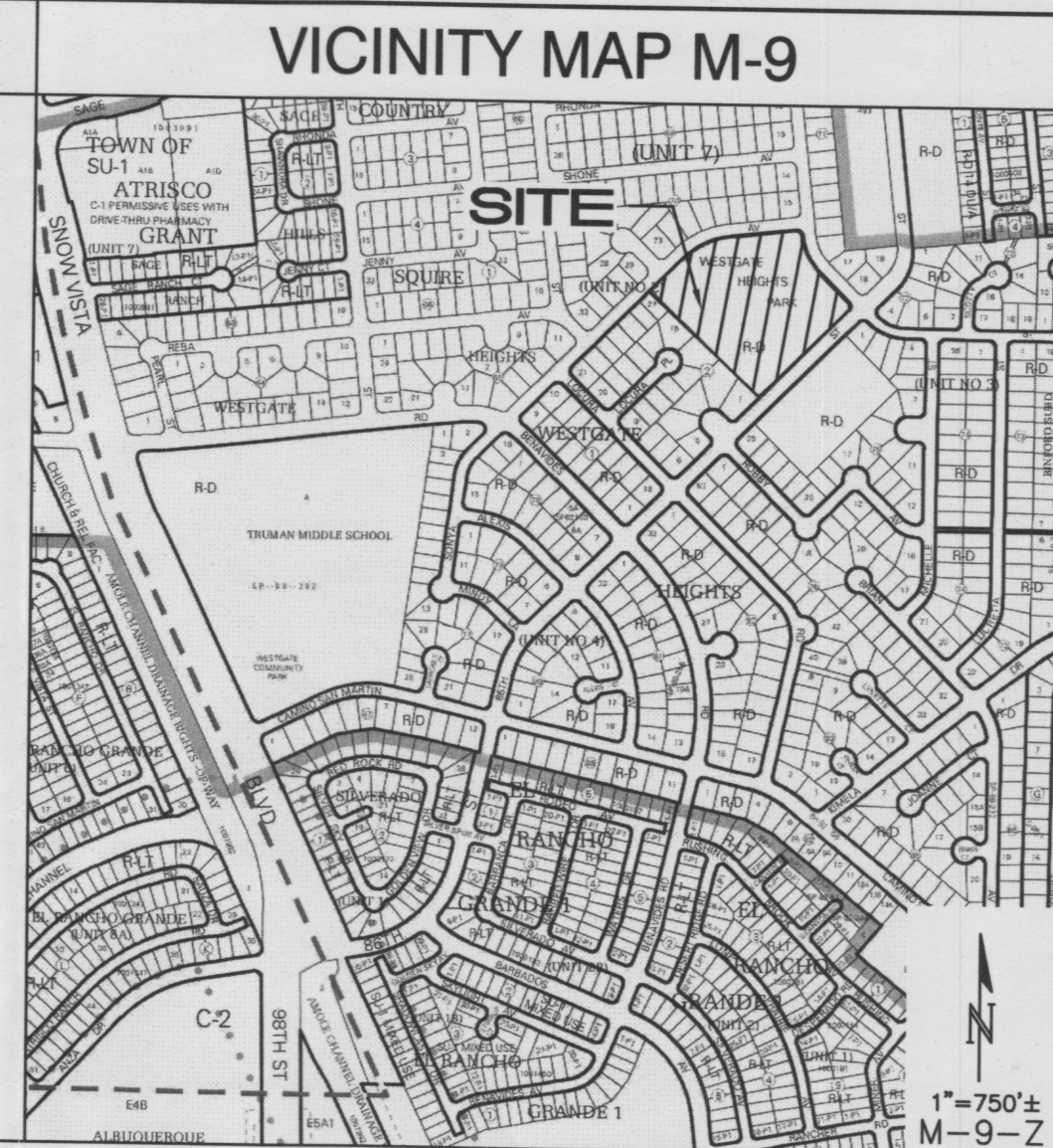


LEGEND	
FOR USE WITH SHEETS 4, 5, 6 AND 7	
---	EXISTING CONTOUR (1' INCREMENT)
→	FLOW DIRECTION
---	PROPOSED CONTOUR (1' INCREMENT)
---	PROPOSED CONTOUR (0.5' INCREMENT)
---	PROPOSED CONTOUR (0.1' INCREMENT)
---	FIRST FLUSH RETENTION POND
---	6" AVG. ANGULAR ROCK EROSION PROTECTION
---	GRADE BREAK



PROJECT DATA

PROPERTY: THE SITE IS A DEVELOPED LITTLE LEAGUE PARK. PROPERTY LOCATED WITHIN C.O.A. VICINITY MAP M-9 THE SITE IS BOUND TO THE NORTHEAST BY SAPPHIRE STREET, TO THE SOUTHEAST BY 86TH STREET, TO THE NORTH / NORTHWEST BY SONYA AV. AND TO THE SOUTHWEST BY DEVELOPED RESIDENTIAL PROPERTIES.

PROPOSED IMPROVEMENTS: THE PROPOSED IMPROVEMENTS INCLUDE NEW PLAYGROUND AND SPORTS FIELD WITH ASSOCIATED ASPHALT PAVED ACCESS, PARKING, LANDSCAPING AND DRAINAGE IMPROVEMENTS.

LEGAL: WESTGATE HEIGHTS PARK ADD'N, UNIT 2. ALBUQ., NM

ADDRESS: 8810 SONYA AVE. SW

OFF-SITE: NO OFF-SITE DRAINAGE IMPACTS THIS PROPERTY.

FLOOD HAZARD: PER BERNALILLO COUNTY FIRM MAP NUMBER FM35001C0336H, DATED AUGUST 16, 2012, THE SITE IS LOCATED WITHIN FLOODZONE 'X' DESIGNATED AS AREAS DETERMINED TO BE OUTSIDE 500-YEAR FLOODPLAIN.

DRAINAGE PLAN CONCEPT: FIRST FLUSH RETENTION BASINS WILL BE CONSTRUCTED ADJACENT TO IMPERMEABLE PAVEMENT AS SHOWN. THE PROPERTY WILL CONTINUE TO DISCHARGE TO 98TH STREET AT THE EXISTING COVERED SIDEWALK CULVERT TO FOLLOW EXISTING FLOWPATHS. IN ADDITION TO FIRST FLUSH RETENTION, WATER HARVESTING BASINS WILL BE PROVIDED THROUGHOUT THE PROPERTY.

THE ADDITION OF FIRST FLUSH STORMWATER RETENTION PONDS, INCREASED GRASS AREA, SELF PONDING PLAYGROUND AREA AND WATER HARVESTING WITHIN LANDSCAPING WILL HELP TO REDUCE THE OVERALL DISCHARGE FROM THE PROPERTY.

CALCULATIONS	
Based on Drainage Design Criteria for City of Albuquerque Section 22.2, DPM, Vol 2, dated Jan., 1993	
ON-SITE	
AREA OF SITE:	297950.4 SF = 6.84
100-year, 6-hour	
HISTORIC FLOWS:	DEVELOPED FLOWS:
Area A = 0 0%	Area A = 0 0%
Area B = 59590.08 20%	Area B = 143016 48%
Area C = 178770.24 60%	Area C = 89385 30%
Area D = 59590.08 20%	Area D = 65549 22%
Total Area = 297950.4 100%	Total Area = 297950.4 100%
On-Site Weighted Excess Precipitation (100-Year, 6-Hour Storm)	
Weighted E = $\frac{E_A A_A + E_B A_B + E_C A_C + E_D A_D}{A_A + A_B + A_C + A_D}$	
Historic E = 1.12 in.	Developed E = 1.05 in.
On-Site Volume of Runoff: V ₃₆₀ = E * A / 12	
Historic V ₃₆₀ = 27858 CF	Developed V ₃₆₀ = 26120 CF
On-Site Peak Discharge Rate: Q _p = Q _{10A} A ₁ + Q _{10B} A ₂ + Q _{10C} A ₃ + Q _{10D} A ₄ / 43,560	
For Precipitation Zone 1	
Q _{10A} = 1.29	Q _{10C} = 2.87
Q _{10B} = 2.03	Q _{10D} = 4.37
Historic Q _p = 20.5 CFS	Developed Q _p = 19.1 CFS

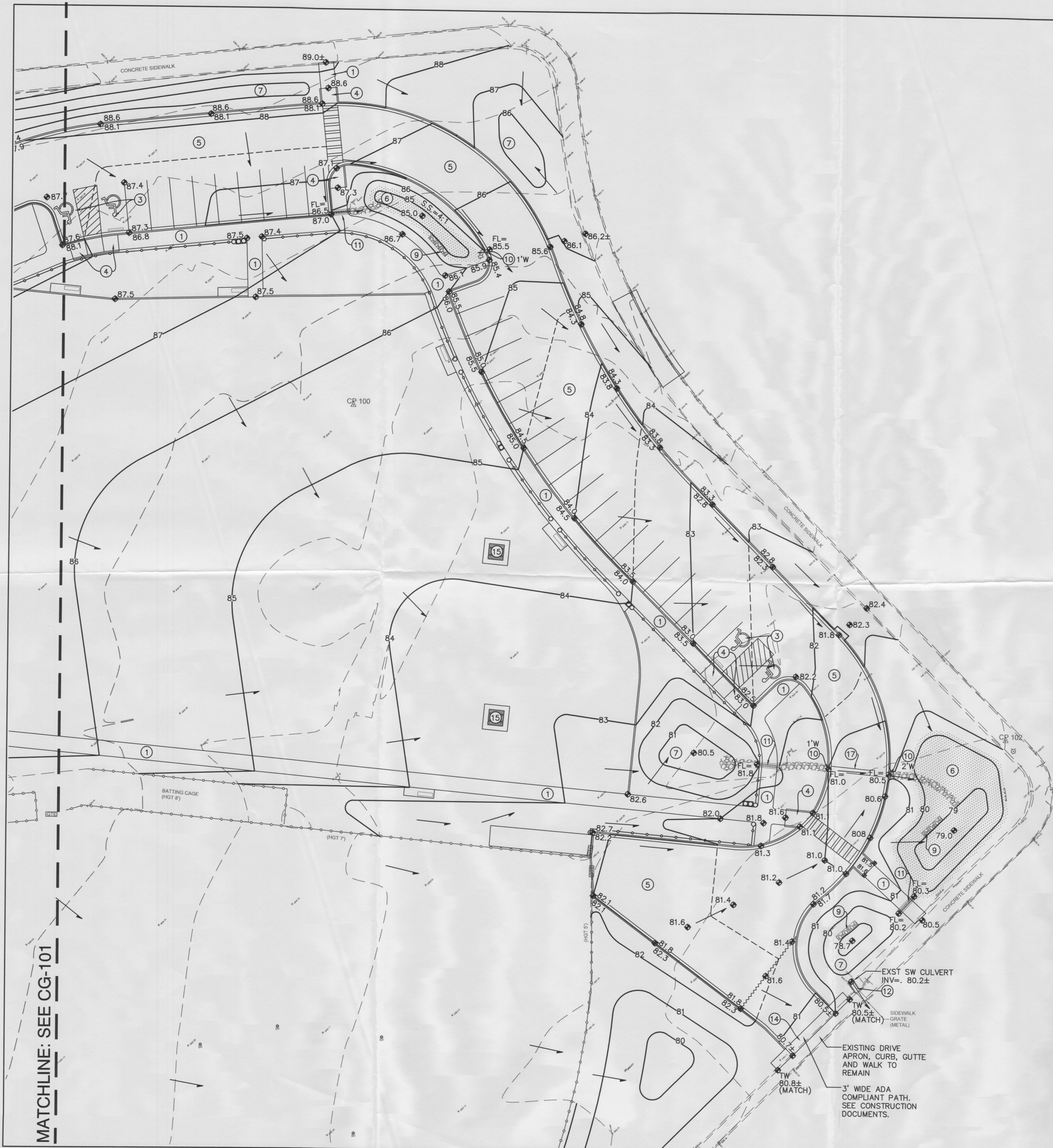
B	21166	B ₁
+	17300	B ₂
	50,124	B ₃
	1,458.3	B ₅
	59,973.5	B ₆
	150,221.8	
C	15,750	B ₂
	45,111.6	B ₃
	5,307.1	B ₄
	3,645.75	B ₅
	17,992.05	B ₆
	88,206.5	
D	1750	B ₂
	5,012.4	B ₃
	2,445.9	B ₄
	9,478.95	B ₅
	41,981.45	B ₆
	68,668.70	

$$Q_{10} = 29.097$$
$$= 6.87 \text{ ac}$$

ISAACSON & ARFMAN, P.A.
Consulting Engineering Associates
128 Monroe Street N.E.
Albuquerque, New Mexico 87108
Ph. 505-268-8828 www.iaacivil.com
2096 CG-101.dwg Dec 09, 2015

VICINITY MAP M-9		AS-BUILT INFORMATION	
SITE		CONTRACTOR	DATE
		INSPECTOR'S	DATE
		FIELD VERIFICATION BY	DATE
		CONDUCTED BY	DATE
		RECORDED BY	DATE
		NO.	
PROJECT DATA		BENCH MARKS	
PROPERTY: THE SITE IS A DEVELOPED LITTLE LEAGUE PARK. PROPERTY LOCATED WITHIN C.O.A. VICINITY MAP M-9 THE SITE IS BOUND TO THE NORTHEAST BY SAPPHIRE STREET, TO THE SOUTHEAST BY 86TH STREET, TO THE NORTH / NORTHWEST BY SONYA AV. AND TO THE SOUTHWEST BY DEVELOPED RESIDENTIAL PROPERTIES.		CONTRACTOR	
PROPOSED IMPROVEMENTS: THE PROPOSED IMPROVEMENTS INCLUDE NEW PLAYGROUND AND SPORTS FIELD WITH ASSOCIATED ASPHALT PAVED ACCESS, PARKING, LANDSCAPING AND DRAINAGE IMPROVEMENTS.		DATE	
LEGAL: WESTGATE HEIGHTS PARK ADD'N, UNIT 2. ALBUQ., NM		INSPECTOR'S	
ADDRESS: 8810 SONYA AVE. SW		DATE	
OFF-SITE: NO OFF-SITE DRAINAGE IMPACTS THIS PROPERTY.		FIELD VERIFICATION BY	
FLOOD HAZARD: PER BERNALILLO COUNTY FIRM MAP NUMBER FM35001C0336H, DATED AUGUST 16, 2012, THE SITE IS LOCATED WITHIN FLOODZONE 'X' DESIGNATED AS AREAS DETERMINED TO BE OUTSIDE 500-YEAR FLOODPLAIN.		DATE	
DRAINAGE PLAN CONCEPT: FIRST FLUSH RETENTION BASINS WILL BE CONSTRUCTED ADJACENT TO IMPERMEABLE PAVEMENT AS SHOWN. THE PROPERTY WILL CONTINUE TO DISCHARGE TO 98TH STREET AT THE EXISTING COVERED SIDEWALK CULVERT TO FOLLOW EXISTING FLOWPATHS. IN ADDITION TO FIRST FLUSH RETENTION, WATER HARVESTING BASINS WILL BE PROVIDED THROUGHOUT THE PROPERTY.		CONDUCTED BY	
THE ADDITION OF FIRST FLUSH STORMWATER RETENTION PONDS, INCREASED GRASS AREA, SELF PONDING PLAYGROUND AREA AND WATER HARVESTING WITHIN LANDSCAPING WILL HELP TO REDUCE THE OVERALL DISCHARGE FROM THE PROPERTY.		DATE	
CALCULATIONS		MICRO-FILM INFORMATION	
Based on Drainage Design Criteria for City of Albuquerque Section 22.2, DPM, Vol 2, dated Jan., 1993		RECORDED BY	DATE
ON-SITE		NO.	
AREA OF SITE: 297950.4 SF = 6.84		CONTRACTOR	
100-year, 6-hour		DATE	
HISTORIC FLOWS:		INSPECTOR'S	
Area A = 0 0%		DATE	
Area B = 59590.08 20%		FIELD VERIFICATION BY	
Area C = 178770.24 60%		DATE	
Area D = 59590.08 20%		CONDUCTED BY	
Total Area = 297950.4 100%		DATE	
On-Site Weighted Excess Precipitation (100-Year, 6-Hour Storm)		RECORDED BY	
Weighted E = $\frac{E_A A_A + E_B A_B + E_C A_C + E_D A_D}{A_A + A_B + A_C + A_D}$		NO.	
Historic E = 1.12 in.		CONTRACTOR	
Developed E = 1.05 in.		DATE	
On-Site Volume of Runoff: V ₃₆₀ = E * A / 12		INSPECTOR'S	
Historic V ₃₆₀ = 27858 CF		DATE	
Developed V ₃₆₀ = 26120 CF		FIELD VERIFICATION BY	
On-Site Peak Discharge Rate: Q _p = Q _{10A} A ₁ + Q _{10B} A ₂ + Q _{10C} A ₃ + Q _{10D} A ₄ / 43,560		DATE	
For Precipitation Zone 1		CONDUCTED BY	
Q _{10A} = 1.29		DATE	
Q _{10B} = 2.03		RECORDED BY	
Q _{10C} = 2.87		NO.	
Q _{10D} = 4.37		CONTRACTOR	
Historic Q _p = 20.5 CFS		DATE	
Developed Q _p = 19.1 CFS		INSPECTOR'S	
		DATE	
		FIELD VERIFICATION BY	
		DATE	
		CONDUCTED BY	
		DATE	
		RECORDED BY	
		NO.	
		CONTRACTOR	
		DATE	
		INSPECTOR'S	
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		NO.	
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		INSPECTOR'S	
		DATE	
		FIELD VERIFICATION BY	
		DATE	
		CONDUCTED BY	
		DATE	
		RECORDED BY	
		NO.	

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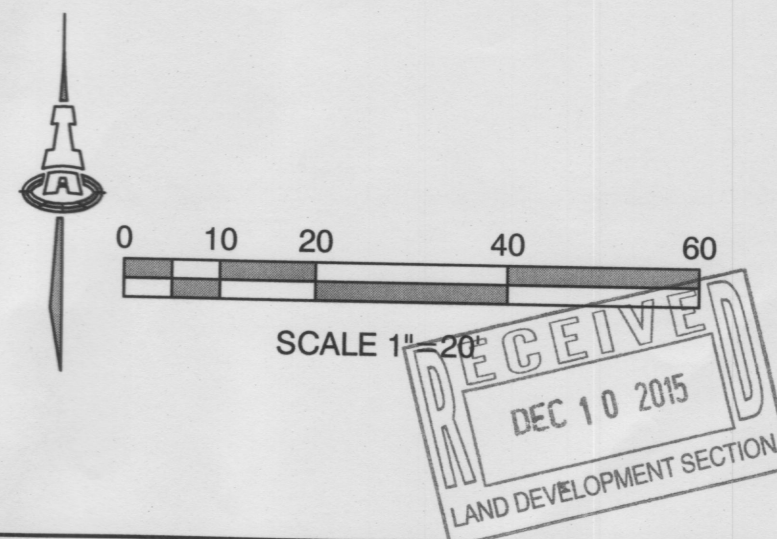


MATCHLINE: SEE CG-101

KEYED NOTES

THESE KEYED NOTES ARE FOR USE ON GRADING AND DRAINAGE PLANS (NORTH AND SOUTH). NOT ALL NOTES ARE USED ON EACH SHEET. SEE CONSTRUCTION PLAN (SHEET 8) CONSTRUCTION DETAILS (SHEETS 10-13) AND LANDSCAPE PLAN (SHEET 16) FOR ADDITIONAL INFORMATION.

1. CONSTRUCT PEDESTRIAN WALK AT ELEVATIONS SHOWN. ALL WALKS TO BE ADA ACCESSIBLE (5% MAX. SLOPE, 2% MAX. CROSS-SLOPE) UNLESS NOTED.
2. STEPS WITHIN WALK REQUIRED TO ACHIEVE GRADE DIFFERENCE SHOWN.
3. SLOPES WITHIN HANDICAP PARKING AREA TO MEET ADA REQUIREMENTS. MAX. SLOPE = 2% IN ANY DIRECTION.
4. CONSTRUCT ADA COMPLIANT RAMP. MAX. 1:12 SLOPE, 2% MAX. CROSS-SLOPE.
5. NEW ASPHALT PAVEMENT WITH CONCRETE CURB AND GUTTER AT ELEVATIONS SHOWN.
6. CONSTRUCT FIRST FLUSH RETENTION POND AT ELEVATIONS SHOWN. INSTALL ANGULAR ROCK TO DEFINE PERIMETER. SEE SHEET 7 OF 15 FOR ADDITIONAL INFORMATION.
7. GRADE LANDSCAPING TO ELEVATIONS SHOWN FOR WATER HARVESTING.
8. TRANSITION SLOPES TO ACHIEVE GRADE DIFFERENCES SHOWN. MAXIMUM SLOPE = 4:1.
9. INSTALL PERCOLATION TRENCH WITHIN EACH FIRST FLUSH RETENTION POND. SEE 7 OF 15 FOR DETAIL.
10. CONSTRUCT CURB OPENING TO PASS CONCENTRATED FLOW. SEE PLAN FOR WIDTH. SEE SHEET 7 OF 15 FOR DETAIL.
11. CONSTRUCT 1.0' WIDE CONCRETE SIDEWALK CULVERT AT RIM/FLOWLINE ELEVATIONS SHOWN PER C.O.A. STD. DWG. 2236. SEE SHEET 7 OF 15 FOR MODIFIED SECTION B-B FROM C.O.A. STD. DWG. #2236.
12. CONTRACTOR TO CLEAN / REPAIR EXISTING COVERED SIDEWALK CULVERT.
13. CONSTRUCT NEW ENTRANCE DRIVE WITH ADA ACCESSIBLE CROSSING. SEE CONSTRUCTION PLAN SHEET 8 FOR ADDITIONAL INFORMATION REGARDING IMPROVEMENTS WITHIN THE R.O.W.
14. NEW ADA ACCESSIBLE CROSSING ADJACENT TO EXISTING DRIVE PAD.
15. CONSTRUCT CONCRETE PADS WITH 1% SLOPE TO DRAIN (TYPICAL ALL BENCHES, TABLES).
16. CONSTRUCT RAMP TO PLAY AREA.
17. OWNER'S OPTION: CONSTRUCT 2' WIDE CONCRETE ALLEY GUTTER PER C.O.A. STD. DWG. #2415A.



MRWM
LANDSCAPE ARCHITECTS
Morrow Reardon Wilkinson Miller, Ltd.
mrwmla.com 505 268 2266



CITY OF ALBUQUERQUE
STRATEGIC PLANNING AND DESIGN
PARKS AND RECREATION DEPARTMENT

WESTGATE HEIGHTS PARK
DRAINAGE AND GRADING PLAN 2 OF 2

ISAACSON & ARFMAN, P.A.
Consulting Engineering Associates
128 Monroe Street N.E.
Albuquerque, New Mexico 87108
Ph. 505-268-8828 www.isaacson-arfman.com
2096 CG-101.dwg Dec 09, 2015

Design Review Committee

City Engineer Approval

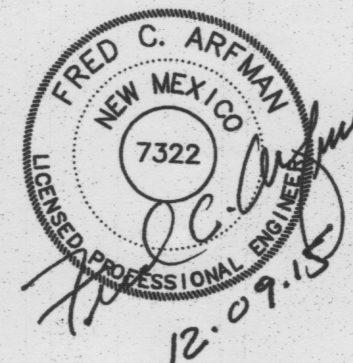
Mo./Day/Yr. Mo./Day/Yr.

City Project No. 632792

Zone Map No. M-9

Sheet 6 of 18

SURVEY INFORMATION				BENCH MARKS		AS-BUILT INFORMATION	
FIELD NOTES		DATE		"ACS 8_Mg"		CONTRACTOR	
NO.	BY			A CITY OF ALBUQUERQUE 3-1/4" ALUMINUM DISC		WORK	
				STAMPED "8-M9 2002", THE STATION IS LOCATED		INSPECTED BY	
				5.25 MILES SOUTHWEST OF DOWNTOWN ALBUQUERQUE.		ACCEPTANCE BY	
						DATE	
						DRAWINGS	
						BY	
						DATE	
						MICRO-FILM INFORMATION	
						RECORDED BY	
						DATE	
						NO.	



FOR REVIEW SUBMITTAL
DATE: DECEMBER 9, 2015

WESTGATE HEIGHTS PARK

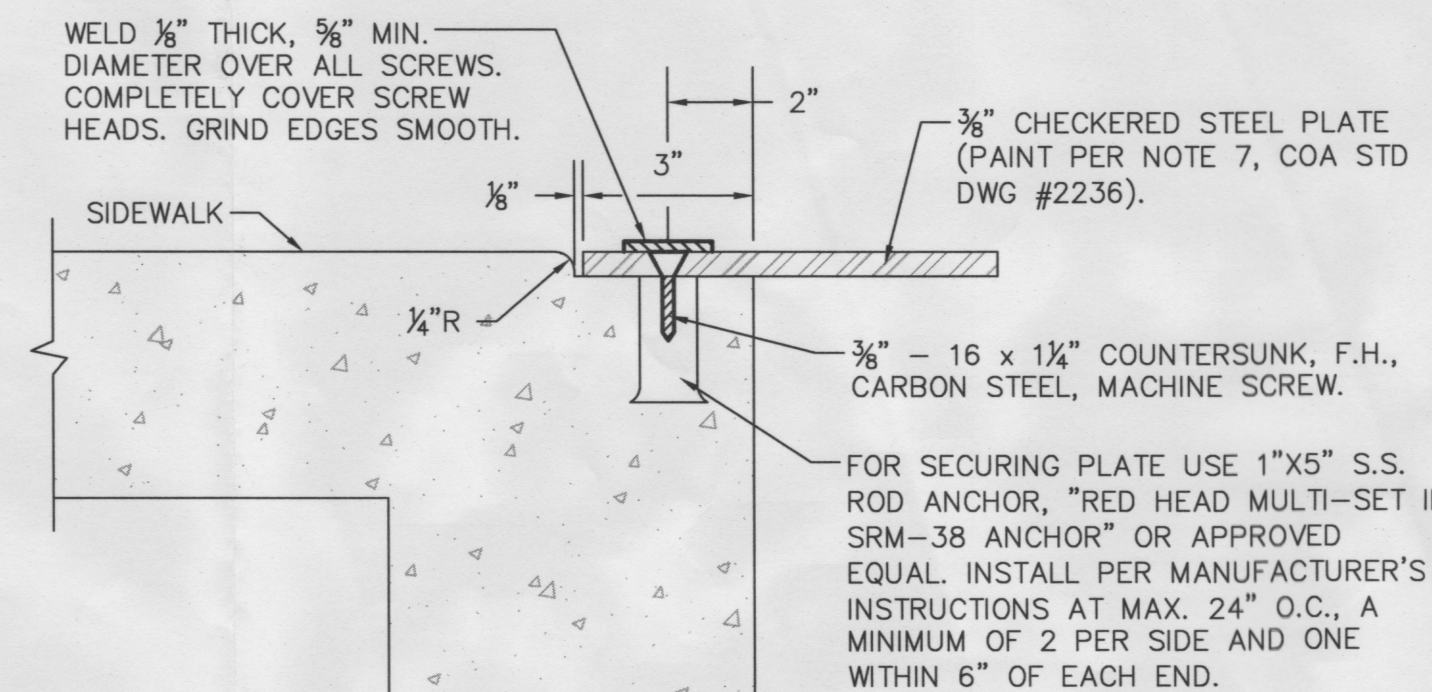
PROJECT# 632792

RECORD DRAWINGS
DATE: XX/XX/2015

GENERAL NOTES

- | | | |
|---|--|--|
| <p>A. ALL WORK DETAILED ON THESE PLANS AND PERFORMED UNDER THIS CONTRACT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PROJECT GEOTECHNICAL REPORT. WHERE APPLICABLE, CITY OF ALBUQUERQUE STANDARDS APPLY.</p> <p>B. THE CONTRACTOR SHALL ABIDE BY ALL STATE, LOCAL, AND FEDERAL LAWS, CODES, RULES AND REGULATIONS WHICH APPLY TO THE CONSTRUCTION OF THESE IMPROVEMENTS, INCLUDING EPA AND ADA REQUIREMENTS.</p> <p>C. ALL SUBGRADE, OVEREXCAVATION, BACKFILL, AND FILL SHALL BE PLACED AND / OR COMPACTED PER THE GEOTECHNICAL REPORT AND CITY OF ALBUQUERQUE SPECIFICATIONS.</p> <p>D. COORDINATE WORK WITH SITE PLAN, PAVING PLAN, DEMOLITION PLAN, AND LANDSCAPE PLAN.</p> <p>E. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY HORIZONTAL AND VERTICAL LOCATIONS OF ALL EXISTING OBSTRUCTIONS, AND CONDITION OF ALL EXISTING INFRASTRUCTURE PRIOR TO CONSTRUCTION. REPORT ALL DISCREPANCIES TO THE LANDSCAPE ARCHITECT AND VERIFY THE INTENT BEFORE PROCEEDING.</p> <p>F. CONTRACTOR SHALL OBTAIN ALL REQUIRED INSPECTIONS OF THE WORK.</p> <p>G. CONSTRUCTION ACTIVITY SHALL BE LIMITED TO THE PROPERTY AND/OR PROJECT LIMITS. ANY DAMAGE TO ADJACENT STRUCTURES RESULTING FROM THE CONSTRUCTION PROCESS SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE. CONTRACTOR SHALL BE RESPONSIBLE FOR DOCUMENTING EXISTING CONDITIONS PRIOR TO CONSTRUCTION.</p> | <p>H. CONSTRUCTION EQUIPMENT SHALL NOT OBSTRUCT DRIVEWAYS. EQUIPMENT SHALL ONLY OBSTRUCT DESIGNATED TRAFFIC LANES IF APPROPRIATE BARRICADING PERMITS HAVE BEEN OBTAINED.</p> <p>I. THE CONTRACTOR SHALL MAINTAIN ALL BARRICADING AND CONSTRUCTION SIGNING AT ALL TIMES. THE CONTRACTOR SHALL VERIFY THE PROPER LOCATION OF ALL BARRICADING AT THE END AND BEGINNING OF EACH DAY.</p> <p>J. PAVEMENT GRADES IN MARKED HANDICAPPED PARKING AREAS SHALL NOT EXCEED 2.0% IN ANY DIRECTION. FOR ALL ACCESSIBLE ROUTES, MAXIMUM ALLOWABLE GROSS SLOPE IS 2.0% AND MAXIMUM LONGITUDINAL SLOPE WITHOUT RAMP IS 5.0%. FOLLOW ALL ADA ACCESSIBILITY GUIDELINES OR QTY CODES, WHICHEVER IS MORE STRINGENT.</p> <p>K. ALL TRASH, DEBRIS, & SURFACE VEGETATION SHALL BE CLEARED AND LEGALLY DISPOSED OF OFFSITE.</p> <p>L. PROPOSED SPOT AND CONTOUR ELEVATIONS SHOWN REPRESENT TOP OF FINISH MATERIAL (I.E. TOP OF CONCRETE, TOP OF CONCRETE BUILDING PAD, TOP OF PAVEMENT MATERIAL, TOP OF LANDSCAPING MATERIAL, ETC.). CONTRACTOR SHALL GRADE, COMPACT SUBGRADE AND DETERMINE EARTHWORK ESTIMATES BASED ON ELEVATIONS SHOWN MINUS FINISH MATERIAL THICKNESSES.</p> <p>M. MAXIMUM UNPROTECTED SLOPES SHALL BE 4:1.</p> <p>N. EXISTING UTILITY LINES ARE SHOWN IN AN APPROXIMATE MANNER ONLY AND MAY BE INCOMPLETE OR OBSOLETE. SUCH LINES MAY OR MAY NOT EXIST WHERE SHOWN OR NOT SHOWN. CONTRACTOR SHALL CONTACT NM-811 FOR UTILITY LINE SPOTS TWO WORKING DAYS PRIOR TO CONDUCTING SITE FIELD WORK.</p> | <p>CONTRACTOR SHALL FIELD VERIFY AND LOCATE ALL UTILITIES PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION. 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. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF NECESSARY DRY UTILITY ADJUSTMENTS.</p> <p>O. A CURRENT STORMWATER CONTROL PERMIT, INCLUDING AN EROSION SEDIMENT CONTROL PLAN (E.S.C.) FOR EROSION AND SEDIMENT CONTROL IS REQUIRED FOR ALL CONSTRUCTION, DEMOLITION, CLEAVING, AND GRADING OPERATIONS THAT DISTURB THE SOIL ON ONE ACRE OR MORE OF LAND. OWNER WILL COORDINATE.</p> <p>P. POST-CONSTRUCTION MAINTENANCE FOR STORMWATER FACILITIES WILL BE THE RESPONSIBILITY OF THE FACILITIES OWNER. PERIODIC INSPECTION AND CERTIFICATIONS OF THE FACILITIES MAY BE REQUIRED BY THE CITY ENGINEER.</p> <p>Q. STORMWATER CONTROL MEASURES SHOWN ON THIS PLAN ARE REQUIRED TO PROVIDE MANAGEMENT OF "FIRST FLUSH" (DEFINED AS THE 90TH PERCENTILE STORM EVENT OR 0.44" OF STORMWATER WHICH DISCHARGES DIRECTLY TO A PUBLIC STORM DRAINAGE SYSTEM).</p> <p>R. ADJUST ANY RIMS OF EXISTING UTILITY FEATURES AS NECESSARY TO MATCH NEW GRADES. UTILITIES IN PAVED AREAS SHALL BE HS-25 TRAFFIC RATED.</p> <p>S. PAVING AND ROADWAY GRADES SHALL BE $\pm 0.1'$ FROM PLAN ELEVATIONS.</p> <p>T. WHERE GRADES BETWEEN NEW AND EXISTING ARE SHOWN AS 'MATCH' OR '+', TRANSITIONS SHALL BE SMOOTH.</p> |
|---|--|--|

- U. ALL EROSION PROTECTION TO BE FRACTURED FACE ROCK (F.F. ROCK) DEFINED AS 6" AVG. DIA. ANGULAR FACED ROCK PLACED OVER GEOTEX 501 NON-WOVEN GEOTEXTILE (O.E.). NOTE: IF OWNER DOES NOT WANT LOOSE ROCK, GROUDED ROCK OR WIRE ENCLOSED ROCK MAY BE SUBSTITUTED AT ALL AREAS REFERRENCING F.F. ROCK EROSION PROTECTION. OWNER'S OPTION.
- V. CONTRACTOR SHALL COMPLY WITH LOCAL REGULATIONS FOR RESEEDING OF DISTURBED AREAS. RESEEDING INSPECTION IS NOT INCLUDED AS PART OF ENGINEER'S CERTIFICATION OF SUBSTANTIAL COMPLIANCE.
- W. POND AND STORM DRAIN DESIGN PARAMETERS (TOP OF POND, BOTTOM OF POND, RIMS, INVERTS, PIPE SIZES, AREA OF POND, ETC.) TO BE STRICTLY ADHERED TO.
- X. ENGINEER RECOMMENDS THAT OWNER MAINTAIN EROSION PROTECTION ELEMENTS. ENGINEER RECOMMENDS THAT OWNER INSPECT SITE YEARLY AND AFTER EACH RAINFALL TO IDENTIFY NEW AREAS OF EROSION AND INSTALL ADDITIONAL EROSION PROTECTION AS NEEDED BASED ON ACTUAL OCCURRENCES.
- Y. MEASURES REQUIRED FOR EROSION AND SEDIMENT CONTROL SHALL BE INCIDENTAL TO THE PROJECT COST.

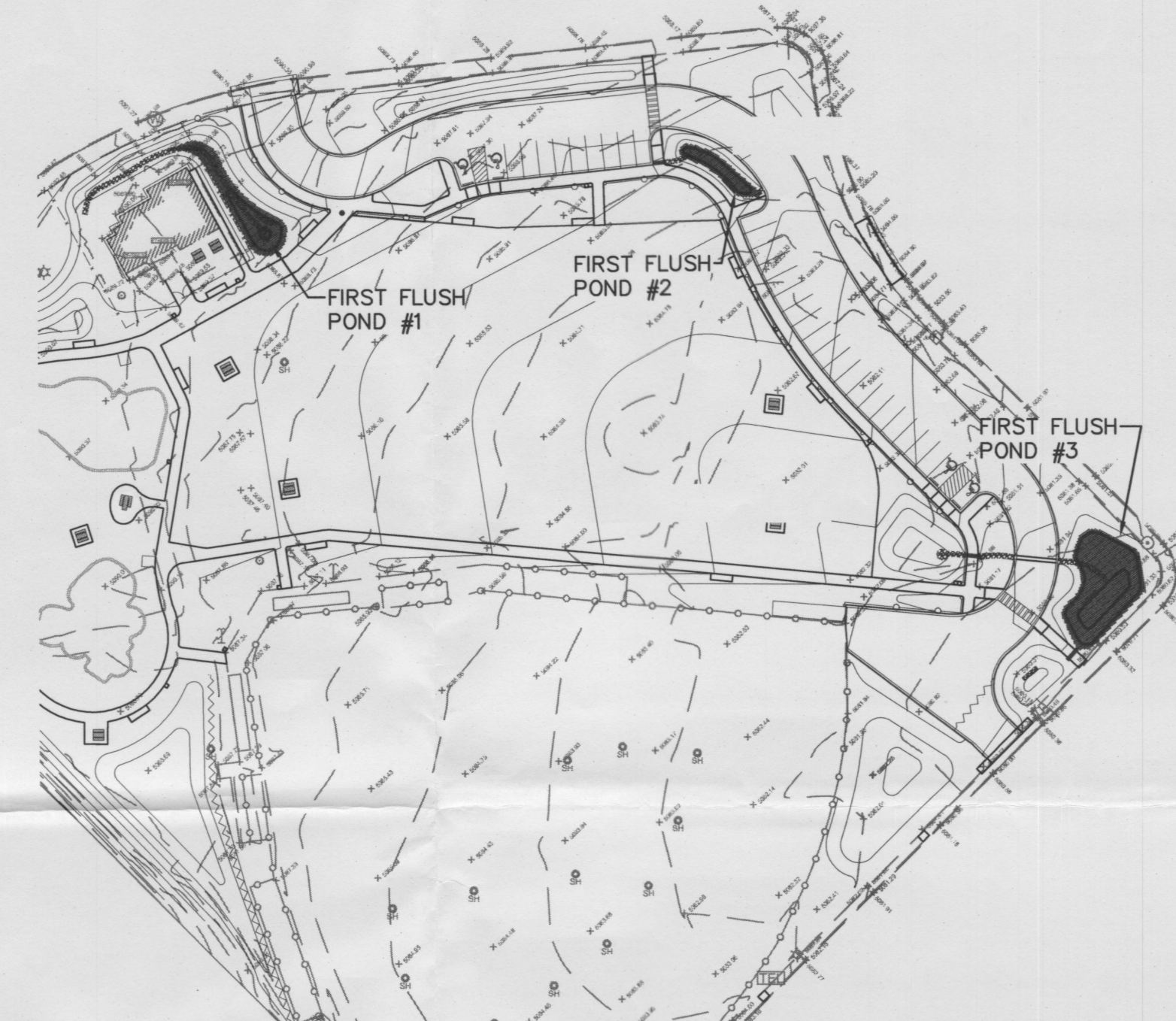


REQUIRED FIRST FLUSH RETENTION VOLUME =
~~(59547 SF * 0.34" / 12 = 1688 CF~~
 65,549 = 1857 CF

FIRST FLUSH POND #1		
Contour	Area	Volume
5088.50	1051	811 CF
5087.00	30	
TOTAL VOL.		811 CF

FIRST FLUSH POND #2		
Contour	Area	Volume
5085.50	445	135 CF
5085.00	94	
TOTAL VOL.		135 CF

FIRST FLUSH POND #3		
Contour	Area	Volume
5080.30	1965	1525 CF
5079.00	381	
TOTAL VOL.		1525 CF

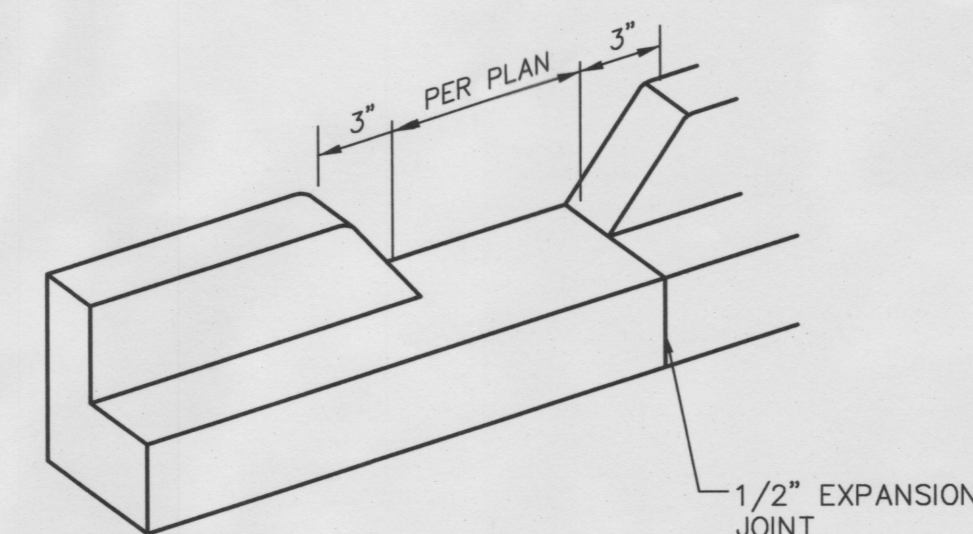


COVERED SIDEWALK CULVERT
MODIFIED SECTION B-B FROM C.O.A. STD. DWG. #2236

SCALE: N.T.S.

FIRST FLUSH CALCULATIONS

SCALE: N.T.S

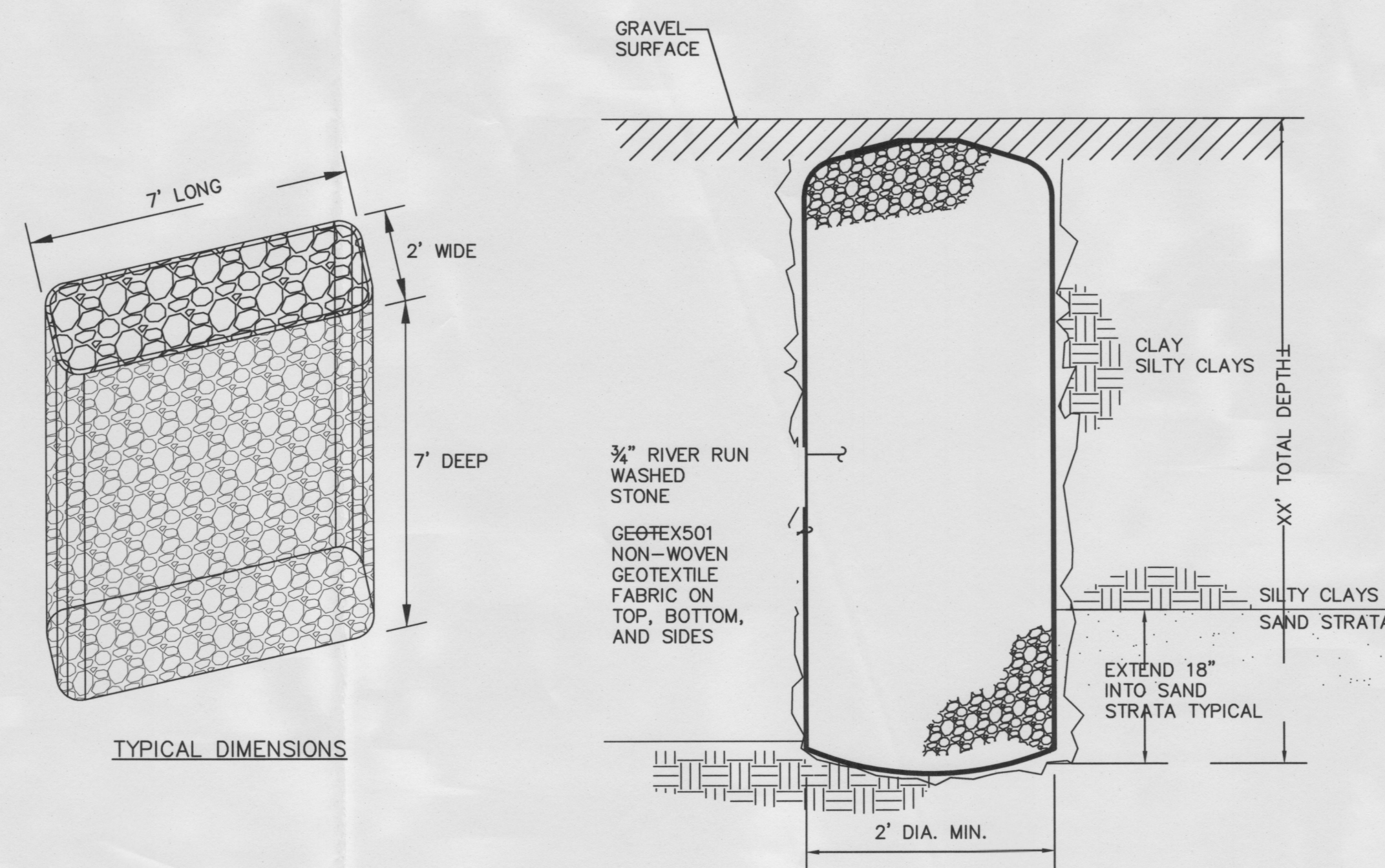


GENERAL NOTES

1. EDGES NOT SPECIFICALLY DIMENSIONED SHALL BE SHAPED WITH A 3/8" EDGING TOOL.

CURB OPENING

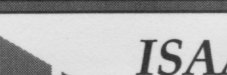
SCALE: N.T.S.



PERCOLATION TRENCH



LOCATE CLAY LAYER BELOW SURFACE GRADE. MAY VARY BASED ON LOCATION OF INFILTRATION PIT.

SCALE: N.T.S.



ISAACSON & ARFMAN, P.A.
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2096 CG-101.dwg Dec 09,2015

 <p>MRWM LANDSCAPE ARCHITECTS Morrow Reardon Wilkinson Miller, Ltd. mrwmia.com 505 268 2266</p>				<p>CITY OF ALBUQUERQUE STRATEGIC PLANNING AND DESIGN PARKS AND RECREATION DEPARTMENT</p>	
		<p>WESTGATE HEIGHTS PARK</p>		<p>GRADING GENERAL NOTES AND DETAILS</p>	
<p>Design Review Committee</p>		<p>City Engineer Approval</p>		<p>Last Design Update</p>	<p>Mo./Day/Yr.</p>
					<p>Mo./Day/Yr.</p>
<p>City Project No.</p>		<p>Zone Map No.</p>		<p>Sheet</p>	
<p>632792</p>		<p>M-9</p>		<p>7 of 18</p>	

**FOR REVIEW SUBMITTAL
DATE: DECEMBER 9, 2015**

WESTGATE HEIGHTS PARK

PROJECT# 632792

RECORD DRAWINGS
DATE: XX/XX/2015

RECORD DRAWINGS
DATE: XX/XX/2015



CONTRACTOR

WORK

STAMPED BY

ACCEPTANCE BY

FIELD CHECK BY

DRAWINGS

CORRECTED BY

RECORDED BY

NO.

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

AS-BUILT INFORMATION

BENCH MARKS

SURVEY INFORMATION

FIELD NOTES

ENGINEER'S SEAL

REVISIONS

NO.

BY

DATE

DATE

DATE

DATE

DATE

DATE

NO.

DATE

BY

REMARKS

NO.

DATE

BY

REMARKS

DESIGNED BY: BJB

DRAWN BY: BJB

CHECKED BY: FCA

DATE: 10/15/15

DATE: 10/15/15

DATE: 10/15/15

Design Review Committee

City Engineer Approval

Last Design Update

City Project No.

Zone Map No.

Sheet

632792

M-9

5 of 18

1. CONSTRUCT PEDESTRIAN WALK AT ELEVATIONS SHOWN. ALL WALKS TO BE ADA ACCESSIBLE (5% MAX. SLOPE, 2% MAX. CROSS-SLOPE) UNLESS NOTED.

2. STEPS WITHIN WALK REQUIRED TO ACHIEVE GRADE DIFFERENCE SHOWN.

3. SLOPES WITHIN HANDICAP PARKING AREA TO MEET ADA REQUIREMENTS. MAX. SLOPE = 2% IN ANY DIRECTION.

4. CONSTRUCT ADA COMPLIANT RAMP. MAX. 1:12 SLOPE, 2% MAX. CROSS-SLOPE.

5. NEW ASPHALT PAVEMENT WITH CONCRETE CURB AND GUTTER AT ELEVATIONS SHOWN.

6. CONSTRUCT FIRST FLUSH RETENTION POND AT ELEVATIONS SHOWN. INSTALL ANGULAR ROCK TO DEFINE PERIMETER. SEE SHEET 7 OF 15 FOR ADDITIONAL INFORMATION.

7. CONSTRUCT WATER HARVESTING BASIN AT ELEVATIONS SHOWN.

8. TRANSITION SLOPES TO ACHIEVE GRADE DIFFERENCES SHOWN. MAXIMUM SLOPE = 4:1.

9. INSTALL PERCOLATION TRENCH WITHIN EACH FIRST FLUSH RETENTION POND. SEE 7 OF 15 FOR DETAIL.

10. CONSTRUCT 1.0' WIDE CURB OPENING TO PASS CONCENTRATED FLOW. SEE SHEET 7 OF 15 FOR DETAIL.

11. CONSTRUCT 1.0' WIDE CONCRETE SIDEWALK CULVERT AT RIM/FLOWLINE ELEVATIONS SHOWN PER C.O.A. STD. DWG. 2236. SEE SHEET 7 OF 15 FOR ADDITIONAL CONSTRUCTION INFORMATION.

12. CONTRACTOR TO CLEAN EXISTING COVERED SIDEWALK CULVERT.

13. CONSTRUCT NEW ENTRANCE DRIVE WITH ADA ACCESSIBLE CROSSING. SEE CONSTRUCTION PLAN SHEET 8 FOR ADDITIONAL INFORMATION REGARDING IMPROVEMENTS WITHIN THE R.O.W..

14. NEW ADA ACCESSIBLE CROSSING ADJACENT TO EXISTING DRIVE PAD. SEE CONSTRUCTION PLAN SHEET 8.

15. CONSTRUCT CONCRETE PADS WITH 1% SLOPE TO DRAIN (TYPICAL ALL BENCHES, TABLES).

16. CONSTRUCT RAMP TO PLAY AREA.

THESE KEYED NOTES ARE FOR USE ON GRADING AND DRAINAGE PLANS (NORTH AND SOUTH). NOT ALL NOTES ARE USED ON EACH SHEET.

1. DELINEATE DRAINAGE BASINS IDENTIFYING FLOW PATTERNS.

2. SHOW EXISTING SIDEWALK INFO

3. SHOW EXISTING WATER HARVESTING PADS.

4. SHOW TO Q DISCHARGED FROM SITE TO BOTH STREET.

ISAACSON & ARFMAN, P.A.

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2096 CG-101.dwg Oct 15, 2015

MRWM

LANDSCAPE ARCHITECTS

Morrow Reardon Wilkinson Miller, Ltd.

mrwmla.com 505 268 2266

CITY OF ALBUQUERQUE

STRATEGIC PLANNING AND DESIGN

PARKS AND RECREATION DEPARTMENT

WESTGATE HEIGHTS PARK

DRAINAGE AND GRADING PLAN 1 OF 2

MATCHLINE: SEE CG-102

MATCHLINE: CONTINUED AT LEFT

MATCHLINE: SEE INSERT AT RIGHT

FOR REVIEW SUBMITTAL
DATE: AUGUST 28, 2015

WESTGATE HEIGHTS PARK

PROJECT# 632792

RECORD DRAWINGS
DATE: XX/XX/2015

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GENERAL NOTES

- | | | |
|---|--|---|
| <p>A. ALL WORK DETAILED ON THESE PLANS AND PERFORMED UNDER THIS CONTRACT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PROJECT GEOTECHNICAL REPORT, WHERE APPLICABLE, CITY OF ALBUQUERQUE STANDARDS APPLY.</p> <p>B. THE CONTRACTOR SHALL ABIDE BY ALL STATE, LOCAL, AND FEDERAL LAWS, CODES, RULES, AND REGULATIONS THAT APPLY TO THE CONSTRUCTION OF THESE IMPROVEMENTS, INCLUDING EPA AND ADA REQUIREMENTS.</p> <p>C. ALL SUBGRADE, OVEREXCAVATION, BACKFILL, AND FILL SHALL BE PLACED AND / OR COMPACTED PER THE GEOTECHNICAL REPORT AND CITY OF ALBUQUERQUE SPECIFICATIONS.</p> <p>D. COORDINATE WORK WITH SITE PLAN, PAVING PLAN, DEMOLITION PLAN, AND LANDSCAPE PLAN.</p> <p>E. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY HORIZONTAL AND VERTICAL LOCATIONS OF ALL EXISTING OBSTRUCTIONS, AND CONDITION OF ALL EXISTING INFRASTRUCTURE PRIOR TO CONSTRUCTION. REPORT ALL DISCREPANCIES TO THE LANDSCAPE ARCHITECT AND VERIFY THE INTENT BEFORE PROCEEDING.</p> <p>F. CONTRACTOR SHALL OBTAIN ALL REQUIRED INSPECTIONS OF THE WORK.</p> <p>G. CONSTRUCTION ACTIVITY SHALL BE LIMITED TO THE PROPERTY AND/OR PROJECT LIMITS. ANY DAMAGE TO ADJACENT STRUCTURES RESULTING FROM THE CONSTRUCTION PROCESS SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE. CONTRACTOR SHALL BE RESPONSIBLE FOR DOCUMENTING EXISTING CONDITIONS PRIOR TO CONSTRUCTION.</p> | <p>H. CONSTRUCTION EQUIPMENT SHALL NOT OBSTRUCT DRIVEWAYS. EQUIPMENT SHALL ONLY OBSTRUCT DESIGNATED TRAFFIC LANES IF APPROPRIATE BARRICADING PERMITS HAVE BEEN OBTAINED.</p> <p>I. THE CONTRACTOR SHALL MAINTAIN ALL BARRICADING AND CONSTRUCTION SIGNING AT ALL TIMES. THE CONTRACTOR SHALL VERIFY THE PROPER LOCATION OF ALL BARRICADING AT THE END AND BEGINNING OF EACH DAY.</p> <p>J. PAVEMENT GRADES IN MARKED HANDICAPPED PARKING AREAS SHALL NOT EXCEED 2.0% IN ANY DIRECTION. FOR ALL ACCESSIBLE ROUTES, MAXIMUM ALLOWABLE CROSS SLOPE IS 2.0% AND MAXIMUM LONGITUDINAL SLOPE WITHOUT RAMP IS 5.0% FOLLOW ALL ADA ACCESSIBILITY GUIDELINES OR CITY CODES, WHICHEVER IS MORE STRINGENT.</p> <p>K. ALL TRASH, DEBRIS, & SURFACE VEGETATION SHALL BE CLEARED AND LEGALLY DISPOSED OF OFFSITE.</p> <p>L. PROPOSED SPOT AND CONTOUR ELEVATIONS SHOWN REPRESENT TOP OF FINISH MATERIAL (I.E. TOP OF CONCRETE, TOP OF CONCRETE BUILDING PAD, TOP OF PAVEMENT MATERIAL, TOP OF LANDSCAPING MATERIAL, ETC.). CONTRACTOR SHALL GRADE, COMPACT SUBGRADE AND DETERMINE EARTHWORK ESTIMATES BASED ON ELEVATIONS SHOWN MINUS FINISH MATERIAL THICKNESSES.</p> <p>M. MAXIMUM UNPROTECTED SLOPES SHALL BE 4:1.</p> <p>N. EXISTING UTILITY LINES ARE SHOWN IN AN APPROXIMATE MANNER ONLY AND MAY BE INCOMPLETE OR OBSOLETE. SUCH LINES MAY OR MAY NOT EXIST WHERE SHOWN OR NOT SHOWN. CONTRACTOR SHALL CONTACT THE CITY FOR UTILITY LINE SPOTS TWO WORKING DAYS PRIOR TO CONDUCTING SITE FIELD WORK.</p> | <p>CONTRACTOR SHALL FIELD VERIFY AND LOCATE ALL UTILITIES PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION. 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. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF NECESSARY DRY UTILITY ADJUSTMENTS.</p> <p>O. A CURRENT STORMWATER CONTROL PERMIT, INCLUDING AN EROSION SEDIMENT CONTROL PLAN (E.S.C.) FOR EROSION AND SEDIMENT CONTROL IS REQUIRED FOR ALL CONSTRUCTION, DEMOLITION CLEARING, AND GRADING OPERATIONS THAT DISTURB THE SOIL ON ONE ACRE OR MORE OF LAND. OWNER WILL COORDINATE.</p> <p>P. POST-CONSTRUCTION MAINTENANCE FOR STORMWATER FACILITIES WILL BE THE RESPONSIBILITY OF THE FACILITIES OWNER. PERIODIC INSPECTIONS AND CERTIFICATIONS OF THE FACILITIES MAY BE REQUIRED BY THE CITY ENGINEER.</p> <p>Q. STORMWATER CONTROL MEASURES SHOWN ON THIS PLAN ARE REQUIRED TO PROVIDE MANAGEMENT OF "FIRST FLUSH" (DEFINED AS THE 90TH PERCENTILE STORM EVENT OR 0.44" OF STORMWATER WHICH DISCHARGES DIRECTLY TO A PUBLIC STORM DRAINAGE SYSTEM).</p> <p>R. ADJUST ANY RIMS OF EXISTING UTILITY FEATURES AS NECESSARY TO MATCH NEW GRADES. UTILITIES IN PAVED AREAS SHALL BE HS-25 TRAFFIC RATED.</p> <p>S. PAVING AND ROADWAY GRADES SHALL BE $\pm 0.1'$ FROM PLAN ELEVATIONS.</p> <p>T. WHERE GRADES BETWEEN NEW AND EXISTING ARE SHOWN AS "MATCH" OR "\pm", TRANSITIONS SHALL BE SMOOTH.</p> |
|---|--|---|

OVERALL SITE CALCULATIONS

CALCULATIONS: 2096 - Westgate Heights Park : August 28, 2015

Based on Drainage Design Criteria for City of Albuquerque Section 22.2, DPM, Vol 2, dated Jan., 1999

ON-SITE				
AREA OF SITE:	297732.6	SF	=	6.84

HISTORIC FLOWS:			DEVELOPED FLOWS:			EXCESS PRECIPITATION		
	Treatment SF	%		Treatment SF	%	Precip. Zone		
Area A	= 0	0%	Area A	= 0	0%	E _A = 0.44		
Area B	= 59546.52	20%	Area B	= 119093	40%	E _B = 0.67 /		
Area C	= 178639.56	60%	Area C	= 119093	40%	E _C = 0.99		
Area D	= 59546.52	20%	Area D	= 59547	20%	E _D = 1.97		
Total Area	= 297732.6	100%	Total Area	= 297732.6	100%			

On-Site Weighted Excess Precipitation (100-Year, 6-Hour Storm)

$$\text{Weighted E} = \frac{E_A A_A + E_B A_B + E_C A_C + E_D A_D}{A_A + A_B + A_C + A_D}$$
$$A_A + A_B + A_C + A_D$$

Historic E	=	1.12 in.	Developed E	=	1.06 in.
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On-Site Volume of Runoff: $V_{360} =$	$E \cdot A / 12$
Historic $V_{360} =$	27838 CF
Developed $V_{360} =$	26250 CF

$$\text{On-Site Peak Discharge Rate: } Q_p = Q_{pA}A_A + Q_{pB}A_B + Q_{pC}A_C + Q_{pD}A_D / 43,560$$

For Precipitation Zone 1

$$Q_{pc} = 2.8$$

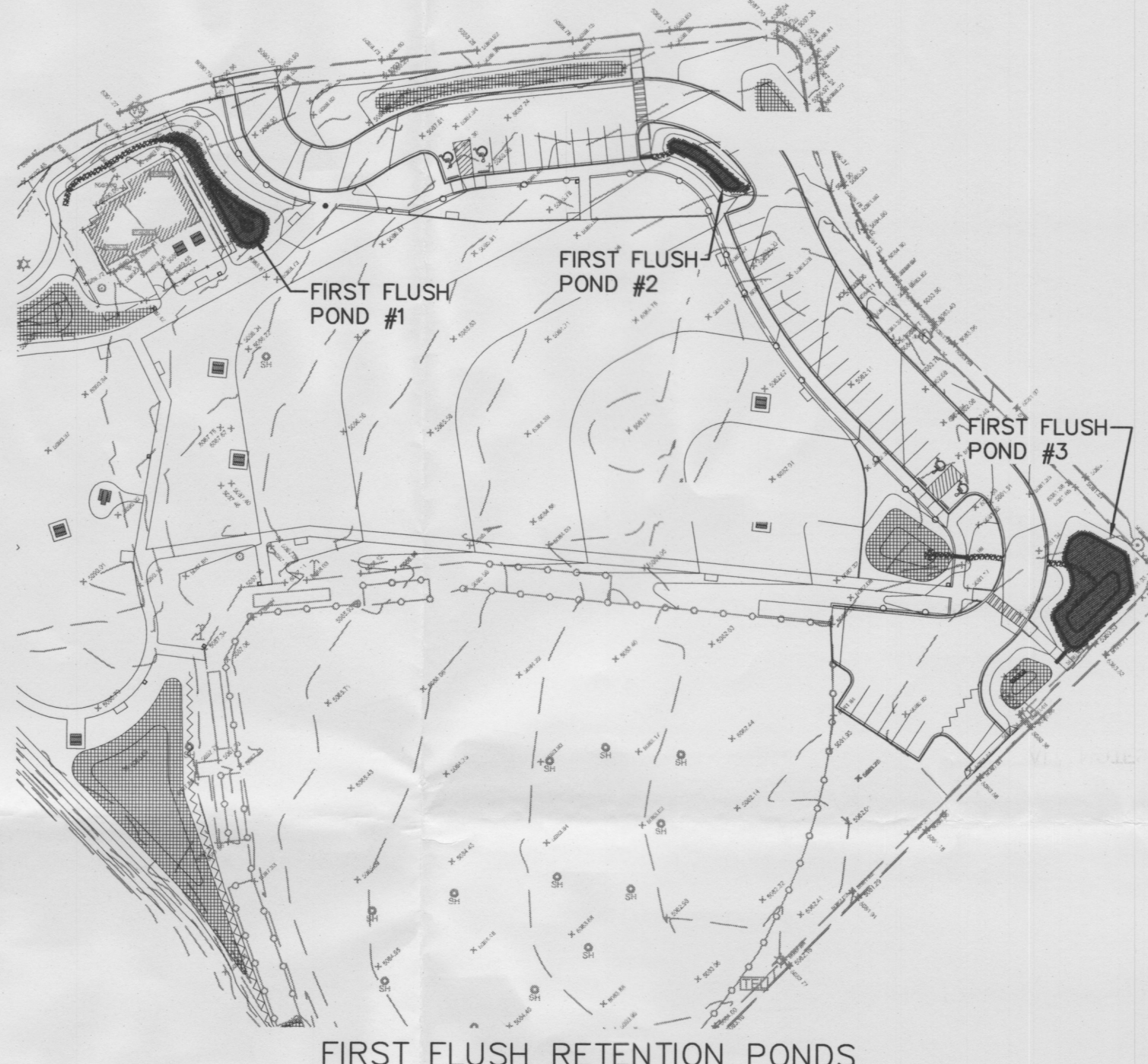
$Q_{PB} = 2.03$	$Q_{PD} = 4.37$
Historic $O_b = 20.5$ CFS	Developed $O_b = 19.4$ CFS

REQUIRED FIRST FLUSH RETENTION VOLUME =
 $(59547 \text{ SF} * 0.34" / 12 = 1688 \text{ CF})$ ✓

FIRST FLUSH POND #1		
Contour	Area	Volume
5088.50	1051	
5087.00	30	811 CF ✓
TOTAL VOL		811 CF

FIRST FLUSH POND #2		
Contour	Area	Volume
5085.50	445	135 CF /
5085.00	94	
TOTAL VOL		135 CF

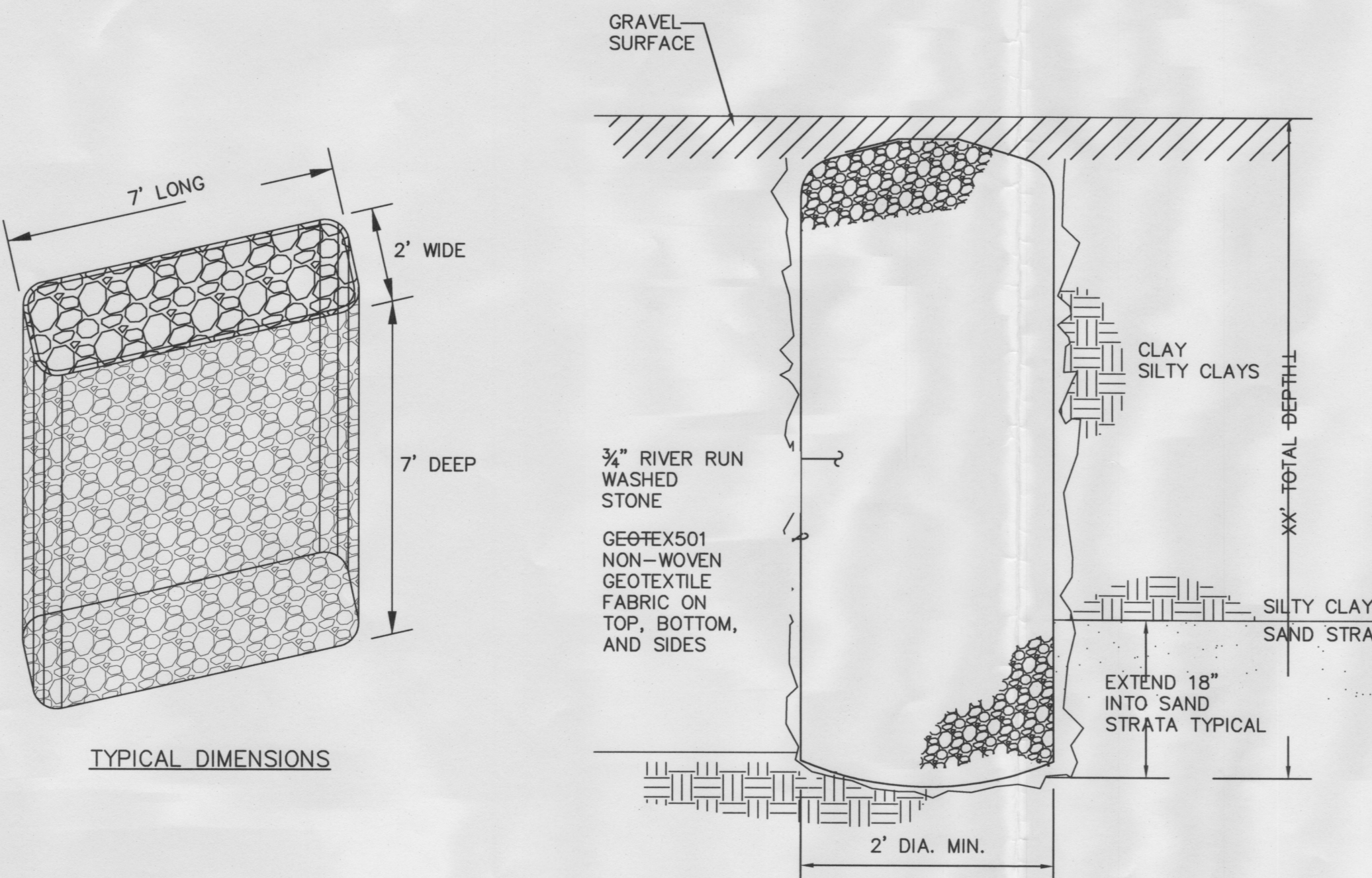
FIRST FLUSH POND #3		
Contour	Area	Volume
5080.30	1965	
5079.00	381	1525 CF ✓
TOTAL VOL		1525 CF



PERCOLATION TRENCH

LOCATE CLAY LAYER BELOW SURFACE GRADE. MAY VARY BASED ON LOCATION OF INFILTRATION PIT

SCALE: N.T.S.



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2096 CG-101.dwg Oct 15, 2011

MRWM

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CITY OF ALBUQUERQUE
STRATEGIC PLANNING AND DESIGN
PARKS AND RECREATION DEPARTMENT

WESTGATE HEIGHTS PARK

GRADING GENERAL NOTES AND DETAILS

Design Review Committee

City Engineer Approval

Mo./Day/Yr.	Mo./Day/Yr.
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Las Vegas		
Upper		

Sheet _____

FOR REVIEW SUBMITTAL
DATE: AUGUST 28, 2015

WESTGATE HEIGHTS PARK

PROJECT# 632792

RECORD DRAWINGS
DATE: XX/XX/2015