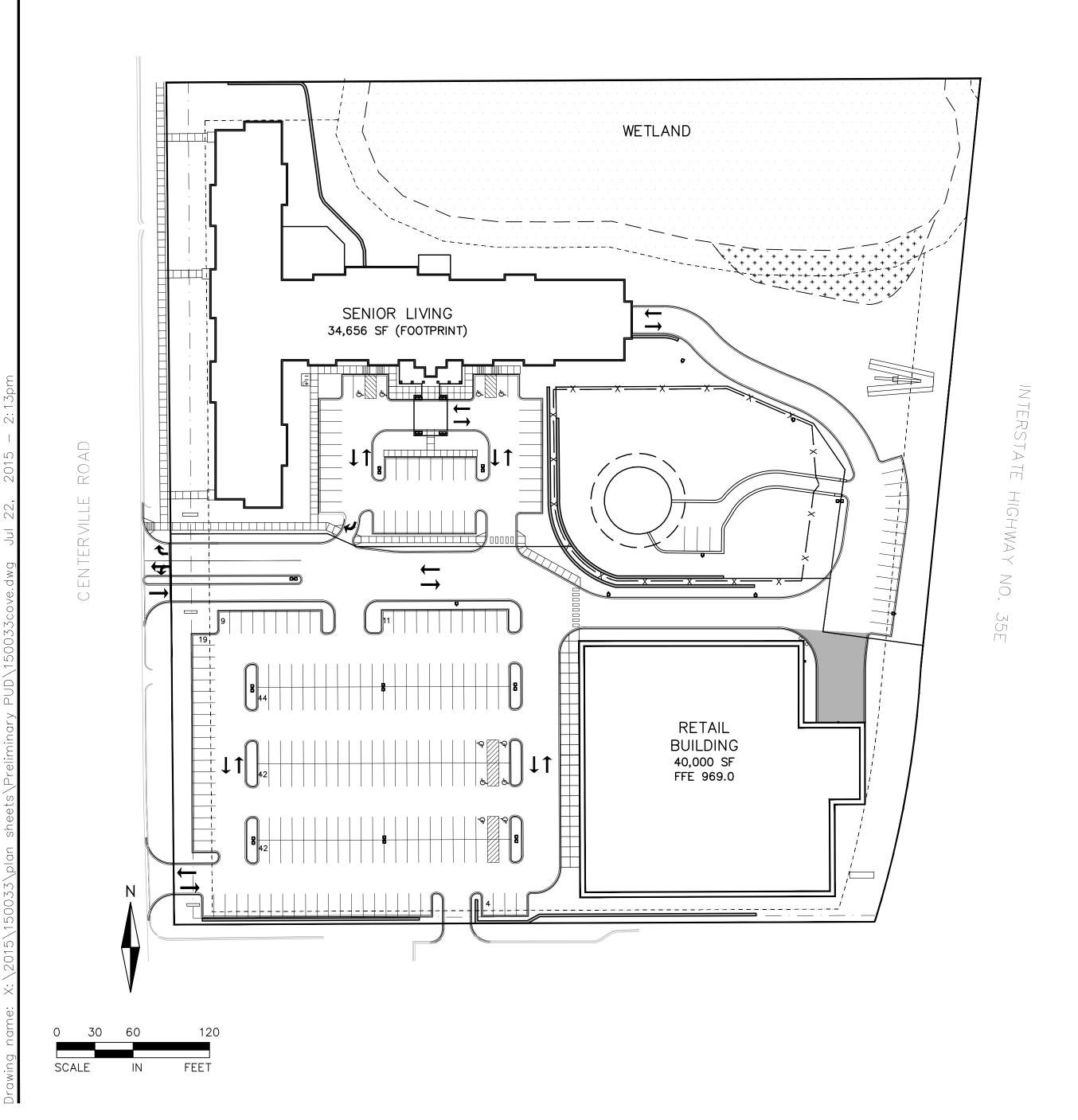
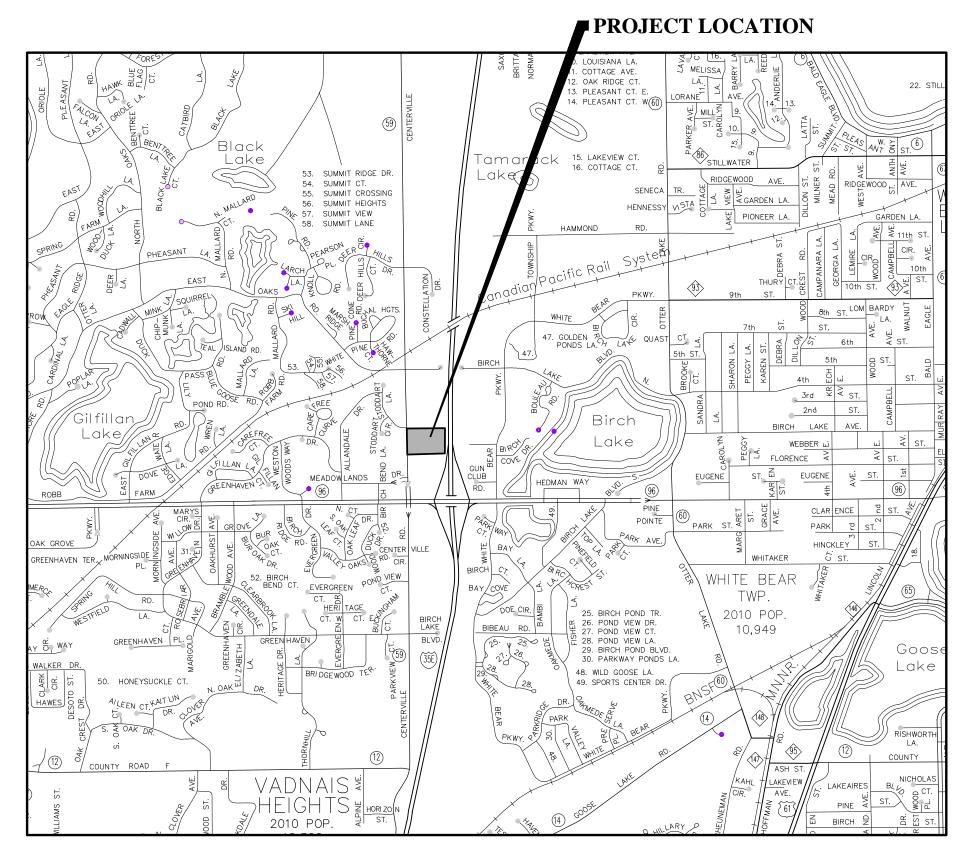
TOWER CROSSINGS WHITE BEAR LAKE, MINNESOTA





VICINITY MAP NOT TO SCALE

SHEET INDEX	NO
COVER SHEET]
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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





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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

LICENSE NO.

PROJECT TEAM

DATE ISSUE DATE ISSUE CJW 6-29-15 PRE PUD SUBMITTAL 7-22-15 CITY COMMENTS QA/QC REVIEW

TOWER CROSSINGS

PRELIMINARY PUD AND PLAT

COVER SHEET

LEGAL DESCRIPTION

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

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

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

1. 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.

2. 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.

3. The orientation of thisbearing system is based on the Ramsey County coordinate system NAD83.

4. All distances are in feet.

d. Total Area - 396,098

← ♥ POWER POLE W/ GUY

POST TREE

5. The area of the above described property is as follows:

a. Lot 1, Block 1 - 210,200 sq. ft. or 4.826 acres. b. Lot 1, Block 2 - 102,682 sq. ft. or 2.357 acres. c. City Parcel - 83,216 sq. ft. or 1.910 acres.

6. 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.

7. The vertical datum is based on NAVD88. 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.

8. Field work was completed on 5/12/15.

LEGEND

IRON MONUMENT FOUND ROW MONUMENT FOUND CIM MONUMENT FOUND WATER VALVE HYDRANT TELEPHONE BOX ELECTRIC BOX LIGHT POLE SANITARY MANHOLE WELL	- G - T OU - FO - X -	GAS UNDERGROUND TELEPHONE WATERMAIN OVERHEAD UTILITY FIBER OPTIC FENCES CONCRETE BITUMINOUS GRAVEL
WELL		GRAVEL
HAND HOLE		
TRANSFORMER		
CATCH BASIN		



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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

Date

Signature

License Number

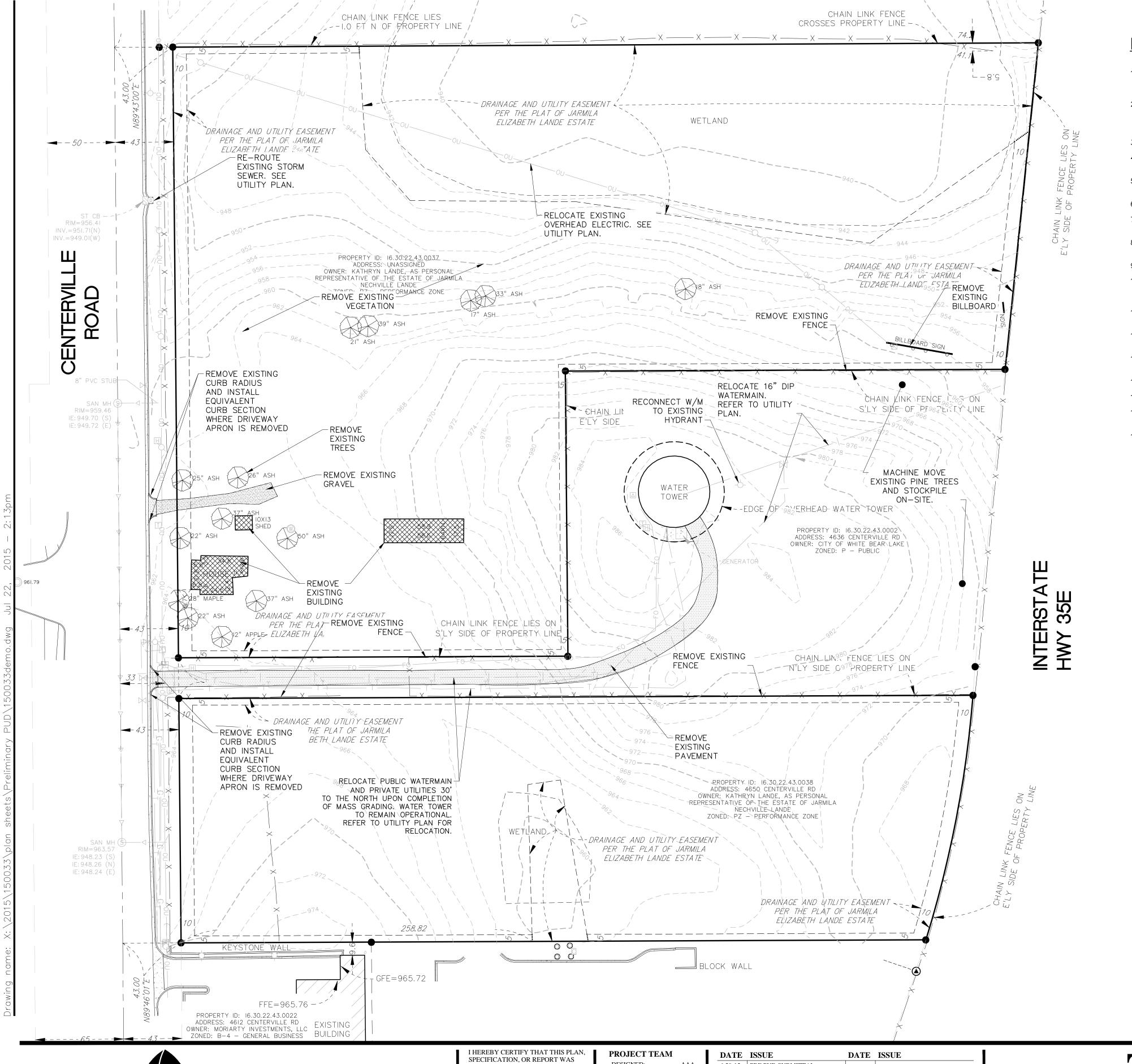
TOWER CROSSINGS

	DRAWN BY	ELL, DPE, GJB
	CHECKED BY	DBO
	DATE ISSUED	6/16/15
	SCALE	1"=50'
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WHITE BEAR LAKE, MINNESOTA

4650 CENTERVILLE ROAD



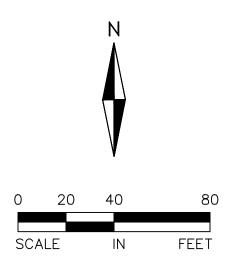
DEMOLITION NOTES:

- 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
- 9. ALL WORK WITHIN THE PUBLIC R.O.W. STALL 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
- 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	T	EXISTING TELEPHONE
>>>>	EXISTING STORM SEWER	E	EXISTING UNDERGROUND ELECTRIC
	EXISTING WATERMAIN	*	EXISTING LIGHT POLE
	EXISTING SANITARY MANHOLE		EXISTING PROPERTY LINE
	EXISTING CATCH BASIN	========	REMOVE EXISTING CURB
	EXISTING HYDRANT		EXISTING CONTOUR
\bigcirc	EXISTING WELL		
TR	EXISTING TRANSFORMER		REMOVE EXISTING PAVEMENT
\bowtie	EXISTING GATE VALVE		
G	EXISTING GAS LINE		
OE	EXISTING OVERHEAD ELECTRIC		







ENGINEERING

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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

LICENSE NO.

CLARK WICKLUND, PE

DATE

DESIGNED: AAA

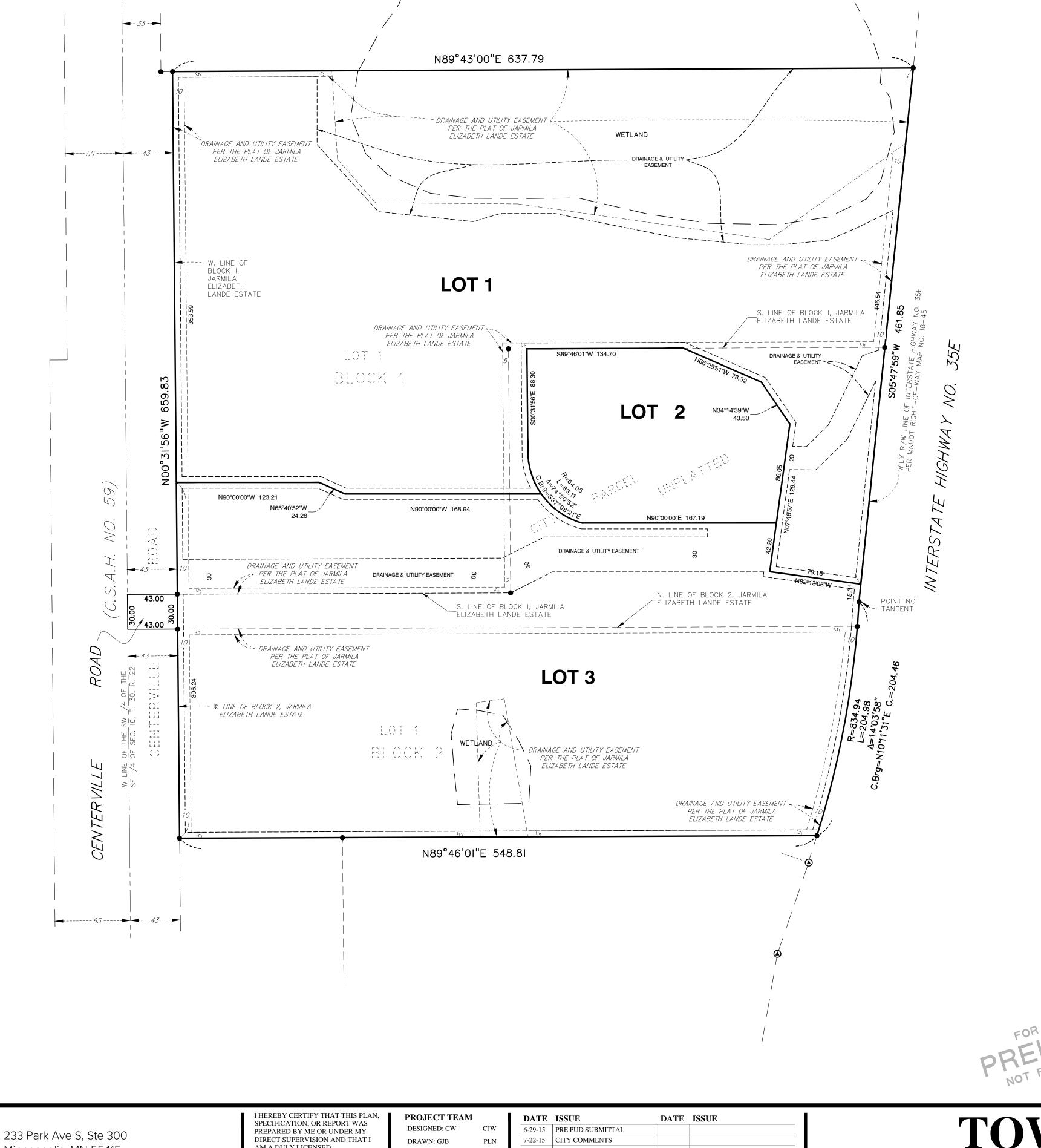
QA/QC REVIEW

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

TOWER CROSSINGS

PRELIMINARY PUD AND PLAT

DEMOLITION AND RELOCATION PLAN



LEGAL DESCRIPTION

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

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

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

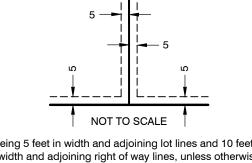
All drainage and utility easements dedicated in the recorded plat of JARMILA ELIZABETH LANDE ESTATE are proposed to be vacated prior to recording of final plat.

LEGEND

PROPERTY LINE LOT LINE ---- EASEMENT LINE SECTION LINE FOUND IRON MONUMENT

LOT /	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:



Being 5 feet in width and adjoining lot lines and 10 feet in width and adjoining right of way lines, unless otherwise indicated on the plat.



SCALE IN

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AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA

LICENSE NO.

PROJECT NO: 150033215-0033

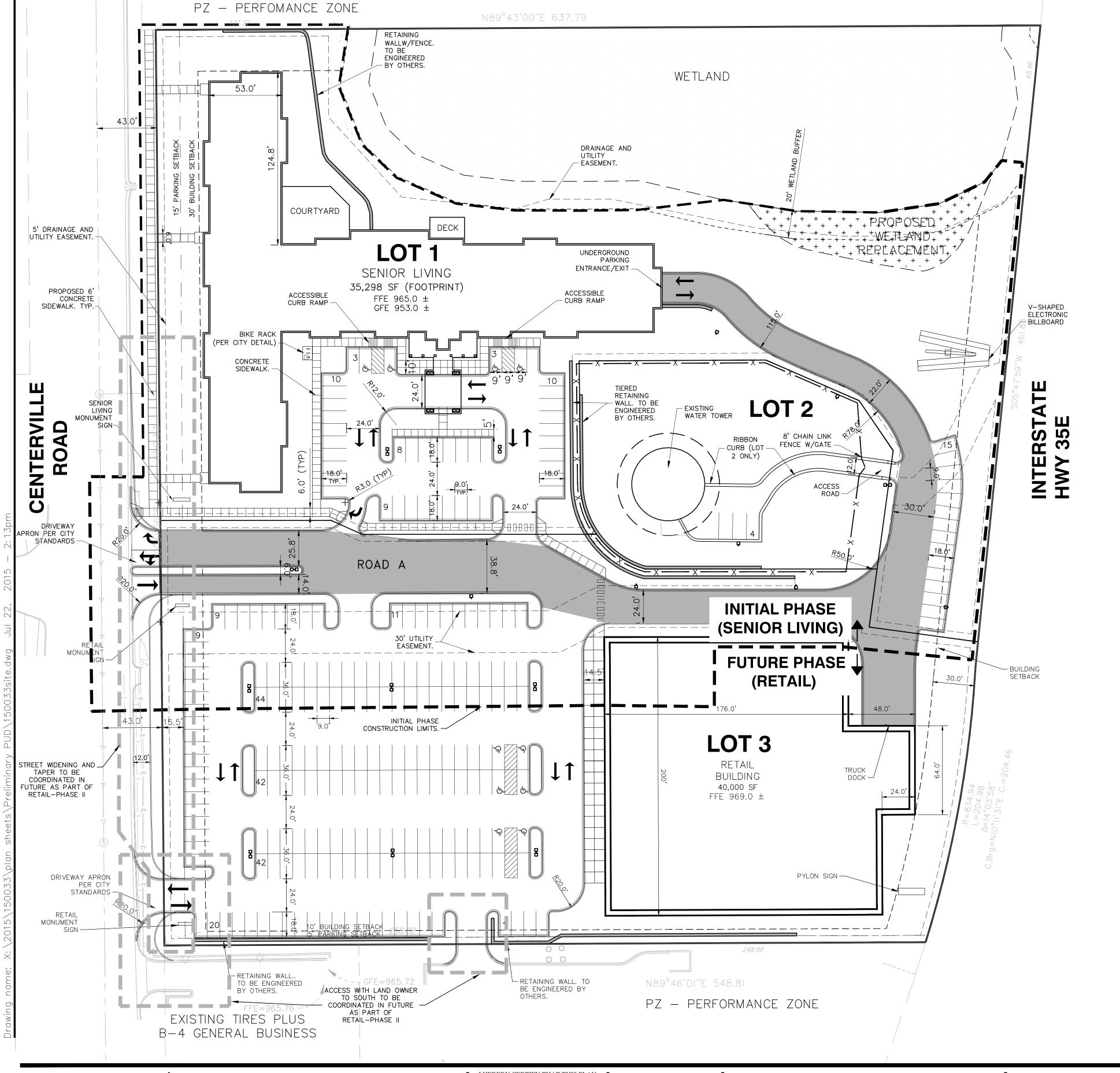
QA/QC REVIEW

TOWER CROSSINGS

PRELIMINARY PUD AND PLAT

PRELIMINARY PLAT

SHEET 4 of 13



SITE LEGEND:

B612 CURB AND GUTTER

EXISTING CURB AND GUTTER

LIMITS OF PHASE 1 CONSTRUCTION

R.O.W.

PROPERTY LINE

BUILDING SETBACK

PARKING SETBACK

PARKING SETBACK

DRAINAGE AND UTILITY EASEMENT

LUMINAIRE

DIRECTION OF TRAFFIC

HEAVY DUTY BITUMINOUS PAVEMENT

LIGHT DUTY BITUMINOUS PAVEMENT

LIGHT DUTY BITUMINOUS PAVEMENT

LIGHT DUTY BITUMINOUS PAVEMENT

WETLAND REPLACEMENT

DELINEATED WETLAND LINE

WETLAND SETBACK

SITE PLAN NOTES

- 1. DIMENSIONS ARE TO FACE OF BUILDING AND/OR FACE OF CURB.
- 2. REFER TO ARCHITECTURAL DRAWINGS FOR CONCRETE STOOPS ADJACENT TO PROPOSED BUILDING.
- 3. ALL CONCRETE CURB AND GUTTER ADJACENT TO CONCRETE WALK BE SEPARATED BY A 1/2 INCH EXPANSION JOINT.
- 4. STRIPING SHALL BE 4 INCH WHITE.
- 6. ALL WORK WITHIN THE R.O.W. SHALL COMPLY WITH THE CITY OF WHITE BEAR LAKE ENGINEERING DESIGN STANDARDS.
- 7. ALL CURB AND GUTTER TO BE CONCRETE B612 CURB UNLESS NOTED OTHERWISE, PER CITY STANDARDS.
- 8. 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.
- 9. REFER TO LIGHTING PLAN FOR LIGHT LOCATIONS, FOOTCANDLE PRINT OUT AND SPECIFICATIONS.
- 12. INCLUDE VALLEY CURB AT DRIVEWAY ENTRANCES PER CITY STANDARDS.

WETLAND BUFFER DATA

WETLAND BUFFERS AND SETBACK REQUIREMENTS

LIGHT MANAGEMENT

REQUIREMENT CLASS

MIN. BUFFER = 16'
BUFFER SETBACK = 20'

LOT 1 DATA

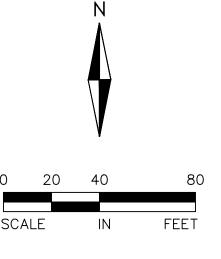
DDODOCED ZONINO	DZ DEDEODWANOE ZONE A DUDUO
PROPOSED ZONING	PZ - PERFORMANCE ZONE & PUBLIC
LOT 1 TOTAL AREA	203,970.35 SF (4.68 AC)
NUMBER OF UNITS	112 UNITS
BUILDING FOOTPRINT	35,298 S.F.
BUILDING SF	FLOORS 1-3 TOTAL = 104,610 SF GARAGE = 24,305 SF TOTAL = 128,915 GSF
FRONT SETBACK SIDE SETBACK	30 FT 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 SIDE SETBACK	N/A 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 SIDE SETBACK	30 FT 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







ENGINEERING

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LICENSE NO.

CLARK WICKLUND, PE

7-22-15

DATE

PROJECT TEAM

DESIGNED: CJW

DRAWN: PLN

PROJECT NO: 215-0033

QA/QC REVIEW

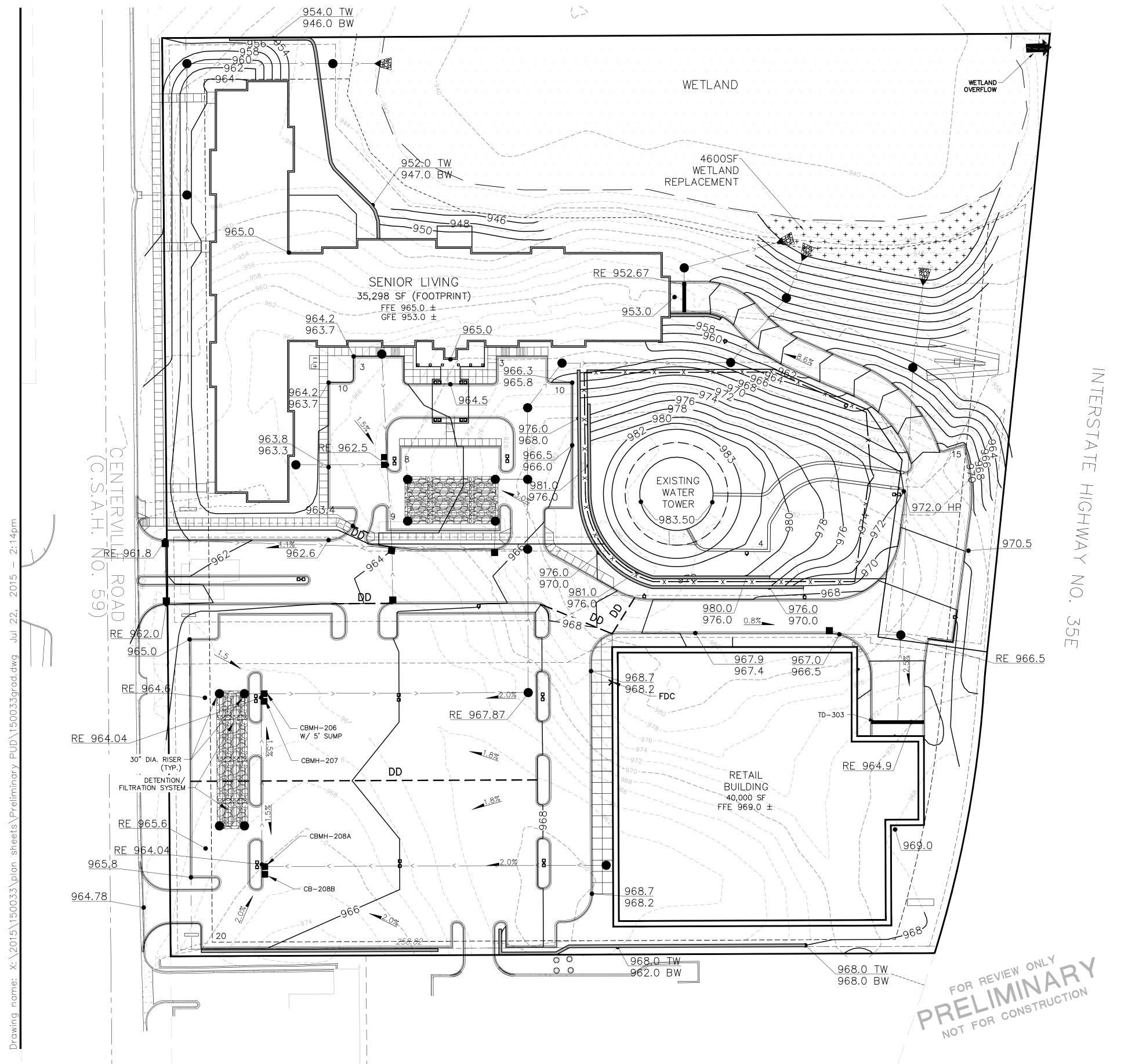
DATE ISSUE

6-29-15 PRE PUD SUBMITTAL

7-22-15 CITY COMMENTS

TOWER CROSSINGS

PRELIMINARY PUD AND PLAT SITE PLAN



GRADING LEGEND:

---- PROPOSED EASEMENT EXISTING CONTOUR PROPERTY LINE — 789 — PROPOSED CONTOUR - · - · - · - · - SETBACK LINE PROPOSED SPOT ELEVATION ---- LOT LINE TW XXX TOP OF WALL ELEVATION ----- RIGHT-OF-WAY BW XXX BOTTOM OF WALL ELEVATION TREE PROTECTION LIMITS DIRECTION OF DRAINAGE EMERGENCY OVERFLOW ROUTING

RETAINING WALL

PROPOSED CATCH BASINS PROPOSED LIMITS OF CONSTRUCTION

GRADING NOTES:

- 1. ALL FINISHED GRADES SHALL SLOPE AWAY FROM PROPOSED BUILDINGS AT MINIMUM GRADE OF 2.0%. ALL SWALES SHALL HAVE A MINIMUM SLOPE OF 2.00%.
- 2. 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
- 3. NOTIFY GOPHER STATE ONE CALL, AT (800)252-1166, 48 HOURS PRIOR TO START OF CONSTRUCTION.
- 4. ALL IMPROVEMENTS TO CONFORM WITH CITY OF WHITE BEAR LAKE CONSTRUCTION STANDARDS SPECIFICATION, LATEST EDITION.
- 5. ROCK CONSTRUCTION ENTRANCES SHALL BE PROVIDED AT ALL CONSTRUCTION ACCESS POINTS.
- 6. REFER TO GEOTECHNICAL REPORT AND PROJECT MANUAL, FOR SOIL CORRECTION REQUIREMENTS AND TESTING REQUIREMENTS.
- 7. STRIP TOPSOIL PRIOR TO ANY CONSTRUCTION. REUSE STOCKPILE ON SITE. STOCKPILE PERIMETERS MUST BE PROTECTED WITH SILT FENCE.
- 8. 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.
- 9. 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.
- 10. 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.
- 11. REFER TO STORMWATER POLLUTION PREVENTION PLAN (SWPPP) FOR ALL EROSION AND SEDIMENT CONTROL DEVICE LOCATION, DESCRIPTIONS, NOTES AND DETAILS INCLUDING CONCRETE WASHOUT STATION INSTRUCTIONS.
- 12. WETLAND BUFFER MONUMENT SIGNS SHALL BE INSTALLED AT EACH POINT WHERE A LOT LINE INTERSECTS WITH THE WETLAND BUFFER.
- 13. 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.
- 14. A 3 FOOT SAFETY RAILING IS REQUIRED ATOP ALL WALLS 4 FOOT TALL OR GREATER.

Site composite existing runoff rate as calculated by HydroCAD

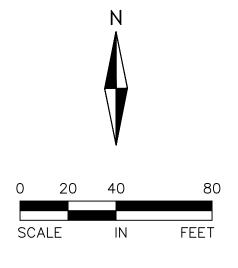
Event	To Centerville Road (cfs)	To I35E Ditch (cfs)
2 year (2.79" 24hr)	1.25	5.38
10 year (4.16" 24hr)	2.45	10.50
100 year (7.24" 24hr)	5.32	22.73
100 year snow melt (7.00" 240hr)	0.84	3.56

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

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





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LICENSE NO.

CLARK WICKLUND, PE

7-22-15

DATE

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

QA/QC REVIEW

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

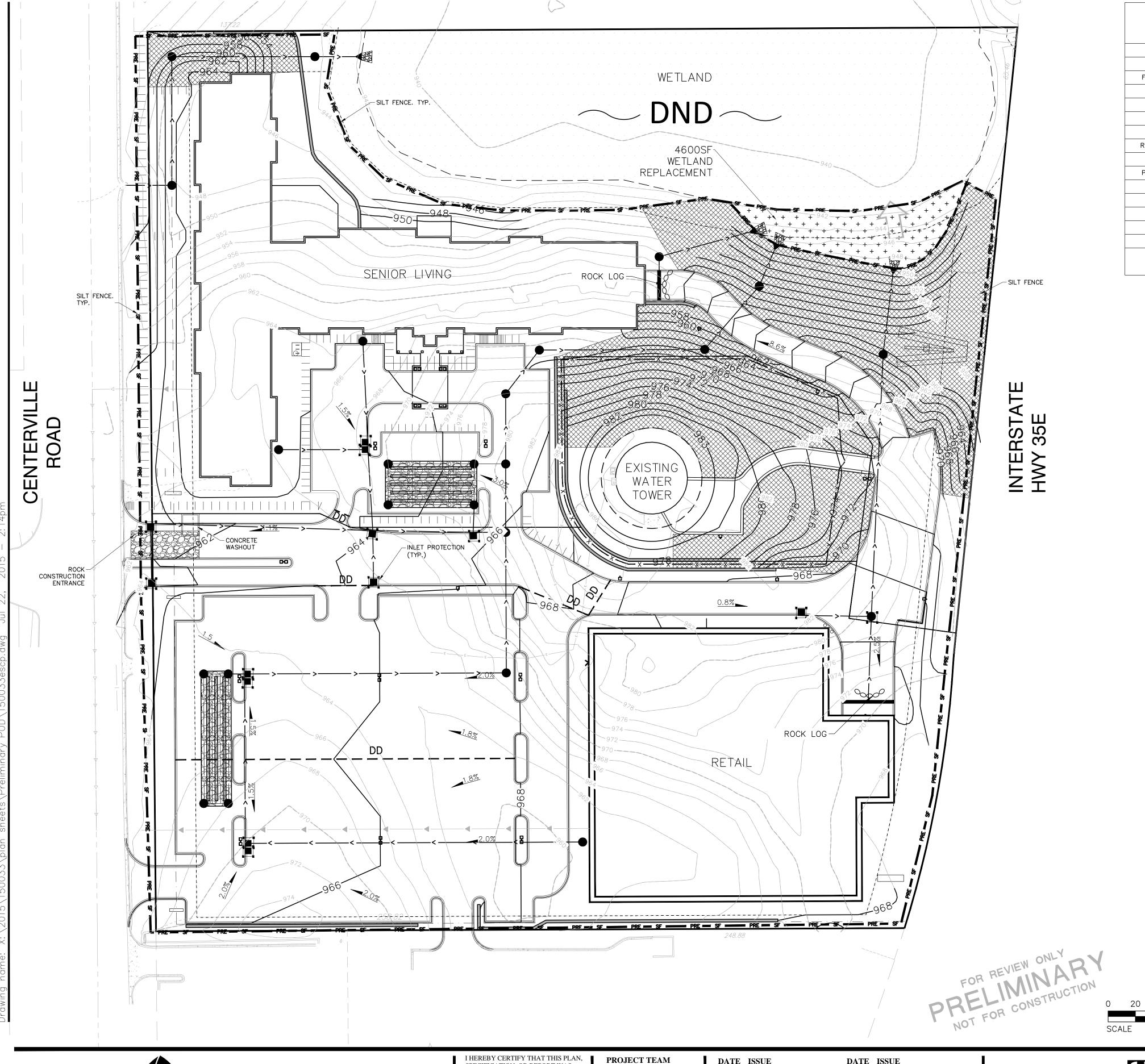
TOWER CROSSINGS

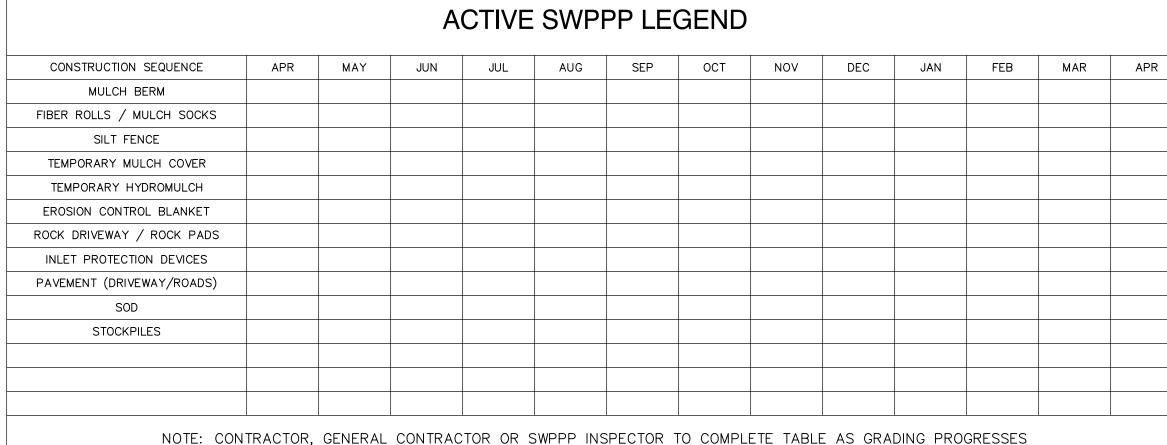
PRELIMINARY PUD

AND PLAT

GRADING AND DRAINAGE PLAN

SHEET 6 of 13





CONSTRUCTION SEQUENCING:

MASS GRADING PHASE (EDC)

. INSTALL STABILIZED CONSTRUCTION ENTRANCES. 2. PREPARE TEMPORARY PARKING AND STORAGE AREA.

INSTALL THE PRE-GRADING SILT FENCES AND INLET PROTECTION BMPs ON THE SITE.

. CONSTRUCT ALL PRE-GRADING EROSION AND SEDIMENTATION CONTROL BMPs. COMPLETE MASS GRADING AND INSTALL TEMPORARY AND PERMANENT SEEDING AND PLANTING.

6. CONSTRUCT POST-GRADING SILT FENCE ON THE SITE.

STREET & UTILITY PHASE (CITY) INSTALL UTILITIES, UNDERDRAINS, STORM SEWERS, CURBS AND GUTTERS.

INSTALL RIP RAP AROUND OUTLET STRUCTURES. INSTALL INLET PROTECTION AROUND ALL STORM SEWER STRUCTURES.

. PREPARE SITE FOR PAVING. D. PAVE SITE.

INSTALL INLET PROTECTION DEVICES.

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

SEED/SOD POST GRADING AREA

13 EA SEE LANDSCAPE PLAN 1. SILT FENCE (MnDOT 3886)

2. CURB LOG 3. ROCK WEEPER

INLET PROTECTION DEVICES

WIMCO (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

LEGEND:

(OATS 20-120 DAY STABILIZATION) 2. MnDOT-150 (1-2 YEAR STABILIZATION)

PERMANENT SEED MIX/STABILIZATION

1. MnDOT 270 (RESIDENTIAL TURF)

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:

GRADING ACTIVITY

1. CONCRETE WASHOUT IS DONE TRUCK BY TRUCK WITH A MOBILE WASHOUT

BY THE CONCRETE CONTRACTOR.

SYSTEM PROVIDED AND COMPLETED

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

PROPOSED RETAINING WALL DIRECTION OF DRAINAGE PROPOSED CATCH BASINS PROPOSED STORM SEWER

-----789 PROPOSED CONTOUR

PROPOSED EASEMENT PROPERTY LINE

SETBACK LINE LOT LINE ----- RIGHT-OF-WAY

PRE SF PROPOSED SILT FENCE (PRE GRADING)

EXISTING CONTOUR

INLET PROTECTION 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

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 CLARK WICKLUND, PE

LICENSE NO.

7-22-15

DATE

DESIGNED: CJW DRAWN: PROJECT NO: 215-0033

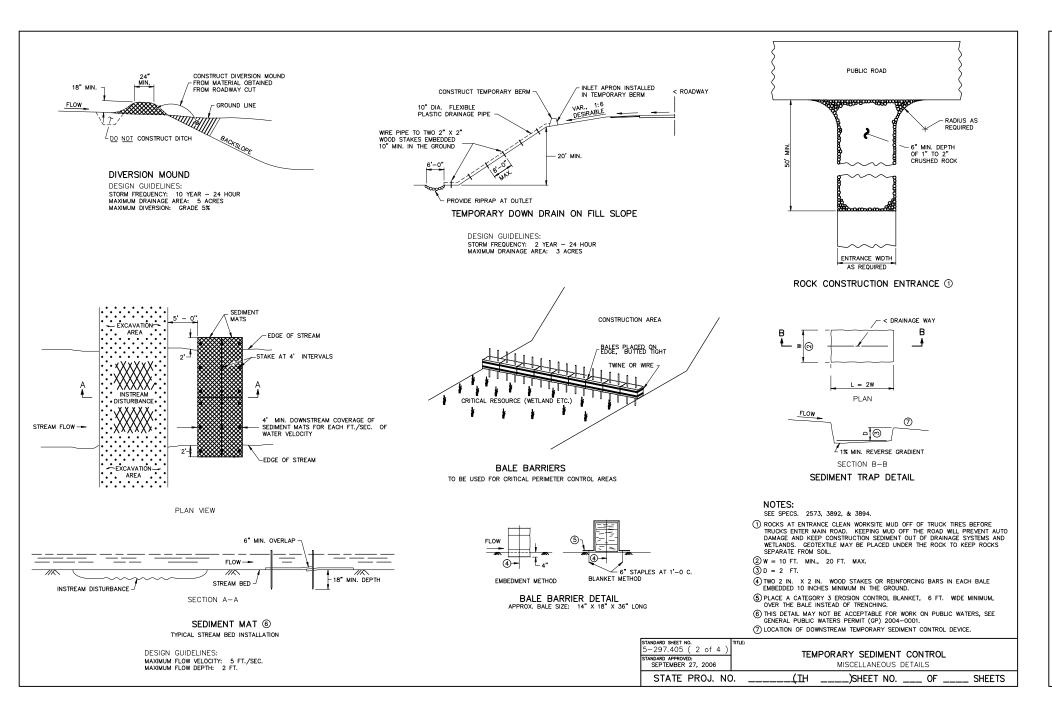
DATE ISSUE 6-29-15 PRE PUD SUBMITTAL 7-22-15 CITY COMMENTS QA/QC REVIEW

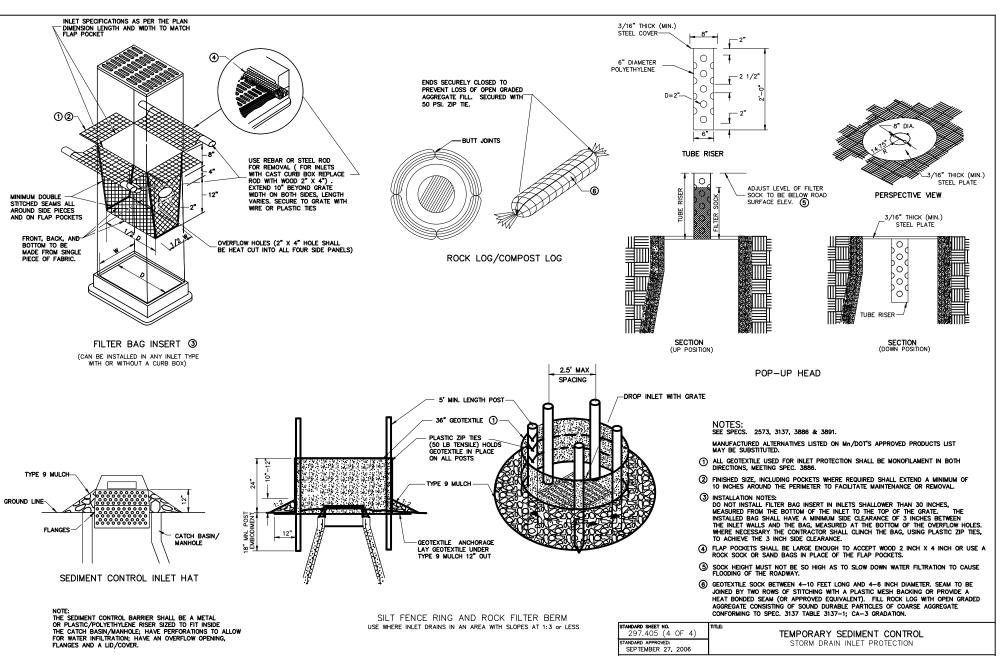
TOWER CROSSINGS

PRELIMINARY PUD **AND PLAT**

EROSION AND SEDIMENT CONTROL PLAN

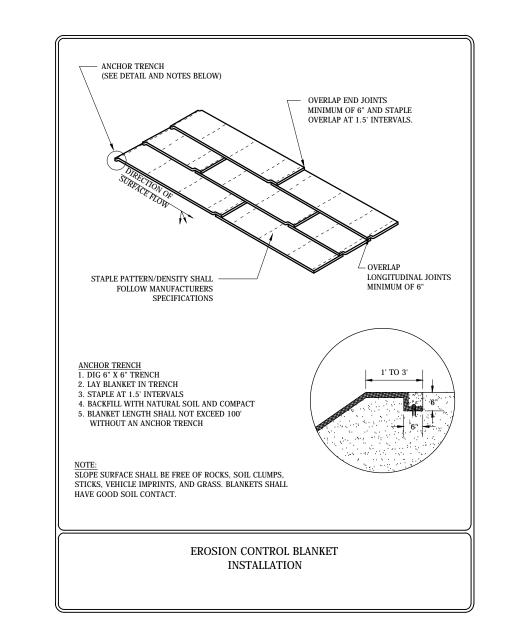
SHEET 7 of 13

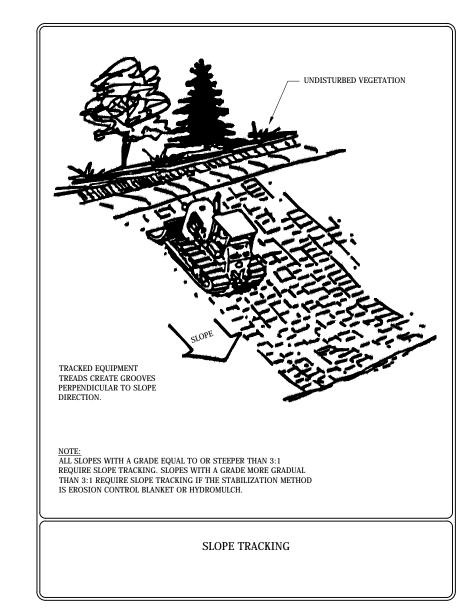


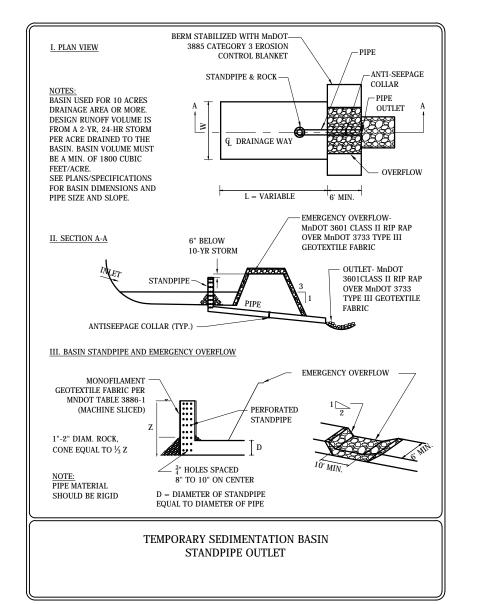


STATE PROJ. NO.

___(IH _____)SHEET NO. ____ OF ____ SHEETS







EROSION CONTROL GENERAL NOTES:

NO LAND DISTURBING ACTIVITY SHALL OCCUR UNTIL A GRADING PERMIT HAS BEEN ISSUED FROM THE CITY OF WHITE BEAR LAKE AND THE WATERSHED DISTRICT.

 BEST MANAGEMENT PRACTICES (BMP'S) REFER TO EROSION AND SEDIMENT CONTROL PRACTICES DEFINED IN THE MPCA PROTECTING WATER QUALITY IN URBAN AREAS AND THE MINNESOTA CONSTRUCTION SITE EROSION AND SEDIMENT CONTROL PLANNING HANDBOOK.

3. ALL BMP'S SELECTED SHALL BE APPROPRIATE FOR THE TIME OF YEAR, SITE CONDITIONS, AND ESTIMATED

ALL WORK AND MATERIALS SHALL BE CONSTRUCTED ACCORDING TO THE APPROVED PLANS. ANY DEVIATION FROM THE APPROVED PLANS SHALL REQUIRE WRITTEN APPROVAL FROM THE ENGINEER OF RECORD.
 A COPY OF THESE PLANS MUST BE ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS.
 THE BOUNDARIES OF THE LAND DISTURBANCE LIMITS SHOWN ON THE PLANS SHALL BE CLEARLY FLAGGED IN THE FIELD PRIOR TO CONSTRUCTION. NO DISTURBANCE BEYOND THE DISTURBED LIMITS.
 WHEREVER POSSIBLE, PRESERVE THE EXISTING TREES, GRASS AND OTHER VEGETATIVE COVER TO HELP FILTER RUNOFF.

8. ESTABLISH A PERMANENT VEGETATIVE COVER ON ALL EXPOSED SOILS WHERE LAND IS COMING OUT OF AGRICULTURAL PRODUCTION. PLANT AS SOON AS POSSIBLE TO ESTABLISH DENSE GRASS FILTER PRIOR TO CONSTRUCTION AND TO MINIMIZE WEED GROWTH.

9. ALL TREES NOT LISTED FOR REMOVAL SHALL BE PROTECTED. DO NOT OPERATE EQUIPMENT WITHIN THE DRIPLINE, ROOT ZONES OR WITHIN TREE PROTECTION FENCE AREAS.

10. ALL EROSION AND SEDIMENT CONTROL FACILITIES (BMP'S) SHALL BE INSTALLED AND IN OPERATION PRIOR TO LAND DISTURBANCE ACTIVITIES AND THEY SHALL BE SATISFACTORILY MAINTAINED UNTIL CONSTRUCTION IS COMPLETED AND THE POTENTIAL FOR EROSION HAS PASSED.

11. SILT FENCE IS REQUIRED AT DOWN GRADIENT PERIMETER OF DISTURBED AREAS AND STOCKPILES. PROTECT WETLANDS, WATERCOURSES AND ADJACENT PROPERTIES FROM SEDIMENTATION AND STORMWATER RUNOFF.

12. THE BMP'S SHOWN ON THE PLANS ARE THE MINIMUM REQUIREMENTS FOR THE ANTICIPATED SITE CONDITIONS. AS CONSTRUCTION PROGRESSES AND UNEXPECTED OR SEASONAL CONDITIONS DICTATE, THE PERMITTEE/CONTRACTOR SHALL ANTICIPATE THAT MORE BMP'S WILL BE NECESSARY TO ENSURE EROSION AND SEDIMENT CONTROL ON THE SITE. DURING THE COURSE OF CONSTRUCTION, IT IS THE RESPONSIBILITY OF THE PERMITTEE/CONTRACTOR TO ADDRESS ANY NEW CONDITIONS THAT MAY BE CREATED BY CONSTRUCTION ACTIVITIES AND/OR CLIMATIC EVENTS AND TO PROVIDE ADDITIONAL BMP'S OVER AND ABOVE THE MINIMUM REQUIREMENTS SHOWN ON THE PLANS, AS MAY BE NEEDED TO PROVIDE EFFECTIVE PROTECTION OF WATER AND SOIL RESOURCES.

13. THE BMP'S SHALL BE INSPECTED DAILY BY THE PERMITTEE/CONTRACTOR AND MAINTAINED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTIONING. SILT FENCES CLEANED OR REPLACED AT SEDIMENT BUILDUP OF 1/3 OF THE FENCE HEIGHT.

14. LAND DISTURBING ACTIVITIES SHALL OCCUR IN INCREMENTS OF WORKABLE SIZE SUCH THAT ADEQUATE BMP CONTROL CAN BE PROVIDED THROUGHOUT ALL PHASES OF CONSTRUCTION. THE SMALLEST PRACTICAL AREA SHALL BE EXPOSED OR OTHERWISE DISTURBED AT ANY ONE TIME.

15. OPERATE TRACK EQUIPMENT (DOZER) UP AND DOWN EXPOSED SOIL SLOPES ON FINAL PASS, LEAVING TRACK GROOVES PERPENDICULAR TO THE SLOPE. DO NOT BACK-BLADE. LEAVE A SURFACE ROUGH TO MINIMIZE EROSION.

16. ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE STABILIZED FROM EROSION WITHIN 7 DAYS OF SUBSTANTIAL COMPLETION OF GRADING IN THAT AREA. TEMPORARY SEED AND MULCH SHALL COVER ALL EXPOSED SOILS IF GRADING COMPLETION IS DELAYED LONGER THAN 7 DAYS. PERMANENT SEED AND MULCH OR SOD IS REQUIRED WITHIN 3 DAYS OF COMPLETION OF FINAL GRADING.

17. GENERAL TEMPORARY SEED SHALL BE MNDOT MIX 190 © 100 LBS. PER ACRE OR APPROVED EQUAL. PERMANENT SEED SHALL BE MNDOT MIX 270 © 120 LBS. PER ACRE OR APPROVED EQUAL. (PLANTING DATES PER SPEC 2575) MULCH SHALL BE MNDOT TYPE 1 (CLEAN OAT STRAW) © 2 TONS PER ACRE AND DISK ANCHORED IN PLACE OR APPROVED EQUAL. FERTILIZER SHALL BE 80-80-80 NPK PER ACRE (UNLESS P RESTRICTIONS APPLY) AND INCORPORATED INTO THE SEED BED.

18. WETLAND BUFFER AREAS SHALL BE SEEDED IN ACCORDANCE WITH LANDSCAPE PLAN.

19. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE PROPERLY DISPOSED OF WITHIN THIRTY (30) DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED OR AFTER THE TEMPORARY MEASURES ARE NO

20. AN ALTERNATE EROSION & SEDIMENT CONTROL PLAN SHALL BE REQUIRED FOR LAND DISTURBANCES ON EACH LOT AS PART OF ANY FUTURE BUILDING PERMIT FOR THE CONSTRUCTION OF STRUCTURES AND DRIVEWAYS.

EROSION CONTROL SCHEDULE:

1. PRIOR TO ANY CONSTRUCTION OR DEMOLITION, SILT FENCE AND FILTERS SHALL

2. ALL EROSION CONTROL INSTALLATIONS SHALL REMAIN IN PLACE AND BE MAINTAINED IN GOOD CONDITION BY THE CONTRACTOR UNTIL THE SITE HAS BEEN RE-VEGETATED. CONTRACTOR MAY REMOVE NECESSARY SILT FENCING/FILTERS TO CONSTRUCT ROADWAYS, WHILE MAINTAINING ADEQUATE EROSION CONTROL IN ADJACENT AREA.

3. SUFFICIENT TOPSOIL SHALL BE STOCKPILED TO ALLOW FOR THE REPLACEMENT OF 4" OF TOPSOIL FOR DISTURBED AREAS TO BE RE—VEGETATED.

4. THE CONTRACTOR SHALL SCHEDULE SITE GRADING, UTILITY INSTALLATION AND PAVEMENT CONSTRUCTION SO THAT THE GENERAL SITE CAN BE MULCHED AND RE—SEEDED SOON AFTER DISTURBANCE. AREAS THAT WILL NOT BE SUBJECT TO CONSTRUCTION TRAFFIC SHALL BE SEEDED (MnDOT MIX 190 ◎ 100#/AC AND MULCHED OR SODDED WITHIN SEVEN (7) DAYS OF BEING DISTURBED.

5. CONTRACTOR SHALL INSTALL EROSION CONTROL DEVICES AS INDICATED ON THIS EROSION CONTROL PLAN AND ANY ADDITIONAL REQUIRED BASED ON MEANS, METHODS AND SEQUENCES OF CONSTRUCTION.

SEDIMENT CONTROL PRACTICES:

SEDIMENT CONTROL PRACTICES MUST MINIMIZE SEDIMENT FROM ENTERING SURFACE WATERS, INCLUDING CURB AND GUTTER SYSTEMS AND STORM SEWER INLETS.
 SEDIMENT CONTROL PRACTICES MUST BE ESTABLISHED ON ALL DOWN GRADIENT PERMITERS BEFORE ANY UPGRADIENT LAND DISTURBING ACTIVITIES BEGIN. THESE PRACTICES SHALL REMAIN IN PLACE UNTIL FINAL STABILIZATION HAS BEEN ESTABLISHED.

3. THE TIMING OF THE INSTALLATION OF SEDIMENT CONTROL PRACTICES MAY BE ADJUSTED TO ACCOMMODATE SHORT—TERM ACTIVITIES SUCH AS CLEARING OR GRUBBING, OR PASSAGE OF VEHICLES. ANY SHORT—TERM ACTIVITY MUST BE COMPLETED AS QUICKLY AS POSSIBLE AND THE SEDIMENT CONTROL PRACTICES MUST BE INSTALLED IMMEDIATELY AFTER THE ACTIVITY IS COMPLETED. HOWEVER, SEDIMENT CONTROL PRACTICES MUST BE INSTALLED BEFORE THE NEXT PRECIPITATION EVENT EVEN IF THE ACTIVITY IS NOT COMPLETE.

4. ALL STORM DRAIN INLETS MUST BE PROTECTED BY APPROPRIATE BMPS DURING CONSTRUCTION UNTIL ALL SOURCES WITH POTENTIAL FOR DISCHARGING TO THE INLET HAVE BEEN STARILIZED.

TEMPORARY SOIL STOCKPILES MUST HAVE SILT FENCES OR OTHER EFFECTIVE SEDIMENT CONTROLS, AND CANNOT BE PLACED IN SURFACE WATERS, INCLUDING STORM WATER CONVEYANCES SUCH AS CURB AND GUTTER SYSTEMS, OR CONDUITS AND DITCHES.
 SITE CONSTRUCTION ENTRANCES WILL BE AS SHOWN ON THE PLAN. ROCK CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT EACH ENTRANCE.

FINAL STABILIZATION:

THE CONTRACTOR MUST ENSURE FINAL STABILIZATION OF THE SITE. THE CONTRACTOR MUST SUBMIT A NOTICE OF TERMINATION (NOT) WITHIN 30 DAYS AFTER FINAL STABILIZATION IS COMPLETE, OR ANOTHER OWNER/OPERATOR (PERMITTEE) HAS ASSUMED CONTROL OF ALL AREAS OF THE SITE THAT HAVE NOT UNDERGONE FINAL STABILIZATION. FINAL STABILIZATION CAN BE ACHIEVED IN THE FOLLOWING WAY:

ALL SOIL DISTURBING ACTIVITIES AT THE SITE HAVE BEEN COMPLETED AND ALL SOILS MUST BE STABILIZED BY A UNIFORM PERENNIAL VEGETATIVE COVER WITH A DENSITY OF 70 PERCENT OVER THE ENTIRE PERVIOUS SURFACE AREA, OR OTHER EQUIVALENTMEANS NECESSARY TO PREVENT SOIL FAILURE UNDER EROSIVE CONDITIONS AND:

PREVENT SOIL FAILURE UNDER EROSIVE CONDITIONS AND;

A. ALL DRAINAGE DITCHES, CONSTRUCTED TO DRAIN WATER FROM THE SITE AFTER CONSTRUCTION IS COMPLETE, MUST BE STABILIZED TO PRECLUDE EROSION:

B. ALL TEMPORARY SYNTHETIC, AND STRUCTURAL EROSION PREVENTION

AND SEDIMENT CONTROL BMPS (SUCH AS SILT FENCE) MUST BE REMOVED AS PART OF THE SITE FINAL STABILIZATION; AND

C. THE CONTRACTORS MUST CLEAN OUT ALL SEDIMENT FROM CONVEYANCES AND FROM TEMPORARY SEDIMENTATION BASINS THAT ARE TO BE USED AS PERMANENT WATER QUALITY MANAGEMENT BASINS. SEDIMENT MUST BE STABILIZED TO PREVENT IT FROM BEING WASHED BACK INTO THE BASIN, CONVEYANCES OR DRAINAGE WAYS DISCHARGING OFF—SITE OR TO SURFACE WATERS. THE CLEAN OUT OF PERMANENTBASINS MUST BE SUFFICIENT TO RETURN THE BASIN TO DESIGN CAPACITY.

EROSION AND SEDIMENT CONTROL MAINTENANCE PROGRAM:

BECOMES INEFFECTIVE BEFORE THE BARRIER IS NO LONGER NECESSARY

1. INSPECT SILT FENCES IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. IMMEDIATELY REPAIR FAILED OR FAILING SILT FENCE.

2. REPLACEMENT — FABRIC SHALL BE REPLACED PROMPTLY WHEN IT DECOMPOSES OR

3. SEDIMENT REMOVAL — SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE—THIRD THE HEIGHT OF THE BARRIER. ANY SEDIMENT REMAINING IN PLACE AFTER THE SILT FENCE OR FILTER FABRIC IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM WITH EXISTING GRADE, PREPARED, AND SEEDED WITH THE APPROPRIATE SEED MIX, OR SODDED AS DIRECTED BY THE ENGINEER.

4. REMOVAL OF SILT FENCE — SILT FENCES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPWARD SLOPING AREA HAS BEEN PERMANENTLY STABILIZED. IF THE UPWARD SLOPING AREA IS TO BE EXPOSED LONGER THAN SIX (6) MONTHS, THAT AREA SHALL BE COVERED WITH TEMPORARY VEGETATION WHEN FIRST EXPOSED.

5. THE CONTRACTOR MUST ROUTINELY INSPECT THE CONSTRUCTION SITE ONCE EVERY SEVEN (7) DAYS DURING ACTIVE CONSTRUCTION AND WITHIN 24 HOURS AFTER A RAINFALL EVENT GREATER THAN 0.5 INCHES IN 24 HOURS.

6. ALL INSPECTIONS AND MAINTENANCE CONDUCTED DURING CONSTRUCTION MUST BE RECORDED IN WRITING AND THESE RECORDS MUST BE RETAINED WITH THE SWPPP RECORDS OF EACH INSPECTION AND MAINTENANCE ACTIVITY SHALL INCLUDE:

A. DATE AND TIME OF INSPECTIONS;

IN 24 HOURS:

- B. NAME OF PERSON(S) CONDUCTING INSPECTIONS;
 C. FINDINGS OF INSPECTIONS, INCLUDING RECOMMENDATIONS FOR CORRECTIVE ACTIONS;
 D. CORRECTIVE ACTIONS TAKEN (INCLUDING DATES, TIMES, AND PARTY
- MAINTENANCE ACTIVIES.

 E. DATE AND AMOUNT OF ALL RAINFALL EVENTS GREATER THAN 1/2 INCH (0.5 INCHES)
- F. DOCUMENTS OF CHANGES MADE TO THE SWPPP AS REQUIRED IN

7. WHERE PARTS OF THE CONSTRUCTION SITE HAVE UNDERGONE FINAL STABILIZATION, BUT WORK REMAINS ON OTHER PARTS OF SITE, INSPECTIONS OF THE STABILIZED AREAS MAY BE REDUCED TO ONCE PER MONTH. WHERE WORK HAS BEEN SUSPENDED DUE TO FROZEN GROUND CONDITIONS, THE REQUIRED INSPECTIONS AND MAINTENANCE MUST TAKE PLACE AS SOON AS RUNOFF OCCURS AT THE SITE OR PRIOR TO RESUMING CONSTRUCTION, WHICHEVER COMES FIRST.

POLLUTION PREVENTION

MANAGEMENT MEASURES:

THE CONTRACTOR SHALL IMPLEMENT THE FOLLOWING POLLUTION PREVENTION MANAGEMENT MEASURES ON THE SITE:

SOLID WASTE: COLLECTED SEDIMENT, ASPHALT AND CONCRETE MILLINGS, FLOATING DEBRIS, PAPER, PLASTIC, FABRIC, CONSTRUCTION AND DEMOLITION DEBRIS AND OTHER WASTES MUST BE DISPOSED OF PROPERLY AND MUST COMPLY WITH MPCA DISPOSAL REQUIREMENTS.

 HAZARDOUS MATERIAL: OIL, GASOLINE, PAINT AND ANY HAZARDOUS SUBSTANCES MUST BE PROPERLY STORED, INCLUDING SECONDARY CONTAINMENT, TO PREVENT SPILLS, LEAKS OR OTHER DISCHARGE. RESTRICTED ACCESS TO STORAGE AREAS MUST BE PROVIDED TO PREVENT VANDALISM. STORAGE AND DISPOSAL OF HAZARDOUS WASTE MUST BE IN COMPLIANCE WITH MPCA

3. CONCRETE WASHOUT IS DONE TRUCK BY TRUCK WITH A MOBILE WASHOUT SYSTEM PROVIDED AND COMPLETED BY THE CONCRETE CONTRACTOR. RUNOFF MUST BE CONTAINED AND WASTE PROPERLY DISPOSED OF

4. NO ENGINE DEGREASING IS ALLOWED ON SITE.

DATE ISSUE

6-29-15 PRE PUD SUBMITTAL





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LICENSE NO.

DATE

PROJECT TEAM

DESIGNED: CJW

DRAWN: PLN

PROJECT NO: 215-0033

QA/QC REVIEW

DATE

PLN 7-22-15 CITY COMMENTS 5-0033

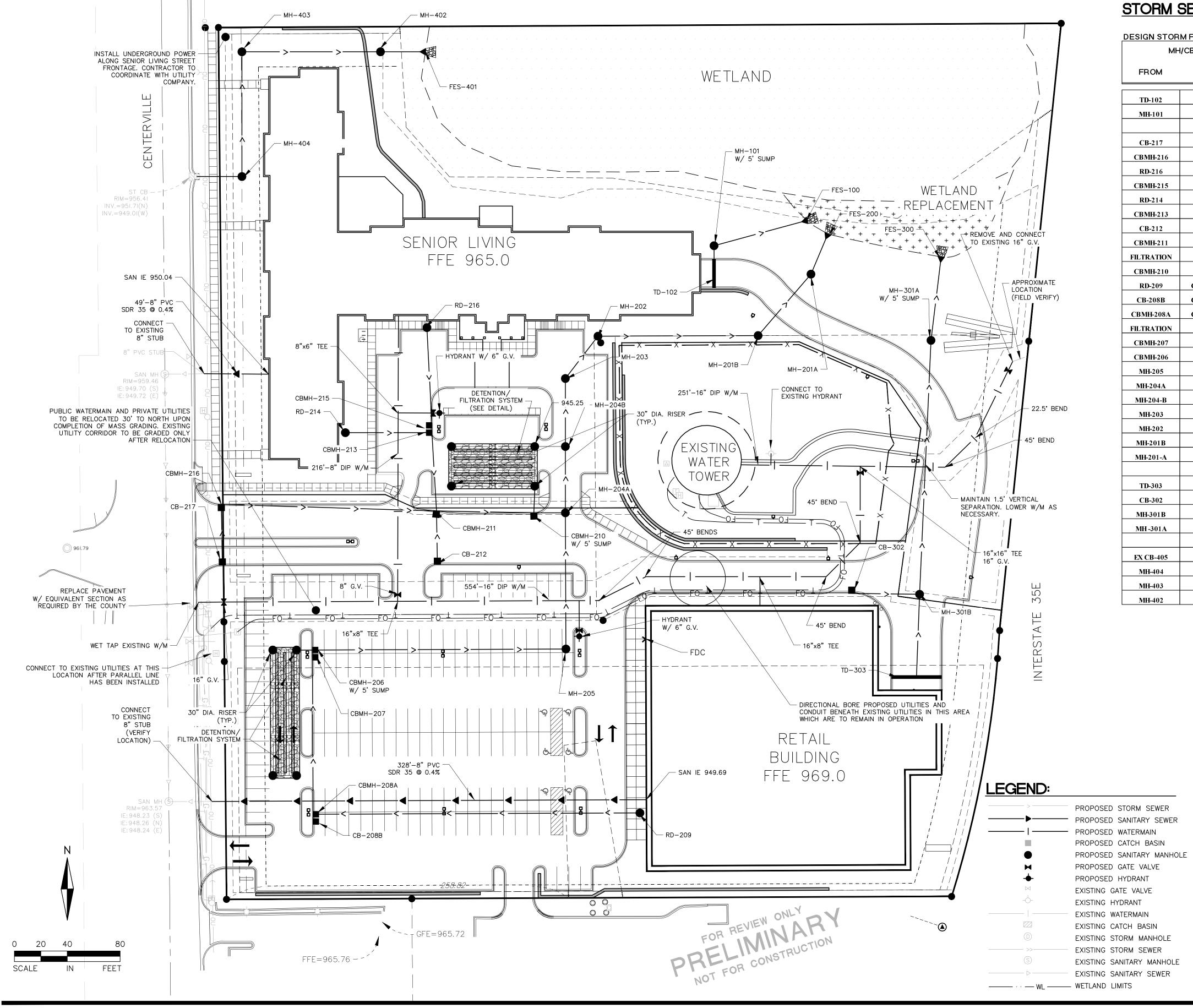
DATE ISSUE

TOWER CROSSINGS

PRELIMINARY PUD

AND PLAT

EROSION AND SEDIMENT CONTROL
NOTES AND DETAILS



STORM SEWER SCHEDULE:

DESIGN STORM FREQUENCY = 5 YEARS P. DIA. P. SLOPE P. Mat RIM STR. CAST BUILD 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	СВМН-216	12	0.0050	HDPE	46.0	958.30	958.07	962.00	2x3	R-3067-V	3.70	N-12
СВМН-216	СВМН-211	12	0.0050	HDPE	163.0	957.97	957.16	961.80	48	R-3067-V	3.83	N-12
RD-216	СВМН-215	15	0.0050	HDPE	74.1	954.80	954.43	965.00	48	R-1642	10.20	N-12
СВМН-215	СВМН-213	15	0.0050	HDPE	5.5	954.33	954.30	962.50	48	R-3067-V	8.17	N-12
RD-214	СВМН-213	15	0.0050	HDPE	65.5	954.80	954.47	965.00	48	RD	10.20	N-12
СВМН-213	СВМН-211	18	0.0070	HDPE	59.4	954.05	953.64	962.50	48	R-3067-V	11.95	N-12
CB-212	СВМН-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	СВМН-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	СВМН-208А	15	0.0050	HDPE	247.3	959.55	958.31	969.00	48	R-1642	9.45	N-12
CB-208B	СВМН-208А	12	0.0050	HDPE	5.5	959.55	959.52	964.04	2x3	R-2501	4.49	N-12
СВМН-208А	СВМН-207В	18	0.0070	HDPE	118.8	958.06	957.23	964.04	48	R-3067-V	5.98	N-12
FILTRATION	СВМН 206	24	-0.0030	HDPE	10.0	954.96	954.99					
СВМН-207	СВМН-206	18	0.0070	HDPE	5.5	957.13	957.09	964.04	48	R-3067-V	6.91	N-12
СВМН-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	МН-204-В	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:

- 1. EXISTING UTILITIES, SERVICE LOCATIONS AND ELEVATIONS SHALL BE VERIFIED IN FIELD PRIOR TO CONSTRUCTION.
- 2. 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.
- 3. CONTRACTOR IS RESPONSIBLE FOR ALL PERMITS PRIOR TO THE START OF CONSTRUCTION.
- 4. PROVIDE POLYSTYRENE INSULATION FOR ALL STORM SEWER AND WATERMAIN CROSSINGS WHERE VERTICAL OR HORIZONTAL SEPARATION
- 5. ALL UTILITY WORK WITHIN THE R.O.W. SHALL COMPLY WITH THE CITY OF WHITE BEAR LAKE ENGINEERING GUIDELINES.
- 6. NOTIFY GOPHER STATE ONE CALL 48 HOURS IN ADVANCE OF ANY UTILITY WORK.
- 7. 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.
- 8. ALL STORM SEWER CASTINGS SHALL BE NEENAH OR APPROVED EQUAL.
- 9. ALL SANITARY MANHOLES TO BE 48" DIAMETER CONCRETE W/ NEENAH R-1642 CASTING, UNLESS NOTED OTHERWISE.
- 10. INFILTRATION TANK RISERS SHALL HAVE NEENAH R-1642 CASTINGS.
- 11. WATERMAIN, SERVICES, AND VALVES SHALL BE INSTALLED WITH MINIMUM 7.5' OF COVER.
- 12. WATER SERVICES MAY BE PLACED IN SAME TRENCH AS SEWER SERVICES PROVIDED THAT A 24" VERTICAL & A 36" HORIZONTAL SEPARATION ARE MAINTANED.
- 13. ALL 6" AND 8" WATERMAIN SHALL BE D.I.P. CL52
- 14. PIPE LENGTHS LISTED IN SCHEDULE ARE MEASURED FROM CENTER TO CENTER OF SHOWN STRUCTURES.



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TOWER CROSSINGS PRELIMINARY PUD

AND PLAT

STORM SEWER AND UTILITY PLAN

WETLAND 4600SF WETLAND REPLACEMENT SEMOR LIVING 35,298 SF (FOOTPRINT) CENTERVILLE I TOWER DD 40,000 SF PROJECT TEAM DATE ISSUE

TREE INVENTORY & REMOVALS

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

TOTAL

PREMIUM 7.921 94.68

SECONDARY **Total Replacement** 102.61

Caliper Inches

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

TREE REPLACEMENT CALCULATIONS:

PREMIUM

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

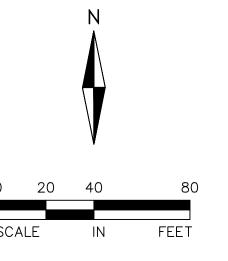
SECONDARY

PRELIMINARY PUD

AND PLAT

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

TOTAL TREE REPLACEMENT = 102.605 CAL. INCH







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LICENSE NO.

MARK KRONBECK, PLA, ASLA

7-22-15

DESIGNED: CJW DRAWN: PROJECT NO: 215-0033

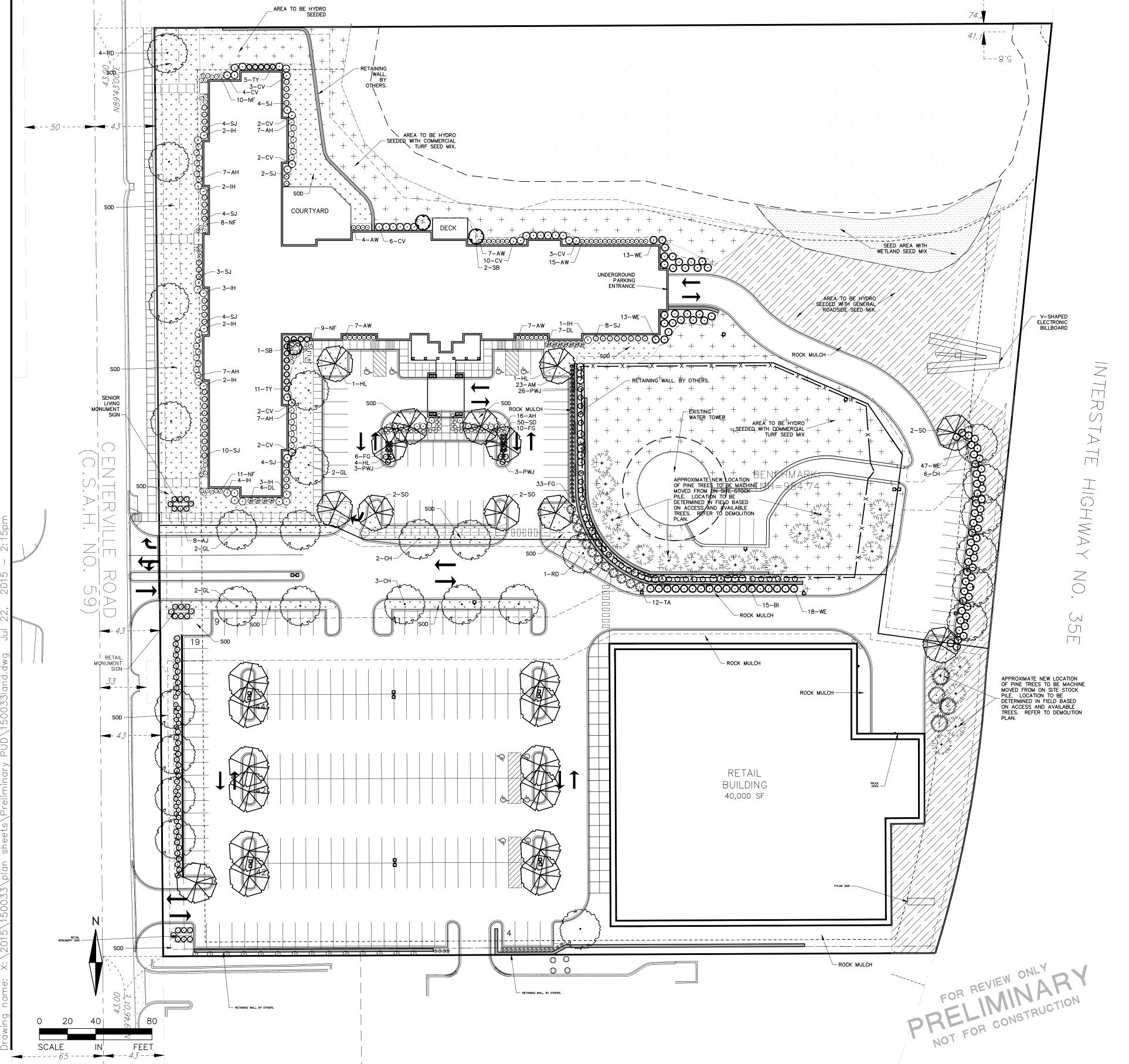
QA/QC REVIEW

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

TOWER CROSSINGS

TREE INVENTORY

SHEET 10 of 13



LANDSCAPE REQUIREMENTS

REQUIRED SCREENING & LANDSCAPING

PARKING LOT SCREENING:

PROVIDED:

1 TREE PER 25 LF LANDSCAPE AREA LENGTH 1 SHRUB 3 LF LANDSCAPE AREA LENGTH 551 LF LANDSCAPE AREA

REQUIRED: = 22 TREES 2.5" CALIPER INCHES 183 SHRUBS

PROVIDED: = 27 TREES 2.5" CALIPER INCHES

183 SHRUBS

2. INTERIOR PARKING LOT:

LANDSCAPE ISLAND: 1 PER 10 PARKING STALLS
144 S.F. AREA & 8' WIDE
1 SHADE TREE PER 144 S.F.

REQUIRED: 24 TREES 2.5" CALIPER INCHES (234 PARKING STALLS / 10 = 23.4)

3. TREE REPLACEMENT REQUIREMENT:
REQUIRED = 103 CALIPER INCHES, REFER TREE PRESERVATION PLAN
PROVIDED = 52 TREES AT 2.5" CALIPER (130 CALIPER INCHES)

25 TREES 2.5" CALIPER INCHES

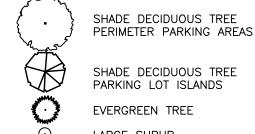
DEVELOPER

4350 BAKER ROAD, SUITE 400 MINNETONKA, MN 55343 PH: 952-987-7750

CONSULTANT

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

LANDSCAPE LEGEND:



EVERGREEN TREE

LARGE SHRUB

MEDIUM SHRUB

SMALL SHRUB

EVERGREEN SHRUB

ORNAMENTAL GRASS

ENGELMANN IVY

EVERGREEN SHRUB
ORNAMENTAL GRASS
ENGELMANN IVY
— POLY EDGER
WETLAND SEED MIX

WETLAND SEED MI HYDROSEED AREA

LEGEND:

PRELIMINARY PUD

AND PLAT

B612 CURB AND GUTTER
EXISTING CURB AND GUTTER
EASEMENT LINE
— · — · — · — BUILDING SETBACK
LOT LINE
——————————————————————————————————————

PLANTING NOTES:

- 1. INSTALL 4" MIN. TOP SOIL TO ALL SOD, SEED AND SHRUB AREAS. FINE GRADE ALL SOD AND SEED AREAS. INSTALL 12" TOP SOIL TO PERENNIAL AREAS.
- STAKE OR MARK ALL PLANT MATERIAL LOCATIONS PRIOR TO INSTALLATION. HAVE OWNERS REPRESENTATIVE APPROVE ALL STAKING PRIOR TO INSTALLATION.
- 3. ALL SHRUB AREAS UNLESS SPECIFIED AS OTHER, TO BE BED MULCHED WITH 4" DEPTH OF SHREDDED HARDWOOD MULCH OVER FILTER FABRIC, UNLESS SPECIFIED AS OTHER. POLY—EDGER TO BE VALLEY VIEW BLACK DIAMOND OR
- 4. INSTALL 4-6" DEPTH SHREDDED HARDWOOD MULCH AROUND ROOT SAUCER OF ALL TREES ISOLATED FROM PLANT BEDS.
- 5. PLANT SOIL SHALL CONSIST OF 50% SELECT LOAMY TOPSOIL, 25% PEAT MOSS, 25% PIT RUN SAND.
- 6. COMPLETELY GUARANTEE ALL WORK FOR A PERIOD OF ONE YEAR BEGINNING AT THE DATE OF ACCEPTANCE. MAKE ALL REPLACEMENTS PROMPTLY (AS PER DIRECTION OF OWNER).
- 7. ALL MATERIAL SHALL COMPLY WITH THE LATEST EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK, AMERICAN ASSOCIATION OF NURSERYMEN.
- 8. ALL TREE TRUNKS SHALL BE WRAPPED WITH BROWN CREPE TREE WRAP. APPLY WRAP IN NOVEMBER AND REMOVE IN APRIL.
- CALL GOPHER STATE ONE CALL AT 651-454-0002 FOR LOCATING ALL UNDERGROUND UTILITIES AND AVOID DAMAGE TO UTILITIES DURING THE COURSE OF THE WORK.
- 10. MAINTAIN ALL PLANT MATERIALS, INCLUDING WATERING, UNTIL THE TIME OF ACCEPTANCE.
- 11. COORDINATE INSTALLATION WITH GENERAL CONTRACTOR.
- 12. STAKING AND GUYING OF TREES OPTIONAL: MAINTAIN PLUMBNESS OF TREES FOR DURATION OF WARRANTY PERIOD.
- 13. SWEEP AND WASH ALL PAVED SURFACES AND REMOVE ALL DEBRIS RESULTING FROM LANDSCAPE OPERATIONS.
- 14. SUPPLY DESIGN AND INSTALLATION FOR NEW IRRIGATION SYSTEM WITH COVERAGE OF NEW SOD AND PLANTING AREAS. USE RAINBIRD OR APPROVED EQUAL COORDINATE WITH G.C. SOD AND SHRUB AREAS TO BE ON SEPARATE

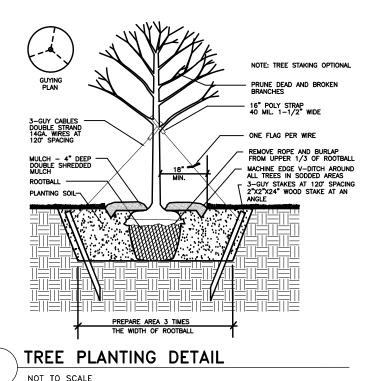
SEED PLANTING NOTES

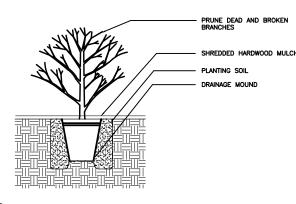
WETLAND BUFFER SEED MIX: MNDOT #34-271 SEEDING RATE TO BE 12 LBS/ACRE (PURE LIVE SEED). SEE MNDOT SEEDING MANUAL.

APPLY SEED PER THE FOLLOWING: MULCH SEEDED AREAS WITH Mn/DOT TYPE 3 (MCIA CERTIFIED WEED FREE) MULCH AT A RATE OF 1 TON PER ACRE WITHIN 48 HOURS OF SEEDING. MULCH SHOULD THEN BE DISC ANCHORED TO KEEP IT FROM BLOWING AWAY.

SEEDING SHALL BE APPLIED FROM APRIL 15 — JULY 20 OR SEPTEMBER 20 — FREEZE UP. IF HYDROSEEDING UTILIZE APPROXIMATELY 500 GALLONS OF WATER PER ACRE. REFER TO MN/DOT SPEC 3884 FOR PROPER INSTALLATION OF HYDRO—SEED. ALL NATIVE SEEDS USED ON THIS PROJECT SHALL BE CERTIFIED TO BE OF MINNESOTA ORIGIN BY THE MINNESOTA CROP IMPROVEMENT ASSOCIATION (MCIA). SITE TO BE PREPARED BY LOOSENING TOPSOIL TO A MINIMUM DEPTH OF 3 INCHES. THE SITE TO BE HARROWED OR RAKED FOLLOWING SEEDING, AND THEN PACKED USING A CULTI—PACKER OR EQUIVALENT. SEE MNDOT SEEDING MANUAL FOR REFERENCE.

MAINTAIN SEEDED AREAS BY WATERING, REMULCHING AND REPLANTING AS NECESSARY TO ESTABLISH A UNIFORMLY DENSE STAND OF THE SPECIFIED GRASSES UNTIL ACCEPTED. ANY AREAS FAILING TO ESTABLISH A STAND SHALL BE RESEEDED, REFERTILIZED AND REMULCHED WHENEVER 70% VEGETATIVE COVER IS NOT ACHIEVED. RESEEDING SHALL CONFORM IN ALL RESPECTS TO THESE SPECIFICATIONS. THE CONTRACTOR SHALL REPAIR ANY DAMAGE TO THE WORK AREAS RESULTING FROM EROSION AND/OR EQUIPMENT. THE CONTRACTOR SHALL REPAIR DAMAGE, INCLUDING REGRADING, RESEEDING, ETC. AS NECESSARY, BEFORE SIGNIFICANT DAMAGE OCCURS.





2 SHRUB PLANTING DETAIL

NOT TO SCALE



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LICENSE NO.

MALEAH MILLER, ASLA

PROJECT TEAM

DESIGNED: EMK

DRAWN: EMK

PROJECT NO: 215-0033

QA/QC REVIEW

DATE ISSUE

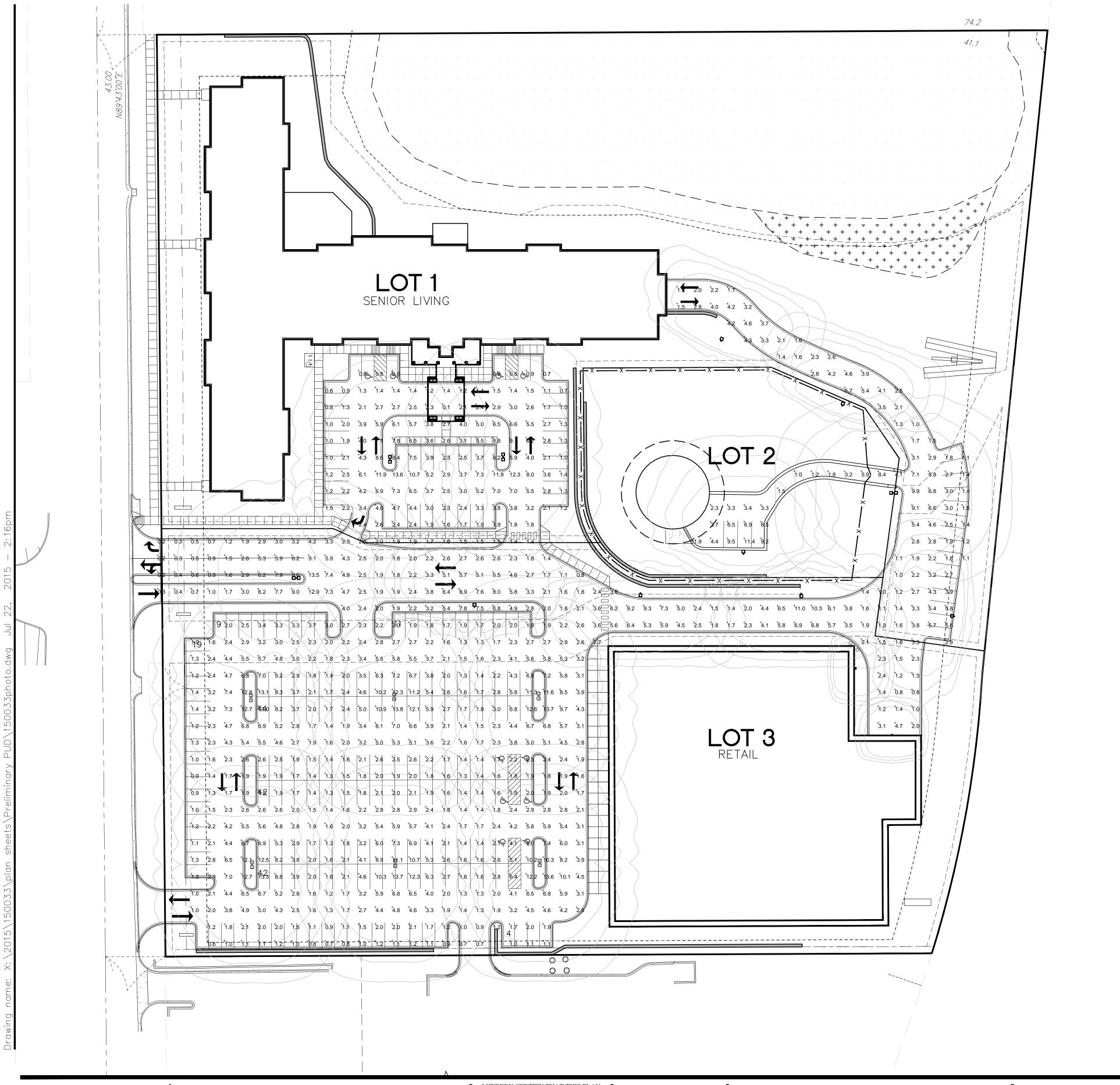
6-5-15 CITY SUBMITTAL

6-16-15 CITY COMMENTS

TOWER CROSSINGS

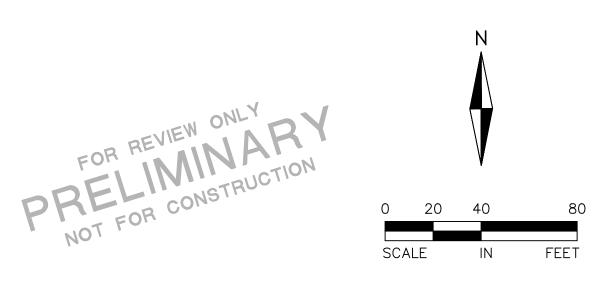
LANDSCAPE PLAN

1



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

uminaire	inaire 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		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.

ALLIANT

ENGINEERING

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MINNESOTA

LICENSE NO.

CLARK WICKLUND, P.E.

7-22-15

PROJECT TEAM

DESIGNED: AAA

DRAWN: AAA

PROJECT NO: 215-0033

QA/QC REVIEW

DATE ISSUE

6-29-15 PRE PUD SUBMITTAL

7-22-15 CITY COMMENTS

TOWER CROSSINGS

PRELIMINARY PUD

AND PLAT

PHOTOMETRIC PLAN

1

SHEET 12 of 13



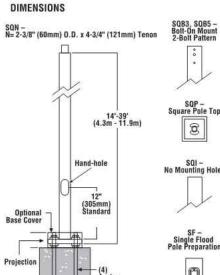
Department of Energy has verified representative product test data and results in accordance with its Lighting Facts Program. Visit www.lightingfacts.com for specific catalog strings.

		20 8388	Lumens (Mar Valen	Watts
		Type 3	Type 5	Type FT	Type FTA	(Nominal
hite	LW	14080	13840	15020	16560	140
Cool White	SS	20180	18040	20700	23030	187
కి '	HO	26750	25460	29070	31810	300
nite	LW	11450	11290	12220	13470	136
N I	SS	16390	15170	17230	18750	188
Meutral White	НО	22240	20550	23510	25410	288

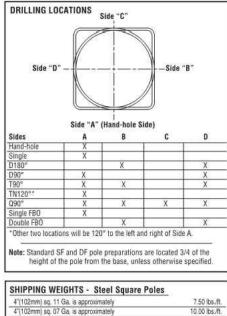
		Time 2	Watts			
-		Type 3	Type 5	Type FT	Type FTA	(Nominal)
Ħ	LW	14080	13840	15020	16560	140
Cool White	SS	20180	18040	20700	23030	187
క	HO	26750	25460	29070	31810	300
Meutral White	LW	11450	11290	12220	13470	136
	SS	16390	15170	17230	18750	188
	но	22240	20550	23510	25410	288

Fixture Type

STEEL SQUARE POLES



DRILLING LOCATIONS Side "C"





drive current when ambient temperatures 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)

US patent D574994 & 7,828,456 and MX patent 29631 and US & Int'l. patents pending

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. BLS – Bi-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

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

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 topaccess 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

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 - 50/60Hz 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 RFI/EMI

OPERATING TEMPERATURE - -40°C to +50°C (-40°F to +122°F). This product, or selected versions of this product, meet the standards listed below. Please consult factory for your specific requirements.

The DuraGrip finish with tands systems weather changes without cracking or peeling. 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.

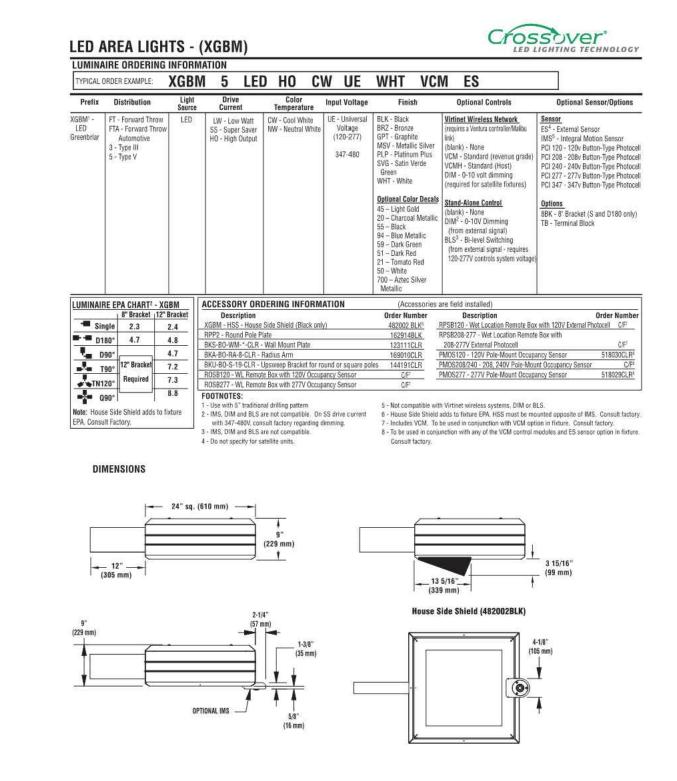
POLE SHAFT - Pole shaft is electro-welded ASTM-A500 Grade C steel tubing with a minimum yield strength of 50,000 psi. On Tenon Mount steel poles, tenon is 2-3/8" O.D. high-strength pipe.

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 double nuts and washers. Galvanized anchor bolts are optional. Anchor bolts conform to 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. No Mounting Holes GROUND FAULT CIRCUIT INTERRUPTER - Ground fault circuit interrupter is optional.

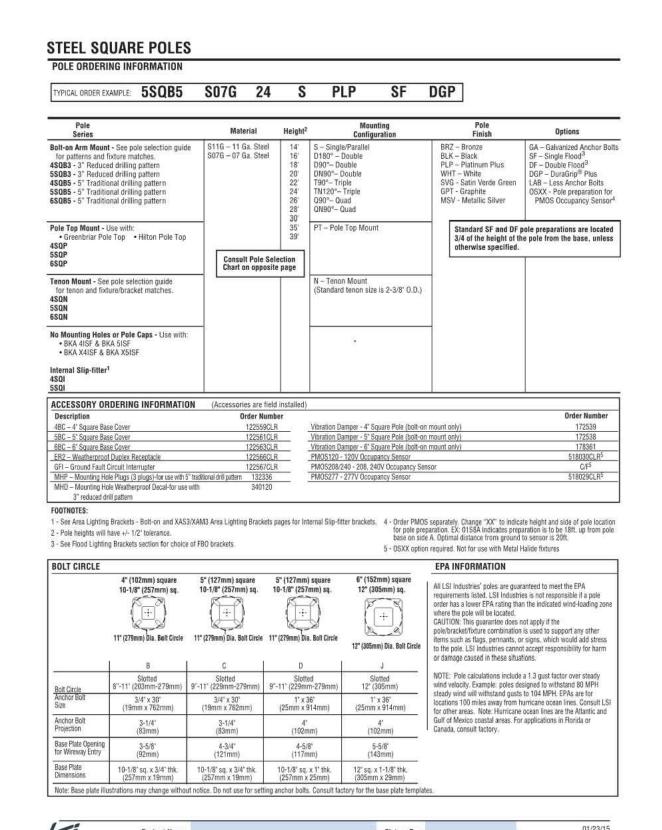
FINISHES - Each pole is finished with DuraGrip®, LSI's baked-on polyester-powder finishing process which electrostatically applies and fuses a polyester powder to the pole. Provides an extremely smooth and uniform finish to withstand extreme weather changes without cracking or peeling, and features a 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 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

FEPA based on ANSI/ASCE 7-93. Refer to EPA information on next page. For applications in luminaire weight exceeds 250 lbs. (113.4 kg), consult factory.



Fixture Type





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 Adam Carrier

Plan Prepared by: VILLA LIGHTING **Adam Carrier** Designer:

5.6.15

6.26.15

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LICENSE NO.

CLARK WICKLUND, P.E.

DATE

PROJECT TEAM DESIGNED: AAA DRAWN: AAA 215-0033 QA/QC REVIEW

DATE

ATE	ISSUE	DATE	ISSUE
29-15	PRE PUD SUBMITTAL		
22-15	CITY COMMENTS		

TOWER CROSSINGS

PRELIMINARY PUD AND PLAT

PHOTOMETRIC DETAILS

SHEET 13 of 13