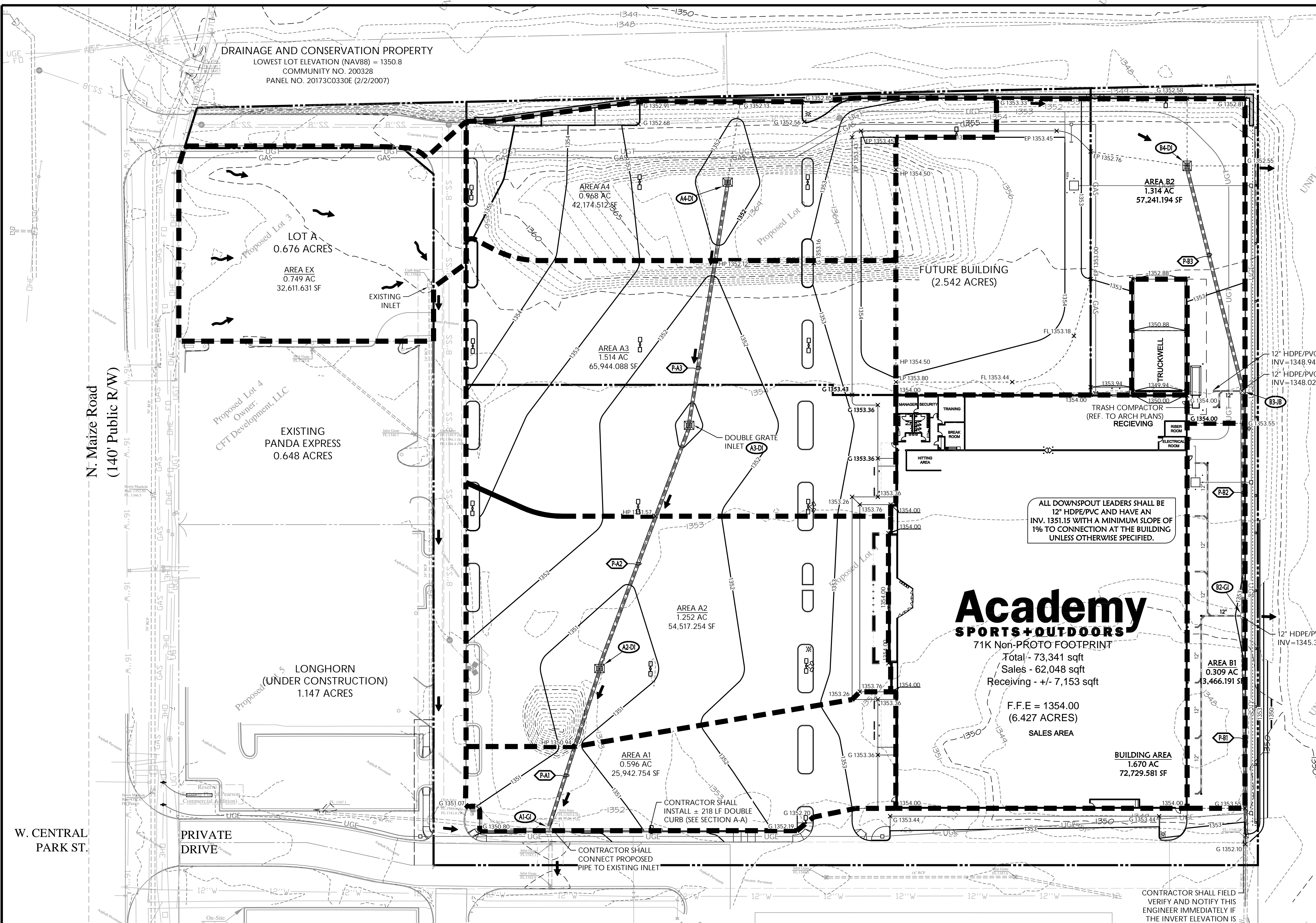


c:\my\_box\_files\voice\_projects\10-1003\_wichita ks academy sports\dwg\project\1003\10-1003\_project\_100.dwg - Plotted on 12/19/2011 10:49:50 AM @ a scale of 1:1 to pdf; exchange 4.0.pcs3 by Jon Berry



DRAINAGE AND CONSERVATION PROPERTY  
 LOWEST LOT ELEVATION (NAV88) = 1350.8  
 COMMUNITY NO. 200328  
 PANEL NO. 20173C0330E (2/2/2007)

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

**GRADING & DRAINAGE PROPOSED FEATURES**

- BOUNDARY LINE
- RIGHT OF WAY LINE
- EASEMENT LINE
- CONCRETE CURB AND GUTTER
- FENCE
- GUARD RAIL
- RETAINING WALL
- STORM DRAIN
- BREAKLINE
- SWALE LINE
- SANITARY SEWER SERVICE
- WATER SERVICE
- UNDERGROUND ELECTRIC SERVICE
- UNDERGROUND TELEPHONE SERVICE
- OVERHEAD ELECTRIC SERVICE
- OVERHEAD TELEPHONE SERVICE
- FIBER OPTIC CABLE SERVICE
- GAS SERVICE
- SPOT ELEVATIONS:
  - TC = TOP OF CURB
  - G = GUTTER OF CURB
  - TS = TOP OF STRUCTURE
  - TG = TOP OF GRADE (BEHIND TOP OF WALL)
  - BS = BOTTOM OF GRADE (AT FRONT OF WALL)
  - HP = HIGH POINT
  - LP = LOW POINT
  - EP = EDGE OF PAVEMENT
  - FES = FLARED END SECTION
- RIP-RAP PAD (SEE EROSION PLANS FOR SIZE)
- DRAINAGE STRUCTURES
- SANITARY SEWER MANHOLE
- FIRE HYDRANT WITH GUARD POSTS
- UTILITY POLE
- WATER LINE TEE, BEND, VALVE, AND PLUG

**DRAINAGE LEGEND**

- 100-YEAR OVERFLOW
- PROPOSED DRAINAGE DIRECTION
- DRAINAGE AREA

**Academy SPORTS+OUTDOORS**  
 71K Non-PROTO FOOTPRINT  
 Total - 73,341 sqft  
 Sales - 62,048 sqft  
 Receiving - +/- 7,153 sqft  
 F.F.E = 1354.00 (6.427 ACRES)  
 SALES AREA

ALL DOWNSPOUT LEADERS SHALL BE 12" HDPE/PVC AND HAVE AN INV. 1351.15 WITH A MINIMUM SLOPE OF 1% TO CONNECTION AT THE BUILDING UNLESS OTHERWISE SPECIFIED.

**ON SITE BENCHMARK**  
 ON-SITE BENCHMARK No. 1: Top of curb at end approximately 7' west of east end of retaining wall at north line of property. ELEVATION: 1356.23 (DATUM NAVD88)  
 ON-SITE BENCHMARK No. 2: Square cut top of curb at NW corner Lowe's parking lot. ELEVATION: 1353.41 (DATUM NAVD88)  
 See site plan or survey for location.

**DRAINAGE SCHEDULE**

Struct. No. & Type* Up Stream	Detail No.	Top Of Structure	Inv. Out	Pipe No.	Pipe Length, Size, Type & Slope	Inv. In	Struct. No. & Type* Dn Stream
Storm Line "A"							
(A4-DI)	D316	1351.50	1346.83	<P-A3>	191 LF 18" PIPE @ 0.50%	1345.87	(A3-DI)
(A3-DI)	(2)D316	1350.82	1344.87	<P-A2>	201 LF 30" PIPE @ 0.50%	1343.86	(A2-DI)
(A2-DI)	D316	1350.31	1343.86	<P-A1>	131 LF 30" PIPE @ 0.50%	1343.86	(A1-GI)
(A1-GI)	D317	1350.76	1343.20				
Storm Line "B"							
(B4-DI)	D316	1352.32	1348.07	<P-B3>	180 LF 24" PIPE @ 0.25%	1347.62	(B3-JB)
(B3-JB)	D228	1353.43	1347.02	<P-B2>	175 LF 30" PIPE @ 0.25%	1346.68	(B2-GI)
(B2-GI)	D317	1352.80	1346.68	<P-B1>	173 LF 30" PIPE @ 0.25%	1346.25	(B1-END)
(B1-END)			1346.25		CONNECTION TO EXISTING 30" PIPE		

**DRAINAGE CALCULATIONS**

Area Description	Rational Method				Pipe Size (Manning's)			Pipe Used		Grate		Manuf. Capacity (6 inch head)	capacity check		
	C	i	acres	Q <sub>10</sub>	slope (%)	D <sub>10</sub> (inches)	Area (sf)	Outflow Pipe Diameter (inches)	Velocity V (Q/A)	Single (S) or Double (D)	Neenah Inlet Type				
A4-DI	0.95	7.410	0.968	6.814	0.968	6.814	17.43	18	OK	3.86	S R1878-B7G	10.5	2.6	9	OK
A3-DI	0.95	7.410	1.514	10.658	2.482	17.472	24.81	30	OK	3.56	D R1878-B7G	10.5	2.6	18	OK
A2-DI	0.95	7.410	1.254	8.828	3.736	26.300	28.92	30	OK	5.36	S R1878-B7G	10.5	2.6	9	OK
A1-GI	0.95	7.410	0.596	4.196	4.332	40.615	34.04	48	OK	3.23	S R3246C	6.25	1.6	5.4	OK
Existing Storm	-	-	-	-	-	10.120	-	-	-	-	-	-	-	-	-
B4-DI	0.90	7.410	1.314	8.763	1.314	8.763	21.81	24	OK	2.79	S R1878-B7G	10.5	2.6	9	OK
B3-JB	0.95	7.410	0.000	0.000	1.314	8.763	21.81	30	OK	1.79	-	-	-	-	-
Downspouts	0.95	7.410	1.670	11.756	1.670	11.756	-	-	-	-	-	-	-	-	-
B2-GI	0.95	7.410	0.309	2.175	3.293	22.694	29.76	30	OK	4.62	S R3246C	6.25	1.6	5.4	OK
B1-END	0.95	7.410	0.000	0.000	3.293	22.694	-	-	-	-	-	-	-	-	-

Assumptions: Tc is equal to 5 min.

BY: \_\_\_\_\_  
 DATE: \_\_\_\_\_  
 DESCRIPTION: \_\_\_\_\_

**Academy SPORTS+OUTDOORS**

SCOTT P. MCGEE  
 LICENSED PROFESSIONAL ENGINEER  
 16947  
 KANSAS

**Qark CIVIL Engineering Inc.**  
 Bentonville • Kansas City

DRAINAGE PLAN  
 A NEW FACILITY FOR:  
**ACADEMY SPORTS + OUTDOORS**  
 N. MAIZE ROAD & W. CENTRAL PARK STREET WICHITA KANSAS

DRAWN BY: JON  
 APPV. BY: SM  
 DWG. NAME: 10-1003 Project 100  
 DATE: 11/21/2011  
 JOB NO: 10-1003  
 SHEET NO:

**5.4**