

DOUGLAS 4TH STREET UTILITIES AND DRAINAGE

VOLUME II of II

Contract No. BE21-215

File No. 2094

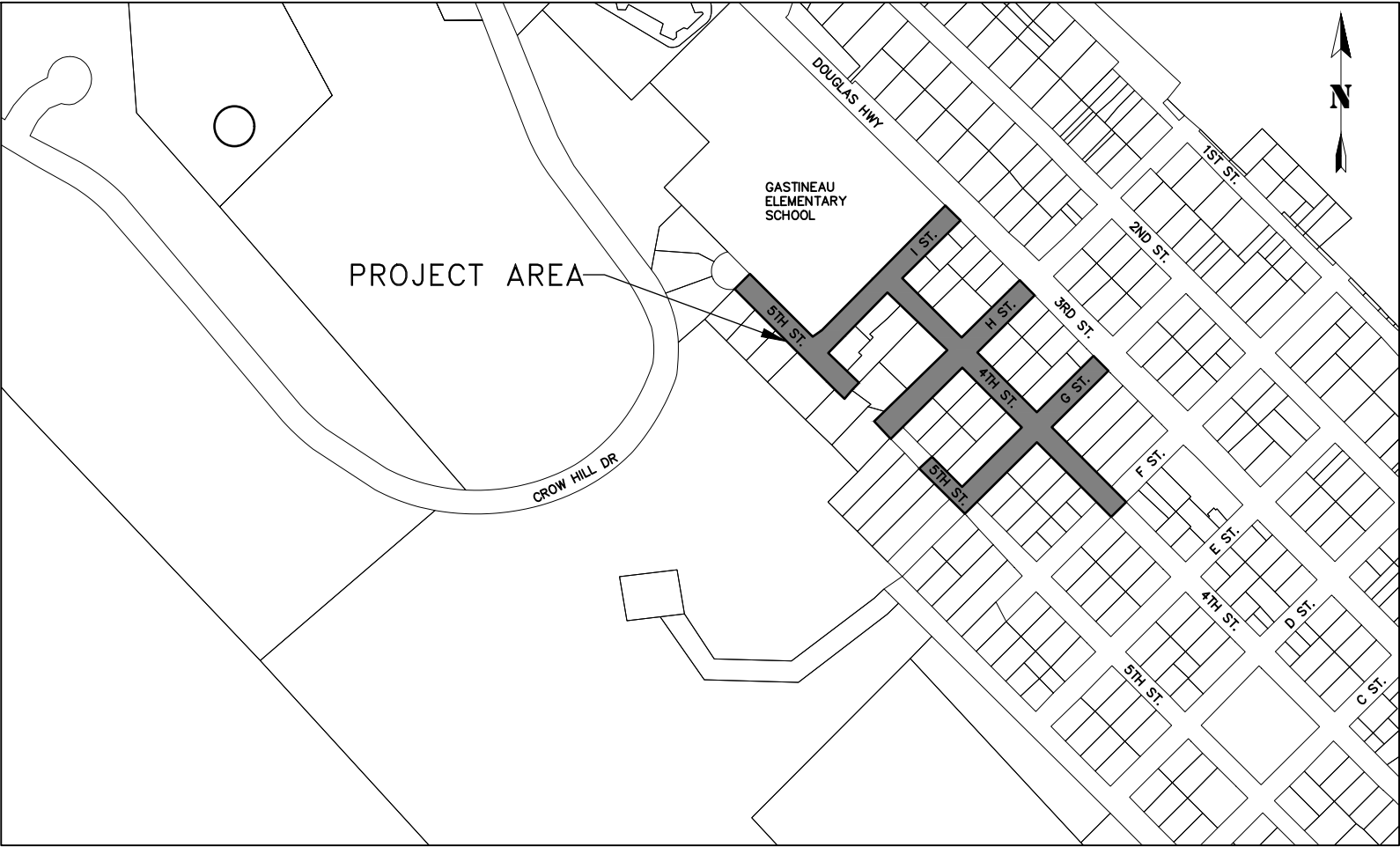


ENGINEERING DEPARTMEN

DOUGLAS 4TH STREET UTILITIES & DRAINAGE

CBJ PROJECT NO. BE21-215
CITY AND BOROUGH OF JUNEAU, ALASKA

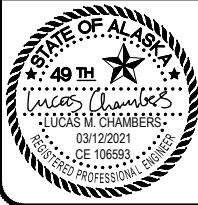
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PROJECT LOCATION MAP
NTS



VICINITY MAP
NTS



RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY

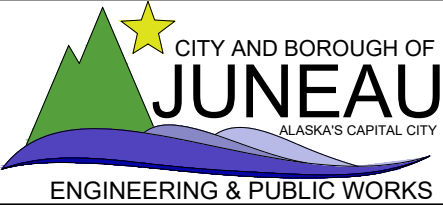


CERTIFICATE OF AUTHORIZATION
#100662

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CITY AND BOROUGH OF
JUNEAU
ALASKA'S CAPITAL CITY
ENGINEERING & PUBLIC WORKS

DOUGLAS 4TH STREET
UTILITIES AND DRAINAGE

BE21-215

COVER SHEET

SHEET NUMBER	
1	OF
46	

LEGEND

DESCRIPTION	EXISTING	REMOVE	PROPOSED
AREA DRAIN			
ASPHALT			
BOLLARDS			
BUILDING			
CONCRETE			
CURB & GUTTER			
CUT/TOP OF SLOPE			
DITCH			
FENCE			
FILL/TOE OF SLOPE			
FIRE HYDRANT			
MONUMENT			
PROPERTY LINE/EASEMENT			
RAP			
SANITARY SEWER CLEANOUT			
SANITARY SEWER PIPE			
SANITARY SEWER MANHOLE			
SAWCUT & MTE LIMITS			
SIGN			
STORM DRAIN CATCH BASIN			
STORM DRAIN PIPE			
STORM DRAIN MANHOLE, SOLID LID			
TREES			
UNDERGROUND PIPE CAP			
UNDERGROUND ELECTRIC			
UNDERGROUND COMMUNICATION			
UNDERGROUND COMMUNICATION & ELECTRIC			
UTILITY POLE			
WATER LINE, LOW PRESSURE			
WATER LINE, INTERMEDIATE PRESSURE			
WATER LINE, HIGH PRESSURE			
WATER VALVE BOX			

ABBREVIATIONS

AC	ASBESTOS CONCRETE
BTM	BOTTOM
CB	CATCH BASIN
CBJ	CITY & BOROUGH OF JUNEAU
C/L	CENTERLINE
CMP	CORRUGATED METAL PIPE
CPP	CORRUGATED POLYETHYLENE PIPE
CONC	CONCRETE
CTE	CONNECT TO EXISTING
DI	DUCTILE IRON
DIA	DIAMETER
EL	ELEVATION
ER	EDGE OF RAP
EX	EXISTING
FG	FINISHED GRADE
GV	GATE VALVE
HDPE	HIGH DENSITY POLYETHYLENE
INV	INVERT
LT	LEFT
MH	MANHOLE
MIN	MINIMUM
MTE	MATCH TO EXISTING
NO	NUMBER
NTS	NOT TO SCALE
PC	POINT OF CURVATURE
PSI	POUNDS PER SQUARE INCH
PT	POINT OF TANGENT
PVC	POLYVINYL CHLORIDE PIPE
RAP	RECYCLED ASPHALT PAVEMENT
RP	RADIUS POINT
RT	RIGHT
ROW	RIGHT-OF-WAY
STA	STATION
STD	STANDARD
TR	TOP OF RAP
TYP	TYPICAL
VPI	VERTICAL POINT OF INTERSECTION

GENERAL NOTES

- CITY AND BOROUGH OF JUNEAU STANDARD DETAILS, 4TH EDITION, AUGUST 2011 AND CITY AND BOROUGH OF JUNEAU STANDARD SPECIFICATIONS FOR CIVIL ENGINEERING PROJECTS AND SUBDIVISION IMPROVEMENTS, DECEMBER 2003 ARE MADE A PART OF THIS CONTRACT, INCLUDING ALL ERRATA (NOS. 1–16) AND CURRENT REVISIONS AS APPLICABLE.
- CALL 586–1333 BEFORE YOU DIG FOR UNDERGROUND POWER, TELEPHONE AND CABLE. CALL 811 ALASKA DIGLINE BEFORE YOU DIG FOR UNDERGROUND ACS & GCI. LOCATIONS AND ELEVATION OF EXISTING UNDERGROUND WATER, SEWER, POWER, TELEPHONE AND CABLE TELEVISION SHOWN ON THE PLANS WERE DERIVED FROM CBJ AS–BUILTS AND FIELD LOCATES. THE ACTUAL LOCATION OF UTILITIES MAY VARY FROM THOSE SHOWN. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING, PROTECTING AND MAINTAINING THE UTILITIES THROUGHOUT THE CONSTRUCTION OF THE PROJECT. ANY DAMAGE TO THE UNDERGROUND UTILITIES DURING CONSTRUCTION SHALL BE REPAIRED AND PAID FOR BY THE CONTRACTOR AND SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
- THE ESTIMATED TOTAL AREA OF DISTURBANCE RESULTING FROM THESE IMPROVEMENTS WILL BE OVER 1 ACRE.
- THE ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION (DEC) HAS IDENTIFIED CONTAMINATED SITES WITHIN 1,500 FEET OF THE PROJECT LIMITS THAT ARE CURRENTLY IN "ACTIVE" OR "INSTITUTIONAL CONTROL" CLEANUP STATUS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONSULT DEC AND OBTAIN ALL NECESSARY PERMITS REQUIRED TO PERFORM THE WORK. ADEC DIVISION OF SPILL PREVENTION AND RESPONSE CAN BE REACHED AT 907–465–5250.
- FINISHED GRADE AND ALIGNMENT ARE SUBJECT TO MINOR REVISIONS BY THE ENGINEER. LOCATION OF PROPOSED WATER, SEWER AND STORM DRAINAGE FACILITIES ARE SUBJECT TO MINOR REVISIONS BY THE ENGINEER.
- PROPERTY LINE LOCATIONS USED IN THESE PLANS ARE DERIVED FROM RECORD PLATS AND DO NOT REPRESENT BOUNDARY SURVEY.
- THE CONTRACTOR SHALL PERFORM A CLOSED LEVEL LOOP THROUGH ALL TBM’S AS LISTED HEREON TO VERIFY ELEVATIONS PRIOR TO BEGINNING ANY WORK.
- CONTRACTOR SHALL REFERENCE ALL EXISTING PROPERTY CORNER MONUMENTS (I.E. BRASS CAP MONUMENTS, REBARS, CONCRETE NAILS, CHISELED X’S) PRIOR TO CONSTRUCTION AND REMONUMENT AFTER SURFACING IS REPLACED. EXISTING SURVEY MONUMENTS MAY NOT BE SHOWN ON THE DRAWINGS. ALL WORK SHALL BE DONE BY, OR UNDER THE DIRECTION OF, AN ALASKA REGISTERED LAND SURVEYOR.
- CONTRACTOR SHALL ENSURE GARBAGE PICKUP, PRIVATE AND BUSINESS DELIVERIES, AND DAILY MAIL SERVICE WILL BE UNINTERRUPTED TO ALL BUSINESS AND RESIDENCES AFFECTED BY THIS PROJECT. CONTRACTOR TO ENSURE BUS, VEHICLE AND PEDESTRIAN ACCESS TO GASTINEAU ELEMENTARY SCHOOL WHEN SCHOOL IS IN SESSION.
- THE CONTRACTOR SHALL NOTIFY EACH PROPERTY OWNER OF EACH DRIVEWAY CLOSURE 48 HOURS PRECEDING THE DAY THE DRIVEWAY IS TO BE CLOSED TO VEHICULAR ACCESS. THE PROPERTY OWNER SHALL BE INFORMED OF THE PERIOD OF TIME THE CLOSURE WILL BE IN EFFECT. NO DRIVEWAY CLOSURES WILL BE PERMITTED UNTIL THIS REQUIREMENT HAS BEEN MET TO THE SATISFACTION OF THE ENGINEER. PEDESTRIAN ACCESS SHALL BE MAINTAINED AT ALL TIMES.
- THE CONTRACTOR SHALL NOT STORE MATERIALS OR EQUIPMENT, OR OPERATE EQUIPMENT WITH ITS TRACKS OR WHEELS PLACED ON PRIVATE PROPERTY, WITHOUT THE WRITTEN APPROVAL OF THE PROPERTY OWNER.
- THE CONTRACTOR SHALL NOTIFY CBJ WATER UTILITIES (LONI VANKIRK AT 723–4975) OF PROPOSED WATER SERVICE INTERRUPTION AND SUBMIT THE "WATER SYSTEM SPECIAL USE PERMIT" TO CBJ WATER UTILITIES SUPERINTENDENT FOR APPROVAL AT LEAST 48 HOURS PRIOR TO SHUTDOWN OR FLUSHING OF MAINLINE WATER PIPE. NO WATER SERVICE INTERRUPTION MAY PROCEED UNTIL THIS APPROVAL IS OBTAINED. THE CONTRACTOR CANNOT SHUT OFF WATER SUPPLY TO SERVICES FOR MORE THAN 4 HOURS AT ONE TIME.
- THE CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF EXISTING WATER PIPES, INCLUDING ALL SERVICES ALONG THE STORM DRAIN AND WATER PIPE ALIGNMENTS TO DETERMINE PIPE INSULATION LOCATIONS AND TO ENSURE DAMAGE DOES NOT OCCUR TO THE SERVICE PIPES.
- ALL ITEMS DESIGNATED TO BE REMOVED SHALL BE DISPOSED OF OFF–SITE, EXCEPT AS NOTED IN THE CONTRACT DOCUMENTS.
- ALL ASPHALT PAVEMENT TO BE REMOVED AND DISPOSED OF SHALL BE DELIVERED TO A STOCKPILE AREA AT THE LEMON CREEK CITY PIT AT A LOCATION TO BE DESIGNATED BY THE ENGINEER. CONTACT THE ENGINEER FOR THE EXACT LOCATION OF THE STOCKPILE.
- ALL OTHER MATERIALS TO BE REMOVED AND DISPOSED OF SHALL BECOME THE PROPERTY OF THE CONTRACTOR, INCLUDING CONCRETE, UNSUITABLE SOILS, WATER PIPE, SEWER PIPE, CULVERT, STORM AND SEWER STRUCTURES, SIGN POSTS AND ETC.
- ALL EXISTING STORM DRAINAGE PIPES, CULVERTS AND STRUCTURES WITHIN THE PROJECT LIMITS SHALL BE REMOVED AND DISPOSED OF IN THEIR ENTIRETY UNLESS OTHERWISE INDICATED IN THE CONTRACT DOCUMENTS. WATER AND SANITARY SEWER PIPE CALLED OUT ON THE DRAWINGS FOR REMOVAL SHALL BE REMOVED AND DISPOSED OF IN THEIR ENTIRETY.
- A GEOTECHNICAL INVESTIGATION WAS NOT PERFORMED AS PART OF THIS DESIGN. GROUNDWATER, LARGER BOULDERS, BEDROCK, STUMPS, LOGS AND ORGANICS MAY BE ENCOUNTERED AT VAROIOUS DEPTHS DURING CONSTRUCTION.

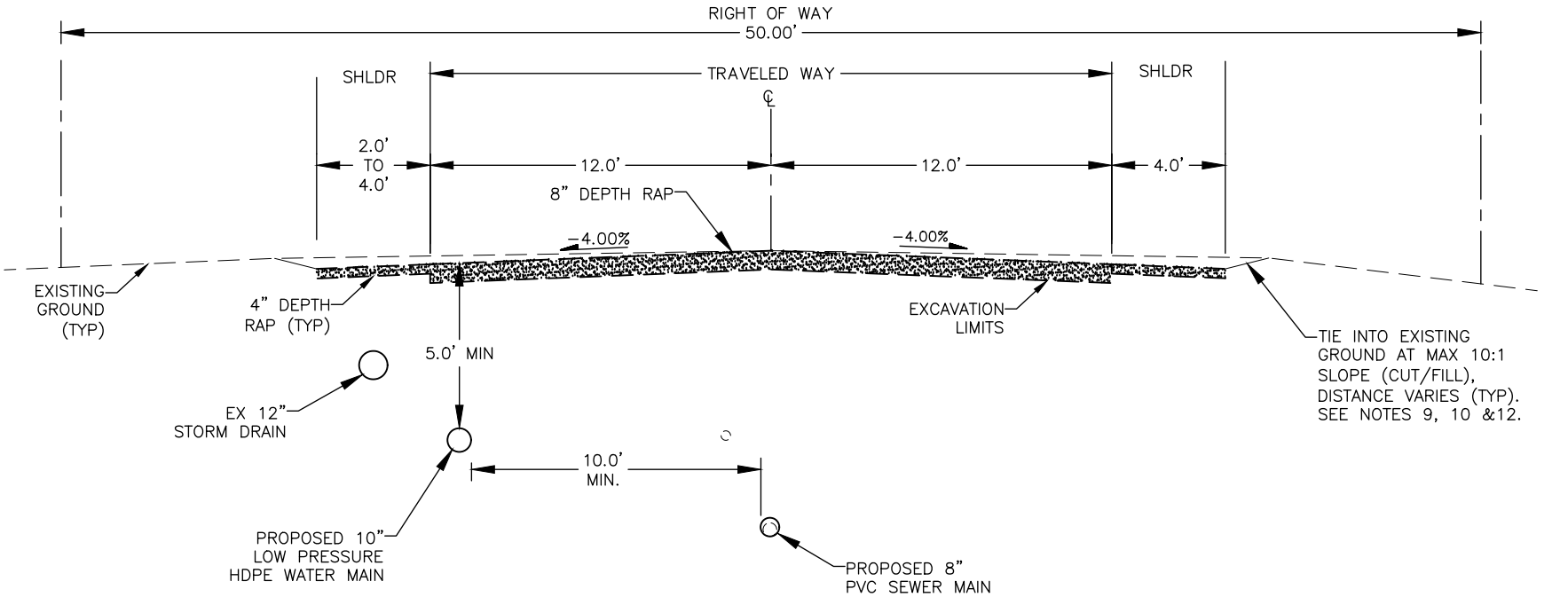
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2. THE APPROXIMATE LOCATION OF EXISTING UTILITIES THAT ARE SCHEDULED FOR REMOVAL HAVE BEEN SHOWN ON THE TYPICAL SECTIONS, BUT ARE NOT LABELED FOR SHEET READABILITY. SEE PLAN VIEW SHEETS FOR EXISTING UTILITY SIZE AND TYPE INFORMATION.
3. SURFACE MATERIAL FOR CUT & FILL SLOPES FROM EDGE OF SHOULDER SHALL BE EXISTING SUBGRADE OR USABLE EXCAVATION.
4. ONLY HORIZONTAL ELBOW FITTINGS (BENDS) ARE SHOWN (NOT ALL ARE LABELED) ON DRAWINGS. ADDITIONAL FITTINGS WILL BE REQUIRED FOR VERTICAL DEFLECTIONS NEAR CONNECTIONS TO EXISTING PIPES, AND AT OTHER LOCATIONS REQUIRING GRADE CHANGES TO AVOID CONFLICTS.
5. **APPROXIMATE SCADA & PRV POWER LINE LOCATION** CONTRACTOR TO COORDINATE SCADA AND PRV POWER LINES LOCATE W/ CBJ WATER UTILITIES (LONI VANKIRK @ 907-723-4975) PRIOR TO ANY GROUND DISTURBING ACTIVITIES. CONTRACTOR IS RESPONSIBLE FOR PRESERVING AND PROTECTING SCADA AND PRV POWER CABLES. IF SCADA AND PRV POWER CABLES ARE DISTURBED OR NEED RELOCATING IN ORDER TO PERFORM WORK REINSTALL PER CBJ STD. 120 UTILITY TRENCH DETAIL.
6. THE PLAN DRAWINGS DO NOT SHOW ALL PLANTINGS, AND OTHER LANDSCAPING THAT WILL BE ENCOUNTERED DURING CONSTRUCTION ACTIVITIES. NO PLANTINGS OR LANDSCAPING ARE TO BE REMOVED OR DAMAGED, UNLESS SHOWN ON THE DRAWINGS OR DIRECTED BY THE ENGINEER.
7. SIDE SLOPES, WIDTHS AND GRADES MAY VARY AT SOME LOCATIONS, SEE GRADING SHEETS FOR ADDITIONAL INFORMATION.
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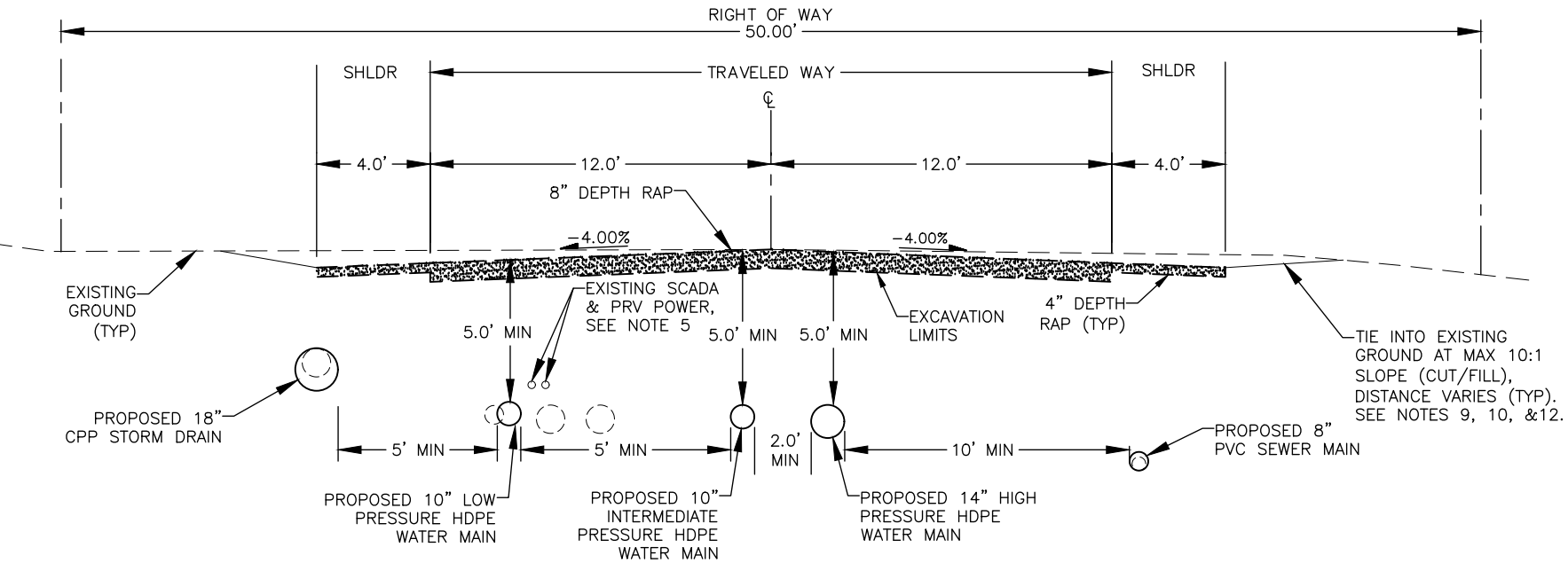
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B. EXISTING GRAVEL DRIVEWAYS DISTURBED DURING CONSTRUCTION SHALL BE SUBCUT TO 4-INCHES BELOW FINISH GRADE AND REPLACED WITH 4" OF RAP.


C. ORGANICS, ROOTS, WOOD OR OTHER DELETERIOUS MATERIALS ENCOUNTERED IN THE DRIVEWAYS DURING EXCAVATION OPERATIONS SHALL BE REMOVED AS DIRECTED BY THE ENGINEER AND DISPOSED OF AT AN APPROVED OFFSITE DISPOSAL SITE. BACKFILL VOIDS BELOW THE REQUIRED SUBCUT LAYER WITH USABLE EXCAVATION.
10. THE LIMITS OF DISTURBANCE OUTSIDE THE STRUCTURAL SECTION WILL VARY IN DISTANCE FROM RIGHT-OF-WAY LINES. PLACE AND GRADE THESE MATERIALS TO PROVIDE A SMOOTH, WELL-DRAINED TRANSITION TO EXISTING GRADES, AS DIRECTED BY THE ENGINEER.
11. PROOF ROLLING BOTTOM OF SUBCUT EXCAVATION SHALL BE PERFORMED USING A MINIMUM 10-TON SELF-PROPELLED VIBRATORY COMPACTOR. A MINIMUM OF TWO PASSES (ONE PASS EQUALS DOWN AND BACK) SHALL BE MADE OVER THE SUBCUT SOILS WITHIN THE ROADWAY PRISM.
12. SEED EXPOSED CUTS THAT ARE NOT SURFACED WITH NON-ERODABLE SUB-GRADE MATERIAL OR RAP.



4TH STREET TYPICAL SECTION STATION RANGE 10+30 TO 12+25
NTS




4TH STREET TYPICAL SECTION STATION RANGE 12+75 TO 17+25
NTS



49TH
Lucas M. Chambers
03/12/2021
CE 106593
REGISTERED PROFESSIONAL ENGINEER

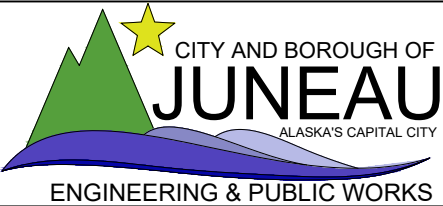
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proHNS LLC
CERTIFICATE OF AUTHORIZATION
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DRAWN BY: C. BYDLON
DESIGNED BY: C. BYDLON
CHECKED BY: L. CHAMBERS

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UTILITIES AND DRAINAGE
BE21-215

4TH STREET TYPICAL
SECTIONS

SHEET NUMBER

3
OF
46

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March 12, 2021

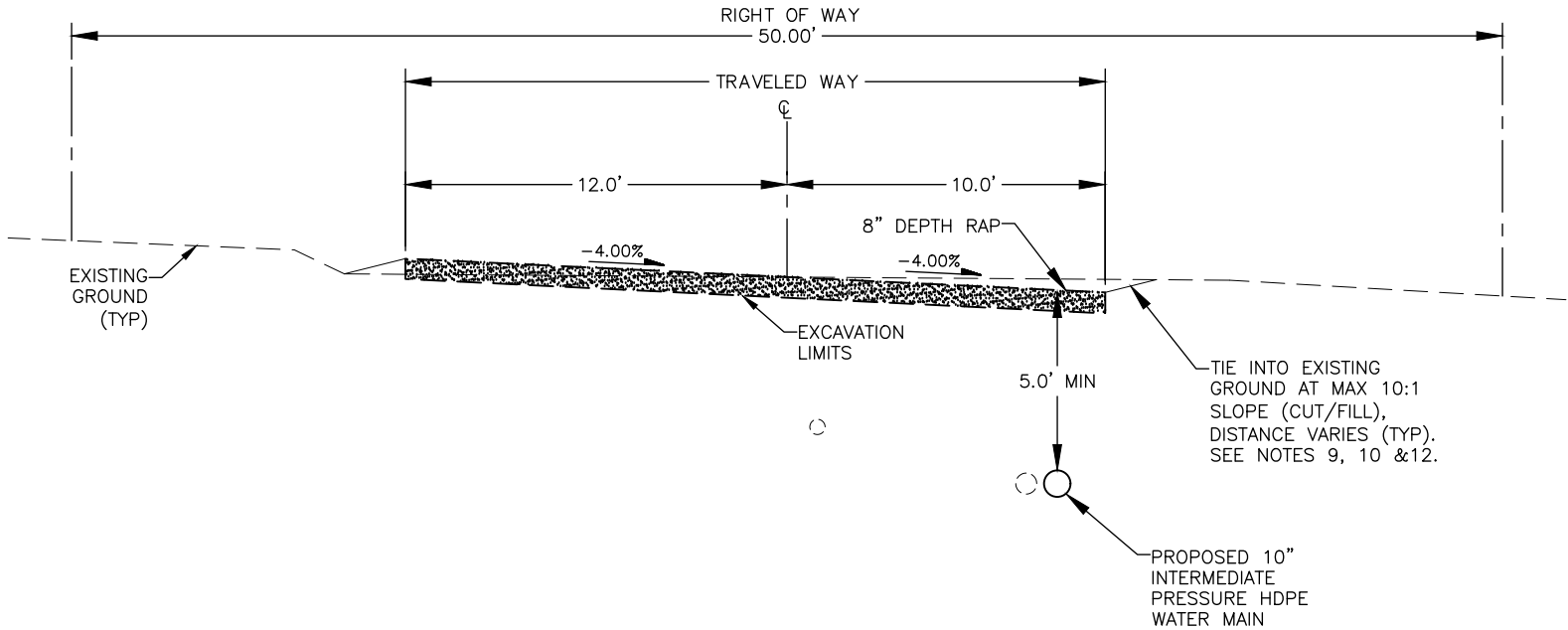
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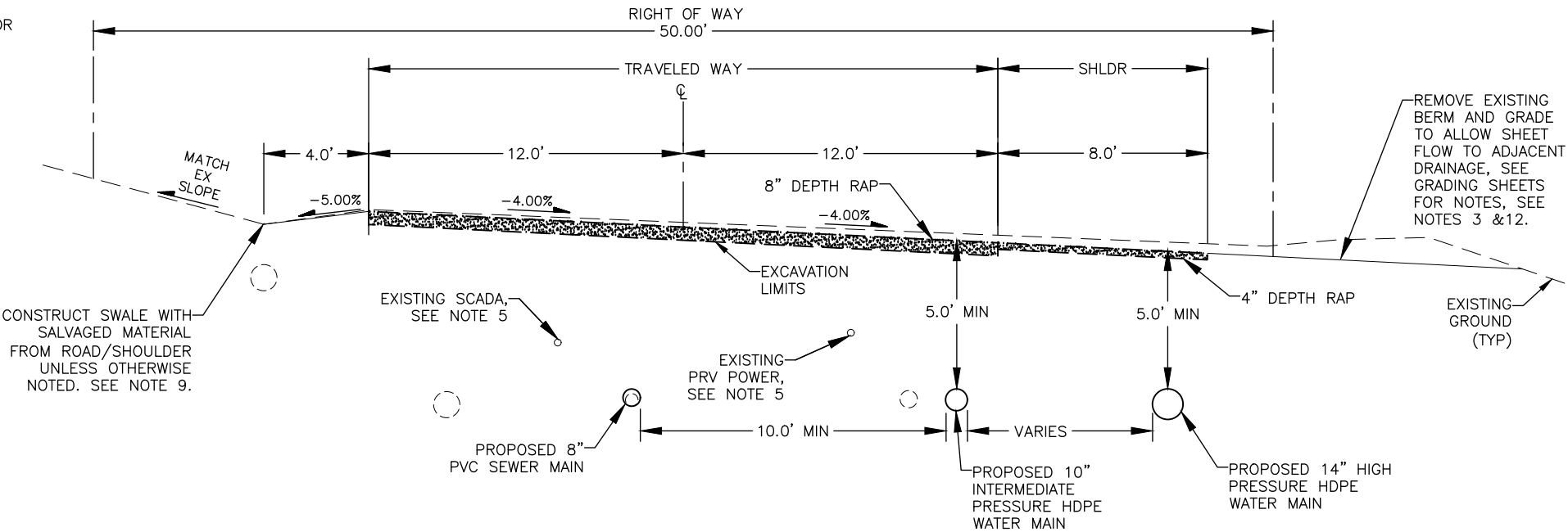
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5TH STREET TYPICAL SECTION STATION RANGE 10+46 TO 11+25
NTS



5TH STREET TYPICAL SECTION STATION RANGE 11+75 TO 12+61
NTS

STATE OF ALASKA

49TH

Lucas M. Chambers

03/12/2021

CE 106593

REGISTERED PROFESSIONAL ENGINEER

RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY

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5TH STREET TYPICAL

SECTIONS

SHEET NUMBER

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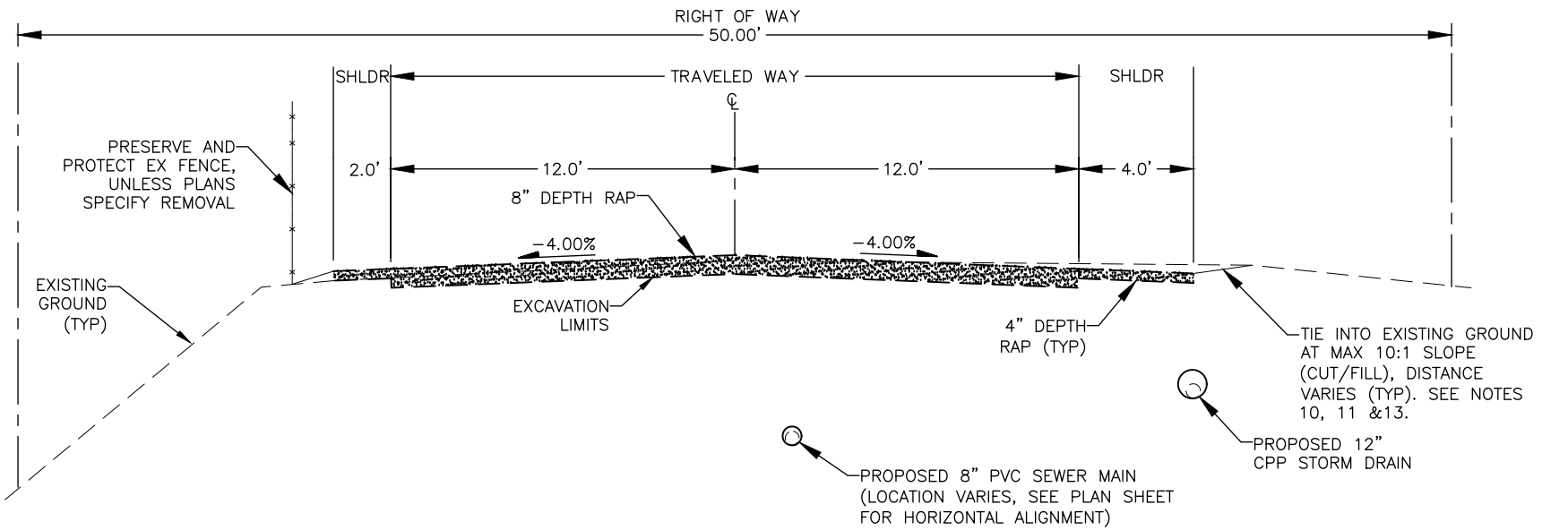
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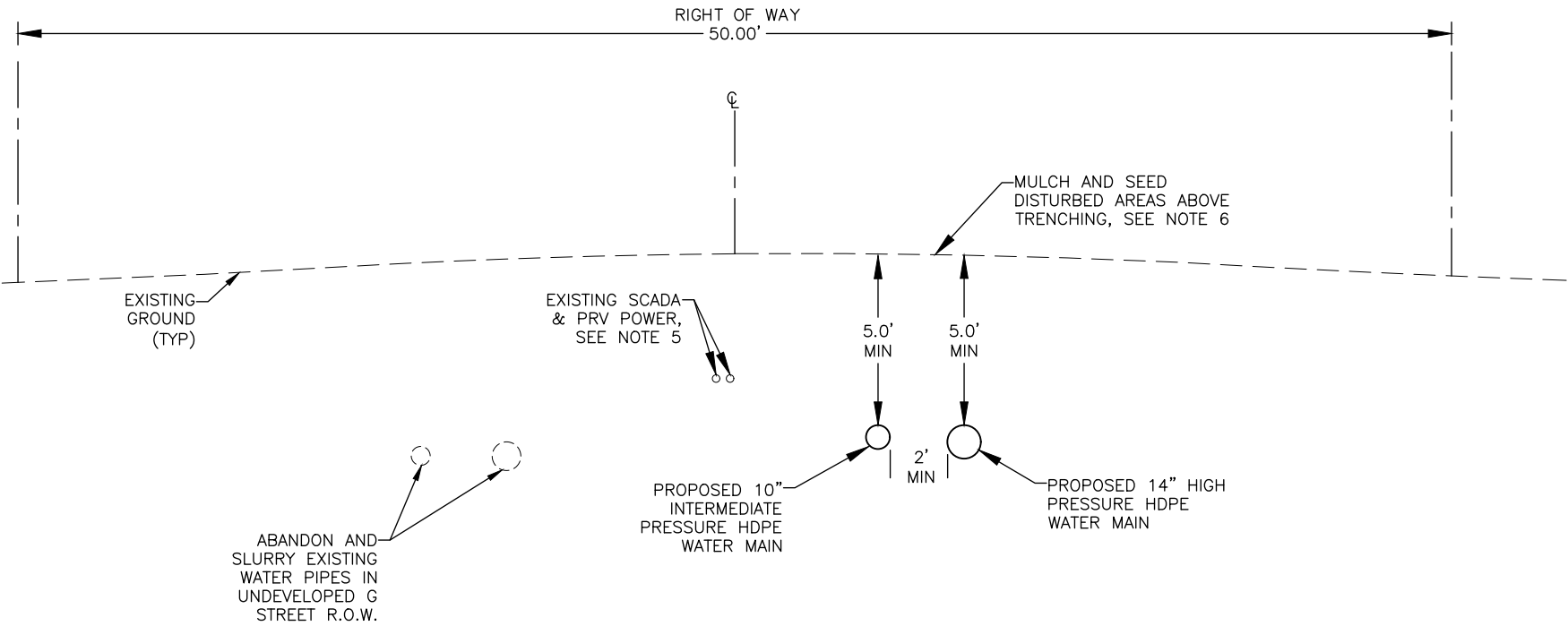
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G STREET TYPICAL SECTION STATION RANGE 10+65 TO 12+25
NTS



G STREET TYPICAL SECTION STATION RANGE 12+75 TO 13+75
NTS

RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY

CERTIFICATE OF AUTHORIZATION
#100662

DRAWN BY:	C. BYDLON
DESIGNED BY:	C. BYDLON
CHECKED BY:	L. CHAMBERS

1945 ALEX HOLDEN WAY #101
JUNEAU, AK 99801
(907) 780-4004

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CITY AND BOROUGH OF
JUNEAU
ALASKA'S CAPITAL CITY

ENGINEERING & PUBLIC WORKS

DOUGLAS 4TH STREET
UTILITIES AND DRAINAGE

BE21-215

G STREET TYPICAL
SECTIONS

SHEET NUMBER	
5	OF
46	

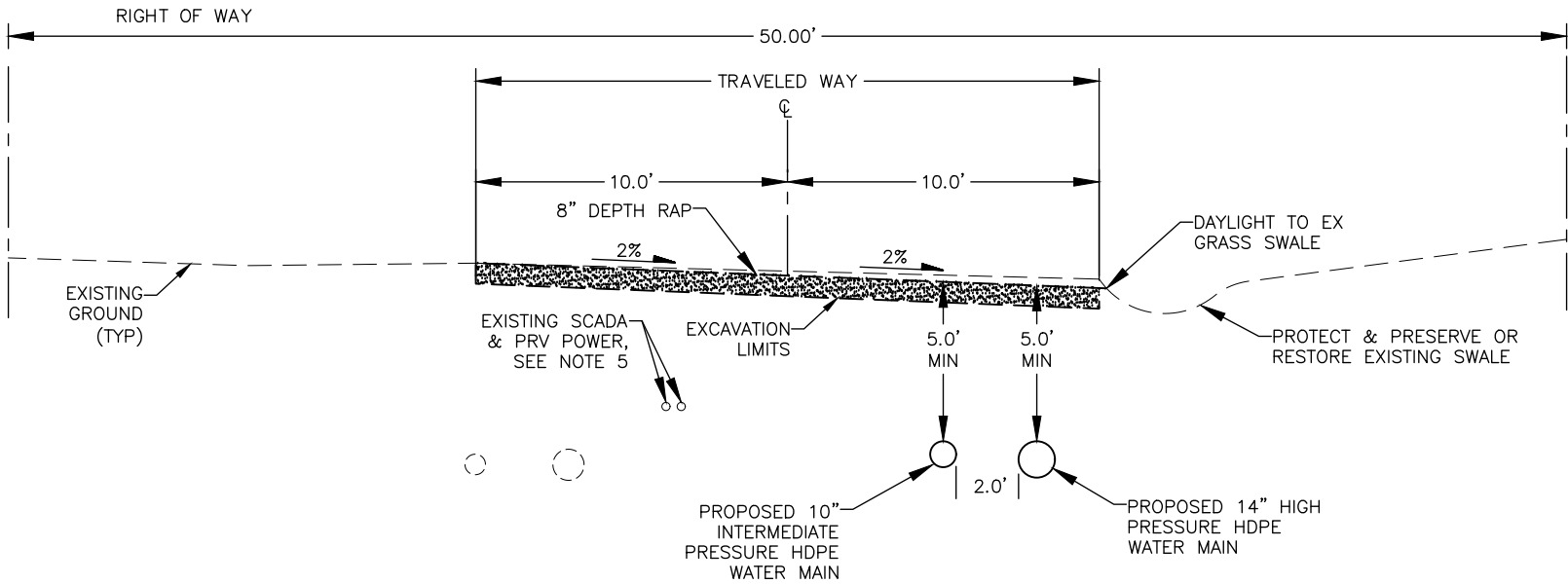
TYPICAL SECTION NOTES

1. CALL 586-1333 BEFORE YOU DIG FOR UNDERGROUND POWER, TELEPHONE AND CABLE. CALL 811 ALASKA DIGLINE BEFORE YOU DIG FOR UNDERGROUND ACS & GCI. LOCATIONS AND ELEVATION OF EXISTING UNDERGROUND WATER, SEWER, POWER, TELEPHONE AND CABLE TELEVISION SHOWN ON THE PLANS WERE DERIVED FROM CBJ AS-BUILTS AND FIELD LOCATES. THE ACTUAL LOCATION OF UTILITIES MAY VARY FROM THOSE SHOWN. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING, PROTECTING AND MAINTAINING THE UTILITIES THROUGHOUT THE CONSTRUCTION OF THE PROJECT. ANY DAMAGE TO THE UNDERGROUND UTILITIES DURING CONSTRUCTION SHALL BE REPAIRED AND PAID FOR BY THE CONTRACTOR AND SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
2. THE APPROXIMATE LOCATION OF EXISTING UTILITIES THAT ARE SCHEDULED FOR REMOVAL HAVE BEEN SHOWN ON THE TYPICAL SECTIONS, BUT ARE NOT LABELED FOR SHEET READABILITY. SEE PLAN VIEW SHEETS FOR EXISTING UTILITY SIZE AND TYPE INFORMATION.
3. SURFACE MATERIAL FOR CUT & FILL SLOPES FROM EDGE OF SHOULDER SHALL BE EXISTING SUBGRADE OR USABLE EXCAVATION.
4. ONLY HORIZONTAL ELBOW FITTINGS (BENDS) ARE SHOWN (NOT ALL ARE LABELED) ON DRAWINGS. ADDITIONAL FITTINGS WILL BE REQUIRED FOR VERTICAL DEFLECTIONS NEAR CONNECTIONS TO EXISTING PIPES, AND AT OTHER LOCATIONS REQUIRING GRADE CHANGES TO AVOID CONFLICTS.
5. **APPROXIMATE SCADA & PRV POWER LINE LOCATION** CONTRACTOR TO COORDINATE SCADA AND PRV POWER LINES LOCATE W/ CBJ WATER UTILITIES (LONI VANKIRK @ 907-723-4975) PRIOR TO ANY GROUND DISTURBING ACTIVITIES. CONTRACTOR IS RESPONSIBLE FOR PRESERVING AND PROTECTING SCADA AND PRV POWER CABLES. IF SCADA AND PRV POWER CABLES ARE DISTURBED OR NEED RELOCATING IN ORDER TO PERFORM WORK REINSTALL PER CBJ STD. 120 UTILITY TRENCH DETAIL.
6. THE PLAN DRAWINGS DO NOT SHOW ALL PLANTINGS, AND OTHER LANDSCAPING THAT WILL BE ENCOUNTERED DURING CONSTRUCTION ACTIVITIES. NO PLANTINGS OR LANDSCAPING ARE TO BE REMOVED OR DAMAGED, UNLESS SHOWN ON THE DRAWINGS OR DIRECTED BY THE ENGINEER.
7. SIDE SLOPES, WIDTHS AND GRADES MAY VARY AT SOME LOCATIONS, SEE GRADING SHEETS FOR ADDITIONAL INFORMATION.
8. UNDERGROUND SEWER, WATER AND STORM SEWER SERVICES NOT SHOWN FOR CLARITY, SEE PLAN VIEW SHEETS FOR APPROXIMATE LOCATIONS.
9. DRIVEWAYS DISTURBED DURING CONSTRUCTION SHALL BE RECONSTRUCTED AT A SLOPE OF 5:1 TO EQUAL OR BETTER CONDITION WITH SUBGRADE REPLACED IN LAYERS TO MATCH THOSE REMOVED, EXCEPT:


A. EXISTING ASPHALT PAVED DRIVEWAYS DISTURBED DURING CONSTRUCTION SHALL BE SUBCUT TO 8.5" BELOW FINISH GRADE AND REPLACED WITH 6" OF RAP AND 2.5" OF OF ASPHALT PAVEMENT, TYPE II-A, CLASS B.

B. EXISTING GRAVEL DRIVEWAYS DISTURBED DURING CONSTRUCTION SHALL BE SUBCUT TO 4-INCHES BELOW FINISH GRADE AND REPLACED WITH 4" OF RAP.


C. ORGANICS, ROOTS, WOOD OR OTHER DELETERIOUS MATERIALS ENCOUNTERED IN THE DRIVEWAYS DURING EXCAVATION OPERATIONS SHALL BE REMOVED AS DIRECTED BY THE ENGINEER AND DISPOSED OF AT AN APPROVED OFFSITE DISPOSAL SITE. BACKFILL VOIDS BELOW THE REQUIRED SUBCUT LAYER WITH USABLE EXCAVATION.
10. THE LIMITS OF DISTURBANCE OUTSIDE THE STRUCTURAL SECTION WILL VARY IN DISTANCE FROM RIGHT-OF-WAY LINES. PLACE AND GRADE THESE MATERIALS TO PROVIDE A SMOOTH, WELL-DRAINED TRANSITION TO EXISTING GRADES, AS DIRECTED BY THE ENGINEER.
11. PROOF ROLLING BOTTOM OF SUBCUT EXCAVATION SHALL BE PERFORMED USING A MINIMUM 10-TON SELF-PROPELLED VIBRATORY COMPACTOR. A MINIMUM OF TWO PASSES (ONE PASS EQUALS DOWN AND BACK) SHALL BE MADE OVER THE SUBCUT SOILS WITHIN THE ROADWAY PRISM.
12. SEED EXPOSED CUTS THAT ARE NOT SURFACED WITH NON-ERODABLE SUB-GRADE MATERIAL OR RAP.



G STREET TYPICAL SECTION (UPPER G STREET) 13+81 TO 14+75
NTS



RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY

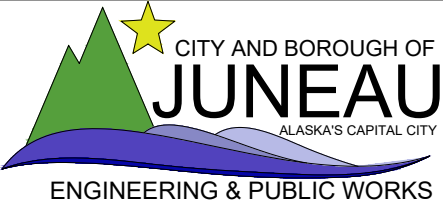


DRAWN BY: C. BYDLON
DESIGNED BY: C. BYDLON
CHECKED BY: L. CHAMBERS

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CITY AND BOROUGH OF
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ALASKA'S CAPITAL CITY
ENGINEERING & PUBLIC WORKS

DOUGLAS 4TH STREET
UTILITIES AND DRAINAGE

BE21-215

G STREET TYPICAL
SECTIONS-2

SHEET NUMBER

6
OF
46

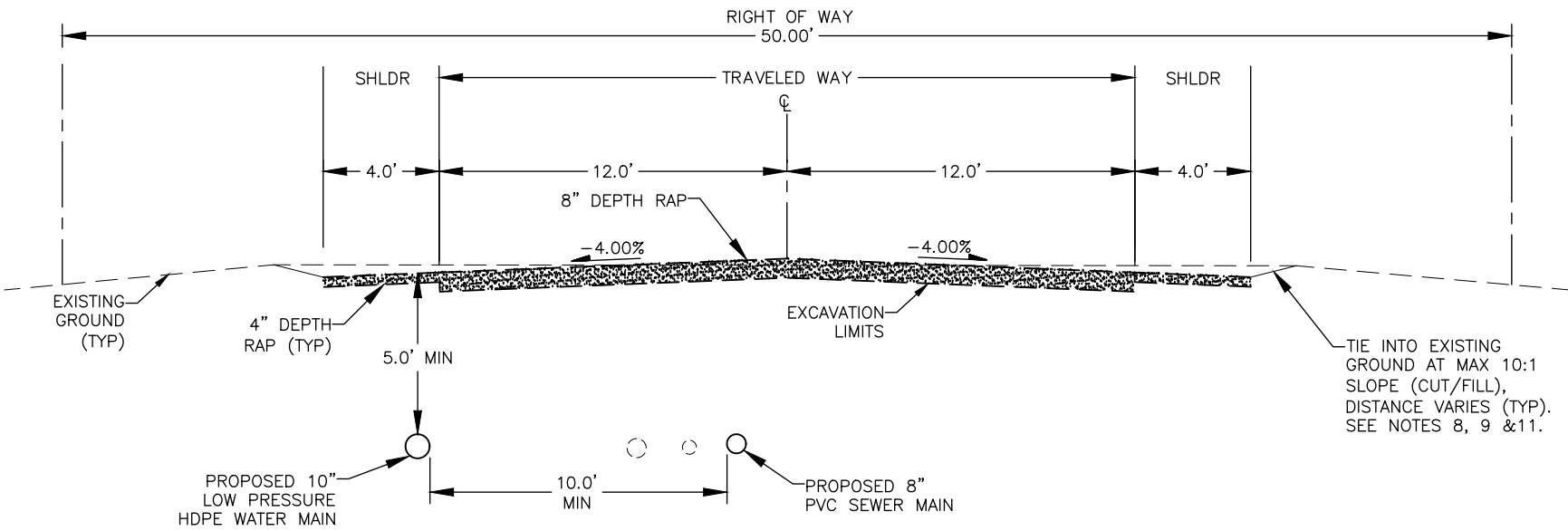
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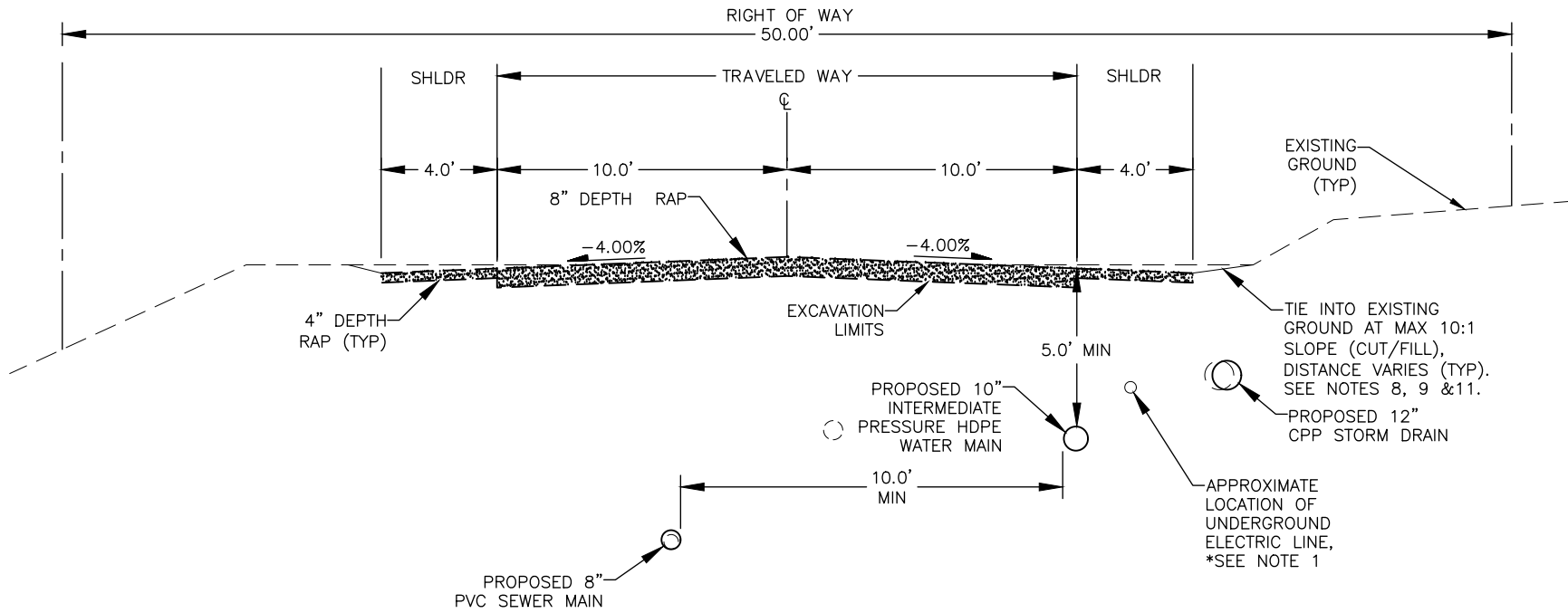
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12. SEED EXPOSED CUTS THAT ARE NOT SURFACED WITH NON-ERODABLE SUB-GRADE MATERIAL OR RAP.



H STREET TYPICAL SECTION STATION RANGE 10+54 TO 12+25
NTS



H STREET TYPICAL SECTION STATION RANGE 12+75 TO 14+18
NTS

STATE OF ALASKA

49TH

LUCAS M. CHAMBERS

03/12/2021

CE 106593

REGISTERED PROFESSIONAL ENGINEER

RECORD OF REVISIONS

No.	DATE	DESCRIPTION	BY

proHNS LLC

CERTIFICATE OF AUTHORIZATION

#100662

DRAWN BY: C. BYDLON

DESIGNED BY: C. BYDLON

CHECKED BY: L. CHAMBERS

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ENGINEERING & PUBLIC WORKS

DOUGLAS 4TH STREET

UTILITIES AND DRAINAGE

BE21-215

H STREET TYPICAL

SECTIONS

SHEET NUMBER

7

OF

46

March 12, 2021

C:\Users\lucas\Dropbox (proHNS)\Projects\Juneau\CBU 4th Street Utilities and Drainage Design\C3D_Douglas 4th St\Sheets\4th Street Utilities and Drainage_TYPICAL.dwg

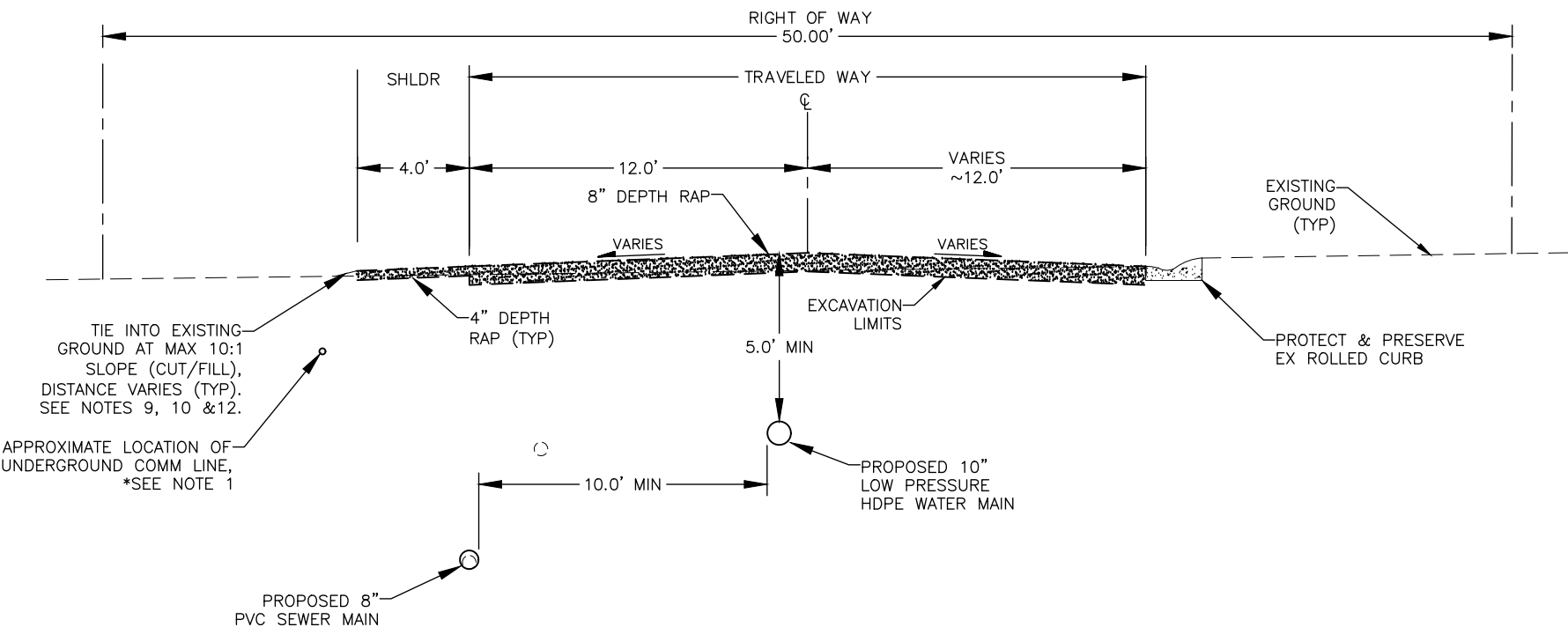
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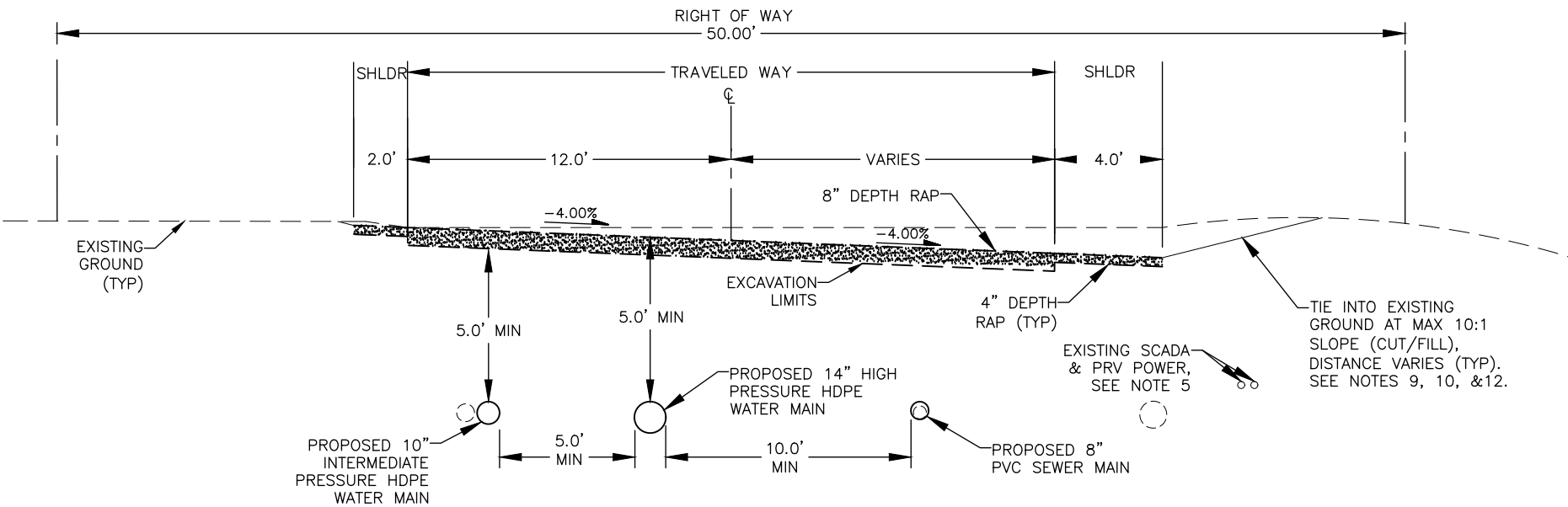
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I STREET TYPICAL SECTION STATION RANGE 10+67 TO 12+25
NTS



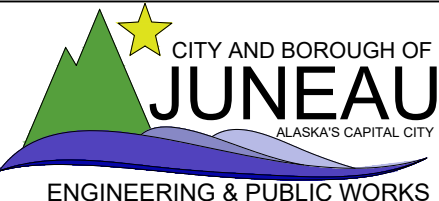
I STREET TYPICAL SECTION STATION RANGE 13+25 TO 14+75
NTS



RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY



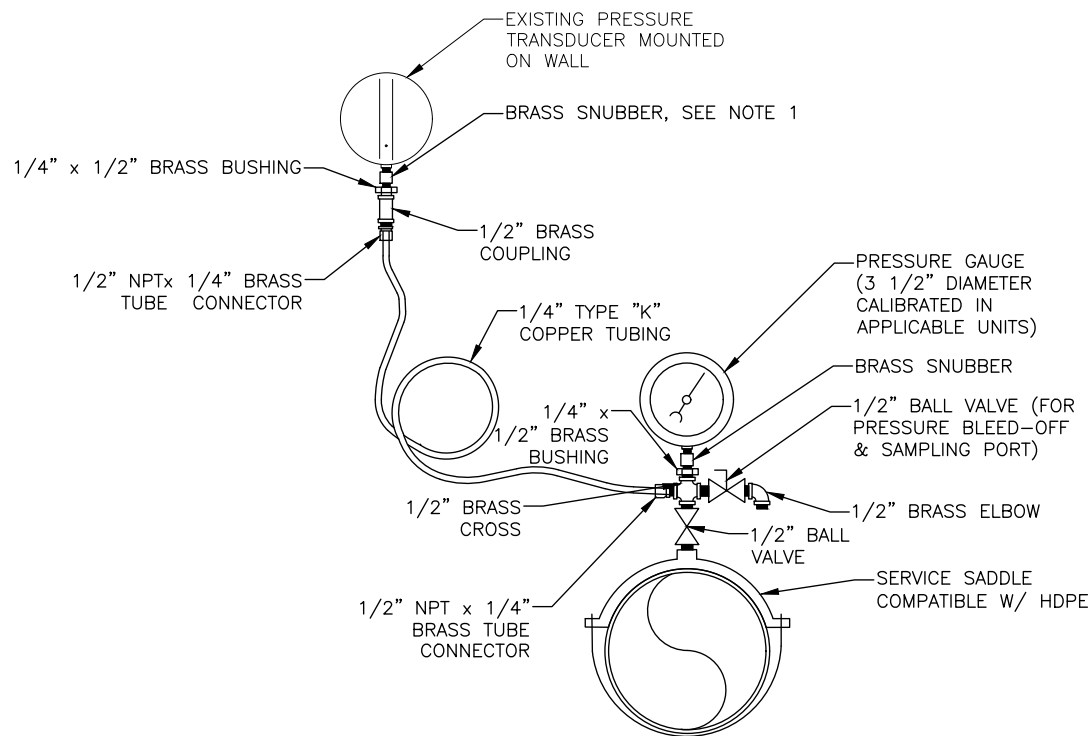
DRAWN BY:	C. BYDLON
DESIGNED BY:	C. BYDLON
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1945 ALEX HOLDEN WAY #101 JUNEAU, AK 99801 (907) 780-4004	
solutions@proHNS.com www.proHNS.com	



DOUGLAS 4TH STREET UTILITIES AND DRAINAGE
BE21-215

I STREET TYPICAL SECTIONS

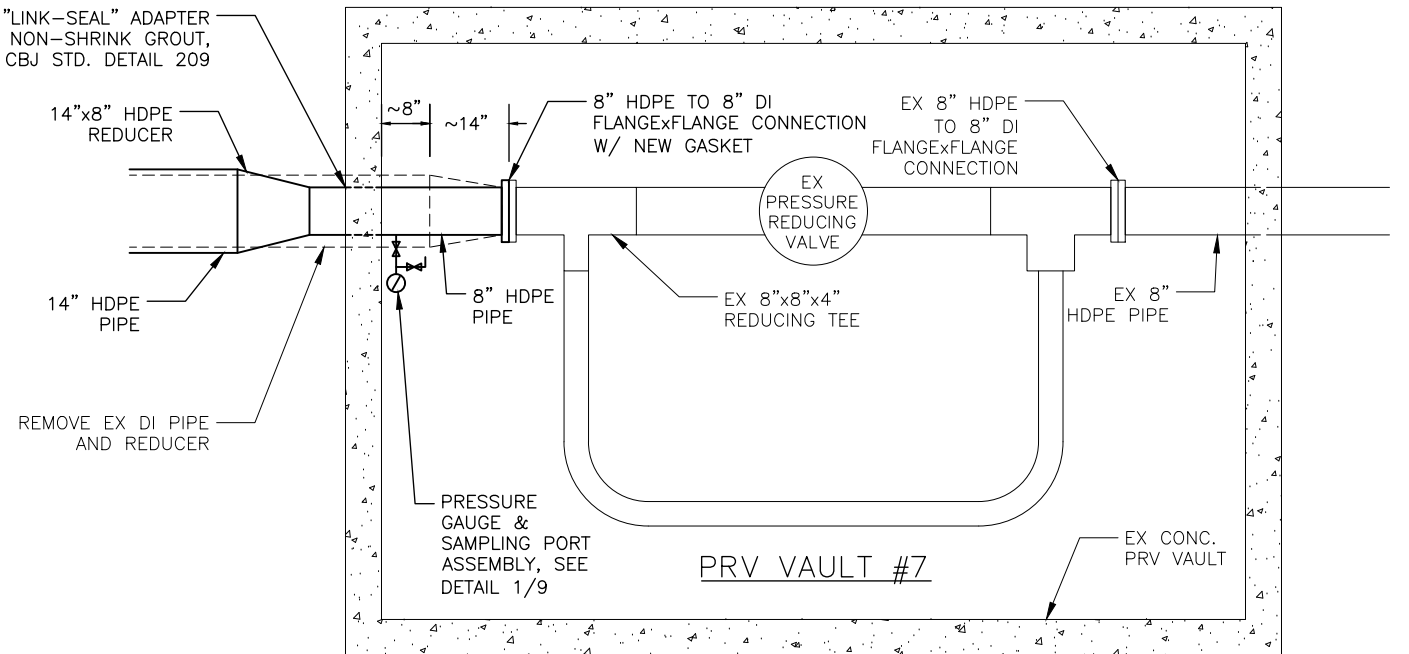
SHEET NUMBER
8
OF
46



1 PRESSURE GAUGE & SAMPLING PORT ASSEMBLY
SCALE: NOT TO SCALE

DETAIL 1/9 NOTES:

- CONNECT TO EXISTING PRESSURE TRANSDUCER MOUNTED ON THE WALL ABOVE THE PIPE PENETRATION.



2 PRV #4 & #7 CONNECTION DETAIL
SCALE: NOT TO SCALE

DETAIL 2/9 NOTES:

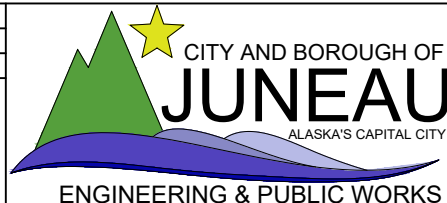
- NOT ALL PARTS IN PRV VAULT ARE REPRESENTED IN THIS DETAIL. ONLY THOSE RELEVANT TO THE CURRENT PROJECT HAVE BEEN SHOWN AND LABELED.
- PROVIDE ALL ADAPTERS, ELBOWS AND OTHER FITTINGS NECESSARY TO CONNECT TO DISSIMILAR PIPE SIZES, MATERIALS AND DEPTHS. CONNECT TO EXISTING.
- CONTRACTOR TO CONFIRM DIMENSIONS BEFORE ORDERING PARTS. CONTACT CBJ WATER DEPARTMENT (LONI VANKIRK @ 907-723-4975) TO ARRANGE ACCESS TO PRV VAULT.



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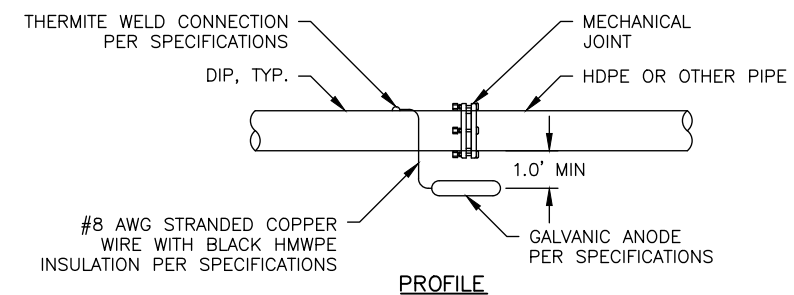
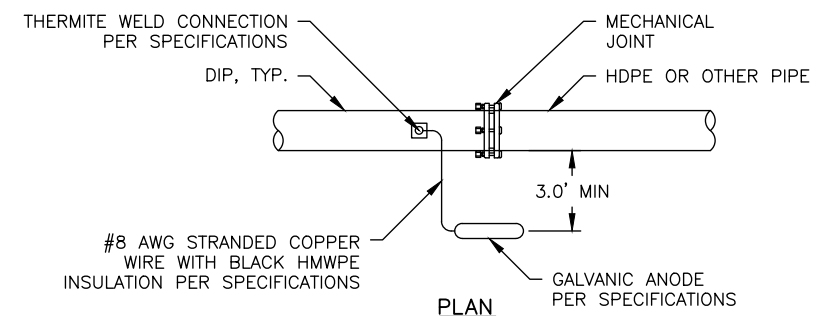
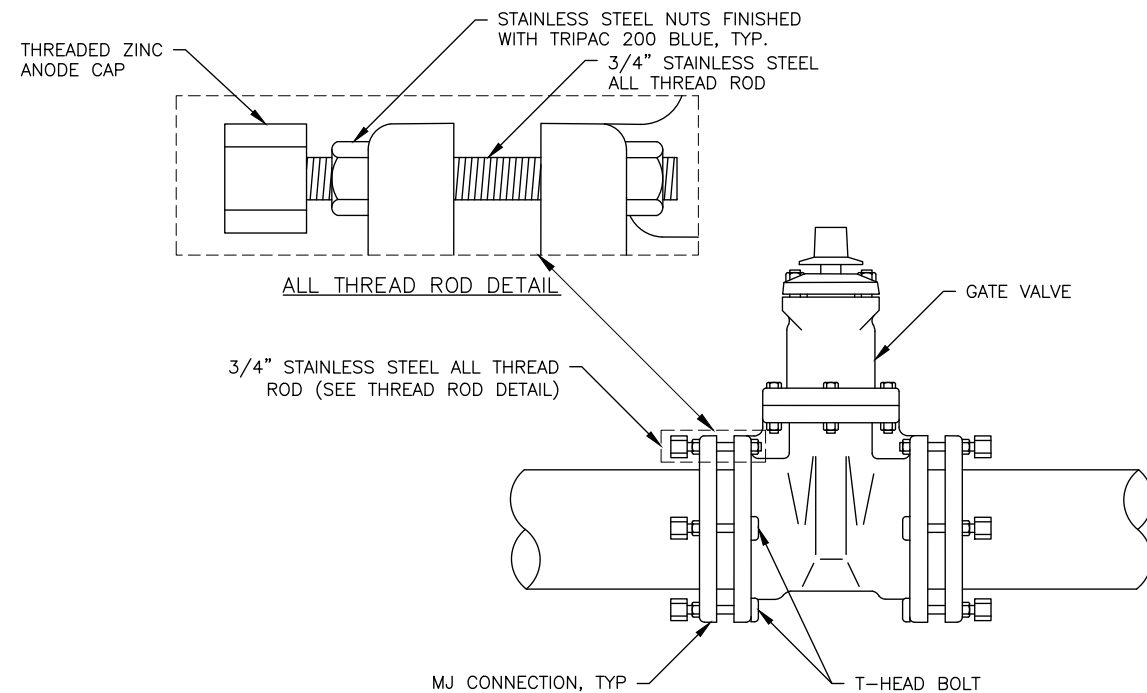
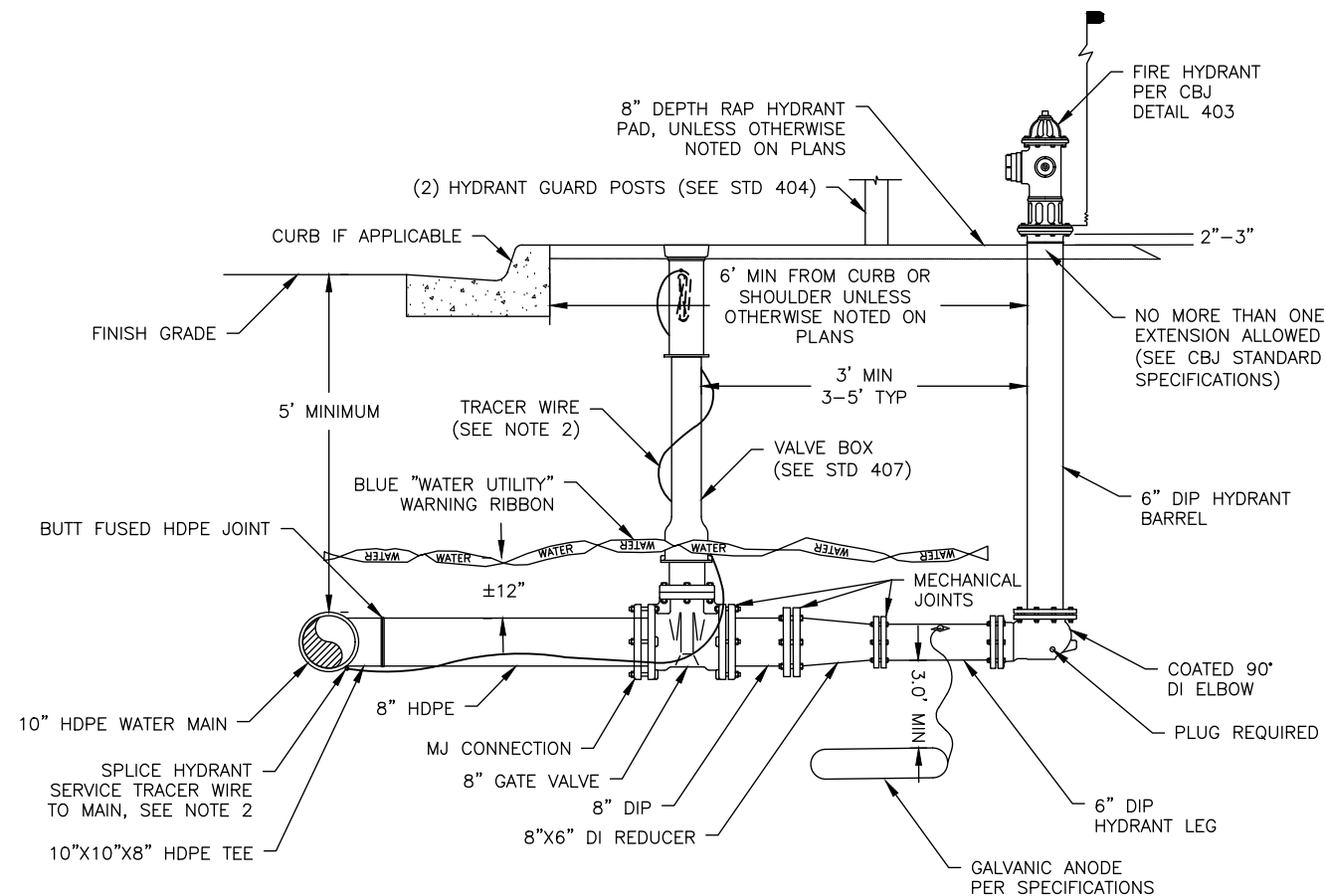


DOUGLAS 4TH STREET
UTILITIES AND DRAINAGE

BE21-215

PRV CONNECTION
DETAILS

SHEET NUMBER	
9	OF
46	



GALVANIC ANODE INSTALLATION FOR PIPE MATERIAL TRANSITION DETAIL

STATE OF ALASKA
49TH
Lucas M. Chambers
LUCAS M. CHAMBERS
03/12/2021
CE 106593
REGISTERED PROFESSIONAL ENGINEER

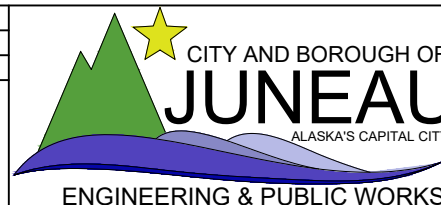
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DOUGLAS 4TH STREET UTILITIES AND DRAINAGE

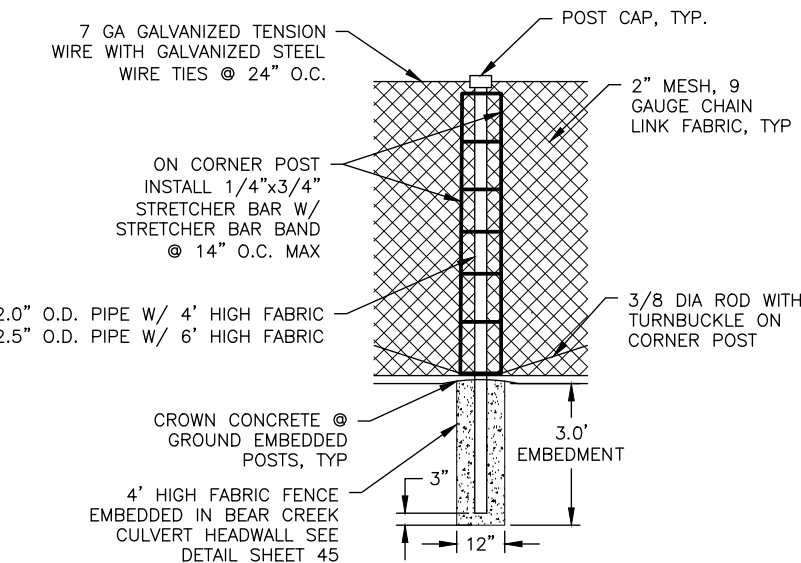
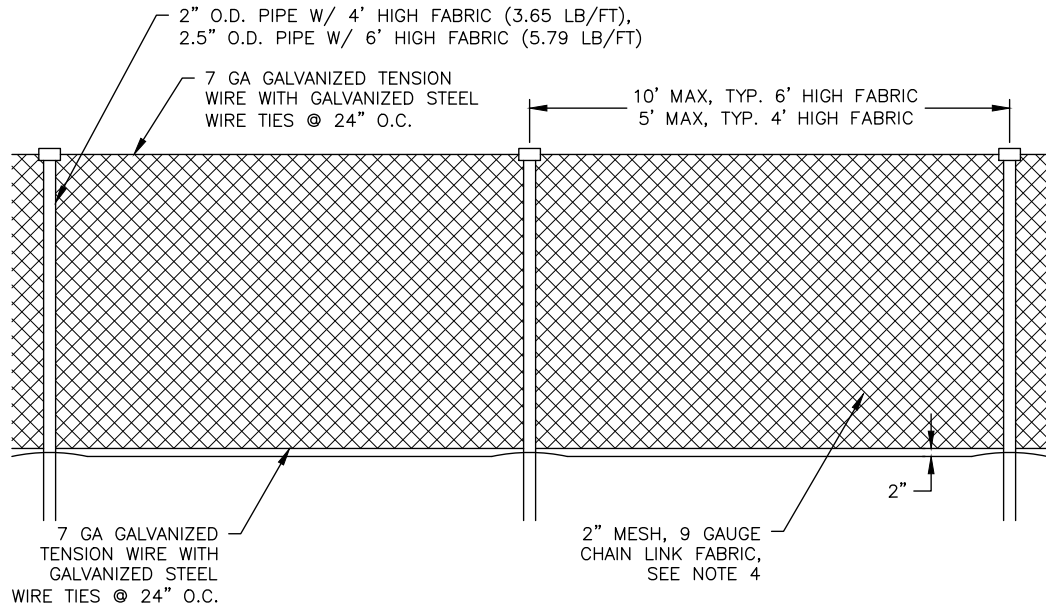
BE21-215

WATER DETAILS

SHEET NUMBER

10
 OF
 46

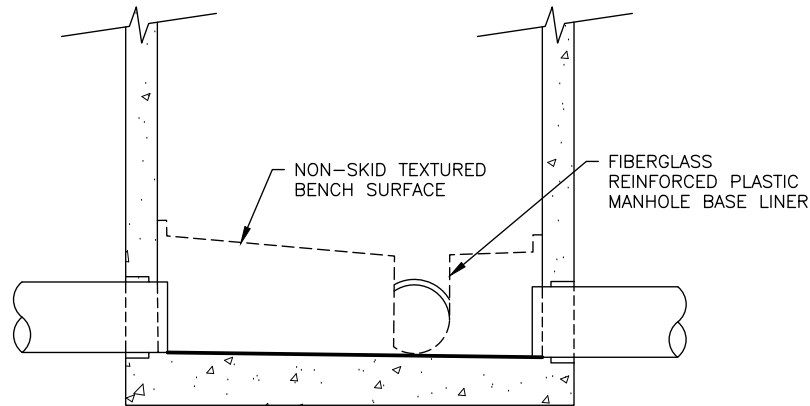
March 12, 2021



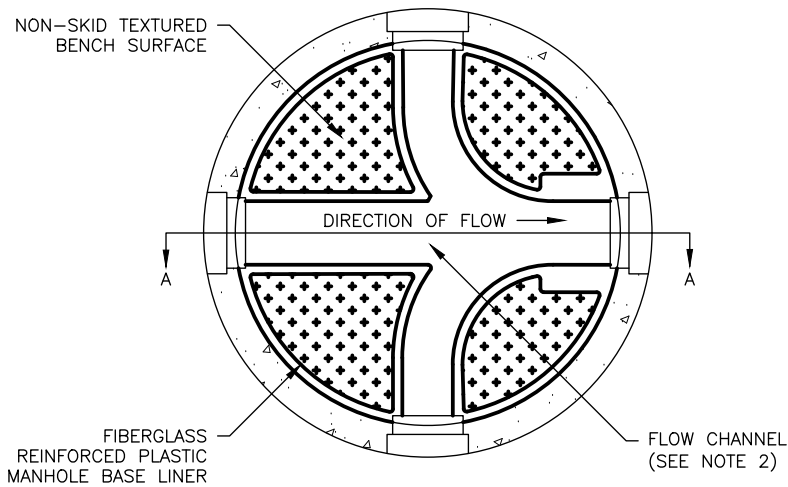
1
11 FENCE AND POST DETAIL
SCALE: NOT TO SCALE

DETAIL 1/11 NOTES:

1. POSTS AND BRACES SHALL BE SCHEDULE 40 (STANDARD WEIGHT) PIPE. SIZES SPECIFIED ARE OUTSIDE DIAMETER.
2. ALL FENCING MATERIAL SHALL BE GALVANIZED STEEL.
3. FENCE FABRIC SHALL HAVE TWISTED & BARBED SELVAGE TOP & BOTTOM.
4. 4' HIGH FABRIC FENCE TO BE INSTALLED ON BEAR CREEK CULVERT HEADWALL SEE DETAILS SHEET 45. NEW 6' HIGH FABRIC FENCE TO BE RELOCATED ON OUTLET SIDE OF BEAR CREEK, SEE LOCATION SHEET 44. IF EXISTING FABRIC & SLATS ARE IN GOOD CONDITION THEY MAYBE REUSED AT ENGINEERS DIRECTION. NEW 6' HIGH FABRIC FENCE TO BE INSTALLED AT TOP OF SLOPE AROUND BEAR CREEK CULVERT INLET SIDE, SEE LOCATION SHEET 44. PAY ITEM 2707.1 6-FOOT CHAIN LINK FENCE WITH SLATS, APPLIES TO BOTH 6' HIGH INLET AND OUTLET FENCES.
5. 6' HIGH FENCE SHALL HAVE PLASTIC PRIVACY SLATS. COLOR TO MATCH EXISTING FENCE AT THE CORNER OF 4TH & G STREET.



SECTION A-A

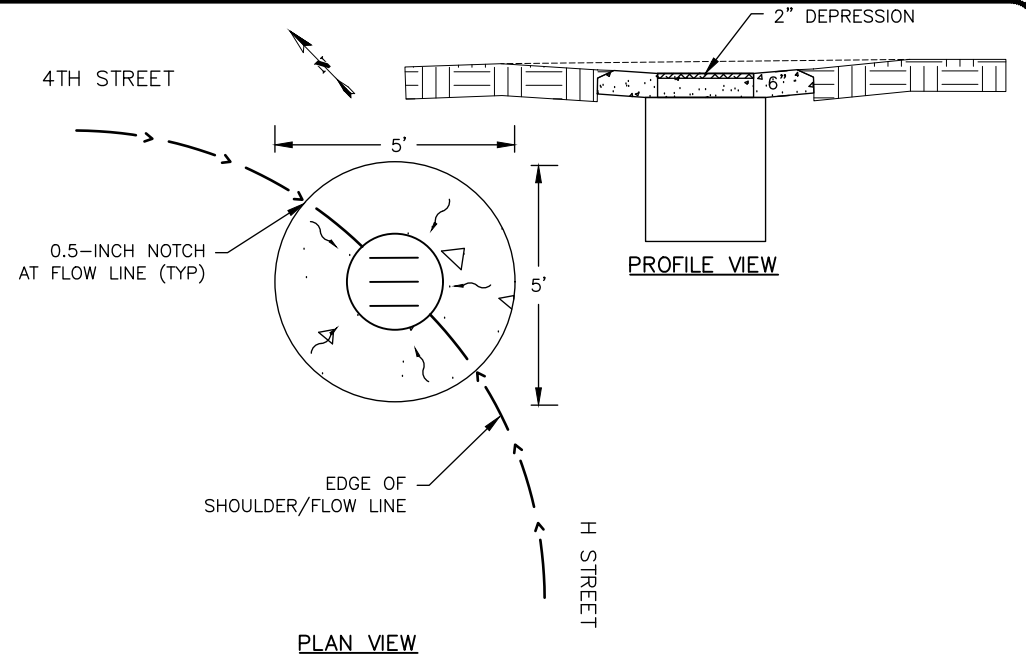


PLAN

2
11 PRECAST MANHOLE WITH FIBERGLASS
REINFORCED PLASTIC BASE LINER DETAIL
SCALE: NOT TO SCALE

DETAIL 2/11 NOTES:

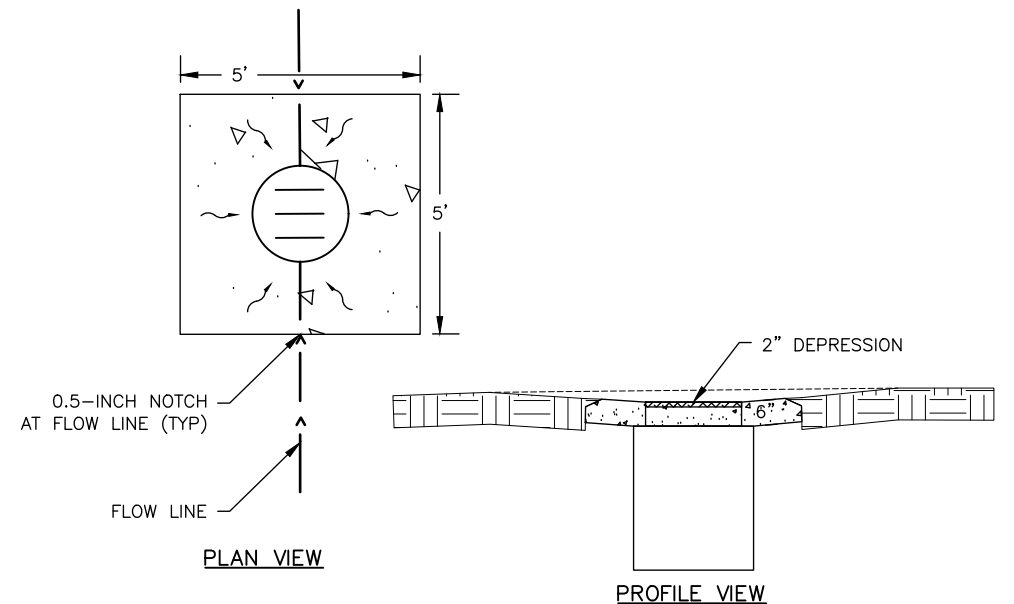
1. THE MANHOLE BASE LINER SHALL BE FIBERGLASS REINFORCED PLASTIC (FRP) OR APPROVED EQUAL.
2. FRP BASE LINER SHALL HAVE A MINIMUM DROP OF 0.1' BETWEEN INLET AND OUTLET PIPES.
3. FRP BASE LINER SHALL BE PRE MANUFACTURED TO MATCH THE PIPE SIZES, ANGLES, SLOPES AND INVERTS AS SHOWN IN THE DESIGN DRAWINGS.
4. FIBERGLASS REINFORCED PLASTIC BASE LINERS SHALL USE FLEXIBLE SEAL ADAPTER FOR ALL PIPES.
5. NOTES AND REQUIREMENTS IN CBJ DETAIL 203 FOR STANDARD SANITARY SEWER MANHOLE TYPE I & II APPLY TO THIS DETAIL.



3
11 4TH ST/H ST INTERSECTION AREA DRAIN DETAIL
SCALE: NOT TO SCALE

DETAIL 3/11 NOTES:

1. CONSTRUCT AREA DRAIN PER CBJ STD 310 UNLESS OTHERWISE INDICATED IN DETAIL.



4
11 MODIFIED AREA DRAIN DETAIL
SCALE: NOT TO SCALE

DETAIL 4/11 NOTES:

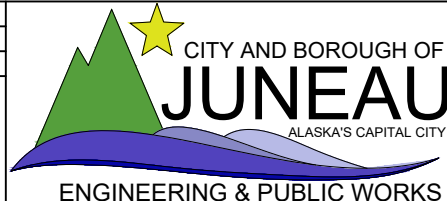
1. CONSTRUCT AREA DRAINS PER CBJ STD 310 UNLESS OTHERWISE INDICATED IN MODIFIED DETAIL.



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DOUGLAS 4TH STREET
UTILITIES AND DRAINAGE

BE21-215

FENCE, BASE LINER
& AREA DRAIN
DETAILS

SHEET NUMBER	
11	OF
46	

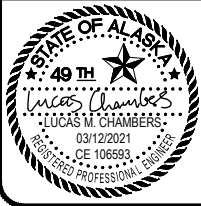
PIPE REMOVAL SUMMARY						
SIZE	PIPE TYPE	INLET INVERT		OUTLET INVERT		APPROXIMATE LINEAR FOOTAGE
		STA	OFF	STA	OFF	
12"	CPP	4TH: 10+91.82	11.44 LT	4TH: 10+75.35	11.73 LT	16
12"	CMP	4TH: 13+23.68	18.84 LT	4TH: 13+15+26	37.14 LT	20
12"	CMP	4TH: 14+79.97	15.49 LT	4TH: 13+23.68	18.84 LT	156
12"	CMP	4TH: 15+16.61	14.96 LT	4TH: 14+79.97	15.49 LT	37
8"	CMP	4TH: 17+28.71	15.47 LT	4TH: 15+16.61	14.96 LT	212
12"	CMP	5TH: 11+30.69	15.89 LT	5TH: 11+63.88	13.68 LT	32
18"	CPP	5TH: 11+66.04	14.38 LT	I ST: 14+56.56	23.37 RT	61
12"	CPP	5TH: 12+46.90	17.11 LT	5TH: 11+66.04	14.38 LT	81
12"	CPP	5TH: 13+17.24	18.29 LT	5TH: 13+18.28	29.49 RT	48
6"	CPP	G ST: 11+24.73	16.07 RT	G ST: 10+49.56	16.05 RT	75
12"	CMP	H ST: 13+85.87	19.72 RT	H ST: 12+64.96	16.61 RT	121
12"	CMP	I ST: 12+91.66	14.08 RT	I ST: 12+65.47	23.29 LT	46
12"	CMP	I ST: 14+64.29	12.00 RT	I ST: 14+56.56	23.37 RT	36

STORM DRAIN FRAME & GRATE SUMMARY	
STRUCTURE NO.	EAST JORDAN, OLYMPIC FOUNDRY CO., NEENAH FOUNDRY, CBJ STANDARD NO., OR APPROVED EQUAL
S-1	OFCO MH34SCDI & SLOTTED COVER
S-2	OFCO MH34SCDI & SLOTTED COVER
S-3	OFCO MH34SCDI & SLOTTED COVER
S-4	OFCO MH34SCDI & SLOTTED COVER
S-5	OFCO MH34SCDI & SLOTTED COVER
S-6	OFCO MH34SCDI & SLOTTED COVER
S-7	OFCO MH34SCDI & SLOTTED COVER
S-8	OFCO MH34SCDI & SLOTTED COVER
S-9	OFCO MH34SCDI & SLOTTED COVER
S-10	OFCO MH34SCDI & SLOTTED COVER
S-11	OFCO MH34SCDI & SLOTTED COVER
S-12	OFCO MH34SCDI & SLOTTED COVER
S-13	OFCO MH34SCDI & SLOTTED COVER
S-14	OFCO MH34SCDI & SLOTTED COVER
S-15	OFCO MH34SCDI & SLOTTED COVER
NOTE: INSTALL SDMH WITH CONCENTRIC SLAB OR CONE & DO NOT INSTALL LADDER.	


WATER SERVICE SUMMARY			
SERVICE TO	STATION & OFFSET	SIZE/TYPE	REMARKS
1301 3RD STREET	N/A	N/A	WATER SERVICE IS ON 3RD STREET (NOT REPLACED AS PART OF THIS PROJECT).
1315 3RD STREET	H ST STA: 10+67.81, 24.00 LT	1-INCH POLY	LOCATION OBTAINED FROM PREVIOUS AS-BUILTS. CONTRACTOR TO FIELD LOCATE.
1401 3RD STREET	N/A	N/A	WATER SERVICE IS ON 3RD STREET (NOT REPLACED AS PART OF THIS PROJECT).
1204 4TH STREET	4TH STA: 10+91.81, 24.00 RT	1-INCH POLY	PRESUMED CONNECTION IN 4TH STREET. EXACT LOCATION UNKNOWN. CONTRACTOR TO LOCATE AND CTE.
1211 4TH STREET	4TH STA: 11+13.04, 24.00 LT	1-INCH POLY	SURVEYED WATER SERVICE VALVE LOCATION.
1213 4TH STREET	4TH STA: 11+89.27, 24.00 LT	1-INCH POLY	WATER DEPARTMENT UTILITY LOCATION.
1310 4TH STREET	4TH STA: 13+68.65, 24.00 RT	2-INCH POLY	LOCATION OBTAINED FROM PREVIOUS AS-BUILTS. ONE OF TWO SERVICES INSTALLED TO 1310 4TH ST.
1310 4TH STREET	4TH STA: 13+71.08, 24.00 RT	2-INCH POLY	LOCATION OBTAINED FROM PREVIOUS AS-BUILTS. ONE OF TWO SERVICES INSTALLED TO 1310 4TH ST.
1407 4TH STREET	4TH STA: 16+02.47, 24.00 LT	1-INCH POLY	LOCATION OBTAINED FROM PREVIOUS AS-BUILTS.
1408 4TH STREET	4TH STA: 16+05.32, 24.00 RT	1-INCH POLY	LOCATION OBTAINED FROM PREVIOUS AS-BUILTS.
1410 4TH STREET	4TH STA: 16+36.36, 24.00 RT	1-INCH POLY	LOCATION OBTAINED FROM PREVIOUS AS-BUILTS.
1411 4TH STREET	4TH STA: 16+54.15, 22.51 LT	1-INCH POLY	LOCATION OBTAINED FROM PREVIOUS AS-BUILTS.
1413 4TH STREET	I ST STA: 13+16.38, 26.00 LT	1-INCH POLY	LOCATION OBTAINED FROM PREVIOUS AS-BUILTS.
1416 4TH STREET	I ST STA: 11+69.19, 26.00 LT	1-INCH POLY	PRESUMED CONNECTION IN I STREET. EXACT LOCATION UNVERIFIED. CONTRACTOR TO LOCATE AND CTE.
1214 5TH STREET	N/A	N/A	WATER SERVICE IS ON 5TH STREET (NOT REPLACED AS PART OF THIS PROJECT).
1302 5TH STREET	N/A	N/A	WATER SERVICE IS ON 5TH STREET (NOT REPLACED AS PART OF THIS PROJECT).
1407/1409 5TH STREET	5TH STA: 10+25.40, 15.30 LT	1-INCH POLY	WATER SERVICE CURRENTLY CONNECTED IN H STREET. INSTALL NEW SERVICE IN 5TH STREET AND CTE.
1437/1439 5TH STREET	5TH STA: 11+37.72, 23.06 LT	1-INCH POLY	LOCATION OBTAINED FROM PREVIOUS AS-BUILTS.
1501 5TH STREET	5TH STA: 11+95.98, 23.50 LT	1-INCH POLY	LOCATION OBTAINED FROM PREVIOUS AS-BUILTS.
1505 5TH STREET	5TH STA: 12+80.07, 21.90 LT	1-INCH POLY	INSTALL NEW SERVICE SADDLE ON EXISTING WATER MAIN PERPENDICULAR TO PROPERY LINE.
1509 5TH STREET	5TH STA: 13+22.77, 20.99 LT	1-INCH POLY	INSTALL NEW SERVICE SADDLE ON EXISTING WATER MAIN PERPENDICULAR TO PROPERY LINE.
402 F STREET	4TH STA: 10+57.09, 24.00 LT	1-INCH POLY	EXISTING SERVICE LOCATION PROVIDED BY RESIDENT.
317/319 H STREET	H ST STA: 11+37.62, 24.00 LT	1-INCH POLY	SURVEYED WATER SERVICE VALVE LOCATION.
403 H STREET	4TH STA: 13+92.96, 24.00 LT	1-INCH POLY	LOCATION OBTAINED FROM PREVIOUS AS-BUILTS.
411 H STREET	H ST STA: 14+25.16, 24.00 LT	1-INCH POLY	LOCATION OBTAINED FROM PREVIOUS AS-BUILTS.
412 H STREET	H ST STA: 14+14.46, 18.16 RT	1-INCH POLY	APPROXIMATE LOCATION PROVIDED BY RESIDENT.
500 H STREET	H ST STA: 15+23.10, 1.17 RT	1-INCH POLY	*SERVICE OR ABANDONED MAIN VALVE* LOCATION OBTAINED FROM PREVIOUS AS-BUILTS.
301/303 I STREET	I ST STA: 10+59.50, 26.00 LT	1-INCH POLY	LOCATION OBTAINED FROM PREVIOUS AS-BUILTS.
305 I STREET	I ST STA: 11+05.90, 26.00 LT	1-INCH POLY	PRESUMED CONNECTION IN I STREET. EXACT LOCATION UNVERIFIED. CONTRACTOR TO LOCATE AND CTE.
415 I STREET	I ST STA: 14+40.82, 20.02 LT	1-INCH POLY	LOCATION OBTAINED FROM PREVIOUS AS-BUILTS.
1507 DOUGLAS HIGHWAY (DOMESTIC)	I ST STA: 12+42.80, 5.44 LT	8-INCH HDPE SERVICE	LOCATION OBTAINED FROM SCHOOL AS-BUILTS.
1507 DOUGLAS HIGHWAY (FIRE LINE)	I ST STA: 11+09.66, 0.00 RT	8-INCH HDPE SERVICE	LOCATION OBTAINED FROM SCHOOL AS-BUILTS.

NOTES:

- TRACER WIRE SHALL BE NO.10 AWG HIGH-STRENGTH COPPER CLAD STEEL WITH BLUE HDPE INSULATION JACKET. MAIN LINE TRACER WIRE SHALL NOT BE SPLICED AND SHALL BE CONTINUOUS BETWEEN VALVE BOXES. SERVICES SHALL USE WATERPROOF DIRECT BURY SPLICE CONNECTION LUGS. TRACER WIRE SHALL BE CONNECTED TO THE BOTTOM QUADRANT OF THE HDPE WATER PIPE. EACH END OF TRACER WIRE SHALL BE TERMINATED AT A VALVE BOX, TRACER WIRE SHALL RUN OUTSIDE THE VALVE BOX AND BE INSERTED INTO THE VALVE BOX THROUGH A 3/4" DRILLED HOLE WITHIN 9"-12" OF THE TOP. 5' OF ADDITIONAL TRACER WIRE SHALL BE NEATLY COILED WITHIN THE VALVE BOX.
- SPLICE SERVICE TRACER WIRE TO MAIN LINE TRACER WIRE AT SADDLE WITH DRYCONN WATERPROOF DIRECT BURY LUGS.
- ATTACH TRACER WIRE TO SERVICE LINE EVERY 5 FEET MIN.
- INSTALL NEW WATER SERVICE AND CURB BOX PER CBJ STANDARD DETAIL 406A, CTE WATER SERVICE, STATION & OFFSET ARE GIVEN TO THE CENTER OF THE VALVE BOX. REMOVE AND DISPOSE OF EXISTING CURB BOX AND CURB STOP IF EXISTING.
- WATER SERVICE VALVE LOCATIONS ARE SHOWN FROM PREVIOUS AS-BUILT LOCATIONS, INFORMATION PROVIDED BY RESIDENTS AND LIMITED SURVEY INFORMATION. VALVE BOX NOT SURVEYED UNLESS NOTED IN "REMARKS" COLUMN.



RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY

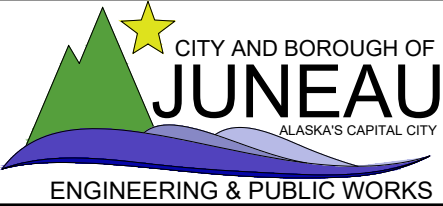


CERTIFICATE OF AUTHORIZATION
#100662

DRAWN BY:	C. BYDLON
DESIGNED BY:	C. BYDLON
CHECKED BY:	L. CHAMBERS

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CITY AND BOROUGH OF
JUNEAU
ALASKA'S CAPITAL CITY
ENGINEERING & PUBLIC WORKS

DOUGLAS 4TH STREET
UTILITIES AND DRAINAGE

BE21-215

SHEET NUMBER

12
OF
46

MAILBOX SUMMARY		
STATION & OFFSET	ADDRESS(S)	REMARKS
4TH: 10+80.45, 13.84 LT	1204(A) & 1204(B) 4TH ST	GANG
4TH: 10+82.45, 13.84 LT	1204(C) & 1211 4TH ST	GANG
4TH:15+27.58, 17.51 LT	1416 & 1411 4TH ST	GANG
4TH:15+29.58, 17.51 LT	1410 & 1408 4TH ST	GANG
4TH:15+31.58, 17.51 LT	1407 & 1407(B) 4TH ST	GANG
5TH: 11+31.63, 14.00 LT	1407A & 1407B 5TH ST	GANG
5TH: 11+33.63, 14.00 LT	1437 5TH ST	SINGLE
5TH: 11+85.96, 22.61 LT	1501 5TH	SINGLE
5TH: 13+11.58, 22.31 LT	1505(A) & 1505(B) 5TH ST	GANG
5TH: 13+76.24, 21.09 LT	1509 & 1509(B) 5TH ST	GANG
H ST: 12+23.47, 22.00 LT	317 & 319 H ST	GANG
H ST: 14+38.66, 1.03 LT	412 H ST	DO NOT REPLACE - PROTECT & PRESERVE
H ST: 14+39.66, 1.03 LT	403 H ST	DO NOT REPLACE - PROTECT & PRESERVE
H ST: 14+40.66, 1.03 LT	411 H ST	DO NOT REPLACE - PROTECT & PRESERVE
H ST: 14+41.66, 1.03 LT	500 H ST	DO NOT REPLACE - PROTECT & PRESERVE
I ST: 13+82.87, 16.87 LT	1413 & 1413(B) 4TH ST	GANG
I ST: 14+27.95, 30.06 LT	415 I ST	DO NOT REPLACE - PROTECT & PRESERVE
<div>NOTES:</div> <div><div>1.</div><div>INSTALL SINGLE MAIL BOX PER CBJ STD 116 & GANG PER CBJ STD 117. MODIFY MAX BOX HEIGHT TO 46".</div></div> <div><div>2.</div><div>MAILBOX STATION AND OFFSET ARE GIVEN TO THE MIDDLE CENTER OF MAILBOX POST. CONTRACTOR SHALL STAKE MAILBOX POST LOCATION AFTER ROADWAY SURFACING HAS BEEN PLACED FOR APPROVAL BY THE ENGINEER PRIOR TO INSTALLATION.</div></div> <div><div>3.</div><div>REINSTALL EXISTING MAILBOX AND NEWSPAPER RECEPTACLES TO NEW CANTILEVER ARM WITH NEW CONNECTING HARDWARE. IF THE RECEPTACLES ARE DAMAGED BY THE CONTRACTOR, NEW RECEPTACLES OF THE SAME SIZE AND COLOR AND NEW HOUSE NUMBERS SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR.</div></div> <div><div>4.</div><div>MAIL DELIVERY SERVICE SHALL NOT BE INTERRUPTED AND ACCESS TO EACH MAILBOX RECEPTACLE SHALL BE AVAILABLE TO THE UNITED STATES POSTAL SERVICE AND THE RESIDENT AT ALL TIMES.</div></div> <div><div>5.</div><div>EXISTING MAILBOXES THAT ARE MOVED BY THE CONTRACTOR SHALL HAVE TEMPORARY SUPPORTS PROVIDED AS REQUIRED FOR CONTINUED USAGE AND DELIVERY/PICKUP OF MAIL FOR DURATION OF PROJECT.</div></div>		


NEW FIRE HYDRANT SUMMARY	
STATION & OFFSET	REMARKS
H ST STA: 12+14.11, 22.05 RT	8" DEPTH RAP PAD W/ BOLLARDS
5TH STA: 10+95.60, 15.00 RT	8" DEPTH RAP PAD W/ BOLLARDS

FIRE HYDRANT REMOVED SUMMARY	
STATION & OFFSET	REMARKS
H ST STA: 12+14.11, 22.05 RT	
5TH STA: 10+95.60, 15.00 RT	


STRUCTURE REMOVAL SUMMARY	
STRUCTURE TYPE	STATION & OFFSET
CB W/ AREA DRAIN	4TH STA: 10+91.93, 11.36 LT
CB	4TH STA: 14+79.97, 15.49 LT
CB	4TH STA: 15+16.61, 14.96 LT
CB	4TH STA: 17+28.71, 15.47 LT
CB W/ AREA DRAIN	5TH STA: 11+66.04, 14.38 LT
CB	G ST STA: 11+24.73, 16.07 RT
CB	H ST STA: 13+85.87, 19.72 RT
CB	I ST STA: 12+91.66, 14.08 RT
CB	I ST STA: 14+56.56, 23.37 RT
CB	I ST STA: 14+64.29, 12.00 LT
SSMH	I ST STA: 12+39.92, 7.04 RT
SSMH	I ST STA: 15+01.80, 4.23 LT
SSMH	4TH STA: 12+68.10, 16.57 RT
SSMH	4TH STA: 14+95.19, 15.99 RT
SSMH	4TH STA: 17+31.35, 7.92 RT

GALVANIC ANODE SUMMARY	
INSTALLED ON	STATION & OFFSET
NEW FIRE HYDRANT	5TH: 10+95.60, 15.00 RT
NEW FIRE HYDRANT	H ST: 12+14.11, 22.05 RT
EX FIRE HYDRANT	I ST: 10+36.45, 21.39 RT
EX DI PIPE AT 5TH STREET CONNECTION	5TH: 12+61.47, 13.21 RT
EX DI PIPE AT 3RD/I STREET CONNECTION	I ST: 10+29.74, 7.09 LT
EX DI PIPE AT 3RD/H STREET CONNECTION	H ST: 10+36.00, 10.08 LT
EX DI PIPE AT 5TH/G STREET CONNECTION	G ST: 14+83.80, 5.71 LT
EX DI PIPE AT 5TH/G STREET CONNECTION	G ST: 14+84.43, 11.20 LT

SEWER SERVICE SUMMARY			
SERVICE TO	STATION & OFFSET	SIZE/TYPE	REMARKS
1301 3RD STREET	G ST STA: 10+84.08, 24.00 RT	6-INCH PVC	LOCATION OBTAINED FROM PREVIOUS AS-BUILTS.
1315 3RD STREET	H ST STA: 10+71.15, 24.00 LT	6-INCH PVC	LOCATION OBTAINED FROM PREVIOUS AS-BUILTS.
1401 3RD STREET	N/A	N/A	SEWER SERVICE IS ON 3RD STREET (NOT REPLACED AS PART OF THIS PROJECT).
1204 4TH STREET	N/A	N/A	SEWER SERVICE IS ON F STREET (NOT REPLACED AS PART OF THIS PROJECT).
1211 4TH STREET	4TH STA: 11+09.71, 24.00 LT	6-INCH PVC	APPROXIMATE LOCATION PROVIDED BY RESIDENT. PRESUMED TO CONNECT TO F STREET SIDE OF NETWORK.
1213 4TH STREET	4TH STA: 11+93.53, 24.00 LT	6-INCH PVC	PRESUMED TO CONNECT TO SEWER MAIN ON G STREET SIDE OF NETWORK. EXACT LOCATION UNKNOWN.
1310 4TH STREET	4TH STA: 13+57.32, 24.00 RT	6-INCH PVC	PRESUMED TO CONNECT IN G STREET. EXACT LOCATION UNKNOWN.
1407 4TH STREET	4TH STA: 15+93.16, 24.00 LT	6-INCH PVC	LOCATION OBTAINED AT MAIN FROM CAMERA NOTES. ADDITIONAL SERVICE TO LOT PRESUMED ABANDONED.
1408 4TH STREET	4TH STA: 16+10.26, 24.00 RT	6-INCH PVC	LOCATION OBTAINED AT MAIN FROM CAMERA NOTES.
1410 4TH STREET	4TH STA: 16+26.73, 24.00 RT	6-INCH PVC	LOCATION OBTAINED AT MAIN FROM CAMERA NOTES.
1411 4TH STREET	4TH STA: 16+33.13, 23.31 LT	6-INCH PVC	LOCATION OBTAINED AT MAIN FROM CAMERA NOTES.
1413 4TH STREET	I ST STA: 13+06.32, 26.00 LT	6-INCH PVC	DETERMINED THAT CONNECTED IS ON I STREET BY USE OF DYE. EXACT LOCATION UNKNOWN.
1416 4TH STREET	I ST STA: 11+61.29, 26.00 LT	6-INCH PVC	PRESUMED TO CONNECT IN I STREET. CAMERA DID NOT FIND SERVICE ON 4TH. EXACT LOCATION UNKNOWN.
1214 5TH STREET	N/A	N/A	SEWER SERVICE IS ON 5TH STREET (NOT REPLACED AS PART OF THIS PROJECT).
1302 5TH STREET	N/A	N/A	SEWER SERVICE IS ON 5TH STREET (NOT REPLACED AS PART OF THIS PROJECT).
1407/1409 5TH STREET	H ST STA 15+10.00, 25.00 RT	6-INCH PVC	SEWER SERVICE CURRENTLY CONNECTED IN H STREET. INSTALL NEW SERVICE AND CTE IN EXISTING LOCATION.
1437/1439 5TH STREET	5TH STA: 11+40.71, 23.23 LT	6-INCH PVC	PRESUMED TO CONNECT IN 5TH STREET. EXACT LOCATION UNKNOWN.
1501 5TH STREET	5TH STA: 11+89.74, 23.62 LT	6-INCH PVC	LOCATION OBTAINED AT MAIN FROM CAMERA NOTES.
1505 5TH STREET	N/A	N/A	SEWER SERVICE IS OUTSIDE OF SEWER REPLACEMENT (NOT REPLACED AS PART OF THIS PROJECT).
1509 5TH STREET	N/A	N/A	SEWER SERVICE IS OUTSIDE OF SEWER REPLACEMENT (NOT REPLACED AS PART OF THIS PROJECT).
402 F STREET	4TH STA: 10+62.05, 24.00 LT	6-INCH PVC	APPROXIMATE LOCATION PROVIDED BY RESIDENT.
317/319 H STREET	H ST STA: 11+26.35, 24.00 LT	6-INCH PVC	ABOVE GROUND CLEANOUT LOCATED NEAR BUILDING.
403 H STREET	H ST STA: 13+89.39, 24.00 LT	6-INCH PVC	APPROXIMATE LOCATION PROVIDED BY RESIDENT.
411 H STREET	H ST STA: 14+20.40, 24.00 LT	6-INCH PVC	LOCATION OBTAINED AT MAIN FROM CAMERA NOTES AND SHOWN ON AS-BUILTS.
412 H STREET	H ST STA: 14+00.24, 22.92 RT	6-INCH PVC	LOCATION OBTAINED AT MAIN FROM CAMERA NOTES.
500 H STREET	H ST STA: 15+24.00, 17.80 RT	6-INCH PVC	PRESUMED TO CONNECT AT TOP OF H STREET SEWER RUN. EXACT LOCATION UNKNOWN.
301/303 I STREET	N/A	N/A	SEWER SERVICE IS ON 3RD STREET (NOT REPLACED AS PART OF THIS PROJECT).
305 I STREET	I ST STA: 11+14.51, 26.00 LT	6-INCH PVC	ABOVE GROUND CLEANOUT LOCATED NEAR BUILDING.
415 I STREET	I ST STA: 14+33.27, 19.72 LT	6-INCH PVC	PRESUMED TO CONNECT IN I STREET. EXACT LOCATION UNKNOWN.
1507 DOUGLAS HIGHWAY	I ST STA: 11+48.29, 10.00 RT	6-INCH PVC	LOCATION OBTAINED FROM SCHOOL AS-BUILTS.
<div>NOTES:</div> <div><div>1.</div><div>ADJUST SEWER SERVICE SLOPES TO PROVIDE MAXIMUM SEPARATION UTILITY CROSSINGS. INSTALL SWEEPS AS REQUIRED UPON APPROVAL OF THE ENGINEER.</div></div> <div><div>2.</div><div>CONSTRUCT NEW 6" PVC SEWER SERVICE AND INSTALL NEW CLEANOUT NEAR PROPERTY LINE PER CBJ STANDARD DETAIL 213 AND CONNECT TO EXISTING SEWER SERVICE.</div></div> <div><div>3.</div><div>SEWER SERVICE CLEAN-OUTS TO HAVE METAL COVERS.</div></div> <div><div>4.</div><div>SEWER SERVICE LOCATIONS ARE SHOWN FROM PREVIOUS AS-BUILT LOCATIONS, CAMERA NOTES, INFORMATION PROVIDED BY RESIDENTS AND LIMITED SURVEY INFORMATION. CLEAN-OUT LOCATION NOT SURVEYED UNLESS NOTED IN "REMARKS" COLUMN.</div></div>			



RECORD OF REVISIONS			
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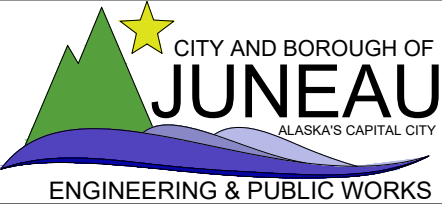


CERTIFICATE OF AUTHORIZATION
#100662

DRAWN BY:	C. BYDLON
DESIGNED BY:	C. BYDLON
CHECKED BY:	L. CHAMBERS

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CITY AND BOROUGH OF
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ALASKA'S CAPITAL CITY
ENGINEERING & PUBLIC WORKS

DOUGLAS 4TH STREET
UTILITIES AND DRAINAGE

BE21-215

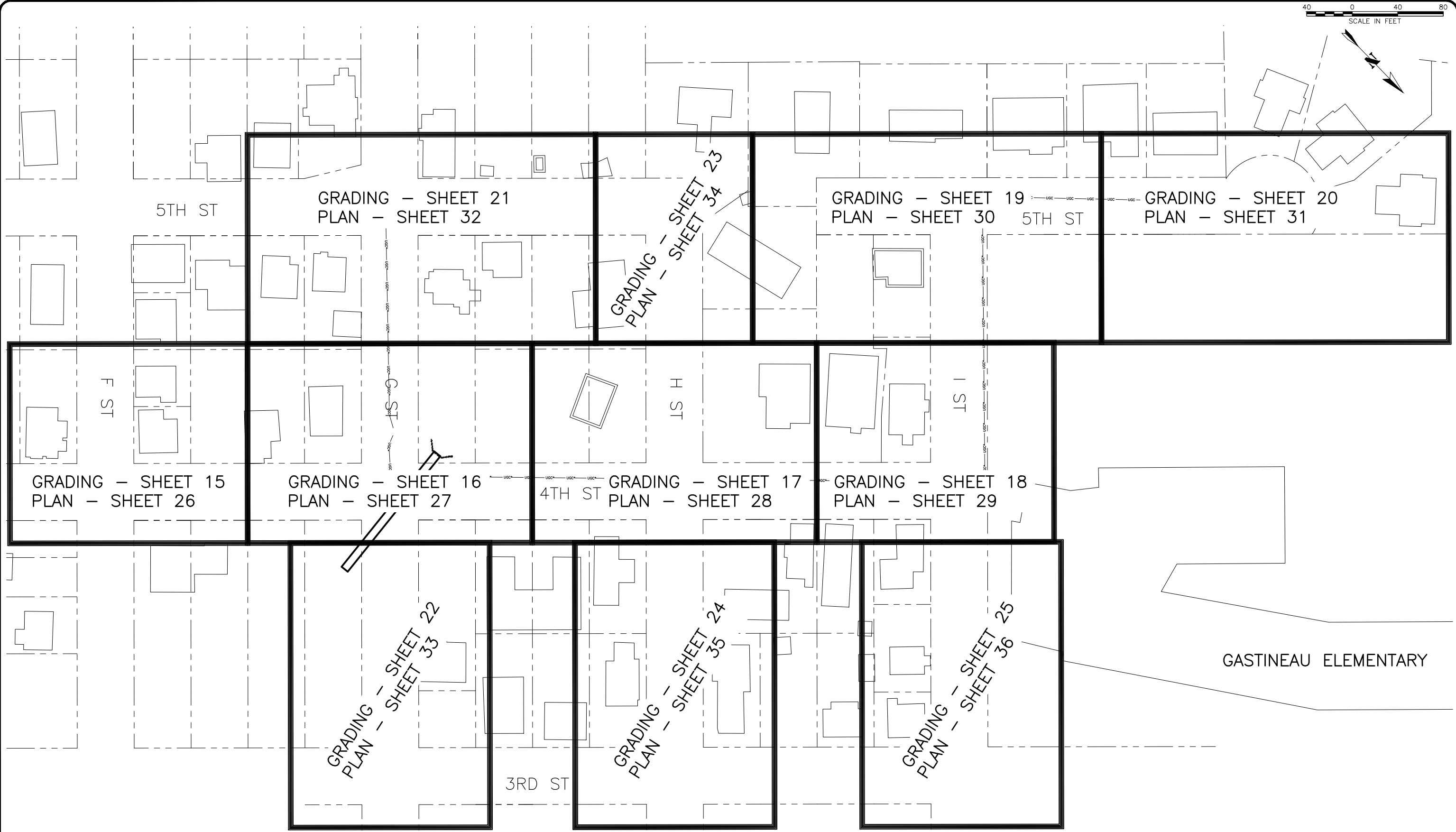
SUMMARY TABLES 2

SHEET NUMBER

13
OF
46

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March 12, 2021



RECORD OF REVISIONS			
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DRAWN BY: C. BYDLON
DESIGNED BY: C. BYDLON
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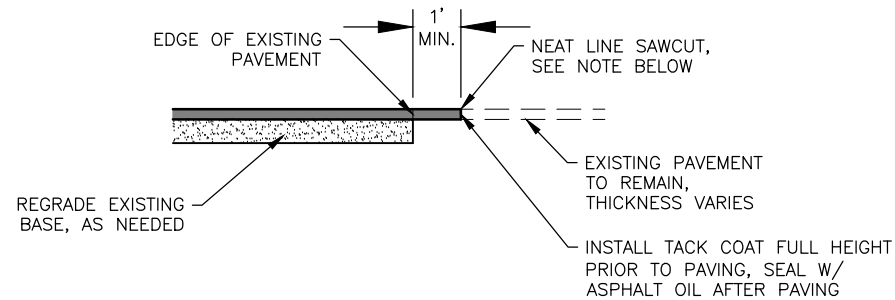
BE21-215

OVERVIEW & PLAN
SHEET INDEX

SHEET NUMBER	
14	OF
46	

SHEET NOTES:

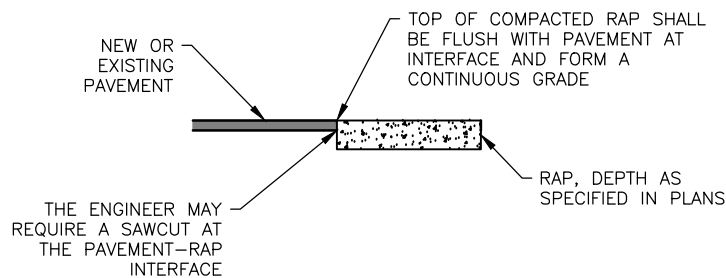
1. SEE TYPICAL SHEETS 3-8 FOR ADDITIONAL GRADING INFORMATION.
2. CURB RETURN RADII IS TO BACK EDGE OF RAP (ER) SHOULDER.
3. STATIONS, OFFSETS AND ELEVATIONS ALONG ROADWAY ARE TO BACK EDGE OF RAP (ER) SHOULDER UNLESS OTHERWISE NOTED.
4. SLOPES SHOWN ARE FOR TOP OF RAP (TR) SURFACE.
5. ADJUST SHOULDER ALIGNMENT AT CONNECTIONS TO EXISTING CURB & GUTTER AS REQUIRED FOR A TANGENT ALIGNMENT MATCH.
6. SLOPE VARIES AT DRIVEWAYS. CONTRACTOR TO GRADE DRIVEWAYS TO PROVIDE SMOOTH TRANSITION FROM EDGE OF ROAD TO TIE IN AT PROPERTY LINE.



1
15 PAVEMENT MATCH JOINT
SCALE: NOT TO SCALE

DETAIL 1/15 NOTES:

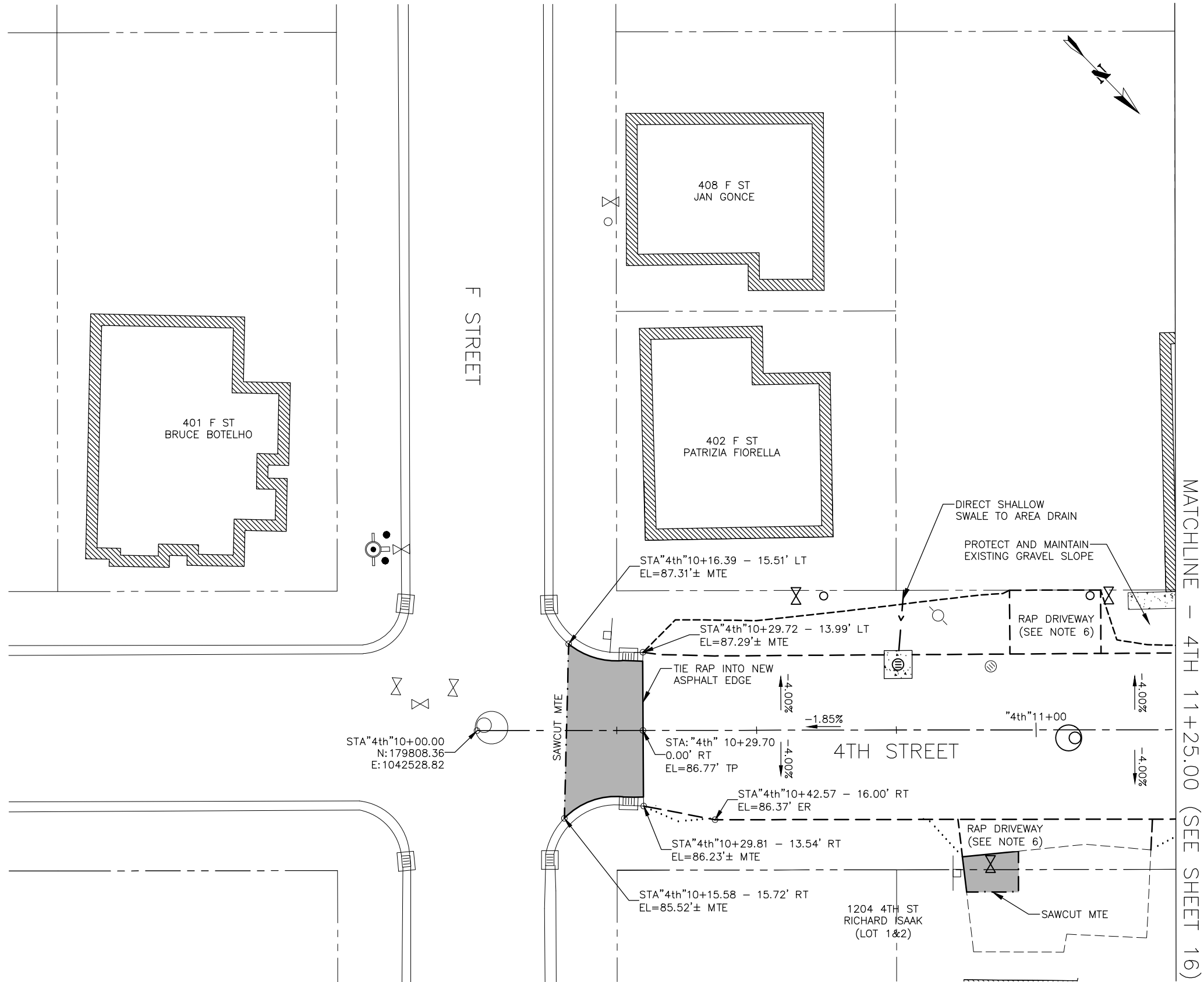
1. FINAL SAWCUT OF EXISTING ASPHALT SHALL NOT BE MADE UNTIL 24 HOURS PRIOR TO PAVING.



2
15 PAVEMENT-RAP INTERFACE DETAIL
SCALE: NOT TO SCALE

DETAIL 2/15 NOTES:

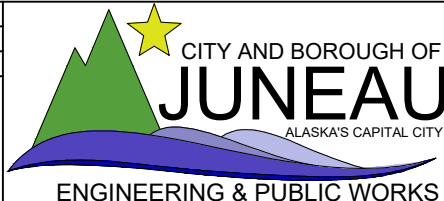
1. CONTRACTOR TO PROTECT EXISTING ASPHALT THROUGHOUT CONSTRUCTION. DAMAGE TO EXISTING PAVEMENT NOT SCHEDULED FOR REMOVAL OR REPLACEMENT SHALL BE REPAIRED BY THE CONTRACTOR AND SHALL BE CONSIDERED INCIDENTAL TO OTHER WORK..



RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY



DRAWN BY: E. ROEMELING
DESIGNED BY: E. ROEMELING
CHECKED BY: L. CHAMBERS
1945 ALEX HOLDEN WAY #101
JUNEAU, AK 99801
(907) 780-4004
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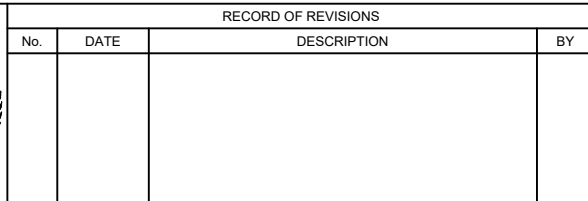
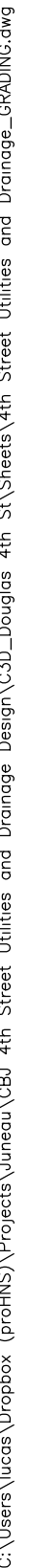


DOUGLAS 4TH STREET
UTILITIES AND DRAINAGE
BE21-215

GRADING - 4TH 10+00
TO 11+25

SHEET NUMBER	
15	OF
46	

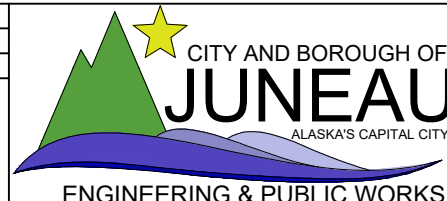
1. SEE TYPICAL SHEETS 3-8 FOR ADDITIONAL GRADING INFORMATION.
2. CURB RETURN RADII IS TO BACK EDGE OF RAP (ER) SHOULDER.
3. STATIONS, OFFSETS AND ELEVATIONS ALONG ROADWAY ARE TO BACK EDGE OF RAP (ER) SHOULDER UNLESS OTHERWISE NOTED.
4. SLOPES SHOWN ARE FOR TOP OF RAP (TR) SURFACE.
5. SLOPE VARIES AT DRIVEWAYS. CONTRACTOR TO GRADE DRIVEWAYS TO PROVIDE SMOOTH TRANSITION FROM EDGE OF ROAD TO TIE IN AT PROPERTY LINE.



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DOUGLAS 4TH STREET
UTILITIES AND DRAINAGE

BE21-215

GRADING - 4TH 11+25
TO 13+75

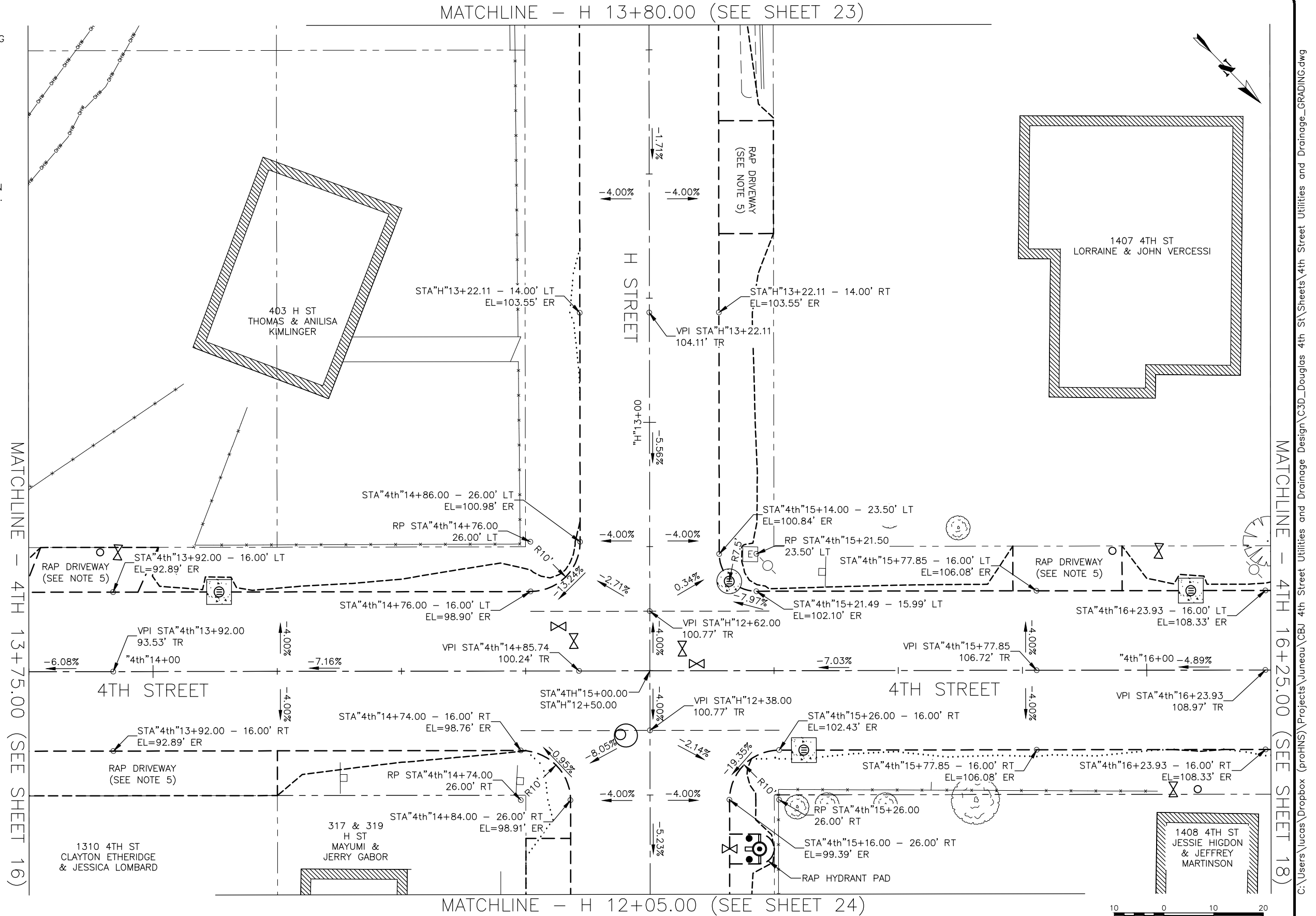
SHEET NUMBER

16
 OF
 46

March 15, 2021

SHEET NOTES:

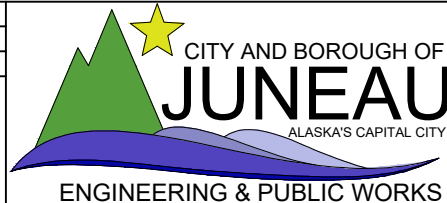
- SEE TYPICAL SHEETS 3-8 FOR ADDITIONAL GRADING INFORMATION.
- CURB RETURN RADII IS TO BACK EDGE OF RAP (ER) SHOULDER.
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- SLOPE VARIES AT DRIVEWAYS. CONTRACTOR TO GRADE DRIVEWAYS TO PROVIDE SMOOTH TRANSITION FROM EDGE OF ROAD TO TIE IN AT PROPERTY LINE.



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DRAWN BY:	E. ROEMELING
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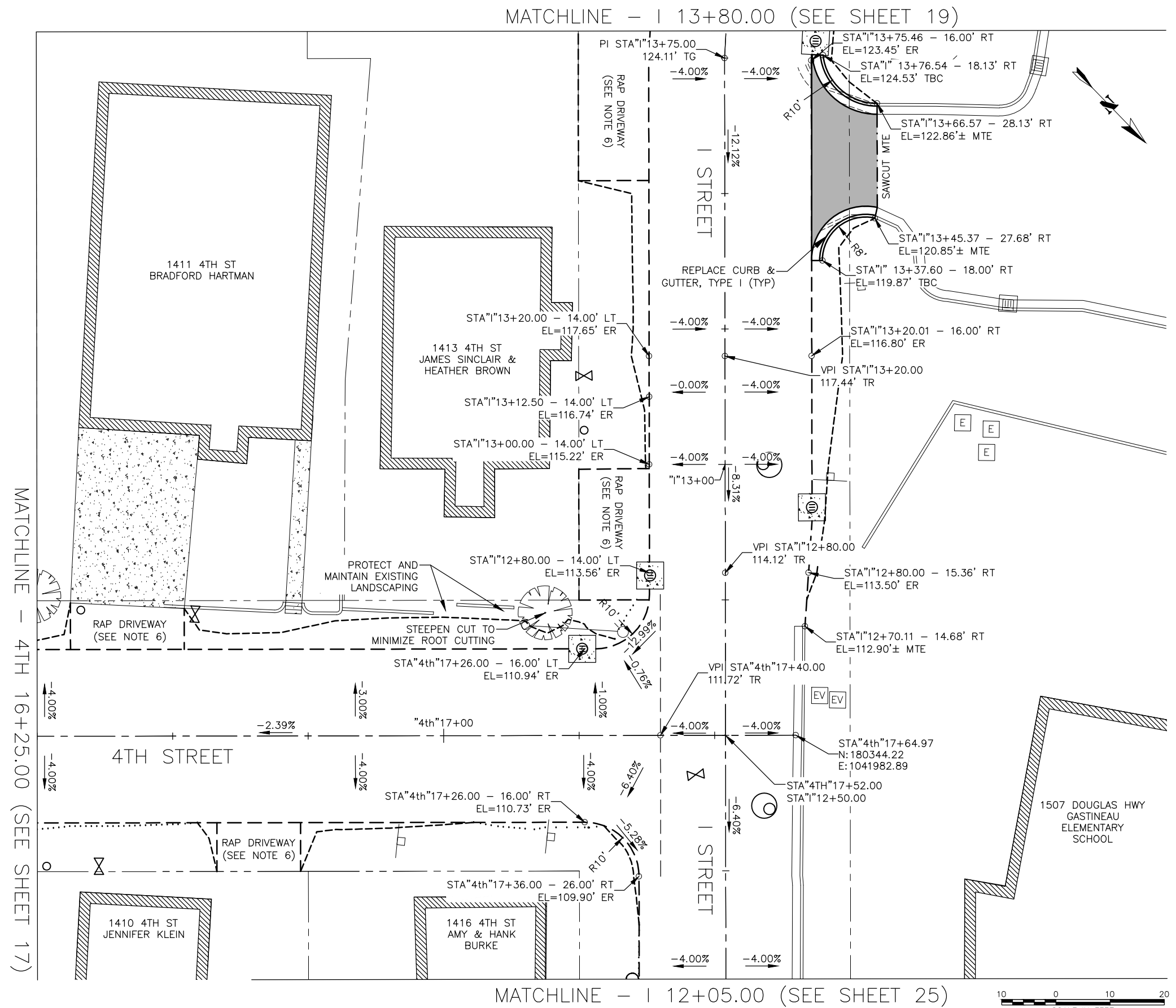
DOUGLAS 4TH STREET
UTILITIES AND DRAINAGE
BE21-215

GRADING - 4TH 13+75
TO 16+25

SHEET NUMBER	
17	OF
46	

SHEET NOTES:

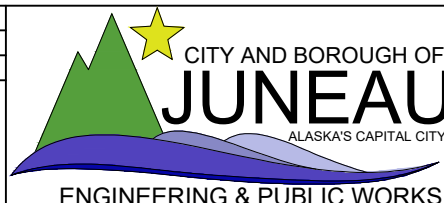
1. SEE TYPICAL SHEETS 3-8 FOR ADDITIONAL GRADING INFORMATION.
2. CURB RETURN RADII IS TO BACK EDGE OF RAP (ER) SHOULDER.
3. STATIONS, OFFSETS AND ELEVATIONS ALONG ROADWAY ARE TO BACK EDGE OF RAP (ER) SHOULDER UNLESS OTHERWISE NOTED.
4. SLOPES SHOWN ARE FOR TOP OF RAP (TR) SURFACE.
5. ADJUST SHOULDER ALIGNMENT AT CONNECTIONS TO EXISTING CURB & GUTTER AS REQUIRED FOR A TANGENT ALIGNMENT MATCH.
6. SLOPE VARIES AT DRIVEWAYS. CONTRACTOR TO GRADE DRIVEWAYS TO PROVIDE SMOOTH TRANSITION FROM EDGE OF ROAD TO TIE IN AT PROPERTY LINE.



RECORD OF REVISIONS			
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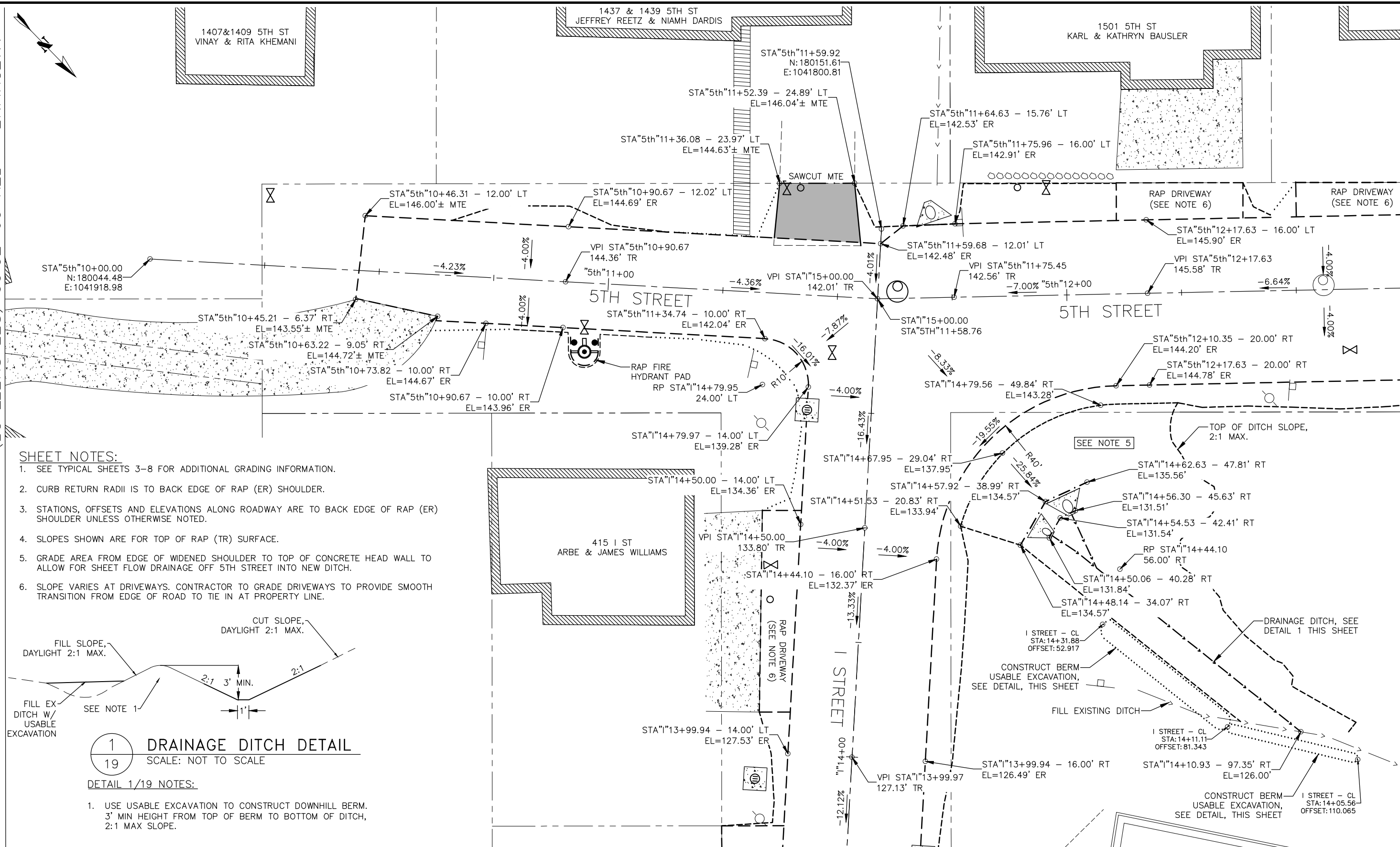
DOUGLAS 4TH STREET UTILITIES AND DRAINAGE
BE21-215

GRADING - 4TH 16+25 TO 17+65

SHEET NUMBER
18
OF
46

MATCHLINE - 5TH 09+70.00 (SEE SHEET 23)

MA	CHLINE	-	21H	12+	3.00	(SEE SHEET 20)
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MATCHLINE - 13+80.00 (SEE SHEET 18)

10 0 10
SCALE IN FEET



RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY
1	3/15/2021	REMOVED SD TO BE REMOVED AT TOP OF I ST.	LC



DRAWN BY:	E. ROEMELING
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CHECKED BY:	L. CHAMBERS

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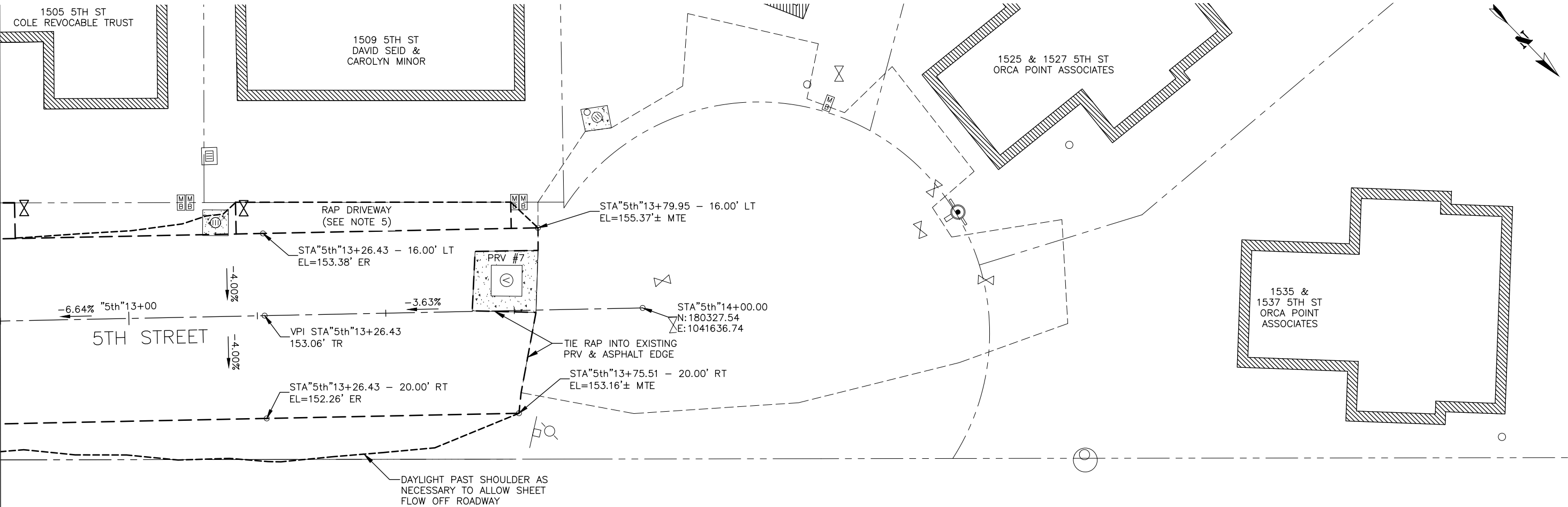
DOUGLAS 4TH STREET
UTILITIES AND DRAINAGE

BE21-215

GRADING - 5TH 10+00
TO 12+75

)	SHEET NUMBER
	19
	OF
	46

MATCHLINE - 5TH 12+75.00 (SEE SHEET 19)



SHEET NOTES:

1. SEE TYPICAL SHEETS 3-8 FOR ADDITIONAL GRADING INFORMATION.
2. CURB RETURN RADII IS TO BACK EDGE OF RAP (ER) SHOULDER.
3. STATIONS, OFFSETS AND ELEVATIONS ALONG ROADWAY ARE TO BACK EDGE OF RAP (ER) SHOULDER UNLESS OTHERWISE NOTED.
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DOUGLAS 4TH STREET
UTILITIES AND DRAINAGE
BE21-215

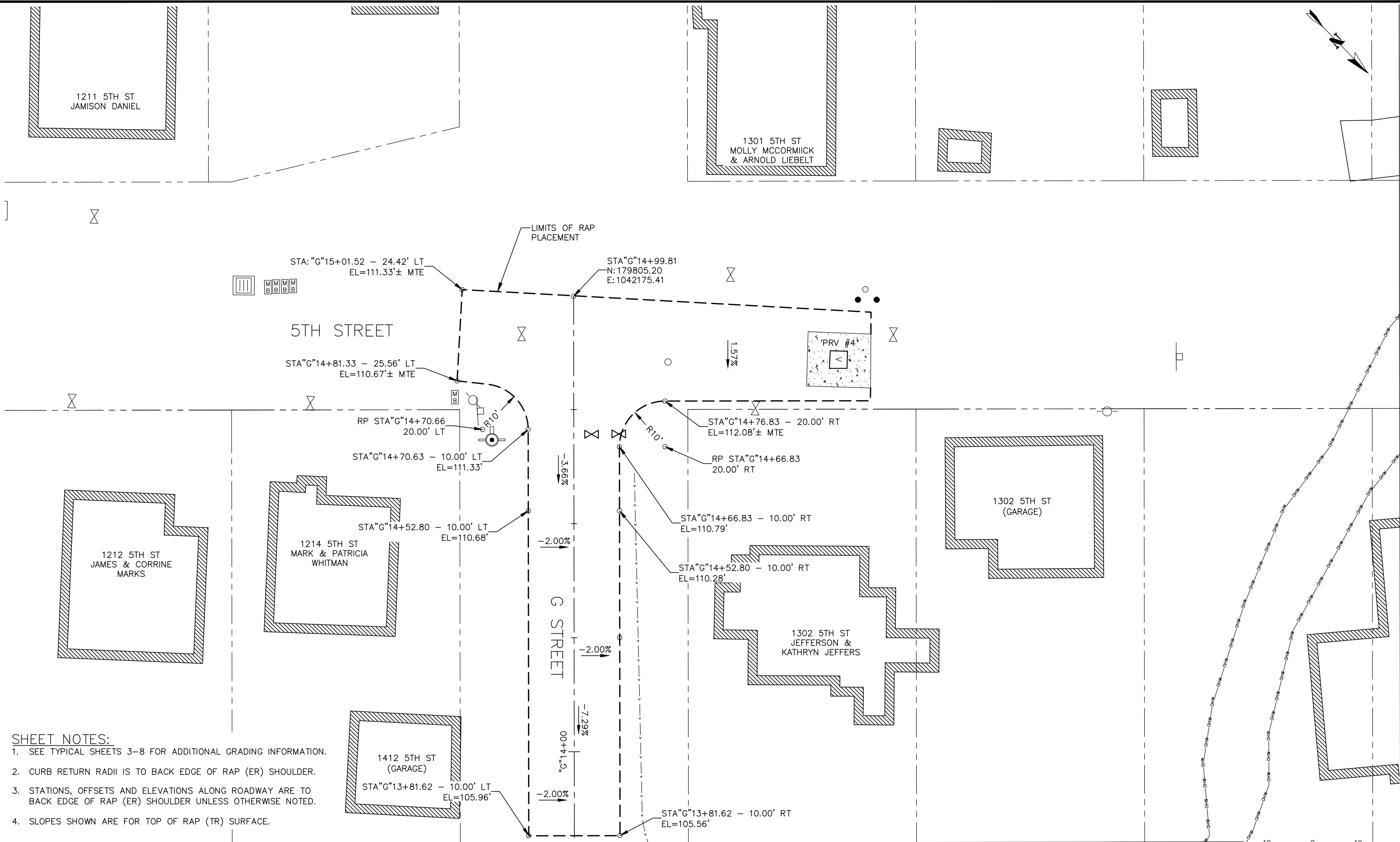
GRADING - 5TH 12+75
TO 14+00

SHEET NUMBER	
20	OF
46	

MATCHLINE - H OFFSET 68.50 (SEE SHEET 23)

C:\Users\lucas\Dropbox (proHNS)\Projects\Juneau\CBU 4th Street Utilities and Drainage Design\C3D_Douglas 4th St\Sheets\4th Street Utilities and Drainage\Grading.dwg

March 12, 2021



- SHEET NOTES:**
- SEE TYPICAL SHEETS 3-8 FOR ADDITIONAL GRADING INFORMATION.
 - CURB RETURN RADII IS TO BACK EDGE OF RAP (ER) SHOULDER.
 - STATIONS, OFFSETS AND ELEVATIONS ALONG ROADWAY ARE TO BACK EDGE OF RAP (ER) SHOULDER UNLESS OTHERWISE NOTED.
 - SLOPES SHOWN ARE FOR TOP OF RAP (TR) SURFACE.

MATCHLINE - G 13+80.00 (SEE SHEET 16)



RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY

proHNS LLC
1945 ALEX HOLDEN WAY #101
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www.proHNS.com

CERTIFICATE OF AUTHORIZATION
#100662

CITY AND BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY
ENGINEERING & PUBLIC WORKS

**DOUGLAS 4TH STREET
UTILITIES AND DRAINAGE**

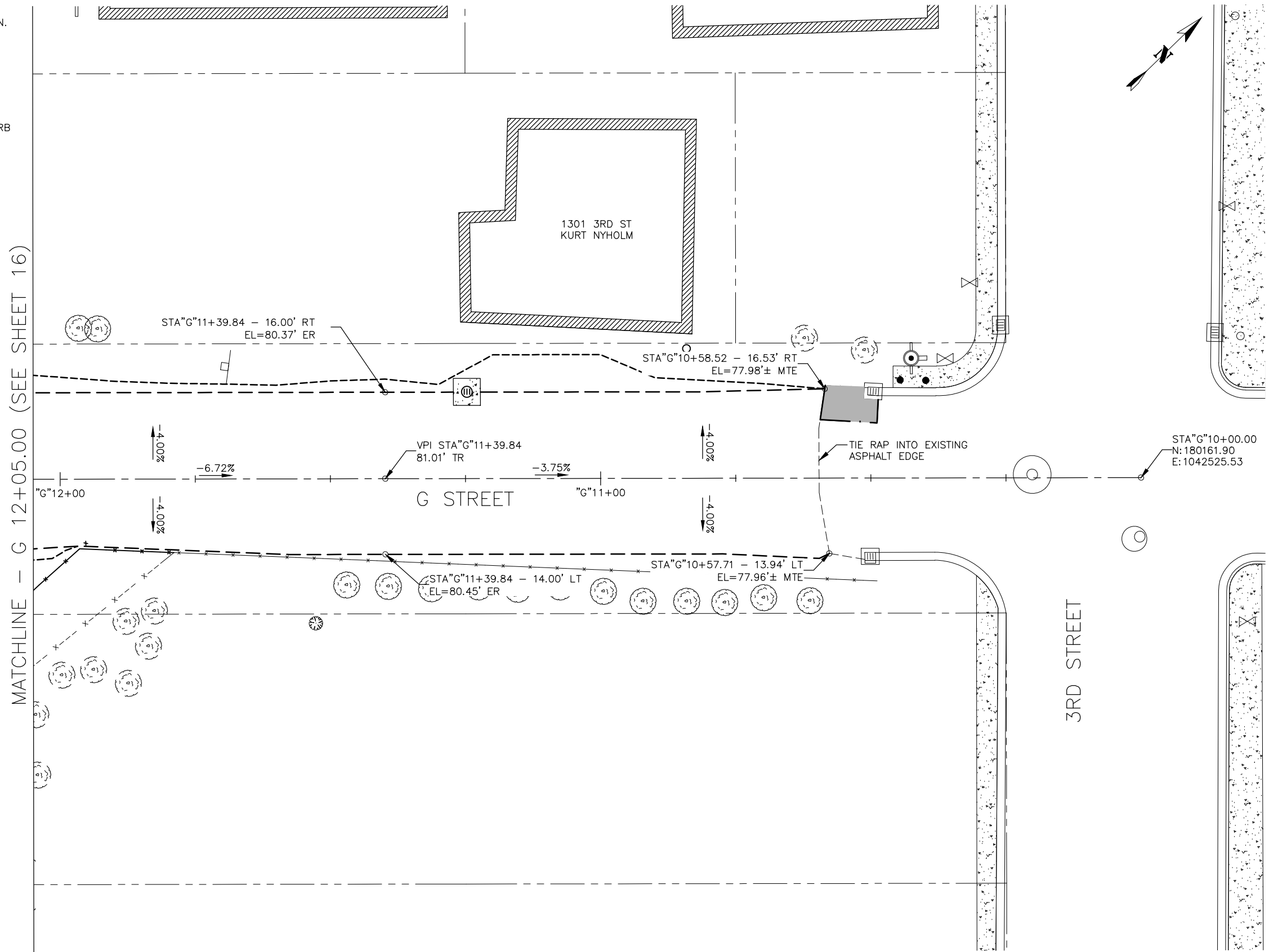
BE21-215

**GRADING - UPPER G
STREET**

SHEET NUMBER	
21	OF
46	

SHEET NOTES:

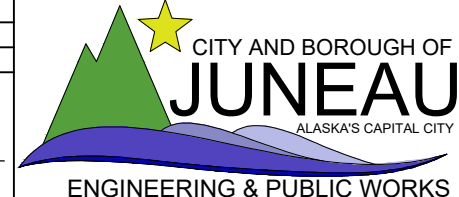
1. SEE TYPICAL SHEETS 3-8 FOR ADDITIONAL GRADING INFORMATION.
2. CURB RETURN RADII IS TO BACK EDGE OF RAP (ER) SHOULDER.
3. STATIONS, OFFSETS AND ELEVATIONS ALONG ROADWAY ARE TO BACK EDGE OF RAP (ER) SHOULDER UNLESS OTHERWISE NOTED.
4. SLOPES SHOWN ARE FOR TOP OF RAP (TR) SURFACE.
5. ADJUST SHOULDER ALIGNMENT AT CONNECTIONS TO EXISTING CURB & GUTTER AS REQUIRED FOR A TANGENT ALIGNMENT MATCH.



RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY



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DOUGLAS 4TH STREET
UTILITIES AND DRAINAGE
BE21-215

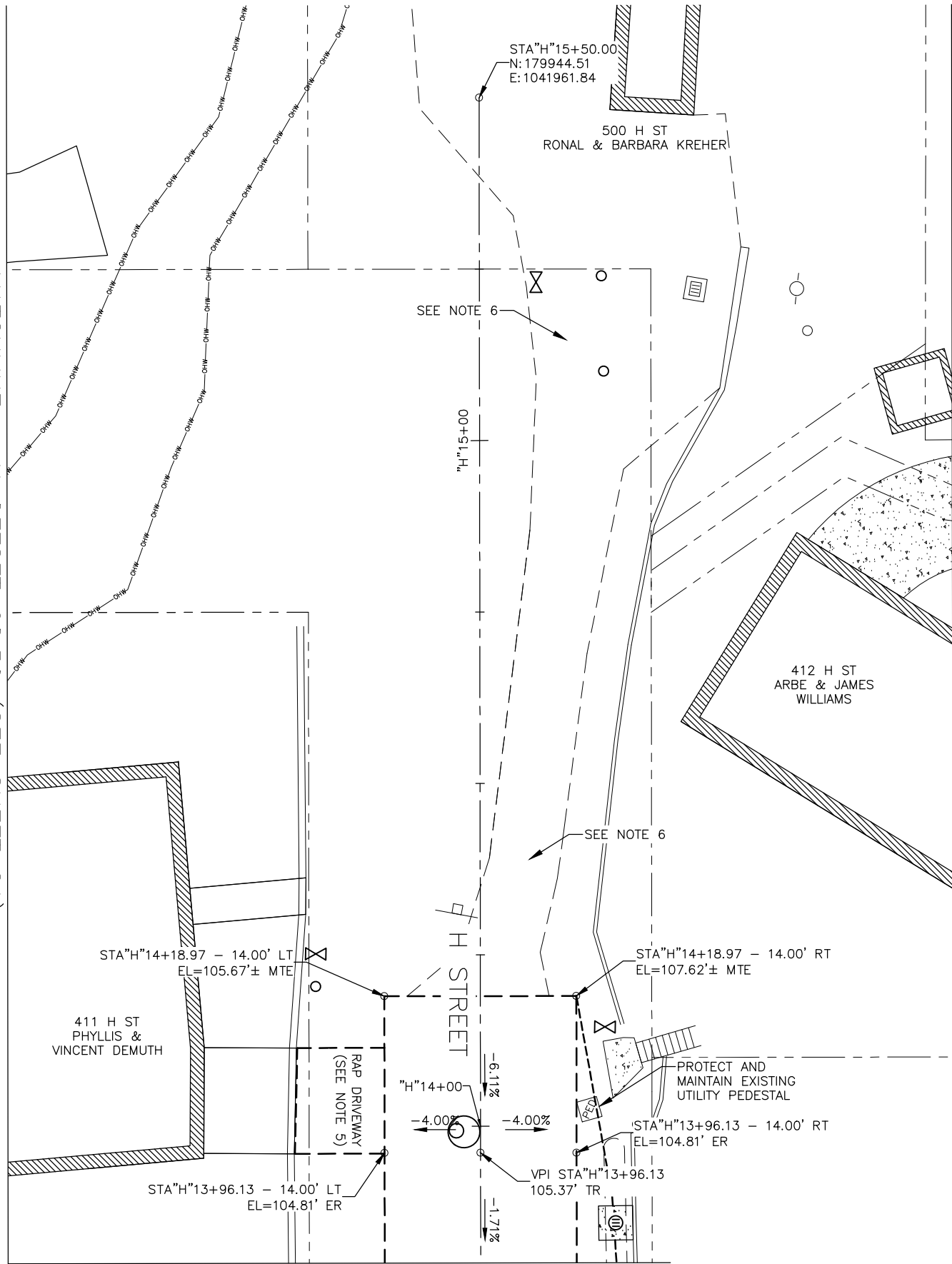
GRADING - LOWER G
STREET

SHEET NUMBER	
22	OF
46	

SHEET NOTES:

1. SEE TYPICAL SHEETS 3-8 FOR ADDITIONAL GRADING INFORMATION.
2. CURB RETURN RADII IS TO BACK EDGE OF RAP (ER) SHOULDER.
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4. SLOPES SHOWN ARE FOR TOP OF RAP (TR) SURFACE.
5. SLOPE VARIES AT DRIVEWAYS. CONTRACTOR TO GRADE DRIVEWAYS TO PROVIDE SMOOTH TRANSITION FROM EDGE OF ROAD TO TIE IN AT PROPERTY LINE.
6. RECONSTRUCT DRIVEWAY TO PRE CONSTRUCTION GRADE AND SLOPE, SALVAGE D-1 SURFACING AND REPLACE AFTER TRENCHING.

MATCHLINE - H OFFSET 68.50 (SEE SHEET 21)



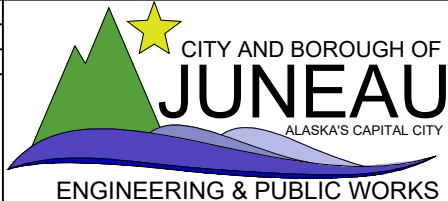
MATCHLINE - H 13+80.00 (SEE SHEET 17)



RECORD OF REVISIONS			
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DRAWN BY: E. ROEMELING
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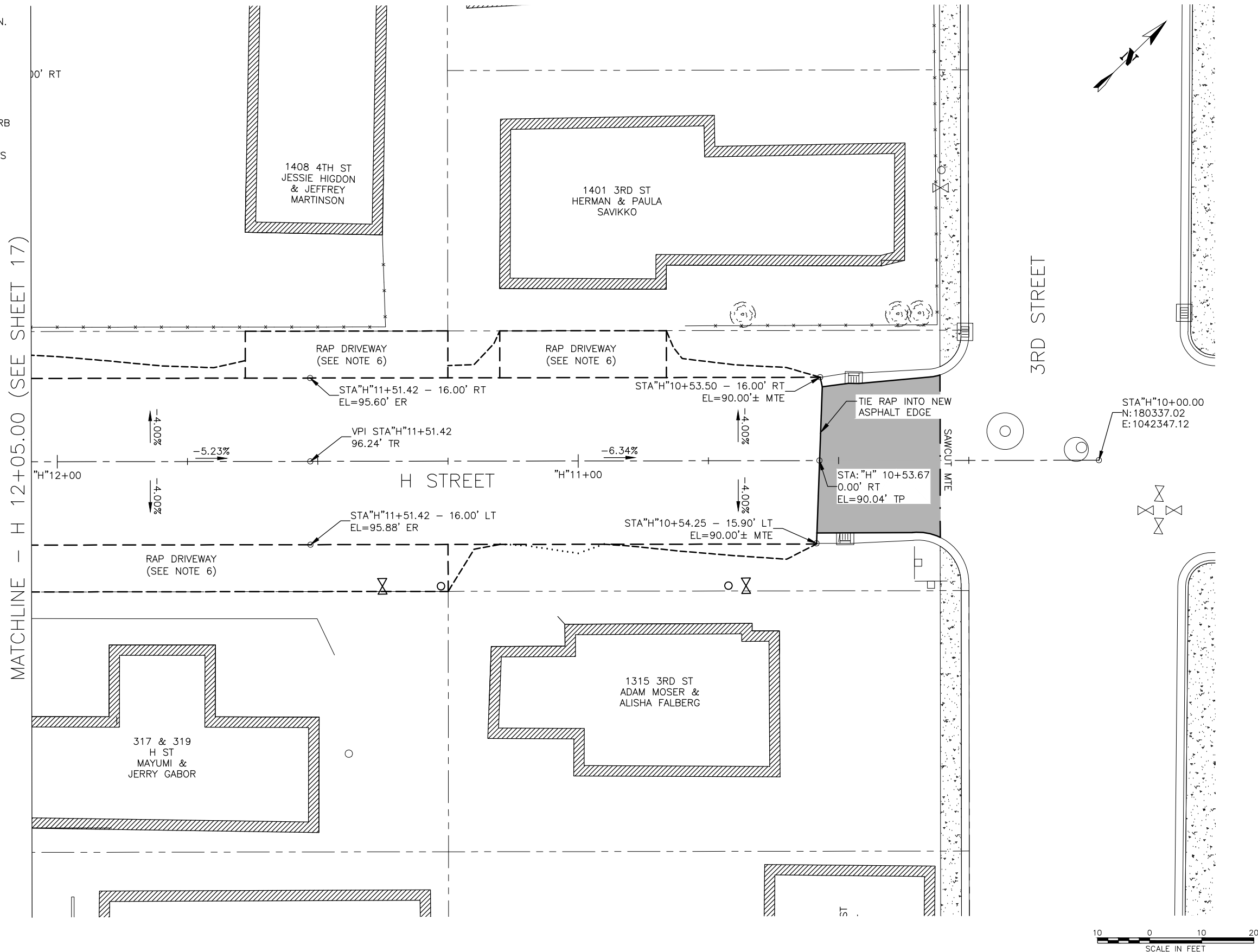
DOUGLAS 4TH STREET
UTILITIES AND DRAINAGE
BE21-215

GRADING - UPPER H
STREET

SHEET NUMBER	
23	OF
46	

SHEET NOTES:

1. SEE TYPICAL SHEETS 3-8 FOR ADDITIONAL GRADING INFORMATION.
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6. SLOPE VARIES AT DRIVEWAYS. CONTRACTOR TO GRADE DRIVEWAYS TO PROVIDE SMOOTH TRANSITION FROM EDGE OF ROAD TO TIE IN AT PROPERTY LINE.



RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY


proHNS LLC
CERTIFICATE OF AUTHORIZATION
#100662

DRAWN BY:	E. ROEMELING
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CITY AND BOROUGH OF
JUNEAU
ALASKA'S CAPITAL CITY
ENGINEERING & PUBLIC WORKS

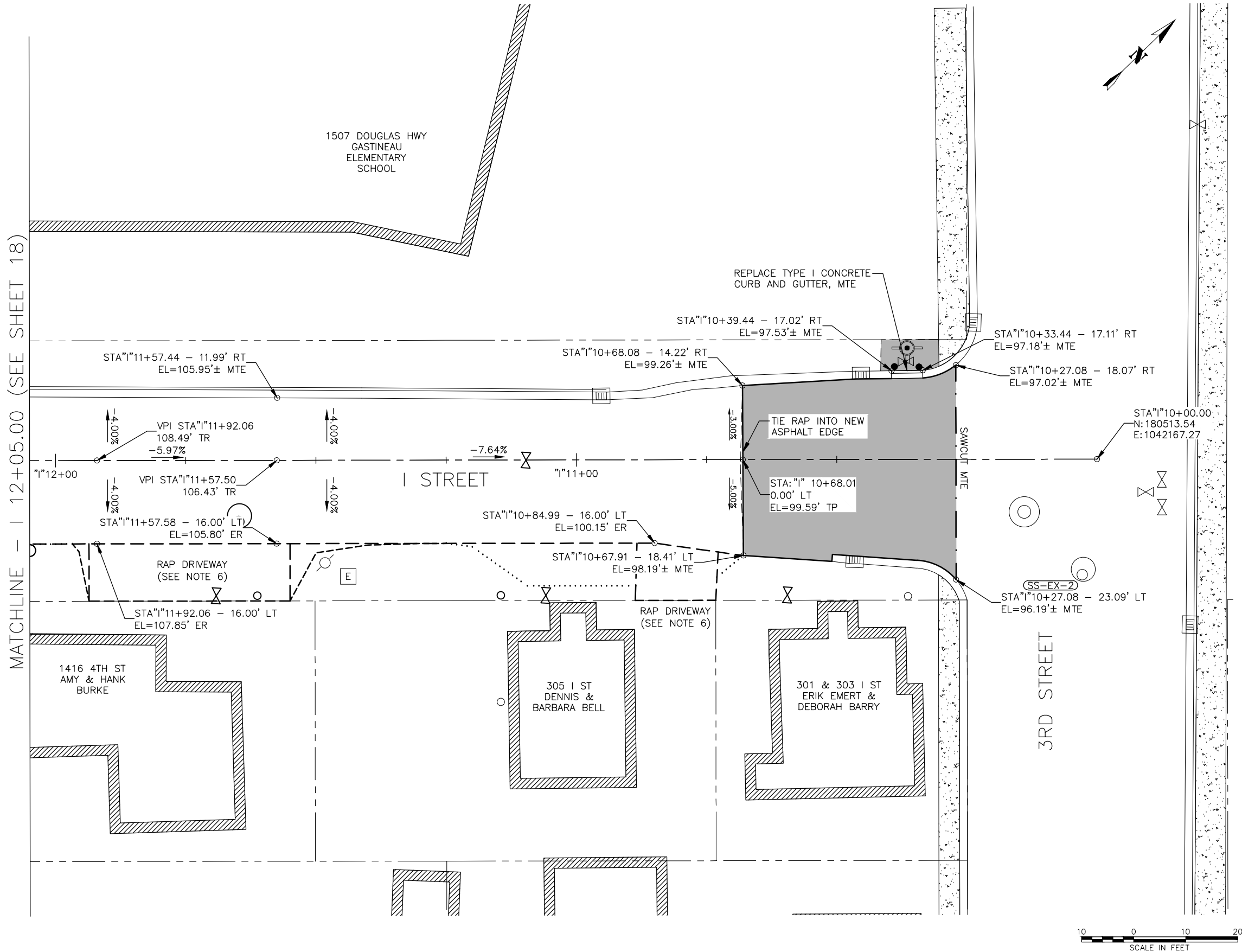
DOUGLAS 4TH STREET
UTILITIES AND DRAINAGE
BE21-215

GRADING - LOWER H
STREET

SHEET NUMBER	
24	OF
46	

SHEET NOTES:

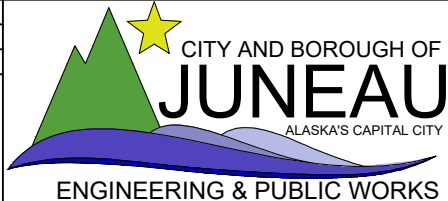
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No.	DATE	DESCRIPTION	BY



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DESIGNED BY:	E. ROEMELING
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DOUGLAS 4TH STREET
UTILITIES AND DRAINAGE
BE21-215

GRADING - LOWER I
STREET

SHEET NUMBER	
25	OF
46	

STORM DRAIN PIPE SUMMARY						
PIPE NO.	DIA	LENGTH	TYPE	SLOPE	START INV	END INV
P-EX-1	12"	64.89	CPP	-1.37%	85.10	84.98

SEWER PIPE SUMMARY						
PIPE NO.	DIA	LENGTH	TYPE	SLOPE	START INV	END INV
SP-11	8"	76.01	PVC	-2.00%	79.86	78.37
SP-EX-11	8"	25.00	PVC	-2.00%	78.37	77.87

S-14	CB TYPE-III W/ AD
STA: 4TH 10+75.34	OFF: 11.72 LT
FRAME EL=	86.98
P-EX-1 IE=	84.98
SUMP = 16"	
PROVIDE PIPE EXTENSIONS AS NECESSARY TO ATTACH EXISTING P-EX-1 INTO CB	

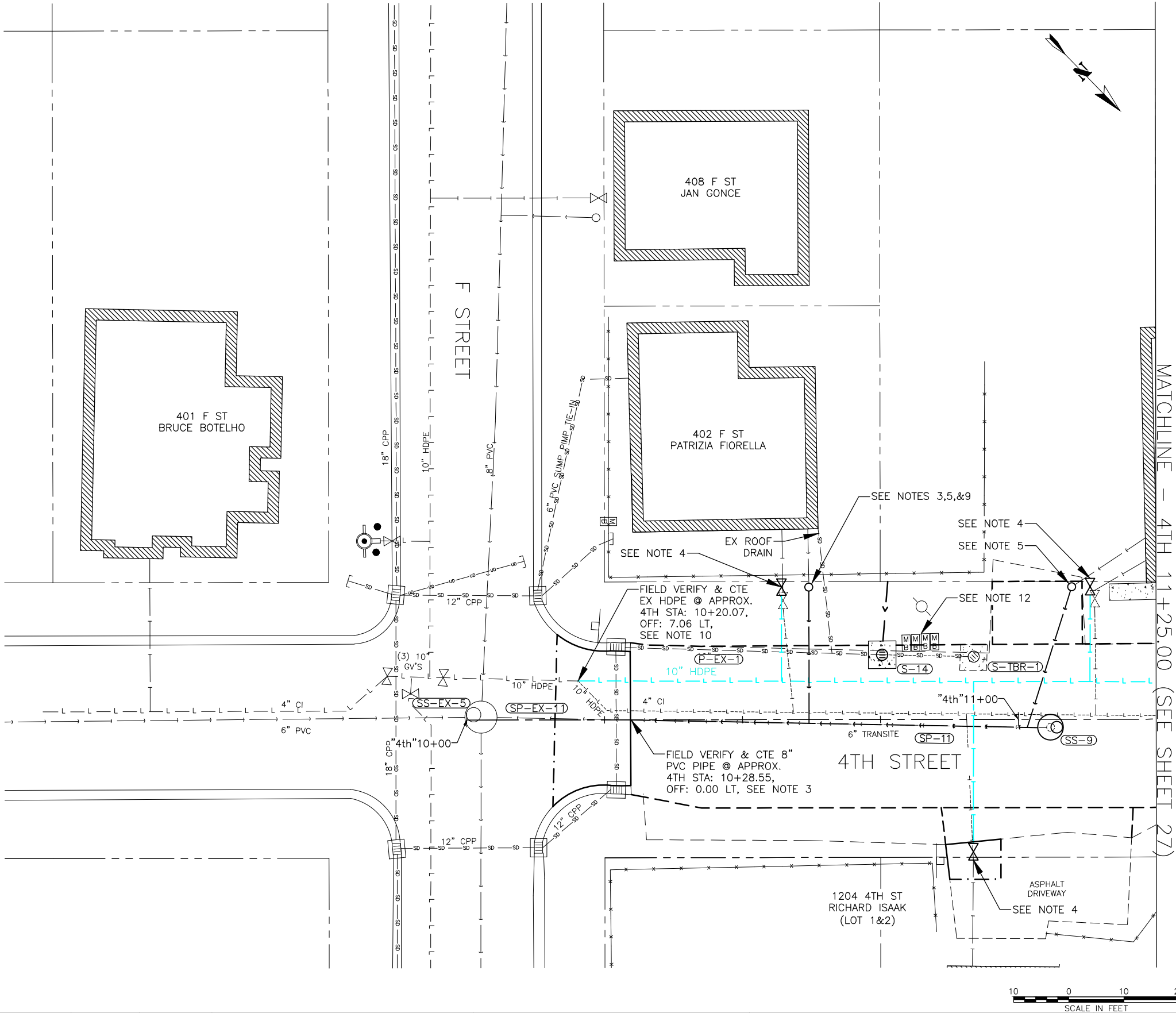
SS-9	SSMH TYPE- I
STA: 4TH 11+05.84	OFF: 1.45 RT
FRAME EL=	87.45
SP-11 IE=	79.86
FRAME ELEVATION SPECIFIED SO THAT MANHOLE LID IS SET 8" BELOW FINISH GRADE	

SS-EX-5	EX SSMH
STA: 4TH 10+02.60	OFF: 0.52 LT
FRAME EL=	86.67
SP-11 IE=	77.87

S-TBR-1	EX CB
STA: 4TH 10+91.93	OFF: 11.36 LT
FRAME EL=	88.02
P-EX-1 IE=	85.10

SHEET NOTES:

- PIPE LENGTHS ARE TO CENTER OF STRUCTURE. PIPE SLOPES ARE MEASURED TO ENDS OF PIPES.
- STORM DRAIN STRUCTURES STATION AND OFFSET ARE GIVEN TO THE CENTER OF THE STRUCTURE. LID ELEVATION IS GIVEN TO CENTER OF STRUCTURE. FRAME ELEVATION IS GIVEN TO FRONT OF FRAME.
- PROVIDE ALL PIPE EXTENSIONS, ADAPTERS, ELBOWS AND OTHER FITTINGS NECESSARY TO CONNECT TO DISSIMILAR PIPE SIZES, MATERIALS, AND DEPTHS. USE LSS-1 COUPLER TO CONNECT SEWER PIPES.
- INSTALL NEW WATER SERVICE, SEE SUMMARY ON SHEET 12. WHERE WATER SERVICE CROSSES UNDER STORM DRAIN PIPE, INSULATE PER CBJ STD 412.
- INSTALL NEW SEWER SERVICE AND CLEAN-OUT, SEE SUMMARY ON SHEET 13.
- CONTRACTOR TO REMOVE ALL DECOMMISSIONED UTILITIES IN THEIR ENTIRETY. ABANDONING OR SLURRYING SHALL NOT BE PERMITTED UNLESS SPECIFICALLY INDICATED ON THE PLANS OR WITH PRIOR APPROVAL OF THE ENGINEER.
- HDPE PIPE DEFLECTIONS SHALL NOT EXCEED PIPE MANUFACTURERS RECOMMENDATIONS.
- MAINTAIN 18" MINIMUM VERTICAL SEPARATION BETWEEN PROPOSED WATER PIPE AND ALL STORM AND SEWER CROSSINGS, SEE STD DETAIL 215.
- DURING EXCAVATION FOR NEW WATER OR SEWER SERVICE, A PLUGGED WASHING MACHINE DRAIN MAY BE ENCOUNTERED. IF ENCOUNTERED TIE WASHING MACHINE DRAIN INTO SEWER SERVICE.
- REMOVE EXISTING 45' HDPE BENDS. BUTT FUSE NEW WATER LINE TO EXISTING WATER LINE INSIDE THE TRENCH. WATER PIPE SHALL BE CAPPED AT A POINT WITHIN 5 FEET OF THE CONNECTION POINT TO EXISTING WATER PIPE FOR TESTING PURPOSES. SPLICE NEW TRACER WIRE TO EXISTING TRACER WIRE W/ DRYCONN WATERPROOF DIRECT BURY LUGS.
- PROVIDE TEMPORARY WATER DURING WATER LINE WORK AS REQUIRED.
- REMOVE EXISTING MAIL BOXES & INSTALL NEW PER SUMMARY TABLE SHEET 13.



RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY



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DESIGNED BY:	C. BYDLON
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DOUGLAS 4TH STREET
UTILITIES AND DRAINAGE
BE21-215

PLAN - 4TH 10+00 TO
11+25

SHEET NUMBER	
26	OF
46	

SEWER PIPE SUMMARY						
PIPE NO.	DIA	LENGTH	TYPE	SLOPE	START INV	END INV
SP-8	8"	98.31	PVC	-2.00%	80.96	78.99
SP-9	8"	76.00	PVC	-0.50%	79.47	79.09
SP-10	8"	171.22	PVC	-2.87%	78.89	73.98

STORM DRAIN PIPE SUMMARY						
PIPE NO.	DIA	LENGTH	TYPE	SLOPE	START INV	END INV
P-15	18"	96.74	CPP	-6.93%	90.90	84.20
P-16	12"	39.87	CPP	-3.26%	86.50	85.20
P-17	18"	17.32	CPP	-8.66%	79.50	78.00

S-12	SDMH - TYPE II W/ AD*
STA: 4TH 13+16.65	OFF: 19.00 LT
FRAME EL=	88.07
P-15 IE=	84.20
P-16 IE=	85.20
P-17 IE=	79.50
SUMP = 16"	
*OIL-WATER SEPARATOR PER STD 305	

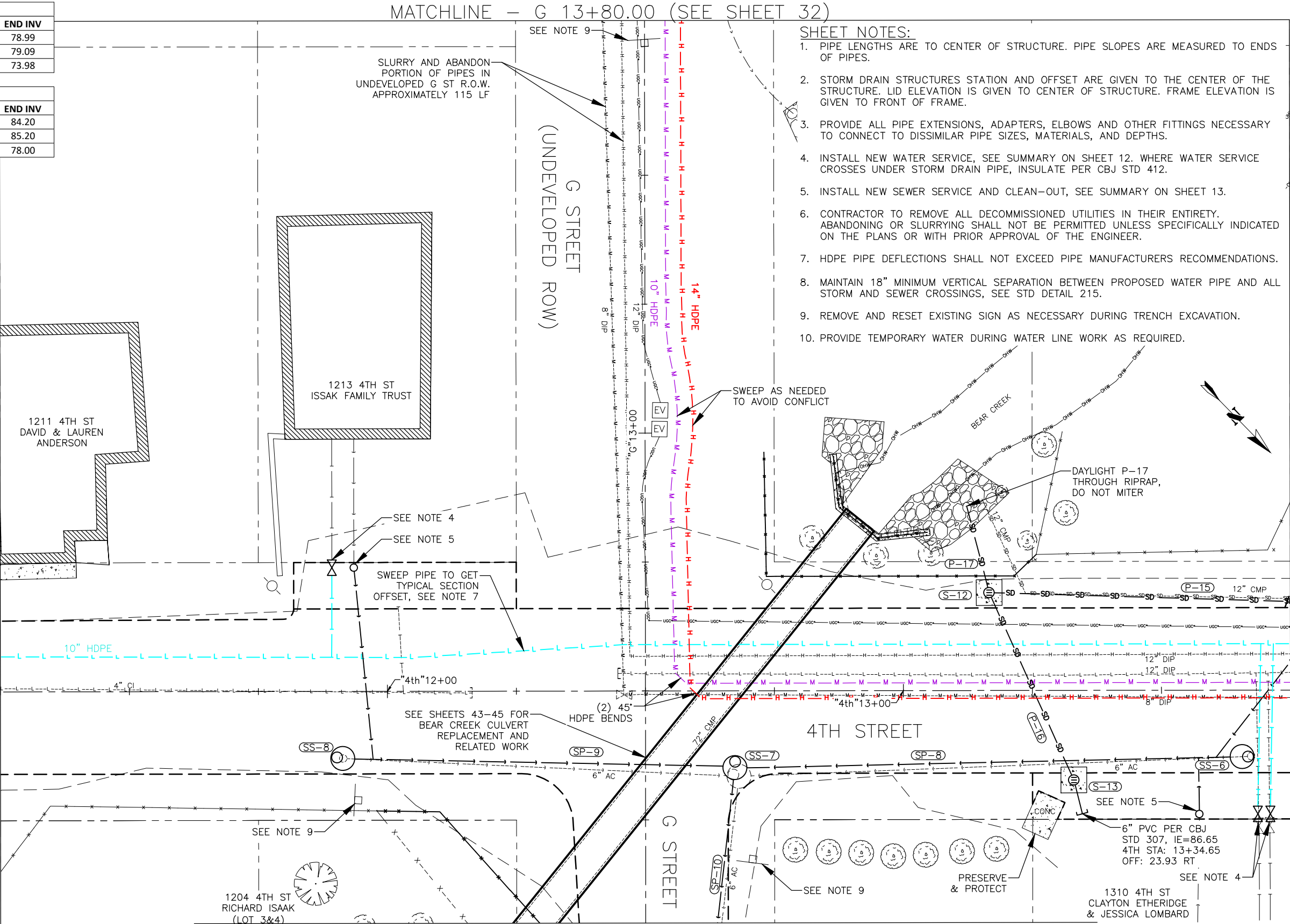
S-13	CB TYPE-III W/ AD
STA: 4TH 13+33.00	OFF: 17.37 RT
FRAME EL=	89.40
P-16 IE=	86.50
6" PVC IE=	86.60
SUMP = 16"	

SS-6	SSMH TYPE- I
STA: 4TH 13+65.62	OFF: 12.90 RT
FRAME EL=	90.74
SP-8 IE=	80.96
FRAME ELEVATION SPECIFIED SO THAT MANHOLE LID IS SET 8" BELOW FINISH GRADE	

SS-7	SSMH TYPE- I*
STA: 4TH 12+67.33	OFF: 14.88 RT
FRAME EL=	86.45
SP-8 IE=	78.99
SP-9 IE=	79.09
SP-10 IE=	78.89
FRAME ELEVATION SPECIFIED SO THAT MANHOLE LID IS SET 8" BELOW FINISH GRADE	
*W/ FIBERGLASS BASE LINER	

SS-8	SSMH TYPE- I
STA: 4TH 11+91.36	OFF: 13.00 RT
FRAME EL=	87.42
SP-9 IE=	79.47
FRAME ELEVATION SPECIFIED SO THAT MANHOLE LID IS SET 8" BELOW FINISH GRADE	

MATCHLINE - 4TH 11+25.00 (SEE SHEET 26)



- SHEET NOTES:**
- PIPE LENGTHS ARE TO CENTER OF STRUCTURE. PIPE SLOPES ARE MEASURED TO ENDS OF PIPES.
 - STORM DRAIN STRUCTURES STATION AND OFFSET ARE GIVEN TO THE CENTER OF THE STRUCTURE. LID ELEVATION IS GIVEN TO CENTER OF STRUCTURE. FRAME ELEVATION IS GIVEN TO FRONT OF FRAME.
 - PROVIDE ALL PIPE EXTENSIONS, ADAPTERS, ELBOWS AND OTHER FITTINGS NECESSARY TO CONNECT TO DISSIMILAR PIPE SIZES, MATERIALS, AND DEPTHS.
 - INSTALL NEW WATER SERVICE, SEE SUMMARY ON SHEET 12. WHERE WATER SERVICE CROSSES UNDER STORM DRAIN PIPE, INSULATE PER CBJ STD 412.
 - INSTALL NEW SEWER SERVICE AND CLEAN-OUT, SEE SUMMARY ON SHEET 13.
 - CONTRACTOR TO REMOVE ALL DECOMMISSIONED UTILITIES IN THEIR ENTIRETY. ABANDONING OR SLURRYING SHALL NOT BE PERMITTED UNLESS SPECIFICALLY INDICATED ON THE PLANS OR WITH PRIOR APPROVAL OF THE ENGINEER.
 - HDPE PIPE DEFLECTIONS SHALL NOT EXCEED PIPE MANUFACTURERS RECOMMENDATIONS.
 - MAINTAIN 18" MINIMUM VERTICAL SEPARATION BETWEEN PROPOSED WATER PIPE AND ALL STORM AND SEWER CROSSINGS, SEE STD DETAIL 215.
 - REMOVE AND RESET EXISTING SIGN AS NECESSARY DURING TRENCH EXCAVATION.
 - PROVIDE TEMPORARY WATER DURING WATER LINE WORK AS REQUIRED.

MATCHLINE - 4TH 13+75.00 (SEE SHEET 28)



49th
Lucas M. Chambers
03/15/2021
CE 106593
REGISTERED PROFESSIONAL ENGINEER

RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY

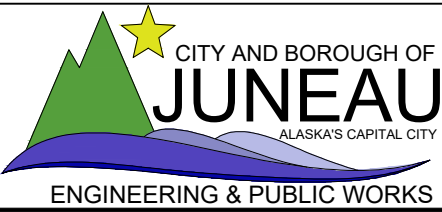


proHNS LLC
CERTIFICATE OF AUTHORIZATION
#100662

DRAWN BY: C. BYDLON
DESIGNED BY: C. BYDLON
CHECKED BY: L. CHAMBERS

1945 ALEX HOLDEN WAY #101
JUNEAU, AK 99801
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CITY AND BOROUGH OF
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ALASKA'S CAPITAL CITY
ENGINEERING & PUBLIC WORKS

DOUGLAS 4TH STREET
UTILITIES AND DRAINAGE

BE21-215

PLAN - 4TH 11+25 TO
13+75

SHEET NUMBER	
27	OF
46	

SHEET NOTES:

1. PIPE LENGTHS ARE TO CENTER OF STRUCTURE. PIPE SLOPES ARE MEASURED TO ENDS OF PIPES.
2. STORM DRAIN STRUCTURES STATION AND OFFSET ARE GIVEN TO THE CENTER OF THE STRUCTURE. LID ELEVATION IS GIVEN TO CENTER OF STRUCTURE. FRAME ELEVATION IS GIVEN TO FRONT OF FRAME.
3. PROVIDE ALL PIPE EXTENSIONS, ADAPTERS, ELBOWS AND OTHER FITTINGS NECESSARY TO CONNECT TO DISSIMILAR PIPE SIZES, MATERIALS, AND DEPTHS.
4. INSTALL NEW WATER SERVICE, SEE SUMMARY ON SHEET 12. WHERE WATER SERVICE CROSSES UNDER STORM DRAIN PIPE, INSULATE PER CBJ STD 412.
5. INSTALL NEW SEWER SERVICE AND CLEAN-OUT, SEE SUMMARY ON SHEET 13.
6. CONTRACTOR TO REMOVE ALL DECOMMISSIONED UTILITIES IN THEIR ENTIRETY. ABANDONING OR SLURRYING SHALL NOT BE PERMITTED UNLESS SPECIFICALLY INDICATED ON THE PLANS OR WITH PRIOR APPROVAL OF THE ENGINEER.
7. HDPE PIPE DEFLECTIONS SHALL NOT EXCEED PIPE MANUFACTURERS RECOMMENDATIONS.
8. MAINTAIN 18" MINIMUM VERTICAL SEPARATION BETWEEN PROPOSED WATER PIPE AND ALL STORM AND SEWER CROSSINGS, SEE STD DETAIL 215.
9. REMOVE AND RESET EXISTING SIGN AS NECESSARY DURING TRENCH EXCAVATION.
10. REMOVE EXISTING MAIL BOXES & INSTALL NEW PER SUMMARY TABLE SHEET 13.
11. PROVIDE TEMPORARY WATER DURING WATER LINE WORK AS REQUIRED.

S-7	CB TYPE IV W/ AD
STA: 4TH 16+08.91	OFF: 16.00 LT
FRAME EL=	107.43
P-10 IE=	104.20
P-11 IE=	104.10
6" PVC IE=	104.20
SUMP = 16"	

S-8	SDMH TYPE-I W/ AD
STA: 4TH 15+16.02	OFF: 18.00 LT
FRAME EL=	101.45
P-11 IE=	98.00
P-12 IE=	98.00
P-13 IE=	97.20
P-14 IE=	97.00
SUMP = 16"	

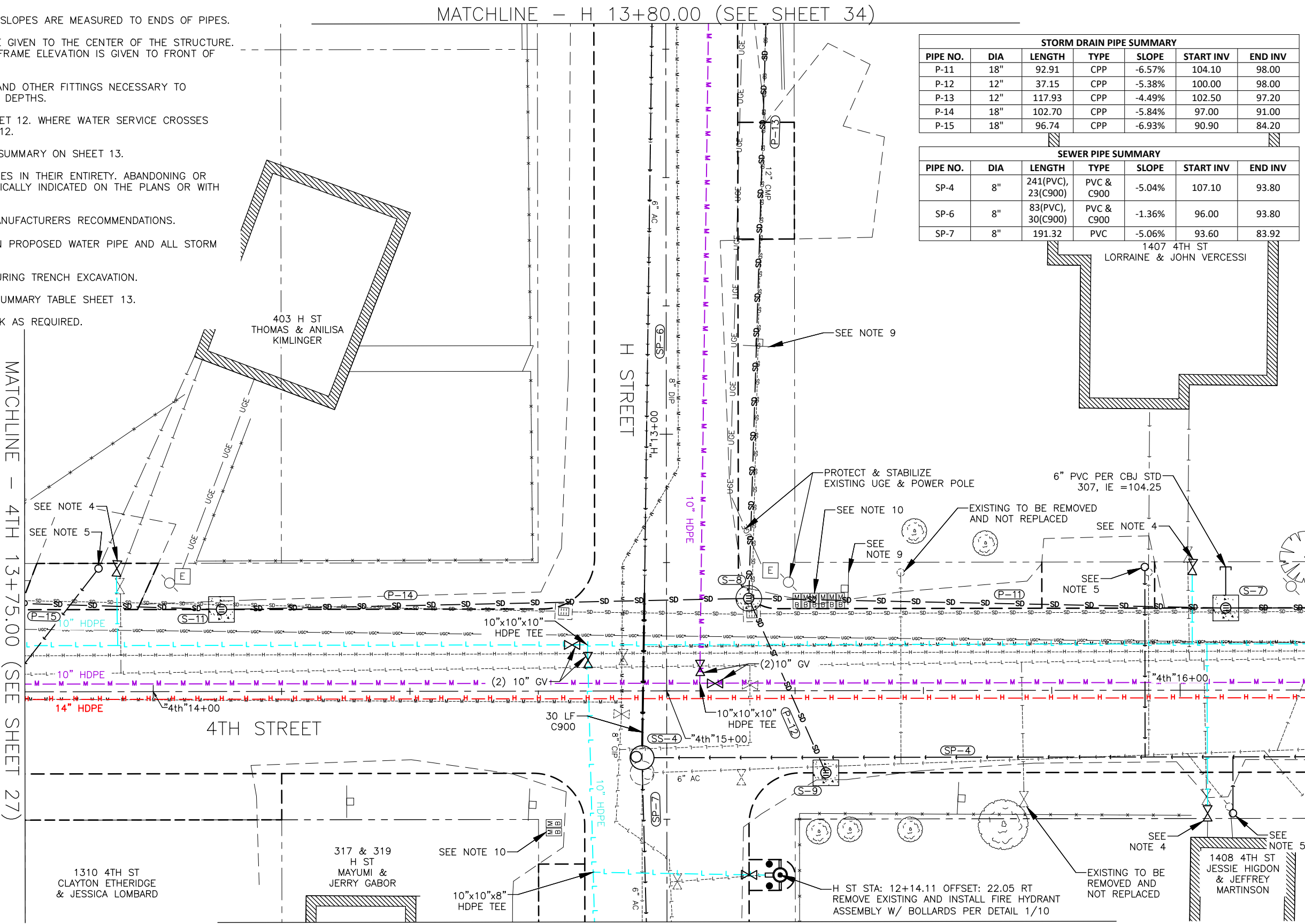
S-9	CB TYPE-III W/ AD
STA: 4TH 15+30.98	OFF: 16.00 RT
FRAME EL=	102.62
P-12 IE=	100.00
SUMP = 16"	

S-11	CB TYPE-IV W/ AD
STA: 4TH 14+13.34	OFF: 16.00 LT
FRAME EL=	94.25
P-14 IE=	91.00
P-15 IE=	90.90
SUMP = 16"	

SS-4	SSMH TYPE- I*
STA: 4TH 14+95.19	OFF: 13.00 RT
FRAME EL=	99.72
SP-4 IE=	93.80
SP-6 IE=	93.80
SP-7 IE=	93.60
FRAME ELEVATION SPECIFIED SO THAT MANHOLE LID IS SET 8" BELOW FINISH GRADE	
*W/ FIBERGLASS BASE LINER	

STORM DRAIN PIPE SUMMARY						
PIPE NO.	DIA	LENGTH	TYPE	SLOPE	START INV	END INV
P-11	18"	92.91	CPP	-6.57%	104.10	98.00
P-12	12"	37.15	CPP	-5.38%	100.00	98.00
P-13	12"	117.93	CPP	-4.49%	102.50	97.20
P-14	18"	102.70	CPP	-5.84%	97.00	91.00
P-15	18"	96.74	CPP	-6.93%	90.90	84.20

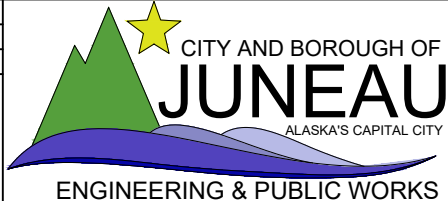
SEWER PIPE SUMMARY						
PIPE NO.	DIA	LENGTH	TYPE	SLOPE	START INV	END INV
SP-4	8"	241(PVC), 23(C900)	PVC & C900	-5.04%	107.10	93.80
SP-6	8"	83(PVC), 30(C900)	PVC & C900	-1.36%	96.00	93.80
SP-7	8"	191.32	PVC	-5.06%	93.60	83.92



RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY



DRAWN BY:	C. BYDLON
DESIGNED BY:	C. BYDLON
CHECKED BY:	L. CHAMBERS
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DOUGLAS 4TH STREET
UTILITIES AND DRAINAGE
BE21-215

PLAN - 4TH 13+75 TO
16+25

SHEET NUMBER	
28	OF
46	

STORM DRAIN PIPE SUMMARY						
PIPE NO.	DIA	LENGTH	TYPE	SLOPE	START INV	END INV
P-7	12"	41.47	CPP	5.31%	121.00	118.80
P-8	18"	32.32	CPP	-4.33%	111.40	110.00
P-9	18"	18.45	CPP	-12.47%	109.80	107.50
P-10	18"	116.69	CPP	-2.66%	107.30	104.20

SEWER PIPE SUMMARY						
PIPE NO.	DIA	LENGTH	TYPE	SLOPE	START INV	END INV
SP-2	8"	175(PVC), 27(C900)	PVC & C900	-12.80%	135.50	109.70
SP-3	8"	62.88	PVC	-3.66%	109.50	107.20
SP-4	8"	241(PVC), 23(C900)	PVC & C900	-5.04%	107.10	93.80

S-3	CB TYPE IV W/ AD
STA: I ST 13+79.04	OFF: 16.61 RT
FRAME EL=	123.89
P-6 IE=	121.20
P-7 IE=	121.00
SUMP = 16"	

S-6	SDMH - TYPE I W/ AD
STA: 4TH 17+25.60	OFF: 16.00 LT
FRAME EL=	110.76
P-9 IE=	107.50
P-10 IE=	107.30
SUMP = 16"	
CONNECT TO EX 4" PVC	

SS-3	SSMH TYPE-I*
STA: 4TH 17+59.14	OFF: 13.00 RT
FRAME EL=	110.41
SP-3 IE=	107.20
SP-4 IE=	107.10
FRAME ELEVATION SPECIFIED SO THAT MANHOLE LID IS SET 8" BELOW FINISH GRADE	
*W/ FIBERGLASS BASE LINER	

S-4	CB TYPE IV W/ AD
STA: I ST 12+92.11	OFF: 15.96 RT
FRAME EL=	114.32
P-8 IE=	111.40
12" CPP IE=	111.92
SUMP = 16"	

S-EX-3	EX CB
STA: I ST 13+76.82	OFF: 58.02 RT
FRAME EL=	121.11
P-8 IE=	118.80
12" CPP (SW)	118.78
12" CPP (NE)	118.65

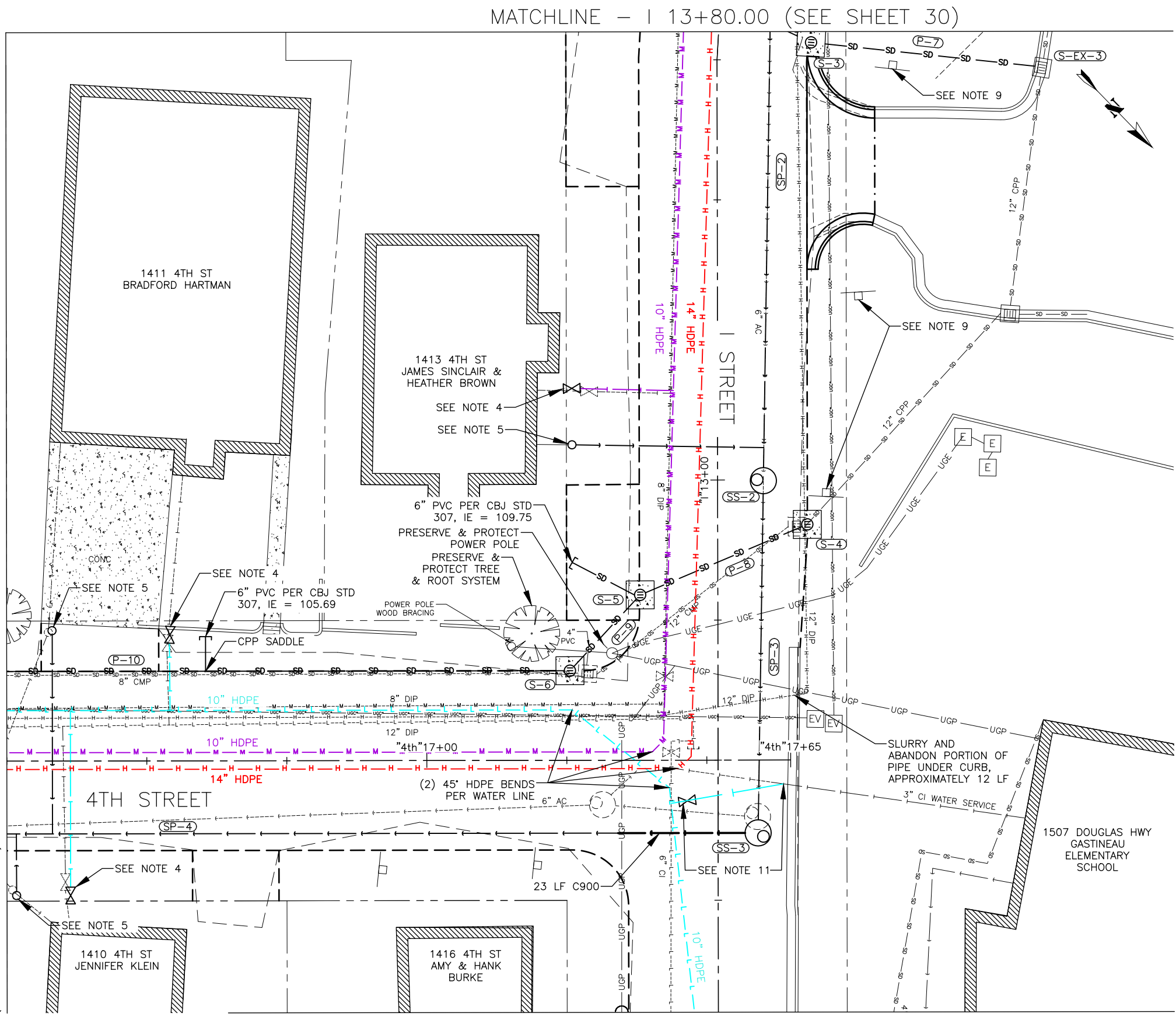
SS-2	SSMH TYPE-I
STA: I ST 12+99.87	OFF: 8.17 RT
FRAME EL=	114.77
SP-2 IE=	109.70
SP-3 IE=	109.50
FRAME ELEVATION SPECIFIED SO THAT MANHOLE LID IS SET 8" BELOW FINISH GRADE	

S-5	SDMH - TYPE I W/ AD
STA: I ST 12+79.51	OFF: 13.84 LT
FRAME EL=	113.36
P-8 IE=	110.00
P-9 IE=	109.80
6" PVC IE=	110.00
SUMP = 16"	

SHEET NOTES:

- PIPE LENGTHS ARE TO CENTER OF STRUCTURE. PIPE SLOPES ARE MEASURED TO ENDS OF PIPES.
- STORM DRAIN STRUCTURES STATION AND OFFSET ARE GIVEN TO THE CENTER OF THE STRUCTURE. LID ELEVATION IS GIVEN TO CENTER OF STRUCTURE. FRAME ELEVATION IS GIVEN TO FRONT OF FRAME.
- PROVIDE ALL PIPE EXTENSIONS, ADAPTERS, ELBOWS AND OTHER FITTINGS NECESSARY TO CONNECT TO DISSIMILAR PIPE SIZES, MATERIALS, AND DEPTHS.
- INSTALL NEW WATER SERVICE, SEE SUMMARY ON SHEET 12. WHERE WATER SERVICE CROSSES UNDER STORM DRAIN PIPE, INSULATE PER CBJ STD 412.
- INSTALL NEW SEWER SERVICE AND CLEAN-OUT, SEE SUMMARY ON SHEET 13.
- CONTRACTOR TO REMOVE ALL DECOMMISSIONED UTILITIES IN THEIR ENTIRETY. ABANDONING OR SLURRYING SHALL NOT BE PERMITTED UNLESS SPECIFICALLY INDICATED ON THE PLANS OR WITH PRIOR APPROVAL OF THE ENGINEER.
- HDPE PIPE DEFLECTIONS SHALL NOT EXCEED PIPE MANUFACTURERS RECOMMENDATIONS.
- MAINTAIN 18" MINIMUM VERTICAL SEPARATION BETWEEN PROPOSED WATER PIPE AND ALL STORM AND SEWER CROSSINGS, SEE STD DETAIL 215.
- REMOVE AND RESET EXISTING SIGN AS NECESSARY DURING TRENCH EXCAVATION.
- PROVIDE TEMPORARY WATER DURING WATER LINE WORK AS REQUIRED.
- INSTALL 10"x8 TEE", 8" GV, THRUST BLOCK, 8" HDPE LEG AND CTE BEFORE CURB. REDUCERS TO BE DI, SEE NOTE 3.

MATCHLINE - 4TH 16+25.00 (SEE SHEET 28)

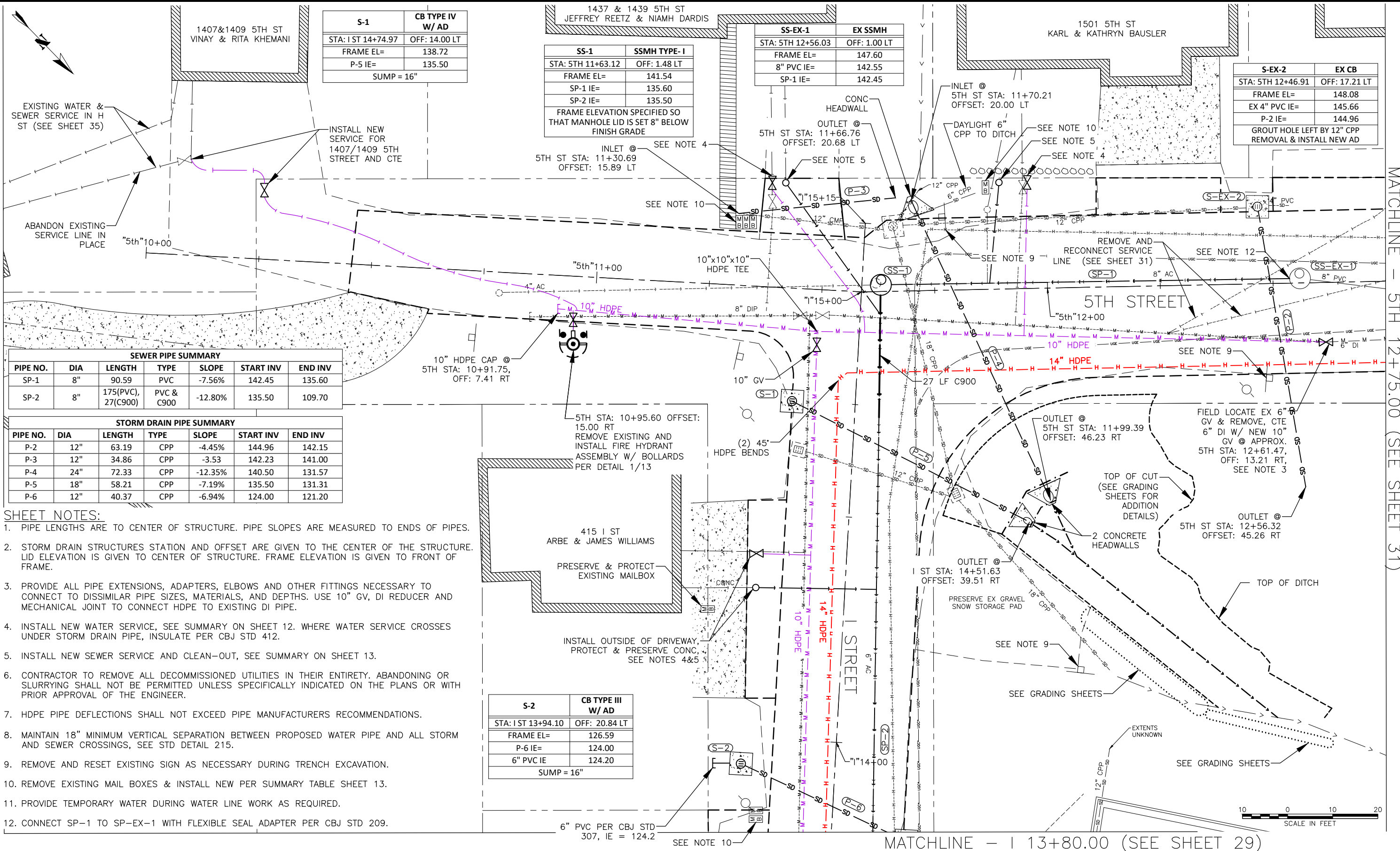


MATCHLINE - I 12+05.00 (SEE SHEET 36)

	RECORD OF REVISIONS				DRAWN BY: C. BYDLON DESIGNED BY: C. BYDLON CHECKED BY: L. CHAMBERS 1945 ALEX HOLDEN WAY #101 JUNEAU, AK 99801 (907) 780-4004 solutions@proHNS.com www.proHNS.com		DOUGLAS 4TH STREET UTILITIES AND DRAINAGE BE21-215	PLAN - 4TH 16+25 TO 17+65	SHEET NUMBER	
	No.	DATE	DESCRIPTION						BY	29
										OF
										46

MATCHLINE - 5TH 09+70.00 (SEE SHEET 34)

MATCHLINE - 5TH 12+75.00 (SEE SHEET 31)



SHEET NOTES:

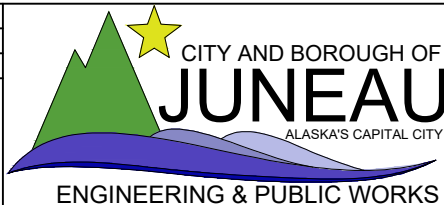
- PIPE LENGTHS ARE TO CENTER OF STRUCTURE. PIPE SLOPES ARE MEASURED TO ENDS OF PIPES.
- STORM DRAIN STRUCTURES STATION AND OFFSET ARE GIVEN TO THE CENTER OF THE STRUCTURE. LID ELEVATION IS GIVEN TO CENTER OF STRUCTURE. FRAME ELEVATION IS GIVEN TO FRONT OF FRAME.
- PROVIDE ALL PIPE EXTENSIONS, ADAPTERS, ELBOWS AND OTHER FITTINGS NECESSARY TO CONNECT TO DISSIMILAR PIPE SIZES, MATERIALS, AND DEPTHS. USE 10" GV, DI REDUCER AND MECHANICAL JOINT TO CONNECT HDPE TO EXISTING DI PIPE.
- INSTALL NEW WATER SERVICE, SEE SUMMARY ON SHEET 12. WHERE WATER SERVICE CROSSES UNDER STORM DRAIN PIPE, INSULATE PER CBJ STD 412.
- INSTALL NEW SEWER SERVICE AND CLEAN-OUT, SEE SUMMARY ON SHEET 13.
- CONTRACTOR TO REMOVE ALL DECOMMISSIONED UTILITIES IN THEIR ENTIRETY. ABANDONING OR SLURRYING SHALL NOT BE PERMITTED UNLESS SPECIFICALLY INDICATED ON THE PLANS OR WITH PRIOR APPROVAL OF THE ENGINEER.
- HDPE PIPE DEFLECTIONS SHALL NOT EXCEED PIPE MANUFACTURERS RECOMMENDATIONS.
- MAINTAIN 18" MINIMUM VERTICAL SEPARATION BETWEEN PROPOSED WATER PIPE AND ALL STORM AND SEWER CROSSINGS, SEE STD DETAIL 215.
- REMOVE AND RESET EXISTING SIGN AS NECESSARY DURING TRENCH EXCAVATION.
- REMOVE EXISTING MAIL BOXES & INSTALL NEW PER SUMMARY TABLE SHEET 13.
- PROVIDE TEMPORARY WATER DURING WATER LINE WORK AS REQUIRED.
- CONNECT SP-1 TO SP-EX-1 WITH FLEXIBLE SEAL ADAPTER PER CBJ STD 209.



RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY
1	3/15/2021	ADDED SD TO BE REMOVED AT TOP OF I ST.	LC



DRAWN BY:	C. BYDLON
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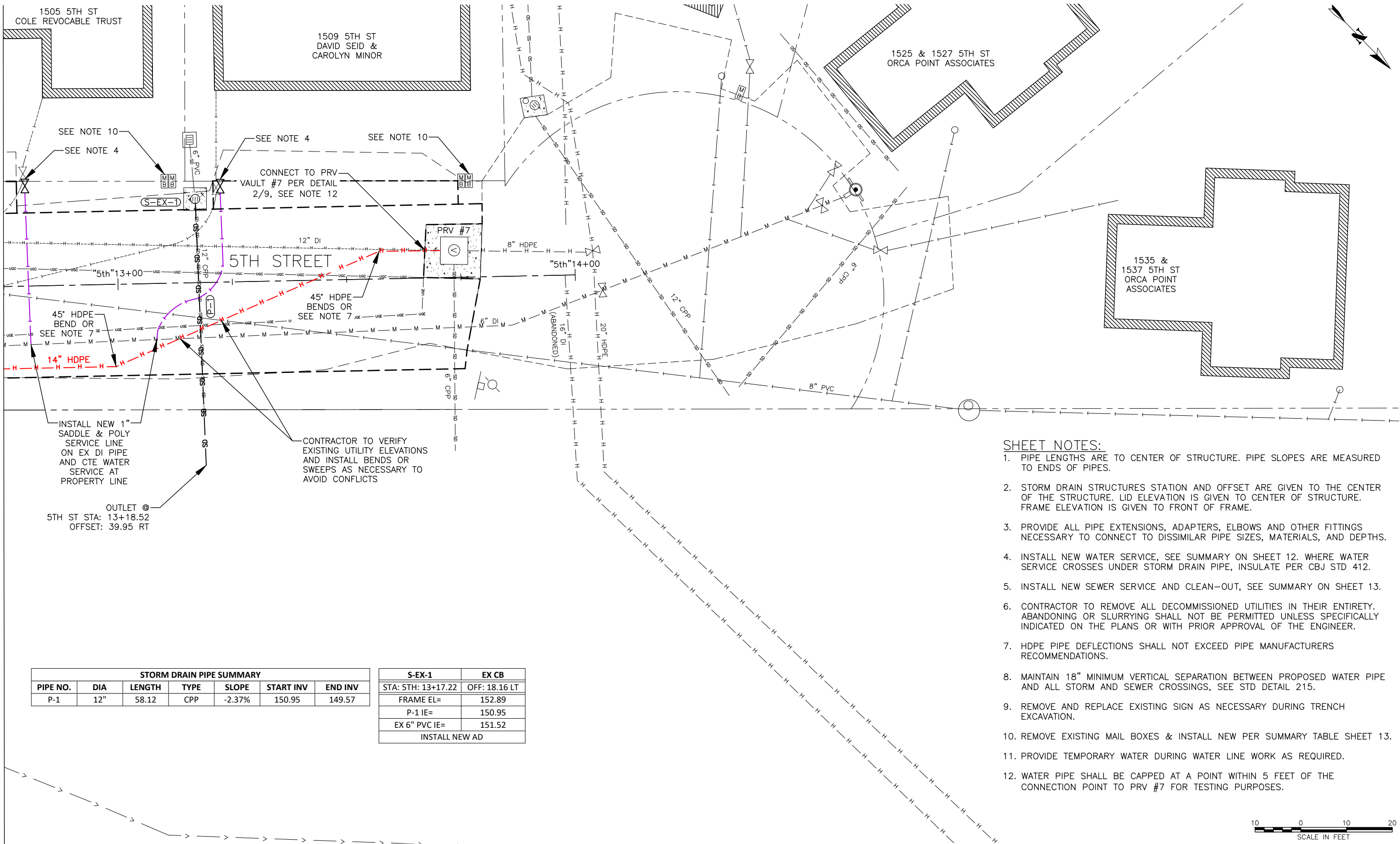


DOUGLAS 4TH STREET
UTILITIES AND DRAINAGE
BE21-215

PLAN - 5TH 10+00 TO
12+75

SHEET NUMBER	
30	OF
46	

MATCHLINE - 5TH 12+75.00 (SEE SHEET 30)



- SHEET NOTES:**
- PIPE LENGTHS ARE TO CENTER OF STRUCTURE. PIPE SLOPES ARE MEASURED TO ENDS OF PIPES.
 - STORM DRAIN STRUCTURES STATION AND OFFSET ARE GIVEN TO THE CENTER OF THE STRUCTURE. LID ELEVATION IS GIVEN TO CENTER OF STRUCTURE. FRAME ELEVATION IS GIVEN TO FRONT OF FRAME.
 - PROVIDE ALL PIPE EXTENSIONS, ADAPTERS, ELBOWS AND OTHER FITTINGS NECESSARY TO CONNECT TO DISSIMILAR PIPE SIZES, MATERIALS, AND DEPTHS.
 - INSTALL NEW WATER SERVICE, SEE SUMMARY ON SHEET 12. WHERE WATER SERVICE CROSSES UNDER STORM DRAIN PIPE, INSULATE PER CBJ STD 412.
 - INSTALL NEW SEWER SERVICE AND CLEAN-OUT, SEE SUMMARY ON SHEET 13.
 - CONTRACTOR TO REMOVE ALL DECOMMISSIONED UTILITIES IN THEIR ENTIRETY. ABANDONING OR SLURRYING SHALL NOT BE PERMITTED UNLESS SPECIFICALLY INDICATED ON THE PLANS OR WITH PRIOR APPROVAL OF THE ENGINEER.
 - HDPE PIPE DEFLECTIONS SHALL NOT EXCEED PIPE MANUFACTURERS RECOMMENDATIONS.
 - MAINTAIN 18" MINIMUM VERTICAL SEPARATION BETWEEN PROPOSED WATER PIPE AND ALL STORM AND SEWER CROSSINGS, SEE STD DETAIL 215.
 - REMOVE AND REPLACE EXISTING SIGN AS NECESSARY DURING TRENCH EXCAVATION.
 - REMOVE EXISTING MAIL BOXES & INSTALL NEW PER SUMMARY TABLE SHEET 13.
 - PROVIDE TEMPORARY WATER DURING WATER LINE WORK AS REQUIRED.
 - WATER PIPE SHALL BE CAPPED AT A POINT WITHIN 5 FEET OF THE CONNECTION POINT TO PRV #7 FOR TESTING PURPOSES.

STORM DRAIN PIPE SUMMARY						
PIPE NO.	DIA	LENGTH	TYPE	SLOPE	START INV	END INV
P-1	12"	58.12	CPP	-2.37%	150.95	149.57

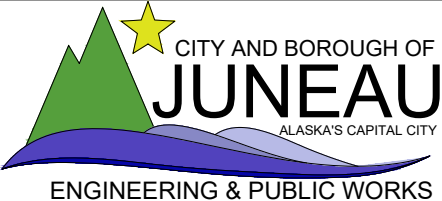
S-EX-1	EX CB
STA: 5TH: 13+17.22	OFF: 18.16 LT
FRAME EL=	152.89
P-1 IE=	150.95
EX 6" PVC IE=	151.52
INSTALL NEW AD	



RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY



DRAWN BY:	C. BYDLON
DESIGNED BY:	C. BYDLON
CHECKED BY:	L. CHAMBERS
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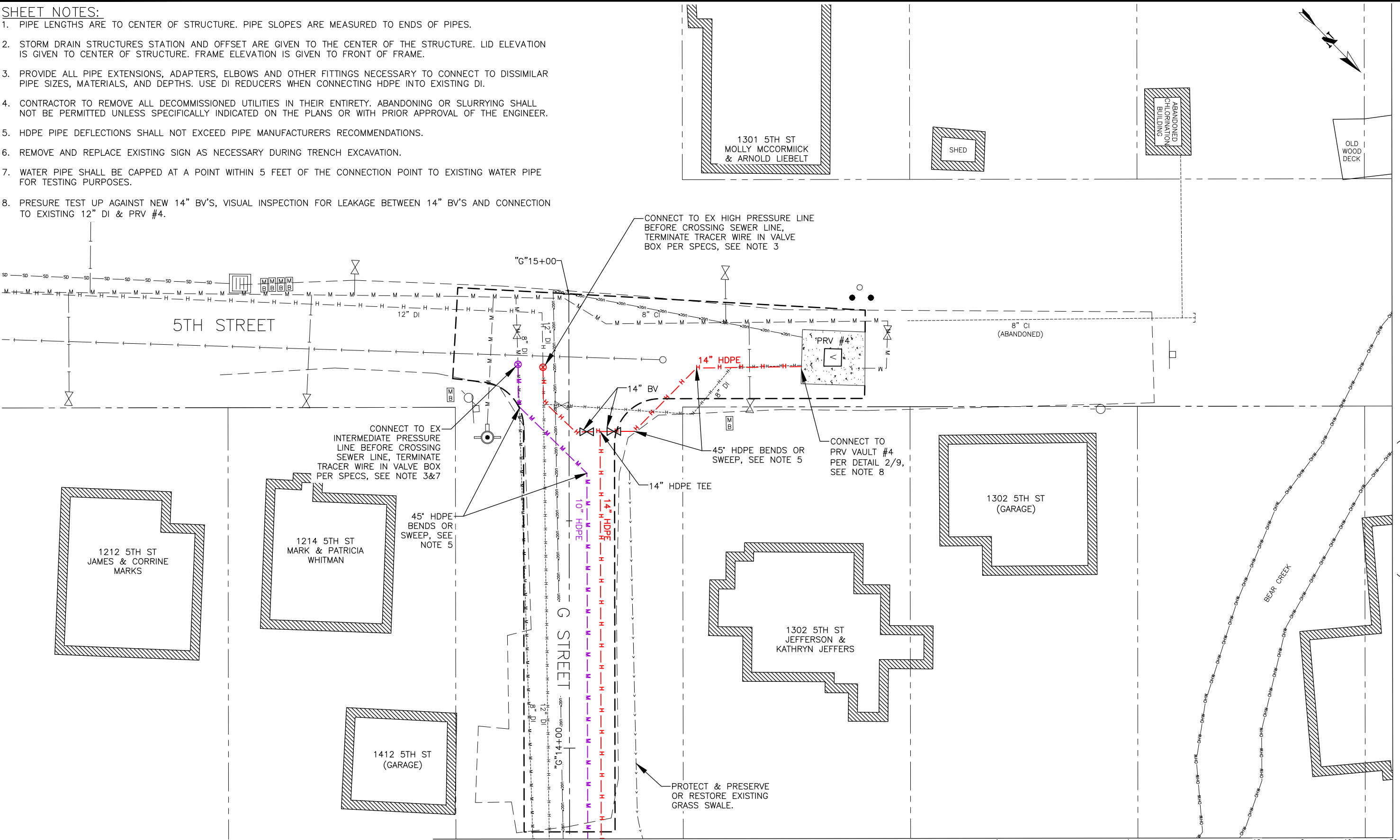
DOUGLAS 4TH STREET UTILITIES AND DRAINAGE
BE21-215

PLAN - 5TH 12+75 TO 14+00

SHEET NUMBER	
31	OF
46	

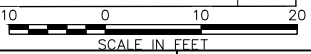
SHEET NOTES:

- 1. PIPE LENGTHS ARE TO CENTER OF STRUCTURE. PIPE SLOPES ARE MEASURED TO ENDS OF PIPES.
- 2. STORM DRAIN STRUCTURES STATION AND OFFSET ARE GIVEN TO THE CENTER OF THE STRUCTURE. LID ELEVATION IS GIVEN TO CENTER OF STRUCTURE. FRAME ELEVATION IS GIVEN TO FRONT OF FRAME.
- 3. PROVIDE ALL PIPE EXTENSIONS, ADAPTERS, ELBOWS AND OTHER FITTINGS NECESSARY TO CONNECT TO DISSIMILAR PIPE SIZES, MATERIALS, AND DEPTHS. USE DI REDUCERS WHEN CONNECTING HDPE INTO EXISTING DI.
- 4. CONTRACTOR TO REMOVE ALL DECOMMISSIONED UTILITIES IN THEIR ENTIRETY. ABANDONING OR SLURRYING SHALL NOT BE PERMITTED UNLESS SPECIFICALLY INDICATED ON THE PLANS OR WITH PRIOR APPROVAL OF THE ENGINEER.
- 5. HDPE PIPE DEFLECTIONS SHALL NOT EXCEED PIPE MANUFACTURERS RECOMMENDATIONS.
- 6. REMOVE AND REPLACE EXISTING SIGN AS NECESSARY DURING TRENCH EXCAVATION.
- 7. WATER PIPE SHALL BE CAPPED AT A POINT WITHIN 5 FEET OF THE CONNECTION POINT TO EXISTING WATER PIPE FOR TESTING PURPOSES.
- 8. PRESURE TEST UP AGAINST NEW 14" BV'S, VISUAL INSPECTION FOR LEAKAGE BETWEEN 14" BV'S AND CONNECTION TO EXISTING 12" DI & PRV #4.



MATCHLINE - H OFFSET 68.50 (SEE SHEET 34)

MATCHLINE - G 13+80.00 (SEE SHEET 27)



RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY

CERTIFICATE OF AUTHORIZATION #100662

1945 ALEX HOLDEN WAY #101
JUNEAU, AK 99801
(907) 780-4004

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CITY AND BOROUGH OF
JUNEAU
ALASKA'S CAPITAL CITY

ENGINEERING & PUBLIC WORKS

DOUGLAS 4TH STREET
UTILITIES AND DRAINAGE

BE21-215

SHEET NUMBER	
32	OF
46	

March 12, 2021

MATCHLINE - G 12+05.00 (SEE SHEET 27)

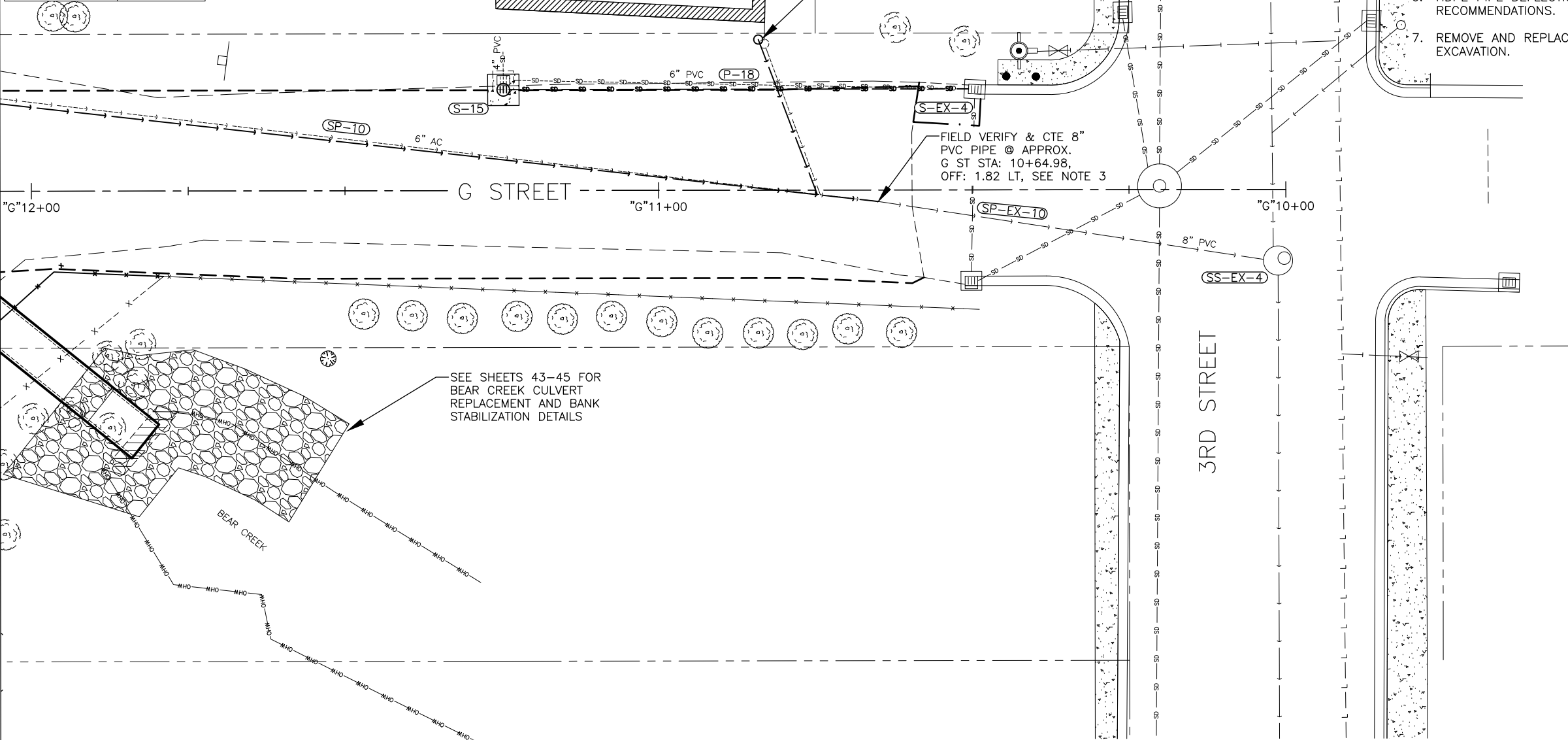
STORM DRAIN PIPE SUMMARY						
PIPE NO.	DIA	LENGTH	TYPE	SLOPE	START INV	END INV
P-18	12"	75.17	CPP	-2.10%	77.30	75.72

SEWER PIPE SUMMARY						
PIPE NO.	DIA	LENGTH	TYPE	SLOPE	START INV	END INV
SP-10	8"	171.22	PVC	-2.87%	78.89	73.98
SP-EX-10	8"	61.38	PVC	-2.90%	73.98	72.20

S-15	CB TYPE-III W/ AD
STA: G 11+24.73	OFF: 16.00 RT
FRAME EL=	79.65
P-18 IE=	77.30
EX 4" PVC IE=	78.65
SUMP = 16"	

SS-EX-4	EX SSMH
STA: G ST 10+01.25	OFF: 11.32 LT
FRAME EL=	77.10
SP-EX-10	72.20

S-EX-4	EX CB
STA: G ST 10+49.56	OFF: 16.05 RT
FRAME EL=	77.72
P-18 IE=	75.72



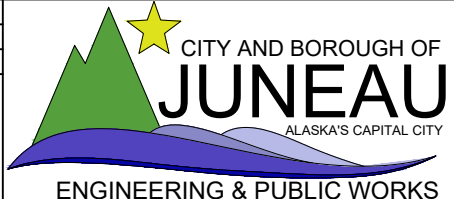
- SHEET NOTES:**
- PIPE LENGTHS ARE TO CENTER OF STRUCTURE. PIPE SLOPES ARE MEASURED TO ENDS OF PIPES.
 - STORM DRAIN STRUCTURES STATION AND OFFSET ARE GIVEN TO THE CENTER OF THE STRUCTURE. LID ELEVATION IS GIVEN TO CENTER OF STRUCTURE. FRAME ELEVATION IS GIVEN TO FRONT OF FRAME.
 - PROVIDE ALL PIPE EXTENSIONS, ADAPTERS, ELBOWS AND OTHER FITTINGS NECESSARY TO CONNECT TO DISSIMILAR PIPE SIZES, MATERIALS, AND DEPTHS. USE LSS-1 COUPLER TO CONNECT SEWER.
 - INSTALL NEW SEWER SERVICE AND CLEAN-OUT, SEE SUMMARY ON SHEET 13.
 - CONTRACTOR TO REMOVE ALL DECOMMISSIONED UTILITIES IN THEIR ENTIRETY. ABANDONING OR SLURRYING SHALL NOT BE PERMITTED UNLESS SPECIFICALLY INDICATED ON THE PLANS OR WITH PRIOR APPROVAL OF THE ENGINEER.
 - HDPE PIPE DEFLECTIONS SHALL NOT EXCEED PIPE MANUFACTURERS RECOMMENDATIONS.
 - REMOVE AND REPLACE EXISTING SIGN AS NECESSARY DURING TRENCH EXCAVATION.



RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY



DRAWN BY:	C. BYDLON
DESIGNED BY:	C. BYDLON
CHECKED BY:	L. CHAMBERS
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DOUGLAS 4TH STREET
UTILITIES AND DRAINAGE

BE21-215

PLAN - LOWER G
STREET

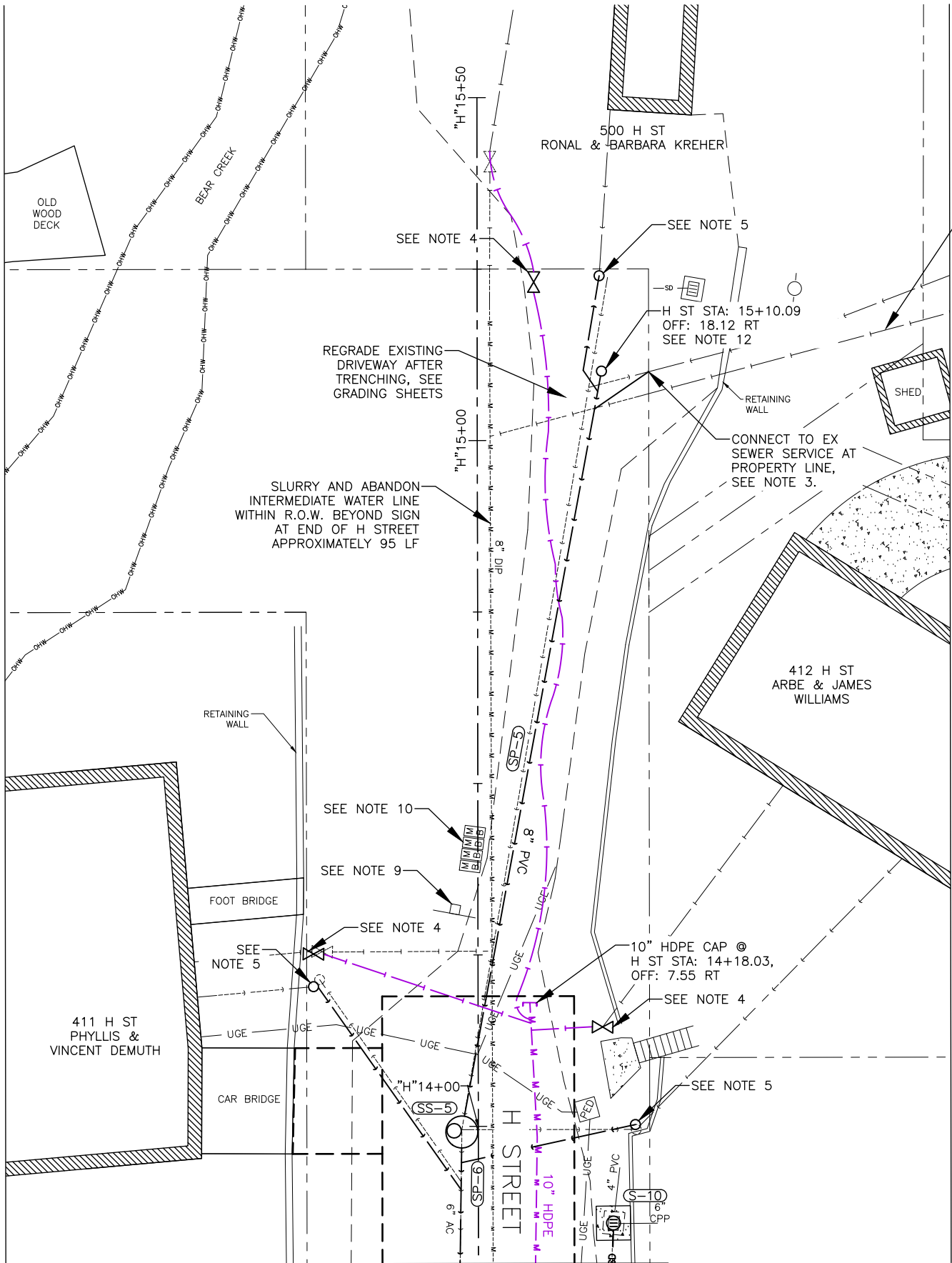
SHEET NUMBER	
33	OF
46	

SEWER PIPE SUMMARY						
PIPE NO.	DIA	LENGTH	TYPE	SLOPE	START INV	END INV
SP-5	8"	112.80	PVC	-0.50%	96.76	96.20
SP-6	8"	83(PVC), 30(C900)	PVC & C900	-1.36%	96.00	93.80

SS-5	SSMH TYPE-I
STA: H 13+99.18	OFF: 2.40 LT
FRAME EL=	104.79
SP-5 IE=	96.20
SP-6 IE=	96.00
FRAME ELEVATION SPECIFIED SO THAT MANHOLE LID IS SET 8" BELOW FINISH GRADE	

S-10	CB TYPE-III W/ AD
STA: H 13+85.87	OFF: 19.72 RT
FRAME EL=	105.00
P-13 IE=	102.50
EX 6" CPP (NW)	103.65
EX 4" PVC (SW)	103.40
SUMP = 16"	

MATCHLINE - H OFFSET 68.50 (SEE SHEET 32)



MATCHLINE - 5TH 09+70.00 (SEE SHEET 30)

SHEET NOTES:

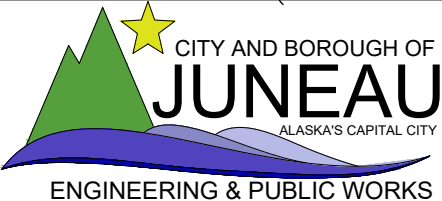
- PIPE LENGTHS ARE TO CENTER OF STRUCTURE. PIPE SLOPES ARE MEASURED TO ENDS OF PIPES.
- STORM DRAIN STRUCTURES STATION AND OFFSET ARE GIVEN TO THE CENTER OF THE STRUCTURE. LID ELEVATION IS GIVEN TO CENTER OF STRUCTURE. FRAME ELEVATION IS GIVEN TO FRONT OF FRAME.
- PROVIDE ALL PIPE EXTENSIONS, ADAPTERS, ELBOWS AND OTHER FITTINGS NECESSARY TO CONNECT TO DISSIMILAR PIPE SIZES, MATERIALS, AND DEPTHS. USE LSS-1 COUPLER TO CONNECT SEWER PIPES.
- INSTALL NEW WATER SERVICE, SEE SUMMARY ON SHEET 12. WHERE WATER SERVICE CROSSES UNDER STORM DRAIN PIPE, INSULATE PER CBJ STD 412.
- INSTALL NEW SEWER SERVICE AND CLEAN-OUT, SEE SUMMARY ON SHEET 13.
- CONTRACTOR TO REMOVE ALL DECOMMISSIONED UTILITIES IN THEIR ENTIRETY. ABANDONING OR SLURRYING SHALL NOT BE PERMITTED UNLESS SPECIFICALLY INDICATED ON THE PLANS OR WITH PRIOR APPROVAL OF THE ENGINEER.
- HDPE PIPE DEFLECTIONS SHALL NOT EXCEED PIPE MANUFACTURERS RECOMMENDATIONS.
- MAINTAIN 18" MINIMUM VERTICAL SEPARATION BETWEEN PROPOSED WATER PIPE AND ALL STORM AND SEWER CROSSINGS, SEE STD DETAIL 215.
- REMOVE AND RESET EXISTING SIGN AS NECESSARY DURING TRENCH EXCAVATION.
- PRESERVE & PROTECT MAIL BOXES FOR 403, 411, 412 AND 500 H STREET.
- PROVIDE TEMPORARY WATER DURING WATER LINE WORK AS REQUIRED.
- INSTALL MAIN LINE CLEAN-OUT WITH RING & COVER PER CBJ STD 208. CONTRACTOR TO FIELD VERIFY DEPTH OF SERVICE LATERALS TO 500 H ST AND 1407/1409 5TH ST. SET CLEAN-OUT AT SUFFICIENT DEPTH TO ENSURE MIN 2.00% SLOPE BETWEEN MAINLINE CLEAN-OUT AND SS-5.



RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY



DRAWN BY:	C. BYDLON
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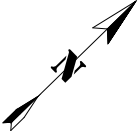
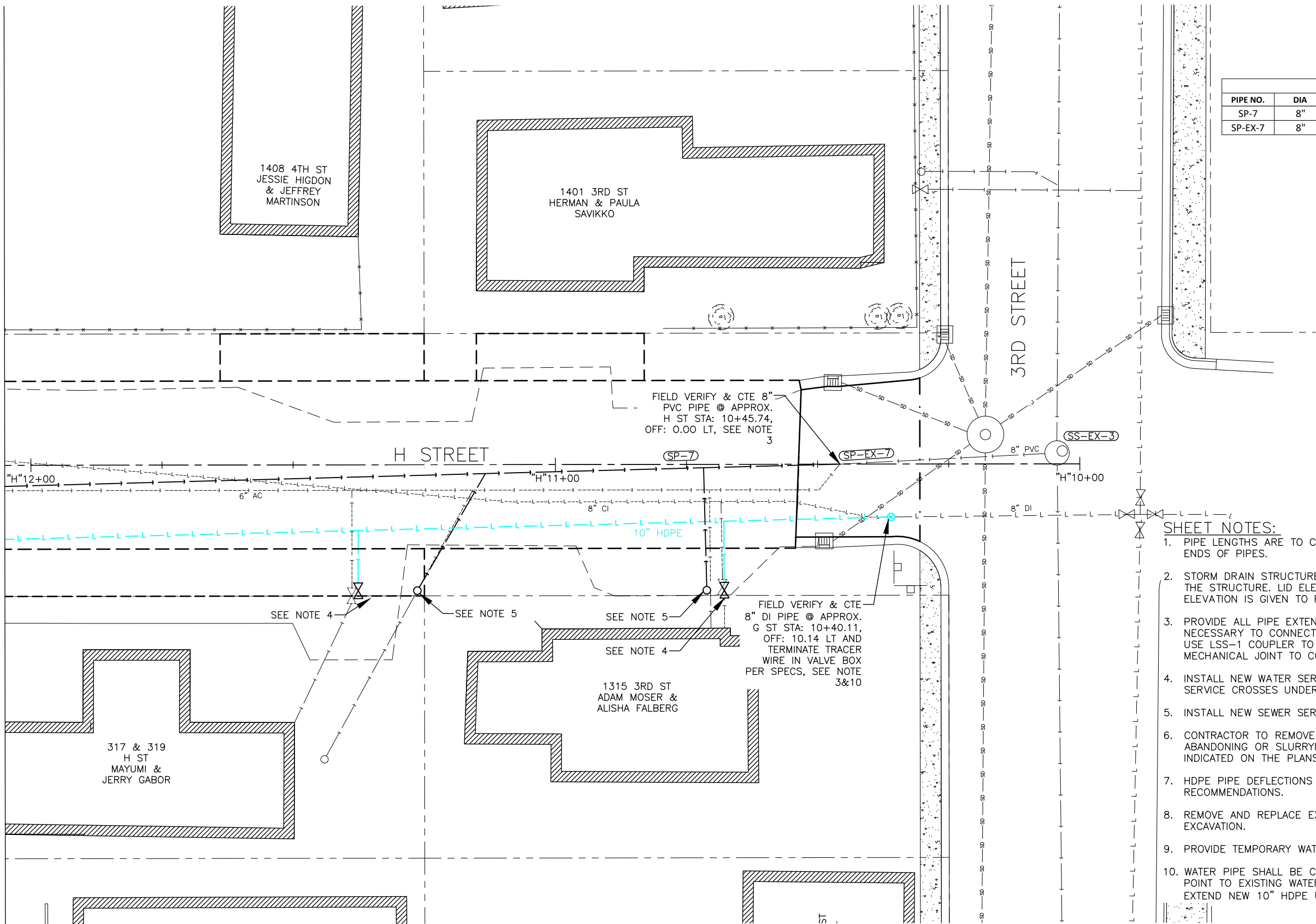


DOUGLAS 4TH STREET
UTILITIES AND DRAINAGE
BE21-215

PLAN - UPPER H
STREET

SHEET NUMBER	
34	OF
46	

MATCHLINE - H 12+05.00 (SEE SHEET 28)



SEWER PIPE SUMMARY						
PIPE NO.	DIA	LENGTH	TYPE	SLOPE	START INV	END INV
SP-7	8"	191.32	PVC	-5.06%	93.60	83.92
SP-EX-7	8"	39.03	PVC	-5.15%	83.92	81.91

SS-EX-3	EX SSMH
STA: H ST 10+04.33	OFF: 2.07 RT
FRAME EL=	89.79
SP-EX-7 IE =	81.91

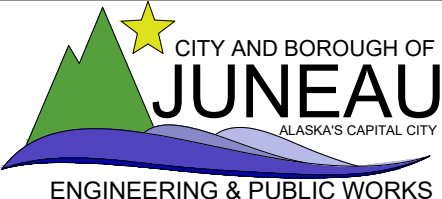
- SHEET NOTES:**
- PIPE LENGTHS ARE TO CENTER OF STRUCTURE. PIPE SLOPES ARE MEASURED TO ENDS OF PIPES.
 - STORM DRAIN STRUCTURES STATION AND OFFSET ARE GIVEN TO THE CENTER OF THE STRUCTURE. LID ELEVATION IS GIVEN TO CENTER OF STRUCTURE. FRAME ELEVATION IS GIVEN TO FRONT OF FRAME.
 - PROVIDE ALL PIPE EXTENSIONS, ADAPTERS, ELBOWS AND OTHER FITTINGS NECESSARY TO CONNECT TO DISSIMILAR PIPE SIZES, MATERIALS, AND DEPTHS. USE LSS-1 COUPLER TO CONNECT SEWER PIPES. USE DI REDUCER AND MECHANICAL JOINT TO CONNECT HDPE TO EXISTING DI PIPE.
 - INSTALL NEW WATER SERVICE, SEE SUMMARY ON SHEET 12. WHERE WATER SERVICE CROSSES UNDER STORM DRAIN PIPE, INSULATE PER CBJ STD 412.
 - INSTALL NEW SEWER SERVICE AND CLEAN-OUT, SEE SUMMARY ON SHEET 13.
 - CONTRACTOR TO REMOVE ALL DECOMMISSIONED UTILITIES IN THEIR ENTIRETY. ABANDONING OR SLURRYING SHALL NOT BE PERMITTED UNLESS SPECIFICALLY INDICATED ON THE PLANS OR WITH PRIOR APPROVAL OF THE ENGINEER.
 - HDPE PIPE DEFLECTIONS SHALL NOT EXCEED PIPE MANUFACTURERS RECOMMENDATIONS.
 - REMOVE AND REPLACE EXISTING SIGN AS NECESSARY DURING TRENCH EXCAVATION.
 - PROVIDE TEMPORARY WATER DURING WATER LINE WORK AS REQUIRED.
 - WATER PIPE SHALL BE CAPPED AT A POINT WITHIN 5 FEET OF THE CONNECTION POINT TO EXISTING WATER PIPE FOR TESTING PURPOSES. THE INTENT IS TO EXTEND NEW 10" HDPE UNDER AND PAST EXISTING STORM DRAIN.



RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY



DRAWN BY:	C. BYDLON
DESIGNED BY:	C. BYDLON
CHECKED BY:	L. CHAMBERS
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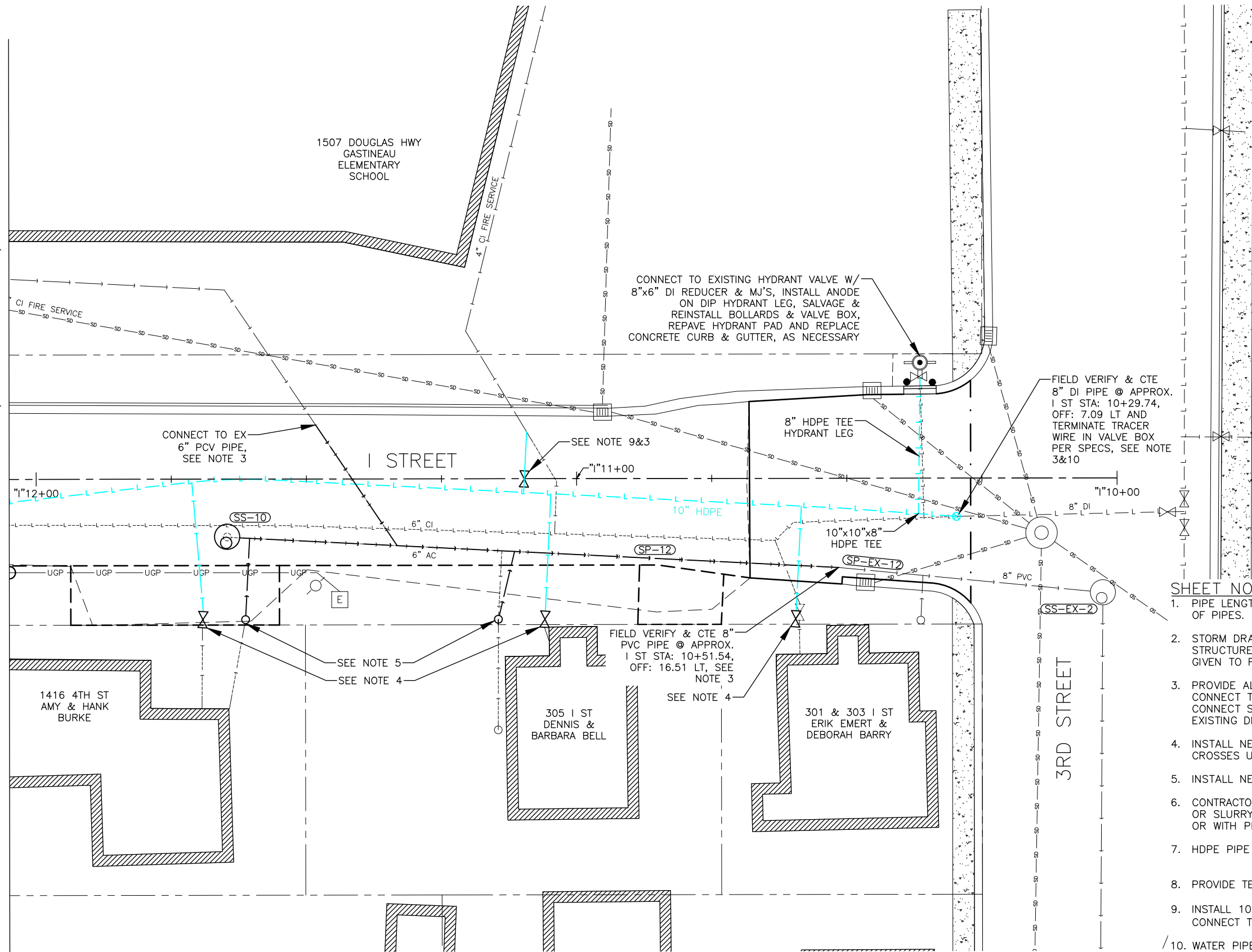
DOUGLAS 4TH STREET
UTILITIES AND DRAINAGE

BE21-215

PLAN - LOWER H
STREET

SHEET NUMBER	
35	OF
46	

MATCHLINE - I 12+05.00 (SEE SHEET 29)



SEWER PIPE SUMMARY						
PIPE NO.	DIA	LENGTH	TYPE	SLOPE	START INV	END INV
SP-12	8"	113.81	PVC	-5.02%	96.43	90.72
SP-EX-12	8"	45.64	PVC	-4.93%	90.72	88.47

SS-10	SSMH TYPE- I
STA: I ST 11+64.68	OFF: 10.66 LT
FRAME EL=	105.76
SP-11 IE=	96.43
FRAME ELEVATION SPECIFIED SO THAT MANHOLE LID IS SET 8" BELOW FINISH GRADE	

SS-EX-2	EX SSMH
STA: I ST 10+03.61	OFF: 21.18 LT
FRAME EL=	96.17
SP-EX-12 IE=	88.47

SHEET NOTES:

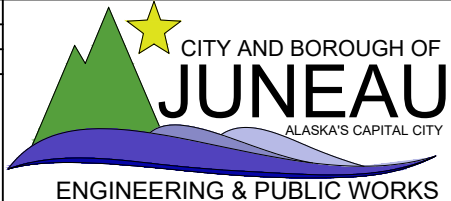
- PIPE LENGTHS ARE TO CENTER OF STRUCTURE. PIPE SLOPES ARE MEASURED TO ENDS OF PIPES.
- STORM DRAIN STRUCTURES STATION AND OFFSET ARE GIVEN TO THE CENTER OF THE STRUCTURE. LID ELEVATION IS GIVEN TO CENTER OF STRUCTURE. FRAME ELEVATION IS GIVEN TO FRONT OF FRAME.
- PROVIDE ALL PIPE EXTENSIONS, ADAPTERS, ELBOWS AND OTHER FITTINGS NECESSARY TO CONNECT TO DISSIMILAR PIPE SIZES, MATERIALS, AND DEPTHS. USE LSS-1 COUPLER TO CONNECT SEWER PIPES. USE DI REDUCER AND MECHANICAL JOINT TO CONNECT HDPE TO EXISTING DI PIPE.
- INSTALL NEW WATER SERVICE, SEE SUMMARY ON SHEET 12. WHERE WATER SERVICE CROSSES UNDER STORM DRAIN PIPE, INSULATE PER CBJ STD 412.
- INSTALL NEW SEWER SERVICE AND CLEAN-OUT, SEE SUMMARY ON SHEET 13.
- CONTRACTOR TO REMOVE ALL DECOMMISSIONED UTILITIES IN THEIR ENTIRETY. ABANDONING OR SLURRYING SHALL NOT BE PERMITTED UNLESS SPECIFICALLY INDICATED ON THE PLANS OR WITH PRIOR APPROVAL OF THE ENGINEER.
- HDPE PIPE DEFLECTIONS SHALL NOT EXCEED PIPE MANUFACTURERS RECOMMENDATIONS.
- PROVIDE TEMPORARY WATER DURING WATER LINE WORK AS REQUIRED.
- INSTALL 10"x10"x6" HDPE TEE W/ THRUST BLOCK, 6" GV, 6"x4" DI REDUCER & CONNECT TO EXISTING 4" DIP FIRE SERVICE LINE BEFORE CONCRETE CURB.
- WATER PIPE SHALL BE CAPPED AT A POINT WITHIN 5 FEET OF THE CONNECTION POINT TO EXISTING WATER PIPE FOR TESTING PURPOSES.



RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY



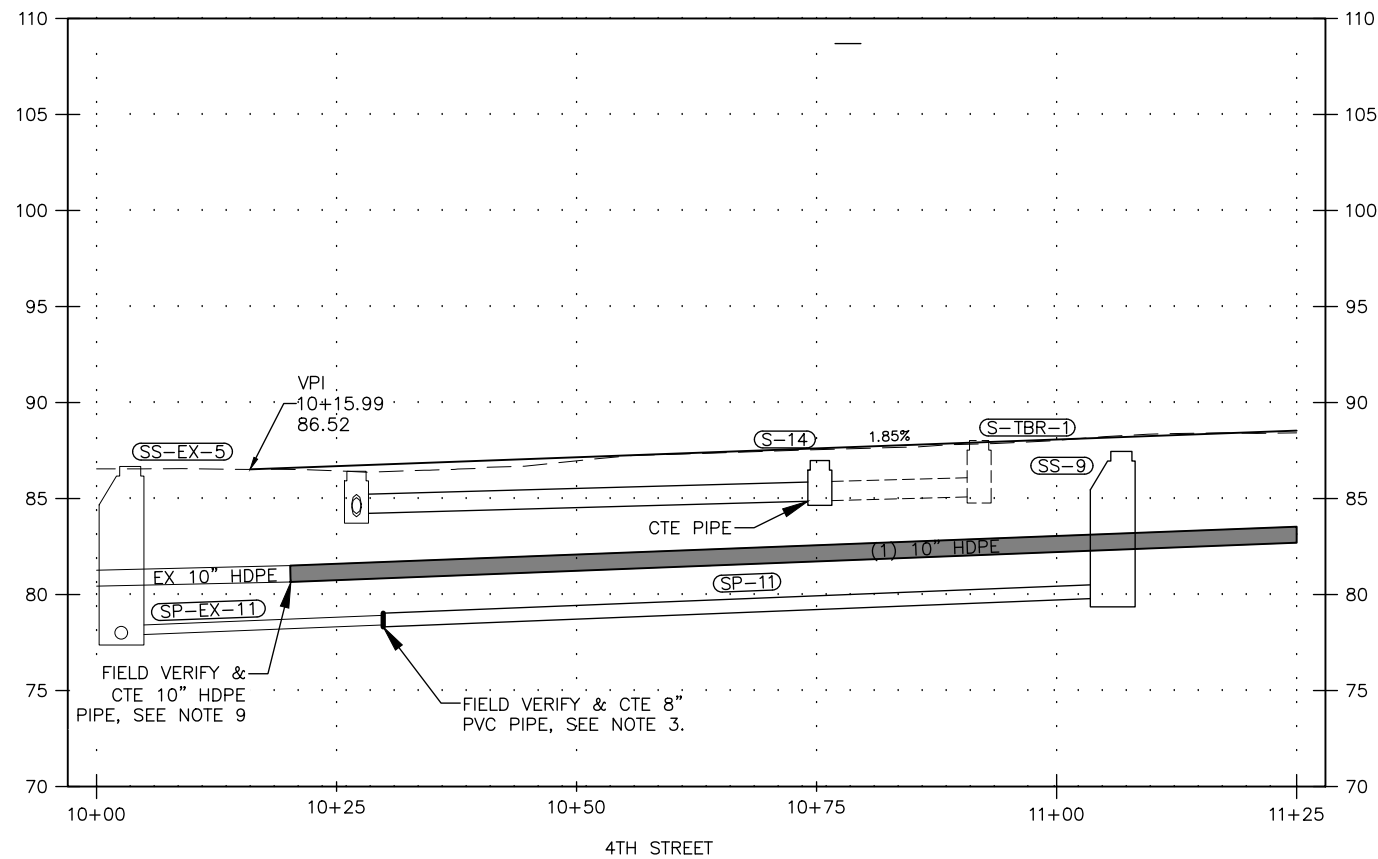
DRAWN BY:	C. BYDLON
DESIGNED BY:	C. BYDLON
CHECKED BY:	L. CHAMBERS
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DOUGLAS 4TH STREET
UTILITIES AND DRAINAGE
BE21-215

PLAN - LOWER I
STREET

SHEET NUMBER	
36	OF
46	



SEWER PIPE SUMMARY						
PIPE NO.	DIA	LENGTH	TYPE	SLOPE	START INV	END INV
SP-8	8"	98.31	PVC	-2.00%	80.96	78.99
SP-9	8"	76.00	PVC	-0.50%	79.47	79.09
SP-11	8"	76.01	PVC	-2.00%	79.86	78.37
SP-EX-11	8"	25.00	PVC	-2.00%	78.37	77.87

STORM DRAIN PIPE SUMMARY						
PIPE NO.	DIA	LENGTH	TYPE	SLOPE	START INV	END INV
P-EX-1	12"	64.89	CPP	-1.37%	85.10	84.98
P-15	18"	96.74	CPP	-6.93%	90.90	84.20
P-16	12"	39.87	CPP	-3.26%	86.50	85.20
P-17	18"	17.32	CPP	-8.66%	79.50	78.00

S-12	SDMH - TYPE II W/ AD*
STA: 4TH 13+16.65	OFF: 19.00 LT
FRAME EL=	88.07
P-15 IE=	84.20
P-16 IE=	85.20
P-17 IE=	79.50

S-13	CB TYPE-III W/ AD
STA: 4TH 13+33.00	OFF: 17.37 RT
FRAME EL=	89.40
P-16 IE=	86.50
6" PVC IE=	86.60

S-14	CB TYPE-III W/ AD
STA: 4TH 10+75.34	OFF: 11.72 LT
FRAME EL=	86.98
P-EX-1 IE=	84.98

SS-6	SSMH TYPE- I
STA: 4TH 13+65.62	OFF: 12.90 RT
FRAME EL=	90.74
SP-8 IE=	80.96
FRAME ELEVATION SPECIFIED SO THAT MANHOLE LID IS SET 8" BELOW FINISH GRADE	

SS-7	SSMH TYPE- I*
STA: 4TH 12+67.33	OFF: 14.88 RT
FRAME EL=	86.45
SP-8 IE=	78.99
SP-9 IE=	79.09
SP-10 IE=	78.89
FRAME ELEVATION SPECIFIED SO THAT MANHOLE LID IS SET 8" BELOW FINISH GRADE	
*W/ FIBERGLASS BASE LINER	

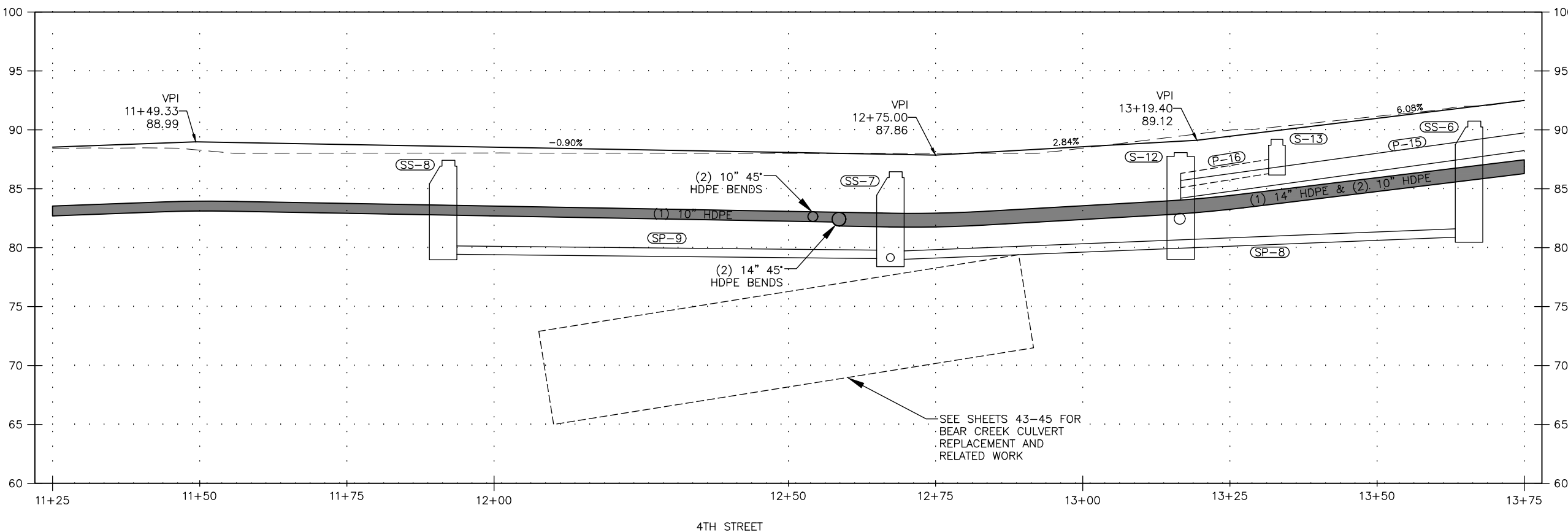
SS-8	SSMH TYPE- I
STA: 4TH 11+91.36	OFF: 13.00 RT
FRAME EL=	87.42
SP-9 IE=	79.47
FRAME ELEVATION SPECIFIED SO THAT MANHOLE LID IS SET 8" BELOW FINISH GRADE	

SS-9	SSMH TYPE- I
STA: 4TH 11+05.84	OFF: 1.45 RT
FRAME EL=	87.45
SP-11 IE=	79.86
FRAME ELEVATION SPECIFIED SO THAT MANHOLE LID IS SET 8" BELOW FINISH GRADE	

SS-EX-5	EX SSMH
STA: 4TH 10+02.60	OFF: 0.52 LT
FRAME EL=	86.67
SP-11 IE=	77.87

S-TBR-1	EX CB
STA: 4TH 10+91.93	OFF: 11.36 LT
FRAME EL=	88.02
P-EX-1 IE=	85.10

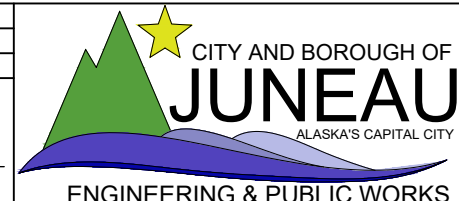
- SHEET NOTES:**
- PIPE LENGTHS ARE TO CENTER OF STRUCTURE. PIPE SLOPES ARE MEASURED TO ENDS OF PIPES.
 - STORM DRAIN STRUCTURES STATION AND OFFSET ARE GIVEN TO THE CENTER OF THE STRUCTURE. LID ELEVATION IS GIVEN TO CENTER OF STRUCTURE. FRAME ELEVATION IS GIVEN TO FRONT OF FRAME.
 - PROVIDE ALL PIPE EXTENSIONS, ADAPTERS, ELBOWS AND OTHER FITTINGS NECESSARY TO CONNECT TO DISSIMILAR PIPE SIZES, MATERIALS, AND DEPTHS. USE LSS-1 COUPLER TO CONNECT SEWER PIPES.
 - CONTRACTOR TO REMOVE ALL DECOMMISSIONED UTILITIES IN THEIR ENTIRETY. ABANDONING OR SLURRYING SHALL NOT BE PERMITTED UNLESS SPECIFICALLY INDICATED ON THE PLANS OR WITH PRIOR APPROVAL OF THE ENGINEER.
 - HDPE PIPE DEFLECTIONS SHALL NOT EXCEED PIPE MANUFACTURERS RECOMMENDATIONS.
 - MAINTAIN 18" MINIMUM VERTICAL SEPARATION BETWEEN PROPOSED WATER PIPE AND ALL STORM AND SEWER CROSSINGS, SEE STD DETAIL 215.
 - REMOVE EXISTING 45' HDPE BENDS. BUTT FUSE NEW WATER LINE TO EXISTING WATER LINE INSIDE THE TRENCH. WATER PIPE SHALL BE CAPPED AT A POINT WITHIN 5 FEET OF THE CONNECTION POINT TO EXISTING WATER PIPE FOR TESTING PURPOSES. SPLICE NEW TRACER WIRE TO EXISTING TRACER WIRE W/ DRYCONN WATERPROOF DIRECT BURY LUGS.
 - PROVIDE TEMPORARY WATER DURING WATER LINE WORK AS REQUIRED.
 - REMOVE EXISTING 45' HDPE BENDS. BUTT FUSE NEW WATER LINE TO EXISTING WATER LINE INSIDE THE TRENCH. WATER PIPE SHALL BE CAPPED AT A POINT WITHIN 5 FEET OF THE CONNECTION POINT TO EXISTING WATER PIPE FOR TESTING PURPOSES. SPLICE NEW TRACER WIRE TO EXISTING TRACER WIRE W/ DRYCONN WATERPROOF DIRECT BURY LUGS.



RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY



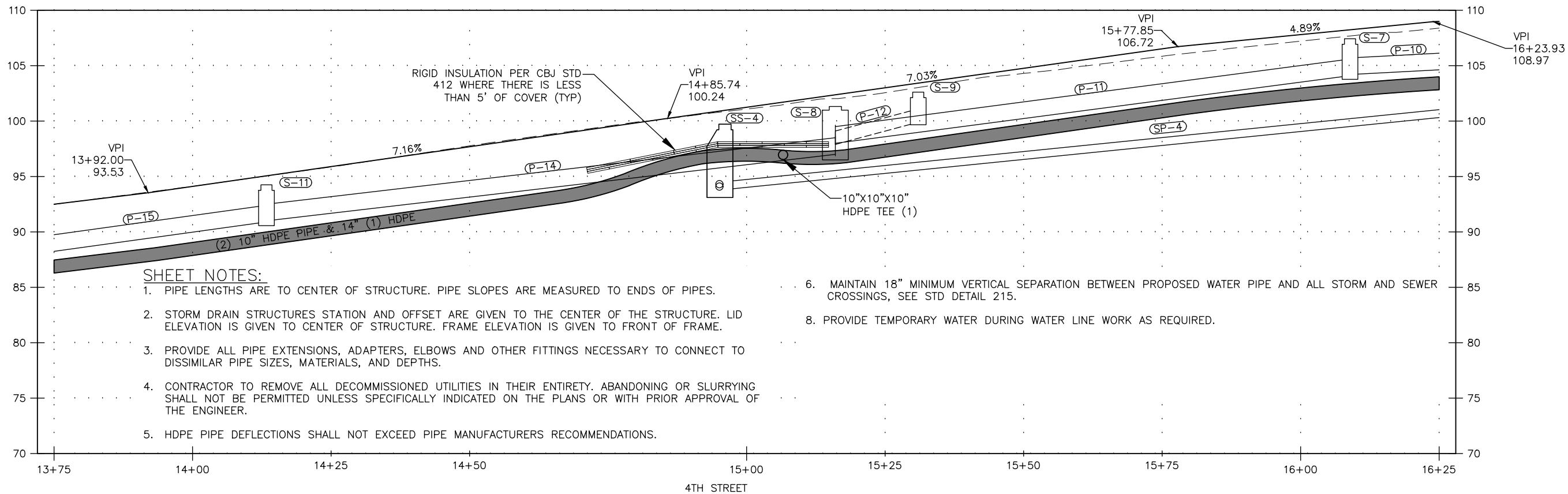
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DESIGNED BY:	C. BYDLON
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DOUGLAS 4TH STREET
UTILITIES AND DRAINAGE
BE21-215

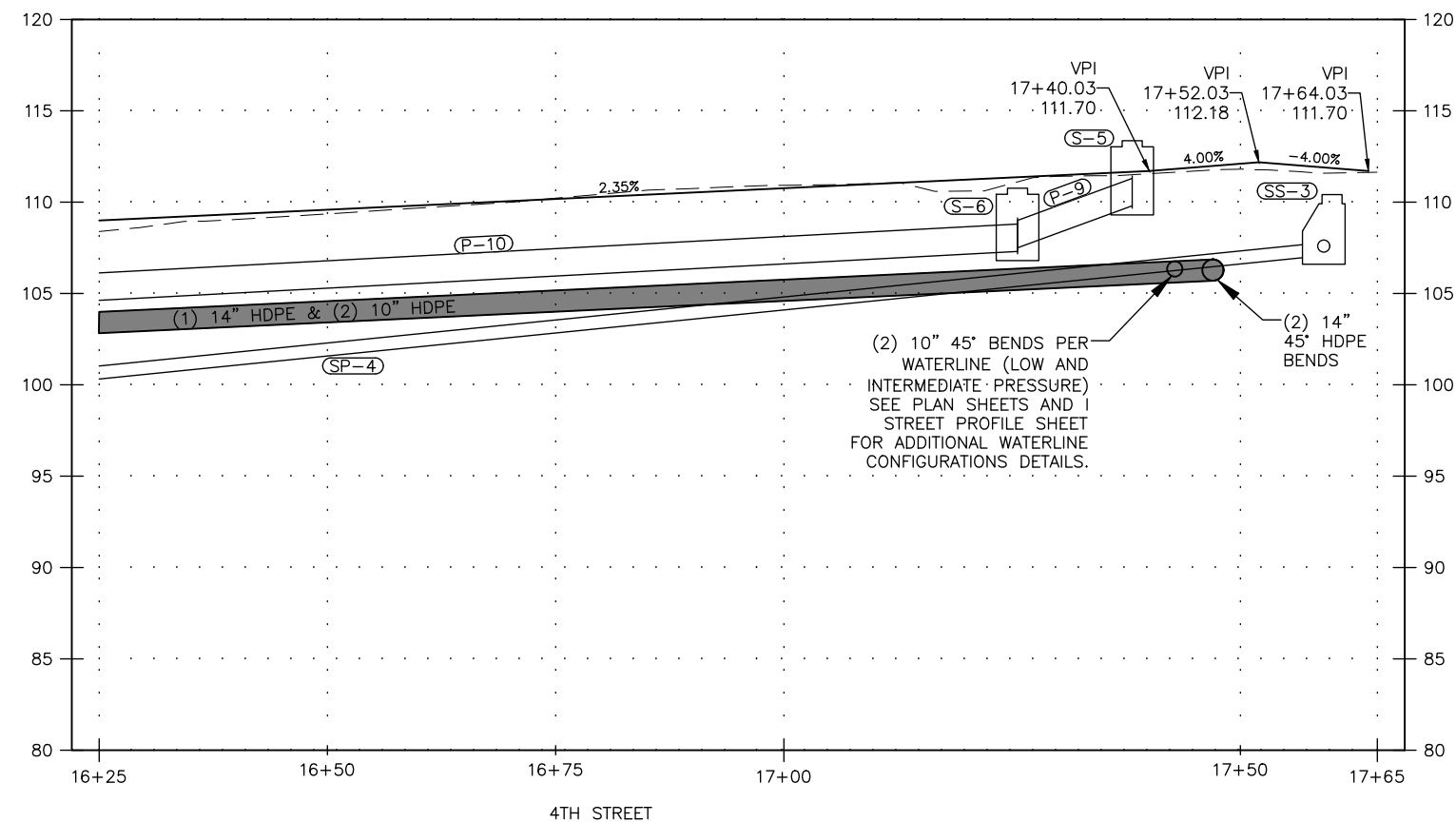
PROFILE - 4TH
STREET 10+00 TO
15+30

SHEET NUMBER	
37	OF
46	



SHEET NOTES:

1. PIPE LENGTHS ARE TO CENTER OF STRUCTURE. PIPE SLOPES ARE MEASURED TO ENDS OF PIPES.
2. STORM DRAIN STRUCTURES STATION AND OFFSET ARE GIVEN TO THE CENTER OF THE STRUCTURE. LID ELEVATION IS GIVEN TO CENTER OF STRUCTURE. FRAME ELEVATION IS GIVEN TO FRONT OF FRAME.
3. PROVIDE ALL PIPE EXTENSIONS, ADAPTERS, ELBOWS AND OTHER FITTINGS NECESSARY TO CONNECT TO DISSIMILAR PIPE SIZES, MATERIALS, AND DEPTHS.
4. CONTRACTOR TO REMOVE ALL DECOMMISSIONED UTILITIES IN THEIR ENTIRETY. ABANDONING OR SLURRYING SHALL NOT BE PERMITTED UNLESS SPECIFICALLY INDICATED ON THE PLANS OR WITH PRIOR APPROVAL OF THE ENGINEER.
5. HDPE PIPE DEFLECTIONS SHALL NOT EXCEED PIPE MANUFACTURERS RECOMMENDATIONS.
6. MAINTAIN 18" MINIMUM VERTICAL SEPARATION BETWEEN PROPOSED WATER PIPE AND ALL STORM AND SEWER CROSSINGS, SEE STD DETAIL 215.
8. PROVIDE TEMPORARY WATER DURING WATER LINE WORK AS REQUIRED.



S-5	SDMH - TYPE I W/ AD
STA: 1 ST 12+79.51	OFF: 13.84 LT
FRAME EL=	113.36
P-8 IE=	110.00
P-9 IE=	109.80
6" PVC IE=	110.00

S-6	SDMH - TYPE I W/ AD
STA: 4TH 17+25.60	OFF: 16.00 LT
FRAME EL=	110.76
P-9 IE=	107.50
P-10 IE=	107.30
6" PVC IE=	108.50

S-7	CB TYPE IV W/ AD
STA: 4TH 16+08.91	OFF: 16.00 LT
FRAME EL=	107.43
P-10 IE=	104.20
P-11 IE=	104.10
6" PVC IE=	104.20

S-8	SDMH TYPE-I W/ AD
STA: 4TH 15+16.02	OFF: 18.00 LT
FRAME EL=	101.45
P-11 IE=	98.00
P-12 IE=	98.00
P-13 IE=	97.20
P-14 IE=	97.00

STORM DRAIN PIPE SUMMARY						
PIPE NO.	DIA	LENGTH	TYPE	SLOPE	START INV	END INV
P-9	18"	18.45	CPP	-12.47%	109.80	107.50
P-10	18"	116.69	CPP	-2.66%	107.30	104.20
P-11	18"	92.91	CPP	-6.57%	104.10	98.00
P-12	12"	37.15	CPP	-5.38%	100.00	98.00
P-13	12"	117.93	CPP	-4.49%	102.50	97.20
P-14	18"	102.70	CPP	-5.84%	97.00	91.00
P-15	18"	96.74	CPP	-6.93%	90.90	84.20

SEWER PIPE SUMMARY						
PIPE NO.	DIA	LENGTH	TYPE	SLOPE	START INV	END INV
SP-4	8"	241(PVC), 23(C900)	PVC & C900	-5.04%	107.10	93.80

S-9	CB TYPE-III W/ AD
STA: 4TH 15+30.98	OFF: 16.00 RT
FRAME EL=	102.62
P-12 IE=	100.00

S-11	CB TYPE-IV W/ AD
STA: 4TH 14+13.34	OFF: 16.00 LT
FRAME EL=	94.25
P-14 IE=	91.00
P-15 IE=	90.90

SS-3	SSMH TYPE- I*
STA: 4TH 17+59.14	OFF: 13.00 RT
FRAME EL=	110.41
SP-3 IE=	107.20
SP-4 IE=	107.10
FRAME ELEVATION SPECIFIED SO THAT MANHOLE LID IS SET 8" BELOW FINISH GRADE	
*W/ FIBERGLASS BASE LINER	

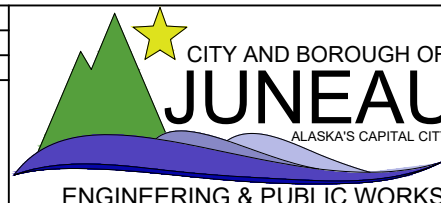
SS-4	SSMH TYPE- I*
STA: 4TH 14+95.19	OFF: 13.00 RT
FRAME EL=	99.72
SP-4 IE=	93.80
SP-6 IE=	93.80
SP-7 IE=	93.60
FRAME ELEVATION SPECIFIED SO THAT MANHOLE LID IS SET 8" BELOW FINISH GRADE	
*W/ FIBERGLASS BASE LINER	



RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY



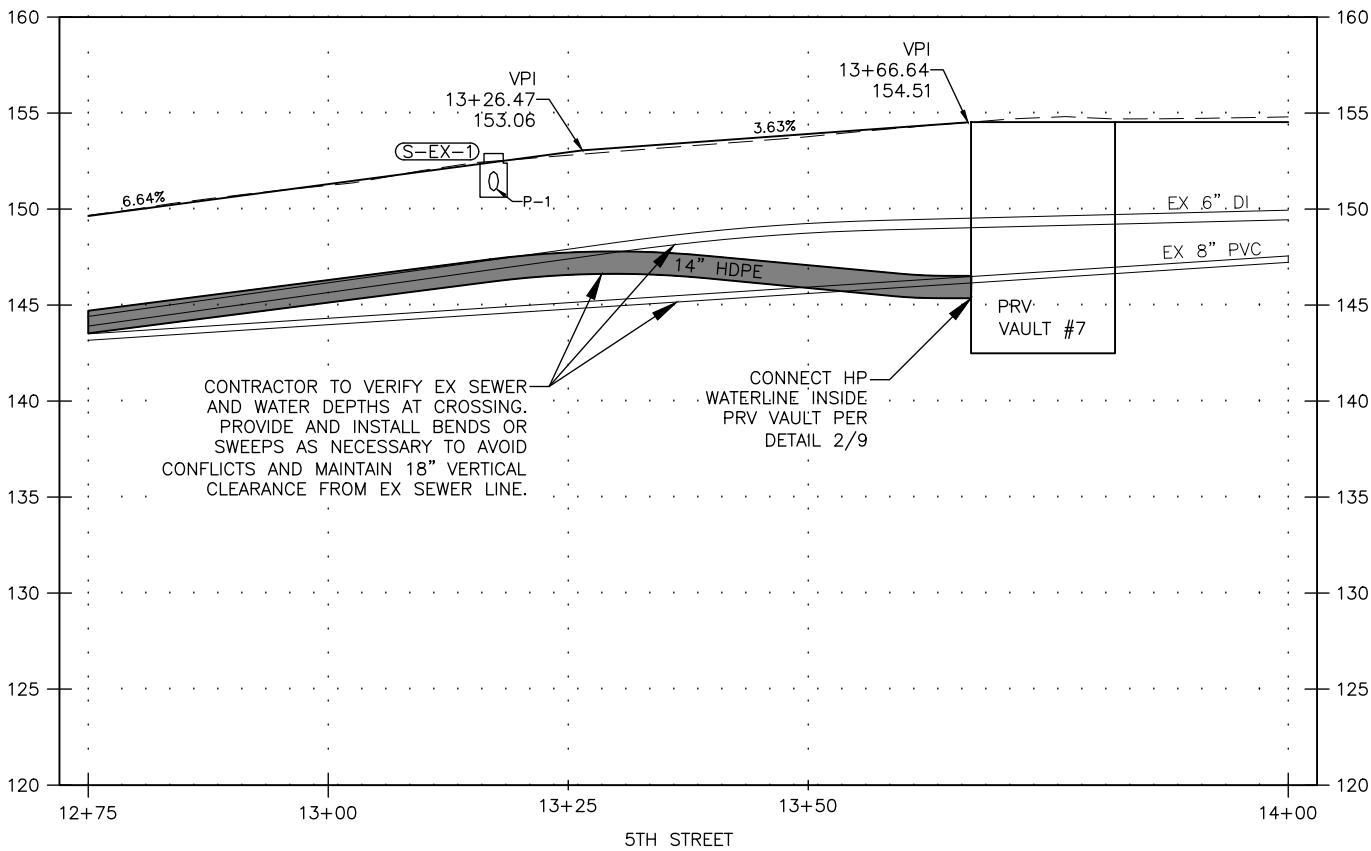
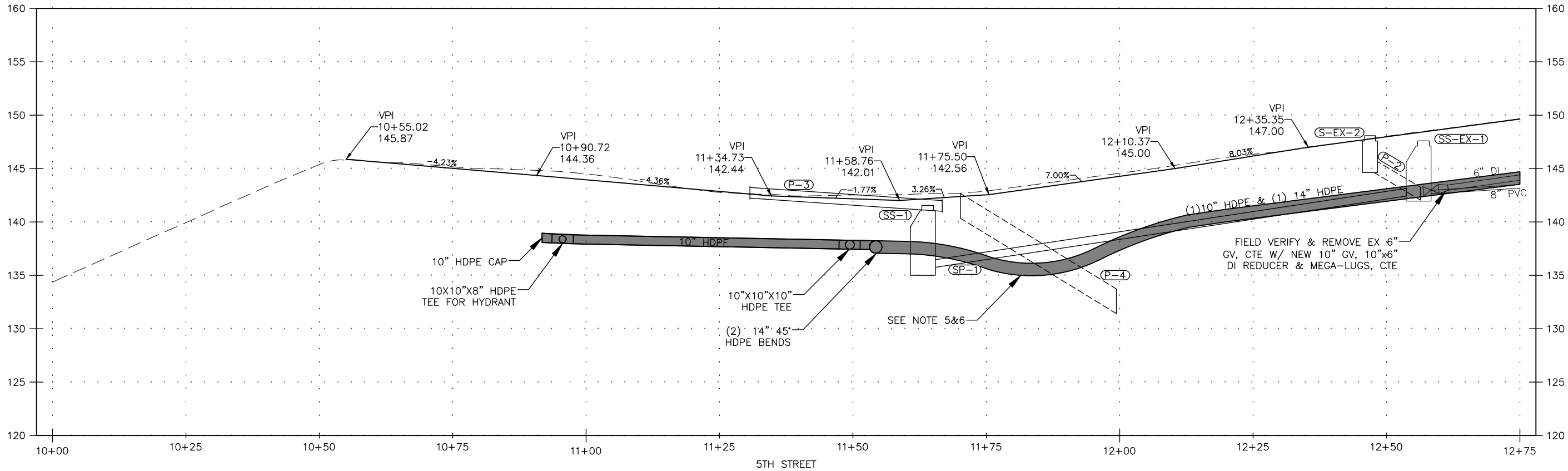
DRAWN BY: C. BYDLON
DESIGNED BY: C. BYDLON
CHECKED BY: L. CHAMBERS
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DOUGLAS 4TH STREET
UTILITIES AND DRAINAGE
BE21-215

PROFILE - 4TH
STREET 15+30 TO
17+65

SHEET NUMBER	
38	OF
46	



STORM DRAIN PIPE SUMMARY						
PIPE NO.	DIA	LENGTH	TYPE	SLOPE	START INV	END INV
P-1	12"	58.12	CPP	-2.37%	150.95	149.57
P-2	12"	63.19	CPP	-4.45%	144.96	142.15
P-3	12"	34.86	CPP	-3.53	142.23	141.00
P-4	24"	72.33	CPP	-12.35%	140.50	131.57

SEWER PIPE SUMMARY						
PIPE NO.	DIA	LENGTH	TYPE	SLOPE	START INV	END INV
SP-1	8"	90.59	PVC	-7.56%	142.45	135.60

SS-1	SSMH TYPE- I
STA: 5TH 11+63.12	OFF: 1.48 LT
FRAME EL=	141.54
SP-1 IE=	135.60
SP-2 IE=	135.50
FRAME ELEVATION SPECIFIED SO THAT MANHOLE LID IS SET 8" BELOW FINISH GRADE	

S-EX-1	EX CB
STA: 5TH: 13+17.22	OFF: 18.16 LT
FRAME EL=	152.89
P-1 IE=	150.95
EX 6" PVC IE=	151.52
INSTALL NEW AD	

SS-EX-1	EX SSMH
STA: 5TH 12+56.03	OFF: 1.00 LT
FRAME EL=	147.60
8" PVC IE=	142.55
SP-1 IE=	142.45

S-EX-2	EX CB
STA: 5TH 12+46.91	OFF: 17.21 LT
FRAME EL=	148.08
EX 4" PVC IE=	145.66
P-2 IE=	144.96
INSTALL NEW AD	

- SHEET NOTES:**
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 - PROVIDE ALL PIPE EXTENSIONS, ADAPTERS, ELBOWS AND OTHER FITTINGS NECESSARY TO CONNECT TO DISSIMILAR PIPE SIZES, MATERIALS, AND DEPTHS.
 - CONTRACTOR TO REMOVE ALL DECOMMISSIONED UTILITIES IN THEIR ENTIRETY. ABANDONING OR SLURRYING SHALL NOT BE PERMITTED UNLESS SPECIFICALLY INDICATED ON THE PLANS OR WITH PRIOR APPROVAL OF THE ENGINEER.
 - HDPE PIPE DEFLECTIONS SHALL NOT EXCEED PIPE MANUFACTURERS RECOMMENDATIONS.
 - MAINTAIN 18" MINIMUM VERTICAL SEPARATION BETWEEN PROPOSED WATER PIPE AND ALL STORM AND SEWER CROSSINGS, SEE STD DETAIL 215.
 - PROVIDE TEMPORARY WATER DURING WATER LINE WORK AS REQUIRED.



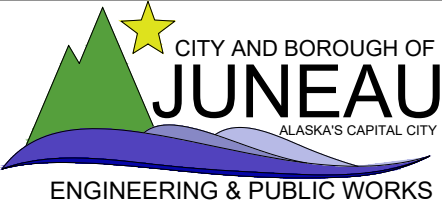
RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY



DRAWN BY: C. BYDLON
DESIGNED BY: C. BYDLON
CHECKED BY: L. CHAMBERS

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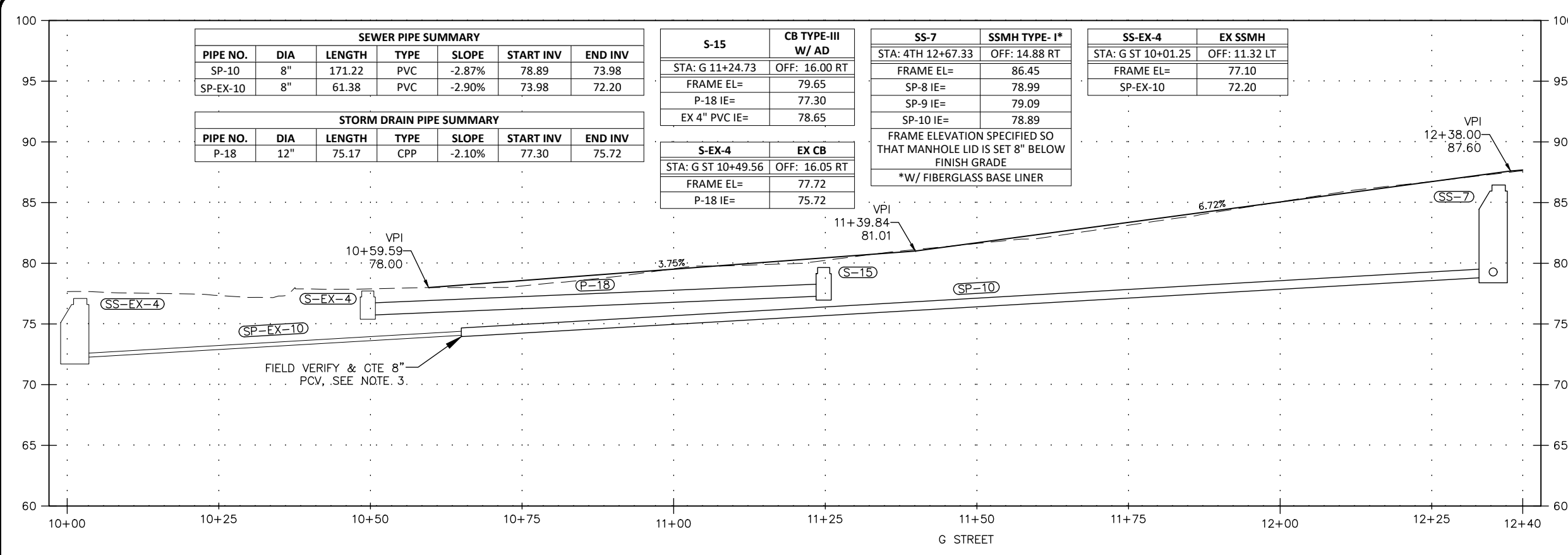


DOUGLAS 4TH STREET
UTILITIES AND DRAINAGE

BE21-215

PROFILE - 5TH
STREET 10+00 TO
14+00

SHEET NUMBER	
39	OF
46	



SEWER PIPE SUMMARY						
PIPE NO.	DIA	LENGTH	TYPE	SLOPE	START INV	END INV
SP-10	8"	171.22	PVC	-2.87%	78.89	73.98
SP-EX-10	8"	61.38	PVC	-2.90%	73.98	72.20

STORM DRAIN PIPE SUMMARY						
PIPE NO.	DIA	LENGTH	TYPE	SLOPE	START INV	END INV
P-18	12"	75.17	CPP	-2.10%	77.30	75.72

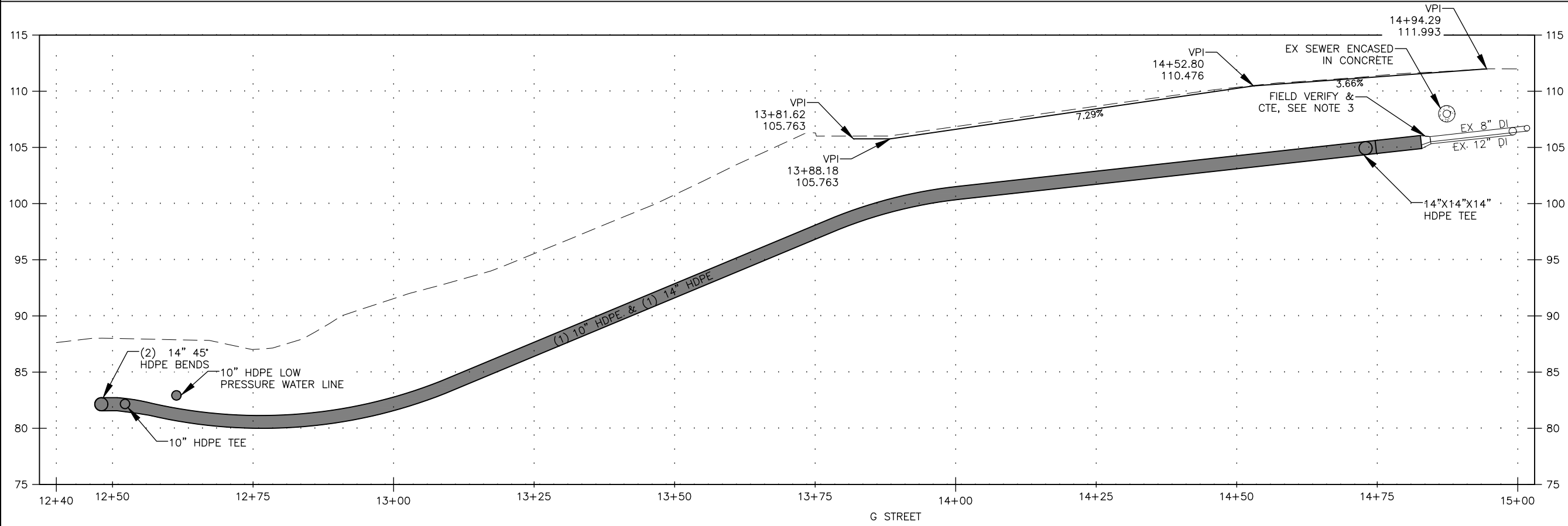
S-15	CB TYPE-III W/ AD
STA: G 11+24.73	OFF: 16.00 RT
FRAME EL=	79.65
P-18 IE=	77.30
EX 4" PVC IE=	78.65

S-EX-4	EX CB
STA: G ST 10+49.56	OFF: 16.05 RT
FRAME EL=	77.72
P-18 IE=	75.72

SS-7	SSMH TYPE-I*
STA: 4TH 12+67.33	OFF: 14.88 RT
FRAME EL=	86.45
SP-8 IE=	78.99
SP-9 IE=	79.09
SP-10 IE=	78.89
FRAME ELEVATION SPECIFIED SO THAT MANHOLE LID IS SET 8" BELOW FINISH GRADE	
*W/ FIBERGLASS BASE LINER	

SS-EX-4	EX SSMH
STA: G ST 10+01.25	OFF: 11.32 LT
FRAME EL=	77.10
SP-EX-10	72.20

- SHEET NOTES:**
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 - PROVIDE ALL PIPE EXTENSIONS, ADAPTERS, ELBOWS AND OTHER FITTINGS NECESSARY TO CONNECT TO DISSIMILAR PIPE SIZES, MATERIALS, AND DEPTHS. USE LSS-1 COUPLER TO CONNECT SEWER PIPES. USE DI REDUCERS AND MECHANICAL JOINTS TO CONNECT HDPE TO EXISTING DI PIPE.
 - CONTRACTOR TO REMOVE ALL DECOMMISSIONED UTILITIES IN THEIR ENTIRETY. ABANDONING OR SLURRYING SHALL NOT BE PERMITTED UNLESS SPECIFICALLY INDICATED ON THE PLANS OR WITH PRIOR APPROVAL OF THE ENGINEER.
 - HDPE PIPE DEFLECTIONS SHALL NOT EXCEED PIPE MANUFACTURERS RECOMMENDATIONS.
 - MAINTAIN 18" MINIMUM VERTICAL SEPARATION BETWEEN PROPOSED WATER PIPE AND ALL STORM AND SEWER CROSSINGS, SEE STD DETAIL 215.
 - PROVIDE TEMPORARY WATER DURING WATER LINE WORK AS REQUIRED.



RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY

CERTIFICATE OF AUTHORIZATION
#100662

DRAWN BY:	C. BYDLON
DESIGNED BY:	C. BYDLON
CHECKED BY:	L. CHAMBERS

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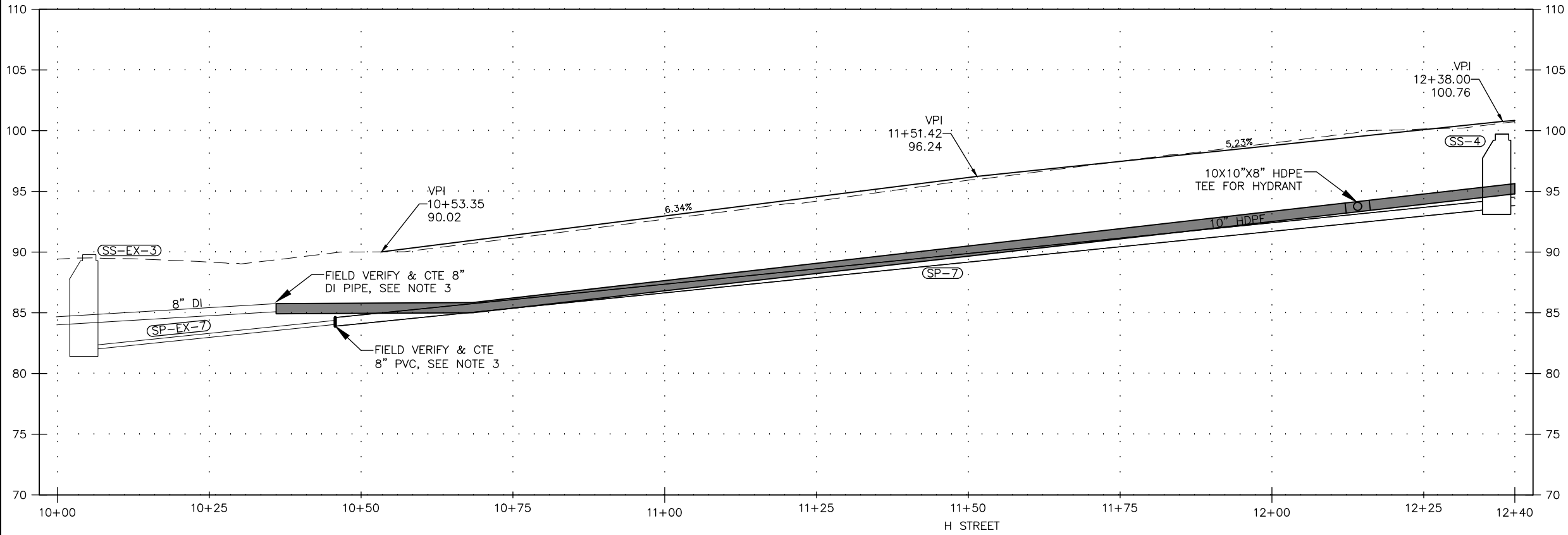
CITY AND BOROUGH OF
JUNEAU
ALASKA'S CAPITAL CITY
ENGINEERING & PUBLIC WORKS

DOUGLAS 4TH STREET
UTILITIES AND DRAINAGE

BE21-215

PROFILE - G STREET
10+00 TO 15+00

SHEET NUMBER
40
OF
46



SHEET NOTES:

1. PIPE LENGTHS ARE TO CENTER OF STRUCTURE. PIPE SLOPES ARE MEASURED TO ENDS OF PIPES.
2. STORM DRAIN STRUCTURES STATION AND OFFSET ARE GIVEN TO THE CENTER OF THE STRUCTURE. LID ELEVATION IS GIVEN TO CENTER OF STRUCTURE. FRAME ELEVATION IS GIVEN TO FRONT OF FRAME.
3. PROVIDE ALL PIPE EXTENSIONS, ADAPTERS, ELBOWS AND OTHER FITTINGS NECESSARY TO CONNECT TO DISSIMILAR PIPE SIZES, MATERIALS, AND DEPTHS. USE LSS-1 COUPLER TO CONNECT SEWER PIPES. USE DI REDUCER AND MECHANICAL JOINT TO CONNECT HDPE TO EXISTING DI PIPE.
4. CONTRACTOR TO REMOVE ALL DECOMMISSIONED UTILITIES IN THEIR ENTIRETY. ABANDONING OR SLURRYING SHALL NOT BE PERMITTED UNLESS SPECIFICALLY INDICATED ON THE PLANS OR WITH PRIOR APPROVAL OF THE ENGINEER.
5. HDPE PIPE DEFLECTIONS SHALL NOT EXCEED PIPE MANUFACTURERS RECOMMENDATIONS.
6. MAINTAIN 18" MINIMUM VERTICAL SEPARATION BETWEEN PROPOSED WATER PIPE AND ALL STORM AND SEWER CROSSINGS, SEE STD DETAIL 215.
7. PROVIDE TEMPORARY WATER DURING WATER LINE WORK AS REQUIRED.

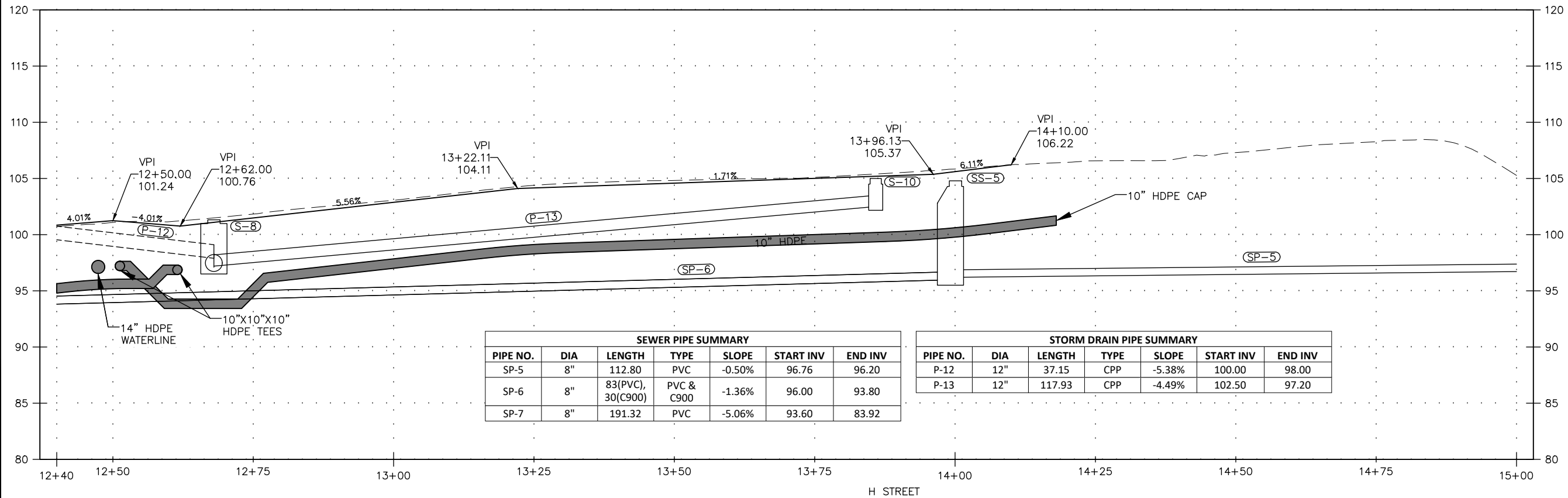
SS-EX-3	EX SSMH
STA: H ST 10+04.33	OFF: 2.07 RT
FRAME EL=	89.79
SP-EX-7 IE=	81.91

SS-4	SSMH TYPE-I*
STA: 4TH 14+95.19	OFF: 13.00 RT
FRAME EL=	99.72
SP-4 IE=	93.80
SP-6 IE=	93.80
SP-7 IE=	93.60
FRAME ELEVATION SPECIFIED SO THAT MANHOLE LID IS SET 8" BELOW FINISH GRADE	
*W/ FIBERGLASS BASE LINER	

SS-5	SSMH TYPE-I
STA: H 13+99.18	OFF: 2.40 LT
FRAME EL=	104.79
SP-5 IE=	96.20
SP-6 IE=	96.00
FRAME ELEVATION SPECIFIED SO THAT MANHOLE LID IS SET 8" BELOW FINISH GRADE	

S-8	SDMH TYPE-I W/ AD
STA: 4TH 15+16.02	OFF: 18.00 LT
FRAME EL=	101.45
P-11 IE=	98.00
P-12 IE=	98.00
P-13 IE=	97.20
P-14 IE=	97.00

S-10	CB TYPE-III W/ AD
STA: H 13+85.87	OFF: 19.72 RT
FRAME EL=	105.00
P-13 IE=	102.50
EX 6" CPP (NW)	103.65
EX 4" PVC (SW)	103.40



SEWER PIPE SUMMARY						
PIPE NO.	DIA	LENGTH	TYPE	SLOPE	START INV	END INV
SP-5	8"	112.80	PVC	-0.50%	96.76	96.20
SP-6	8"	83(PVC), 30(C900)	PVC & C900	-1.36%	96.00	93.80
SP-7	8"	191.32	PVC	-5.06%	93.60	83.92

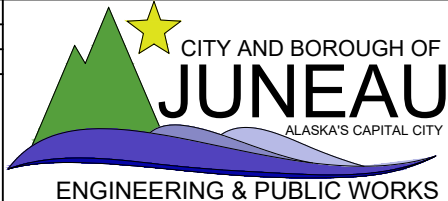
STORM DRAIN PIPE SUMMARY						
PIPE NO.	DIA	LENGTH	TYPE	SLOPE	START INV	END INV
P-12	12"	37.15	CPP	-5.38%	100.00	98.00
P-13	12"	117.93	CPP	-4.49%	102.50	97.20



RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY



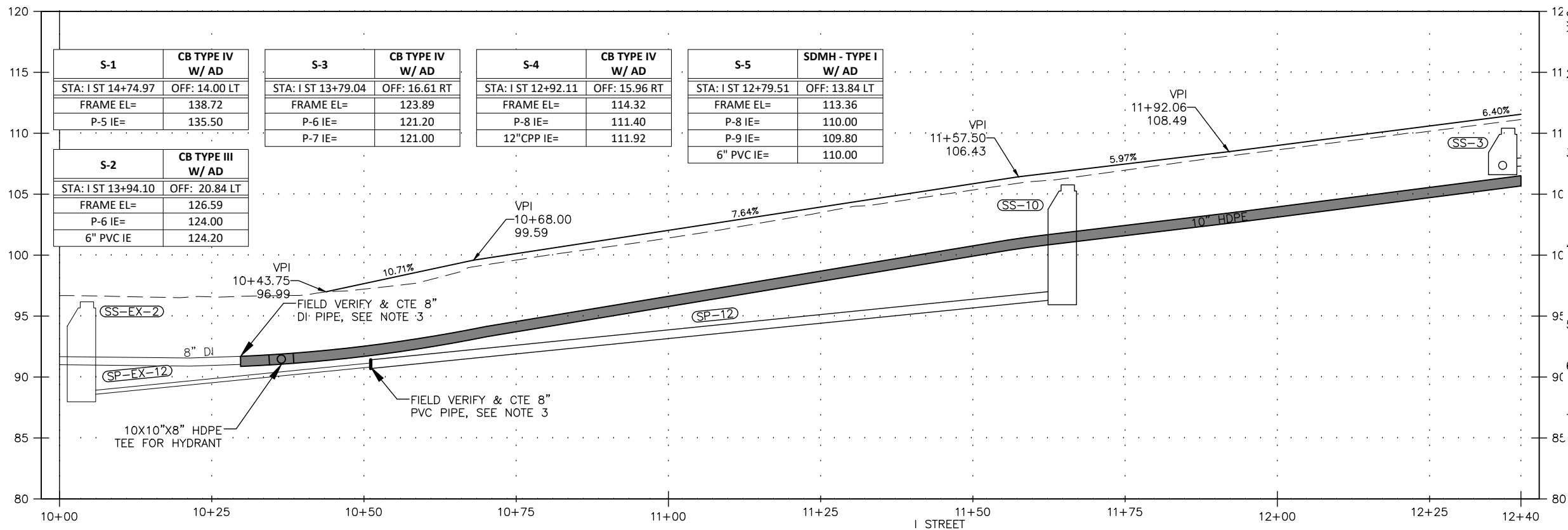
DRAWN BY:	C. BYDLON
DESIGNED BY:	C. BYDLON
CHECKED BY:	L. CHAMBERS
1945 ALEX HOLDEN WAY #101 JUNEAU, AK 99801 (907) 780-4004	
solutions@proHNS.com www.proHNS.com	



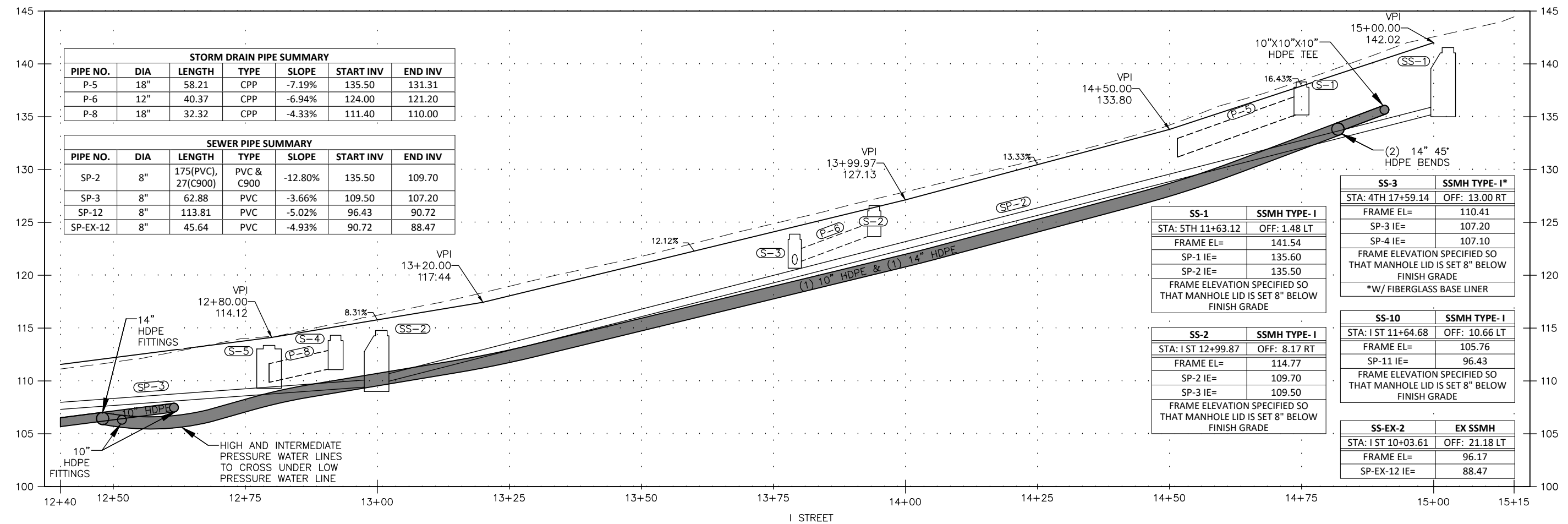
DOUGLAS 4TH STREET
UTILITIES AND DRAINAGE
BE21-215

PROFILE - H STREET
10+00 TO 15+00

SHEET NUMBER	
41	OF
46	



- SHEET NOTES:**
1. PIPE LENGTHS ARE TO CENTER OF STRUCTURE. PIPE SLOPES ARE MEASURED TO ENDS OF PIPES.
 2. STORM DRAIN STRUCTURES STATION AND OFFSET ARE GIVEN TO THE CENTER OF THE STRUCTURE. LID ELEVATION IS GIVEN TO CENTER OF STRUCTURE. FRAME ELEVATION IS GIVEN TO FRONT OF FRAME.
 3. PROVIDE ALL PIPE EXTENSIONS, ADAPTERS, ELBOWS AND OTHER FITTINGS NECESSARY TO CONNECT TO DISSIMILAR PIPE SIZES, MATERIALS, AND DEPTHS. USE LSS-1 COUPLER TO CONNECT SEWER PIPES. USE DI REDUCER AND MECHANICAL JOINT TO CONNECT HDPE TO EXISTING DI PIPE.
 4. CONTRACTOR TO REMOVE ALL DECOMMISSIONED UTILITIES IN THEIR ENTIRETY. ABANDONING OR SLURRYING SHALL NOT BE PERMITTED UNLESS SPECIFICALLY INDICATED ON THE PLANS OR WITH PRIOR APPROVAL OF THE ENGINEER.
 5. HDPE PIPE DEFLECTIONS SHALL NOT EXCEED PIPE MANUFACTURERS RECOMMENDATIONS.
 6. MAINTAIN 18" MINIMUM VERTICAL SEPARATION BETWEEN PROPOSED WATER PIPE AND ALL STORM AND SEWER CROSSINGS, SEE STD DETAIL 215.
 7. PROVIDE TEMPORARY WATER DURING WATER LINE WORK AS REQUIRED.



STORM DRAIN PIPE SUMMARY						
PIPE NO.	DIA	LENGTH	TYPE	SLOPE	START INV	END INV
P-5	18"	58.21	CPP	-7.19%	135.50	131.31
P-6	12"	40.37	CPP	-6.94%	124.00	121.20
P-8	18"	32.32	CPP	-4.33%	111.40	110.00

SEWER PIPE SUMMARY						
PIPE NO.	DIA	LENGTH	TYPE	SLOPE	START INV	END INV
SP-2	8"	175(PVC), 27(C900)	PVC & C900	-12.80%	135.50	109.70
SP-3	8"	62.88	PVC	-3.66%	109.50	107.20
SP-12	8"	113.81	PVC	-5.02%	96.43	90.72
SP-EX-12	8"	45.64	PVC	-4.93%	90.72	88.47

SS-1	SSMH TYPE- I
STA: 5TH 11+63.12	OFF: 1.48 LT
FRAME EL=	141.54
SP-1 IE=	135.60
SP-2 IE=	135.50
FRAME ELEVATION SPECIFIED SO THAT MANHOLE LID IS SET 8" BELOW FINISH GRADE	

SS-2	SSMH TYPE- I
STA: I ST 12+99.87	OFF: 8.17 RT
FRAME EL=	114.77
SP-2 IE=	109.70
SP-3 IE=	109.50
FRAME ELEVATION SPECIFIED SO THAT MANHOLE LID IS SET 8" BELOW FINISH GRADE	

SS-3	SSMH TYPE- I*
STA: 4TH 17+59.14	OFF: 13.00 RT
FRAME EL=	110.41
SP-3 IE=	107.20
SP-4 IE=	107.10
FRAME ELEVATION SPECIFIED SO THAT MANHOLE LID IS SET 8" BELOW FINISH GRADE	
*W/ FIBERGLASS BASE LINER	

SS-10	SSMH TYPE- I
STA: I ST 11+64.68	OFF: 10.66 LT
FRAME EL=	105.76
SP-11 IE=	96.43
FRAME ELEVATION SPECIFIED SO THAT MANHOLE LID IS SET 8" BELOW FINISH GRADE	

SS-EX-2	EX SSMH
STA: I ST 10+03.61	OFF: 21.18 LT
FRAME EL=	96.17
SP-EX-12 IE=	88.47



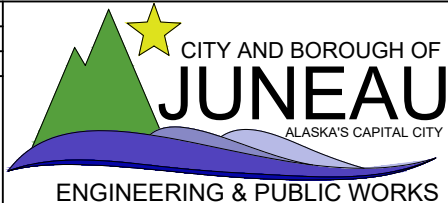
RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY



DRAWN BY: C. BYDLON
DESIGNED BY: C. BYDLON
CHECKED BY: L. CHAMBERS

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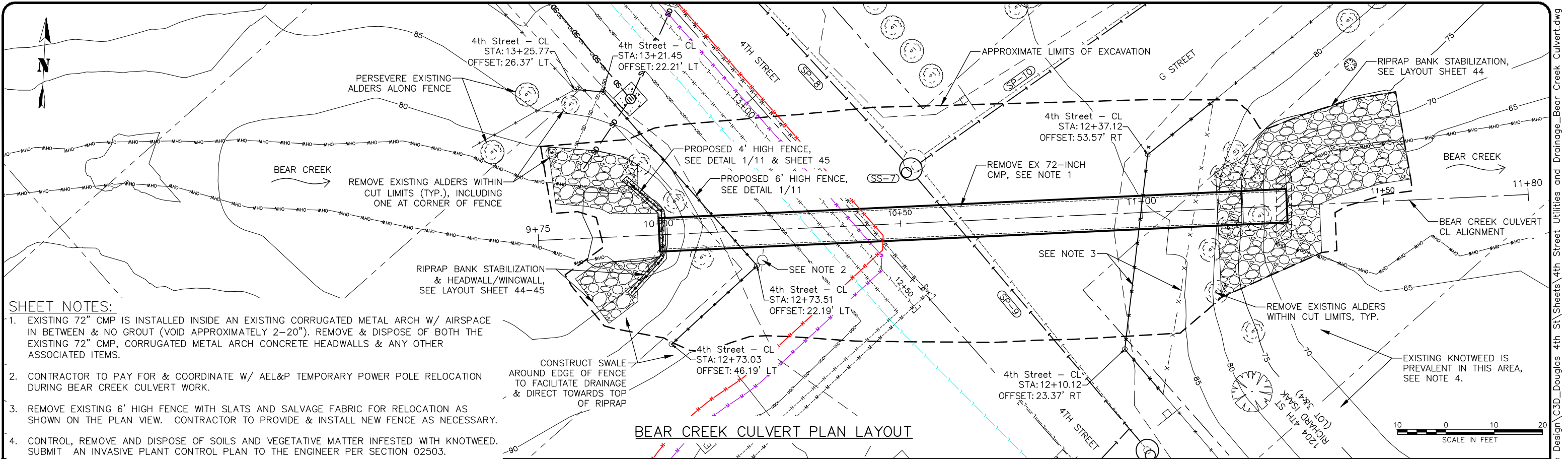


DOUGLAS 4TH STREET
UTILITIES AND DRAINAGE

BE21-215

PROFILE - I STREET
10+00 TO 15+15

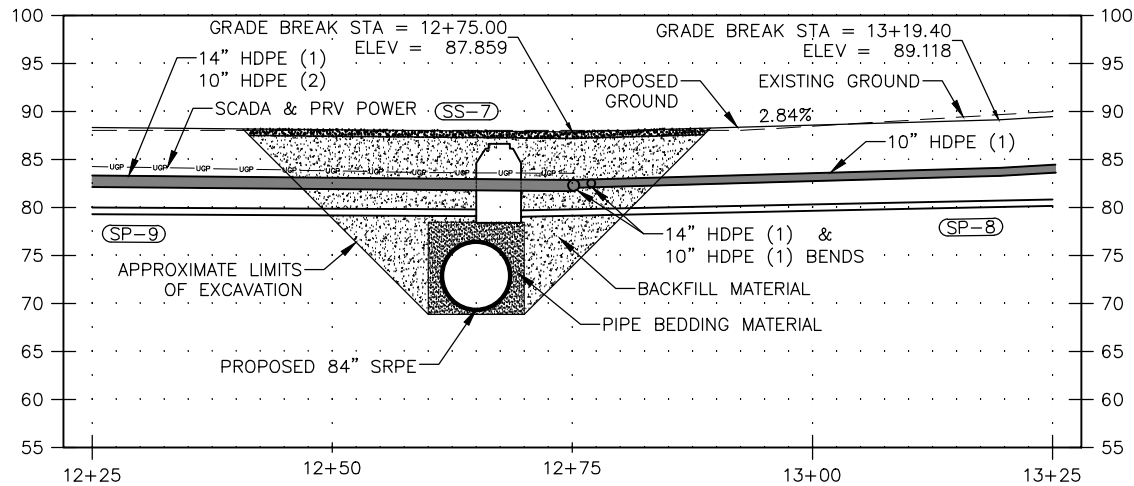
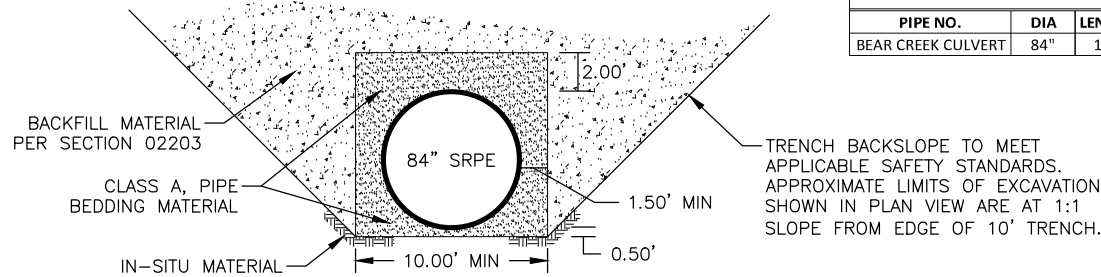
SHEET NUMBER	
42	OF
46	



SHEET NOTES:

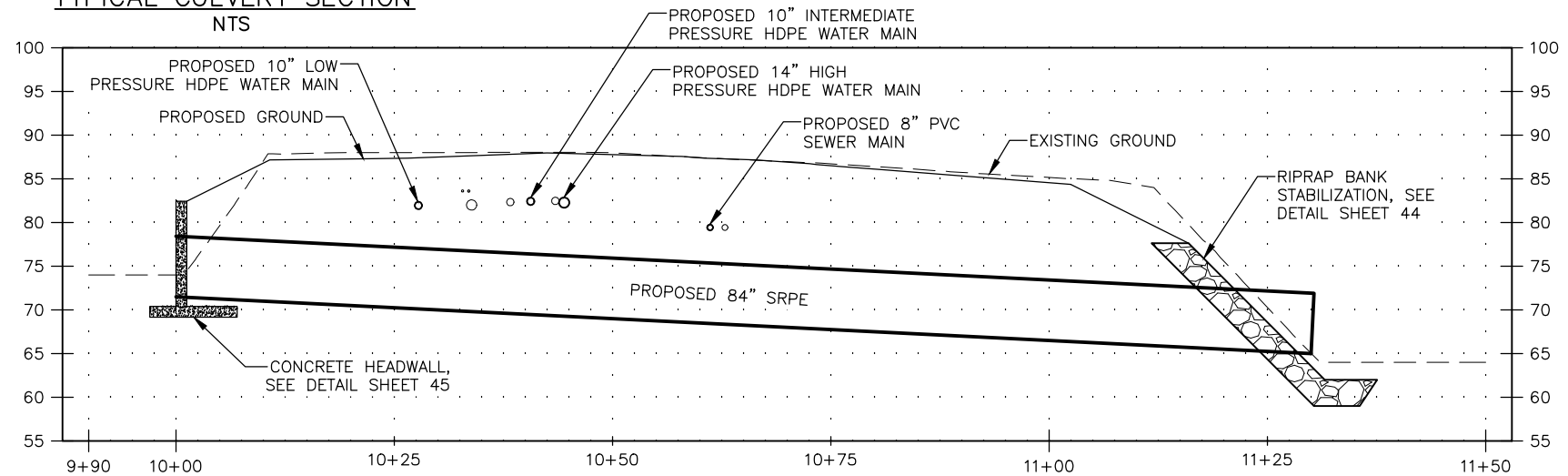
- EXISTING 72" CMP IS INSTALLED INSIDE AN EXISTING CORRUGATED METAL ARCH W/ AIRSPACE IN BETWEEN & NO GROUT (VOID APPROXIMATELY 2-20"). REMOVE & DISPOSE OF BOTH THE EXISTING 72" CMP, CORRUGATED METAL ARCH CONCRETE HEADWALLS & ANY OTHER ASSOCIATED ITEMS.
- CONTRACTOR TO PAY FOR & COORDINATE W/ AEL&P TEMPORARY POWER POLE RELOCATION DURING BEAR CREEK CULVERT WORK.
- REMOVE EXISTING 6' HIGH FENCE WITH SLATS AND SALVAGE FABRIC FOR RELOCATION AS SHOWN ON THE PLAN VIEW. CONTRACTOR TO PROVIDE & INSTALL NEW FENCE AS NECESSARY.
- CONTROL, REMOVE AND DISPOSE OF SOILS AND VEGETATIVE MATTER INFESTED WITH KNOTWEED. SUBMIT AN INVASIVE PLANT CONTROL PLAN TO THE ENGINEER PER SECTION 02503.
- PRIOR TO COMMENCING WORK ON THE BEAR CREEK CULVERT CONTRACTOR TO SUBMIT A TEMPORARY WATER, SCADA CABLE AND SEWER BYPASS PLAN TO THE ENGINEER PER SECTION 02503. THE SCADA CABLE IS CONNECTING THE ALLEN-BRADLEY DATA HIGHWAY PLUS (DH+) NETWORK BETWEEN PRV VAULTS #7 & #4 WITH (FROM AS-BUILTS PLANS) AN ALLEN-BRADLEY 1770CD I/O DROP CABLE OR SIMILAR (CONTRACTOR TO FIELD VERIFY CABLE TYPE). THE LOCATION OF ANY PERMANENT SPLICES MADE IN THE EXISTING SCADA CABLE SHALL BE AS-BUILT.
- CONTRACTOR TO SUBMIT A TEMPORARY STREAM DIVERSION PLAN TO THE ENGINEER PER SECTION 02503.
- CONTRACTOR TO SUBMIT A TRAFFIC DETOUR PLAN TO THE ENGINEER PER SECTION 01550.
- A GEOTECHNICAL INVESTIGATION WAS NOT PERFORMED AS PART OF THIS DESIGN. GROUNDWATER, LARGER BOULDERS, BEDROCK, STUMPS, LOGS AND ORGANICS MAY BE ENCOUNTERED AT VARIOUS DEPTHS DURING CONSTRUCTION.

STORM DRAIN PIPE SUMMARY								
PIPE NO.	DIA	LENGTH	TYPE	SLOPE	START STATION/OFFSET	START INV	END STATION/OFFSET	END INV
BEAR CREEK CULVERT	84"	130	SRPE	5.00%	4TH ST. CL STA: 12+91.64, 33.12 LT	71.50	4TH ST. CL STA: 12+10.12, 68.14 RT	65.00



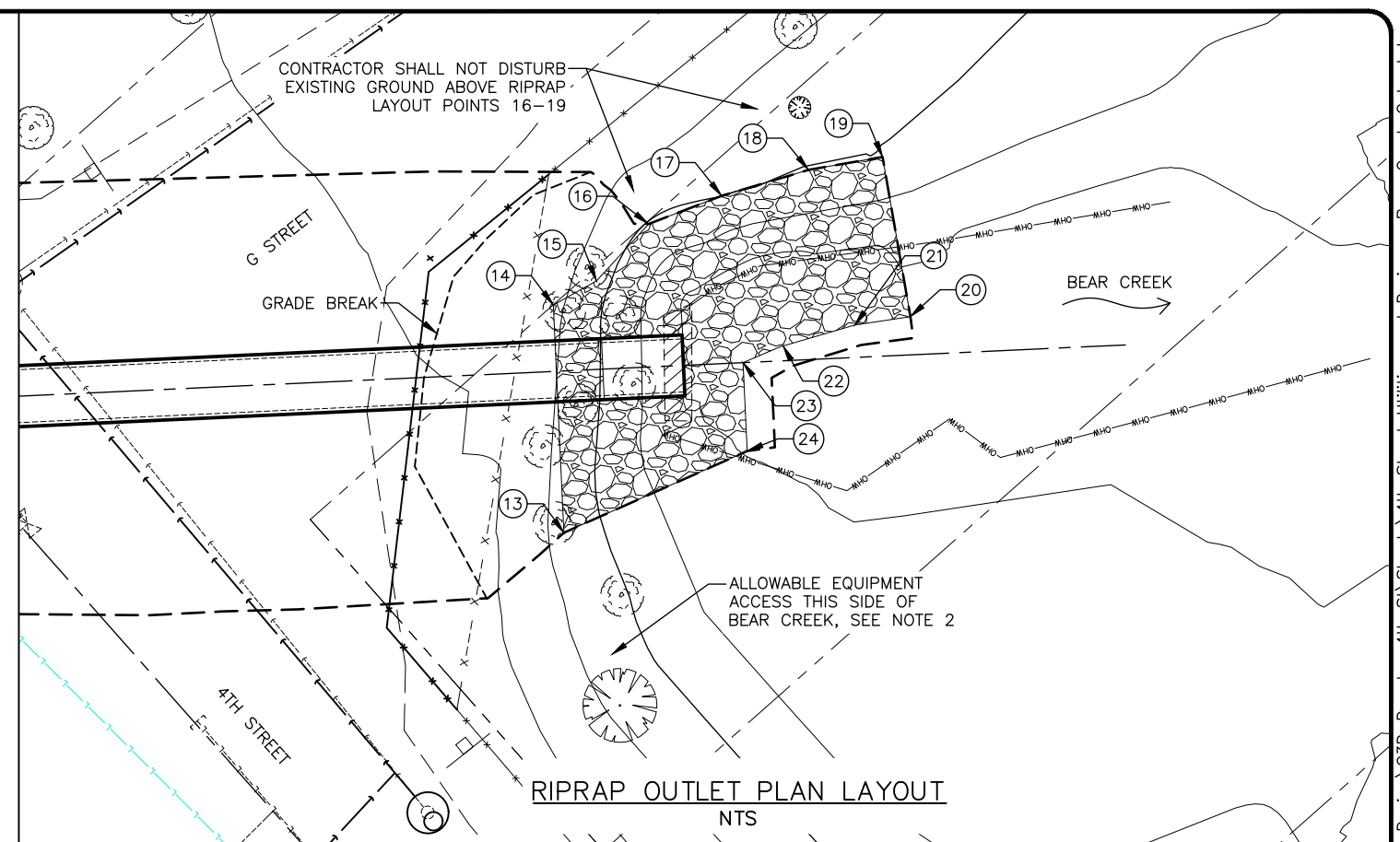
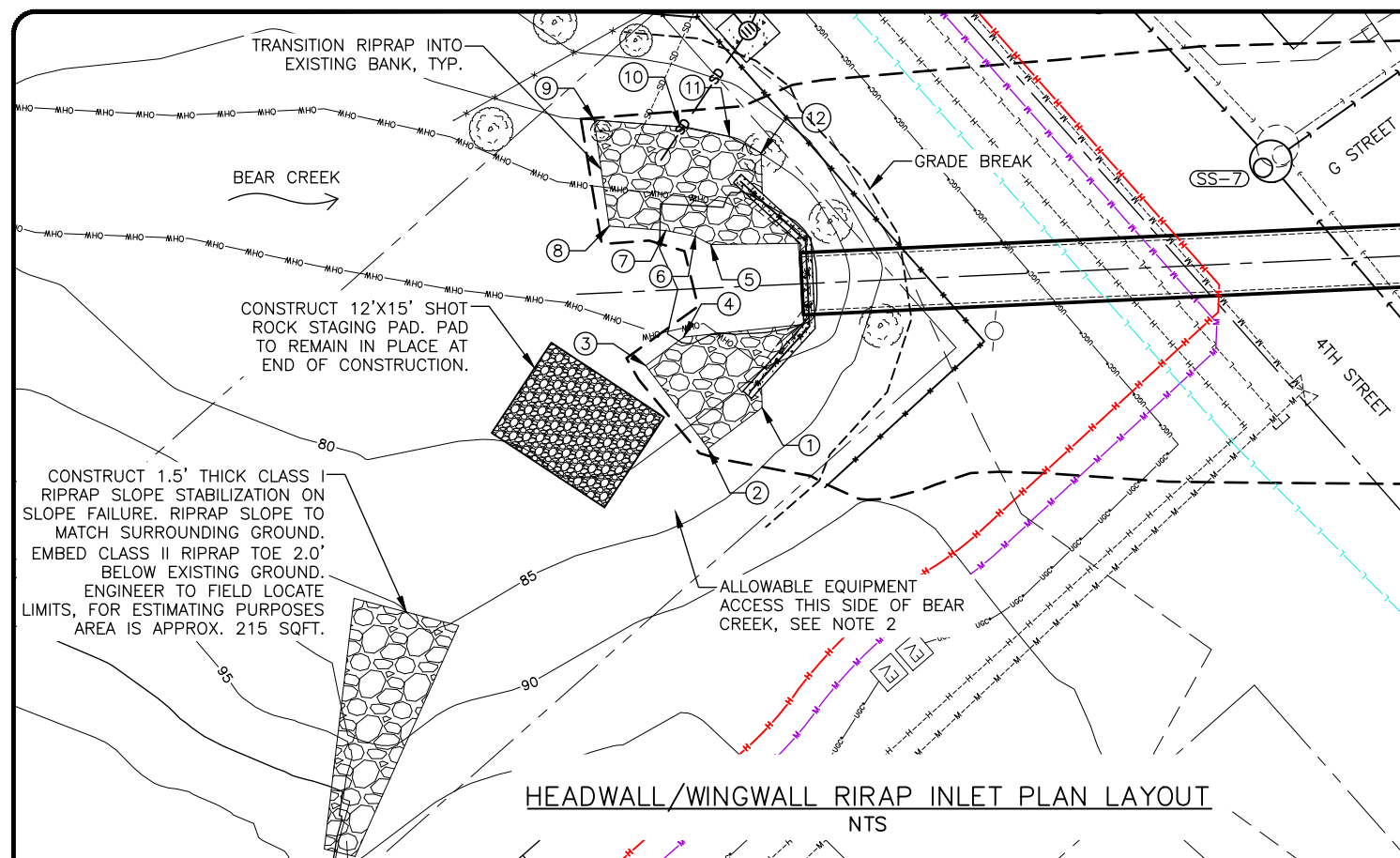
TYPICAL CULVERT SECTION

NTS



BEAR CREEK CULVERT PROFILE SECTION

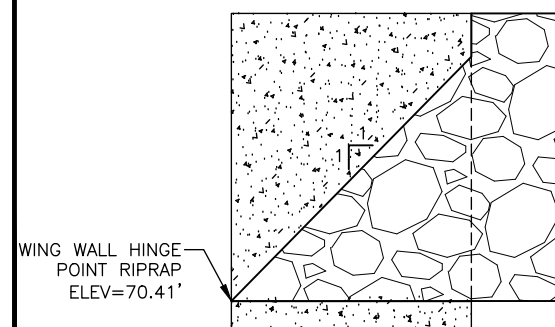
	RECORD OF REVISIONS				DRAWN BY: C. BYDLON DESIGNED BY: C. BYDLON CHECKED BY: L. CHAMBERS 1945 ALEX HOLDEN WAY #101 JUNEAU, AK 99801 (907) 780-4004 solutions@proHNS.com www.proHNS.com		DOUGLAS 4TH STREET UTILITIES AND DRAINAGE BE21-215	BEAR CREEK PLAN & PROFILE	SHEET NUMBER	
	No.	DATE	DESCRIPTION						BY	43
	1	3/15/2021	UPDATED TREES TO BE REMOVED.						LC	OF
										46



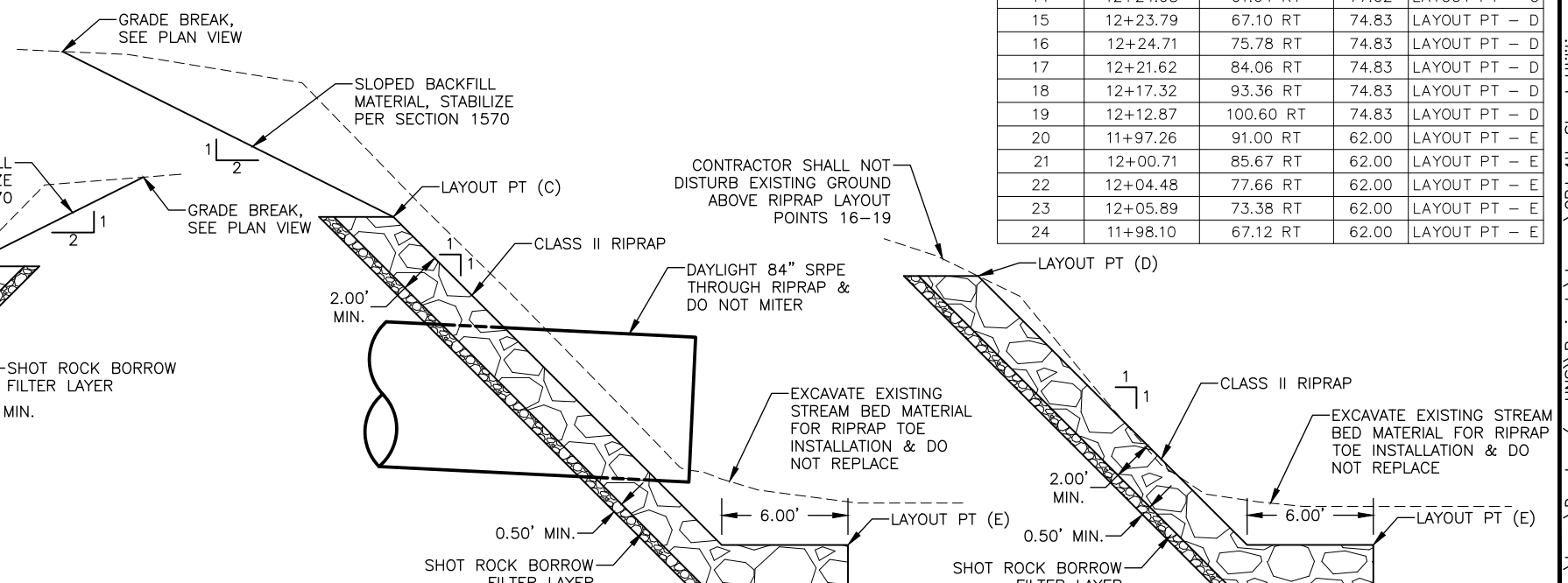
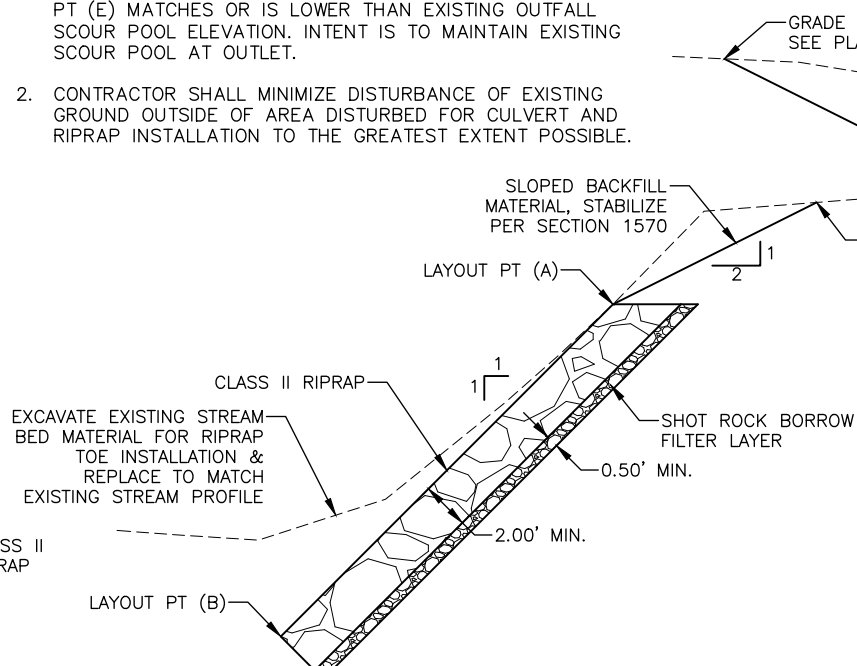
RIPRAP LAYOUT POINTS					
POINT	#	4TH ST. STA:	4TH ST. OFFSET	ELEV.	REMARKS
1		12+84.28	45.53 LT	82.00	LAYOUT PT - A
2		12+84.86	53.02 LT	82.00	LAYOUT PT - A
3		12+96.33	52.13 LT	70.50	LAYOUT PT - B
4		12+95.92	46.88 LT	70.50	LAYOUT PT - B
5		13+01.60	37.82 LT	70.50	LAYOUT PT - B
6		13+03.43	38.50 LT	70.50	LAYOUT PT - B
7		13+06.08	40.53 LT	70.50	LAYOUT PT - B
8		13+10.62	44.11 LT	70.50	LAYOUT PT - B
9		13+20.53	38.36 LT	82.00	LAYOUT PT - A
10		13+13.64	31.70 LT	82.00	LAYOUT PT - A
11		13+09.20	28.31 LT	82.00	LAYOUT PT - A
12		13+05.53	26.90 LT	82.00	LAYOUT PT - A

SHEET NOTES:

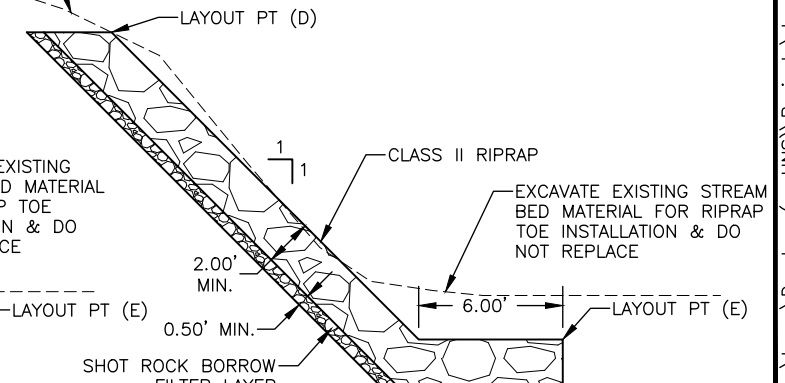
1. RIPRAP LAYOUT SHOWN ON THE PLANS ARE SUBJECT TO MINOR REVERSIONS AS APPROVED BY THE ENGINEER. ONCE STREAM CHANNEL HAS BEEN DEWATERED CONFIRM LAYOUT PT (E) MATCHES OR IS LOWER THAN EXISTING OUTFALL SCOUR POOL ELEVATION. INTENT IS TO MAINTAIN EXISTING SCOUR POOL AT OUTLET.
2. CONTRACTOR SHALL MINIMIZE DISTURBANCE OF EXISTING GROUND OUTSIDE OF AREA DISTURBED FOR CULVERT AND RIPRAP INSTALLATION TO THE GREATEST EXTENT POSSIBLE.



RIPRAP LAYOUT AT WING
WALLS FRONT VIEW
NTS



RIPRAP LAYOUT POINTS					
POINT	#	4TH ST. STA:	4TH ST. OFFSET	ELEV.	REMARKS
13		12+04.90	45.48 RT	77.62	LAYOUT PT - C
14		12+24.98	61.64 RT	77.62	LAYOUT PT - C
15		12+23.79	67.10 RT	74.83	LAYOUT PT - D
16		12+24.71	75.78 RT	74.83	LAYOUT PT - D
17		12+21.62	84.06 RT	74.83	LAYOUT PT - D
18		12+17.32	93.36 RT	74.83	LAYOUT PT - D
19		12+12.87	100.60 RT	74.83	LAYOUT PT - D
20		11+97.26	91.00 RT	62.00	LAYOUT PT - E
21		12+00.71	85.67 RT	62.00	LAYOUT PT - E
22		12+04.48	77.66 RT	62.00	LAYOUT PT - E
23		12+05.89	73.38 RT	62.00	LAYOUT PT - E
24		11+98.10	67.12 RT	62.00	LAYOUT PT - E



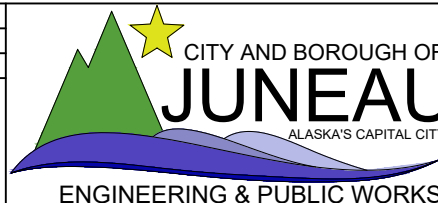
RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY



DRAWN BY:	C. BYDLON
DESIGNED BY:	C. BYDLON
CHECKED BY:	L. CHAMBERS

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DOUGLAS 4TH STREET
UTILITIES AND DRAINAGE

BE21-215

RIPRAP LAYOUT

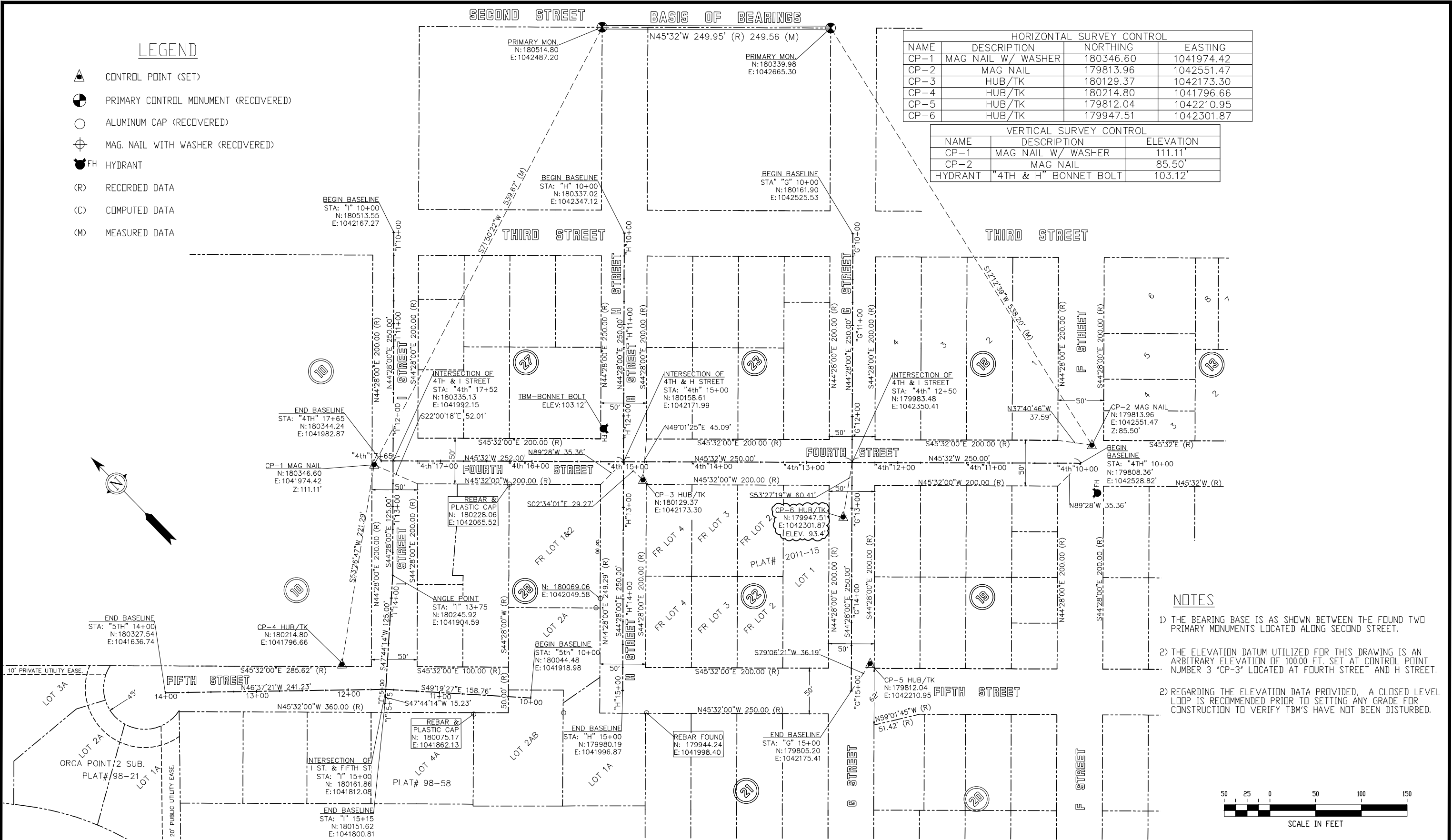
SHEET NUMBER

44
 OF
 46

March 12, 2021

LEGEND

- ▲ CONTROL POINT (SET)
● PRIMARY CONTROL MONUMENT (RECOVERED)
○ ALUMINUM CAP (RECOVERED)
⊕ MAG. NAIL WITH WASHER (RECOVERED)
⦿ FH HYDRANT
(R) RECORDED DATA
(C) COMPUTED DATA
(M) MEASURED DATA



HORIZONTAL SURVEY CONTROL			
NAME	DESCRIPTION	NORTHING	EASTING
CP-1	MAG NAIL W/ WASHER	180346.60	1041974.42
CP-2	MAG NAIL	179813.96	1042551.47
CP-3	HUB/TK	180129.37	1042173.30
CP-4	HUB/TK	180214.80	1041796.66
CP-5	HUB/TK	179812.04	1042210.95
CP-6	HUB/TK	179947.51	1042301.87

VERTICAL SURVEY CONTROL		
NAME	DESCRIPTION	ELEVATION
CP-1	MAG NAIL W/ WASHER	111.11'
CP-2	MAG NAIL	85.50'
HYDRANT	"4TH & H" BONNET BOLT	103.12'

NOTES

- 1) THE BEARING BASE IS AS SHOWN BETWEEN THE FOUND TWO PRIMARY MONUMENTS LOCATED ALONG SECOND STREET.
2) THE ELEVATION DATUM UTILIZED FOR THIS DRAWING IS AN ARBITRARY ELEVATION OF 100.00 FT. SET AT CONTROL POINT NUMBER 3 "CP-3" LOCATED AT FOURTH STREET AND H STREET.
2) REGARDING THE ELEVATION DATA PROVIDED, A CLOSED LEVEL LOOP IS RECOMMENDED PRIOR TO SETTING ANY GRADE FOR CONSTRUCTION TO VERIFY TBM'S HAVE NOT BEEN DISTURBED.

NORTH 57*
LAND SURVEYING LLC
(907) 747-6700 215-F SMITH STREET, SITKA, AK
MAILING ADDRESS - 2807 CASCADE CREEK ROAD, SITKA, AK 99805
EMAIL: north57landsurveying@yahoo.com

KD	DATE	REV	DESCRIPTION OF CHANGE
3/15/21	#1		ADDED CONTROL POINT CP-6 ON G STREET NEAR 4TH STREET
BY	DATE	REV	DESCRIPTION OF CHANGE
RECORD OF REVISIONS			



DESIGNED: K. O'NEILL
DRAWN: SD/ACAD
CHECKED: KD
DATE OF PLAT: FEB. 4, 2021 * 02/14/16
SCALE: 1" = 60'
DRAWING NAME: SURVEY-CONTROL
PROJECT NO. 40107-11-00

SURVEYOR'S CERTIFICATE
I HEREBY CERTIFY THAT I AM A REGISTERED SURVEYOR, LICENSED IN THE STATE OF ALASKA, AND THAT ON OCT 2020-FEB 2021 A SURVEY OF THE HEREIN DESCRIBED LANDS WAS CONDUCTED UNDER MY DIRECT SUPERVISION AND THAT THIS PLAT IS A TRUE AND ACCURATE REPRESENTATION OF THE FIELD NOTES OF SAID SURVEY, AND THAT ALL DIMENSIONS AND OTHER DETAILS ARE CORRECT ACCORDING TO SAID FIELD NOTES.
March 15, 2021
DATE
KELLY O'NEILL
LS 13321

SURVEY CONTROL SHEET
4TH AND 5TH STREET ROW WITHIN PORTIONS OF THE TOWNSITE OF DOUGLAS, (US SURVEY 1180).
JUNEAU, AK 99801
CLIENT: proHNS