATED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LEAVING SUBGRADE AT ELEVATIONS THAT SHALL ACCOMMODATE PROPOSED IMPROVEMENTS INDICATED ON THE PLAN AND INCLUDING, BUT NOT LIMITED TO, SURFACE DRAINAGE STRUCTURES, PAVING AND LANDSCAPING.



2017.037.2



GRADING SITE PLAN

SCALE: 1"=20'

SURVEY NOTE:

THE TOPOGRAPHIC INFORMATION DEPICTED HEREON IS BASED UPON THE
PARTIAL TOPOGRAPHIC AND UTILITY SURVEY PREPARED BY HIGH MESA
CONSULTING GROUP, NMPS NO. 11184, DATED 08/15/2017 (2017.037.1).



AN ADDITION TO
PENSKE TRUCK LEASING
1400 CANDELARIA ROAD NE
ALBUQUERQUE, NEW MEXICO



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| DRAWN BY: | DATE: | ISSUED FOR: |
| J.Y.R. | 10/9/2017 | SITE REVIEW |
| CHECKED BY: | SHEET NO: | |
| G.M. | 5 | |
| PROJECT NO: | | |
| 2017.21 | GRADING PLAN | |

