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CHART 1 - ESTIMATED BEARING STRENGTH (UNDISTURBED SOIL)	
TYPE OF SOIL	ALLOWABLE SOIL BEARING CAPACITY
MUCK, PETE, ETC.	0 LB. / FT. SQ.
SOFT CLAY	500 LB. / FT. SQ.
FINE SAND	1,000 LB. / FT. SQ.
DECOMPOSED GRANITE (D.G.)	1,500 LB. / FT. SQ.
SANDY GRAVEL	2,000 LB. / FT. SQ.
CEMENTED SANDY GRAVEL	4,000 LB. / FT. SQ.
HARD SHALE	5,000 LB. / FT. SQ.
GRANITE	10,000 LB. / FT. SQ.

NOTE:

1. IN MUCK, PEAT OR OTHER INCOMPETENT SOILS, RESISTANCE SHALL BE ACHIEVED BY REMOVAL AND REPLACEMENT WITH BALLAST OF SUFFICIENT STABILITY TO RESIST THE INTENDED THRUSTS. DESIGN OF THRUST RESTRAINT SYSTEMS IN SUCH CASES SHALL BE PREPARED BY A QUALIFIED GEOTECHNICAL ENGINEER AND SHALL BE APPROVED BY THE AGENCY ENGINEER.
2. FIRE HYDRANTS THAT DEAD END PIPE RUNS, WILL NEED THRUST BLOCKS. THRUST BLOCKS ARE TO BE DESIGNED BY A NYSPE AND SUBMITTED TO SUEZ UNDER SHOP DRAWING REVIEW PROCESS



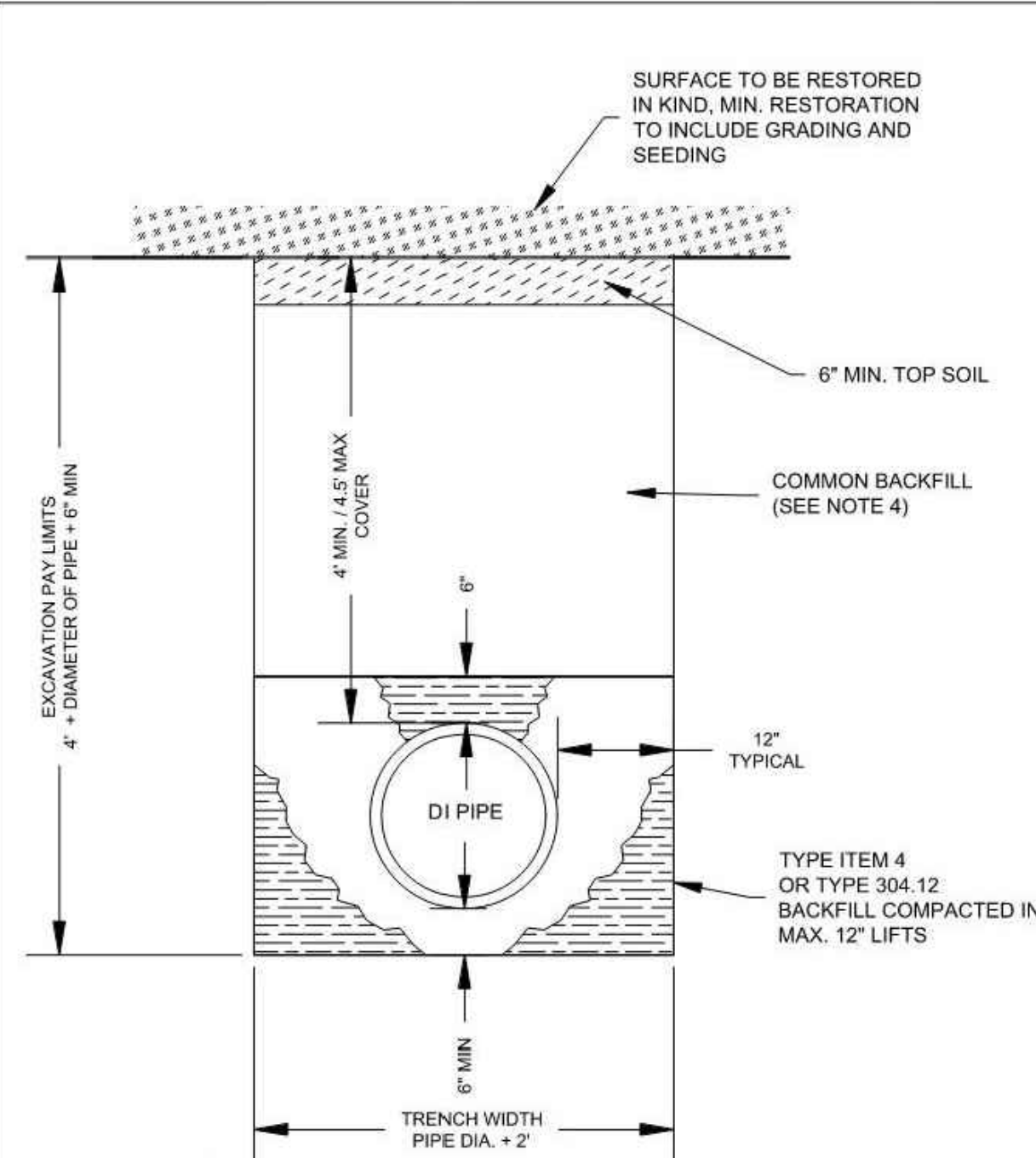
SUEZ WATER NEW YORK DIVISION
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(845) 620-6215

SPECIFICATION DETAILS

INSTALLATION OF WATER SYSTEMS APPURTENANCES

TYPICAL THRUST BLOCKING DESIGN CRITERIA

DRAFTED BY: AR
APPROVED BY: SWNY DIV. NB
SCALE: NTS
FIGURE 3.10
DATE: 1/01/2021



NOTE:

1. BACKFILL SHALL BE PLACED IN MINIMUM 12" LIFTS AND COMPACTED USING MECHANICAL MEANS OF COMPACTION OR AS APPROVED BY SUEZ WATER.
2. WOOD BLOCKING SHALL NOT BE USED BENEATH THE PIPE AS A MEANS OF SETTING GRADE.
3. ROCK AND SOIL EXCAVATION PAY LIMITS SHALL BE BASED ON A 4 FEET OF DEPTH, PLUS THE DIAMETER OF PIPE, PLUS 6 INCHES OF BEDDING. THE TRENCH WIDTH SHALL BE BASED ON THE PIPE DIAMETER PLUS 24 INCHES. COSTS ASSOCIATED WITH OVER EXCAVATION SHALL BE AT THE CONTRACTORS EXPENSE.
4. COMMON BACKFILL SHALL CONSIST OF COMPACTABLE SOILS FREE OF COBBLES GREATER THAN 4 INCHES, AND JAGGED RIPPED ROCK. THE COST FOR BACKFILLING SHALL BE INCLUDED IN THE CONTRACTORS COST OF EXCAVATION.



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SPECIFICATION DETAILS

INSTALLATION OF WATER SYSTEMS APPURTENANCES

WATER MAIN TRENCH DETAIL UNPAVED AREAS COUNTY OF ROCKLAND, ORANGE, & TIOGA

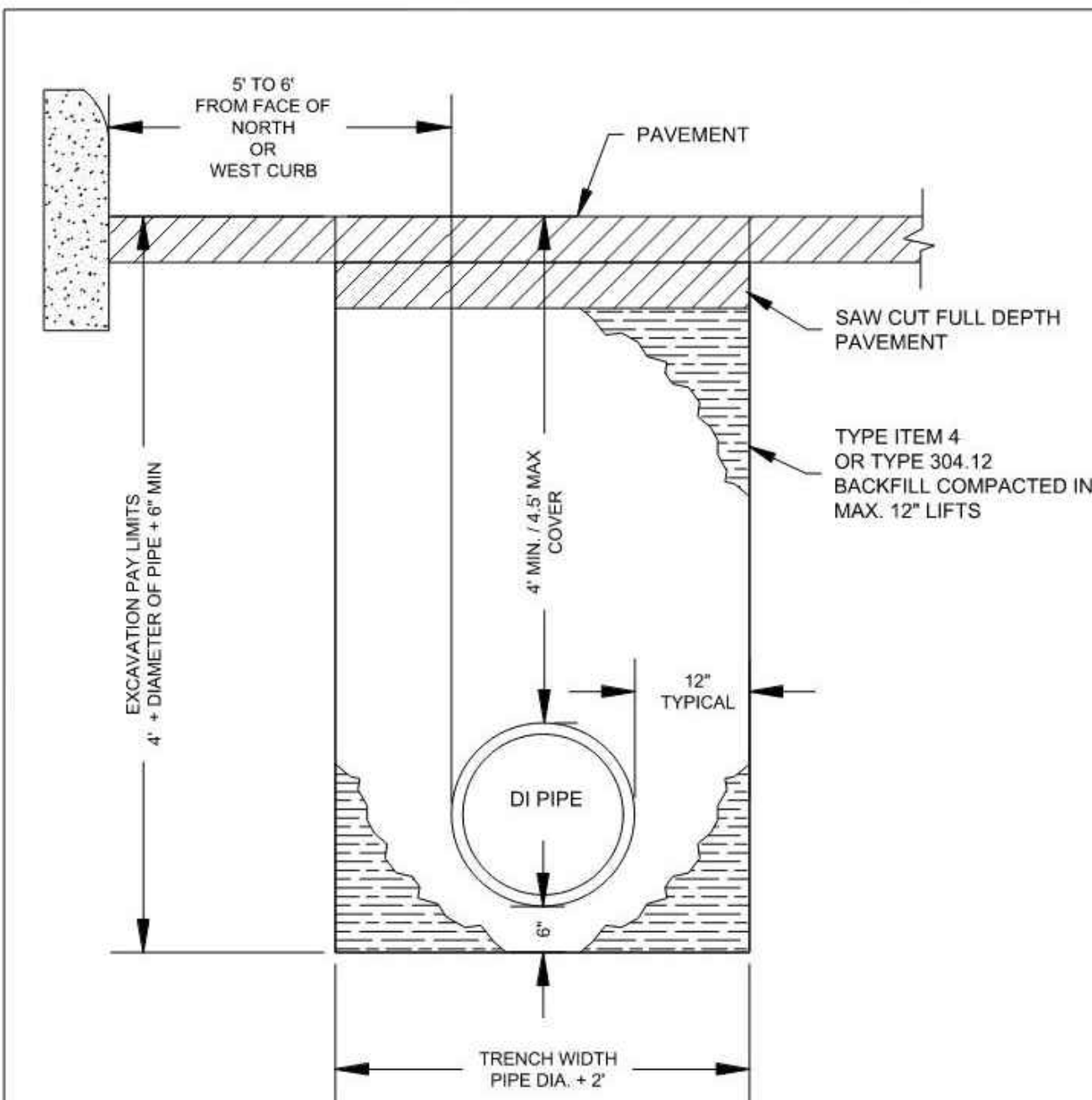
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FIGURE 3.11
DATE: 1/01/2021

TYPICAL THRUST BLOCKING DESIGN CRITERIA

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WATERMAIN TRENCH DETAIL UNPAVED AREAS

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NOTE:

1. BACKFILL SHALL BE PLACED IN MINIMUM 12" LIFTS AND COMPACTED USING MECHANICAL MEANS OF COMPACTION OR AS APPROVED BY SUEZ WATER.
2. WOOD BLOCKING SHALL NOT BE USED BENEATH THE PIPE AS A MEANS OF SETTING GRADE.
3. ROCK AND SOIL EXCAVATION PAY LIMITS SHALL BE BASED ON A 4 FEET OF DEPTH, PLUS THE DIAMETER OF PIPE PLUS 6 INCHES OF BEDDING. THE TRENCH WIDTH SHALL BE BASED ON THE PIPE DIAMETER PLUS 24 INCHES. COSTS ASSOCIATED WITH OVER EXCAVATION SHALL BE AT THE CONTRACTOR'S EXPENSE.
4. PAVEMENT SHALL BE RESTORED IN ACCORDANCE WITH LOCAL, STATE, COUNTY PERMIT REQUIREMENTS, OR PRIVATE PROPERTY OWNER.



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SPECIFICATION DETAILS

INSTALLATION OF WATER SYSTEMS APPURTENANCES

WATER MAIN TRENCH DETAIL ROADWAY (PUBLIC OR PRIVATE) COUNTY OF ROCKLAND, ORANGE, & TIOGA

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FIGURE 3.12
DATE: 1/01/2021



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SPECIFICATION DETAILS

INSTALLATION OF WATER SYSTEMS APPURTENANCES

TYPICAL WATER & SEWER CROSSING AND SEPARATION

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FIGURE 3.14
DATE: 1/01/2021

ANY ALTERATION OF PLANS, SPECIFICATIONS, PLATS AND REPORTS BEARING THE SEAL OF A LICENSED PROFESSIONAL ENGINEER OR LICENSED LAND SURVEYOR IS A VIOLATION OF SECTION 7209 OF THE NEW YORK STATE EDUCATION LAW, EXCEPT AS PROVIDED FOR BY SECTION 7209, SUBSECTION 2.

WATERMAIN TRENCH DETAILS ROADWAY (PUBLIC OR PRIVATE)

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TYPICAL WATER & SEWER CROSSING AND SEPARATION

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REV	DESCRIPTION	DATE
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2	REVISED PER RFI #42D	07.05.22
3	REVISED/ISSUED FOR CONSTRUCTION	10.19.22

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