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35% Engineer's Estimate

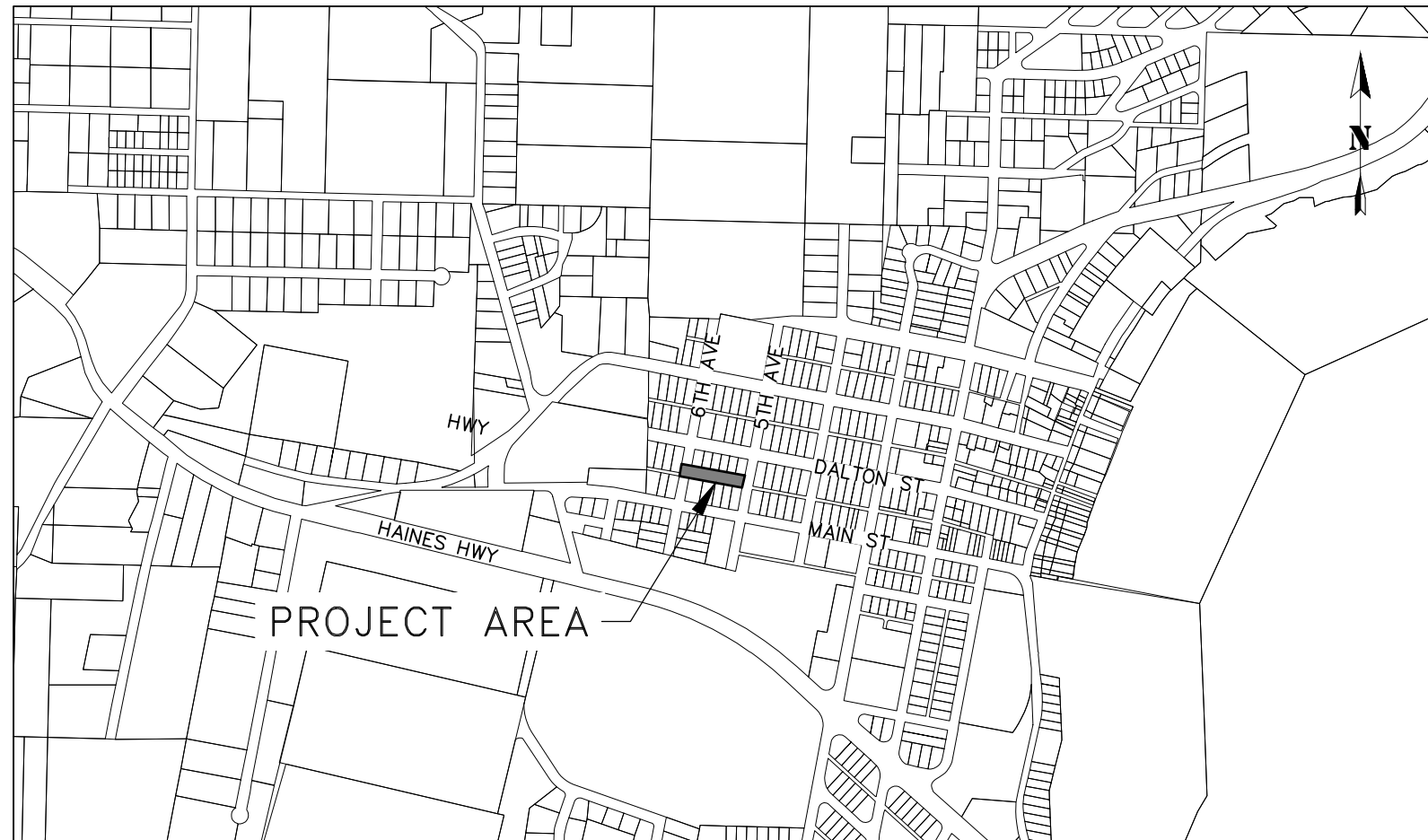
Project:	5th to 6th Avenue		
Owner:	Haines Borough		
Date:	3/19/2024		
Prepared By:	E. Roemeling		
Checked By:	G. Gladsjo		

Base Bid					
Pay Item	Pay Item Description	Pay Unit	Quantity	Unit Price	Amount
201.0009.0000	Clearing and Grubbing	LS	1	\$20,000.00	\$20,000.00
202.0002.000A	Removal of Pavement, Asphalt	SY	49	\$6.00	\$294.00
202.0004.0000	Removal of Culvert Pipe	LF	42	\$13.00	\$546.00
203.0003.0000	Unclassified Excavation	CY	25	\$50.00	\$1,250.00
303.2003.0000	Ditch Reconditioning	LF	65	\$40.00	\$2,600.00
401.0001.002B	HMA Type II; Class B	TON	9	\$380.00	\$3,420.00
401.0004.5834	Asphalt Binder, Grade PG 58-34	TON	1	\$2,000.00	\$2,000.00
603.0021.0024	Corrugated Polyethylene Pipe 24 Inch	LF	229	\$250.00	\$57,250.00
604.0001.0000	Storm Sewer Manhole, Type 1	Each	2	\$20,000.00	\$40,000.00
627.0011.0000	Adjustment of Water Line - Materials	Lump Sum	All Req'd	\$3,000.00	\$3,000.00
627.0011.0000	Adjustment of Water Line - Installation	Lump Sum	All Req'd	\$5,500.00	\$5,500.00
640.0001.0000	Mobilization and Demobilization	Lump Sum	All Req'd	\$22,000.00	\$22,000.00
641.0003.0000	Temporary Erosion, Sediment and Pollution Control	Lump Sum	All Req'd	\$3,000.00	\$3,000.00
642.0001.0000	Construction Surveying	Lump Sum	All Req'd	\$4,000.00	\$4,000.00
643.0002.0000	Traffic Maintenance	Lump Sum	All Req'd	\$5,000.00	\$5,000.00
Total =					\$164,860.00

5TH TO 6TH AVENUE DRAINAGE IMPROVEMENTS

HAINES BOROUGH, ALASKA

SHEET INDEX	
SHEET NO.	DESCRIPTION
1	COVER SHEET
2	LEGEND ABBREVIATIONS GENERAL NOTES
3	EXISTING SITE CONDITIONS & DRAINAGE PATTERNS
4	PLAN VIEW



PROJECT LOCATION MAP
NTS



**ALASKA
VICINITY MAP**
NTS

35%
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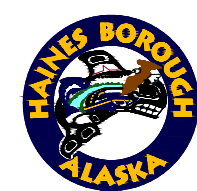
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No.	DATE	DESCRIPTION	BY

proHNS LLC
CERTIFICATE OF AUTHORIZATION
#100662

DRAWN BY: E. ROEMELING
DESIGNED BY: E. ROEMELING
CHECKED BY: G. GLADSO

219 MAIN ST #13
HAINES, AK 99827
1945 ALEX HOLDEN WAY #101
JUNEAU, AK 99801
(907) 780-4004

solutions@proHNS.com
www.proHNS.com



**5TH TO 6TH AVENUE
DRAINAGE
IMPROVEMENTS**

COVER SHEET

SHEET NUMBER
1
OF
4

LEGEND

DESCRIPTION	EXISTING	REMOVE	PROPOSED
ASPHALT	--- EDGE OF ASPHALT ---	- - - - -	[HATCHED AREA]
BOLLARDS	● ●		
BUILDING	[Hatched Area]		
ROCKERY WALL	[Rockery Wall Symbol]		
DITCH FLOW LINE	--- > --- > ---		--- > --- > ---
GUTTER			
FENCE	x x x x x		
FIRE HYDRANT	[Fire Hydrant Symbol]		
MONUMENT	[Monument Symbol]		
PROPERTY LINE	- - - - -		
SANITARY SEWER CLEANOUT	○		
SANITARY SEWER PIPE	--- PIPE SIZE & TYPE ---		
SANITARY SEWER MANHOLE	[Manhole Symbol]		
SAWCUT & MTE LIMITS			- . - . - . -
SIGN	[Sign Symbol]		
STORM DRAIN CATCH BASIN	[Catch Basin Symbol]		
STORM DRAIN PIPE	--- PIPE SIZE & TYPE SD ---	- - - - - PIPE SIZE & TYPE SD - - - - -	--- SD (P-1) SD ---
STORM DRAIN MANHOLE, GRATE	[Storm Drain Manhole Symbol]		
TOP OF DITCH	- - - - -		
TREE LINE	[Tree Line Symbol]		
UNDERGROUND PIPE CAP	[Pipe Cap Symbol]		
UTILITY POLE	[Utility Pole Symbol]		
UTILITY POLE WITH LUMINAIRE	[Utility Pole with Luminaire Symbol]		
OVERHEAD ELECTRICAL LINE	--- OHE --- OHE ---		
WATER LINE PIPE	--- PIPE SIZE & TYPE ---		
WATER VALVE BOX	[Valve Box Symbol]		

ABBREVIATIONS

AC	ASPHALT CONCRETE
BOP	BEGINNING OF PROJECT
BTM	BOTTOM
BVC	BEGIN VERTICAL CURVE
CB	CATCH BASIN
CL	CENTERLINE
CMP	CORRUGATED METAL PIPE
CPP	CORRUGATED POLYETHYLENE PIPE
CONC	CONCRETE
CTE	CONNECT TO EXISTING
DIP	DUCTILE IRON PIPE
DIA	DIAMETER
EL	ELEVATION
EOP	END OF PROJECT
EX	EXISTING
FG	FINISHED GRADE
FH	FIRE HYDRANT
GV	GATE VALVE
HB	HAINES BOROUGH
HDPE	HIGH DENSITY POLYETHYLENE
IE	INVERT ELEVATION
INV	INVERT
LT	LEFT
LVC	LENGTH OF VERTICAL CURVE
MH	MANHOLE
MIN	MINIMUM
MTE	MATCH TO EXISTING
NIC	NOT IN CONTRACT
NO	NUMBER
NTS	NOT TO SCALE
OD	OUTSIDE DIAMETER
OHE	OVERHEAD ELECTRIC
PC	POINT OF CURVATURE
PSI	POUNDS PER SQUARE INCH
PT	POINT OF TANGENT
PVC	POLYVINYL CHLORIDE PIPE
PVI	POINT OF VERTICAL INTERSECTION
RP	RADIUS POINT
RT	RIGHT
ROW	RIGHT-OF-WAY
SDMH	STORM DRAIN MANHOLE
SSMH	SANITARY SEWER MANHOLE
STA	STATION
STD	STANDARD
TBC	TOP BACK OF CURB
TBG	TOP BACK OF GUTTER
TBM	TEMPORARY BENCHMARK
TP	TOP OF PAVEMENT
TYP	TYPICAL
VPC	VERTICAL POINT OF CURVATURE
VPI	VERTICAL POINT OF INTERSECTION
VPT	VERTICAL POINT OF TANGENCY

GENERAL NOTES

- ALL WORK FOR THESE PLANS SHALL BE CONDUCTED IN STRICT ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL LAWS AND STANDARDS.
- LOCATIONS AND ELEVATION OF EXISTING UNDERGROUND WATER, SEWER, POWER, TELEPHONE AND CABLE TELEVISION SHOWN ON THE PLANS WERE DERIVED FROM HAINES BOROUGH AS-BUILTS AND FIELD LOCATES. THE ACTUAL LOCATION OF UTILITIES MAY VARY FROM THOSE SHOWN. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING, PROTECTING AND MAINTAINING EXISTING UTILITIES THROUGHOUT THE CONSTRUCTION OF THE PROJECT. ANY DAMAGE TO UTILITIES DURING CONSTRUCTION SHALL BE PAID FOR BY THE CONTRACTOR AND SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT. THE CONTRACTOR SHALL CONTACT AND REQUEST UTILITY LOCATES, AT A MINIMUM, FROM THE FOLLOWING PRIOR TO BEGINNING EARTH DISTURBING ACTIVITIES:
 - A) HAINES BOROUGH PUBLIC FACILITIES, 907-766-6414.
 - B) ALASKA POWER & TELEPHONE(AP&T), 907-766-6500.
 - C) HAINES CABLE TV, 907-766-2337.
- A GEOTECHNICAL INVESTIGATION WAS NOT PERFORMED AS PART OF THIS DESIGN. HARDPAN, CLAY, GROUNDWATER, LARGE BOULDERS, BEDROCK, STUMPS, LOGS, ORGANICS, AND OTHER NATIVE MATERIALS MAY BE ENCOUNTERED AT VARIOUS DEPTHS DURING TRENCHING AND SITE GRADING OPERATIONS.
- THE TOTAL DISTURBED AREA FOR THIS PROJECT IS ANTICIPATED TO BE LESS THAN ONE ACRE.
- ALL DISTURBED AREAS SHALL BE RESTORED TO EXISTING CONDITIONS AND GRADES, AND STABILIZED WITH AN APPROVED HYDRAULIC GROWTH MEDIUM AND GRASS SEED UNLESS OTHERWISE SHOWN ON THE PLANS.
- 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.
- THE CONTRACTOR SHALL NOTIFY EACH PROPERTY OWNER OF 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.
- THE CONTRACTOR SHALL NOT STORE MATERIALS OR EQUIPMENT, OR OPERATE EQUIPMENT WITH ITS TRACKS OR WHEELS PLACED ON PRIVATE PROPERTY, WITHOUT THE APPROVAL OF THE PROPERTY OWNER.
- 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.
- ALL ITEMS DESIGNATED TO BE REMOVED SHALL BE DISPOSED OF OFF-SITE, EXCEPT AS NOTED IN THE CONTRACT DOCUMENTS. ALL OTHER MATERIALS TO BE REMOVED AND DISPOSED OF SHALL BECOME THE PROPERTY OF THE CONTRACTOR, INCLUDING CONCRETE, ASPHALT, UNSUITABLE SOILS AND ETC.
- WORK SHALL BE PERFORMED MONDAY THROUGH FRIDAY, 8AM TO 5PM ONLY.

TRAFFIC CONTROL NOTES

- ALL TRAFFIC TO BE CONTROLLED PER REQUIREMENTS OF THE ALASKA TRAFFIC MANUAL, U.S. DEPARTMENT OF TRANSPORTATION "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" AND THE ALASKA SUPPLEMENT.
- MAINTAIN ONE (1) LANE FOR TRAFFIC AT ALL TIMES UNLESS OTHERWISE APPROVED BY THE ENGINEER.
- NOTIFICATION OF WORK THAT MAY IMPEDE TRAFFIC MUST BE PROVIDED TO THE HB PUBLIC WORKS DEPARTMENT, HB POLICE DEPARTMENT, HAINES VOLUNTEER FIRE DEPARTMENT, CHILKOOT INDIAN ASSOCIATION, ALASKA DOT&PF HAINES M&O FOREMAN, AND THE GENERAL PUBLIC A MINIMUM OF 72 HOURS IN ADVANCE OF IMPLEMENTING TRAFFIC CONTROL.
- CONTRACTOR MUST PROVIDE ALL NECESSARY SIGNS AND TRAFFIC CONTROL DEVICES TO MOVE TRAFFIC THROUGH OR AROUND THE PROJECT SITE.
- PROVIDE ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES.

	RECORD OF REVISIONS					DRAWN BY: E. ROEMELING DESIGNED BY: E. ROEMELING CHECKED BY: G. GLADYSJO 219 MAIN ST #13 HAINES, AK 99827 1945 ALEX HOLDEN WAY #101 JUNEAU, AK 99801 (907) 780-4004 solutions@proHNS.com www.proHNS.com		<h3 style="margin: 0;">5TH TO 6TH AVENUE DRAINAGE IMPROVEMENTS</h3>	<h3 style="margin: 0;">LEGEND ABBREVIATIONS GENERAL NOTES</h3>	SHEET NUMBER
	No.	DATE	DESCRIPTION	BY						2
										OF
				4					March 19, 2024	

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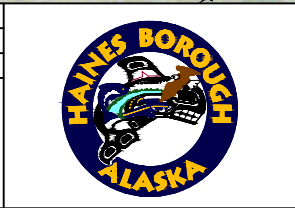
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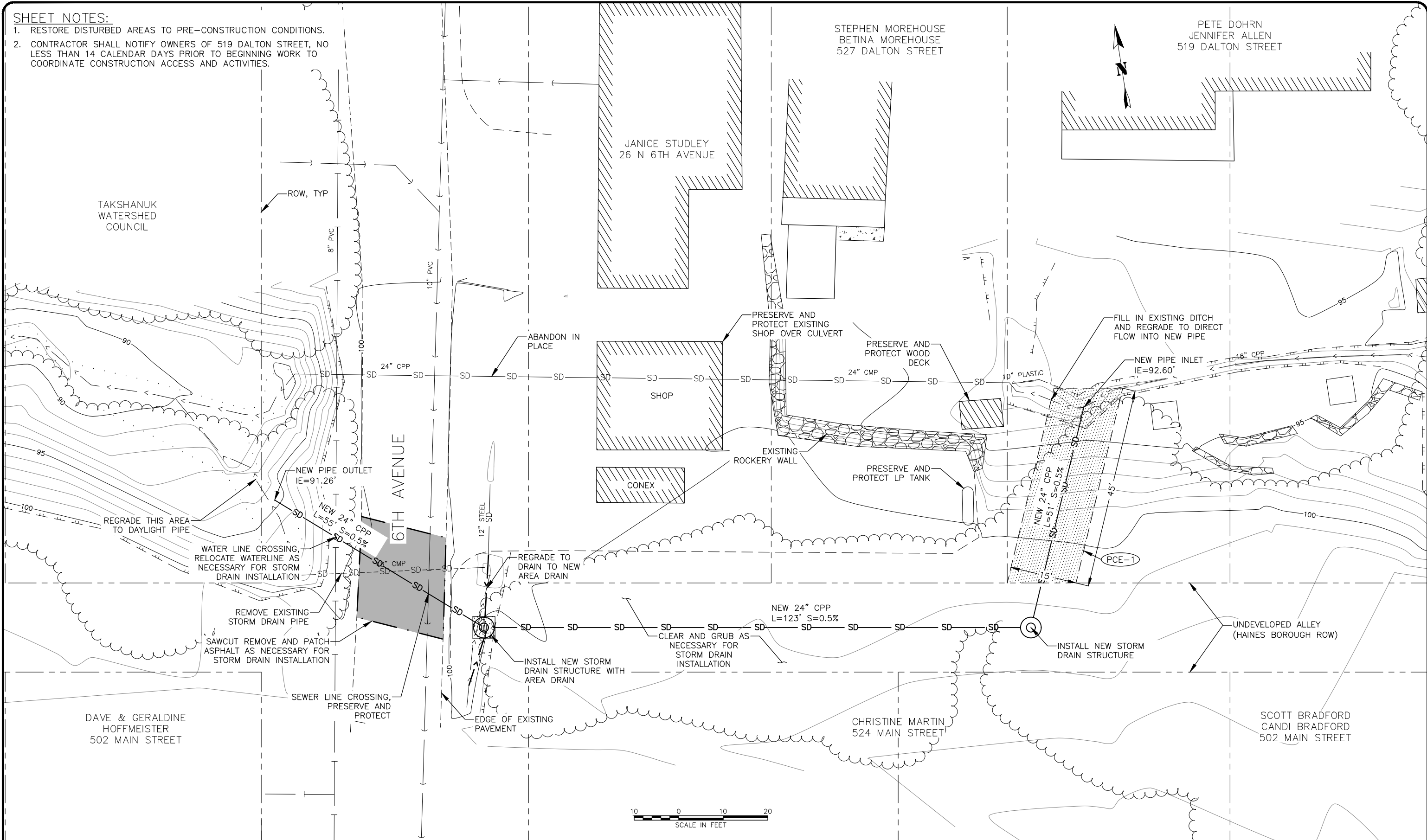
5TH TO 6TH AVENUE DRAINAGE IMPROVEMENTS

EXISTING SITE CONDITIONS & DRAINAGE PATTERNS

SHEET NUMBER	
3	OF
4	

SHEET NOTES:

- RESTORE DISTURBED AREAS TO PRE-CONSTRUCTION CONDITIONS.
- CONTRACTOR SHALL NOTIFY OWNERS OF 519 DALTON STREET, NO LESS THAN 14 CALENDAR DAYS PRIOR TO BEGINNING WORK TO COORDINATE CONSTRUCTION ACCESS AND ACTIVITIES.

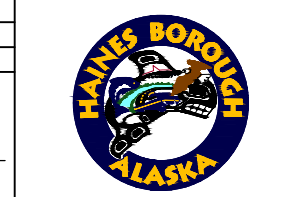


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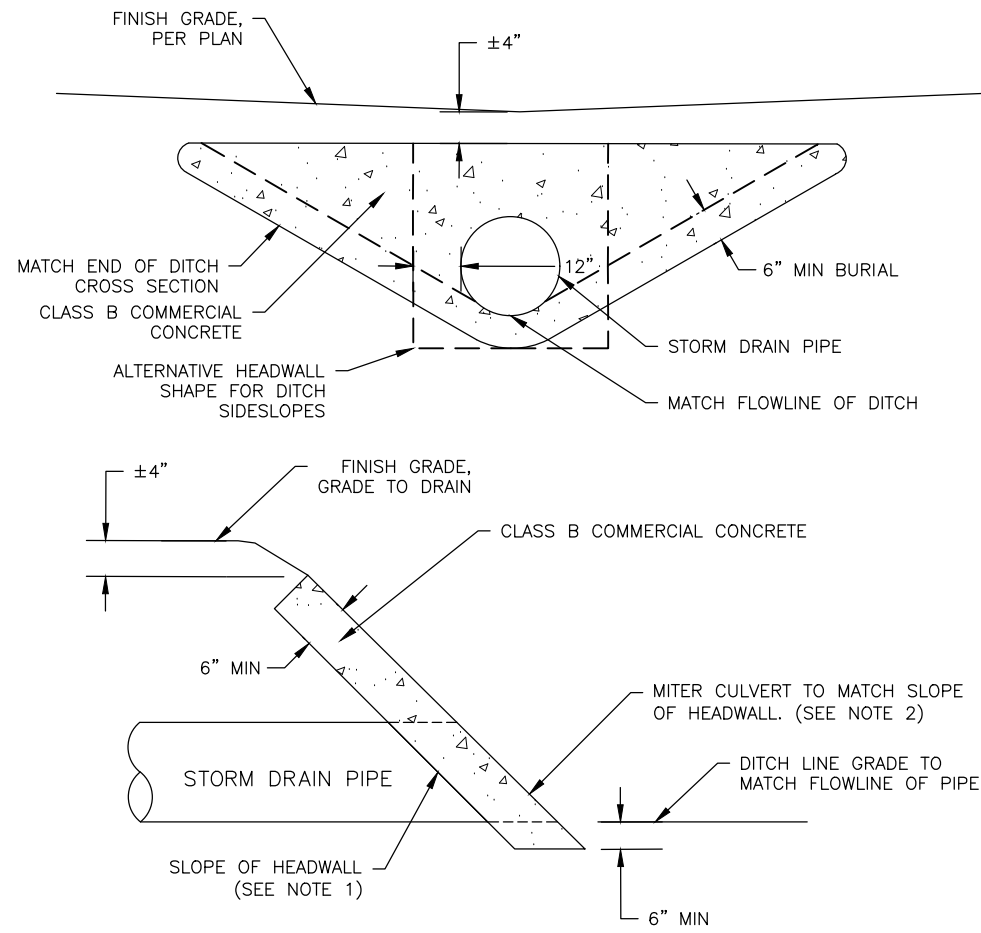
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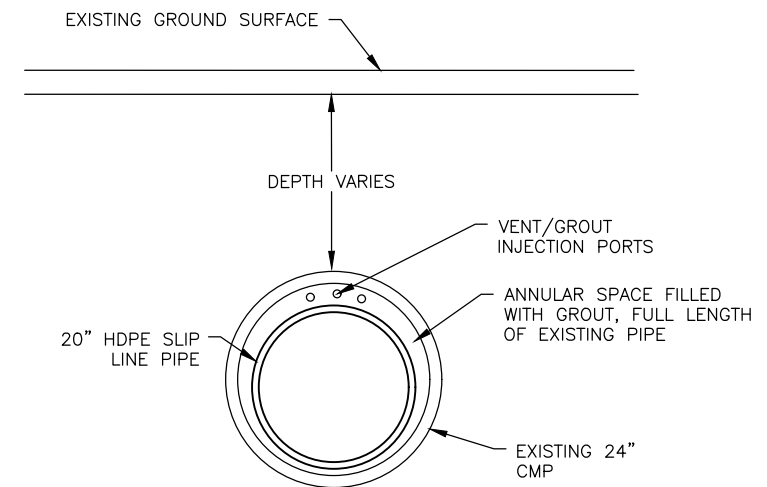
PLAN VIEW

SHEET NUMBER	4
OF	4



1
5 **STANDARD CONCRETE HEADWALL DETAIL**
SCALE: NOT TO SCALE

- DETAIL 1/5 NOTES:**
1. SLOPE OF HEADWALL SHALL BE 1:1 OR FLATTER AND SHALL MATCH DITCH SIDESLOPE.
 2. IF CORRUGATED PLASTIC PIPE IS USED, EMPTY WATER FROM CORRUGATIONS ON MITERED ENDS AND THEN COMPLETELY FILL VOIDS WITH CONCRETE GROUT.



2
5 **CULVERT SLIP LINE DETAIL**
SCALE: NOT TO SCALE

- DETAIL 2/5 NOTES:**
1. FORMS AND/OR MORTAR REQUIRED FOR PLUGGING ANNULAR SPACES AT PIPE ENDS NOT SHOWN. SPACERS FOR SLIP LINE PIPE NOT SHOWN.
 2. INSTALL AND GROUT SLIP LINE PER MANUFACTURER'S RECOMMENDATIONS.

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**5TH TO 6TH AVENUE
DRAINAGE
IMPROVEMENTS**

**CONSTRUCTION
DETAILS**

SHEET NUMBER
5
OF
4

TECHNICAL SPECIFICATIONS:

BASE COURSE GRADING D-1

BASE COURSE GRADING D-1 TO BE CRUSHED STONE OR CRUSHED GRAVEL, CONSISTING OF SOUND, TOUGH, DURABLE PEBBLES OR ROCK FRAGMENTS OF UNIFORM QUALITY. FREE FROM CLAY BALLS, VEGETABLE MATTER, OR OTHER DELETERIOUS MATTERS.

BASE COURSE GRADING D-1 SHALL MEET THE FOLLOWING GRADATION REQUIREMENTS:

SIEVE SIZE	PERCENT PASSING BY WEIGHT
1"	100
3/4"	70-100
3/8"	50-80
No. 4	35-65
No. 8	20-50
No. 50	6-30
No. 200	0-6

PRIOR TO PLACEMENT OF THE BASE COURSE, THE UNDERLYING SURFACE SHALL BE PREPARED BY DRESSING, SHAPING WETTING OR DRYING, AND COMPACTING OF THE UNDERLYING MATERIAL TO A MINIMUM DENSITY OF 95% AS DETERMINED BY AASHTO T 180-D. SURFACES SHALL BE CLEANED OF ALL FOREIGN SUBSTANCES AND DEBRIS.

BASE COURSE MATERIAL SHALL BE COMPACTED TO AT LEAST 95% OF MAXIMUM DENSITY AS DETERMINED BY AASHTO T 180-D.

SELECTED MATERIAL TYPE C

SELECTED MATERIAL TYPE C TO BE EARTH, SAND, GRAVEL, ROCK, OR COMBINATIONS THEREOF CONTAINING NO MUCK, PEAT, FROZEN MATERIAL, ROOTS, SOD, OR OTHER DELETERIOUS MATTER. SELECTED MATERIAL TYPE C TO BE COMPACTABLE.

PRIOR TO PLACEMENT OF THE SELECTED MATERIAL TYPE C, THE UNDERLYING SURFACE SHALL BE PREPARED BY DRESSING, SHAPING WETTING OR DRYING, AND COMPACTING OF THE UNDERLYING MATERIAL TO A MINIMUM DENSITY OF 95% AS DETERMINED BY AASHTO T 180-D. SURFACES SHALL BE CLEANED OF ALL FOREIGN SUBSTANCES AND DEBRIS.

SELECTED MATERIAL TYPE C SHALL BE PLACED IN LIFTS NOT TO EXCEED 12 INCHES IN DEPTH.

SELECTED MATERIAL TYPE C SHALL BE COMPACTED TO AT LEAST 95% OF MAXIMUM DENSITY AS DETERMINED BY AASHTO T 180-D OR OTHER APPLICABLE STANDARD AS APPROVED BY THE ENGINEER.

LINER FOR STORM DRAIN

LINER FOR STORM DRAIN SHALL BE HIGH DENSITY POLYETHYLENE (HDPE) SNAP-TITE CULVERT LINING SYSTEM MANUFACTURED BY ISCO INDUSTRIES.

INSTALL THE LINER FOLLOWING ALL MANUFACTURER RECOMMENDATIONS INCLUDING PIPE LINING, SEALING ENDS, INSTALLING VENT TUBES AND GROUT PORTS, AND GROUTING ANNULAR SPACE.

THE CONTRACTOR SHALL PROVIDE A GROUT MIX DESIGN MEETING MANUFACTURERS RECOMMENDATIONS.

COMMERCIAL CONCRETE

THE CONTRACTOR SHALL PROVIDE A CONCRETE JOB MIX DESIGN, JMD, MEETING THE FOLLOWING REQUIREMENTS:

WATER-CEMENT RATIO LBS/LBS, MAX.	0.45
TOTAL AIR CONTENT, %	5.5-6.5
COMPRESSIVE STRENGTH, PSI MIN.	4,000

USE SYNTHETIC FIBER REINFORCEMENT. FIBERS SHALL BE 100% VIRGIN FIBRILLATED POLYOLEFIN FIBER, SPECIFICALLY MANUFACTURED AS CONCRETE REINFORCEMENT AND MEETING THE REQUIREMENTS OF ASTM C 1116, TYPE III, AND ASTM D 7508. FIBERS SHALL HAVE AN AVERAGE LENGTH OF 1/2" TO 3/4".

GROUT

GROUT USED FOR PLUGGING EXISTING STORM DRAIN PIPE SHALL BE NON-SHRINK, NON-CORROSIVE, NON-METALLIC, CEMENT-BASED GROUT MEETING ASTM C1107, EXCEPT DEVELOP A 28-DAY COMPRESSIVE STRENGTH OF AT LEAST 9,000 PSI WHEN TESTED ACCORDING TO AASHTO T 106 OR ASTM C109.

SOIL STABILIZATION

USE EITHER MULCH, MATTING OR A COMBINATION THERE OF TO PROVIDE SOIL STABILIZATION.

MULCH TO BE WOOD CELLULOSE FIBER OR NATURAL WOOD FIBER; OR DRIED PEAT MOSS. CONTRACTOR TO PROVIDE MANUFACTURERS PRODUCT INFORMATION FOR APPROVAL BY THE ENGINEER.

MATTING TO BE BURLAP, JUTE MESH FABRIC, WOVEN PAPER OR SISAL MESH NETTING, KNITTED STRAW MAT, OR WOVEN/CURLED WOOD BLANKET. CONTRACTOR TO PROVIDE MANUFACTURERS PRODUCT INFORMATION FOR APPROVAL BY THE ENGINEER.

APPLY SOIL STABILIZATION MATERIAL AT THE APPLICATION RATE SPECIFIED BY THE PRODUCT MANUFACTURER.

IF SEED MIX AND FERTILIZER SHALL BE APPLIED WITH THE SOIL STABILIZATION MATERIAL. SEEDING SHALL OCCUR WITHIN THE TIME PERIOD SPECIFIED IN THE ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION (ADEC) ALASKA POLLUTANT DISCHARGE ELIMINATION SYSTEM (APDES) CONSTRUCTION GENERAL PERMIT (CGP) FOR ALASKA, SECTION 4.5 FINAL STABILIZATION.

GRASS SEED AND FERTILIZER

CONTRACTOR TO PROVIDE MANUFACTURERS PRODUCT INFORMATION FOR SEEDING SCHEDULE MEETING THE FOLLOWING REQUIREMENTS (PER 1000 SF):

'NORCOAST' BEARING HAIRGRASS	8.0 OZ.
'ARCTARED' RED FESCUE	4.0 OZ.
'EGAN' AMERICAN SLOUGHGRASS	1.5 OZ.
'CAIGGLUK' TILESUIUS WORMWOOD	1.5 OZ.
'SOURDOUGH' BLUEJOINT REEDGRASS	1.0 OZ.
'LUPINUS NOOTKATENSIS' NOOTKA LUPINE	1.0 OZ.
'AQUILEGIA FORMOSA' WESTERN COLUMBINE	0.1 OZ.

SEED MUST BE CERTIFIED FREE OF PROHIBITED NOXIOUS WEEDS AND RESTRICTED NOXIOUS WEEDS ARE WITHIN ALLOWABLE TOLERANCES.

SEEDING SHALL OCCUR WITHIN THE TIME PERIOD SPECIFIED IN THE ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION (ADEC) ALASKA POLLUTANT DISCHARGE ELIMINATION SYSTEM (APDES) CONSTRUCTION GENERAL PERMIT (CGP) FOR ALASKA, SECTION 4.5 FINAL STABILIZATION.


HYDRAULIC GROWTH MEDIUM

HYDRAULIC GROWTH MEDIUM (HGM) SHALL BE BIOTIC-ACTIVE HYDRAULICALLY APPLIED MULCH SUCH AS "VERDYOL BIOTIC BLACK EARTH", OR AN APPROVED EQUAL.

USE A TWO-PASS APPLICATION METHOD TO HYDRAULICALLY APPLY HGM PRIOR TO APPLICATION OF AN APPROVED SOIL STABILIZATION MATERIAL. APPLY HGM AT THE APPLICATION RATE SPECIFIED BY THE PRODUCT MANUFACTURER.

IF SEED MIX AND FERTILIZER SHALL BE APPLIED WITH HGM. SEEDING SHALL OCCUR WITHIN THE TIME PERIOD SPECIFIED IN THE ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION (ADEC) ALASKA POLLUTANT DISCHARGE ELIMINATION SYSTEM (APDES) CONSTRUCTION GENERAL PERMIT (CGP) FOR ALASKA, SECTION 4.5 FINAL STABILIZATION.

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