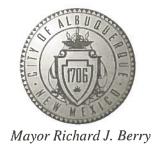
CITY OF ALBUQUERQUE

Planning Department
Suzanne Lubar, Director



April 22, 2016

Dennis Lorenz, P.E. Lorenz Design & Consulting 2501 Rio Grande Blvd. NW Suite A Albuquerque, New Mexico 87107

RE: Abundant Life Gymnasium
2851 Arenal Rd SW
Revised Grading and Drainage Plan

Engineers Stamp Date 4/12/16 (M10D016)

Dear Mr. Lorenz,

Based upon the information provided in your submittal received 4/20/2016, the above referenced Grading and Drainage Plan is acceptable for Grading Permit and Building Permit.

Attach a copy of this approved plan to the construction sets in the permitting process prior to sign-off by Hydrology. This plan is also approved for SO-19. Contact Jason Rodriguez at 235-8016 to schedule an inspection for the tie into the back of the inlet before and after concrete is placed. A separate Excavation/Barricading Permit is required for SO-19 construction within City ROW. A copy of this approval letter must be on hand when applying for the permit.

Prior to Certificate of Occupancy release, Engineer Certification per the DPM checklist will be required.

If you have any questions you can contact me at 924-3999 or Rudy Rael at 924-3977.

www.cabq.gov

New Mexico 87103

PO Box 1293

Albuquerque

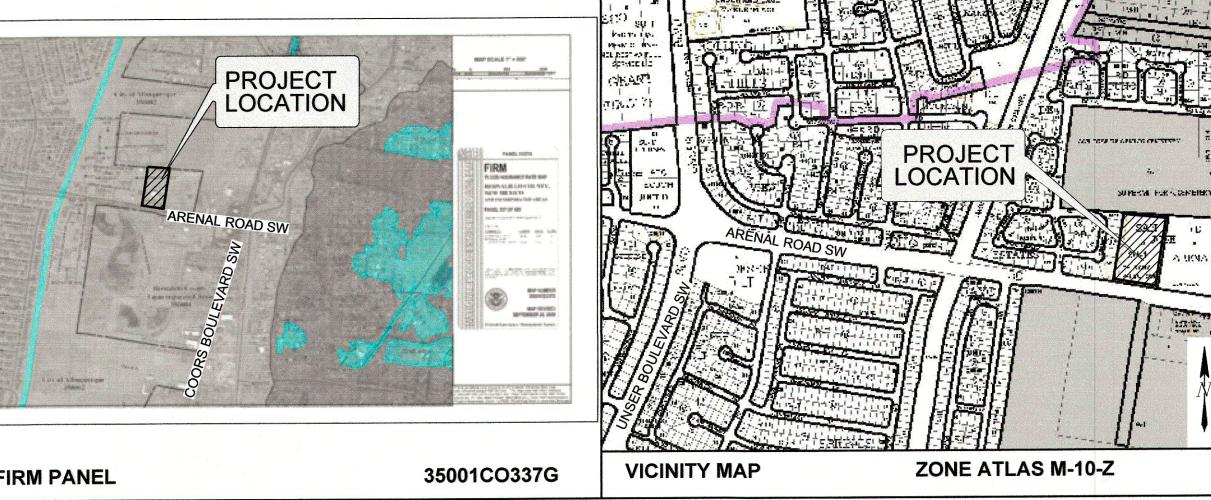
Shahab Biazar, P.E.

City Engineer

Sincerely.

Planning Department

RR/SB C: File



EXISTING CONCRETE CURB. EXISTING ASPHALT PAVEMENT EXISTING CONCRETE SIDEWALK. EXISTING STORM INLET. EXISTING HANDICAP RAMP. REMOVE AND REPLAC EXISTING CONCRETE CHANNEL PER DETAIL J/C-2.0. EXISTING CONCRETE PAD TO BE REMOVED AND DISPOSED. 8. EXISTING RETAINING WALL. EXISTING SLOPE PAVEMENT. 10. EXISTING BLOCK WALL. 11. EXISTING WROUGHT IRON FENCE.

12. EXISTING LANDSCAPING. 13. EXISTING CMU RETAINING WALL - 2 COURSES HIGH. CONSTRUCT ASPHALT PAVEMENT.

15. CONSTRUCT CONCRETE CURB. 16. END CONCRETE CURB.

18. CONSTRUCT HANDICAP RAMP-TYPE I PER DETAIL E/C2.0. 19. CONSTRUCT HANDICAP RAMP AT 1:12 SLOPE MAX. 20. INSTALL HANDICAP PARKING STRIPING PER CODE.

21. INSTALL HANDICAP PARKING SIGNAGE PER CODE. 22. NO CURB ALONG SIDEWALK. TOP OF PAVEMENT AT TOP OF SIDEWALK.

INSTALL CONCRETE TIRE STOP. PROPOSED EDGE OF ASPHALT - NO CURB.

24. CONSTRUCT STORMWATER RETENTION POND. 25. CONSTRUCT CONCRETE OVERFLOW SPILLWAY PER DETAIL H/C2.0. 26. CONSTRUCT STORMCEPTOR INLET & 18-INCH STORM DRAIN. SEE DETAIL

27. INSTALL 18-INCH SIDEWALK CULVERT

28. PROVIDE 18-INCH CURB BLOCKOUT FOR DRAINAGE 29. CONSTRUCT RETAINING WALL. DESIGN BY OTHERS.

DRAINAGE PLAN NOTES

1. LDC recommends that the Owner obtain a Geotechnical Evaluation of the on-site soils prior to foundation/structural design.

2. This Plan recommends positive drainage away from all structures to prohibit ponding of runoff which may cause structural settlement. Future alteration of grades adjacent to the proposed structures is not

3. Irrigation within 10 feet of any proposed structure is not recommended. Introduction of irrigation water into subsurface soils adjacent to the structure could cause settlement. 4. This Plan is prepared to establish on-site drainage and grading

criteria only. LDC assumes no responsibility for subsurface analysis, foundation/structural design, or utility design. 5. Local codes may require all footings to be placed in natural

engineered fill, a certification by a registered Professional Engineer will be required. If the contractor wishes LDC to prepare the Certification, we must be notified PRIOR to placement of the fill. 6. LDC recommends that the Owner obtain the services of a

Geotechnical Engineer to test and inspect all earthwork aspects of the 7. The property boundary shown on this Plan is given for information only to describe the project limits. Property boundary information

survey performed by a licensed New Mexico Registered Professional Surveyor is recommended prior to construction. 8. All spot elevations are finished grade or top of pavement, unless noted otherwise.

9. The City of Albuquerque has received its EPA MS4 Permit for storm

water quality with an effective date of March 1, 2012. 10. In accordance with the City of Albuquerque drainage ordinance, effective may 12, 2014, all new development projects are required to manage the runoff which occurs during the 90th percentile storm event. In order to comply with this criteria, where practical, all surface drainage shall be routed through landscaped areas before release into downstream drainage facilities. This plan recommends all landscaped areas be depresses a minimum of 3-inches below the adjacent paved

PROJECT DATA

TOPOGRAPHIC SURVEY PERFORMED AND COMPILED BY HARRIS SURVEYING, INC., 2412-D MONROE STREET, NE, NEW MEXICO NOVEMBER 2014.

PROPERTY ADDRESS:

2851 ARENAL RD. SW, ALBUQUERQUE, NEW MEXICO

LEGAL DESCRIPTION:

TRACT 2-A, SAN JOSE ARENAL

PROJECT BENCHMARK

PROJECT BENCHMARK IS A FOUND CITY OF ALBUQUERQUE SURVEY CONTROL 3 1/4" ALUMINUM DISC STAMPED "4 M10 2002". TO REACH STATION FROM THE INTERSECTION OF COORS BOULEVARD AND ARENAL ROAD SW TRAVEL WEST ON ARENAL RAOD 0.48 MILES TO THE AMOLE DEL NORTE DIVERSION CHANNEL. THE STATION IS LOCATED ON THE SOUTH CURB ON CHANNEL CENTERLINE. ELEVATION = 5,011.16 FEET (NAVD 1988 VERTICAL DATUM).

ITEM	EXISTING	PROPOSED
CURB AND GUTTER		
HEADER CURB	TOP CONC. ELEV.	TOP CONC. ELEV.
CURB ELEVATIONS	FLOWLINE ELEV	FLOWLINE ELEV
SPOT ELEV.		4 16.7
RIGHT OF WAY	***************************************	
EASEMENT		
CENTERLINE	arrange al analysis ya distance as distance as september 10 milyali ne maname at months	
TOP OF ASPHALT ELEV.	TA 16.2	TA 16.2
RETAINING WALL		
FLOWLINE ELEV	EX FL 16.2	FL 16.2
FUTURE CURB AND GUTTER (N.I.C.)		
7.1.5 557.121. (11.1.5.)		
NEW PAVING		
DRAINAGE SWALE		
DIRECTION OF FLOW DRAINAGE BASIN DIVIDE		

LEGEND

GRADING AND DRAINAGE PLAN

PURPOSE AND SCOPE

Pursuant to the Drainage Ordinance for the City of Albuquerque and the Development Process Manual, this Grading and Drainage Plan outlines the drainage management criteria for controlling developed runoff from the project site. The project consists of the construction of a 9,000 square foot gymnasium with paving, landscaping, utility, grading, and drainage improvements to support the project. The purpose of this Plan is to support building permit approval. The scope of this plan is to present grading and drainage criteria for the safe management of excess runoff impacting the site from upstream drainage basins, and controlling excess runoff from the project site in a well-managed, non-erosive manner.

EXISTING CONDITIONS

The property is located at 2851 Arenal Road SW, between Unser Blvd and Coors Road SW. The site is presently developed as Abundant Life Ministries. The southerly portion of the site is fully developed. The northerly portion is planned for future development. All excess runoff flows south by yard swales and paving improvements to an existing storm inlet located near the south east corner of the property. The inlet drains all site flows to a public storm drain located in Arenal Road SW. The north and west property boundaries are sealed by solid perimeter walls. The property to the east drains away from the property. No off-site flows impact the site.

As shown by the attached FIRM Panel, the site does not lie within a mapped 100 year Flood Zone.

DRAINAGE MASTERPLANS

The drainage plan of record, entitled Grading and Drainage Plan for Abundant Life Church, prepared by Frank Lovelady, PE, 10-29-1990, recommended temporary retention ponding pending construction of public storm drainage improvements. After construction of the Amole-Hubbel improvements, which captured all flows west of the project site, and the widening of Arenal Road in 2007, the retention ponds were removed. The project has functioned as a free discharge property since construction of those public improvements.

PROPOSED IMPROVEMENTS

As stated above, the project consists of the construction of a 9,000 square foot gymnasium with paving, landscaping, utility, grading, and drainage improvements. All developed runoff will be routed through landscaping to a retention pond capture the first flush before release into the perimeter streets. All excess runoff will be collected by the existing storm inlet and the public storm drain system located in Arenal Road SW. The channel draining to the existing storm inlet will be reconstructed to provide increased capacity. SO-19 permitting will apply.

Construction will disturb an area of more than 1.0 acres; therefore a Storm Water Pollution Prevention Plan will be required.

CALCULATIONS

The calculations shown hereon define the 100-year/6 hour design storm falling within the project area under existing and proposed conditions. The hydrology is per "Section 22.2, Part A, Development Process Manual, Vol 2", dated June 1997.

ABUNDANT LIFE GYMNASI GRADING & DRAINAGE PL ALBUQUERQUE, NM

REVISION DATE LOWERED GYM FF PER CLIENT 3-28-16



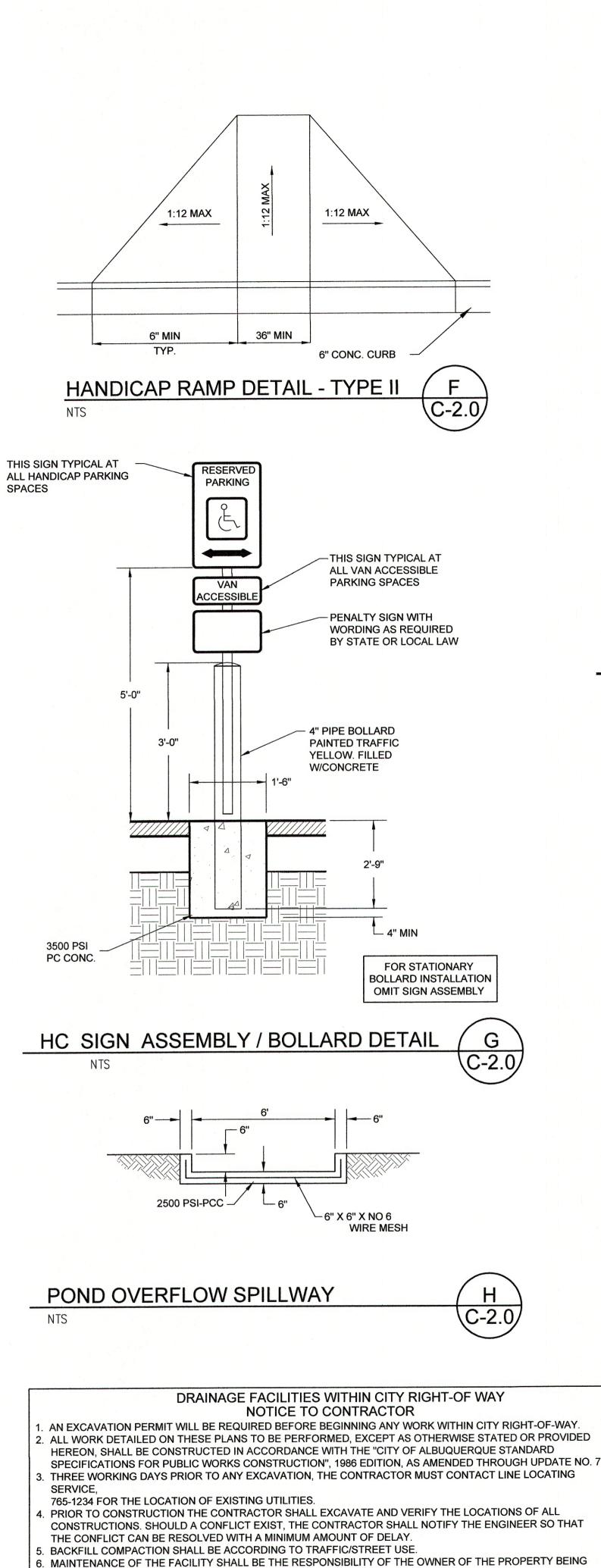


08-18-2015

SHEET NUMBER

C-1.0

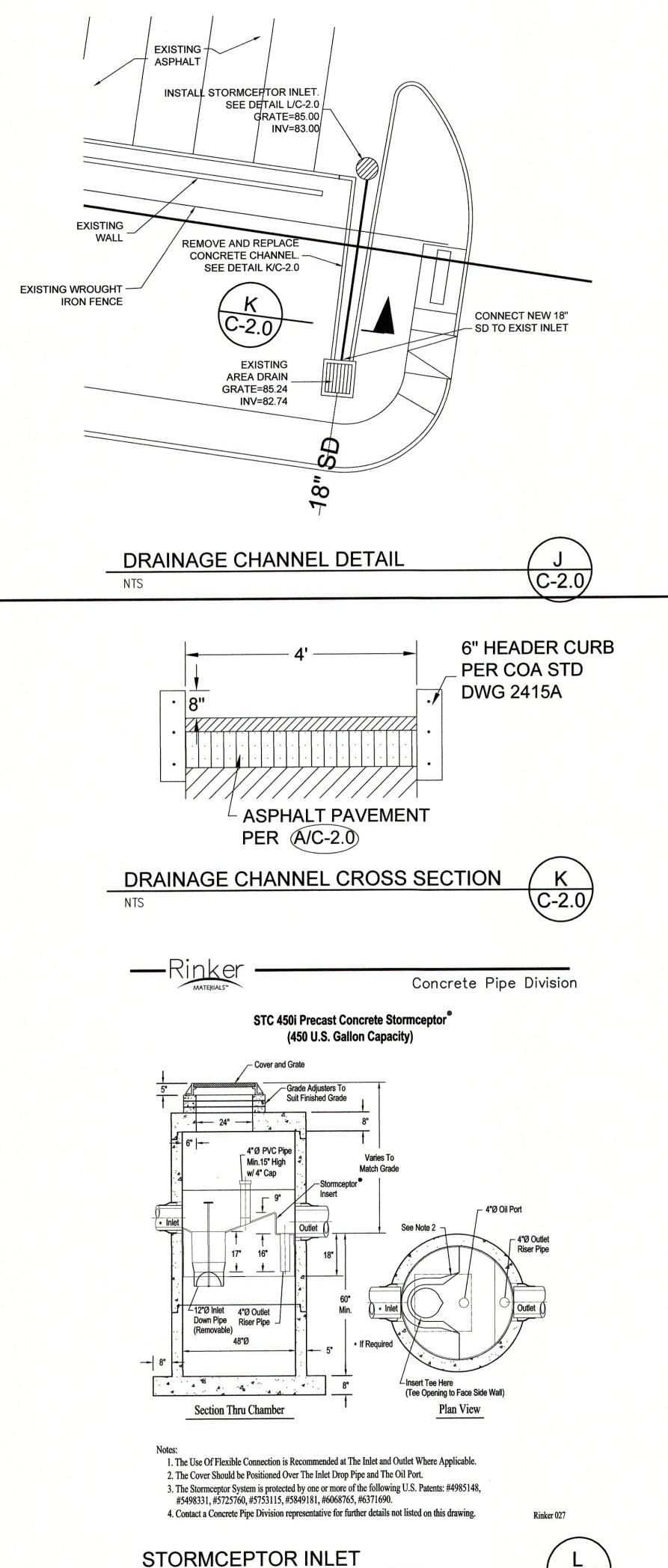
HANDICAP RAMP DETAIL - TYPE I

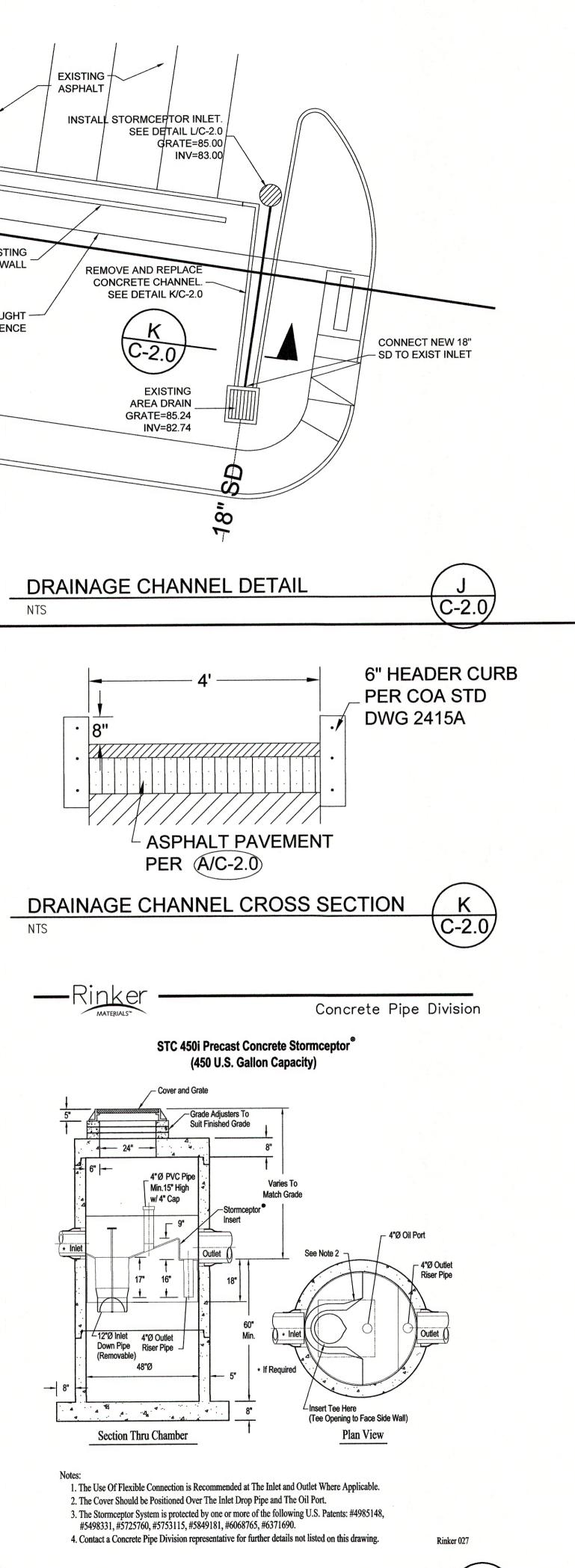


WORK ON ARTERIAL STREETS SHALL BE PERFORMED ON A 24-HOUR BASIS.

INSPECTOR

DATE





GYMNASIL $\frac{S}{Z}$ ABUNDANT LIFE (SITE DETAILS ALBUQUERQUE, N

REVISION DATE

RBA ARCHITECTURE PLANNING PLANNING

SHEET NUMBER

08-18-2015

C-2.0

SUPPLEMENTAL CALCULATIONS ABUNDANT LIFE GYMNASIUM

ALBUQUERQUE, NEW MEXICO

Prepared For:

Abundant Life Ministries 2851 Arenal Road SW Albuquerque, New Mexico 87121

Prepared by:



August 2015

1 pom requirement

PROVINE FORM FOR 1ST FUSH OF NEW TYPE 'D' SWIFFLE.

15T FLUSH VOL = 1416 CF

BENN NOT

ELEV	MUZA SF	VOL UF
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87	3130	1992
88	5266	4190

FOR FUTURE DEVELOPMENT

2) pom spillway 2000 BANN A = 4.66 CFS

Q = 5.3 CFS > 0,00



3 PROJECT OUTLET

@ INSTALL DIL/TRASH IMET UPSTREAM

OJODE 12.8 CFS
STORM CEPTOR (NLET

POW)

EX15T INLET

MIENAL

STOPMICEPTON TO COSURET

1ST FLUGHT + GMAN GTOVINGS

TO PREMICE TRANK + OIL

PUBLIC INVET TO COLLECT

100 Mr FLOW.



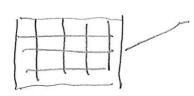
STOPMICEPTON CAPPELLY

OPEN A= 1.57 4F

Q= CA Jugh

9= 32,2 1/52 N= 6"

(b) public WLET



Q = CA Tryla

9= 32,2852

Th Q: 28.9 US > 2100

Free Online Manning Pipe Flow Calculator

List of Calculators Hydraulics Language

Manning Formula Uniform Pipe Flow at Given Slope and

Manning Formula Uniform Pipe Flow at Given Slope and Depth

Can you help me translate this calculator to your language or host this calculator at your web site?

Printable Title 5	STORMURPTON OUTUET					
Printable Subtitle	3=5	35	C\$5			
	Results:					
			Flow, q	10.8233	cfs	▼
Set units: m mm ft inches			Velocity, v	6.7607	ft/sec	▼]
Pipe diameter, d ₀	1.5		Velocity head, h _v	0.7104	ft	▼]
	ft	▼]	Flow area	1.6010	ft^2	v
Manning roughness, n ?	.013		Wetted perimeter	3.5193	ft	▼.
Pressure slope (possibly <u>?</u> equal to pipe slope), S ₀	.01		Hydraulic radius	0.4549	ft	▼
	rise/ru	n ▼	Top width, T	1.0712	ft	▼]
Percent of (or ratio to) full depth (100% or 1 if flowing full)	.85		Froude number, F	0.98		
	fraction ▼		Shear stress			
*			(tractive force), tau	0.7961	psf	V



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Last Modified 08/24/2015 09:50:31

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List of Calculators Hydraulics Language

Ianning Formula Uniform Pine Flow at Given Slone and

Manning Formula Uniform Pipe Flow at Given Slope and Depth

Can you help me translate this calculator to your language or host this calculator at your web site?

Printable Title			INVET OU	TUET	-		
Printable Subtitle	Qu	SS -	12.845				
			Results:				
		Flow, q	15.3065	cfs	▼]		
Set units: m mm ft inches		Velocity, v	9.5611	ft/sec	•		
Pipe diameter, d ₀	1.5		Velocity head, h _v	1.4207	ft	▼]	
	ft	v]	Flow area	1.6010	ft^2	▼	
Manning roughness, n ?	.013		Wetted perimeter	3.5193	ft	V	
Pressure slope (possibly <u>?</u> equal to pipe slope), S ₀	.02	38.	Hydraulic radius	0.4549	ft	v	
	rise/run ▼		Top width, T	1.0712	ft	▼]	
Percent of (or ratio to) full depth (100% or 1 if flowing full)	.85		Froude number, F	1.38			
	fraction ▼		Shear stress				
			(tractive force), tau	1.5922	psf	V	



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Last Modified 08/24/2015 09:50:31

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV 04/2009)

PROJECT TITLE: DRB#:	ABUNDANT LIFE GY	<u>'MNASIUM</u>		ZONE MAP:	M-10_D0006
DRB#:	EPC#:	NA	_ WORK	ORDER#:	NA
LEGAL DESCRIPTION	: TRACT 2-A, SAN J	OSE ARENAL			
CITY ADDRESS:	2851 ARENAL ROA	D SW			
ENGINEERING FIRM:	LORENZ DESIGN &	CONSULTING		_CONTACT:	DENNIS LORENZ
ADDRESS:	2501 RIO GRANDE B	BLVD. NW SUITE	Α	PHONE:	888-6088
CITY, STATE:	ALBUQUERQUE, NE	W MEXICO		ZIP CODE: _	8/104
OWNER:	ABUNDANT LIFE M	INISTRIES		CONTACT:	LOREN MILLER
ADDRESS:	2851 ARENAL ROA	D SW_	_	PHONE:	401-2526 87121
CITY, STATE:	ALBUQUERQUE, N	IEW MEXICO		ZIP CODE:	87121
ARCHITECT: ADDRESS: CITY, STATE:	RICK BENNETT ARC	CHITECTS_		CONTACT:	R. BENNETT
ADDRESS:	1104 PARK AVENU	E SW		PHONE:	242-1859
CITY, STATE:	ALBUQUERQUE, NE	W MEXICO		ZIP CODE:	87103
SURVEYOR:	HARRIS SURVEYING	G		CONTACT:	G. MAPLES
ADDRESS:	2815-A MONROE NE			PHONE:	889-8056
CITY, STATE:	ALBUQUERQUE, NN	Λ	 		87110
CONTRACTOR:	UNKNOWN			CONTACT.	
	0.111.101111			PHONE:	
				ZIP CODE:	
TYPE OF SUBMITTAL: DRAINAGE RI DRAINAGE PI XX DRAINAGE PI CONCEPTUAI GRADING PLA EROSION CO ENGINEER'S CLOMR/LOMF TRAFFIC CIRC ENGINEER'S ENGINEER'S OTHER	LAN RESUBMITTAL L G & D PLAN AN NTROL PLAN CERT (HYDROLOGY) R CULATION LAYOUT	XX	SIA/FIN PRELIN S. DEV S. DEV SECTO FINAL I FOUND CERTIF CERTIF GRADII PAVING WORK GRADII	MINARY PLAT . PLAN FOR \$. FOR BLDG. DR PLAN APP PLAT APPRO DATION PERM NG PERMIT A FICATE OF OF	RANTEE RELEASE APPROVAL SUB'D APPROVAL PERMIT APPROVAL WAL MIT APPROVAL APPROVAL CCUPANCY (PERM) CCUPANCY (TEMP) APPROVAL PROVAL PROVAL CATION
WAS A PRE-DESIGN (xxYESNOCOPY PROVI		NDED:			
DATE SUBMITTED:	04-18-2015	BY:		DENNIS A.L	ORENZ

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature, location, and scope to the proposed development defines the degree of drainage detail. One or more of the following levels of submittal may be required based on the following:

- Conceptual Grading and Drainage Plan: Required for approval of Site Development Plans greater than five (5) acres and Sector Plans.
- **Drainage Plans**: Required for building permits, grading permits, paving permits and site plans less than five (5) acres. **Drainage Report**: Required for subdivision containing more than ten (10) lots or constituting five (5) acres or more.



April 18, 2016

Rita Harmon, PE Senior Engineer, Hydrology Planning Department City of Albuquerque PO Box 1293 Albuquerque, New Mexico 87103

SUBJECT: ABUNDANT LIFE GYMNASIUM

Updated Grading and Drainage Plan (M10-D0006)

Dear Rita:

Submitted herewith for review and approval are 2 copies of the Updated Grading and Drainage Plan and Supplemental Calculations. The Plan and Calculations have been updated and revised to show adjustments to the finish floor elevation of the gymnasium and re-design of the accessibility improvements. The first flush pond is a bit smaller, but functions the same. No other changes were made. Building permit has been issued; therefore this submittal is made to ready the file for project closeout and CO approval.

I have made a submittal to Bernalillo County Public Works as well.

If you have any questions, please call.

Sincerely,

LORENZ DESIGN & CONSULTING, LLC

Dennis A. Lorenz, PE

U\dennisl\Lorenz Design\14-020\rh08182015