COUNTY TOTAL SHEET NO. SECTION N/A 06-00017-00-PV KANE 232 157 TO STA. FED. ROAD DIST. NO. \_ ILLINOIS FED. AID PROJECT

5'-0" (TYPICAL) OR AS SHOWN ON PLANS 6" MECHANICAL JOINT BOTTOM FIRE HYDRANT WITH 2 - 2 1/2" NOZZLES & 1 - 4 1/2" PUMPER NOZZLE MAKE & MODEL AS PER MUNICIPALITY MIN. DIM. 1'-6" -MAX DIM. 2'-0" OR AS REQUIRED (<del>(</del>() GATE VALVE - AMERICAN FLOW CONTROL -BURY ELEV.

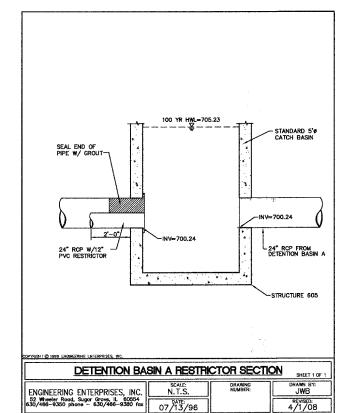
BY MUNICIPALITY DUCTILE IRON RESILIENT WEDGE (OR APPROVED EQUAL) "WATER" ON LID FINISH GROUND WATEROUS PACER MODEL NO. WB-67-250 (BREAK AWAY STYLE) (OR APPROVED EQUAL) FIRE HYDRANT -N N N -PROVIDE DRAINAGE FABRIC (MIRAFI 140N OR EQUAL) OVER & AROUND COARSE AGGREGATE 6" M.J. AUXILIARY GATE VALVE WITH AMERICAN FLOW -DO NOT OBSTRUCT DRAIN ADAPTOR (OR APPROVED EQUAL) -18" OF 6" CONN PIPE (TYP.)

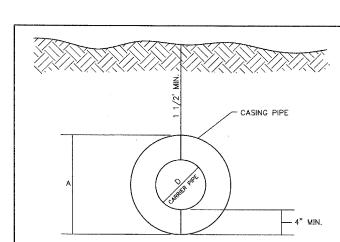
> - MONOLITHIC CONC. THRUST BLOCK NOTES: 1. CONTRACTORS WILL SUPPLY HYDRANTS WITH AUXILIARY VALVES & MECHANICAL JOINT CONNECTIONS WITH 18" LONG PLAIN END

> > 2. ALL FIRE HYDRANTS ALONG A POTABLE WATER MAIN SHALL BE RED. ALL FIRE HYDRANTS ALONG A RAW WATER MAIN SHALL BE EMERALD GREEN BY WATEROUS, PAINT CODE M4157.

DUCTILE IRON PIPE BETWEEN HYDRANT AND

FIRE HYDRANT ASSEMBLY INSTALLATION			
VILLAGE OF SUGAR GROVE	scale: N.T.S.	DRAWING NUMBER:	DRAWN BY: WCP
Strar Grove 10 Municipal Drive Sugar Grove, IL 60554 630/466-4507 phone - 630/466-4521 fax	9/16/05	SG19	REVISED:





-6" CONN

PIPE (VAR.) PRECAST CONCRETE BLOCK

FIRE HYDRANT ASSEMBLY

M.J. TEE (INCLUDED IN PRICE FOR DUCTILE IRON FITTINGS)

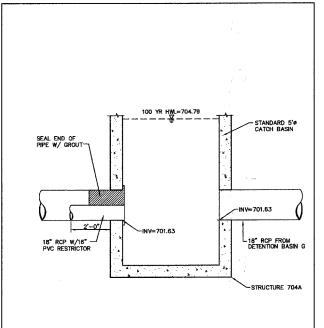
PROPOSED WATER MAIN (SEE PLANS FOR SIZE)

CARRIER PIPE NOM. DIA.	MIN. CASING PIPE DIA. (O.D.)	WALL THICKNESS
33" - 36"	54"	0.719"
30"	48"	0.625"
27"	42"	0.562"
24"	36"	0.469"
20" - 21"	36"	0.469"
18"	30"	0.406"
15 - 16"	30"	0.406"
12"	24"	0.312"
10"	22"	0.312"
8"	20"	0.281"
6"	18"	0.250"

## STANDARDS FOR BORING & JACKING

- 1. BORING AND JACKING OPERATIONS SHOULD BE IN ACCORDANCE WITH DIVISION II OF THE STANDARD SPECIFICATIONS FOR WATER & SEWER MAIN CONSTRUCTION IN ILLINOIS, CURRENT EDITION.
- 2.BORING AND JACKING SHALL BE ACCOMPLISHED WITH AN AUGER AND CASING PIPE, THE DIAMETER OF THE AUGER SHALL NOT EXCEED THE OUTSIDE DIAMETER OF THE CASING PIPE BY MORE THAN ONE INCH.
- 3. THE CONTRACTOR SHALL PROVIDE A THRUST WALL ADEQUATE FOR INSTALLATION OF THE JACKED PIPE. THE WALL SHALL BE CONSTRUCTED PERPENDICULAR TO THE PROPOSED LINE OF THRUST. WHEN TUNNELING / JACKING WITHOUT AUGER IN LOOSE, GRANULAR, OR RUNNING SOILS, EXTREME CARE SHOULD BE TAKEN BY THE CONTRACTOR TO PREVENT VOIDS FROM OCCURRING IN ADVANCE OF THE CASING PIPE. MATERIAL REMOVAL BY VACUUM WITHIN THE CASING MAY BE NECESSARY.
- 4.BORING AND JACKING SHALL BE ACCOMPLISHED FROM PITS THAT ARE PROPERLY SHORED. THE SHORING SHALL BE DESIGNED, ERECTED, SUPPORTED, BRACED AND MAINTAINED SO THAT IT MILL SAFELY SUPPORT ALL VERTICAL AND LATERAL LOADS THAT MAY BE IMPOSED UPON IT DURING THE BORING AND JACKING OPERATION. ALL SHAFTS AND JACKING PITS SHALL CONFORM WITH APPLICABLE OSHA EXCAVATION, TRENCHING, AND SHORING STANDARDS.
- 5.BORING/JACKING PITS & RECEIVING PITS SHALL NOT BE LOCATED CLOSER THAN 10 FEET FROM THE EDGE OF ANY PAVEMENT AND CASING PIPE SHALL GENERALLY RUN FROM RIGHT-OF-WAY TO RIGHT-OF-WAY TO RIGHT-OF-WAY UNLESS OTHERWISE INDICATED ON THE PLANS, OR AS OTHERWISE REQUIRED BY THE PERMITTING AUTHORITY.
- 6.PITS FOR BORING AND JACKING SHALL BE EXCAVATED NO MORE THAN 48 HOURS IN ADVANCE OF BORING AND BACKFILLED WITHIN 48 HOURS AFTER BORING OPERATIONS ARE COMPLETED. WHILE PITS ARE OPEN, THEY SHALL BE CLEARLY MARKED, FENCED OFF, AND PROTECTED BY BARRICADES.
- 7.CASCADETM CASING SPACERS SHALL BE USED TO CENTER WATERMAIN IN CASING PIPE. ADJUSTABLE CASCADETM CASING SPACERS SHALL BE USED TO CREATE THE DESIGN PITCH FOR SANITARY OR STORM SEWER PIPE. METAL TO METAL CONTACT IS NOT PERMITTED.
- 8.ALL WATER MAIN WITHIN CASING SHALL BE MECHANICAL JOINT AND INSTALLED WITH MEGALUG RETAINER GLAND SERIES 1100 AS MANUFACTURED BY EBBA IRON INC. OR APPROVED EQUAL.
- 9.ALL VOIDS BETWEEN CASING PIPE AND CARRIER PIPE SHALL BE FILLED WITH SAND AFTER CARRIER PIPE IS INSTALLED. CASCADE CASING END SEALS SHALL BE USED TO LOOSELY SEAL THE ENDS OF THE CASING.
- 10. STEEL CASING PIPE SHALL HAVE A MINIMUM YIELD STRENGTH OF 35,000 PSI WITH WELDED JOINTS, UNLESS REQUIRED OTHERWISE BY THE PERMITTING AUTHORITY.
- 11. DEWATERING FOR BORING AND JACKING, INCLUDING ALL EXCAYATION, SHORING, AUGURING, CASING PIPE INSTALLATION, AND ALL OTHER BORING AND JACKING WORK ITEMS, IS INCIDENTAL TO THE CONTRACT.

	BORI	E + JACK DE	TAIL	SHEET 1 OF 1
ENGINE	ering enterprises, inc.	SCALE: N.T.S.	DRAWING NUMBER:	DRAWN BY: CLN
52 Wheel 630/466-	er Road, Sugar Grove, il. 60554 9350 phone - 630/466-9380 fax	10/26/04	M26*	12/15/06



DETENTION BAS	SIN G RESTRIC	CTOR SECTION	ON SHEET 1 OF
ENGINEERING ENTERPRISES, INC.	SCALE: N.T.S.	DRAWING NUMBER:	DRAWN BY: JWB
52 Wheeler Road, Sugar Grove, IL 60554 30/466-9350 phone - 630/466-9380 fax	07/13/96		REVISED: 4/1/08

REVISIO	NS	ILLINOIS DEPARTME	ENT OF TRANSPORTATION
NAME	DATE		
		TYPICA	L DETAILS
		1111071	
		SCALE: NTS	DRAWN BY: KKP
		DATE: 02/07/08	CHECKED BY: WBR