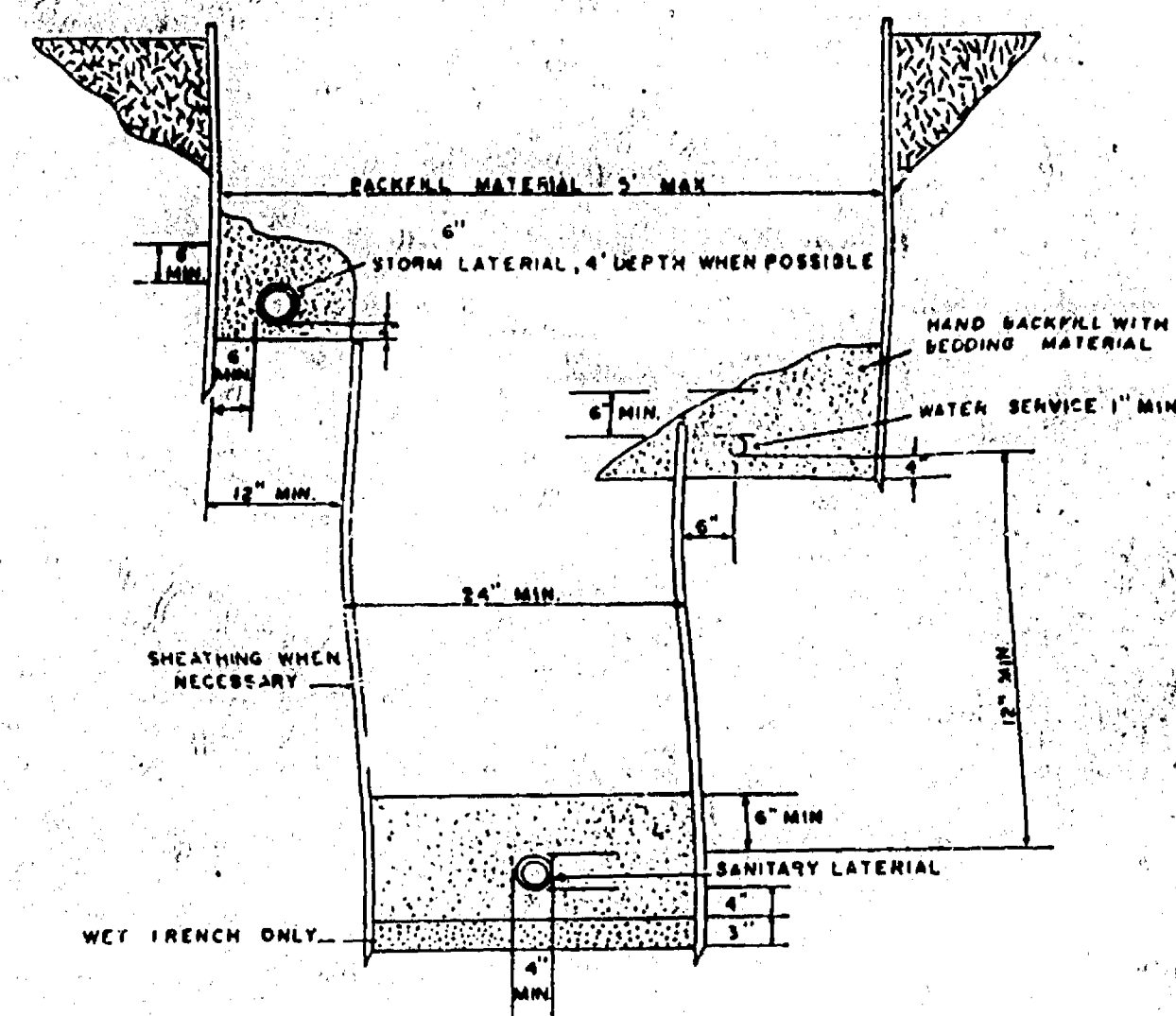
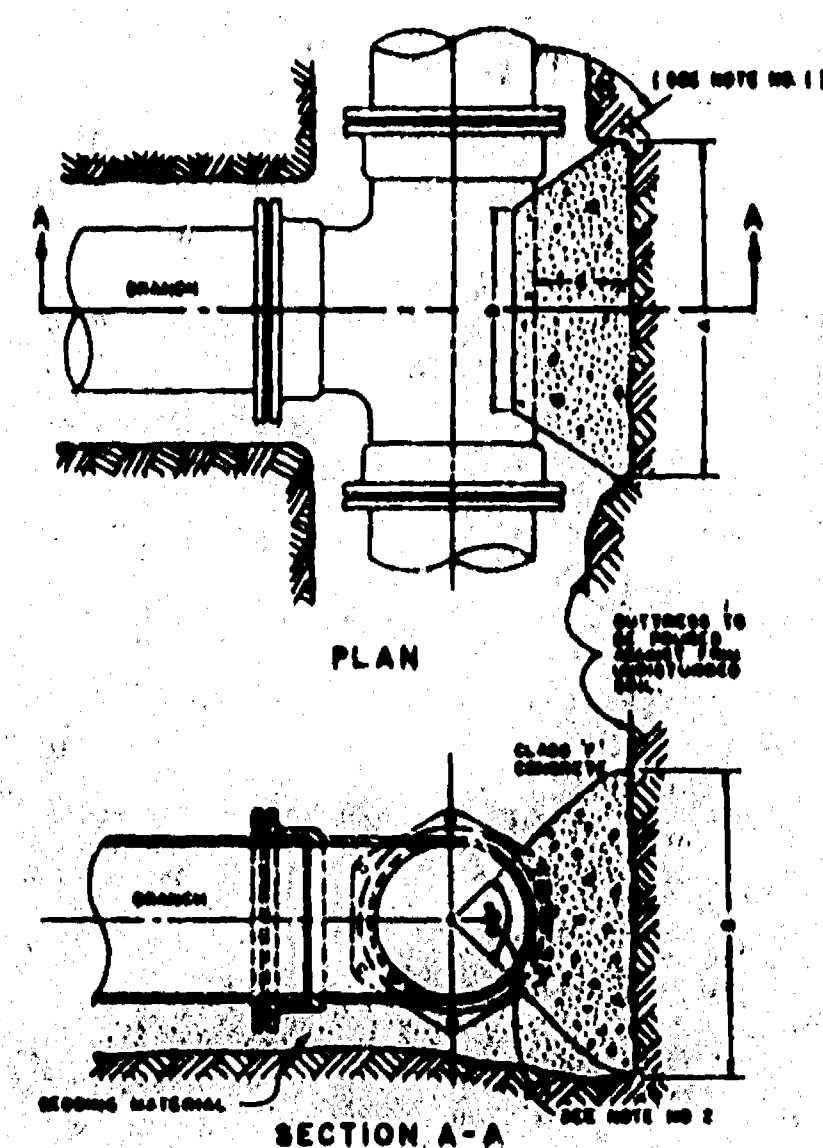
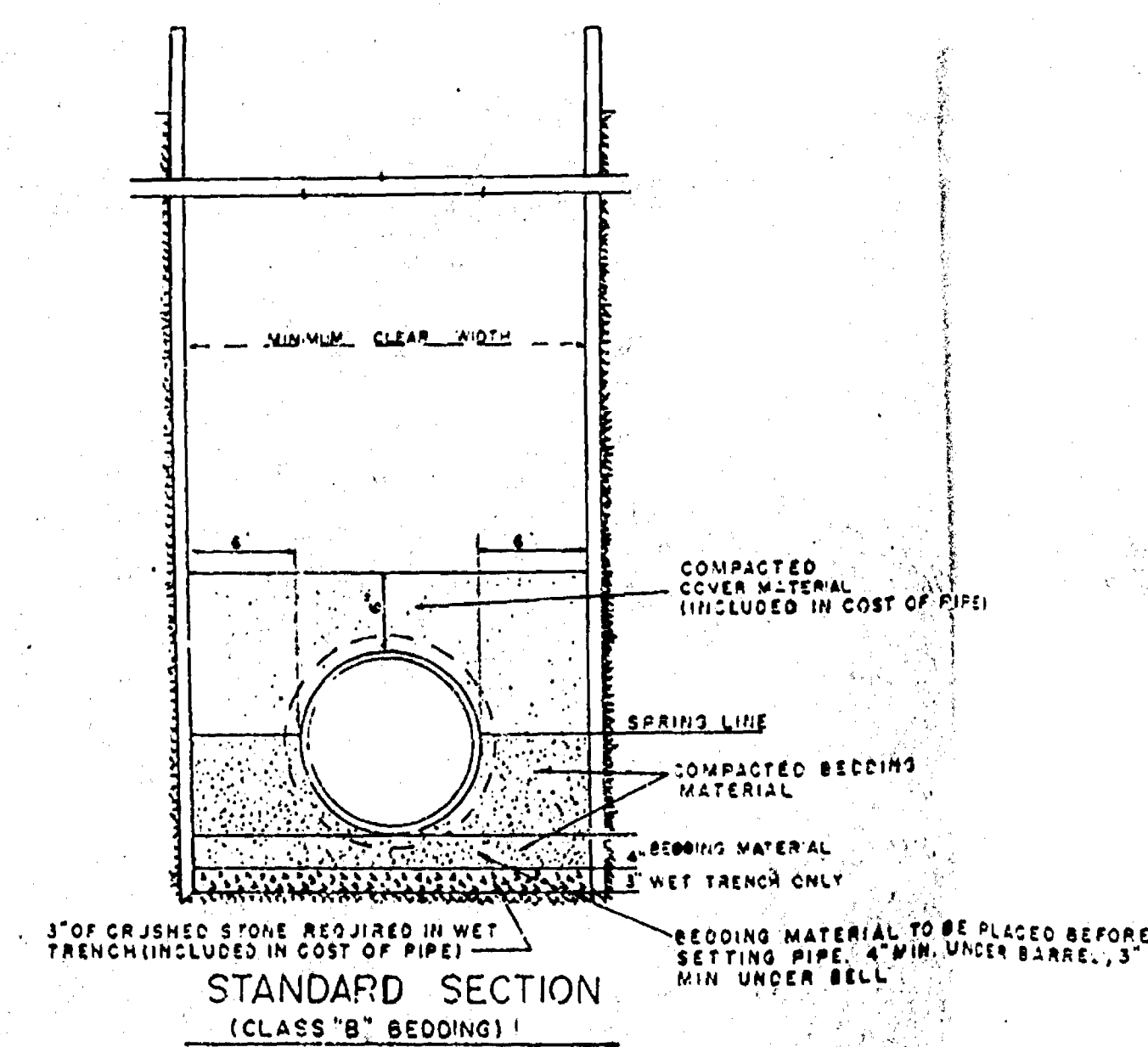


B.D. = BRANCH DIAMETER

- 1 DIMENSION 'C' SHOULD BE LARGE ENOUGH TO MAKE ANGLE θ EQUAL TO OR LARGER THAN 45°
- 2 DIMENSION 'D' SHOULD APPROX. 1 D OF PIPE LESS 2". AN EFFORT SHOULD BE MADE TO PREVENT THE CONCRETE FROM COVERING THE M/J BOLTS
- 3 WHERE BUTTRESSES ARE NOT POSSIBLE BECAUSE OF POOR SOIL CONDITIONS OR LACK OF ROOM, STRAPPING SHALL BE PERMITTED
- 4 BUTTRESS DIMENSIONS ARE BASED ON A SOIL RESISTANCE OF TWO TONS PER SQ. FT. AND A WATER PRESSURE OF 150 PSI



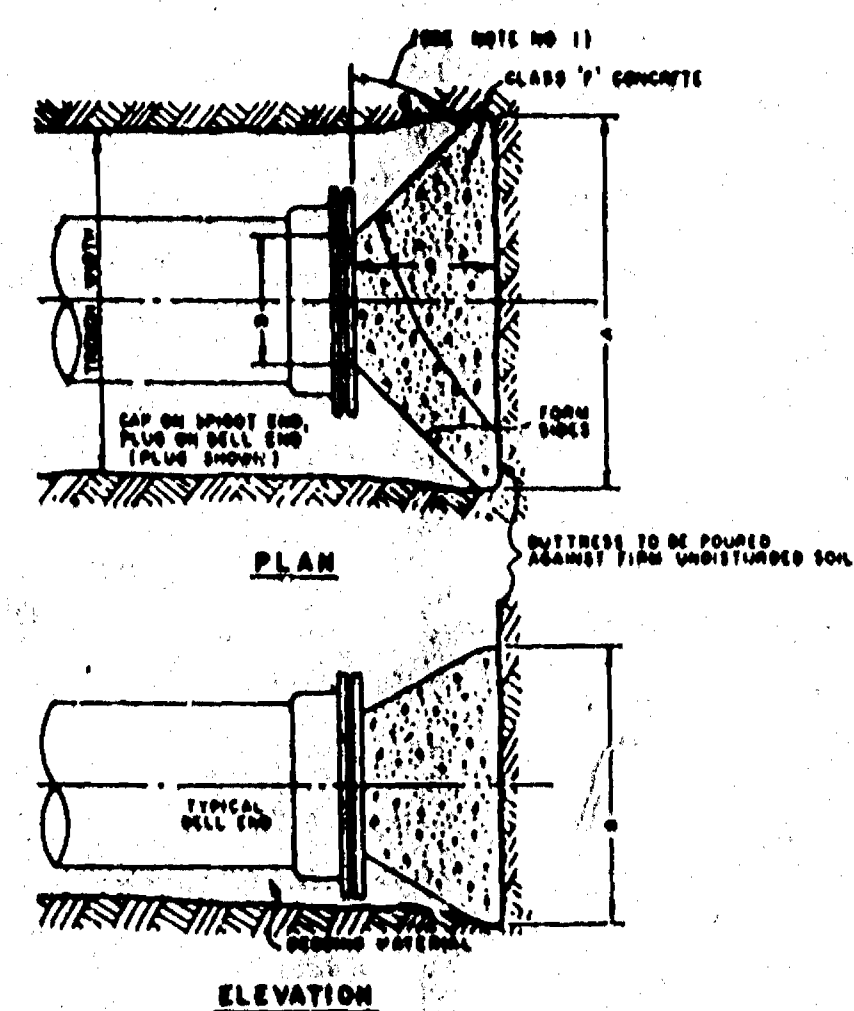
STANDARD SECTION FOR STORM
SANITARY & WATER SERVICES



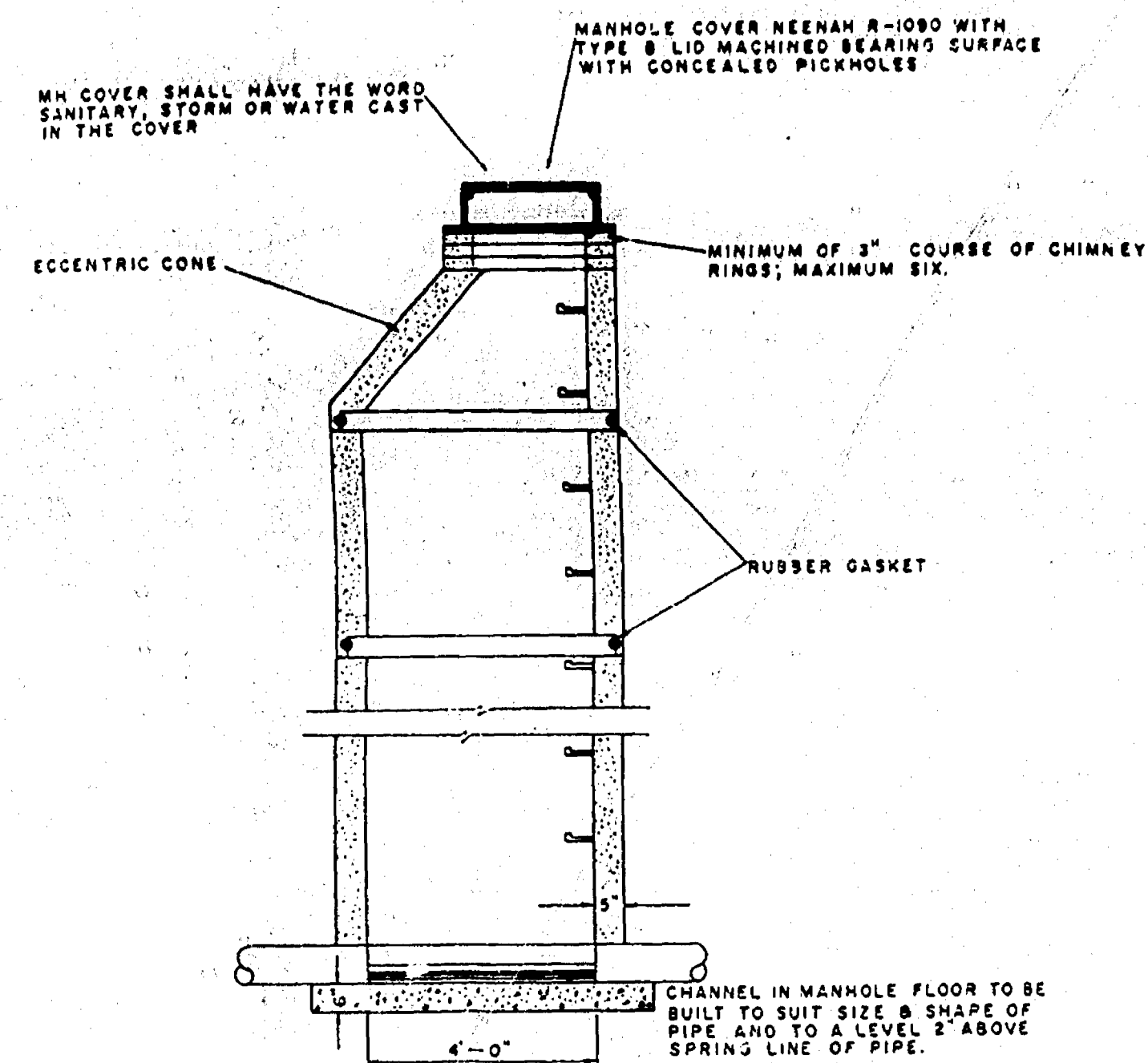
NOTES:

1. DIMENSIONS IN TABLE ARE BASED ON A WATER PRESSURE OF 150 P.S.I. AND ON EARTH RESISTANCE OF 2 TONS PER SQ.FT.
2. DIMENSION C1 TO C3 SHOULD BE LARGE ENOUGH TO MAKE ANGLE EQUAL TO OR LARGER THAN 45°
3. DIMENSION A1 TO A3 SHOULD BE AS LARGE AS POSSIBLE WITHOUT INTERFERING WITH M. J. BOLTS
4. SHAPE OF BACK OF BUTTRESS MAY VARY AS LONG AS POUR IS AGAINST FIRM UNDISTURBED EARTH
5. ALL IRON PIPE AND FITTINGS SHALL BE WRAPPED IN POLYETHYLENE.

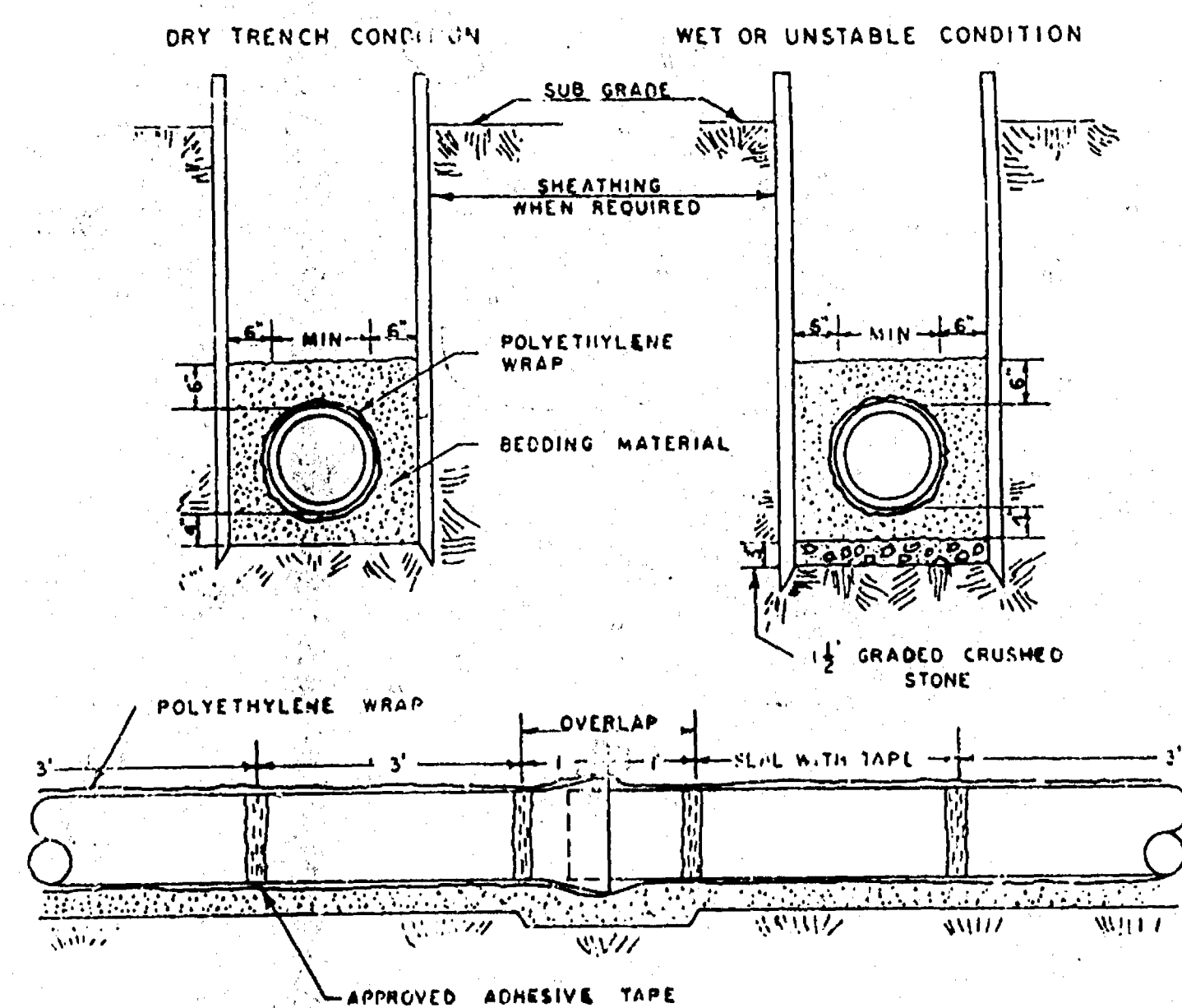
- NOTES:**
1. DIMENSIONS IN TABLE ARE BASED ON A WATER PRESSURE OF 150 P.S.I. AND ON EARTH RESISTANCE OF 2 TONS PER SQ.FT.
 2. DIMENSION C1 TO C3 SHOULD BE LARGE ENOUGH TO MAKE ANGLE EQUAL TO OR LARGER THAN 45°
 3. DIMENSION A1 TO A3 SHOULD BE AS LARGE AS POSSIBLE WITHOUT INTERFERING WITH M. J. BOLTS
 4. SHAPE OF BACK OF BUTTRESS MAY VARY AS LONG AS POUR IS AGAINST FIRM UNDISTURBED EARTH
 5. ALL IRON PIPE AND FITTINGS SHALL BE WRAPPED IN POLYETHYLENE.



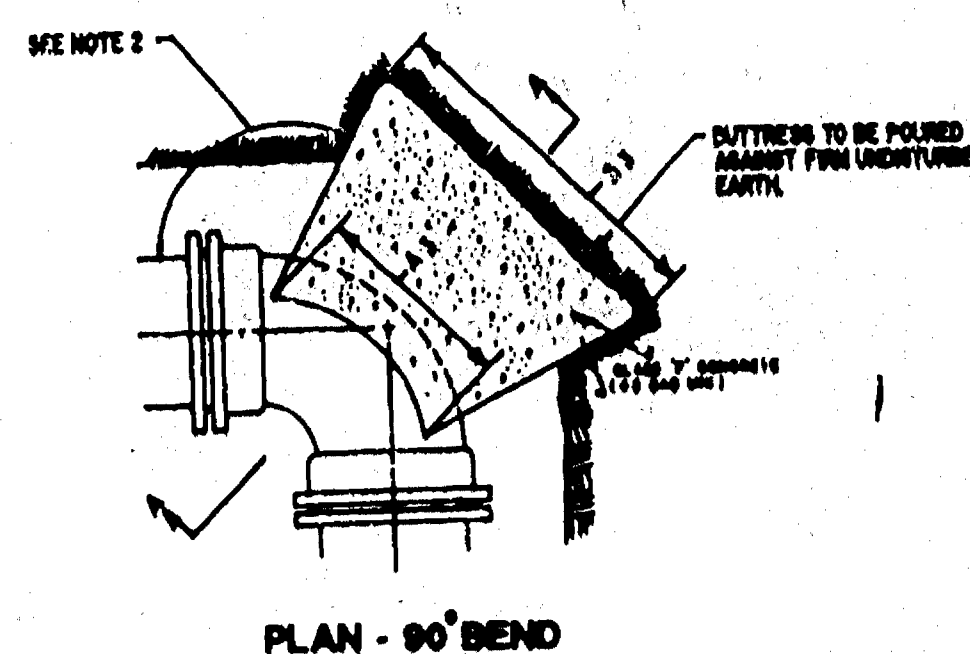
PLUG AND BLOCK DETAIL



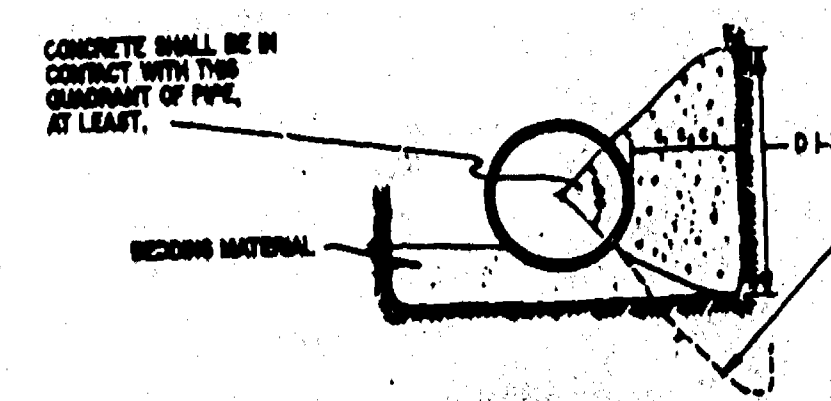
STANDARD PRECAST MANHOLE



STANDARD WATER MAIN TRENCH SECTION

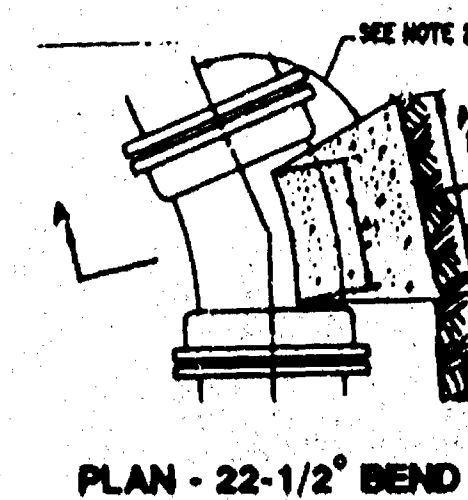


PLAN - 90° BEND

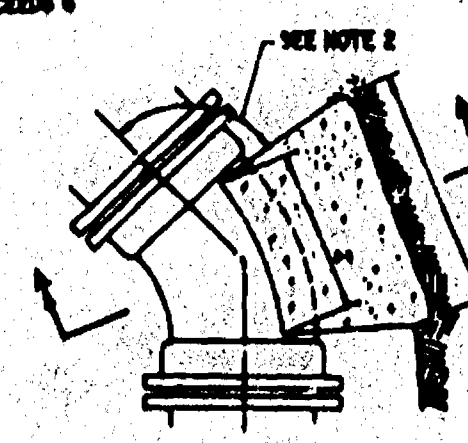


SECTION A-A

PIPE SIZE	22-1/2° BENDS		45° BENDS		90° BENDS	
	B1	D1	B2	D2	B3	D3
6"	1'-0"	1'-0"	1'-0"	1'-0"	1'-11"	1'-5"
8"	1'-0"	1'-0"	1'-4"	1'-3"	1'-10"	1'-5"
10"	1'-4"	1'-4"	1'-10"	1'-10"	2'-0"	2'-3"
18"	1'-5"	1'-8"	2'-5"	2'-4"	3'-10"	3'-10"
20"	2'-0"	2'-0"	3'-3"	3'-3"	3'-0"	3'-0"
24"	2'-10"	2'-4"	4'-0"	3'-3"	3'-6"	3'-6"
30"	3'-0"	3'-0"	4'-0"	3'-10"	3'-0"	4'-0"



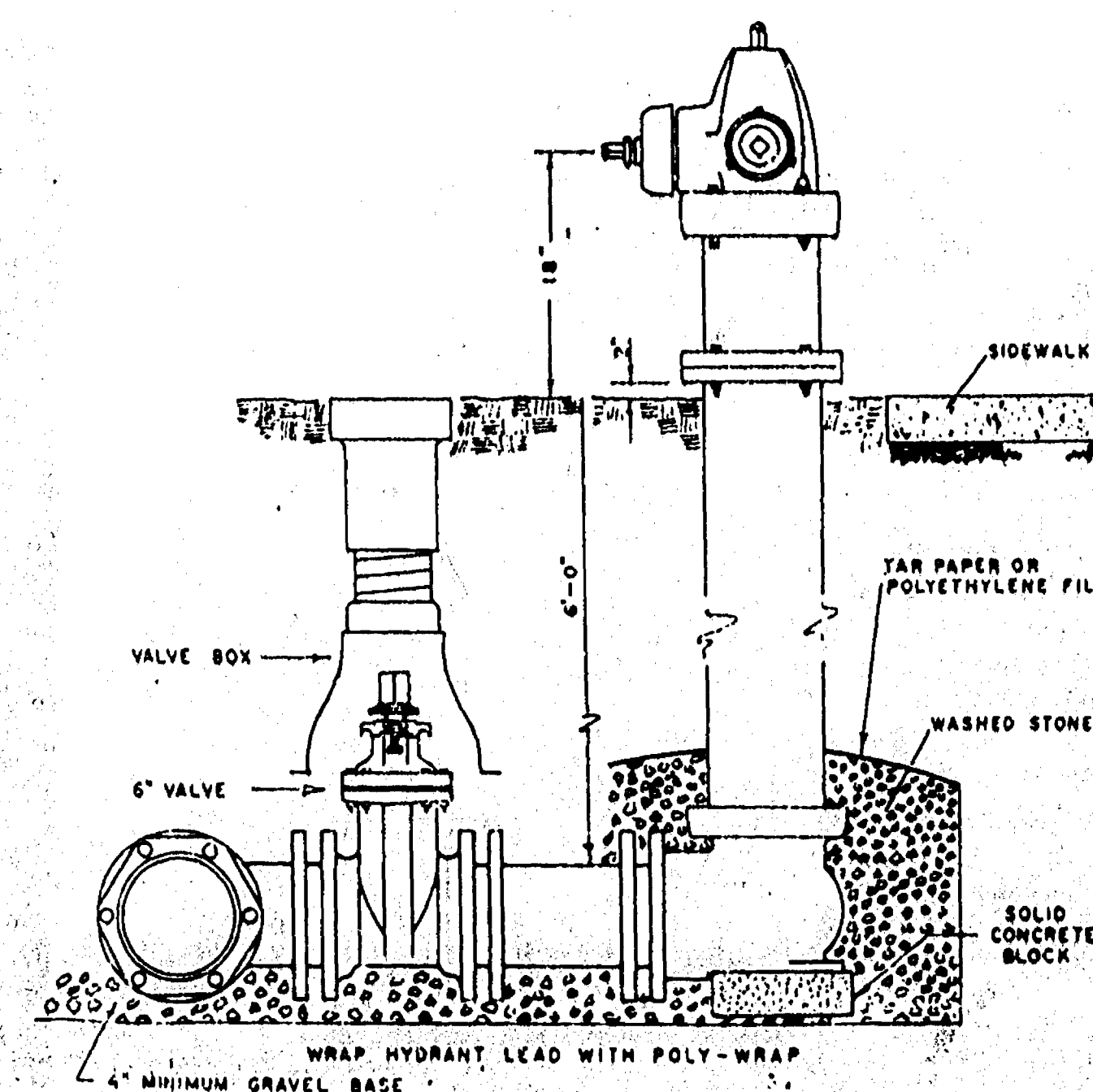
PLAN - 22-1/2° BEND



PLAN - 45° BEND

- ## NOTES

1. DIMENSIONS IN TABLE ARE BASED ON A WATER PRESSURE OF 180 P.S.I. AND ON EARTH RESISTANCE OF 2 TONS PER SQ. FT.
2. DIMENSION C1 - 3 SHOULD BE LARGE ENOUGH TO MAKE ANGLE EQUAL TO OR GREATER THAN 45°.
3. DIMENSION A1 - 3 SHOULD BE AS LARGE AS POSSIBLE WITHOUT INTERFERING WITH N.L. BOLTS.
4. SHAPE OF BACK OF BUTTRESS MAY VARY AS LONG AS FOUR IS AGAINST FIRM UNDISTURBED EARTH.
5. ALL IRON PIPE AND FITTINGS SHALL BE WRAPPED IN POLYETHYLENE.



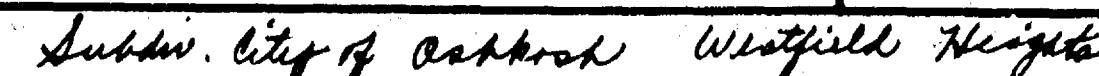
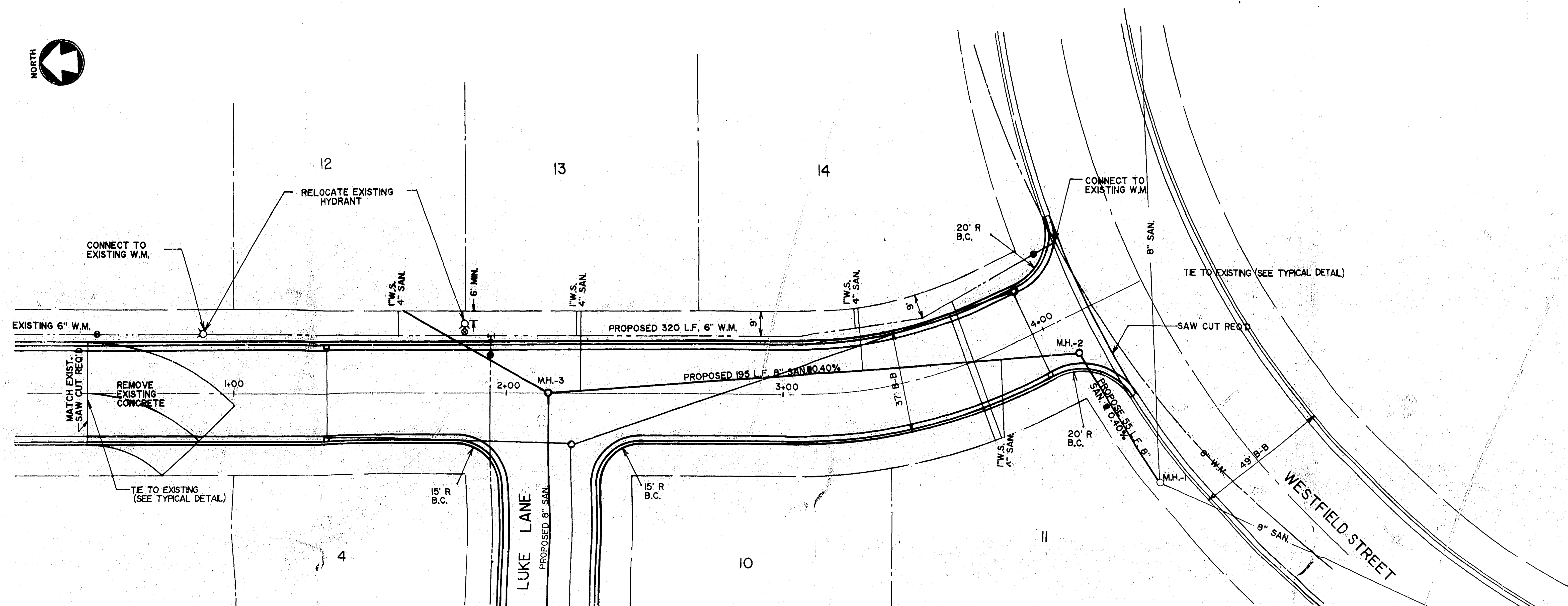
TYPICAL HYDRANT INSTALLATION MECHANICAL JOINT

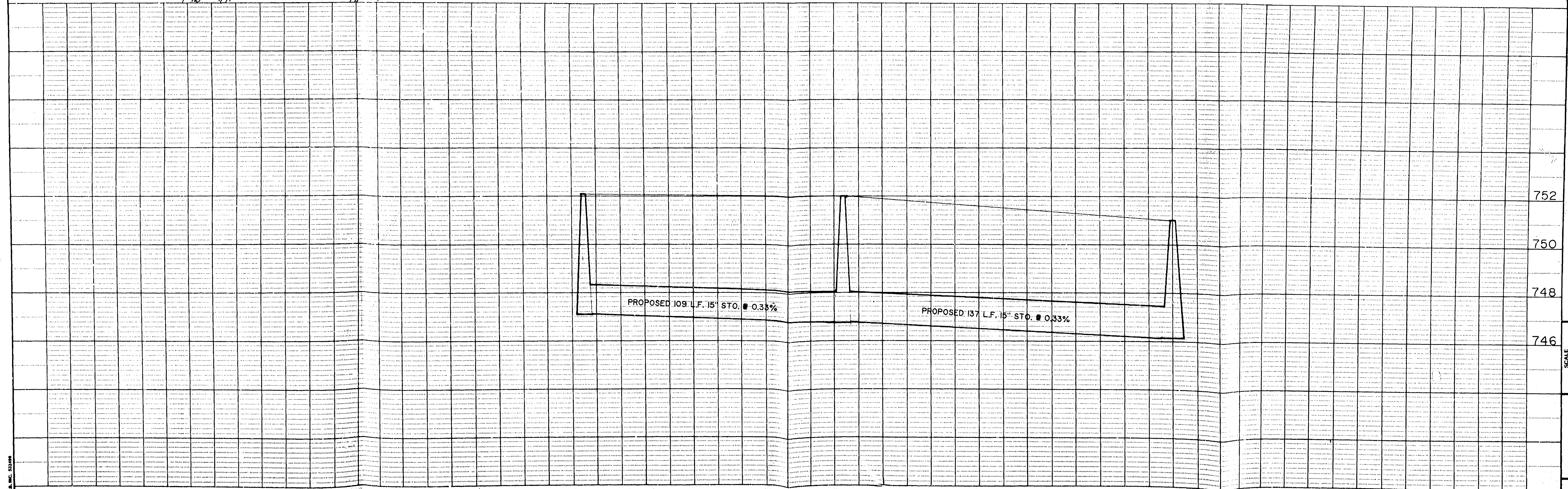
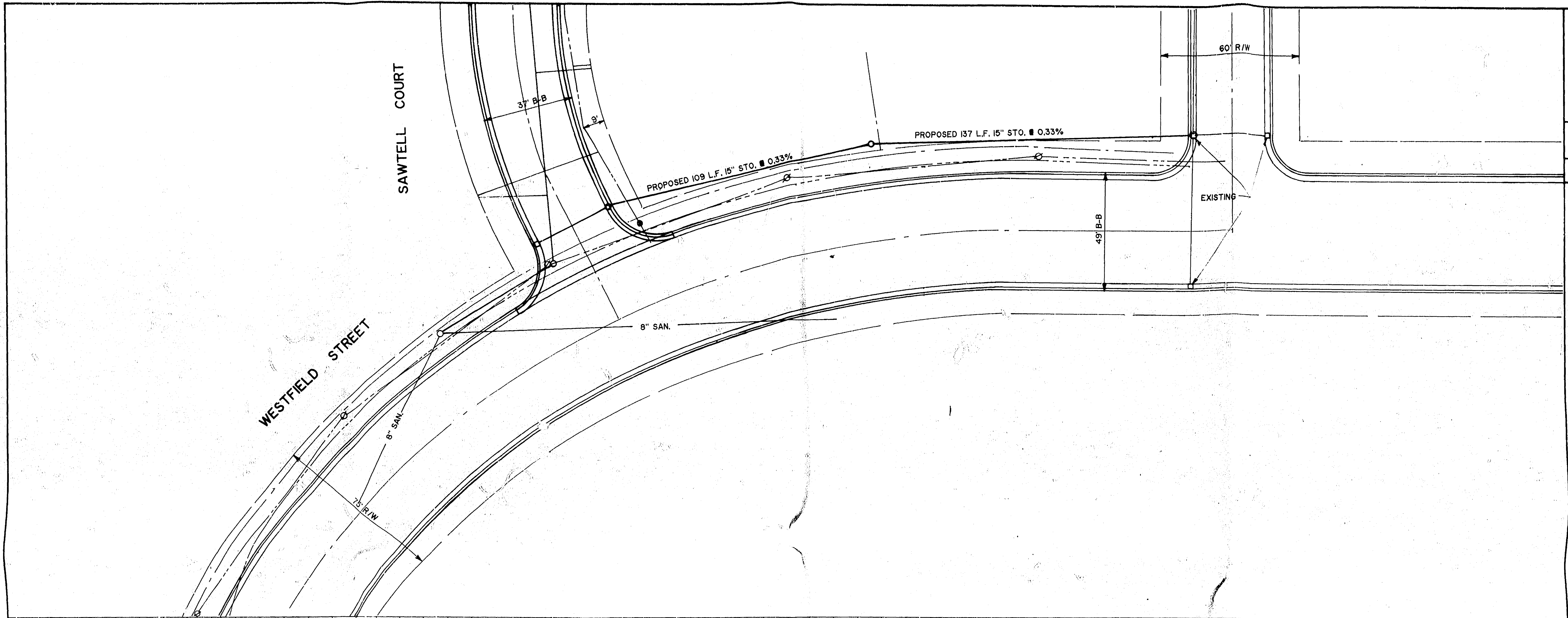
MISCELLANEOUS DETAILS

SCALE	DATE
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SHEET NO

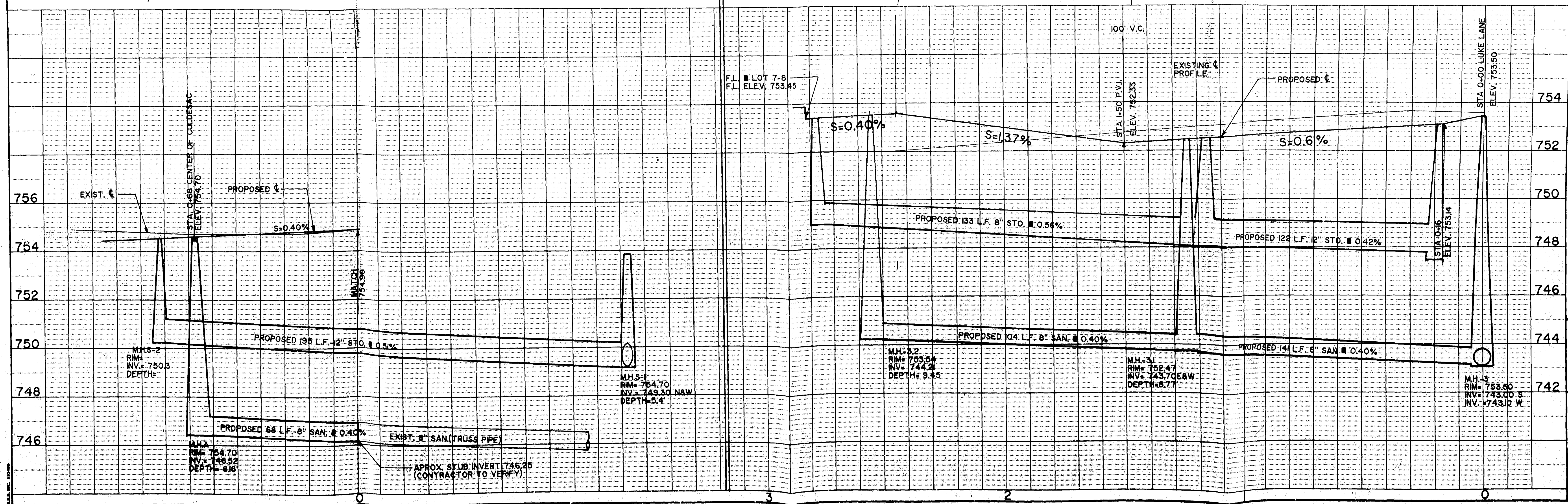
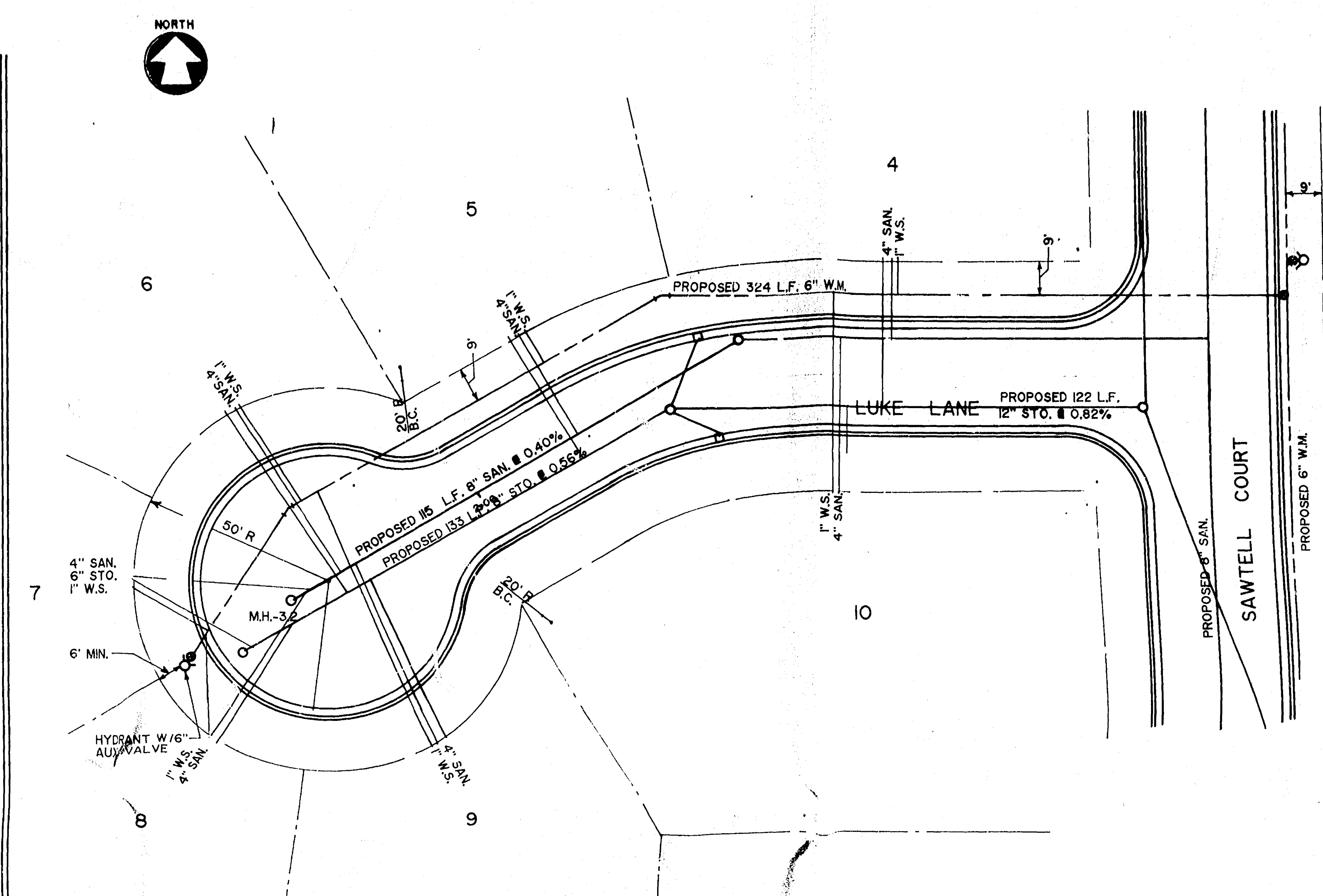
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MCM McMAHON ASSOCIATES, INC. ENGINEERS • ARCHITECTS PLANNERS • SURVEYORS 1377 EAST WISCONSIN AVENUE, SUITE 100 MILWAUKEE, WISCONSIN 53214 PHONE: 414/235-9351 FAX: 414/235-9354		NO. DATE REVISION
DESIGNED DRAWN CHECKED	WESTFIELD STREET	
SCALE DATE PROJECT NO.	SHEET NO.	
FILE NO.		

Subdiv. City of Oakbrook Westfield Heights

[illegible]

McMAHON
ASSOCIATES, INC.
ENGINEERS • ARCHITECTS
PLANNERS • SURVEYORS
1377 MIDWAY ROAD, MENASHA, WI 54955
PHONE: 414/739-0351 FAX: 414/739-5033

MCM

DESIGNED	DRAWN	CHECKED
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LAURIE AVE. / LUKE LANE

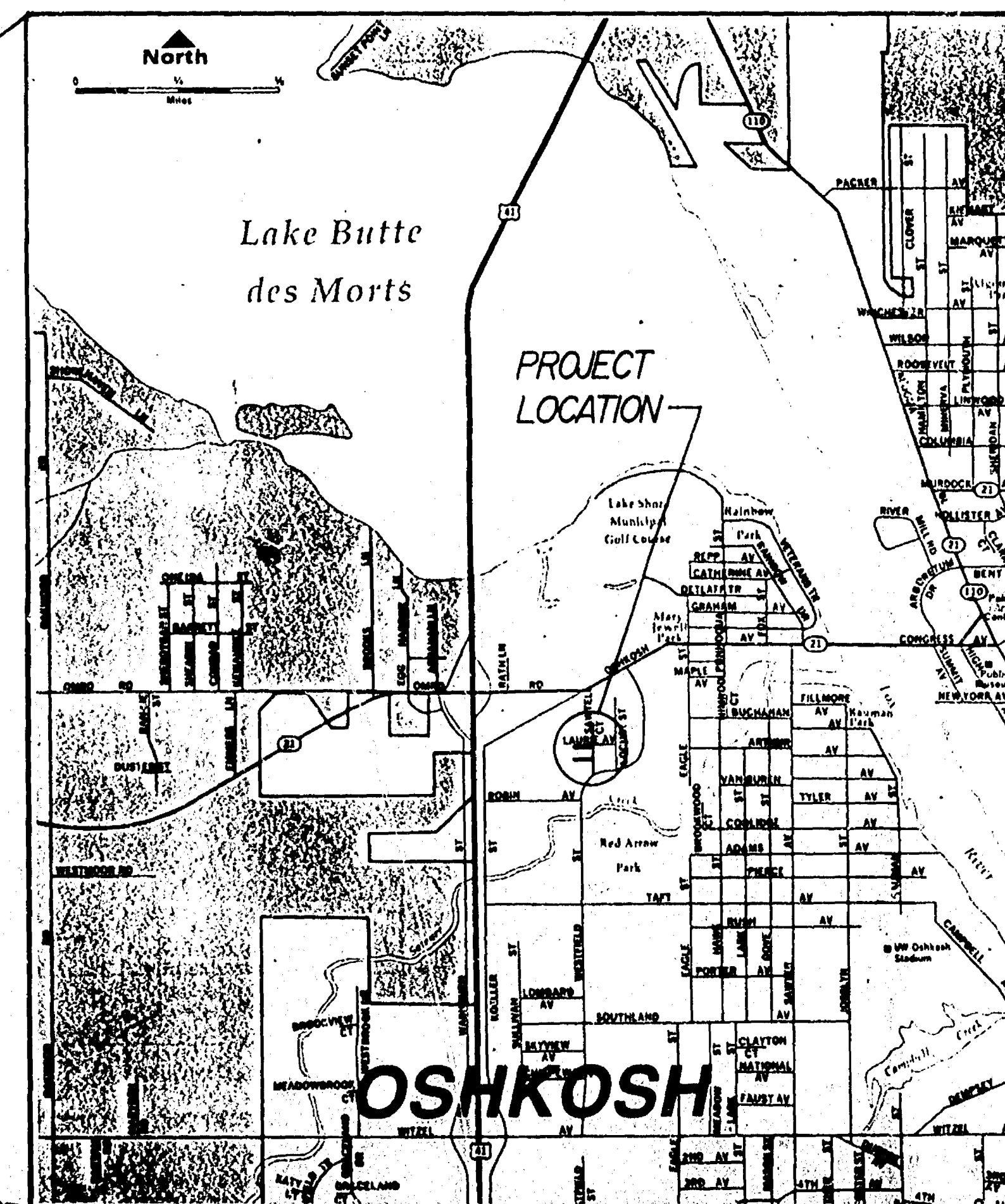
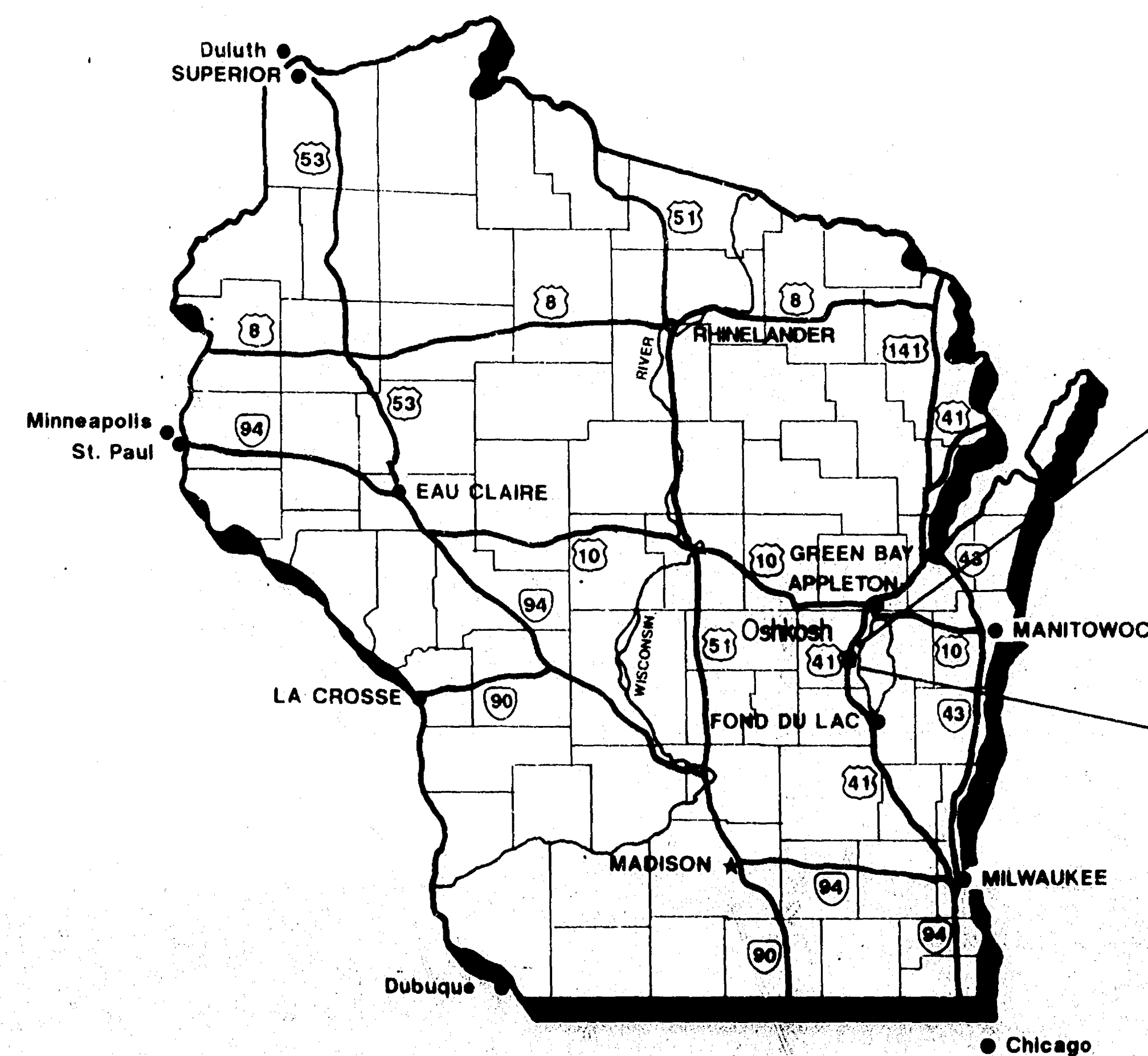
SCALE	DATE	PROJECT NO.
SHEET NO.		

FILE NO.

Subdiv. City of Oakbrook Westfield Heights

SAWTELL COURT, LUKE LANE, LAURIE AVENUE SEWER, WATER AND STREET CONSTRUCTION

FOR
SECURITY COMPANIES
OSHKOSH, WISCONSIN



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