



SRF No. 0148483
 County Project No. 091101

**CSAH 112 – Phase 1
 Project Advisory Committee (PAC) Meeting
 June 17, 2015; 8:00 am – 10:30 am
 Orono City Hall
 MEETING RECORD**

A project PAC meeting for the referenced project was held at the Orono City Hall on June 17, 2015, from 8:00 a.m. – 10:30 a.m. The following is a summary of the meeting based on the Agenda, which is attached to this record:

Meeting Summary:

1. Introductions:

Nate Will opened the meeting. A copy of the meeting sign-in sheet is attached to this meeting record.

2. Review of May 20, 2015, Project Advisory Committee Meeting Record:

Nate asked that any comments on the Meeting Record from the May 20, 2015, meeting be sent electronically to him at SRF. No specific comments were provided by the PAC. Nate will post the meeting record on the project website at www.CSAH112.com on the status page.

3. Review of Previous Action Items:

The following action items were reviewed. Any items shown in grey require additional action, which is added to the action items from this meeting below.

Task	Responsible Party	Due Date	Resolution
SRF to prepare memorandum to document decision for constructing the Rapid Rectangular-Flashing Beacon (RRFB) at intersection of CSAH 112 and Mill Street.	Nate Will	6/12/15	Ongoing
Discuss proposed tree locations along north side of CSAH 112, from Mill Street to Martha Lane, with Gear West with property owner.	Scott Weske & Kristy Morter	6/30/15	Ongoing, see discussion below
Update the Phase 1 Cost Summary to add a line item for potential Gateway Monument in City of Orono.	Nate Will	6/10/15	Completed, see below
Investigate Long Lake and Orono eligibility requirements for the REPP applied toward burial of OH power lines.	Kristy Morter	6/17/15	Completed, see below

Task	Responsible Party	Due Date	Resolution
Schedule attendance by County & SRF to attend a future Orono regular City Council meeting to seek final decision on three (3) points: Utility burial, Gateway monument and Street lighting.	Jessica Loftus/Kristy Morter	6/5/15	Completed
SRF to update project website (www.csaah112.com) to include meeting record for PAC meeting held on 4/15/15.	Nate Will	6/4/15	Completed
Discuss with MnDOT the concept of switching the official detour route from CSAH 6 to TH 12.	Kristy Morter	6/17/15	Completed, see below
Update observation response in Public Open House meeting summary.	Nate Will	6/17/15	Completed
Review unit cost on the Phase 1 Cost Summary for burying of OH power lines from Cemetery Road to Wolf Pointe Trail.	Nate Will	6/17/15	Completed, see below
Review options to relocate the trail from the south to the north side of CSAH 112 from Martha Lane east to Wolf Pointe Trail. Review moving the trail crossing/center median from Martha Lane to the Long Lake City Trail connection at CSAH 112. Review available space for a potential sidewalk connection along the south side of CSAH 112 from Mill Street to the Long Lake City Trail connection.	Nate Will & Kristy Morter	6/17/15	Completed, see below

Scott Weske mentioned Gear West has begun working on the landscaping around the new building expansion adjacent to Mill Street and CSAH 112. He noted that a few trees have been planted around the property.

Nate Will provided the PAC with a copy of the updated Phase 1 Cost Summary (dated 6/9/15). A copy of this document is attached to this meeting record. Based upon input received at the previous PAC meeting, a line item was added to show the preliminary cost for constructing a Gateway Monument in the City of Orono similar to the style selected for use in the City of Long Lake. Otherwise, the cost summary reflects the items currently designed in the 60-percent complete construction plans. Nate noted that Phase 1 Cost Summary was updated to reflect the correct estimated cost for the burial of overhead power from Cemetery Road to Wolf Pointe Trail.

Kristy Morter provided an update on the eligibility requirements for the Hennepin County Roadside Enhancement Partnership Program (REPP). She noted that the City of Long Lake is eligible for this program, however, the City of Orono is not eligible for the REPP. The REPP could be used to assist in partial funding for the City of Long Lake for burial of overhead utility lines.

Kristy spoke with MnDOT regarding the potential for using TH 12 as the official detour route for Phase 1 instead of using CSAH 6. She indicated MnDOT was acceptable to this idea. Following some discussion, the PAC agreed that the TH 12 detour route serves the local business and residential areas better as compared to CSAH 6. It was noted that additional directional signage both during the detour and following the project should be considered along TH 12, especially at the TH 12/CSAH 6 interchange loops.

4. Discussion Items:

a. Potential trail relocation east of Martha Lane

Nate Will presented a series of graphics that were developed to illustrate the impacts of relocating the trail from the south to the north side of CSAH 112 from Martha Lane east to Wolf Pointe Trail. A copy of the graphics presented are attached to this meeting record.

Nate described the first two plan sheets (numbered 104 & 105) which show the proposed improvements as currently designed with the trail along the south side of CSAH 112. He noted four (4) cross sections were selected, represented by the orange lines, at key locations to review the impacts. Nate mentioned one of the key items was to hold the proposed construction impacts, in the waters of Long Lake, as unchanged which requires the centerline of CSAH 112 to shift south to provide space for the trail along the lake.

Working from west to east (left to right) on sheets 104 & 105, Nate described the cross sections which are located and numbered as (Sta. 1140+00, 1144+00, 1159+00, and 1157+00) and identified with the orange lines on sheets 104 & 105.

Nate noted at the west end near Martha Lane, the centerline of CSAH 112 would need to shift 15.5 feet south (Sta. 1140+00 and 1144+00), from the originally proposed centerline, in order to move the trail to the north side and hold the construction limits. Referring to these cross sections, Nate described the elements shown on the sections from left to right, with the Lake being on the left side and the existing berm / noise fence on the right side. He noted there was insufficient space along the right side (south of 112) to construct a sidewalk without potentially constructing a retaining wall.

Nate presented another graphic that shows the area near CSAH 112 at the connection of the Long Lake City Trail. He indicated this graphic represents a plan view showing a potential center median at the propose trail crossing. The intent, if the trail moves to the north side, would be to relocate the planned median from near Martha Lane to this location since there would no longer be an official trail crossing needed at Martha Lane. Nate mentioned that the centerline of CSAH 112 is shifted approximately 15.5 feet south, of the original centerline, in order to hold the construction limits in Long Lake. He pointed out on the graphic that shifting the road south brings the roadway closer to the existing properties (1605 & 1606 Wayzata Blvd) along the south side.

Nate described how the geometric constraints change slightly as Phase 1 moves east farther away from the waters of Long Lake and eventually connects to the existing roadway east of Wolf Pointe Trail. He noted that two different offsets (9.5 feet & 6 feet) were reviewed from Cemetery Road to Wolf Pointe Trail assuming the trail is shifted to the north side. The graphics showing the 9.5' and 6' offsets are attached to this meeting record.

9.5-foot Offset

Nate described three (3) graphics (1 plan view & 2 cross sections) which illustrate the 9.5-foot centerline offset. He noted the basis for the 9.5-foot offset was developed by holding the current alignment of Wall G along the south side of CSAH 112 while providing an approximate 7-foot boulevard. He noted on the cross section that shifting the trail to the north side would require another retaining wall along the north side to minimize the construction impacts to both the adjacent wetlands and proposed stormwater treatment area.

6.0-foot Offset

Nate described three (3) additional graphics (1 plan view & 2 cross sections) which illustrate the 6.0-foot centerline offset. He noted the basis for the 6.0-foot offset was developed by assuming that Wall G was deleted and using a 1:2 grading slope along the south embankment, similar to the current slope. Reviewing the cross sections for this option, Nate noted that a retaining wall would be required along the north side to minimize both wetland and stormwater treatment impacts. He mentioned this wall would most likely be longer than the wall needed in the 9.5-foot offset option; however, this option is based upon deleting Wall G from the south side.

Nate presented a memorandum that provides a general overview of the impacts that were identified for potentially shifting the trail from the south to the north side of CSAH 112. A copy of this memorandum is attached to this meeting record.

Based upon input received at the previous PAC meeting requesting consideration that at least one (1) lane be maintained during construction (no long-term closure), Nate described a conceptual staging graphic showing a cross section. A copy of this graphic (Figure 1) is attached to this meeting record. Nate noted that it's possible to construct a temporary road to pass 1-lane of traffic, one direction (east or west) along the work zone required to construct the reinforced soil slope (RSS) and culvert at Long Lake Creek. He pointed on this graphic that a 5-foot pedestrian area is included to provide temporary access for trail users on the Long Lake Trail access to downtown. A temporary wall or barrier may be required to hold back the existing berm along the south side of temporary roadway/pedestrian access.

Nate discussed a figure (Figure 2) showing the proposed improvements at the Long Lake Creek crossing under CSAH 112. The figure shows how 1-lane (one direction east or west) could be provided to maintain local traffic (one direction) during the construction of the retaining wall along the south side of CSAH 112. He noted that construction of the actual culvert crossing would require a short-term closure of CSAH 112 to construct the pipe under CSAH 112 and patch the roadway for traffic.

Potential Permanent Steel Sheet Pile Wall

The County reviewed the potential for switching the RSS to a permanent steel sheet pile wall for the shoreline restoration along Long Lake. Nate presented a hand sketch graphic and a series of construction photos that illustrate a permanent steel sheet pile wall along Long Lake. A copy of this sketch and the photos presented are attached to this meeting record. Nate pointed out a few key aspects of constructing this type of wall which include a large safety/work area to store and move the sheet pile sections. He mentioned that preliminary estimates indicate the length of sheet pile to be a minimum of 40-foot which requires substantially large equipment to haul, unload and install.

Nate noted that a previous project constructed along Medicine Lake was bid a few years ago while allowing traffic to remain on the roadway while the contractor installed the sheet pile wall. He noted the bids were few and nearly double the estimated project cost. After further consideration and discussion, the project was rebid assuming the roadway was closed to traffic and the resulting bids were near to the estimate. He noted the CSAH 112 project is very similar to this previous project and minimum work area width is nearly the same for either the RSS or a sheet pile wall. Nate indicated that additional "tie-backs" consisting of an additional sheet pile or restraints would be required through the area of poor soils near the west end of Long Lake.

Nate discussed a memorandum regarding the cost differentials for constructing either the RSS or a permanent steel sheet pile wall along Long Lake. A copy of this memorandum is attached to this meeting record. The PAC reviewed the Pro's and Con's summary included with this memorandum and agreed that constructing a permanent steel sheet pile wall was not the best option.

The PAC discussed the items presented above and agreed that relocating the trail to the north side, east of Martha Lane to Wolf Pointe, was the preferred option even though it requires redesigning the eastern half of Phase 1. Some notable points mentioned for relocating the trail included:

- Having the trail along the north side provides for a destination to points east including both business and residents;
- Provides a scenic view of Long Lake for trail users rather than looking across the CSAH 112 roadway through a guardrail;
- Provides trail connectivity, once constructed through Phase 2, to Old Long Lake Road.

b. Future PAC meeting dates

Based upon the recent discussions that include relocating the trail to the north side of CSAH 112, east of Martha Lane, the PAC agreed to continue meeting on a monthly basis. The PAC meetings will continue to be held on the 3rd Wednesday of the month until further notice.

5. Update of ongoing design efforts

a. Final Design

Nate Will noted that final design is temporarily on hold until decisions are made regarding the potential trail realignment.

b. Utility Coordination and Mapping

Due to limited time, no update was provided.

c. Environmental Investigation

Due to limited time, no update was provided.

6. Open Discussion

Due to limited time, no open discussion occurred at the meeting.

7. Follow Up Items/Action Items:

For tracking purposes, we have assigned a responsible party and a due date for completing the following action items, which were identified at the meeting:

Task	Responsible Party	Due Date
Schedule attendance by County & SRF to attend the July 7, 2015 Council Work Session at the City of Long Lake.	Scott Weske/Kristy Morter	6/24/15
SRF to update project website (www.csa112.com) to include meeting record for PAC meeting held on 5/20/15.	Nate Will	Completed 6/19/15

Task	Responsible Party	Due Date
Review additional engineering scope and design fees necessary to redesign the CSAH 112, from Mill Street east to Wolf Pointe Trail, to facilitate relocating the proposed trail from the south to the north side of CSAH 112.	Nate Will & Kristy Morter	6/30/15
Provide direction to the City of Long Lake on how to move the trail redesign forward, which requires a funding commitment from the City for redesign costs.	Kristy Morter	8/1/15
Review staging layout to keep at least 1-lane open in 1-direction along the lake during the shoreline reconstruction.	Nate Will	7/15/15
Revise the geometric layout that includes both Phase 1 and Phase 2 to show the proposed trail along the north side of CSAH 112 for Council approval.	Nate Will	Pending approval to proceed

8. Upcoming Meetings:

- a. PMT Meeting: July 2, 2015; 1:00 pm – 2:30 pm
- b. PAC Meeting: July 15, 2015; 8:00 am – 10:00 am
- c. Long Lake City Council Work Session – July 7, 2015; 5:00 pm – 6:30 pm (tentative)
- d. Orono City Council Regular Meeting – June 22, 2015; 7:00 pm

Meeting Record Revisions:

The preceding represents SRF Consulting Group's understanding of the referenced meeting. If you identify discrepancies or items that require clarification, please contact Nate Will at SRF, via email at nwill@srfconsulting.com, or via telephone at (763) 249-6761.

NW

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**CSAH 112 Project
Final Design – Phase 1
Project Advisory Committee (PAC) Meeting Sign-In Sheet
Wednesday, June 17, 2015 (8:00 – 10:00 a.m.)**

Present	Name/Organization	Mailing Address	Phone	Email
<input checked="" type="checkbox"/>	Kristy Morter Hennepin County	1600 Prairie Drive Medina, MN 55340	612-596-0384	Kristy.Morter@hennepin.us
<input checked="" type="checkbox"/>	Mike Turner SRF Consulting Group	1 Carlson Parkway, Suite 150 Minneapolis, MN 55447	763-249-6717	MTurner@SRFConsulting.com
<input type="checkbox"/>	Jessica Loftus City of Orono	P.O. Box 66 Crystal Bay, MN 55323	952-249-4601	JLoftus@ci.orono.mn.us
<input checked="" type="checkbox"/>	Scott Weske City of Long Lake	P.O. Box 606 Long Lake, MN 55356	952-473-6961x2	SWeske@longlakemn.gov
<input checked="" type="checkbox"/>	Nate Will SRF Consulting Group	1 Carlson Parkway, Suite 150 Minneapolis, MN 55447	763-249-6761	NWill@SRFConsulting.com
<input checked="" type="checkbox"/>	Adam Edwards City of Orono	P.O. Box 66 Crystal Bay, MN 55323	952-249-4661	AEdwards@ci.orono.mn.us
<input checked="" type="checkbox"/>	Liz Olson Long Lake City Council	P.O. Box 606 Long Lake, MN 55356		lolson@longlakemn.gov
<input checked="" type="checkbox"/>	Donny Chillstrom Long Lake Mayor	P.O. Box 606 Long Lake, MN 55356	612-710-0569	dchillstrom@longlakemn.gov
<input type="checkbox"/>	Tom Skjaret Long Lake Resident			
<input checked="" type="checkbox"/>	Lili McMillan Orono Mayor	P.O. Box 66 Crystal Bay, MN 55323	612-840-8484	lmcmillan@ci.orono.mn.us
<input type="checkbox"/>	Jeanne Mabusth Orono Resident	740 Brown Road N Orono, MN	952-476-0578	jamabusth@mchsi.com

**CSAH 112 Project
Final Design – Phase 1
Project Advisory Committee (PAC) Meeting Sign-In Sheet
Wednesday, June 17, 2015 (8:00 – 10:00 a.m.)**

	Name/Organization	Mailing Address	Phone	Email
<input type="checkbox"/>	Marty Schneider Long Lake City Council	1176 W. Wayzata Blvd. Long Lake, MN 55356	612-237-3843	martyexplore@msn.com
<input type="checkbox"/>	Tim Bruers Hennepin County	1600 Prairie Drive Medina, MN 55340	612-596-0393	Timothy.Bruers@hennepin.us
<input type="checkbox"/>	Michael Jischke SRF Consulting Group	1 Carlson Parkway, Suite 150 Minneapolis, MN 55447	763-267-6600	mjischke@srfconsulting.com
<input type="checkbox"/>	Jim Cornick Orono City Council	Box 66 Crystal Bay, MN 55323	952-300-0954	jcornickjr@ci.orono.mn.us
<input checked="" type="checkbox"/>	Jahn Dyvik Long Lake City Council	1780 Martha Lane Long Lake, MN 55356	612-202-7391	jdyvik@longlakemn.gov
<input type="checkbox"/>	Marv Wurzer Long Lake Public Works	450 Virginia Ave. Long Lake, MN 55356	612-720-4261	mwurzer@longlakemn.gov
<input checked="" type="checkbox"/>	Chris LaBounty City of Long Lake (WSB)	P.O. Box 606 Long Lake, MN 55356	763-231-4860	CLaBounty@wsbeng.com
<input type="checkbox"/>				
<input type="checkbox"/>				
<input type="checkbox"/>				



SRF No. 0148483
County Project No. 091101

**CSAH 112 – Phase 1
Project Advisory Committee (PAC) Meeting
June 17, 2015; 8:00 am – 10:00 am
Orono City Hall
AGENDA**

1. Introductions (If Necessary): *(5 Minutes)*
2. Review of May 20, 2015 Project Advisory Committee Meeting Record: *(5 Minutes)*
3. Review of Previous Action Items: *(5 Minutes)*

Task	Responsible Party	Due Date	Resolution
SRF to prepare memorandum to document decision for constructing the Rapid Rectangular-Flashing Beacon (RRFB) at intersection of CSAH 112 and Mill Street.	Nate Will	6/12/15	Ongoing
Discuss proposed tree locations along north side of CSAH 112, from Mill Street to Martha Lane, with Gear West with property owner.	Scott Weske & Kristy Morter	6/30/15	Ongoing
Update the Phase 1 Cost Summary to add a line item for potential Gateway Monument in City of Orono.	Nate Will	6/10/15	Completed
Investigate Long Lake and Orono eligibility requirements for the REPP applied toward burial of OH power lines.	Kristy Morter	6/17/15	Completed
Schedule attendance by County & SRF to attend a future Orono regular City Council meeting to seek final decision on three (3) points: Utility burial, Gateway monument and Street lighting.	Jessica Loftus/Kristy Morter	6/5/15	Completed
SRF to update project website (www.csa112.com) to include meeting record for PAC meeting held on 4/15/15.	Nate Will	6/4/15	Completed
Discuss with MnDOT the concept of switching the official detour route from CSAH 6 to TH 12.	Kristy Morter	6/17/15	
Update observation response in Public Open House meeting summary.	Nate Will	6/17/15	Completed
Review unit cost on the Phase 1 Cost Summary for burying of OH power lines from Cemetery Road to Wolf Pointe Trail.	Nate Will	6/17/15	

Task	Responsible Party	Due Date	Resolution
Update the Phase 1 Cost Summary to add a line item for potential Gateway Monument in City of Orono.	Nate Will	6/10/15	
Review options to relocate the trail from the south to the north side of CSAH 112 from Martha Lane east to Wolf Pointe Trail. Review moving the trail crossing/center median from Martha Lane to the Long Lake City Trail connection at CSAH 112. Review available space for a potential sidewalk connection along the south side of CSAH 112 from Mill Street to the Long Lake City Trail connection.	Nate Will & Kristy Morter	6/17/15	

- 4. Discussion Items: *(35 Minutes)*
 - a. Potential trail relocation east of Martha Lane *(25 minutes)*
 - b. Future PAC meeting dates *(10 minutes)*
- 5. Update of ongoing design efforts *(5 Minutes)*
 - a. Final Design
 - b. Utility Coordination
 - c. Environmental Investigation
- 6. Open Discussion *(5 Minutes)*
- 7. Follow Up Items/Action Items: *(5 Minutes)*

Task	Responsible Party	Due Date	Resolution

- 8. Upcoming Meetings:
 - a. PMT Meeting: July 2, 2015; 1:00 pm – 2:30 pm
 - b. PAC Meeting: TBD
 - c. Long Lake City Council Work Session – July 21, 2015; 5:00 pm – 6:30 pm (tentative, need to reschedule due to potential trail relocation delay.)
 - d. Orono City Council Meeting – June 22, 2015; 7:00 pm
 - e. Long Lake Chamber of Commerce Meeting – June 23, 2015; 12:00 pm (location TBD)

PHASE 1 (Willow Drive to Wolf Pointe Trail)		TOTALS	COUNTY TURNBACK FUND	HENNEPIN COUNTY	CITY OF ORONO	CITY OF LONG LAKE
Base	Construction①	\$13,789,162	\$13,789,162			
	R/W	\$378,075	\$378,075			
	Subtotal	\$14,167,237	\$14,167,237			
Additional Trail & Sidewalk	Construction①	\$121,000		\$60,500		\$60,500
	R/W	\$12,818		\$6,409		\$6,409
	Subtotal	\$133,818		\$66,909		\$66,909
Additional Lighting and Streetscape①		\$592,300		\$195,500	\$89,600	\$307,200
Utility Full Burial - Long Lake From Cemetery Road west 700'		\$90,000		\$29,700		\$60,300
Utility Full Burial - Long Lake From Cemetery Road to Wolf Pointe Trail		\$60,000		\$19,800		\$40,200
Utility Full Burial - Orono From Willow Drive to Brown Road		\$350,000			\$350,000	
Additional Lighting Accessories①		\$26,300			\$26,300	
Symes St. Sidewalk & Additional Lighting Accessories①		\$212,000				\$212,000
Streetscape (2 Gateway Monuments - Long Lake)①		\$102,400				\$102,400
Streetscape (1 Gateway Monument - Orono)①②		\$83,200			\$83,200	
Subtotal - Phase 1		\$15,817,255	\$14,167,237	\$311,909	\$549,100	\$789,009

Green Text indicates City proposed contribution to discretionary project elements. Blue Text indicates Hennepin County proposed contribution to discretionary project elements. Discretionary spending item cost will be shared by the County and City based on policy. Items listed are current as of May 20th, 2015 PAC meeting.

① Construction cost includes 18% Engineering and Construction Administration.

② Higher construction cost due presence of existing utilities and difficult topography.






Costs based upon 2015 unit pricing.

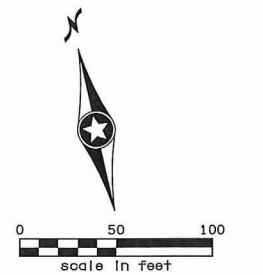
Values are rounded.

NOTES:

- (A) 10' CURB TYPE TRANSITION, PAID SAME AS ADJACENT CURB.
- (B) CONSTRUCT APPROACH NOSE DETAIL PER MN/DOT STD. PLATE 7113.
- (D) MATCH EXISTING
- (E) SEE INTERSECTION DETAIL SHEET NO. 115-124 FOR DETAILED INFORMATION.
- (G) CONSTRUCT PEDESTRIAN CROSSING THROUGH MEDIAN, CONSTRUCT TO ALLOW FOR DRAINAGE OF THE PEDESTRIAN CROSSING.
- (H) INSTALL MAILBOX WITH MAILBOX SUPPORT
- (J) TRAFFIC BARRIER DESIGN 8338
- (X) INDICATES DETAIL NUMBER, SEE PEDESTRIAN CURB RAMP DETAILS ON SHEET NO.130-147.

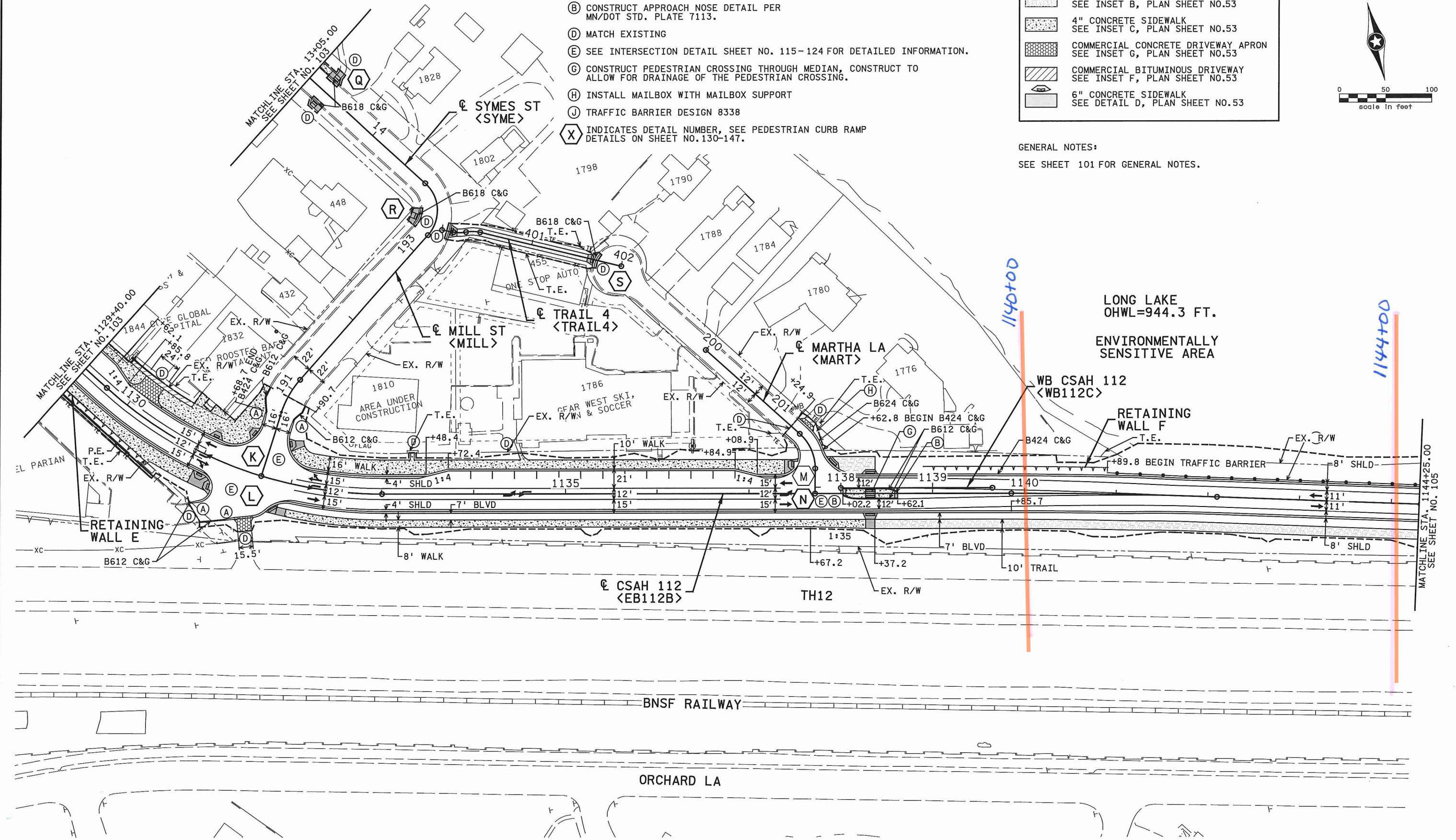
LEGEND


-  3.0" BITUMINOUS TRAIL
SEE INSET B, PLAN SHEET NO.53
-  4" CONCRETE SIDEWALK
SEE INSET C, PLAN SHEET NO.53
-  COMMERCIAL CONCRETE DRIVEWAY APRON
SEE INSET G, PLAN SHEET NO.53
-  COMMERCIAL BITUMINOUS DRIVEWAY
SEE INSET F, PLAN SHEET NO.53
-  6" CONCRETE SIDEWALK
SEE DETAIL D, PLAN SHEET NO.53



GENERAL NOTES:

SEE SHEET 101 FOR GENERAL NOTES.



	I HEREBY CERTIFY THAT THIS PLAN 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.	DESIGN BY: E. LUETH CAD BY: S. VANG CHECKED BY: A. KLEIN LAST REVISION: xx/xx/xx	CONSTRUCTION PLAN	SHEET
	AMBER H. KLEIN, PROFESSIONAL ENGINEER SR CONSULTING GROUP, INC	49073 LICENSE NO. DATE	CSAH 112 / HENNEPIN COUNTY PROJECT NO. 091101 SAP 027-712-001	104

3/18/2015 12:34:31 PM H:\Projects\8483\CAD_BIM\Plan\8483_cp04.dgn

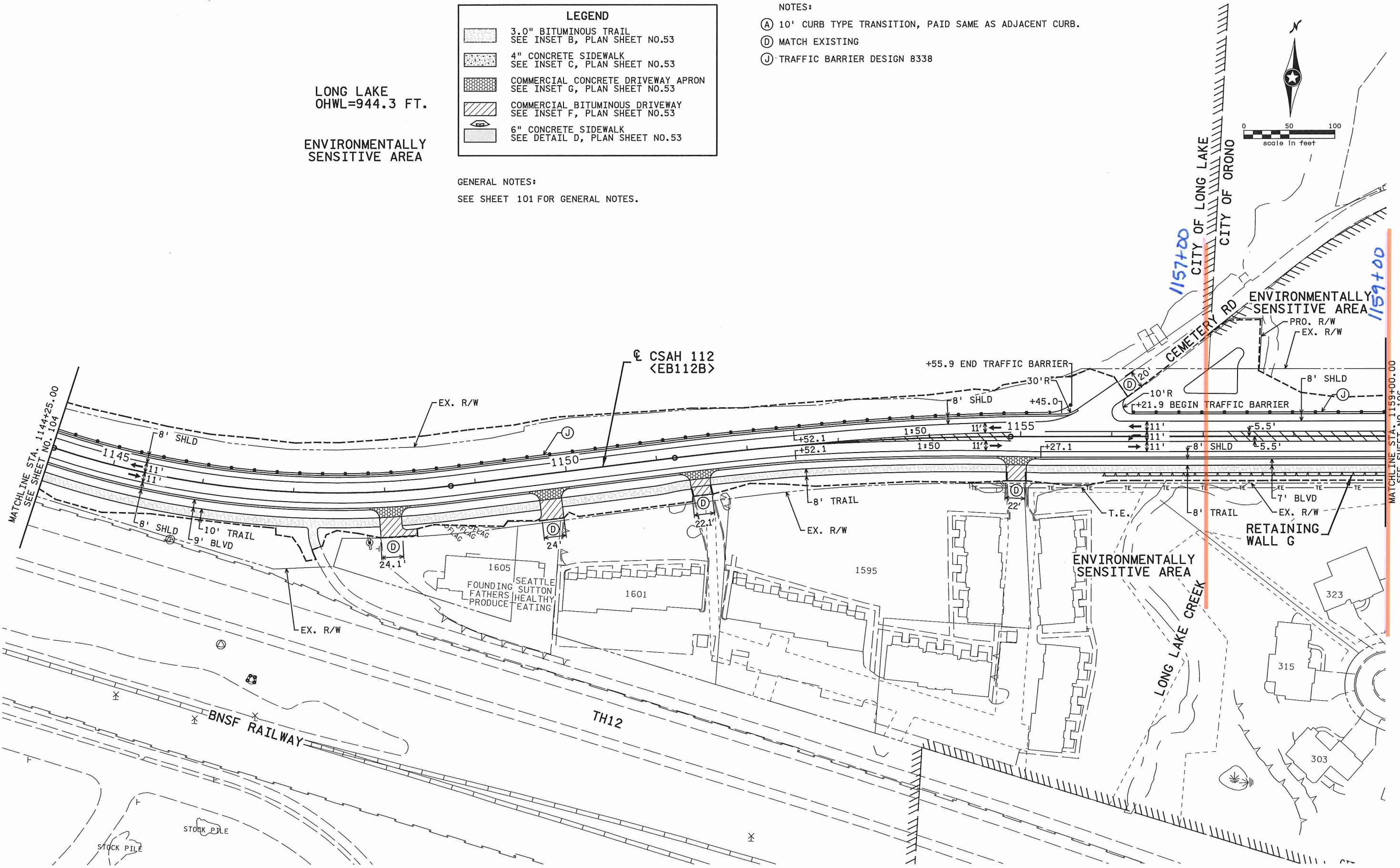
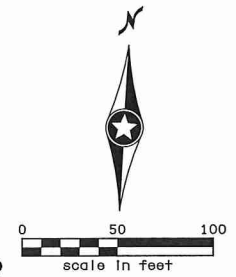
LONG LAKE
OHWL=944.3 FT.

ENVIRONMENTALLY
SENSITIVE AREA

LEGEND	
	3.0" BITUMINOUS TRAIL SEE INSET B, PLAN SHEET NO.53
	4" CONCRETE SIDEWALK SEE INSET C, PLAN SHEET NO.53
	COMMERCIAL CONCRETE DRIVEWAY APRON SEE INSET G, PLAN SHEET NO.53
	COMMERCIAL BITUMINOUS DRIVEWAY SEE INSET F, PLAN SHEET NO.53
	6" CONCRETE SIDEWALK SEE DETAIL D, PLAN SHEET NO.53

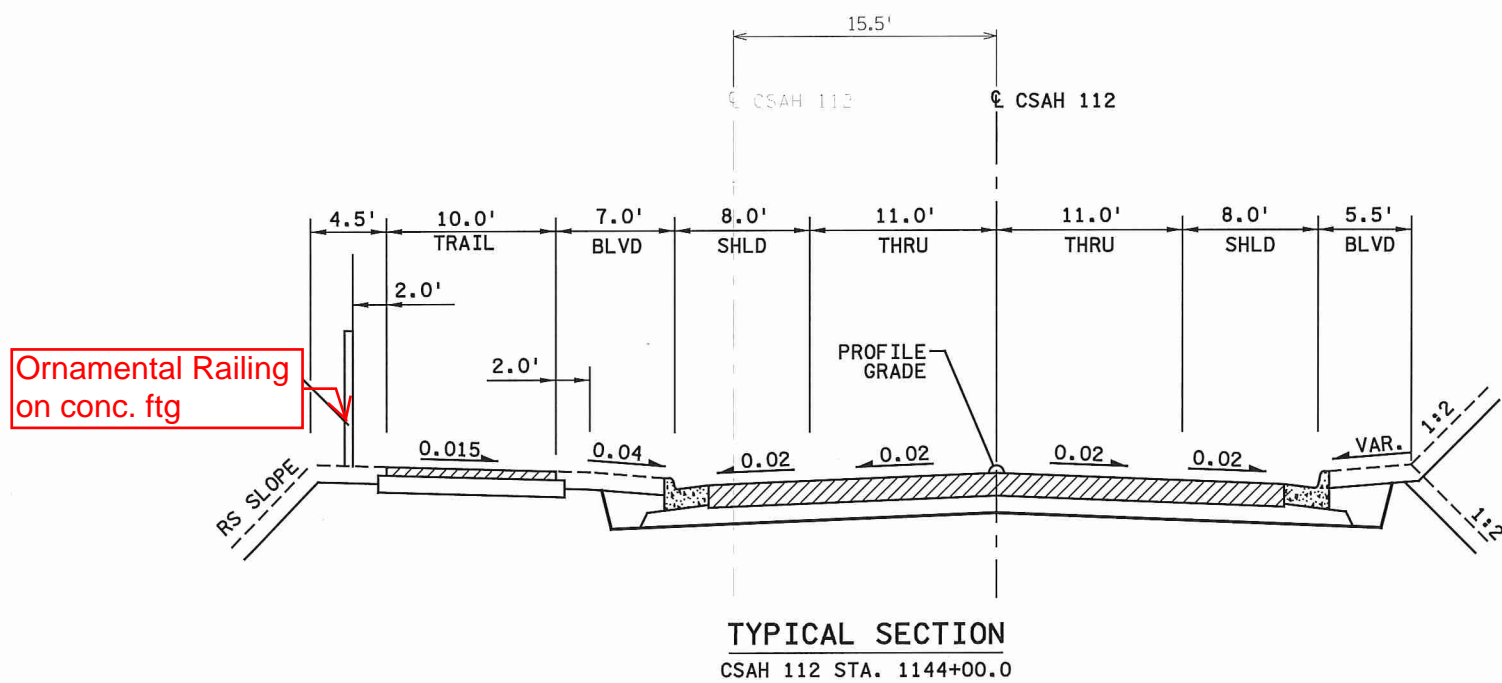
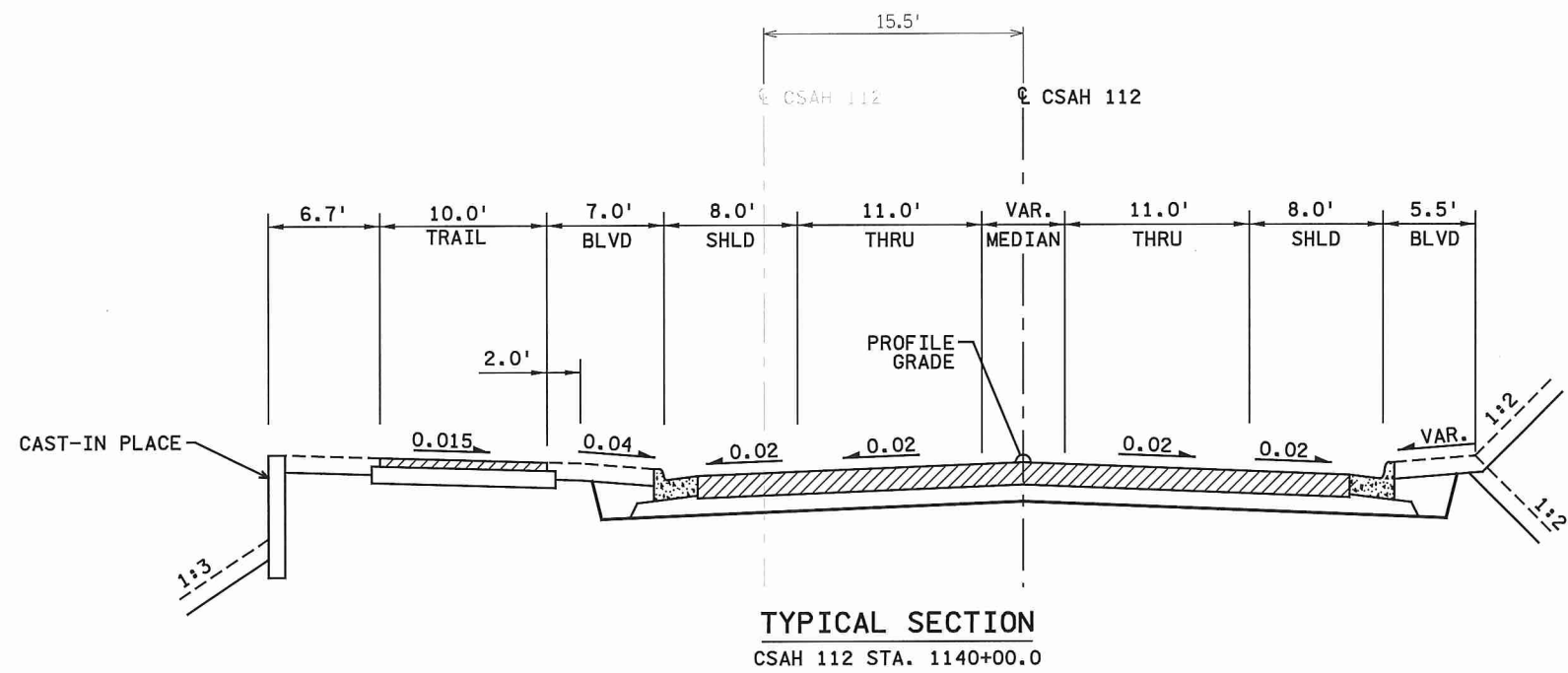
- NOTES:
- (A) 10' CURB TYPE TRANSITION, PAID SAME AS ADJACENT CURB.
 - (D) MATCH EXISTING
 - (J) TRAFFIC BARRIER DESIGN 8338

GENERAL NOTES:
SEE SHEET 101 FOR GENERAL NOTES.

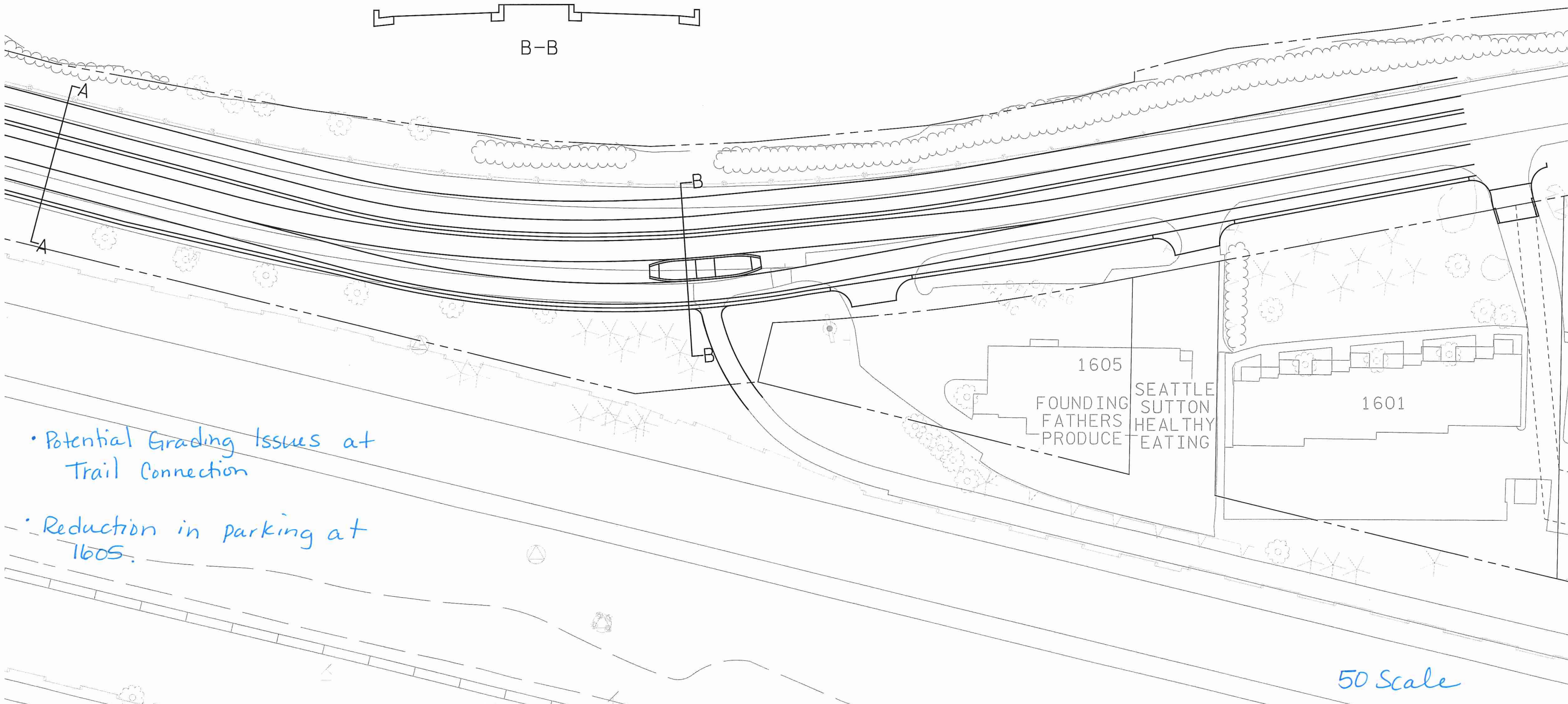
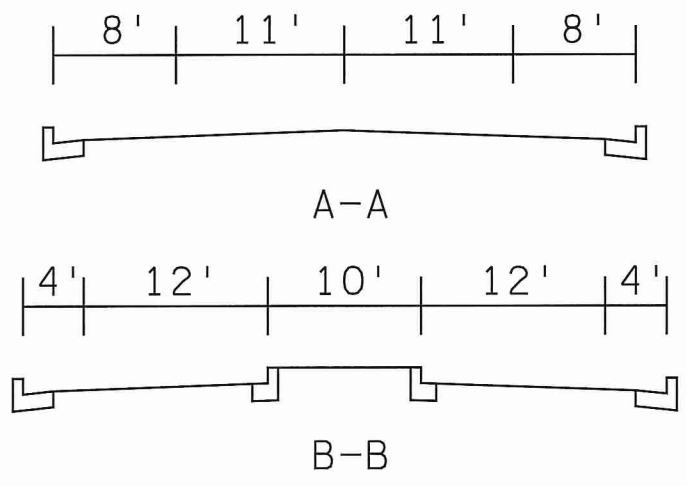


	I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		DESIGN BY: E. LUETH CAD BY: S. VANG CHECKED BY: A. KLEIN LAST REVISION: XX/XX/XX	CONSTRUCTION PLAN CSAH 112 / HENNEPIN COUNTY PROJECT NO. 091101 SAP 027-712-001	SHEET 105 323
	AMBER H. KLEIN, PROFESSIONAL ENGINEER SRF CONSULTING GROUP, INC.	49073 LICENSE NO.	_____ DATE		

6/3/15
15.5' Offset from current
centerline required to hold RSS
at 60% Design Location while
accommodating the trail along
north side.



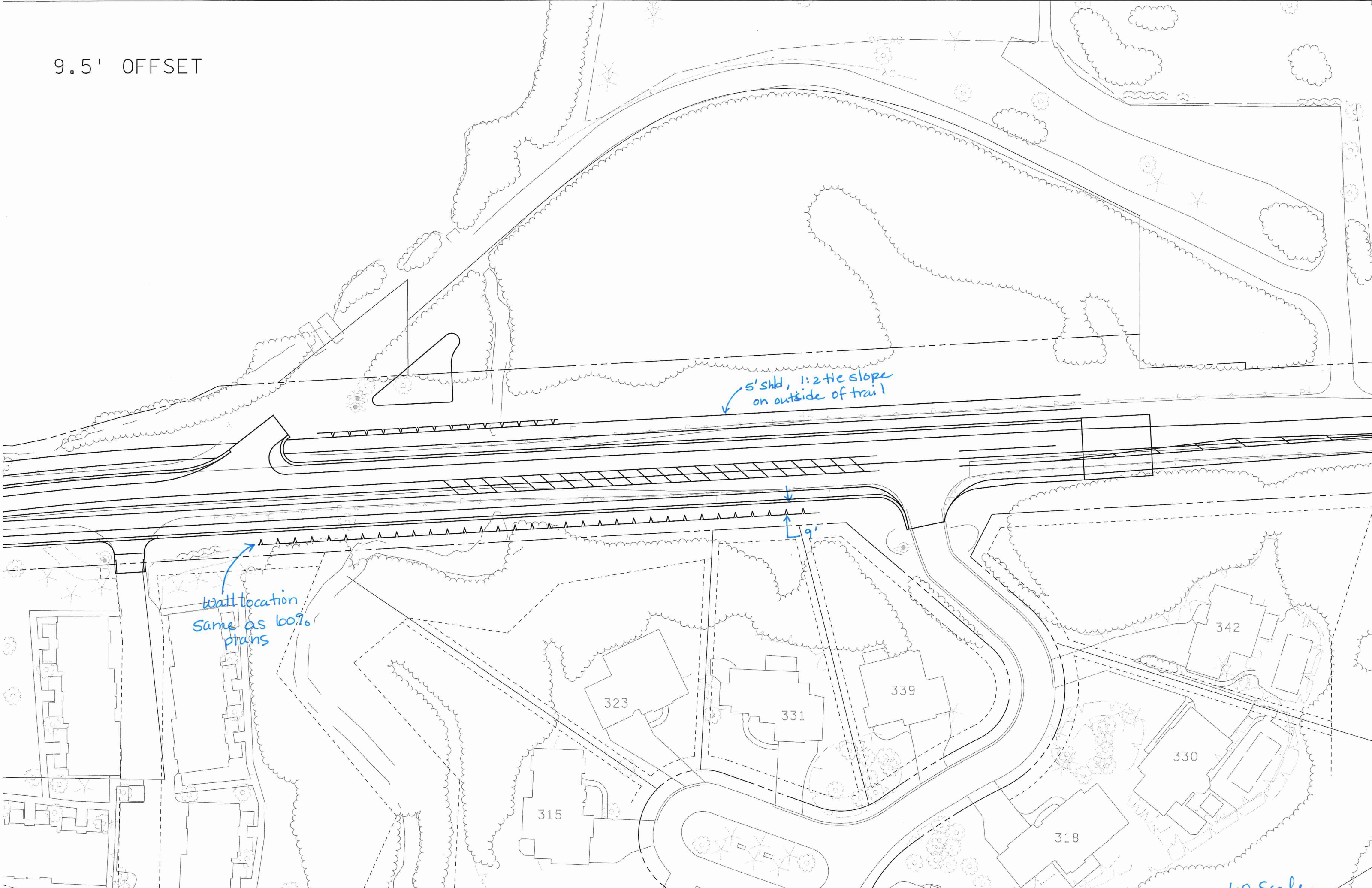
6/3/15
Center median at potential
trail crossing with 15.5'
offset west & east of
median. Hold RSS to 60%
Design location.



- Potential Grading Issues at Trail Connection
- Reduction in parking at 1605.

50 Scale

9.5' OFFSET



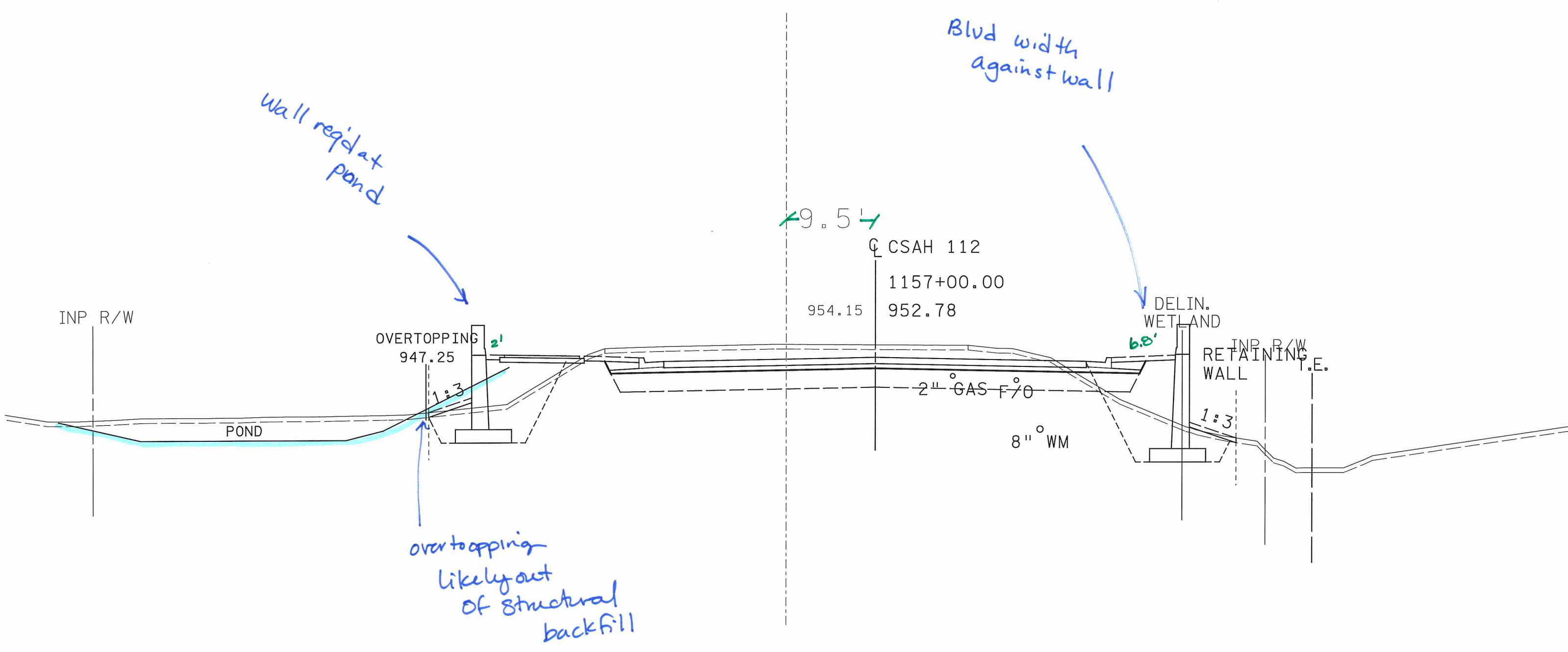
5' shd, 1:2 Hc slope
on outside of trail

Wall location
same as 60%
plans

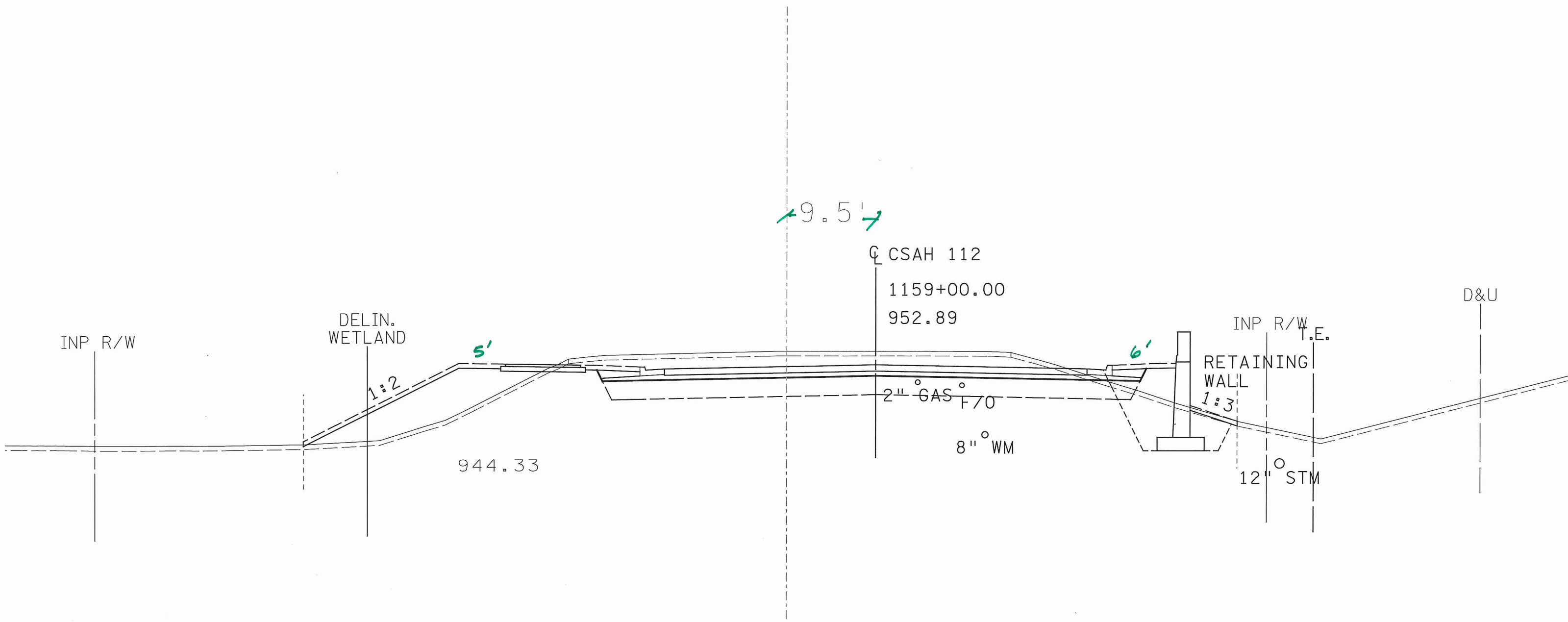
9'

60 Scale

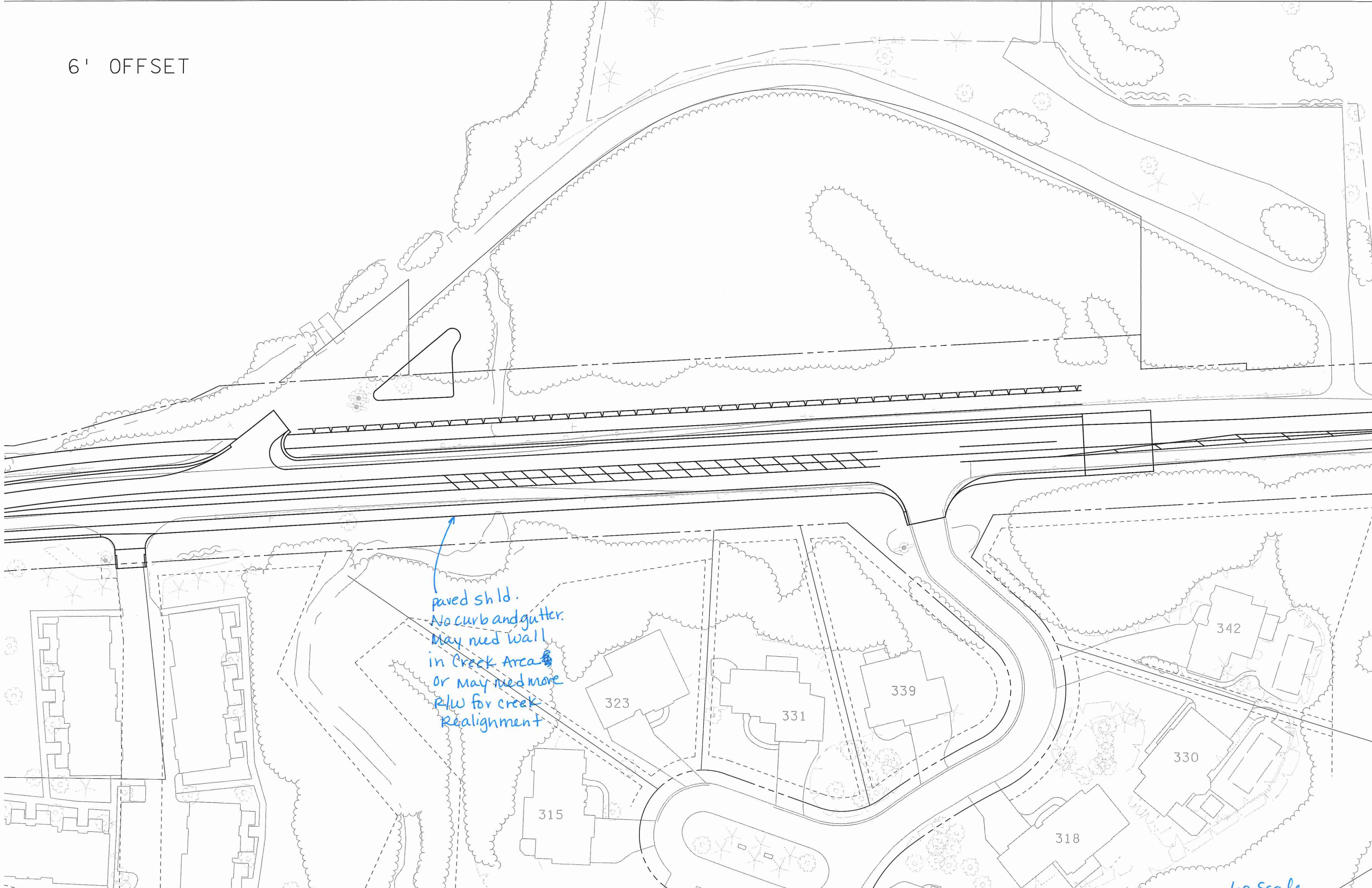
9.5' offset



9.5' offset



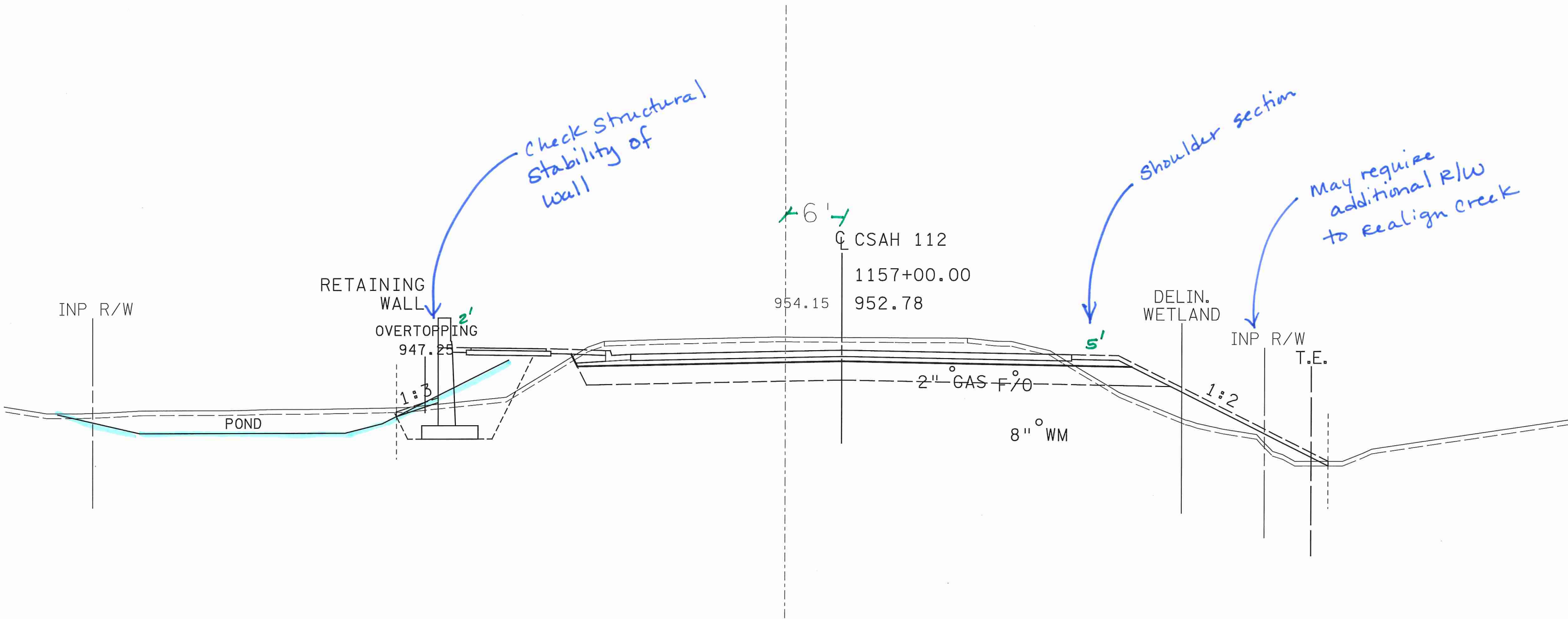
6' OFFSET



paved shld.
No curb and gutter.
May need wall
in Creek Area
or may need more
R/W for creek
Realignment

60 Scale

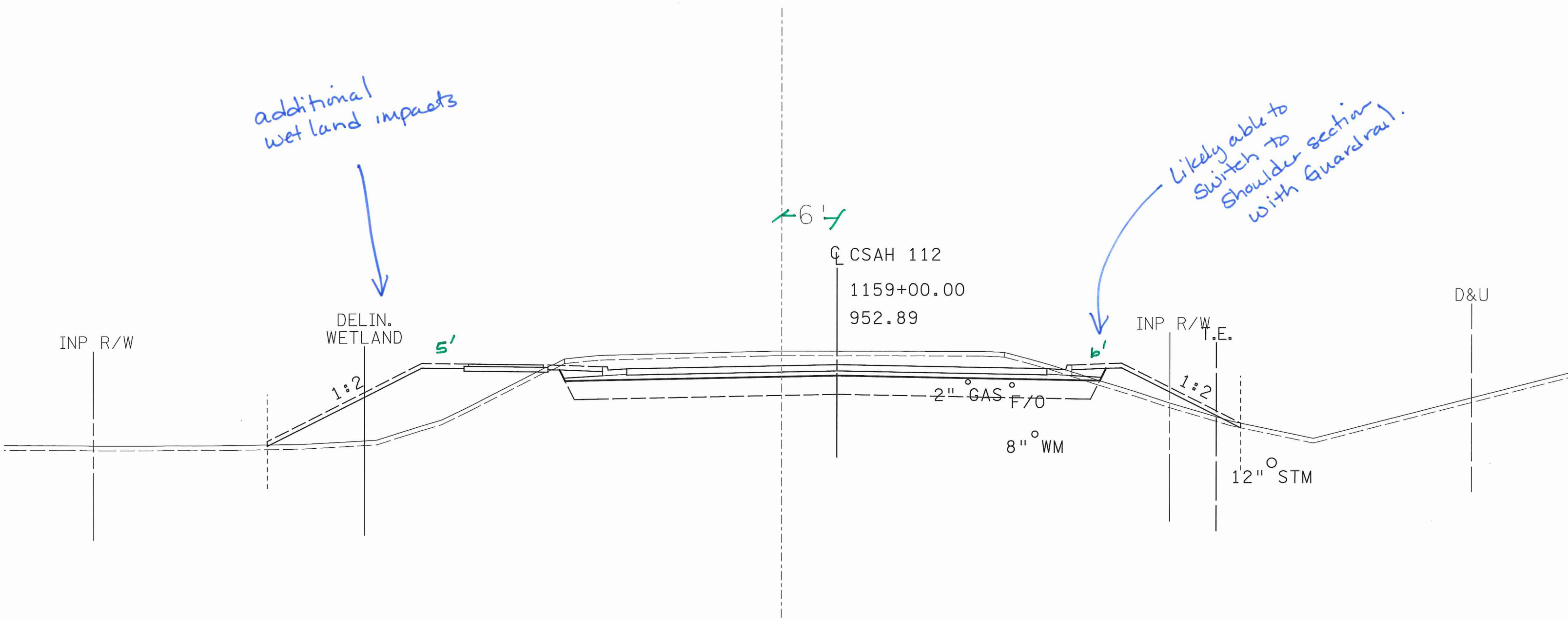
6.0' offset



6.0' offset

additional wet land impacts

Likely able to switch to shoulder section with Guardrail.



← 6'

CSAH 112
1159+00.00
952.89

INP R/W

DELIN. WETLAND

5'

1:2

6'

INP R/W T.E.

1:2

2" GAS F/O

8" WM

12" STM

D&U

To: Kristy Morter, PE
Hennepin County Transportation Department

From: Nathen A. Will, PE (MN IL)
Emily Lueth, PE (MN)

Date: June 9, 2015

Subject: CSAH 112 Phase 1 Final Design (Willow Drive to Wolf Pointe Trail)
Hennepin County Project No. 091101

The purpose of this document is to define the potential improvements and impacts of revising the proposed geometry of CSAH 112 between Mill Street and Wolf Pointe Trail to provide a 10-foot wide trail on the north side of the roadway. The below list of pros and cons is not meant to be an all-encompassing list of impacts. It is, however, meant to provide a general overview of the impacts that have been identified to date.

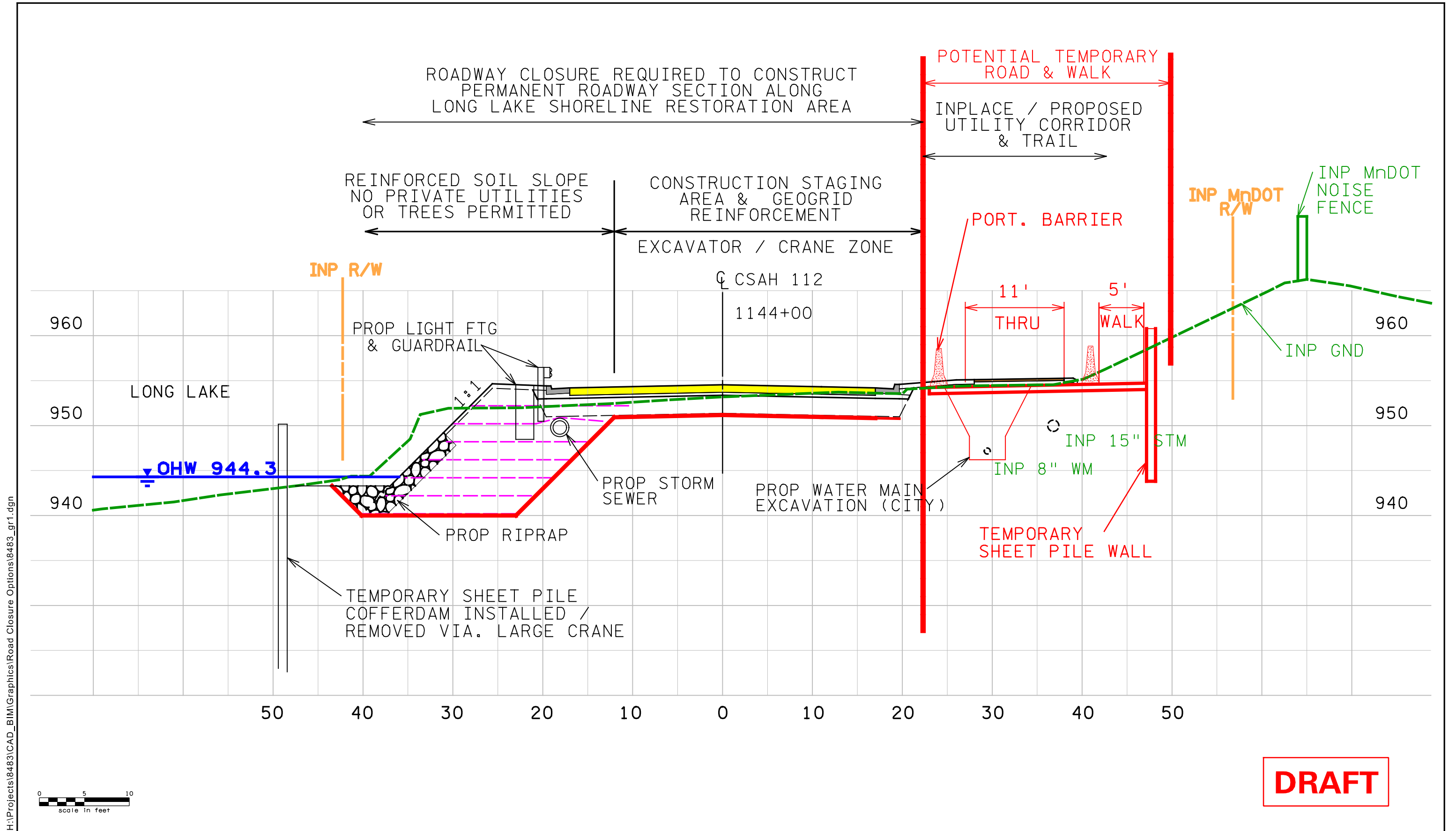
Potential Improvements

- Provide access to the future Birch's on the Lake Restaurant and future trail connection for residents on the north side of CSAH 112.
- Increase the clear zone on the north side of CSAH 112 along the Reinforced Soil Slope (RSS).
- Allows trail users closer access to Long Lake for views of the lake.
- Allows the proposed guardrail to be removed along Long Lake.

Potential Impacts

- Need for ornamental metal railing along the RSS.
- Potential snow plowing difficulties for roadway and trail with ornamental metal railing.
- Additional impacts to the MnDOT storm system and large grit chamber
- Impacts to the proposed stormwater treatment (dry pond) and storm sewer near Cemetery Road.
- Less connectivity to the Long Lake City Trail. Requires pedestrians/bicyclists to cross CSAH 112. Assumes no sidewalk connection along south side of CSAH 112 from Mill Street to Long Lake City Trail.

- No space on south side of roadway for sidewalk along existing berm area separating CSAH 112 from TH 12.
- Reduced area for private utilities on the south side of the roadway. Will require that private utilities be placed under shoulder section.
- Reduced parking lot capacity at 1605 Wayzata Blvd.
- Impacts the previously approved roadway layout and design of CSAH 112 Phase 2 east of Wolf Pointe Trail.
- Additional wall needed between Cemetery Road and Wolf Pointe Trail and potentially more wetland impacts.
- Long-term maintenance costs of ornamental railing along Long Lake.



DRAFT



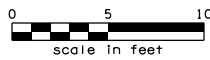
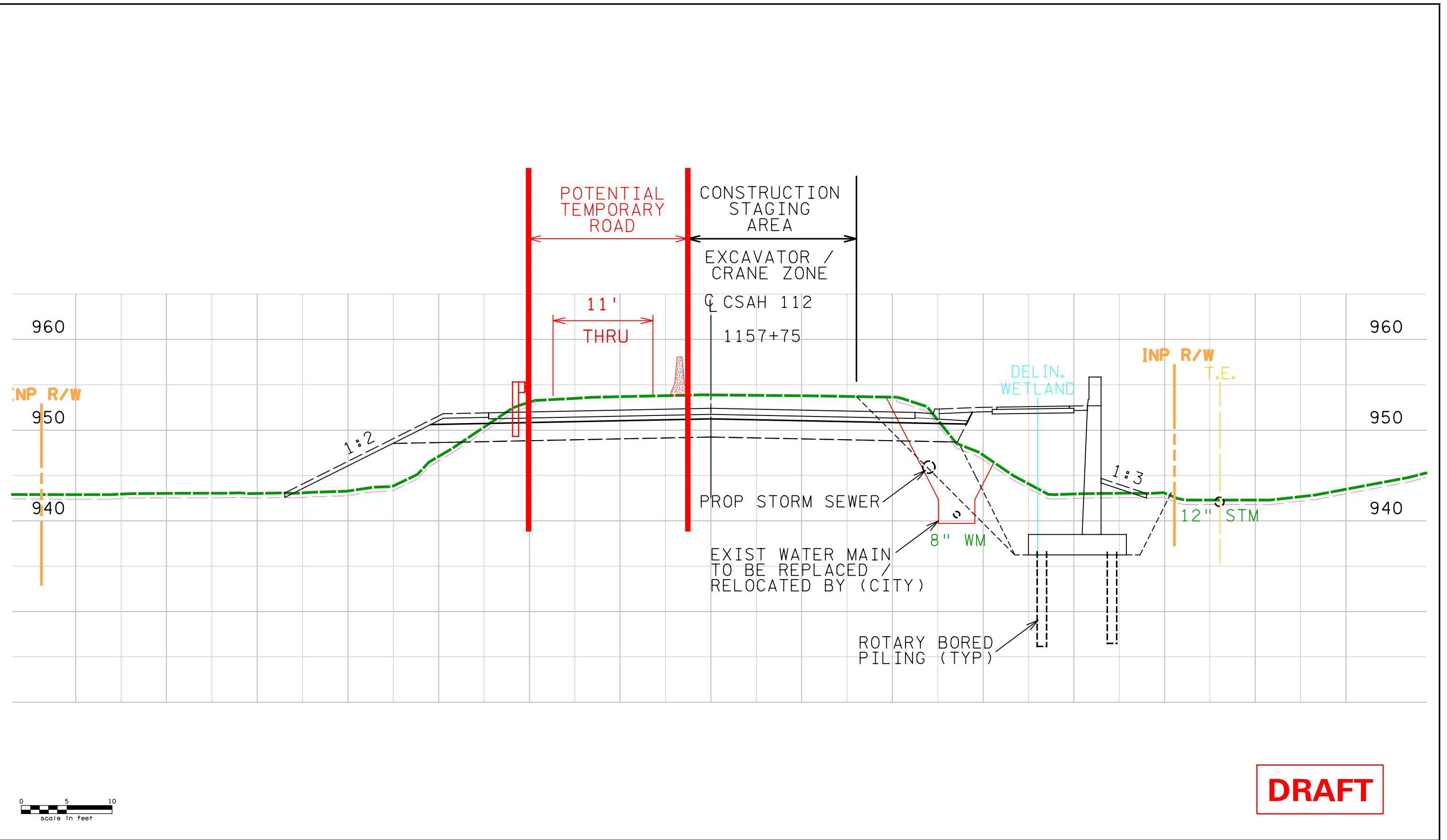
REINFORCED SOIL SLOPE - PRELIMINARY SECTION WITH TEMPORARY BYPASS ROAD - 60% ALIGNMENT, TRAIL SOUTH SIDE

Job #8483
6/12/2015

CSAH 112 - PHASE 1
HENNEPIN COUNTY

Figure 1

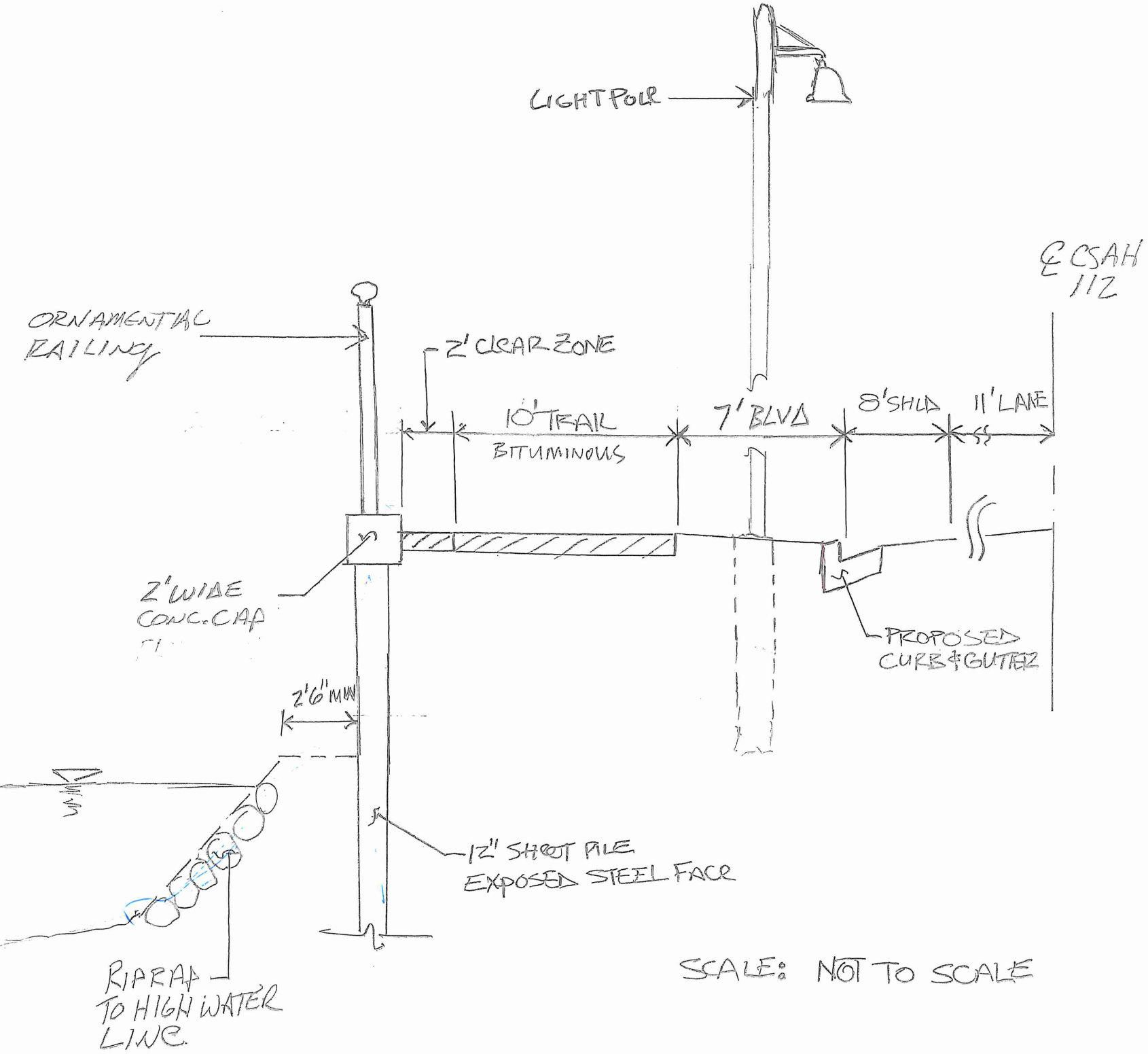
H:\Projects\8483\CAD_BIM\Graphics\Road Closure Options\8483_gr2.dgn



DRAFT

Project Name CSAH 112
Computation for CONCEPT SHEET FILE WALL

Comm. No. 8483 of 6040
Sheet 1
By NKV Date 10/16/13
Checked by _____ Date _____



SCALE: NOT TO SCALE

- NO TRAFFIC
- NO ROAD REMOVAL





40'-45'







ENGINEERS
PLANNERS
DESIGNERS

Memorandum

SRF No. 0148483

To: Kristy Morter, PE
Hennepin County Transportation Department

From: Nathen A. Will, PE (MN IL)

Date: June 12, 2015

Subject: CSAH 112 Phase 1 Final Design (Willow Drive to Wolf Pointe Trail)
Hennepin County Project No. 091101

The purpose of this document is compare the estimated construction cost for a reinforced soil slope (RSS) versus a sheet pile retaining wall along Long Lake to support a potential trail and CSAH 112. The following is not meant to be an all-encompassing list of construction costs nor impacts. It is, however, meant to provide a general overview of the cost differentials identified to date.

RSS Estimated Cost

Approximate length of RSS is: 1,500 feet

Per the 60% Construction Estimate the RSS construction cost is: \$1,018,260

PZ22 Sheet Pile Retaining Wall

Approximate length of PZ22 sheet pile is; 1,500 feet

Estimated Construction Cost:

Westerly 750 feet section is: \$1,425,000

Easterly 750 feet section is: \$1,162,500

Total Cost: \$2,587,500

Estimated Engineering Cost: \$60,000 - \$85,000

- Assumes no geometric/alignment changes to CSAH 112
- Assumes replacing RSS with PZ22 sheet pile
- Guardrail is required
- Cost based upon exposed steel sheet pile (rust colored)
- Assumes reprocessing cross sections, reviewing drainage details and coordinating with MCWD.

- Easterly section 40' sheets, no tie-backs and concrete cap. Does not include ornamental railing or colored concrete in cap.
- Westerly section 40' sheets, tie-backs required due to underlying peat. Does not include ornamental railing or colored concrete in cap.

Pro's and Con's for RSS versus PZ22 Sheet Pile Retaining Wall

RSS estimated cost:	\$1,018,260
<u>PZ22 estimated cost:</u>	<u>\$2,587,500</u>
Cost increase for PZ22:	\$1,569,240

Pro's

- RSS is approximately 40% less cost versus PZ22
- PZ22 constructed with minimal excavation for 1/2 the overall segment
- PZ22 sheet pile cost is nearly 3X that of the RSS
- PZ22 could be constructed in February versus the RSS which may be delayed to late March or April.
- PZ22 may be completed before fish spawning dates thereby minimizing adverse impacts on Long Lake and schedule delays for construction.

Con's

- PZ22 requires engineering re-design costs and plan delivery schedule impact
- PZ22 sheet pile cost is nearly 3X that of the RSS
- RSS creates difficult long-term maintenance issues for storm sewer currently designed.
- RSS required temporary sheet pile wall to construct in the "dry" where PZ22 doesn't require a separate wall.

Neutral

- RSS & PZ22 require large construction staging areas for equipment, material storage and risk management.