FIGURES

Figure 1 - Location Map

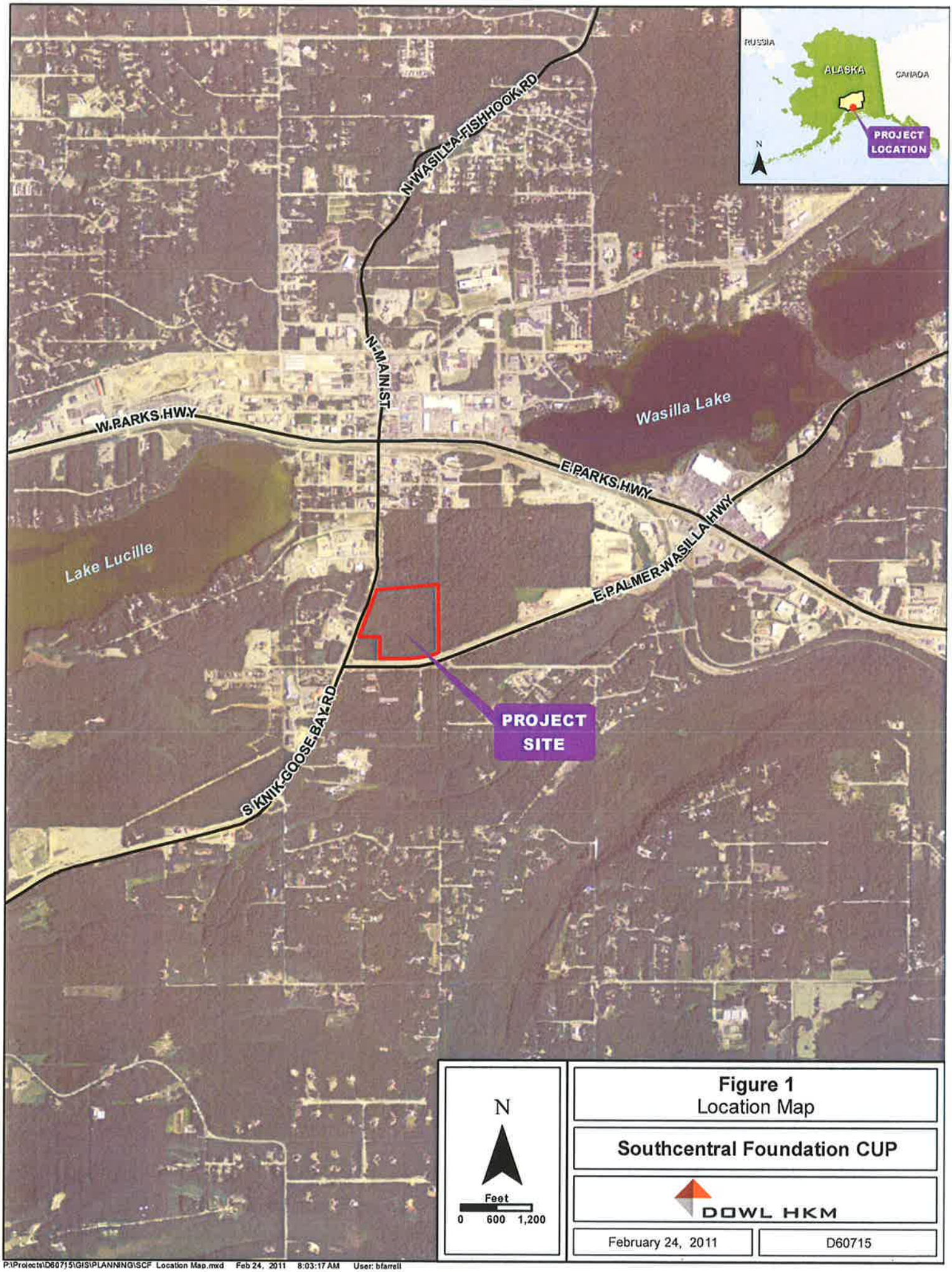


Figure 1
Location Map

Southcentral Foundation CUP

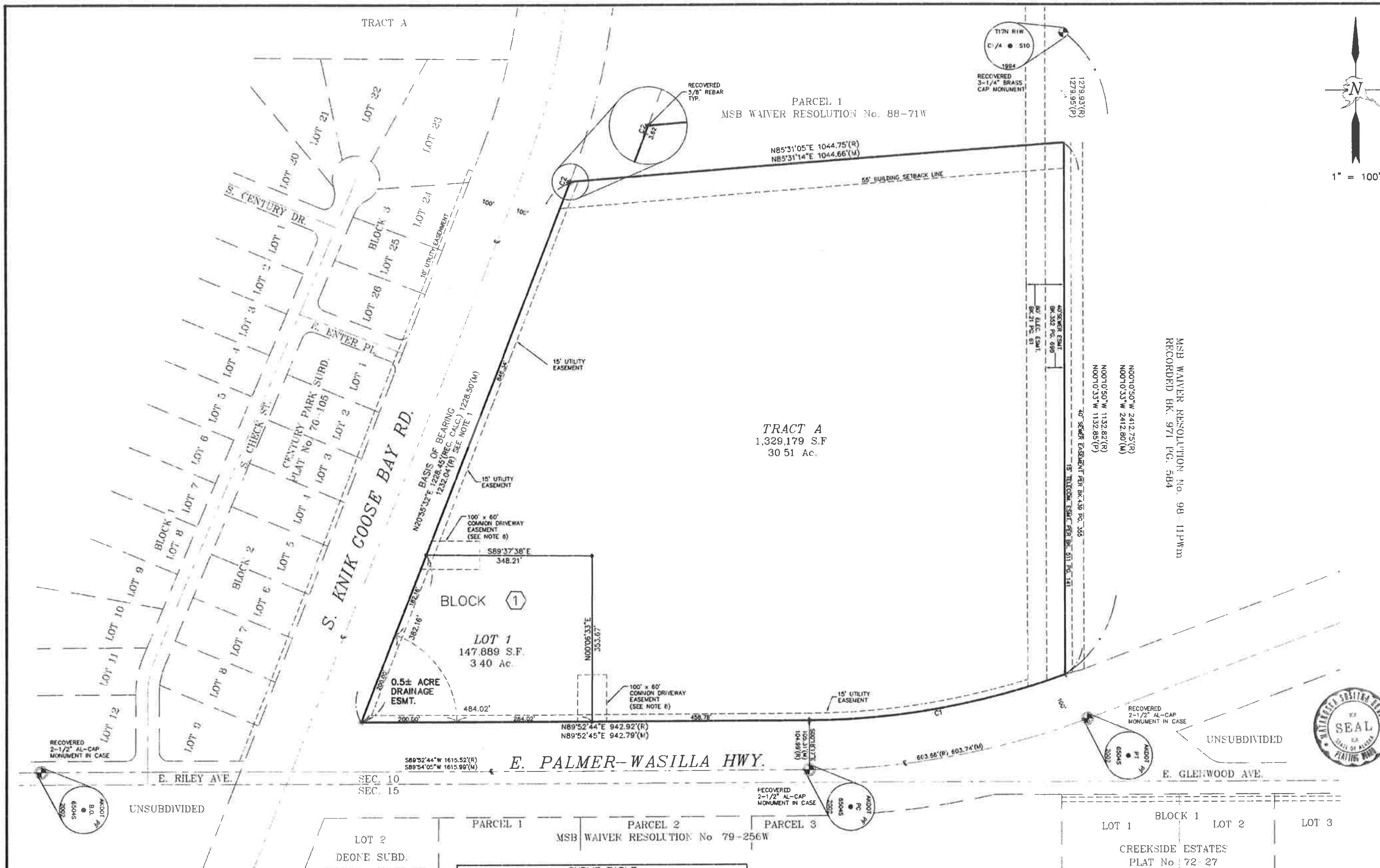
DOWL HKM

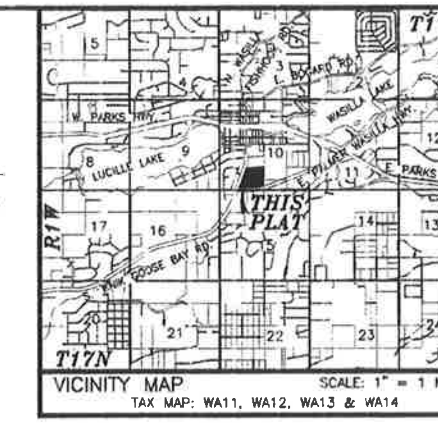
February 24, 2011 | D60715

P:\Projects\D60715\GIS\PLANNING\SCF Location Map.mxd Feb 24, 2011 8:03:17 AM User: bfarrell

APPENDIX A

Plat


TRACT A
PARCEL 1
MSB WAIVER RESOLUTION No. 88-71W
RECOVERED 5/8" REBAR TYP.
RECOVERED 3-1/4" BRASS CAP MONUMENT
T17N R1W
C1/4 S10
1994
N85°31'05"E 1044.75'(R)
N85°31'14"E 1044.66'(M)
55' BUILDING SETBACK LINE
1279.93'(R)
1279.95'(P)
TRACT A
1,329,179 S.F
30.51 Ac.
15' UTILITY EASEMENT
BASIS OF BEARING
N20°35'32"E 1228.45'(REC. CALC.) 1228.50'(M)
1232.04'(R) SEE NOTE 1
100' x 60' COMMON DRIVEWAY EASEMENT (SEE NOTE 8)
S89°37'38"E
348.21'
BLOCK 1
LOT 1
147,889 S.F.
3.40 Ac.
N00°06'33"E
353.67'
382.16'
0.5± ACRE DRAINAGE ESMT.
484.02'
200.00'
284.02'
458.78'
N89°52'44"E 942.92'(R)
N89°52'45"E 942.79'(M)
MSB WAIVER RESOLUTION No. 98-11PWm
RECORDED BK. 971 PG. 584
N00°10'50"W 2412.75'(R)
N00°10'53"W 2412.60'(M)
N00°10'50"W 1132.82'(R)
N00°10'33"W 1132.85'(P)
40' SEWER EASEMENT PER BK.439 PG. 355
15' TELECOM ESMT PER BK. 511 PG. 141
S. KNIK GOOSE BAY RD.
CENTURY PARK SUBD.
PLAT No. 76-105
S. CENTURY DR.
E. ENTER PL.
S. CHECK ST.
BLOCK 3
BLOCK 2
BLOCK 1
LOT 20
LOT 21
LOT 22
LOT 23
LOT 24
LOT 25
LOT 26
10' UTILITY EASEMENT
RECOVERED 2-1/2" AL-CAP MONUMENT IN CASE
S89°52'44"W 1615.52'(R)
S89°54'05"W 1615.99'(M)
E. PALMER-WASILLA HWY.
603.66'(P) 603.74'(M)
E. RILEY AVE.
SEC. 10
SEC. 15
E. GLENWOOD AVE.
UNSUBDIVIDED
LOT 2
DEONE SUBD.
PARCEL 1
PARCEL 2
MSB WAIVER RESOLUTION No 79-256W
PARCEL 3
BLOCK 1
LOT 1
LOT 2
LOT 3
CREEKSIDE ESTATES
PLAT No. 72-27
CURVE TABLE
1" = 100'
SEAL
PLATTING BOARD



CERTIFICATE OF OWNERSHIP

I HEREBY CERTIFY THAT I AM THE OWNER OF THE PROPERTY SHOWN AND DESCRIBED HEREON AND THAT I HEREBY ADOPT THIS PLAT OF SUBDIVISION BY MY FREE CONSENT AND GRANT ALL EASEMENTS TO THE USE SHOWN.

[signature] 12/1/06
GERALD E. NEESER, PRESIDENT — DATE
NEESER CONSTRUCTION, INC.
2501 BLUEBERRY
ANCHORAGE, AK 99503

NOTARY ACKNOWLEDGEMENT

SUBSCRIBED AND SWORN TO BEFORE ME THIS 1st DAY OF December, 2006 FOR Gerald E. Neeser

[signature]
NOTARY FOR THE STATE OF ALASKA
MY COMMISSION EXPIRES 11/03/09

CERTIFICATE OF PAYMENT OF TAXES

I HEREBY CERTIFY THAT ALL CURRENT TAXES AND SPECIAL ASSESSMENTS, THROUGH December 5, 2006, AGAINST THE PROPERTY, INCLUDED IN THIS SUBDIVISION OR RESUBDIVISION HEREON HAVE BEEN PAID.

[signature] 12/5/06
CITY OF WASILLA TAX COLLECTION OFFICIAL — DATE

CERTIFICATE OF PAYMENT OF TAXES

I HEREBY CERTIFY THAT ALL CURRENT TAXES AND SPECIAL ASSESSMENTS, THROUGH Dec, 2006, AGAINST THE PROPERTY, INCLUDED IN THIS SUBDIVISION OR RESUBDIVISION HEREON HAVE BEEN PAID.

[signature] 12-7-06
BOROUGH TAX COLLECTION OFFICIAL — DATE

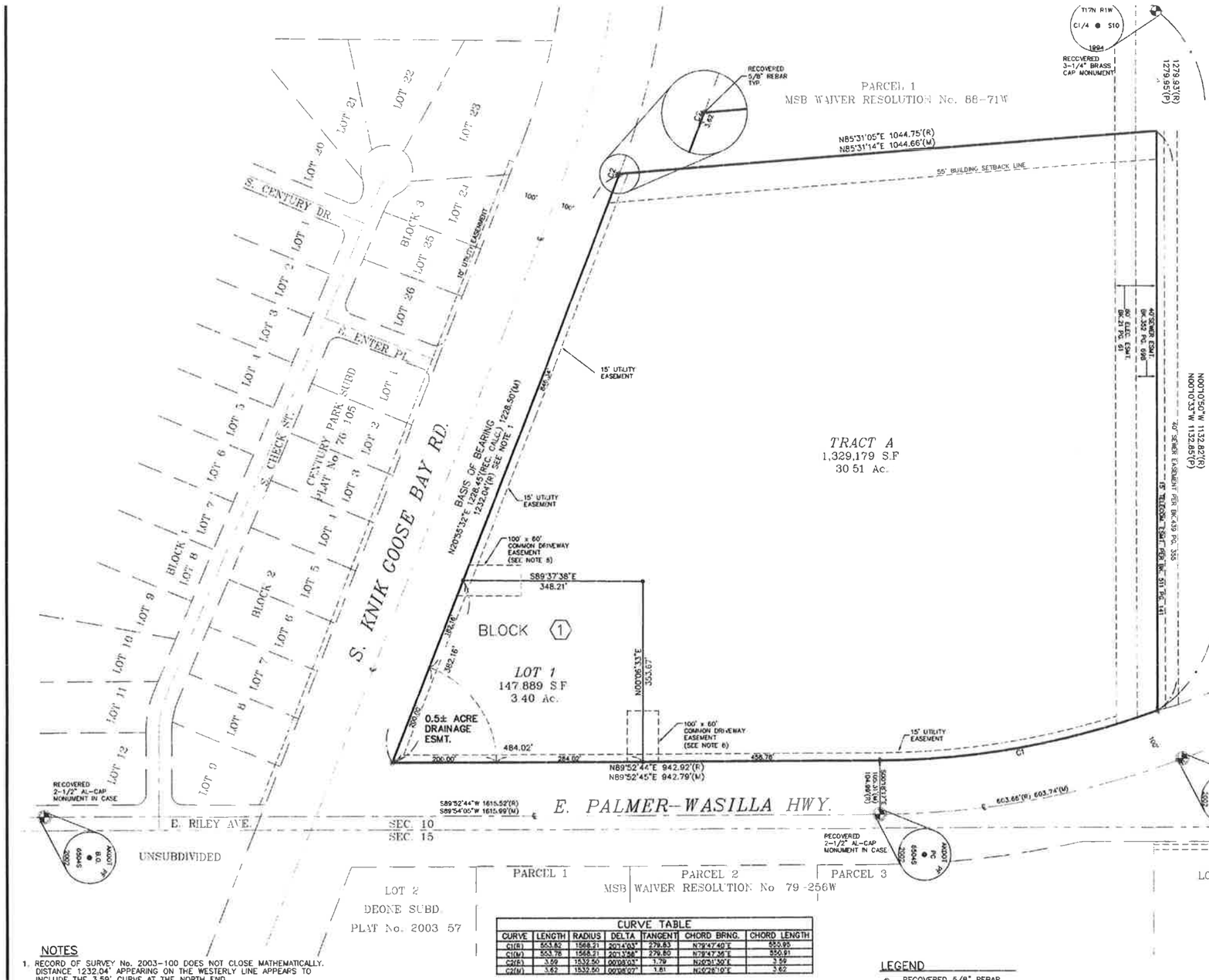
PLANNING & LAND USE DIRECTOR'S CERTIFICAT

I CERTIFY THAT THIS SUBDIVISION PLAT HAS BEEN FOUND TO COMPLY WITH THE LAND SUBDIVISION REGULATIONS OF THE MATANUSKA-SUSITNA BOROUGH, AND THAT THE PLAT HAS BE APPROVED BY THE PLATTING AUTHORITY BY PLAT RESOLUTION No. 2006-246-SUB DATED AUG 3, 2006, AND THAT THIS PLAT HAS BEEN APPROVED FOR RECORDING IN THE OFFICE OF THE RECORDER IN THE PALMER RECORDING DISTRICT, THIRD JUDICIAL DISTRICT, STATE OF ALASKA.

[signature] 12-7-06
PLANNING AND LAND USE DIRECTOR — DATE

ATTEST: PLATTING CLERK [signature]

2006-204
PALMER REC DIST
Date 12-7 2006
Time 3:03 PM
Requested By MSB
Address
20-



MSB WAIVER RESOLUTION No. 98-119WM
RECORDED BK. 971 PG. 584

NOTES

1. RECORD OF SURVEY No. 2003-100 DOES NOT CLOSE MATHEMATICALLY. DISTANCE 1232.04' APPEARING ON THE WESTERLY LINE APPEARS TO INCLUDE THE 3.59' CURVE AT THE NORTH END.
2. THERE MAY BE FEDERAL, STATE AND LOCAL REQUIREMENTS GOVERNING LAND USE. IT IS THE RESPONSIBILITY OF THE INDIVIDUAL PARCEL OWNER TO OBTAIN A DETERMINATION WHETHER SUCH REQUIREMENTS APPLY TO THE DEVELOPMENT OF THE PARCELS SHOWN HEREON.
3. NO INDIVIDUAL WATER SUPPLY SYSTEM OR SEWAGE DISPOSAL SYSTEM SHALL BE PERMITTED ON ANY LOT.
4. ALL LOTS ARE SERVED BY CITY OF WASILLA SEWER AND WATER SYSTEMS.
5. RECORD INFORMATION WAS TAKEN FROM RECORD OF SURVEY RECORDED No. 2003-100
6. DIRECT ACCESS FOR LOT 1, BLOCK 1 ONTO E. PALMER-WASILLA HWY. AND S. KNIK-GOOSE BAY RD. IS RESTRICTED TO THE COMMON DRIVEWAY ACCESS EASEMENTS AS SHOWN.
7. THERE IS LESS THAN ONE PERCENT CHANCE THAT ANY PART OF THE PLATTED AREA WILL BE INUNDATED BY THE BASE FLOOD EVENT IN ANY GIVEN YEAR.
8. 100' x 60' COMMON DRIVEWAY EASEMENT FOR INGRESS/EGRESS ACCESS BETWEEN LOT 1, BLOCK 1 AND TRACT A.

CURVE TABLE

CURVE	LENGTH	RADIUS	DELTA	TANGENT	CHORD BRNG.	CHORD LENGTH
C1(R)	553.82	1568.21	20°14'03"	279.83	N79°47'40"E	550.95
C1(M)	553.78	1568.21	20°13'58"	279.80	N79°47'38"E	550.91
C2(R)	3.59	1532.50	00°08'03"	1.79	N20°31'30"E	3.59
C2(M)	3.62	1532.50	00°08'07"	1.81	N20°28'10"E	3.62

LEGEND

- ⊙ RECOVERED 5/8" REBAR
- RECOVERED 3-1/4" BRASS CAP MONUMENT
- RECOVERED 2-1/2" ALUMINUM CAP MONUMENT IN DOT CASE
- (R) RECORD DATA FROM RECORD OF SURVEY No. 2003-100
- (P) PRORATED DATA THIS PLAT
- (C) CALCULATED DATA THIS PLAT
- (M) MEASURED DATA THIS PLAT
- • SET 5/8"x24" REBAR w/PLASTIC CAP MARKED AK RIM 2234-S

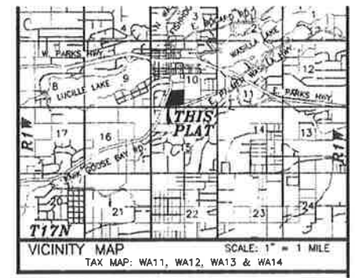
SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT I AM A REGISTERED PROFESSIONAL LAND SURVEYOR IN THE STATE OF ALASKA AND THAT THIS PLAT REPRESENTS A SURVEY MADE BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT THE MONUMENTS SHOWN THEREON ACTUALLY EXIST AS DESCRIBED, AND THAT ALL DIMENSIONAL AND OTHER DETAILS ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

DATE Dec. 1, 2006

STATE OF ALASKA 49TH GARY D. DRASKY 2234-S LAND SURVEYOR

1" = 100'



TAX MAP: WA11, WA12, WA13 & WA14

CERTIFICATE OF OWNERSHIP

I HEREBY CERTIFY THAT I AM THE OWNER OF THE PROPERTY SHOWN AND DESCRIBED HEREON AND THAT I HEREBY ADOPT THIS PLAT OF SUBDIVISION BY MY FREE CONSENT AND GRANT ALL EASEMENTS TO THE USE SHOWN.

12/1/06
DATE

GERALD E. NEESER, PRESIDENT
NEESER CONSTRUCTION, INC.
2501 BLUEBERRY
ANCHORAGE, AK 99503

NOTARY ACKNOWLEDGEMENT

SUBSCRIBED AND SWORN TO BEFORE ME THIS 1st DAY OF December, 2006 FOR Gerald E. Neeser

NOTARY FOR THE STATE OF ALASKA
MY COMMISSION EXPIRES 11/23/09

CERTIFICATE OF PAYMENT OF TAXES

I HEREBY CERTIFY THAT ALL CURRENT TAXES AND SPECIAL ASSESSMENTS, THROUGH December 5, 2006, AGAINST THE PROPERTY, INCLUDED IN THIS SUBDIVISION OR RESUBDIVISION, HEREON HAVE BEEN PAID.

CITY OF WASILLA TAX COLLECTION OFFICIAL — 12/5/06 DATE

CERTIFICATE OF PAYMENT OF TAXES

I HEREBY CERTIFY THAT ALL CURRENT TAXES AND SPECIAL ASSESSMENTS, THROUGH DEC, 2006, AGAINST THE PROPERTY, INCLUDED IN THIS SUBDIVISION OR RESUBDIVISION, HEREON HAVE BEEN PAID.

BOROUGH TAX COLLECTION OFFICIAL — 12-7-06 DATE

PLANNING & LAND USE DIRECTOR'S CERTIFICATE

I CERTIFY THAT THIS SUBDIVISION PLAT HAS BEEN FOUND TO COMPLY WITH THE LAND SUBDIVISION REGULATIONS OF THE MATANUSKA-SUSITNA BOROUGH, AND THAT THE PLAT HAS BEEN APPROVED BY THE PLATTING AUTHORITY BY PLAT RESOLUTION No. 2006-246-SUB DATED AUG. 9, 2006, AND THAT THIS PLAT HAS BEEN APPROVED FOR RECORDING IN THE OFFICE OF THE RECORDER IN THE PALMER RECORDING DISTRICT, THIRD JUDICIAL DISTRICT, STATE OF ALASKA.

PLANNING AND LAND USE DIRECTOR — 12-7-06 DATE

ATTEST: PLATTING CLERK

MATANUSKA-SUSITNA BOROUGH SEAL STATE OF ALASKA PLATTING DEPT.

2006-204
PALMER REC DIST
Date 12-7 20 06
Time 3:03 PM
Requested By MSB
Address

A PLAT OF

ROCK CENTER PHASE 1

A SUBDIVISION OF

PARCEL No. 2, MSB WAIVER RESOLUTION RECORDING No. 88-71W (EXCEPTING THEREFROM ANY PORTION OF THE E. PALMER WASILLA HIGHWAY RIGHTS OF WAY) PALMER RECORDING DISTRICT

LOCATED WITHIN THE SW1/4, SECTION 10, T17N, R1W, S.M., AK.
CONTAINING 33.9± ACRES

ALASKA RIM ENGINEERING, INC.
ENGINEERS-PLANNERS-SURVEYORS
P.O. BOX 8749 PALMER, ALASKA 99645 (907) 745-0855 FAX (907) 746-0828

W.O. 0600191	DATE: DECEMBER, 2006	SCALE: 1" = 100'
DRAWN BY: JRG	FILE: 0600191_PL	SHEET 1 OF 1

Palmer 2006-204

AFFIDAVIT

I hereby certify that I hold the herein specified property interest in the property shown and described hereon and that I hereby adopt this plan of subdivision by my free consent and grant all easements to the use shown. {delete inapplicable phrases}

Deed of Trust

Recording Serial No. 2005-020855-0

Rock Center

Phase I

Current Legal Description

First National Bank Alaska

William P. Insche SVP

(Signature)

William P. Insche Senior Vice Pres

(Printed Name and Title)

PO Box 100720

Anchorage, AK 99510

Address

Lien Holder

Interest in Property

Proposed Subdivision

NOTARY CERTIFICATION

State of Alaska)

Third Judicial)SS

~~County of~~ District)

SUBSCRIBED and SWORN to (or affirmed) before me this 31ST day of August (month)

2006 (year), by William P Insche (name of signers)

BETH A. HAYWARD-BERRY NOTARY PUBLIC STATE OF ALASKA

Beth A. Hayward-Berry

(signature and seal of notary)

My Commission expires: 5-30-2010

Palmer 2006-204

AFFIDAVIT

I hereby certify that I hold the herein specified property interest in the property shown and described hereon and that I hereby adopt this plan of subdivision by my free consent and grant all easements to the use shown. {delete inapplicable phrases}

Deed of Trust

Recording Serial No. 2005-010828-0

PORTION OF SW¼ SEC 10 T17N R1W
Current Legal Description

Rock Center

Phase I

Proposed Subdivision

ROCK PARTNERS
(Signature)

FIRST D.O.T.
Interest in Property

LEWIS DICKINSON - GENERAL PARTNER
(Printed Name and Title)

1040 O'MALLEY ROAD - ANCHORAGE
Address

NOTARY CERTIFICATION

State of)
)SS
County of)

SUBSCRIBED and SWORN to (or affirmed) before me this 6 day of September
(month)

2006, by LEWIS DICKINSON
(year) (name of signers)

OFFICIAL SEAL
State of Alaska
JOYCE FROSTAD
NOTARY PUBLIC
My Commission Expires: May 28, 2010

(signature and seal of notary)

My Commission expires: 5/28/2010

APPENDIX B

Draft TIA

TRAFFIC IMPACT ANALYSIS

Southcentral Foundation
Valley Medical Complex Phase I
Wasilla, Alaska

February 2011

rendering by: nbbj

DOWL HKM

TRAFFIC IMPACT ANALYSIS

SOUTHCENTRAL FOUNDATION
VALLEY MEDICAL COMPLEX PHASE I

WASILLA, ALASKA

Prepared for:

Southcentral Foundation
4501 Diplomacy Drive, Suite 200
Anchorage, Alaska 99508

Prepared by:

DOWL HKM
4041 B Street
Anchorage, Alaska 99503
(907) 562-2000

W.O. 60763

February 2011

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TABLE OF CONTENTS (cont'd)

FIGURES

TABLES

APPENDICES

LIST OF ACRONYMS

AAC ..... Alaska Administrative Code
AADT ..... annual average daily traffic
DOT&PF ..... State of Alaska Department of Transportation and Public Facilities
HCS 2000 ..... Highway Capacity Software 2000
ITE ..... Institute of Transportation Engineers
LOS ..... level of service
MASCOT ..... Mat-Su Community Transit
Mat-Su ..... Matanuska-Susitna
mph ..... miles per hour
TIA ..... Traffic Impact Analysis
vpd ..... vehicles per day

1.0 INTRODUCTION

1.1 Purpose and Objectives

The purpose of this Traffic Impact Analysis (TIA) is to determine the transportation related impacts of a proposed 100,000-square-foot Valley Medical Building and related parking facilities on Tract A of the Rock Center Subdivision. The property is located at the northeast corner of the intersection of Knik-Goose Bay Road and Palmer-Wasilla Highway in Wasilla, Alaska. Access is proposed via Knik-Goose Bay Road at Enter Way and via Palmer-Wasilla Highway at a midblock location between Knik-Goose Bay Road and Glenwood Avenue. See Figure 1 for a Development and Vicinity Site Map.

The objectives of this TIA are to:

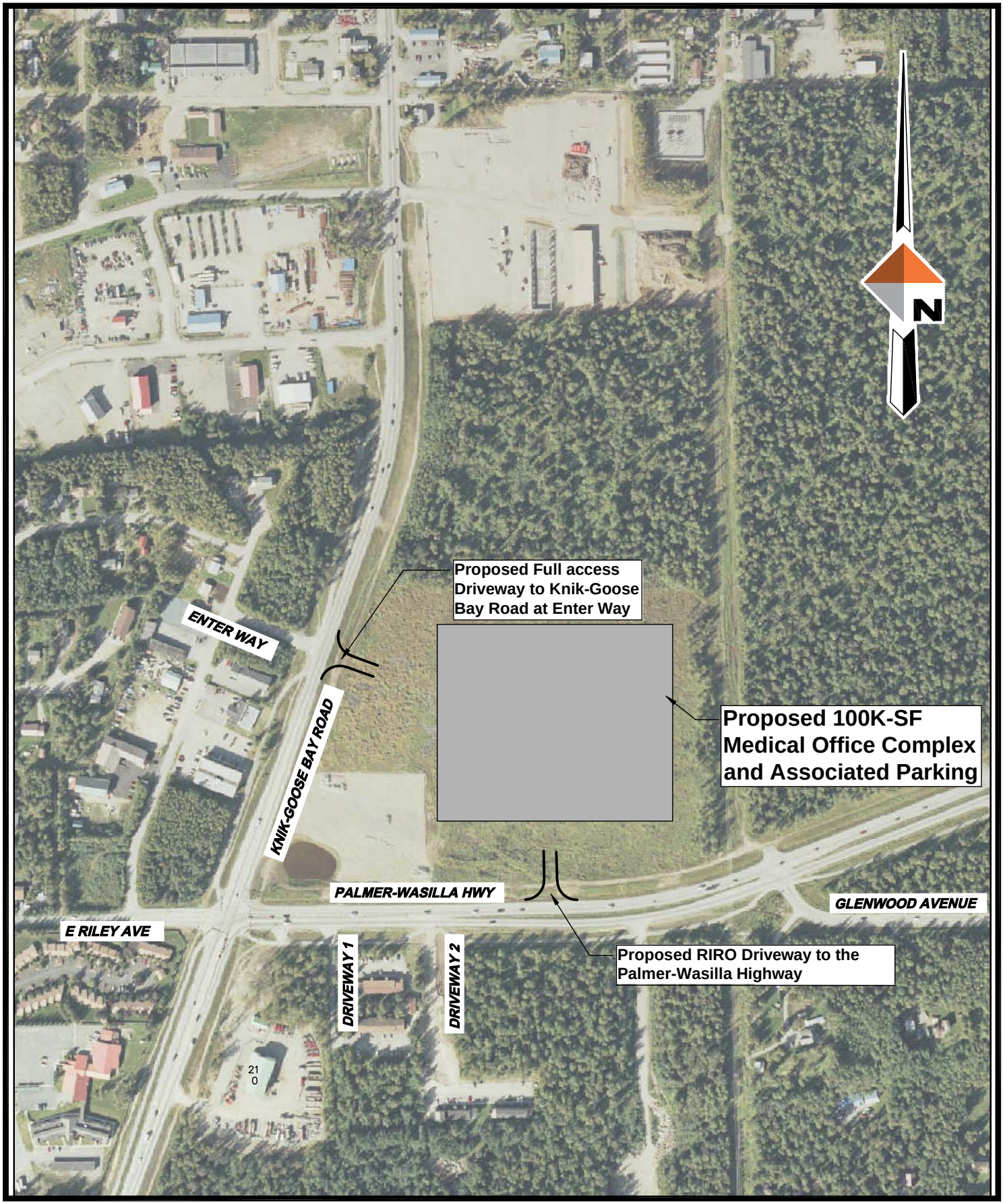
- adequately assess the traffic impacts associated with the proposed development and identify alternatives for off-site access and traffic control mitigation, if required; and
- provide a technically sound basis to identify/negotiate mitigation requirements in response to off-site traffic impacts.

The transportation issues discussed in this TIA include:

- a.m. and p.m. peak-hour estimates for construction and design years traffic conditions without site build-out (referred to as “background”),
- a.m. and p.m. peak-hour estimates for construction and design years total traffic conditions, and
- roadway and access improvements associated with the proposed development necessary to achieve an acceptable level of service (LOS).

1.2 Prior and Current Studies

A traffic impact study was prepared by Tryck Nyman Hayes, Incorporated, for a proposed development on this site in 2006, but was never finalized.



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DOWL HKM

Vicinity and Development SIte Map
SCF Valley Medical Complex
Traffic Impact Analysis
Wasilla, Alaska

FIGURE 1

2.0 EXISTING CONDITIONS

2.1 Existing Land Use and Zoning

The site is currently undeveloped. Surrounding land use consists primarily of residential and commercial development accessed via Palmer-Wasilla Highway/Knik-Goose Bay Road intersection, Enter Way, or Glenwood Avenue. The Pioneer Home is located south of the proposed site and is accessed primarily via East Riley Avenue. An apartment complex is located south of Palmer-Wasilla Highway and is accessed directly from Palmer-Wasilla Highway via one full access driveway and one right-in right-out driveway.

The proposed development area is zoned Commercial. The existing zoning for the properties adjacent to the development are Commercial, Rural Residential, and Multi-Family Residential.

2.2 Adjacent Roadways

The project site is accessed via Knik-Goose Bay Road and Palmer-Wasilla Highway. Knik-Goose Bay Road is classified as a Rural Major Collector by the State of Alaska Department of Transportation and Public Facilities (DOT&PF). The roadway section consists of two paved travel lanes and a paved pedestrian pathway on the west side. The segment between Palmer-Wasilla Highway and Parks Highway has a posted speed of 45 miles per hour (mph). It is owned and maintained by the DOT&PF and has a 2009 annual average daily traffic (AADT) of 9,250 vehicles per day (vpd), per DOT&PF Annual Traffic Volume Report 2007-2009.

Palmer-Wasilla Highway is classified as a Rural Minor Arterial by DOT&PF. The roadway section consists of three paved travel lanes, two lanes westbound and one lane eastbound, and a paved pedestrian pathway along the south side. The posted speed is 45 mph, and the right-of-way is owned and maintained by the DOT&PF. This segment of the road has a 2009 AADT of 11,460 vpd, per the DOT&PF Annual Traffic Volume Report 2007-2009.

2.3 Area of Significant Impact

According to Alaska Administrative Code (17 AAC 10.070), a TIA must address:

- intersections on highways where traffic on any approach is expected to increase as a result of the proposed development by at least 5% of the approach's capacity;

- segments of the highways between intersections where total traffic is expected to increase as a result of the proposed development be at least 5% of the segments' capacity;
- state highways and intersections where the safety of the facilities will deteriorate as a result of the traffic generated by the development;
- each driveway or approach road that will allow egress from, or ingress to, a highway for the proposed development;
- parking and circulation routes within the proposed development, to ensure that traffic does not back up onto a highway; and
- pedestrian and bicycle facilities that are part of the highway facilities to which a permit applicant seeks access.

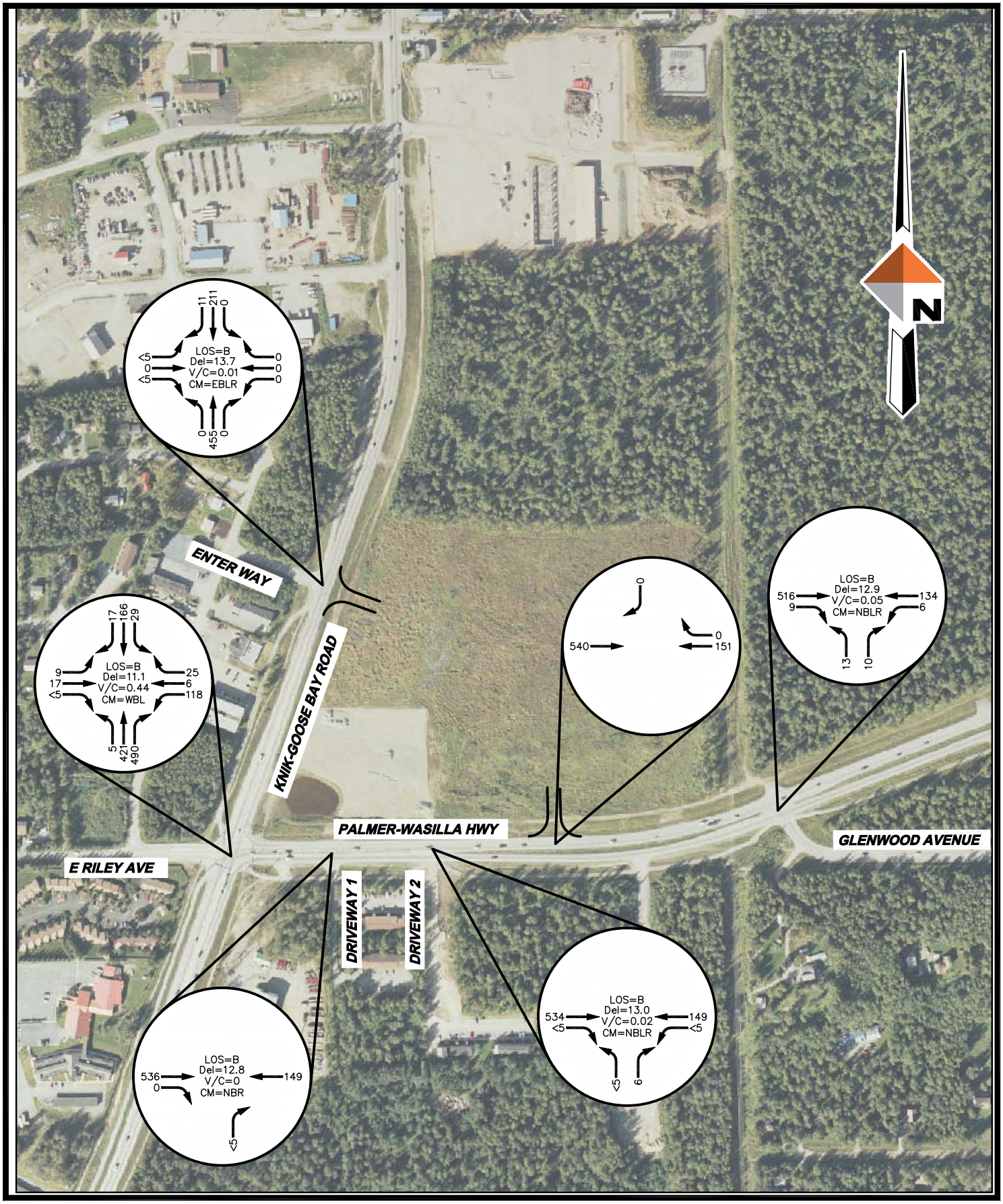
Based on a scoping meeting with the DOT&PF Traffic Engineer, the criteria above, the amount of site-generated traffic, and distribution of trips on the roadway network, this TIA evaluated the following intersections:

- Knik-Goose Bay Road/Enter Way,
- Knik-Goose Bay Road/Palmer-Wasilla Highway,
- Palmer-Wasilla Highway/Glenwood Avenue, and
- Palmer-Wasilla Highway/Site Access.

For complete scoping meeting minutes, refer to Appendix A.

2.4 Traffic Volumes and Conditions

Traffic counts were performed at study intersections on December 1, 2010, during the a.m. and p.m. peak hours. Twenty-four-hour traffic counts were collected via radar on Knik-Goose Bay Road between Palmer-Wasilla Highway and Enter Way. Raw traffic volume documentation is included in Appendix B and depicted in Figures 2 and 3.



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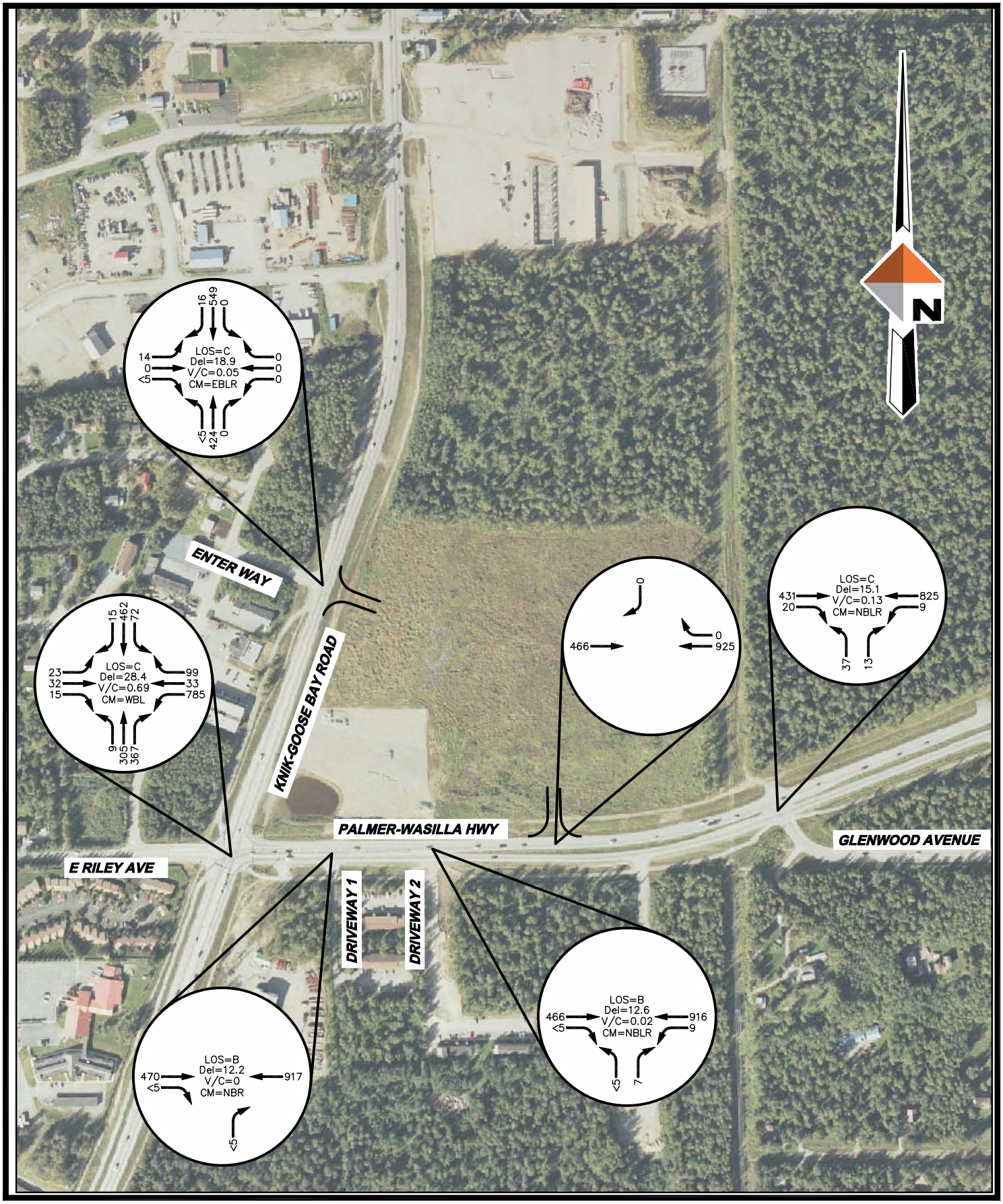
DOWL HKM

2010 - A.M. Existing Traffic
SCF Valley Medical Complex
Traffic Impact Analysis
Wasilla, Alaska

FIGURE 2



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DOWL HKM

2010 - P.M. Existing Traffic
SCF Valley Medical Complex
Traffic Impact Analysis
Wasilla, Alaska

FIGURE 3

2.5 Anticipated Future Development

The development described in this TIA is Phase I of a potentially four-phase project, however, the development that will be included in future phases is unknown. Traffic impacts of future phases will require reevaluation when the level of development is known.

DOT&PF is planning a future couplet running parallel to Knik-Goose Bay Road. The couplet is planned to connect to Knik-Goose Bay Road at the northwest corner of the property. Future site design should take this into account when determining building footprints and site layout.

DOT&PF has identified a future project to reconstruct Knik-Goose Bay Road with a 4-lane separated cross-section from MP 0.3 to MP 6.8, (between Parks Highway and Vine Road). It is assumed this project will be completed within the next 10 years.

Future signal locations are on Knik-Goose Bay Road at the northwest corner of the site and at the intersection of Glenwood Avenue/Palmer-Wasilla Highway based on correspondence with DOT&PF

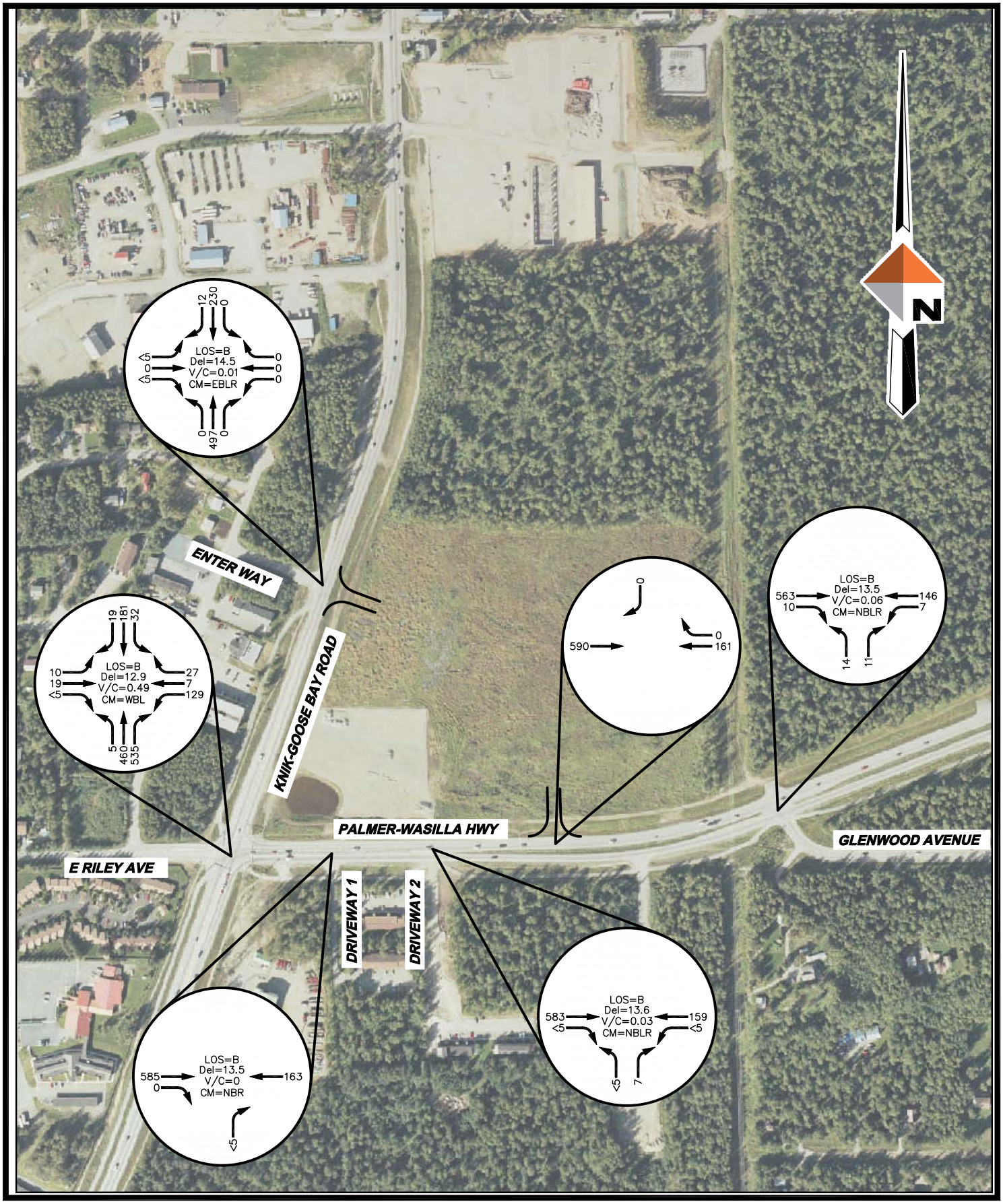
3.0 PROJECTED TRAFFIC

This TIA identifies how the property's accesses currently operate, as well as how they will operate during the construction and design years. The construction year is defined as the year the proposed construction will be completed. The design year is defined by DOT&PF Driveway Regulations as 10 years from the construction completion. For the purpose of this TIA, we assumed that the construction will be completed in 2012, therefore the construction year is 2012 and the design year is 2022.

3.1 Background Traffic

The background condition analysis identifies how the project area's transportation system is expected to operate during the construction and design years without traffic generated by the proposed development. In other words, the background traffic analysis includes the existing traffic in the study area and any expected growth, but does not include the site-generated traffic.

Background traffic for the construction and design years were calculated using a 4.5% growth rate, derived from historical AADT between 2006 and 2009, as published in DOT&PF Annual Traffic Reports. Palmer-Wasilla Highway between Parks Highway and Knik-Goose Bay Road was constructed in 2006. This significantly impacted the study area's AADT. Although growth rates are typically based on 10 years of data, AADT volumes prior to 2006 were excluded from the analysis. Complete calculations are provided in Appendix B. Figures 4 through 7 summarize the construction and design years background traffic volumes at each intersection.



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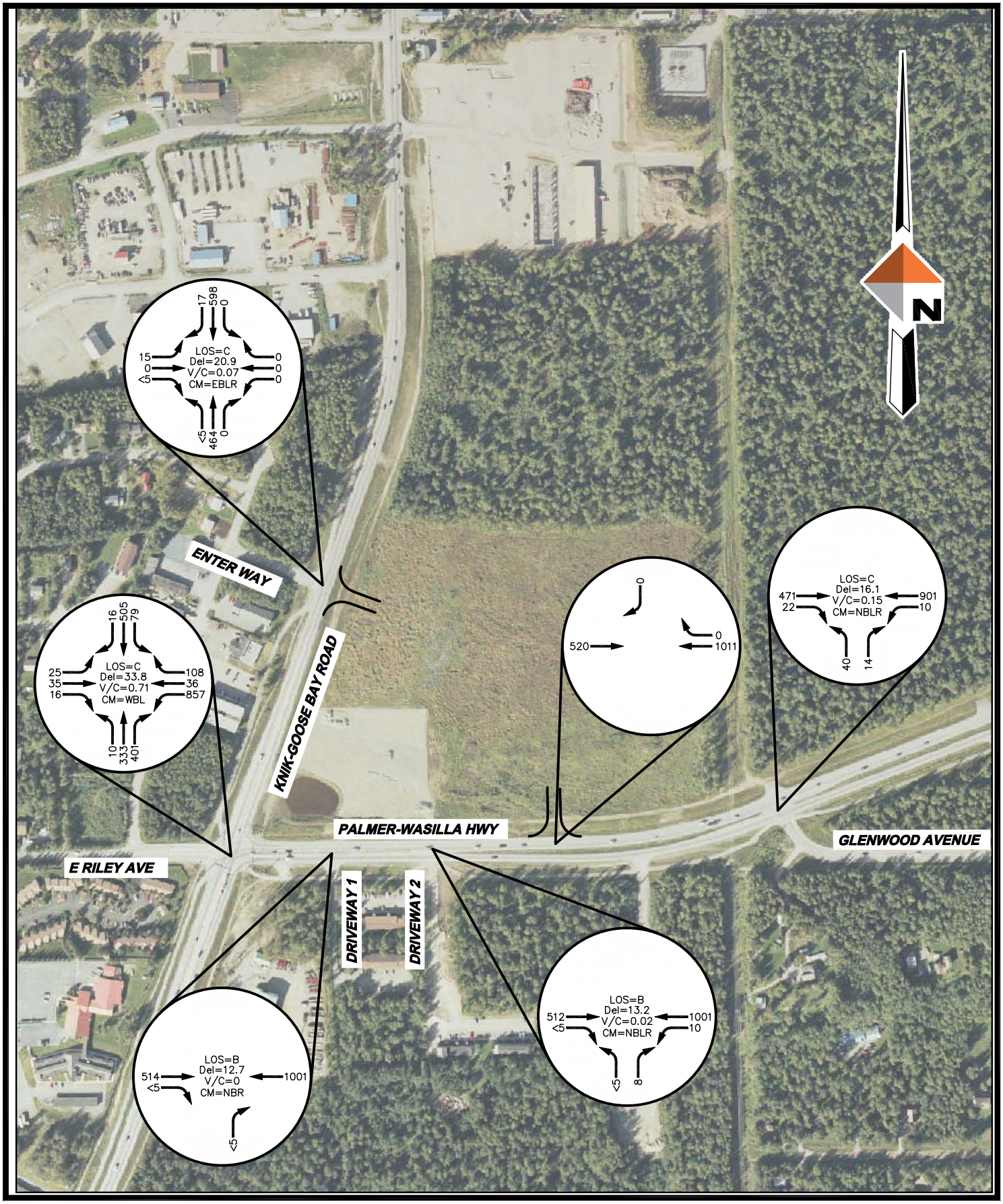
DOWL HKM

Construction Year 2012 - A.M. Background Traffic
SCF Valley Medical Complex
Traffic Impact Analysis
Wasilla, Alaska

FIGURE 4



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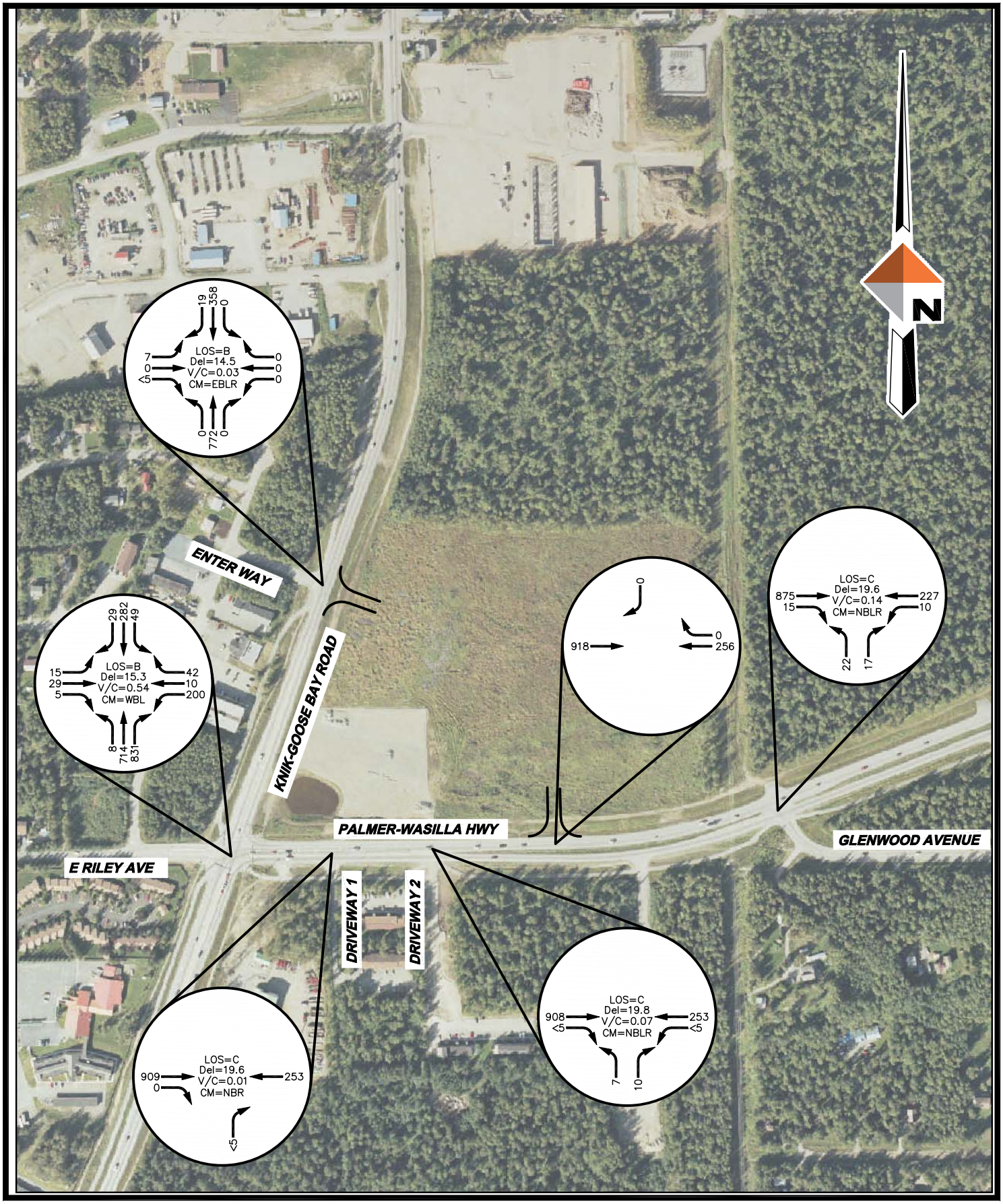
DOWL HKM

Construction Year 2012 - P.M. Background Traffic
SCF Valley Medical Complex
Traffic Impact Analysis
Wasilla, Alaska

FIGURE 5



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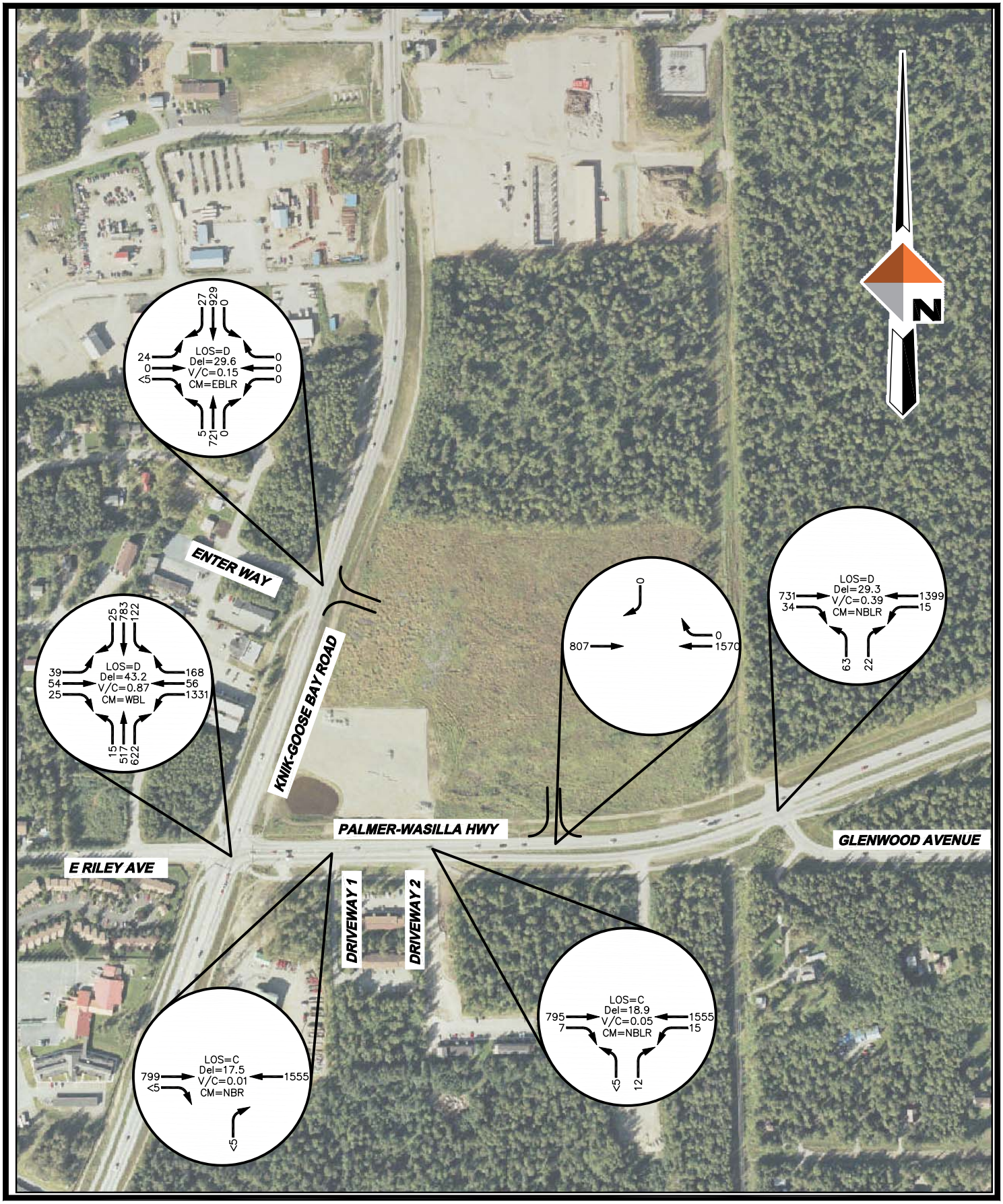
DOWL HKM

Design Year 2022 - A.M. Background Traffic
SCF Valley Medical Complex
Traffic Impact Analysis
Wasilla, Alaska

FIGURE 6



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DOWL HKM

Design Year 2022 - P.M. Background Traffic
SCF Valley Medical Complex
Traffic Impact Analysis
Wasilla, Alaska

FIGURE 7

3.2 Site Traffic

3.2.1 Trip Generation

The trip generation analysis yields the net new vehicle trips entering and exiting the site and net new vehicles trips on the adjacent roadways and driveways during the a.m. and p.m. peak-hours. Site-generated traffic is generally categorized into four types: new, pass-by, diverted, and internal trips.

New trips are trips that would not have existed within the study area without the proposed development.

Pass-by trips are trips that exist on the roadway immediately adjacent to the site and enter the proposed development because it is on the way to their ultimate trip destination. Due to the nature of the development, the pass-by trips are assumed to be zero.

Internal trips are trips generated by other developments within the project site and only require internal driveways to access the specific development. No internal trips are expected for this development.

Modal split is defined as the percentage of generated trips that use alternative modes of transportation such as public transportation.

The Mat-Su Community Transit (MASCOT) currently does not operate any bus routes adjacent to the subject site.

Trip generation rates for the proposed development are based on the data published in the *ITE Trip Generation Manual*, 7th Edition. Table 1 contains the trip calculation data for the a.m. and p.m. peak hours.

Table 1: Trip Generation

Type of Use	Square Feet/Units	A.M./P.M.	ITE Code/Other	Trip Rate*	Peak Hour 'In' Trips	Peak Hour 'Out' Trips	Peak Hour Total Trips
Medical Office	100,000	P.M.	720	2.82	76	206	282
Medical Office	100,000	A.M.	720	2.30	182	48	230

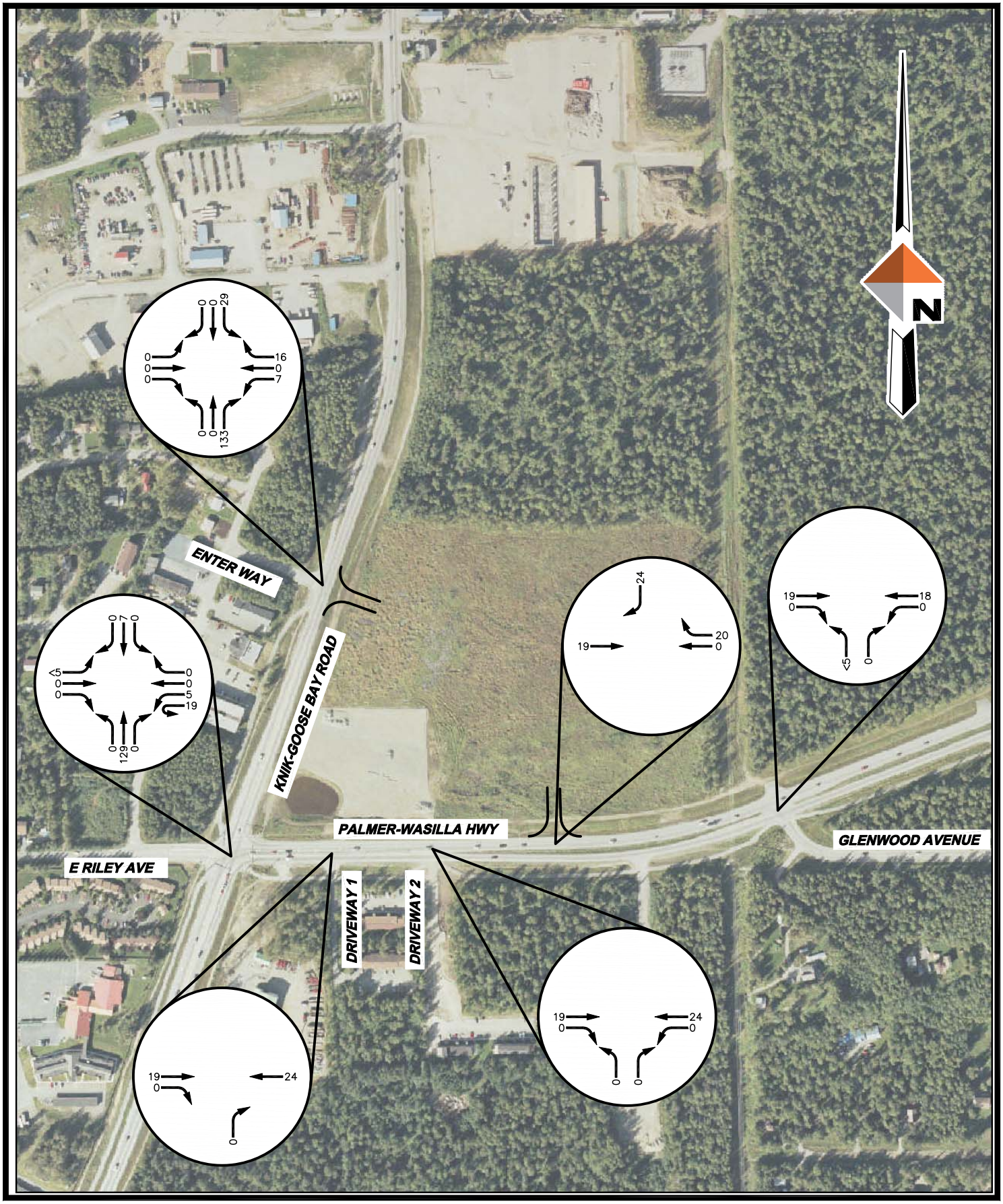
*Trip rate based on fitted curve equation

3.2.2 Trip Distribution and Assignment

The distribution of site-generated trips onto the roadway network within the study area is estimated based on the existing traffic distribution on the adjacent roadways existing land use, and engineering judgment. Two alternate trip distributions were studied. The base distribution has no eastbound left turns into the site access from Palmer-Wasilla Highway. The alternate distribution includes the eastbound left turns from Palmer-Wasilla Highway. The base trip distribution and assignments are shown on Figures 8 and 9.

3.2.3 Total Traffic

The total future traffic is defined as the sum of the background traffic volumes, diverted trips and the net new trips. Figures 10 through 13 summarize the construction and design years total traffic volumes at each intersection.

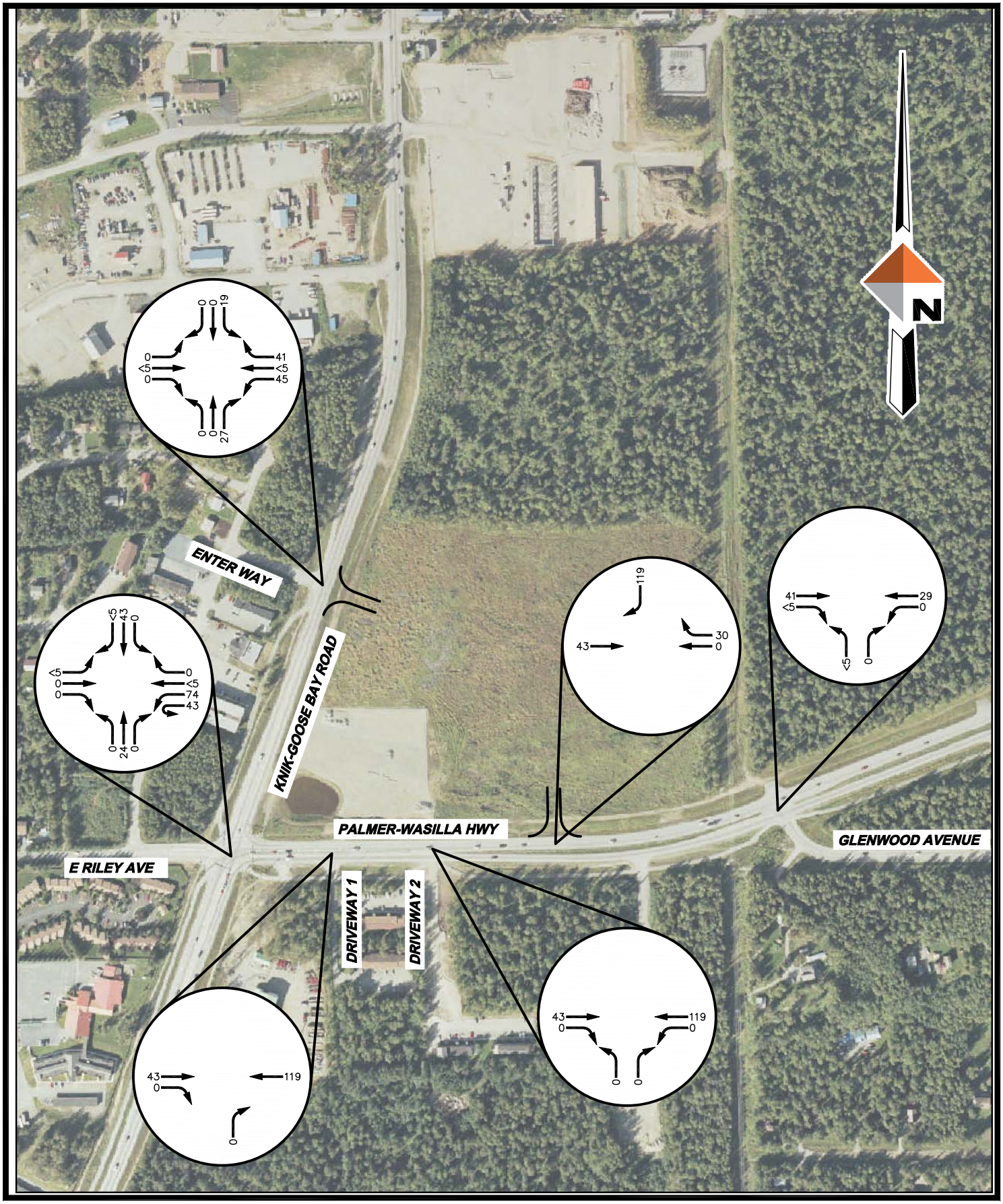


\\dowlcluster1\ANC-Projects\24\60763\01\AutoCAD\Figures.dwg 2011-2-3

DOWL HKM

100,000 Med. Office Building - A.M. Generated Trips
SCF Valley Medical Complex
Traffic Impact Analysis
Wasilla, Alaska

FIGURE 8



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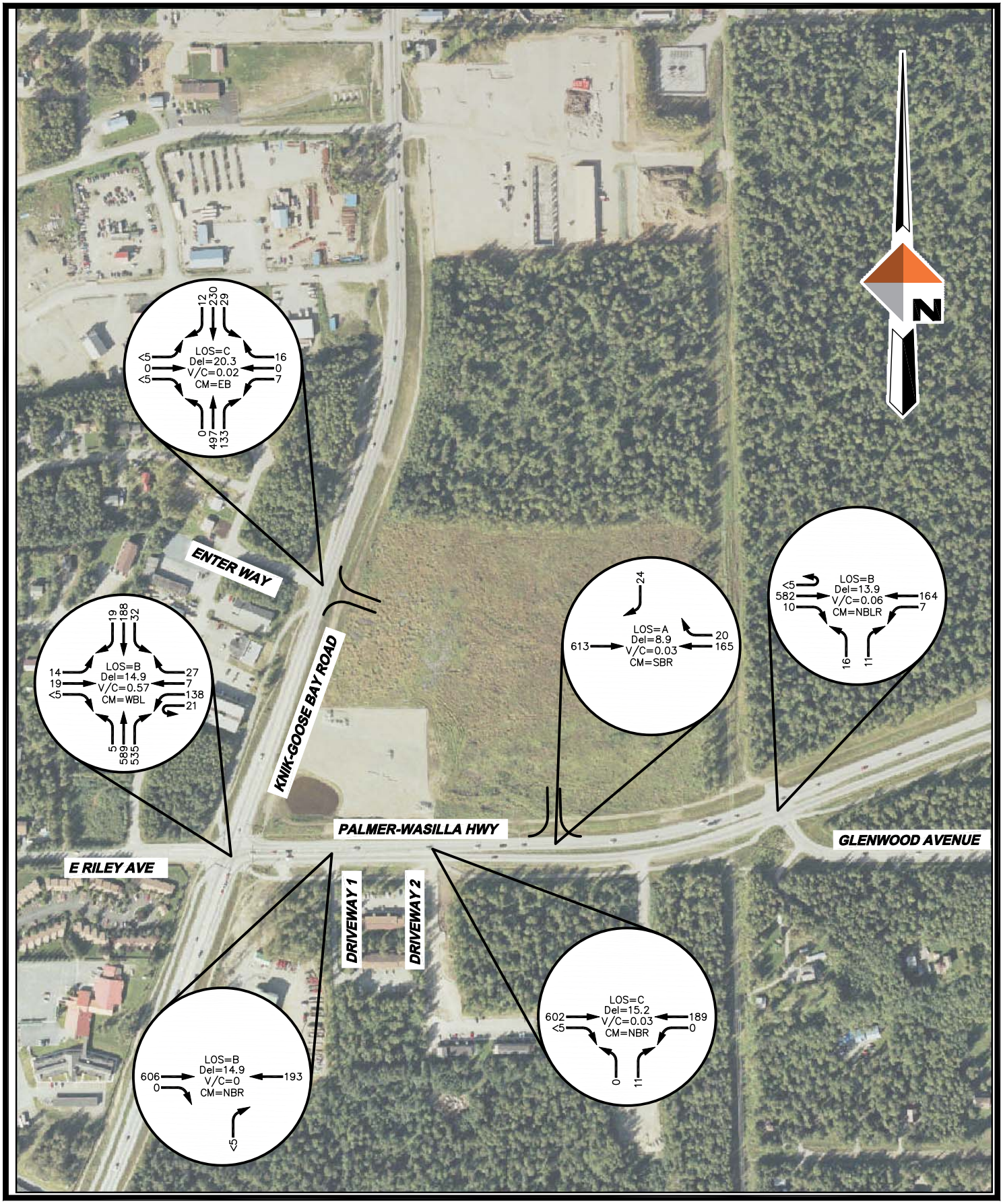
DOWL HKM

100,000 SF Med. Office Building - P.M. Generated Trips
SCF Valley Medical Complex
Traffic Impact Analysis
Wasilla, Alaska

FIGURE 9



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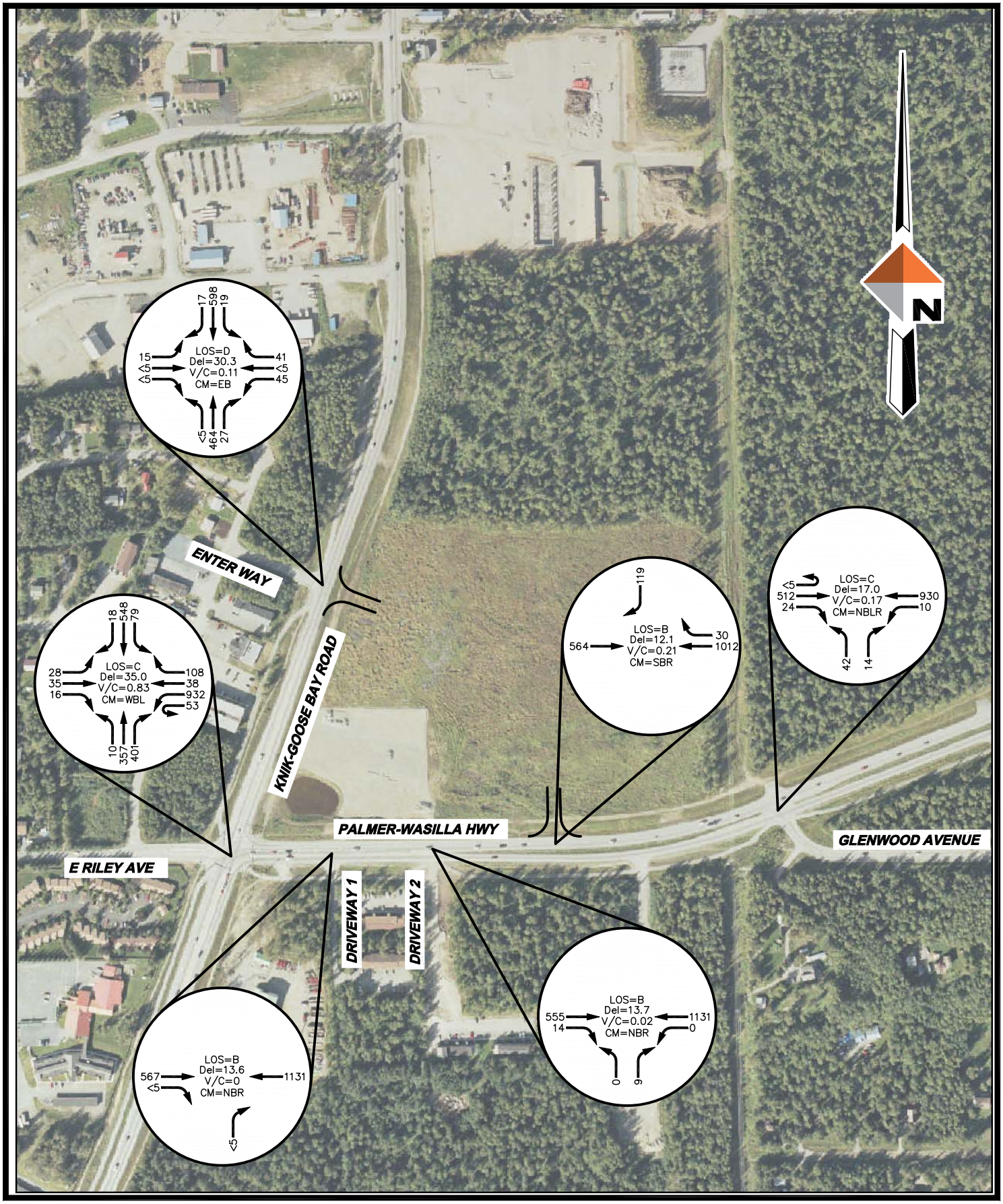
DOWL HKM

Construction Year 2012 - A.M. Total Traffic Volumes
SCF Valley Medical Complex
Traffic Impact Analysis
Wasilla, Alaska

FIGURE 10



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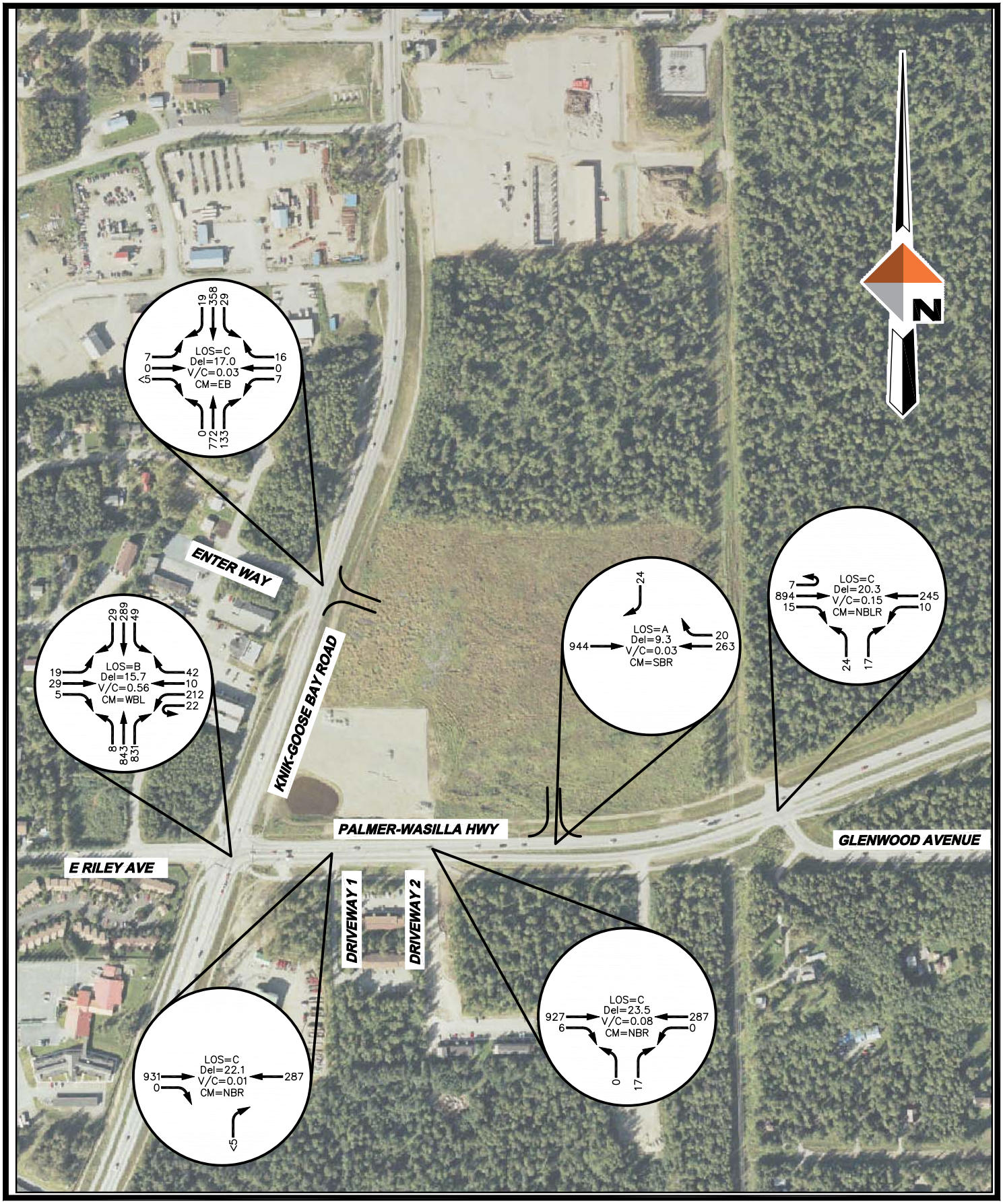
DOWL HKM

Construction Year 2012 - P.M. Total Traffic Volumes
SCF Valley Medical Complex
Traffic Impact Analysis
Wasilla, Alaska

FIGURE 11



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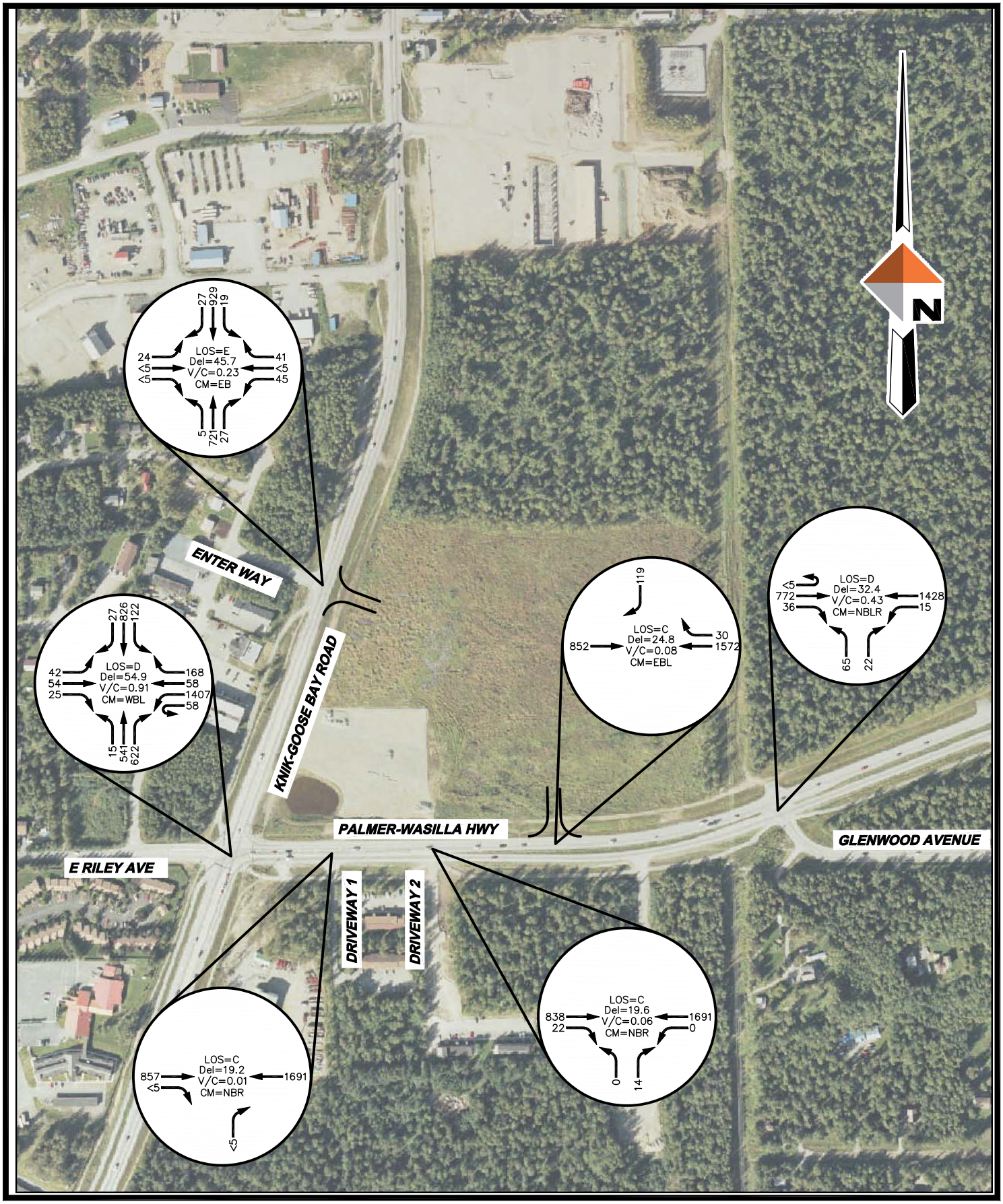
DOWL HKM

Design Year 2022 - A.M. Total Traffic Volumes
SCF Valley Medical Complex
Traffic Impact Analysis
Wasilla, Alaska

FIGURE 12



\\dowlcluster1\ANC-Projects\24\60763\01\AutoCAD\Figures.dwg 2011-2-3

DOWL HKM

Design Year 2022 - P.M. Total Traffic Volumes
SCF Valley Medical Complex
Traffic Impact Analysis
Wasilla, Alaska

FIGURE 13

4.0 TRAFFIC ANALYSIS

4.1 Capacity Analysis

4.1.1 Methodology

The following software programs were employed to analyze all signalized and unsignalized intersections within the study area:

- Synchro 7.0 for signalized intersections, and
- Highway Capacity Software 2000 (HCS 2000), for unsignalized intersections.

The analysis uses the following measures of effectiveness: LOS, volume-to-capacity ratio (v/c), and the average control delay (sec/veh).

4.1.2 Minimum Level of Service Criteria

DOT&PF's Driveway Design Standards and Regulations (17 AAC 10.070) establishes a minimum acceptable LOS for the development's construction and design years. These standards state that the minimum acceptable LOS at the time of the driveway permit application in both the construction and design year is:

- LOS C, if the LOS on the date of application is LOS C or better; or
- LOS D, if the LOS on the date of application is LOS D or poorer; however, if the LOS is poorer than LOS D, a lower minimum LOS is acceptable if the operation of the highway does not deteriorate more than 10% in terms of delay time or other appropriate measure of effectiveness from the LOS before the development's opening date.

Based on DOT&PF's regulations, if a highway or intersection has an acceptable LOS without traffic generated by the development and an unacceptable LOS with traffic generated by the development, the driveway permit applicant is required to mitigate impacts. Mitigation may include reducing the site generated trips, constructing improvements to the highway or intersection to achieve acceptable LOS, and/or other measures as approved by DOT&PF.

4.1.3 Level of Service Summary

Tables 2 and 3 summarize the LOS and delay conditions for the intersections within the study area. Detailed analysis data from Synchro and HCS 2000 are included in Appendix C.

Table 2: Construction (2012) and Design (2022) Year A.M. Level of Service and Delay Summary

Intersection	2012 A.M. Background		2012 A.M. Traffic Total		2022 A.M. Background		2022 A.M. Traffic Total		Mitigation Needed?
	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	
Enter Way/ Knik-Goose Bay Road	B	14.5	C	20.3	B	14.5	C	17.0	No
Palmer-Wasilla Highway/ Knik-Goose Bay Road	B	12.9	B	14.9	B	15.3	B	15.7	No
Driveway 1/ Palmer-Wasilla Highway	B	13.5	B	14.9	C	19.6	C	22.1	No
Driveway 2/ Palmer-Wasilla Highway	B	13.6	C	15.2	C	19.8	C	23.5	No
Glenwood Avenue/ Palmer-Wasilla Highway	B	13.5	B	13.9	C	19.6	C	20.3	No
Site Entrance/ Palmer-Wasilla Highway	N/A	N/A	A	8.9	N/A	N/A	A	9.3	No

Table 3: Construction (2012) and Design (2022) Year P.M. Level of Service and Delay Summary

Intersection	2012 P.M. Background		2012 P.M. Traffic Total		2022 P.M. Background		2022 P.M. Traffic Total		Mitigation Needed?
	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	
Enter Way/ Knik-Goose Bay Road	C	20.9	D	30.3	D	29.6	E	45.7	Yes
Palmer-Wasilla Highway/ Knik-Goose Bay Road	C	33.8	C	35.0	D	43.2	D	54.9	No
Driveway 1/ Palmer-Wasilla Highway	B	12.7	B	13.6	C	17.5	C	19.2	No
Driveway 2/ Palmer-Wasilla Highway	B	13.2	B	13.7	C	18.9	C	19.6	No
Glenwood Avenue/ Palmer-Wasilla Highway	C	16.1	C	17.0	D	29.3	D	32.4	No
Site Entrance/ Palmer-Wasilla Highway	N/A	N/A	C	15.8	N/A	N/A	B	12.1	No

4.2 MITIGATION ANALYSIS

Based on the data in Tables 2 and 3, the only intersection that requires mitigation is the intersection of Enter Way/Knik-Goose Bay Road. Due to the close proximity of the signal at Palmer-Wasilla Highway, signalized control was not considered.

4.2.1 Enter Way/Knik-Goose Bay Road:

Alternative 1: No Mitigation. This alternative consists of keeping the existing configuration of the intersection.

Alternative 2: Two-Way-Left-Turn Lane. This alternative consists of widening Knik-Goose Bay Road to accommodate a two-way-left-turn lane. This alternative allows this intersection to function at an acceptable LOS in the construction year and design year.

Alternative 3: Turn Lanes. A major road right-turn lane warrant analysis was conducted for this intersection in accordance with Figure 4.23 of NCHRP 279. A northbound right-turn lane is warranted for the construction and design years at this intersection.

A major road left-turn lane warrant analysis was conducted for this intersection in accordance with Exhibit 9-75 of AASHTO 2001. A southbound left-turn lane is warranted for both the construction and designs years at this intersection. This alternative results in a LOS D in the construction and design years.

Alternative 4: Eliminate Westbound Left-Turns. This alternative consists of adding a median to the east leg of this intersection that restricts left turns from the site. This alternative results in a LOS B in the construction and design years.

Table 4: Level of Service and Delay Summary of Mitigation Alternatives

Enter Way/Knik-Goose Bay Road				
Mitigation Alternative	**2012 PM Traffic Total**		**2022 PM Traffic Total**	
	LOS	**Delay**	**LOS**	**Delay**
No Mitigation	D	30.3	E	45.7
Two-Way-Left-Turn Lane	C	18.3	C	23.7
Turn Lanes	D	26.5	D	33.5
Eliminate Westbound Left Turns	B	12.4	B	11.8

4.2.2 Site Entrance/Palmer-Wasilla Highway

The site access along Palmer-Wasilla Highway will function at an acceptable LOS in all scenarios. A major road right-turn lane warrant analysis was conducted for this intersection in accordance with Figure 4.23 of NCHRP 279. A westbound right-turn tapper is warranted for the construction and design years for this intersection. Using NCHRP 479 a right-turn lane is warranted in both the construction and design years.

The new site access to Palmer-Wasilla Highway will create a demand for westbound U-turning traffic at the gap in the median west of the access. This movement will conflict with the existing northbound left turns from the apartment complex. To mitigate this, DOT&PF has indicated that they will require the median from the intersection of Palmer-Wasilla Highway/Knik-Goose Bay Road be extended to the median along Palmer-Wasilla Highway corridor.

This will create a westbound U-turn demand at the Palmer-Wasilla Highway/Knik-Goose Bay Road intersection. The existing configuration does not allow for U-turns. Anticipated updates consist of widening the east leg and relocating the existing signal pole on the southeast corner. Existing traffic from the apartment complex south of Palmer-Wasilla Highway will move to the intersections of Palmer-Wasilla Highway/Knik-Goose Bay Road and Glenwood Avenue/Palmer-Wasilla Highway as U-turns.

The option of adding an eastbound left-turn into the site was analyzed. This option decreased the delay at the Enter Way/Knik-Goose Bay Road intersection by diverting trips to the entrance on Palmer-Wasilla Highway.

4.2.3 Pedestrian Considerations

Knik-Goose Bay Road and Palmer-Wasilla Highway do not have pedestrian facilities on the east and north sides of the roadways, respectively. Pedestrian connections to the right-of-way should be planned as part of this development.

5.0 CONCLUSIONS

The following mitigation alternatives result in an acceptable LOS during the construction and design years.

Enter Way/Knik-Goose Bay Road:

- construct a two-way-left-turn lane along Knik-Goose Bay Road, or
- construct northbound right-turn and southbound left-turn pockets with a median restricting westbound left turns from the site.

Site Access/Palmer-Wasilla Highway:

- construct a westbound right-turn tapper, or pocket,
- construct a median to close the gap in the median along Palmer-Wasilla Highway, and
- Construct an optional eastbound left-turn pocket.

Palmer-Wasilla Highway/Knik-Goose Bay Road:

- construct signal upgrades to allow for westbound U-turns.

APPENDIX A

Scoping Meeting Minutes

Traffic Impact Analysis Scoping Meeting

Meeting Date/Time/Location: October 19th, 2010/9:30 a.m./DOT&PF Conference Room

Project Title: Mat-Su South Central Foundation Phase 1

Project Components: 100,000 SF Medical Office Building
Project Location: Northeast corner of Knik Goose Bay (KGB) Road/Palmer-Wasilla Hwy

Consultant: DOWL HKM

Attendees:

- Scott Thomas, DOT&PF Regional Traffic Engineer
- Chris Grgich, DOWL HKM
- LaQuita Chmielowski, DOWL HKM
- Kurt Hulteen, DOWL HKM

Topics:

1. Trip Distribution
    a. North via KGB Road: 40% Entering/40% Leaving
    b. South via KGB Road: 18% Entering/18% Leaving
    c. East via Palmer-Wasilla Highway: 40% Entering/40% Leaving
    d. West via Enter Way/Riley Avenue: 2% Entering/2% Exiting
2. Project Timeframe
    a. Construction Completion and Acceptance: September 2012
3. Model Assumptions
    a. Project year: 2012
    b. Design Year: 2022
4. Study Area
    a. Area Boundaries
        i. North: Property boundary
        ii. South: Palmer-Wasilla Highway
        iii. East: KGB Road
        iv. West: Glenwood Avenue
    b. Critical Roadways and Intersections to be included
        i. Palmer-Wasilla Highway/KGB Road Signalized Intersection
        ii. Glenwood Avenue/Palmer-Wasilla Highway
        iii. Enter Way/KGB Road

iv. Any other site proposed site access points

5. Existing Data
    a. DOT&PF Previous letters and direction from past Draft TIA
6. Traffic Growth Rates
    a. Assume 2.0%
7. Trip Generation
    a. New Trips – ITE generation rates, Volume 7.0,
        i. Medical Office Land Use (ITE Land Use Code 720)
        ii. Trip rate calculated based on Logarithmic Correlation
        iii. Trip Rate = 2.82 trips/1000SF of leasable area
        iv. Total New Trips during PM Peak Hour: 282
        v. Direction Split: Entering: 76, Exiting: 206
    b. Pass-by Trips – 0%
    c. Diverted Trips – 0%
    d. Internal Trips – 0%
8. Other Developments to be included in TIA
    a. NA
9. Construction Projects Within Study Area
    a. NA
10. Circulation Issues
    a. Roadway
        i. Due to the large acreage of the property, an access route to Glenwood to the east should be preserved. Because we're not platting/sub-dividing the property, this does not need to be in the form of a common access easement, but should be considered in the preliminary site plan. DOT&PF also foresees a future signal on the north west corner of the property, and that it would eventually become the main access point for the full site. At this time, preserve access to the north for future connections. These access points will not be included in this TIA.
        ii. A full access driveway to KGB can be considered (i.e. no requirement from the DOT&PF to build a median on KGB), for the development of

the 100K Medical Building. This will relieve the U-Turn demand on the KGB/Palmer-Wasilla Highway signal.

iii. A right-in/right-out only driveway would be allowed in the current shared use easement to KGB. However, if this easement is not used, the property owners will need to establish an agreement of shared access for other driveways. No re-platting will be required.

iv. All un-signalized accesses to state ROW will require turn-lane warrants.

v. The DOT&PF would prefer a single access to Palmer-Wasilla along the southern property frontage. This access should be located outside of the dual westbound left-turn lanes, and leave enough corner clearance for a future signal at Glenwood. If the site plan were adjusted to allow for this single access point, the DOT&PF foresees allowing a left-turn-in from the Palmer-Wasilla Highway.

vi. Median work on Palmer-Wasilla Highway will be required per previous DOT&PF direction. This work will connect the existing median on the highway to the median at the signal, and will restrict left-turns entering and exiting the highway. The neighboring apartment complex has been alerted to the possibility of this work in an August 2007 letter.

vii. Current signalized intersection at Palmer-Wasilla Highway/KGB road is not large enough to allow westbound U-turn movements. The widening will likely require the relocation of the signal pole on the southeast corner. Assume new pole and signal hardware at this location.

viii. State recommends building setbacks along KGB to allow for the construction of a future couplet to the north. This will likely occur north of the site, and the state is not asking for any easements at this time. However they do not want to have any option precluded. Parking along the corridor, as currently sketched in our bubble diagram, does allow for this future work.

a. Transit

i. NA

b. Pedestrian/Bicycle
    i. NA

2. Meeting notes - to be provided by consultant to the Traffic Staff within 5 days of the meeting for Traffic review and comment.

McGill, Adam

From: Chmielowski, LaQuita
Sent: Monday, November 01, 2010 8:55 PM
To: Grgich, Christopher; Hulteen, Kurt
Subject: FW: Mat-Su SCF Draft TIA Scoping Meeting Minutes

Follow Up Flag: Follow up
Flag Status: Completed

Hi, Chris and Kurt,

FYI – Looks like Scott has a few changes to the meeting minutes. It appears that some of his comments may affect the current site plan.

Thanks
LaQuita

From: Thomas, Scott E (DOT) [mailto:scott.thomas@alaska.gov]
Sent: Monday, November 01, 2010 3:20 PM
To: Chmielowski, LaQuita
Subject: RE: Mat-Su SCF Draft TIA Scoping Meeting Minutes

LaQuita

Some changes/ comments:

I don't remember agreeing on trip distributions. I would need to see that it is similar to existing demands in the TIA. I expect more heading to the Parks Hwy via KGB.
Traffic growth rates: Used to be 4%. I'll need a newer ISER number or % from the Borough as per their LRTP modeling assumptions.

7. 8.
Trip Generation is for this phase of development. Should the owner add more to the site at a later date, then we would want an updated TIA if the trips are large enough.

10.ii. While full movements on KGB will be considered at this time, it would be interim. DOT/PF may want to restrict LT's in the future, depending on the couplet final configuration and on preserving and eventually seeing the construction of an option to access a signal/intersection to the north boundary of the property.

10.iv. Turn lane warrant "analysis".

10.v. I don't foresee left turns considered by DOT/PF from the PW Hwy unless all other access points suffer LOS (queues, delay for large traffic #'s) without it. Yes, it would have to fit between Glenwood and KGB turn lanes.

10.vi. Medina work is required if there is to be a driveway that is too close to this break and causes unintentional demand for eastbound left turns onto the property or off of the property.

Transit. Good point. Want valley transit to be allowed for in this plan, first onsite. Offsite on the roadway in pullouts will only be per MSB agreement/request to DOT.

Ped/Bike = access routes to signal need to be planned for.

Scott

From: Chmielowski, LaQuita [mailto:lchmielowski@dowlhkm.com]
Sent: Wednesday, October 27, 2010 12:31 PM
To: Thomas, Scott E (DOT)
Cc: Reception; Grgich, Christopher; Hulteen, Kurt
Subject: Mat-Su SCF Draft TIA Scoping Meeting Minutes

Hello, Scott.

I have appended the draft scoping meeting minutes from our meeting with you to discuss the Mat-Su SCF project. Please contact Chris or me if you have any questions or concerns.

Thank you,
LaQuita
D60715

LaQuita M. Chmielowski, P.E., LEED® AP
Civil Engineer

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APPENDIX B

Traffic Volume Documentation

Period Starting	Northbound (to Wasilla)	Southbound (away from Wasilla)	Both Directions	Hourly Total at Start Interval	Distribution (N/S)	
11:00 AM	94	81	175	707	54%	46%
11:15 AM	92	80	172	717	53%	47%
11:30 AM	94	98	192	759	49%	51%
11:45 AM	110	58	168	737	65%	35%
12:00 PM	97	88	185	782	52%	48%
12:15 PM	116	98	214	814	54%	46%
12:30 PM	102	68	170	775	60%	40%
12:45 PM	118	95	213	784	55%	45%
1:00 PM	115	102	217	764	53%	47%
1:15 PM	89	86	175	755	51%	49%
1:30 PM	97	82	179	795	54%	46%
1:45 PM	95	98	193	836	49%	51%
2:00 PM	115	93	208	876	55%	45%
2:15 PM	109	106	215	851	51%	49%
2:30 PM	94	126	220	843	43%	57%
2:45 PM	123	110	233	829	53%	47%
3:00 PM	92	91	183	811	50%	50%
3:15 PM	103	104	207	852	50%	50%
3:30 PM	102	104	206	885	50%	50%
3:45 PM	104	111	215	922	48%	52%
4:00 PM	96	128	224	946	43%	57%
4:15 PM	102	138	240	975	43%	58%
4:30 PM	120	123	243	976	49%	51%
4:45 PM	116	123	239	975	49%	51%
5:00 PM	100	153	253	1011	40%	60%
5:15 PM	91	150	241	1002	38%	62%
5:30 PM	97	145	242	994	40%	60%
5:45 PM	123	152	275	962	45%	55%
6:00 PM	97	147	244	897	40%	60%
6:15 PM	90	143	233	839	39%	61%
6:30 PM	75	135	210	780	36%	64%
6:45 PM	83	127	210	725	40%	60%
7:00 PM	77	109	186	656	41%	59%
7:15 PM	73	101	174	617	42%	58%
7:30 PM	72	83	155	598	46%	54%
7:45 PM	57	84	141	568	40%	60%
8:00 PM	56	91	147	537	38%	62%
8:15 PM	60	95	155	479	39%	61%
8:30 PM	42	83	125	417	34%	66%
8:45 PM	45	65	110	382	41%	59%
9:00 PM	39	50	89	342	44%	56%
9:15 PM	29	64	93	317	31%	69%
9:30 PM	33	57	90	293	37%	63%
9:45 PM	27	43	70	243	39%	61%
10:00 PM	29	35	64	212	45%	55%
10:15 PM	14	55	69	192	20%	80%
10:30 PM	18	22	40	151	45%	55%
10:45 PM	12	27	39	141	31%	69%
11:00 PM	14	30	44	129	32%	68%
11:15 PM	15	13	28	108	54%	46%
11:30 PM	11	19	30	95	37%	63%
11:45 PM	12	15	27	74	44%	56%
12:00 AM	9	14	23	61	39%	61%
12:15 AM	7	8	15	56	47%	53%
12:30 AM	6	3	9	53	67%	33%
12:45 AM	2	12	14	51	14%	86%
1:00 AM	5	13	18	42	28%	72%
1:15 AM	4	8	12	28	33%	67%
1:30 AM	3	4	7	21	43%	57%
1:45 AM	4	1	5	18	80%	20%

2:00 AM	1	3	4	20	25%	75%
2:15 AM	1	4	5	18	20%	80%
2:30 AM	2	2	4	15	50%	50%
2:45 AM	1	6	7	13	14%	86%
3:00 AM	1	1	2	11	50%	50%
3:15 AM	1	1	2	13	50%	50%
3:30 AM	1	1	2	16	50%	50%
3:45 AM	2	3	5	22	40%	60%
4:00 AM	2	2	4	28	50%	50%
4:15 AM	1	4	5	39	20%	80%
4:30 AM	4	4	8	52	50%	50%
4:45 AM	3	8	11	69	27%	73%
5:00 AM	10	5	15	97	67%	33%
5:15 AM	11	7	18	145	61%	39%
5:30 AM	11	14	25	180	44%	56%
5:45 AM	24	15	39	219	62%	38%
6:00 AM	39	24	63	262	62%	38%
6:15 AM	26	27	53	327	49%	51%
6:30 AM	54	10	64	474	84%	16%
6:45 AM	60	22	82	574	73%	27%
7:00 AM	108	20	128	638	84%	16%
7:15 AM	151	49	200	667	76%	25%
7:30 AM	93	71	164	606	57%	43%
7:45 AM	100	46	146	588	68%	32%
8:00 AM	111	46	157	616	71%	29%
8:15 AM	99	40	139	650	71%	29%
8:30 AM	98	48	146	647	67%	33%
8:45 AM	110	64	174	674	63%	37%
9:00 AM	123	68	191	651	64%	36%
9:15 AM	77	59	136	656	57%	43%
9:30 AM	94	79	173	699	54%	46%
9:45 AM	95	56	151	616	63%	37%
10:00 AM	120	76	196		61%	39%
10:15 AM	105	74	179		59%	41%
10:30 AM	85	5	90		94%	6%

SCF VALLEY MEDICAL COMPLEX PHASE 1 TIA

RAW TRAFFIC DATA

Data Collected By:
DOWL HKM
4041 B Street, Anchorage, AK
(907) 562-2000

File Name : PW HWY_KGB TOTAL AM
Site Code : 00000000
Start Date : 12/01/2010
Page No : 1

Groups Printed- 1 - Unshifted

	KGB From North					PW HWY From East					KGB From South					PW HWY From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:00 AM	5	0	3	0	8	4	0	19	0	23	125	1	2	0	128	0	0	3	0	3	162
07:15 AM	2	0	7	0	9	11	2	24	0	37	121	0	0	0	121	3	4	1	0	8	175
07:30 AM	4	0	8	0	12	5	3	28	0	36	127	0	2	0	129	0	6	2	0	8	185
07:45 AM	7	0	8	0	15	4	1	32	0	37	137	0	1	0	138	0	5	5	0	10	200
Total	18	0	26	0	44	24	6	103	0	133	510	1	5	0	516	3	15	11	0	29	722
08:00 AM	4	0	6	0	10	5	0	34	0	39	105	2	2	0	109	0	2	1	0	3	161
08:15 AM	3	0	5	0	8	7	2	37	0	46	112	0	4	7	123	1	2	3	0	6	183
08:30 AM	3	0	5	0	8	7	3	42	0	52	99	0	2	0	101	0	4	4	0	8	169
08:45 AM	5	0	3	0	8	17	1	35	0	53	96	0	3	0	99	1	1	1	0	3	163
Total	15	0	19	0	34	36	6	148	0	190	412	2	11	7	432	2	9	9	0	20	676
Grand Total	33	0	45	0	78	60	12	251	0	323	922	3	16	7	948	5	24	20	0	49	1398
Apprch %	42.3	0.0	57.7	0.0		18.6	3.7	77.7	0.0		97.3	0.3	1.7	0.7		10.2	49.0	40.8	0.0		
Total %	2.4	0.0	3.2	0.0	5.6	4.3	0.9	18.0	0.0	23.1	66.0	0.2	1.1	0.5	67.8	0.4	1.7	1.4	0.0	3.5	

SCF VALLEY MEDICAL COMPLEX PHASE 1 TIA

RAW TRAFFIC DATA

Data Collected By:
DOWL HKM
4041 B Street, Anchorage, AK
(907) 562-2000

File Name : PW HWY_KGB TOTAL PM
Site Code : 00000000
Start Date : 12/01/2010
Page No : 1

Groups Printed- 1 - Unshifted

	Knik-Goose Bay Road From North					Palmer-Wasilla Hwy From East					Knik-Goose Bay Road From South					Palmer-Wasilla Hwy From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
04:00 PM	6	0	26	0	32	26	6	124	1	157	103	0	1	0	104	5	4	12	0	21	314
04:15 PM	5	0	17	0	22	23	6	151	0	180	68	0	2	3	73	2	5	11	0	18	293
04:30 PM	2	0	20	0	22	14	4	163	0	181	109	0	4	0	113	0	6	5	0	11	327
04:45 PM	2	0	14	0	16	35	5	223	0	263	86	0	2	0	88	2	10	7	0	19	386
Total	15	0	77	0	92	98	21	661	1	781	366	0	9	3	378	9	25	35	0	69	1320
05:00 PM	6	0	18	0	24	29	17	208	0	254	103	0	3	0	106	4	9	4	0	17	401
05:15 PM	5	0	20	0	25	21	7	191	0	219	69	1	0	0	70	9	7	7	0	23	337
05:30 PM	2	1	15	0	18	10	2	162	0	174	65	0	0	0	65	2	7	5	0	14	271
05:45 PM	1	0	15	0	16	29	2	186	0	217	76	0	0	0	76	3	5	3	0	11	320
Total	14	1	68	0	83	89	28	747	0	864	313	1	3	0	317	18	28	19	0	65	1329
Grand Total	29	1	145	0	175	187	49	1408	1	1645	679	1	12	3	695	27	53	54	0	134	2649
Apprch %	16.6	0.6	82.9	0.0		11.4	3.0	85.6	0.1		97.7	0.1	1.7	0.4		20.1	39.6	40.3	0.0		
Total %	1.1	0.0	5.5	0.0	6.6	7.1	1.8	53.2	0.0	62.1	25.6	0.0	0.5	0.1	26.2	1.0	2.0	2.0	0.0	5.1	

SCF VALLEY MEDICAL COMPLEX PHASE 1 TIA

RAW TRAFFIC DATA

Data Collected By:
DOWL HKM
4041 B Street, Anchorage, AK
(907) 562-2000

File Name : PWHWY_GLENNWOOD AM
Site Code : 00000000
Start Date : 12/01/2010
Page No : 1

Groups Printed- Unshifted

	GLENWOOD DRIVE From North					PALMER WASILLA HWY From East					GLENWOOD DRIVE From South					PALMER WASILLA HWY From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:00 AM	0	0	0	0	0	0	23	1	0	24	0	0	3	0	3	2	135	0	0	137	164
07:15 AM	0	0	0	0	0	0	31	3	0	34	2	0	7	0	9	1	137	0	0	138	181
07:30 AM	0	0	0	0	0	0	31	2	0	33	2	0	2	0	4	7	136	0	0	143	180
07:45 AM	0	0	0	0	0	0	34	1	0	35	2	0	2	0	4	0	126	0	0	126	165
Total	0	0	0	0	0	0	119	7	0	126	6	0	14	0	20	10	534	0	0	544	690
08:00 AM	0	0	0	0	0	0	38	0	0	38	4	0	2	0	6	1	117	0	0	118	162
08:15 AM	0	0	0	0	0	0	37	1	0	38	2	0	6	0	8	2	110	0	0	112	158
08:30 AM	0	0	0	0	0	0	38	1	0	39	1	0	6	0	7	0	110	0	1	111	157
08:45 AM	0	0	0	0	0	0	45	2	0	47	6	0	6	0	12	0	107	0	0	107	166
Total	0	0	0	0	0	0	158	4	0	162	13	0	20	0	33	3	444	0	1	448	643
Grand Total	0	0	0	0	0	0	277	11	0	288	19	0	34	0	53	13	978	0	1	992	1333
Apprch %	0.0	0.0	0.0	0.0		0.0	96.2	3.8	0.0		35.8	0.0	64.2	0.0		1.3	98.6	0.0	0.1		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	20.8	0.8	0.0	21.6	1.4	0.0	2.6	0.0	4.0	1.0	73.4	0.0	0.1	74.4	

SCF VALLEY MEDICAL COMPLEX PHASE 1 TIA

RAW TRAFFIC DATA

Data Collected By:
DOWL HKM
4041 B Street, Anchorage, AK
(907) 562-2000

File Name : PW HWY_GLENNWOOD PM
Site Code : 00000000
Start Date : 12/01/2010
Page No : 1

Groups Printed- Unshifted

	GLENWOOD DRIVE From North					PALMER WASILLA HWY From East					GLENWOOD DRIVE From South					PALMER WASILLA HWY From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
04:00 PM	0	0	0	0	0	0	128	2	0	130	1	0	6	0	7	7	100	0	0	107	244
04:15 PM	0	0	0	0	0	0	175	3	0	178	1	0	10	0	11	3	108	0	0	111	300
04:30 PM	0	0	0	0	0	0	179	1	0	180	2	0	5	0	7	3	108	0	0	111	298
04:45 PM	0	0	0	0	0	0	190	2	0	192	5	0	8	0	13	6	104	0	0	110	315
Total	0	0	0	0	0	0	672	8	0	680	9	0	29	0	38	19	420	0	0	439	1157
05:00 PM	0	0	0	0	0	0	225	3	0	228	3	0	6	0	9	7	107	0	0	114	351
05:15 PM	0	0	0	0	0	0	231	3	0	234	3	0	18	0	21	4	112	0	1	117	372
05:30 PM	0	0	0	0	0	0	176	4	0	180	5	0	11	0	16	5	78	0	0	83	279
05:45 PM	0	0	0	0	0	0	210	3	0	213	3	0	5	0	8	2	97	0	0	99	320
Total	0	0	0	0	0	0	842	13	0	855	14	0	40	0	54	18	394	0	1	413	1322
Grand Total	0	0	0	0	0	0	1514	21	0	1535	23	0	69	0	92	37	814	0	1	852	2479
Apprch %	0.0	0.0	0.0	0.0		0.0	98.6	1.4	0.0		25.0	0.0	75.0	0.0		4.3	95.5	0.0	0.1		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	61.1	0.8	0.0	61.9	0.9	0.0	2.8	0.0	3.7	1.5	32.8	0.0	0.0	34.4	

SCF VALLEY MEDICAL COMPLEX PHASE 1 TIA

RAW TRAFFIC DATA

Data Collected By:
DOWL HKM
4041 B Street, Anchorage, AK
(907) 562-2000

File Name : KGN_ENTER WAY AM
Site Code : 00000000
Start Date : 12/01/2010
Page No : 1

Groups Printed- Unshifted

	KGB From North					ENTER W From East					KGB From South					ENTER W From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:00 AM	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	1	0	2	0	3	6
07:15 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	2	0	3	4
*** BREAK ***																					
07:45 AM	5	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Total	9	0	0	0	9	0	0	0	0	0	0	0	0	0	0	2	0	4	0	6	15
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
08:15 AM	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	8
08:30 AM	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	4
08:45 AM	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	6
Total	8	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	12	0	12	20
Grand Total	17	0	0	0	17	0	0	0	0	0	0	0	0	0	0	2	0	16	0	18	35
Apprch %	100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		11.1	0.0	88.9	0.0		
Total %	48.6	0.0	0.0	0.0	48.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.7	0.0	45.7	0.0	51.4	

SCF VALLEY MEDICAL COMPLEX PHASE 1 TIA

RAW TRAFFIC DATA

Data Collected By:
DOWL HKM
4041 B Street, Anchorage, AK
(907) 562-2000

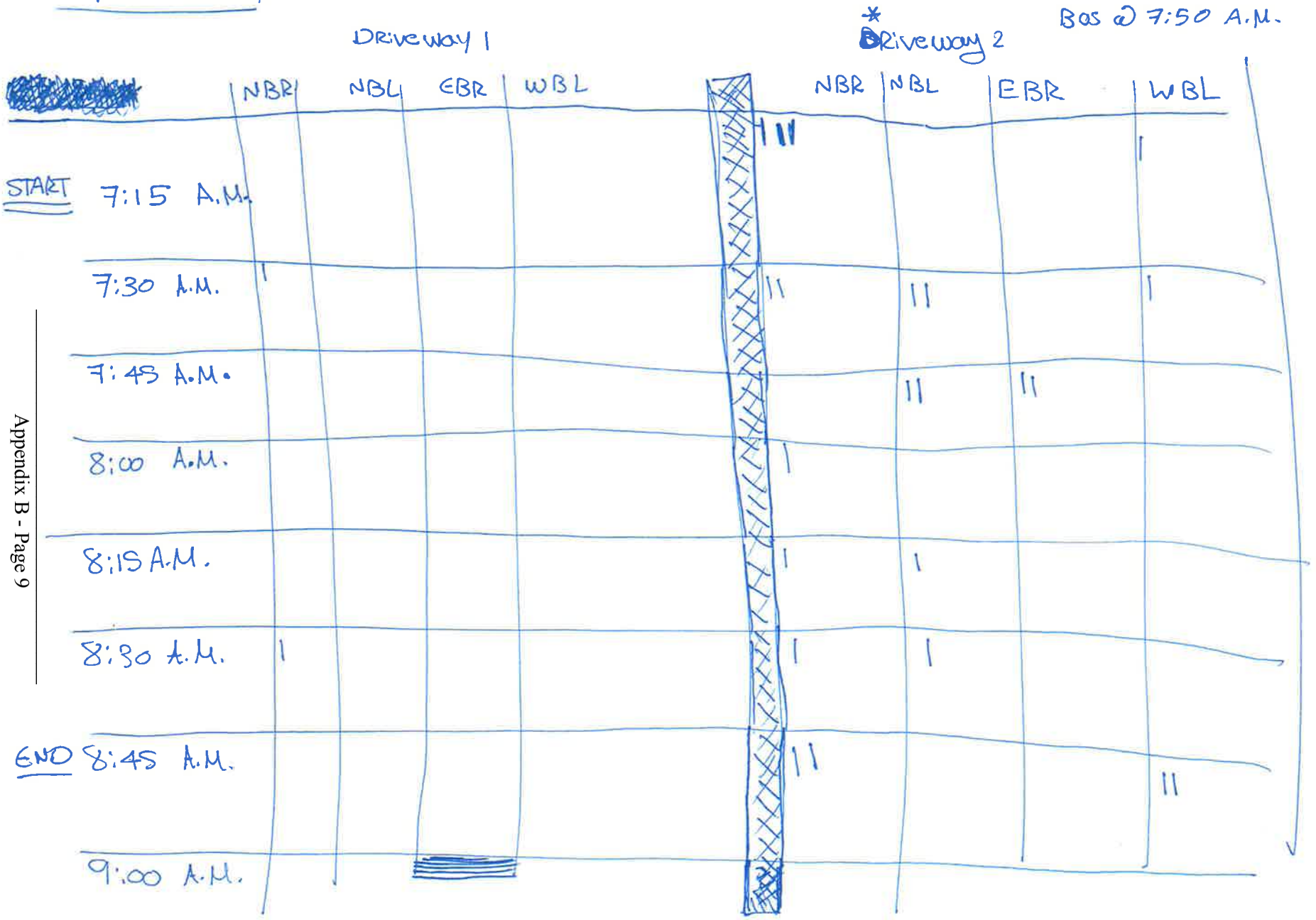
File Name : KGB_ENTER WAY PM
Site Code : 00000000
Start Date : 12/01/2010
Page No : 1

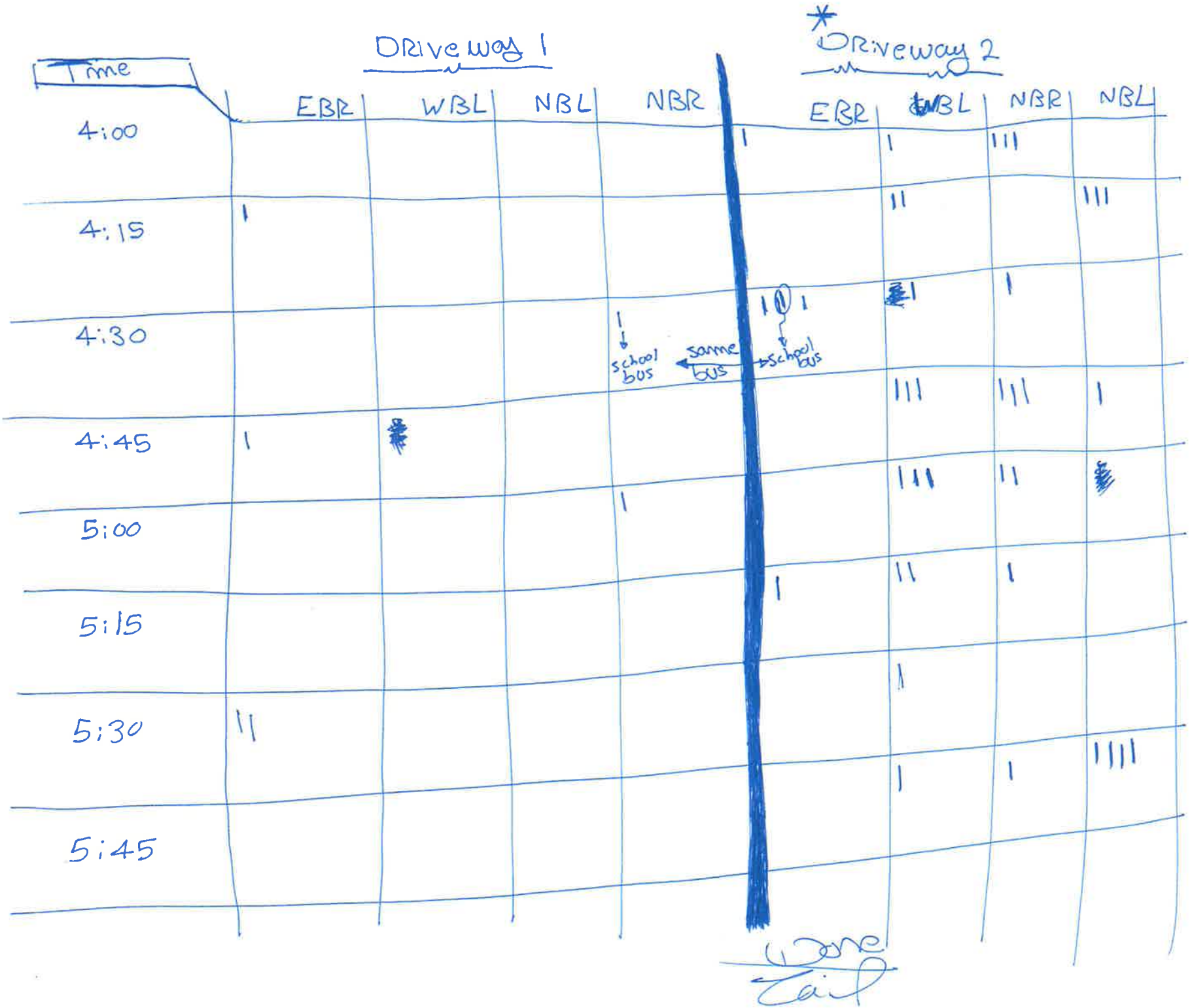
Groups Printed- Unshifted

	KGB From North					ENTER From East					KGB From South					ENTER From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
04:00 PM	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	1	0	4	0	5	9
04:15 PM	3	0	0	0	3	0	0	0	0	0	0	0	2	0	2	0	0	2	0	2	7
04:30 PM	3	0	0	0	3	0	0	0	0	0	0	0	1	0	1	0	0	6	0	6	10
04:45 PM	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	7
Total	13	0	0	0	13	0	0	0	0	0	0	0	3	0	3	1	0	16	0	17	33
05:00 PM	3	0	0	0	3	0	0	0	0	0	0	0	1	0	1	0	0	4	0	4	8
05:15 PM	7	0	0	0	7	0	0	0	0	0	0	0	1	0	1	1	0	0	0	1	9
05:30 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	5
Grand Total	24	0	0	0	24	0	0	0	0	0	0	0	5	0	5	2	0	24	0	26	55
Apprch %	100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0		7.7	0.0	92.3	0.0		
Total %	43.6	0.0	0.0	0.0	43.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.1	0.0	9.1	3.6	0.0	43.6	0.0	47.3	

A.M.
7:00 Missed

Bos @ 7:50 A.M.




Time
Driveway 1
Driveway 2
EBR
WBL
NBL
NBR
EBR
WBL
NBR
NBL
4:00
4:15
4:30
4:45
5:00
5:15
5:30
5:45
school bus
same bus
school bus

SCF VALLEY MEDICAL COMPLEX PHASE 1 TIA

RAW TRAFFIC DATA

Data Collected By:
DOWL HKM
4041 B Street, Anchorage, AK
(907) 562-2000

File Name : KGBENT~1
Site Code : 00000000
Start Date : 12/08/2010
Page No : 1

Groups Printed- Unshifted

	KNIK GOOSE BAY ROAD From North					ENTER WAY From East					KNIK GOOSE BAY ROAD From South					ENTER WAY From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:30 AM	5	1	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
Grand Total	5	1	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
Apprch %	83.3	16.7	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	83.3	16.7	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

SCF VALLEY MEDICAL COMPLEX PHASE 1 TIA

RAW TRAFFIC DATA

Data Collected By:
DOWL HKM
4041 B Street, Anchorage, AK
(907) 562-2000

File Name : KGBENT~2
Site Code : 00000000
Start Date : 12/07/2010
Page No : 1

Groups Printed- Unshifted

	KNIK GOOSE BAY ROAD From North					ENTER WAY From East					KNIK GOOSE BAY ROAD From South					ENTER WAY From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
05:45 PM	7	0	0	0	7	0	0	0	0	0	0	0	1	0	1	1	0	4	0	5	13
Total	7	0	0	0	7	0	0	0	0	0	0	0	1	0	1	1	0	4	0	5	13
Grand Total	7	0	0	0	7	0	0	0	0	0	0	0	1	0	1	1	0	4	0	5	13
Apprch %	100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0		20.0	0.0	80.0	0.0		
Total %	53.8	0.0	0.0	0.0	53.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.7	0.0	7.7	7.7	0.0	30.8	0.0	38.5	

APPENDIX C

Background and Total Traffic Analysis

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1-6-2011*	Analysis Year	*2010*
Analysis Time Period	*2010*		

Project Description *2010 A.M. Existing Traffic - Driveway 1/Palmer-Wasilla Hwy*

East/West Street: *Palmer-Wasilla Highway* | North/South Street: *Driveway 1*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*0*	*536*	*0*	*0*	*149*	*0*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*0*	*582*	*0*	*0*	*161*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*2*	*0*
Configuration			*TR*		*T*	
Upstream Signal		*1*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*0*	*0*	*1*	*0*	*0*	*0*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*0*	*0*	*1*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*2*			*-2*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*1*	*0*	*0*	*0*
Configuration			*R*			

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration					*R*			
v (vph)					*1*			
C (m) (vph)					*461*			
v/c					*0.00*			
95% queue length					*0.01*			
Control Delay					*12.8*			
LOS					*B*			
Approach Delay	--	--	*12.8*					
Approach LOS	--	--	*B*					

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/6/2011*	Analysis Year	*2010*
Analysis Time Period	*2010*		

Project Description *2010 P.M. Existing Traffic - Driveway 1/Palmer-Wasilla Hwy*

East/West Street: *Palmer-Wasilla Highway* | North/South Street: *Driveway 1*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*0*	*471*	*1*	*0*	*917*	*0*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR	*0*	*523*	*1*	*0*	*1018*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*2*	*0*
Configuration			*TR*		*T*	
Upstream Signal		*1*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*0*	*0*	*2*	*0*	*0*	*0*
Peak-Hour Factor, PHF			*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR	*0*	*0*	*2*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*2*			*-2*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*1*	*0*	*0*	*0*
Configuration			*R*			

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration					*R*			
v (vph)					*2*			
C (m) (vph)					*503*			
v/c					*0.00*			
95% queue length					*0.01*			
Control Delay					*12.2*			
LOS					*B*			
Approach Delay	--	--	*12.2*					
Approach LOS	--	--	*B*					

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/12/2011*	Analysis Year	*2012*
Analysis Time Period	*2012*		

Project Description *2012 A.M. Background - Driveway 1/Palmer-Wasilla Hwy*

East/West Street: *Palmer-Wasilla Highway* | North/South Street: *Driveway 1*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*0*	*585*	*0*	*0*	*163*	*0*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*0*	*635*	*0*	*0*	*177*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*2*	*0*
Configuration			*TR*		*T*	
Upstream Signal		*1*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*0*	*0*	*1*	*0*	*0*	*0*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*0*	*0*	*1*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*2*			*-2*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*1*	*0*	*0*	*0*
Configuration			*R*			

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration					*R*			
v (vph)					*1*			
C (m) (vph)					*426*			
v/c					*0.00*			
95% queue length					*0.01*			
Control Delay					*13.5*			
LOS					*B*			
Approach Delay	--	--	*13.5*					
Approach LOS	--	--	*B*					

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/12/2011*	Analysis Year	*2012*
Analysis Time Period	*2012*		

Project Description *2012 A.M. Total Traffic - Driveway 1/Palmer-Wasilla Hwy*

East/West Street: *Palmer-Wasilla Highway* | North/South Street: *Driveway 1*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*0*	*681*	*0*	*0*	*201*	*0*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*0*	*740*	*0*	*0*	*218*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*2*	*0*
Configuration			*TR*		*T*	
Upstream Signal		*1*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*0*	*0*	*1*	*0*	*0*	*0*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*0*	*0*	*1*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*2*			*-2*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*1*	*0*	*0*	*0*
Configuration			*R*			

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration					*R*			
v (vph)					*1*			
C (m) (vph)					*364*			
v/c					*0.00*			
95% queue length					*0.01*			
Control Delay					*14.9*			
LOS					*B*			
Approach Delay	--	--	*14.9*					
Approach LOS	--	--	*B*					

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/12/2011*	Analysis Year	*2012*
Analysis Time Period	*2012*		

Project Description *2012 P.M. Background - Driveway 1/Palmer-Wasilla Hwy*

East/West Street: *Palmer-Wasilla Highway* | North/South Street: *Driveway 1*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*0*	*514*	*1*	*0*	*1001*	*0*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR	*0*	*571*	*1*	*0*	*1112*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*2*	*0*
Configuration			*TR*		*T*	
Upstream Signal		*1*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*0*	*0*	*2*	*0*	*0*	*0*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR	*0*	*0*	*2*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)	*2*			*-2*		
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*1*	*0*	*0*	*0*
Configuration			*R*			

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration					*R*			
v (vph)					*2*			
C (m) (vph)					*468*			
v/c					*0.00*			
95% queue length					*0.01*			
Control Delay					*12.7*			
LOS					*B*			
Approach Delay	--	--	*12.7*					
Approach LOS	--	--	*B*					

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/12/2011*	Analysis Year	*2012*
Analysis Time Period	*2012*		

Project Description *2012 P.M. Total Traffic - Driveway 1/Palmer-Wasilla Hwy*

East/West Street: *Palmer-Wasilla Highway* | North/South Street: *Driveway 1*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*0*	*582*	*1*	*0*	*1179*	*0*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR	*0*	*646*	*1*	*0*	*1310*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*2*	*0*
Configuration			*TR*		*T*	
Upstream Signal		*1*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*0*	*0*	*2*	*0*	*0*	*0*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR	*0*	*0*	*2*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*2*			*-2*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*1*	*0*	*0*	*0*
Configuration			*R*			

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration					*R*			
v (vph)					*2*			
C (m) (vph)					*419*			
v/c					*0.00*			
95% queue length					*0.01*			
Control Delay					*13.6*			
LOS					*B*			
Approach Delay	--	--	*13.6*					
Approach LOS	--	--	*B*					

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/12/2011*	Analysis Year	*2022*
Analysis Time Period	*2022*		

Project Description *2022 A.M. Background - Driveway 1/Palmer-Wasilla Hwy*

East/West Street: *Palmer-Wasilla Highway* | North/South Street: *Driveway 1*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*0*	*909*	*0*	*0*	*253*	*0*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*0*	*988*	*0*	*0*	*274*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*2*	*0*
Configuration			*TR*		*T*	
Upstream Signal		*1*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*0*	*0*	*2*	*0*	*0*	*0*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*0*	*0*	*2*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*2*			*-2*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*1*	*0*	*0*	*0*
Configuration			*R*			

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration					*R*			
v (vph)					*2*			
C (m) (vph)					*249*			
v/c					*0.01*			
95% queue length					*0.02*			
Control Delay					*19.6*			
LOS					*C*			
Approach Delay	--	--	*19.6*					
Approach LOS	--	--	*C*					

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/12/2011*	Analysis Year	*2022*
Analysis Time Period	*2022*		

Project Description *2022 A.M. Total Traffic - Driveway 1/Palmer-Wasilla Hwy*

East/West Street: *Palmer-Wasilla Highway* | North/South Street: *Driveway 1*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*0*	*1006*	*0*	*0*	*295*	*0*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*0*	*1093*	*0*	*0*	*320*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*2*	*0*
Configuration			*TR*		*T*	
Upstream Signal		*1*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*0*	*0*	*2*	*0*	*0*	*0*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*0*	*0*	*2*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*2*			*-2*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*1*	*0*	*0*	*0*
Configuration			*R*			

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration					*R*			
v (vph)					*2*			
C (m) (vph)					*212*			
v/c					*0.01*			
95% queue length					*0.03*			
Control Delay					*22.1*			
LOS					*C*			
Approach Delay	--	--	*22.1*					
Approach LOS	--	--	*C*					

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/12/2011*	Analysis Year	*2022*
Analysis Time Period	*2022*		

Project Description *2022 P.M. Background - Driveway 1/Palmer-Wasilla Hwy*

East/West Street: *Palmer-Wasilla Highway* | North/South Street: *Driveway 1*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*0*	*799*	*2*	*0*	*1555*	*0*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR	*0*	*887*	*2*	*0*	*1727*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*2*	*0*
Configuration			*TR*		*T*	
Upstream Signal		*1*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*0*	*0*	*3*	*0*	*0*	*0*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR	*0*	*0*	*3*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*2*			*-2*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*1*	*0*	*0*	*0*
Configuration			*R*			

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration					*R*			
v (vph)					*3*			
C (m) (vph)					*291*			
v/c					*0.01*			
95% queue length					*0.03*			
Control Delay					*17.5*			
LOS					*C*			
Approach Delay	--	--	*17.5*					
Approach LOS	--	--	*C*					

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/12/2011*	Analysis Year	*2022*
Analysis Time Period	*2022*		

Project Description *2022 P.M. Total Traffic - Driveway 1/Palmer-Wasilla Hwy*

East/West Street: *Palmer-Wasilla Highway* | North/South Street: *Driveway 1*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*0*	*872*	*2*	*0*	*1739*	*0*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR	*0*	*968*	*2*	*0*	*1932*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*2*	*0*
Configuration			*TR*		*T*	
Upstream Signal		*1*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*0*	*0*	*3*	*0*	*0*	*0*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR	*0*	*0*	*3*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*2*			*-2*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*1*	*0*	*0*	*0*
Configuration			*R*			

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration					*R*			
v (vph)					*3*			
C (m) (vph)					*257*			
v/c					*0.01*			
95% queue length					*0.04*			
Control Delay					*19.2*			
LOS					*C*			
Approach Delay	--	--	*19.2*					
Approach LOS	--	--	*C*					

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/6/2011*	Analysis Year	*2010*
Analysis Time Period	*2010*		

Project Description *2010 A.M. Existing Traffic - Driveway 2/Palmer-Wasilla Hwy*

East/West Street: *Palmer-Wasilla Highway*	North/South Street: *Driveway 2*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*0*	*534*	*2*	*2*	*149*	*0*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*0*	*580*	*2*	*2*	*161*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*2*	*0*
Configuration			*TR*	*LT*	*T*	
Upstream Signal		*1*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*4*	*0*	*6*	*0*	*0*	*0*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*4*	*0*	*6*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*2*			*-2*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*LT*		*LR*				
v (vph)		*2*		*10*				
C (m) (vph)		*1002*		*460*				
v/c		*0.00*		*0.02*				
95% queue length		*0.01*		*0.07*				
Control Delay		*8.6*		*13.0*				
LOS		*A*		*B*				
Approach Delay	--	--	*13.0*					
Approach LOS	--	--	*B*					

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/6/2011*	Analysis Year	*2010*
Analysis Time Period	*2010*		

Project Description *2010 P.M. Existing Traffic - Driveway 2/Palmer-Wasilla Hwy*

East/West Street: *Palmer-Wasilla Highway*	North/South Street: *Driveway 2*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*0*	*469*	*4*	*9*	*917*	*0*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR	*0*	*521*	*4*	*10*	*1018*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*2*	*0*
Configuration			*TR*	*LT*	*T*	
Upstream Signal		*1*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*1*	*0*	*7*	*0*	*0*	*0*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR	*1*	*0*	*7*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*2*			*-2*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*LT*		*LR*				
v (vph)		*10*		*8*				
C (m) (vph)		*1052*		*480*				
v/c		*0.01*		*0.02*				
95% queue length		*0.03*		*0.05*				
Control Delay		*8.5*		*12.6*				
LOS		*A*		*B*				
Approach Delay	--	--	*12.6*					
Approach LOS	--	--	*B*					

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/12/2011*	Analysis Year	*2012*
Analysis Time Period	*2012*		

Project Description *2012 A.M. Background - Driveway 2/Palmer-Wasilla Hwy*

East/West Street: *Palmer-Wasilla Highway* | North/South Street: *Driveway 2*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*0*	*583*	*2*	*2*	*159*	*0*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*0*	*633*	*2*	*2*	*172*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*2*	*0*
Configuration			*TR*	*LT*	*T*	
Upstream Signal		*1*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*4*	*0*	*7*	*0*	*0*	*0*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*4*	*0*	*7*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)	*2*			*-2*		
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*LT*		*LR*				
v (vph)		*2*		*11*				
C (m) (vph)		*958*		*428*				
v/c		*0.00*		*0.03*				
95% queue length		*0.01*		*0.08*				
Control Delay		*8.8*		*13.6*				
LOS		*A*		*B*				
Approach Delay	--	--	*13.6*					
Approach LOS	--	--	*B*					

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/12/2011*	Analysis Year	*2012*
Analysis Time Period	*2012*		

Project Description *2012 A.M. Total Traffic - Driveway 2/Palmer-Wasilla Hwy*

East/West Street: *Palmer-Wasilla Highway* | North/South Street: *Driveway 2*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*0*	*677*	*4*	*0*	*197*	*0*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*0*	*735*	*4*	*0*	*214*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*2*	*0*
Configuration			*TR*		*T*	
Upstream Signal		*1*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*0*	*0*	*11*	*0*	*0*	*0*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*0*	*0*	*11*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*2*			*-2*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*1*	*0*	*0*	*0*
Configuration			*R*			

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration					*R*			
v (vph)					*11*			
C (m) (vph)					*365*			
v/c					*0.03*			
95% queue length					*0.09*			
Control Delay					*15.2*			
LOS					*C*			
Approach Delay	--	--	*15.2*					
Approach LOS	--	--	*C*					

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/12/2011*	Analysis Year	*2012*
Analysis Time Period	*2012*		

Project Description *2012 P.M. Background - Driveway 2/Palmer-Wasilla Hwy*

East/West Street: *Palmer-Wasilla Highway* | North/South Street: *Driveway 2*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*0*	*512*	*4*	*10*	*1001*	*0*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR	*0*	*568*	*4*	*11*	*1112*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*2*	*0*
Configuration			*TR*	*LT*	*T*	
Upstream Signal		*1*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*1*	*0*	*8*	*0*	*0*	*0*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR	*1*	*0*	*8*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)	*2*			*-2*		
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*LT*		*LR*				
v (vph)		*11*		*9*				
C (m) (vph)		*1011*		*449*				
v/c		*0.01*		*0.02*				
95% queue length		*0.03*		*0.06*				
Control Delay		*8.6*		*13.2*				
LOS		*A*		*B*				
Approach Delay	--	--	*13.2*					
Approach LOS	--	--	*B*					

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/12/2011*	Analysis Year	*2012*
Analysis Time Period	*2012*		

Project Description *2012 P.M. Total Traffic - Driveway 2/Palmer-Wasilla Hwy*

East/West Street: *Palmer-Wasilla Highway* | North/South Street: *Driveway 2*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*0*	*570*	*14*	*0*	*1179*	*0*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR	*0*	*633*	*15*	*0*	*1310*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*2*	*0*
Configuration			*TR*		*T*	
Upstream Signal		*1*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*0*	*0*	*9*	*0*	*0*	*0*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR	*0*	*0*	*10*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)	*2*			*-2*		
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*1*	*0*	*0*	*0*
Configuration			*R*			

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration					*R*			
v (vph)					*10*			
C (m) (vph)					*423*			
v/c					*0.02*			
95% queue length					*0.07*			
Control Delay					*13.7*			
LOS					*B*			
Approach Delay	--	--	*13.7*					
Approach LOS	--	--	*B*					

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/12/2011*	Analysis Year	*2022*
Analysis Time Period	*2022*		

Project Description *2022 A.M. Background - Driveway 2/Palmer-Wasilla Hwy*

East/West Street: *Palmer-Wasilla Highway* | North/South Street: *Driveway 2*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*0*	*908*	*3*	*3*	*253*	*0*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*0*	*986*	*3*	*3*	*274*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*2*	*0*
Configuration			*TR*	*LT*	*T*	
Upstream Signal		*1*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*7*	*0*	*10*	*0*	*0*	*0*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*7*	*0*	*10*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)	*2*			*-2*		
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*LT*		*LR*				
v (vph)		*3*		*17*				
C (m) (vph)		*707*		*260*				
v/c		*0.00*		*0.07*				
95% queue length		*0.01*		*0.21*				
Control Delay		*10.1*		*19.8*				
LOS		*B*		*C*				
Approach Delay	--	--	*19.8*					
Approach LOS	--	--	*C*					

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/12/2011*	Analysis Year	*2022*
Analysis Time Period	*2022*		

Project Description *2022 A.M. Total Traffic - Driveway 2/Palmer-Wasilla Hwy*

East/West Street: *Palmer-Wasilla Highway* | North/South Street: *Driveway 2*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*0*	*1002*	*6*	*0*	*295*	*0*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*0*	*1089*	*6*	*0*	*320*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*2*	*0*
Configuration			*TR*		*T*	
Upstream Signal		*1*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*0*	*0*	*17*	*0*	*0*	*0*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*0*	*0*	*18*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*2*			*-2*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*1*	*0*	*0*	*0*
Configuration			*R*			

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration					*R*			
v (vph)					*18*			
C (m) (vph)					*213*			
v/c					*0.08*			
95% queue length					*0.27*			
Control Delay					*23.5*			
LOS					*C*			
Approach Delay	--	--	*23.5*					
Approach LOS	--	--	*C*					

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/12/2011*	Analysis Year	*2022*
Analysis Time Period	*2022*		

Project Description *2022 P.M. Background - Driveway 2/Palmer-Wasilla Hwy*

East/West Street: *Palmer-Wasilla Highway* | North/South Street: *Driveway 2*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*0*	*795*	*7*	*15*	*1555*	*0*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR	*0*	*883*	*7*	*16*	*1727*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*2*	*0*
Configuration			*TR*	*LT*	*T*	
Upstream Signal		*1*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*2*	*0*	*12*	*0*	*0*	*0*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR	*2*	*0*	*13*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)	*2*			*-2*		
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*LT*		*LR*				
v (vph)		*16*		*15*				
C (m) (vph)		*770*		*274*				
v/c		*0.02*		*0.05*				
95% queue length		*0.06*		*0.17*				
Control Delay		*9.8*		*18.9*				
LOS		*A*		*C*				
Approach Delay	--	--	*18.9*					
Approach LOS	--	--	*C*					

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/12/2011*	Analysis Year	*2022*
Analysis Time Period	*2022*		

Project Description *2022 P.M. Total Traffic - Driveway 2/Palmer-Wasilla Hwy*

East/West Street: *Palmer-Wasilla Highway* | North/South Street: *Driveway 2*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*0*	*853*	*22*	*0*	*1739*	*0*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR	*0*	*947*	*24*	*0*	*1932*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*2*	*0*
Configuration			*TR*		*T*	
Upstream Signal		*1*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*0*	*0*	*14*	*0*	*0*	*0*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR	*0*	*0*	*15*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*2*			*-2*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*1*	*0*	*0*	*0*
Configuration			*R*			

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration					*R*			
v (vph)					*15*			
C (m) (vph)					*261*			
v/c					*0.06*			
95% queue length					*0.18*			
Control Delay					*19.6*			
LOS					*C*			
Approach Delay	--	--	*19.6*					
Approach LOS	--	--	*C*					

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/6/2011*	Analysis Year	*2010*
Analysis Time Period	*2010*		

Project Description *2010 A.M. Existing Traffic - Enter Way/Knik-Goose Bay Road*

East/West Street: *Enter Way* | North/South Street: *Knik-Goose Bay Road*

Intersection Orientation: *North-South* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*0*	*455*	*0*	*0*	*211*	*11*
Peak-Hour Factor, PHF	*0.85*	*0.85*	*0.85*	*0.85*	*0.85*	*0.85*
Hourly Flow Rate, HFR	*0*	*535*	*0*	*0*	*248*	*12*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*1*			*0*	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*0*	*0*	*0*	*4*	*0*	*1*
Peak-Hour Factor, PHF	*0.85*	*0.85*	*0.85*	*0.85*	*0.85*	*0.85*
Hourly Flow Rate, HFR	*0*	*0*	*0*	*4*	*0*	*1*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (vph)	*0*						*5*	
C (m) (vph)	*1316*						*417*	
v/c	*0.00*						*0.01*	
95% queue length	*0.00*						*0.04*	
Control Delay	*7.7*						*13.7*	
LOS	*A*						*B*	
Approach Delay	--	--					*13.7*	
Approach LOS	--	--					*B*	

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/6/2011*	Analysis Year	*2010*
Analysis Time Period	*2010*		

Project Description *2010 P.M. Existing Traffic - Enter Way/Knik-Goose Bay Road*

East/West Street: *Enter Way*	North/South Street: *Knik-Goose Bay Road*
Intersection Orientation: *North-South*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*3*	*425*	*0*	*0*	*548*	*16*
Peak-Hour Factor, PHF	*0.97*	*0.97*	*0.97*	*0.97*	*0.97*	*0.97*
Hourly Flow Rate, HFR	*3*	*438*	*0*	*0*	*564*	*16*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*1*			*0*	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*0*	*0*	*0*	*14*	*0*	*1*
Peak-Hour Factor, PHF	*0.97*	*0.97*	*0.97*	*0.97*	*0.97*	*0.97*
Hourly Flow Rate, HFR	*0*	*0*	*0*	*14*	*0*	*1*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (vph)	*3*						*15*	
C (m) (vph)	*1004*						*274*	
v/c	*0.00*						*0.05*	
95% queue length	*0.01*						*0.17*	
Control Delay	*8.6*						*18.9*	
LOS	*A*						*C*	
Approach Delay	--	--					*18.9*	
Approach LOS	--	--					*C*	

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/12/2011*	Analysis Year	*2012*
Analysis Time Period	*2012*		

Project Description *2012 A.M. Background - Enter Way/Knik-Goose Bay Road*

East/West Street: *Enter Way* | North/South Street: *Knik-Goose Bay Road*

Intersection Orientation: *North-South* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*0*	*497*	*0*	*0*	*230*	*12*
Peak-Hour Factor, PHF	*0.85*	*0.85*	*0.85*	*0.85*	*0.85*	*0.85*
Hourly Flow Rate, HFR	*0*	*584*	*0*	*0*	*270*	*14*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*1*			*0*	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*0*	*0*	*0*	*4*	*0*	*1*
Peak-Hour Factor, PHF	*0.85*	*0.85*	*0.85*	*0.85*	*0.85*	*0.85*
Hourly Flow Rate, HFR	*0*	*0*	*0*	*4*	*0*	*1*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (vph)	*0*						*5*	
C (m) (vph)	*1290*						*382*	
v/c	*0.00*						*0.01*	
95% queue length	*0.00*						*0.04*	
Control Delay	*7.8*						*14.5*	
LOS	*A*						*B*	
Approach Delay	--	--				*14.5*		
Approach LOS	--	--				*B*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/12/2011*	Analysis Year	*2012*
Analysis Time Period	*2012*		

Project Description *2012 A.M. Total Traffic - Enter Way/Knik-Goose Bay Road*

East/West Street: *Enter Way*	North/South Street: *Knik-Goose Bay Road*
Intersection Orientation: *North-South*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*0*	*497*	*133*	*29*	*230*	*12*
Peak-Hour Factor, PHF	*0.85*	*0.85*	*0.85*	*0.85*	*0.85*	*0.85*
Hourly Flow Rate, HFR	*0*	*584*	*156*	*34*	*270*	*14*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LTR*			*LTR*		
Upstream Signal		*1*			*0*	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*7*	*0*	*16*	*4*	*0*	*1*
Peak-Hour Factor, PHF	*0.85*	*0.85*	*0.85*	*0.85*	*0.85*	*0.85*
Hourly Flow Rate, HFR	*8*	*0*	*18*	*4*	*0*	*1*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LTR*	*LTR*		*LTR*			*LTR*	
v (vph)	*0*	*34*		*26*			*5*	
C (m) (vph)	*1290*	*861*		*355*			*241*	
v/c	*0.00*	*0.04*		*0.07*			*0.02*	
95% queue length	*0.00*	*0.12*		*0.24*			*0.06*	
Control Delay	*7.8*	*9.4*		*15.9*			*20.3*	
LOS	*A*	*A*		*C*			*C*	
Approach Delay	--	--	*15.9*			*20.3*		
Approach LOS	--	--	*C*			*C*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/12/2011*	Analysis Year	*2012*
Analysis Time Period	*2012*		

Project Description *2012 P.M. Background - Enter Way/Knik-Goose Bay Road*

East/West Street: *Enter Way* | North/South Street: *Knik-Goose Bay Road*

Intersection Orientation: *North-South* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*3*	*464*	*0*	*0*	*588*	*17*
Peak-Hour Factor, PHF	*0.97*	*0.97*	*0.97*	*0.97*	*0.97*	*0.97*
Hourly Flow Rate, HFR	*3*	*478*	*0*	*0*	*606*	*17*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*1*			*0*	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*0*	*0*	*0*	*15*	*0*	*1*
Peak-Hour Factor, PHF	*0.97*	*0.97*	*0.97*	*0.97*	*0.97*	*0.97*
Hourly Flow Rate, HFR	*0*	*0*	*0*	*15*	*0*	*1*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (vph)	*3*						*16*	
C (m) (vph)	*968*						*242*	
v/c	*0.00*						*0.07*	
95% queue length	*0.01*						*0.21*	
Control Delay	*8.7*						*20.9*	
LOS	*A*						*C*	
Approach Delay	--	--					*20.9*	
Approach LOS	--	--					*C*	

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/12/2011*	Analysis Year	*2012*
Analysis Time Period	*2012*		

Project Description *2012 P.M. Total Traffic - Enter Way/Knik-Goose Bay Road*

East/West Street: *Enter Way*	North/South Street: *Knik-Goose Bay Road*
Intersection Orientation: *North-South*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*3*	*464*	*27*	*19*	*598*	*17*
Peak-Hour Factor, PHF	*0.97*	*0.97*	*0.97*	*0.97*	*0.97*	*0.97*
Hourly Flow Rate, HFR	*3*	*478*	*27*	*19*	*616*	*17*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LTR*			*LTR*		
Upstream Signal		*1*			*0*	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*45*	*2*	*41*	*15*	*1*	*1*
Peak-Hour Factor, PHF	*0.97*	*0.97*	*0.97*	*0.97*	*0.97*	*0.97*
Hourly Flow Rate, HFR	*46*	*2*	*42*	*15*	*1*	*1*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)	*0*			*0*		
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LTR*	*LTR*		*LTR*			*LTR*	
v (vph)	*3*	*19*		*90*			*17*	
C (m) (vph)	*960*	*1070*		*253*			*159*	
v/c	*0.00*	*0.02*		*0.36*			*0.11*	
95% queue length	*0.01*	*0.05*		*1.54*			*0.35*	
Control Delay	*8.8*	*8.4*		*26.9*			*30.3*	
LOS	*A*	*A*		*D*			*D*	
Approach Delay	--	--	*26.9*			*30.3*		
Approach LOS	--	--	*D*			*D*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/12/2011*	Analysis Year	*2022*
Analysis Time Period	*2022*		

Project Description *2022 A.M. Background - Enter Way/Knik-Goose Bay Road*

East/West Street: *Enter Way*	North/South Street: *Knik-Goose Bay Road*
Intersection Orientation: *North-South*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*0*	*772*	*0*	*0*	*358*	*19*
Peak-Hour Factor, PHF	*0.85*	*0.85*	*0.85*	*0.85*	*0.85*	*0.85*
Hourly Flow Rate, HFR	*0*	*908*	*0*	*0*	*421*	*22*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*0*	*2*	*0*
Configuration	*LT*	*T*			*T*	*TR*
Upstream Signal		*1*			*0*	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*0*	*0*	*0*	*7*	*0*	*2*
Peak-Hour Factor, PHF	*0.85*	*0.85*	*0.85*	*0.85*	*0.85*	*0.85*
Hourly Flow Rate, HFR	*0*	*0*	*0*	*8*	*0*	*2*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (vph)	*0*						*10*	
C (m) (vph)	*1128*						*390*	
v/c	*0.00*						*0.03*	
95% queue length	*0.00*						*0.08*	
Control Delay	*8.2*						*14.5*	
LOS	*A*						*B*	
Approach Delay	--	--				*14.5*		
Approach LOS	--	--				*B*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/12/2011*	Analysis Year	*2022*
Analysis Time Period	*2022*		

Project Description *2022 A.M. Total Traffic - Enter Way/Knik-Goose Bay Road*

East/West Street: *Enter Way*	North/South Street: *Knik-Goose Bay Road*
Intersection Orientation: *North-South*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*0*	*772*	*58*	*29*	*358*	*19*
Peak-Hour Factor, PHF	*0.85*	*0.85*	*0.85*	*0.85*	*0.85*	*0.85*
Hourly Flow Rate, HFR	*0*	*908*	*68*	*34*	*421*	*22*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*0*	*2*	*0*
Configuration	*LT*		*TR*	*LT*		*TR*
Upstream Signal		*1*			*0*	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*7*	*0*	*16*	*7*	*0*	*2*
Peak-Hour Factor, PHF	*0.85*	*0.85*	*0.85*	*0.85*	*0.85*	*0.85*
Hourly Flow Rate, HFR	*8*	*0*	*18*	*8*	*0*	*2*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)	*0*			*2*		
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*	*LT*		*LTR*			*LTR*	
v (vph)	*0*	*34*		*26*			*10*	
C (m) (vph)	*1128*	*790*		*359*			*310*	
v/c	*0.00*	*0.04*		*0.07*			*0.03*	
95% queue length	*0.00*	*0.13*		*0.23*			*0.10*	
Control Delay	*8.2*	*9.8*		*15.8*			*17.0*	
LOS	*A*	*A*		*C*			*C*	
Approach Delay	--	--	*15.8*			*17.0*		
Approach LOS	--	--	*C*			*C*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/12/2011*	Analysis Year	*2022*
Analysis Time Period	*2022*		

Project Description *2022 P.M. Background - Enter Way/Knik-Goose Bay Road*

East/West Street: *Enter Way*	North/South Street: *Knik-Goose Bay Road*
Intersection Orientation: *North-South*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*5*	*721*	*0*	*0*	*929*	*27*
Peak-Hour Factor, PHF	*0.97*	*0.97*	*0.97*	*0.97*	*0.97*	*0.97*
Hourly Flow Rate, HFR	*5*	*743*	*0*	*0*	*957*	*27*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*0*	*2*	*0*
Configuration	*LT*	*T*			*T*	*TR*
Upstream Signal		*1*			*0*	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*0*	*0*	*0*	*24*	*0*	*2*
Peak-Hour Factor, PHF	*0.97*	*0.97*	*0.97*	*0.97*	*0.97*	*0.97*
Hourly Flow Rate, HFR	*0*	*0*	*0*	*24*	*0*	*2*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (vph)	*5*						*26*	
C (m) (vph)	*710*						*172*	
v/c	*0.01*						*0.15*	
95% queue length	*0.02*						*0.52*	
Control Delay	*10.1*						*29.6*	
LOS	*B*						*D*	
Approach Delay	--	--					*29.6*	
Approach LOS	--	--					*D*	

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/12/2011*	Analysis Year	*2022*
Analysis Time Period	*2022*		

Project Description *2022 P.M. Total Traffic - Enter Way/Knik-Goose Bay Road*

East/West Street: *Enter Way*	North/South Street: *Knik-Goose Bay Road*
Intersection Orientation: *North-South*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*5*	*721*	*27*	*19*	*929*	*27*
Peak-Hour Factor, PHF	*0.97*	*0.97*	*0.97*	*0.97*	*0.97*	*0.97*
Hourly Flow Rate, HFR	*5*	*743*	*27*	*19*	*957*	*27*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*0*	*2*	*0*
Configuration	*LT*		*TR*	*LT*		*TR*
Upstream Signal		*1*			*0*	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*45*	*2*	*41*	*24*	*1*	*2*
Peak-Hour Factor, PHF	*0.97*	*0.97*	*0.97*	*0.97*	*0.97*	*0.97*
Hourly Flow Rate, HFR	*46*	*2*	*42*	*24*	*1*	*2*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)	*0*			*0*		
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*	*LT*		*LTR*			*LTR*	
v (vph)	*5*	*19*		*90*			*27*	
C (m) (vph)	*710*	*921*		*221*			*115*	
v/c	*0.01*	*0.02*		*0.41*			*0.23*	
95% queue length	*0.02*	*0.06*		*1.85*			*0.85*	
Control Delay	*10.1*	*9.0*		*32.0*			*45.7*	
LOS	*B*	*A*		*D*			*E*	
Approach Delay	--	--	*32.0*			*45.7*		
Approach LOS	--	--	*D*			*E*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/6/2011*	Analysis Year	*2010*
Analysis Time Period	*2010*		

Project Description *2010 A.M. Existing Traffic - Glenwood Ave/Palmer-Wasilla Hwy*

East/West Street: *Palmer-Wasilla Highway* | North/South Street: *Glenwood Avenue*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*0*	*516*	*9*	*6*	*134*	*0*
Peak-Hour Factor, PHF	*0.95*	*0.95*	*0.95*	*0.95*	*0.95*	*0.95*
Hourly Flow Rate, HFR	*0*	*543*	*9*	*6*	*141*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*1*	*1*	*0*	*1*	*2*	*0*
Configuration	*L*		*TR*	*L*	*T*	
Upstream Signal		*1*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*13*	*504*	*10*	*0*	*0*	*0*
Peak-Hour Factor, PHF	*0.95*	*0.95*	*0.95*	*0.95*	*0.95*	*0.95*
Hourly Flow Rate, HFR	*13*	*0*	*10*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*2*			*-2*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*L*		*LR*				
v (vph)	*0*	*6*		*23*				
C (m) (vph)	*1455*	*1028*		*480*				
v/c	*0.00*	*0.01*		*0.05*				
95% queue length	*0.00*	*0.02*		*0.15*				
Control Delay	*7.5*	*8.5*		*12.9*				
LOS	*A*	*A*		*B*				
Approach Delay	--	--	*12.9*					
Approach LOS	--	--	*B*					

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/6/2011*	Analysis Year	*2010*
Analysis Time Period	*2010*		

Project Description *2010 P.M. Existing Traffic- Glenwood Ave/Palmer-Wasilla Hwy*

East/West Street: *Palmer-Wasilla Highway* | North/South Street: *Glenwood Avenue*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*0*	*431*	*20*	*9*	*825*	*0*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR	*0*	*478*	*22*	*10*	*916*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*1*	*1*	*0*	*1*	*2*	*0*
Configuration	*L*		*TR*	*L*	*T*	
Upstream Signal		*1*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*37*	*504*	*13*	*0*	*0*	*0*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR	*41*	*0*	*14*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*2*			*-2*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*L*		*LR*				
v (vph)	*0*	*10*		*55*				
C (m) (vph)	*753*	*1075*		*413*				
v/c	*0.00*	*0.01*		*0.13*				
95% queue length	*0.00*	*0.03*		*0.46*				
Control Delay	*9.8*	*8.4*		*15.1*				
LOS	*A*	*A*		*C*				
Approach Delay	--	--	*15.1*					
Approach LOS	--	--	*C*					

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/12/2011*	Analysis Year	*2012*
Analysis Time Period	*2012*		

Project Description *2012 A.M. Background - Glenwood Ave/Palmer-Wasilla Hwy*

East/West Street: *Palmer-Wasilla Highway* | North/South Street: *Glenwood Avenue*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*0*	*563*	*10*	*7*	*146*	*0*
Peak-Hour Factor, PHF	*0.95*	*0.95*	*0.95*	*0.95*	*0.95*	*0.95*
Hourly Flow Rate, HFR	*0*	*592*	*10*	*7*	*153*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*1*	*1*	*0*	*1*	*2*	*0*
Configuration	*L*		*TR*	*L*	*T*	
Upstream Signal		*1*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*14*	*0*	*11*	*0*	*0*	*0*
Peak-Hour Factor, PHF	*0.95*	*0.95*	*0.95*	*0.95*	*0.95*	*0.95*
Hourly Flow Rate, HFR	*14*	*0*	*11*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*2*			*-2*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*L*		*LR*				
v (vph)	*0*	*7*		*25*				
C (m) (vph)	*1440*	*985*		*449*				
v/c	*0.00*	*0.01*		*0.06*				
95% queue length	*0.00*	*0.02*		*0.18*				
Control Delay	*7.5*	*8.7*		*13.5*				
LOS	*A*	*A*		*B*				
Approach Delay	--	--	*13.5*					
Approach LOS	--	--	*B*					

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/12/2011*	Analysis Year	*2012*
Analysis Time Period	*2012*		

Project Description *2012 A.M. Total Traffic - Glenwood Ave/Palmer-Wasilla Hwy*

East/West Street: *Palmer-Wasilla Highway* | North/South Street: *Glenwood Avenue*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*4*	*582*	*10*	*7*	*164*	*0*
Peak-Hour Factor, PHF	*0.95*	*0.95*	*0.95*	*0.95*	*0.95*	*0.95*
Hourly Flow Rate, HFR	*4*	*612*	*10*	*7*	*172*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*1*	*1*	*0*	*1*	*2*	*0*
Configuration	*L*		*TR*	*L*	*T*	
Upstream Signal		*1*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*16*	*0*	*11*	*0*	*0*	*0*
Peak-Hour Factor, PHF	*0.95*	*0.95*	*0.95*	*0.95*	*0.95*	*0.95*
Hourly Flow Rate, HFR	*16*	*0*	*11*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*2*			*-2*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*L*		*LR*				
v (vph)	*4*	*7*		*27*				
C (m) (vph)	*1417*	*969*		*433*				
v/c	*0.00*	*0.01*		*0.06*				
95% queue length	*0.01*	*0.02*		*0.20*				
Control Delay	*7.5*	*8.7*		*13.9*				
LOS	*A*	*A*		*B*				
Approach Delay	--	--	*13.9*					
Approach LOS	--	--	*B*					

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/12/2011*	Analysis Year	*2012*
Analysis Time Period	*2012*		

Project Description *2012 P.M. Background - Glenwood Ave/Palmer-Wasilla Hwy*

East/West Street: *Palmer-Wasilla Highway* | North/South Street: *Glenwood Avenue*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*0*	*471*	*22*	*10*	*901*	*0*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR	*0*	*523*	*24*	*11*	*1001*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*1*	*1*	*0*	*1*	*2*	*0*
Configuration	*L*		*TR*	*L*	*T*	
Upstream Signal		*1*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*40*	*0*	*14*	*0*	*0*	*0*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR	*44*	*0*	*15*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*2*			*-2*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*L*		*LR*				
v (vph)	*0*	*11*		*59*				
C (m) (vph)	*700*	*1033*		*383*				
v/c	*0.00*	*0.01*		*0.15*				
95% queue length	*0.00*	*0.03*		*0.54*				
Control Delay	*10.1*	*8.5*		*16.1*				
LOS	*B*	*A*		*C*				
Approach Delay	--	--	*16.1*					
Approach LOS	--	--	*C*					

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/12/2011*	Analysis Year	*2012*
Analysis Time Period	*2012*		

Project Description *2012 P.M. Total Traffic - Glenwood Ave/Palmer-Wasilla Hwy*

East/West Street: *Palmer-Wasilla Highway* | North/South Street: *Glenwood Avenue*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*1*	*512*	*24*	*10*	*930*	*0*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR	*1*	*568*	*26*	*11*	*1033*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*1*	*1*	*0*	*1*	*2*	*0*
Configuration	*L*		*TR*	*L*	*T*	
Upstream Signal		*1*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*42*	*0*	*14*	*0*	*0*	*0*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR	*46*	*0*	*15*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*2*			*-2*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*L*		*LR*				
v (vph)	*1*	*11*		*61*				
C (m) (vph)	*681*	*992*		*360*				
v/c	*0.00*	*0.01*		*0.17*				
95% queue length	*0.00*	*0.03*		*0.60*				
Control Delay	*10.3*	*8.7*		*17.0*				
LOS	*B*	*A*		*C*				
Approach Delay	--	--	*17.0*					
Approach LOS	--	--	*C*					

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/12/2011*	Analysis Year	*2022*
Analysis Time Period	*2022*		

Project Description *2022 A.M. Background - Glenwood Ave/Palmer-Wasilla Highway*

East/West Street: *Palmer-Wasilla Highway* | North/South Street: *Glenwood Avenue*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*0*	*875*	*15*	*10*	*227*	*0*
Peak-Hour Factor, PHF	*0.95*	*0.95*	*0.95*	*0.95*	*0.95*	*0.95*
Hourly Flow Rate, HFR	*0*	*921*	*15*	*10*	*238*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*1*	*1*	*0*	*1*	*2*	*0*
Configuration	*L*		*TR*	*L*	*T*	
Upstream Signal		*1*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*22*	*0*	*17*	*0*	*0*	*0*
Peak-Hour Factor, PHF	*0.95*	*0.95*	*0.95*	*0.95*	*0.95*	*0.95*
Hourly Flow Rate, HFR	*23*	*0*	*17*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*2*			*-2*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*L*		*LR*				
v (vph)	*0*	*10*		*40*				
C (m) (vph)	*1341*	*740*		*287*				
v/c	*0.00*	*0.01*		*0.14*				
95% queue length	*0.00*	*0.04*		*0.48*				
Control Delay	*7.7*	*9.9*		*19.6*				
LOS	*A*	*A*		*C*				
Approach Delay	--	--	*19.6*					
Approach LOS	--	--	*C*					

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/12/2011*	Analysis Year	*2022*
Analysis Time Period	*2022*		

Project Description *2022 A.M. Total Traffic - Glenwood Ave/Palmer-Wasilla Hwy*

East/West Street: *Palmer-Wasilla Highway* | North/South Street: *Glenwood Avenue*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*7*	*894*	*15*	*10*	*245*	*0*
Peak-Hour Factor, PHF	*0.95*	*0.95*	*0.95*	*0.95*	*0.95*	*0.95*
Hourly Flow Rate, HFR	*7*	*941*	*15*	*10*	*257*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*1*	*1*	*0*	*1*	*2*	*0*
Configuration	*L*		*TR*	*L*	*T*	
Upstream Signal		*1*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*24*	*0*	*17*	*0*	*0*	*0*
Peak-Hour Factor, PHF	*0.95*	*0.95*	*0.95*	*0.95*	*0.95*	*0.95*
Hourly Flow Rate, HFR	*25*	*0*	*17*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*2*			*-2*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*L*		*LR*				
v (vph)	*7*	*10*		*42*				
C (m) (vph)	*1320*	*727*		*277*				
v/c	*0.01*	*0.01*		*0.15*				
95% queue length	*0.02*	*0.04*		*0.53*				
Control Delay	*7.7*	*10.0+*		*20.3*				
LOS	*A*	*B*		*C*				
Approach Delay	--	--	*20.3*					
Approach LOS	--	--	*C*					

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/12/2011*	Analysis Year	*2022*
Analysis Time Period	*2022*		

Project Description *2022 P.M. Background - Glenwood Ave/Palmer-Wasilla Highway*

East/West Street: *Palmer-Wasilla Highway* | North/South Street: *Glenwood Avenue*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*0*	*731*	*34*	*15*	*1399*	*0*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR	*0*	*812*	*37*	*16*	*1554*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*1*	*1*	*0*	*1*	*2*	*0*
Configuration	*L*		*TR*	*L*	*T*	
Upstream Signal		*1*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*63*	*0*	*22*	*0*	*0*	*0*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR	*70*	*0*	*24*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*2*			*-2*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*L*		*LR*				
v (vph)	*0*	*16*		*94*				
C (m) (vph)	*432*	*798*		*240*				
v/c	*0.00*	*0.02*		*0.39*				
95% queue length	*0.00*	*0.06*		*1.76*				
Control Delay	*13.3*	*9.6*		*29.3*				
LOS	*B*	*A*		*D*				
Approach Delay	--	--	*29.3*					
Approach LOS	--	--	*D*					

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/12/2011*	Analysis Year	*2022*
Analysis Time Period	*2022*		

Project Description *2022 P.M. Total Traffic - Glenwood Ave/Palmer-Wasilla Hwy*

East/West Street: *Palmer-Wasilla Highway* | North/South Street: *Glenwood Avenue*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

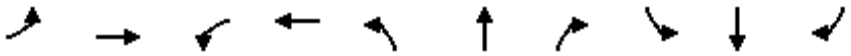
Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*2*	*772*	*36*	*15*	*1428*	*0*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR	*2*	*857*	*40*	*16*	*1586*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*1*	*1*	*0*	*1*	*2*	*0*
Configuration	*L*		*TR*	*L*	*T*	
Upstream Signal		*1*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*65*	*0*	*22*	*0*	*0*	*0*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR	*72*	*0*	*24*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*2*			*-2*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

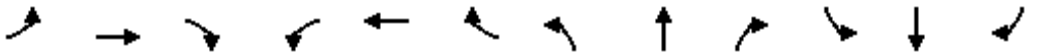
Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*L*		*LR*				
v (vph)	*2*	*16*		*96*				
C (m) (vph)	*420*	*765*		*225*				
v/c	*0.00*	*0.02*		*0.43*				
95% queue length	*0.01*	*0.06*		*1.99*				
Control Delay	*13.6*	*9.8*		*32.4*				
LOS	*B*	*A*		*D*				
Approach Delay	--	--	*32.4*					
Approach LOS	--	--	*D*					



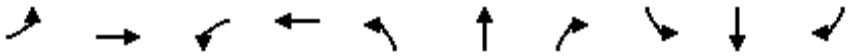
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	10	21	128	34	5	458	533	32	180	18
v/c Ratio	0.07	0.11	0.32	0.15	0.01	0.36	0.42	0.05	0.14	0.02
Control Delay	29.4	24.7	27.9	14.5	4.4	8.2	2.3	4.2	6.0	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.4	24.7	27.9	14.5	4.4	8.2	2.3	4.2	6.0	4.0
Queue Length 50th (ft)	3	5	18	2	1	47	0	2	15	0
Queue Length 95th (ft)	18	27	52	26	5	213	47	15	79	10
Internal Link Dist (ft)		387		251		808			818	
Turn Bay Length (ft)	140		335		250		250	240		240
Base Capacity (vph)	136	517	411	551	892	1281	1255	656	1332	1137
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.04	0.31	0.06	0.01	0.36	0.42	0.05	0.14	0.02

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	9	17	3	118	6	25	5	421	490	29	166	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		4.0	5.0	5.0	4.0	5.0	5.0
Lane Util. Factor	1.00	1.00		0.97	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.98		1.00	0.88		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1823		3433	1641		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.64	1.00	1.00	0.44	1.00	1.00
Satd. Flow (perm)	1770	1823		3433	1641		1199	1863	1583	814	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	10	18	3	128	7	27	5	458	533	32	180	18
RTOR Reduction (vph)	0	3	0	0	25	0	0	0	215	0	0	7
Lane Group Flow (vph)	10	18	0	128	9	0	5	458	318	32	180	11
Turn Type	Prot			Prot			pm+pt		Perm	pm+pt		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases							2		2	6		6
Actuated Green, G (s)	0.8	1.4		5.5	6.1		41.2	40.5	40.5	42.8	41.3	41.3
Effective Green, g (s)	0.8	1.4		5.5	6.1		41.2	40.5	40.5	42.8	41.3	41.3
Actuated g/C Ratio	0.01	0.02		0.08	0.09		0.61	0.60	0.60	0.63	0.61	0.61
Clearance Time (s)	5.0	5.0		5.0	5.0		4.0	5.0	5.0	4.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	21	38		278	147		733	1111	944	534	1133	963
v/s Ratio Prot	0.01	c0.01		c0.04	c0.01		0.00	c0.25		c0.00	0.10	
v/s Ratio Perm							0.00		0.20	0.04		0.01
v/c Ratio	0.48	0.48		0.46	0.06		0.01	0.41	0.34	0.06	0.16	0.01
Uniform Delay, d1	33.3	32.9		29.8	28.3		5.3	7.3	6.9	4.9	5.8	5.2
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	16.0	9.1		1.2	0.2		0.0	1.1	1.0	0.0	0.3	0.0
Delay (s)	49.4	42.0		31.0	28.5		5.3	8.5	7.9	5.0	6.1	5.3
Level of Service	D	D		C	C		A	A	A	A	A	A
Approach Delay (s)		44.4			30.5			8.1			5.9	
Approach LOS		D			C			A			A	

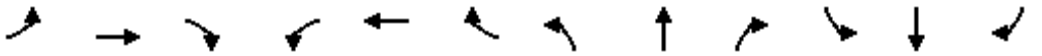
Intersection Summary			
HCM Average Control Delay	11.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	67.9	Sum of lost time (s)	24.0
Intersection Capacity Utilization	48.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	25	51	853	144	10	332	399	78	502	16
v/c Ratio	0.17	0.25	0.83	0.22	0.04	0.55	0.51	0.21	0.66	0.02
Control Delay	33.8	24.9	32.5	7.5	13.1	24.4	5.1	14.2	24.4	8.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.8	24.9	32.5	7.5	13.1	24.4	5.1	14.2	24.4	8.9
Queue Length 50th (ft)	10	14	184	9	2	123	0	20	166	0
Queue Length 95th (ft)	33	45	#308	49	11	213	60	46	#403	13
Internal Link Dist (ft)		387		251		808			818	
Turn Bay Length (ft)	140		335		250		250	240		240
Base Capacity (vph)	151	476	1029	846	272	608	786	370	760	656
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.11	0.83	0.17	0.04	0.55	0.51	0.21	0.66	0.02

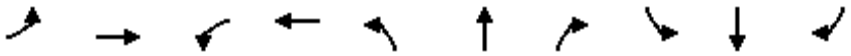
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



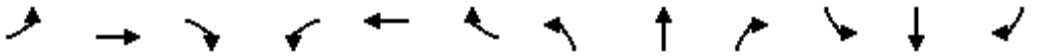
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	23	32	15	785	33	99	9	305	367	72	462	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	1.00		0.97	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.95		1.00	0.89		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1775		3433	1653		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.28	1.00	1.00	0.39	1.00	1.00
Satd. Flow (perm)	1770	1775		3433	1653		514	1863	1583	725	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	25	35	16	853	36	108	10	332	399	78	502	16
RTOR Reduction (vph)	0	15	0	0	74	0	0	0	265	0	0	10
Lane Group Flow (vph)	25	36	0	853	70	0	10	332	134	78	502	6
Turn Type	Prot			Prot			pm+pt		Perm	pm+pt		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases							2		2	6		6
Actuated Green, G (s)	1.9	5.2		19.3	22.6		24.7	24.0	24.0	29.3	26.3	26.3
Effective Green, g (s)	1.9	5.2		19.3	22.6		24.7	24.0	24.0	29.3	26.3	26.3
Actuated g/C Ratio	0.03	0.07		0.27	0.32		0.35	0.34	0.34	0.41	0.37	0.37
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	47	129		927	522		190	625	531	341	685	582
v/s Ratio Prot	0.01	c0.02		c0.25	0.04		0.00	0.18		c0.01	c0.27	
v/s Ratio Perm							0.02		0.08	0.08		0.00
v/c Ratio	0.53	0.28		0.92	0.13		0.05	0.53	0.25	0.23	0.73	0.01
Uniform Delay, d1	34.4	31.4		25.4	17.5		16.1	19.2	17.2	13.5	19.6	14.3
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	11.1	1.2		14.0	0.1		0.1	3.2	1.1	0.3	6.8	0.0
Delay (s)	45.4	32.6		39.4	17.6		16.3	22.4	18.4	13.9	26.4	14.4
Level of Service	D	C		D	B		B	C	B	B	C	B
Approach Delay (s)		36.8			36.2			20.2			24.4	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM Average Control Delay	28.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	71.5	Sum of lost time (s)	15.0
Intersection Capacity Utilization	69.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



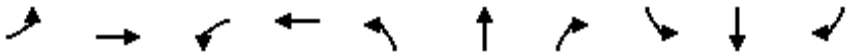
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	11	24	140	37	5	500	582	35	197	21
v/c Ratio	0.08	0.12	0.40	0.14	0.01	0.40	0.47	0.06	0.15	0.02
Control Delay	31.2	26.4	31.3	13.8	5.8	10.3	2.6	5.7	7.1	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.2	26.4	31.3	13.8	5.8	10.3	2.6	5.7	7.1	4.4
Queue Length 50th (ft)	3	6	19	2	1	47	0	3	15	0
Queue Length 95th (ft)	20	29	57	28	5	243	50	16	88	11
Internal Link Dist (ft)		387		251		808			818	
Turn Bay Length (ft)	140		335		250		250	240		240
Base Capacity (vph)	135	514	350	521	821	1240	1248	567	1291	1103
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.05	0.40	0.07	0.01	0.40	0.47	0.06	0.15	0.02

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	19	3	129	7	27	5	460	535	32	181	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.5	5.0	5.0	5.5	5.0	5.0
Lane Util. Factor	1.00	1.00		0.97	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.98		1.00	0.88		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1828		3433	1644		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.63	1.00	1.00	0.39	1.00	1.00
Satd. Flow (perm)	1770	1828		3433	1644		1181	1863	1583	734	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	21	3	140	8	29	5	500	582	35	197	21
RTOR Reduction (vph)	0	3	0	0	26	0	0	0	250	0	0	9
Lane Group Flow (vph)	11	21	0	140	11	0	5	500	332	35	197	12
Turn Type	Prot			Prot			pm+pt		Perm	pm+pt		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases							2		2	6		6
Actuated Green, G (s)	0.8	3.4		4.8	7.4		40.6	39.9	39.9	42.0	40.6	40.6
Effective Green, g (s)	0.8	3.4		4.8	7.4		40.6	39.9	39.9	42.0	40.6	40.6
Actuated g/C Ratio	0.01	0.05		0.07	0.11		0.58	0.57	0.57	0.60	0.58	0.58
Clearance Time (s)	5.0	5.0		5.0	5.0		5.5	5.0	5.0	5.5	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	20	89		235	174		691	1062	902	461	1081	918
v/s Ratio Prot	0.01	c0.01		c0.04	c0.01		0.00	c0.27		c0.00	0.11	
v/s Ratio Perm							0.00		0.21	0.04		0.01
v/c Ratio	0.55	0.24		0.60	0.06		0.01	0.47	0.37	0.08	0.18	0.01
Uniform Delay, d1	34.4	32.1		31.7	28.2		6.2	8.8	8.2	6.1	6.9	6.2
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	28.9	1.4		4.0	0.2		0.0	1.5	1.2	0.1	0.4	0.0
Delay (s)	63.3	33.4		35.7	28.3		6.2	10.3	9.3	6.2	7.3	6.2
Level of Service	E	C		D	C		A	B	A	A	A	A
Approach Delay (s)		42.8			34.1			9.8			7.0	
Approach LOS		D			C			A			A	

Intersection Summary			
HCM Average Control Delay	12.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	25.5
Intersection Capacity Utilization	52.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	15	24	173	37	5	640	582	35	204	21
v/c Ratio	0.11	0.12	0.51	0.14	0.01	0.56	0.49	0.08	0.17	0.02
Control Delay	31.8	26.5	33.4	13.9	5.6	12.8	2.8	5.6	7.2	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.8	26.5	33.4	13.9	5.6	12.8	2.8	5.6	7.2	4.4
Queue Length 50th (ft)	4	5	24	2	1	68	0	2	16	0
Queue Length 95th (ft)	24	29	#69	28	5	345	50	16	91	11
Internal Link Dist (ft)		387		251		808			818	
Turn Bay Length (ft)	140		335		250		250	240		240
Base Capacity (vph)	132	501	341	510	792	1140	1194	436	1190	1019
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.05	0.51	0.07	0.01	0.56	0.49	0.08	0.17	0.02

Intersection Summary

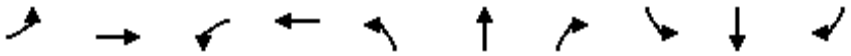
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Volume (vph)	14	19	3	21	138	7	27	5	589	535	32	188
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0			5.0	5.0		5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	1.00			0.97	1.00		1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.98			1.00	0.88		1.00	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00			0.95	1.00		0.95	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1828			3433	1644		1770	1863	1583	1770	1863
Flt Permitted	0.95	1.00			0.95	1.00		0.63	1.00	1.00	0.28	1.00
Satd. Flow (perm)	1770	1828			3433	1644		1173	1863	1583	527	1863
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	15	21	3	23	150	8	29	5	640	582	35	204
RTOR Reduction (vph)	0	3	0	0	0	25	0	0	0	260	0	0
Lane Group Flow (vph)	15	21	0	0	173	12	0	5	640	322	35	204
Turn Type	Prot			Prot	Prot			pm+pt		Perm	pm+pt	
Protected Phases	7	4		3	3	8		5	2		1	6
Permitted Phases								2		2	6	
Actuated Green, G (s)	0.8	3.5			6.1	8.8		39.5	38.7	38.7	41.1	39.5
Effective Green, g (s)	0.8	3.5			6.1	8.8		39.5	38.7	38.7	41.1	39.5
Actuated g/C Ratio	0.01	0.05			0.09	0.13		0.57	0.55	0.55	0.59	0.57
Clearance Time (s)	5.0	5.0			5.0	5.0		5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	20	92			300	207		670	1031	876	338	1053
v/s Ratio Prot	0.01	c0.01			c0.05	0.01		0.00	c0.34		c0.00	0.11
v/s Ratio Perm								0.00		0.20	0.06	
v/c Ratio	0.75	0.23			0.58	0.06		0.01	0.62	0.37	0.10	0.19
Uniform Delay, d1	34.5	31.9			30.7	26.9		6.6	10.6	8.7	7.3	7.4
Progression Factor	1.00	1.00			1.00	1.00		1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	91.0	1.3			2.7	0.1		0.0	2.8	1.2	0.1	0.4
Delay (s)	125.5	33.2			33.3	27.0		6.6	13.4	9.9	7.5	7.8
Level of Service	F	C			C	C		A	B	A	A	A
Approach Delay (s)		68.7				32.2			11.7			7.7
Approach LOS		E				C			B			A

Intersection Summary			
HCM Average Control Delay	14.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	69.9	Sum of lost time (s)	20.0
Intersection Capacity Utilization	60.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	
Volume (vph)	19
Ideal Flow (vphpl)	1900
Total Lost time (s)	5.0
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1583
Flt Permitted	1.00
Satd. Flow (perm)	1583
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	21
RTOR Reduction (vph)	9
Lane Group Flow (vph)	12
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	39.5
Effective Green, g (s)	39.5
Actuated g/C Ratio	0.57
Clearance Time (s)	5.0
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	895
v/s Ratio Prot	
v/s Ratio Perm	0.01
v/c Ratio	0.01
Uniform Delay, d1	6.7
Progression Factor	1.00
Incremental Delay, d2	0.0
Delay (s)	6.7
Level of Service	A
Approach Delay (s)	
Approach LOS	

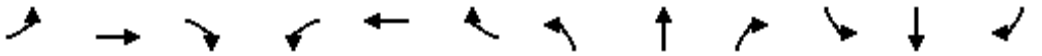
Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	17	65	932	156	11	362	436	86	549	17
v/c Ratio	0.18	0.36	0.87	0.22	0.05	0.52	0.50	0.24	0.68	0.02
Control Delay	47.1	31.6	39.5	7.4	15.7	26.9	4.7	17.8	27.7	9.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.1	31.6	39.5	7.4	15.7	26.9	4.7	17.8	27.7	9.1
Queue Length 50th (ft)	10	21	260	12	3	167	0	28	240	0
Queue Length 95th (ft)	32	60	#392	56	14	270	64	59	#499	15
Internal Link Dist (ft)		387		251		808			818	
Turn Bay Length (ft)	140		335		250		250	240		240
Base Capacity (vph)	95	366	1151	854	243	698	866	358	809	697
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.18	0.81	0.18	0.05	0.52	0.50	0.24	0.68	0.02

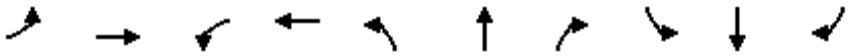
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	16	35	25	857	36	108	10	333	401	79	505	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	1.00		0.97	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.94		1.00	0.89		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1747		3433	1653		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.23	1.00	1.00	0.37	1.00	1.00
Satd. Flow (perm)	1770	1747		3433	1653		437	1863	1583	692	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	17	38	27	932	39	117	11	362	436	86	549	17
RTOR Reduction (vph)	0	25	0	0	75	0	0	0	272	0	0	10
Lane Group Flow (vph)	17	40	0	932	81	0	11	362	164	86	549	7
Turn Type	Prot			Prot			pm+pt		Perm	pm+pt		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases							2		2	6		6
Actuated Green, G (s)	1.7	8.1		26.8	33.2		35.7	35.0	35.0	40.3	37.3	37.3
Effective Green, g (s)	1.7	8.1		26.8	33.2		35.7	35.0	35.0	40.3	37.3	37.3
Actuated g/C Ratio	0.02	0.09		0.29	0.36		0.38	0.38	0.38	0.43	0.40	0.40
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	32	152		990	591		178	702	596	335	748	636
v/s Ratio Prot	0.01	c0.02		c0.27	0.05		0.00	0.19		c0.01	c0.29	
v/s Ratio Perm							0.02		0.10	0.10		0.00
v/c Ratio	0.53	0.27		0.94	0.14		0.06	0.52	0.28	0.26	0.73	0.01
Uniform Delay, d1	45.2	39.6		32.3	20.2		19.3	22.4	20.1	16.5	23.6	16.7
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	15.9	0.9		16.3	0.1		0.1	2.7	1.1	0.4	6.3	0.0
Delay (s)	61.1	40.6		48.6	20.3		19.5	25.1	21.3	16.9	29.9	16.7
Level of Service	E	D		D	C		B	C	C	B	C	B
Approach Delay (s)		44.8			44.5			23.0			27.8	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM Average Control Delay	33.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	92.9	Sum of lost time (s)	15.0
Intersection Capacity Utilization	73.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	30	55	1071	158	11	388	436	86	596	20
v/c Ratio	0.22	0.33	0.81	0.21	0.07	0.64	0.54	0.31	0.84	0.02
Control Delay	49.8	40.4	32.2	7.0	23.7	37.8	6.0	26.4	42.1	8.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.8	40.4	32.2	7.0	23.7	37.8	6.0	26.4	42.1	8.9
Queue Length 50th (ft)	18	23	307	16	4	213	0	33	323	1
Queue Length 95th (ft)	52	68	406	56	19	#423	83	82	#769	17
Internal Link Dist (ft)		387		251		808			818	
Turn Bay Length (ft)	140		335		250		250	240		240
Base Capacity (vph)	296	340	1915	1001	159	603	807	277	712	965
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.16	0.56	0.16	0.07	0.64	0.54	0.31	0.84	0.02

Intersection Summary

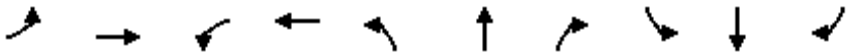
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Volume (vph)	28	35	16	53	932	38	108	10	357	401	79	548
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0			5.0	5.0		5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	1.00			0.97	1.00		1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.95			1.00	0.89		1.00	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00			0.95	1.00		0.95	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1776			3433	1656		1770	1863	1583	1770	1863
Flt Permitted	0.95	1.00			0.95	1.00		0.12	1.00	1.00	0.30	1.00
Satd. Flow (perm)	1770	1776			3433	1656		227	1863	1583	553	1863
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	30	38	17	58	1013	41	117	11	388	436	86	596
RTOR Reduction (vph)	0	15	0	0	0	72	0	0	0	291	0	0
Lane Group Flow (vph)	30	40	0	0	1071	86	0	11	388	145	86	596
Turn Type	Prot			Prot	Prot			pm+pt		Perm	pm+pt	
Protected Phases	7	4		3	3	8		5	2		1	6
Permitted Phases								2		2	6	
Actuated Green, G (s)	4.4	7.2			35.9	38.7		33.9	33.2	33.2	39.1	35.8
Effective Green, g (s)	4.4	7.2			35.9	38.7		33.9	33.2	33.2	39.1	35.8
Actuated g/C Ratio	0.04	0.07			0.36	0.39		0.34	0.33	0.33	0.39	0.36
Clearance Time (s)	5.0	5.0			5.0	5.0		5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	78	128			1237	643		88	621	528	257	670
v/s Ratio Prot	0.02	c0.02			c0.31	0.05		0.00	0.21		c0.01	c0.32
v/s Ratio Perm								0.04		0.09	0.12	
v/c Ratio	0.38	0.31			0.87	0.13		0.12	0.62	0.28	0.33	0.89
Uniform Delay, d1	46.3	43.9			29.6	19.6		24.7	28.0	24.4	20.7	30.0
Progression Factor	1.00	1.00			1.00	1.00		1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.1	1.4			6.6	0.1		0.6	4.7	1.3	0.8	16.3
Delay (s)	49.4	45.3			36.2	19.7		25.4	32.7	25.7	21.5	46.3
Level of Service	D	D			D	B		C	C	C	C	D
Approach Delay (s)		46.7				34.1			28.9			42.5
Approach LOS		D				C			C			D

Intersection Summary			
HCM Average Control Delay	35.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	99.6	Sum of lost time (s)	20.0
Intersection Capacity Utilization	79.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

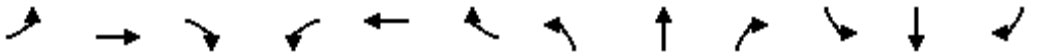
Movement	SBR
Lane Configurations	
Volume (vph)	18
Ideal Flow (vphpl)	1900
Total Lost time (s)	5.0
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1583
Flt Permitted	1.00
Satd. Flow (perm)	1583
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	20
RTOR Reduction (vph)	11
Lane Group Flow (vph)	9
Turn Type	pm+ov
Protected Phases	7
Permitted Phases	6
Actuated Green, G (s)	40.2
Effective Green, g (s)	40.2
Actuated g/C Ratio	0.40
Clearance Time (s)	5.0
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	718
v/s Ratio Prot	0.00
v/s Ratio Perm	0.01
v/c Ratio	0.01
Uniform Delay, d1	17.8
Progression Factor	1.00
Incremental Delay, d2	0.0
Delay (s)	17.8
Level of Service	B
Approach Delay (s)	
Approach LOS	

Intersection Summary



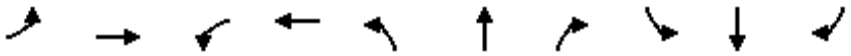
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	16	37	217	57	9	776	903	53	307	32
v/c Ratio	0.12	0.19	0.53	0.18	0.01	0.39	0.70	0.12	0.14	0.03
Control Delay	33.1	27.2	32.7	12.0	6.2	10.8	4.7	6.4	7.2	4.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.1	27.2	32.7	12.0	6.2	10.8	4.7	6.4	7.2	4.2
Queue Length 50th (ft)	5	10	37	4	1	75	0	4	14	0
Queue Length 95th (ft)	25	39	81	34	7	173	63	23	66	14
Internal Link Dist (ft)		387		251		589			818	
Turn Bay Length (ft)	140		335		250		250	240		240
Base Capacity (vph)	129	491	411	547	685	1984	1284	437	2194	994
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.08	0.53	0.10	0.01	0.39	0.70	0.12	0.14	0.03

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	15	29	5	200	10	42	8	714	831	49	282	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	1.00		0.97	1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.98		1.00	0.88		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1825		3433	1637		1770	3539	1583	1770	3539	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.56	1.00	1.00	0.30	1.00	1.00
Satd. Flow (perm)	1770	1825		3433	1637		1052	3539	1583	552	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	32	5	217	11	46	9	776	903	53	307	32
RTOR Reduction (vph)	0	5	0	0	39	0	0	0	430	0	0	14
Lane Group Flow (vph)	16	32	0	217	18	0	9	776	473	53	307	18
Turn Type	Prot			Prot			pm+pt		Perm	pm+pt		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases							2		2	6		6
Actuated Green, G (s)	0.8	3.7		7.5	10.4		38.0	37.2	37.2	41.6	39.0	39.0
Effective Green, g (s)	0.8	3.7		7.5	10.4		38.0	37.2	37.2	41.6	39.0	39.0
Actuated g/C Ratio	0.01	0.05		0.11	0.15		0.54	0.52	0.52	0.59	0.55	0.55
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	20	95		363	240		571	1854	829	368	1944	870
v/s Ratio Prot	0.01	c0.02		c0.06	0.01		0.00	0.22		c0.01	0.09	
v/s Ratio Perm							0.01		c0.30	0.08		0.01
v/c Ratio	0.80	0.34		0.60	0.07		0.02	0.42	0.57	0.14	0.16	0.02
Uniform Delay, d1	35.0	32.5		30.3	26.1		7.7	10.3	11.5	6.6	7.9	7.3
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	110.1	2.1		2.6	0.1		0.0	0.7	2.8	0.2	0.2	0.0
Delay (s)	145.1	34.6		33.0	26.3		7.7	11.0	14.3	6.8	8.1	7.3
Level of Service	F	C		C	C		A	B	B	A	A	A
Approach Delay (s)		68.0			31.6			12.8			7.8	
Approach LOS		E			C			B			A	

Intersection Summary			
HCM Average Control Delay	15.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	71.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	70.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	21	37	254	57	9	916	903	53	314	32
v/c Ratio	0.16	0.19	0.48	0.21	0.01	0.49	0.73	0.15	0.15	0.03
Control Delay	34.5	27.8	29.6	13.2	7.0	13.0	6.2	7.6	8.1	2.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.5	27.8	29.6	13.2	7.0	13.0	6.2	7.6	8.1	2.6
Queue Length 50th (ft)	8	12	43	4	1	130	12	7	24	0
Queue Length 95th (ft)	30	39	92	33	7	218	121	24	70	11
Internal Link Dist (ft)		387		251		589			818	
Turn Bay Length (ft)	140		335		250		250	240		240
Base Capacity (vph)	128	489	539	570	648	1877	1237	356	2075	1179
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.08	0.47	0.10	0.01	0.49	0.73	0.15	0.15	0.03

Intersection Summary

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Volume (vph)	19	29	5	22	212	10	42	8	843	831	49	289
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0			5.0	5.0		5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	1.00			0.97	1.00		1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.98			1.00	0.88		1.00	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00			0.95	1.00		0.95	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1825			3433	1637		1770	3539	1583	1770	3539
Flt Permitted	0.95	1.00			0.95	1.00		0.56	1.00	1.00	0.23	1.00
Satd. Flow (perm)	1770	1825			3433	1637		1045	3539	1583	432	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	21	32	5	24	230	11	46	9	916	903	53	314
RTOR Reduction (vph)	0	5	0	0	0	39	0	0	0	421	0	0
Lane Group Flow (vph)	21	32	0	0	254	18	0	9	916	482	53	314
Turn Type	Prot			Prot	Prot			pm+pt		Perm	pm+pt	
Protected Phases	7	4		3	3	8		5	2		1	6
Permitted Phases								2		2	6	
Actuated Green, G (s)	2.5	2.8			9.7	10.0		36.2	35.4	35.4	39.6	37.1
Effective Green, g (s)	2.5	2.8			9.7	10.0		36.2	35.4	35.4	39.6	37.1
Actuated g/C Ratio	0.04	0.04			0.14	0.14		0.51	0.50	0.50	0.56	0.53
Clearance Time (s)	5.0	5.0			5.0	5.0		5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	63	73			473	233		546	1780	796	291	1865
v/s Ratio Prot	0.01	c0.02			c0.07	0.01		0.00	0.26		c0.01	0.09
v/s Ratio Perm								0.01		c0.30	0.10	
v/c Ratio	0.33	0.44			0.54	0.08		0.02	0.51	0.61	0.18	0.17
Uniform Delay, d1	33.1	33.0			28.3	26.2		8.3	11.7	12.5	7.7	8.6
Progression Factor	1.00	1.00			1.00	1.00		1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.1	4.2			1.2	0.1		0.0	1.1	3.4	0.3	0.2
Delay (s)	36.2	37.2			29.4	26.3		8.4	12.8	15.9	8.0	8.8
Level of Service	D	D			C	C		A	B	B	A	A
Approach Delay (s)		36.9				28.9			14.3			8.6
Approach LOS		D				C			B			A

Intersection Summary			
HCM Average Control Delay	15.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	70.4	Sum of lost time (s)	20.0
Intersection Capacity Utilization	80.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	
Volume (vph)	29
Ideal Flow (vphpl)	1900
Total Lost time (s)	5.0
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1583
Flt Permitted	1.00
Satd. Flow (perm)	1583
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	32
RTOR Reduction (vph)	14
Lane Group Flow (vph)	18
Turn Type	pm+ov
Protected Phases	7
Permitted Phases	6
Actuated Green, G (s)	39.6
Effective Green, g (s)	39.6
Actuated g/C Ratio	0.56
Clearance Time (s)	5.0
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	1003
v/s Ratio Prot	0.00
v/s Ratio Perm	0.01
v/c Ratio	0.02
Uniform Delay, d1	6.8
Progression Factor	1.00
Incremental Delay, d2	0.0
Delay (s)	6.8
Level of Service	A
Approach Delay (s)	
Approach LOS	

Intersection Summary

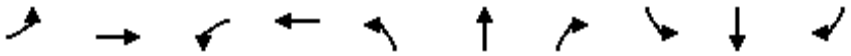
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	42	86	1447	244	16	562	676	133	851	27
v/c Ratio	0.39	0.50	0.93	0.27	0.12	0.62	0.74	0.62	0.76	0.05
Control Delay	63.3	50.4	42.3	6.0	28.2	41.0	8.6	43.6	41.8	13.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.3	50.4	42.3	6.0	28.2	41.0	8.6	43.6	41.8	13.6
Queue Length 50th (ft)	30	49	513	26	8	192	0	69	281	1
Queue Length 95th (ft)	70	101	#721	72	25	265	117	#143	#473	25
Internal Link Dist (ft)		387		251		589			818	
Turn Bay Length (ft)	140		335		250		250	240		240
Base Capacity (vph)	114	278	1549	979	137	907	909	215	1114	515
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.31	0.93	0.25	0.12	0.62	0.74	0.62	0.76	0.05

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	39	54	25	1331	56	168	15	517	622	122	783	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	1.00		0.97	1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.95		1.00	0.89		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1775		3433	1653		1770	3539	1583	1770	3539	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.14	1.00	1.00	0.25	1.00	1.00
Satd. Flow (perm)	1770	1775		3433	1653		255	3539	1583	468	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	42	59	27	1447	61	183	16	562	676	133	851	27
RTOR Reduction (vph)	0	15	0	0	93	0	0	0	492	0	0	17
Lane Group Flow (vph)	42	71	0	1447	151	0	16	562	184	133	851	10
Turn Type	Prot			Prot			pm+pt		Perm	pm+pt		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases							2		2	6		6
Actuated Green, G (s)	4.1	9.5		50.2	55.6		33.3	31.6	31.6	40.1	35.0	35.0
Effective Green, g (s)	4.1	9.5		50.2	55.6		33.3	31.6	31.6	40.1	35.0	35.0
Actuated g/C Ratio	0.04	0.08		0.43	0.48		0.29	0.27	0.27	0.34	0.30	0.30
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	62	145		1481	790		95	961	430	218	1064	476
v/s Ratio Prot	0.02	c0.04		c0.42	0.09		0.00	0.16		c0.03	c0.24	
v/s Ratio Perm							0.05		0.12	0.18		0.01
v/c Ratio	0.68	0.49		0.98	0.19		0.17	0.58	0.43	0.61	0.80	0.02
Uniform Delay, d1	55.5	51.1		32.5	17.5		31.5	36.7	34.9	30.4	37.5	28.6
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	25.5	2.6		18.0	0.1		0.8	2.6	3.1	5.0	6.3	0.1
Delay (s)	81.0	53.8		50.5	17.6		32.3	39.3	38.0	35.4	43.8	28.7
Level of Service	F	D		D	B		C	D	D	D	D	C
Approach Delay (s)		62.7			45.8			38.5			42.3	
Approach LOS		E			D			D			D	

Intersection Summary			
HCM Average Control Delay	43.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	116.4	Sum of lost time (s)	20.0
Intersection Capacity Utilization	82.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	46	86	1592	246	16	588	676	133	898	29
v/c Ratio	0.45	0.56	1.01	0.28	0.12	0.68	0.75	0.58	0.78	0.04
Control Delay	77.2	65.7	64.0	8.7	33.7	53.1	9.3	44.7	49.2	11.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	77.2	65.7	64.0	8.7	33.7	53.1	9.3	44.7	49.2	11.3
Queue Length 50th (ft)	41	65	~764	48	9	263	0	84	370	2
Queue Length 95th (ft)	85	119	#923	96	28	332	128	#158	#581	25
Internal Link Dist (ft)		387		563		589			818	
Turn Bay Length (ft)	140		335		250		250	240		240
Base Capacity (vph)	116	214	1569	921	129	868	898	228	1151	690
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.40	1.01	0.27	0.12	0.68	0.75	0.58	0.78	0.04

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Volume (vph)	42	54	25	58	1407	58	168	15	541	622	122	826
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0			5.0	5.0		5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	1.00			0.97	1.00		1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.95			1.00	0.89		1.00	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00			0.95	1.00		0.95	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1775			3433	1655		1770	3539	1583	1770	3539
Flt Permitted	0.95	1.00			0.95	1.00		0.12	1.00	1.00	0.18	1.00
Satd. Flow (perm)	1770	1775			3433	1655		223	3539	1583	339	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	46	59	27	63	1529	63	183	16	588	676	133	898
RTOR Reduction (vph)	0	12	0	0	0	76	0	0	0	515	0	0
Lane Group Flow (vph)	46	74	0	0	1592	170	0	16	588	161	133	898
Turn Type	Prot			Prot	Prot			pm+pt		Prot	pm+pt	
Protected Phases	7	4		3	3	8		5	2	2	1	6
Permitted Phases								2			6	
Actuated Green, G (s)	7.0	12.1			64.0	69.1		35.7	33.4	33.4	48.9	41.6
Effective Green, g (s)	7.0	12.1			64.0	69.1		35.7	33.4	33.4	48.9	41.6
Actuated g/C Ratio	0.05	0.09			0.46	0.49		0.26	0.24	0.24	0.35	0.30
Clearance Time (s)	5.0	5.0			5.0	5.0		5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	89	153			1569	817		82	844	378	226	1052
v/s Ratio Prot	0.03	c0.04			c0.46	0.10		0.00	0.17	0.10	c0.04	c0.25
v/s Ratio Perm								0.05			0.16	
v/c Ratio	0.52	0.48			1.01	0.21		0.20	0.70	0.43	0.59	0.85
Uniform Delay, d1	64.9	61.0			38.0	20.0		41.0	48.7	45.2	34.1	46.3
Progression Factor	1.00	1.00			1.00	1.00		1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.0	2.4			26.4	0.1		1.2	4.7	3.5	3.9	8.8
Delay (s)	69.8	63.4			64.4	20.1		42.1	53.4	48.7	38.0	55.1
Level of Service	E	E			E	C		D	D	D	D	E
Approach Delay (s)		65.6				58.5			50.8			52.3
Approach LOS		E				E			D			D

Intersection Summary			
HCM Average Control Delay	54.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	106.2%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	
Volume (vph)	27
Ideal Flow (vphpl)	1900
Total Lost time (s)	5.0
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1583
Flt Permitted	1.00
Satd. Flow (perm)	1583
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	29
RTOR Reduction (vph)	17
Lane Group Flow (vph)	12
Turn Type	pm+ov
Protected Phases	7
Permitted Phases	6
Actuated Green, G (s)	48.6
Effective Green, g (s)	48.6
Actuated g/C Ratio	0.35
Clearance Time (s)	5.0
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	606
v/s Ratio Prot	0.00
v/s Ratio Perm	0.01
v/c Ratio	0.02
Uniform Delay, d1	30.0
Progression Factor	1.00
Incremental Delay, d2	0.0
Delay (s)	30.1
Level of Service	C
Approach Delay (s)	
Approach LOS	

Intersection Summary

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/12/2011*	Analysis Year	*2012*
Analysis Time Period	*2012*		

Project Description *2012 A.M. Background - Site Access/Palmer-Wasilla Hwy*

East/West Street: *Palmer-Wasilla Highway* | North/South Street: *Site Access*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*0*	*590*	*0*	*0*	*161*	*0*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*0*	*641*	*0*	*0*	*174*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*2*	*0*
Configuration		*T*			*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*0*	*0*	*0*	*0*	*0*	*0*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*0*	*0*	*0*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*2*			*-2*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration						

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration								
v (vph)								
C (m) (vph)								
v/c								
95% queue length								
Control Delay								
LOS								
Approach Delay	--	--						
Approach LOS	--	--						

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/12/2011*	Analysis Year	*2012*
Analysis Time Period	*2012*		

Project Description *2012 A.M. Total Traffic - Site Access/Palmer-Wasilla Hwy*

East/West Street: *Palmer-Wasilla Highway* | North/South Street: *Site Access*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*0*	*613*	*0*	*0*	*165*	*20*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*0*	*666*	*0*	*0*	*179*	*21*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*2*	*0*
Configuration		*T*			*T*	*TR*
Upstream Signal		*1*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*0*	*0*	*0*	*0*	*0*	*24*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*0*	*0*	*0*	*0*	*0*	*26*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*2*			*-2*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*1*
Configuration						*R*

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration								*R*
v (vph)								*26*
C (m) (vph)								*943*
v/c								*0.03*
95% queue length								*0.08*
Control Delay								*8.9*
LOS								*A*
Approach Delay	--	--				*8.9*		
Approach LOS	--	--				*A*		

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/12/2011*	Analysis Year	*2012*
Analysis Time Period	*2012*		

Project Description *2012 P.M. Background - Site Access/Palmer-Wasilla Hwy*

East/West Street: *Palmer-Wasilla Highway* | North/South Street: *Site Access*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*0*	*520*	*0*	*0*	*1011*	*0*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR	*0*	*577*	*0*	*0*	*1123*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*2*	*0*
Configuration		*T*			*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*0*	*0*	*0*	*0*	*0*	*0*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR	*0*	*0*	*0*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*2*			*-2*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration						

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration								
v (vph)								
C (m) (vph)								
v/c								
95% queue length								
Control Delay								
LOS								
Approach Delay	--	--						
Approach LOS	--	--						

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/12/2011*	Analysis Year	*2012*
Analysis Time Period	*2012*		

Project Description *2012 P.M. Total Traffic - Site Access/Palmer-Wasilla Hwy*

East/West Street: *Palmer-Wasilla Highway* | North/South Street: *Site Access*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*0*	*564*	*0*	*0*	*1012*	*30*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR	*0*	*626*	*0*	*0*	*1124*	*33*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*2*	*0*
Configuration		*T*			*T*	*TR*
Upstream Signal		*1*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*0*	*0*	*0*	*0*	*0*	*119*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR	*0*	*0*	*0*	*0*	*0*	*132*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*2*			*-2*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*1*
Configuration						*R*

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration								*R*
v (vph)								*132*
C (m) (vph)								*464*
v/c								*0.28*
95% queue length								*1.16*
Control Delay								*15.8*
LOS								*C*
Approach Delay	--	--				*15.8*		
Approach LOS	--	--				*C*		

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/12/2011*	Analysis Year	*2022*
Analysis Time Period	*2022*		

Project Description *2022 A.M. Background - Site Access/Palmer-Wasilla Hwy*

East/West Street: *Palmer-Wasilla Highway* | North/South Street: *Site Access*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*0*	*1440*	*0*	*0*	*401*	*0*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*0*	*1565*	*0*	*0*	*435*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*2*	*0*
Configuration		*T*			*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*0*	*0*	*0*	*0*	*0*	*0*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*0*	*0*	*0*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*2*			*-2*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration						

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration								
v (vph)								
C (m) (vph)								
v/c								
95% queue length								
Control Delay								
LOS								
Approach Delay	--	--						
Approach LOS	--	--						

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/20/2011*	Analysis Year	*2022*
Analysis Time Period	*2022*		

Project Description *2022 A.M. Total Traffic - Site Access/Palmer-Wasilla Hwy*

East/West Street: *Palmer-Wasilla Highway* | North/South Street: *Site Access*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*0*	*944*	*0*	*0*	*263*	*20*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*0*	*1026*	*0*	*0*	*285*	*21*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*2*	*0*
Configuration		*T*			*T*	*TR*
Upstream Signal		*1*			*1*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*0*	*0*	*0*	*0*	*0*	*24*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*0*	*0*	*0*	*0*	*0*	*26*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*2*			*-2*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*1*
Configuration						*R*

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration								*R*
v (vph)								*26*
C (m) (vph)								*872*
v/c								*0.03*
95% queue length								*0.09*
Control Delay								*9.3*
LOS								*A*
Approach Delay	--	--				*9.3*		
Approach LOS	--	--				*A*		

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/12/2011*	Analysis Year	*2022*
Analysis Time Period	*2022*		

Project Description *2022 P.M. Background - Site Access/Palmer-Wasilla Hwy*

East/West Street: *Palmer-Wasilla Highway* | North/South Street: *Site Access*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*0*	*807*	*0*	*0*	*1570*	*0*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR	*0*	*896*	*0*	*0*	*1744*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*2*	*0*
Configuration		*T*			*T*	
Upstream Signal		*0*			*1*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*0*	*0*	*0*	*0*	*0*	*0*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR	*0*	*0*	*0*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*2*			*-2*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration						

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration								
v (vph)								
C (m) (vph)								
v/c								
95% queue length								
Control Delay								
LOS								
Approach Delay	--	--						
Approach LOS	--	--						

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/20/2011*	Analysis Year	*2022*
Analysis Time Period	*2022*		

Project Description *2022 P.M. Total Traffic - Site Access/Palmer-Wasilla Hwy*

East/West Street: *Palmer-Wasilla Highway* | North/South Street: *Site Access*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*0*	*852*	*0*	*0*	*1572*	*30*
Peak-Hour Factor, PHF	*0.90*	*0.90*			*0.90*	*0.90*
Hourly Flow Rate, HFR	*0*	*946*	*0*	*0*	*1746*	*33*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*2*	*0*
Configuration		*T*			*T*	*TR*
Upstream Signal		*1*			*1*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*0*	*0*	*0*	*0*	*0*	*119*
Peak-Hour Factor, PHF						*0.90*
Hourly Flow Rate, HFR	*0*	*0*	*0*	*0*	*0*	*132*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*2*			*-2*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*1*
Configuration						*R*

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration								*R*
v (vph)								*132*
C (m) (vph)								*638*
v/c								*0.21*
95% queue length								*0.77*
Control Delay								*12.1*
LOS								*B*
Approach Delay	--	--				*12.1*		
Approach LOS	--	--				*B*		

APPENDIX D

Mitigation Analysis

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/12/2011*	Analysis Year	*2012*
Analysis Time Period	*2012*		

Project Description *2012 P.M. TT - Enter Way/KGB with Pork Chop - Alt 1*

East/West Street: *Enter Way*	North/South Street: *Knik-Goose Bay Road*
Intersection Orientation: *North-South*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*3*	*464*	*27*	*19*	*598*	*17*
Peak-Hour Factor, PHF	*0.97*	*0.97*	*0.97*	*0.97*	*0.97*	*0.97*
Hourly Flow Rate, HFR	*3*	*478*	*27*	*19*	*616*	*17*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LTR*			*LTR*		
Upstream Signal		*1*			*0*	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*0*	*0*	*41*	*0*	*0*	*1*
Peak-Hour Factor, PHF	*0.97*	*0.97*	*0.97*	*0.97*	*0.97*	*0.97*
Hourly Flow Rate, HFR	*0*	*0*	*42*	*0*	*0*	*1*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*1*			*1*
Lanes	*0*	*0*	*1*	*0*	*0*	*1*
Configuration			*R*			*R*

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LTR*	*LTR*			*R*			*R*
v (vph)	*3*	*19*			*42*			*1*
C (m) (vph)	*960*	*1070*			*581*			*489*
v/c	*0.00*	*0.02*			*0.07*			*0.00*
95% queue length	*0.01*	*0.05*			*0.23*			*0.01*
Control Delay	*8.8*	*8.4*			*11.7*			*12.4*
LOS	*A*	*A*			*B*			*B*
Approach Delay	--	--	*11.7*			*12.4*		
Approach LOS	--	--	*B*			*B*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/12/2011*	Analysis Year	*2022*
Analysis Time Period	*2022*		

Project Description *2022 P.M. TT - Enter Way/KGB with Pork Chop - Alt 1*

East/West Street: *Enter Way*	North/South Street: *Knik-Goose Bay Road*
Intersection Orientation: *North-South*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*5*	*721*	*27*	*19*	*929*	*27*
Peak-Hour Factor, PHF	*0.97*	*0.97*	*0.97*	*0.97*	*0.97*	*0.97*
Hourly Flow Rate, HFR	*5*	*743*	*27*	*19*	*957*	*27*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*0*	*2*	*0*
Configuration	*LT*		*TR*	*LT*		*TR*
Upstream Signal		*1*			*0*	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*0*	*0*	*41*	*0*	*0*	*2*
Peak-Hour Factor, PHF	*0.97*	*0.97*	*0.97*	*0.97*	*0.97*	*0.97*
Hourly Flow Rate, HFR	*0*	*0*	*42*	*0*	*0*	*2*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)	*0*			*0*		
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*1*			*1*
Lanes	*0*	*0*	*1*	*0*	*0*	*1*
Configuration			*R*			*R*

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*	*LT*			*R*			*R*
v (vph)	*5*	*19*			*42*			*2*
C (m) (vph)	*710*	*921*			*760*			*528*
v/c	*0.01*	*0.02*			*0.06*			*0.00*
95% queue length	*0.02*	*0.06*			*0.18*			*0.01*
Control Delay	*10.1*	*9.0*			*10.0+*			*11.8*
LOS	*B*	*A*			*B*			*B*
Approach Delay	--	--	*10.0+*			*11.8*		
Approach LOS	--	--	*B*			*B*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/12/2011*	Analysis Year	*2012*
Analysis Time Period	*2012*		

Project Description *2012 P.M. TT - Site Access/Palmer-Wasilla Hwy - Alt 1*

East/West Street: *Palmer-Wasilla Highway* | North/South Street: *Site Access*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*0*	*564*	*0*	*0*	*1012*	*30*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR	*0*	*626*	*0*	*0*	*1124*	*33*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*2*	*0*
Configuration		*T*			*T*	*TR*
Upstream Signal		*1*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*0*	*0*	*0*	*0*	*0*	*166*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR	*0*	*0*	*0*	*0*	*0*	*184*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*2*			*-2*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*1*
Configuration						*R*

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration								*R*
v (vph)								*184*
C (m) (vph)								*464*
v/c								*0.40*
95% queue length								*1.87*
Control Delay								*17.8*
LOS								*C*
Approach Delay	--	--				*17.8*		
Approach LOS	--	--				*C*		

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/20/2011*	Analysis Year	*2022*
Analysis Time Period	*2022*		

Project Description *2022 P.M. TT - Site Access/Palmer-Wasilla Hwy - Alt 1*

East/West Street: *Palmer-Wasilla Highway* | North/South Street: *Site Access*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*0*	*852*	*0*	*0*	*1572*	*30*
Peak-Hour Factor, PHF	*0.90*	*0.90*			*0.90*	*0.90*
Hourly Flow Rate, HFR	*0*	*946*	*0*	*0*	*1746*	*33*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*2*	*0*
Configuration		*T*			*T*	*TR*
Upstream Signal		*1*			*1*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*0*	*0*	*0*	*0*	*0*	*166*
Peak-Hour Factor, PHF						*0.90*
Hourly Flow Rate, HFR	*0*	*0*	*0*	*0*	*0*	*184*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*2*			*-2*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*1*
Configuration						*R*

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration								*R*
v (vph)								*184*
C (m) (vph)								*638*
v/c								*0.29*
95% queue length								*1.19*
Control Delay								*12.9*
LOS								*B*
Approach Delay	--	--				*12.9*		
Approach LOS	--	--				*B*		

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/12/2011*	Analysis Year	*2012*
Analysis Time Period	*2012*		

Project Description *2012 P.M. TT - Enter Way/Knik-Goose Bay Road TWLTL*

East/West Street: *Enter Way*	North/South Street: *Knik-Goose Bay Road*
Intersection Orientation: *North-South*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*3*	*464*	*27*	*19*	*598*	*17*
Peak-Hour Factor, PHF	*0.97*	*0.97*	*0.97*	*0.97*	*0.97*	*0.97*
Hourly Flow Rate, HFR	*3*	*478*	*27*	*19*	*616*	*17*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LTR*			*LTR*		
Upstream Signal		*1*			*0*	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*45*	*2*	*41*	*15*	*1*	*1*
Peak-Hour Factor, PHF	*0.97*	*0.97*	*0.97*	*0.97*	*0.97*	*0.97*
Hourly Flow Rate, HFR	*46*	*2*	*42*	*15*	*1*	*1*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LTR*	*LTR*		*LTR*			*LTR*	
v (vph)	*3*	*19*		*90*			*17*	
C (m) (vph)	*960*	*1070*		*386*			*288*	
v/c	*0.00*	*0.02*		*0.23*			*0.06*	
95% queue length	*0.01*	*0.05*		*0.89*			*0.19*	
Control Delay	*8.8*	*8.4*		*17.1*			*18.3*	
LOS	*A*	*A*		*C*			*C*	
Approach Delay	--	--	*17.1*			*18.3*		
Approach LOS	--	--	*C*			*C*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/12/2011*	Analysis Year	*2022*
Analysis Time Period	*2022*		

Project Description *2022 P.M. TT - Enter Way/Knik-Goose Bay Road TWLTL*

East/West Street: *Enter Way*	North/South Street: *Knik-Goose Bay Road*
Intersection Orientation: *North-South*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*5*	*721*	*27*	*19*	*929*	*27*
Peak-Hour Factor, PHF	*0.97*	*0.97*	*0.97*	*0.97*	*0.97*	*0.97*
Hourly Flow Rate, HFR	*5*	*743*	*27*	*19*	*957*	*27*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*0*	*2*	*0*
Configuration	*LT*		*TR*	*LT*		*TR*
Upstream Signal		*1*			*0*	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*45*	*2*	*41*	*24*	*1*	*2*
Peak-Hour Factor, PHF	*0.97*	*0.97*	*0.97*	*0.97*	*0.97*	*0.97*
Hourly Flow Rate, HFR	*46*	*2*	*42*	*24*	*1*	*2*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)	*0*			*0*		
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*	*LT*		*LTR*			*LTR*	
v (vph)	*5*	*19*		*90*			*27*	
C (m) (vph)	*710*	*938*		*397*			*219*	
v/c	*0.01*	*0.02*		*0.23*			*0.12*	
95% queue length	*0.02*	*0.06*		*0.86*			*0.41*	
Control Delay	*10.1*	*8.9*		*16.7*			*23.7*	
LOS	*B*	*A*		*C*			*C*	
Approach Delay	--	--	*16.7*			*23.7*		
Approach LOS	--	--	*C*			*C*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/12/2011*	Analysis Year	*2012*
Analysis Time Period	*2012*		

Project Description *2012 P.M. TT - Enter Way/Knik-Goose Bay Road WIth Turn Lanes*

East/West Street: *Enter Way*	North/South Street: *Knik-Goose Bay Road*
Intersection Orientation: *North-South*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*3*	*479*	*28*	*19*	*598*	*17*
Peak-Hour Factor, PHF	*0.97*	*0.97*	*0.97*	*0.97*	*0.97*	*0.97*
Hourly Flow Rate, HFR	*3*	*493*	*28*	*19*	*616*	*17*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*1*	*1*	*1*	*0*
Configuration	*LT*		*R*	*L*		*TR*
Upstream Signal		*1*			*0*	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*45*	*2*	*41*	*0*	*0*	*1*
Peak-Hour Factor, PHF	*0.97*	*0.97*	*0.97*	*0.97*	*0.97*	*0.97*
Hourly Flow Rate, HFR	*46*	*2*	*42*	*0*	*0*	*1*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)	*0*			*0*		
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*	*L*		*LTR*			*LTR*	
v (vph)	*3*	*19*		*90*			*1*	
C (m) (vph)	*960*	*1056*		*256*			*489*	
v/c	*0.00*	*0.02*		*0.35*			*0.00*	
95% queue length	*0.01*	*0.05*		*1.52*			*0.01*	
Control Delay	*8.8*	*8.5*		*26.5*			*12.4*	
LOS	*A*	*A*		*D*			*B*	
Approach Delay	--	--	*26.5*			*12.4*		
Approach LOS	--	--	*D*			*B*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/12/2011*	Analysis Year	*2022*
Analysis Time Period	*2022*		

Project Description *2022 P.M. TT - Enter Way/Knik-Goose Bay Road with Turn Lanes*

East/West Street: *Enter Way*	North/South Street: *Knik-Goose Bay Road*
Intersection Orientation: *North-South*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*5*	*745*	*28*	*19*	*929*	*27*
Peak-Hour Factor, PHF	*0.97*	*0.97*	*0.97*	*0.97*	*0.97*	*0.97*
Hourly Flow Rate, HFR	*5*	*768*	*28*	*19*	*957*	*27*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*1*	*1*	*2*	*0*
Configuration	*LT*	*T*	*R*	*L*	*T*	*TR*
Upstream Signal		*1*			*0*	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*45*	*2*	*41*	*0*	*0*	*2*
Peak-Hour Factor, PHF	*0.97*	*0.97*	*0.97*	*0.97*	*0.97*	*0.97*
Hourly Flow Rate, HFR	*46*	*2*	*42*	*0*	*0*	*2*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)	*0*			*0*		
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*	*L*		*LTR*			*LTR*	
v (vph)	*5*	*19*		*90*			*2*	
C (m) (vph)	*710*	*888*		*214*			*528*	
v/c	*0.01*	*0.02*		*0.42*			*0.00*	
95% queue length	*0.02*	*0.07*		*1.94*			*0.01*	
Control Delay	*10.1*	*9.1*		*33.5*			*11.8*	
LOS	*B*	*A*		*D*			*B*	
Approach Delay	--	--	*33.5*			*11.8*		
Approach LOS	--	--	*D*			*B*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/12/2011*	Analysis Year	*2012*
Analysis Time Period	*2012*		

Project Description *2012 A.M. Total Traffic - Enter Way/Knik-Goose Bay Road*

East/West Street: *Enter Way*	North/South Street: *Knik-Goose Bay Road*
Intersection Orientation: *North-South*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*0*	*497*	*58*	*29*	*230*	*12*
Peak-Hour Factor, PHF	*0.85*	*0.85*	*0.85*	*0.85*	*0.85*	*0.85*
Hourly Flow Rate, HFR	*0*	*584*	*68*	*34*	*270*	*14*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LTR*			*LTR*		
Upstream Signal		*1*			*0*	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*7*	*0*	*16*	*4*	*0*	*1*
Peak-Hour Factor, PHF	*0.85*	*0.85*	*0.85*	*0.85*	*0.85*	*0.85*
Hourly Flow Rate, HFR	*8*	*0*	*18*	*4*	*0*	*1*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LTR*	*LTR*		*LTR*			*LTR*	
v (vph)	*0*	*34*		*26*			*5*	
C (m) (vph)	*1290*	*940*		*392*			*266*	
v/c	*0.00*	*0.04*		*0.07*			*0.02*	
95% queue length	*0.00*	*0.11*		*0.21*			*0.06*	
Control Delay	*7.8*	*9.0*		*14.8*			*18.8*	
LOS	*A*	*A*		*B*			*C*	
Approach Delay	--	--	*14.8*			*18.8*		
Approach LOS	--	--	*B*			*C*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/12/2011*	Analysis Year	*2012*
Analysis Time Period	*2012*		

Project Description *2012 P.M. Total Traffic - Enter Way/Knik-Goose Bay Road*

East/West Street: *Enter Way*	North/South Street: *Knik-Goose Bay Road*
Intersection Orientation: *North-South*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*3*	*464*	*12*	*19*	*598*	*17*
Peak-Hour Factor, PHF	*0.97*	*0.97*	*0.97*	*0.97*	*0.97*	*0.97*
Hourly Flow Rate, HFR	*3*	*478*	*12*	*19*	*616*	*17*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LTR*			*LTR*		
Upstream Signal		*1*			*0*	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*45*	*2*	*41*	*15*	*1*	*1*
Peak-Hour Factor, PHF	*0.97*	*0.97*	*0.97*	*0.97*	*0.97*	*0.97*
Hourly Flow Rate, HFR	*46*	*2*	*42*	*15*	*1*	*1*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LTR*	*LTR*		*LTR*			*LTR*	
v (vph)	*3*	*19*		*90*			*17*	
C (m) (vph)	*960*	*1085*		*256*			*161*	
v/c	*0.00*	*0.02*		*0.35*			*0.11*	
95% queue length	*0.01*	*0.05*		*1.52*			*0.35*	
Control Delay	*8.8*	*8.4*		*26.5*			*30.0*	
LOS	*A*	*A*		*D*			*D*	
Approach Delay	--	--	*26.5*			*30.0*		
Approach LOS	--	--	*D*			*D*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/12/2011*	Analysis Year	*2022*
Analysis Time Period	*2022*		

Project Description *2022 A.M. Total Traffic - Enter Way/Knik-Goose Bay Road*

East/West Street: *Enter Way*	North/South Street: *Knik-Goose Bay Road*
Intersection Orientation: *North-South*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*0*	*772*	*58*	*29*	*358*	*19*
Peak-Hour Factor, PHF	*0.85*	*0.85*	*0.85*	*0.85*	*0.85*	*0.85*
Hourly Flow Rate, HFR	*0*	*908*	*68*	*34*	*421*	*22*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*0*	*2*	*0*
Configuration	*LT*		*TR*	*LT*		*TR*
Upstream Signal		*1*			*0*	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*7*	*0*	*16*	*7*	*0*	*2*
Peak-Hour Factor, PHF	*0.85*	*0.85*	*0.85*	*0.85*	*0.85*	*0.85*
Hourly Flow Rate, HFR	*8*	*0*	*18*	*8*	*0*	*2*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)	*0*			*2*		
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*	*LT*		*LTR*			*LTR*	
v (vph)	*0*	*34*		*26*			*10*	
C (m) (vph)	*1128*	*790*		*359*			*310*	
v/c	*0.00*	*0.04*		*0.07*			*0.03*	
95% queue length	*0.00*	*0.13*		*0.23*			*0.10*	
Control Delay	*8.2*	*9.8*		*15.8*			*17.0*	
LOS	*A*	*A*		*C*			*C*	
Approach Delay	--	--	*15.8*			*17.0*		
Approach LOS	--	--	*C*			*C*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/12/2011*	Analysis Year	*2022*
Analysis Time Period	*2022*		

Project Description *2022 P.M. Total Traffic - Enter Way/Knik-Goose Bay Road*

East/West Street: *Enter Way*	North/South Street: *Knik-Goose Bay Road*
Intersection Orientation: *North-South*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*5*	*721*	*12*	*19*	*929*	*27*
Peak-Hour Factor, PHF	*0.97*	*0.97*	*0.97*	*0.97*	*0.97*	*0.97*
Hourly Flow Rate, HFR	*5*	*743*	*12*	*19*	*957*	*27*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*0*	*2*	*0*
Configuration	*LT*		*TR*	*LT*		*TR*
Upstream Signal		*1*			*0*	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*45*	*2*	*41*	*24*	*1*	*2*
Peak-Hour Factor, PHF	*0.97*	*0.97*	*0.97*	*0.97*	*0.97*	*0.97*
Hourly Flow Rate, HFR	*46*	*2*	*42*	*24*	*1*	*2*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)	*0*			*0*		
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*	*LT*		*LTR*			*LTR*	
v (vph)	*5*	*19*		*90*			*27*	
C (m) (vph)	*710*	*939*		*227*			*116*	
v/c	*0.01*	*0.02*		*0.40*			*0.23*	
95% queue length	*0.02*	*0.06*		*1.78*			*0.85*	
Control Delay	*10.1*	*8.9*		*30.9*			*45.2*	
LOS	*B*	*A*		*D*			*E*	
Approach Delay	--	--	*30.9*			*45.2*		
Approach LOS	--	--	*D*			*E*		

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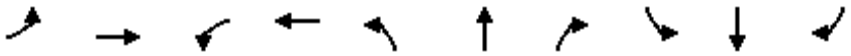


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	13	26	173	37	5	561	661	35	204	21
v/c Ratio	0.10	0.13	0.44	0.13	0.01	0.50	0.55	0.07	0.18	0.02
Control Delay	31.7	26.6	30.7	13.1	6.0	12.4	3.2	6.0	7.7	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.7	26.6	30.7	13.1	6.0	12.4	3.2	6.0	7.7	4.7
Queue Length 50th (ft)	4	6	23	2	1	62	0	3	18	0
Queue Length 95th (ft)	22	31	67	27	5	294	55	17	95	11
Internal Link Dist (ft)		387		251		808			818	
Turn Bay Length (ft)	140		335		250		250	240		240
Base Capacity (vph)	132	502	398	537	774	1111	1211	478	1161	994
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.05	0.43	0.07	0.01	0.50	0.55	0.07	0.18	0.02

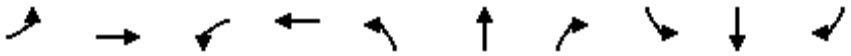
Intersection Summary

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Volume (vph)	12	21	3	21	138	7	27	5	516	608	32	188
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0			5.0	5.0		5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	1.00			0.97	1.00		1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.98			1.00	0.88		1.00	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00			0.95	1.00		0.95	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1831			3433	1644		1770	1863	1583	1770	1863
Flt Permitted	0.95	1.00			0.95	1.00		0.63	1.00	1.00	0.33	1.00
Satd. Flow (perm)	1770	1831			3433	1644		1173	1863	1583	617	1863
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	23	3	23	150	8	29	5	561	661	35	204
RTOR Reduction (vph)	0	3	0	0	0	25	0	0	0	304	0	0
Lane Group Flow (vph)	13	23	0	0	173	12	0	5	561	357	35	204
Turn Type	Prot			Prot	Prot			pm+pt		Perm	pm+pt	
Protected Phases	7	4		3	3	8		5	2		1	6
Permitted Phases								2		2	6	
Actuated Green, G (s)	0.8	3.5			7.1	9.8		38.5	37.7	37.7	40.1	38.5
Effective Green, g (s)	0.8	3.5			7.1	9.8		38.5	37.7	37.7	40.1	38.5
Actuated g/C Ratio	0.01	0.05			0.10	0.14		0.55	0.54	0.54	0.57	0.55
Clearance Time (s)	5.0	5.0			5.0	5.0		5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	20	92			349	230		653	1005	854	380	1026
v/s Ratio Prot	0.01	c0.01			c0.05	0.01		0.00	c0.30		c0.00	0.11
v/s Ratio Perm								0.00		0.23	0.05	
v/c Ratio	0.65	0.25			0.50	0.05		0.01	0.56	0.42	0.09	0.20
Uniform Delay, d1	34.4	31.9			29.7	26.0		7.1	10.6	9.6	7.3	7.9
Progression Factor	1.00	1.00			1.00	1.00		1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	56.6	1.4			1.1	0.1		0.0	2.2	1.5	0.1	0.4
Delay (s)	91.0	33.4			30.8	26.1		7.1	12.8	11.1	7.4	8.4
Level of Service	F	C			C	C		A	B	B	A	A
Approach Delay (s)		52.6				30.0			11.9			8.1
Approach LOS		D				C			B			A

Intersection Summary			
HCM Average Control Delay	14.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	69.9	Sum of lost time (s)	20.0
Intersection Capacity Utilization	64.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	
Volume (vph)	19
Ideal Flow (vphpl)	1900
Total Lost time (s)	5.0
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1583
Flt Permitted	1.00
Satd. Flow (perm)	1583
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	21
RTOR Reduction (vph)	9
Lane Group Flow (vph)	12
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	38.5
Effective Green, g (s)	38.5
Actuated g/C Ratio	0.55
Clearance Time (s)	5.0
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	872
v/s Ratio Prot	
v/s Ratio Perm	0.01
v/c Ratio	0.01
Uniform Delay, d1	7.1
Progression Factor	1.00
Incremental Delay, d2	0.0
Delay (s)	7.1
Level of Service	A
Approach Delay (s)	
Approach LOS	

Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	29	57	1071	158	11	374	450	86	596	20
v/c Ratio	0.21	0.34	0.83	0.21	0.07	0.61	0.55	0.29	0.83	0.03
Control Delay	49.7	41.5	33.0	7.1	23.8	36.9	6.0	26.1	41.4	16.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.7	41.5	33.0	7.1	23.8	36.9	6.0	26.1	41.4	16.0
Queue Length 50th (ft)	17	25	307	16	4	204	0	33	324	2
Queue Length 95th (ft)	51	71	407	56	19	#401	85	83	#772	23
Internal Link Dist (ft)		387		251		808			818	
Turn Bay Length (ft)	140		335		250		250	240		240
Base Capacity (vph)	420	344	1941	925	164	611	822	293	720	621
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.17	0.55	0.17	0.07	0.61	0.55	0.29	0.83	0.03

Intersection Summary

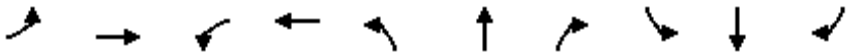
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Volume (vph)	27	37	16	53	932	38	108	10	344	414	79	548
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0			5.0	5.0		5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	1.00			0.97	1.00		1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.96			1.00	0.89		1.00	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00			0.95	1.00		0.95	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1779			3433	1656		1770	1863	1583	1770	1863
Flt Permitted	0.95	1.00			0.95	1.00		0.13	1.00	1.00	0.32	1.00
Satd. Flow (perm)	1770	1779			3433	1656		239	1863	1583	591	1863
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	29	40	17	58	1013	41	117	11	374	450	86	596
RTOR Reduction (vph)	0	14	0	0	0	72	0	0	0	298	0	0
Lane Group Flow (vph)	29	43	0	0	1071	86	0	11	374	152	86	596
Turn Type	Prot			Prot	Prot			pm+pt		Perm	pm+pt	
Protected Phases	7	4		3	3	8		5	2		1	6
Permitted Phases								2		2	6	
Actuated Green, G (s)	4.4	7.3			35.1	38.0		34.1	33.4	33.4	39.3	36.0
Effective Green, g (s)	4.4	7.3			35.1	38.0		34.1	33.4	33.4	39.3	36.0
Actuated g/C Ratio	0.04	0.07			0.35	0.38		0.34	0.34	0.34	0.40	0.36
Clearance Time (s)	5.0	5.0			5.0	5.0		5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	79	131			1216	635		93	628	534	274	677
v/s Ratio Prot	0.02	c0.02			c0.31	0.05		0.00	0.20		c0.01	c0.32
v/s Ratio Perm								0.04		0.10	0.11	
v/c Ratio	0.37	0.33			0.88	0.14		0.12	0.60	0.28	0.31	0.88
Uniform Delay, d1	46.0	43.6			30.0	19.9		24.3	27.2	24.1	20.2	29.5
Progression Factor	1.00	1.00			1.00	1.00		1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.9	1.5			7.7	0.1		0.6	4.1	1.3	0.7	15.2
Delay (s)	48.9	45.1			37.8	20.0		24.9	31.4	25.4	20.8	44.8
Level of Service	D	D			D	B		C	C	C	C	D
Approach Delay (s)		46.3				35.5			28.1			41.1
Approach LOS		D				D			C			D

Intersection Summary			
HCM Average Control Delay	35.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	99.1	Sum of lost time (s)	20.0
Intersection Capacity Utilization	79.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	
Volume (vph)	18
Ideal Flow (vphpl)	1900
Total Lost time (s)	5.0
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1583
Flt Permitted	1.00
Satd. Flow (perm)	1583
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	20
RTOR Reduction (vph)	9
Lane Group Flow (vph)	11
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	36.0
Effective Green, g (s)	36.0
Actuated g/C Ratio	0.36
Clearance Time (s)	5.0
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	575
v/s Ratio Prot	
v/s Ratio Perm	0.01
v/c Ratio	0.02
Uniform Delay, d1	20.2
Progression Factor	1.00
Incremental Delay, d2	0.1
Delay (s)	20.3
Level of Service	C
Approach Delay (s)	
Approach LOS	

Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	18	39	254	57	9	837	983	53	314	32
v/c Ratio	0.16	0.24	0.63	0.19	0.01	0.39	0.76	0.13	0.14	0.03
Control Delay	44.6	38.4	44.5	15.5	6.5	11.0	7.6	6.8	7.3	3.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.6	38.4	44.5	15.5	6.5	11.0	7.6	6.8	7.3	3.6
Queue Length 50th (ft)	10	19	73	5	2	143	45	10	33	0
Queue Length 95th (ft)	32	50	#116	40	7	200	232	24	71	13
Internal Link Dist (ft)		387		251		589			818	
Turn Bay Length (ft)	140		335		250		250	240		240
Base Capacity (vph)	113	368	419	458	710	2167	1287	418	2317	1047
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.11	0.61	0.12	0.01	0.39	0.76	0.13	0.14	0.03

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Volume (vph)	17	31	5	22	212	10	42	8	770	904	49	289
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0			5.0	5.0		5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	1.00			0.97	1.00		1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.98			1.00	0.88		1.00	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00			0.95	1.00		0.95	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1827			3433	1637		1770	3539	1583	1770	3539
Flt Permitted	0.95	1.00			0.95	1.00		0.56	1.00	1.00	0.28	1.00
Satd. Flow (perm)	1770	1827			3433	1637		1045	3539	1583	525	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	18	34	5	24	230	11	46	9	837	983	53	314
RTOR Reduction (vph)	0	5	0	0	0	39	0	0	0	340	0	0
Lane Group Flow (vph)	18	34	0	0	254	18	0	9	837	643	53	314
Turn Type	Prot			Prot	Prot			pm+pt		Perm	pm+pt	
Protected Phases	7	4		3	3	8		5	2		1	6
Permitted Phases								2		2	6	
Actuated Green, G (s)	1.9	5.4			9.9	13.4		54.1	53.3	53.3	57.5	55.0
Effective Green, g (s)	1.9	5.4			9.9	13.4		54.1	53.3	53.3	57.5	55.0
Actuated g/C Ratio	0.02	0.06			0.11	0.15		0.59	0.59	0.59	0.63	0.60
Clearance Time (s)	5.0	5.0			5.0	5.0		5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	37	108			373	241		627	2071	926	366	2137
v/s Ratio Prot	0.01	c0.02			c0.07	0.01		0.00	0.24		c0.00	0.09
v/s Ratio Perm								0.01		c0.41	0.09	
v/c Ratio	0.49	0.32			0.68	0.07		0.01	0.40	0.69	0.14	0.15
Uniform Delay, d1	44.1	41.1			39.1	33.5		7.6	10.3	13.2	6.9	7.8
Progression Factor	1.00	1.00			1.00	1.00		1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.7	1.7			5.1	0.1		0.0	0.6	4.3	0.2	0.1
Delay (s)	53.8	42.8			44.1	33.6		7.6	10.9	17.5	7.1	8.0
Level of Service	D	D			D	C		A	B	B	A	A
Approach Delay (s)		46.3				42.2			14.4			7.8
Approach LOS		D				D			B			A

Intersection Summary			
HCM Average Control Delay	17.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	91.1	Sum of lost time (s)	20.0
Intersection Capacity Utilization	85.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	
Volume (vph)	29
Ideal Flow (vphpl)	1900
Total Lost time (s)	5.0
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1583
Flt Permitted	1.00
Satd. Flow (perm)	1583
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	32
RTOR Reduction (vph)	13
Lane Group Flow (vph)	19
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	55.0
Effective Green, g (s)	55.0
Actuated g/C Ratio	0.60
Clearance Time (s)	5.0
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	956
v/s Ratio Prot	
v/s Ratio Perm	0.01
v/c Ratio	0.02
Uniform Delay, d1	7.2
Progression Factor	1.00
Incremental Delay, d2	0.0
Delay (s)	7.3
Level of Service	A
Approach Delay (s)	
Approach LOS	

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	45	88	1592	246	16	574	690	133	898	29
v/c Ratio	0.44	0.57	1.01	0.27	0.13	0.66	0.76	0.58	0.78	0.04
Control Delay	77.1	66.2	64.0	8.6	33.8	52.5	9.4	44.4	49.3	11.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	77.1	66.2	64.0	8.6	33.8	52.5	9.4	44.4	49.3	11.3
Queue Length 50th (ft)	40	67	~764	47	9	255	0	84	371	2
Queue Length 95th (ft)	83	121	#923	96	28	323	129	#157	#581	25
Internal Link Dist (ft)		387		563		589			818	
Turn Bay Length (ft)	140		335		250		250	240		240
Base Capacity (vph)	115	215	1569	922	127	869	909	231	1149	689
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.41	1.01	0.27	0.13	0.66	0.76	0.58	0.78	0.04

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Volume (vph)	41	56	25	58	1407	58	168	15	528	635	122	826
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0			5.0	5.0		5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	1.00			0.97	1.00		1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.95			1.00	0.89		1.00	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00			0.95	1.00		0.95	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1777			3433	1655		1770	3539	1583	1770	3539
Flt Permitted	0.95	1.00			0.95	1.00		0.12	1.00	1.00	0.19	1.00
Satd. Flow (perm)	1770	1777			3433	1655		222	3539	1583	359	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	45	61	27	63	1529	63	183	16	574	690	133	898
RTOR Reduction (vph)	0	12	0	0	0	76	0	0	0	525	0	0
Lane Group Flow (vph)	45	76	0	0	1592	170	0	16	574	165	133	898
Turn Type	Prot			Prot	Prot			pm+pt		Prot	pm+pt	
Protected Phases	7	4		3	3	8		5	2	2	1	6
Permitted Phases								2			6	
Actuated Green, G (s)	6.9	12.2			64.0	69.3		35.8	33.5	33.5	48.8	41.5
Effective Green, g (s)	6.9	12.2			64.0	69.3		35.8	33.5	33.5	48.8	41.5
Actuated g/C Ratio	0.05	0.09			0.46	0.49		0.26	0.24	0.24	0.35	0.30
Clearance Time (s)	5.0	5.0			5.0	5.0		5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	87	155			1569	819		82	847	379	229	1049
v/s Ratio Prot	0.03	c0.04			c0.46	0.10		0.00	0.16	0.10	c0.04	c0.25
v/s Ratio Perm								0.05			0.16	
v/c Ratio	0.52	0.49			1.01	0.21		0.20	0.68	0.44	0.58	0.86
Uniform Delay, d1	64.9	60.9			38.0	19.9		40.9	48.3	45.2	34.1	46.4
Progression Factor	1.00	1.00			1.00	1.00		1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.1	2.4			26.4	0.1		1.2	4.3	3.6	3.7	9.0
Delay (s)	70.0	63.4			64.4	20.0		42.1	52.7	48.8	37.8	55.4
Level of Service	E	E			E	C		D	D	D	D	E
Approach Delay (s)		65.6				58.5			50.5			52.5
Approach LOS		E				E			D			D

Intersection Summary			
HCM Average Control Delay	54.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	107.0%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	
Volume (vph)	27
Ideal Flow (vphpl)	1900
Total Lost time (s)	5.0
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1583
Flt Permitted	1.00
Satd. Flow (perm)	1583
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	29
RTOR Reduction (vph)	17
Lane Group Flow (vph)	12
Turn Type	pm+ov
Protected Phases	7
Permitted Phases	6
Actuated Green, G (s)	48.4
Effective Green, g (s)	48.4
Actuated g/C Ratio	0.35
Clearance Time (s)	5.0
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	604
v/s Ratio Prot	0.00
v/s Ratio Perm	0.01
v/c Ratio	0.02
Uniform Delay, d1	30.2
Progression Factor	1.00
Incremental Delay, d2	0.0
Delay (s)	30.2
Level of Service	C
Approach Delay (s)	
Approach LOS	

Intersection Summary

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/12/2011*	Analysis Year	*2012*
Analysis Time Period	*2012*		

Project Description *2012 A.M. Total Traffic - Site Access/Palmer-Wasilla Hwy*

East/West Street: *Palmer-Wasilla Highway* | North/South Street: *Site Access*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*75*	*613*	*0*	*0*	*165*	*20*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*81*	*666*	*0*	*0*	*179*	*21*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*2*	*0*
Configuration	*LT*				*T*	*TR*
Upstream Signal		*1*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*0*	*0*	*0*	*0*	*0*	*24*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*0*	*0*	*0*	*0*	*0*	*26*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*2*			*-2*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*1*
Configuration						*R*

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*							*R*
v (vph)	*81*							*26*
C (m) (vph)	*1384*							*943*
v/c	*0.06*							*0.03*
95% queue length	*0.19*							*0.08*
Control Delay	*7.8*							*8.9*
LOS	*A*							*A*
Approach Delay	--	--				*8.9*		
Approach LOS	--	--				*A*		

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/12/2011*	Analysis Year	*2012*
Analysis Time Period	*2012*		

Project Description *2012 P.M. Total Traffic - Site Access/Palmer-Wasilla Hwy*

East/West Street: *Palmer-Wasilla Highway* | North/South Street: *Site Access*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*14*	*564*	*0*	*0*	*1012*	*30*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR	*15*	*626*	*0*	*0*	*1124*	*33*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*2*	*0*
Configuration	*LT*				*T*	*TR*
Upstream Signal		*1*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*0*	*0*	*0*	*0*	*0*	*119*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR	*0*	*0*	*0*	*0*	*0*	*132*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*2*			*-2*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*1*
Configuration						*R*

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*							*R*
v (vph)	*15*							*132*
C (m) (vph)	*611*							*464*
v/c	*0.02*							*0.28*
95% queue length	*0.08*							*1.16*
Control Delay	*11.0*							*15.8*
LOS	*B*							*C*
Approach Delay	--	--				*15.8*		
Approach LOS	--	--				*C*		

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/12/2011*	Analysis Year	*2022*
Analysis Time Period	*2022*		

Project Description *2022 A.M. Total Traffic - Site Access/Palmer-Wasilla Hwy*

East/West Street: *Palmer-Wasilla Highway* | North/South Street: *Site Access*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*75*	*944*	*0*	*0*	*263*	*20*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*81*	*1026*	*0*	*0*	*285*	*21*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*2*	*0*
Configuration	*LT*				*T*	*TR*
Upstream Signal		*1*			*1*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*0*	*0*	*0*	*0*	*0*	*24*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*0*	*0*	*0*	*0*	*0*	*26*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*2*			*-2*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*1*
Configuration						*R*

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*							*R*
v (vph)	*81*							*26*
C (m) (vph)	*1266*							*872*
v/c	*0.06*							*0.03*
95% queue length	*0.20*							*0.09*
Control Delay	*8.0*							*9.3*
LOS	*A*							*A*
Approach Delay	--	--				*9.3*		
Approach LOS	--	--				*A*		

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Adam McGill*	Intersection	
Agency/Co.	*DOWL HKM*	Jurisdiction	*DOT&PF*
Date Performed	*1/12/2011*	Analysis Year	*2022*
Analysis Time Period	*2022*		

Project Description *2022 P.M. Total Traffic - Site Access/Palmer-Wasilla Hwy*

East/West Street: *Palmer-Wasilla Highway* | North/South Street: *Site Access*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*14*	*852*	*0*	*0*	*1572*	*30*
Peak-Hour Factor, PHF	*0.90*	*0.90*			*0.90*	*0.90*
Hourly Flow Rate, HFR	*15*	*946*	*0*	*0*	*1746*	*33*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*2*	*0*
Configuration	*LT*				*T*	*TR*
Upstream Signal		*1*			*1*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*0*	*0*	*0*	*0*	*0*	*119*
Peak-Hour Factor, PHF						*0.90*
Hourly Flow Rate, HFR	*0*	*0*	*0*	*0*	*0*	*132*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*2*			*-2*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*1*
Configuration						*R*

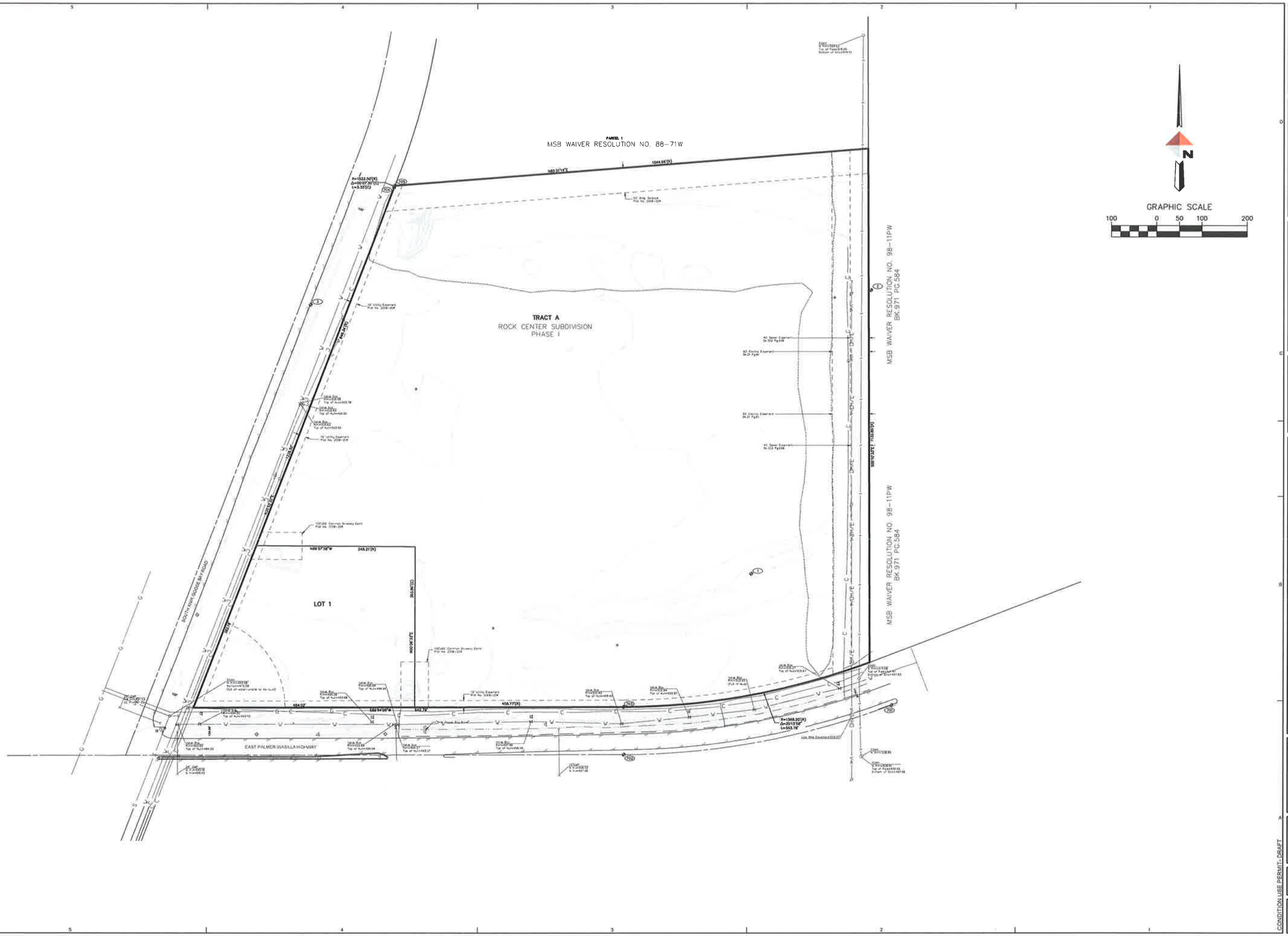
Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*							*R*
v (vph)	*15*							*132*
C (m) (vph)	*197*							*638*
v/c	*0.08*							*0.21*
95% queue length	*0.24*							*0.77*
Control Delay	*24.8*							*12.1*
LOS	*C*							*B*
Approach Delay	--	--				*12.1*		
Approach LOS	--	--				*B*		

DOWL HKM

APPENDIX C

Civil Site Plan



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STATE OF ALASKA
49TH
Kurt R. Hulteen
CE-8825
REGISTERED PROFESSIONAL ENGINEER

kpb architects

nbbj
223 Yale Avenue North, Seattle, WA 98109
(206) 223-5555 Fax (206) 621-2520

NEESER CONSTRUCTION, INC.
2501 Blueberry Road
Office (907) 276-1056
Anchorage, Alaska 99503
Fax (907) 276-4333

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SOUTH CENTRAL FOUNDATION
NATIVE PRIMARY CARE CLINIC
WASILLA, AK

REVISION SCHEDULE		
#	DESCRIPTION	DATE

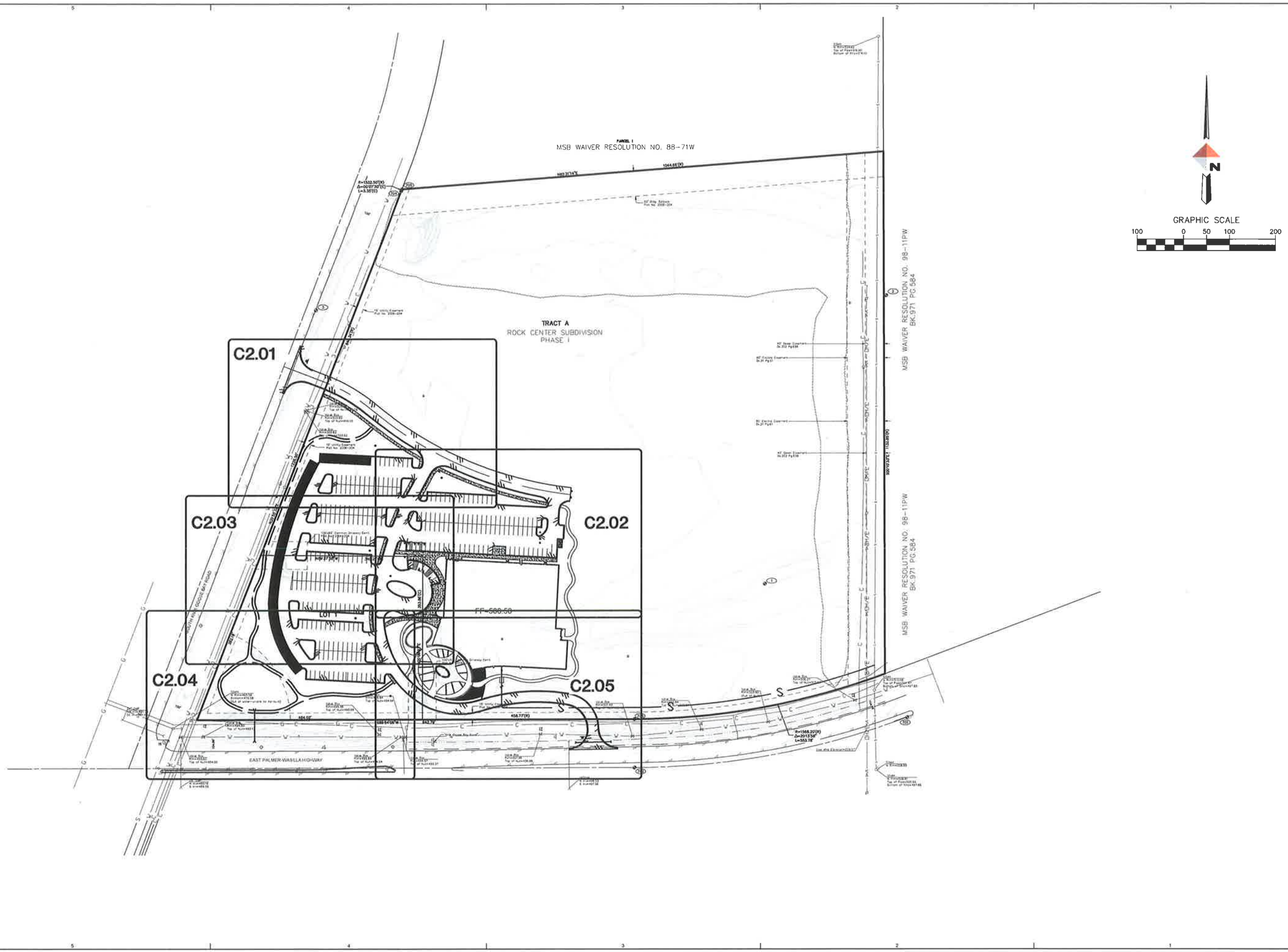
JOB NO. - NCI	11101
JOB NO. - kpb	A9061.01
JOB NO - nbbj	100748.00
DATE	03/01/2011
DRAWN	RDL
REVIEWED	KRH

SHEET NAME
OVERALL EXISTING CONDITIONS PLAN

SHEET NO.
C1.00

CONDITIONAL USE PERMIT - DRAFT

FULL SIZE 22"x34" - HALF SIZE 11"x17"



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STATE OF ALASKA
49TH
Kurt R. Hulteen
CE-8825
REGISTERED PROFESSIONAL ENGINEER

kpb architects
nbbj
223 Yale Avenue North, Seattle, WA 98109
(206) 223-5555 Fax (206) 621-2300

NEESER CONSTRUCTION, INC.
2501 Blueberry Road
Office (907) 276-1056
Anchorage, Alaska 99503
Fax (907) 276-8533

DOWL HKM
(907) 562-2000

SOUTH CENTRAL FOUNDATION
NATIVE PRIMARY CARE CLINIC
WASILLA, AK

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#	DESCRIPTION	DATE

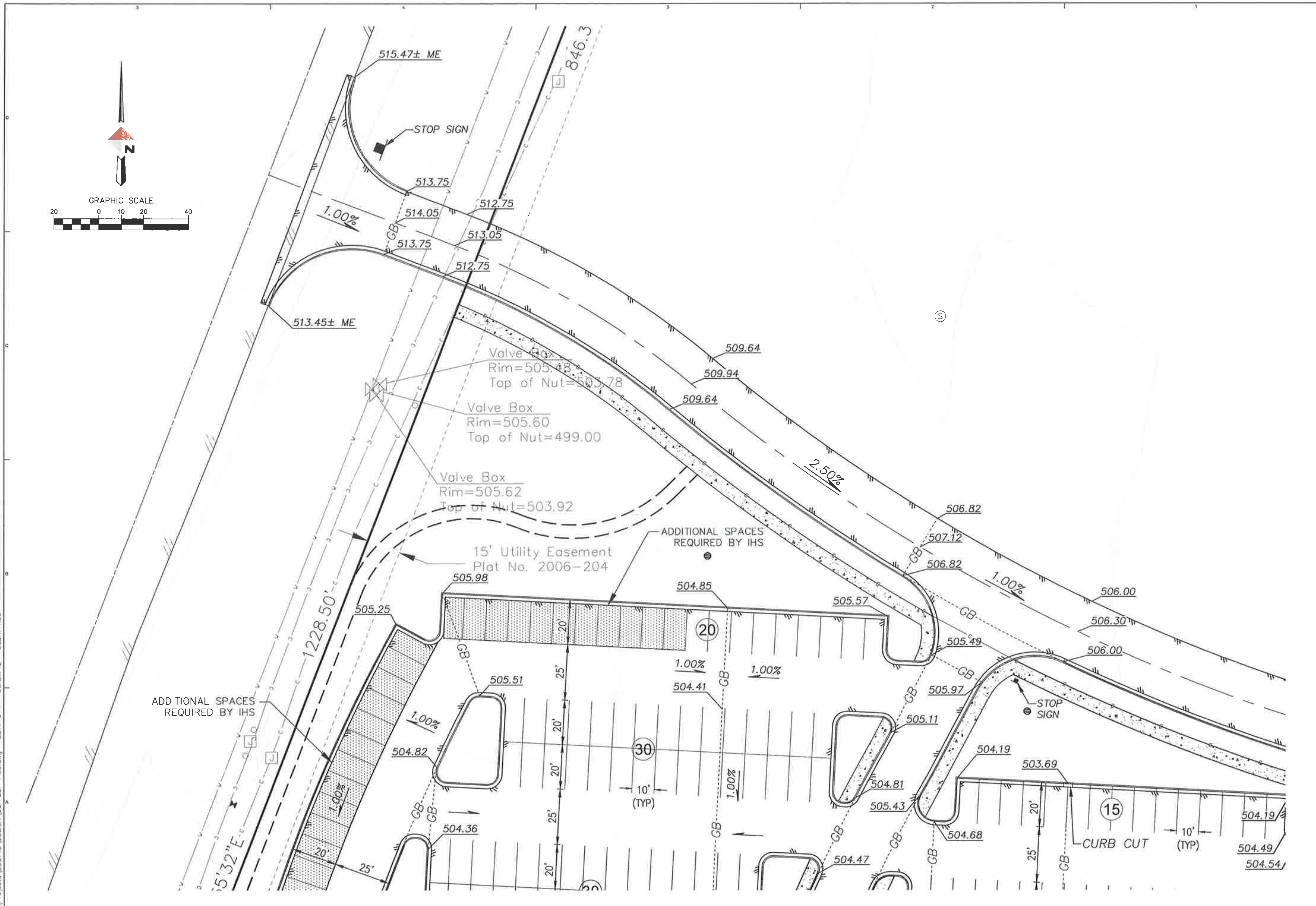
JOB NO. - NCI	11101
JOB NO. - kpb	A9061.01
JOB NO. - nbbj	100748.00
DATE	03/01/2011
DRAWN	RDL
REVIEWED	KRH

SHEET NAME
OVERALL SITE PLAN

SHEET NO.
C2.00

CONDITION USE PERMIT- DRAFT

FULL SIZE 22"x34" - HALF SIZE 11"x17"



State of Alaska 49th
Kurt R. Hulteen
CE-8825
Registered Professional Engineer

kpb architects
nbbj

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NATIVE PRIMARY CARE CLINIC
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REVISION SCHEDULE

#	DESCRIPTION	DATE

JOB NO - NCI	11101
JOB NO - kpb	A9061.01
JOB NO - nbbj	10074800
DATE	03/01/2011
DRAWN	RDL
REVIEWED	KRH

SHEET NAME
SITE GRADING PLAN

SHEET NO
C2.01

CONDITION USE PERMIT- DRAFT

FULL SIZE: 22"x34" HALF SIZE: 11"x17"

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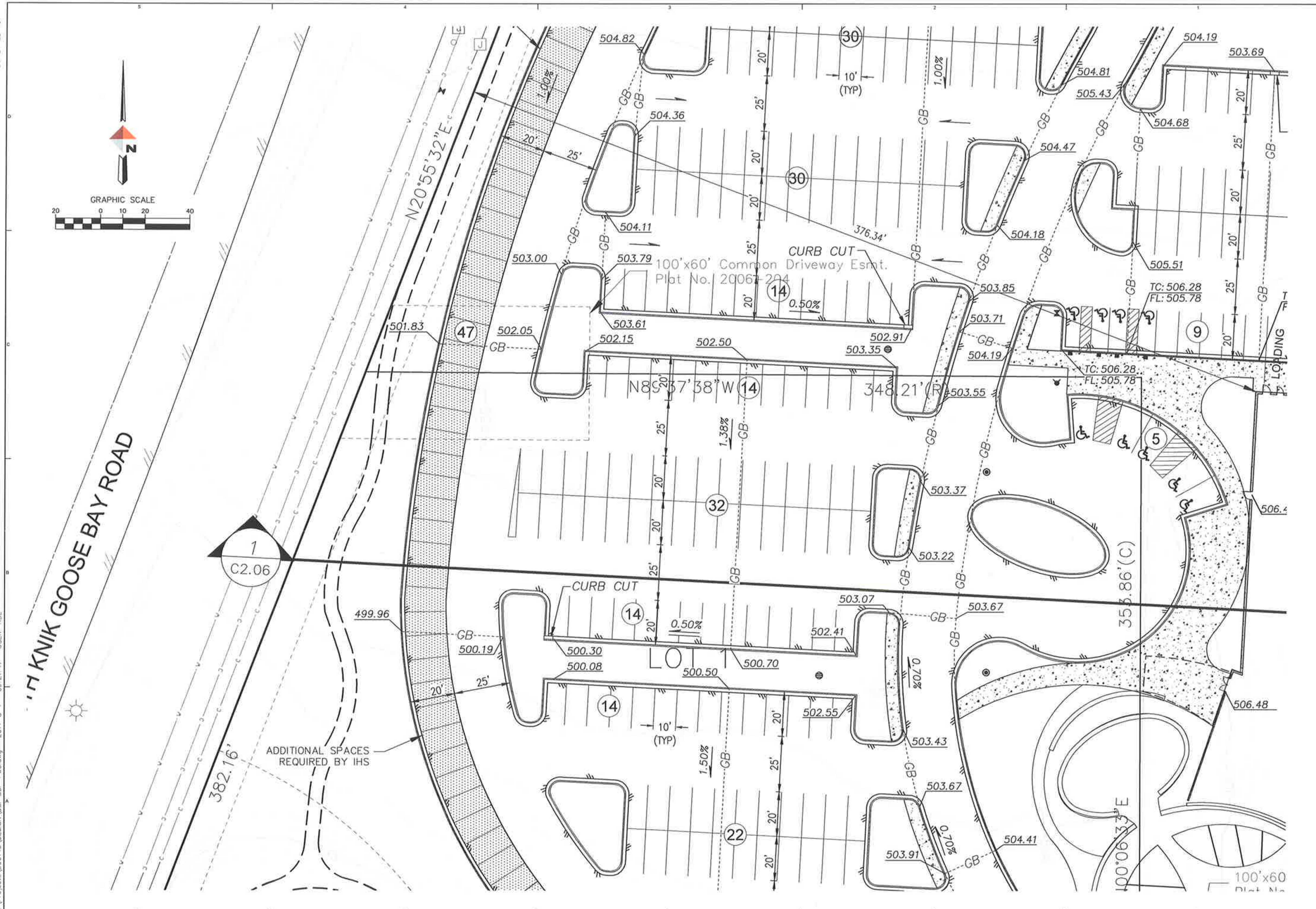

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49TH
Kurt R. Hulteen
CE-8825
REGISTERED PROFESSIONAL ENGINEER

kpb architects

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REVISION SCHEDULE

#	DESCRIPTION	DATE

JOB NO. - NCI	11101
JOB NO. - kpb	A9061.01
JOB NO. - nbbj	100748.00
DATE	03/01/2011
DRAWN	RDL
REVIEWED	KRH

SHEET NAME
SITE GRADING PLAN

SHEET NO.
C2.03

CONDITION USE PERMIT - DRAFT

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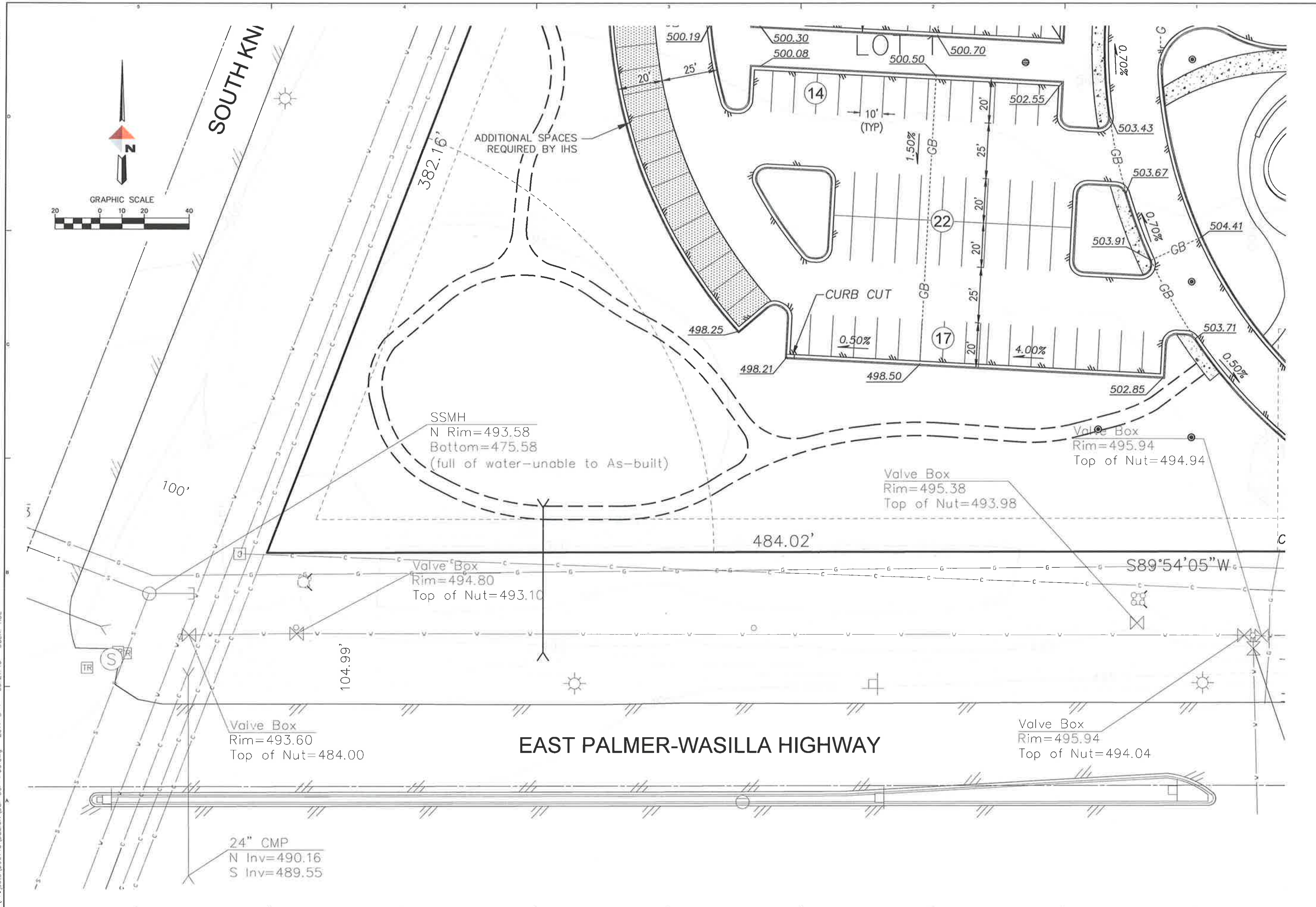

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Kurt R. Hulteen
CE-8825
REGISTERED PROFESSIONAL ENGINEER

kpb architects

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JOB NO. - nbbj	100748.00
DATE	03/01/2011
DRAWN	RDL
REVIEWED	KRH

SHEET NAME
SITE GRADING PLAN

SHEET NO
C2.04

CONDITION USE PERMIT- DRAFT

FULL SIZE 22"x34" - HALF SIZE 11"x17"

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503.43
503.67
0.70%
504.41
GB
GB
503.71
0.50%
2.85
Box
95.94
Nut=494.94
N00°06'33"E
100'x60' Common Driveway Esmt.
Plat No. 2006-204
506.00
506.48
506.48
506.00
506.48
506.48
506.00
107.28
501.25
2.30%
107.89
504.37
0.50%
GB
503.65
15' Utility Easement
Plat No. 2006-204
503.87
500.75
Valve Box
Rim=501.43
Top of Nut=498.43
GB
503.15
CURB CUT
458.77'(R)
S89°54'05"W
942.79'
499.09
GB
499.57
STOP SIGN
"Knik Goose Bay Road"
499.79± ME
500.39± ME
Valve Box
Rim=494.57
Top of Nut=493.37
Valve Box
Rim=497.86
Top of Nut=496.96
4.04
15"CMP
N Inv=496.52
S Inv=497.06

GRAPHIC SCALE
20 0 10 20 40

STATE OF ALASKA
49TH
Kurt R. Hulteen
CE-8825
REGISTERED PROFESSIONAL ENGINEER

kpb architects
nbbj
223 Yale Avenue North, Seattle, WA 98109
(206) 223-5555 Fax (206) 687-2240
NEESER CONSTRUCTION, INC.
2501 Blueberry Road
Anchorage, Alaska 99503
Office (907) 276-1055
Fax (907) 276-6353
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SOUTH CENTRAL FOUNDATION
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REVISION SCHEDULE
#	DESCRIPTION	DATE

JOB NO. - NCI	11101
JOB NO. - kpb	A9061 01
JOB NO. - nbbj	100748 00
DATE	03/01/2011
DRAWN	RDL
REVIEWED	KRH

SHEET NAME
SITE GRADING PLAN

SHEET NO.
C2.05

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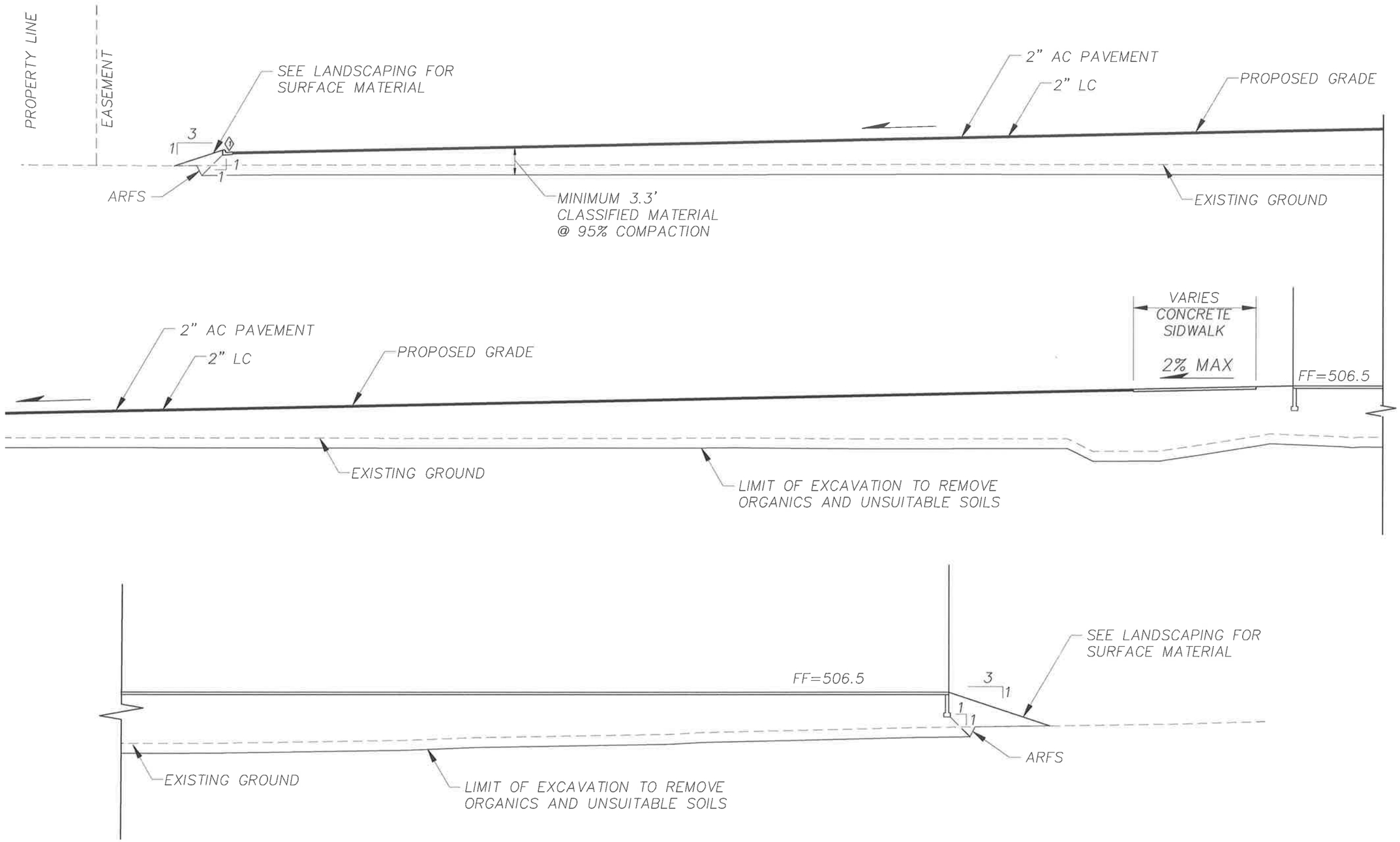
FULL SIZE 22"x34" - HALF SIZE 11"x17"



1
C2.07

WEST TO EAST SITE SECTION PHASE 1

NTS

STATE OF ALASKA 49TH
Kurt R. Hulteen
CE-8825
REGISTERED PROFESSIONAL ENGINEER

kpb architects
nbbj
223 Yale Avenue North, Seattle, WA 98109
(206) 223-9555 Fax (206) 621-2300

NEESER CONSTRUCTION, INC.
Anchorage, Alaska 99503
Fax (907) 276-6503
2501 Blueberry Road
Office (907) 276-1056

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#	DESCRIPTION	DATE

JOB NO. - NCI	11101
JOB NO. - kpb	A9061.01
JOB NO. - nbbj	100748.00
DATE	03/01/2011
DRAWN	RDL
REVIEWED	KRH

SHEET NAME
SITE SECTIONS

SHEET NO.
C2.06

CONDITIONAL USE PERMIT - DRAFT
FULL SIZE 22"x34" - HALF SIZE 11"x17"

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N

GRAPHIC SCALE

100 0 50 100 200

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49TH
Kurt R. Hulteen
CE-8825
REGISTERED PROFESSIONAL ENGINEER

kpb architects

nbbj
223 Yale Avenue North Seattle, WA 98109
(206) 223-5555 Fax (206) 621-2300

NEESER CONSTRUCTION, INC.
2501 Blueberry Road Anchorage, Alaska 99503
Office (907) 276-1056 Fax (907) 276-8533

DOWL HKM
4041 B Street Anchorage, AK 99503
907-562-2000

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REVISION SCHEDULE

#	DESCRIPTION	DATE

JOB NO. - NCI	11101
JOB NO. - kpb	A9061.01
JOB NO. - nbbj	100748.00
DATE	03/01/2011
DRAWN	RDL
REVIEWED	KRH

SHEET NAME
OVERALL SITE UTILITY PLAN

SHEET NO.
C3.00

CONDITION USE PERMIT - DRAFT

FULL SIZE 22"x34" - HALF SIZE 11"x17"

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N

GRAPHIC SCALE
20 0 10 20 40

846.3

GB

Valve Box
Rim=505.48
Top of Nut=503.78

Valve Box
Rim=505.60
Top of Nut=499.00

Valve Box
Rim=505.62
Top of Nut=503.92

15' Utility Easement
Plat No. 2006-204

1228.50'

5'32"E

CONNECT TO EXISTING
12" DIP WATER MAIN
BOP (12")=493.00
BOP (8")=493.33

INSTALL SDCB #4
RIM=503.75
SE INV=499.15

±160 LF 18"
CPEP @0.3%

SD

GB

20

30

15

INSTALL SDCB #2
RIM=503.30
NW INV=498.44
SW INV=498.39

±240 LF 18"
CPEP @0.5%

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49TH
Kurt R. Hulteen
CE-8825
REGISTERED PROFESSIONAL ENGINEER

kpb architects
nbbj
223 Yale Avenue North, Seattle, WA 98109
(206) 223-5555 Fax (206) 621-2300

NEESER CONSTRUCTION, INC.
2501 Blueberry Road
Office (907) 276-1056
Anchorage, Alaska 99503
Fax (907) 276-8533

DOWL HKM
4041 B Street, Anchorage, Alaska 99503
907-562-2000

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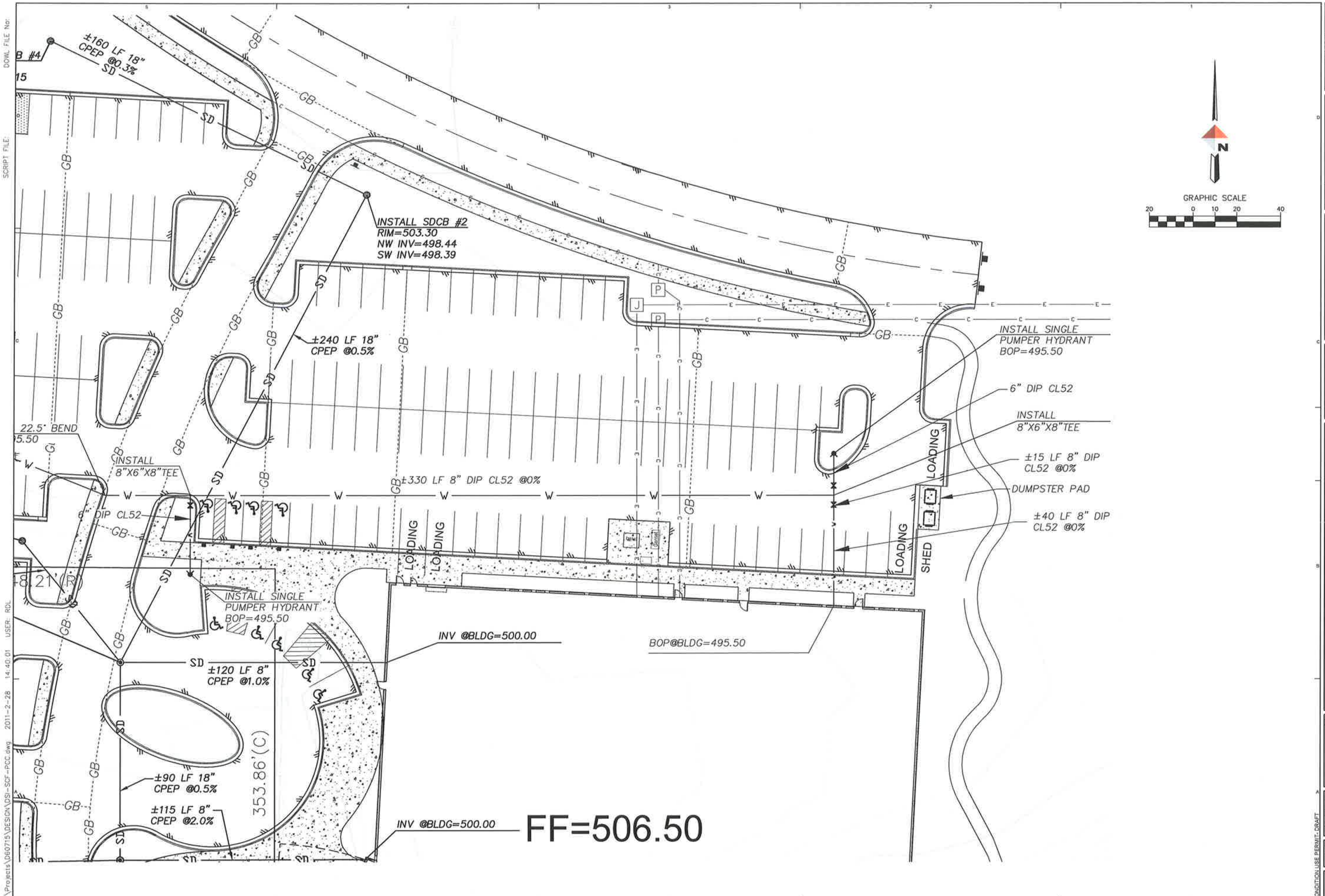
WASILLA, AK

REVISION SCHEDULE
#	DESCRIPTION	DATE

JOB NO. - NCI	11101
JOB NO. - kpb	A9061.01
JOB NO. - nbbj	100748.00
DATE	03/01/2011
DRAWN	RDL
REVIEWED	KRH

SHEET NAME
SITE GRADING PLAN

SHEET NO
C3.01



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kpb architects

nbbj 223 Yale Avenue North Seattle, WA 98109 (206) 223-5555 Fax (206) 621-2300

NEESER CONSTRUCTION, INC. 2501 Blueberry Road Anchorage, Alaska 99503 Office (907) 276-1058 Fax (907) 276-8533

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NATIVE PRIMARY CARE CLINIC
WASILLA, AK

REVISION SCHEDULE

#	DESCRIPTION	DATE

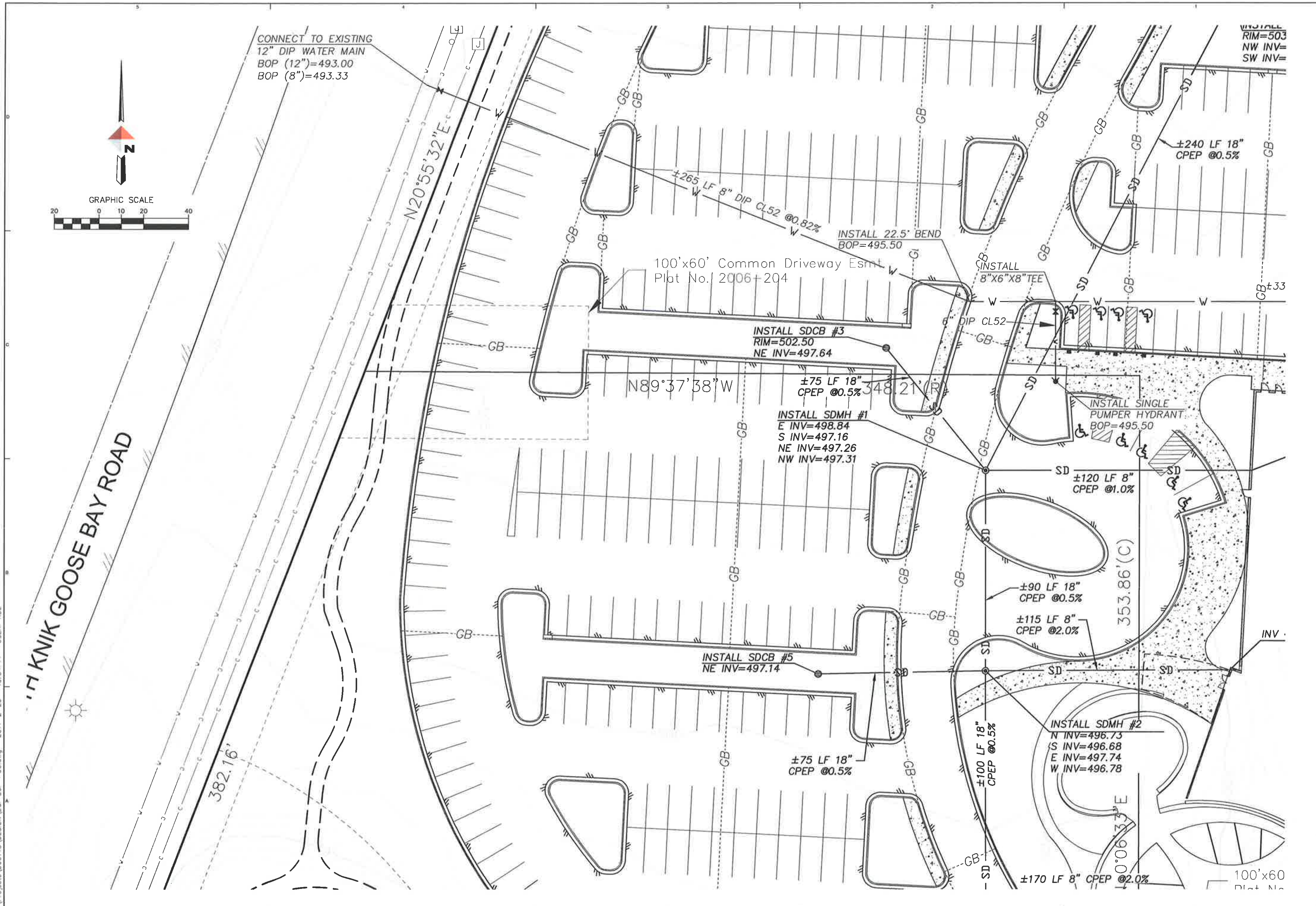
JOB NO. - NCI	11101
JOB NO. - kpb	A9061.01
JOB NO. - nbbj	100748.00
DATE	03/01/2011
DRAWN	RDL
REVIEWED	KRH

SHEET NAME
SITE GRADING PLAN

SHEET NO
C3.02

CONDITION USE PERMIT- DRAFT

FULL SIZE 22"x34" - HALF SIZE 11"x17"



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CE-8825
REGISTERED PROFESSIONAL ENGINEER

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WASILLA, AK

REVISION SCHEDULE

#	DESCRIPTION	DATE

JOB NO. - NCI	11101
JOB NO. - kpb	A9061.01
JOB NO. - nbbj	100748.00
DATE	03/01/2011
DRAWN	RDL
REVIEWED	KRH

SHEET NAME
SITE GRADING PLAN

SHEET NO.
C3.03

CONDITION USE PERMIT - DRAFT

FULL SIZE 22"x34" - HALF SIZE 11"x17"

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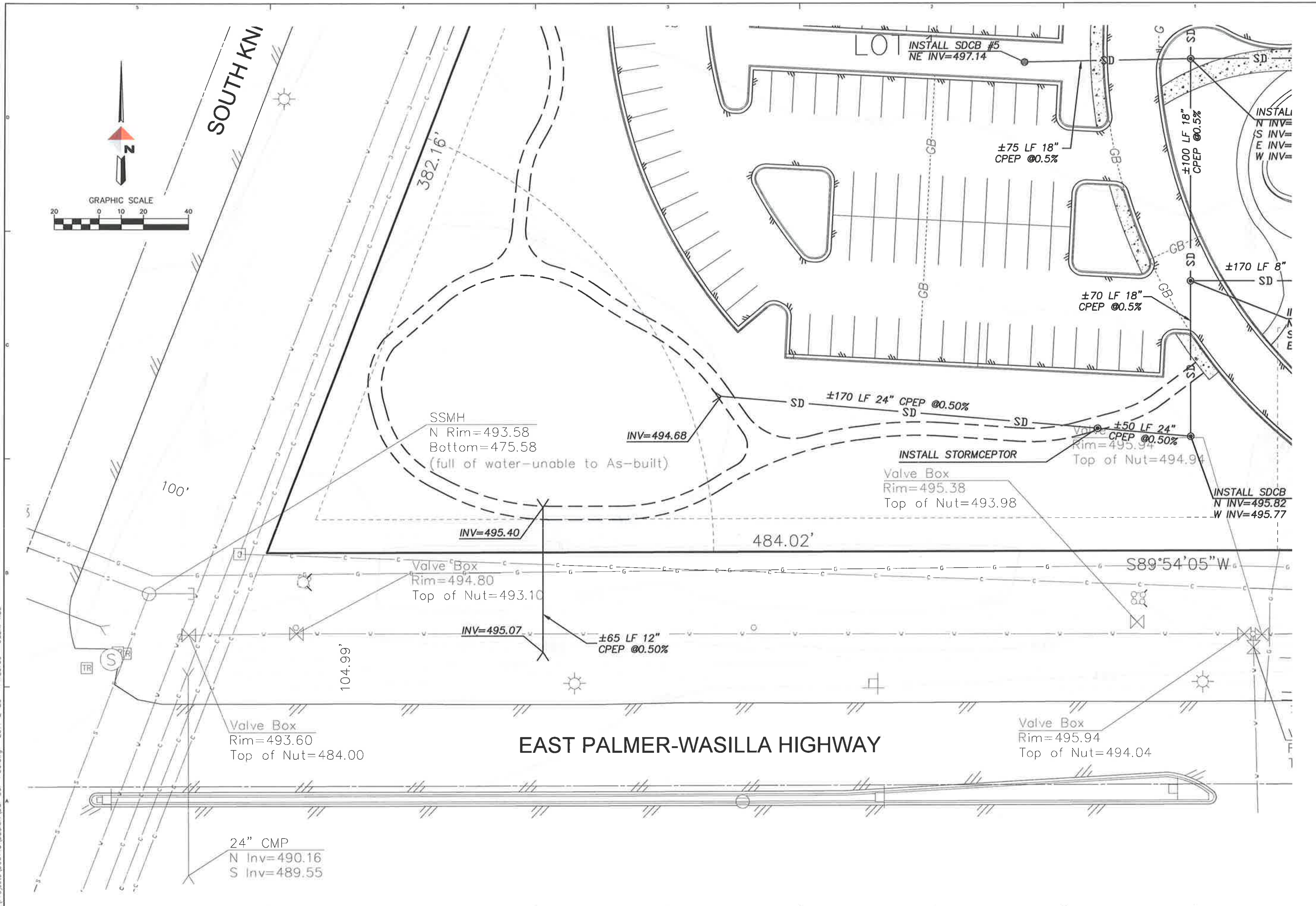

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NATIVE PRIMARY CARE CLINIC
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REVISION SCHEDULE

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JOB NO. - kpb	A9061.01
JOB NO. - nbbj	100748.00
DATE	03/01/2011
DRAWN	RDL
REVIEWED	KRH

SHEET NAME
SITE GRADING PLAN

SHEET NO.
C3.04

CONDITION USE PERMIT - DRAFT

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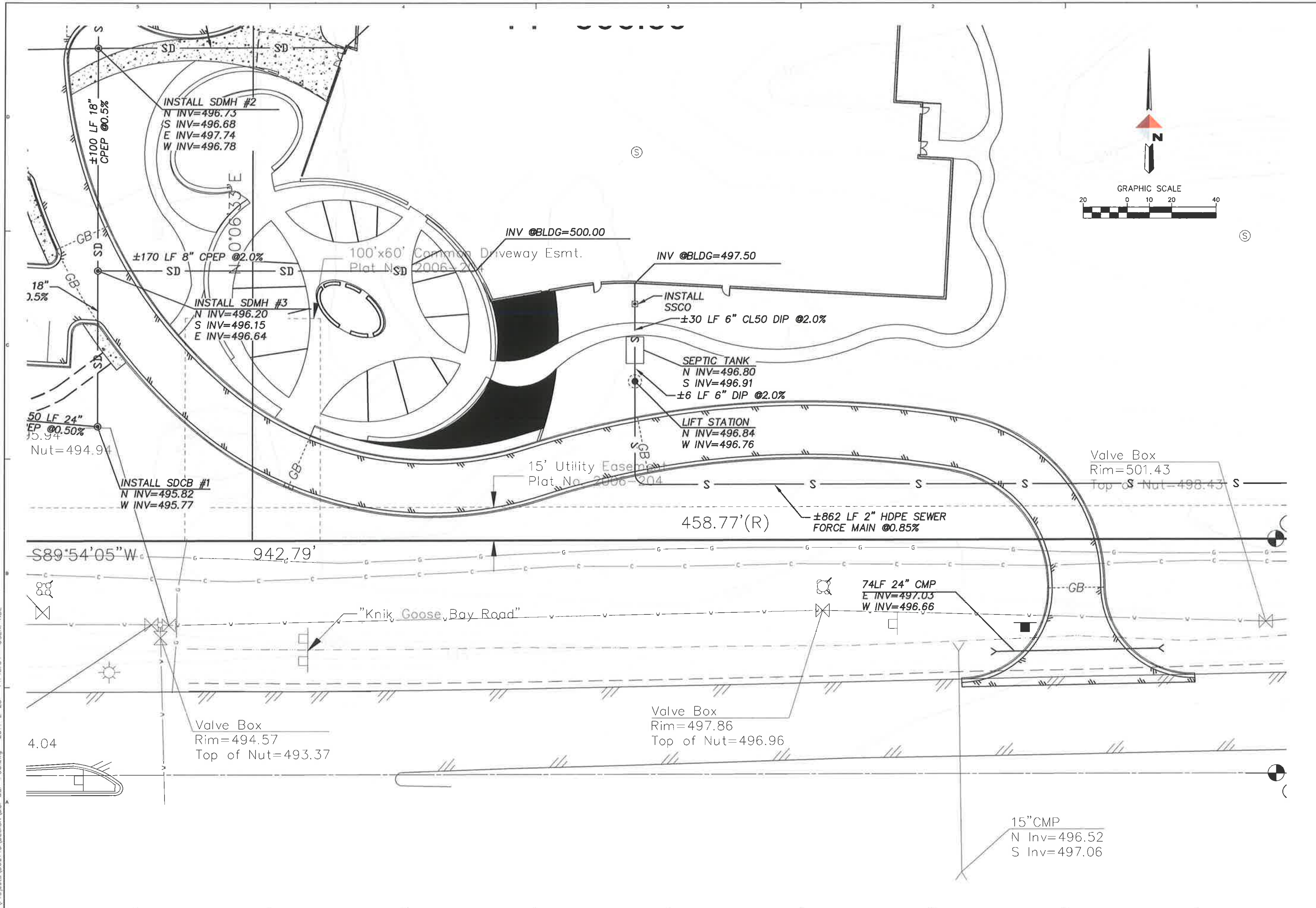

CONDITION USE PERMIT- DRAFT

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REVISION SCHEDULE

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JOB NO. - kpb	A9061.01
JOB NO. - nbbj	100748.00
DATE	03/01/2011
DRAWN	RDL
REVIEWED	KRH

SHEET NAME
SITE GRADING PLAN

SHEET NO
C3.05

FULL SIZE: 22"x34" - HALF SIZE: 11"x17"

DOWL FILE No

SCRIPT FILE:

GRAPHIC SCALE

20 0 10 20 40

CONNECT TO EXISTING
16" SANITARY SEWER
INV=±497.81 (16")
INV=498.97 (2")

Valve Box
Rim=506.27
Top of Nut=505.67

Valve Box
Rim=503.90
(Full of Mud)

Valve Box
Rim=502.94
Top of Nut=502.87

±862 LF 2" HDPE SEWER
FORCE MAIN @0.85%

'R=1568.20'(R)
Δ=20°13'58"
L=553.78'

Low Wire Elevation=529.07'

104.99'

703

702

P:\Projects\060715\DESIGN\05-SCF-PCC.dwg 2011-2-28 13:34:51 USER: RDL

STATE OF ALASKA 49TH
Kurt R. Hulteen
CE-8825
REGISTERED PROFESSIONAL ENGINEER

kpb architects

nbbj
223 Yale Avenue North Seattle, WA 98109
(206) 223-5555 Fax (206) 621-2300

NEESER CONSTRUCTION, INC.
2501 Blueberry Road
Office (907) 276-1056
Anchorage, Alaska 99503
Fax (907) 276-6533

DOWL HKM
4041 B STREET ANCHORAGE, ALASKA 99503
907-562-2000

SOUTH CENTRAL FOUNDATION
NATIVE PRIMARY CARE CLINIC
WASILLA, AK

REVISION SCHEDULE		
#	DESCRIPTION	DATE

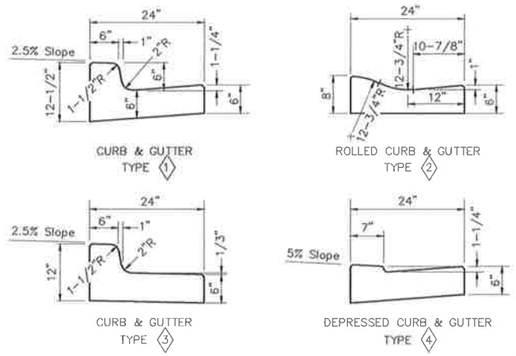
JOB NO. - NCI	11101
JOB NO. - kpb	A9061.01
JOB NO. - nbbj	100748.00
DATE	03/01/2011
DRAWN	RDL
REVIEWED	KRH

SHEET NAME
SITE GRADING PLAN

SHEET NO.
C3.06

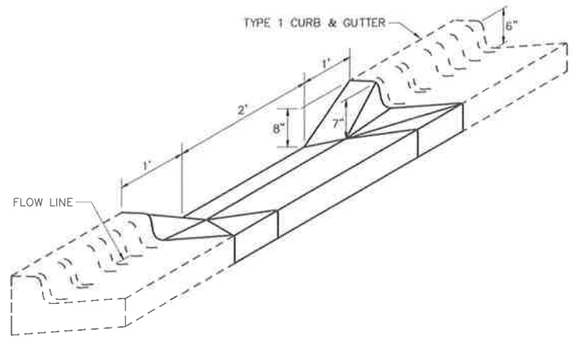
CONDITION USE PERMIT - DRAFT

FULL SIZE: 22"x34" - HALF SIZE: 11"x17"

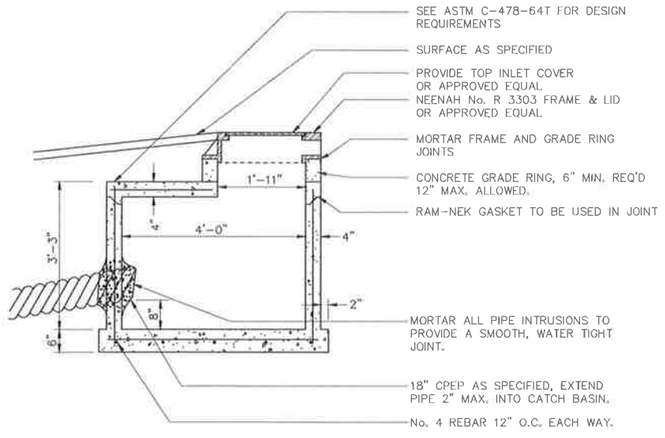


NOTE:
BOTH FRONT AND BACK EDGES OF THE CURB & GUTTER SHALL BE TROWELED TO A RADIUS OF ONE-HALF (1/2) INCH.

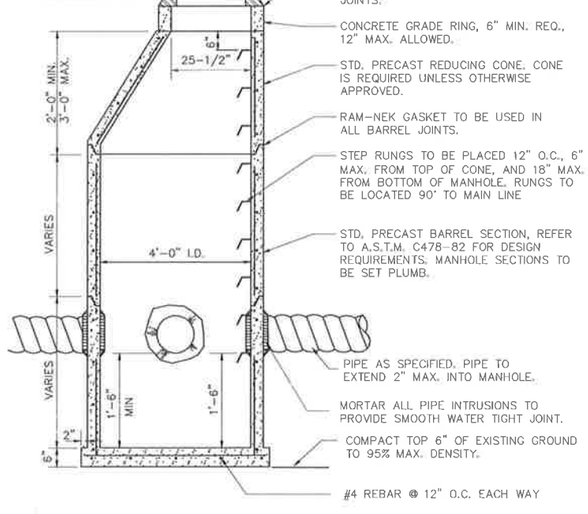
1 C4.01 CURB DETAIL
NTS



2 C4.01 DRAINAGE CURB CUT
NTS



3 C4.01 STORM DRAIN CATCH BASIN
NTS



4 C4.01 STORM DRAIN DETAIL (TYPE 1)
NTS

STATE OF ALASKA 49TH
Kurt R. Hulteen
CE-8825
REGISTERED PROFESSIONAL ENGINEER

kpb architects
nbbj
223 Yale Avenue North, Seattle WA 98109
(206) 223-5555 Fax (206) 621-2230

NEESER CONSTRUCTION, INC.
Anchorage, Alaska 99503
Fax (907) 276-6553
2501 Blueberry Road
Office (907) 276-1568

DOWL HKM
4041 B STREET ANCHORAGE, ALASKA 99503
907-562-2000

SOUTH CENTRAL FOUNDATION
NATIVE PRIMARY CARE CLINIC
WASILLA, AK

REVISION SCHEDULE

#	DESCRIPTION	DATE

JOB NO. - NCI	11101
JOB NO. - kpb	A9061.01
JOB NO. - nbbj	100748.00
DATE	03/01/2011
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REVIEWED	KRH

SHEET NAME
DETAILS

SHEET NO.
C4.01

CONDITIONAL USE PERMIT - DRAFT
FULL SIZE 22"x34" - HALF SIZE 11"x17"

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SCRIPT FILE:
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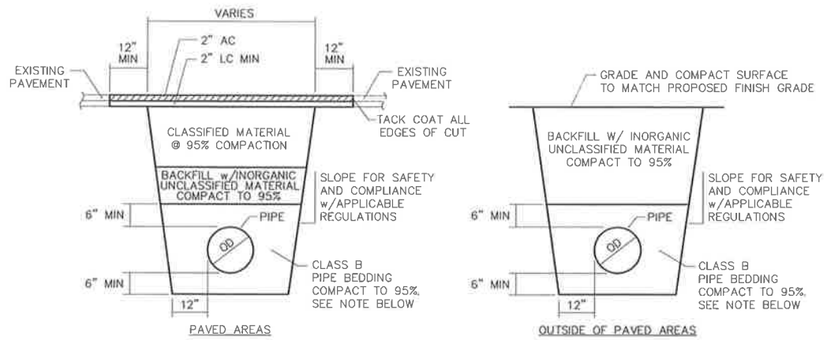
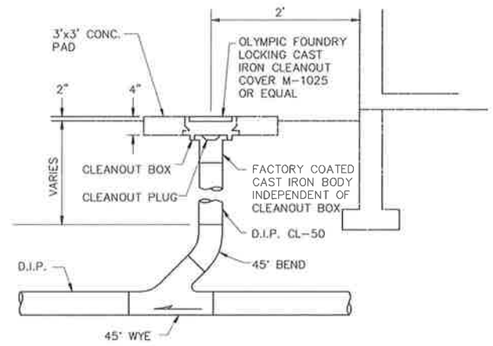


NOTES:

1. PIPE BEDDING TO SPRING LINE ONLY FOR ALL DUCTILE IRON PIPE.
2. BEDDING MAY BE NATIVE MATERIAL APPROVED BY ENGINEER.

1 C4.02 TYPICAL UTILITY TRENCH SECTIONS

NTS



2 C4.02 SEWER SERVICE CLEANOUT

NTS

STATE OF ALASKA 49TH
Kurt R. Hulteen CE-8825
REGISTERED PROFESSIONAL ENGINEER

kpb architects
nbbj
223 Yale Avenue North, Seattle WA 98109
(206) 223-5555 Fax (206) 621-2300

NEESER CONSTRUCTION, INC.
2501 Blueberry Road Office (907) 276-1056
Anchorage, Alaska 99503 Fax (907) 276-6533

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#	DESCRIPTION	DATE

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JOB NO. - kpb	A9061.01
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DATE	03/01/2011
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SHEET NAME: DETAILS

SHEET NO.: C4.02

CONDITION USE PERMIT- DRAFT

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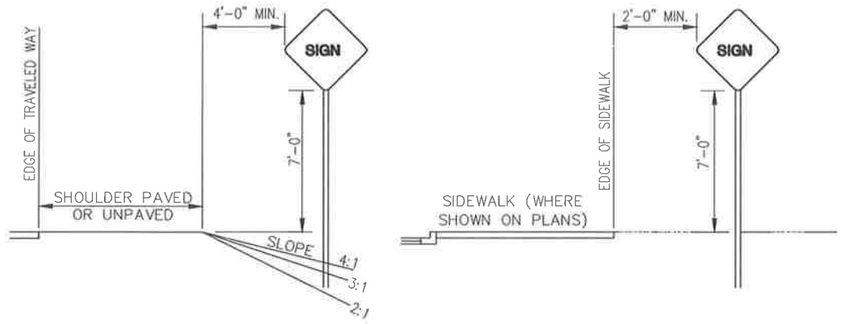
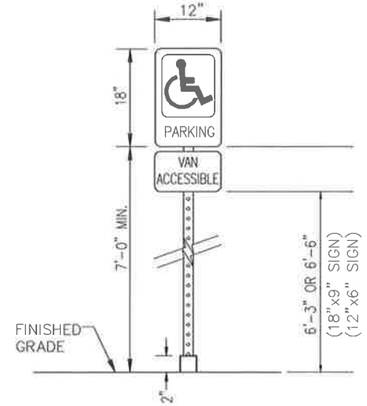
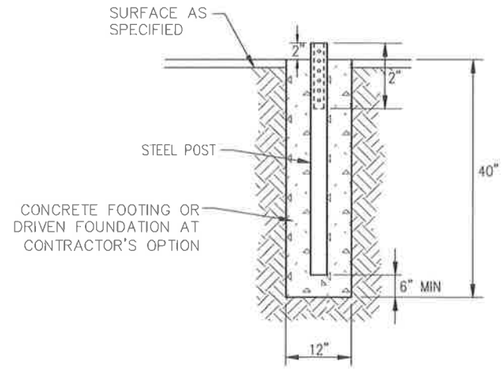


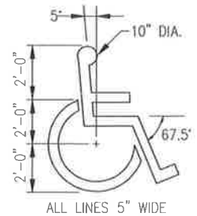
1 / C4.03 SIGN LOCATION DETAIL
NTS



2 / C4.03 HANDICAP PARKING SIGN DETAIL
NTS

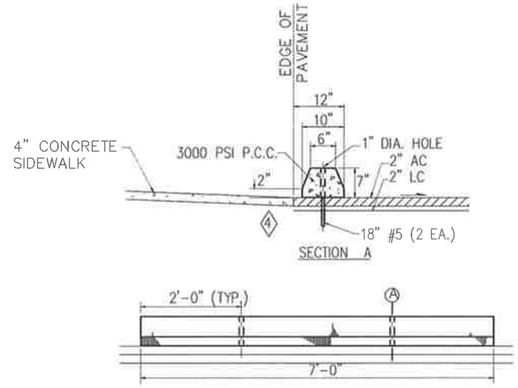


3 / C4.03 SIGN FOUNDATION DETAIL
NTS



PROVIDE PAINTED WHEELCHAIR SYMBOL AT EACH DESIGNATED HANDICAP PARKING STALL. CENTER SYMBOL IN STALL.

4 / C4.03 WHEELCHAIR SYMBOL DETAIL
NTS



5 / C4.03 BUMPER DETAIL (AT ALL HANDICAP PARKING STALLS)
NTS

STATE OF ALASKA 49TH
Kurt R. Hulteen
CE-8825
REGISTERED PROFESSIONAL ENGINEER

kpb architects
nbbj
223 Yale Avenue North, Seattle, WA 98109
(206) 223-5555 Fax (206) 621-2300

NEESER CONSTRUCTION, INC.
2501 Blueberry Road
Office (907) 276-1858
Anchorage, Alaska 99503
Fax (907) 276-6533

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JOB NO - kpb	A9061.01
JOB NO - nbbj	100748.00
DATE	03/01/2011
DRAWN	RDL
REVIEWED	KRH

SHEET NAME: DETAILS

SHEET NO: C4.03

CONDITION USE PERMIT - DRAFT

FULL SIZE: 22"x34" - HALF SIZE: 11"x17"

DOWL FILE No:
SCRIPT FILE:
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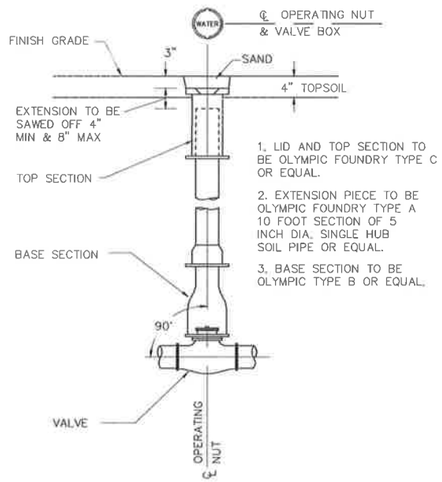
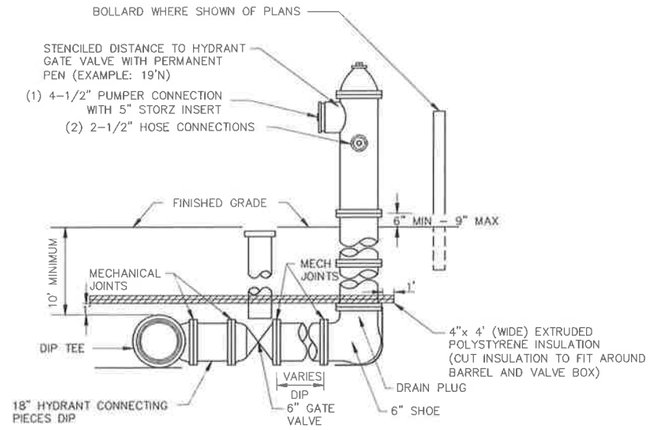


1 C4.04 VALVE BOX

NTS



HYDRANT INSTALLATION NOTES:

1. HYDRANT BARREL MUST BE INSTALLED PLUMB AND THE LEG MUST BE INSTALLED LEVEL
2. DRAIN PLUG TO BE INSTALLED BY CONTRACTOR
3. TYPE IIA BACKFILL MATERIAL TO BE PLACED AROUND HYDRANT BARREL
4. ALL HYDRANTS SHALL BE PAINTED RED
5. AUXILIARY GATE VALVE BOX TO BE INSTALLED ACCORDING TO DETAIL FOR TYPICAL VALVE BOX
6. RESTRAIN ALL PIPE AND MECHANICAL JOINT FITTINGS FROM THE MAIN TO THE HYDRANT SHOE BY USE OF "MEG-A-LUG" AND/OR "FIELD-LOK" GASKETS
7. ALLOW NO BENDS IN HYDRANT LEG

2 C4.04 SINGLE PUMPER HYDRANT ASSEMBLY

NTS

STATE OF ALASKA 49TH
Kurt R. Hulteen CE-8825 REGISTERED PROFESSIONAL ENGINEER
kpb architects
nbbj 223 Yale Avenue North Seattle, WA 98109 (206) 223-5555 Fax (206) 621-2300
NEESER CONSTRUCTION, INC. 2501 Blueberry Road Anchorage, Alaska 99503 Office (907) 276-1056 Fax (907) 276-8533
DOWL HKM 4041 B Street, Anchorage, AK 99503 907-562-2000

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DATE	03/01/2011
DRAWN	RDL
REVIEWED	KRH

SHEET NAME: DETAILS

SHEET NO.: C4.04

CONDITION USE PERMIT- DRAFT

FULL SIZE: 22"X34" - HALF SIZE: 11"X17"

DOWL FILE No:

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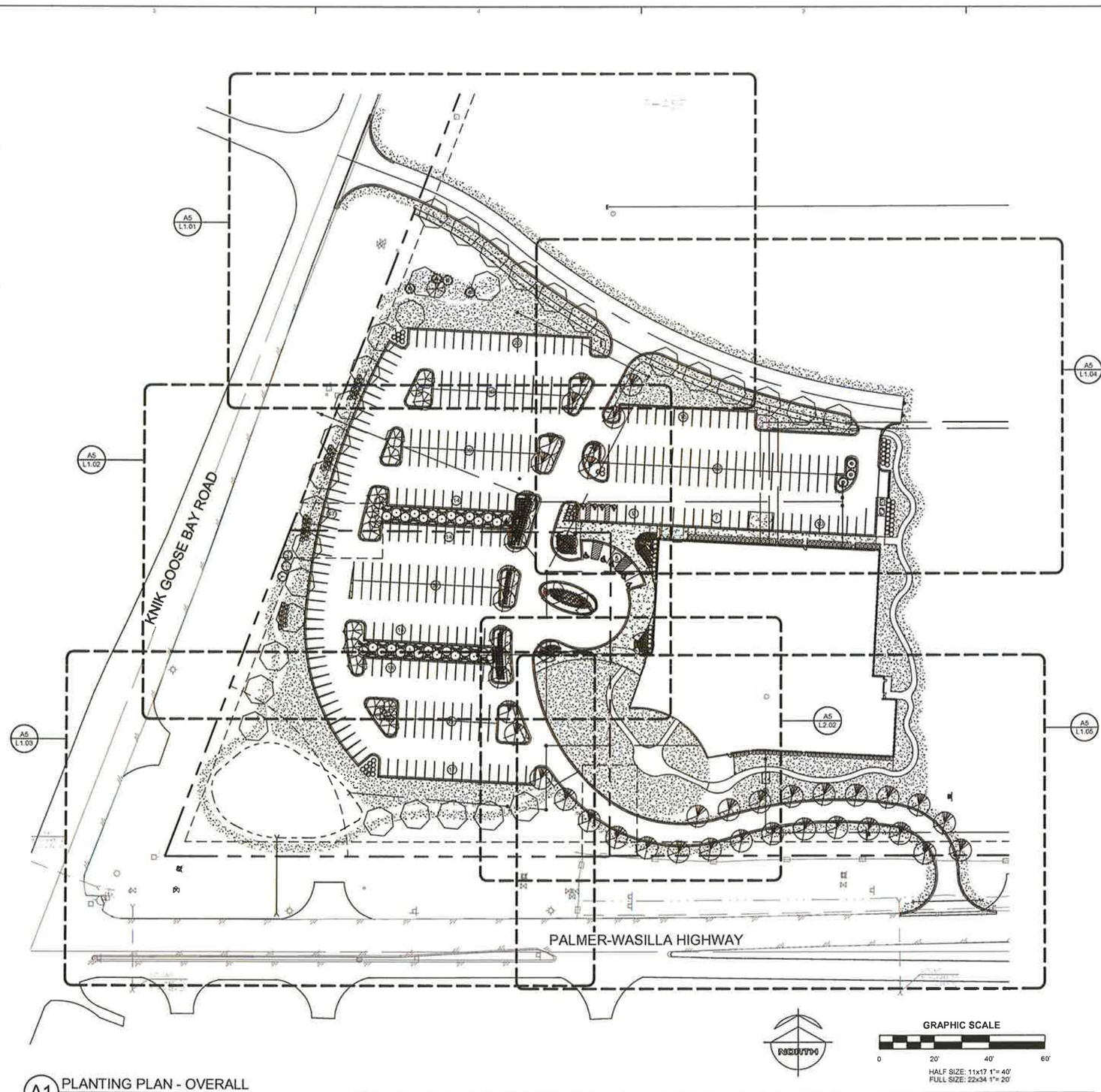
APPENDIX D

Landscape Plans



PLANT SCHEDULE

SYMBOL	KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	NOTES
TREES						
		32	BETULA PAPYRIFERA	ALASKA PAPER BIRCH	2.5" CAL	15' MAX HT
		6	PYRUS USSURIENSIS 'MORDAK'	PRAIRIE GEM FLOWERING PEAR	1.5" CAL	B&B
		87	QUERCUS MACROCARPA	BUR OAK	2.25" CAL	B&B
		7	BETULA PAPYRIFERA	ALASKA PAPER BIRCH - MULTI-STEM	1" - 2" CAL	B&B
		12	BETULA PAPYRIFERA	ALASKA PAPER BIRCH - MULTI-STEM	1.5" - 2.5" CAL	B&B
		7	LARIX SIBIRICA	SIBERIAN LARCH	6-7' HT	B&B
		31	PICEA PUNGENS	GREEN SPRUCE	7'-8' HT	B&B
SHRUBS						
		51	PRUNUS TRILOBA 'MULTIPLEX'	FLOWERING ALMOND	36" HT	#5 CONT
		61	SYRINGA PATULA 'MISS KIM'	MISS KIM MANCHURIAN LILAC	36" HT	#5 CONT
		73	SORBARIA SORBIFOLIA	URAL FALSE SPIREA	30" HT	#5 CONT
		169	SPIREA STEVENII	ALASKA SPIREA	15" HT	#5 CONT
		75	SPIREA x BUMALDA 'GOLDFLAME'	GOLDFLAME SPIREA	15" HT	#2 CONT
		60	SPIREA x BUMALDA 'LITTLE PRINCESS'	LITTLE PINCESS SPIREA	15" HT	#2 CONT
		10	CORNUS SERICEA	RED-TWIG DOGWOOD	24" HT	#2 CONT
		41	ROSA RUGOSA 'HANSA'	HANSA RUGOSA ROSE	3 CANES	#2 CONT (MAGENTA)
		40	ROSA RUGOSA 'HENRY HUDSON'	HENRY HUDSON RUGOSA ROSE	3 CANES	#2 CONT (WHITE)
		55	ROSA RUGOSA 'RUGELDA'	RUGELDA RUGOSA ROSE	3 CANES	#2 CONT (YELLOW)

GENERAL NOTES

1. CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT ABOUT SITE CONDITIONS THAT REQUIRE
2. MODIFICATION OF PLANT LAYOUT PRIOR TO INSTALLATION OF AFFECTED LANDSCAPE MATERIAL
3. CONTRACTOR SHALL RESTORE ALL DISTURBED AREAS WITH 4" TOPSOIL AND SEED.
4. ALL PLANTING BEDS ADJACENT TO LAWN AREAS TO BE SEPARATED BY LANDSCAPE EDGING.

GRAPHIC SCALE
0 20' 40' 60'
HALF SIZE: 11x17 1"= 40'
FULL SIZE: 22x34 1"= 20'

A1 PLANTING PLAN - OVERALL
1" = 60'-0"

STAMP

kpb architects
nbbj
NESSER CONSTRUCTION, INC.
2501 Blueberry Road
Office (907) 276-1056
Anchorage, Alaska 99503
Fax (907) 276-6533
CONSULTANT LOGO / INFO

Southcentral Foundation
Valley Native Primary Care Center
Wasilla, Alaska

REVISION SCHEDULE		
#	DESCRIPTION	DATE

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JOB NO. - kpb	A9061.01
JOB NO. - nbbj	100748.00
DATE	03/01/2011
DRAWN	ERL
REVIEWED	Checker

SHEET NAME
PLANTING PLAN - OVERALL

SHEET NO.
L1.00

CONDITIONAL USE PERMIT APPLICATION

FULL SIZE: 22"x34" - HALF SIZE: 11"x17"

GRAPHIC SCALE

0 20' 40' 60'

HALF SIZE: 11x17 1"= 40'
FULL SIZE: 22x34 1"= 20'

NORTH

KNIK GOOSE BAY ROAD

20

30

ROCK CENTER S
PHASE I

A5 PLANTING PLAN - ENLARGED AREA 1
1" = 20'-0"

STAMP

kpb architects

nbbj

NEESER CONSTRUCTION, INC.
2501 Blueberry Road
Office (907) 276-1056
Anchorage, Alaska 99503
Fax (907) 276-6533

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Valley Native Primary Care Center
Wasilla, Alaska

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#	DESCRIPTION	DATE

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JOB NO. - kpb	A0061.01
JOB NO. - nbbj	100748.00
DATE	03/01/2011
DRAWN	ERL
REVIEWED	Checker

SHEET NAME
PLANTING PLAN - ENLARGED AREA 1

SHEET NO.
L1.01

CONDITIONAL USE PERMIT APPLICATION

FULL SIZE: 22"x34" - HALF SIZE: 11"x17"

GRAPHIC SCALE

0 20' 40' 60'

HALF SIZE: 11x17 1"= 40'
FULL SIZE: 22x34 1"= 20'

NORTH

KNIK GOOSE BAY ROAD

30

30

14

14

47

9

5

32

14

14

A5 PLANTING PLAN - ENLARGED AREA 2
1" = 20'-0"

STAMP

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nbbj

NEESER CONSTRUCTION, INC.
2501 Blueberry Road
Office: (907) 276-1505
Anchorage, Alaska 99503
Fax (907) 276-5533

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Southcentral Foundation
Valley Native Primary Care Center
Wasilla, Alaska

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JOB NO. - NCI	11101
JOB NO. - kpb	A9061.01
JOB NO. - nbbj	100748.00
DATE	03/01/2011
DRAWN	ERL
REVIEWED	Checker

SHEET NAME
PLANTING PLAN - ENLARGED AREA 2

SHEET NO.
L1.02

CONDITIONAL USE PERMIT APPLICATION

FULL SIZE: 22"x34" - HALF SIZE: 11"x17"

GRAPHIC SCALE

0 20' 40' 60'

HALF SIZE: 11x17 1"= 40'
FULL SIZE: 22x34 1"= 20'

NORTH

KNIK GOOSE BAY ROAD

14

22

17

PALMER-WASILLA HIGHWAY

24" CYP
@ cy=490.16

A5 PLANTING PLAN - ENLARGED AREA 3
1" = 20'-0"

CONDITIONAL USE PERMIT APPLICATION

STAMP

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nbbj

NESSER CONSTRUCTION, INC.
2001 Blackberry Road
Office (907) 276-1658
Anchorage, Alaska 99503
Fax (907) 276-6633

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Valley Native Primary Care Center
Wasilla, Alaska

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JOB NO. - kpb	A0001.01
JOB NO. - nbbj	100748.00
DATE	03/01/2011
DRAWN	ERL
REVIEWED	Checker

SHEET NAME
PLANTING PLAN - ENLARGED AREA 3

SHEET NO.
L1.03

FULL SIZE: 22"x34" - HALF SIZE: 11"x17"

GRAPHIC SCALE

0 20' 40' 60'

HALF SIZE 11x17 1" = 40'
FULL SIZE 22x34 1" = 20'

NORTH

15

52

9

7

10

5

A5 PLANTING PLAN - ENLARGED AREA 4
1" = 20'-0"

STAMP

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nbbj

NEESER CONSTRUCTION, INC.
2501 Blueberry Road Anchorage, Alaska 99503
Office: (907) 276-5555 Fax: (907) 276-5353

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REVISION SCHEDULE		
#	DESCRIPTION	DATE

CONDITIONAL USE PERMIT APPLICATION

JOB NO. - NCI	11101
JOB NO. - kpb	A9061.01
JOB NO. - nbbj	10074B.00
DATE	03/01/2011
DRAWN	ERL
REVIEWED	Checker

SHEET NAME
PLANTING PLAN - ENLARGED AREA 4

SHEET NO.
L1.04

FULL SIZE: 22"x34" - HALF SIZE: 11"x17"

PALMER-WASILLA HIGHWAY

GRAPHIC SCALE

0' 20' 40' 60'

HALF SIZE: 11x17 1"= 40'
FULL SIZE: 22x34 1"= 20'

NORTH

A5 PLANTING PLAN - ENLARGED AREA 5
1" = 20'-0"

STAMP

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nbbj

NEESER CONSTRUCTION, INC.
2501 Blueberry Road
Office: (907) 276-1056
Anchorage, Alaska 99503
Fax: (907) 276-6533

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Valley Native Primary Care Center
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REVISION SCHEDULE		
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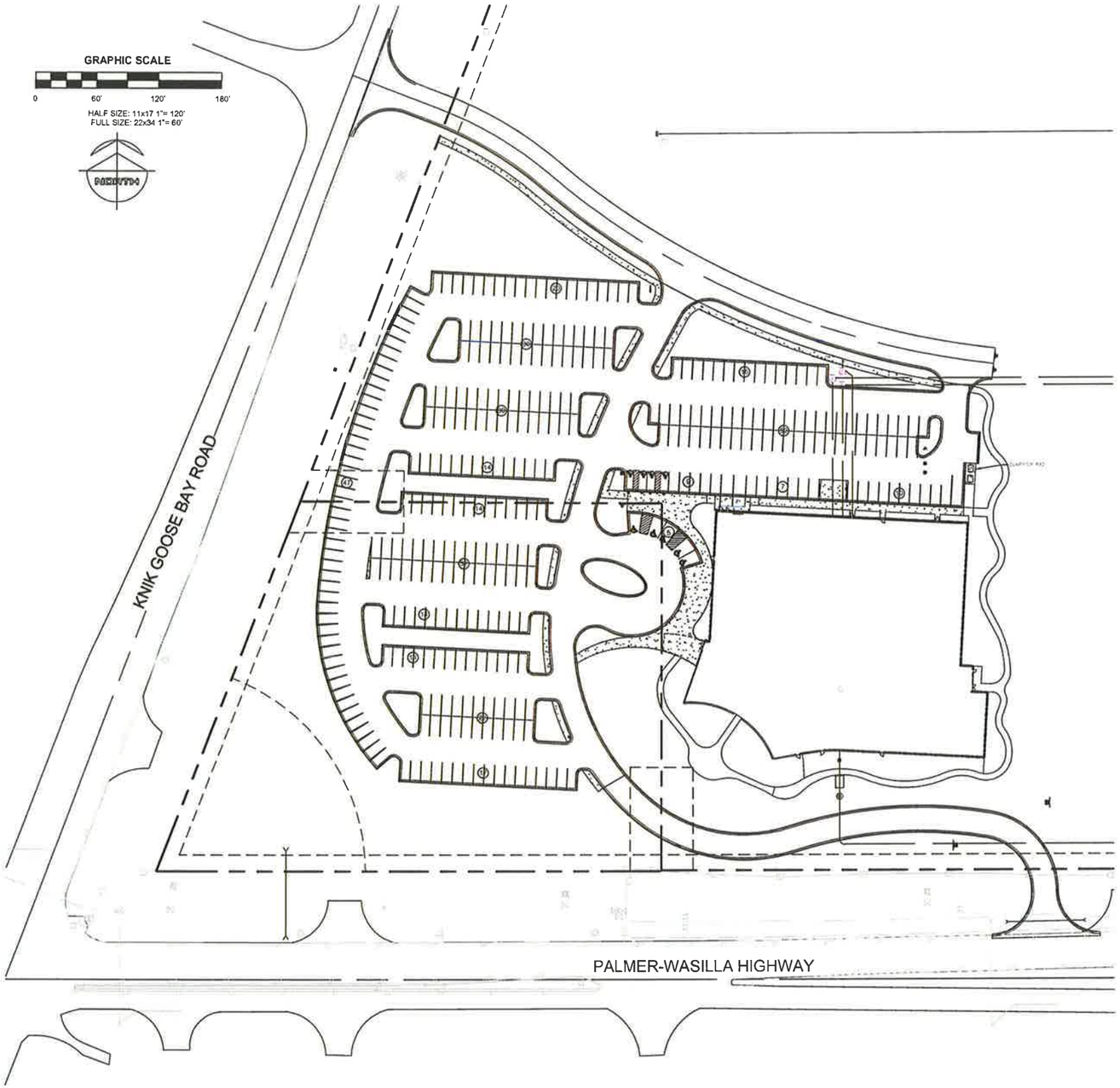
JOB NO. - kpb	A9061.01
JOB NO. - nbbj	100749.00
DATE	03/01/2011
DRAWN	ERL
REVIEWED	Checker

SHEET NAME
PLANTING PLAN - ENLARGED AREA 5

SHEET NO.
L1.05

CONDITIONAL USE PERMIT APPLICATION

FULL SIZE: 22"x34" - HALF SIZE: 11"x17"



1 SITE PLAN - BASE BID
1" = 60'-0"

STAMP

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nbbj

NEESER CONSTRUCTION, INC.
2501 Blackberry Road
Office (907) 276-1555
Anchorage, Alaska 99503
Fax (907) 276-6533

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REVISION SCHEDULE		
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CONDITIONAL USE PERMIT APPLICATION

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JOB NO. - kpb	A0061.01
JOB NO. - nbbj	100748.00
DATE	03/01/2011
DRAWN	Author
REVIEWED	Checker

SHEET NAME
SITE PLAN - BASE BID

SHEET NO.
L2.00

FULL SIZE: 22"x34" - HALF SIZE: 11"x17"

PHASE I

GRAPHIC SCALE

0 60' 120' 180'

HALF SIZE: 11x17 1"= 120'
FULL SIZE: 22x34 1"= 60'

1 SITE PLAN - BETTERMENTS
1" = 60'-0"

STAMP

kpb architects

nbbj

NEESER CONSTRUCTION, INC.
2301 Blueberry Road
Anchorage, Alaska 99503
Office (907) 276-1555
Fax (907) 276-6533

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Valley Native Primary Care Center
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REVISION SCHEDULE		
#	DESCRIPTION	DATE

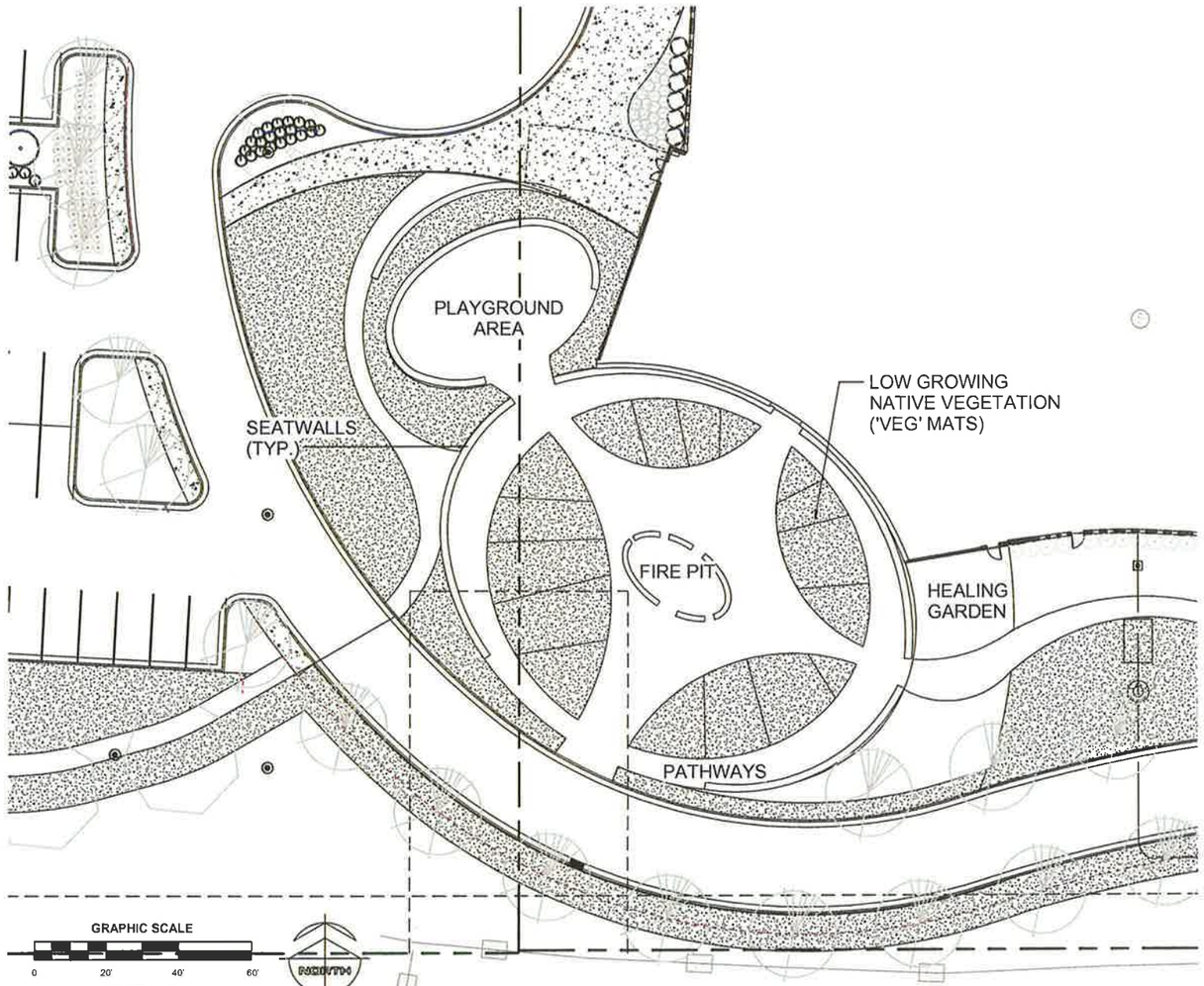
JOB NO. - NCI	11101
JOB NO. - kpb	A9061.01
JOB NO. - nbbj	100746.00
DATE	03/01/2011
DRAWN	Author
REVIEWED	Checker

SHEET NAME
SITE PLAN - BETTERMENTS

SHEET NO.
L2.01

CONDITIONAL USE PERMIT APPLICATION

FULL SIZE: 22"x34" - HALF SIZE: 11"x17"



A5 LANDSCAPE BETTERMENT
1" = 20'-0"

STAMP

kpb architects

nbbj

NESSER CONSTRUCTION, INC.
2501 Blueberry Road
Office (907) 276-1058
Anchorage, Alaska 99503
Fax (907) 276-6533

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JOB NO. - nbbj	100748.00
DATE:	03/01/2011
DRAWN	ERL
REVIEWED	Checker

SHEET NAME
PLANTING PLAN - BETTERMENTS

SHEET NO.
L2.02

FULL SIZE: 22"x34" - HALF SIZE: 11"x17"

1 INTERIOR LANDSCAPE/SNOW STORAGE AREA CALCULATIONS
1" = 60'-0"

15% INTERIOR LANDSCAPING CALCULATION:

TOTAL AREA CONSISTING OF PAVED PARKING AND DRIVELANES: 154,477 s.f.
CALCULATION: 154,477 x 0.15 = 23,171 s.f.
TOTAL AREA CONSISTING OF PARKING LOT LANDSCAPE: 24,508 s.f.

SNOW STORAGE CALCULATION:

TOTAL NUMBER OF PARKING SPACES: 352
CALCULATION: 352 x 25s.f. = 8,800 s.f.
TOTAL AREA OF SNOW STORAGE SHOWN: 12,800 s.f.

LEGEND

- SNOW STORAGE
- INTERIOR LANDSCAPE
- PERIMETER LANDSCAPE

STAMP

kpb architects
nbbj
NEESER CONSTRUCTION, INC.
2501 Blueberry Road
Anchorage, Alaska 99503
Office (907) 276-1598
Fax (907) 276-6333
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Valley Native Primary Care Center
Wasilla, Alaska

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JOB NO. - kpb	A0061.01
JOB NO. - nbbj	100748.00
DATE	03/01/2011
DRAWN	ERL
REVIEWED	Checker

SHEET NAME
SITE PLAN - Snow Storage, Interior Landscape & Perimeter Landscape

SHEET NO.
L2.03

FULL SIZE: 22"x34" - HALF SIZE: 11"x17"

APPENDIX E

Lighting Cut Sheets

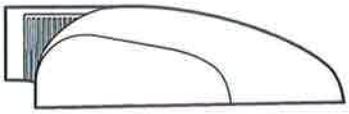
LITHONIA LIGHTING®

Catalog Number	
Notes	Type

AERIS™

Architectural Area & Roadway Luminaires

AS2



METAL HALIDE: 200W-400W
HIGH PRESSURE SODIUM: 200W-400W
10' to 35' Mounting

FEATURES & SPECIFICATIONS

INTENDED USE — Streets, walkways, parking lots and surrounding areas.

CONSTRUCTION — Rugged, die-cast, single-piece aluminum housing with nominal wall thickness of 1/8". Die-cast door frame has impact-resistant, tempered, glass lens (3/16" thick). Door frame is fully gasketed with one-piece tubular silicone. **US. Patent No. D447,590. Canada Patent No. 94324.**

FINISH — Standard finish is dark bronze polyester powder finish. Additional architectural colors are available; see www.lithonia.com/archcolors.

OPTICAL SYSTEM — Anodized segmented reflectors for superior uniformity and control. Reflectors attach with tool-less fasteners and are rotatable and interchangeable. Five full cutoff distributions available: Type II (roadway), Type III (asymmetric), Type IV (forward throw), Type IV (wide, forward throw) and Type V (symmetric square).

ELECTRICAL SYSTEM — Ballast: Constant-wattage autotransformer ballast standard. Super CWA pulse-start ballast required 200W, 320W and 350W (SCWA option). Ballast is copper-wound and 100% factory-tested. All ballasts are mounted on a removable power tray with tool-less latch and have positive locking disconnect plugs. Super CWA Pulse Start ballasts, 88% efficient and EISA legislation compliant, are required for 200-400W (must order SCWA option) for US shipments only. CSA, NOM or INTL required for probe start shipments outside of the US.

Socket: Porcelain, horizontally-mounted, mogul-base socket with copper alloy, nickel-plated screw shell and center contact.

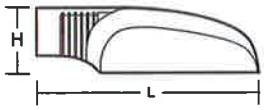
INSTALLATION — Integral arm for pole or wall mounting. Optional mountings available.

LISTING — UL Listed (standard). CSA Certified (see Options). UL listed for 25°C ambient and wet locations. IP65 Rated.

NOTE: Specifications subject to change without notice.

Specifications

EPA: 1.2 ft²
Length: 28.6 (72.6)
Width: 17.1 (43.4)
Depth: 8.3 (21.0)
*Weight: 40 lbs (18.2 kg)
*Weight as configured in example below.



All dimensions are inches (centimeters) unless otherwise specified.

ORDERING INFORMATION

For shortest lead times, configure product using **standard options (shown in bold).**

Example: AS2 250M SR3 TB SCWA SPA LPI

AS2	400S	SR4W	480			QRS TD ASW2VG W/LU[14]	DSPJ	LPI
Series	Wattage[1]		Voltage	Mounting	Ballast	Options	Finish[13]	Lamp[14]
AS2	Metal halide		120	**SPA Square pole mounting**	(blank) **Magnetic ballast**	Shipped installed in fixture	(blank) **Dark bronze**	**LPI Lamp included**
	200M[2]		208[5]	**RPA Round pole mounting**	CWI Constant wattage isolated	SF Single fuse 120, 277, 347V	**DBL Black**	**L/LP Less lamp**
	250M		240[6]	WBA Wall bracket (up or down)[9]	Pulse Start Ⓔ	DF Double fuse 208, 240, 480V	DGC Charcoal gray	
	320M[2]		277	ASKMA2 Mast arm adapter[10]		PER NEMA twist-lock receptacle only (no photocontrol)	**DMB Medium bronze**	
	350M[2,3]		347	DCAS2 Decorative curved arm, square pole only[10]	SCWA Super CWA pulse start ballast	EC Emergency circuit[11]	**DNA Natural aluminum**	
	400M[3]		480[5]	DCAS2R Decorative curved arm, round pole only[10]	NOTE: For shipments to U.S. territories, SCWA must be specified to comply with EISA.	QRS Quartz restrike system[11]	**DWH White**	
	High pressure sodium[4]		TB[6]			HS Houseside shield (SR2, SR3, SR4W)	CR Corrosion resistance	
	200S		23050HZ[8]			CSA CSA Certified		
	250S					NOM NOM Certified		
	400S					INTL Available for MH probe start shipping outside the U.S.		
						Shipped separately[12]	DSPJ-grey	
						PE1 NEMA twist-lock PE (120, 208, 240V)		
						PE3 NEMA twist-lock PE (347V)		
						PE4 NEMA twist-lock PE (480V)		
						PE7 NEMA twist-lock PE (277V)		
						VG Vandal guard		
						SC Shorting cap		
						ASW2VG-wire guard		

Distribution

- SR2 Segmented type II roadway
- **SR3 Segmented type III asymmetric**
- **SR4SC Segmented type IV forward throw, sharp cutoff**
- **SR4W Segmented type IV wide, forward throw**
- SR5S Segmented type V square

NOTES:
1. Lower wattages available. Consult factory.
2. Must be ordered with SCWA.
3. Must use reduced jacket lamp.
4. Not available with SCWA.
5. Must specify CWI for use in Canada.
6. Optional multi-tap ballast (120, 208, 240, 277V) (120, 277, 347V in Canada).
8. Consult factory for available wattage.[3]
9. Mounted in lens-up orientation, fixture is damp location listed.
10. Shipped separately.
11. Maximum allowance wattage lamp included.
12. May be ordered as an accessory.
13. Additional architectural colors available; see www.lithonia.com/archcolors.
14. Must be specified.

Note: Aeris™ has a unique drilling template that requires an Aeris drilling pattern to be specified when ordering poles. See example below.
Example: SSA 20 4C **DM19AS** DDB

Aeris Drilling Pattern

DM19AS	1 at 90 degrees
DM28AS	2 at 180 degrees
DM29AS	2 at 90 degrees
DM39AS	3 at 90 degrees
DM49AS	4 at 90 degrees
DM32AS	3 at 120 degrees (round poles only)

NIGHTTIME FRIENDLY™
Consistent with LEED® goals & Green Globes™ criteria for light pollution reduction

Accessories: Tenon Mounting Slipfitter

Order as separate catalog number. Must be used with round pole mounting (RPA).

	Number of fixtures					
Tenon O.D.	One	Two@180°	Two@90°	Three@120°	Three@90°	Four@90°
2-3/8"	AST20-190	AST20-280	AST20-290	AST20-320	AST20-390	AST20-490
2-7/8"	AST25-190	AST25-280	AST25-290	AST25-320	AST25-390	AST25-490
4"	AST35-190	AST35-280	AST35-290	AST35-320	AST35-390	AST35-490

AS2VG Vandal guard

APPENDIX F

Signage and Wayfinding

EXTERIOR IDENTIFICATION AND WAYFINDING SIGNAGE

BUILDING IDENTIFICATION SIGNAGE - WEST ELEVATION

INTERIOR IDENTIFICATION AND WAYFINDING SIGNAGE

SITE IDENTIFICATION AND WAYFINDING SIGNAGE

APPENDIX G

Architectural Plans

1 LEVEL 1 OVERALL FLOOR PLAN
1/16" = 1'-0"

KEY PLAN

STAMP

kpb architects

nbbj

NESSER CONSTRUCTION, INC.
3501 Minnesota Blvd. Anchorage, Alaska 99503
Office (907) 276-1056 Fax (907) 276-4633

CONSULTANT LOGO / INFO

Southcentral Foundation
Valley Native Primary Care Center
Wasilla, Alaska

REVISION SCHEDULE		
#	DESCRIPTION	DATE

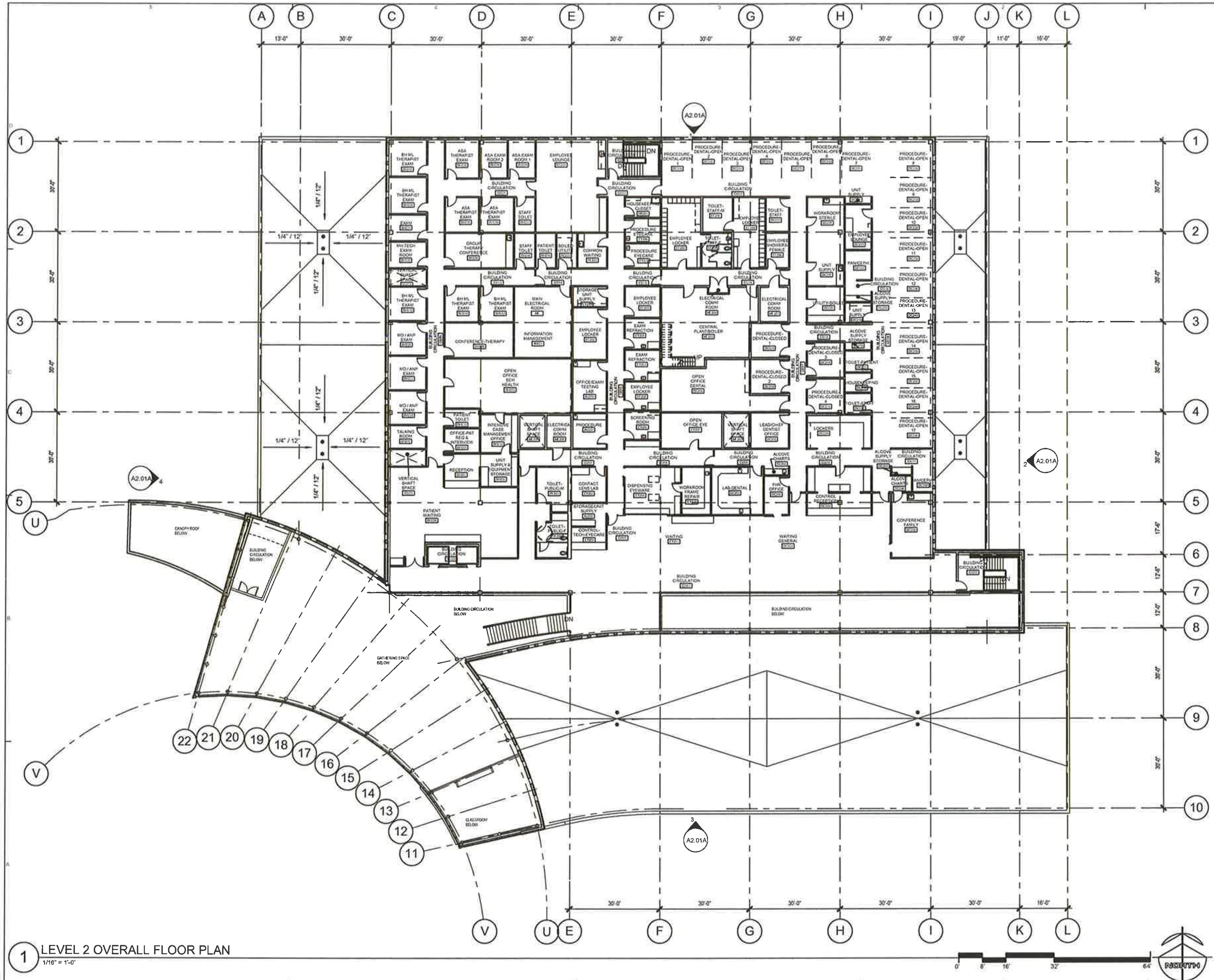
JOB NO. - NCI	11101
JOB NO. - kpb	A0061.01
JOB NO. - nbbj	100748.00
DATE	03/01/2011
DRAWN	Author
REVIEWED	Checker

SHEET NAME
LEVEL 1 - OVERALL FLOOR PLAN

SHEET NO.
A1.10

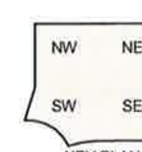
CONDITIONAL USE PERMIT APPLICATION

FULL SIZE: 22"x34" - HALF SIZE: 11"x17"



1 LEVEL 2 OVERALL FLOOR PLAN

1/16" = 1'-0"



KEY PLAN

STAMP

kpb architects

nbbj

NEESER CONSTRUCTION, INC.

2501 Blueberry Road
Office (907) 276-1058

Anchorage, Alaska 99503
Fax (907) 276-8533

CONSULTANT LOGO / INFO

Southcentral Foundation
Valley Native Primary Care Center
Wasilla, Alaska

REVISION SCHEDULE

#	DESCRIPTION	DATE

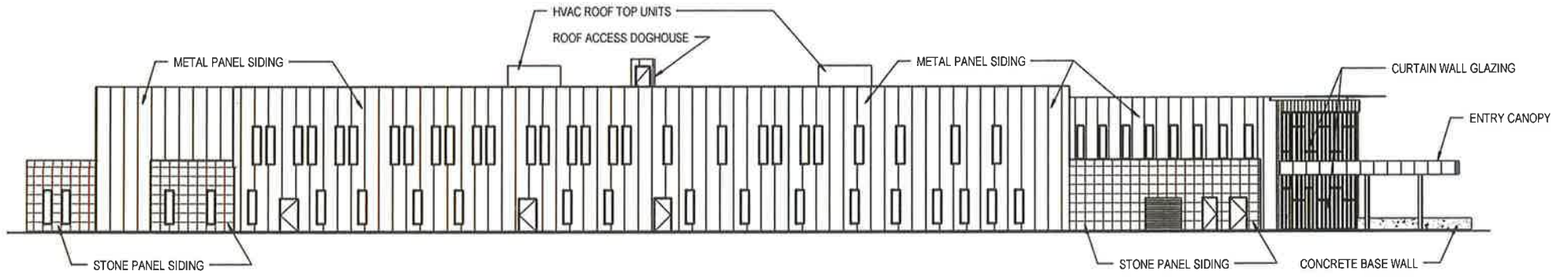
JOB NO. - NCI	11101
JOB NO. - kpb	A9061 01
JOB NO. - nbbj	100748 00
DATE	03/01/2011
DRAWN	Author
REVIEWED	Checker

SHEET NAME
LEVEL 2 - OVERALL FLOOR PLAN

SHEET NO.
A1.20

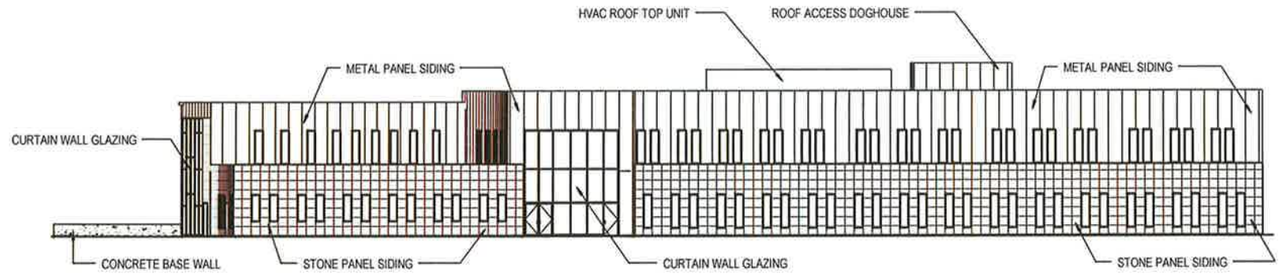
CONDITIONAL USE PERMIT APPLICATION

FULL SIZE: 22"x34" - HALF SIZE: 11"x17"



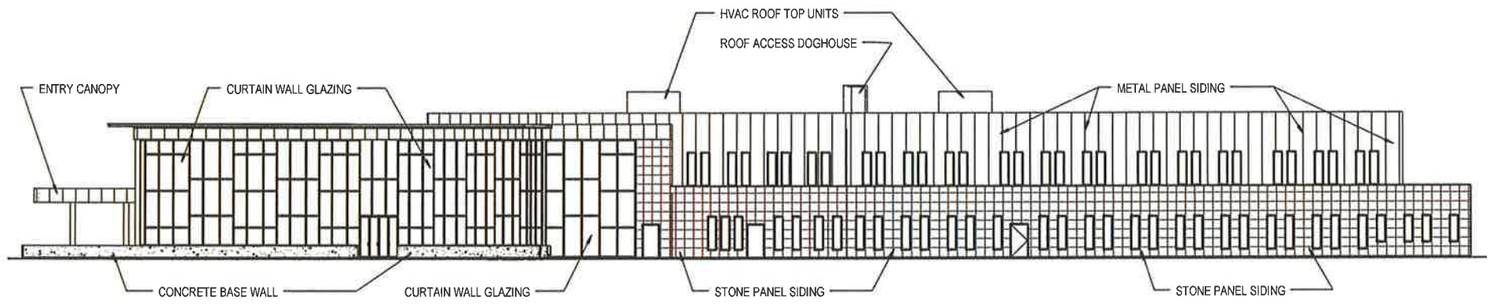
1 NORTH ELEVATION
1/16" = 1'-0"

0' 8' 16' 32' 64'



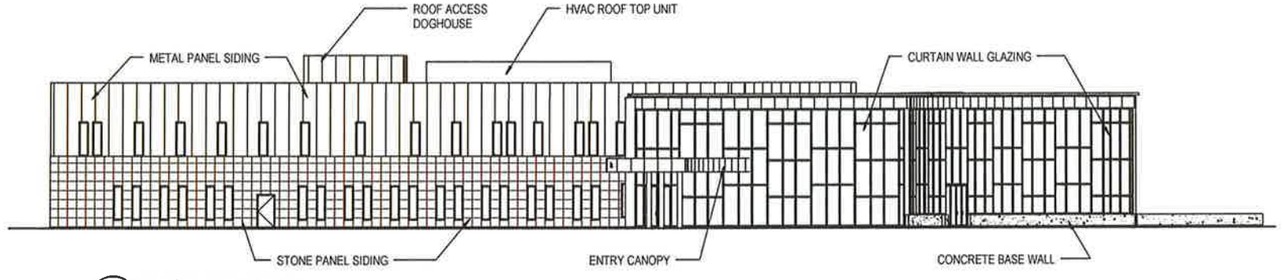
2 EAST ELEVATION
1/16" = 1'-0"

0' 8' 16' 32' 64'



3 SOUTH ELEVATION
1/16" = 1'-0"

0' 8' 16' 32' 64'



4 WEST ELEVATION
1/16" = 1'-0"

0' 8' 16' 32' 64'

STAMP

kpb architects

nbbj

NEESER CONSTRUCTION, INC.
2261 Blueberry Road
Anchorage, Alaska 99503
Office (907)770-6505
Fax (907)770-6553

CONSULTANT LOGO / INFO

Southcentral Foundation
Valley Native Primary Care Center
Wasilla, Alaska

REVISION SCHEDULE		
#	DESCRIPTION	DATE

CONDITIONAL USE PERMIT APPLICATION

JOB NO. - NCI	11101
JOB NO. - kpb	A9061.01
JOB NO. - nbbj	100746.00
DATE	03/01/2011
DRAWN	ghm
REVIEWED	Checker

SHEET NAME
EXTERIOR ELEVATIONS

SHEET NO.
A2.01A

FULL SIZE: 22"x34" - HALF SIZE: 11"x17"