CITY OF ALBUQUERQUE

January 14, 2016

Richard J. Berry, Mayor

Fred C. Arfman, P.E.
Isaacson & Arfman, P.A.
128 Monroe Street NE
Albuquerque, NM, 87108

RE: Village at Avalon Apartments
Grading Plan and Drainage Report – Supplemental Drainage Report
Engineer's Stamp Date 12-9-2015 (File: K09D040)

Dear Mr. Arfman:

Based upon the information provided in your submittal received 12-09-2015, the above referenced submittal is approved for Grading Permit and Building Permit with the condition that the Agreement/Letter of Consent from the adjacent property owner (West and North) is forwarded to Hydrology, as noted on Sheet CG-100.

Please attach a copy of this approved plan in the construction sets when submitting for a building permit. Prior to Certificate of Occupancy release, Engineer Certification per the DPM checklist will be required.

The above-referenced plan is also approved for SO-19 Permit. A copy of this approval letter must be on hand when applying for the excavation/barricading permit. The work in the City ROW must be inspected and accepted. Contractor must contact Jason Rodriguez at 235-8016 and Construction Coordination at 924-3416 to schedule an inspection.

If you have any questions, you can contact me at 924-3986.

Sincerely,

Abiel Carrillo, P.E.
Principal Engineer, Planning Dept.
Development Review Services

Orig: Drainage file

PO Box 1293
Albuquerque
New Mexico 87103
www.cabq.gov

GRADING GENERAL NOTES

A. ALL WORK DETAILED ON THESE PLANS AND PERFORMED UNDER THIS CONTRACT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PROJECT GEOTECHNICAL REPORT AND CURRENT CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS.

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.

C. ALL SUBGRADE, OVEREXCAVATION, BACKFILL, AND FILL SHALL BE PLACED AND / OR COMPACTED PER THE GEOTECHNICAL REPORT AND CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS.

D. THE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS FOR THE PROJECT PRIOR TO COMMENCING CONSTRUCTION, OR PRIOR TO OCCUPANCY, AS APPROPRIATE. IF PERMITS ARE DELAYED OR ISSUED WITH CONDITIONS, THE CONTRACTOR SHALL NOTIFY THE OWNER AND ARCHITECT IMMEDIATELY.

E. COORDINATE WORK WITH SITE PLAN, UTILITY PLAN, DEMOLITION PLAN, LANDSCAPE PLAN AND THE APPROVED C.O.A. PUBLIC WORK ORDER IMPROVEMENT PLANS.

F. 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 ARCHITECT / ENGINEER AND VERIFY THE ARCHITECT / ENGINEER'S INTENT BEFORE PROCEEDING.

G. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR SITE SAFETY.

H. THE CONTRACTOR SHALL MAINTAIN RECORD DRAWINGS ON SITE AT ALL TIMES. THE CONTRACTOR SHALL NOT SCALE DRAWINGS. ONLY WRITTEN DIMENSIONS OR KEYED NOTES SHALL BE USED.

I. CONTRACTOR SHALL OBTAIN ALL REQUIRED INSPECTIONS OF THE WORK. CONTRACTOR SHALL REGULARLY UPDATE OWNER AND ARCHITECT REGARDING THE STATUS OF THE INSPECTIONS.

J. 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.

K. CONSTRUCTION EQUIPMENT SHALL NOT OBSTRUCT DRIVEWAYS. EQUIPMENT SHALL ONLY OBSTRUCT DESIGNATED TRAFFIC LANES IF APPROPRIATE BARRICADING PERMITS HAVE BEEN OBTAINED. THE CONTRACTOR SHALL NOT STORE ANY EQUIPMENT OR MATERIAL IN THE RIGHT–OF–WAY.

L. THE CONTRACTOR SHALL PROVIDE A CONSTRUCTION TRAFFIC CONTROL AND SIGNING PLAN THAT CONFORMS TO THE LATEST EDITION OF THE "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) AND LOCAL REQUIREMENTS. THE CONTRACTOR SHALL OBTAIN BARRICADING PERMITS FROM THE APPROPRIATE AUTHORITIES PRIOR TO ANY CONSTRUCTION WORK ON OR ADJACENT TO EXISTING STREETS.

M. 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.

N. 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.

O. ALL TRASH, DEBRIS, & SURFACE VEGETATION SHALL BE CLEARED AND LEGALLY DISPOSED OF OFFSITE.

P. 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.

Q. IF FIELD GRADE ADJUSTMENTS ARE REQUIRED, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT.

R. 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. 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.

S. SOIL TESTING AND INSPECTION SERVICES DURING EARTHWORK OPERATIONS ARE REQUIRED. CONTRACTOR SHALL ALLOW TESTING LABS TO INSPECT AND APPROVE COMPACTED SUBGRADES, BACKFILL, AND FILL LAYERS BEFORE FURTHER CONSTRUCTION WORK IS DONE. SHOULD COMPACTION TESTS INDICATE INADEQUATE DENSITY, CONTRACTOR SHALL PROVIDE ADDITIONAL COMPACTION AND TESTING AT THE CONTRACTOR'S SOLE EXPENSE.

T. CONTRACTOR SHALL PROVIDE CONSTRUCTION STAKING. TO FACILITATE ACCURACY IN CONSTRUCTION STAKING, UPON WRITTEN REQUEST FROM THE CONTRACTOR, A FILE CONTAINING THE ELECTRONIC DATA COMPRISING THE SITE CIVIL DRAWINGS WILL BE FORWARDED TO THE LICENSED LAND SURVEYOR TO PERFORM CONSTRUCTION STAKING. ALL SITE CONSTRUCTION LAYOUT MUST BE PERFORMED BY A LICENSED SURVEYOR USING ELECTRONIC DATA PROVIDED IN AUTOCAD *.DWG (CURRENT VERSION) BY ISAACSON & ARFMAN, P.A. CONTACT PROJECT CIVIL ENGINEER, FRED. C. ARFMAN, PE AT (505)–268–8842. IN ORDER TO MAINTAIN THE INTEGRITY OF HORIZONTAL AND VERTICAL CONTROL FOR THE SITE, THE SURVEYOR EMPLOYED BY THE CONTRACTOR TO PERFORM CONSTRUCTION LAYOUT STAKING SHALL SET AND PROTECT ADDITIONAL TRAVERSE POINTS OUTSIDE THE AREAS OF CONSTRUCTION ACTIVITY.

U. CONTRACTOR SHALL LOCATE AND PRESERVE ALL BOUNDARY CORNERS AND REPLACE ANY LOST OR DISTURBED CORNERS AT CONTRACTOR'S SOLE EXPENSE. PROPERTY CORNERS SHALL ONLY BE RESET BY A REGISTERED LAND SURVEYOR.

V. THE ENVIRONMENTAL PROTECTION AGENCY (EPA) AND THE CITY OF ALBUQUERQUE REQUIRE A STORM WATER POLLUTION PREVENTION PLAN (SWPPP), AN NDPES PERMIT, AND AN EROSION AND SEDIMENT CONTROL (ESC) PERMIT FOR PROJECTS WHERE CONSTRUCTION ACTIVITIES MEET THE EPA THRESHOLD. (SWPPP, NPDES PERMIT, AND ESC PLAN BY OTHERS.) A CURRENT CITY–APPROVED ESC PERMIT MUST BE INCLUDED WITH THE CONTRACTOR'S SUBMITTAL FOR A ROUGH GRADING, GRADING, PAVING, BUILDING, OR WORK ORDER PERMIT. OWNER WILL COORDINATE.

W. POST–CONSTRUCTION MAINTENANCE FOR PRIVATE STORMWATER FACILITIES WILL BE THE RESPONSIBLITY OF THE FACILITIES OWNER. PERIODIC INSPECTION AND CERTIFICATIONS OF THE FACILITIES MAY BE REQUIRED BY THE CITY ENGINEER.

X. ADJUST ANY RIMS OF EXISTING UTILITY FEATURES AS NECESSARY TO MATCH NEW GRADES. UTILITIES IN PAVED AREAS SHALL BE HS–25 TRAFFIC RATED.

Y. ALL NEW PAVEMENT SURFACES SHALL BE CONSTRUCTED WITH POSITIVE SLOPE AWAY FROM BUILDINGS AND POSITIVE SLOPE TOWARD EXISTING AND/OR PROPOSED DRAINAGE PATHS. PAVING AND ROADWAY GRADES SHALL BE ±0.1' FROM PLAN ELEVATIONS. BUILDING PAD ELEVATION SHALL BE ±0.05' FROM PLAN ELEVATION.

Z. WHERE GRADES BETWEEN NEW AND EXISTING ARE SHOWN AS 'MATCH' OR '±', TRANSITIONS SHALL BE SMOOTH.

AA. ALL EROSION PROTECTION SHALL BE FRACTURED FACE ROCK (F.F. ROCK) TO BE 6" AVG. DIA. ANGULAR FACED ROCK PLACED OVER GEOTEX 501 NON–WOVEN GEOTEXTILE (O.E.) UNLESS OTHERWISE NOTED.

AB. SIDESLOPES STEEPER THAN 3:1 BUT LESS THAN 2:1 MUST HAVE PERMANENT EROSION CONTROL (F.F. ROCK OR LANDLOK TRM 450 O.E.) INSTALLED, TYPICAL. NO SLOPE SHALL BE STEEPER THAN 2:1 UNLESS NOTED OTHERWISE.

AC. CONTRACTOR SHALL COMPLY WITH LOCAL REGULATIONS FOR RESEEDING OF DISTURBED AREAS.

AD. POND DESIGN PARAMETERS AND STORMWATER CONTROL MEASURES SHOWN ON THIS PLAN (TOP OF POND, BOTTOM OF POND, SIZE OF ORIFICE, AREA OF POND, ETC.) TO BE STRICTLY ADHERED TO FOR CERTIFICATION PURPOSES. SEE NOTE 'P' ABOVE AND DETAIL SHEET FOR ADDITIONAL INFORMATION.

AE. 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.

AF. GRADING SHALL BE PERFORMED AT THE ELEVATIONS AND IN ACCORDANCE WITH THE DETAILS SHOWN ON THIS PLAN. SEE NOTE 'P' ABOVE.

AG. MEASURES REQUIRED FOR EROSION AND SEDIMENT CONTROL SHALL BE INCIDENTAL TO THE PROJECT COST.

AH. IF THE SITE IS SMALL ENOUGH NOT TO REQUIRE A SWPPP/NPDES PERMIT (LESS THAN ONE ACRE), THE CONTRACTOR SHALL STILL BE RESPONSIBLE FOR USING EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BMP'S) TO ENSURE THAT NO SOIL ERODES FROM THE SITE ONTO ADJACENT PUBLIC RIGHT–OF–WAY.

AI. FIVE WORKING DAYS PRIOR TO ANY EXCAVATION, THE CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL SYSTEM (811) FOR LOCATION OF EXISTING UTILITIES.

AJ. FOR ENGINEER'S CERTIFICATION OF SUBSTANTIAL COMPLIANCE (FOR CERTIFICATE OF OCCUPANCY) CONTRACTOR SHALL PROVIDE AN AUTOCAD FORMAT AS–BUILT SURVEY PREPARED BY A LICENSED SURVEYOR WHICH INCLUDES:

- AK. AS–BUILT SPOT ELEVATIONS AT EACH DESIGN SPOT ELEVATION SHOWN ON THE APPROVED PLAN;
- AL. TOP AND BOTTOM ELEVATIONS AS REQUIRED TO DEFINE THE PERIMETER OF PONDS (TO BE USED BY ENGINEER TO CALCULATE AS–BUILT VOLUME PROVIDED);
- AM. RIM AND INVERT ELEVATIONS OF ALL STORM DRAIN INLETS AND OUTLETS.
- AN. POND OVERFLOW ELEVATIONS

AO. ALL CONSTRUCTION, INCLUDING DRAIN INLETS, PIPES AND PONDS SHOWN ON THIS PLAN MUST BE CONSTRUCTED IN SUBSTANTIAL COMPLIANCE WITH THE APPROVED PLAN IN ORDER TO RECEIVE ENGINEER'S CERTIFICATION.

AP. GRADING OF FIRST FLUSH BASINS WILL BE INSPECTED AS PART OF ENGINEER'S CERTIFICATION FOR CERTIFICATE OF OCCUPANCY. DURING LANDSCAPING, FIRST FLUSH BASINS MAY BE INTEGRATED INTO LANDSCAPING WHILE MAINTAINING REQUIRED TOP AND BOTTOM ELEVATIONS, VOLUME AND INLET / OVERFLOW ELEVATIONS.

STORM DRAIN GENERAL NOTES

A. ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED UNDER CONTRACT SHALL, EXCEPT AS OTHERWISE STATED ON OR PROVIDED FOR HEREON, BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT EDITION OF THE CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS (COA SPEC.) / NMAPWA NEW MEXICO STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (APWA SPEC.) / LOCAL UTILITY COMPANY SPECIFICATIONS, THE IAPMO UNIFORM PLUMBING CODE, & NFPA 24, LATEST EDITION.

B. NO WORK SHALL BE PERFORMED WITHOUT THE APPROPRIATE PERMITS, AS ISSUED BY LOCAL, STATE, OR FEDERAL AUTHORITIES. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR OBTAINING PERMITS.

C. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR SITE SAFETY.

D. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE INSTALLATION OF ALL WORK RELATED TO PROPOSED STORM DRAINS SHOWN ON THIS PLAN INCLUDING: TRENCHING, BACKFILL, SUPPORTS, INLET AND MANHOLE COLLARS, MANHOLES, WATER QUALITY FEATURES, EROSION CONTROL FEATURES, TESTING, CLEANING, AND STERILIZING. ANY WORK NOT ACCEPTED BY THE ARCHITECT OR ENGINEER DUE TO IMPROPER WORKMANSHIP OR LACK OF PROPER COORDINATION SHALL BE REMOVED AND CORRECTLY INSTALLED AT THE CONTRACTOR'S EXPENSE, AS DIRECTED.

E. 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. 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.

F. MINIMUM COVER FOR STORM DRAIN PIPES SHALL BE 12", UNLESS OTHERWISE NOTED.

G. STORM DRAINS SHALL BE INSTALLED AFTER COMPLETION OF THE SITE ROUGH GRADING.

H. STORM DRAINS SHALL BE INSTALLED PRIOR TO SURFACE IMPROVEMENTS SUCH AS PAVEMENT, SIDEWALKS, AND LANDSCAPING.

I. VIBRATORY COMPACTION SHALL NOT BE USED OVER IN–PLACE UTILITIES.

J. CONTRACTOR SHALL BE RESPONSIBLE FOR CONNECTIONS TO ROOF DOWNSPOUTS AND ALL NECESSARY FITTINGS. FITTING COSTS SHALL BE INCIDENTAL.

K. TRENCHING, BORING, AND JACKING SHALL BE CONSTRUCTED IN ACCORDANCE WITH COA SPEC. SECT. 700 / NMAPWA SPEC. SECT. 700 / LOCAL UTILITY COMPANY SPECIFICATIONS. ALL BACKFILL SHALL BE COMPACTED TO A MINIMUM 95% DENSITY PER ASTM D–1557.

L. ALL INLET AND AREA DRAIN RINGS & GRATES, MANHOLE RINGS & COVERS, AND OTHER SURFACE ITEMS FOR THE STORM DRAINS SHALL BE ADJUSTED TO FINISHED GRADE, UNLESS OTHERWISE NOTED ON THE PLANS.

M. ALL CROSSINGS OF WATER AND SEWER LINES SHALL HAVE 18" MIN CLEARANCE. IF 18" CLEARANCE IS NOT POSSIBLE, CONTACT THE ARCHITECT IMMEDIATELY.

N. RCP PIPES, PP PIPES, CONCRETE INLETS, MANHOLES, AND CLEANOUTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH COA SPEC. SECT. 900 / APWA SPEC. SECT.900 / LOCAL UTILITY COMPANY SPECIFICATIONS.

O. HDPE PIPE SHALL BE ADS N–12 (WATERTIGHT) OR ENGINEER APPROVED EQUIVALENT. HDPE PIPE SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

P. PVC PIPES SHALL BE PVC SDR–35, INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

Q. STORM DRAINS SHALL BE INSTALLED AT INVERTS AND SLOPES SPECIFIED ON THE PLANS. THE PIPE SHALL DRAIN AT A CONSTANT SLOPE BETWEEN FITTINGS AND MANHOLES. THE PIPE SHALL DRAIN TOWARD THE OUTLET AT ALL LOCATIONS.

R. FIVE WORKING DAYS PRIOR TO ANY EXCAVATION, THE CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL SYSTEM (811) FOR LOCATION OF EXISTING UTILITIES.

UTILITY GENERAL NOTES

A. ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED UNDER CONTRACT SHALL, EXCEPT AS OTHERWISE STATED ON OR PROVIDED FOR HEREON, BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT EDITION OF THE CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS (COA SPEC.)THE IAPMO UNIFORM PLUMBING CODE, & NFPA 24, LATEST EDITION.

B. NO WORK SHALL BE PERFORMED WITHOUT THE APPROPRIATE PERMITS, AS ISSUED BY LOCAL, STATE, OR FEDERAL AUTHORITIES. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR OBTAINING PERMITS.

C. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR SITE SAFETY.

D. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE INSTALLATION OF ALL WORK RELATED TO PROPOSED UTILITIES SHOWN ON THIS PLAN INCLUDING: TRENCHING, BACKFILL, SUPPORTS, CLEANOUT PADS, SERVICE STOPS AND BOXES, SERVICE LINES, TESTING, CLEANING, AND STERILIZING. ANY WORK NOT ACCEPTED BY THE ARCHITECT OR ENGINEER DUE TO IMPROPER WORKMANSHIP OR LACK OF PROPER COORDINATION SHALL BE REMOVED AND CORRECTLY INSTALLED AT THE CONTRACTOR'S EXPENSE, AS DIRECTED.

E. MINIMUM COVER SHALL BE 36" FOR WATERLINES AND 48" FOR SANITARY SEWER, EXCEPT AT BUILDING CONNECTIONS.

F. UTILITY LINES SHALL BE INSTALLED AFTER COMPLETION OF THE SITE ROUGH GRADING.

G. UTILITY LINES SHALL BE INSTALLED PRIOR TO SURFACE IMPROVEMENTS SUCH AS PAVEMENT, SIDEWALKS, AND LANDSCAPING.

H. VIBRATORY COMPACTION SHALL NOT BE USED OVER IN–PLACE UTILITIES.

I. CONTRACTOR SHALL BE RESPONSIBLE FOR CONNECTIONS TO BUILDING PLUMBING AND ALL NECESSARY FITTINGS. FITTING COSTS SHALL BE INCIDENTAL. REFER TO THE MECHANICAL AND/OR PLUMBING PLANS FOR SERVICE CONNECTIONS.

J. DRY UTILITY LOCATIONS AND DESIGN ARE NOT A PART OF THIS PLAN. CONTRACTOR SHALL COORDINATE WITH THE LOCAL DRY UTILITY COMPANIES TO DETERMINE THE SIZE, DEPTH, LOCATION, FITTINGS AND REQUIRED APPURTENANCES FOR THE DRY UTILITY SERVICE LINES ON THE SITE. REFER TO MECHANICAL AND ELECTRICAL PLANS FOR SERVICE CONNECTIONS.

K. TRENCHING, BORING, AND JACKING SHALL BE CONSTRUCTED IN ACCORDANCE WITH COA SPEC. SECT. 700. ALL BACKFILL SHALL BE COMPACTED TO A MINIMUM 95% DENSITY PER ASTM D–1557.

L. ALL WATER VALVE BOXES, MANHOLE RINGS & COVERS, AND OTHER SURFACE ITEMS FOR THE UTILITIES SHALL BE ADJUSTED TO FINISHED GRADE.

M. ALL CROSSINGS OF WATER AND SEWER LINES SHALL HAVE 18" MIN CLEARANCE. IF 18" CLEARANCE IS NOT POSSIBLE, BOTH SHALL PIPES BE ENCASED IN CONCRETE (1500 PSI MIX).

N. VALVES, METERS, SERVICE LINES, METER AND VALVE BOXES, TAPPING SLEEVES, HYDRANTS, AND OTHER WATER APPURTENANCES SHALL BE CONSTRUCTED IN ACCORDANCE WITH COA SPEC. SECT. 800.

O. WATERLINES LESS THAN 4" DIAMETER SHALL BE COPPER TYPE K MEETING ASTM B 88 REQUIREMENTS OR AS APPROVED BY THE ENGINEER THROUGH MATERIAL SUBMITTAL. WATERLINES 4" IN DIAMETER OR LARGER SHALL BE PVC PIPE MEETING AWWA C900 DR–18 REQUIREMENTS.

P. ALL FITTINGS AND COUPLINGS FOR WATERLINES LESS THAN 4" IN DIAMETER ARE TO BE COPPER, SOLDER JOINT FITTINGS IN ACCORDANCE WITH ASME 16.18 OR ASME B16.22 OR AS APPROVED BY THE ENGINEER THROUGH MATERIAL SUBMITTAL.

Q. ALL FITTINGS AND COUPLINGS FOR WATERLINES 4" IN DIAMETER OR LARGER ARE TO BE MEGA LUG MECHANICAL JOINTS OR ENGINEER APPROVED EQUIVALENT.

R. JOINTS SHALL BE RESTRAINED BY MEGA LUG HARNESSES, OR ENGINEER APPROVED EQUIVALENT. JOINT RESTRAINTS SHALL BE INSTALLED AT DISTANCES FROM THE FITTINGS AS SHOWN ON THE JOINT RESTRAINT TABLE IN THESE PLANS.

S. BACKFLOW PREVENTERS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

T. FIRE LINES SHALL USE PIPE MATERIALS LISTED AND APPROVED FOR FIRE SERVICE BY UNDERWRITERS LABORATORIES.

U. FIRE DEPARTMENT CONNECTIONS SHALL MEET UL 405, NFPA 1963, AND LOCAL FIRE DEPARTMENT REQUIREMENTS.

V. ADJUST WATER AND FIRE LINES TO AVOID FOOTINGS, SEWER LINES, AND OTHER CONDUITS. INSTALL FITTINGS AS NEEDED.

W. SEWER SERVICE LINES SHALL BE INSTALLED AT A 2% MINIMUM SLOPE, UNLESS OTHERWISE SPECIFIED ON THE PLANS. THE PIPE SHALL DRAIN AT A CONSTANT SLOPE BETWEEN FITTINGS. THE PIPE SHALL DRAIN TOWARD THE SEWER MAIN AT ALL LOCATIONS.

X. SEWER MANHOLES, CLEANOUTS, SEWER SERVICE TAPS, AND OTHER SEWER APPURTENANCES SHALL BE CONSTRUCTED IN ACCORDANCE WITH COA SPEC. SECT. 900.

Y. ALL 8" OR GREATER SANITARY SEWER LINE MATERIALS SHALL BE PVC SDR–35 PIPE. 4" TO 6" SANITARY SEWER SERVICE LINES SHALL BE PVC SCHEDULE 40.

Z. ZCONTRACTOR SHALL OBTAIN ALL REQUIRED INSPECTIONS OF THE WORK. CONTRACTOR SHALL REGULARLY UPDATE OWNER AND ARCHITECT REGARDING THE STATUS OF THE INSPECTIONS.

AA. 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.

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AE. TESTING AND INSPECTION SERVICES DURING CONSTRUCTION OPERATIONS ARE REQUIRED. CONTRACTOR SHALL ALLOW TESTING LABS TO INSPECT AND APPROVE COMPACTED SUBGRADES, BACKFILL, AND FILL LAYERS BEFORE FURTHER CONSTRUCTION WORK IS DONE. SHOULD COMPACTION TESTS INDICATE INADEQUATE DENSITY, CONTRACTOR SHALL PROVIDE ADDITIONAL COMPACTION AND TESTING AT THE CONTRACTOR'S SOLE EXPENSE.

AF. CONTRACTOR SHALL PROVIDE ALL OTHER CONSTRUCTION STAKING. CONTRACTOR SHALL LOCATE AND PRESERVE ALL BOUNDARY CORNERS AND REPLACE ANY LOST OR DISTURBED CORNERS AT CONTRACTOR'S SOLE EXPENSE. PROPERTY CORNERS SHALL ONLY BE RESET BY A REGISTERED LAND SURVEYOR.

AG. FIVE WORKING DAYS PRIOR TO ANY EXCAVATION, THE CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL SYSTEM (811) FOR LOCATION OF EXISTING UTILITIES.

ISAACSON & ARFMAN, P.A.
Consulting Engineering Associates
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Albuquerque, New Mexico 87108
Ph. 505-268-8828 www.iacivil.com

2121 CN–100.dwg Nov 20,2015

ARCHITECTURE / DESIGN / INSPIRATION

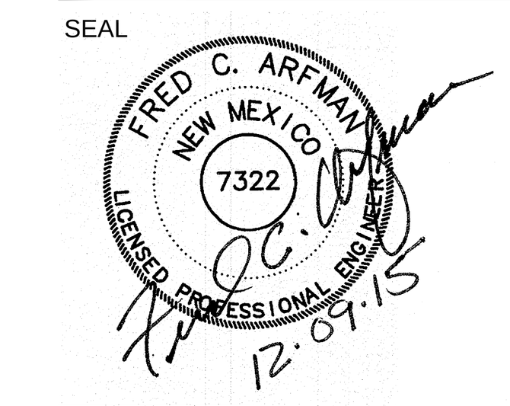
DEKKER PERICH SABATINI

7601 JEFFERSON NE, SUITE 100 ALBUQUERQUE, NM 87109

505.761.9700 / DPSDESIGN.ORG

ARCHITECT

SEAL



PROJECT

VILLAGE AT AVALON
601 90th STREET NW
ALBUQUERQUE, NEW MEXICO

REVISIONS

2 ADDENDUM 002

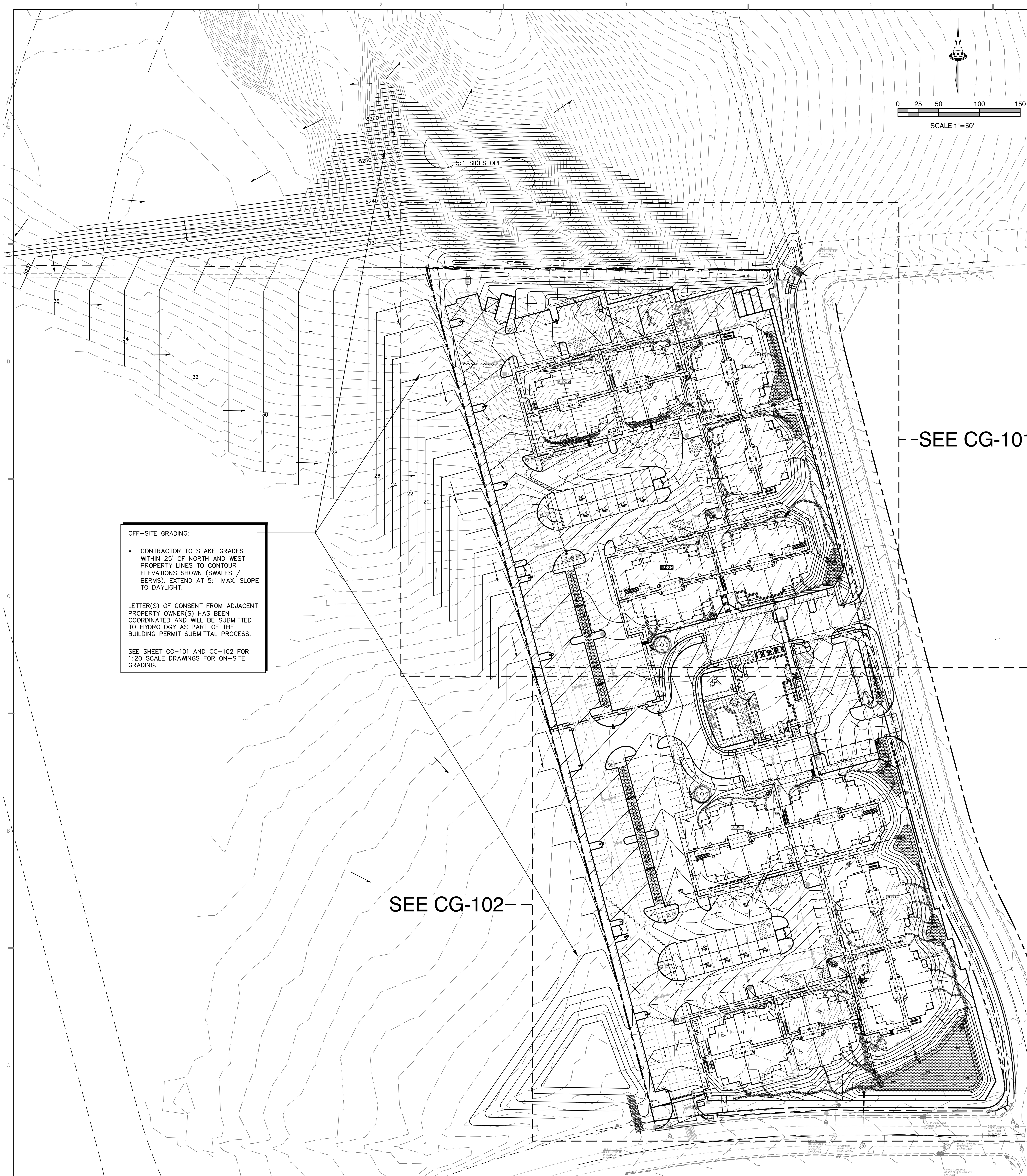
DRAWN BY	
REVIEWED BY	FCA
DATE	12/09/2015
PROJECT NO	15-0074

DRAWING NAME

CIVIL NOTES AND SPECIFICATIONS

SHEET NO

CN-100



OFF-SITE GRADING:

- CONTRACTOR TO STAKE GRADES WITHIN 25' OF NORTH AND WEST PROPERTY LINES TO CONTOUR ELEVATIONS SHOWN (SWALES / BERMS). EXTEND AT 5:1 MAX. SLOPE TO DAYLIGHT.

LETTER(S) OF CONSENT FROM ADJACENT PROPERTY OWNER(S) HAS BEEN COORDINATED AND WILL BE SUBMITTED TO HYDROLOGY AS PART OF THE BUILDING PERMIT SUBMITTAL PROCESS.

SEE SHEET CG-101 AND CG-102 FOR 1:20 SCALE DRAWINGS FOR ON-SITE GRADING.

DRAINAGE CONCEPT

PROPERTY: THE SITE IS AN UNDEVELOPED PROPERTY LOCATED WITHIN C.O.A. VICINITY MAP K-9. THE SITE IS BOUND TO THE EAST BY 90TH ST. NW, TO THE SOUTH BY BLUEWATER ROAD NW, AND TO THE NORTH AND WEST BY UNDEVELOPED PROPERTY.

PROPOSED IMPROVEMENTS: THE PROPOSED IMPROVEMENTS INCLUDE A MULTI-UNIT APARTMENT COMPLEX WITH GARAGE PARKING BUILDINGS, CLUBHOUSE, ASSOCIATED ASPHALT PAVED DRIVES, PARKING, PLAYGROUNDS, PEDESTRIAN WALKS AND LANDSCAPING.

PER THE APPROVED AMOLE-HUBBELL DRAINAGE MASTER PLAN UPDATE BY WILSON & CO. (2013 REPORT), THE PROPERTY IS LOCATED WITHIN DRAINAGE BASIN 202.2. THIS BASIN DISCHARGE IS RESTRICTED TO 2.5 CFS PER ACRE. A PERMANENT STORMWATER DETENTION POND WILL BE CONSTRUCTED AT THE SOUTHEAST CORNER OF THE PROPERTY TO LIMIT DISCHARGE TO THE ALLOWABLE RATE.

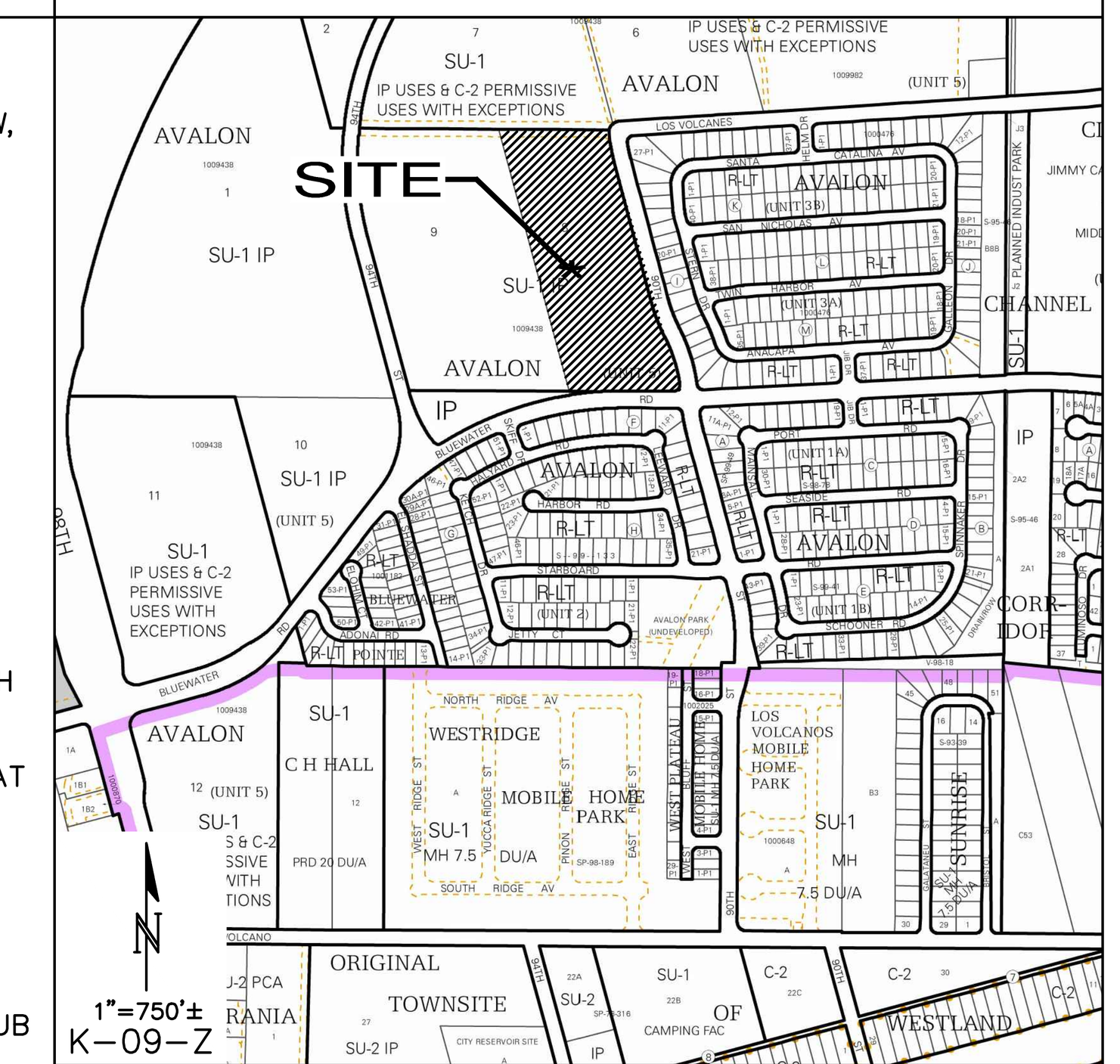
OFF-SITE FLOW FROM THE ADJACENT PROPERTIES TO THE NORTH AND WEST WILL BE ROUTED AROUND THE PROPOSED DEVELOPMENT USING TEMPORARY BERMS AND SWALES. TEMPORARY SEDIMENT CONTROL PONDS WILL BE CONSTRUCTED AT THE NORTHEAST AND SOUTHWEST CORNERS OF THE PROPERTY.

RETAINING WALLS WILL BE CONSTRUCTED AS REQUIRED TO ACHIEVE THE NECESSARY GRADE TRANSITIONS.

THIS SITE WILL LIMIT DISCHARGE TO 2.5 CFS/ACRE TO THE ADJACENT STREETS OR TO THE EXISTING 30"ø STORM DRAIN STUB PROVIDED WEST OF THE INTERSECTION OF 90TH ST. AND BLUEWATER RD.

ON-SITE PONDING WILL BE PROVIDED FOR 100% RETENTION OF THE REQUIRED FIRST FLUSH VOLUME AND DETENTION AS NEEDED TO LIMIT THE DISCHARGE TO THE ALLOWABLE RATE.

VICINITY MAP



PROJECT DATA

LEGAL DESCRIPTION: TRACT 8, UNIT 5, AVALON SUBDIVISION, ALBUQUERQUE, NEW MEXICO

SITE AREA: 9.98 AC.

FLOOD ZONE: PER BERNALILLO COUNTY FIRM MAP #35001C0328H, DATED AUGUST 16, 2012, THE SITE IS LOCATED WITHIN FLOODZONE 'X' (UNSHADED) DESIGNATED AS AREAS DETERMINED TO BE OUTSIDE 500-YEAR FLOODPLAIN.

ENGINEER: FRED C. ARFMAN
ISAACSON & ARFMAN, P.A.
128 MONROE ST NE, ABQ. NM 87108
PHONE: (505) 268-8828

SURVEYOR: VLADIMIR JIRIK
ALBUQUERQUE SURVEYING CO.
2119 MENAUL BLVD. NE, ABQ. NM 87107
PHONE: (505) 884-2036

BENCHMARK: COA SURVEY MONUMENT 7_K9. A 3 1/4 INCH ALUMINUM DISC RIVETED TO A PIPE 0.2 FEET ABOVE GROUND. STAMPED "7-K9 1989". ELEVATION = 5140.082 (NAVD 1988).

S.O.19 : NOTICE TO CONTRACTORS

1	AN EXCAVATION / CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN THE CITY RIGHT-OF-WAY.
2	ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED, EXCEPT AS OTHERWISE STATED OR PROVIDED FOR HEREON, SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1986 EDITION AS REVISED THROUGH UPDATE #8.
3	TWO WORKING DAYS PRIOR TO ANY EXCAVATION, THE CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL SYSTEM (CALL '811') FOR LOCATION OF EXISTING UTILITIES.
4	PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL CONSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
5	BACKFILL COMPACTION SHALL BE ACCORDING TO TRAFFIC / STREET USE.
6	MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.
7	WORK ON ARTERIAL STREETS SHALL BE PERFORMED ON A 24-HOUR BASIS.

APPROVAL	NAME	DATE
INSPECTOR		

FIRST FLUSH REQUIREMENTS

BASIN NO. 1		DESCRIPTION	DRAINING TO 90TH STREET	
Area of basin flows =	219865	SF	=	5.05 Ac.
The following calculations are based on Treatment areas as shown in table to the right			LAND TREATMENT	
			A =	0%
			B =	10%
			C =	15%
			D =	75%
			FIRST FLUSH VOL.	4672 CF

BASIN NO. 2		DESCRIPTION	DRAINING TO SOUTHEAST DETENTION POND	
Area of basin flows =	214732	SF	=	4.93 Ac.
The following calculations are based on Treatment areas as shown in table to the right			LAND TREATMENT	
			A =	0%
			B =	10%
			C =	15%
			D =	75%
			FIRST FLUSH VOL.	4563 CF

STORMWATER CONTROL MEASURES ARE REQUIRED TO PROVIDE MANAGEMENT OF 'FIRST FLUSH' (DEFINED AS THE 90TH PERCENTILE STORM EVENT OR 0.34" [0.44" LESS 0.1" FOR INITIAL ABSTRACTION] OF STORMWATER WHICH DISCHARGES DIRECTLY TO A PUBLIC STORM DRAINAGE SYSTEM).

THE PONDING VOLUME REQUIRED IS 0.34" * TYPE 'D' AREA:
PER THE CALCULATIONS ABOVE, THE REQUIRED F.F. VOLUME =

BASIN 1: 4672 CF
BASIN 2: 4563 CF

THERE ARE 'FIRST FLUSH' RETENTION BASIN AREAS THROUGHOUT THE SITE (HATCHED PER LEGEND). STORMWATER FROM THE IMPERVIOUS AREAS SHALL BE DIRECTED TO THESE BASINS VIA CURB OPENINGS AND ON-SITE STORM DRAINS. FLOW IN EXCESS OF FIRST FLUSH POND CAPACITY WILL OVERFLOW TO CONTINUE ALONG DESIGNED FLOWPATHS. INLETS THAT ARE PLACED IN FIRST FLUSH RETENTION BASINS SHALL BE RAISED AND HAVE THE TOP OF GRATE LOCATED AT THE 'FIRST FLUSH' WATER SURFACE ELEVATION.

THE 'FIRST FLUSH' POND VOLUMES ARE PROVIDED ON SHEET CG-502.

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2121 CG-101.dwg Dec 09,2015

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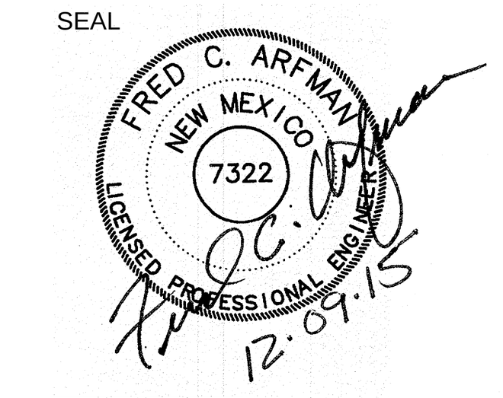
ARCHITECT

SEAL



PROJECT

VILLAGE AT AVALON
601 90th STREET NW
ALBUQUERQUE, NEW MEXICO

REVISIONS

2	ADDENDUM 002

DRAWN BY	
REVIEWED BY	FCA
DATE	12/09/2015
PROJECT NO	15-0074

DRAWING NAME

OVERALL GRADING AND DRAINAGE PLAN

SHEET NO

CG-100

KEYED NOTES

THESE NOTES ARE REFERENCED ON SHEETS CG-102 AND CG-103. NOT ALL NOTES ARE USED ON EACH SHEET. UNDERLINED NOTES INDICATE ASSOCIATED DETAIL ON SHEET CG-503. SEE ARCHITECTURAL FOR SITE AND PAVING DETAILS.

1. SPOT ELEVATIONS WITHIN GUTTER AREA REPRESENT FLOWLINE UNLESS NOTED. ADD 0.5' TYPICAL FOR TOP OF CURB / TOP OF ADJACENT WALK ELEVATIONS.
2. SEE PUBLIC WORK ORDER DRAWINGS FOR CONSTRUCTION WITHIN R.O.W. GRADES IN R.O.W. ARE SHOWN FOR INFORMATION ONLY.
3. CONSTRUCT PAVING, CURBS, WALKS AT ELEVATIONS SHOWN. SEE PAVING PLAN AND SITE DETAILS FOR ADDITIONAL INFORMATION. NOTE: PAVEMENT SLOPES AND CROSS-SLOPES VARY THROUGHOUT TO ACHIEVE ADA COMPLIANT PEDESTRIAN ACCESS, STREET STORMWATER CAPACITIES, PIPE COVERAGE, ETC. SEE LEGEND FOR 1' AND 0.5' CONTOUR LINETYPES PROVIDED TO CLARIFY DRAINAGE CONCEPT.
4. SLOPES WITHIN HANDICAP PARKING AREAS TO BE ADA COMPLIANT. MAX. SLOPE = 2% IN ANY DIRECTION.
5. CONSTRUCT ADA COMPLIANT HANDICAP ACCESS RAMP.
6. GARAGE UNIT GRADES REFLECT TOP OF PAD ELEVATION AT BACK AND FRONT OF INDIVIDUAL UNIT. UNITS STEP IN BOTH DIRECTIONS AS NOTED.
7. GRADE OFF-SITE @ MAX. 5:1 SLOPE AND CONSTRUCT TEMPORARY SWALES, DESILTATION PONDS, AND OVERFLOWS TO ROUTE UNDEVELOPED FLOW AROUND THE PROPOSED DEVELOPMENT. LETTER FROM OFF-SITE PROPERTY OWNER(S) GIVING PERMISSION TO GRADE WILL BE PROVIDED TO COA HYDROLOGY FOR THEIR FILES. SEE CG-100 FOR EXTENT OF OFF-SITE GRADING.
8. GRADE FIRST FLUSH RETENTION BASIN (F.F. BASIN) AS DEFINED BY HATCH. SEE SHEET CG-503 FOR FIRST FLUSH VOLUME CALCULATIONS. NOTE: GRADING OF F.F. BASINS WILL BE INSPECTED AS PART OF ENGINEER'S CERTIFICATION FOR CERT. OF OCCUPANCY. DURING LANDSCAPING, F.F. BASINS MAY BE SMOOTHLY INTEGRATED INTO LANDSCAPING BUT MUST MAINTAIN REQUIRED TOP AND BOTTOM ELEVATION AND VOLUME.
9. CONSTRUCT PERCOLATION TRENCH.
10. ROOF DISCHARGE TO BE RELEASED VIA DOWNSPOUTS AT LOCATIONS SHOWN. SEE CG-501 AND CG-502 FOR ADDITIONAL INFORMATION.
11. CONSTRUCT F.F. ROCK SWALE (3' TO 5' WIDE) TO PASS CONCENTRATED FLOW.
12. PROVIDE 1' WIDE CURB OPENING, PROVIDE 3' X 3' X 12" DEEP ANGULAR ROCK EROSION PROTECTION AT OUTFALL (DO NOT BLOCK FLOWLINE).
13. PROVIDE 2' WIDE CURB OPENING, PROVIDE 5' X 3' X 12" DEEP ANGULAR ROCK EROSION PROTECTION AT OUTFALL (DO NOT BLOCK FLOWLINE).
14. PROVIDE 2' WIDE X 6" HIGH (MIN.) OPENING THROUGH WALL AT FLOWLINE ELEVATION SHOWN TO PASS FLOW. WALL DESIGN BY OTHERS.
15. CONSTRUCT PRIVATE STORM DRAIN SYSTEM. SEE SHEETS CG-501 AND CG-502 FOR SIZE / SLOPE / INLET / MATERIAL.
16. CONSTRUCT COVERED SIDEWALK CULVERT (WIDTH PER PLAN) PER C.O.A. STD. DWG. 2236 AND DETAIL SHEET CG-503.
17. POOL GRADES ARE PROVIDED FOR INFORMATION ONLY. CONTRACTOR TO PROVIDE FINAL DESIGN GRADES / DECK DRAINS ETC.
18. SEE ARCHITECTURAL PLANS FOR EXTENDED / RETAINING STEMWALLS TO ACHIEVE GRADES SHOWN.
19. CONSTRUCT SITE RETAINING WALL THIS AREA (RETAINING HEIGHT VARIES). TOP OF GRADE ELEVATIONS (EACH SIDE) ARE PROVIDED. STRUCTURAL DESIGN BY OTHERS.
20. EROSION CONTROL (MIN. 12" DEEP 6" AVG. DIA. ANGULAR FACED ROCK) TO BE INSTALLED ON ALL SIDE SLOPES > 3:1 AND AS SHOWN HATCHED. OWNER'S OPTION: USE LANDSCAPE BOULDERS / GARDEN RETAINING TO FLATTEN SLOPES.
21. CONCRETE STEPS WITH HANDRAILS. SEE ARCHITECTURAL.

GRADING NOTE

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.

LEGEND

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75.5	PROPOSED CONTOUR – 0.5' INCREMENT
78.3	PROPOSED SPOT ELEVATION
	FLOW ARROW
	ROOF DISCHARGE (SEE CG-501)
F.F.=XXXX.XX	FINISH FLOOR ELEVATION
78.3±	EXISTING ELEVATION (±) TO MATCH. PROVIDE SMOOTH TRANSITION.
	ROCK EROSION CONTROL
	PERCOLATION TRENCH
	PROPOSED STORM DRAIN (SEE CG-501)
FL=	FLOWLINE ELEVATION
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	RETAINING WALL
	'FIRST FLUSH' RETENTION BASIN

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2121 CG-101.dwg Dec 09,2015

Know what's below. Call before you dig.

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ARCHITECT

SEAL

FRED C. ARFMAN NEW MEXICO 7322 LICENSED PROFESSIONAL ENGINEER 12.07.15

PROJECT

VILLAGE AT AVALON
601 90th STREET NW
ALBUQUERQUE, NEW MEXICO

REVISIONS
1 ADDENDUM 002
2
3
4
5
6

DRAWN BY	
REVIEWED BY	FCA
DATE	12/09/2015
PROJECT NO	15-0074

DRAWING NAME
GRADING AND DRAINAGE PLAN 1 OF 2

SHEET NO
CG-101

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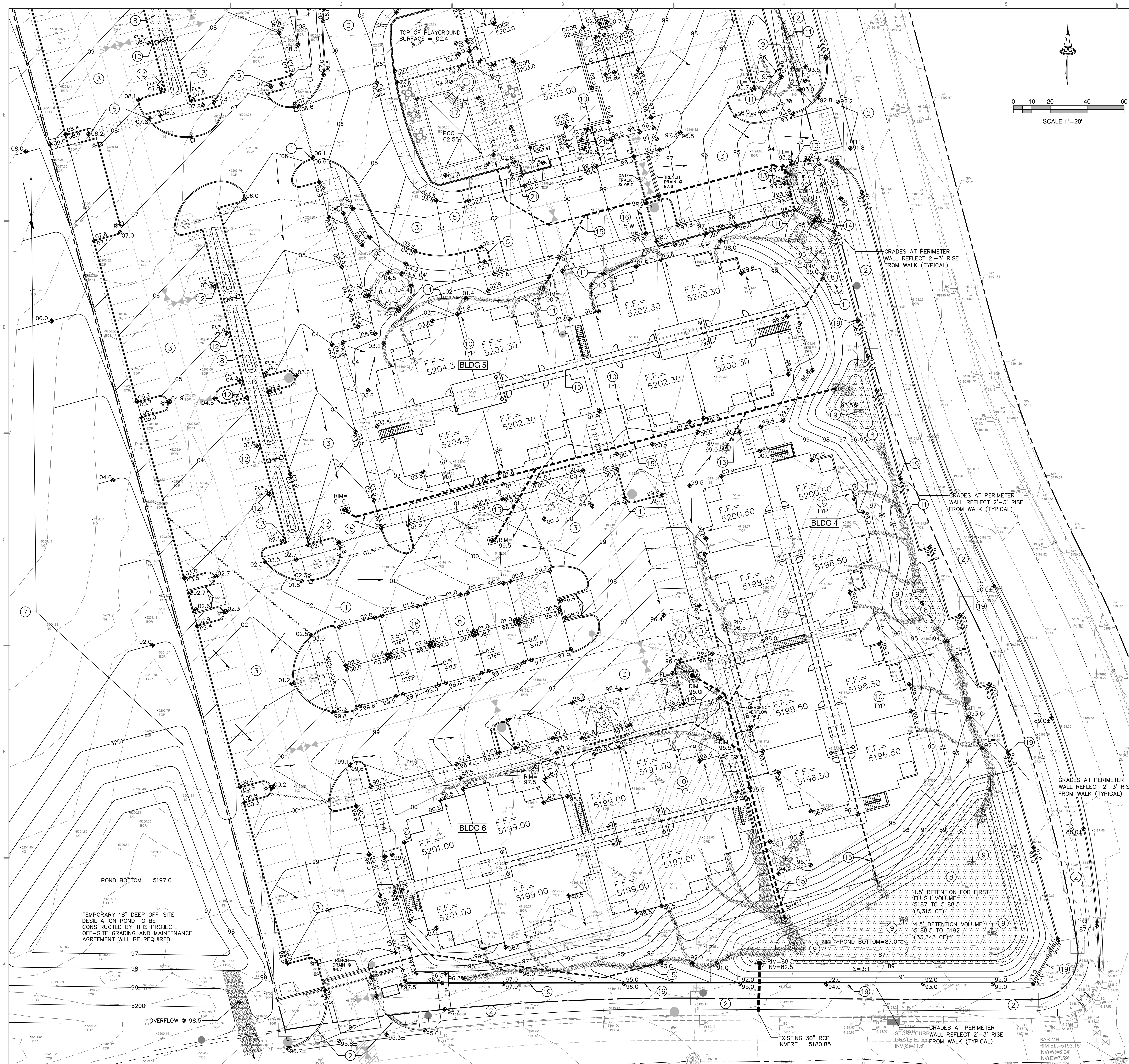

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LEGEND

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FRED C. ARFMAN, NEW MEXICO, 7322, LICENSED PROFESSIONAL ENGINEER
12-09-15

PROJECT

VILLAGE AT AVALON
601 90th STREET NW
ALBUQUERQUE, NEW MEXICO

REVISIONS
2 ADDENDUM 002

DRAWN BY	
REVIEWED BY	FCA
DATE	12/09/2015
PROJECT NO	15-0074

DRAWING NAME
GRADING AND DRAINAGE PLAN 2 OF 2

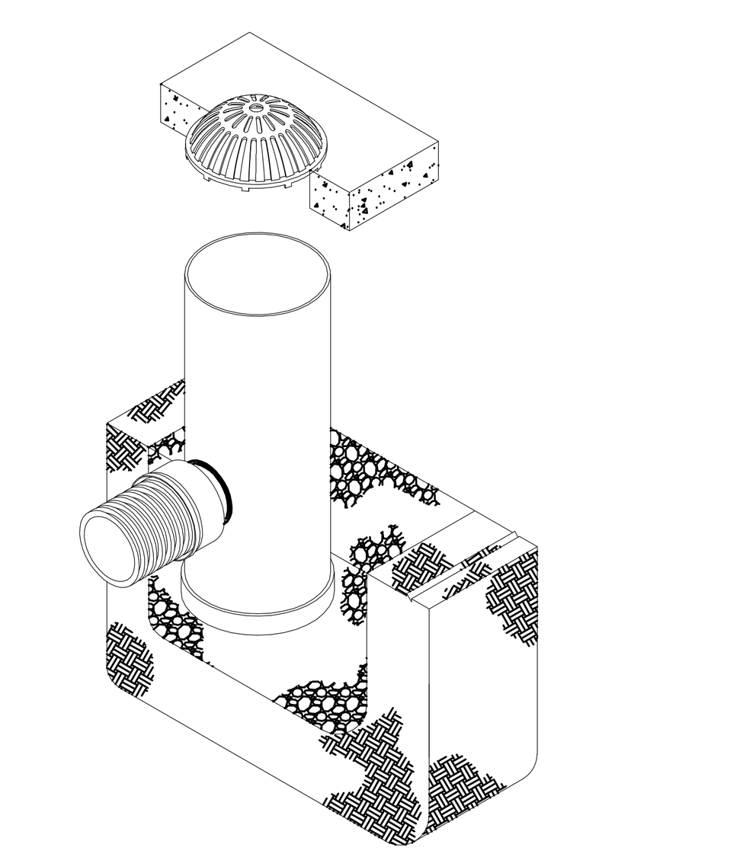
SHEET NO
CG-102

STORM DRAIN LEGEND AND NOTES

FOR USE WITH SHEETS CG-501 AND CG-502

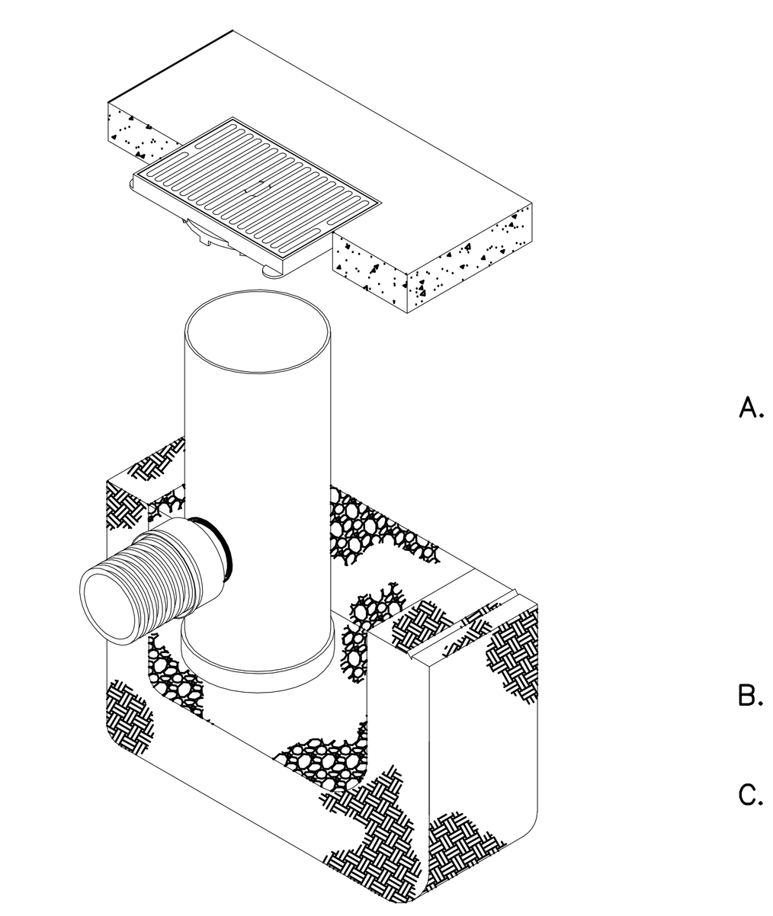
(MH#) NYLOPLAST MANHOLE INLET WITH DOMED GRATE

ALL MANHOLE INLETS (MH) TO INCLUDE:
- 24"ø ADS NYLOPLAST BASIN
- 2' SUMP
- LOCKING 24"ø DOMED GRATE
- 8" WIDE X 6" THICK CONCRETE COLLAR



(T#) 2 FT X 3 FT ROAD & HIGHWAY STRUCTURE

ALL ROAD & HIGHWAY STRUCTURES TO INCLUDE:
- 18"ø ADS NYLOPLAST BASIN
- 2' SUMP
- LOCKING 2'X3' H-20 RATED GRATE
- 18" WIDE X 8" THICK CONCRETE COLLAR



LD INLET — LANDSCAPE STORM DRAIN INLET

ALL LANDSCAPE AREA INLETS (LD) TO INLCUDE:
- 12"ø ADS INLINE DRAIN
- 12"ø LOCKING DOMED GRATE
- 8" WIDE X 6" DEEP CONCRETE COLLAR

①②③ ROOF DRAIN DISCHARGE:
SEE ARCHITECTURAL PLANS FOR DIAMETER AND DETAILS AT BUILDING.

① ROOF DRAIN DISCHARGE TO SURFACE. CONSTRUCT 3'X3'X12" DEEP ROCK SPLASH PAD AT OUTLET. CONTINUE ROCK SWALE AS SHOWN.

② ROOF DRAIN DISCHARGE DIRECTLY TO STORM DRAIN SYSTEM. EXTEND PIPE AND CONNECT TO ADJACENT STORM DRAIN SYSTEM USING WATERTIGHT FITTINGS AS REQUIRED.

③ ROOF DRAIN DISCHARGE PIPED THROUGH WALK. RELEASE TO PAVEMENT AT FLOWLINE.

BUBBLE UP — BUBBLE UP OUTLET

ALL BUBBLE UP OUTLETS TO INCLUDE:
- 18"ø ADS NYLOPLAST BASIN
- 2' SUMP
- LOCKING 18"ø DOMED GRATE
- 8" WIDE X 6" THICK CONCRETE COLLAR

FD — FLOOR DRAIN

ALL INTERIOR COURTYARD FLOOR DRAINS TO INCLUDE:
- 6"ø ADS INLINE DRAIN WITH 6" OUTLET
- LOCKING 6"ø DOMED GRATE
- 6" WIDE X 6" THICK CONCRETE COLLAR
- 6" PIPE AND FITTINGS AS REQUIRED TO CONNECT TO TRUNK LINE.

STORM DRAIN NOTES

A. ALL PRIVATE STORM DRAIN LINES AND FITTINGS SHALL BE THE FOLLOWING MATERIAL:

< 12" DIA. SHALL BE EITHER ADS N-12 WT PIPE OR PVC SDR 35.
= 12" DIA. SHALL BE EITHER ADS MEGA GREEN WT PIPE OR PVC SDR 35.
> 12" DIA. SHALL BE ADS MEGA GREEN WT PIPE.

B. INSTALL ALL STORM DRAIN INLETS AND PIPE PER MANUFACTURER'S SPECIFICATIONS.

C. STORM DRAIN SYSTEM WILL REQUIRE REGULAR MAINTENANCE TO ENSURE PROPER FUNCTIONING DURING STORM EVENTS. ENGINEER RECOMMENDS THAT OWNER PUT IN PLACE INSPECTION AND MAINTENANCE REQUIREMENTS SCHEDULED TO OCCUR MONTHLY AND AFTER EACH STORM EVENT.

ALL STORM DRAIN INLETS, PIPES, FIRST FLUSH PONDS, DETENTION PONDS AND DESILTATION PONDS MUST BE CONSTRUCTED IN SUBSTANTIAL COMPLIANCE WITH THE APPROVED PLAN IN ORDER TO RECEIVE ENGINEER'S CERTIFICATION (VOLUME, ELEVATIONS, RIMS AND INVERTS).

SEE SHEET CN-100 FOR ADDITIONAL NOTES AND SPECIFICATIONS.

POST-CONSTRUCTION MAINTENANCE FOR PRIVATE STORMWATER FACILITIES WILL BE THE RESPONSIBILITY OF THE FACILITIES' OWNER. PERIODIC INSPECTION AND CERTIFICATION OF THE FACILITIES MAY BE REQUIRED BY THE CITY ENGINEER.

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ARCHITECT

SEAL

FRED C. ARFMAN — NEW MEXICO — 7322 — LICENSED PROFESSIONAL ENGINEER — 12-09-15

PROJECT

VILLAGE AT AVALON
601 90th STREET NW
ALBUQUERQUE, NEW MEXICO

REVISIONS
1 ADDENDUM 002

DRAWN BY	
REVIEWED BY	FCA
DATE	12/09/2015
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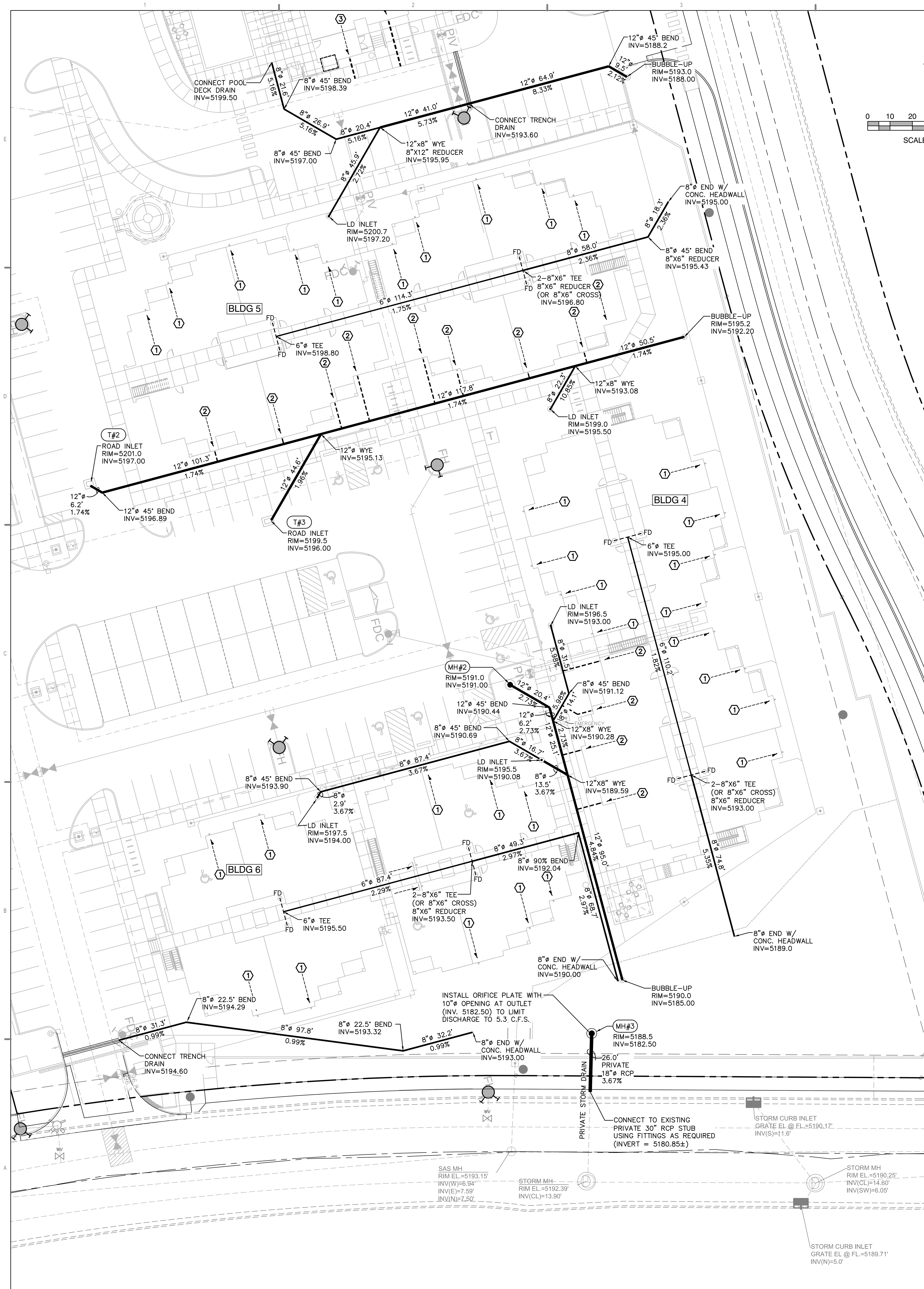
DRAWING NAME
STORM DRAIN 1 OF 2

SHEET NO
CG-501



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VILLAGE AT AVALON
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REVISIONS

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DRAWN BY	
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DRAWING NAME

STORM DRAIN
2 OF 2

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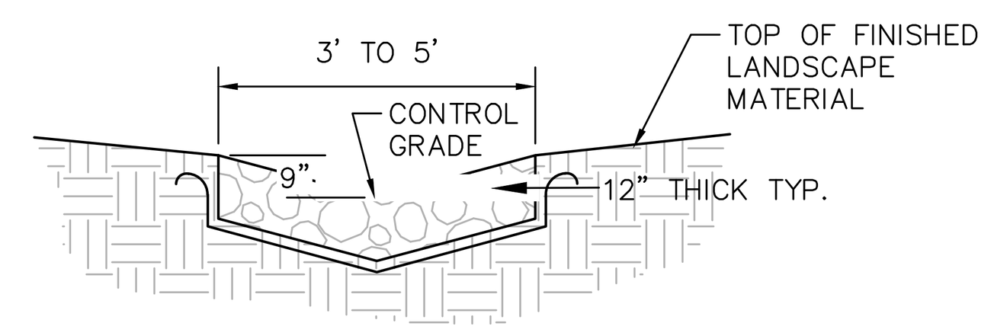
2121 CG-501.dwg Dec 09,2015

SHEET NO
CG-502

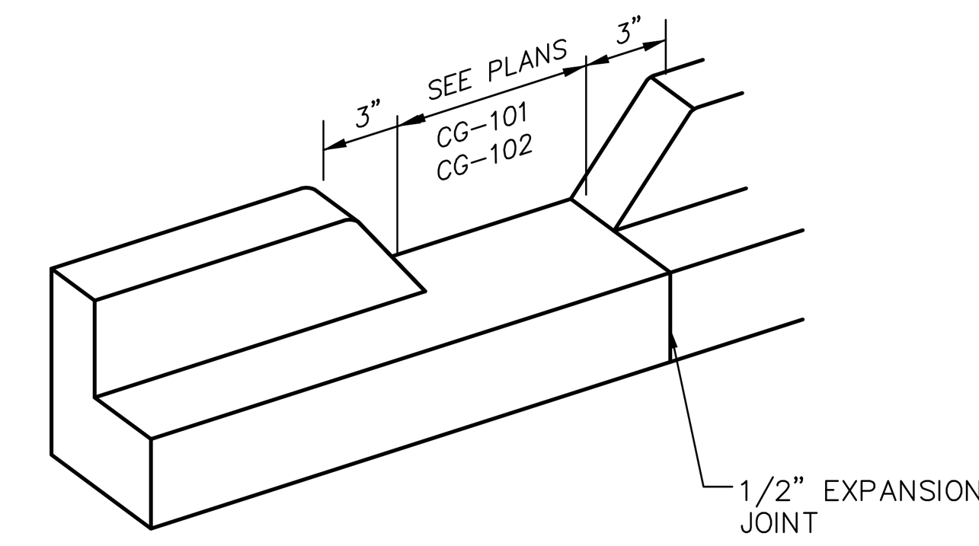
CONSTRUCT ALL SWALES AND FRACTURED FACE ROCK EROSION PROTECTION BELOW ADJACENT GRADE TO ENSURE RUNOFF CAN BE CAPTURED AND CONVEYED PROPERLY



- VARY FRACTURED FACE ROCK SIZE BETWEEN 4" AND 8" DIA. (AVG.=6").
- PLACE GEOTEX 501 NON-WOVEN GEOTEXTILE (O.E.) BENEATH ALL EROSION PROTECTION.

ROCK SWALE AND ROCK EROSION PROTECTION

SCALE: N.T.S.

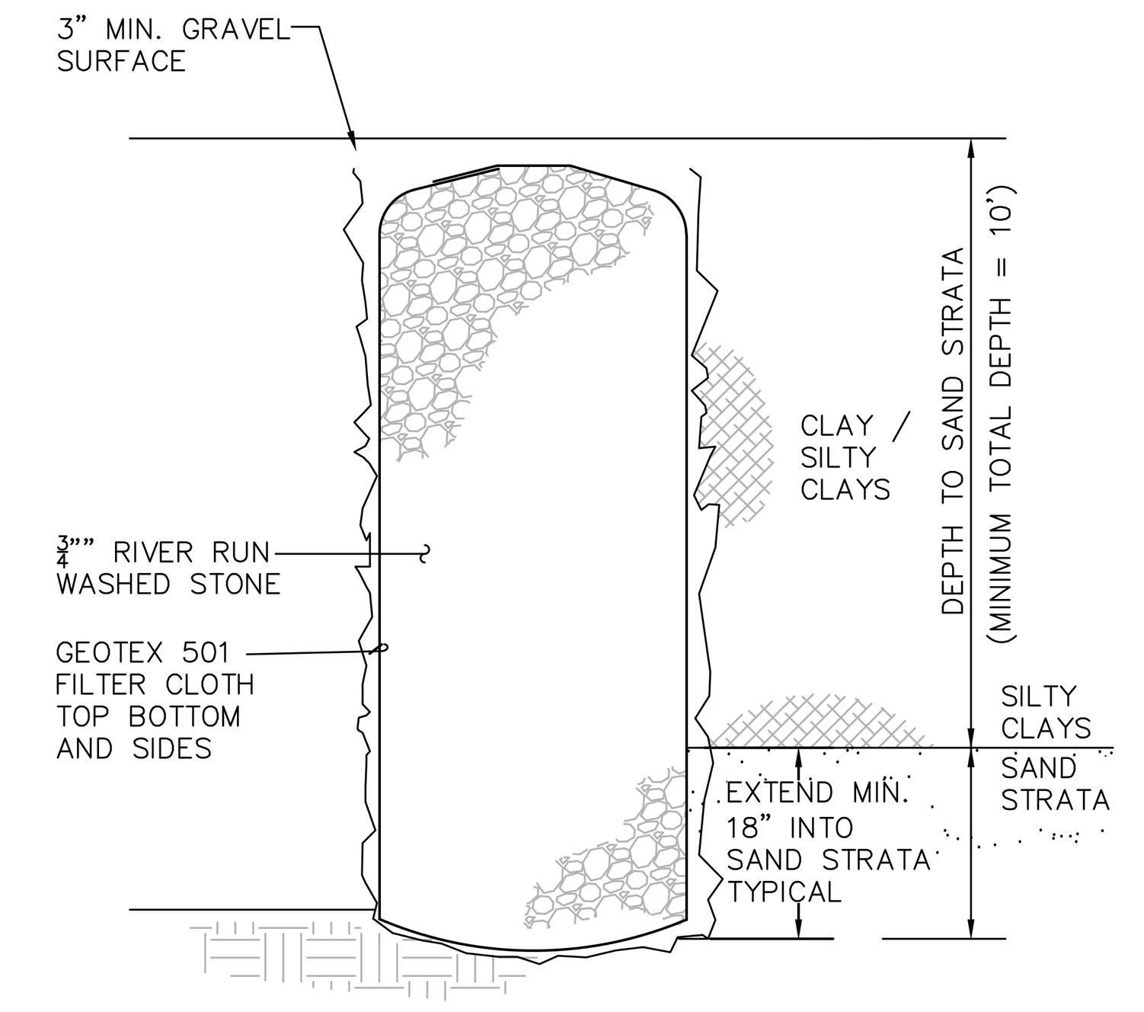


GENERAL NOTES

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

CURB OPENING

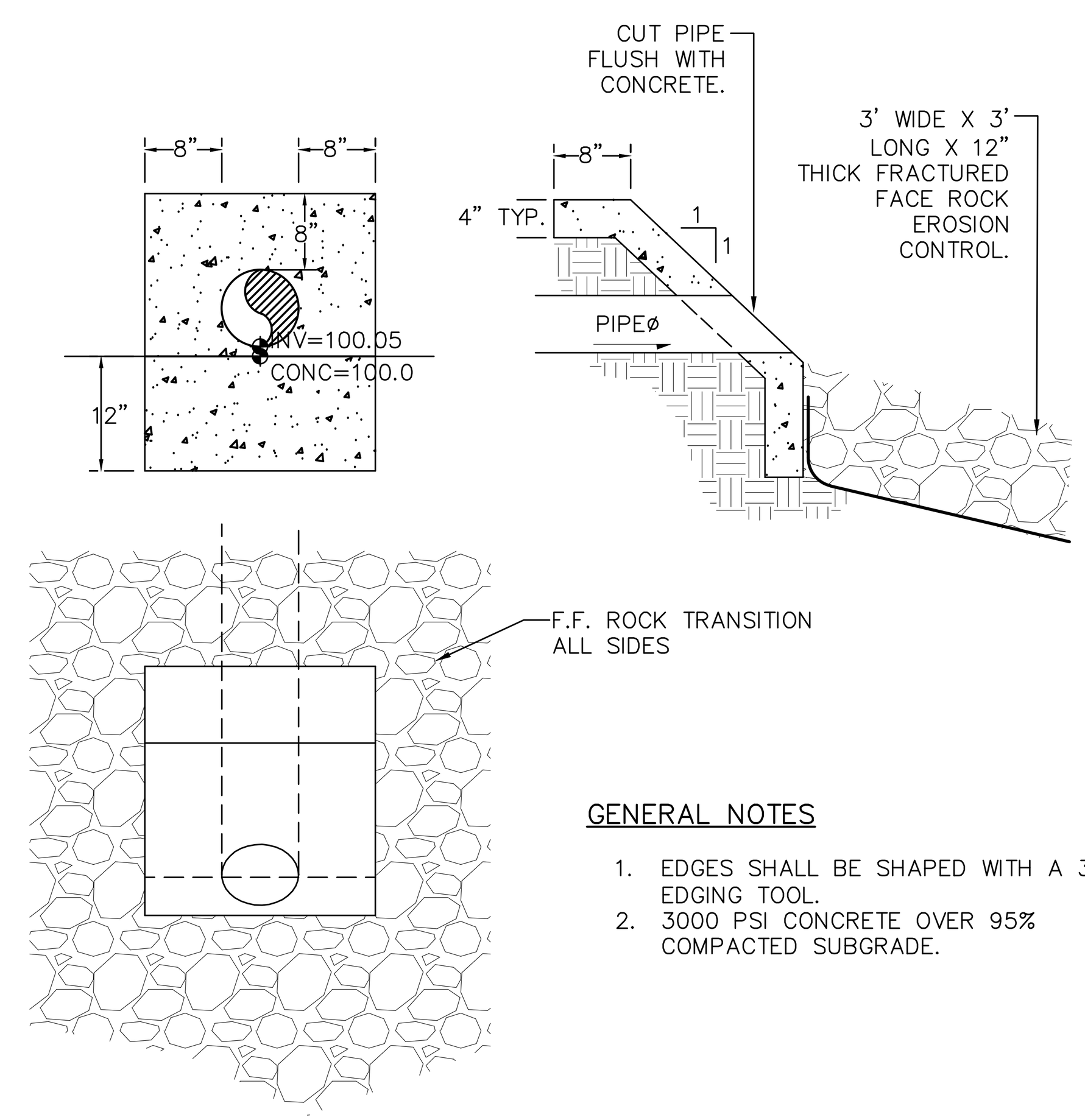
SCALE: N.T.S.



PERCOLATION TRENCH

18" WIDE X 48" LONG X DEPTH SHOWN (TYPICAL)

SCALE: N.T.S.



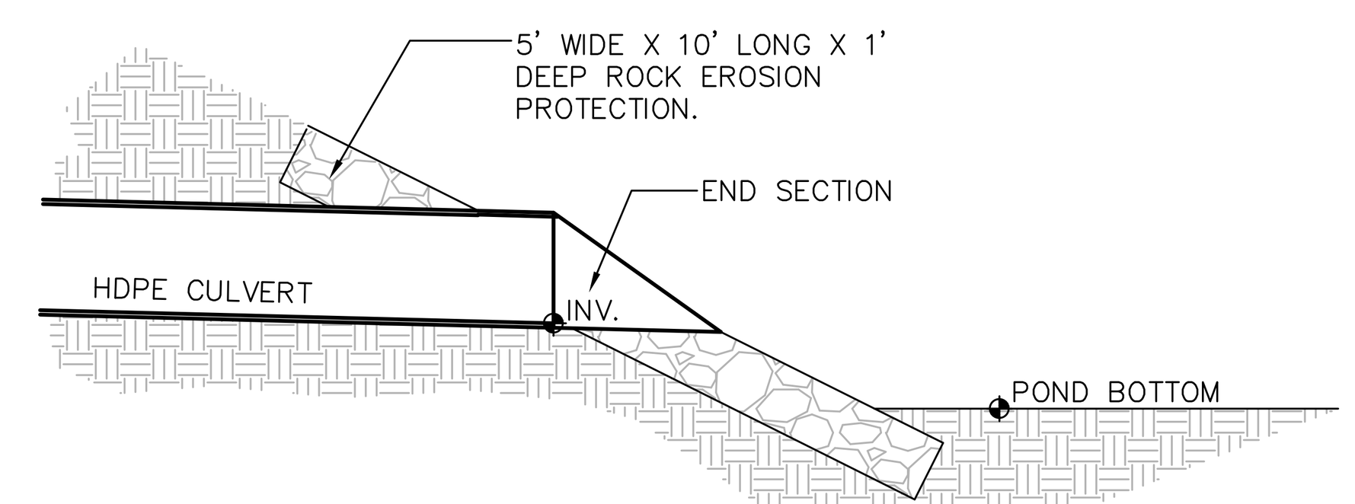
GENERAL NOTES

1. EDGES SHALL BE SHAPED WITH A 3/8" EDGING TOOL.
2. 3000 PSI CONCRETE OVER 95% COMPACTED SUBGRADE.

CONCRETE HEADWALL @ 8"Ø STORM DRAIN OUTFALL

SEE SHEETS CG-501 AND CG-502 FOR LOCATIONS

SCALE: N.T.S.



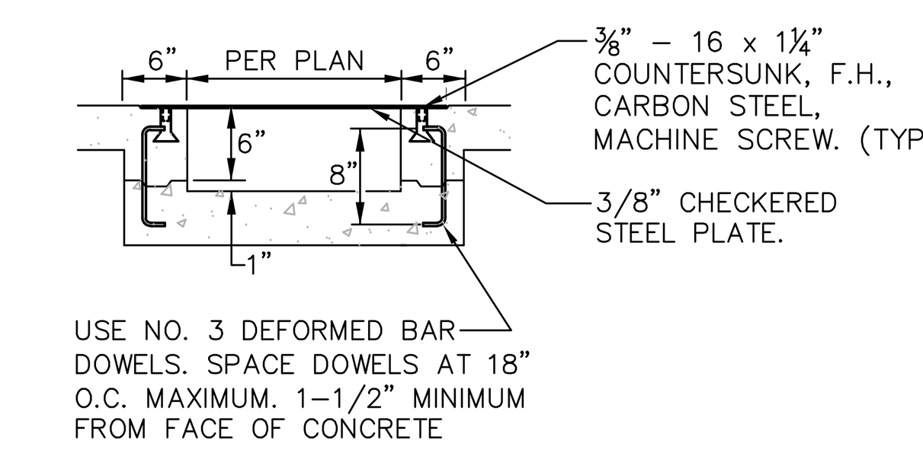
12"Ø AND 18Ø STORM DRAIN LINE OUTFALL WITH END SECTIONS

SEE SHEETS CG-501 AND CG-502 FOR LOCATIONS

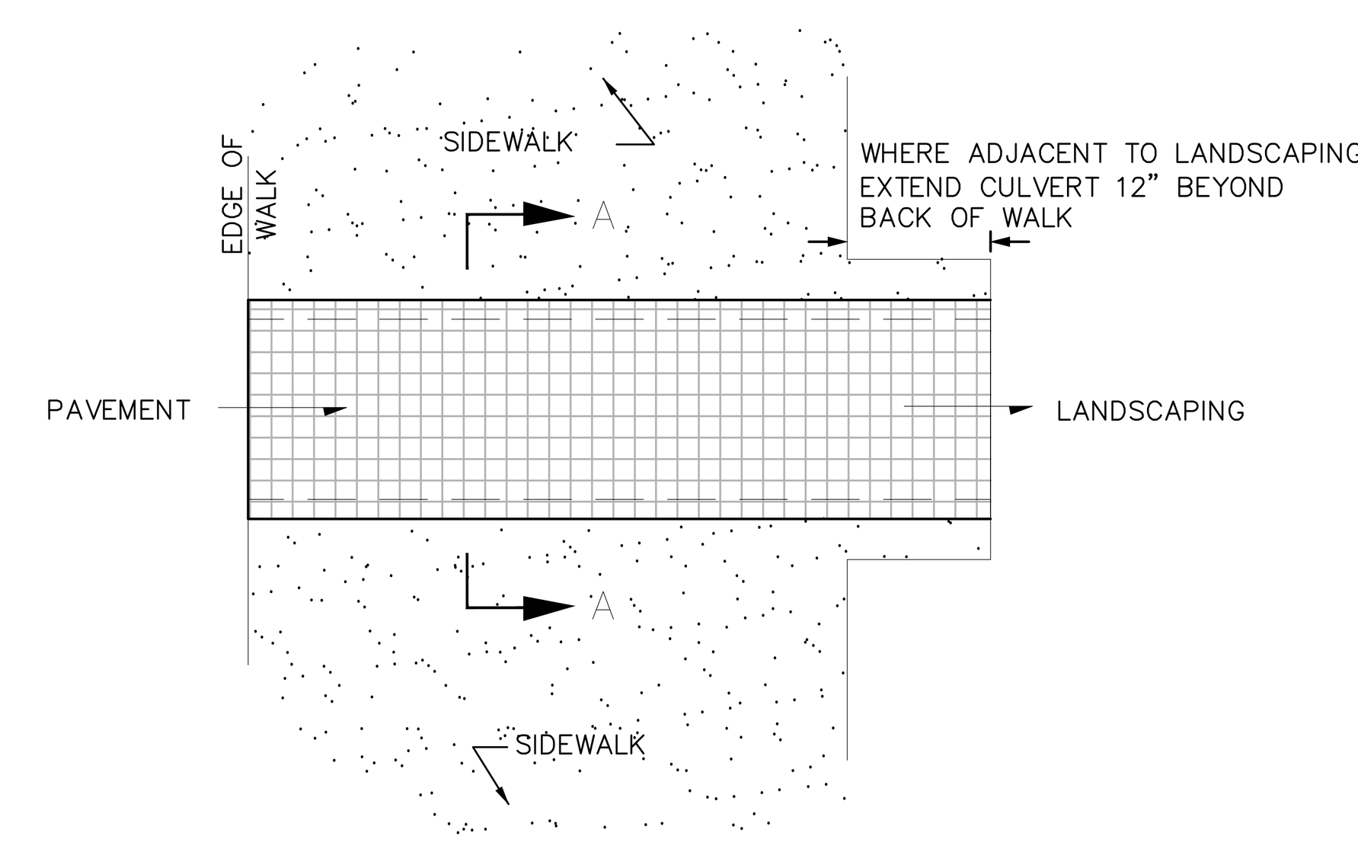
SCALE: N.T.S.

WELD ⅛" THICK, ⅝" MIN. DIAMETER OVER ALL SCREWS. COMPLETELY COVER SCREW HEADS. GRIND EDGES SMOOTH.

FOR SECURING PLATE USE 1"X5" S.S. ROD ANCHOR, "RED HEAD MULTI-SET II SRM-38 ANCHOR" OR APPROVED EQUAL. INSTALL PER MANUFACTURER'S INSTRUCTIONS AT MAX. 24" O.C., A MINIMUM OF 2 PER SIDE AND ONE WITHIN 6" OF EACH END.



SECTION A–A



PLAN

CONSTRUCT PER C.O.A. STD. DWG. 2236 WITH MODIFICATIONS AS SHOWN ON THIS DETAIL

COVERED SIDEWALK CULVERT

SCALE: N.T.S.

ARCHITECTURE / DESIGN / INSPIRATION

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ARCHITECT

SEAL

FRED C. ARFMAN NEW MEXICO 7322 LICENSED PROFESSIONAL ENGINEER 12-09-15

PROJECT

VILLAGE AT AVALON
601 90th STREET NW
ALBUQUERQUE, NEW MEXICO

REVISIONS

1 ADDENDUM 002

DRAWN BY	
REVIEWED BY	FCA
DATE	12/09/2015
PROJECT NO	15-0074

DRAWING NAME

DRAINAGE DETAILS

ISAACSON & ARFMAN, P.A.
Consulting Engineering Associates
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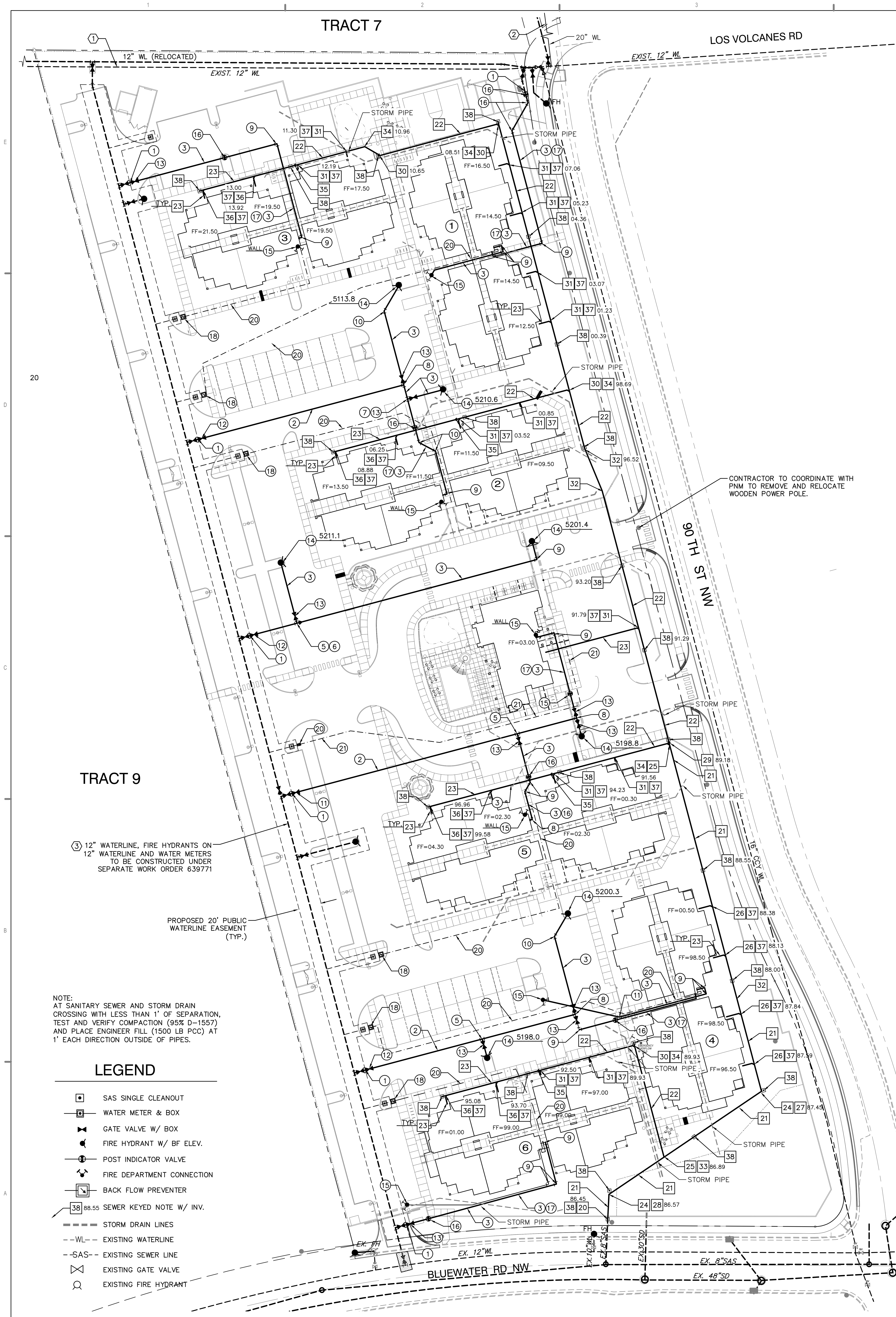
2121 CG-501.dwg Dec 09,2015

SHEET NO

CG-503



NOTE:
AT SANITARY SEWER AND STORM DRAIN CROSSING WITH LESS THAN 1' OF SEPARATION, TEST AND VERIFY COMPACTION (95% D-1557) AND PLACE ENGINEER FILL (1500 LB PCC) AT 1' EACH DIRECTION OUTSIDE OF PIPES.

LEGEND

- SAS SINGLE CLEANOUT
- WATER METER & BOX
- GATE VALVE W/ BOX
- FIRE HYDRANT W/ BF ELEV.
- POST INDICATOR VALVE
- FIRE DEPARTMENT CONNECTION
- BACK FLOW PREVENTER
- 38 88.55 SEWER KEYED NOTE W/ INV.
- STORM DRAIN LINES
- --WL-- EXISTING WATERLINE
- --SAS-- EXISTING SEWER LINE
- EXISTING GATE VALVE
- EXISTING FIRE HYDRANT

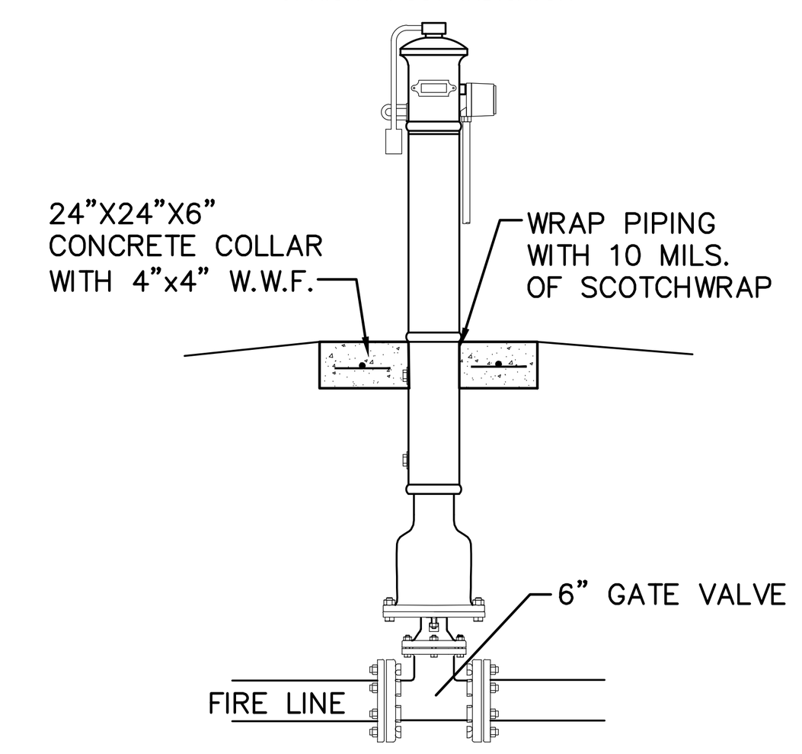
NOTES:

1. ALL MECHANICAL JOINTS SHALL BE RESTRAINED AT THE FITTING.
2. THE CONTRACTOR SHALL PROVIDE A MINIMUM PIPE LENGTH OF 20 LF FROM ALL MECHANICAL JOINTS. ALL PIPE JOINTS WITHIN 20 LF OF A MECHANICAL JOINT SHALL BE RESTRAINED AT THE CONTRACTOR'S EXPENSE.
3. THE CONTRACTOR SHALL RESTRAIN ALL PIPE JOINTS IN THE SPECIFIED DISTANCE LISTED IN THE WATER KEYED NOTES.

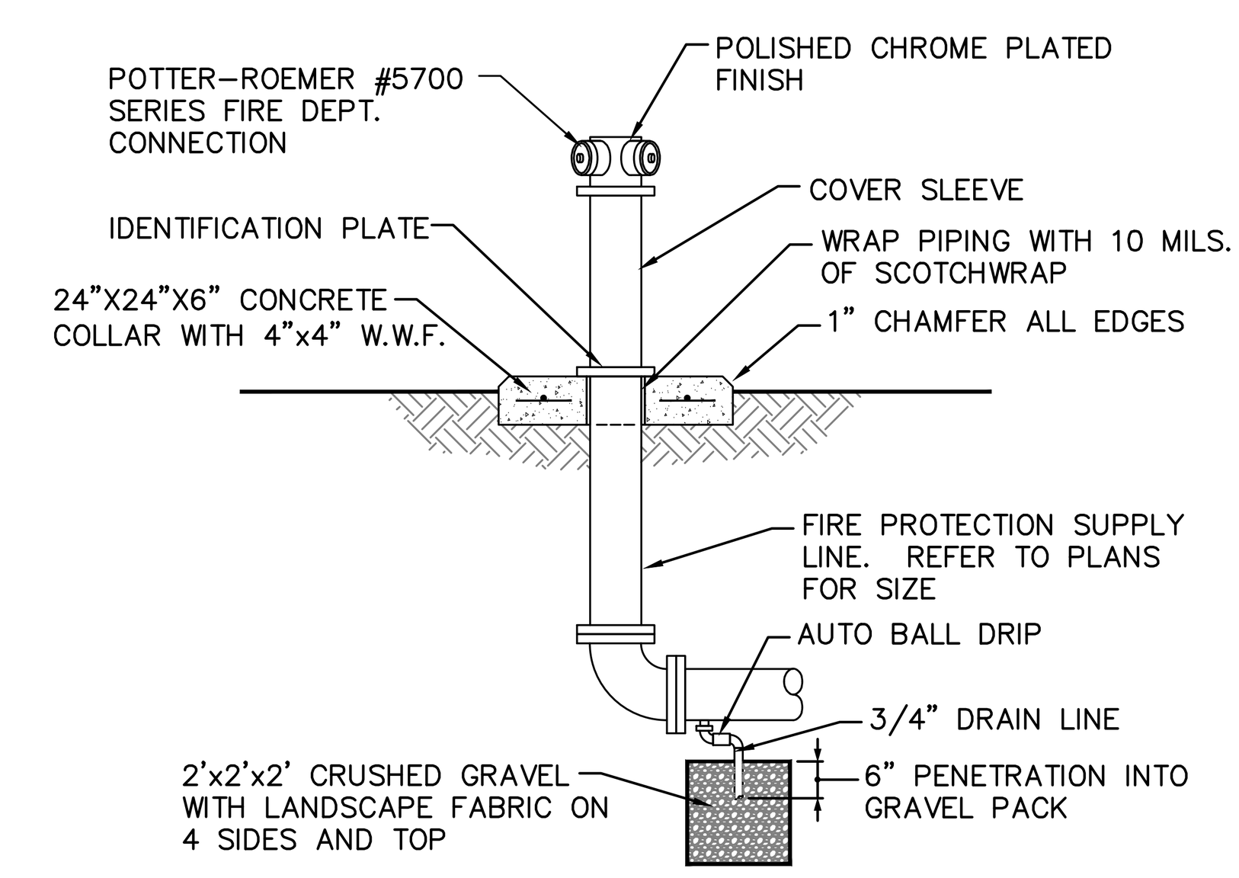
DEPTH OF BURY:	3.0 FT. MINIMUM
FACTOR OF SAFETY:	1.50
MATERIAL:	PVC
SOIL TYPE:	GM/SM – SILTY GRAVELS AND SILTY SANDS, GRAVEL-SAND-SILT MIXTURES.
TEST PRESSURE:	150 PSI
TRENCH TYPE 4:	PIPE BEDDED IN SAND, GRAVEL, OR CRUSHED STONE TO DEPTH OF 1/8 PIPE DIAMETER, 4 INCH MINIMUM; BACKFILL COMPACTED TO TOP OF PIPE.

DIFFERENT CRITERIA, E.G., GREATER DEPTH OF BURY, ETC., WILL REQUIRE DIFFERENT RESTRAINED LENGTHS. THESE MUST BE CALCULATED BY A QUALIFIED PROFESSIONAL ENGINEER AND APPROVED BY ABCWUA.

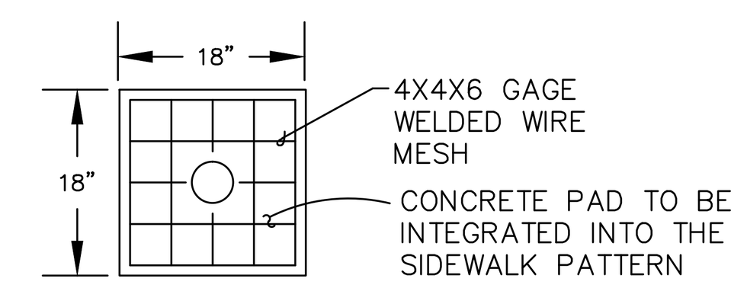
RESTRAINED JOINT CRITERIA FOR WATERLINE FITTINGS



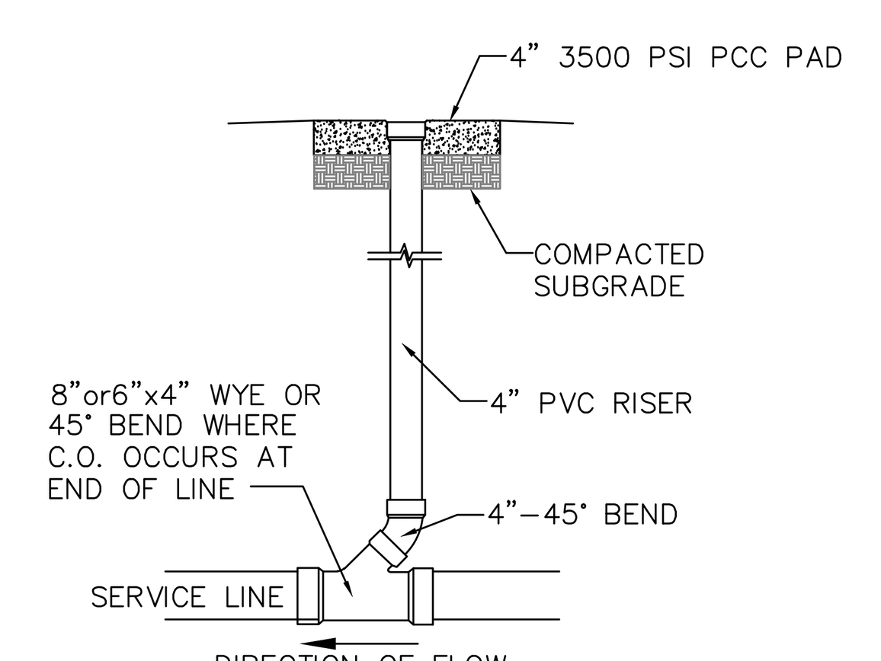
POST INDICATOR VALVE
NTS



FREE-STANDING FIRE DEPARTMENT CONNECTION DETAIL
NTS



CONCRETE PAD



SINGLE CLEANOUT DETAIL
NTS

811 Know what's below. Call before you dig.

SCALE 1"=40'

GENERAL NOTES

1. 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. ALL UTILITIES SHOULD BE FIELD VERIFIED AND LOCATED BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION. 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.
2. CONTRACTOR SHALL NOT USE VIBRATORY COMPACTION EQUIPMENT OR HEAVY VEHICLES OVER EXISTING UTILITIES.
3. SITE STORM DRAIN, ELECTRIC AND GAS LINES ARE SHOWN FOR GENERAL INFORMATION ONLY TO PROVIDE AN OVERVIEW OF SITE UTILITIES AND POTENTIAL CONFLICTS. SEE MECHANICAL PLANS FOR GAS LINE SIZING. SEE CG-101 FOR STORM DRAIN DESIGN.
4. ALL WATER FITTINGS SHALL HAVE JOINT RESTRAINTS (Lt). SEE RESTRAINED JOINT CRITERIA NOTES, THIS SHEET. (Lt) LENGTH SHOWN ON KEYED NOTES.

KEYED NOTES

WATER KEYED NOTES

1. REMOVE EXISTING CAP AND CONNECT NEW WATERLINE.
2. 8" WATERLINE
3. 6" WATERLINE.
4. 8" TEE.
5. 8"X6" TEE.
6. 8"x6" REDUCER. (LT=30')
7. 6" TEE.
8. 6"x6"x8" TEE (REDUCED RUN TEE)
9. 6" – 90° BEND. (LT=20')
10. 6" – 45° BEND. (LT=9')
11. 6" – 22½° BEND. (LT=4')
12. 8" GATE VALVE W/ BOX. (LT=60')
13. 6" GATE VALVE W/ BOX. (LT=55')
14. FIRE HYDRANT & BOTTOM FLANGE ELEVATION PER ABCWUA STD. DWG 2340. (LT=46')
15. FIRE DEPT. CONNECTION (FDC)(WALL MOUNT OR FREE STANDING). (LT=46' FOR FREE STANDING)
16. POST INDICATOR VALVE (PIV). (LT=46')
17. ¾" CONDUIT W/ PULL CORD FOR PIV SENSOR WIRE FROM BUILDING TO PIV PLACED IN SAME TRENCH ABOVE 6" WATERLINE.
18. 2½" REDUCE PRESSURE BACK FLOW PREVENTER. FEBCO MODEL LF880V IN SAF-T-COVER MODEL 400TLU880-AL.
19. 1½" REDUCE PRESSURE BACKFLOW PREVENTER. FEBCO MODEL 825YA IN SAFE-T-COVER MODEL 100SNT-AL.
20. 2½" WATER SERVICE LINE.
21. 1½" WATER SERVICE LINE.

SEWER

20. REMOVE PLUG AND CONNECT NEW SEWER SERVICE LINE.
21. 8" SANITARY SEWER SERVICE LINE AT 2% MIN SLOPE.
22. 6" SANITARY SEWER LINE AT 2% MIN. SLOPE.
23. 4" SANITARY SEWER LINE AT 2% MIN. SLOPE.
24. 8" WYE.
25. 8" X 6" WYE.
26. 8" X 4" WYE.
27. 8" – 22½° BEND.
28. 8" – 11¼° BEND.
29. 8" X 6" REDUCER.
30. 6" WYE.
31. 6" X 4" WYE.
32. 6" – 11¼° BEND.
33. 6" – 22½° BEND.
34. 6" – 45° BEND.
35. 6" X 4" REDUCER.
36. 4" WYE.
37. 4" – 45° BEND.
38. SINGLE CLEANOUT.

OFFSITE WATER LINE EXTENSION TO BE CONSTRUCTED UNDER WORK ORDER 639771

1. EXISTING 12" WATER LINE TO BE REMOVED AND LOWERED FROM 90TH ST TO 94TH ST.
2. CONSTRUCT 20" MASTER PLAN WATER LINE BETWEEN LOS VOLCANES RD TO DAYTON RD TO PROVIDE THE REQUIRED FIRE FLOWS AS DETERMINED BY THE COA FIRE MARSHALS OFFICE.
3. ONSITE 12" WATER LINE FIRE HYDRANTS AND WATER METER SERVICES.

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2121 CU-101.dwg Dec 01,2015

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ARCHITECT

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DRAWING NAME
UTILITY PLAN

SHEET NO
CU-101