

# JOHN STREET WATERMAIN & STORM SEWER REPAIR

FOR

## CITY OF LAKE CITY

LAKE TOWNSHIP, MISSAUKEE COUNTY, MICHIGAN



VICINITY MAP  
SCALE

### OWNER

CITY OF LAKE CITY  
115 W. JOHN ST.  
PO BOX 1  
LAKE CITY, MI 49651  
CONTACT: RAY VASSER  
231.839.4469

### ENGINEER

GOSLING CZUBAK ENGINEERING SCIENCES, INC.  
1280 BUSINESS PARK DRIVE  
TRAVERSE CITY, MICHIGAN, 49686-8607  
231.946.9191 - 800.968.1062  
www.goslingczubak.com info@goslingczubak.com

### UTILITY CONTACTS

NAME OF OWNER	TYPE OF UTILITY
CONSUMER'S ENERGY 530 W WILLOW ST. LANSING, MI 48906 999.999.9999 CONTACT: KURT GOULDING	ELECTRIC/GAS
CHARTER COMMUNICATIONS 1394 TRADE CENTRE DR TRAVERSE CITY, MI 49696 231.941.3819 CONTACT: DAN BIELACZYC	CABLE TV
CITY OF LAKE CITY 115 W. JOHN ST. LAKE CITY, MI 49651 231.839.4469 CONTACT: RAY VASSER	SEWER & WATER



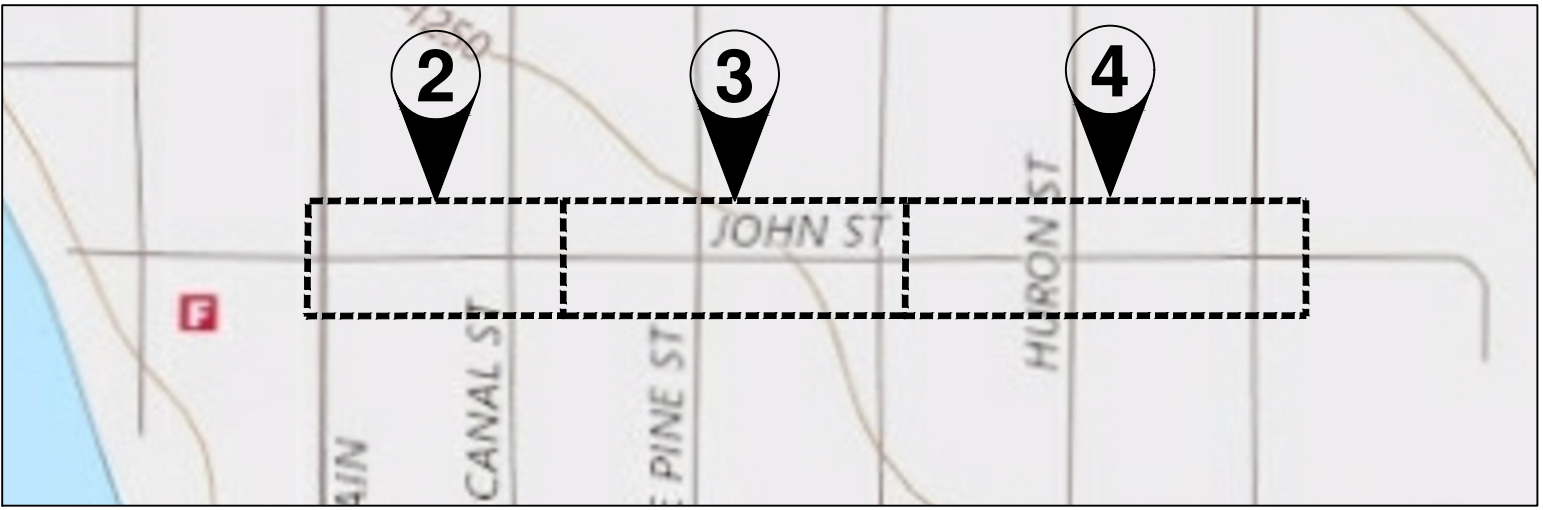
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LOCATION MAP  
NOT TO SCALE

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LOCATION MAP  
NOT TO SCALE

RELEASED FOR BIDDING - 07/16/2018

JOHN ST. WATERMAIN REPLACEMENT

Issue Date

Project No.  
2018740001.02

Sheet

1

CIVIL ENGINEERING  
SURVEYING  
ENVIRONMENTAL SERVICES  
GEO-TECHNICAL  
CONSTRUCTION SERVICES  
LANDSCAPE ARCHITECTURE  
**Gosling Czubak**  
engineering sciences, inc.  
1280 Business Park Drive, Traverse City, Michigan  
49686-8607  
www.goslingczubak.com info@goslingczubak.com



No.	Date	Revision	By
2	07/16/2018	RELEASED FOR BIDDING	DPG
1	07/02/2018	ISSUED FOR PERMITS	AMB

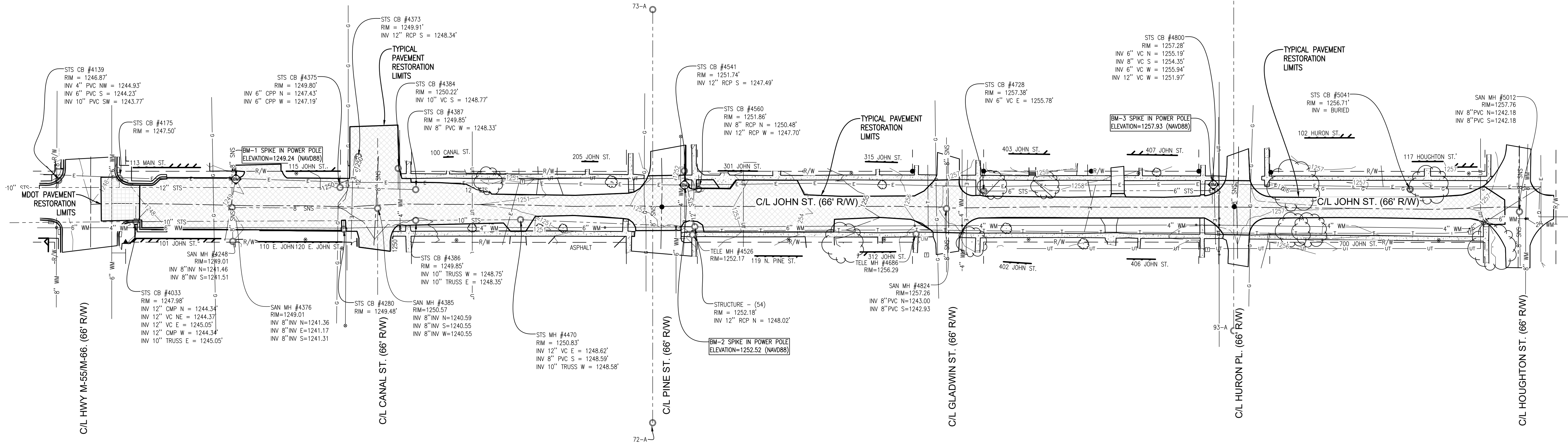
**EXISTING UTILITIES & PAVEMENT REMOVAL PLAN**  
**JOHN ST WATERMAIN REPLACEMENT**  
**CITY OF LAKE CITY**

Date Issued: 06/07/2017  
Date Surveyed: WCB  
Designed By: WCB  
Drawn By: AMB  
Checked By: DPG  
Scale: AS NOTED

Location: SECTION 6  
T 22 N, R 7 W  
LAKE TOWNSHIP  
MISSAUKEE COUNTY  
MICHIGAN

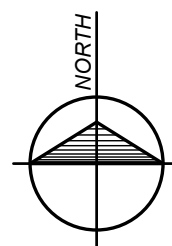
Project Number: 2018740001.01

Sheet: 2



**EXISTING UTILITIES & PAVEMENT REMOVAL PLAN**

SCALE: 1" = 50'



**LEGEND**

- EXISTING GATE VALVE
- EXISTING DECIDUOUS TREE
- EXISTING CABLE TV - OVERHEAD
- EXISTING CABLE TV - UNDERGROUND
- EXISTING ELECTRIC - OVERHEAD
- EXISTING ELECTRIC - UNDERGROUND
- EXISTING GAS
- EXISTING STORM SEWER
- EXISTING SANITARY SEWER
- EXISTING TELEPHONE - OVERHEAD
- EXISTING TELEPHONE - UNDERGROUND
- EXISTING WATERMAIN
- EXISTING CURB STOP BOX
- BENCHMARK FOUND
- BENCHMARK SET
- PK NAIL SET
- SECTION CORNER
- EXISTING CABLE TV PEDESTAL
- EXISTING UTILITY POLE
- EXISTING ELECTRIC HAND HOLE
- EXISTING MANHOLE (AS NOTED)
- EXISTING ELECTRIC METER
- EXISTING CATCH BASIN - ROUND
- EXISTING CATCH BASIN - SQUARE
- EXISTING SIGN
- EXISTING UNDERGROUND MARKER
- EXISTING FIRE HYDRANT

**NOTES:**

- PAVEMENT ON JOHN STREET WITHIN THE RESTORATION LIMITS SHOWN IS TO BE CRUSHED & SHAPED. PROVIDE NEW PAVEMENT & MATCH EXISTING GRADES PER DETAIL. RESTRIPE NEW ASPHALT TO MATCH EXISTING.
- ALL WATER SERVICES TO BE 1" UNLESS OTHERWISE NOTED ON THE PLANS.
- ALL WATER SERVICES TO BE CONNECTED AT PROPERTY LINES UNLESS OTHERWISE NOTED.
- REFERENCE DETAIL SHEET FOR CONNECTION OF PROPOSED SERVICE LEADS TO EXISTING SERVICE LEADS.
- MINIMUM DEPTH OF COVER ON NEW WATER MAIN TO BE 5 FT. 6 IN. (MINIMUM).
- CONTRACTOR TO EXCAVATE AND VERIFY LOCATION OF EXISTING WATER MAINS PRIOR TO CONSTRUCTION. COORDINATE WITH ENGINEER AS TO AREAS NEEDING VERIFICATION.
- PROPOSED WATER MAIN SHALL MAINTAIN A MINIMUM OF 10 FT. HORIZONTAL AND 18" VERTICAL CLEARANCE FROM ALL SEWER LINES.
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- PROVIDE ALL TRAFFIC CONTROL DEVICES NECESSARY TO MEET MMUTCD REQUIREMENTS. PROVIDE TEMPORARY ACCESS TO ALL HOMES AND BUSINESSES DURING CONSTRUCTION.



Know what's below.  
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**CIVIL ENGINEERING  
SURVEYING  
ENVIRONMENTAL SERVICES  
GEOTECHNICAL  
CONSTRUCTION SERVICES  
DRILLING  
LANDSCAPE ARCHITECTURE**

[illegible]

**MAIN ST. TO CANAL ST.  
JOHN ST. WATERMAIN REPLACEMENT  
CITY OF LAKE CITY**

Date Issued: #####  
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Designed By: WCB  
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MICHIGAN

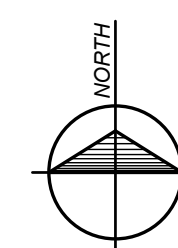
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SCALE: 1" = 20'

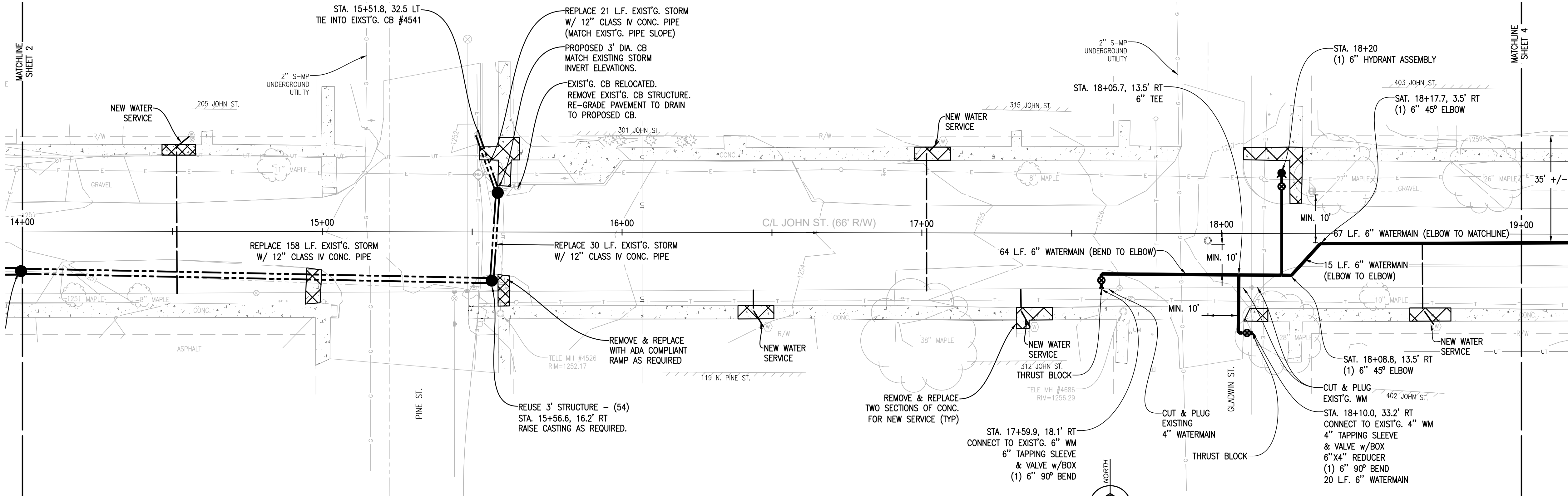


NOTES:

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13. CONTRACTOR TO PULL SOIL EROSION PERMIT PRIOR TO CONSTRUCTION.

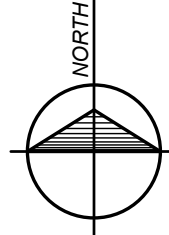


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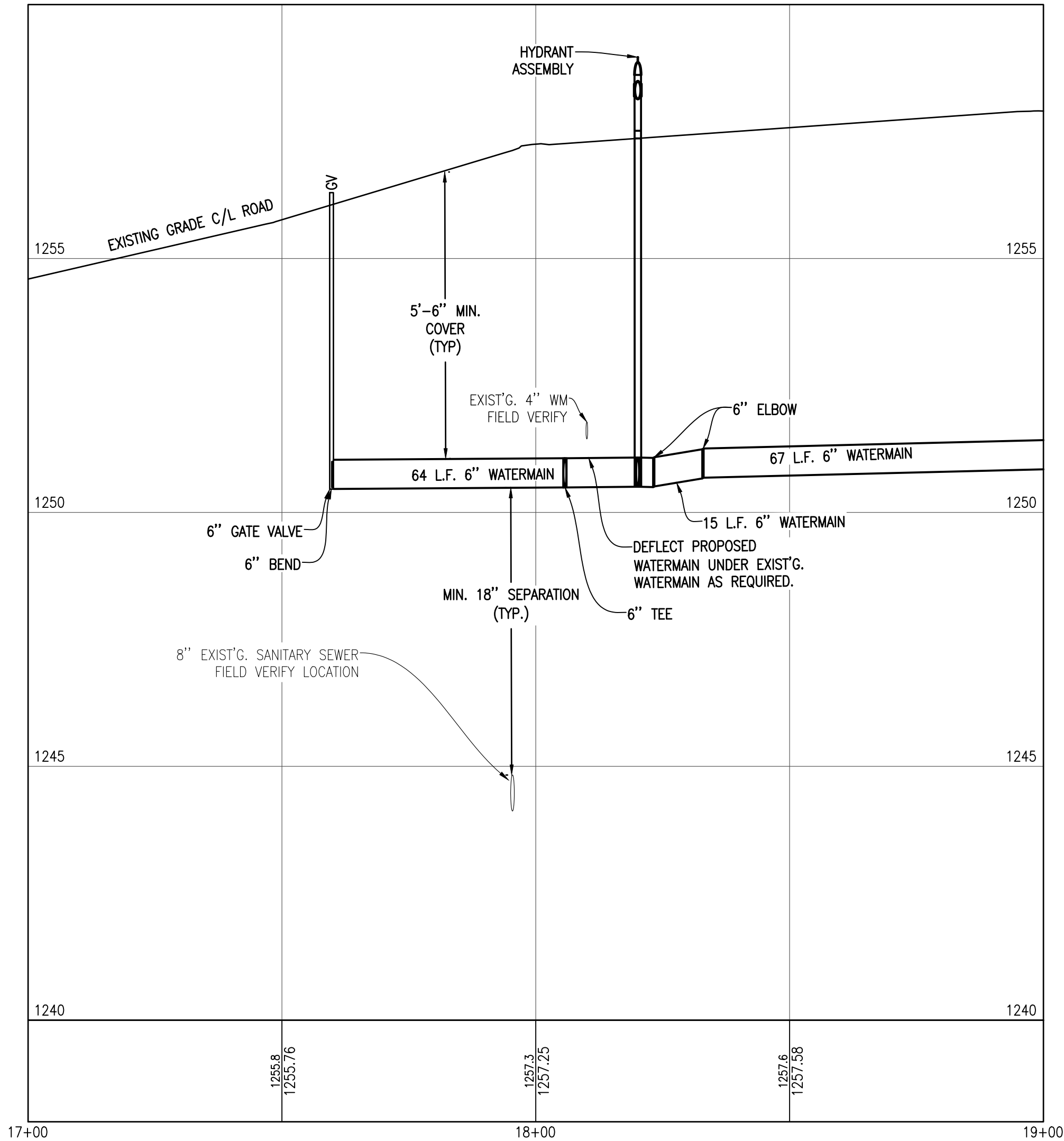
JOHN ST. (66' R/W) WATERMAIN PLAN STA. - 14+00 TO 19+00

SCALE: 1" = 20'



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PROPOSED WATERMAIN PROFILE - STA. 17+00 TO 19+00

SCALE HORIZ.: 1" = 20'  
VERT.: 1" = 2'



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No.	Date	Revision	By
2	07/16/2018	RELEASED FOR BIDDING	DPG
1	07/02/2018	ISSUED FOR PERMITS	AMB

CANAL ST. TO GLADWIN ST.  
JOHN ST. WATERMAIN REPLACEMENT  
CITY OF LAKE CITY

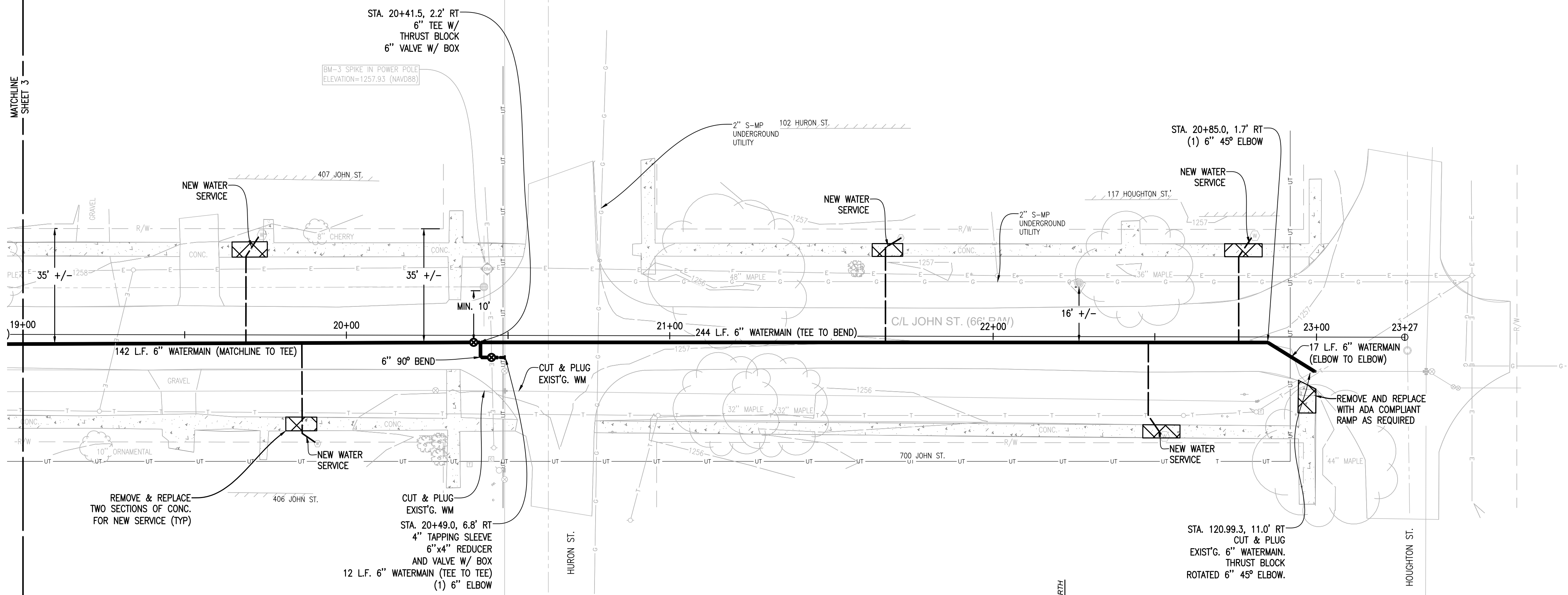
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MISSAUKEE COUNTY  
MICHIGAN

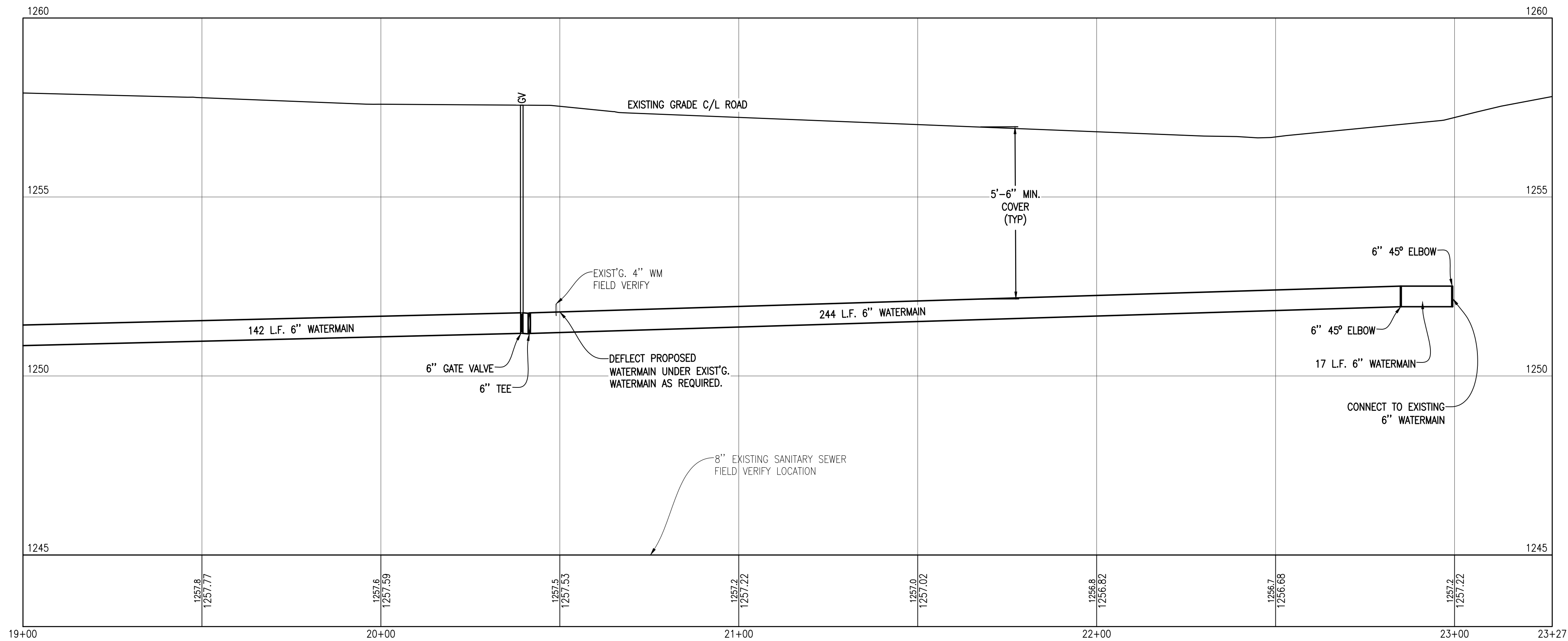
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JOHN ST. (66' R/W) WATERMAIN PLAN - STA. 19+00 TO 24+00

SCALE: 1" = 20'



PROPOSED WATERMAIN PROFILE STA. - 19+00 TO STA. 23+00

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VERT.: 1" = 2'

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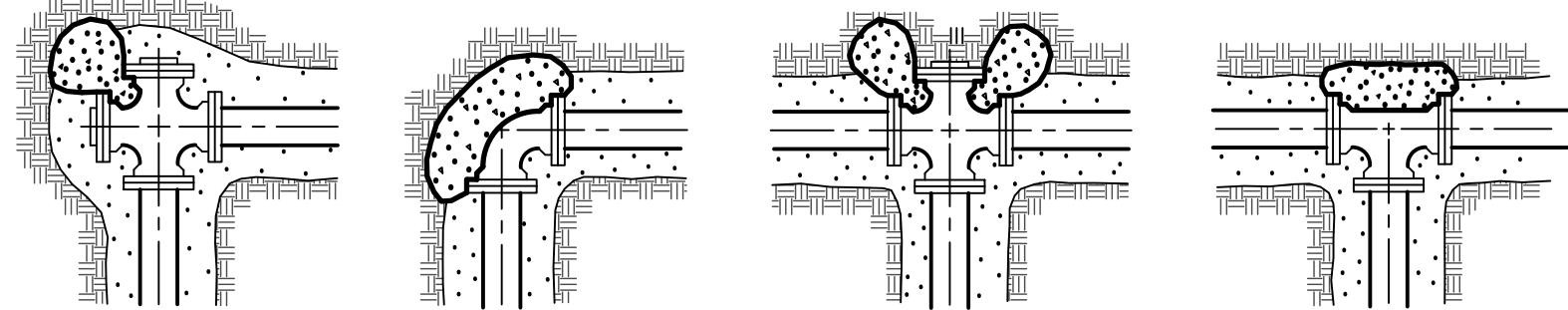
GLADWIN ST. TO HOUGHTON ST.  
JOHN ST WATERMAIN REPLACEMENT  
CITY OF LAKE CITY

Date Issued: 06/07/2018  
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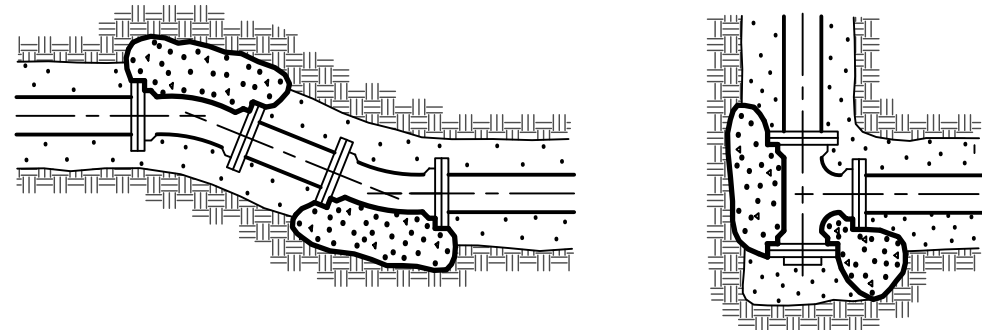
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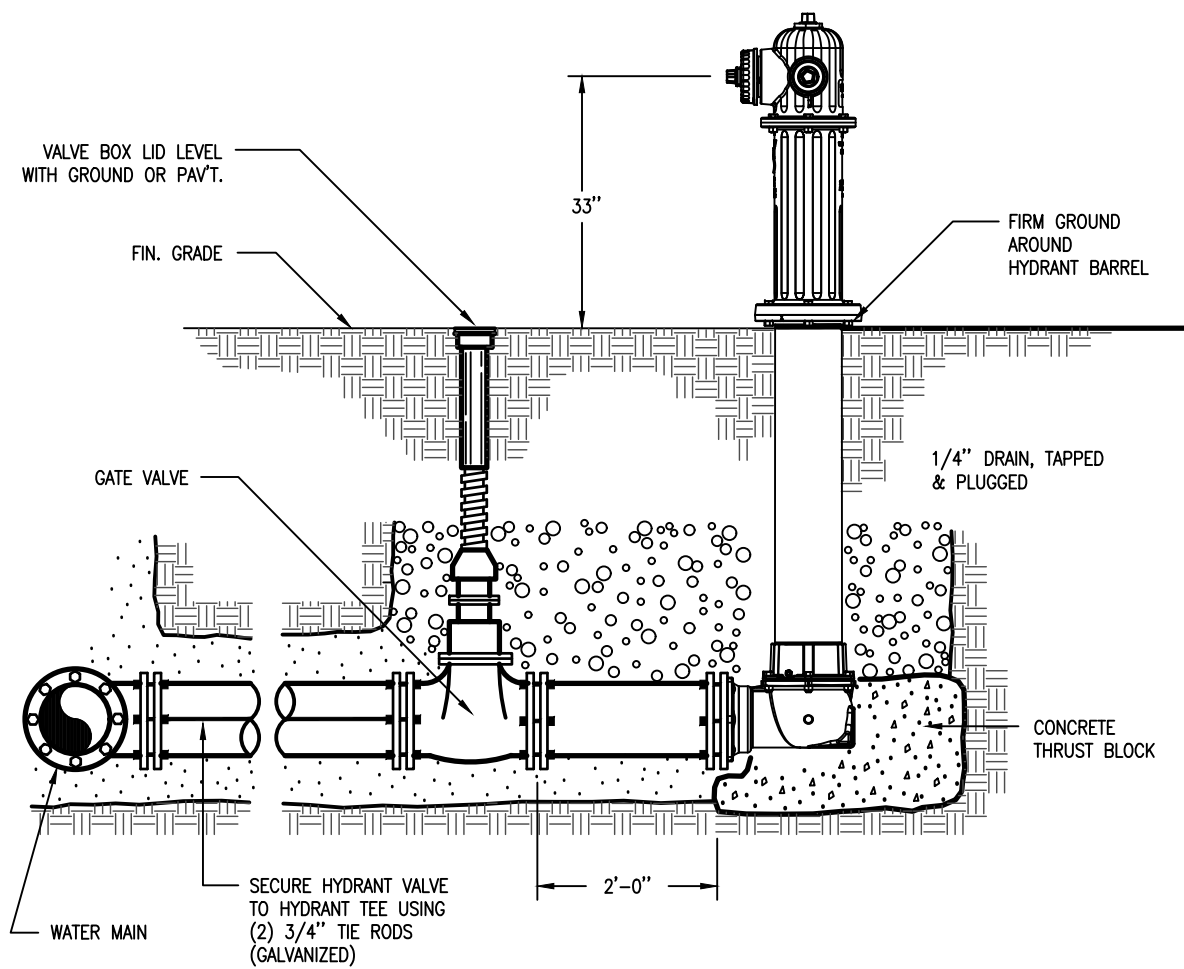


THE MINIMUM BEARING AREA, AGAINST UNDISTURBED EARTH, OF THE VARIOUS THRUST BLOCKS, SHALL BE AS FOLLOWS :  
6" WATER MAIN 2.0 S.F.  
8" WATER MAIN 3.0 S.F.  
10" WATER MAIN 7.0 S.F.  
12" WATER MAIN 8.0 S.F.  
(BASED ON AN ALLOWED BEARING PRESSURE OF 2500 P.S.F.)  
ALL THRUST BLOCKS ARE TO BE 3000 P.S.I. HIGH EARLY STRENGTH CONCRETE POURED AGAINST UNDISTURBED EARTH



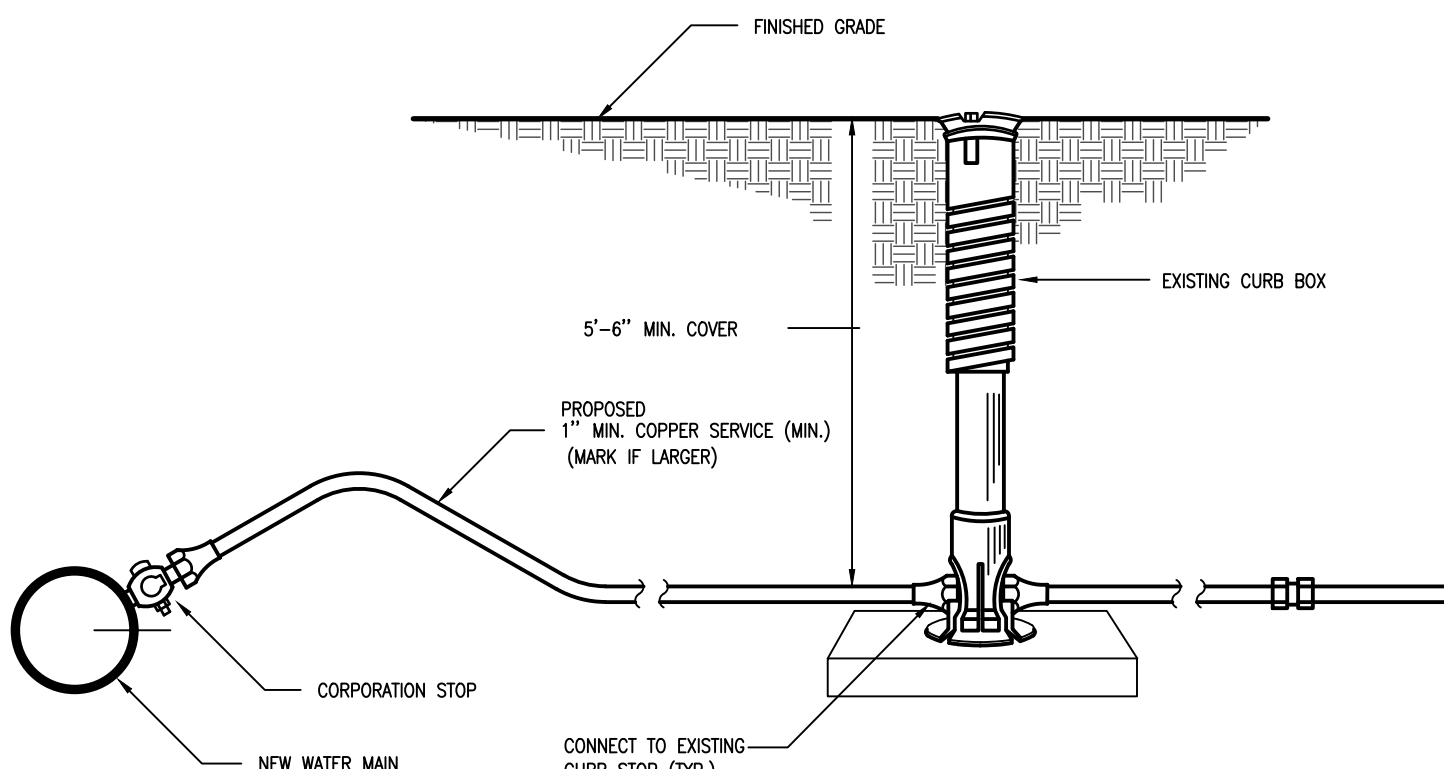
TYPICAL THRUST BLOCK DETAILS

NO SCALE



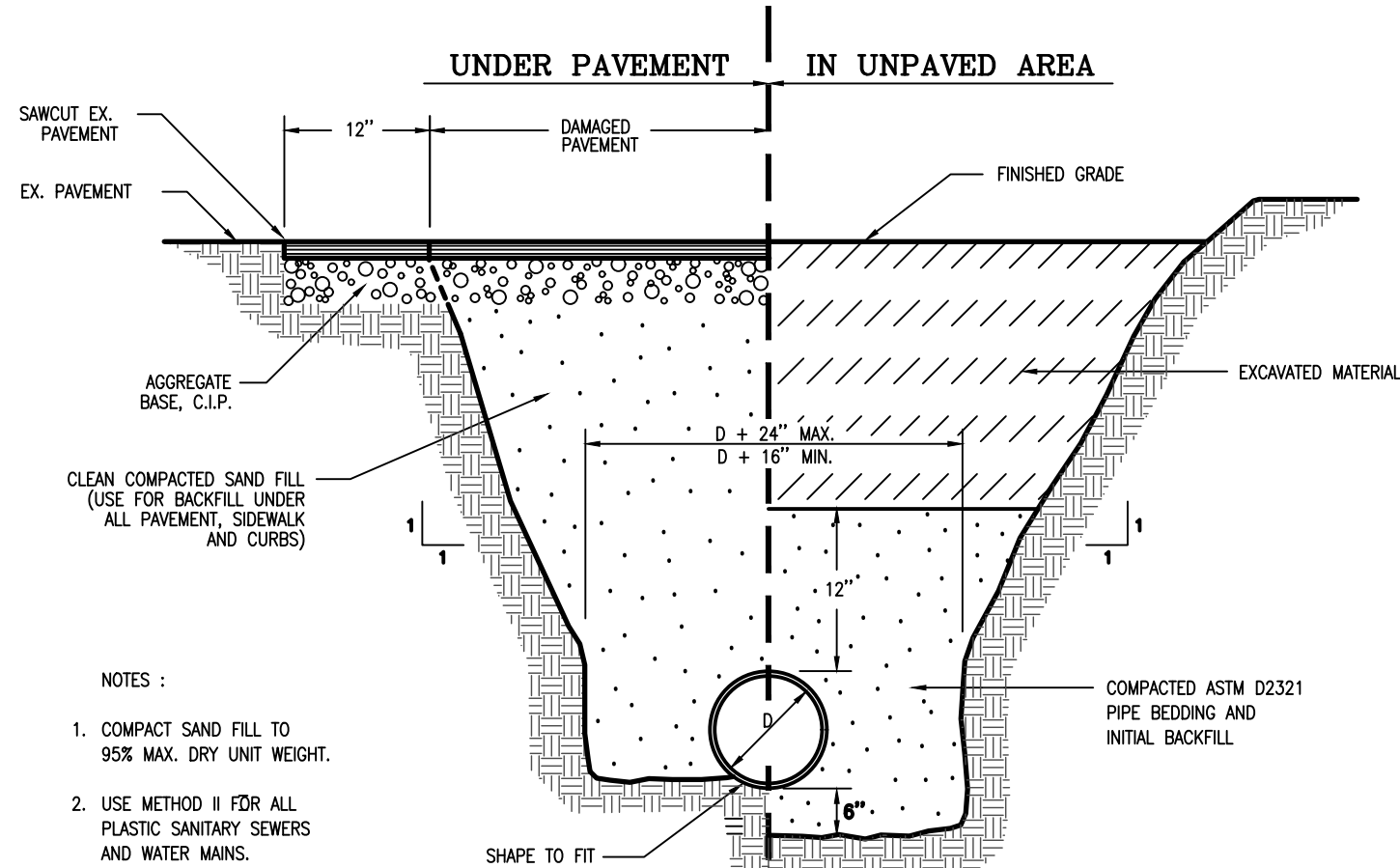
DETAIL-HYDRANT INSTALLATION

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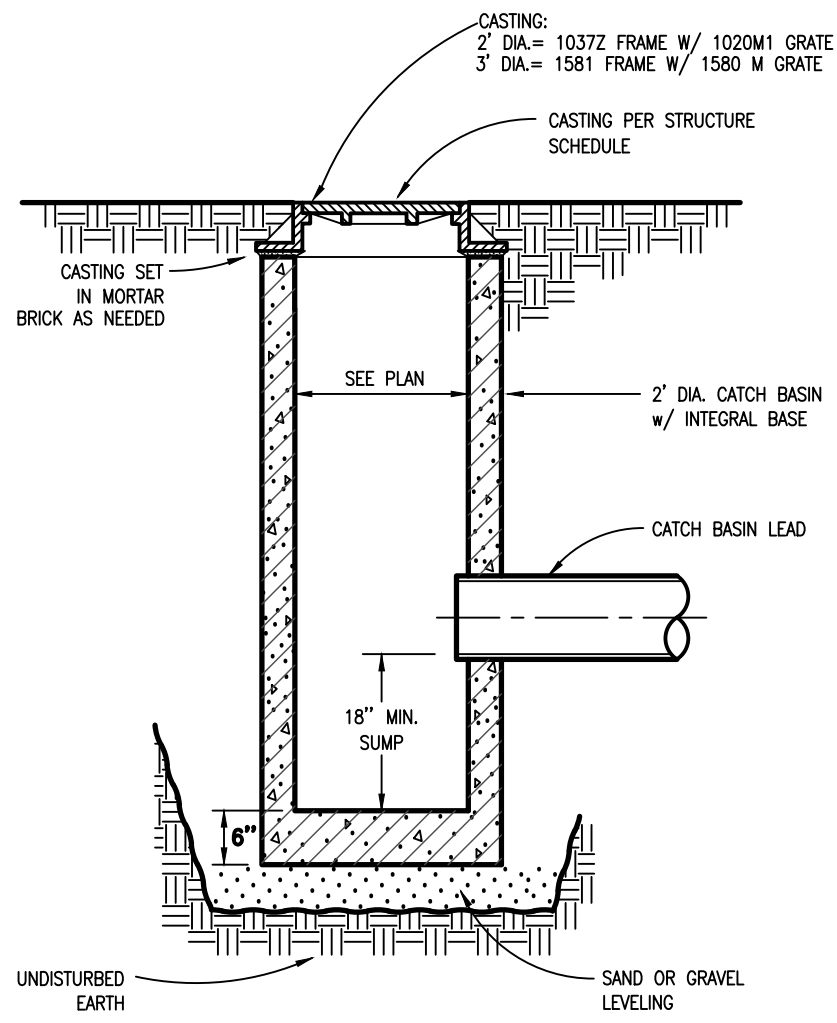
WATER MAIN SERVICE CONNECTIONS

NO SCALE



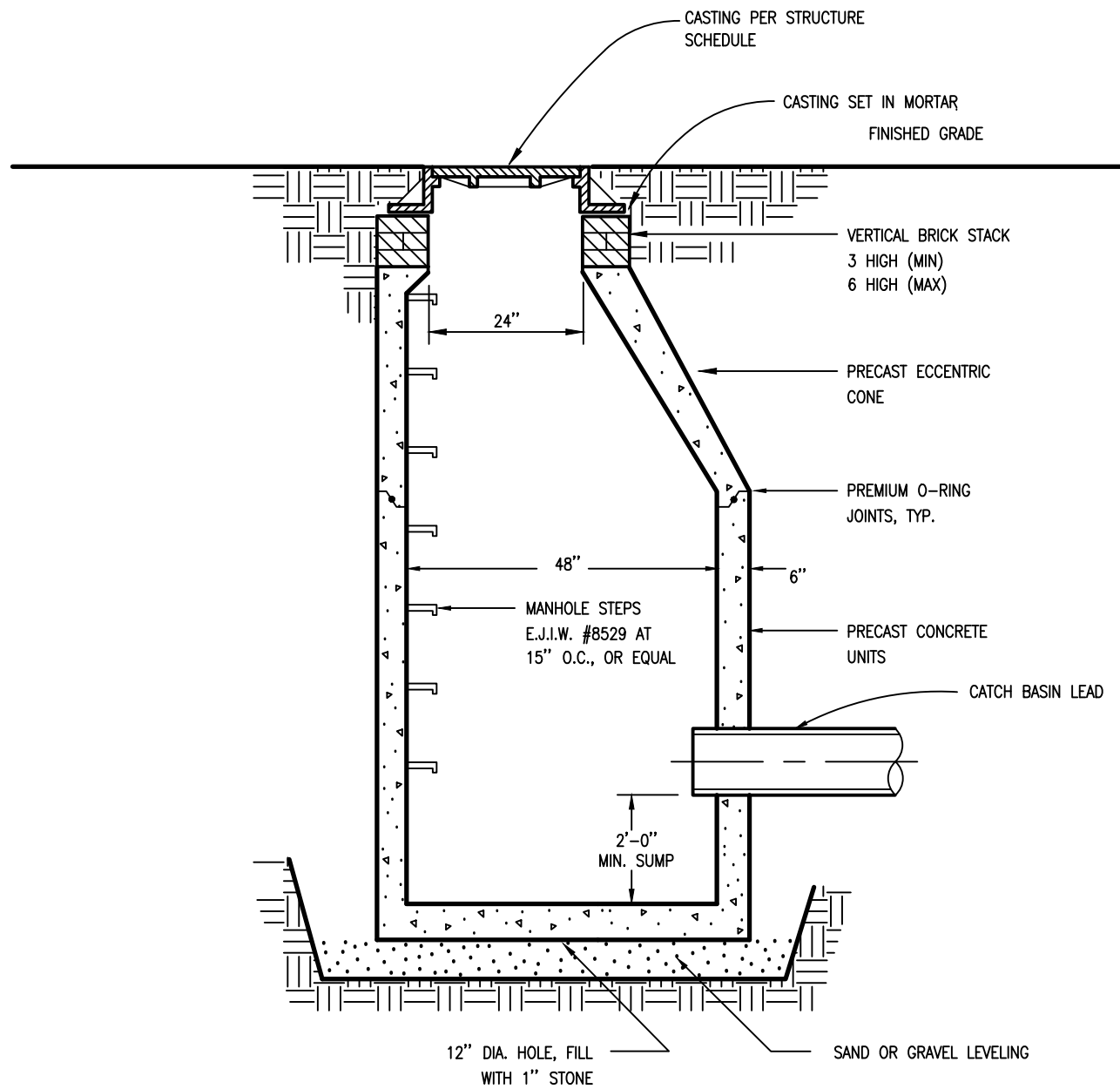
TRENCH DETAIL

NO SCALE



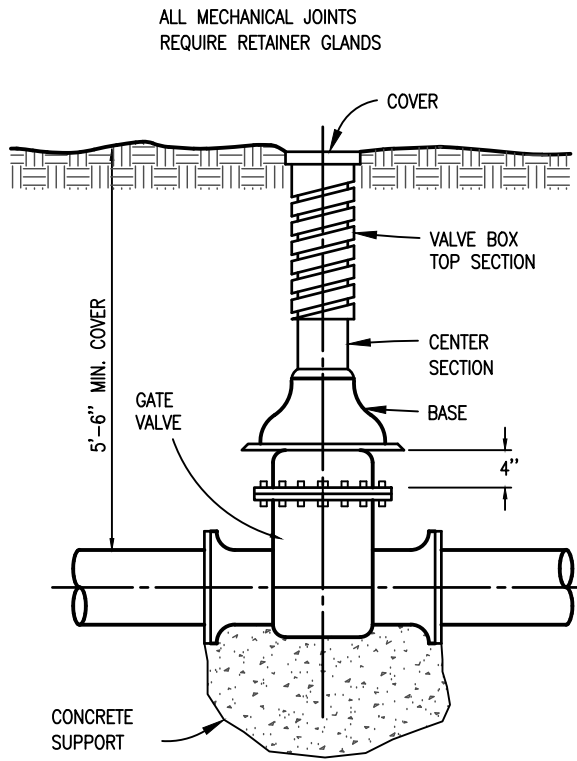
2 & 3 FT. DIAMETER  
CATCH BASIN DETAIL

NO SCALE



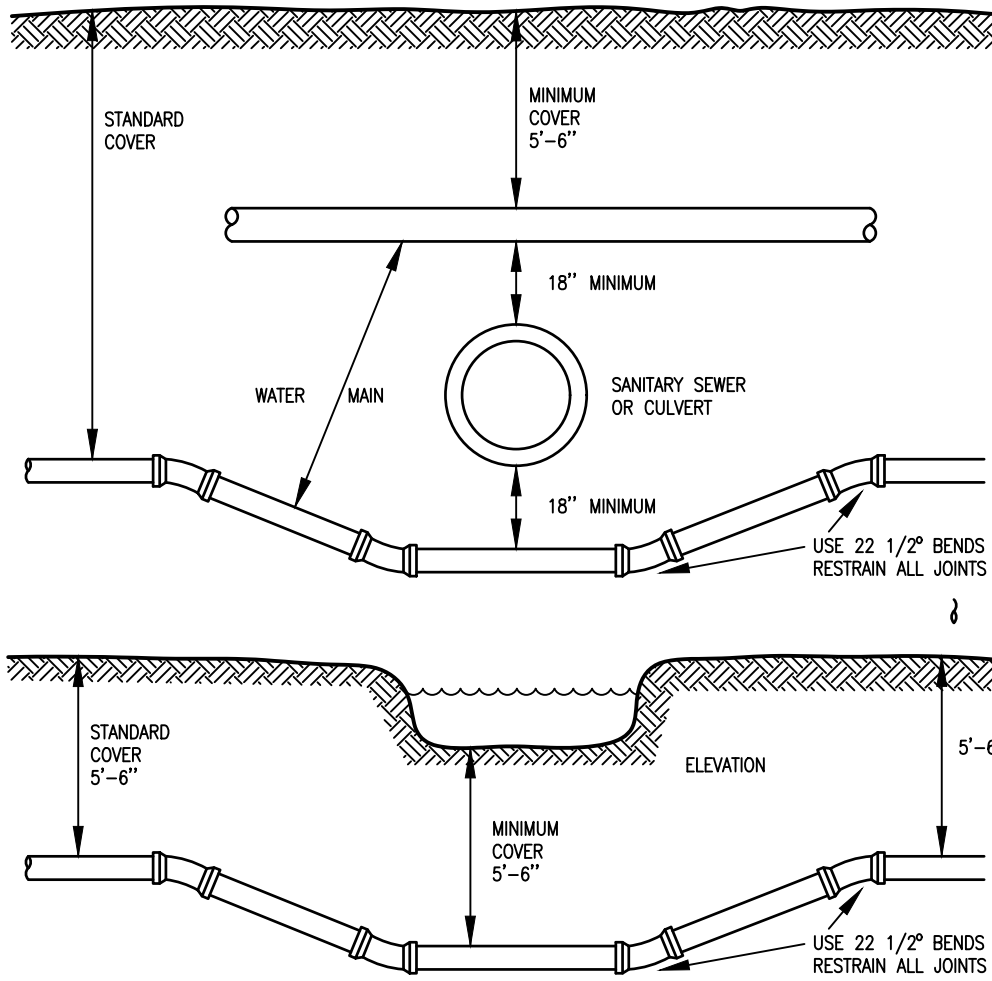
4 FT. DIA CATCH BASIN

NO SCALE



VALVE BOX DETAIL

NO SCALE



WATER MAIN DEPTH OF BURY &  
UTILITY SEPARATION DETAIL

NO SCALE

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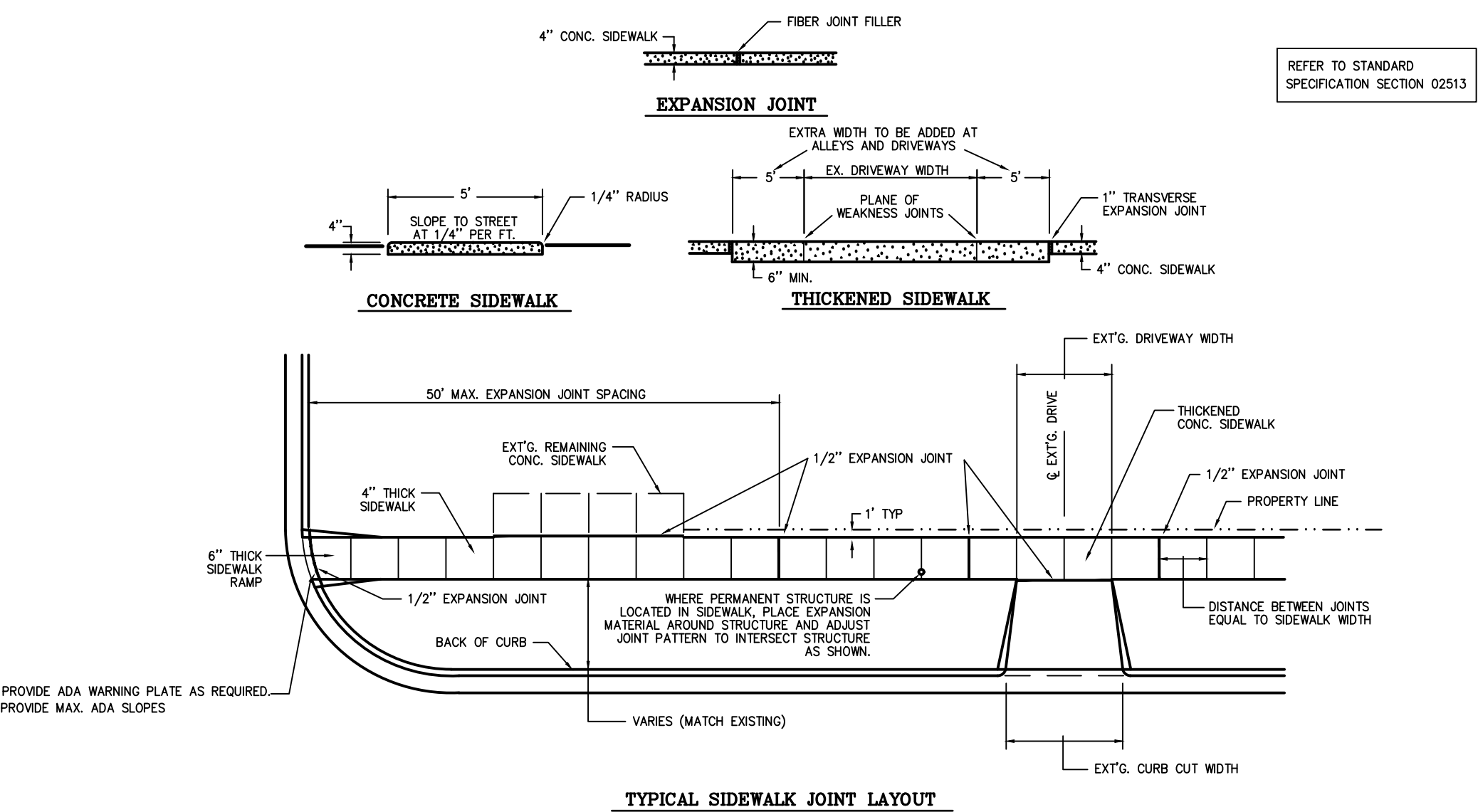
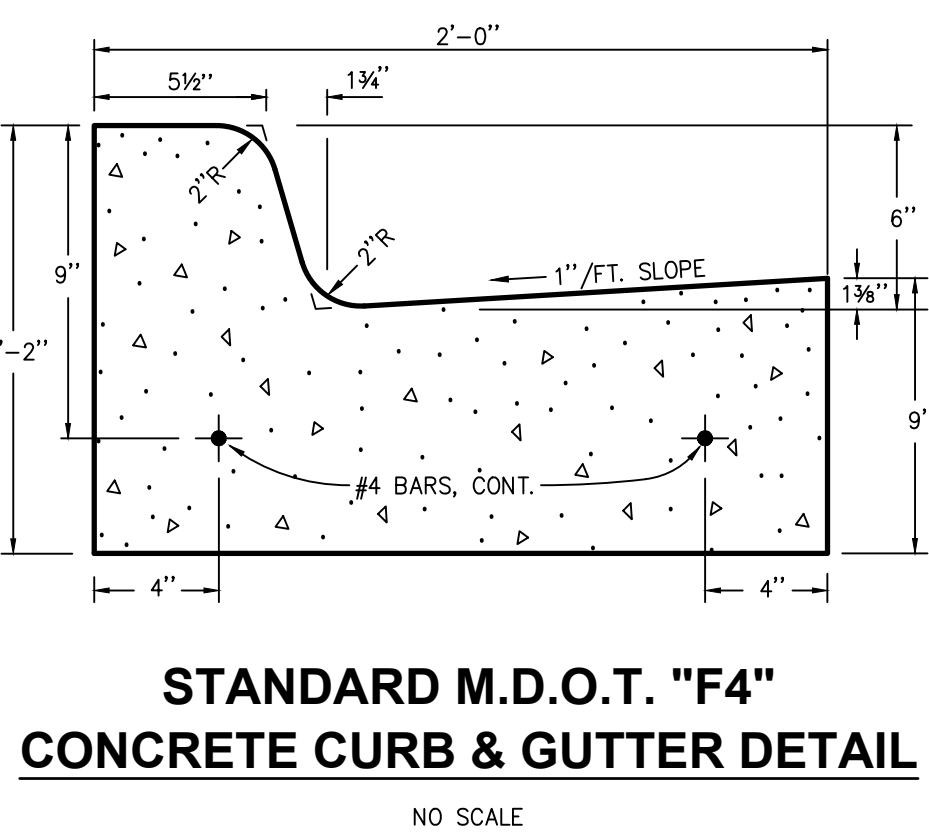
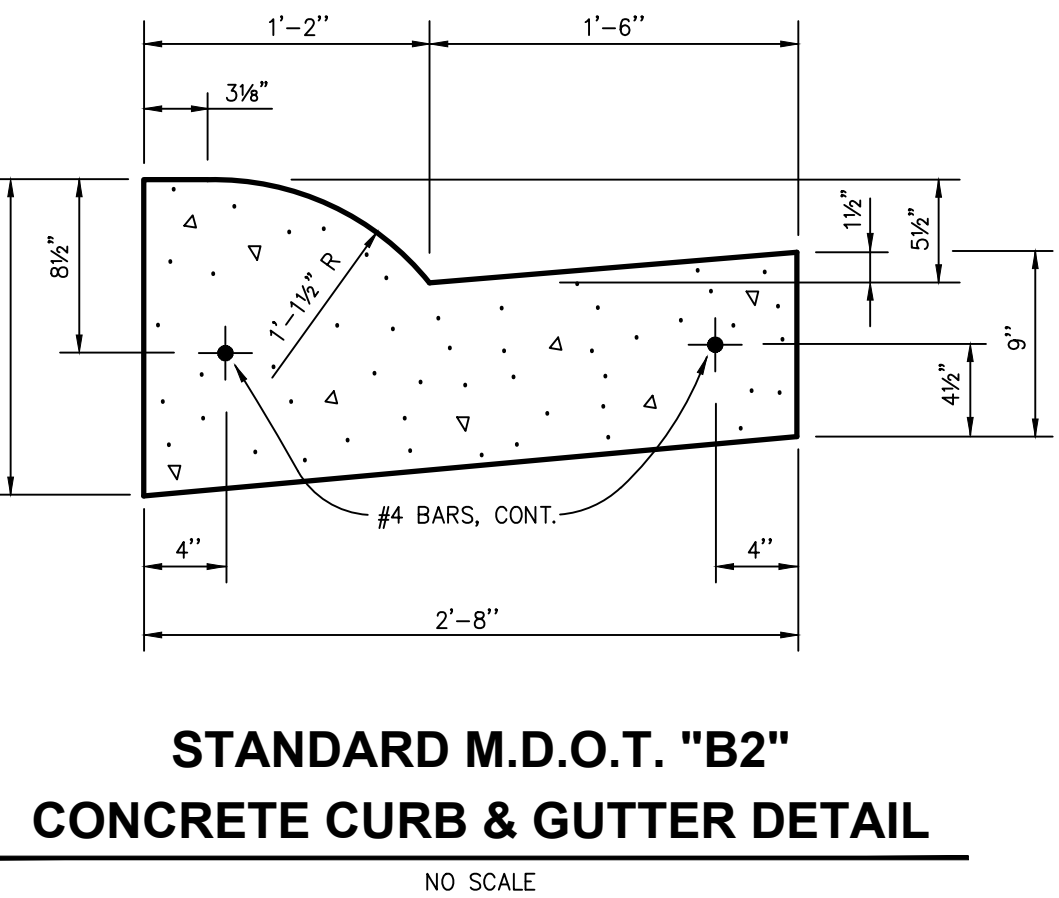
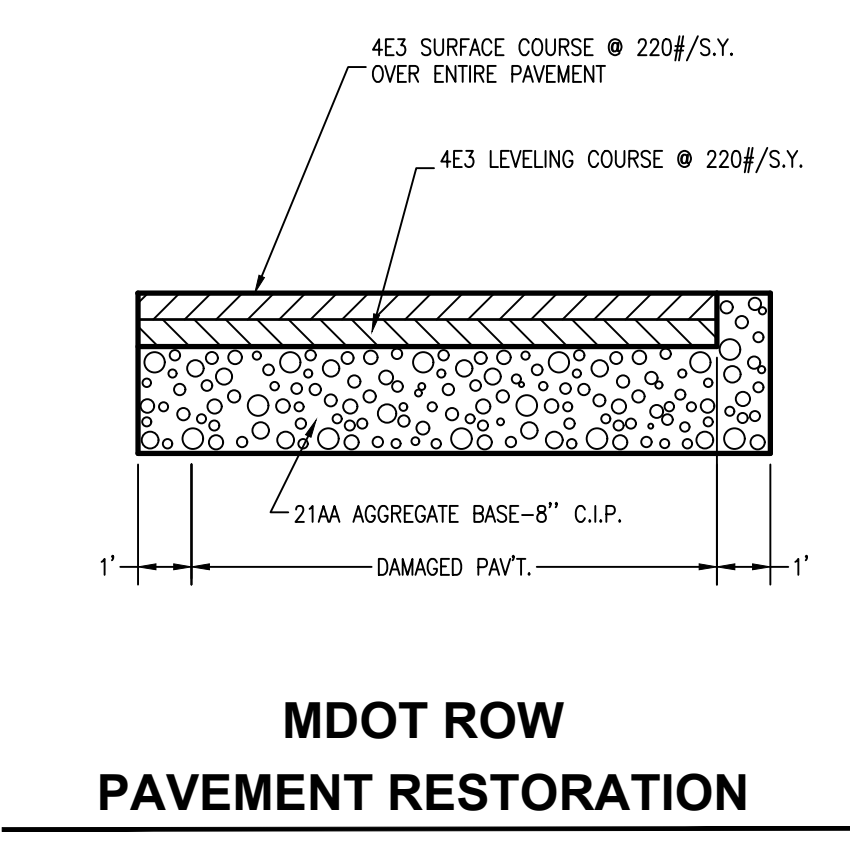
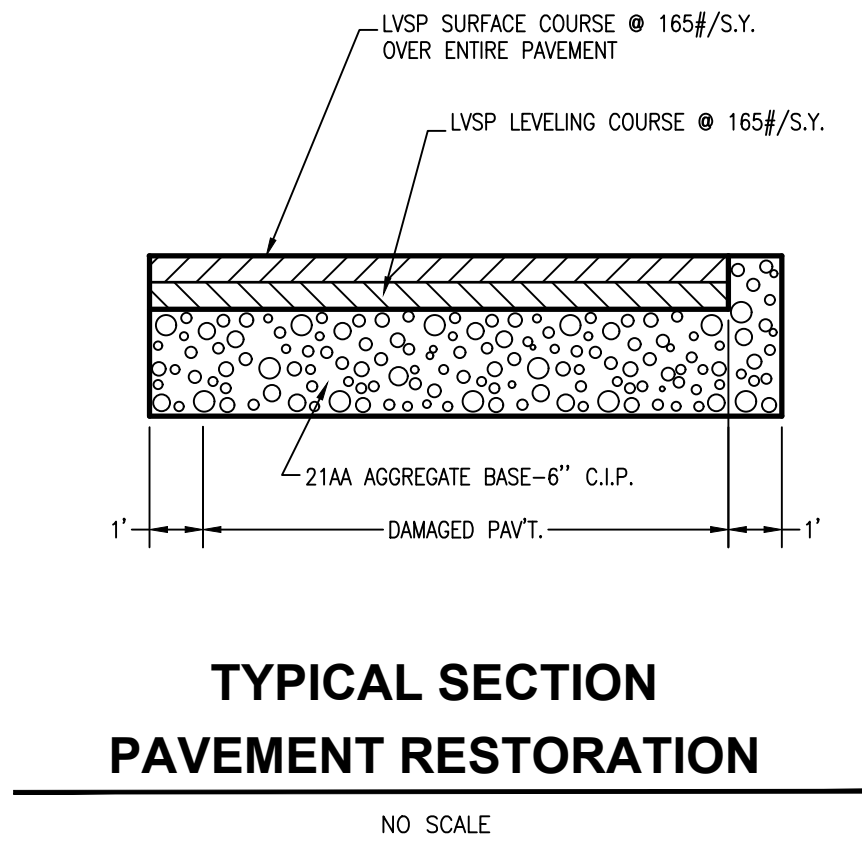
WATER AND SEWER DETAIL  
JOHN ST WATERMAIN REPLACEMENT  
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**CONCRETE RESTORATION DETAILS  
JOHN ST WATERMAIN REPLACEMENT  
CITY OF LAKE CITY**

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