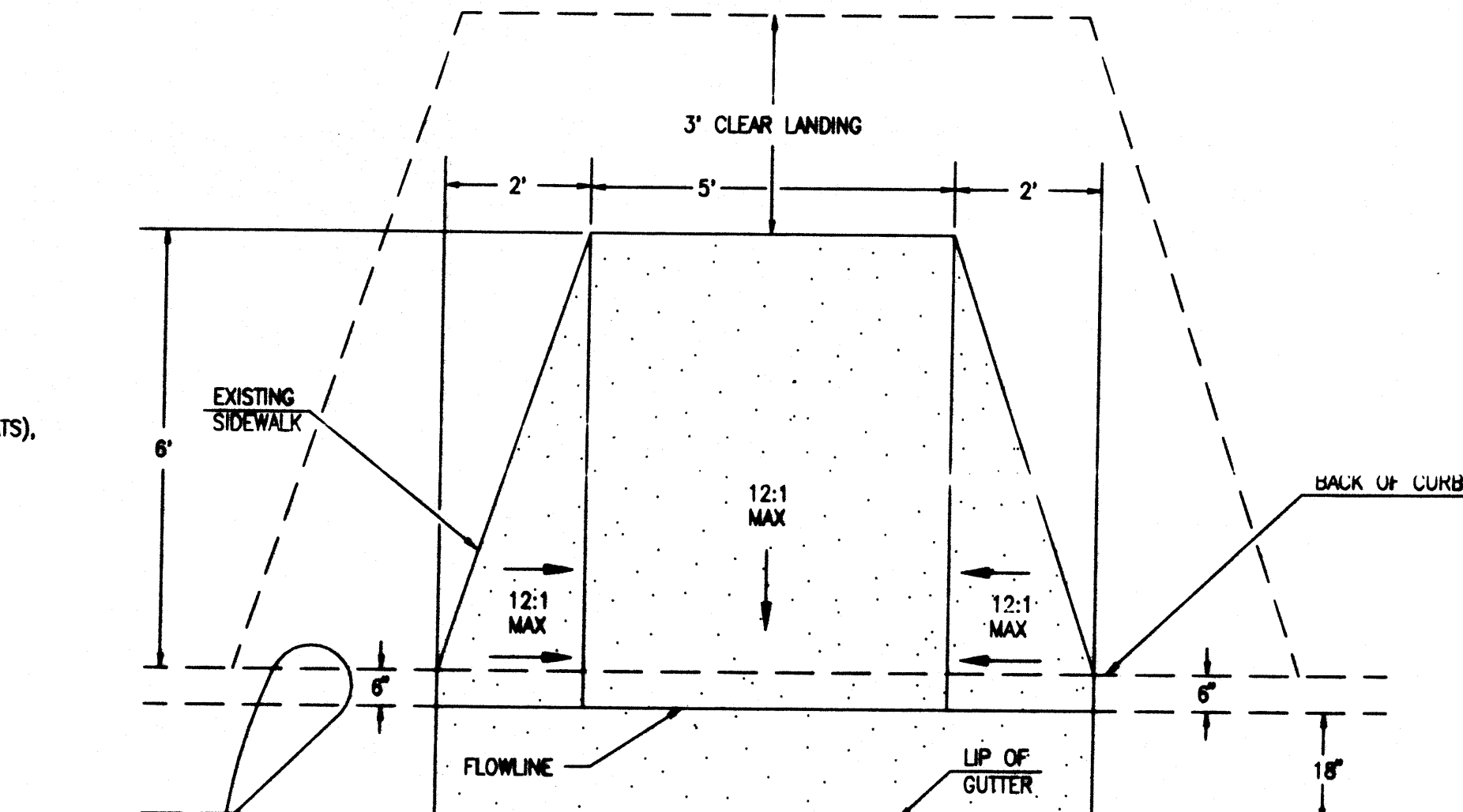
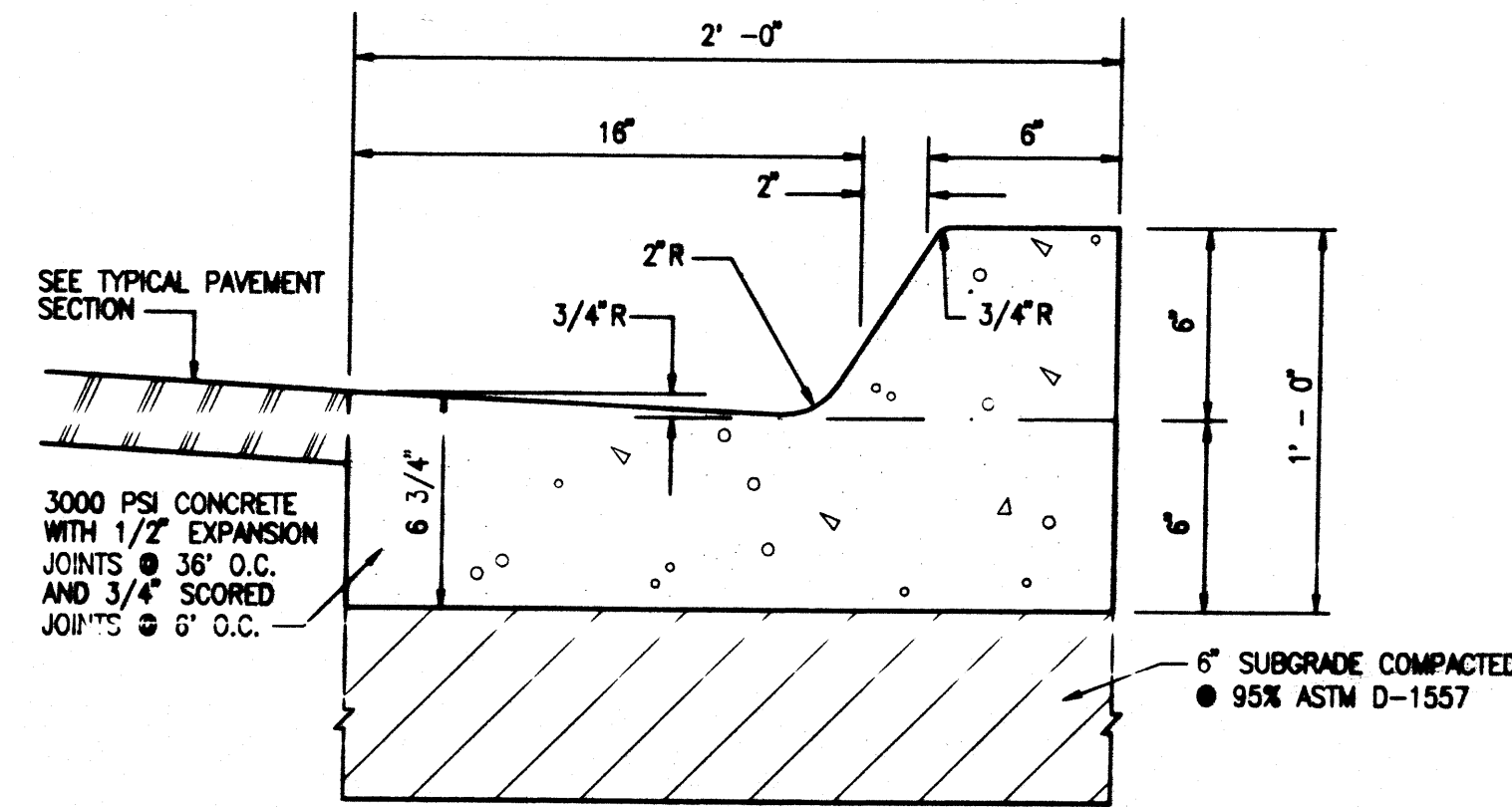


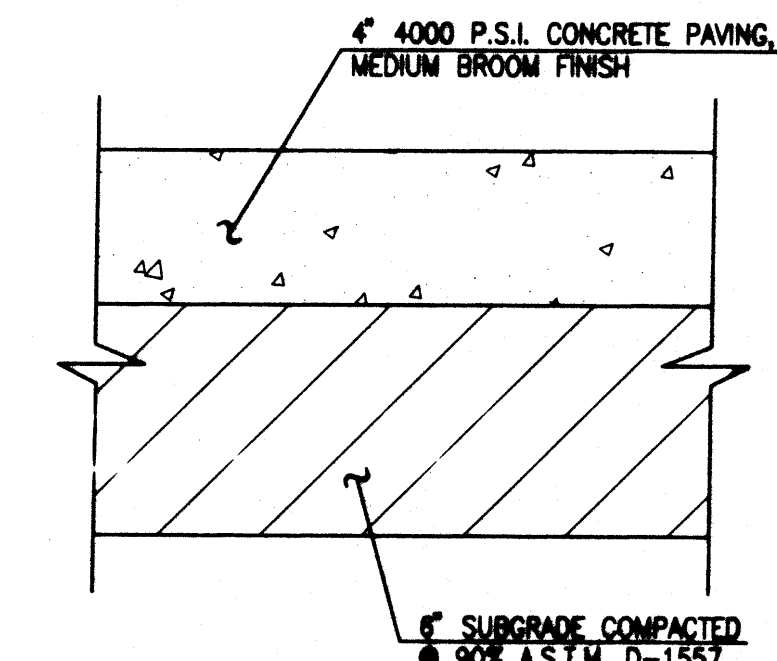
NEW CROSSWALK DETAIL
SCALE: 1" = 4'



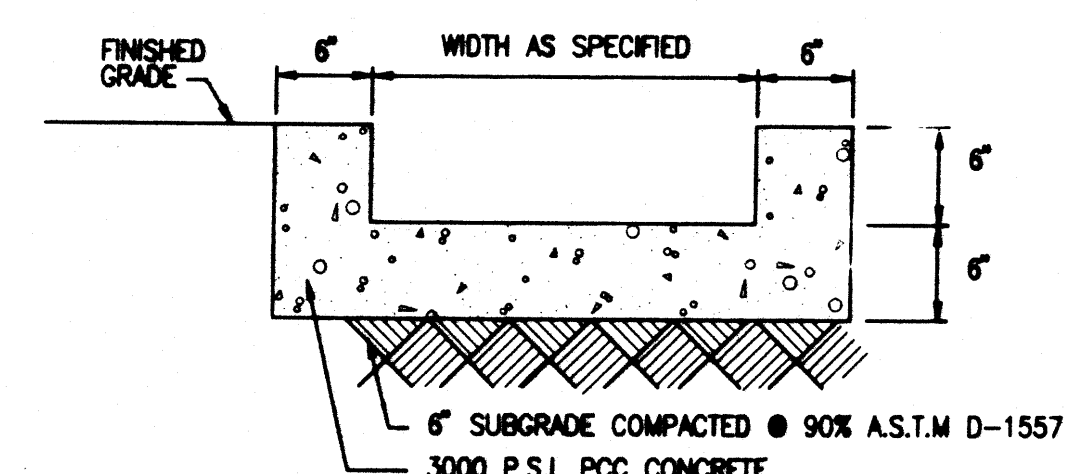
TYPICAL WHEELCHAIR ACCESS RAMP DETAIL
SCALE: 1" = 2'



TYPICAL SIX-INCH CURB & GUTTER
SCALE: 1" = 0'-6"

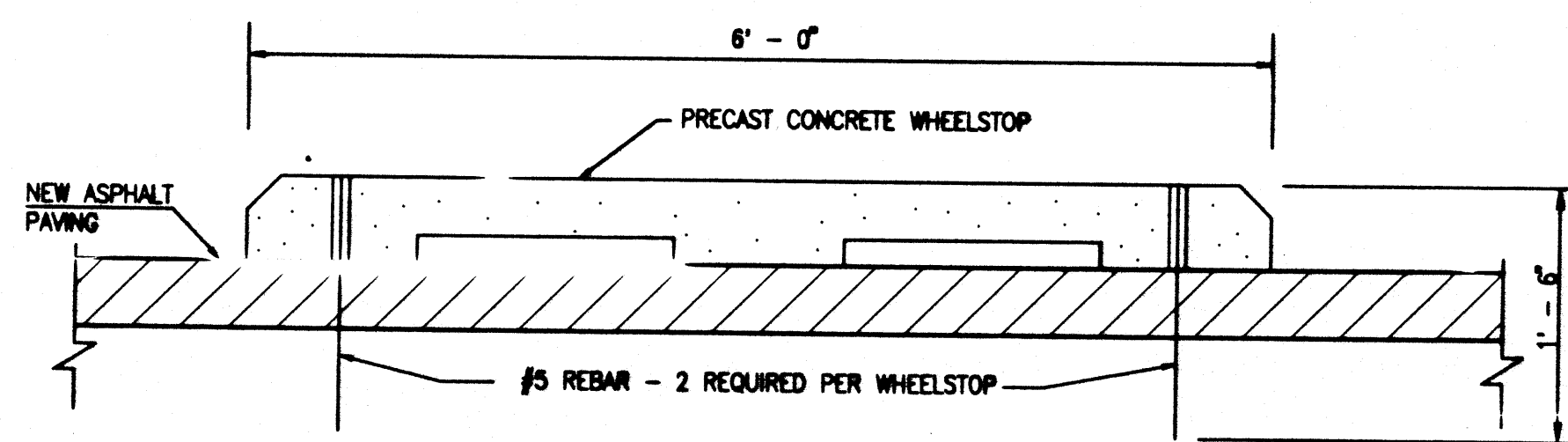


TYPICAL CONCRETE PAVEMENT/SIDEWALK SECTION
SCALE: 1" = 5'

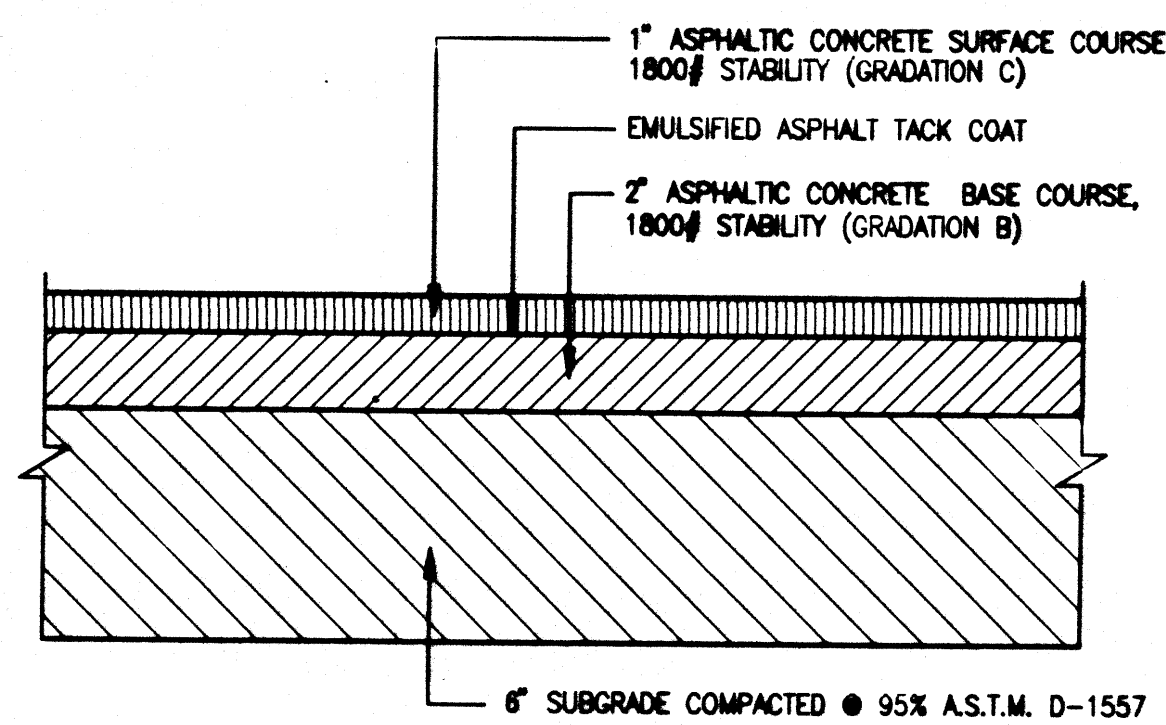


TYPICAL RUNDOWN SECTION
SCALE: 1" = 1'-0"

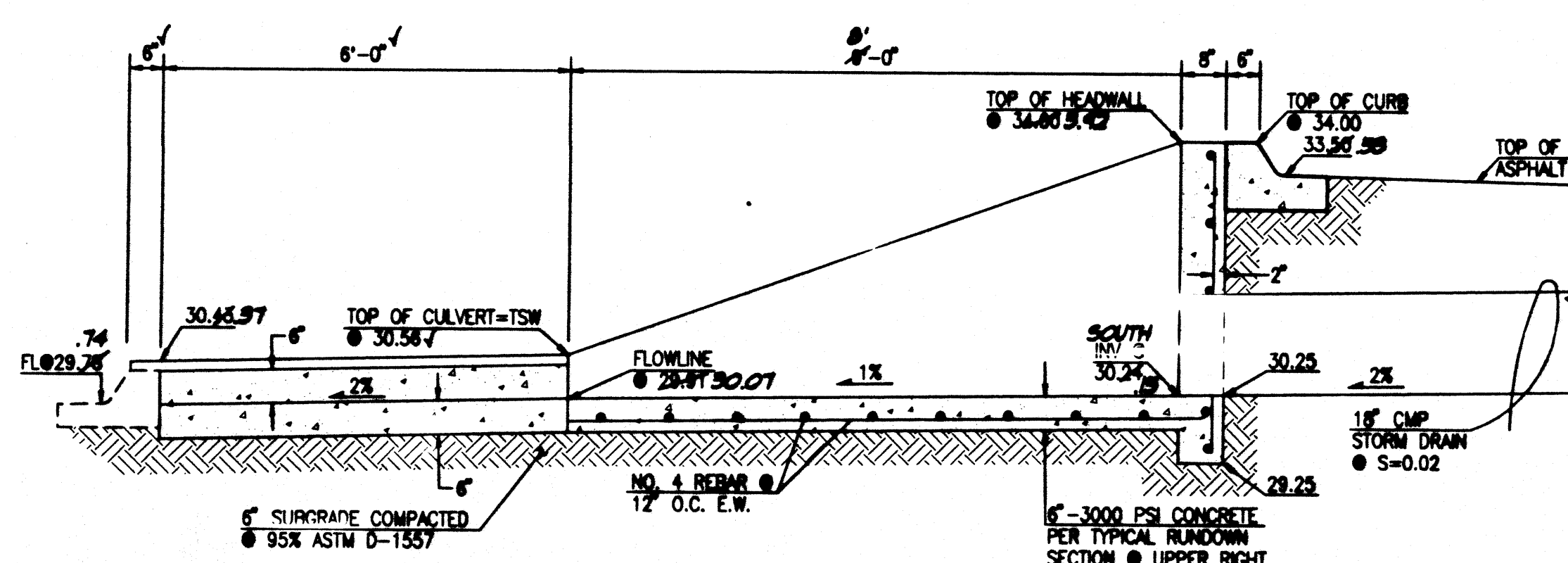
RECORD DRAWING FOR CERTIFICATION, SEE RIGHT



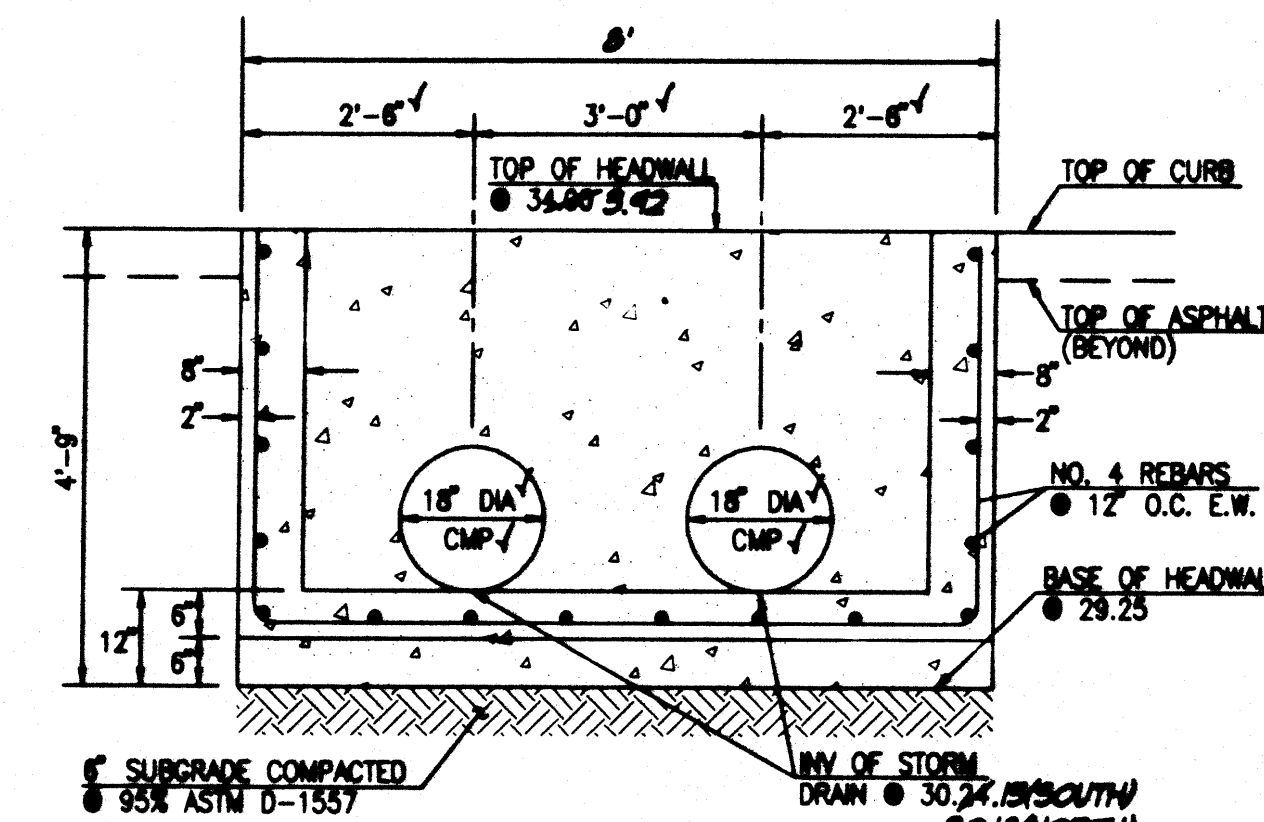
WHEEL STOP SECTION
SCALE: 1" = 1'-0"



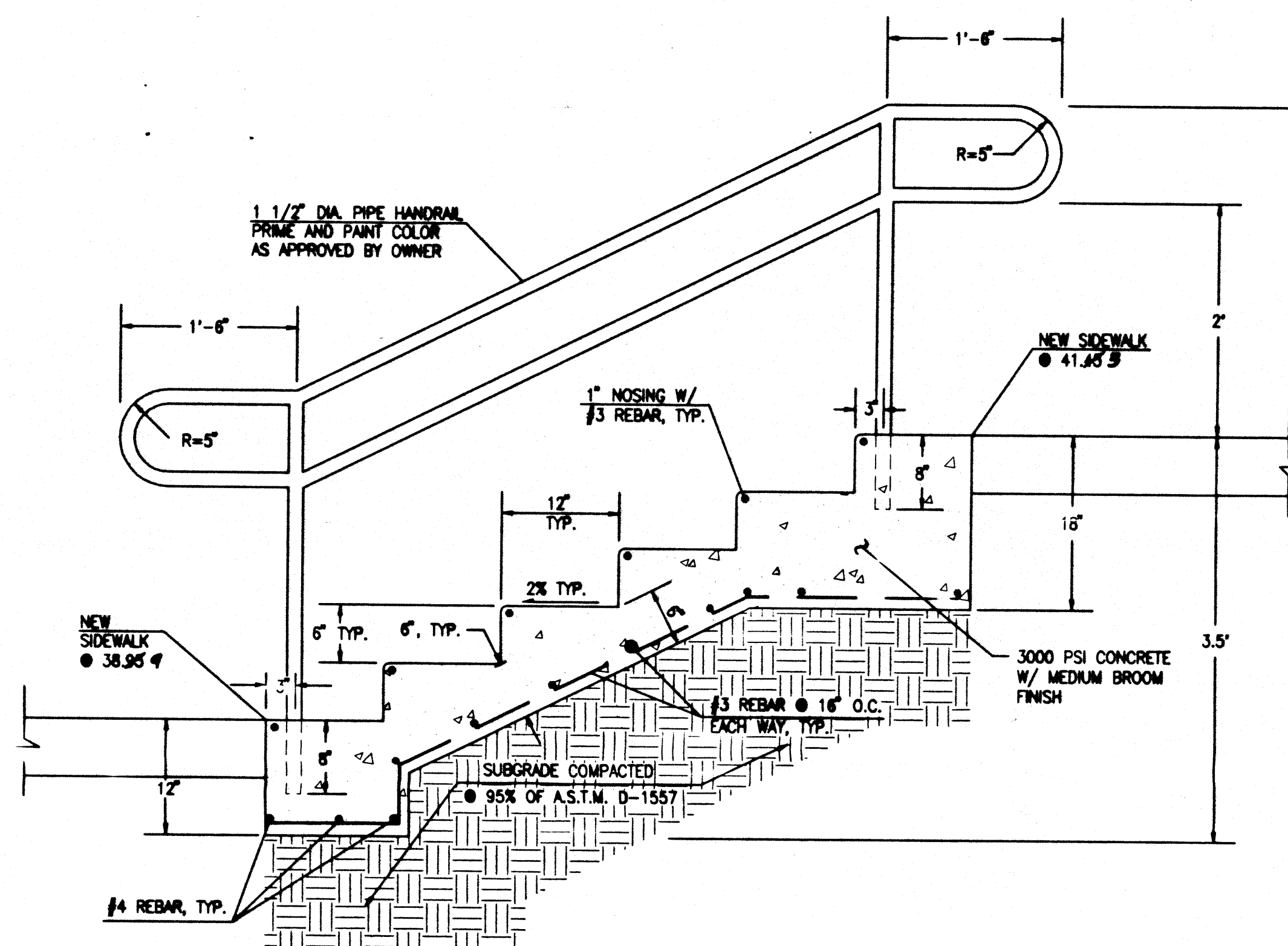
TYPICAL PARKING LOT PAVEMENT SECTION
SCALE: 1" = 5'



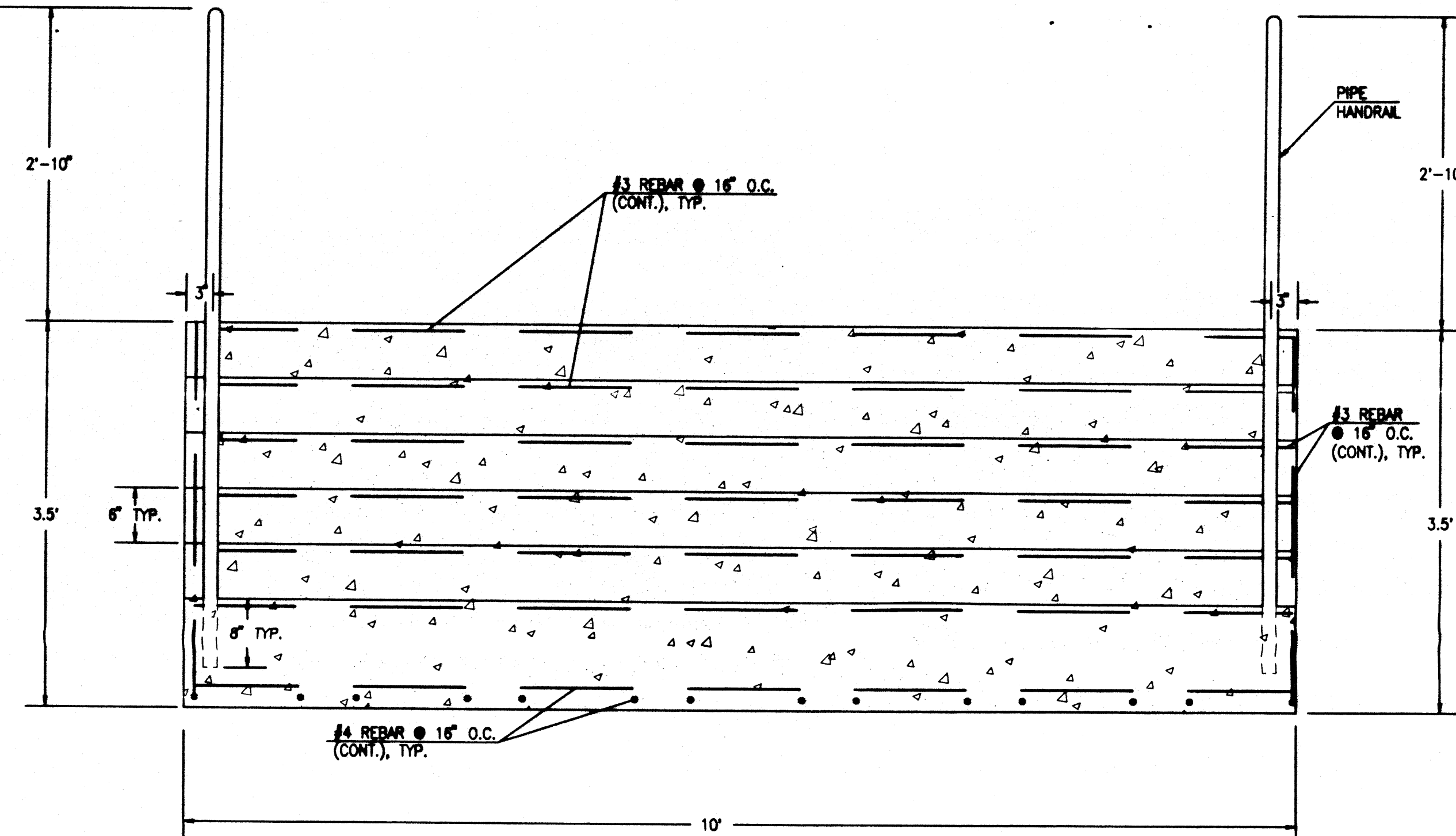
SECTION C-C
SCALE: 1" = 2'



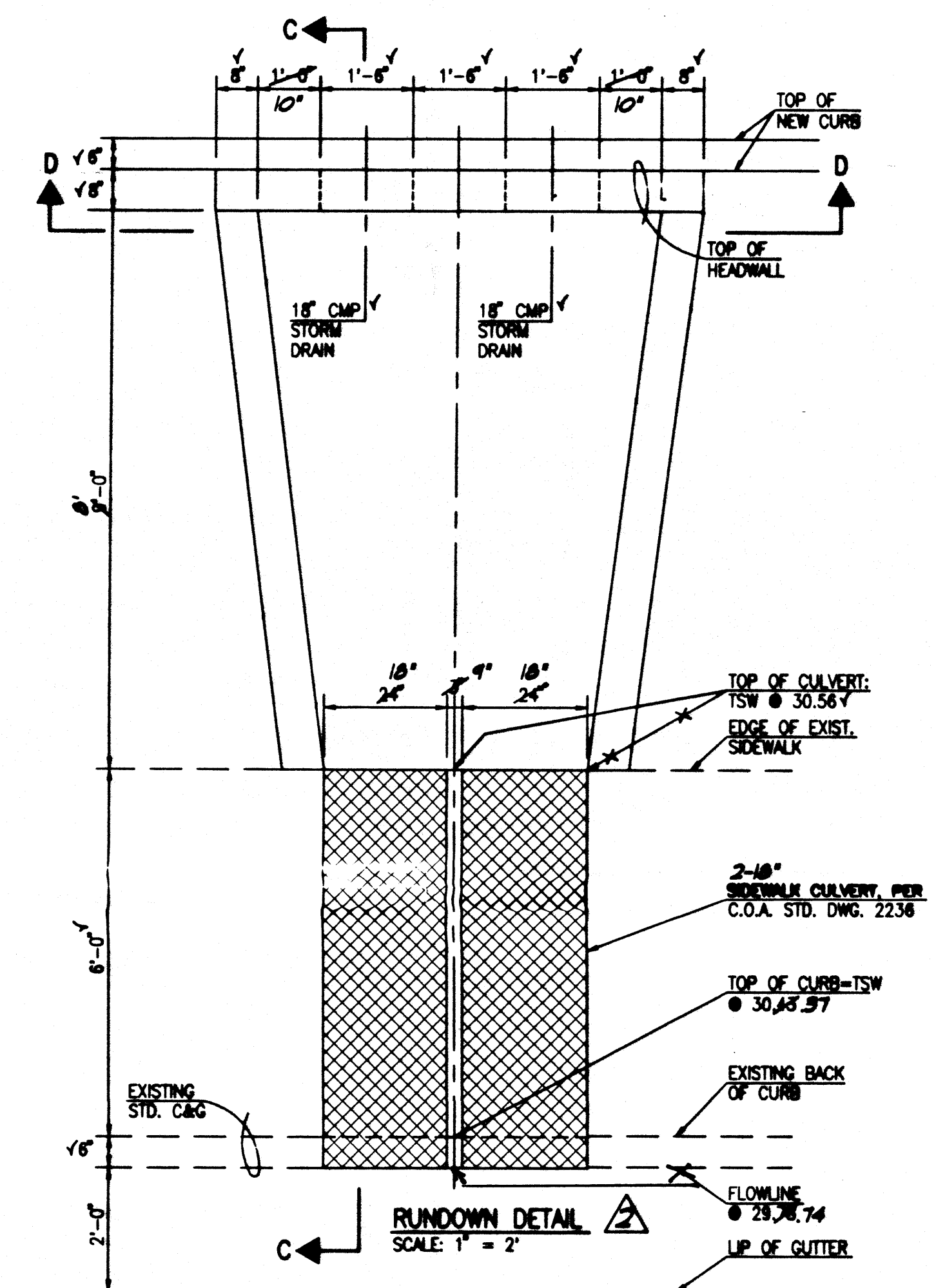
SECTION D-D
SCALE: 1" = 2'



SECTION A-A
SCALE: 1" = 1'



SECTION B-B
SCALE: 1" = 1'



PAVING SECTIONS AND DETAILS

DRAINAGE CERTIFICATION

I, JEFFREY G. MORTENSEN, N.M.P.E. 8547, OF THE FIRM JEFF MORTENSEN & ASSOCIATES, INC., HEREBY CERTIFY THAT THIS PROJECT HAS BEEN GRADED AND DRAINED IN SUBSTANTIAL COMPLIANCE WITH AND IN ACCORDANCE WITH THE DESIGN INTENT OF THE APPROVED PLAN DATED 10-02-2005 AND 10-27-2005. THE RECORD INFORMATION EDITED ONTO THE ORIGINAL DESIGN DOCUMENT HAS BEEN OBTAINED BY ME OR UNDER MY DIRECT SUPERVISION AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. THIS CERTIFICATION IS SUBMITTED IN RESPONSE TO A CONDITION OF APPROVAL SET FORTH IN THE CITY APPROVAL LETTER (119/020) DATED OCTOBER 31, 2005.

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. THIS CERTIFICATION DOES NOT EVALUATE ADA COMPLIANCE. THOSE RELYING ON THIS RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY BEFORE USING IT FOR ANY OTHER PURPOSE.

JEFFREY G. MORTENSEN, N.M.P.E. 8547
10-27-2005
DATE



Final Construction Documents

Parking Area A
FMG Constitution
8300 Constitution Avenue NE
Albuquerque, New Mexico
Project No. 1199902

Drawn: JMA Checked: JGM
Proj: 200431 Date: 10/27/2005
© 2005 KEVIN GEORGES & ASSOCIATES, INC.
DRAINAGE CERT
NO CHANGES TO THIS SHEET
Revisions: _____
Architect: _____ Engineer: _____

PAVING SECTIONS AND DETAILS

Sheet Title: _____ Sheet: 2 of 10

Drainage Plan

I. INTRODUCTION AND EXECUTIVE SUMMARY

THIS SITE IS LOCATED IN THE EAST-CENTRAL AREA OF ALBUQUERQUE. THIS PROJECT WILL CONSIST OF THE DEVELOPMENT OF A NEW PARKING LOT FOR THE KASEMAN PRESBYTERIAN HOSPITAL CANCER CENTER BUILDING. THIS DEVELOPMENT WILL ADAPT AN EXISTING PARTIALLY DEVELOPED SITE WHICH PERISTS OF THE HOSPITAL RADIOLOGY BUILDING, AN UPPER PAVED PARKING LOT, AND A LOWER NATURAL VEGETATED AREA GRADED SO AS TO CREATE A DETENTION POND FOR FLOWS FROM BOTH ONSITE AND OFFSITE FLOWS ABOVE THE SITE. THE NEW PARKING LOT WILL REPLACE THE VEGETATED AREA. THE DRAINAGE CONCEPT FOR THIS SITE WILL BE TO ELIMINATE THE EXISTING POND BY PAIVING OVER THE ENTIRE VEGETATED LOWER AREA AND DRAIN THE FLOWS INTO THE BORDERING STREET OF CONSTITUTION PLACE NE. THERE WILL BE SOME SLIGHT DETENTION PONDING WITHIN THE PARKING LOT.

THIS DRAINAGE SUBMITTAL IS MADE IN SUPPORT OF A GRADING AND PAVING PERMIT AND SO #19 APPROVAL.

II. PROJECT DESCRIPTION

THE SITE IS LOCATED ON THE SOUTHEAST CORNER OF CONSTITUTION AVE NE AND CONSTITUTION PLACE NE. THE CURRENT LEGAL DESCRIPTION OF THE SITE IS TRACT 1, EAST END ADDITION. THE SITE IS CURRENTLY LOCATED IN PANEL 356 OF 825 OF THE NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAPS PUBLISHED BY FEMA FOR BERNALILLO COUNTY, NEW MEXICO, NOVEMBER 19, 2003 AND IS ZONED AS ZONE X, AN AREA DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN. THE DEVELOPMENT PROPOSED WILL INCREASE DOWNSTREAM FLOW BUT WILL NOT ADVERSELY IMPACT DOWNSTREAM FLOW OR DOWNSTREAM PROPERTIES. RUNOFF FROM THE SITE DRAINS INTO CONSTITUTION PLACE NE, AND THEN FLOWS NORTH TO CONSTITUTION AVENUE NE. AT CONSTITUTION AVENUE NE THE FLOW IS DIRECTED WEST TO THE INTERSECTION WITH PENNSYLVANIA STREET. FLOWS PROCEEDS TO ENTER THREE LARGE CURB STORM INLETS ALONG CONSTITUTION AVE JUST BEFORE THE PENNSYLVANIA INTERSECTION. THESE INLETS DRAIN INTO THE I-40 CHANNEL.

III. BACKGROUND DOCUMENTS

THE FOLLOWING ITEMS WERE REVIEWED IN THE PREPARATION OF THIS SUBMITTAL.

- GRADING AND DRAINAGE PLAN FOR PRESBYTERIAN KASEMAN HOSPITAL - RADIATION THERAPY CENTER ADDITION, PREPARED BY JMA AND DATED 05-08-06 FOR BUILDING PERMIT. THE 1996 PLAN RECOGNIZED THAT THE EXISTING POND REQUIRED ENLARGEMENT TO CONTAIN THE DESIGN VOLUME OF RUNOFF. THE PLAN ALSO IDENTIFIED A 100-YEAR PEAK DISCHARGE OF 10.7 CFS FROM THIS PORTION OF TRACT 1.
- DRAINAGE PLAN FOR PRESBYTERIAN KASEMAN HOSPITAL - RADIATION THERAPY CENTER WEST EXPANSION POND ANALYSIS PREPARED BY JMA AND DATED 01-11-05. THIS PLAN CONCLUDED THAT THE INMOUT I-40/PENNSYLVANIA OVERPASS PROJECT COMPLETED IN THE SPRING OF 2005 HAS ALLEVATED PREVIOUS FLOODING CONCERNS ON THE CONSTITUTION AVE/PENNSYLVANIA STREET INTERSECTION. THIS PLAN USED THE COAGULATE DEPTH EQUATION TO EVALUATE THE EFFECTS OF HYDRAULIC JUMP IN CONSTITUTION AVENUE NE. THE PLAN DETERMINED THAT THE DOWNSTREAM DRAINAGE IMPROVEMENTS THAT WERE MADE AT THE CONCLUSION OF THE I-40/PENNSYLVANIA PROJECT ALLOWED FOR SUFFICIENT FLOW IN CONSTITUTION AVENUE WITH NO HYDRAULIC JUMP ISSUES. THIS CONCLUSION RESULTED IN THE POND AT THE NORTHWEST CORNER. THE ELIMINATION OF THE DETENTION POND IN THIS PROJECT AS WELL AS FREE DISCHARGE INTO THE STREET.
- TOPOGRAPHIC SURVEY OF THE EXISTING SITE PREPARED BY JMA DATED 4/13/2005. THE SUBJECT SURVEY SHOWS THE EXISTING IMPROVEMENTS.

IV. EXISTING CONDITIONS

THE SITE IS LOCATED AT THE SOUTHWEST CORNER OF THE INTERSECTION OF CONSTITUTION AVENUE NE AND CONSTITUTION PLACE NE. THE SITE IS PARTIALLY DEVELOPED. THE JMA TOPOGRAPHIC SURVEY DATED 4/13/2005 SHOWS THAT THE SITE CONSISTS OF AN EXISTING HOSPITAL BUILDING AND AN ASPHALT PAVED PARKING LOT, AS WELL AS AN UNDEVELOPED VEGETATED AREA AT THE NORTH AND WEST THAT IS GRADED FOR THE PURPOSE OF CREATING A DETENTION PONDING AREA FOR BOTH ON-SITE RUNOFF AND OFF-SITE FLOWS. THE SITE SLOPES FROM SOUTHEAST TO NORTHWEST AND DRAINS INTO THE POND AT THE NORTHWEST CORNER. THIS POND DRAINS VIA STORM DRAIN THROUGH AN EXISTING SIDEWALK CULVERT INTO CONSTITUTION PLACE NE. CONSTITUTION AVENUE IS A FULLY IMPROVED ROADWAY, 40 FEET WIDE WITH CURB AND GUTTER ON BOTH SIDES. CONSTITUTION PLACE FLOWS ARE CARRIED BY CURB AND GUTTER NORTH INTO CONSTITUTION AVENUE, WHERE IT FLOWS WEST TO AN INTERSECTION WITH PENNSYLVANIA STREET. JUST BEFORE THIS INTERSECTION THERE ARE THREE LARGE CURB STORM INLETS ALONG CONSTITUTION AVE NE WHERE THE FLOWS WILL DRAIN IN TO. THE INLETS DRAIN SOUTH INTO THE I-40 CHANNEL.

ONSITE CONTRIBUTING AREA FLOWS FROM A PARKING LOT ALONG THE SOUTH EDGE OF THE SITE ENTER AT THE SOUTHWEST CORNER OF THE SITE THROUGH A TRENCH DRAIN AND CURB CUT; THE FLOWS EMPTY NORTH INTO THE DETENTION POND. ONSITE CONTRIBUTING AREA FLOWS FROM AN ADJACENT PARKING LOT ALSO ENTER THE SITE THROUGH A TRENCH DRAIN INTO A 12" STORM DRAIN THAT RELEASES INTO THE MANHOLE AT THE EAST EDGE OF THE SITE; THESE FLOWS ENTER INTO A 18" CMP STORM DRAIN FROM THE ONSITE MANHOLE AND EMPTIES THESE FLOWS INTO THE SITE AT THE NORTH EDGE OF THE SITE; THESE FLOWS DRAIN WEST INTO THE DETENTION POND AS SHOWN ON THE TOL.

V. DEVELOPED CONDITIONS

THE PROJECT CONSIST OF THE CONSTRUCTION OF A NEW ASPHALT PAVED PARKING LOT THAT WILL SERVE THE EXISTING HOSPITAL BUILDINGS IN THE AREA. THIS NEW LOT WILL REPLACE THE NATURALLY VEGETATED AREA ALONG THE NORTH AND WEST OF THE SITE, AND WILL ELIMINATE THE EXISTING DETENTION POND. AS A RESULT OF THESE IMPROVEMENTS, THERE WILL BE AN INCREASE IN THE RUNOFF THE SITE GENERATES AS WELL AS A REDIRECTION OF ONSITE CONTRIBUTING AREA FLOWS AROUND THE SITE THAT CURRENTLY TRAVERSE THE SITE. A SMALL PORTION OF THE ONSITE RUNOFF WILL BE PONDING AT THE NORTHWEST CORNER OF THE DEVELOPED PARKING LOT, WHICH WILL BE DRAINED THROUGH A STORM INLET AND STORM DRAIN INTO A RUNDOWN AND SIDEWALK CULVERT INTO CONSTITUTION PLACE NE AS SHOWN ON THE DEVELOPED GRADING PLAN. THIS STORM DRAIN PIPE WILL DRAIN THE CAPTURED STORMWATER RUNOFF IN A PERIOD LESS THAN SIX HOURS. FLOWS INTO CONSTITUTION PLACE NE WILL FOLLOW THE SAME DRAINAGE PATH AS STATED IN THE EXISTING CONDITIONS.

AS THE HYDROGRAPH CALCULATIONS SHOW, THE VOLUME REQUIRING PONDING WILL BE EQUAL 220 CF. THIS VOLUME WILL REACH A HEIGHT ABOVE THE STORM INLET OF 533.2 FT. THE LOWEST POINT OF THE TOP OF CURB IN THE PONDING AREA IS AT 533.4 FT. THIS IS ALSO THE LOWEST POINT OF CURB IN THE ENTIRE PROJECT SITE. THEREFORE, THERE IS NO PROBLEM OF RUNOFF OVERFLOWING THE CURB.

ONSITE CONTRIBUTING AREA FLOWS THAT ENTER THE MANHOLE AT THE EAST CORNER OF THE SITE WILL BE DIRECTED THROUGH THE SITE VIA A NEW 18" CMP STORM DRAIN THAT WILL TRAVERSE THE SITE FROM EAST TO WEST AND DRAIN INTO CONSTITUTION PLACE NE AT THE SAME LOCATION AS THE ONSITE FLOW STORM DRAIN RELEASES ITS FLOWS AS SHOWN ON THE DEVELOPED GRADING PLAN.

THE OVERALL RESULT OF THE DEVELOPMENT WILL INCREASE THE VOLUME AND PEAK DISCHARGE RATE INTO CONSTITUTION PLACE NE. THIS INCREASE IS ALLOWED DUE TO THE COMPLETION OF DEVELOPMENT AT PENNSYLVANIA STREET AND I-40 THAT ALLEVATED PAST DOWNSTREAM FLOW ISSUES; ISSUES THAT HAD PREVIOUSLY RESULTED IN THE CREATION OF THE EXISTING ONSITE DETENTION POND. U

VI. GRADING PLAN

THE GRADING PLAN SHOWS: 1.) EXISTING GRADES INDICATED BY SPOT ELEVATIONS AND CONTOURS AT 1'-0" INTERVALS BASED THE TOPOGRAPHIC SURVEY PREPARED BY JMA, DATED 4/13/2005. 2.) PROPOSED GRADES INDICATED BY CONTOURS AT 1'-0" INTERVALS. 3.) THE LIMIT AND CHARACTER OF THE EXISTING IMPROVEMENTS AS TAKEN FROM THE AFORE MENTIONED JMA SURVEY. 4.) THE LIMIT AND CHARACTER OF THE PROPOSED IMPROVEMENTS. 5.) CONTINUITY BETWEEN EXISTING AND PROPOSED GRADES. AS SHOWN BY THIS PLAN, THE PROPOSED DEVELOPMENT CONSISTS OF PAVED PARKING, ALONG WITH ASSOCIATED LANDSCAPING AND SIDEWALK. THESE MODIFICATIONS TO THE SITE WILL EXPAND AVAILABLE ONSITE PARKING AND VEHICLE ACCESS. AN EROSION CONTROL PLAN WILL BE PREPARED AND ATTACHED TO THE SEPARATE STORM WATER POLLUTION PREVENTION PLAN FOR THIS PROJECT.

VII. CALCULATIONS

THE GRADING PLAN SHOWS: 1.) EXISTING GRADES INDICATED BY SPOT ELEVATIONS AND CONTOURS AT 1'-0" INTERVALS BASED THE TOPOGRAPHIC SURVEY PREPARED BY JMA, DATED 4/13/2005. 2.) PROPOSED GRADES INDICATED BY CONTOURS AT 1'-0" INTERVALS. 3.) THE LIMIT AND CHARACTER OF THE EXISTING IMPROVEMENTS AS TAKEN FROM THE AFORE MENTIONED JMA SURVEY. 4.) THE LIMIT AND CHARACTER OF THE PROPOSED IMPROVEMENTS. 5.) CONTINUITY BETWEEN EXISTING AND PROPOSED GRADES. AS SHOWN BY THIS PLAN, THE PROPOSED DEVELOPMENT CONSISTS OF PAVED PARKING, ALONG WITH ASSOCIATED LANDSCAPING AND SIDEWALK. THESE MODIFICATIONS TO THE SITE WILL EXPAND AVAILABLE ONSITE PARKING AND VEHICLE ACCESS. AN EROSION CONTROL PLAN WILL BE PREPARED AND ATTACHED TO THE SEPARATE STORM WATER POLLUTION PREVENTION PLAN FOR THIS PROJECT.

VII. CALCULATIONS

THE CALCULATIONS WHICH APPEAR HEREON ANALYZE BOTH THE EXISTING AND DEVELOPED CONDITIONS FOR THE 100-YEAR, 6-HOUR RAINFALL EVENT, AS WELL AS THE 10-YEAR, 6 HOUR RAINFALL EVENT FOR CULVERT DESIGN PURPOSES. THE PROCEDURE FOR 40-ACRE AND SMALLER BASINS, AS SET FOR THE IN THE REVISION OF SECTION 22.2, HYDROLOGY OF THE DEVELOPMENT PROCESS MANUAL, VOLUME 2, DESIGN CRITERIA, DATED JANUARY, 1993, HAS BEEN USED TO QUANTIFY THE PEAK RATE OF DISCHARGE AND VOLUME OF RUNOFF GENERATED BY THIS DEVELOPMENT. THE CAPACITY OF THE DEVELOPED 18" CMP STORM DRAINS WAS ANALYZED USING THE ORFFICE AND MANNING'S EQUATIONS. THE CAPACITIES OF THE NEW STORM INLETS WERE DETERMINED USING THE ORFFICE EQUATION. THE CAPACITY OF THE NEW 24" CULVERTS ALONG CONSTITUTION PLACE NE WERE DETERMINED USING MANNING'S EQUATION. THE PERFORMANCE OF THE PRIVATE STORMWATER DETENTION SYSTEM IN THE NORTH EAST CORNER OF THE PARKING AREA HAS BEEN EVALUATED FOR CUTOFFLOW AND STORAGE CAPACITY BASED UPON THE HYDROGRAPH ANALYSIS CONTAINED ON THIS SHEET, AND PONDING IS NECESSARY ONLY DUE TO DISCHARGE PIPE SIZING CONSTRAINTS.

THE JANUARY 2005 CALCULATIONS ARE SHOWN HEREON TO SHOW THAT THE DOWNSTREAM STREET (CONSTITUTION AVENUE) IS CAPABLE OF HANDLING FLOWS FROM ONSITE AND OFFSITE. THE COAGULATE DEPTH EQUATION WAS USED TO EVALUATE THE EFFECTS OF HYDRAULIC JUMP. AS SHOWN BY THESE CALCULATIONS, THE NORMAL DEPTH OF FLOW PLUS THE EFFECTS OF A HYDRAULIC JUMP COMPLY WITH DPM CRITERIA TO FALL BELOW THE TOP-OF-CURB PLUS 0.2 FEET. THIS SUGGESTS THAT THE STREET CAN HANDLE THE FULLY DEVELOPED DESIGN FLOW AS CALCULATED AND THAT PONDING IS NO LONGER NECESSARY.

VIII. CONCLUSION

THE DRAINAGE CONCEPT SHOWN BY THE PLAN ABOVE WILL ACCOMPLISH ITS PURPOSE DUE TO THE FOLLOWING FACTORS:

- MODIFICATION TO AN EXISTING SITE WITHIN AN INFILL AREA
- THE PEAK RATE OF DISCHARGE FROM THE SITE WILL BE INCREASED ABOVE THAT OF THE EXISTING CONDITION
- REMOVAL OF THE EXISTING POND AS ALLOWED BY APPROVED DRAINAGE SUBMITTAL DATED 01-11-05
- ADEQUATE STREET CAPACITY IS AVAILABLE IN CONSTITUTION PLACE NE TO ACCOMMODATE PEAK DISCHARGE UNDER FULLY DEVELOPED CONDITIONS
- DOWNSTREAM CAPACITY OF CONSTITUTION PLACE AND CONSTITUTION AVENUE AND THE STORM DRAIN STRUCTURES LOCATED WITHIN ARE ADEQUATE FOR INCREASED FLOWS DUE TO THE INMOUT I-40/PENNSYLVANIA PROJECT IMPROVEMENTS
- FREE DISCHARGE INTO CONSTITUTION PLACE AND CONSTITUTION AVENUE PER THE DRAINAGE PLAN DATED 1-11-05
- NO ADVERSE IMPACT ON DOWNSTREAM CAPACITY OR DOWNSTREAM PROPERTIES
- CULVERTS AT CONSTITUTIONS PLACE SUFFICIENT TO HANDLE PEAK DISCHARGE FROM BOTH STORM DRAINS UNDER FULLY DEVELOPED CONDITIONS
- GRADING AND CURB ABOUT STORM INLET AREA SUFFICIENT TO CONTAIN MORE THAN THE 220 CF OF PONDING REQUIRED DURING A 100-YEAR STORM
- OFFSITE FLOWS WILL CONTINUE TO BE INTERCEPTED AND CONVEYED THROUGH THE PROJECT TO DOWNSTREAM EXISTING DRAINAGE FACILITIES

Calculations

SITE CHARACTERISTICS

- PRECIPITATION ZONE = 3
- $P_{100} = P_{30} = 2.60$ $P_{10} = P_{30} = 1.73$
- TOTAL AREA (A) = 143,065 SF
3.28 AC

4. EXISTING LAND TREATMENT

| A. PROJECT SITE | AREA (SF/AC) | % |
|-----------------|---------------|----|
| IMPAVEDMENT | | |
| B | 16,779 / 0.39 | 12 |
| C | 61,626 / 1.41 | 43 |
| D | 64,660 / 1.48 | 45 |

| B. ONSITE CONTRIBUTING AREAS | AREA (SF/AC) | % |
|------------------------------|---------------|-----|
| TREATMENT | | |
| D | 70,000 / 1.61 | 100 |

5. DEVELOPED LAND TREATMENT

| A. PROJECT SITE | AREA (SF/AC) | % |
|-----------------|----------------|----|
| TREATMENT | | |
| B | 23,552 / 0.54 | 16 |
| D | 119,533 / 2.74 | 84 |

6. EXISTING CONDITION

| A. PROJECT SITE | 1. VOLUME |
|-------------------------------------------------|-----------------------------|
| Ev = (Ea+Em+Eoc+Eo)/At | |
| Ev = ((0.92+0.39)+(1.29+1.41)+(2.36+1.48))/3.28 | = 1.73 IN |
| V100 = (Ev/12)At = (1.73/12)3.28 | = 0.2317 AC-FT 20,628 CF |

| 2. PEAK DISCHARGE |
|-------------------------------------------------------------|
| Qp = Qm At + Qmle + Qmcl + Qmlo |
| Qp = Q100 = (2.60+0.39)+(3.45+1.41)+(5.02+1.48) = 13.33 CFS |

B. ONSITE CONTRIBUTING AREAS (100-YEAR STORM)

| |
|------------------------------------------------------------------------------------------|
| 1. VOLUME |
| $E_w = (E_{AA} + E_{AB} + E_{AC} + E_{AD}) / A_r$ |
| $E_w = (2.36 + 1.61) / 1.61 = 2.36 \text{ IN}$ |
| $V_{100} = (E_w / 12) A_r = (2.36 / 12) 1.61 = 0.3160 \text{ AC-FT} = 13,767 \text{ CF}$ |

2. PEAK DISCHARGE

| |
|------------------------------------|
| Qp = Qm At + Qmle + Qmcl + Qmlo |
| Qp = Q100 = (5.02+1.61) = 6.07 CFS |

C. ONSITE CONTRIBUTING AREAS (10-YEAR STORM)

| |
|----------------------------------------------------------------------------------------|
| 1. VOLUME |
| $E_w = (E_{MA} + E_{MB} + E_{AC} + E_{FO}) / A_r$ |
| $E_w = (1.50 + 1.61) / 1.61 = 1.50 \text{ IN}$ |
| $V_{10} = (E_w / 12) A_r = (1.50 / 12) 1.61 = 0.2009 \text{ AC-FT} = 8,750 \text{ CF}$ |

2. PEAK DISCHARGE

| |
|-----------------------------------|
| Qp = Qm At + Qmle + Qmcl + Qmlo |
| Qp = Q10 = (3.39+1.61) = 5.45 CFS |

7. DEVELOPED CONDITION

| A. PROJECT SITE (100-YEAR STORM) | 1. VOLUME |
|-------------------------------------|----------------------------|
| Ev = (Ea+Em+Eoc+Eo)/At | |
| Ev = ((0.92+0.54)+(2.36+2.74))/3.28 | = 2.12 IN |
| V100 = (Ev/12)At = (2.12/12)3.28 | = 0.5811 AC-FT = 25,314 CF |

2. PEAK DISCHARGE

| |
|-------------------------------------------------|
| Qp = Qm At + Qmle + Qmcl + Qmlo |
| Qp = Q100 = (2.60+0.54)+(5.02+2.74) = 15.18 CFS |

B. ONSITE CONTRIBUTING AREAS (10-YEAR STORM)

| |
|------------------------------------------------------------------------------|
| 1. VOLUME |
| $E_v = (E_{aA} + E_{aB} + E_{aC} + E_{aD}) / A_T$ |
| $E_v = ((0.36 \times 0.54) + (1.50 \times 2.74)) / 3.28 = 1.31 \text{ IN}$ |
| $V_{10} = (E_v / 12) A_T = (1.31 / 12) 3.28 = 0.3592 \text{ AC-FT} = 15.848$ |

2. PEAK DISCHARGE

| |
|-----------------------------------------------|
| Qp = Qm At + Qmle + Qmcl + Qmlo |
| Qp = Q10 = (1.19+0.54)+(3.39+2.74) = 9.95 CFS |

RAINSTORM PONDING CAPACITY

| ELEV (FT) | AREA (SQ FT) | VOLUME (CF) | TOTAL VOL. (CF) |
|-----------|--------------|---------------------------|-----------------|
| 5333 | 2675 | [(2675+0)/2]*0.5 = 670 | 670 |
| 5334 | 6575 | [(6575+2675)/2]*0.5 = 975 | 1625 |

V100 = 240 CF
V100devd = 1,625 CF > V100 = 240 CF (SEE HYDROGRAPH)

Δ HYDROGRAPH CALCULATIONS

$$T_p = 0.7+tc+(1.8-Ap)/12$$

$$T_p = 0.7+0.2+(1.6-2.74/3.28)/12$$

$$T_p = 0.2037 \text{ hr}$$

$$D_p = 0.25+Ap/At$$

$$D_p = 0.25+2.74/3.28$$

$$D_p = 0.2088 \text{ hr}$$

$$T_b = 2.017+L+V/Q_p-0.25+Ap/At$$

$$T_b = 2.017+12.3+28/15.18-0.25+2.74/3.28$$

$$T_b = 0.7563 \text{ hr}$$

AREA OF HYDROGRAPH = V100 = 26,410 CF

VOLUME REQUIRING PONDING
V100devd = ((15.18-14.90)/(((25.16-11.98)+(24.75-12.22))/2)*40)
V100devd = 215.6 CF

PEAK DISCHARGE CAPACITY OF ON-SITE FLOW DISCHARGE PIPE

$$Q_{cap} = 1.49/n AR^{2/3} S^{1/2}$$

$$n = 0.013$$

$$A = 0.667 \text{ FT}^2 \times 2 \text{ FT} = 1.33 \text{ FT}^2$$

$$P = 0.667 \text{ FT} + 0.667 \text{ FT} + 2 \text{ FT} = 3.33 \text{ FT}$$

$$R = A/P = 0.375 \text{ FT}$$

$$S = 0.02 \text{ FT/FT}$$

$$Q_{cap} = 14.9 \text{ CFS}$$

$$Q_{100} = 15.2 \text{ CFS} > Q_{cap} = 14.9 \text{ CFS, 215 CF OF PONDING REQ'D}$$

CULVERT CALCULATIONS FOR SITE DRAINAGE

A. PEAK DISCHARGE CAPACITY OF SINGLE CULVERT

$$Q_{cap} = 1.49/n AR^{2/3} S^{1/2}$$

$$n = 0.013$$

$$A = 0.667 \text{ FT}^2 \times 2 \text{ FT} = 1.33 \text{ FT}^2$$

$$P = 0.667 \text{ FT} + 0.667 \text{ FT} + 2 \text{ FT} = 3.33 \text{ FT}$$

$$R = A/P = 0.375 \text{ FT}$$

$$S = 0.02 \text{ FT/FT}$$

$$Q_{cap} = 11.73 \text{ CFS}$$

B. CULVERT DESIGN TO HOLD 10-YEAR, 6-HOUR STORM

$$Q_{100devd} = 9.95 \text{ CFS}$$

$$Q_{100devd} = 9.95 + 5.45 = 15.4 \text{ CFS}$$

$$Q_{100devd} = 15.4 \text{ CFS} > Q_{cap} = 11.73 \text{ CFS}$$

$$Q_{100devd} = 15.4 \text{ CFS} < Q_{cap} = 23.46 \text{ CFS}$$

DESIGN REQUIRES TWO CULVERTS

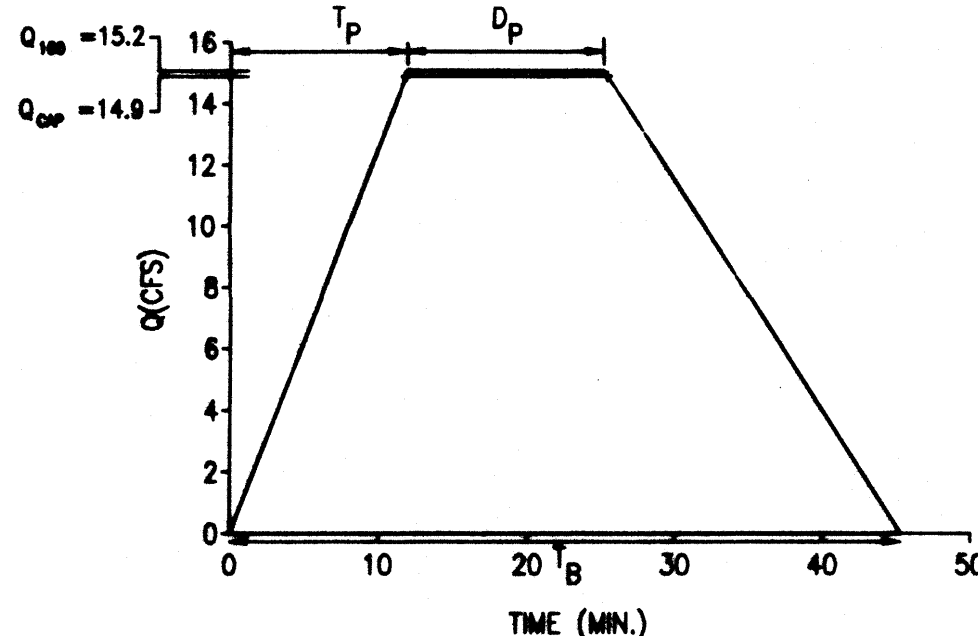
8. COMPARISON

A. VOLUME

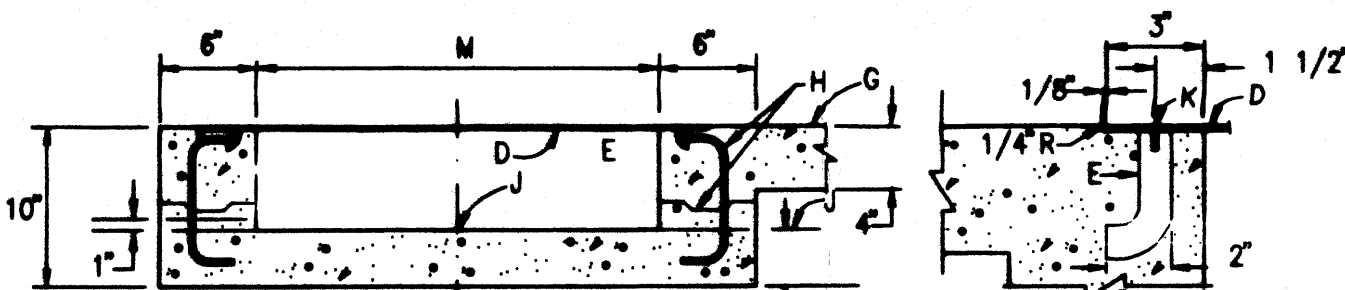
$$\Delta V_{100} = 25,315-20,628 = 4,687 \text{ CF (INCREASE)}$$

B. PEAK DISCHARGE

$$\Delta Q_{100} = 15.18-13.33 = 1.85 \text{ CFS (INCREASE)}$$



Δ HYDROGRAPH



CONSTRUCTION NOTES:

- 3" RADIUS, (TYPICAL).
- 3/8" CHECKERED STEEL PLATE.
- ROD ANCHOR 1" x 5"
- SIDEWALK GRADE.
- DOWEL AND JOINT, (OPTIONAL).
- GUTTER FLOWLINE ELEV.
- 3/8" x 1" F.H. C/SUNK STAINLESS STEEL MACHINE SCREW.
- DRAIN WIDTH, 24" MAX. 12" MIN.

TYPICAL SIDEWALK CULVERT DETAILS NOT TO SCALE

Calculations, Drainage Plan and Sections and Details

Final Construction Documents

Parking Area A
FMG Constitution
8300 Constitution Avenue NE
Albuquerque, New Mexico
Presbyterian Project No. 1980002

Drawn: JMA Checked: JGM
No.: 200431 Date: 10/27/2005
© 2005 KEVIN GEORGES & ASSOCIATES, P.A.
DRAINAGE CERT
NO CHANGES TO THIS SHEET
Revisions: 01-10-2005
Architect: KEVIN GEORGES & ASSOCIATES, P.A.

CALCULATIONS, DRAINAGE PLAN
AND SECTIONS AND DETAILS
Sheet Title Sheet 5 of 10

C4
3
10

RECORD DRAWING
FOR CERTIFICATION, SEE SHEET C2

Legend:

| | |
|----------|-----------------------------------------|
| AL | AREA LIGHT |
| AL/C | AREA LIGHT ON CONCRETE |
| ASV | ANTI-SIPHON VALVE |
| BSH | BUILDING OVERHANG |
| BR | BIKE RACK |
| C&G | CURB AND GUTTER |
| CBN | CONCRETE BENCH |
| COP | CONCRETE DRIVEWAY |
| CHC | CONCRETE HEADER CURB |
| CI | CAST IRON PIPE |
| CLOD | CENTERLINE OF DOOR |
| CLF | CHAIN LINK FENCE |
| CO | SANITARY SEWER CLEANOUT |
| CONC. | CONCRETE |
| COP | CURB OPENING |
| CRD | CONCRETE RUNDOWN |
| CRW | CONCRETE RETAINING WALL |
| CWR | CONCRETE WHEELCHAIR RAMP |
| CP | CONCRETE |
| E/G | EDGE OF GRASS |
| EA | EDGE OF ASPHALT |
| EC | ELECTRIC CONDUIT |
| EO | ELECTRIC OUTLET |
| EO/C | ELECTRIC OUTLET IN CONCRETE |
| EPB | ELECTRIC PULLBOX |
| FP | FLAG POLE |
| GPW | GAS PUMP MARK |
| HVS | HANDICAP PARKING SIGN |
| IRRG | IRRIGATION |
| MBC | METAL BUILDING COLUMN |
| MBX | MAILBOX |
| MPL | METAL LIGHT POLE |
| MP | METAL POLE |
| MPP | METAL POWER POLE |
| MS | METAL SIGN |
| MS(4) | OVERHEAD ELECTRIC (NO. OF LINES) |
| OH(2) | OVERHEAD TELEPHONE (NO. OF LINES) |
| PB | PARKING BUMPER |
| PI | PAINTED ISLAND |
| PLB | PLASTIC BENCH |
| PL | PAINT MARK |
| SAS MH | SANITARY SEWER MANHOLE |
| SD | SPRINKLER CONTROL TIMER |
| SDH | STORM DRAIN MANHOLE |
| SI | STORM INLET |
| SI/C | STORM INLET IN CONCRETE |
| STD, C&G | STANDARD CURB AND GUTTER |
| STL | TOP OF SIDEWALK |
| SW | SIDEWALK CULVERT |
| TA | TOP OF ASPHALT |
| TC | TOP OF CURB |
| TCO | TOP OF CONCRETE |
| TO | TOP OF GRADE |
| TMH | TELEPHONE MANHOLE |
| TPB | TELEPHONE PULLBOX |
| TP/PB | TELEPHONE RISER/PULLBOX |
| TS | TRAFFIC SIGN |
| TV | TELEPHONE VAULT |
| TVL | TYPICAL |
| UG | UNDERGROUND |
| VG | VALLEY GUTTER |
| W/MHR | WOOD WITH METAL HANDRAIL |
| WP | WOOD POLE |
| WB | WATER VALVE BOX |
| X-WALK | CROSSWALK |
| | EXISTING CONTOUR |
| | EXISTING SPOT ELEVATION |
| | EXISTING BOUNDARY |
| | EXISTING SHRUB |
| | EXISTING DECIDUOUS TREE (CALIPER SIZE) |
| | EXISTING CONIFEROUS TREE (CALIPER SIZE) |

STORM DRAINAGE KEYED NOTES:

- INSTALL 18" CMP STORM DRAIN @ S = 0.02
- INSTALL SINGLE "D" STORM INLET PER DETAIL, SHEET 4 W/ T.O.G. @ 33.00 AND INV 18" (OUT) @ 30.47
- INSTALL 18" CMP STORM DRAIN @ S = 0.015

LEGAL DESCRIPTION
TRACT 1, THE EAST END ADDITION

PROJECT BENCHMARK
CITY OF ALBUQUERQUE BENCH MARK, STATIONED "1+10.1", SET IN TOP OF A CONCRETE POST WHICH SETS OUT THE NORTH SIDE OF A CONCRETE SIDEWALK AND FLUSH WITH THE TOP OF SIDEWALK PAVEMENT ON THE NORTH SIDE OF CONSTITUTION AVE. N.E. AND BETWEEN PONDOLUNA BLVD. N.E. AND CONSTITUTION PL. N.E. ON THE SOUTH SIDE OF SHAW HEIGHTS PARK. ELEVATION = 5328.05 FEET (M.S.L.D.)

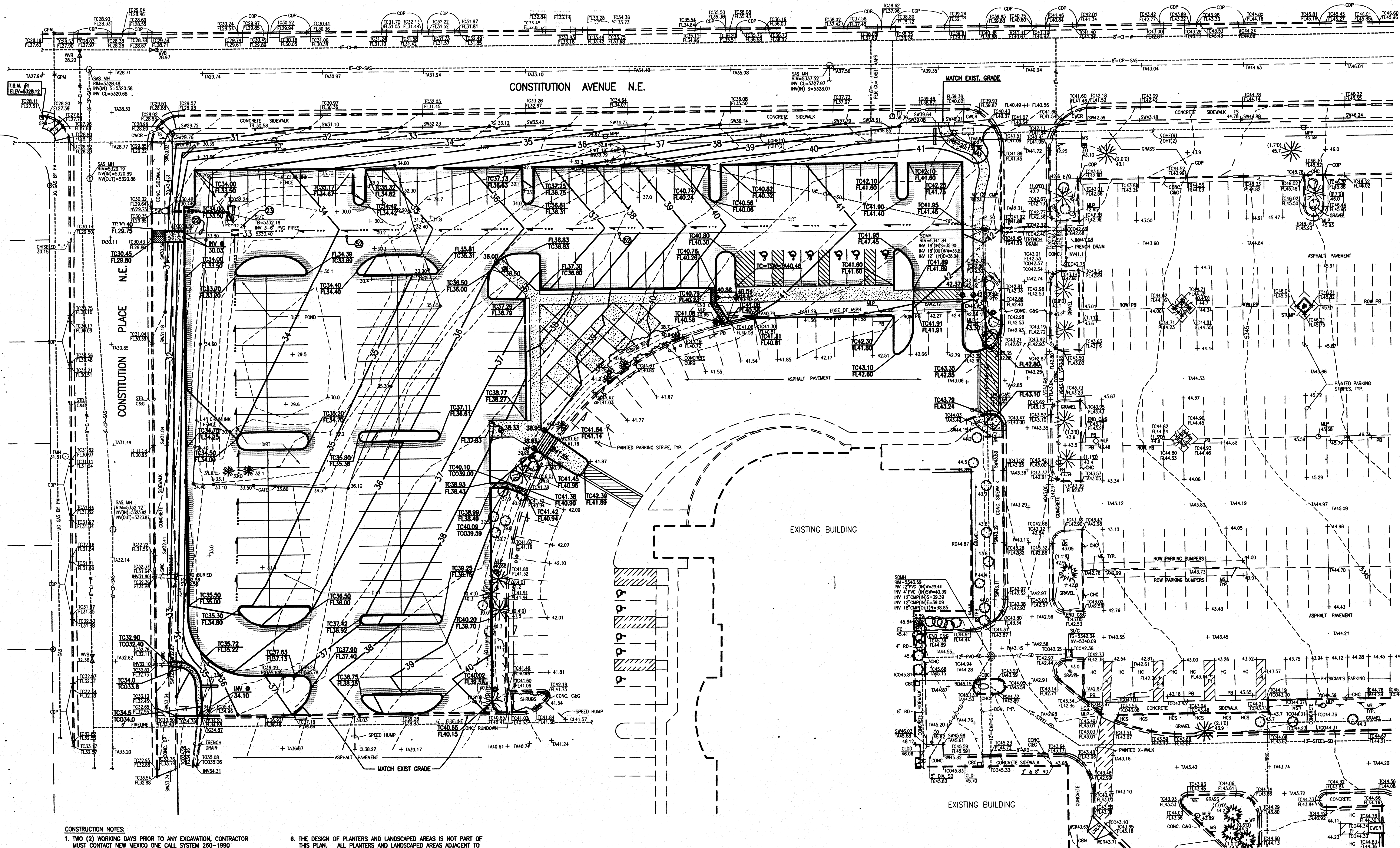
T.B.M.
TOP OF CURB ELEVATION LOCATED AT THE S.E. CORNER OF THE INTERSECTION OF CONSTITUTION AVE. N.E. AND CONSTITUTION PL. N.E. AS SHOWN ON THE DRAWING. ELEVATION = 5328.86 FEET (M.S.L.D.)

Final Construction Documents

**Parking Area A
FMG Constitution**
8300 Constitution Avenue NE
Albuquerque, New Mexico
Project No. 11020202

Drawn: JMA Checked: JGM
By: JGM
Proj: 11020202 Date: 09/20/05
No. 1000 KEVIN GEORGES & ASSOCIATES, P.A.
Revisions: Architect: 10/05 Engineer: 10/05

Grading Plan
Sheet Title Sheet 4 of 10



CONSTRUCTION NOTES:

- TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL SYSTEM 248-1990 (ALBUQUERQUE AREA), 1-800-321-ALERT (2537) (STATEWIDE), FOR LOCATION 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.
- ALL CONSTRUCTION WITHIN PUBLIC RIGHT-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE CITY OF ALBUQUERQUE STANDARDS AND PROCEDURES.
- IF ANY UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES ARE SHOWN ON THESE DRAWINGS, THEY 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 ENGINEER 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. NO ASSUMES NO RESPONSIBILITY OR LIABILITY THEREFOR. THE 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 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 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.
- AN EXCAVATION/CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN CITY RIGHT-OF-WAY. AN APPROVED COPY OF THESE PLANS MUST BE SUBMITTED AT THE TIME OF APPLICATION FOR THIS PERMIT.
- BACKFILL COMPACTION SHALL BE ACCORDING TO ARTERIAL STREET USE.
- MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.

EROSION CONTROL MEASURES:

- THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE SITE INTO PUBLIC RIGHT-OF-WAY OR ONTO PRIVATE PROPERTY.
- THE CONTRACTOR SHALL PROMPTLY CLEAN UP ANY MATERIAL EXCAVATED WITHIN THE PUBLIC RIGHT-OF-WAY SO THAT THE EXCAVATED MATERIAL IS NOT SUSCEPTIBLE TO BEING WASHED DOWN THE STREET.
- WHEN APPLICABLE, CONTRACTOR SHALL SECURE "TOPSOIL DISTURBANCE PERMIT" FROM THE CITY AND/OR FILE A NOTICE OF INTENT (NOI) WITH THE EPA PRIOR TO BEGINNING CONSTRUCTION.
- UNLESS FINAL STABILIZATION IS OTHERWISE PROVIDED FOR, ANY AREAS OF EXCESS DISTURBANCE (TRAFFIC ACCESS, STORAGE YARD, EXCAVATED MATERIAL, ETC.) SHALL BE RE-SEEDING ACCORDING TO C.O.A. SPECIFICATION 1012 "NATIVE GRASS SEEDING". THIS WILL BE CONSIDERED INCIDENTAL TO CONSTRUCTION, THEREFORE, NO SEPARATE PAYMENT WILL BE MADE.

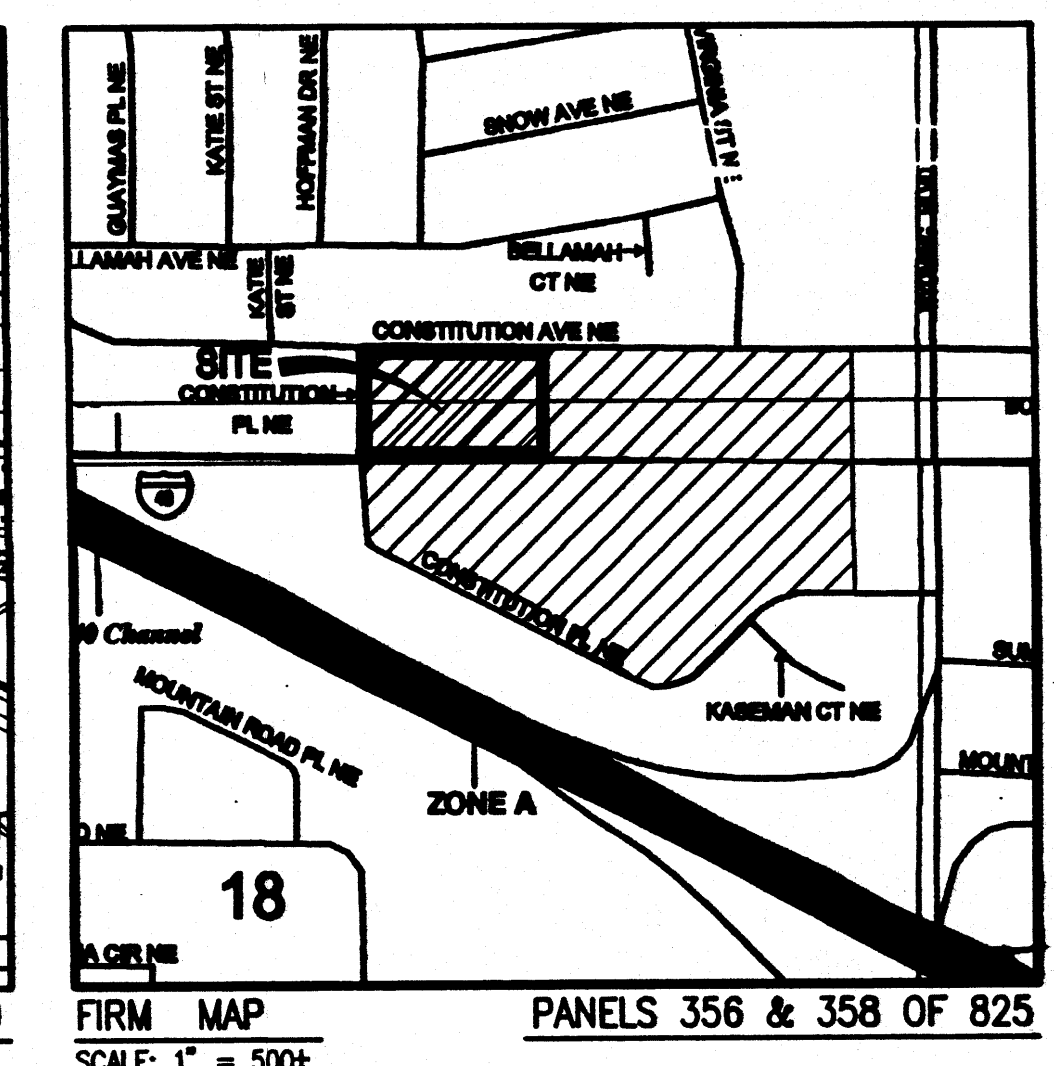
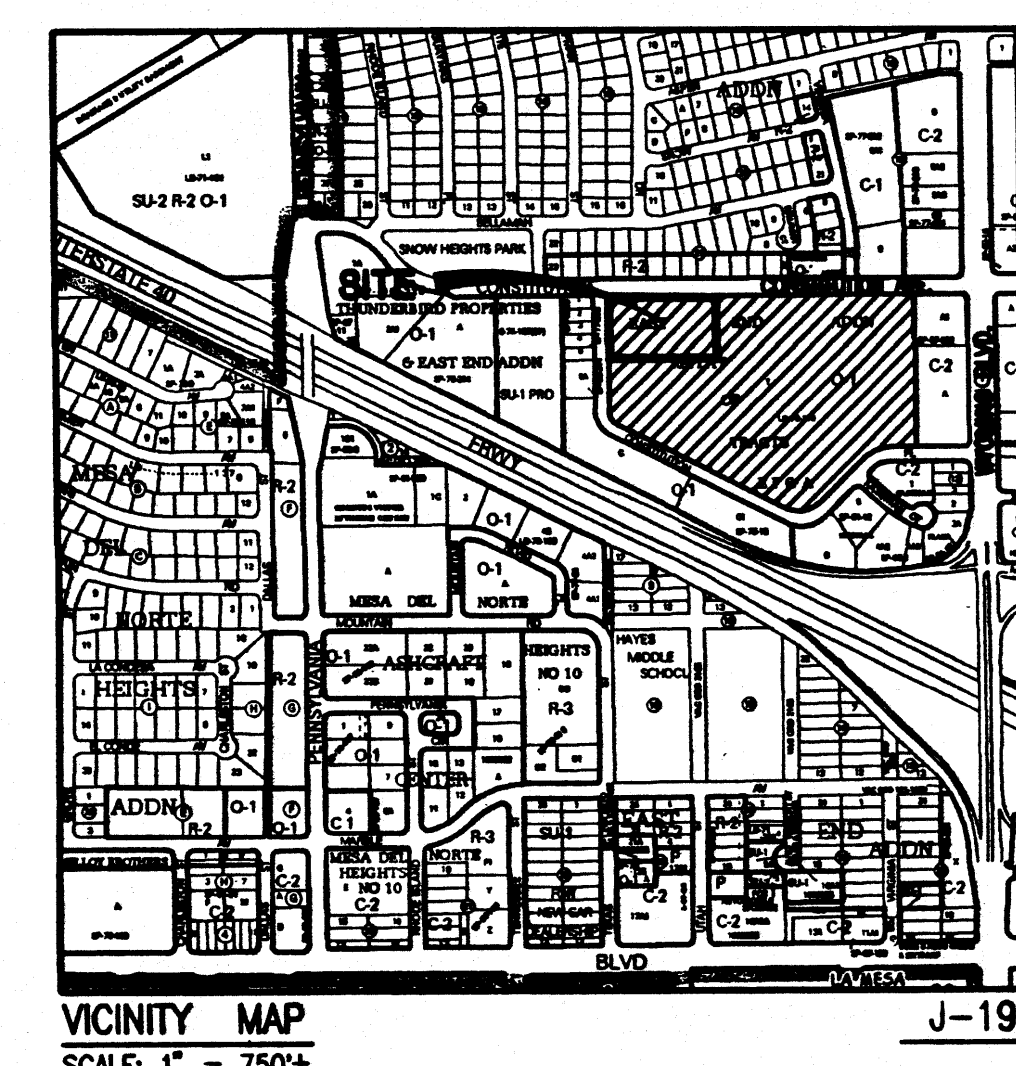
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|-------------------------|------|--------|
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| SIDEWALK INSPECTOR | | |
| STORM DRAIN MAINTENANCE | JMA | 2-9-06 |

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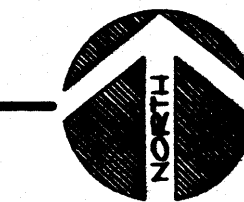
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HYDROLOGY SECTION

JMA
JMA JOB NO. 2004.120.3
JEFF MONTENEGRO & ASSOCIATES, INC.
600-B MIDWAY PARK BLVD. N.E.
ALBUQUERQUE, NM 87109
ENGINEERS & SURVEYORS (SOS) 345-4250
FAX: 505 345-4254 © ESTABLISHED 1977

50 #19 "GREEN TAG"



Grading Plan
1"=20'



C3

Plot Date: 10-27-2005
Plot Time: 10:51 am
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File Name: 41202PS.DWG



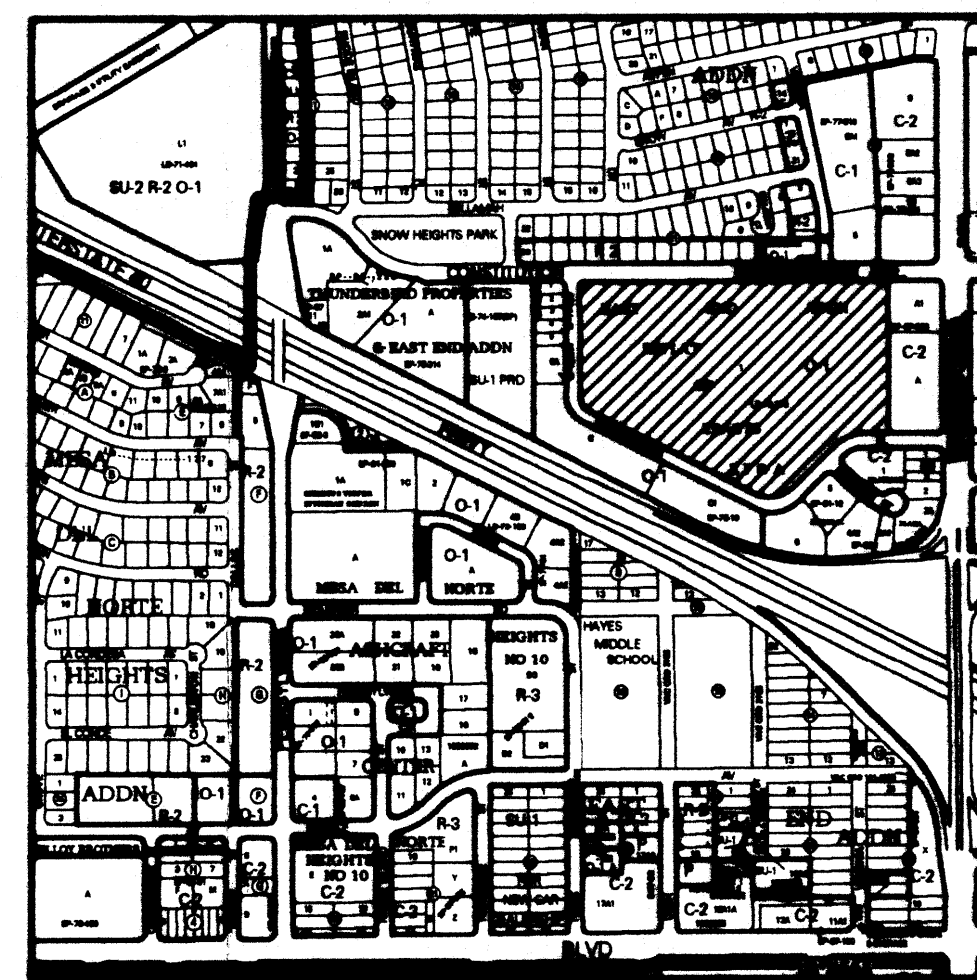
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ALBUQUERQUE, N.M. 87109
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FAX: 505 345-4254 © ESTABLISHED 1977

GENERAL NOTES

1. OBTAIN ARCHITECT'S APPROVAL OF SIDEWALK LAYOUT AND JOINTS PRIOR TO PLACEMENT OF CONCRETE

SITE PLAN KEYED NOTES:

1. NEATLY SAWCUT, REMOVE AND DISPOSE OF EXISTING CURB AND GUTTER
2. NEATLY SAWCUT, REMOVE AND DISPOSE OF EXISTING SIDEWALK
3. REMOVE AND DISPOSE OF EXISTING TREES AND SHRUBS
4. NEATLY SAWCUT, REMOVE AND DISPOSE OF EXISTING ASPHALT PAVING, 1'-0" MIN. WIDTH
5. REMOVE AND DISPOSE OF 18" CMP STORM DRAIN PIPE
6. REMOVE AND DISPOSE OF 6" PVC PIPE
7. REMOVE AND DISPOSE OF 4" CHAINLINK FENCE
8. EXISTING CONCRETE RUNDOWN TO REMAIN
9. EXISTING CURB AND GUTTER TO REMAIN
10. CONSTRUCT MULTI-DIRECTIONAL WHEELCHAIR RAMP PER DETAIL, SHEET 3
11. CONSTRUCT STANDARD CURB AND GUTTER PER DETAIL, SHEET 3
12. CONSTRUCT 2' SIDEWALK CULVERT, TYPICAL, PER DETAIL, SHEET 5
13. CONSTRUCT RUNDOWN PER DETAIL, SHEET 3
14. CONSTRUCT 5' WIDE CONCRETE SIDEWALK PER DETAIL, SHEET 3
15. CONSTRUCT CONCRETE STAIRWAY PER DETAIL, SHEET 3
16. CONSTRUCT CONCRETE SIDEWALK PER DETAIL, SHEET 3
17. CONSTRUCT NEW ASPHALT PAVEMENT PER TYPICAL PARKING LOT PAVEMENT SECTION, SHEET 3
18. PAINT WHITE DIRECTIONAL ARROWS WITH WHITE TRAFFIC PAINT, MIN. 2 COATS PER MUTCD DEC 2000
19. PAINT 4" PAVEMENT MARKING W/ WHITE TRAFFIC PAINT, MIN. 2 COATS
20. PAINT CROSSWALK PAVEMENT MARKING PER DETAIL, SHEET 3
21. NEW LANDSCAPING, SEE LANDSCAPING PLAN
22. INSTALL 18" CMP STORM DRAIN @ S = 0.02
23. INSTALL SINGLE 10" STORM INLET PER DETAIL, SHEET 5 W/ T.O.G. @ 33.00 AND INV. 18' (OUT) @ 30.47
24. REMOVE AND DISPOSE EXISTING STORM INLET
25. STENCIL "COMPACT" ON PARKING LOT PAVEMENT
26. PAINT TOP AND FACE OF CURB W/ YELLOW TRAFFIC PAINT, MIN. 2 COATS
27. BEGIN PAINTING TOP AND FACE OF CURB WITH YELLOW TRAFFIC PAINT
28. END PAINTING TOP AND FACE OF CURB WITH YELLOW TRAFFIC PAINT
29. STENCIL "NO PARKING" ON TOP AND FACE OF CURB AT 50' SPACING
30. BEGIN STENCILING "NO PARKING" ON TOP AND FACE OF CURB
31. END STENCILING "NO PARKING" ON TOP AND FACE OF CURB
32. REMOVE AND DISPOSE 4" DOUBLE SWING GATE
33. EXISTING MANHOLE TO REMAIN; CONNECT NEW 18" CMP TO EXISTING MANHOLE W/ INV. OUT @ 35.82
34. INSTALL SALVAGED CONCRETE PARKING BUMPERS @ EDGE OF FLUSH SIDEWALK PER DETAIL, SHEET 3
35. CONSTRUCT RAMPING CONCRETE SIDEWALK PER DETAIL, SHEET 3 (MAX 12:1 SLOPE)
36. NEATLY SAWCUT, REMOVE AND DISPOSE OF EXISTING CONCRETE RUNDOWN
37. EXISTING CONCRETE RUNDOWN TO REMAIN (3')
38. NEW LIGHT STANDARD AND BASE, SEE ELECTRICAL
39. CONSTRUCT CONCRETE SIDEWALK FLUSH WITH PAVING PER DETAIL, SHEET 3
40. NEATLY REMOVE AND SALVAGE EXISTING PARKING BUMPERS
41. INSTALL 1 - ADA COMPLIANT HANDICAP PARKING SIGN
42. INSTALL 1 - ADA COMPLIANT HANDICAP PARKING SIGN W/ VAN ACCESSIBLE PLACARD
43. NEW GROUND MOUNTED SIGN BY OWNER, PROVIDE POWER, COORDINATE REQUIREMENTS WITH SIGN COMPANY
44. CONSTRUCT RUNDOWN FROM HEADWALL PER DETAIL, SHEET 3
45. REMOVE AND DISPOSE EXISTING CONCRETE RUNDOWN
46. EXISTING TRENCH DRAIN TO REMAIN
47. INSTALL 1 - ADA COMPLIANT HANDICAP PARKING SPACE PAVEMENT MARKING, TYPICAL
48. PAINT 4" WIDE CROSS-HATCH (2" CO) PAVEMENT MARKINGS @ 45 DEG W/ WHITE TRAFFIC PAINT, MIN. 2 COATS, TYPICAL
49. EXISTING LIGHT POLE TO REMAIN
50. EXISTING TREES AND SHRUBS TO REMAIN
51. CONSTRUCT DOUBLE 24" SIDEWALK CULVERT, TYPICAL, PER DETAIL, SHEET 5 AND C&G STANDARD DWG. 2236
52. INSTALL 18" CMP STORM DRAIN @ S = 0.015
53. CLEAR SIGHT TRIANGLE
54. NEATLY REMOVE AND DISPOSE OF EXISTING SIDEWALK CULVERT
55. CONSTRUCT 8" WIDE CONCRETE SIDEWALK PER DETAIL, SHEET 3
56. EXISTING SIDEWALK CULVERT TO REMAIN



VICINITY MAP
SCALE: 1" = 750'

PAVING SITE PLAN (TCL)

1'-20'

Legend:

- A AREA LIGHT
- A/C ANTI-SIPHON VALVE
- ASV ANTI-SIPHON VALVE
- BOH BONE HOLE
- C&G CURB AND GUTTER
- CBN CONCRETE BENCH
- COP CONCRETE DRIVEWAY
- CHC CAST IRON PIPE
- CHC CONCRETE HEADER CURB
- CLD CENTERLINE OF DOOR
- CLD CENTERLINE OF DOUBLE DOOR
- CLF CHAIN LINK FENCE
- CLF SANITARY SEWER CLEANOUT
- CONC CONCRETE
- COP CURB OPENING
- CP CONCRETE PIPE
- CRD CONCRETE RUNDOWN
- CRW CONCRETE RETAINING WALL
- CWCR CONCRETE WHEELCHAIR RAMP
- DP DRIVEWAY
- E/G EDGE OF GRASS
- EA EDGE OF ASPHALT
- EC ELECTRIC CONDUIT
- EO ELECTRIC OUTLET
- EO/C ELECTRIC OUTLET IN CONCRETE
- EPB ELECTRIC PULLBOX
- FL FLOWLINE
- FP FLAG POLE
- GPM GAS PUMP MARK
- HCS HANDICAP PARKING SIGN
- INV INVERT
- IRRG IRRIGATION
- MBC METAL BUILDING COLUMN
- MBX METAL BOX
- MLP METAL LIGHT POLE
- MP METAL POLE
- MPP METAL POWER POLE
- MS METAL SIGN
- ONE(4) OVERHEAD ELECTRIC (NO. OF LINES)
- ONE(2) OVERHEAD TELEPHONE (NO. OF LINES)
- PS PARKING BUMPER
- PIB PAINTED ISLAND
- PLB PLASTIC BENCH
- PM PAINT MARK
- SAS MH SANITARY SEWER MANHOLE
- SCS SPRINKLER CONTROL VALVE
- SD STORM DRAIN
- SDMH STORM DRAIN MANHOLE
- SI STORM INLET
- SI/C STORM INLET IN CONCRETE
- STD. C&G STANDARD CURB AND GUTTER
- STL STEEL
- SW TOP OF SIDEWALK
- SWC SIDEWALK CULVERT
- TA TOP OF ASPHALT
- TC TOP OF CURB
- TCO TOP OF CONCRETE
- YG TOP OF GRATE
- TMH TELEPHONE MANHOLE
- TPB TELEPHONE PULLBOX
- TP/PB TELEPHONE RISER/PULLBOX
- TS TRAFFIC SIGN
- TVault TELEPHONE VAULT
- TV TYPICAL
- UG UNDERGROUND
- VG VALLEY GUTTER
- W/MH WITH METAL MANHOLE
- WP WOOD POLE
- WBW WATER VALVE BOX
- X-WALK CROSSWALK
- EXISTING CONTOUR
- EXISTING SPOT ELEVATION
- EXISTING BOULDER
- EXISTING SHRUB
- EXISTING DECIDUOUS TREE (CALIPER SIZE)
- EXISTING CONIFEROUS TREE (CALIPER SIZE)

LEGAL DESCRIPTION

TRACT 1, THE EAST 800 ADDITION

PROJECT BENCHMARK

CITY OF ALBUQUERQUE, FROM INITIAL, ELEVATION "1"-11", SET IN TOP OF A CONCRETE POST WHICH SETS 0.4' NORTH OF THE NORTH EDGE OF A CONCRETE SIDEWALK, AND FLUSH WITH THE TOP OF SIDEWALK PAVEMENT ON THE NORTH SIDE OF CONSTITUTION AVE. N.E. AND BETWEEN PENNSYLVANIA BLVD. N.E. AND CONSTITUTION PL. N.E. ON THE SOUTH SIDE OF SHIMHEARS PARK. ELEVATION = 5329.00 FEET (M.S.L.D.)

T.B.M.

TOP OF CURB ELEVATION LOCATED AT THE S.E. CORNER OF THE INTERSECTION OF CONSTITUTION AVE. N.E. AND CONSTITUTION PLACE N.E. AS SHOWN ON THE DRAWING ON SHEET 1. ELEVATION = 5329.86 FEET (M.S.L.D.)

Final Construction Documents

Parking Area A
FMG Constitution
8300 Constitution Avenue NE
Albuquerque, New Mexico
Preliminary Project No. 1998002

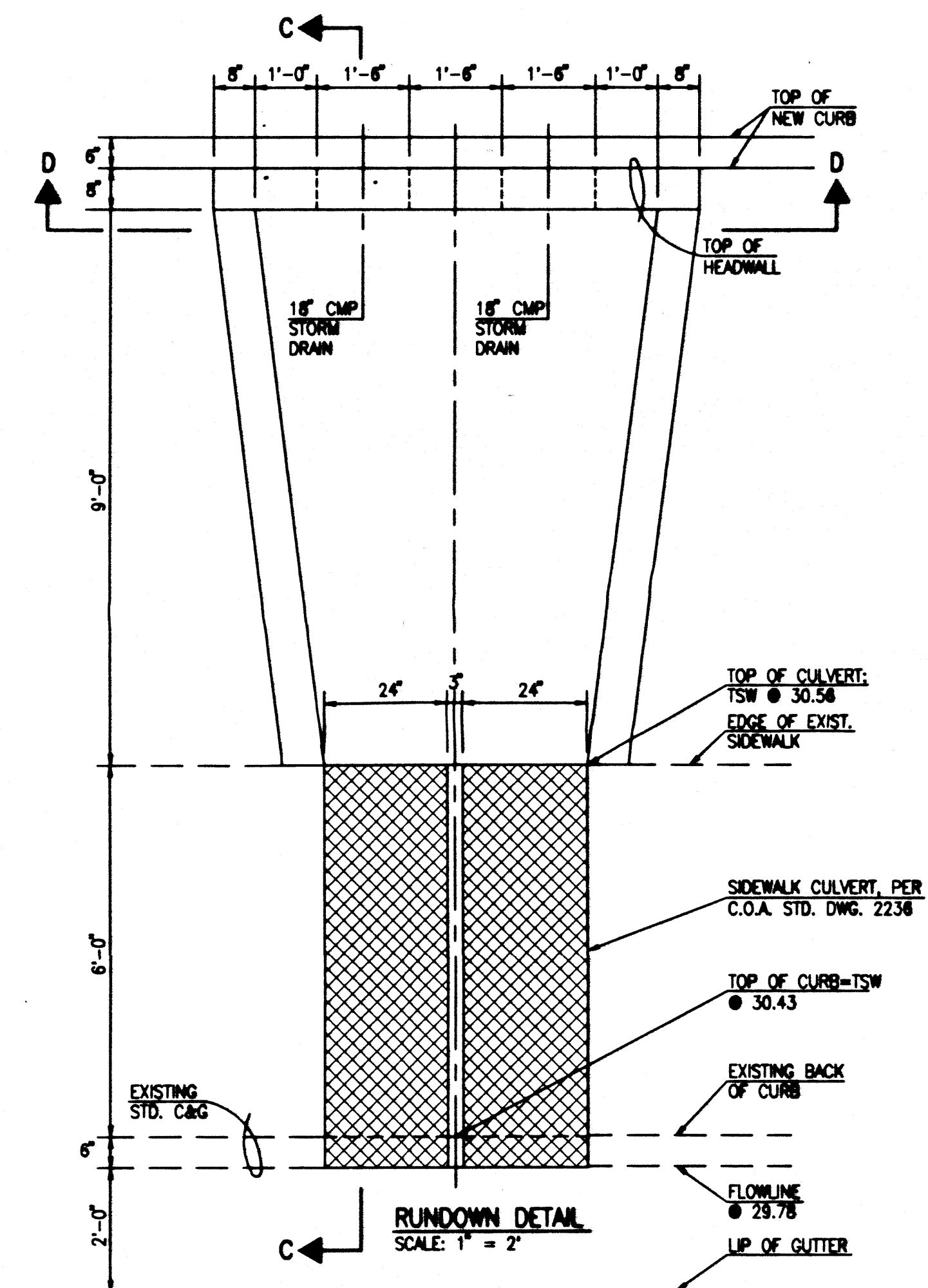
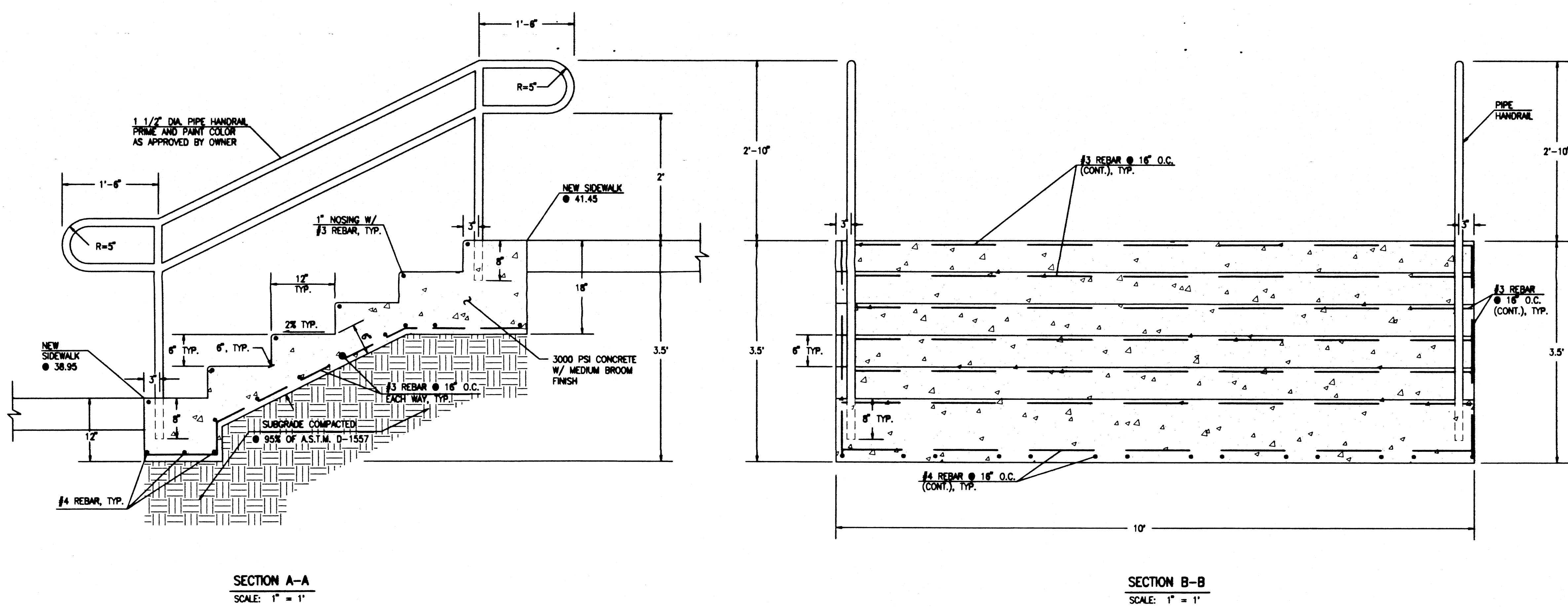
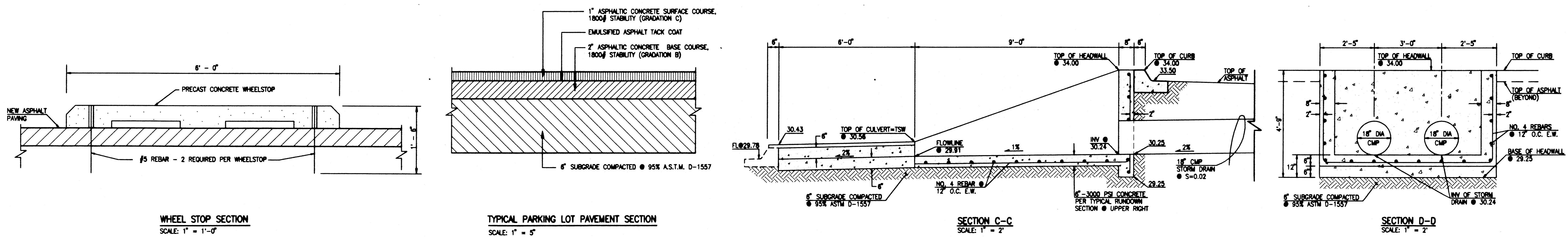
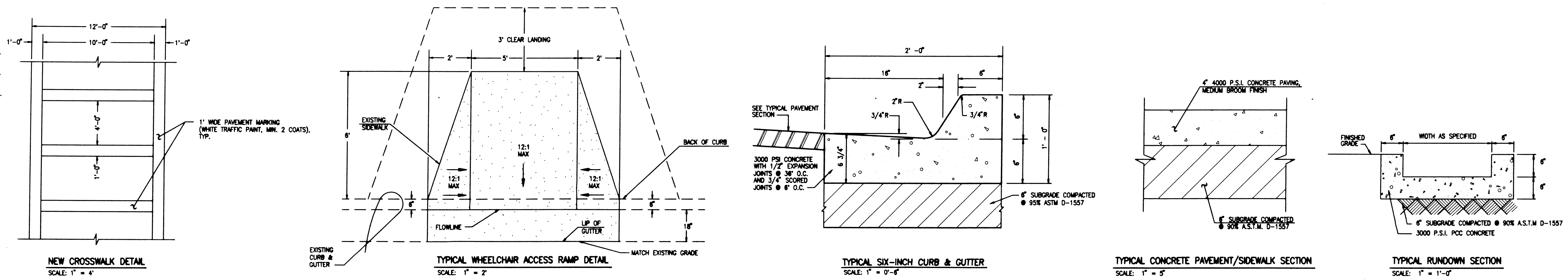
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| Drawn | JMA | Checked | JGM |
| No. | 200431 | Date | 10/27/2005 |
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EXPANDED KEYED NOTES

Revisions

PAVING SITE PLAN (TCL)

Sheet Title sheet 2 of 10



PAVING SECTIONS AND DETAILS

Final Construction Documents

Parking Area A
FMG Constitution
8300 Constitution Avenue NE
Albuquerque, New Mexico
Preliminary Project No. 11000002

Drawn: JMA Checked: JGM
By: Date: 10/21/2005
Proj: 200431
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NO CHANGES TO THIS SHEET
Revisions: Architect Engineer

PAVING SECTIONS AND DETAILS

Sheet Title Sheet 3 of 10

C2

File Path: \\jma\projects\2004\200431\2005\10-27-2005
Plot Date: 10-27-2005
Plot Time: 11:58 am
File Name: 41202SD.DWG

JMA

JMA JOB NO. 2004.120.2
JEFF HORTENSEN & ASSOCIATES, INC.
6010-B MIDWAY PARK BLVD. N.E.
ALBUQUERQUE, NEW MEXICO 87109
ENGINEERS SURVEYORS (CSD) 245-4250
FAX: 505 345-4254 ESTABLISHED 1977

Legend:

- AL/C AREA LIGHT
- ASV ANTI-SIPHON VALVE
- BH BUILDING OVERHANG
- BU BUCK
- C&G CURB AND GUTTER
- C&G CONCRETE BENCH
- CHC CONCRETE HEADER CURB
- CI CAST IRON PIPE
- CLD CENTERLINE OF DOOR
- CLD CENTERLINE OF DOUBLE DOOR
- CLF CHAIN LINK FENCE
- CS SANITARY SEWER CLEANOUT
- CONC CONCRETE
- COP CURB OPENING
- COP CONCRETE PIPE
- COR CONCRETE RUNDOWN
- COR CONCRETE RETAINING WALL
- COR CONCRETE WHEELCHAIR RAMP
- COR DRIVEWAY
- D/E EDGE OF ASPHALT
- EA EDGE OF ASPHALT
- EC ELECTRIC CONDUIT
- EO ELECTRIC OUTLET
- EO/C ELECTRIC OUTLET IN CONCRETE
- EPB ELECTRIC PULLBOX
- FL FLOWLINE
- FLD FLAG POLE
- GPM GAS PUMP MARK
- HCS HANDICAP PARKING SIGN
- INW INVERT
- IRRC IRREGULAR
- MBX METAL BUILDING COLUMN
- MBX METAL BOX
- MBX METAL LIGHT POLE
- MBX METAL POWER POLE
- MS METAL SIGN
- MS (4) OVERHEAD ELECTRIC (NO. OF LINES)
- MS (2) OVERHEAD TELEPHONE (NO. OF LINES)
- MS (2) PARKING BUMPER
- MS (2) PAINTED ISLAND
- MS (2) PLASTIC BENCH
- MS (2) PAINT MARK
- MS (2) SANITARY SEWER MANHOLE
- MS (2) SPRINKLER CONTROL TOWER
- MS (2) STORM DRAIN
- MS (2) STORM DRAIN MANHOLE
- MS (2) STORM INLET
- MS (2) STORM INLET IN CONCRETE
- MS (2) STANDARD CURB AND GUTTER
- MS (2) STEEL
- MS (2) TOP OF SIDEWALK
- MS (2) SIDEWALK CULVERT
- MS (2) TOP OF ASPHALT
- MS (2) TOP OF CURB
- MS (2) TOP OF CONCRETE
- MS (2) TOP OF GRADE
- MS (2) TELEPHONE MANHOLE
- MS (2) TELEPHONE PULLBOX
- MS (2) TELEPHONE RISER/PULLBOX
- MS (2) TRAFFIC SIGN
- MS (2) TELEPHONE VAULT
- MS (2) TYPICAL
- MS (2) UNDERGROUND
- MS (2) VALLEY GUTTER
- MS (2) WITH METAL MANHOLE
- MS (2) WOOD POLE
- MS (2) WATER VALVE BOX
- MS (2) CROSSWALK
- MS (2) EXISTING CONTOUR
- MS (2) EXISTING SPOT ELEVATION
- MS (2) EXISTING BOULDER
- MS (2) EXISTING SHRUB
- MS (2) EXISTING DECIDUOUS TREE (CALIPER SIZE)
- MS (2) EXISTING CONIFEROUS TREE (CALIPER SIZE)

LEGAL DESCRIPTION

TRACT 1, THE EAST END ADDITION

PROJECT BENCHMARK

CITY OF ALBUQUERQUE Bench Mark "1-1" (V), SET IN TOP OF A CONCRETE POST (BENCH MARK) NORTH OF THE NORTH SIDE OF A CONCRETE SIDEWALK AND FLUSH WITH THE TOP OF SIDEWALK PAVEMENT ON THE NORTH SIDE OF CONSTITUTION AVE. N.E. AND BETWEEN PERRYMAN DRIVE, N.E. AND CONSTITUTION PL. N.E. ON THE NORTH SIDE OF ELEVATION = 5320.00 FEET (N.A.S.D.)

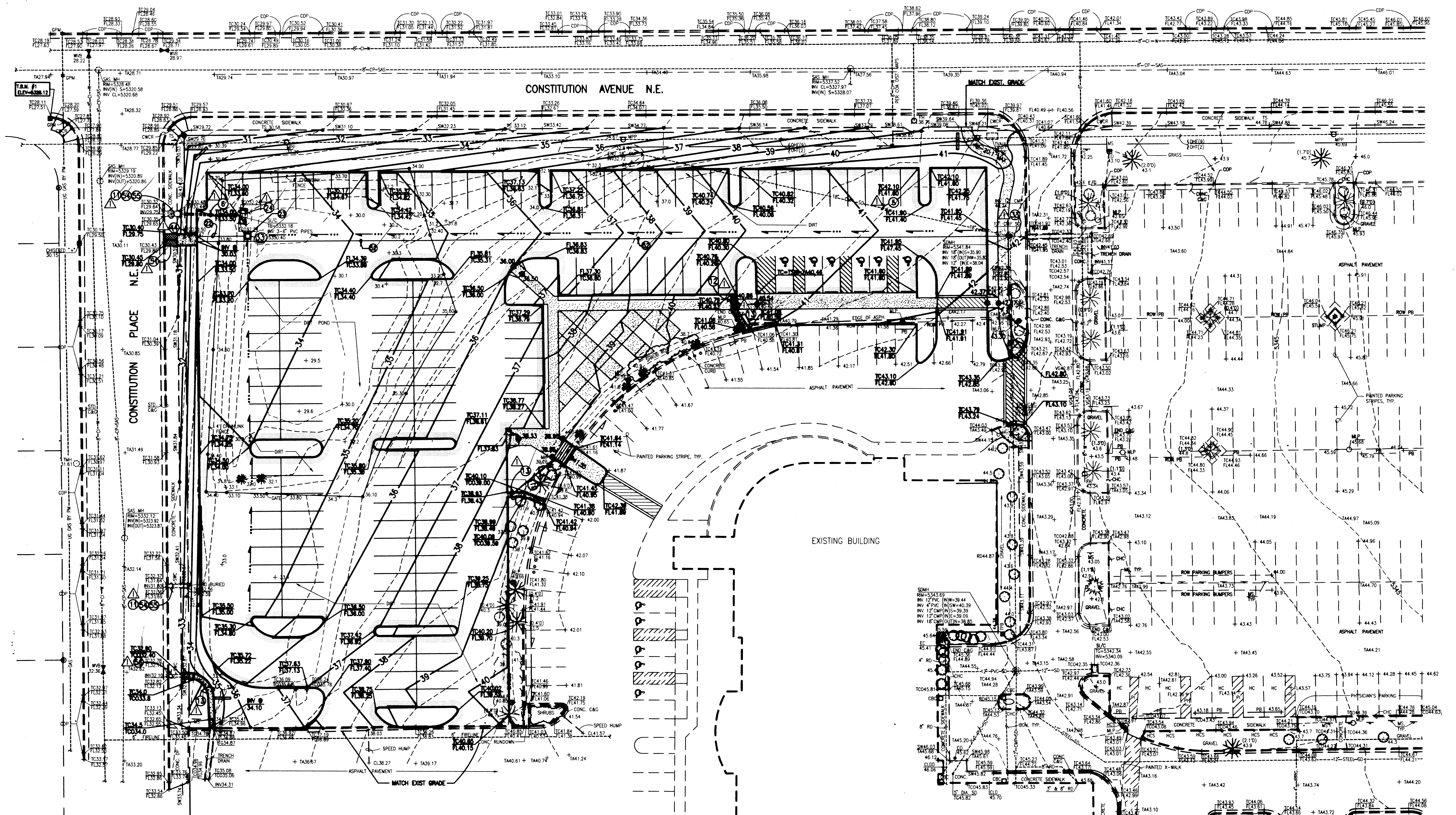
T.B.M.

TOP OF CURB ELEVATION LOCATED AT THE S.E. CORNER OF THE INTERSECTION OF CONSTITUTION AVE. N.E. AND CONSTITUTION PLACE N.E. AS SHOWN ON THE SHOWN ON SHEET 1. ELEVATION = 5320.00 FEET (N.A.S.D.)

Final Construction Documents

Parking Area A
FMG Constitution
8300 Constitution Avenue NE
Albuquerque, New Mexico
Preparation Project No. 2004.120.3

Drawn: JMA
Checked: JGM
Date: 10/21/2005
Project: 2004.120.3
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Expanded Keyed Notes
Revisions
Architect: JGM
Engineer: JGM

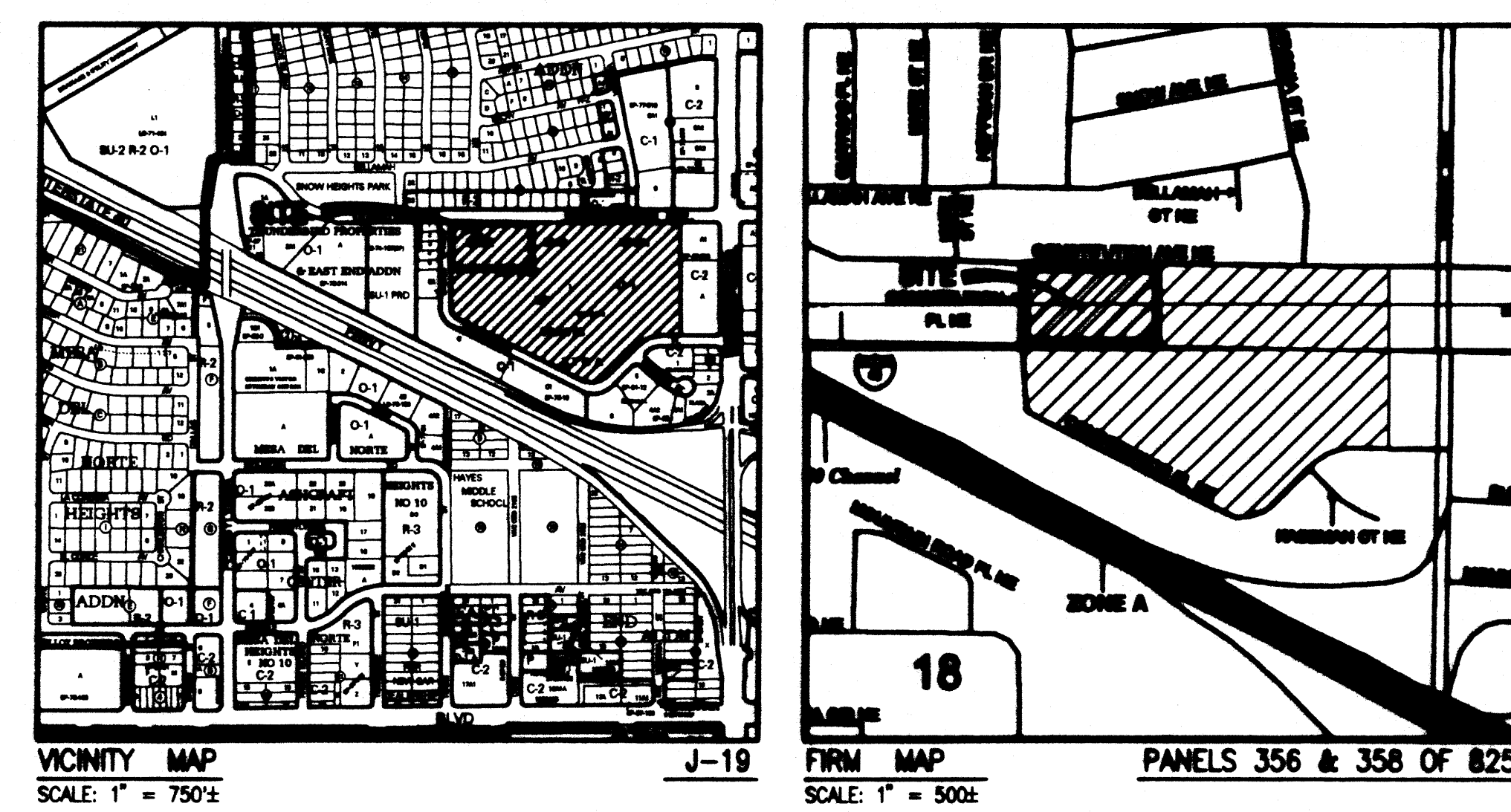


- CONSTRUCTION NOTES:**
- TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL SYSTEM 280-1990 (ALBUQUERQUE AREA), 1-800-321-ALERT(2537) (STATEWIDE), FOR LOCATION OF EXISTING UTILITIES.
 - PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL 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 INTERFERENCES 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.
 - ALL CONSTRUCTION WITHIN PUBLIC RIGHT-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE CITY OF ALBUQUERQUE STANDARDS AND PROCEDURES.
 - IF ANY UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES ARE SHOWN ON THESE DRAWINGS, THEY 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 ENGINEER 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 UNDERNO LINES, RESPONSIBILITY OR LIABILITY THEREOF. THE CONTRACTOR SHALL INQUIRE 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 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.
 - AN EXCAVATION/CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN CITY RIGHT-OF-WAY. AN APPROVED COPY OF THESE PLANS MUST BE SUBMITTED AT THE TIME OF APPLICATION FOR THIS PERMIT.
 - BACKFILL COMPACTION SHALL BE ACCORDING TO ARTERIAL STREET USE.
 - MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.
- EROSION CONTROL MEASURES:**
- THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE SITE INTO PUBLIC RIGHT-OF-WAY OR ONTO PRIVATE PROPERTY.
 - THE CONTRACTOR SHALL PROMPTLY CLEAN UP ANY MATERIAL EXCAVATED WITHIN THE PUBLIC RIGHT-OF-WAY SO THAT THE EXCAVATED MATERIAL IS NOT SUSCEPTIBLE TO BEING WASHED DOWN THE STREET.
 - IF APPLICABLE, CONTRACTOR SHALL SECURE TOPSOIL DISTURBANCE PERMIT FROM THE CITY AND/OR FILE A NOTICE OF INTENT (N.O.I.) WITH THE EPA PRIOR TO BEGINNING CONSTRUCTION.
 - UNLESS FINAL STABILIZATION IS OTHERWISE PROVIDED FOR, ANY AREAS OF EXCESS DISTURBANCE (TRAFFIC ACCESS, STORAGE YARD, EXCAVATED MATERIAL, ETC.) SHALL BE RE-SEEDING ACCORDING TO C.O.A. SPECIFICATION 1012 "NATIVE GRASS SEEDING". THIS SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION, THEREFORE, NO SEPARATE PAYMENT WILL BE MADE.

STORM DRAINAGE KEYED NOTES:

- REMOVE AND DISPOSE OF 18" CMP STORM DRAIN PIPE
- REMOVE AND DISPOSE OF 8" PVC PIPE
- CONSTRUCT STANDARD CURB AND GUTTER PER DETAIL, SHEET 3
- CONSTRUCT 2" SIDEWALK CULVERT, TYPICAL, PER DETAIL, SHEET 5
- CONSTRUCT RUNDOWN PER DETAIL, SHEET 3
- INSTALL 18" CMP STORM DRAIN @ S = 0.02
- INSTALL SINGLE 10" STORM INLET PER DETAIL, SHEET 5 W/ T.O.G. @ 33.00 AND INV 18" (OUT) @ 30.47
- REMOVE AND DISPOSE EXISTING STORM INLET
- EXISTING MANHOLE TO REMAIN; CONNECT NEW 18" CMP TO EXISTING MANHOLE W/ INV OUT @ 35.82
- CONSTRUCT RUNDOWN FROM HEADWALK PER DETAIL, SHEET 3
- CONSTRUCT DOUBLE 24" SIDEWALK CULVERT, TYPICAL, PER DETAIL, SHEET 5 AND COA STANDARD DWG. 22.36
- INSTALL 18" CMP STORM DRAIN @ S = 0.015
- NEATLY REMOVE AND DISPOSE OF EXISTING SIDEWALK CULVERT
- CONSTRUCT 8" WIDE CONCRETE SIDEWALK PER DETAIL, SHEET 3
- EXISTING SIDEWALK CULVERT TO REMAIN

| APPROVALS | NAME | DATE |
|-------------------------|------|------|
| HYDROLOGY | | |
| SIDEWALK INSPECTOR | | |
| STORM DRAIN MAINTENANCE | | |



Grading Plan

DRAINAGE PLAN

I. INTRODUCTION AND EXECUTIVE SUMMARY

THIS SITE IS LOCATED IN THE EAST-CENTRAL AREA OF ALBUQUERQUE. THIS PROJECT WILL CONSIST OF THE DEVELOPMENT OF A NEW PARKING LOT FOR THE KASEMAN PRESBYTERIAN HOSPITAL, CANCER CENTER BUILDING. THIS DEVELOPMENT WILL MODIFY AN EXISTING PARTIALLY DEVELOPED SITE WHICH PERISTS OF THE HOSPITAL RADIOLOGY BUILDING, AN UPPER PAVED PARKING LOT, AND A LOWER NATURAL VEGETATED AREA GRADED SO AS TO CREATE A DETENTION POND FOR FLOWS FROM BOTH ONSITE AND OFFSITE FLOWS ABOVE THE SITE. THE NEW PARKING LOT WILL REPLACE THE VEGETATED AREA. THE DRAINAGE CONCEPT FOR THIS SITE WILL BE TO ELIMINATE THE EXISTING POND BY PAVING OVER THE ENTIRE VEGETATED LOWER AREA AND DRAIN THE FLOWS INTO THE BORDERING STREET OF CONSTITUTION PLACE NE. THERE WILL BE SOME SLIGHT DETENTION PONDING WITHIN THE PARKING LOT.

THIS DRAINAGE SUBMITTAL IS MADE IN SUPPORT OF A GRADING AND PAVING PERMIT AND SO #19 APPROVAL.

II. PROJECT DESCRIPTION

THE SITE IS LOCATED ON THE SOUTHEAST CORNER OF CONSTITUTION AVE NE AND CONSTITUTION PLACE NE. THE CURRENT LEGAL DESCRIPTION OF THE SITE IS TRACT 1, EAST END ADDITION. THE SITE IS CURRENTLY LOCATED IN PANEL 354 OF 825 OF THE NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAPS PUBLISHED BY FEMA FOR BERNILLO COUNTY, NEW MEXICO, NOVEMBER 19, 2003 AND IS ZONED AS ZONE X, AN AREA DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN. THE DEVELOPMENT PROPOSED WILL INCREASE DOWNSTREAM FLOW BUT WILL NOT ADVERSELY IMPACT DOWNSTREAM FLOW OR DOWNSTREAM PROPERTIES. RUNOFF FROM THE SITE DRAINS INTO CONSTITUTION PLACE NE, AND THEN FLOWS NORTH TO CONSTITUTION AVENUE NE. AT CONSTITUTION AVENUE NE THE FLOW IS DIRECTED WEST TO THE INTERSECTION WITH PENNSYLVANIA STREET. FLOW PROCEEDS TO ENTER THREE LARGE CURB STORM INLETS ALONG CONSTITUTION AVE JUST BEFORE THE PENNSYLVANIA INTERSECTION. THESE INLETS DRAIN INTO THE I-40 CHANNEL.

III. BACKGROUND DOCUMENTS

THE FOLLOWING ITEMS WERE REVIEWED IN THE PREPARATION OF THIS SUBMITTAL:

- GRADING AND DRAINAGE PLAN FOR PRESBYTERIAN KASEMAN HOSPITAL - RADIATION THERAPY CENTER ADDITION, PREPARED BY JMA AND DATED 05-08-96 FOR BUILDING PERMIT. THE 1996 PLAN RECOGNIZED THAT THE EXISTING POND REQUIRED ENLARGEMENT TO CONTAIN THE DESIGN VOLUME OF RUNOFF. THE PLAN ALSO IDENTIFIED A 100-YEAR PEAK DISCHARGE OF 10.7 CFS FROM THIS PORTION OF TRACT 1.
- DRAINAGE PLAN FOR PRESBYTERIAN KASEMAN HOSPITAL - RADIATION THERAPY CENTER WEST EXPANSION POND ANALYSIS, PREPARED BY JMA AND DATED 01-11-05. THIS PLAN CONCLUDED THAT THE INDIOT I-40/PENNSYLVANIA OVERPASS PROJECT COMPLETED IN THE SPRING OF 2005 HAS ALLEVIATED PREVIOUS FLOODING CONCERNS ON THE CONSTITUTION AVE/PENNSYLVANIA STREET INTERSECTION. THIS PLAN USED THE CONJUGATE DEPTH EQUATION TO EVALUATE THE EFFECTS OF HYDRAULIC JUMP IN CONSTITUTION AVENUE NE. THE PLAN DETERMINED THAT THE DOWNSTREAM DRAINAGE IMPROVEMENTS THAT WERE MADE AT THE CONCLUSION OF THE I-40/PENNSYLVANIA PROJECT ALLOWED FOR SUFFICIENT FLOW IN CONSTITUTION AVENUE WITH NO HYDRAULIC JUMP ISSUES. THIS CONCLUSION RESULTED IN THE ALLOWANCE OF THE ELIMINATION OF THE DETENTION POND IN THIS PROJECT AS WELL AS FREE DISCHARGE INTO THE STREET.
- TOPOGRAPHIC SURVEY OF THE EXISTING SITE PREPARED BY JMA DATED 4/13/2005. THE SUBJECT SURVEY SHOWS THE EXISTING IMPROVEMENTS.

IV. EXISTING CONDITIONS

THE SITE IS LOCATED AT THE SOUTHEAST CORNER OF THE INTERSECTION OF CONSTITUTION AVENUE NE AND CONSTITUTION PLACE NE. THE SITE IS PARTIALLY DEVELOPED. THE JMA TOPOGRAPHIC SURVEY DATED 4/13/2005 SHOWS THAT THE SITE CONSISTS OF AN EXISTING HOSPITAL BUILDING AND AN ASPHALT PAVED PARKING LOT, AS WELL AS AN UNDEVELOPED VEGETATED AREA AT THE NORTH AND WEST THAT IS GRADED FOR THE PURPOSE OF CREATING A DETENTION PONDING AREA FOR BOTH ON-SITE RUNOFF AND OFF-SITE FLOWS. THE SITE SLOPES FROM SOUTHEAST TO NORTHWEST AND DRAINS INTO THE POND AT THE NORTHWEST CORNER. THIS POND DRAINS VIA STORM DRAIN THROUGH AN EXISTING SIDEWALK CULVERT INTO CONSTITUTION PLACE NE. CONSTITUTION AVENUE IS A FULLY IMPROVED ROADWAY, 40 FEET WIDE WITH CURB AND GUTTER ON BOTH SIDES. CONSTITUTION PLACE FLOWS ARE CARRIED BY CURB AND GUTTER NORTH INTO CONSTITUTION AVENUE, WHERE IT FLOWS WEST TO AN INTERSECTION WITH PENNSYLVANIA STREET. JUST BEFORE THIS INTERSECTION THERE ARE THREE LARGE CURB STORM INLETS ALONG CONSTITUTION AVE NE WHERE THE FLOWS WILL DRAIN IN TO. THE INLETS DRAIN SOUTH INTO THE I-40 CHANNEL.

ON-SITE CONTRIBUTING AREA FLOWS FROM A PARKING LOT ALONG THE SOUTH EDGE OF THE SITE ENTER AT THE SOUTHWEST CORNER OF THE SITE THROUGH A TRENCH DRAIN AND CURB CUT; THE FLOWS EMPTY NORTH INTO THE DETENTION POND. ON-SITE CONTRIBUTING AREA FLOWS FROM AN ADJACENT PARKING LOT ALSO ENTER THE SITE THROUGH A TRENCH DRAIN INTO A 12" STORM DRAIN THAT RELEASES INTO THE MANHOLE AT THE EAST EDGE OF THE SITE; THESE FLOWS ENTER INTO A 16" CUP STORM DRAIN FROM THE ON-SITE MANHOLE AND EMPTIES THESE FLOWS INTO THE SITE AT THE NORTH EDGE OF THE SITE. THESE FLOWS DRAIN WEST INTO THE DETENTION POND AS SHOWN ON THE T.O.P.

V. DEVELOPED CONDITIONS

THE PROJECT CONSIST OF THE CONSTRUCTION OF A NEW ASPHALT PAVED PARKING LOT THAT WILL SERVE THE EXISTING HOSPITAL BUILDINGS IN THE AREA. THIS NEW LOT WILL REPLACE THE NATURALLY VEGETATED AREA ALONG THE NORTH AND WEST OF THE SITE, AND WILL ELIMINATE THE EXISTING DETENTION POND. AS A RESULT OF THESE IMPROVEMENTS, THERE WILL BE AN INCREASE IN THE RUNOFF THE SITE GENERATES AS WELL AS A REDIRECTION OF ON-SITE CONTRIBUTING AREA FLOWS AROUND THE SITE THAT CURRENTLY TRAVERSE THE SITE. A SMALL PORTION OF THE ON-SITE RUNOFF WILL BE PONDING AT THE NORTHWEST CORNER OF THE DEVELOPED PARKING LOT, WHICH WILL BE DRAINED THROUGH A STORM INLET AND STORM DRAIN INTO A RUNDOWN AND SIDEWALK CULVERT INTO CONSTITUTION PLACE NE AS SHOWN ON THE DEVELOPED GRADING PLAN. THIS STORM DRAIN PIPE WILL DRAIN THE CAPTURED STORMWATER RUNOFF IN A PERIOD LESS THAN SIX HOURS. FLOWS INTO CONSTITUTION PLACE NE WILL FOLLOW THE SAME DRAINAGE PATH AS STATED IN THE EXISTING CONDITIONS.

AS THE HYDROGRAPH CALCULATIONS SHOW, THE VOLUME REQUIRING PONDING WILL EQUAL 220 CF. THIS VOLUME WILL REACH A HEIGHT ABOVE THE STORM INLET OF 5333.2 FT. THE LOWEST POINT OF THE TOP OF CURB IN THE PONDING AREA IS AT 5334 FT. THIS IS ALSO THE LOWEST TOP OF CURB IN THE ENTIRE PROJECT SITE. THEREFORE, THERE IS NO PROBLEM OF RUNOFF OVERFLOWING THE CURB.

ON-SITE CONTRIBUTING AREA FLOWS THAT ENTER THE MANHOLE AT THE EAST CORNER OF THE SITE WILL BE DIRECTED THROUGH THE SITE VIA A NEW 16" CUP STORM DRAIN THAT WILL TRAVERSE THE SITE FROM EAST TO WEST AND DRAIN INTO CONSTITUTION PLACE NE AT THE SAME LOCATION AS THE ON-SITE FLOW STORM DRAIN RELEASES ITS FLOWS AS SHOWN ON THE DEVELOPED GRADING PLAN.

THE OVERALL RESULT OF THE DEVELOPMENT WILL INCREASE THE VOLUME AND PEAK DISCHARGE RATE INTO CONSTITUTION PLACE NE. THIS INCREASE IS ALLOWED DUE TO THE COMPLETION OF DEVELOPMENT AT PENNSYLVANIA STREET AND I-40 THAT ALLEVIATED PAST DOWNSTREAM FLOW ISSUES; ISSUES THAT HAD PREVIOUSLY RESULTED IN THE CREATION OF THE EXISTING ON-SITE DETENTION POND. U

VI. GRADING PLAN

THE GRADING PLAN SHOWS: 1.) EXISTING GRADES INDICATED BY SPOT ELEVATIONS AND CONTOURS AT 1'-0" INTERVALS BASED ON THE TOPOGRAPHIC SURVEY PREPARED BY JMA, DATED 4/13/2005. 2.) PROPOSED GRADES INDICATED BY CONTOURS AT 1'-0" INTERVALS. 3.) THE LIMIT AND CHARACTER OF THE EXISTING IMPROVEMENTS AS TAKEN FROM THE AFORE MENTIONED JMA SURVEY. 4.) THE LIMIT AND CHARACTER OF THE PROPOSED IMPROVEMENTS. 5.) CONTINUITY BETWEEN EXISTING AND PROPOSED GRADES, AS SHOWN BY THIS PLAN. THE PROPOSED DEVELOPMENT CONSISTS OF PAVED PARKING, ALONG WITH ASSOCIATED LANDSCAPING AND SIDEWALK. THESE MODIFICATIONS TO THE SITE WILL EXPAND AVAILABLE ON-SITE PARKING AND VEHICLE ACCESS. AN EROSION CONTROL PLAN WILL BE PREPARED AND ATTACHED TO THE SEPARATE STORM WATER POLLUTION PREVENTION PLAN FOR THIS PROJECT.

VI. GRADING PLAN

THE GRADING PLAN SHOWS: 1.) EXISTING GRADES INDICATED BY SPOT ELEVATIONS AND CONTOURS AT 1'-0" INTERVALS BASED ON THE TOPOGRAPHIC SURVEY PREPARED BY JMA, DATED 4/13/2005. 2.) PROPOSED GRADES INDICATED BY CONTOURS AT 1'-0" INTERVALS. 3.) THE LIMIT AND CHARACTER OF THE EXISTING IMPROVEMENTS AS TAKEN FROM THE AFORE MENTIONED JMA SURVEY. 4.) THE LIMIT AND CHARACTER OF THE PROPOSED IMPROVEMENTS. 5.) CONTINUITY BETWEEN EXISTING AND PROPOSED GRADES, AS SHOWN BY THIS PLAN. THE PROPOSED DEVELOPMENT CONSISTS OF PAVED PARKING, ALONG WITH ASSOCIATED LANDSCAPING AND SIDEWALK. THESE MODIFICATIONS TO THE SITE WILL EXPAND AVAILABLE ON-SITE PARKING AND VEHICLE ACCESS. AN EROSION CONTROL PLAN WILL BE PREPARED AND ATTACHED TO THE SEPARATE STORM WATER POLLUTION PREVENTION PLAN FOR THIS PROJECT.

VI. CALCULATIONS

THE CALCULATIONS WHICH APPEAR HEREON ANALYZE BOTH THE EXISTING AND DEVELOPED CONDITIONS FOR THE 100-YEAR, 6-HOUR RAINFALL EVENT, AS WELL AS THE 10-YEAR, 6-HOUR RAINFALL EVENT FOR CULVERT DESIGN PURPOSES. THE PROCEDURE FOR 40-ACRE AND SMALLER BASINS, AS SET FOR IN THE REVISION OF SECTION 22.2. HYDROLOGY OF THE DEVELOPMENT PROCESS MANUAL, VOLUME 2, DESIGN CRITERIA, DATED JANUARY, 1993, HAS BEEN USED TO QUANTIFY THE PEAK RATE OF DISCHARGE AND VOLUME OF RUNOFF GENERATED BY THIS DEVELOPMENT. THE CAPACITY OF THE DEVELOPED 16" CUP STORM DRAIN WAS ANALYZED USING THE ORIFICE AND MANNING'S EQUATIONS. THE CAPACITIES OF THE NEW STORM INLETS WERE DETERMINED USING THE ORIFICE EQUATION. THE CAPACITY OF THE NEW 24" CULVERTS ALONG CONSTITUTION PLACE NE WERE DETERMINED USING MANNING'S EQUATION. THE PERFORMANCE OF THE PRIVATE STORMWATER DETENTION SYSTEM IN THE NORTH EAST CORNER OF THE PARKING AREA HAS BEEN EVALUATED FOR OUTFLOW AND STORAGE CAPACITY BASED UPON THE HYDROGRAPH ANALYSIS CONTAINED ON THIS SHEET, AND PONDING IS NECESSARY ONLY DUE TO DISCHARGE PIPE SIZING CONSTRAINTS.

THE JANUARY 2005 CALCULATIONS ARE SHOWN HEREON TO SHOW THAT THE DOWNSTREAM STREET (CONSTITUTION AVENUE) IS CAPABLE OF HANDLING FLOWS FROM ON-SITE AND OFF-SITE. THE CONJUGATE DEPTH EQUATION WAS USED TO EVALUATE THE EFFECTS OF HYDRAULIC JUMP, AS SHOWN BY THESE CALCULATIONS. THE NORMAL DEPTH OF FLOW PLUS THE EFFECTS OF A HYDRAULIC JUMP COMPLY WITH DPM CRITERIA TO FALL BELOW THE TOP-OF-CURB PLUS 0.2 FEET. THIS SUGGESTS THAT THE STREET CAN HANDLE THE FULLY DEVELOPED DESIGN FLOW AS CALCULATED AND THAT PONDING IS NO LONGER NECESSARY.

VI. CONCLUSION

THE DRAINAGE CONCEPT SHOWN BY THE PLAN ABOVE WILL ACCOMPLISH ITS PURPOSE DUE TO THE FOLLOWING FACTORS:

- MODIFICATION TO AN EXISTING SITE WITHIN AN INFILL AREA
- THE PEAK RATE OF DISCHARGE FROM THE SITE WILL BE INCREASED ABOVE THAT OF THE EXISTING CONDITION
- REMOVAL OF THE EXISTING POND AS ALLOWED BY APPROVED DRAINAGE SUBMITTAL DATED 01-11-05
- ADEQUATE STREET CAPACITY IS AVAILABLE IN CONSTITUTION PLACE NE TO ACCOMMODATE PEAK DISCHARGE UNDER FULLY DEVELOPED CONDITIONS
- DOWNSTREAM CAPACITY OF CONSTITUTION PLACE AND CONSTITUTION AVENUE AND THE STORM DRAIN STRUCTURES LOCATED WITHIN ARE ADEQUATE FOR INCREASED FLOWS DUE TO THE INDIOT I-40/PENNSYLVANIA PROJECT IMPROVEMENTS
- FREE DISCHARGE INTO CONSTITUTION PLACE AND CONSTITUTION AVENUE FOR THE DRAINAGE PLAN DATED 1-11-05
- NO ADVERSE IMPACT ON DOWNSTREAM CAPACITY OR DOWNSTREAM PROPERTIES
- CULVERTS AT CONSTITUTIONS PLACE SUFFICIENT TO HANDLE PEAK DISCHARGE FROM BOTH STORM DRAINS UNDER FULLY DEVELOPED CONDITIONS
- GRADING AND CURB ABOUT STORM INLET AREA SUFFICIENT TO CONTAIN MORE THAN THE 220 CF OF PONDING REQUIRED DURING A 100-YEAR STORM
- OFFSITE FLOWS WILL CONTINUE TO BE INTERCEPTED AND CONVEYED THROUGH THE PROJECT TO DOWNSTREAM EXISTING DRAINAGE FACILITIES

CALCULATIONS

SITE CHARACTERISTICS

- PRECIPITATION ZONE = 3
- $P_{100} = P_{300} = 2.80$ $P_{10} = P_{300} = 1.73$
- TOTAL AREA (A) = 143,065 SF
3.28 AC
- EXISTING LAND TREATMENT

| A. PROJECT SITE | AREA (SF/AC) | % |
|-----------------|---------------|----|
| TREATMENT | | |
| B | 16,779 / 0.38 | 12 |
| C | 61,628 / 1.41 | 43 |
| D | 64,660 / 1.48 | 45 |

| B. ONSITE CONTRIBUTING AREAS | AREA (SF/AC) | % |
|------------------------------|---------------|-----|
| TREATMENT | | |
| D | 70,000 / 1.61 | 100 |

- DEVELOPED LAND TREATMENT

| A. PROJECT SITE | AREA (SF/AC) | % |
|-----------------|----------------|----|
| TREATMENT | | |
| B | 23,552 / 0.54 | 16 |
| D | 119,533 / 2.74 | 84 |

- EXISTING CONDITION

- PROJECT SITE

1. VOLUME

2. PEAK DISCHARGE

- B. ONSITE CONTRIBUTING AREAS (100-YEAR STORM)

1. VOLUME

2. PEAK DISCHARGE

- C. ONSITE CONTRIBUTING AREAS (10-YEAR STORM)

1. VOLUME

2. PEAK DISCHARGE

- B. ONSITE CONTRIBUTING AREAS (10-YEAR STORM)

1. VOLUME

2. PEAK DISCHARGE

- RAINSTORM PONDING CAPACITY

- ELEV (FT)

- HYDROGRAPH CALCULATIONS

- AREA OF HYDROGRAPH = $V_{max} = 26,410$ CF

- VOLUME REQUIRING PONDING

- PEAK DISCHARGE CAPACITY OF ON-SITE FLOW DISCHARGE PIPE

- CULVERT CALCULATIONS FOR SITE DRAINAGE

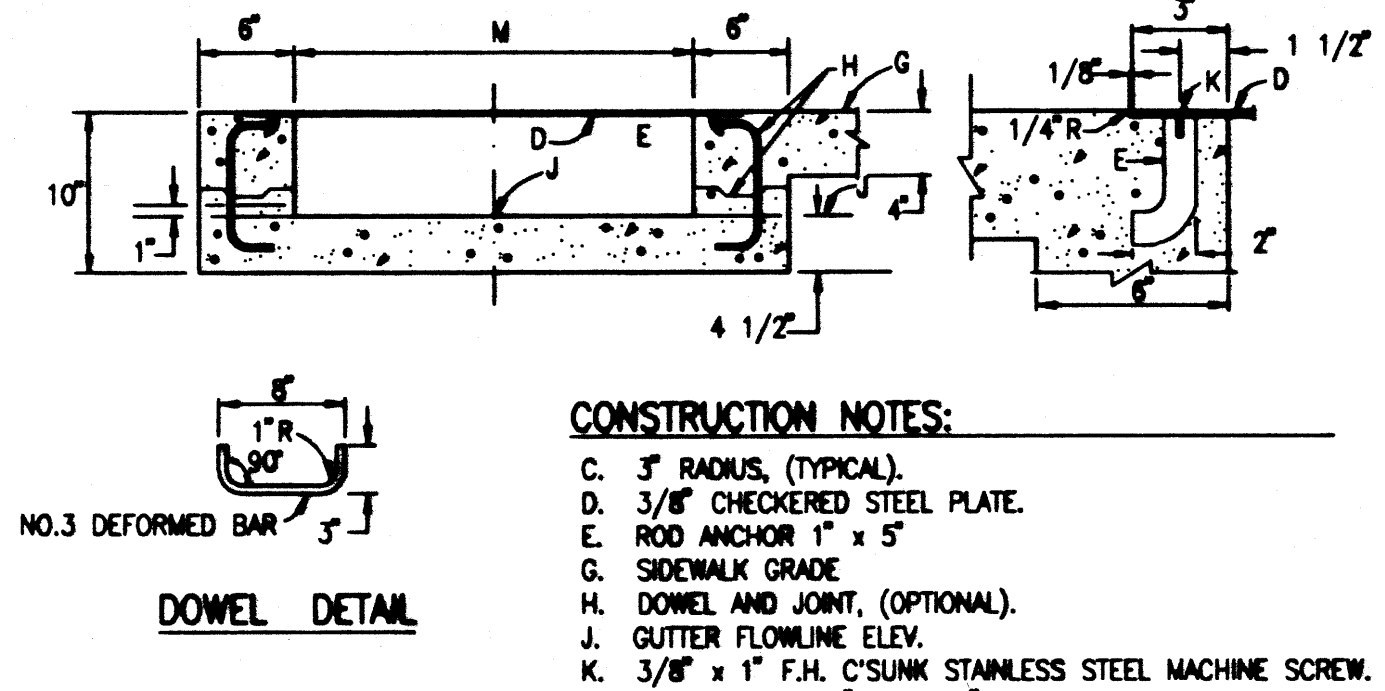
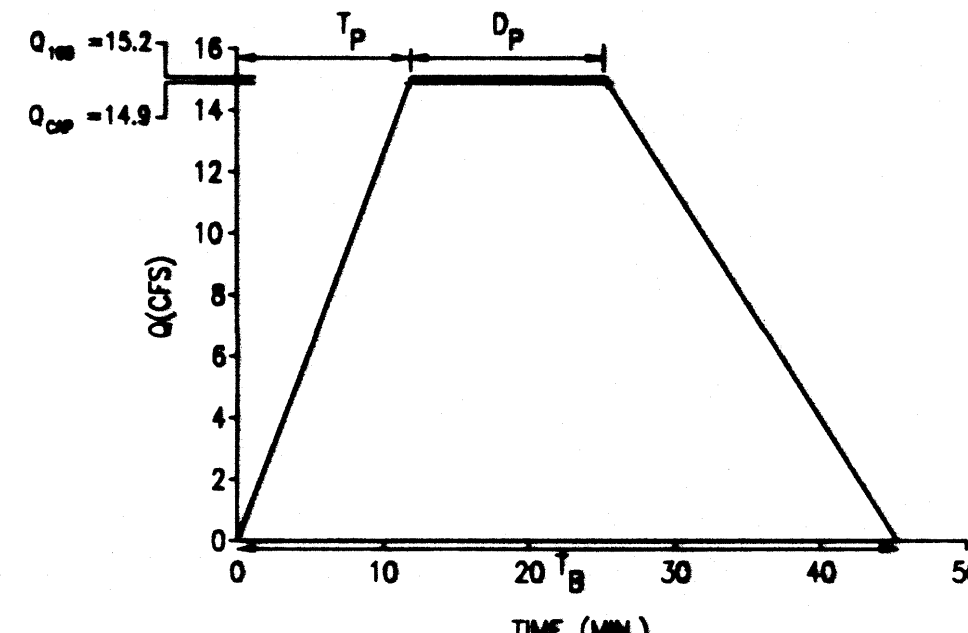
- A. PEAK DISCHARGE CAPACITY OF SINGLE CULVERT

- B. CULVERT DESIGN TO HOLD 10-YEAR, 6-HOUR STORM

- C. COMPARISON

- A. VOLUME

- B. PEAK DISCHARGE



TYPICAL SIDEWALK CULVERT DETAILS
NOT TO SCALE

CALCULATIONS, DRAINAGE PLAN AND SECTIONS AND DETAILS

Final Construction Documents

Parking Area A
FMG Constitution
8300 Constitution Avenue NE
Albuquerque, New Mexico
Presbyterian Project No. 19980802

Drawn: JMA Checked: JGM
Proj: 200431 Date: 10/21/2005
No.: 10/21/2005
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L NO CHANGES TO THIS SHEET
Revisions: _____
Architect: _____
Engineer: _____

CALCULATIONS, DRAINAGE PLAN
AND SECTIONS AND DETAILS
Sheet Title: _____ Sheet 5 of 10

Legend:

| | |
|----------|-----------------------------------------|
| AL | AREA LIGHT |
| AL/C | AREA LIGHT ON CONCRETE |
| ASV | ANTI-SIPHON VALVE |
| BSH | BUILDING OVERHANG |
| BN | BING TRUCK |
| C&G | CURB AND GUTTER |
| C&N | CONCRETE BENCH |
| C&P | CONCRETE DRIVEWAY |
| C&C | CONCRETE C&G CURB |
| CI | CAST IRON PIPE |
| CLD | CENTERLINE OF DOOR |
| CLDD | CENTERLINE OF DOUBLE DOOR |
| CLF | CHAIN LINK FENCE |
| CLF | SANITARY FENCE CLEANOUT |
| CONC. | CONCRETE |
| COP | CURB OPENING |
| CP | CONCRETE PIPE |
| CRD | CONCRETE RUNDOWN |
| CRW | CONCRETE RETAINING WALL |
| CWCR | CONCRETE WHEELCHAIR RAMP |
| DP | DRIVEWAY |
| E/G | EDGE OF GRASS |
| EA | EDGE OF ASPHALT |
| EC | ELECTRIC CONDUIT |
| EO | ELECTRIC OUTLET |
| EO/C | ELECTRIC OUTLET IN CONCRETE |
| EPB | ELECTRIC PULLBOX |
| FL | FLOWLINE |
| FP | FLAG POLE |
| GPM | GAS PUMP MARK |
| HCS | HANDICAP PARKING SIGN |
| INV | INVERT |
| IRRG | IRRIGATION |
| MSC | METAL BUILDING COLUMN |
| MBX | METAL BOX |
| MLP | METAL LIGHT POLE |
| MP | METAL POLE |
| MPP | METAL POWER POLE |
| MS | METAL SIGN |
| ONE(4) | OVERHEAD ELECTRIC (NO. OF LINES) |
| ONE(2) | OVERHEAD TELEPHONE (NO. OF LINES) |
| PS | PARKING BUMPER |
| PI | PAINTED ISLAND |
| PLB | PLASTIC BENCH |
| PM | PAINT MARK |
| S&S MH | SANITARY SEWER MANHOLE |
| SCT | SPRINKLER CONTROL TIMER |
| SD | STORM DRAIN |
| SDMH | STORM DRAIN MANHOLE |
| SI | STORM INLET |
| SI/C | STORM INLET IN CONCRETE |
| STD. C&G | STANDARD CURB AND GUTTER |
| STL | STEEL |
| SW | TOP OF SIDEWALK |
| SWC | SIDEWALK CULVERT |
| TA | TOP OF ASPHALT |
| TC | TOP OF CURB |
| TCO | TOP OF CONCRETE |
| TCG | TOP OF GRATE |
| TMH | TELEPHONE MANHOLE |
| TPB | TELEPHONE PULLBOX |
| TR/PS | TELEPHONE RISER/PULLBOX |
| TS | TRAFFIC SIGN |
| THAULT | TELEPHONE VAULT |
| TYP. | TYPICAL |
| UC | UNDERGROUND |
| VG | VALLEY GUTTER |
| W/MH | WITH METAL HANDRAIL |
| WP | WOOD POLE |
| WVB | WATER VALVE BOX |
| X-WALK | CROSSWALK |
| + | EXISTING CONTOUR |
| ○ | EXISTING SPOT ELEVATION |
| ○ | EXISTING BOLLARD |
| ○ | EXISTING SHRUB |
| ○ | EXISTING DECIDUOUS TREE (CALIPER SIZE) |
| ○ | EXISTING CONIFEROUS TREE (CALIPER SIZE) |

LEGAL DESCRIPTION

TRACT 1, THE EAST END ADDITION

PROJECT BENCHMARK

CITY OF ALBUQUERQUE Green Label, changed "1-11", SET IN TOP OF A CONCRETE POST WHICH SETS 0.6' NORTH OF THE NORTH EDGE OF A CONCRETE SIDEWALK, AND FLUSH WITH THE TOP OF SIDEWALK PAVEMENT ON THE NORTH SIDE OF CONSTITUTION AVE. N.E. AND BETWEEN PENNAPLANA BLVD. N.E. AND CONSTITUTION PL. N.E. ON THE SOUTH SIDE OF NEW HEIGHTS PARK. ELEVATION = 5320.05 FEET (M.S.L.D.)

T.B.M.

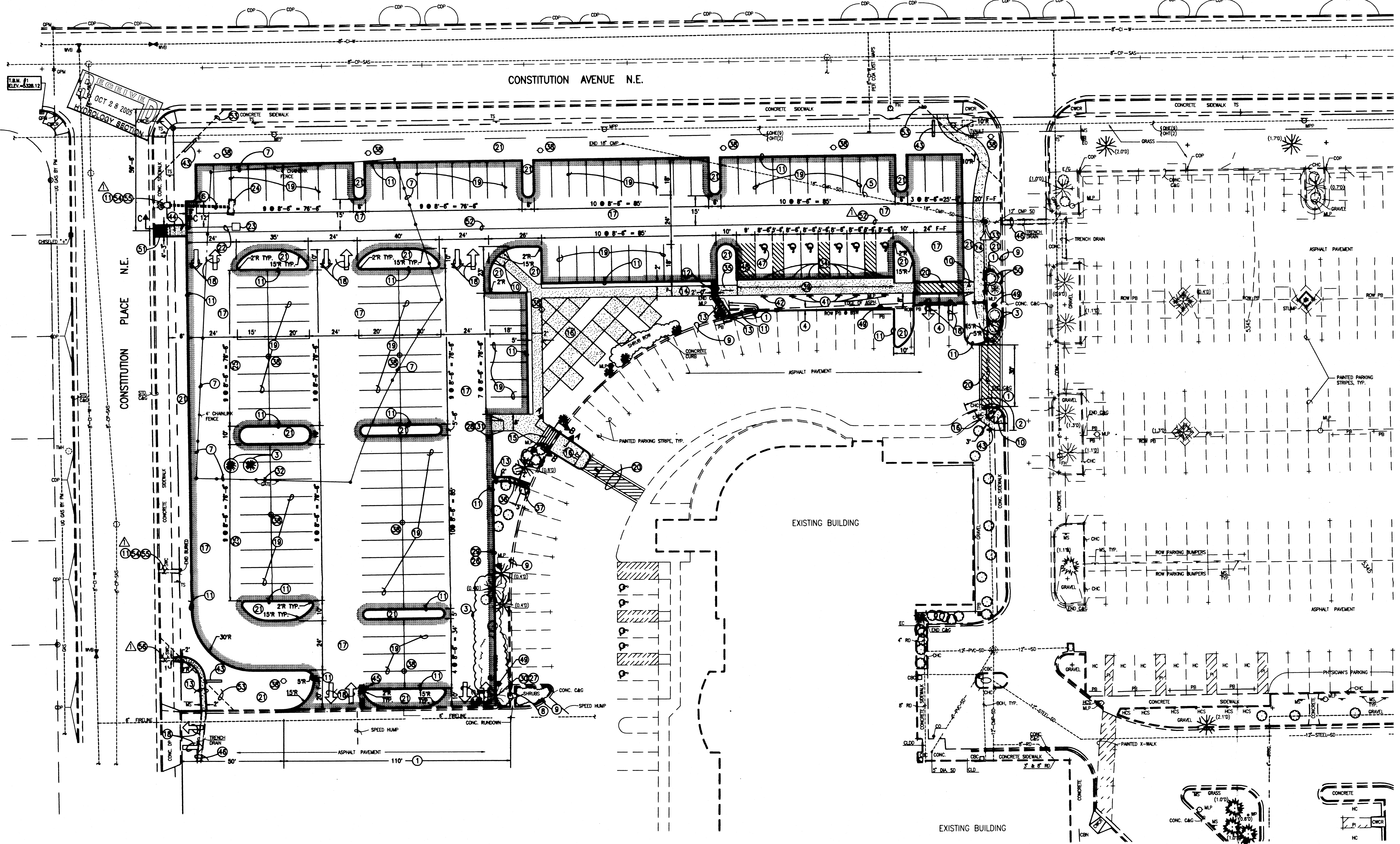
TOP OF CURB ELEVATION LOCATED AT THE S.E. CORNER OF THE INTERSECTION OF CONSTITUTION AVE. N.E. AND CONSTITUTION PLACE N.E. AS SHOWN ON THE DRAWING ON SHEET 1. ELEVATION = 5320.86 FEET (M.S.L.D.)

Final Construction Documents

Parking Area A
FMG Constitution
8300 Constitution Avenue NE
Albuquerque, New Mexico
Project Number: 2004-02

Drawn: JMA Checked: JGM
No. 2004-031 Date: 10/21/2005
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EXPANDED KEYED NOTES
Revisions: _____
Architect: _____
Engineer: _____

PAVING SITE PLAN (TCL)
Sheet Title Sheet 2 of 10

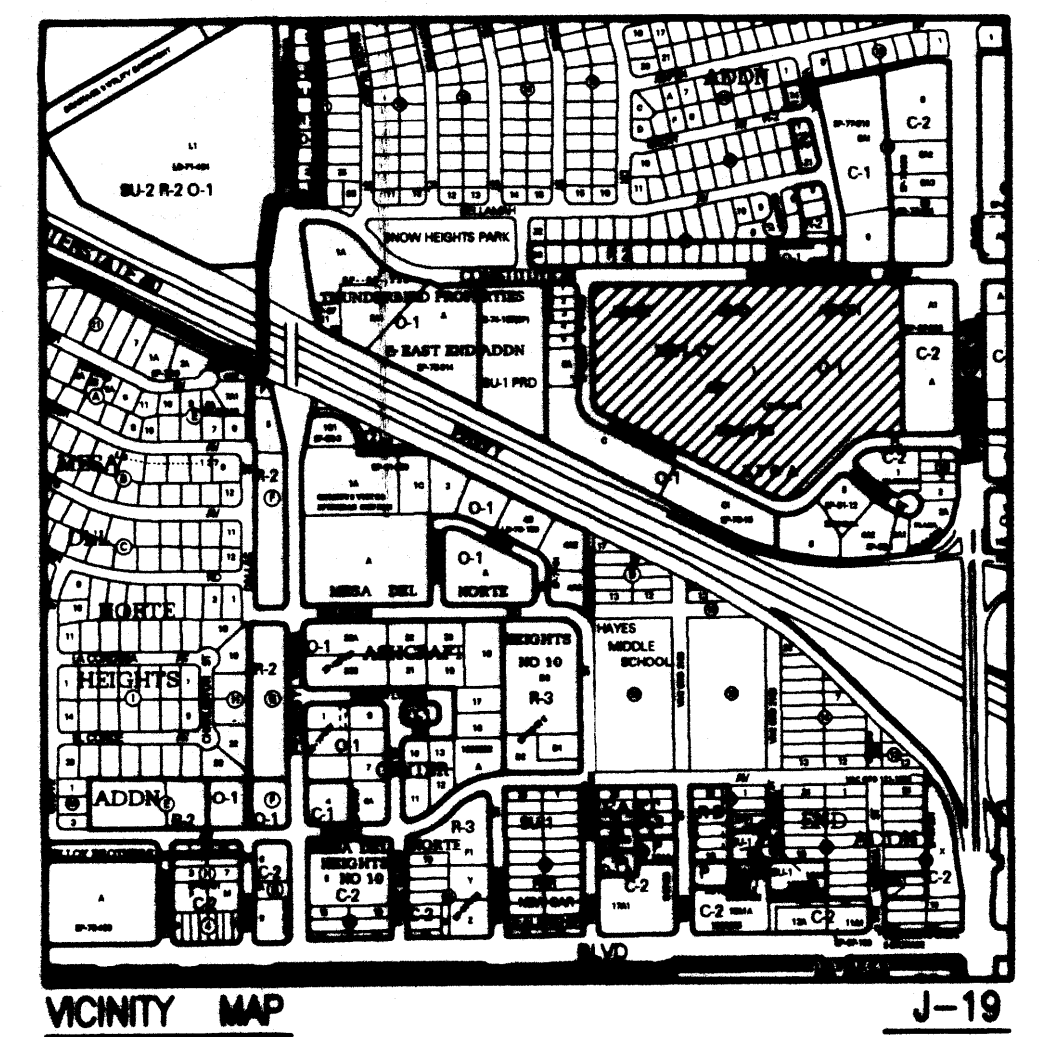


GENERAL NOTES

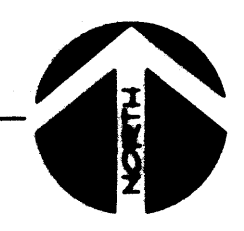
- OBTAIN ARCHITECT'S APPROVAL OF SIDEWALK LAYOUT AND JOINTS PRIOR TO PLACEMENT OF CONCRETE

SITE PLAN KEYED NOTES:

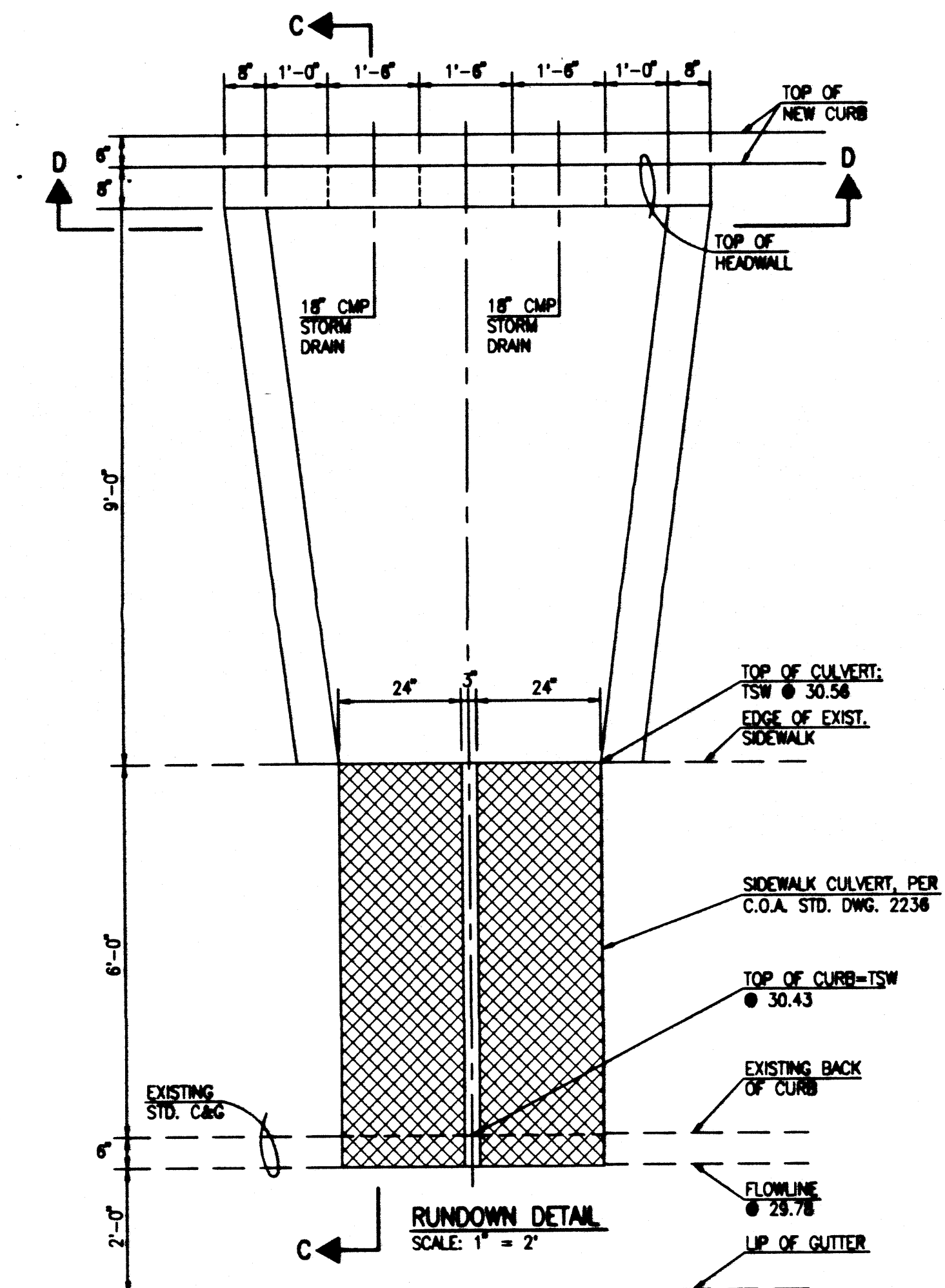
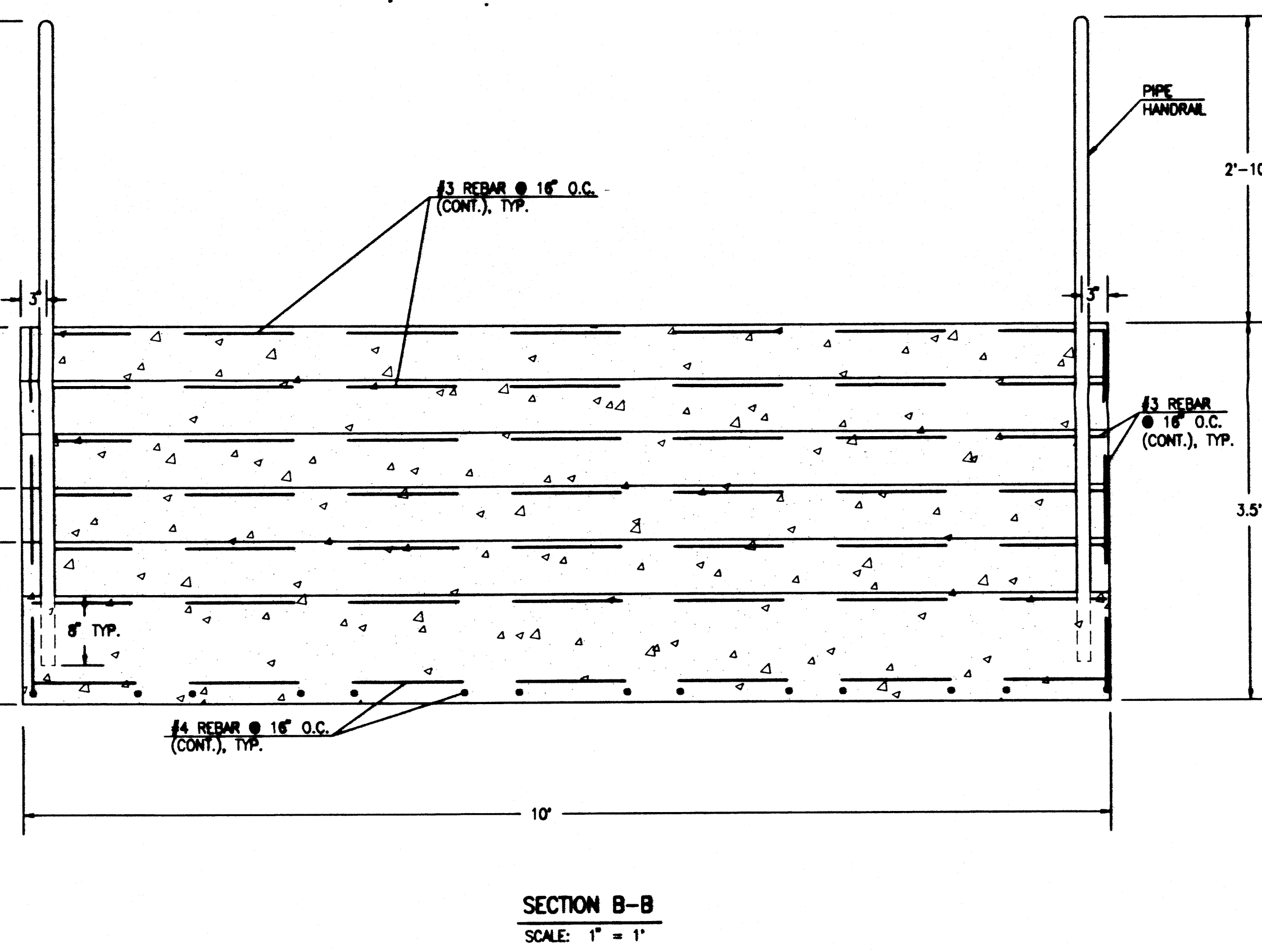
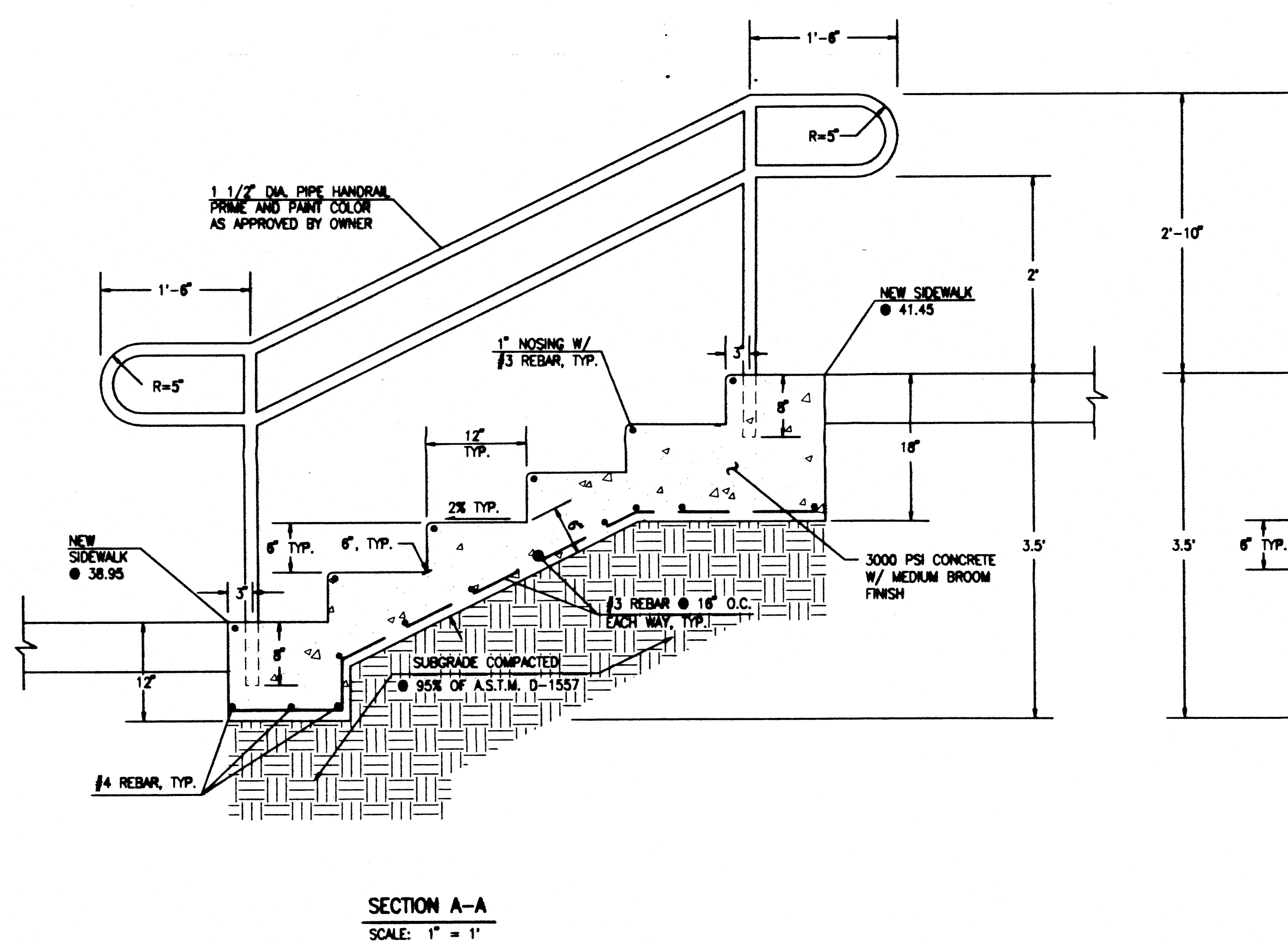
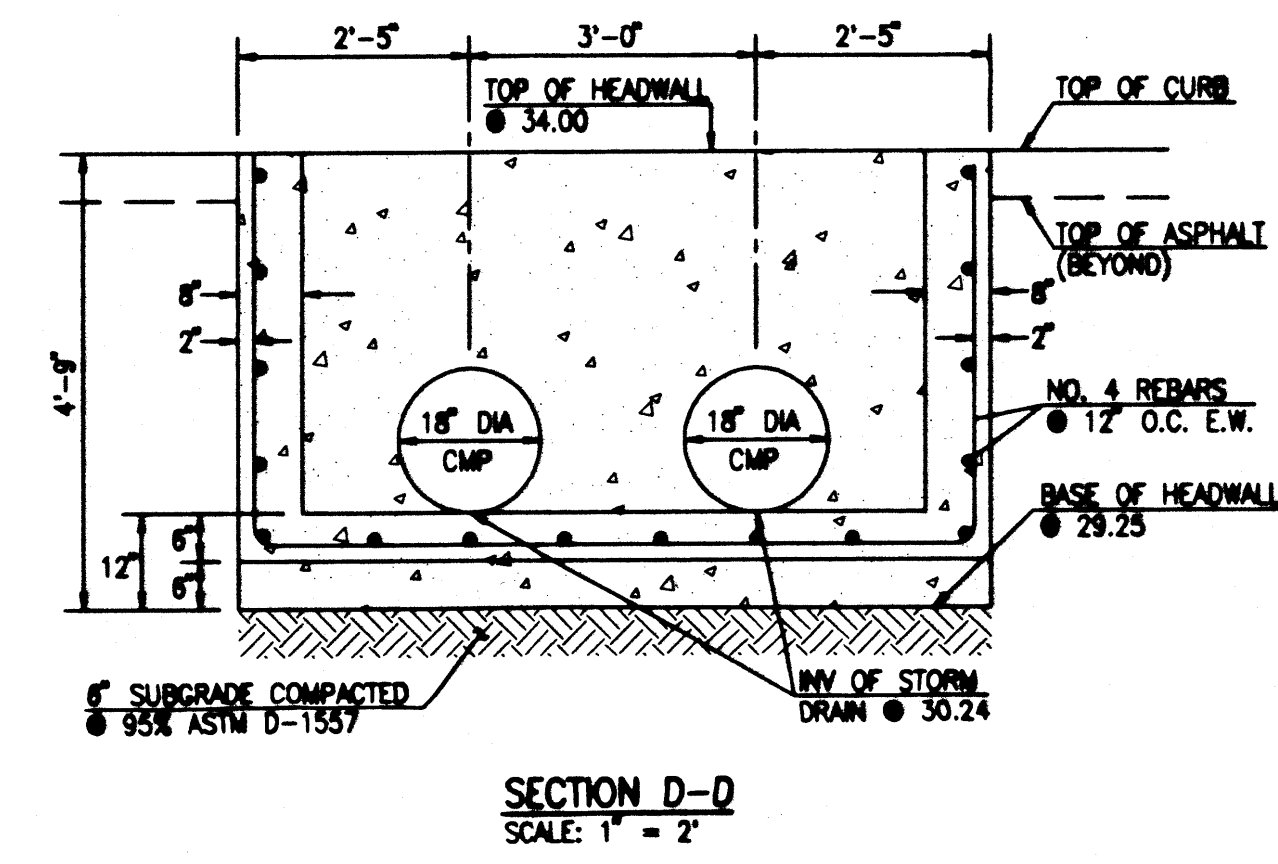
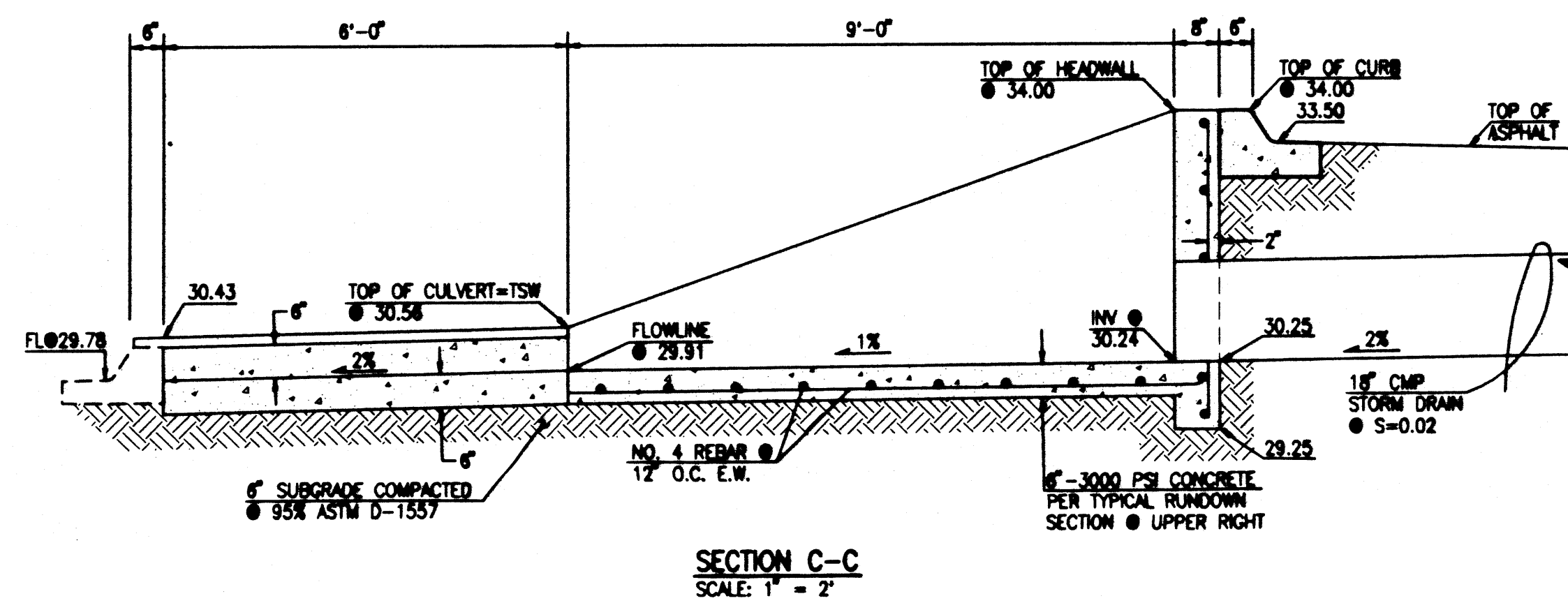
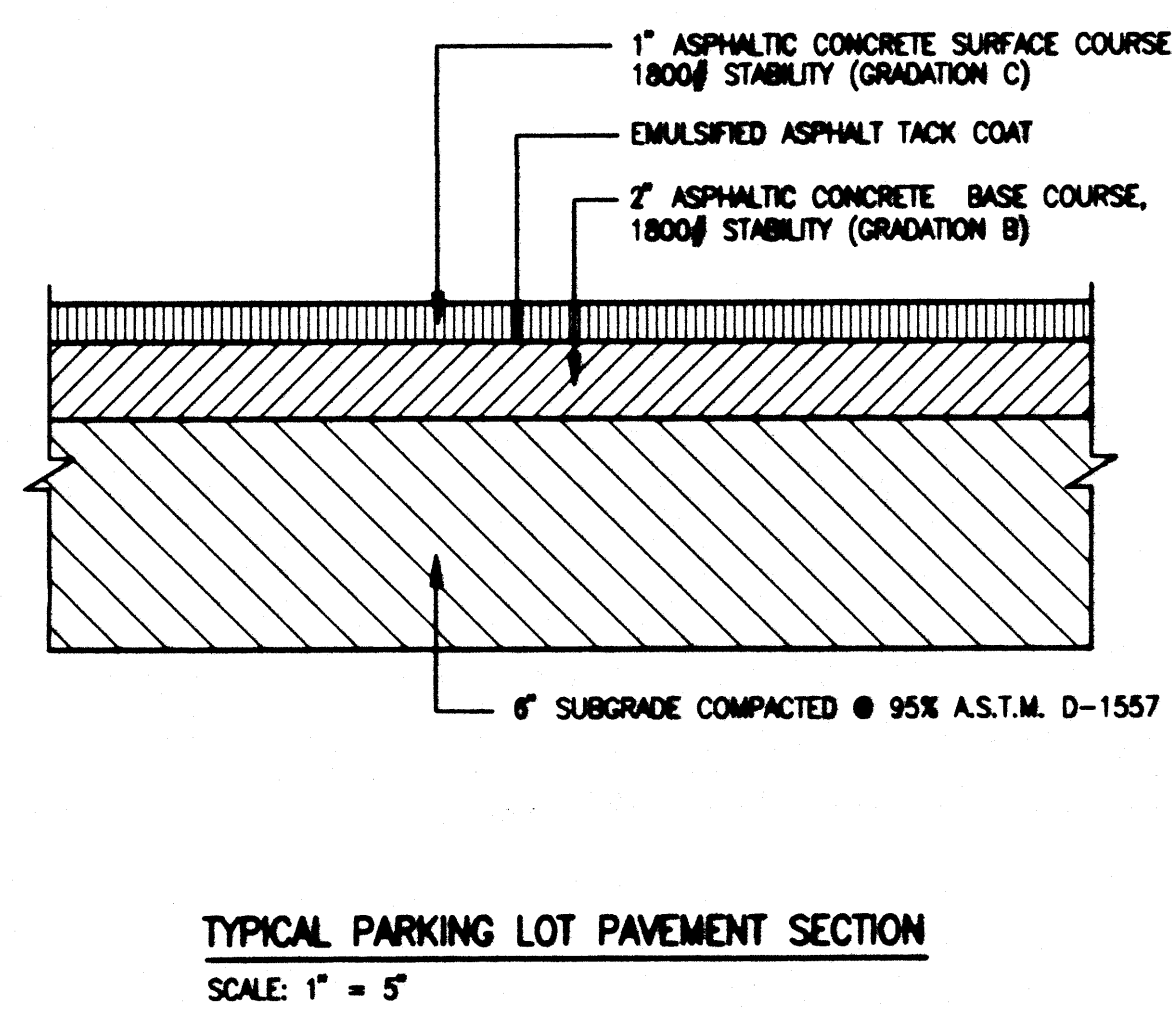
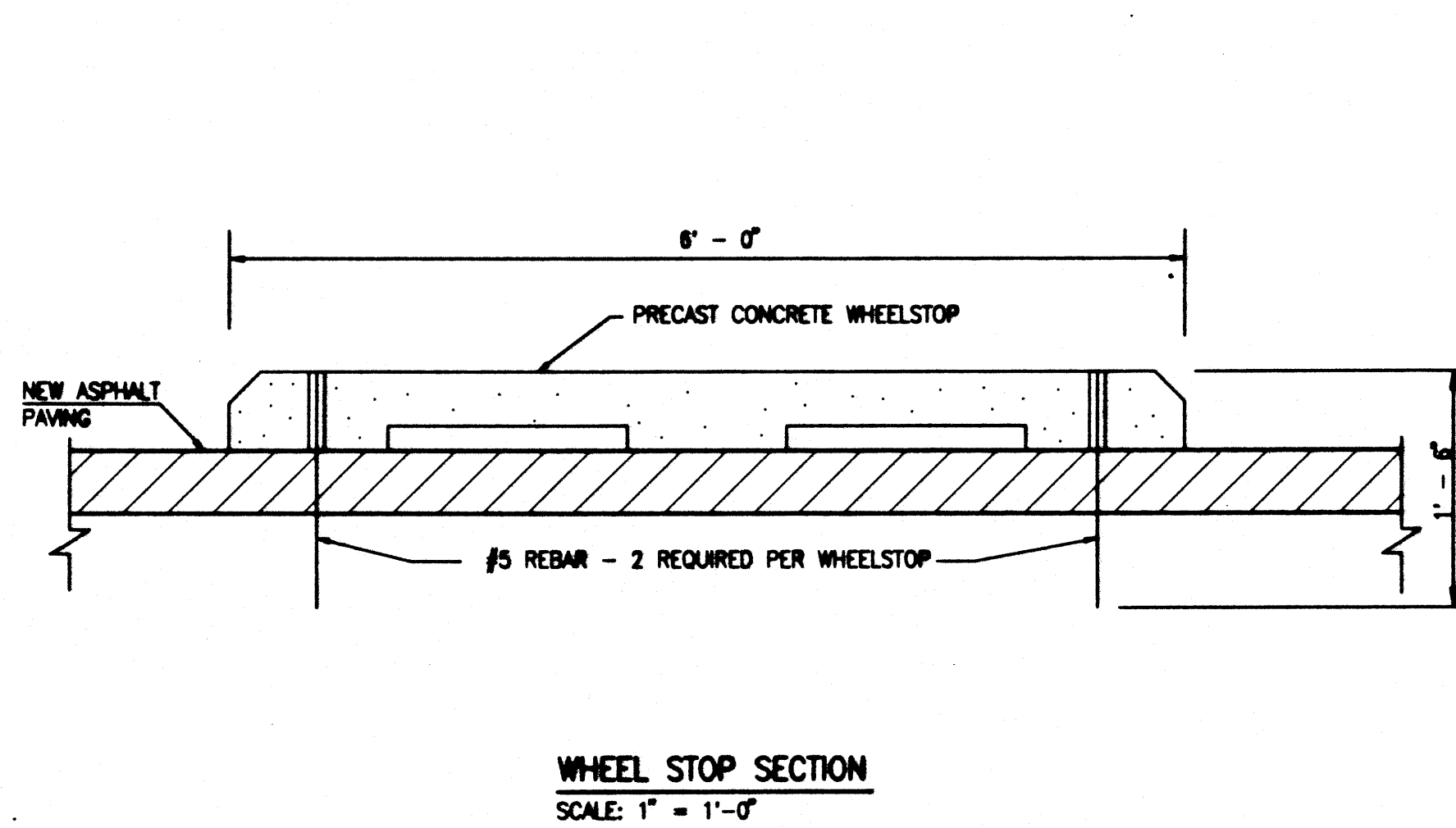
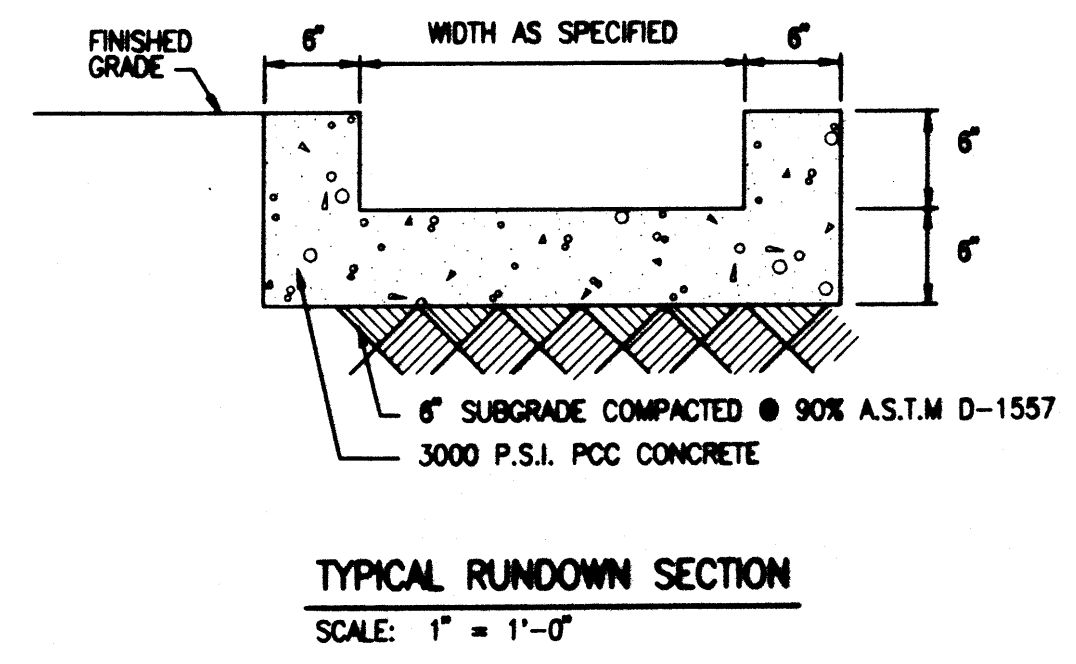
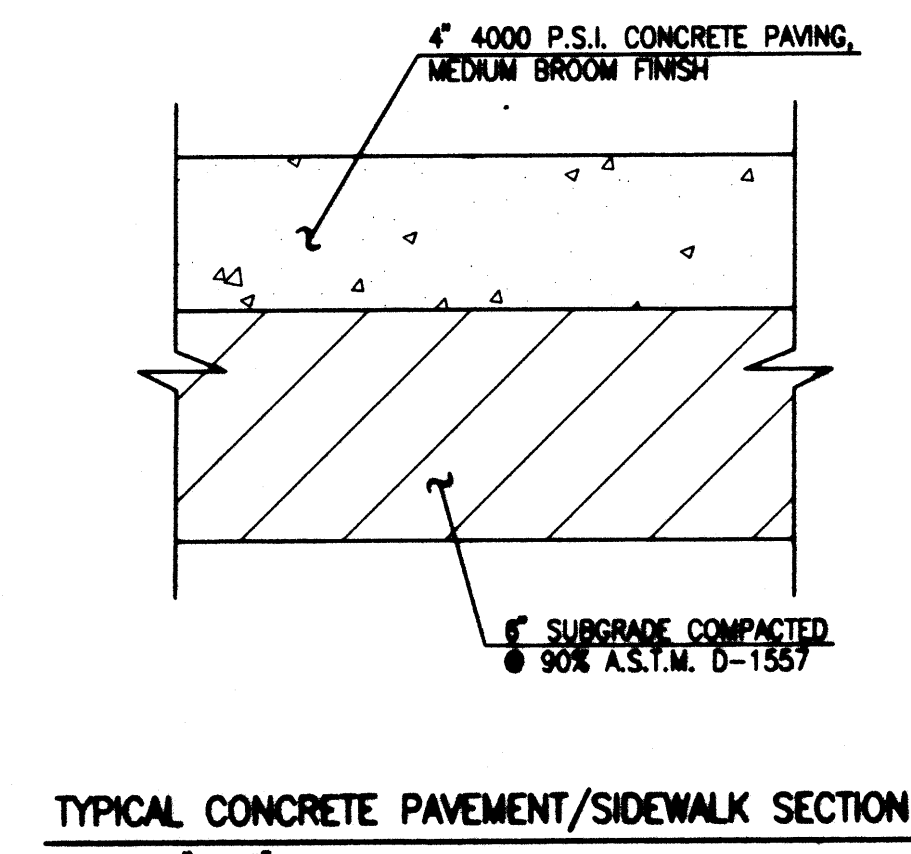
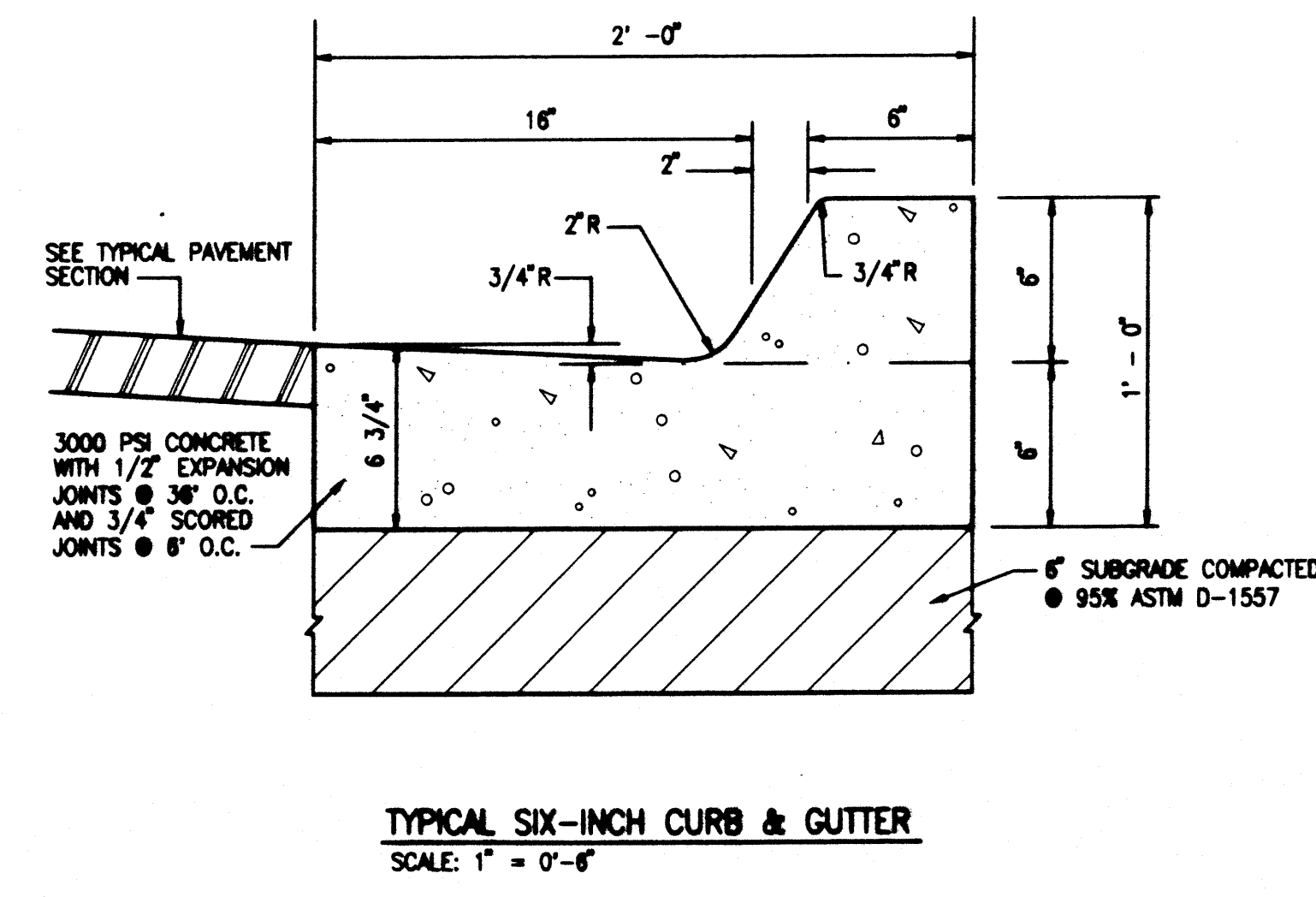
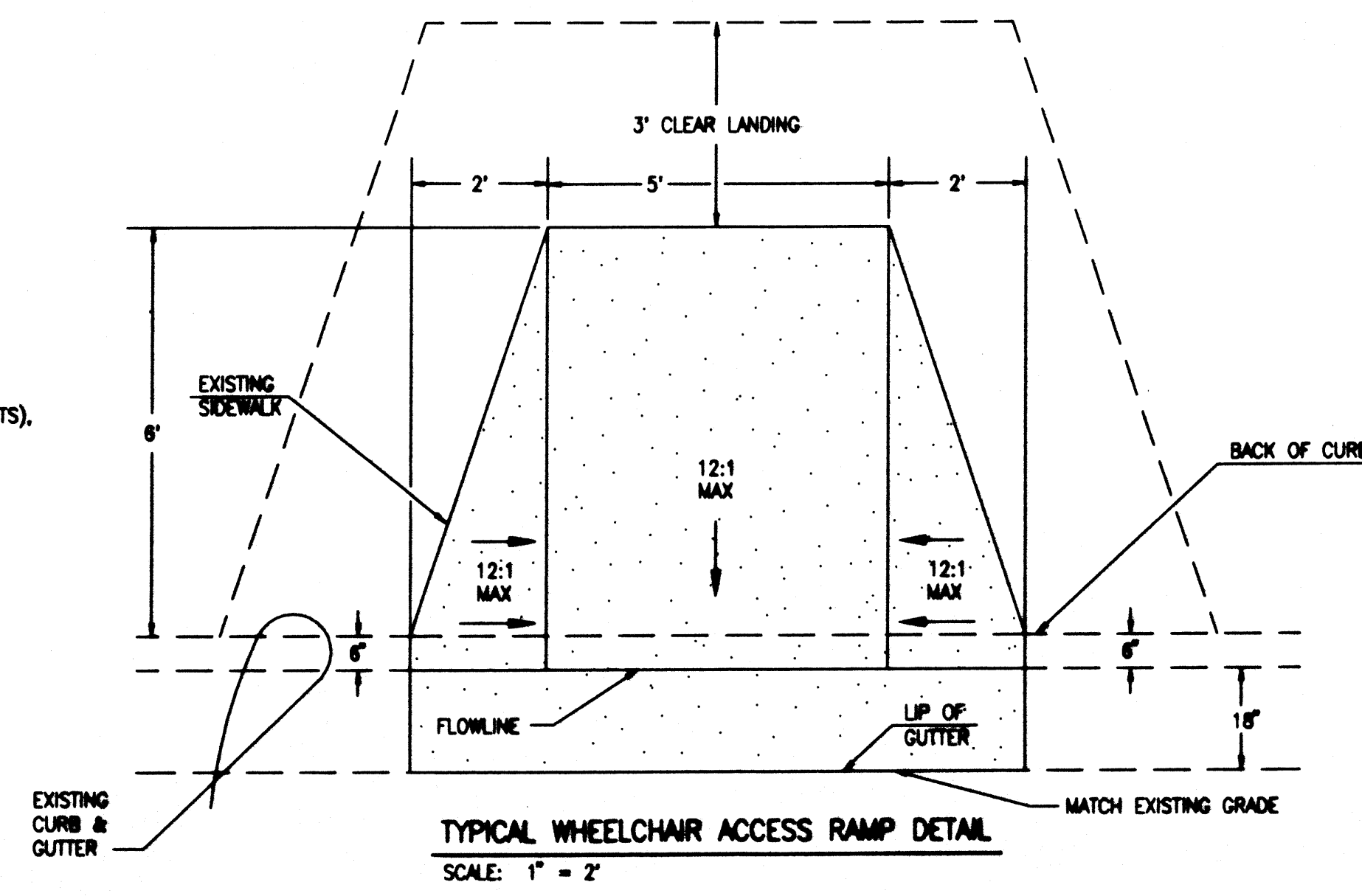
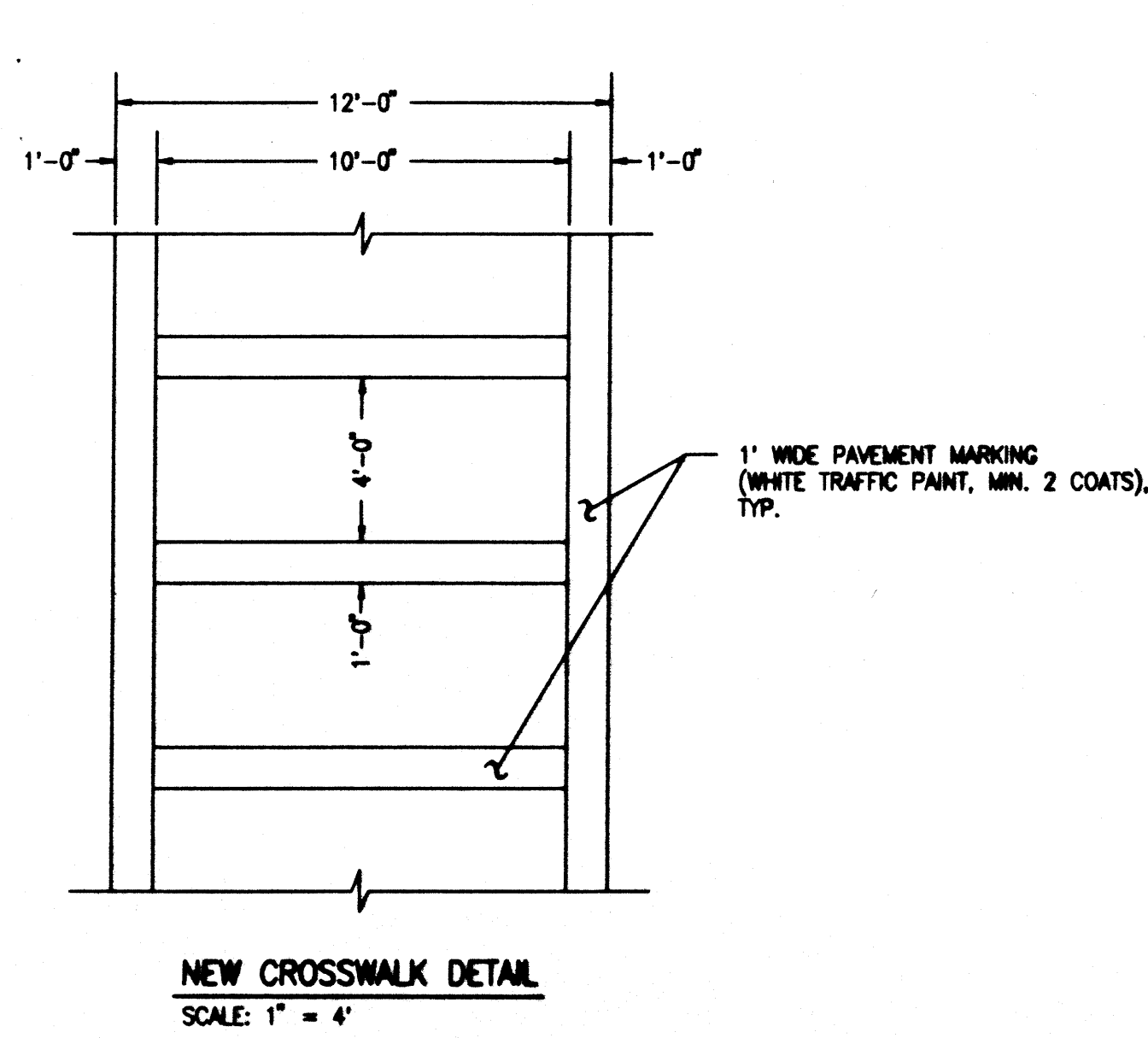
- NEATLY SAWCUT, REMOVE AND DISPOSE OF EXISTING CURB AND GUTTER
- NEATLY SAWCUT, REMOVE AND DISPOSE OF EXISTING SIDEWALK
- REMOVE AND DISPOSE OF EXISTING TREES AND SHRUBS
- NEATLY SAWCUT, REMOVE AND DISPOSE OF EXISTING ASPHALT PAVING, 1'-0" MIN. WIDTH
- REMOVE AND DISPOSE OF 18" CMP STORM DRAIN PIPE
- REMOVE AND DISPOSE OF 6" PVC PIPE
- REMOVE AND DISPOSE OF 4" CHAINLINK FENCE
- EXISTING CONCRETE RUNDOWN TO REMAIN
- EXISTING CURB AND GUTTER TO REMAIN
- CONSTRUCT MULTI-DIRECTIONAL WHEELCHAIR RAMP PER DETAIL, SHEET 3
- CONSTRUCT STANDARD CURB AND GUTTER PER DETAIL, SHEET 3
- CONSTRUCT 2" SIDEWALK CULVERT, TYPICAL, PER DETAIL, SHEET 5
- CONSTRUCT 3" WIDE CONCRETE SIDEWALK PER DETAIL, SHEET 3
- CONSTRUCT CONCRETE STAIRWAY PER DETAIL, SHEET 3
- CONSTRUCT CONCRETE SIDEWALK PER DETAIL, SHEET 3
- SEE LANDSCAPING PLAN FOR LAYOUT
- CONSTRUCT NEW ASPHALT PAVEMENT PER TYPICAL PARKING LOT PAVEMENT SECTION, SHEET 3
- PAINT WHITE DIRECTIONAL ARROWS WITH WHITE TRAFFIC PAINT, MIN. 2 COATS PER MUTCD DEC 2000
- PAINT 4" PAVEMENT MARKING W/ WHITE TRAFFIC PAINT, MIN. 2 COATS
- PAINT CROSSWALK PAVEMENT MARKING PER DETAIL, SHEET 3
- NEW LANDSCAPING, SEE LANDSCAPING PLAN
- INSTALL 18" CMP STORM DRAIN @ S = 0.02
- INSTALL SINGLE 10" STORM INLET PER DETAIL, SHEET 5 W/ T.O.G @ 33.00 AND INV 18" (OUT) @ 30.47
- REMOVE AND DISPOSE EXISTING STORM INLET
- STENCIL "COMPACT" ON PARKING LOT PAVEMENT
- PAINT TOP AND FACE OF CURB W/ YELLOW TRAFFIC PAINT, MIN. 2 COATS
- BEGIN PAINTING TOP AND FACE OF CURB WITH YELLOW TRAFFIC PAINT
- END PAINTING TOP AND FACE OF CURB WITH YELLOW TRAFFIC PAINT
- STENCIL "NO PARKING" ON TOP AND FACE OF CURB AT 50' SPACING
- BEGIN STENCILING "NO PARKING" ON TOP AND FACE OF CURB
- END STENCILING "NO PARKING" ON TOP AND FACE OF CURB
- REMOVE AND DISPOSE 4" DOUBLE SWING GATE
- EXISTING MANHOLE TO REMAIN, CONNECT NEW 18" CMP TO EXISTING MANHOLE W/ INV OUT @ 35.82
- INSTALL SALVAGED CONCRETE PARKING BUMPERS @ EDGE OF FLUSH SIDEWALK PER DETAIL, SHEET 3
- CONSTRUCT RAMMING CONCRETE SIDEWALK PER DETAIL, SHEET 3 (MAX 12:1 SLOPE)
- NEATLY SAWCUT, REMOVE AND DISPOSE OF EXISTING CONCRETE RUNDOWN
- EXISTING CONCRETE RUNDOWN TO REMAIN (3')
- NEW LIGHT STANDARD AND BASE, SEE ELECTRICAL
- CONSTRUCT CONCRETE SIDEWALK FLUSH WITH PAVING PER DETAIL, SHEET 3
- NEATLY REMOVE AND SALVAGE EXISTING PARKING BUMPERS
- INSTALL 1 - ADA COMPLIANT HANDICAP PARKING SIGN
- INSTALL 1 - ADA COMPLIANT HANDICAP PARKING SIGN W/ VAN ACCESSIBLE PLACARD
- NEW GROUND MOUNTED SIGN BY OWNER, PROVIDE POWER, COORDINATE REQUIREMENTS WITH SIGN COMPANY
- CONSTRUCT RUNDOWN FROM HEADWALL PER DETAIL, SHEET 3
- REMOVE AND DISPOSE EXISTING CONCRETE RUNDOWN
- EXISTING TRENCH DRAIN TO REMAIN
- INSTALL 1 - ADA COMPLIANT HANDICAP PARKING SPACE PAVEMENT MARKING, TYPICAL
- PAINT 4" WIDE CROSS-HATCH (2' CO) PAVEMENT MARKINGS @ 45 DEG W/ WHITE TRAFFIC PAINT, MIN. 2 COATS, TYPICAL
- EXISTING LIGHT POLE TO REMAIN
- EXISTING TREES AND SHRUBS TO REMAIN
- CONSTRUCT DOUBLE 24" SIDEWALK CULVERT, TYPICAL, PER DETAIL, SHEET 5 AND CON. STANDARD DWG. 2236
- INSTALL 18" CMP STORM DRAIN @ S = 0.015
- CLEAR SIGHT TRIANGLE
- NEATLY REMOVE AND DISPOSE OF EXISTING SIDEWALK CULVERT
- CONSTRUCT 6" WIDE CONCRETE SIDEWALK PER DETAIL, SHEET 3
- EXISTING SIDEWALK CULVERT TO REMAIN



PAVING SITE PLAN (TCL)
1"=20'



JMA JOB NO. 2004.120.2
JEFF HORTENSEN & ASSOCIATES, INC.
6010-B MIDWAY PARK BLVD. N.E.
ALBUQUERQUE, NEW MEXICO 87109
ENGINEERS: SURVEYORS: 345-4250
FAX: 505-345-4254 ESTABLISHED 1977



PAVING SECTIONS AND DETAILS

Final Construction Documents

Parking Area A
PMG Constitution
8300 Constitution Avenue NE
Albuquerque, New Mexico
Preparation Project No. 1988001

Drawn: JMA
Checked: JGM
Date: 10/21/2005
No.: 2004.31

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NO CHANGES TO THIS SHEET

Revisions: _____

Architect: _____

Engineer: _____

Sheet Title: _____

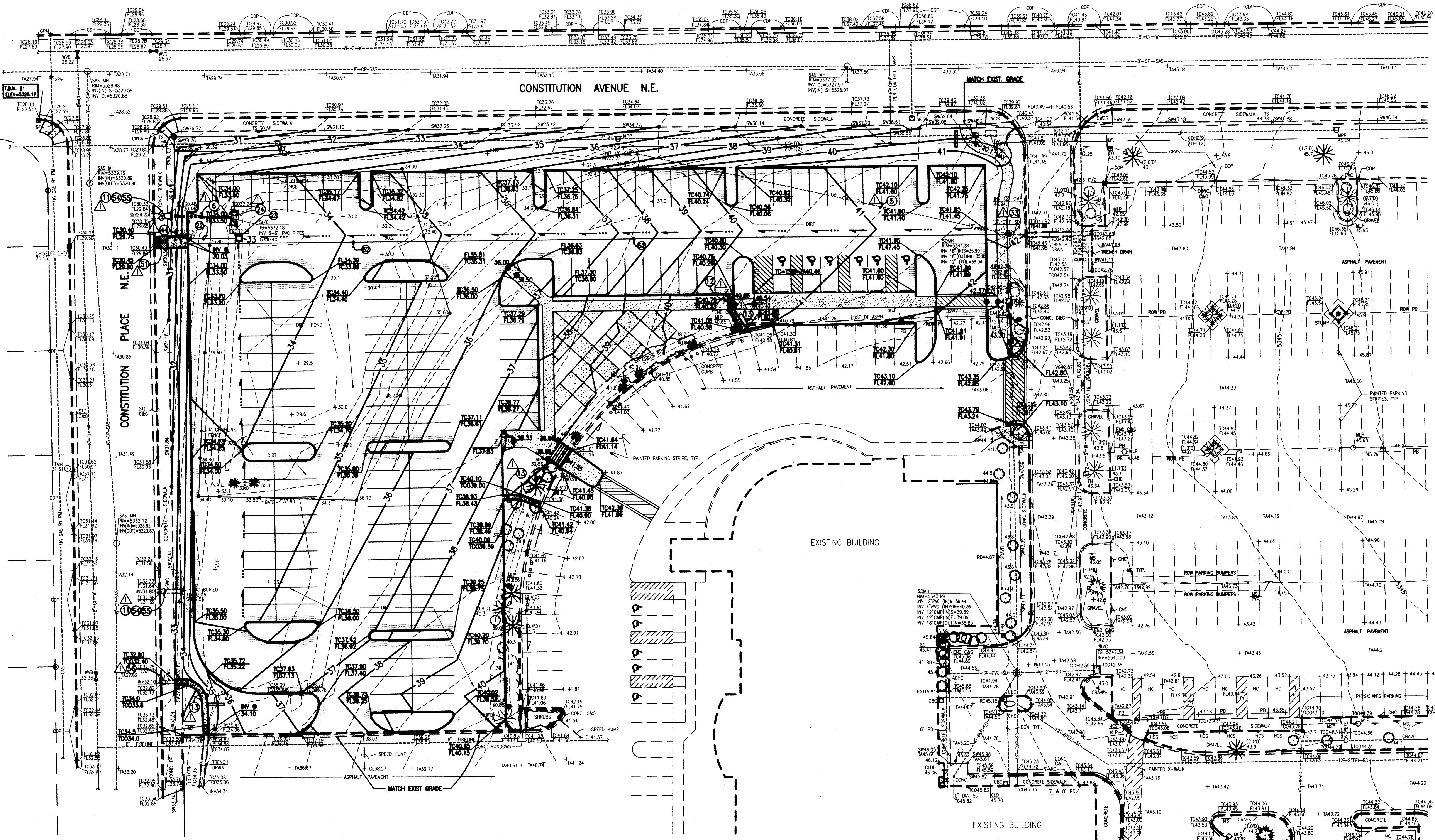
Sheet 3 of 10

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Plot Time: 11:58 am

JMA

JMA JOB NO. 2004.120.2
JEFF MORTENSEN & ASSOCIATES, INC.
6010-B MIDWAY PARK BLVD. NE
ALBUQUERQUE, NEW MEXICO 87109
ENGINEERS & SURVEYORS (CORS) 3445-4250
FAX: 505 345-4254 ESTABLISHED 1977



- Legend:**
- AL AREA LIGHT
 - ASV ANTI-SIPHON VALVE
 - BH BUILDING OVERHANG
 - BR BRICK BACK
 - CAG CONC. GUTTER
 - CBN CONCRETE BENCH
 - COP CONCRETE DRIVEPAD
 - CHC CONCRETE HEADER CURB
 - CLD CAST IRON PIPE
 - CLD CENTERLINE OF DOOR
 - CLD CENTERLINE OF DOUBLE DOOR
 - CLF CHAIN LINK FENCE
 - CONC CONCRETE
 - COP CURB OPENING
 - CP CONCRETE PIPE
 - CRD CONCRETE RUNDOWN
 - CWR CONCRETE WHEELCHAIR RAMP
 - DRP DRIVEPAD
 - E/G EDGE OF GRASS
 - EA EDGE OF ASPHALT
 - EC ELECTRIC CONDUIT
 - EO ELECTRIC OUTLET
 - EO/C ELECTRIC OUTLET IN CONCRETE
 - EPB ELECTRIC PULLBOX
 - FLP FLOW LINE
 - FP FLAG POLE
 - GP GAS PUMP MARK
 - HCS HANDICAP PARKING SIGN
 - IRV IRRIGATION
 - MBC METAL BUILDING COLUMN
 - MBX METAL BOX
 - MFP METAL POLE
 - MP METAL POWER POLE
 - MSP METAL SIGN
 - OHE(4) OVERHEAD ELECTRIC (NO. OF LINES)
 - OHE(2) OVERHEAD TELEPHONE (NO. OF LINES)
 - PB PARKING BUMPER
 - PI PAINTED ISLAND
 - PLB PLASTIC BENCH
 - PM PAINT MARK
 - SAC SANITARY SEWER MANHOLE
 - SCS SPRINKLER CONTROL TIMER
 - SD STORM DRAIN
 - SDMH STORM DRAIN MANHOLE
 - SI STORM INLET
 - S/C STORM INLET IN CONCRETE
 - STD, CAG STANDARD CURB AND GUTTER
 - STL STEEL
 - SW TOP OF SIDEWALK
 - SWC SIDEWALK CULVERT
 - TA TOP OF ASPHALT
 - TC TOP OF CURB
 - TCO TOP OF CONCRETE
 - TG TOP OF GRATE
 - TMH TELEPHONE MANHOLE
 - TPB TELEPHONE PULLBOX
 - TR/PS TELEPHONE RISER/PULLBOX
 - TR/PS TELEPHONE VAULT
 - TYP. TYPICAL
 - UG UNDERGROUND
 - VG VALLEY GUTTER
 - W/MH WITH METAL HANDRAIL
 - WP WOOD POLE
 - WBW WATER VALVE BOX
 - X-WALK CROSSWALK
 - EXISTING CONTOUR
 - EXISTING SPOT ELEVATION
 - EXISTING BOUNDARY
 - EXISTING SHRUB
 - EXISTING DECIDUOUS TREE (CALIPER SIZE)
 - EXISTING CONIFEROUS TREE (CALIPER SIZE)

CONSTRUCTION NOTES:

- TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR SHALL CONTACT NEW MEXICO ONE CALL SYSTEM 280-1990 (ALBUQUERQUE AREA) 1-800-521-ALERT(2537) (STATEWIDE), FOR LOCATION 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.
- ALL CONSTRUCTION WITHIN PUBLIC RIGHT-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE CITY OF ALBUQUERQUE STANDARDS AND PROCEDURES.
- IF ANY UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES ARE SHOWN ON THESE DRAWINGS, THEY 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 ENGINEER 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 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 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/OR 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.

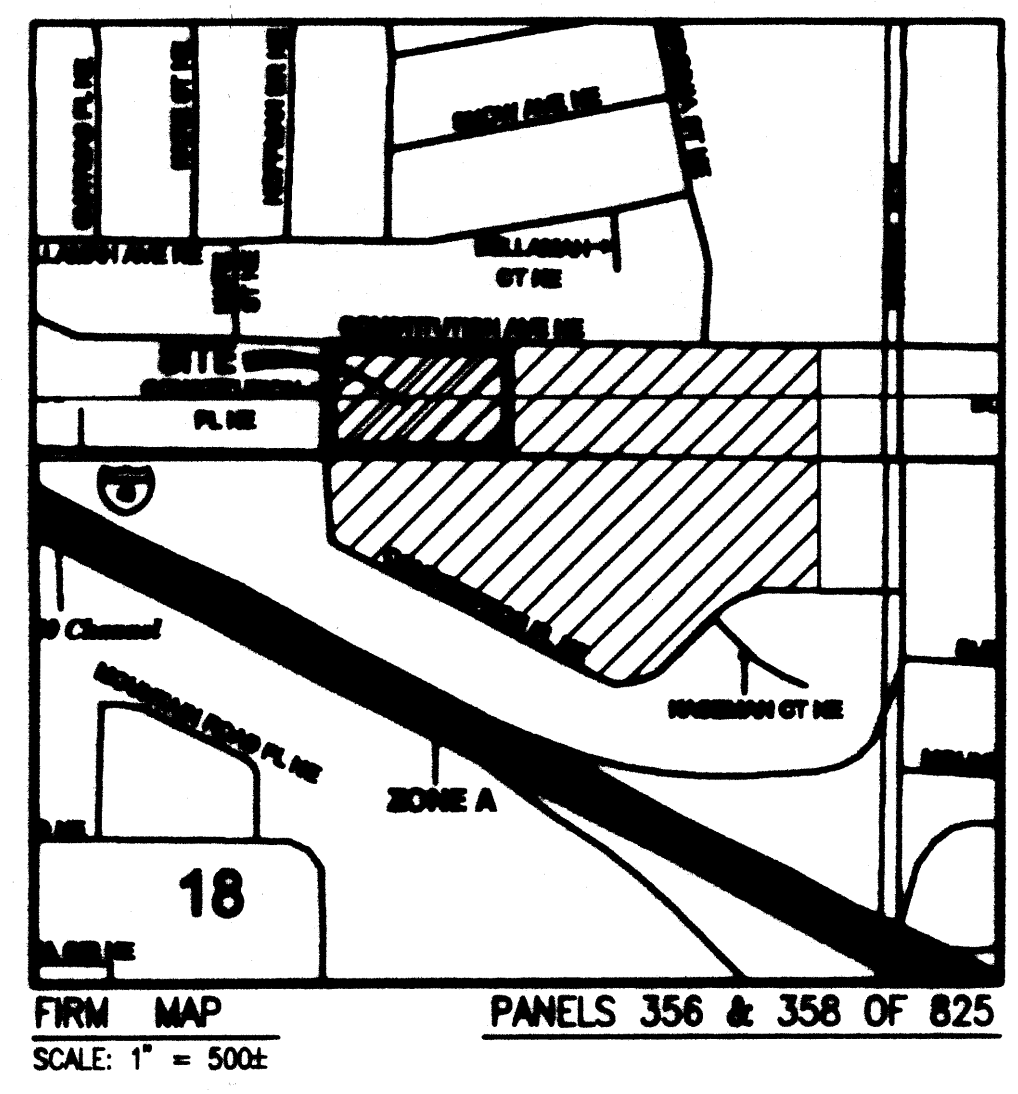
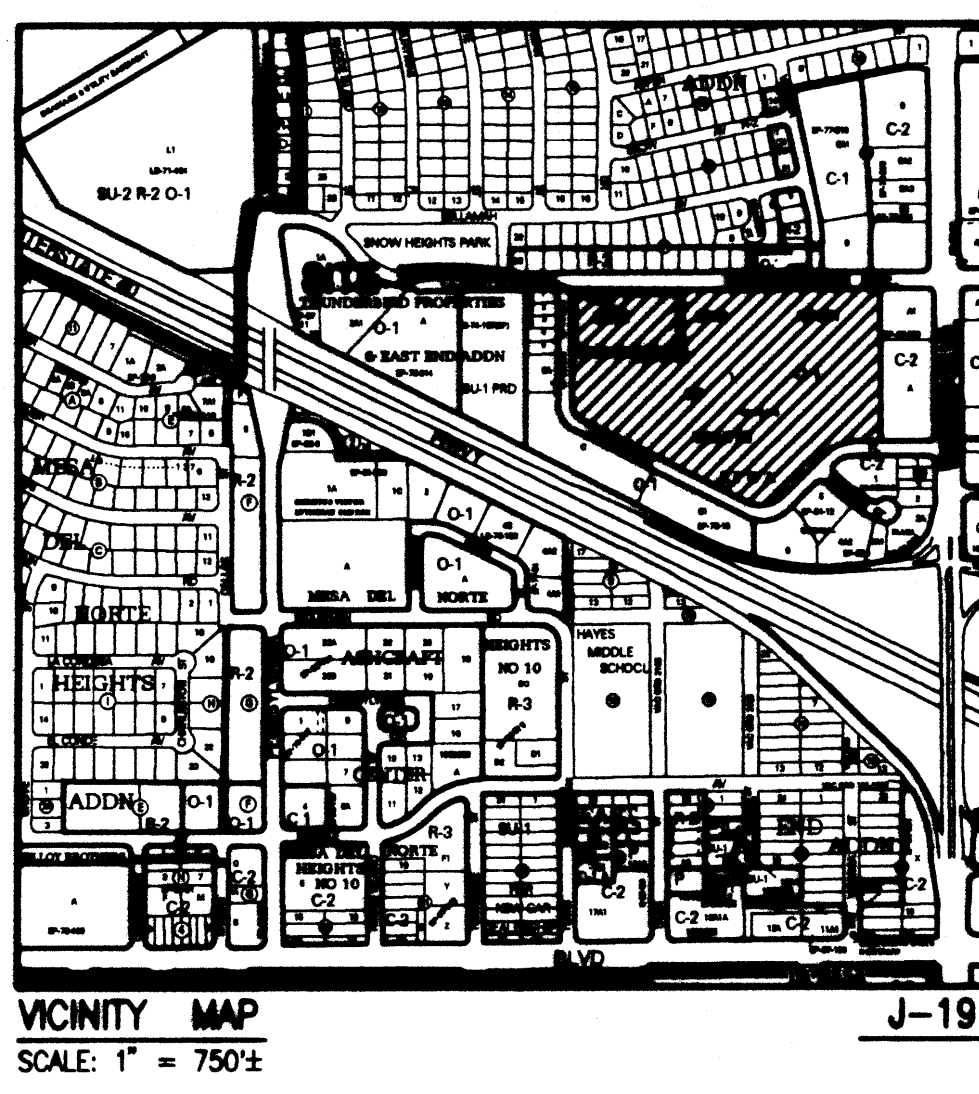
STORM DRAINAGE KEYED NOTES:

- REMOVE AND DISPOSE OF 18" CMP STORM DRAIN PIPE
- REMOVE AND DISPOSE OF 6" PVC PIPE
- CONSTRUCT STANDARD CURB AND GUTTER PER DETAIL SHEET 3
- CONSTRUCT 2" SIDEWALK CULVERT, TYPICAL, PER DETAIL SHEET 5
- CONSTRUCT RUNDOWN PER DETAIL SHEET 3
- INSTALL 18" CMP STORM DRAIN @ S = 0.02
- INSTALL SINGLE 'D' STORM INLET PER DETAIL SHEET 5 W/ T.O.G @ 33.00 AND INV 18" (OUT) @ 30.47
- REMOVE AND DISPOSE EXISTING STORM INLET
- EXISTING MANHOLE TO REMAIN; CONNECT NEW 18" CMP TO EXISTING MANHOLE W/ INV OUT @ 35.82
- CONSTRUCT RUNDOWN FROM HEADWALL PER DETAIL SHEET 3
- CONSTRUCT DOUBLE 24" SIDEWALK CULVERT, TYPICAL, PER DETAIL SHEET 5 AND CDA STANDARD DWG. 2236
- INSTALL 18" CMP STORM DRAIN @ S = 0.015
- NEARLY REMOVE AND DISPOSE EXISTING SIDEWALK CULVERT
- CONSTRUCT 8" WIDE CONCRETE SIDEWALK PER DETAIL SHEET 3
- EXISTING SIDEWALK CULVERT TO REMAIN

EROSION CONTROL MEASURES:

- THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE SITE INTO PUBLIC RIGHT-OF-WAY OR ONTO PRIVATE PROPERTY.
- THE CONTRACTOR SHALL PROMPTLY CLEAN UP ANY MATERIAL EXCAVATED WITHIN THE PUBLIC RIGHT-OF-WAY SO THAT THE EXCAVATED MATERIAL IS NOT SUSCEPTIBLE TO BEING WASHED DOWN THE STREET.
- WHEN APPLICABLE, CONTRACTOR SHALL SECURE TOPSOIL DISTURBANCE PERMIT FROM THE CITY AND/OR FILE A NOTICE OF INTENT (N.O.I.) WITH THE EPA PRIOR TO BEGINNING CONSTRUCTION.
- UNLESS FINAL STABILIZATION IS OTHERWISE PROVIDED FOR, ANY AREAS OF EXCESS DISTURBANCE (TRAFFIC ACCESS, STORAGE YARD, EXCAVATED MATERIAL, ETC.) SHALL BE RE-SEEDING ACCORDING TO C.D.A. SPECIFICATION 1012 NATIVE GRASS SEEDING. THIS WILL BE CONSIDERED INCIDENTAL TO CONSTRUCTION, THEREFORE, NO SEPARATE PAYMENT WILL BE MADE.

| APPROVALS | NAME | DATE |
|-------------------------|------|------|
| HYDROLOGY | | |
| SIDEWALK INSPECTOR | | |
| STORM DRAIN MAINTENANCE | | |



LEGAL DESCRIPTION
TRACT 1, THE EAST END ADDITION

PROJECT BENCHMARK
CITY OF ALBUQUERQUE Benchmark, shown "1-1/2\" set in TOP of a concrete post ORIENTED 90° N. OF THE NORTH EDGE of a concrete sidewalk and FLUSH WITH THE TOP OF SIDEWALK PAVEMENT ON THE NORTH SIDE OF CONSTITUTION AVE. N.E. AND BETWEEN PENNSYLVANIA BLVD. N.E. AND CONSTITUTION PL. N.E. ON THE SOUTH SIDE OF BROWN HEIGHTS PARK. ELEVATION = 5320.05 FEET (N.A.S.D.)

T.B.M.
TOP OF CURB ELEVATION LOCATED AT THE S.E. CORNER OF THE INTERSECTION OF CONSTITUTION AVE. N.E. AND CONSTITUTION PLACE N.E. AS SHOWN ON THE BENCHMARK ON SHEET 1. ELEVATION = 5320.05 FEET (N.A.S.D.)

Final Construction Documents

Parking Area A
PMG Constitution
8300 Constitution Avenue NE
Albuquerque, New Mexico
Presbyterian Project No. H200002

Drawn: JMA Checked: JGM
No: 200431 Date: 10/21/2004
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EXPANDED KEYED NOTES
Revisions: _____
Architect: _____
Engineer: _____

GRADING PLAN
Sheet 4 of 10

DRAINAGE PLAN

I. INTRODUCTION AND EXECUTIVE SUMMARY

THIS SITE IS LOCATED IN THE EAST-CENTRAL AREA OF ALBUQUERQUE, NEW MEXICO. THE PROJECT WILL CONSIST OF THE DEVELOPMENT OF A NEW PARKING LOT FOR THE KASEMAN PRESBYTERIAN HOSPITAL CANCER CENTER BUILDING. THIS DEVELOPMENT WILL MODIFY AN EXISTING PARTIALLY DEVELOPED SITE WHICH PERISTS OF THE HOSPITAL RADIOLOGY BUILDING, AN UPPER PARKED PARKING LOT, AND A LOWER NATURAL VEGETATED AREA GRADED SO AS TO CREATE A DETENTION POND FOR FLOWS FROM BOTH ONSITE AND OFFSITE FLOWS ABOVE THE SITE. THE NEW PARKING LOT WILL REPLACE THE VEGETATED AREA. THE NEW CONCEPT FOR THIS SITE WILL BE TO ELIMINATE THE EXISTING POND BY PAVING OVER THE ENTIRE VEGETATED LOWER AREA AND DRAIN THE FLOWS INTO THE BORDERING STREET OF CONSTITUTION PLACE NE. THERE WILL BE SOME SLIGHT DETENTION PONDING WITHIN THE PARKING LOT.

THIS DRAINAGE SUBMITTAL IS MADE IN SUPPORT OF A GRADING AND PAVING PERMIT AND SO #119 APPROVAL.

II. PROJECT DESCRIPTION

THE SITE IS LOCATED ON THE SOUTHEAST CORNER OF CONSTITUTION AVE NE AND CONSTITUTION PLACE NE. THE CURRENT LEGAL DESCRIPTION OF THE SITE IS TRACT 1, EAST END ADDITION. THE SITE IS CURRENTLY LOCATED IN PANEL 356 OF 825 OF THE NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAPS PUBLISHED BY FEMA FOR BERNILLO COUNTY, NEW MEXICO, NOVEMBER 19, 2003 AND IS ZONED AS ZONE X, AN AREA DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN. THE DEVELOPMENT PROPOSED WILL INCREASE DOWNSTREAM FLOW BUT WILL NOT ADVERSELY IMPACT DOWNSTREAM FLOW OR DOWNSTREAM PROPERTIES. RUNOFF FROM THE SITE DRAINS INTO CONSTITUTION PLACE NE, AND THEN FLOWS NORTH TO CONSTITUTION AVENUE NE. AT CONSTITUTION AVENUE NE THE FLOW IS DIRECTED WEST TO THE INTERSECTION WITH PENNSYLVANIA STREET. FLOW PROCEEDS TO ENTER THREE LARGE CURB STORM INLETS ALONG CONSTITUTION AVE JUST BEFORE THE PENNSYLVANIA INTERSECTION. THESE INLETS DRAIN INTO THE I-40 CHANNEL.

III. BACKGROUND DOCUMENTS

THE FOLLOWING ITEMS WERE REVIEWED IN THE PREPARATION OF THIS SUBMITTAL:

- GRADING AND DRAINAGE PLAN FOR PRESBYTERIAN KASEMAN HOSPITAL - RADIATION THERAPY CENTER ADDITION, PREPARED BY JMA AND DATED 05-08-98 FOR BUILDING PERMIT. THE 1998 PLAN RECOGNIZED THAT THE EXISTING POND REQUIRED ENLARGEMENT TO CONTAIN THE DESIGN VOLUME OF RUNOFF. THE PLAN ALSO IDENTIFIED A 100-YEAR PEAK DISCHARGE OF 10.7 CFS FROM THIS PORTION OF TRACT 1.
- DRAINAGE PLAN FOR PRESBYTERIAN KASEMAN HOSPITAL - RADIATION THERAPY CENTER WEST EXPANSION POND, ANALYSIS PREPARED BY JMA AND DATED 01-11-05. THIS PLAN CONCLUDED THAT THE NADOT I-40/PENNSYLVANIA OVERPASS PROJECT COMPLETED IN THE SPRING OF 2005 HAS ALLEVIATED PREVIOUS FLOODING CONCERNS ON THE CONSTITUTION AVE/PENNSYLVANIA STREET INTERSECTION. THIS PLAN USED THE CONJUGATE DEPTH EQUATION TO EVALUATE THE EFFECTS OF HYDRAULIC JUMP IN CONSTITUTION AVENUE NE. THE PLAN DETERMINED THAT THE DOWNSTREAM DRAINAGE IMPROVEMENTS THAT WERE MADE AT THE CONCLUSION OF THE I-40/PENNSYLVANIA PROJECT ALLOWED FOR SUFFICIENT FLOW IN CONSTITUTION AVENUE WITH NO HYDRAULIC JUMP ISSUES. THIS CONCLUSION RESULTED IN THE ALLOWANCE OF THE ELIMINATION OF THE DETENTION POND IN THIS PROJECT AS WELL AS FREE DISCHARGE INTO THE STREET.
- TOPOGRAPHIC SURVEY OF THE EXISTING SITE PREPARED BY JMA DATED 4/13/2005. THE SUBJECT SURVEY SHOWS THE EXISTING IMPROVEMENTS.

IV. EXISTING CONDITIONS

THE SITE IS LOCATED AT THE SOUTHEAST CORNER OF THE INTERSECTION OF CONSTITUTION AVENUE NE AND CONSTITUTION PLACE NE. THE SITE IS PARTIALLY DEVELOPED. THE JMA TOPOGRAPHIC SURVEY DATED 4/13/2005 SHOWS THAT THE SITE CONSISTS OF AN EXISTING HOSPITAL BUILDING AND AN ADJACENT PARKING LOT. AS WELL AS AN UNDEVELOPED VEGETATED AREA AT THE NORTH AND WEST THAT IS GRADED FOR THE PURPOSE OF CREATING A DETENTION PONDING AREA FOR BOTH ON-SITE RUNOFF AND OFF-SITE FLOWS. THE SITE SLOPES FROM SOUTHEAST TO NORTHWEST AND DRAINS INTO THE POND AT THE NORTHWEST CORNER. THIS POND DRAINS VIA STORM DRAIN THROUGH AN EXISTING SIDEWALK CULVERT INTO CONSTITUTION PLACE NE. CONSTITUTION AVENUE IS A FULLY IMPROVED ROADWAY, 40 FEET WIDE WITH CURB AND GUTTER ON BOTH SIDES. CONSTITUTION PLACE FLOWS ARE CARRIED BY CURB AND GUTTER NORTH INTO CONSTITUTION AVENUE, WHERE IT FLOWS WEST TO AN INTERSECTION WITH PENNSYLVANIA STREET. JUST BEFORE THIS INTERSECTION THERE ARE THREE LARGE CURB STORM INLETS ALONG CONSTITUTION AVE NE WHERE THE FLOWS WILL DRAIN IN TO. THE INLETS DRAIN SOUTH INTO THE I-40 CHANNEL.

ON-SITE CONTRIBUTING AREA FLOWS FROM A PARKING LOT ALONG THE SOUTH EDGE OF THE SITE ENTER AT THE SOUTHWEST CORNER OF THE SITE THROUGH A TRENCH DRAIN AND CURB CUT. THE FLOWS EMPTY NORTH INTO THE DETENTION POND. ON-SITE CONTRIBUTING AREA FLOWS FROM AN ADJACENT PARKING LOT ALSO ENTER THE SITE THROUGH A TRENCH DRAIN INTO A 12" STORM DRAIN THAT RELEASES INTO THE MANHOLE AT THE EAST EDGE OF THE SITE. THESE FLOWS ENTER INTO A 16" CMP STORM DRAIN FROM THE ON-SITE MANHOLE AND EMPTIES THESE FLOWS INTO THE SITE AT THE NORTH EDGE OF THE SITE. THESE FLOWS DRAIN WEST INTO THE DETENTION POND AS SHOWN ON THE TOL.

V. DEVELOPED CONDITIONS

THE PROJECT CONSIST OF THE CONSTRUCTION OF A NEW ASPHALT PAVED PARKING LOT THAT WILL SERVE THE EXISTING HOSPITAL BUILDINGS IN THE AREA. THIS NEW LOT WILL REPLACE THE NATURALLY VEGETATED AREA ALONG THE NORTH AND WEST OF THE SITE, AND WILL ELIMINATE THE EXISTING DETENTION POND. AS A RESULT OF THESE IMPROVEMENTS, THERE WILL BE AN INCREASE IN THE RUNOFF THE SITE GENERATES AS WELL AS A REDIRECTION OF ON-SITE CONTRIBUTING AREA FLOWS AROUND THE SITE THAT CURRENTLY TRANSVERSE THE SITE. A SMALL PORTION OF THE ON-SITE RUNOFF WILL BE PONDING AT THE NORTHWEST CORNER OF THE DEVELOPED PARKING LOT, WHICH WILL BE DRAINED THROUGH A STORM INLET AND STORM DRAIN INTO A RUNOFF AREA AND SIDEWALK CULVERT INTO CONSTITUTION PLACE NE AS SHOWN ON THE DEVELOPED GRADING PLAN. THIS STORM DRAIN PIPE WILL DRAIN THE CAPTURED STORMWATER RUNOFF IN A PERIOD LESS THAN SIX HOURS. FLOWS INTO CONSTITUTION PLACE NE WILL FOLLOW THE SAME DRAINAGE PATH AS STATED IN THE EXISTING CONDITIONS.

AS THE HYDROGRAPH CALCULATIONS SHOW, THE VOLUME REQUIRING PONDING WILL EQUAL 220 CF. THIS VOLUME WILL REACH A HEIGHT ABOVE THE STORM INLET OF 5333.2 FT. THE LOWEST POINT OF THE TOP OF CURB IN THE PONDING AREA IS AT 5334 FT. THIS IS ALSO THE LOWEST TOP OF CURB IN THE ENTIRE PROJECT SITE. THEREFORE, THERE IS NO PROBLEM OF RUNOFF OVERFLOWING THE CURB.

ON-SITE CONTRIBUTING AREA FLOWS THAT ENTER THE MANHOLE AT THE EAST CORNER OF THE SITE WILL BE DIRECTED THROUGH THE SITE VIA A NEW 18" CMP STORM DRAIN THAT WILL TRAVERSE THE SITE FROM EAST TO WEST AND DRAIN INTO CONSTITUTION PLACE NE AT THE SAME LOCATION AS THE ON-SITE FLOW STORM DRAIN RELEASES ITS FLOWS AS SHOWN ON THE DEVELOPED GRADING PLAN.

THE OVERALL RESULT OF THE DEVELOPMENT WILL INCREASE THE VOLUME AND PEAK DISCHARGE RATE INTO CONSTITUTION PLACE NE. THIS INCREASE IS ALLOWED DUE TO THE COMPLETION OF DEVELOPMENT AT PENNSYLVANIA STREET AND I-40 THAT ALLEVIATED PAST DOWNSTREAM FLOW ISSUES; ISSUES THAT HAD PREVIOUSLY RESULTED IN THE CREATION OF THE EXISTING ON-SITE DETENTION POND. U

VI. GRADING PLAN

THE GRADING PLAN SHOWS: 1.) EXISTING GRADES INDICATED BY SPOT ELEVATIONS AND CONTOURS AT 1'-0" INTERVALS BASED THE TOPOGRAPHIC SURVEY PREPARED BY JMA, DATED 4/13/2005, 2.) PROPOSED GRADES INDICATED BY CONTOURS AT 1'-0" INTERVALS, 3.) THE LIMIT AND CHARACTER OF THE EXISTING IMPROVEMENTS AS TAKEN FROM THE AFORE MENTIONED JMA SURVEY, 4.) THE LIMIT AND CHARACTER OF THE PROPOSED IMPROVEMENTS, 5.) CONTINUITY BETWEEN EXISTING AND PROPOSED GRADES. AS SHOWN BY THIS PLAN, THE PROPOSED DEVELOPMENT CONSISTS OF PAVED PARKING, ALONG WITH ASSOCIATED LANDSCAPING AND SIDEWALK. THESE MODIFICATIONS TO THE SITE WILL EXPAND AVAILABLE ON-SITE PARKING AND VEHICLE ACCESS. AN EROSION CONTROL PLAN WILL BE PREPARED AND ATTACHED TO THE SEPARATE STORM WATER POLLUTION PREVENTION PLAN FOR THIS PROJECT.

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VII. CALCULATIONS

THE CALCULATIONS WHICH APPEAR HEREON ANALYZE BOTH THE EXISTING AND DEVELOPED CONDITIONS FOR THE 100-YEAR, 6-HOUR RAINFALL EVENT, AS WELL AS THE 10-YEAR, 6 HOUR RAINFALL EVENT FOR CULVERT DESIGN PURPOSES. THE PROCEDURE FOR 40-ACRE AND SMALLER BASINS, AS SET FOR THE IN THE REVISION OF SECTION 22.2, HYDROLOGY OF THE DEVELOPMENT PROCESS MANUAL, VOLUME 2, DESIGN CRITERIA, DATED JANUARY, 1993, HAS BEEN USED TO QUANTIFY THE PEAK RATE OF DISCHARGE AND VOLUME OF RUNOFF GENERATED BY THIS DEVELOPMENT. THE CAPACITY OF THE DEVELOPED 18" CMP STORM DRAIN WAS ANALYZED USING THE ORFICE AND MANNING'S EQUATIONS. THE CAPACITIES OF THE NEW STORM INLETS WERE DETERMINED USING THE ORFICE EQUATION. THE CAPACITY OF THE NEW 24" CULVERTS ALONG CONSTITUTION PLACE NE WERE DETERMINED USING MANNING'S EQUATION. THE PERFORMANCE OF THE PRIVATE STORMWATER DETENTION SYSTEM IN THE NORTH EAST CORNER OF THE PARKING AREA HAS BEEN EVALUATED FOR OUTFLOW AND STORAGE CAPACITY BASED UP THE HYDROGRAPH ANALYSIS CONTAINED ON THIS SHEET, AND PONDING IS NECESSARY ONLY DUE TO DISCHARGE PIPE SIZING CONSTRAINTS.

THE JANUARY 2005 CALCULATIONS ARE SHOWN HEREON TO SHOW THAT THE DOWNSTREAM STREET (CONSTITUTION AVENUE) IS CAPABLE OF HANDLING FLOWS FROM ON-SITE AND OFF-SITE. THE CONJUGATE DEPTH EQUATION WAS USED TO EVALUATE THE EFFECTS OF HYDRAULIC JUMP, AS SHOWN BY THESE CALCULATIONS. THE NORMAL DEPTH OF FLOW PLUS THE EFFECTS OF A HYDRAULIC JUMP COMPLY WITH OPEN CRITERIA TO FALL BELOW THE TOP-OF-CURB PLUS 0.2 FEET. THIS SUGGESTS THAT THE STREET CAN HANDLE THE FULLY DEVELOPED DESIGN FLOW AS CALCULATED AND THAT PONDING IS NO LONGER NECESSARY.

VIII. CONCLUSION

THE DRAINAGE CONCEPT SHOWN BY THE PLAN ABOVE WILL ACCOMPLISH ITS PURPOSE DUE TO THE FOLLOWING FACTORS:

- MODIFICATION TO AN EXISTING SITE WITHIN AN INFILL AREA
- THE PEAK RATE OF DISCHARGE FROM THE SITE WILL BE INCREASED ABOVE THAT OF THE EXISTING CONDITION
- REMOVAL OF THE EXISTING POND AS ALLOWED BY APPROVED DRAINAGE SUBMITTAL DATED 01-11-05
- ADEQUATE STREET CAPACITY IS AVAILABLE IN CONSTITUTION PLACE NE TO ACCOMMODATE PEAK DISCHARGE UNDER FULLY DEVELOPED CONDITIONS
- DOWNSTREAM CAPACITY OF CONSTITUTION PLACE AND CONSTITUTION AVENUE AND THE STORM DRAIN STRUCTURES LOCATED WITHIN ARE ADEQUATE FOR INCREASED FLOWS DUE TO THE NADOT I-40/PENNSYLVANIA PROJECT IMPROVEMENTS
- FREE DISCHARGE INTO CONSTITUTION PLACE AND CONSTITUTION AVENUE PER THE DRAINAGE PLAN DATED 1-11-05
- NO ADVERSE IMPACT ON DOWNSTREAM CAPACITY OR DOWNSTREAM PROPERTIES
- CULVERTS AT CONSTITUTIONS PLACE SUFFICIENT TO HANDLE PEAK DISCHARGE FROM BOTH STORM DRAINS UNDER FULLY DEVELOPED CONDITIONS
- GRADING AND CURB ABOUT STORM INLET AREA SUFFICIENT TO CONTAIN MORE THAN THE 220 CF OF PONDING REQUIRED DURING A 100-YEAR STORM
- OFFSITE FLOWS WILL CONTINUE TO BE INTERCEPTED AND CONVEYED THROUGH THE PROJECT TO DOWNSTREAM EXISTING DRAINAGE FACILITIES

CALCULATIONS

SITE CHARACTERISTICS

- PRECIPITATION ZONE = 3
- $P_{100} = P_{30} = 2.80$ 2. $P_{10} = P_{30} = 1.73$

3. TOTAL AREA (A) = 143,065 SF
3.28 AC

4. EXISTING LAND TREATMENT

| A. PROJECT SITE | AREA (SF/AC) | % |
|-----------------|---------------|----|
| TREATMENT | | |
| B | 16,779 / 0.39 | 12 |
| C | 61,628 / 1.41 | 43 |
| D | 64,660 / 1.48 | 45 |

5. DEVELOPED LAND TREATMENT

| A. PROJECT SITE | AREA (SF/AC) | % |
|-----------------|----------------|----|
| TREATMENT | | |
| B | 23,552 / 0.54 | 16 |
| D | 119,533 / 2.74 | 84 |

6. EXISTING CONDITION

- PROJECT SITE
 - VOLUME
 $E_v = (E_{Av} + E_{Bv} + E_{Cv} + E_{Dv})/N$
 $E_v = ((0.92+0.39)+(1.29+1.41)+(2.36+1.48))/3.28 = 1.73$ IN
 $V_{100} = (E_v/12)N = (1.73/12)3.28 = 0.2317$ AC-FT 20,628 CF
 - PEAK DISCHARGE
 $Q_p = Q_{Av} + Q_{Bv} + Q_{Cv} + Q_{Dv}$
 $Q_p = Q_{100} = (2.80+0.39)+(3.45+1.41)+(5.02+1.48) = 13.33$ CFS

- ON-SITE CONTRIBUTING AREAS (100-YEAR STORM)
 - VOLUME
 $E_v = (E_{Av} + E_{Bv} + E_{Cv} + E_{Dv})/N$
 $E_v = (2.36+1.81)/1.81 = 2.36$ IN
 $V_{100} = (E_v/12)N = (2.36/12)1.81 = 0.3180$ AC-FT = 13,767 CF
 - PEAK DISCHARGE
 $Q_p = Q_{Av} + Q_{Bv} + Q_{Cv} + Q_{Dv}$
 $Q_p = Q_{100} = (2.36+1.81)/1.81 = 8.07$ CFS

- ON-SITE CONTRIBUTING AREAS (10-YEAR STORM)
 - VOLUME
 $E_v = (E_{Av} + E_{Bv} + E_{Cv} + E_{Dv})/N$
 $E_v = (1.50+1.11)/1.81 = 1.50$ IN
 $V_{10} = (E_v/12)N = (1.50/12)1.81 = 0.2009$ AC-FT = 8,750 CF
 - PEAK DISCHARGE
 $Q_p = Q_{Av} + Q_{Bv} + Q_{Cv} + Q_{Dv}$
 $Q_p = Q_{10} = (3.39+1.81) = 5.45$ CFS

- ON-SITE CONTRIBUTING AREAS (10-YEAR STORM)
 - VOLUME
 $E_v = (E_{Av} + E_{Bv} + E_{Cv} + E_{Dv})/N$
 $E_v = ((0.92+0.34)+(2.36+2.74))/3.28 = 2.12$ IN
 $V_{10} = (E_v/12)N = (2.12/12)3.28 = 0.5811$ AC-FT = 25,314 CF
 - PEAK DISCHARGE
 $Q_p = Q_{Av} + Q_{Bv} + Q_{Cv} + Q_{Dv}$
 $Q_p = Q_{10} = (2.60+0.34)+(5.02+2.74) = 15.18$ CFS

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 $E_v = (E_{Av} + E_{Bv} + E_{Cv} + E_{Dv})/N$
 $E_v = ((0.36+0.34)+(1.50+2.74))/3.28 = 1.31$ IN
 $V_{10} = (E_v/12)N = (1.31/12)3.28 = 0.3592$ AC-FT = 15,848 CF
 - PEAK DISCHARGE
 $Q_p = Q_{Av} + Q_{Bv} + Q_{Cv} + Q_{Dv}$
 $Q_p = Q_{10} = (1.19+0.34)+(3.39+2.74) = 9.95$ CFS

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 $Q_p = Q_{10}$

Legend:

| | |
|----------|-----------------------------------------|
| AL | AREA LIGHT |
| AL/C | AREA LIGHT ON CONCRETE |
| ASV | ANTI-SIPHON VALVE |
| BR | BUILDING OVERHANG |
| BRK | BRIE BACK |
| C&G | CURB AND GUTTER |
| CBN | CONCRETE BENCH |
| COP | CONCRETE DRIVEPAD |
| CHC | CONCRETE HEADCURB |
| CI | CAST IRON PIPE |
| CLD | CENTERLINE OF DOOR |
| CLDD | CENTERLINE OF DOUBLE DOOR |
| CLF | CHAIN LINK FENCE |
| CO | SANITARY SEWER CLEANOUT |
| CONC. | CONCRETE |
| COP | CURB OPENING |
| CP | CONCRETE PIPE |
| CRD | CONCRETE RUNDOWN |
| CRW | CONCRETE RETAINING WALL |
| CWR | CONCRETE WHEELCHAIR RAMP |
| DP | DRIVEPAD |
| E/C | EDGE OF GRASS |
| EA | EDGE OF ASPHALT |
| EC | ELECTRIC CONDUIT |
| EO | ELECTRIC OUTLET |
| EO/C | ELECTRIC OUTLET IN CONCRETE |
| EPB | ELECTRIC PULLBOX |
| FL | FLOWLINE |
| FP | FLAG POLE |
| GPM | GAS PUMP MARK |
| HCS | HANDICAP PARKING SIGN |
| INV | INVERT |
| IRRG | IRRIGATION |
| MBC | METAL BUILDING COLUMN |
| MBX | MAILBOX |
| MCP | METAL LIGHT POLE |
| MP | METAL POLE |
| MPP | METAL POWER POLE |
| MS | METAL SIGN |
| OHE(4) | OVERHEAD ELECTRIC (NO. OF LINES) |
| OHT(2) | OVERHEAD TELEPHONE (NO. OF LINES) |
| PI | PARKING BUMPER |
| PIB | PAINTED ISLAND |
| PLB | PLASTIC BENCH |
| PM | PAINT MARK |
| SAS MH | SANITARY SEWER MANHOLE |
| SCT | SPRINKLER CONTROL TIMER |
| SD | STORM DRAIN |
| SDMH | STORM DRAIN MANHOLE |
| SI | STORM INLET |
| SI/C | STORM INLET IN CONCRETE |
| STD. C&G | STANDARD CURB AND GUTTER |
| STL | STEEL |
| SW | TOP OF SIDEWALK |
| SWC | SIDEWALK CULVERT |
| TA | TOP OF ASPHALT |
| TC | TOP OF CURB |
| TCO | TOP OF CONCRETE |
| TCG | TOP OF GRATE |
| TMH | TELEPHONE MANHOLE |
| TPB | TELEPHONE PULLBOX |
| TPB/PS | TELEPHONE INSET/PULLBOX |
| TS | TRAFFIC SIGN |
| TVault | TELEPHONE VAULT |
| TYP. | TYPICAL |
| UP | UNDERGROUND |
| VG | VALLEY GUTTER |
| W/MH | WITH METAL HANDRAIL |
| WP | WOOD POLE |
| WMB | WATER METER BOX |
| X-WALK | CROSSWALK |
| + | EXISTING CONTOUR |
| 0 | EXISTING SPOT ELEVATION |
| 0 | EXISTING SHOULDER |
| 0 | EXISTING SHRUB |
| 0 | EXISTING DECIDUOUS TREE (CALIPER SIZE) |
| 0 | EXISTING CONIFEROUS TREE (CALIPER SIZE) |

TRAFFIC CIRCULATION LAYOUT APPROVED

PJG 10/16/05
Signed Date

LEGAL DESCRIPTION

TRACT 1, THE EAST END ADDITION

PROJECT BENCHMARK

CITY OF ALBUQUERQUE, Brown Island, changed "1-115", SET IN TOP OF A CONCRETE POST WHICH SETS 6.1' NORTH OF THE NORTH EDGE OF A CONCRETE SIDEWALK, AND FLUSH WITH THE TOP OF SIDEWALK HANGING ON THE NORTH SIDE OF CONSTITUTION AVE. N.E. AND BETWEEN PENNSYLVANIA BLVD. N.E. AND CONSTITUTION PL. N.E. ON THE SOUTH SIDE OF BROADWAY PARK. ELEVATION = 5229.05 FEET (M.S.L.D.)

T.B.M.
TOP OF CURB ELEVATION LOCATED AT THE S.E. CORNER OF THE INTERSECTION OF CONSTITUTION AVE. N.E. AND CONSTITUTION PLACE N.E. AS SHOWN ON THE DRAWING ON SHEET 1. ELEVATION = 5229.05 FEET (M.S.L.D.)

Final Construction Documents

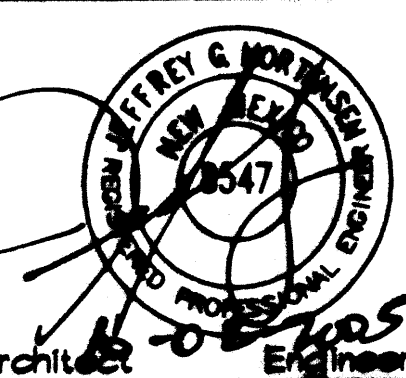
Parking Area A
FMG Constitution
8300 Constitution Avenue NE
Albuquerque, New Mexico
Presbyterian Project No. 1998002

Drawn: JMA Checked: JGM

No. 200431 Date 3/30/2005

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Revisions



PAVING SITE PLAN (TCL)

Sheet Title Sheet 2 of 10

CONSTITUTION AVENUE N.E.

CONSTITUTION PLACE N.E.

EXISTING BUILDING

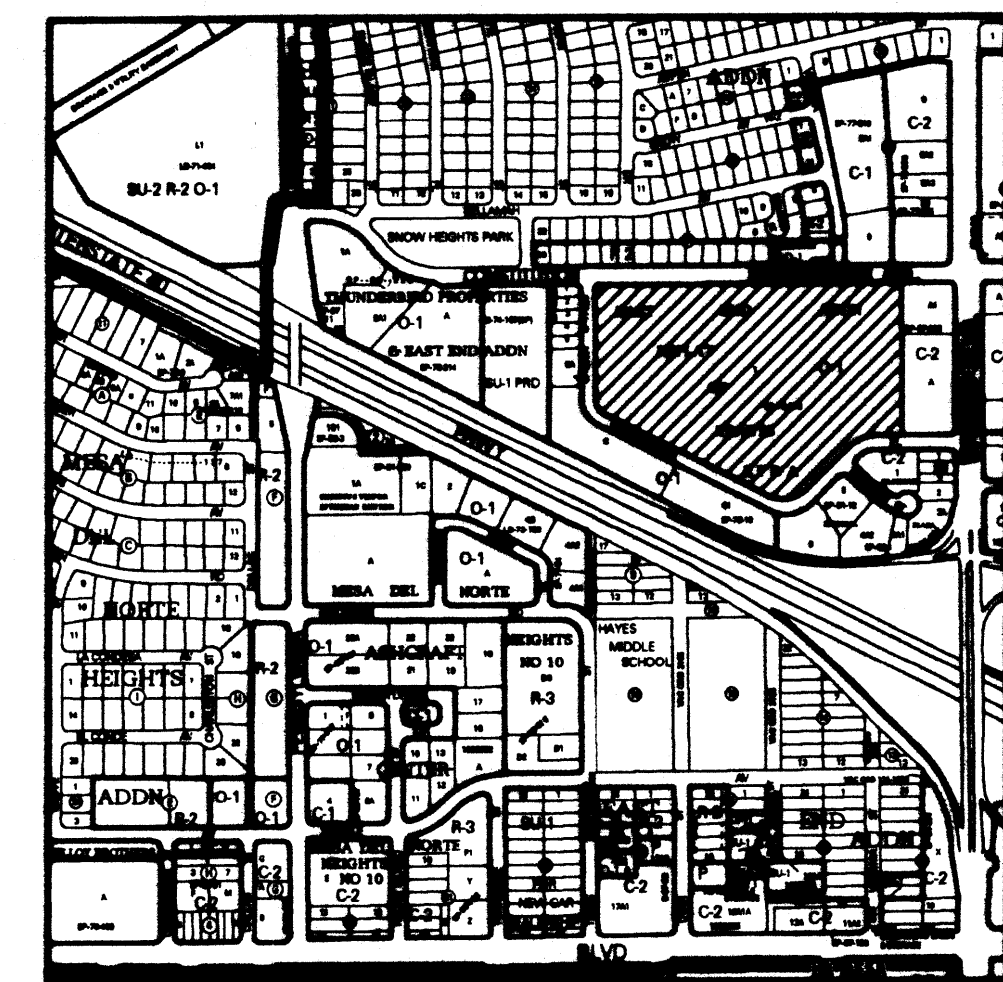
EXISTING BUILDING

GENERAL NOTES

1. OBTAIN ARCHITECT'S APPROVAL OF SIDEWALK LAYOUT AND JOINTS PRIOR TO PLACEMENT OF CONCRETE

SITE PLAN KEYED NOTES:

1. NEATLY SAWCUT, REMOVE AND DISPOSE OF EXISTING CURB AND GUTTER.
2. NEATLY SAWCUT, REMOVE AND DISPOSE OF EXISTING SIDEWALK.
3. REMOVE AND DISPOSE OF EXISTING TREES AND SHRUBS.
4. NEATLY SAWCUT, REMOVE AND DISPOSE OF EXISTING ASPHALT PARKING, 11'-0" MIN. WIDTH.
5. REMOVE AND DISPOSE OF 18" CMP STORM DRAIN PIPE.
6. REMOVE AND DISPOSE OF 6" PVC PIPE.
7. REMOVE AND DISPOSE OF 4" CHAINLINK FENCE.
8. EXISTING CONCRETE RUNDOWN TO REMAIN.
9. EXISTING CURB AND GUTTER TO REMAIN.
10. CONSTRUCT MULTI-DIRECTIONAL WHEELCHAIR RAMP PER DETAIL SHEET 2.
11. CONSTRUCT STANDARD CURB AND GUTTER PER DETAIL SHEET 2.
12. CONSTRUCT 2" SIDEWALK CULVERT, TYPICAL, PER DETAIL SHEET 2.
13. CONSTRUCT RUNDOWN PER DETAIL SHEET 2.
14. CONSTRUCT 5' WIDE CONCRETE SIDEWALK.
15. CONSTRUCT CONCRETE STAIRWAY PER DETAIL SHEET 2.
16. CONSTRUCT CONCRETE SIDEWALK PER DETAIL SHEET 2; SEE LANDSCAPING PLAN FOR LAYOUT.
17. CONSTRUCT NEW ASPHALT PAVEMENT PER TYPICAL PARKING LOT PAVEMENT SECTION, SHEET 2.
18. PAINT WHITE DIRECTIONAL ARROWS WITH WHITE TRAFFIC PAINT, MIN. 2 COATS PER MUTCD DEC 2000.
19. PAINT 4" PAVEMENT MARKING W/ WHITE TRAFFIC PAINT, MIN. 2 COATS.
20. PAINT CROSSWALK PAVEMENT MARKING PER DETAIL SHEET 2.
21. NEW LANDSCAPING, SEE LANDSCAPING PLAN.
22. INSTALL 18" CMP STORM DRAIN @ S = 0.02.
23. INSTALL SINGLE 'D' STORM INLET PER DETAIL SHEET 4 W/ T.O.G. @ 33.00 AND INV 18" (OUT) @ 30.47.
24. REMOVE AND DISPOSE EXISTING STORM INLET.
25. STENCIL "COMPACT" ON PARKING LOT PAVEMENT.
26. PAINT TOP AND FACE OF CURB W/ YELLOW TRAFFIC PAINT, MIN. 2 COATS.
27. BEGIN PAINTING TOP AND FACE OF CURB WITH YELLOW TRAFFIC PAINT.
28. END PAINTING TOP AND FACE OF CURB WITH YELLOW TRAFFIC PAINT.
29. STENCIL "NO PARKING" ON TOP AND FACE OF CURB AT 50' SPACING.
30. BEGIN STENCILING "NO PARKING" ON TOP AND FACE OF CURB.
31. END STENCILING "NO PARKING" ON TOP AND FACE OF CURB.
32. REMOVE AND DISPOSE 4' DOUBLE SWING GATE.
33. EXISTING MANHOLE TO REMAIN.
34. INSTALL SALVAGED CONCRETE PARKING BUMPERS @ EDGE OF FLUSH SIDEWALK PER DETAIL SHEET 2.
35. CONSTRUCT RAMPPING CONCRETE SIDEWALK PER DETAIL SHEET 2 (MAX. 12:1 SLOPE).
36. NEATLY SAWCUT, REMOVE AND DISPOSE OF EXISTING CONCRETE RUNDOWN.
37. EXISTING CONCRETE RUNDOWN TO REMAIN (3').
38. NEW LIGHT STANDARD AND BASE, SEE COMPANY.
39. CONSTRUCT CONCRETE SIDEWALK FLUSH WITH PAVING PER DETAIL SHEET 2.
40. NEATLY REMOVE AND SALVAGE EXISTING PARKING BUMPERS.
41. INSTALL 1 - ADA COMPLIANT HANDICAP PARKING SIGN.
42. INSTALL 1 - ADA COMPLIANT HANDICAP PARKING SIGN W/ VAN ACCESSIBLE PLACARD.
43. NEW GROUND MOUNTED SIGN BY OWNER, PROVIDE POWER, COORDINATE REQUIREMENTS WITH SIGN COMPANY.
44. CONSTRUCT CONCRETE SIDEWALK FLUSH WITH PAVING PER DETAIL SHEET 2.
45. REMOVE AND DISPOSE EXISTING CONCRETE RUNDOWN.
46. EXISTING TRENCH DRAIN TO REMAIN.
47. INSTALL 1 - ADA COMPLIANT HANDICAP PARKING SPACE PAVEMENT MARKING, TYPICAL.
48. PAINT 4" WIDE CROSS-HATCH (2' OC) PAVEMENT MARKINGS @ 45 DEG W/ WHITE TRAFFIC PAINT, MIN. 2 COATS, TYPICAL.
49. EXISTING LIGHT POLE TO REMAIN.
50. EXISTING TREES AND SHRUBS TO REMAIN.
51. CONSTRUCT SIDEWALK CULVERT, TYPICAL, PER DETAIL SHEET 2.
52. INSTALL 18" CMP STORM DRAIN @ S = 0.015.
53. CLEAR SIGHT TRIANGLE.

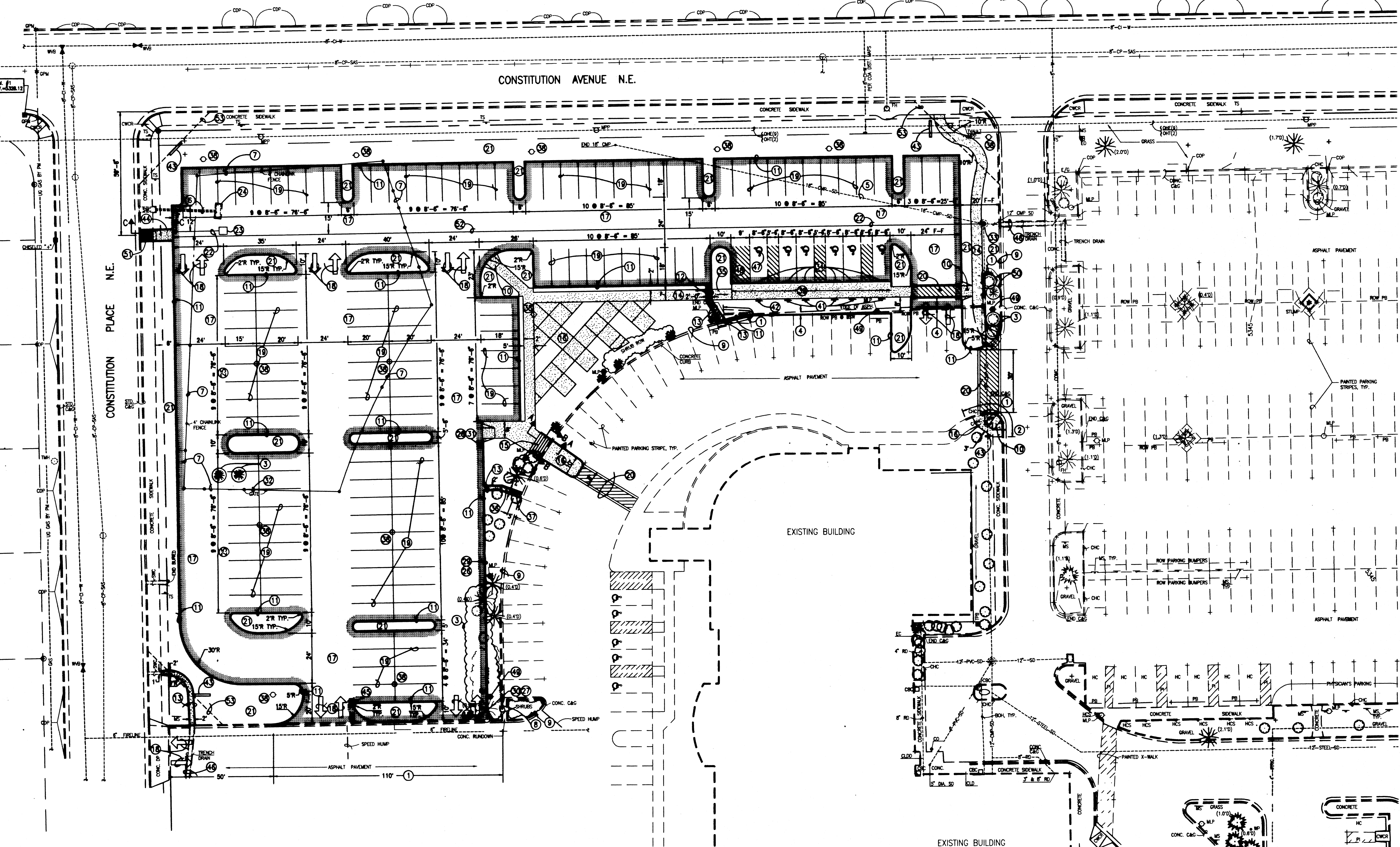
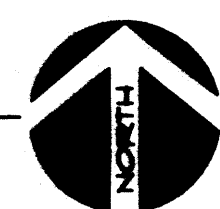


VICINITY MAP

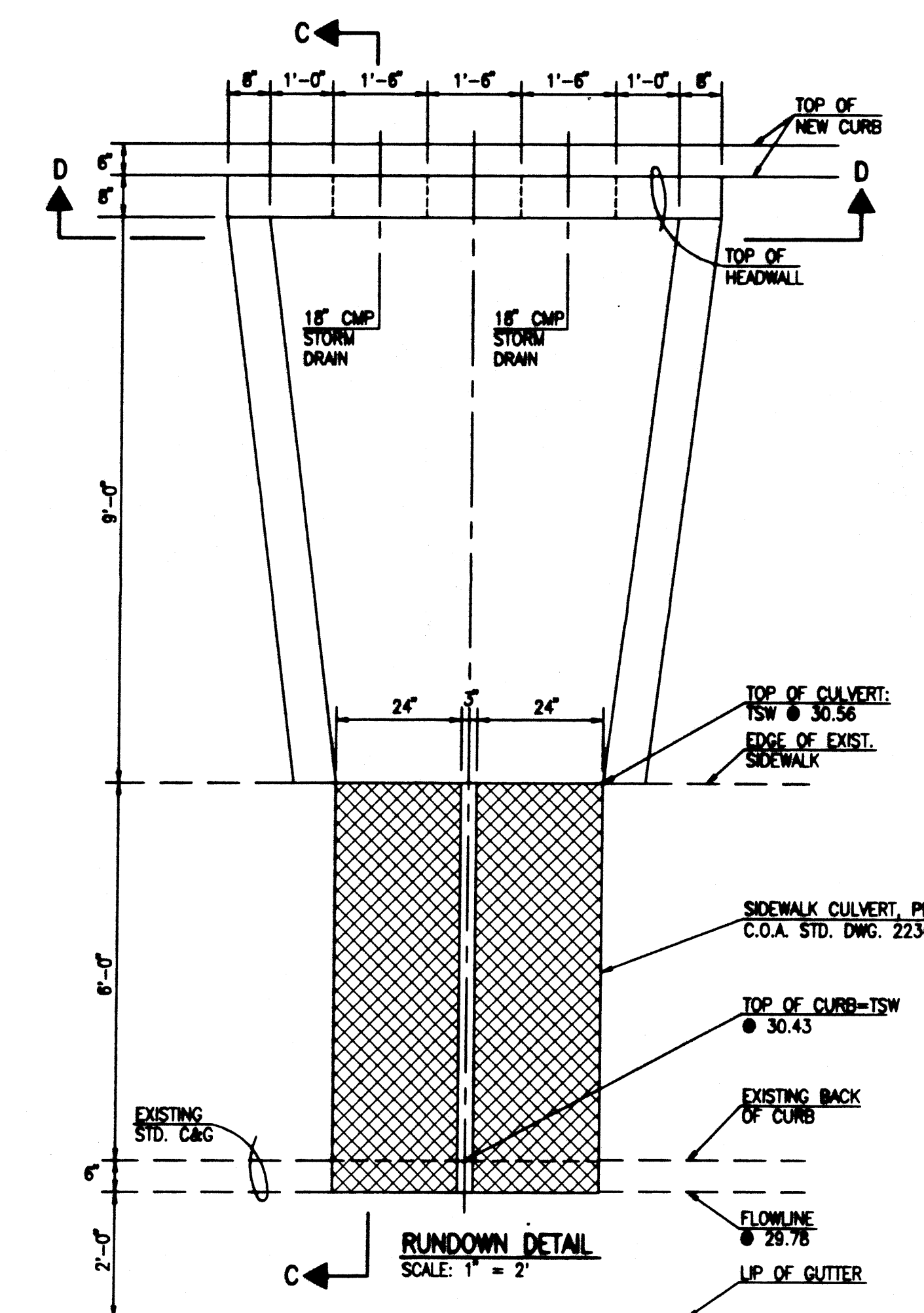
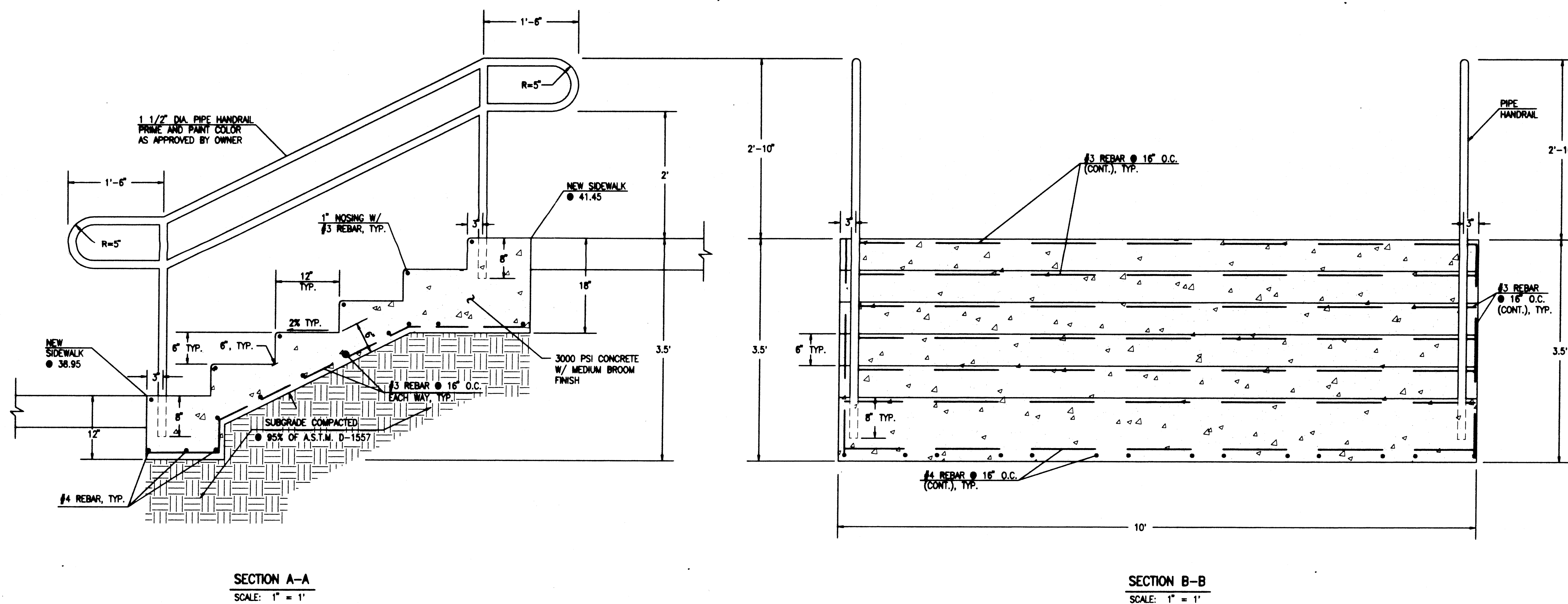
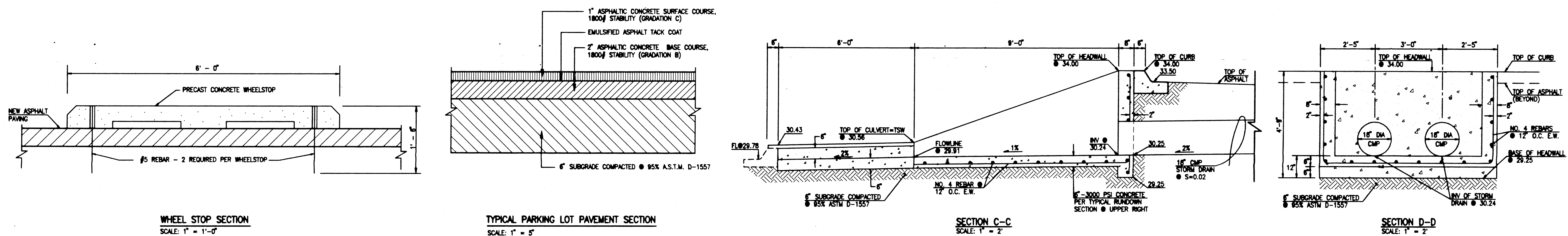
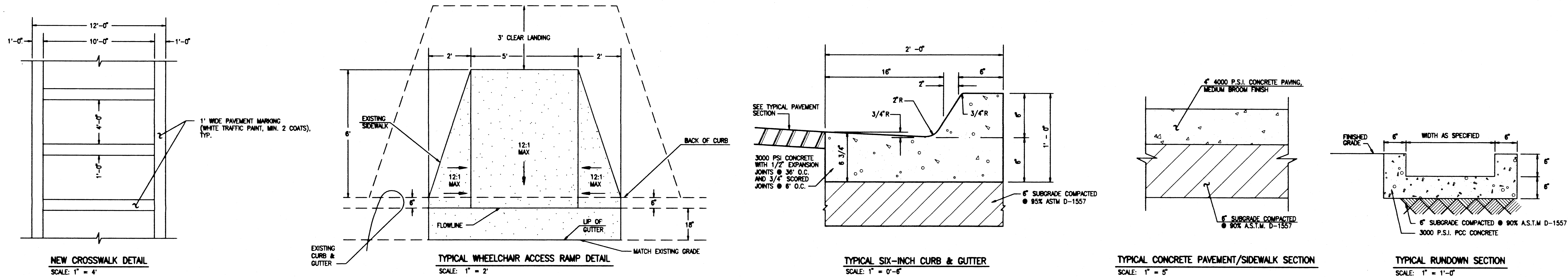
SCALE: 1" = 750'

PAVING SITE PLAN (TCL)

1"=20'



JMA JOB NO. 2004.120.2
JEFF MORTENSEN & ASSOCIATES, INC.
6010-B MIDWAY PARK BLVD. N.E.
ALBUQUERQUE, N.M. 87109
ENGINEERS SURVEYORS (SOS) 345-4250
FAX: 505 345-4254 ESTABLISHED 1977



PAVING SECTIONS AND DETAILS

Final Construction Documents

Parking Area A
PMG Constitution
8300 Constitution Avenue NE
Albuquerque, New Mexico
Presbyterian Project No. 199902

Drawn: JMA Checked: JSM
Proj: 2004.31 Date: 9/30/2005
No.: 1000 KEVIN GEORGES & ASSOCIATES, P.A.
Revisions: Architect Engineer

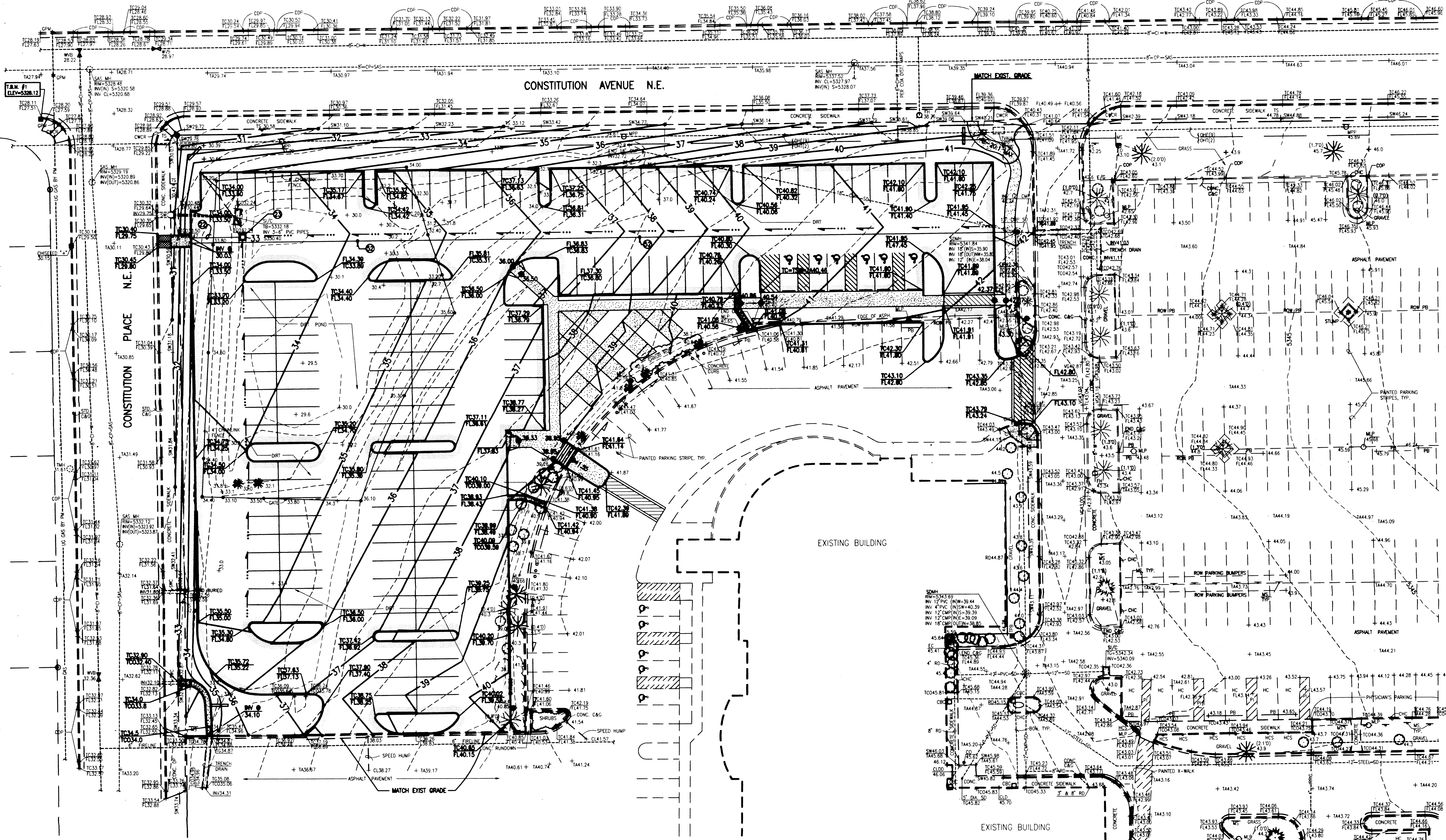
PAVING SECTIONS AND DETAILS

Sheet Title Sheet 3 of 10

C2

Plot Date: 09-30-2005
Plot Time: 1:41 pm
File Path: \\jma\jma\4120250.DWG
File Name: 4120250.DWG

JMA
JMA JOB NO. 2004.120.2
JEFF MORTENSEN & ASSOCIATES, INC.
6010-B MIDWAY PARK BLVD. NE
ALBUQUERQUE, NEW MEXICO 87109
ENGINEERS SURVEYORS (SOS) 345-4250
FAX: 505-345-4254 ESTABLISHED 1977



- Legend:**
- AL AREA LIGHT
 - AL/C AREA LIGHT ON CONCRETE
 - ASV ANTI-SIPHON VALVE
 - BDH BUILDING OVERHANG
 - BNH BENT BACK
 - CBG CURB AND GUTTER
 - CBN CONCRETE BENCH
 - CDP CONCRETE DRIVEPAD
 - CHC CHAIN LINK FENCE
 - CI CAST IRON PIPE
 - CLO CENTERLINE OF DOOR
 - CLOD CENTERLINE OF DOUBLE DOOR
 - CO CHAIN LINK FENCE
 - CO CONCRETE
 - CONC CONCRETE
 - COP CURB OPENING
 - CPD CONCRETE DRIVEPAD
 - CPW CONCRETE RETAINING WALL
 - CWR CONCRETE WHEELCHAIR RAMP
 - DP DRIVEPAD
 - E/G EDGE OF GRASS
 - EA EDGE OF ASPHALT
 - EC ELECTRIC CONDUIT
 - EO ELECTRIC OUTLET
 - EO/C ELECTRIC OUTLET IN CONCRETE
 - EPB ELECTRIC PULLBOX
 - FL FLOWLINE
 - FP FLAG POLE
 - GPW GAS PUMP MARK
 - HCS HANDICAP PARKING SIGN
 - INV INVERT
 - IRRG IRRIGATION
 - MBC METAL BUILDING COLUMN
 - MBX METAL BOX
 - MLP METAL LIGHT POLE
 - MP METAL POLE
 - MPP METAL POWER POLE
 - MS METAL SIGN
 - OE(4) OVERHEAD ELECTRIC (NO. OF LINES)
 - OE(2) OVERHEAD TELEPHONE (NO. OF LINES)
 - PI PARKING ISLAND
 - PLB PLASTIC BENCH
 - PM PAINT MARK
 - SAC SANITARY SEWER MANHOLE
 - SCT SPARKLER CONTROL TIMER
 - SD STORM DRAIN
 - SDMH STORM DRAIN MANHOLE
 - SI STORM INLET
 - S/C STORM INLET IN CONCRETE
 - STD C&G STANDARD CURB AND GUTTER
 - STL STEEL
 - SW TOP OF SIDEWALK
 - SWC SIDEWALK CULVERT
 - TA TOP OF ASPHALT
 - TC TOP OF CURB
 - TCO TOP OF CONCRETE
 - TG TOP OF GRATE
 - TMH TELEPHONE MANHOLE
 - TYP TELEPHONE PULLBOX
 - TR/PB TELEPHONE RISER/PULLBOX
 - TS TRAFFIC SIGN
 - TVALT TELEPHONE VAULT
 - TYP TYPICAL
 - UG UNDERGROUND
 - UG VALLEY GUTTER
 - W/MH WITH METAL HANDRAIL
 - WP WOOD POLE
 - WBW WATER VALVE BOX
 - X-WALK CROSSWALK
 - EXISTING CONTOUR
 - EXISTING SPOT ELEVATION
 - EXISTING BOULDER
 - EXISTING SHRUB
 - EXISTING DECIDUOUS TREE (CALIPER SIZE)
 - EXISTING CONIFEROUS TREE (CALIPER SIZE)

- STORM DRAINAGE KEYED NOTES:**
- 22 INSTALL 18" CMP STORM DRAIN @ S = 0.02
 - 23 INSTALL SINGLE TY STORM INLET PER DETAIL, SHEET 4 W/ T.O.G. @ 33.00 AND INV 18" (OUT) @ 30.47
 - 24 INSTALL 18" CMP STORM DRAIN @ S = 0.015

LEGAL DESCRIPTION
TRACT 1, THE EAST END ADDITION

PROJECT BENCHMARK
CITY OF ALBUQUERQUE (Brown Label, stamped "1-118", SET IN TOP OF A CONCRETE POST WHICH SETS 6'4" NORTH OF THE NORTH EDGE OF A CONCRETE SIDEWALK AND FLUSH WITH THE TOP OF SIDEWALK PAVEMENT ON THE NORTH SIDE OF CONSTITUTION AVE. N.E. BETWEEN PENNSYLVANIA BLVD. N.E. AND CONSTITUTION PL. N.E. ON THE SOUTH SIDE OF ELEVATION = 5320.05 FEET (N.A.S.L.D.)

T.B.M.
TOP OF CURB ELEVATION LOCATED AT THE S.E.E. CORNER OF THE INTERSECTION OF CONSTITUTION AVE. N.E. AND CONSTITUTION PLACE N.E. AS SHOWN ON THE DRAWING OR SHEET 1. ELEVATION = 5320.05 FEET (N.A.S.L.D.)

Final Construction Documents

**Parking Area A
PMG Constitution**
8300 Constitution Avenue NE
Albuquerque, New Mexico
Presbyterian Project No. 1700002

Drawn By: JMA Checked: JGM
Proj: 2004.31 Date: 09/30/05
©2005 KEVIN GEORGES & ASSOCIATES, P.A.

Revisions: _____

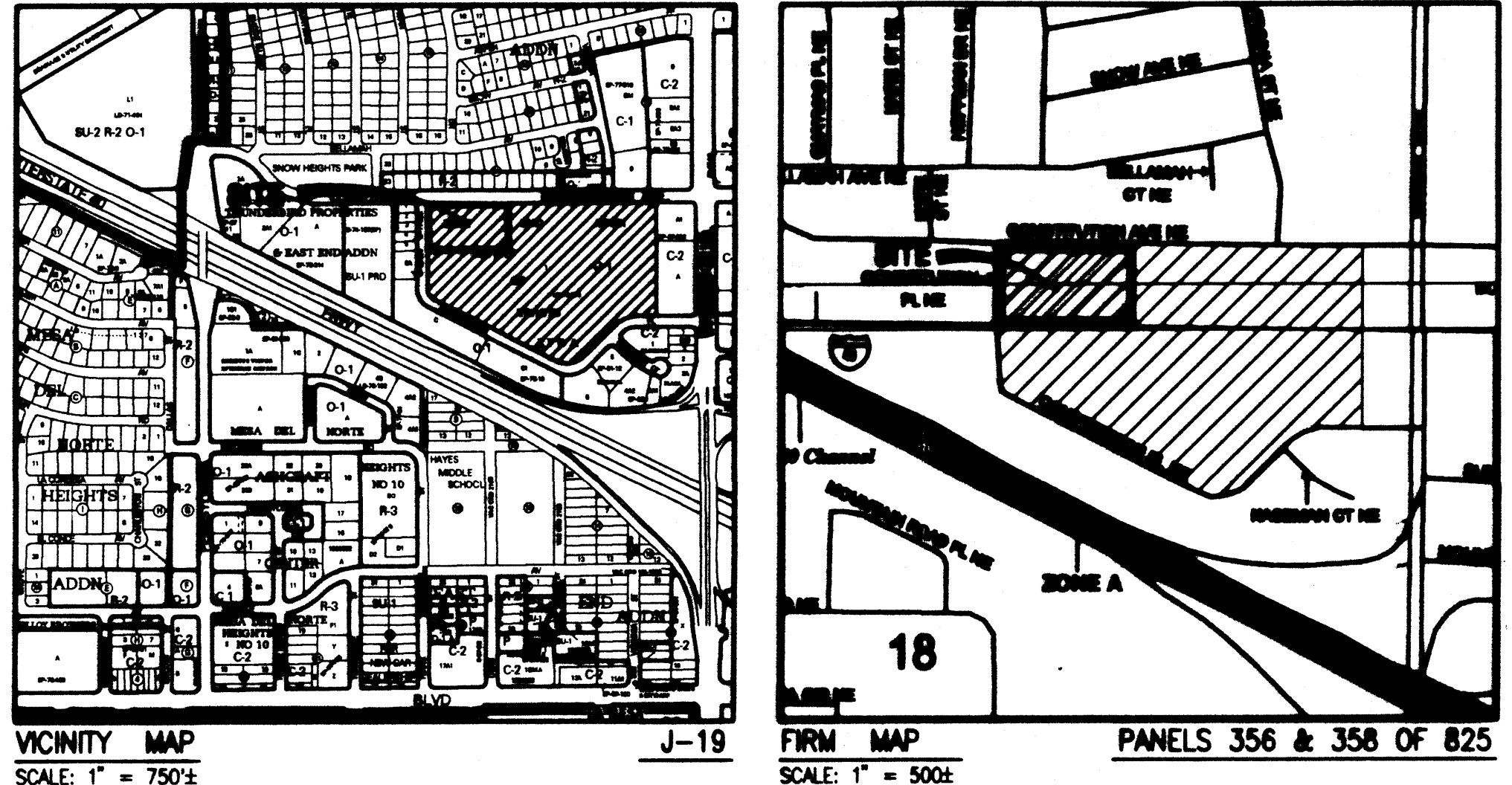
Architect: *[Signature]* Engineer: *[Signature]*

C3

Grading Plan
Sheet Title: _____ Sheet: 4 of 10

- CONSTRUCTION NOTES:**
1. TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL SYSTEM 280-1990 (ALBUQUERQUE AREA), 1-800-321-ALERT2537 (STATEWIDE), FOR LOCATION OF EXISTING UTILITIES.
 2. 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.
 3. 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.
 4. ALL CONSTRUCTION WITHIN PUBLIC RIGHT-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE CITY OF ALBUQUERQUE STANDARDS AND PROCEDURES.
 5. IF ANY UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES ARE SHOWN ON THESE DRAWINGS, THEY 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 ENGINEER 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 CONTRACTOR SHALL INFORM ITSELF OF THE LOCATION OF ANY UTILITY LINE, PIPE, OR UNDERGROUND UTILITY LINE IN OR NEAR THE AREA OF THE WORK IN ADVANCE OF AND DURING EXCAVATION WORK. THE 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.
 6. 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.
 7. AN EXCAVATION/CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN CITY RIGHT-OF-WAY. AN APPROVED COPY OF THESE PLANS MUST BE SUBMITTED AT THE TIME OF APPLICATION FOR THIS PERMIT.
 8. BACKFILL COMPACTION SHALL BE ACCORDING TO ARTERIAL STREET USE.
 9. MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.
- EROSION CONTROL MEASURES:**
1. THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE SITE INTO PUBLIC RIGHT-OF-WAY OR ONTO PRIVATE PROPERTY.
 2. THE CONTRACTOR SHALL PROMPTLY CLEAN UP ANY MATERIAL EXCAVATED WITHIN THE PUBLIC RIGHT-OF-WAY SO THAT THE EXCAVATED MATERIAL IS NOT SUSCEPTIBLE TO BEING WASHED DOWN THE STREET.
 3. WHEN APPLICABLE, CONTRACTOR SHALL SECURE "TOPSOIL DISTURBANCE PERMIT" FROM THE CITY AND/OR FILE A NOTICE OF INTENT (N.O.I.) WITH THE EPA PRIOR TO BEGINNING CONSTRUCTION.
 4. UNLESS FINAL STABILIZATION IS OTHERWISE PROVIDED FOR, ANY AREAS OF EXCESS DISTURBANCE (TRAFFIC ACCESS, STORAGE YARD, EXCAVATED MATERIAL, ETC.) SHALL BE RE-SEEDING ACCORDING TO C.O.A. SPECIFICATION 1012 "NATIVE GRASS SEEDING". THIS WILL BE CONSIDERED INCIDENTAL TO CONSTRUCTION, THEREFORE, NO SEPARATE PAYMENT WILL BE MADE.

| APPROVALS | NAME | DATE |
|-------------------------|------|------|
| HYDROLOGY | | |
| SIDEWALK INSPECTOR | | |
| STORM DRAIN MAINTENANCE | | |

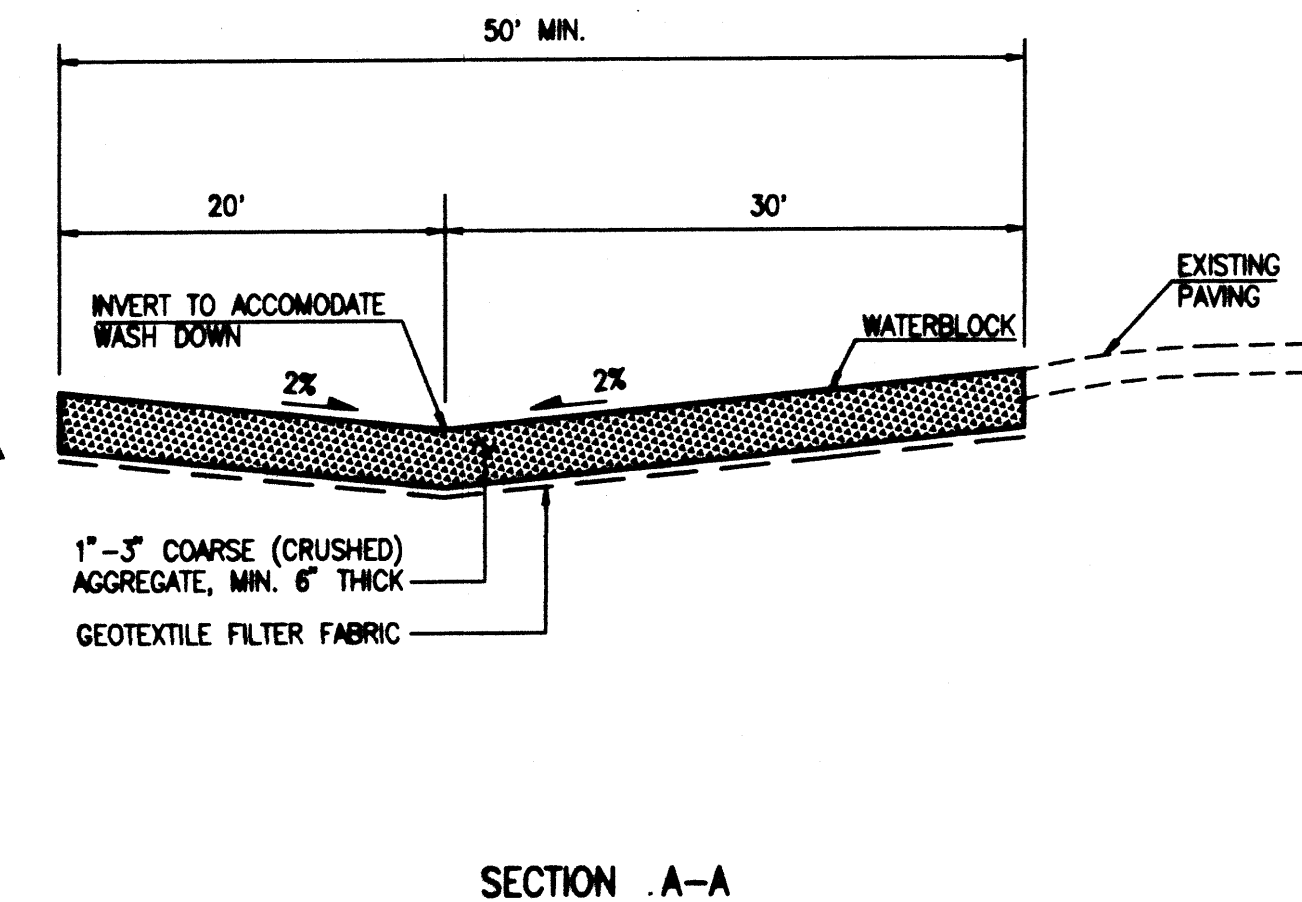
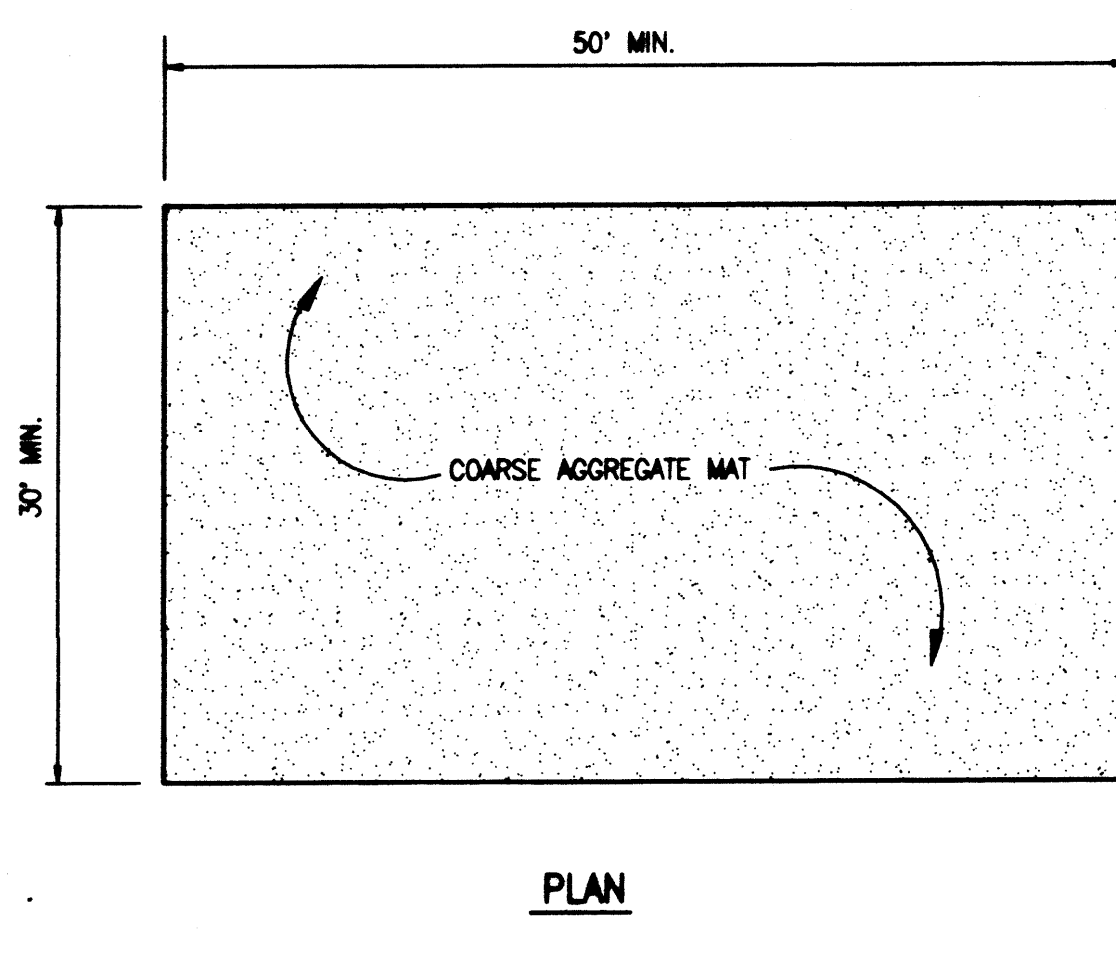
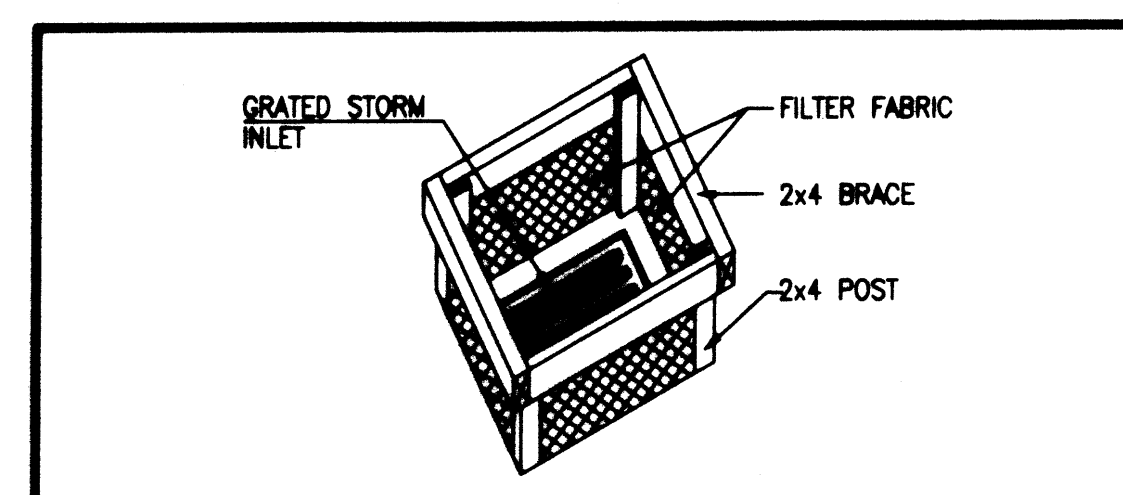
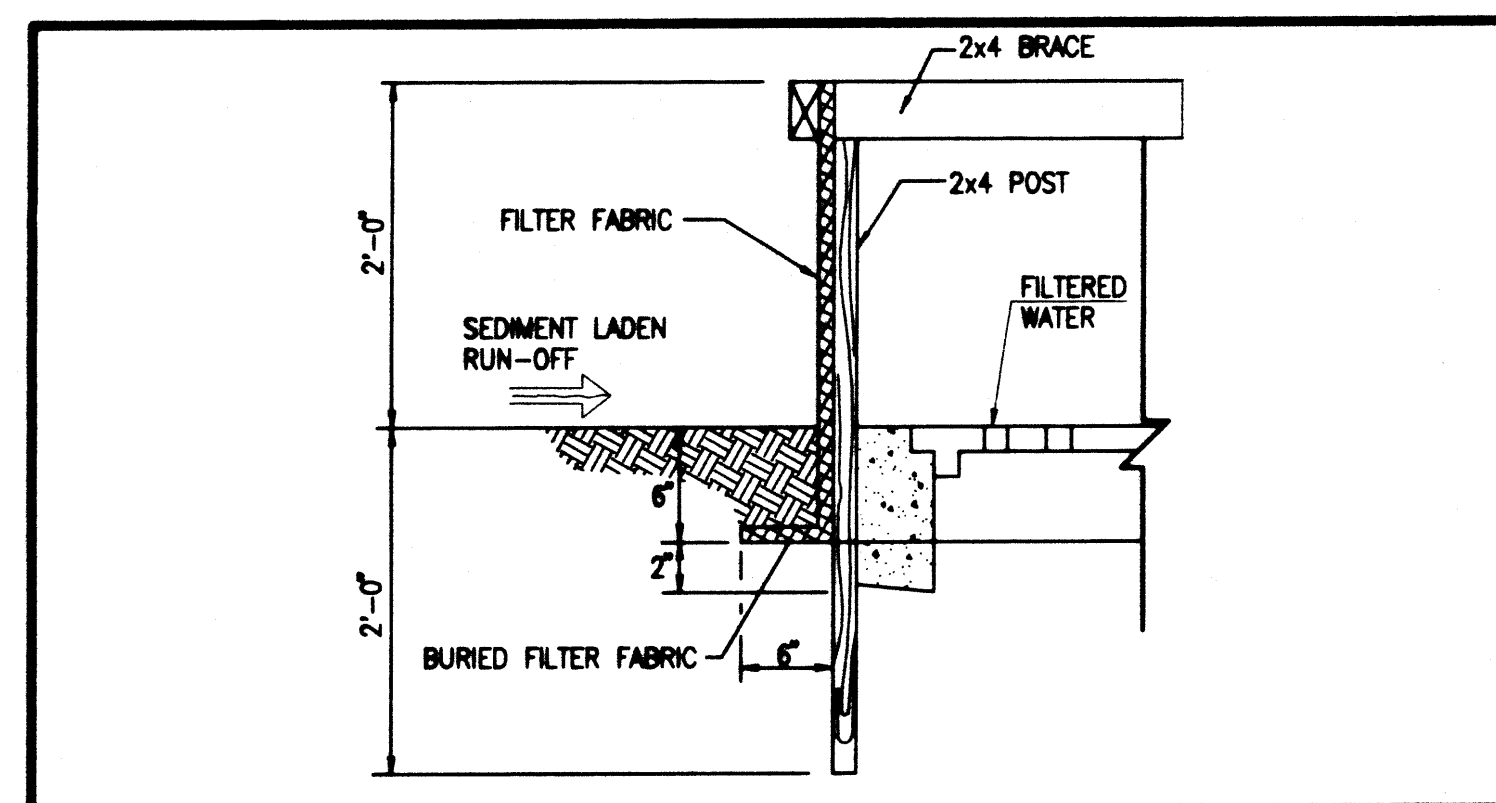
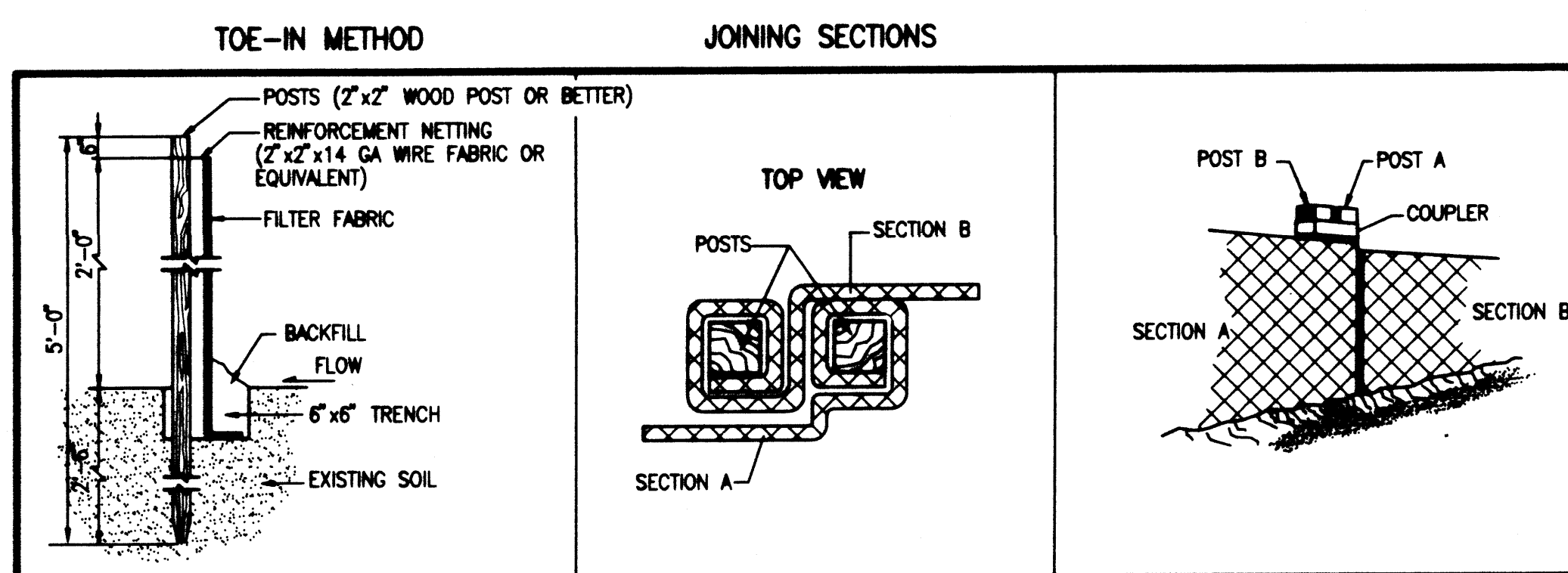


C4



JMA JOB NO. 004.120.8
 JEFF MORSE & ASSOCIATES, INC.
 6010-B MIDWAY PARK BLVD. NE.
 ALBUQUERQUE, NM 87109
 ENGINEERS & SURVEYORS (SOS) 345-4250
 FAX: 505 345-4254 • ESTABLISHED 1977

PREFABRICATED SILT FENCE DETAILS NOT TO SCALE



SEDIMENT CONTROL PLAN 1"=20'

Legend:

| | |
|------------------------------------------|------------------------------------------------|
| AL AREA LIGHT ON CONCRETE | PI PAINTED ISLAND |
| AL/C AREA LIGHT ON CONCRETE | PIB PAINT MARK |
| ASV ANTI-SIPHON VALVE | PIB SANITARY SEWER MANHOLE |
| BOH BUILDING OVERHANG | SCT SPRINKLER CONTROL TIMER |
| BNH BNC RACK | SD STORM DRAIN |
| CAG CURB AND GUTTER | SDH STORM DRAIN MANHOLE |
| CBN CONCRETE BENCH | SI STORM INLET |
| CD CONCRETE DRIVEWAY | S/C STORM INLET IN CONCRETE |
| CHD CONCRETE HEADER CURB | STD. C&G STANDARD CURBS AND GUTTER |
| CI CAST IRON PIPE | STL STEEL |
| CDC CENTERLINE OF DOOR | SW TOP OF SIDEWALK |
| CDD CENTERLINE OF DOUBLE DOOR | SWC SIDEWALK CULVERT |
| CLF CHAIN LINK FENCE | TA TOP OF ASPHALT |
| CO SANITARY SEWER CLEANOUT | TC TOP OF CURB |
| CONC CONCRETE | TCC TOP OF CONCRETE |
| CURB CURB | TO TOP OF GRADE |
| CP CONCRETE PIPE | TPH TELEPHONE MANHOLE |
| CRD CONCRETE RUNDOWN | TPB TELEPHONE RISER/PULLBOX |
| CW CONCRETE RETAINING WALL | TV TYPICAL |
| CWCR CONCRETE WHEELCHAIR RAMP | TVALL TYPICAL VAULT |
| DP DRIVEWAY | UG UNDERGROUND |
| E/G EDGE OF GRASS | UGG UNDERGROUND GUTTER |
| EA EDGE OF ASPHALT | W/W/MR WITH METAL HANDRAIL |
| EO ELECTRIC OUTLET | WO WOOD POLE |
| EO/C ELECTRIC OUTLET IN CONCRETE | WV WATER VALVE BOX |
| EPB ELECTRIC PULLBOX | W/W/W CROSSWALK |
| FL FLOWLINE | W/W/W EXISTING SPOT ELEVATION |
| GPM GAS PUMP MARK | X-WALK EXISTING BOULDER |
| GPS HANDICAP PARKING SIGN | X-WALK EXISTING SHRUB |
| INV INVERT | X-WALK EXISTING DECIDUOUS TREE (CALIPER SIZE) |
| IRRG IRRIGATION | X-WALK EXISTING CONIFEROUS TREE (CALIPER SIZE) |
| MBC METAL BUILDING COLLAM | |
| MBX MAILBOX | |
| MPL METAL LIGHT POLE | |
| MP METAL POLE | |
| MPP METAL POWER POLE | |
| MS METAL SIGN | |
| ONE(4) OVERHEAD ELECTRIC (NO. OF LINES) | |
| ONT(2) OVERHEAD TELEPHONE (NO. OF LINES) | |
| PB PARKING BUMPER | |

- EROSION CONTROL NOTES:**
- THIS PLAN ADDRESSES GENERAL AND SPECIFIC MEASURES FOR CONSTRUCTION PHASE EROSION AND DUST CONTROL. REFER TO THE GRADING AND DRAINAGE PLAN PREPARED BY JEFF MORSE AND ASSOCIATES, INC. FOR GRADING NOTES AND INFORMATION.
 - THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE SITE INTO PUBLIC RIGHT-OF-WAY OR ONTO PRIVATE PROPERTY.
 - THE CONTRACTOR SHALL PROMPTLY CLEAN UP ANY MATERIAL EXCAVATED WITHIN THE PUBLIC RIGHT-OF-WAY SO THAT THE EXCAVATED MATERIAL IS NOT SUSCEPTIBLE TO BEING WASHED DOWN THE STREET.
 - CONCRETE TRUCKS SHALL BE SENT BACK TO PLANT FOR WASHING. THE WASHING OF CONCRETE TRUCKS SHALL NOT BE PERMITTED ON THIS SITE.
 - THE CONTRACTOR SHALL SECURE ALL REQUIRED PERMITS PRIOR TO BEGINNING CONSTRUCTION.
 - THE CONTRACTOR SHALL PROMPTLY REMOVE SEDIMENT ACCUMULATION FROM SILT FENCES WITHIN 48 HOURS OF A RAINFALL EVENT.
 - THE CONTRACTOR SHALL PICK UP LITTER AND CONSTRUCTION DEBRIS ON A DAILY BASIS.
 - OFFSITE MATERIAL STORAGE AREAS USED BY THIS PROJECT ARE CONSIDERED PART OF THE PROJECT AND ARE SUBJECT TO THE REQUIREMENTS OF THIS EROSION CONTROL PLAN.
 - THE CONTRACTOR SHALL IMPLEMENT ON-SITE STRUCTURAL EROSION CONTROL PRACTICES AS REQUIRED TO COMPLY WITH THE EROSION CONTROL PLAN. THESE PRACTICES MAY INCLUDE BUT ARE NOT LIMITED TO: SILT FENCES, EARTHEN DIKES, DRAINAGE SWALES, SEDIMENT TRAPS, CHECK DAMS, SUBSURFACE DRAINS, PIPE SLOPE DRAINS, LEVEL SPREADERS, STORM RETAINING SYSTEM, GABIONS AND TEMPORARY OR PERMANENT SEDIMENT BASINS.
 - THE CONTRACTOR SHALL MINIMIZE OFFSITE VEHICLE TRACKING OF SEDIMENT AND DUST GENERATION.
 - UPON COMPLETION OF MASS GRADING, ALL DISTURBED AREAS SHALL BE STABILIZED WITH PERMANENT CONSTRUCTION, LANDSCAPING, VEGETATION AND/OR GRAVEL MULCH. SILT FENCING CAN BE REMOVED UPON SUCCESSFUL ESTABLISHMENT OF VEGETATION.
 - REFER TO STORM WATER POLLUTION PREVENTION PLAN FOR PROJECT SPECIFIC PHASING AND INFORMATION. THIS PROJECT SHALL BE IMPLEMENTED IN PHASES TO MINIMIZE THE EXTENT AND DURATION OF SURFACE DISTURBANCE.
 - FOR EXAMPLES OF ADDITIONAL BMP'S, REFER TO THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM MANUAL - STORM WATER MANAGEMENT GUIDELINES FOR CONSTRUCTION AND INDUSTRIAL ACTIVITIES, NOVEMBER 2002.

- STORM DRAINAGE KEYED NOTES:**
- INSTALL 18" CMP STORM DRAIN @ S = 0.02
 - INSTALL SINGLE 12" STORM INLET PER DETAIL, SHEET 4 W/ T.O.G. @ 33.00 AND INV 18" (OUT) @ 30.47
 - INSTALL 18" CMP STORM DRAIN @ S = 0.015

LEGAL DESCRIPTION TRACT 1, THE EAST END ADDITION

PROJECT BENCHMARK
 CITY OF ALBUQUERQUE: Brown Island, marked "11-11H", SET IN TOP OF A CONCRETE POST WHICH SETS 6'4" NORTH OF THE NORTH EDGE OF A CONCRETE SIDEWALK AND FLUSH WITH THE TOP OF SIDEWALK PAVEMENT ON THE NORTH SIDE OF CONSTITUTION AVE. N.E. AND BETWEEN PENNSYLVANIA BLVD. N.E. AND CONSTITUTION PL. N.E. ON THE SOUTH SIDE OF BROWN HEIGHTS PARK. ELEVATION = 5320.05 FEET (N.A.S.D.)

T.B.M.
 TOP OF CURB ELEVATION LOCATED AT THE S.S.E. CORNER OF THE INTERSECTION OF CONSTITUTION AVE. N.E. AND CONSTITUTION PLACE N.E. AS SHOWN ON THE DRAWING ON SHEET 1. ELEVATION = 5329.86 FEET (N.A.S.D.)

Final Construction Documents

Parking Area A
PMG Constitution
 8300 Constitution Avenue NE
 Albuquerque, New Mexico
 Presbyterian Project No. 14080802

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|----------------------------------------|-----------|---------|----------|
| Drawn | JMA | Checked | JGM |
| Proj. No. | 200431 | Date | 09/29/05 |
| ©2005 KEVIN GEORGES & ASSOCIATES, P.A. | | | |
| Revisions | Architect | | |
| | Engineer | | |