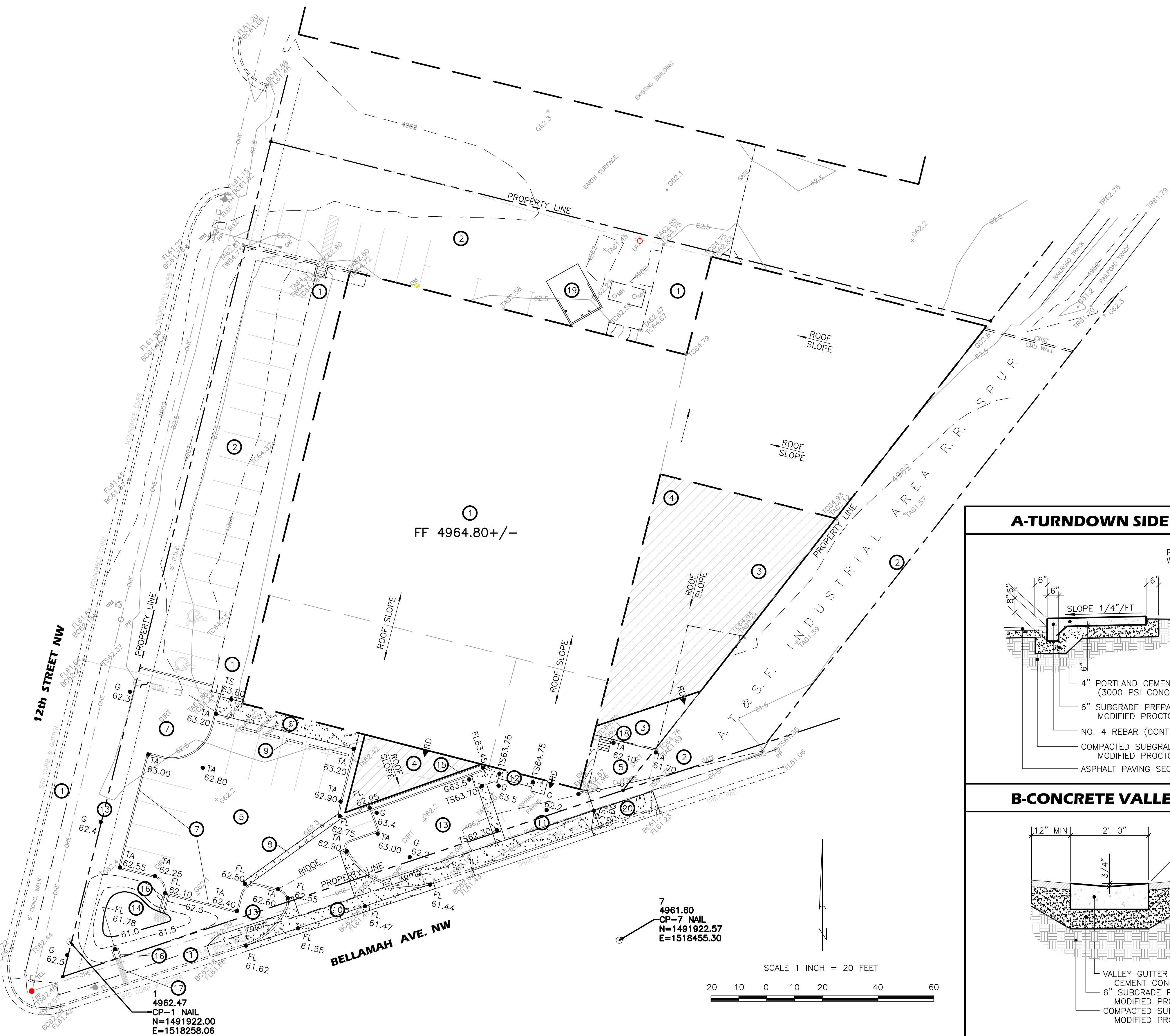


GRADING PLAN



DRAINAGE DATA

CONDITION	B A I N	STORM RETURN PERIOD - year	TREATMENT TYPE (table 4)	TREATMENT AREA sq. ft.	EXCESS PRECIPITATION in.	PEAK RUNOFF (table 9) cfs/acre	RUNOFF VOLUME cu. ft.	RUNOFF RATE cfs
EXISTING	S I T E	10	A	0	0.13	0.38	0	0.00
			B	0	0.28	0.95	0	0.00
			C	8925	0.52	1.71	387	0.35
			D	44756	1.34	3.14	4998	3.23
			TOTAL	53681			5385	3.58
DEVELOPED	S I T E	100	A	0	0.53	1.56	0	0.00
			B	0	0.78	2.28	0	0.00
			C	8925	1.13	3.14	840	0.64
			D	44756	2.12	4.7	7907	4.83
			TOTAL	53681			8747	5.47
POND	S I T E	10	A	0	0.13	0.38	0	0.00
			B	4111	0.28	0.95	96	0.09
			C	87	0.52	1.71	4	0.00
			D	49479	1.34	3.14	5525	3.57
			TOTAL	53677			5625	3.66
POND	S I T E	100	A	0	0.53	1.56	0	0.00
			B	1231	0.78	2.28	80	0.06
			C	0	1.13	3.14	0	0.00
			D	9215	2.12	4.7	1628	0.99
			TOTAL	10446			1708	1.06
CHANNEL		100	D	4280	2.12	4.7	756	0.46

POND FOR INITIAL RUNOFF RETENTION

**INLET** (BROAD CRESTED WEIR) See pond flow data at left  
 $Q = CL(H^{1.5})$ , where  $Q=1.00$  cfs,  $C=2.8$  &  $H=0.40$  ft.  
therefore  $L = 1.41$  ft. USE 18" WIDE ENTRANCE CHANNEL

**POND** REQUIRED  
NEW IMPERVIOUS AREA CREATED = 6214 sf  
VOLUME =  $(6214)(0.44-0.10)/12 = 176$  cf

PROVIDED  
ELEVATION AREA VOLUME  
61.0 249 179 cf  
61.5 468 179 cf

BALANCE OF RUNOFF TO POND (DURING A 100 YEAR STORM) IS ROUTED, VIA SIDEWALK CULVERT, TO STREET.

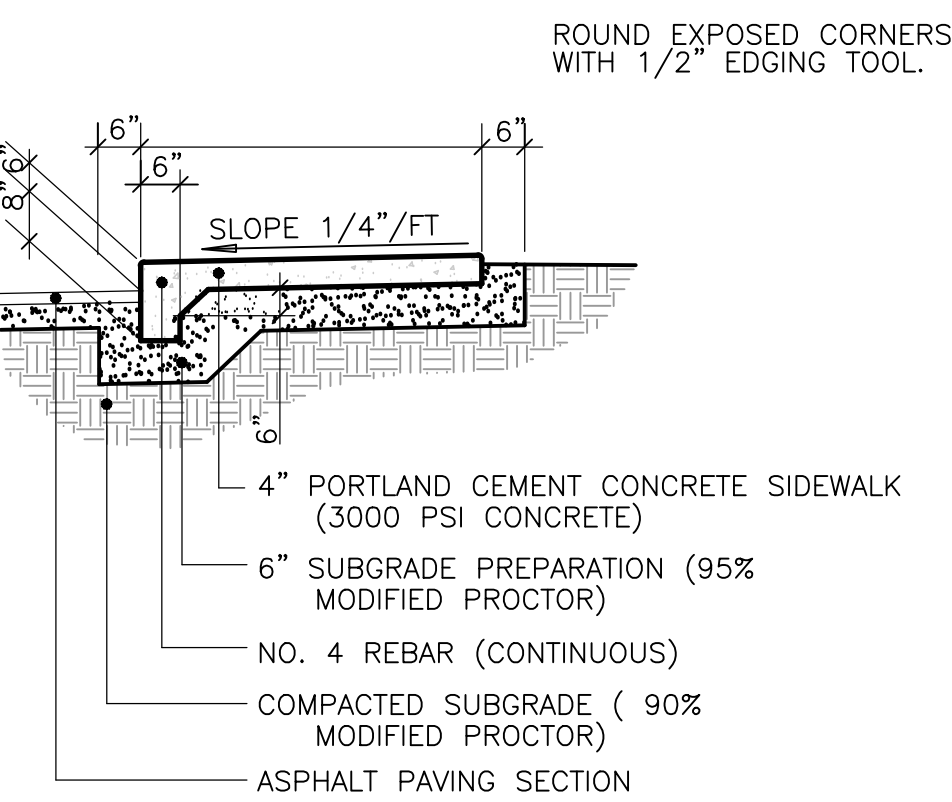
**OUTLET** (BROAD CRESTED WEIR) See pond flow data at left  
 $Q = CL(H^{1.5})$ , where  $Q=1.06$  cfs,  $C=2.8$  &  $H=0.40$  ft.  
therefore  $L = 1.49$  ft. USE 18" WIDE CHANNEL & SIDEWALK CULVERT

CHANNEL FLOW FROM ROOF

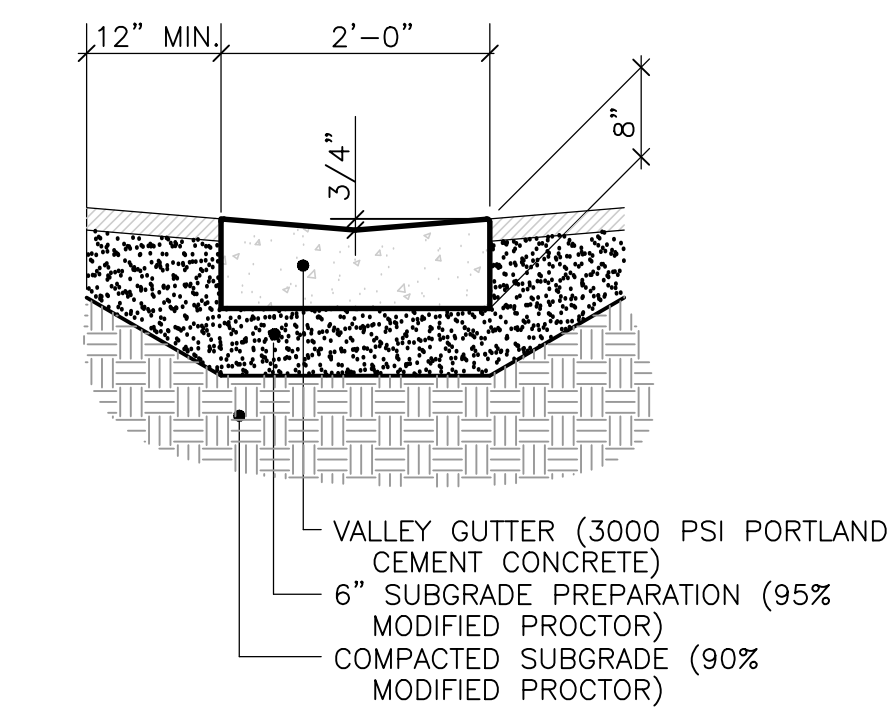
RECTANGULAR CHANNEL ALONG BUILDING

$Q = 1.49A(R^{0.67})(S^{0.50})/n$ , where  $Q=0.46$  cfs,  
 $S=0.0130'/ft$ ,  $n=0.013$   
USE  $B=1.0$  ft, therefore  $D=0.19$  ft &  $V=2.4$  fps

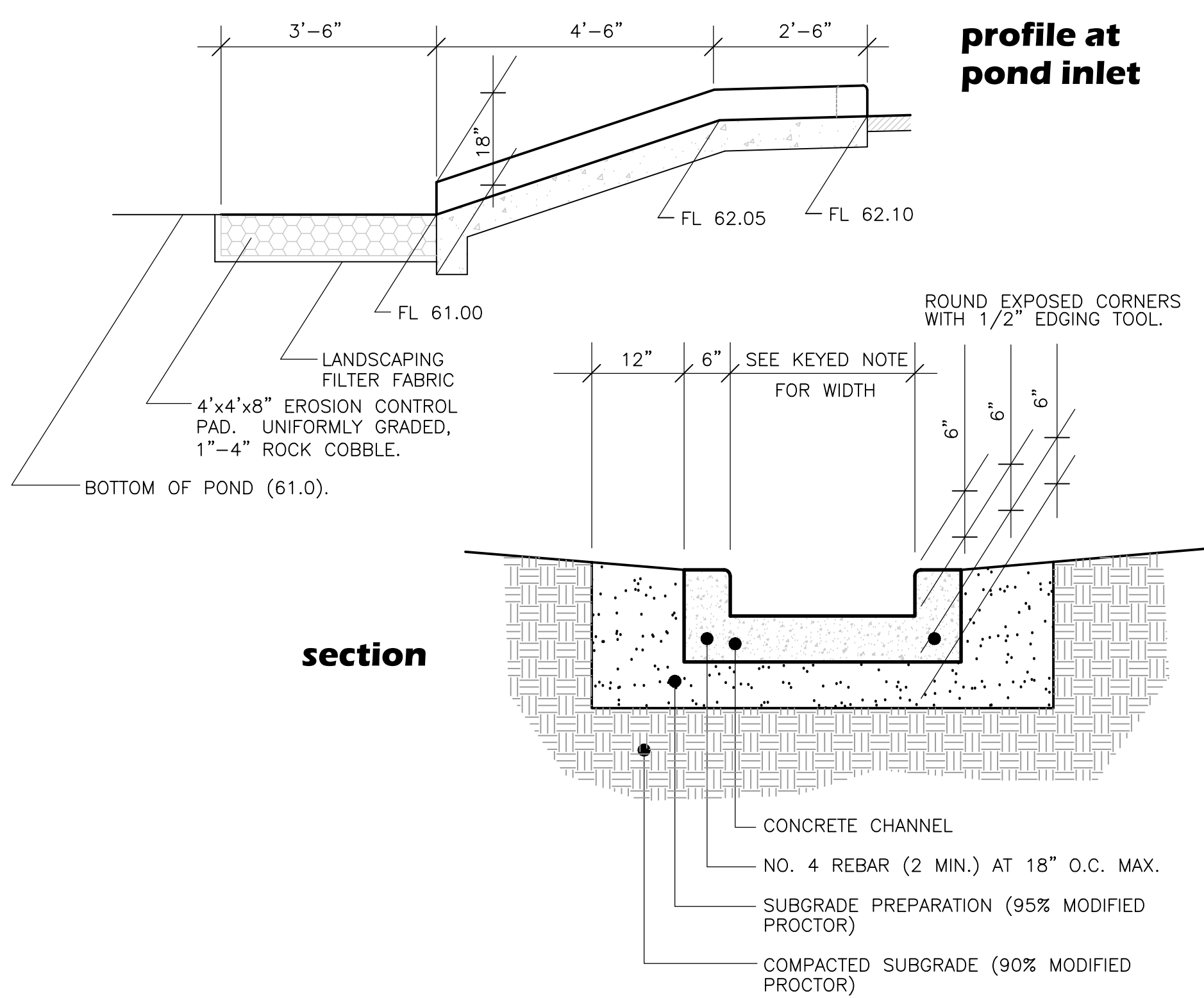
A-TURNDOWN SIDEWALK



B-CONCRETE VALLEY GUTTER



D-CONCRETE CHANNEL



KEYED NOTES

- EXISTING BUILDING, SIDEWALK AND DOCK TO REMAIN.
- EXISTING ASPHALT SURFACE TO REMAIN.
- REMOVE EXISTING CONCRETE DOCK AND CONSTRUCT NEW DOCK.
- NEW BUILDING (HATCHED AREA). MATCH EXISTING BUILDING FLOOR ELEV.
- NEW ASPHALT PARKING AREA. SEE PAVING DETAIL 'E' THIS SHEET. SEE TRAFFIC CIRCULATION LAYOUT FOR DIMENSIONS.
- NEW CONCRETE TURNDOWN SIDEWALK. SEE DETAIL 'A' THIS SHEET. SEE TRAFFIC CIRCULATION LAYOUT FOR DIMENSIONS.
- NEW CONCRETE HEADER CURB. SEE DETAIL 'C' THIS SHEET. SEE TRAFFIC CIRCULATION LAYOUT FOR DIMENSIONS.
- NEW VALLEY GUTTER. SEE DETAIL 'B' THIS SHEET.
- NEW CONCRETE PARKING BUMPERS.
- NEW PRIVATE ENTRANCE DETAIL w/ 25' OPENING. SEE COA STD. DET. 2426.
- REMOVE EXISTING DRIVE PAD AND ONSITE ASPHALT PAVING. BUILD NEW STANDARD CURB & GUTTER PER COA STD. DET. 2415A AND 6" SIDEWALK PER COA STD. DET.
- NEW CONCRETE RAMP AND LANDINGS. SEE TRAFFIC CIRCULATION LAYOUT FOR DIMENSIONS.
- NEW LANDSCAPING. SEE LANDSCAPING PLAN.
- NEW INITIAL RUNOFF RETENTION POND.
- NEW 12" CONCRETE CHANNEL. SEE DETAIL 'D' THIS SHEET.
- NEW 18" CONCRETE CHANNEL. SEE DETAIL 'D' THIS SHEET.
- NEW 18" SIDEWALK CULVERT PER COA STD. DET. 2236. INLET INV. 61.73, OUTLET INV. 61.53.
- NEW CONCRETE STAIRS. SEE ARCHITECTURAL PLANS FOR DETAILS.
- NEW REFUSE ENCLOSURE. SEE TRAFFIC CIRCULATION LAYOUT FOR ADDITIONAL INFORMATION.
- REMOVE EXISTING SIDEWALK AND C&G. EXTEND EXISTING DRIVEPAD 22.2' WEST. MATCH SLOPE AND WIDTH OF EXISTING DRIVEPAD.

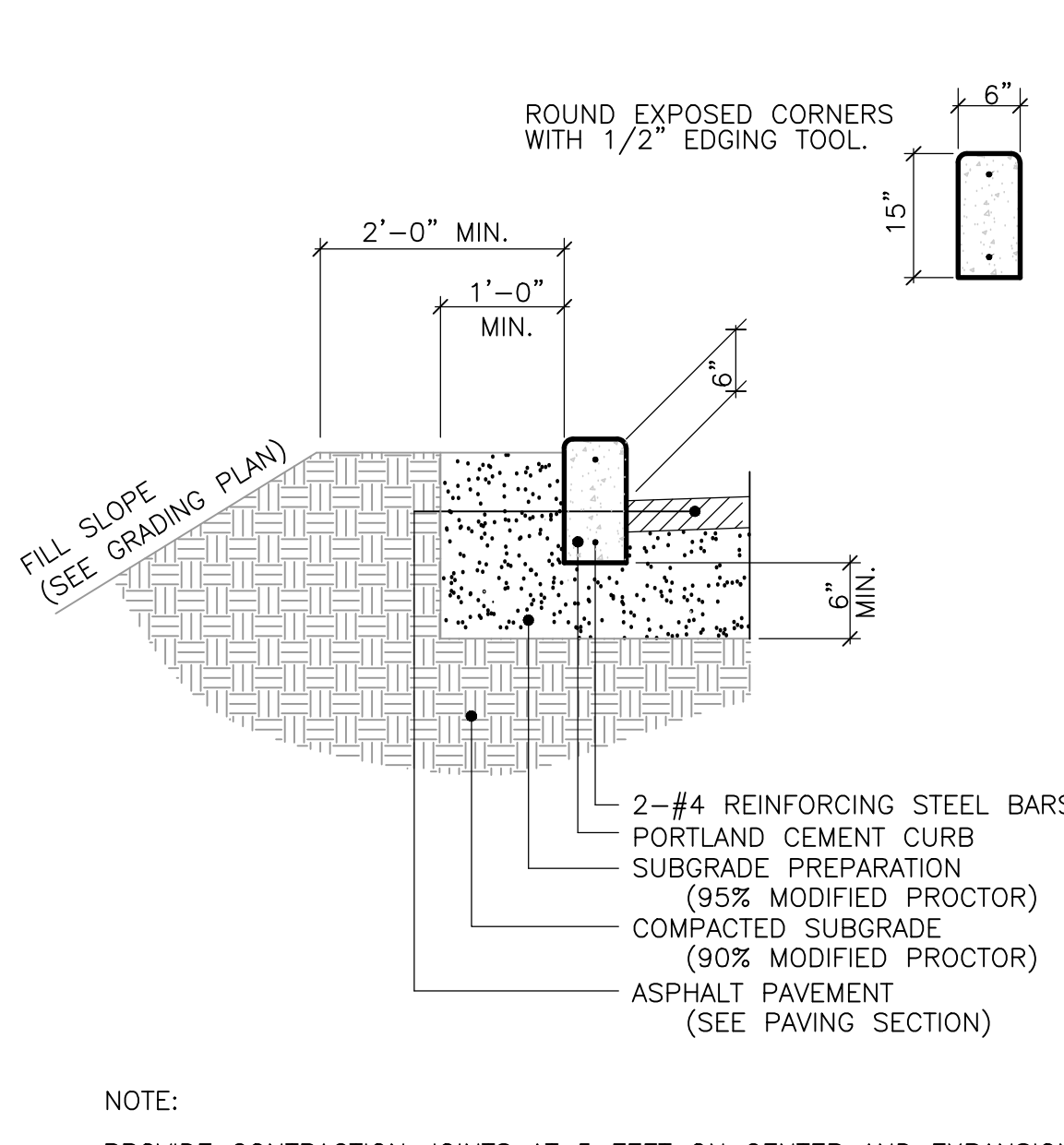
GRADING NOTES

- TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, THE CONTRACTOR MUST CONTACT THE NEW MEXICO ONE CALL SYSTEM AT 260-1990 FOR LOCATION OF EXISTING UTILITIES.
- PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ALL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
- ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH THE APPLICABLE FEDERAL, STATE AND LOCAL LAWS, RULES AND REGULATIONS CONCERNING CONSTRUCTION SAFETY AND HEALTH.
- ALL CONSTRUCTION WITHIN THE PUBLIC RIGHT-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE CITY OF ALBUQUERQUE STANDARDS AND PROCEDURES.

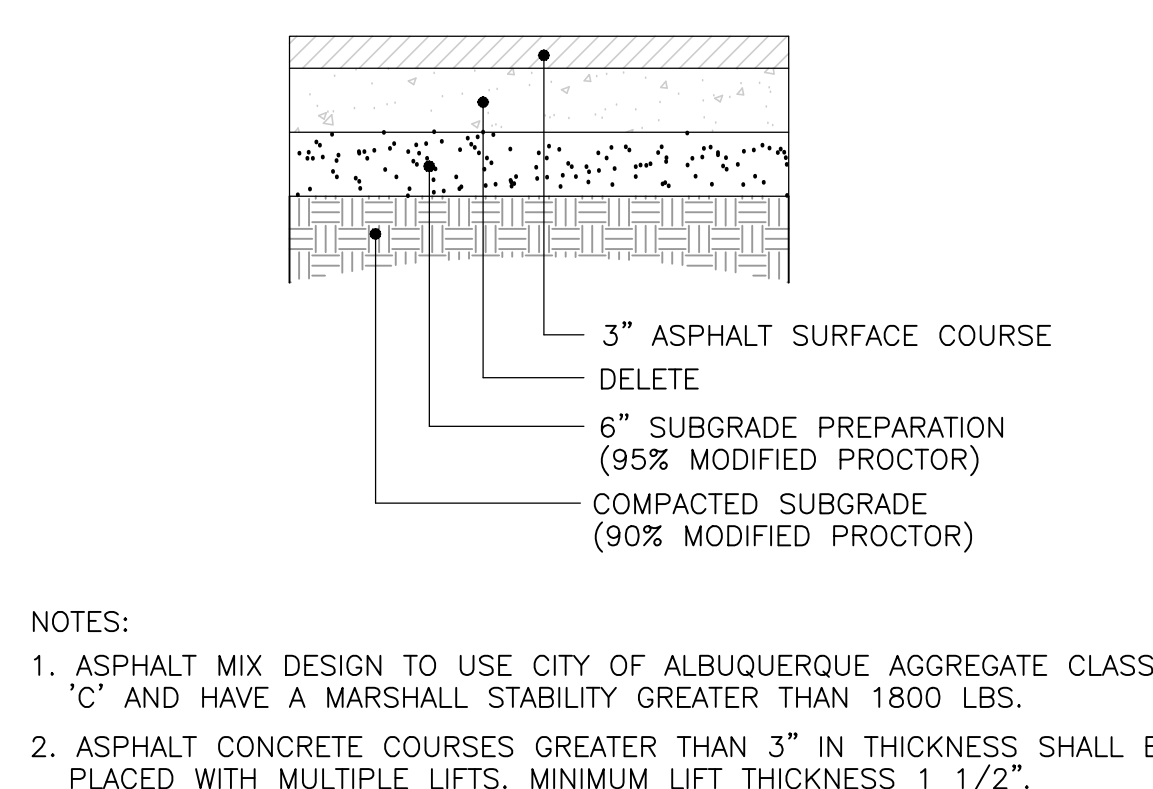
EROSION CONTROL NOTES

- THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE SITE ONTO PUBLIC RIGHT-OF-WAY OR PRIVATE PROPERTY. THIS CAN BE ACHIEVED BY THE CONSTRUCTION OF TEMPORARY SOIL BERM OR SILT FENCES AT PROPERTY LINES AND WETTING SOIL TO PREVENT IT FROM BLOWING. IF THE SITE IS CONTROLLED BY A SWPPP PLAN, EROSION CONTROL SHALL BE ACCOMPLISHED ACCORDING TO THE PLAN.
- 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.
- THE CONTRACTOR SHALL SECURE THE APPROPRIATE BARRICADING, TOP SOIL DISTURBANCE AND EXCAVATION PERMITS FROM THE CITY PRIOR TO BEGINNING CONSTRUCTION.

C-HEADER CURB

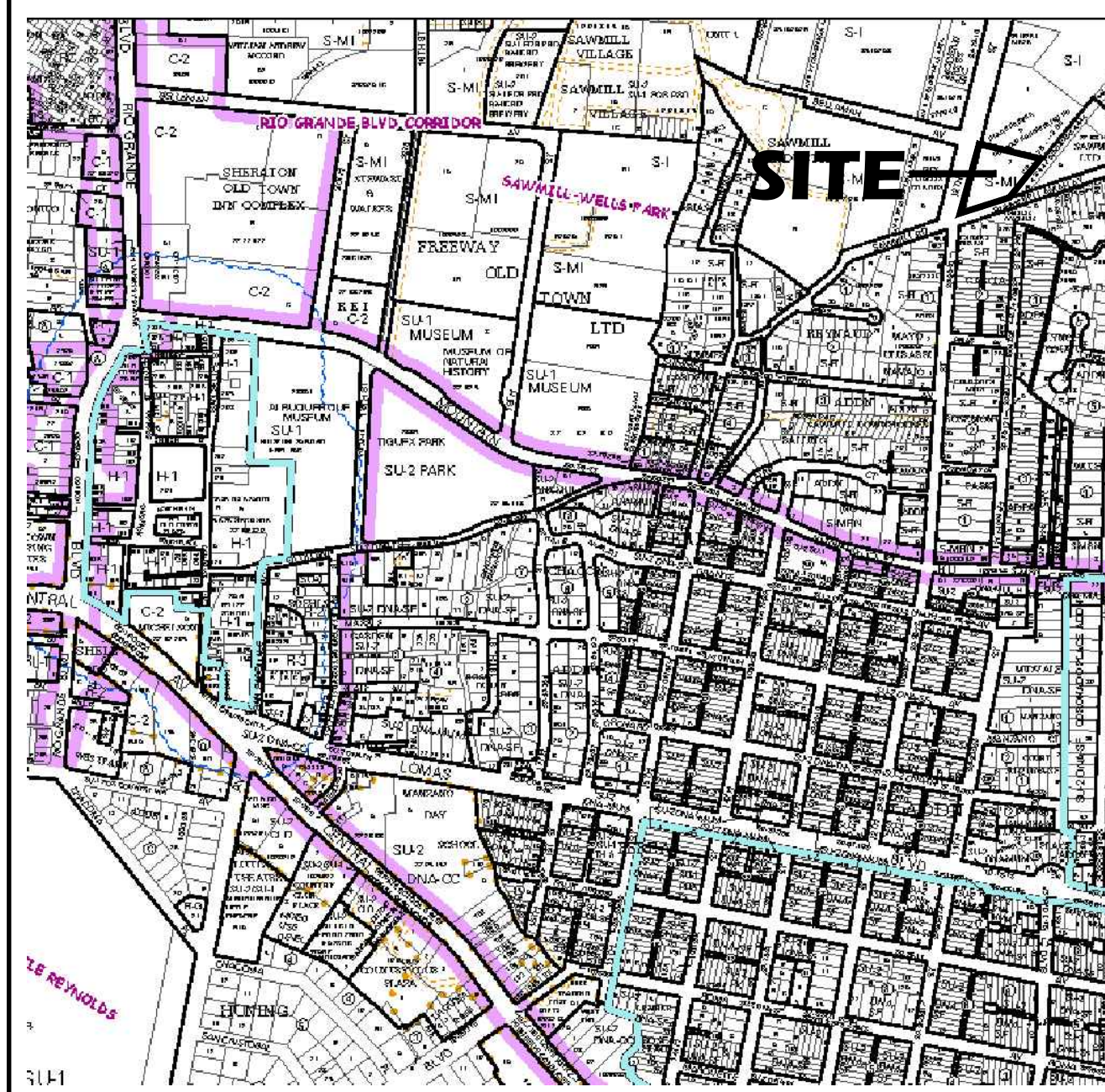


E-ASPHALT PAVEMENT (LIGHT DUTY)

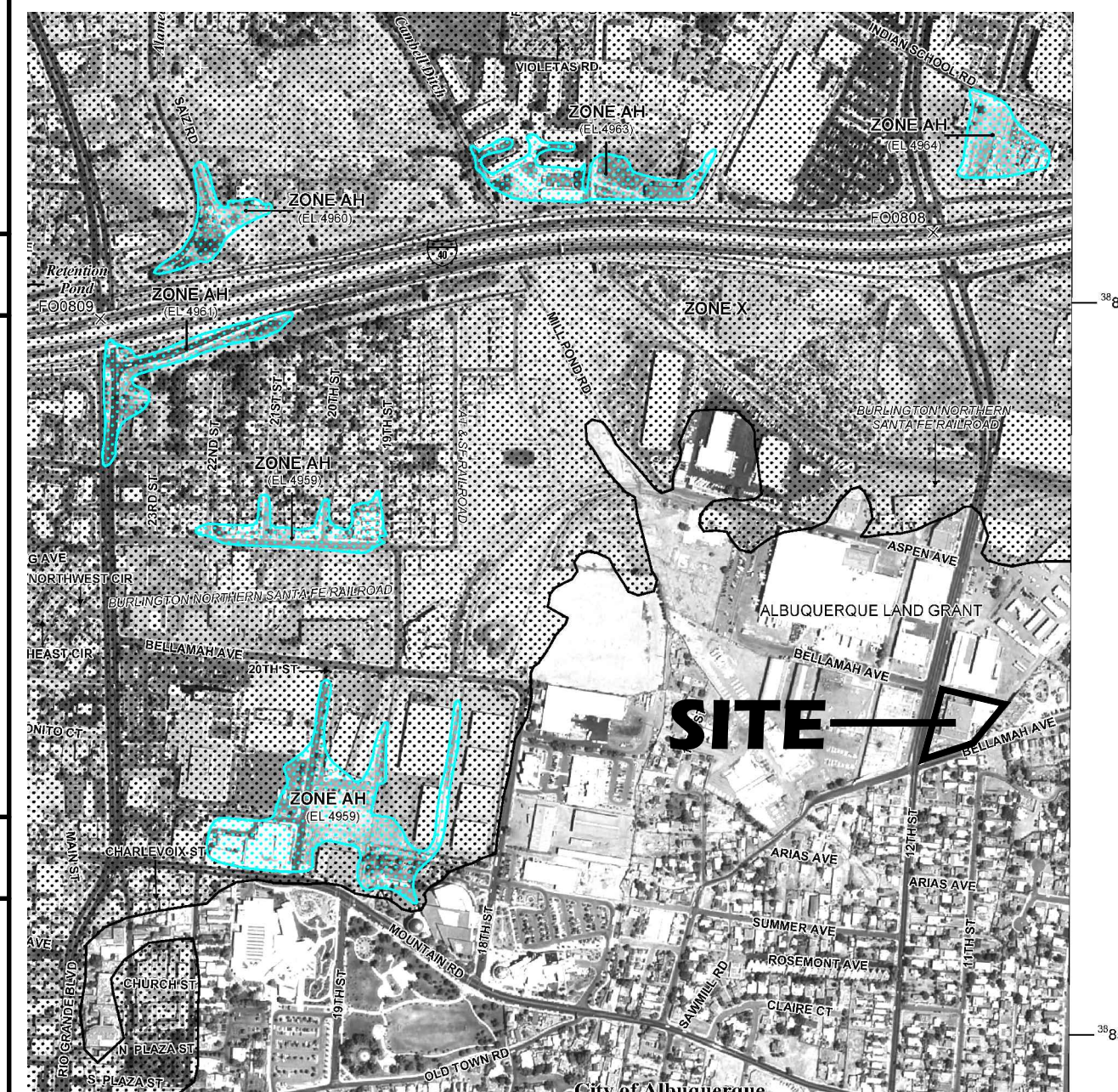


- NOTES:
- ASPHALT MIX DESIGN TO USE CITY OF ALBUQUERQUE AGGREGATE CLASS 'C' AND HAVE A MARSHALL STABILITY GREATER THAN 1800 LBS.
  - ASPHALT CONCRETE COURSES GREATER THAN 3" IN THICKNESS SHALL BE PLACED WITH MULTIPLE LIFTS. MINIMUM LIFT THICKNESS 1 1/2".

VICINITY MAP J-13



FEMA FIRM PANEL NO. 331H



LEGAL DESCRIPTION

LOT 2, LANDS OF CLARE W. DREYER & GORMAN ENGINEERING COMPANY

PERMANENT BENCHMARK

ACS 17-J14 ELEVATION 4957.484 (NAVD 1988)

LEGEND

TBM	TEMPORARY BENCHMARK	GM	GAS METER
G	GROUND	GV	GAS VALVE
FF	FINISH FLOOR	LP	LIGHT POLE
FG	FINISH GRADE	PP	POWER POLE
FL	FLOWLINE	GW	GUY WIRE
TA	TOP OF ASPHALT	PED	ELEC. OR TEL. PEDESTAL
TC	TOP OF CONCRETE	RD	SCUPPER OR CANALE
BC	TOP OF CURB	---	EXISTING TOPO OBJECT
TP	TOP OF EARTH PAD	---	PROPOSED TOPO OBJECT
TS	TOP OF SIDEWALK	---	EXISTING 1' CONTOUR
TW	TOP OF WALL	---	EXISTING 0.5' CONTOUR
FH	FIRE HYDRANT	XX.XX	EXISTING SPOT ELEVATION
WM	WATER METER	---	PROPOSED SPOT ELEVATION
WV	WATER VALVE	---	RECORD SPOT ELEVATION
MH	MANHOLE	---	
CB	CATCH BASIN GRATE	---	

DRAINAGE NOTES

- THE SITE IS PRESENTLY DEVELOPED AS A COMMERCIAL ESTABLISHMENT. THE EXISTING BUILDING IS TO REMAIN AND THE REAR DOCK WILL BE RAZED. THE BUILDING WILL BE EXPANDED AND A NEW DOCK WILL BE CONSTRUCTED IN THE AREA OF THE RAZED DOCK. IN ADDITION THE BUILDING WILL BE EXPANDED. ADDITIONAL PARKING WILL BE PROVIDED AND AN ACCESSIBLE FIRE EXIT WILL BE CONSTRUCTED IN THE PRESENTLY VACANT PORTION OF THE LOT ON THE SOUTH SIDE OF THE EXISTING BUILDING.
- A POND WILL BE CONSTRUCTED TO RETAIN FIRST FLUSH RUNOFF FROM THE IMPERVIOUS PORTION OF THE NEW DEVELOPMENT. A PORTION OF THE EXISTING BUILDING ROOF RUNOFF WILL BE ROUTED THROUGH THE POND AS WELL. FLOWS IN EXCESS OF THE RETENTION REQUIREMENT WILL BE ROUTED TO BELLAMAH AVE. VIA A SIDEWALK CULVERT.
- THE SITE IS LOCATED IN RAINFALL ZONE 2. THERE WILL BE AN INCREASE (ABOVE EXISTING CONDITIONS) IN RUNOFF VOLUMES AND FLOW RATES DUE TO ADDITIONAL DEVELOPMENT. THE INCREASE IN THE 6 HOUR RUNOFF VOLUMES FOR THE 10 YEAR AND 100 YEAR STORMS ARE 240 AND 270 CUBIC FEET AND FLOW RATES OF 0.08 AND 0.09 CFS RESPECTIVELY. SEE TABLE AT BELOW LEFT FOR CALCULATIONS.
- THE SITE IS LOCATED IN AN AREA DESIGNATED "ZONE X" PER FEMA FIRM MAP NO. 331H, DATED AUGUST, 2012.
- EXISTING TOPOGRAPHY FOR THE SITE WAS OBTAINED BY WAYJOHN SURVEYING, INC. IN SEPTEMBER, 2014.

DATE

REVISIONS

BY

BORDENAVE DESIGNS

1000 81104 ALBUQUERQUE, NM 87104-1004  
PH: (505) 851-1344 FAX: (505) 851-1345  
CELL: (405) 601-7172 jason@bordenavedesigns.com

REGISTERED PROFESSIONAL ENGINEER

NO. 10581

NEW MEXICO

JOHN A. BORDENAVE

01/15/15

ENGINEER SET

FINAL

01/15/2015

GORMAN WAREHOUSE AND WORKSHOP

1330 12th STREET NW

ALBUQUERQUE, NM 87104

5th Floor

ST. PRICE design studio

Joseph B. Burwin Jr., ARCHITECT

3700 Corra Blvd. NW, Suite E

Albuquerque, New Mexico 87120

505-345-3850

DRAWN

METO

CHECKED

JUB

DATE

01/15/15

SCALE

20/15

14-15

SHEET

OF

ST

SHEETS



# CITY OF ALBUQUERQUE



February 13, 2015

Jake Bordenave, P.E.  
Bordenave Designs  
PO Box 91194  
Albuquerque, New Mexico 87109

**RE: Gorman Warehouse and Workshop  
Grading and Drainage Plan  
Engineers Stamp Date 2/11/15 (J13-D100)**

Dear Mr. Bordenave,

Based upon the information provided in your submittal received 2/12/2015, 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.

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

PO Box 1293

If you have any questions please contact me at 924-3986 or Rudy Rael at 924-3977.

Albuquerque

New Mexico 87103

[www.cabq.gov](http://www.cabq.gov)

Sincerely,

Curtis Cherne, P.E.  
Principal Engineer, Planning Department  
Development and Review Services

RR/CC  
C: File