

MEMORANDUM

CITY/BOROUGH OF JUNEAU
155 South Seward Street, Juneau, Alaska 99801

DATE: June 6, 2011

TO: Planning Commission

FROM: Beth McKibben, Planner *BMC*
Community Development Department

FILE NO.: CSP20110003

PROPOSAL: A city project to extend city sanitary sewer system for North Douglas residents. (Phase V, L.I.D. 91)

GENERAL INFORMATION

Applicant: CBJ Engineering

Property Owner: City and Borough of Juneau

Property Address: North Douglas Highway

Site Size: 7,000 linear feet (3.1 miles)

Access: North Douglas Highway

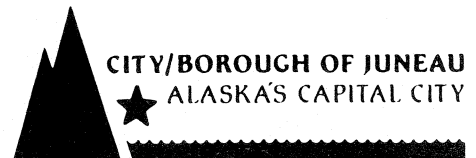
Existing Land Use: Vacant, single family/duplex residence, car sales

Surrounding Land Use: Vacant; Single Family; Single Family w/Apartment; Duplex; Triplex; Mobile Home on Lot; -Zoning D1, D3, D1(T)D3, RR(T)D3, D18, LC and GC.

BACKGROUND

The City and Borough of Juneau (CBJ) is proposing to continue the expansion of the city sanitary sewer system to North Douglas residents. This project is in response to the increasing waste water disposal needs of the surrounding property along North Douglas Highway and is identified as a project in the Capital Improvement Program (CIP# 484 – 86). This fifth and final phase of the sewer extension project consists of three separate gravity systems and sewer crossings that will connect to the Phase IV beachfront sewer system. The work will include installing a new gravity sanitary sewer system along the uphill side of North Douglas Highway. Other work includes:

- approximately 7,000 lineal feet of 8 inch sewer pipe,



- 44 sewer manholes,
- 44 sewer services,
- three bored crossings,
- manhole access pads, guardrails, street signs,
- removal and replacement of mailboxes,
- removal and replacement of storm sewer conduits,
- asphalt treated base, paving, traffic control, and
- relocation of 6 inch and 16 inch water mains, stripping, and hydro seeding.

The project will be constructed in three phases so the majority of asphalt paving is completed in 2011.

Prior to interruption of city water services, the contractor will notify CBJ Water Utilities and submit a Water System Special Use permit 48 hours prior to shutdown of the mainline water pipe. There will also be individual notifications to property owners on a case-by-case basis of service disruptions.

ANALYSIS

The CBJ Land Use Code section CBJ§49.10.170(c) on City and Borough Land Acquisitions, Disposals and Projects, states:

“The commission shall review and make recommendations to the Assembly on land acquisitions and disposals as prescribed by Title 53, or capital improvement projects by any City and Borough Agency. The report and recommendation of the commission shall be based upon the provisions of this title and the comprehensive plan, and the capital improvement program.”

Therefore, Staff has reviewed the proposal and provided the following evaluation of the project in accordance with adopted plans and the CBJ Land Use Code.

CONFORMITY WITH ADOPTED PLANS

The 2008 Comprehensive Plan addresses the topic of water quality in Chapter 7, Natural Resources and Hazards. Page 82 of the Comprehensive Plan discusses the concept of non-point source pollution. Broad diffuse sources of pollution and sewage system leach fields are identified as potential contributors to non-point source pollution. The expansion of the sewer system to North Douglas is discussed in the plan (pg 83) as an action that will reduce on-site sewage disposal and the potential for water quality impacts.

Policy 7.7 states “It is the policy of the CBJ to protect, maintain and improve surface water, ground water and marine water quality in its jurisdiction so that all waters are in compliance with Federal and State water quality standards and continue to allow aquatic life to thrive.”

Furthermore the project is within the Urban Service Boundary. Policy 12.2 (pg 230) states “It is the policy of the CBJ to extend public water, sewer, storm drainage, and earth retention facilities to all areas within the Urban Service Area.”

49.70.900-49.70.1097 COASTAL DEVELOPMENT, HABITAT, AND WETLANDS

The installation of municipal sewer services will eliminate the need to utilize failing, private, on-site wastewater disposal systems and marine outfalls. This project will improve the water quality in the area.

ALASKA COASTAL MANAGEMENT PROGRAM (ACMP)

Not applicable. This project does not require a state-coordinated ACMP review.

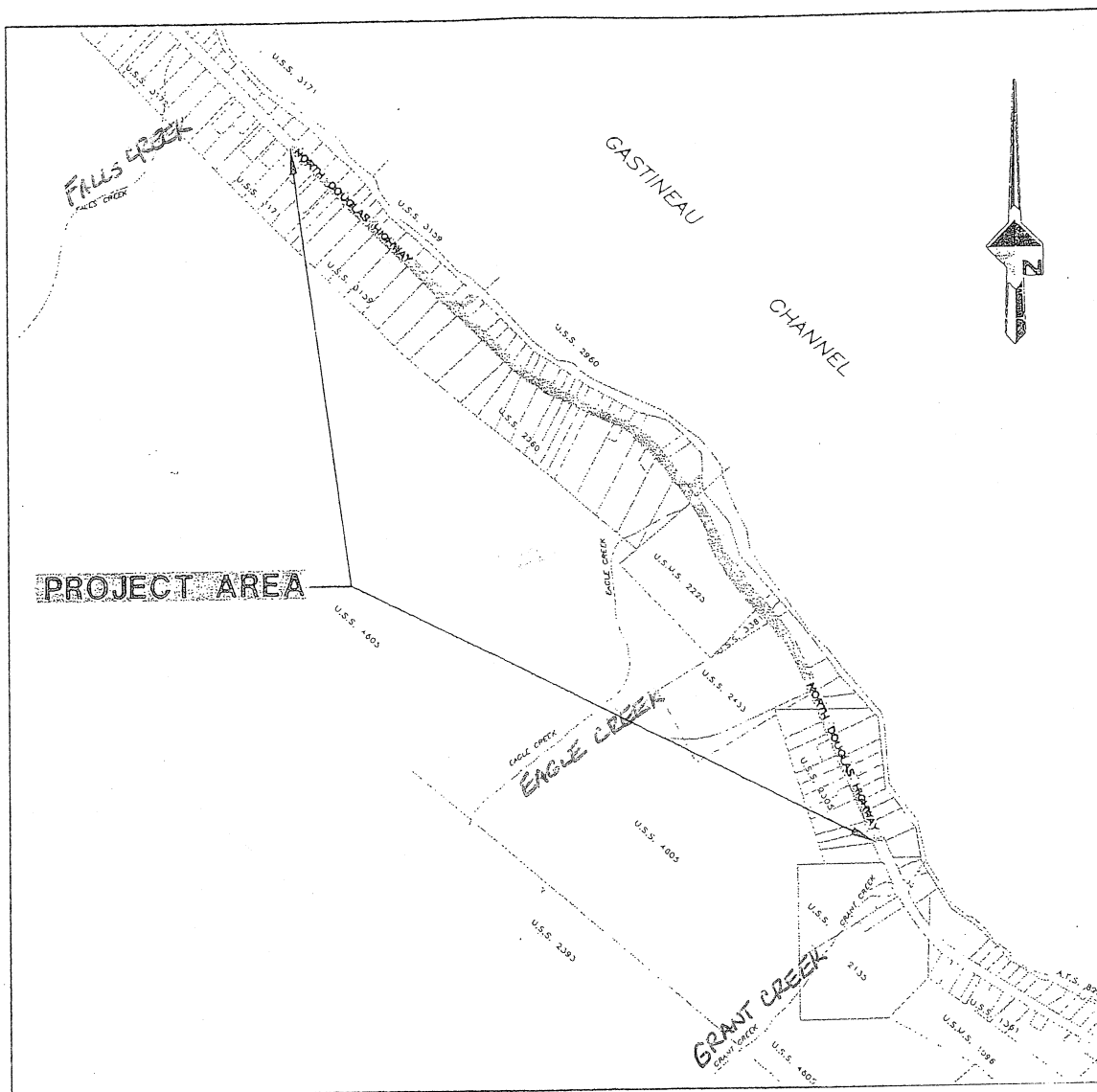
FINDINGS

All evidence indicates that the project complies with the CBJ Land Use Code and applicable plans, including the Comprehensive Plan. The contractor will address impacts from project construction with Best Management Practices.

RECOMMENDATION

Staff recommends that the Planning Commission recommend to the Assembly authorization of the North Douglas Sewer Expansion – Phase V (L.I.D. 91) project.

NOTICE OF PUBLIC HEARING



PROPOSAL: A City project to extend city sanitary sewer system to North Douglas Phase V LID 91, Contract No. E11-147.

FILE NO: CSP2011 0003

TO: Adjacent Property Owners

HEARING DATE: June 14, 2011

HEARING TIME: 7:00 PM

PLACE: Assembly Chambers
Municipal Building
155 S. Seward St.
Juneau, Alaska 99801

APPLICANT: City & Borough of Juneau

Property PCN: 0 parcel

Owner(s): Alaska Department of Transportation

Size: N/A

Zoned: D1, D3, D1(T)D3, RR(T)D3, D18, LC, GC

Site Address: Douglas Hwy ROW

Accessed via: Douglas Hwy

PROPERTY OWNERS PLEASE NOTE:

You are invited to attend this public hearing and present oral testimony. The Planning Commission will also consider written testimony. You are encouraged to submit written material to the Community Development Department no later than 8:30 AM on the Wednesday preceding the public hearing. Materials received by this deadline are included in the information packet given to the Planning Commission a few days before the public hearing. Written materials received after the deadline will be provided to the Planning Commission at the public hearing.

If you have questions, please contact Beth McKibben at 586-0465, or email: beth_mckibben@ci.juneau.ak.us

Planning Commission agendas, staff reports, and meeting results can be viewed at www.juneau.org/plancomm.

DEVELOPMENT PERMIT APPLICATION

Project Number	CITY and BOROUGH of JUNEAU	Date Received: 5/13/11
Project Name		
(City Staff to Assign Name)		

INFORMATION

PROJECT / APPLICANT

Project Description
 NO. DOUGLAS SEWER PH. II - CID 91. WORK INCLUDES 8" SEWER MAINS, SEWER MANHOLES, SEWER SERVICES, THREE BORED CROSSINGS, TRAFFIC CONTROL, STREET SIGNS, ASPHALT PAVING, ALONG NO. DOUGLAS HWY. FROM HOUSE 4255 TO HOUSE 5795.

PROPERTY LOCATION

Street Address: NO. DOUGLAS HIGHWAY
 City/Zip: DOUGLAS, AK.

Legal Description(s) of Parcel(s) (Subdivision, Survey, Block, Tract, Lot)

Assessor's Parcel Number(s)

LANDOWNER/ LESSEE

Property Owner's Name	Contact Person:	Work Phone:
Mailing Address	Home Phone:	Fax Number:
E-mail Address	Other Contact Phone Number(s):	

LANDOWNER/ LESSEE CONSENT

****Required for Planning Permits; not needed on Building/ Engineering Permits****

I am (we are) the owner(s) or lessee(s) of the property subject to this application and I (we) consent as follows:

- A. This application for a land use or activity review for development on my (our) property is made with my complete understanding and permission.
- B. I (we) grant permission for officials and employees of the City and Borough of Juneau to inspect my property as needed for purposes of this application.

X _____
 Landowner/Lessee Signature Date

X _____
 Landowner/Lessee Signature Date

NOTICE: The City and Borough of Juneau staff may need access to the subject property during regular business hours and will attempt to contact the landowner in addition to the formal consent given above. Further, members of the Planning Commission may visit the property before the scheduled public hearing date.

APPLICANT

If the same as OWNER, write "SAME" and sign and date at X below

Applicant's Name CBI ENGINEERING	Contact Person: JOE CASTILLO	Work Phone: 6-0481
Mailing Address	Home Phone:	Fax Number:
E-mail Address	Other Contact Phone Number(s):	

X Joe Castillo
 Applicant's Signature Date of Application: 5-13-11

OFFICE USE ONLY BELOW THIS LINE

STAFF APPROVALS

Permit Type	**SIGN**	Date Received	Application Number(s)
<input checked="" type="checkbox"/> Building/Grading Permit			
<input checked="" type="checkbox"/> City/State Project Review and City Land Action		5/13/11	CSP2011 0003
<input type="checkbox"/> Inquiry Case (Fee In Lieu, Letter of ZC, Use Not Listed)			
<input type="checkbox"/> Mining Case (Small, Large, Rural, Extraction, Exploration)			
<input type="checkbox"/> Sign Approval (If more than one, fill in all applicable permit #'s)			
<input type="checkbox"/> Subdivision (Minor, Major, PUD, St. Vacation, St. Name Change)			
<input type="checkbox"/> Use Approval (Allowable, Conditional, Cottage Housing, Mobile Home Parks, Accessory Apartment)			
<input type="checkbox"/> Variance Case (De Minimis and all other Variance case types)			
<input type="checkbox"/> Wetlands Permits			
<input type="checkbox"/> Zone Change Application			
<input type="checkbox"/> Other (Describe)			

***Public Notice Sign Form filled out and in the file.

Comments:

Permit Intake Initials

JC

NOTE: DEVELOPMENT PERMIT APPLICATION FORMS MUST ACCOMPANY ALL OTHER COMMUNITY DEVELOPMENT DEPARTMENT APPLICATIONS

CITY/STATE PROJECT AND LAND ACTION REVIEW APPLICATION

Project Number	Project Name (15 characters)	Case Number CSP 2011 0003	Date Received 5/16/11
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TYPE OF PROJECT REVIEW:

☒ City Project Review
 ☐ City Land Acquisition /Disposal
 ☐ State Project Review

DESCRIPTION OF PROJECT NO. DOUGLAS SEWER PH. II - LID 9K E11-147. WORK INCLUDES 8" SEWER MAINS, SEWER MANHOLES, SEWER SERVICES, THREE BORED CROSSINGS, TRAFFIC CONTROL, STREET SIGNS, GUARDRAILS, ASPALT PAVING, STRIPING, AND OTHER WORK ALONG UPHILL SIDE OF NO. DOUGLAS HWY. FROM HOUSE 4355 TO HOUSE 5795.

Please attach a cover letter to fully explain the project if there is not adequate space on this form.

CURRENT USE OF LAND OR BUILDING(S): EXISTING PAVED HIGHWAY

PROPOSED USE OF LAND OR BUILDING(S): INSTALLING NEW (8") GRAVITY SEWER COLLECTION SYSTEM ALONG UPHILL SIDE OF NO. DOUGLAS HIGHWAY.

PROJECT NUMBERS ASSOCIATED WITH PROPOSAL:

Is this project associated with any other Land Use Permits? ☒ No ☐ Yes Case No.: _____

Capital Improvement Program # (CIP) 484-86

Local Improvement District # (LID) 91

State Project # _____

ESTIMATED PROJECT COST: \$ 1.9M

For more information regarding the permitting process and the submittals required for a complete application, please see the reverse side.

If you need any assistance filling out this form, please contact the Permit Center at 586-0770.

CITY/STATE PROJECT FEES

	Fees	Check No.	Receipt	Date
Application Fees	\$ _____	_____	_____	_____
Total Fee	\$ _____	_____	_____	_____

No fees due if project is under 2.5 M. per BM/GC

NOTE: MUST BE ACCOMPANIED BY DEVELOPMENT PERMIT APPLICATION FORM
&
EVEN IF THE PROPOSED PROJECT IS ASSOCIATE WITH OTHER LAND USE PERMITS, THIS APPLICATION MUST BE FILLED OUT

MEMORANDUM

CITY/BOROUGH OF JUNEAU

155 South Seward Street, Juneau, Alaska 99801

TO: CBJ Permit Center

May 13, 2011

FROM: Joe Castillo
Project Manager

File: 1707.14

SUBJECT: NORTH DOUGLAS SEWER PH. V LID 91
CITY/STATE PERMIT – PROJECT DESCRIPTION

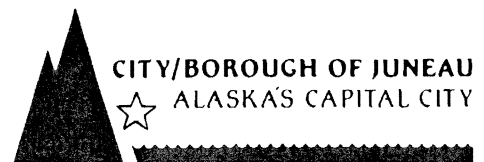
This project is the final interconnecting sewer system for the Juneau–Douglas Sewer System Extension on North Douglas Highway, from the Douglas Bridge to Bonnie Brae Subdivision. This project will consist of three separate highway gravity systems and sewer crossings that will connect to the Phase IV beachfront sewer system.

The work will include installing the new highway gravity sanitary sewer system along the uphill side of North Douglas Highway from house number 4355 to house number 5795. Other work includes approximately 7,000 lineal feet of 8 inch C-900 sewer pipe, 44 sewer manholes, 44 sewer services, three bored crossings, manhole access pads, guardrails, street signs, remove and replace mailboxes, remove and replace storm sewer conduits, asphalt treated base, asphalt paving, traffic control, relocate 6 inch and 16 inch water mains, striping, hydro-seeding, and other miscellaneous work

The project is scheduled to be constructed in three phases so that the majority of asphalt paving is completed in 2011 for Phase I and II. All three phase will include replacing the asphalt shoulder/bike lane, except Phase I will also include repaving a single roadway lane of about 350 lineal feet.

The project schedule for Phase V is expected to occur as follows:

Bid Advertise	March 10, 2011
Bid Opening	May 10, 2011
Bid Award	May 13, 2011
Assembly Approval	May 23, 2011
Issue Notice to Proceed	May 30, 2011
Phase I Completion	August 31, 2011
Phase II Completion	September 30, 2011
Final Completion	July 31, 2012

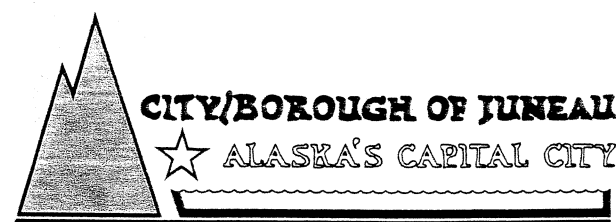
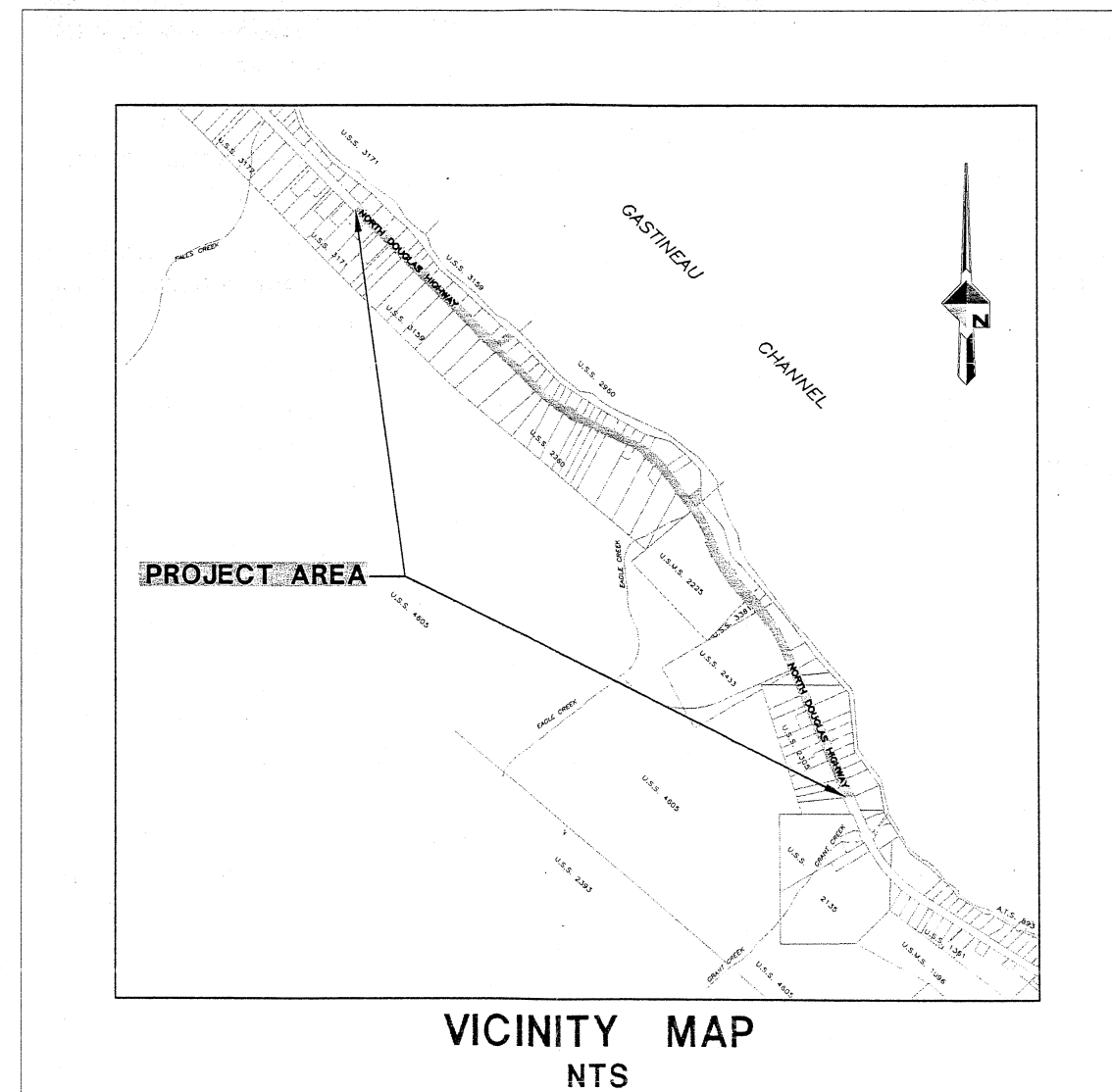


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NORTH DOUGLAS SEWER PHASE V, LID 91 CONTRACT NO. E11-147

RECEIVED
MAY 13 2011
PERMIT CENTER/CDD



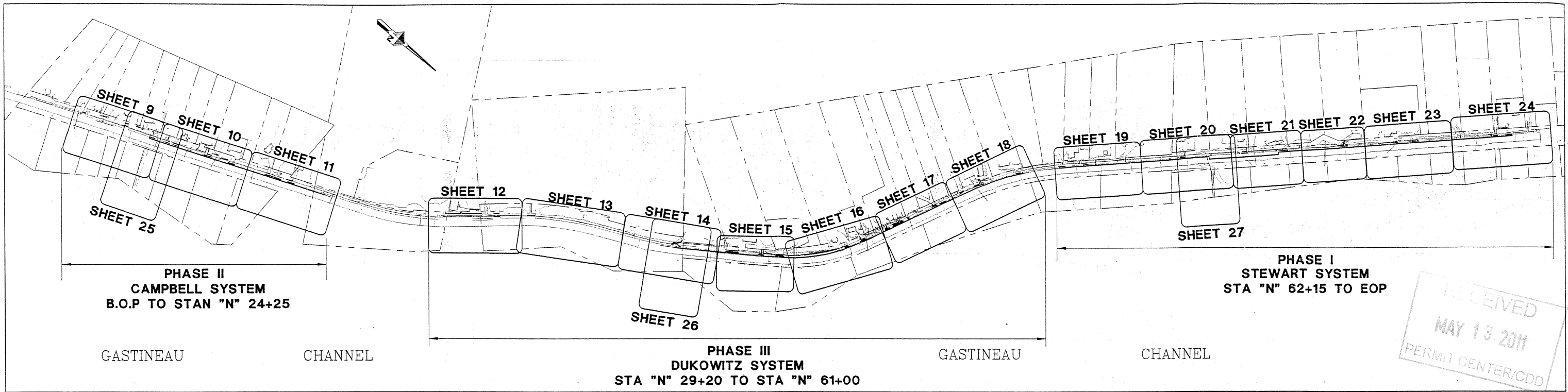
DOWL HKM

Consulting Engineers • Land Surveyors • Construction Administration

5368 Commercial Blvd.
Juneau, Alaska 99801
(907) 780-3533 Office
(907) 780-3535 Fax

APPROVED BY	
DIRECTOR OF PUBLIC WORKS	3/30/11
SIGNATURE	DATE
CHIEF CIVIL ENGINEER	
SIGNATURE	3/29/11
SIGNATURE	DATE

SHEET NO.
1 of 28



HORIZONTAL CONTROL

PT No.	NORTHING	EASTING	STATION	OFFSET	DESCRIPTION
DH-1	2364309.53	2534987.18	N/A	N/A	MAG NAIL
DH-2	2364737.33	2534802.54	14+41.64	17.89 RT	MAG NAIL
DH-3	2365837.09	2534321.32	26+41.27	15.69 RT	MAG NAIL
DH-4	2366539.13	2533729.08	35+58.23	16.43 LT	MAG NAIL
DH-5	2367114.52	2533450.12	41+94.43	16.13 RT	MAG NAIL
DH-6	2367758.75	2532911.67	50+32.13	19.82 RT	MAG NAIL
DH-7	2368184.56	2531969.50	60+62.82	16.63 LT	MAG NAIL
DH-8	2368551.83	2531631.69	65+59.74	17.64 RT	MAG NAIL
DH-9	2369046.87	2531138.62	72+58.44	18.55 RT	MAG NAIL
DH-10	2369362.38	2530826.12	77+02.52	20.37 RT	MAG NAIL
DH-11	2369790.84	2530395.10	83+10.25	18.15 RT	MAG NAIL
DH-12	2370010.94	2530175.35	86+21.28	18.17 RT	MAG NAIL

KEY MAP

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PROJECT PHASING PLAN

PHASE	COMPLETION DATE	REQUIREMENTS
I	AUGUST 31, 2011	ALL WORK SHALL BE COMPLETED WITH THE EXCEPTION OF 2718.1 SIGN ASSEMBLY, 2719.1 REMOVE AND RESET MAILBOX, AND 2720.1 PAINTED TRAFFIC MARKINGS.
II	SEPTEMBER 30, 2011	ALL WORK FOR PHASES I AND II SHALL BE COMPLETE
III	JULY 31, 2012	ALL WORK SHALL BE COMPLETE

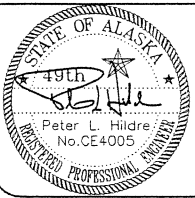
NOTE: WITH THE EXCEPTION OF PAY ITEMS 2404.1 20-INCH PIPE CASING, 2601.3 LOCATE EXISTING 16-INCH DI WATER PIPE, AND 2702.1 CONSTRUCTION SURVEYING, THE CONTRACTOR WILL NOT BE PERMITTED TO PERFORM WORK WITHIN MORE THAN TWO SUCCESSIVE PHASES AT THE SAME TIME.

VERTICAL CONTROL

T.B.M.	NORTHING	EASTING	STATION	OFFSET	ELEVATION	DESCRIPTION
FH A	2364471.55	2534860.90	11+74.57	34.24 LT	64.04'	N.E. BOLT, TOP FLANGE, FIRE HYDRANT
PP-1	2364723.78	2534825.48	14+20.08	33.56 RT	55.45'	SPIKE IN POWER POLE #10498
FH B	2364904.18	2534673.93	16+45.87	33.76 LT	57.81'	N.E. BOLT, TOP FLANGE, FIRE HYDRANT
FH C	2365302.67	2534501.28	20+80.15	33.72 LT	71.68'	N.E. BOLT, TOP FLANGE, FIRE HYDRANT
FH D	2365725.18	2534316.66	25+41.23	35.11 LT	83.92'	N.E. BOLT, TOP FLANGE, FIRE HYDRANT
FH E	2366079.90	2534100.23	29+68.56	37.85 LT	74.90'	N.E. BOLT, TOP FLANGE, FIRE HYDRANT
FH F	2366444.23	2533778.93	34+54.04	32.70 LT	63.13'	N.E. BOLT, TOP FLANGE, FIRE HYDRANT
FH G	2366886.13	2533522.56	39+59.11	33.97 LT	44.99'	N.E. BOLT, TOP FLANGE, FIRE HYDRANT
FH H	2367285.98	2533266.89	44+40.24	32.70 LT	33.78'	N.E. BOLT, TOP FLANGE, FIRE HYDRANT
FH I	2367607.46	2533020.80	48+51.22	32.58 LT	41.85'	N.E. BOLT, TOP FLANGE, FIRE HYDRANT
FH J	2367873.90	2532534.91	54+21.02	34.21 LT	56.71'	N.E. BOLT, TOP FLANGE, FIRE HYDRANT
FH K	2368073.64	2532109.37	58+87.76	31.53 LT	69.81'	N.E. BOLT, TOP FLANGE, FIRE HYDRANT
FH L	2368416.61	2531695.40	64+19.03	32.83 LT	74.10'	N.E. BOLT, TOP FLANGE, FIRE HYDRANT
FH M	2368684.65	2531426.30	67+98.85	33.84 LT	68.76'	N.E. BOLT, TOP FLANGE, FIRE HYDRANT
FH N	2369023.39	2531097.34	72+75.23	31.49 LT	64.20'	N.E. BOLT, TOP FLANGE, FIRE HYDRANT
FH O	2369328.62	2530788.02	77+05.54	30.45 LT	64.65'	N.E. BOLT, TOP FLANGE, FIRE HYDRANT
FH P	2369567.45	2530547.17	80+44.73	32.10 LT	69.89'	N.E. BOLT, TOP FLANGE, FIRE HYDRANT
FH Q	2369850.70	2530266.57	84+43.42	30.51 LT	76.40'	N.E. BOLT, TOP FLANGE, FIRE HYDRANT

"N" PROJECT BASELINE

DESCRIPTION	STATION	NORTHING	EASTING	TANGENT DATA		CURVE DATA			
				BEARING & DIST.	RADIUS	DELTA	LENGTH	BEARING & DIST.	
BOP	10+00.00	2364325.00	2534961.73	N23°25'51"W - 1565.71					
PC	25+65.71	2365761.60	2534339.14		1432.39	19°18'38"	482.76	N33°05'10" - 480.48	
PT	30+48.48	2366164.17	2534076.84	N42°44'29"W - 300.02					
PC	33+48.50	2366384.51	2533873.22		1432.40	16°33'53"	414.12	N34°27'33"W - 412.68	
PT	37+62.62	2366724.78	2533639.72	N26°10'36"W - 229.93					
PC	39+92.55	2366931.13	2533538.29		1432.40	09°37'30"	240.63	N30°59'21"W - 240.35	
PT	42+33.18	2367137.17	2533414.54	N35°48'06"W - 476.91					
PC	47+10.09	2367523.97	2533135.56		818.51	30°30'22"	435.80	N51°03'18"W - 430.67	
PT	51+45.89	2367794.68	2532800.60	N66°18'29"W - 580.89					
PC	57+26.78	2368028.09	2532268.67		1432.40	21°20'51"	533.69	N55°38'03"W - 530.61	
PT	62+60.47	2368327.60	2531830.68	N44°48'06"W - 3021.72					
EOP	92+82.18	2370465.75	2529695.48						



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Consulting Engineers • Land Surveyors • Construction Administration

5368 Commercial Blvd.
Juneau, Alaska 99801
(907) 780-3533 Office
(907) 780-3535 Fax



CITY/BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY

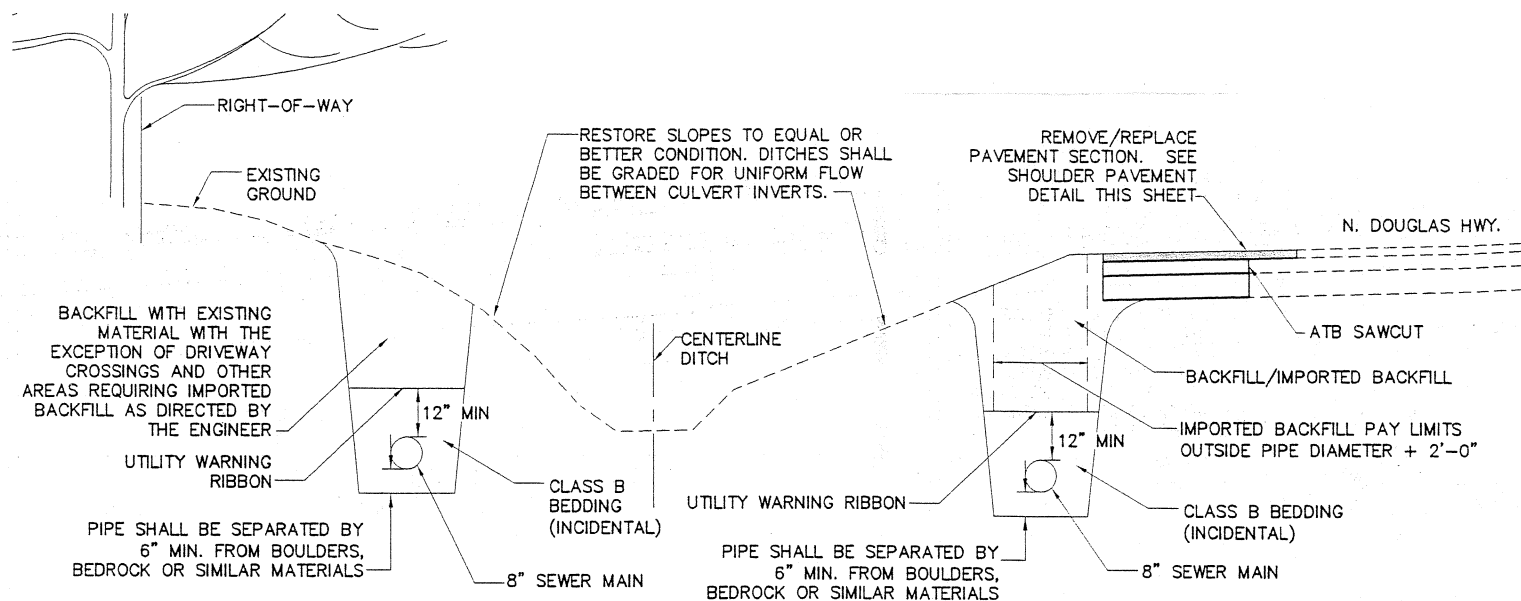
DEPARTMENT OF ENGINEERING

NORTH DOUGLAS SEWER
PHASE V, LID 91
CONTRACT NO. E11-147

KEY MAP, PROJECT PHASING &
SURVEY CONTROL

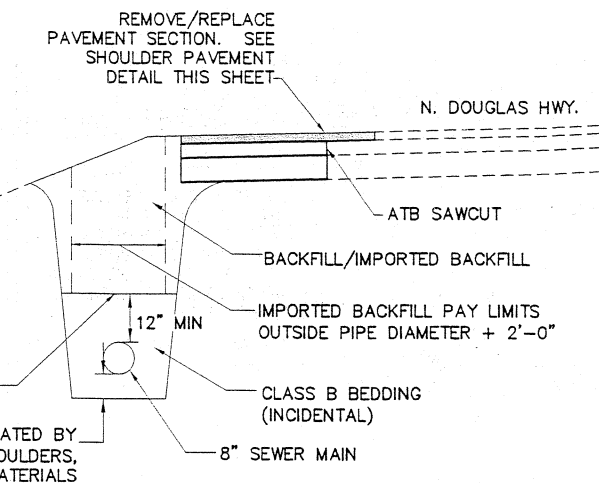
SHEET NO.

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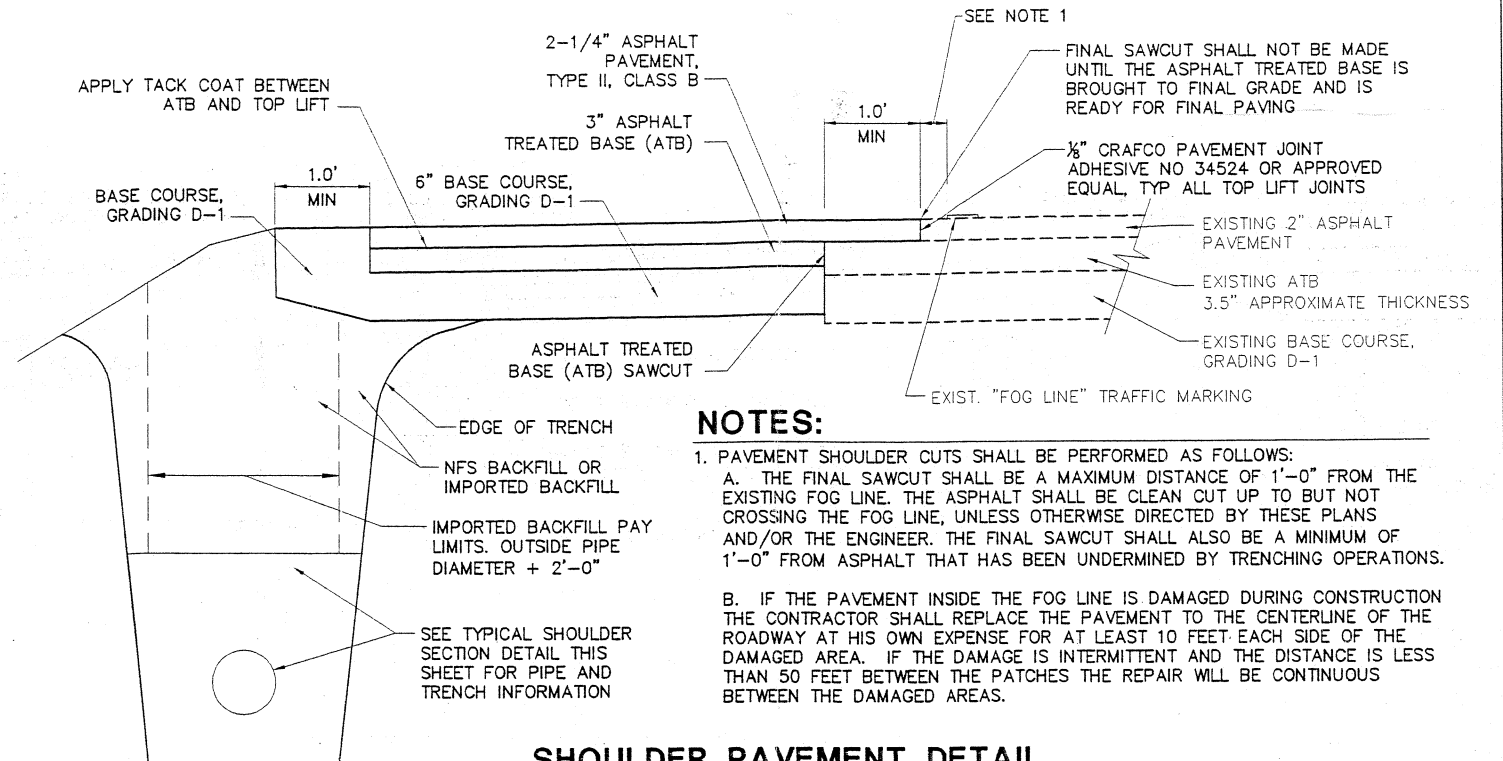
TYPICAL BACKSLOPE SECTION

NTS



TYPICAL SHOULDER SECTION

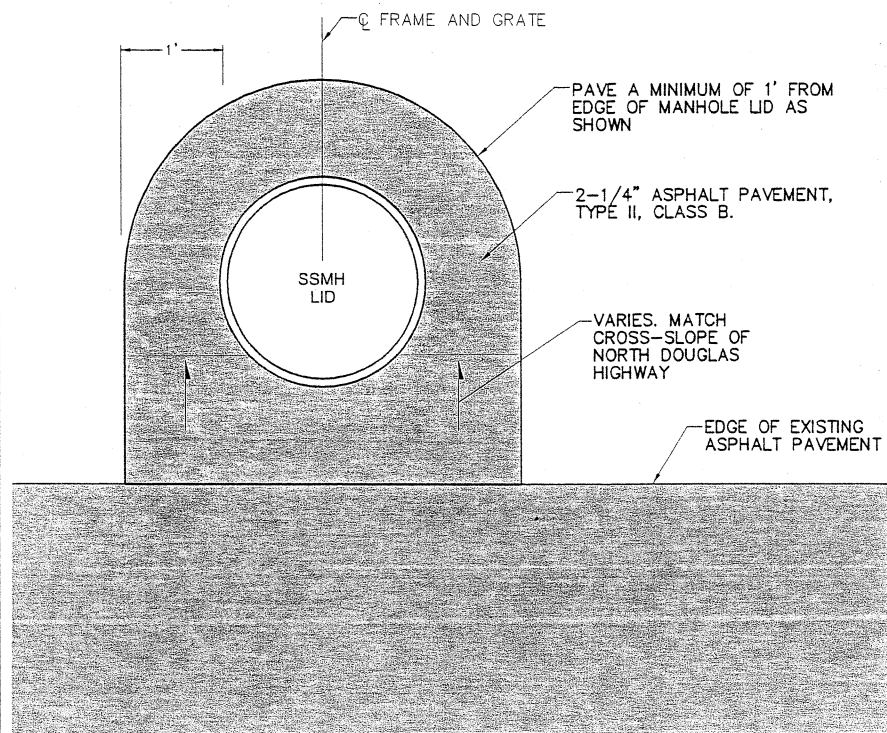
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SHOULDER PAVEMENT DETAIL

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TO BE USED WHEREVER THE PLANS CALL FOR SAWCUT/MATCH EXISTING ALONG THE EXISTING FOG LINE OF NORTH DOUGLAS HIGHWAY.



NOTES:

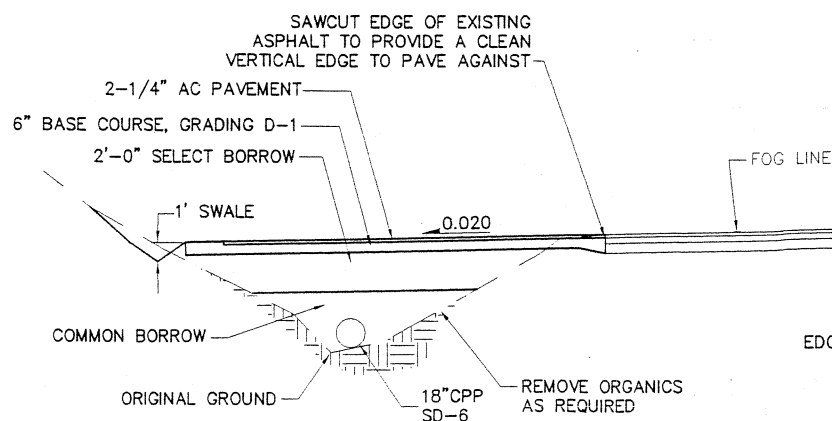
1. SEE CBJ STANDARD DETAIL NO.203 FOR ITEMS NOT NOTED ABOVE.
2. DETAIL SHALL APPLY FOR ALL MANHOLES THAT ARE LOCATED WITHIN AN EXISTING GRAVEL DRIVEWAY OR UNPAVED SHOULDER.

MANHOLE PAVING DETAIL

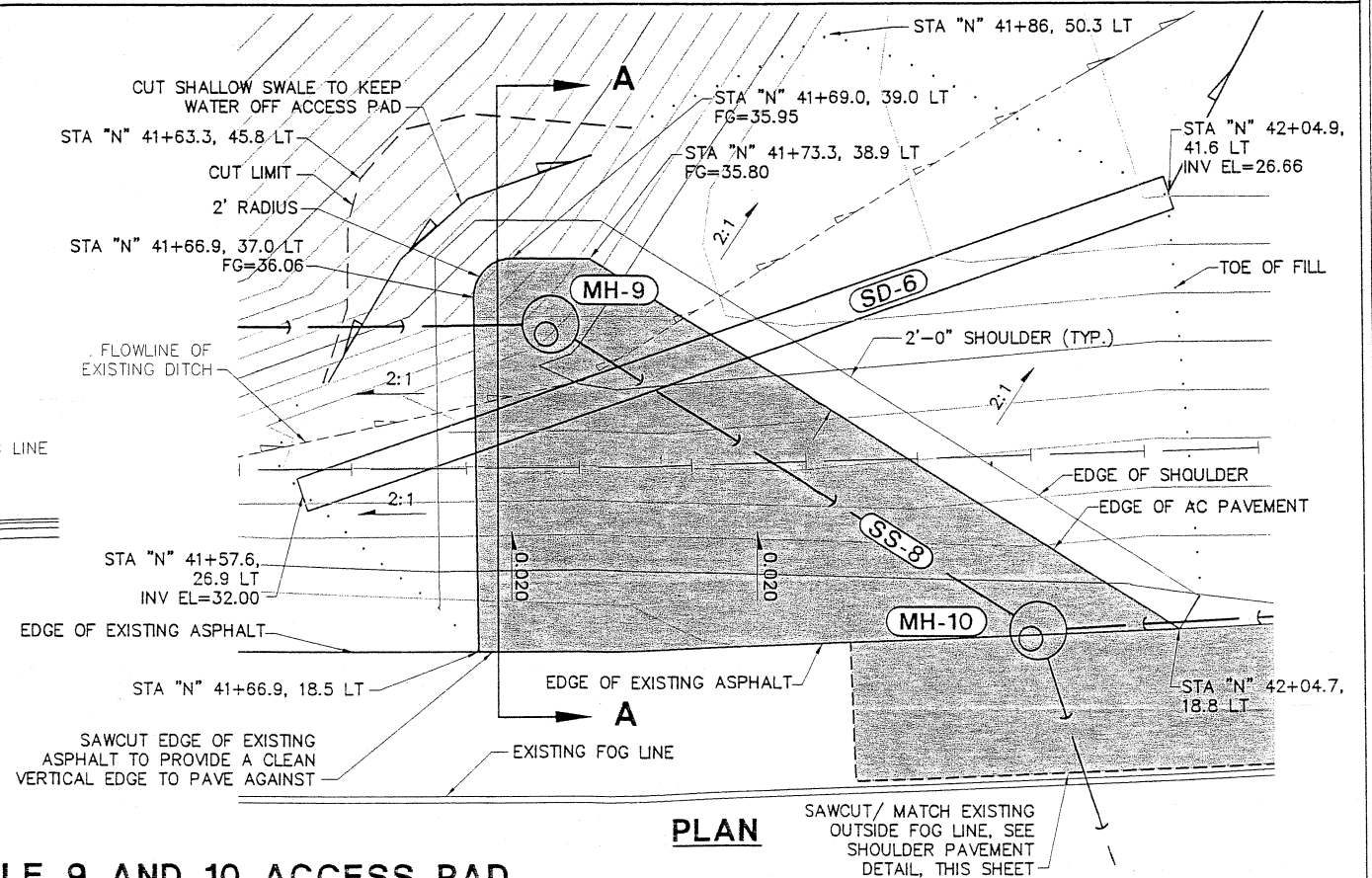
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APPROXIMATE QUANTITIES

BORROW = 64 CY
SELECT BORROW = 50 CY
BASE COURSE, GRADING D-1 TO BE PAID FOR UNDER ITEM NO. 2204.1
AC PAVEMENT TO BE PAID FOR UNDER ITEM NO. 2801.1
18\"/>

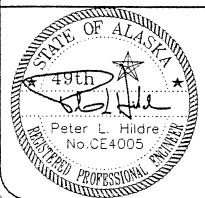


SECTION A-A



MANHOLE 9 AND 10 ACCESS PAD

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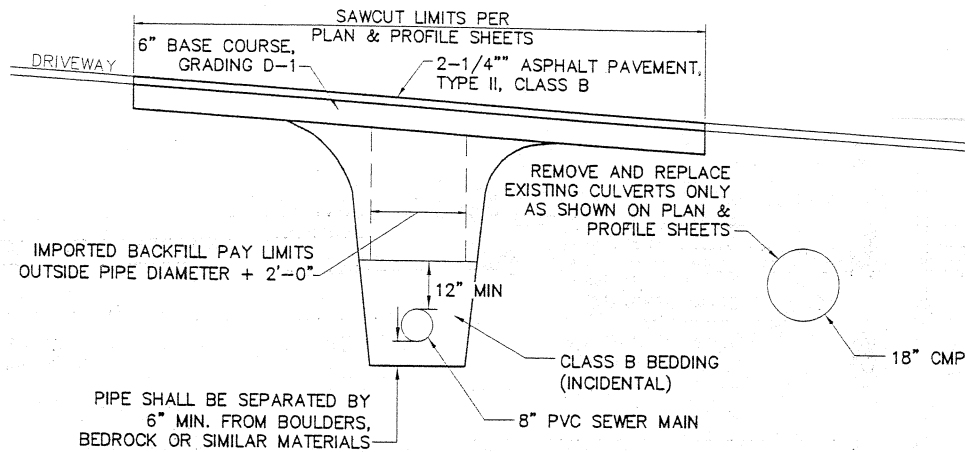
**NORTH DOUGLAS SEWER
PHASE V, LID 91
CONTRACT NO. E11-147**

**TYPICAL SECTIONS
AND DETAILS**

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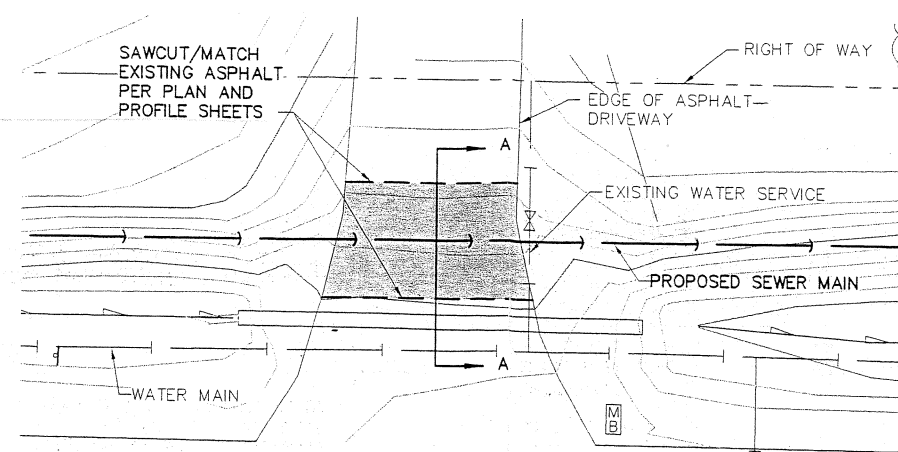
S:\LIB\J70373\040 2011-3-25 11:37:56 g:\PLAN SET\J70373 06-08 DE-TS.dwg



NOTES:

1. REPLACE AND GRADE BASE COURSE, GRADING D-1 BEYOND TRENCH AS NECESSARY TO RETURN DRIVEWAY TO UNIFORM GRADE AND APPEARANCE.

SECTION A-A

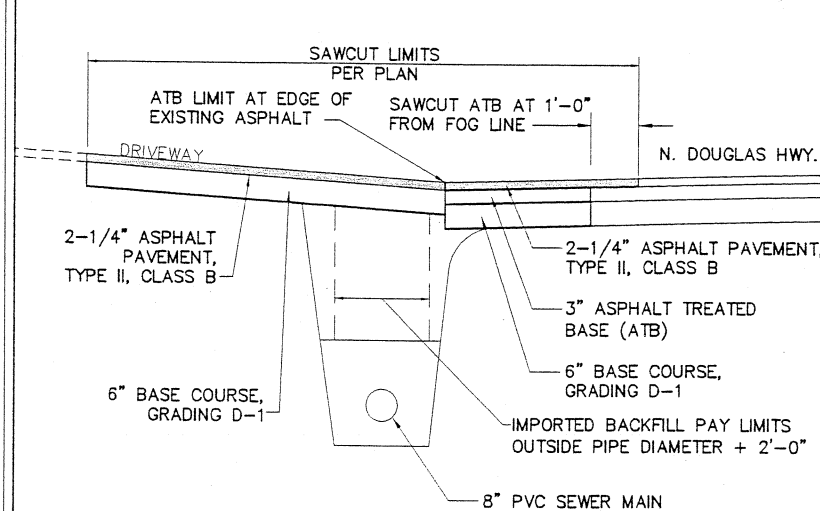


NORTH DOUGLAS HIGHWAY

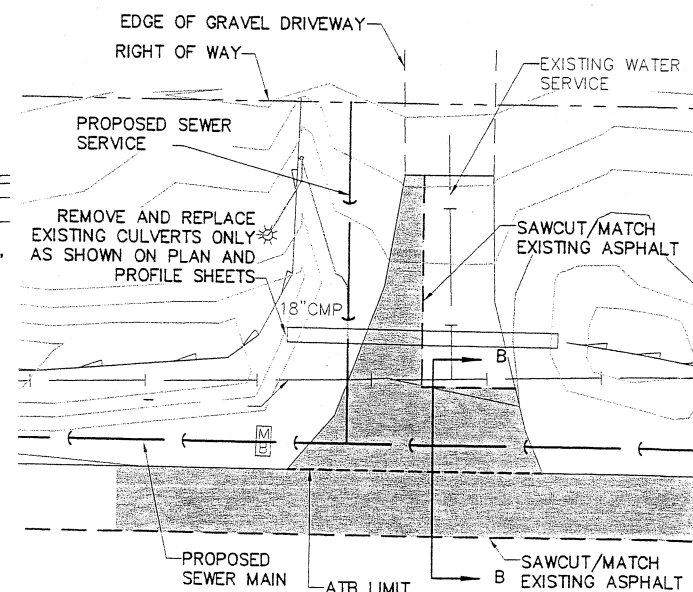
PLAN VIEW

TYPICAL DRIVEWAY AND HYDRANT PAD CUTS WITH MAINLINE IN BACKSLOPE

NTS



SECTION B-B

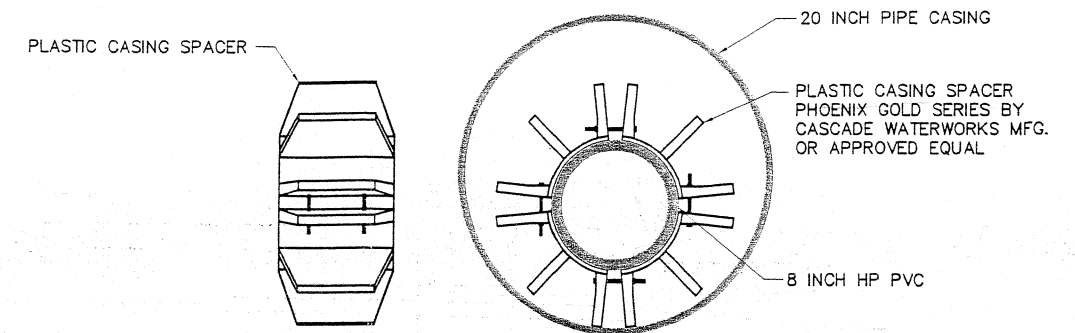


NORTH DOUGLAS HIGHWAY

PLAN VIEW

TYPICAL DRIVEWAY AND HYDRANT PAD CUTS WITH MAINLINE IN SHOULDER

NTS



ELEVATION VIEW

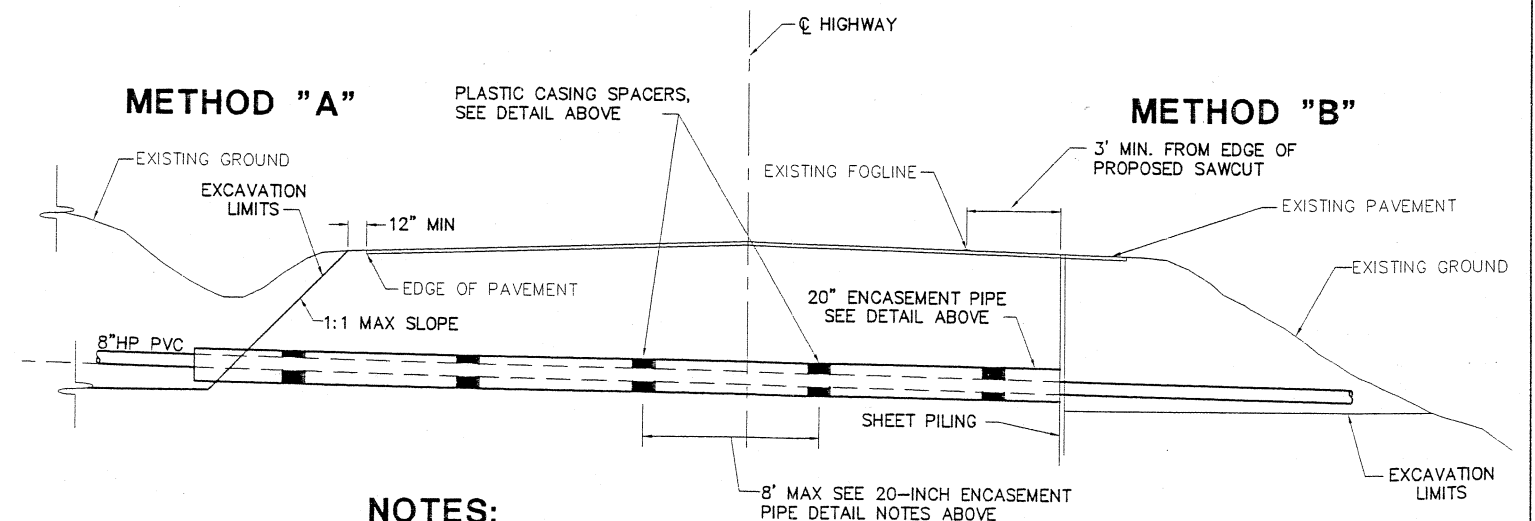
SECTION VIEW

NOTES:

1. PLASTIC CASING SPACERS SHALL BE PLACED BETWEEN EACH JOINT, AND NEVER OVER THE JOINT. THE PIPE SHALL REST ON THE PLASTIC CASING SPACER AND NOT ON THE JOINTS (I.E. BELL FLANGES, ETC.)
2. END OF CASING PIPE SHALL BE PROTECTED AGAINST THE ENTRY OF FOREIGN MATERIAL BUT SHALL NOT BE PERMANENTLY SEALED.
3. PLASTIC CASING SPACERS SHALL BE SIZED AS REQUIRED TO ESTABLISH SEWER PIPE TO PLAN GRADELINE.
4. PLASTIC CASING SPACERS SHALL BE SPACED WITHIN TWO FEET OF BOTH ENDS OF EACH INDIVIDUAL CASING PIPE SECTION WITH ALL REMAINING SPACERS ASSEMBLED ALONG THE LENGTH OF THE PIPE SECTION AT AN EQUAL DISTANCE APART NOT EXCEEDING EIGHT FEET IN LENGTH AS PER MANUFACTURER'S SPECIFICATIONS.

20 INCH ENCASEMENT PIPE

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NOTES:

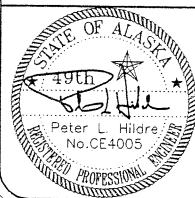
EXCAVATION FOR BORING SHALL MEET THE MINIMUM REQUIREMENTS FOR EITHER METHOD "A" OR "B" AS FOLLOWS:

- A. METHOD "A" - EXCAVATION SHALL BE AT A MAXIMUM SLOPE OF 1:1 AWAY FROM THE EXISTING PAVEMENT AS SHOWN.
- B. METHOD "B" - EXCAVATION WITHIN THE 1:1 MAX SLOPE SHOWN IN METHOD "A" SHALL BE STABILIZED WITH SHEET PILING. SHEET PILING SHALL BE NO CLOSER THAN 3' FROM THE EDGE OF PROPOSED SAWCUT AND SHALL EXTEND BELOW THE EXCAVATION AS REQUIRED. THE CONTRACTOR SHALL USE JERSEY BARRIER OR OTHER APPROVED EQUAL AS REQUIRED UNDER AN APPROVED TRAFFIC CONTROL PLAN.

BORED ENCASEMENT

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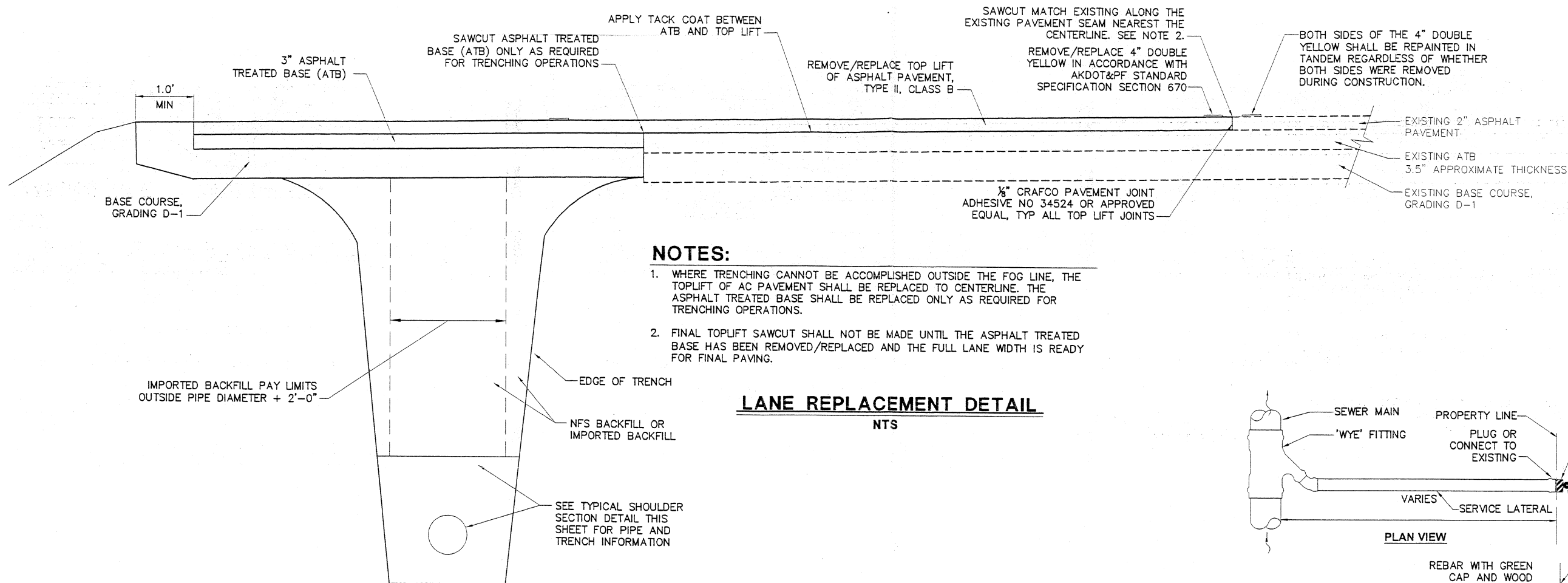
DEPARTMENT OF ENGINEERING

NORTH DOUGLAS SEWER
PHASE V, LID 91
CONTRACT NO. E11-147

DETAILS

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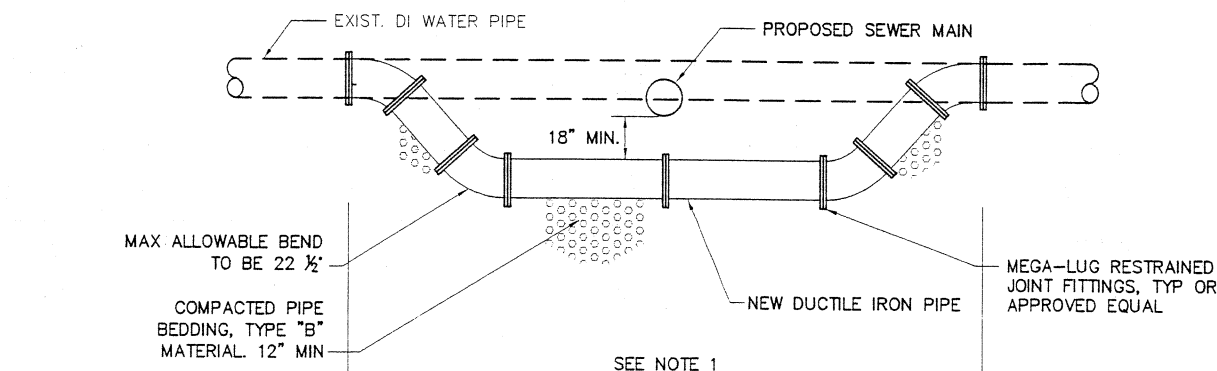


NOTES:

1. WHERE TRENCHING CANNOT BE ACCOMPLISHED OUTSIDE THE FOG LINE, THE TOPLIFT OF AC PAVEMENT SHALL BE REPLACED TO CENTERLINE. THE ASPHALT TREATED BASE SHALL BE REPLACED ONLY AS REQUIRED FOR TRENCHING OPERATIONS.
2. FINAL TOPLIFT SAWCUT SHALL NOT BE MADE UNTIL THE ASPHALT TREATED BASE HAS BEEN REMOVED/REPLACED AND THE FULL LANE WIDTH IS READY FOR FINAL PAVING.

LANE REPLACEMENT DETAIL

NTS

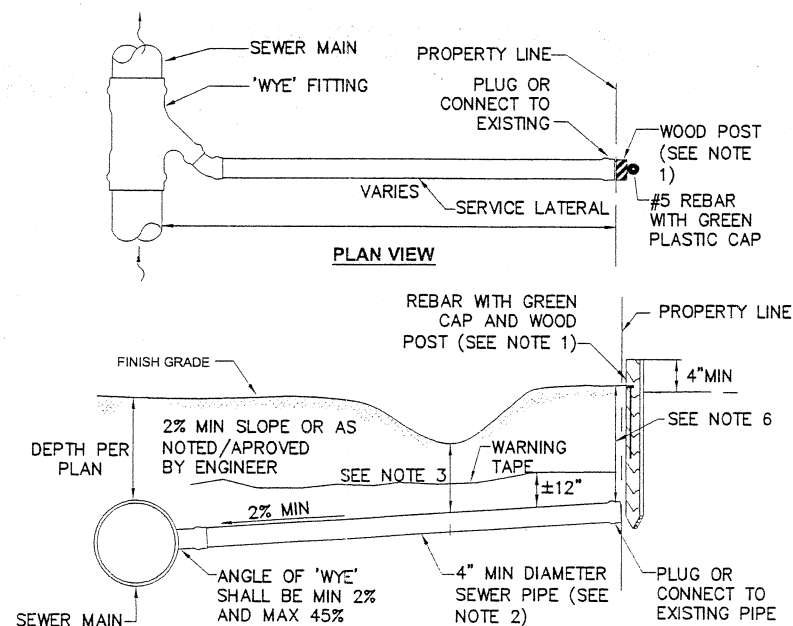


NOTES:

1. CONTRACTOR SHALL DETERMINE THE EXISTING UTILITY ELEVATION AT THE SEWER MAIN CROSSING PRIOR TO BEGINNING SEWER MAIN INSTALLATION TO DETERMINE REQUIRED PIPE DEFLECTIONS AND LENGTHS.
2. USE BELL TO FLANGE ADAPTER OF TYPE RECOMMENDED BY THE MANUFACTURER OF PIPE BEING RELOCATED.

RELOCATE EXISTING (6, 8, &/OR 16)-INCH DI WATER PIPE DETAIL

NTS

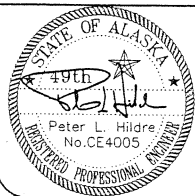


NOTES:

1. MARK SERVICE WITH GREEN PAINTED 2"x4" TREATED POST. POST SHALL EXTEND TO DEPTH OF SERVICE LATERAL. REBAR SHALL BE DRIVEN TO GROUND LEVEL.
2. ACCEPTABLE PIPE FOR USE WITHIN R.O.W. INCLUDES C900 PVC, SDR 35 PVC AND DUCTILE IRON.
3. MINIMUM CLEARANCE OF 36" REQUIRED BENEATH DITCH LINE. PIPE WITH LESS THAN 44" OF COVER SHALL BE INSULATED AS APPROVED BY THE ENGINEER.
4. SERVICE LATERAL SHALL END AT STAKE WITH A BELL END OF PIPE.
5. LATERAL DEPTH AT PROPERTY LINE SHALL ACCOMMODATE EXISTING BUILDING SEWER OR FUTURE BUILDING SITE(S).
6. PIPE CONNECTIONS IN THE RIGHT-OF-WAY THAT DO NOT USE BELL AND SPIGOT SHALL CONFORM TO STANDARD 218.

SANITARY SEWER SERVICE LATERAL

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**NORTH DOUGLAS SEWER
PHASE V, LID 91
CONTRACT NO. E11-147**

DETAILS

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MAY 13 2011
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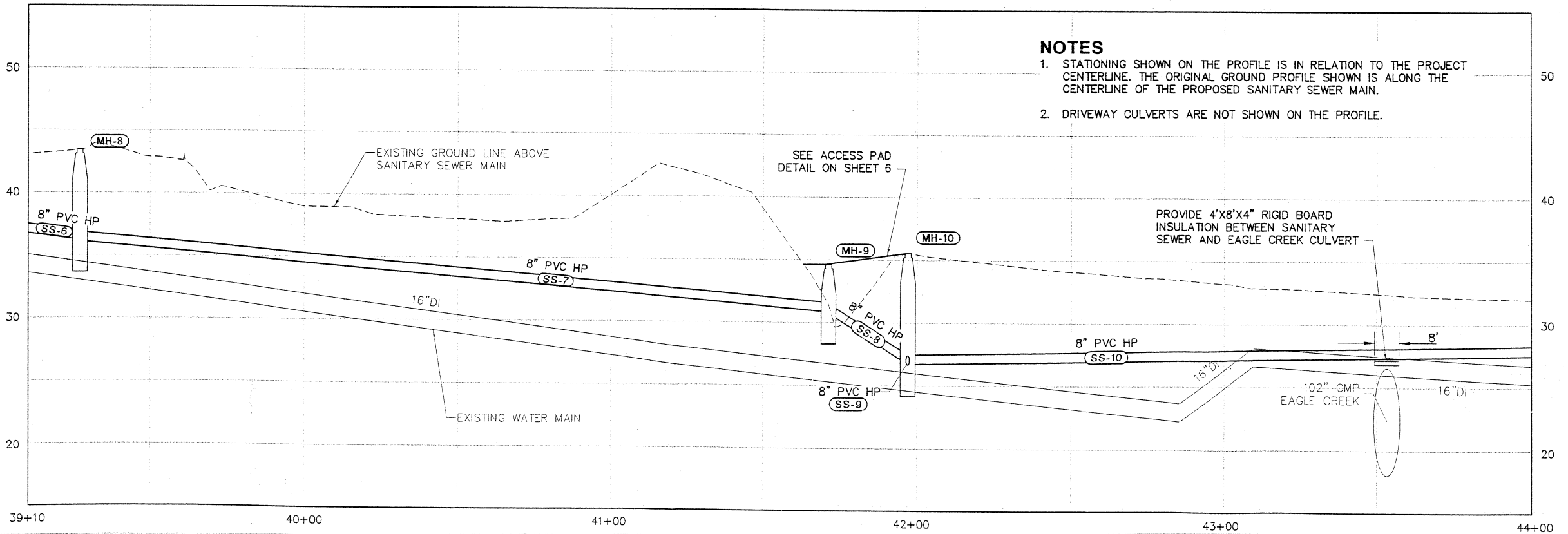
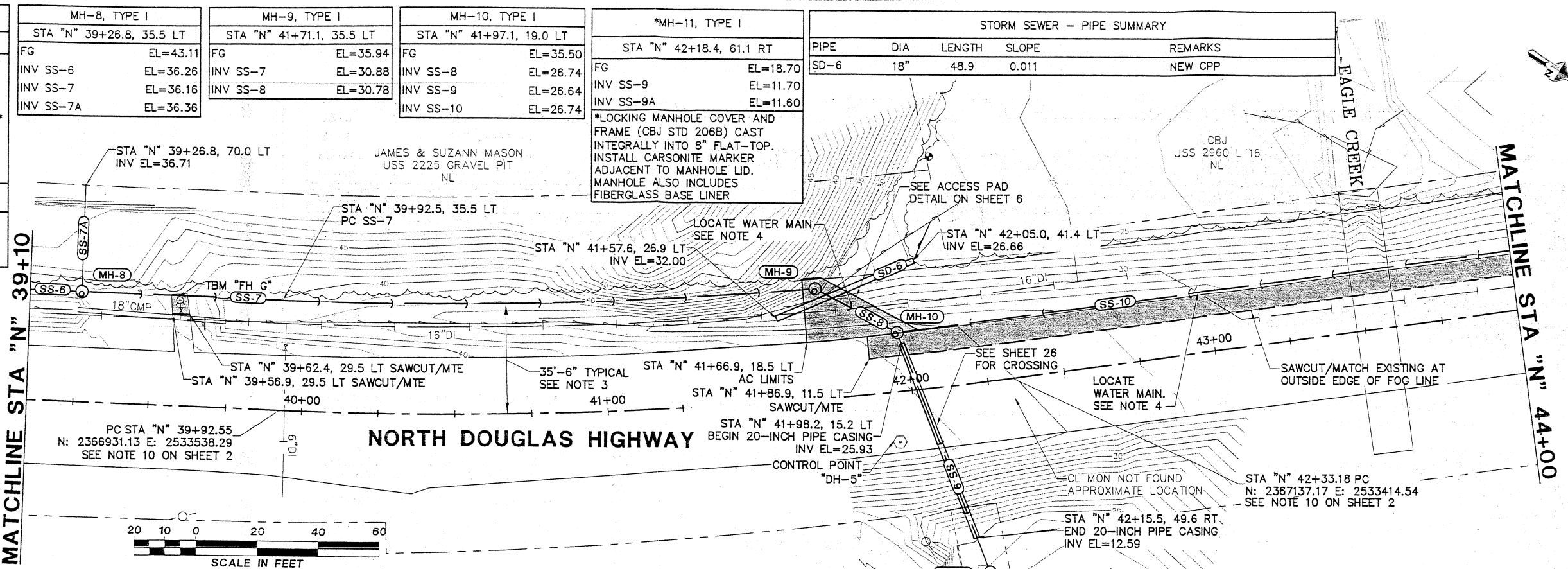
SANITARY SEWER - PIPE SUMMARY				
PIPE	DIA	LENGTH	TYPE	SLOPE
SS-6		SEE SHEET 13		
SS-7*	8"	240.0	PVC (HP)	0.022
SS-7A	8"	34.5	PVC (HP)	0.010
SS-8	8"	30.6	PVC (HP)	VARIES**
SS-9		SEE SHEET 26		
SS-9A		SEE SHEET 26		
SS-10	8"	500.0	PVC (HP)	0.004

*CURVE PIPE TO MAINTAIN 35'-6" OFFSET FROM PROJECT CENTERLINE. SEE NOTE 3

**INSTALL TWO 72-INCH RADIUS, 11.25 DEGREE HP SWEEPS AT APPROXIMATELY 5' FROM THE CENTER OF EACH MANHOLE AND GRADE THE PIPE IN BETWEEN AT AN APPROXIMATE SLOPE OF 0.199

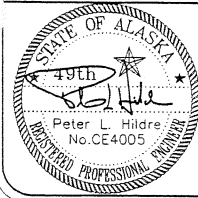
NOTES

1. WATERLINE AS-BUILTS ARE GENERALLY NOT SHOWN FOR THE RIGHT SIDE OF HIGHWAY WITH THE EXCEPTION OF CROSSING LOCATIONS.
2. WATER VALVE NOT FOUND. APPROXIMATE LOCATION ONLY.
3. PIPE CURVATURE SHALL BE ACHIEVED BY BENDING THE PIPE LENGTHS AND NOT BY DEFLECTION AT THE JOINT IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
4. APPROXIMATE LOCATION OF EXISTING 16" DI WATER MAIN. CONFIRM HORIZONTAL AND VERTICAL LOCATION OF WATER MAIN PER PAY ITEM 2601.3 AND REPORT FINDINGS TO THE ENGINEER PRIOR TO ORDERING ADJACENT MANHOLES.



NOTES

1. STATIONING SHOWN ON THE PROFILE IS IN RELATION TO THE PROJECT CENTERLINE. THE ORIGINAL GROUND PROFILE SHOWN IS ALONG THE CENTERLINE OF THE PROPOSED SANITARY SEWER MAIN.
2. DRIVEWAY CULVERTS ARE NOT SHOWN ON THE PROFILE.



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JOB No. J70373 DRAWN BY: STAFF DESIGNED BY: T. LOCKHART CHECKED BY: P.HILDRE DATE: MAR. 2011

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**NORTH DOUGLAS SEWER
PHASE V, LID 91
CONTRACT NO. E11-147**

**PLAN & PROFILE
NORTH DOUGLAS HIGHWAY
STA "N" 39+10 TO STA "N" 44+00**

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