

Combined with a new Devon Station from Alternative W-13, the passing siding located south of Beacon Falls Station could also support hourly shuttles in both directions between Waterbury and the New Haven Line via a transfer at Devon Station. The northern location for the siding would not support hourly shuttles in this instance because it would shift the meet location three to four minutes closer to Waterbury in each direction, resulting in turn times at Devon that are operationally infeasible.

The conceptual capital cost for constructing this alternative (without CTC) would be \$6 million (2008 dollars).

2.3.6 Four Passing Sidings (W-11)

This alternative would add four passing sidings on the Waterbury Branch, one north or south of Beacon Falls Station (described above and shown in Figures 3-7 and 3-8); one north of Derby-Shelton Station, from 74+640 to 782+261 (approximately MP 9 to 9.7); one two miles north of the Devon wye; and one two miles south of Waterbury Station (see Appendix B – Waterbury Passing Siding Drawings). The proposed locations would not require any station platform modifications, as trains would pass outside of station limits. All passing sidings would be of sufficient length that, with CTC, trains could enter and leave the sidings at 30 MPH.

A RAILSIM TPC run was performed to determine the capacity (minimum headway) improvement achieved by adding both passing sidings. Adding four passing sidings would allow one more non-revenue train to be sent northbound to Waterbury (for an early morning double berth), which would allow an extra southbound morning peak period train to operate. It also would be possible to support hourly service throughout the day to and from Bridgeport Station, with a scheduled meet at the Derby siding.

Combined with a new Devon Station from Alternative W-13, this alternative could also support hourly shuttles in both directions between Waterbury and the New Haven Line via a transfer at Devon Station. As previously noted, the Devon shuttle service could only operate efficiently if the Beacon Falls siding were located south of the station.

The conceptual capital cost for constructing this alternative (without CTC) would be \$32 million (2008 dollars).

2.3.7 Devon Alternative 2 (W-13)

This alternative would locate a new two-platform Devon Station on the New Haven Line just east of the Waterbury Branch wye (Figures 2-9 through 2-11). This station would provide the ability to increase service to mainline destinations without taking up additional schedule slots on the New Haven Line. In order to capture these potential increased frequency benefits, the Devon Station Alternative would include full signalization and three of the passing sidings described in Alternative W-11: Waterbury, Beacon Falls – South Option, and Derby-Shelton.

With a new station at Devon, hourly shuttle service could be operated between Waterbury and Devon, with shuttles timed to facilitate transfers to and from existing New Haven Line trains. A Devon Station would also allow Waterbury Branch customers—including those heading northbound to New Haven or Shore Line East destinations—to access mainline trains without first traveling to Bridgeport. Existing peak-period through service to Bridgeport and Stamford would remain in place; new shuttle service between Waterbury and Devon would supplement the existing schedule, not replace it. Only those mainline trains timed to connect with Waterbury

shuttles would stop at the new Devon Station. In some cases the mainline schedule might need to be adjusted to maintain an hourly connection.

For this alternative, the eastern leg of the wye would need to be shifted slightly eastward and, rather than connecting to the New Haven Line at the present location, would be extended eastward, north of and parallel to the mainline tracks, before connecting to the northernmost mainline track several hundred feet east of the current wye switch. The northern platform would be constructed between this extended Waterbury track and the northernmost existing mainline track, allowing passengers transferring between the Waterbury Branch and southbound New Haven Line trains to make an across-platform transfer.

The second platform would be located south of and parallel to the mainline tracks. Passengers transferring between the Waterbury Branch and northbound New Haven Line trains would move between platforms via an overpass. A Kiss & Ride area accessed from Naugatuck Avenue would be provided on the south side of the station.

Several existing main-to-main crossovers at CP 261 would need to be reconstructed east of their present location in order to create a Devon Station in this location (Figure 2-9). In addition, CP 261 is the location where the New Haven Line transitions from four tracks to three tracks heading east, with the northern two tracks (tracks 3 and 1) merging to a single track. This merger would also need to be reestablished east of its present location, consistent with the present trackwork. However, constructing a Devon Station in this location, where Waterbury trains and southbound New Haven Line trains would share the same center platform, would support a convenient across-platform transfer between Waterbury Branch and New Haven Line trains.

The conceptual capital cost for constructing this alternative would be \$49 million (2008 dollars). However, the full level of shuttle service described here would also require full signalization of the branch as described for Alternative W-3 above, adding \$128 to the cost.

2.3.8 Derby-Shelton Multi-Modal Alternative 1 (W-15)

This alternative would replace the existing boarding area with a 680-foot high-level platform north of the existing station building on the west side of the track (Figures 2-12 and 2-13). No additional track or siding would be added. Operationally, a Derby-Shelton multi-modal hub would function as a transfer hub between commuter rail and other modes, with rail and bus schedules adjusted to better accommodate intermodal connections. Waterbury Branch rail service could be operated either as a shuttle service between Waterbury and Derby, with all passengers transferring at the expanded Derby-Shelton Station, or as a mix of shuttle and Bridgeport service. Combined with one of the passing siding alternatives, introducing shuttle service between Waterbury and Derby would allow additional Waterbury Branch trains to be operated, because shuttles would only have to travel half the distance of trains that currently make the full trip from Waterbury to Bridgeport.



- LEGEND**
- EXISTING R.R. TRACK
 - R.O.W.
 - RAIL STUDY CORRIDOR
 - MILE POST MARKER
 - R.R. STRUCTURES, PLATFORMS
 - WATERCOURSE
 - CHANNEL ENCROACHMENT LINE
 - R.R. STATION PARKING
 - SIDING/NEW R.R. TRACK

Figure 2-9:
Devon Station
Alternative 2

CROSSING DATA

MILE	CROSSING STREET/FEATURE	AG	UG	OH	OPEN DECK
6.6	UG STAMFORD RD. 00		X		

AG - AT GRADE
UG - UNDERGRADE
OH - OVERHEAD



WATERBURY AND NEW CANAAN
BRANCH LINES
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PROJECT NO. 170-2562

WATERBURY BRANCH LINE
NEW DEVON R.R. STATION
ALTERNATIVE - 2





- LEGEND**
- EXISTING R.R. TRACK
 - R.O.W.
 - RAIL STUDY CORRIDOR
 - MILE POST MARKER
 - R.R. STRUCTURES, PLATFORMS
 - WATERCOURSE
 - CHANNEL ENCROACHMENT LINE
 - R.R. STATION PARKING
 - SIDING/NEW R.R. TRACK

Figure 2-10:
Devon Station
Alternative 2
Detail

CROSSING DATA

MILE	CROSSING STREET/FEATURE
6.16	UG STAMFORD RD. OD

AG - AT GRADE
 UG - UNDERGRADE
 OH - OVERHEAD
 OPEN DECK

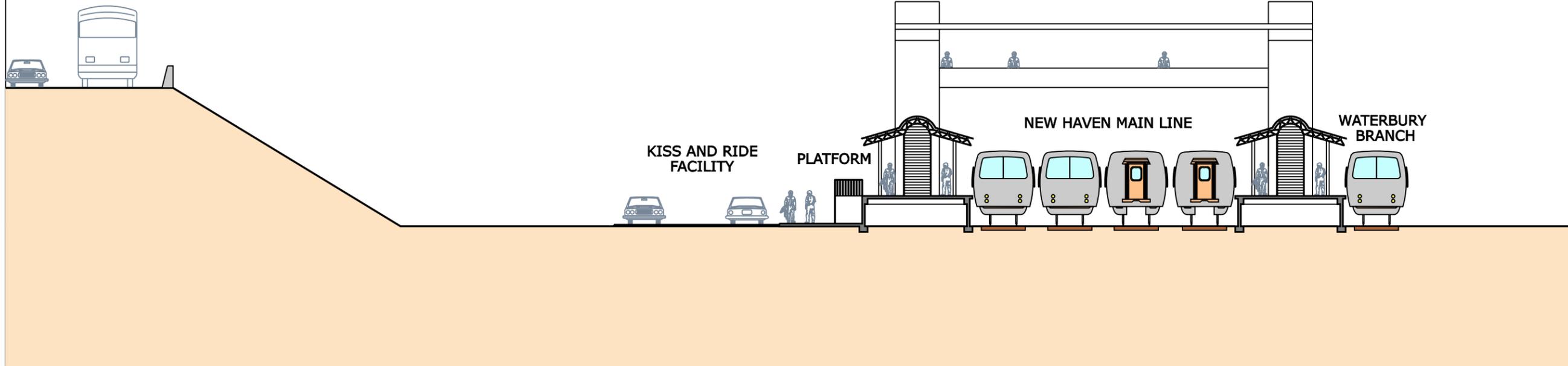


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PROJECT NO. 170-2562

WATERBURY BRANCH LINE
NEW DEVON R.R. STATION
ALTERNATIVE - 2
DETAIL PLAN



INTERSTATE - 95



SECTION A-A

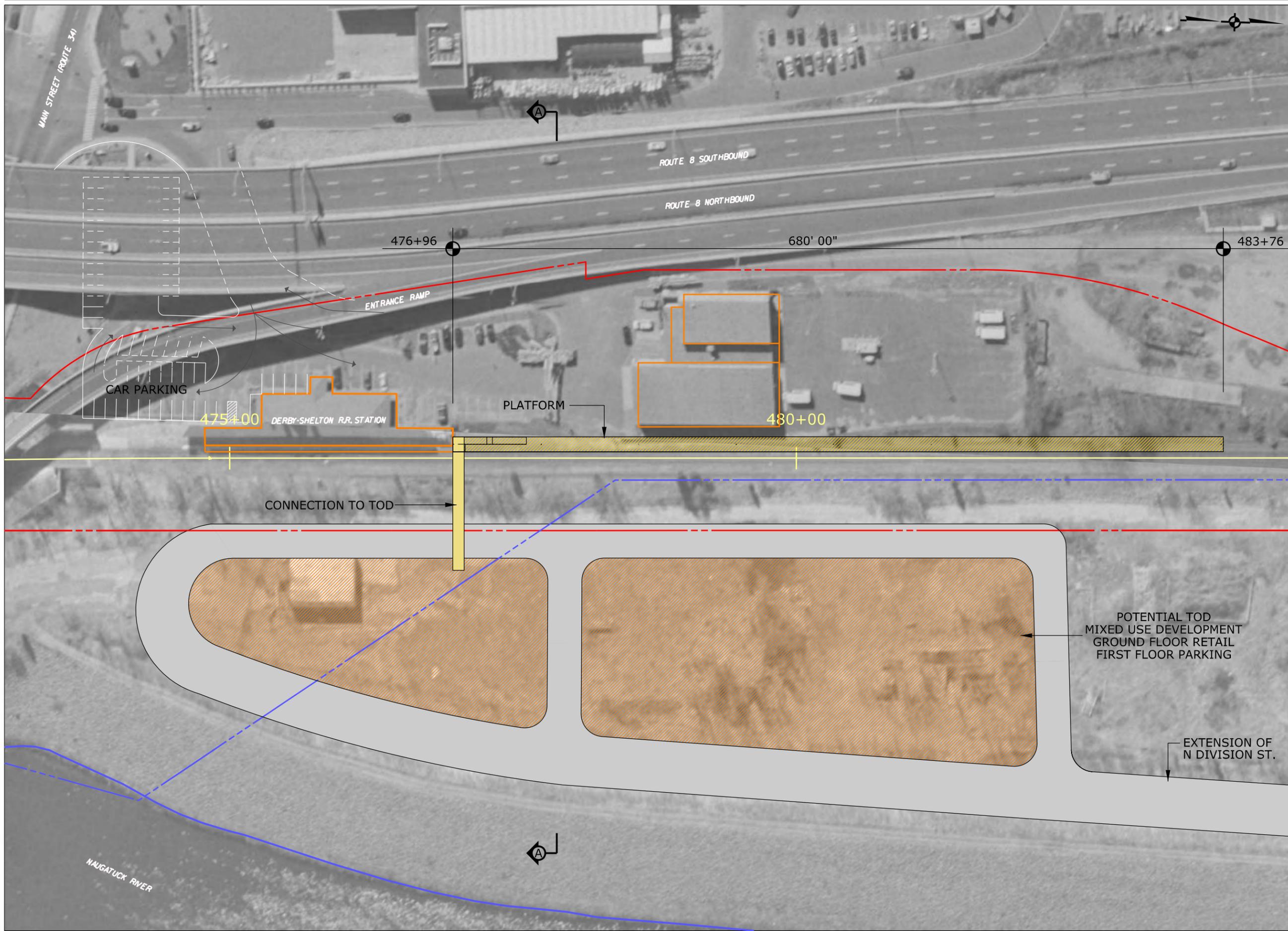
SCALE IN FEET
 0 10 20

WATERBURY AND NEW CANAAN
 BRANCH LINES
 NEEDS & FEASIBILITY STUDY
 PROJECT NO. 170-2562

WATERBURY BRANCH LINE
 NEW DEVEON R.R. STATION
 SECTIONS



Figure 2-11:
 Devon Station
 Alternative 2
 Section



- LEGEND**
- EXISTING R.R. TRACK
 - R.O.W.
 - RAIL STUDY CORRIDOR
 - MILE POST MARKER
 - R.R. STRUCTURES
 - PLATFORM, EXISTING
 - PLATFORM, PROPOSED
 - WATERCOURSE
 - CHANNEL ENCROACHMENT LINE
 - R.R. STATION PARKING
 - SIDING/NEW R.R. TRACK

**Figure 2-12:
Derby-Shelton
Multi-Modal Station
Alternative 1**

CROSSING DATA

MILE	CROSSING STREET/FEATURE
6.16	UG STAMFORD RD. 00

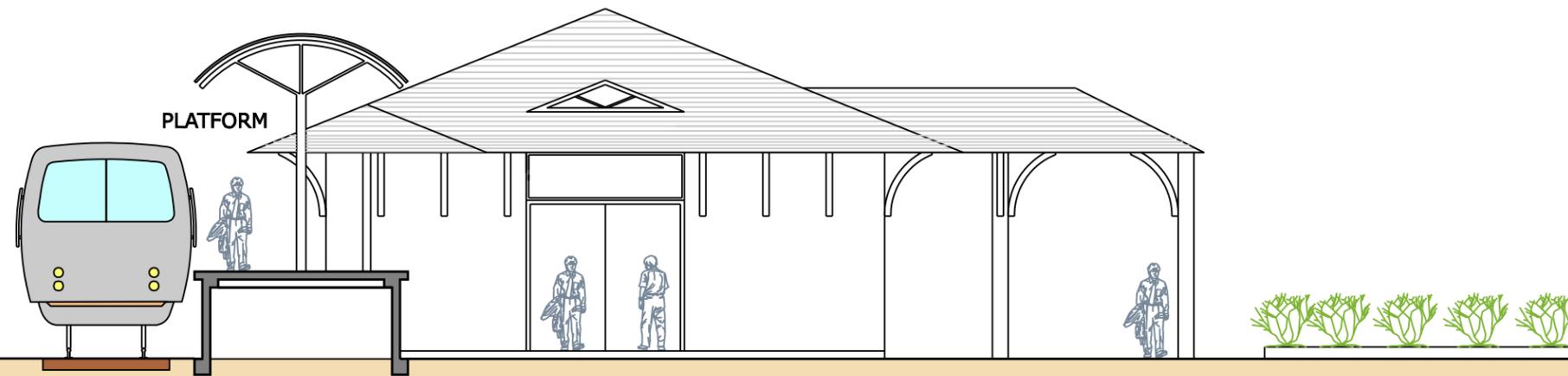
AG - AT GRADE
 UG - UNDERGRADE
 OH - OVERHEAD
 OPEN DECK



WATERBURY AND NEW CANAAN
BRANCH LINES
NEEDS & FEASIBILITY STUDY
PROJECT NO. 170-2562

WATERBURY BRANCH LINE
DERBY-SHELTON STATION
ALTERNATIVE - 1
PROPOSED PLAN





SECTION A - A

Figure 2-13:
Derby-Shelton Multi-
Modal Station
Alternative 1
Section



*WATERBURY AND NEW CANAAN
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PROJECT NO. 170-2562*

*WATERBURY BRANCH LINE
DERBY SHELTON R.R. STATION
SECTION DETAIL*



CONNECTICUT
DEPARTMENT OF TRANSPORTATION

There are several options for improving bus transfer facilities and/or expanding parking at Derby-Shelton. Parking Option A would add four bus bays adjacent to the existing station building and the relocated platform, with additional surface parking created under the CT-8 viaduct (Figure 2-14). Parking Option B would locate the bus bays under CT-8, with expanded surface parking north and northwest of the station building (Figure 2-15). Parking Option C would maximize bus facilities at the expense of creating new surface parking, with four bus bays adjacent to the station building and 4 bays under CT-8 (Figure 2-16).

Parking Options D, E, and F would replace the Valley Transit facility on the northern portion of the site with parking, either surface or structured (Figures 2-17 through 2-19). Option D would add this parking facility to Option A; Option E would add parking to Option B; and Option F would add parking to Option C. Options D, E, and F would require the relocation of Valley Transit to another site and the removal of an underground fuel tank behind the Valley Transit building.

The Town of Derby owns the large parcel of land east of the track, along the Naugatuck River. This land could potentially be developed as a mixed-use transit-oriented development, with ground-level retail and residential units above, as well as additional parking. To access this parcel, a pedestrian overpass could be constructed from the platform over the track, and N. Division Street could be extended to provide vehicular access (Figure 2-12). The September 2009 *Waterbury Branch TOD Report*, provided in Appendix G, discusses this and other TOD opportunities along the corridor in more detail. This report is summarized in Chapter 4 of this report.

The conceptual capital cost for constructing this alternative, assuming one of the surface parking scenarios on the existing station property (i.e., Option A, B, or C), would be \$5 million (2008 dollars).

2.3.9 Waterbury Multi-Modal Station (W-18)

This alternative would upgrade Waterbury Station to enhance transfers between rail and bus. Two bus bays would be added, as well as additional surface or structured parking. The existing high-level platform would be lengthened to 680 feet to accommodate an eight-car train consist. This alternative would also include five storage tracks in order to increase storage capacity at the northern end of the branch, a key operational need on the branch (Figure 2-20). The conceptual capital cost for constructing the full alternative would be \$20 million (2008 dollars); the cost of constructing the yard facilities only would be \$16 million (2008 dollars).

The City of Waterbury is currently investigating potential upgrades at the station to improve passenger safety and convenience, including parking improvements and demolition of a vacant building on the site. If both projects move forward, CTDOT will work with the City to ensure that improvements in the Waterbury Station area are coordinated.

2.3.10 Relocated Naugatuck Platform (W-19)

This alternative would relocate the existing Naugatuck Station platform, replacing the existing boarding area with a 680-foot high-level elevated platform above the Maple Street/Water Street intersection, south of the existing station (Figure 2-2). Because the existing station is located on a curve, any high-level platform (even one shorter than 680 feet) would have to be relocated to a tangent section of track north or south of the station. The south location proposed here would coordinate with a planned parking structure, as well as existing and planned downtown

development. Stairs would allow passengers to descend at either end of the platform, an elevator would be provided south of Maple Street, and a pedestrian walkway would directly connect an upper level of the planned parking structure with the platform.

The conceptual capital cost for constructing this alternative would be \$23 million (2008 dollars).

2.3.11 Express Bus (W-22)

The Express Bus Alternative was designed to replace the existing commuter rail service on the Waterbury Branch. In order to mirror the service characteristics of the Waterbury Branch, the Express Bus Alternative would serve all existing stations, using major arterials and expressways parallel to the railroad. This alternative would utilize traffic signal prioritization and queue jumpers wherever possible to provide travel time savings. Conceptual plans for the alignment and stations are provided in Appendix C – Express Bus Alternative Drawings.

The alignment would begin at the Bridgeport Station, continuing north along Water Street to Fairfield Avenue, where it would turn west and continue to CT-8. The alignment would then turn north onto CT-8. The alternative would follow CT-8 to CT-34 (Derby Main Street) where it would exit and serve Derby-Shelton Station.

After serving Derby-Shelton Station, the express bus route would continue east on CT-34 until reaching Derby Street (CT-115). At CT-115, the alignment would travel north approximately a mile and a half until reaching Ansonia to serve Ansonia Station. The alignment would then continue north for four miles on CT-115 until reaching Seymour Station.

From Seymour to Waterbury Station, the express bus service would operate on CT-8, the Ansonia-Derby Expressway, only leaving the expressway to serve Beacon Falls and Naugatuck. At Beacon Falls, the service would leave CT-8 at CT-42 (Main Street) and travel one mile north to Depot Avenue, where it would serve Beacon Falls Station. From Beacon Falls, the alignment would return to Main Street and travel for a quarter of a mile before rejoining CT-8.

The alignment would exit CT-8 at Maple Street, and travel west to Water Street, then North to Cedar Street to serve the existing Naugatuck Station. From Cedar Street, the alignment would travel west to North Church Street, before returning to Maple Street, and subsequently CT-8.

At Waterbury, the alignment would exit CT-8 at Freight Street. From Freight Street, the alignment would turn south to Meadow Street to serve the existing Waterbury Station.

Operations Plan

As the Express Bus Alternative is designed to replace commuter rail service on the Waterbury Branch, the main objective of the operations plan would be to maximize the convenience of the service for passengers transferring between the Waterbury Branch and the New Haven Line. The Express Bus Alternative would utilize “pulse transfers.” Buses in the evening peak would be scheduled to wait for outbound trains from New York to arrive before departing. Similarly, southbound buses operating in the morning peak would be scheduled to arrive shortly before arriving inbound trains, thus minimizing the total time passengers would spend transferring between services.



LEGEND

- EXISTING R.R. TRACK
- R.O.W.
- RAIL STUDY CORRIDOR
- MILE POST MARKER
- R.R. STRUCTURES
- PLATFORM, EXISTING
- PLATFORM, PROPOSED
- WATERCOURSE
- CHANNEL ENCROACHMENT LINE
- R.R. STATION PARKING
- SIDING/NEW R.R. TRACK

Figure 2-14:
Derby-Shelton
Multi-Modal Station
Parking Option A

CROSSING DATA

MILE	CROSSING STREET/FEATURE
6.16	UG STAMFORD RD. OD

AG - AT GRADE
 UG - UNDERGRADE
 OH - OVERHEAD
 OPEN DECK



WATERBURY AND NEW CANAAN
 BRANCH LINES
 NEEDS & FEASIBILITY STUDY
 PROJECT NO. 170-2562

WATERBURY BRANCH LINE
 DERBY-SHELTON STATION
 PARKING OPTION A
 PROPOSED PLAN





- LEGEND**
- EXISTING R.R. TRACK
 - R.O.W.
 - RAIL STUDY CORRIDOR
 - MILE POST MARKER
 - R.R. STRUCTURES
 - PLATFORM, EXISTING
 - PLATFORM, PROPOSED
 - WATERCOURSE
 - CHANNEL ENCROACHMENT LINE
 - R.R. STATION PARKING
 - SIDING/NEW R.R. TRACK

Figure 2-15:
Derby-Shelton
Multi-Modal Station
Parking Option B

CROSSING DATA

MILE	CROSSING STREET/FEATURE	TYPE
482+77	STAMFORD RD.	UG

AG - AT GRADE
 UG - UNDERGRADE
 OH - OVERHEAD
 OPEN DECK

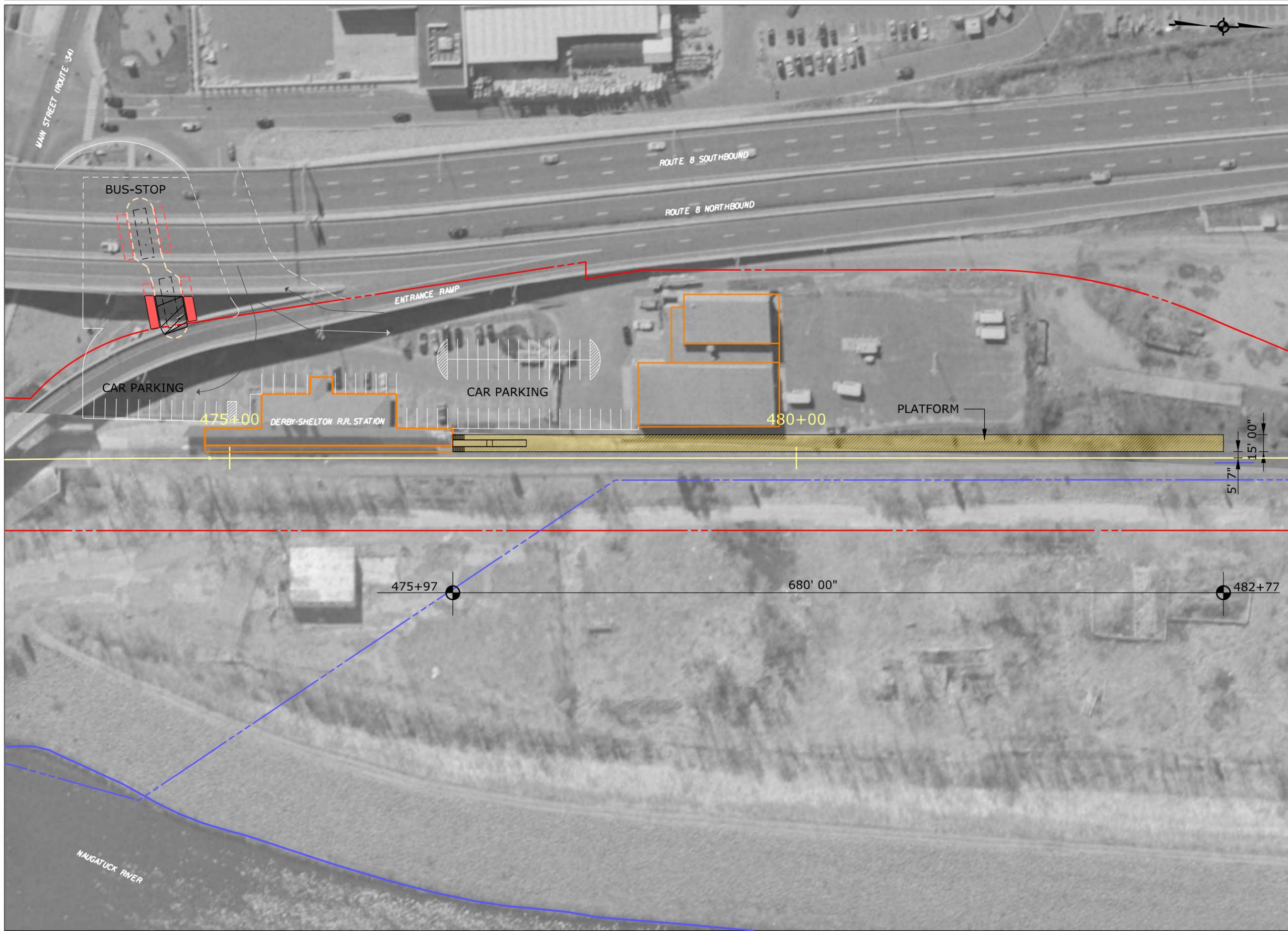


WATERBURY AND NEW CANAAN
 BRANCH LINES
 NEEDS & FEASIBILITY STUDY
 PROJECT NO. 170-2562

WATERBURY BRANCH LINE

DERBY-SHELTON STATION
 PARKING OPTION B
 PROPOSED PLAN

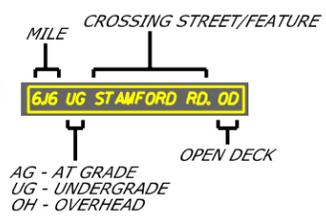




- LEGEND**
- EXISTING R.R. TRACK
 - R.O.W.
 - RAIL STUDY CORRIDOR
 - MILE POST MARKER
 - R.R. STRUCTURES
 - PLATFORM, EXISTING
 - PLATFORM, PROPOSED
 - WATERCOURSE
 - CHANNEL ENCROACHMENT LINE
 - R.R. STATION PARKING
 - SIDING/NEW R.R. TRACK

Figure 2-16:
Derby-Shelton
Multi-Modal Station
Parking Option C

CROSSING DATA



WATERBURY AND NEW CANAAN
 BRANCH LINES
 NEEDS & FEASIBILITY STUDY
 PROJECT NO. 170-2562

WATERBURY BRANCH LINE
 DERBY-SHELTON STATION
 PARKING OPTION C
 PROPOSED PLAN





- LEGEND**
- EXISTING R.R. TRACK
 - R.O.W.
 - RAIL STUDY CORRIDOR
 - MILE POST MARKER
 - R.R. STRUCTURES
 - PLATFORM, EXISTING
 - PLATFORM, PROPOSED
 - WATERCOURSE
 - CHANNEL ENCROACHMENT LINE
 - R.R. STATION PARKING
 - SIDING/NEW R.R. TRACK

Figure 2-17:
Derby-Shelton
Multi-Modal Station
Parking Option D

CROSSING DATA

MILE	CROSSING STREET/FEATURE
6.6	UG STAMFORD RD. 00

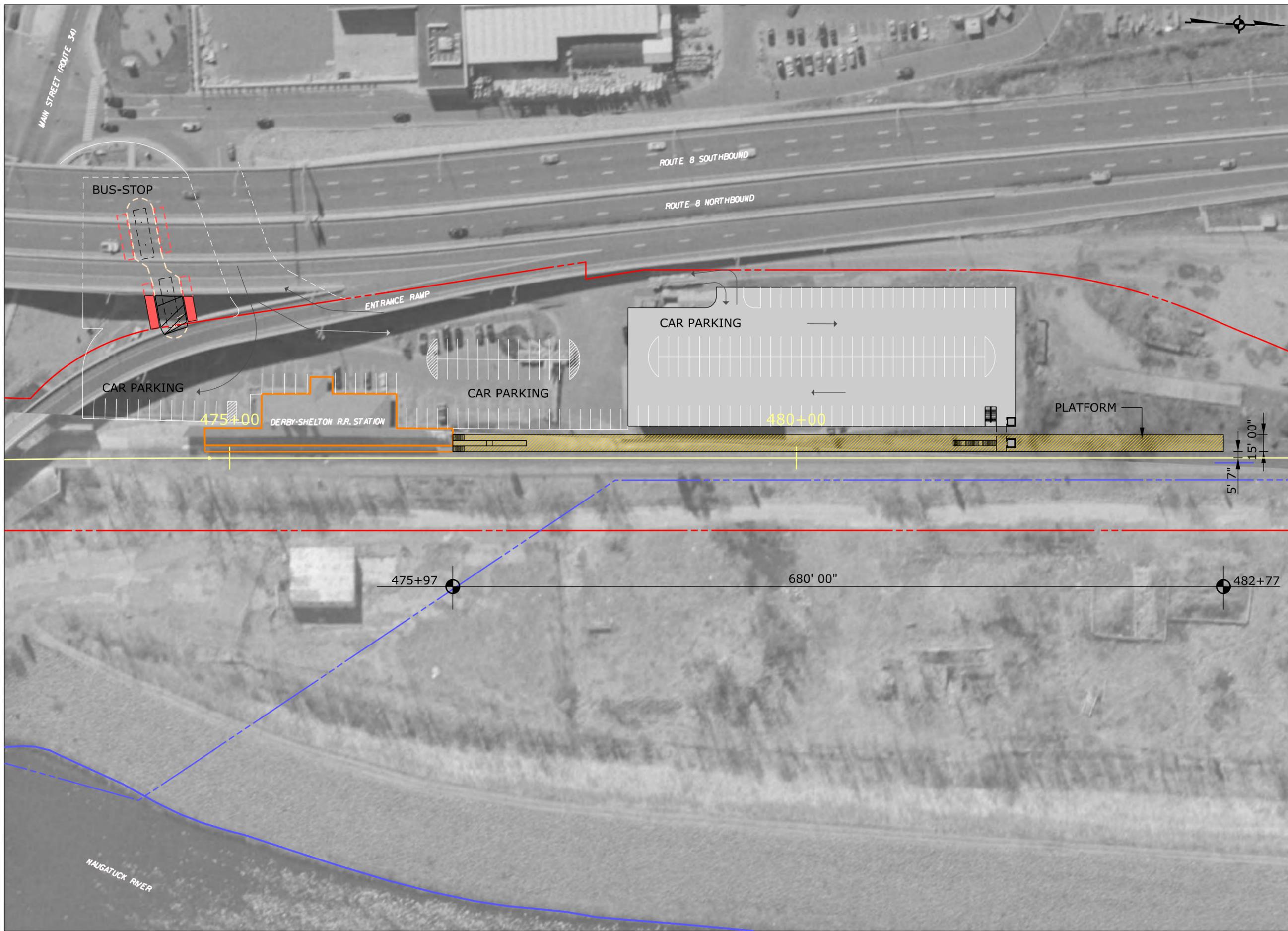
AG - AT GRADE
 UG - UNDERGRADE
 OH - OVERHEAD
 OPEN DECK



WATERBURY AND NEW CANAAN
 BRANCH LINES
 NEEDS & FEASIBILITY STUDY
 PROJECT NO. 170-2562

WATERBURY BRANCH LINE
 DERBY-SHELTON STATION
 PARKING OPTION D
 PROPOSED PLAN





- LEGEND**
- EXISTING R.R. TRACK
 - R.O.W.
 - RAIL STUDY CORRIDOR
 - MILE POST MARKER
 - R.R. STRUCTURES
 - PLATFORM, EXISTING
 - PLATFORM, PROPOSED
 - WATERCOURSE
 - CHANNEL ENCROACHMENT LINE
 - R.R. STATION PARKING
 - SIDING/NEW R.R. TRACK

Figure 2-18:
Derby-Shelton
Multi-Modal Station
Parking Option E

CROSSING DATA

MILE	CROSSING STREET/FEATURE
6.6	UG STAMFORD RD. OD

AG - AT GRADE
 UG - UNDERGRADE
 OH - OVERHEAD
 OPEN DECK



WATERBURY AND NEW CANAAN
 BRANCH LINES
 NEEDS & FEASIBILITY STUDY
 PROJECT NO. 170-2562

WATERBURY BRANCH LINE
 DERBY-SHELTON STATION
 PARKING OPTION E
 PROPOSED PLAN





- LEGEND**
- EXISTING R.R. TRACK
 - R.O.W.
 - RAIL STUDY CORRIDOR
 - MILE POST MARKER
 - R.R. STRUCTURES
 - PLATFORM, EXISTING
 - PLATFORM, PROPOSED
 - WATERCOURSE
 - CHANNEL ENCROACHMENT LINE
 - R.R. STATION PARKING
 - SIDING/NEW R.R. TRACK

Figure 2-19:
Derby-Shelton
Multi-Modal Station
Parking Option F

CROSSING DATA

MILE	CROSSING STREET/FEATURE
6.16	UG STAMFORD RD. 00

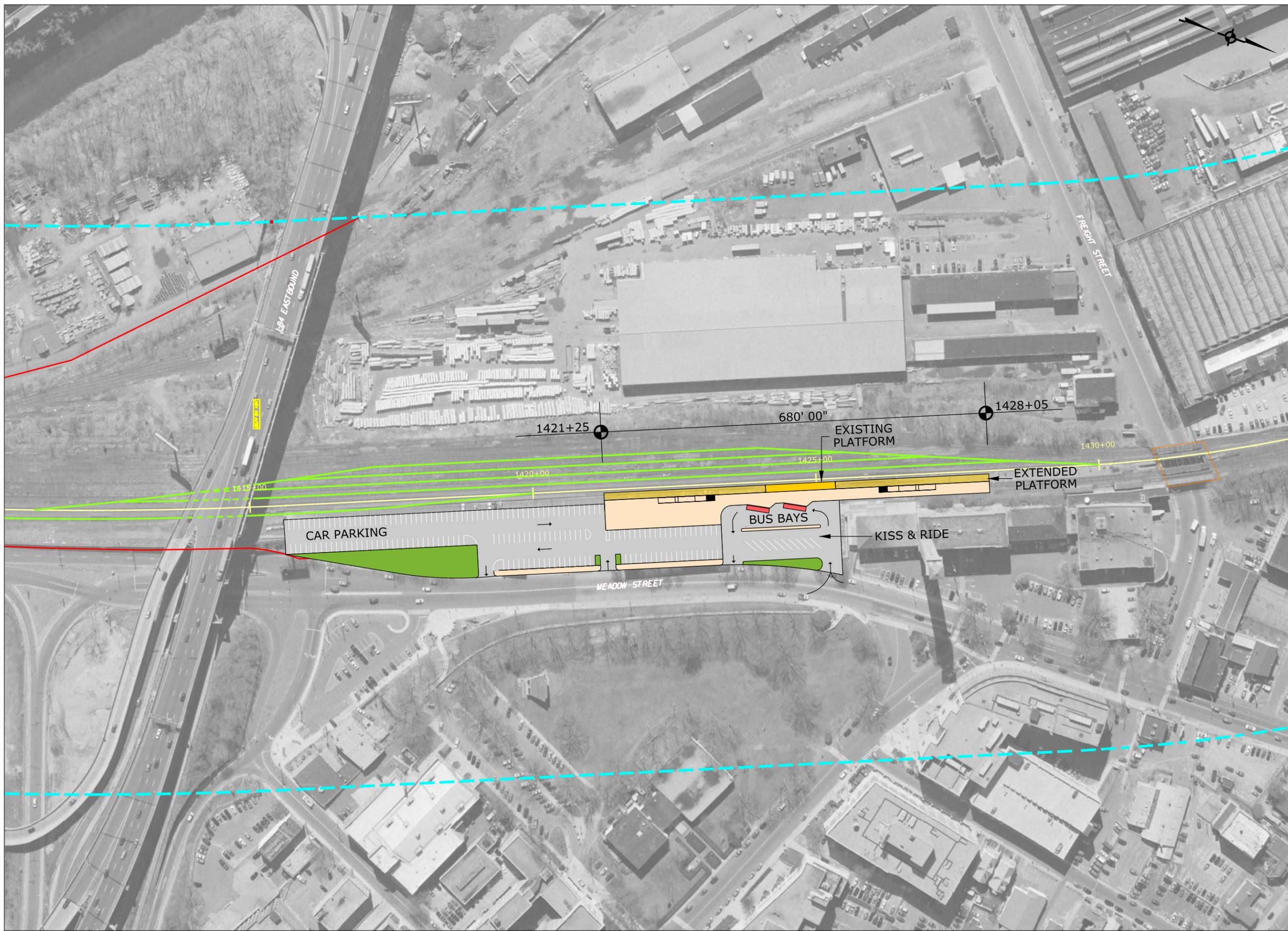
AG - AT GRADE
 UG - UNDERGRADE
 OH - OVERHEAD
 OPEN DECK



WATERBURY AND NEW CANAAN
 BRANCH LINES
 NEEDS & FEASIBILITY STUDY
 PROJECT NO. 170-2562

WATERBURY BRANCH LINE
 DERBY-SHELTON STATION
 PARKING OPTION F
 PROPOSED PLAN



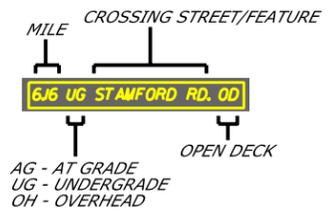


LEGEND

- EXISTING R.R. TRACK
- R.O.W.
- RAIL STUDY CORRIDOR
- MILE POST MARKER
- R.R. STRUCTURES
- PLATFORM, EXISTING
- PLATFORM, PROPOSED
- WATERCOURSE
- CHANNEL ENCROACHMENT LINE
- R.R. STATION PARKING
- SIDING/NEW R.R. TRACK

**Figure 2-20:
Waterbury Multi-
Modal Station**

CROSSING DATA



WATERBURY AND NEW CANAAN
BRANCH LINES
NEEDS & FEASIBILITY STUDY
PROJECT NO. 170-2562

WATERBURY BRANCH LINE

EXTENDED WATERBURY
STATION PLATFORM
PROPOSED PLAN



CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Because the Express Bus Alternative operates in mixed traffic, traffic delays are expected to increase travel times to the point where each bus could only make one roundtrip during the peak period. To minimize the fleet requirements for the service and to maximize the number of trains being served, the operations plan assumes two routes would be implemented during the morning and evening peak:

- Route 1: Waterbury to Bridgeport, serving all stations on the Waterbury Branch
- Route 2: Derby-Shelton to Bridgeport, serving only these two stations.

Splitting the express bus service between these two routes would make it possible to serve 18 of the 20 outbound New Haven Line trains in the evening peak; however, only eight of these trains would have bus service to stations north of Derby-Shelton. Express buses operating to Waterbury on Route 1 would have an average headway of 33 minutes in the evening peak, while Routes 1 and 2 would provide a combined headway of 14 minutes between Bridgeport and Derby-Shelton Station. Table 2-6 provides a sample schedule illustrating the operations plan under the Express Bus Alternative. This schedule was conceptual only and was intended to demonstrate the level of service that would be achieved by the alternative. If the Express Bus Alternative were advanced, the schedule would be developed by the appropriate transit service providers prior to implementation.

TABLE 2-6: SAMPLE EXPRESS BUS PM PEAK HOUR SCHEDULE

Outbound Train Arrival at Bridgeport	Departure Times			Headway (min)	
	Bridgeport	Derby-Shelton	Waterbury	To Derby-Shelton	To Waterbury
5:11 PM	5:11 PM	5:33 PM	6:29 PM		
5:19 PM	5:19 PM	5:41 PM		8	
5:29 PM	5:29 PM	5:51 PM	6:47 PM	10	18
5:38 PM	5:38 PM	6:00 PM		9	
5:43 PM	5:43 PM	6:05 PM	7:01 PM	5	14
5:49 PM	5:49 PM	6:11 PM		6	
6:06 PM	6:06 PM	6:28 PM		17	
6:13 PM	6:13 PM	6:35 PM	7:31 PM	7	30
6:22 PM					
6:28 PM	6:28 PM	6:50 PM		15	
6:44 PM	6:44 PM	7:06 PM		16	
6:55 PM	6:55 PM	7:17 PM		11	
7:09 PM					
7:17 PM	7:17 PM	7:39 PM		22	
7:31 PM	7:31 PM	7:53 PM		14	
7:43 PM	7:43 PM	8:05 PM		12	
8:06 PM	8:06 PM	8:28 PM	9:25 PM	23	113
8:19 PM	8:19 PM	8:41 PM	9:38 PM	13	13
8:38 PM	8:38 PM	9:00 PM	9:57 PM	19	19
9:00 PM	9:00 PM	9:22 PM	10:19 PM	22	22