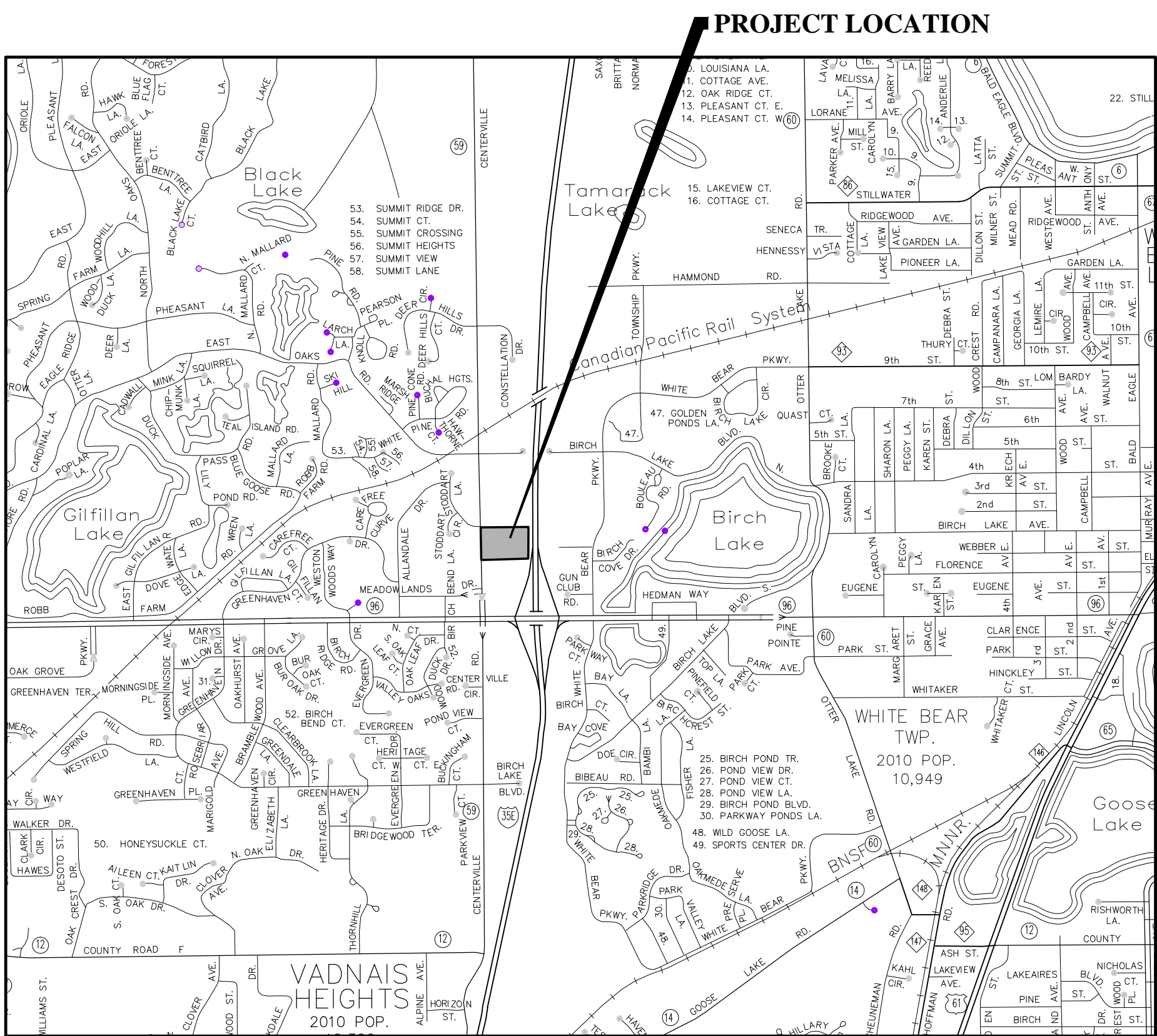
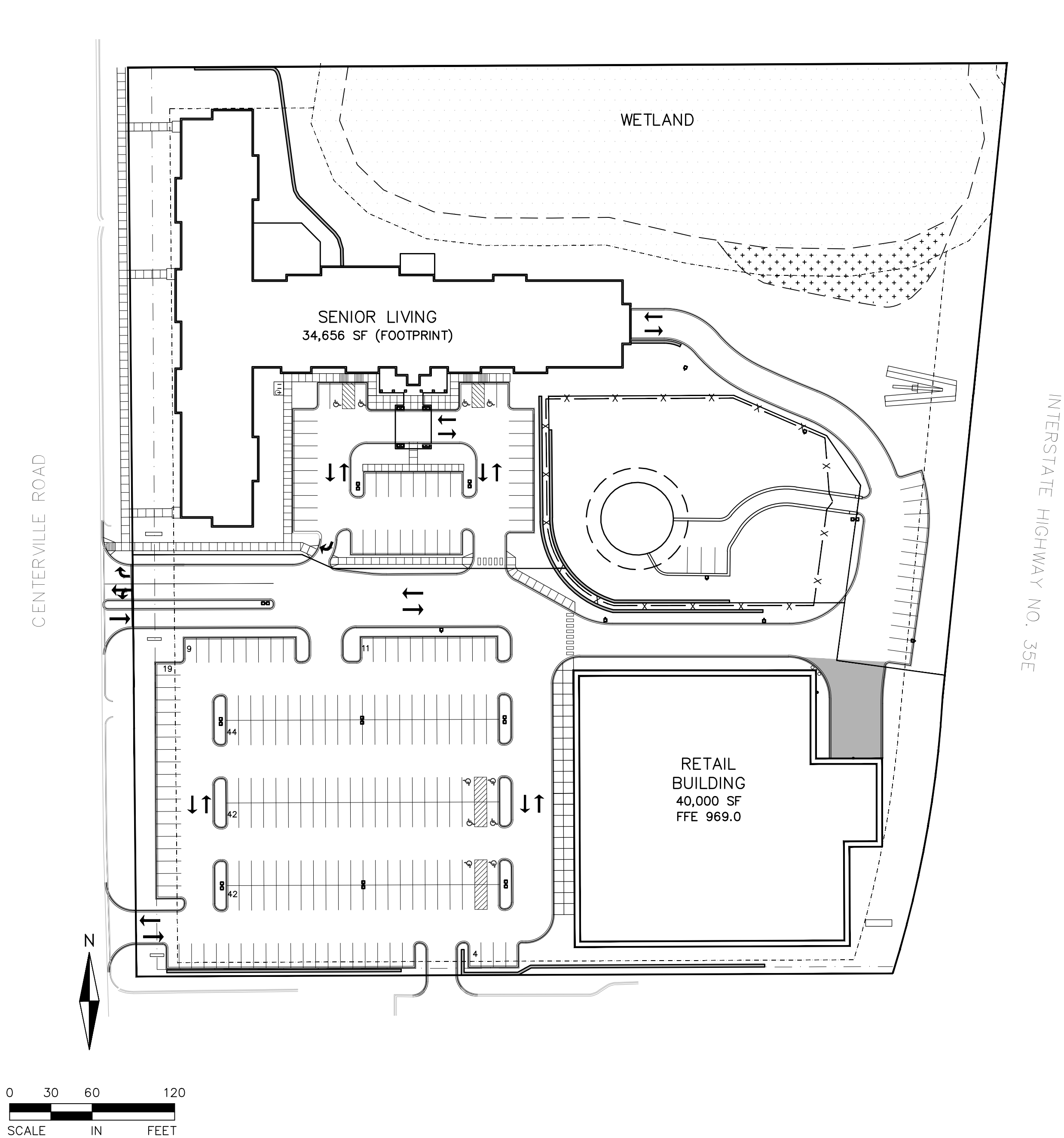


TOWER CROSSINGS

WHITE BEAR LAKE, MINNESOTA



SHEET INDEX	NO.
COVER SHEET	1
EXISTING CONDITIONS SURVEY	2
DEMOLITION AND RELOCATION PLAN	3
PRELIMINARY PLAT	4
SITE PLAN	5
GRADING AND DRAINAGE PLAN	6
EROSION AND SEDIMENT CONTROL PLAN	7
EROSION AND SEDIMENT CONTROL NOTES AND DETAILS	8
STORM SEWER AND UTILITY PLAN	9
TREE PLAN	10
LANDSCAPE PLAN	11
PHOTOMETRIC PLAN	12
PHOTOMETRIC DETAILS	13

DEVELOPER

DIVISION 25. LLC
4350 BAKER ROAD
SUITE 400
MINNETONKA, MN 55345
PH: 952-294-1253

CONSULTANT

ALLIANT ENGINEERING, INC.
233 PARK AVENUE SOUTH
SUITE 300
MINNEAPOLIS, MN 55415
PH: 612-758-3080
FX: 612-758-3099

ENGINEER

CLARK WICKLUND
LICENSE NO. 40922
EM: cwicklund@alliant-inc.com

SURVEYOR

DENNIS B. OLMSTEAD
LICENSE NO. 18425
EM: dolmstead@alliant-inc.com

LANDSCAPE ARCHITECT

MALEAH MILLER
LICENSE NO. 19507
EM: mmiller@alliant-inc.com

FOR REVIEW ONLY
PRELIMINARY
NOT FOR CONSTRUCTION



233 Park Ave S, Ste 300
Minneapolis, MN 55415
612.758.3080 MAIN
612.758.3099 FAX
www.alliant-inc.com

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA

CLARK WICKLUND, PE
7-22-15
DATE LICENSE NO.

PROJECT TEAM
DESIGNED: CJW
DRAWN: PLN
PROJECT NO: 215-0033

QA/QC REVIEW
BY DATE

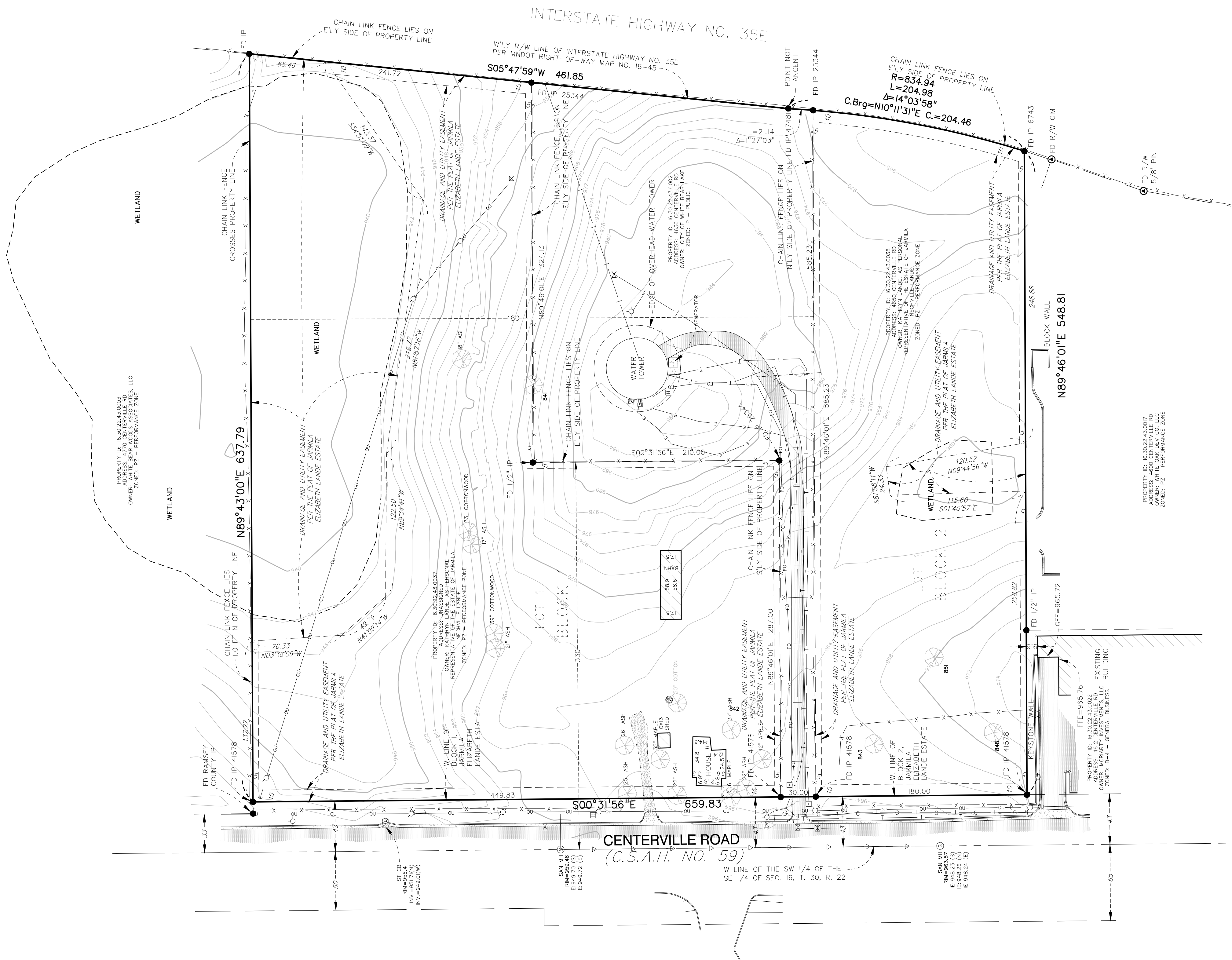
DATE	ISSUE	DATE	ISSUE
6-29-15	PRE PUD SUBMITTAL		
7-22-15	CITY COMMENTS		

TOWER CROSSINGS

PRELIMINARY PUD AND PLAT

COVER SHEET

E 1/4 COR. OF
SEC. 16, T. 30, R. 22
(TD CM)



LEGAL DESCRIPTION

Lot 1, Block 1, JARMILA ELIZABETH LANDE ESTATE, Ramsey County, Minnesota;

AND

Lot 1, Block 2, JARMILA ELIZABETH LANDE ESTATE, Ramsey County, Minnesota.

AND

The North 240 feet of the South 420 feet of the North Half of the Southwest Quarter of the Southeast Quarter of Section 16, Township 30, Range 22 lying West of Interstate Highway 35-E except the West 330 feet of the North 210 feet.

NOTES

- This survey was prepared from legal descriptions supplied and our in house records and may not depict all easements, appurtenances or encumbrances affecting the property.
- The locations of underground utilities are depicted based on observed evidence at the time of survey. We did not investigate or call Gopher One Call to locate underground utilities. Contact Gopher State One Call (<http://www.gopherstateonecall.org/>) or call (651) 454-0002 to verify critical utilities prior to construction or design.
- The orientation of this bearing system is based on the Ramsey County coordinate system NAD83.
- All distances are in feet.
- The area of the above described property is as follows:
 - Lot 1, Block 1 - 210,200 sq. ft. or 4.826 acres.
 - Lot 1, Block 2 - 102,682 sq. ft. or 2.357 acres.
 - City Parcel - 83,216 sq. ft. or 1.910 acres.
 - Total Area - 396,098
- The building(s) and exterior dimensions of the outside wall at ground level are shown on the survey. It may not be the foundation wall.
- The vertical datum is based on NAVD83. The originating bench marks are 6281 M and 6281 N, both referenced from the MnDOT Geodetic Database.

Bench Mark 1: TNH located approximately 20 ft easterly of water tower has an elevation of 984.74 feet.

Bench Mark 2: Rim of sanitary manhole located in Centerville Rd approximately 74 ft northerly of SW property corner has an elevation of 963.57 feet.
- Field work was completed on 5/12/15.

LEGEND

- | | |
|-----------------------|-----------------------------|
| ● IRON MONUMENT FOUND | — G — GAS |
| ○ ROW MONUMENT FOUND | — T — UNDERGROUND TELEPHONE |
| ⊙ CIM MONUMENT FOUND | — W — WATERMAIN |
| ⊗ WATER VALVE | — OU — OVERHEAD UTILITY |
| ⊕ HYDRANT | — FO — FIBER OPTIC |
| ⊞ TELEPHONE BOX | — X — FENCES |
| ⊠ ELECTRIC BOX | ▨ CONCRETE |
| ⊡ LIGHT POLE | ▩ BITUMINOUS |
| ⊢ SANITARY MANHOLE | ▤ GRAVEL |
| ⊣ WELL | |
| ⊤ HAND HOLE | |
| ⊥ TRANSFORMER | |
| ⊦ CATCH BASIN | |
| ⊧ POWER POLE W/ GUY | |
| ⊨ POST | |
| ⊩ TREE | |



233 Park Ave S, Ste 300
Minneapolis, MN 55415
612.758.3080 MAIN
612.758.3099 FAX
www.alliant-inc.com

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Land Surveyor under Minnesota statutes 326.02 to 326.16.

DENNIS B. OLMSTEAD

Print Name

Signature

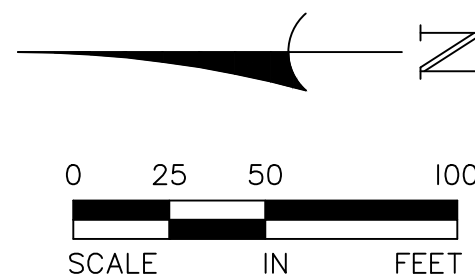
Date

License Number

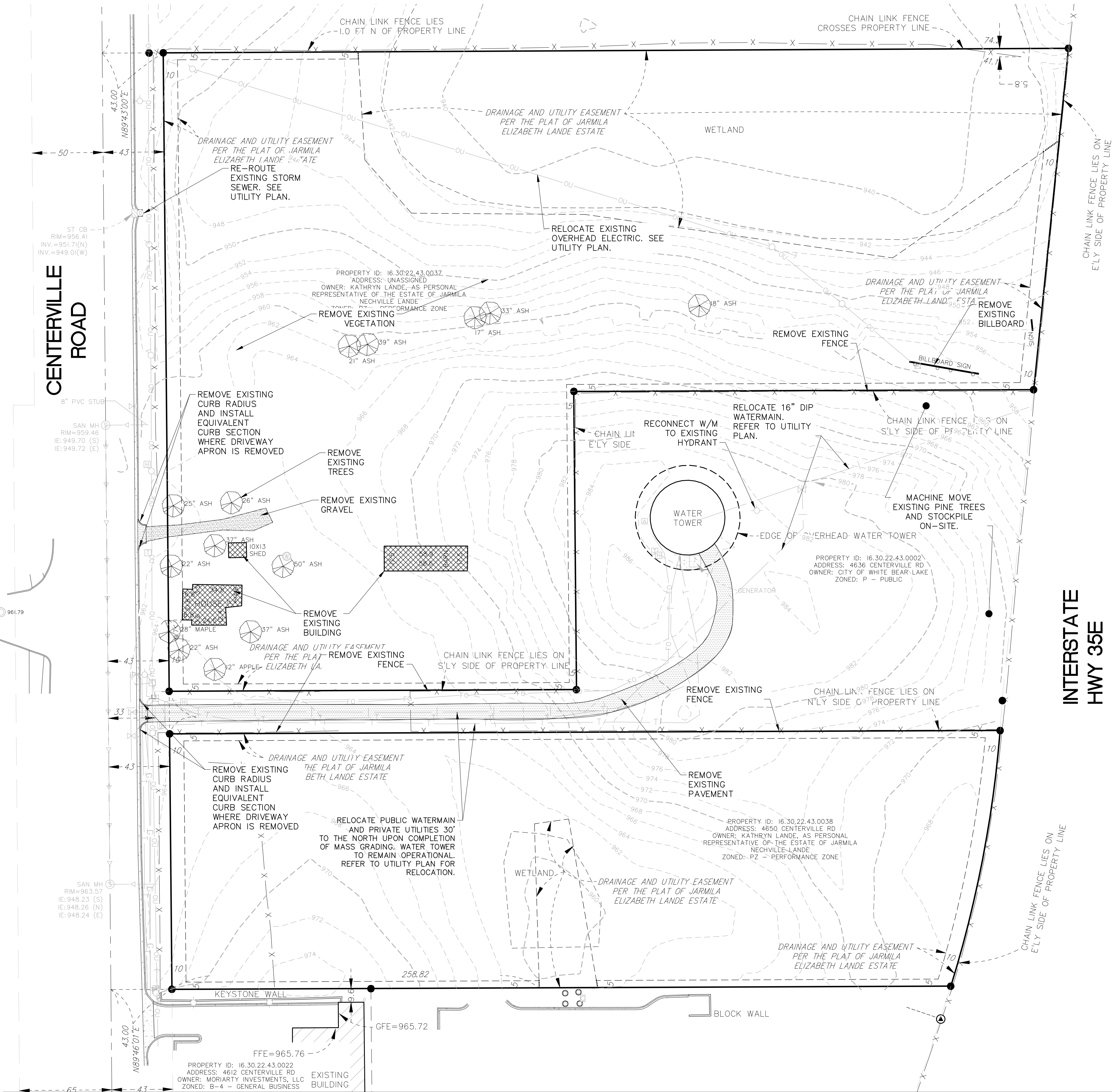
TOWER CROSSINGS

4650 CENTERVILLE ROAD
WHITE BEAR LAKE, MINNESOTA

DRAWN BY	ELL, DPE, GJB
CHECKED BY	DBO
DATE ISSUED	6/16/15
SCALE	1"=50'
JOB NO.	150033
BOOK	-



Drawing name: X:\2015\150033\plan sheets\Preliminary PUD\150033demo.dwg Jul 22, 2015 - 2:13pm



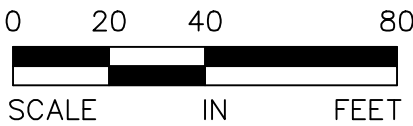
DEMOLITION NOTES:

1. PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE TO MAKE SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.
2. ALL DIMENSIONS, GRADES, EXISTING AND PROPOSED INFORMATION SHOWN ON THE PLANS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER IF ANY DISCREPANCIES EXIST PRIOR TO PROCEEDING WITH CONSTRUCTION FOR NECESSARY PLAN OR GRADE CHANGES. NO EXTRA COMPENSATION SHALL BE PAID TO THE CONTRACTOR FOR WORK HAVING TO BE REDONE DUE TO INFORMATION SHOWN INCORRECTLY ON THESE PLANS IF SUCH NOTIFICATION HAS NOT BEEN GIVEN.
3. NOTIFY GOPHER STATE ONE CALL 48 HOURS PRIOR TO START OF CONSTRUCTION.
4. PRIOR TO STARTING CONSTRUCTION, ALL PERIMETER EROSION CONTROL DEVICES MUST BE INSTALLED IN ACCORDANCE WITH GRADING & EROSION CONTROL PLAN AND THE CITY OF WHITE BEAR LAKE.
5. REMOVAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROPERLY LOCATING AND PROTECTING ALL UTILITY LINES PRIOR TO DIGGING AND DEMOLITION. OWNER AND ENGINEER SHALL NOT BE HELD RESPONSIBLE FOR PUBLIC OR PRIVATE UTILITY LOCATIONS.
6. DEMOLITION CONTRACTOR IS RESPONSIBLE FOR PROPER DISPOSAL OF ALL DEMOLISHED MATERIALS.
7. REMOVAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE DEMOLITION AND REMOVAL OF ALL EXISTING STRUCTURES AND OBJECTS THAT INTERFERE WITH THE PROPOSED CONSTRUCTION AS SHOWN IN THIS DRAWING PACKAGE. MATERIALS SALVAGED FOR REUSE ON-SITE SHALL NOT BE STORED ON ANY PUBLIC RIGHT OF WAY.
8. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE REQUIREMENTS AND STANDARDS OF THE CITY OF WHITE BEAR LAKE.
9. ALL WORK WITHIN THE PUBLIC R.O.W. SHALL COMPLY WITH THE CITY OF WHITE BEAR LAKE ENGINEERING DESIGN STANDARDS.
10. CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS AND ELEVATIONS OF EXISTING UTILITIES AND TOPOGRAPHIC FEATURES, SUCH AS EXISTING GUTTER GRADES AT THE PROPOSED DRIVEWAYS CONNECTIONS, PRIOR TO THE START OF SITE WORK. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY DISCREPANCIES OF VARIATIONS FROM THE PLANS.
11. CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL IN ACCORDANCE WITH MN MUTCD AND/ OR MNDOT TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS MANUAL, DURING DEMOLITION OF EXISTING CURB CUT ACCESSES ON PUBLIC R.O.W..
12. CONTRACTOR SHALL BE HELD FULLY RESPONSIBLE TO PREVENT AND ELIMINATE ANY DUST NUISANCE OCCASIONED BY AND DURING CONSTRUCTION, UNTIL THE PROJECT HAS BEEN COMPLETED.
13. CONTRACTOR SHALL PROTECT ADJOINING PROPERTIES AND STRUCTURES FROM HAZARDS ASSOCIATED WITH HIS CONSTRUCTION ACTIVITIES AND SHALL BE RESPONSIBLE FOR ALL DAMAGES TO PROPERTIES AND STRUCTURES THAT OCCUR AS A RESULT OF THESE ACTIVITIES.
14. CONTRACTOR SHALL NOT IMPEDE EXISTING TRAFFIC CIRCULATION TO ADJACENT BUSINESSES.
15. ANY DAMAGED PUBLIC R.O.W. PAVEMENT AND CURBING SHALL BE REPLACED WITH THE EQUIVALENT PAVEMENT SECTION.
16. CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL AND DISPOSAL OF THE EXISTING BITUMINOUS. BITUMINOUS SHALL BE SAWCUT OR JACK HAMMERED FOR STRAIGHT EDGES. TACK SHALL BE USED ON BITUMINOUS EDGE PRIOR TO PATCHING. MATCH EXISTING GRADES.
17. CONTRACTOR SHALL COORDINATE PRIVATE/PUBLIC UTILITIES RELOCATES, SUCH AS TRAFFIC SIGNAL HANDHOLES, AND WIRING, ETC.

DEMOLITION LEGEND:

	EXISTING SANITARY SEWER		EXISTING TELEPHONE
	EXISTING STORM SEWER		EXISTING UNDERGROUND ELECTRIC
	EXISTING WATERMAIN		EXISTING LIGHT POLE
	EXISTING SANITARY MANHOLE		EXISTING PROPERTY LINE
	EXISTING CATCH BASIN		REMOVE EXISTING CURB
	EXISTING HYDRANT		EXISTING CONTOUR
	EXISTING WELL		REMOVE EXISTING PAVEMENT
	EXISTING TRANSFORMER		
	EXISTING GATE VALVE		
	EXISTING GAS LINE		
	EXISTING OVERHEAD ELECTRIC		

FOR REVIEW ONLY
PRELIMINARY
NOT FOR CONSTRUCTION



233 Park Ave S, Ste 300
Minneapolis, MN 55415
612.758.3080 MAIN
612.758.3099 FAX
www.alliant-inc.com

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA

CLARK WICKLUND, PE
7-22-15
DATE LICENSE NO.

PROJECT TEAM

DESIGNED: AAA
DRAWN: PLN
PROJECT NO: 215-0033

QA/QC REVIEW

BY DATE

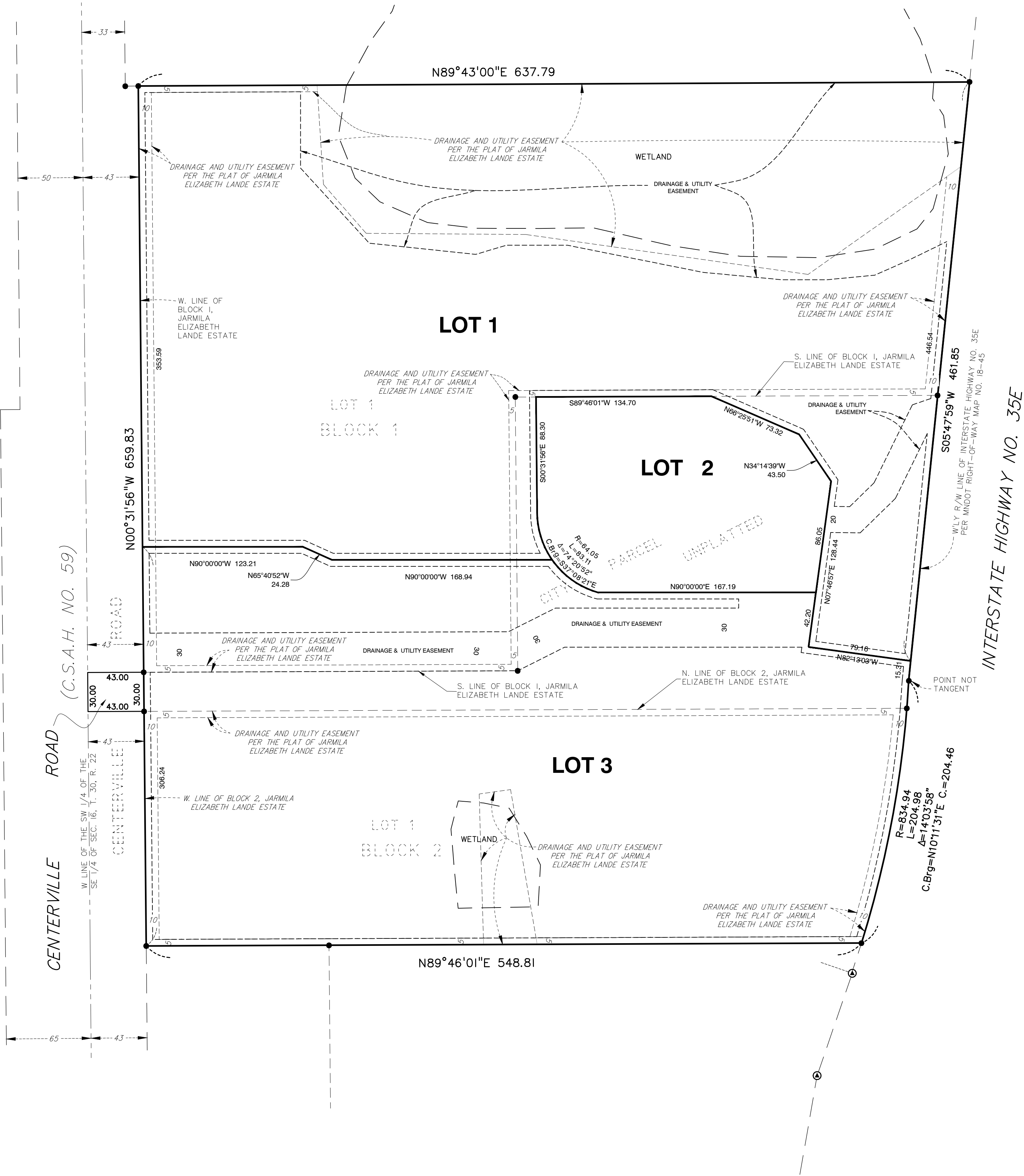
DATE	ISSUE	DATE	ISSUE
6-29-15	PRE PUD SUBMITTAL		
7-22-15	CITY COMMENTS		

TOWER CROSSINGS

PRELIMINARY PUD
AND PLAT

DEMOLITION AND RELOCATION PLAN

Drawing name: X:\2015\150033\plan sheets\Preliminary PUD\150033preplat.dwg Jul 22, 2015 - 2:13pm



LEGAL DESCRIPTION

Lot 1, Block 1, JARMILA ELIZABETH LANDE ESTATE, Ramsey County, Minnesota;
AND
Lot 1, Block 2, JARMILA ELIZABETH LANDE ESTATE, Ramsey County, Minnesota.
AND
The North 240 feet of the South 420 feet of the North Half of the Southwest Quarter of the Southeast Quarter of Section 16, Township 30, Range 22 lying West of Interstate Highway 35-E except the West 330 feet of the North 210 feet.

NOTES

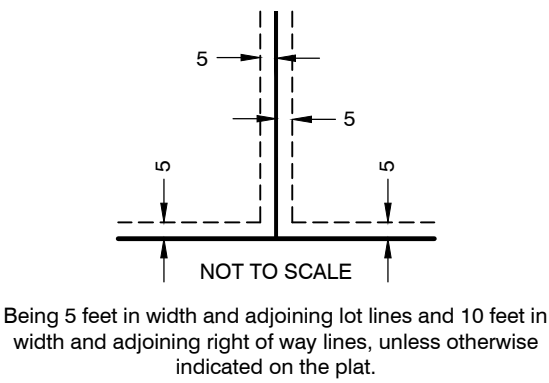
All drainage and utility easements dedicated in the recorded plat of JARMILA ELIZABETH LANDE ESTATE are proposed to be vacated prior to recording of final plat.

LEGEND

- PROPERTY LINE
- LOT LINE
- RIGHT OF WAY
- EASEMENT LINE
- SECTION LINE
- FOUND IRON MONUMENT

LOT AREA TABLE		
LOT NO.	SQ. FT.	ACRES
LOT 1	203,968	4.682
LOT 2	30,565	0.702
LOT 3	161,562	3.709
ROW	146	0.034
PROPERTY	396,241	9.096

DRAINAGE AND UTILITY EASEMENTS ARE SHOWN THUS:



FOR REVIEW ONLY
PRELIMINARY
NOT FOR CONSTRUCTION



233 Park Ave S, Ste 300
Minneapolis, MN 55415
612.758.3080 MAIN
612.758.3099 FAX
www.alliant-inc.com

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA
CLARK WICKLUND, PE
7-22-15
DATE LICENSE NO.

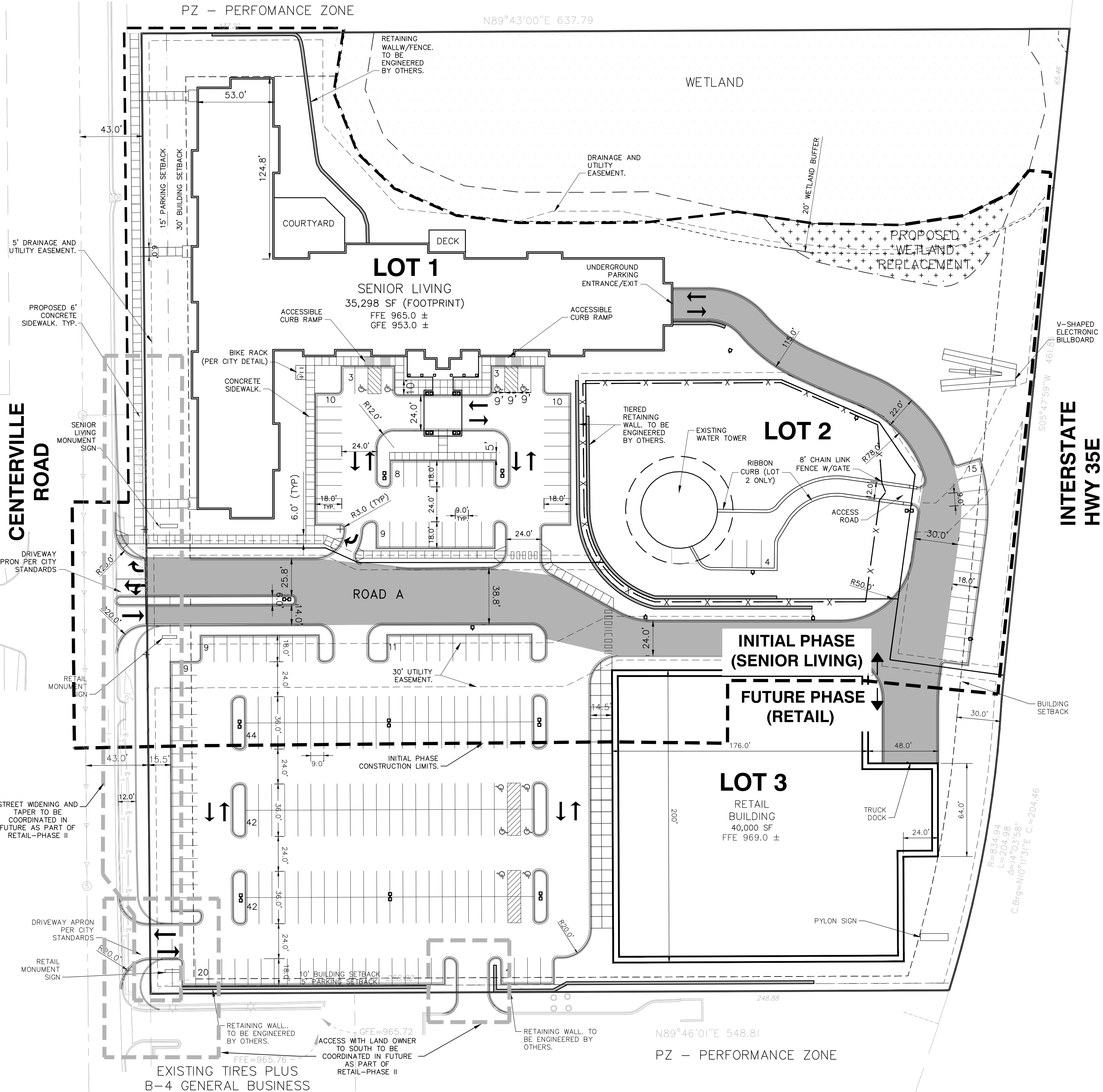
PROJECT TEAM
DESIGNED: CW CJW
DRAWN: GJB PLN
PROJECT NO: 150033-15-0033
QA/QC REVIEW
BY DATE

DATE	ISSUE	DATE	ISSUE
6-29-15	PRE PUD SUBMITTAL		
7-22-15	CITY COMMENTS		

PRELIMINARY PUD
AND PLAT

PRELIMINARY PLAT

Drawing name: X:\2015\150033\plan sheets\Preliminary PUD\150033site.dwg Jul 22, 2015 - 2:13pm



SITE LEGEND:

- B612 CURB AND GUTTER
- EXISTING CURB AND GUTTER
- LIMITS OF PHASE 1 CONSTRUCTION
- R.O.W.
- PROPERTY LINE
- BUILDING SETBACK
- PARKING SETBACK
- DRAINAGE AND UTILITY EASEMENT
- LUMINAIRE
- DIRECTION OF TRAFFIC
- HEAVY DUTY BITUMINOUS PAVEMENT
- LIGHT DUTY BITUMINOUS PAVEMENT
- LIGHT DUTY BITUMINOUS PAVEMENT
- WETLAND REPLACEMENT
- DELINEATED WETLAND LINE
- WETLAND SETBACK

SITE PLAN NOTES

- DIMENSIONS ARE TO FACE OF BUILDING AND/OR FACE OF CURB.
- REFER TO ARCHITECTURAL DRAWINGS FOR CONCRETE STOOPS ADJACENT TO PROPOSED BUILDING.
- ALL CONCRETE CURB AND GUTTER ADJACENT TO CONCRETE WALK BE SEPARATED BY A 1/2 INCH EXPANSION JOINT.
- STRIPING SHALL BE 4 INCH WHITE.
- ALL WORK WITHIN THE R.O.W. SHALL COMPLY WITH THE CITY OF WHITE BEAR LAKE ENGINEERING DESIGN STANDARDS.
- ALL CURB AND GUTTER TO BE CONCRETE B612 CURB UNLESS NOTED OTHERWISE, PER CITY STANDARDS.
- CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS AND ELEVATIONS OF EXISTING UTILITIES AND TOPOGRAPHIC FEATURES, SUCH AS EXISTING GUTTER GRADES AT THE PROPOSED DRIVEWAYS, PRIOR TO THE START OF SITE GRADING. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY DISCREPANCIES OF VARIATIONS FROM THE PLANS.
- REFER TO LIGHTING PLAN FOR LIGHT LOCATIONS, FOOTCANDLE PRINT OUT AND SPECIFICATIONS.
- INCLUDE VALLEY CURB AT DRIVEWAY ENTRANCES PER CITY STANDARDS.

WETLAND BUFFER DATA

WETLAND BUFFERS AND SETBACK REQUIREMENTS

REQUIREMENT	LIGHT MANAGEMENT CLASS
MIN. BUFFER	= 16'
BUFFER SETBACK	= 20'

LOT 1 DATA

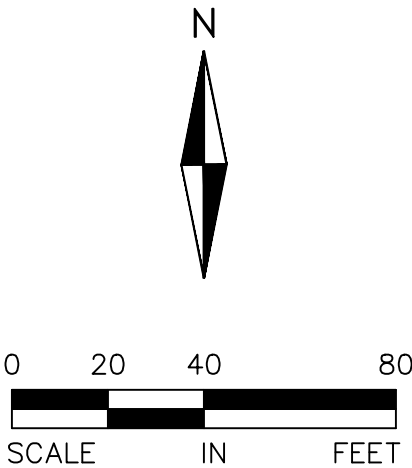
PROPOSED ZONING	PZ - PERFORMANCE ZONE & PUBLIC
LOT 1 TOTAL AREA	203,970.35 SF (4.68 AC)
NUMBER OF UNITS	112 UNITS
BUILDING FOOTPRINT	35,298 S.F.
BUILDING SF	FLOORS 1-3 TOTAL = 104,610 SF GARAGE = 24,305 SF TOTAL = 128,915 GSF
FRONT SETBACK	30 FT
SIDE SETBACK	10 FT
PROPOSED IMPERVIOUS	BUILDING AREA 35,298 SF (.81 AC), 17.31% OF SITE STREET AREA 11,477.06 SF (0.26 AC), 5.63% OF SITE PARK. LOT AREA 14,017.75 SF (.32 AC), 6.87% OF SITE SIDEWALK AREA 4,426.5 SF (0.10 AC), 2.16% OF SITE TOTAL 65,219.31 SF (1.50 AC), 31.97% OF SITE
PROPOSED PERVIOUS	138,751.04 SF (3.19 AC), 68.03% OF LOT
PARKING SETBACK	15 FT FROM R.O.W.
PARKING PROVIDED	UNDERGROUND PARKING = 40 STALLS SURFACE PARKING = 58 STALLS TOTAL PROVIDED = 98 STALLS INCLUDES 4 ACCESSIBLE STALLS (4 SURFACE) AND 15 STALLS ALONG EASTERN PROPERTY LINE

LOT 2 DATA

PROPOSED ZONING	P-PUBLIC
LOT 2 TOTAL AREA	30,553.57 SF (0.70 AC)
WATER TOWER SF	4268.5 SF
FRONT SETBACK	N/A
SIDE SETBACK	N/A
PROPOSED IMPERVIOUS	7,063.09 SF, 23.12% OF LOT
PROPOSED PERVIOUS	23,490.48 SF, 76.88% OF LOT
PARKING PROVIDED	4 STALLS

LOT 3 DATA

PROPOSED ZONING	PZ - PERFORMANCE ZONE & PUBLIC
LOT 1 TOTAL AREA	161,573.60 SF (3.71 AC)
RETAIL BUILDING SF	40,000 S.F.
FRONT SETBACK	30 FT
SIDE SETBACK	10 FT
PROPOSED IMPERVIOUS	BUILDING AREA 40,000 SF (.92 AC), 24.76% OF SITE STREET AREA 21,281.66 SF (.49 AC), 13.17% OF SITE PARK. LOT AREA 60,456.09 SF (1.39 AC), 37.42% OF SITE SIDEWALK AREA 2,776.85 SF (0.06 AC), 1.72% OF SITE TOTAL 124,514.60 SF (2.86 AC), 77.07% OF SITE
PROPOSED PERVIOUS	37,059 SF (.85 AC), 22.93% OF SITE
PARKING SETBACK	15 FT FROM R.O.W.
PARKING PROVIDED	191 STALLS INCLUDES 6 ACCESSIBLE STALLS



FOR REVIEW ONLY
PRELIMINARY
NOT FOR CONSTRUCTION



233 Park Ave S, Ste 300
Minneapolis, MN 55415
612.758.3080 MAIN
612.758.3099 FAX
www.alliant-inc.com

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA

CLARK WICKLUND, PE
7-22-15
DATE LICENSE NO.

PROJECT TEAM
DESIGNED: CIW
DRAWN: PLN
PROJECT NO: 215-0033

QA/QC REVIEW
BY DATE

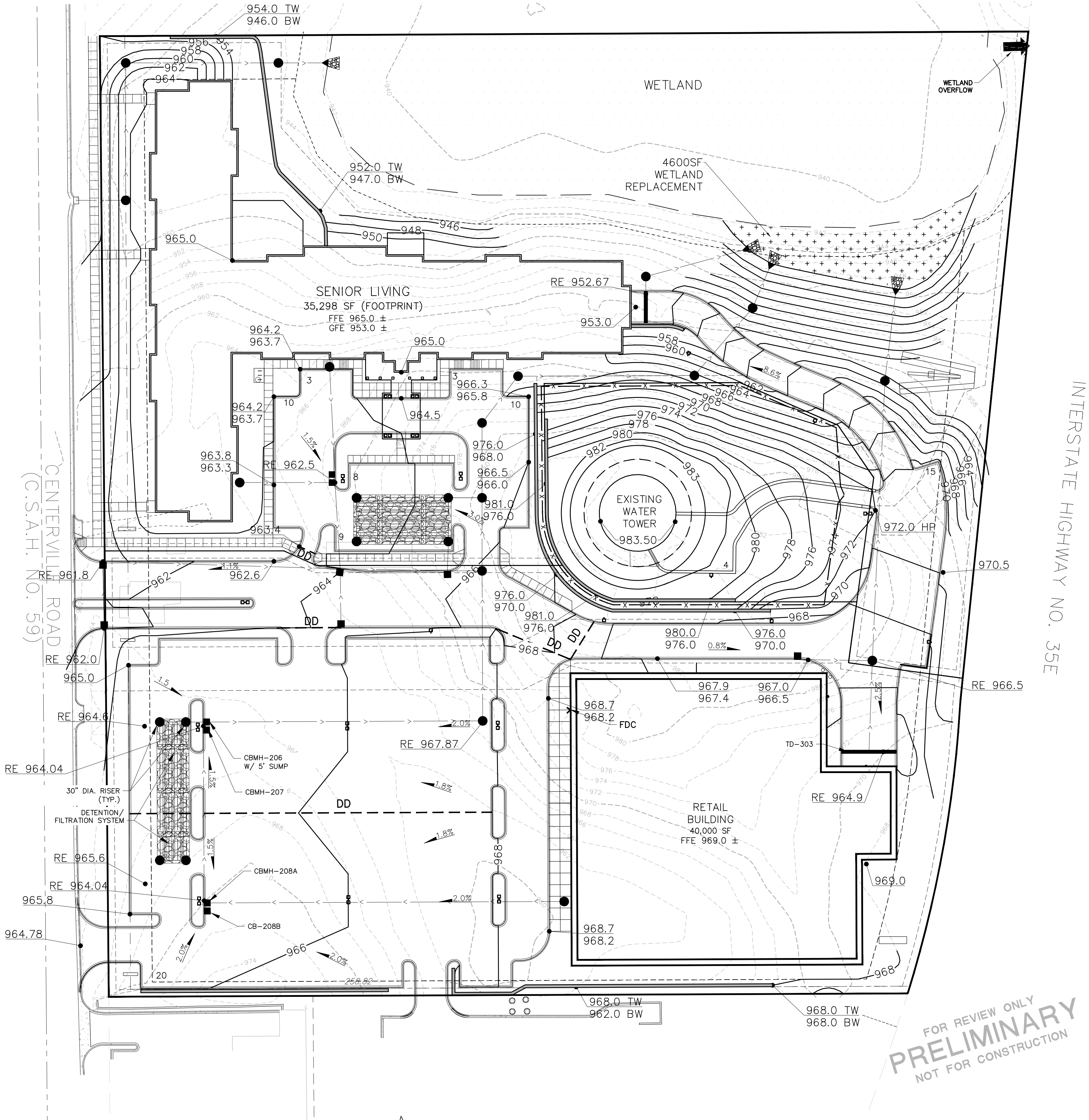
DATE	ISSUE	DATE	ISSUE
6-29-15	PRE PUD SUBMITTAL		
7-22-15	CITY COMMENTS		

PRELIMINARY PUD
AND PLAT

TOWER CROSSINGS

SITE PLAN

Drawing name: X:\2015\150033\plan sheets\Preliminary PUD\150033grad.dwg Jul 22, 2015 - 2:14pm



GRADING LEGEND:

- | | | | |
|--|---------------------------------|--|------------------------|
| | EXISTING CONTOUR | | PROPOSED EASEMENT |
| | PROPOSED CONTOUR | | PROPERTY LINE |
| | PROPOSED SPOT ELEVATION | | SETBACK LINE |
| | TOP OF WALL ELEVATION | | LOT LINE |
| | BOTTOM OF WALL ELEVATION | | RIGHT-OF-WAY |
| | DIRECTION OF DRAINAGE | | TREE PROTECTION LIMITS |
| | EMERGENCY OVERFLOW ROUTING | | |
| | RETAINING WALL | | |
| | PROPOSED CATCH BASINS | | |
| | PROPOSED STORM SEWER | | |
| | PROPOSED LIMITS OF CONSTRUCTION | | |

GRADING NOTES:

- ALL FINISHED GRADES SHALL SLOPE AWAY FROM PROPOSED BUILDINGS AT MINIMUM GRADE OF 2.0%. ALL SWALES SHALL HAVE A MINIMUM SLOPE OF 2.0%.
- THE CONTRACTOR SHALL KEEP THE ADJACENT ROADWAYS FREE OF DEBRIS AND PREVENT THE OFF-SITE TRACKING OF SOIL IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY AND WATERSHED.
- NOTIFY GOPHER STATE ONE CALL, AT (800)252-1166, 48 HOURS PRIOR TO START OF CONSTRUCTION.
- ALL IMPROVEMENTS TO CONFORM WITH CITY OF WHITE BEAR LAKE CONSTRUCTION STANDARDS SPECIFICATION, LATEST EDITION.
- ROCK CONSTRUCTION ENTRANCES SHALL BE PROVIDED AT ALL CONSTRUCTION ACCESS POINTS.
- REFER TO GEOTECHNICAL REPORT AND PROJECT MANUAL, FOR SOIL CORRECTION REQUIREMENTS AND TESTING REQUIREMENTS.
- STRIP TOPSOIL PRIOR TO ANY CONSTRUCTION. REUSE STOCKPILE ON SITE. STOCKPILE PERIMETERS MUST BE PROTECTED WITH SILT FENCE.
- PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE TO MAKE SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.
- IMMEDIATELY FOLLOWING GRADING OF (3:1 OR GREATER) SIDE SLOPES AND DRAINAGE SWALES, WOOD FIBER BLANKET OR OTHER APPROVED SOIL STABILIZING METHOD (APPROVED BY ENGINEER) SHALL BE APPLIED OVER APPROVED SEED MIXTURE AND A MINIMUM OF 4" TOPSOIL.
- THE GENERAL CONTRACTOR MUST DISCUSS DEWATERING PLANS WITH ALL SUBCONTRACTORS TO VERIFY NPDES REQUIREMENTS. IF DEWATERING IS REQUIRED DURING CONSTRUCTION, CONTRACTOR SHOULD CONSULT WITH EROSION CONTROL INSPECTOR AND ENGINEER TO DETERMINE APPROPRIATE METHOD.
- REFER TO STORMWATER POLLUTION PREVENTION PLAN (SWPPP) FOR ALL EROSION AND SEDIMENT CONTROL DEVICE LOCATION, DESCRIPTIONS, NOTES AND DETAILS INCLUDING CONCRETE WASHOUT STATION INSTRUCTIONS.
- WETLAND BUFFER MONUMENT SIGNS SHALL BE INSTALLED AT EACH POINT WHERE A LOT LINE INTERSECTS WITH THE WETLAND BUFFER.
- BUILDING PERMITS ARE REQUIRED FOR ALL RETAINING WALLS 4 FEET IN HEIGHT OR GREATER AND THE WALLS SHALL BE DESIGNED BY A STRUCTURAL ENGINEER WITH DESIGN REVIEWED AND APPROVED BY THE CITY PRIOR TO INSTALLATION.
- A 3 FOOT SAFETY RAILING IS REQUIRED ATOP ALL WALLS 4 FOOT TALL OR GREATER.

Site composite existing runoff rate as calculated by HydroCAD

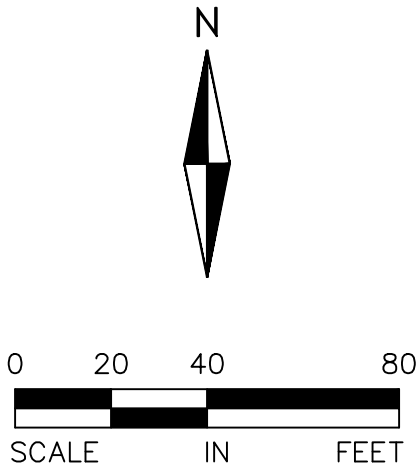
Event	To Centerville Road (cfs)	To I35E Ditch (cfs)
2 year (2.79" 24hr)	1.25	5.38
10 year (4.16" 24hr)	2.45	10.50
100 year (7.24" 24hr)	5.32	22.73
100 year snow melt (7.00" 240hr)	0.84	3.56

Site composite proposed runoff rate as calculated by HydroCAD

Event	To Centerville Road (cfs)	To I35E Ditch (cfs)
2 year (2.79" 24hr)	0.44	0.18
10 year (4.16" 24hr)	0.85	0.36
100 year (7.24" 24hr)	1.85	5.45
100 year snow melt (7.00" 240hr)	0.29	5.31

Volume Control

Underground Infiltration Basin	1.1" Runoff Volume Required	Volume Provided
Infiltration Basin 1		0.208 af
Infiltration Basin 2		0.208 af
Total	0.414 af	0.416 af



233 Park Ave S, Ste 300
Minneapolis, MN 55415
612.758.3080 MAIN
612.758.3099 FAX
www.alliant-inc.com

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA

CLARK WICKLUND, PE
7-22-15
DATE LICENSE NO.

PROJECT TEAM

DESIGNED: CIW
DRAWN: PLN
PROJECT NO: 215-0033

QA/QC REVIEW

BY DATE

DATE ISSUE

6-29-15 PRE PUD SUBMITTAL
7-22-15 CITY COMMENTS

DATE ISSUE

TOWER CROSSINGS

PRELIMINARY PUD
AND PLAT

GRADING AND DRAINAGE PLAN

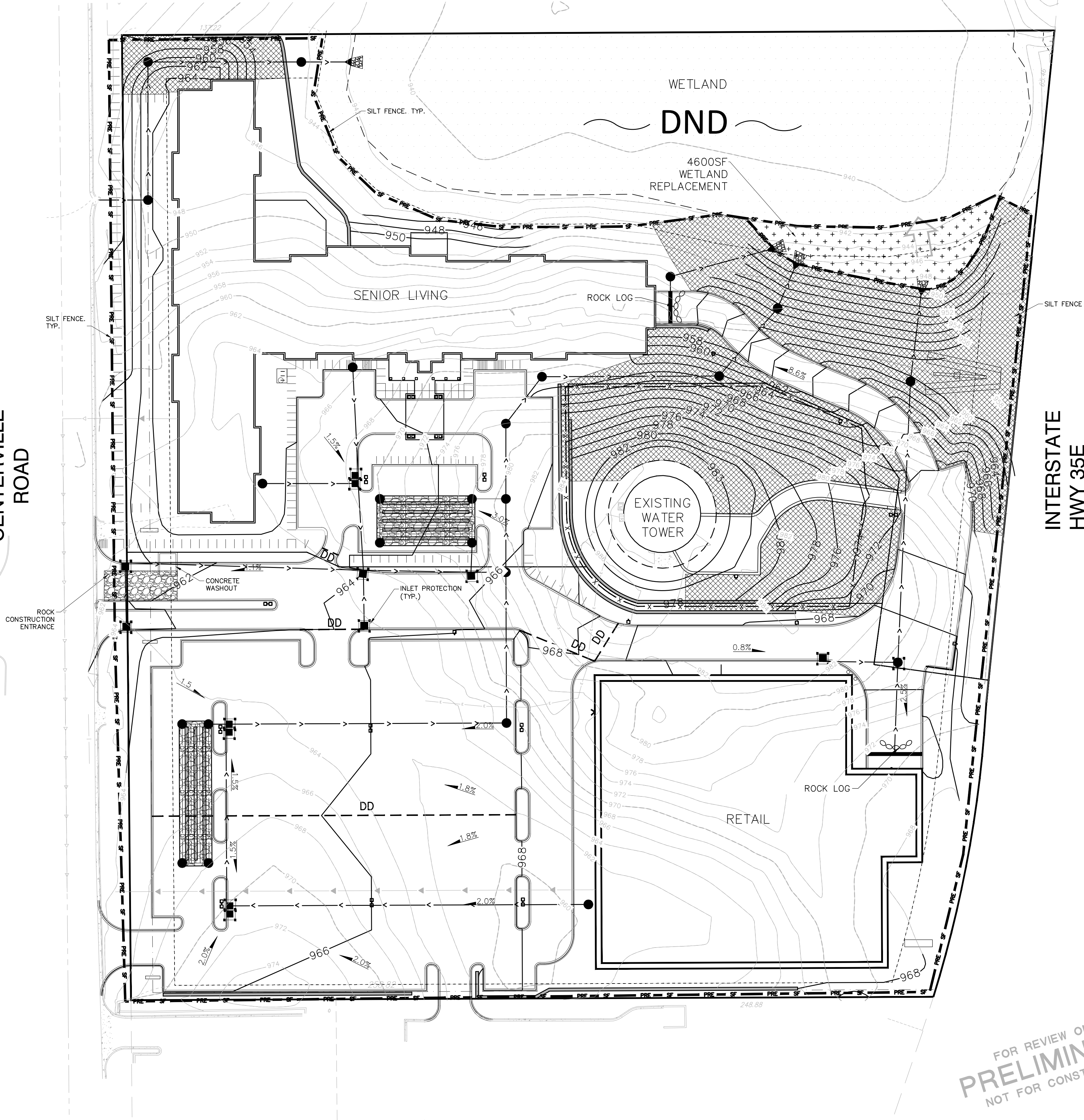
6

SHEET 6 of 13

Drawing name: X:\2015\150033\plan sheets\Preliminary PUD\150033esep.dwg Jul 22, 2015 - 2:14pm

CENTERVILLE
ROAD

INTERSTATE
HWY 35E



ACTIVE SWPPP LEGEND

CONSTRUCTION SEQUENCE	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR
MULCH BERM													
FIBER ROLLS / MULCH SOCKS													
SILT FENCE													
TEMPORARY MULCH COVER													
TEMPORARY HYDROMULCH													
EROSION CONTROL BLANKET													
ROCK DRIVEWAY / ROCK PADS													
INLET PROTECTION DEVICES													
PAVEMENT (DRIVEWAY/ROADS)													
SOD													
STOCKPILES													
NOTE: CONTRACTOR, GENERAL CONTRACTOR OR SWPPP INSPECTOR TO COMPLETE TABLE AS GRADING PROGRESSES													

CONSTRUCTION SEQUENCING:

- MASS GRADING PHASE (EDC):
1. INSTALL STABILIZED CONSTRUCTION ENTRANCES.
 2. PREPARE TEMPORARY PARKING AND STORAGE AREA.
 3. INSTALL THE PRE-GRADING SILT FENCES AND INLET PROTECTION BMPs ON THE SITE.
 4. CONSTRUCT ALL PRE-GRADING EROSION AND SEDIMENTATION CONTROL BMPs.
 5. COMPLETE MASS GRADING AND INSTALL TEMPORARY AND PERMANENT SEEDING AND PLANTING.
 6. CONSTRUCT POST-GRADING SILT FENCE ON THE SITE.

- STREET & UTILITY PHASE (CITY):
1. INSTALL UTILITIES, UNDERDRAINS, STORM SEWERS, CURBS AND GUTTERS.
 2. INSTALL RIP RAP AROUND OUTLET STRUCTURES.
 3. INSTALL INLET PROTECTION AROUND ALL STORM SEWER STRUCTURES.
 4. PREPARE SITE FOR PAVING.
 5. PAVE SITE.
 6. INSTALL INLET PROTECTION DEVICES.
 7. INSTALL POST STREET AND UTILITY SILT FENCE.
 8. REMOVE ALL TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES (ONLY IF SITE IS STABILIZED), IF REQUIRED BY THE CONTRACT

SWPPP BMP QUANTITIES (PER PLAN):

STANDARD SILT FENCE	2500 LF
INLET PROTECTION	13 EA
SEED/SOD POST GRADING AREA	SEE LANDSCAPE PLAN

- SEDIMENT BARRIERS
1. SILT FENCE (MnDOT 3886)
 2. CURB LOG
 3. ROCK WEEPER

- INLET PROTECTION DEVICES
1. WMCO (MnDOT TYPE A & C)
 2. INFRASAFE STORM DRAIN/CULVERT
 3. SILT SACK (MnDOT TYPE A)
 4. DANDY BAG (MnDOT TYPE B)

- ANTI-TRACKING CONTROL
1. 2" CRUSHED CLEAR ROCK (LAND DEVELOPMENT)

- TEMPORARY SEED MIX
1. MnDOT-100 (OATS 20-120 DAY STABILIZATION)
 2. MnDOT-150 (1-2 YEAR STABILIZATION)

- PERMANENT SEED MIX/STABILIZATION
1. MnDOT 270 (RESIDENTIAL TURF)
 2. SOD

NOTE TO CONTRACTOR:

THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ALL EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BMPs) (EXCEPT FOR POST GRADE BMPs NEEDED AFTER UTILITY CONSTRUCTION ACTIVITY). THE BMPs ARE TO BE INSTALLED AT A MINIMUM AS SHOWN IN THE PLAN, IF CONDITIONS ARISE, ADDITIONAL BMP SUPPLEMENTATION TO PREVENT SITE EROSION OR SEDIMENT TRANSPORT MAY BE NECESSARY. THE CONTRACTOR IS RESPONSIBLE FOR ALL BMPs REQUIRED TO COMPLETE THE GRADING ACTIVITIES AND SUBSEQUENT TEMPORARY SOIL STABILIZATION NECESSARY TO PREPARE SITE FOR SITE CONSTRUCTION.

EROSION CONTROL RESPONSIBLE PARTY:

DIVISION 25, LLC
4350 BAKER ROAD
SUITE 400
MINNETONKA, MN 55345

- STABILIZATION BMP'S
1. STRAW/HAY
MnDOT TYPE 1 MULCH
 2. EROSION CONTROL BLANKET
MnDOT CAT. 3
 3. HYDROMULCH
MnDOT TYPE 5
 4. TURF REINFORCEMENT MAT
SC250 NORTH AMERICAN GREEN
OR EQUAL-MNDOT CAT 6

- GRADING ACTIVITY
1. CONCRETE WASHOUT IS DONE TRUCK BY TRUCK WITH A MOBILE WASHOUT SYSTEM PROVIDED AND COMPLETED BY THE CONCRETE CONTRACTOR.

LEGEND:

- EXISTING CONTOUR
- PROPOSED CONTOUR
- PROPOSED RETAINING WALL
- DIRECTION OF DRAINAGE
- PROPOSED CATCH BASINS
- PROPOSED STORM SEWER
- PROPOSED EASEMENT
- PROPERTY LINE
- SETBACK LINE
- LOT LINE
- RIGHT-OF-WAY
- PROPOSED SILT FENCE (PRE GRADING)
- INLET PROTECTION
- DND
- DO NOT DISTURB AREAS
- ROCK CONSTRUCTION ENTRANCE
- EROSION CONTROL BLANKET
- WETLAND REPLACEMENT

NOTES:

1. SEE SHEET 8 FOR ALL EROSION AND SEDIMENT CONTROL NOTES AND DETAILS.



233 Park Ave S, Ste 300
Minneapolis, MN 55415
612.758.3080 MAIN
612.758.3099 FAX
www.alliant-inc.com

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA

CLARK WICKLUND, PE
7-22-15
DATE LICENSE NO.

PROJECT TEAM

DESIGNED: CJW
DRAWN: PLN
PROJECT NO: 215-0033

QA/QC REVIEW

BY DATE

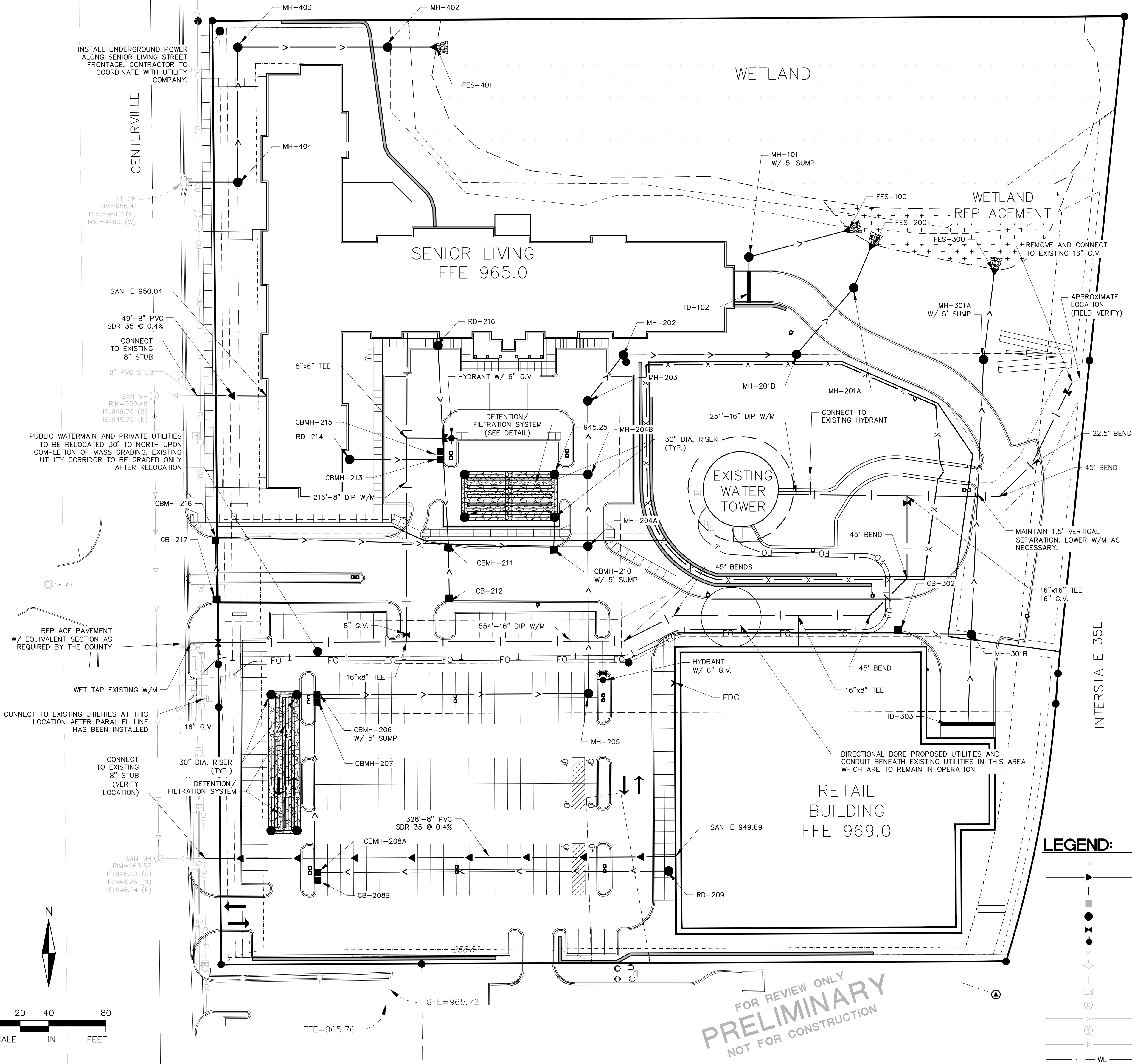
DATE	ISSUE	DATE	ISSUE
6-29-15	PRE PUD SUBMITTAL		
7-22-15	CITY COMMENTS		

PRELIMINARY PUD
AND PLAT

TOWER CROSSINGS

EROSION AND SEDIMENT CONTROL PLAN

Drawing name: X:\2015\150033\plan sheets\Preliminary PUD\150033util.dwg Jul 22, 2015 - 2:23pm



STORM SEWER SCHEDULE:

DESIGN STORM FREQUENCY = 5 YEARS												
MH/CB		P. DIA.	P. SLOPE	P. Mat	PIPE	FROM	TO	RIM	STR.	CAST	BUILD	Pipe
FROM	TO	D [IN]	S [FT/FT]		LENGTH [FT]	INVERT	INVERT	ELEV	TYPE	TYPE	[FT]	Class
TD-102	MH-101	12	0.0100	HDPE	10.0	947.47	947.37	952.67	TD	TD	5.20	N-12
MH-101	FES-100	12	0.0045	RCP	72.8	942.33	942.00	964.04	48	R-3067-V	26.71	V
CB-217	CBMH-216	12	0.0050	HDPE	46.0	958.30	958.07	962.00	2x3	R-3067-V	3.70	N-12
CBMH-216	CBMH-211	12	0.0050	HDPE	163.0	957.97	957.16	961.80	48	R-3067-V	3.83	N-12
RD-216	CBMH-215	15	0.0050	HDPE	74.1	954.80	954.43	965.00	48	R-1642	10.20	N-12
CBMH-215	CBMH-213	15	0.0050	HDPE	5.5	954.33	954.30	962.50	48	R-3067-V	8.17	N-12
RD-214	CBMH-213	15	0.0050	HDPE	65.5	954.80	954.47	965.00	48	RD	10.20	N-12
CBMH-213	CBMH-211	18	0.0070	HDPE	59.4	954.05	953.64	962.50	48	R-3067-V	11.95	N-12
CB-212	CBMH-211	12	0.0099	HDPE	40.3	960.70	960.30	964.40	2x3	R-3067-V	3.70	N-12
CBMH-211	CBMH-210	18	0.0100	HDPE	73.6	953.54	952.80	964.00	60	R-3067-V	10.46	N-12
FILTRATION	CBMH-210	24	-0.0030	HDPE	18.2	950.25	950.30					
CBMH-210	MH-204A	24	0.0040	HDPE	23.9	952.30	952.20	965.66	48	R-3067-V	20.36	N-12
RD-209	CBMH-208A	15	0.0050	HDPE	247.3	959.55	958.31	969.00	48	R-1642	9.45	N-12
CB-208B	CBMH-208A	12	0.0050	HDPE	5.5	959.55	959.52	964.04	2x3	R-2501	4.49	N-12
CBMH-208A	CBMH-207B	18	0.0070	HDPE	118.8	958.06	957.23	964.04	48	R-3067-V	5.98	N-12
FILTRATION	CBMH-206	24	-0.0030	HDPE	10.0	954.96	954.99					
CBMH-207	CBMH-206	18	0.0070	HDPE	5.5	957.13	957.09	964.04	48	R-3067-V	6.91	N-12
CBMH-206	MH-205	24	0.0040	HDPE	191.8	956.99	956.23	964.04	60	R-3067-V	12.05	N-12
MH-205	MH-204A	24	0.0040	HDPE	103.0	956.13	955.71	967.87	48	R-1642	11.74	N-12
MH-204A	MH-204-B	24	0.0080	HDPE	50.2	952.10	951.70	966.10	48	R-1642	14.00	N-12
MH-204-B	MH-203	24	0.0080	HDPE	51.5	945.00	944.59	964.75	48	R-1642	19.75	N-12
MH-203	MH-202	24	0.0080	HDPE	40.4	944.49	944.17	965.40	48	R-1642	20.91	N-12
MH-202	MH-201B	24	0.0080	HDPE	121.2	944.07	943.10	965.50	48	R-1642	21.43	N-12
MH-201B	MH-201-A	24	0.0080	HDPE	61.3	943.00	942.51	964.00	48	R-1642	21.00	N-12
MH-201-A	FES-200	27	0.0040	RCP	32.3	942.13	942.00	952.00	48	R-1642	9.87	III
TD-303	MH-301B	12	0.0050	HDPE	62.7	959.70	959.39	964.90	TD	TD	5.20	N-12
CB-302	MH-301B	12	0.0050	HDPE	51.4	962.86	962.60	966.56	2x3	R-3067-V	3.70	N-12
MH-301B	MH-301A	12	0.0210	HDPE	192.3	959.29	955.25	966.72	48	R-1642	7.43	N-12
MH-301A	FES-300	15	0.0035	RCP	63.6	942.22	942.00	961.00	48	R-1642	23.78	V
EX CB-405	MH-404	15	0.0050	HDPE	34.0	949.00	948.83	956.41	EX	EX	7.41	N-12
MH-404	MH-403	15	0.0050	HDPE	94.4	948.73	948.26	963.00	60	R-1642	14.27	N-12
MH-403	MH-402	15	0.0100	HDPE	104.9	943.00	941.95	959.00	60	R-1642	16.00	N-12
MH-402	FES-401	15	0.0055	RCP	34.1	941.85	941.66	945.00	60	R-1642	3.15	III

UTILITY NOTES:

- EXISTING UTILITIES, SERVICE LOCATIONS AND ELEVATIONS SHALL BE VERIFIED IN FIELD PRIOR TO CONSTRUCTION.
- MAINTAIN A MIN. 18" VERTICAL SEPARATION AT ALL PIPE CROSSINGS. LOWER WATERMAIN AS NECESSARY W/ BEDS AND FITTINGS. WATER AND SANITARY SEWER LINES TO MAINTAIN 10' HORIZONTAL SEPARATION.
- CONTRACTOR IS RESPONSIBLE FOR ALL PERMITS PRIOR TO THE START OF CONSTRUCTION.
- PROVIDE POLYSTYRENE INSULATION FOR ALL STORM SEWER AND WATERMAIN CROSSINGS WHERE VERTICAL OR HORIZONTAL SEPARATION IS LESS THAN 3'.
- ALL UTILITY WORK WITHIN THE R.O.W. SHALL COMPLY WITH THE CITY OF WHITE BEAR LAKE ENGINEERING GUIDELINES.
- NOTIFY GOPHER STATE ONE CALL 48 HOURS IN ADVANCE OF ANY UTILITY WORK.
- PROVIDE TEMPORARY TRAFFIC CONTROL IN COMPLIANCE WITH MNDOT "TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS-FIELD MANUAL" LATEST REVISION, FOR ANY CONSTRUCTION WITHIN PUBLIC R.O.W.
- ALL STORM SEWER CASTINGS SHALL BE NEENAH OR APPROVED EQUAL.
- ALL SANITARY MANHOLES TO BE 48" DIAMETER CONCRETE W/ NEENAH R-1642 CASTING, UNLESS NOTED OTHERWISE.
- INFILTRATION TANK RISERS SHALL HAVE NEENAH R-1642 CASTINGS.
- WATERMAIN, SERVICES, AND VALVES SHALL BE INSTALLED WITH MINIMUM 7.5' OF COVER.
- WATER SERVICES MAY BE PLACED IN SAME TRENCH AS SEWER SERVICES PROVIDED THAT A 24" VERTICAL & A 36" HORIZONTAL SEPARATION ARE MAINTAINED.
- ALL 6" AND 8" WATERMAIN SHALL BE D.I.P. CL52
- PIPE LENGTHS LISTED IN SCHEDULE ARE MEASURED FROM CENTER TO CENTER OF SHOWN STRUCTURES.



233 Park Ave S, Ste 300
Minneapolis, MN 55415
612.758.3080 MAIN
612.758.3099 FAX
www.alliant-inc.com

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA

CLARK WICKLUND, PE
7-22-15
DATE LICENSE NO.

PROJECT TEAM
DESIGNED: CJW
DRAWN: PLN
PROJECT NO: 215-0033

QA/QC REVIEW
BY DATE

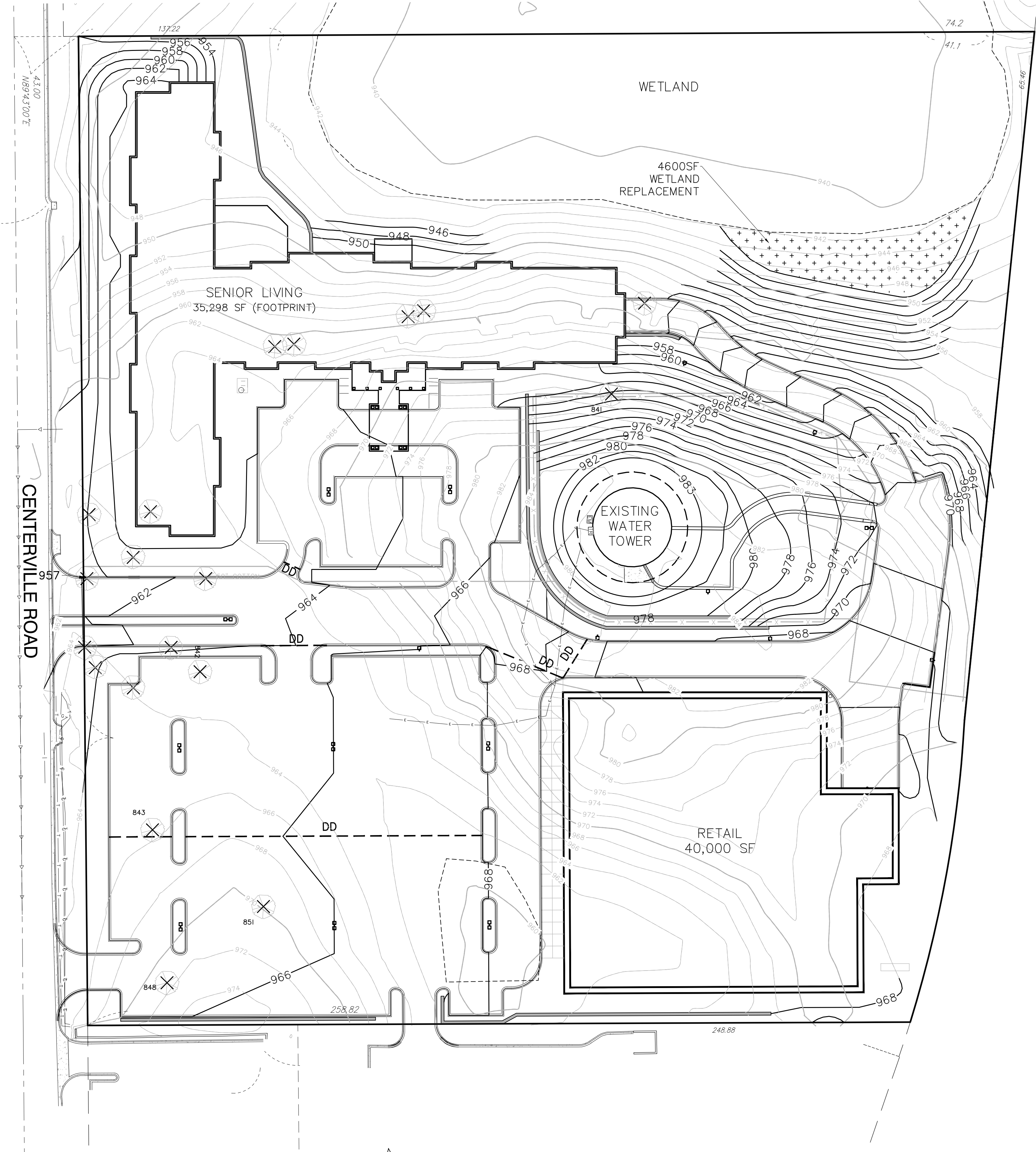
DATE	ISSUE	DATE	ISSUE
6-29-15	PRE PUD SUBMITTAL		
7-22-15	CITY COMMENTS		

PRELIMINARY PUD
AND PLAT

TOWER CROSSINGS

STORM SEWER AND UTILITY PLAN

Drawing name: X:\2015\150033\plan sheets\Preliminary PUD\150033tree.dwg Jul 22, 2015 - 2:15pm



TREE INVENTORY & REMOVALS

TAG NO.	D.B.H. (IN.)	COMMON NAME	CONDITION	CLASSIFICATION	REMOVED
841	28	GREEN ASH	<i>below average</i>	SECONDARY	x
842	20	SILVER MAPLE	<i>average</i>	SECONDARY	x
843	15	APPLE	<i>average</i>	PREMIUM	x
848	16	APPLE	<i>below average</i>	PREMIUM	x
851	9	APPLE	<i>below average, multistem</i>	PREMIUM	x
954	26	GREEN ASH	<i>average</i>	SECONDARY	x
955	22	GREEN ASH	<i>below average</i>	SECONDARY	x
956	12	APPLE	<i>average</i>	PREMIUM	x
957	22	GREEN ASH	<i>average</i>	SECONDARY	x
958	25	GREEN ASH	<i>below average, lightning scar</i>	SECONDARY	x
960	50	COTTONWOOD	<i>above average</i>	SECONDARY	x
961	21	GREEN ASH	<i>average</i>	SECONDARY	x
962	37	GREEN ASH	<i>above average</i>	SECONDARY	x
965	18	GREEN ASH	<i>average</i>	SECONDARY	x
967	39	COTTONWOOD	<i>above average</i>	SECONDARY	x
968	33	COTTONWOOD	<i>average</i>	SECONDARY	x
969	17	GREEN ASH	<i>average</i>	SECONDARY	x
972	28	SILVER MAPLE	<i>average, co-dominant stem</i>	SECONDARY	x
973	16	CATALPA	<i>above average</i>	SECONDARY	x
TOTAL		454			

PREMIUM	7.921	
SECONDARY	94.68	
Total Replacement	102.61	Caliper Inches

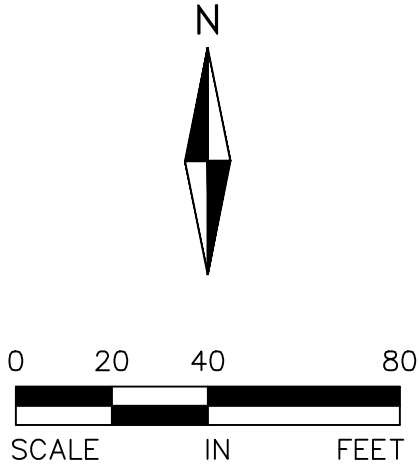
*3- TREES CONFLICT WITH OVERHEAD UTILITY LINES, IN BLVD, LEADERS SEVERED-NOT COUNTED

TREE REPLACEMENT CALCULATIONS:

PREMIUM
 $52 \div 454 \times 1.33 \times 52 = 7.921 \text{ CAL. INCH}$

SECONDARY
 $402 \div 454 \times 0.266 \times 402 = 94.684 \text{ CAL. INCH}$

TOTAL TREE REPLACEMENT = 102.605 CAL. INCH



FOR REVIEW ONLY
PRELIMINARY
NOT FOR CONSTRUCTION



233 Park Ave S, Ste 300
Minneapolis, MN 55415
612.758.3080 MAIN
612.758.3099 FAX
www.alliant-inc.com

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA

MARK KRONBECK, PLA, ASLA
7-22-15
DATE LICENSE NO.

PROJECT TEAM
DESIGNED: CJW
DRAWN: PLN
PROJECT NO: 215-0033

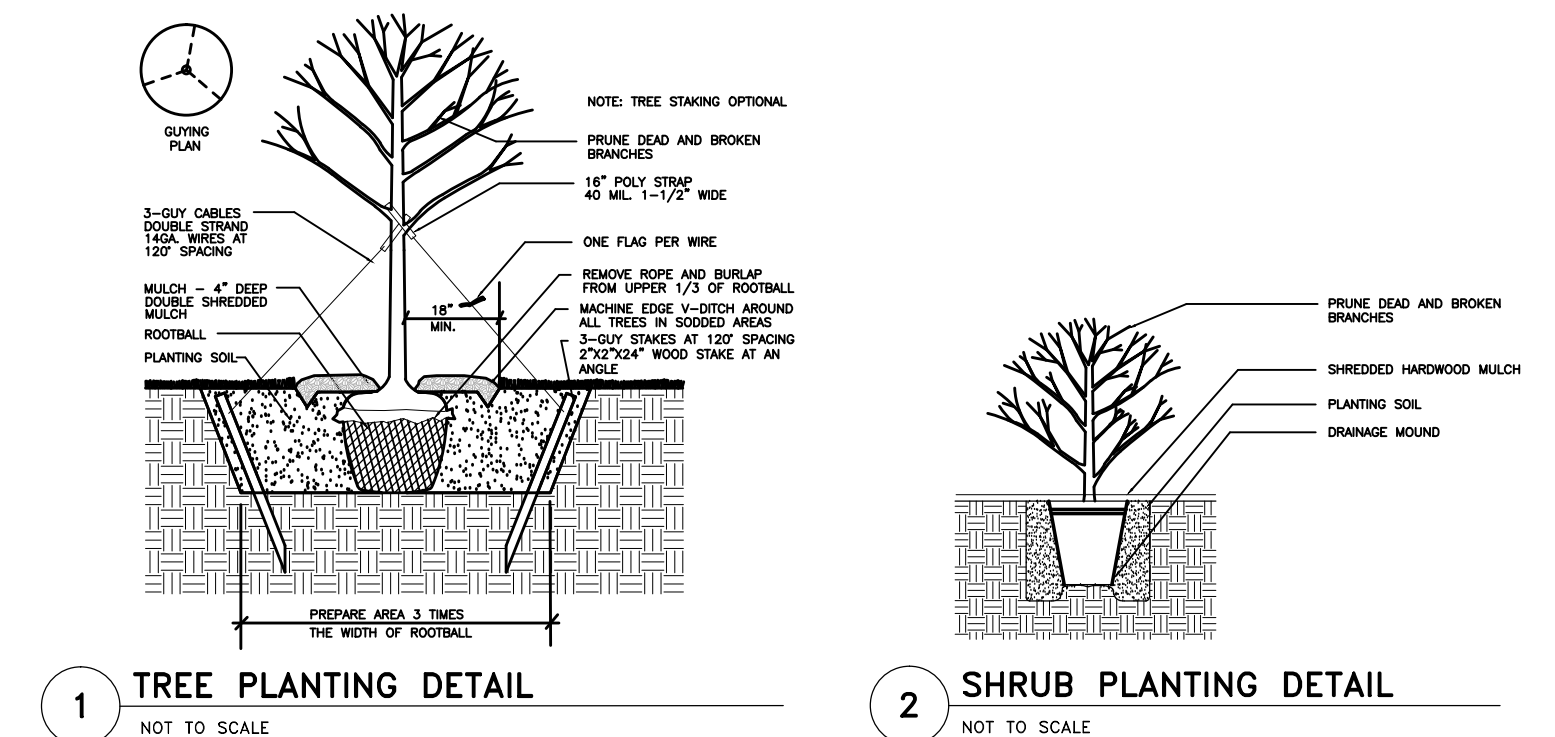
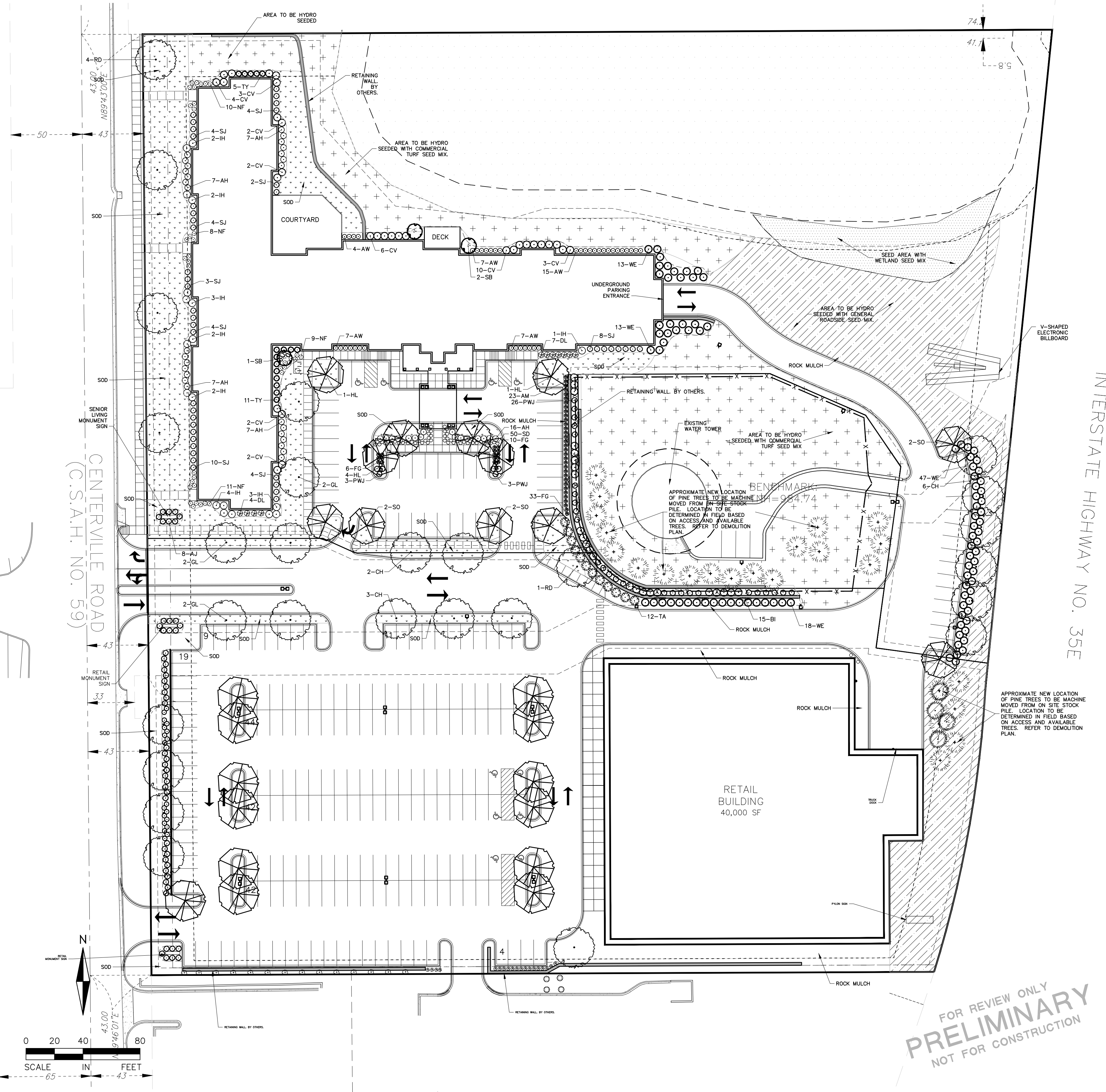
QA/QC REVIEW
BY DATE

DATE	ISSUE	DATE	ISSUE
6-29-15	PRE PUD SUBMITTAL		
7-22-15	CITY COMMENTS		

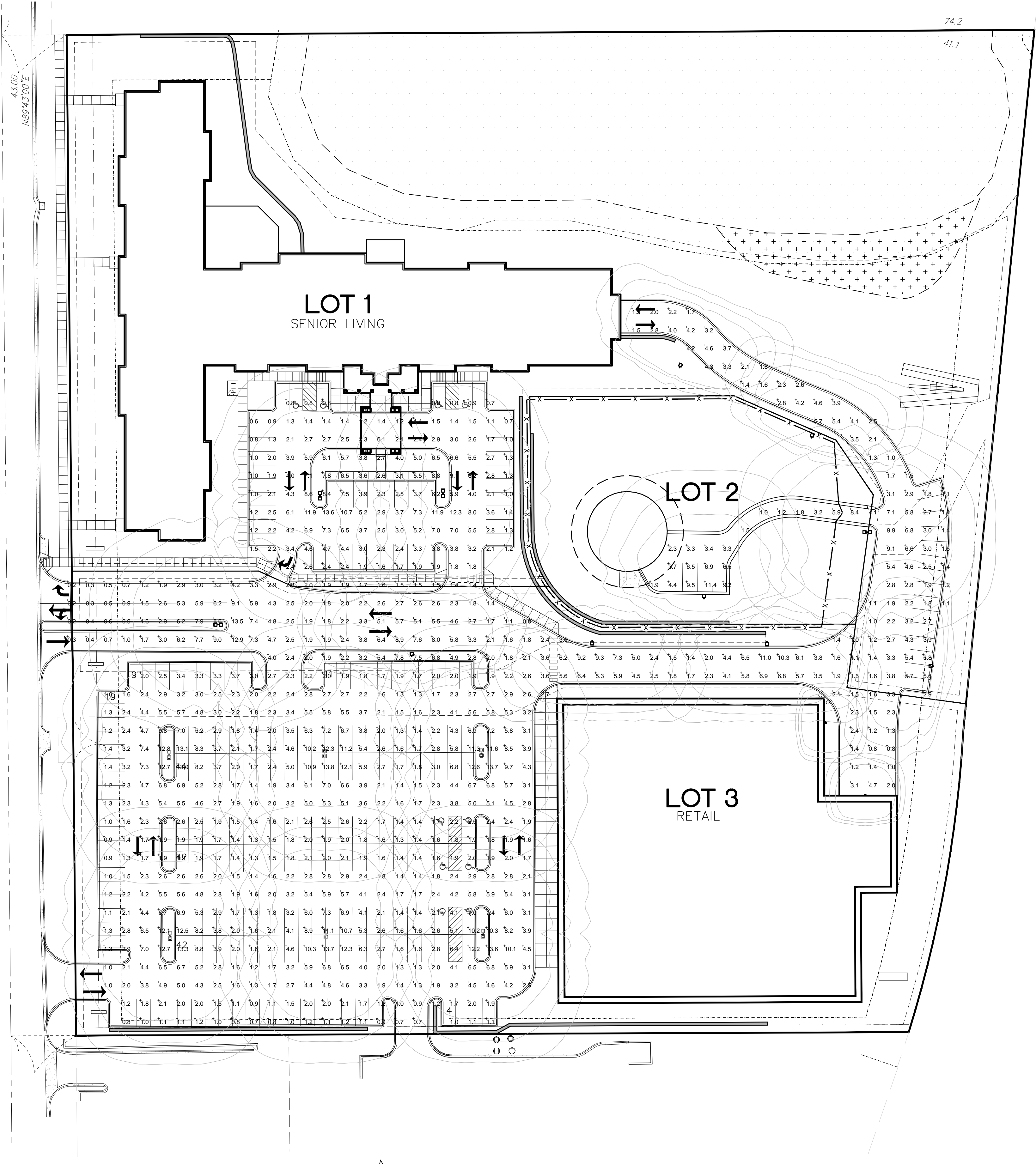
PRELIMINARY PUD
AND PLAT

TREE INVENTORY






TOWER CROSSINGS



Drawing name: X:\2015\150033\plan sheets\Preliminary PUD\150033photo.dwg Jul 22, 2015 -- 2:16pm



Statistics							
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min	Avg/Max
Parking Lot Light Levels	+	3.5 fc	13.8 fc	0.1 fc	138.0:1	35.0:1	0.3:1

Luminaire Schedule											
Symbol	Label	Lot 1 & 2 Quantity	Lot 3 Quantity	Manufacturer	Catalog Number	Description	Lamp	Number Lamps	Lumens Per Lamp	Light Loss Factor	Wattage
	P1	3	0	LSI INDUSTRIE S	XGBM-3-LED-SS-CW	SINGLE LSI XGBM SERIES LED AREA UNIT W/TYPE 3 DISTRIBUTION (24FT FIXTURE MOUNTING HEIGHT)	LED	1	20180.97	1	186.8
	P1-HS	3	0	LSI INDUSTRIE S	XGBM-3-LED-SS-CW-HSS	SINGLE LSI XGBM SERIES LED AREA UNIT W/TYPE 3 DISTRIBUTION (24FT FIXTURE MOUNTING HEIGHT) HOUSE SIDE SHIELD	LED	1	13182.73	1	186.8
	P2	1	0	LSI INDUSTRIE S	XGBM-FT-LED-SS-CW	SINGLE LSI XGBM SERIES LED AREA UNIT W/TYPE FT DISTRIBUTION (24FT FIXTURE MOUNTING HEIGHT)	LED	1	20703.31	1	187
	P3	4	6	LSI INDUSTRIE S	XGBM-FT-LED-SS-CW	DOUBLE LSI XGBM SERIES LED AREA UNIT W/TYPE FT DISTRIBUTION (24FT FIXTURE MOUNTING HEIGHT)	LED	1	20703.31	1	374
	WP	0	2	LSI INDUSTRIE S	SWM-2-LED-CW-UE	LSI SWM SERIES LED WALLPACK UNIT W/TYPE 2 DISTRIBUTION (16FT FIXTURE MOUNTING HEIGHT)	LED	1	4074.796	1	41.6



PLEASE CONTACT ADAM CARRIER at
VILLA LIGHTING SUPPLY FOR PRICING:
E-MAIL: adam.carrier@villalighting.com
PHONE: 314-633-0532

Plan Prepared by: VILLA LIGHTING
Designer: Adam Carrier
Date: 5.6.15

Plan Prepared by: VILLA LIGHTING
Designer: Adam Carrier
Date: 6.26.15

These drawings are for conceptual use only and are not intended for construction. values represented are an approximation generated from manufacturers photometric inhouse or independent lab tests and data supplied by lamp manufacturers.



233 Park Ave S, Ste 300
Minneapolis, MN 55415
612.758.3080 MAIN
612.758.3099 FAX
www.alliant-inc.com

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA

CLARK WICKLUND, P.E.
7-22-15
DATE LICENSE NO.

PROJECT TEAM
DESIGNED: AAA
DRAWN: AAA
PROJECT NO: 215-0033

QA/QC REVIEW
BY DATE

DATE	ISSUE	DATE	ISSUE
6-29-15	PRE PUD SUBMITTAL		
7-22-15	CITY COMMENTS		

PRELIMINARY PUD
AND PLAT

TOWER CROSSINGS

PHOTOMETRIC PLAN

Drawing name: X:\2015\150033\plan sheets\Preliminary PUD\150033photo.dwg Jul 22, 2015 - 2:16pm

LED AREA LIGHTS - (XGBM)



LED LIGHTING FACTS
Department of Energy has verified representative product test data and results in accordance with its Lighting Facts Program. Visit www.lightingfacts.com for specific catalog strings.

LIGHT OUTPUT - XGBM						
Foot Candles	Type 3	Lumens (Nominal)			Type FTA	Watts (Nominal)
		Typ 3	Typ 5	Typ 7		
LW	14080	13840	15020	16560	140	
SS	20180	18840	20700	23020	187	
HO	26720	25480	29670	31810	260	
LW	11450	11290	12220	13470	136	
SS	16390	15170	17220	18750	188	
HO	22240	20950	23510	25410	288	

LED Chips are frequently updated therefore values may increase.

US patent 0574994 & 7,829,456 and MX patent 29651 and US & Int'l. patents pending

SMARTTEC™ THERMAL CONTROL - LSI drivers feature integral sensor which reduces drive current when ambient temperature exceed rated temperature.

OCCUPANCY SENSING (IMS) - Optional integral passive infrared motion sensor activates switching of luminaire light levels. High level light is activated and increased to full bright in 1-2 seconds upon detection of motion. Low light level (30% maximum drive current) is activated when target zone is absent of motion activity for ~2 minutes and ramps down (10-15 seconds) to low level to allow eyes time to adjust. Sensor is located on the front of optical assembly and rotates with the optic. Sensor optic has a detection cone of approximately 45°. Examples of detection - occurs 30' out from a 30' mounting height pole; occurs 20' out from a 20' mounting height pole.

ENERGY SAVING CONTROL OPTIONS - DIM - 0-10 volt dimming enabled with controls by others. BL5 - 0-level switching responds to external line voltage signal from separate 120-277V controller or sensor (by others), with low light level decreased to 30% maximum drive current.

EXPECTED LIFE - Minimum 60,000 hours to 100,000 hours depending upon the ambient temperature of the installation location. See LSI web site for specific guidance.

LEDs - Select high-brightness LEDs in Cool White (5000K nominal) or Neutral White (4000K nominal) color temperature, 70 CRI (nominal).

DISTRIBUTION/PERFORMANCE - Types 3, 5, FT and FTA available - field rotatable reflectors.

HOUSING - Square, die-formed aluminum. Fully enclosed weather-tight housing contains factory prewired drivers and field connections.

TOP-ACCESS COVER - Gasketed, tethered top-access cover provides ease of installation and allows for easy driver access. Four captive stainless-steel fasteners secure the top-access cover to the housing.

OPTICAL UNIT - Clear tempered optical grade flat glass lens sealed to aluminum housing creates an IP67 rated, sealed optical unit (includes pressure stabilizing breather). Optical unit can be easily field rotated in 90o increments. Directional arrow on optics allows alignment without the unit being energized.

MOUNTING - 2-1/2" x 5-3/8" x 12" extruded aluminum arm mounting bracket shipped standard. Use with 5" traditional drilling pattern. Round Pole Plate (RPP2) required for mounting to 3"-5" round poles. (See Accessory Ordering Information chart.)

ELECTRICAL - Two-stage surge protection (including separate surge protection built into electronic driver) meets IEEE C62.41-2-2002, Location Category C. Available with universal voltage power supply 120-277VAC (UE - 5000Hz input), and 347-480VAC.

DRIVERS - Available in Low Watt (LW), Super Saver (SS) and High Output (HO) drive currents (Drive currents are factory programmed). Components are fully encased in potting material for moisture resistance. Driver complies with FCC 47 CFR part 15 REV1M standard.

OPERATING TEMPERATURE - -40°C to +50°C (-40°F to +122°F).

FINISH - Fixtures are finished with LSI's DuraGrip® polyester powder coat finishing process. The DuraGrip® finish withstands extreme weather changes without cracking or peeling.

DECAL STRIPING - LSI offers optional color-coordinated decals in 9 standard colors to accent the fixture. Decals are guaranteed for five years against peeling, cracking, or fading.

WARRANTY - LSI LED fixtures carry a limited 5-year warranty.

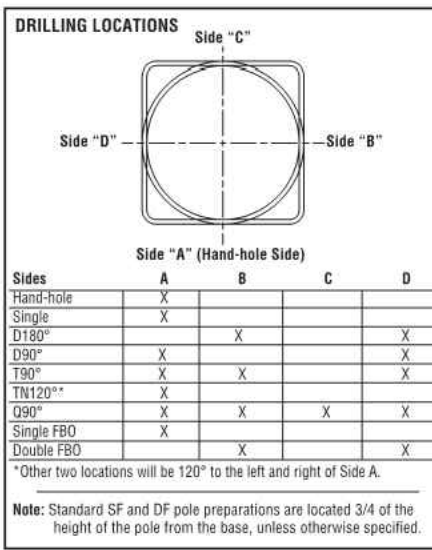
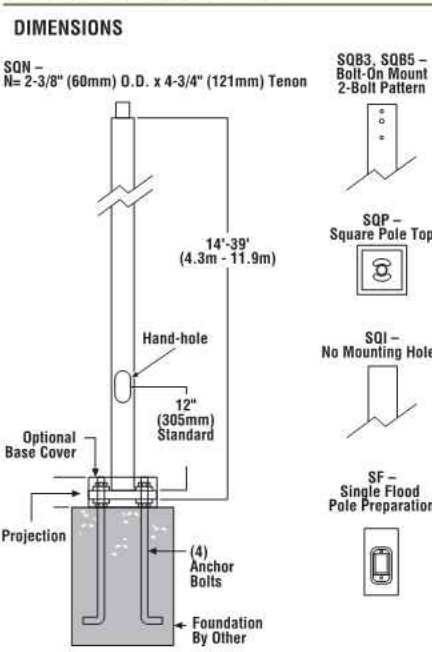
PHOTOMETRICS - Please visit our web site at www.lsi-industries.com for detailed photometric data.

SHIPPING WEIGHT (IN CARTON) - Fixture - 44.5 lbs (20 kg) Arm - 5 lbs. (2kg) arm

LISTING - UL listed to U.S. and Canadian safety standards. Suitable for wet locations. For a list of the specific products in this series that are DLC listed, please consult the LED Lighting section of our website or the Design Lights website at www.designlights.org.

LSI Industries™ Project Name _____ Fixture Type _____ 01/15/15
Catalog # _____ © 2015 LSI INDUSTRIES INC.

STEEL SQUARE POLES



SHIPPING WEIGHTS - Steel Square Poles				
4" (103mm) sq. 11 Ga. is approximately	7.50 lbs./ft.			
4" (103mm) sq. 10 Ga. is approximately	10.00 lbs./ft.			
4" (103mm) sq. 11 Ga. is approximately	5.00 lbs./ft.			
4" (103mm) sq. 10 Ga. is approximately	15.00 lbs./ft.			
4" (103mm) sq. 11 Ga. is approximately	14.00 lbs./ft.			
Anchor Bolt 3/4" x 30" (19mm x 152mm)	16 lbs. (7kg)			
Anchor Bolt 3/4" x 30" (19mm x 152mm)	30 lbs. (14kg)			

ARRA Funding Compliant American Innovation American Made

LSI Industries™ Project Name _____ Fixture Type _____ 01/23/15
Catalog # _____ © 2015 LSI INDUSTRIES INC.

POLE SHAFT - Pole shaft is electro-welded ASTM-A500 Grade C steel tubing with a minimum yield strength of 50,000 psi. On Teton Mount steel poles, tenon is 2-3/8" O.D. high-strength poles. Tenon is 4-3/4" in length. Straight poles are 4", 5", and 6" square.

HAND-HOLE - Standard hand-hole location is 12" above pole base. Poles 22" and above have a 3" x 6" reinforced hand-hole. Shorter poles have a 2" x 4" non-reinforced hand-hole.

BASE - Pole base is ASTM-A36 hot-rolled steel plate with a minimum yield strength of 36,000 psi. Two-piece square base cover is optional.

ANCHOR BOLTS - Poles are furnished with anchor bolts featuring zinc-plated ASTM F 1554-07a Grade 55 with a minimum yield strength of 55,000 psi.

GROUND LUG - Ground lug is standard.

DUPLEX RECEPTACLE - Weatherproof duplex receptacle is optional.

GROUND FAULT CIRCUIT INTERRUPTER - Ground fault circuit interrupter is optional.

FINISHES - Each pole is finished with DuraGrip®. LSI's baked-on polyester-powder finishing process which electrostatically applies and fuses a polyester powder to the pole. Provides an extremely smooth and uniform finish to withstand extreme weather changes without cracking or peeling, and features a five-year limited warranty. Optional DuraGrip® Plus features the added protection of a 3.0 to 5.0 mil thickness of polyester-powder finish plus an inner coating, as well as a seven-year limited warranty.

DETERMINING THE LUMINAIRE/POLE COMBINATION FOR YOUR APPLICATION:

- Select luminaire from luminaire ordering information
- Select bracket configuration if required
- Determine EPA value from luminaire/bracket EPA chart
- Select pole height
- Select MPH to match wind speed in the application area (See windspeed map).
- Confirm pole EPA equal to or exceeding value from note above
- Consult factory for special wind load requirements and banner brackets

POLE SELECTION CHART - 4" (103mm), 5" (127mm) and 6" (152mm) steel square poles									
Height	EPA *			Outside Dimensions		Material	Bolt Circle		
	70 MPH	80 MPH	90 MPH	100 MPH	110 MPH				
14 (4.3m)	23.3	16.7	12.2	9.0	4" (103mm)	S115	B		
16 (4.9m)	18.9	13.3	9.0	6.5	4" (103mm)	S116	B		
18 (5.5m)	14.4	9.7	6.5	4.2	4" (103mm)	S116	B		
18 (5.5m)	19.8	13.3	9.0	6.5	5" (127mm)	S116	B		
20 (6.1m)	11.0	7.0	4.2	2.2	4" (103mm)	S116	B		
20 (6.1m)	16.7	10.0	6.5	4.2	5" (127mm)	S116	B		
20 (6.1m)	22.5	15.4	10.0	7.0	5" (127mm)	S116	C		
22 (6.7m)	26.5	20.4	15.4	10.0	5" (127mm)	S116	C		
22 (6.7m)	19.4	13.3	9.0	6.5	4" (103mm)	S116	B		
22 (6.7m)	19.7	13.4	9.0	6.5	5" (127mm)	S116	B		
22 (6.7m)	20.8	13.8	9.0	6.5	6" (152mm)	S116	C		
22 (6.7m)	24.0	17.8	12.2	8.0	6" (152mm)	S116	C		
24 (7.3m)	7.7	4.9	1.5	—	4" (103mm)	S116	B		
24 (7.3m)	15.1	9.7	6.5	4.2	5" (127mm)	S116	B		
24 (7.3m)	16.7	10.5	6.5	4.2	6" (152mm)	S116	C		
24 (7.3m)	26.6	19.6	13.8	9.0	6" (152mm)	S116	C		
24 (7.3m)	15.9	9.1	—	—	4" (103mm)	S116	B		
26 (7.9m)	13.0	7.2	3.9	1.5	4" (103mm)	S116	B		
26 (7.9m)	13.2	7.6	3.8	1.0	5" (127mm)	S116	C		
26 (7.9m)	14.0	10.4	10.0	6.5	5" (127mm)	S116	C		
26 (7.9m)	29.6	22.3	15.9	10.0	6" (152mm)	S116	C		
26 (7.9m)	13.9	7.5	3.9	1.5	5" (127mm)	S116	C		
28 (8.5m)	23.9	22.7	15.1	9.6	6" (152mm)	S116	C		
28 (8.5m)	15.5	8.8	3.0	1.7	127mm)	S116	C		
30 (9.1m)	26.8	18.8	11.8	8.6	6" (152mm)	S116	C		
32 (9.7m)	16.3	10.0	4.3	—	6" (152mm)	S116	C		
39 (11.9m)	11.5	4.3	—	—	6" (152mm)	S116	C		

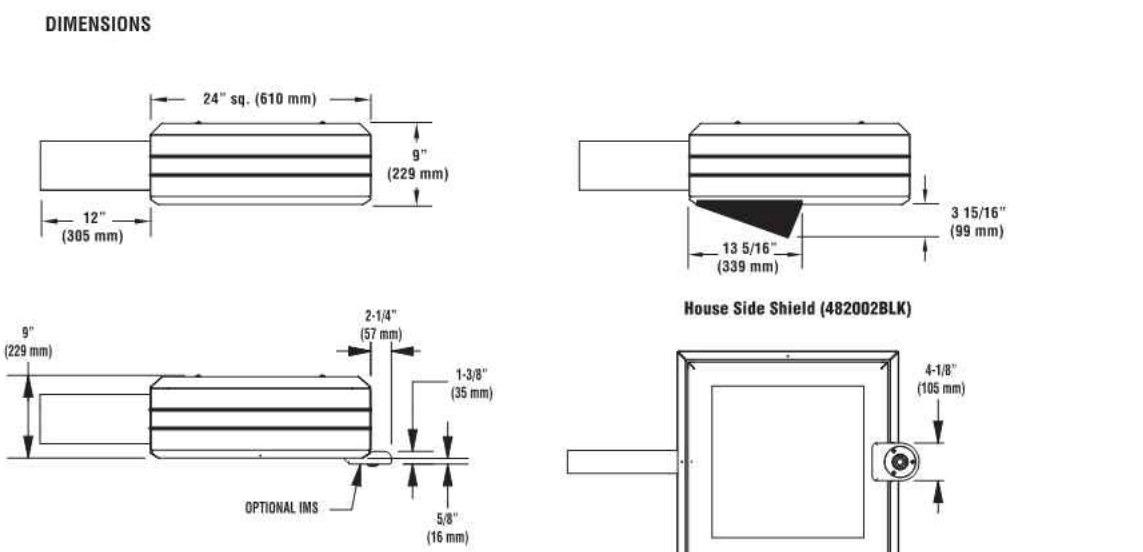
* EPA based on ANSI/ASCE 7-05. Refer to EPA information on next page. For applications in Canada and areas using code requirements other than ANSI/ASCE 7-05, consult factory. If luminaire weight exceeds 200 lbs. (113.4 kg), consult factory.

LED AREA LIGHTS - (XGBM)

LUMINAIRE ORDERING INFORMATION									
TYPICAL ORDER EXAMPLE: XGBM 5 LED HO CW UE WHT VCM ES									
Pole(s)	Distribution	Light Source	Drive Current	Color Temperature	Input Voltage	Finish	Optional Controls	Optional Sensor/Options	
XGBM - LED Generator	FT - Forward Throw FTA - Forward Throw Automotive 3 - Type III 5 - Type V	LED	LW - Low Watt SS - Super Saver HO - High Output	CW - Cool White NW - Neutral White	UE - Universal Voltage (120-277V) 347-480	BLK - Black BRZ - Bronze GPT - Graphite MSV - Metallic Silver PLP - Platinum Plus VCM - Standard (internal graph) SVC - Satin Verde GSM - Graphite WHT - White	Virtual Wireless Network requires a status controller (MMS) (blank) - None VCM - Standard (internal graph) PC 100 - 100V Button-Type Photocell PC 240 - 240V Button-Type Photocell PC 277 - 277V Button-Type Photocell PC 347 - 347V Button-Type Photocell	Sensor ES* - External Sensor MST - Integral Motion Sensor PC 100 - 100V Button-Type Photocell PC 240 - 240V Button-Type Photocell PC 277 - 277V Button-Type Photocell PC 347 - 347V Button-Type Photocell	Options SBR - S' Bracket (S and D180 only) TB - Terminal Block

LUMINAIRE EPA CHART - XGBM			ACCESSORY ORDERING INFORMATION		
Single	E' Bracket		(Accessories are field installed)		
	2.3	2.4	Order Number	Description	Order Number
180°	4.7	4.8	45020-BLK	SPSP100 - Wet Location Remote Box with 100V External Photocell	CP
180°	4.7	4.8	1628-LSL	RPSR308-FTT - Wet Location Remote Box with 100V External Photocell	CP
180°	4.7	4.8	12311-LSL	206-277V External Photocell	CP
180°	4.7	4.8	1680-LSL	PMOS100 - 100V Pole-Mount Occupancy Sensor	518030L-CP
180°	4.7	4.8	14419-LSL	PMOS208-240 - 240V Pole-Mount Occupancy Sensor	CP
180°	4.7	4.8	14419-LSL	PMOS277 - 277V Pole-Mount Occupancy Sensor	518030L-CP
180°	4.7	4.8	14419-LSL	CP	

FOOTNOTES:
1 - Use with 5" traditional drilling pattern.
2 - MS, DMM and BL5 are not compatible. On SS drive current with 347-480V consult factory regarding dimming.
3 - MS, DMM and BL5 are not compatible.
4 - Do not specify for satellite units.
5 - Not compatible with Virtual wireless systems, DMM or BL5.
6 - House Side Shield adds to fixture EPA HSB must be mounted opposite of MS. Consult factory.
7 - Includes VCM. To be used in conjunction with VCM option in future. Consult factory.
8 - To be used in conjunction with any of the VCM control modules and ES sensor option in future. Consult factory.



STEEL SQUARE POLES

POLE ORDERING INFORMATION														
TYPICAL ORDER EXAMPLE: 5S0B5 S07G 24 S PLP SF DGP														
Pole Series	Material	Height	Mounting Configuration	Pole Finish	Options									
Both-Arm Mount - See pole selection guide for patterns and fixture matches.	S115 - 11 Ga. Steel S075 - 17 Ga. Steel	14 16 18 20 22 24 26 28 30 32 34	S - Single/Parallel D180 - Double D270 - Double T - Triple T180 - Triple Q - Quad Q180 - Quad	BRZ - Bronze BLK - Black PLP - Platinum Plus WHT - White SVC - Satin Verde Green GPT - Graphite MSV - Metallic Silver	GA - Galvanized Anchor Bolts SF - Single Flange DF - Double Flange GPT - Graphite Plus LAB - Loss Anchor Bolts OSDC - Pole preparation for PMOS Occupancy Sensor*									
Pole Top Mount - Use with: • Greenstar Pole Top • Hicon Pole Top ASDP SSDP SSDP	Consult Pole Selection Chart on opposite page		PT - Pole Top Mount	Standard SF and DF pole preparations are located 3/4" of the height of the pole from the base, unless otherwise specified.										
Tenon Mount - See pole selection guide for tenon and future bracket matches.	ASDN SSDN SSDN	N - Tenon Mount (Standard tenon size is 2-3/8" O.D.)												
No Mounting Holes on Pole Caps - Use with: • BKA XISF & BKA XISF • BKA XISF & BKA XISF														
Internal Slip-Rite® ASDP SSDP														
NECESSARY ORDERING INFORMATION														

INTERNAL SLIP-SHIFT*									
ACCESSORY ORDERING INFORMATION (Accessories are field installed)									
Description	Order Number			Order Number					
ASDP - F Square Base Cover	122560L-R			Vibration Damper - F Square Pole (both on mount only)					
SSDP - F Square Base Cover	122560L-R			Vibration Damper - F Square Pole (both on mount only)					
SSDP - Weatherproof Duplex Receptacle	122560L-R			PMOS100 - 100V Occupancy Sensor					
GFI - Ground Fault Circuit Interrupter	122560L-R			PMOS208-240 - 240V Occupancy Sensor					
MSD - Mounting Hole (Pole) (Pole) (Pole) (Pole) (Pole) (Pole) (Pole) (Pole) (Pole) (Pole)	122560L-R			PMOS277 - 277V Occupancy Sensor					
MHD - Mounting Hole (Weatherproof) (Decal) for use with 3" reduced end pattern	34010								

FOOTNOTES:
1 - See Area Lighting Brackets - Both-on and XAS3XAM Area Lighting Brackets pages for Internal Slip-Shift brackets.
2 - Pole heights will have +/- 1/2" tolerance.
3 - See Pole Top Mounting Brackets section for choice of FRD brackets.
4 - Order PMOS separately. Change "XX" to indicate height and side of pole location for pole preparation. EG: 0150A indicates preparation to be FRD, up from pole base on side A. Optimal distance from ground to sensor is 20ft.
5 - OSXX option required. Not for use with Metal Pole Brackets.

BOLT CIRCLE				EPA INFORMATION			
4" (103mm) square 10-1/8" (257mm) sq.		6" (152mm) square 10-1/8" (257mm) sq.		8" (203mm) square 10-1/8" (257mm) sq.		12" (305mm) sq.	
10" (254mm) dia. Bolt Circle		12" (305mm) dia. Bolt Circle		14" (355mm) dia. Bolt Circle		16" (405mm) dia. Bolt Circle	
B		C		D		E	
Bolt Circle 9" (11" (229mm)-276mm)		Bolt Circle 9" (11" (229mm)-276mm)		Bolt Circle 9" (11" (229mm)-276mm)		Bolt Circle 12" (305mm)	
Anchor Bolt Size 3/4" x 32 (19mm x 750mm)		3/4" x 32 (19mm x 750mm)		1" x 32 (25mm x 750mm)		1" x 32 (25mm x 750mm)	
Anchor Bolt Size 3/4" x 32 (19mm x 750mm)		3/4" x 32 (19mm x 750mm)		1" x 32 (25mm x 750mm)		1" x 32 (25mm x 750mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	
Base Plate Thickness 1/2" (12mm)		1/2" (12mm)		1" (25mm)		1" (25mm)	