

**HIGHLINE WATER DISTRICT
King County, Washington**

RESOLUTION 19-11-20C

**RESOLUTION AUTHORIZING AN INTERLOCAL AGREEMENT BETWEEN THE
CITY OF DES MOINES AND HIGHLINE WATER DISTRICT RELATING TO
PROJECT 19-1 2019 AC WATER MAIN REPLACEMENT (NORTH HILL)**

WHEREAS, the District owns and operates certain water utilities located within the right-of-way within various roadways in the North Hill Neighborhood and the District is undertaking a capital improvement project to replace approximately 2,000 linear feet of asbestos concrete (AC) water main known as the Project 19-1 2019 AC Water Main Replacement ("Project"); and

WHEREAS, the City is interested in roadway re-paving and improvements as described on Exhibit A attached hereto and incorporated herein by this reference ("City Work") adjacent to the Project solely benefiting the City; and

WHEREAS, Chapter 39.34 RCW authorizes two or more political subdivisions or units of local government of the State of Washington to cooperate on a basis of mutual advantage to provide for services and facilities; and

WHEREAS, integrating the City Work into the Project would be more expedient, less expensive, and less disruptive to the public than if the District and City undertook the Project and the City Work separately; and

WHEREAS, the Parties desire to establish a formal arrangement under which the City will pay the District in consideration of the District incorporating the design of the City Work into the design of the Project and constructing the City Work in conjunction with the construction of the Project; and

WHEREAS, the Parties desire to enter into this Agreement for the purpose of defining their respective rights, obligations, costs, and liabilities regarding this undertaking.

**HIGHLINE WATER DISTRICT
King County, Washington**

RESOLUTION 19-11-20C

NOW, THEREFORE, BE IT RESOLVED:

1. The General Manager or designee is authorized to enter into an Interlocal Agreement with the City of Des Moines (Attachment #1 incorporated herein) to incorporate the design of the City Work into the design of the Project and constructing the City Work in conjunction with the construction of HWD Project 19-1 2019 AC Water Main Replacement.
2. The General Manager and/or the District's Legal Counsel are authorized to make minor changes to the Interlocal Agreement if required.

ADOPTED BY THE BOARD OF COMMISSIONERS of Highline Water District, King County, Washington, at an open public meeting held this **20th** day of **November 2019**.

BOARD OF COMMISSIONERS



Kathleen Quong-Vermeire, President



Todd Fultz, Commissioner



George Landon, Commissioner



Vince Koester, Secretary



Daniel Johnson, Commissioner

**INTERLOCAL AGREEMENT
CITY OF DES MOINES AND
HIGHLINE WATER DISTRICT**

**PROJECT 19-1 2019 AC WATER MAIN
REPLACEMENT PROJECT**

This Agreement (“Agreement”) is made by and between Highline Water District, a Washington special purpose municipal corporation (“District”), and the City of Des Moines, a Washington municipal code city (“City”), (individually a “Party” and collectively the “Parties”) for the purposes set forth herein.

RECITALS

WHEREAS, the District owns and operates certain water utilities located within the right-of-way within various roadways in the North Hill Neighborhood and the District is undertaking a capital improvement project to replace approximately 2,000 linear feet of asbestos concrete (AC) water main known as the Project 19-1 2019 AC Water Main Replacement (“Project”); and

WHEREAS, the City is interested in roadway re-paving and improvements as described on **Exhibit A** attached hereto and incorporated herein by this reference (“City Work”) adjacent to the Project solely benefiting the City; and

WHEREAS, Chapter 39.34 RCW authorizes two or more political subdivisions or units of local government of the State of Washington to cooperate on a basis of mutual advantage to provide for services and facilities; and

WHEREAS, integrating the City Work into the Project would be more expedient, less expensive, and less disruptive to the public than if the District and City undertook the Project and the City Work separately; and

WHEREAS, the Parties desire to establish a formal arrangement under which the City will pay the District in consideration of the District incorporating the design of the City Work into the design of the Project and constructing the City Work in conjunction with the construction of the Project; and

WHEREAS, the Parties desire to enter into this Agreement for the purpose of defining their respective rights, obligations, costs, and liabilities regarding this undertaking; and

WHEREAS, the Parties acknowledge the District may enter into a separate cooperative agreement with Midway Sewer District, a Washington special purpose municipal corporation (“Midway”), to include certain sewer main installation work as

part of the Project (“Midway Work”), provided the Parties acknowledge the City would have no obligation to pay for any portion of the Midway Work which may be included in the Project work;

WHEREAS, the City’s City Council has taken appropriate action to approve this Agreement; and the District Board of Commissioners has taken appropriate action to approve this Agreement;

NOW, THEREFORE, in consideration of the terms, conditions and covenants contained herein, the Parties agree as follows:

AGREEMENT

Section 1. Purpose. The purpose of this Agreement is to establish a formal arrangement under which the City will pay the District to incorporate the design of the City Work into the Project contract documents and to construct the City Work in conjunction with the District’s design and construction of the Project. The terms, conditions, and covenants of this Agreement shall accordingly be interpreted to advance this purpose. This Agreement further seeks to allocate and define the Parties' respective rights, obligations, costs and liabilities concerning the establishment, operation and maintenance of this undertaking.

Section 2. Term. This Agreement shall be effective upon the date by which it has been executed by both Parties (“Effective Date”). Unless terminated in accordance with Section 3, this Agreement shall remain in effect until one of the following events occurs, whichever is later: (a) the City’s written acceptance of and payment to the District for the City Work provided pursuant hereto, or (b) December 31, 2020. Thereafter, this Agreement shall expire automatically. The Parties may at their option renew this Agreement for a mutually agreed upon term by a writing signed by both Parties.

Section 3. Termination. Subject to the provisions of Section 4 herein, either Party may terminate this Agreement with cause by providing the other Party with at least thirty (30) days written notice of its intent to terminate. Termination or expiration of this Agreement shall not alter the City’s payment obligations under Section 6 for services already rendered, as well as for the normal and reasonable costs incurred by the District’s contractor in terminating and closing out the City's portion of the Project work, and shall not alter the Parties' respective obligations under Section 11 of this Agreement.

Section 4. Obligations of the City.

- A. The City shall provide payments to the District to reimburse the District for its costs of incorporating the design of the City Work into the Project

construction documents, and for constructing the City Work pursuant to Section 6 of this Agreement, **Exhibit A**, and as follows:

- a. **Engineering/Design**. The City shall participate in the design process as follows:
- i. The City will coordinate with the District and its engineering consultants on the preparation of the engineering plans and specifications necessary to accommodate the City Work utilizing WSDOT specifications and bid quantities for common work that is acceptable to the City.
 - ii. The City will utilize the District's Project engineering consultants to prepare the engineering plans for the City Work. The City shall review the final Project Plans and Specifications, and provide the District a written notice of acceptance of the plans and specifications associated with the City Work within fifteen (15) days of receipt.
 - iii. The City shall reimburse the District for the District's costs for consultant support to incorporate the City Work into the Project Contract Documents totaling a single, lump sum payment of Twelve Thousand Dollars (**\$12,000**).
 - iv. The City agrees to timely review and issue any City permits necessary for the Project, including the City of Des Moines Right-of-Way Use Permit. The City will not charge the District a Right-of-Way Permit fee.
- b. **Bid Process**. The City shall participate in the District's Project bid process as follows:
- i. Accept or reject bids on bid items associated with the City Work. Those bid items will include the items identified in Schedule B 'Roadway Improvements' of the Bid Proposal.
 - ii. Within ten (10) days of receiving the bid tabulation from the District, the City shall notify the District in writing that the City either agrees to proceed with the City Work as part of the Project, or the City chooses to complete the City Work on its own as part of a separate Project, or not to complete the City Work.
 - iii. To determine the lowest responsive, responsible bidder, the District will include all Bid Schedules unless the City rejects

the bid for Schedule B.

c. **Construction.** If the City elects to proceed with the City Work as part of the Project, the City shall reimburse the District for the District's actual costs for construction of the City Work based upon:

i. Contractor's bid prices for the City Work, the actual quantities of work installed, and the final actual costs of construction. For the benefit of economies of scale and contract inspection and administration, the City Work and the District road restoration work will be combined into one bid Schedule, Schedule B, and the parties agree the bid schedule shall be 50% the cost of the District and 50% the cost of the City for the following Bid Schedule B Items/Work*:

- | | |
|---|------------------|
| • Mobilization (10% Maximum) | Lump Sum (LS) |
| • Temporary Traffic Control | Lump Sum (LS) |
| • Planing Bituminous Pavement | Square Yard (SY) |
| • HMA C1 ½" PG 64-22 for Pavement Overlay | Ton (TN) |
| • HMA Thickened Edge | Linear Foot (LF) |
| • Edge Restoration | Linear Foot (LF) |

The City shall bear the full cost for the following Bid Schedule B Items/Work:

- | | |
|---|--------------------|
| • Unsuitable Foundation Excavation Inc. Haul | Square Yard (SY) |
| • Pavement Repair | Square Yard (SY) |
| • Minor Change (for City Work) | Force Account (FA) |
| • Any City initiated change orders or scope modifications attributed to the City Work | |

*Quantities for Pavement Restoration Work on 1st Ave S and 9th Place South shall be exempt from the cost sharing in this Agreement and not considered part of the City Work.

Total cost of City Work to be paid is estimated at Four Hundred Thirty Nine Thousand and Eighty Dollars (\$439,080.00) as identified in the Engineers Estimate included in **Exhibit B**.

ii. Applicable Sales Tax for the City Work and associated Bid Schedule B shall be governed by WAC 485-20-171 and its related rules.

- iii. The City shall be responsible for determining and directing the locations and depth to perform subgrade repair under the unit bid prices Unsuitable Foundation Excavation Inc. Haul and Pavement Repair in consultation with the District's engineering consultant in accordance with Section 4.d of this agreement.
 - iv. Additional restoration work identified beyond the initial scope of the City Work shall be at the sole cost of the City. Any additional work shall be in accordance with Section 8 of this Agreement.
 - v. The City will not be responsible for any unit quantities and/or changes in unit quantities for the District Restoration Work that the District is contracted with for the benefit of a third party.
- d. **Construction Management and Inspection:** The City shall reimburse the District for the City's prorated share of the District's costs incurred for Project construction engineering, construction management, and construction inspection as provided by the District's engineering consultants.

The City's prorated share of engineering and construction management cost for the City Work has been estimated and negotiated by the Parties based on the engineer's estimate for the City Work to be a single, lump sum payment of Forty Three Thousand Dollars (\$43,000.00).

The District shall provide construction observation of the Project utilizing the District's engineering consultants. Construction observation will include providing personnel to confirm general Work compliance in accordance with the contract documents and WSDOT Standard Specifications and include applicable material testing per WSDOT LAG guidelines. The City shall coordinate with the District in defining the Scope of Work for the selected Engineering Consultant.

The City Right-of-Way Inspector shall coordinate directly with the District's inspector during the Project construction. The City inspector will have the responsibility for inspection coordination with the District's Engineering Consultant and approval of the City Work and that the contractor employed by the District will be directed to comply with the City's requirements by the District's inspector or designee in accordance with plans and specifications approved by the City. The City's inspector shall immediately notify the District's

inspector, verbally and in writing, of any disapproval of said work and provide said notification to the District prior to progress payment for said work to the Contractor.

The City shall review and approve Requests for Approval of Materials ("RAM") for materials to be used proposed by the contractor for City bid item work as provided by the District as required by the District's Engineering Consultant. When needed, the City shall complete the review and approve or reject the RAM within five (5) business days of receiving any RAM from the contractor or the District, provided, if the City fails to respond to the RAM within five (5) business days, the RAM shall be deemed to have been approved by the City.

- e. Construction Claims: If claim(s) are filed on the Project by the contractor that are directly related to the City Work ("Claim"), the City shall reimburse the District for the District's reasonable expenses incurred to respond to said Claim, including the District's costs incurred for consultant construction engineering and management, if any. If required, the City of Des Moines will provide legal representation for City Work in coordination with Des Moines.

Any settlement to be reviewed and agreed upon by both Highline Water District and Des Moines.

- B. The City shall respond within five (5) business days to information requests submitted by the District or its agents regarding the City Work.
- C. Upon completion of the City Work to the City's satisfaction, the City shall provide written acceptance of the City Work to the District.

Section 5. Obligations of the District.

- A. The District shall incorporate the engineering design of the City Work into the construction plans, specifications, and contract documents for the Project.
- B. The District shall assume responsibility for constructing the City Work in accordance with the plans, specifications, and contract documents, including but not limited to securing all necessary consultants, contractors, and subcontractors. All construction contracts shall be procured through a formal competitive bidding process consistent with applicable State laws as may be applicable. The District shall have sole authority to award and manage the construction contract per the terms of this Agreement.

- C. The District shall periodically submit to the City written invoices for payment in accordance with Section 6. The District shall include copies of invoices or other documentation from consultants and/or contractors, clearly indicating the City's portion of the invoices.
- D. The District shall assume lead agency status and responsibility for applying for and obtaining any and all regulatory permits necessary to complete the Project including the City Work.
- E. The District shall provide City personnel access to the Project's construction area for purposes of inspecting, monitoring, approving or disapproving the progress of work performed on the City Work. The District shall notify a City representative of all construction meetings and shall allow the City's representative to participate in all construction meetings.
- F. The District shall respond promptly to information requests submitted by the City or its agents regarding the Project.
- G. The District shall require the contractor constructing the Project to have the City, its elected and appointed officers, agents and employees named as an additional insured on all policies of insurance to be maintained by contractor(s) under the terms of any Commercial General Liability Insurance, Commercial Automobile Insurance, and Workers Compensation. The District shall provide the City with either a certified copy of all policies with endorsements attached or a Certificate of Insurance with endorsements attached as are necessary to comply with the contract specifications. The District shall provide the City with copies of all such policies and documents upon receipt by the District.

The District shall require the contractor building the Project to indemnify, defend, and save harmless the City and its elected and appointed officers, agents, or employees from any claim, damage, action, liability of proceeding brought or filed against the City or its officers, agents or employees alleging damage or injury arising out of the contractor's participation in the Project. The Contractor shall also be required to waive the Contractor's immunity under Washington's Industrial Insurance Act, RCW Title 51, as to the City solely for the purposes of the indemnification.

The District shall require the contractor to be responsible for compliance with all applicable federal, state and local statutes, regulations and ordinances regarding safety.

Section 6. Payment Schedule. The Parties agree to the following billing and payment schedule:

- A. The engineering costs incurred by the District for the City Work on the Project has been pre-determined and illustrated in Section 4 of this Agreement. The City shall tender payment to the District in the form of a warrant payable to the District in an amount of **\$12,000.00** within thirty (30) days of execution of this Agreement.
- B. For construction contract costs incurred by the District for the City Work on the Project, the District shall submit invoices to the City for the City's share of said expense for the City Work per the applicable Bid Schedule. Said invoices shall contain a reasonably detailed explanation of the methodology utilized by the District in determining the City's share of each expense. To the extent reasonably possible, the District shall document and tabulate separately the actual quantities of work installed to clearly identify the City's portion of the Project construction cost for the City Work. Final adjustment of prorated costs shall be delivered to the City within thirty (30) days of project close out.
- C. Within thirty (30) days of receiving any invoice pursuant to subsection 6.A, the City shall tender payment to the District in the form of a warrant payable to the District for the invoiced amount, except as to any disputed amounts.
- D. The cost incurred by the District for construction engineering and management, and construction costs incurred by the District for the City Work on the Project has been pre-determined and illustrated in Section 4 of this Agreement. The City shall tender payment to the District in the form of a warrant payable to the District in an amount of **\$43,000.00** within thirty (30) days of execution of the Construction Contract with the Contractor.
- E. If the Parties disagree regarding the City's share of any expense incurred by the District regarding the Project, the Parties may agree to submit the question for resolution in accordance with the mediation/arbitration clause contained herein.
- F. If the City rejects bids for the City Work, the City will pay the District a one-time lump sum payment of ten thousand dollars (\$10,000) for the cost and expense of the District to modify contract documents and rebid the Project. Payment shall be within 30 days of the notice by the City rejecting the Bids.

Section 7. (reserved)

Section 8. Change Orders and Authorization of Cost Overruns:

- A. Change Orders. The City shall have the right to approve or reject change orders relating to the City Work. The District shall have the right to approve or reject change orders relating to the Project work. The Parties shall mutually accept or reject change orders relating to joint work. Any

dispute between the Parties as to proportional payment for joint element change orders shall be resolved pursuant to the mediation/arbitration clause contained herein.

- B. Cost Overruns. The District is authorized on behalf of the City to negotiate and approve all unit price over-runs in bid quantities and change orders related to the installation of the City Work. The City also authorizes the expenditure by the District of a contingency of up to ten percent (10%) of the contractor's total price for the City's bid items for over-runs in bid quantities and change orders associated with the installation of the City Work. For any quantity overruns that cause the cost of the City Work to exceed the authorized ten percent (10%) contingency amount, the District will notify the City in writing requesting a letter of concurrence allowing the District to exceed the ten percent (10%) contingency before proceeding with the work. The District's notice shall include an explanation of the changed conditions necessitating exceeding the previously approved contingency. A letter of concurrence shall be provided to the District within a reasonable time frame so as to not cause a Project delay. If there is a potential delay due to extra work or a change order, the District will indicate in this notification to the City along with a time for response required from the City. The District will include a progress schedule and any change orders for the City Work with the City's monthly invoice. In any event and even without a letter of concurrence from the City, the District is authorized to take any reasonable action and to expend any reasonable amount of money to assure that the City Work will not interfere or delay the timely completion of the Project.

Section 9. Ownership and Disposition of Property. The City Work pursuant to this Agreement shall become and remain the exclusive property of the City upon completion, acceptance of the City Work by the City, and the District's final acceptance of the Project work, including the City Work. All other work constructed under the Project shall become and remain the exclusive property of the District upon completion. The District will forward and assign to the City any guarantee or warranty furnished as a normal trade practice in connection with the purchase of any equipment, materials, or items used in the construction of the Project. The District shall submit redline drawings to the City upon completion of the Project for City review and approval. The District's contractor shall warrant the workmanship and materials utilized in the City Work to be free from defects for a period of one (1) year from the date of final completion of the District's Project, provided the City shall retain any rights, claims or demands the City may have against the District's contractor relating to the City Work under applicable statutes of limitation.

Section 10. Administration; No Separate Entity Created. Pursuant to RCW

39.34.030, the City Public Works Director, or his/her designee, shall serve as the City's administrator of this Agreement. The District General Manager, or his/her designee, shall serve as the District's administrator of this Agreement. No separate legal entity is formed by this Agreement.

Section 11. Release, Indemnification and Hold Harmless Agreement. Each Party to this Agreement shall be responsible for its own negligent and/or wrongful acts or omissions, and those of its own agents, employees, representatives, contractors or subcontractors, to the fullest extent required by laws of the State of Washington. Each Party agrees to protect, indemnify and save the other Party harmless from and against any and all such liability for injury or damage to the other party or the other Party's property, and also from and against all claims, demands, and causes of action of every kind and character to the extent arising directly or indirectly, or in any way incident to, in connection with, or arising out of work performed under the terms hereof, caused by its own fault or that of its agents, employees, representatives, contractors or subcontractors.

The City specifically promises to indemnify the District against claims or suits brought under Title 51 RCW by its own employees, contractors, or subcontractors, and waives any immunity that the City may have under that title with respect to, but only to, the limited extent necessary to indemnify the District. The City shall also indemnify and hold the District harmless from any wage, overtime or benefit claim of any City employee, agent, representative, contractor, or subcontractor performing services under this Agreement. The City further agrees to fully indemnify the District from and against any and all costs of defending any such claim or demand to the end that the District is held harmless therefrom.

The District specifically promises to indemnify the City against claims or suits brought under Title 51 RCW by its own employees, contractors, or subcontractors, and waives any immunity that the District may have under that title with respect to, but only to, the limited extent necessary to indemnify the City. The District shall also indemnify and hold the City harmless from any wage, overtime or benefit claim of any District employee, agent, representative, contractor, or subcontractor performing services under this Agreement. The District further agrees to fully indemnify the City from and against any and all costs of defending any such claim or demand to the end that the City is held harmless therefrom.

Section 12. Mediation/Arbitration Clause: If a dispute arises from or relates to this Agreement or the alleged breach thereof and if the dispute cannot be resolved through direct discussions between the Parties, the Parties agree to endeavor first to settle the dispute in an amicable manner by mediation before a mutually agreed alternative dispute resolution entity or by mediation administered under the American Arbitration Association's Commercial or Construction Rules before resorting to

arbitration. The mediator may be selected by agreement of the Parties or through the American Arbitration Association. Following mediation, any unresolved controversy or claim arising from or relating to this Agreement or breach thereof shall be settled through binding arbitration which shall be conducted under mutually agreed rules, or under the American Arbitration Association's Commercial or Construction Arbitration Rules. The arbitrator may be selected by agreement of the Parties or through appointment pursuant to the rules of the American Arbitration Association.

All fees and expenses for mediation or arbitration shall be borne by the Parties equally. However, each Party shall bear the expense of its own counsel, experts, witnesses, and preparation and presentation of evidence.

Section 13. Governing Law and Venue. This Agreement shall be governed by the laws of the State of Washington. Any action arising out of this Agreement shall be brought in King County Superior Court - Kent.

Section 14. No Employment Relationship Created. The Parties agree that nothing in this Agreement shall be construed to create an employment relationship between the District and any employee, agent, representative or contractor of the City, or between the City and any employee, agent, representative or contractor of the District.

Section 15. No Third Party Rights. This Agreement is intended for the sole and exclusive benefit of the Parties and no third party rights are created by this Agreement.

Section 16. Notices. Notices to the City shall be sent to the following address:

**City of Des Moines
Transportation & Engineering Services Manager
216560 11th Avenue South
Des Moines, WA 98198**

Notices to the District shall be sent to the following address:

**Highline Water District
General Manager
23828 30th Avenue South
Kent, WA 98032**

Section 17. Interlocal Cooperation. Pursuant to RCW 39.34.040, this Agreement shall be filed with the King County Auditor upon full execution or listed by subject on the City's and District's respective web sites.

Section 18. Integration/Entire Agreement. This Agreement constitutes the entire embodiment of the Agreement between the Parties, and, unless modified in writing by an amendment to this Agreement signed by the Parties, shall be implemented as described above. This Agreement supersedes any oral representations that are inconsistent with or modify its terms and conditions.

Section 19. Non-Waiver. Waiver by any Party or any of the provisions contained within this Agreement, including but not limited to any performance deadline, shall not be construed as a waiver of any other provisions.

Section 20. Amendment. This Agreement may be amended only upon consent of the Parties. Any amendment hereto shall be in writing and shall be ratified and executed by the Parties in the same manner in which it was originally adopted.

Section 21. Severability. If any provisions of this Agreement shall be held invalid, the remainder of this Agreement shall not be affected thereby.

Section 22. Counterparts. This Agreement shall be effective whether signed by all Parties on the same document or whether signed in counterparts.

Reviewed and approved as authorized by motion of the City of Des Moines City Council on the ____ day of _____, 2019.

CITY OF DES MOINES

By: _____

Michael Matthias, City Manager

Date: _____

ATTEST:

City Clerk

APPROVED AS TO FORM:

Des Moines City Attorney

**Reviewed and approved as authorized by Resolution No. _____ of the Highline
Water District Board of Commissioners on the _____ day of _____, 2019.**

**By: _____
Matt Everett, General Manager**

Date: _____

EXHIBIT A

**ENGINEERING PLANS
DESCRIPTION OF CITY WORK**



19-1 NORTH HILL AC WATER MAIN REPLACEMENT AND SEWER UTILITY IMPROVEMENTS

SEPTEMBER 2019

INDEX OF DRAWINGS

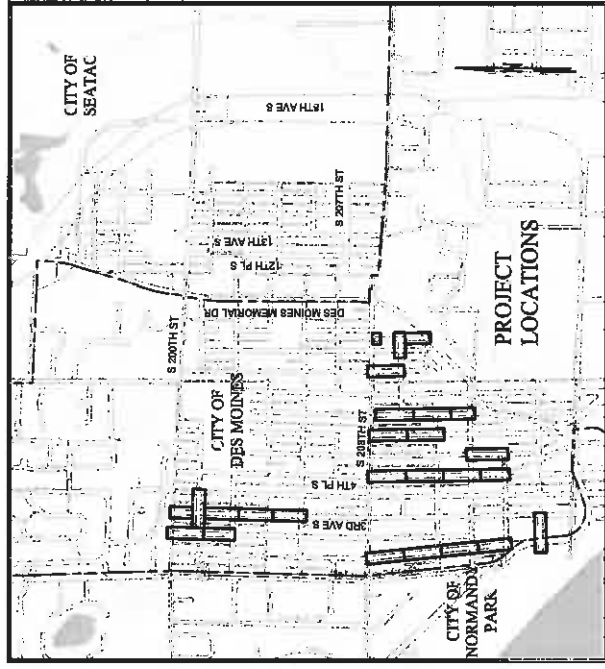
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VICINITY MAP
SCALE: NTS



ABBREVIATIONS

ABND	BARREN	CC	ON CENTER
AC	ASPHALTIC CONCRETE/ASBESTOS CEMENT	DD	CUTSIDE DIAMETER
AL	ALUMINUM	DHP	OVERHEAD POWER
ALIGN	ALIGN STATION	PCCP	PORTLAND CEMENT CONCRETE PAVEMENT
APPROX	APPROXIMATE	PH	POT HOLE
ATB	ASPHALT TREATED BASE	PL	PLASTIC
AVE	AVENUE	PP	FOUNDS PER SQUARE FOOT
AWWA	AMERICAN WATER WORKS ASSOCIATION	PC	POLYESTER POLYCHLORIDE
BLDG	BUILDING	PWR	POWER
BMP	BEST MANAGEMENT PRACTICES	REDUCER	REDUCER
BSMT	BASIN	RESTRI	RESTRICTION
BTM	BOTTOM	RIS	RISER
CA	CATCH BASIN	RISGV	RESILIENT SEATED GATE VALVE
CARY	COMBINATION AIR RELEASE VALVE	RT	RIGHT
CB	CATCH BASIN	RW	RIGHT OF WAY
CD	CITY OF DES MOINES	S	SOUTH
CHAN	CHANNEL	SCHED	SCHEDULE
CL	CLASS	SD	STORM DRAIN
CLA	CLEANING	SDM	STORM DRAIN MANHOLE
CLM	CLIMATE	SH	SHEET(S)
COOR	COORDINATE	SHT(S)	SHEET(S)
CONC	CONCRETE	SL	SLOPE
CONC	CONCRETE	SLV	SLOPE
CP	CORRUGATED POLYETHYLENE PIPE	SP	SPALLS
CP	CORRUGATED POLYETHYLENE PIPE	SPCL	SPALLS
CS	CRUSHED SURFACING BASE COURSE	SQ	SQUARE
CSG	CRUSHED SURFACING TOP COURSE	SS	SANITARY SEWER
CSG	CRUSHED SURFACING TOP COURSE	SSC	SANITARY SEWER CLEANOUT
CY	CUBIC YARD	SSC	SANITARY SEWER MANHOLE
CULV	CULVERT	ST	STREET
DET	DETAIL	STA	STATION
DI	DIET	STD	STANDARD
DIA	DIAMETER	STW	SIDEWALK
DIV	DIVISION	SAW	SIDEWALK
DR	DRIVEWAY	T, TEL	TELEPHONE
DWG	DRAWING	T, TEL	TELEPHONE
E	EAST	TEMP	TEMPORARY
EA	EACH	TESS	TEMPORARY EROSION AND SEDIMENT CONTROL
EL	ELEVATION	TR	TRANSITION
EQ	EQUAL	TR	TRANSITION
EQ	EQUAL	TR	TRANSITION
EXIST	EXISTING	TR	TRANSITION
EXIST	EXISTING	TR	TRANSITION
F.F.	FINISH FLOOR	VERT	VERTICAL (L/V)
PH	FIRE HYDRANT	UGP	UNDERGROUND POWERLINE
FL	FLOW LINE	UGTEL	UNDERGROUND TELEPHONE
FL	FLOW LINE	W	WATER WEST
FM	FORCE MAIN	WMN	WATER MAIN
FT	FEET	WSP	WASHINGTON DEPARTMENT OF TRANSPORTATION
G	GAS	WV	WATER VALVE
GAG	GAS AND OVERLAY		
GALV	GALVANIZED		
GEN	GENERAL		
GV	GATE VALVE		
HMA	HOT MIX ASPHALT		
HORIZ	HORIZONTAL (L/V)		
ID	INSIDE DIAMETER		
IE	INVERT ELEVATION		
INSTL	INSTALL		
INV	INVERT		
LENGTH	LENGTH		
LAT	LATERAL		
LF	LINEAR FOOT		
LT	LEFT		
LTF	LENGTH TO FIT		
MFR	MANUFACTURER		
MH	MANHOLE		
MJ	MANHOLE JOINT		
MIN	MINIMUM		
MULTCD	MULTI ON UNIFORM TRAFFIC CONTROL DEVICES		
N	NORTH		
NE	NORTHEAST		
NIC	NOT IN CONTRACT		
NOM	NOMINAL		
NIS	NOT TO SCALE		

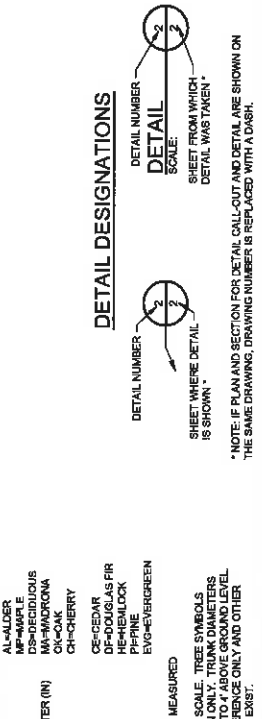
LEGEND

PROPOSED	EXISTING
RIGHT-OF-WAY CENTERLINE	RIGHT-OF-WAY CENTERLINE
RIGHT-OF-WAY LINE	RIGHT-OF-WAY LINE
OVERHEAD POWER LINE	OVERHEAD POWER LINE
BURIED POWER LINE	BURIED POWER LINE
BURIED GAS LINE	BURIED GAS LINE
BURIED TELEPHONE LINE	BURIED TELEPHONE LINE
BURIED WATER LINE	BURIED WATER LINE
BURIED SANITARY SEWER	BURIED SANITARY SEWER
BURIED STORM DRAIN	BURIED STORM DRAIN
DITCH/LINE/FLOW LINE	DITCH/LINE/FLOW LINE
RETAINING WALL	RETAINING WALL
ROCK RETAINING WALL	ROCK RETAINING WALL
VEGETATION LINE	VEGETATION LINE
CHAIN LINK FENCE	CHAIN LINK FENCE
WOOD FENCE	WOOD FENCE
BARBED WIRE/WIRE FENCE	BARBED WIRE/WIRE FENCE
FIRE HYDRANT	FIRE HYDRANT
GATE VALVE	GATE VALVE
WATER METER	WATER METER
COMBINATION AIR VALVE	COMBINATION AIR VALVE
BLOW OFF ASSEMBLY	BLOW OFF ASSEMBLY
FIRE STAND PIPE	FIRE STAND PIPE
IRRIGATION CONTROL	IRRIGATION CONTROL
CATCH BASIN, TYPE I	CATCH BASIN, TYPE I
CATCH BASIN, TYPE II	CATCH BASIN, TYPE II
SIGN	SIGN
BOLLARD	BOLLARD
MAIL BOX	MAIL BOX
TRANSFORMER	TRANSFORMER
LIGHT STANDARD	LIGHT STANDARD
POWER VAULT	POWER VAULT
UTILITY BOX	UTILITY BOX
UTILITY POLE	UTILITY POLE
POLE GUY WIRE	POLE GUY WIRE
GAS VALVE	GAS VALVE
GAS METER	GAS METER
TELEPHONE VAULT	TELEPHONE VAULT
TELEPHONE RISER	TELEPHONE RISER
MANHOLE	MANHOLE
CLEANOUT	CLEANOUT

TREE LEGEND

AL-ALDER	AL-ALDER
DE-DECIDUOUS	DE-DECIDUOUS
MA-MADRONA	MA-MADRONA
CH-CHERRY	CH-CHERRY
CE-CEDEAR	CE-CEDEAR
DF-DOUGLAS FIR	DF-DOUGLAS FIR
HE-HEMLOCK	HE-HEMLOCK
PI-PINE	PI-PINE
EV-EVERGREEN	EV-EVERGREEN

DETAIL DESIGNATIONS



*NOTE: IF PLAN AND SECTION FOR DETAIL CALL-OUT AND DETAIL ARE SHOWN ON THE SAME DRAWING, DRAWING NUMBER IS REPLACED WITH A DASH.

REVISION

NO.	DATE	BY	REVISION



19-1 NORTH HILL AC WATER MAIN REPLACEMENT AND SEWER UTILITY IMPROVEMENTS

ABBREVIATIONS, SYMBOLS AND LEGEND

PROJECT NO.: 19-2429 SCALE: AS SHOWN DATE: SEPTEMBER 2019

SHEET **G-2** 2 of X

GENERAL NOTES:

- CONTRACTOR SHALL VERIFY ALL EXISTING UTILITIES IN THE FIELD.
- CONTRACTOR SHALL NOTIFY THE DISTRICT A MINIMUM OF 72 HOURS (3 WORKING DAYS) IN ADVANCE OF ALL REQUESTS FOR STAKING, TESTING, OR INSPECTIONS.
- CONTRACTOR SHALL FURNISH SHOP DRAWINGS FOR APPROVAL WHERE REQUIRED BY THE DETAIL SPECIFICATIONS AND FOR VARIATION FROM THE APPROVED DRAWINGS.
- CONTRACTOR TO FURNISH ALL MATERIALS.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE A SET OF THESE APPROVED PLANS ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS. NO CHANGES ARE TO BE MADE WITHOUT PRIOR WRITTEN APPROVAL BY THE DISTRICT.
- COMPACTION TESTING IS REQUIRED FOR ALL OPEN CUTS AND/OR CROSSINGS WITHIN PAVED OR TRAVELED AREAS OF PUBLIC RIGHT-OF-WAYS AS REQUIRED BY ANY PERMITS. ROAD RESTORATION MUST MEET ALL LOCAL JURISDICTIONAL REQUIREMENTS.
- CONTRACTOR SHALL PAY FOR ALL STATE, CITY, AND COUNTY INSPECTION AND PERMIT FEES.
- OVERHEAD ELECTRIC POWER LINES ARE GENERALLY NOT SHOWN. ELECTRICAL POWER LINES SHOWN ARE LOCATED BY POINT-TO-POINT POLE OR TOWER TO POLE OR TOWER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL EXISTING UTILITIES AND FOR OBTAINING PERMISSIONS FOR ELECTRICAL POWER IN ALL AREAS AND SHALL FOLLOW PROCEDURES DURING CONSTRUCTION AS REQUIRED BY LAW AND REGULATIONS PRIOR TO CONSTRUCTION. MEET WITH ELECTRICAL UTILITY OWNERS TO DETERMINE THE EXTENT OF HAZARD AND TAKE WHATEVER PRECAUTIONS AND REMEDIAL PRECAUTIONS AS REQUIRED.
- PROPERTY CORNERS, RIGHT-OF-WAY MARKERS, SURVEY MONUMENTS, AND FENCES THAT MAY BE REQUIRED TO BE REMOVED OR DISTURBED BY CONSTRUCTION SHALL BE FIRST LOCATED AND REFERENCED TO A SURVEY. THESE LOCATIONS SHALL BE STORED IN THE FIELD AND RECORDED IN THE FIELD BOOK. CONSTRUCTION SHALL BE STOPPED IMMEDIATELY IF ANY MONUMENTS, MARKERS, OR FENCES ARE FOUND TO BE MISSING OR DAMAGED. REPAIRS SHALL BE IN ACCORDANCE WITH KING COUNTY STANDARD DETAILS S-074 AND S-075.
- OFFSETS ARE MEASURED FROM THE STATIONING LINE. STATION LINE IS TYPICALLY LOCATED ALONG THE CENTER OF RIGHT-OF-WAY.

WATER MAIN REPLACEMENT NOTES:

- CONTRACTOR'S REGISTERED PROFESSIONAL LAND SURVEYOR SHALL PROVIDE STAKING OF WATER SYSTEM CONSTRUCTION FOR DISTRICT INSPECTION A MINIMUM OF 72 HOURS PRIOR TO CONSTRUCTION.
- CONTRACTOR SHALL INSTALL EQUIPMENT IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS AND HIGHLINE WATER DISTRICT SPECIFICATIONS.
- ALL DUCTILE IRON PIPE SHALL BE CLASS 52, UNLESS OTHERWISE INDICATED ON PLANS.
- ALL GATE VALVES SHALL BE MUELLER OR EQUIVALENT.
- HYDRANTS SHALL BE AS SPECIFIED.
- CUT-INS SHALL BE DIRECTLY SUPERVISED BY AN AUTHORIZED REPRESENTATIVE OF HIGHLINE WATER DISTRICT ON THEIR REPRESENTATIVE.
- ALL LIVE TAPS SHALL BE DIRECTLY SUPERVISED BY AN AUTHORIZED REPRESENTATIVE OF HIGHLINE WATER DISTRICT OR THEIR REPRESENTATIVE.
- CUT-INS AND LIVE TAPS ARE THE RESPONSIBILITY OF THE CONTRACTOR.
- ALL COUPLINGS SHALL BE KOMAC 501, OR EQUIVALENT.
- CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING PIPE TYPES AND SIZES FOR COUPLINGS, CONNECTIONS, AND LIVE TAPS PRIOR TO CONNECTION.
- ALL MAINLINE WATER PIPE SHALL HAVE A 42" MINIMUM COVER AND 50" MAXIMUM COVER UNLESS OTHERWISE SHOWN ON PLANS.
- COORDINATE METER LOCATIONS WITH HIGHLINE WATER DISTRICT AUTHORIZED REPRESENTATIVE.
- MATERIALS MUST BE ON-SITE AND INSPECTED BY HIGHLINE WATER DISTRICT PRIOR TO SCHEDULING CUT-INS OR CONNECTIONS.
- REFER TO HIGHLINE WATER DISTRICT DESIGN AND DEVELOPMENT STANDARDS FOR ALL REMAINING NOTES AND DETAILS.
- SUBGRADE SHALL BE ESTABLISHED FOR AREAS OF SITE INVOLVING WATER SYSTEM FACILITIES.
- CONTRACTOR SHALL REMOVE OLD VALVE BOXES AND HYDRANT GUARD POSTS ON MAINS ABANDONED WITH THIS PROJECT AND ANY AND ALL OLD VALVE MARKERS FROM PROJECT SITE PRIOR TO PROJECT COMPLETION. THIS WORK SHALL BE INCIDENTAL TO THE PROJECT COST.
- POTHOLE EXISTING WATER AND OTHER UTILITIES TO VERIFY DEPTH AND LOCATION SUFFICIENTLY IN ADVANCE TO ACHIEVE VERTICAL ALIGNMENT.
- PIPE DISTANCE SHOWN IN PLANS ARE MEASURED FROM VALVE TO VALVE OR FROM MATCH LINE TO VALVE.

SEWER MAIN REPLACEMENT NOTES:

- ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH MIDWAY SEWER DISTRICT AND THE DEPARTMENT OF ECOLOGY CRITERIA FOR SEWAGE WORK DESIGN.
- THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS PRIOR TO ANY CONSTRUCTION.
- THE SANITARY SEWER PIPE SHALL BE PVC, CONFORMING TO ASTM D-3034, SDR 35, UNLESS OTHERWISE SPECIFIED. BEDDING AND BACKFILL SHALL BE AS REQUIRED BY MIDWAY SEWER DISTRICT.
- ALL CONNECTIONS TO EXISTING MANHOLES SHALL BE DONE IN THE PRESENCE OF A REPRESENTATIVE OF MIDWAY SEWER DISTRICT.
- A PRECONSTRUCTION CONFERENCE SHALL BE HELD PRIOR TO THE START OF CONSTRUCTION, AND SHOULD BE ATTENDED BY THE CONTRACTOR, ENGINEER, OWNER, OTHER UTILITIES AND REPRESENTATIVES OF MIDWAY SEWER DISTRICT.
- THE NEW SANITARY SEWER LINE SHALL BE PLUGGED AND NOT PUT INTO SERVICE UNTIL ALL LINES HAVE BEEN CLEANED, FLUSHED AND TESTED. ALL SANITARY LINES SHALL BE INSPECTED BY THE MIDWAY SEWER DISTRICT AND ALL TESTING SHALL BE DONE IN THE PRESENCE OF THE MIDWAY SEWER DISTRICT REPRESENTATIVE.
- ANY REVISIONS MADE TO THESE PLANS MUST BE REVIEWED AND APPROVED BY MIDWAY SEWER DISTRICT PRIOR TO ANY IMPLEMENTATION IN THE FIELD.
- ALL PIPE INVERTS AND PIPE LENGTHS ARE MEASURED AND CALCULATED TO THE CENTER OF MANHOLES.
- BEDDING MATERIAL FOR SEWER PIPES SHALL BE 4" BEDDING AND 4" PADDING CONSISTING OF EITHER 3/4" CRUSHED ROCK OR PEA GRAVEL.
- ALL SIDE SEWERS SHALL BE EXTENDED TO PROPERTY LINES. PIPE PLUGS WILL BE REQUIRED FOR SIDE SEWER IF IMMEDIATE CONNECTION IS NOT TO BE MADE.
- GU LINER MANHOLE BASES OR EQUAL TO BE INSTALLED ON NEW MANHOLES.
- ALL MH FRAMES SHALL BE EJ CO 371527T OR APPROVED EQUAL.
- ALL MH COVERS SHALL BE EJ CO 3705 OR APPROVED EQUAL.

NO.	DATE	BY	REVISION

NOTICE

0 1/2" = 1'

IF THIS SCALE DOES NOT FIT THE DRAWING IS NOT TO SCALE

DESIGNED: []
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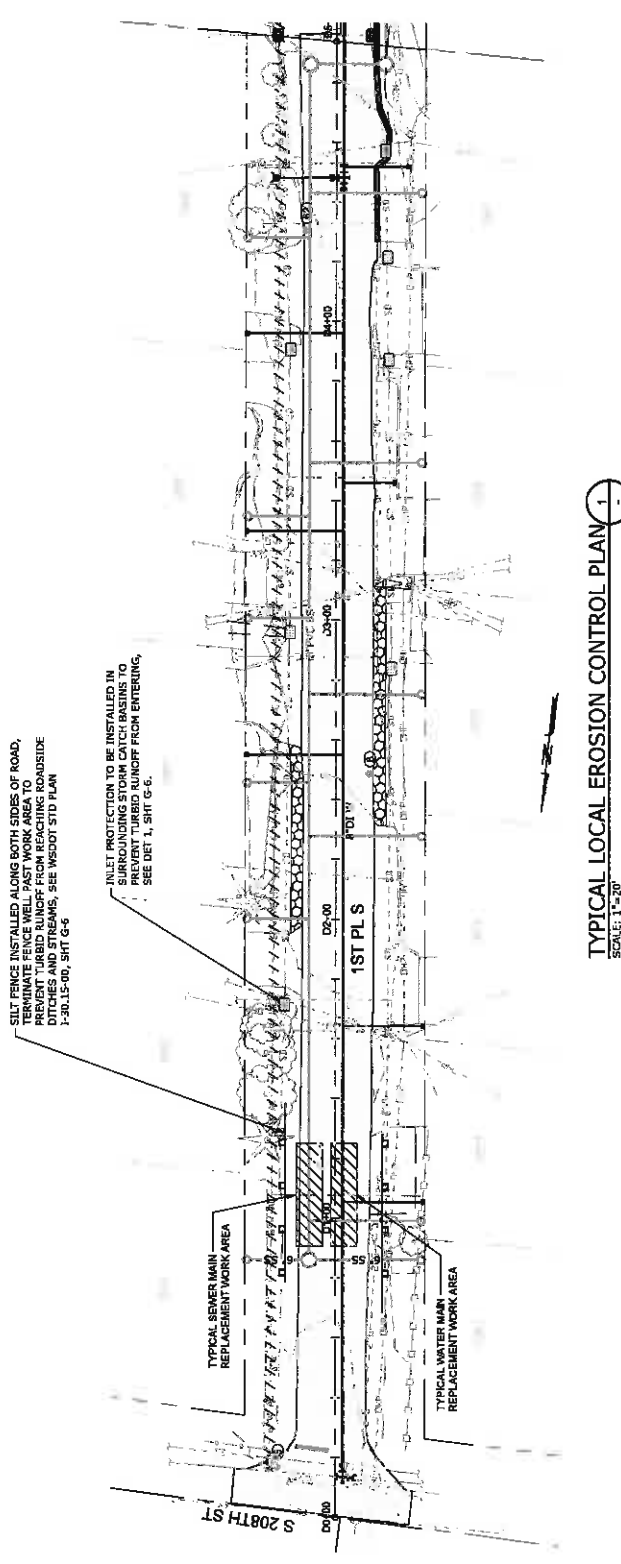
**19-1 NORTH HILL
AC WATER MAIN
REPLACEMENT AND
SEWER UTILITY
IMPROVEMENTS**

GENERAL NOTES

PROJECT NO.: 19-2429 SCALE: AS SHOWN DATE: SEPTEMBER 2019

90% SUBMITTAL

SHEET
G-3
3 of X



TYPICAL LOCAL EROSION CONTROL PLAN 1
SCALE: 1"=20'

NOTE:

1. THIS IS A TYPICAL EXAMPLE OF THE IMPLEMENTATION OF EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BMP) FOR THIS PROJECT. THE BMP'S PROVIDED IN ACCORDANCE WITH APPLICABLE STANDARDS. SEE EROSION CONTROL NOTES, SHEET G-6.

INLET PROTECTION	
SILT FENCING	

NO.	DATE	BY	REVISION

DESIGNED	BAW
DRAWN	SSA
CHECKED	CHC



19-1 NORTH HILL
AC WATER MAIN
REPLACEMENT AND
SEWER UTILITY
IMPROVEMENTS

TEMPORARY EROSION AND
SEDIMENT CONTROL PLAN

PROJECT NO.: 19-2429 | SCALE: AS SHOWN | DATE: SEPTEMBER 2019
SHEET
G-5
5 of X

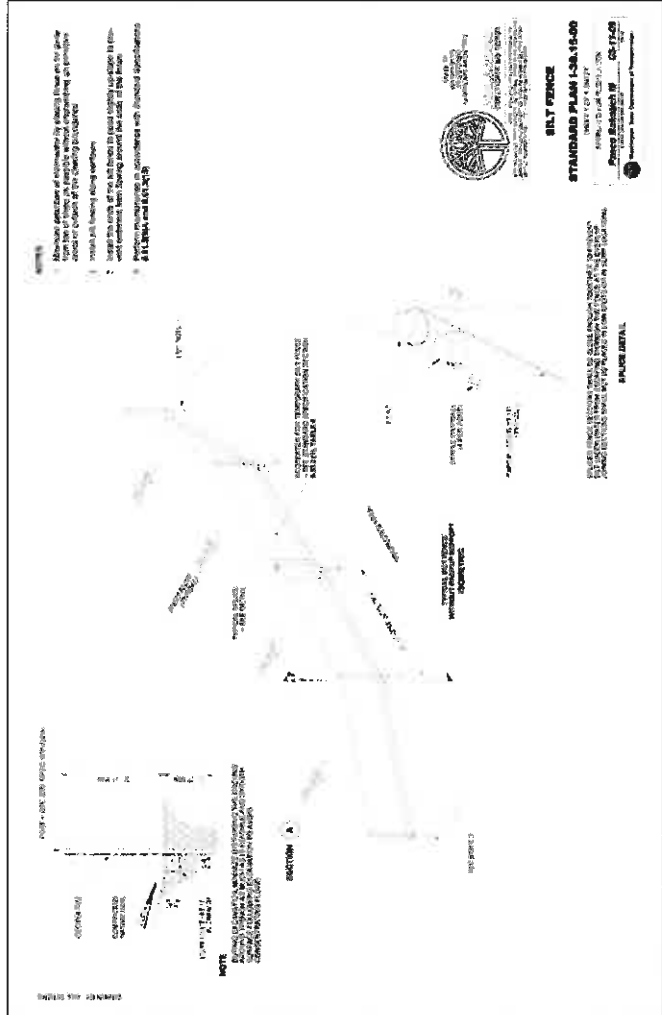
90% SUBMITTAL

EROSION CONTROL NOTES:

1. THE EROSION AND SEDIMENT CONTROL SYSTEMS DEPICTED ON THESE DRAWINGS ARE INTENDED TO BE MINIMUM REQUIREMENTS TO MEET ANTICIPATED SITE CONDITIONS. ADDITIONAL MEASURES MAY BE REQUIRED TO ACHIEVE THE DESIGNER'S INTENTIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL, STATE AND FEDERAL AGENCIES. THE CONTRACTOR MAY REQUIRE ADDITIONAL MEASURES TO PREVENT SEDIMENT OR TURBID WATER FROM LEAVING THE SITE.
2. ALL TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL MEASURES REQUIRED FOR THE PROJECT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, INCLUDING ANY STATE OR LOCAL AGENCY APPROVALS OR PERMITS.
3. NON-COMPLIANCE WITH THE EROSION CONTROL REQUIREMENTS, WATER QUALITY REQUIREMENTS, & CLEARING LIMITS MAY RESULT IN A TEMPORARY STOP-WORK ORDER UNTIL SAID EROSION CONTROL MEASURES ARE FUNCTIONAL.
4. CLEARING LIMITS SHALL BE ESTABLISHED FIRST, THEN EROSION CONTROL BMPs INSTALLED PRIOR TO ANY SITE DISTURBANCE. THE EROSION & SEDIMENT CONTROL FACILITIES MUST BE SATISFACTORILY MAINTAINED UNTIL CONSTRUCTION AND LANDSCAPING IS COMPLETED. THE PERMANENT VEGETATIVE COVER IS ESTABLISHED, AND THE POTENTIAL FOR ON-SITE EROSION HAS PASSED.
5. INSTALL INLET PROTECTION FOR ALL STORM DRAINS SUCH THAT SEDIMENT AND SILT LADEN WATER IS FILTERED
6. CHANNELS, DITCHES, SWALES, AND OTHER CONVEYANCE SYSTEMS SHALL BE CLASSIFIED AS EROSION CONTROL MEASURES AND INSTALLED PRIOR TO CONSTRUCTION. INSTALL OUTLET PROTECTION FOR ALL CULVERTS.

7. THE WATER FROM DRAINAGE SYSTEMS FOR TRENCHES SHALL BE DISCHARGED INTO A CONTROLLED SYSTEM OR SEDIMENT RETENTION BMP. ADDITIONAL MEASURES MAY BE NEEDED TO REMOVE TURBIDITY AND MEET WATER QUALITY STANDARDS.
8. PUBLIC STREETS ARE TO BE KEPT CLEAR OF DIRT AND DEBRIS DURING CONSTRUCTION. MATERIAL SHALL BE REMOVED FROM THE STREETS BY SWEEPING. PAVED SURFACES MUST BE CLEANED AT THE END OF EACH DAY.
9. CONTRACTOR SHALL PROVIDE CERTIFIED GSECL PERSON ON-SITE DURING CONSTRUCTION. ASSIGNED PERSONNEL WILL CONDUCT INSPECTIONS OUTLINED IN PREVIOUS NOTES AND PROVIDE PERIODIC REPORTS AS REQUIRED.
10. CONSTRUCTION EROSION CONTROL BMPs SHALL BE INSPECTED WEEKLY AND AFTER SIGNIFICANT RAINFALL EVENTS. INSPECTIONS SHALL BE PERFORMED AS NEEDED AND AT MINIMUM WITHIN 24 HOURS OF A SIGNIFICANT RAIN EVENT TO MAINTAIN THE PERFORMANCE AND FUNCTION.
11. BACK-UP EROSION AND SEDIMENT CONTROL EQUIPMENT AND MATERIALS SHALL BE READILY AVAILABLE IN CASE OF EMERGENCY.
12. STABILIZE ALL EXPOSED AND NON-WORKED SOILS. FROM MAY 1 TO SEPTEMBER 30 NO UNWORKED SOILS MAY REMAIN EXPOSED FOR MORE THAN 7 DAYS. FROM OCTOBER 1 TO APRIL 30 NO UNWORKED SOILS MAY REMAIN EXPOSED FOR MORE THAN 2 DAYS.
13. STABILIZE SOIL STOCKPILES AND PROTECT WITH BMPs WITHIN 24 HOURS.

14. PROPERLY DISPOSE OF ALL CONSTRUCTION DEBRIS TO A PERMITTED FACILITY.
15. TAKE EXTREME CARE TO PREVENT SPILLAGE OR DISCHARGE OF RETRIEVAL PRODUCTS, CHEMICALS, OILS, GREASE, OR OTHER TOXIC OR DESTRUCTIVE MATERIALS. SUPPLY AND STOCK CHEMICAL SPILL KITS ON-SITE.
16. AN ESTABLISHED GROUND COVER THAT FULFILLS THE REQUIREMENTS OF THE APPROVED CONSTRUCTION PLANS IS REQUIRED FOR ACCEPTANCE BY THE DISTRICT AND CITY. WHERE POSSIBLE MAINTAIN NATURAL VEGETATION FOR SILT CONTROL AND CITY.
 - a. ALL AREAS TO BE SEEDS SHALL BE CULTIVATED BY DISKING, RAGING, HARROWING, OR OTHER ACCEPTABLE MEANS.
 - b. PERFORM ALL CULTIVATING PERPENDICULAR TO THE SLOPE.
 - c. COVER THE SITE WITH MULCH, TOPSOIL, OR OTHER SOIL AMENDMENTS.
 - d. IF NECESSARY, SURFACE RUNOFF CONTROL MEASURES SUCH AS GRADIENT TERRACES, INTERCEPTOR DITCHES/SWALES, LEVEL SPREADERS, AND SEDIMENT BASINS SHALL BE INSTALLED PRIOR TO SEEDING.
 - e. IMMEDIATELY FOLLOWING FINISH GRADING PERMANENT VEGETATION WILL BE APPLIED IN ACCORDANCE WITH THE SPECIFICATIONS.
 - f. UNLESS IN A WETLAND RESTORATION AREA, ALL DISTURBED AREAS SHALL BE RESTORED USING AN APPROVED HYDROSEEDER OR AS OTHERWISE APPROVED BY OWNER.



- NOTES:**
1. REEZE THE STORM DRAIN INLET PROTECTION FOR THE STORMWATER STRUCTURE IT WILL SERVICE.
 2. THE STORM DRAIN INLET PROTECTION SHALL HAVE A BUILT-IN HIGH-FLOW RELIEF SYSTEM (OVERFLOW BYPASS).
 3. THE RETRIEVAL SYSTEM MUST ALLOW REMOVAL OF THE BELOW INLET GRADE DEVICE WITHOUT SPILLING THE COLLECTED MATERIAL.
 4. PERFORM MAINTENANCE IN ACCORDANCE WITH WIDEST SPECIFICATION SECTION 8-01.2(10).

<p>19-1 NORTH HILL AC WATER MAIN REPLACEMENT AND SEWER UTILITY IMPROVEMENTS</p>		<p>90% SUBMITTAL</p>	
<p>TEMPORARY EROSION AND SEDIMENT CONTROL NOTES</p>		<p>8 of X</p>	
<p>PROJECT NO.: 19-2429 SCALE: AS SHOWN DATE: SEPTEMBER 2019</p>		<p>8 of X</p>	

NOTES:

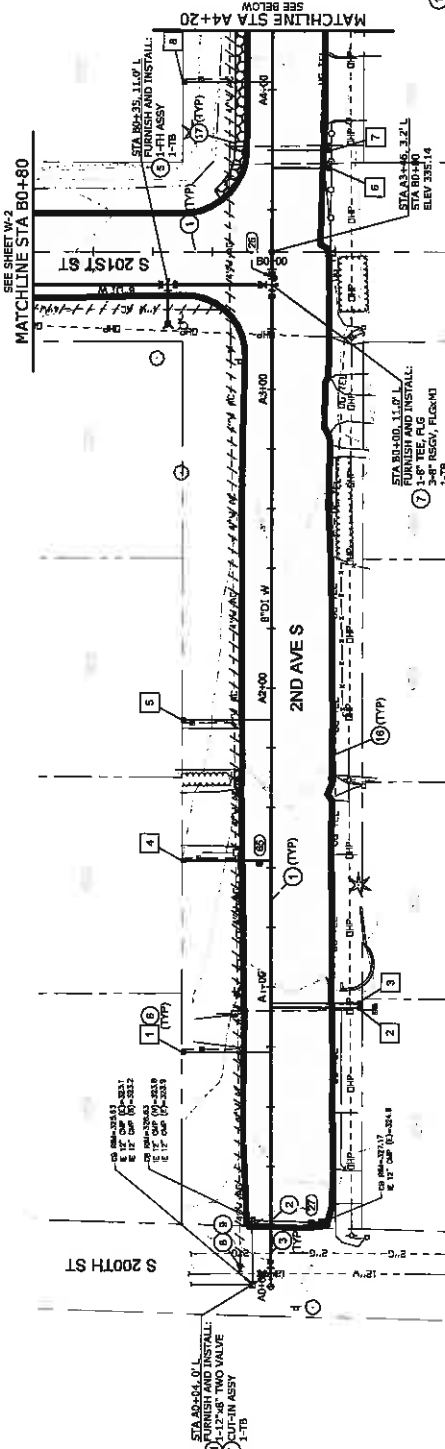
1. THE LOCATION OF EXISTING UTILITIES SHOWN ARE APPROXIMATE, TAKEN FROM UTILITY LOCATE MARKING AND/OR AVAILABLE RECORD DRAWINGS. CONTRACTOR SHALL VERIFY ALL UTILITIES TO BE PROTECTED BY THE CONTRACTOR PRIOR TO AND DURING CONSTRUCTION.
2. SURVEY CONTROL NUMBER (C) SEE SHEET G-4.
3. PROTECT ALL EXISTING UTILITIES. PROVIDE SUPPORT OR SHORING AS REQUIRED.
4. CLOSE MAIN WITHOUT INTERMEDIATE GASES OR HIGH POINTS, EXCEPT WHERE IDENTIFIED & APPROVED BY THE ENGINEER.
5. MAXIMUM ALLOWABLE DEFLECTION FOR EACH PIPE JOINT SHALL NOT EXCEED 1/8" PER FOOT OF PIPE LENGTH. THE CONTRACTOR IS RECOMMENDED PERMISSIBLE DEFLECTION, WHICH EVER IS LESS.
6. FURNISH AND INSTALL THRUST BLOCK PER HMD STD DETAILS 5 & 6.
7. FLUSH AND TEST MAIN PER HMD STD DETAIL 21 & 22 IN ACCORDANCE W/ SPECS.
8. TYPICAL TRENCH SECTION PER DETAIL 1, SHT W-16.
9. SEE SHEET G-3 FOR ADDITIONAL NOTES.
10. TYPICAL PAVEMENT RESTORATION PER DETAIL 3, SHT R-1.
11. TYPICAL MINIMUM DEPTH OF COVER FOR WATER MAIN SHALL BE 42".

CONSTRUCTION NOTES:

1. CONSTRUCTION CENTERLINE EQUALS RIGHT-OF-WAY CENTERLINE
2. PROTECT AND/OR TEMPORARILY RELOCATE AND RESTORE EXIST SD AT CROSSING. MAINTAIN MINIMUM VERTICAL SEPARATION OF 12", MEASURED EDGE TO EDGE
3. PROTECT EXIST GAS AND GAS SERVICE. PROVIDE SUPPORT DURING EXCAVATION ACTIVITIES. GAS AND GAS SERVICE LOCATIONS ARE NOT GUARANTEED COMPLETE OR ACCURATE
4. FURNISH AND INSTALL FIRE HYDRANT ASSEMBLY PER HMD STD DETAIL 9. CLOSE EXISTING HYDRANT VALVE. REMOVE HYDRANT, VALVE COVER, & VALVE BOX. SALVAGE TO HMD STORAGE OR DISPOSE AS DIRECTED BY DISTRICT
5. REPLACE EXISTING SERVICES WITH NEW SERVICE PIPE AND METER BOX PER HMD STANDARD DETAIL 21. LOCATE AND VERIFY EXIST METER SIZE AS DIRECTED BY HMD. UPON ACCEPTANCE OF PROPOSED WATER MAIN, METER BOX AND FITTINGS, AND RESTORE AREA
6. FURNISH AND INSTALL RSGV, BOX, & MARKER PER HMD STD DETAILS 10, 25 & 33
7. REMOVE EXIST VALVE, FURNISH & INSTALL BLIND FLANGE. REMOVE & DISPOSE OF EXISTING VALVE COVER AND BOX
8. PLUG & ABANDON EXISTING AC MAIN AND APPURTENANCES IN ACCORDANCE W/ SPECS. ALL ABANDONED AC MAIN SHALL BE FILLED WITH CDF
9. ADJUST EXISTING WATER VALVE BOX TO FINAL GRADE
10. CUT-IN TO EXISTING MAIN PER HMD STD DETAIL 3
11. HMA THICKENED EDGE PER DETAIL 1, SHT R-1
12. EDGE RESTORATION PER DETAIL 4, SHT R-1

PAVEMENT LEGEND

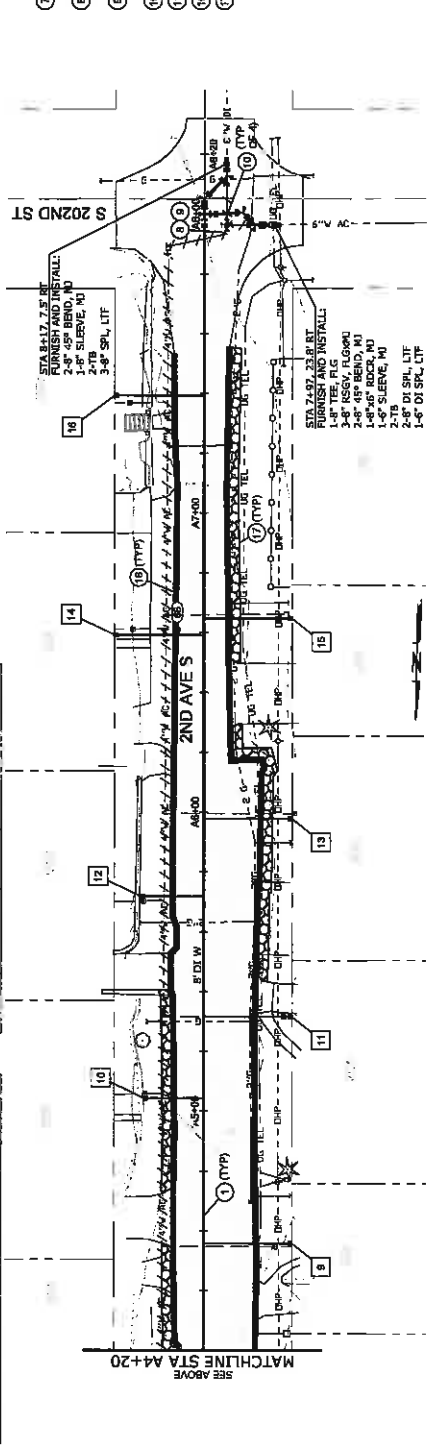
- 2-INCH GRIND AND OVERLAY PER THE SPECIFICATIONS
- 3-INCH GRIND AND OVERLAY PER THE SPECIFICATIONS



PLAN
SCALE: 1"=20'

WATER SERVICE TABLE #			
NO.	HOUSE NO.	STREET	ACCOUNT NO.
1	20108	2ND AVE S	2562
2	20110	2ND AVE S	2585
3	20115	2ND AVE S	2583
4	20120	2ND AVE S	2584
5	20121	2ND AVE S	2584
6	20128	2ND AVE S	2580
7	20127	2ND AVE S	2580
8	20124	2ND AVE S	2586

WATER SERVICE TABLE #			
NO.	HOUSE NO.	STREET	ACCOUNT NO.
9	20004	2ND AVE S	2569
10	20003	2ND AVE S	2567
11	20011	2ND AVE S	2558
12	20014	2ND AVE S	2558
13	20020	2ND AVE S	2564
14	20025	2ND AVE S	2560
15	20103	2ND AVE S	2567
16	20102	2ND AVE S	2566



PLAN
SCALE: 1"=20'

90% SUBMITTAL

PROJECT NO.: 19-2429 SCALE: AS SHOWN DATE: SEPTEMBER 2019

WATER MAIN REPLACEMENT AND RESTORATION PLAN
STA A0+00 TO STA A8+05 & STA B0+00 TO STA B0+80

19-1 NORTH HILL AC WATER MAIN REPLACEMENT AND SEWER UTILITY IMPROVEMENTS



DESIGNED: [Signature]
 DRAWN: [Signature]
 CHECKED: [Signature]

NOTICE: IF THIS BAR DOES NOT MEASURE 1" TO SCALE, IT IS NOT TO SCALE

NO.	DATE	BY	REVISION

WATER SERVICE TABLE			
NO.	HOUSE NO.	STREET	ACCOUNT NO.
1	20004	3RD AVE S	2548
2	20013	3RD AVE S	2550
3	20014	3RD AVE S	2547
4	20019	3RD AVE S	2551
5	2004	S 201ST ST	2553
6	20104	S 201ST ST	2512
7	304	S 201ST ST	2546
8	318	S 201ST ST	2544

PAVEMENT LEGEND

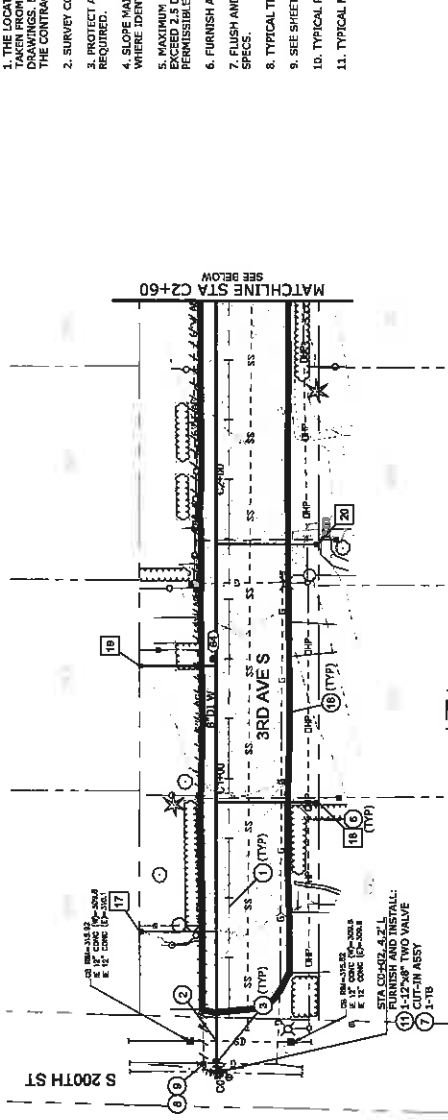
- 2-INCH GRIND AND OVERLAY PER THE SPECIFICATIONS
- 3-INCH GRIND AND OVERLAY PER THE SPECIFICATIONS

NOTES:

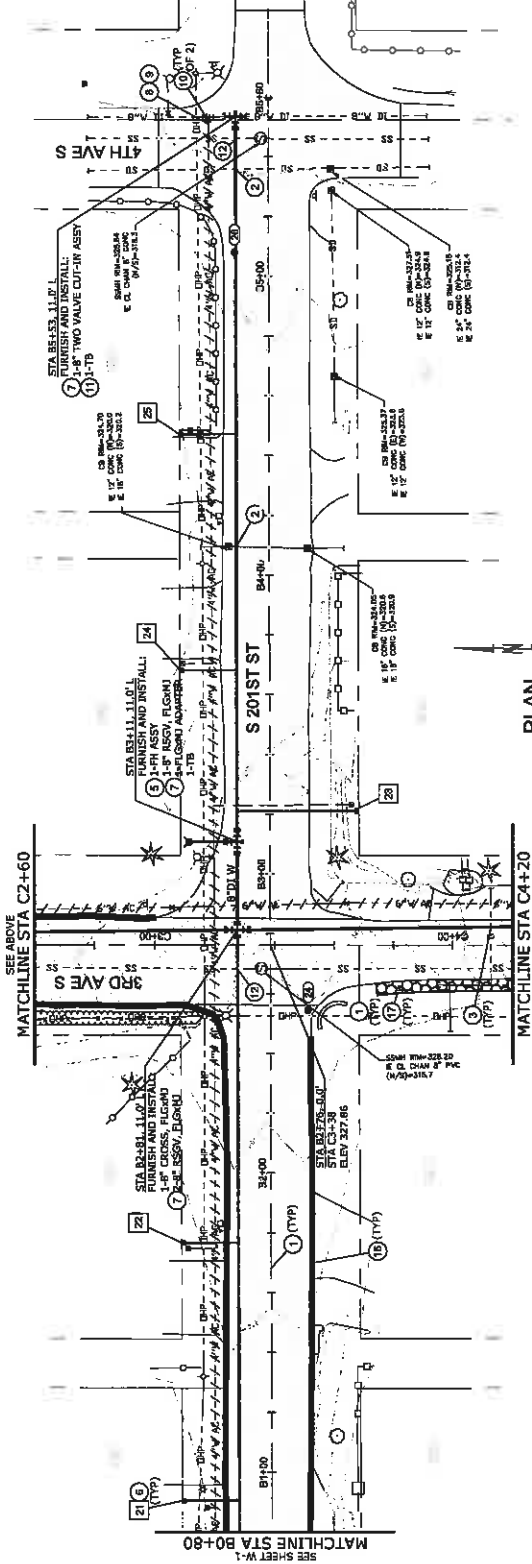
1. THE LOCATION OF EXISTING UTILITIES SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UTILITIES IN THE FIELD BY DRAWINGS. EXACT LOCATIONS MUST BE DETERMINED IN THE FIELD BY THE CONTRACTOR PRIOR TO AND DURING CONSTRUCTION.
2. SURVEY CONTROL NUMBERS (C) SEE SHEET G-4.
3. PROTECT ALL EXISTING UTILITIES. PROVIDE SUPPORT OR SHORING AS REQUIRED.
4. SLOPE MAIN WITHOUT INTERMEDIATE SAGS OR HIGH POINTS, EXCEPT WHERE IDENTIFIED & APPROVED BY THE ENGINEER.
5. MAXIMUM ALLOWABLE DEFLECTION FOR EACH PIPE JOINT SHALL NOT EXCEED 2.5 DEGREES OR ONE-HALF THE MANUFACTURER'S RECOMMENDED PERMISSIBLE DEFLECTION, WHICHEVER IS LESS.
6. FINISH AND INSTALL THRUST BLOCK PER HWD STD DETAILS 5 & 6.
7. FLUSH AND TEST MAIN PER HWD STD DETAIL 29 & IN ACCORDANCE W/ SPECS.
8. TYPICAL TRENCH SECTION PER DETAIL 4, SHT W-16.
9. SEE SHEET G-3 FOR ADDITIONAL NOTES.
10. TYPICAL PAVEMENT RESTORATION DETAIL 3, SHT R-1.
11. TYPICAL MINIMUM DEPTH OF COVER FOR WATER MAIN SHALL BE 42".

CONSTRUCTION NOTES:

1. CONSTRUCTION CENTERLINE EQUALS RIGHT-OF-WAY CENTERLINE
2. PROTECT AND/OR TEMPORARILY RELOCATE AND RESTORE EXISTING UTILITIES AT CROSSING, MAINTAIN MINIMUM VERTICAL CLEARANCE OF 12', MEASURED EDGE TO EDGE
3. PROTECT EXIST GAS AND GAS SERVICE. PROVIDE SUPPORT DURING EXCAVATION ACTIVITIES. GAS AND GAS SERVICE LOCATIONS ARE NOT GUARANTEED COMPLETE OR ACCURATE
4. FINISH AND INSTALL FIRE HYDRANT ASSEMBLY PER HWD STD DETAIL 9. CLOSE EXISTING HYDRANT VALVE. REMOVE HYDRANT, VALVE COVER, & VALVE BOX. SERVICE STORAGE TO BE DISPOSED AS DIRECTED BY DISTRICT
5. REPLACE EXISTING SERVICES WITH NEW SERVICE PER HWD STD DETAIL 9. MAINTAIN MINIMUM DETAIL 2" CLEARANCE FROM ALL ADJACENT UTILITIES. ACCEPTANCE OF PROPOSED WATER MAIN, TRANSFER CUSTOMER SERVICE LINE TO NEW SERVICE. REMOVE EXISTING METER BOX AND FITTINGS, AND RESTORE AREA
6. FURNISH AND INSTALL REGV, BOX, & MARKER PER HWD STD DETAILS 10, 25 & 33
7. REMOVE EXIST VALVE. FURNISH & INSTALL BLIND FLANGE. REMOVE & DISPOSE OF EXISTING VALVE COVER AND BOX
8. PLUG & ABANDON EXISTING AC MAIN AND APPURTENANCES IN ACCORDANCE W/ SPECS. ALL ABANDONED AC MAIN SHALL BE FILLED WITH COP GRADE
9. ADJUST EXISTING WATER VALVE BOX TO FINAL GRADE
10. CUT-IN EXISTING MAIN PER HWD STD DETAIL 3
11. AT UTILITY CROSSINGS MAINTAIN MINIMUM CLEARANCE PER HWD STD DETAIL 11. MAINTAIN 12" FROM ALL OTHER UTILITIES, MEASURED EDGE-TO-EDGE
12. CUT IN EXISTING MAIN PER HWD STD DETAIL 2
13. HMA THICKENED EDGE PER DETAIL 1, SHT R-1
14. EDGE RESTORATION PER DETAIL 4, SHT R-1



PLAN
SCALE: 1"=20'



PLAN
SCALE: 1"=20'

90% SUBMITTAL

				<p>19-1 NORTH HILL AC WATER MAIN REPLACEMENT AND SEWER UTILITY IMPROVEMENTS</p> <p>WATER MAIN REPLACEMENT AND RESTORATION PLAN</p> <p>STA 80+80 TO STA B5+60 & STA C0+00 TO STA C4+20</p>								
<p>REQ. DESIGNED DRAWN CHECKED</p>	<p>NOTICE</p> <p>IF THIS SEAL IS NOT MEASURED TO THE CORNER OF THE SEAL, IT IS NOT TO SCALE</p>	<p>REVISION</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>NO.</th> <th>DATE</th> <th>BY</th> <th>REVISION</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>	NO.	DATE	BY	REVISION					<p>PROJECT NO.: 19-2425</p> <p>SCALE: AS SHOWN</p> <p>DATE: SEPTEMBER 2018</p>	<p>SHEET</p> <p>W-2</p> <p>8 of 8</p>
NO.	DATE	BY	REVISION									

NOTES:

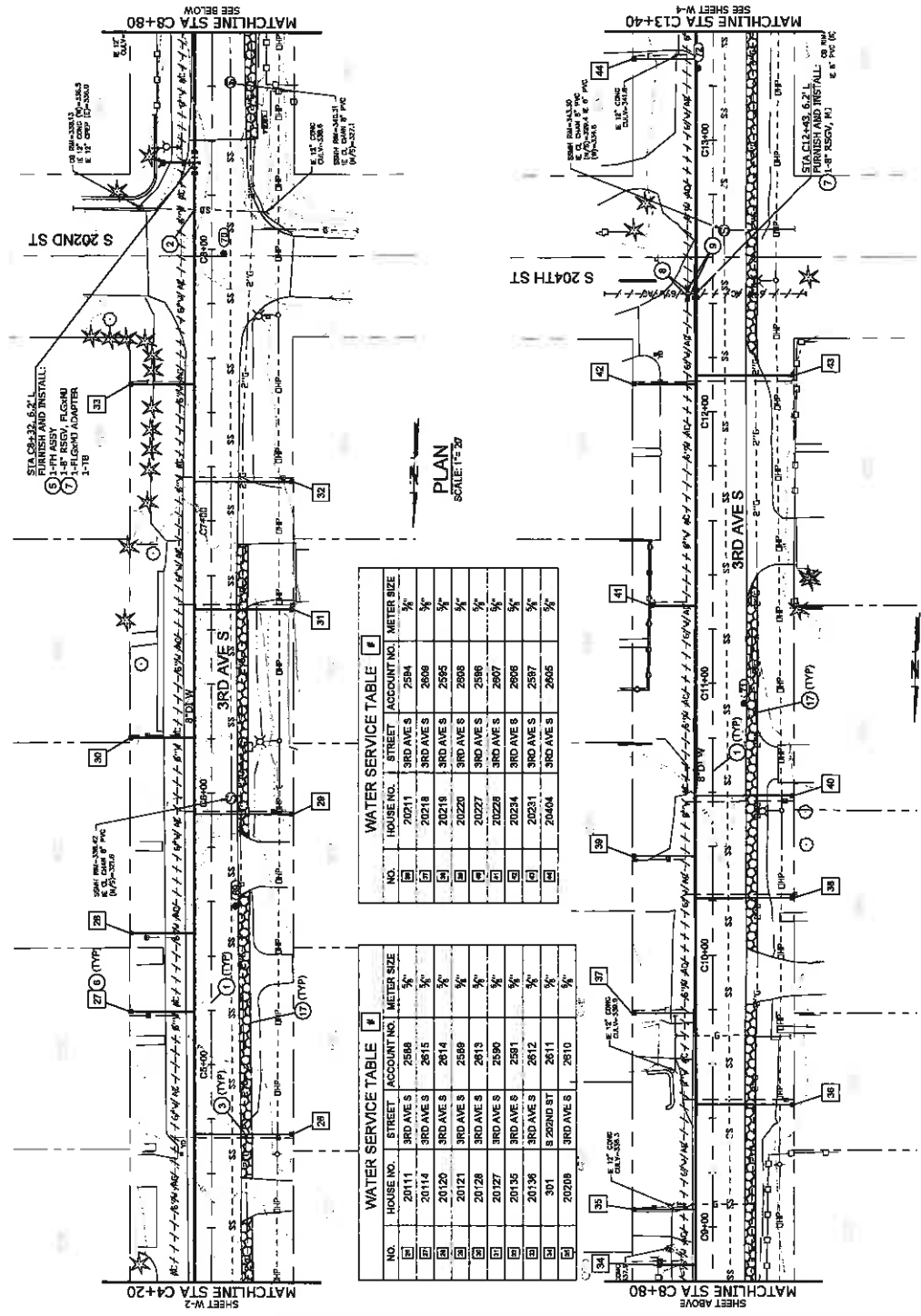
1. THE LOCATION OF EXISTING UTILITIES SHOWN ARE APPROXIMATE, AND FROM THE LOCATION OF THE MAINS AND/OR AVAILABLE RECORD DRAWINGS. ALL LOCATIONS OF UTILITIES SHALL BE FIELD BY THE CONTRACTOR PRIOR TO AND DURING CONSTRUCTION.
2. SURVEY CONTROL NUMBERS: SEE SHEET G-4.
3. PROTECT ALL EXISTING UTILITIES. PROVIDE SUPPORT OR SHORING AS REQUIRED.
4. SLOPE MAIN WITHOUT INTERMEDIATE SAGS OR HIGH POINTS, EXCEPT WHERE IDENTIFIED & APPROVED BY THE ENGINEER.
5. MAXIMUM ALLOWABLE DEFLECTION FOR EACH PIPE JOINT SHALL NOT EXCEED 2.5 INCHES OR ONE-HALF THE MANUFACTURER'S RECOMMENDED PERMISSIBLE DEFLECTION, WHICHEVER IS LESS.
6. FURNISH AND INSTALL THRUST BLOCK PER HWD STD DETAILS 5 & 6.
7. FLUSH AND TEST MAIN PER HWD STD DETAIL 23 & IN ACCORDANCE W/ SPECS.
8. TYPICAL TRENCH SECTION PER DETAIL 1, SHT W-16.
9. SEE SHEET G-3 FOR ADDITIONAL NOTES.
10. TYPICAL PAVEMENT RESTORATION DETAIL 3, SHT R-1.
11. TYPICAL MINIMUM DEPTH OF COVER FOR WATER MAIN SHALL BE 42".

CONSTRUCTION NOTES:

1. CONSTRUCTION CENTERLINE EQUALS RIGHT-OF-WAY CENTERLINE
2. PROTECT AND/OR TEMPORARILY RELOCATE AND RESTORE EXIST SD AT CROSSING, MAINTAIN MINIMUM VERTICAL SEPARATION OF 12", MEASURED EDGE TO EDGE
3. PROTECT EXIST GAS AND GAS SERVICE, PROVIDE SUPPORT DURING EXCAVATION ACTIVITIES. GAS AND GAS SERVICE LOCATIONS ARE NOT GUARANTEED COMPLETE OR ACCURATE
4. FURNISH AND INSTALL FIRE HYDRANT ASSEMBLY PER HWD STD DETAIL 8 & VALVE BOX. SALVAGE TO HWD STORAGE OR DISPOSE AS DIRECTED BY DISTRICT.
5. REPLACE EXISTING SERVICES WITH NEW SERVICE PIPE AND METER BOX PER HWD STANDARD DETAIL 21. LOCATE AS DIRECTED BY HWD. EXISTING SERVICES TO BE REMOVED SHALL BE IDENTIFIED BY HWD OR SERVICE LINE TO NEW SERVICE. REMOVE EXISTING METER BOX AND FITTINGS, AND RESTORE AREA.
6. FURNISH AND INSTALL NSGV, BOX, & MARKER PER HWD STD DETAILS 10, 25 & 33
7. REMOVE EXIST VALVE, FURNISH & INSTALL BLIND FLANGE. REMOVE & DISPOSE OF EXISTING VALVE COVER AND BOX.
8. PLUG & ABANDON EXISTING AC MAIN AND APPURTENANCES IN ACCORDANCE W/ SPECS. ALL ABANDONED AC MAIN SHALL BE FILLED WITH CP.
9. EDGE RESTORATION PER DETAIL 4, SHT R-1

PAVEMENT LEGEND

- 2-INCH GRIND AND OVERLAY PER THE SPECIFICATIONS
- 3-INCH GRIND AND OVERLAY PER THE SPECIFICATIONS



WATER SERVICE TABLE #

NO.	HOUSE NO.	STREET	ACCOUNT NO.	METER SIZE
26	20211	3RD AVE S	2594	3/4"
27	20218	3RD AVE S	2608	3/4"
28	20219	3RD AVE S	2595	3/4"
29	20220	3RD AVE S	2608	3/4"
30	20227	3RD AVE S	2596	3/4"
31	20228	3RD AVE S	2607	3/4"
32	20234	3RD AVE S	2606	3/4"
33	20231	3RD AVE S	2587	3/4"
34	20404	3RD AVE S	2605	3/4"

WATER SERVICE TABLE #

NO.	HOUSE NO.	STREET	ACCOUNT NO.	METER SIZE
35	20111	3RD AVE S	2608	3/4"
36	20114	3RD AVE S	2615	3/4"
37	20120	3RD AVE S	2614	3/4"
38	20121	3RD AVE S	2588	3/4"
39	20128	3RD AVE S	2613	3/4"
40	20127	3RD AVE S	2600	3/4"
41	20135	3RD AVE S	2581	3/4"
42	20136	3RD AVE S	2612	3/4"
43	301	S 202ND ST	2611	3/4"
44	20209	3RD AVE S	2610	3/4"

PLAN SCALE 1"=20'

PLAN SCALE 1"=20'

90% SUBMITTAL

PROJECT NO.: 19-2423 SCALE: AS SHOWN DATE: SEPTEMBER 2013

9 OF X

19-1 NORTH HILL AC WATER MAIN REPLACEMENT AND SEWER UTILITY IMPROVEMENTS

WATER DISTRICT

murraysmith

DESIGNED BY: [Signature]

DRAWN BY: [Signature]

CHECKED BY: [Signature]

NOTICE: IF THIS S&E DOES NOT MEET YOUR DRAWING IS NOT TO SCALE

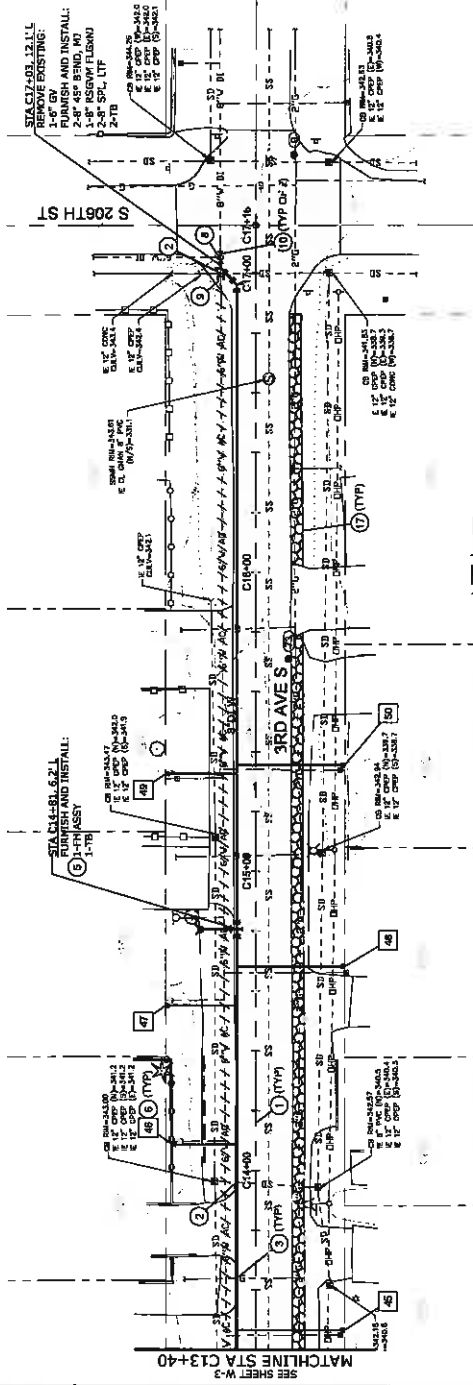
NO.	DATE	BY	REVISION

NOTES:

1. THE LOCATION OF EXISTING UTILITIES SHOWN ARE APPROXIMATE, TAKEN FROM UTILITY LOCATE MARKING INFORMATION. EXISTING UTILITIES SHALL BE LOCATED BY THE CONTRACTOR PRIOR TO AND DURING CONSTRUCTION.
2. SURVEY CONTROL NUMBER (C) SEE SHEET G-4.
3. PROTECT ALL EXISTING UTILITIES. PROVIDE SUPPORT OR SHORING AS REQUIRED.
4. SLOPE MAIN WITHOUT INTERMEDIATE SAGS OR HIGH POINTS, EXCEPT WHERE IDENTIFIED & APPROVED BY THE ENGINEER.
5. MAXIMUM ALLOWABLE DEFLECTION FOR EACH PIPE JOINT SHALL NOT EXCEED 2.5 DEGREES OR ONE-HALF THE MANUFACTURER'S RECOMMENDED PERMISSIBLE DEFLECTION, WHICHEVER IS LESS.
6. FURNISH AND INSTALL THRUST BLOCK PER HWD STD DETAILS 5 & 6.
7. FLUSH AND TEST MAIN PER HWD STD DETAIL 29 & IN ACCORDANCE W/ SPECS.
8. TYPICAL TRENCH SECTION PER DETAIL 1, SHT W-16
9. SEE SHEET G-3 FOR ADDITIONAL NOTES.
10. TYPICAL PAVEMENT RESTORATION DETAIL 3, SHT R-1.
11. TYPICAL MINIMUM DEPTH OF COVER FOR WATER MAIN SHALL BE 42".

CONSTRUCTION NOTES:

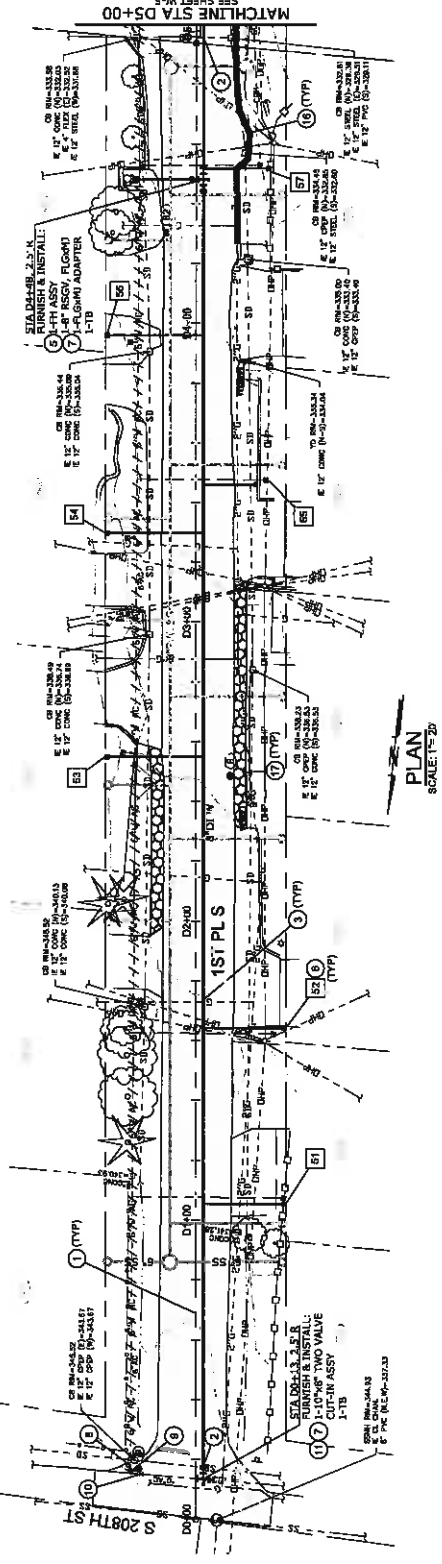
1. CONSTRUCTION CENTERLINE EQUALS RIGHT-OF-WAY CENTERLINE
2. PROTECT AND/OR TEMPORARILY RELOCATE AND RESTORE EXISTING SO-LAY CROSSINGS. MAINTAIN MINIMUM VERTICAL SEPARATION OF 12", MEASURED EDGE TO EDGE
3. PROTECT EXIST GAS AND GAS SERVICE. PROVIDE SUPPORT DURING EXCAVATION ACTIVITIES. GAS AND GAS SERVICE LOCATIONS ARE NOT GUARANTEED COMPLETE OR ACCURATE
4. FURNISH AND INSTALL FIRE HYDRANT ASSEMBLY PER HWD STD DETAIL 9. CLOSE EXISTING HYDRANT VALVE. REMOVE EXISTING HYDRANT VALVE. REMOVE EXISTING HYDRANT VALVE. SALVAGE TO HWD STORAGE OR DISPOSE AS DIRECTED BY DISTRICT.
5. REPLACE EXISTING SERVICES WITH NEW SERVICE PIPE AND METER BOX PER HWD STANDARD DETAIL 21. LOCATE AS DIRECTED BY HWD. UPON ACCEPTANCE OF PROPOSED WATER MAIN, TRANSFER CUSTOMER CONNECTION FROM EXISTING SERVICE TO NEW SERVICE METER BOX AND FITTINGS, AND RESTORE AREA.
6. FURNISH AND INSTALL REGW, BOX, & MARKER PER HWD STD DETAILS 10, 25 & 33
7. REMOVE EXIST VALVE. FURNISH & INSTALL BLIND FLANGE. REMOVE & DISPOSE OF EXISTING VALVE COVER AND BOX.
8. PLUG & ABANDON EXISTING AC MAIN AND APPURTENANCES IN ACCORDANCE W/ SPECS. ALL ABANDONED AC MAIN SHALL BE FILLED WITH CDF
9. ADJUST EXISTING WATER VALVE BOX TO FINAL GRADE
10. CUT-IN TO EXISTING MAIN PER HWD STD DETAIL 3
11. HMA THICKENED EDGE PER DETAIL 1, SHT R-1
12. EDGE RESTORATION PER DETAIL 4, SHT R-1



PLAN SCALE 1"=20'

NO.	HOUSE NO.	STREET	ACCOUNT NO.	METER SIZE
1	20817	1ST PLS	5343	3/4"
2	20824	1ST PLS	5350	3/4"
3	20838	1ST PLS	5346	3/4"
4	20848	1ST PLS	5348	3/4"
5	20859	1ST PLS	5346	3/4"

NO.	HOUSE NO.	STREET	ACCOUNT NO.	METER SIZE
6	20412	3RD AVE S	2588	3/4"
7	20422	3RD AVE S	2604	3/4"
8	20429	3RD AVE S	2600	3/4"
9	20428	3RD AVE S	2602	3/4"
10	20429	3RD AVE S	2601	3/4"
11	20811	1ST PLS S	5342	3/4"



PLAN SCALE 1"=20'

90% SUBMITTAL

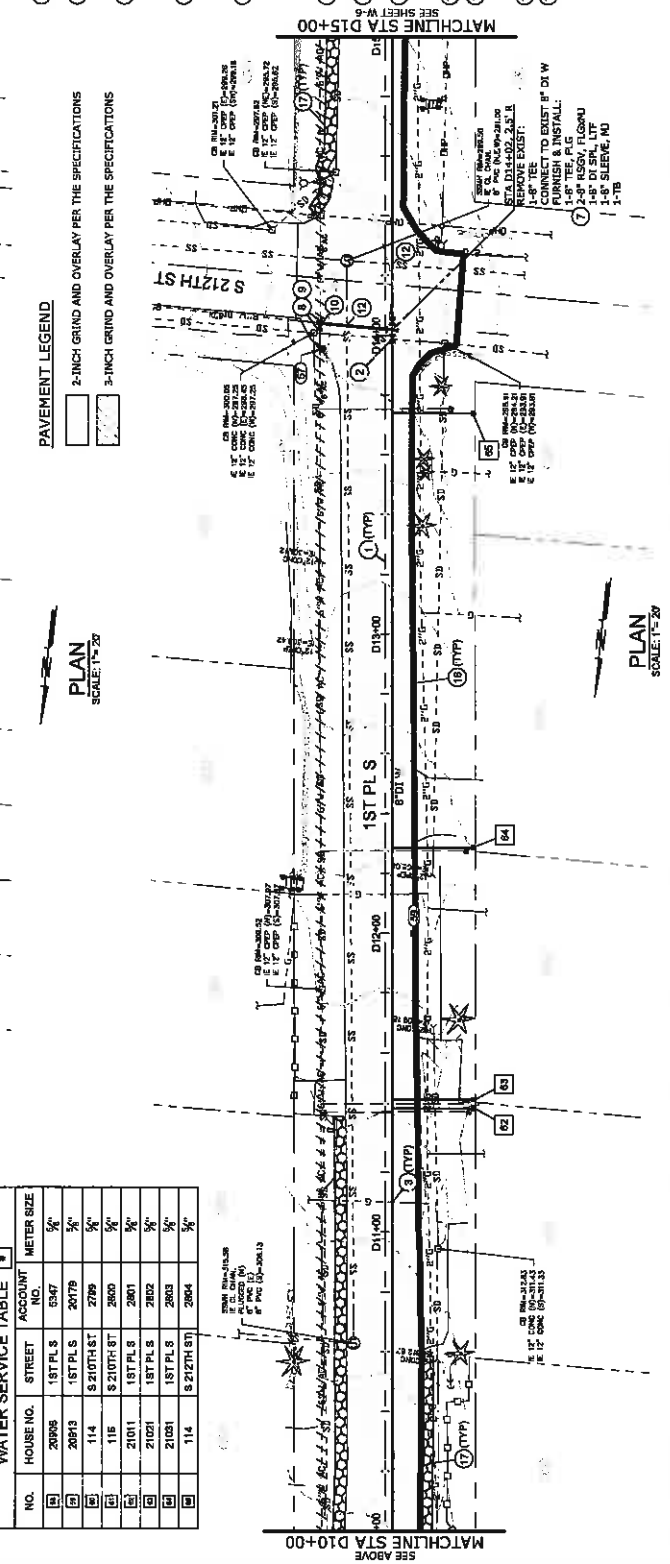
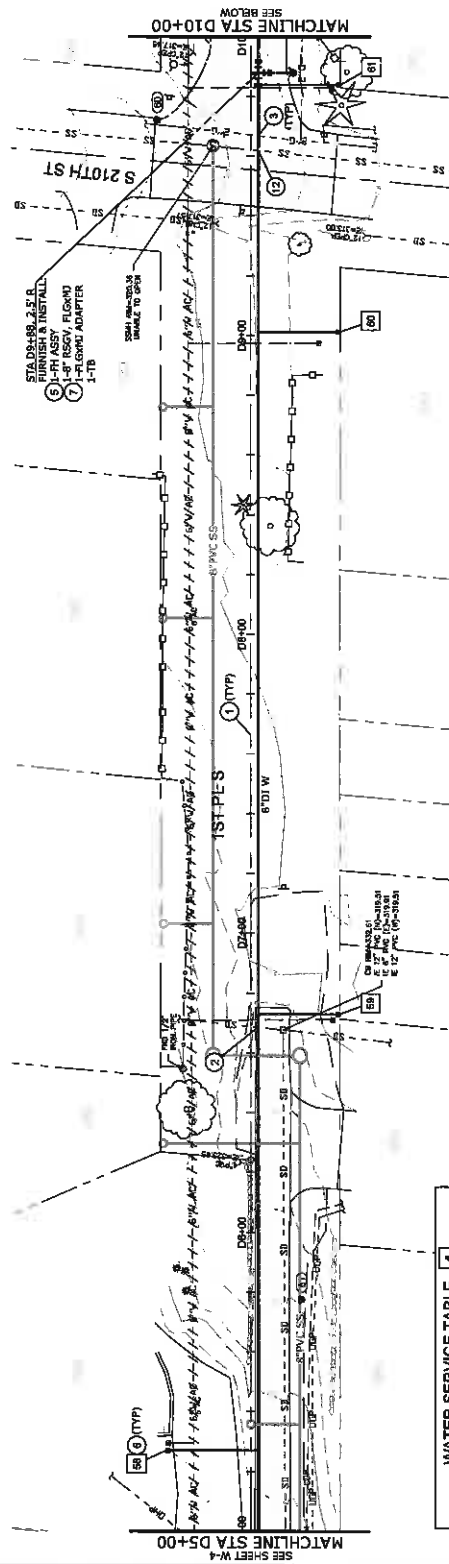
PROJECT NO.: 19-2429		SCALE: AS SHOWN		DATE: SEPTEMBER 2019	
SHEET					
WATER MAIN REPLACEMENT AND RESTORATION PLAN					
STA C13+40 TO C17+20 & STA D0+00 TO STA D5+00					
W-4					
10 OF X					
19-1 NORTH HILL AC WATER MAIN REPLACEMENT AND SEWER UTILITY IMPROVEMENTS		MURRAYSMITH		CITY OF MINNEAPOLIS	
DESIGNED	SAW	CHECKED	SA	DATE	BY
NOTICE	IF THE PLOT DOES NOT PRINT CORRECTLY, PLEASE CONTACT THE DESIGNER.	REVISION			

NOTES:

1. THE LOCATION OF EXISTING UTILITIES SHOWN ARE BASED ON RECORD DRAWINGS, FIELD SURVEYING AND/OR AVAILABLE RECORD DRAWINGS. EXACT LOCATIONS MUST BE DETERMINED IN THE FIELD BY THE CONTRACTOR PRIOR TO AND DURING CONSTRUCTION.
2. SURVEY CONTROL NUMBER (C) SEE SHEET G-4.
3. PROTECT ALL EXISTING UTILITIES. PROVIDE SUPPORT OR SHORING AS REQUIRED.
4. SLOPE MAIN WITHOUT INTERMEDIATE SAGS OR HIGH POINTS, EXCEPT WHERE IDENTIFIED & APPROVED BY THE ENGINEER.
5. MAXIMUM ALLOWABLE DEFLECTION FOR EACH PIPE JOINT SHALL NOT EXCEED 2.5 DEGREES OR ONE-HALF THE MANUFACTURER'S RECOMMENDED PERMISSIBLE DEFLECTION, WHICHEVER IS LESS.
6. FINISH AND INSTALL THRUST BLOCK PER HWD STD DETAILS 5 & 6.
7. FLUSH AND TEST MAIN PER HWD STD DETAIL 29 & IN ACCORDANCE W/ SPECS.
8. TYPICAL TRENCH SECTION PER DETAIL 1, SHT W-16.
9. SEE SHEET G-3 FOR ADDITIONAL NOTES.
10. TYPICAL PAVEMENT RESTORATION DETAIL 3, SHT R-1.
11. TYPICAL MINIMUM DEPTH OF COVER FOR WATER MAIN SHALL BE 42".

CONSTRUCTION NOTES:

1. CONSTRUCTION CENTERLINE EQUALS RIGHT-OF-WAY CENTERLINE
2. PROTECT AND/OR TEMPORARILY RELOCATE AND RESTORE EXIST SD AT CROSSING, MAINTAIN MINIMUM VERTICAL SEPARATION OF 12", MEASURED EDGE TO EDGE
3. PROTECT EXIST GAS AND GAS SERVICE. PROVIDE SUPPORT DURING EXCAVATION ACTIVITIES. GAS AND GAS SERVICE LOCATIONS ARE NOT GUARANTEED COMPLETE OR ACCURATE
4. FINISH AND INSTALL FIRE HYDRANT ASSEMBLY PER HWD STD DETAILS 20, 25 & 35
5. REMOVE EXIST VALVE, FINISH & INSTALL BLIND FLANGE. REMOVE & DISPOSE OF EXISTING VALVE COVER AND BOX.
6. PLUG & ABANDON EXISTING AC MAIN AND APPURTENANCES IN ACCORDANCE W/ SPECS. ALL ABANDONED AC MAIN SHALL BE FILLED WITH CDF
7. ADJUST EXISTING WATER VALVE BOX TO FINAL GRADE
8. AT UTILITY CROSSINGS MAINTAIN MINIMUM VERTICAL SEPARATION OF 18" FROM SANITARY SEWER AND 12" FROM ALL OTHER UTILITIES, MEASURED EDGE-TO-EDGE
9. HMA THICKENED EDGE PER DETAIL 1, SHT R-1
10. EDGE RESTORATION PER DETAIL 4, SHT R-1



90% SUBMITTAL

PROJECT NO.: 19-2423 SCALE: AS SHOWN DATE: SEPTEMBER 2019

19-1 NORTH HILL AC WATER MAIN REPLACEMENT AND SEWER UTILITY IMPROVEMENTS

WATER MAIN REPLACEMENT AND RESTORATION PLAN STA D5+00 TO STA D15+00

90% SUBMITTAL

19-1 NORTH HILL AC WATER MAIN REPLACEMENT AND SEWER UTILITY IMPROVEMENTS

WATER MAIN REPLACEMENT AND RESTORATION PLAN STA D5+00 TO STA D15+00

90% SUBMITTAL

19-1 NORTH HILL AC WATER MAIN REPLACEMENT AND SEWER UTILITY IMPROVEMENTS

WATER MAIN REPLACEMENT AND RESTORATION PLAN STA D5+00 TO STA D15+00

90% SUBMITTAL

19-1 NORTH HILL AC WATER MAIN REPLACEMENT AND SEWER UTILITY IMPROVEMENTS

WATER MAIN REPLACEMENT AND RESTORATION PLAN STA D5+00 TO STA D15+00

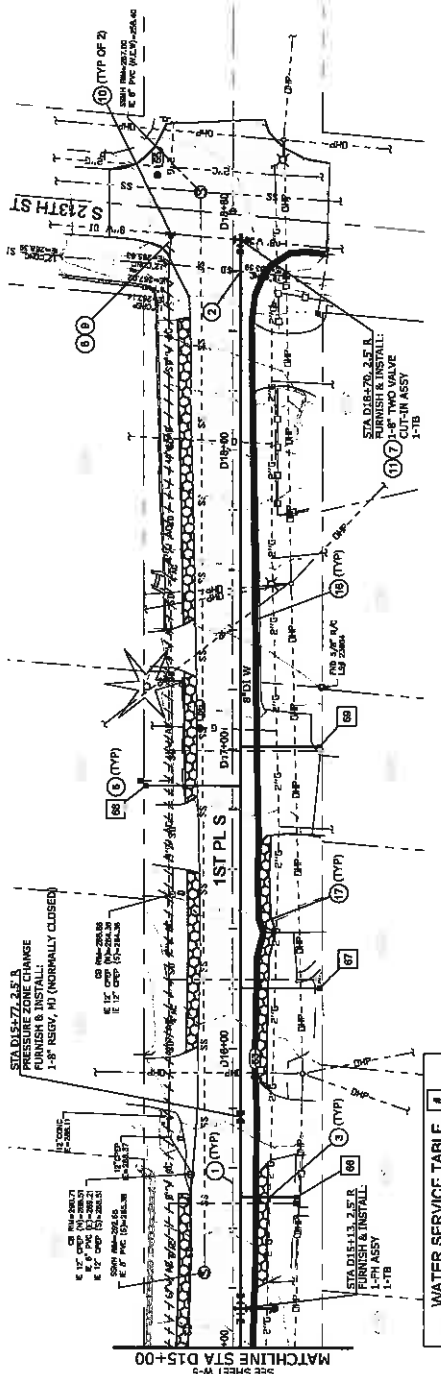
90% SUBMITTAL

NOTES:

1. THE LOCATION OF EXISTING UTILITIES SHOWN ARE APPROXIMATE. TAKEN FROM UTILITY LOCATE MARKING AND/OR AVAILABLE RECORD DRAWINGS. EXACT LOCATIONS MUST BE DETERMINED IN THE FIELD BY THE CONTRACTOR PRIOR TO AND DURING CONSTRUCTION.
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5. MAXIMUM ALLOWABLE DEFLECTION FOR EACH PIPE JOINT SHALL NOT EXCEED 2.5 DEGREES OR ONE-HALF THE MANUFACTURER'S RECOMMENDED PERMISSIBLE DEFLECTION, WHICHEVER IS LESS.
6. FINISH AND INSTALL THRUST BLOCK PER HWD STD DETAILS 8 & 6.
7. FLUSH AND TEST MAIN PER HWD STD DETAIL 29 & IN ACCORDANCE W/ SPECS.
8. TYPICAL TRENCH SECTION PER DETAIL 1, SHT W-15.
9. SEE SHEET G-3 FOR ADDITIONAL NOTES.
10. TYPICAL PAVEMENT RESTORATION DETAIL 3, SHT R-1.
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CONSTRUCTION NOTES:

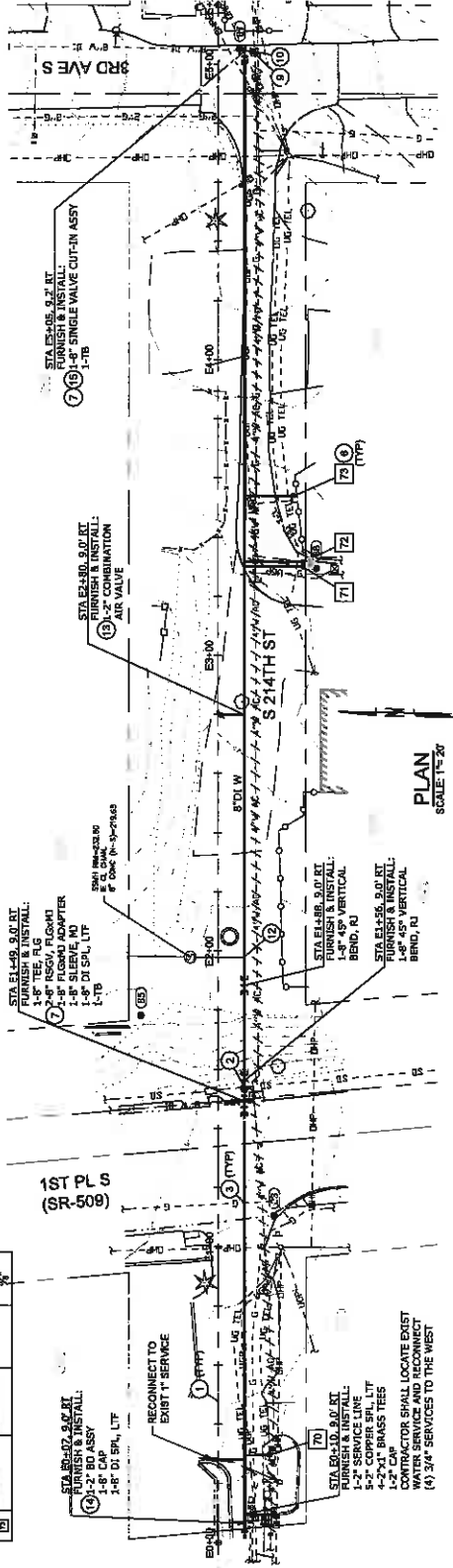
1. CONSTRUCTION CENTERLINE EQUALS RIGHT-OF-WAY CENTERLINE
2. PROTECT AND/OR TEMPORARILY RELOCATE AND SUPPORT ALL UTILITIES WITH A MINIMUM VERTICAL SEPARATION OF 12" MEASURED EDGE TO EDGE
3. PROTECT EXIST GAS AND GAS SERVICE. PROVIDE SUPPORT DURING EXCAVATION ACTIVITIES. GAS AND GAS SERVICE LOCATIONS ARE NOT GUARANTEED COMPLETE OR ACCURATE
4. REPLACE EXISTING SERVICES WITH NEW SERVICE PIPE AND METER BOX PER HWD STANDARD DETAIL 22. LOCATIONS AS DIRECTED BY HWD. UPON TRANSFER CUSTOMER SERVICE LINE TO NEW SERVICE, REMOVE EXISTING METER BOX AND FITTINGS, AND RESTORE AREA
5. FURNISH AND INSTALL R56V, BOX, & MARKER PER HWD STD DETAILS 10, 25 & 33
6. REMOVE EXIST VALVE. FURNISH & INSTALL 8" HD FLANGE. REMOVE & DISPOSE OF EXISTING VALVE COVER AND BOX
7. PLUG & ABANDON EXISTING AC MAIN AND APPURTENANCES IN ACCORDANCE W/ SPECS. ALL ABANDONED AC MAIN SHALL BE FILLED WITH CDF
8. ADJUST EXISTING WATER VALVE BOX TO FINAL GRADE
9. CUT-IN TO EXISTING MAIN PER HWD STD DETAIL 3
10. AT UTILITY CROSSINGS MAINTAIN MINIMUM VERTICAL SEPARATION OF 18" FROM SANITARY SEWER AND 12" FROM ALL OTHER UTILITIES. MEASURED EDGE-TO-EDGE
11. FURNISH AND INSTALL 3" COMBINATION AIR VALVE PER HWD STD DETAIL 15. FINAL LOCATION TO BE DETERMINED BY DISTRICT
12. FURNISH AND INSTALL 3" BLOW OFF ASSEMBLY PER HWD STD DETAIL 11. FINAL LOCATION TO BE DETERMINED BY DISTRICT
13. CUT IN EXISTING MAIN PER HWD STD DETAIL 2
14. HMA THICKENED EDGE PER DETAIL 1, SHT R-1
15. EDGE RESTORATION PER DETAIL 4, SHT R-1



PAVEMENT LEGEND

- 2-INCH GRIND AND OVERLAY PER THE SPECIFICATIONS
- 3-INCH GRIND AND OVERLAY PER THE SPECIFICATIONS

PLAN SCALE 1"=20'



PLAN SCALE 1"=20'

WATER SERVICE TABLE			
NO.	HOUSE NO.	STREET	ACCOUNT METER SIZE
1	21213	1ST PLS	2806 3/4"
2	21221	1ST PLS	2807 3/4"
3	21222	1ST PLS	2768 3/4"
4	21227	1ST PLS	2808 3/4"
5	111	S 214TH ST	2788 3/4"
6			3/4"
7			3/4"
8			3/4"

90% SUBMITTAL

PROJECT NO.: 19-2123 SCALE AS SHOWN DATE: SEPTEMBER 2019

19-1 HWD North Hill AC Water Main Replacement and Sewer Utility Improvements

WATER MAIN REPLACEMENT AND RESTORATION PLAN STA D15+00 TO STA D18+80 & STA E0+00 TO STA E24+00

W-6

12 of X

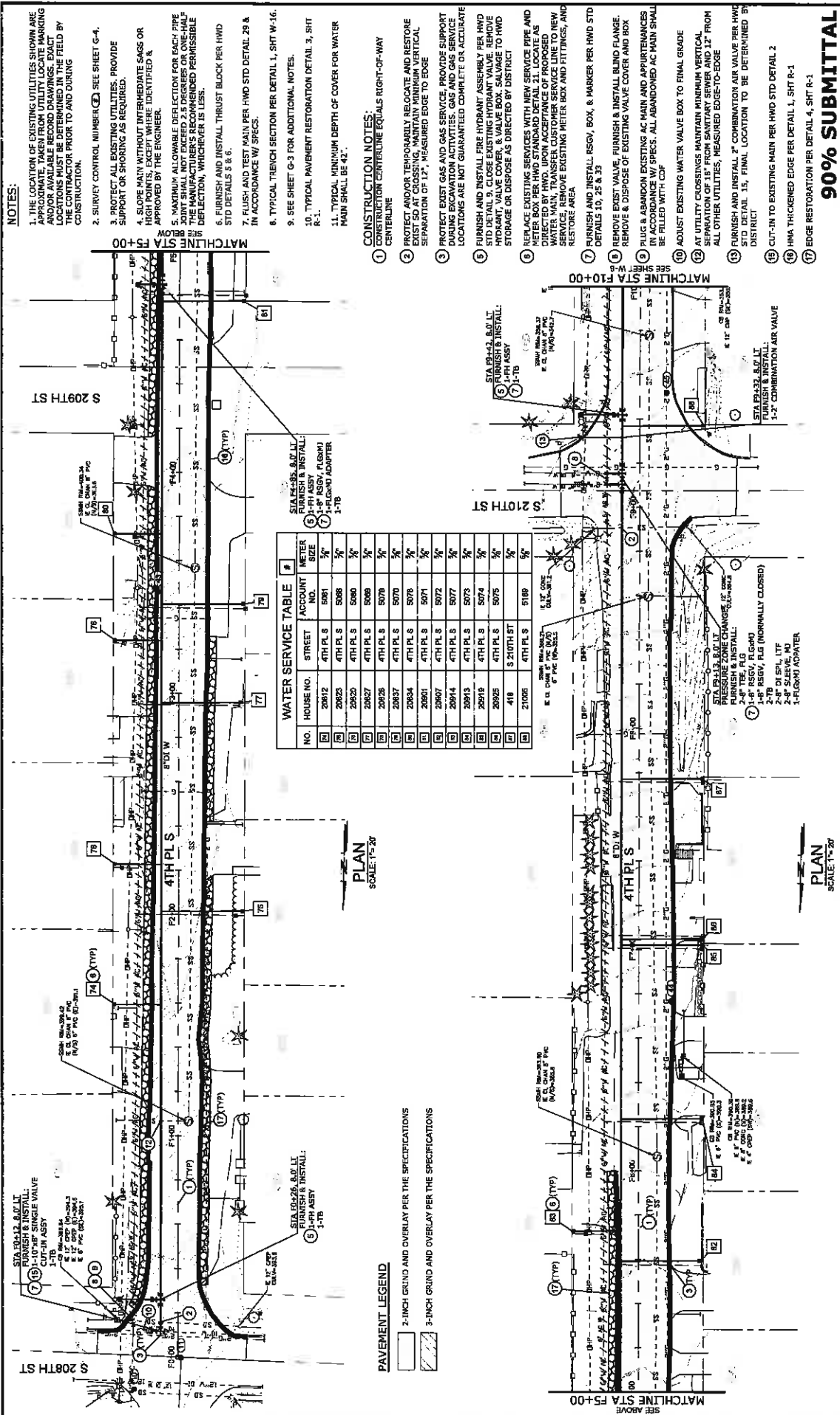
19-1 NORTH HILL AC WATER MAIN REPLACEMENT AND SEWER UTILITY IMPROVEMENTS

NOTICE: IF THIS DRAWING IS NOT PRINTED TO SCALE

DESIGNED BY: [Signature]

CHECKED BY: [Signature]

NO.	DATE	BY	REVISION



NO.	HOUSE NO.	STREET	ACCOUNT NO.	METER SIZE
51	20812	4TH PLS	5081	3/4"
52	20823	4TH PLS	5088	3/4"
53	20820	4TH PLS	5080	3/4"
54	20827	4TH PLS	5088	3/4"
55	20826	4TH PLS	5078	3/4"
56	20834	4TH PLS	5070	3/4"
57	20851	4TH PLS	5071	3/4"
58	20907	4TH PLS	5072	3/4"
59	20914	4TH PLS	5077	3/4"
60	20913	4TH PLS	5073	3/4"
61	20919	4TH PLS	5074	3/4"
62	20925	4TH PLS	5075	3/4"
63	418	S 210TH ST		3/4"
64	21005	4TH PLS	5189	3/4"

NOTES:

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2. SURVEY CONTROL NUMBER: SEE SHEET G-4.
3. PROTECT ALL EXISTING UTILITIES. PROVIDE SUPPORT OR SHORING AS REQUIRED.
4. SLOPE MAIN WITHOUT INTERMEDIATE SAGS OR HIGH POINTS, EXCEPT WHERE IDENTIFIED & APPROVED BY THE ENGINEER.
5. MAXIMUM ALLOWABLE DEFLECTION FOR EACH PIPE JOINT SHALL NOT EXCEED 2.5 DEGREES OR ONE-HALF THE MANUFACTURER'S RECOMMENDED PERMISSIBLE DEFLECTION, WHICHEVER IS LESS.
6. FURNISH AND INSTALL THRUST BLOCK PER HWD STD DETAILS 8 & 6.
7. FLUSH AND TEST MAIN PER HWD STD DETAIL 29 & IN ACCORDANCE W/ SPECS.
8. TYPICAL TRENCH SECTION PER DETAIL 1, SHT W-16.
9. SEE SHEET G-3 FOR ADDITIONAL NOTES.
10. TYPICAL PAVEMENT RESTORATION DETAIL 3, SHT R-1.
11. TYPICAL MINIMUM DEPTH OF COVER FOR WATER MAIN SHALL BE 42".

CONSTRUCTION NOTES:

1. CONSTRUCTION CENTERLINE EQUALS RIGHT-OF-WAY CENTERLINE.
2. PROTECT AND/OR TEMPORARILY RELOCATE AND RESTORE EXIST SD AT CROSSING, MAINTAIN MINIMUM VERTICAL SEPARATION OF 12", MEASURED EDGE TO EDGE.
3. PROTECT EXIST GAS AND GAS SERVICE, PROVIDE SUPPORT DURING EXCAVATION ACTIVITIES. GAS AND GAS SERVICE LOCATIONS ARE NOT GUARANTEED COMPLETE OR ACCURATE.
4. FURNISH AND INSTALL FIRE HYDRANT ASSEMBLY PER HWD STD DETAIL 9. CLOSE EXISTING HYDRANT VALVE. REMOVE HYDRANT VALVE COVER, & VALVE BOX. SALVAGE TO HWD STORAGE OR DISPOSE AS DIRECTED BY DISTRICT.
5. REPLACE EXISTING SERVICES WITH NEW SERVICE PIPE AND METER BOX PER HWD STANDARD DETAIL 21. LOCATE AS WATER MAIN. VERIFY ACCEPTANCE OF PROPOSED NEW SERVICE. REMOVE EXISTING METER BOX AND FITTINGS, AND RESTORE AREA.
6. FURNISH AND INSTALL RSGV, BOX, & MARKER PER HWD STD DETAILS 10, 25 & 33.
7. REMOVE EXIST VALVE, FURNISH & INSTALL BUNG FLANGE. REMOVE & DISPOSE OF EXISTING VALVE COVER AND BOX.
8. PLUG & ABANDON EXISTING AC MAIN AND APPURTENANCES IN ACCORDANCE W/ SPECS. ALL ABANDONED AC MAIN SHALL BE FILLED WITH COP.
9. ADJUST EXISTING WATER VALVE BOX TO FINAL GRADE.
10. UTILITY CROSSINGS MAINTAIN MINIMUM VERTICAL SEPARATION OF 18" FROM SANITARY SEWER AND 12" FROM ALL OTHER UTILITIES, MEASURED EDGE-TO-EDGE.
11. FURNISH AND INSTALL 2" COMBINATION AIR VALVE PER HWD DISTRICT.
12. CUT-IN TO EXISTING MAIN PER HWD STD DETAIL 2.
13. HMA THICKENED EDGE PER DETAIL 1, SHT R-1.
14. EDGE RESTORATION PER DETAIL 4, SHT R-1.

90% SUBMITTAL

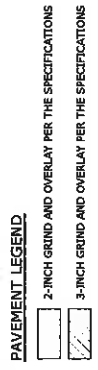
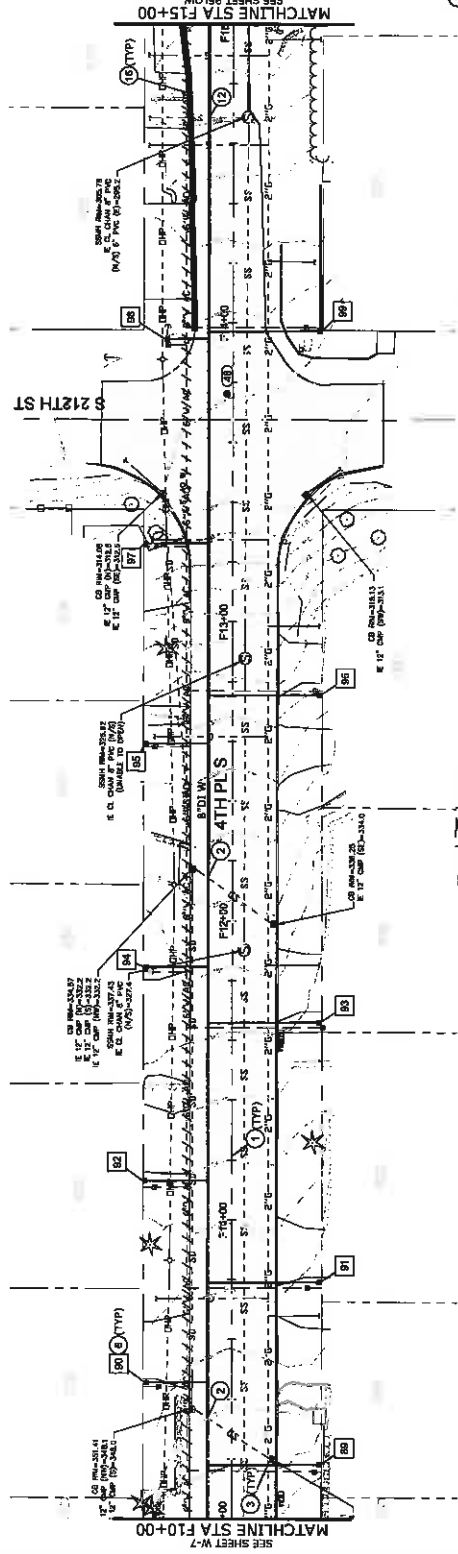
<p>19-1 NORTH HILL AC WATER MAIN REPLACEMENT AND SEWER UTILITY IMPROVEMENTS</p>		<p>WATER MAIN REPLACEMENT AND RESTORATION PLAN STA F0+00 TO STA F10+00</p>	
<p>PROJECT NO.: 19-2429</p>	<p>SCALE: AS SHOWN</p>	<p>DATE: SEPTEMBER 2019</p>	<p>SHEET W-7 13 of 18</p>
<p>DESIGNED: [Signature]</p>	<p>DRAWN: [Signature]</p>	<p>CHECKED: [Signature]</p>	<p>NOTICE: IF THIS BAR DOES NOT MEASURE 1" NOT TO SCALE</p>
<p>NO.</p>	<p>DATE</p>	<p>BY</p>	<p>REVISION</p>

NOTES:

1. THE LOCATION OF EXISTING UTILITIES SHOWN ARE APPROXIMATE. TAKEN FROM UTILITY LOCATE MARKING AND/OR AVAILABLE RECORD DRAWINGS. EXACT LOCATIONS SHALL BE DETERMINED BY THE CONTRACTOR PRIOR TO AND DURING CONSTRUCTION.
2. SURVEY CONTROL NUMBER (C) SEE SHEET G-4.
3. PROTECT ALL EXISTING UTILITIES. PROVIDE SUPPORT OR SHORING AS REQUIRED.
4. SLOPE MAIN WITHOUT INTERMEDIATE SAGS OR HIGH POINTS, EXCEPT WHERE IDENTIFIED & APPROVED BY THE ENGINEER.
5. MAXIMUM ALLOWABLE DEFLECTION FOR EACH PIPE JOINT SHALL NOT EXCEED 2.5 DEGREES OR ONE-HALF THE MANUFACTURER'S RECOMMENDED PERMISSIBLE DEFLECTION, WHICHEVER IS LESS.
6. FURNISH AND INSTALL THRUST BLOCK PER HWD STD DETAIL 5 & 6.
7. FLUSH AND TEST MAIN PER HWD STD DETAIL 28 & IN ACCORDANCE W/ SPECS.
8. TYPICAL TRENCH SECTION PER DETAIL 1, SHT W-16.
9. SEE SHEET G-3 FOR ADDITIONAL NOTES.
10. TYPICAL PAVEMENT RESTORATION DETAIL 3, SHT R-1.
11. TYPICAL MINIMUM DEPTH OF COVER FOR WATER MAIN SHALL BE 42".

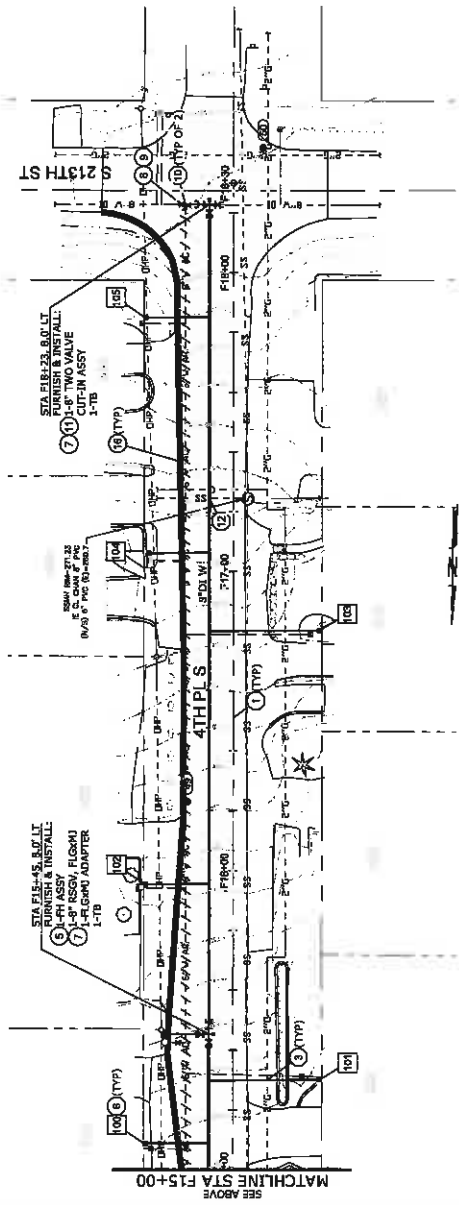
CONSTRUCTION NOTES:

1. CONSTRUCTION CENTERLINE EQUALS RIGHT-OF-WAY CENTERLINE
2. PROTECT AND/OR TEMPORARILY RELOCATE AND RESTORE EXIST SD AT CROSSING, MAINTAIN MINIMUM VERTICAL SEPARATION OF 12", MEASURED EDGE TO EDGE
3. PROTECT EXIST GAS AND GAS SERVICE, PROVIDE SUPPORT DURING EXCAVATION ACTIVITIES, GAS AND GAS SERVICE LOCATIONS ARE NOT GUARANTEED COMPLETE OR ACCURATE
5. FURNISH AND INSTALL FIRE HYDRANT ASSEMBLY PER HWD STD DETAIL 9. CLOSE EXISTING HYDRANT VALVE. REMOVE HYDRANT, VALVE COVER, & VALVE BOX. SALVAGE TO HWD STORAGE OR DISPOSE AS DIRECTED BY DISTRICT
6. REPLACE EXISTING SERVICES WITH NEW SERVICE PIPE AND METER BOX PER HWD STANDARD DETAIL 21. LOCATE METER BOX TO MAINTAIN MINIMUM VERTICAL SEPARATION TO NEW SERVICE. REMOVE EXISTING METER BOX AND FITTINGS, AND RESTORE AREA
7. FURNISH AND INSTALL RSCV, BOX, & MARKER PER HWD STD DETAILS 10, 25 & 33
8. REMOVE EXIST VALVE. FURNISH & INSTALL BLIND FLANGE. REMOVE & DISPOSE OF EXISTING VALVE COVER AND BOX
9. PLUG & ABANDON EXISTING AC MAIN AND APPURTENANCES IN ACCORDANCE W/ SPECS. ALL ABANDONED AC MAIN SHALL BE FILLED WITH CIP
10. ADJUST EXISTING WATER VALVE BOX TO FINAL GRADE
11. CUT-IN TO EXISTING MAIN PER HWD STD DETAIL 3
12. AT UTILITY CROSSINGS MAINTAIN MINIMUM VERTICAL SEPARATION OF 18" FROM SANITARY SEWER AND 12" FROM ALL OTHER UTILITIES, MEASURED EDGE-TO-EDGE
13. HMA THICKENED EDGE PER DETAIL 1, SHT R-1



PLAN
SCALE: 1"=20'

WATER SERVICE TABLE			
NO.	HOUSE NO.	STREET	ACCOUNT METER SIZE
1	2109	4TH PLS	5/8"
2	2102	4TH PLS	5/8"
3	2101	4TH PLS	5/8"
4	2102	4TH PLS	5/8"
5	2105	4TH PLS	5/8"
6	2102	4TH PLS	5/8"
7	2103	4TH PLS	5/8"
8	2108	4TH PLS	5/8"
9	2102	4TH PLS	5/8"
10	417	8 212TH ST	5/8"
11	2120	4TH PLS	5/8"
12	2122	4TH PLS	5/8"
13	2120	4TH PLS	5/8"
14	2126	4TH PLS	5/8"



PLAN
SCALE: 1"=20'

90% SUBMITTAL

PROJECT NO.: 19-2429 SCALE: AS SHOWN DATE: SEPTEMBER 2019

19-1 NORTH HILL AC WATER MAIN REPLACEMENT AND SEWER UTILITY IMPROVEMENTS



SEAL
DESIGNED BY: [Signature]
DRAWN BY: [Signature]
CHECKED BY: [Signature]

NO.	DATE	BY	REVISION

NOTICE: IF THIS SEAL DOES NOT APPEAR ON THIS DRAWING, IT IS NOT TO SCALE.

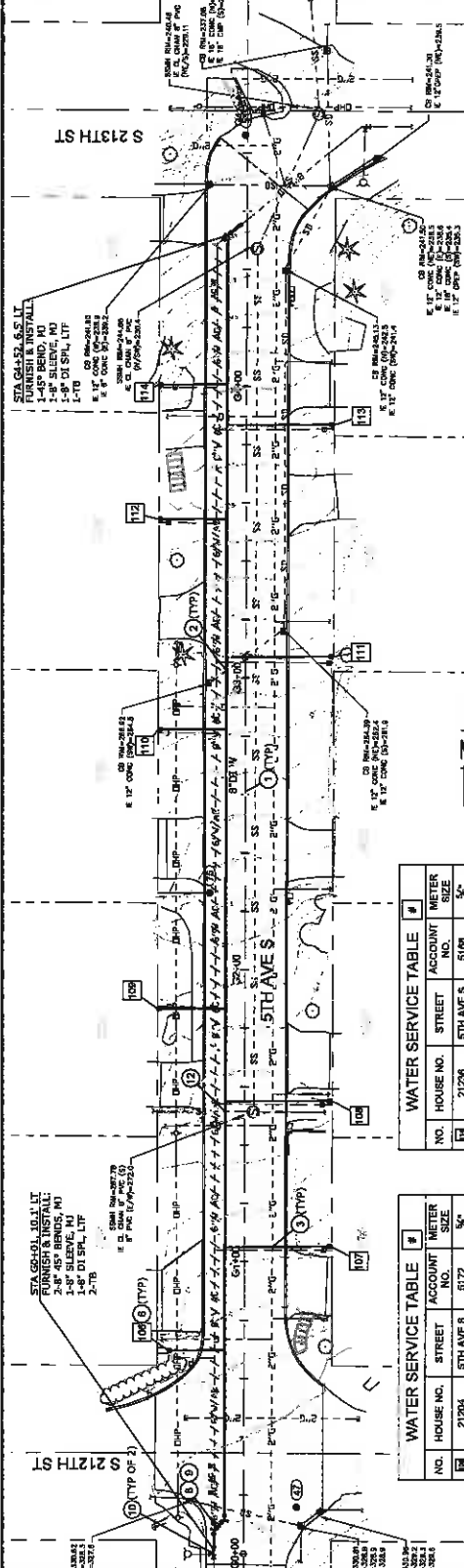
W-8
1.4 of 8

NOTES:

1. THE LOCATION OF EXISTING UTILITIES SHOWN ARE APPROXIMATE. VERIFY THE LOCATION OF ALL EXISTING UTILITIES AND/OR AVAILABLE RECORD DRAWINGS. EXACT LOCATIONS MUST BE DETERMINED IN THE FIELD BY THE CONTRACTOR PRIOR TO AND DURING CONSTRUCTION.
2. SURVEY CONTROL NUMBER (C) SEE SHEET G-4.
3. PROTECT ALL EXISTING UTILITIES. PROVIDE SUPPORT OR SHORING AS REQUIRED.
4. SLOPE MAIN WITHOUT INTERMEDIATE SAGS OR DEFLECTIONS. SLOPE SHALL BE IDENTIFIED & APPROVED BY THE ENGINEER.
5. MAXIMUM ALLOWABLE DEFLECTION FOR EACH PIPE SHALL BE AS SPECIFIED BY THE MANUFACTURER'S RECOMMENDED PERMISSIBLE DEFLECTION, WHICHEVER IS LESS.
6. FURNISH AND INSTALL THRUST BLOCK PER HMD STD DETAILS 5 & 6.
7. PUSH AND TEST MAIN PER HMD STD DETAIL 29 & IN ACCORDANCE W/ SPECS.
8. TYPICAL TRENCH SECTION PER DETAIL 1, SHT W-16.
9. SEE SHEET G-3 FOR ADDITIONAL NOTES.
10. TYPICAL PAVEMENT RESTORATION DETAIL 3, SHT R-1.
11. TYPICAL MINIMUM DEPTH OF COVER FOR WATER MAIN SHALL BE 42".

CONSTRUCTION NOTES:

1. CONSTRUCTION CENTERLINE EQUALS RIGHT-OF-WAY CENTERLINE.
2. PROTECT AND/OR TEMPORARILY RELOCATE AND RESTORE EXIST SD AT CROSSING. MAINTAIN MINIMUM CLEARANCE SEPARATION OF 12', MEASURED EDGE TO EDGE.
3. PROTECT EXIST GAS AND GAS SERVICE. PROVIDE PROTECTIVE COVERING THAT IS NOT GUARANTEED COMPLETE OR ACCURATE.
4. FURNISH AND INSTALL FIRE RESISTANT ASSEMBLY PER HMD STD DETAIL 21. REMOVE EXIST VALVE. REMOVE METER, VALVE COVER, & VALVE BOX. SALVAGE TO HMD STORAGE OR DISPOSE AS DIRECTED BY DISTRICT.
5. REPLACE EXISTING SERVICES WITH NEW SERVICE PIPE AND METER BOX PER HMD STANDARD DETAIL 21. LOCATE AS DIRECTED BY HMD. UPON ACCEPTANCE OF SERVICE, REMOVE EXISTING SERVICES. REMOVE EXISTING METER BOX AND FITTINGS, AND RESTORE AREA DIRECTED BY DISTRICT.
6. FINISH AND INSTALL RESSY. BOX, & MARKER PER HMD STD DETAILS 10, 25 & 33.
7. REMOVE EXIST VALVE. FURNISH & INSTALL BLIND AND DISPOSE OF EXISTING VALVE COVER AND BOX.
8. PLUG & ABANDON EXISTING AC MAIN AND APPURTENANCES IN ACCORDANCE W/ SPECS. ALL ABANDONED AC MAIN SHALL BE FILLED WITH COP.
9. ADJUST EXISTING WATER VALVE BOX TO FINAL GRADE.
10. AT UTILITY CROSSINGS MAINTAIN MINIMUM VERTICAL CLEARANCE OF 12' FROM ALL OTHER UTILITIES, MEASURED EDGE-TO-EDGE.
11. CUT-IN TO EXIST MAIN PER HMD STD DETAIL 2.



PAVEMENT LEGEND

- 2-INCH GRIND AND OVERLAY PER THE SPECIFICATIONS
- 3-INCH GRIND AND OVERLAY PER THE SPECIFICATIONS

PLAN
SCALE: 1"=20'

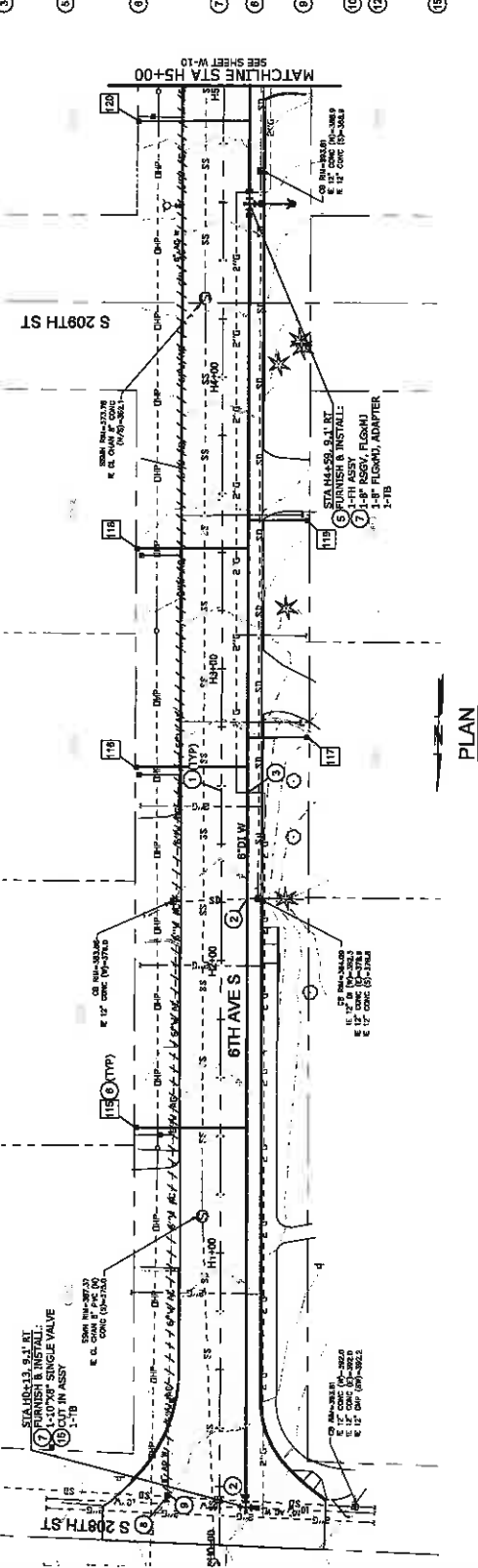
PLAN
SCALE: 1"=20'

WATER SERVICE TABLE #

NO.	HOUSE NO.	STREET	ACCOUNT NO.	METER SIZE
101	21208	5TH AVE S	51089	3/4"
102	20618	6TH AVE S	5041	3/4"
103	20624	6TH AVE S	5040	3/4"
104	20626	6TH AVE S	5017	3/4"
105	20632	6TH AVE S	5080	3/4"
106	20631	6TH AVE S	5019	3/4"
107	20606	6TH AVE S	5008	3/4"

WATER SERVICE TABLE #

NO.	HOUSE NO.	STREET	ACCOUNT NO.	METER SIZE
108	21204	5TH AVE S	5172	3/4"
109	21205	5TH AVE S	5168	3/4"
110	21211	5TH AVE S	5164	3/4"
111	21210	5TH AVE S	5171	3/4"
112	21220	5TH AVE S	5170	3/4"
113	21228	5TH AVE S	5166	3/4"
114	21226	5TH AVE S	5169	3/4"
115	21237	5TH AVE S	5167	3/4"



90% SUBMITTAL

WATER MAIN REPLACEMENT AND RESTORATION PLAN
STA G0+00 TO STA G4+60 & STA H0+00 TO STA H5+00

19-1 NORTH HILL AC WATER MAIN REPLACEMENT AND SEWER UTILITY IMPROVEMENTS

SCALE: 1"=20'

DESIGNED BY: [Signature]
CHECKED BY: [Signature]

NOTICE: IF THE SEAL DOES NOT COVER THE ENTIRE PLAN, THE SEALING IS NOT TO SCALE.

NO. DATE BY REVISION

PROJECT NO.: 19-2423 SCALE: AS SHOWN DATE: SEPTEMBER 2019

15 of X

NOTES:

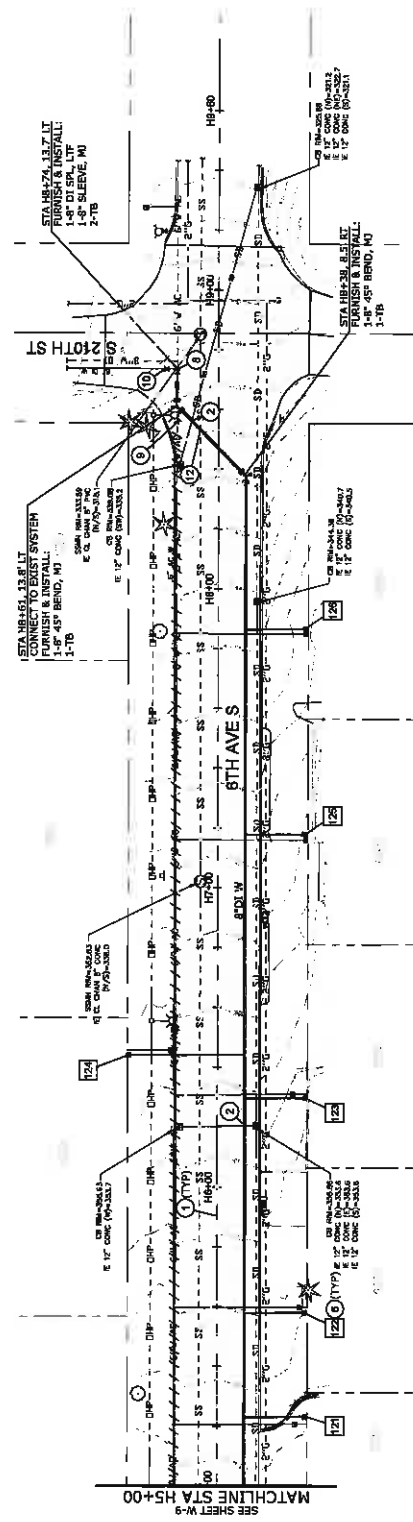
1. THE LOCATION OF EXISTING UTILITIES SHOWN ARE APPROXIMATE, TAKEN FROM UTILITY LOCATE MARKING AND/OR AVAILABLE RECORD DRAWINGS. EXACT LOCATIONS MUST BE DETERMINED IN THE FIELD BY THE CONTRACTOR PRIOR TO AND DURING CONSTRUCTION.
2. SURVEY CONTROL NUMBER (C) SEE SHEET G-4.
3. PROTECT ALL EXISTING UTILITIES. PROVIDE SUPPORT OR SHORING AS REQUIRED.
4. BUREAU WORK WITHOUT INTERMEDIATE SAGES OR HIGH POINTS. EXCEPT WHERE IDENTIFIED & APPROVED BY THE ENGINEER.
5. MAXIMUM ALLOWABLE DEFLECTION FOR EACH PIPE SHALL NOT EXCEED 1/1000 OF THE SPAN. HALF THE MANUFACTURER'S RECOMMENDED PERMISSIBLE DEFLECTION, WHICHEVER IS LESS.
6. FURNISH AND INSTALL THRUST BLOCK PER: HMD STD DETAILS 5 & 6.
7. FLUSH AND TEST MAIN PER HMD STD DETAIL 29 & IN ACCORDANCE W/ SPECS.
8. TYPICAL TRENCH SECTION PER DETAIL 1, SHT W-16.
9. SEE SHEET G-3 FOR ADDITIONAL NOTES.
10. TYPICAL PAVEMENT RESTORATION DETAIL 3, SHT R-1.
11. TYPICAL MINIMUM DEPTH OF COVER FOR WATER MAIN SHALL BE 42".

CONSTRUCTION NOTES:

1. CONSTRUCTION CENTERLINE EQUALS RIGHT-OF-WAY CENTERLINE
2. PROTECT AND/OR TEMPORARILY RE-ROUTE AND RESTORE EXISTING UTILITY AT CROSSING. MAINTAIN MINIMUM VERTICAL SEPARATION OF 12", MEASURED EDGE TO EDGE
3. REPLACE EXISTING SERVICES WITH NEW SERVICE PIPE AND METER BOX PER HMD STANDARD DETAIL 21. LOCATE AS DIRECTED BY HMD. UPON ACCEPTANCE OF NEW SERVICE PIPE, REMOVE EXISTING SERVICE PIPE TO NEW SERVICE FURNISH EXISTING METER BOX AND FITTINGS, AND RESTORE AREA
4. FURNISH AND INSTALL REGO. BOX, & MARKER PER HMD STD DETAILS 10, 20 & 31
5. REMOVE EXIST VALVE, FURNISH & INSTALL BLIND COVER AND BOND DISPOSE OF EXISTING VALVE COVER AND BOX
6. PLUG & ABANDON EXISTING AC MAIN AND APPURTENANCES IN ACCORDANCE W/ SPECS. ALL ABANDONED AC MAIN SHALL BE FILLED WITH GCP
7. ADJUST EXISTING WATER VALVE BOX TO FINAL GRADE
8. AT UTILITY CROSSINGS MAINTAIN MINIMUM VERTICAL SEPARATION OF 18" FROM SANITARY SEWER AND 12" FROM ALL OTHER UTILITIES, MEASURED EDGE-TO-EDGE
9. 10MA THICKENED EDGE PER DETAIL 1, SHT R-1
10. EDGE RESTORATION PER DETAIL 4, SHT R-1

PAVEMENT LEGEND

- 2-INCH GRIND AND OVERLAY PER THE SPECIFICATIONS
- 3-INCH GRIND AND OVERLAY PER THE SPECIFICATIONS

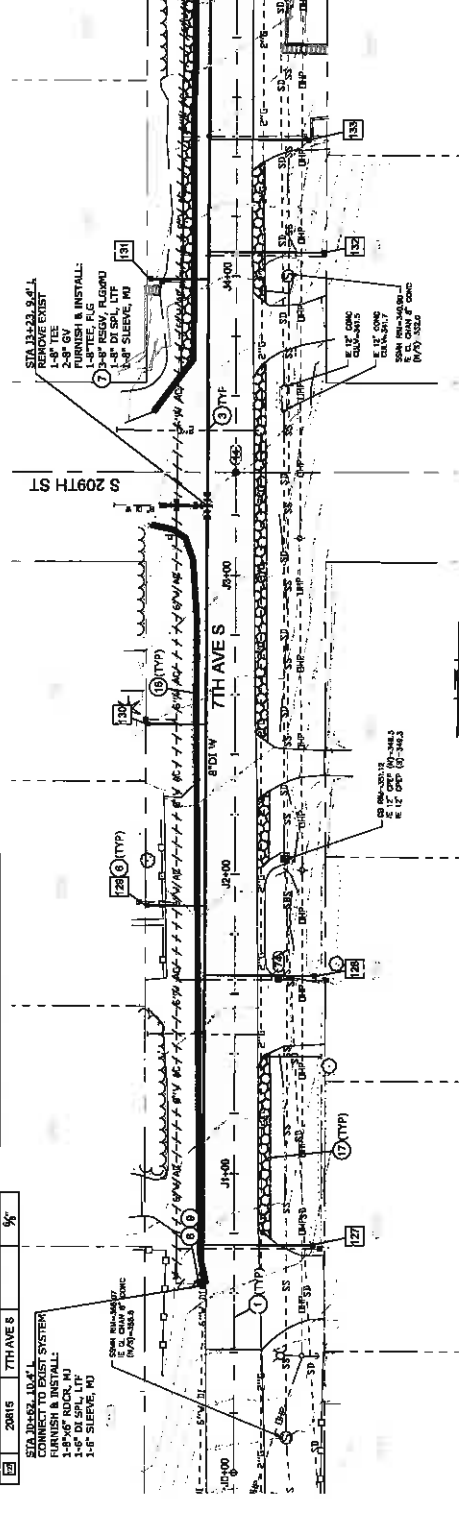


WATER SERVICE TABLE #

NO.	HOUSE NO.	STREET	ACCOUNT NO.	METER SIZE
1	20823	7TH AVE S	5012	3/4"
2	20824	7TH AVE S	5015	3/4"
3	704	9 209TH ST	5014	3/4"
4	705	S 209TH ST	4982	3/4"
5	20809	7TH AVE S	4988	3/4"
6	20809	7TH AVE S	4989	3/4"

WATER SERVICE TABLE #

NO.	HOUSE NO.	STREET	ACCOUNT NO.	METER SIZE
1	20803	8TH AVE S	5019	3/4"
2	20811	8TH AVE S	5020	3/4"
3	20818	8TH AVE S	5021	3/4"
4	20814	8TH AVE S	5027	3/4"
5	20827	8TH AVE S	5022	3/4"
6	20835	8TH AVE S	5023	3/4"
7	20816	7TH AVE S		3/4"



PLAN
SCALE: 1"=20'

90% SUBMITTAL

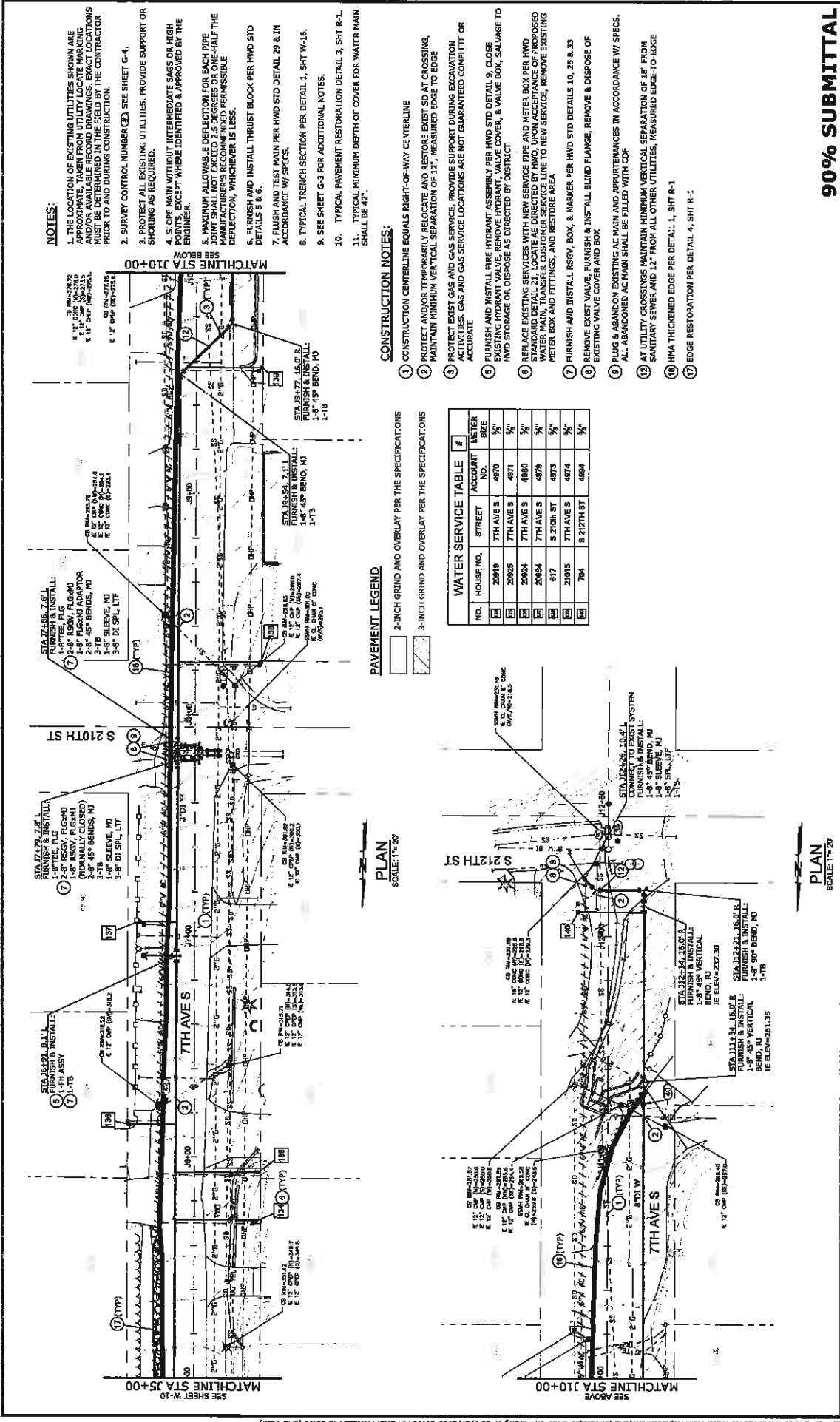
PROJECT NO.: 19-2429 SCALE: AS SHOWN DATE: SEPTEMBER 2019

19-1 NORTH HILL AC WATER MAIN REPLACEMENT AND SEWER UTILITY IMPROVEMENTS

WATER MAIN REPLACEMENT AND RESTORATION PLAN
STA H5+00 TO STA H9+60
& STA J0+00 TO STA J5+00

DESIGNED BY: [Signature]
CHECKED BY: [Signature]

NO.	DATE	BY	REVISION



NOTES:

1. THE LOCATION OF EXISTING UTILITIES SHOWN ARE APPROXIMATE. TAKE RECORD DRAWINGS, EXACT LOCATIONS AND/OR AVAILABLE RECORD DRAWINGS, EXACT LOCATIONS MUST BE DETERMINED IN THE FIELD BY THE CONTRACTOR PRIOR TO AND DURING CONSTRUCTION.
2. SURVEY CONTROL NUMBER (C), SEE SHEET G-4.
3. PROTECT ALL EXISTING UTILITIES. PROVIDE SUPPORT OR SHORING AS REQUIRED.
4. SLOPE MAIN WITHOUT INTERMEDIATE SAGS OR HIGH POINTS, EXCEPT WHERE IDENTIFIED & APPROVED BY THE ENGINEER.
5. MAXIMUM ALLOWABLE DEFLECTION FOR EACH PIPE JOINT SHALL NOT EXCEED 3/8 DEGREES OR ONE-HALF THE DEFLECTION, WHICHEVER IS LESS.
6. FURNISH AND INSTALL THRUST BLOCK PER HWD STD DETAILS 2 & 6.
7. FLUSH AND TEST MAIN PER HWD STD DETAIL 23 & IN ACCORDANCE W/ SPECS.
8. TYPICAL TRENCH SECTION PER DETAIL 1, SHT W-16.
9. SEE SHEET G-3 FOR ADDITIONAL NOTES.
10. TYPICAL PAVEMENT RESTORATION DETAIL 3, SHT R-1. SHALL BE 4".

CONSTRUCTION NOTES:

1. CONSTRUCTION CENTERLINE EQUALS RIGHT-OF-WAY CENTERLINE
2. PROTECT AND/OR TEMPORARILY RELOCATE AND RESTORE EXIST SD AT CROSSING, MAINTAIN MINIMUM VERTICAL SEPARATION OF 12", MEASURED EDGE TO EDGE
3. PROTECT EXIST GAS AND GAS SERVICE. PROVIDE SUPPORT DURING EXCAVATION ACCURATE
4. FURNISH AND INSTALL FIRE HYDRANT ASSEMBLY PER HWD STD DETAIL 9, CLOSE EXISTING HYDRANT VALVE, REMOVE HYDRANT, VALVE COVER, & VALVE BOX, SALVAGE TO HWD STORAGE ON DISPOSE AS DIRECTED BY DISTRICT
5. REPLACE EXISTING SERVICES WITH NEW SERVICE PIPE AND METER BOX PER HWD STANDARD DETAIL 21. LOCATE AS DIRECTED BY HWD, UPON ACCEPTANCE OF PROPOSED SERVICE, REMOVE EXISTING SERVICE PIPE TO NEW SERVICE, REMOVE EXISTING METER BOX AND FITTINGS, AND RESTORE AREA.
6. FURNISH AND INSTALL RSDV, BOX, & MARKER PER HWD STD DETAILS 10, 28 & 33
7. REMOVE EXIST VALVE, FURNISH & INSTALL BLIND FLANGE, REMOVE & DISPOSE OF EXISTING VALVE COVER AND BOX
8. PLUG & ABANDON EXISTING AC MAIN AND APPURTENANCES IN ACCORDANCE W/ SPECS. ALL ABANDONED AC MAIN SHALL BE FILLED WITH CP
9. AT UTILITY CROSSINGS MAINTAIN MINIMUM VERTICAL SEPARATION OF 18" FROM SANITARY SEWER AND 12" FROM ALL OTHER UTILITIES, MEASURED EDGE-TO-EDGE
10. HMA THICKENED EDGE PER DETAIL 1, SHT R-1
11. EDGE RESTORATION PER DETAIL 4, SHT R-1

PAVEMENT LEGEND

- 2-INCH GRIND AND OVERLAY PER THE SPECIFICATIONS
- 3-INCH GRIND AND OVERLAY PER THE SPECIFICATIONS

NO.	STREET	ACCOUNT NO.	METER SIZE
20819	7TH AVE S	4870	3/4"
20925	7TH AVE S	4871	3/4"
20824	7TH AVE S	4880	3/4"
20834	7TH AVE S	4879	3/4"
817	8 210th ST	4873	3/4"
21015	7TH AVE S	4874	3/4"
704	8 210th ST	4884	3/4"

90% SUBMITTAL

PROJECT NO.: 19-2429 SCALE: AS SHOWN DATE: SEPTEMBER 2019

19-1 NORTH HILL AC WATER MAIN REPLACEMENT AND SEWER UTILITY IMPROVEMENTS



DESIGNED BY: []
 DRAWN BY: []
 CHECKED BY: []

NO.	DATE	BY	REVISION

NOTES:

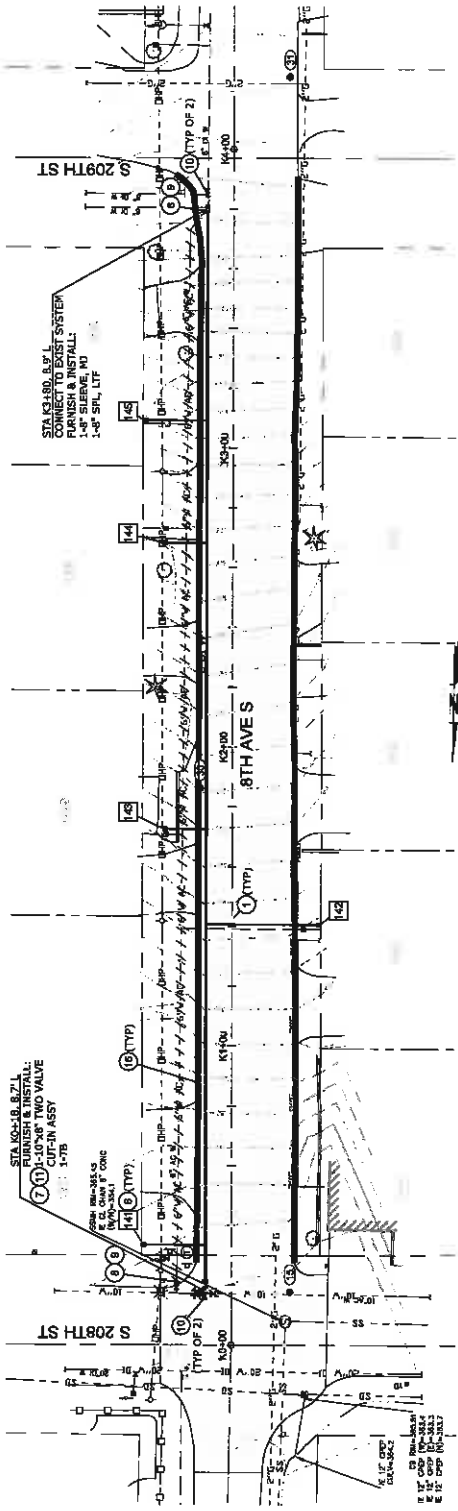
1. THE LOCATION OF EXISTING UTILITIES SHOWN ARE APPROXIMATE. TAKEN FROM UTILITY LOCATE MARKING AND/OR AVAILABLE RECORD DRAWINGS. EXACT LOCATIONS MUST BE DETERMINED IN THE FIELD BY THE CONTRACTOR PRIOR TO AND DURING CONSTRUCTION.
2. SURVEY CONTROL NUMBER (C) SEE SHEET G-4.
3. PROTECT ALL EXISTING UTILITIES. PROVIDE SUPPORT OR SHORING AS REQUIRED.
4. SLOPE MAIN WITHOUT INTERMEDIATE SAGS OR HIGH POINTS EXCEPT WHERE IDENTIFIED & APPROVED BY THE ENGINEER.
5. MAXIMUM ALLOWABLE DEFLECTION FOR EACH PIPE SHALL BE 2.5 PERCENT OF THE SPAN OR ONE-HALF THE DEFLECTION, WHICHEVER IS LESS.
6. FURNISH AND INSTALL THRUST BLOCK PER HWD STD DETAILS 5 & 6.
7. FLUSH AND TEST MAIN PER HWD STD DETAIL 23 & IN ACCORDANCE W/ SPECS.
8. TYPICAL TRENCH SECTION PER DETAIL 1, SHT W-16.
9. SEE SHEET G-3 FOR ADDITIONAL NOTES.
10. TYPICAL PAVEMENT RESTORATION DETAIL 3, SHT R-1.
11. TYPICAL MINIMUM DEPTH OF COVER FOR WATER MAIN SHALL BE 4'-0".

CONSTRUCTION NOTES:

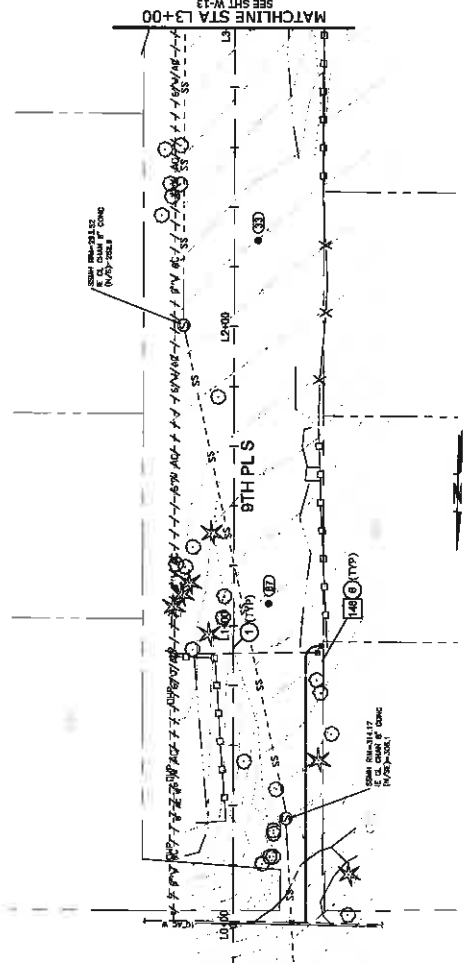
1. CONSTRUCTION CENTERLINE EQUALS RIGHT-OF-WAY CENTERLINE.
2. REPLACE EXISTING SERVICES WITH NEW SERVICE PIPE AS PER HWD STD DETAIL 21.
3. LOCATE AS DIRECTED BY HWO. UNLESS OTHERWISE SPECIFIED, ALL NEW SERVICE SHALL BE INSTALLED IN ACCORDANCE WITH THE PROPOSED WATER MAIN, TRANSFER CUSTOMER SERVICE LINE TO NEW SERVICE. REMOVE EXISTING METER BOX AND FITTINGS, AND RESTORE AREA PER HWD STD DETAILS 10, 22 & 33.
4. REMOVE EXIST VALVE. RURNISH & INSTALL BLIND FLANGE, REMOVE & DISPOSE OF EXISTING VALVE COVER AND BOX.
5. PLUG & ABANDON EXISTING AC MAIN AND APPURTENANCES IN ACCORDANCE W/ SPECS. ALL ABANDONED AC MAIN SHALL BE FILLED WITH CDF.
6. ADJUST EXISTING WATER VALVE BOX TO FINAL GRADE.
7. CUT-IN TO EXISTING MAIN PER HWD STD DETAIL 3.
8. AT UTILITY CROSSINGS MAINTAIN MINIMUM VERTICAL CLEARANCE OF 12" OVER POWER AND 12" EDGE-TO-EDGE.
9. HMA THICKENED EDGE PER DETAIL 1, SHT R-1.

PAVEMENT LEGEND

- 2-INCH GRIND AND OVERLAY PER THE SPECIFICATIONS
- 3-INCH GRIND AND OVERLAY PER THE SPECIFICATIONS



PLAN SCALE: 1"=20'



PLAN SCALE: 1"=20'

WATER SERVICE TABLE			
NO.	HOUSE NO.	STREET	METER ACCORDANT SIZE
1	905	S 209TH ST	3/4"
2	20811	8TH AVE S	3/4"
3	20814	8TH AVE S	3/4"
4	20826	8TH AVE S	3/4"
5	20830	8TH AVE S	3/4"
6	20810	8TH AVE S	3/4"

90% SUBMITTAL

			SHEET W-12 WATER MAIN REPLACEMENT AND RESTORATION PLAN STA K0+00 TO STA K4+00 & STA L+00 TO STA L3+00	PROJECT NO.: 19-2429 SCALE: AS SHOWN DATE: SEPTEMBER 2019 15 of X								
19-1 NORTH HILL AC WATER MAIN REPLACEMENT AND SEWER UTILITY IMPROVEMENTS	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">REV.</td> <td style="width: 10%;">DATE</td> <td style="width: 10%;">BY</td> <td style="width: 10%;">REVISION</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>				REV.	DATE	BY	REVISION				
REV.	DATE	BY	REVISION									

NOTES:

1. THE LOCATION OF EXISTING UTILITIES SHOWN ARE APPROXIMATE, TAKEN FROM UTILITY LOCATE MARKING AND/OR AVAILABLE RECORD DRAWINGS. EXACT LOCATIONS SHALL BE DETERMINED BY THE CONTRACTOR PRIOR TO AND DURING CONSTRUCTION.
2. SURVEY CONTROL NUMBER (C) SEE SHEET G-1.
3. PROTECT ALL EXISTING UTILITIES. PROVIDE SUPPORT OR SHORING AS REQUIRED.
4. SLOPE MAIN WITHOUT INTERMEDIATE SACS OR KICK POINTS, EXCEPT WHERE IDENTIFIED & APPROVED BY THE ENGINEER.
5. MAXIMUM ALLOWABLE DEFLECTION FOR EACH PIPE JOINT SHALL NOT EXCEED 2.5 DEGREES OR ONE-HALF THE MANUFACTURER'S RECOMMENDED PERMISSIBLE DEFLECTION, WHICHEVER IS LESS.
6. FURNISH AND INSTALL THRUST BLOCK PER HWD STD DETAILS 5 & 6.
7. FLUSH AND TEST MAIN PER HWD STD DETAIL 29 & IN ACCORDANCE W/ SPECS.
8. TYPICAL TRENCH SECTION PER DETAIL 1, SHT W-16.
9. SEE SHEET G-3 FOR ADDITIONAL NOTES.
10. TYPICAL PAVEMENT RESTORATION DETAIL 3, SHT R-1.
11. TYPICAL MINIMUM DEPTH OF COVER FOR WATER MAIN SHALL BE 42".

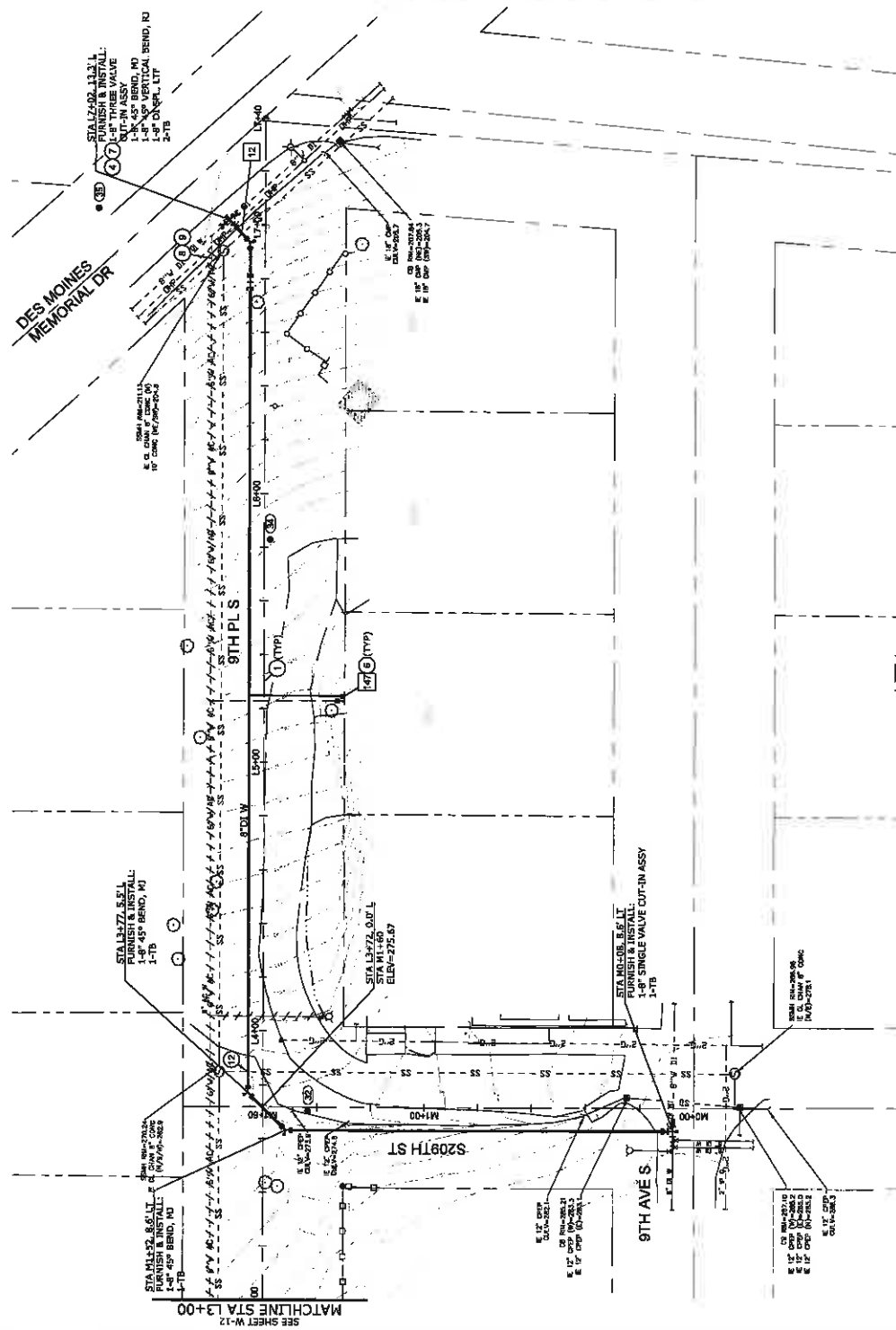
CONSTRUCTION NOTES:

1. CONSTRUCTION CENTERLINE EQUALS RIGHT-OF-WAY CENTERLINE
2. CUT-IN TO EXISTING MAIN PER HWD STD DETAIL 4
3. REPLACE EXISTING SERVICES WITH NEW SERVICE PIPE AND METER BOX PER HWD STANDARD DETAIL 21. LOCATE EXISTING SERVICES FROM RECORD DRAWINGS AND FIELD SURVEY. TRANSFER CUSTOMER SERVICE LINE TO NEW SERVICE. REMOVE EXISTING METER BOX AND FITTINGS, AND RESTORE AREA
4. FURNISH AND INSTALL REG. BOX, & MARGER PER HWD STD DETAILS 10, 25 & 33
5. REMOVE EXIST VALVE. FURNISH & INSTALL BLIND FLANGE, REMOVE & DISPOSE OF EXISTING VALVE COVER AND BOX.
6. PLUG & ABANDON EXISTING AC MAIN AND APPURTENANCES IN ACCORDANCE W/ SPECS. ALL ABANDONED AC MAIN SHALL BE FILLED WITH GR.
7. AT UTILITY CROSSINGS MAINTAIN MINIMUM VERTICAL SEPARATION OF 18" FROM SANITARY SEWER AND 12" FROM ALL OTHER UTILITIES, MEASURED EDGE-TO-EDGE
8. CUT-IN TO EXISTING MAIN PER HWD STD DETAIL 2

WATER SERVICE TABLE			
NO.	HOUSE NO.	STREET	ACCOUNT NO.
1	20910	9TH AVE S	1550
			METER SIZE
			3"

PAVEMENT LEGEND

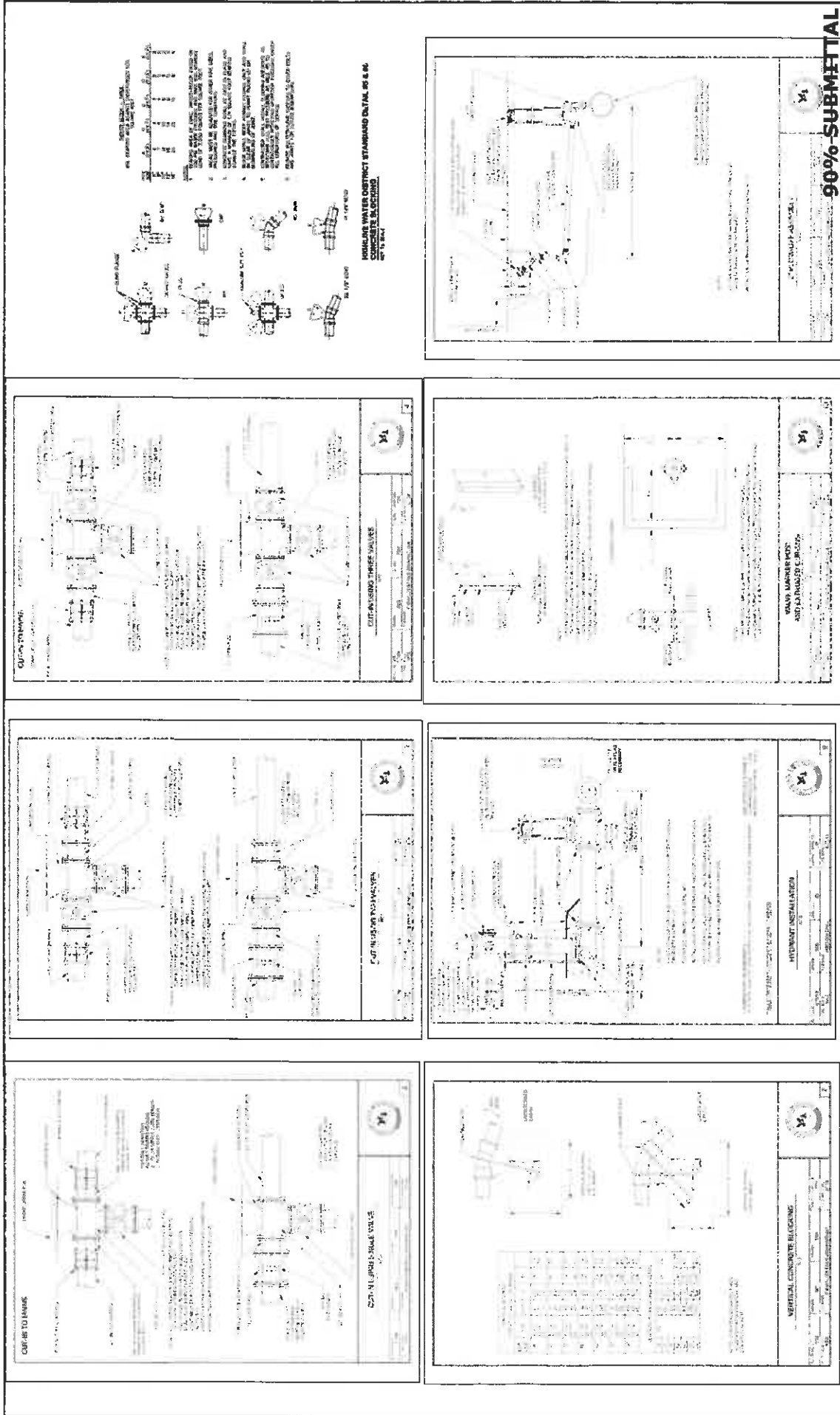
- 2-INCH GRIND AND OVERLAY PER THE SPECIFICATIONS
- 3-INCH GRIND AND OVERLAY PER THE SPECIFICATIONS



PLAN
SCALE: 1"=20'

90% SUBMITTAL

PROJECT NO.: 19-2429 SCALE: AS SHOWN DATE: SEPTEMBER 2019	
SHEET W-13 19 of X	
WATER MAIN REPLACEMENT AND RESTORATION PLAN STA 13+00 TO STA 17+40 & STA M0+00 TO STA M1+60	
19-1 NORTH HILL AC WATER MAIN REPLACEMENT AND SEWER UTILITY IMPROVEMENTS	
DESIGNED	NOTICE
DRAWN	IF THIS BAR DOES NOT RESIST, IT IS NOT TO SCALE
CHECKED	
NO.	REVISION
DATE	BY



<p>NOTICE</p> <p>IF THIS DRAWING IS NOT REVISIONED TO NOT TO SCALE</p>	
DESIGNED	JAW
DRAWN	SAW
CHECKED	SKB
DATE	BY
REVISION	

19-1 NORTH HILL AC WATER MAIN REPLACEMENT AND SEWER UTILITY IMPROVEMENTS

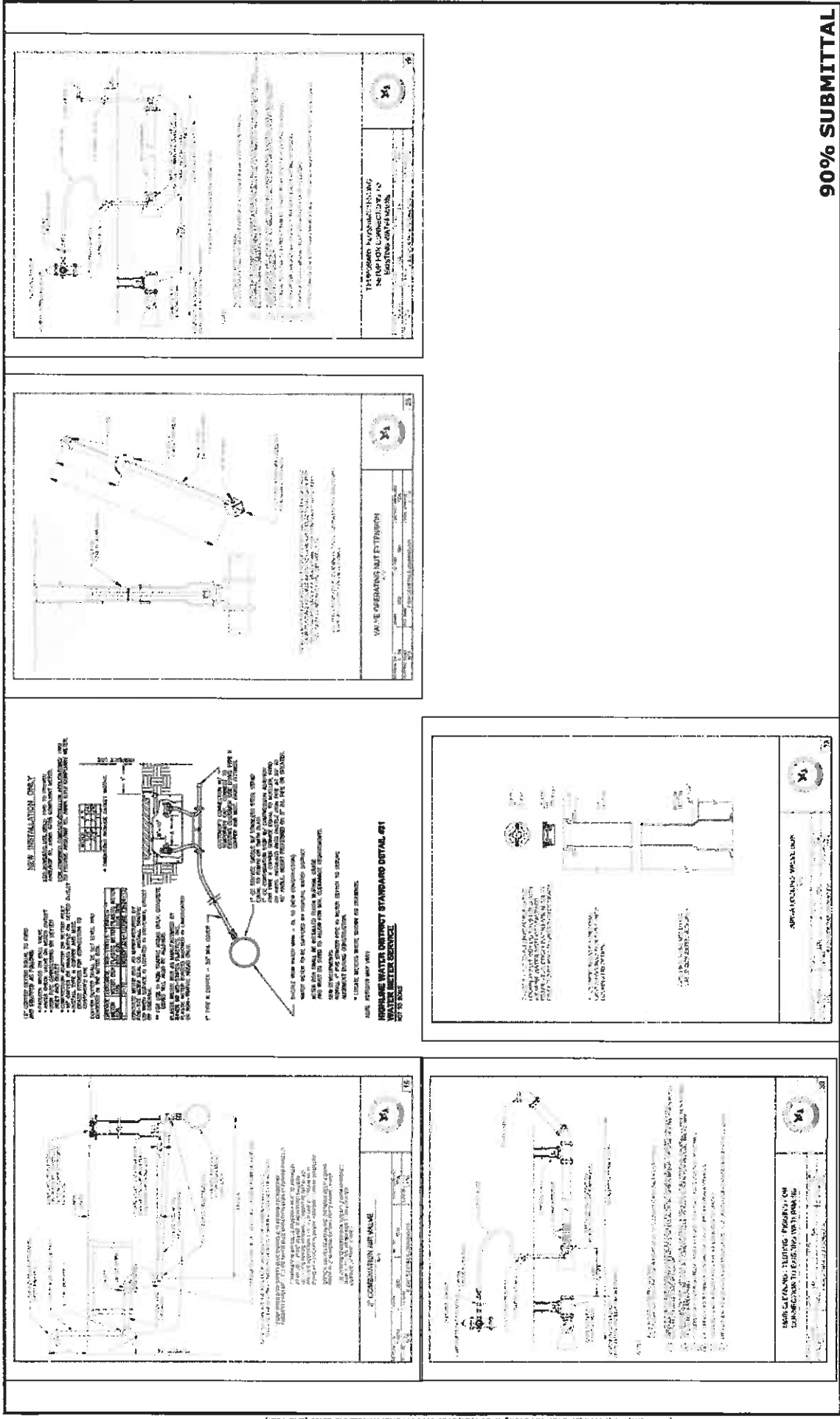
DISTRICT STANDARD WATER DETAILS 1

W-14

90%-SUBMITTAL

PROJECT NO.: 19-2429 SCALE: AS SHOWN DATE: SEPTEMBER 2019

SHEET 20 of X



90% SUBMITTAL

SHEET **W-15** 21 of X

DISTRICT STANDARD WATER DETAILS 2

19-1 NORTH HILL AC WATER MAIN REPLACEMENT AND SEWER UTILITY IMPROVEMENTS

PROJECT NO.: 19-2429 SCALE: AS SHOWN DATE: SEPTEMBER 2019

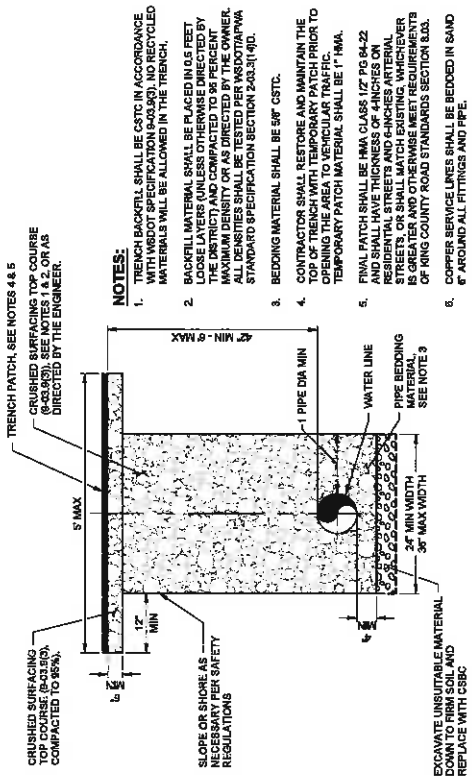
murraysmith

DESIGNED	JLM	CHECKED	JLM
DRAWN	DAW	CHECKED	DAW
DATE		DATE	
BY		BY	
REVISION		REVISION	

NOTICE: IF THIS DRAWING IS USED FOR ANY OTHER PROJECT, THE USER SHALL BE RESPONSIBLE FOR VERIFYING THE ACCURACY OF THE INFORMATION SHOWN HEREON.

MURRAYSMITH ENGINEERING, INC. 100 STATE STREET, SUITE 200, BOSTON, MA 02109. TEL: 617-552-3333. FAX: 617-552-3334. WWW.MURRAYSMITH.COM

TRENCH PATCH, SEE NOTES 4 & 5
 CRUSHED SURFACING TOP COURSE (P-03.03). SEE NOTES 1 & 2, OR AS DIRECTED BY THE ENGINEER.



NOTES:

1. TRENCH BACKFILL SHALL BE CSTC IN ACCORDANCE WITH WDOT SPECIFICATION 600.03(1). NON-RECYCLED MATERIALS WILL BE ALLOWED IN THE TRENCH.
2. BACKFILL MATERIAL SHALL BE PLACED IN 0.5 FEET LOOSE LAYERS UNLESS OTHERWISE DIRECTED BY THE ENGINEER. ALL DENSITIES SHALL BE TESTED PER WSDOT/PAVMA STANDARD SPECIFICATION SECTION 200.31(1)(D).
3. BEDDING MATERIAL SHALL BE 50% CSTC.
4. CONTRACTOR SHALL RESTORE AND MAINTAIN THE TOP OF TRENCH WITH TEMPORARY PATCH PRIOR TO OPENING THE TRENCH TO TRAFFIC. TEMPORARY PATCH MATERIAL SHALL BE 1" HMA.
5. FINAL PATCH SHALL BE HMA CLASS 1/2" PG 64-22 AND SHALL HAVE THICKNESS OF 4 INCHES ON STREETS, OR SHALL MATCH EXISTING WHICHEVER IS GREATER AND OTHERWISE MEET REQUIREMENTS OF KING COUNTY ROAD STANDARDS SECTION 610.
6. COPPER SERVICE LINES SHALL BE BEDDED IN SAND 6" AROUND ALL FITTINGS AND PIPE.

TYPICAL PIPE TRENCH
 SCALE: NTS

90% SUBMITTAL

SHEET
W-16
 22 of X
 PROJECT NO.: 19-2429 SCALE: AS SHOWN DATE: SEPTEMBER 2019

**19-1 NORTH HILL
 AC WATER MAIN
 REPLACEMENT AND
 SEWER UTILITY
 IMPROVEMENTS**



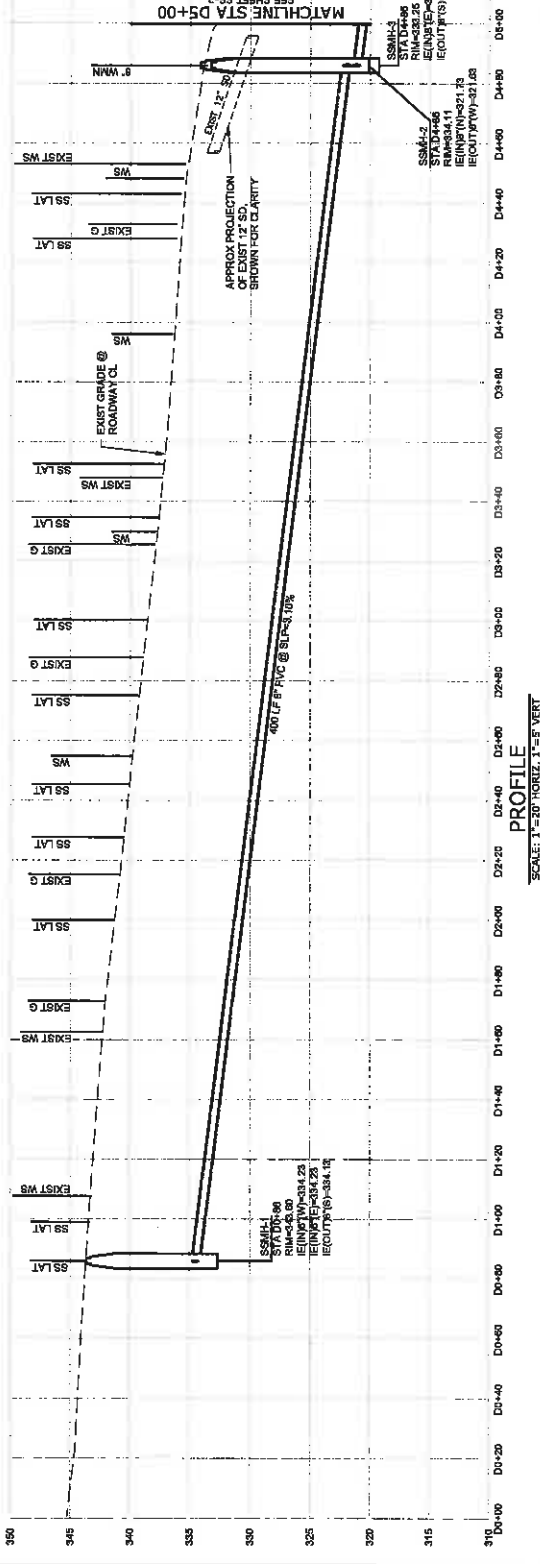
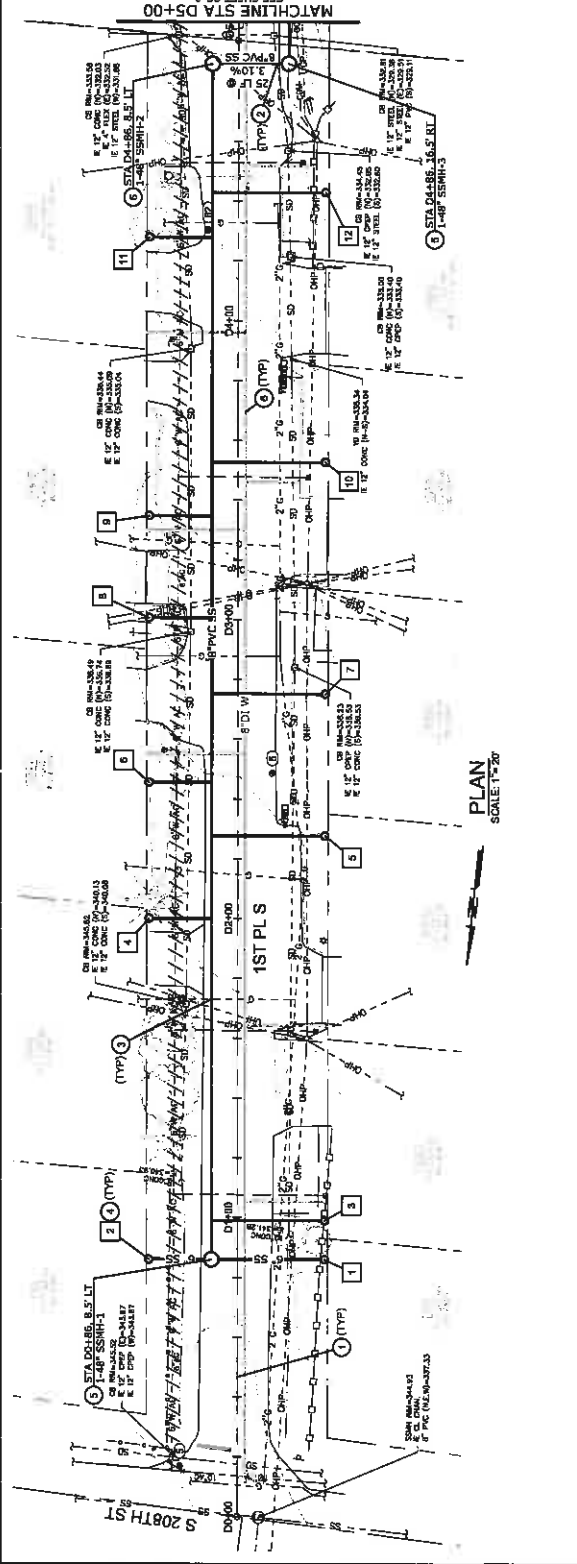
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 IF THIS SHEET USES
 THIS DRAWING IS
 NOT TO SCALE

NO.	DATE	BY	REVISION

NOTES:

1. THE LOCATION OF EXISTING UTILITIES SHOWN ARE APPROXIMATE, TAKEN FROM UTILITY LOCATE MARKING AND/OR AVAILABLE RECORD DRAWINGS. EXACT LOCATIONS SHALL BE DETERMINED BY THE CONTRACTOR PRIOR TO AND DURING CONSTRUCTION.
 2. SURVEY CONTROL NUMBER (C) SEE SHEET G-4.
 3. PROTECT ALL EXISTING UTILITIES. PROVIDE SUPPORT OR SHORING AS REQUIRED.
 4. TYPICAL TRENCH SECTION PER MSD STD DET 14, SHT SS-5.
 5. SEE SHEET G-3 FOR ADDITIONAL NOTES.
 6. TYPICAL PAVEMENT RESTORATION DETAIL 3, SHT R-1.
- CONSTRUCTION NOTES:**
1. CONSTRUCTION CENTERLINE EQUALS RIGHT-OF-WAY CENTERLINE, EXCEPT BETWEEN APPROX D4+80 AND D4+84.
 2. PROTECT AND/OR TEMPORARILY RELOCATE AND RESTORE EXISTING UTILITIES TO ORIGINAL MINIMUM VERTICAL SEPARATION OF 12" MEASURED EDGE TO EDGE.
 3. PROTECT EXIST GAS AND GAS SERVICE. PROVIDE PROTECTIVE COVERING FOR EXISTING GAS SERVICE LOCATIONS ARE NOT GUARANTEED COMPLETE OR ACCURATE.
 4. INSTALL NEW 6" HIGH RAISE SEWER AND PIPE RAILS IN ROW TO THE PROPERTY LINE EDGE OF ROW. SEE MSD STD DET 9 AND 10, SHT SS-3. EXIST SEWER LATERAL LOCATION IS APPROXIMATE. CONTRACTOR SHALL VERIFY EXISTING SEWER LATERAL LOCATION AND SHALL COORDINATE FINAL LOCATION OF SIDE SEWER TIE-INS WITH MIDWAY SEWER DISTRICT.
 5. FINISH & INSTALL NEW SSMM AS SHOWN. SEE MSD STD DET 1, SHT SS-3.
 6. EXIST WATER MAIN TO BE REPLACED. SEE WATER MAIN SPTS FOR DETS.



LATERAL NO.	HOUSE NO.	APPROX STATION AT MAIN
1	121	D0+85
2	133	D0+85
3	20811	D0+99
4	20816	D2+00
5	20817	D2+28
6	20824	D2+46
7	20825	D2+75
8	-	D3+00
9	20836	D3+34
10	20835	D3+52
11	20848	D4+27
12	20839	D4+42

90% SUBMITTAL

PROJECT NO.: 19-2429 SCALE: AS SHOWN DATE: SEPTEMBER 2019

SHEET: SS-1 23 of X

19-1 NORTH HILL AC WATER MAIN REPLACEMENT AND SEWER UTILITY IMPROVEMENTS

SEWER REPLACEMENT PLAN AND PROFILE STA D0+00 TO STA D5+00

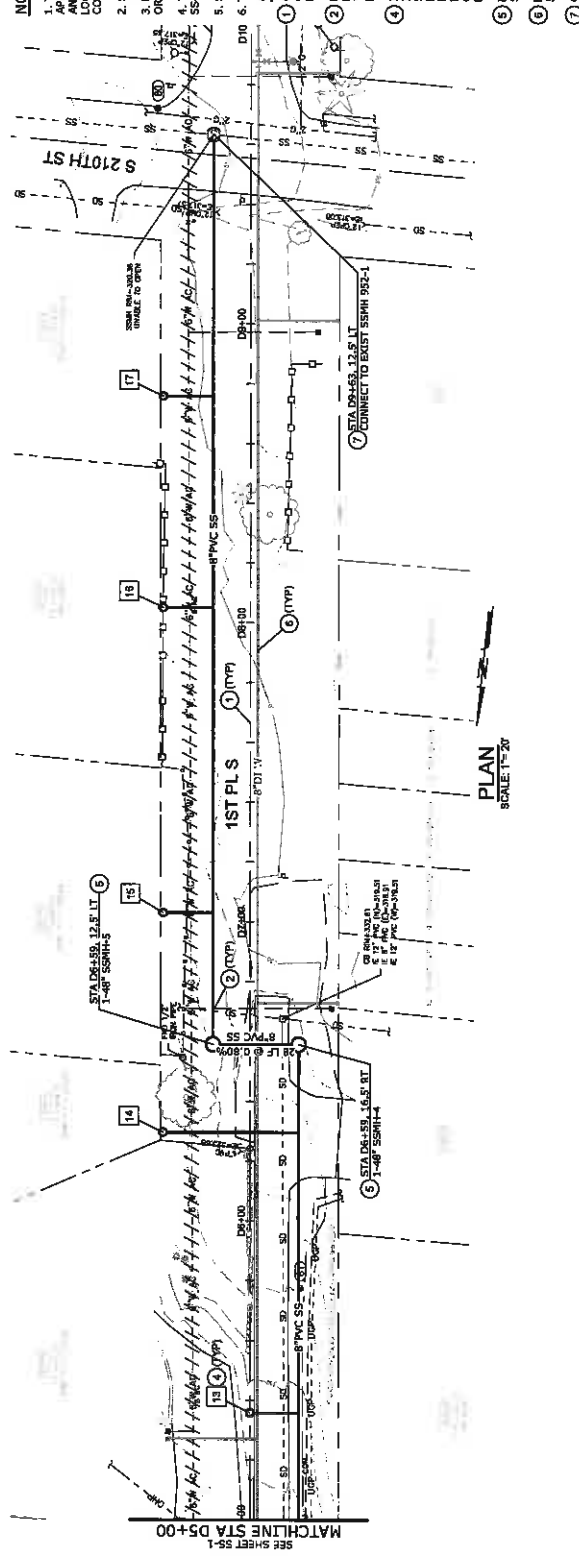
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NOTICE: IF THIS SEAL DOES NOT RESOLVE, CONTACT THE BOARD OF PROFESSIONAL ENGINEERS.

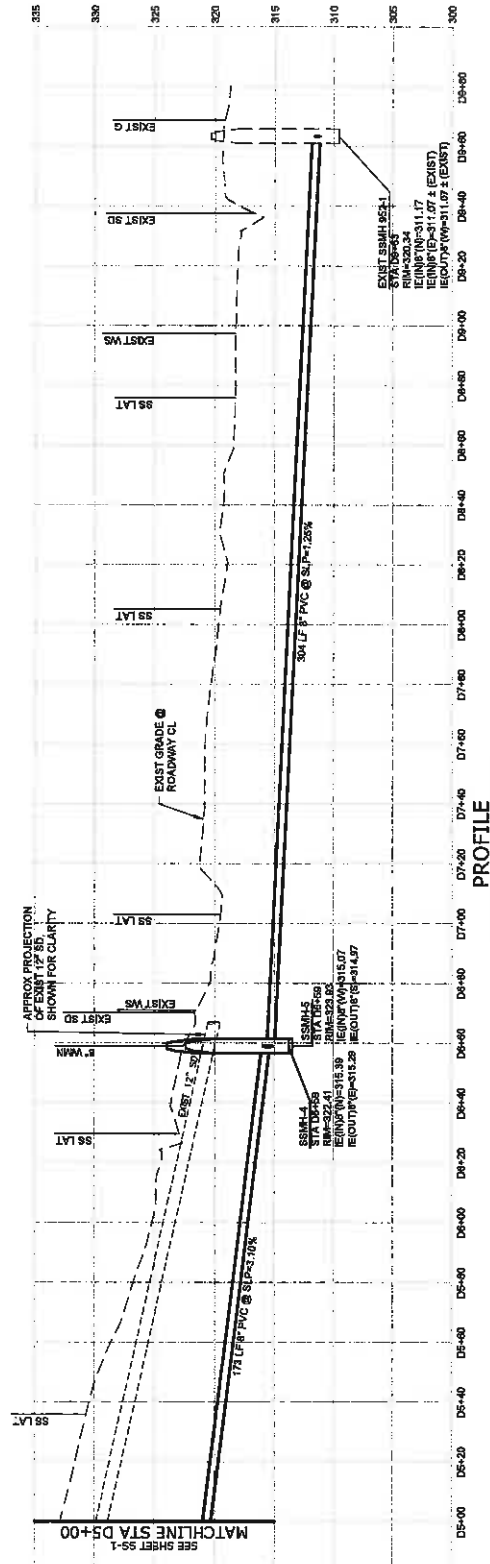
NO.	DATE	BY	REVISION

NOTES:

- THE LOCATION OF EXISTING UTILITIES SHOWN ARE APPROXIMATE. TAKEN FROM UTILITY LOCATE MARKING AND/OR AVAILABLE RECORD DRAWINGS. EXACT LOCATIONS SHALL BE DETERMINED BY THE CONTRACTOR PRIOR TO AND DURING CONSTRUCTION.
 - SURVEY CONTROL NUMBERS (C), SEE SHEET G-4.
 - PROTECT ALL EXISTING UTILITIES. PROVIDE SUPPORT OR SHORING AS REQUIRED.
 - TYPICAL TRENCH SECTION PER MSD STD DET 14, SHT SS-1.
 - SEE SHEET G-3 FOR ADDITIONAL NOTES.
 - TYPICAL PAVEMENT RESTORATION DETAIL 3, SHT F-1.
- CONSTRUCTION NOTES:**
- CONSTRUCTION CENTERLINE EQUALS RIGHT-OF-WAY CENTERLINE, EXCEPT BETWEEN APPROX 04+80 AND 04+30
 - PROTECT AND/OR TEMPORARILY RELOCATE AND RESTORE EXIST SD AT CROSSING, MAINTAIN MINIMUM MINOR SEPARATION OF 12', MEASURED EDGE TO EDGE.
 - INSTALL NEW 6-INCH DIA SIDE SEWER AND PIPE PLUG AT STATION 04+30. MAINTAIN MINIMUM 12' SEPARATION TO EXIST WATER MAIN. SEE MSD STD DET 10 AND 11. SHT SS-1. EXIST SIDEWALK AND SIDEWALK CURB SHALL BE RESTORED TO ORIGINAL LOCATION IS APPROXIMATE. CONTRACTOR SHALL PROVIDE PROTECTION TO EXIST UTILITIES. CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF EXISTING UTILITIES AND LOCATIONS OF SIDE SEWER 15-16 WITH HYDRAVY SEWER DISTRICT.
 - FRAMESH & INSTALL NEW SSMH AS SHOWN, SEE MSD STD DET 4, SHT SS-3.
 - EXIST WATER MAIN TO BE REPLACED, SEE WATER MAIN SHTS FOR DETAILS.
 - CONNECT TO EXIST SSMH, FOR CONNECTION DETAILS, SEE SPEC'S.



PLAN
SCALE: 1"=20'



PROFILE
SCALE: 1"=20' HORIZ, 1"=5' VERT


LATERAL	HOUSE NO.	APPROX STATION AT TIE-IN	#
19	20906	D5+35	
14	20911	D6+30	
19	20915	D7+03	
16	20927	D8+05	
17	160	D8+76	

90% SUBMITTAL

SEWER REPLACEMENT PLAN AND PROFILE
STA D5+00 TO STA D9+80

PROJECT NO.: 19-2423 E04E AS SHOWN DATE: SEPTEMBER 2019

19-1 NORTH HILL AC WATER MAIN REPLACEMENT AND SEWER UTILITY IMPROVEMENTS



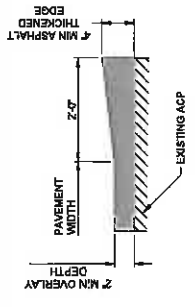
murraysmith

NOTICE

IF THE BAR CODES AND/OR DIMENSIONS ARE NOT TO SCALE, THE DRAWING IS TO GOVERN.

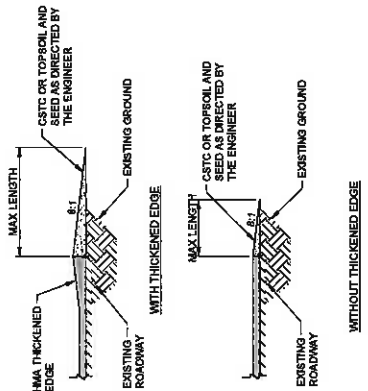
DESIGNED BY: BAW
 DRAWN BY: BSS
 CHECKED BY: BSS

NO.	DATE	BY	REVISION

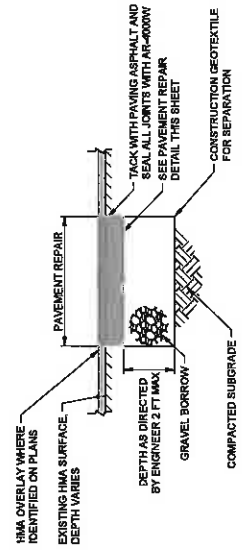


NOTE:
1. HMA THICKENED EDGE WILL BE MEASURED FOR PAYMENT ONLY WHERE NEW THICKENED EDGE IS INSTALLED OR INSTALLED OVER AN EXISTING HMA BERM.

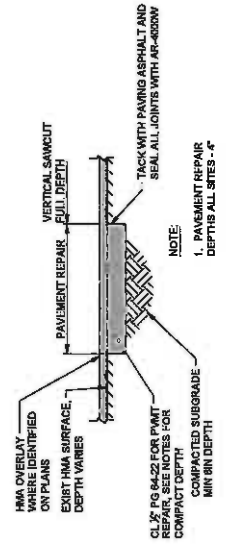
HMA THICKENED EDGE 1
SCALE: NTS



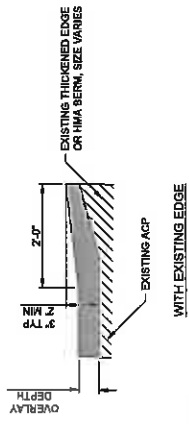
EDGE RESTORATION 2
SCALE: NTS



UNSATURABLE FOUNDATION EXCAVATION FOR ROADWAY 3
SCALE: NTS



PAVEMENT REPAIR 4
SCALE: NTS



NOTE:
1. HMA THICKENED EDGE SHALL BE MEASURED FOR PAYMENT ONLY WHERE NEW THICKENED EDGE IS INSTALLED OR INSTALLED OVER AN EXISTING HMA BERM. EXISTING HMA THICKENED EDGE SHALL BE OVERLAYED TO MATCH EXISTING.

HMA OVERLAY ON EXIST THICKENED EDGE 5
SCALE: NTS

NO.	DATE	BY	REVISOR

NOTICE	SCALE: 1" = 10'-0"
DESIGNED BY	
DRAWN BY	
CHECKED BY	
DATE	



19-1 NORTH HILL AC WATER MAIN REPLACEMENT AND SEWER UTILITY IMPROVEMENTS

MISCELLANEOUS DETAILS

90% SUBMITTAL

SHEET
R-1
26 of 34

SIGN SPACING = X (1)

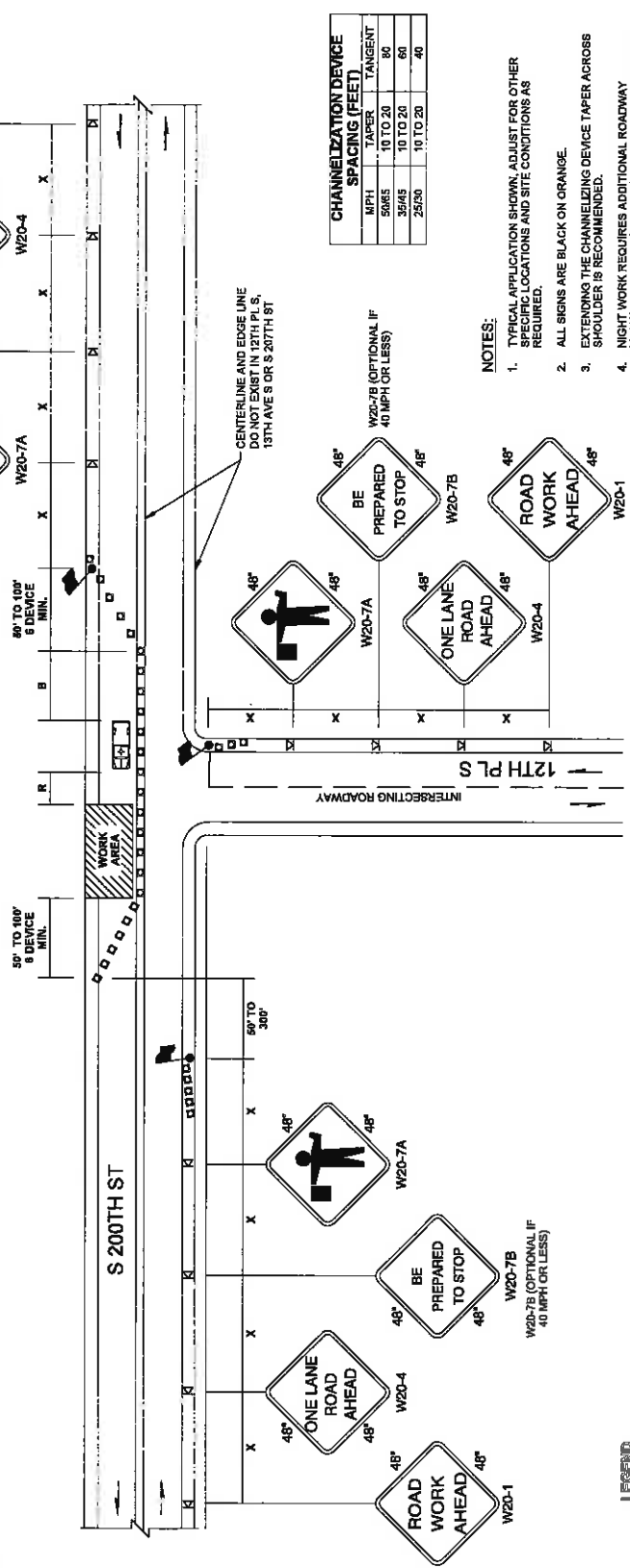
RURAL HIGHWAYS	60 / 65 MPH	600' +/-
RURAL ROADS	45 / 55 MPH	500' +/-
RURAL ROADS & URBAN ARTERIALS	35 / 40 MPH	350' +/-
RURAL ROADS, URBAN ARTERIALS, RESIDENTIAL & BUSINESS DISTRICTS	25 / 30 MPH	200' +/- (2)
URBAN STREETS	25 MPH OR LESS	100' +/- (2)

(1) ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE ROADWAY CONDITIONS.
(2) THIS SPACING MAY BE REDUCED IN URBAN AREAS TO FIT ROADWAY CONDITIONS.

BUFFER DATA

LONGITUDINAL BUFFER SPACE = B	
SPEED (MPH)	25 30 35 40 45 50 55 60 65 70
LENGTH (ft=4)	155 200 250 305 360 425 495 570 646 730
TRANSPORTABLE ATTENUATOR ROLL AHEAD DISTANCE = R	
HOST VEHICLE WEIGHT	
< 4.5 MPH	> 55 MPH
4.5-55 MPH	< 4.5 MPH
100'	123'
172'	74'
100'	150'

PROTECTIVE VEHICLE (WORK VEHICLE) = R
NO SPECIFIED DISTANCE REQUIRED



**WSDOT STANDARD DETAIL TC-1
ONE-LANE, TWO-WAY TRAFFIC CONTROL
WITH FLAGGERS***

NOT TO SCALE *SEE NOTE 1

LEGEND

- FLAGGING STATION
- TEMPORARY CONE LOCATION
- CHANNELIZING DEVICES
- PROTECTIVE VEHICLE

NOTICE
IF THIS BAR DOES NOT DRAW IN THE NOT TO SCALE

REVISION

NO.	DATE	BY

PROJECT NO.: 19-2423 | SCALE: AS SHOWN | DATE: SEPTEMBER 2019

TRAFFIC CONTROL PLAN 1 (TYPICAL)

19-1 NORTH HILL AC WATER MAIN REPLACEMENT AND SEWER UTILITY IMPROVEMENTS

murraysmith

90% SUBMITTAL

SHEET TC-1 27 of X

EXHIBIT B

ENGINEERING COST ESTIMATES

EXHIBIT B - ENGINEERS ESTIMATE OF PROBABLE CONSTRUCTION COSTS


SCHEDULE 9 - DISTRICT/CITY SHARED BID ITEMS

Bid No.	Item Description	Bid Unit	Estimated Quantity	Est. Unit Cost	Total Cost	City of Des Moines	Highline Water District
B-1	Mobilization (100% Maximum)	LS	1	\$ 70,000.00	\$ 70,000.00	\$ 35,000.00	\$ 35,000.00
B-2	Temporary Traffic Control	LS	1	\$ 13,000.00	\$ 13,000.00	\$ 13,000.00	\$ 13,000.00
B-3	Slowing Bituminous Pavement, 2 in. Depth	SY	25,430	\$ 6.00	\$ 152,580.00	\$ 76,290.00	\$ 76,290.00
B-4	Slowing Bituminous Pavement, 3 in. Depth	SY	3,850	\$ 7.00	\$ 26,950.00	\$ 13,475.00	\$ 13,475.00
B-5	HMA of 2 1/2 in. PLY #4-12 for Pavement Overlay	TY	3,300	\$ 130.00	\$ 429,000.00	\$ 214,500.00	\$ 214,500.00
B-6	HMA Thickened Edge	LF	1,250	\$ 4.00	\$ 5,000.00	\$ 2,500.00	\$ 2,500.00
B-7	Joint Repavement	LF	4,400	\$ 3.00	\$ 13,200.00	\$ 6,600.00	\$ 6,600.00
TOTAL					\$ 662,730.00	\$ 331,375.00	\$ 331,375.00

SCHEDULE B - CITY WORK BID ITEMS

Bid Item No.	Item Description	Bid Unit	Estimated Quantity	Unit Cost	Total Cost	City of Des Moines	Highline Water District
B-8	Unexcavated Foundation Excavation and Backfill for Manhole	CY	135	\$ 60.00	\$ 8,100.00	\$ 4,050.00	\$ -
B-9	Pavement Repair	SY	2,340	\$ 20.00	\$ 46,800.00	\$ 46,800.00	\$ -
B-10	Minor Grading	FST	1	\$ 12,000.00	\$ 12,000.00	\$ 12,000.00	\$ -
TOTAL					\$ 99,870.00	\$ 99,870.00	\$ -

	CITY	HWD
TOTAL ESTIMATE OF PROBABLE CONSTRUCTION COST	\$ 431,245.00	\$ 331,375.00

Agenda Item No.: 5.3
Agenda Date: 11/20/19
Reviewed By: 

SUBJECT: Authorize Interlocal Agreement with the City of Des Moines
HWD Project 19-1 2019 AC Water Main Replacement (North Hill)

CATEGORY	
<i>Executive</i>	<input type="checkbox"/>
<i>Administrative</i>	<input type="checkbox"/>
<i>Engineering/Operations</i>	<input checked="" type="checkbox"/>

FINANCIAL					
<i>Expenditures?</i>	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
<i>Budgeted?</i>	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
<i>Amount:</i> \$ _____					

ATTACHMENTS:

1. Resolution 19-11-20C
2. Attachment #1 - Interlocal Agreement

COMMENTS:

The District and the City of Des Moines desire to establish a formal arrangement under which the City will pay the District in consideration of the District incorporating the design of the City Work into the design of the Project and constructing the City Work in conjunction with the construction of HWD Project 19-1 2019 AC Water Main Replacement.

The District and the City of Des Moines desire to enter into this Agreement for the purpose of defining their respective rights, obligations, costs, and liabilities regarding this undertaking Staff recommends approval of this resolution.

Staff recommends approval of this resolution.